

# TEST REPORT

## CERTIFICATE OF CONFORMITY

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)

**Report No.:** RFBEIU-WTW-P25100525-3

**FCC ID:** MDZ-6856P6EC3M

**Product:** AMT6856C3M Wi-Fi Tri-band 2X2 11ax + Bluetooth 5.3 Combo Module

**Brand:** AmTRAN

**Model No.:** AMT6856C3M

**Received Date:** 2025/8/27

**Test Date:** 2025/12/16 ~ 2026/1/10

**Issued Date:** 2026/2/3

**Applicant:** Amtran Technology Co., Ltd.

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**FCC Registration /** 198487 / TW2021

**Designation Number:**

Approved by: \_\_\_\_\_

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2026/2/3

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Prepared by : Jessica Cheng / Senior Specialist



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**Release Control Record**

| Issue No.              | Description       | Date Issued |
|------------------------|-------------------|-------------|
| RFBEIU-WTW-P25100525-3 | Original release. | 2026/2/3    |

## 1 Certificate

**Product:** AMT6856C3M Wi-Fi Tri-band 2X2 11ax + Bluetooth 5.3 Combo Module

**Brand:** AmTRAN

**Test Model:** AMT6856C3M

**Sample Status:** Engineering sample

**Applicant:** Amtran Technology Co., Ltd.

**Test Date:** 2025/12/16 ~ 2026/1/10

**Standard:** 47 CFR FCC Part 15, Subpart E (Section 15.407)

**Measurement** ANSI C63.10-2020

**procedure:** KDB 789033 D02 General UNII Test Procedure New Rules v02r01

KDB 662911 D01 Multiple Transmitter Output v02r01

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

## 2 Summary of Test Results

| 47 CFR FCC Part 15, Subpart E (Section 15.407)                                  |                                |        |                                                                                            |
|---------------------------------------------------------------------------------|--------------------------------|--------|--------------------------------------------------------------------------------------------|
| Clause                                                                          | Test Item                      | Result | Remark                                                                                     |
| 15.407(a)(2)                                                                    | 26 dB Bandwidth                | -      | For U-NII-2A U-NII-2C Band output power limitation is determined based on 26dBc bandwidth. |
| 15.407(a)(1)<br>15.407(a)(2)<br>15.407(a)(3)                                    | RF Output Power                | Pass   | Meet the requirement of limit.                                                             |
| 15.407(a)(1)<br>15.407(a)(2)<br>15.407(a)(3)                                    | Power Spectral Density         | Pass   | Meet the requirement of limit.                                                             |
| 15.407(e)                                                                       | 6 dB Bandwidth                 | Pass   | Meet the requirement of limit. (U-NII-3 Band only)                                         |
| ---                                                                             | Occupied Bandwidth             | -      | Reference only.                                                                            |
| 15.407(b)(9)                                                                    | AC Power Conducted Emissions   | Pass   | Minimum passing margin is -17.15 dB at 0.46288 MHz                                         |
| 15.407(b)(9)                                                                    | Unwanted Emissions below 1 GHz | Pass   | Minimum passing margin is -8.7 dB at 31.79 MHz                                             |
| 15.407(b) (1/10)<br>15.407(b) (2/10)<br>15.407(b) (3/10)<br>15.407(b) (4(i)/10) | Unwanted Emissions above 1 GHz | Pass   | Minimum passing margin is -1.0 dB at 10600.00 MHz                                          |
| 15.203                                                                          | Antenna Requirement            | Pass   | No antenna connector is used.                                                              |

### Notes:

- Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- The "Dynamic Frequency Selection measurement" was recorded in DFS test report.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

| Measurement                    | Specification   | Expanded Uncertainty (k=2)<br>(±) |
|--------------------------------|-----------------|-----------------------------------|
| 26 dB Bandwidth                | -               | 960 Hz                            |
| RF Output Power                | -               | 1.1 dB                            |
| Power Spectral Density         | -               | 1.3 dB                            |
| 6 dB Bandwidth                 | -               | 960 Hz                            |
| Occupied Bandwidth             | -               | 960 Hz                            |
| AC Power Conducted Emissions   | 9 kHz ~ 30 MHz  | 2.9 dB                            |
| Unwanted Emissions below 1 GHz | 9 kHz ~ 30 MHz  | 2.55 dB                           |
|                                | 30 MHz ~ 1 GHz  | 5.77 dB                           |
| Unwanted Emissions above 1 GHz | 1 GHz ~ 6 GHz   | 4.71 dB                           |
|                                | 6 GHz ~ 18 GHz  | 5.3 dB                            |
|                                | 18 GHz ~ 40 GHz | 4.98 dB                           |

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

### 2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

|                       |                                                                                                                                                                                                       |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product               | AMT6856C3M Wi-Fi Tri-band 2X2 11ax + Bluetooth 5.3 Combo Module                                                                                                                                       |
| Brand                 | AmTRAN                                                                                                                                                                                                |
| Test Model            | AMT6856C3M                                                                                                                                                                                            |
| Status of EUT         | Engineering sample                                                                                                                                                                                    |
| Power Supply Rating   | 3.9 Vdc (system)                                                                                                                                                                                      |
| Modulation Type       | 64QAM, 16QAM, QPSK, BPSK for OFDM<br>256QAM for OFDM in 11ac mode<br>1024QAM for OFDMA in 11ax mode                                                                                                   |
| Modulation Technology | OFDM, OFDMA                                                                                                                                                                                           |
| Transfer Rate         | Up to 2401.9 Mbps                                                                                                                                                                                     |
| Operating Frequency   | 5.18 GHz ~ 5.25 GHz<br>5.25 GHz ~ 5.32 GHz<br>5.5 GHz ~ 5.72 GHz<br>5.745 GHz ~ 5.825 GHz                                                                                                             |
| Number of Channel     | 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):25<br>802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):12<br>802.11ac (VHT80), 802.11ax (HE80):6<br>802.11ac (VHT160), 802.11ax (HE160):2 |
| Resource Unit (RU)    | Single RU: 26-tone, 52-tone, 106-tone, 242-tone, 484-tone, 996-tone<br>Multi-RU (Large RU): 2 * 996-tone                                                                                              |
| Output Power          | 5.18 GHz ~ 5.25 GHz: 50.071 mW (17 dBm)<br>5.25 GHz ~ 5.32 GHz: 50.782 mW (17.06 dBm)<br>5.5 GHz ~ 5.72 GHz: 80.435 mW (19.05 dBm)<br>5.745 GHz ~ 5.825 GHz: 81.144 mW (19.09 dBm)                    |
| EUT Category          | Client device                                                                                                                                                                                         |

Note:

1. There are Bluetooth and WLAN (2.4 GHz & 5 GHz & 6 GHz) technologies used for the EUT.
2. Bluetooth, WLAN 2.4 GHz & WLAN 5 GHz & WLAN 6 GHz technologies cannot transmit at same time.
3. The EUT support OFDMA and Partial RU mode, therefore partial RU combination were investigated and the worst case scenario was identified.
4. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

### 3.2 Antenna Description of EUT

1. The antenna information is listed as below.

| Antenna No. | RF Chain No. | Frequency range (GHz) | Gain (dBi) | Antenna Type | Connector Type |
|-------------|--------------|-----------------------|------------|--------------|----------------|
| 1(WIFI)     | 0/1          | 5.15~5.85             | 5.89       | Dipole       | ipex(MHF)      |

\* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

2. The EUT incorporates a MIMO function:

| 5 GHz Band                                  |                       |     |
|---------------------------------------------|-----------------------|-----|
| Modulation Mode                             | TX & RX Configuration |     |
| 802.11a                                     | 2TX                   | 2RX |
| 802.11n (HT20)                              | 2TX                   | 2RX |
| 802.11n (HT40)                              | 2TX                   | 2RX |
| 802.11ac (VHT20)                            | 2TX                   | 2RX |
| 802.11ac (VHT40)                            | 2TX                   | 2RX |
| 802.11ac (VHT80)                            | 2TX                   | 2RX |
| 802.11ac (VHT160)                           | 2TX                   | 2RX |
| 802.11ax (HE20)                             | 2TX                   | 2RX |
| 802.11ax (HE40)                             | 2TX                   | 2RX |
| 802.11ax (HE80)                             | 2TX                   | 2RX |
| 802.11ax (HE160)                            | 2TX                   | 2RX |
| 802.11ax<br>(RU26/52/106/242/484/996/996x2) | 2TX                   | 2RX |

Note:

- The modulation and bandwidth are similar for 802.11n mode for 20 MHz (40 MHz), 802.11ac mode for 20 MHz (40 MHz, 80 MHz, 160 MHz) and 802.11ax mode for 20 MHz (40 MHz, 80 MHz, 160 MHz). Therefore the investigated worst case is the representative mode in test report.
- The EUT does not use channel puncturing and bandwidth reduction.

### 3.3 Channel List

#### FOR 5180 ~ 5320 MHz

8 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 36      | 5180 MHz  | 52      | 5260 MHz  |
| 40      | 5200 MHz  | 56      | 5280 MHz  |
| 44      | 5220 MHz  | 60      | 5300 MHz  |
| 48      | 5240 MHz  | 64      | 5320 MHz  |

4 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 38      | 5190 MHz  | 54      | 5270 MHz  |
| 46      | 5230 MHz  | 62      | 5310 MHz  |

2 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 42      | 5210 MHz  | 58      | 5290 MHz  |

1 straddle channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

| Channel | Frequency |
|---------|-----------|
| 50      | 5250 MHz  |

#### FOR 5500 ~ 5720 MHz

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 100     | 5500 MHz  | 124     | 5620 MHz  |
| 104     | 5520 MHz  | 128     | 5640 MHz  |
| 108     | 5540 MHz  | 132     | 5660 MHz  |
| 112     | 5560 MHz  | 136     | 5680 MHz  |
| 116     | 5580 MHz  | 140     | 5700 MHz  |
| 120     | 5600 MHz  | 144     | 5720 MHz  |

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

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

3 channels are provided for 802.11ac (VHT80), 802.11ax (HE80):

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

1 channel is provided for 802.11ac (VHT160), 802.11ax (HE160):

| Channel | Frequency |
|---------|-----------|
| 114     | 5570 MHz  |

# **FOR 5745 ~ 5825 MHz:**

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20):

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

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40):

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

1 channel is provided for 802.11ac (VHT80), 802.11ax (HE80):

| Channel | Frequency |
|---------|-----------|
| 155     | 5775 MHz  |

### 3.4 Test Mode Applicability and Tested Channel Detail

|             |                                                                                                                                                                                                                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre-Scan:   | 1. The antenna can be used in the following ways: X / Y / Z axis. Pre-scan in these ways and find the worst case as a representative test condition.<br>2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates. |
| Worst Case: | 1. The antenna the worst case was found when positioned on (X / Y / Z axis): Y axis                                                                                                                                                                                                               |

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

| Test Item       | Mode                        | Signal Mode | Tested Channel                                            | Modulation | Data Rate Parameter | RU/MRU Index               |
|-----------------|-----------------------------|-------------|-----------------------------------------------------------|------------|---------------------|----------------------------|
| 26 dB Bandwidth | 802.11a                     | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | 6Mb/s               | NA                         |
|                 | 802.11ac (VHT20)            | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT40)            | CDD         | 54, 62, 102, 110, 134, 142                                | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT80)            | CDD         | 58, 106, 122, 138                                         | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT160)           | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                         |
|                 | 802.11ax (HE20)             | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | MCS0                | NA                         |
|                 | 802.11ax (HE40)             | CDD         | 54, 62, 102, 110, 134, 142                                | BPSK       | MCS0                | NA                         |
|                 | 802.11ax (HE80)             | CDD         | 58, 106, 122, 138                                         | BPSK       | MCS0                | NA                         |
|                 | 802.11ax (HE160)            | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                         |
|                 | 802.11ax (HE20) 26-tone RU  | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | MCS0                | 0, 0, 8, 0, 0, 8, 8        |
|                 | 802.11ax (HE20) 52-tone RU  | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | MCS0                | 37, 37, 40, 37, 37, 40, 40 |
|                 | 802.11ax (HE20) 106-tone RU | CDD         | 52, 60, 64, 100, 116, 140, 144                            | BPSK       | MCS0                | 53, 53, 54, 53, 53, 54, 54 |
|                 | 802.11a                     | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | 6Mb/s               | NA                         |
| RF Output Power | 802.11ac (VHT20)            | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT40)            | CDD         | 38, 46, 54, 62, 102, 110, 134, 142, 151, 159              | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT80)            | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                         |
|                 | 802.11ac (VHT80)            | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                         |

| Test Item              | Mode                        | Signal Mode | Tested Channel                                            | Modulation | Data Rate Parameter | RU/MRU Index                                       |
|------------------------|-----------------------------|-------------|-----------------------------------------------------------|------------|---------------------|----------------------------------------------------|
|                        | 802.11ac (VHT160)           | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE20)             | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE40)             | CDD         | 38, 46, 54, 62, 102, 110, 134, 142, 151, 159              | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE80)             | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE160)            | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE20) 26-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 0, 0, 8, 0, 0, 8, 0, 0, 8, 8, 0, 0, 8              |
|                        | 802.11ax (HE20) 52-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 37, 37, 40, 37, 37, 40, 37, 37, 40, 40, 37, 37, 40 |
|                        | 802.11ax (HE20) 106-tone RU | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 53, 53, 54, 53, 53, 54, 53, 53, 54, 54, 53, 53, 54 |
| Power Spectral Density | 802.11a                     | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | 6Mb/s               | NA                                                 |
|                        | 802.11ax (HE20)             | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE40)             | CDD         | 38, 46, 54, 62, 102, 110, 134, 142, 151, 159              | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE80)             | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE160)            | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                                                 |
|                        | 802.11ax (HE20) 26-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 0, 0, 8, 0, 0, 8, 0, 0, 8, 8, 0, 0, 8              |
|                        | 802.11ax (HE20) 52-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 37, 37, 40, 37, 37, 40, 37, 37, 40, 40, 37, 37, 40 |

| Test Item                    | Mode                        | Signal Mode | Tested Channel                                            | Modulation | Data Rate Parameter | RU/MRU Index                                       |
|------------------------------|-----------------------------|-------------|-----------------------------------------------------------|------------|---------------------|----------------------------------------------------|
|                              | 802.11ax (HE20) 106-tone RU | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 53, 53, 54, 53, 53, 54, 53, 53, 54, 54, 53, 53, 54 |
| 6 dB Bandwidth               | 802.11a                     | CDD         | 144, 149, 157, 165                                        | BPSK       | 6Mb/s               | NA                                                 |
|                              | 802.11ax (HE20)             | CDD         | 144, 149, 157, 165                                        | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE40)             | CDD         | 142, 151, 159                                             | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE80)             | CDD         | 138, 155                                                  | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE20) 26-tone RU  | CDD         | 144, 149, 157, 165                                        | BPSK       | MCS0                | 8, 0, 0, 8                                         |
|                              | 802.11ax (HE20) 52-tone RU  | CDD         | 144, 149, 157, 165                                        | BPSK       | MCS0                | 40, 37, 37, 40                                     |
|                              | 802.11ax (HE20) 106-tone RU | CDD         | 144, 149, 157, 165                                        | BPSK       | MCS0                | 54, 53, 53, 54                                     |
| Occupied Bandwidth           | 802.11a                     | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | 6Mb/s               | NA                                                 |
|                              | 802.11ax (HE20)             | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE40)             | CDD         | 38, 46, 54, 62, 102, 110, 134, 142, 151, 159              | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE80)             | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE160)            | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                                                 |
|                              | 802.11ax (HE20) 26-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 0, 0, 8, 0, 0, 8, 0, 0, 8, 8, 0, 0, 8              |
|                              | 802.11ax (HE20) 52-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 37, 37, 40, 37, 37, 40, 37, 37, 40, 40, 37, 37, 40 |
|                              | 802.11ax (HE20) 106-tone RU | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 53, 53, 54, 53, 53, 54, 53, 53, 54, 54, 53, 53, 54 |
| AC Power Conducted Emissions | 802.11a                     | CDD         | 157                                                       | BPSK       | 6Mb/s               | NA                                                 |

| Test Item                      | Mode                        | Signal Mode | Tested Channel                                            | Modulation | Data Rate Parameter | RU/MRU Index                                       |
|--------------------------------|-----------------------------|-------------|-----------------------------------------------------------|------------|---------------------|----------------------------------------------------|
| Unwanted Emissions below 1 GHz | 802.11a                     | CDD         | 157                                                       | BPSK       | 6Mb/s               | NA                                                 |
| Unwanted Emissions above 1 GHz | 802.11a                     | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | 6Mb/s               | NA                                                 |
|                                | 802.11ax (HE20)             | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | NA                                                 |
|                                | 802.11ax (HE40)             | CDD         | 38, 46, 54, 62, 102, 110, 134, 142, 151, 159              | BPSK       | MCS0                | NA                                                 |
|                                | 802.11ax (HE80)             | CDD         | 42, 58, 106, 122, 138, 155                                | BPSK       | MCS0                | NA                                                 |
|                                | 802.11ax (HE160)            | CDD         | 50, 114                                                   | BPSK       | MCS0                | NA                                                 |
|                                | 802.11ax (HE20) 26-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 0, 0, 8, 0, 0, 8, 0, 0, 8, 8, 0, 0, 8              |
|                                | 802.11ax (HE20) 52-tone RU  | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 37, 37, 40, 37, 37, 40, 37, 37, 40, 40, 37, 37, 40 |
|                                | 802.11ax (HE20) 106-tone RU | CDD         | 36, 40, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165 | BPSK       | MCS0                | 53, 53, 54, 53, 53, 54, 53, 53, 54, 54, 53, 53, 54 |

### 3.5 Duty Cycle of Test Signal

**802.11a:** Duty cycle = 2.098 ms / 2.11 ms x 100% = 99.4%

**802.11ac (VHT20):** Duty cycle = 5.431 ms / 5.443 ms x 100% = 99.8%

**802.11ac (VHT40):** Duty cycle = 5.431 ms / 5.44 ms x 100% = 99.8%

**802.11ac (VHT80):** Duty cycle = 5.431 ms / 5.44 ms x 100% = 99.8%

**802.11ac (VHT160):** Duty cycle = 5.431 ms / 5.44 ms x 100% = 99.8%

**802.11ax (HE20):** Duty cycle = 5.447 ms / 5.459 ms x 100% = 99.8%

**802.11ax (HE40):** Duty cycle = 5.45 ms / 5.459 ms x 100% = 99.8%

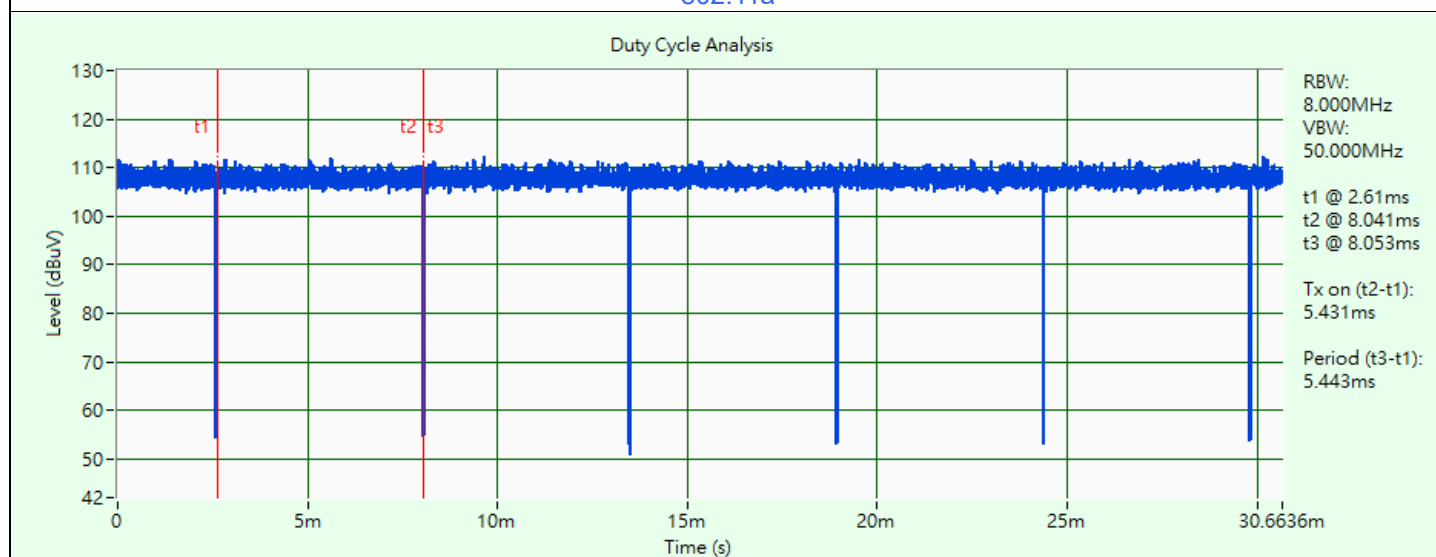
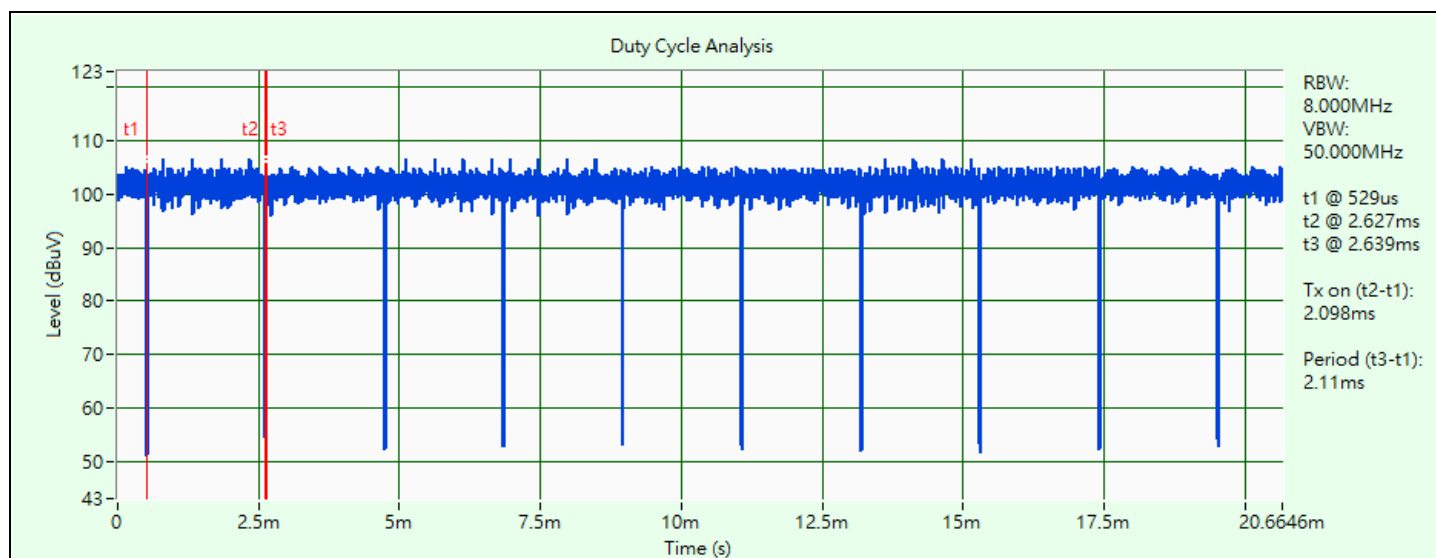
**802.11ax (HE80):** Duty cycle = 5.446 ms / 5.455 ms x 100% = 99.8%

**802.11ax (HE160):** Duty cycle = 5.447 ms / 5.459 ms x 100% = 99.8%

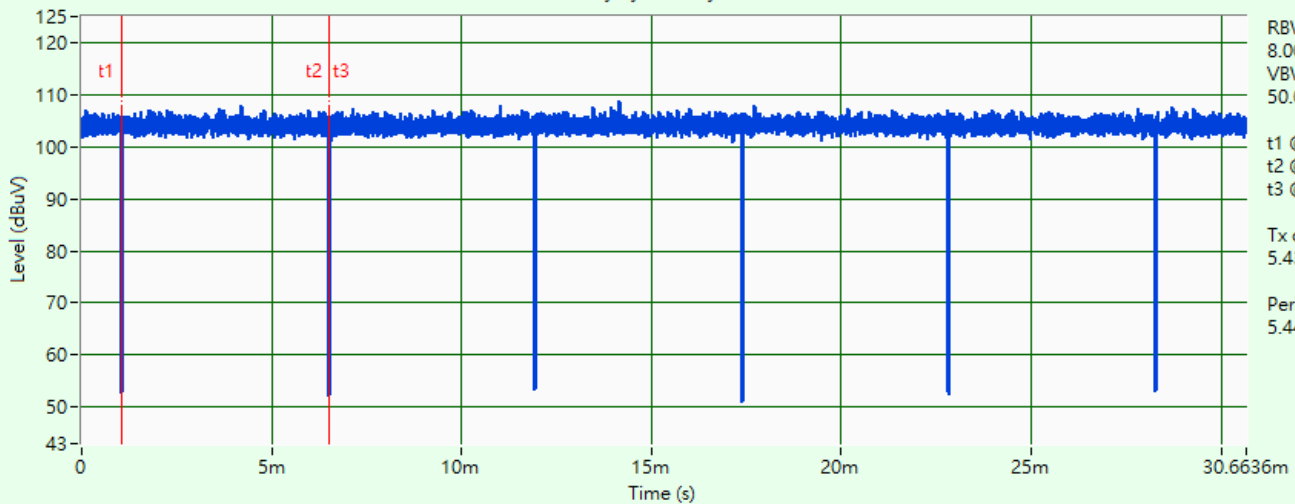
**802.11ax (HE20) 26-tone RU:** Duty cycle = 5.447 ms / 5.459 ms x 100% = 99.8%

**802.11ax (HE20) 52-tone RU:** Duty cycle = 5.447 ms / 5.459 ms x 100% = 99.8%

**802.11ax (HE20) 106-tone RU:** Duty cycle = 5.447 ms / 5.459 ms x 100% = 99.8%

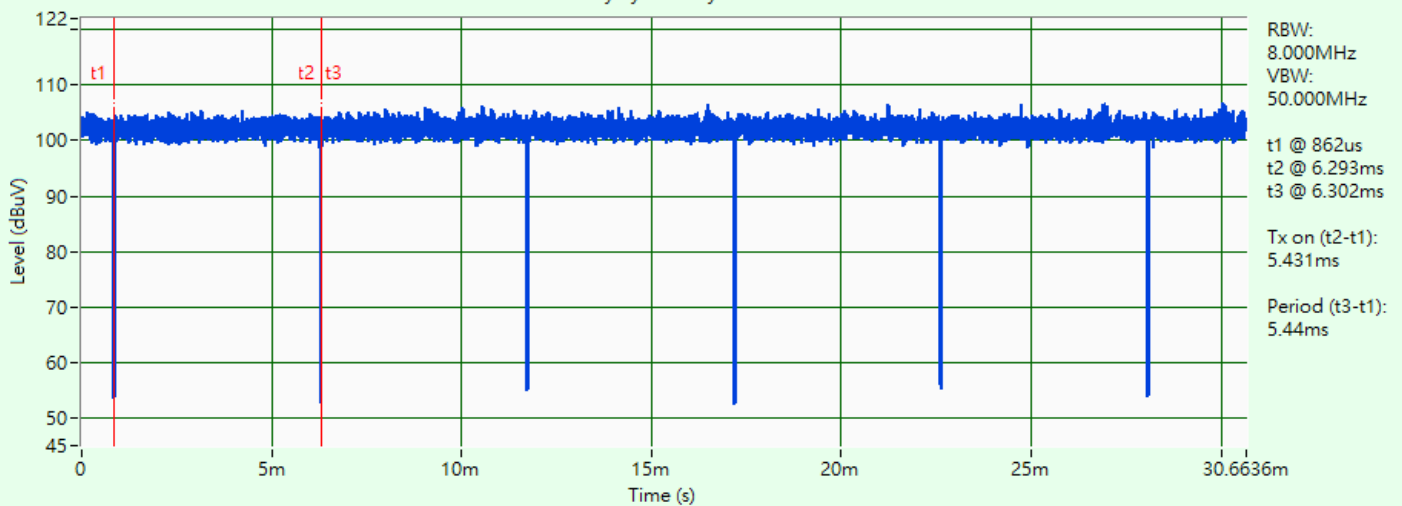


### Duty Cycle Analysis



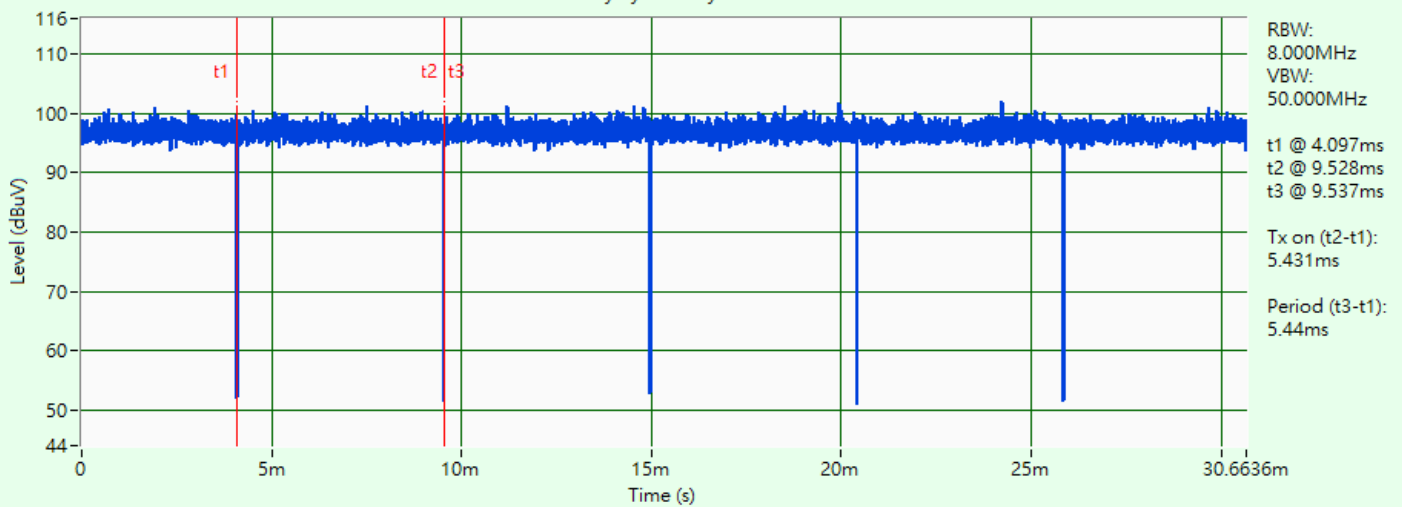
### 802.11ac (VHT40)

### Duty Cycle Analysis



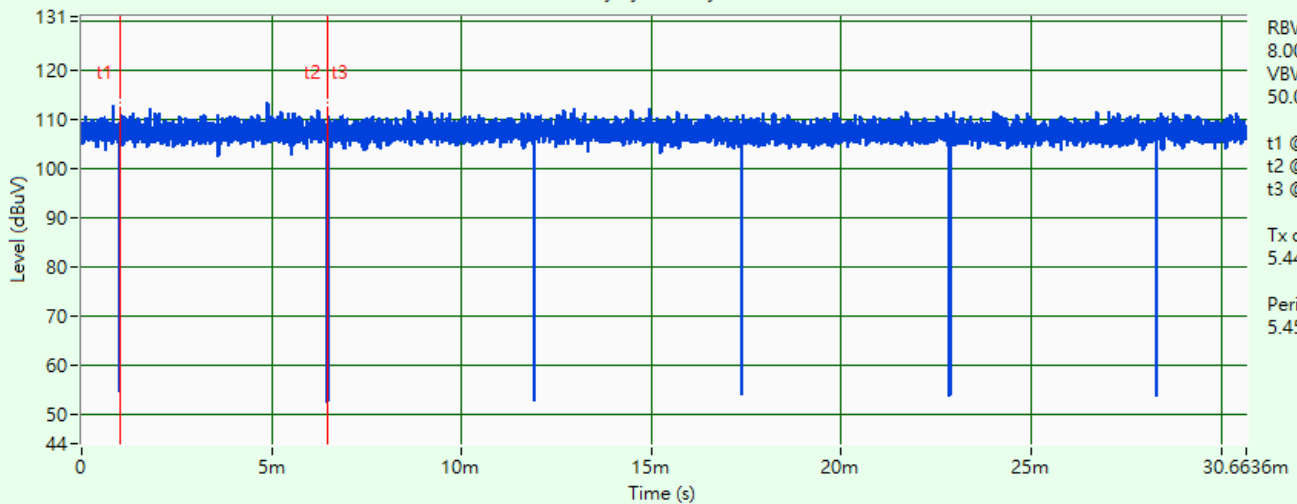
### 802.11ac (VHT80)

### Duty Cycle Analysis



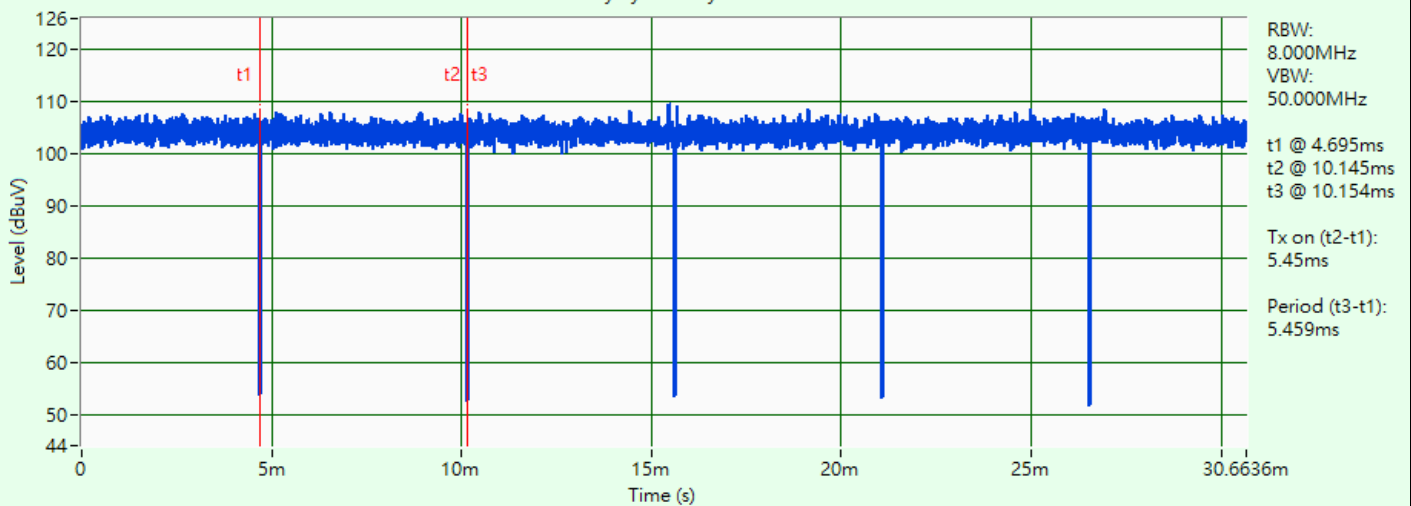
### 802.11ac (VHT160)

### Duty Cycle Analysis



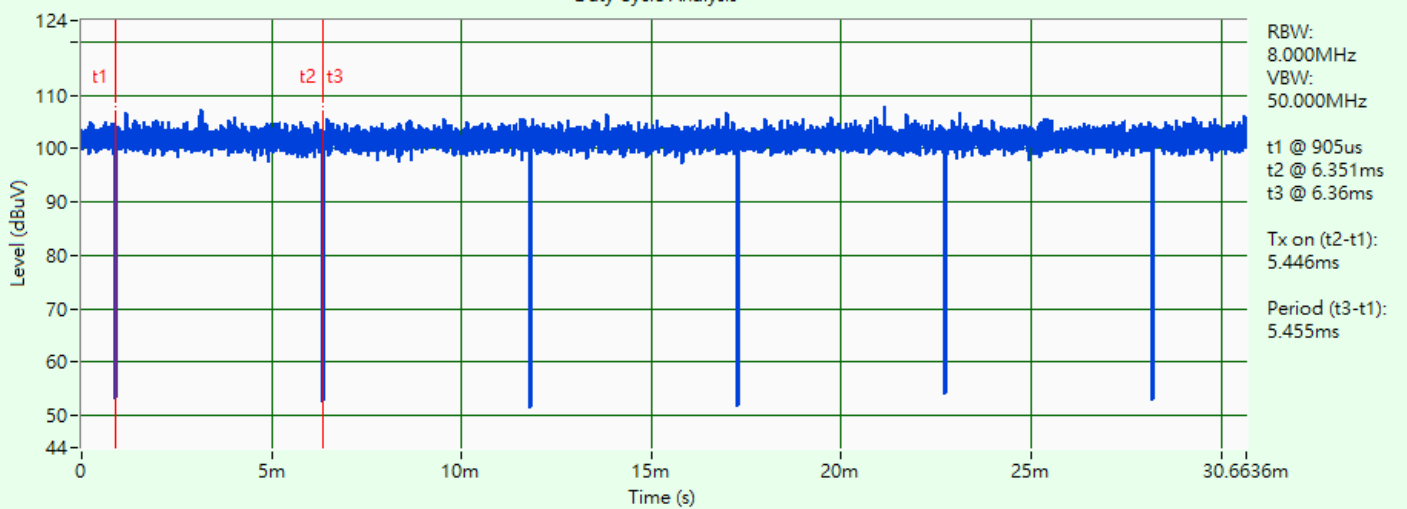
802.11ax (HE20)

### Duty Cycle Analysis



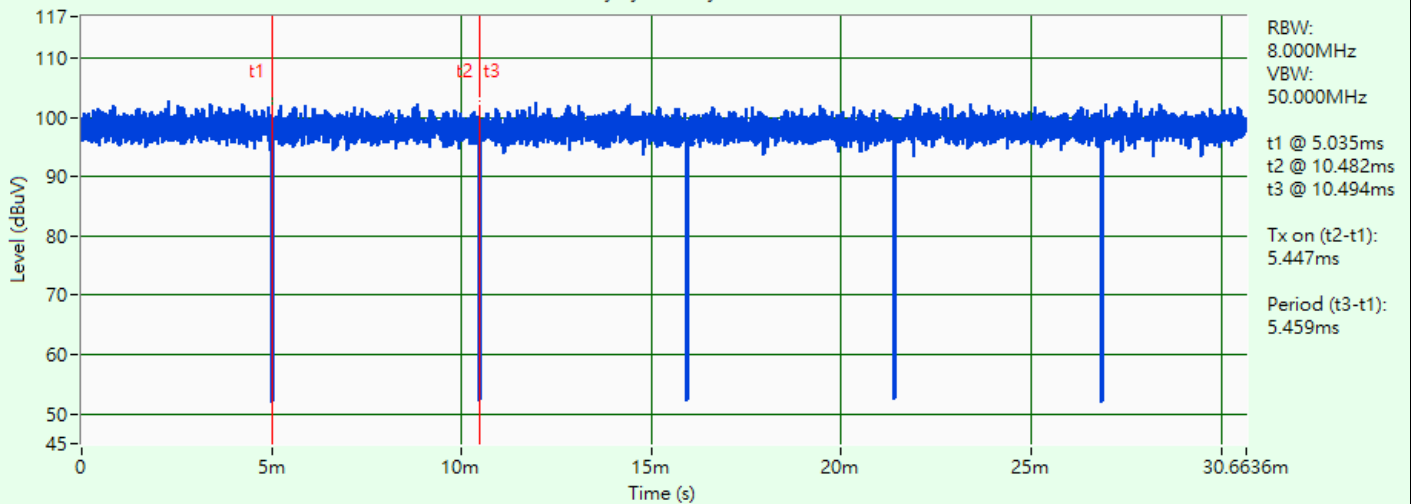
802.11ax (HE40)

### Duty Cycle Analysis



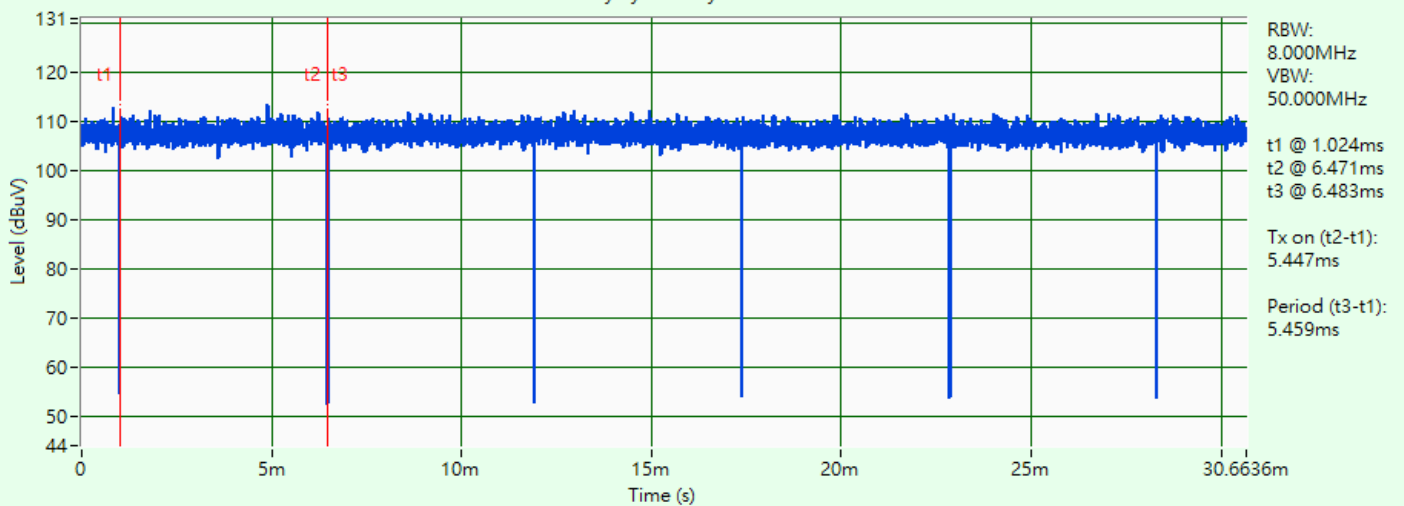
802.11ax (HE80)

### Duty Cycle Analysis



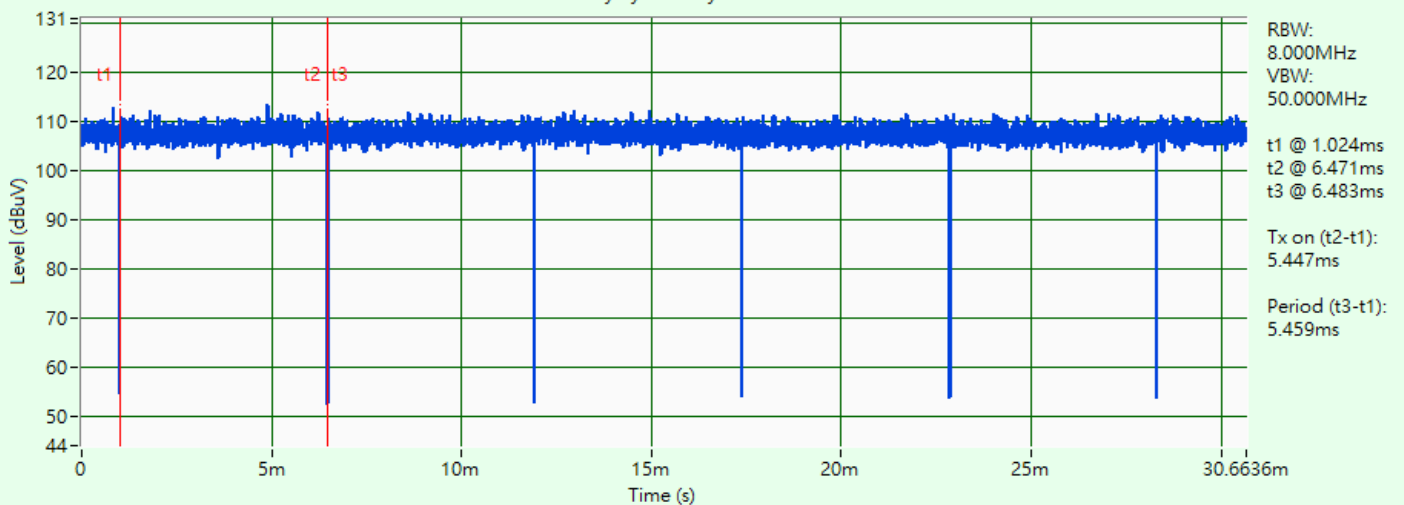
### 802.11ax (HE160)

### Duty Cycle Analysis

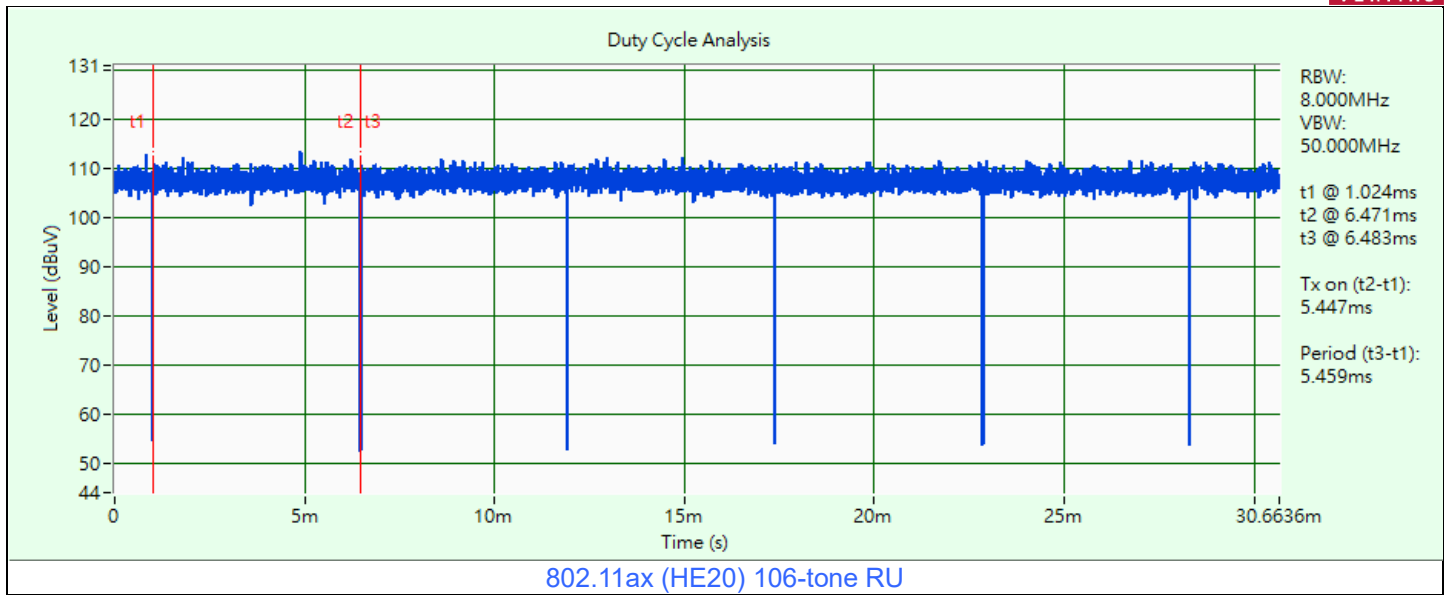


### 802.11ax (HE20) 26-tone RU

### Duty Cycle Analysis



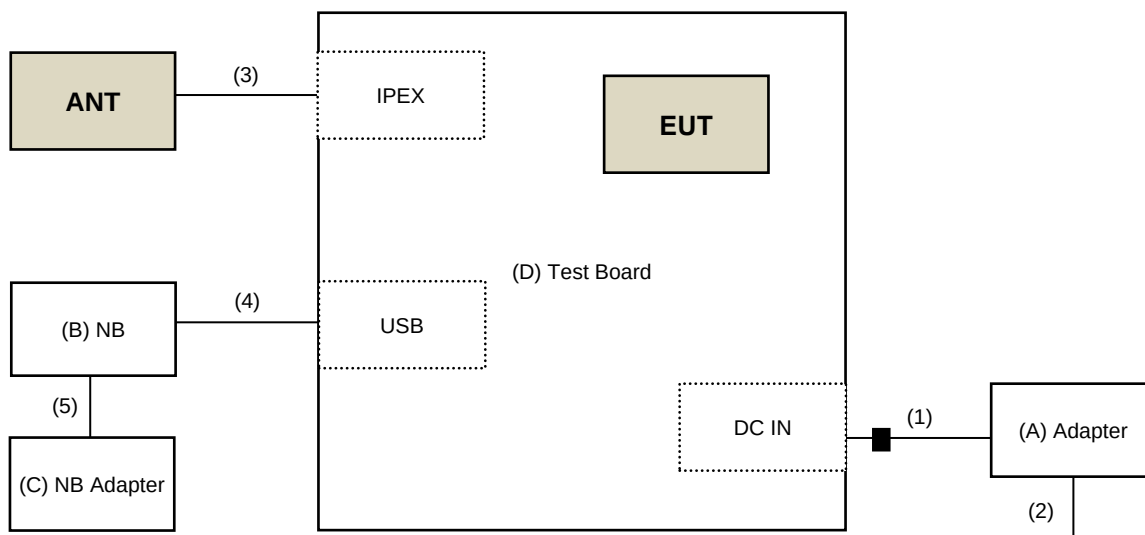
### 802.11ax (HE20) 52-tone RU



### 3.6 Test Program Used and Operation Descriptions

Controlling software (QRCT V4.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

### 3.7 Connection Diagram of EUT and Peripheral Devices



### 3.8 Configuration of Peripheral Devices and Cable Connections

| ID | Product    | Brand  | Model No.         | Serial No. | FCC ID | Remarks               |
|----|------------|--------|-------------------|------------|--------|-----------------------|
| A  | Adapter    | LITEON | PA-1041-91        | N/A        | N/A    | Supplied by applicant |
| B  | NB         | Lenovo | IdeaPad 5 15ITL05 | N/A        | N/A    | Provided by Lab       |
| C  | NB Adapter | Lenovo | ADLX65CLGC05      | N/A        | N/A    | Provided by Lab       |
| D  | Test Board | N/A    | N/A               | N/A        | N/A    | Supplied by applicant |

| ID | Cable Descriptions  | Qty. | Length (m) | Shielding (Yes/No) | Cores (Qty.) | Remarks               |
|----|---------------------|------|------------|--------------------|--------------|-----------------------|
| 1  | Adapter DC cable    | 1    | 1.5        | N                  | 1            | Supplied by applicant |
| 2  | Adapter AC cable    | 1    | 0.8        | N                  | 0            | Supplied by applicant |
| 3  | ANT cable           | 3    | 0.105      | N                  | 0            | Supplied by applicant |
| 4  | type C cable        | 1    | 1          | Y                  | 0            | Provided by Lab       |
| 5  | NB Adapter DC cable | 1    | 1.8        | N                  | 0            | Provided by Lab       |

## 4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.1 26 dB Bandwidth

| Description<br>Manufacturer     | Model No.                        | Serial No.        | Calibrated<br>Date | Calibrated<br>Until |
|---------------------------------|----------------------------------|-------------------|--------------------|---------------------|
| Fixed Attenuator<br>Woken       | 00800A1K01A-20                   | 00800A1K01A-20-02 | 2025/5/23          | 2026/5/22           |
| PXA Signal Analyzer<br>Keysight | N9030A                           | MY54490260        | 2025/7/24          | 2026/7/23           |
| Signal Analyzer<br>R&S          | FSV40                            | 101544            | 2025/7/1           | 2026/6/30           |
| Software                        | ADT_RF Test Software<br>V6.6.5.4 | N/A               | N/A                | N/A                 |

Notes:

1. The test was performed in Linkou - Oven
2. Tested Date: 2026/1/7 ~ 2026/1/10

### 4.2 RF Output Power

| Description<br>Manufacturer       | Model No.                        | Serial No.        | Calibrated<br>Date | Calibrated<br>Until |
|-----------------------------------|----------------------------------|-------------------|--------------------|---------------------|
| Fixed Attenuator<br>Woken         | 00800A1K01A-20                   | 00800A1K01A-20-02 | 2025/5/23          | 2026/5/22           |
| Pulse Power Sensor<br>Anritsu     | MA2411B                          | 1339443           | 2025/5/28          | 2026/5/27           |
| PXA Signal Analyzer<br>Keysight   | N9030A                           | MY54490260        | 2025/7/24          | 2026/7/23           |
| RF Power Meter<br>Anritsu         | ML2495A                          | 1529002           | 2025/6/3           | 2026/6/2            |
| Signal Analyzer<br>R&S            | FSV40                            | 101544            | 2025/7/1           | 2026/6/30           |
| Software                          | ADT_RF Test Software<br>V6.6.5.4 | N/A               | N/A                | N/A                 |
| Wideband Power Sensor<br>Keysight | N1923A                           | MY58020002        | 2025/1/21          | 2026/1/20           |

Notes:

1. The test was performed in Linkou - Oven
2. Tested Date: 2026/1/7 ~ 2026/1/10

### 4.3 Power Spectral Density

Refer to section 4.1 to get the tested date and information of the instruments.

### 4.4 6 dB Bandwidth

Refer to section 4.1 to get the tested date and information of the instruments.

#### 4.5 Occupied Bandwidth

Refer to section 4.1 to get the tested date and information of the instruments.

#### 4.6 AC Power Conducted Emissions

| Description<br>Manufacturer             | Model No.     | Serial No.   | Calibrated Date | Calibrated Until |
|-----------------------------------------|---------------|--------------|-----------------|------------------|
| 50 ohm terminal<br>resistance<br>LYNICS | 0900510       | E1-01-305    | 2025/2/20       | 2026/2/19        |
|                                         |               | E1-01-306    | 2025/4/16       | 2026/4/15        |
| DC LISN<br>R&S                          | ESH3-Z6       | 100219       | 2025/7/10       | 2026/7/9         |
|                                         |               | 844950/018   | 2025/7/10       | 2026/7/9         |
| Diode Pulse Limiter<br>Schwarzbeck      | VTSD 9561 F-N | 01631        | 2025/5/2        | 2026/5/1         |
| EMI Test Receiver<br>R&S                | EPL 1000      | 101064       | 2025/4/17       | 2026/4/16        |
|                                         |               | 101065       | 2025/4/22       | 2026/4/21        |
|                                         | ESR3          | 102412       | 2025/12/23      | 2026/12/22       |
| High Pass Filter<br>EMCI                | 150HPF-ME     | 114005       | 2025/5/2        | 2026/5/1         |
|                                         |               | 114006       | 2025/5/2        | 2026/5/1         |
|                                         | 150HPF-MF     | 113009       | 2025/5/2        | 2026/5/1         |
| High Voltage Probe<br>Schwarzbeck       | TK9420        | 00982        | 2025/12/3       | 2026/12/2        |
| LISN<br>R&S                             | ENV216        | 101195       | 2025/7/18       | 2026/7/17        |
|                                         |               | 101196       | 2025/5/19       | 2026/5/18        |
|                                         |               | 101197       | 2025/7/4        | 2026/7/3         |
| LISN<br>Schwarzbeck                     | NNLK 8121     | 8121-731     | 2025/6/10       | 2026/6/9         |
|                                         |               | 8121-00759   | 2025/8/12       | 2026/8/11        |
|                                         |               | 8121-808     | 2025/4/23       | 2026/4/22        |
|                                         | NNLK 8129     | 00624        | 2025/10/9       | 2026/10/8        |
|                                         |               | 8129229      | 2025/10/14      | 2026/10/13       |
|                                         | NSLK 8128     | 8128-244     | 2025/11/11      | 2026/11/10       |
|                                         |               |              |                 |                  |
| Passive Voltage Probe<br>R&S            | ESH2-Z3       | 100073       | 2025/5/26       | 2026/5/25        |
| RF Coaxial Cable<br>PEWC                | 5D-FB         | Cable-CO5-01 | 2025/1/17       | 2026/1/16        |
| Software<br>BVADT                       | Cond_V7.4.1.0 | N/A          | N/A             | N/A              |

Notes:

1. The test was performed in Linkou Conduction 5.
2. Tested Date: 2025/12/30

#### 4.7 Unwanted Emissions below 1 GHz

| Description<br>Manufacturer                     | Model No.           | Serial No.   | Calibrated Date | Calibrated Until |
|-------------------------------------------------|---------------------|--------------|-----------------|------------------|
| Bi_Log Antenna<br>Schwarzbeck                   | VULB 9168           | 137          | 2025/9/17       | 2026/9/16        |
| Coupling / Decoupling<br>Network<br>Schwarzbeck | CDNE-M2             | 00097        | 2025/5/28       | 2026/5/27        |
|                                                 | CDNE-M3             | 00091        | 2025/3/20       | 2026/3/19        |
| MXE EMI Receiver<br>Agilent                     | N9038A              | MY51210114   | 2025/2/10       | 2026/2/9         |
| Preamplifier<br>Agilent                         | 8447D               | 2944A11064   | 2025/2/14       | 2026/2/13        |
| Radiating Loop<br>Antenna<br>TESEQ              | RLA 6120-20         | 80002        | 2025/7/29       | 2026/7/28        |
| RF Coaxial Cable<br>Pacific                     | 8D-FB               | Cable-CH6-02 | 2025/6/24       | 2026/6/23        |
| Signal Analyzer<br>R&S                          | FSV40               | 101544       | 2025/7/1        | 2026/6/30        |
| Software<br>BVADT                               | Radiated_V7.7.1.1.1 | N/A          | N/A             | N/A              |
| Tower<br>ADT                                    | AT100               | 0306         | N/A             | N/A              |
| Turn Table<br>ADT                               | TT100               | 0306         | N/A             | N/A              |

#### Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2025/12/29

#### 4.8 Unwanted Emissions above 1 GHz

| Description<br>Manufacturer              | Model No.           | Serial No.   | Calibrated Date | Calibrated Until |
|------------------------------------------|---------------------|--------------|-----------------|------------------|
| Boresight antenna tower<br>fixture<br>BV | BAF-02              | 6            | N/A             | N/A              |
| High Pass Filter<br>Wainwright           | WHK 3.1/18G-10SS    | SN 8         | 2025/5/22       | 2026/5/21        |
| Horn Antenna<br>EMCO                     | 3115                | 00028257     | 2025/11/9       | 2026/11/8        |
| Horn Antenna<br>ETS-Lindgren             | 3117-PA             | 00215857     | 2025/11/9       | 2026/11/8        |
| Horn Antenna<br>Schwarzbeck              | BBHA 9170           | 212          | 2025/10/28      | 2026/10/27       |
|                                          |                     | BBHA9170190  | 2025/11/9       | 2026/11/8        |
| MXE EMI Receiver<br>Agilent              | N9038A              | MY51210114   | 2025/2/10       | 2026/2/9         |
| Notch Filter<br>Micro-Tronics            | BRC50703-01         | 010          | 2025/5/22       | 2026/5/21        |
|                                          | BRM17690            | 005          | 2025/5/22       | 2026/5/21        |
| Preamplifier<br>EMCI                     | EMC0126545          | 980076       | 2025/2/14       | 2026/2/13        |
|                                          | EMC184045B          | 980175       | 2025/8/23       | 2026/8/22        |
|                                          |                     | 980235       | 2025/2/14       | 2026/2/13        |
| Preamplifier<br>HP                       | 8449B               | 3008A01201   | 2025/2/14       | 2026/2/13        |
| RF Coaxial Cable<br>EMCI                 | EMC104              | 190801       | 2025/7/4        | 2026/7/3         |
|                                          |                     | 190804       | 2025/7/4        | 2026/7/3         |
| RF Coaxial Cable<br>EMEC                 | EM102-KMKM-100      | 02           | 2025/7/4        | 2026/7/3         |
| RF Coaxial Cable<br>HUBER+SUHNER         | SF-104              | Cable-CH6-01 | 2025/7/4        | 2026/7/3         |
| Signal Analyzer<br>R&S                   | FSV40               | 101042       | 2025/9/19       | 2026/9/18        |
|                                          |                     | 101544       | 2025/7/1        | 2026/6/30        |
| Software<br>BVADT                        | Radiated_V7.7.1.1.1 | N/A          | N/A             | N/A              |
| Tower<br>ADT                             | AT100               | 0306         | N/A             | N/A              |
| Turn Table<br>ADT                        | TT100               | 0306         | N/A             | N/A              |

#### Notes:

1. The test was performed in Linkou 966 Chamber 6 (CH 6).
2. Tested Date: 2025/12/16 ~ 2026/1/7

## 5 Limits of Test Items

### 5.1 26 dB Bandwidth

The results are for reference only.

### 5.2 RF Output Power

| Operation Band | EUT Category                       | Limit                                                                                                                       |
|----------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| U-NII-1        | Outdoor Access Point               | 1 Watt (30 dBm)<br>(Max. e.i.r.p $\leq$ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon) |
|                | Fixed point-to-point Access Points | 1 Watt (30 dBm)                                                                                                             |
|                | Indoor Access Point                | 1 Watt (30 dBm)                                                                                                             |
|                | Client devices                     | 250mW (24 dBm)                                                                                                              |

| Operation Band | Limit                               |
|----------------|-------------------------------------|
| U-NII-2A       | 250 mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-2C       | 250 mW (24 dBm) or 11 dBm+10 log B* |
| U-NII-3        | 1 Watt (30 dBm)                     |

\*B is the 26 dB emission bandwidth in megahertz

Per KDB 662911 D01 Multiple Transmitter Output Method of conducted output power measurement on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for  $N_{ANT} \leq 4$ ;

Array Gain = 0 dB (i.e., no array gain) for channel widths  $\geq 40$  MHz for any  $N_{ANT}$ ;

Array Gain = 5 log( $N_{ANT}/N_{SS}$ ) dB or 3 dB, whichever is less, for 20-MHz channel widths with  $N_{ANT} \geq 5$ .

For power measurements on all other devices: Array Gain = 10 log( $N_{ANT}/N_{SS}$ ) dB.

### 5.3 Power Spectral Density

| Operation Band | EUT Category                       | Limit      |
|----------------|------------------------------------|------------|
| U-NII-1        | Outdoor Access Point               | 17 dBm/MHz |
|                | Fixed point-to-point Access Points |            |
|                | Indoor Access Point                |            |
|                | Client devices                     | 11 dBm/MHz |

| Operation Band | Limit          |
|----------------|----------------|
| U-NII-2A       | 11 dBm/MHz     |
| U-NII-2C       | 11 dBm/MHz     |
| U-NII-3        | 30 dBm/500 kHz |

### 5.4 6 dB Bandwidth

Within the 5.725-5.850 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

### 5.5 Occupied Bandwidth

The results are for reference only.

## 5.6 AC Power Conducted Emissions

| Frequency (MHz) | Conducted Limit (dBuV) |         |
|-----------------|------------------------|---------|
|                 | Quasi-peak             | Average |
| 0.15 - 0.5      | 66 - 56                | 56 - 46 |
| 0.50 - 5.0      | 56                     | 46      |
| 5.0 - 30.0      | 60                     | 50      |

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

## 5.7 Unwanted Emissions below 1 GHz

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

| Frequencies (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                             |

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

## 5.8 Unwanted Emissions above 1 GHz

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

| Frequencies (MHz) | Field Strength (microvolts/meter) | Measurement Distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| Above 960         | 500                               | 3                             |

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

| Applicable To                                              | Limit                 |                 |
|------------------------------------------------------------|-----------------------|-----------------|
| 789033 D02 General UNII Test Procedure New Rules<br>v02r01 | Field Strength at 3 m |                 |
|                                                            | PK: 74 (dBμV/m)       | AV: 54 (dBμV/m) |

For transmitters operating in the 5.15-5.25 GHz band:

| Applicable To | EIRP Limit        | Equivalent Field Strength at 3 m |
|---------------|-------------------|----------------------------------|
| 15.407(b)(1)  | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m)                |

For transmitters operating in the 5.25-5.35 GHz band:

| Applicable To | EIRP Limit        | Equivalent Field Strength at 3 m |
|---------------|-------------------|----------------------------------|
| 15.407(b)(2)  | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m)                |

For transmitters operating in the 5.47-5.725 GHz band:

| Applicable To | EIRP Limit        | Equivalent Field Strength at 3 m |
|---------------|-------------------|----------------------------------|
| 15.407(b)(3)  | PK: -27 (dBm/MHz) | PK: 68.2 (dBμV/m)                |

For transmitters operating in the 5.725-5.850 GHz band:

| Applicable To                                                                                                                                                                                                                                                                                                                                                                   | EIRP Limit                                                                                                                              | Equivalent Field Strength at 3 m                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 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> |
| <sup>*1</sup> beyond 75 MHz or more above of the band edge.<br><sup>*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.<br><sup>*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.<br><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. |                                                                                                                                         |                                                                                                                                             |

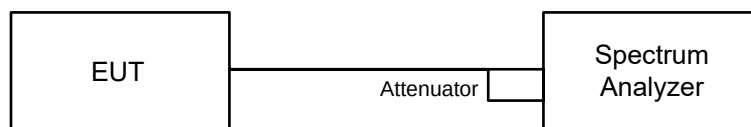
Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

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

## 6 Test Arrangements

### 6.1 26 dB Bandwidth

#### 6.1.1 Test Setup

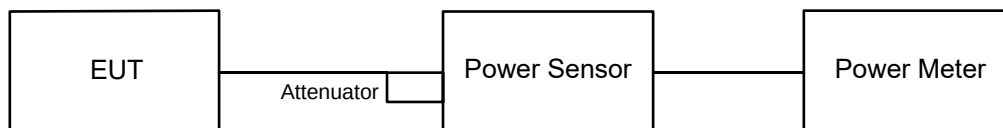


#### 6.1.2 Test Procedure

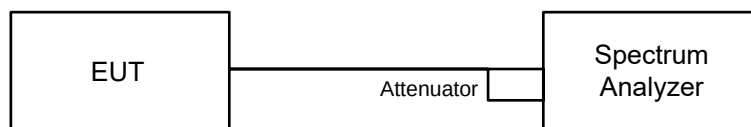
- Set RBW = shall be in the range of 1% to 5% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = peak.
- Trace mode = max-hold.
- Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

## 6.2 RF Output Power

### 6.2.1 Test Setup



**For channel straddling:**



### 6.2.2 Test Procedure

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst and set the detector to average. Duty factor is not added to measured value.

**For channel straddling:**

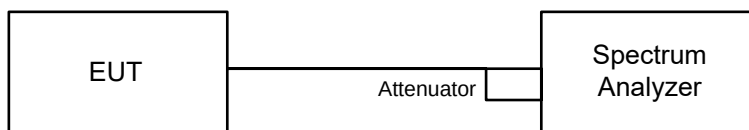
Method SA-1

- a. Set span to encompass the entire 99% OBW of the signal.
- b. Set RBW = 1 MHz, Set VBW  $\geq$  3 MHz, Detector = RMS.
- c. Number of points in sweep  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.)
- d. Sweep time = auto, trigger set to "free run".
- e. Trace average at least 100 traces in power averaging (rms) mode.
- f. Compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band-power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 99% OBW of the spectrum.
- g. Record the max value.

Note: When measuring straddle channel power, use compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band power measurement function, with band limits set equal to the 99% OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 99% OBW of the spectrum.

## 6.3 Power Spectral Density

### 6.3.1 Test Setup



### 6.3.2 Test Procedure

#### For specified measurement bandwidth 1 MHz:

##### Method SA-1

- Set span to encompass the entire 99% OBW of the signal.
- Set RBW = 1 MHz, Set VBW  $\geq$  3 MHz, Detector = RMS.
- Sweep points  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value

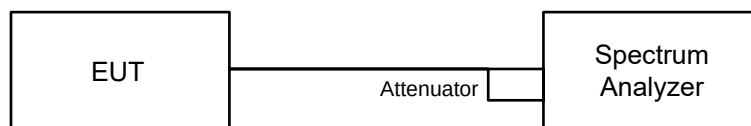
#### For specified measurement bandwidth 500 kHz:

##### Method SA-1

- Set span to encompass the entire 99% OBW of the signal
- Set RBW = 300 kHz, Set VBW  $\geq$  1 MHz, Detector = RMS.
- Scale the observed power level to an equivalent value in 500 kHz by adjusting (increasing) the measured power by a bandwidth correction factor (BWCF) where  $\text{BWCF} = 10\log(500 \text{ kHz}/300 \text{ kHz})$ .
- Sweep points  $\geq [2 \times \text{span} / \text{RBW}]$ . (This gives bin-to-bin spacing  $\leq \text{RBW} / 2$ , so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value.

## 6.4 6 dB Bandwidth

### 6.4.1 Test Setup

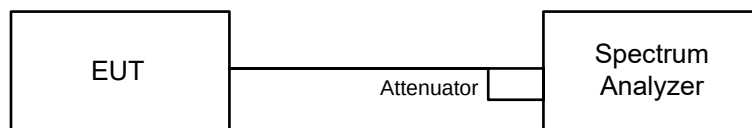


### 6.4.2 Test Procedure

- Set RBW = 100 kHz.
- Set the VBW  $\geq [3 \times \text{RBW}]$ .
- Detector = peak.
- Trace mode = max-hold.
- Sweep = No faster than coupled (auto) time.
- Allow the trace to stabilize.
- 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.

## 6.5 Occupied Bandwidth

### 6.5.1 Test Setup



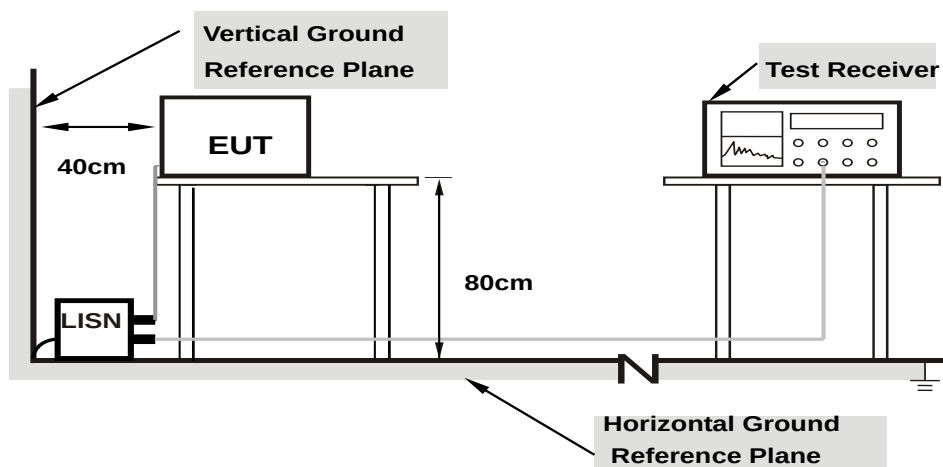
### 6.5.2 Test Procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

- a. The instrument center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
- b. The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be at least three times the RBW, unless otherwise specified by the applicable requirement.
- c. Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than  $[10 \log (OBW/RBW)]$  below the reference level.
- d. Step a) through step c) might require iteration to adjust within the specified range.
- e. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max-hold mode (until the trace stabilizes) shall be used.
- f. Use the 99% power bandwidth function of the instrument and report the measured bandwidth.

## 6.6 AC Power Conducted Emissions

### 6.6.1 Test Setup



**Note: 1.Support units were connected to second LISN.**

For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 6.6.2 Test Procedure

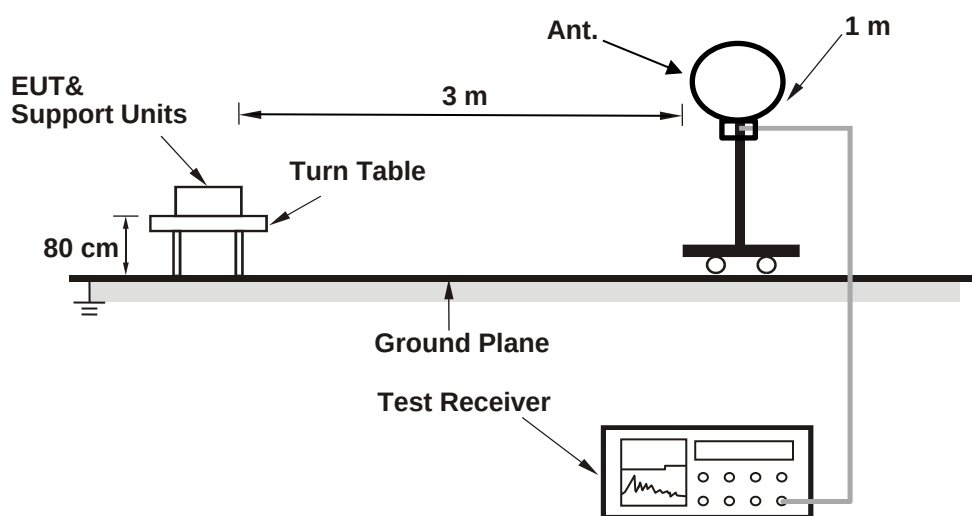
- Exploratory ac power-line conducted emission measurements: The EUT shall be operated on the mid channel and in the mode with highest output power unless the fundamental operates in the AC power-line emission test range then the EUT shall be operated in the range of typical modes of operation.
- The EUT was placed on a 0.8 meter to the top of table and 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/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

**Note:** The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz-30 MHz.

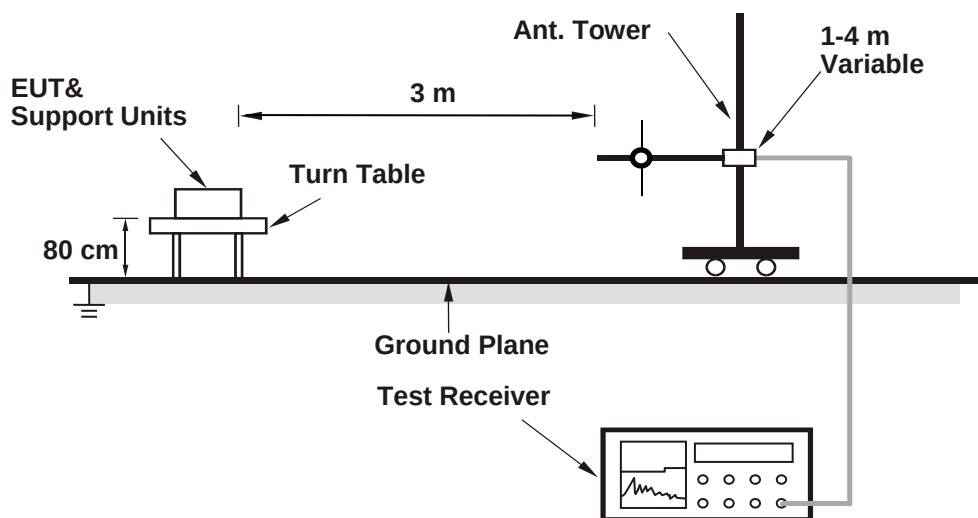
## 6.7 Unwanted Emissions below 1 GHz

### 6.7.1 Test Setup

#### For Radiated emission below 30 MHz



#### For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

## 6.7.2 Test Procedure

### For Radiated emission below 30 MHz

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

#### Notes:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
- All modes of operation were investigated and the worst-case emissions are reported.

### For Radiated emission above 30 MHz

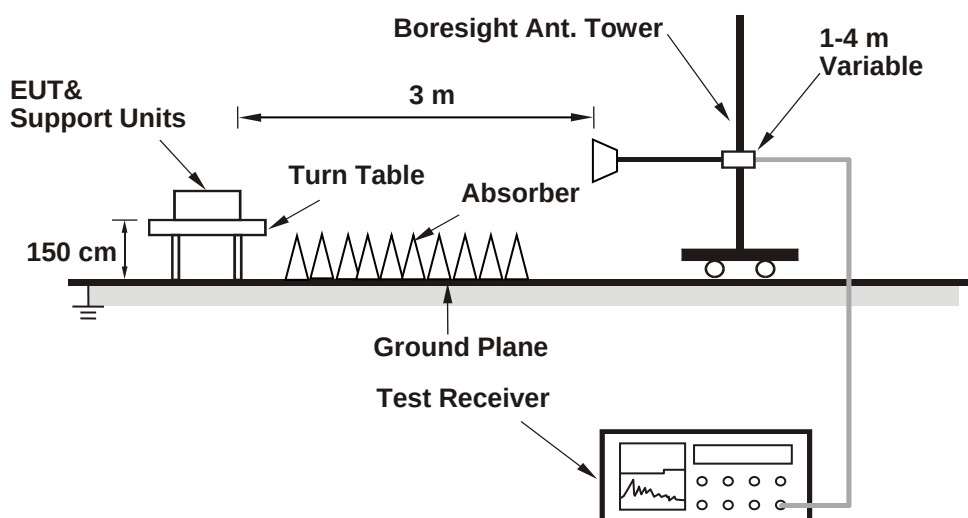
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna 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.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-peak(QP) detect function, Average(AV) detect function, Peak(PK) detect function and specified bandwidth with maximum hold mode when the test frequencies less than or equal to 1 GHz.

#### Notes:

- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

## 6.8 Unwanted Emissions above 1 GHz

### 6.8.1 Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

### 6.8.2 Test Procedure

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna 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.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

#### Notes:

- The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
- For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle < 98%) or 10 Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1 GHz.
- All modes of operation were investigated and the worst-case emissions are reported.

## 7 Test Results of Test Item

### 7.1 26 dB Bandwidth

|                       |         |                           |              |            |           |
|-----------------------|---------|---------------------------|--------------|------------|-----------|
| Input Power (System): | 3.9 Vdc | Environmental Conditions: | 25°C, 76% RH | Tested By: | Dalen Dai |
|-----------------------|---------|---------------------------|--------------|------------|-----------|

#### 802.11a

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 19.12                 | 19.32   |
| 60             | 5300            | 19.13                 | 19.30   |
| 64             | 5320            | 19.34                 | 19.24   |
| 100            | 5500            | 19.00                 | 19.30   |
| 116            | 5580            | 19.23                 | 19.06   |
| 140            | 5700            | 19.24                 | 18.98   |
| 144 (U-NII-2C) | 5720            | 14.74                 | 14.52   |
| 144 (U-NII-3)  | 5720            | 4.39                  | 4.53    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 19.12       | 23.81                                  | < | 24 |
| 60                            | 5300       | 19.13       | 23.81                                  | < | 24 |
| 64                            | 5320       | 19.24       | 23.84                                  | < | 24 |
| 100                           | 5500       | 19.00       | 23.78                                  | < | 24 |
| 116                           | 5580       | 19.06       | 23.8                                   | < | 24 |
| 140                           | 5700       | 18.98       | 23.78                                  | < | 24 |
| 144 (U-NII-2C)                | 5720       | 14.52       | 22.61                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

## 802.11ac (VHT20)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 20.47                 | 20.60   |
| 60             | 5300            | 20.46                 | 20.15   |
| 64             | 5320            | 20.48                 | 20.49   |
| 100            | 5500            | 20.46                 | 20.19   |
| 116            | 5580            | 20.59                 | 20.33   |
| 140            | 5700            | 20.45                 | 20.27   |
| 144 (U-NII-2C) | 5720            | 15.30                 | 15.26   |
| 144 (U-NII-3)  | 5720            | 5.15                  | 5.18    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 20.47       | 24.11                                  | > | 24 |
| 60                            | 5300       | 20.15       | 24.04                                  | > | 24 |
| 64                            | 5320       | 20.48       | 24.11                                  | > | 24 |
| 100                           | 5500       | 20.19       | 24.05                                  | > | 24 |
| 116                           | 5580       | 20.33       | 24.08                                  | > | 24 |
| 140                           | 5700       | 20.27       | 24.06                                  | > | 24 |
| 144 (U-NII-2C)                | 5720       | 15.26       | 22.83                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ac (VHT40)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 54             | 5270            | 39.92                 | 39.74   |
| 62             | 5310            | 39.54                 | 39.69   |
| 102            | 5510            | 39.63                 | 39.69   |
| 110            | 5550            | 39.73                 | 39.50   |
| 134            | 5670            | 39.64                 | 39.60   |
| 142 (U-NII-2C) | 5710            | 34.89                 | 34.89   |
| 142 (U-NII-3)  | 5710            | 4.75                  | 4.79    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 54                            | 5270       | 39.74       | 26.99                                  | > | 24 |
| 62                            | 5310       | 39.54       | 26.97                                  | > | 24 |
| 102                           | 5510       | 39.63       | 26.98                                  | > | 24 |
| 110                           | 5550       | 39.50       | 26.96                                  | > | 24 |
| 134                           | 5670       | 39.60       | 26.97                                  | > | 24 |
| 142 (U-NII-2C)                | 5710       | 34.89       | 26.42                                  | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ac (VHT80)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 58             | 5290            | 82.89                 | 82.53   |
| 106            | 5530            | 82.94                 | 82.28   |
| 122            | 5610            | 82.54                 | 81.88   |
| 138 (U-NII-2C) | 5690            | 76.45                 | 76.33   |
| 138 (U-NII-3)  | 5690            | 6.60                  | 6.14    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 58                            | 5290       | 82.53       | 30.16                                  | > | 24 |
| 106                           | 5530       | 82.28       | 30.15                                  | > | 24 |
| 122                           | 5610       | 81.88       | 30.13                                  | > | 24 |
| 138 (U-NII-2C)                | 5690       | 76.33       | 29.82                                  | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ac (VHT160)

| Channel       | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|---------------|-----------------|-----------------------|---------|
|               |                 | Chain 0               | Chain 1 |
| 50 (U-NII-1)  | 5250            | 84.15                 | 83.81   |
| 50 (U-NII-2A) | 5250            | 83.51                 | 83.99   |
| 114           | 5570            | 166.58                | 166.52  |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 50 (U-NII-2A)                 | 5250       | 83.51       | 30.21                                  | > | 24 |
| 114                           | 5570       | 166.52      | 33.21                                  | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE20)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 21.24                 | 21.00   |
| 60             | 5300            | 21.05                 | 21.07   |
| 64             | 5320            | 21.24                 | 21.08   |
| 100            | 5500            | 21.13                 | 21.07   |
| 116            | 5580            | 21.09                 | 21.10   |
| 140            | 5700            | 21.29                 | 21.16   |
| 144 (U-NII-2C) | 5720            | 15.71                 | 15.78   |
| 144 (U-NII-3)  | 5720            | 5.56                  | 5.57    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 21.00       | 24.22                                  | > | 24 |
| 60                            | 5300       | 21.05       | 24.23                                  | > | 24 |
| 64                            | 5320       | 21.08       | 24.23                                  | > | 24 |
| 100                           | 5500       | 21.07       | 24.23                                  | > | 24 |
| 116                           | 5580       | 21.09       | 24.24                                  | > | 24 |
| 140                           | 5700       | 21.16       | 24.25                                  | > | 24 |
| 144 (U-NII-2C)                | 5720       | 15.71       | 22.96                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE40)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 54             | 5270            | 41.04                 | 40.93   |
| 62             | 5310            | 40.90                 | 40.77   |
| 102            | 5510            | 40.86                 | 40.88   |
| 110            | 5550            | 41.15                 | 40.86   |
| 134            | 5670            | 41.02                 | 40.96   |
| 142 (U-NII-2C) | 5710            | 35.55                 | 35.53   |
| 142 (U-NII-3)  | 5710            | 5.48                  | 5.65    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 54                            | 5270       | 40.93       | 27.12                                  | > | 24 |
| 62                            | 5310       | 40.77       | 27.1                                   | > | 24 |
| 102                           | 5510       | 40.86       | 27.11                                  | > | 24 |
| 110                           | 5550       | 40.86       | 27.11                                  | > | 24 |
| 134                           | 5670       | 40.96       | 27.12                                  | > | 24 |
| 142 (U-NII-2C)                | 5710       | 35.53       | 26.5                                   | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE80)

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 58             | 5290            | 82.99                 | 83.24   |
| 106            | 5530            | 82.90                 | 83.02   |
| 122            | 5610            | 83.45                 | 82.83   |
| 138 (U-NII-2C) | 5690            | 76.49                 | 76.98   |
| 138 (U-NII-3)  | 5690            | 6.73                  | 6.52    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 58                            | 5290       | 82.99       | 30.19                                  | > | 24 |
| 106                           | 5530       | 82.90       | 30.18                                  | > | 24 |
| 122                           | 5610       | 82.83       | 30.18                                  | > | 24 |
| 138 (U-NII-2C)                | 5690       | 76.49       | 29.83                                  | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE160)

| Channel       | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|---------------|-----------------|-----------------------|---------|
|               |                 | Chain 0               | Chain 1 |
| 50 (U-NII-1)  | 5250            | 83.99                 | 84.27   |
| 50 (U-NII-2A) | 5250            | 84.02                 | 83.63   |
| 114           | 5570            | 167.75                | 167.29  |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 50 (U-NII-2A)                 | 5250       | 83.63       | 30.22                                  | > | 24 |
| 114                           | 5570       | 167.29      | 33.23                                  | > | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE20) 26-tone RU

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 21.15                 | 20.87   |
| 60             | 5300            | 21.28                 | 20.98   |
| 64             | 5320            | 20.47                 | 20.82   |
| 100            | 5500            | 20.94                 | 20.96   |
| 116            | 5580            | 21.23                 | 21.02   |
| 140            | 5700            | 20.67                 | 20.69   |
| 144 (U-NII-2C) | 5720            | 14.43                 | 14.28   |
| 144 (U-NII-3)  | 5720            | 6.34                  | 6.24    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 20.87       | 24.19                                  | > | 24 |
| 60                            | 5300       | 20.98       | 24.21                                  | > | 24 |
| 64                            | 5320       | 20.47       | 24.11                                  | > | 24 |
| 100                           | 5500       | 20.94       | 24.2                                   | > | 24 |
| 116                           | 5580       | 21.02       | 24.22                                  | > | 24 |
| 140                           | 5700       | 20.67       | 24.15                                  | > | 24 |
| 144 (U-NII-2C)                | 5720       | 14.28       | 22.54                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

### 802.11ax (HE20) 52-tone RU

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 21.37                 | 20.98   |
| 60             | 5300            | 21.51                 | 21.14   |
| 64             | 5320            | 21.16                 | 20.64   |
| 100            | 5500            | 21.49                 | 21.21   |
| 116            | 5580            | 21.54                 | 21.05   |
| 140            | 5700            | 21.23                 | 20.88   |
| 144 (U-NII-2C) | 5720            | 14.66                 | 14.43   |
| 144 (U-NII-3)  | 5720            | 6.40                  | 6.22    |

| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 20.98       | 24.21                                  | > | 24 |
| 60                            | 5300       | 21.14       | 24.25                                  | > | 24 |
| 64                            | 5320       | 20.64       | 24.14                                  | > | 24 |
| 100                           | 5500       | 21.21       | 24.26                                  | > | 24 |
| 116                           | 5580       | 21.05       | 24.23                                  | > | 24 |
| 140                           | 5700       | 20.88       | 24.19                                  | > | 24 |
| 144 (U-NII-2C)                | 5720       | 14.43       | 22.59                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

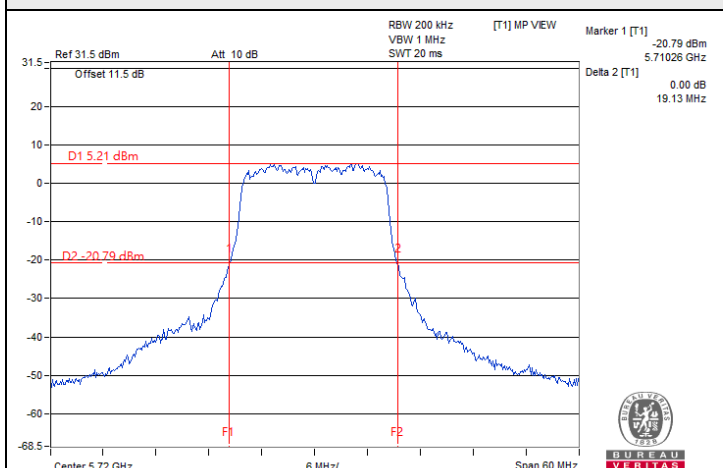
## 802.11ax (HE20) 106-tone RU

| Channel        | Frequency (MHz) | 26 dB Bandwidth (MHz) |         |
|----------------|-----------------|-----------------------|---------|
|                |                 | Chain 0               | Chain 1 |
| 52             | 5260            | 21.57                 | 21.16   |
| 60             | 5300            | 21.79                 | 21.95   |
| 64             | 5320            | 21.30                 | 20.47   |
| 100            | 5500            | 21.54                 | 21.35   |
| 116            | 5580            | 22.04                 | 21.29   |
| 140            | 5700            | 21.46                 | 20.73   |
| 144 (U-NII-2C) | 5720            | 15.02                 | 14.54   |
| 144 (U-NII-3)  | 5720            | 6.59                  | 6.46    |

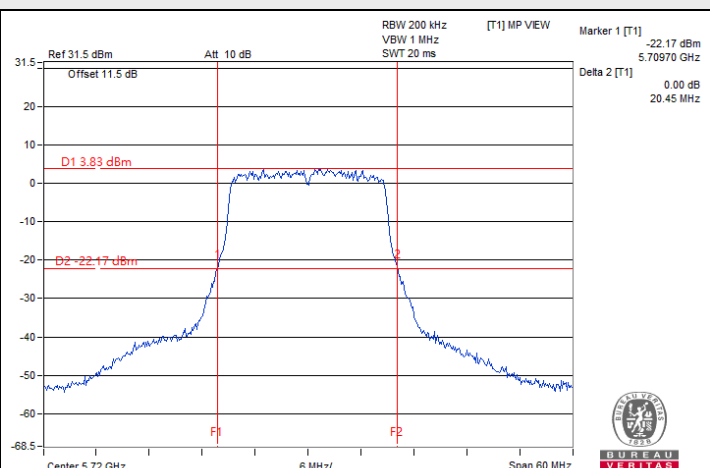
| Determined Output Power Limit |            |             |                                        |   |    |
|-------------------------------|------------|-------------|----------------------------------------|---|----|
| Channel Number                | Freq.(MHz) | Min. B(MHz) | Determined Conducted Power Limit (dBm) |   |    |
| 52                            | 5260       | 21.16       | 24.25                                  | > | 24 |
| 60                            | 5300       | 21.79       | 24.38                                  | > | 24 |
| 64                            | 5320       | 20.47       | 24.11                                  | > | 24 |
| 100                           | 5500       | 21.35       | 24.29                                  | > | 24 |
| 116                           | 5580       | 21.29       | 24.28                                  | > | 24 |
| 140                           | 5700       | 20.73       | 24.16                                  | > | 24 |
| 144 (U-NII-2C)                | 5720       | 14.54       | 22.62                                  | < | 24 |

Note: For U-NII-2A, U-NII-2C Band output power limitation is determined based on 26dBc bandwidth.

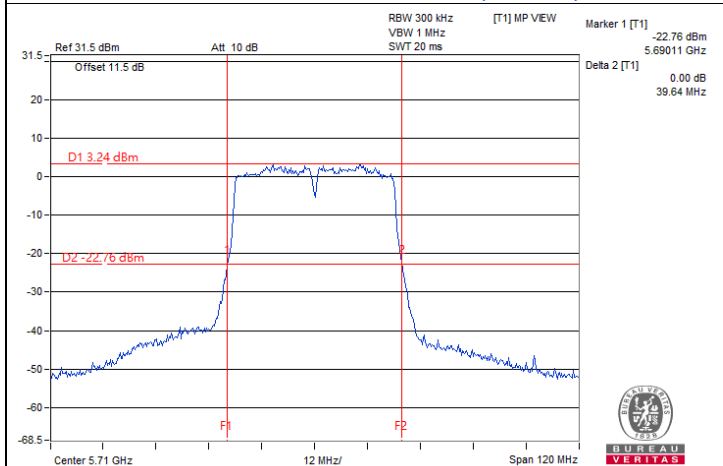
## Spectrum Plot of Minimum Value



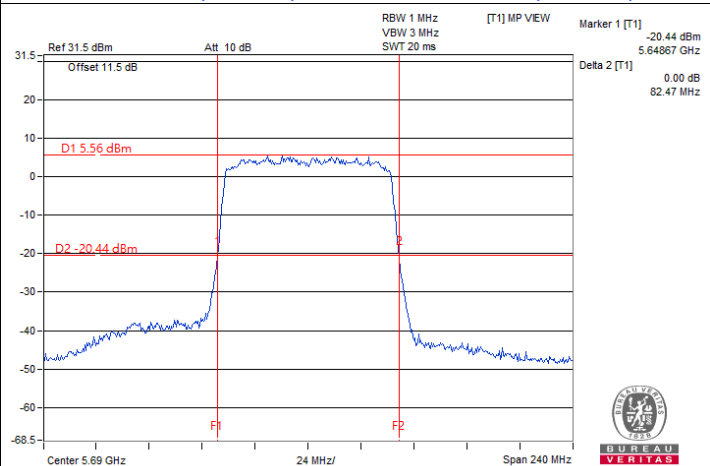
802.11a / Chain 0 : CH 144 (U-NII-3)



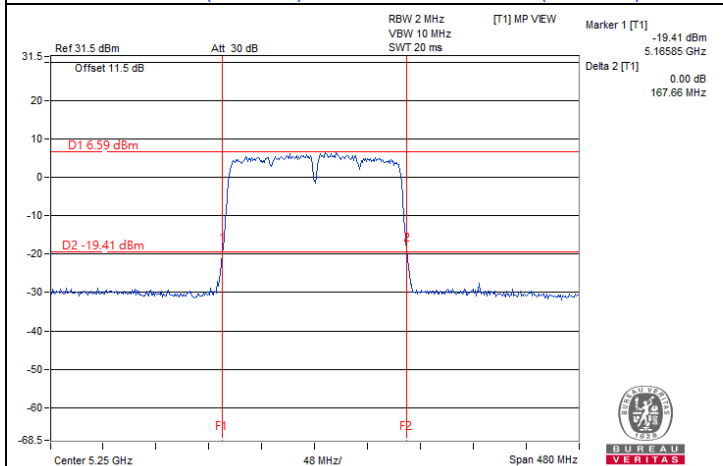
802.11ac (VHT20) / Chain 0 : CH 144 (U-NII-3)



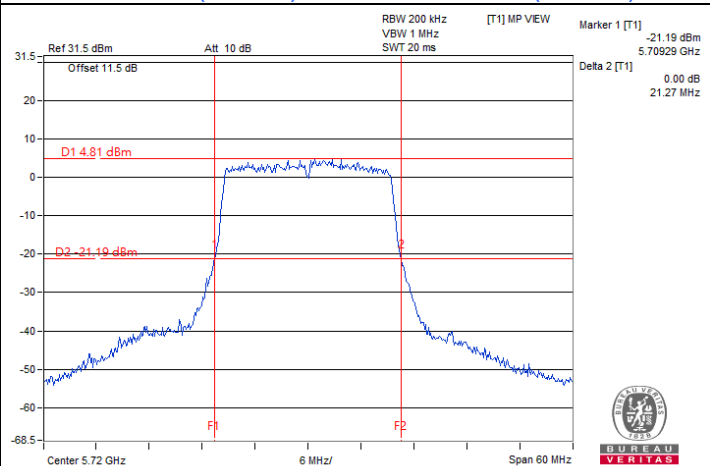
802.11ac (VHT40) / Chain 0 : CH 142 (U-NII-3)



802.11ac (VHT80) / Chain 1 : CH 138 (U-NII-3)

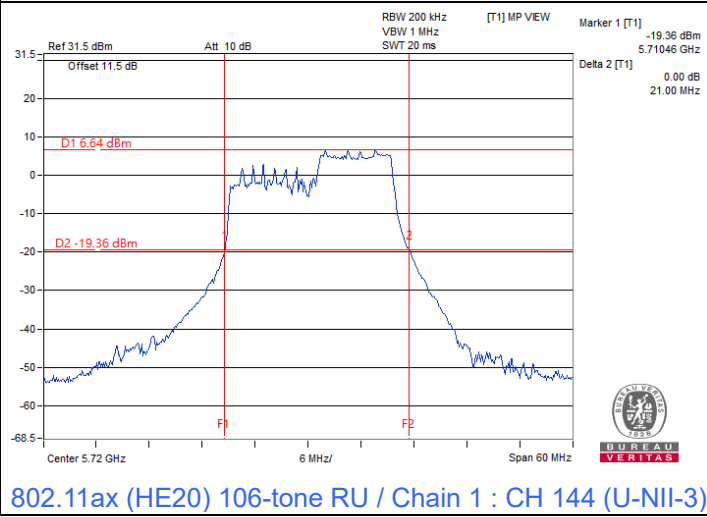
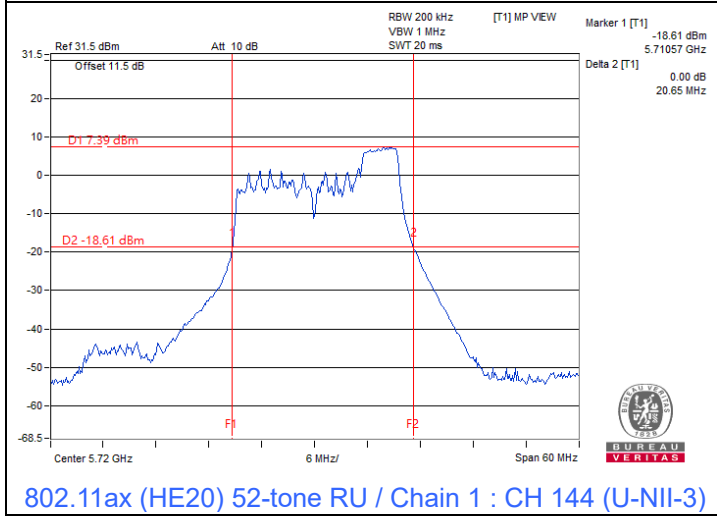
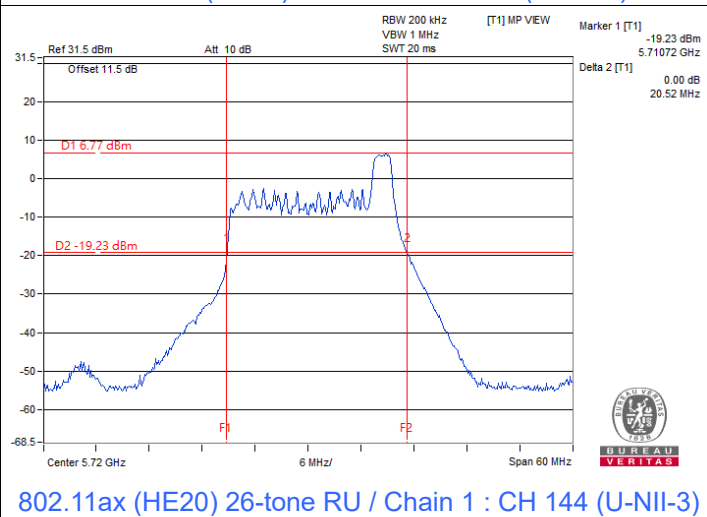
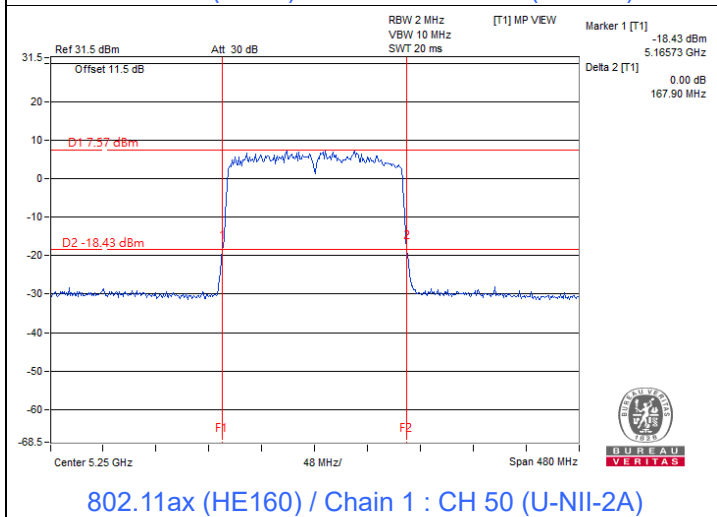
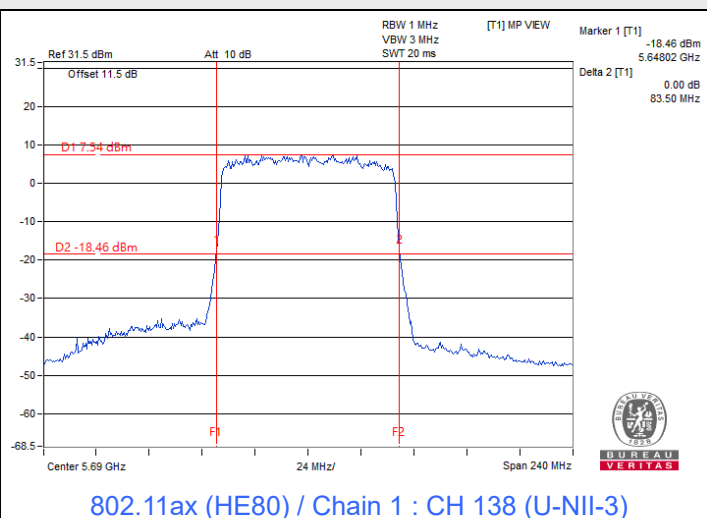
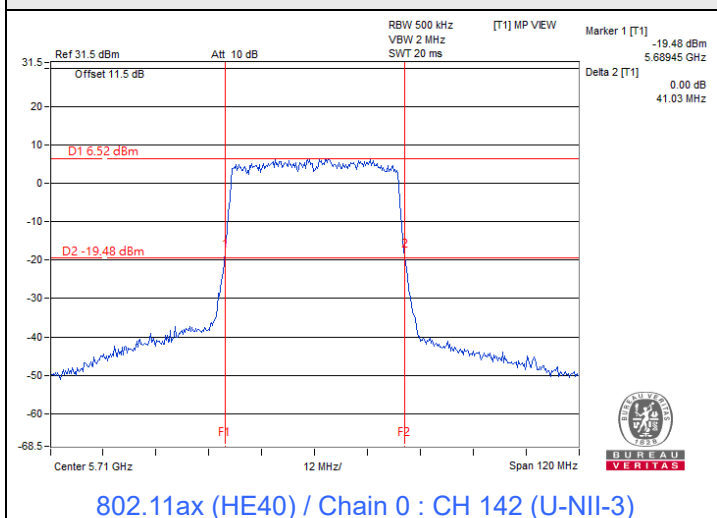


802.11ac (VHT160) / Chain 0 : CH 50 (U-NII-2A)



802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)

## Spectrum Plot of Minimum Value



### Notes:

1. For U-NII-2C straddle channel = 5725 MHz - Marker 1
2. For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz
3. For U-NII-1 straddle channel = 5250 MHz - Marker 1
4. For U-NII-2A straddle channel = Marker 1 + Delta 2 - 5250 MHz

## 7.2 RF Output Power

|                       |         |                           |              |            |           |
|-----------------------|---------|---------------------------|--------------|------------|-----------|
| Input Power (System): | 3.9 Vdc | Environmental Conditions: | 25°C, 76% RH | Tested By: | Dalen Dai |
|-----------------------|---------|---------------------------|--------------|------------|-----------|

### 802.11a

| Chan.           | Chan. Freq. (MHz) | Average Power (dBm) |         | Total Power (mW) | Total Power (dBm) | Power Limit (dBm) | Test Result |
|-----------------|-------------------|---------------------|---------|------------------|-------------------|-------------------|-------------|
|                 |                   | Chain 0             | Chain 1 |                  |                   |                   |             |
| 36              | 5180              | 11.39               | 11.27   | 27.169           | 14.34             | 24                | Pass        |
| 40              | 5200              | 11.35               | 11.24   | 26.95            | 14.31             | 24                | Pass        |
| 48              | 5240              | 11.41               | 11.30   | 27.325           | 14.37             | 24                | Pass        |
| 52              | 5260              | 14.08               | 13.94   | 50.36            | 17.02             | 23.81             | Pass        |
| 60              | 5300              | 14.33               | 13.69   | 50.49            | 17.03             | 23.81             | Pass        |
| 64              | 5320              | 14.16               | 13.84   | 50.272           | 17.01             | 23.84             | Pass        |
| 100             | 5500              | 16.20               | 15.72   | 79.012           | 18.98             | 23.78             | Pass        |
| 116             | 5580              | 16.11               | 15.93   | 80.006           | 19.03             | 23.8              | Pass        |
| 140             | 5700              | 16.23               | 15.85   | 80.435           | 19.05             | 23.78             | Pass        |
| *144 (U-NII-2C) | 5720              | 14.19               | 13.84   | 50.452           | 17.03             | 22.61             | Pass        |
| *144 (U-NII-3)  | 5720              | 7.70                | 7.10    | 11.017           | 10.42             | 30                | Pass        |
| 149             | 5745              | 16.18               | 15.83   | 79.778           | 19.02             | 30                | Pass        |
| 157             | 5785              | 16.22               | 15.94   | 81.144           | 19.09             | 30                | Pass        |
| 165             | 5825              | 16.04               | 15.92   | 79.263           | 18.99             | 30                | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

## 802.11ac (VHT20)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 36              | 5180                 | 11.61               | 11.37   | 28.197              | 14.50                | 24                   | Pass        |
| 40              | 5200                 | 11.53               | 11.35   | 27.869              | 14.45                | 24                   | Pass        |
| 48              | 5240                 | 11.49               | 11.26   | 27.459              | 14.39                | 24                   | Pass        |
| 52              | 5260                 | 14.04               | 13.80   | 49.34               | 16.93                | 24                   | Pass        |
| 60              | 5300                 | 14.07               | 13.81   | 49.571              | 16.95                | 24                   | Pass        |
| 64              | 5320                 | 14.07               | 13.78   | 49.405              | 16.94                | 24                   | Pass        |
| 100             | 5500                 | 15.02               | 14.73   | 61.485              | 17.89                | 24                   | Pass        |
| 116             | 5580                 | 14.96               | 14.81   | 61.602              | 17.90                | 24                   | Pass        |
| 140             | 5700                 | 14.96               | 14.79   | 61.463              | 17.89                | 24                   | Pass        |
| *144 (U-NII-2C) | 5720                 | 13.05               | 12.67   | 38.676              | 15.87                | 22.83                | Pass        |
| *144 (U-NII-3)  | 5720                 | 6.63                | 6.32    | 8.888               | 9.49                 | 30                   | Pass        |
| 149             | 5745                 | 14.87               | 14.78   | 60.751              | 17.84                | 30                   | Pass        |
| 157             | 5785                 | 14.85               | 14.92   | 61.595              | 17.90                | 30                   | Pass        |
| 165             | 5825                 | 14.75               | 14.88   | 60.615              | 17.83                | 30                   | Pass        |

### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT40)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 38              | 5190                 | 13.85               | 13.48   | 46.55               | 16.68                | 24                   | Pass        |
| 46              | 5230                 | 13.85               | 13.51   | 46.705              | 16.69                | 24                   | Pass        |
| 54              | 5270                 | 14.13               | 13.62   | 48.897              | 16.89                | 24                   | Pass        |
| 62              | 5310                 | 14.10               | 13.67   | 48.985              | 16.90                | 24                   | Pass        |
| 102             | 5510                 | 15.13               | 14.57   | 61.225              | 17.87                | 24                   | Pass        |
| 110             | 5550                 | 15.03               | 14.64   | 60.949              | 17.85                | 24                   | Pass        |
| 134             | 5670                 | 15.03               | 14.50   | 60.026              | 17.78                | 24                   | Pass        |
| *142 (U-NII-2C) | 5710                 | 13.90               | 13.17   | 45.296              | 16.56                | 24                   | Pass        |
| *142 (U-NII-3)  | 5710                 | 2.58                | 1.69    | 3.287               | 5.17                 | 30                   | Pass        |
| 151             | 5755                 | 15.01               | 14.61   | 60.602              | 17.82                | 30                   | Pass        |
| 159             | 5795                 | 15.08               | 14.69   | 61.655              | 17.90                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT80)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 42              | 5210                 | 14.00               | 13.55   | 47.765              | 16.79                | 24                   | Pass        |
| 58              | 5290                 | 14.14               | 13.51   | 48.381              | 16.85                | 24                   | Pass        |
| 106             | 5530                 | 15.06               | 14.56   | 60.639              | 17.83                | 24                   | Pass        |
| 122             | 5610                 | 15.10               | 14.57   | 61.001              | 17.85                | 24                   | Pass        |
| *138 (U-NII-2C) | 5690                 | 13.81               | 13.10   | 44.461              | 16.48                | 24                   | Pass        |
| *138 (U-NII-3)  | 5690                 | -1.99               | -3.19   | 1.1121              | 0.46                 | 30                   | Pass        |
| 155             | 5775                 | 14.92               | 14.57   | 59.687              | 17.76                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ac (VHT160)

| Chan.          | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| *50 (U-NII-1)  | 5250                 | 9.87                | 9.82    | 19.299              | 12.86                | 24                   | Pass        |
| *50 (U-NII-2A) | 5250                 | 9.77                | 9.68    | 18.774              | 12.74                | 24                   | Pass        |
| 114            | 5570                 | 14.16               | 13.65   | 49.235              | 16.92                | 24                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE20)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 36              | 5180                 | 12.39               | 12.31   | 34.36               | 15.36                | 24                   | Pass        |
| 40              | 5200                 | 12.32               | 12.27   | 33.926              | 15.31                | 24                   | Pass        |
| 48              | 5240                 | 12.34               | 12.25   | 33.928              | 15.31                | 24                   | Pass        |
| 52              | 5260                 | 14.14               | 13.91   | 50.545              | 17.04                | 24                   | Pass        |
| 60              | 5300                 | 14.17               | 13.92   | 50.782              | 17.06                | 24                   | Pass        |
| 64              | 5320                 | 14.18               | 13.87   | 50.56               | 17.04                | 24                   | Pass        |
| 100             | 5500                 | 15.22               | 14.93   | 64.383              | 18.09                | 24                   | Pass        |
| 116             | 5580                 | 15.14               | 15.03   | 64.501              | 18.10                | 24                   | Pass        |
| 140             | 5700                 | 15.19               | 14.98   | 64.514              | 18.10                | 24                   | Pass        |
| *144 (U-NII-2C) | 5720                 | 13.33               | 13.19   | 42.373              | 16.27                | 22.96                | Pass        |
| *144 (U-NII-3)  | 5720                 | 7.12                | 6.95    | 10.107              | 10.05                | 30                   | Pass        |
| 149             | 5745                 | 15.06               | 14.97   | 63.468              | 18.03                | 30                   | Pass        |
| 157             | 5785                 | 15.06               | 15.11   | 64.497              | 18.10                | 30                   | Pass        |
| 165             | 5825                 | 14.95               | 15.09   | 63.546              | 18.03                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE40)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 38              | 5190                 | 14.05               | 13.67   | 48.691              | 16.87                | 24                   | Pass        |
| 46              | 5230                 | 14.06               | 13.70   | 48.911              | 16.89                | 24                   | Pass        |
| 54              | 5270                 | 14.25               | 13.75   | 50.321              | 17.02                | 24                   | Pass        |
| 62              | 5310                 | 14.21               | 13.78   | 50.241              | 17.01                | 24                   | Pass        |
| 102             | 5510                 | 15.33               | 14.76   | 64.042              | 18.06                | 24                   | Pass        |
| 110             | 5550                 | 15.25               | 14.84   | 63.975              | 18.06                | 24                   | Pass        |
| 134             | 5670                 | 15.26               | 14.69   | 63.018              | 17.99                | 24                   | Pass        |
| *142 (U-NII-2C) | 5710                 | 14.00               | 13.69   | 48.507              | 16.86                | 24                   | Pass        |
| *142 (U-NII-3)  | 5710                 | 2.72                | 2.66    | 3.716               | 5.70                 | 30                   | Pass        |
| 151             | 5755                 | 15.21               | 14.82   | 63.528              | 18.03                | 30                   | Pass        |
| 159             | 5795                 | 15.29               | 14.88   | 64.567              | 18.10                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE80)

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 42              | 5210                 | 14.20               | 13.76   | 50.071              | 17.00                | 24                   | Pass        |
| 58              | 5290                 | 14.33               | 13.74   | 50.761              | 17.06                | 24                   | Pass        |
| 106             | 5530                 | 15.27               | 14.76   | 63.574              | 18.03                | 24                   | Pass        |
| 122             | 5610                 | 15.28               | 14.78   | 63.789              | 18.05                | 24                   | Pass        |
| *138 (U-NII-2C) | 5690                 | 14.06               | 13.82   | 49.567              | 16.95                | 24                   | Pass        |
| *138 (U-NII-3)  | 5690                 | -0.75               | -1.05   | 1.6266              | 2.11                 | 30                   | Pass        |
| 155             | 5775                 | 15.13               | 14.75   | 62.437              | 17.95                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE160)

| Chan.          | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| *50 (U-NII-1)  | 5250                 | 9.96                | 9.90    | 19.681              | 12.94                | 24                   | Pass        |
| *50 (U-NII-2A) | 5250                 | 9.85                | 9.77    | 19.145              | 12.82                | 24                   | Pass        |
| 114            | 5570                 | 14.36               | 13.84   | 51.5                | 17.12                | 24                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

### 802.11ax (HE20) 26-tone RU

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 36              | 5180                 | 3.05                | 2.91    | 3.973               | 5.99                 | 24                   | Pass        |
| 40              | 5200                 | 3.02                | 2.86    | 3.936               | 5.95                 | 24                   | Pass        |
| 48              | 5240                 | 3.14                | 2.76    | 3.949               | 5.96                 | 24                   | Pass        |
| 52              | 5260                 | 10.77               | 10.30   | 22.655              | 13.55                | 24                   | Pass        |
| 60              | 5300                 | 10.75               | 10.32   | 22.65               | 13.55                | 24                   | Pass        |
| 64              | 5320                 | 10.82               | 10.41   | 23.068              | 13.63                | 24                   | Pass        |
| 100             | 5500                 | 10.84               | 10.37   | 23.023              | 13.62                | 24                   | Pass        |
| 116             | 5580                 | 10.78               | 10.29   | 22.658              | 13.55                | 24                   | Pass        |
| 140             | 5700                 | 10.32               | 10.26   | 21.382              | 13.30                | 24                   | Pass        |
| *144 (U-NII-2C) | 5720                 | -19.15              | -20.21  | 0.02169             | -16.64               | 22.54                | Pass        |
| *144 (U-NII-3)  | 5720                 | 9.00                | 8.09    | 14.385              | 11.58                | 30                   | Pass        |
| 149             | 5745                 | 14.62               | 13.85   | 53.24               | 17.26                | 30                   | Pass        |
| 157             | 5785                 | 14.57               | 13.98   | 53.645              | 17.30                | 30                   | Pass        |
| 165             | 5825                 | 13.94               | 14.46   | 52.7                | 17.22                | 30                   | Pass        |

#### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

## 802.11ax (HE20) 52-tone RU

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 36              | 5180                 | 6.11                | 5.88    | 7.956               | 9.01                 | 24                   | Pass        |
| 40              | 5200                 | 6.06                | 5.92    | 7.945               | 9.00                 | 24                   | Pass        |
| 48              | 5240                 | 6.10                | 5.94    | 8                   | 9.03                 | 24                   | Pass        |
| 52              | 5260                 | 13.28               | 13.10   | 41.699              | 16.20                | 24                   | Pass        |
| 60              | 5300                 | 13.37               | 13.06   | 41.957              | 16.23                | 24                   | Pass        |
| 64              | 5320                 | 13.53               | 13.18   | 43.339              | 16.37                | 24                   | Pass        |
| 100             | 5500                 | 13.36               | 13.09   | 42.047              | 16.24                | 24                   | Pass        |
| 116             | 5580                 | 13.54               | 13.07   | 42.871              | 16.32                | 24                   | Pass        |
| 140             | 5700                 | 13.57               | 13.23   | 43.789              | 16.41                | 24                   | Pass        |
| *144 (U-NII-2C) | 5720                 | -9.83               | -10.54  | 0.1923              | -7.16                | 22.59                | Pass        |
| *144 (U-NII-3)  | 5720                 | 12.57               | 11.71   | 32.897              | 15.17                | 30                   | Pass        |
| 149             | 5745                 | 14.53               | 14.30   | 55.295              | 17.43                | 30                   | Pass        |
| 157             | 5785                 | 14.48               | 14.23   | 54.539              | 17.37                | 30                   | Pass        |
| 165             | 5825                 | 14.44               | 14.27   | 54.527              | 17.37                | 30                   | Pass        |

### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

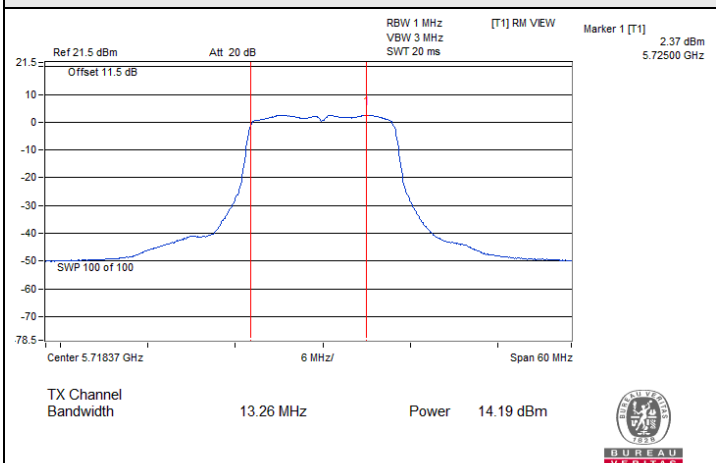
## 802.11ax (HE20) 106-tone RU

| Chan.           | Chan. Freq.<br>(MHz) | Average Power (dBm) |         | Total Power<br>(mW) | Total Power<br>(dBm) | Power Limit<br>(dBm) | Test Result |
|-----------------|----------------------|---------------------|---------|---------------------|----------------------|----------------------|-------------|
|                 |                      | Chain 0             | Chain 1 |                     |                      |                      |             |
| 36              | 5180                 | 8.84                | 8.46    | 14.671              | 11.66                | 24                   | Pass        |
| 40              | 5200                 | 8.87                | 8.51    | 14.805              | 11.70                | 24                   | Pass        |
| 48              | 5240                 | 8.83                | 8.47    | 14.669              | 11.66                | 24                   | Pass        |
| 52              | 5260                 | 14.16               | 13.81   | 50.105              | 17.00                | 24                   | Pass        |
| 60              | 5300                 | 14.22               | 13.84   | 50.634              | 17.04                | 24                   | Pass        |
| 64              | 5320                 | 14.03               | 13.68   | 48.628              | 16.87                | 24                   | Pass        |
| 100             | 5500                 | 14.60               | 14.27   | 55.57               | 17.45                | 24                   | Pass        |
| 116             | 5580                 | 14.61               | 14.30   | 55.822              | 17.47                | 24                   | Pass        |
| 140             | 5700                 | 14.73               | 14.34   | 56.881              | 17.55                | 24                   | Pass        |
| *144 (U-NII-2C) | 5720                 | 10.07               | 9.52    | 19.116              | 12.81                | 22.62                | Pass        |
| *144 (U-NII-3)  | 5720                 | 10.82               | 10.48   | 23.247              | 13.66                | 30                   | Pass        |
| 149             | 5745                 | 14.38               | 14.31   | 54.393              | 17.36                | 30                   | Pass        |
| 157             | 5785                 | 14.48               | 14.27   | 54.784              | 17.39                | 30                   | Pass        |
| 165             | 5825                 | 14.67               | 14.32   | 56.349              | 17.51                | 30                   | Pass        |

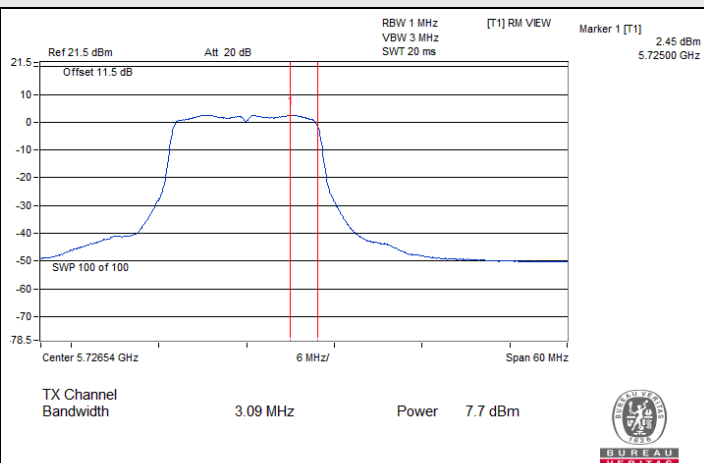
### Notes:

- \* : Test was performed in accordance with measurement follow FCC KDB 789033 UNII test procedure Method SA-1 and use spectrum analyzer test.
- Directional gain is the maximum gain of antennas.
- For U-NII-1, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2A, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-2C, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.
- For U-NII-3, the maximum gain is 5.89 dBi  $\leq$  6 dBi, so the output power limit shall not be reduced.

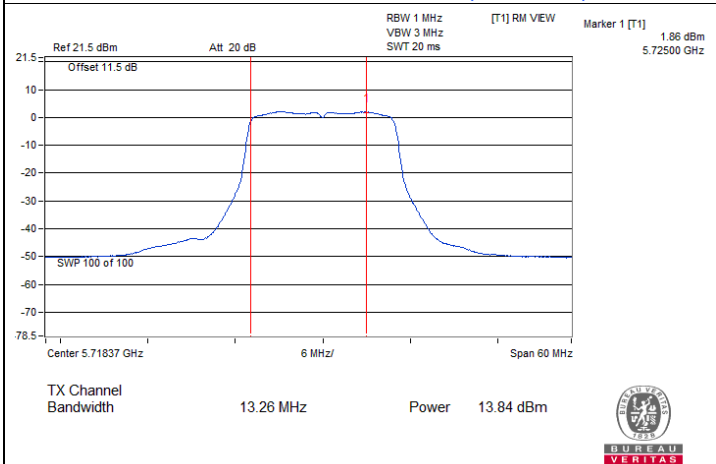
# Spectrum Plot for channel straddling



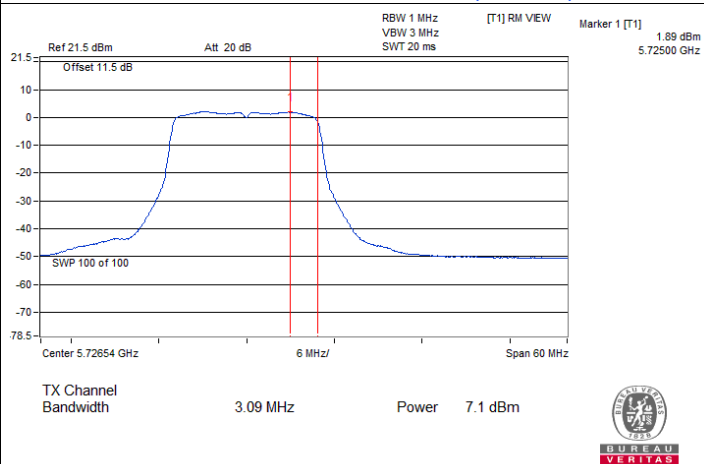
802.11a / Chain 0 : CH 144 (U-NII-2C)



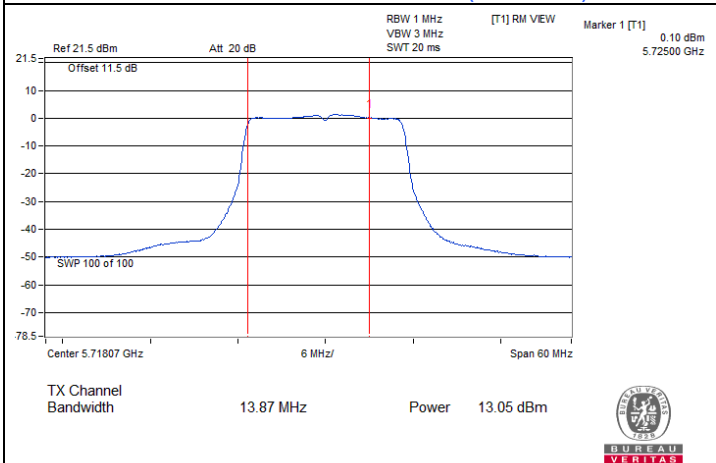
802.11a / Chain 0 : CH 144 (U-NII-3)



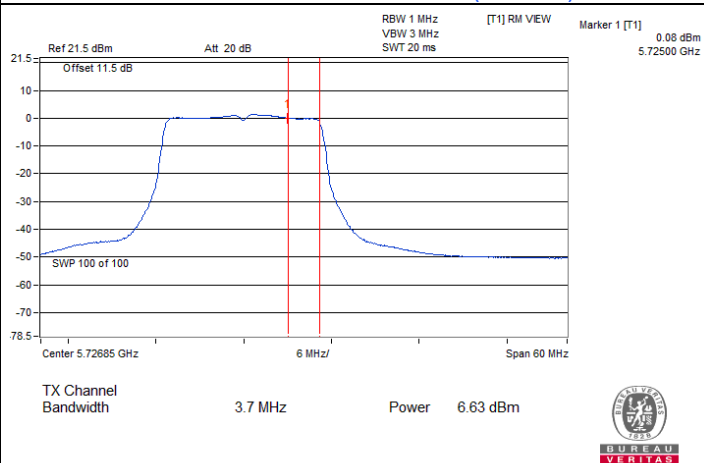
802.11a / Chain 1 : CH 144 (U-NII-2C)



802.11a / Chain 1 : CH 144 (U-NII-3)

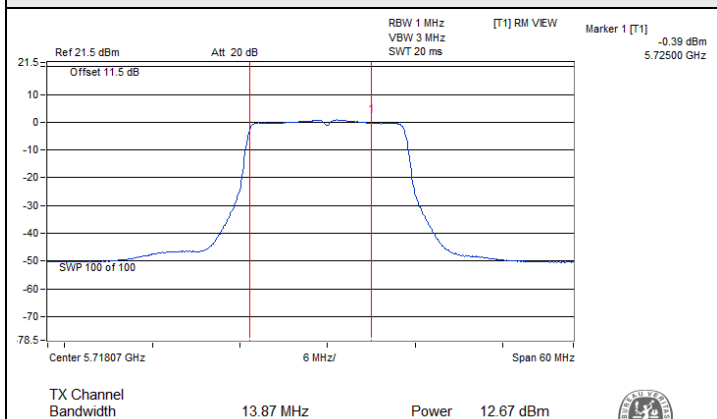


802.11ac (VHT20) / Chain 0 : CH 144 (U-NII-2C)

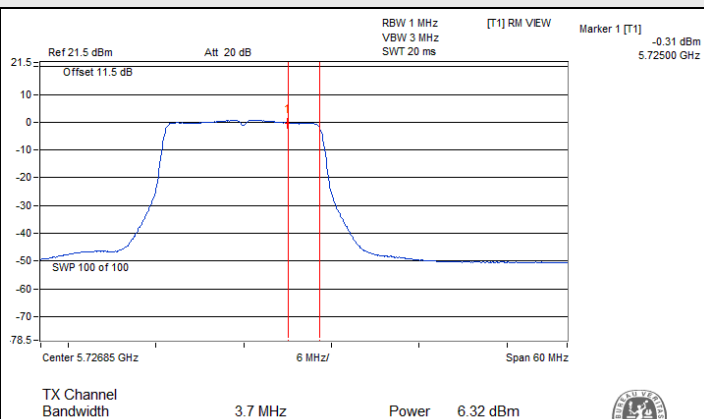


802.11ac (VHT20) / Chain 0 : CH 144 (U-NII-3)

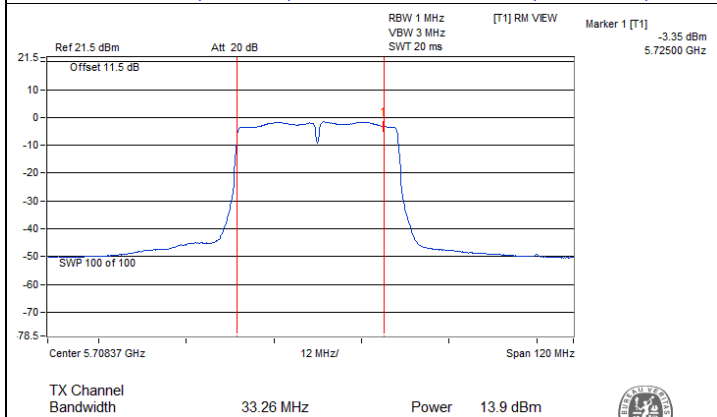
# Spectrum Plot for channel straddling



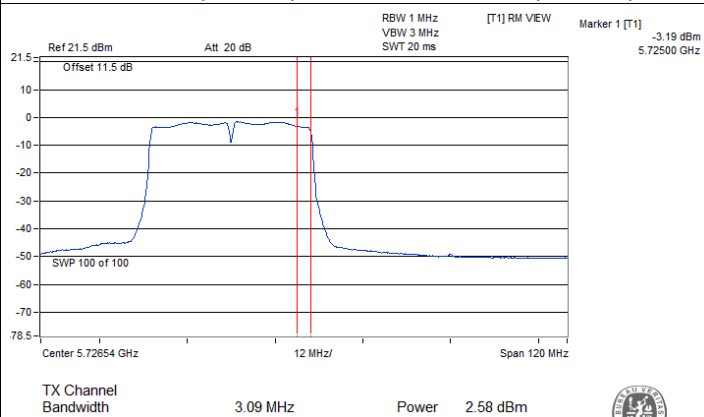
802.11ac (VHT20) / Chain 1 : CH 144 (U-NII-2C)



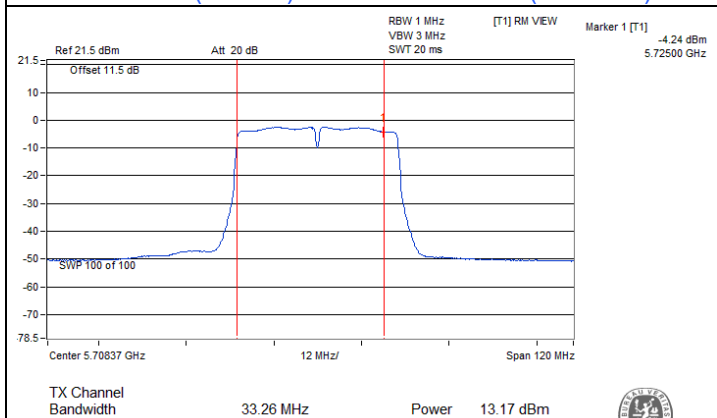
802.11ac (VHT20) / Chain 1 : CH 144 (U-NII-3)



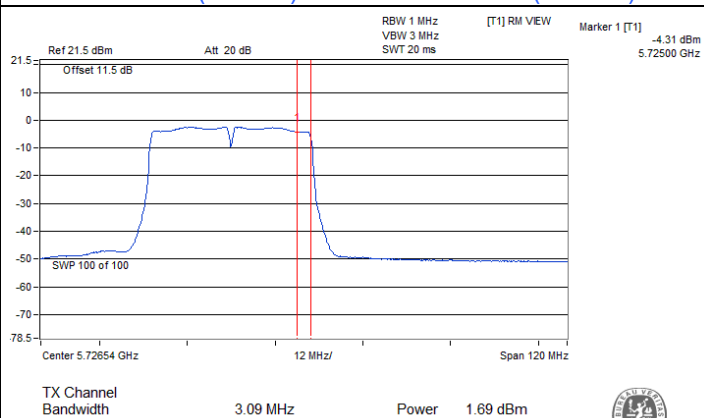
802.11ac (VHT40) / Chain 0 : CH 142 (U-NII-2C)



802.11ac (VHT40) / Chain 0 : CH 142 (U-NII-3)

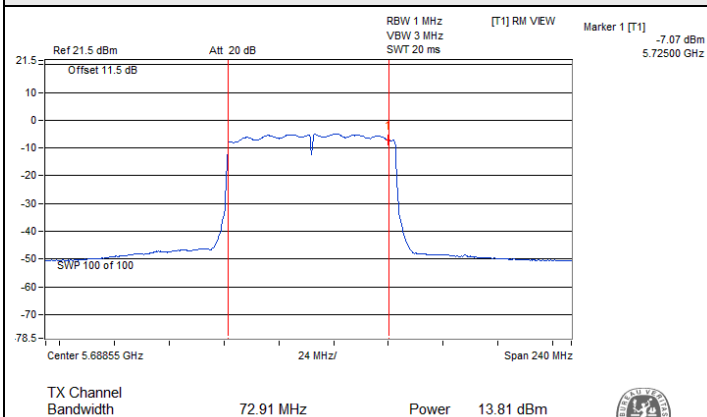


802.11ac (VHT40) / Chain 1 : CH 142 (U-NII-2C)

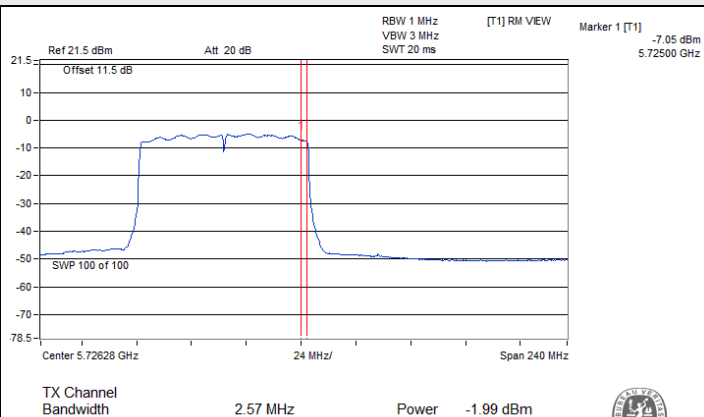


802.11ac (VHT40) / Chain 1 : CH 142 (U-NII-3)

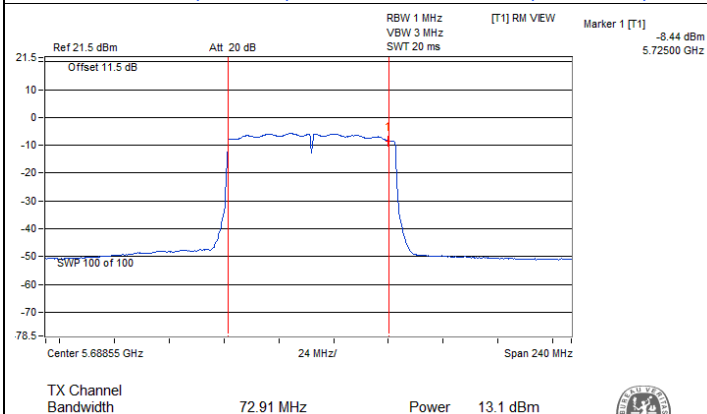
# Spectrum Plot for channel straddling



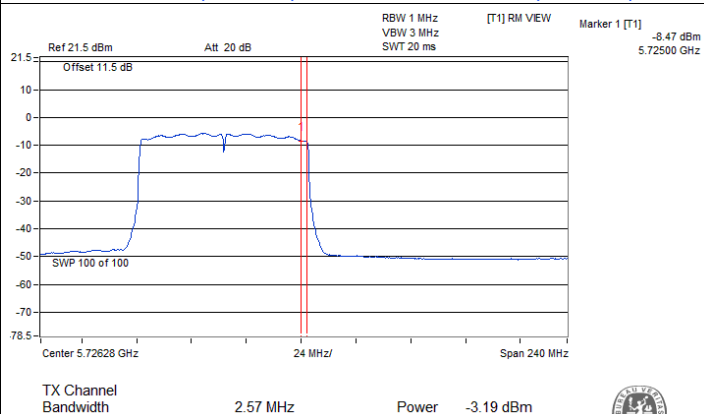
802.11ac (VHT80) / Chain 0 : CH 138 (U-NII-2C)



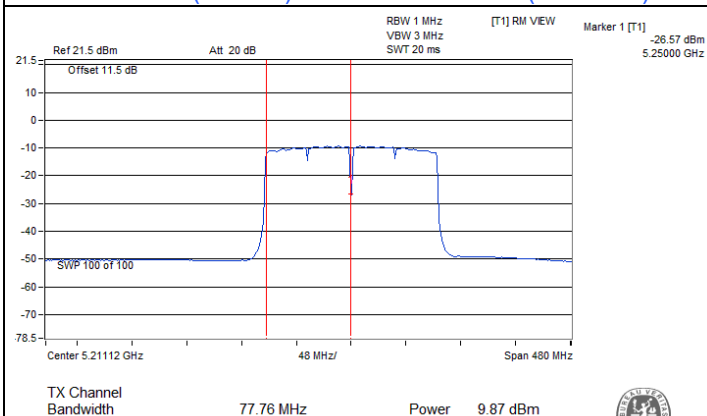
802.11ac (VHT80) / Chain 0 : CH 138 (U-NII-3)



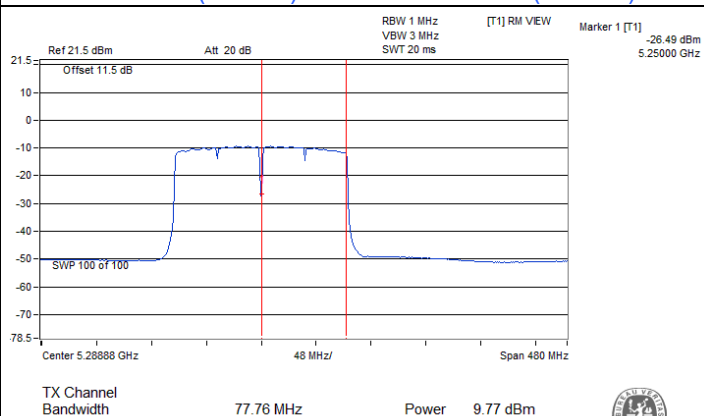
802.11ac (VHT80) / Chain 1 : CH 138 (U-NII-2C)



802.11ac (VHT80) / Chain 1 : CH 138 (U-NII-3)

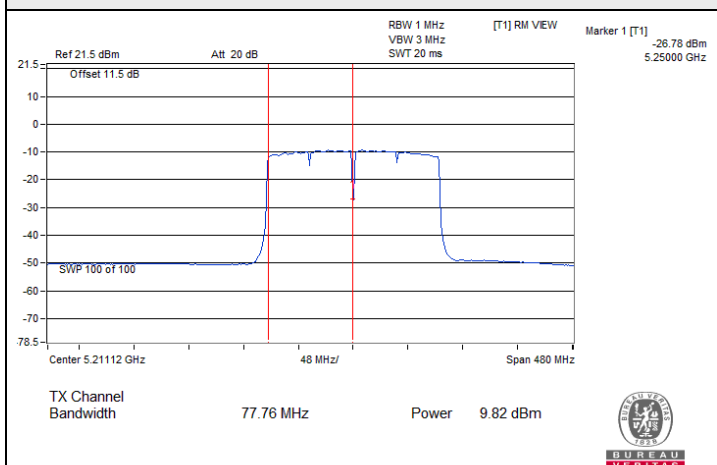


802.11ac (VHT160) / Chain 0 : CH 50 (U-NII-1)

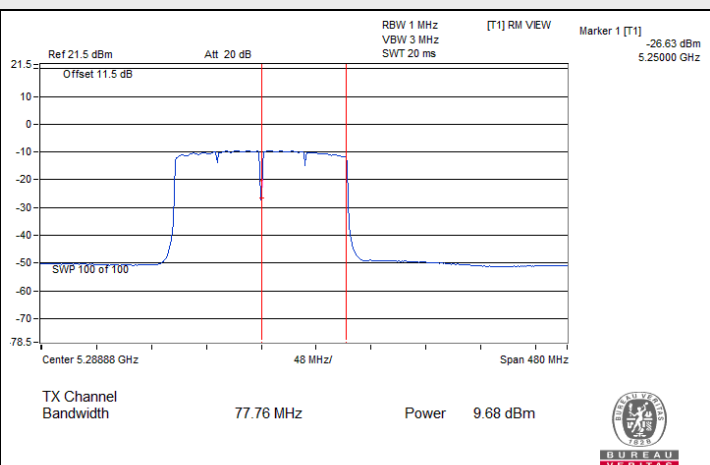


802.11ac (VHT160) / Chain 0 : CH 50 (U-NII-2A)

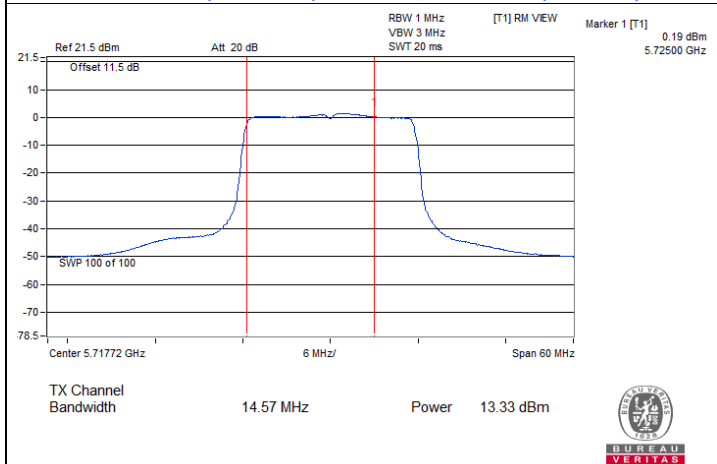
# Spectrum Plot for channel straddling



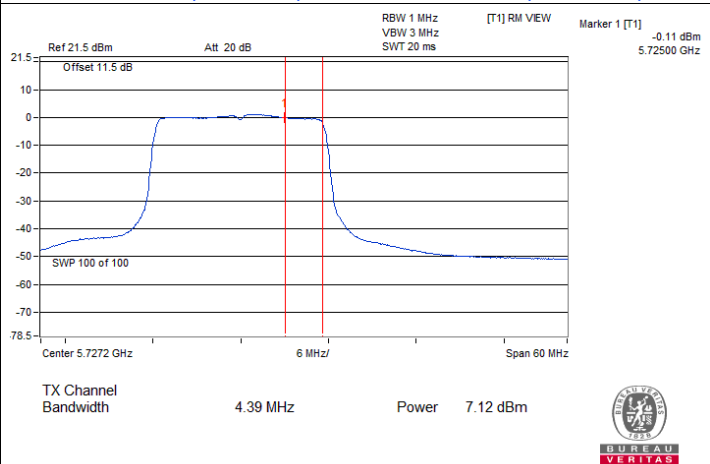
802.11ac (VHT160) / Chain 1 : CH 50 (U-NII-1)



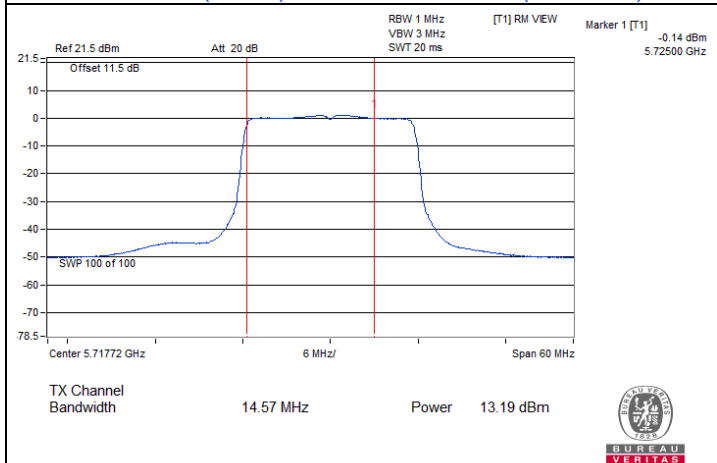
802.11ac (VHT160) / Chain 1 : CH 50 (U-NII-2A)



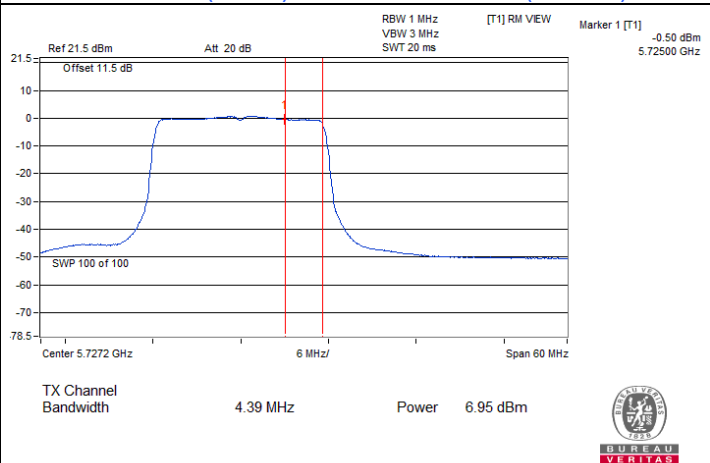
802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



802.11ax (HE20) / Chain 0 : CH 144 (U-NII-3)

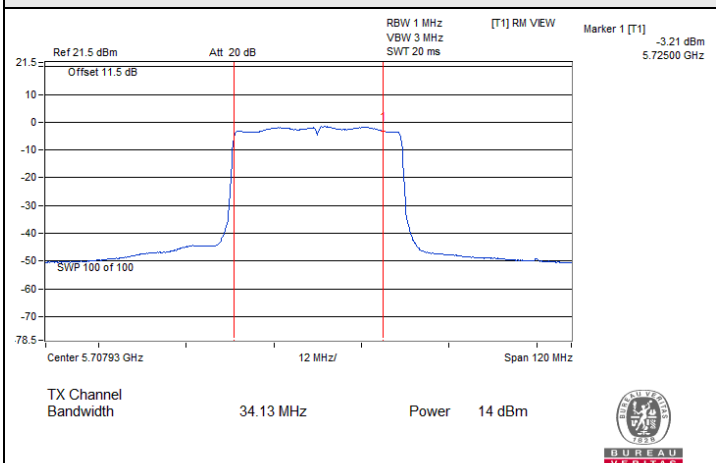


802.11ax (HE20) / Chain 1 : CH 144 (U-NII-2C)

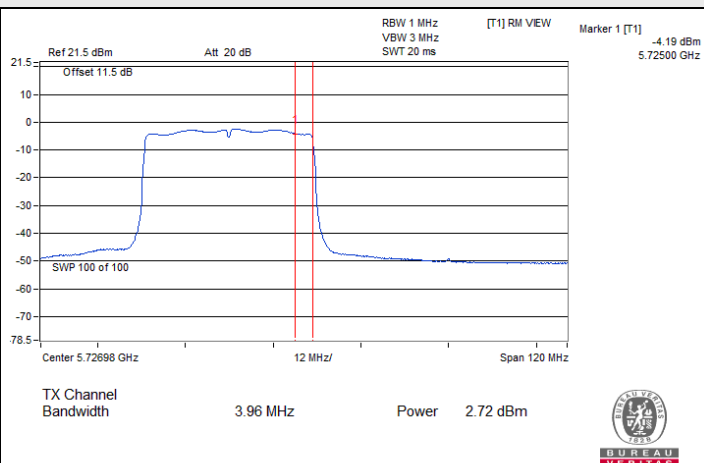


802.11ax (HE20) / Chain 1 : CH 144 (U-NII-3)

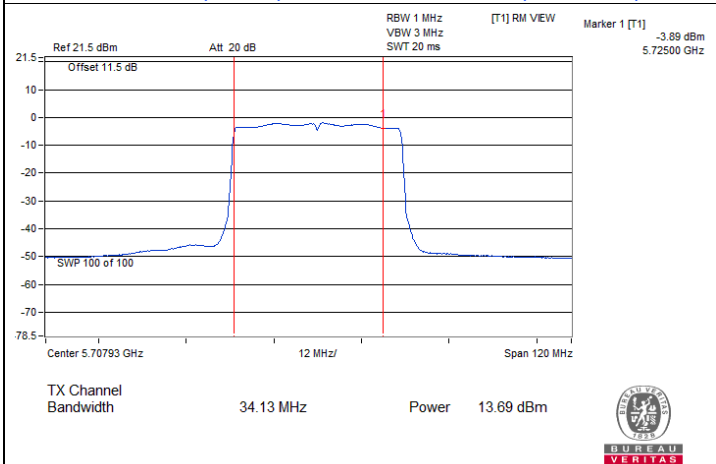
# Spectrum Plot for channel straddling



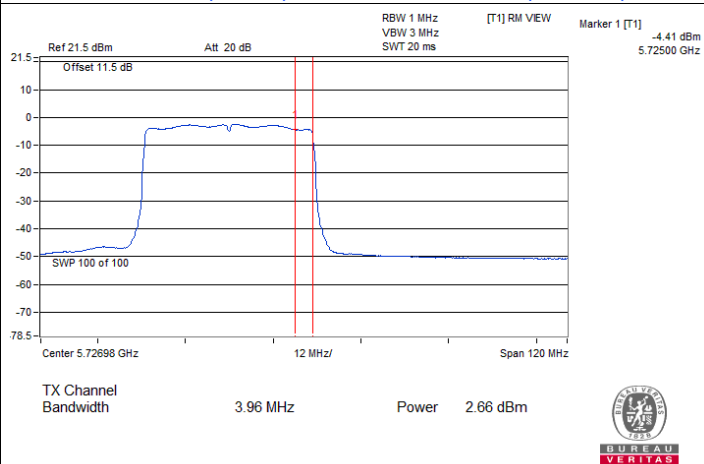
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-2C)



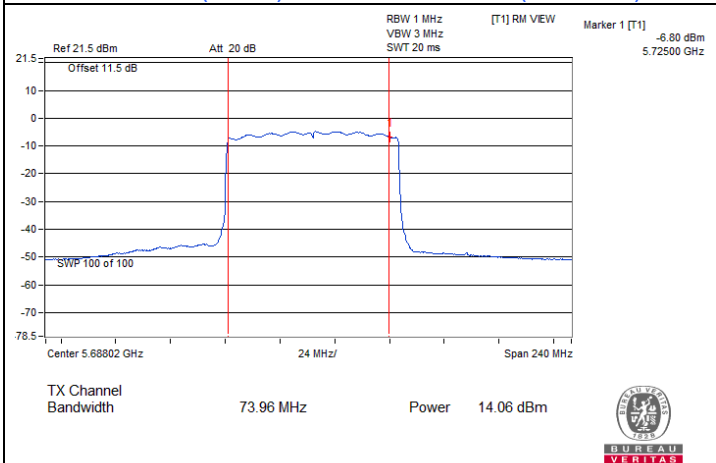
802.11ax (HE40) / Chain 0 : CH 142 (U-NII-3)



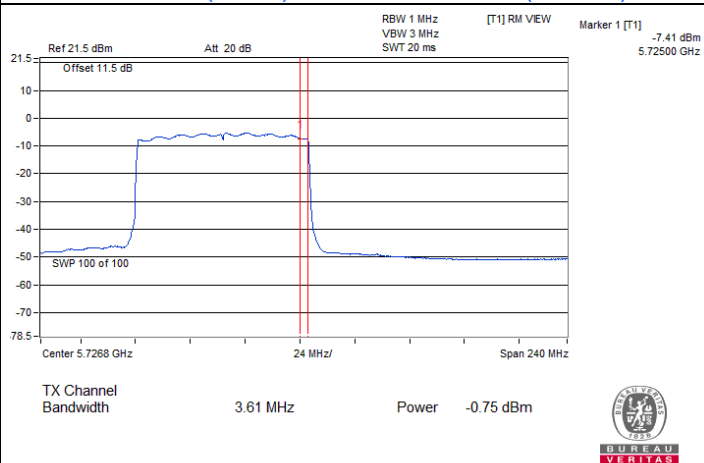
802.11ax (HE40) / Chain 1 : CH 142 (U-NII-2C)



802.11ax (HE40) / Chain 1 : CH 142 (U-NII-3)

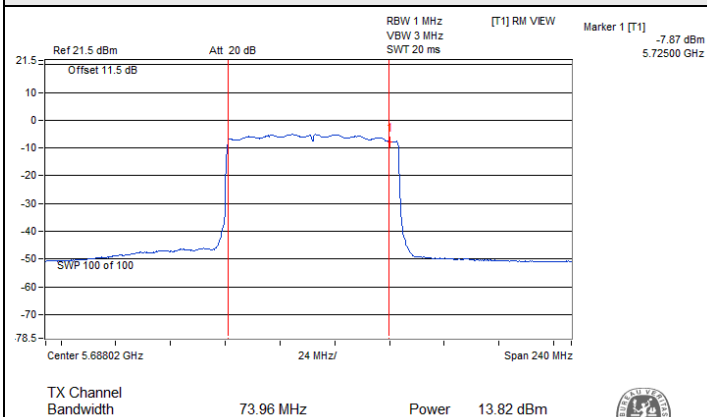


802.11ax (HE80) / Chain 0 : CH 138 (U-NII-2C)

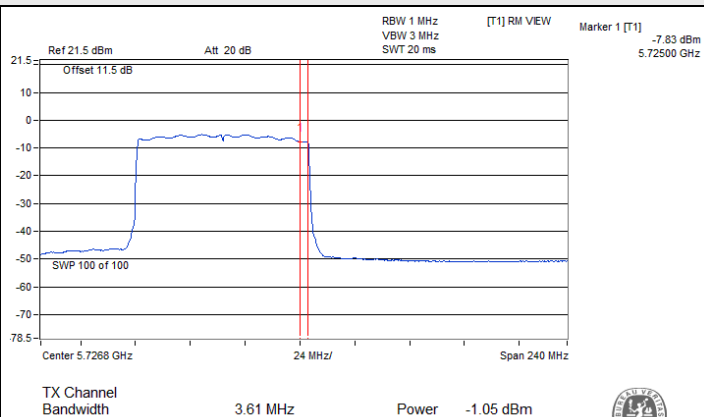


802.11ax (HE80) / Chain 0 : CH 138 (U-NII-3)

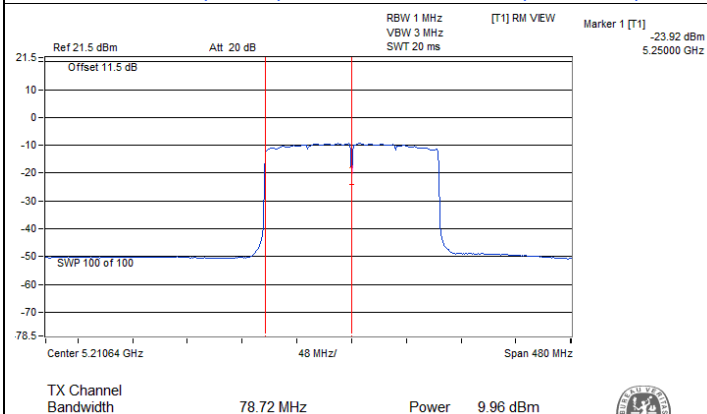
# Spectrum Plot for channel straddling



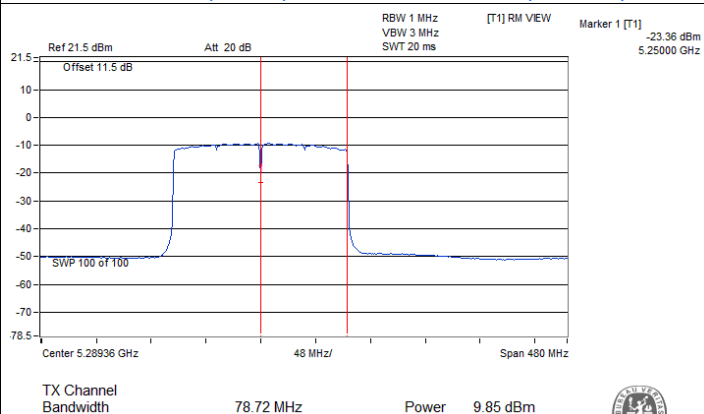
802.11ax (HE80) / Chain 1 : CH 138 (U-NII-2C)



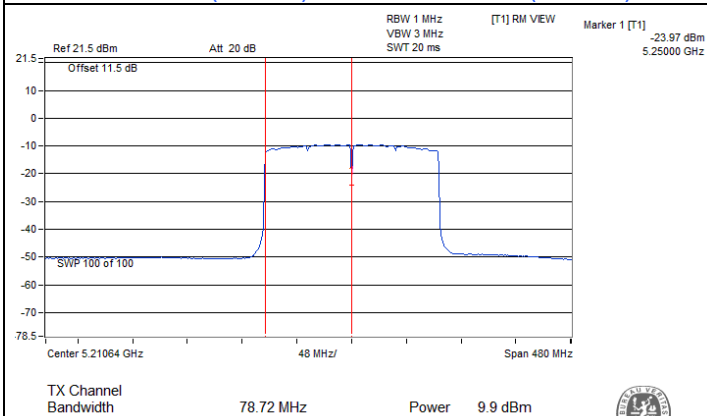
802.11ax (HE80) / Chain 1 : CH 138 (U-NII-3)



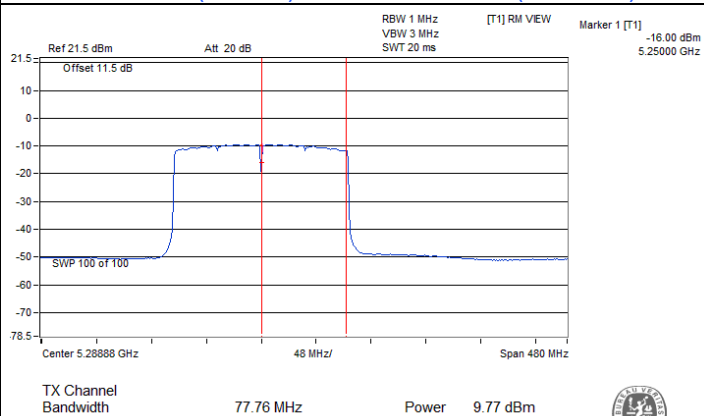
802.11ax (HE160) / Chain 0 : CH 50 (U-NII-1)



802.11ax (HE160) / Chain 0 : CH 50 (U-NII-2A)

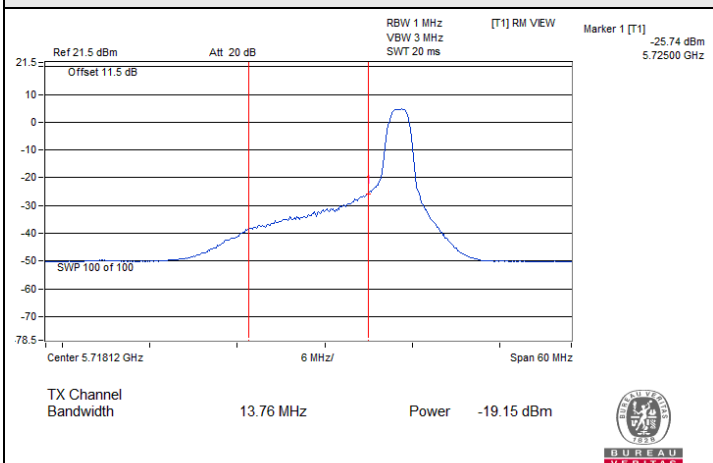


802.11ax (HE160) / Chain 1 : CH 50 (U-NII-1)

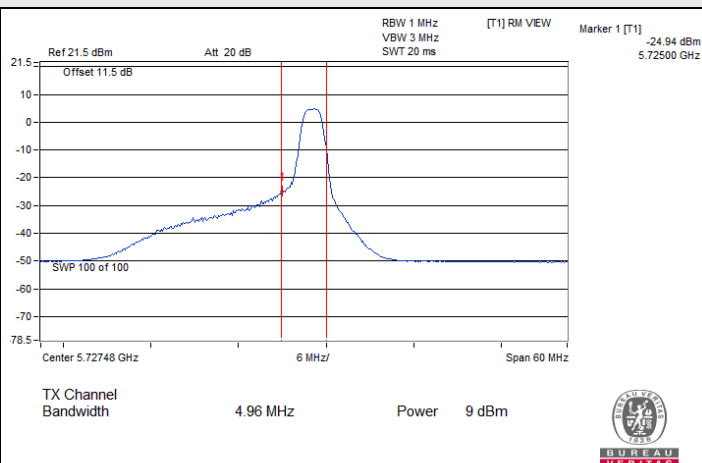


802.11ax (HE160) / Chain 1 : CH 50 (U-NII-2A)

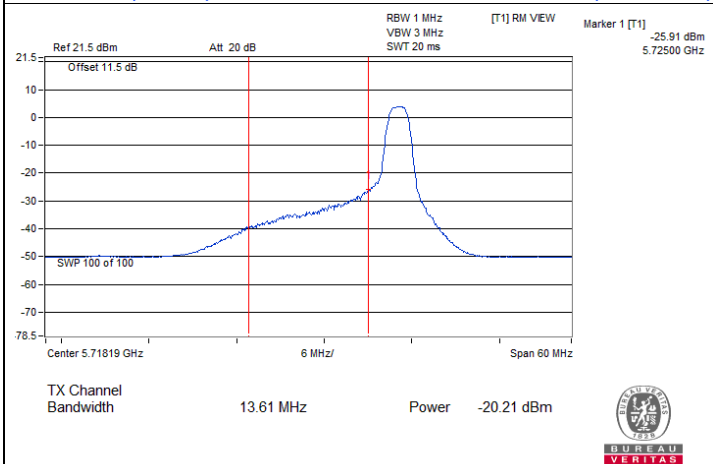
# Spectrum Plot for channel straddling



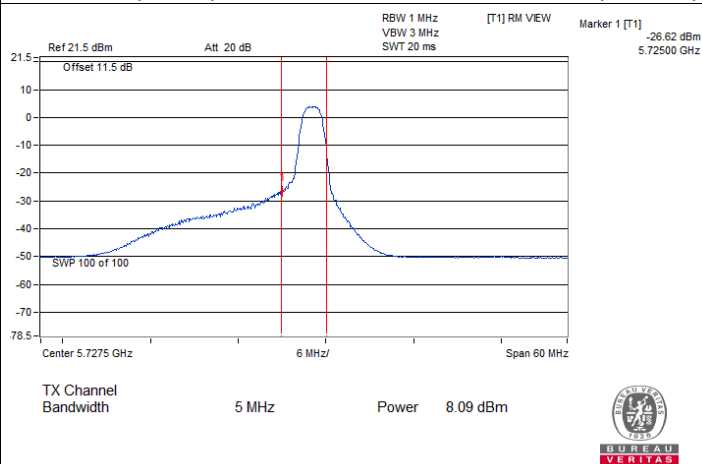
802.11ax (HE20) 26-tone RU / Chain 0 : CH 144 (U-NII-2C)



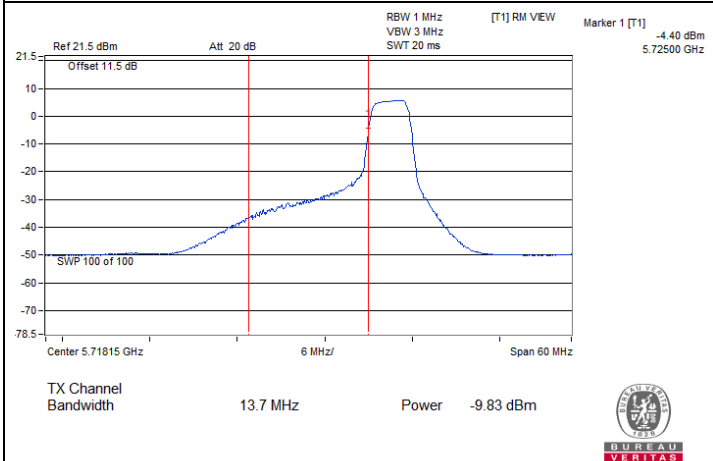
802.11ax (HE20) 26-tone RU / Chain 0 : CH 144 (U-NII-3)



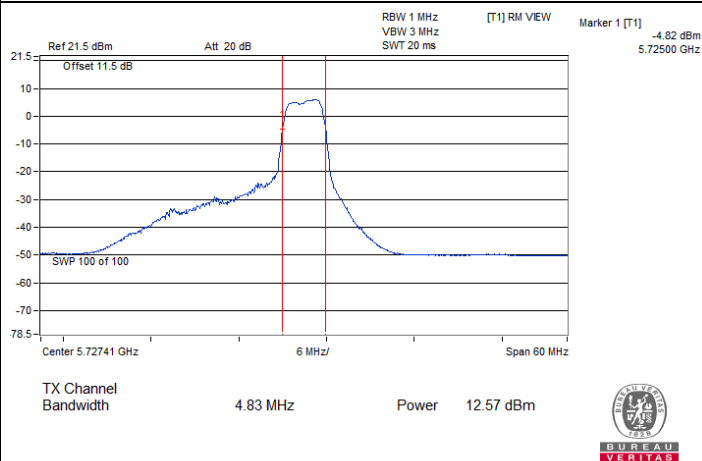
802.11ax (HE20) 26-tone RU / Chain 1 : CH 144 (U-NII-2C)



802.11ax (HE20) 26-tone RU / Chain 1 : CH 144 (U-NII-3)

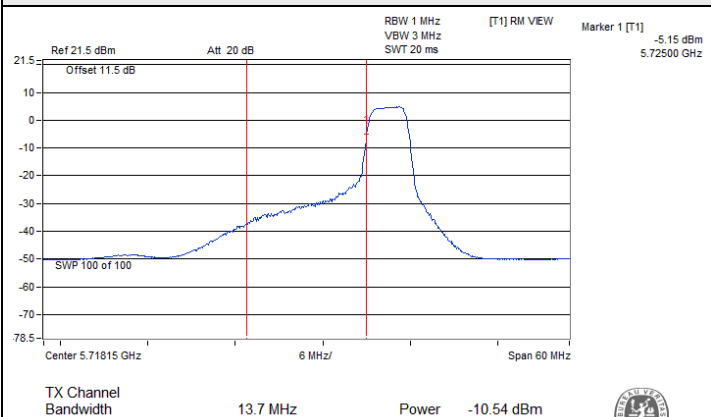


802.11ax (HE20) 52-tone RU / Chain 0 : CH 144 (U-NII-2C)

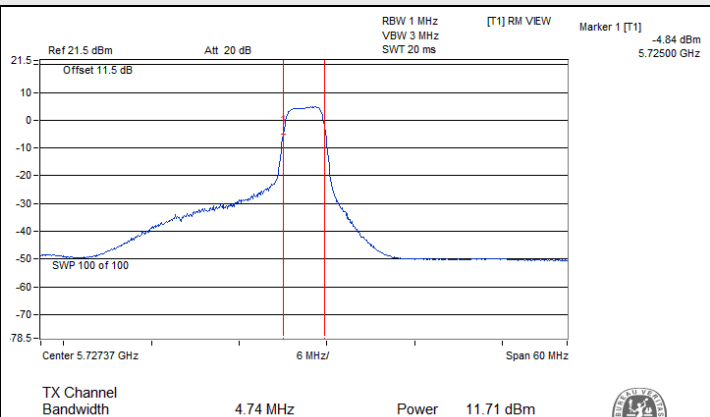


802.11ax (HE20) 52-tone RU / Chain 0 : CH 144 (U-NII-3)

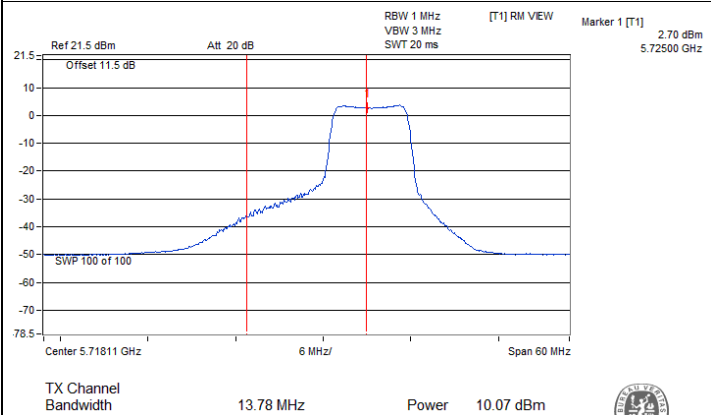
# Spectrum Plot for channel straddling



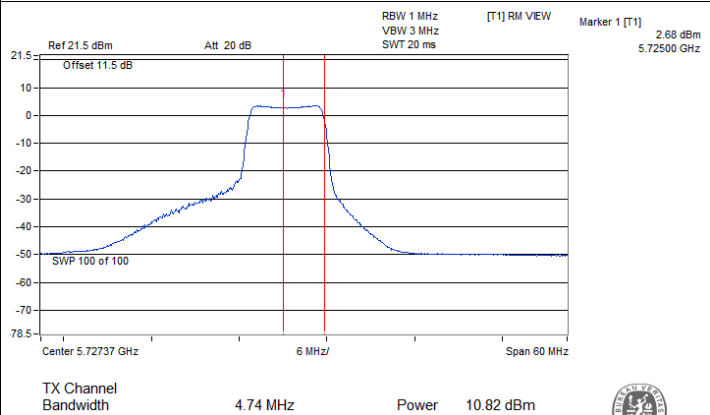
802.11ax (HE20) 52-tone RU / Chain 1 : CH 144 (U-NII-2C)



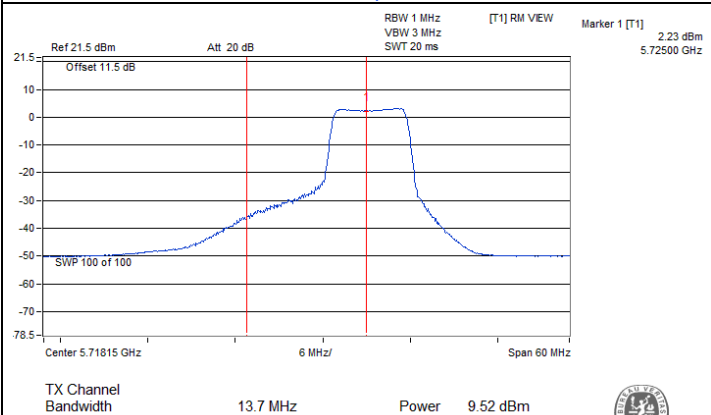
802.11ax (HE20) 52-tone RU / Chain 1 : CH 144 (U-NII-3)



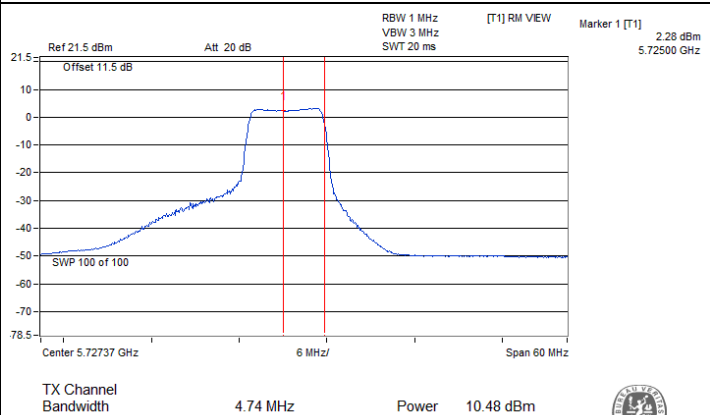
802.11ax (HE20) 106-tone RU / Chain 0 : CH 144 (U-NII-2C)



802.11ax (HE20) 106-tone RU / Chain 0 : CH 144 (U-NII-3)



802.11ax (HE20) 106-tone RU / Chain 1 : CH 144 (U-NII-2C)



802.11ax (HE20) 106-tone RU / Chain 1 : CH 144 (U-NII-3)

### 7.3 Power Spectral Density

|                       |         |                           |              |            |           |
|-----------------------|---------|---------------------------|--------------|------------|-----------|
| Input Power (System): | 3.9 Vdc | Environmental Conditions: | 25°C, 76% RH | Tested By: | Dalen Dai |
|-----------------------|---------|---------------------------|--------------|------------|-----------|

#### 802.11a

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 36             | 5180              | -2.20         | -2.38   | 0.72                | 8.1                      | Pass        |
| 40             | 5200              | -2.22         | -2.42   | 0.69                | 8.1                      | Pass        |
| 48             | 5240              | -2.17         | -2.32   | 0.77                | 8.1                      | Pass        |
| 52             | 5260              | 0.01          | -0.11   | 2.96                | 8.1                      | Pass        |
| 60             | 5300              | 0.14          | -0.39   | 2.89                | 8.1                      | Pass        |
| 64             | 5320              | 0.04          | -0.23   | 2.92                | 8.1                      | Pass        |
| 100            | 5500              | 1.98          | 1.74    | 4.87                | 8.1                      | Pass        |
| 116            | 5580              | 1.96          | 1.89    | 4.94                | 8.1                      | Pass        |
| 140            | 5700              | 2.03          | 1.73    | 4.89                | 8.1                      | Pass        |
| 144 (U-NII-2C) | 5720              | 1.97          | 1.80    | 4.90                | 8.1                      | Pass        |

#### Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
4. For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
5. For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

## 802.11ax (HE20)

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 36             | 5180              | -2.05         | -2.23   | 0.87                | 8.1                      | Pass        |
| 40             | 5200              | -2.03         | -2.17   | 0.91                | 8.1                      | Pass        |
| 48             | 5240              | -2.04         | -2.22   | 0.88                | 8.1                      | Pass        |
| 52             | 5260              | -0.52         | -0.70   | 2.40                | 8.1                      | Pass        |
| 60             | 5300              | -0.42         | -0.65   | 2.48                | 8.1                      | Pass        |
| 64             | 5320              | -0.57         | -0.75   | 2.35                | 8.1                      | Pass        |
| 100            | 5500              | 0.83          | 0.53    | 3.69                | 8.1                      | Pass        |
| 116            | 5580              | 0.84          | 0.59    | 3.73                | 8.1                      | Pass        |
| 140            | 5700              | 0.82          | 0.68    | 3.76                | 8.1                      | Pass        |
| 144 (U-NII-2C) | 5720              | 0.86          | 0.70    | 3.79                | 8.1                      | Pass        |

### Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
4. For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
5. For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

### 802.11ax (HE40)

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 38             | 5190              | -3.22         | -3.55   | -0.37               | 8.1                      | Pass        |
| 46             | 5230              | -3.22         | -3.41   | -0.30               | 8.1                      | Pass        |
| 54             | 5270              | -2.98         | -3.38   | -0.17               | 8.1                      | Pass        |
| 62             | 5310              | -2.93         | -3.24   | -0.07               | 8.1                      | Pass        |
| 102            | 5510              | -2.04         | -2.55   | 0.72                | 8.1                      | Pass        |
| 110            | 5550              | -2.03         | -2.39   | 0.80                | 8.1                      | Pass        |
| 134            | 5670              | -2.10         | -2.54   | 0.70                | 8.1                      | Pass        |
| 142 (U-NII-2C) | 5710              | -2.20         | -2.59   | 0.62                | 8.1                      | Pass        |

#### Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

### 802.11ax (HE80)

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 42             | 5210              | -6.03         | -6.43   | -3.22               | 8.1                      | Pass        |
| 58             | 5290              | -5.95         | -6.15   | -3.04               | 8.1                      | Pass        |
| 106            | 5530              | -4.99         | -5.27   | -2.12               | 8.1                      | Pass        |
| 122            | 5610              | -4.92         | -5.56   | -2.22               | 8.1                      | Pass        |
| 138 (U-NII-2C) | 5690              | -5.10         | -5.54   | -2.30               | 8.1                      | Pass        |

#### Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

### 802.11ax (HE160)

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|---------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|               |                   | Chain 0       | Chain 1 |                     |                          |             |
| 50 (U-NII-1)  | 5250              | -9.46         | -9.46   | -6.45               | 8.1                      | Pass        |
| 50 (U-NII-2A) | 5250              | -9.42         | -9.45   | -6.42               | 8.1                      | Pass        |
| 114           | 5570              | -8.87         | -9.10   | -5.97               | 8.1                      | Pass        |

#### Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
4. For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
5. For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

### 802.11ax (HE20) 26-tone RU

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 36             | 5180              | -2.09         | -2.26   | 0.84                | 8.1                      | Pass        |
| 40             | 5200              | -2.11         | -2.26   | 0.83                | 8.1                      | Pass        |
| 48             | 5240              | -2.06         | -2.38   | 0.79                | 8.1                      | Pass        |
| 52             | 5260              | 4.98          | 4.56    | 7.79                | 8.1                      | Pass        |
| 60             | 5300              | 4.93          | 4.66    | 7.81                | 8.1                      | Pass        |
| 64             | 5320              | 5.04          | 4.70    | 7.88                | 8.1                      | Pass        |
| 100            | 5500              | 5.04          | 4.48    | 7.78                | 8.1                      | Pass        |
| 116            | 5580              | 4.99          | 4.49    | 7.76                | 8.1                      | Pass        |
| 140            | 5700              | 4.70          | 4.64    | 7.68                | 8.1                      | Pass        |
| 144 (U-NII-2C) | 5720              | -20.22        | -24.00  | -18.70              | 8.1                      | Pass        |

#### Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
4. For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
5. For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

## 802.11ax (HE20) 52-tone RU

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 36             | 5180              | -2.12         | -2.41   | 0.75                | 8.1                      | Pass        |
| 40             | 5200              | -2.15         | -2.42   | 0.73                | 8.1                      | Pass        |
| 48             | 5240              | -2.09         | -2.28   | 0.83                | 8.1                      | Pass        |
| 52             | 5260              | 4.92          | 4.70    | 7.82                | 8.1                      | Pass        |
| 60             | 5300              | 5.02          | 4.69    | 7.87                | 8.1                      | Pass        |
| 64             | 5320              | 5.08          | 4.75    | 7.93                | 8.1                      | Pass        |
| 100            | 5500              | 4.92          | 4.69    | 7.82                | 8.1                      | Pass        |
| 116            | 5580              | 5.06          | 4.61    | 7.85                | 8.1                      | Pass        |
| 140            | 5700              | 5.03          | 4.78    | 7.92                | 8.1                      | Pass        |
| 144 (U-NII-2C) | 5720              | -6.61         | -6.77   | -3.68               | 8.1                      | Pass        |

### Notes:

1. Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
4. For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
5. For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

## 802.11ax (HE20) 106-tone RU

| Chan.          | Chan. Freq. (MHz) | PSD (dBm/MHz) |         | Total PSD (dBm/MHz) | Max. PSD Limit (dBm/MHz) | Test Result |
|----------------|-------------------|---------------|---------|---------------------|--------------------------|-------------|
|                |                   | Chain 0       | Chain 1 |                     |                          |             |
| 36             | 5180              | -2.15         | -2.34   | 0.77                | 8.1                      | Pass        |
| 40             | 5200              | -2.11         | -2.31   | 0.80                | 8.1                      | Pass        |
| 48             | 5240              | -2.14         | -2.31   | 0.79                | 8.1                      | Pass        |
| 52             | 5260              | 4.92          | 4.73    | 7.84                | 8.1                      | Pass        |
| 60             | 5300              | 4.98          | 4.65    | 7.83                | 8.1                      | Pass        |
| 64             | 5320              | 4.86          | 4.59    | 7.74                | 8.1                      | Pass        |
| 100            | 5500              | 4.93          | 4.77    | 7.86                | 8.1                      | Pass        |
| 116            | 5580              | 4.91          | 4.73    | 7.83                | 8.1                      | Pass        |
| 140            | 5700              | 4.70          | 4.55    | 7.64                | 8.1                      | Pass        |
| 144 (U-NII-2C) | 5720              | 5.03          | 4.67    | 7.86                | 8.1                      | Pass        |

### Notes:

- Method E) 2) a) of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-1, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2A, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.
- For U-NII-2C, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 11-(8.9-6) = 8.1 dBm/MHz.

## 802.11a

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 144 (U-NII-3) | 5720              | -6.51            | -6.67   | -3.58                  | -1.36                  | 27.1                   | Pass        |
| 149           | 5745              | -5.71            | -6.27   | -2.97                  | -0.75                  | 27.1                   | Pass        |
| 157           | 5785              | -5.69            | -5.94   | -2.8                   | -0.58                  | 27.1                   | Pass        |
| 165           | 5825              | -5.91            | -6.18   | -3.03                  | -0.81                  | 27.1                   | Pass        |

### Notes:

- Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
- Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
- For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to 30-(8.9-6) = 27.1 dBm/500kHz.

### 802.11ax (HE20)

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 144 (U-NII-3) | 5720              | -9.72            | -9.76   | -6.73                  | -4.51                  | 27.1                   | Pass        |
| 149           | 5745              | -8.75            | -9.19   | -5.95                  | -3.73                  | 27.1                   | Pass        |
| 157           | 5785              | -8.79            | -8.78   | -5.77                  | -3.55                  | 27.1                   | Pass        |
| 165           | 5825              | -8.98            | -9.04   | -6                     | -3.78                  | 27.1                   | Pass        |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30 - (8.9 - 6) = 27.1$  dBm/500kHz.

### 802.11ax (HE40)

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 142 (U-NII-3) | 5710              | -13.01           | -13.49  | -10.23                 | -8.01                  | 27.1                   | Pass        |
| 151           | 5755              | -11.61           | -11.83  | -8.71                  | -6.49                  | 27.1                   | Pass        |
| 159           | 5795              | -11.54           | -12.08  | -8.79                  | -6.57                  | 27.1                   | Pass        |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30 - (8.9 - 6) = 27.1$  dBm/500kHz.

### 802.11ax (HE80)

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 138 (U-NII-3) | 5690              | -16.26           | -16.80  | -13.51                 | -11.29                 | 27.1                   | Pass        |
| 155           | 5775              | -14.60           | -14.64  | -11.61                 | -9.39                  | 27.1                   | Pass        |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30 - (8.9 - 6) = 27.1$  dBm/500kHz.

### 802.11ax (HE20) 26-tone RU

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 144 (U-NII-3) | 5720              | -4.39            | -4.33   | -1.35                  | 0.87                   | 27.1                   | Pass        |
| 149           | 5745              | 0.02             | -1.07   | 2.52                   | 4.74                   | 27.1                   | Pass        |
| 157           | 5785              | 0.16             | -0.71   | 2.76                   | 4.98                   | 27.1                   | Pass        |
| 165           | 5825              | -0.08            | -0.66   | 2.65                   | 4.87                   | 27.1                   | Pass        |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30-(8.9-6) = 27.1$  dBm/500kHz.

### 802.11ax (HE20) 52-tone RU

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 144 (U-NII-3) | 5720              | -4.27            | -4.42   | -1.33                  | 0.89                   | 27.1                   | Pass        |
| 149           | 5745              | -2.57            | -3.57   | -0.03                  | 2.19                   | 27.1                   | Pass        |
| 157           | 5785              | -2.85            | -3.73   | -0.26                  | 1.96                   | 27.1                   | Pass        |
| 165           | 5825              | -2.56            | -3.13   | 0.17                   | 2.39                   | 27.1                   | Pass        |

Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30-(8.9-6) = 27.1$  dBm/500kHz.

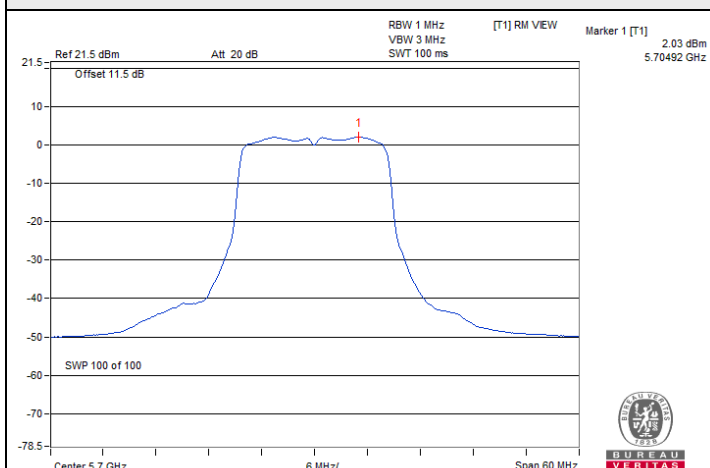
### 802.11ax (HE20) 106-tone RU

| Chan.         | Chan. Freq. (MHz) | PSD (dBm/300kHz) |         | Total PSD (dBm/300kHz) | Total PSD (dBm/500kHz) | PSD Limit (dBm/500kHz) | Test Result |
|---------------|-------------------|------------------|---------|------------------------|------------------------|------------------------|-------------|
|               |                   | Chain 0          | Chain 1 |                        |                        |                        |             |
| 144 (U-NII-3) | 5720              | -4.38            | -4.47   | -1.41                  | 0.81                   | 27.1                   | Pass        |
| 149           | 5745              | -4.36            | -4.64   | -1.49                  | 0.73                   | 27.1                   | Pass        |
| 157           | 5785              | -5.31            | -5.46   | -2.37                  | -0.15                  | 27.1                   | Pass        |
| 165           | 5825              | -5.73            | -5.83   | -2.77                  | -0.55                  | 27.1                   | Pass        |

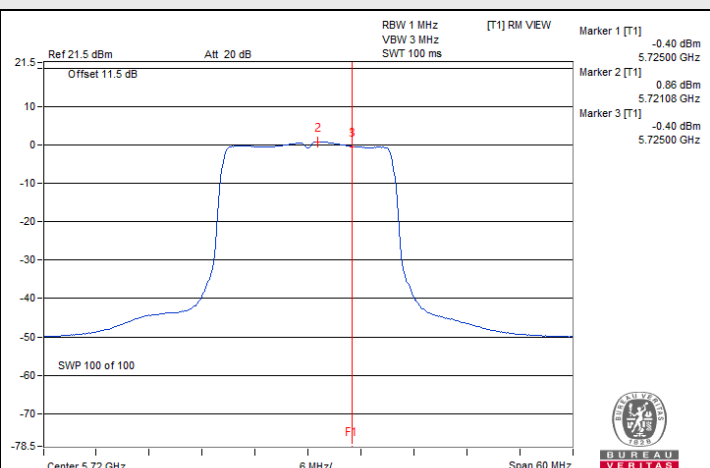
Notes:

1. Method E) 2) b) Measure and sum spectral maxima across the outputs of KDB 662911 is using for calculating total power density.
2. Directional gain = gain of antenna element + 10 log (2 of TX antenna elements)
3. For U-NII-3, the directional gain is 8.9 dBi > 6 dBi, so the power density limit shall be reduced to  $30-(8.9-6) = 27.1$  dBm/500kHz.

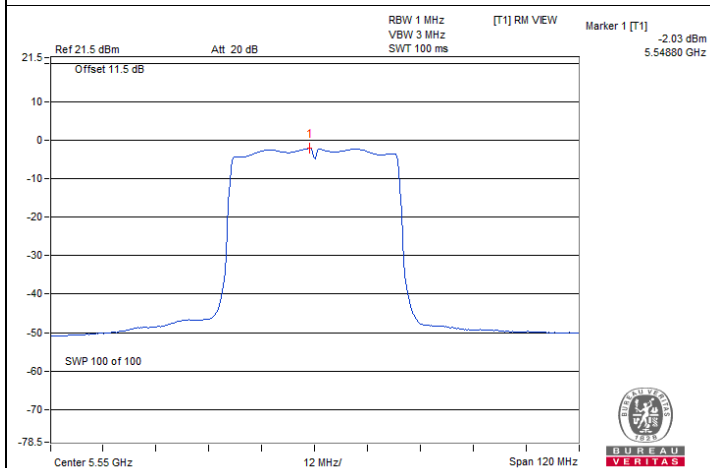
## Spectrum Plot of Maximum Value



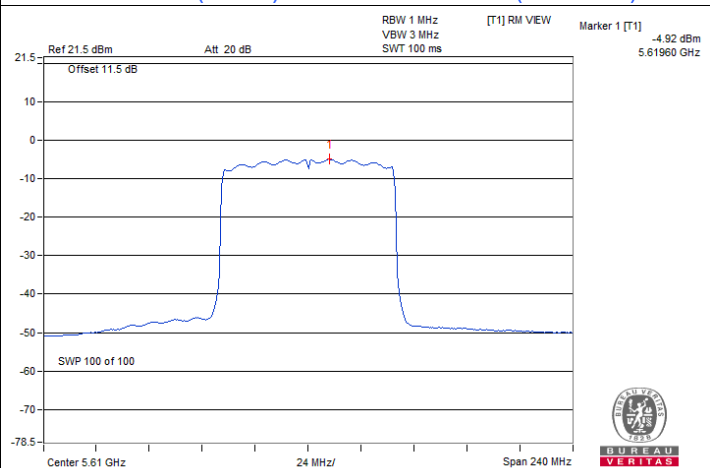
802.11a / Chain 0 : CH 140



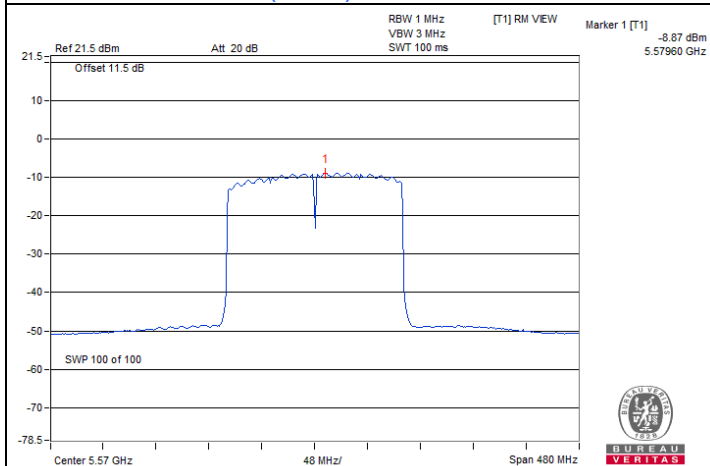
802.11ax (HE20) / Chain 0 : CH 144 (U-NII-2C)



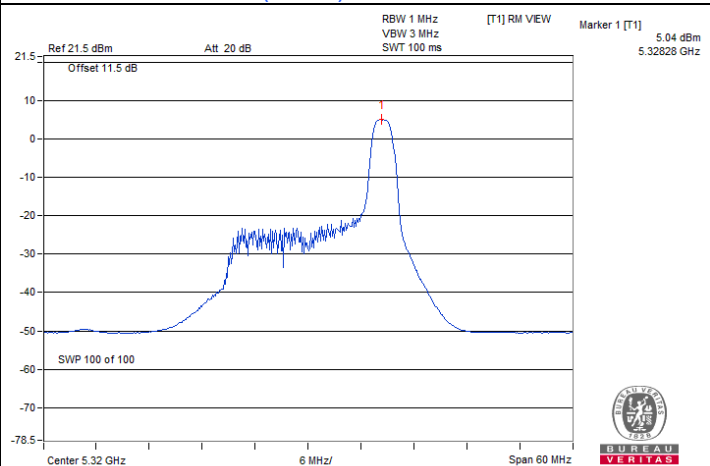
802.11ax (HE40) / Chain 0 : CH 110



802.11ax (HE80) / Chain 0 : CH 122

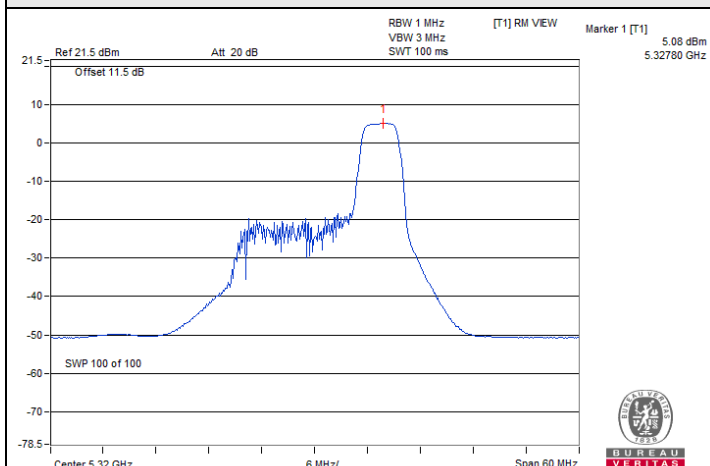


802.11ax (HE160) / Chain 0 : CH 114

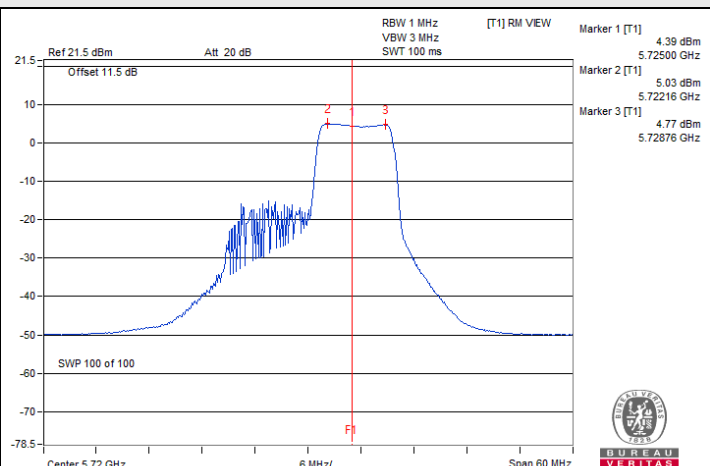


802.11ax (HE20) 26-tone RU / Chain 0 : CH 64

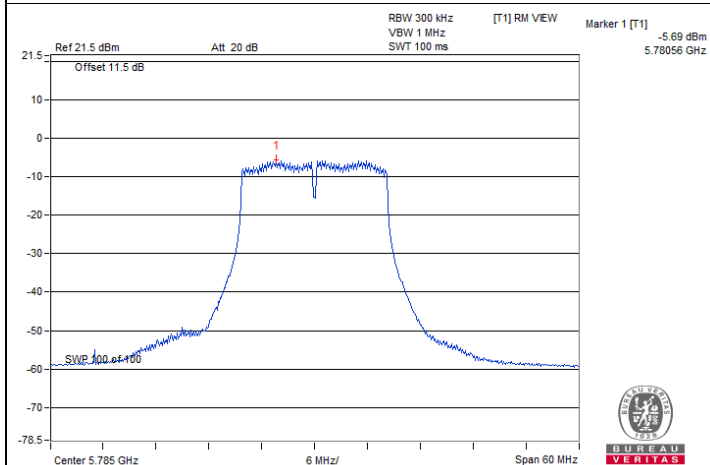
## Spectrum Plot of Maximum Value



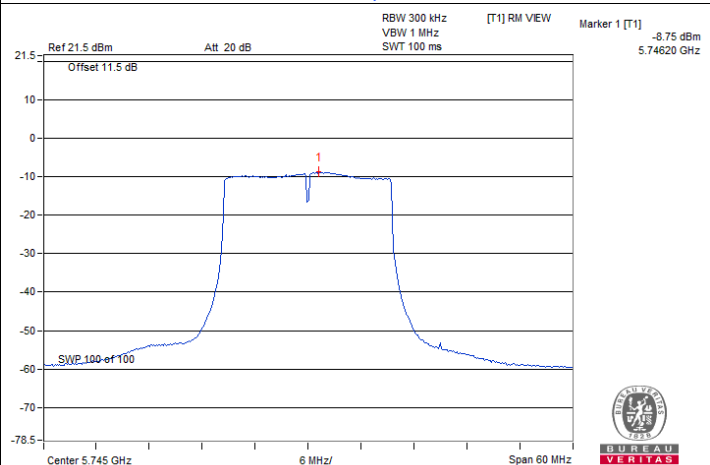
802.11ax (HE20) 52-tone RU / Chain 0 : CH 64



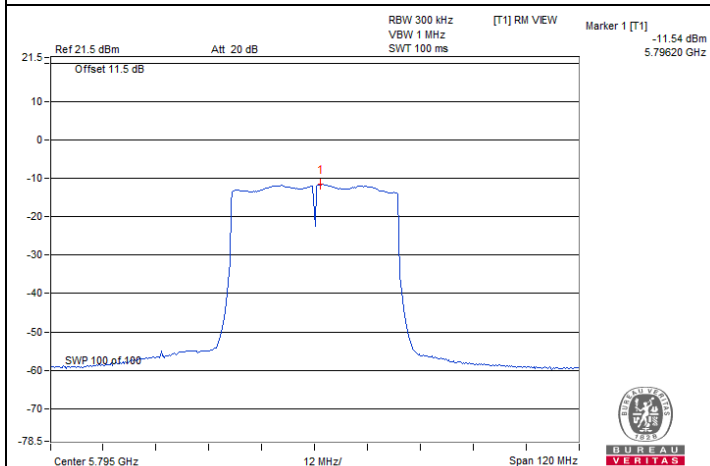
802.11ax (HE20) 106-tone RU / Chain 0 : CH 144 (U-NII-2C)



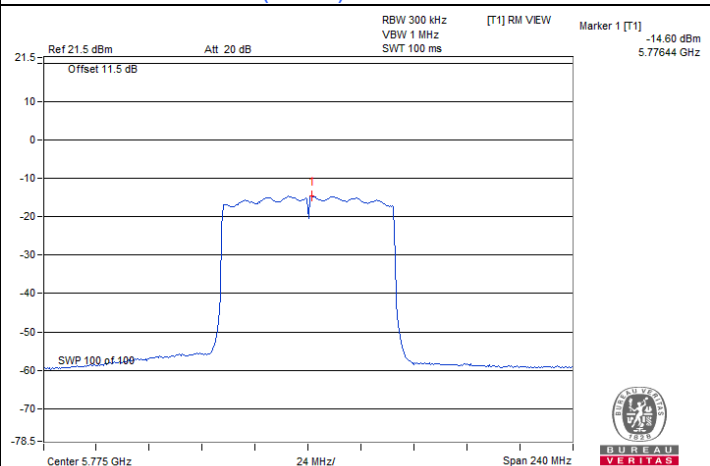
802.11a / Chain 0 : CH 157



802.11ax (HE20) / Chain 0 : CH 149

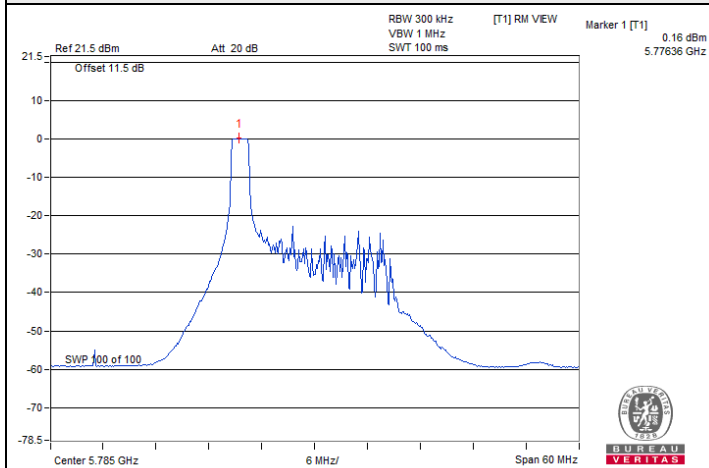


802.11ax (HE40) / Chain 0 : CH 159

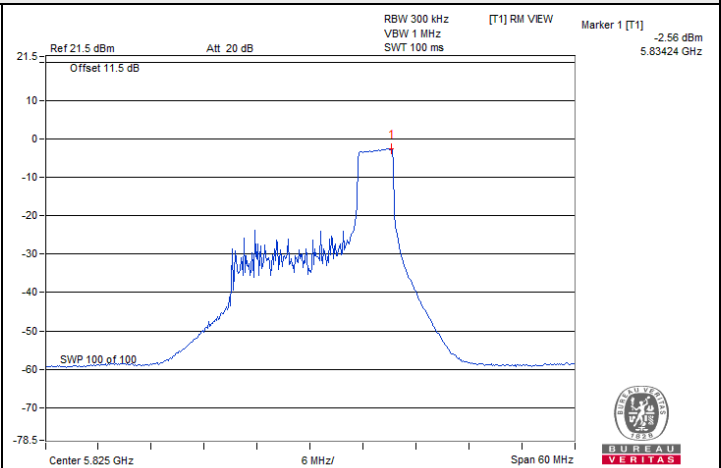


802.11ax (HE80) / Chain 0 : CH 155

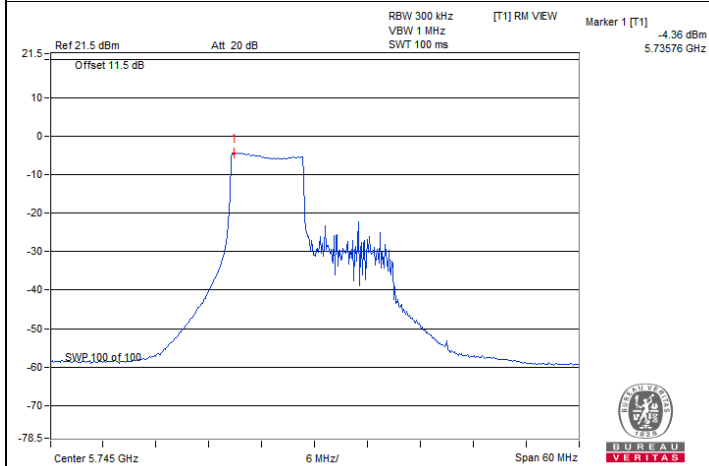
## Spectrum Plot of Maximum Value



802.11ax (HE20) 26-tone RU / Chain 0 : CH 157



802.11ax (HE20) 52-tone RU / Chain 0 : CH 165



802.11ax (HE20) 106-tone RU / Chain 0 : CH 149

#### 7.4 6 dB Bandwidth

|                       |         |                           |              |            |           |
|-----------------------|---------|---------------------------|--------------|------------|-----------|
| Input Power (System): | 3.9 Vdc | Environmental Conditions: | 25°C, 76% RH | Tested By: | Dalen Dai |
|-----------------------|---------|---------------------------|--------------|------------|-----------|

##### 802.11a

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 144 (U-NII-3) | 5720            | 3.12                 | 3.20    | 0.5                 | Pass        |
| 149           | 5745            | 16.38                | 16.46   | 0.5                 | Pass        |
| 157           | 5785            | 16.41                | 16.51   | 0.5                 | Pass        |
| 165           | 5825            | 16.44                | 16.49   | 0.5                 | Pass        |

##### 802.11ax (HE20)

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 144 (U-NII-3) | 5720            | 4.50                 | 4.47    | 0.5                 | Pass        |
| 149           | 5745            | 19.09                | 19.13   | 0.5                 | Pass        |
| 157           | 5785            | 19.06                | 19.11   | 0.5                 | Pass        |
| 165           | 5825            | 19.13                | 19.08   | 0.5                 | Pass        |

##### 802.11ax (HE40)

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 142 (U-NII-3) | 5710            | 3.92                 | 3.99    | 0.5                 | Pass        |
| 151           | 5755            | 37.71                | 38.03   | 0.5                 | Pass        |
| 159           | 5795            | 37.77                | 38.40   | 0.5                 | Pass        |

##### 802.11ax (HE80)

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 138 (U-NII-3) | 5690            | 3.86                 | 3.95    | 0.5                 | Pass        |
| 155           | 5775            | 78.34                | 77.71   | 0.5                 | Pass        |

### 802.11ax (HE20) 26-tone RU

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 144 (U-NII-3) | 5720            | 2.31                 | 2.22    | 0.5                 | Pass        |
| 149           | 5745            | 2.27                 | 2.41    | 0.5                 | Pass        |
| 157           | 5785            | 2.39                 | 2.34    | 0.5                 | Pass        |
| 165           | 5825            | 2.34                 | 2.31    | 0.5                 | Pass        |

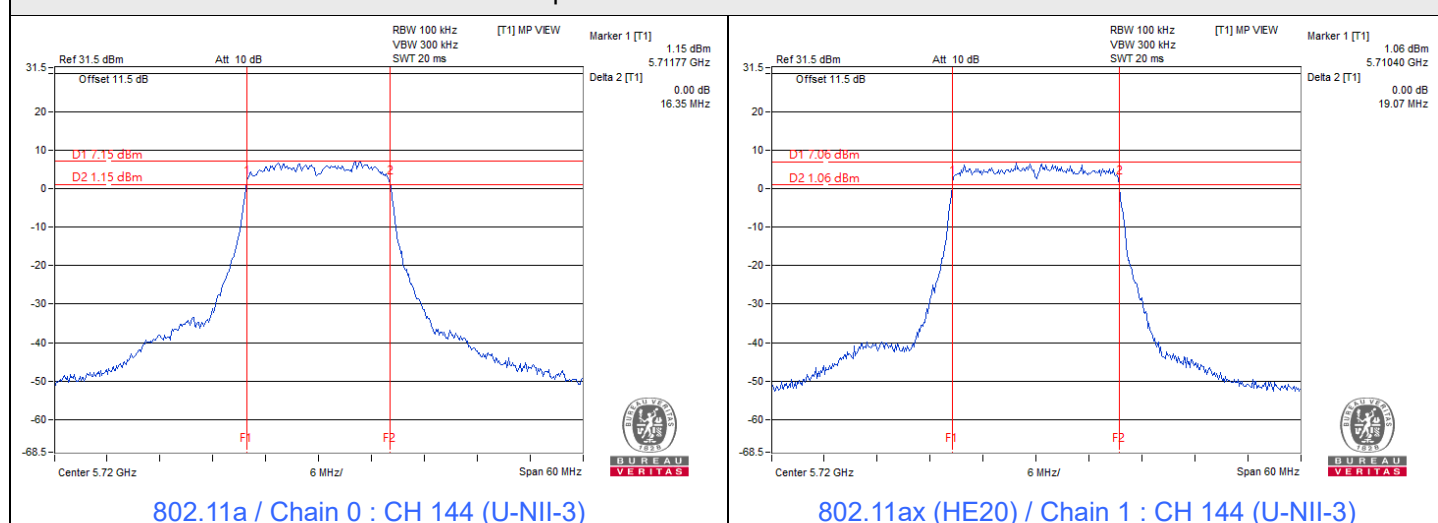
### 802.11ax (HE20) 52-tone RU

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 144 (U-NII-3) | 5720            | 4.34                 | 4.38    | 0.5                 | Pass        |
| 149           | 5745            | 4.26                 | 4.26    | 0.5                 | Pass        |
| 157           | 5785            | 4.24                 | 4.29    | 0.5                 | Pass        |
| 165           | 5825            | 4.35                 | 4.40    | 0.5                 | Pass        |

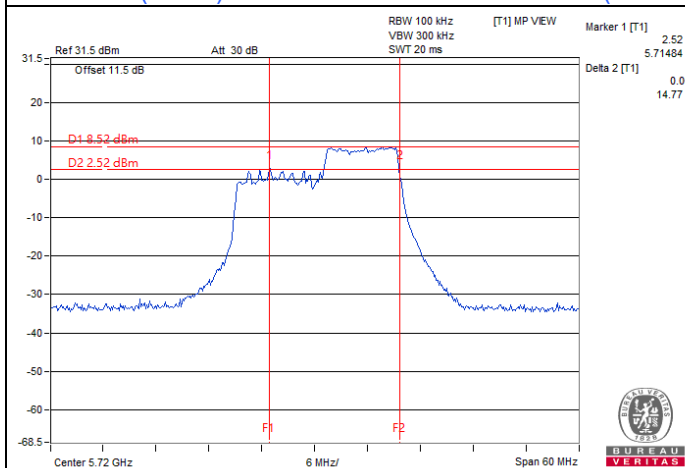
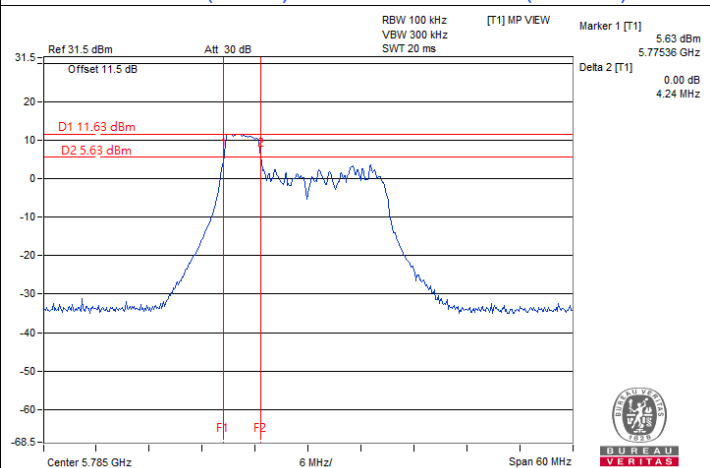
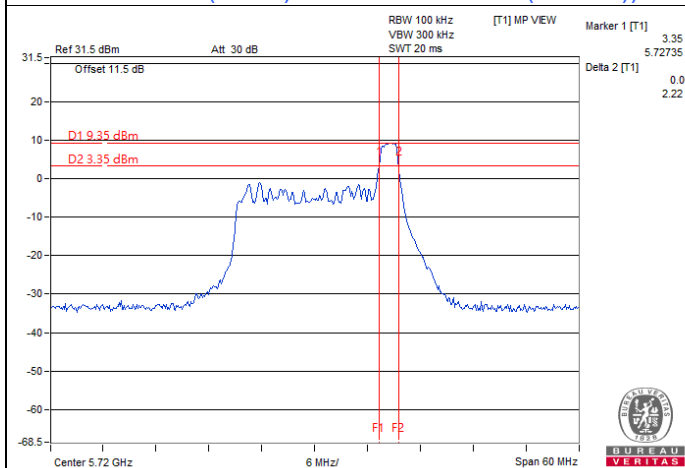
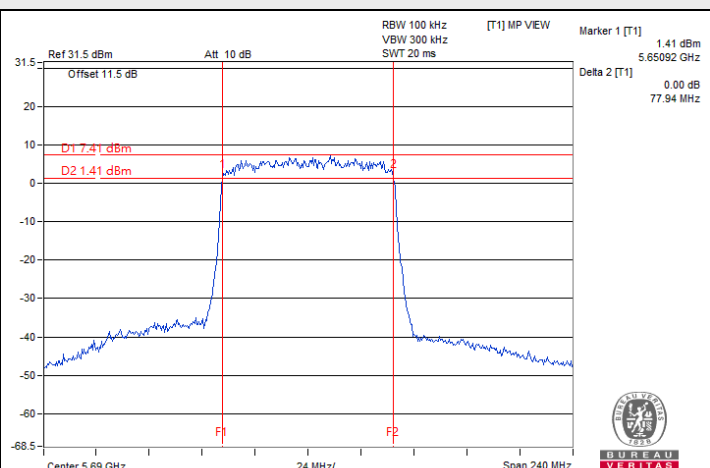
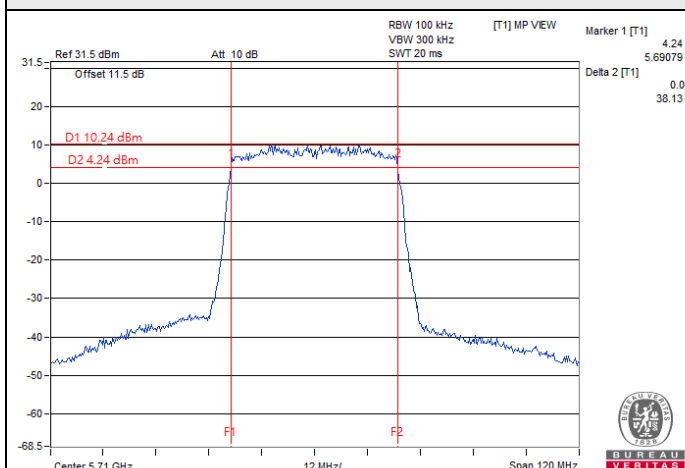
### 802.11ax (HE20) 106-tone RU

| Channel       | Frequency (MHz) | 6 dB Bandwidth (MHz) |         | Minimum Limit (MHz) | Test Result |
|---------------|-----------------|----------------------|---------|---------------------|-------------|
|               |                 | Chain 0              | Chain 1 |                     |             |
| 144 (U-NII-3) | 5720            | 4.64                 | 4.61    | 0.5                 | Pass        |
| 149           | 5745            | 16.05                | 18.02   | 0.5                 | Pass        |
| 157           | 5785            | 15.98                | 17.95   | 0.5                 | Pass        |
| 165           | 5825            | 16.02                | 14.73   | 0.5                 | Pass        |

Spectrum Plot of Minimum Value



## Spectrum Plot of Minimum Value



**802.11ax (HE20) 106-tone RU / Chain 1 : CH 144 (U-NII-3)**

Note: For U-NII-3 straddle channel = Marker 1 + Delta 2 - 5725 MHz

## 7.5 Occupied Bandwidth

|                       |         |                           |              |            |           |
|-----------------------|---------|---------------------------|--------------|------------|-----------|
| Input Power (System): | 3.9 Vdc | Environmental Conditions: | 25°C, 76% RH | Tested By: | Dalen Dai |
|-----------------------|---------|---------------------------|--------------|------------|-----------|

### 802.11a

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 36             | 5180            | 16.52                    | 16.43   |
| 40             | 5200            | 16.52                    | 16.43   |
| 48             | 5240            | 16.52                    | 16.43   |
| 52             | 5260            | 16.52                    | 16.43   |
| 60             | 5300            | 16.52                    | 16.43   |
| 64             | 5320            | 16.52                    | 16.43   |
| 100            | 5500            | 16.35                    | 16.43   |
| 116            | 5580            | 16.44                    | 16.44   |
| 140            | 5700            | 16.32                    | 16.44   |
| 144 (U-NII-2C) | 5720            | 13.26                    | 13.26   |
| 144 (U-NII-3)  | 5720            | 3.09                     | 3.09    |
| 149            | 5745            | 16.44                    | 16.35   |
| 157            | 5785            | 16.44                    | 16.43   |
| 165            | 5825            | 16.44                    | 16.43   |

### 802.11ax (HE20)

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 36             | 5180            | 18.96                    | 18.96   |
| 40             | 5200            | 18.96                    | 18.96   |
| 48             | 5240            | 19.05                    | 18.96   |
| 52             | 5260            | 18.96                    | 18.96   |
| 60             | 5300            | 18.96                    | 18.96   |
| 64             | 5320            | 18.96                    | 18.96   |
| 100            | 5500            | 19.05                    | 18.96   |
| 116            | 5580            | 19.08                    | 18.96   |
| 140            | 5700            | 18.96                    | 18.96   |
| 144 (U-NII-2C) | 5720            | 14.57                    | 14.57   |
| 144 (U-NII-3)  | 5720            | 4.39                     | 4.39    |
| 149            | 5745            | 18.96                    | 18.96   |
| 157            | 5785            | 18.96                    | 18.96   |
| 165            | 5825            | 18.96                    | 19.05   |

### 802.11ax (HE40)

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 38             | 5190            | 38.09                    | 38.09   |
| 46             | 5230            | 37.92                    | 38.09   |
| 54             | 5270            | 38.09                    | 37.91   |
| 62             | 5310            | 38.09                    | 37.92   |
| 102            | 5510            | 38.09                    | 38.09   |
| 110            | 5550            | 38.09                    | 38.09   |
| 134            | 5670            | 38.16                    | 38.16   |
| 142 (U-NII-2C) | 5710            | 34.13                    | 34.13   |
| 142 (U-NII-3)  | 5710            | 3.96                     | 3.96    |
| 151            | 5755            | 38.09                    | 38.09   |
| 159            | 5795            | 38.09                    | 38.09   |

### 802.11ax (HE80)

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 42             | 5210            | 77.22                    | 77.22   |
| 58             | 5290            | 77.57                    | 77.22   |
| 106            | 5530            | 77.57                    | 77.22   |
| 122            | 5610            | 77.28                    | 77.28   |
| 138 (U-NII-2C) | 5690            | 73.96                    | 73.96   |
| 138 (U-NII-3)  | 5690            | 3.61                     | 3.61    |
| 155            | 5775            | 77.57                    | 77.57   |

### 802.11ax (HE160)

| Channel       | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|---------------|-----------------|--------------------------|---------|
|               |                 | Chain 0                  | Chain 1 |
| 50 (U-NII-1)  | 5250            | 78.72                    | 78.72   |
| 50 (U-NII-2A) | 5250            | 78.72                    | 77.76   |
| 114           | 5570            | 156.48                   | 156.48  |

### 802.11ax (HE20) 26-tone RU

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 36             | 5180            | 18.96                    | 18.69   |
| 40             | 5200            | 18.87                    | 18.69   |
| 48             | 5240            | 18.70                    | 18.70   |
| 52             | 5260            | 18.87                    | 18.69   |
| 60             | 5300            | 18.96                    | 18.78   |
| 64             | 5320            | 18.43                    | 18.78   |
| 100            | 5500            | 18.96                    | 18.78   |
| 116            | 5580            | 18.96                    | 18.84   |
| 140            | 5700            | 18.60                    | 18.60   |
| 144 (U-NII-2C) | 5720            | 13.76                    | 13.61   |
| 144 (U-NII-3)  | 5720            | 4.96                     | 5.00    |
| 149            | 5745            | 18.84                    | 18.87   |
| 157            | 5785            | 18.96                    | 18.78   |
| 165            | 5825            | 18.48                    | 18.70   |

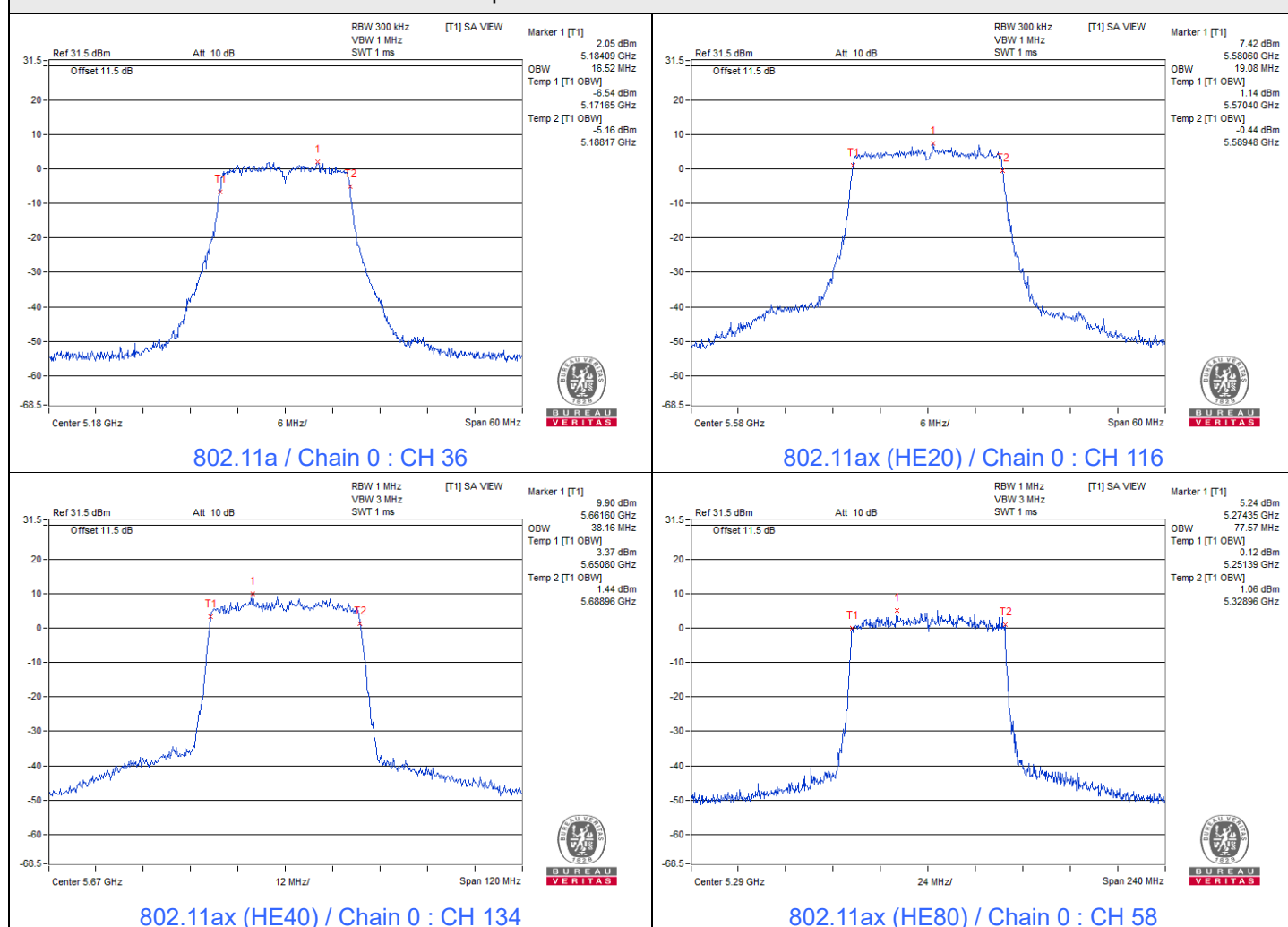
### 802.11ax (HE20) 52-tone RU

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 36             | 5180            | 18.61                    | 18.52   |
| 40             | 5200            | 18.61                    | 18.34   |
| 48             | 5240            | 18.52                    | 18.52   |
| 52             | 5260            | 18.61                    | 18.52   |
| 60             | 5300            | 18.61                    | 18.61   |
| 64             | 5320            | 18.61                    | 18.44   |
| 100            | 5500            | 18.61                    | 18.43   |
| 116            | 5580            | 18.48                    | 18.60   |
| 140            | 5700            | 18.48                    | 18.48   |
| 144 (U-NII-2C) | 5720            | 13.70                    | 13.70   |
| 144 (U-NII-3)  | 5720            | 4.83                     | 4.74    |
| 149            | 5745            | 18.52                    | 18.61   |
| 157            | 5785            | 18.52                    | 18.61   |
| 165            | 5825            | 18.61                    | 18.44   |

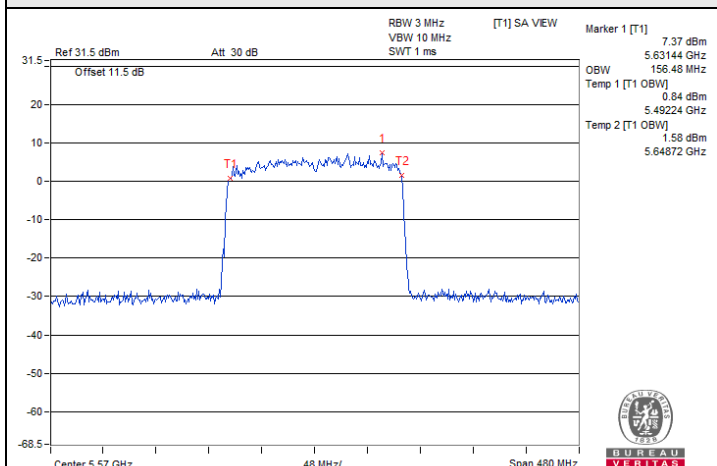
## 802.11ax (HE20) 106-tone RU

| Channel        | Frequency (MHz) | Occupied Bandwidth (MHz) |         |
|----------------|-----------------|--------------------------|---------|
|                |                 | Chain 0                  | Chain 1 |
| 36             | 5180            | 18.44                    | 18.26   |
| 40             | 5200            | 18.35                    | 18.26   |
| 48             | 5240            | 18.44                    | 18.53   |
| 52             | 5260            | 18.44                    | 18.26   |
| 60             | 5300            | 18.44                    | 18.35   |
| 64             | 5320            | 18.52                    | 18.26   |
| 100            | 5500            | 18.35                    | 18.26   |
| 116            | 5580            | 18.48                    | 18.36   |
| 140            | 5700            | 18.48                    | 18.24   |
| 144 (U-NII-2C) | 5720            | 13.78                    | 13.70   |
| 144 (U-NII-3)  | 5720            | 4.74                     | 4.74    |
| 149            | 5745            | 18.44                    | 18.35   |
| 157            | 5785            | 18.52                    | 18.35   |
| 165            | 5825            | 18.52                    | 18.17   |

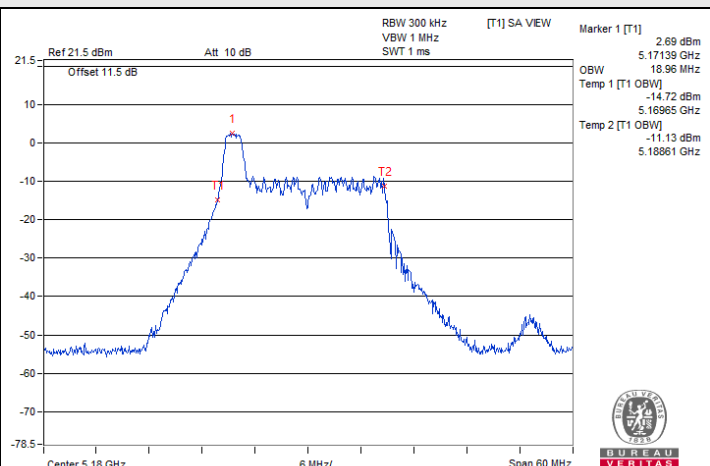
### Spectrum Plot of Maximum Value



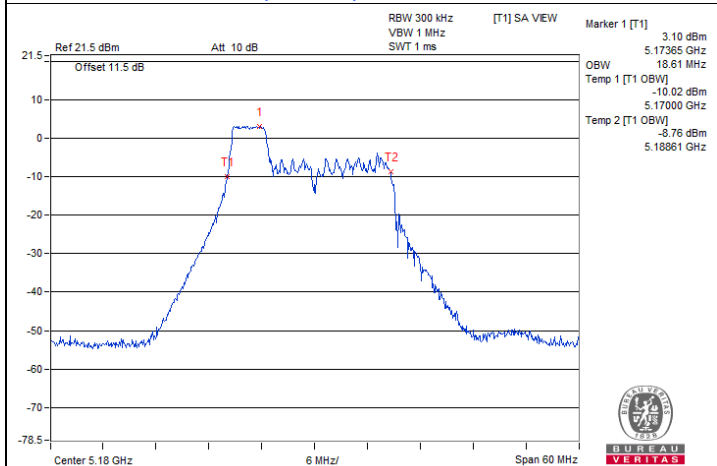
## Spectrum Plot of Maximum Value



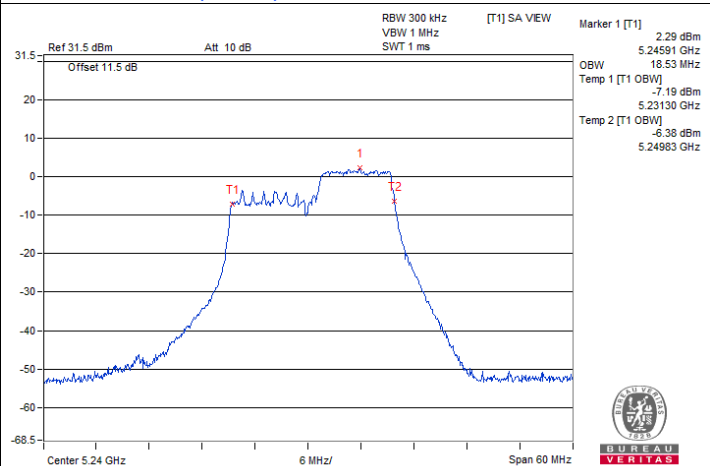
802.11ax (HE160) / Chain 0 : CH 114



802.11ax (HE20) 26-tone RU / Chain 0 : CH 36

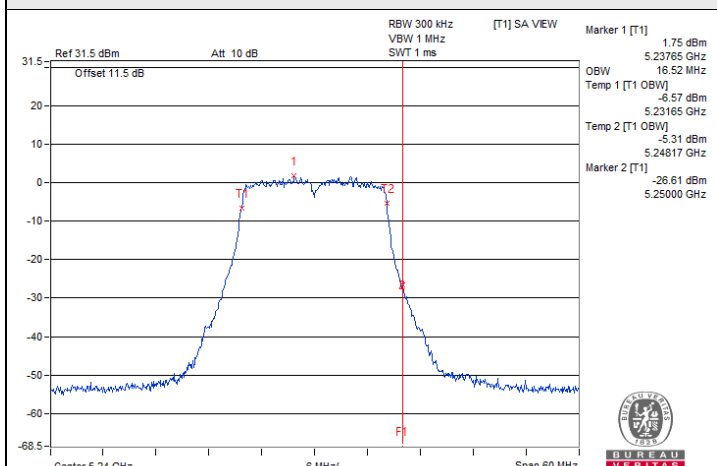


802.11ax (HE20) 52-tone RU / Chain 0 : CH 36

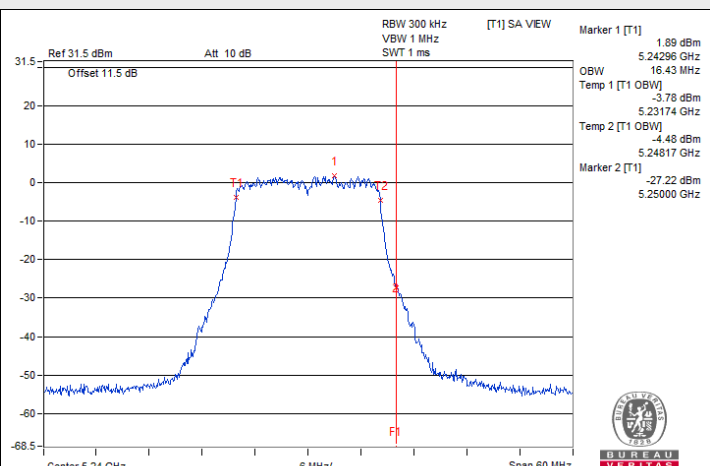


802.11ax (HE20) 106-tone RU / Chain 1 : CH 48

## Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)

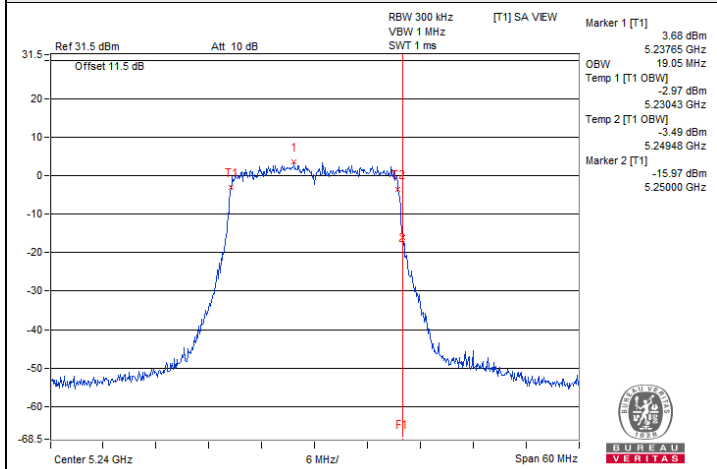


802.11a / Chain 0 : CH 48

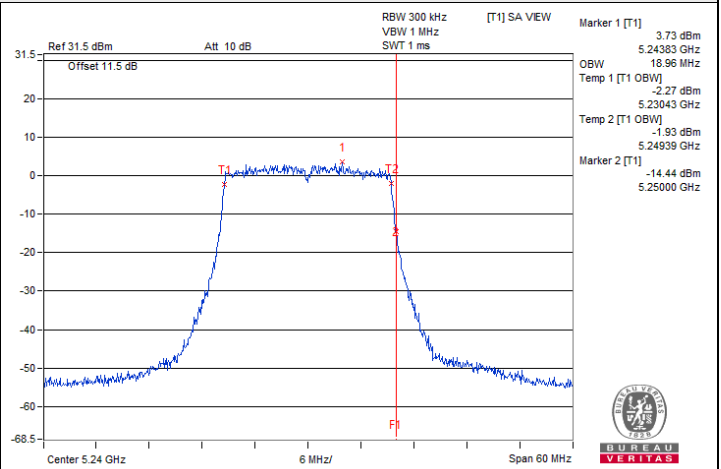


802.11a / Chain 1 : CH 48

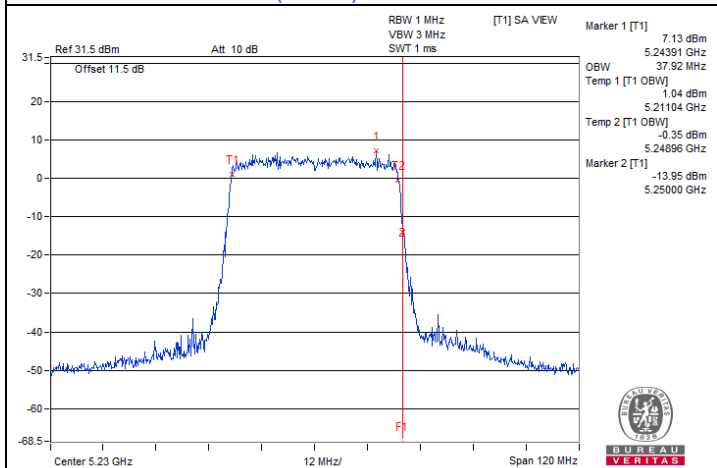
## Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2A)



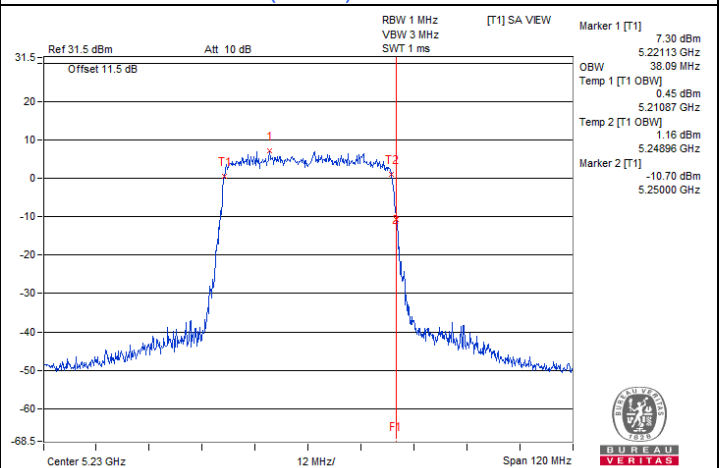
802.11ax (HE20) / Chain 0 : CH 48



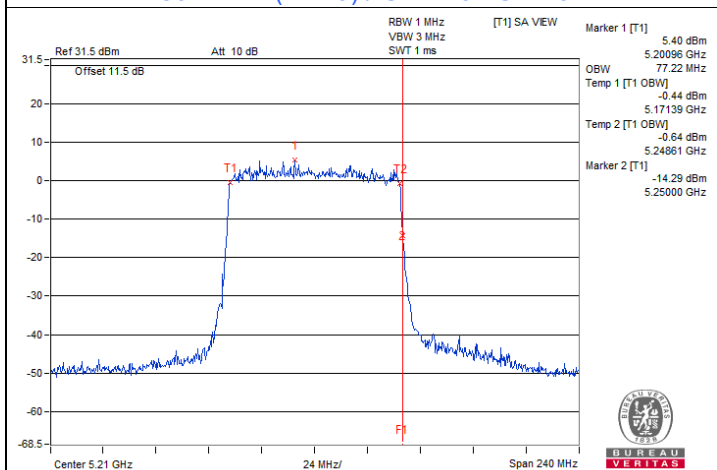
802.11ax (HE20) / Chain 1 : CH 48



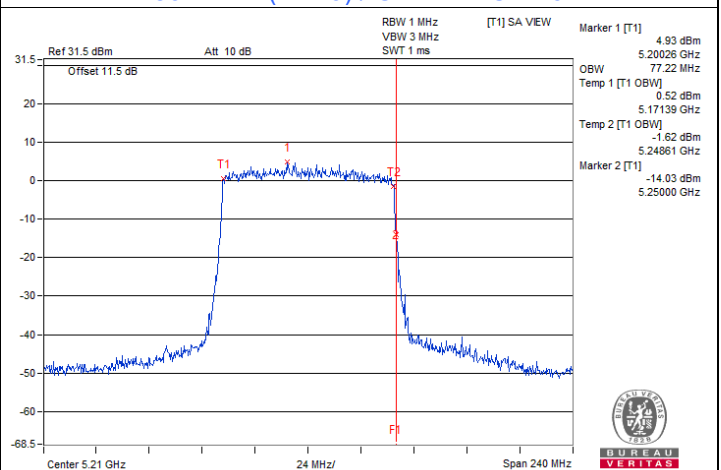
802.11ax (HE40) / Chain 0 : CH 46



802.11ax (HE40) / Chain 1 : CH 46

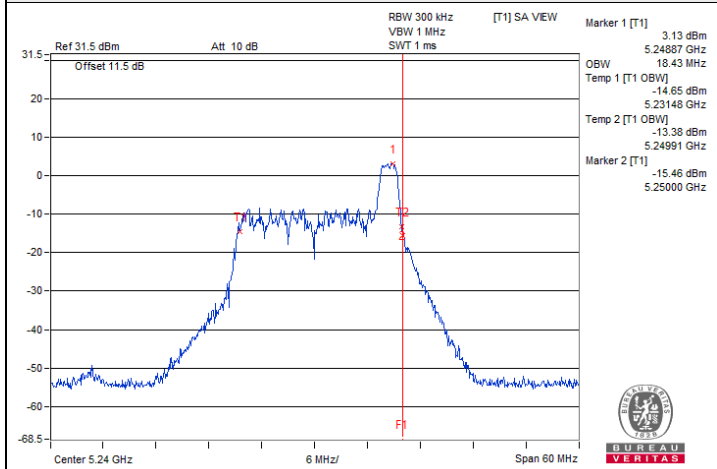


802.11ax (HE80) / Chain 0 : CH 42

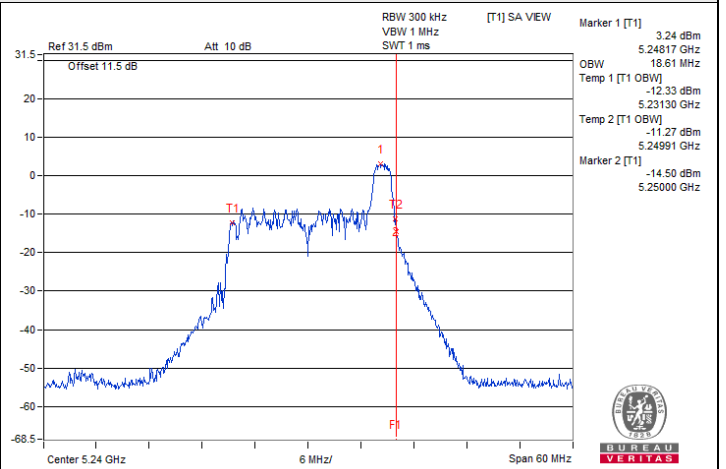


802.11ax (HE80) / Chain 1 : CH 42

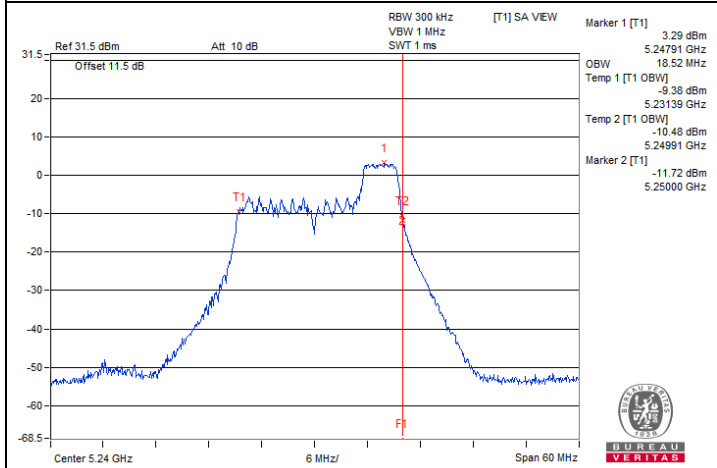
**Spectrum Plot for nearby DFS band**  
(DFS is required, if 99% OCP straddle into U-NII-2A)



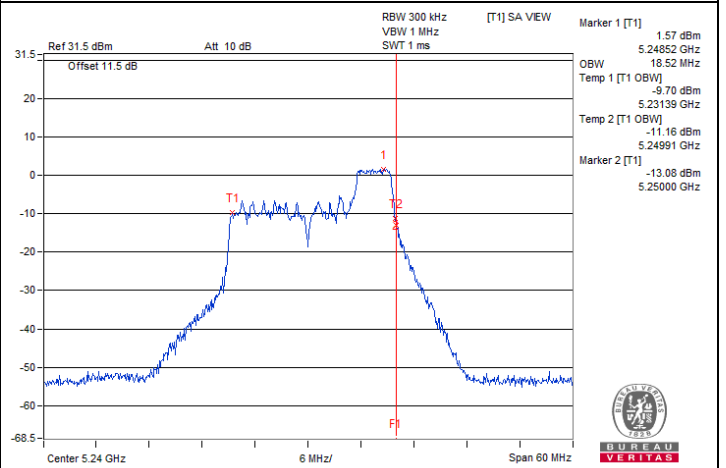
**802.11ax (HE20) 26-tone RU / Chain 0 : CH 48**



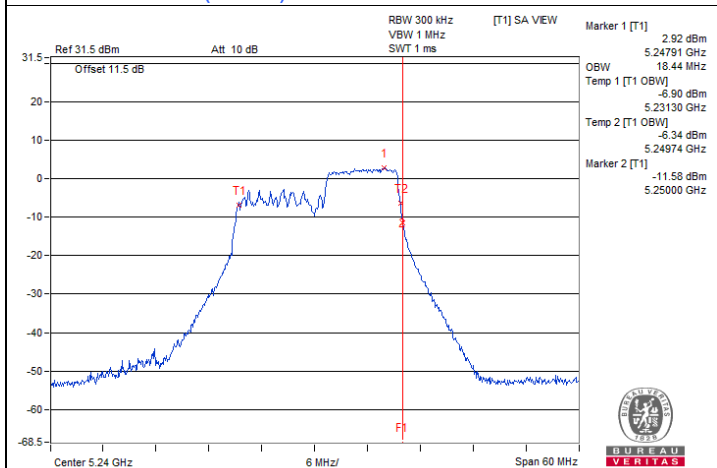
**802.11ax (HE20) 26-tone RU / Chain 1 : CH 48**



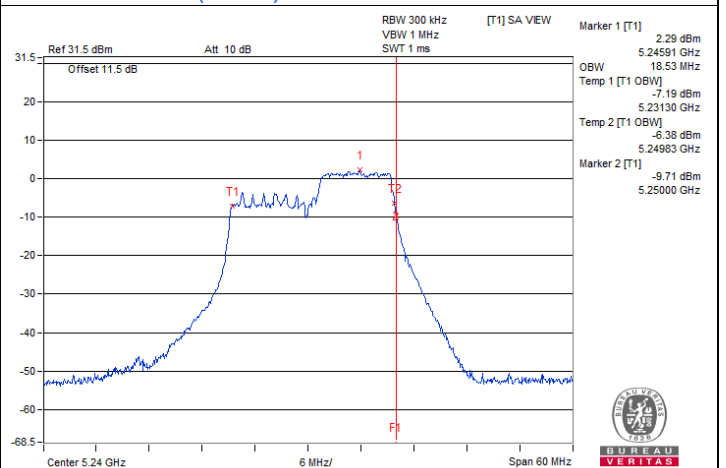
**802.11ax (HE20) 52-tone RU / Chain 0 : CH 48**



**802.11ax (HE20) 52-tone RU / Chain 1 : CH 48**

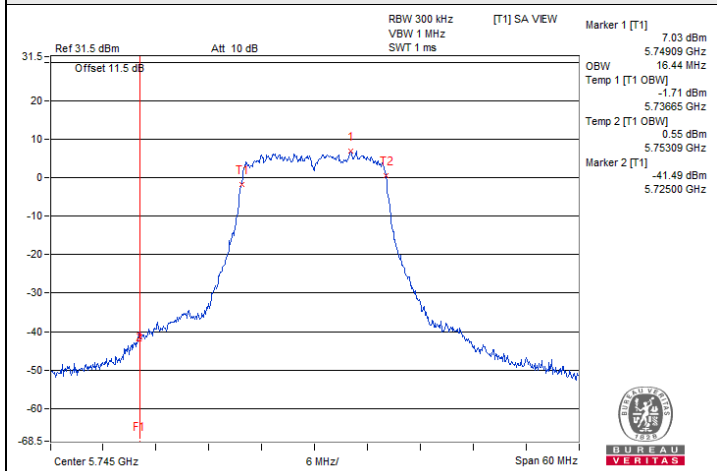


**802.11ax (HE20) 106-tone RU / Chain 0 : CH 48**

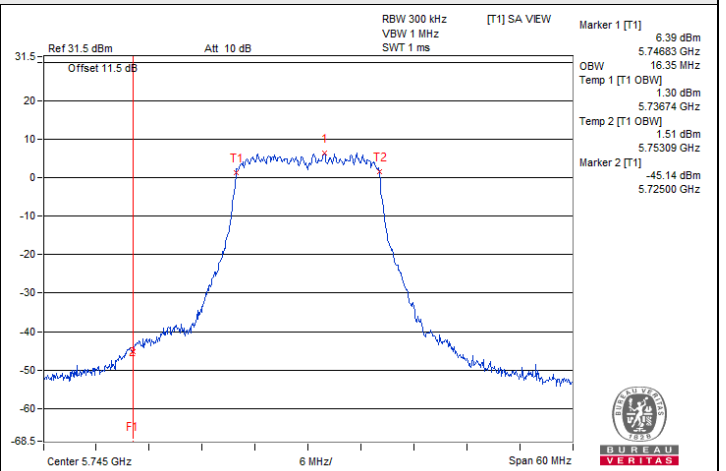


**802.11ax (HE20) 106-tone RU / Chain 1 : CH 48**

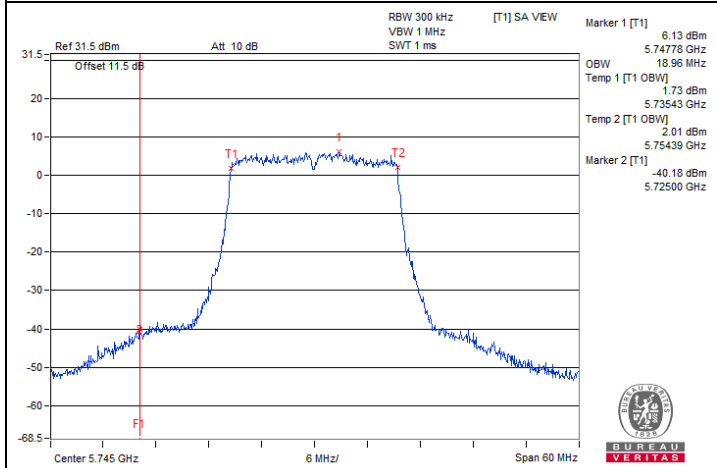
**Spectrum Plot for nearby DFS band**  
(DFS is required, if 99% OCP straddle into U-NII-2C)



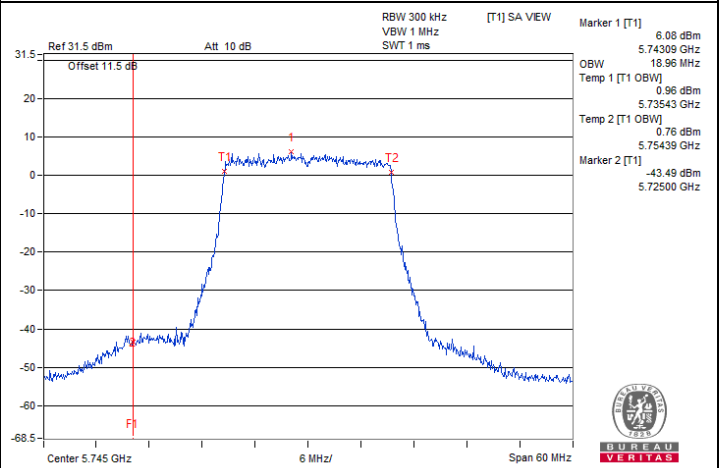
802.11a / Chain 0 : CH 149



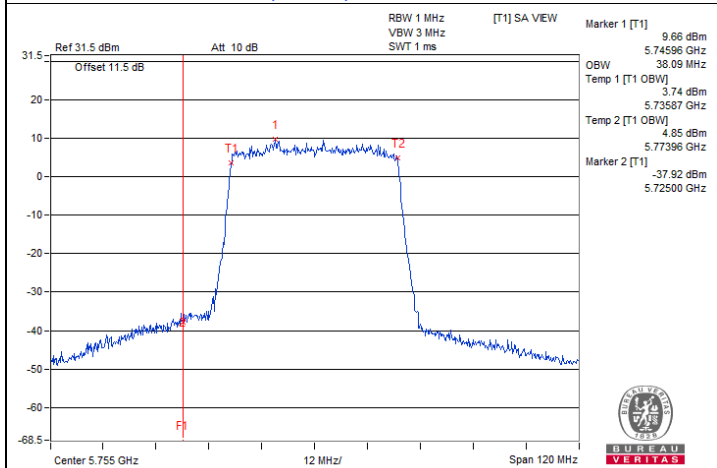
802.11a / Chain 1 : CH 149



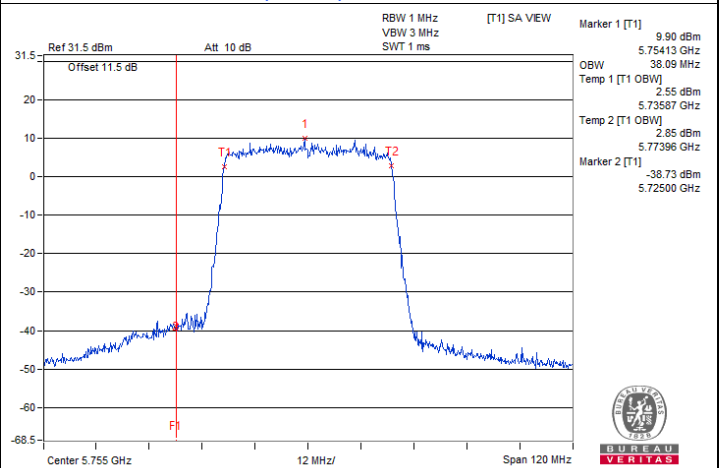
802.11ax (HE20) / Chain 0 : CH 149



802.11ax (HE20) / Chain 1 : CH 149

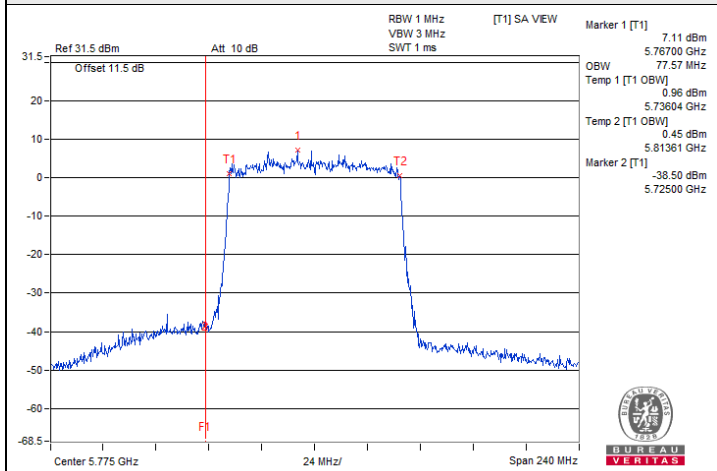


802.11ax (HE40) / Chain 0 : CH 151

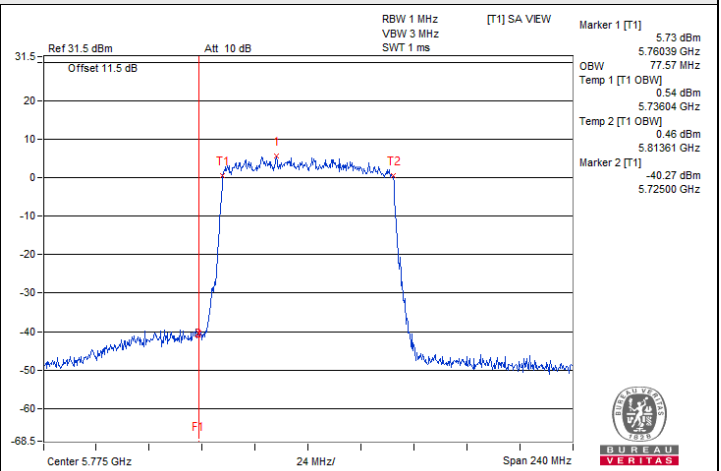


802.11ax (HE40) / Chain 1 : CH 151

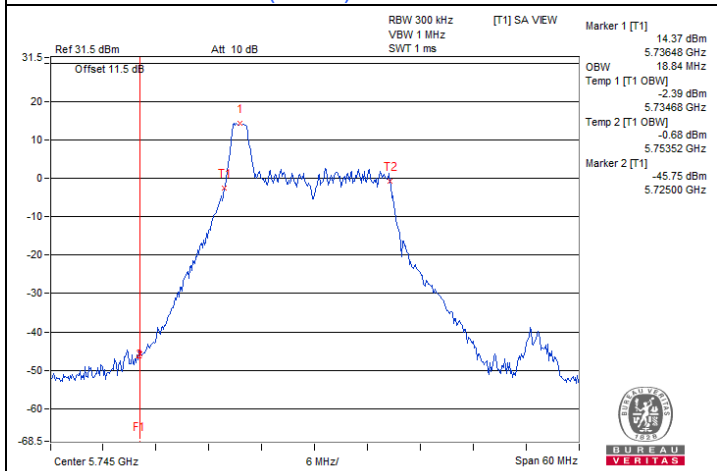
## Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



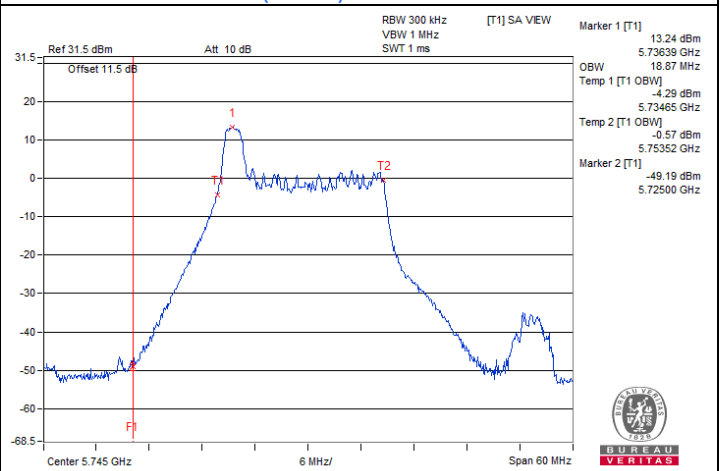
802.11ax (HE80) / Chain 0 : CH 155



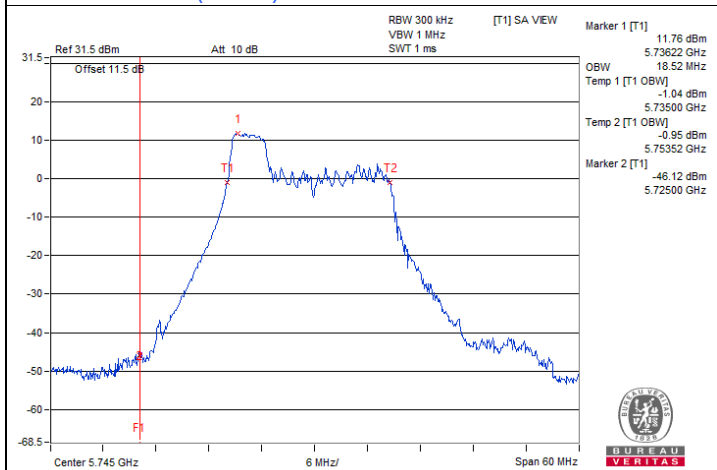
802.11ax (HE80) / Chain 1 : CH 155



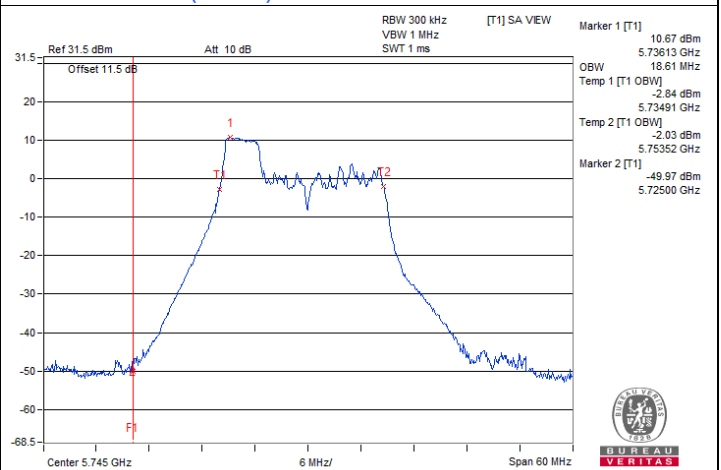
802.11ax (HE20) 26-tone RU / Chain 0 : CH 149



802.11ax (HE20) 26-tone RU / Chain 1 : CH 149

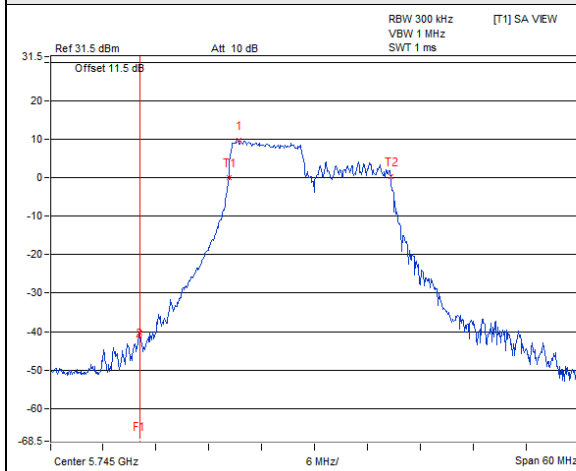


802.11ax (HE20) 52-tone RU / Chain 0 : CH 149

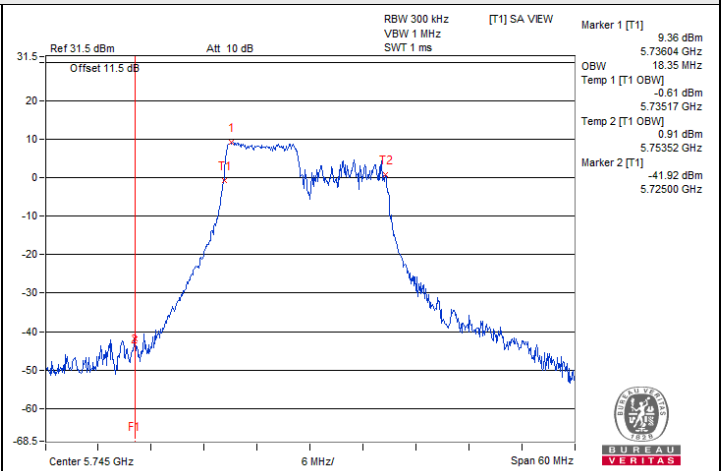


802.11ax (HE20) 52-tone RU / Chain 1 : CH 149

# Spectrum Plot for nearby DFS band (DFS is required, if 99% OCP straddle into U-NII-2C)



802.11ax (HE20) 106-tone RU / Chain 0 : CH 149



802.11ax (HE20) 106-tone RU / Chain 1 : CH 149