

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                               |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
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|  <b>MOTOROLA SOLUTIONS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    <br><b>CERTIFICATE 2518.08</b><br><b>SAMM 825</b> |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>MOTOROLA PENANG ADV. COMM. LABORATORY</b><br>Motorola Solutions Malaysia Sdn. Bhd.<br>Plot 2A Medan Bayan Lepas,<br>Mukim 12, S.W.D. 11900 Bayan Lepas,<br>Penang, Malaysia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>FCC / IC TEST REPORT</b><br><b>Report Revision</b> : Rev.D                                                                                                                                                                                                                                                                                                                                 |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <table><tr><td><b>Date/s Tested</b></td><td>: 16-January-2025 - 12-February-2025</td></tr><tr><td><b>Manufacturer/Location</b></td><td>: Motorola Solutions Malaysia SDN BHD</td></tr><tr><td><b>Manufacturer Address</b></td><td>: Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia</td></tr><tr><td><b>Requestor</b></td><td>: Yeap Tee Khoon</td></tr><tr><td><b>Product Type</b></td><td>: Body Worn Camera</td></tr><tr><td><b>Product Marketing Name (PMN)</b></td><td>: SVX</td></tr><tr><td><b>Hardware Version Identification Number (HVIN)</b></td><td>: VX650</td></tr><tr><td><b>Frequency Band</b></td><td>: 5180-5825 MHz</td></tr><tr><td><b>Firmware Version Identification Number (FVIN)</b></td><td>: 24.4.0</td></tr><tr><td><b>Applicant Name</b></td><td>: Motorola Solutions Inc</td></tr><tr><td><b>Applicant Address</b></td><td>: Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia</td></tr><tr><td><b>FCC Registrations</b></td><td>: 461337</td></tr><tr><td><b>ISED Registrations</b></td><td>: MY0001</td></tr></table> <p>The equipment was tested accordance to the requirement listed below:</p> <table><tr><td>(5GHz Wi-Fi)<br/>FCC 47 CFR Part 15 Subpart E<br/>ISED RSS 247 Issue 3</td><td><b>PASS</b></td></tr></table> |                                                                                                                                                                                                                                                                                                                                                                                               | <b>Date/s Tested</b> | : 16-January-2025 - 12-February-2025 | <b>Manufacturer/Location</b> | : Motorola Solutions Malaysia SDN BHD | <b>Manufacturer Address</b> | : Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia | <b>Requestor</b> | : Yeap Tee Khoon | <b>Product Type</b> | : Body Worn Camera | <b>Product Marketing Name (PMN)</b> | : SVX | <b>Hardware Version Identification Number (HVIN)</b> | : VX650 | <b>Frequency Band</b> | : 5180-5825 MHz | <b>Firmware Version Identification Number (FVIN)</b> | : 24.4.0 | <b>Applicant Name</b> | : Motorola Solutions Inc | <b>Applicant Address</b> | : Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia | <b>FCC Registrations</b> | : 461337 | <b>ISED Registrations</b> | : MY0001 | (5GHz Wi-Fi)<br>FCC 47 CFR Part 15 Subpart E<br>ISED RSS 247 Issue 3 | <b>PASS</b> |
| <b>Date/s Tested</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | : 16-January-2025 - 12-February-2025                                                                                                                                                                                                                                                                                                                                                          |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Manufacturer/Location</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | : Motorola Solutions Malaysia SDN BHD                                                                                                                                                                                                                                                                                                                                                         |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Manufacturer Address</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | : Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia                                                                                                                                                                                                                                                                                                              |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Requestor</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | : Yeap Tee Khoon                                                                                                                                                                                                                                                                                                                                                                              |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Product Type</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : Body Worn Camera                                                                                                                                                                                                                                                                                                                                                                            |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Product Marketing Name (PMN)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : SVX                                                                                                                                                                                                                                                                                                                                                                                         |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Hardware Version Identification Number (HVIN)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | : VX650                                                                                                                                                                                                                                                                                                                                                                                       |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Frequency Band</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | : 5180-5825 MHz                                                                                                                                                                                                                                                                                                                                                                               |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Firmware Version Identification Number (FVIN)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | : 24.4.0                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Applicant Name</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | : Motorola Solutions Inc                                                                                                                                                                                                                                                                                                                                                                      |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>Applicant Address</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D.11900 Bayan Lepas, Penang, Malaysia                                                                                                                                                                                                                                                                                                              |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>FCC Registrations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | : 461337                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <b>ISED Registrations</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | : MY0001                                                                                                                                                                                                                                                                                                                                                                                      |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| (5GHz Wi-Fi)<br>FCC 47 CFR Part 15 Subpart E<br>ISED RSS 247 Issue 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>PASS</b>                                                                                                                                                                                                                                                                                                                                                                                   |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <p>This report shall not be reproduced without written approval from an officially designated representative of the Motorola Penang Adv. Comm. Laboratory. The results and statements contained in this report pertain only to the device(s) evaluated.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                               |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |
| <p>Prepared By:</p> <br><hr/> NUR ALIEYA BINTI MAT YUSOFF<br>Technician                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <p>Approved Signatory:</p> <br><hr/> Vincent Foong Chuen Kit<br>Responsible Engineer                                                                                                                                                                                                                     |                      |                                      |                              |                                       |                             |                                                                                  |                  |                  |                     |                    |                                     |       |                                                      |         |                       |                 |                                                      |          |                       |                          |                          |                                                                                  |                          |          |                           |          |                                                                      |             |

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| Revision History | Description                                               | Date             | Originator |
|------------------|-----------------------------------------------------------|------------------|------------|
| Rev. A           | Initial Report                                            | 25-February-2025 | Alieya     |
| Rev. B           | Fix rules part typo, HVIN                                 | 6-March-2025     | Vincent    |
| Rev. C           | Change Antenna type from Stamped Metal to PIFA            | 12-March-2025    | Alieya     |
| Rev. D           | Change Product Marketing Name (PMN) from "VX650" to "SVX" | 11-April-2025    | Alieya     |

### 1.0. Summary of Test Results

| FCC Clause             | IC Clause     | Test Item                                        | Result | Remarks                                                                                                                                                                            | Serial Number tested | Tested by |
|------------------------|---------------|--------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------|
| 15.407 (a)(1/2/3)      | RSS 247 6.2   | Maximum Conducted Output Power (Average)         | Pass   | Highest output power:<br>802.11a: 17.903 dBm (61.702 mW)<br>802.11n20/ac20: 15.575 dBm (36.099 mW)<br>802.11n40/ac40: 15.901 dBm (38.913 mW)<br>802.11ac80: 12.783 dBm (18.980 mW) | 9903EBA0063          | Alieya    |
| 15.407(a) (1/2/3)      | RSS 247 6.2   | Maximum Power Spectral Density                   | Pass   | Meet the limit requirement.                                                                                                                                                        | 9903EBA0063          | Alieya    |
| 15.407 (e)             | RSS 247 6.2.4 | 6dB Bandwidth                                    | Pass   | a20: 16.709 MHz (16M7D1D)<br>n20/ac20: 17.684 MHz (17M7D1D)<br>n40/ac40: 36.231 MHz (36M2D1D)<br>ac80: 76.166 MHz (76M2D1D)                                                        | 9903EBA0063          | Alieya    |
| 15.407 (g)             | RSS Gen 6.11  | Frequency Stability                              | Pass   | Meet the limit requirement.                                                                                                                                                        | 9903EBA0063          | Alieya    |
| 15.407 (b) (1/2/3/4/6) | RSS 247 6.2   | Band Edge Radiated Spurious Emission Measurement | Pass   | Worst case emission: 47.8895dBuV/m (Margin: 6.1105dB)                                                                                                                              | 9903EBA0063          | Alieya    |
| 15.407 (b) (1/2/3/4/6) | RSS 247 6.2   | Radiated Spurious Emission Measurement           | Pass   | Worst case emission: 27.1313dBuV/m (Margin: 18.8687dB)                                                                                                                             | 9903EBA0048          | Aiman     |
| 15.207 15.407 (b)(6)   | RSS Gen 8.8   | AC Powerline Conducted Emission                  | Pass   | Meet the limit requirement.                                                                                                                                                        | 9903EBA0048          | Shidee    |
| 15.203                 | -             | Antenna requirement                              | Pass   | Internal antenna is not accessible to the end-user                                                                                                                                 | NA                   | NA        |

## 1.0. Measurement Uncertainty

| Measurement                               | Frequency        | Expanded Uncertainty<br>(k=1.96) (±dB) |
|-------------------------------------------|------------------|----------------------------------------|
| AC Power Line Conducted Spurious Emission | 150KHz ~ 30MHz   | 3.43                                   |
| Radiated Emissions up to 1 GHz            | 30MHz ~ 200MHz   | 5.88                                   |
|                                           | 200MHz ~ 1000MHz | 5.88                                   |
| Radiated Emissions above 1 GHz            | 1GHz ~ 18GHz     | 5.84                                   |
|                                           | 18GHz ~ 40GHz    | 6.02                                   |
| Conducted Spurious Emissions              | 9kHz ~ 12.75GHz  | 2.82                                   |

## 2.0. Equipment List

### Bluetooth ATE # 1 (SW Version: Ate Main\_3.1.12\_R1)

| Description       | Model  | Serial Number | Calibration Date | Calibration Due Date |
|-------------------|--------|---------------|------------------|----------------------|
| SPECTRUM ANALYZER | E4440A | MY46186938    | 29-Oct-24        | 29-Oct-25            |
| POWER SUPPLY      | 6652A  | 3541A02371    | 11-Sep-24        | 11-Sep-25            |
| CHAMBER           | SH-641 | 92003820      | 04-Jul-24        | 04-Jul-25            |

### Radiated Emission Station (SW Version: EMC FCC RE v1.6.5)

| Description              | Model #   | Serial Number | Calibration Date | Calibration Due Date |
|--------------------------|-----------|---------------|------------------|----------------------|
| EMI TEST RECEIVER        | ESIB40    | 100307        | 23-Oct-24        | 23-Oct-25            |
| 3m Semi-anechoic Chamber | NA        | 888032        | Not Required     | Not Required         |
| TURNTABLE FLUSH MOUNT 2M | T-200-S   | N/A           | Not Required     | Not Required         |
| PROGRAMMING CONTROLLER   | MF-7802BS | N/A           | Not Required     | Not Required         |
| POWER SUPPLY             | 6674A     | 3126A00133    | 13-Mar-24        | 13-Mar-25            |
| SIGNAL ANALYZER          | FSV40     | 101432        | 09-Aug-24        | 08-Aug-25            |
| DATA LOGGER              | SDL500    | A.016800      | 26-Jun-24        | 26-Jun-25            |
| BILOG ANTENNA            | CBL6112D  | 55546         | 05-Jun-24        | 05-Jun-25            |
| BILOG ANTENNA            | CBL 6112B | 2964          | 08-Oct-24        | 08-Oct-25            |
| DRG HORN FREQ.           | SAS-571   | 1027          | 01-Jul-24        | 01-Jul-25            |
| DRG HORN FREQ.           | SAS-571   | 720           | 18-Apr-23        | 18-Apr-25            |
| PREAMPLIFIER             | PAM-0118  | 427           | 15-Nov-24        | 15-Nov-25            |
| SIGNAL GENERATOR         | SMB100A   | 181117        | 06-Dec-21        | 06-May-25            |
| LOOP ANTENNA             | 6502      | 00203479      | 06-Mar-24        | 06-Mar-25            |
| BROAD-BAND HORN ANTENNA  | BBHA9170  | BBHA9170255   | 13-Mar-24        | 13-Mar-25            |

### AC Powerline Station (SW Version: EMC32 Ver.10.60.10)

| Description            | Model   | Serial Number | Calibration Date | Calibration Due Date |
|------------------------|---------|---------------|------------------|----------------------|
| DATA LOGGER            | DSB     | 16344143      | 05-Jul-24        | 05-Jul-25            |
| V-NETWORK 2-LINE       | ENV216V | 101268        | 12-Jun-24        | 12-Jun-25            |
| EMI TEST RECEIVER      | ESCI    | 100225        | 08-May-24        | 08-May-25            |
| PROGRAMMABLE AC SOURCE | 61604   | ABR000000926  | 05-Aug-24        | 05-Aug-25            |

### 3.0. General Information

#### General Description of EUT:

|                                  |                                                                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Product                          | Body Worn Camera                                                                                                                    |
| Brand                            | Motorola Solutions                                                                                                                  |
| Test Model                       | VX650                                                                                                                               |
| Power Supply Rating              | 3.8Vdc (Battery),                                                                                                                   |
| Mode of operation                | WLAN 5GHz                                                                                                                           |
| Modulation Type                  | QPSK, BPSK, 16QAM, 64QAM, 256QAM                                                                                                    |
| Modulation Technology            | OFDM                                                                                                                                |
| Transfer Rate                    | 802.11a: 6.0/9.0/12.0/18.0/24.0/36.0/48.0/54.0 Mbps<br>802.11n: up to MCS15<br>802.11ac: up to MCS9                                 |
| Operating Frequency              | 5.180 ~ 5.240 GHz, 5.260 ~ 5.320 GHz, 5.50 ~ 5.720 GHz,<br>5.745 ~ 5.825 GHz                                                        |
| Output Power (26 EBW or 99% OBW) | 63.10 mW for 5.180 ~ 5.240 GHz<br>63.10 mW for 5.260 ~ 5.320 GHz<br>63.10 mW for 5.50 ~ 5.720 GHz<br>63.10 mW for 5.745 ~ 5.825 GHz |
| Antenna Type                     | PIFA                                                                                                                                |
| SW Version                       | 24.4.0                                                                                                                              |

#### Note:

The EUT contains following accessory devices and data cable:

| Item                                       | Brand    | Model or P/N |
|--------------------------------------------|----------|--------------|
| BATTERY PACK,BATT LIION UL DIV2 IP68 4300T | MOTOROLA | PMNN4893A    |

### Description of Test Modes:

For 5180 to 5240 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)  
VHT40)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 36      | 5180            |
| 40      | 5200            |
| 44      | 5220            |
| 48      | 5240            |

Channels for 802.11n, 802.11ac (HT40,

| Channel | Frequency (MHz) |
|---------|-----------------|
| 38      | 5190            |
| 46      | 5230            |

Channels for 802.11ac (VHT80)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 42      | 5210            |

For 5260 to 5320 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)  
VHT40)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 52      | 5260            |
| 56      | 5280            |
| 60      | 5300            |
| 64      | 5320            |

Channels for 802.11n, 802.11ac (HT40,

| Channel | Frequency (MHz) |
|---------|-----------------|
| 54      | 5270            |
| 62      | 5310            |

Channels for 802.11ac (VHT80)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 58      | 5290            |

For 5500 to 5720 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)  
VHT40)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 100     | 5500            |
| 104     | 5520            |
| 108     | 5540            |
| 112     | 5560            |
| 116     | 5580            |
| 120     | 5600            |

Channels for 802.11n, 802.11ac (HT40,

| Channel | Frequency (MHz) |
|---------|-----------------|
| 102     | 5510            |
| 110     | 5550            |
| 118     | 5590            |
| 126     | 5630            |
| 134     | 5670            |
| 142     | 5710            |

|     |      |
|-----|------|
| 124 | 5620 |
| 128 | 5640 |
| 132 | 5660 |
| 136 | 5680 |
| 140 | 5700 |
| 144 | 5720 |

Channels for 802.11ac (VHT80)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 106     | 5530            |
| 122     | 5610            |
| 138     | 5690            |

For 5745 to 5825 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT40)  
VHT40)

| Channel | Frequency(MHz) |
|---------|----------------|
| 149     | 5745           |
| 153     | 5765           |
| 157     | 5785           |
| 161     | 5805           |
| 165     | 5825           |

Channels for 802.11n, 802.11ac (HT40,

| Channel | Frequency(MHz) |
|---------|----------------|
| 151     | 5755           |
| 159     | 5795           |

Channels for 802.11ac (VHT80)

| Channel | Frequency (MHz) |
|---------|-----------------|
| 155     | 5775            |

General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, the EUT is to comply with the requirements of the following standards:

FCC Part15, Subpart E (15.407)

789033 D02 General UNII Test Procedures New Rules v01r04

644545 D03 Guidance for IEEE 802 11ac New Rules v01

ANSI C63.10-2013

RSS 247 Issue 3, RSS Gen

All test have been performed and recorded as per above standards.

#### Deviation from standard

Not applicable as no deviation from standard test method

#### Modifications to EUT

No modifications were done to the UUT to facilitate the tests in this report.

#### 4.0. Test Mode Applicability and Test Channel Detail

| EUT<br>Configure<br>Mode | Applicable to |       |     |      | Description                   |
|--------------------------|---------------|-------|-----|------|-------------------------------|
|                          | RE $\geq$ 1G  | RE<1G | PLC | APCM |                               |
| A                        | √             | √     | √   | √    | Power from adapter            |
| B                        | x             | √     | x   | x    | Power from carcharger (12Vdc) |
| C                        | x             | √     | x   | x    | Power from carcharger (24Vdc) |

Where:

RE $\geq$ 1G: Radiated Emission above 1GHz & Band edge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-scanned on the position of each 3 axis planes. The worst case was found when positioned on Y-plane.

#### Radiated Emission Test (Above 1GHz)

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Frequency Band | MODE                     | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|----------------|--------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| -                  | 5180-5240      | 802.11a                  | 36-48             | 36,44,48       | OFDM                  | BPSK            | 6.0              |
| -                  | 5180-5240      | 802.11n/ac (HT20, VHT20) | 36-48             | 36,44,48       | OFDM                  | BPSK            | 6.5              |
| -                  | 5180-5240      | 802.11n/ac (HT40,VHT40)  | 38-46             | 38,46          | OFDM                  | BPSK            | 13.5             |
| -                  | 5180-5240      | 802.11ac (VHT80)         | 42                | 42             | OFDM                  | BPSK            | 29.3             |
| -                  | 5260-5320      | 802.11a                  | 52-64             | 52,60,64       | OFDM                  | BPSK            | 6.0              |
| -                  | 5260-5320      | 802.11n/ac (HT20, VHT20) | 52-46             | 52,60,64       | OFDM                  | BPSK            | 6.5              |
| -                  | 5260-5320      | 802.11n/ac (HT40,VHT40)  | 54-62             | 54,62          | OFDM                  | BPSK            | 13.5             |
| -                  | 5260-5320      | 802.11ac (VHT80)         | 58                | 58             | OFDM                  | BPSK            | 29.3             |
| -                  | 5500-5700      | 802.11a                  | 100-140           | 100,116,140    | OFDM                  | BPSK            | 6.0              |
| -                  | 5500-5720      | 802.11n/ac (HT20, VHT20) | 100-144           | 100,116,144    | OFDM                  | BPSK            | 6.5              |
| -                  | 5500-5720      | 802.11n/ac (HT40,VHT40)  | 102-142           | 102,110,142    | OFDM                  | BPSK            | 13.5             |
| -                  | 5500-5720      | 802.11ac (VHT80)         | 106-138           | 106,122,138    | OFDM                  | BPSK            | 29.3             |
| -                  | 5745-5825      | 802.11a                  | 149-165           | 149,157,165    | OFDM                  | BPSK            | 6.0              |
| -                  | 5745-5825      | 802.11n/ac (HT20, VHT20) | 149-165           | 149,157,165    | OFDM                  | BPSK            | 6.5              |
| -                  | 5745-5825      | 802.11n/ac (HT40,VHT40)  | 151-159           | 151,159        | OFDM                  | BPSK            | 13.5             |
| -                  | 5745-5825      | 802.11ac (VHT80)         | 155               | 155            | OFDM                  | BPSK            | 29.3             |

#### Radiated Emission Test (Below 1GHz)

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | MODE    | Frequency band (MHz) | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|---------|----------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| -                  | 802.11a | 5180-5240            | 36 to 48          | 36             | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5260-5320            | 52 to 64          |                | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5500-5700            | 100 to 140        |                | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5745-5825            | 149 to 165        |                | OFDM                  | BPSK            | 6.0              |

#### Power Line Conducted Emission Test

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | MODE    | Frequency band (MHz) | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|---------|----------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| -                  | 802.11a | 5180-5240            | 36 to 48          | 36             | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5260-5320            | 52 to 64          |                | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5500-5700            | 100 to 140        |                | OFDM                  | BPSK            | 6.0              |
| -                  | 802.11a | 5745-5825            | 149 to 165        |                | OFDM                  | BPSK            | 6.0              |

#### Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

| EUT Configure Mode | Frequency Band | MODE                     | Available Channel | Tested Channel | Modulation Technology | Modulation Type | Data Rate (Mbps) |
|--------------------|----------------|--------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| -                  | 5180-5240      | 802.11a                  | 36-48             | 36,44,48       | OFDM                  | BPSK            | 6.0              |
| -                  | 5180-5240      | 802.11n/ac (HT20, VHT20) | 36-48             | 36,44,48       | OFDM                  | BPSK            | 6.5              |
| -                  | 5180-5240      | 802.11n/ac (HT40,VHT40)  | 38-46             | 38,46          | OFDM                  | BPSK            | 13.5             |
| -                  | 5180-5240      | 802.11ac (VHT80)         | 42                | 42             | OFDM                  | BPSK            | 29.3             |
| -                  | 5260-5320      | 802.11a                  | 52-64             | 52,60,64       | OFDM                  | BPSK            | 6.0              |
| -                  | 5260-5320      | 802.11n/ac (HT20, VHT20) | 52-46             | 52,60,64       | OFDM                  | BPSK            | 6.5              |
| -                  | 5260-5320      | 802.11n/ac (HT40,VHT40)  | 54-62             | 54,62          | OFDM                  | BPSK            | 13.5             |
| -                  | 5260-5320      | 802.11ac (VHT80)         | 58                | 58             | OFDM                  | BPSK            | 29.3             |
| -                  | 5500-5700      | 802.11a                  | 100-140           | 100,116,140    | OFDM                  | BPSK            | 6.0              |
| -                  | 5500-5720      | 802.11n/ac (HT20, VHT20) | 100-144           | 100,116,144    | OFDM                  | BPSK            | 6.5              |
| -                  | 5500-5720      | 802.11n/ac (HT40,VHT40)  | 102-142           | 102,110,142    | OFDM                  | BPSK            | 13.5             |
| -                  | 5500-5720      | 802.11ac (VHT80)         | 106-138           | 106,122,138    | OFDM                  | BPSK            | 29.3             |
| -                  | 5745-5825      | 802.11a                  | 149-165           | 149,157,165    | OFDM                  | BPSK            | 6.0              |
| -                  | 5745-5825      | 802.11n/ac (HT20, VHT20) | 149-165           | 149,157,165    | OFDM                  | BPSK            | 6.5              |
| -                  | 5745-5825      | 802.11n/ac (HT40,VHT40)  | 151-159           | 151,159        | OFDM                  | BPSK            | 13.5             |
| -                  | 5745-5825      | 802.11ac (VHT80)         | 155               | 155            | OFDM                  | BPSK            | 29.3             |

#### Test Condition:

| Applicable To | Environmental Conditions | Input Power     | Tested By      |
|---------------|--------------------------|-----------------|----------------|
| RE≥1G         | 25°C, 50% RH             | 3.7V DC         | Nazrin/Qawiman |
| RE<1G         | 25°C, 50% RH             | 3.7V DC         | Nazrin/Qawiman |
| PLC           | 22.4°C, 68.6% RH         | 120V AC,240V AC | Madi/Rudy      |
| APCM          | 25°C, 50% RH             | 3.7V DC         | Jino Lim       |

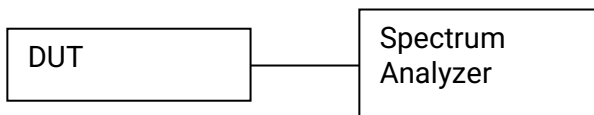
## Duty Cycle of Test Signal

802.11a, 802.11n and 802.11ac (HT20, VHT20): Duty cycle of test signal is 100%.

If Duty cycle of test signal is <98%, duty cycle factor shall be considered. (Refer to section 6.0 for duty cycle measurement)

### 5.0. Duty Cycle of Test Signal

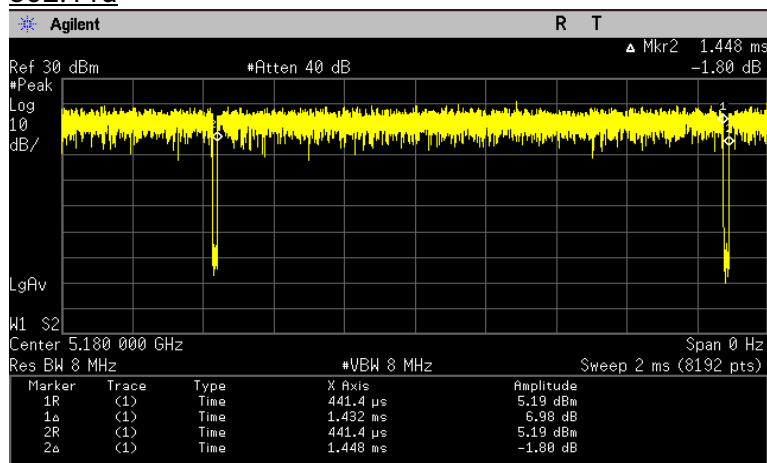
#### 5.0.1. Test Setup



- 1) Set DUT to desire transmit frequency and transmit with maximum power.
- 2) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- 3) Setting of Spectrum analyzer :
  - a. Set the RBW = 10 MHz or the highest RBW available on spectrum analyzer.
  - b. Set the VBW ≥ RBW.
  - c. Set to Zero Span.
  - d. Detector = Peak.
  - e. Sweep time = 10ms or others that allow to measure accurate duty cycle.
  - f. Trace mode = Max hold.
- 4) Record the duty cycle as X and save the plot.

#### 5.0.2. Test Data

##### 802.11a

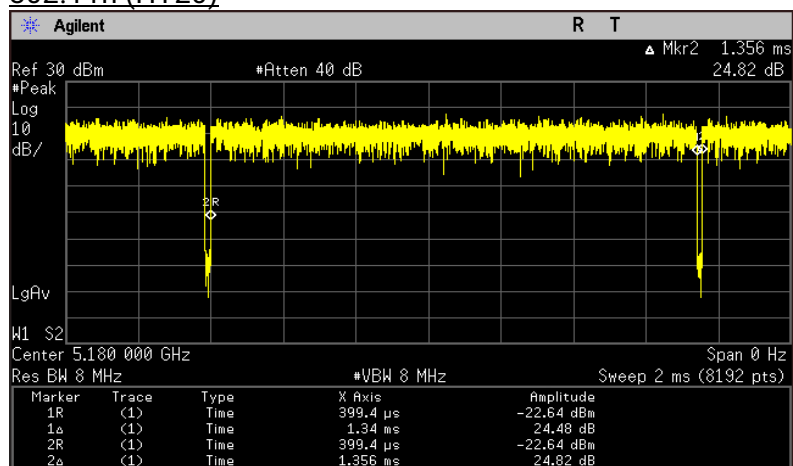


|                   |        |    |
|-------------------|--------|----|
| On time           | 1.432  | ms |
| On + off time     | 1.448  | ms |
| Duty Cycle        | 0.9890 |    |
| Duty Cycle Factor | 0.048  |    |

\*Duty cycle = On time/ On +off time

\*Duty Cycle factor = 10\*log (1/Duty Cycle)

## 802.11n (HT20)

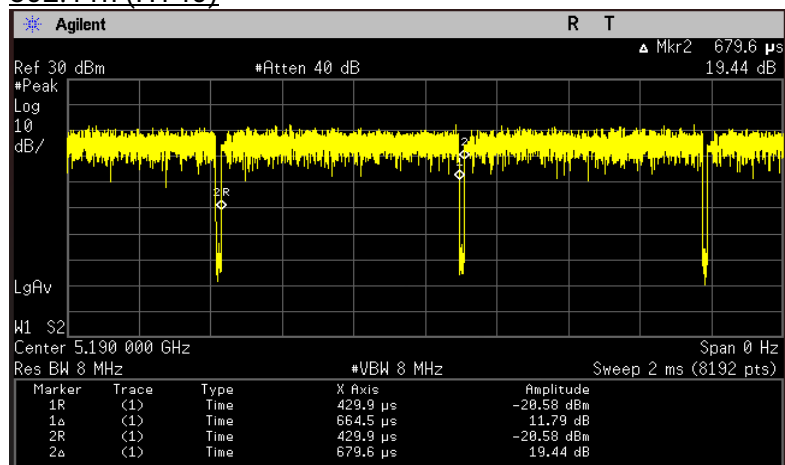


|                   |        |    |
|-------------------|--------|----|
| On time           | 1.340  | ms |
| On + off time     | 1.356  | ms |
| Duty Cycle        | 0.9882 |    |
| Duty Cycle Factor | 0.052  |    |

\*Duty cycle = On time/ On +off time

\*Duty Cycle factor = 10\*log (1/Duty Cycle)

## 802.11n (HT40)

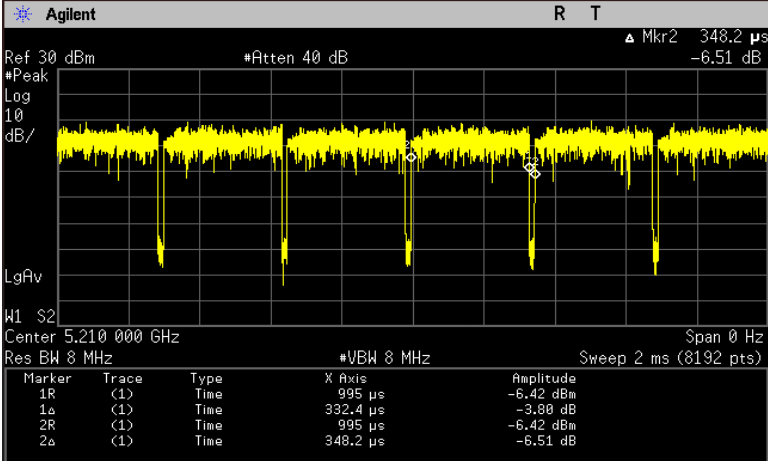


|                   |        |    |
|-------------------|--------|----|
| On time           | 0.665  | ms |
| On + off time     | 0.680  | ms |
| Duty cycle        | 0.9778 |    |
| Duty Cycle factor | 0.098  |    |

\*Duty cycle = On time/ On +off time

\*Duty Cycle factor = 10\*log (1/Duty Cycle)

802.11ac (HT80)



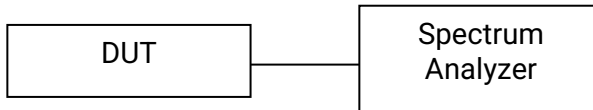
|                   |        |    |
|-------------------|--------|----|
| On time           | 0.332  | ms |
| On + off time     | 0.348  | ms |
| Duty cycle        | 0.9546 |    |
| Duty Cycle factor | 0.202  |    |

\*Duty cycle = On time/ On +off time  
\*Duty Cycle factor = 10\*log (1/Duty Cycle)

## 6.0.1. Transmitter Test Parameters

### 6.1. Bandwidth measurements

#### 6.1.1. Test Setup



- a) Test Setup as per illustrated above.
- b) Set DUT to transmit at desire transmit frequency.
- c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- d) Setting of Spectrum analyzer for 26dB EBW:
  - RBW = approximate 1% of emission bandwidth
  - VBW > RBW
  - Detector = Peak
  - Trace =Max hold
  - Measure the maximum width of the emission that is 26 dB down from the maximum 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%.
- e) Setting of Spectrum analyzer for 99% Occupied bandwidth:
  - Span = 1.5 times to 5.0 times the OBW
  - RBW = 1% to 5 % of the OBW
  - VBW  $\geq 3 \cdot$  RBW
  - Detector = Peak
  - Trace = Max Hold
  - Use the 99% power bandwidth function of the instrument
- f) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause C.1) & D).

#### 6.1.2. Test Limits

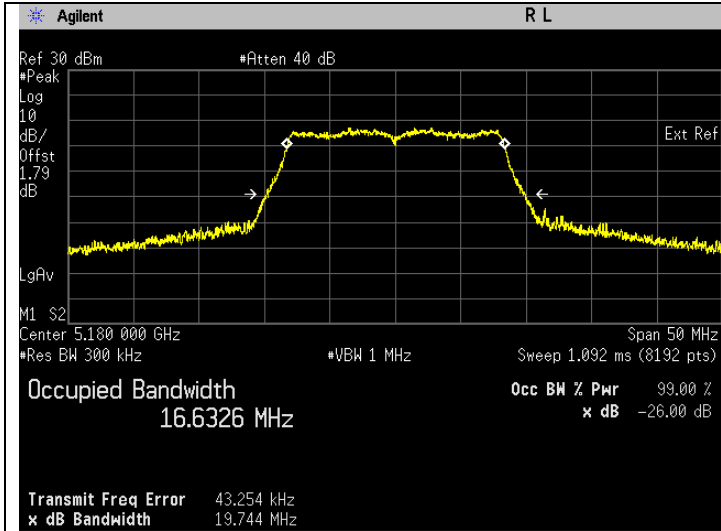
Not applicable.

### 6.1.3. Test Data

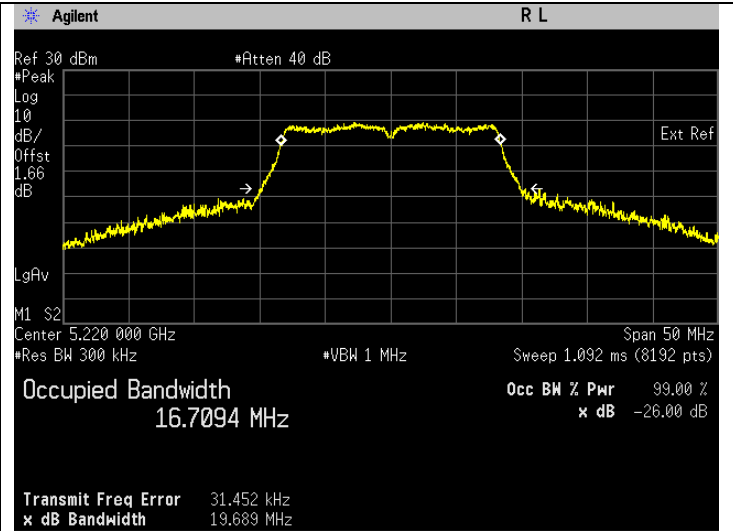
#### 802.11a

| Frequency<br>(MHz) | Test Configuration                    | Results                 |        |                       |        |
|--------------------|---------------------------------------|-------------------------|--------|-----------------------|--------|
|                    |                                       | 26 dB<br>Bandwidth(MHz) | Status | 99%<br>Bandwidth(MHz) | Status |
| 5180               | Mod Type: BPSK, Data Rate: 6          | 19.744                  | Pass   | 16.633                | Pass   |
| 5220               | Mod Type: BPSK, Data Rate: 6          | 19.689                  | Pass   | 16.709                | Pass   |
| 5240               | Mod Type: BPSK, Data Rate: 6          | 20.171                  | Pass   | 16.709                | Pass   |
| 5260               | Mod Type: BPSK, Data Rate: 6          | 19.766                  | Pass   | 16.654                | Pass   |
| 5300               | Mod Type: BPSK, Data Rate: 6          | 19.709                  | Pass   | 16.652                | Pass   |
| 5320               | Mod Type: BPSK, Data Rate: 6          | 19.710                  | Pass   | 16.647                | Pass   |
| 5500               | Mod Type: BPSK, Data Rate: 6          | 19.741                  | Pass   | 16.636                | Pass   |
| 5580               | Mod Type: BPSK, Data Rate: 6          | 21.744                  | Pass   | 16.683                | Pass   |
| 5700               | Mod Type: BPSK, Data Rate: 6          | 19.594                  | Pass   | 16.659                | Pass   |
| 5720               | Mod Type: BPSK, Data Rate: 6, UNII-2C | 15.810                  | Pass   | 13.356                | Pass   |
| 5720               | Mod Type: BPSK, Data Rate: 6, UNII-3  | 5.810                   | Pass   | 3.356                 | Pass   |
| 5745               | Mod Type: BPSK, Data Rate: 6          | 20.276                  | Pass   | 16.693                | Pass   |
| 5785               | Mod Type: BPSK, Data Rate: 6          | 19.868                  | Pass   | 16.672                | Pass   |
| 5825               | Mod Type: BPSK, Data Rate: 6          | 19.746                  | Pass   | 16.659                | Pass   |

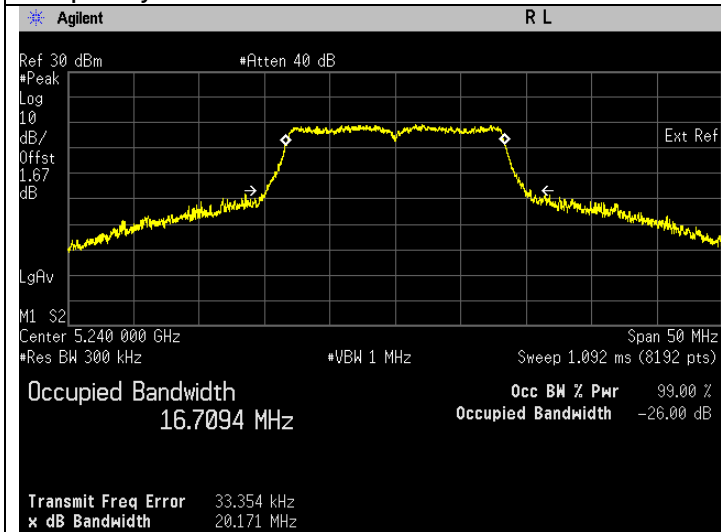
## 26 dB Bandwidth/ 99% Bandwidth



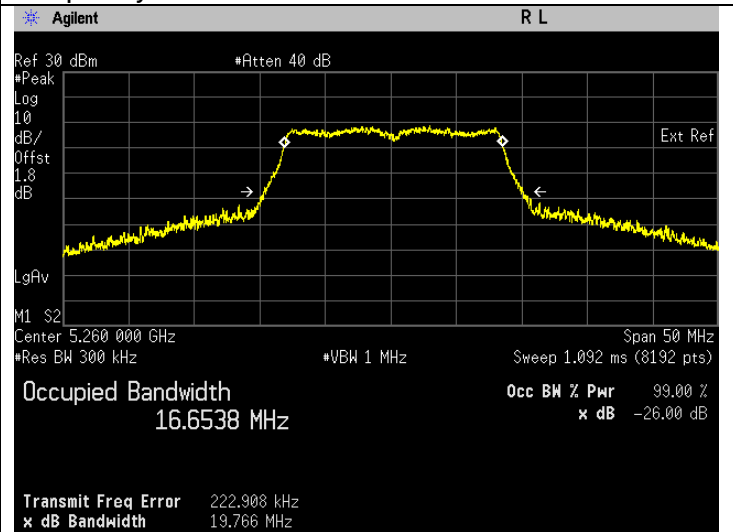
Frequency 5180 MHz



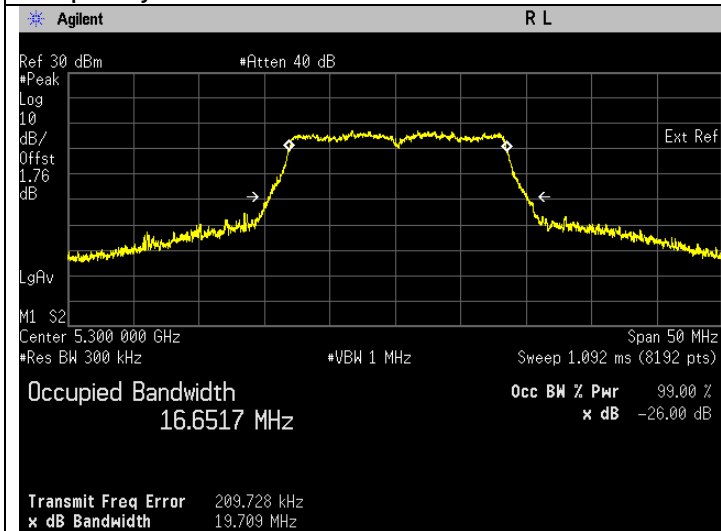
Frequency 5220 MHz



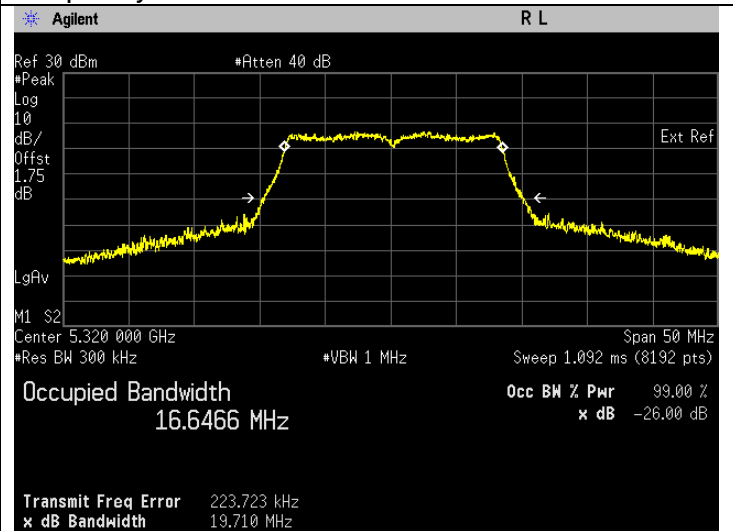
Frequency 5240 MHz



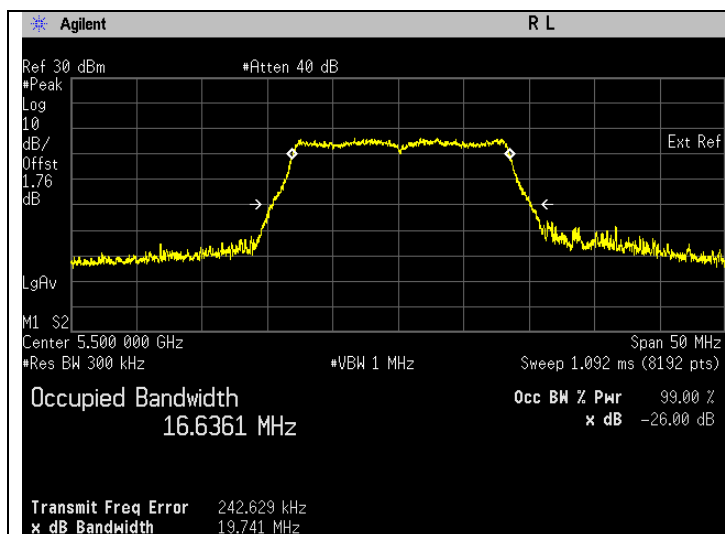
Frequency 5260 MHz



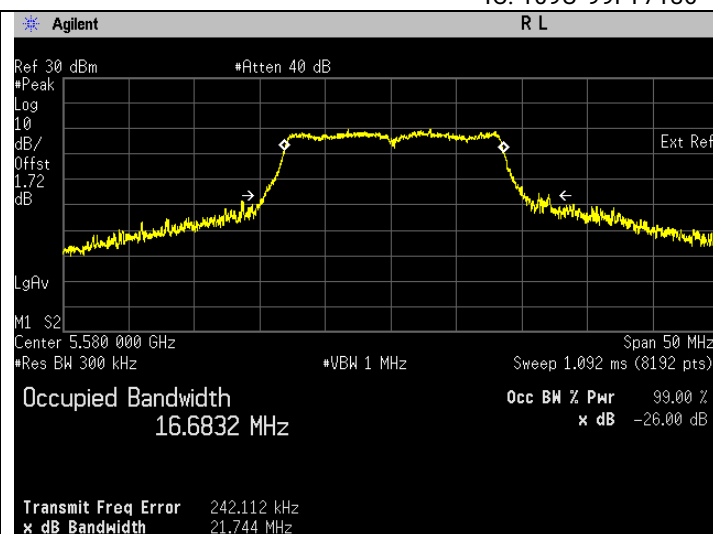
Frequency 5300 MHz



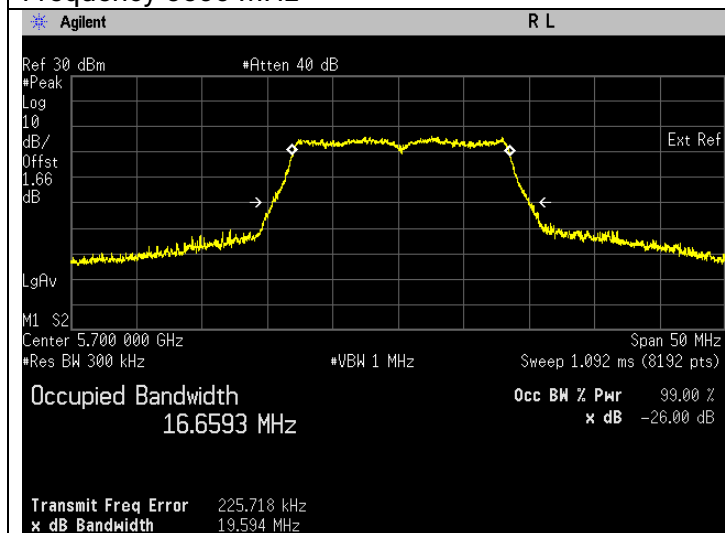
Frequency 5320 MHz



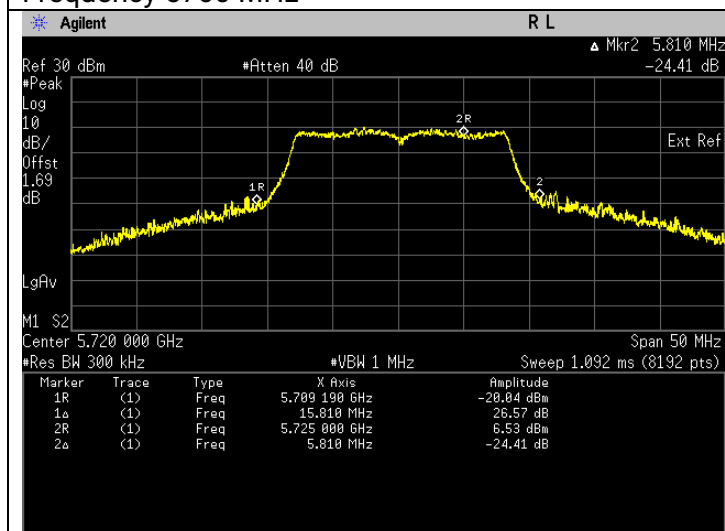
Frequency 5500 MHz



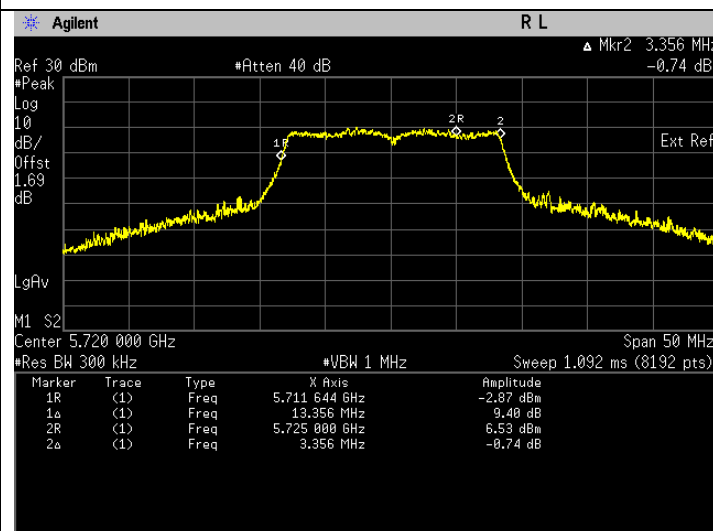
Frequency 5580 MHz



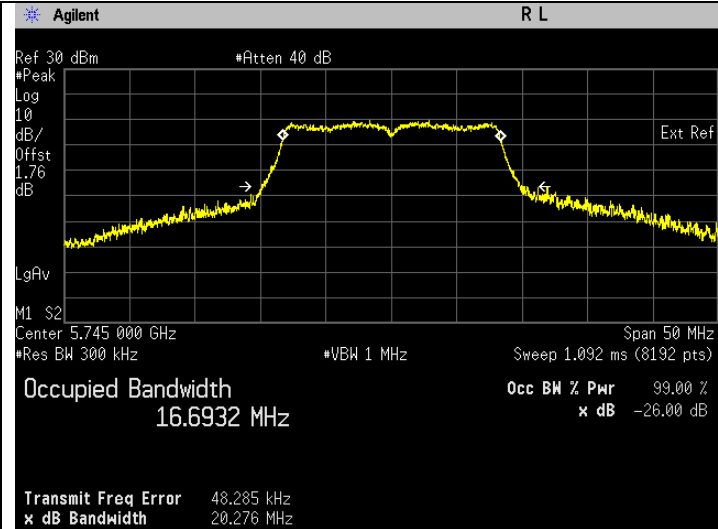
Frequency 5700 MHz



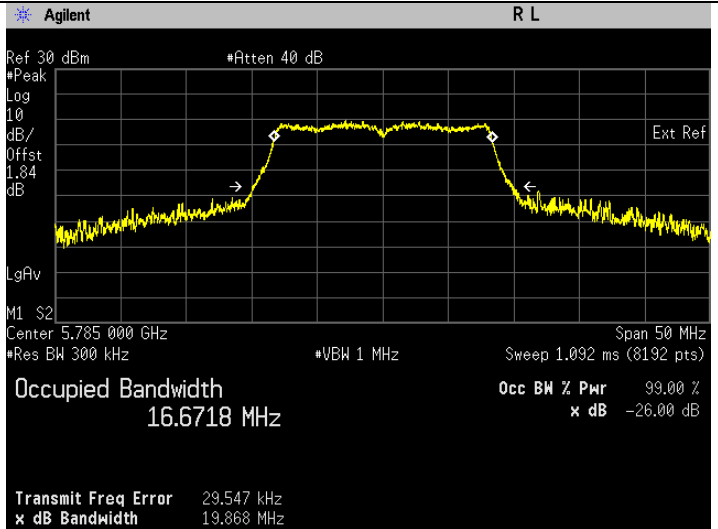
Frequency 5720 MHz, UNII-2C & UNII-3



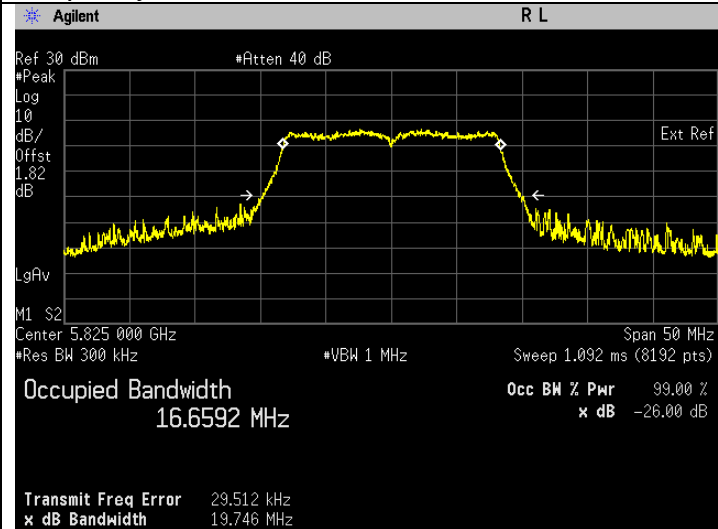
Frequency 5720 MHz, UNII-2C & UNII-3



Frequency 5745 MHz



Frequency 5785 MHz

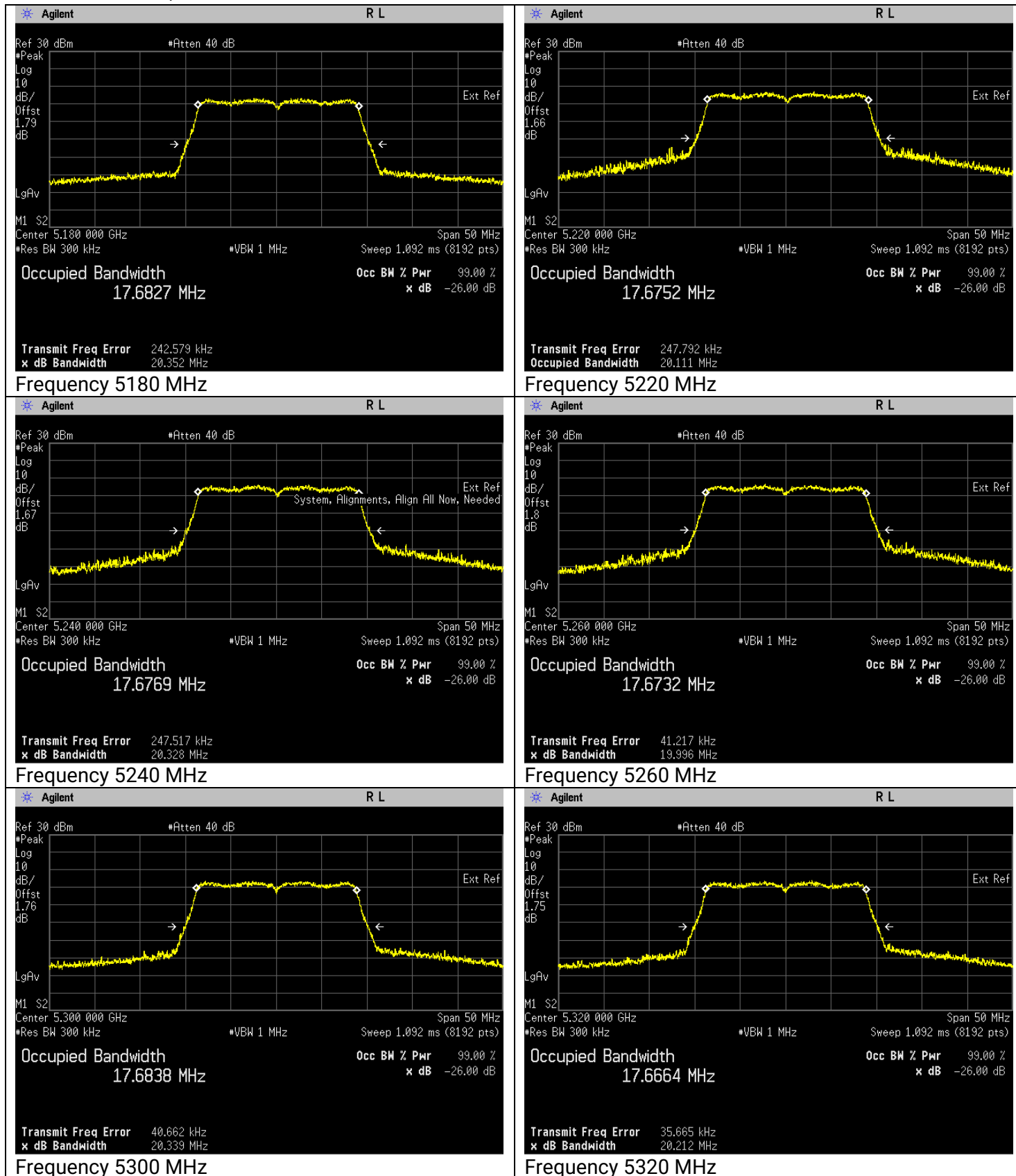


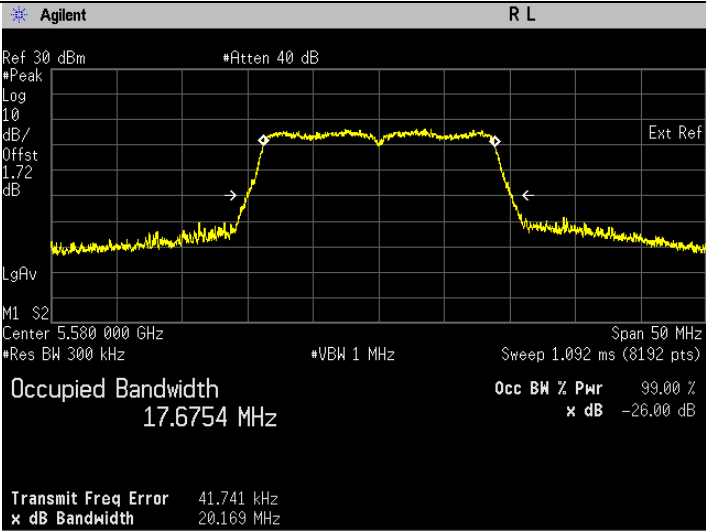
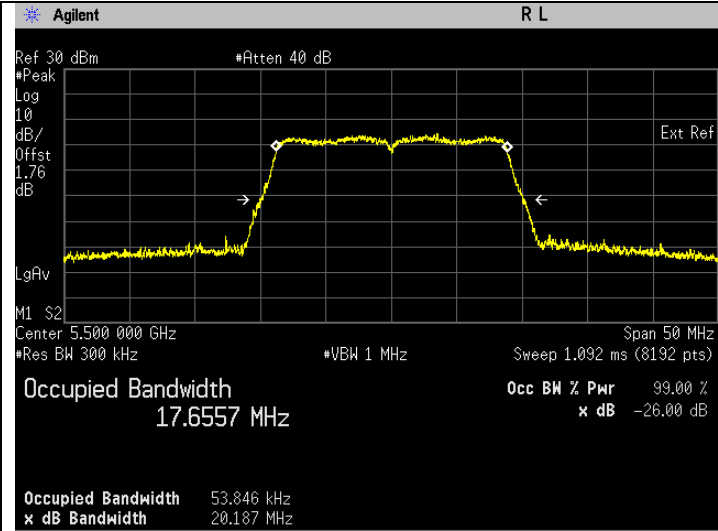
Frequency 5825 MHz

802.11n (HT20)

| Frequency (MHz) | Test Configuration                             | Results              |        |                    |        |
|-----------------|------------------------------------------------|----------------------|--------|--------------------|--------|
|                 |                                                | 26 dB Bandwidth(MHz) | Status | 99% Bandwidth(MHz) | Status |
| 5180            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.352               | Pass   | 17.683             | Pass   |
| 5220            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.111               | Pass   | 17.675             | Pass   |
| 5240            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.328               | Pass   | 17.677             | Pass   |
| 5260            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 19.996               | Pass   | 17.673             | Pass   |
| 5300            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.339               | Pass   | 17.684             | Pass   |
| 5320            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.212               | Pass   | 17.666             | Pass   |
| 5500            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.187               | Pass   | 17.656             | Pass   |
| 5580            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.169               | Pass   | 17.675             | Pass   |
| 5700            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.304               | Pass   | 17.663             | Pass   |
| 5720            | Mod Type: BPSK, Data Rate: MCS0 (6.5), UNII-2C | 15.131               | Pass   | 13.845             | Pass   |
| 5720            | Mod Type: BPSK, Data Rate: MCS0 (6.5), UNII-3  | 5.131                | Pass   | 3.845              | Pass   |
| 5745            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.322               | Pass   | 17.653             | Pass   |
| 5785            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.317               | Pass   | 17.690             | Pass   |
| 5825            | Mod Type: BPSK, Data Rate: MCS0 (6.5)          | 20.336               | Pass   | 17.654             | Pass   |

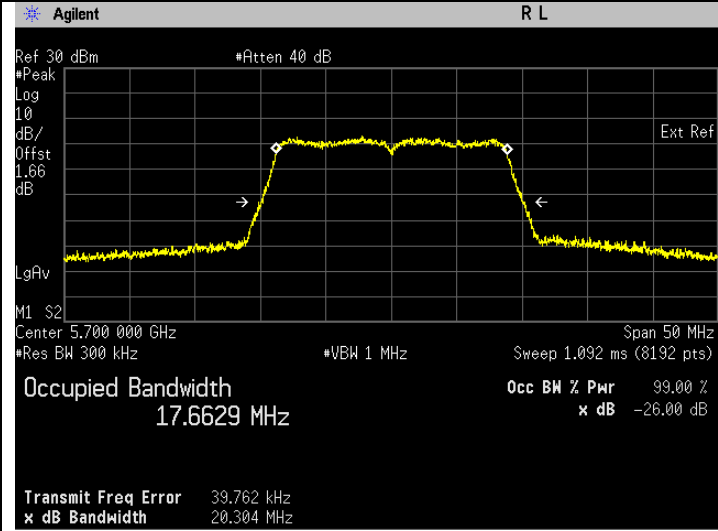
## 26 dB Bandwidth/ 99% Bandwidth



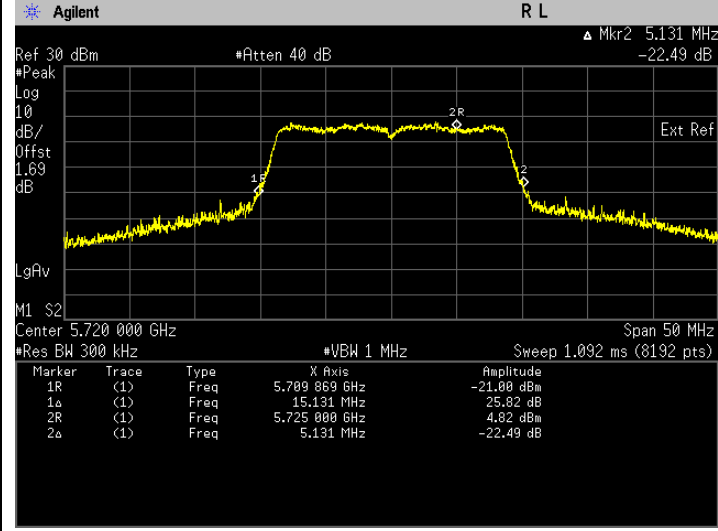


Frequency 5500 MHz

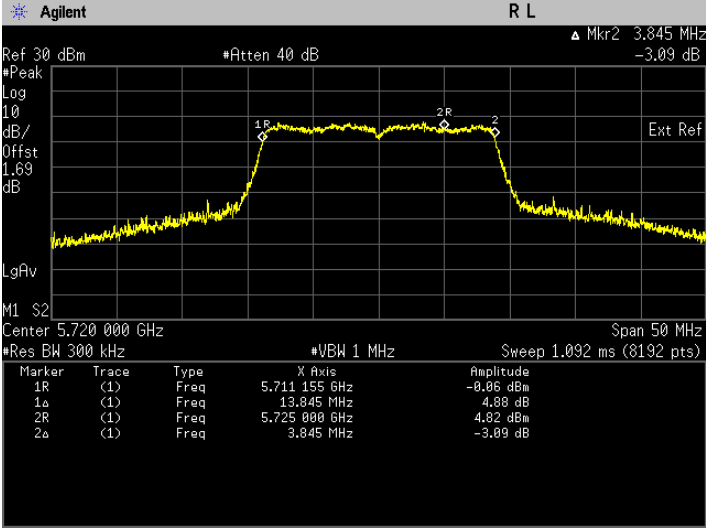
Frequency 5580 MHz



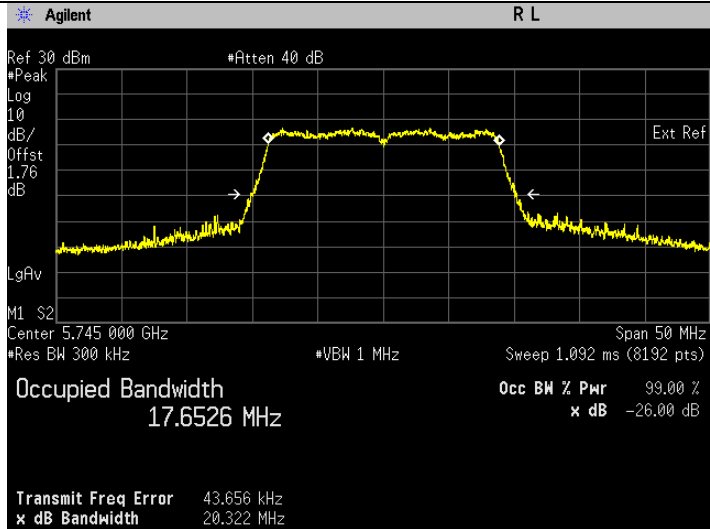
Frequency 5700 MHz



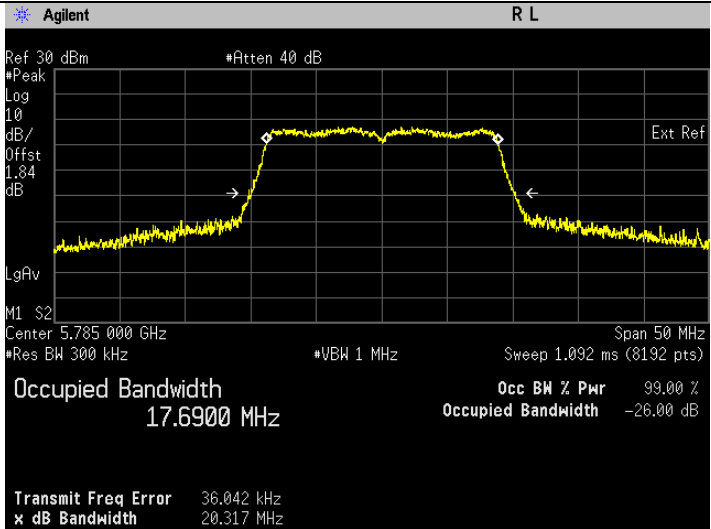
Frequency 5720 MHz, UNII-2C & UNII-3



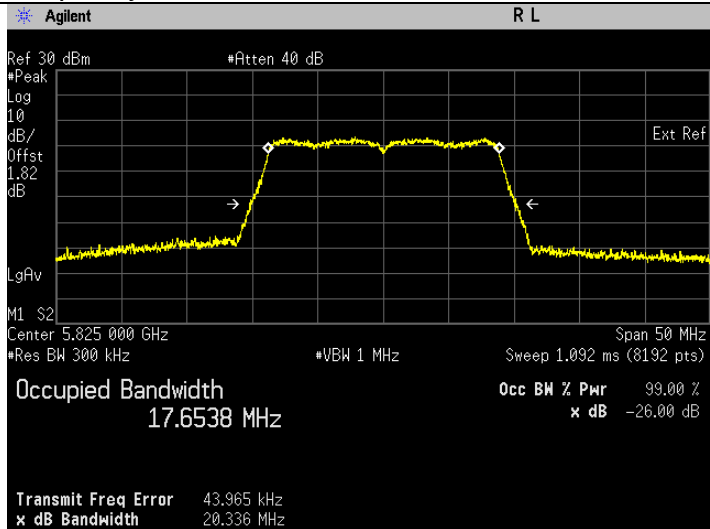
Frequency 5720 MHz, UNII-2C & UNII-3



Frequency 5745 MHz



Frequency 5785 MHz

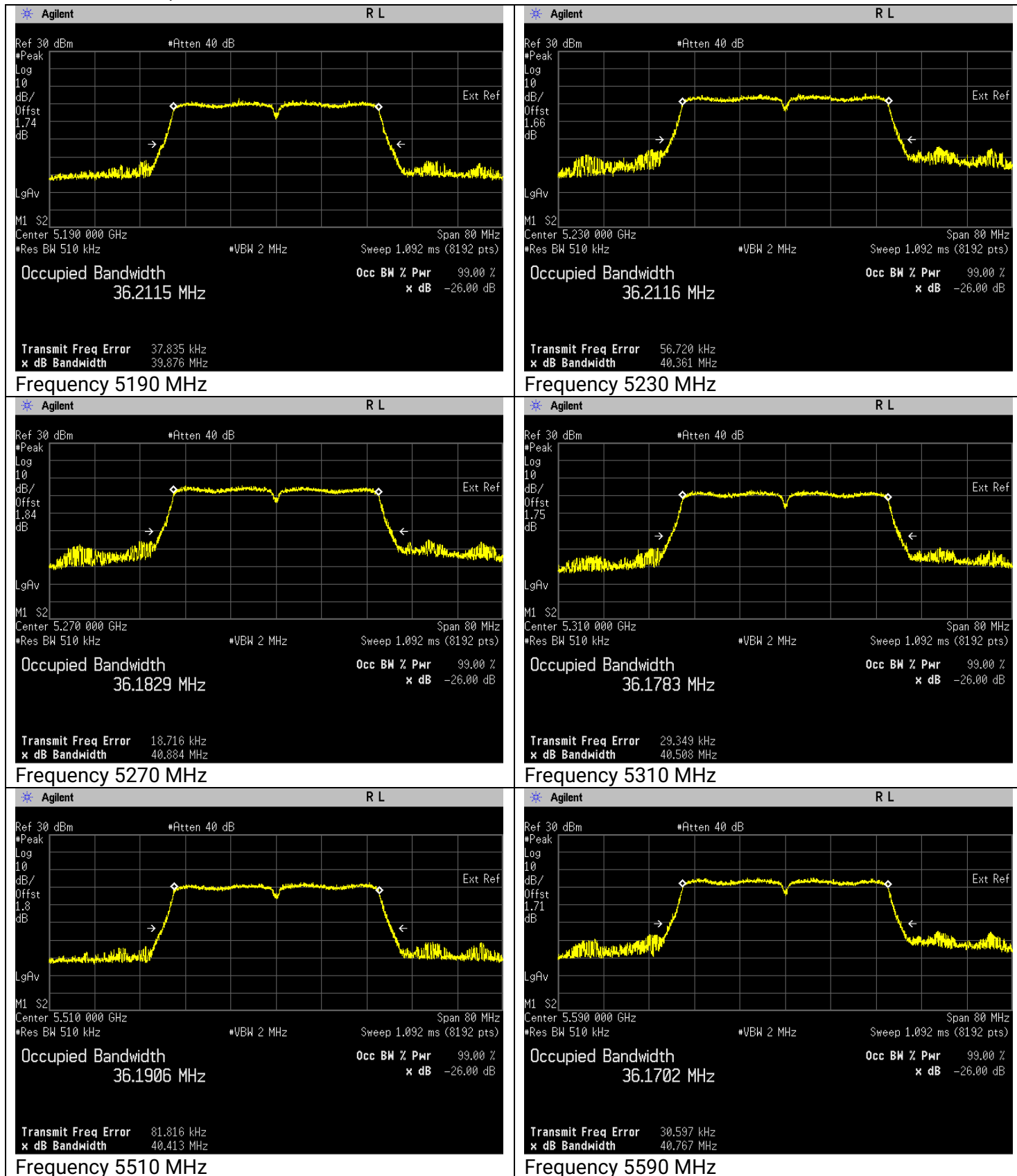


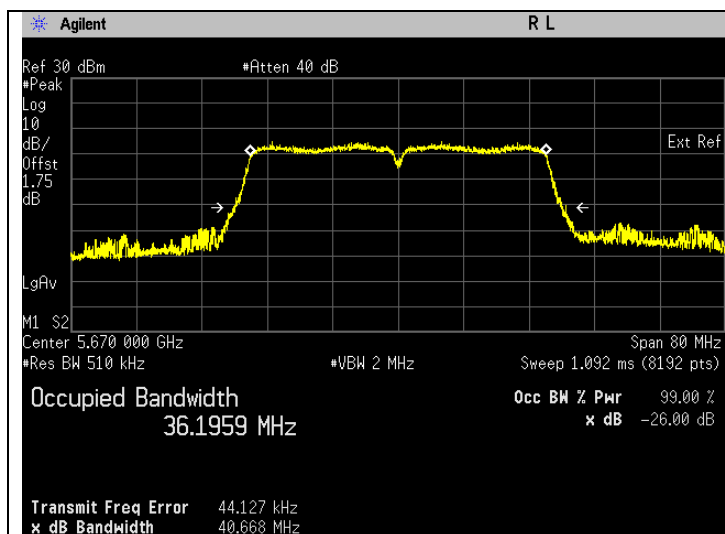
Frequency 5825 MHz

802.11n (HT40)

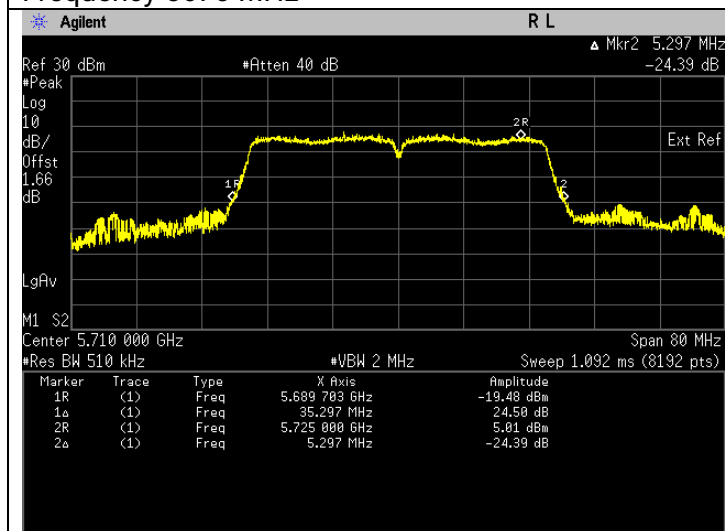
| Frequency (MHz) | Test Configuration                              | Results              |        |                    |        |
|-----------------|-------------------------------------------------|----------------------|--------|--------------------|--------|
|                 |                                                 | 26 dB Bandwidth(MHz) | Status | 99% Bandwidth(MHz) | Status |
| 5190            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 39.876               | Pass   | 36.212             | Pass   |
| 5230            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.361               | Pass   | 36.212             | Pass   |
| 5270            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.884               | Pass   | 36.183             | Pass   |
| 5310            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.508               | Pass   | 36.178             | Pass   |
| 5510            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.413               | Pass   | 36.191             | Pass   |
| 5590            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.767               | Pass   | 36.171             | Pass   |
| 5670            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.668               | Pass   | 36.196             | Pass   |
| 5710            | Mod Type: BPSK, Data Rate: MCS0 (13.5), UNII-2C | 35.297               | Pass   | 33.110             | Pass   |
| 5710            | Mod Type: BPSK, Data Rate: MCS0 (13.5), UNII-3  | 5.297                | Pass   | 3.110              | Pass   |
| 5755            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.410               | Pass   | 36.231             | Pass   |
| 5795            | Mod Type: BPSK, Data Rate: MCS0 (13.5)          | 40.488               | Pass   | 36.210             | Pass   |

## 26 dB Bandwidth/ 99% Bandwidth

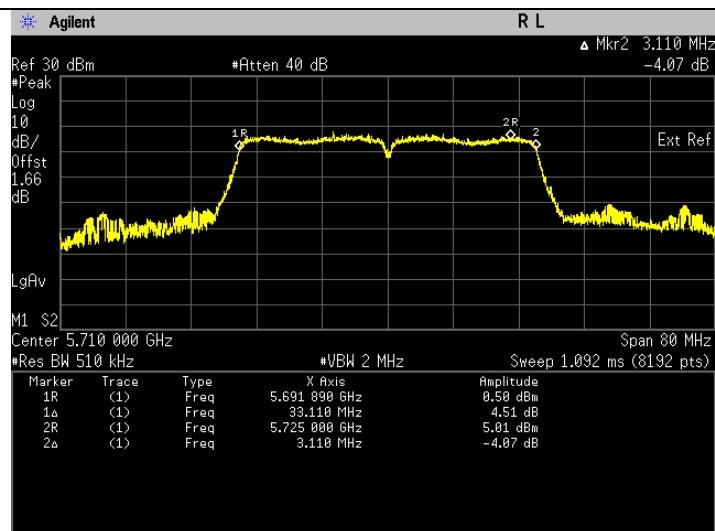




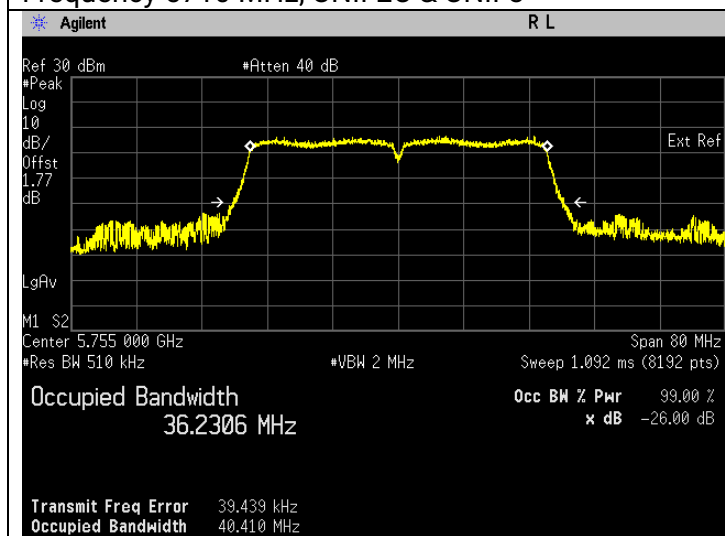
Frequency 5670 MHz



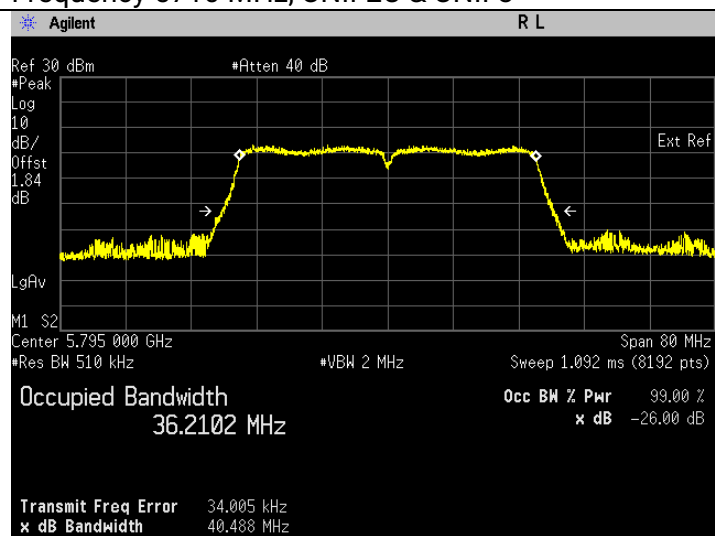
Frequency 5710 MHz, UNII-2C & UNII-3



Frequency 5710 MHz, UNII-2C & UNII-3



Frequency 5755 MHz

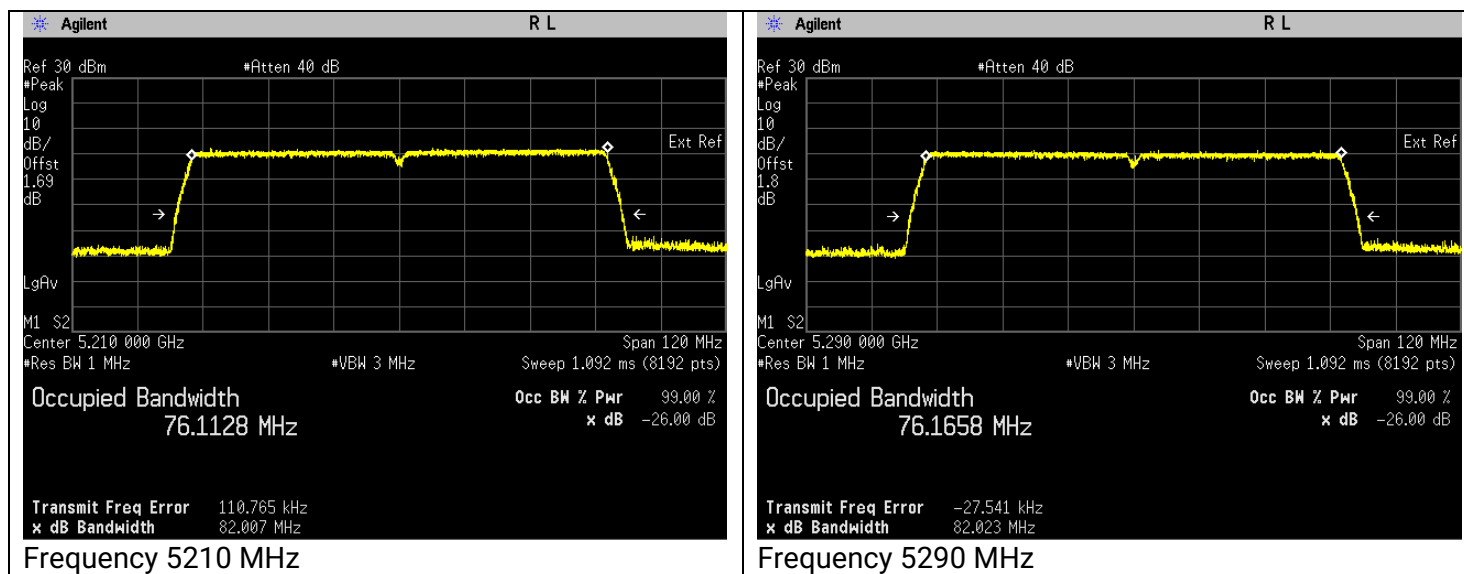


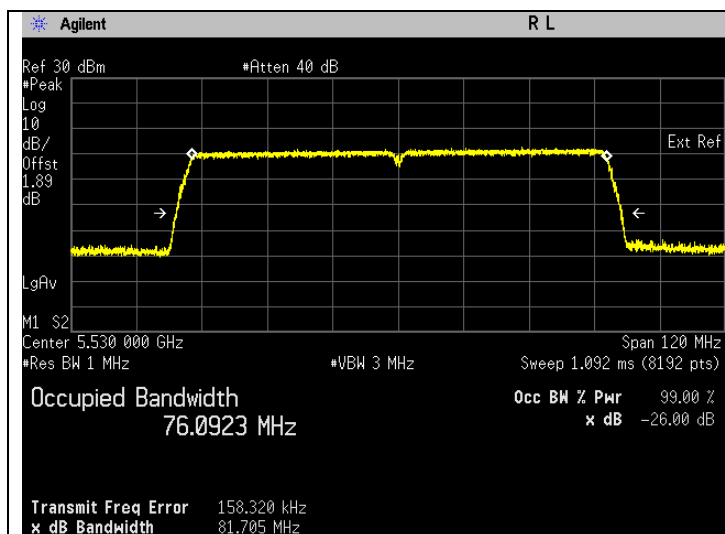
Frequency 5795 MHz

## 802.11ac (HT80)

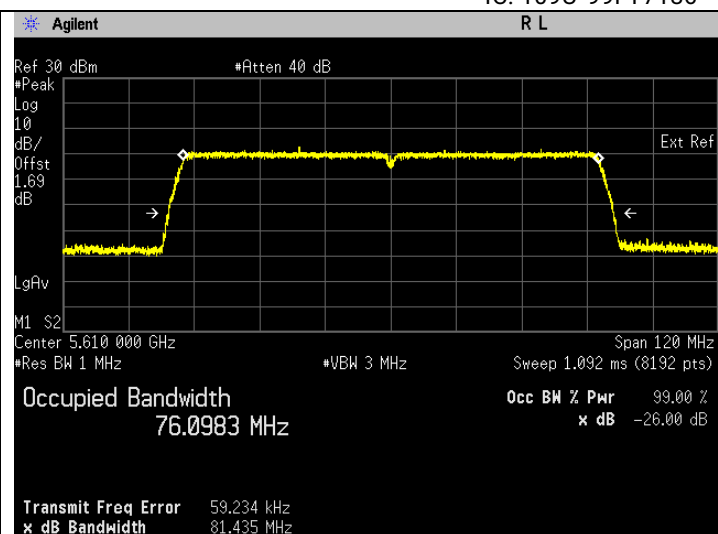
| Frequency (MHz) | Test Configuration                              | Results              |        |                    |        |
|-----------------|-------------------------------------------------|----------------------|--------|--------------------|--------|
|                 |                                                 | 26 dB Bandwidth(MHz) | Status | 99% Bandwidth(MHz) | Status |
| 5210            | Mod Type: BPSK, Data Rate: MCS0 (29.3)          | 82.007               | Pass   | 76.113             | Pass   |
| 5290            | Mod Type: BPSK, Data Rate: MCS0 (29.3)          | 82.023               | Pass   | 76.166             | Pass   |
| 5530            | Mod Type: BPSK, Data Rate: MCS0 (29.3)          | 81.705               | Pass   | 76.092             | Pass   |
| 5610            | Mod Type: BPSK, Data Rate: MCS0 (29.3)          | 81.435               | Pass   | 76.098             | Pass   |
| 5690            | Mod Type: BPSK, Data Rate: MCS0 (29.3), UNII-2C | 75.974               | Pass   | 73.047             | Pass   |
| 5690            | Mod Type: BPSK, Data Rate: MCS0 (29.3), UNII-3  | 5.974                | Pass   | 3.047              | Pass   |
| 5775            | Mod Type: BPSK, Data Rate: MCS0 (29.3)          | 81.563               | Pass   | 76.093             | Pass   |

## 26 dB Bandwidth/ 99% Bandwidth

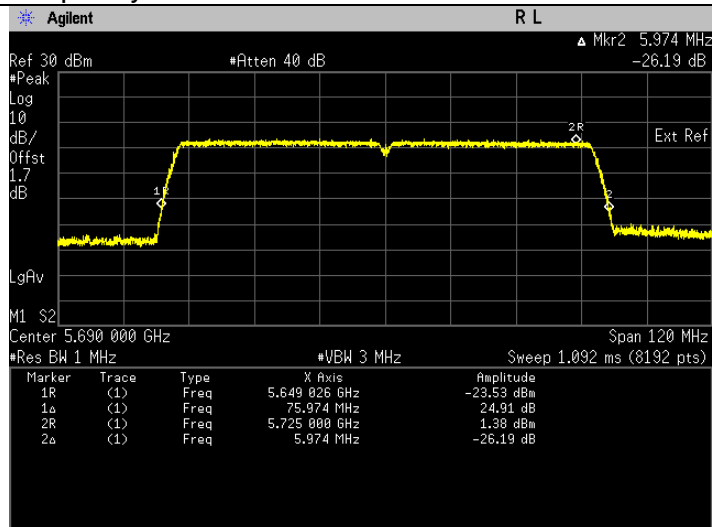




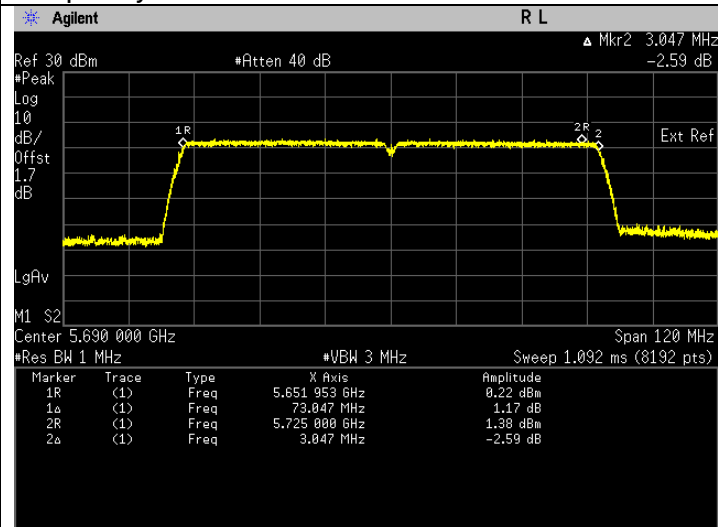
Frequency 5530 MHz



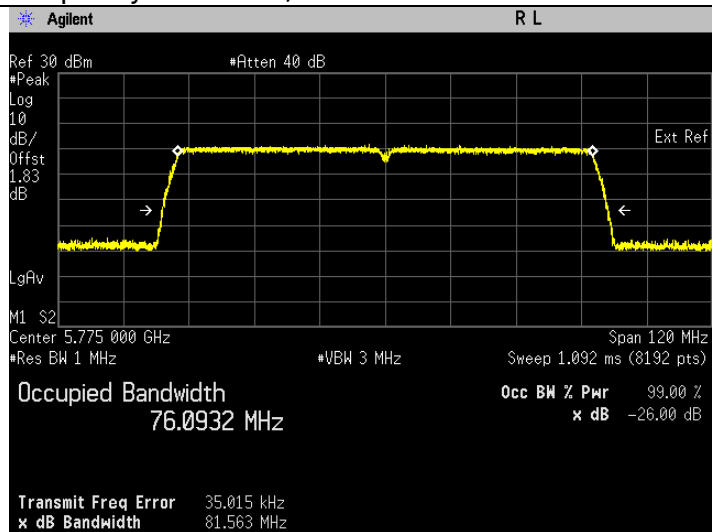
Frequency 5610 MHz



Frequency 5690 MHz, UNII-2C & UNII-3



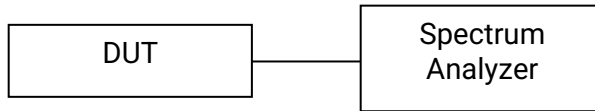
Frequency 5690 MHz, UNII-2C & UNII-3



Frequency 5775 MHz

## 6.2. Maximum Conducted Output Power

### 6.2.1. Test Setup



- Test setup as per illustrated above.
- Set DUT to transmit at desire transmit frequency.
- Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- Setting of Spectrum analyzer :
  - Span to encompass the entire 26dB EBW or 99% Occupied Bandwidth.
  - RBW = 1 MHz
  - VBW  $\geq$  3 MHz
  - Detector = power averaging (RMS)
  - Trace = Max hold
  - Number of points in sweep  $\geq 2 \times \text{span} / \text{RBW}$
  - Sweep time = auto
  - Trace average at least 100 traces in power averaging (rms) mode
  - Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges.
  - Add  $10 \log (1/x)$ , where x is the duty cycle, to the measured power to compute the average power during the actual transmission times
- The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause E.2.d) Method SA-2.
- The Maximum output power results are included duty cycle correction factor.

### 6.2.2. Test Limits

FCC 15.407(a)

| Range(GHz)              | Condition                            | Output Power Limit                        |
|-------------------------|--------------------------------------|-------------------------------------------|
| 5.15-5.25<br>(UNII-1)   | Outdoor AP                           | $\leq 1W$                                 |
|                         | Indoor AP                            | $\leq 1W$                                 |
|                         | Fixed Point to Point AP              | $\leq 1W$                                 |
|                         | √ Mobile and Portable client devices | $\leq 250mW$                              |
| 5.25-5.35<br>(UNII-2A)  | √                                    | $\leq 250mW$ or $11dBm + 10\log_{10} B^*$ |
| 5.47-5.525<br>(UNII-2C) | √                                    |                                           |

\*B is 26dB emission bandwidth in MHz

|                        |   |     |
|------------------------|---|-----|
| 5.725-5.85<br>(UNII-3) | ✓ | ≤1W |
|------------------------|---|-----|

#### RSS-247 6.2

| Range(GHz) | Condition              | Output Power Limit                                                    |
|------------|------------------------|-----------------------------------------------------------------------|
| 5.15-5.25  | indoor only (e.i.r.p.) | ≤200mW or $10+10\log_{10}B^*$<br>*B is 99% emission bandwidth in 1MHz |

|           |                        |                                                                                                                         |
|-----------|------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 5.25-5.35 | (Conducted & e.i.r.p.) | Conducted: ≤250mW or $11+10\log_{10}B^*$<br>EIRP: < 1.0W or $17+10\log_{10}B^*$<br>*B is 99% emission bandwidth in 1MHz |
|-----------|------------------------|-------------------------------------------------------------------------------------------------------------------------|

|                        |                        |                                                                                                                         |
|------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 5.47-5.6<br>5.65-5.725 | (Conducted & e.i.r.p.) | Conducted: ≤250mW or $11+10\log_{10}B^*$<br>EIRP: < 1.0W or $17+10\log_{10}B^*$<br>*B is 99% emission bandwidth in 1MHz |
|------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------|

|            |             |     |
|------------|-------------|-----|
| 5.725-5.85 | (Conducted) | ≤1W |
|------------|-------------|-----|

#### 6.2.3. Additional Info

| Antenna                      | Gain (dBi) |
|------------------------------|------------|
| UNII-1                       | 1.5        |
| UNII-2A & UNII-2C            | 3.5        |
| UNII-3                       | 5.5        |
| Duty Cycle Correction Factor |            |
| 802.11a                      | 0.048      |
| 802.11n20                    | 0.052      |
| 802.11n40                    | 0.098      |
| 802.11ac80                   | 0.202      |

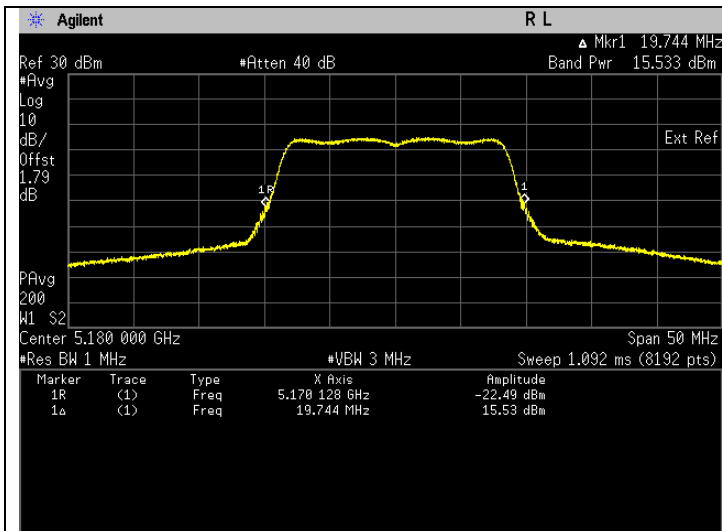
## 6.2.4. Test Data

### Summary table

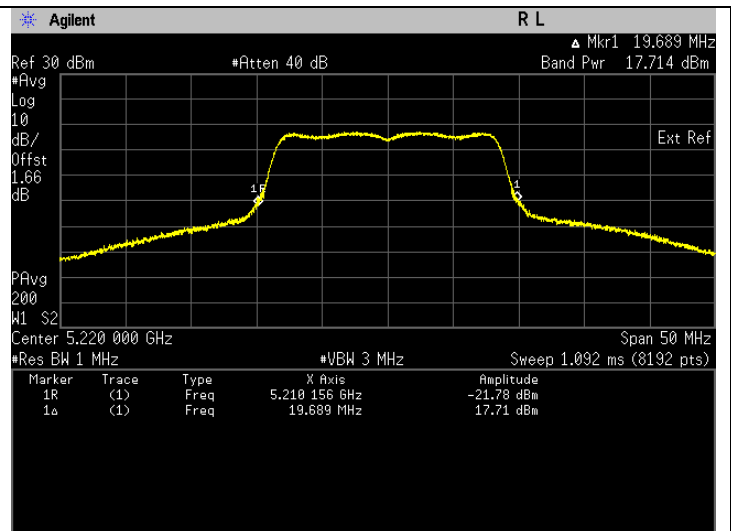
| WLAN              | Frequency Range (MHz) | Bandwidth (MHz) | RF Power Output   |                   | EIRP              |                   | Max Emission Designator |
|-------------------|-----------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------------|
|                   |                       |                 | Max measured (mW) | Max declared (mW) | Max measured (mW) | Max declared (mW) |                         |
| 802.11a           | 5180-5240             | 20              | 61.70             | 63.10             | 87.16             | 89.13             | 16M7D1D                 |
|                   | 5260-5320             | 20              | 49.43             | 63.10             | 110.66            | 141.25            | 16M7D1D                 |
|                   | 5500-5580             | 20              | 60.51             | 63.10             | 135.46            | 141.25            | 16M7D1D                 |
|                   | 5660-5720             | 20              | 50.89             | 63.10             | 113.92            | 141.25            | 16M7D1D                 |
|                   | 5745-5825             | 20              | 59.51             | 63.10             | 211.15            | 223.87            | 16M7D1D                 |
| 802.11n/ac (HT20) | 5180-5240             | 20              | 36.10             | 39.81             | 50.99             | 56.23             | 17M7D1D                 |
|                   | 5260-5320             | 20              | 31.54             | 39.81             | 70.62             | 89.13             | 17M7D1D                 |
|                   | 5500-5580             | 20              | 30.28             | 39.81             | 67.80             | 89.13             | 17M7D1D                 |
|                   | 5660-5720             | 20              | 32.76             | 39.81             | 73.33             | 89.13             | 17M7D1D                 |
|                   | 5745-5825             | 20              | 35.85             | 39.81             | 127.20            | 141.25            | 17M7D1D                 |
| 802.11n/ac (HT40) | 5190-5230             | 40              | 30.04             | 39.81             | 42.43             | 56.23             | 36M2D1D                 |
|                   | 5270-5310             | 40              | 31.67             | 39.81             | 70.89             | 89.13             | 36M2D1D                 |
|                   | 5510-5550             | 40              | 15.69             | 39.81             | 35.13             | 89.13             | 36M2D1D                 |
|                   | 5670-5710             | 40              | 38.91             | 39.81             | 87.12             | 89.13             | 36M2D1D                 |
|                   | 5755-5795             | 40              | 37.10             | 39.81             | 131.64            | 141.25            | 36M2D1D                 |
| 802.11ac (VHT80)  | 5210                  | 80              | 14.74             | 15.85             | 20.82             | 22.39             | 76M1D1D                 |
|                   | 5290                  | 80              | 12.32             | 15.85             | 27.58             | 35.48             | 76M2D1D                 |
|                   | 5530                  | 80              | 14.80             | 15.85             | 33.13             | 35.48             | 76M1D1D                 |
|                   | 5690                  | 80              | 18.98             | 19.95             | 42.49             | 44.67             | 76M1D1D                 |
|                   | 5775                  | 80              | 12.48             | 15.85             | 44.29             | 56.23             | 76M1D1D                 |

# 802.11a (26dB EBW)

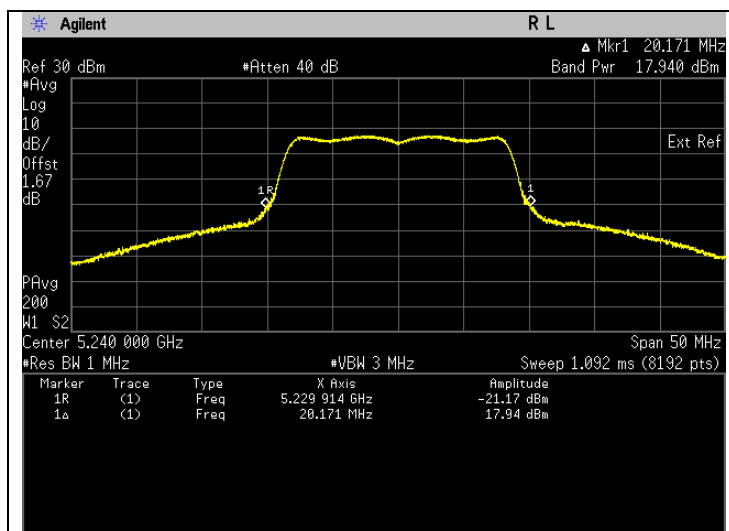
| Freq.<br>(MHz) | Test Conditions              | Results       |                |        |
|----------------|------------------------------|---------------|----------------|--------|
|                |                              | Power<br>(mW) | Power<br>(dBm) | Status |
| 5180           | Mod Type: BPSK, Data Rate: 6 | 36.150        | 15.581         | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: 6 | 59.732        | 17.762         | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: 6 | 62.922        | 17.988         | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: 6 | 50.258        | 17.012         | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: 6 | 35.270        | 15.474         | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: 6 | 33.971        | 15.311         | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: 6 | 30.853        | 14.893         | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: 6 | 62.216        | 17.939         | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: 6 | 28.223        | 14.506         | Pass   |
| 5745           | Mod Type: BPSK, Data Rate: 6 | 60.744        | 17.835         | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: 6 | 59.938        | 17.777         | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: 6 | 32.122        | 15.068         | Pass   |



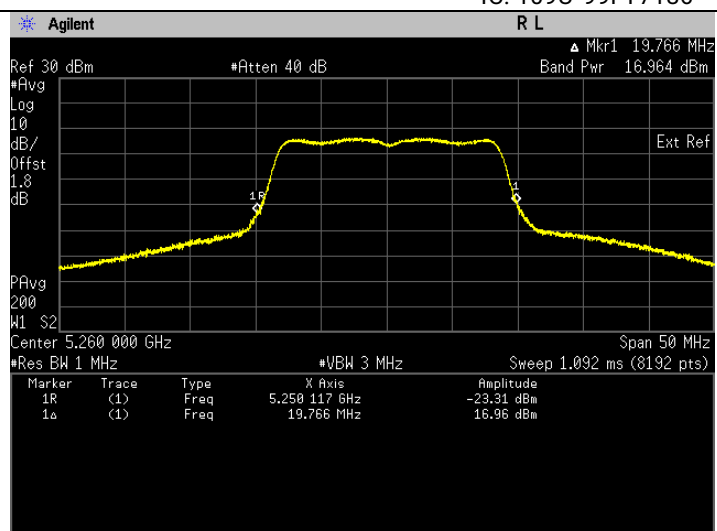
Frequency 5180 MHz



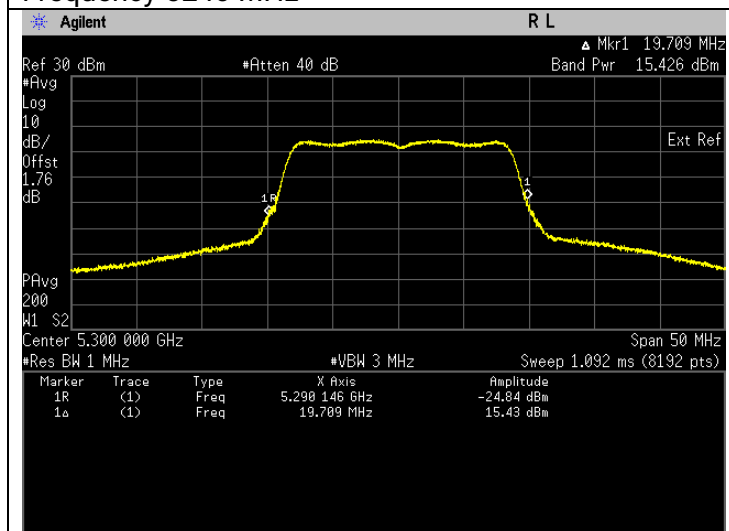
Frequency 5220 MHz



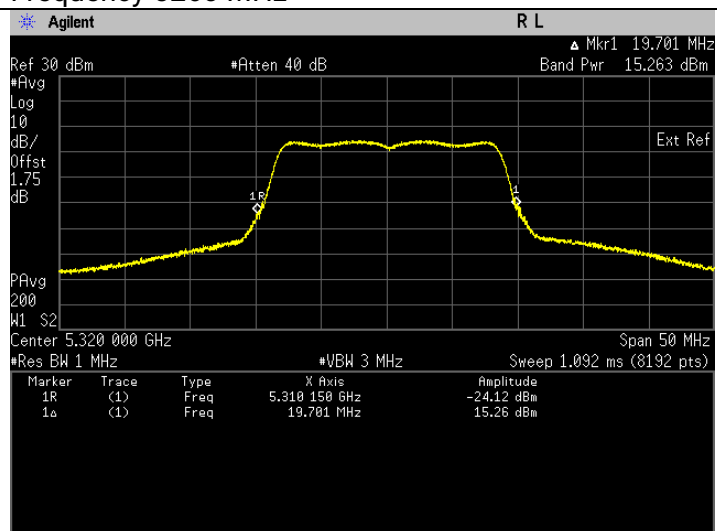
Frequency 5240 MHz



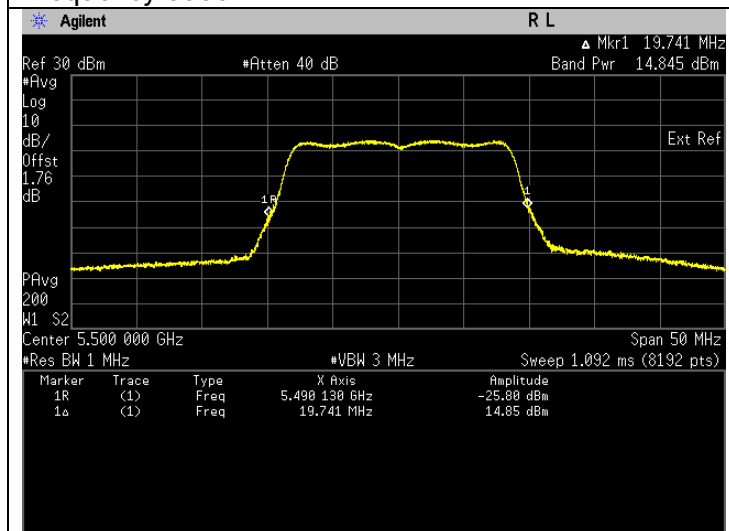
Frequency 5260 MHz



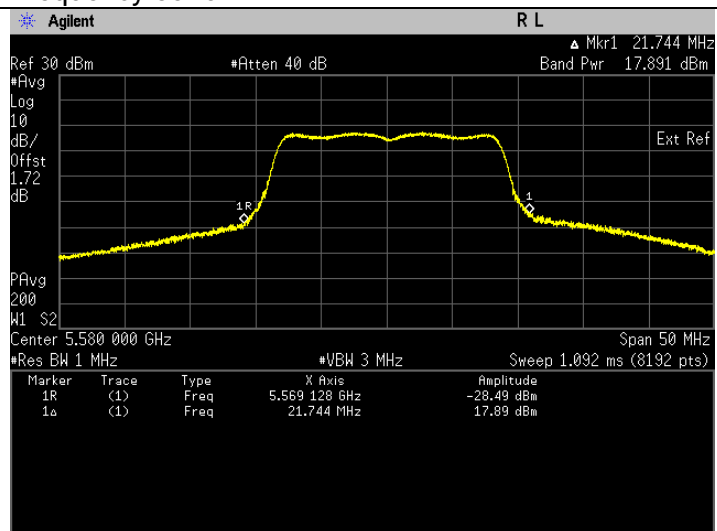
Frequency 5300 MHz



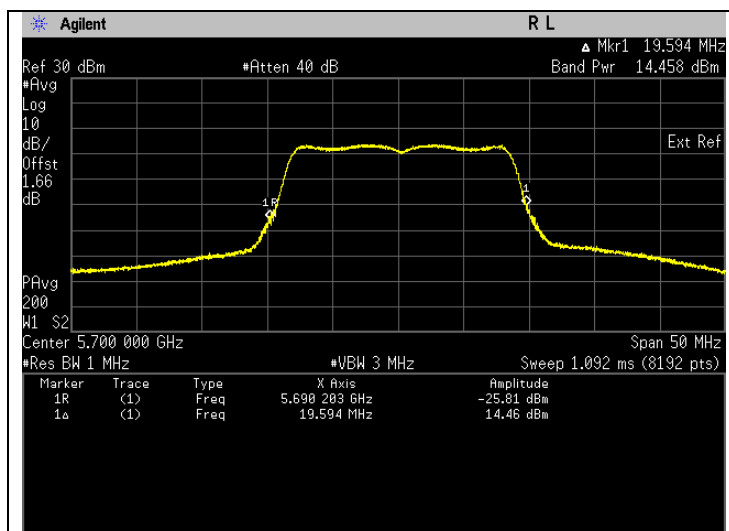
Frequency 5320 MHz



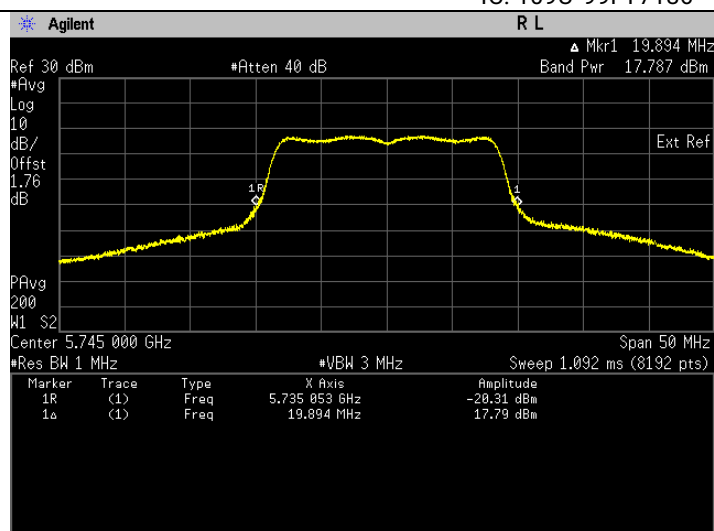
Frequency 5500 MHz



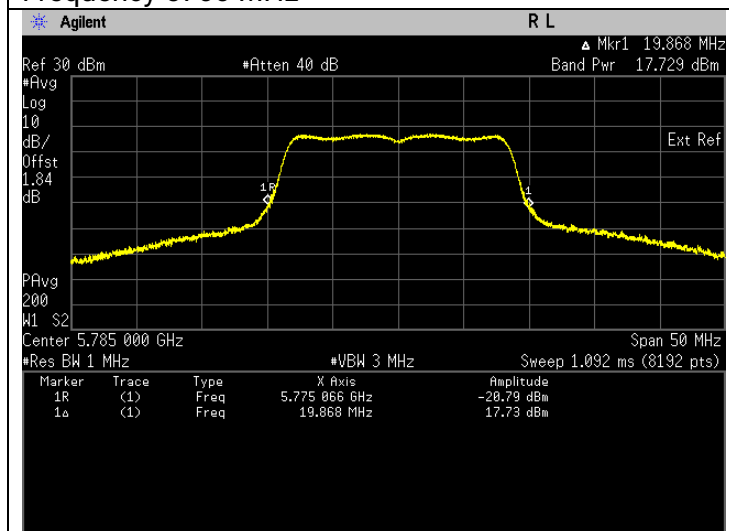
Frequency 5580 MHz



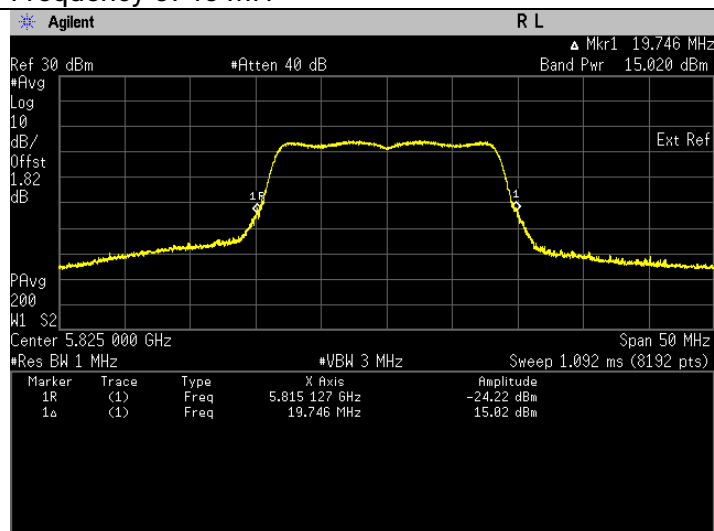
Frequency 5700 MHz



Frequency 5745 MHz



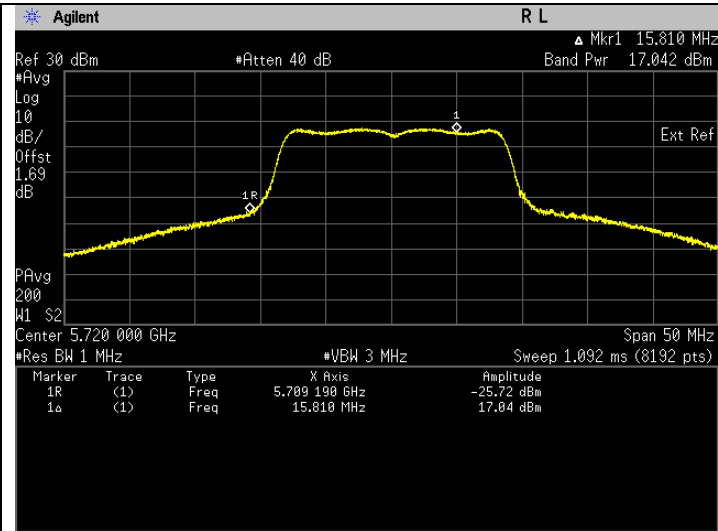
Frequency 5785 MHz



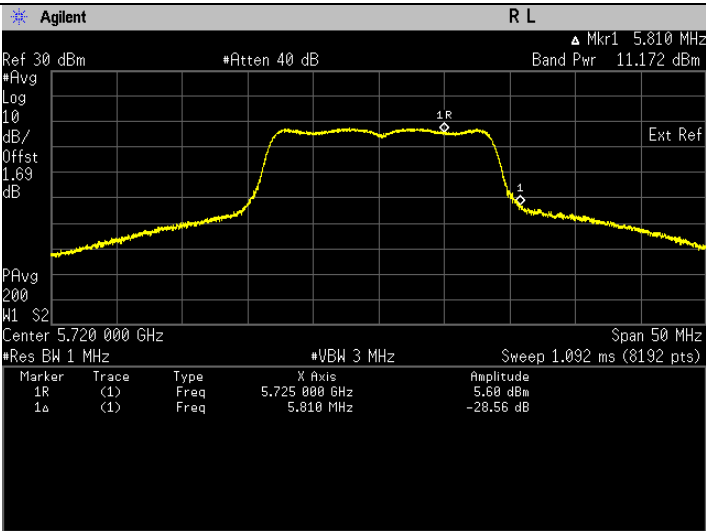
Frequency 5825 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions              | Results       |                |        |
|----------------|------------------------------|---------------|----------------|--------|
|                |                              | U-NII- 2C     |                |        |
|                |                              | Power<br>(mW) | Power<br>(dBm) | Status |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 51.169        | 17.090         | Pass   |
|                |                              | U-NII-3       |                |        |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 13.244        | 11.220         | Pass   |



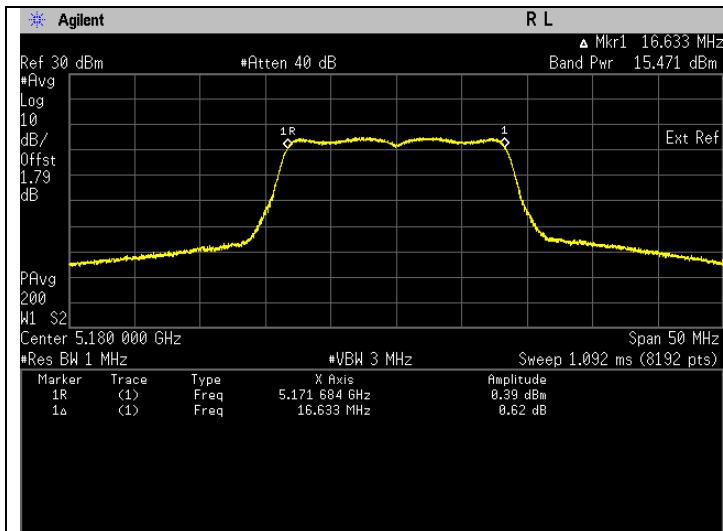
Frequency 5720 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.



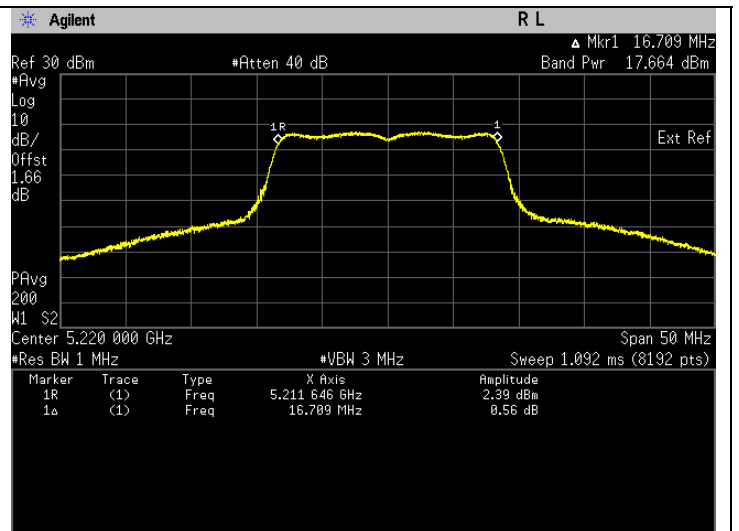
Frequency 5720 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

### 802.11a (99% EBW)

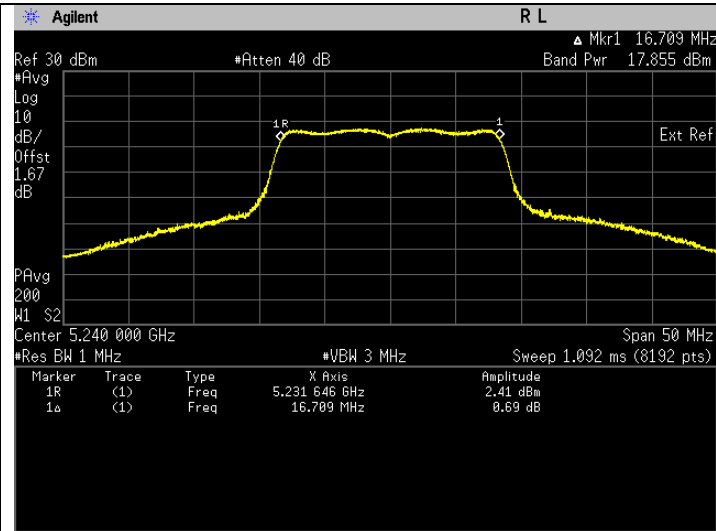
| Freq.<br>(MHz) | Test Conditions              | Results       |                |        |               |        |
|----------------|------------------------------|---------------|----------------|--------|---------------|--------|
|                |                              | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5180           | Mod Type: BPSK, Data Rate: 6 | 35.637        | 15.519         | Pass   | 17.019        | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: 6 | 59.048        | 17.712         | Pass   | 19.212        | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: 6 | 61.703        | 17.903         | Pass   | 19.403        | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: 6 | 49.431        | 16.940         | Pass   | 20.440        | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: 6 | 34.253        | 15.347         | Pass   | 18.847        | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: 6 | 33.698        | 15.276         | Pass   | 18.776        | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: 6 | 30.571        | 14.853         | Pass   | 18.353        | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: 6 | 60.507        | 17.818         | Pass   | 21.318        | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: 6 | 27.517        | 14.396         | Pass   | 17.896        | Pass   |
| 5745           | Mod Type: BPSK, Data Rate: 6 | 59.512        | 17.746         | Pass   | 23.246        | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: 6 | 59.116        | 17.717         | Pass   | 23.217        | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: 6 | 31.478        | 14.980         | Pass   | 20.480        | Pass   |



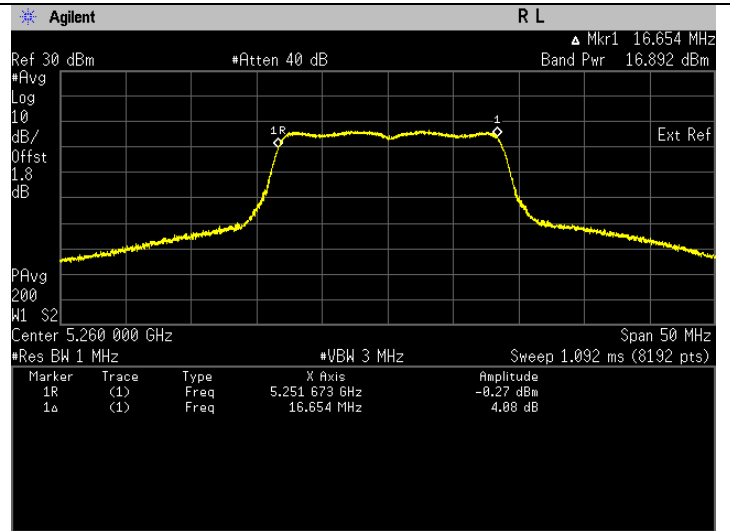
Frequency 5180 MHz



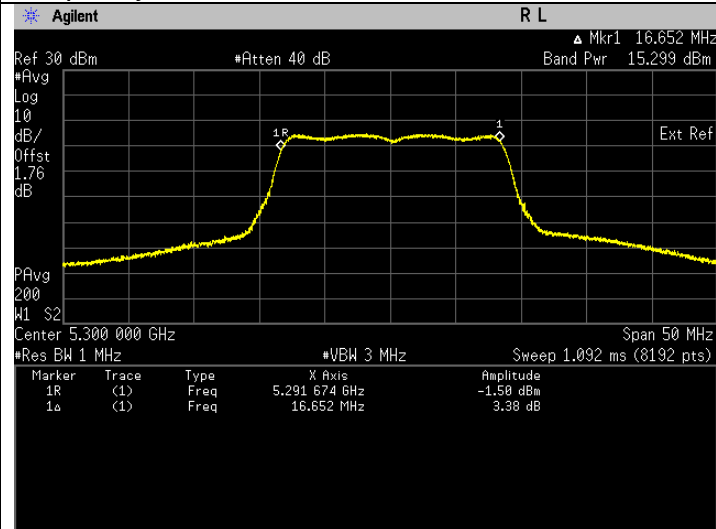
Frequency 5220 MHz



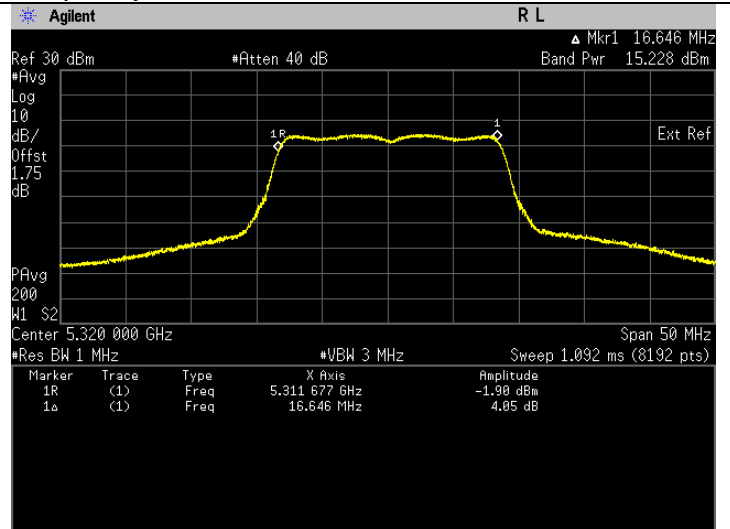
Frequency 5240 MHz



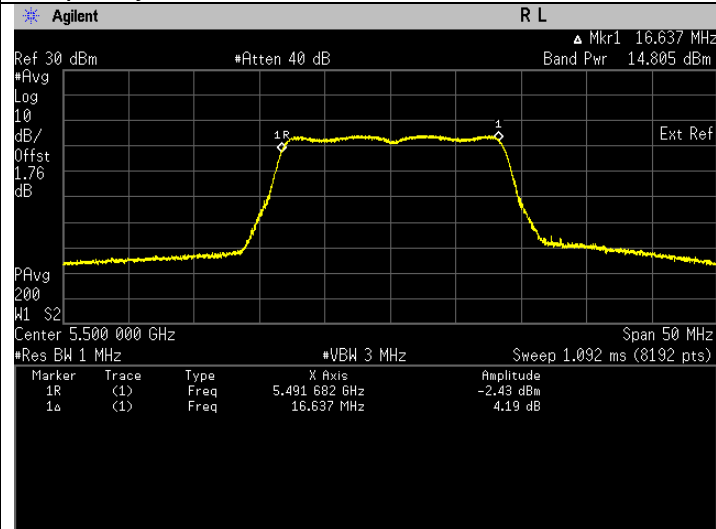
Frequency 5260 MHz



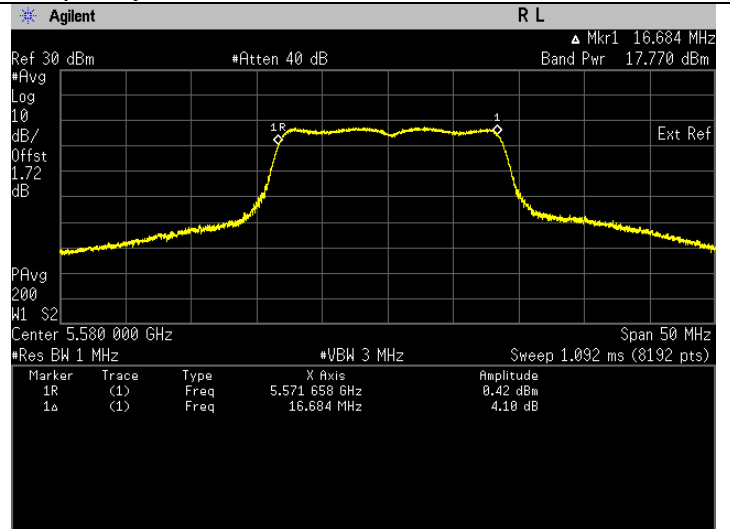
Frequency 5300 MHz



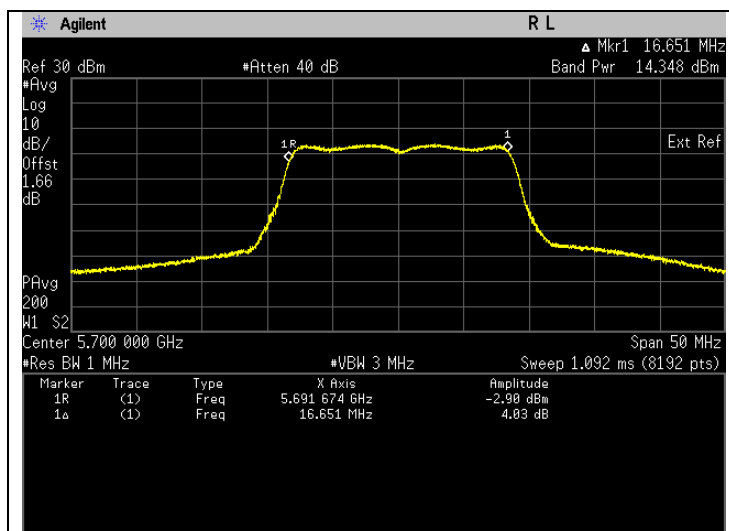
Frequency 5320 MHz



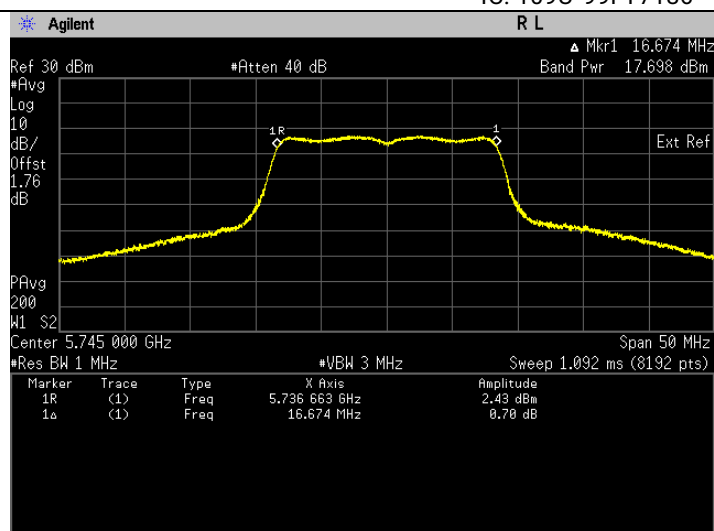
Frequency 5500 MHz



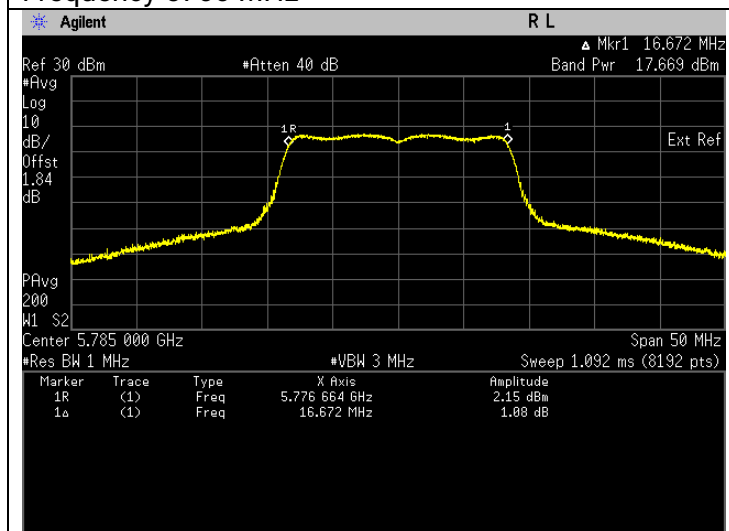
Frequency 5580 MHz



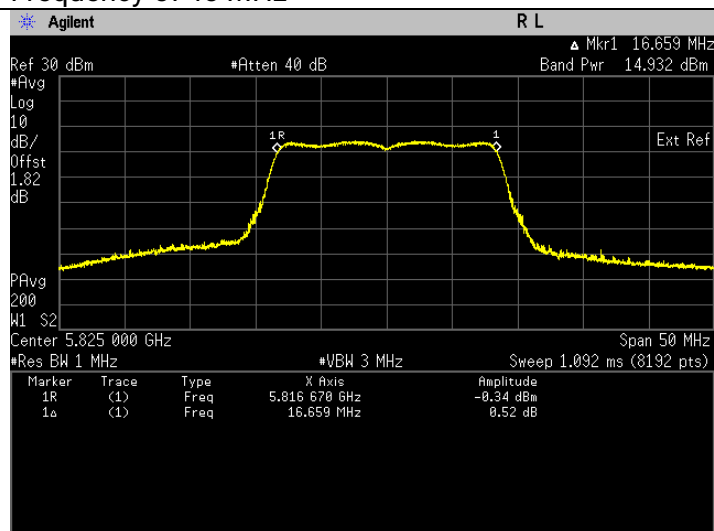
Frequency 5700 MHz



Frequency 5745 MHz



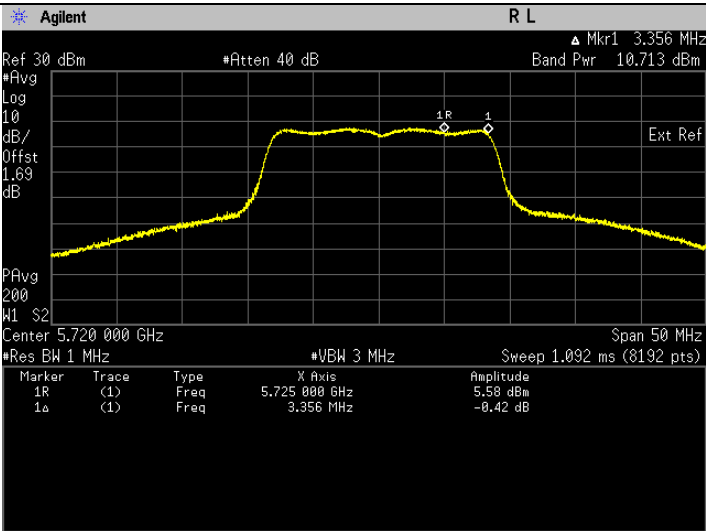
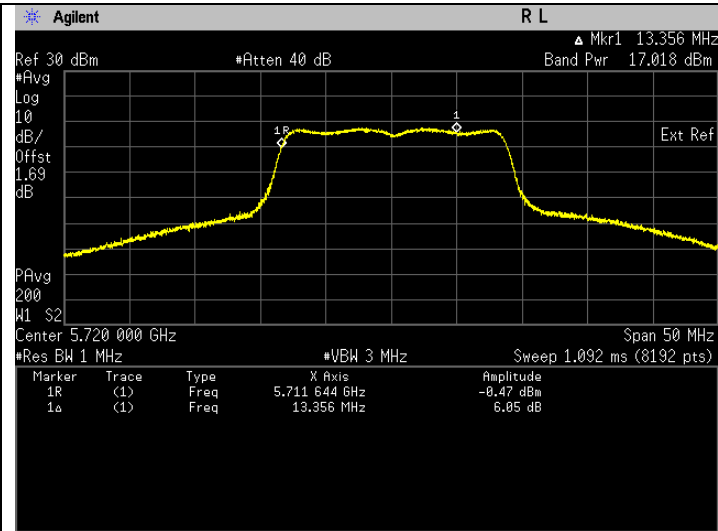
Frequency 5785 MHz



Frequency 5825 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions              | Results       |                |        |               |        |
|----------------|------------------------------|---------------|----------------|--------|---------------|--------|
|                |                              | U-NII- 2C     |                |        |               |        |
|                |                              | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 50.887        | 17.066         | Pass   | 20.566        | Pass   |
|                |                              | U-NII-3       |                |        |               |        |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 11.915        | 10.761         | Pass   | 14.261        | Pass   |

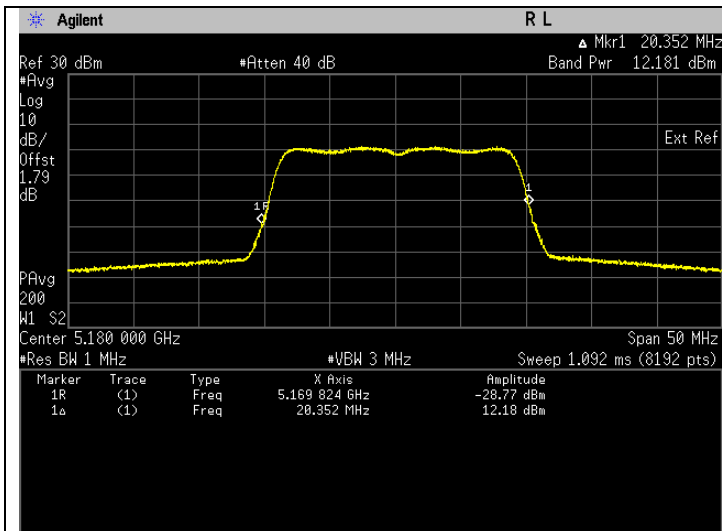


Frequency 5720 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.

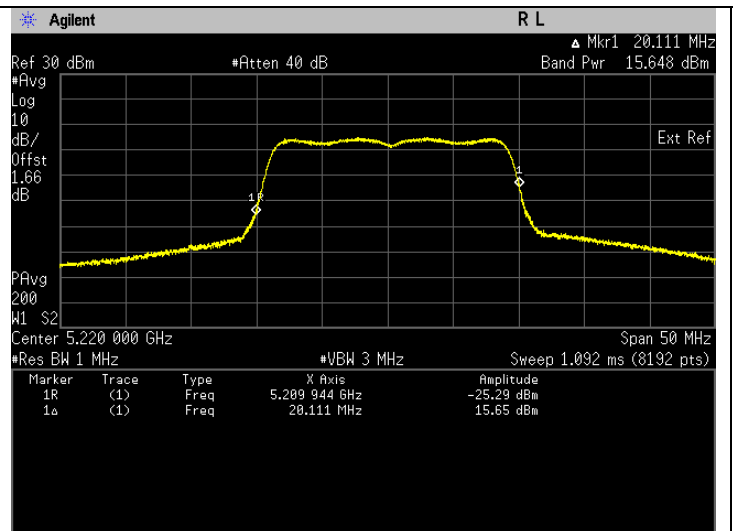
Frequency 5720 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

802.11n (HT20)(26dB EBW)

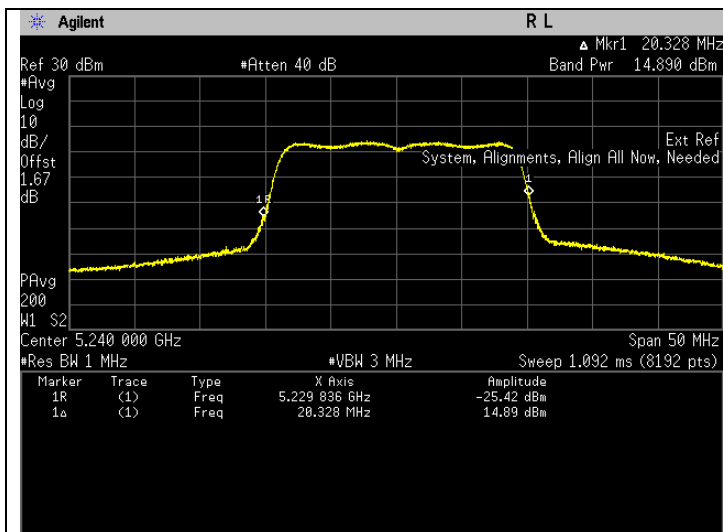
| Freq.<br>(MHz) | Test Conditions                       | Results       |                |        |
|----------------|---------------------------------------|---------------|----------------|--------|
|                |                                       | Power<br>(mW) | Power<br>(dBm) | Status |
| 5180           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 16.721        | 12.233         | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 37.150        | 15.700         | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 31.200        | 14.942         | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 32.177        | 15.075         | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 18.199        | 12.600         | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.723        | 12.485         | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 19.008        | 12.789         | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 31.042        | 14.919         | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 13.949        | 11.445         | Pass   |
| 5745           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 33.888        | 15.300         | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 36.665        | 15.643         | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.008        | 12.306         | Pass   |



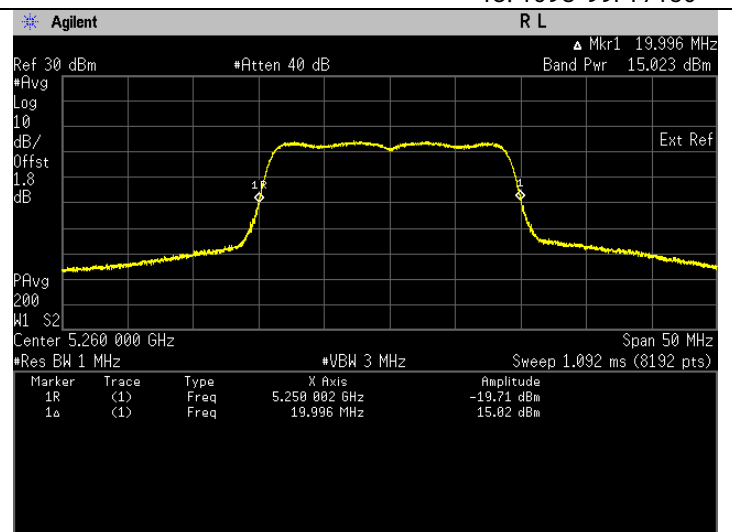
Frequency 5180 MHz



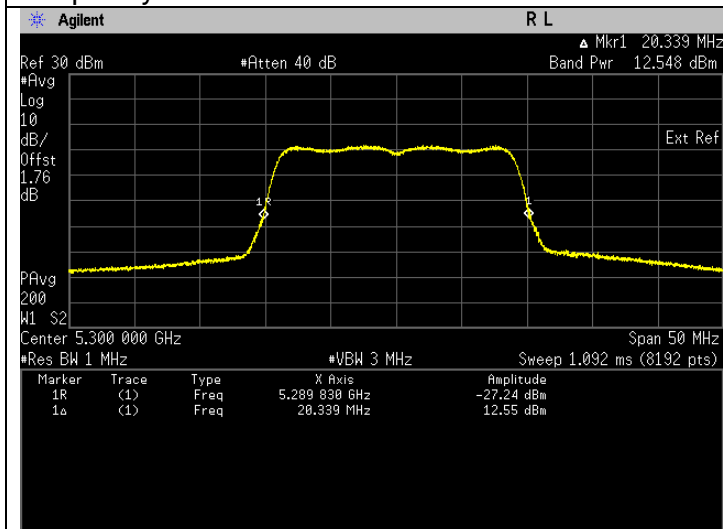
Frequency 5220 MHz



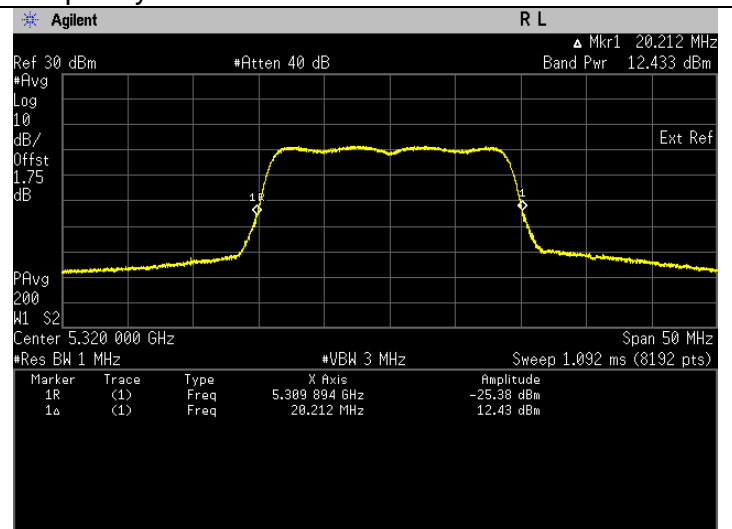
Frequency 5240 MHz



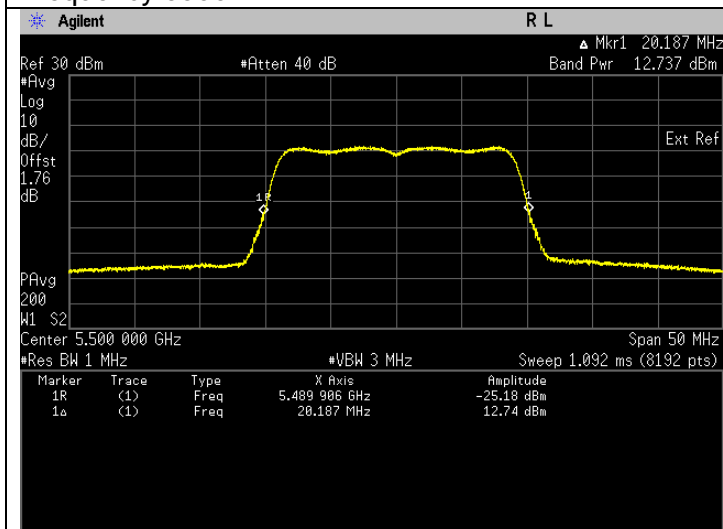
Frequency 5260 MHz



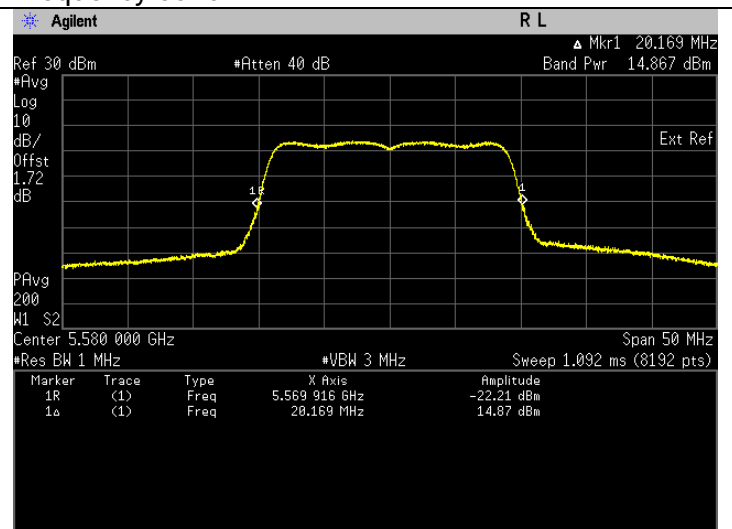
Frequency 5300 MHz



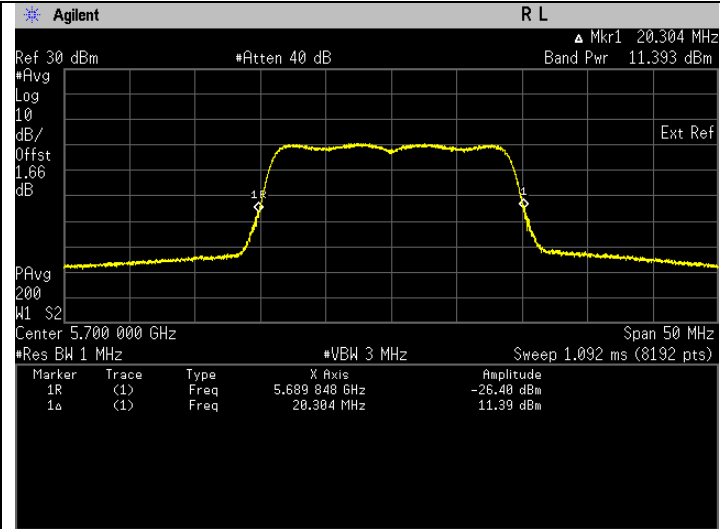
Frequency 5320 MHz



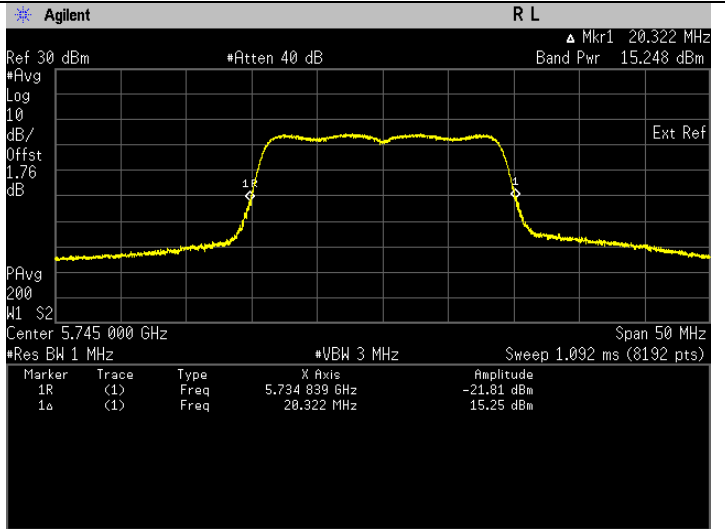
Frequency 5500 MHz



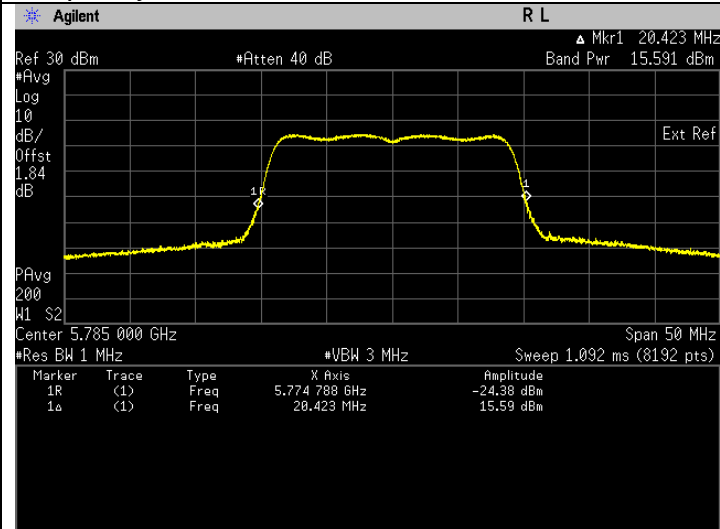
Frequency 5580 MHz



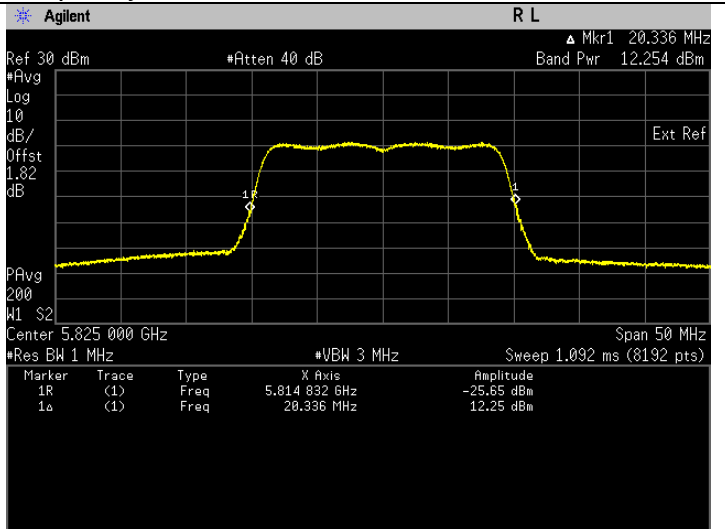
Frequency 5700 MHz



Frequency 5745 MHz



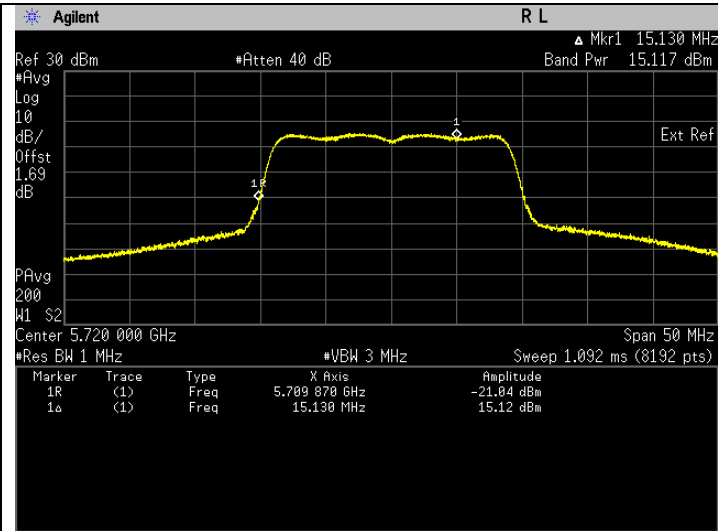
Frequency 5785 MHz



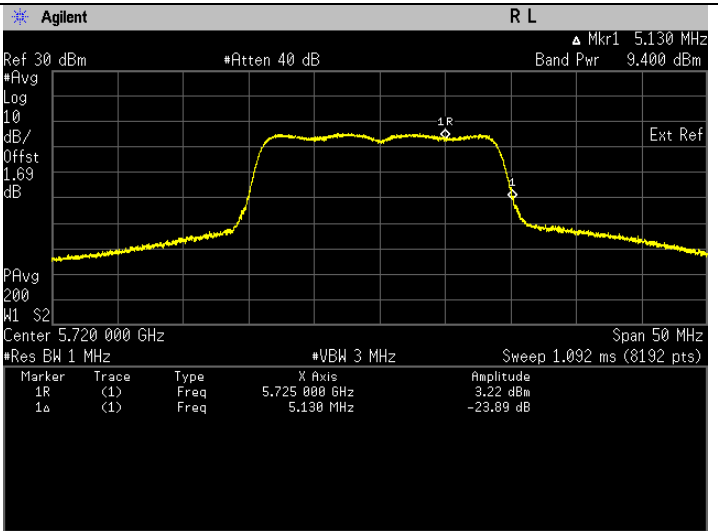
Frequency 5825 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                       | Results       |                |        |
|----------------|---------------------------------------|---------------|----------------|--------|
|                |                                       | U-NII- 2C     |                |        |
|                |                                       | Power<br>(mW) | Power<br>(dBm) | Status |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 32.881        | 15.169         | Pass   |
|                |                                       | U-NII-3       |                |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 8.815         | 9.452          | Pass   |



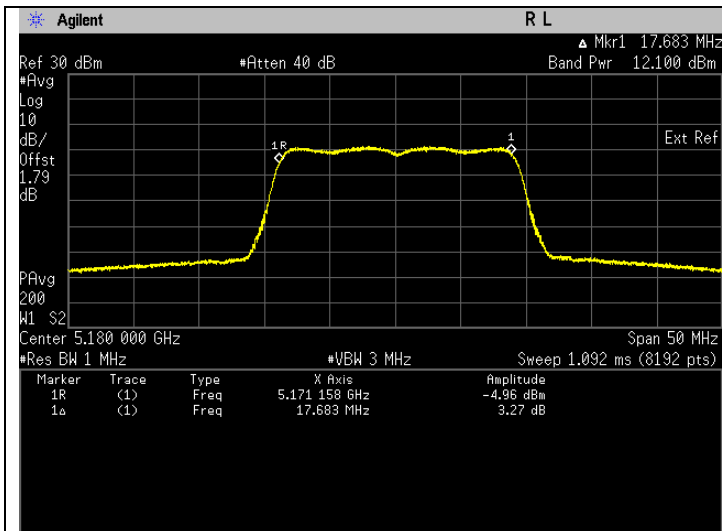
Frequency 5720 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.



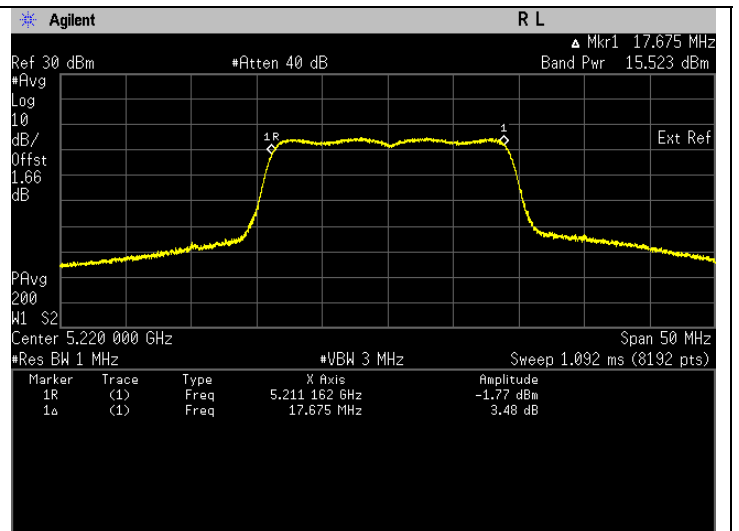
Frequency 5720 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

# 802.11n (HT20)(99% EBW)

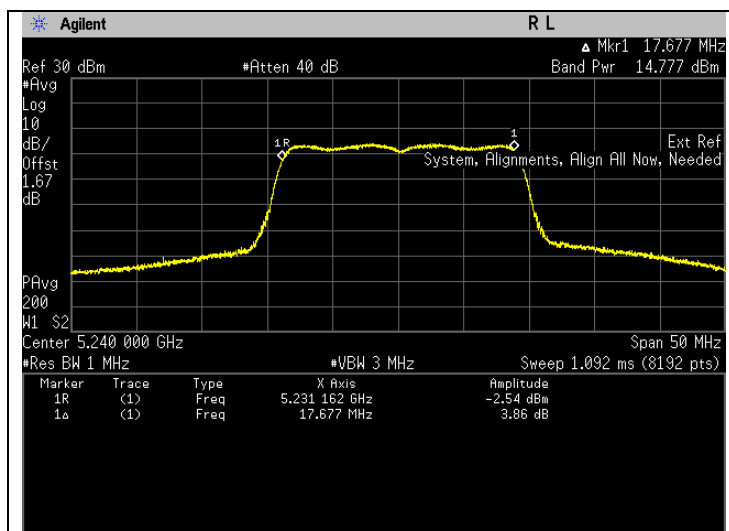
| Freq.<br>(MHz) | Test Conditions                       | Results       |                |        |               |        |
|----------------|---------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                       | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5180           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 16.412        | 12.152         | Pass   | 13.652        | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 36.096        | 15.575         | Pass   | 17.075        | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 30.399        | 14.829         | Pass   | 16.329        | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 31.546        | 14.989         | Pass   | 18.489        | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.867        | 12.520         | Pass   | 16.020        | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.260        | 12.370         | Pass   | 15.870        | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 18.648        | 12.706         | Pass   | 16.206        | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 30.286        | 14.812         | Pass   | 18.312        | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 13.578        | 11.328         | Pass   | 14.828        | Pass   |
| 5745           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 32.798        | 15.158         | Pass   | 20.658        | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 35.847        | 15.545         | Pass   | 21.045        | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 16.624        | 12.207         | Pass   | 17.707        | Pass   |



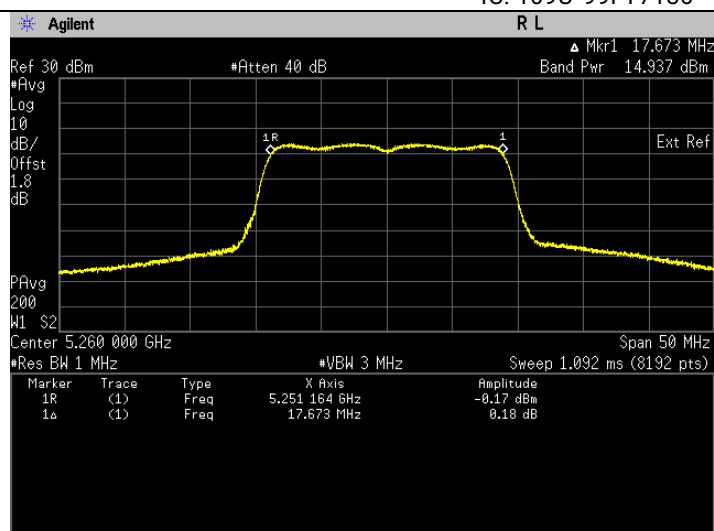
Frequency 5180 MHz



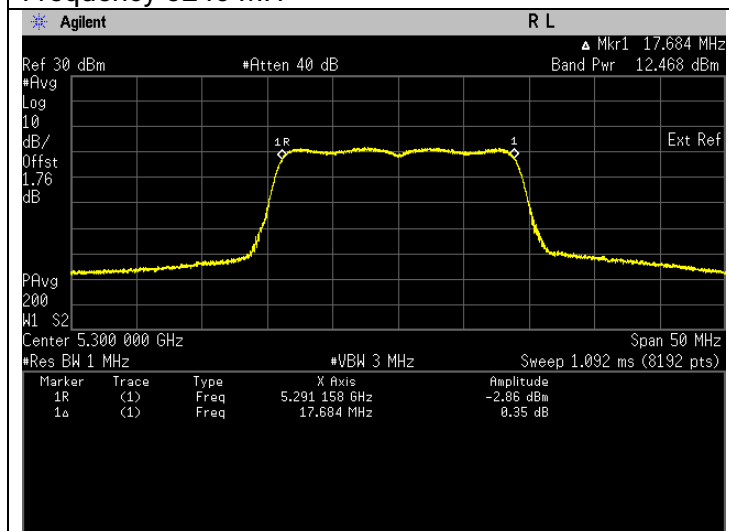
Frequency 5220 MHz



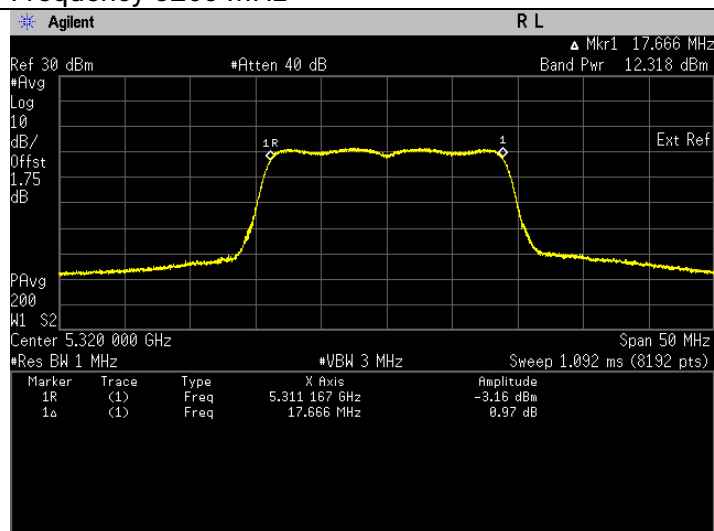
Frequency 5240 MH



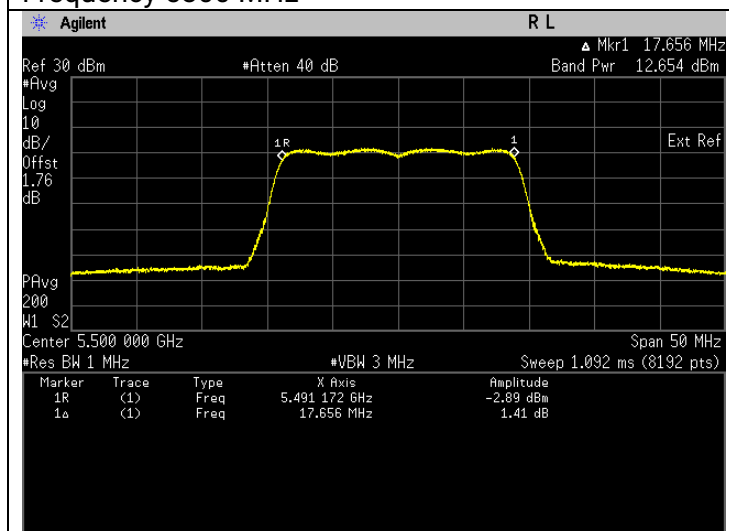
Frequency 5260 MHz



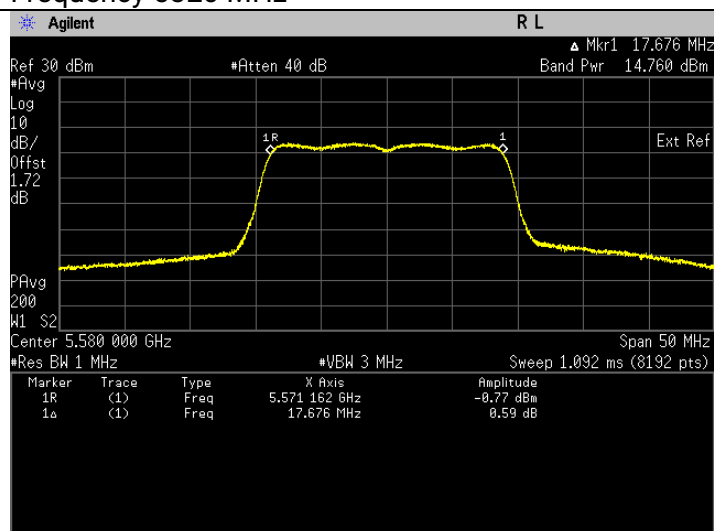
Frequency 5300 MHz



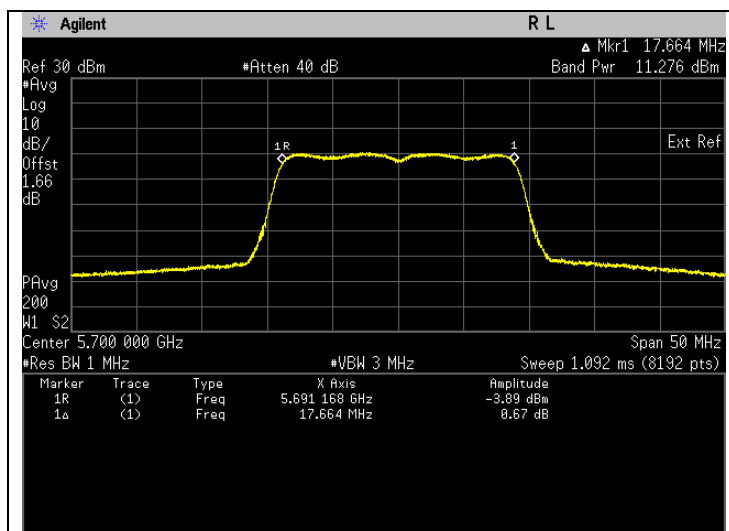
Frequency 5320 MHz



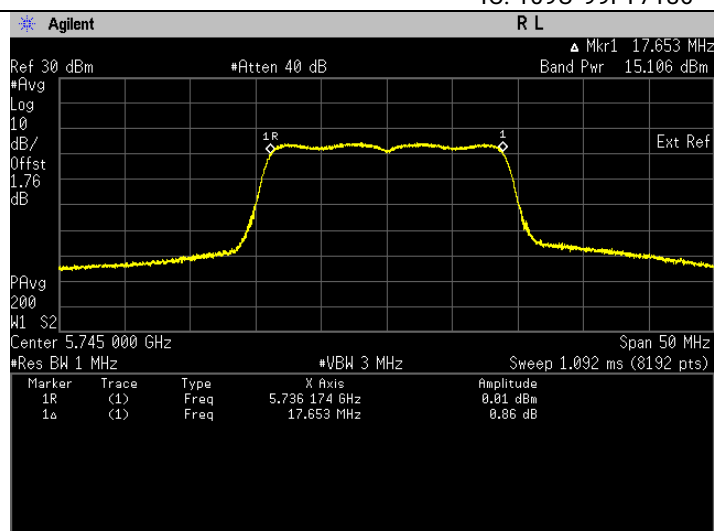
Frequency 5500 MHz



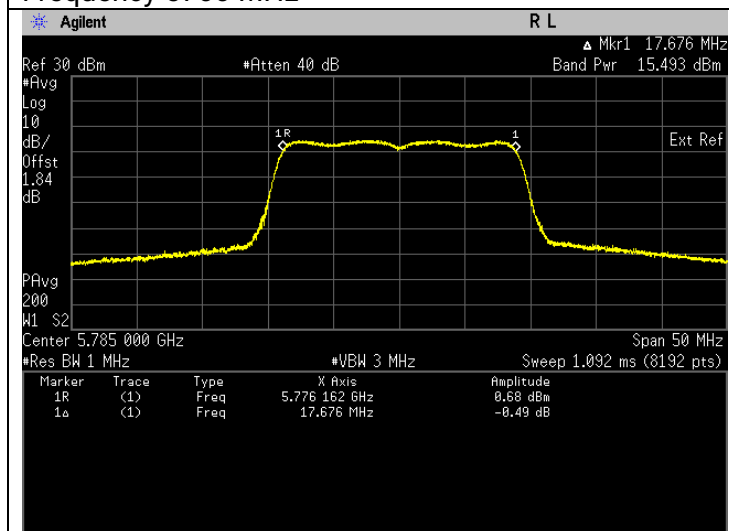
Frequency 5580 MHz



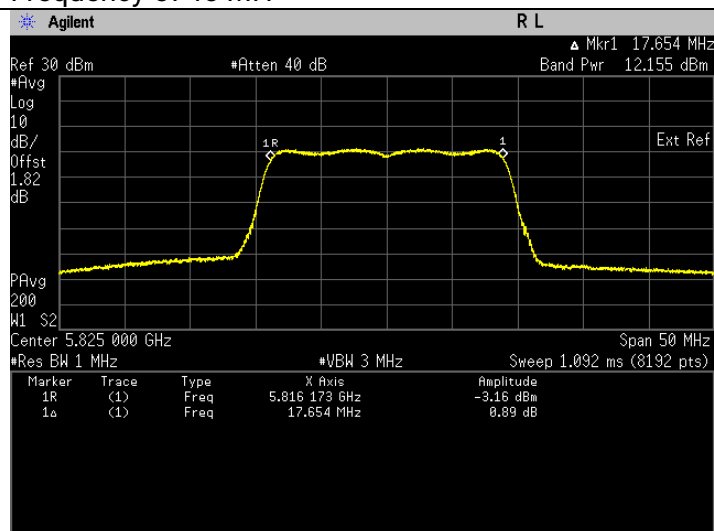
Frequency 5700 MHz



Frequency 5745 MHz



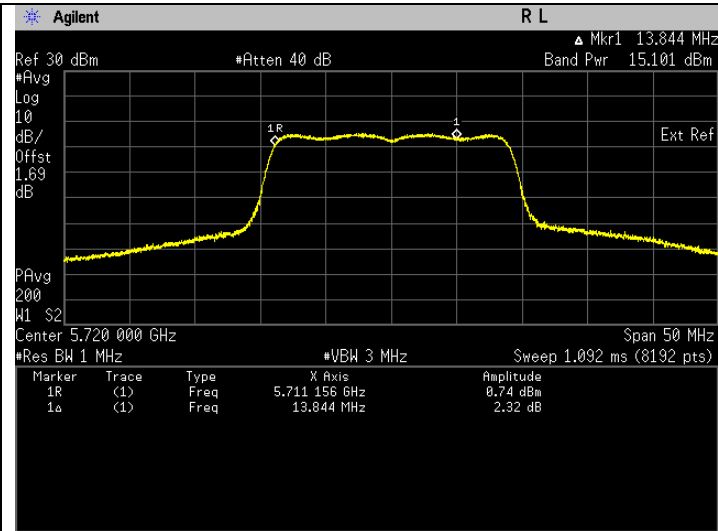
Frequency 5785 MHz



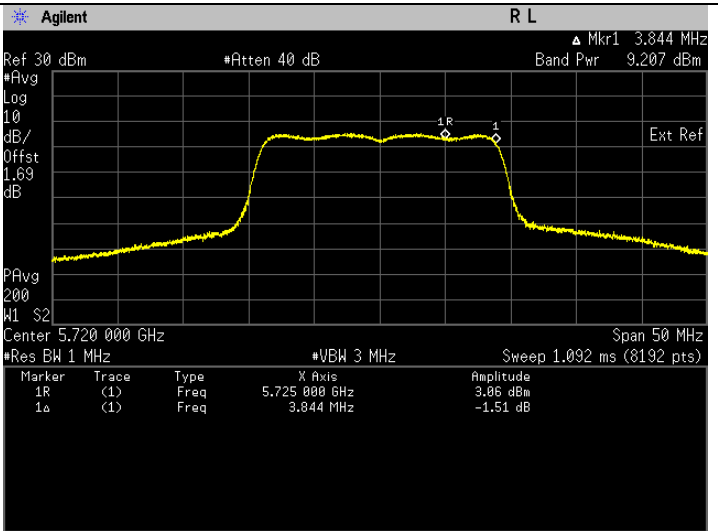
Frequency 5825 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                       | Results       |                |        |               |        |
|----------------|---------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                       | U-NII- 2C     |                |        |               |        |
|                |                                       | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 32.760        | 15.153         | Pass   | 18.653        | Pass   |
| U-NII-3        |                                       |               |                |        |               |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 8.432         | 9.259          | Pass   | 12.759        | Pass   |



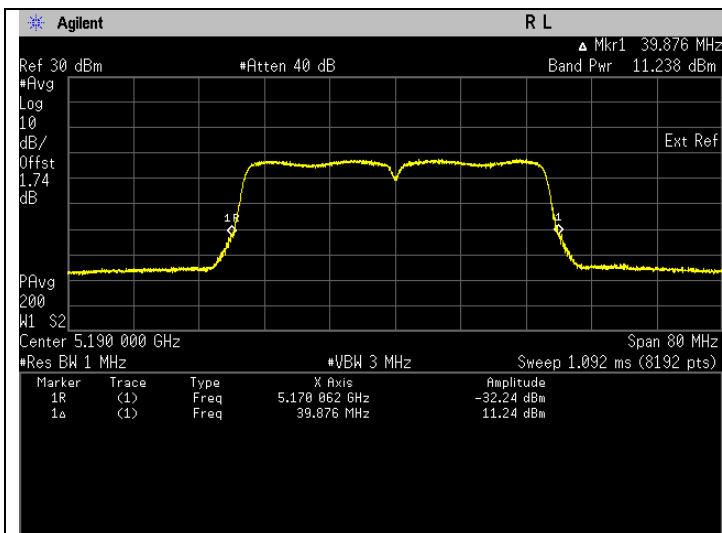
Frequency 5720 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.



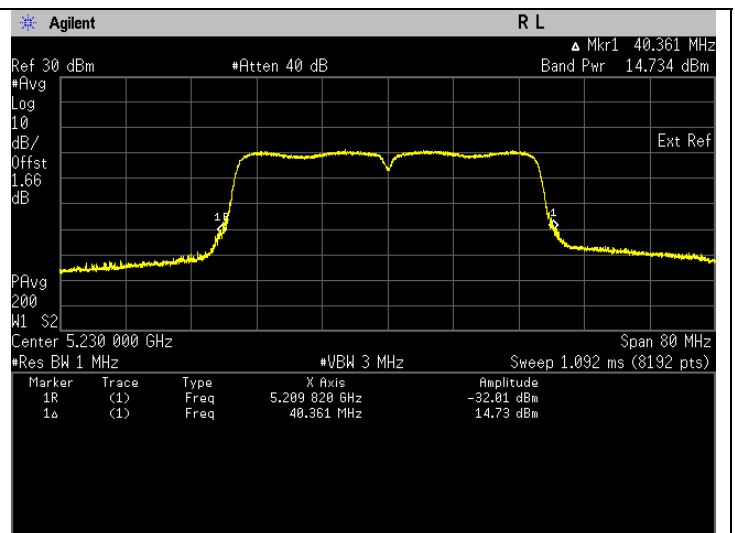
Frequency 5720 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

# 802.11n (HT40)(26dB EBW)

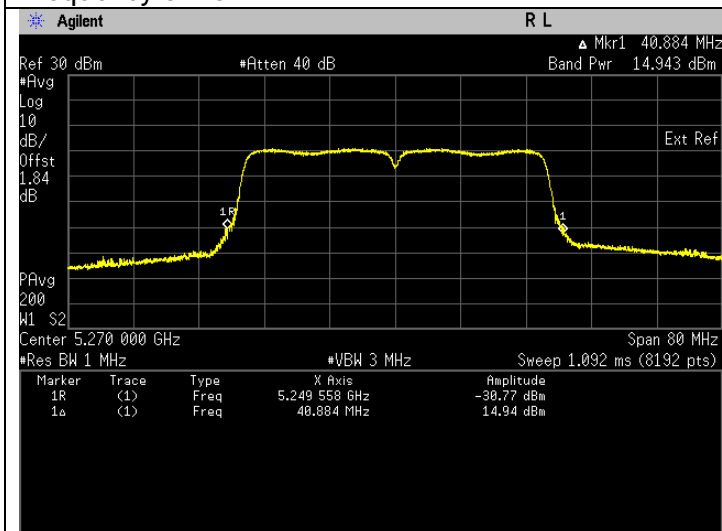
| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |
|----------------|----------------------------------------|---------------|----------------|--------|
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status |
| 5190           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 13.602        | 11.336         | Pass   |
| 5230           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 30.423        | 14.832         | Pass   |
| 5270           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 31.923        | 15.041         | Pass   |
| 5310           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 17.902        | 12.529         | Pass   |
| 5510           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 15.929        | 12.022         | Pass   |
| 5590           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 30.591        | 14.856         | Pass   |
| 5670           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 23.977        | 13.798         | Pass   |
| 5755           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 37.411        | 15.730         | Pass   |
| 5795           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 18.378        | 12.643         | Pass   |



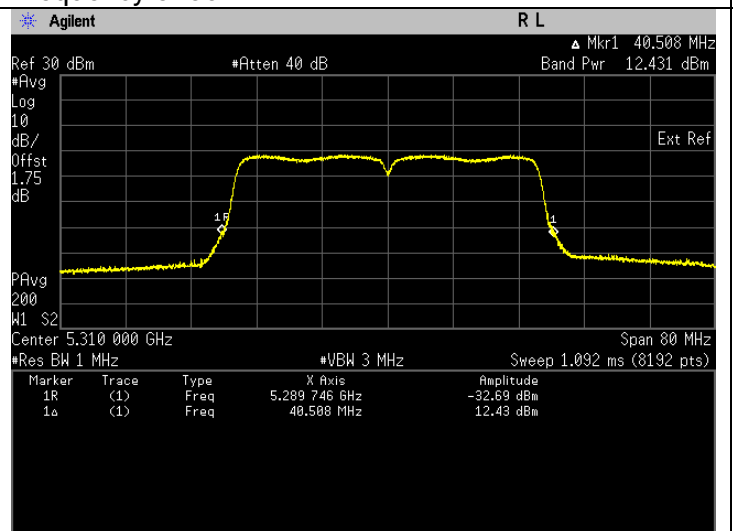
Frequency 5190 MHz



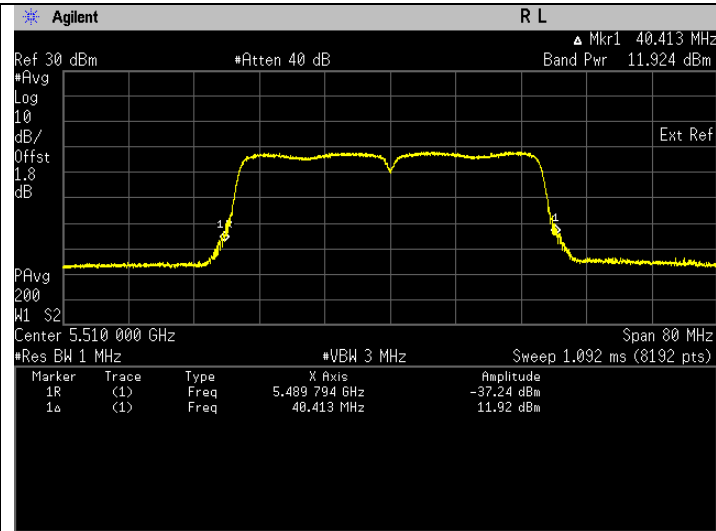
Frequency 5230 MHz



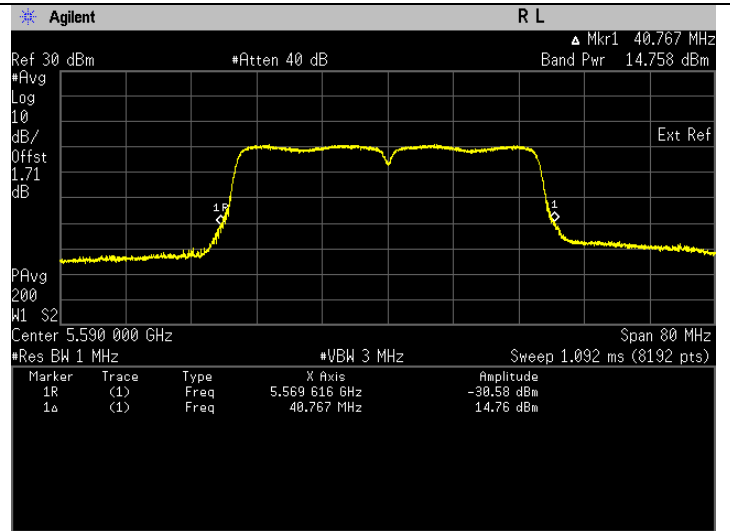
Frequency 5270 MHz



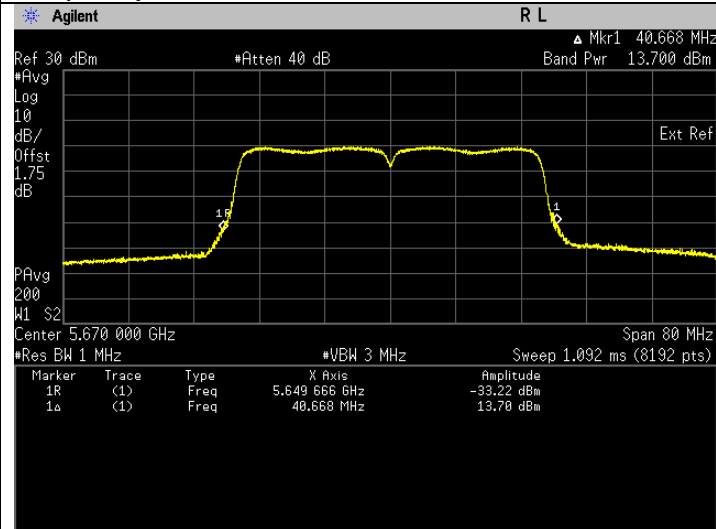
Frequency 5310 MHz



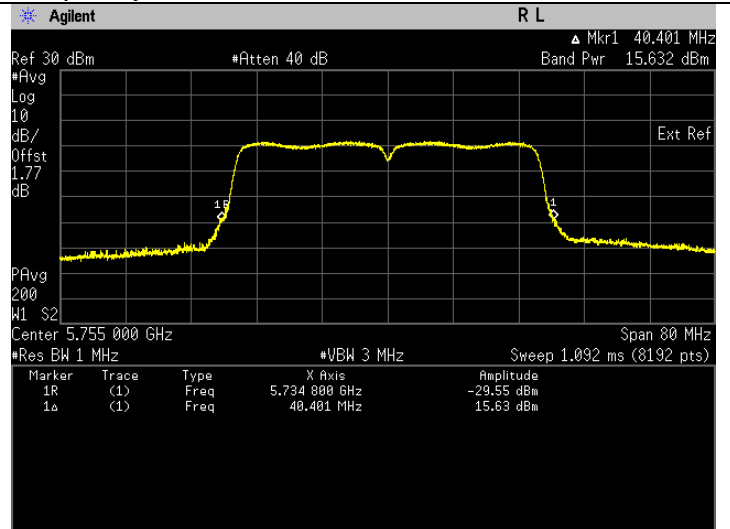
Frequency 5510 MHz



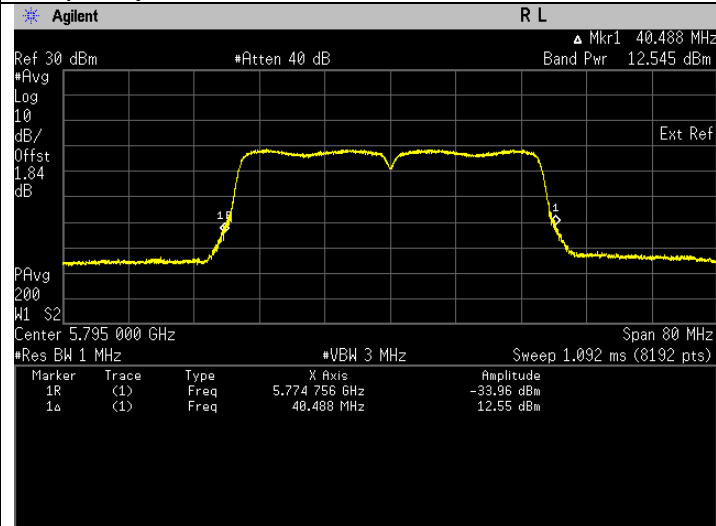
Frequency 5590 MHz



Frequency 5670 MHz



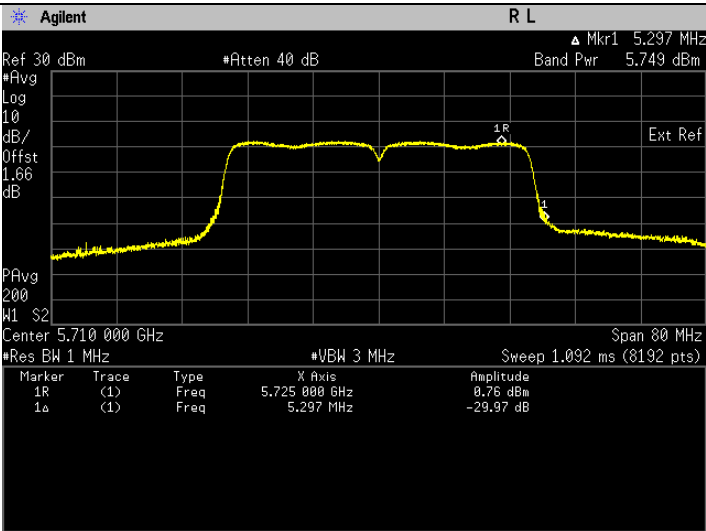
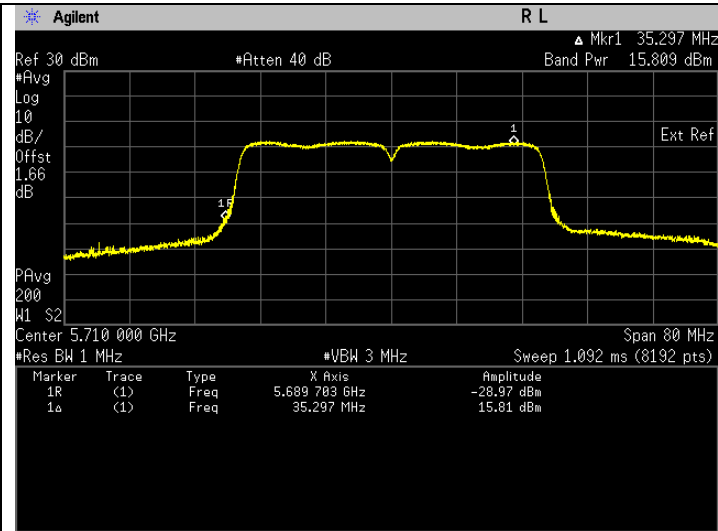
Frequency 5755 MHz



Frequency 5795 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |
|----------------|----------------------------------------|---------------|----------------|--------|
|                |                                        | U-NII- 2C     |                |        |
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 38.967        | 15.907         | Pass   |
|                |                                        | U-NII-3       |                |        |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 3.843         | 5.847          | Pass   |

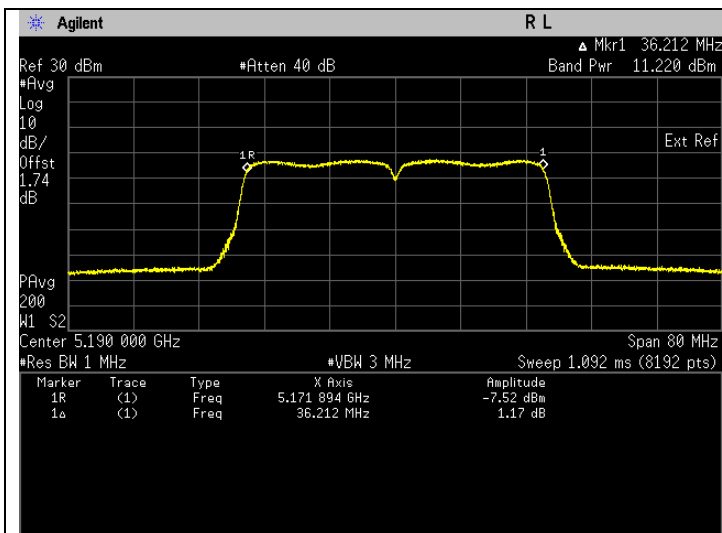


Frequency 5710 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.

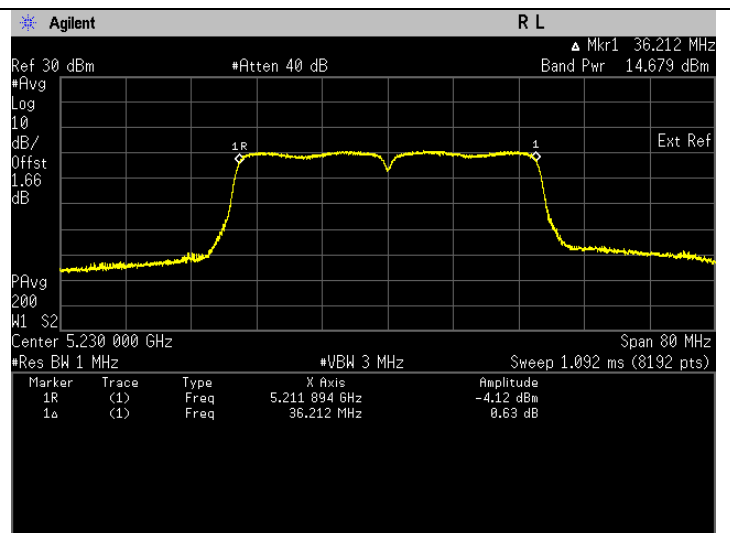
Frequency 5710 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

## 802.11n (HT40)(99% EBW)

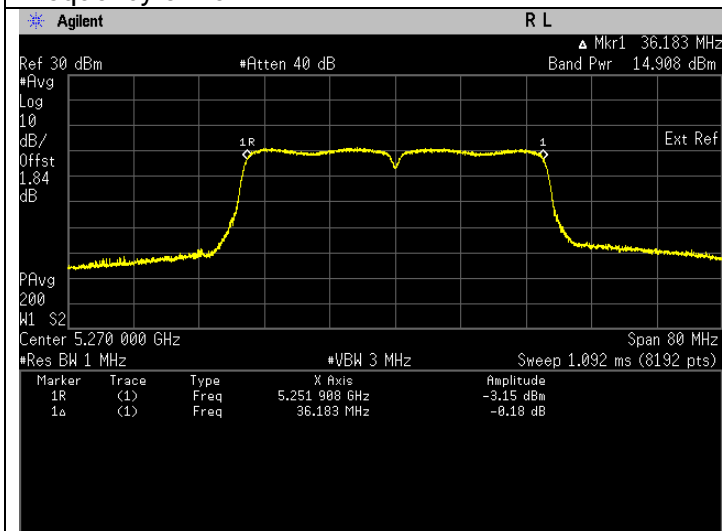
| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |               |        |
|----------------|----------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5190           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 13.546        | 11.318         | Pass   | 12.818        | Pass   |
| 5230           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 30.040        | 14.777         | Pass   | 16.277        | Pass   |
| 5270           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 31.666        | 15.006         | Pass   | 18.506        | Pass   |
| 5310           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 17.591        | 12.453         | Pass   | 15.953        | Pass   |
| 5510           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 15.693        | 11.957         | Pass   | 15.457        | Pass   |
| 5590           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 30.241        | 14.806         | Pass   | 18.306        | Pass   |
| 5670           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 23.578        | 13.725         | Pass   | 17.225        | Pass   |
| 5755           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 37.102        | 15.694         | Pass   | 21.194        | Pass   |
| 5795           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 18.205        | 12.602         | Pass   | 18.102        | Pass   |



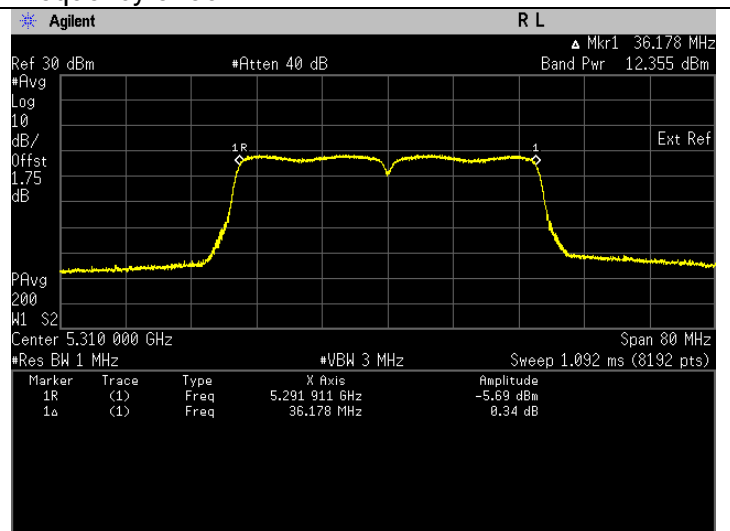
Frequency 5190 MHz



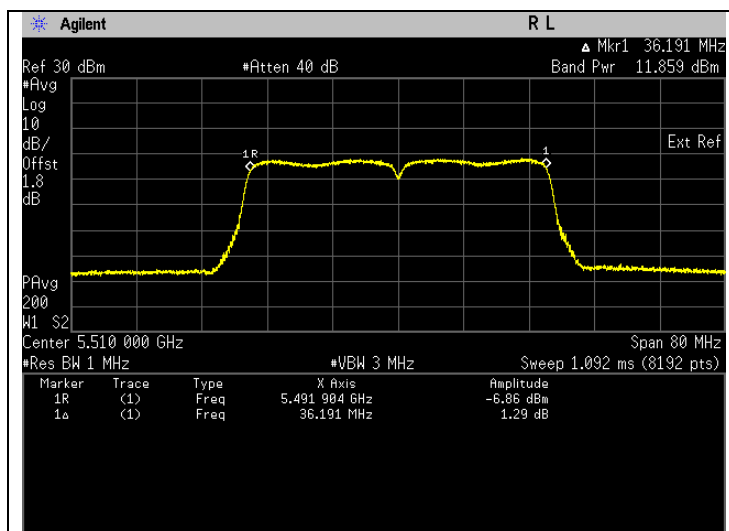
Frequency 5230 MHz



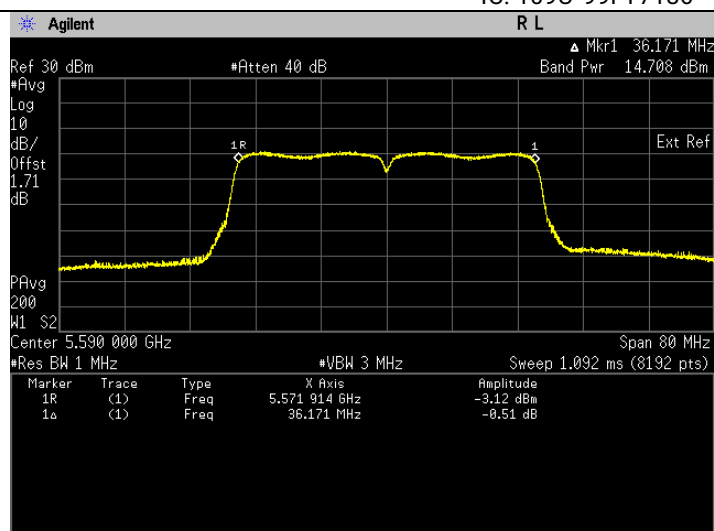
Frequency 5270 MHz



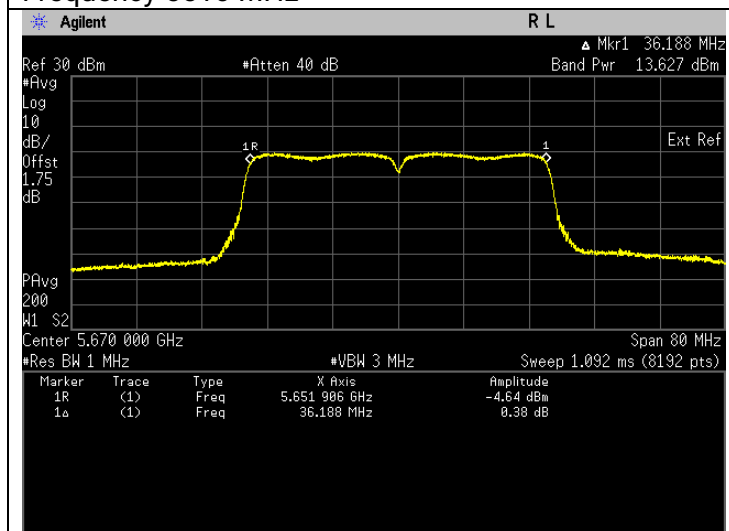
Frequency 5310 MHz



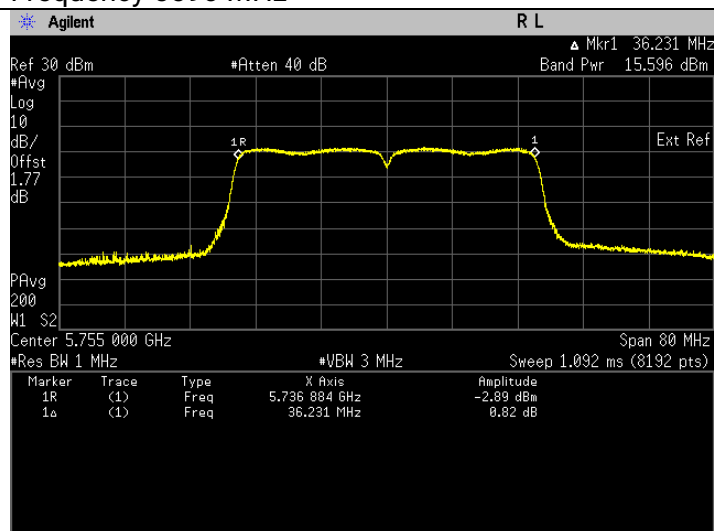
Frequency 5510 MHz



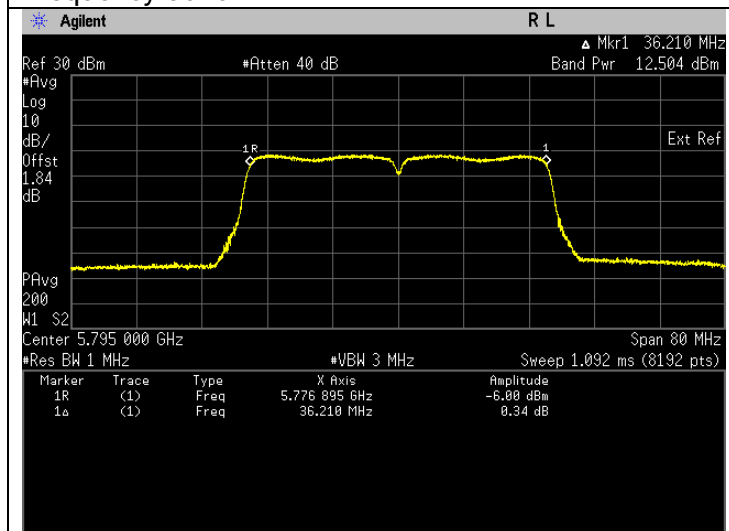
Frequency 5590 MHz



Frequency 5670 MHz



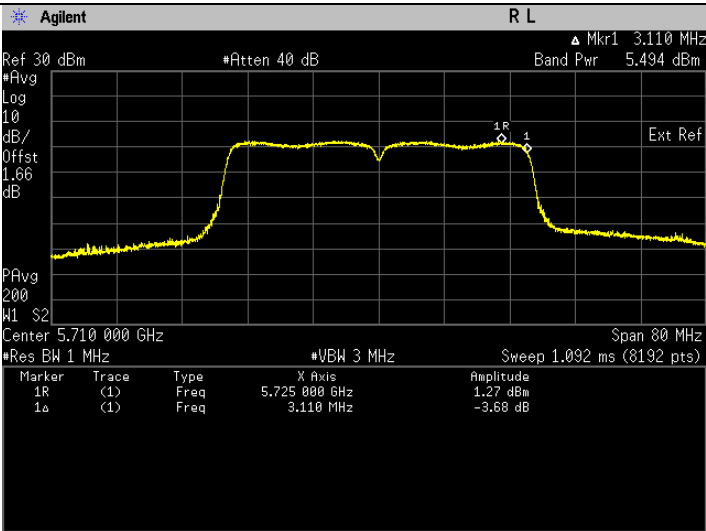
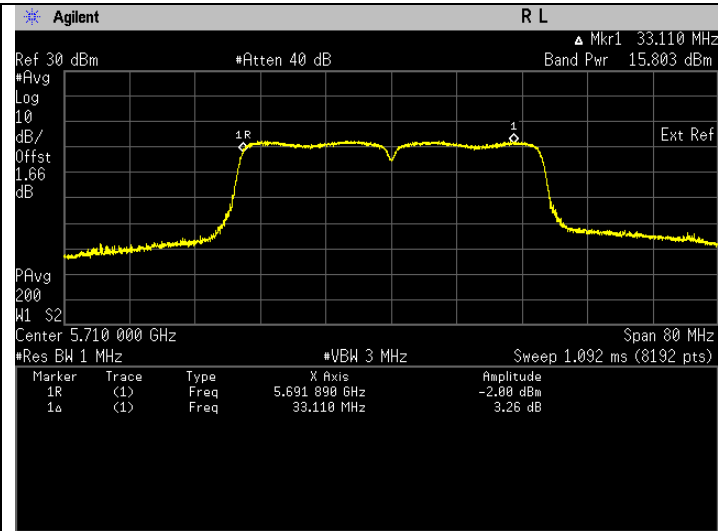
Frequency 5755 MHz



Frequency 5795 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |               |        |
|----------------|----------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                        | U-NII- 2C     |                |        |               |        |
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 38.913        | 15.901         | Pass   | 19.401        | Pass   |
| U-NII-3        |                                        |               |                |        |               |        |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 3.624         | 5.592          | Pass   | 9.092         | Pass   |

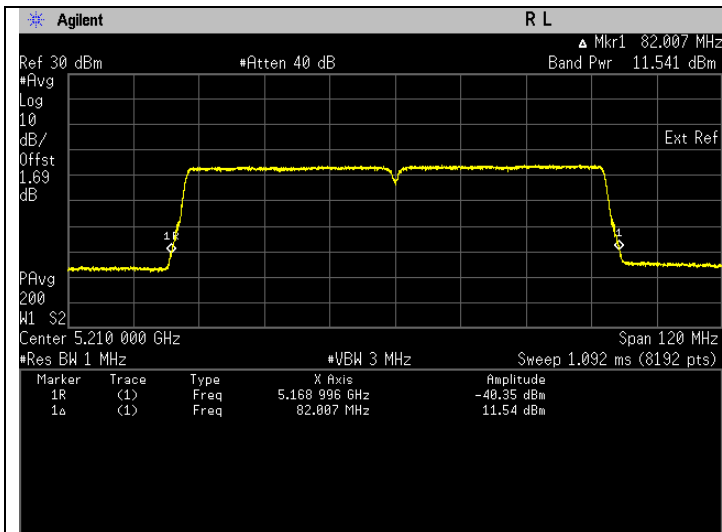


Frequency 5710 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.

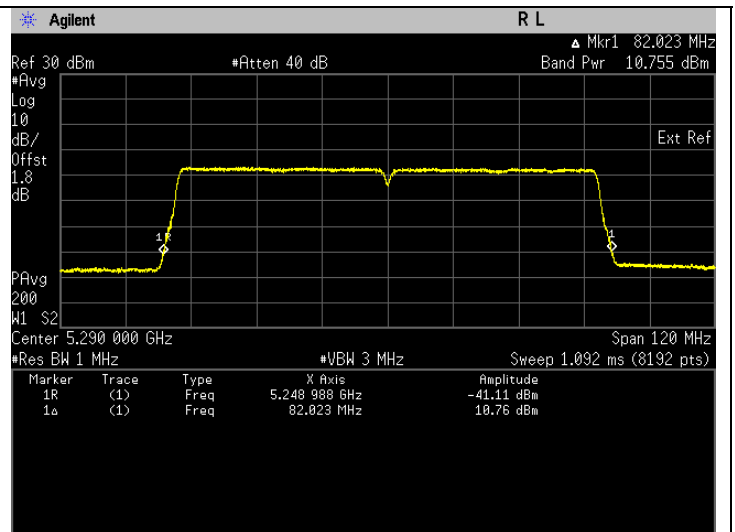
Frequency 5710 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

# 802.11ac (HT80)(26dB EBW)

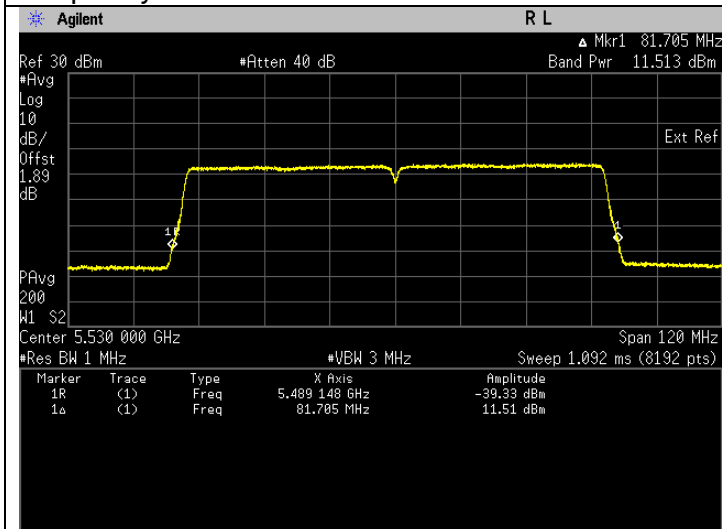
| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |
|----------------|----------------------------------------|---------------|----------------|--------|
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status |
| 5210           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 14.938        | 11.741         | Pass   |
| 5290           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.465        | 10.955         | Pass   |
| 5530           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 14.842        | 11.713         | Pass   |
| 5610           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.442        | 10.947         | Pass   |
| 5775           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.529        | 10.977         | Pass   |



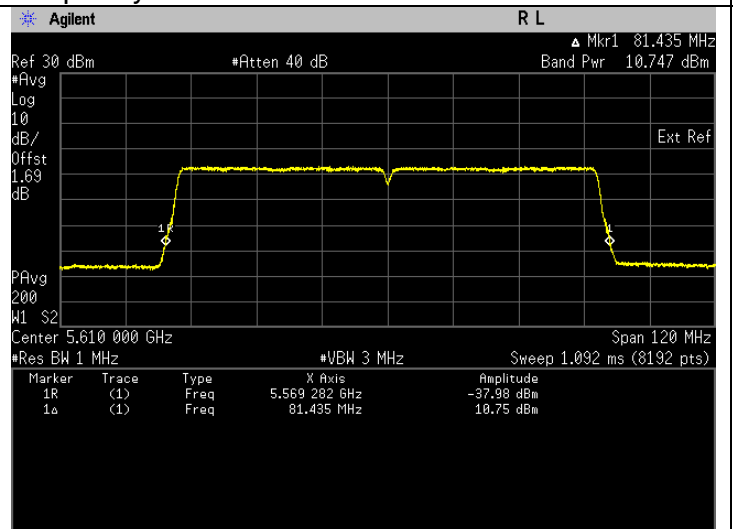
Frequency 5210 MHz



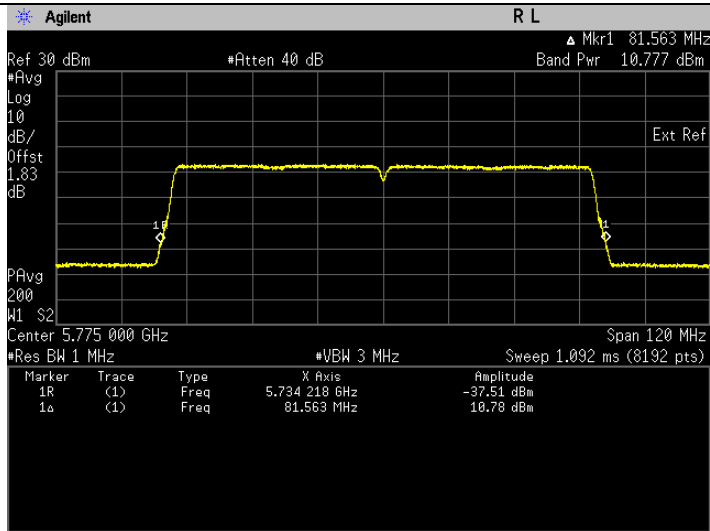
Frequency 5290 MHz



Frequency 5530 MHz



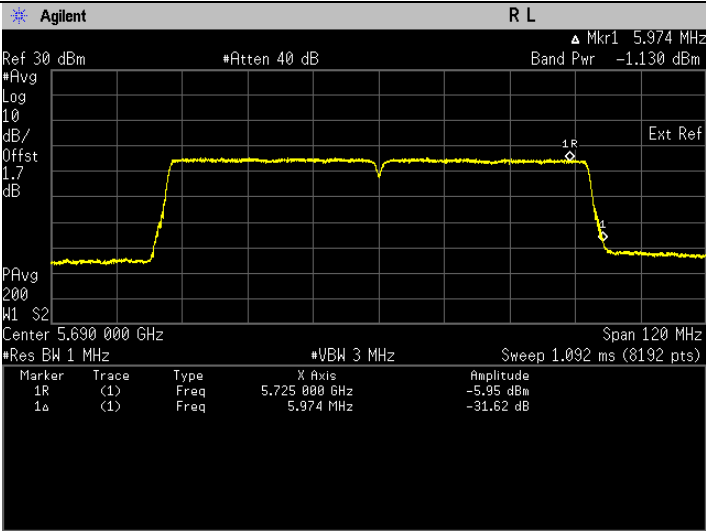
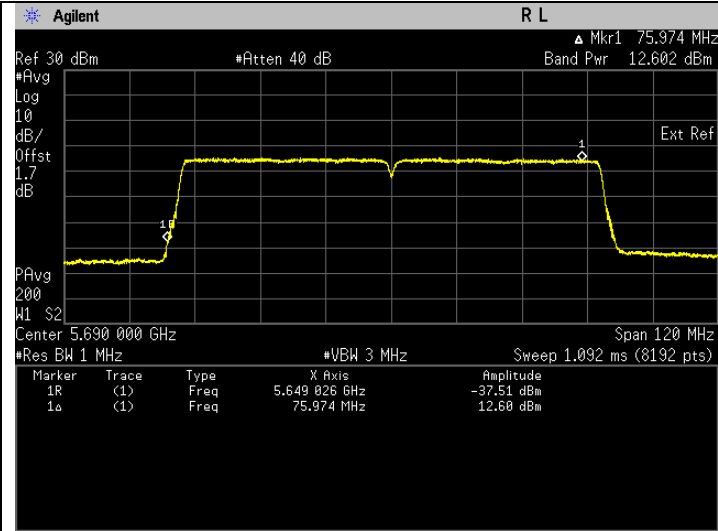
Frequency 5610 MHz



Frequency 5775 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |
|----------------|----------------------------------------|---------------|----------------|--------|
|                |                                        | U-NII- 2C     |                |        |
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 19.072        | 12.804         | Pass   |
|                |                                        | U-NII-3       |                |        |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 0.808         | -0.928         | Pass   |

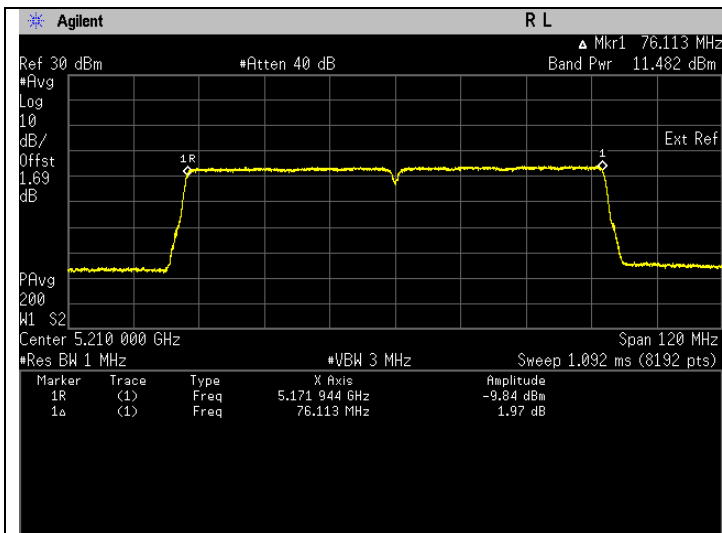


Frequency 5690 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.

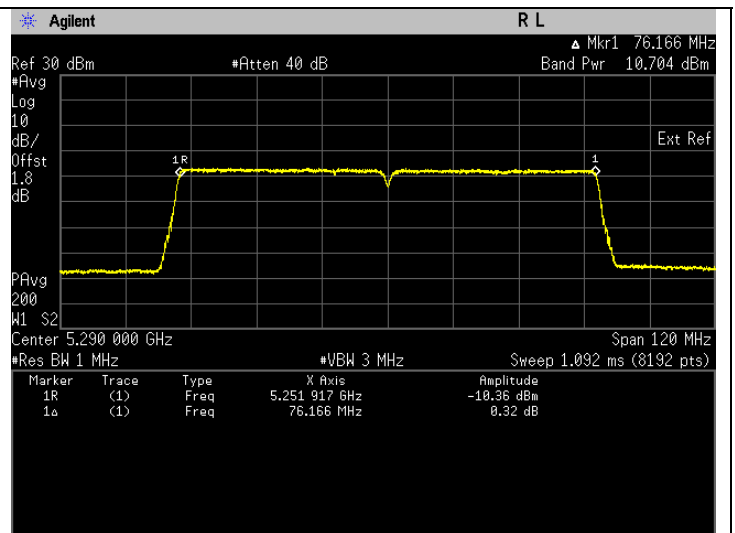
Frequency 5690 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

# 802.11ac (HT80)(99% EBW)

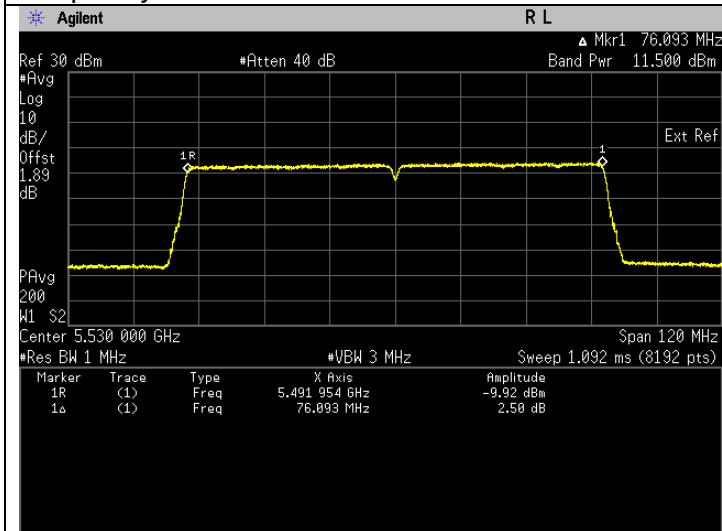
| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |               |        |
|----------------|----------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5210           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 14.737        | 11.684         | Pass   | 13.184        | Pass   |
| 5290           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.320        | 10.906         | Pass   | 14.406        | Pass   |
| 5530           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 14.798        | 11.702         | Pass   | 15.202        | Pass   |
| 5610           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.348        | 10.916         | Pass   | 14.416        | Pass   |
| 5775           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 12.482        | 10.963         | Pass   | 16.463        | Pass   |



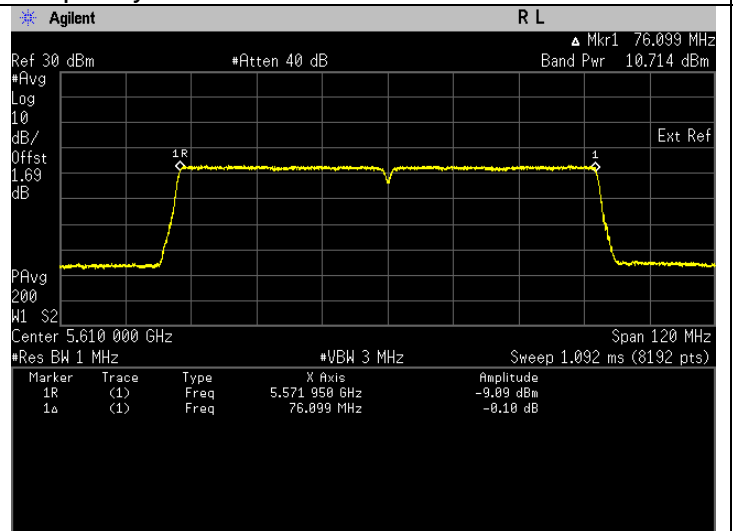
Frequency 5210 MHz



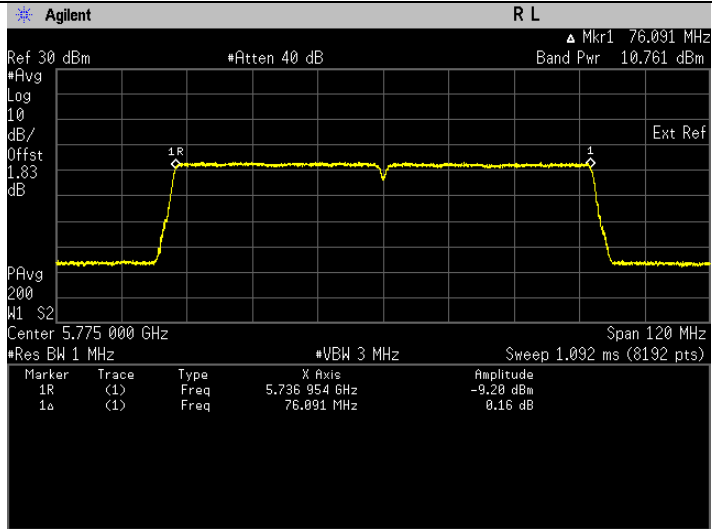
Frequency 5290 MHz



Frequency 5530 MHz



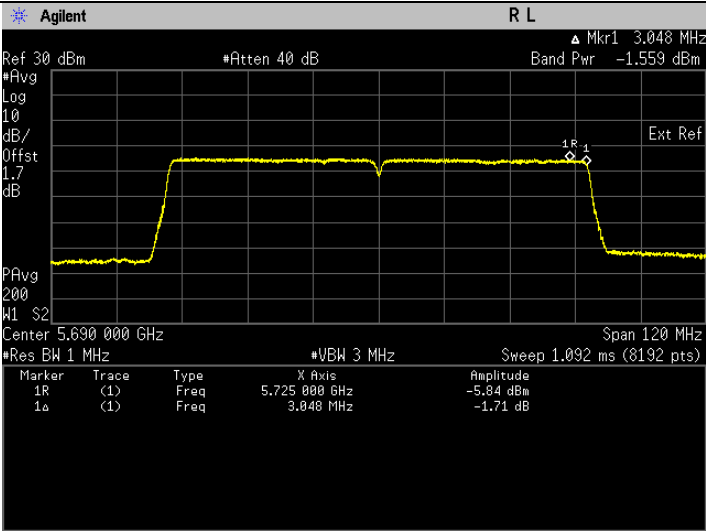
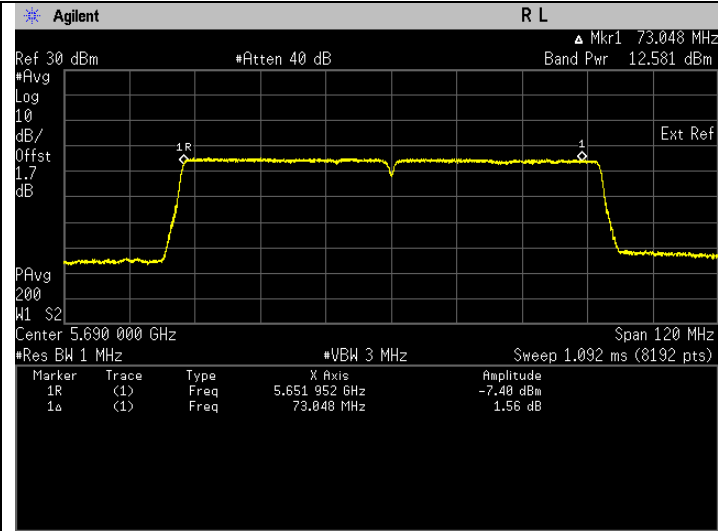
Frequency 5610 MHz



Frequency 5775 MHz

Straddle Frequency

| Freq.<br>(MHz) | Test Conditions                        | Results       |                |        |               |        |
|----------------|----------------------------------------|---------------|----------------|--------|---------------|--------|
|                |                                        | U-NII- 2C     |                |        |               |        |
|                |                                        | Power<br>(mW) | Power<br>(dBm) | Status | EIRP<br>(dBm) | Status |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 18.980        | 12.783         | Pass   | 16.283        | Pass   |
| U-NII-3        |                                        |               |                |        |               |        |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 0.732         | -1.357         | Pass   | 2.143         | Pass   |

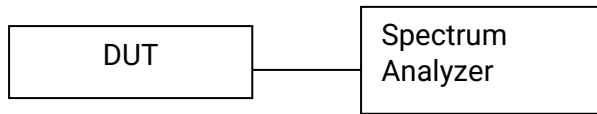


Frequency 5690 MHz, U-NII-2C. \*Note: The band power is captured before the 5725 MHz.

Frequency 5690 MHz, U-NII-3. \*Note: The band power is captured after the 5725 MHz.

### 6.3. Maximum Power Spectral Density

#### 6.3.1. Test Setup



- a) Test setup as per illustrated above.
- b) Set DUT to transmit at desire transmit frequency.
- c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- d) Setting of Spectrum analyzer :
  - Span to encompass the entire 26dB EBW or 99% occupied bandwidth.
  - RBW = 1 MHz (5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz) / 500 kHz (5.725-5.85 GHz)
  - VBW  $\geq 3 \cdot$  RBW
  - Detector = power averaging (RMS)
  - Trace = Max hold
  - Number of points in sweep  $\geq 2 \times$  span / RBW
  - Sweep time = auto
  - Trace average at least 100 traces in power averaging (rms) mode
- e) Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- f) Add  $10 \log (1/x)$ , where x is the duty cycle, to the peak of the spectrum.
- g) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause F) Method SA-2.
- h) The Maximum power spectral density results are included duty cycle correction factor.

#### 6.3.2. Test Limits

##### FCC 15.407(a)

| Range (GHz) | Condition                            | Limit            |
|-------------|--------------------------------------|------------------|
| 5.15-5.25   | Outdoor AP                           | 17dBm/ 1MHz      |
|             | Indoor AP                            | 17dBm/ 1MHz      |
|             | Fixed Point to Point AP              | 17dBm/ 1MHz      |
|             | √ Mobile and Portable Client Devices | 11dBm/ 1MHz      |
| 5.25-5.35   | √                                    | 11dBm/ 1MHz      |
| 5.47-5.525  | √                                    | 11dBm/ 1MHz      |
| 5.725-5.85  | √                                    | 30dBm/<br>500kHz |

RSS-247 6.2

| Range(GHz)            | Condition             | Limit                |
|-----------------------|-----------------------|----------------------|
| 5.15-5.25             | Indoor Operation Only | EIRP: 10dBm/<br>1MHz |
| 5.25-5.35             |                       | 11dBm/ 1MHz          |
| 5.47-5.6<br>5.6-5.525 |                       | 11dBm/ 1MHz          |
| 5.725-5.85            |                       | 30dBm/<br>500kHz     |

### 6.3.3. Additional Info

| Antenna Type                 | Gain (dBi) |
|------------------------------|------------|
| UNII-1                       | 1.5        |
| UNII-2A & UNII-2C            | 3.5        |
| UNII-3                       | 5.5        |
| Duty Cycle Correction Factor |            |
| 802.11a                      | 0.048      |
| 802.11n20                    | 0.052      |
| 802.11n40                    | 0.098      |
| 802.11ac80                   | 0.202      |

### 6.3.4. Test Data

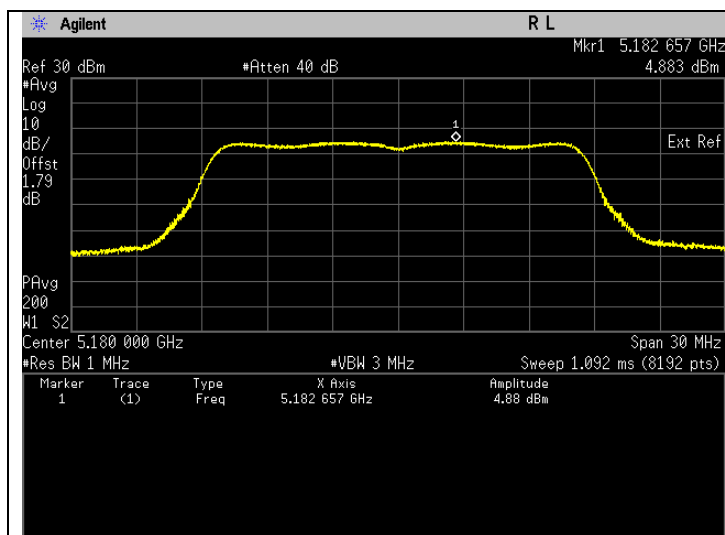
#### 802.11a (26dB EBW)

| Freq.<br>(MHz) | Test Conditions              | Results                         |        |
|----------------|------------------------------|---------------------------------|--------|
|                |                              | Power/Frequency(<br>dBm/MHz)    | Status |
| 5180           | Mod Type: BPSK, Data Rate: 6 | 4.931                           | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: 6 | 7.251                           | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: 6 | 7.308                           | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: 6 | 6.484                           | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: 6 | 5.016                           | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: 6 | 4.887                           | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: 6 | 4.443                           | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: 6 | 7.339                           | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: 6 | 3.855                           | Pass   |
| Freq.<br>(MHz) | Test Conditions              | Power/Frequency<br>(dBm/500kHz) | Status |
| 5745           | Mod Type: BPSK, Data Rate: 6 | 4.389                           | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: 6 | 4.349                           | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: 6 | 1.589                           | Pass   |

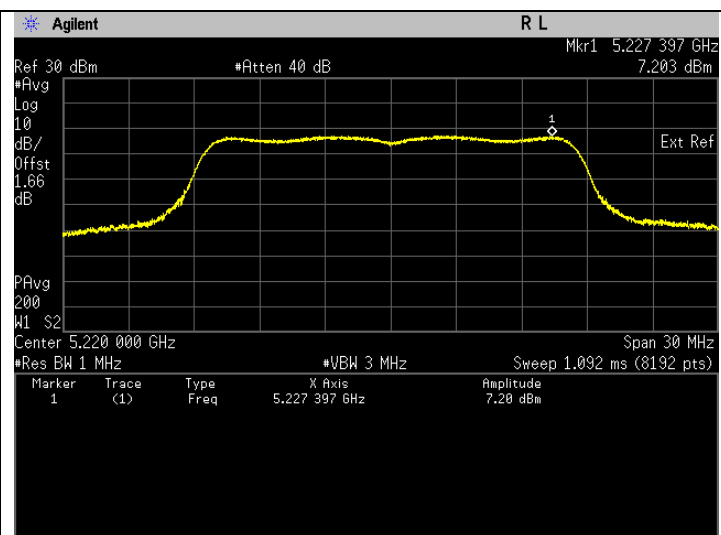
### 802.11a (99% EBW)

| Freq.<br>(MHz) | Test Conditions              | Results                         |        |                   |        |
|----------------|------------------------------|---------------------------------|--------|-------------------|--------|
|                |                              | Power/Frequency<br>(dBm/MHz)    | Status | EIRP<br>(dBm/MHz) | Status |
| 5180           | Mod Type: BPSK, Data Rate: 6 | 4.931                           | Pass   | 6.431             | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: 6 | 7.251                           | Pass   | 8.751             | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: 6 | 7.308                           | Pass   | 8.808             | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: 6 | 6.484                           | Pass   | 9.984             | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: 6 | 5.016                           | Pass   | 8.516             | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: 6 | 4.887                           | Pass   | 8.387             | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: 6 | 4.443                           | Pass   | 7.943             | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: 6 | 7.339                           | Pass   | 10.839            | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: 6 | 3.855                           | Pass   | 7.355             | Pass   |
| Freq.<br>(MHz) | Test Conditions              | Power/Frequency<br>(dBm/500kHz) | Status |                   |        |
| 5745           | Mod Type: BPSK, Data Rate: 6 | 4.389                           | Pass   | 9.889             | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: 6 | 4.349                           | Pass   | 9.849             | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: 6 | 1.589                           | Pass   | 7.089             | Pass   |

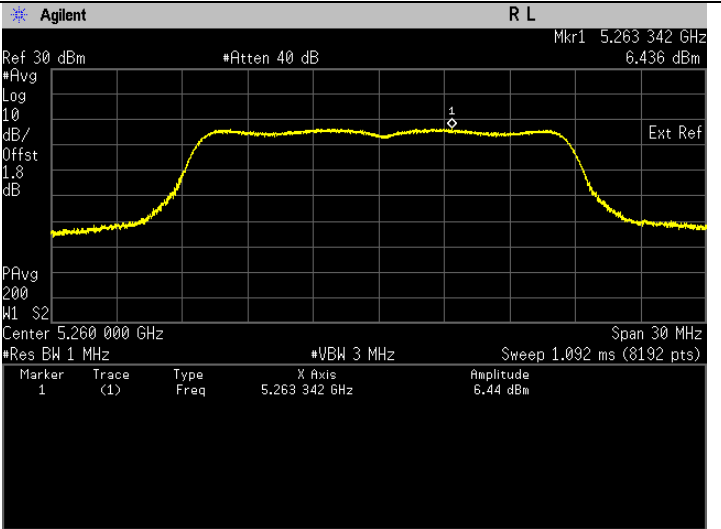
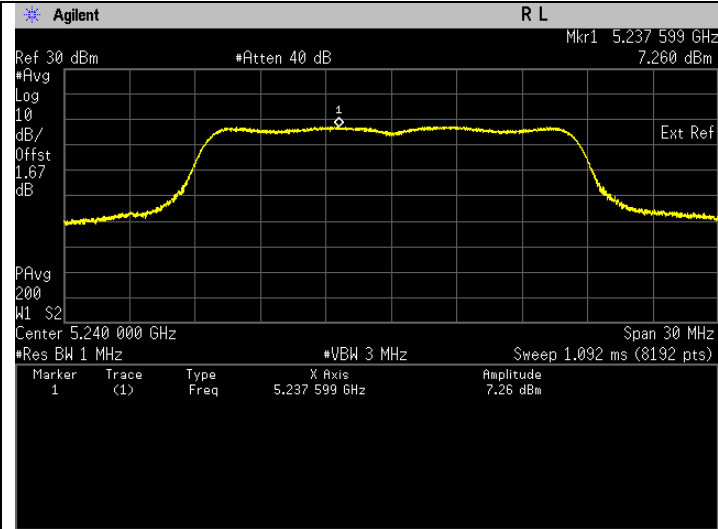
### Plots for 802.11a (26dB EBW & 99% EBW)



Frequency 5180 MHz

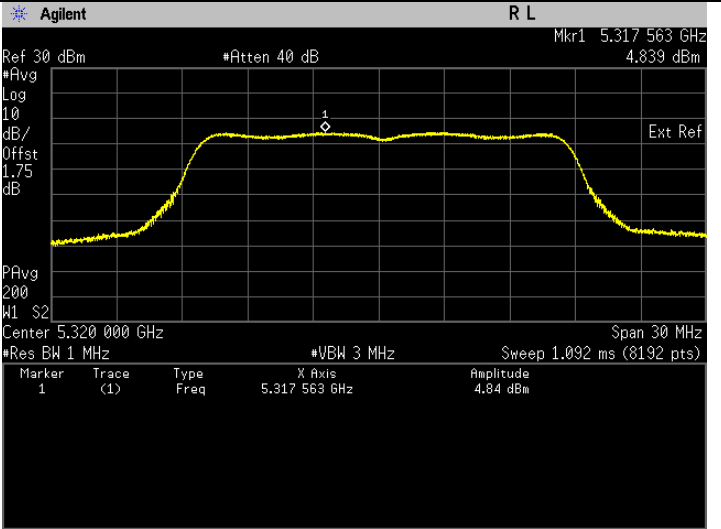
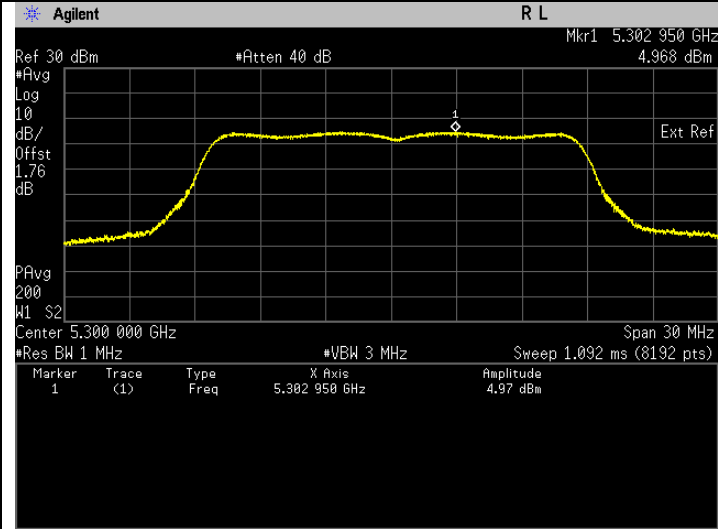


Frequency 5220 MHz



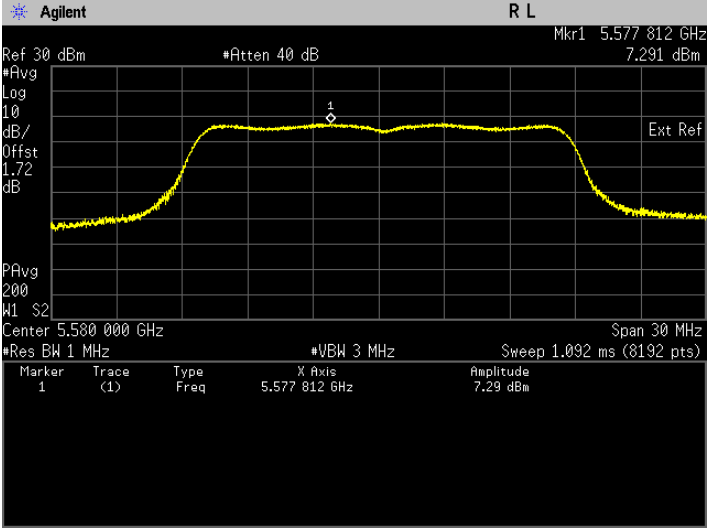
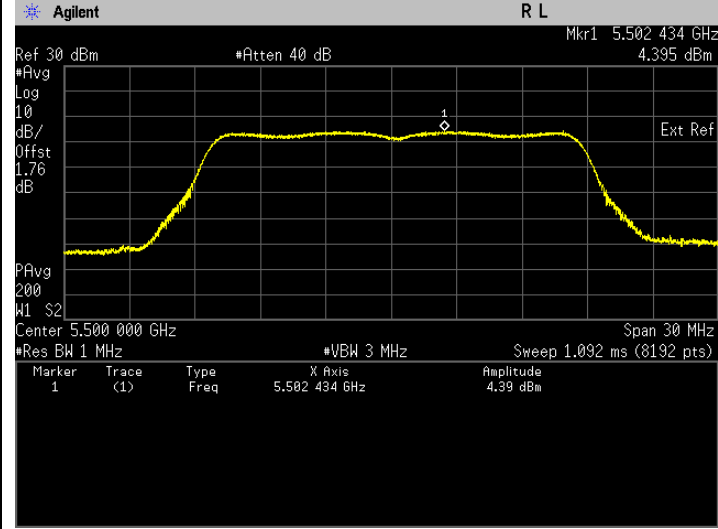
Frequency 5240 MHz

Frequency 5260 MHz



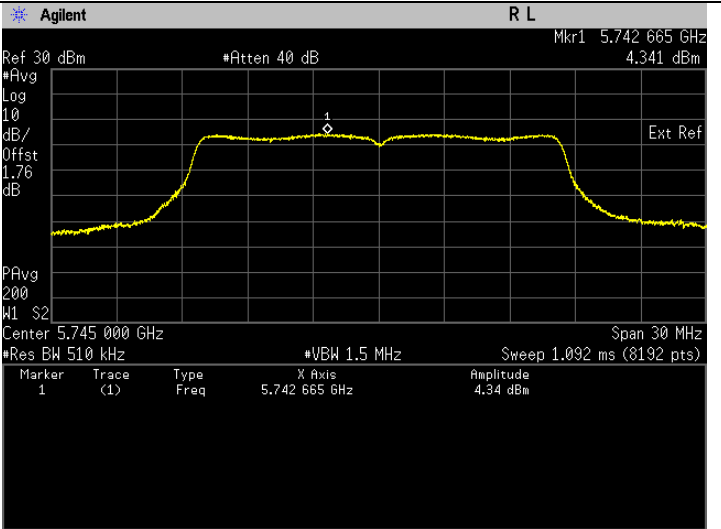
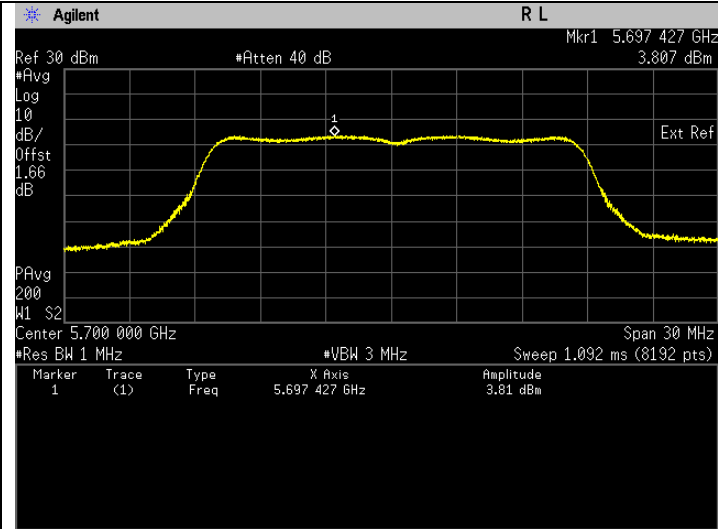
Frequency 5300 MHz

Frequency 5320 MHz



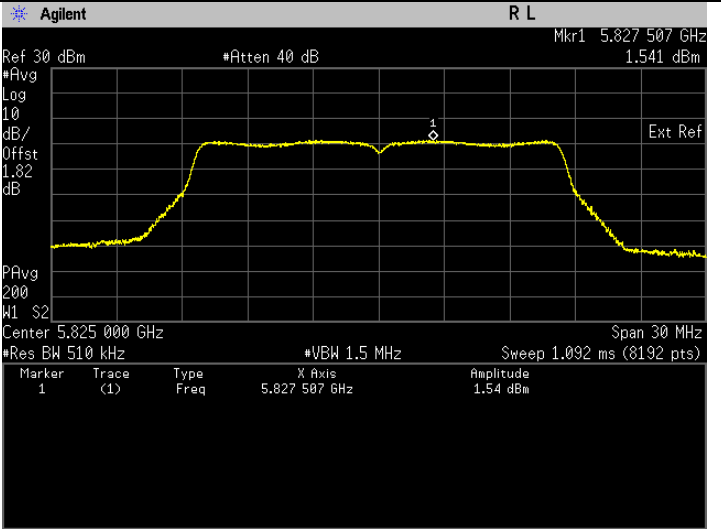
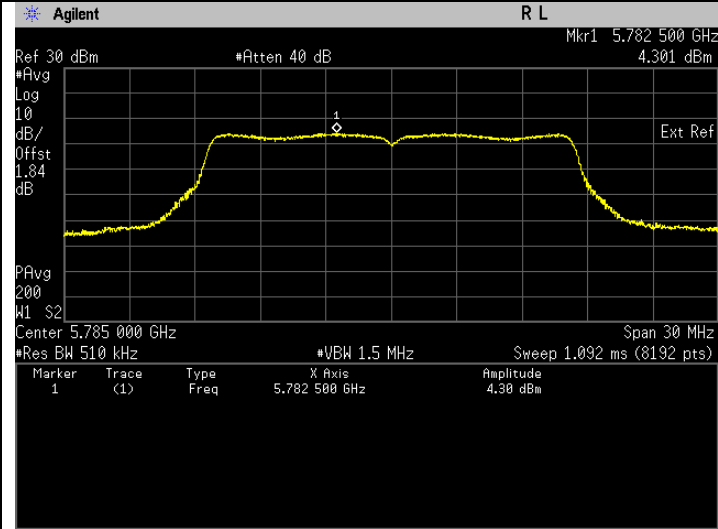
Frequency 5500 MHz

Frequency 5580 MHz



Frequency 5700 MHz

Frequency 5745 MHz



Frequency 5785 MHz

Frequency 5825 MHz

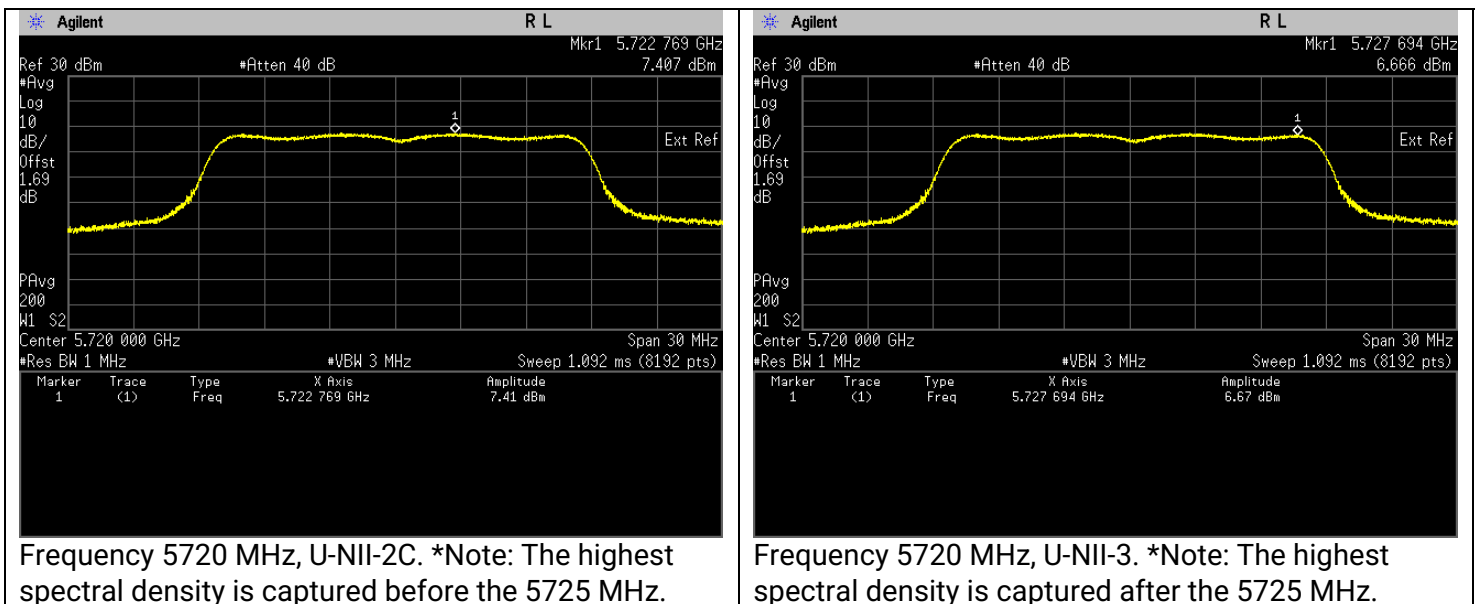
### Straddle Frequency for 802.11a (26dB EBW)

| Freq.<br>(MHz) | Test Conditions              | Results                         |        |
|----------------|------------------------------|---------------------------------|--------|
|                |                              | Power/Frequency<br>(dBm/MHz)    | Status |
|                |                              | U-NII- 2C                       |        |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 7.455                           | Pass   |
| Freq.<br>(MHz) | Test Conditions              | U-NII-3                         |        |
|                |                              | Power/Frequency<br>(dBm/500kHz) | Status |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 6.714                           | Pass   |

### Straddle Frequency for 802.11a (99% EBW)

| Freq.<br>(MHz) | Test Conditions              | Results                         |        |
|----------------|------------------------------|---------------------------------|--------|
|                |                              | Power/Frequency<br>(dBm/MHz)    | Status |
|                |                              | U-NII- 2C                       |        |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 7.455                           | Pass   |
| Freq.<br>(MHz) | Test Conditions              | U-NII-3                         |        |
|                |                              | Power/Frequency<br>(dBm/500kHz) | Status |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 6.714                           | Pass   |

### Plots for 802.11a Straddle Frequency (26dB EBW & 99% EBW)



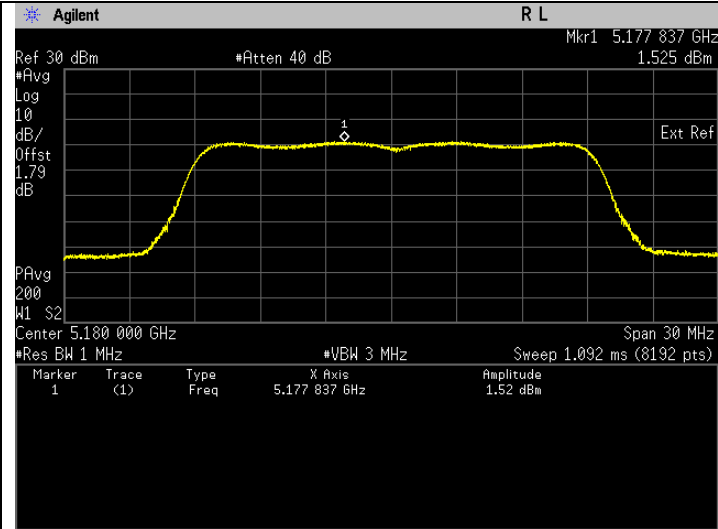
802.11n (HT20)(26dB EBW)

| Freq.<br>(MHz) | Test Conditions                       | Results                         |        |
|----------------|---------------------------------------|---------------------------------|--------|
|                |                                       | Power/Frequency<br>(dBm/MHz)    | Status |
| 5180           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.577                           | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.809                           | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.026                           | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.188                           | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.798                           | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.645                           | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 2.035                           | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.267                           | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 0.542                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                       | Power/Frequency<br>(dBm/500kHz) | Status |
| 5745           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.475                           | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 2.381                           | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | -1.3410                         | Pass   |

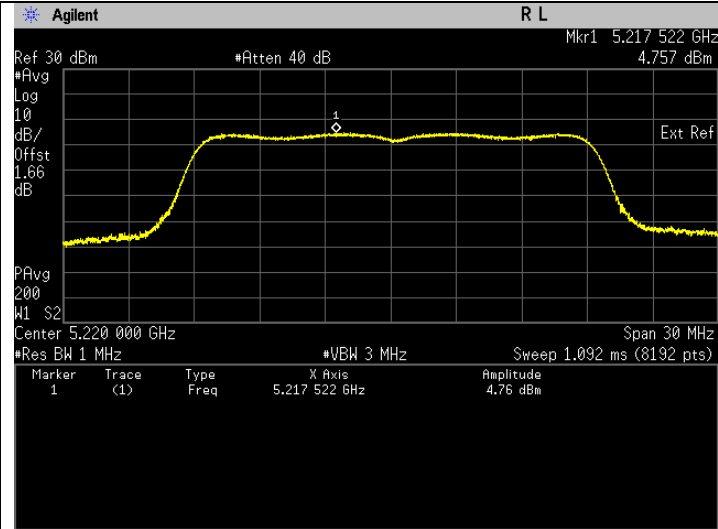
802.11n (HT20)(99% EBW)

| Freq.<br>(MHz) | Test Conditions                       | Results                         |        |                   |        |
|----------------|---------------------------------------|---------------------------------|--------|-------------------|--------|
|                |                                       | Power/Frequency<br>(dBm/MHz)    | Status | EIRP<br>(dBm/MHz) | Status |
| 5180           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.577                           | Pass   | 3.077             | Pass   |
| 5220           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.809                           | Pass   | 6.309             | Pass   |
| 5240           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.026                           | Pass   | 5.526             | Pass   |
| 5260           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.188                           | Pass   | 7.688             | Pass   |
| 5300           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.798                           | Pass   | 5.298             | Pass   |
| 5320           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.645                           | Pass   | 5.145             | Pass   |
| 5500           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 2.035                           | Pass   | 5.535             | Pass   |
| 5580           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.267                           | Pass   | 7.767             | Pass   |
| 5700           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 0.542                           | Pass   | 4.042             | Pass   |
| Freq.<br>(MHz) | Test Conditions                       | Power/Frequency<br>(dBm/500kHz) | Status |                   |        |
| 5745           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 1.475                           | Pass   | 6.975             | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 2.381                           | Pass   | 7.881             | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | -1.3410                         | Pass   | 4.150             | Pass   |

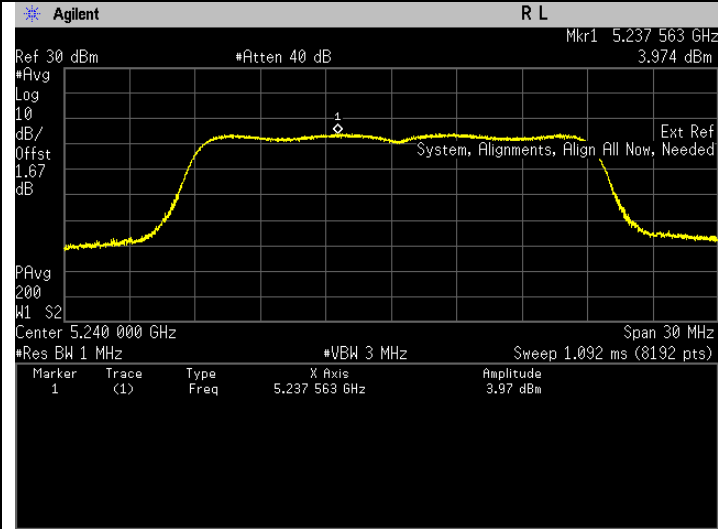
Plots for 802.11n (HT20) (26dB EBW & 99% EBW)



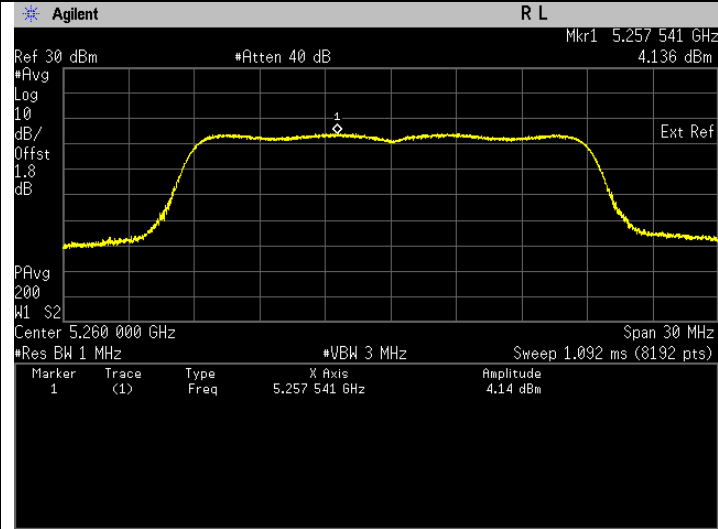
Frequency 5180 MHz



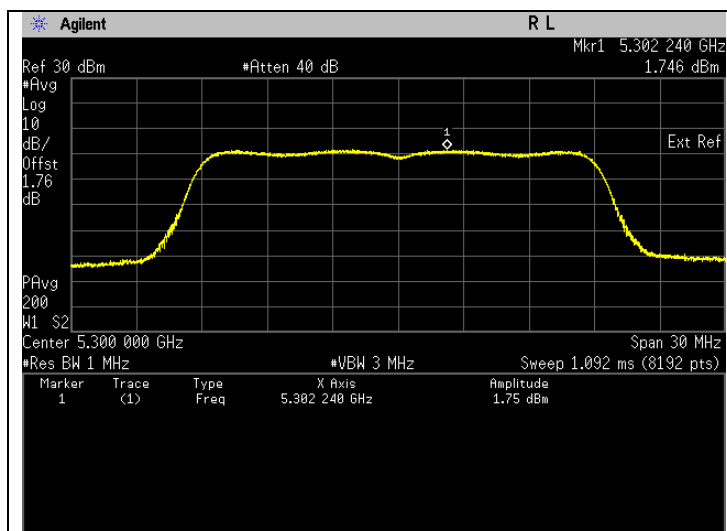
Frequency 5220 MHz



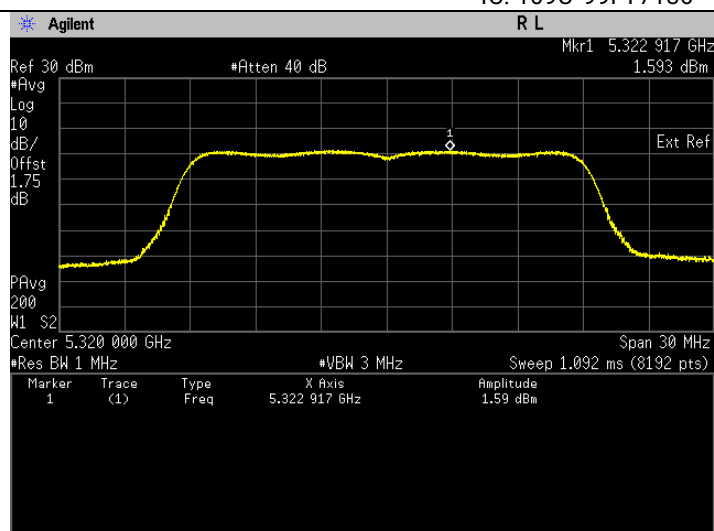
Frequency 5240 MHz



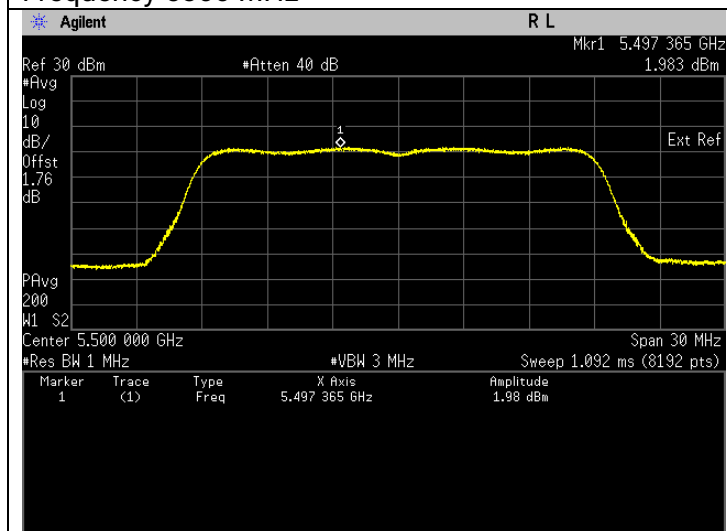
Frequency 5260 MHz



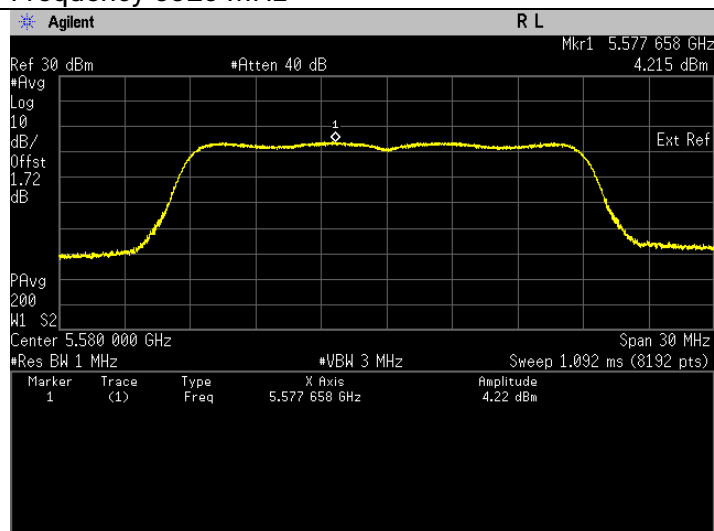
Frequency 5300 MHz



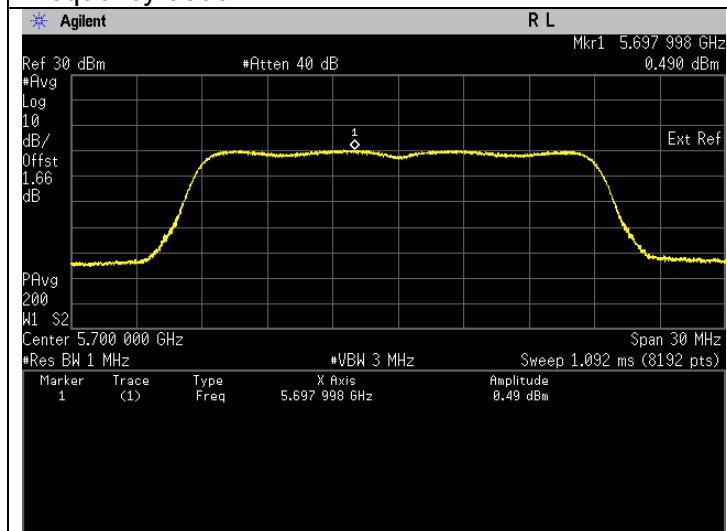
Frequency 5320 MHz



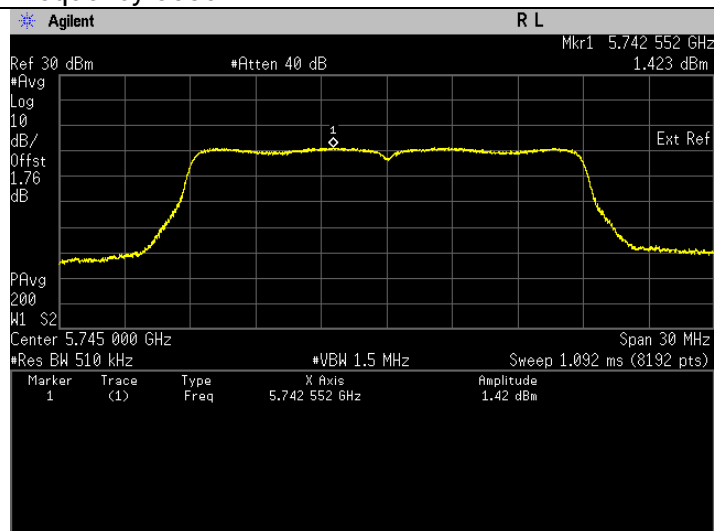
Frequency 5500 MHz



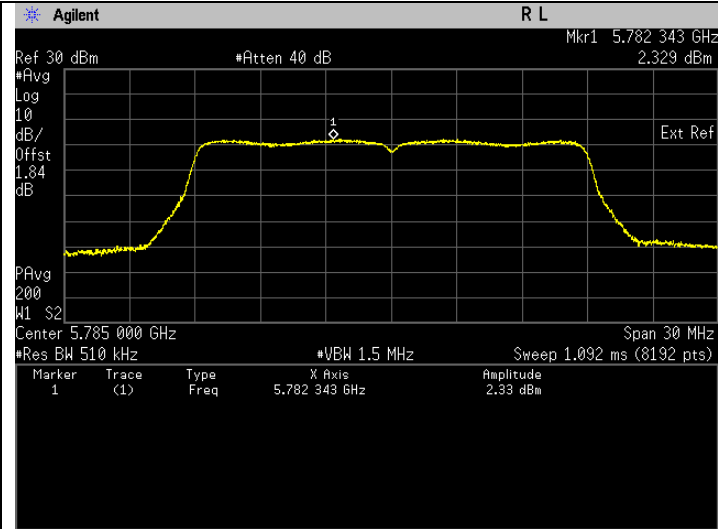
Frequency 5580 MHz



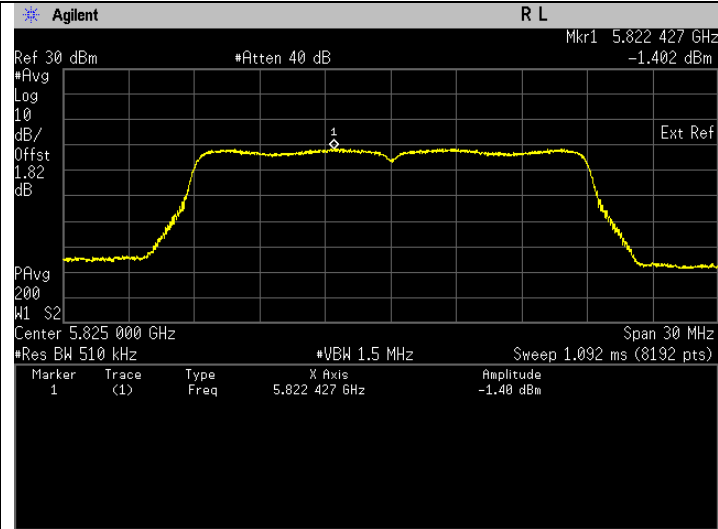
Frequency 5700 MHz



Frequency 5745 MHz



Frequency 5785 MHz



Frequency 5825 MHz

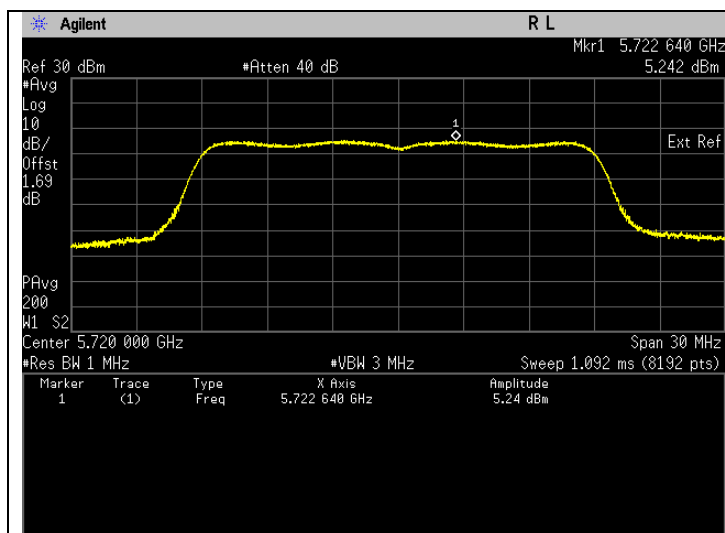
### Straddle Frequency for 802.11n (HT20) (26dB EBW)

| Freq.<br>(MHz) | Test Conditions                       | Results                         |        |
|----------------|---------------------------------------|---------------------------------|--------|
|                |                                       | Power/Frequency<br>(dBm/MHz)    | Status |
|                |                                       | U-NII- 2C                       |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 5.294                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                       | U-NII-3                         |        |
|                |                                       | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                       |                                 |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.979                           | Pass   |

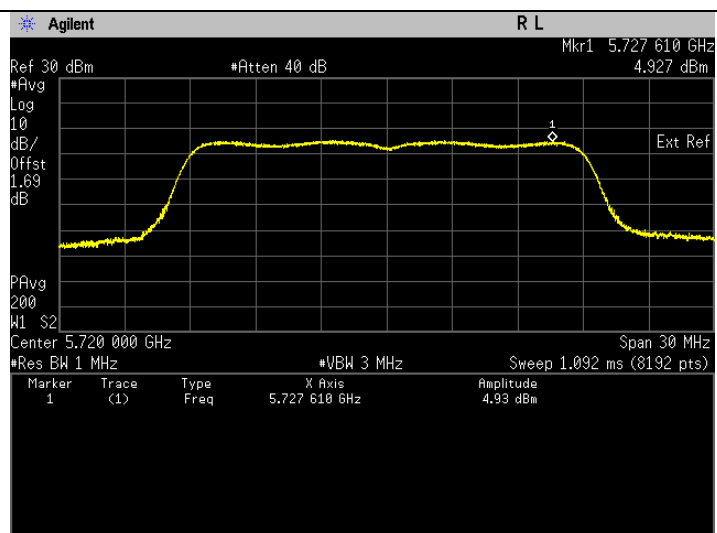
### Straddle Frequency for 802.11n (HT20) (99% EBW)

| Freq.<br>(MHz) | Test Conditions                       | Results                         |        |
|----------------|---------------------------------------|---------------------------------|--------|
|                |                                       | Power/Frequency<br>(dBm/MHz)    | Status |
|                |                                       | U-NII- 2C                       |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 5.294                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                       | U-NII-3                         |        |
|                |                                       | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                       |                                 |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 4.979                           | Pass   |

### Plots for 802.11n (HT20) Straddle Frequency (26dB EBW & 99% EBW)



Frequency 5720 MHz, U-NII-2C. \*Note: The highest spectral density is captured before the 5725 MHz.



Frequency 5720 MHz, U-NII-3. \*Note: The highest spectral density is captured after the 5725 MHz.

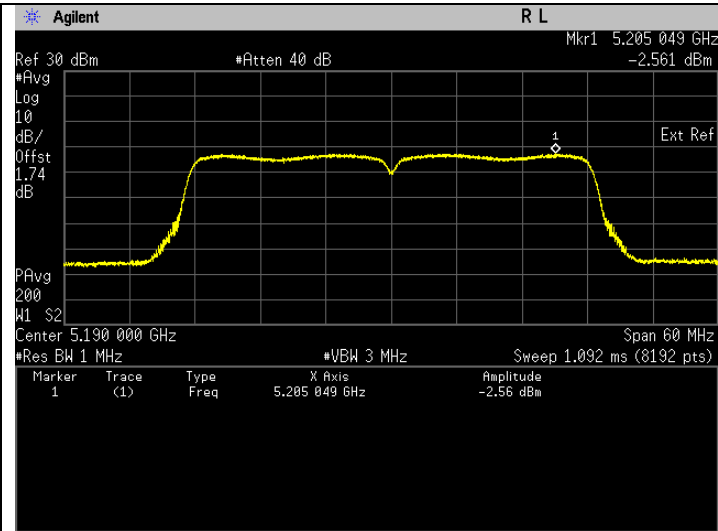
802.11n (HT40) (26dB EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5190           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -2.464                          | Pass   |
| 5230           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.134                           | Pass   |
| 5270           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.183                           | Pass   |
| 5310           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -1.416                          | Pass   |
| 5510           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -1.732                          | Pass   |
| 5590           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.9010                          | Pass   |
| 5670           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.167                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | Power/Frequency<br>(dBm/500kHz) | Status |
| 5755           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.105                           | Pass   |
| 5795           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -4.224                          | Pass   |

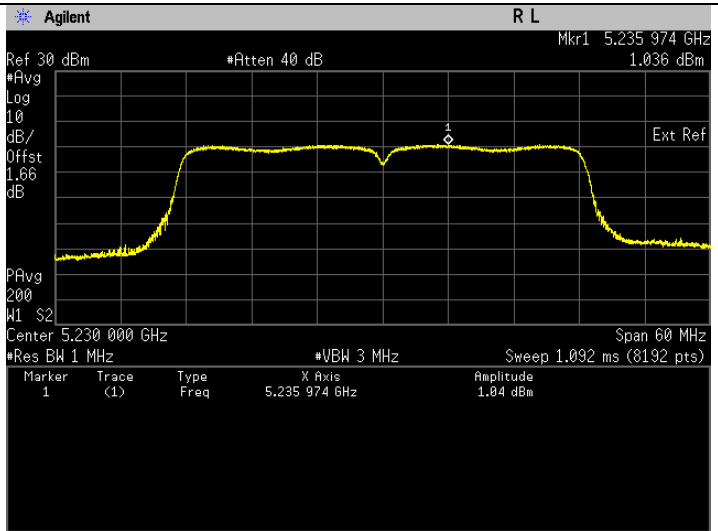
802.11n (HT40)(99% EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |                   |        |
|----------------|----------------------------------------|---------------------------------|--------|-------------------|--------|
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status | EIRP<br>(dBm/MHz) | Status |
| 5190           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -2.464                          | Pass   | 0.037             | Pass   |
| 5230           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.134                           | Pass   | 2.634             | Pass   |
| 5270           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.183                           | Pass   | 4.683             | Pass   |
| 5310           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -1.416                          | Pass   | 2.084             | Pass   |
| 5510           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -1.732                          | Pass   | 1.768             | Pass   |
| 5590           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.9010                          | Pass   | 4.4010            | Pass   |
| 5670           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.167                           | Pass   | 3.667             | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | Power/Frequency<br>(dBm/500kHz) | Status |                   |        |
| 5755           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 0.105                           | Pass   | 4.605             | Pass   |
| 5795           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | -4.224                          | Pass   | 1.276             | Pass   |

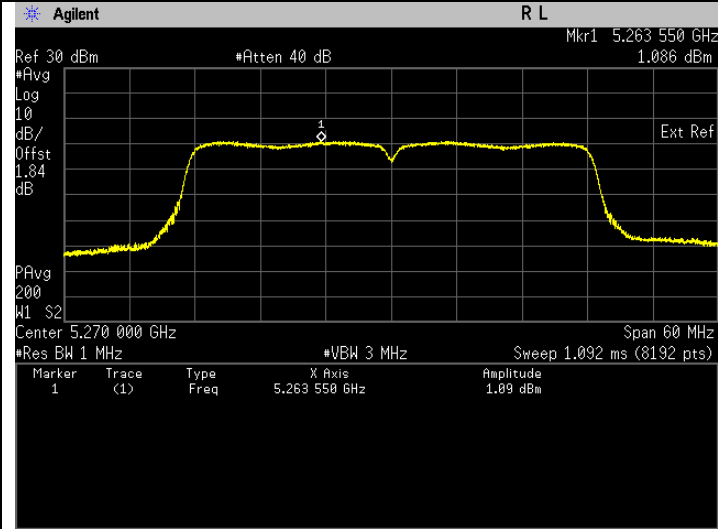
Plots for 802.11n (HT40) (26dB EBW & 99% EBW)



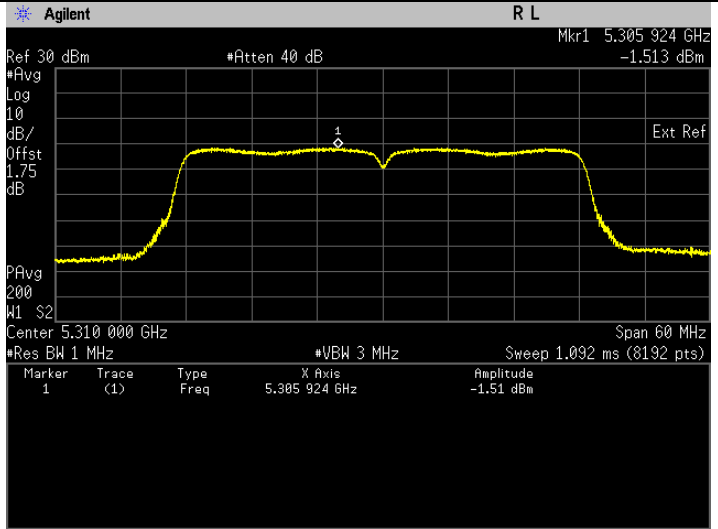
Frequency 5190 MHz



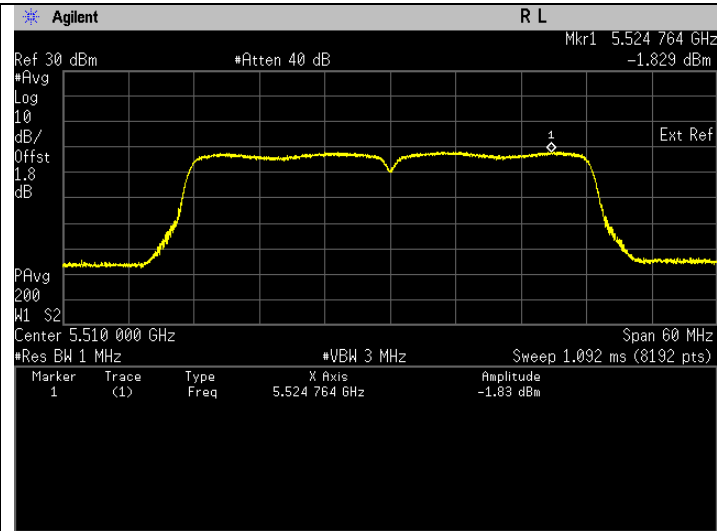
Frequency 5230 MHz



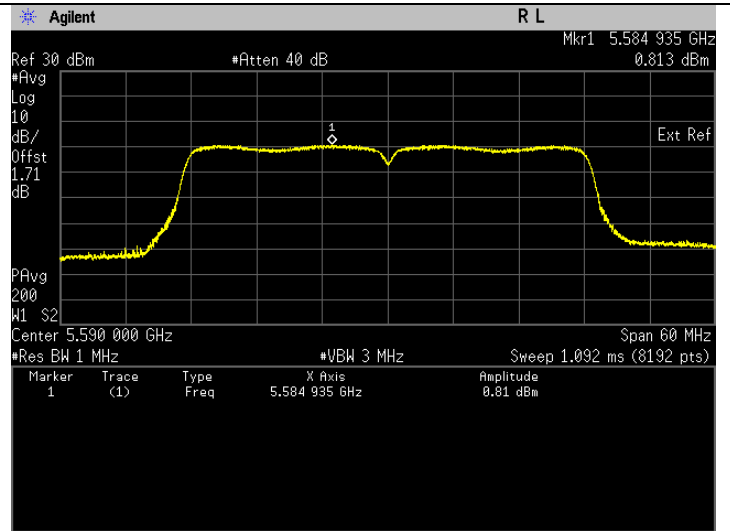
Frequency 5270 MHz



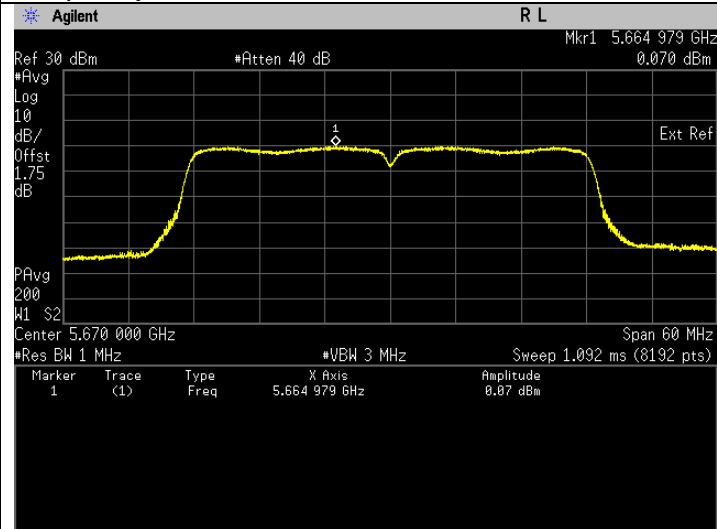
Frequency 5310 MHz



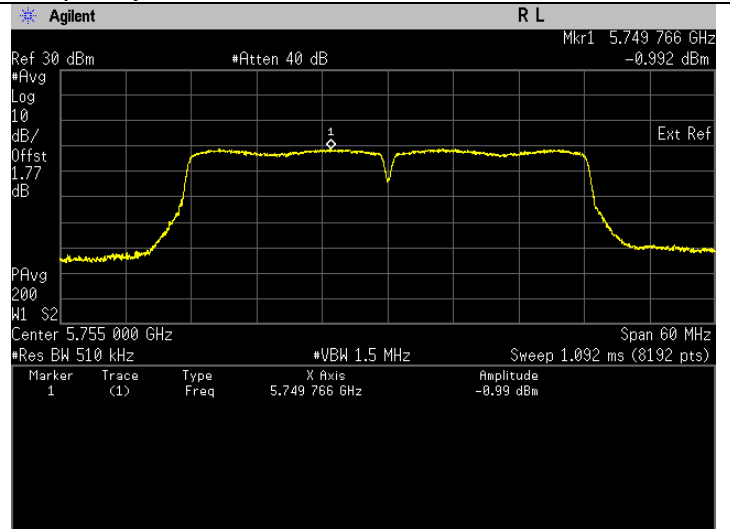
Frequency 5510 MHz



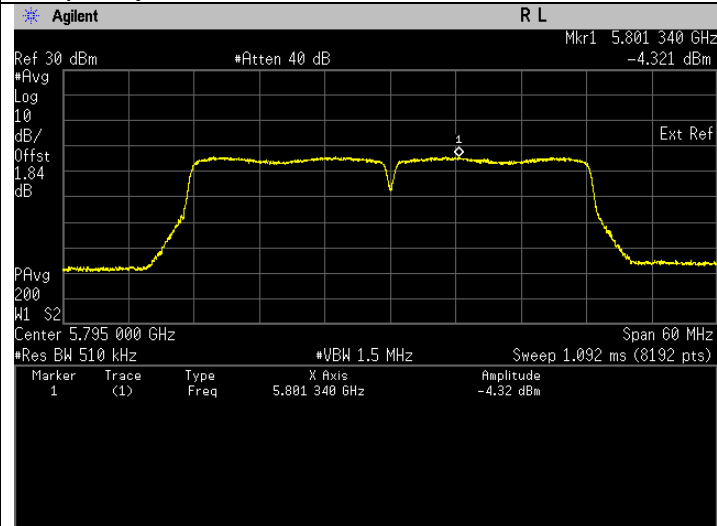
Frequency 5590 MHz



Frequency 5670 MHz



Frequency 5755 MHz



Frequency 5795 MHz

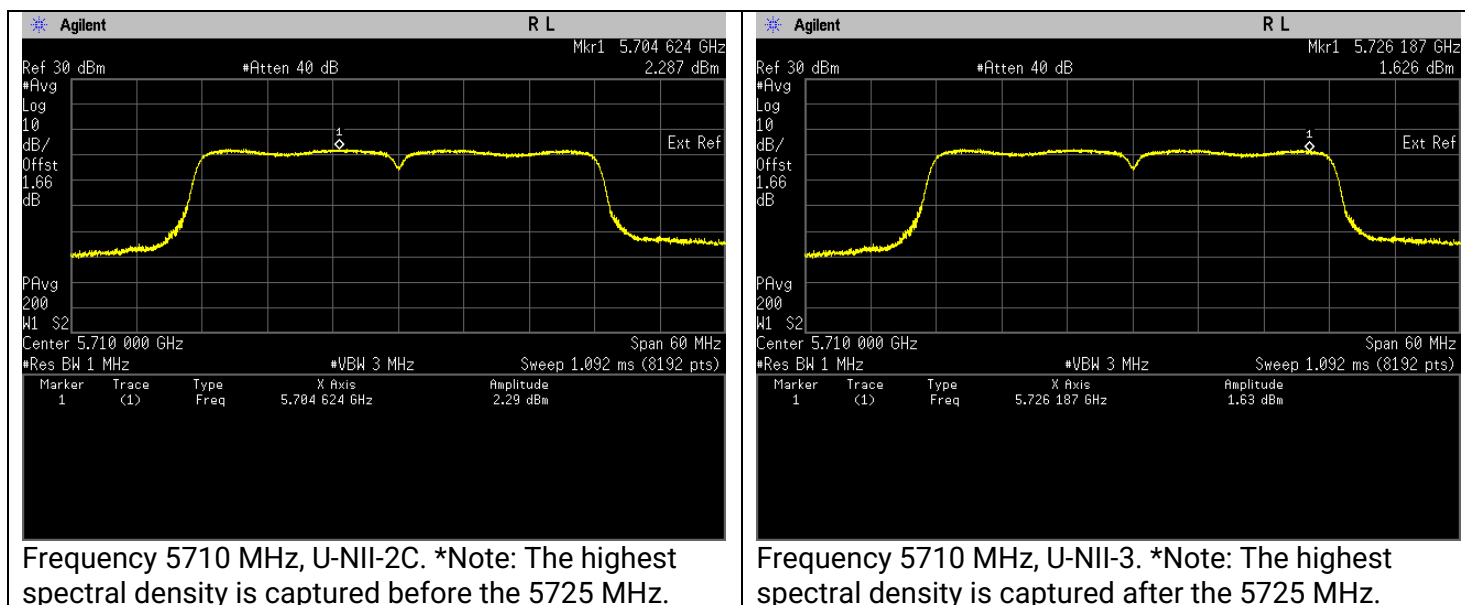
### Straddle Frequency 802.11n (HT40) (26dB EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | U-NII- 2C                       |        |
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 2.384                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | U-NII-3                         |        |
|                |                                        | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                        |                                 |        |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.723                           | Pass   |

### Straddle Frequency 802.11n (HT40) (99% EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | U-NII- 2C                       |        |
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 2.384                           | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | U-NII-3                         |        |
|                |                                        | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                        |                                 |        |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 1.723                           | Pass   |

### Plots for 802.11n (HT40) Straddle Frequency (26dB EBW & 99% EBW)



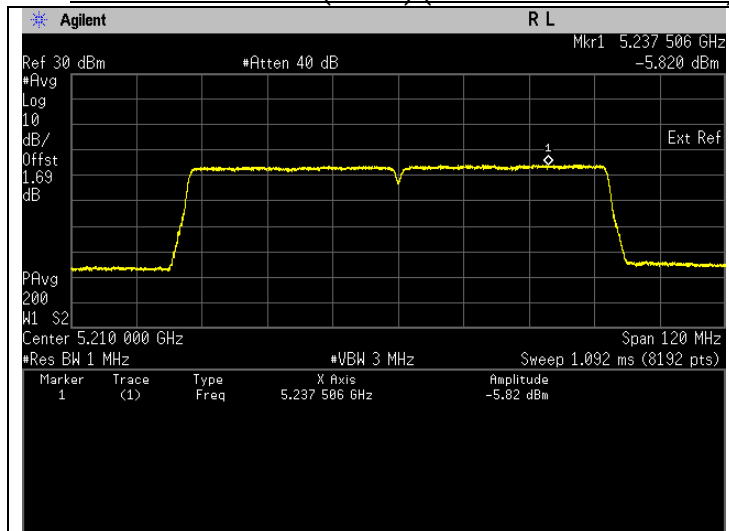
802.11ac (HT80)(26dB EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5210           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.620                          | Pass   |
| 5290           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -6.347                          | Pass   |
| 5530           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.604                          | Pass   |
| 5610           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -6.370                          | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | Power/Frequency<br>(dBm/500kHz) | Status |
| 5775           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -9.145                          | Pass   |

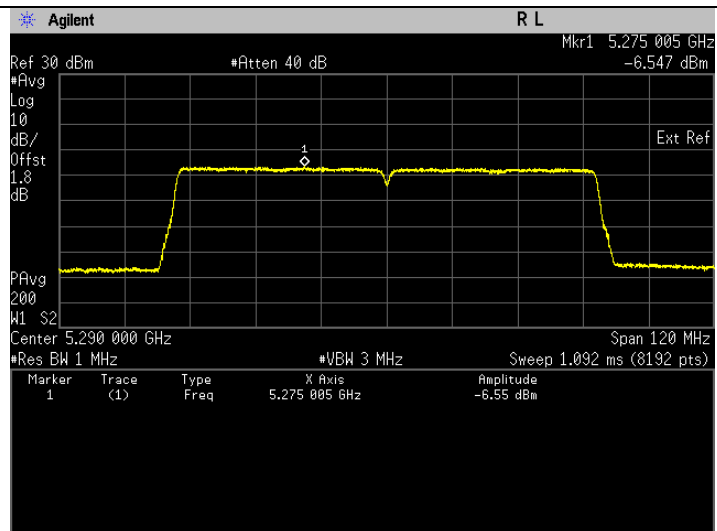
802.11ac (HT80)(99% EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |                   |        |
|----------------|----------------------------------------|---------------------------------|--------|-------------------|--------|
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status | EIRP<br>(dBm/MHz) | Status |
| 5210           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.620                          | Pass   | -4.120            | Pass   |
| 5290           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -6.347                          | Pass   | -2.847            | Pass   |
| 5530           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.604                          | Pass   | -2.104            | Pass   |
| 5610           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -6.370                          | Pass   | -2.870            | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | Power/Frequency<br>(dBm/500kHz) | Status |                   |        |
| 5775           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -9.145                          | Pass   | -3.645            | Pass   |

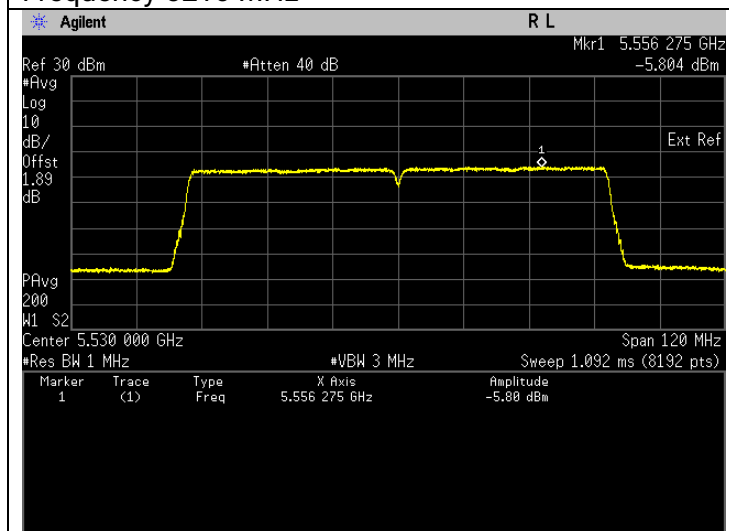
# Plots for 802.11ac (HT80) (26dB EBW & 99% EBW)



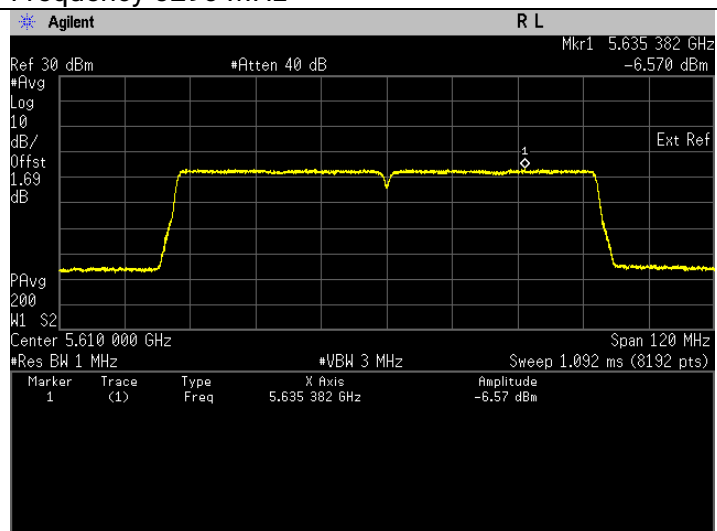
Frequency 5210 MHz



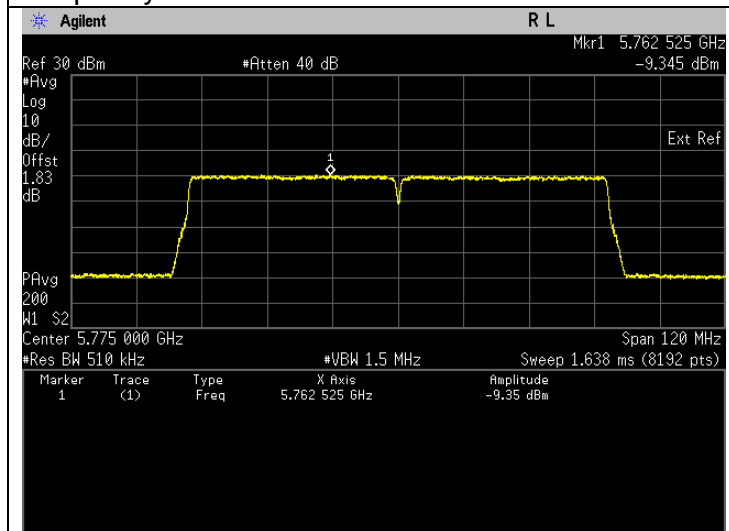
Frequency 5290 MHz



Frequency 5530 MHz



Frequency 5610 MHz



Frequency 5775 MHz

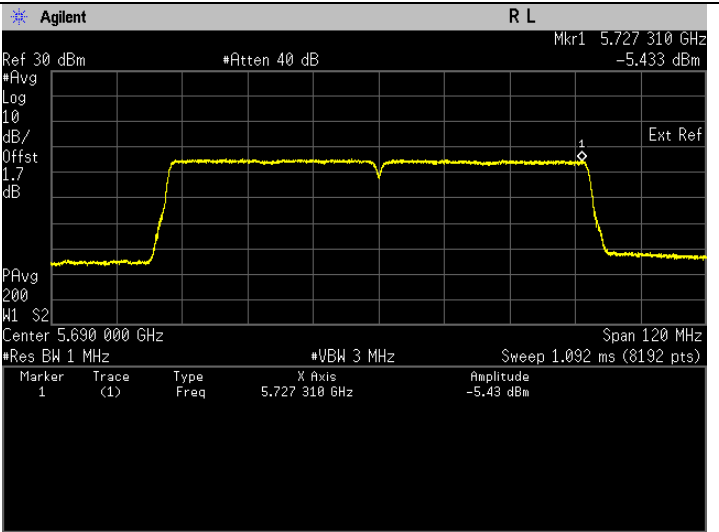
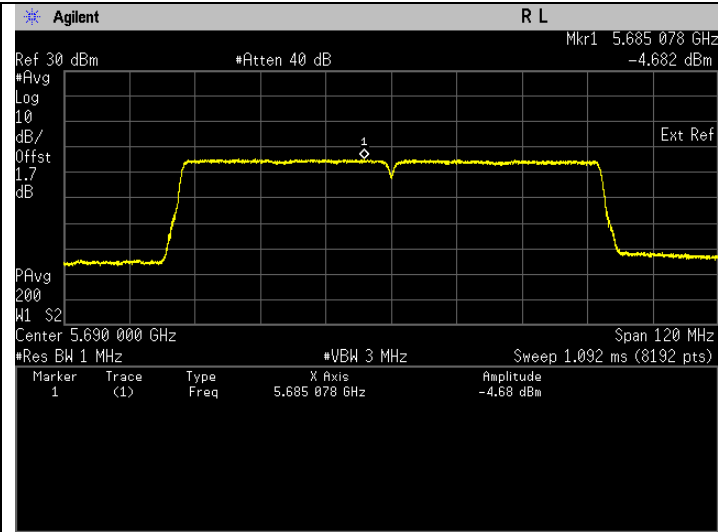
Straddle Frequency 802.11ac (HT80) (26dB EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | U-NII- 2C                       |        |
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -4.482                          | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | U-NII-3                         |        |
|                |                                        | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                        |                                 |        |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.233                          | Pass   |

Straddle Frequency 802.11ac (HT80) (99% EBW)

| Freq.<br>(MHz) | Test Conditions                        | Results                         |        |
|----------------|----------------------------------------|---------------------------------|--------|
|                |                                        | U-NII- 2C                       |        |
|                |                                        | Power/Frequency<br>(dBm/MHz)    | Status |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -4.482                          | Pass   |
| Freq.<br>(MHz) | Test Conditions                        | U-NII-3                         |        |
|                |                                        | Power/Frequency<br>(dBm/500kHz) | Status |
|                |                                        |                                 |        |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | -5.233                          | Pass   |

Plots for 802.11ac (HT80) Straddle Frequency (26dB EBW & 99% EBW)

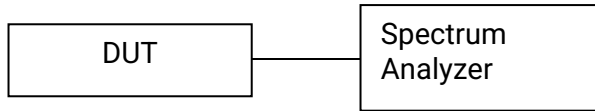


Frequency 5690 MHz, U-NII-2C. \*Note: The highest spectral density is captured before the 5725 MHz.

Frequency 5690 MHz, U-NII-3. \*Note: The highest spectral density is captured after the 5725 MHz.

## 6.4. 6dB Bandwidth

### 6.4.1. Test Setup



- a) Test setup as per illustrated above.
- b) Set DUT to transmit at desire transmit frequency.
- c) 6dB bandwidth is applicable for the band 5.725-5.85GHz only.
- d) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- e) Setting of Spectrum analyzer :
  - RBW = 100 kHz
  - VBW  $\geq$  3·RBW
  - Detector = Peak
  - Trace = Max Hold
  - Sweep = Auto couple
- f) Allow trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.
- h) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause C.2).

### 6.4.2. Test Limits

#### FCC 15.407(e)

Within the 5.725-5.85GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

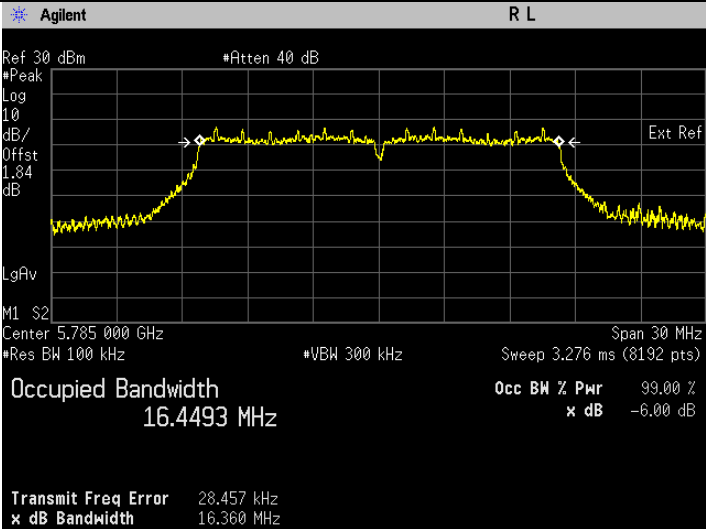
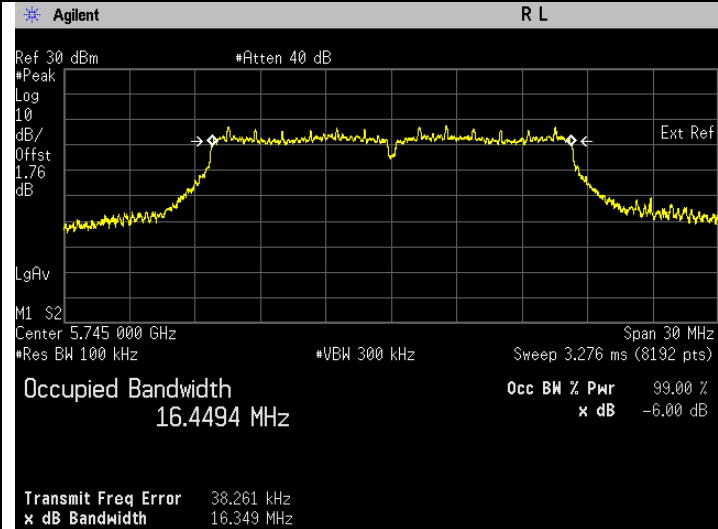
#### RSS 247 6.2.4

For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

6.4.3. Test Data

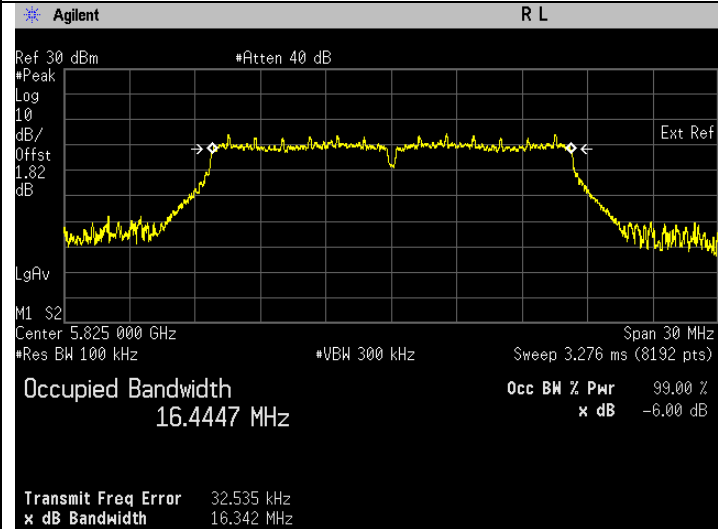
802.11a

| Freq.<br>(MHz) | Test Configuration           | Results        |        |
|----------------|------------------------------|----------------|--------|
|                |                              | Bandwidth(MHz) | Status |
| 5745           | Mod Type: BPSK, Data Rate: 6 | 16.349         | Pass   |
| 5785           | Mod Type: BPSK, Data Rate: 6 | 16.360         | Pass   |
| 5825           | Mod Type: BPSK, Data Rate: 6 | 16.342         | Pass   |



Frequency 5745 MHz

Frequency 5785 MHz

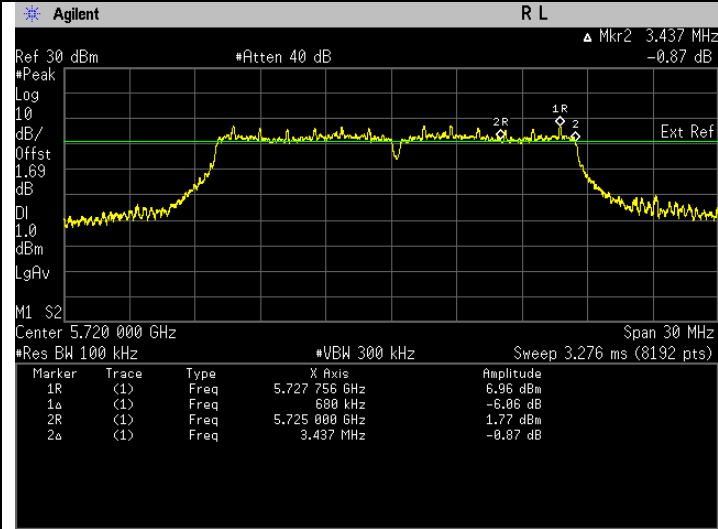


Frequency 5825 MHz

Straddle Frequency for 802.11a

| Freq.<br>(MHz) | Test Conditions              | Results        |        |
|----------------|------------------------------|----------------|--------|
|                |                              | Bandwidth(MHz) | Status |
|                |                              | U-NII- 3       |        |
| 5720           | Mod Type: BPSK, Data Rate: 6 | 3.437          | Pass   |

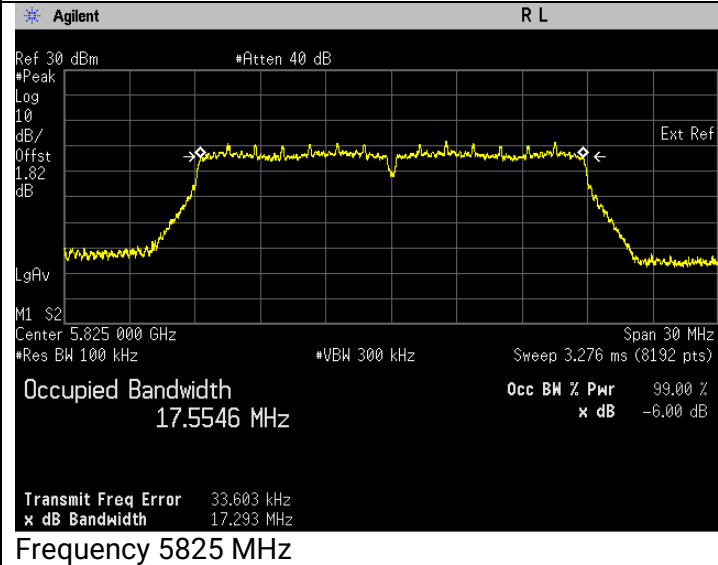
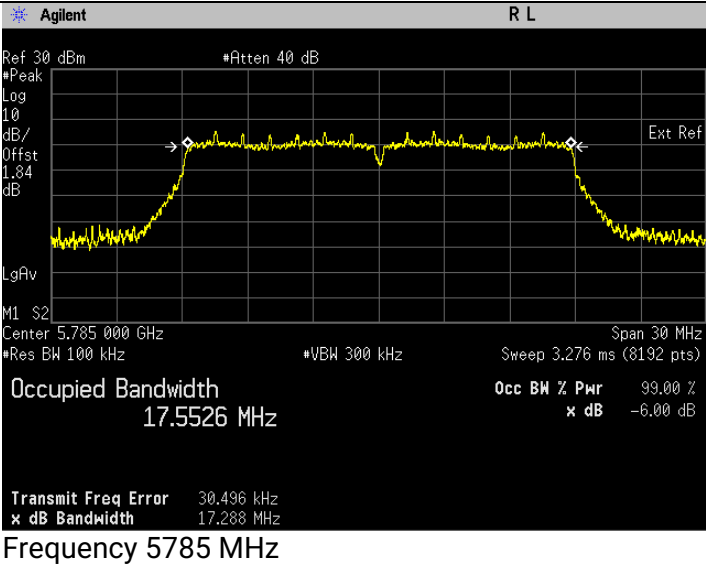
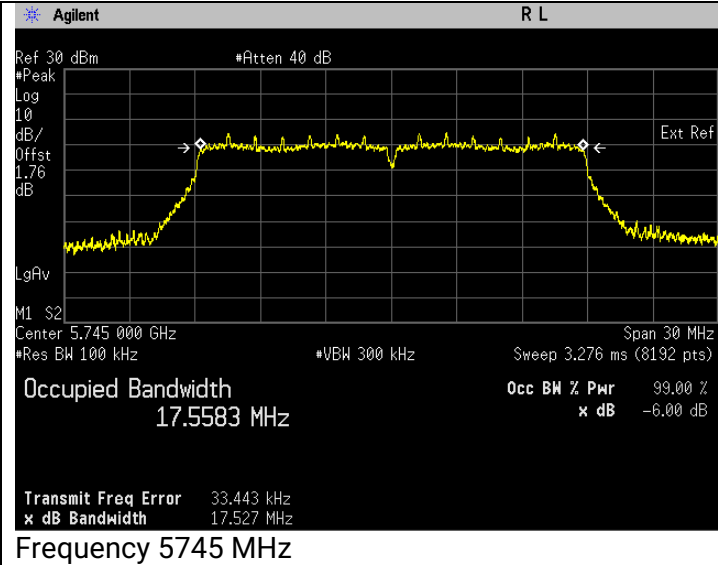
Plots for 802.11a Straddle Frequency



Frequency 5720 MHz

802.11n (HT20)

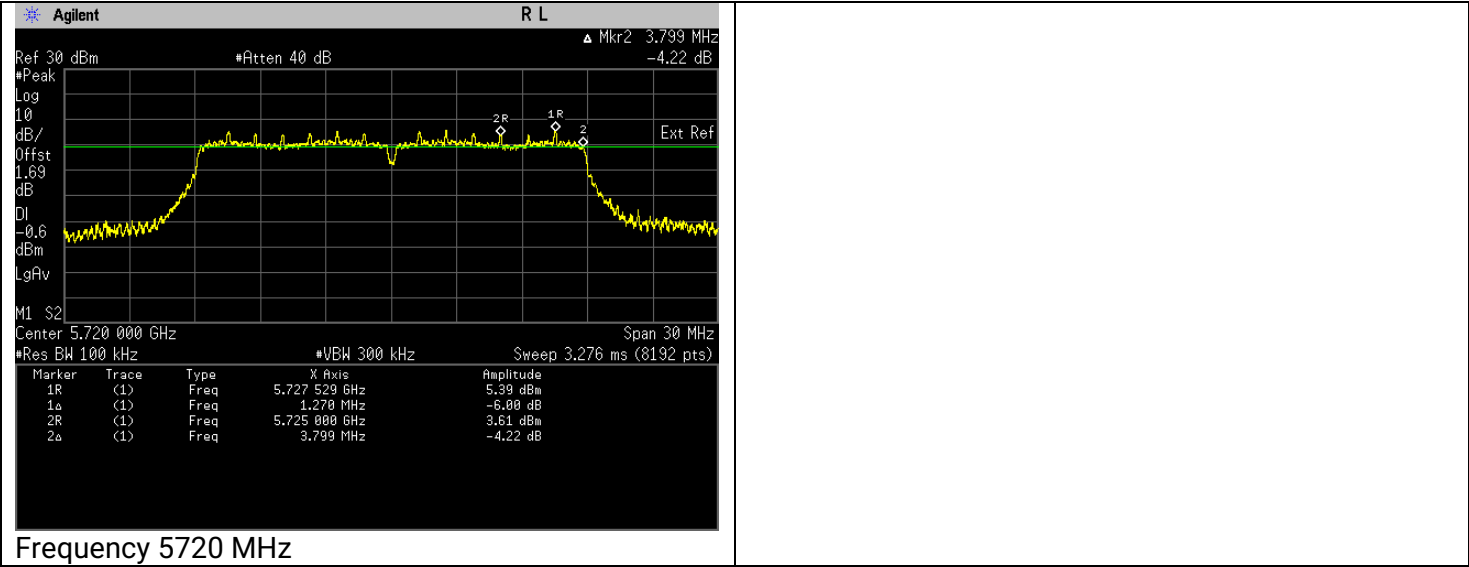
| Freq.<br>(MHz<br>) | Test Configuration                    | Results        |        |
|--------------------|---------------------------------------|----------------|--------|
|                    |                                       | Bandwidth(MHz) | Status |
| 5745               | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.527         | Pass   |
| 5785               | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.288         | Pass   |
| 5825               | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 17.293         | Pass   |



Straddle Frequency for 802.11n (HT20)

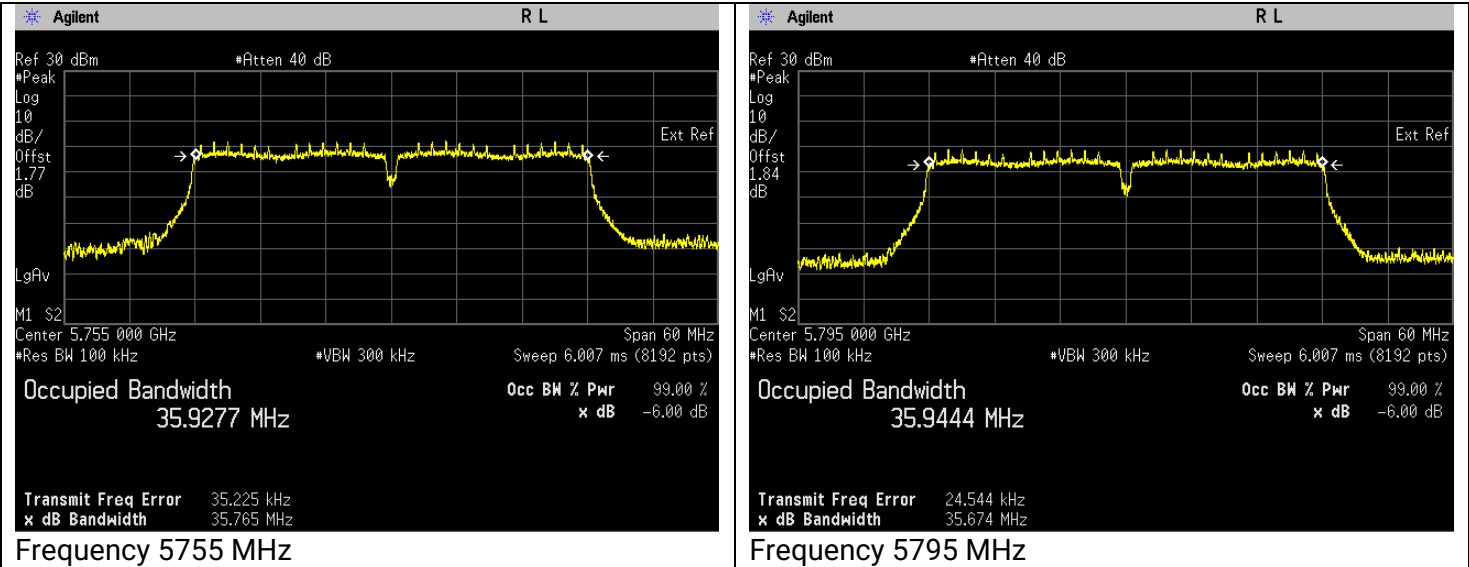
| Freq.<br>(MHz) | Test Conditions                       | Results        |        |
|----------------|---------------------------------------|----------------|--------|
|                |                                       | Bandwidth(MHz) | Status |
|                |                                       | U-NII- 3       |        |
| 5720           | Mod Type: BPSK, Data Rate: MCS0 (6.5) | 3.799          | Pass   |

Plots for 802.11n (HT20) Straddle Frequency



802.11n (HT40)

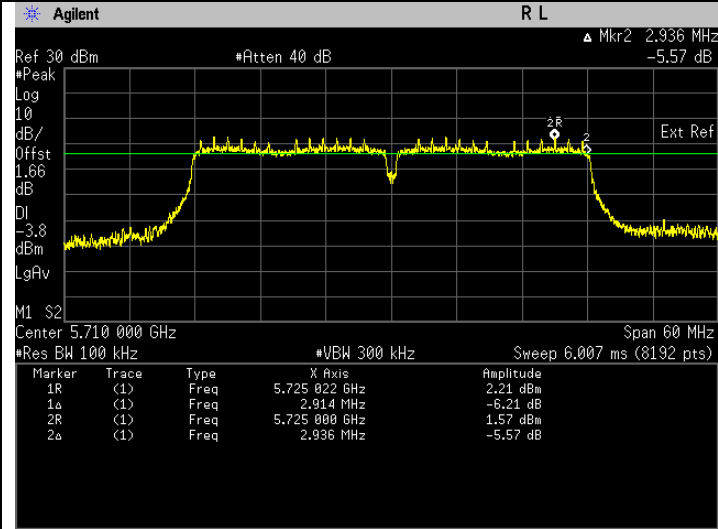
| Freq.<br>(MHz) | Test Configuration                     | Results        |        |
|----------------|----------------------------------------|----------------|--------|
|                |                                        | Bandwidth(MHz) | Status |
| 5755           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 35.765         | Pass   |
| 5795           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 35.674         | Pass   |



Straddle Frequency for 802.11n (HT40)

| Freq.<br>(MHz) | Test Conditions                        | Results        |        |
|----------------|----------------------------------------|----------------|--------|
|                |                                        | Bandwidth(MHz) | Status |
|                |                                        | U-NII- 3       |        |
| 5710           | Mod Type: BPSK, Data Rate: MCS0 (13.5) | 2.936          | Pass   |

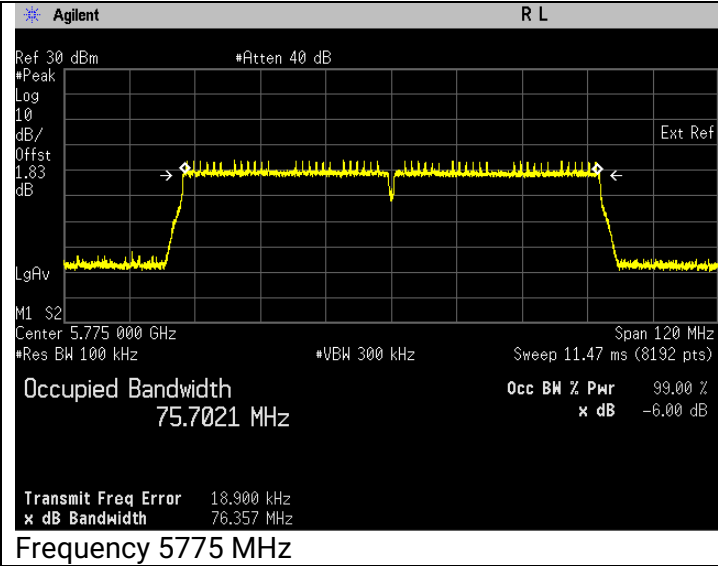
Plots for 802.11n (HT40) Straddle Frequency



Frequency 5710 MHz

802.11ac (HT80)

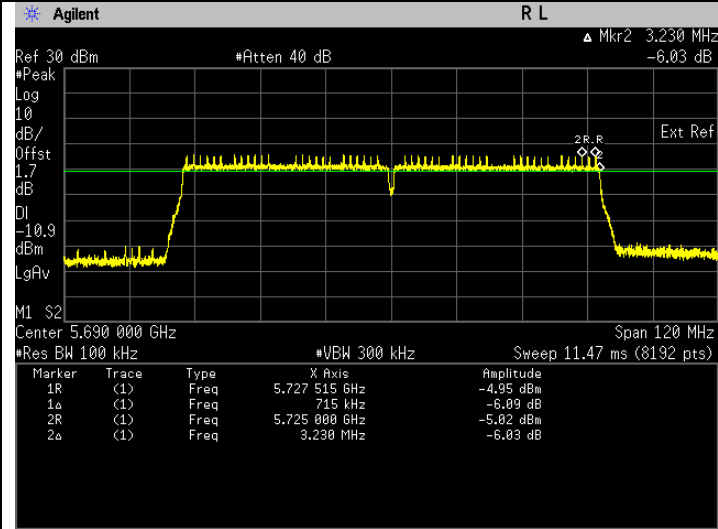
| Freq.<br>(MHz) | Test Configuration                     | Results        |        |
|----------------|----------------------------------------|----------------|--------|
|                |                                        | Bandwidth(MHz) | Status |
| 5775           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 76.357         | Pass   |



Straddle Frequency for 802.11ac (HT80)

| Freq.<br>(MHz) | Test Conditions                        | Results        |        |
|----------------|----------------------------------------|----------------|--------|
|                |                                        | Bandwidth(MHz) | Status |
|                |                                        | U-NII- 3       |        |
| 5690           | Mod Type: BPSK, Data Rate: MCS0 (29.3) | 3.230          | Pass   |

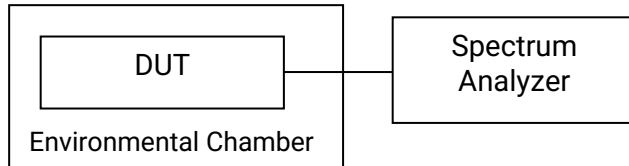
Plots for 802.11ac (HT80) Straddle Frequency



Frequency 5690 MHz

## 6.5. Frequency Stability

### 6.5.1. Test Setup



- a) Test setup as per illustrated above.
- b) Set DUT to transmit un-modulated signal at desire transmit frequency.
- c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
- d) The DUT was operated at the maximum output power, and spectrum which is set to maximum hold function and peak detector.
- e) The peak value of the power envelope was measured and noted.
- f) Test was conducted from temperature range from -30°C to 50°C with step size of 10°C on manufacturer's rated supply voltage.
- g) At temperature of 20°C, +/-15% of manufacturer's rated voltage are to be applied.
- h) The frequency stability is measured and recorded of frequency deviation due to temperature and supply voltage variations as mentioned at condition f) & g) above.

### 6.5.2. Test Limits

#### FCC 15.407(g)

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

#### RSS-GEN 6.11

### 6.5.3. Test Data

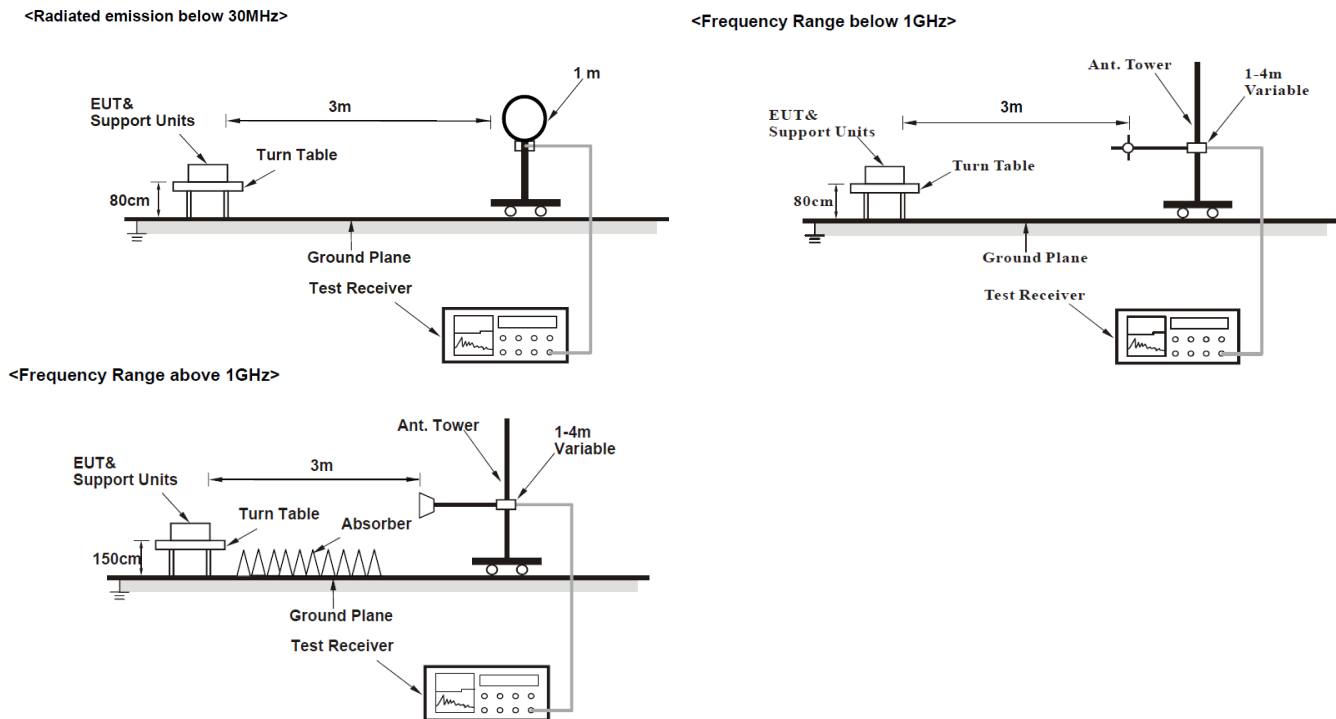
#### 802.11a

| Test Configuration           | Test Frequency |
|------------------------------|----------------|
|                              | Tx (MHz)       |
| Mod Type: BPSK, Data Rate: 6 | 5180           |

| Temperature(°C) | Voltage | Results                 |                      |                    |        |
|-----------------|---------|-------------------------|----------------------|--------------------|--------|
|                 |         | Measured Frequency(MHz) | Frequency Error(kHz) | Frequency Error(%) | Status |
| 20              | +15%    | 5180.065097             | 65.097000            | 0.001257           | Pass   |
|                 | ±0%     | 5180.061826             | 61.826000            | 0.001194           | Pass   |
|                 | -15%    | 5180.051897             | 51.897000            | 0.001002           | Pass   |
| -30             |         | 5180.040437             | 40.437000            | 0.000781           | Pass   |
| -20             |         | 5180.030361             | 30.361000            | 0.000586           | Pass   |
| -10             |         | 5180.025635             | 25.635000            | 0.000495           | Pass   |
| 0               |         | 5180.039172             | 39.172000            | 0.000756           | Pass   |
| 10              |         | 5180.038287             | 38.287000            | 0.000739           | Pass   |
| 30              |         | 5180.025931             | 25.931000            | 0.000501           | Pass   |
| 40              |         | 5180.025798             | 25.798000            | 0.000498           | Pass   |
| 50              |         | 5180.025643             | 25.643000            | 0.000495           | Pass   |

## 6.6. Band Edge Radiated Spurious Emission Measurement

### 6.6.1. Test Setup



1. The EUT is placed on the top of a rotating table 0.8m/1.5m above the ground at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
2. The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
3. The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

**NOTE:**

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection using reduced video bandwidth (Duty cycle  $\geq 98\%$ ) at frequency above 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1/  $\tau$  Hz, where  $\tau$  is minimum transmitter on time (Duty cycle  $< 98\%$ ) for Average detection using reduced video bandwidth at frequency above 1GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

### 6.6.2. Test Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009-0.490     | 2400/F(kHz)                       | 300                           |
| 0.490-1.705     | 24000/F(kHz)                      | 30                            |
| 1.705-30.0      | 30                                | 30                            |
| 30-88           | 100**                             | 3                             |
| 88-216          | 150**                             | 3                             |
| 216-960         | 200**                             | 3                             |
| Above 960       | 500                               | 3                             |

**NOTE:**

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For Radiated emissions which fall out of the restricted bands must comply with the radiated emission limits specified as below table.

| Applicable To                                                                                                       |                  | Limit                                                                                                                               |                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 789033 D02 General UNII Test Procedures<br>New Rules v01r03                                                         |                  | Field Strength at 3 m                                                                                                               |                                                                                                                                           |
|                                                                                                                     |                  | PK: 74 (dBμV/m)                                                                                                                     | AV: 54 (dBμV/m)                                                                                                                           |
| Frequency Band                                                                                                      | Applicable To    | EIRP Limit                                                                                                                          | Equivalent Field Strength at 3 m                                                                                                          |
| 5150–5250 MHz                                                                                                       | 15.407(b)(1)     | PK: -27 (dBm/MHz)                                                                                                                   | PK: 68.2 (dBμV/m)                                                                                                                         |
| 5250–5350 MHz                                                                                                       | 15.407(b)(2)     |                                                                                                                                     |                                                                                                                                           |
| 5470–5725 MHz                                                                                                       | 15.407(b)(3)     |                                                                                                                                     |                                                                                                                                           |
| 5725–5850 MHz                                                                                                       | 15.407(b)(4)(i)  | PK:-27 (dBm/MHz) <sup>*1</sup><br>PK:10 (dBm/MHz) <sup>*2</sup><br>PK:15.6 (dBm/MHz) <sup>*3</sup><br>PK:27 (dBm/MHz) <sup>*4</sup> | PK: 68.2 (dBμV/m) <sup>*1</sup><br>PK:105.2 (dBμV/m) <sup>*2</sup><br>PK: 110.8 (dBμV/m) <sup>*3</sup><br>PK:122.2 (dBμV/m) <sup>*4</sup> |
|                                                                                                                     | 15.407(b)(4)(ii) | Emission limits in section 15.247(d)                                                                                                |                                                                                                                                           |
| <sup>*1</sup> beyond 75 MHz or more above of the band edge.                                                         |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.                                |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.                    |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge |                  |                                                                                                                                     |                                                                                                                                           |

NOTE:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = ( (1000000\sqrt{(30P)}) / 3 ) \text{ } \mu\text{V/m, where P is the eirp (Watts)}$$

802.11a

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5180.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (14)            |

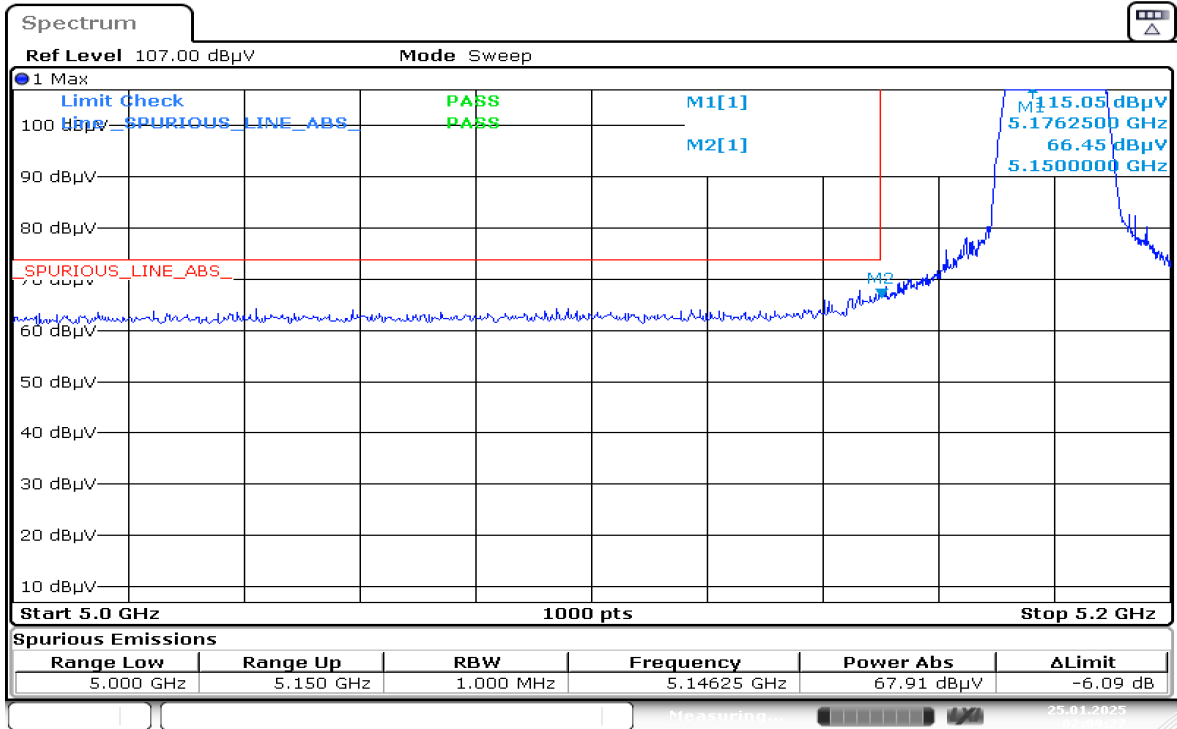
## Vertical Radiated Emission Result

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

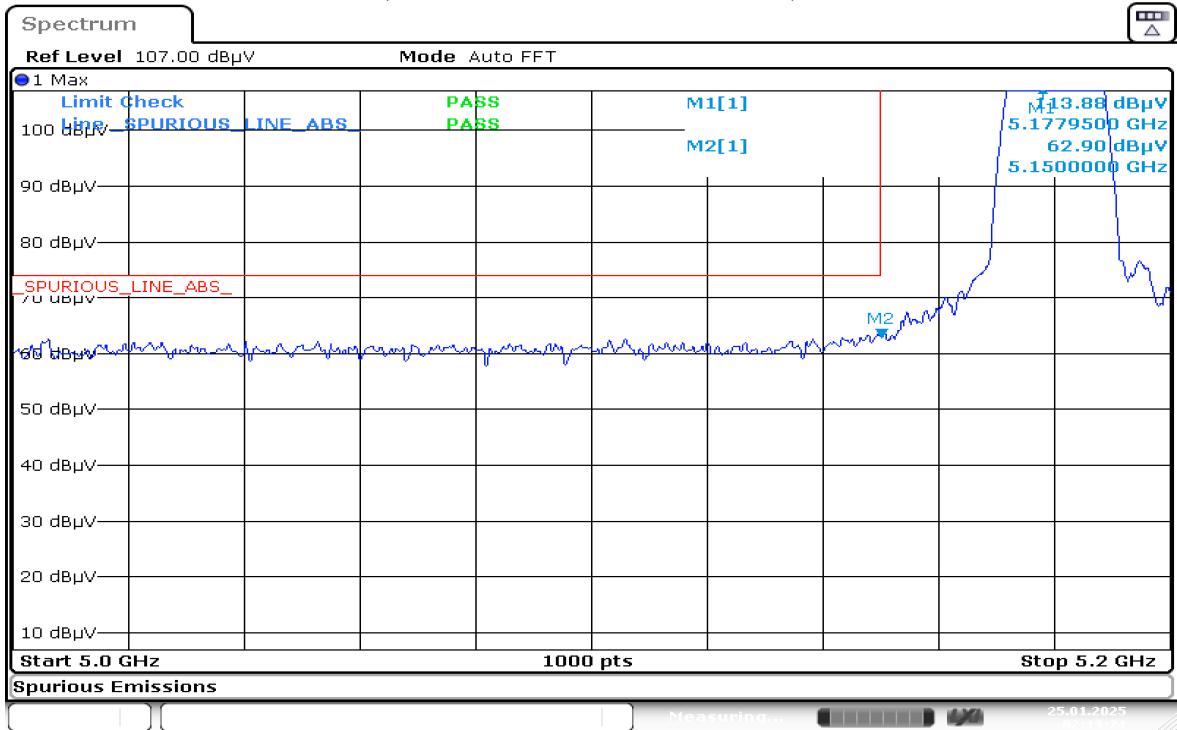
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| System MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



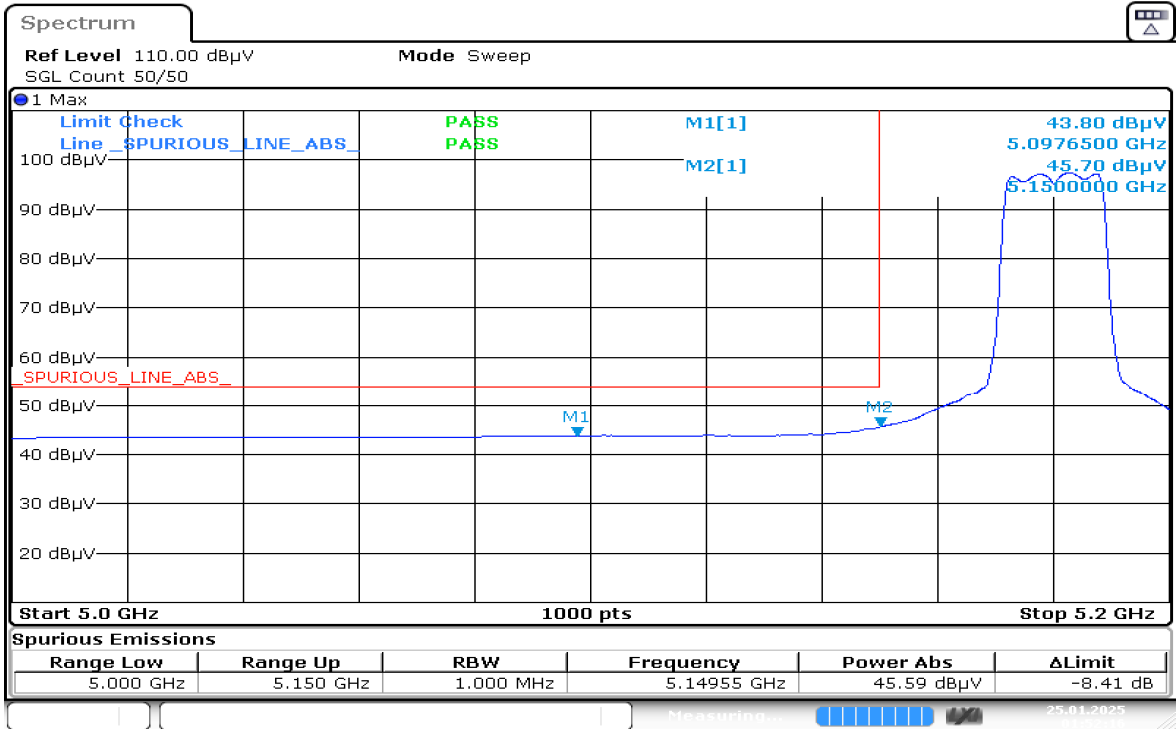
Date: 25.JAN.2025 02:09:28

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



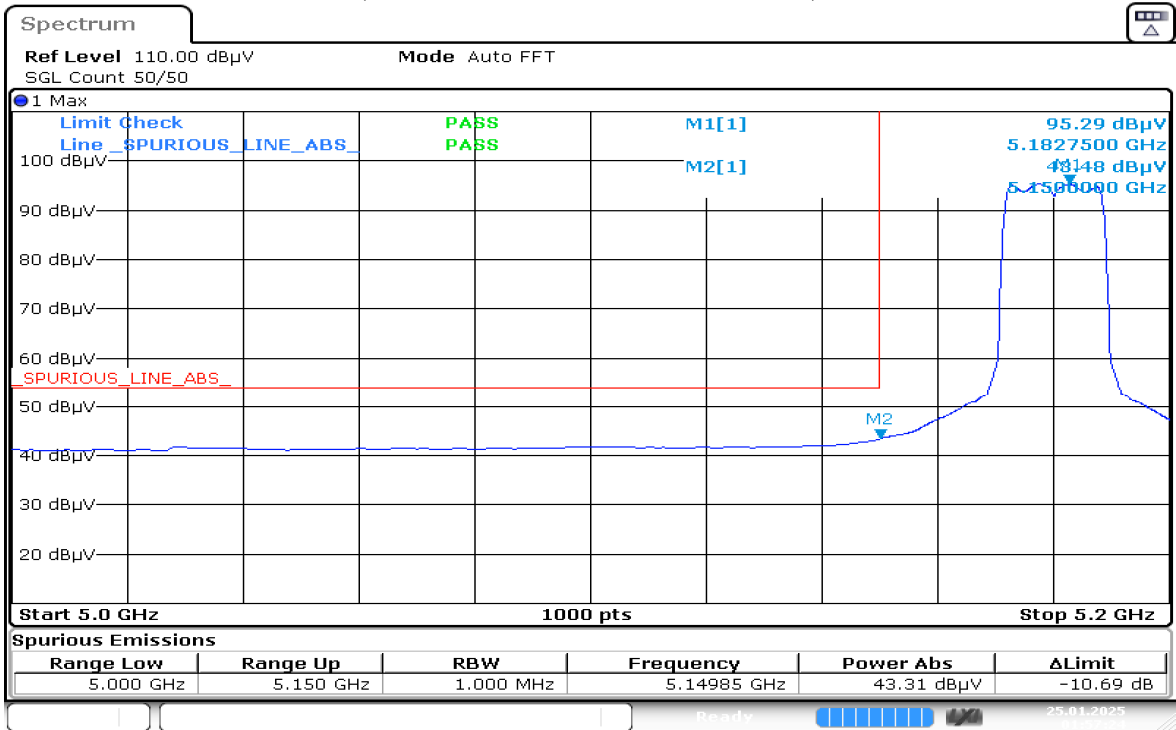
Date: 25.JAN.2025 02:13:22

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 01:52:16

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 01:57:24

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5320.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (14)            |

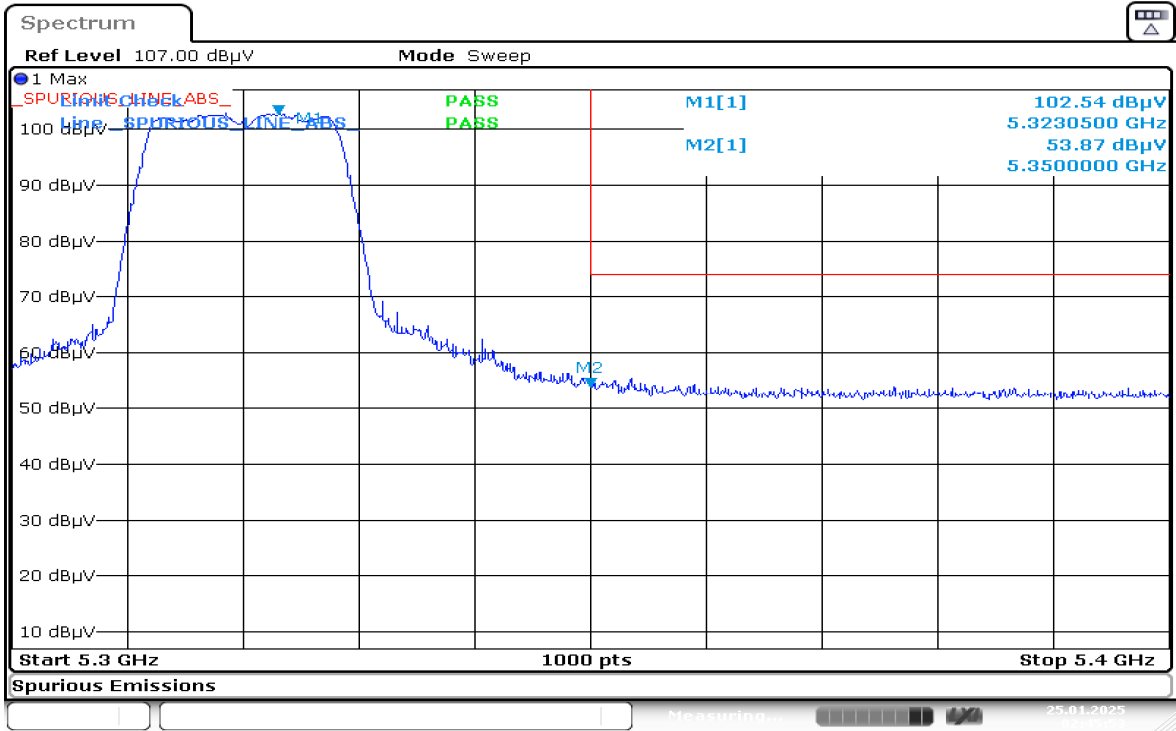
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

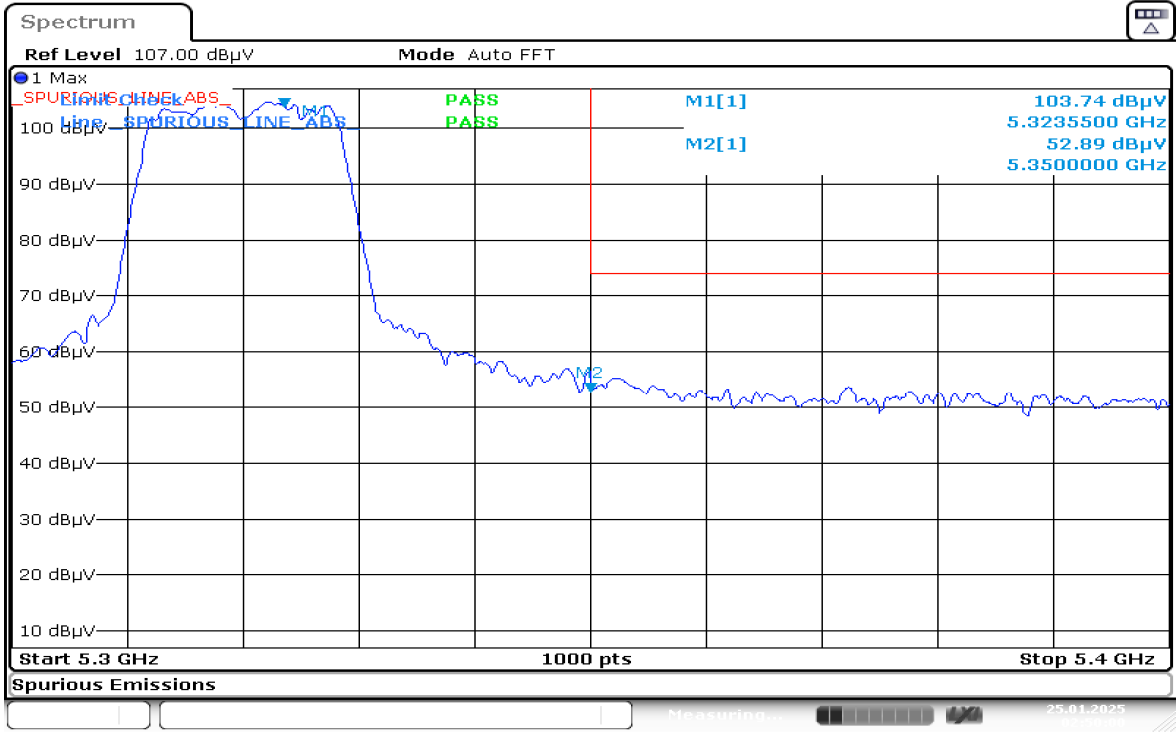
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



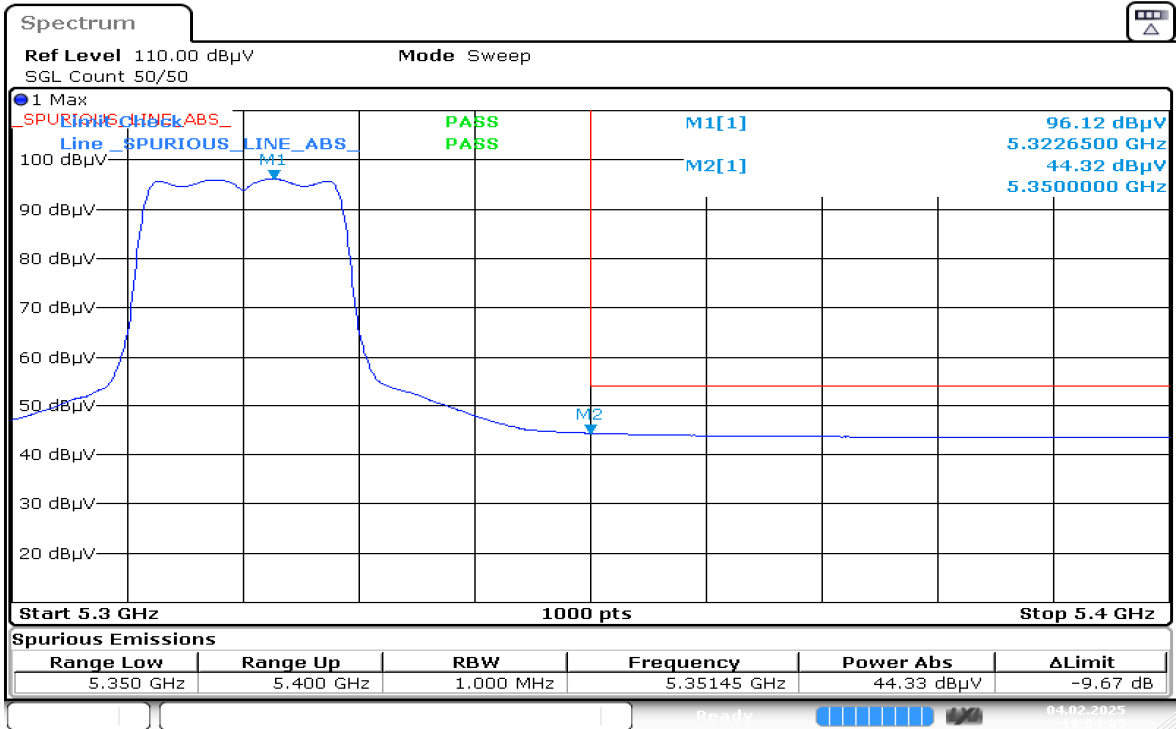
Date: 25.JAN.2025 02:45:53

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

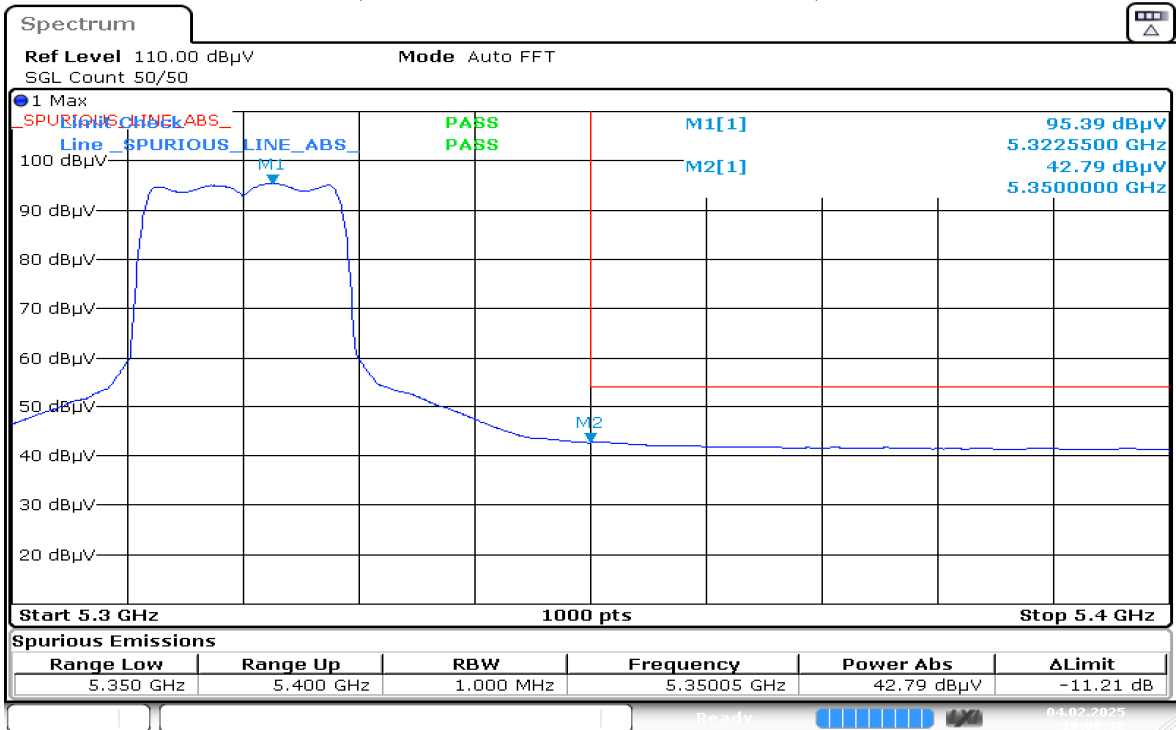


Date: 25.JAN.2025 02:50:01

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5500.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (13)            |

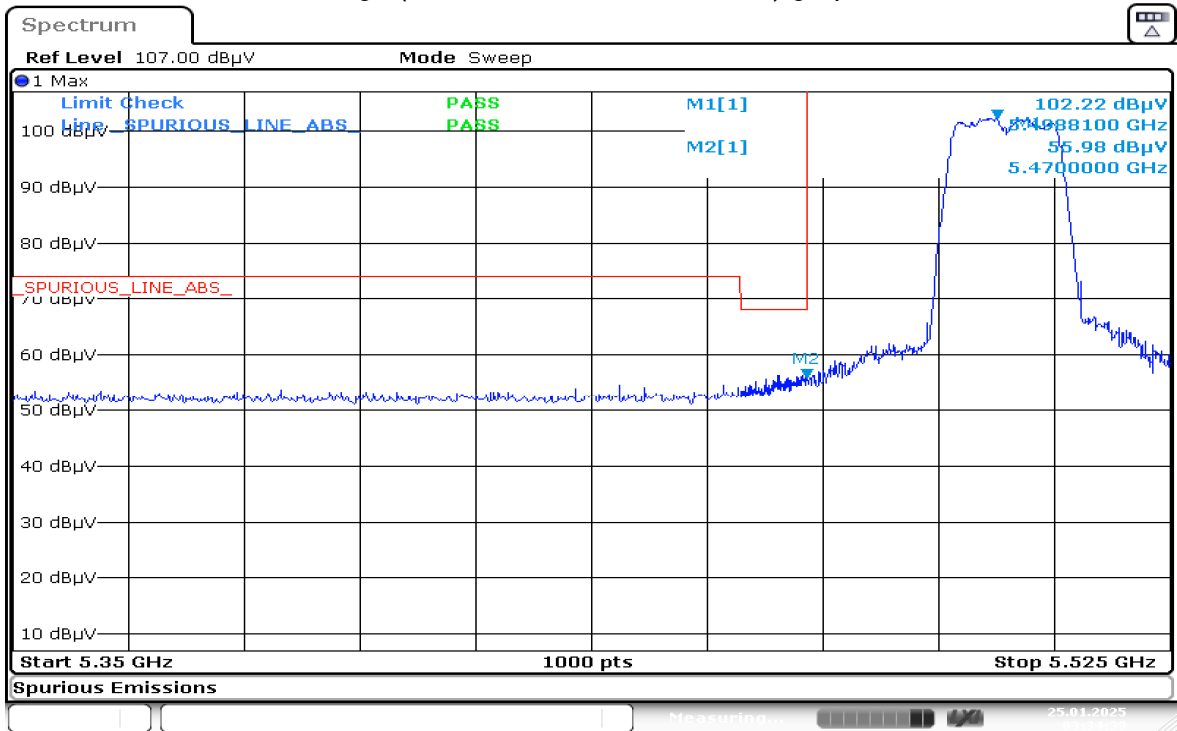
### Restricted Band Edge (Low Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

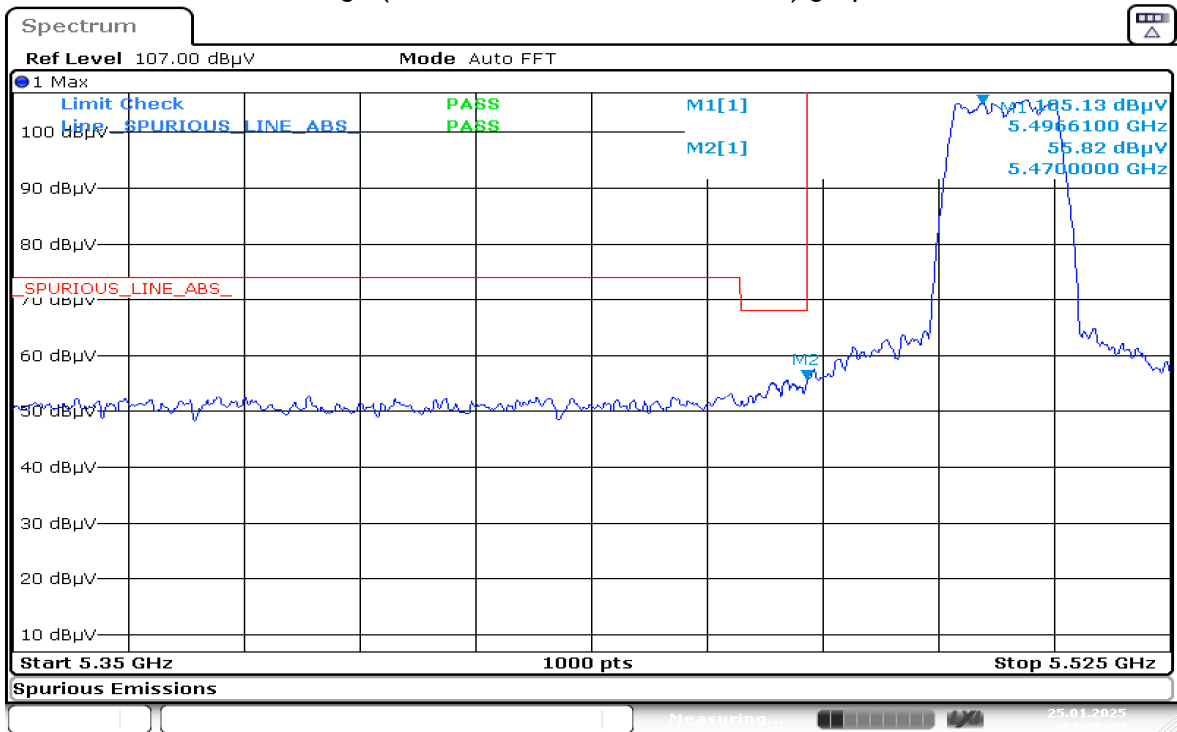
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



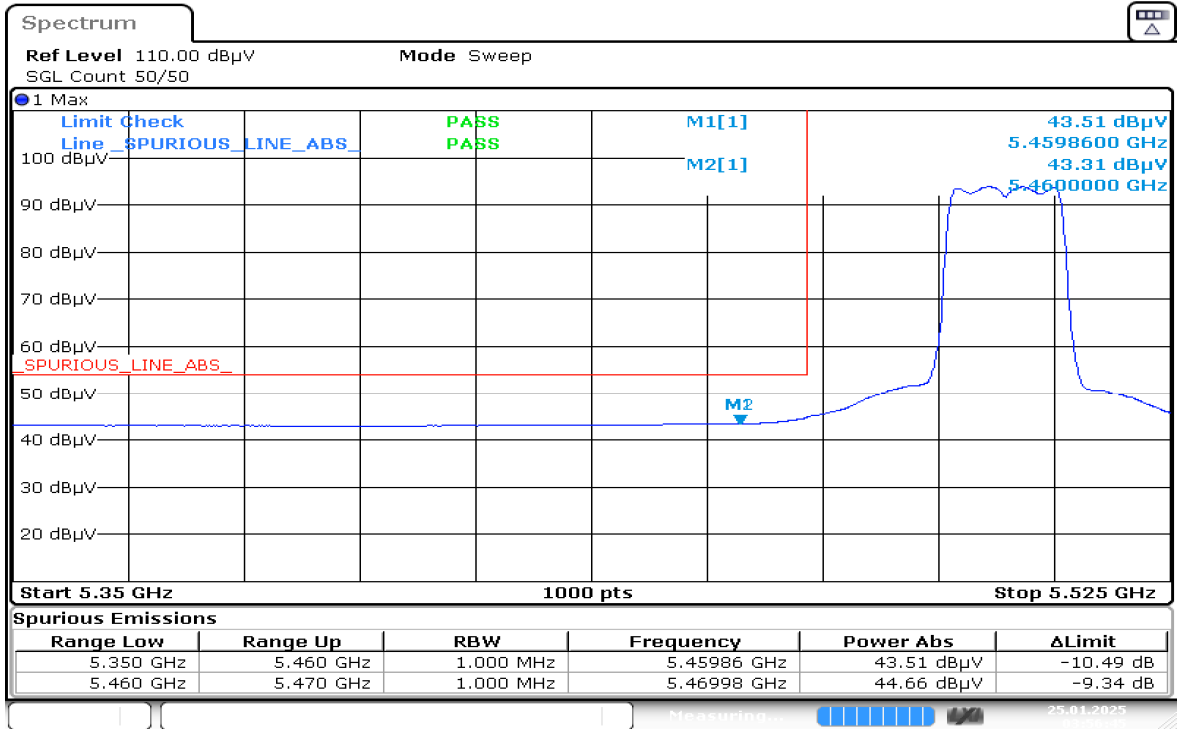
Date: 25. JAN.2025 03:34:39

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



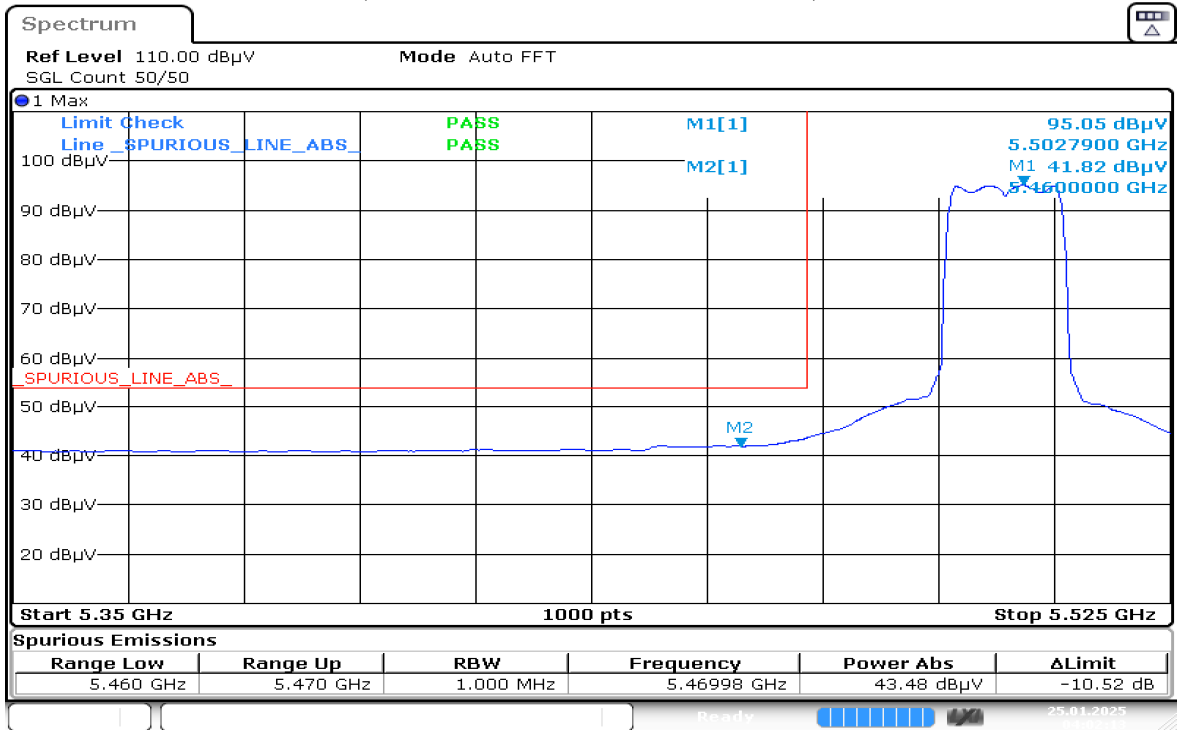
Date: 25. JAN.2025 03:38:34

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 03:56:45

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 04:02:14

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5700.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (12)            |

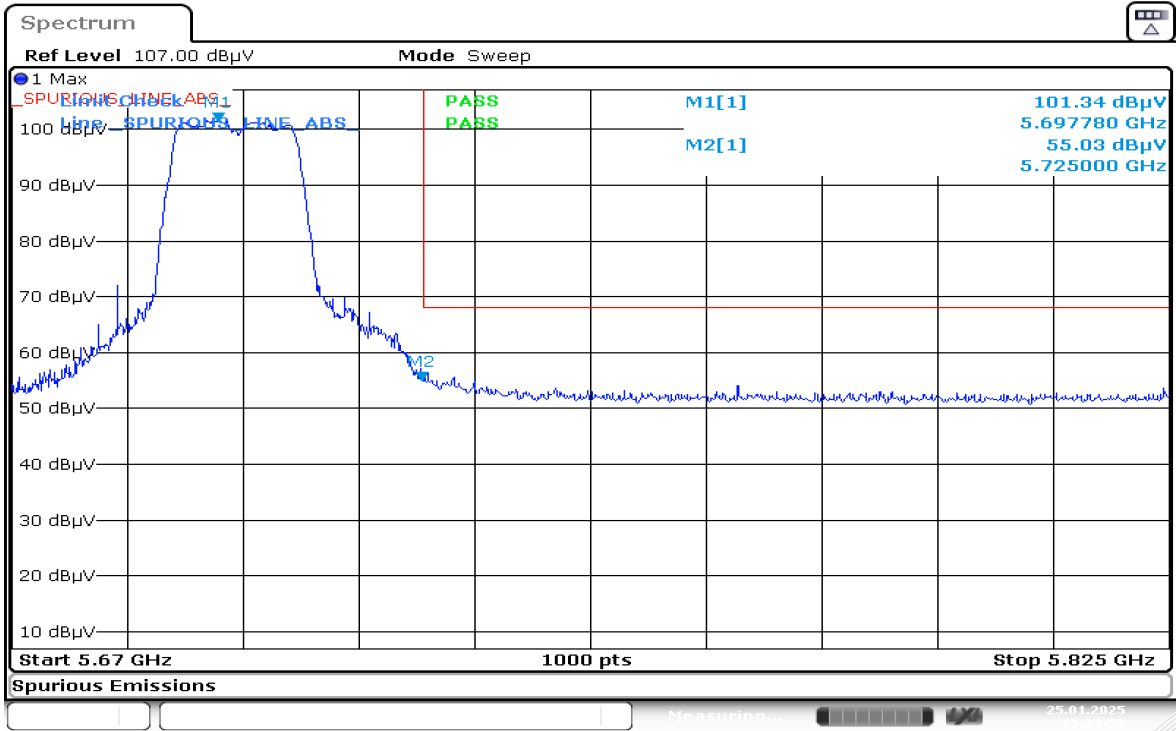
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

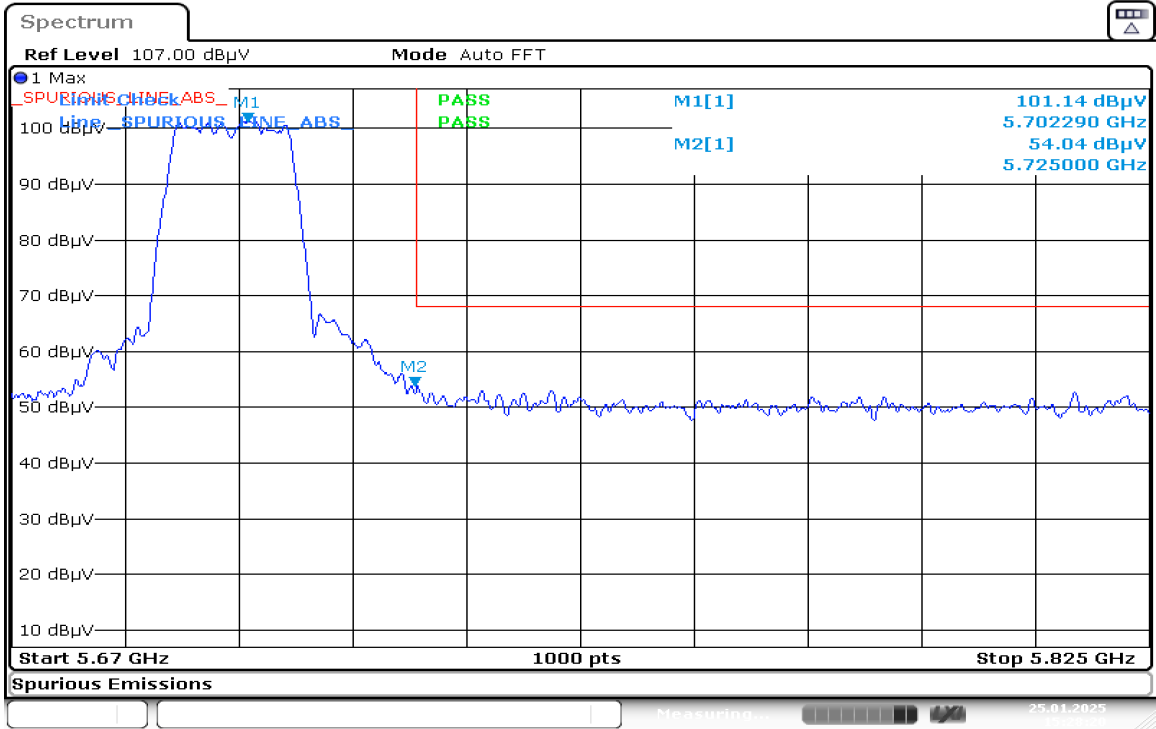
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| System MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 25. JAN. 2025 15:23:56

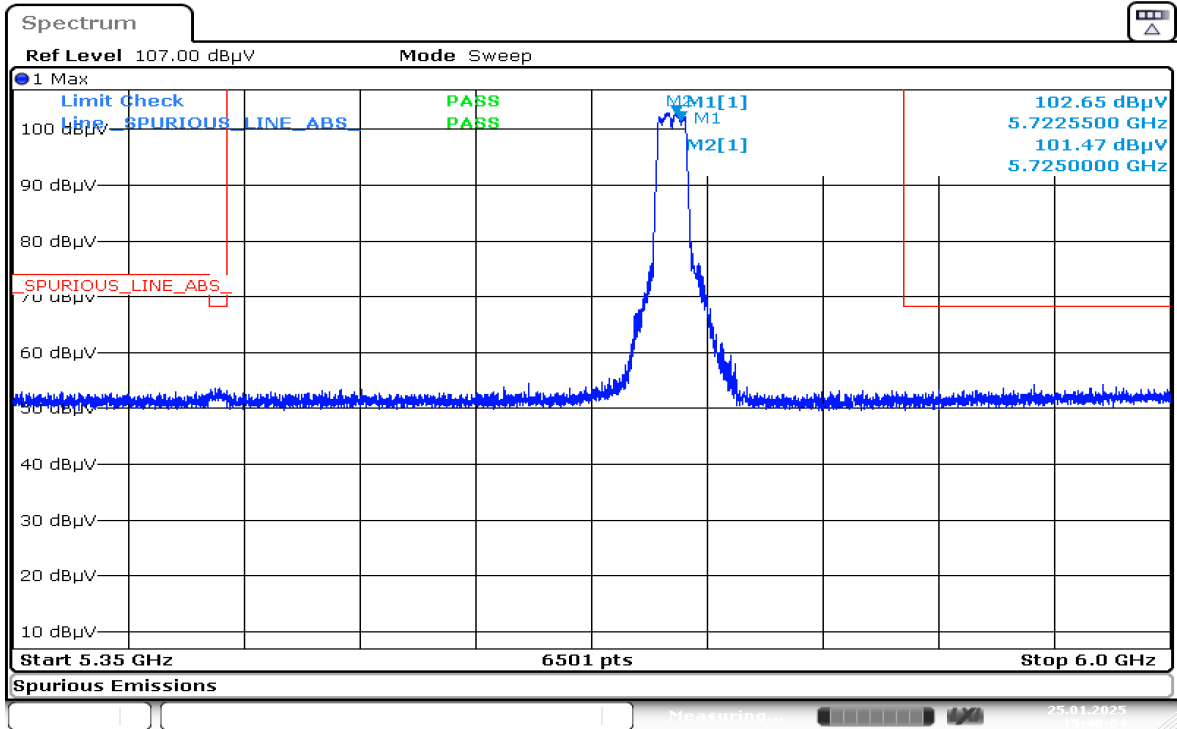
Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 25. JAN. 2025 15:28:20

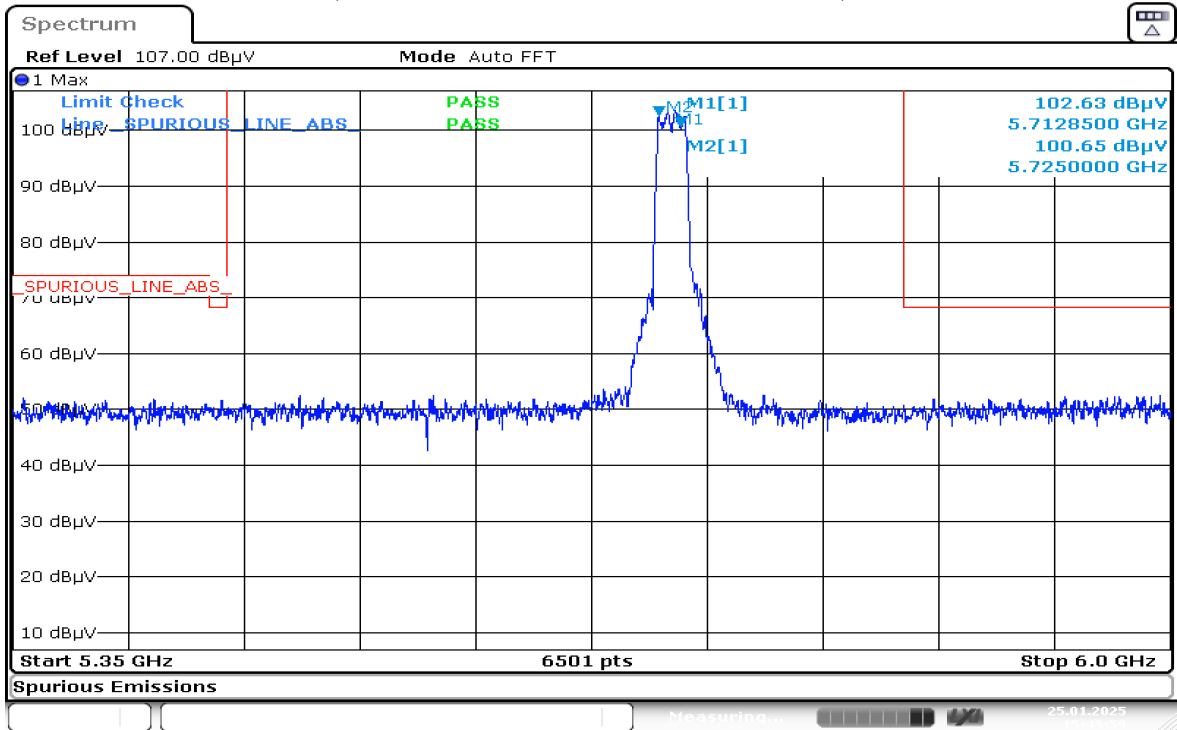


Restricted Band Edge (Straddle Channel, Horizontal, Peak) graphical screen shot



Date: 25. JAN.2025 15:40:04

Restricted Band Edge (Straddle Channel, Horizontal, Average) graphical screen shot



Date: 25. JAN.2025 15:43:59

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5745.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (15)            |

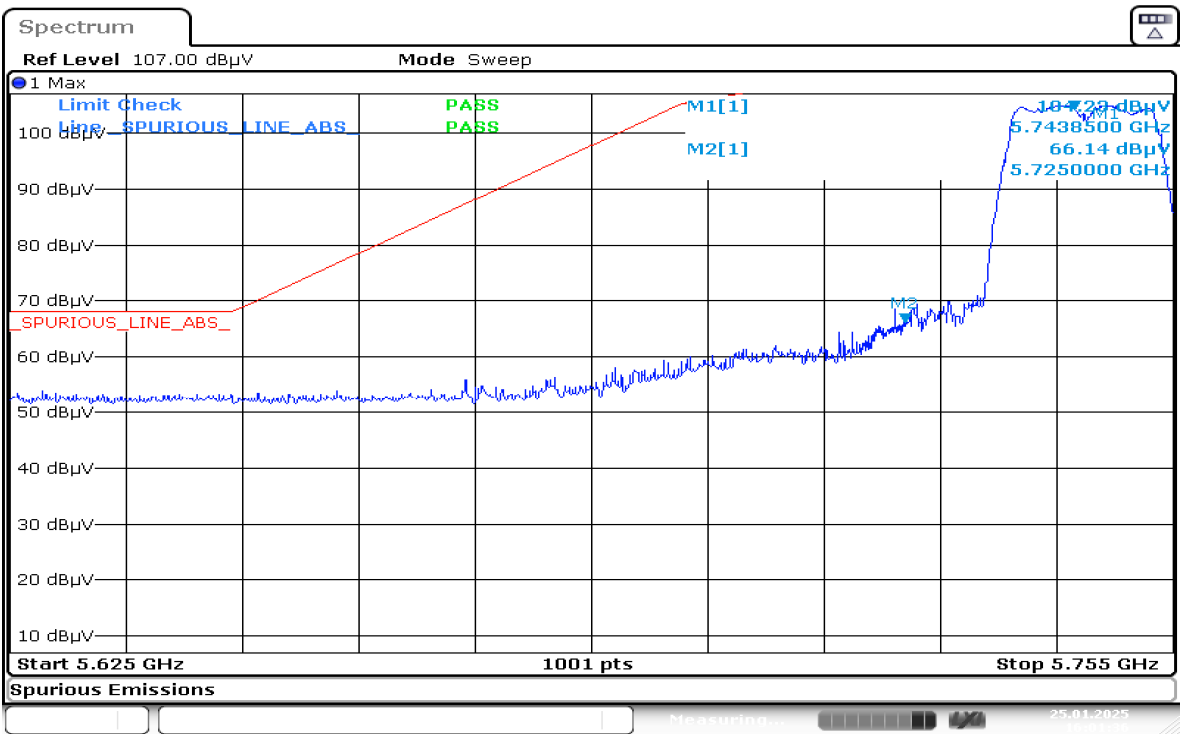
### Restricted Band Edge (Low Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

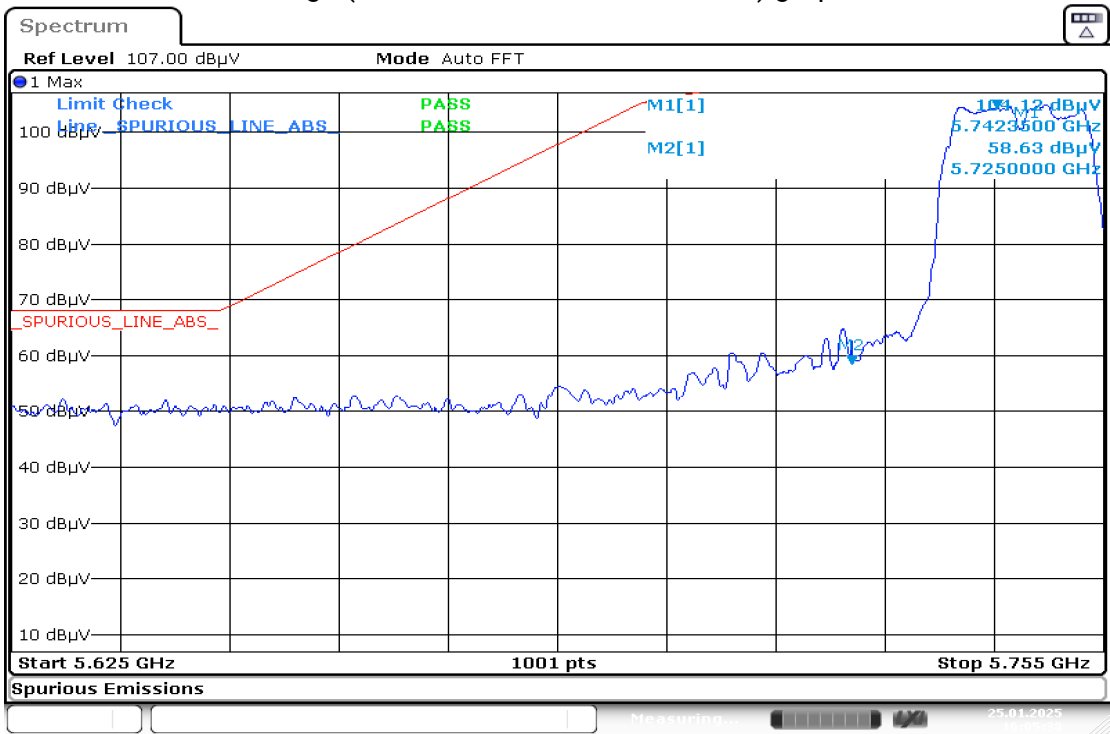
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| System MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 25. JAN. 2025 16:01:36

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



Date: 25. JAN. 2025 16:05:38

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5825.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20               | Softpot power (12)            |

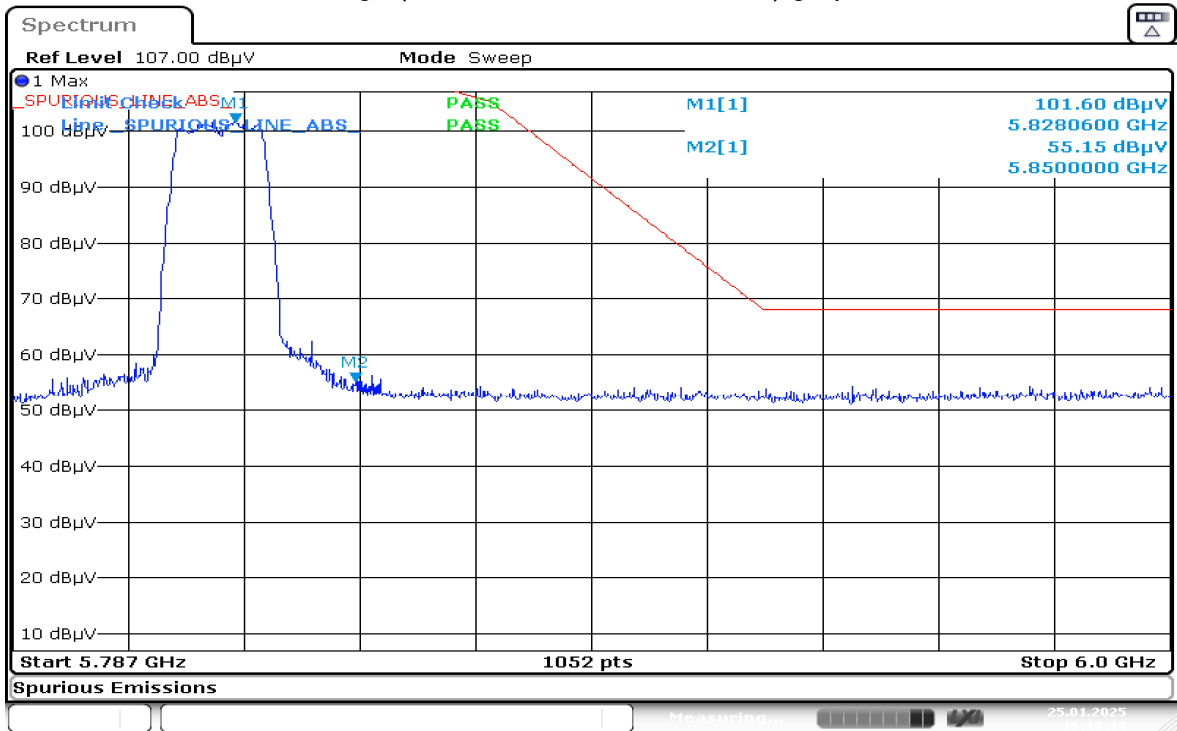
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

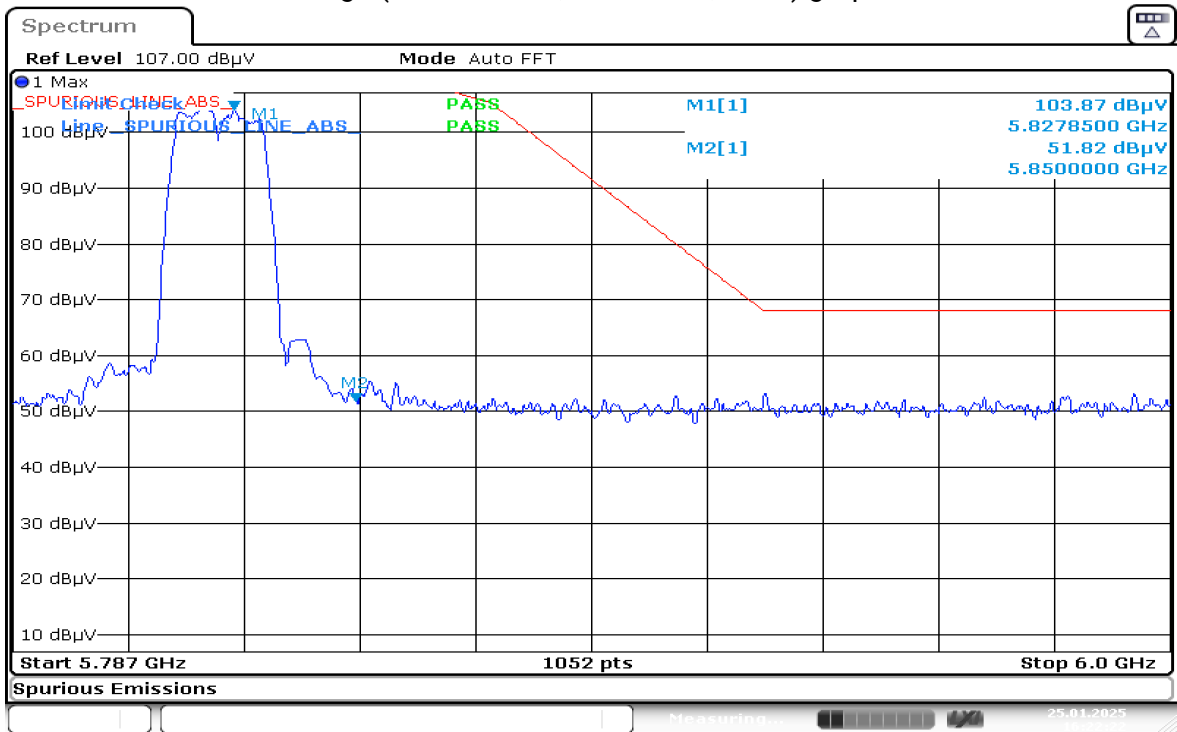
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 25.JAN.2025 16:18:19

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



Date: 25.JAN.2025 16:22:22

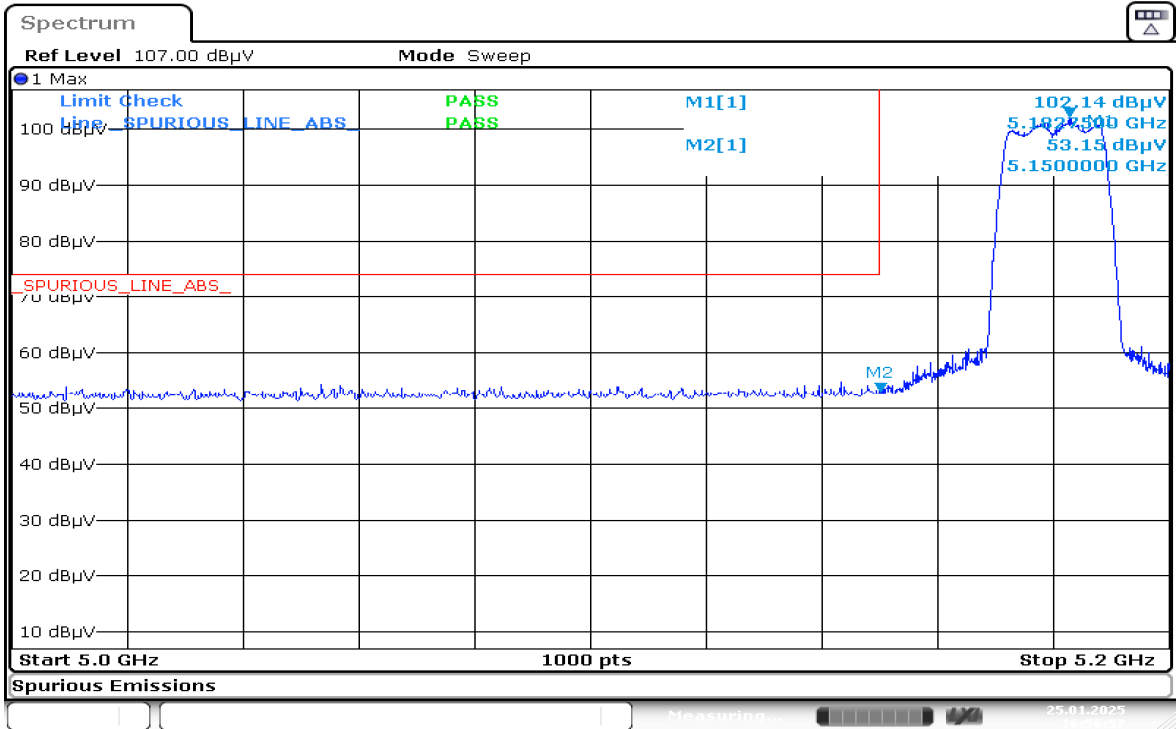
|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5180.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (11)            |

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

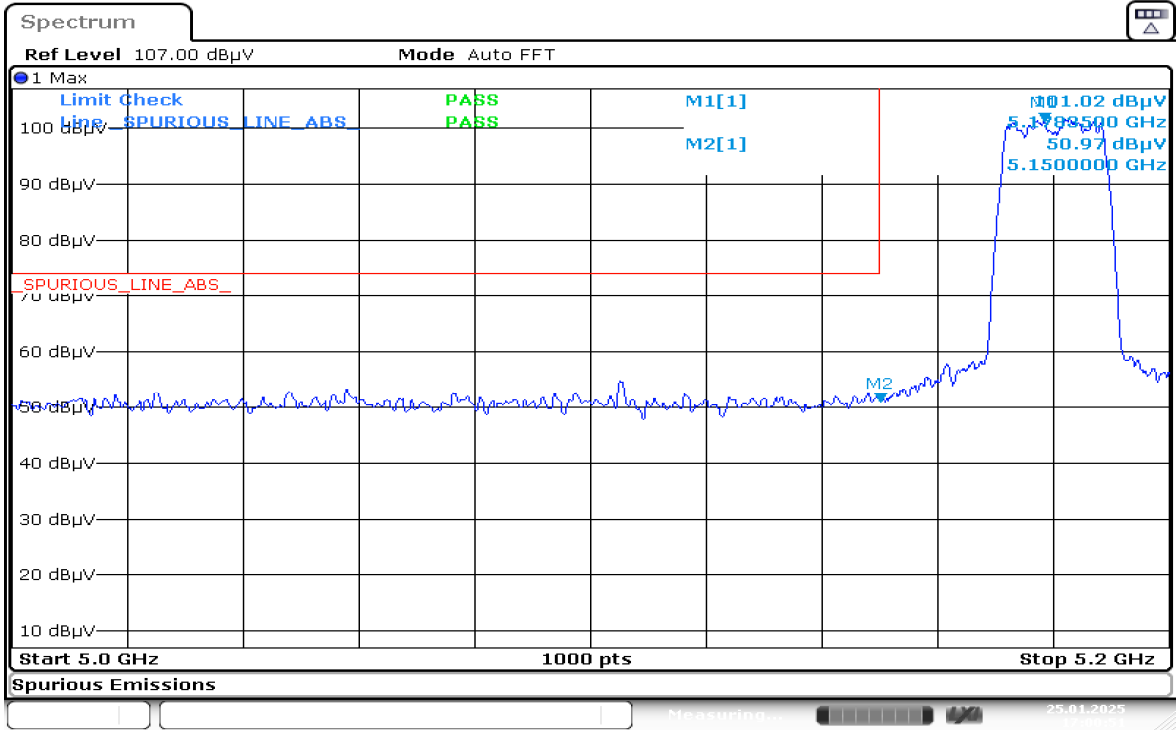
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



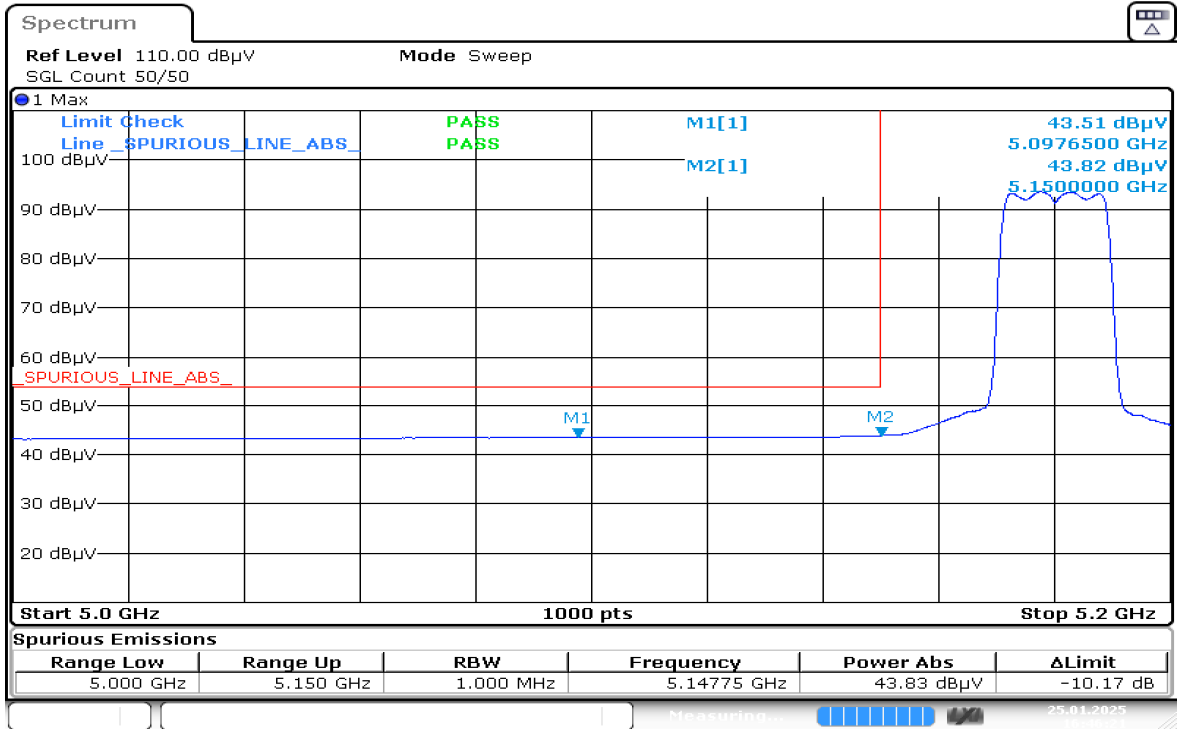
Date: 25.JAN.2025 16:56:57

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



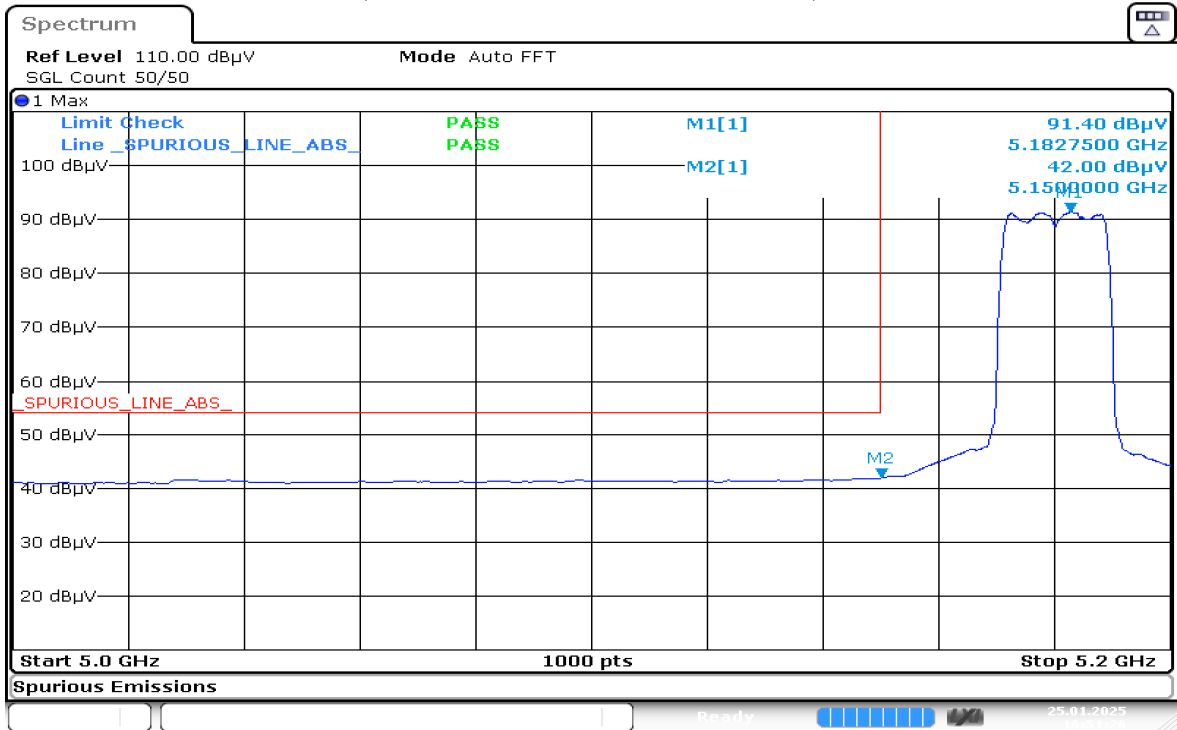
Date: 25.JAN.2025 17:00:51

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 16:46:21

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 16:51:27

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5320.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (11)            |

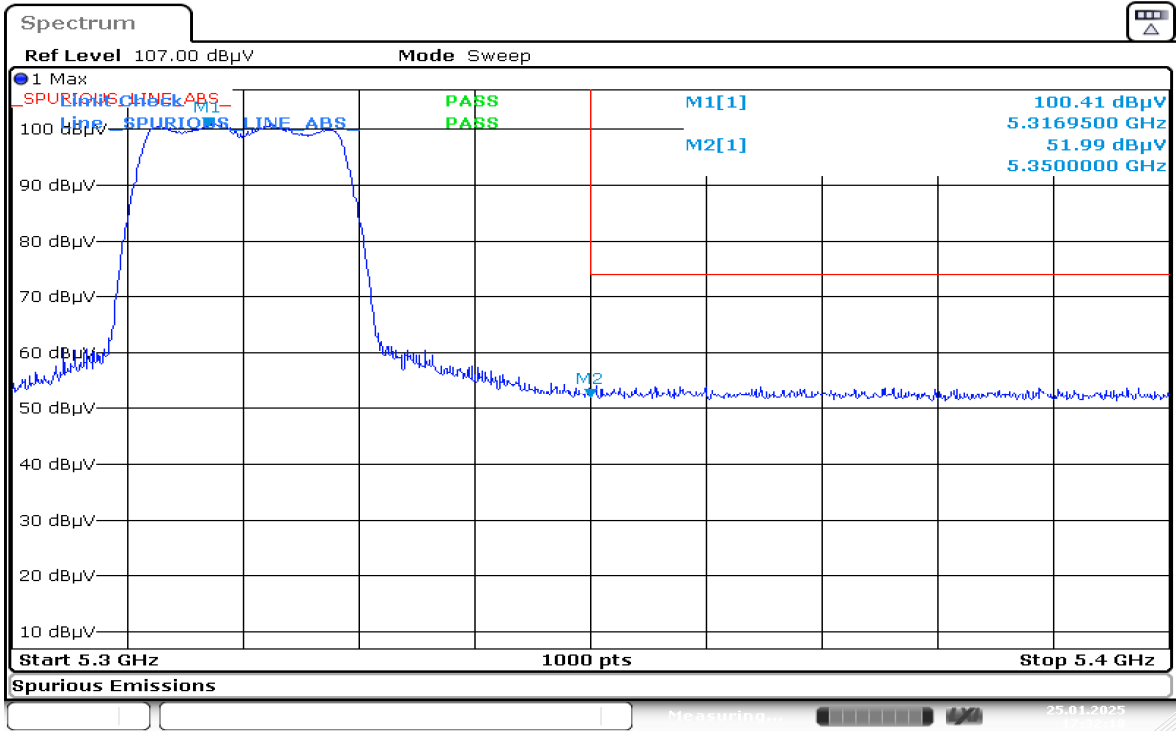
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

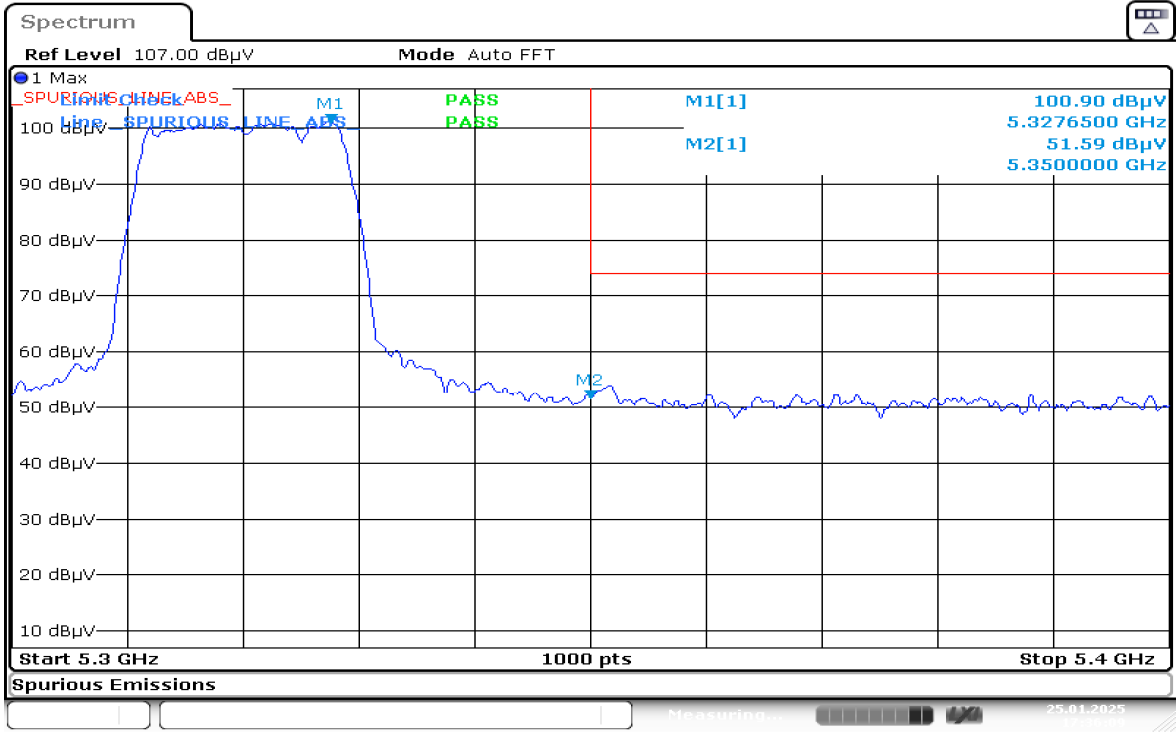
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sat, 25 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



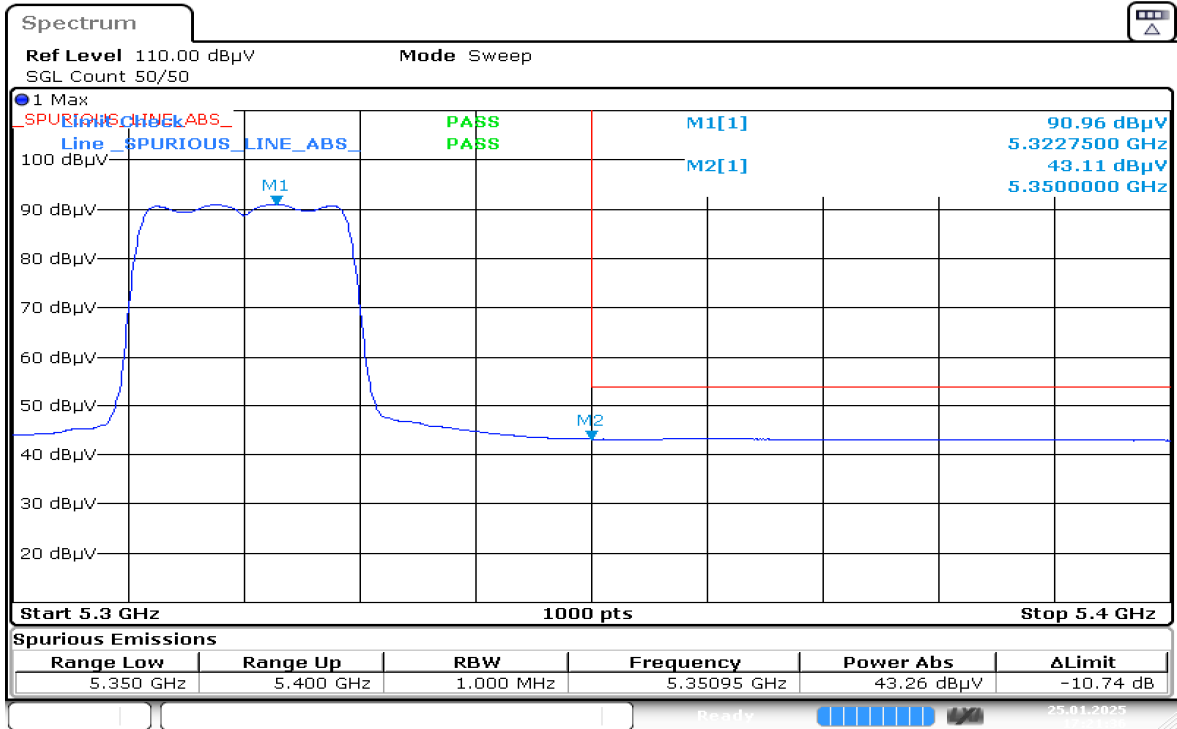
Date: 25.JAN.2025 17:32:18

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



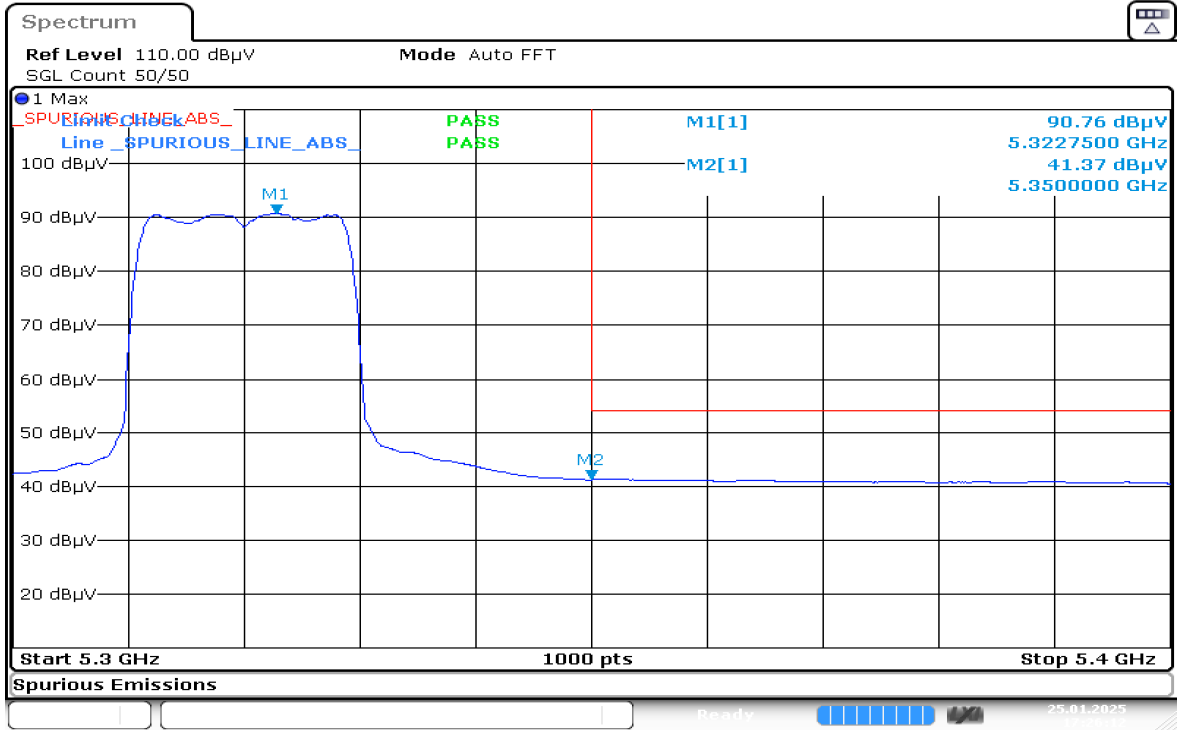
Date: 25.JAN.2025 17:36:09

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 17:21:37

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 17:26:13

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5500.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (11)            |

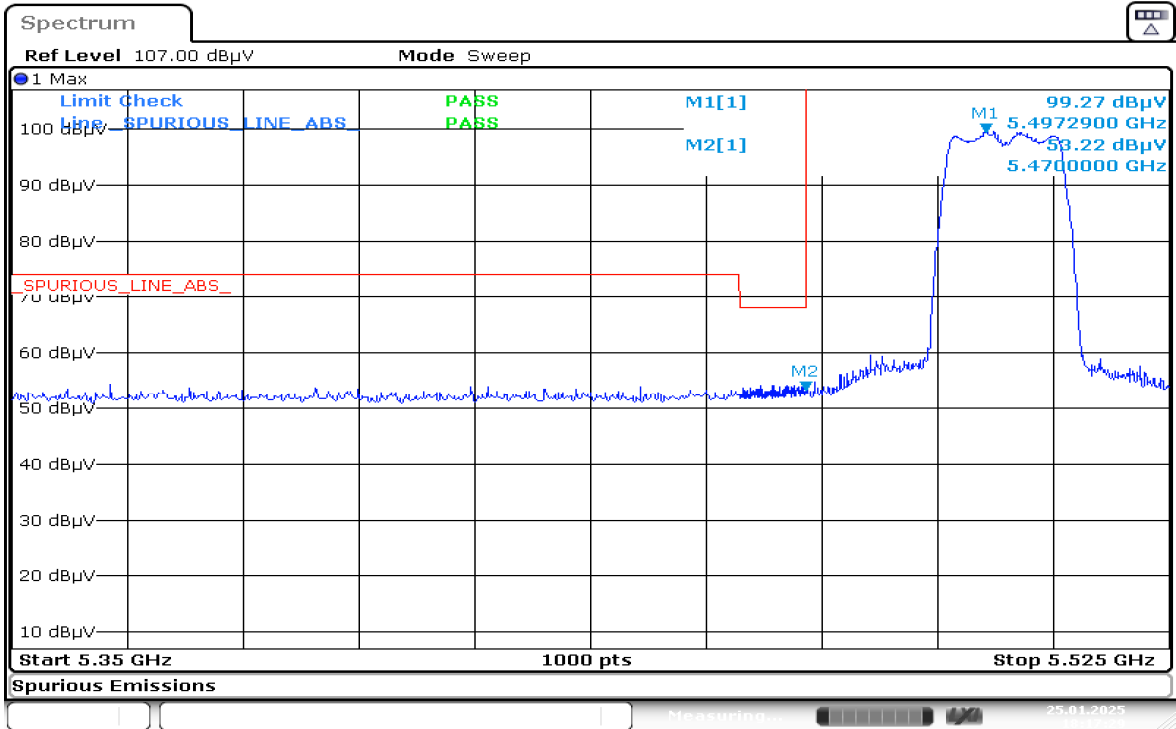
### Restricted Band Edge (Low Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

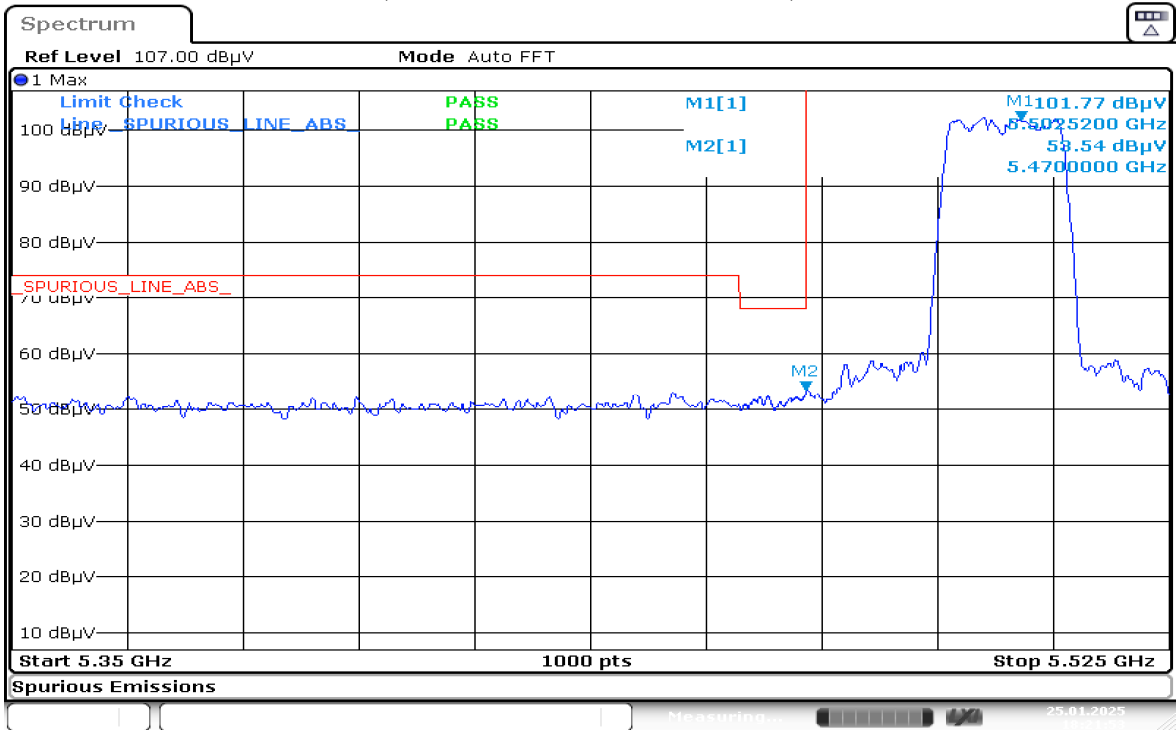
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



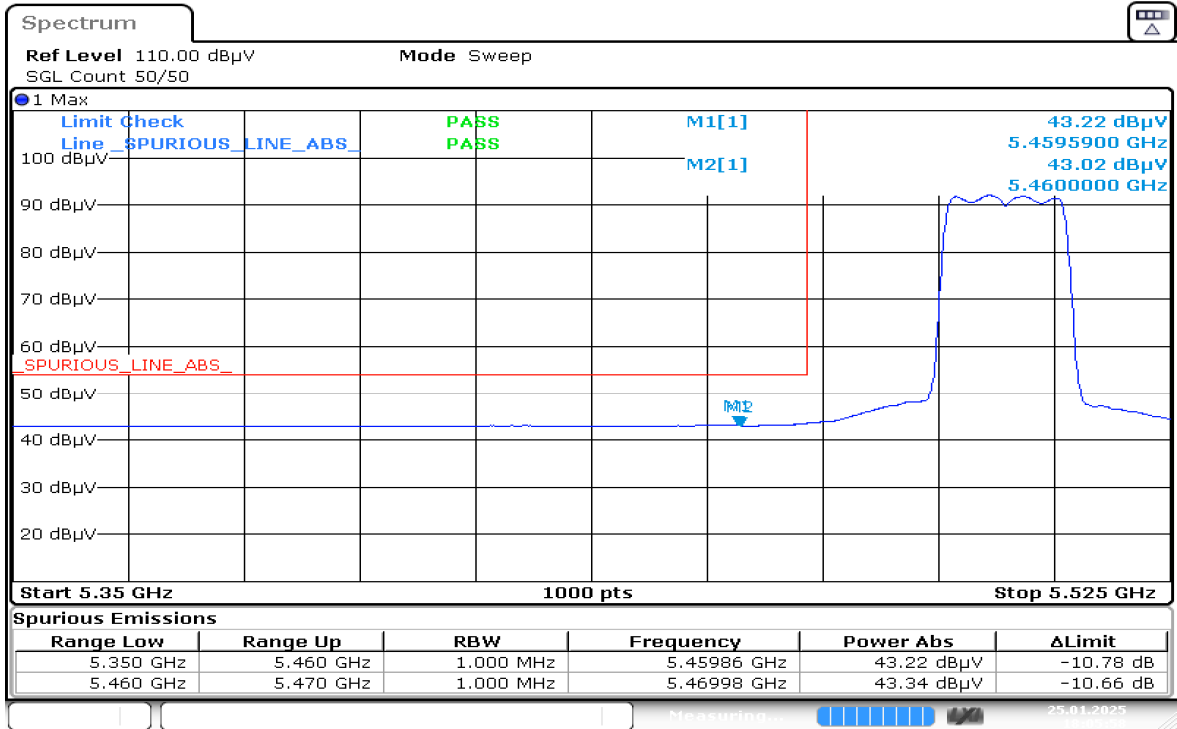
Date: 25. JAN.2025 18:17:29

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



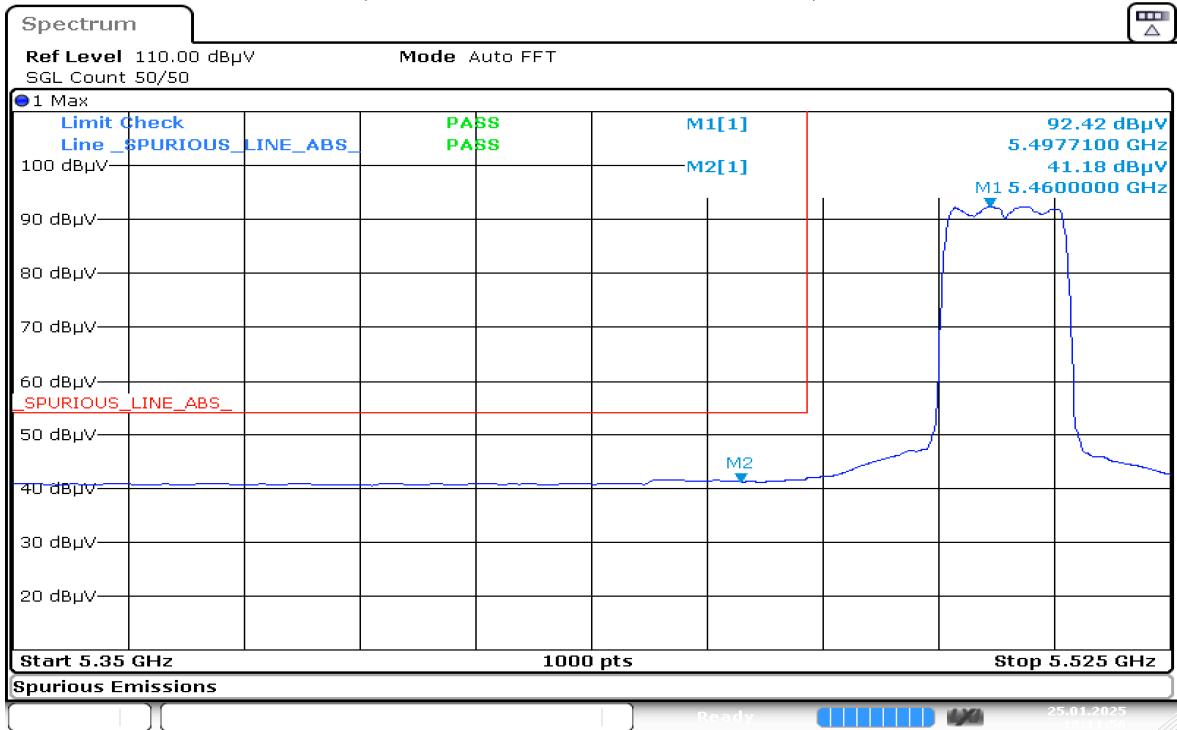
Date: 25. JAN.2025 18:21:53

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 18:05:58

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 18:11:56

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5700.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (9)             |

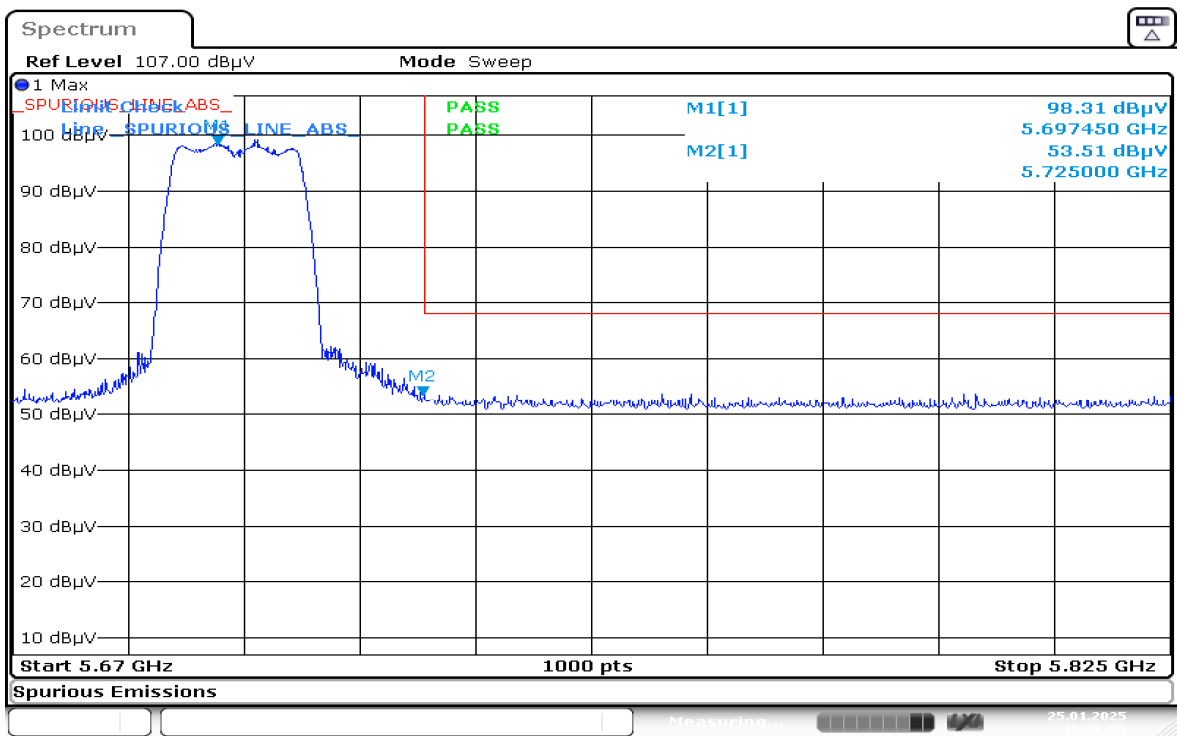
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

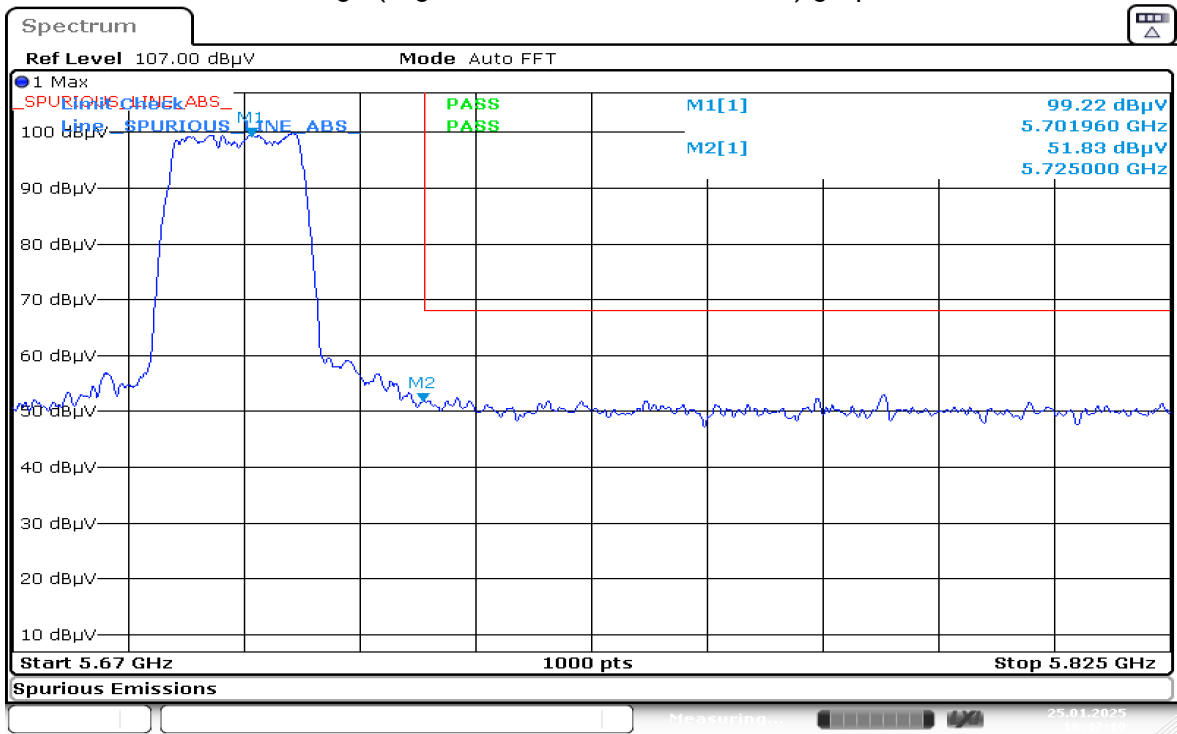
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 25. JAN. 2025 18:38:25

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 25. JAN. 2025 18:42:10

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Straddle              | Test Frequency: 5720.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (14)            |

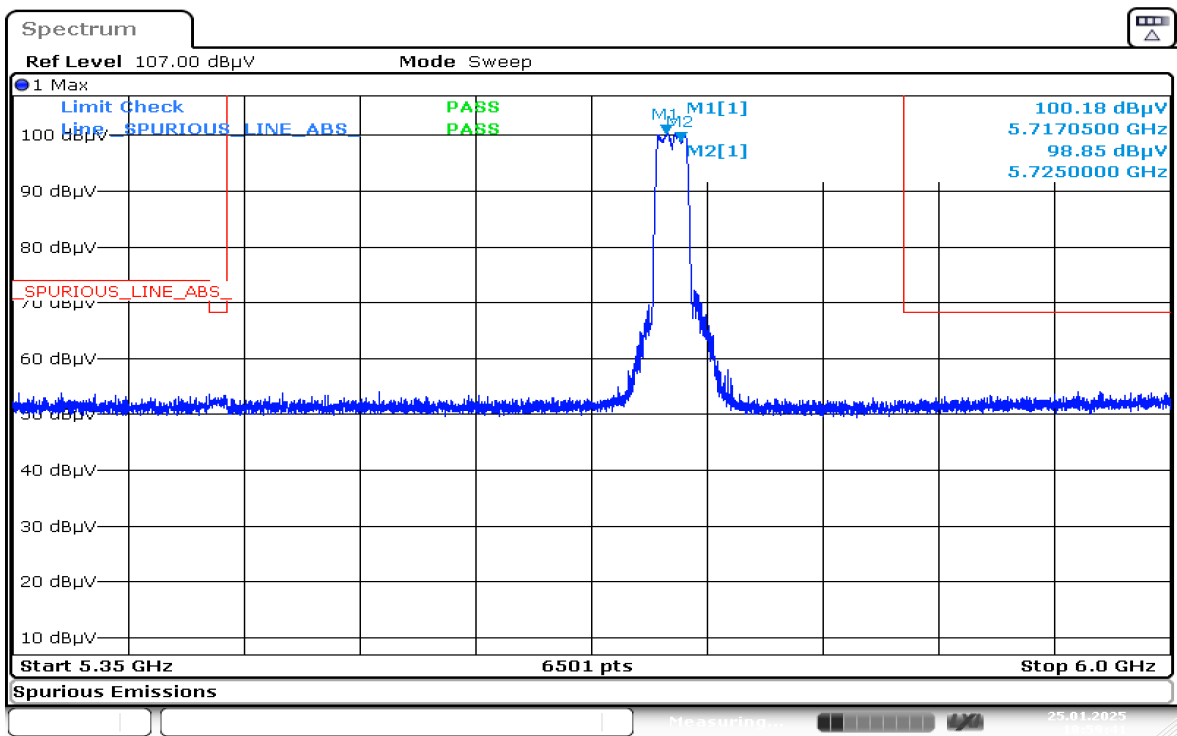
### Vertical Radiated Emission Result

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

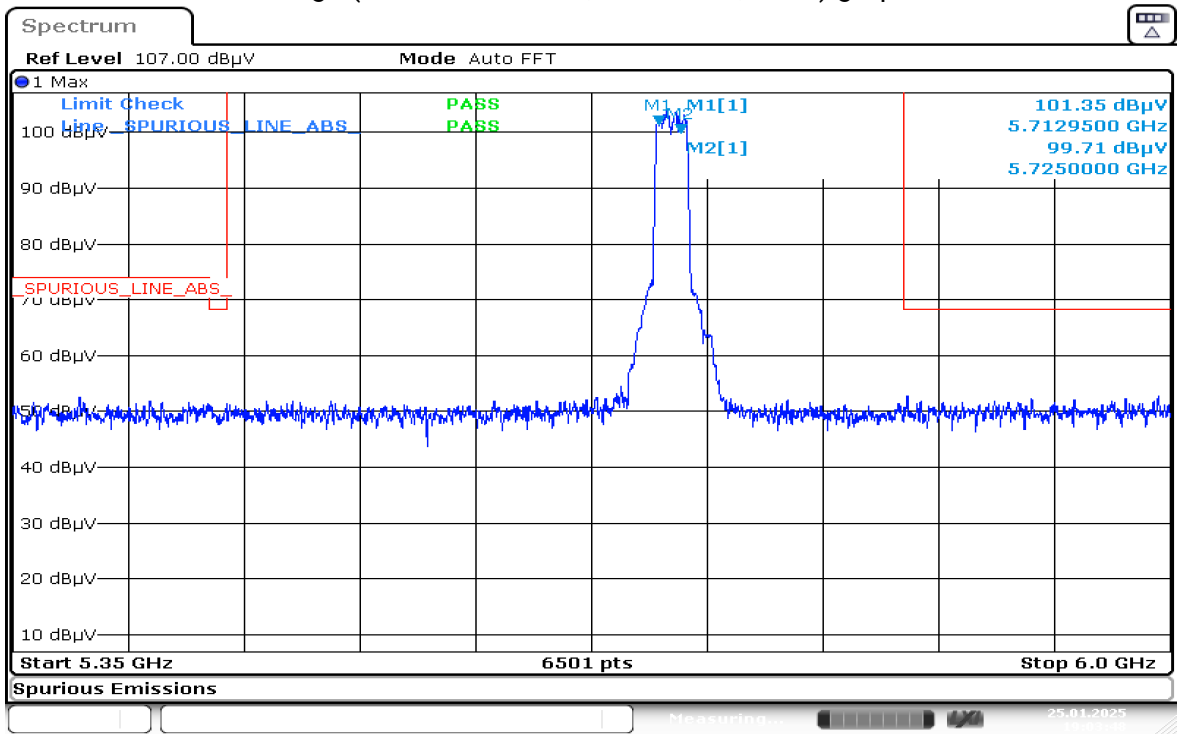
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Straddle Channel, Vertical, Peak) graphical screen shot



Date: 25.JAN.2025 18:59:41

Restricted Band Edge (Straddle Channel, Horizontal, Peak) graphical screen shot



Date: 25.JAN.2025 19:03:48

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5745.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (12)            |

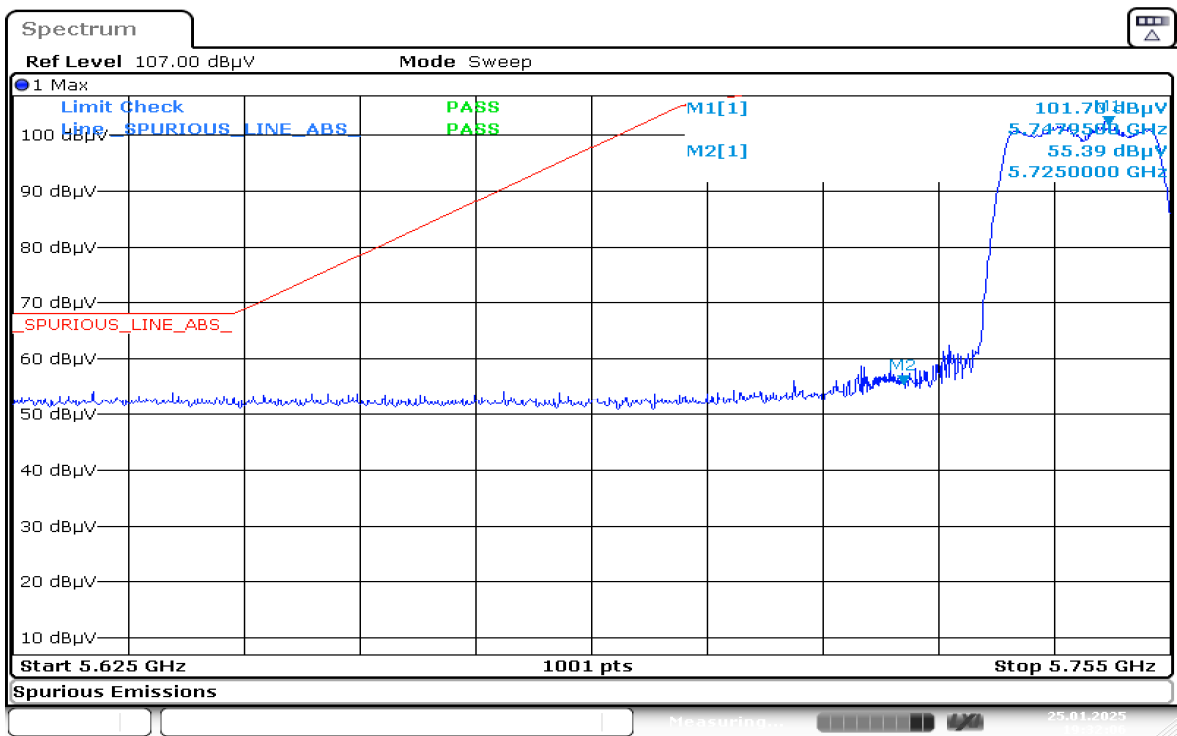
### Restricted Band Edge (Low Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

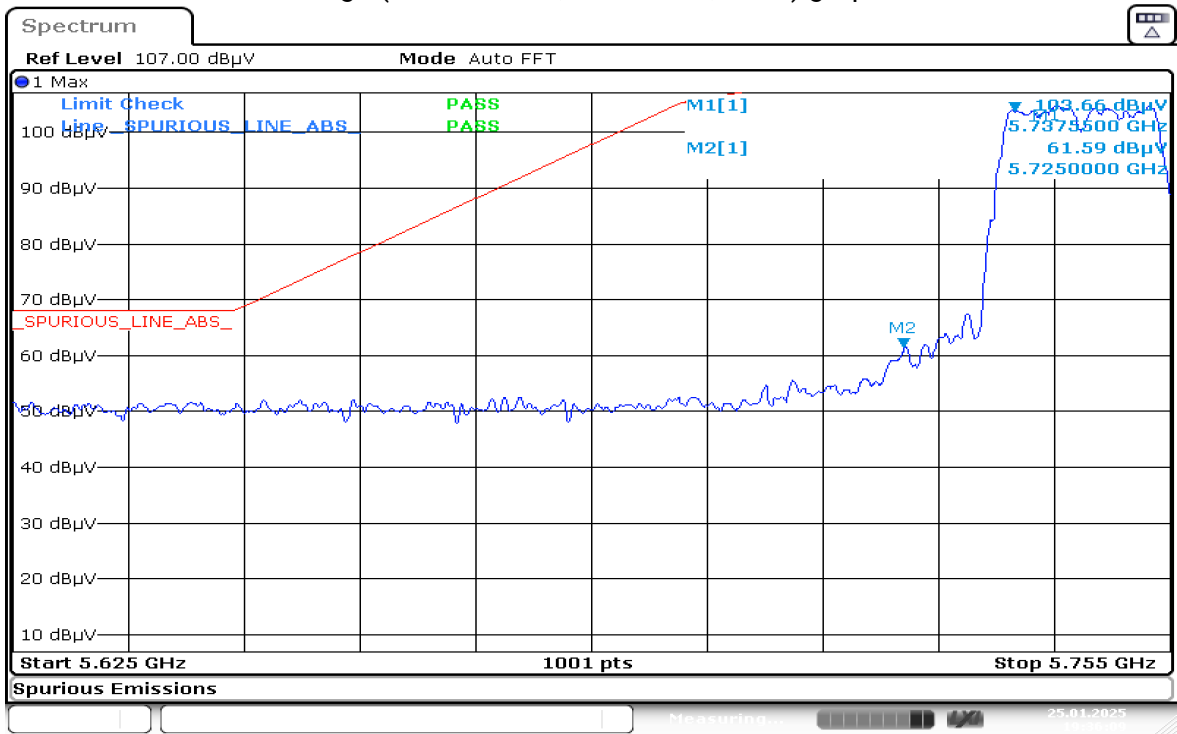
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 25.JAN.2025 19:32:07

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



Date: 25.JAN.2025 19:36:09

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5825.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20               | Softpot power (9)             |

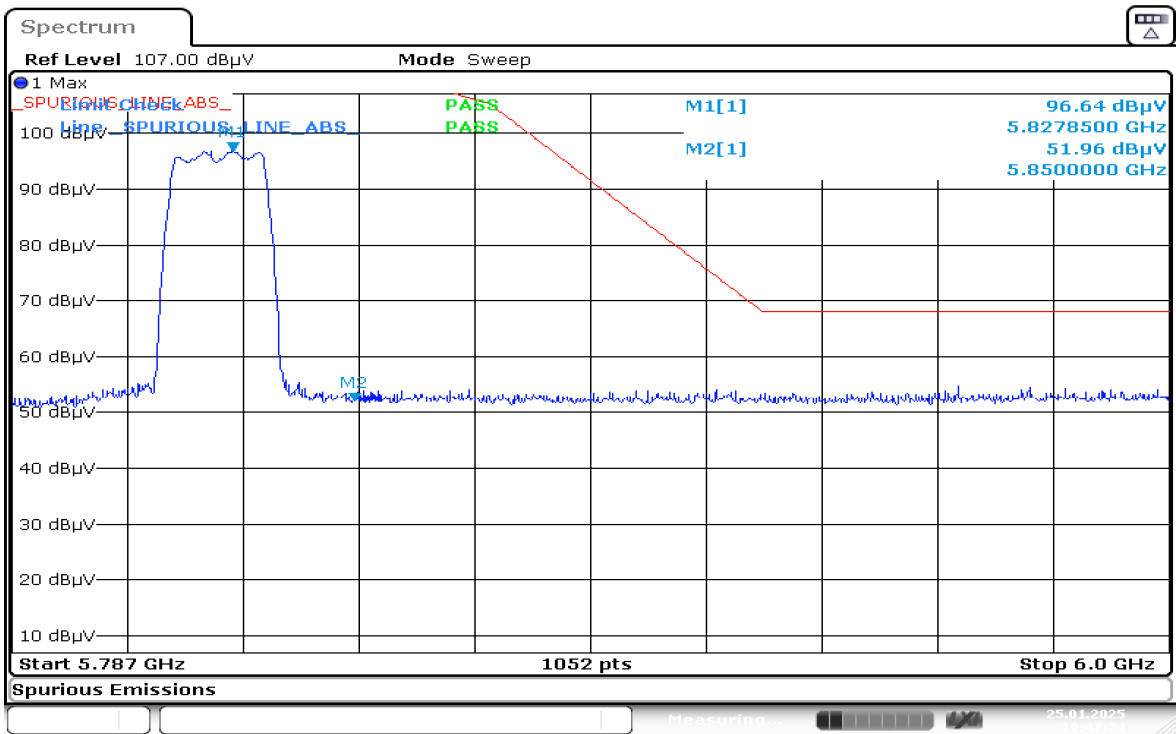
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

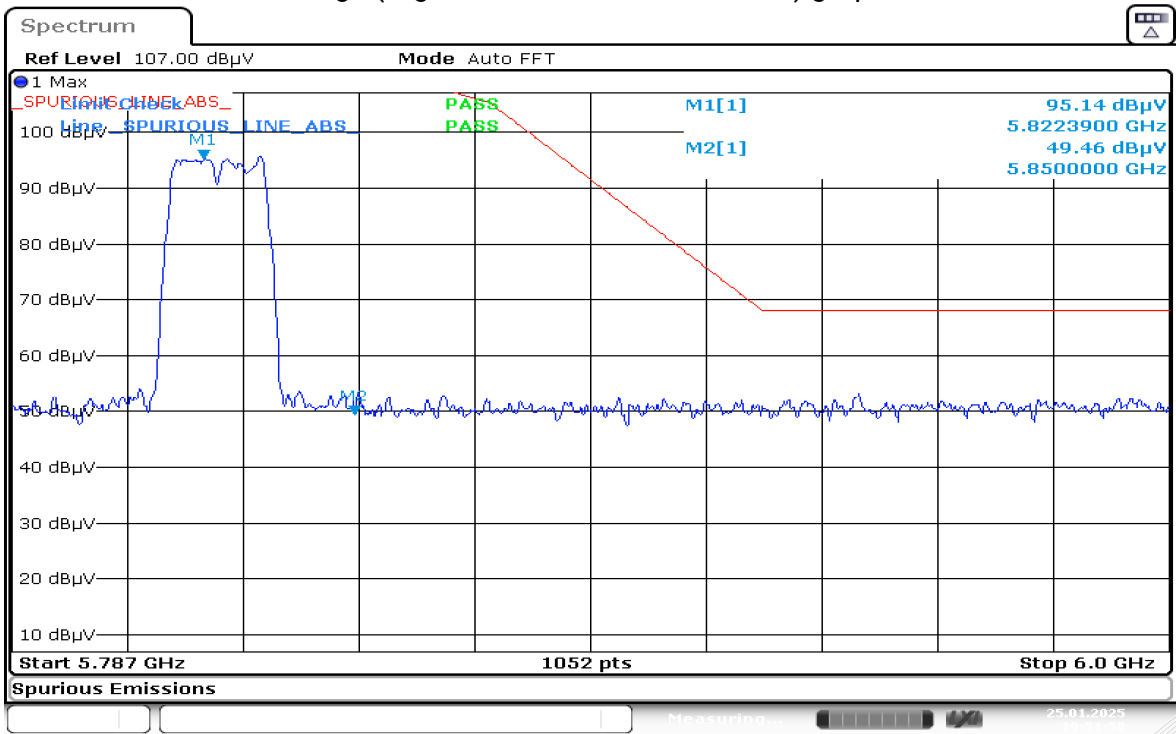
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 25. JAN. 2025 19:47:24

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 25. JAN. 2025 19:51:58

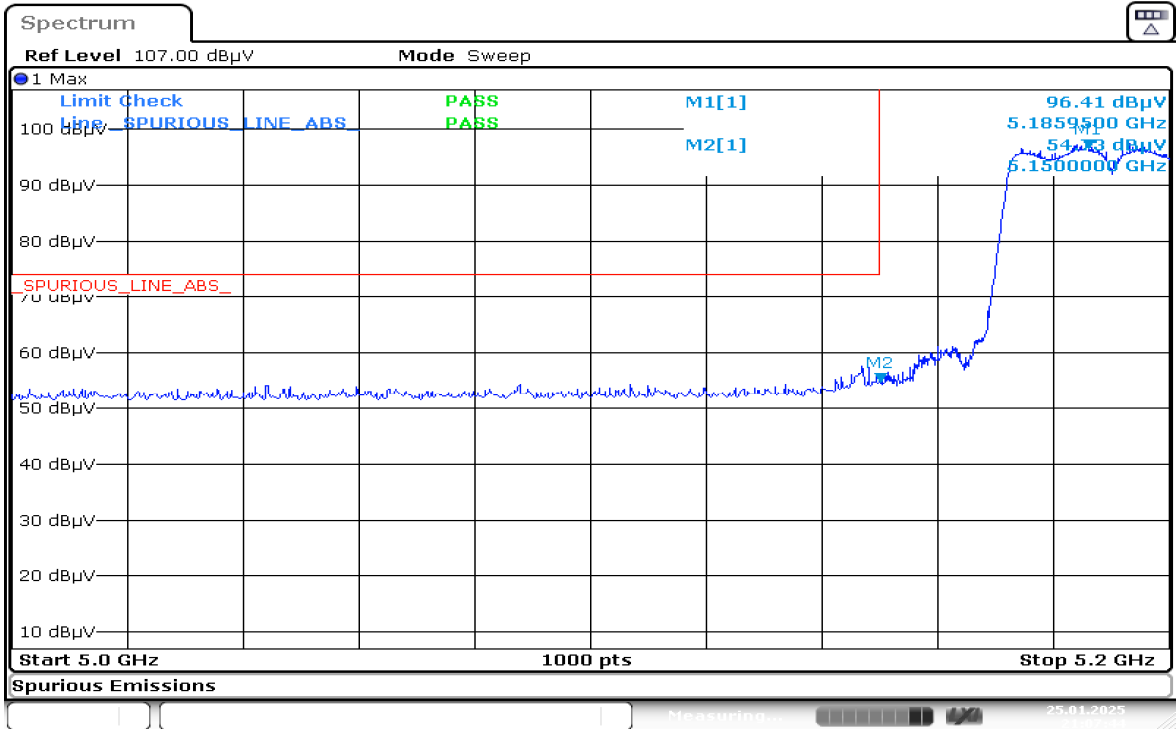
|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5190.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40               | Softpot power (10)            |

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

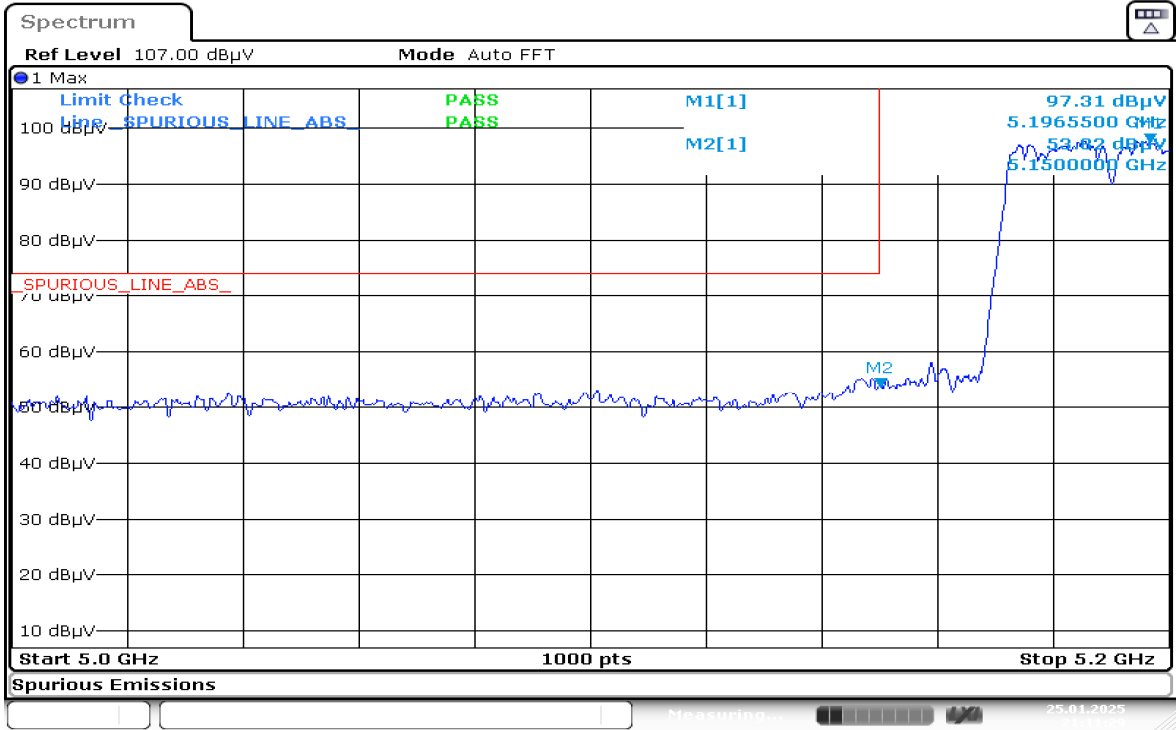
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Sun, 26 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



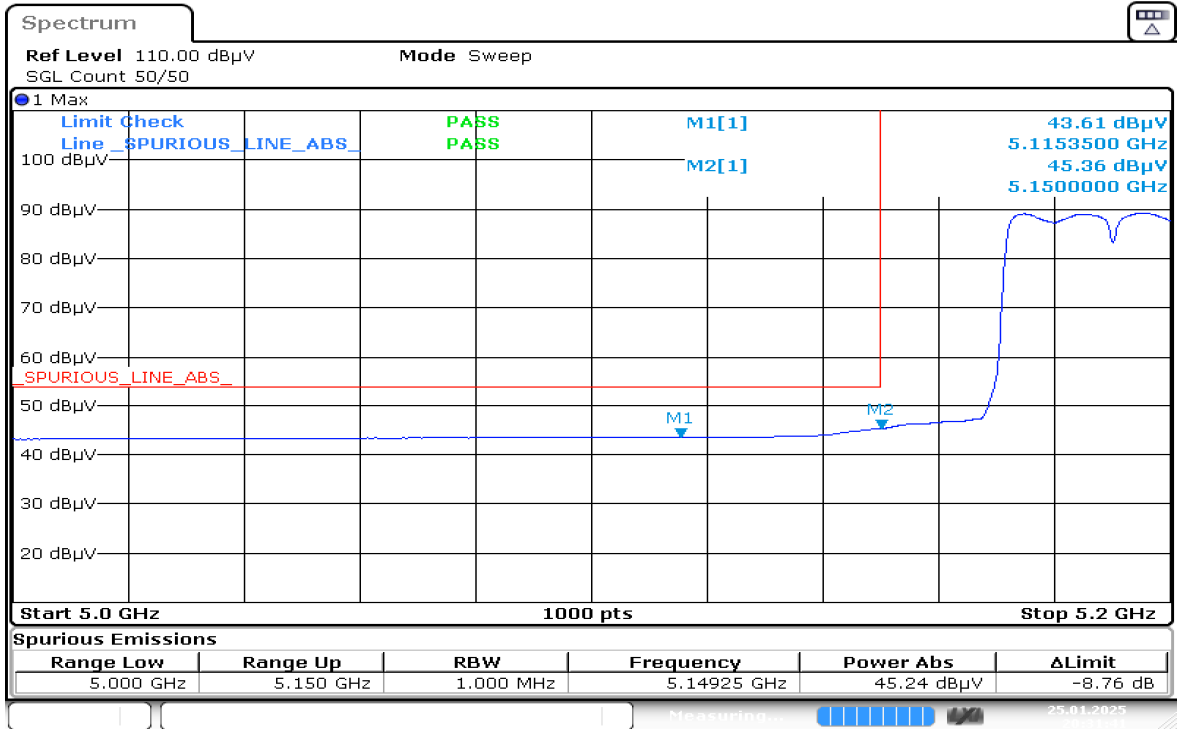
Date: 25.JAN.2025 21:07:45

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



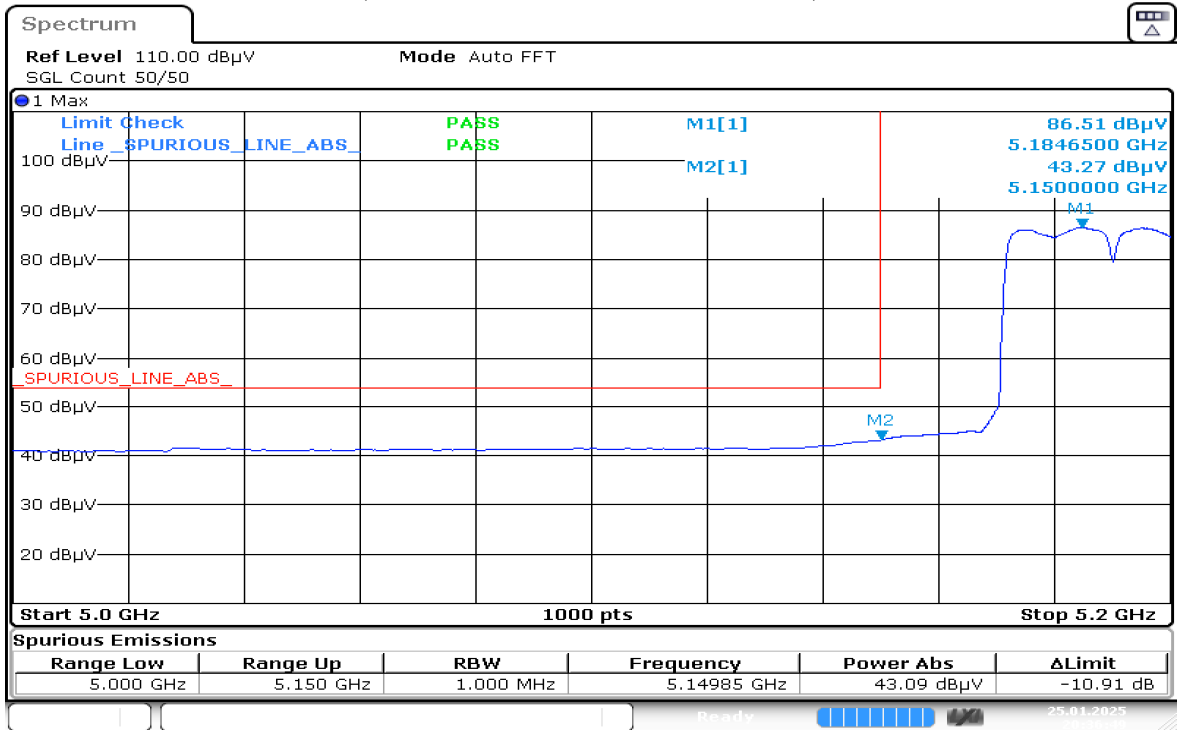
Date: 25.JAN.2025 21:11:29

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 25.JAN.2025 20:31:41

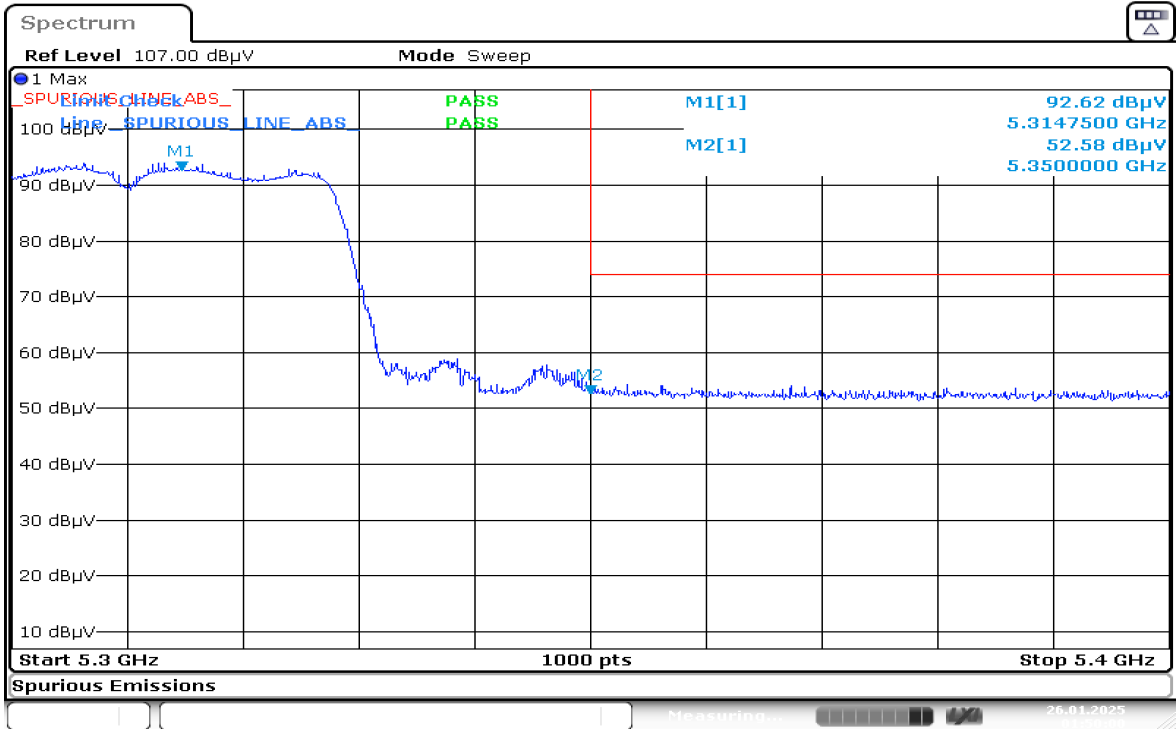
Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 25.JAN.2025 20:36:49

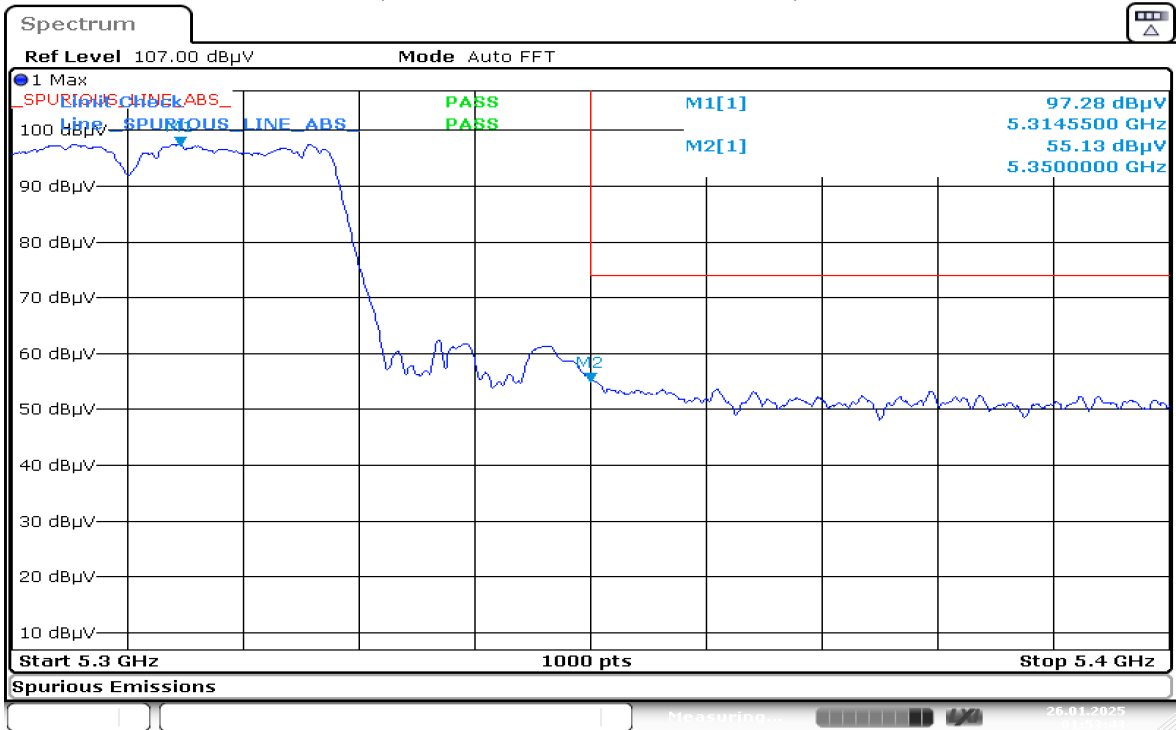


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



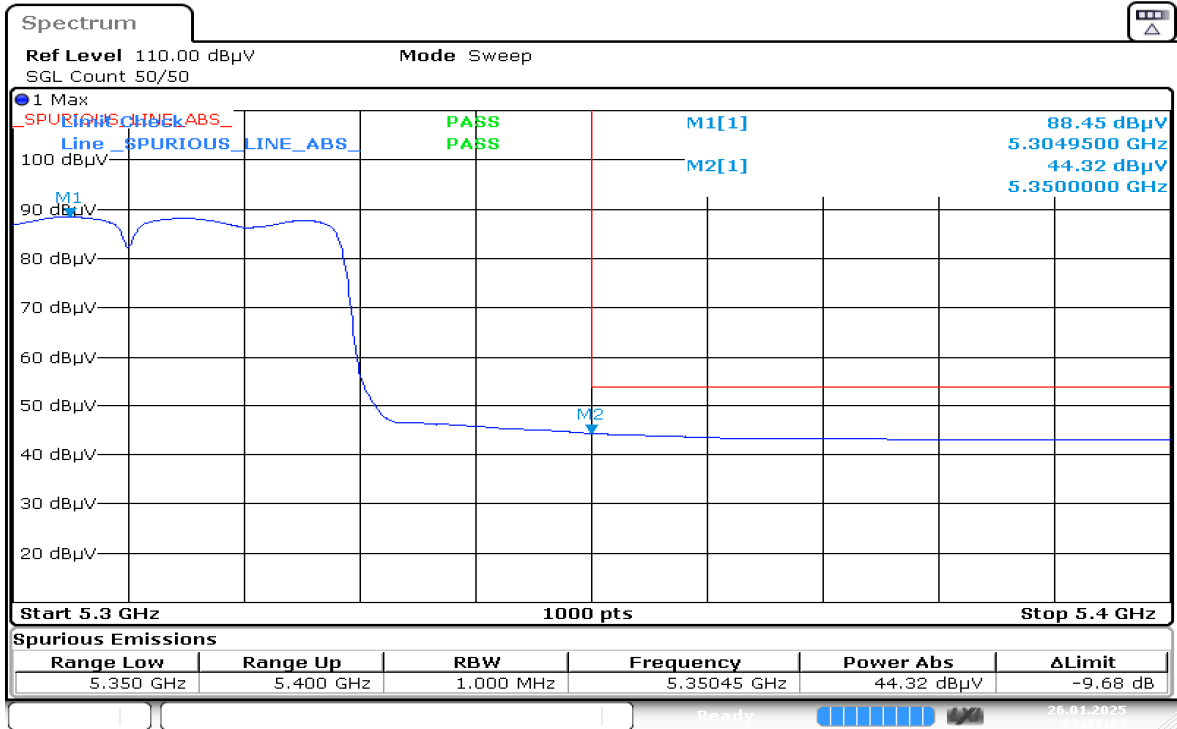
Date: 26.JAN.2025 01:50:01

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



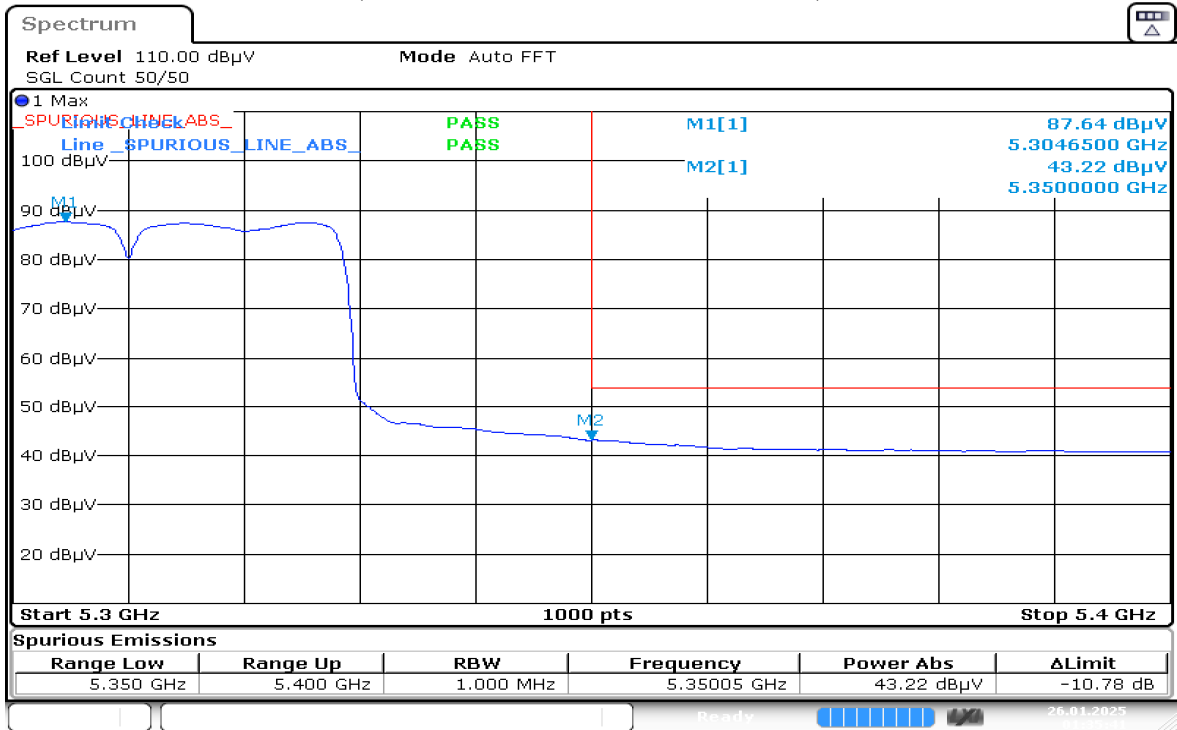
Date: 26.JAN.2025 01:53:44

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 26.JAN.2025 01:31:14

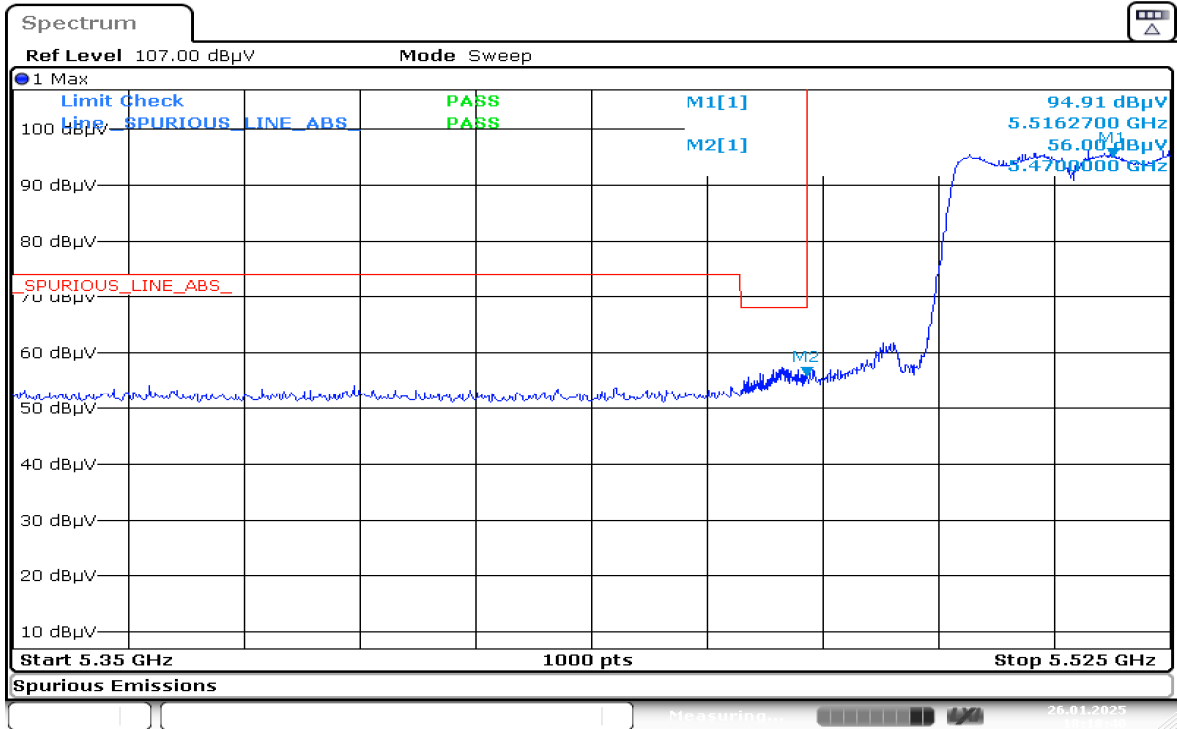
Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 26.JAN.2025 01:35:42

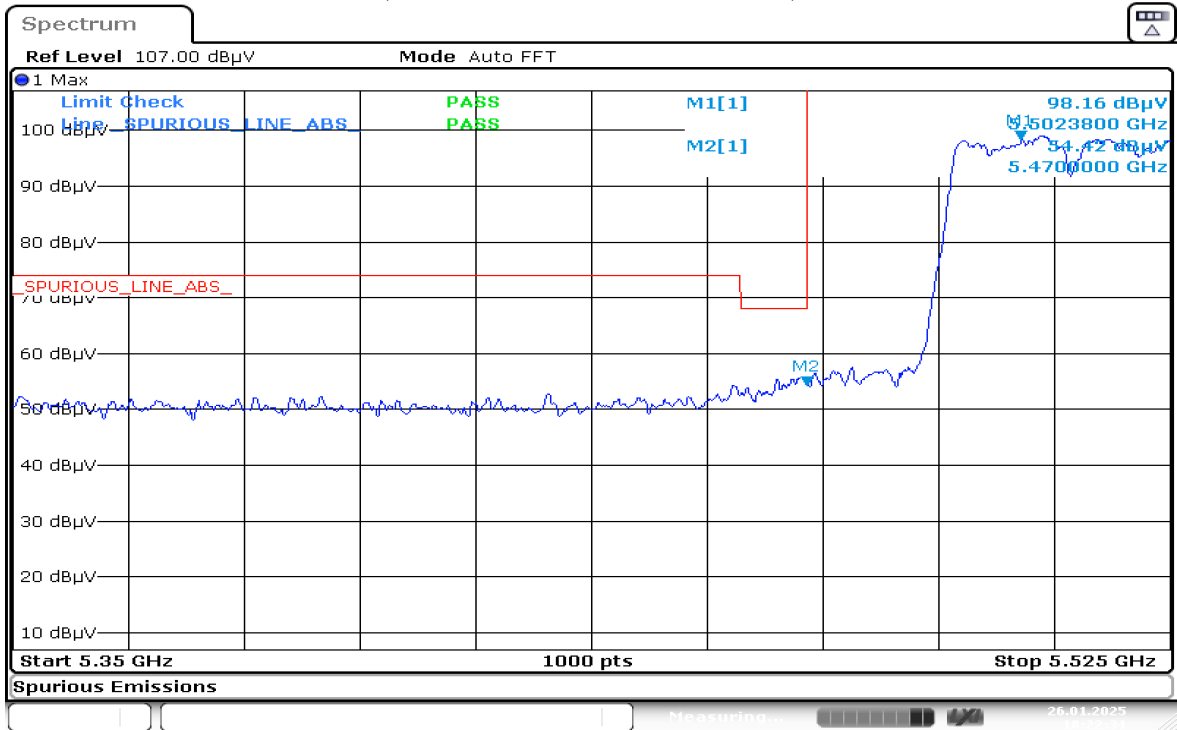


Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



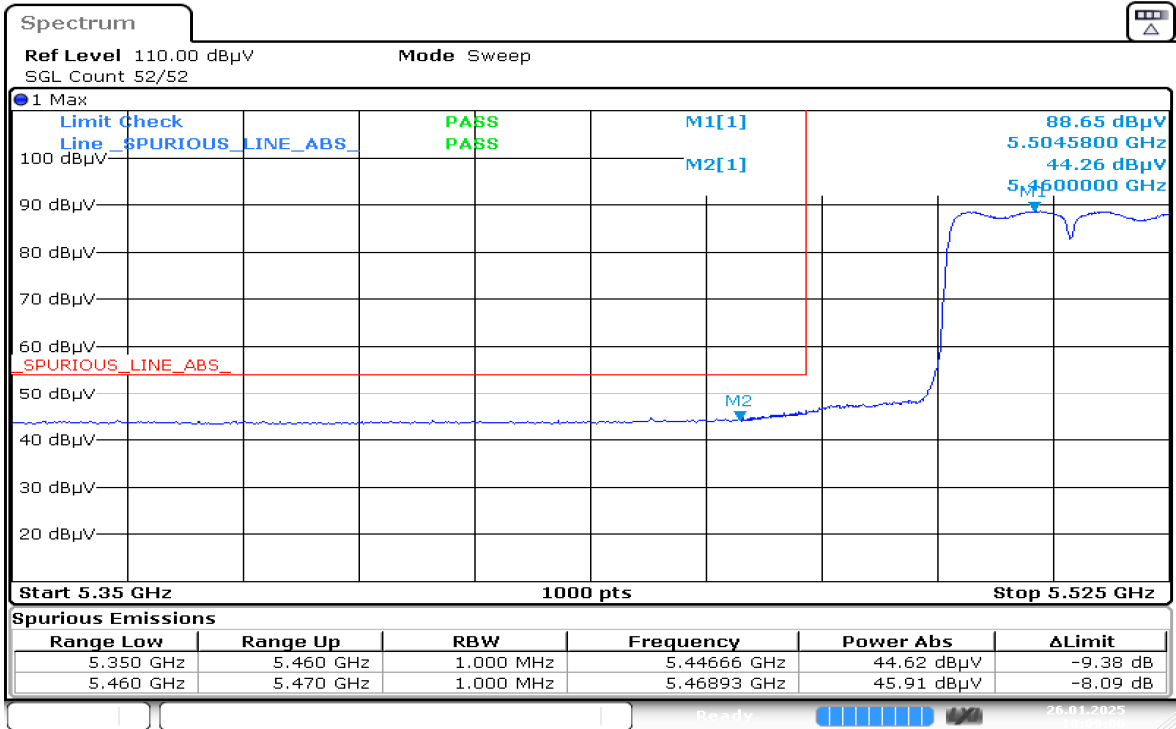
Date: 26.JAN.2025 18:18:41

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



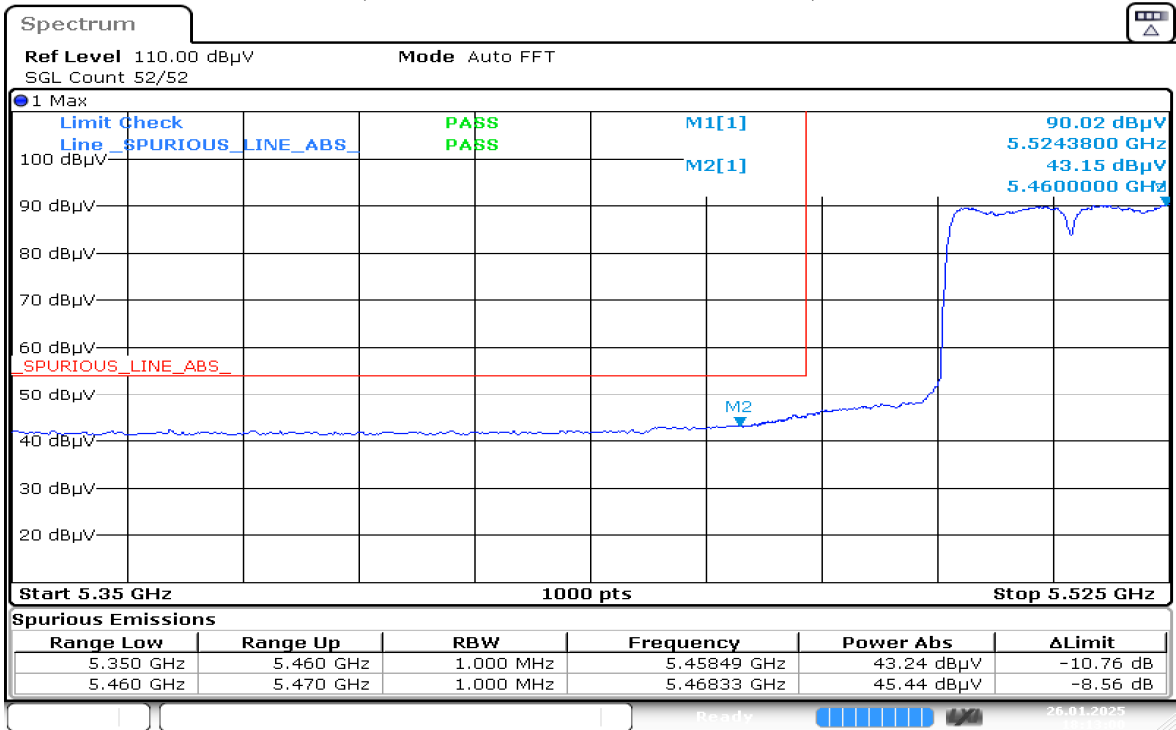
Date: 26.JAN.2025 18:22:31

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 26.JAN.2025 18:09:06

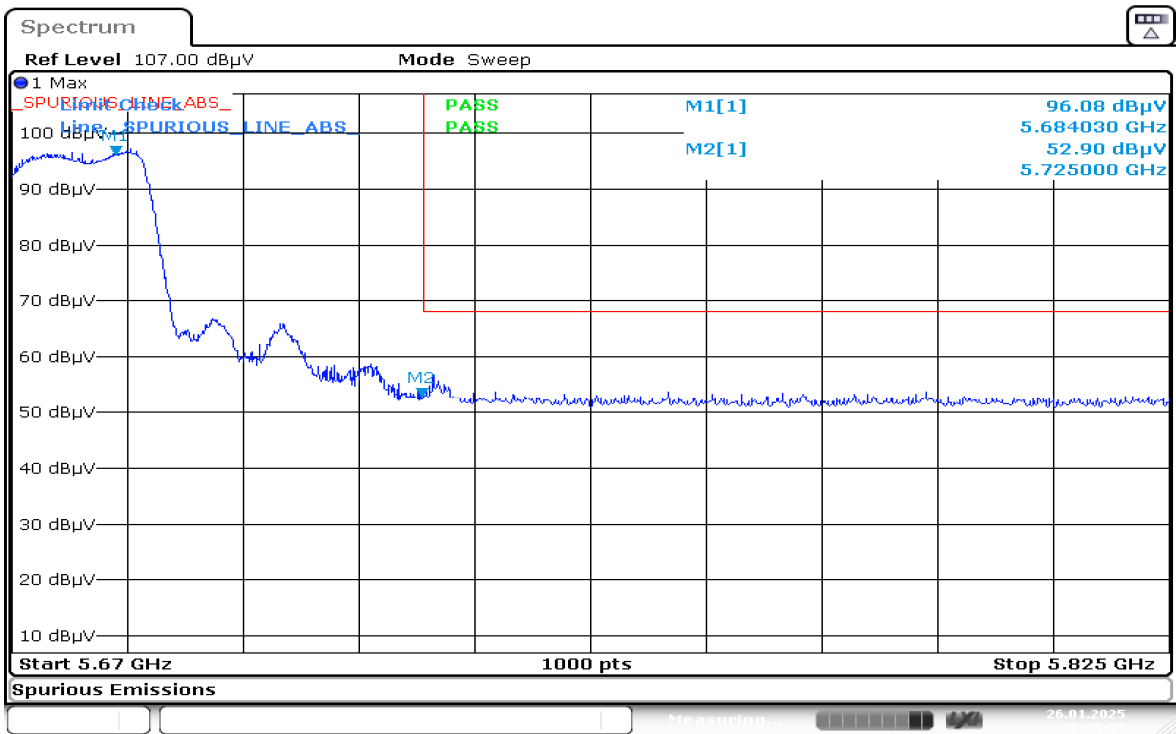
Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 26.JAN.2025 18:13:00

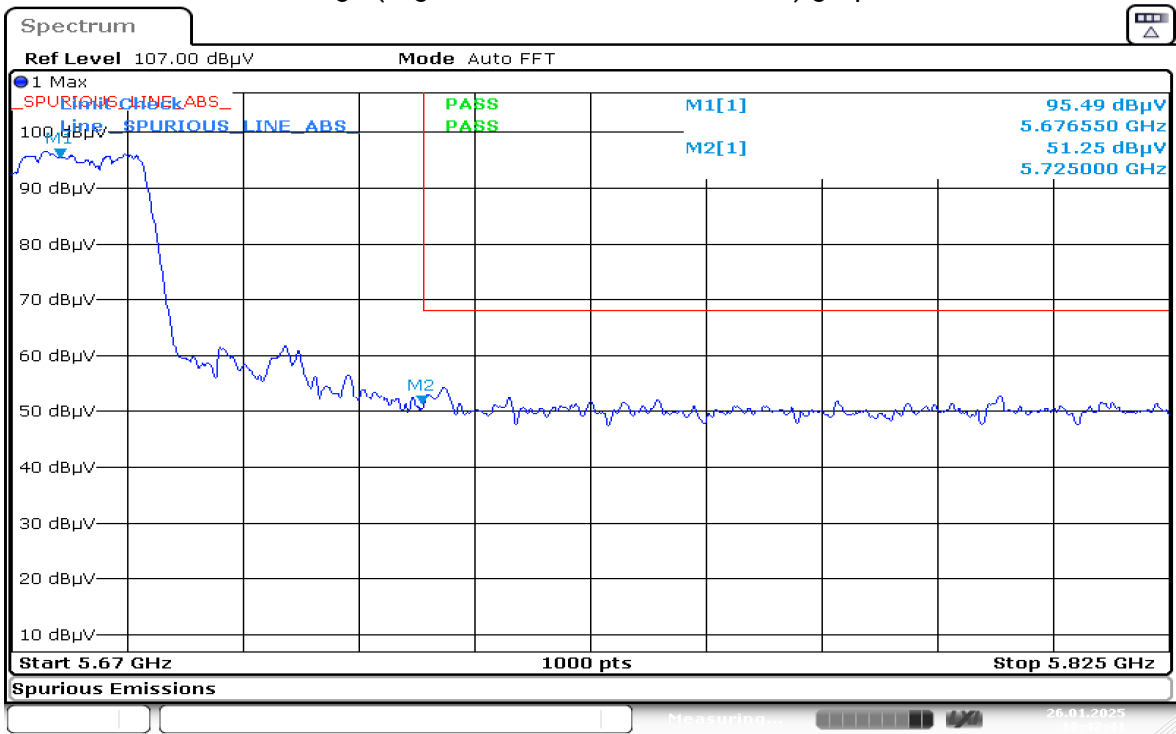


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 26.JAN.2025 18:38:56

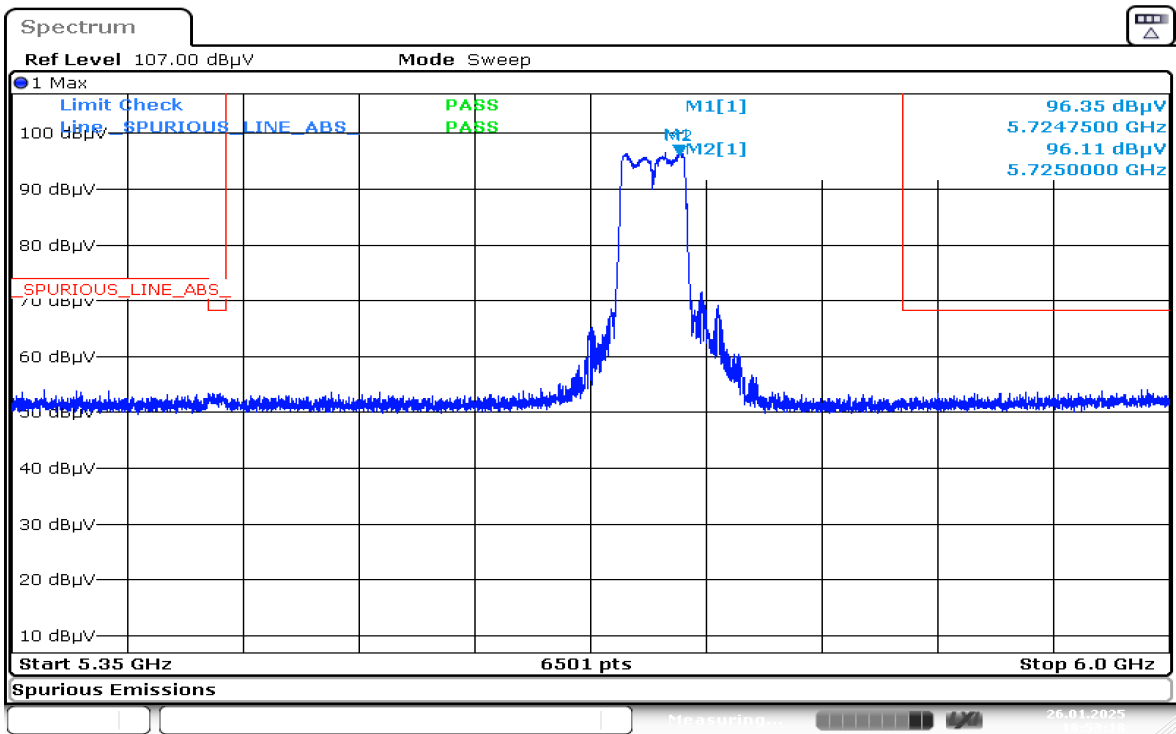
Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 26.JAN.2025 18:42:42

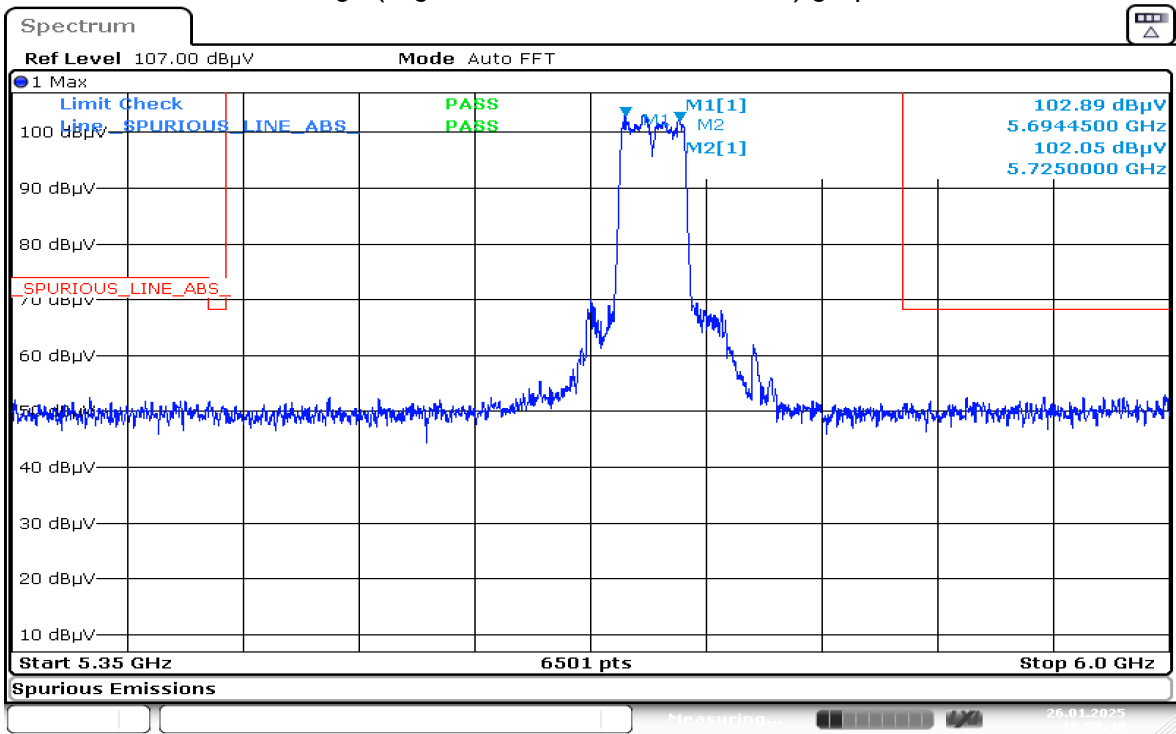


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 26.JAN.2025 18:53:18

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 26.JAN.2025 18:57:40

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5755.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40               | Softpot power (13)            |

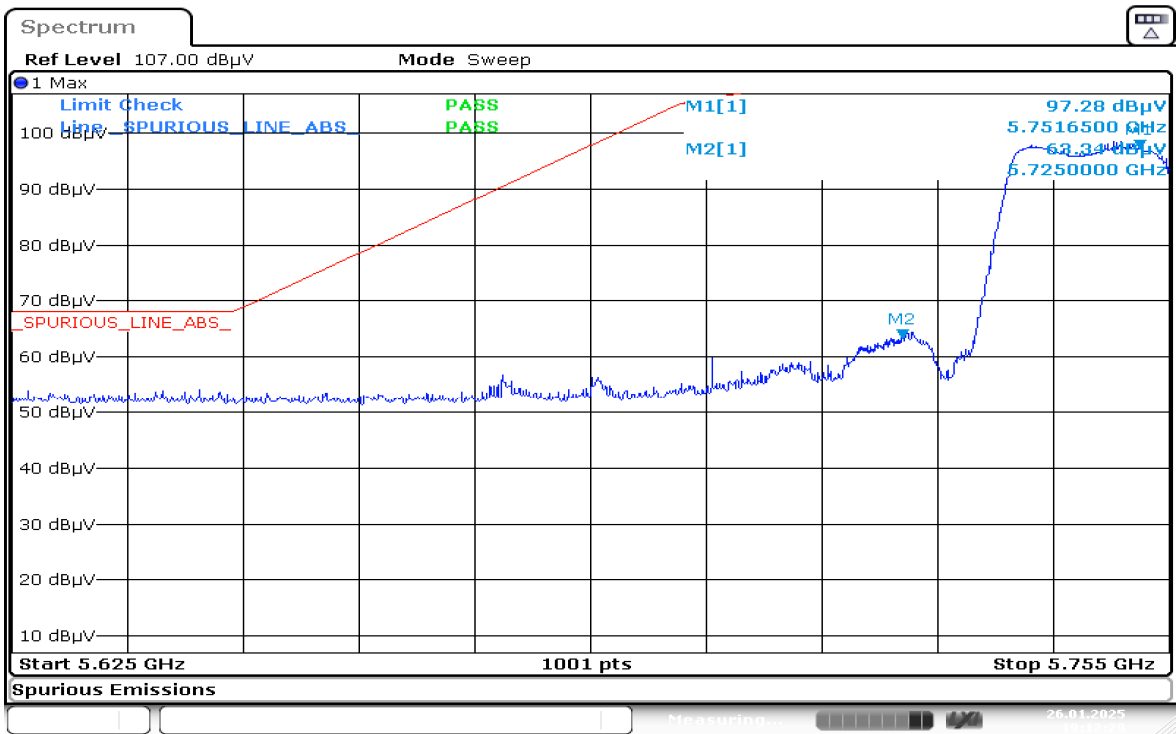
### Vertical Radiated Emission Result

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

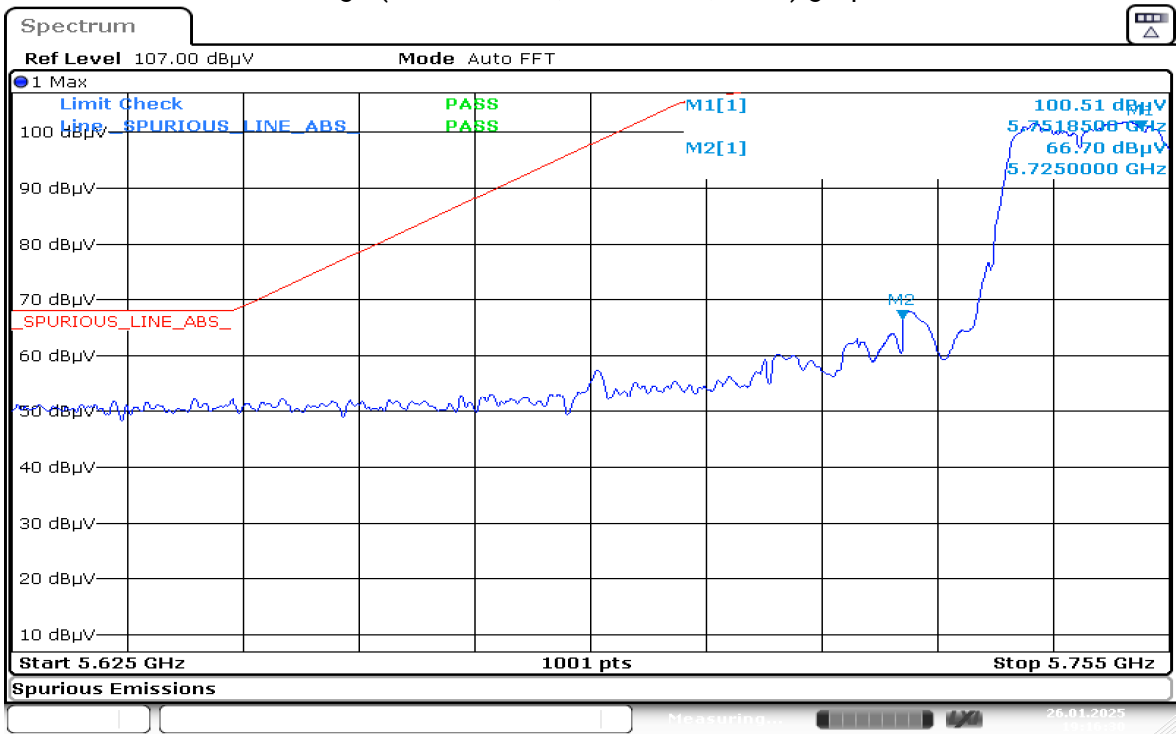
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 26. JAN. 2025 19:12:29

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



Date: 26. JAN. 2025 19:16:31

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5795.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40               | Softpot power (10)            |

### Restricted Band Edge (High Channel) tabular data

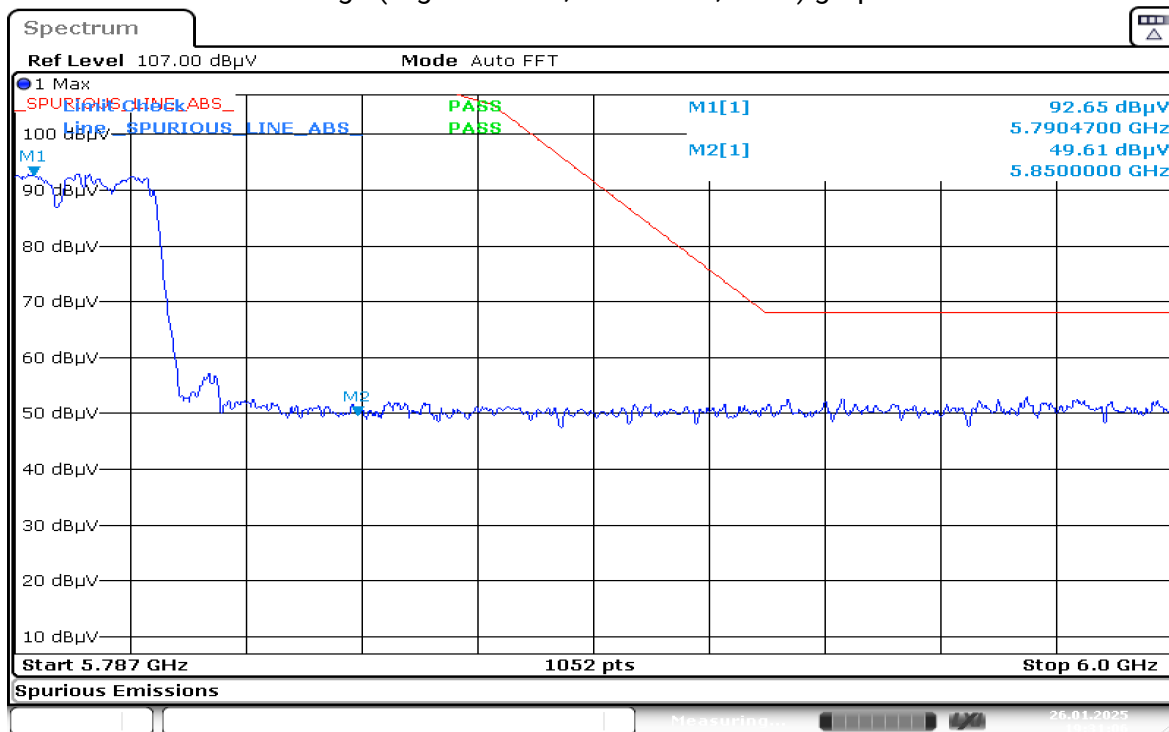
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

The screenshot shows a spectrum analyzer interface. The title bar reads "Spectrum". The main display area shows a blue trace representing the signal spectrum. A red line indicates a "PASS" filter response, which is flat at 100 dBμV until approximately 5.8 GHz, then slopes down to about 65 dBμV at 6.0 GHz. A blue trace shows a signal that starts at approximately 95 dBμV, has a sharp peak at 5.81 GHz (labeled "SPURIOUS LINE ABS\_"), and then drops to a noise floor around 50 dBμV. The y-axis is labeled "dBμV" and ranges from 10 to 100. The x-axis is labeled "Start 5.787 GHz" and "Stop 6.0 GHz". The mode is set to "Sweep". The resolution bandwidth is 100 kHz. The video bandwidth is 10 MHz. The center frequency is 5.8 GHz. The span is 200 MHz. The scale is 10 dB. The reference level is 107.00 dBμV. The maximum level is 96.27 dBμV. The minimum level is 52.71 dBμV. The average level is 58.10 GHz. The frequency markers are 5.810000 GHz and 5.850000 GHz. The label "SPURIOUS LINE ABS\_" is in red. The label "PASS" is in green. The label "M1[1]" is in blue. The label "M2[1]" is in blue. The label "M2" is in blue. The label "Start 5.787 GHz" is in black. The label "Stop 6.0 GHz" is in black. The label "1052 pts" is in black. The label "25.01.2025" is in black.

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



144

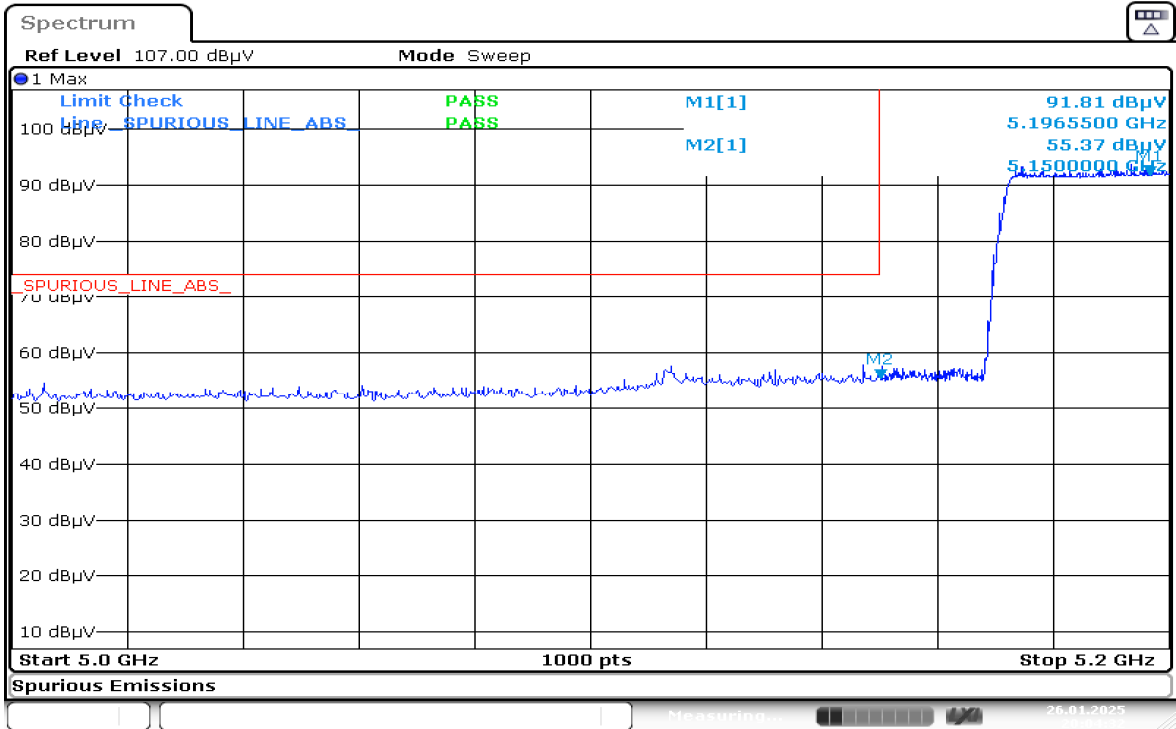
|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5210.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80              | Softpot power (10)            |

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

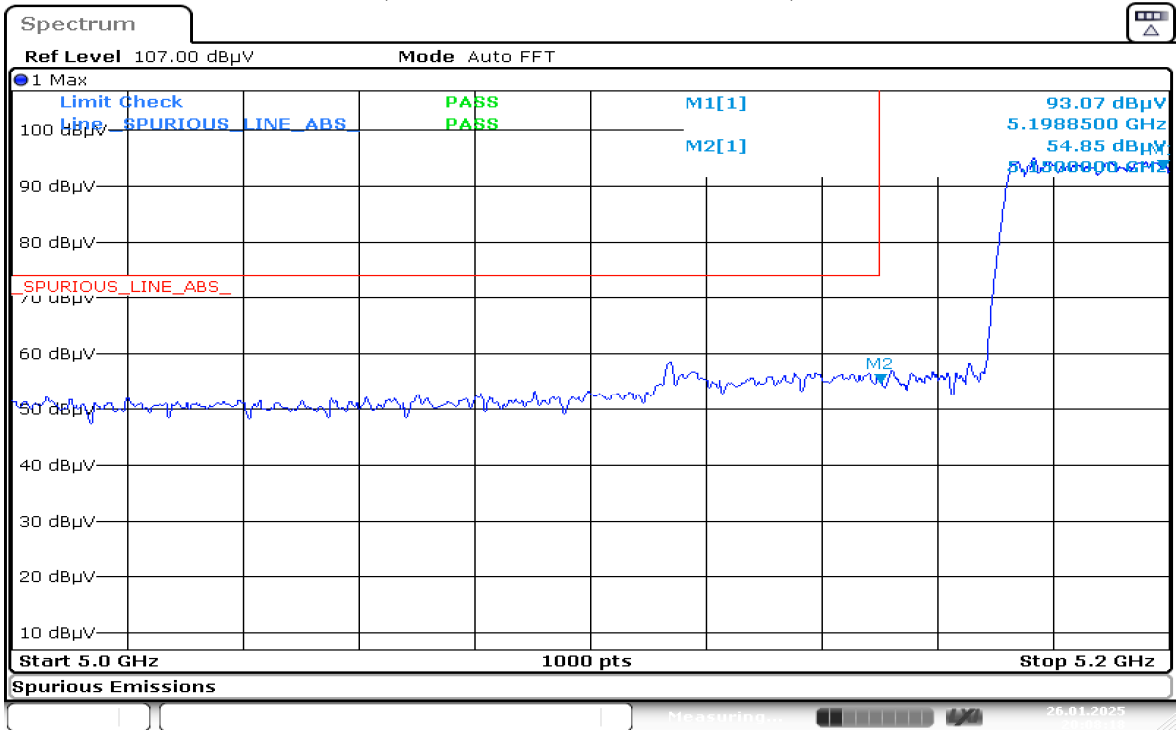
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 26. JAN.2025 20:04:33

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot

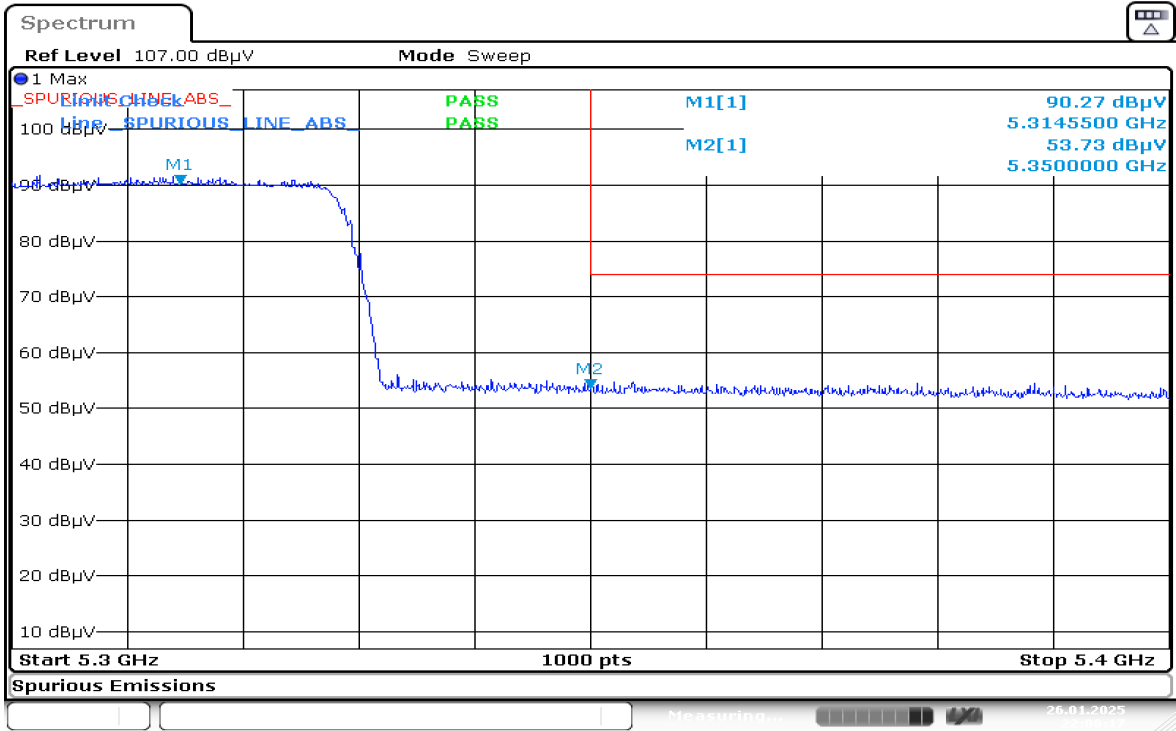


Date: 26. JAN.2025 20:08:18



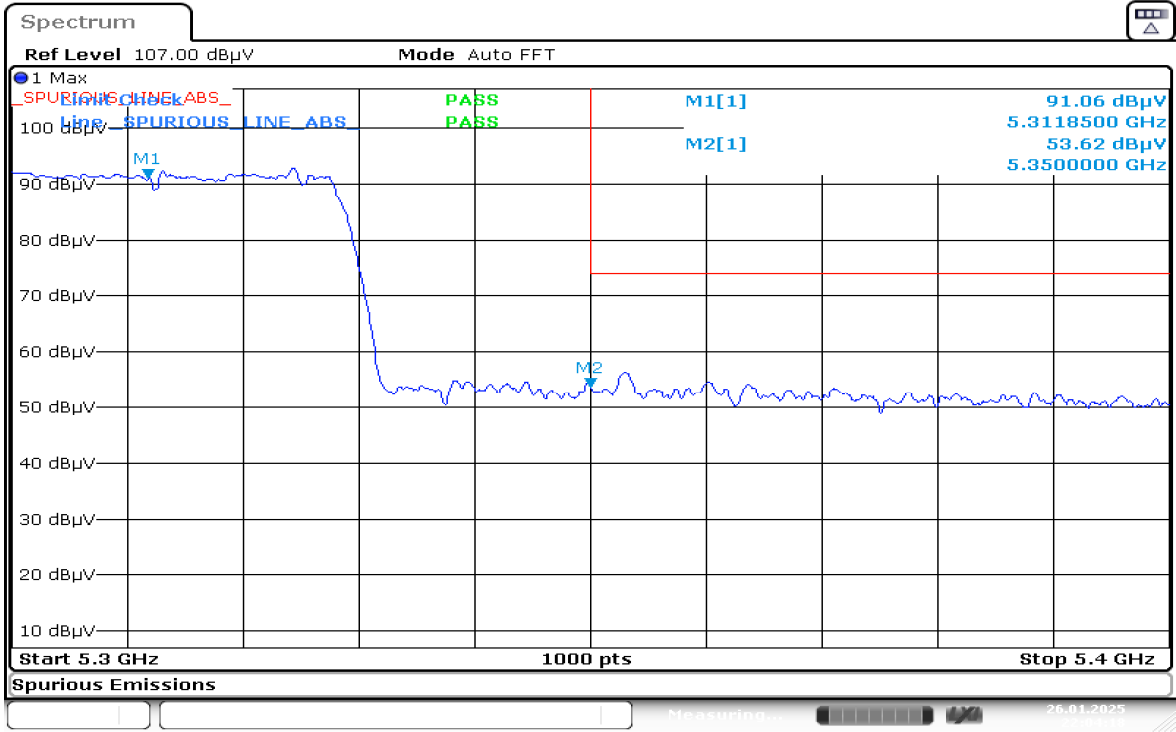


Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



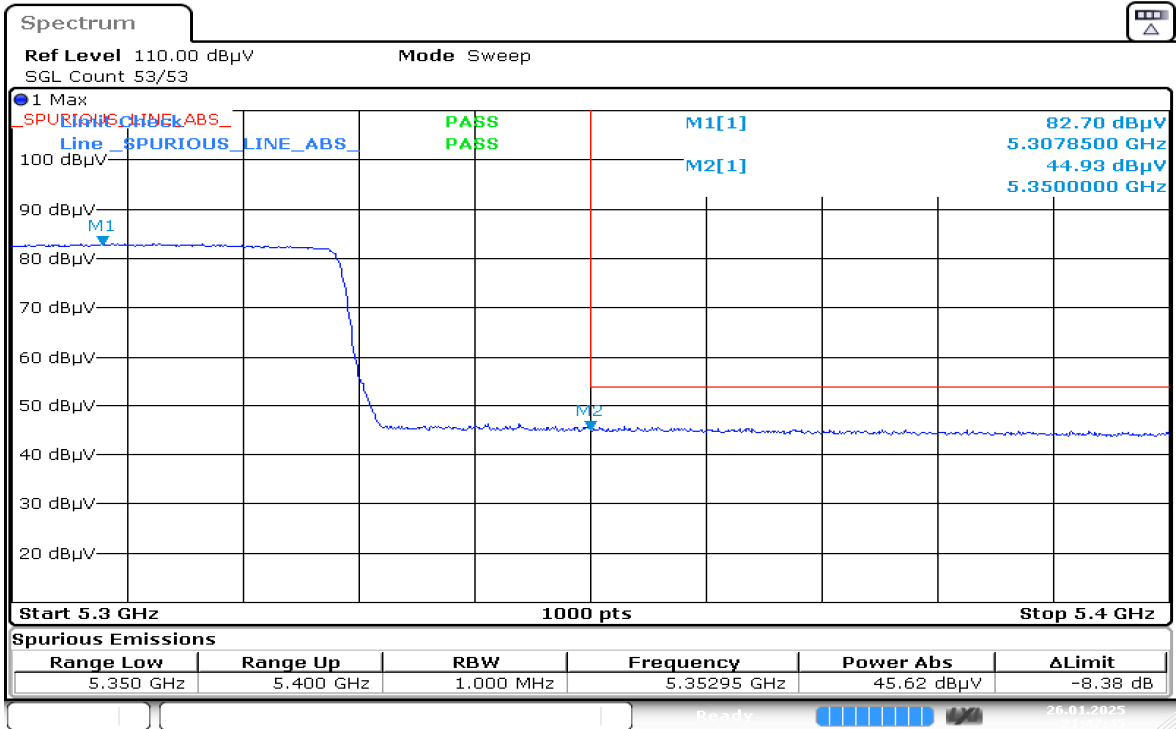
Date: 26. JAN. 2025 22:00:18

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



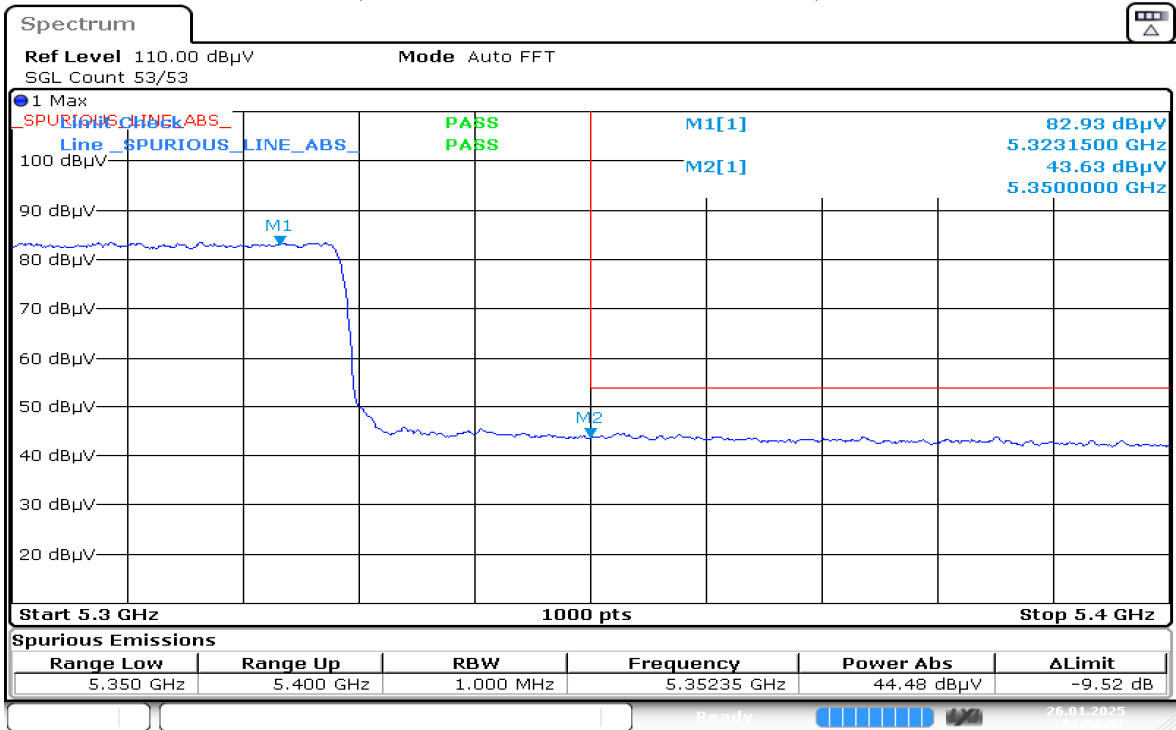
Date: 26. JAN. 2025 22:04:19

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



Date: 26.JAN.2025 21:47:45

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



Date: 26.JAN.2025 21:52:02

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: Low                   | Test Frequency: 5530.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80              | Softpot power (9)             |

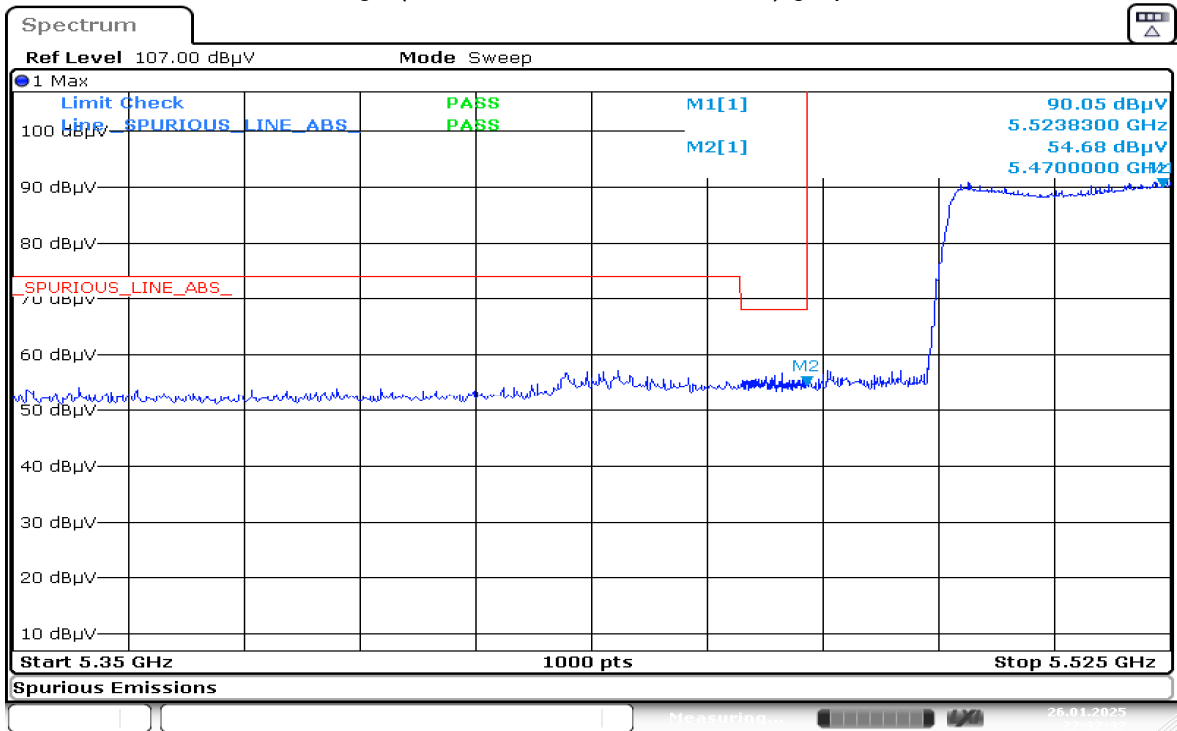
### Vertical Radiated Emission Result

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

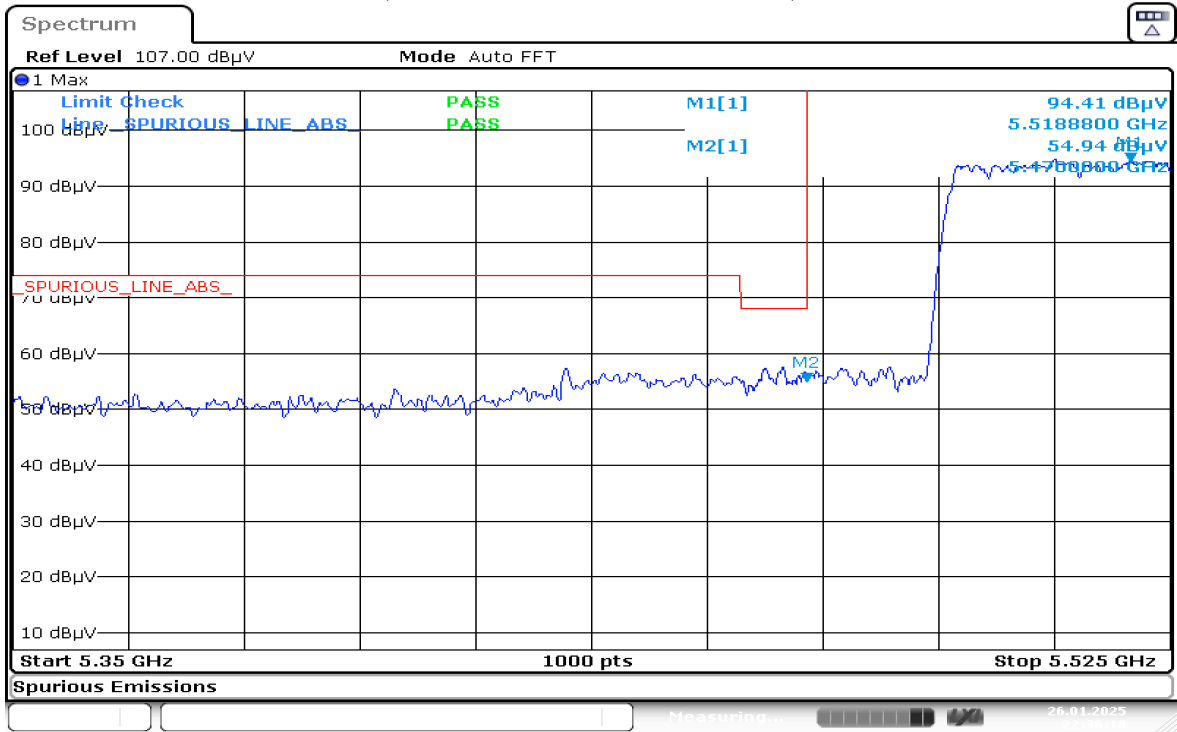
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



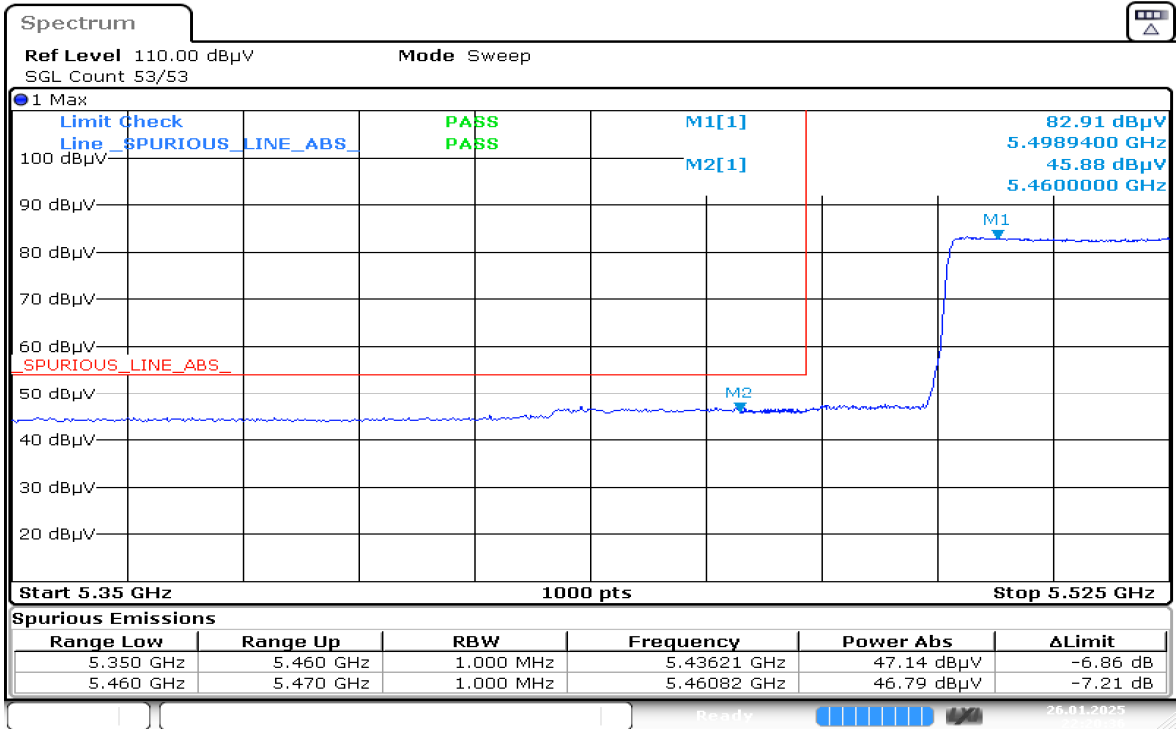
Date: 26.JAN.2025 22:32:32

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



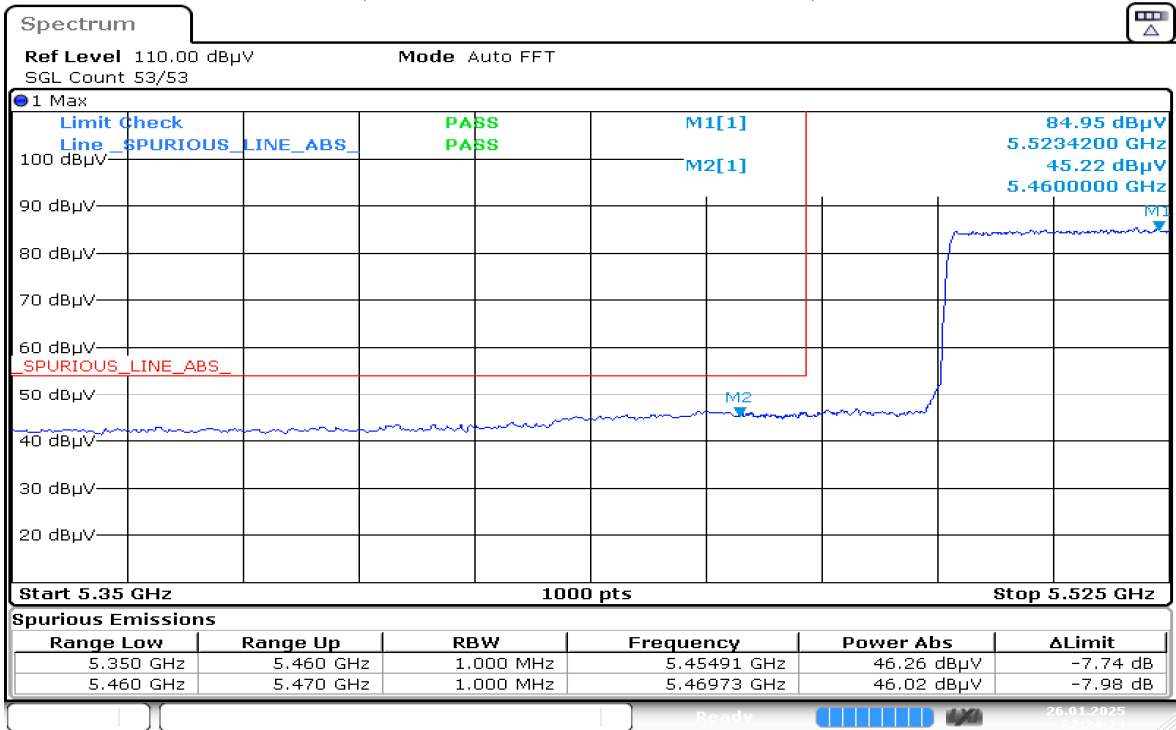
Date: 26.JAN.2025 22:36:18

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



Date: 26.JAN.2025 22:20:36

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



Date: 26.JAN.2025 22:24:23

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5610.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80              | Softpot power (8)             |

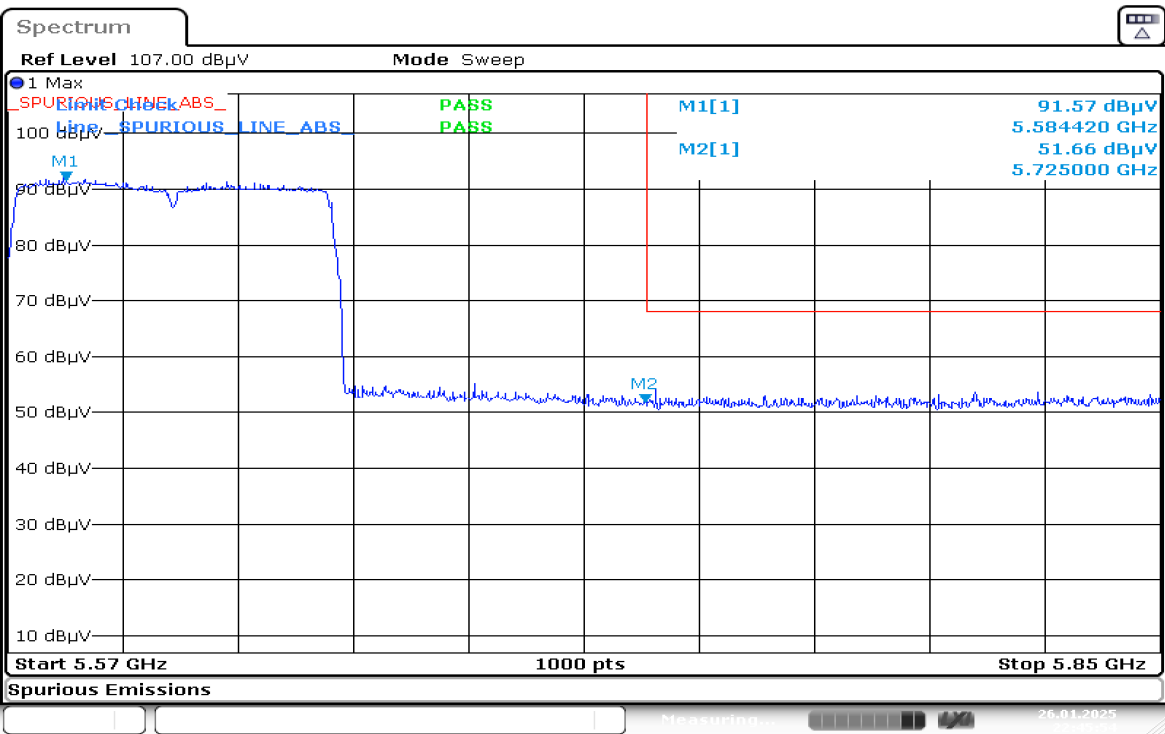
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

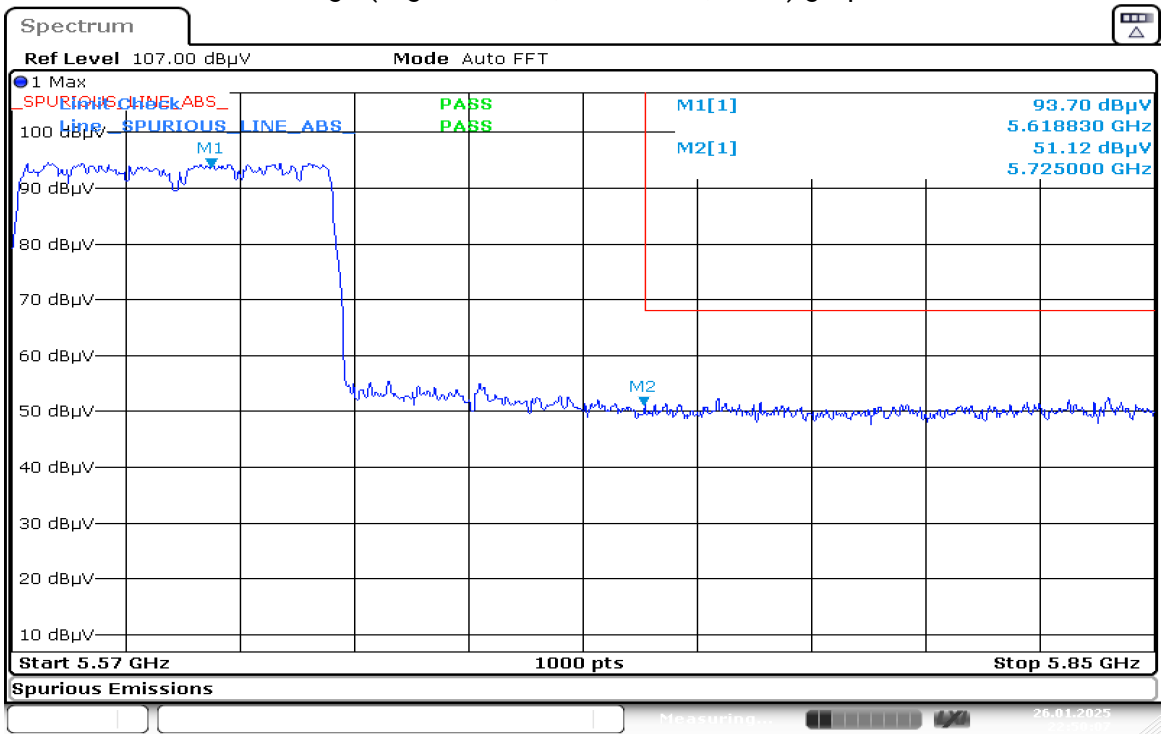
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 26. JAN. 2025 22:45:54

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



Date: 26. JAN. 2025 22:50:08

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5690.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80              | Softpot power (10)            |

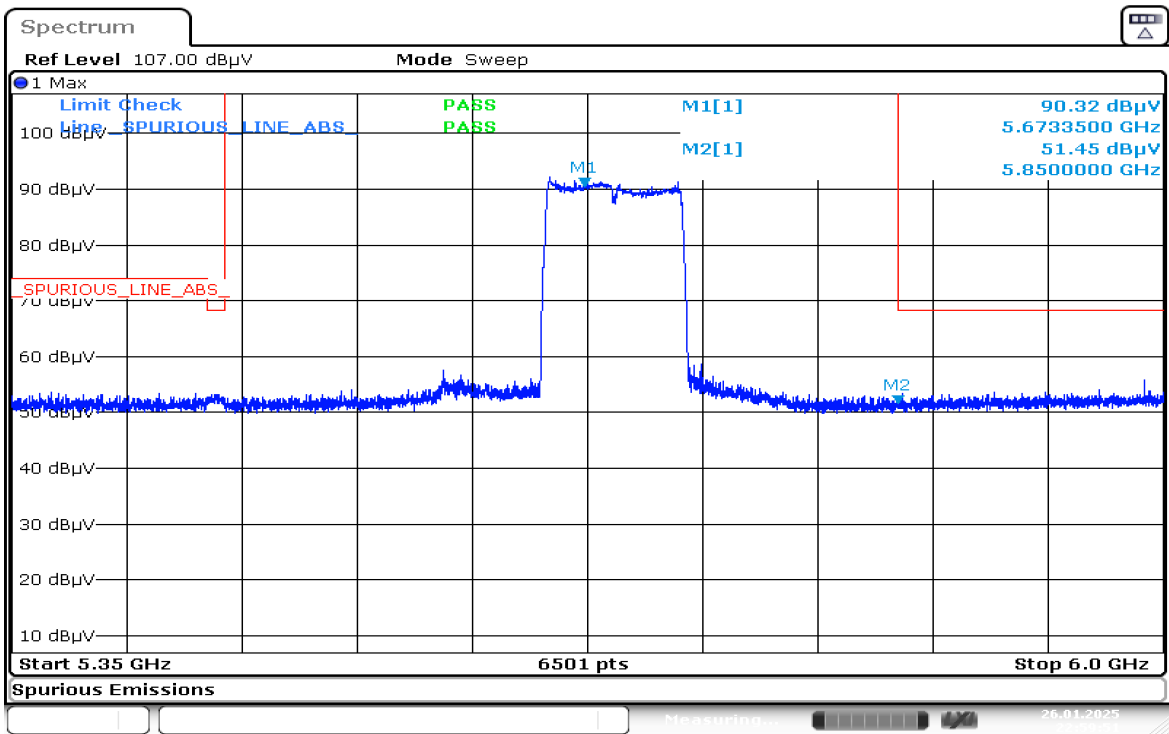
### Restricted Band Edge (High Channel) tabular data

[illegible]

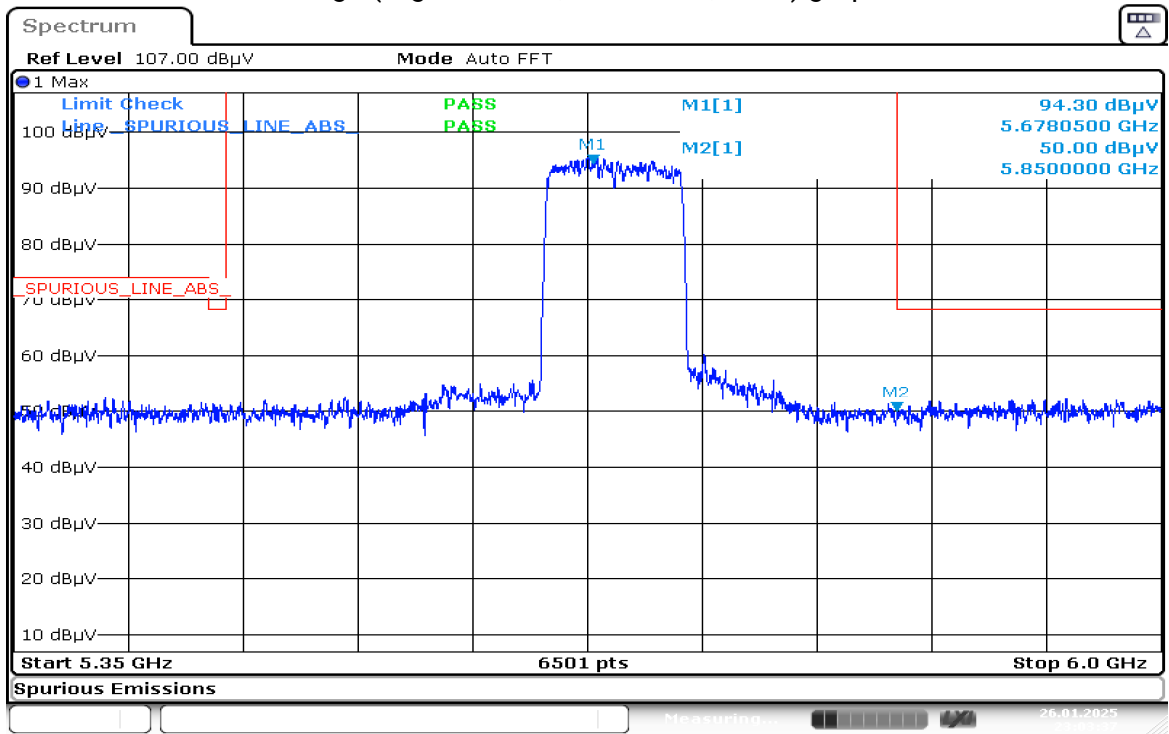
|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot

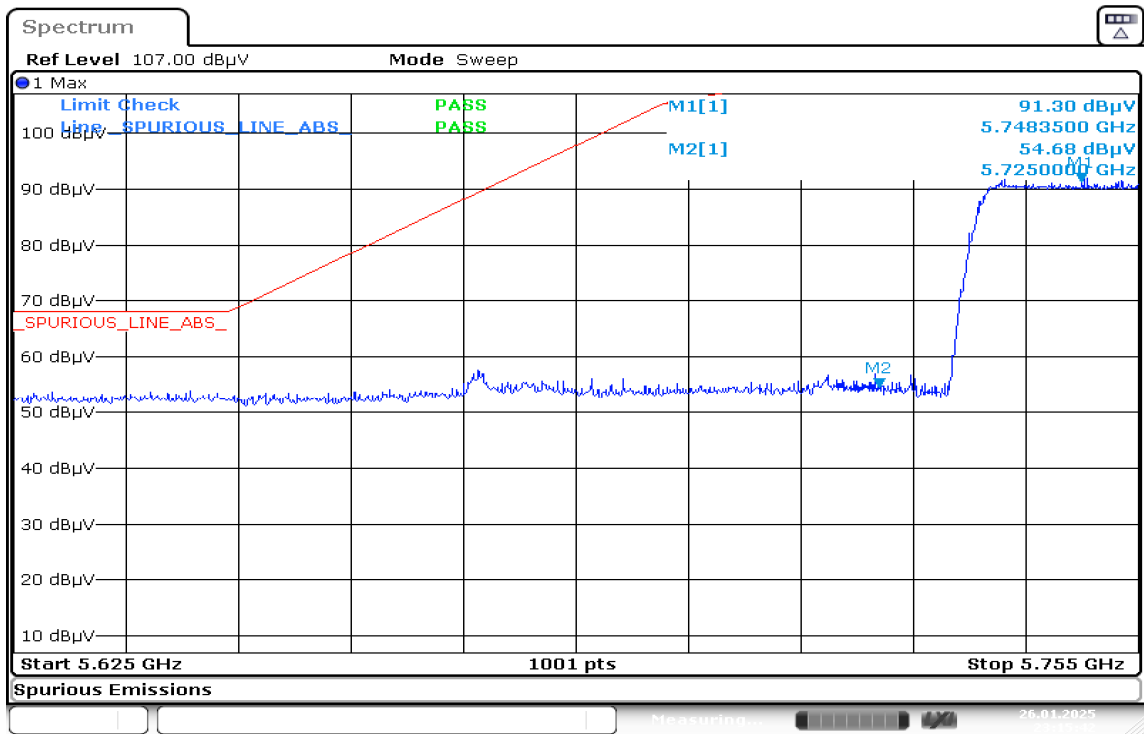


Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



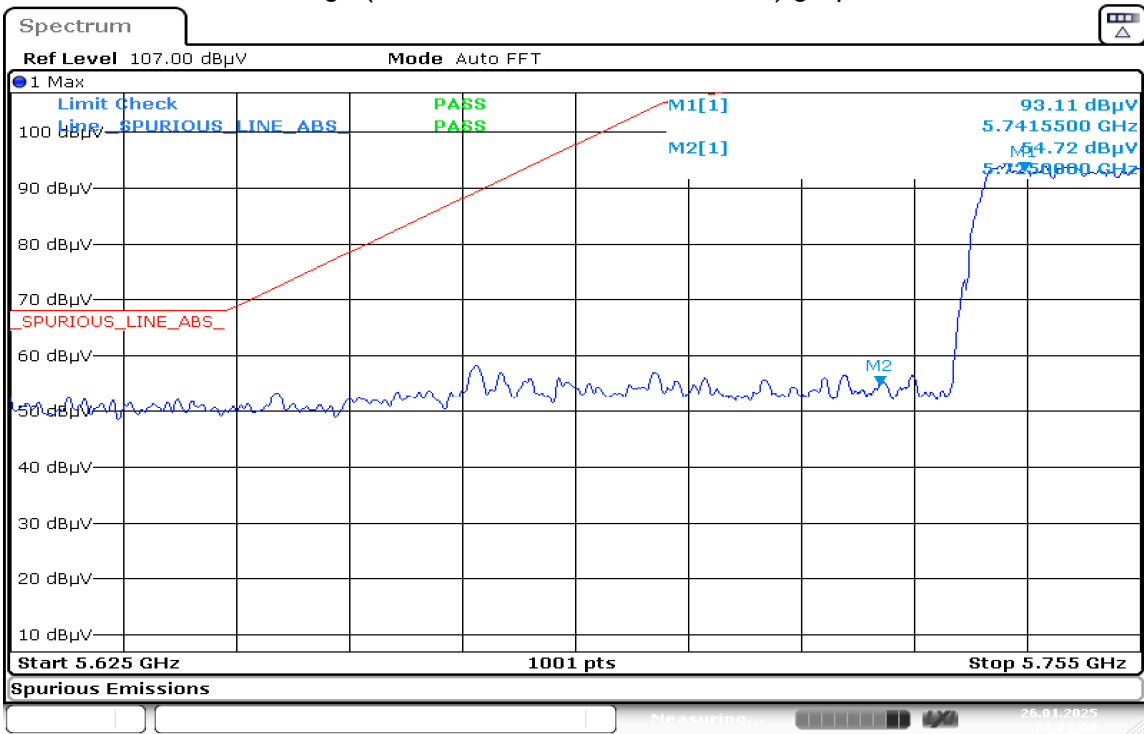


Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



Date: 26. JAN. 2025 23:15:42

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



Date: 26. JAN. 2025 23:20:09

|                                     |                               |
|-------------------------------------|-------------------------------|
| Test: WIFI SAC Restricted Band Edge | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                 | S/N: 9903EBA0048              |
| Battery: PMNN4893A                  |                               |
| Accessory: NA                       |                               |
| Test Channel: High                  | Test Frequency: 5775.0000 MHz |
| Test Standard: ANSI C63.10-2013     | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80              | Softpot power (8)             |

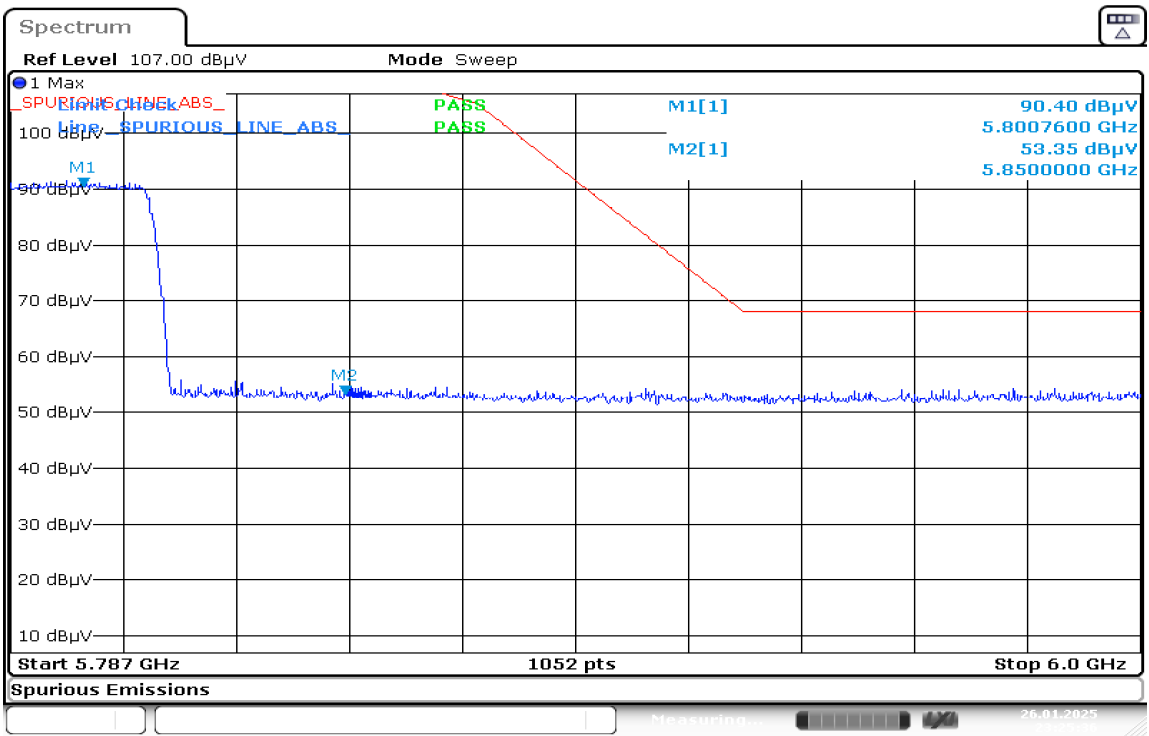
### Restricted Band Edge (High Channel) tabular data

[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

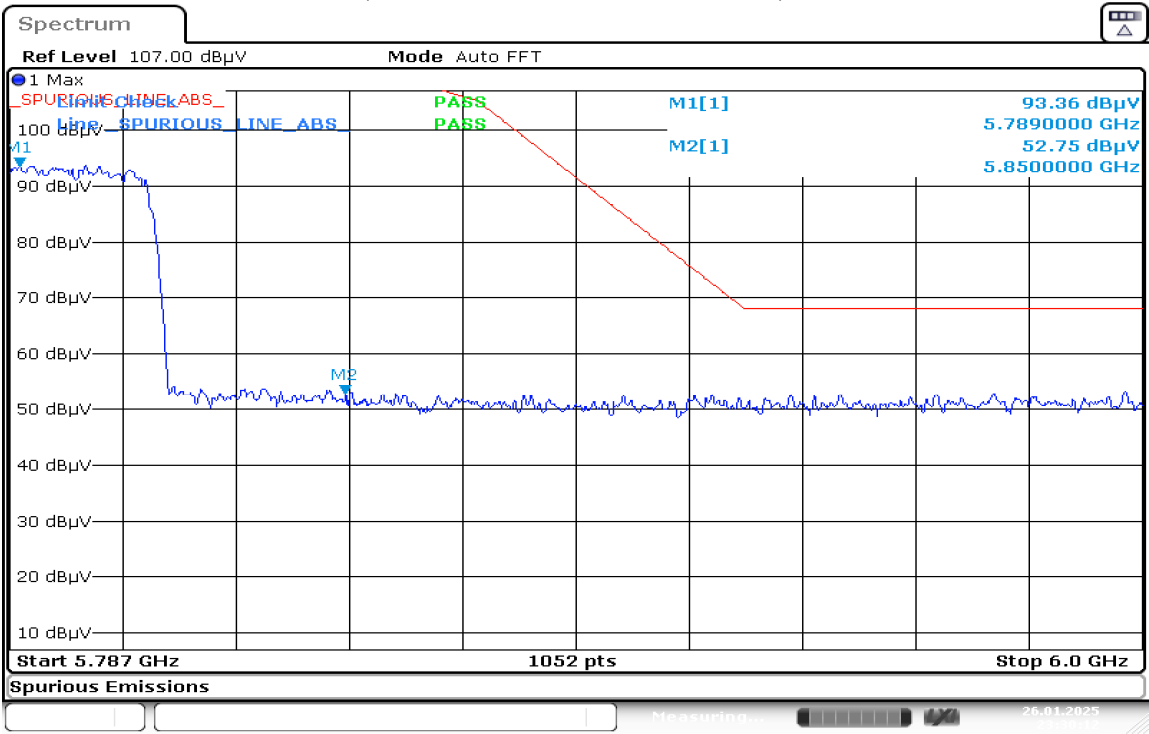
|                          |                              |
|--------------------------|------------------------------|
| Temperature (degC): 22.5 | Humidity (%): 63.1           |
| Test Performed by: Aiman | Test Date: Mon, 27 Jan, 2025 |
| Svstem MU: 5.84dB        |                              |

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



Date: 26. JAN. 2025 23:25:37

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

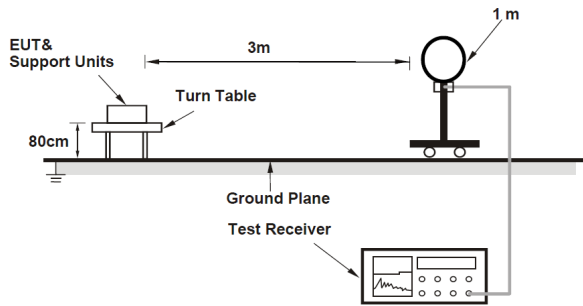


Date: 26. JAN. 2025 23:30:12

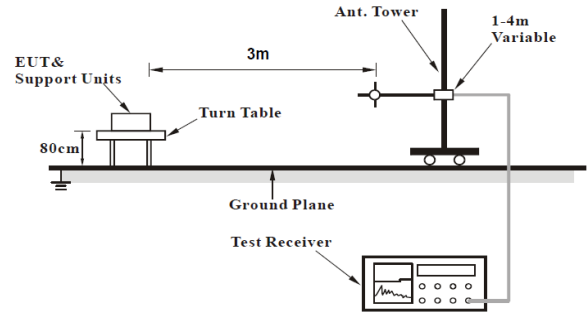
## 6.7. Radiated Spurious Emission Measurement

### 6.7.1. Test Setup

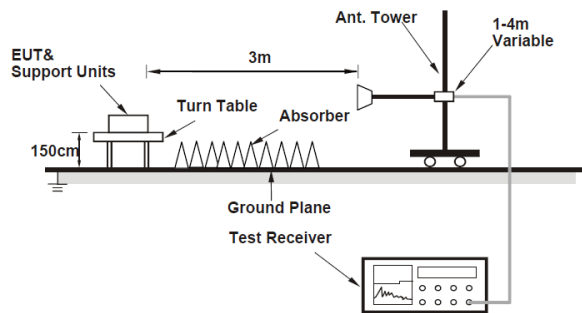
<Radiated emission below 30MHz>



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



1. The EUT is placed on the top of a rotating table 0.8m/1.5m above the ground at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
2. The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
3. The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

**NOTE:**

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection using reduced video bandwidth (Duty cycle  $\geq 98\%$ ) at frequency above 1GHz.
- The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $1/\tau$  Hz, where  $\tau$  is minimum transmitter on time (Duty cycle  $< 98\%$ ) for Average detection using reduced video bandwidth at frequency above 1GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

### 6.7.2. Test Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009-0.490     | 2400/F(kHz)                       | 300                           |
| 0.490-1.705     | 24000/F(kHz)                      | 30                            |
| 1.705-30.0      | 30                                | 30                            |
| 30-88           | 100**                             | 3                             |
| 88-216          | 150**                             | 3                             |
| 216-960         | 200**                             | 3                             |
| Above 960       | 500                               | 3                             |

**NOTE:**

- The lower limit shall apply at the transition frequencies.
- Emission level (dBuV/m) = 20 log Emission level (uV/m).
- For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For Radiated emissions which fall out of the restricted bands must comply with the radiated emission limits specified as below table.

| Applicable To                                                                                                        |                  | Limit                                                                                                                               |                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 789033 D02 General UNII Test Procedures<br>New Rules v01r03                                                          |                  | Field Strength at 3 m                                                                                                               |                                                                                                                                           |
|                                                                                                                      |                  | PK: 74 (dBµV/m)                                                                                                                     | AV: 54 (dBµV/m)                                                                                                                           |
| Frequency Band                                                                                                       | Applicable To    | EIRP Limit                                                                                                                          | Equivalent Field Strength at 3 m                                                                                                          |
| 5150~5250 MHz                                                                                                        | 15.407(b)(1)     | PK: -27 (dBm/MHz)                                                                                                                   | PK: 68.2 (dBµV/m)                                                                                                                         |
| 5250~5350 MHz                                                                                                        | 15.407(b)(2)     |                                                                                                                                     |                                                                                                                                           |
| 5470~5725 MHz                                                                                                        | 15.407(b)(3)     |                                                                                                                                     |                                                                                                                                           |
| 5725~5850 MHz                                                                                                        | 15.407(b)(4)(i)  | PK:-27 (dBm/MHz) <sup>*1</sup><br>PK:10 (dBm/MHz) <sup>*2</sup><br>PK:15.6 (dBm/MHz) <sup>*3</sup><br>PK:27 (dBm/MHz) <sup>*4</sup> | PK: 68.2 (dBµV/m) <sup>*1</sup><br>PK:105.2 (dBµV/m) <sup>*2</sup><br>PK: 110.8 (dBµV/m) <sup>*3</sup><br>PK:122.2 (dBµV/m) <sup>*4</sup> |
|                                                                                                                      | 15.407(b)(4)(ii) | Emission limits in section 15.247(d)                                                                                                |                                                                                                                                           |
| <sup>*1</sup> beyond 75 MHz or more above of the band edge.                                                          |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.                                 |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.                     |                  |                                                                                                                                     |                                                                                                                                           |
| <sup>*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. |                  |                                                                                                                                     |                                                                                                                                           |

NOTE:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = ( (1000000\sqrt{(30P)}) / 3 ) \text{ } \mu\text{V/m, where P is the eirp (Watts)}$$

6.7.3. Test Data

|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5180.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20                        | Softpot power (14)            |

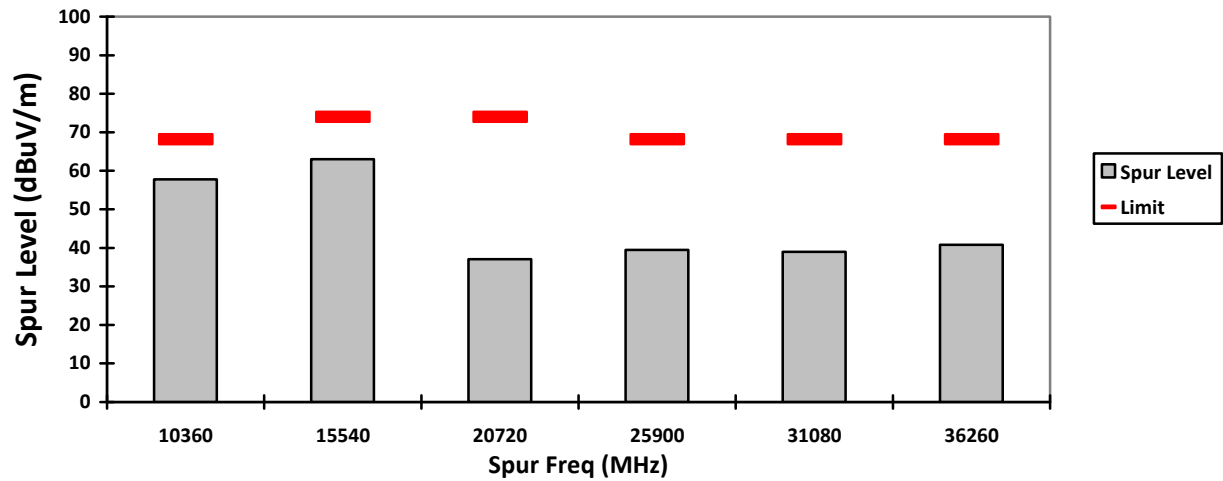
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

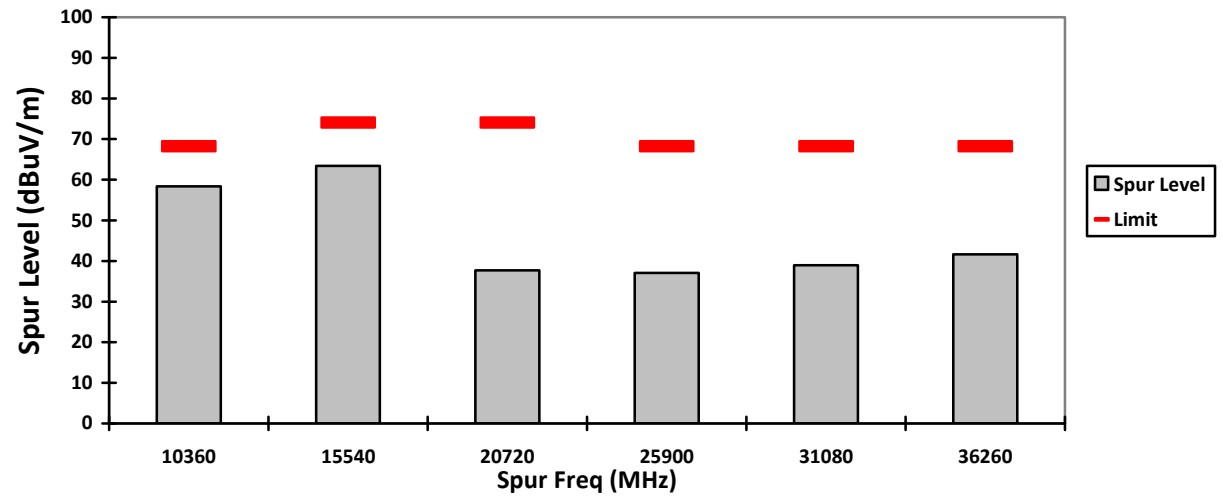
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

165

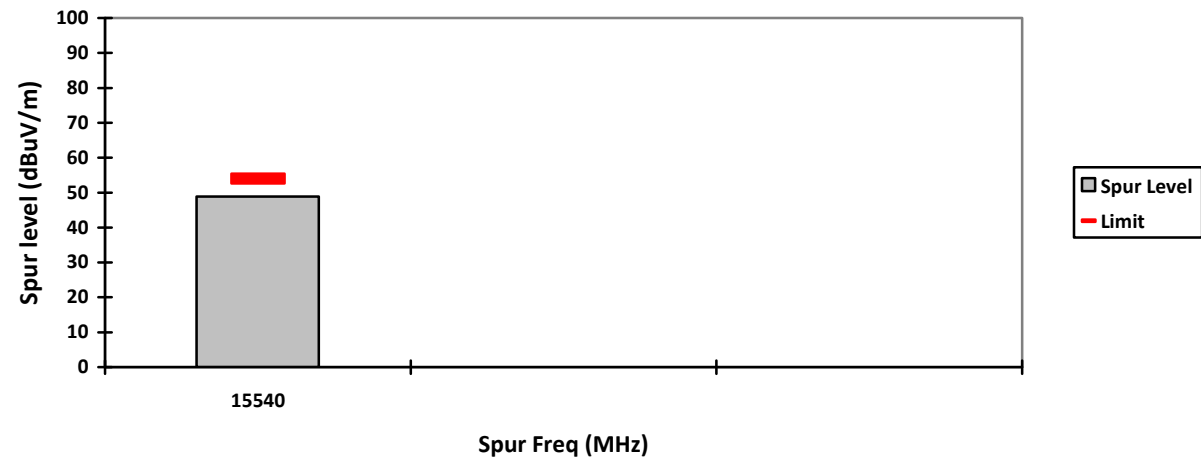
VERTICAL, PK



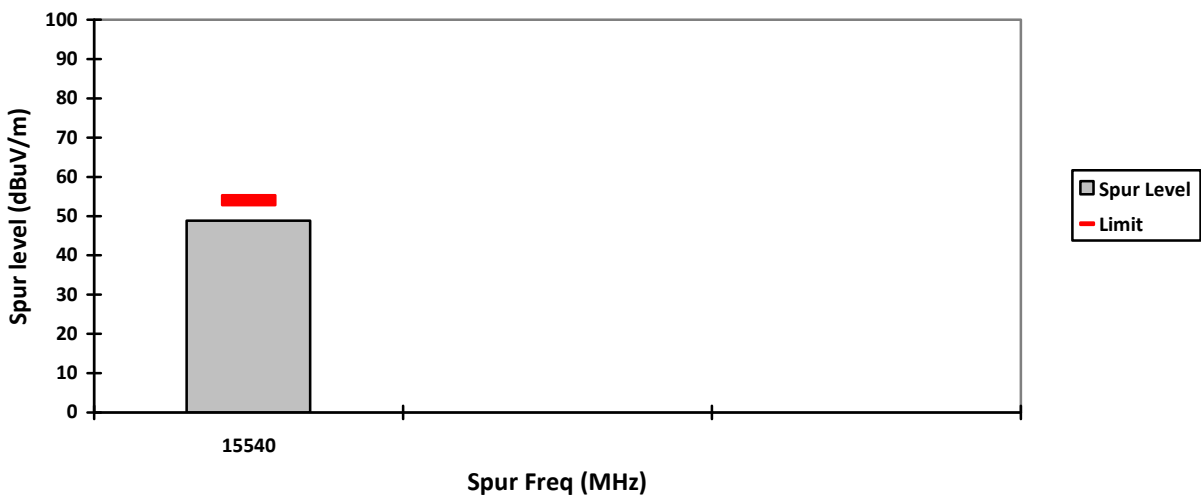
HORIZONTAL, PK



VERTICAL, AV

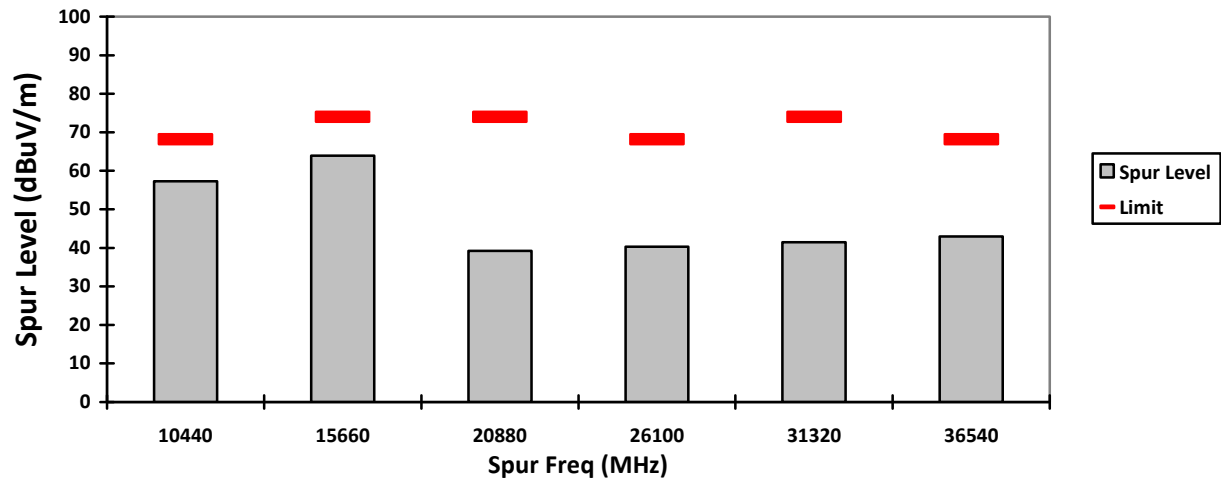


HORIZONTAL, AV

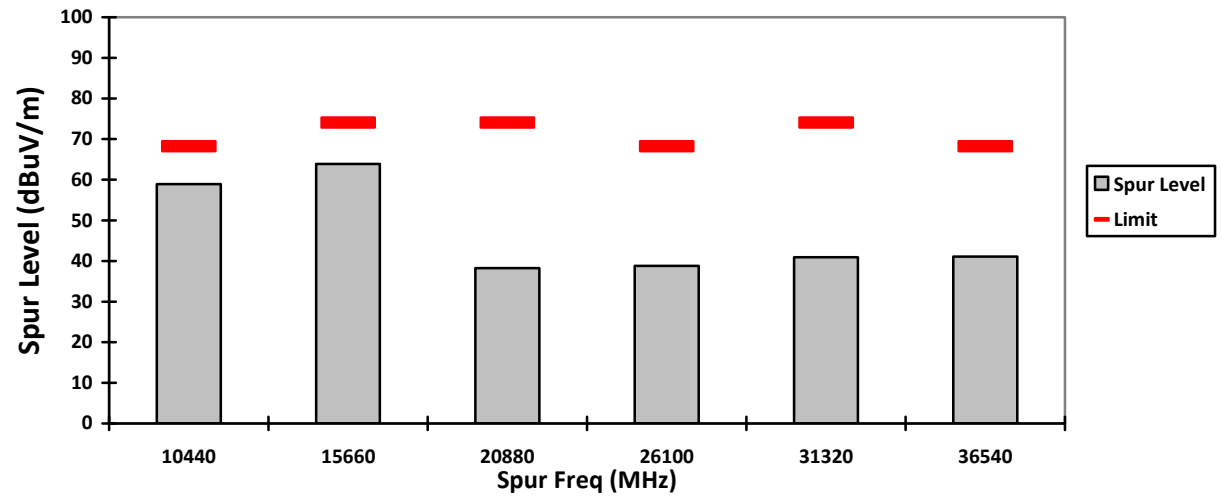




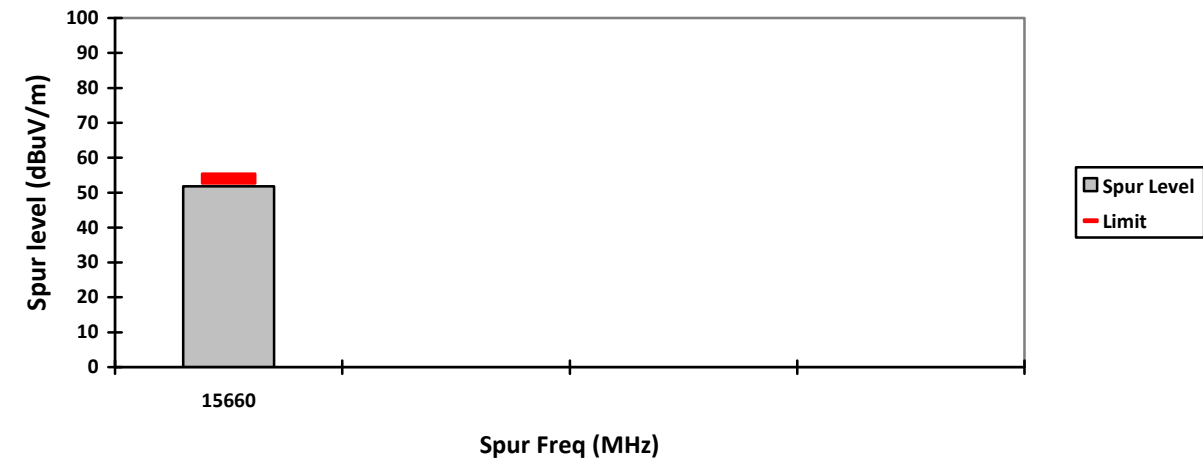
VERTICAL, PK



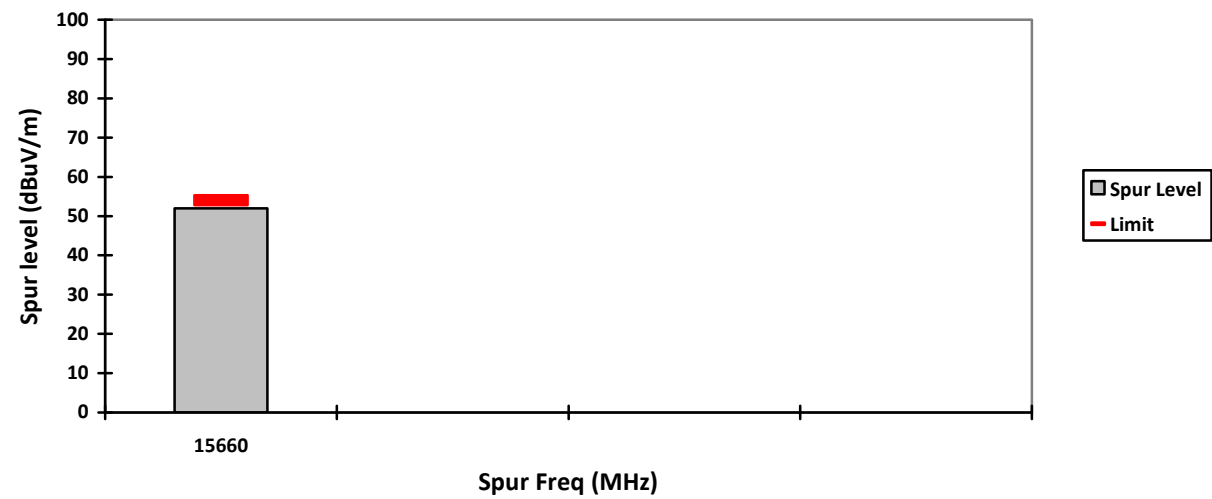
HORIZONTAL, PK



VERTICAL, AV

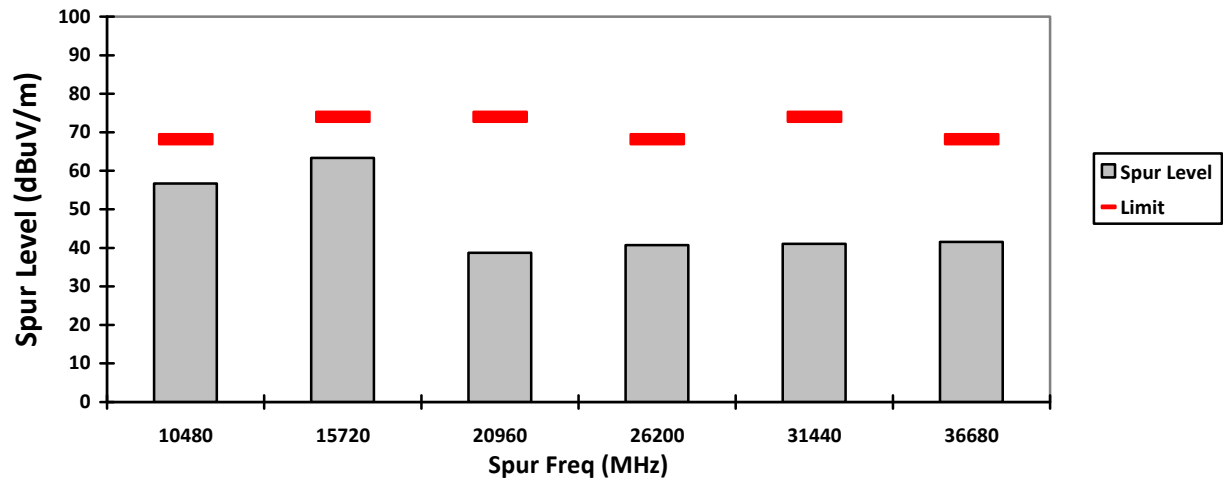


HORIZONTAL, AV

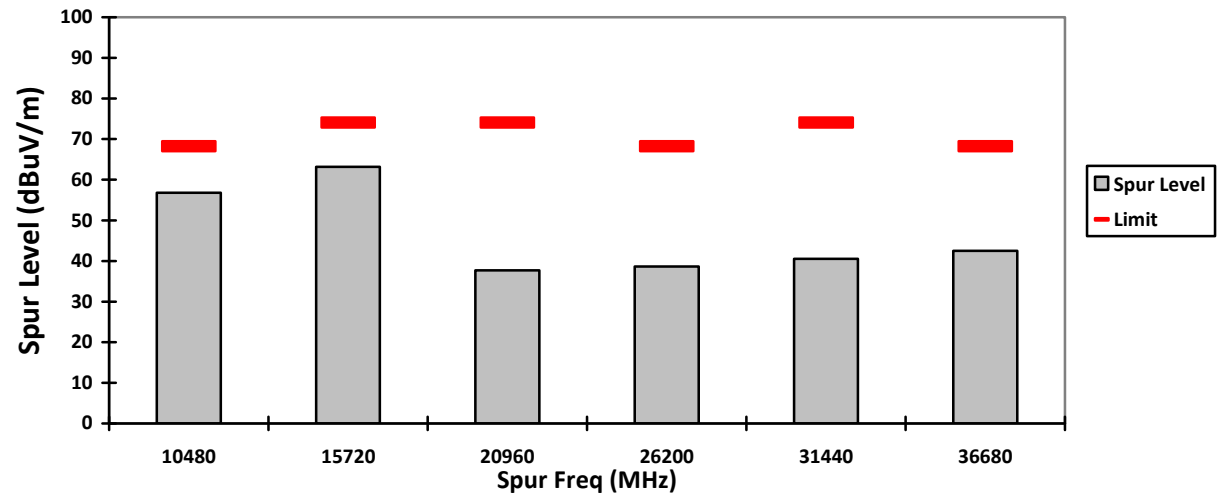




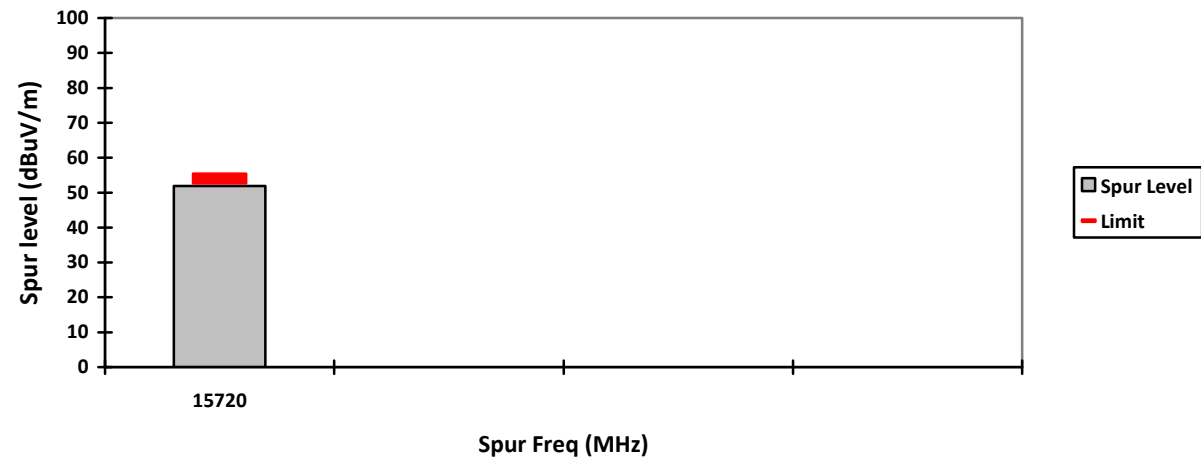
VERTICAL, PK



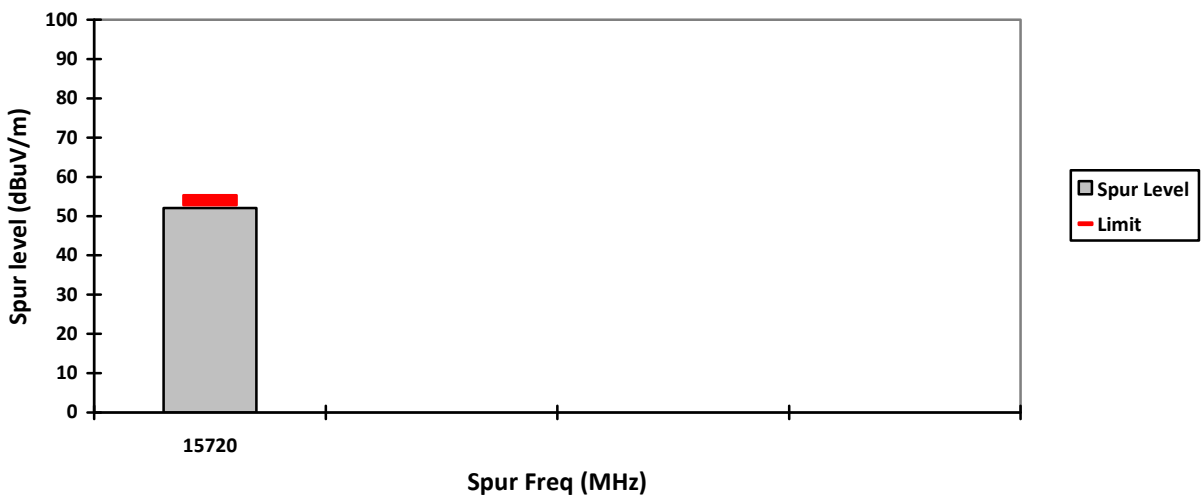
HORIZONTAL, PK



VERTICAL, AV

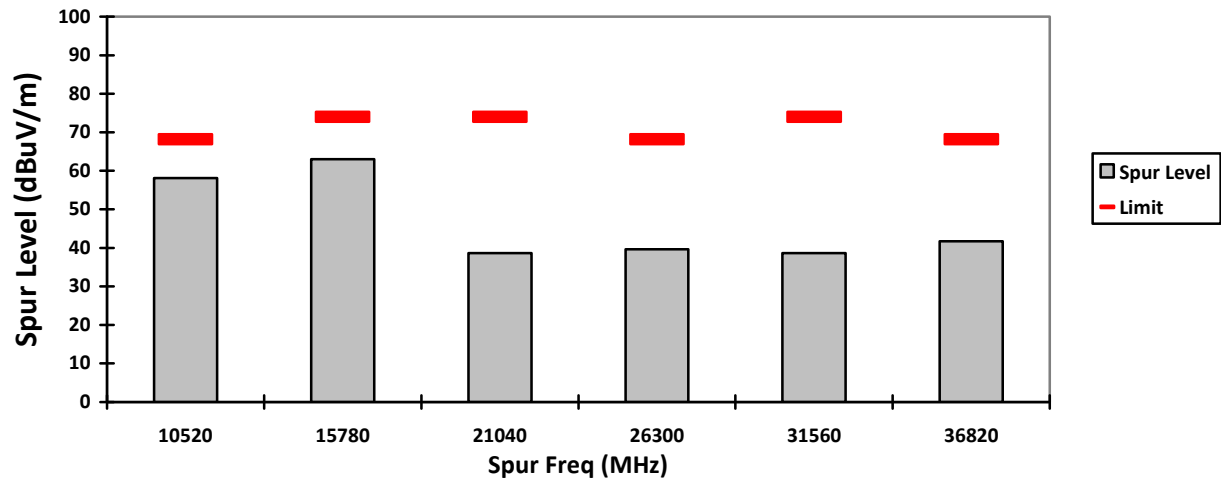


HORIZONTAL, AV

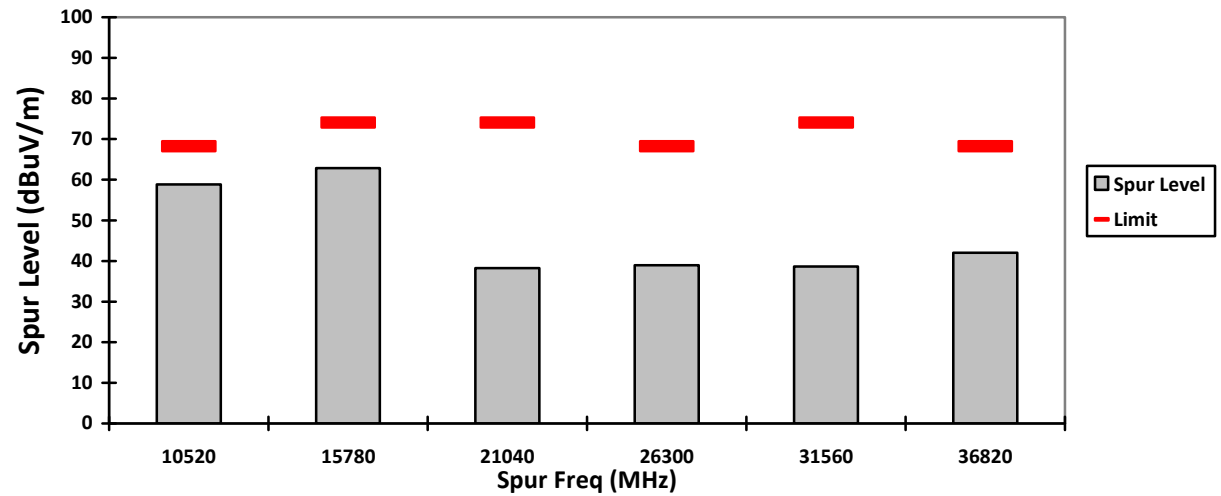




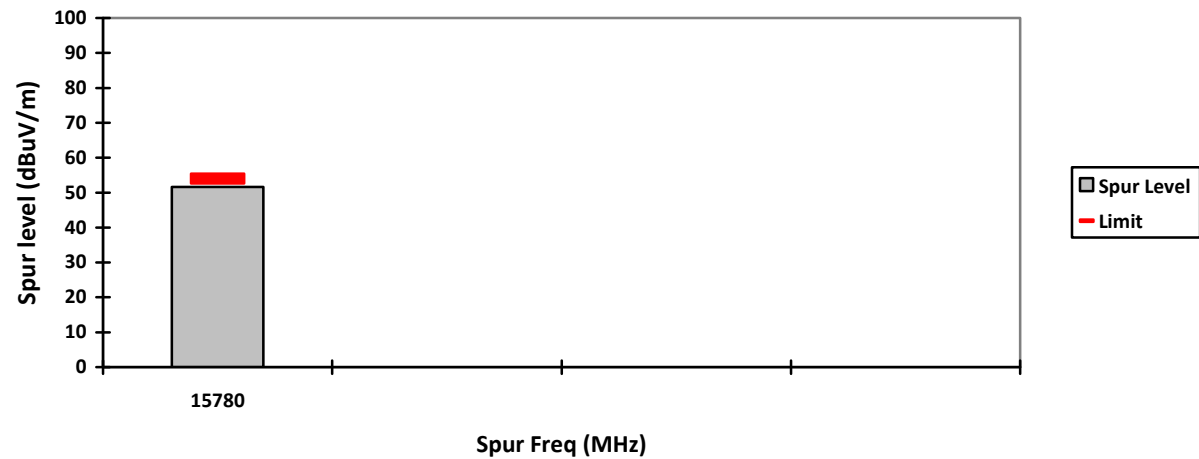
VERTICAL, PK



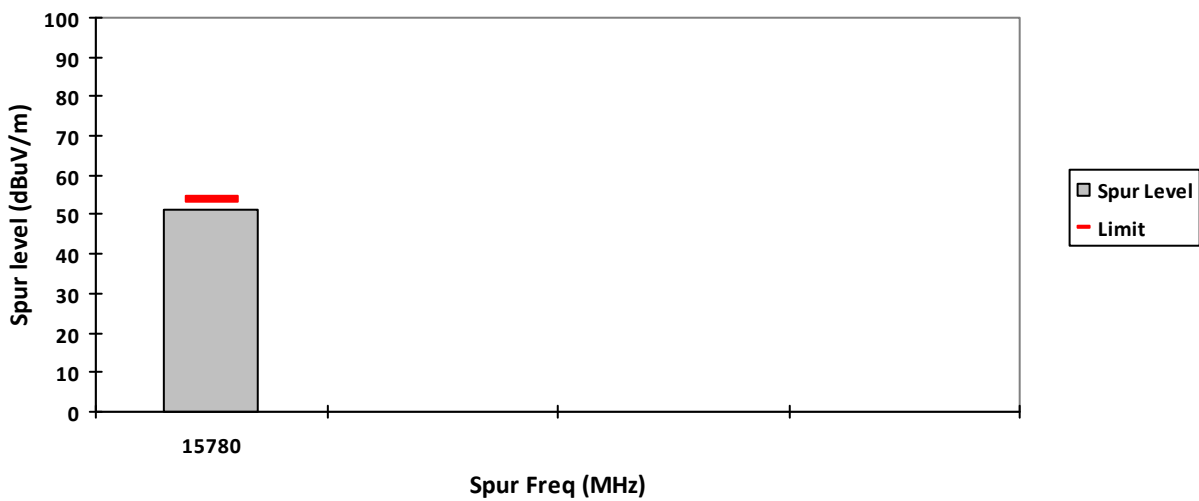
HORIZONTAL, PK



VERTICAL, AV

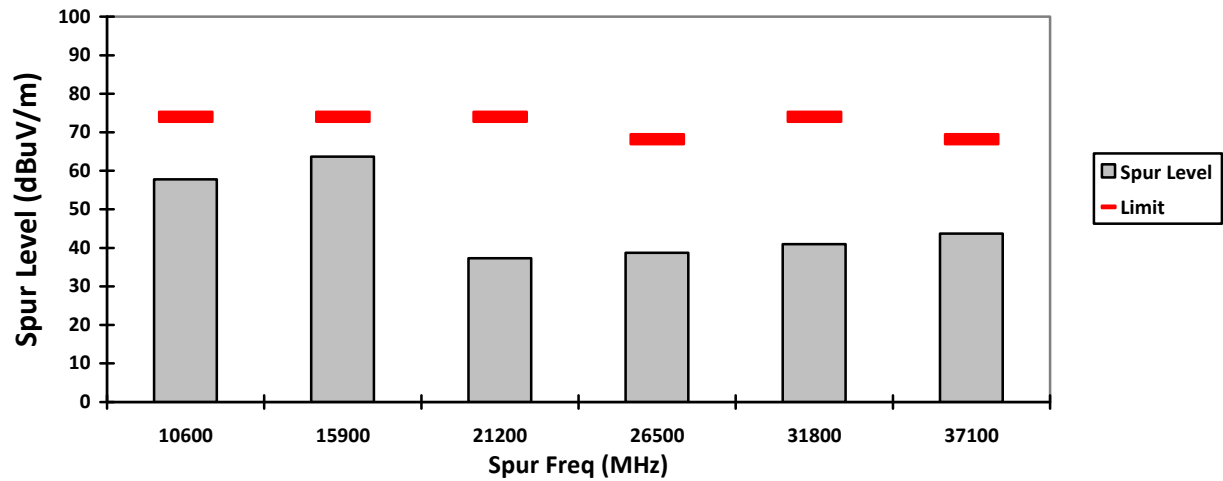


HORIZONTAL, AV

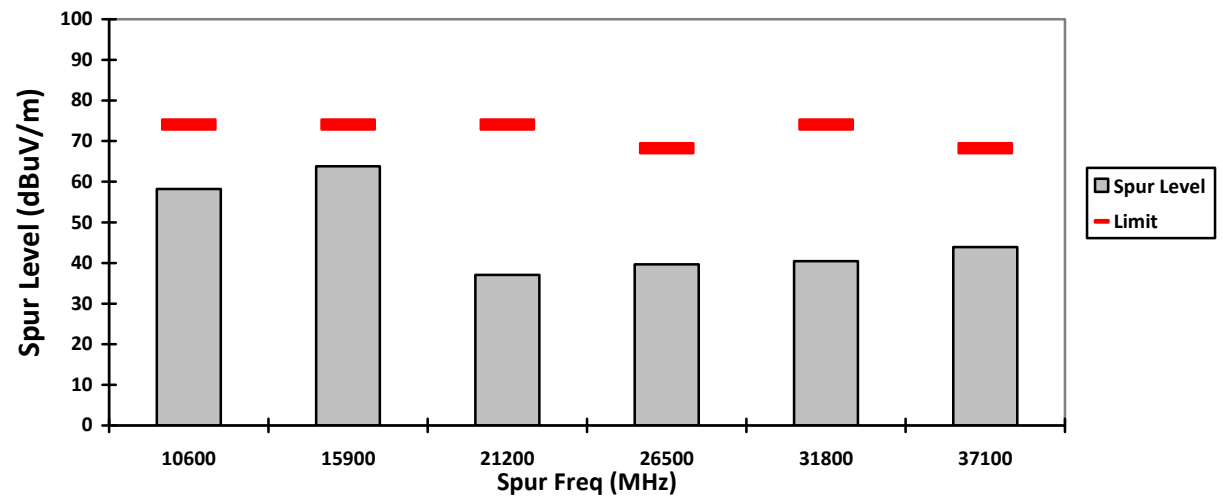




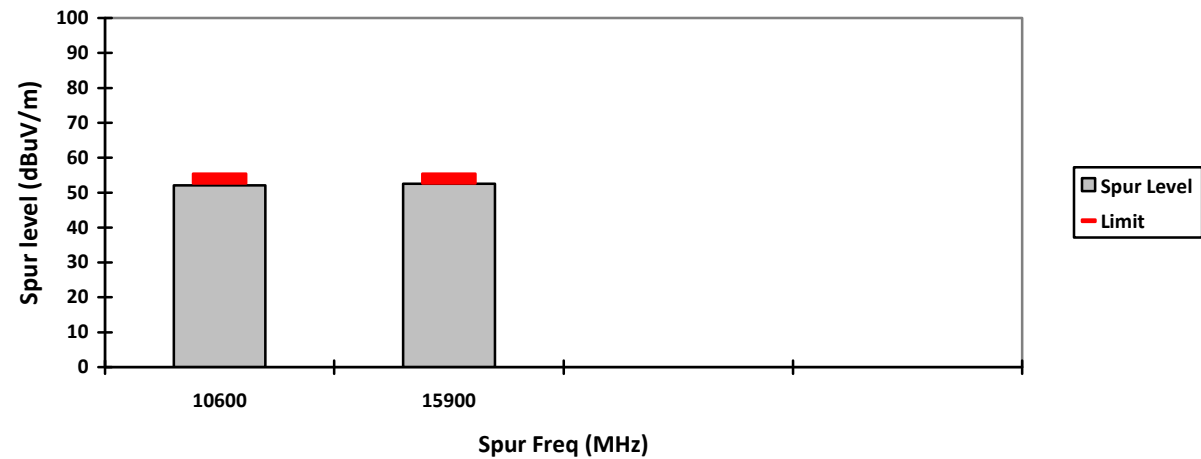
VERTICAL, PK



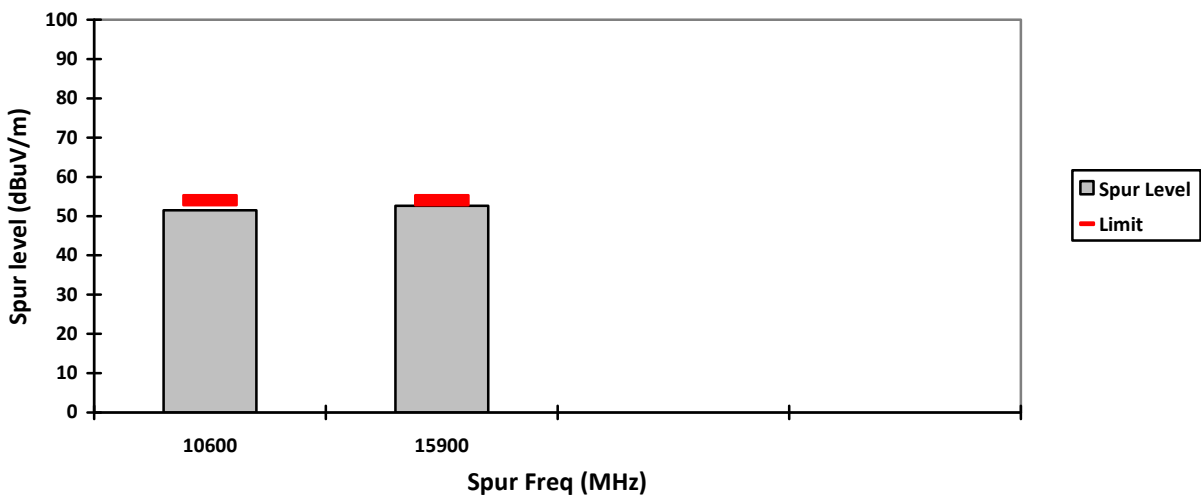
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: High                           | Test Frequency: 5320.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20                        | Softpot power (14)            |

### Radiated Emission (High Channel) tabular data

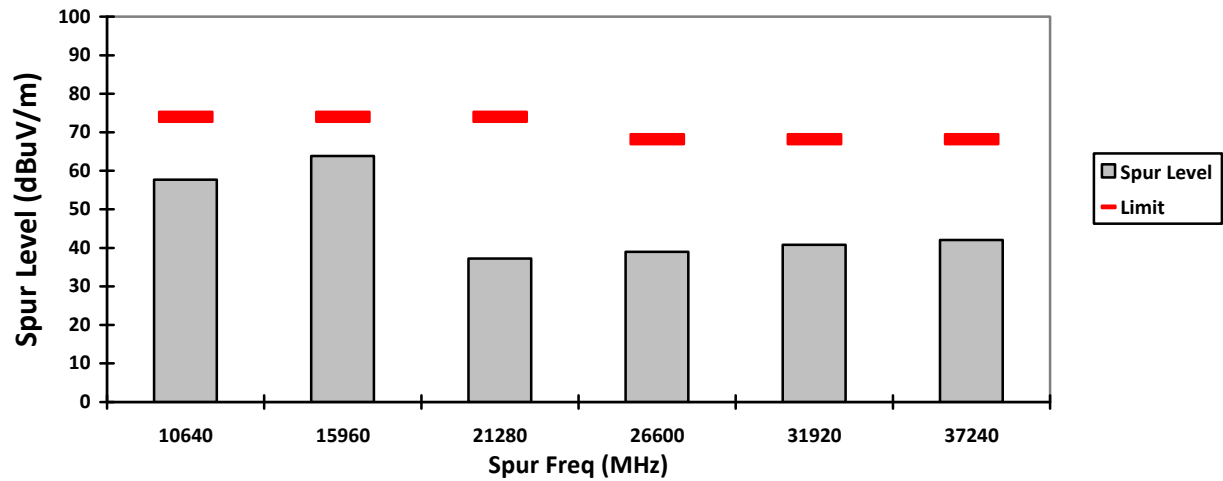
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

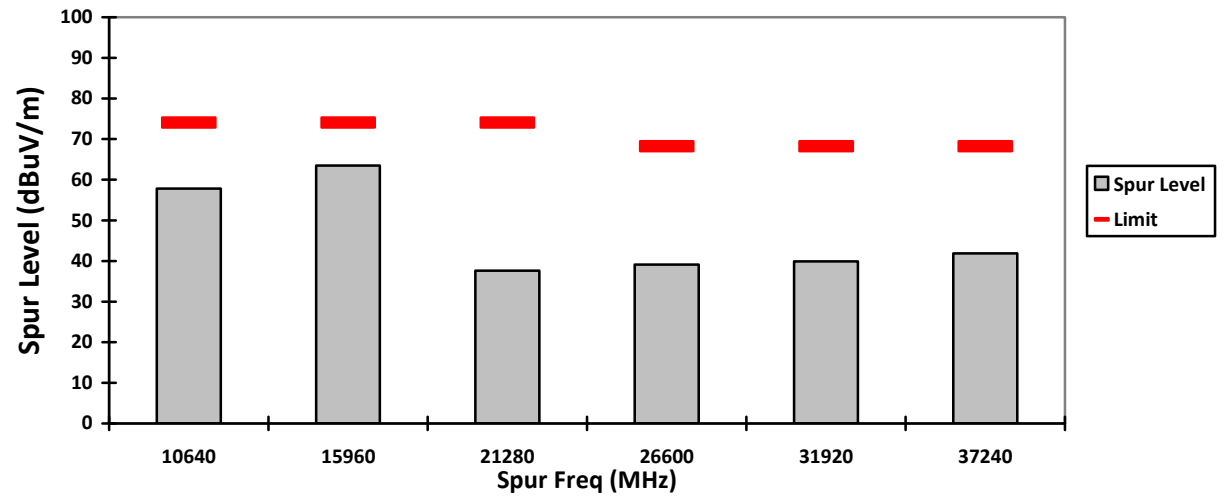
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

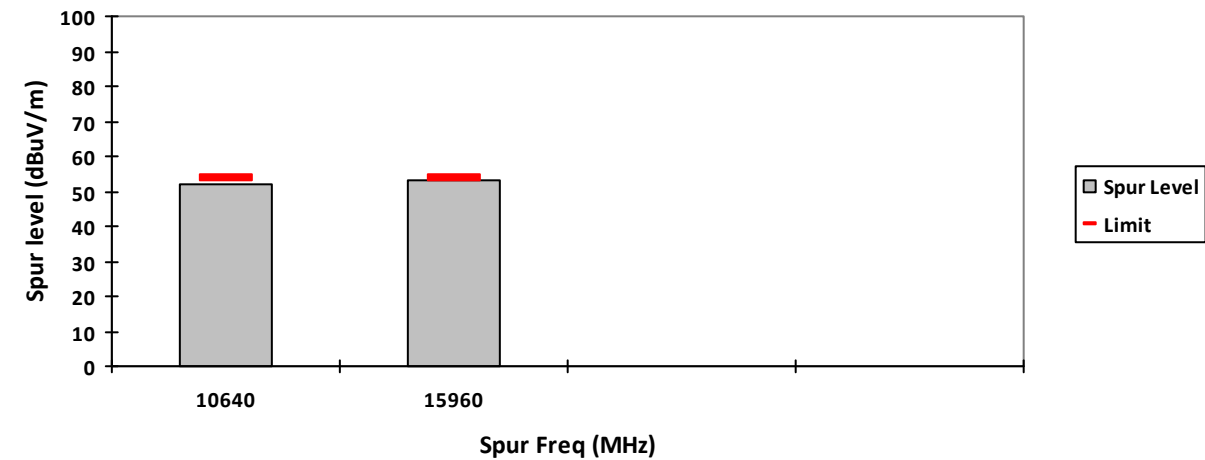
VERTICAL, PK



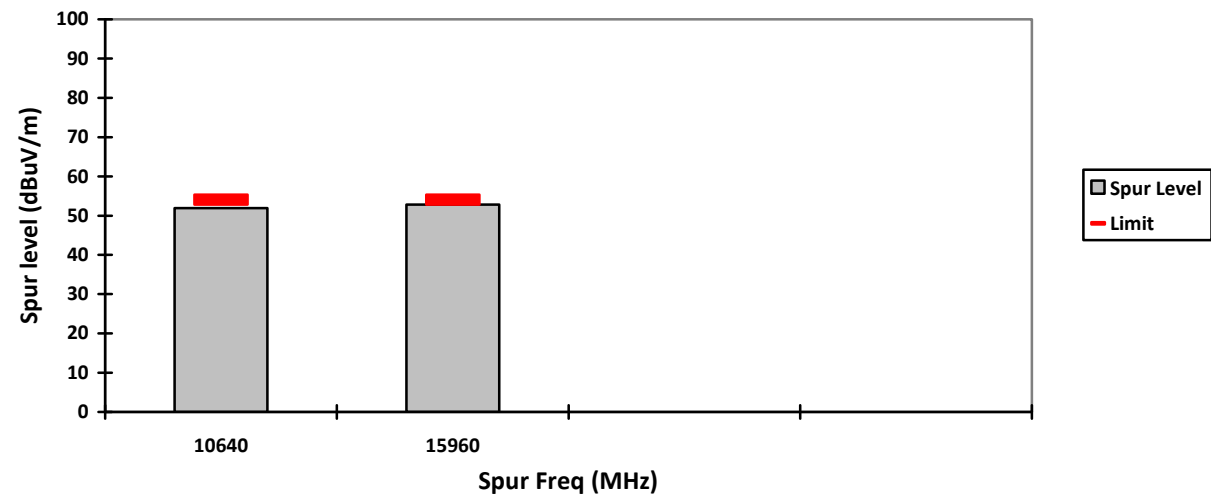
HORIZONTAL, PK



VERTICAL, AV

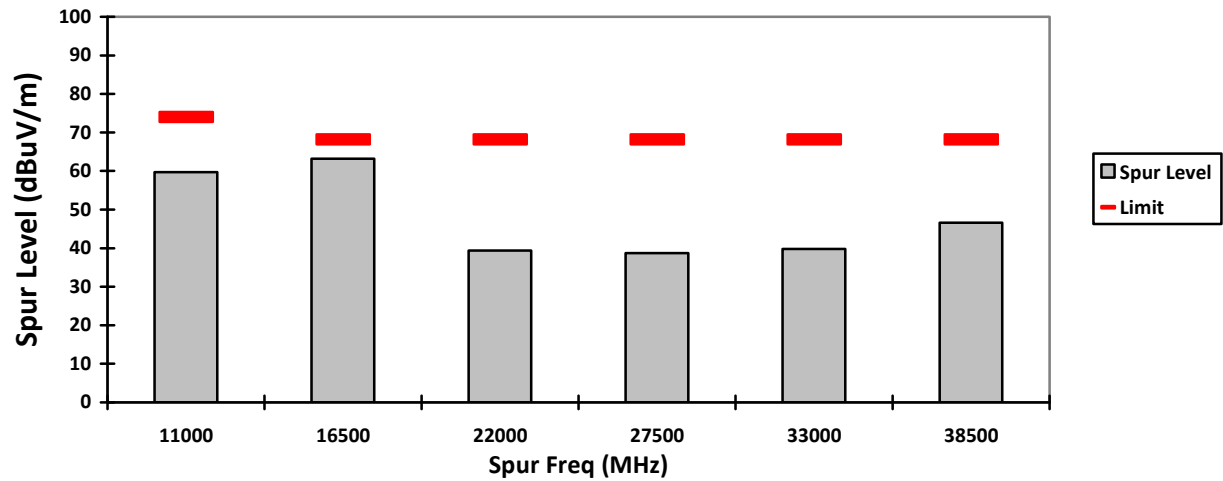


HORIZONTAL, AV

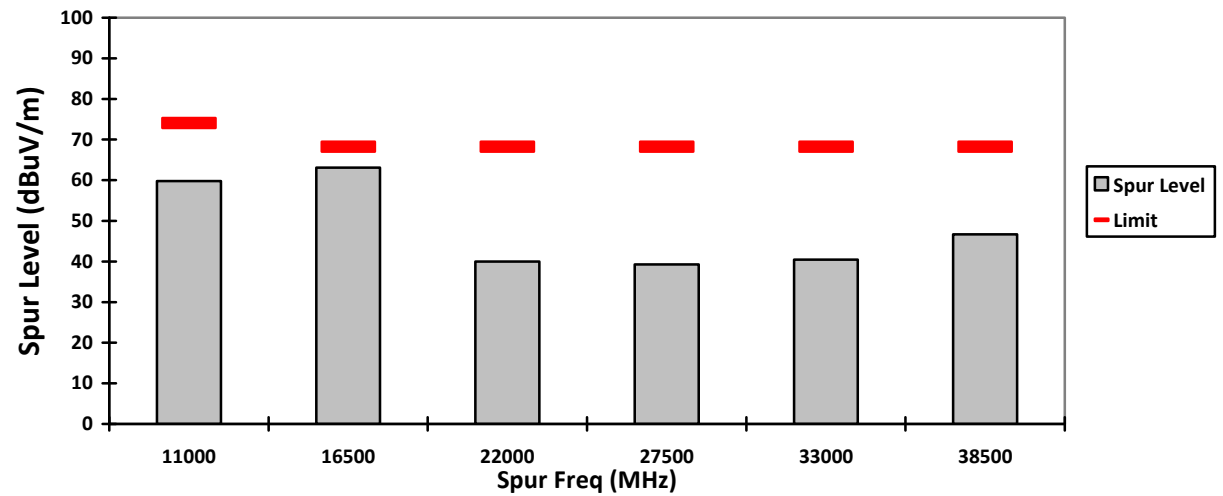




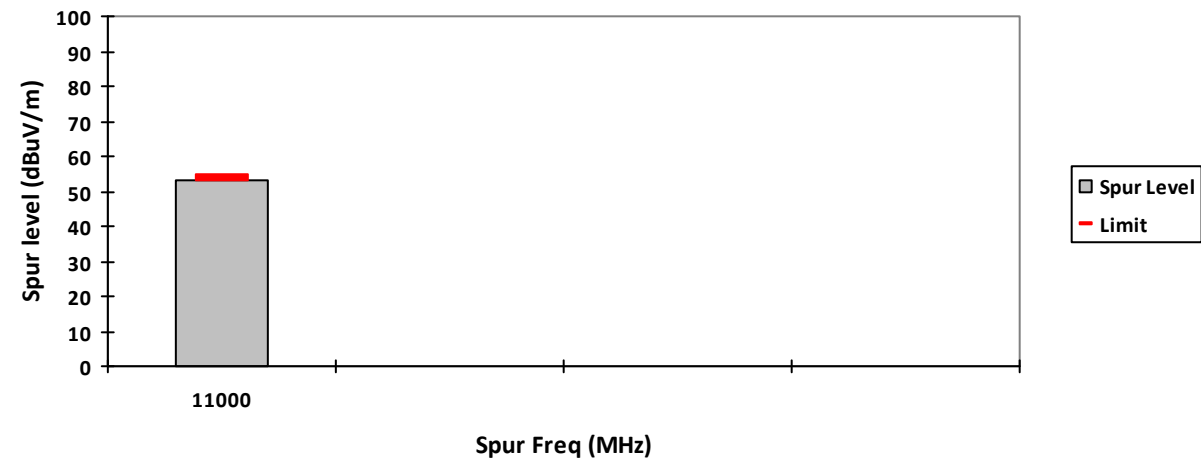
VERTICAL, PK



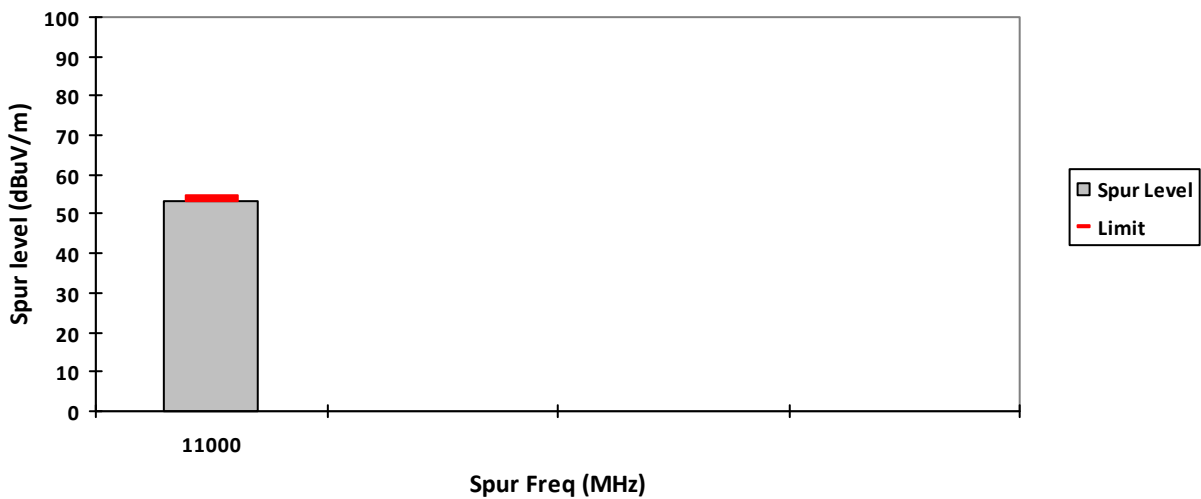
HORIZONTAL, PK



VERTICAL, AV

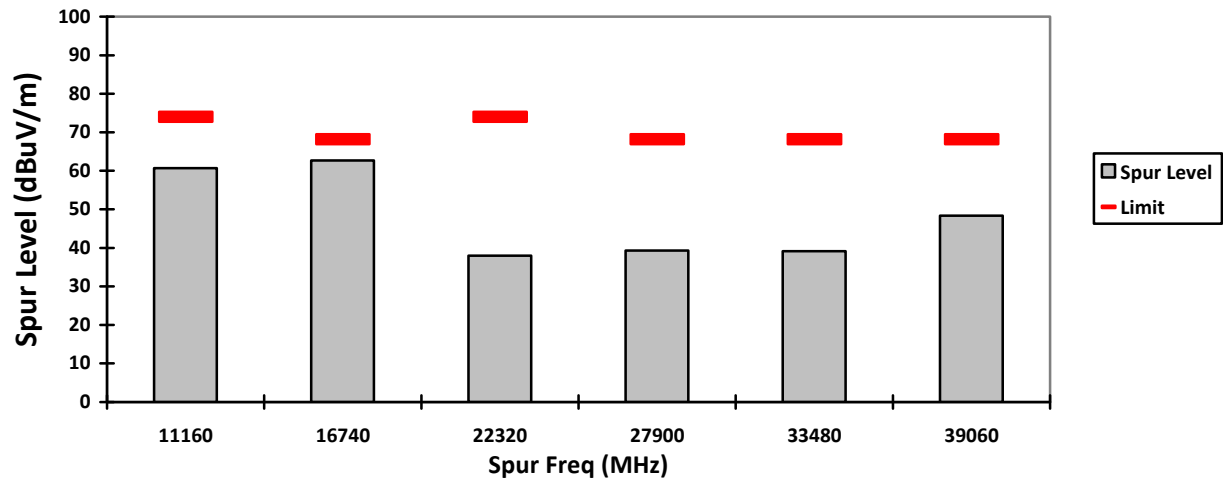


HORIZONTAL, AV

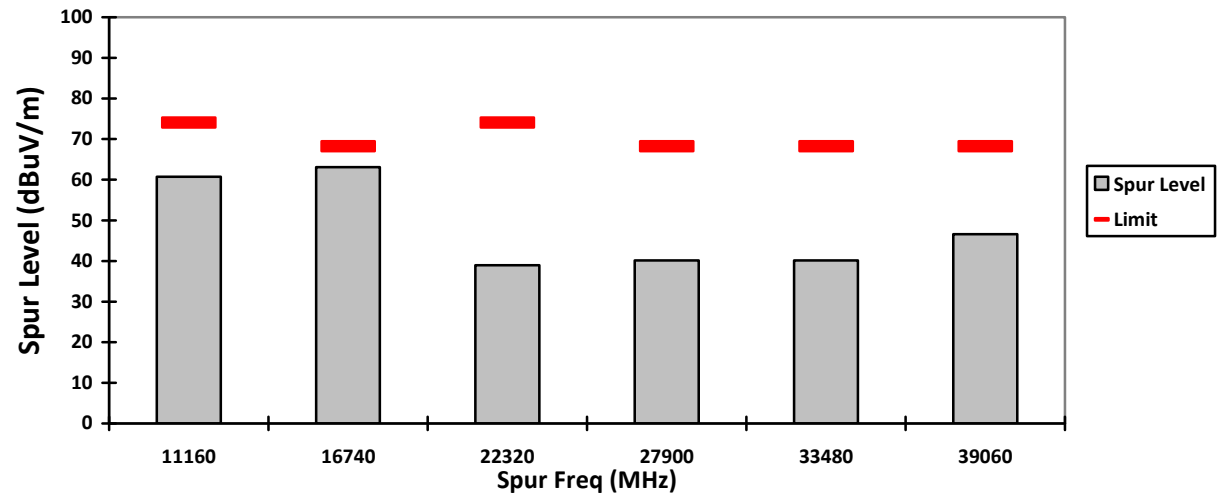




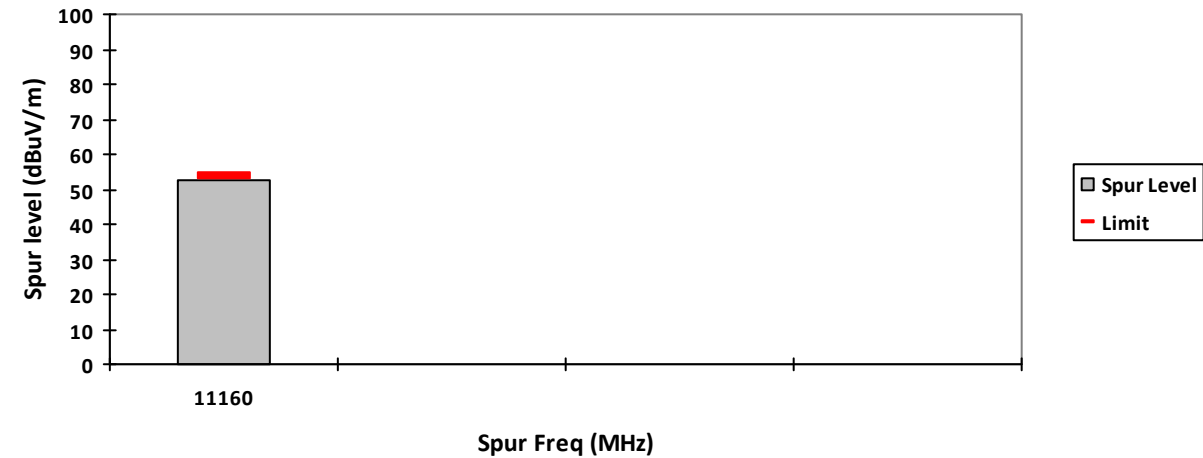
VERTICAL, PK



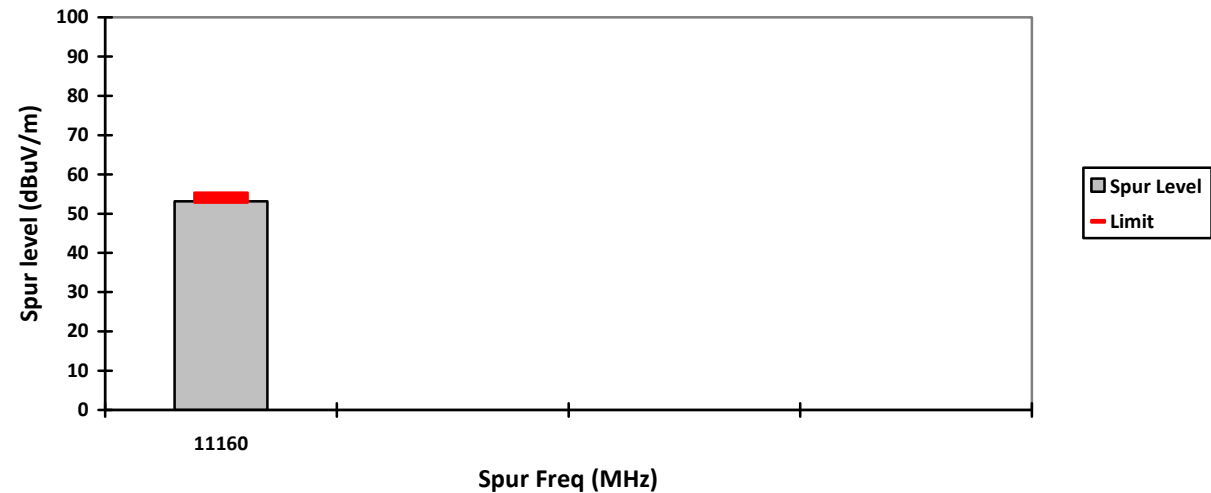
HORIZONTAL, PK



VERTICAL, AV

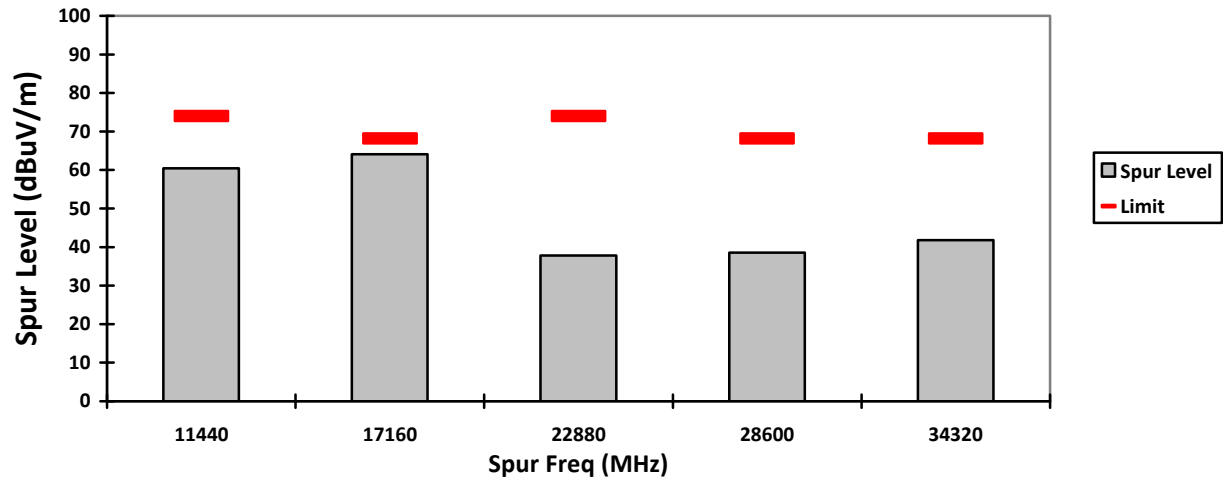


HORIZONTAL, AV

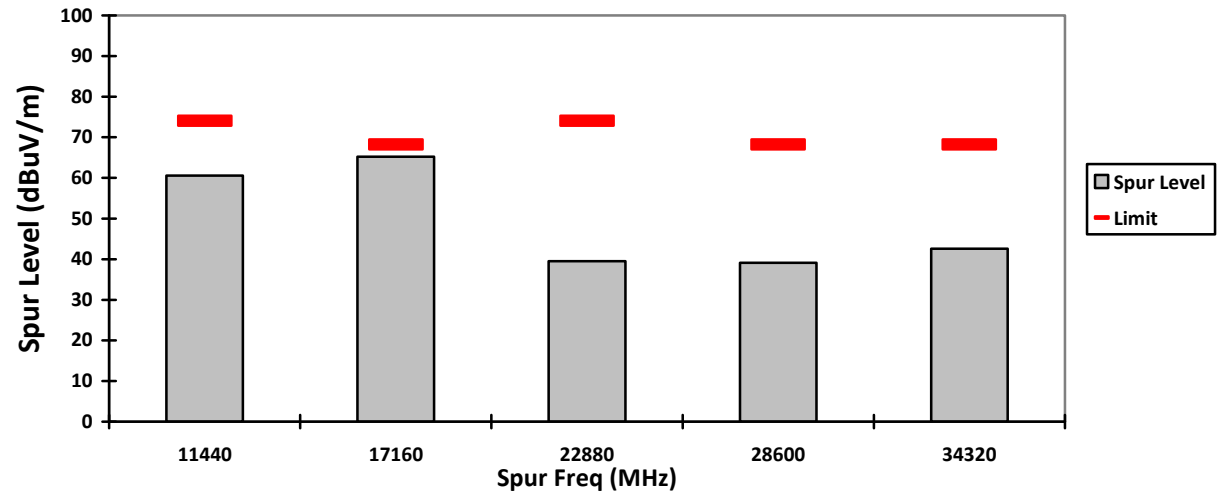




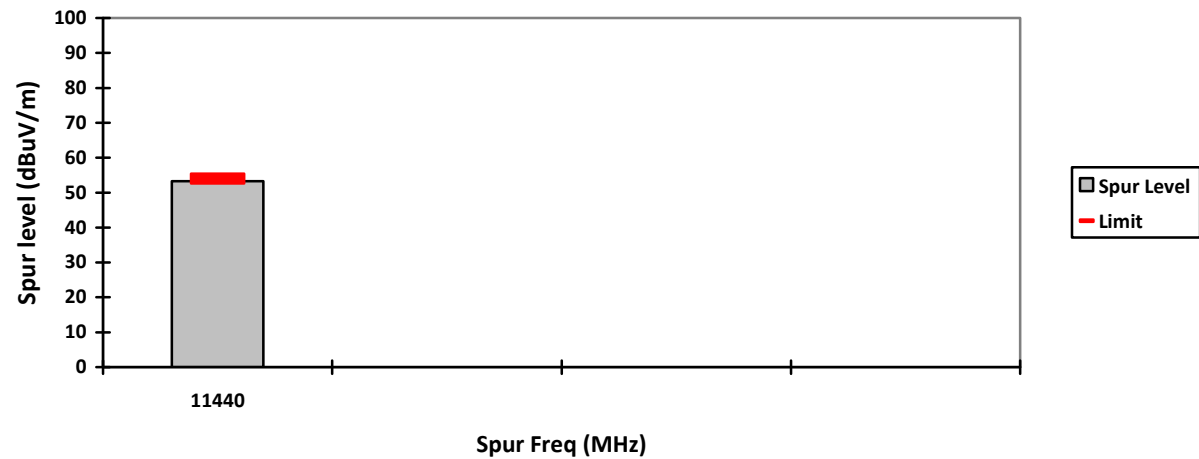
VERTICAL, PK



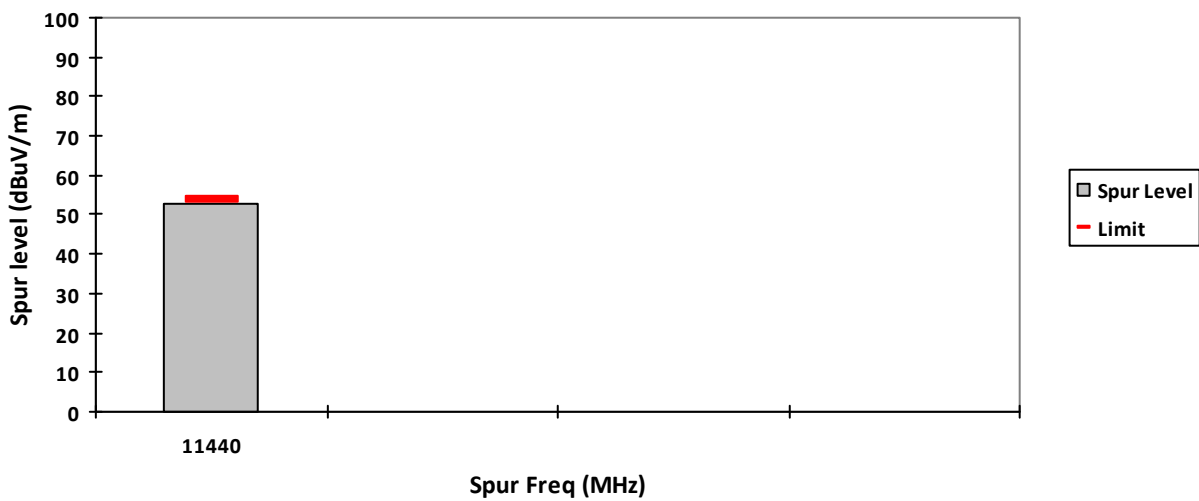
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5745.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20                        | Softpot power (15)            |

### Radiated Emission (Low Channel) tabular data

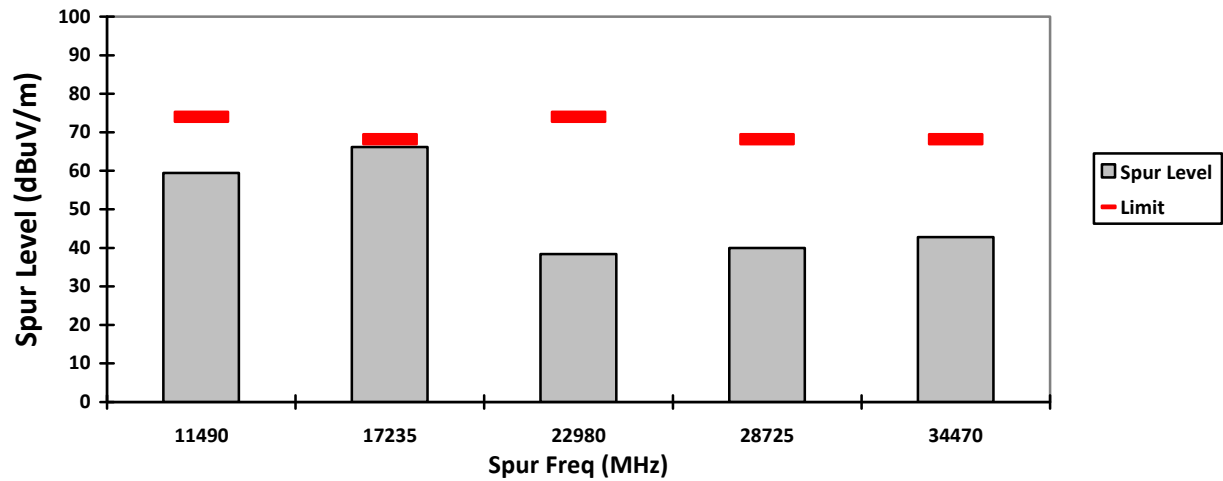
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

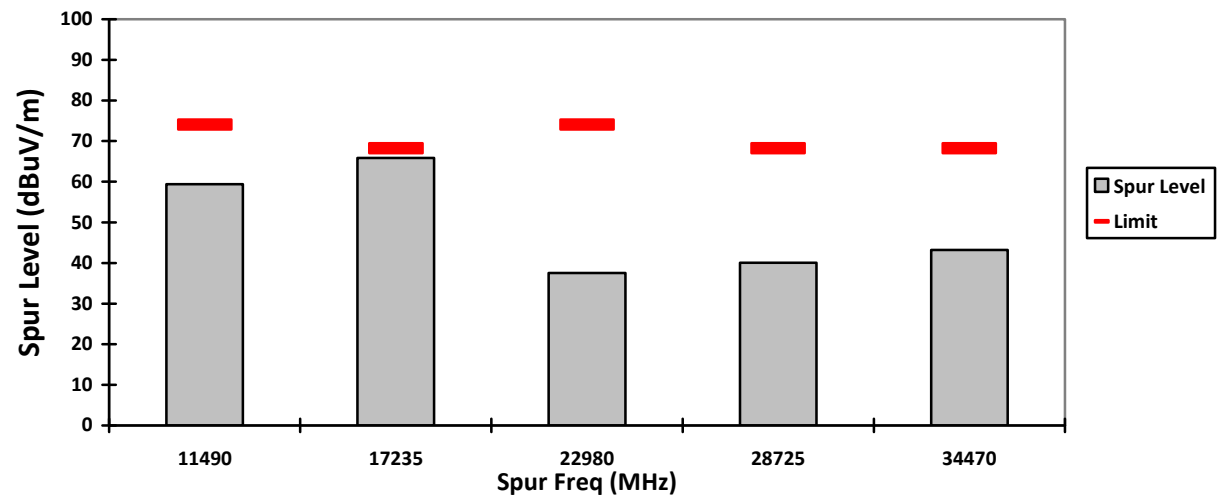
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

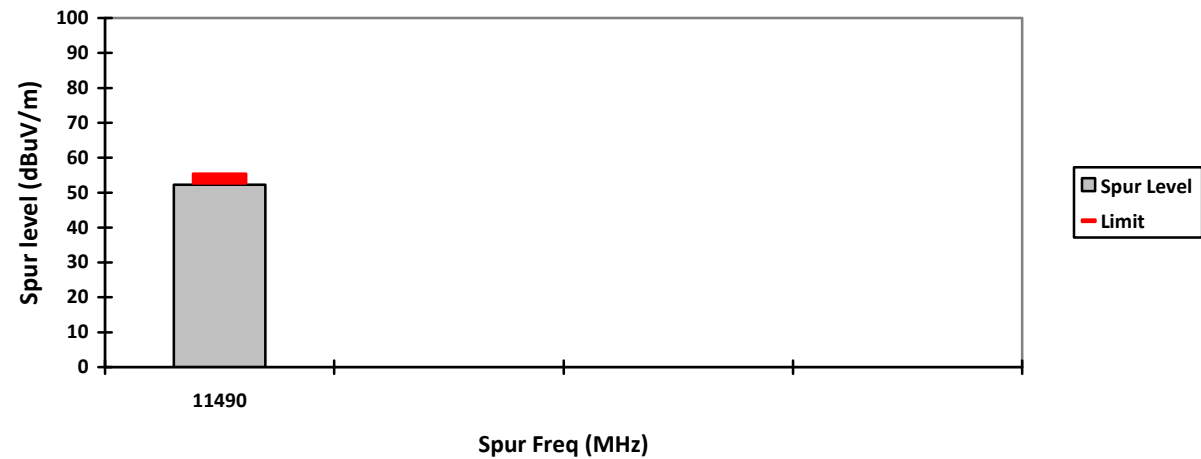
VERTICAL, PK



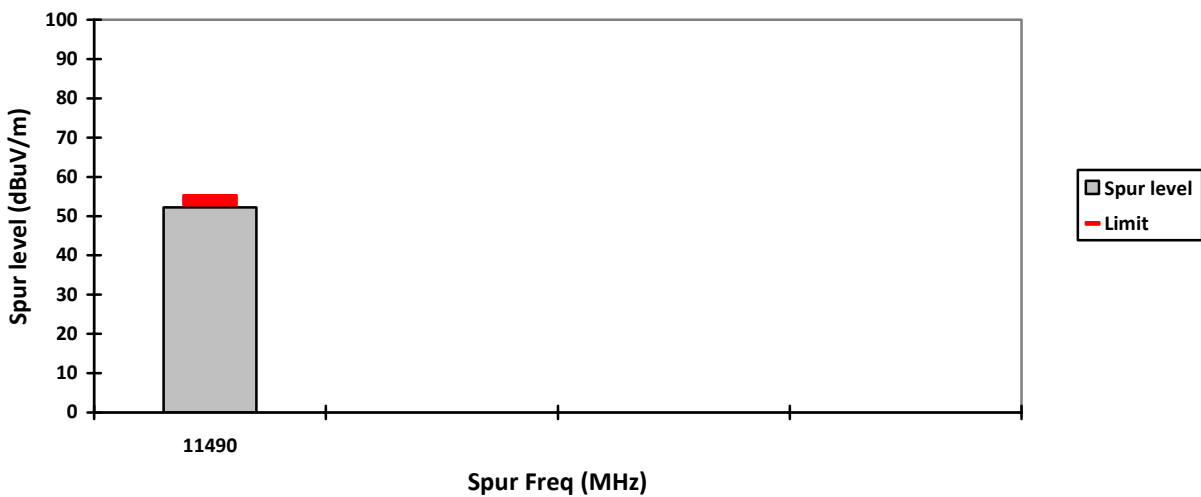
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Mid                            | Test Frequency: 5785.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11a20                        | Softpot power (15)            |

## Radiated Emission (Mid Channel) tabular data

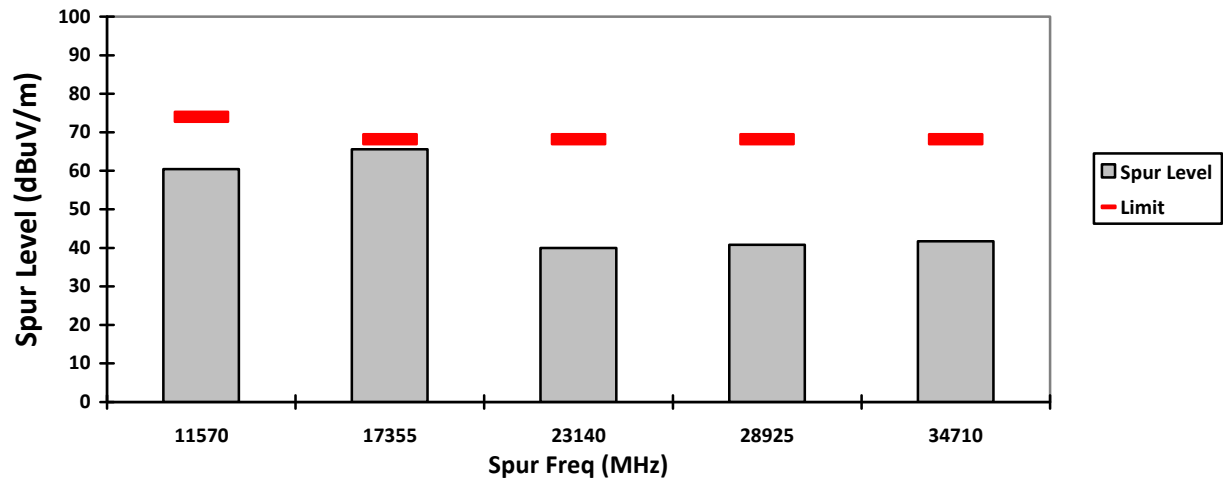
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

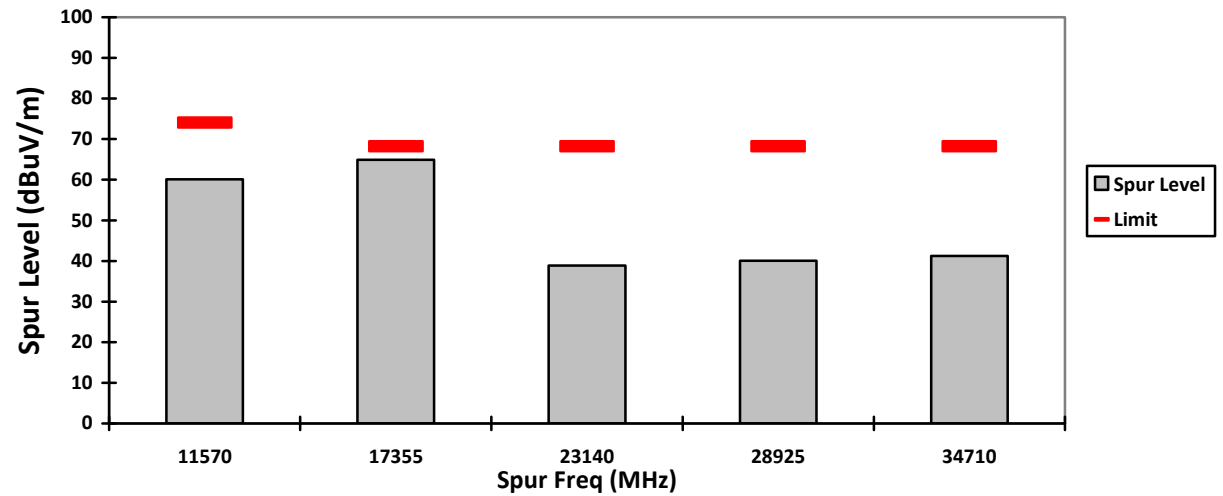
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

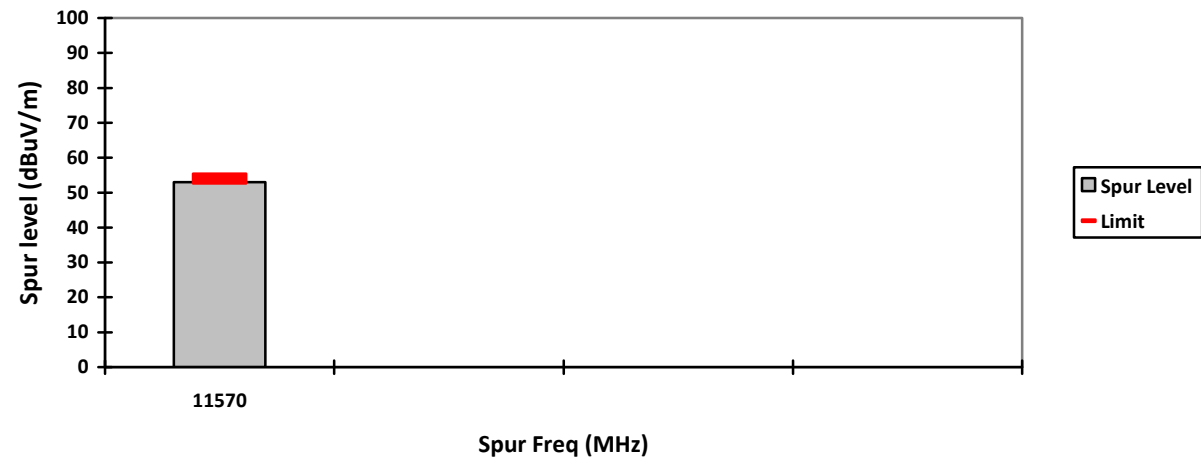
VERTICAL, PK



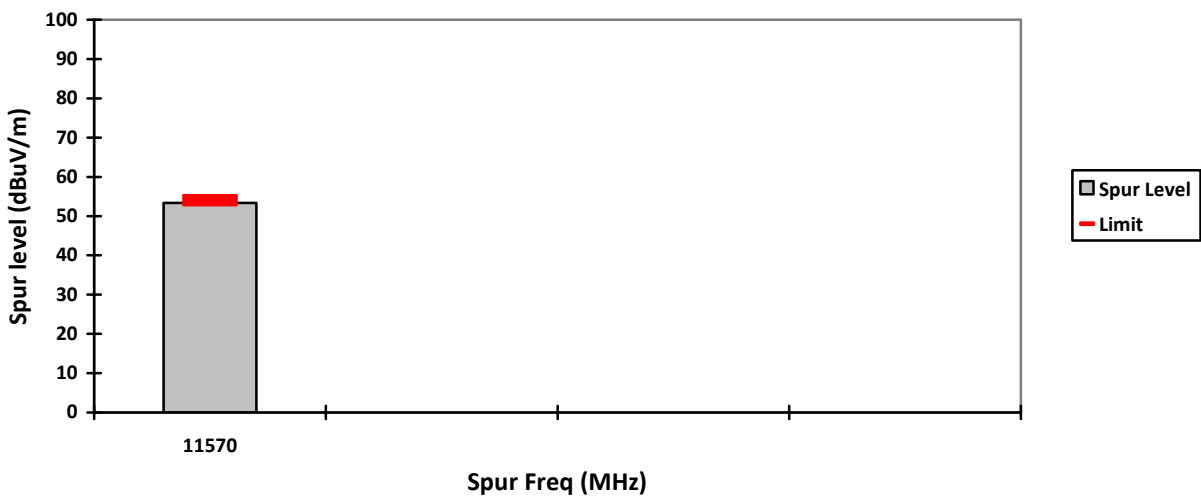
HORIZONTAL, PK



VERTICAL, AV

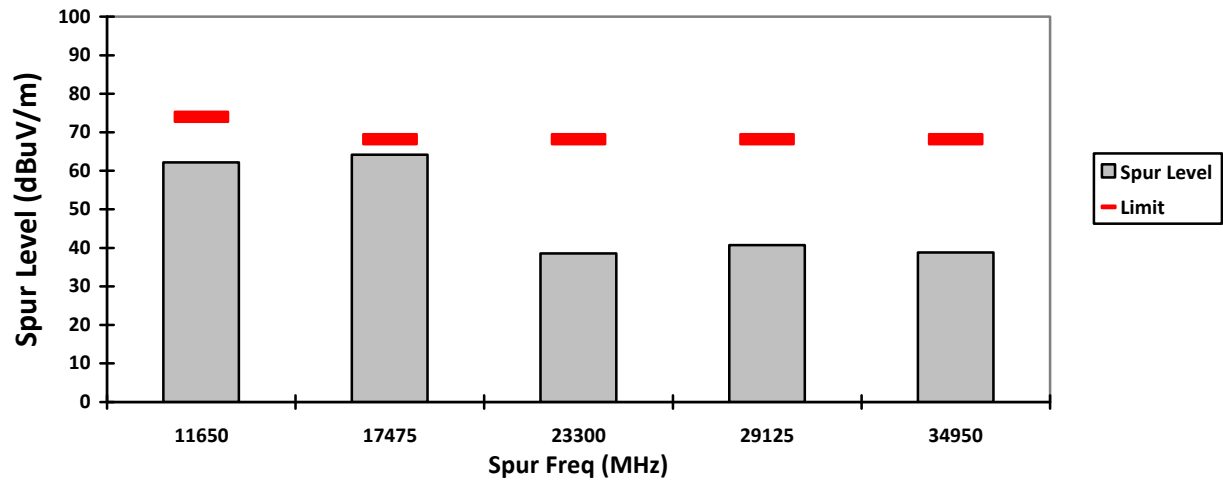


HORIZONTAL, AV

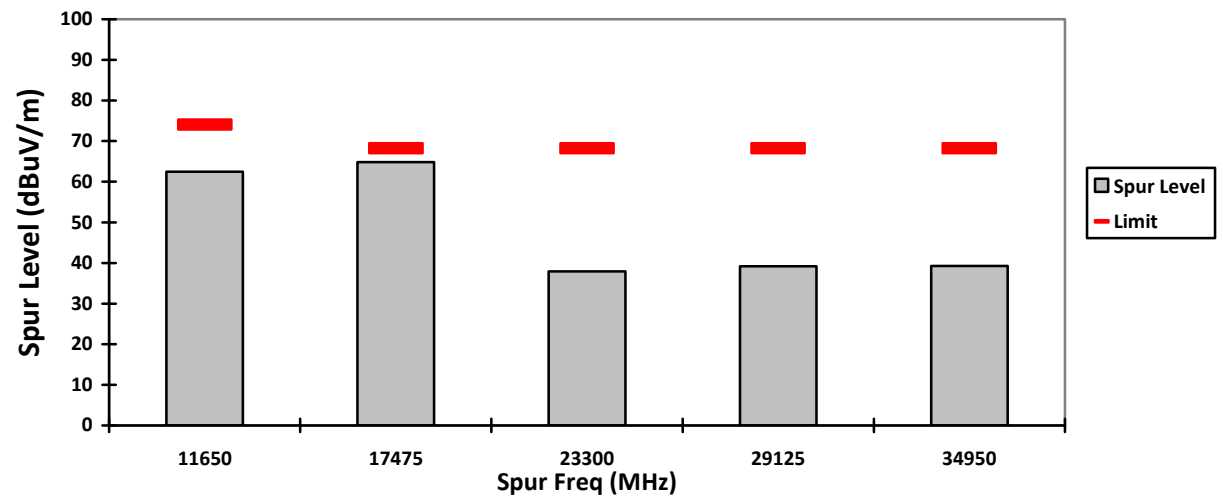




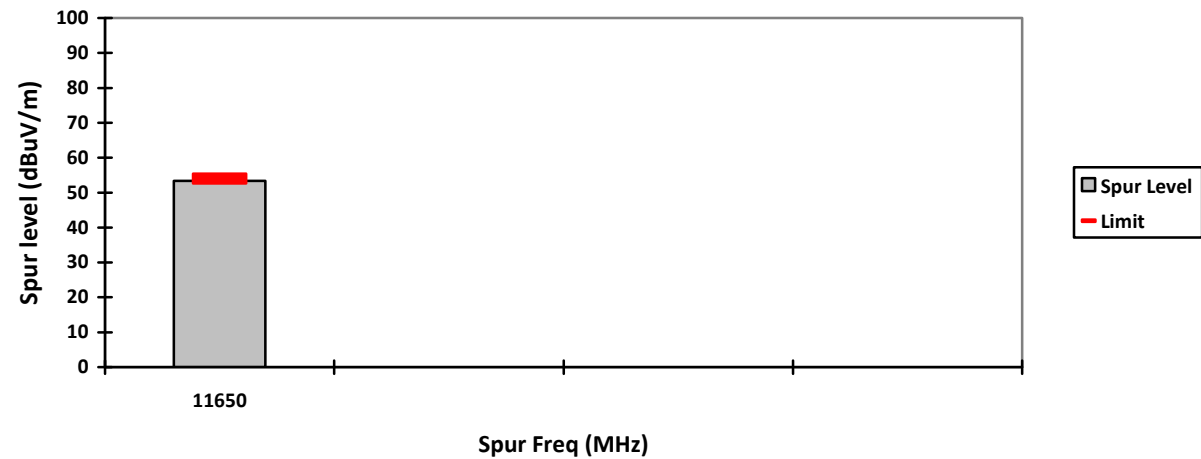
VERTICAL, PK



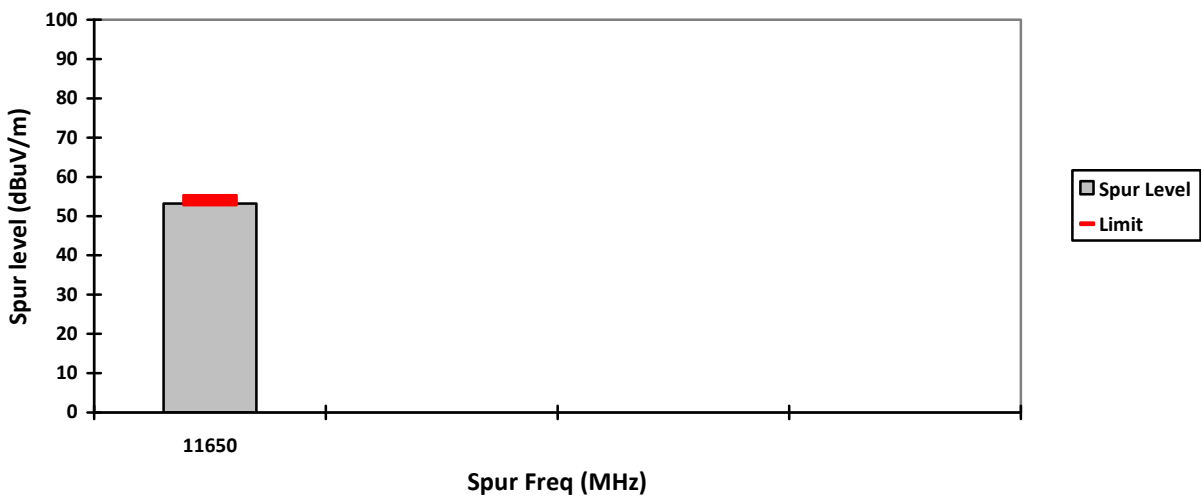
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5180.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20                        | Softpot power (11)            |

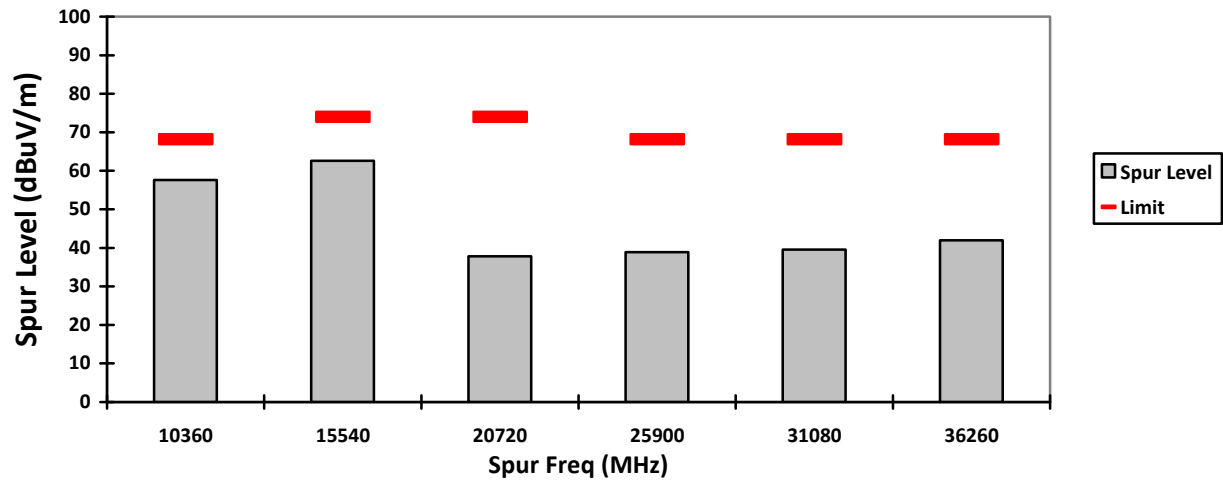
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

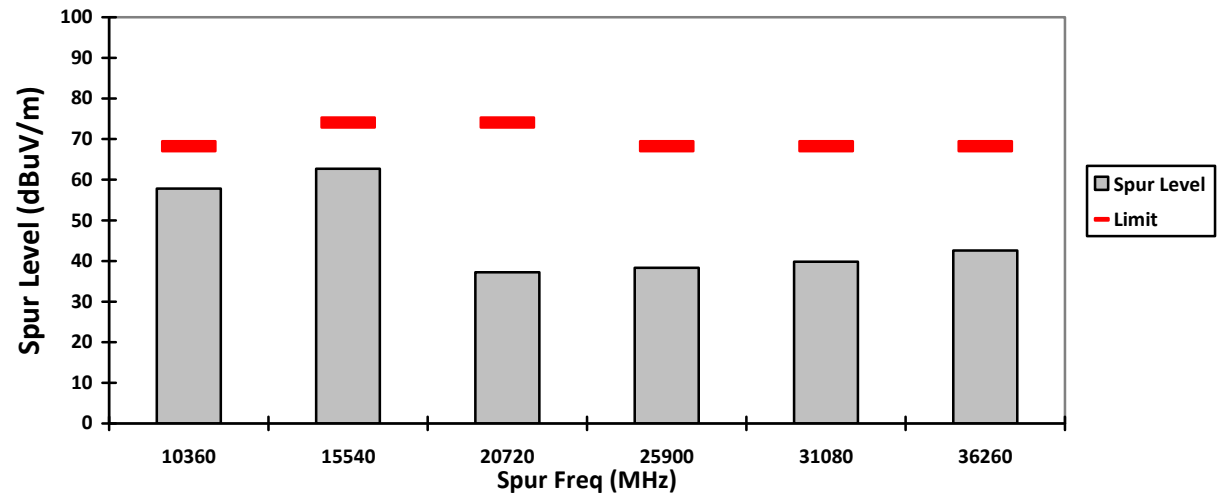
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

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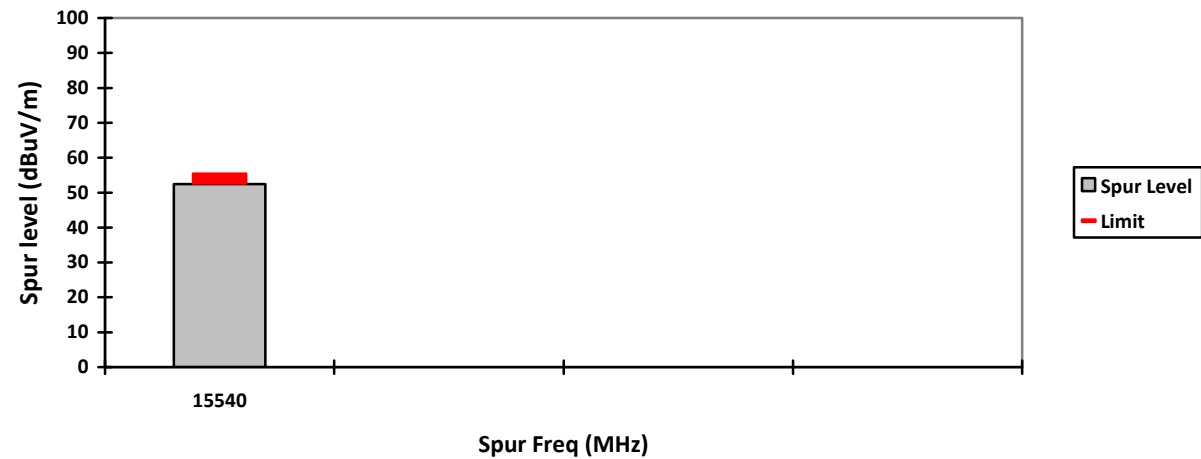
VERTICAL, PK



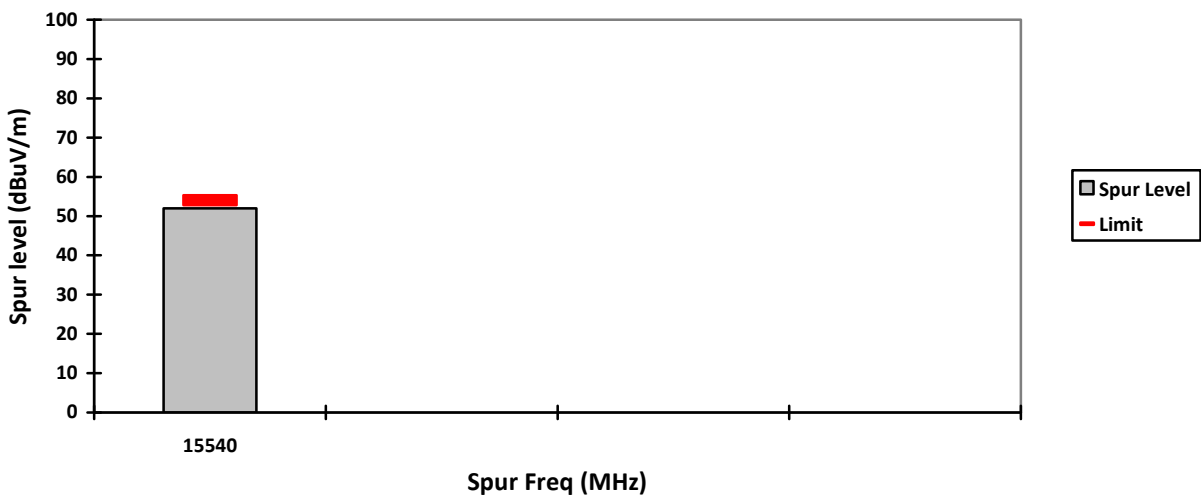
HORIZONTAL, PK



VERTICAL, AV

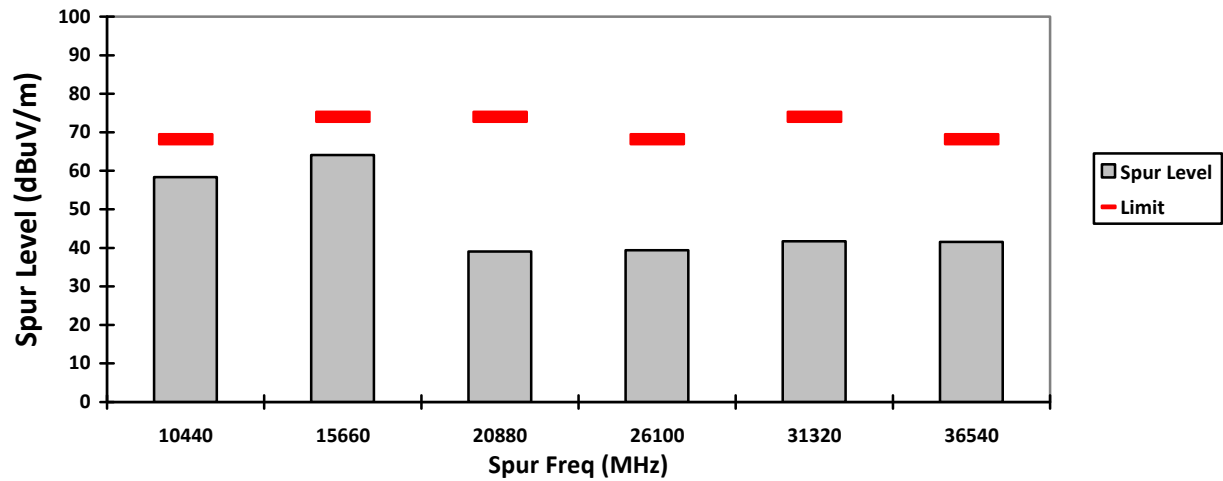


HORIZONTAL, AV

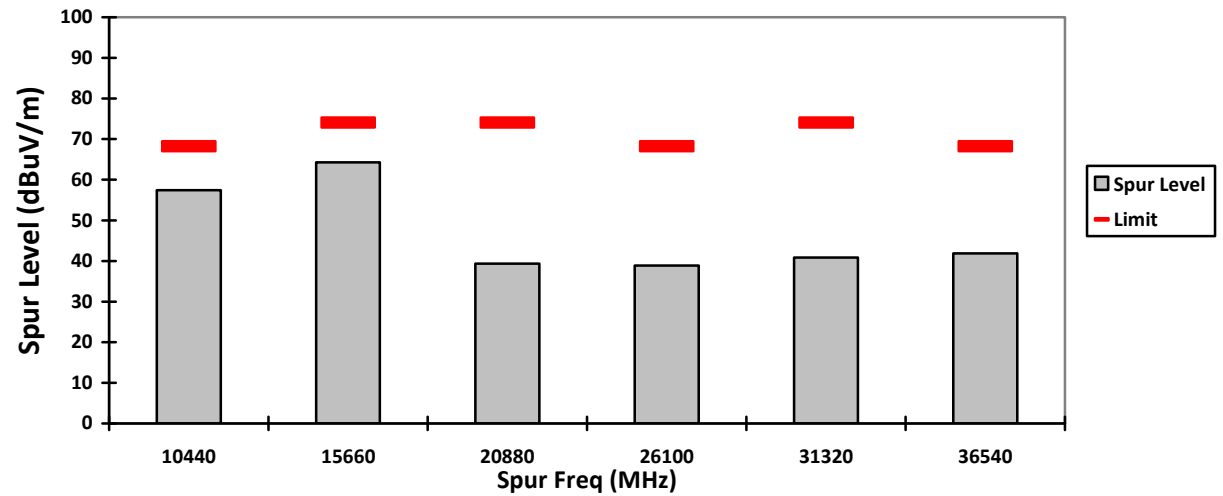




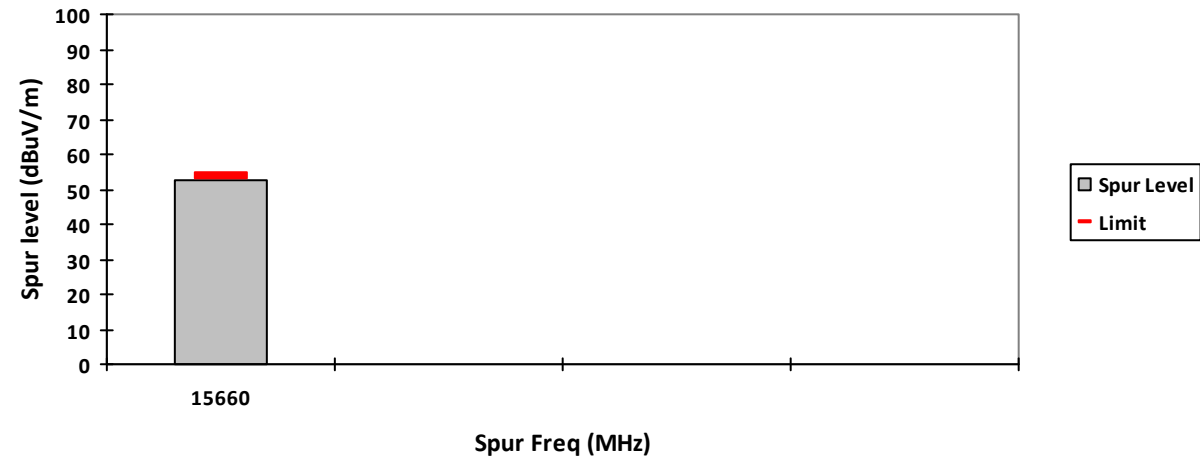
VERTICAL, PK



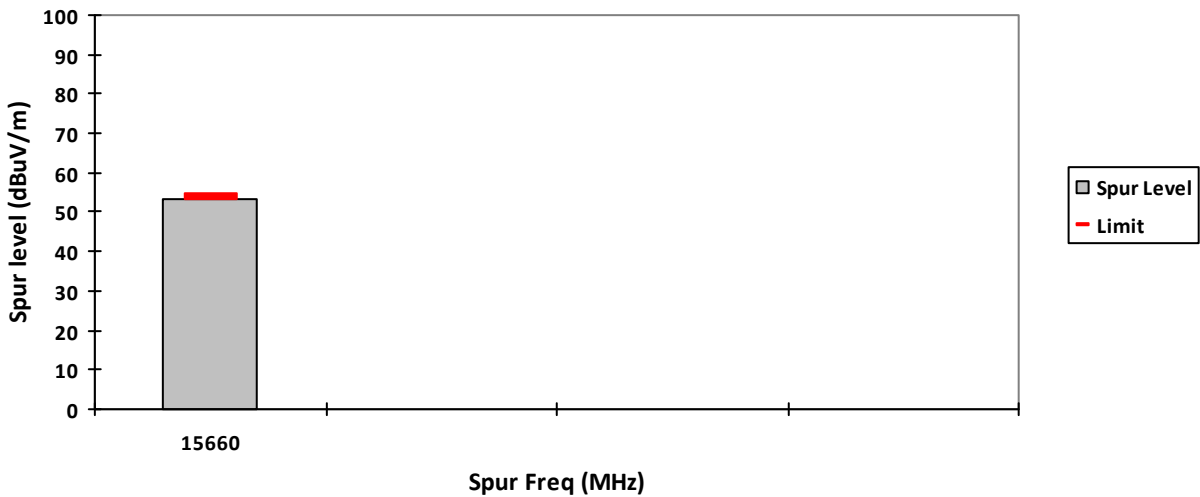
HORIZONTAL, PK



VERTICAL, AV

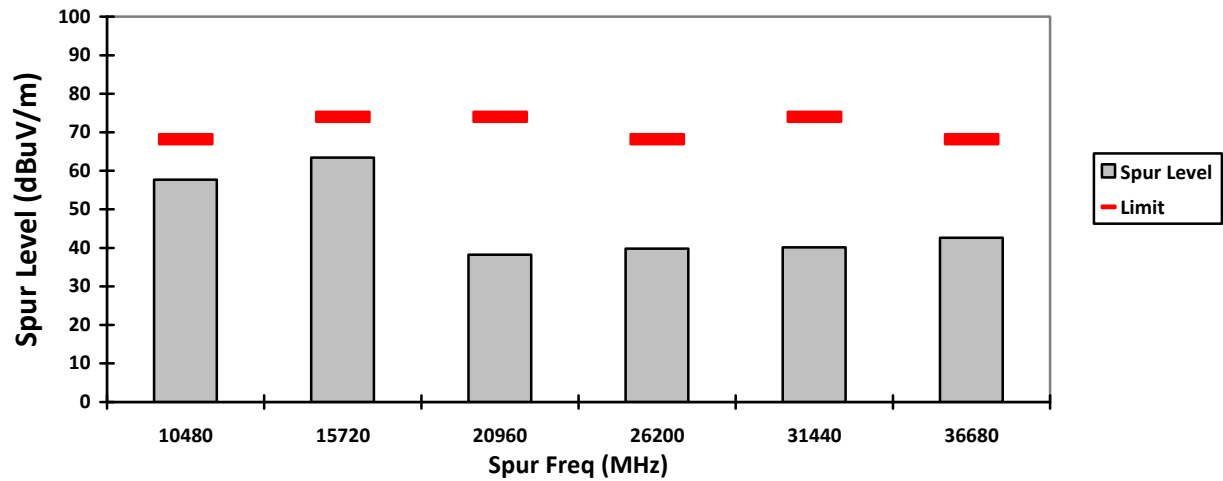


HORIZONTAL, AV

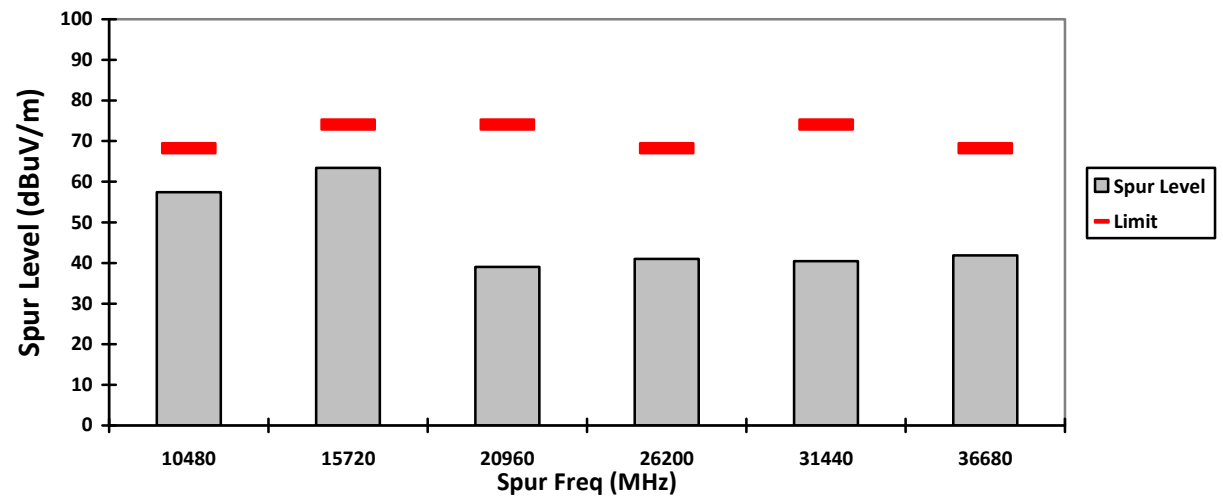




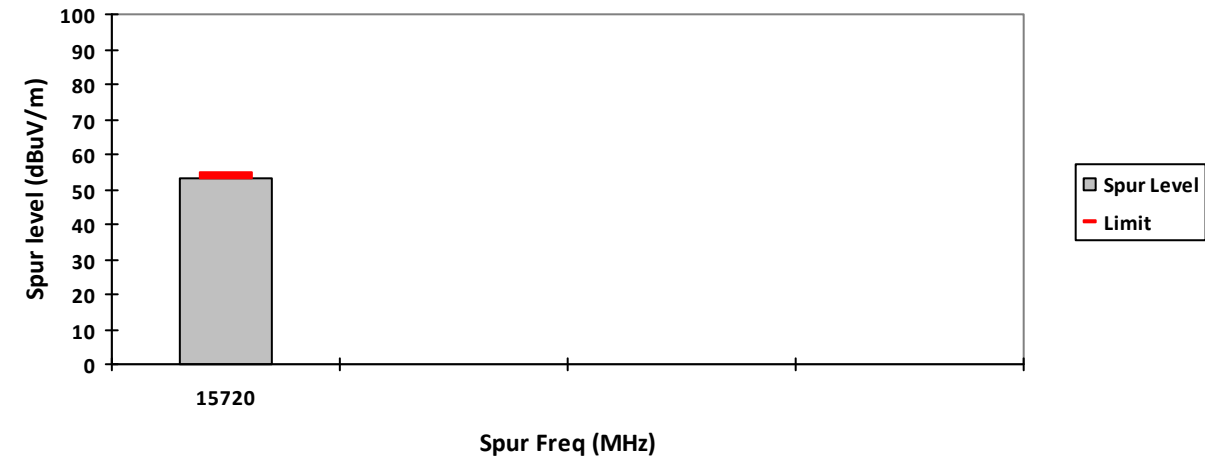
VERTICAL, PK



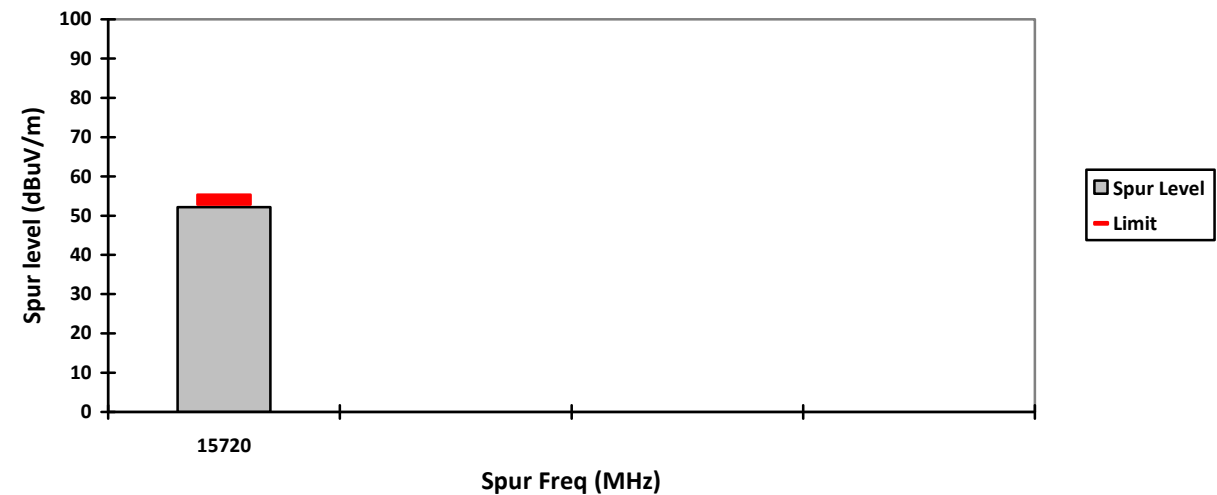
HORIZONTAL, PK



VERTICAL, AV

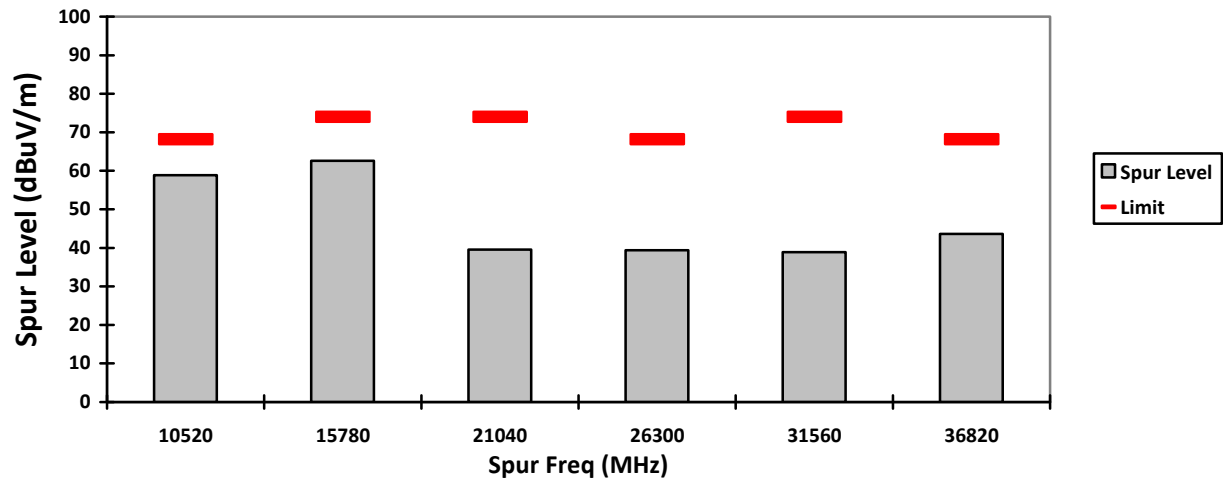


HORIZONTAL, AV

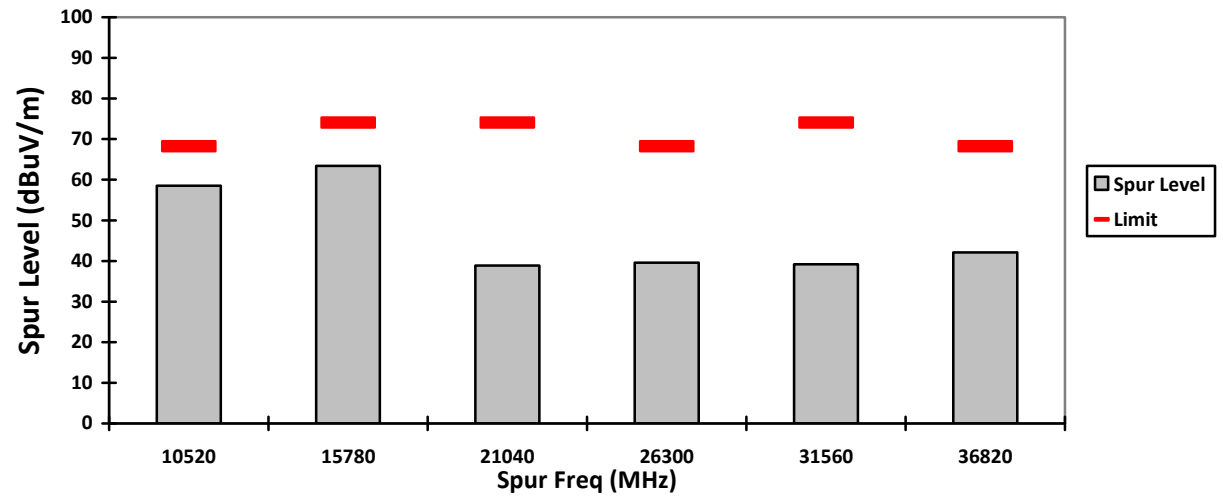




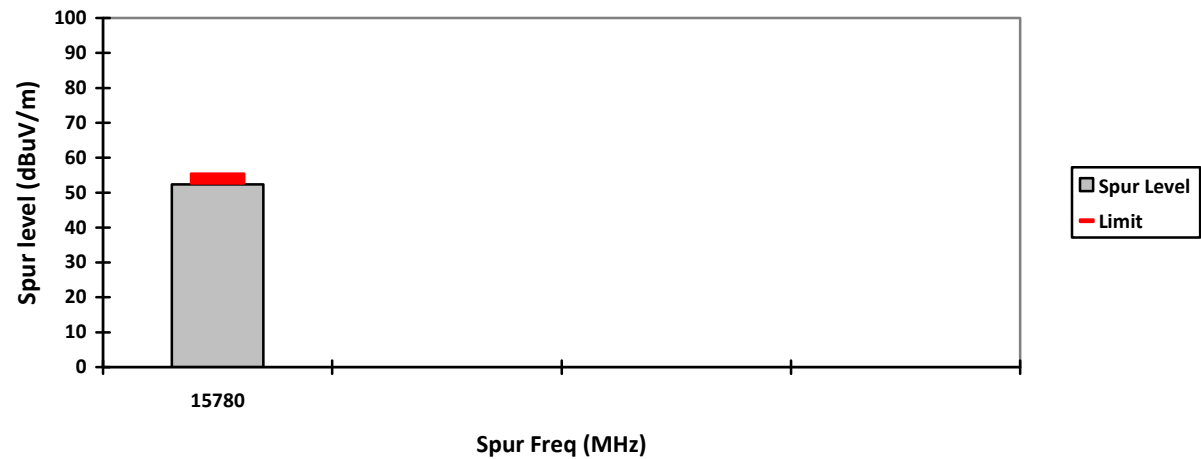
VERTICAL, PK



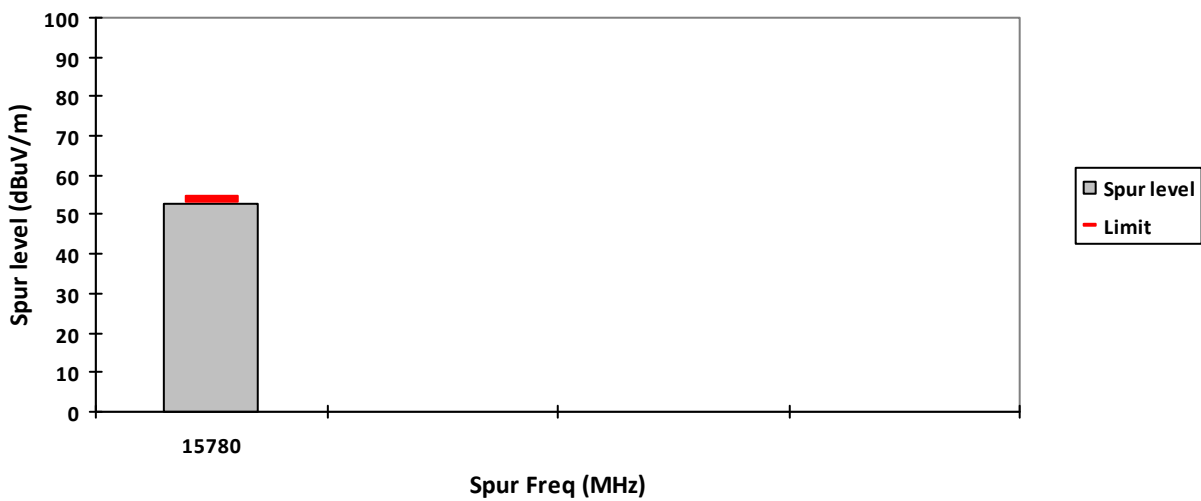
HORIZONTAL, PK



VERTICAL, AV

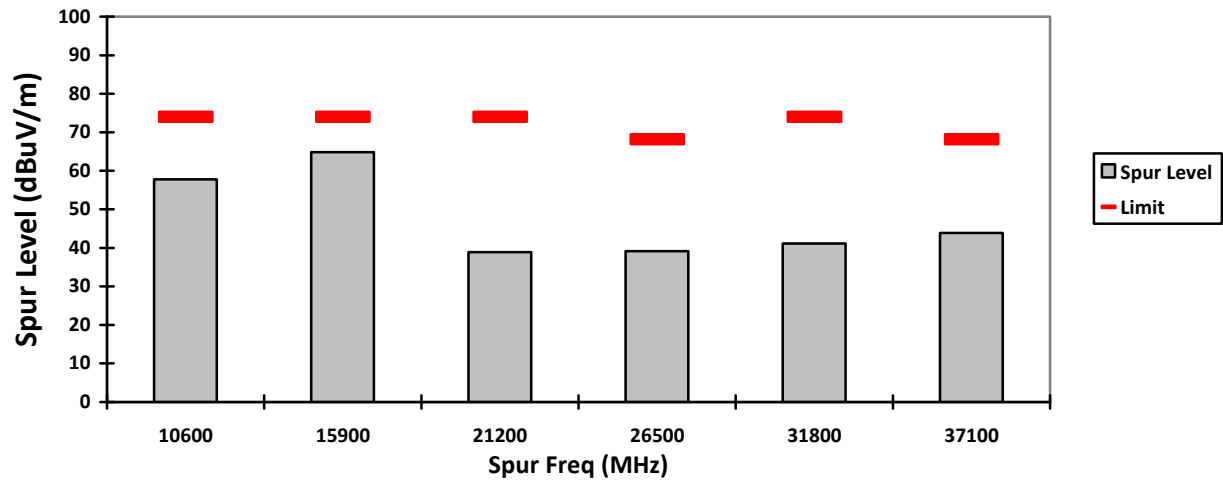


HORIZONTAL, AV

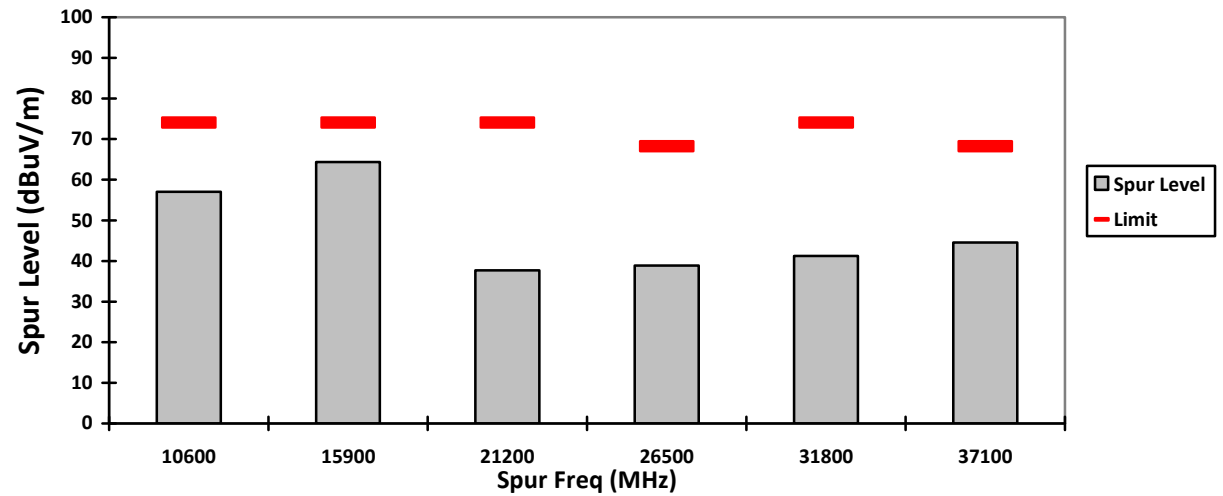




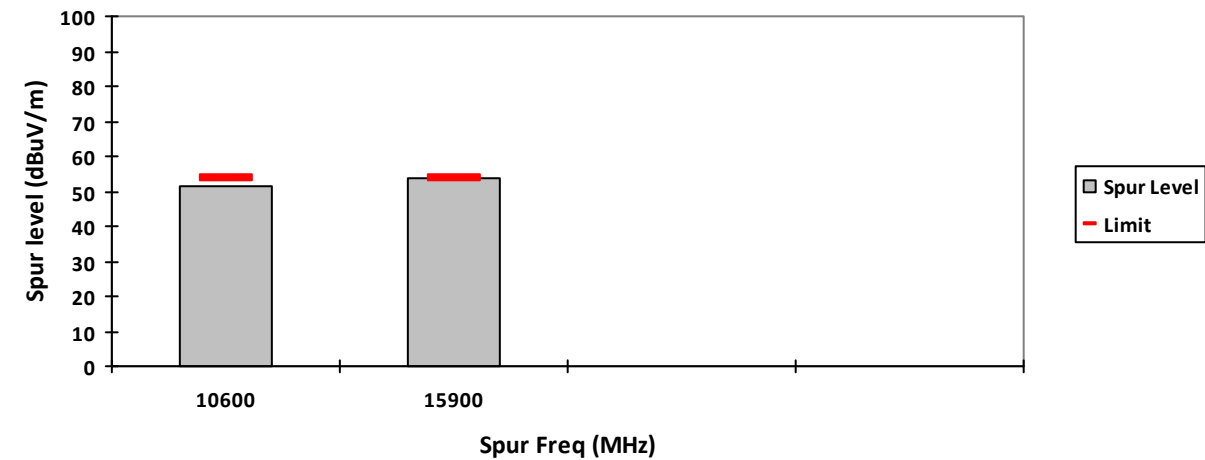
VERTICAL, PK



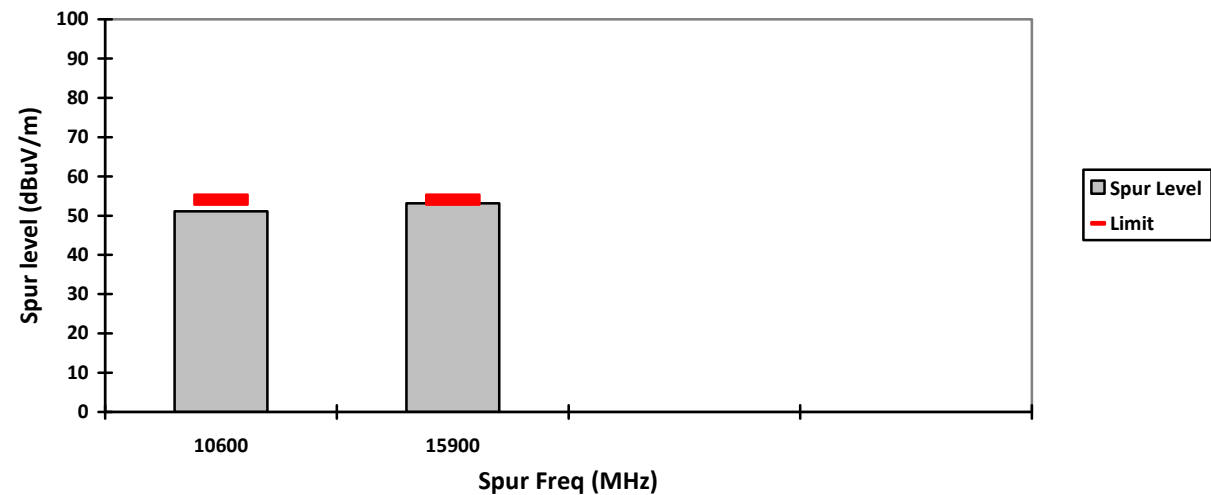
HORIZONTAL, PK



VERTICAL, AV

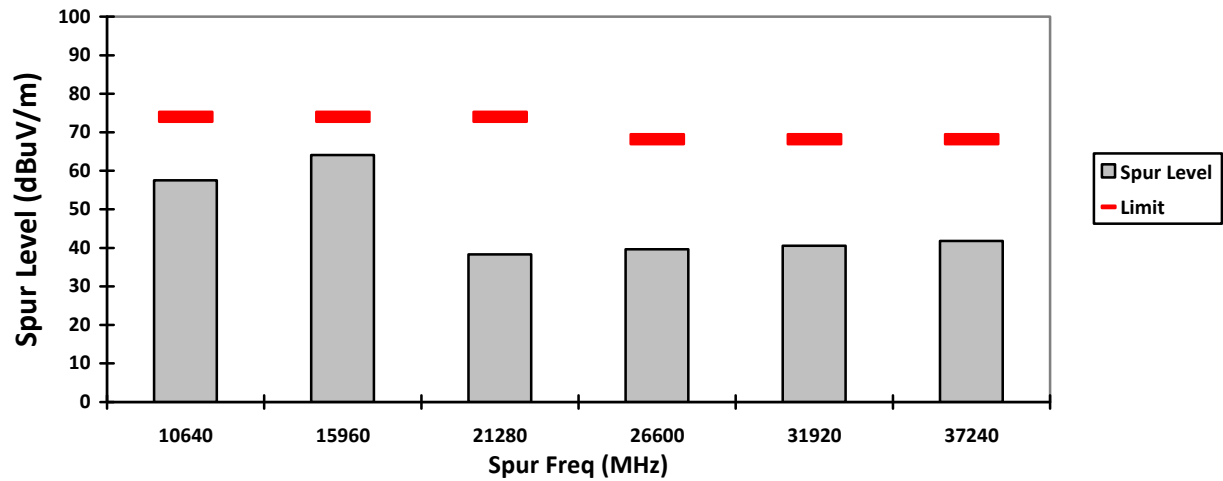


HORIZONTAL, AV

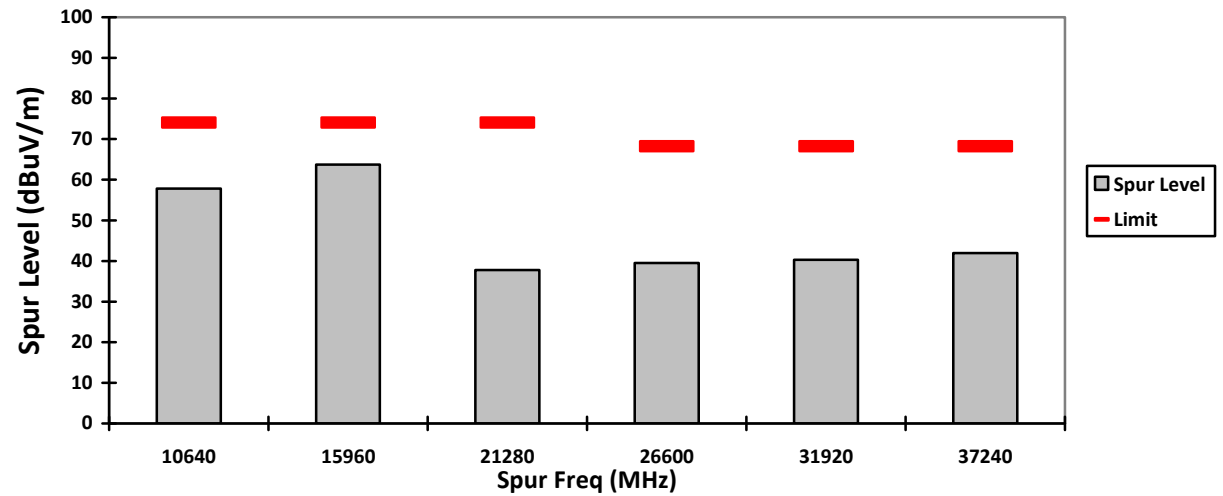




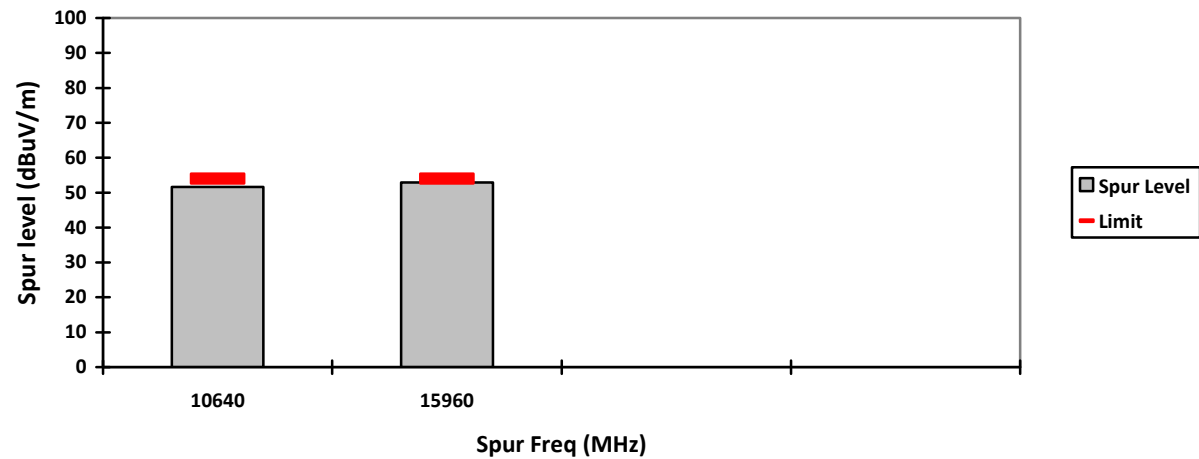
VERTICAL, PK



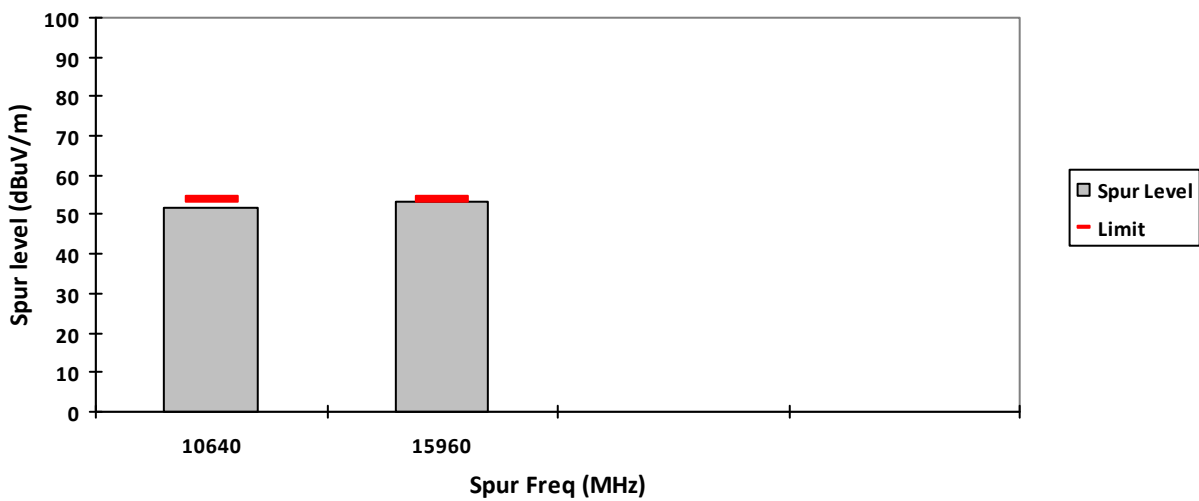
HORIZONTAL, PK



VERTICAL, AV

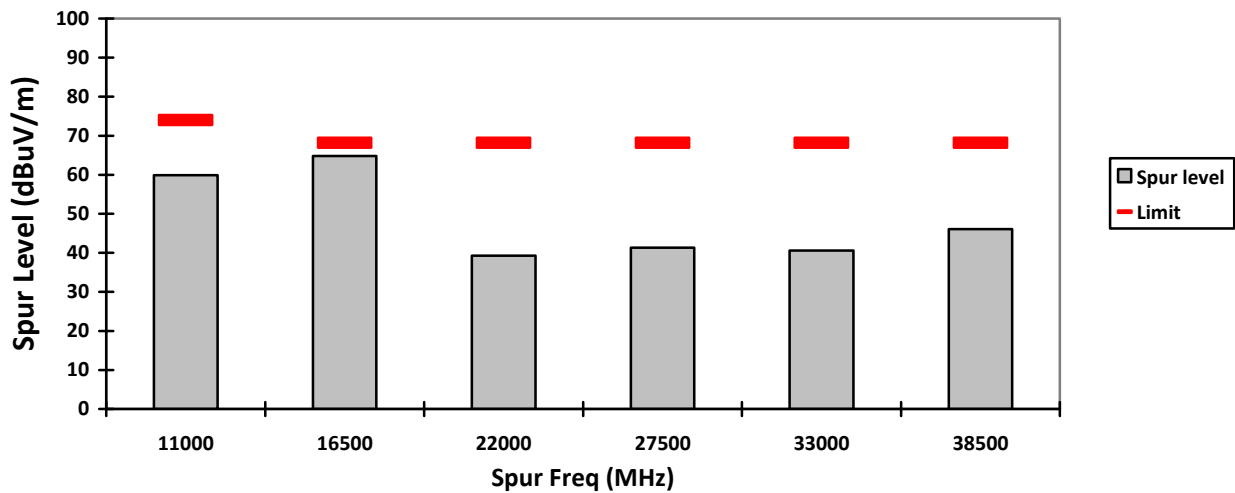


HORIZONTAL, AV

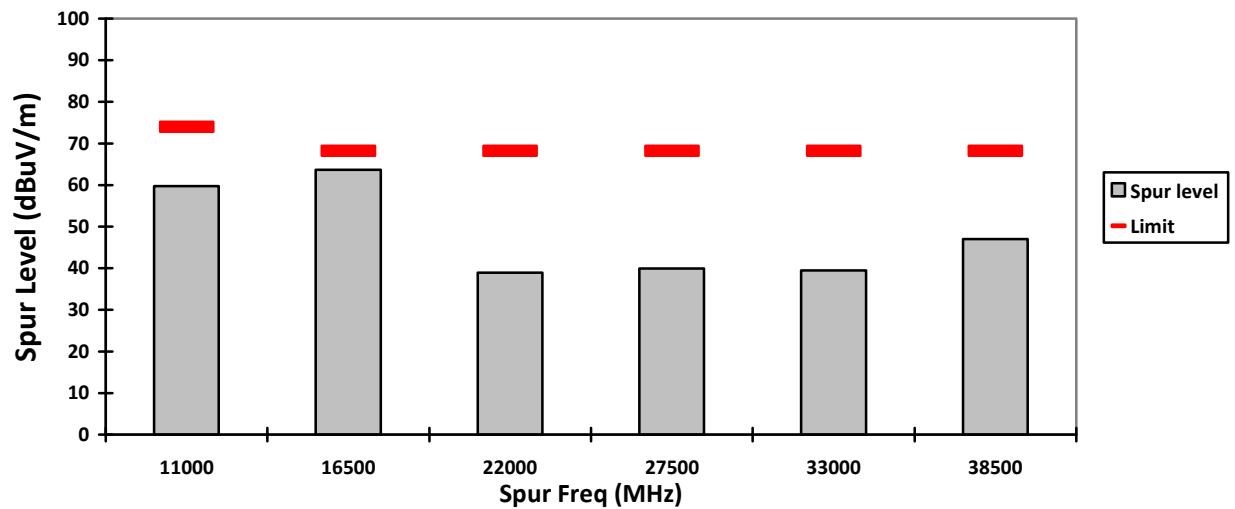




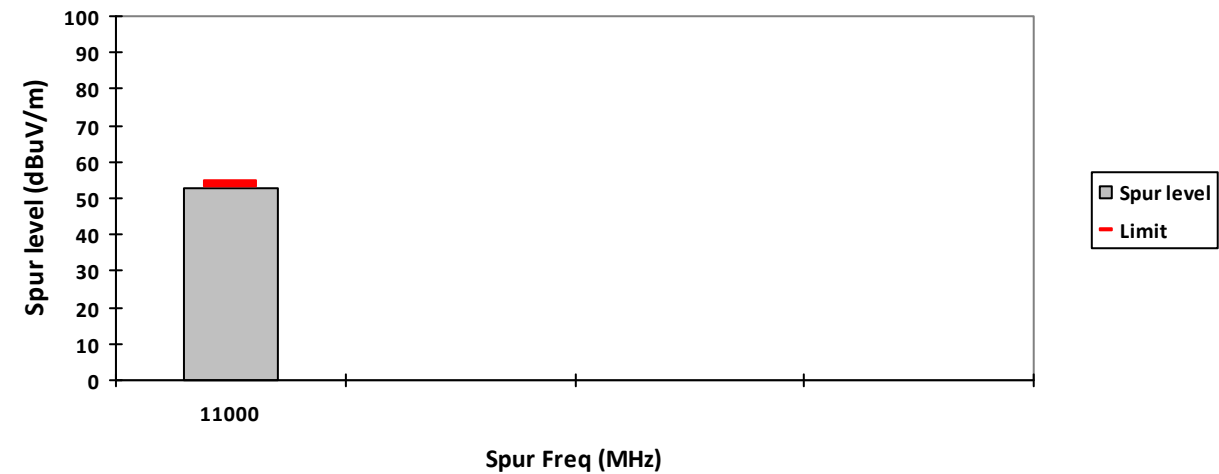
VERTICAL, PK



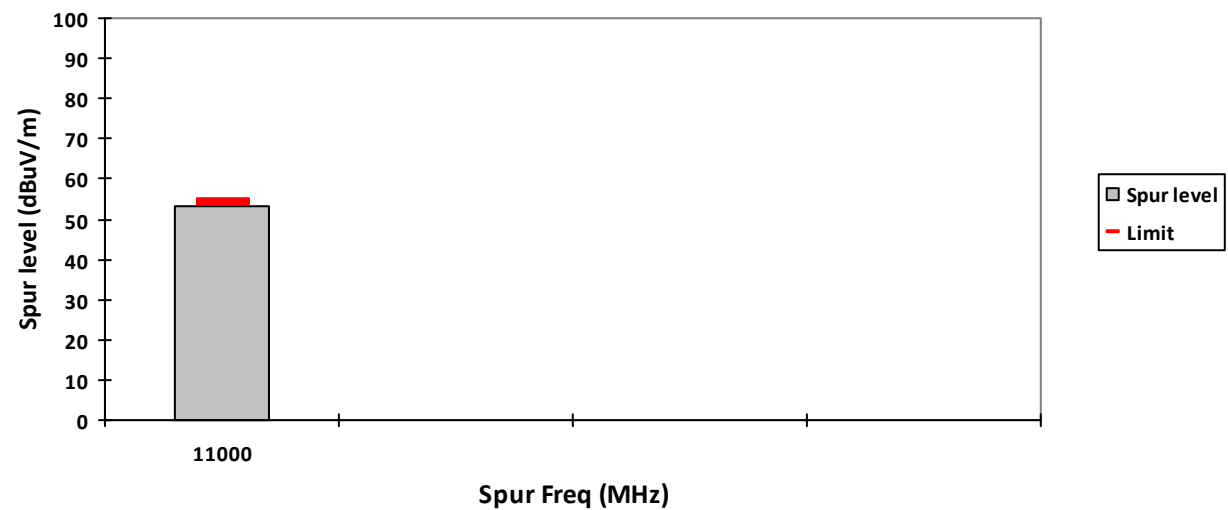
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Mid                            | Test Frequency: 5580.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20                        | Softpot power (12)            |

## Radiated Emission (Mid Channel) tabular data

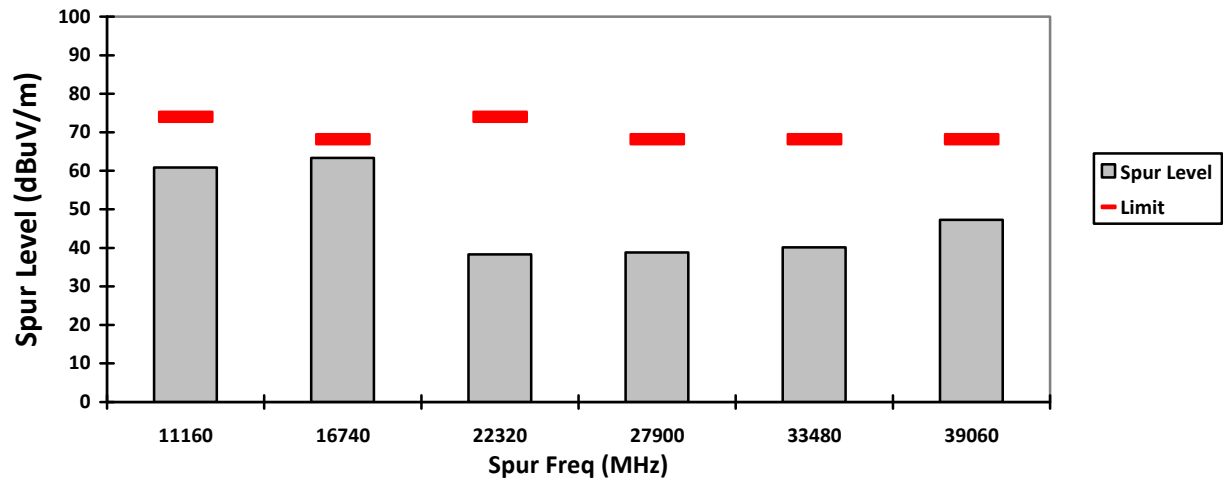
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

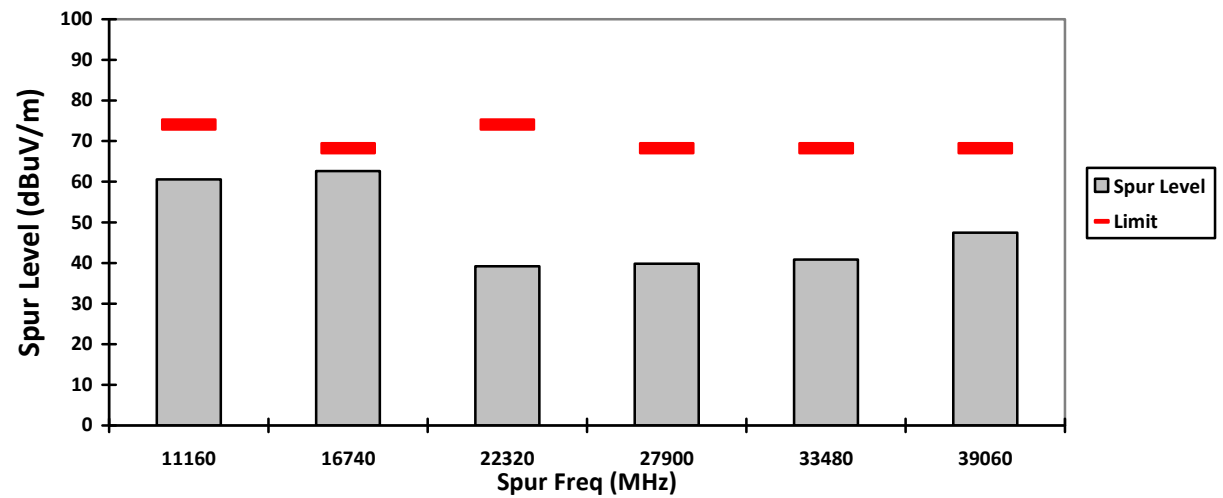
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

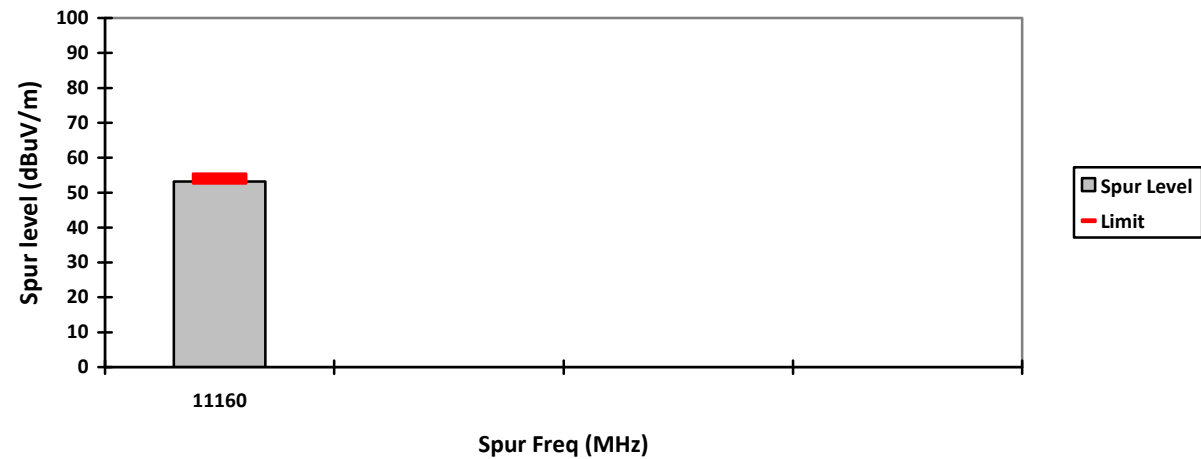
VERTICAL, PK



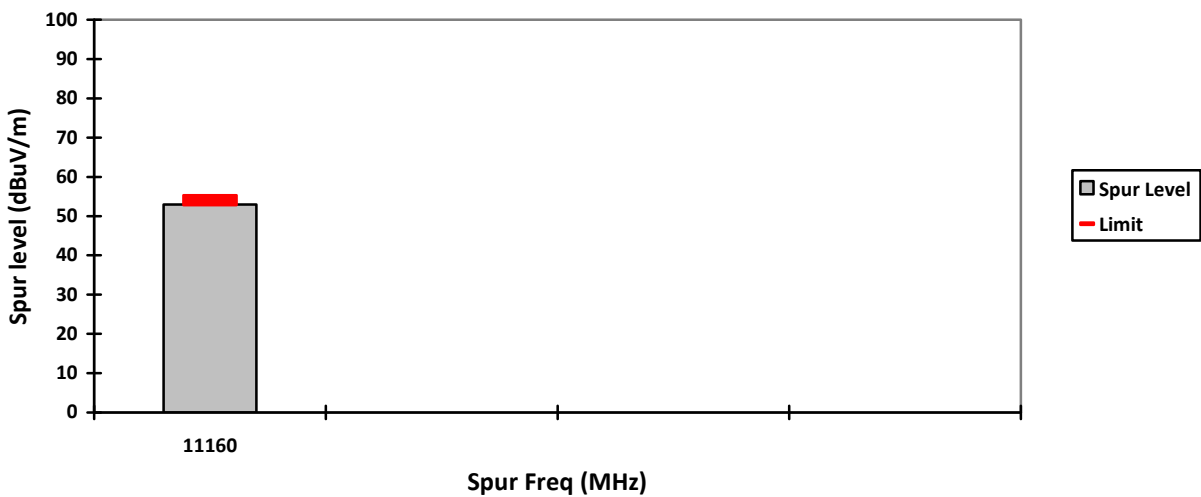
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Straddle                       | Test Frequency: 5720.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20                        | Softpot power (14)            |

### Radiated Emission (Straddle Channel) tabular data

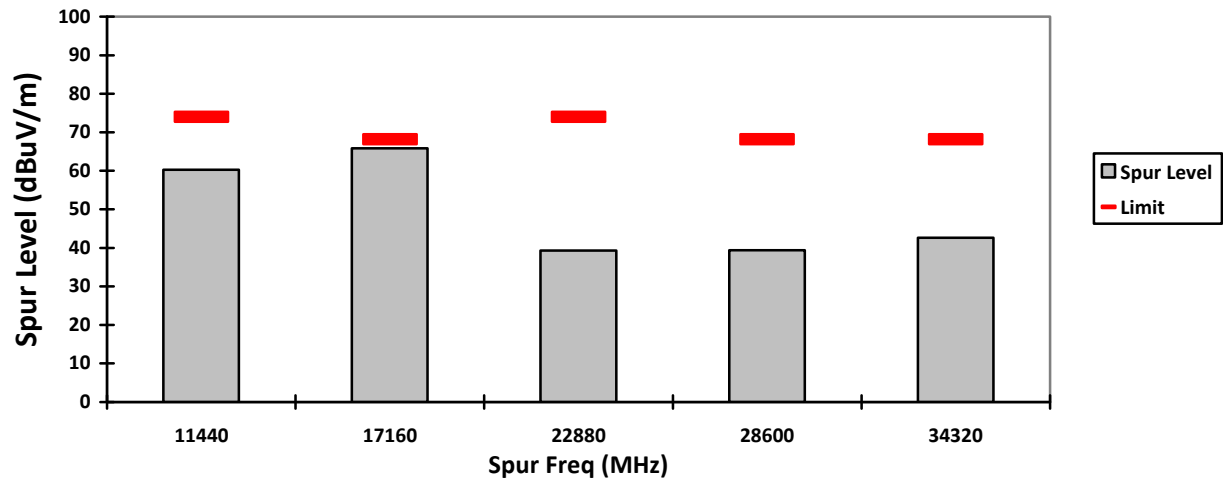
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

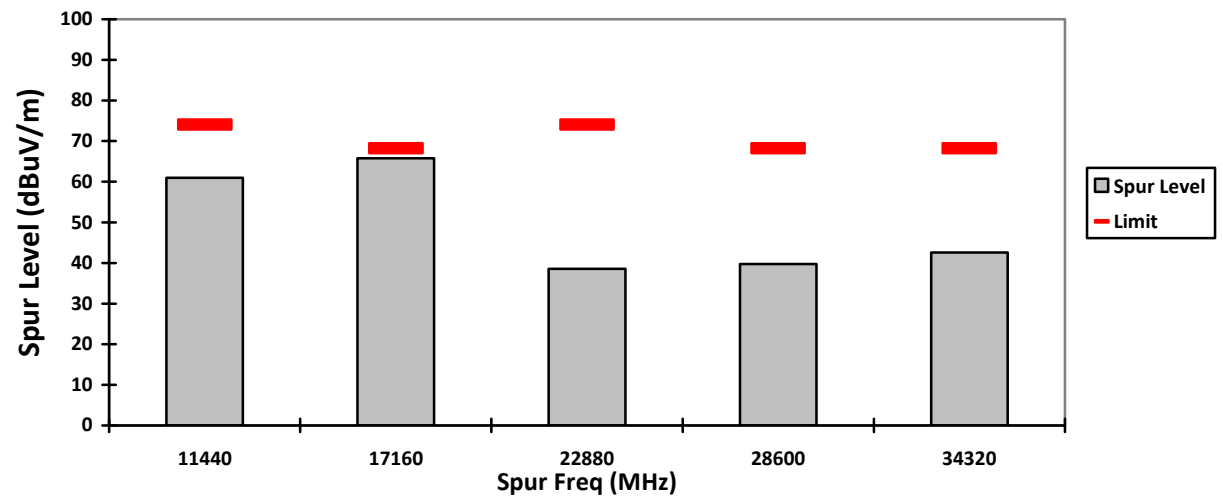
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

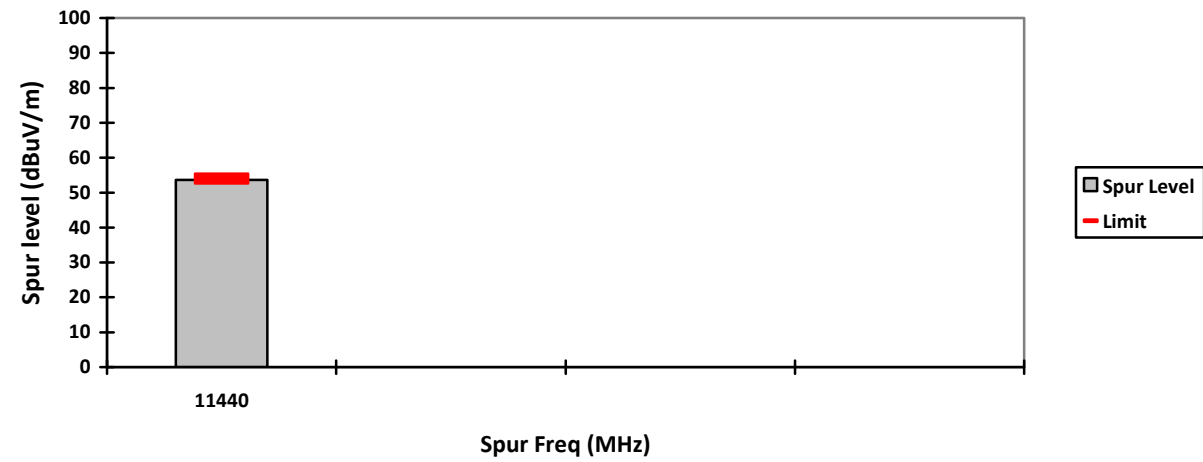
VERTICAL, PK



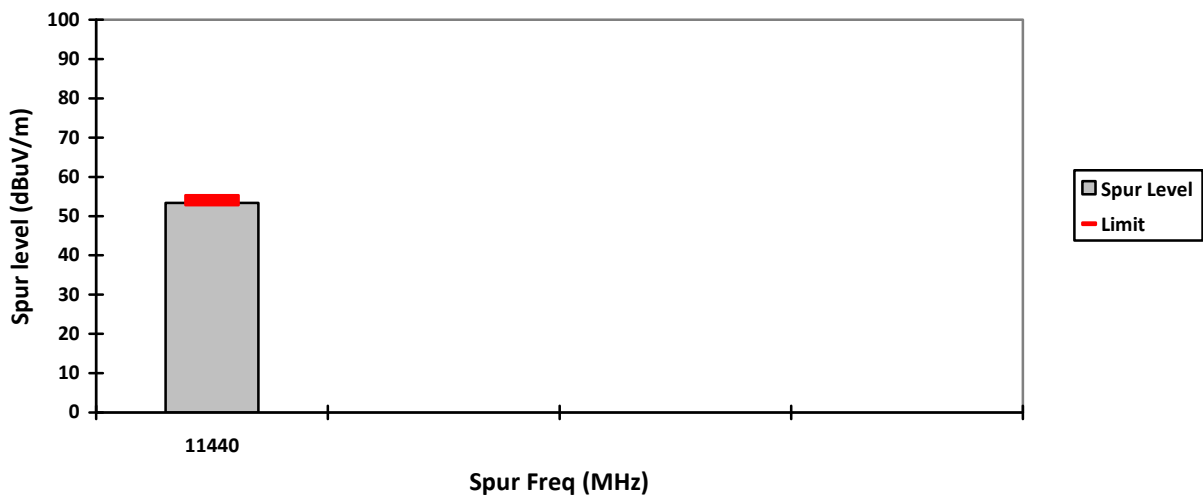
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5745.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n20                        | Softpot power (12)            |

## Radiated Emission (Low Channel) tabular data

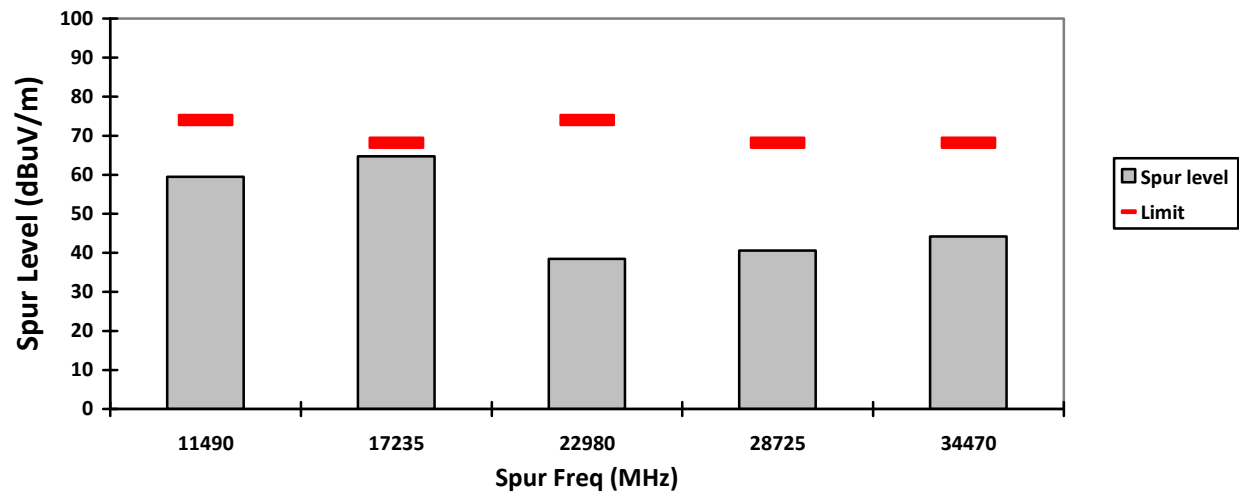
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

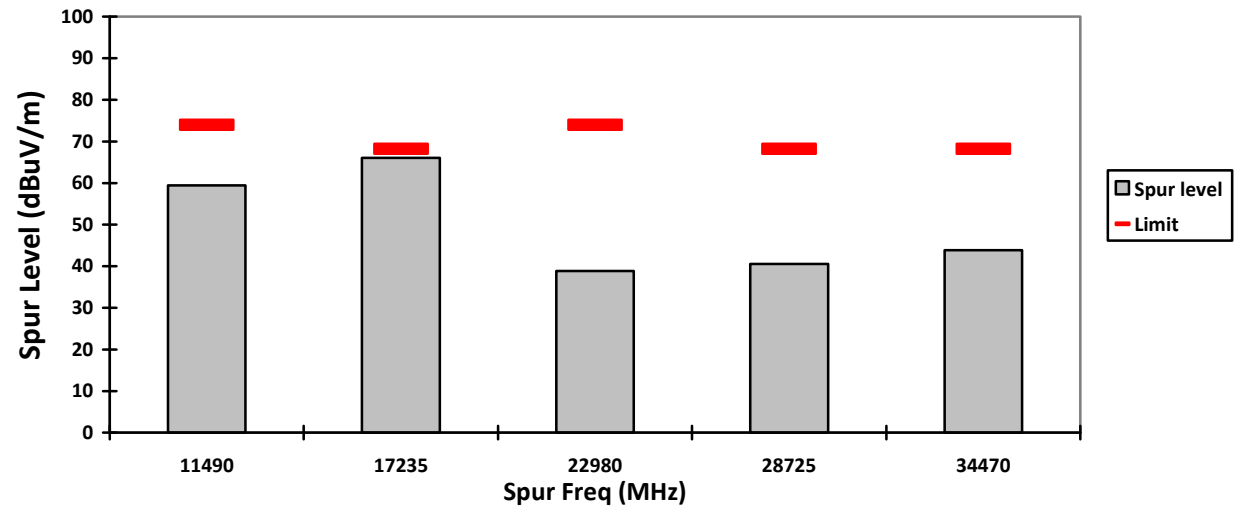
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

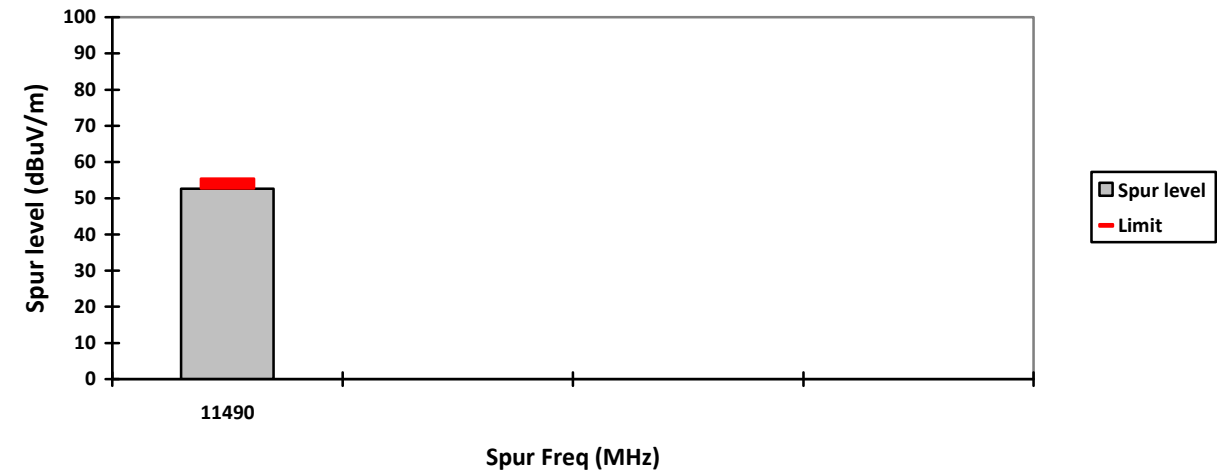
VERTICAL, PK



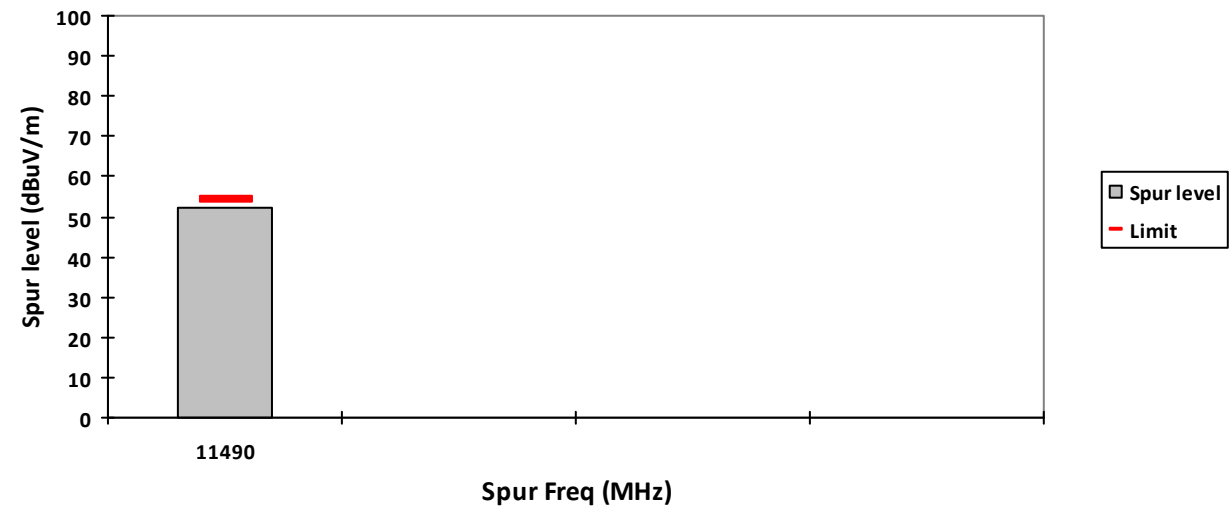
HORIZONTAL, PK



VERTICAL, AV

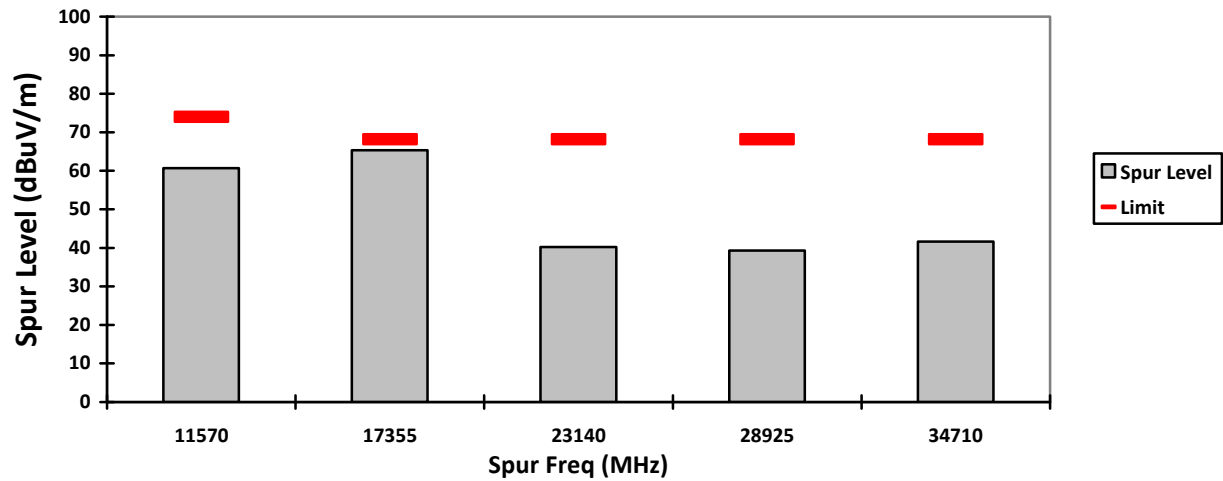


HORIZONTAL, AV

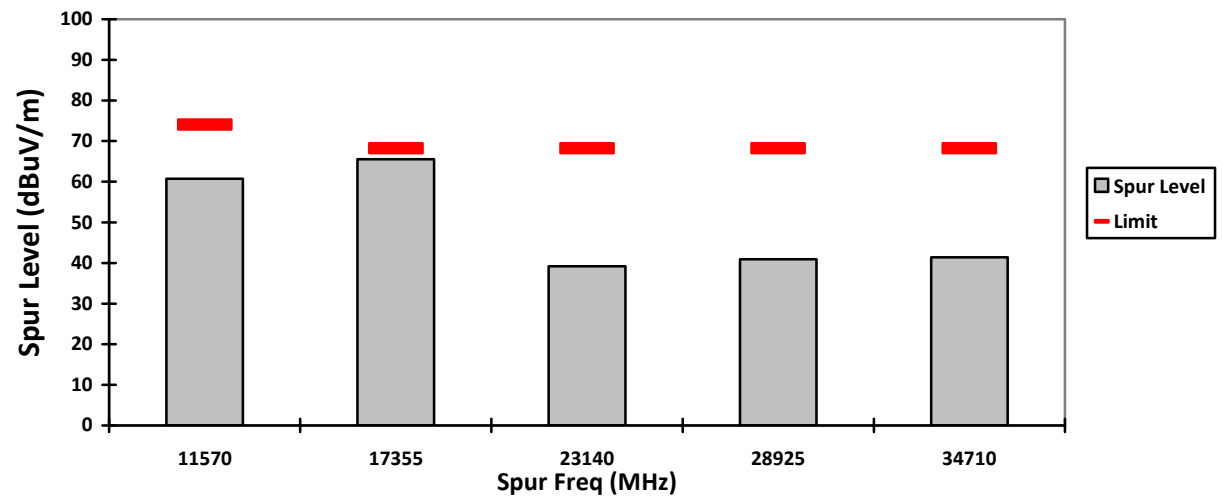




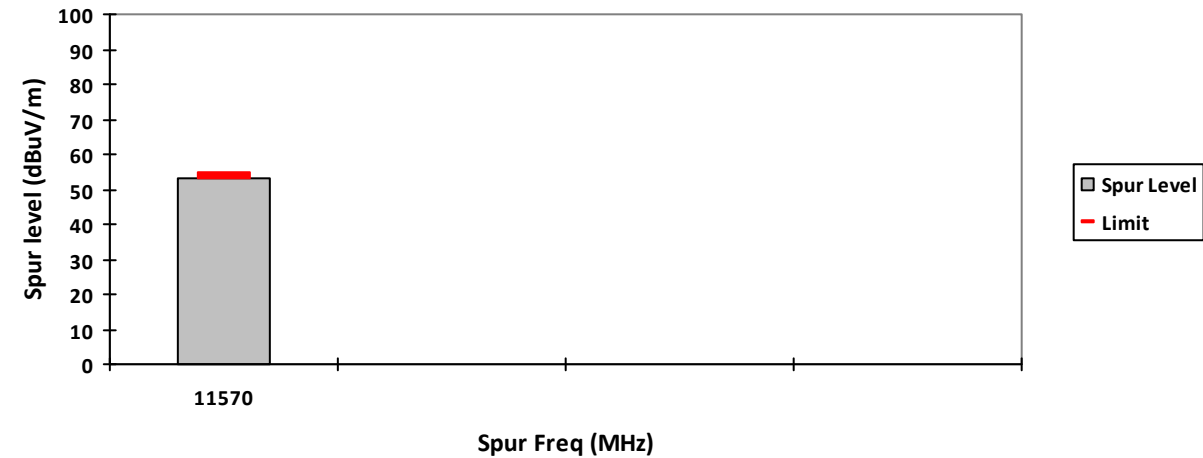
VERTICAL, PK



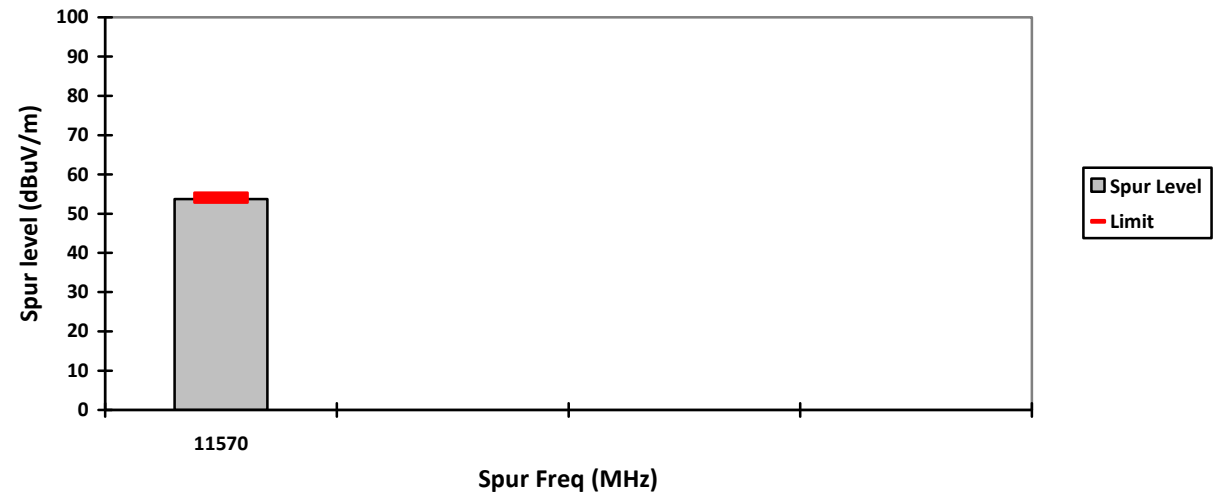
HORIZONTAL, PK



VERTICAL, AV

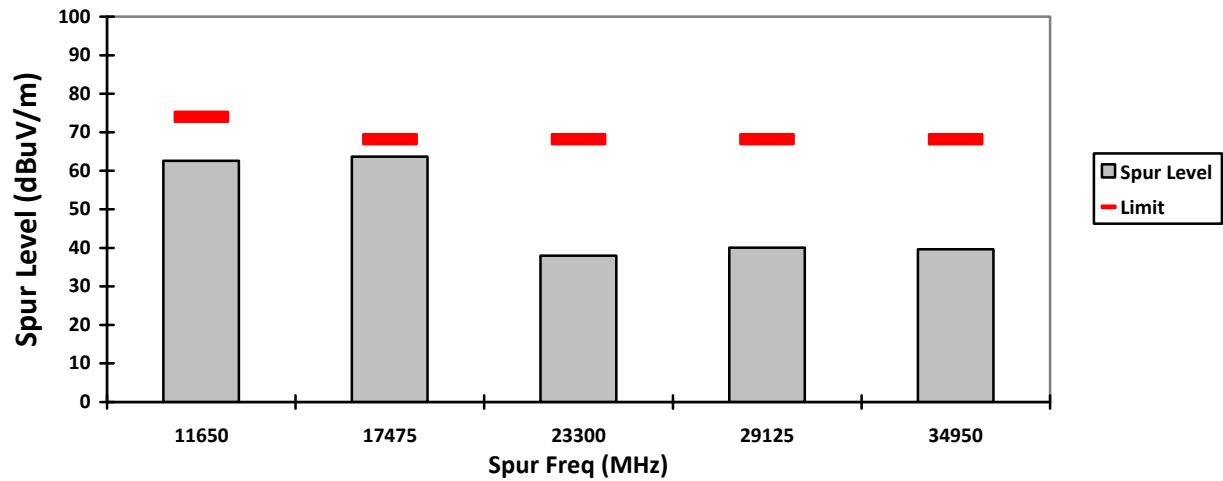


HORIZONTAL, AV

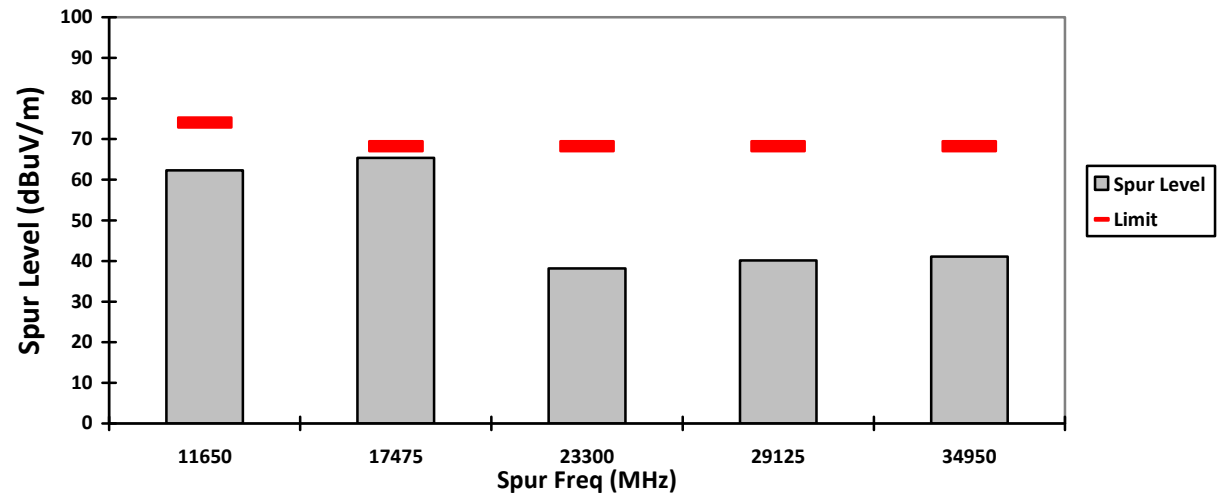




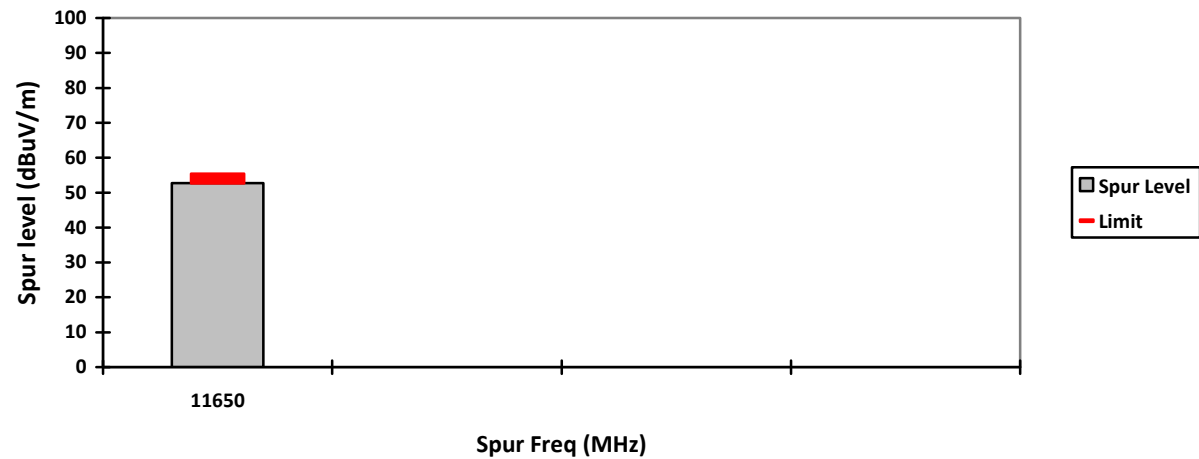
VERTICAL, PK



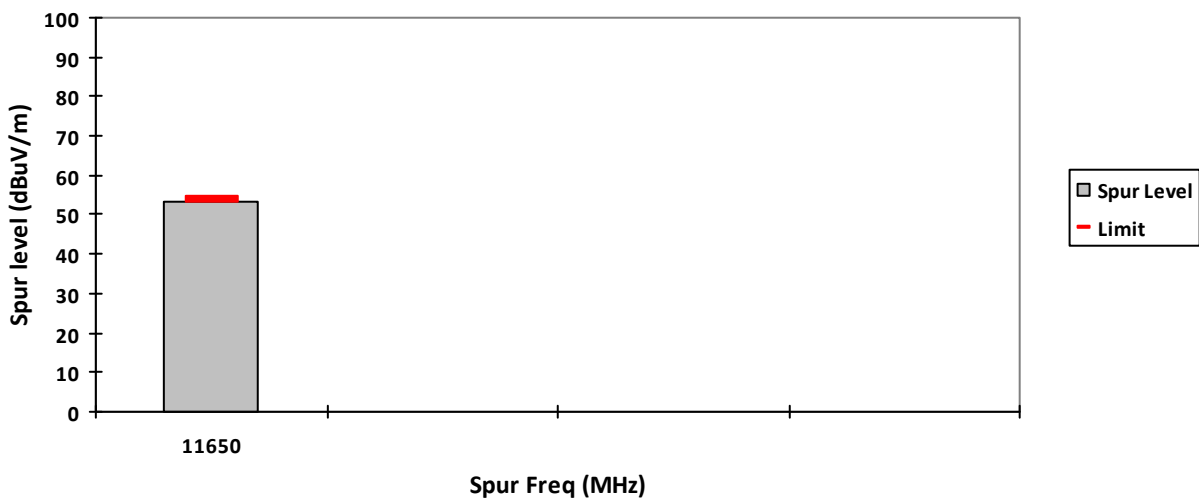
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5190.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        | Softpot power (10)            |

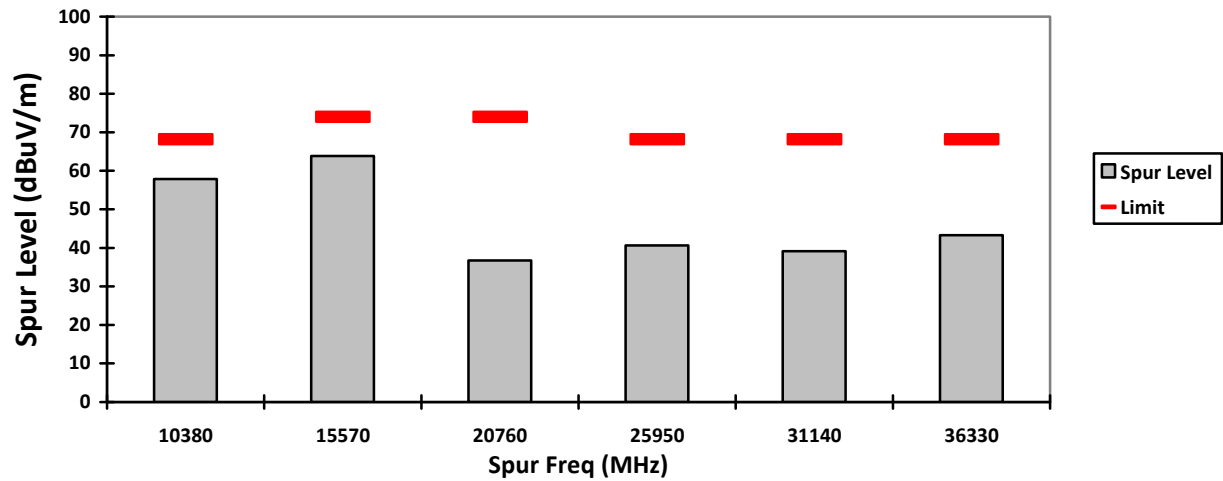
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

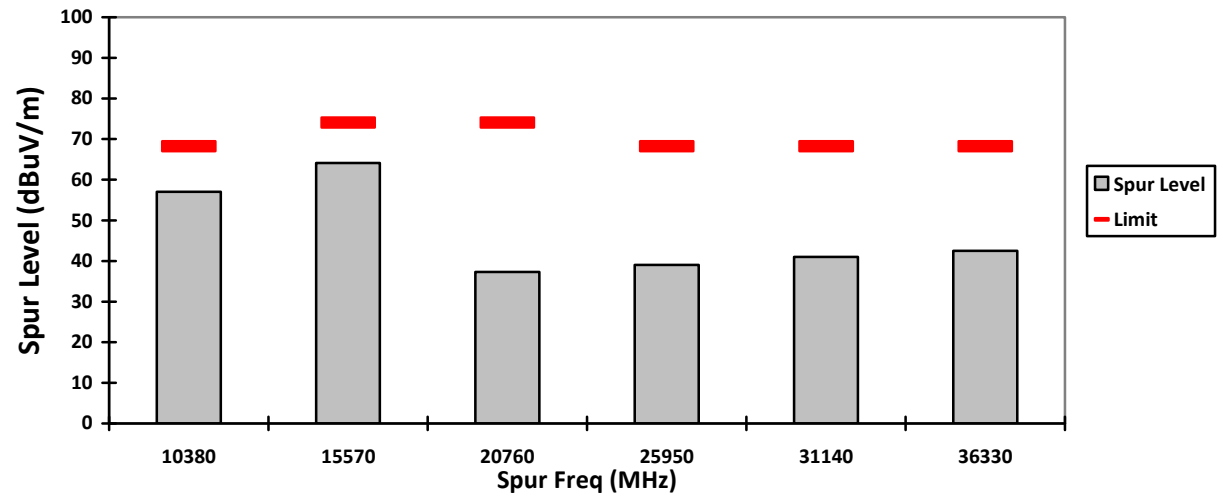
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

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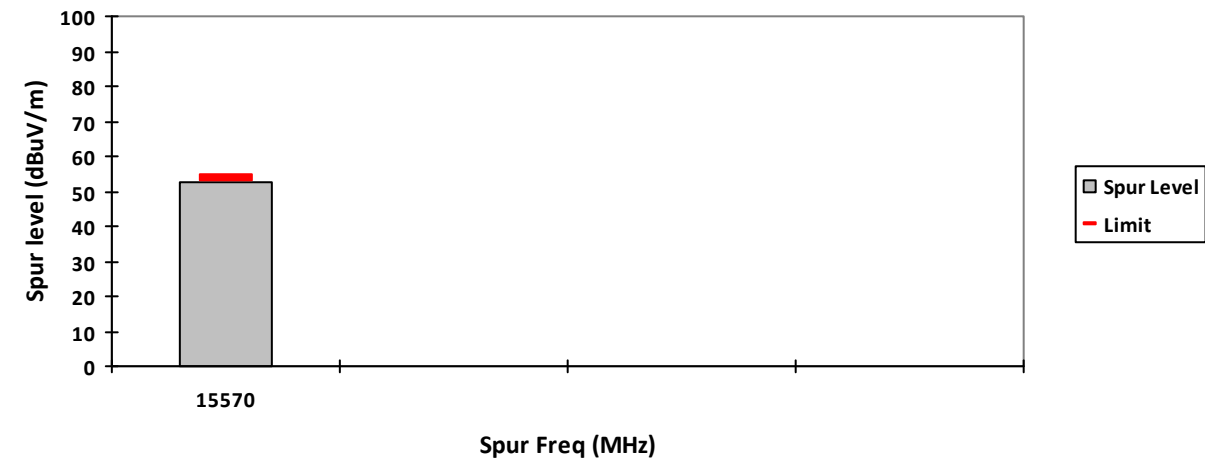
VERTICAL, PK



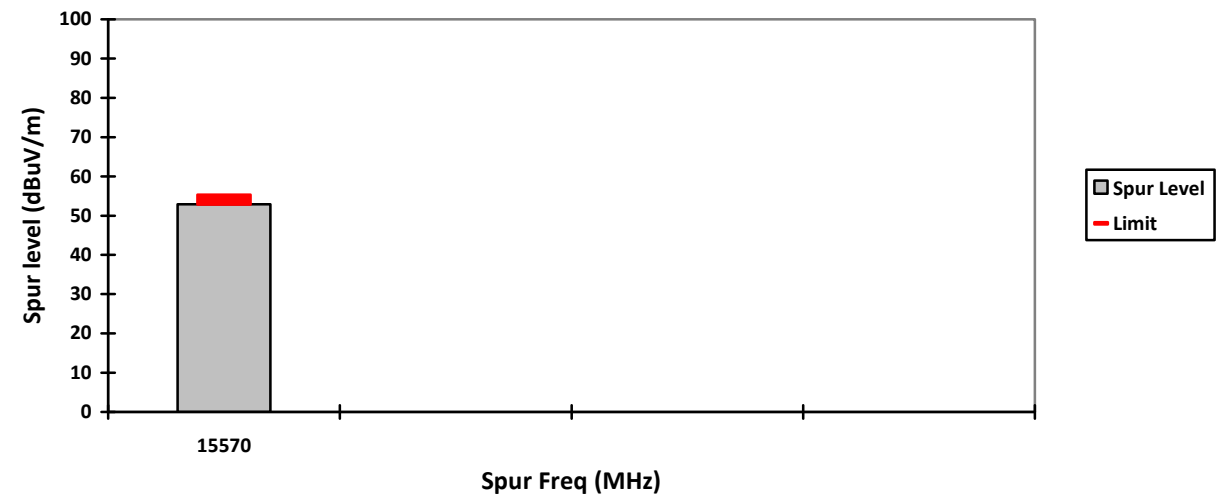
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: High                           | Test Frequency: 5230.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        | Softpot power (13)            |

## Radiated Emission (High Channel) tabular data

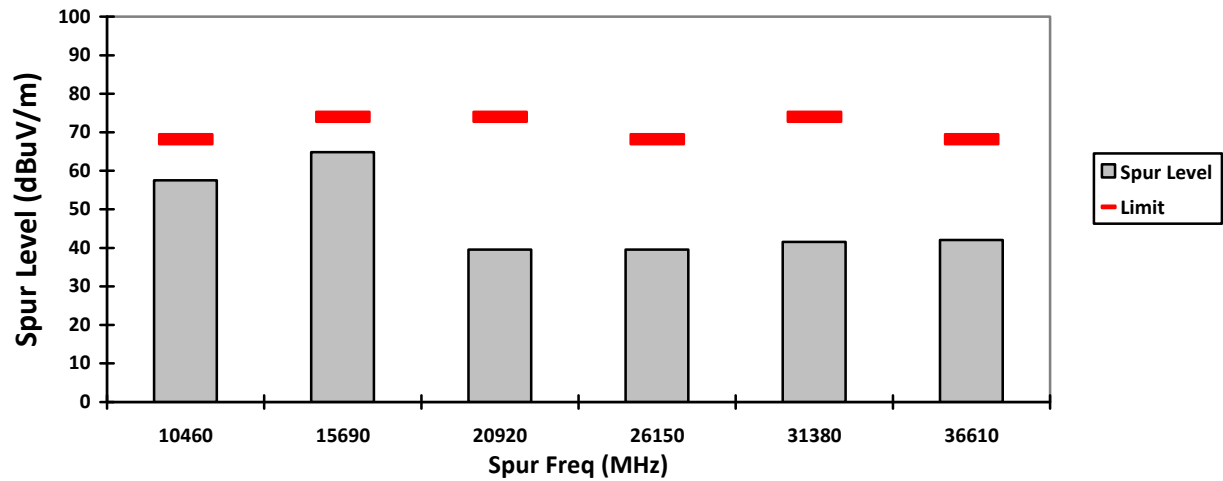
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

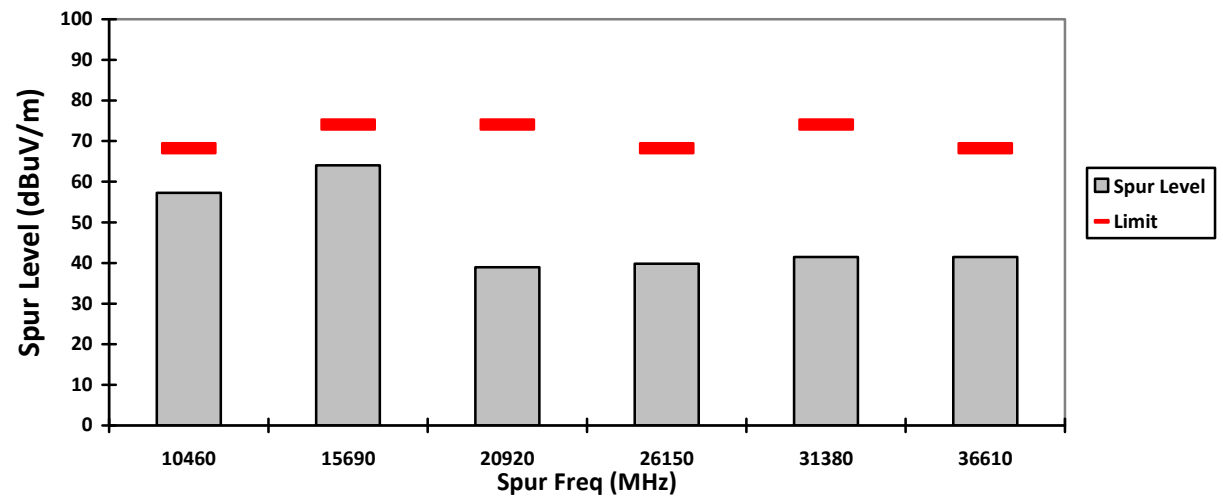
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

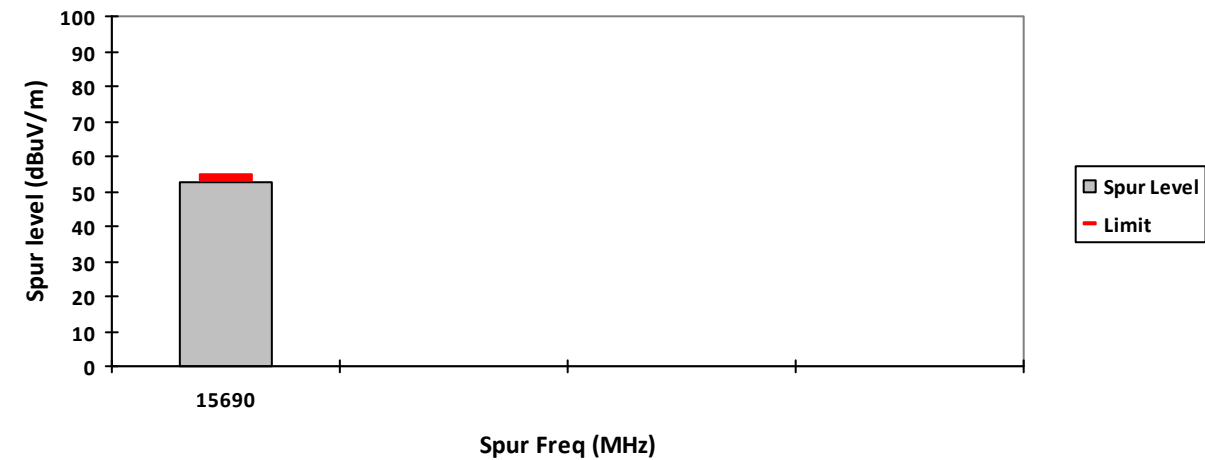
VERTICAL, PK



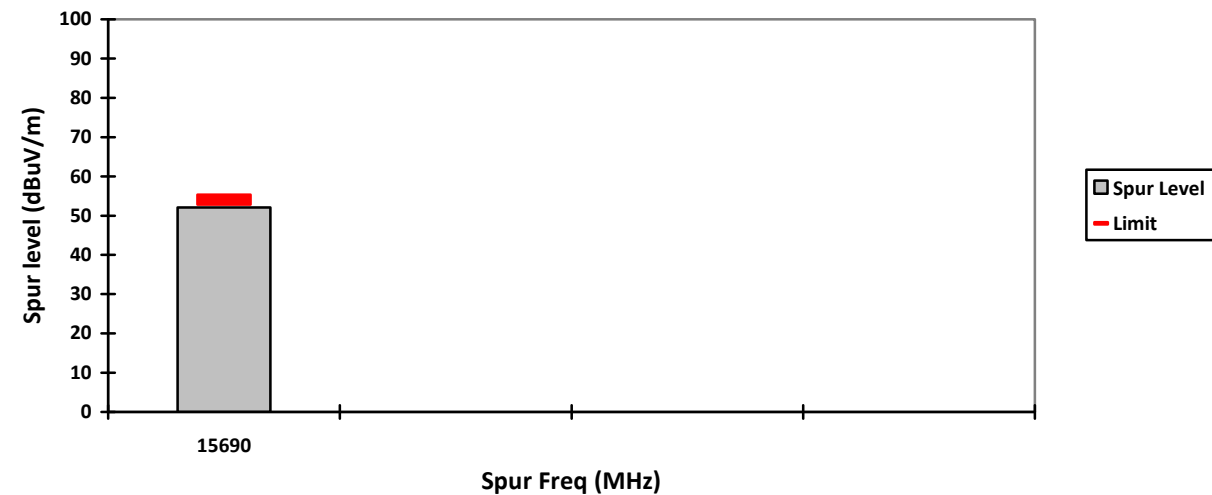
HORIZONTAL, PK



VERTICAL, AV

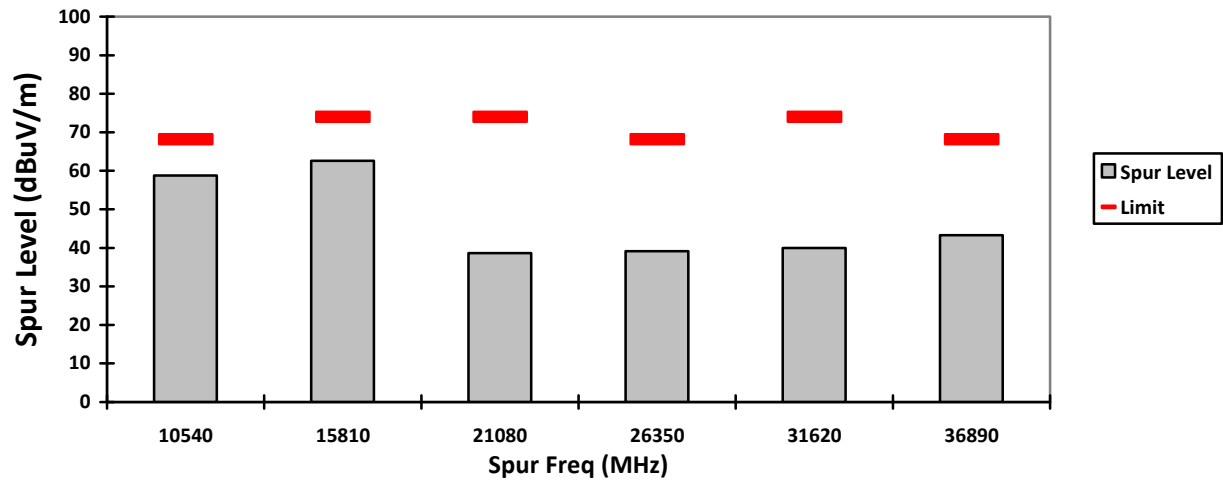


HORIZONTAL, AV

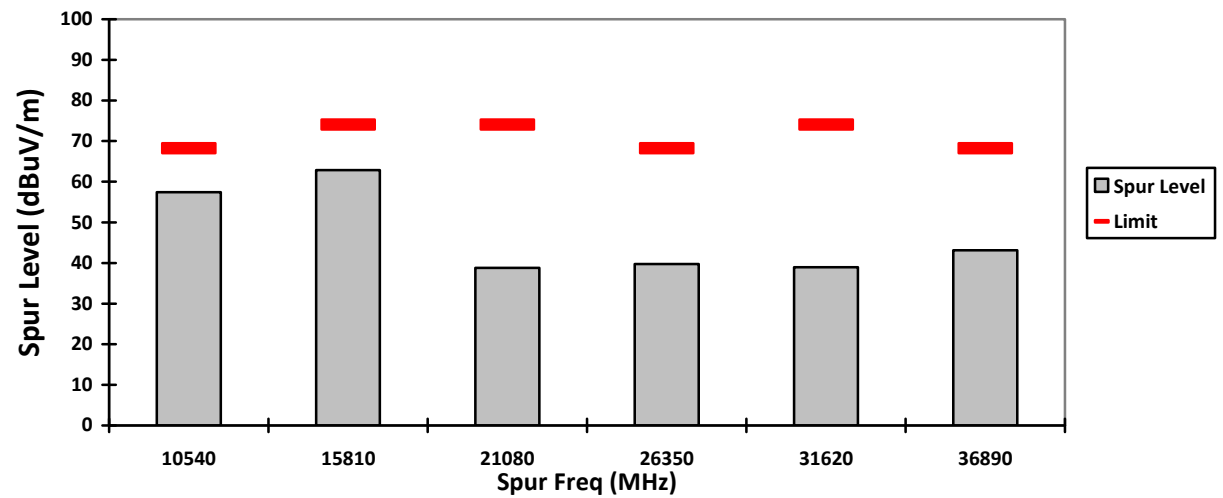




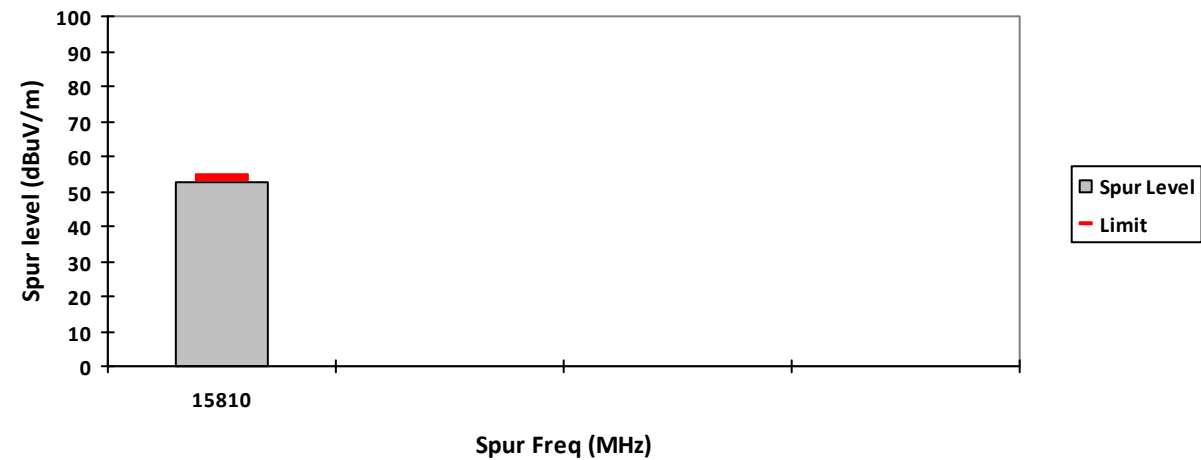
VERTICAL, PK



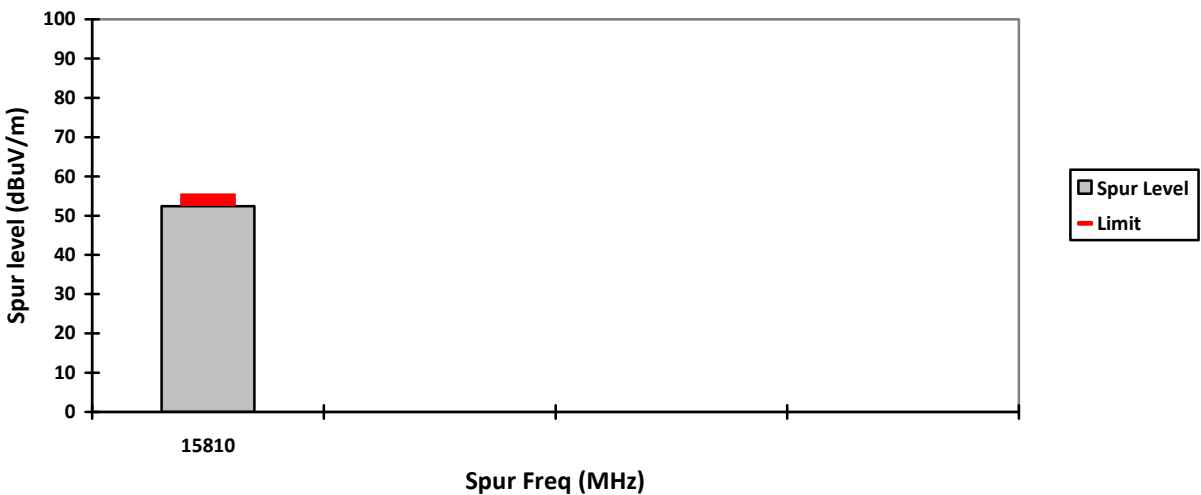
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: High                           | Test Frequency: 5310.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        | Softpot power (11)            |

## Radiated Emission (High Channel) tabular data

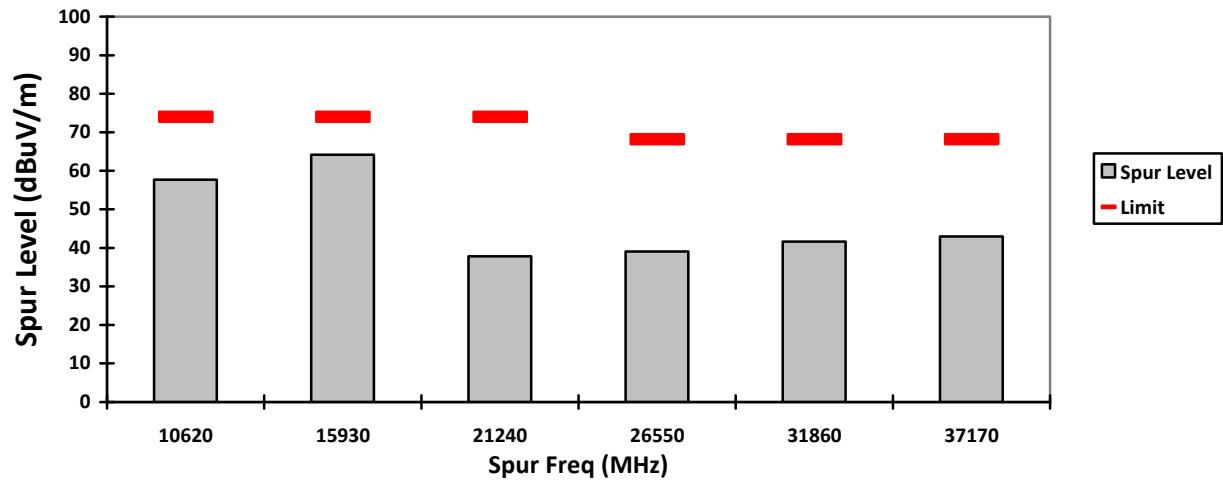
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

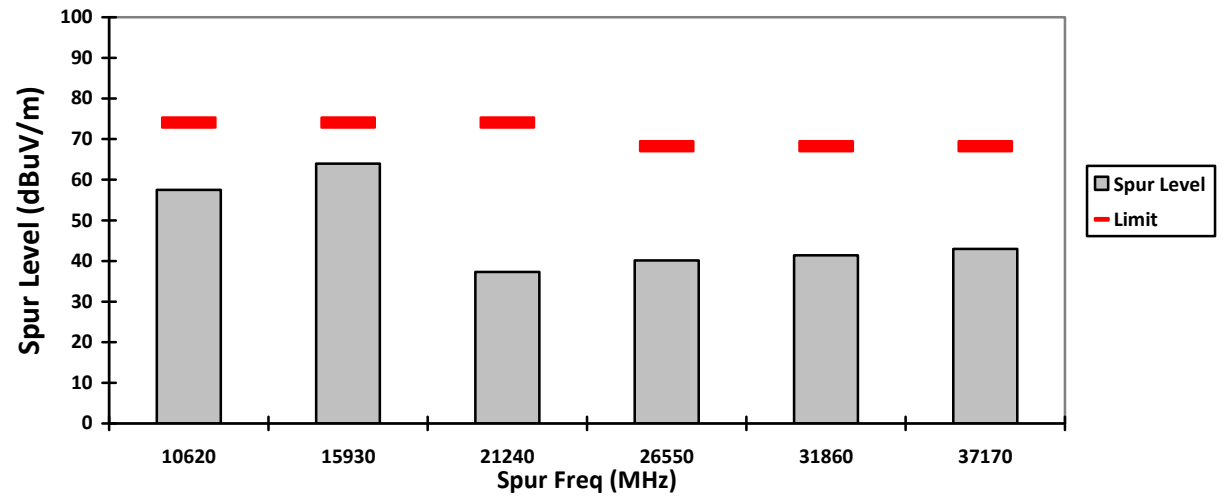
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

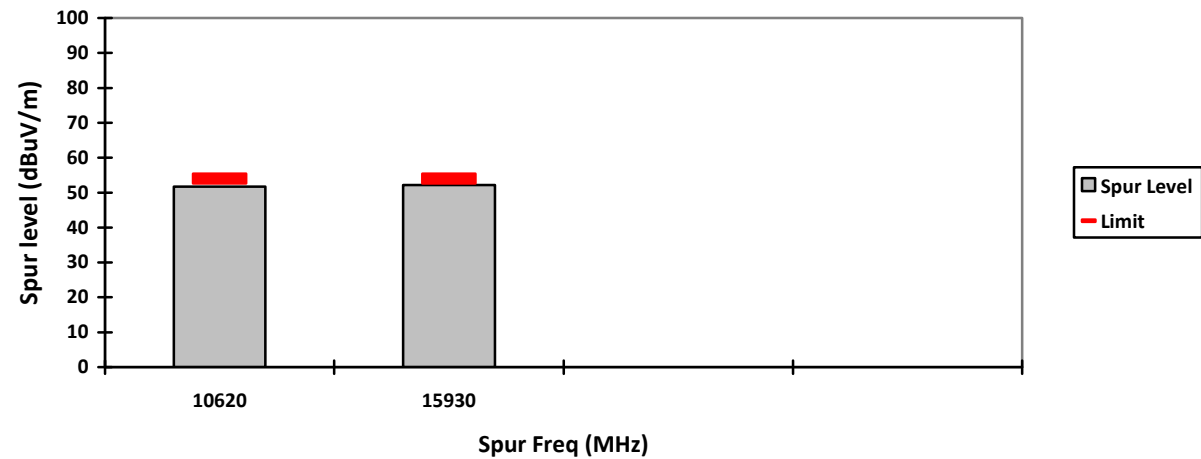
VERTICAL, PK



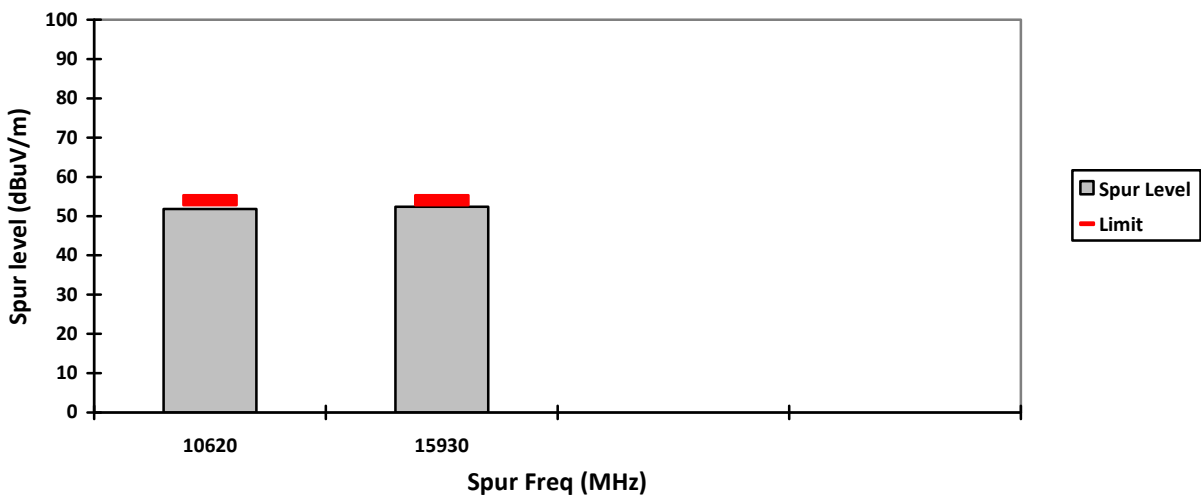
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5510.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        | Softpot power (10)            |

### Radiated Emission (Low Channel) tabular data

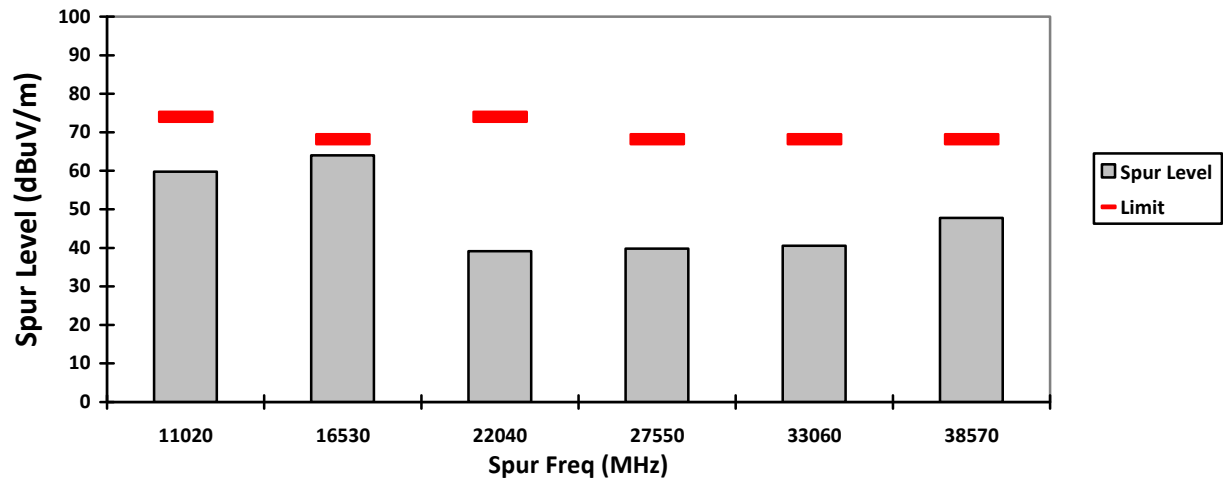
| Vertical Radiated Emission Result   |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|-------------------------------------|-------------------------|------------------------|------------------------|--------------------|-------------------|-------------------|-----------------|----------------|----------------|---------------------------|
| Spur Freq (MHz)                     | Spur level QPK (dBμV/m) | Spur level PK (dBμV/m) | Spur level AV (dBμV/m) | Limit QPK (dBμV/m) | Limit PK (dBμV/m) | Limit AV (dBμV/m) | Margin QPK (dB) | Margin PK (dB) | Margin AV (dB) | Carrier PK Power (dBμV/m) |
| 11020                               | -                       | 59.7944**              | 52.8346**              | -                  | 74.0000           | 54.0000           | -               | 14.2056        | 1.1654         | -                         |
| 16530                               | -                       | 63.9816**              | -                      | -                  | 68.2000           | -                 | -               | 4.2184         | -              | -                         |
| 22040                               | -                       | 39.1596**              | -                      | -                  | 74.0000           | -                 | -               | 34.8404        | -              | -                         |
| 27550                               | -                       | 39.8308**              | -                      | -                  | 68.2000           | -                 | -               | 28.3692        | -              | -                         |
| 33060                               | -                       | 40.5292**              | -                      | -                  | 68.2000           | -                 | -               | 27.6708        | -              | -                         |
| 38570                               | -                       | 47.7236**              | -                      | -                  | 68.2000           | -                 | -               | 20.4764        | -              | -                         |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
| Horizontal Radiated Emission Result |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
| 11020                               | -                       | 59.9863**              | 53.1777**              | -                  | 74.0000           | 54.0000           | -               | 14.0137        | 0.8223         | -                         |
| 16530                               | -                       | 64.8905**              | -                      | -                  | 68.2000           | -                 | -               | 3.3095         | -              | -                         |
| 22040                               | -                       | 39.6971**              | -                      | -                  | 74.0000           | -                 | -               | 34.3029        | -              | -                         |
| 27550                               | -                       | 40.0376**              | -                      | -                  | 68.2000           | -                 | -               | 28.1624        | -              | -                         |
| 33060                               | -                       | 40.8447**              | -                      | -                  | 68.2000           | -                 | -               | 27.3553        | -              | -                         |
| 38570                               | -                       | 48.1719**              | -                      | -                  | 68.2000           | -                 | -               | 20.0281        | -              | -                         |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |
|                                     |                         |                        |                        |                    |                   |                   |                 |                |                |                           |

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

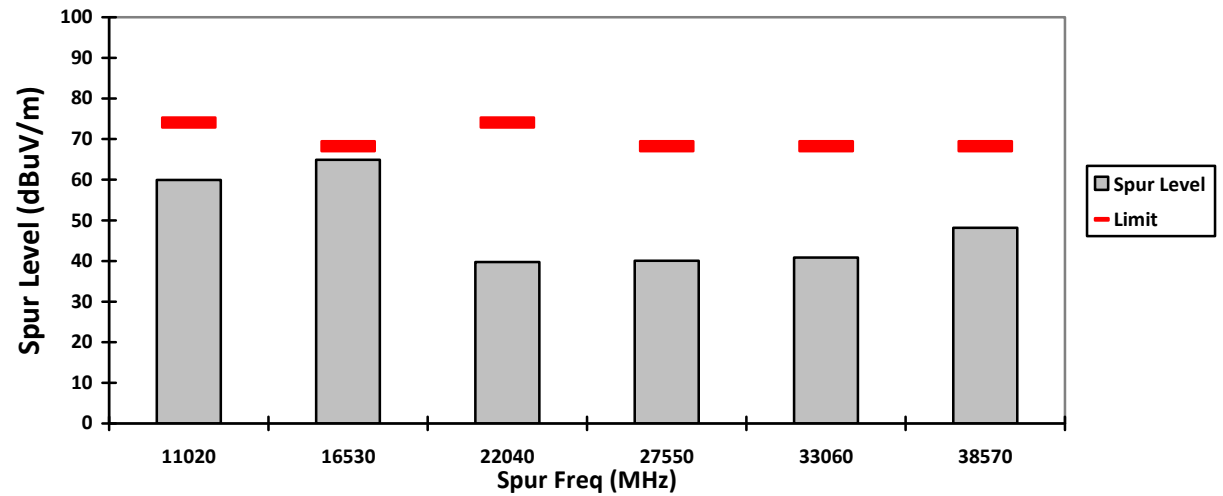
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
 \*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

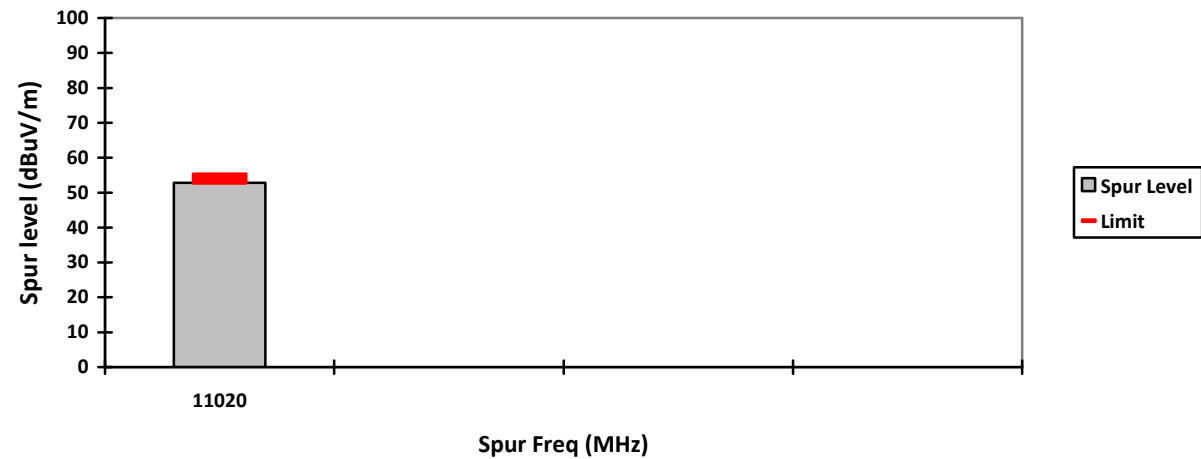
VERTICAL, PK



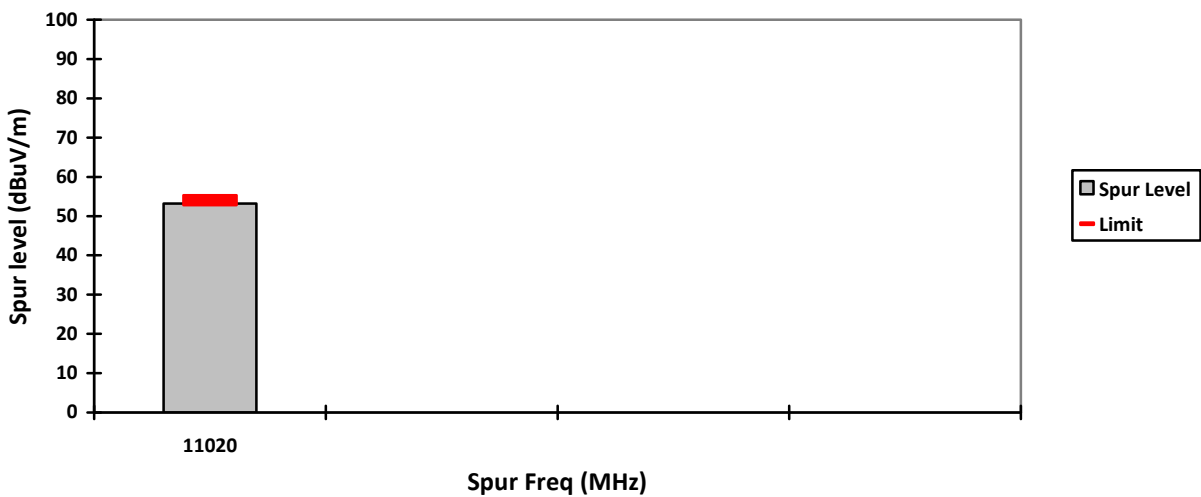
HORIZONTAL, PK



VERTICAL, AV

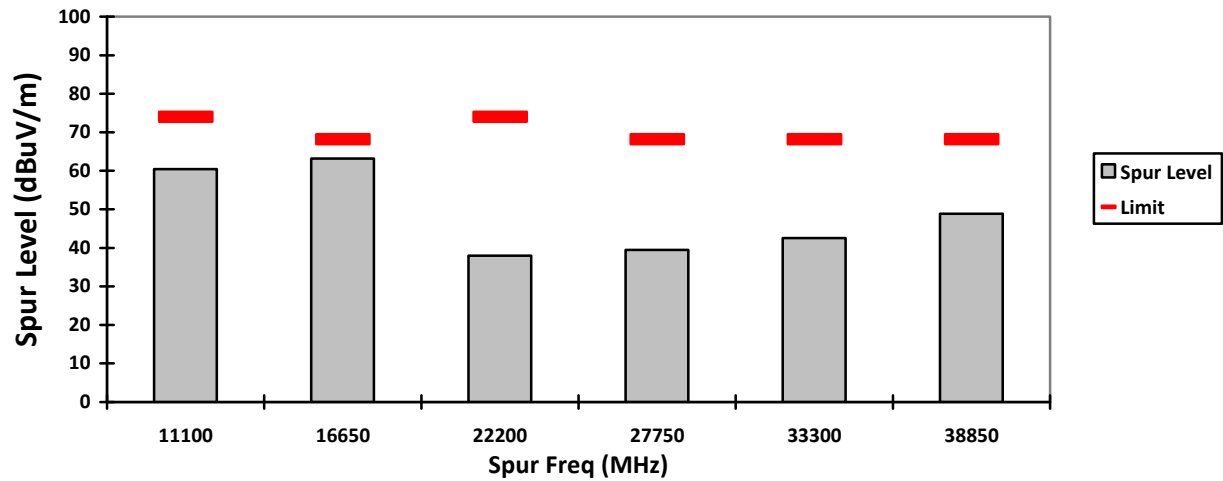


HORIZONTAL, AV

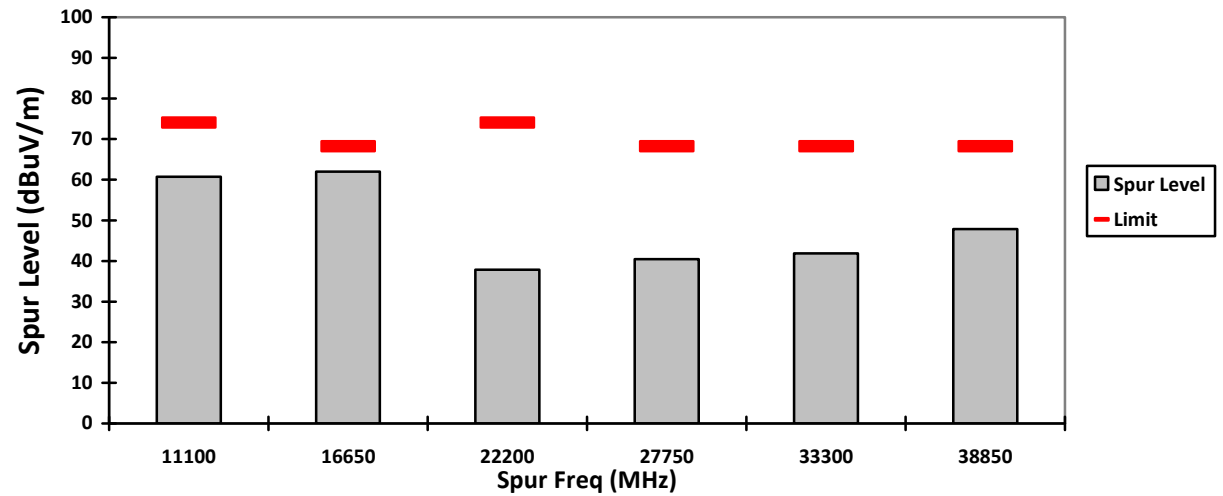




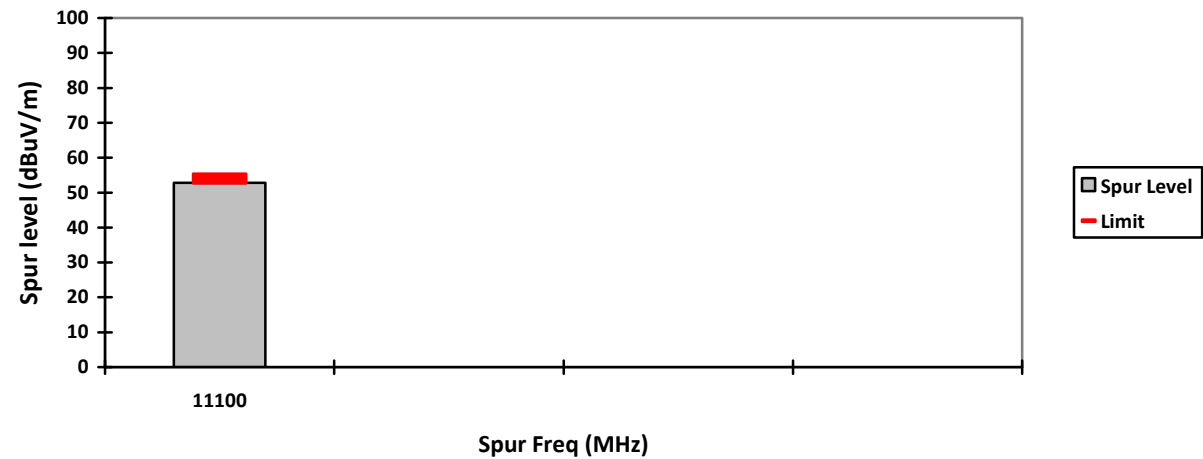
VERTICAL, PK



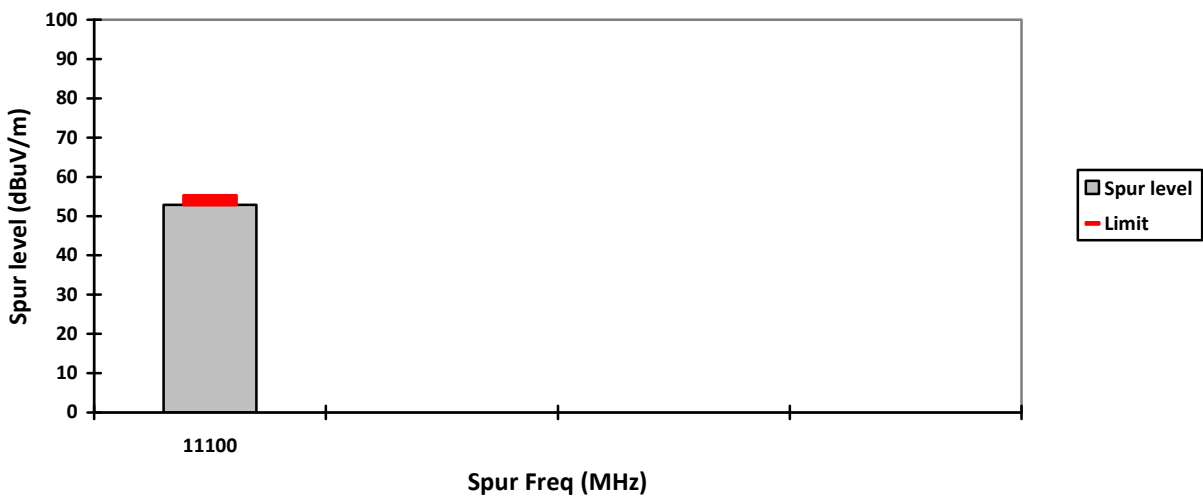
HORIZONTAL, PK



VERTICAL, AV

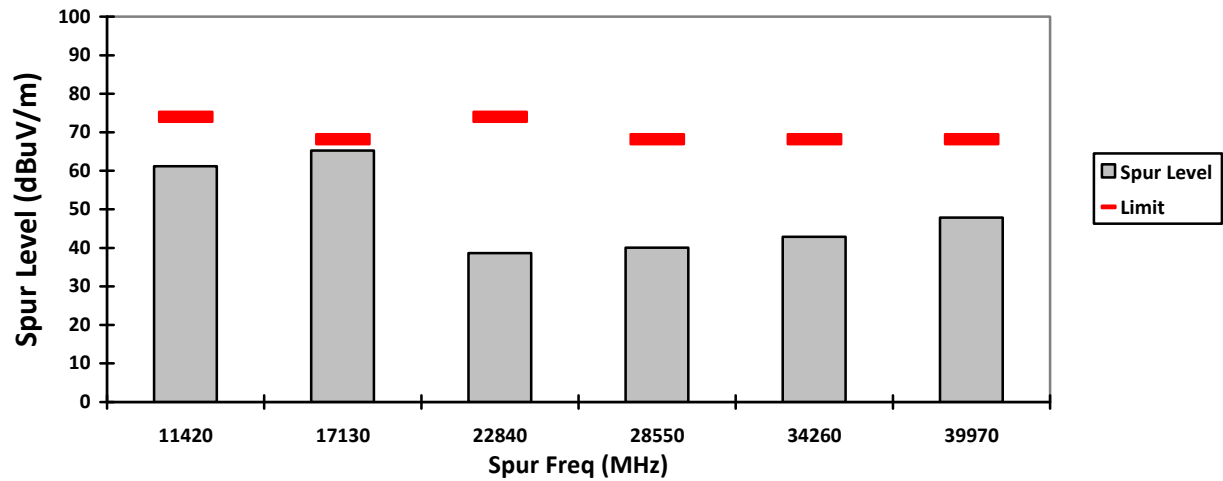


HORIZONTAL, AV

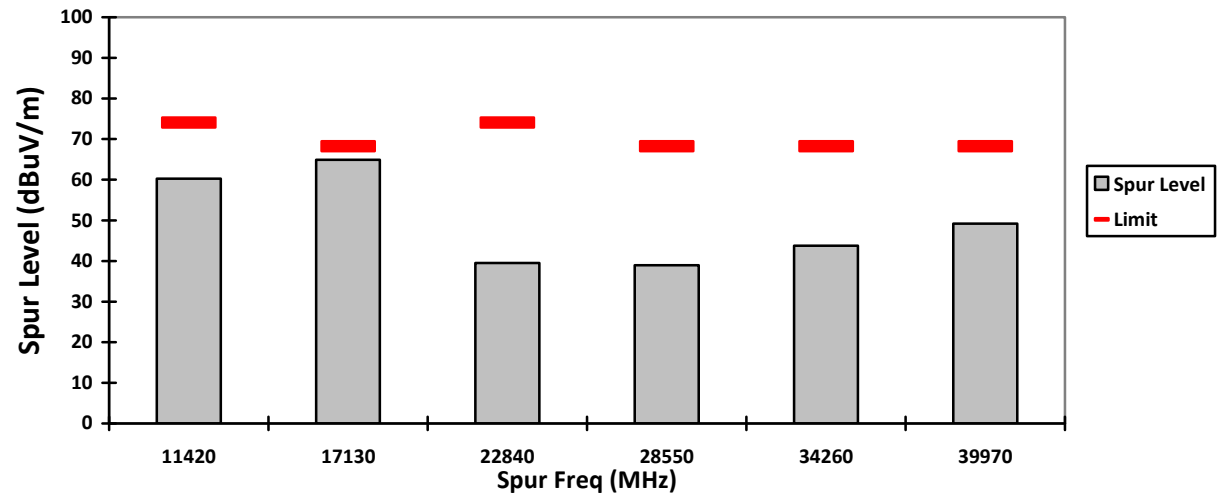




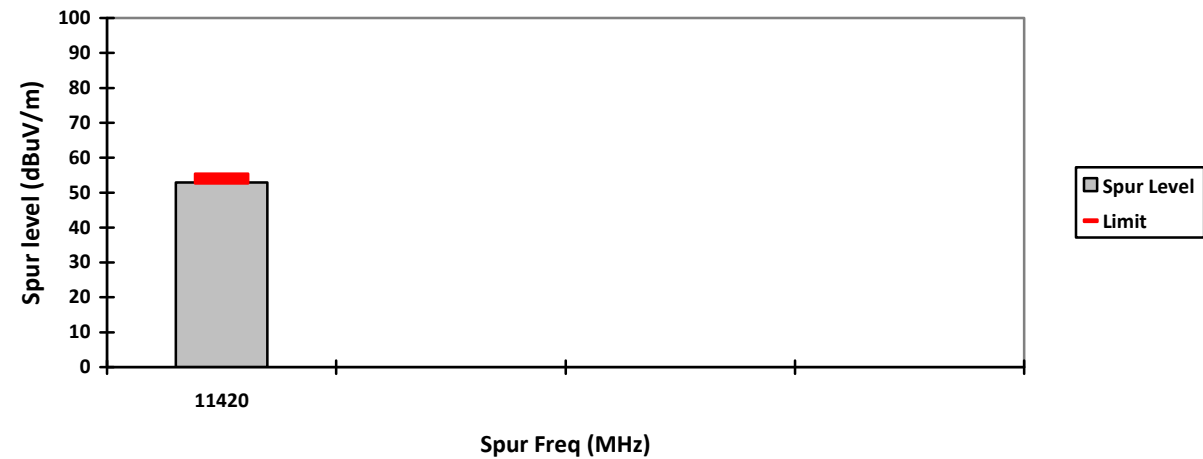
VERTICAL, PK



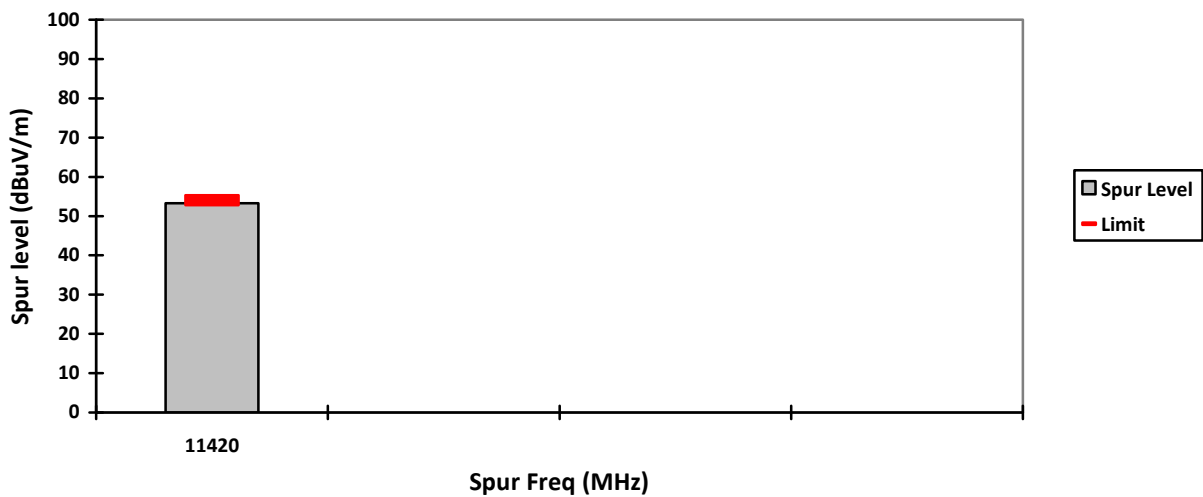
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Low                            | Test Frequency: 5755.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        | Softpot power (13)            |

## Radiated Emission (Low Channel) tabular data

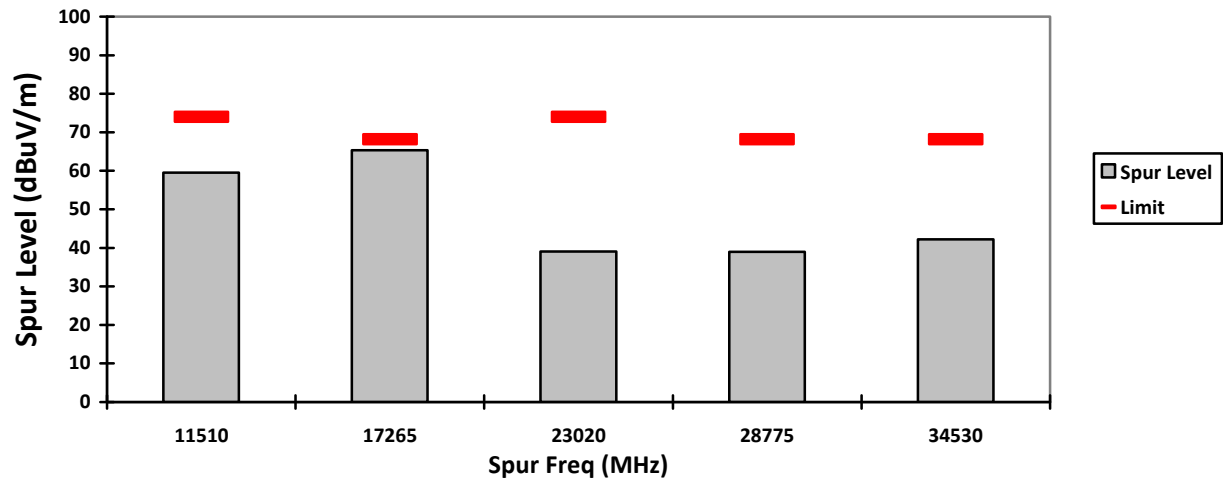
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

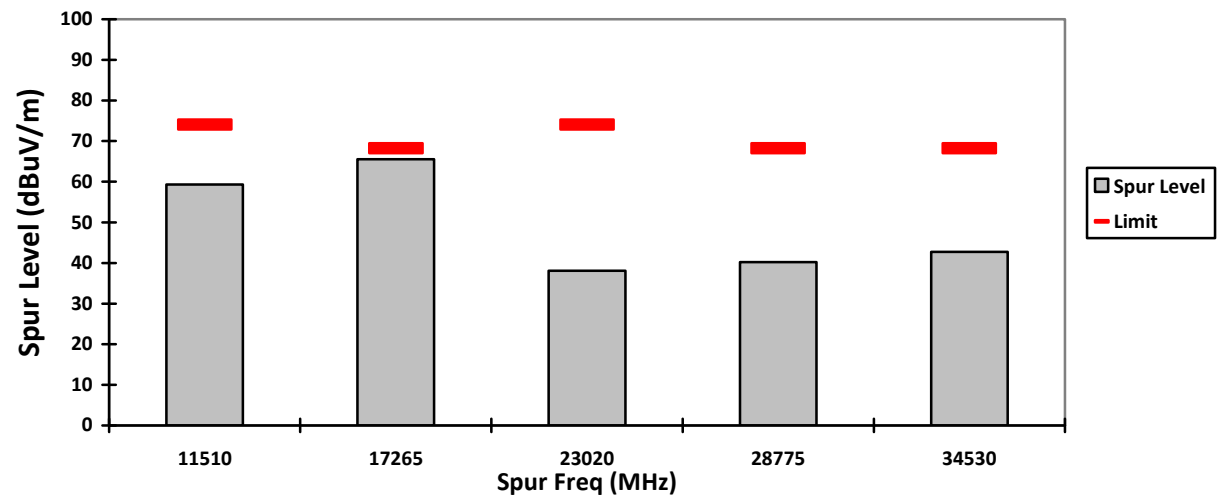
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

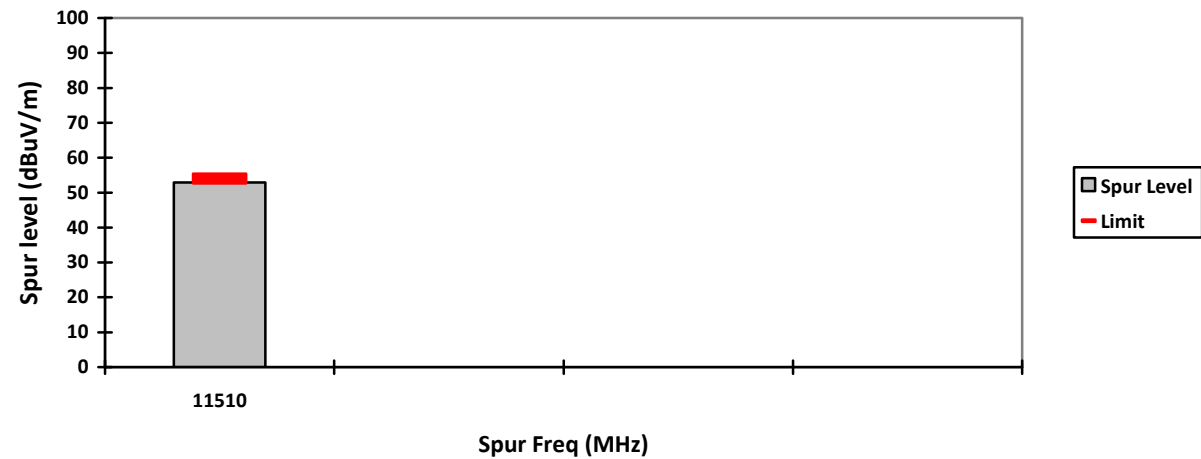
VERTICAL, PK



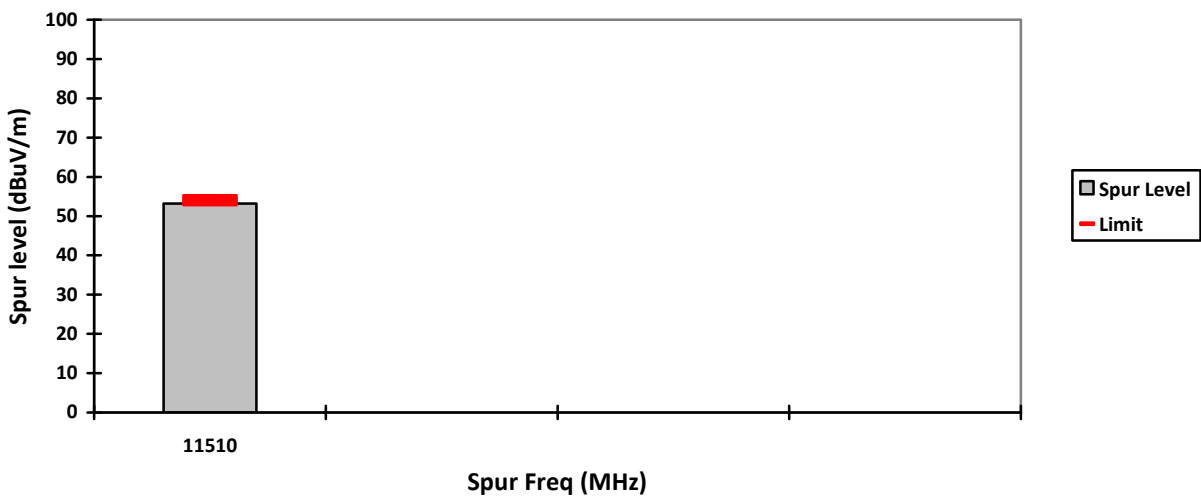
HORIZONTAL, PK



VERTICAL, AV

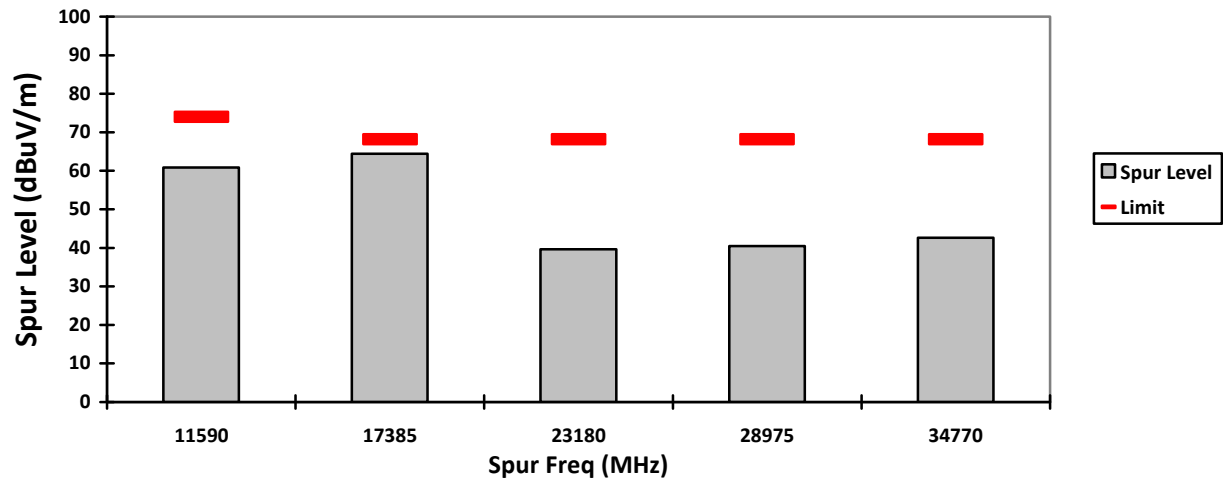


HORIZONTAL, AV

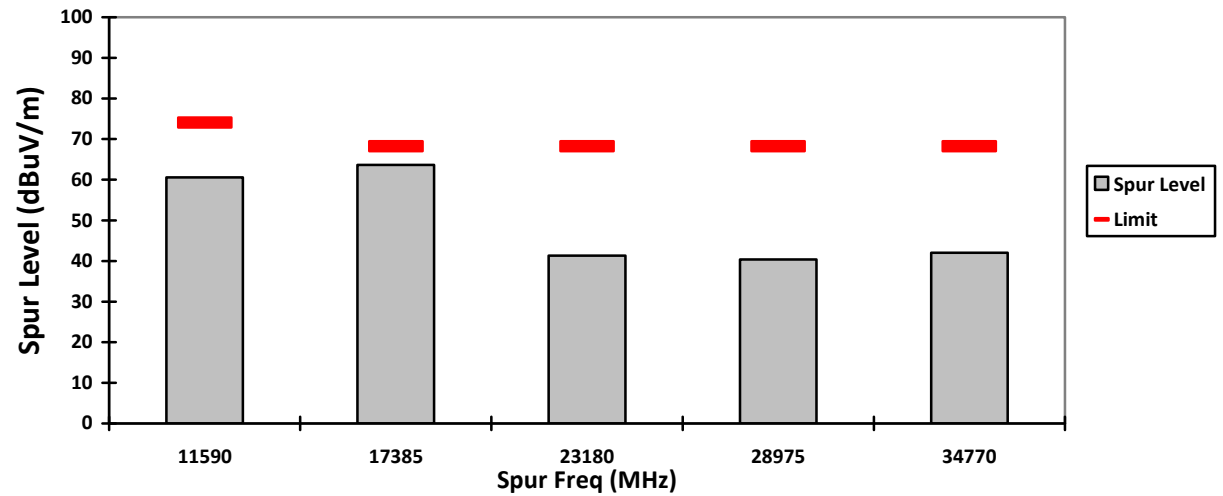




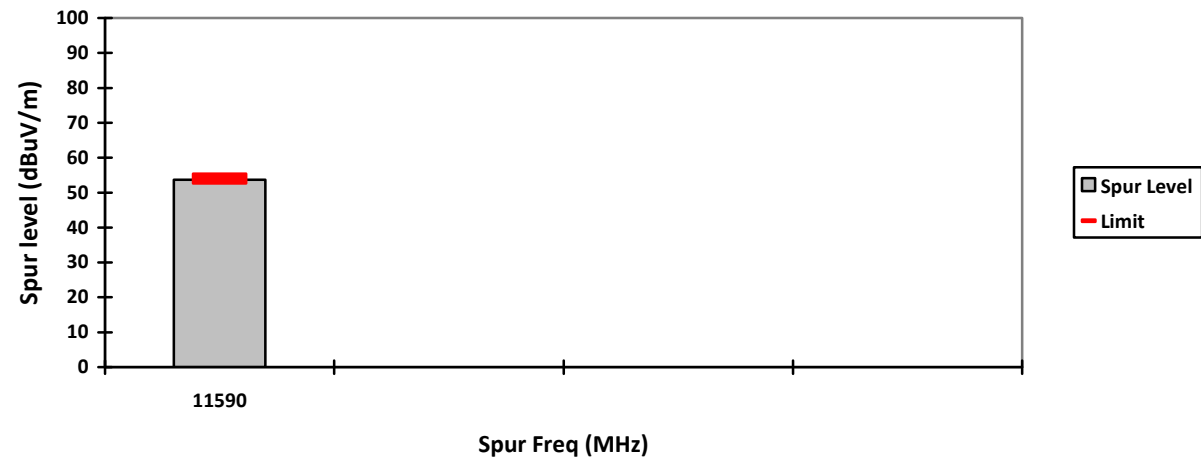
VERTICAL, PK



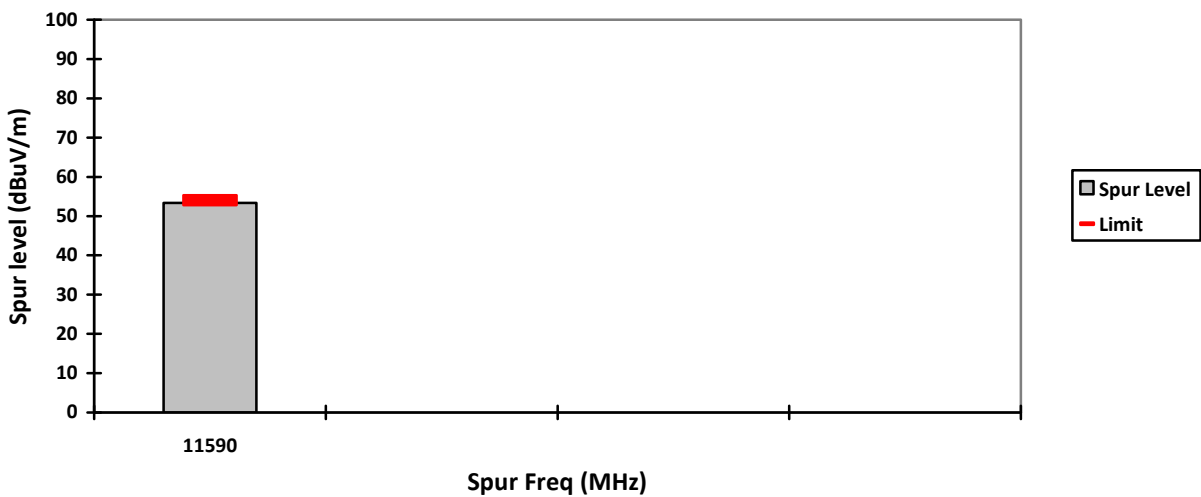
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Mid                            | Test Frequency: 5210.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80                       | Softpot power (10)            |

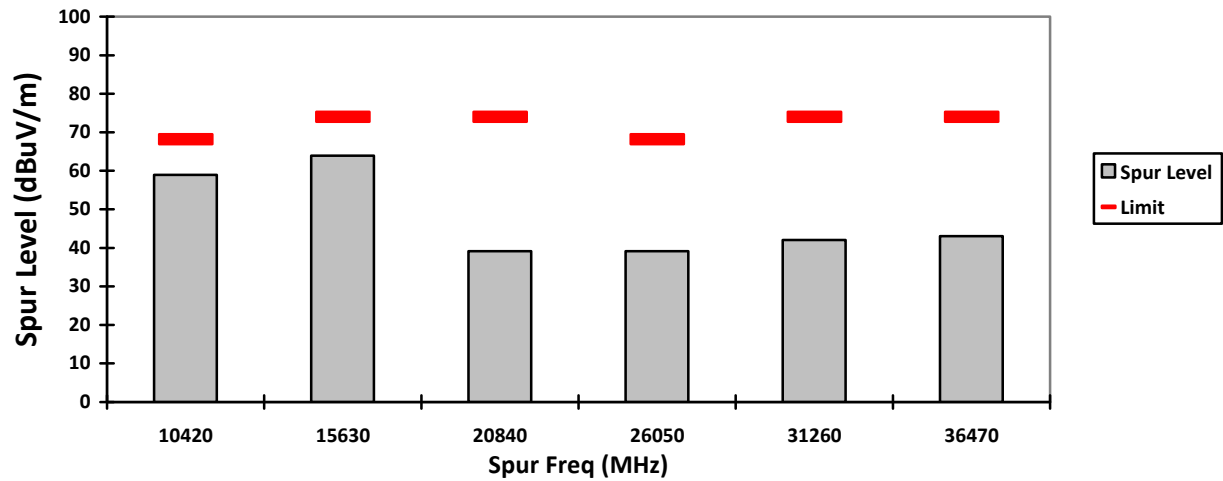
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

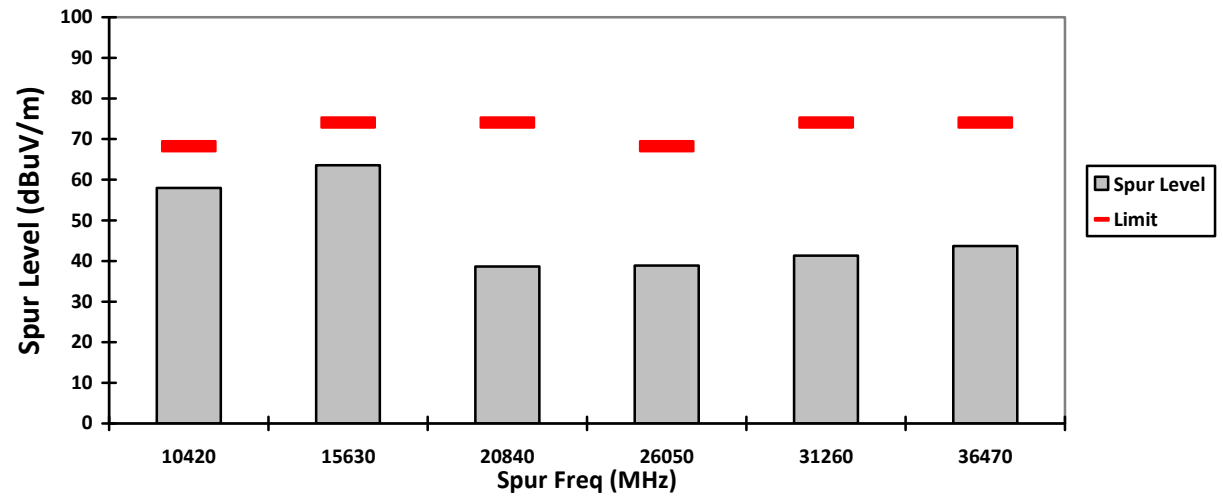
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

264

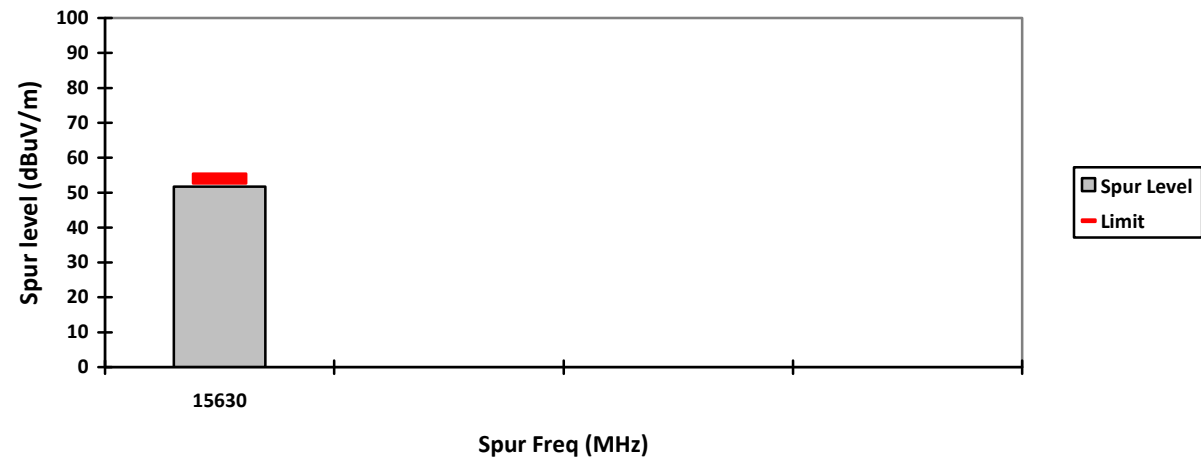
VERTICAL, PK



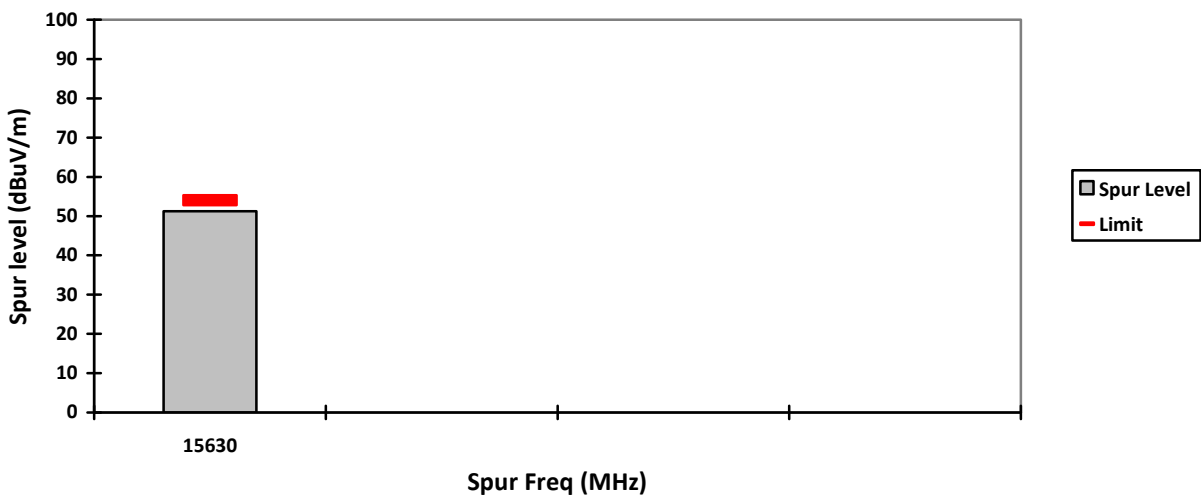
HORIZONTAL, PK



VERTICAL, AV

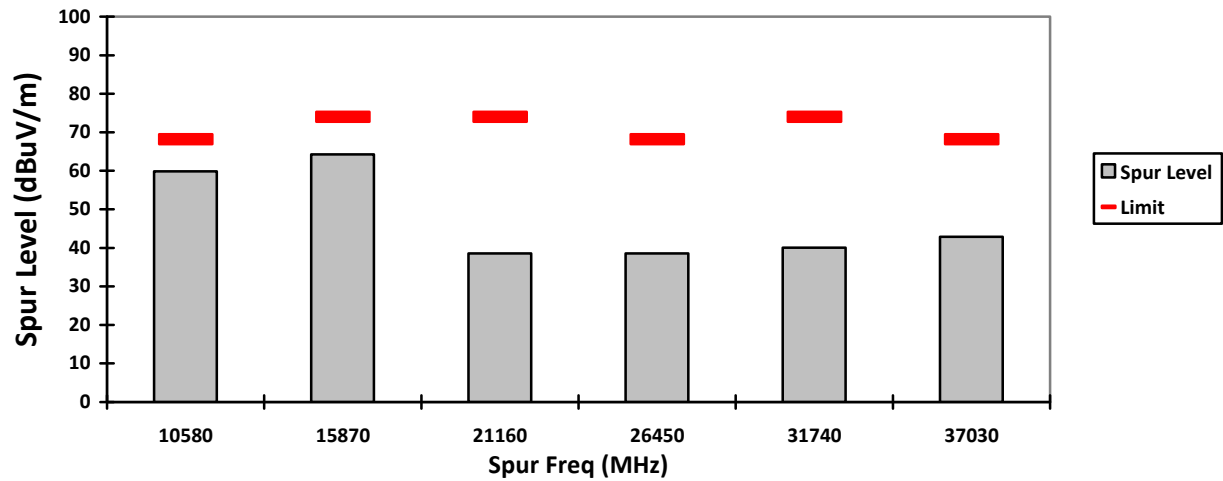


HORIZONTAL, AV

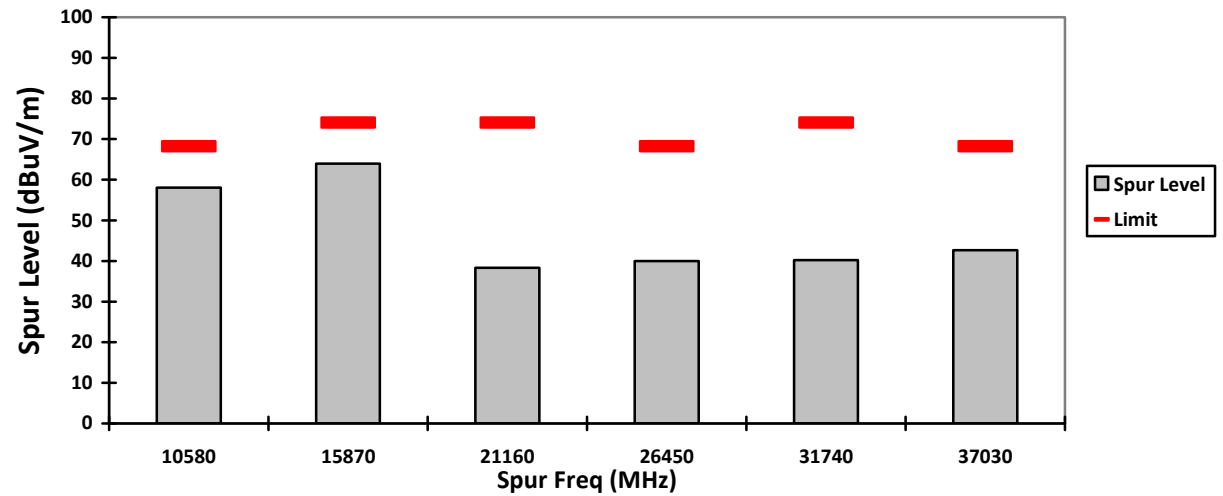




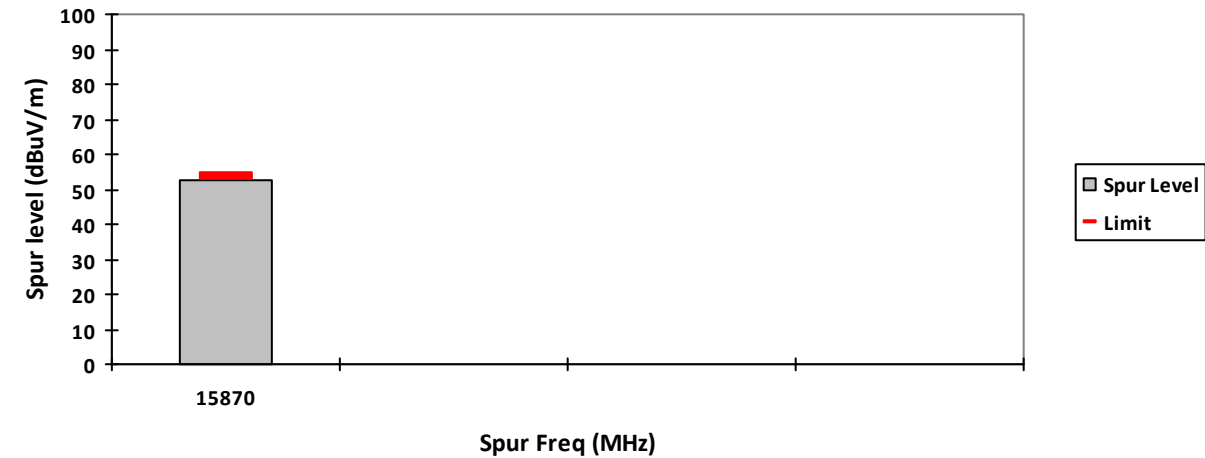
VERTICAL, PK



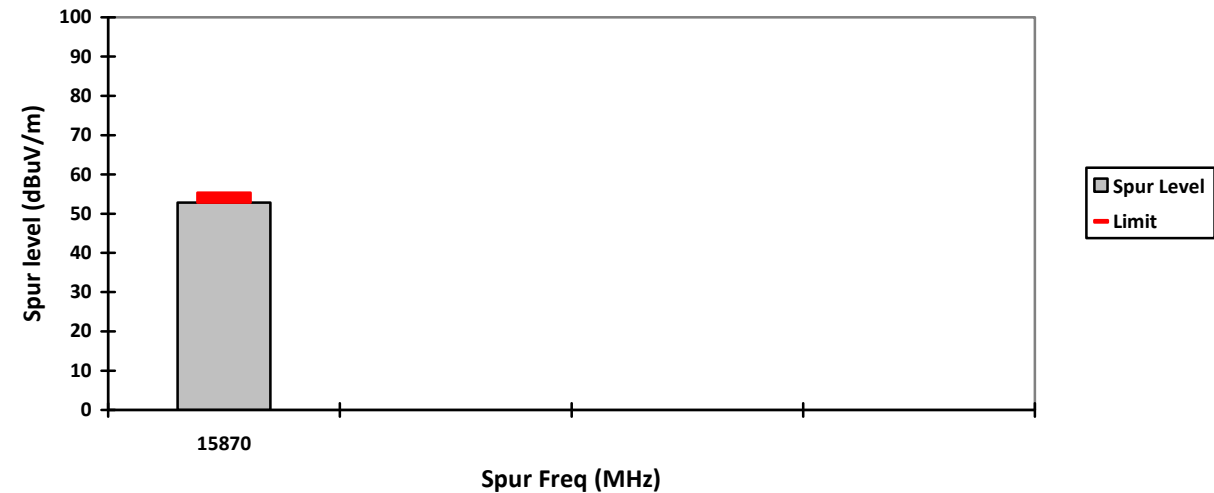
HORIZONTAL, PK



VERTICAL, AV

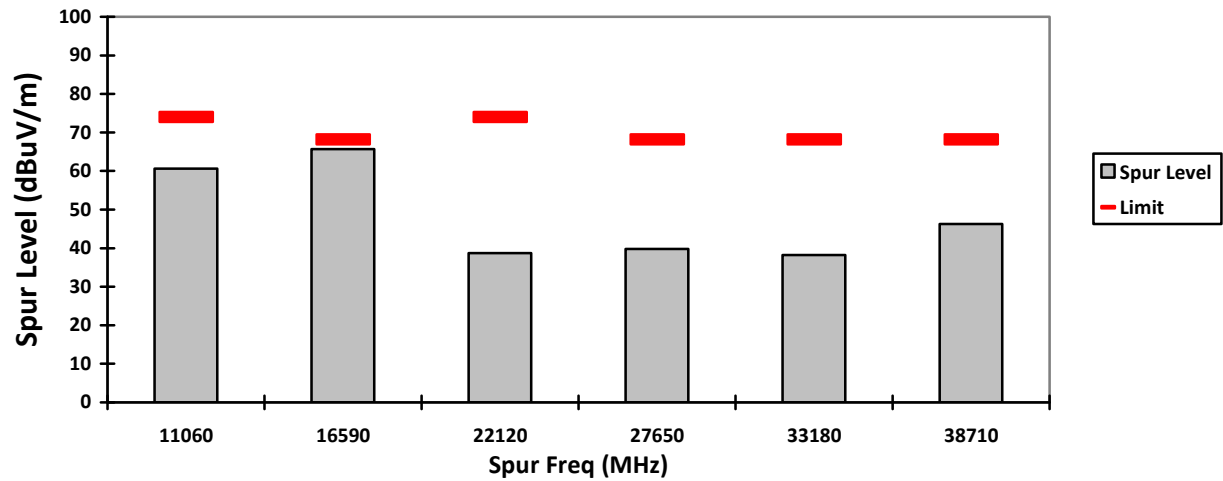


HORIZONTAL, AV

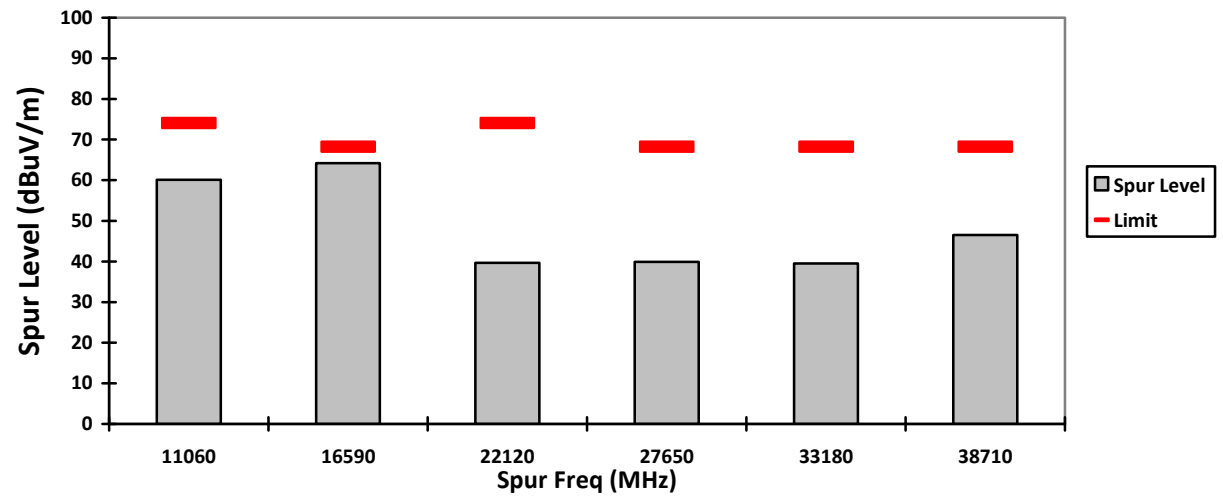




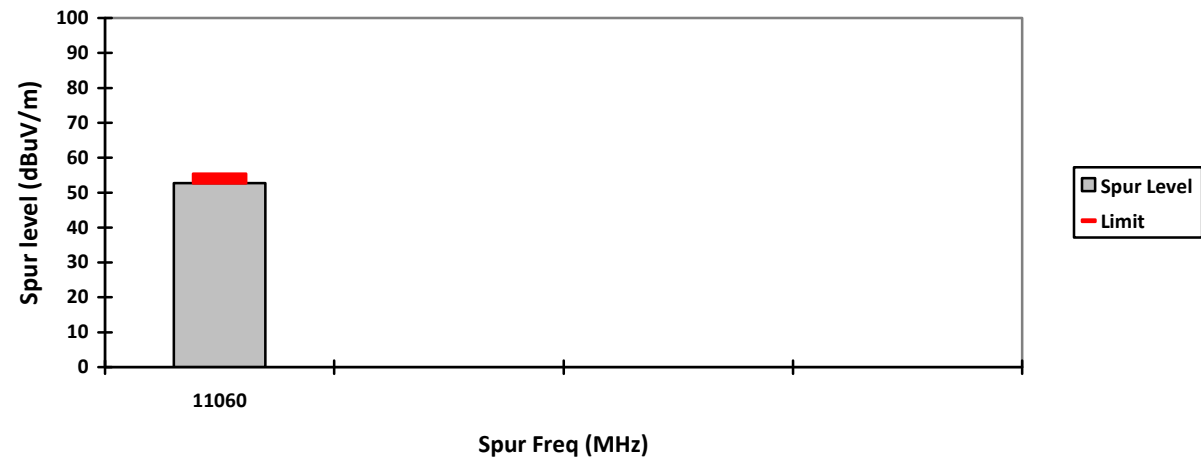
VERTICAL, PK



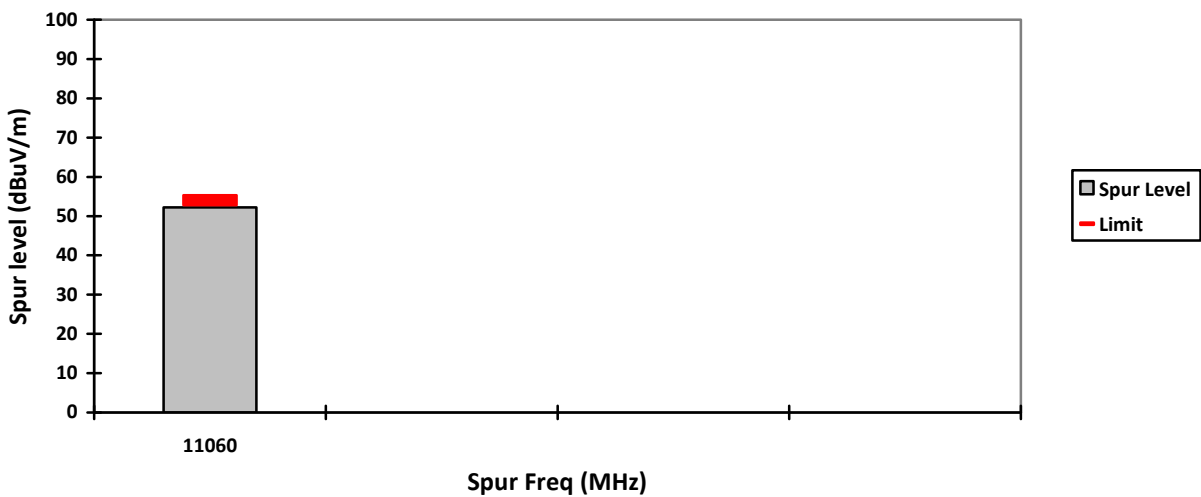
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Mid                            | Test Frequency: 5610.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80                       | Softpot power (8)             |

## Radiated Emission (Mid Channel) tabular data

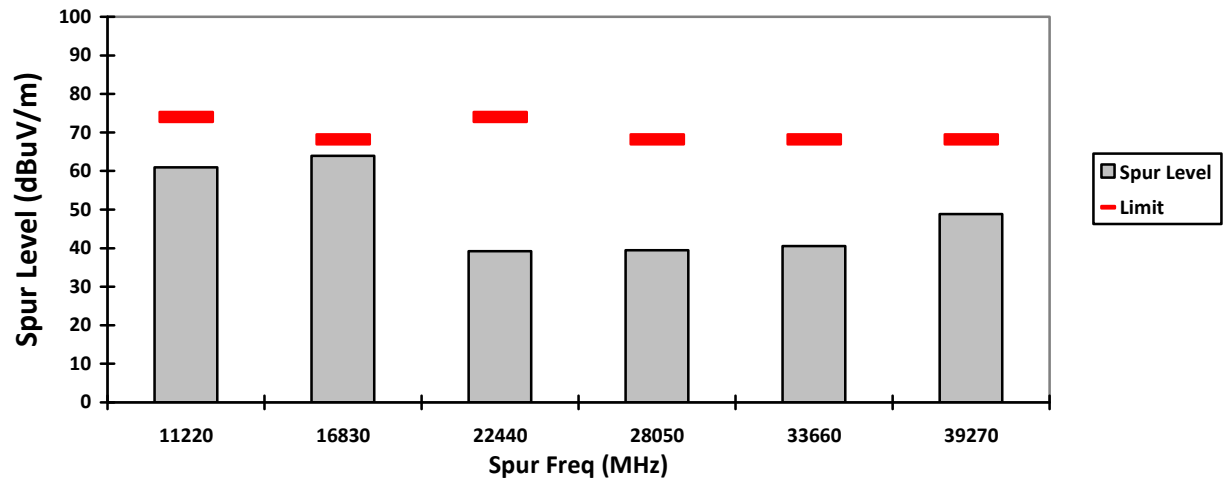
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

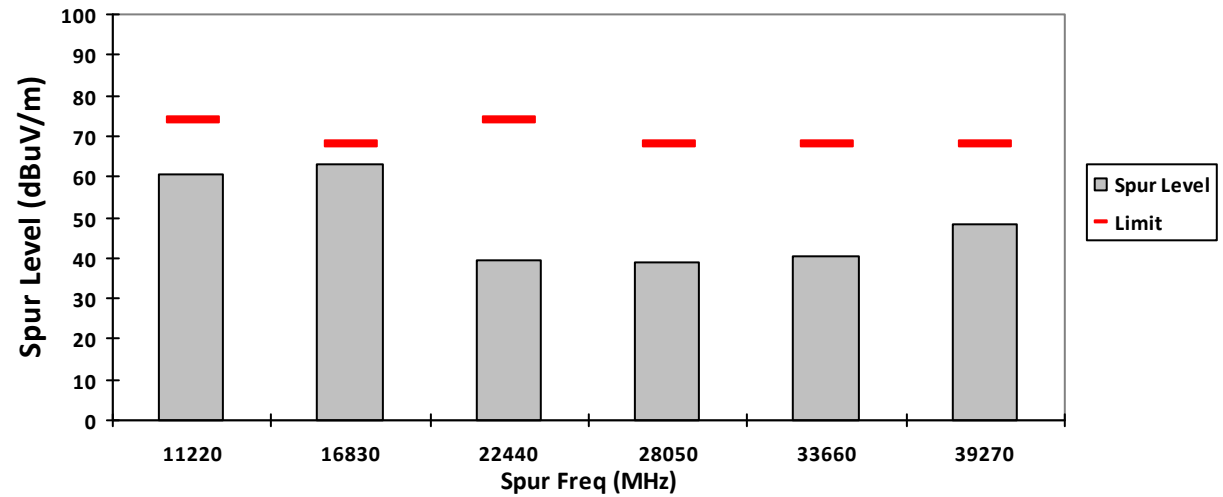
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

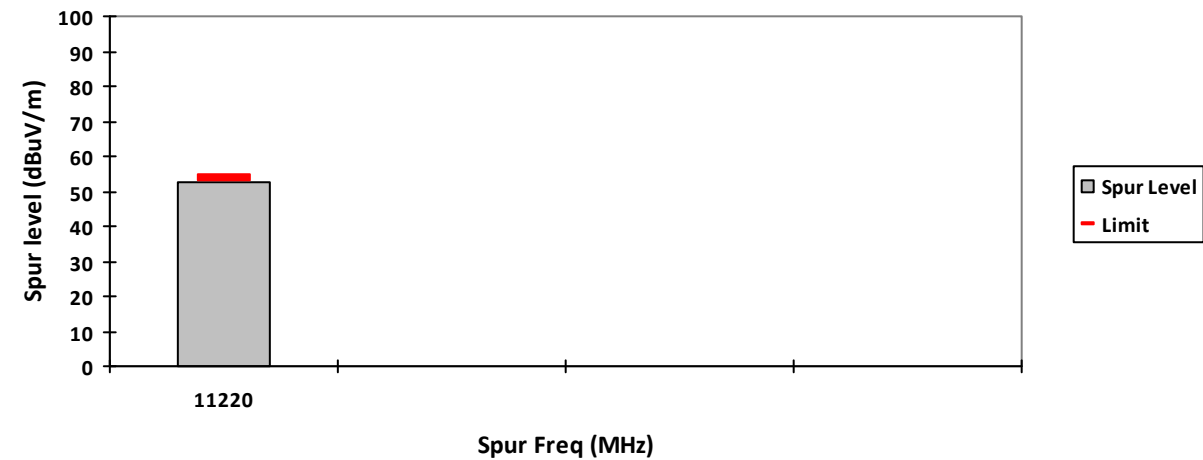
VERTICAL, PK



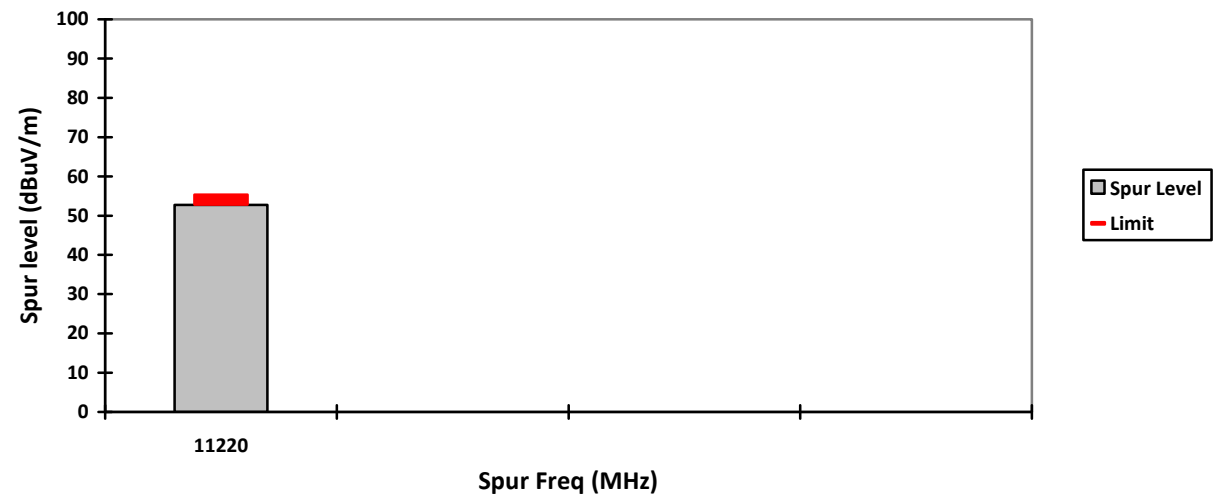
HORIZONTAL, PK



VERTICAL, AV

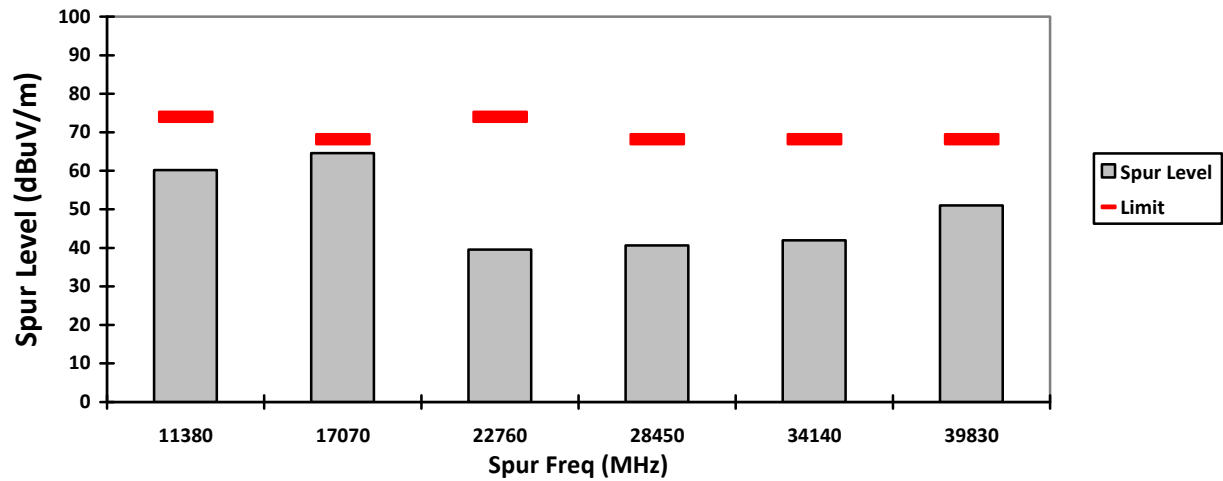


HORIZONTAL, AV

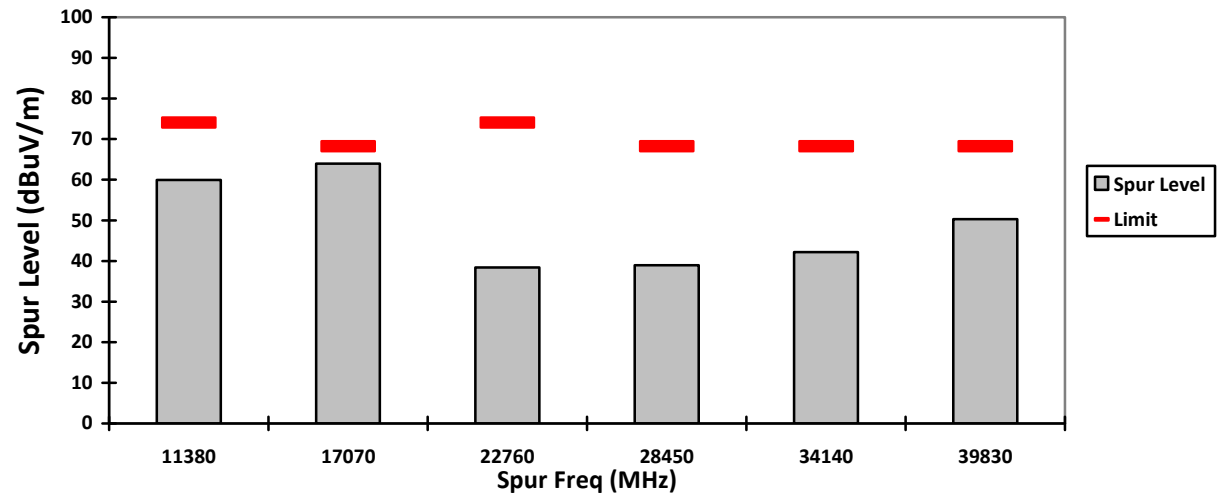




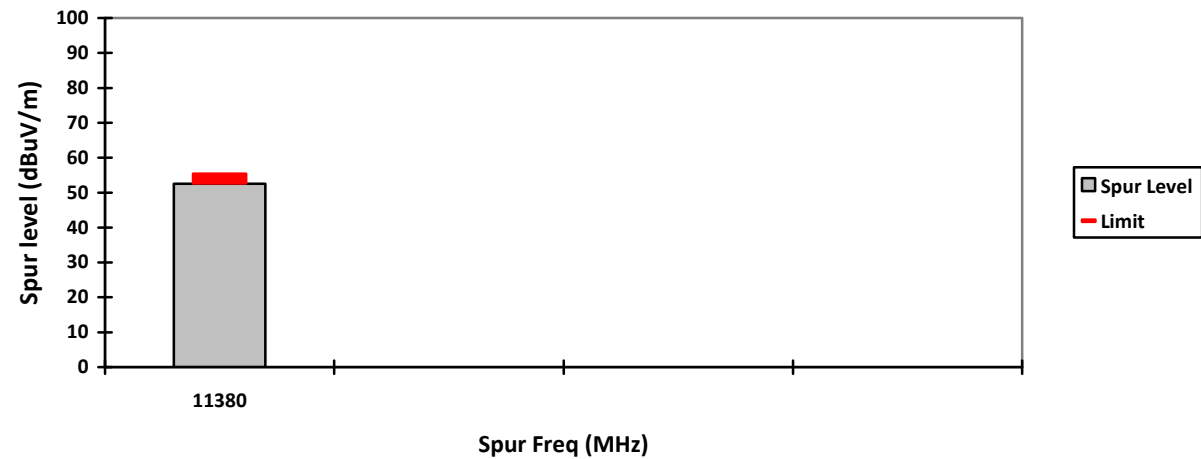
VERTICAL, PK



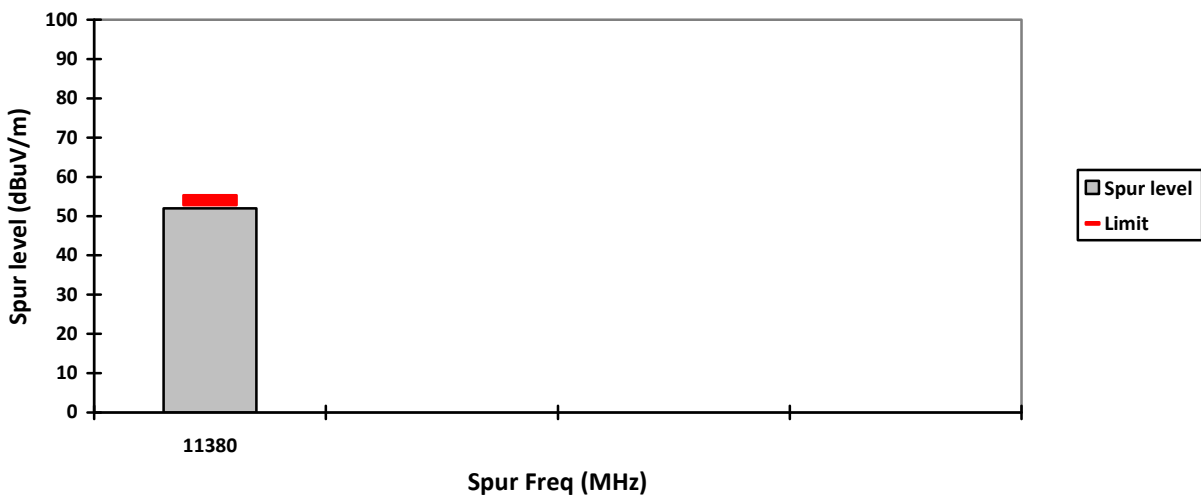
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00027 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: NA                                |                               |
| Test Channel: Mid                            | Test Frequency: 5775.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11ac80                       | Softpot power (8)             |

## Radiated Emission (Mid Channel) tabular data

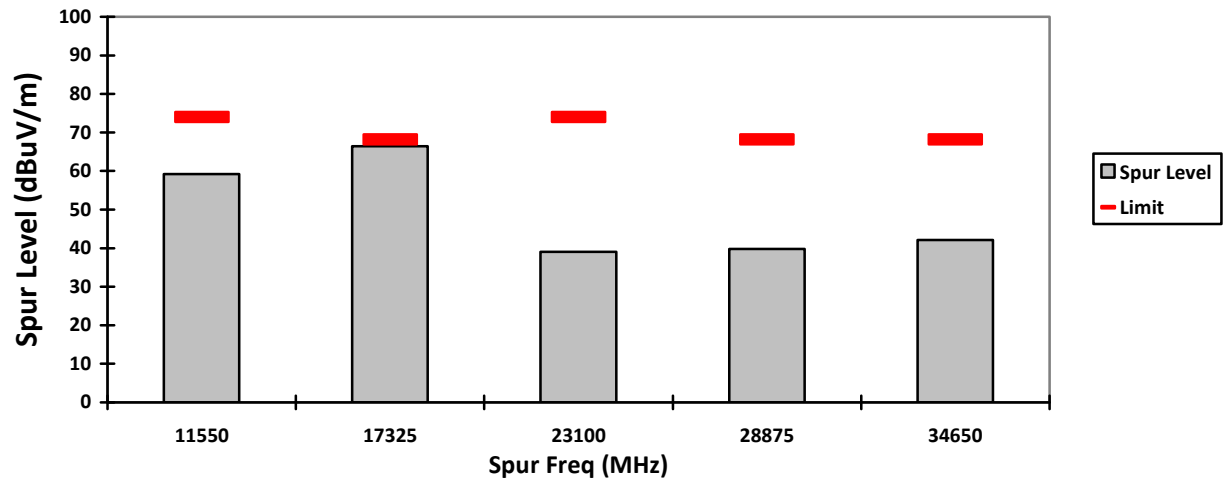
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

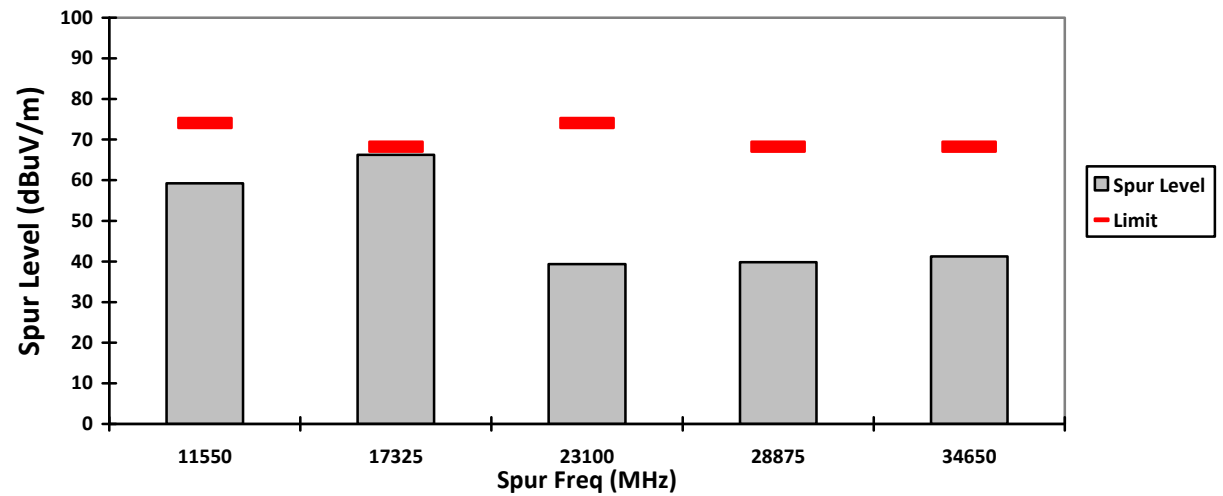
|                                                                                       |                              |
|---------------------------------------------------------------------------------------|------------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.1           |
| Test Performed by: Aiman                                                              | Test Date: Tue, 28 Jan, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                              |

Remarks: \*\* Indicates the spurious emission could not be detected due to noise limitations or ambient.  
\*Pursuant to CFR 47 Part 2.1057 ( c ), emissions attenuated more than 20 dB below the permissible limit are not reported.

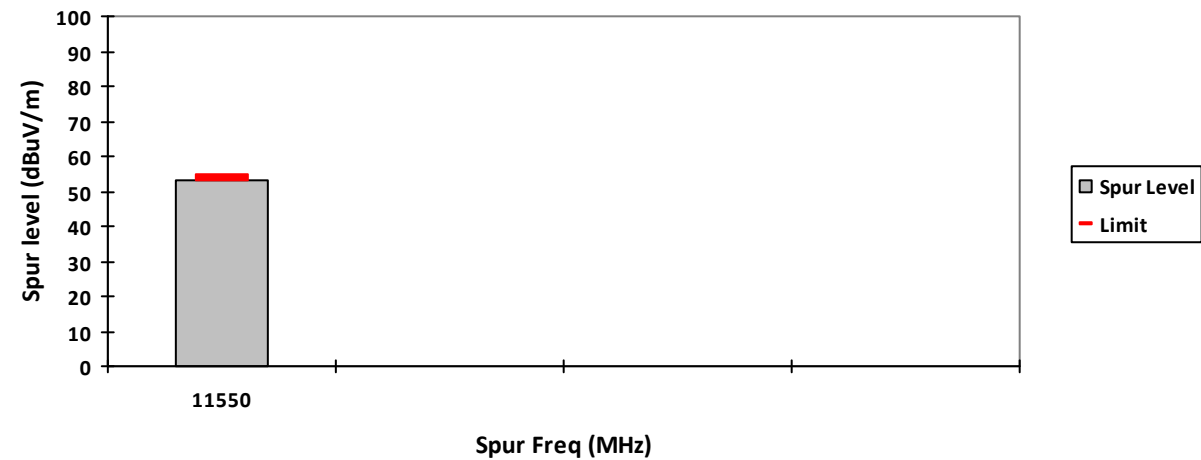
VERTICAL, PK



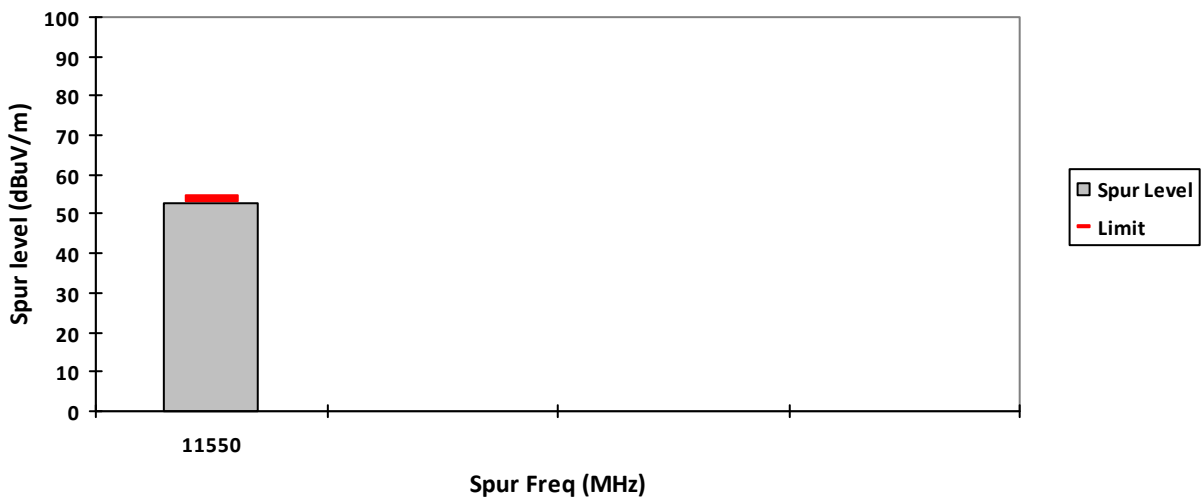
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



|                                              |                               |
|----------------------------------------------|-------------------------------|
| Test: WIFI SAC Transmitter Radiated Emission | EMC SR ID#: 1057N00-EMC-00031 |
| Model Number: VX650                          | S/N: 9903EBA0048              |
| Battery: PMNN4893A                           |                               |
| Accessory: USB C + Laptop(AH422508)          |                               |
| Test Channel: High                           | Test Frequency: 5795.0000 MHz |
| Test Standard: ANSI C63.10-2013              | Worst Case Plane: Z-Plane     |
| Modulation: 802.11n40                        |                               |

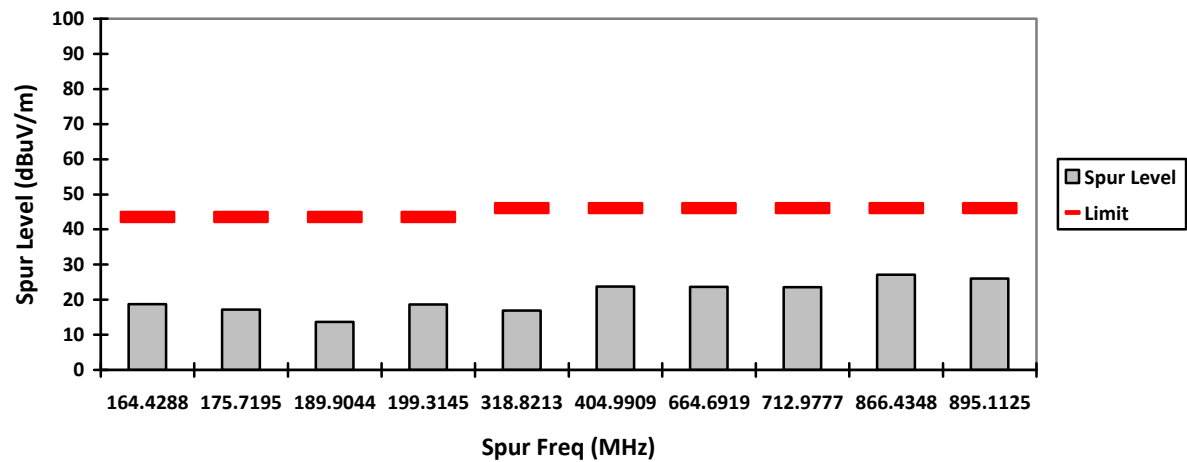
[illegible]

|                         |                 |             |
|-------------------------|-----------------|-------------|
| Remarks:<br>Pass Result | Marginal Result | Fail Result |
|-------------------------|-----------------|-------------|

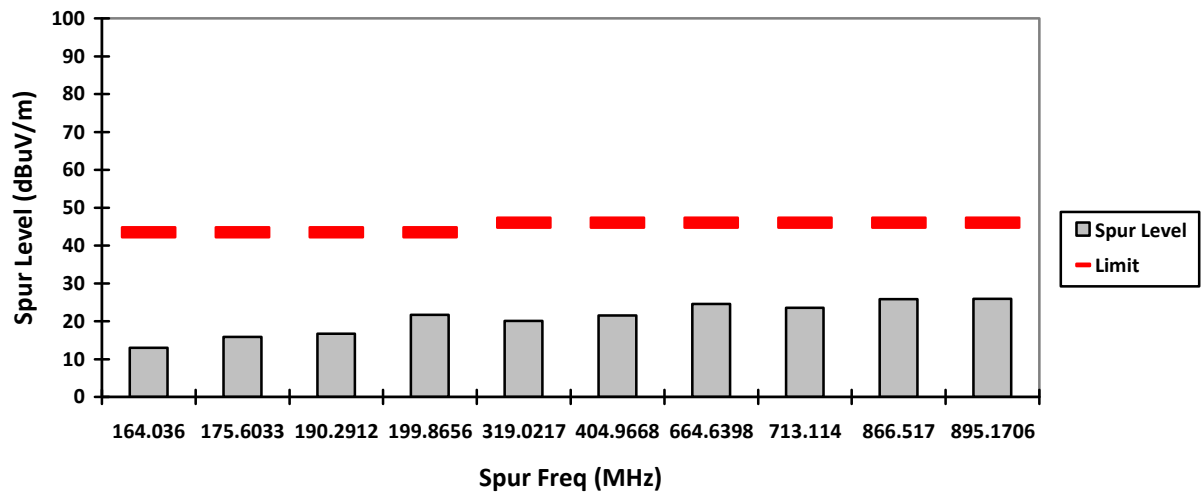
|                                                                                       |                             |
|---------------------------------------------------------------------------------------|-----------------------------|
| Temperature (degC): 22.5                                                              | Humidity (%): 63.2          |
| Test Performed by: Aiman                                                              | Test Date: Wed, 5 Feb, 2025 |
| System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz) |                             |

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VERTICAL, QPK

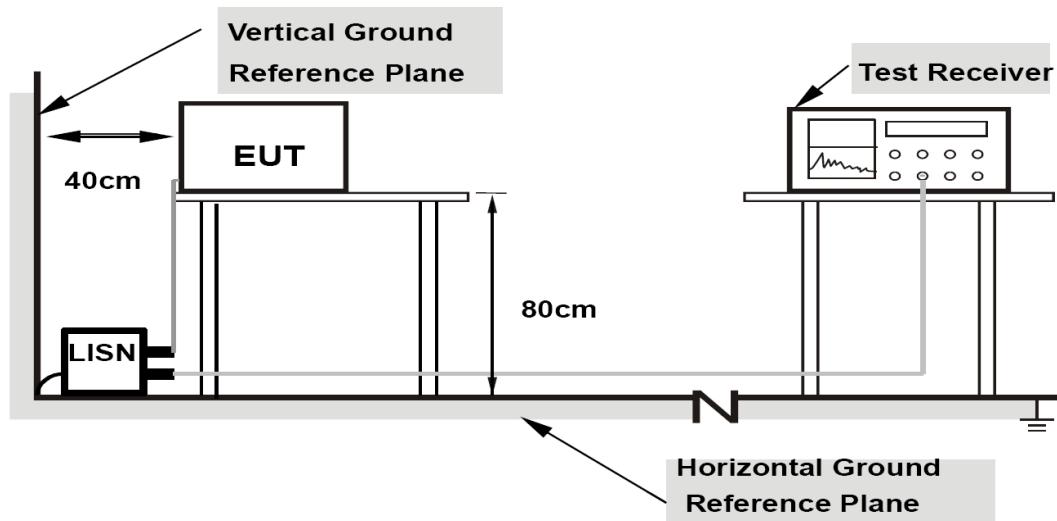


HORIZONTAL, QPK



## 6.8. AC Powerline Conducted Emission

### 6.8.1. Test Setup



- 1) Tests were conducted for both Receive and Transmit Mode of the EUT.
- 2) The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50uH of coupling impedance for the measuring instrument.
- 3) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 4) The frequency range from 150 kHz to 30MHz was measured.

### 6.8.2. Test Limits

For AC Power Line Conducted Test Limit can be Class A or B depends on product classification.

**Limits for conducted disturbance at the mains ports  
of class A ITE**

| Frequency range<br>MHz                                        | Limits<br>dB(μV) |         |
|---------------------------------------------------------------|------------------|---------|
|                                                               | Quasi-peak       | Average |
| 0,15 to 0,50                                                  | 79               | 66      |
| 0,50 to 30                                                    | 73               | 60      |
| NOTE The lower limit shall apply at the transition frequency. |                  |         |

Table 1: Limits for Conducted Disturbance at the Mains Ports of Class A ITE.

**Limits for conducted disturbance at the mains ports  
 of class B ITE**

| Frequency range<br>MHz | Limits<br>dB(μV) |          |
|------------------------|------------------|----------|
|                        | Quasi-peak       | Average  |
| 0,15 to 0,50           | 66 to 56         | 56 to 46 |
| 0,50 to 5              | 56               | 46       |
| 5 to 30                | 60               | 50       |

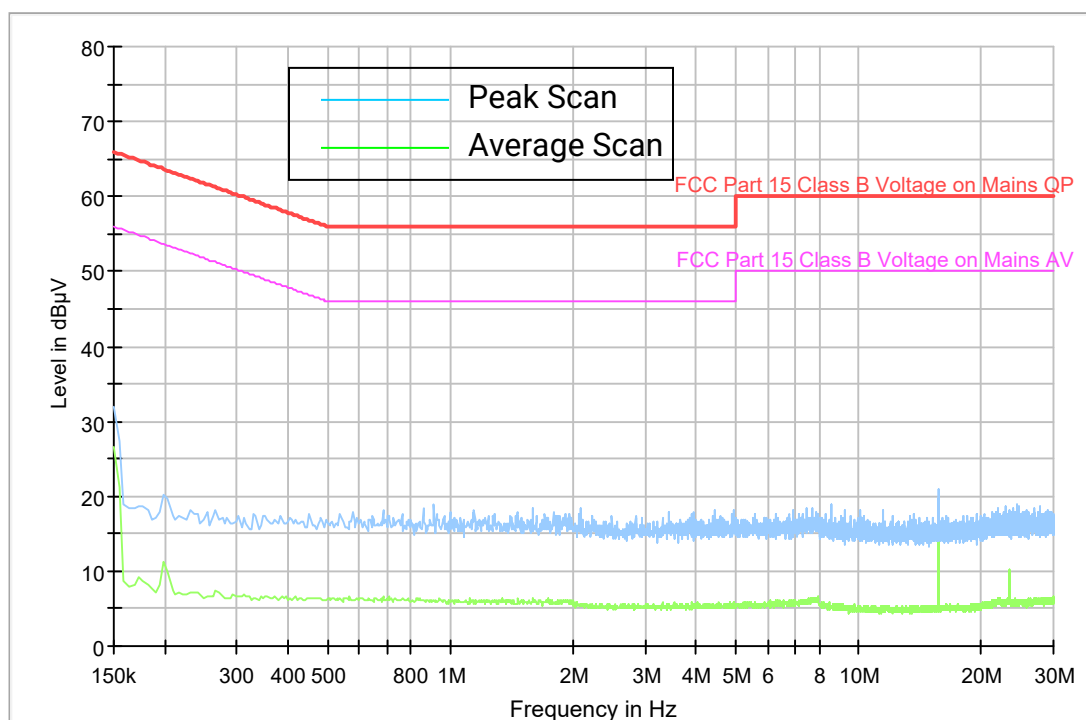
NOTE 1 The lower limit shall apply at the transition frequencies.  
 NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.

Table 2: Limits for Conducted Disturbance at the Mains Ports of Class B ITE

### 6.8.3. Test Data

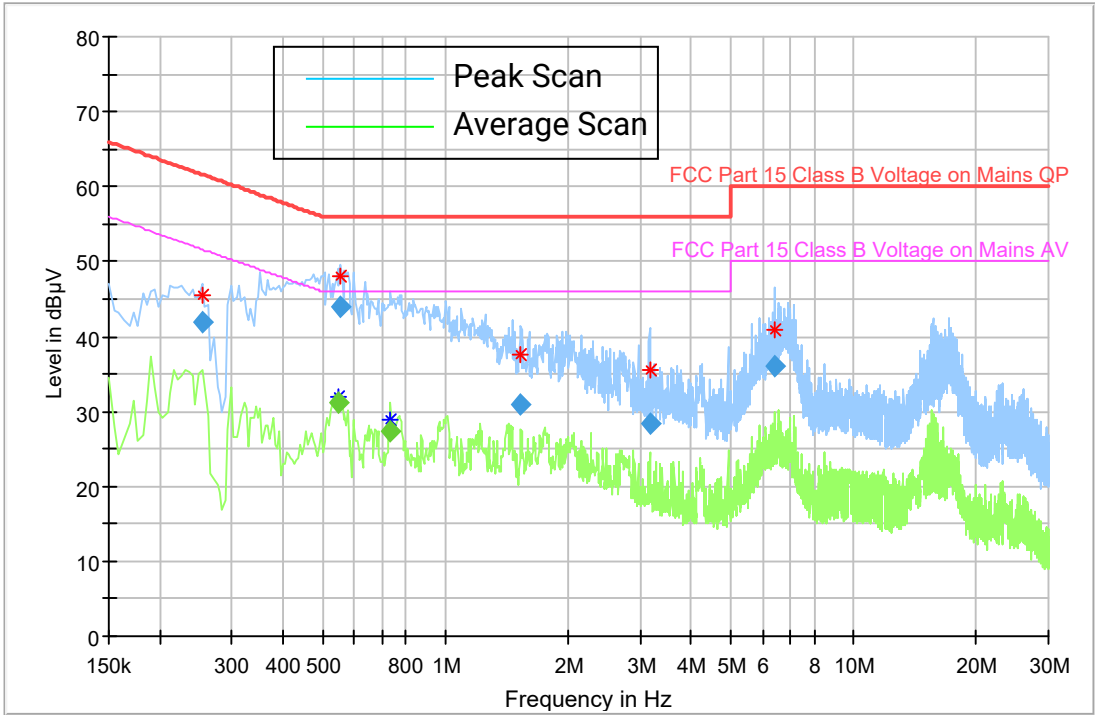
120 VAC, 60Hz  
 1) Ambient

Full Spectrum



2) Ambient Laptop

Full Spectrum

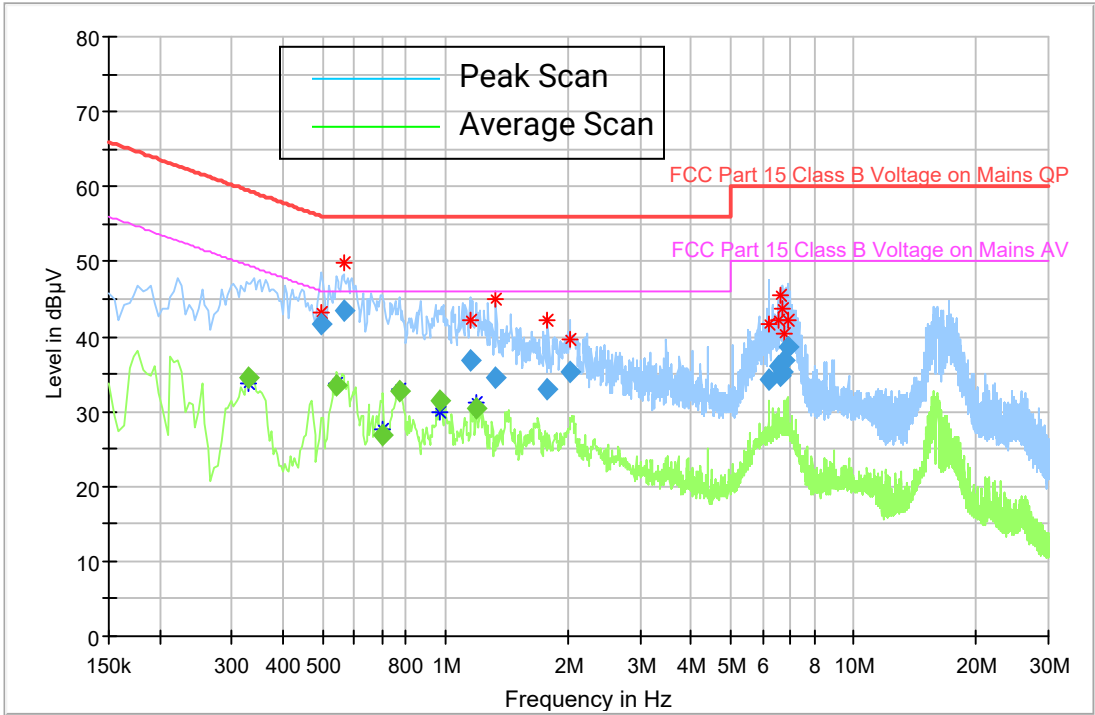


QuasiPeak and Average Measurement

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.253500        | 42.01            | ---             | 61.64        | 19.63       | N    | ON     | 10.2       |
| 0.550500        | ---              | 31.27           | 46.00        | 14.73       | N    | ON     | 10.6       |
| 0.555000        | 44.04            | ---             | 56.00        | 11.96       | N    | ON     | 10.6       |
| 0.735000        | ---              | 27.45           | 46.00        | 18.55       | N    | ON     | 10.5       |
| 1.531500        | 30.99            | ---             | 56.00        | 25.01       | L1   | ON     | 10.3       |
| 3.165000        | 28.30            | ---             | 56.00        | 27.70       | L1   | ON     | 10.3       |
| 6.418500        | 35.99            | ---             | 60.00        | 24.01       | N    | ON     | 10.4       |

3) Laptop + VRSM Standby

Full Spectrum

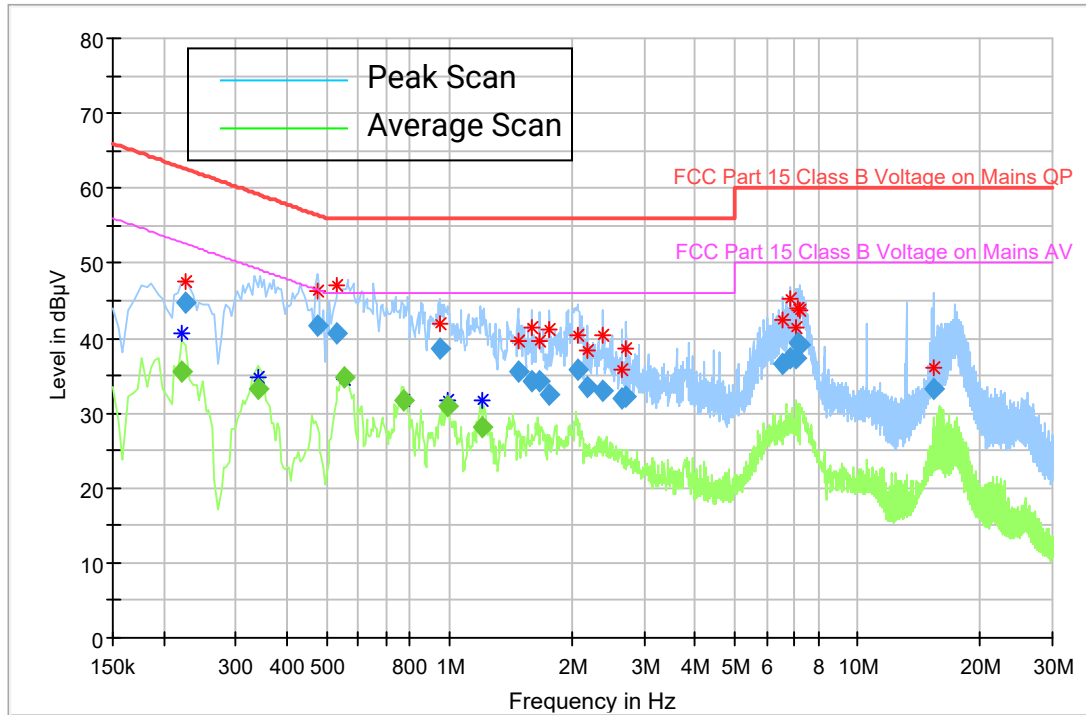


QuasiPeak and Average Measurement

| Frequency (MHz) | QuasiPeak (dBµV) | CAverage (dBµV) | Limit (dBµV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.330000        | ---              | 34.44           | 49.45        | 15.01       | N    | ON     | 10.5       |
| 0.496500        | 41.59            | ---             | 56.06        | 14.46       | N    | ON     | 10.6       |
| 0.541500        | ---              | 33.55           | 46.00        | 12.45       | L1   | ON     | 10.6       |
| 0.564000        | 43.49            | ---             | 56.00        | 12.51       | N    | ON     | 10.6       |
| 0.703500        | ---              | 26.73           | 46.00        | 19.27       | L1   | ON     | 10.5       |
| 0.771000        | ---              | 32.80           | 46.00        | 13.20       | N    | ON     | 10.5       |
| 0.973500        | ---              | 31.47           | 46.00        | 14.53       | N    | ON     | 10.4       |
| 1.149000        | 36.86            | ---             | 56.00        | 19.14       | N    | ON     | 10.4       |
| 1.194000        | ---              | 30.31           | 46.00        | 15.69       | L1   | ON     | 10.4       |
| 1.333500        | 34.61            | ---             | 56.00        | 21.39       | N    | ON     | 10.3       |
| 1.783500        | 33.00            | ---             | 56.00        | 23.00       | L1   | ON     | 10.3       |
| 2.017500        | 35.15            | ---             | 56.00        | 20.85       | L1   | ON     | 10.3       |
| 6.180000        | 34.30            | ---             | 60.00        | 25.70       | N    | ON     | 10.4       |
| 6.571500        | 36.13            | ---             | 60.00        | 23.87       | L1   | ON     | 10.4       |
| 6.616500        | 34.87            | ---             | 60.00        | 25.13       | N    | ON     | 10.4       |
| 6.706500        | 35.31            | ---             | 60.00        | 24.69       | N    | ON     | 10.4       |
| 6.778500        | 36.85            | ---             | 60.00        | 23.15       | L1   | ON     | 10.4       |
| 6.882000        | 38.58            | ---             | 60.00        | 21.42       | L1   | ON     | 10.4       |

#### 4) Laptop + VRSM TX WiFi 5GHz 802.11a

Full Spectrum



#### QuasiPeak and Average Measurement

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Line | Filter | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|------|--------|------------|
| 0.222000        | ---              | 35.56           | 52.74        | 17.18       | L1   | ON     | 10.4       |
| 0.226500        | 44.71            | ---             | 62.58        | 17.86       | L1   | ON     | 10.3       |
| 0.339000        | ---              | 33.24           | 49.23        | 15.99       | N    | ON     | 10.5       |
| 0.474000        | 41.68            | ---             | 56.44        | 14.77       | N    | ON     | 10.6       |
| 0.532500        | 40.53            | ---             | 56.00        | 15.47       | L1   | ON     | 10.6       |
| 0.555000        | ---              | 34.84           | 46.00        | 11.16       | N    | ON     | 10.6       |
| 0.771000        | ---              | 31.61           | 46.00        | 14.39       | L1   | ON     | 10.5       |
| 0.946500        | 38.63            | ---             | 56.00        | 17.37       | N    | ON     | 10.4       |
| 0.991500        | ---              | 30.87           | 46.00        | 15.13       | N    | ON     | 10.4       |
| 1.198500        | ---              | 28.05           | 46.00        | 17.95       | N    | ON     | 10.3       |
| 1.473000        | 35.62            | ---             | 56.00        | 20.38       | L1   | ON     | 10.3       |
| 1.590000        | 34.31            | ---             | 56.00        | 21.69       | L1   | ON     | 10.3       |
| 1.666500        | 34.32            | ---             | 56.00        | 21.68       | L1   | ON     | 10.3       |
| 1.765500        | 32.41            | ---             | 56.00        | 23.59       | L1   | ON     | 10.3       |
| 2.067000        | 35.76            | ---             | 56.00        | 20.24       | L1   | ON     | 10.3       |
| 2.175000        | 33.58            | ---             | 56.00        | 22.42       | N    | ON     | 10.3       |
| 2.382000        | 32.96            | ---             | 56.00        | 23.04       | L1   | ON     | 10.3       |
| 2.643000        | 31.91            | ---             | 56.00        | 24.09       | N    | ON     | 10.3       |
| 2.710500        | 32.10            | ---             | 56.00        | 23.90       | N    | ON     | 10.3       |
| 6.585000        | 36.47            | ---             | 60.00        | 23.53       | N    | ON     | 10.4       |
| 6.828000        | 37.36            | ---             | 60.00        | 22.64       | N    | ON     | 10.4       |
| 7.066500        | 37.28            | ---             | 60.00        | 22.72       | N    | ON     | 10.4       |
| 7.152000        | 39.43            | ---             | 60.00        | 20.57       | L1   | ON     | 10.4       |
| 7.233000        | 39.10            | ---             | 60.00        | 20.90       | L1   | ON     | 10.4       |
| 15.333000       | 33.18            | ---             | 60.00        | 26.82       | N    | ON     | 10.4       |

END OF TEST REPORT