# RF TEST REPORT

| | |
|---|---|
| **Applicant** | Quectel Wireless Solutions Company Limited |
| **FCC ID** | XMR202507FC20 |
| **Product** | Wi-Fi & Bluetooth Module |
| **Brand** | Quectel |
| **Model** | FC20 |
| **Report No.** | EFTA25040033-IE-06-R2V2 |
| **Issue Date** | August 18, 2025 |

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2024)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

*Prepared by: Xu Ying* *Approved by: Xu Kai*


**Eurofins TA Technology (Shanghai) Co., Ltd.**

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# TABLE OF CONTENT

| Version | Revision Description | Issue Date |
|---|---|---|
| Rev.0 | Initial issue of report. | July 22, 2025 |
| Rev.1 | Updated data. | August 1, 2025 |
| Rev.2 | Updated information and data. | August 18, 2025 |
| Note: This revised report (Report No.: EFTA25040033-IE-06-R2V2) supersedes and replaces the previously issued report (Report No.: EFTA25040033-IE-06-R2V1). Please discard or destroy the previously issued report and dispose of it accordingly. | | |

# Summary of measurement results

| Number | Test Case | Clause in FCC rules | Verdict |
|---|---|---|---|
| 1 | Average output power | 15.407(a) | PASS |
| 2 | Occupied bandwidth | 15.407(e) | PASS |
| 3 | Frequency stability | 15.407(g) | PASS |
| 4 | Power spectral density | 15.407(a) | PASS |
| 5 | Unwanted Emissions | 15.407(b) | PASS |
| 6 | Conducted Emissions | 15.207 | PASS |
| Date of Testing: April 18, 2025 ~ April 25, 2025 and May 14, 2025 ~ July 4, 2025 and August 1, 2025 ~ August 18, 2025<br>Date of Sample Received: April 3, 2025 | | | |
| Note: PASS: The EUT complies with the essential requirements in the standard.<br>FAIL: The EUT does not comply with the essential requirements in the standard.<br>All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. | | | |

# 1. Test Laboratory

## 1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **Eurofins TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

## 1.2. Test facility

**FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

**A2LA (Certificate Number: 3857.01)**

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

## 1.3. Testing Location

| | |
|---|---|
| Company: | Eurofins TA Technology (Shanghai) Co., Ltd. |
| Address: | Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China |
| City: | Shanghai |
| Post code: | 201201 |
| Country: | P. R. China |
| Contact: | Xu Kai |
| Telephone: | +86-021-50791141/2/3 |
| Fax: | +86-021-50791141/2/3-8000 |
| Website: | https://www.eurofins.com/electrical-and-electronics |
| E-mail: | Kain.Xu@cpt.eurofinscn.com |

# 2. General Description of Equipment under Test

## 2.1. Applicant and Manufacturer Information

| | |
|---|---|
| **Applicant** | Quectel Wireless Solutions Company Limited |
| **Applicant address** | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233 |
| **Manufacturer** | Quectel Wireless Solutions Company Limited |
| **Manufacturer address** | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233 |

## 2.2. General information

| **EUT Description** | | |
|---|---|---|
| Model | FC20 | |
| IMEI | Conducted | MP824DK0H001102 |
| | Radiated | MP821AJ1C008630 |
| Hardware Version | R1.2 | |
| Software Version | NA | |
| Power Supply | External power supply | |
| Antenna Type | External Antenna | |
| Antenna Connector | RP SMA Male antenna (meet with the standard FCC Part 15.203 requirement) | |
| Antenna Gain | U-NII-1 | -0.76 dBi |
| | U-NII-2A | -0.19 dBi |
| | U-NII-2C | 1.28 dBi |
| | U-NII-3 | 1.10 dBi |
| Operating Frequency Range(s) | U-NII-1: 5150MHz-5250MHz<br>U-NII-2A: 5250MHz -5350MHz<br>U-NII-2C: 5470MHz-5725MHz<br>U-NII-3: 5725MHz -5850MHz | |
| Modulation Type | 802.11a: OFDM<br>802.11n (HT20/HT40): OFDM<br>802.11ac (VHT20/VHT40/VHT80): OFDM | |
| Max. Output Power | 15.50 dBm | |
| Operating temperature range | -40 ° C to 85 ° C | |
| Operating voltage range | 3.14 VDC to 3.46 VDC | |
| Testing temperature range | -30 ° C to 50° C | |
| Testing voltage range | 3.14 VDC – 3.3 VDC – 3.46 VDC | |
| State voltage | 3.3VDC | |
| **Auxiliary Test Equipment** | | |
| Antenna | Manufacturer: Shanghai Saintenna Wireless Technology | |

| | |
|---|---|
| | Co.,LTD.<br>Model: SAA31578A |
| Mother board | Manufacturer: Quectel Wireless Solutions Company Limited<br>Model: / |

Note:
1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant.
2. This device support automatically discontinue transmission, while the device is not transmitting any information, the device can automatically discontinue transmission and become standby mode for power saving. The device can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.
3. (a) Manufacturers implements security features in any digitally modulated devices capable of operating in any of the U-NII bands, so that third parties are not able to reprogram the device to operate outside the parameters for which the device was certified. The software prevents the user from operating the transmitter with operating frequencies, output power, modulation types or other radio frequency parameters outside those that were approved for the device. Manufacturers uses means including, but not limited to the use of a private network that allows only authenticated users to download software, electronic signatures in software or coding in hardware that is decoded by software to verify that new software can be legally loaded into a device to meet these requirements and must describe the methods in their application for equipment authorization.
(b) Manufacturers take steps to ensure that DFS functionality cannot be disabled by the operator of the U-NII device.

# 3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**Test standards:**

**FCC CFR47 Part 15E (2024)** Unlicensed National Information Infrastructure Devices

**ANSI C63.10-2013**

**Reference standard:**

**KDB 789033 D02 General UNII Test Procedures New Rules v02r01**

# 4. Test Configuration

## Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

| Mode | Data Rate |
|---|---|
| 802.11a | 6 Mbps |
| 802.11n HT20 | MCS0 |
| 802.11n HT40 | MCS0 |
| 802.11ac VHT20 | MCS0 |
| 802.11ac VHT40 | MCS0 |
| 802.11ac VHT80 | MCS0 |

**Wireless Technology and Frequency Range**

| Wireless Technology | | Bandwidth | Channel | Frequency |
|---|---|---|---|---|
| Wi-Fi | U-NII-1 | 20 MHz | 36 | 5180MHz |
| | | | 40 | 5200MHz |
| | | | 44 | 5220MHz |
| | | | 48 | 5240MHz |
| | | 40 MHz | 38 | 5190MHz |
| | | | 46 | 5230MHz |
| | | 80 MHz | 42 | 5210MHz |
| | U-NII-2A | 20 MHz | 52 | 5260MHz |
| | | | 56 | 5280MHz |
| | | | 60 | 5300MHz |
| | | | 64 | 5320MHz |
| | | 40 MHz | 54 | 5270MHz |
| | | | 62 | 5310MHz |
| | | 80 MHz | 58 | 5290MHz |
| | U-NII-2C | 20 MHz | 100 | 5500MHz |
| | | | 104 | 5520MHz |
| | | | 108 | 5540MHz |
| | | | 112 | 5560MHz |
| | | | 116 | 5580MHz |
| | | | 120 | 5600MHz |
| | | | 124 | 5620MHz |
| | | | 128 | 5640MHz |
| | | | 132 | 5660MHz |
| | | | 136 | 5680MHz |
| | | | 140 | 5700MHz |
| | | | 144 | 5720MHz |
| | | 40 MHz | 102 | 5510MHz |
| | | | 110 | 5550MHz |
| | | | 118 | 5590MHz |
| | | | 126 | 5630MHz |
| | | | 134 | 5670MHz |
| | | | 142 | 5710MHz |
| | | 80 MHz | 106 | 5530MHz |
| | | | 122 | 5610MHz |
| | | | 138 | 5690MHz |
| | U-NII-3 | 20 MHz | 149 | 5745MHz |
| | | | 153 | 5765MHz |
| | | | 157 | 5785MHz |
| | | | 161 | 5805MHz |
| | | | 165 | 5825MHz |

| | | | | |
|---|---|---|---|---|
| | | 40 MHz | 151 | 5755MHz |
| | | | 159 | 5795MHz |
| | | 80 MHz | 155 | 5775MHz |
| Does this device support TPC Function? ☒Yes ☐No | | | | |
| Does this device support TDWR Band? ☒Yes ☐No | | | | |

# 5. Test Case Results

## 5.1. Occupied Bandwidth

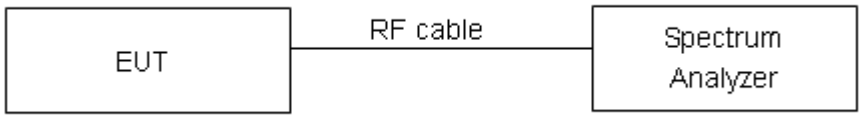
**Ambient condition**

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 15°C ~ 35°C | 20% ~ 80% | 86 kPa ~ 106 kPa |

**Method of Measurement**

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.
For U-NII-1/U-NII-2A/U-NII-2C, set RBW ≈1% OCB kHz, VBW ≥ 3 × RBW, 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 26 dB relative to the maximum level measured in the fundamental emission.
For U-NII-3, Set RBW = 100 kHz, VBW ≥ 3 × RBW, 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.
Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.
Use the 99 % power bandwidth function of the instrument

**Test Setup**




**Limits**

For U-NII-1/U-NII-2A/U-NII-2C
No specific occupied bandwidth requirements in Part 15.407.
For U-NII-3
Rule FCC Part §15.407(e)
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k$ = 2, $U$= 936 Hz.

**Test Results:**

**U-NII-1**

| Mode | Carrier frequency (MHz) | 99% bandwidth (MHz) | Minimum 26 dB bandwidth (MHz) | Conclusion |
|---|---|---|---|---|
| 802.11a | 5180 | 16.316 | 20.352 | Pass |
| 802.11a | 5200 | 16.315 | 19.738 | Pass |
| 802.11a | 5240 | 16.347 | 20.460 | Pass |
| 802.11ac(VHT20) | 5180 | 17.446 | 20.537 | Pass |
| 802.11ac(VHT20) | 5200 | 17.451 | 20.768 | Pass |
| 802.11ac(VHT20) | 5240 | 17.430 | 20.372 | Pass |
| 802.11ac(VHT40) | 5190 | 35.875 | 40.976 | Pass |
| 802.11ac(VHT40) | 5230 | 35.852 | 41.913 | Pass |
| 802.11ac(VHT80) | 5210 | 75.213 | 82.768 | Pass |
| 802.11n(HT20) | 5180 | 17.404 | 20.312 | Pass |
| 802.11n(HT20) | 5200 | 17.445 | 19.873 | Pass |
| 802.11n(HT20) | 5240 | 17.432 | 20.283 | Pass |
| 802.11n(HT40) | 5190 | 35.908 | 41.282 | Pass |
| 802.11n(HT40) | 5230 | 35.884 | 40.974 | Pass |

**U-NII-2A**

| Mode | Carrier frequency (MHz) | 99% bandwidth (MHz) | Minimum 26 dB bandwidth (MHz) | Conclusion |
|---|---|---|---|---|
| 802.11a | 5260 | 16.319 | 19.501 | Pass |
| 802.11a | 5300 | 16.334 | 19.499 | Pass |
| 802.11a | 5320 | 16.322 | 19.847 | Pass |
| 802.11ac(VHT20) | 5260 | 17.464 | 20.246 | Pass |
| 802.11ac(VHT20) | 5300 | 17.424 | 20.495 | Pass |
| 802.11ac(VHT20) | 5320 | 17.443 | 20.476 | Pass |
| 802.11ac(VHT40) | 5270 | 35.828 | 40.635 | Pass |
| 802.11ac(VHT40) | 5310 | 35.864 | 40.667 | Pass |
| 802.11ac(VHT80) | 5290 | 75.082 | 83.826 | Pass |
| 802.11n(HT20) | 5260 | 17.463 | 20.273 | Pass |
| 802.11n(HT20) | 5300 | 17.453 | 20.060 | Pass |
| 802.11n(HT20) | 5320 | 17.438 | 20.571 | Pass |
| 802.11n(HT40) | 5270 | 35.904 | 40.279 | Pass |
| 802.11n(HT40) | 5310 | 35.873 | 40.602 | Pass |

**U-NII-2C**

| Mode | Carrier frequency (MHz) | 99% bandwidth (MHz) | Minimum 26 dB bandwidth (MHz) | Conclusion |
|---|---|---|---|---|
| 802.11a | 5500 | 16.322 | 19.692 | Pass |
| 802.11a | 5600 | 16.316 | 19.794 | Pass |
| 802.11a | 5700 | 16.302 | 20.017 | Pass |
| 802.11a | 5720 | 16.326 | 19.820 | Pass |
| 802.11ac(VHT20) | 5500 | 17.403 | 20.188 | Pass |
| 802.11ac(VHT20) | 5600 | 17.436 | 20.471 | Pass |
| 802.11ac(VHT20) | 5700 | 17.441 | 19.945 | Pass |
| 802.11ac(VHT20) | 5720 | 17.455 | 20.227 | Pass |
| 802.11ac(VHT40) | 5510 | 35.884 | 40.546 | Pass |
| 802.11ac(VHT40) | 5590 | 35.866 | 40.800 | Pass |
| 802.11ac(VHT40) | 5670 | 35.808 | 40.878 | Pass |
| 802.11ac(VHT40) | 5710 | 35.854 | 41.402 | Pass |
| 802.11ac(VHT80) | 5530 | 75.166 | 82.993 | Pass |
| 802.11ac(VHT80) | 5610 | 75.265 | 82.935 | Pass |
| 802.11ac(VHT80) | 5690 | 75.085 | 82.690 | Pass |
| 802.11n(HT20) | 5500 | 17.440 | 20.467 | Pass |
| 802.11n(HT20) | 5600 | 17.447 | 20.760 | Pass |
| 802.11n(HT20) | 5700 | 17.437 | 20.141 | Pass |
| 802.11n(HT20) | 5720 | 17.443 | 20.346 | Pass |
| 802.11n(HT40) | 5510 | 35.825 | 40.776 | Pass |
| 802.11n(HT40) | 5590 | 35.841 | 40.699 | Pass |
| 802.11n(HT40) | 5670 | 35.892 | 41.188 | Pass |
| 802.11n(HT40) | 5710 | 35.832 | 40.910 | Pass |

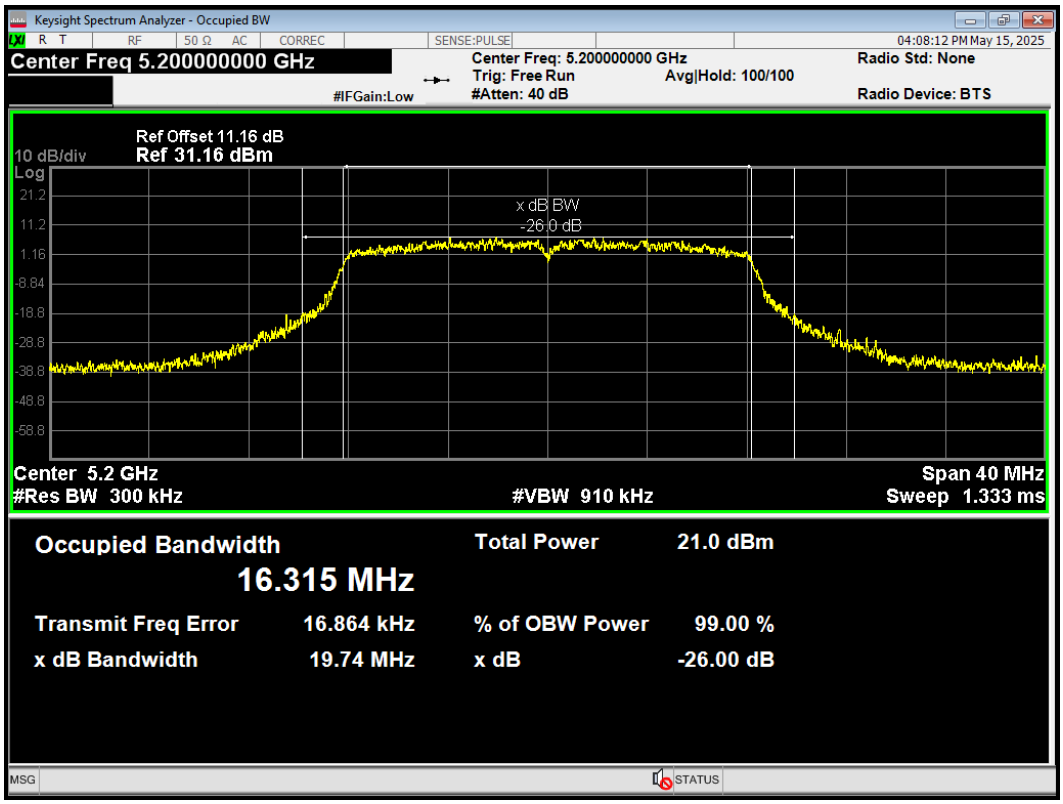
**U-NII-3**

| Mode | Carrier frequency (MHz) | 99% bandwidth (MHz) | Minimum 6 dB bandwidth (MHz) | Limit (kHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 5720 | 16.323 | 14.822 | 500 | Pass |
| 802.11a | 5745 | 16.337 | 15.134 | 500 | Pass |
| 802.11a | 5785 | 16.311 | 15.060 | 500 | Pass |
| 802.11a | 5825 | 16.332 | 15.034 | 500 | Pass |
| 802.11ac(VHT20) | 5720 | 17.438 | 15.076 | 500 | Pass |
| 802.11ac(VHT20) | 5745 | 17.431 | 15.257 | 500 | Pass |
| 802.11ac(VHT20) | 5785 | 17.445 | 13.872 | 500 | Pass |
| 802.11ac(VHT20) | 5825 | 17.438 | 15.092 | 500 | Pass |
| 802.11ac(VHT40) | 5710 | 35.892 | 33.811 | 500 | Pass |
| 802.11ac(VHT40) | 5755 | 35.873 | 35.085 | 500 | Pass |
| 802.11ac(VHT40) | 5795 | 35.894 | 32.626 | 500 | Pass |
| 802.11ac(VHT80) | 5690 | 75.017 | 75.046 | 500 | Pass |
| 802.11ac(VHT80) | 5775 | 75.200 | 75.079 | 500 | Pass |
| 802.11n(HT20) | 5720 | 17.443 | 14.858 | 500 | Pass |
| 802.11n(HT20) | 5745 | 17.443 | 14.741 | 500 | Pass |
| 802.11n(HT20) | 5785 | 17.422 | 14.788 | 500 | Pass |
| 802.11n(HT20) | 5825 | 17.447 | 13.861 | 500 | Pass |
| 802.11n(HT40) | 5710 | 35.886 | 35.071 | 500 | Pass |
| 802.11n(HT40) | 5755 | 35.869 | 34.765 | 500 | Pass |
| 802.11n(HT40) | 5795 | 35.866 | 35.091 | 500 | Pass |

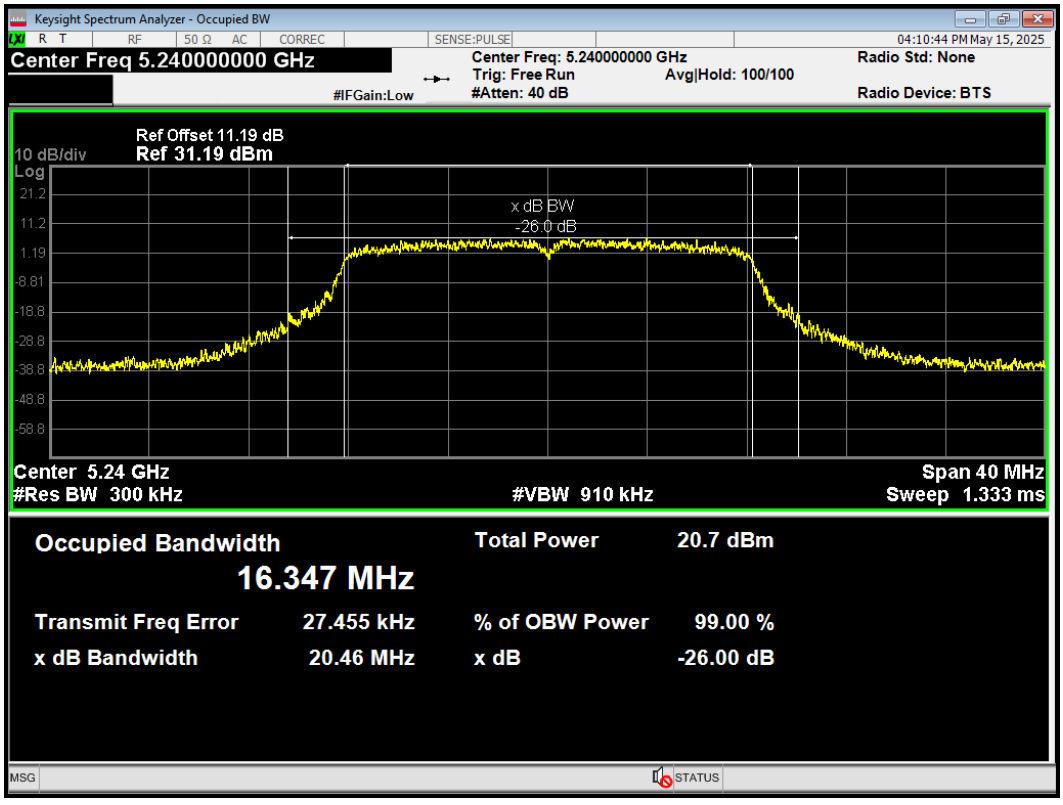
**99% bandwidth**

**U-NII-1**

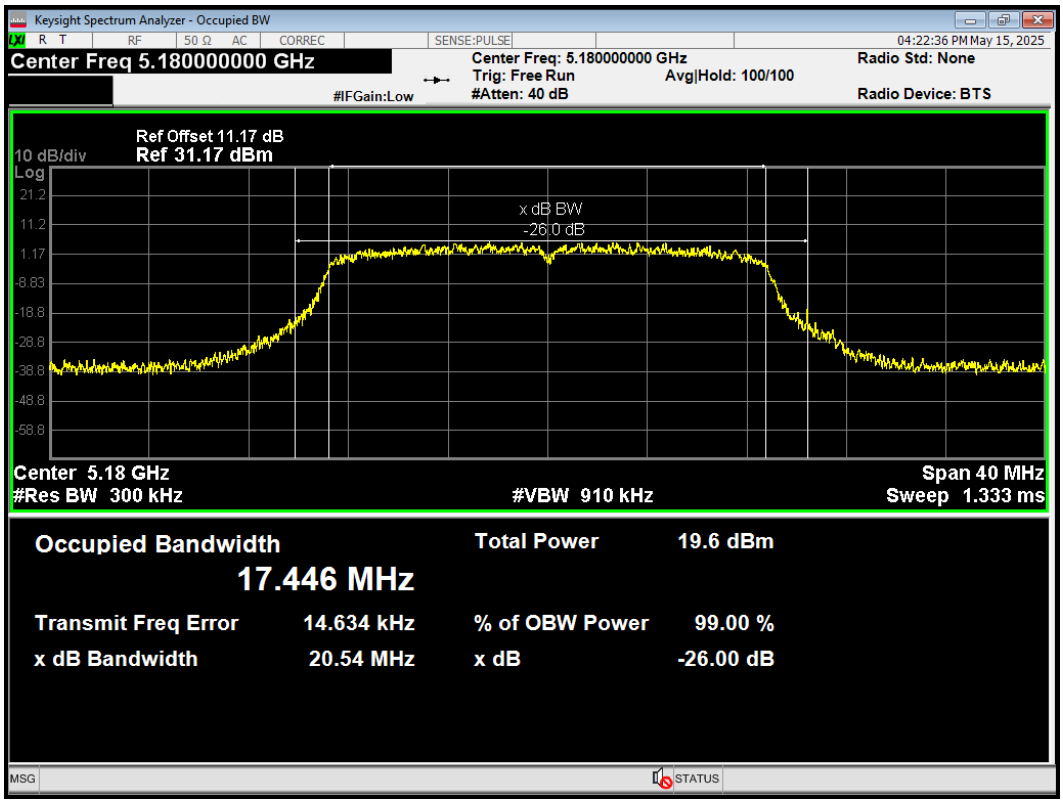
OBW 802.11a 5200MHz



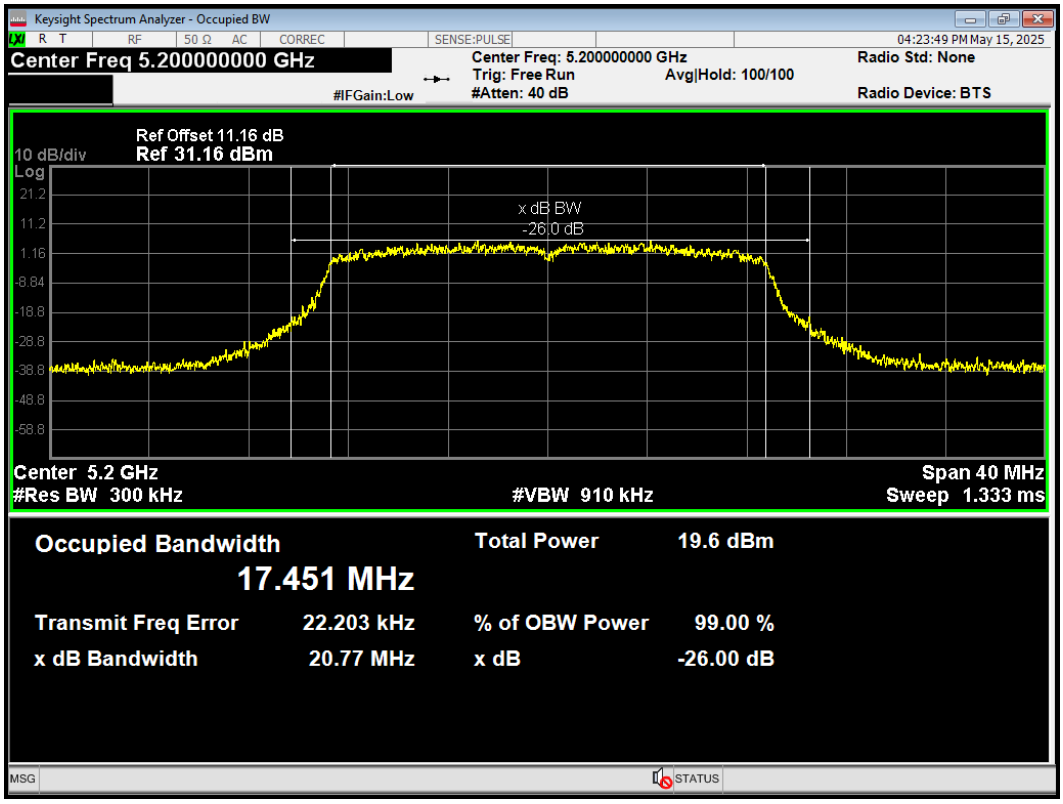

OBW 802.11a 5240MHz



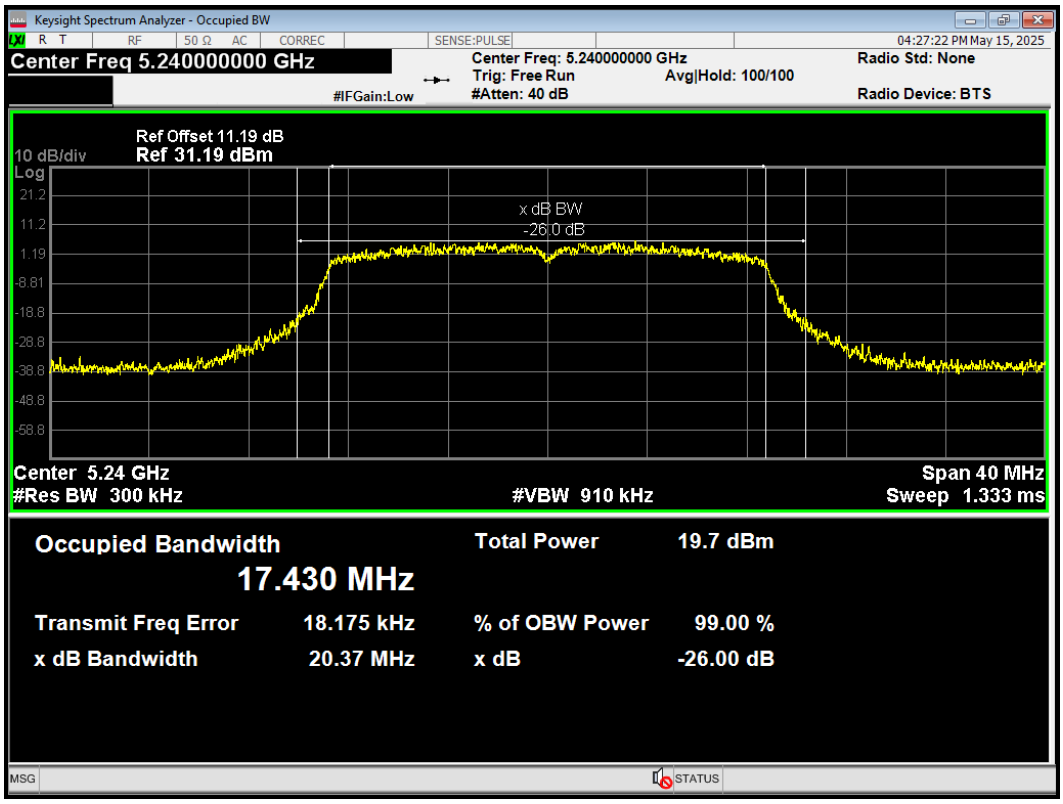
OBW 802.11ac(VHT20) 5180MHz



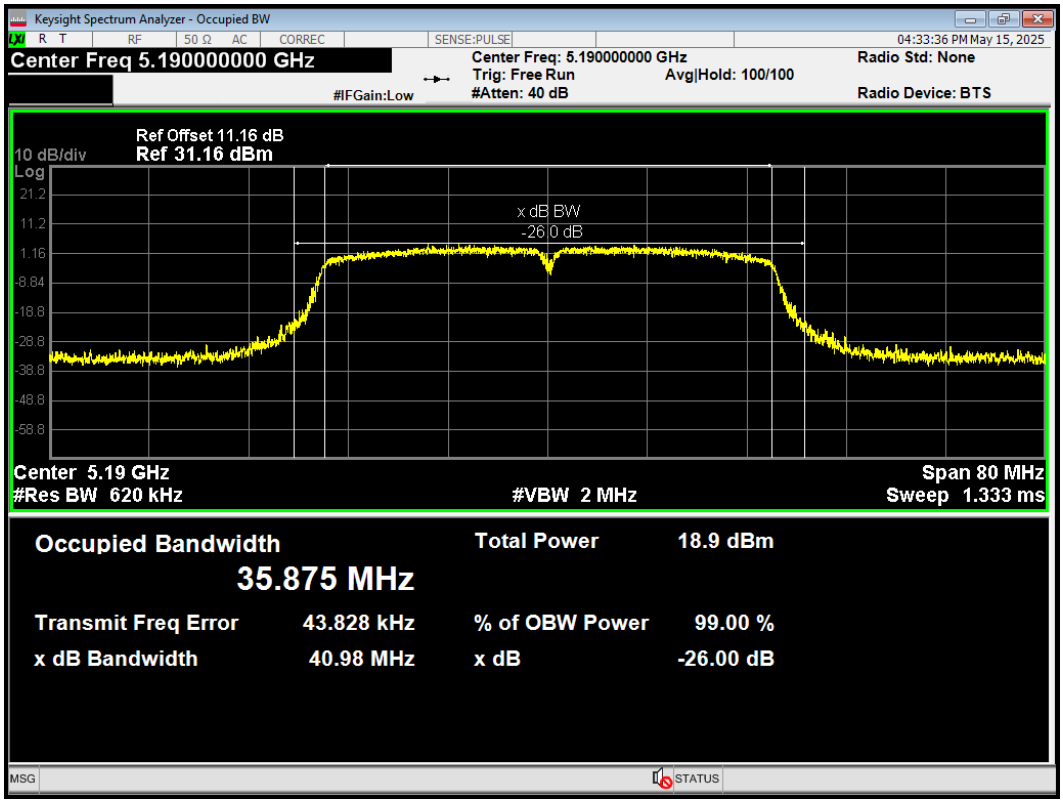

OBW 802.11ac(VHT20) 5200MHz



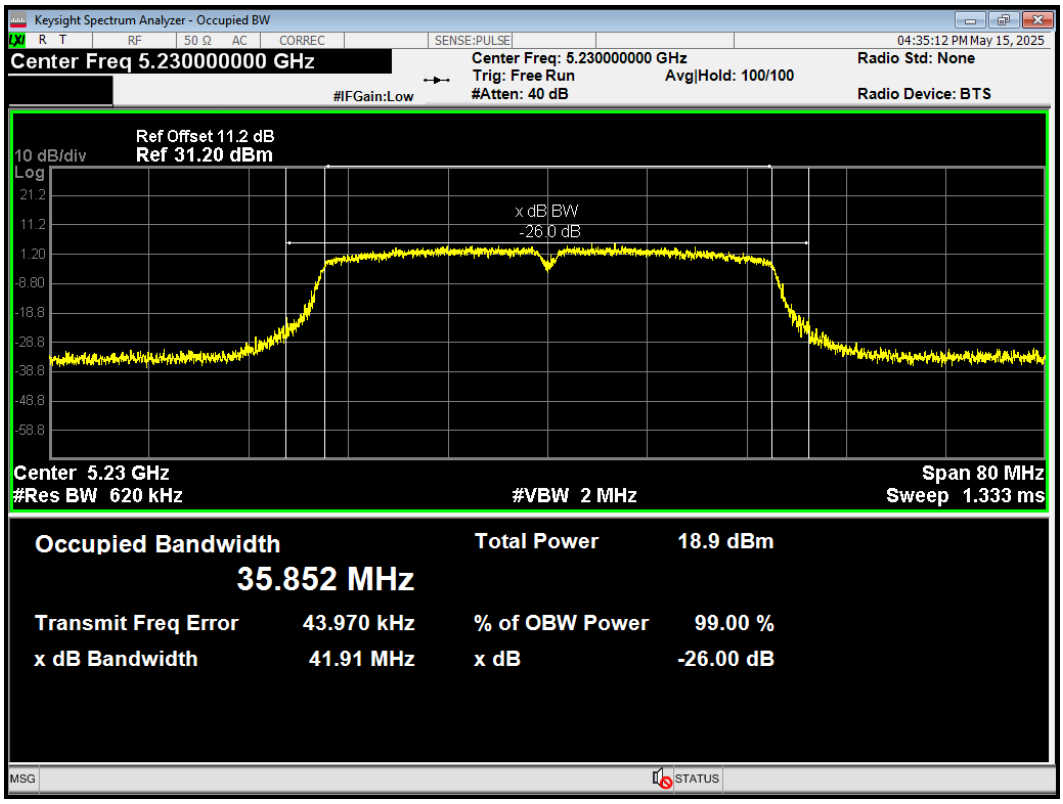
OBW 802.11ac(VHT20) 5240MHz



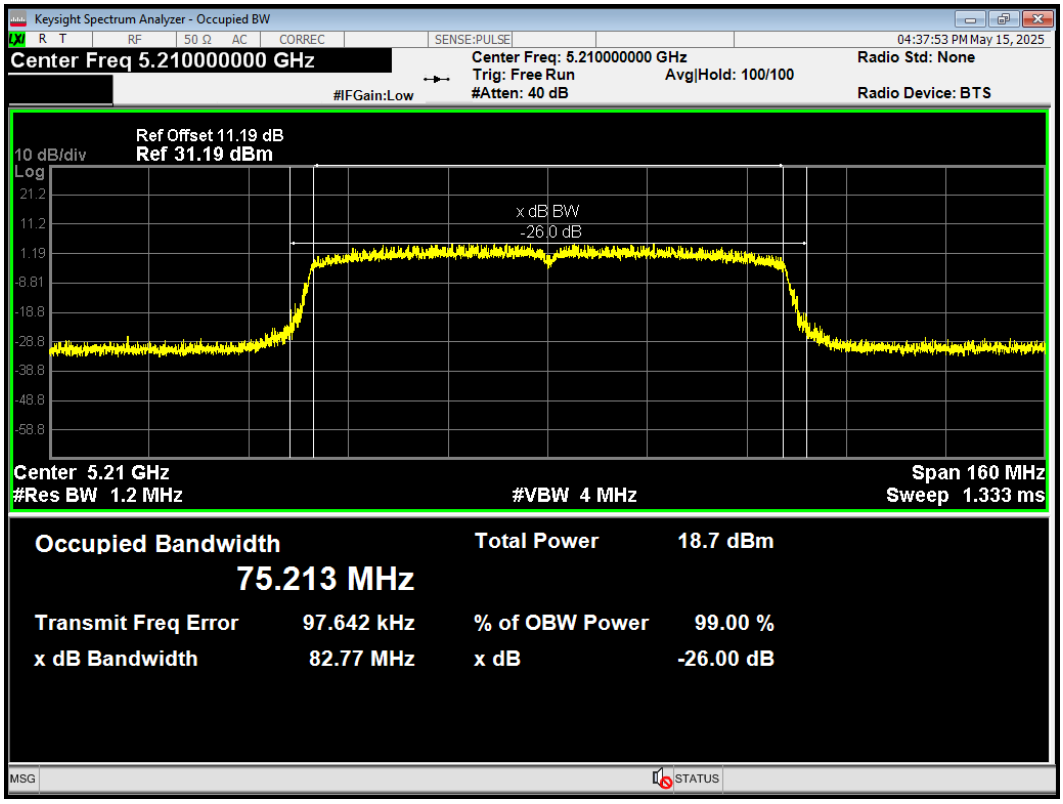

OBW 802.11ac(VHT40) 5190MHz



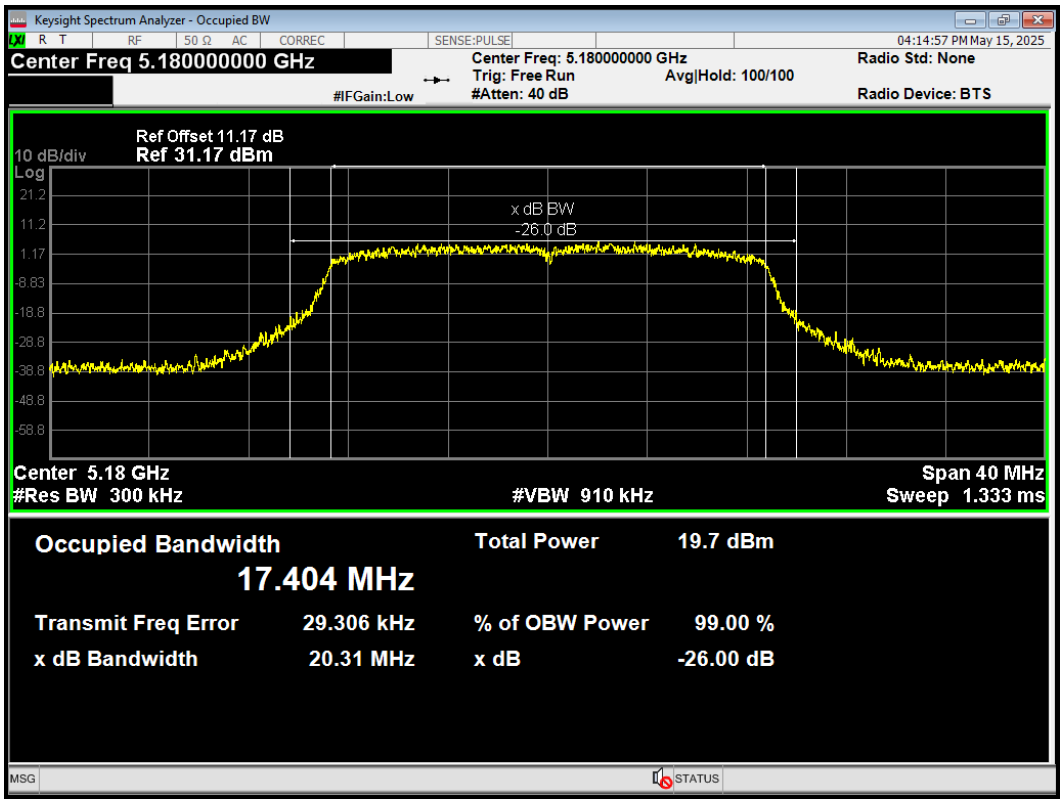
OBW 802.11ac(VHT40) 5230MHz



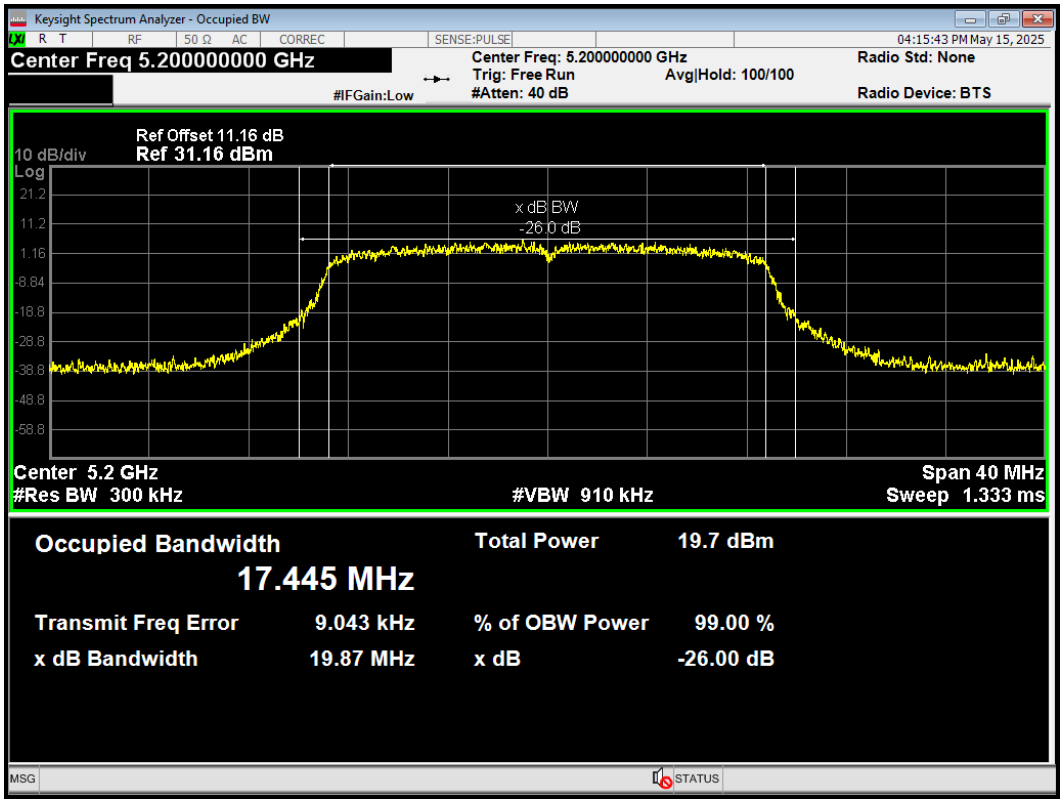

OBW 802.11ac(VHT80) 5210MHz



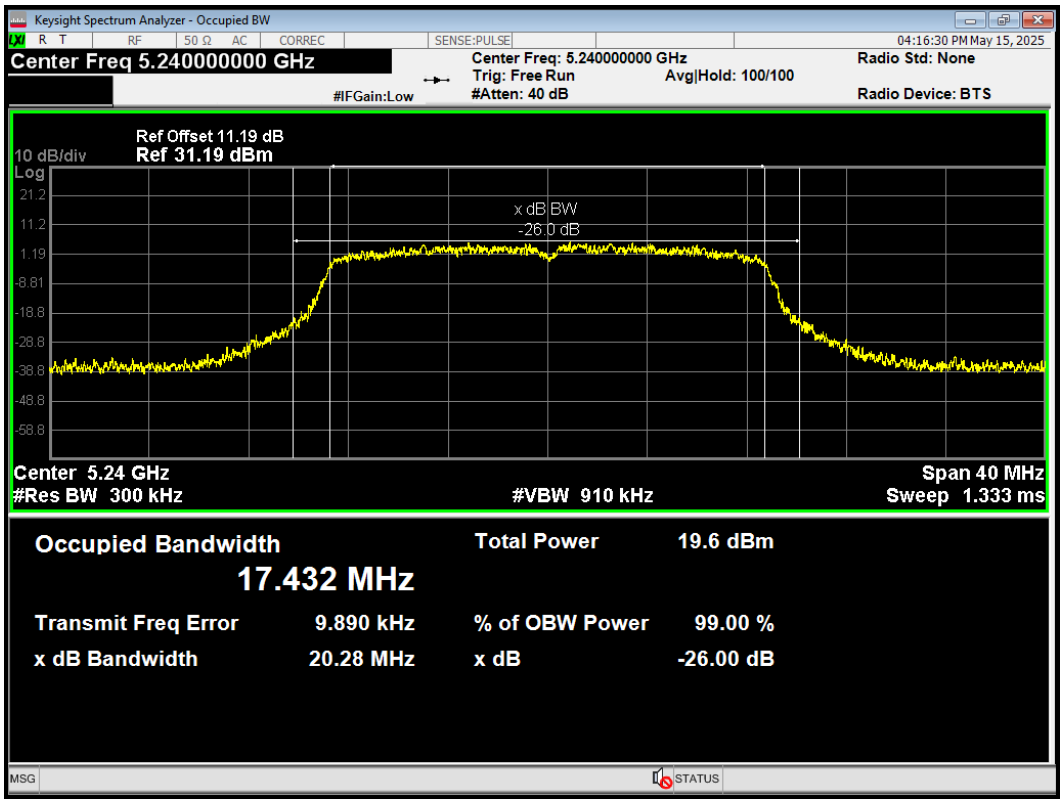
OBW 802.11n(HT20) 5180MHz



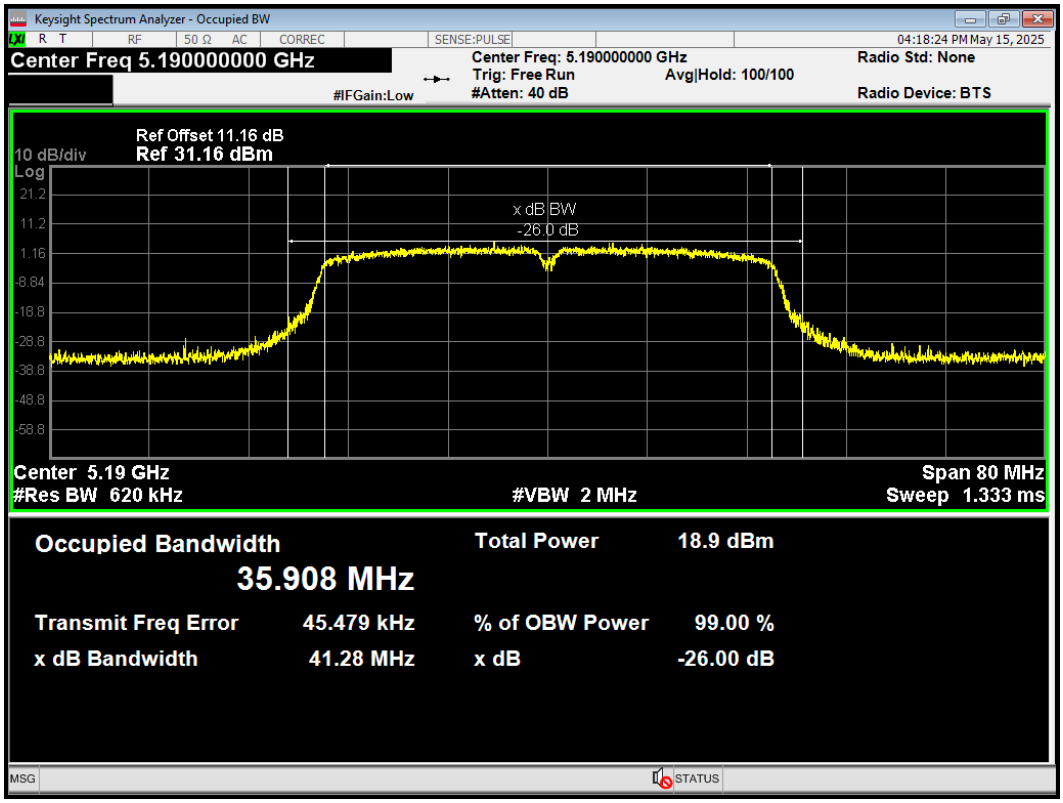

OBW 802.11n(HT20) 5200MHz



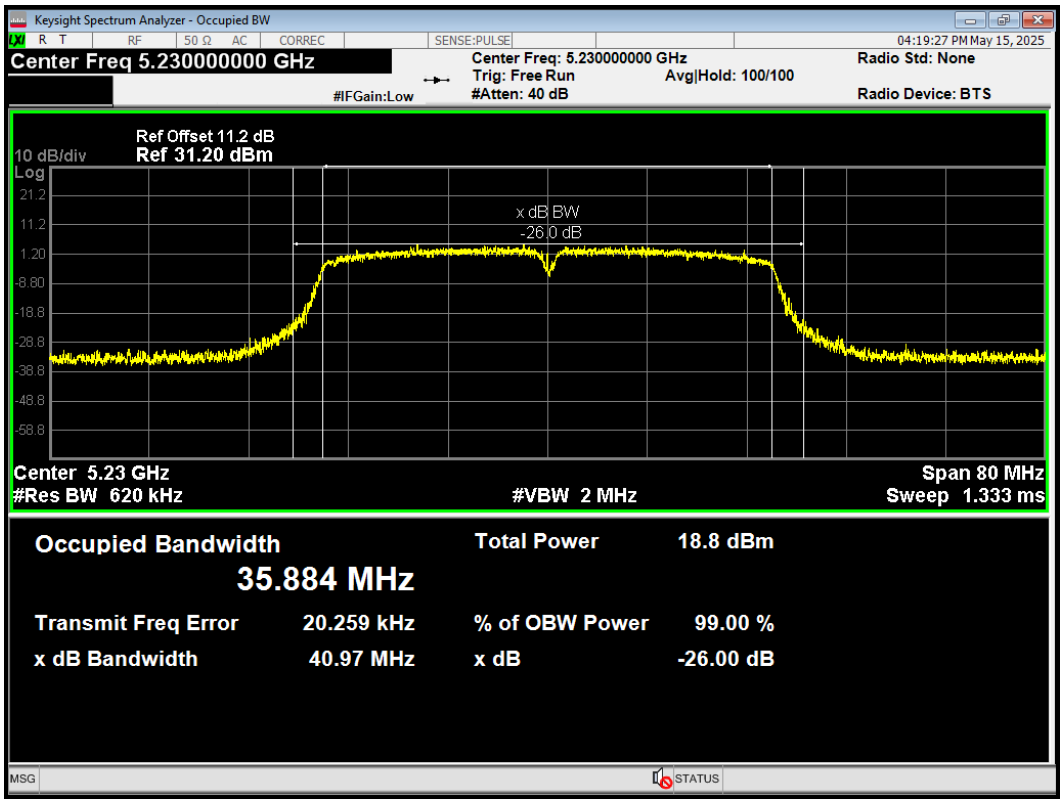
OBW 802.11n(HT20) 5240MHz




OBW 802.11n(HT40) 5190MHz

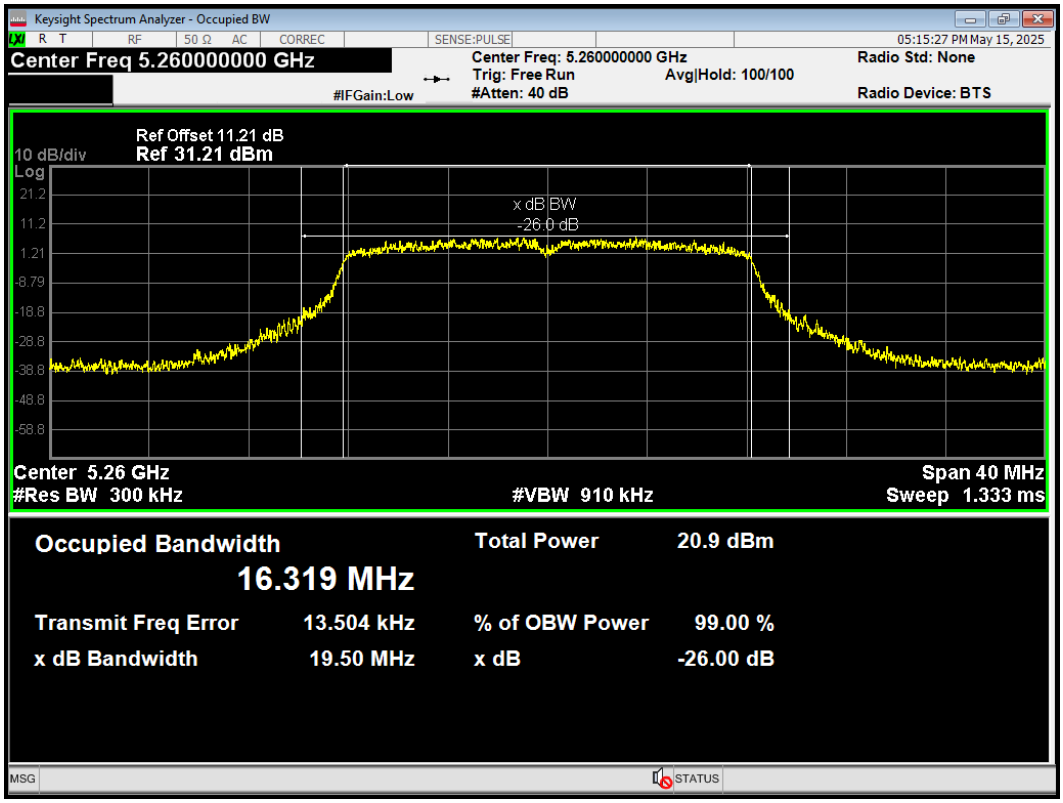


OBW 802.11n(HT40) 5230MHz

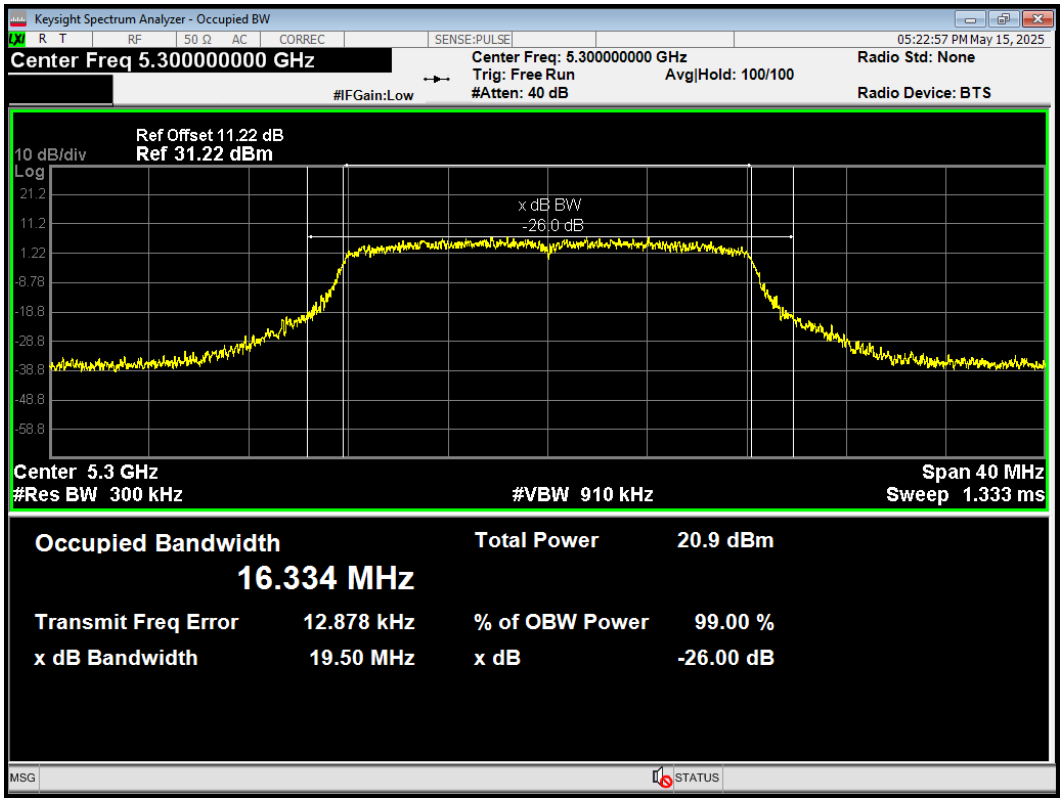


**U-NII-2A**

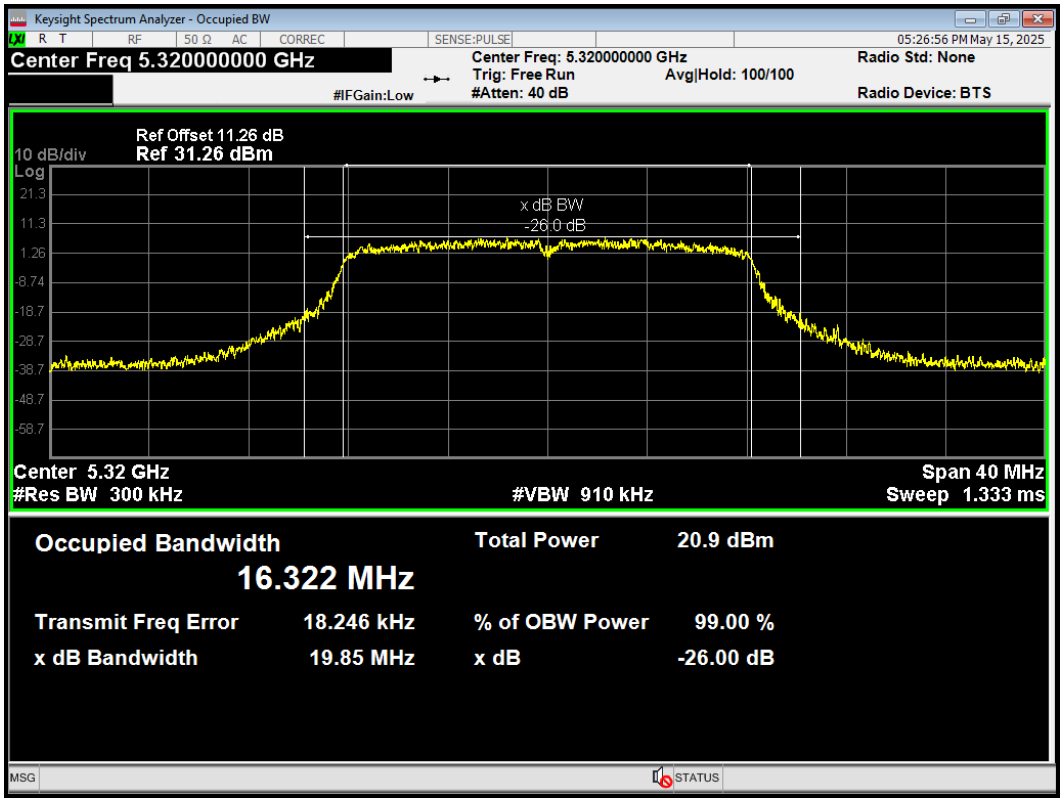
OBW 802.11a 5260MHz



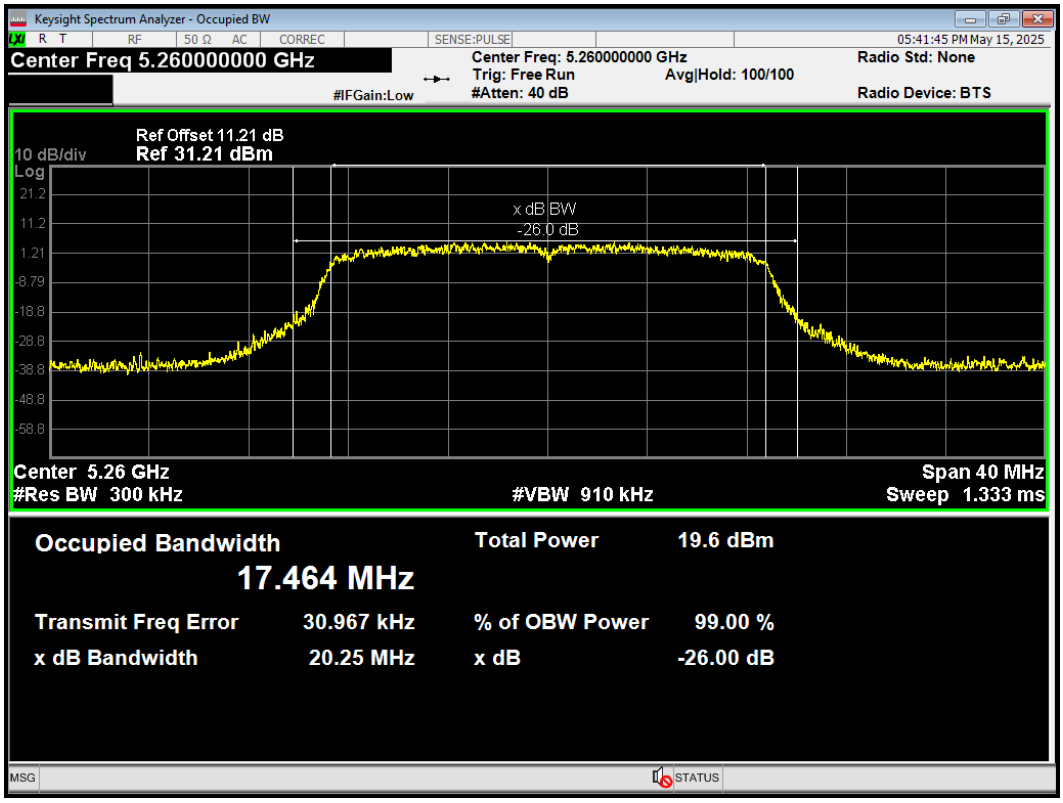

OBW 802.11a 5300MHz



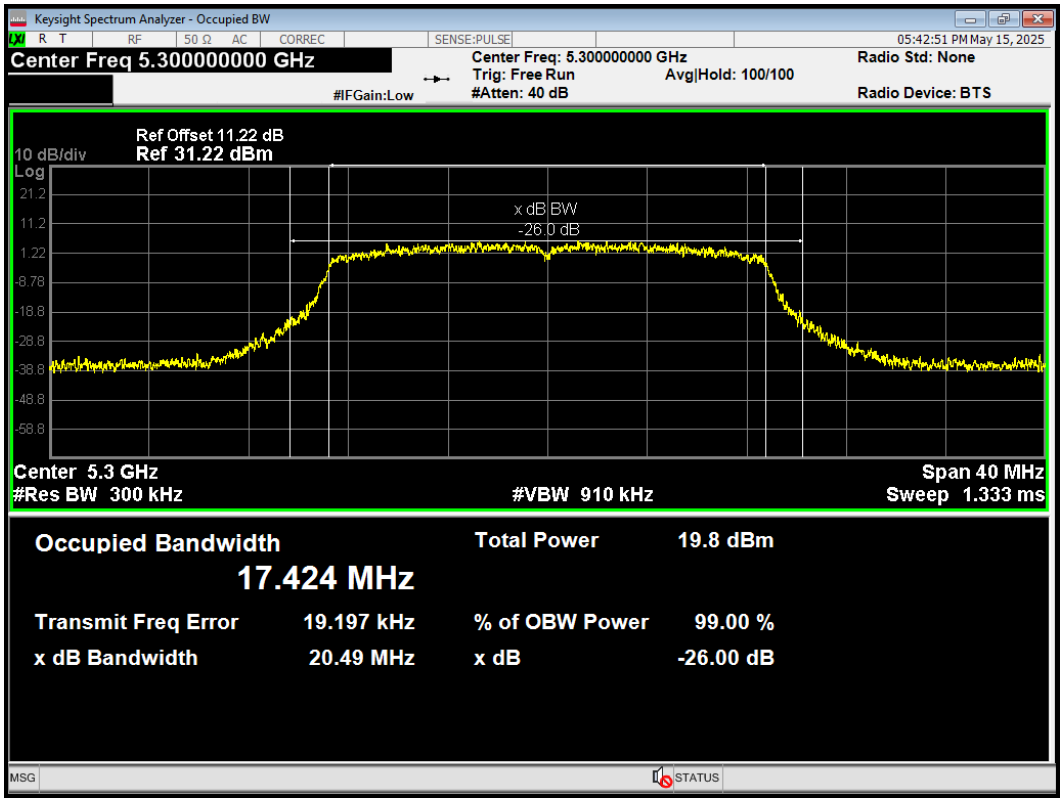
OBW 802.11a 5320MHz



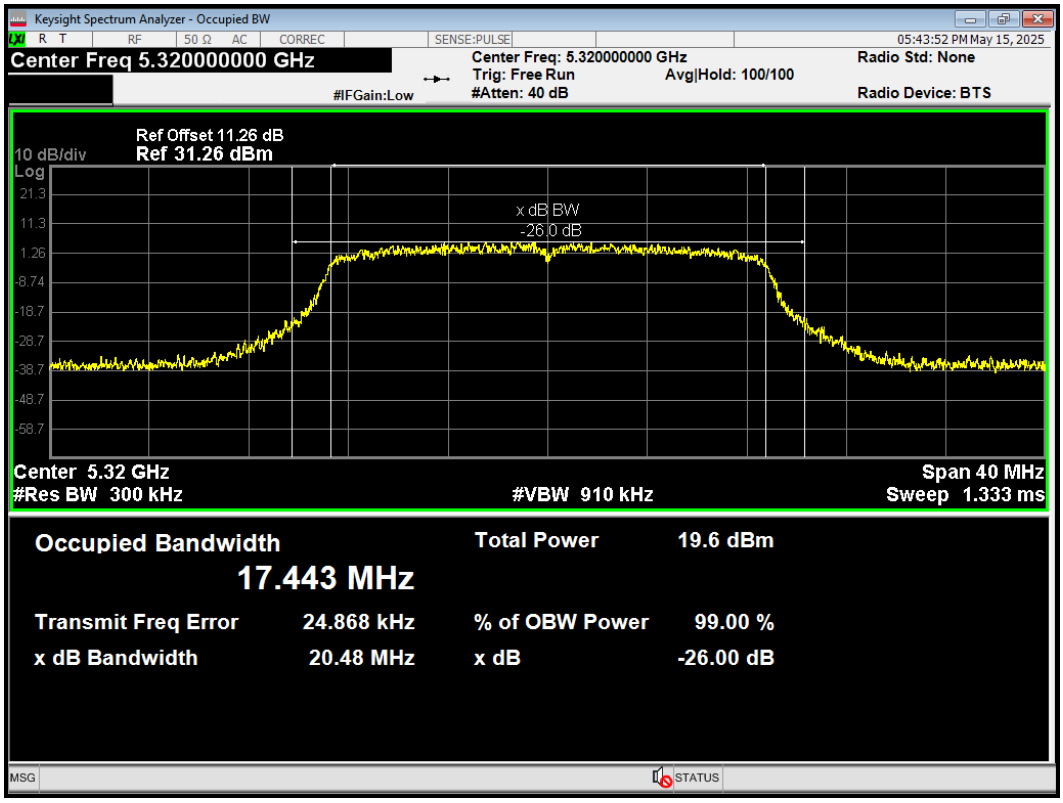

OBW 802.11ac(VHT20) 5260MHz



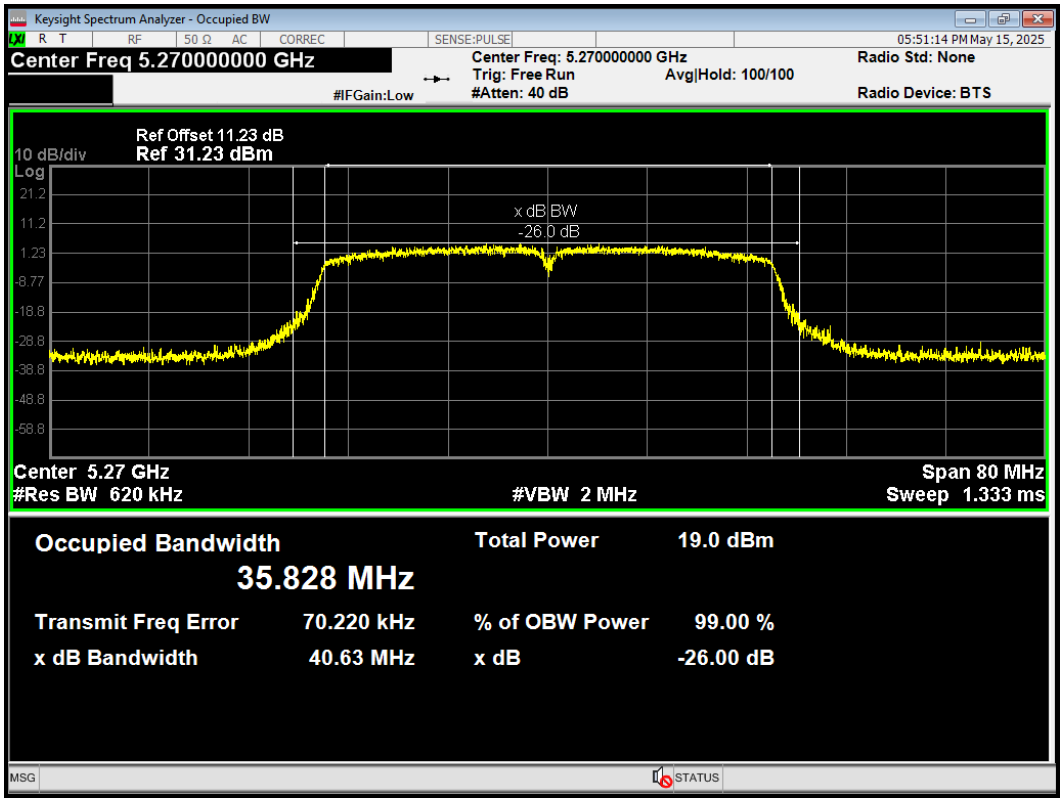
OBW 802.11ac(VHT20) 5300MHz



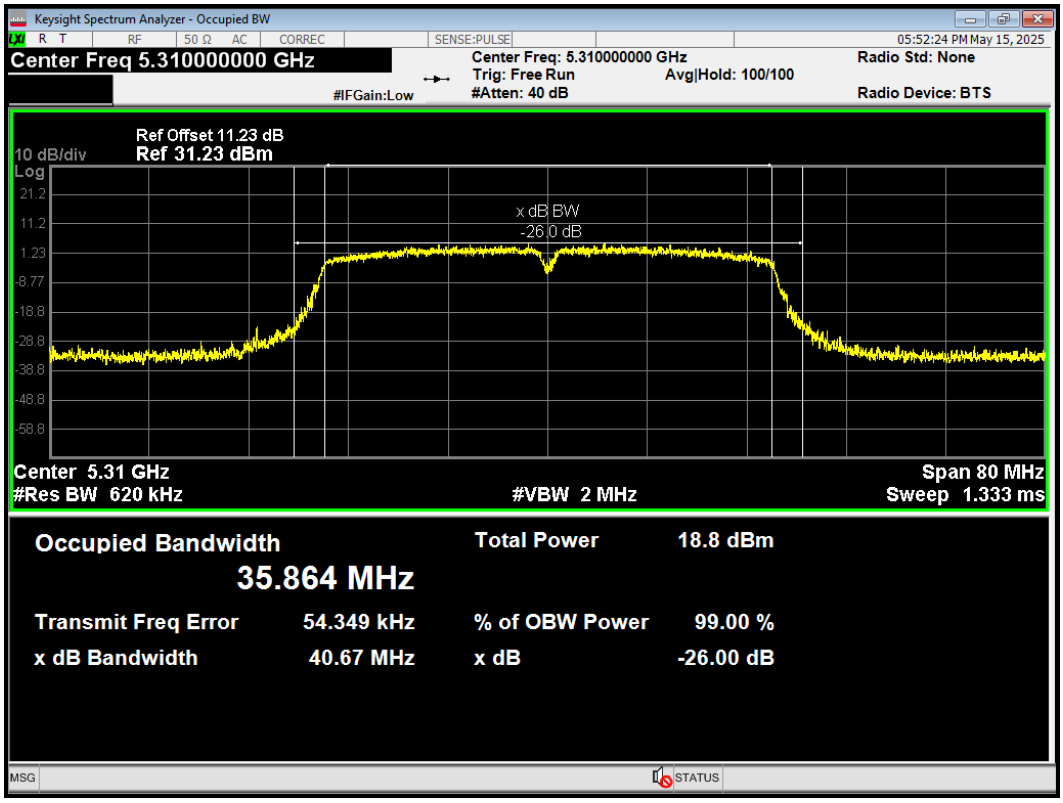

OBW 802.11ac(VHT20) 5320MHz



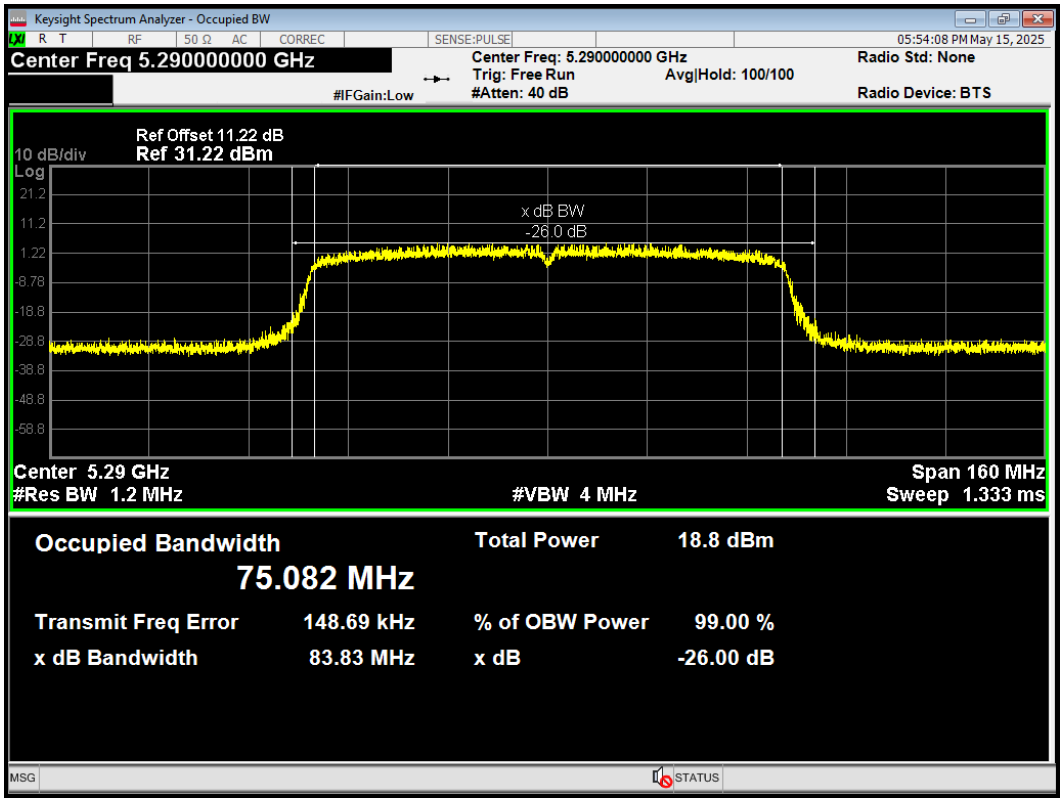
OBW 802.11ac(VHT40) 5270MHz



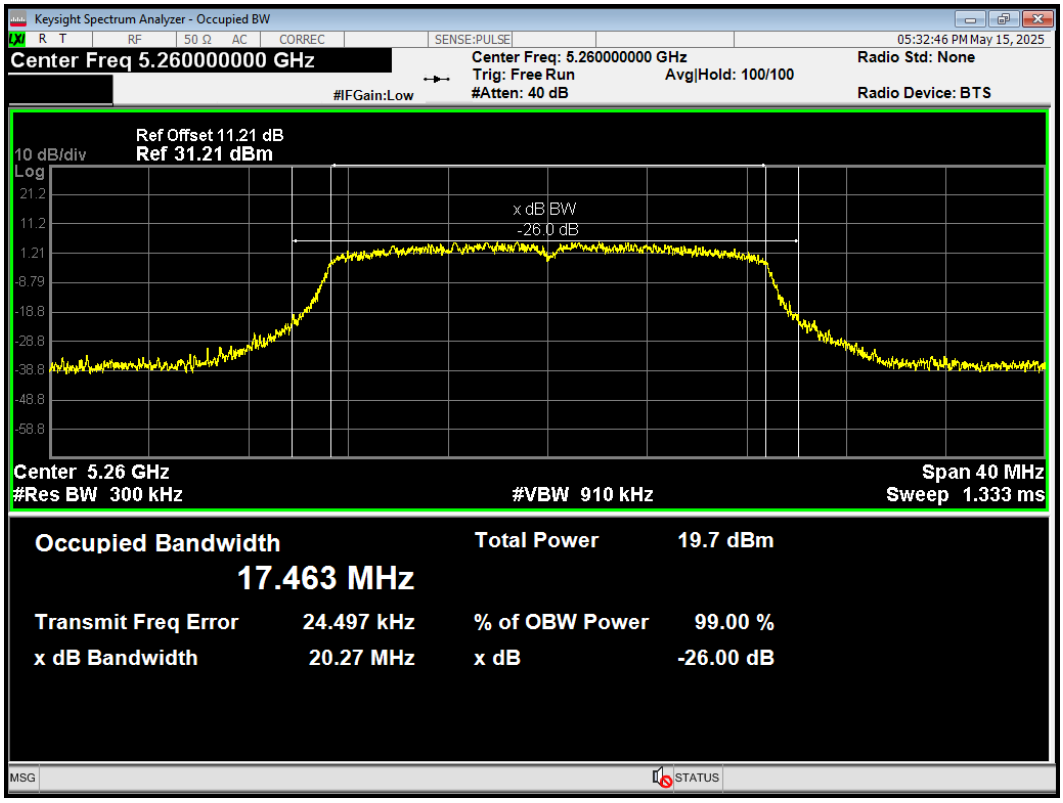

OBW 802.11ac(VHT40) 5310MHz



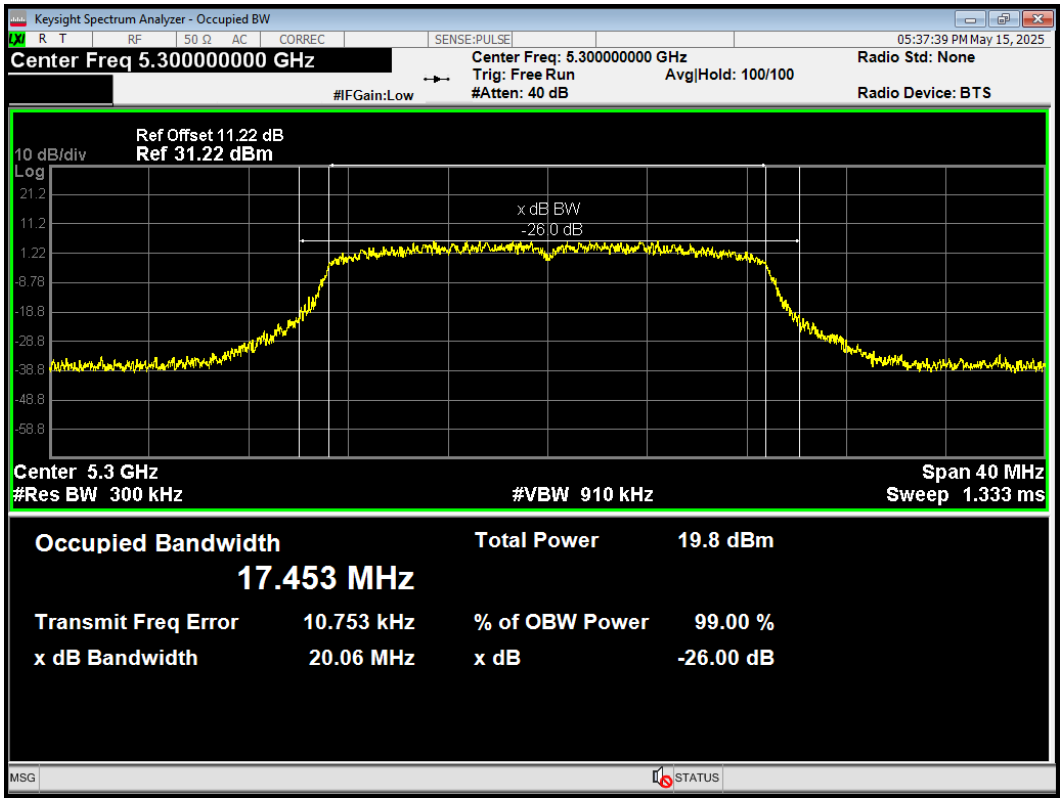
OBW 802.11ac(VHT80) 5290MHz



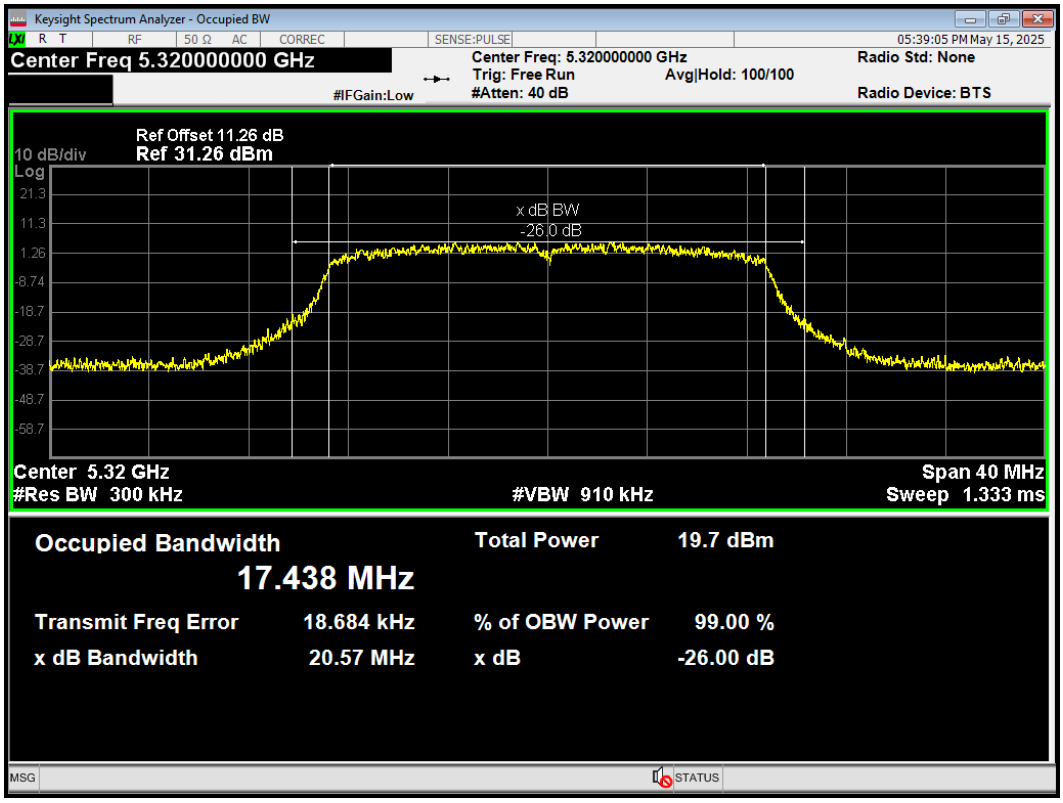

OBW 802.11n(HT20) 5260MHz



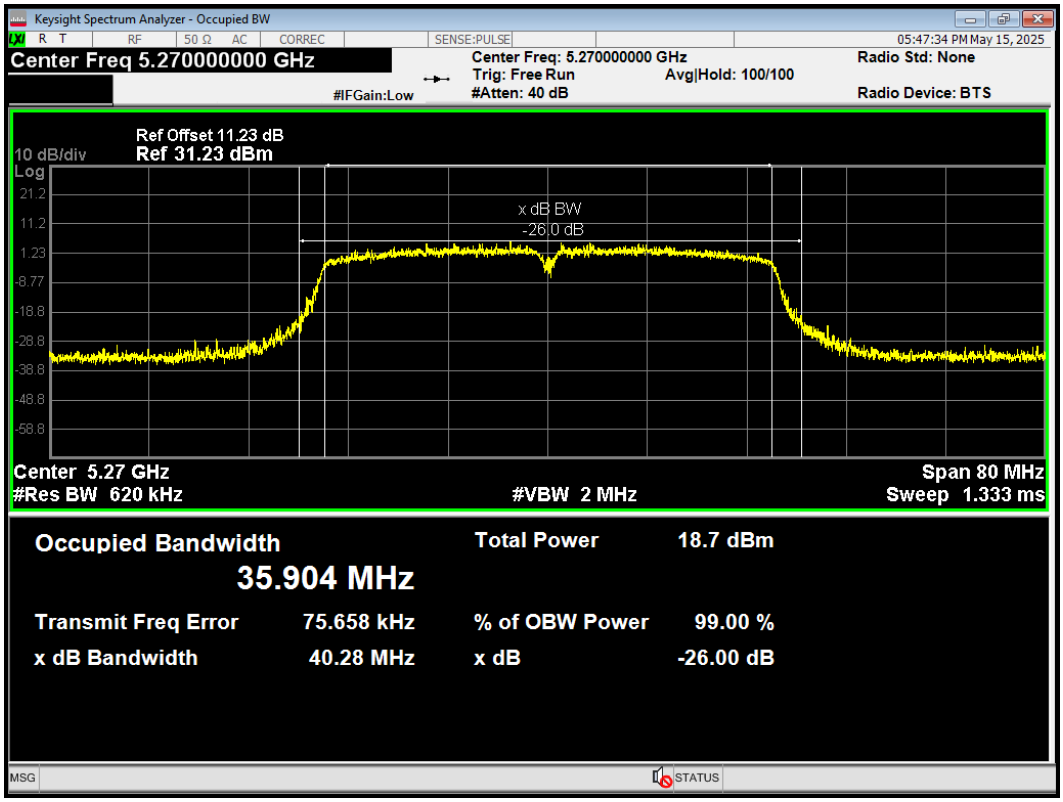
OBW 802.11n(HT20) 5300MHz



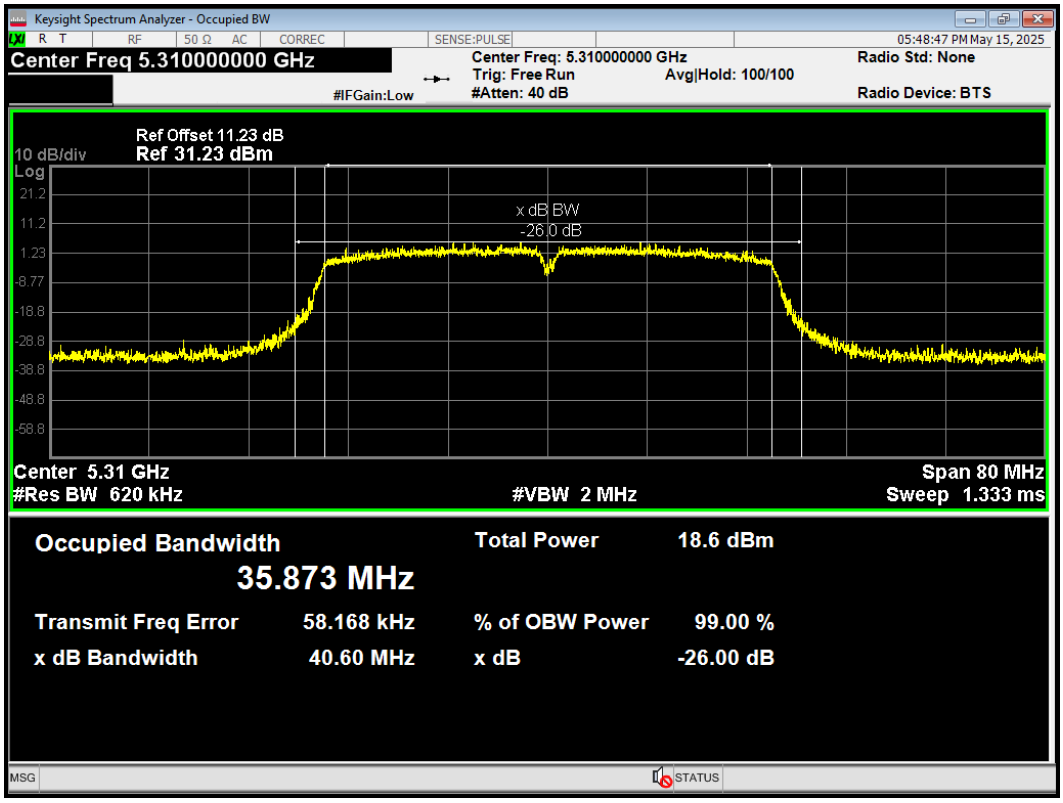

OBW 802.11n(HT20) 5320MHz



OBW 802.11n(HT40) 5270MHz

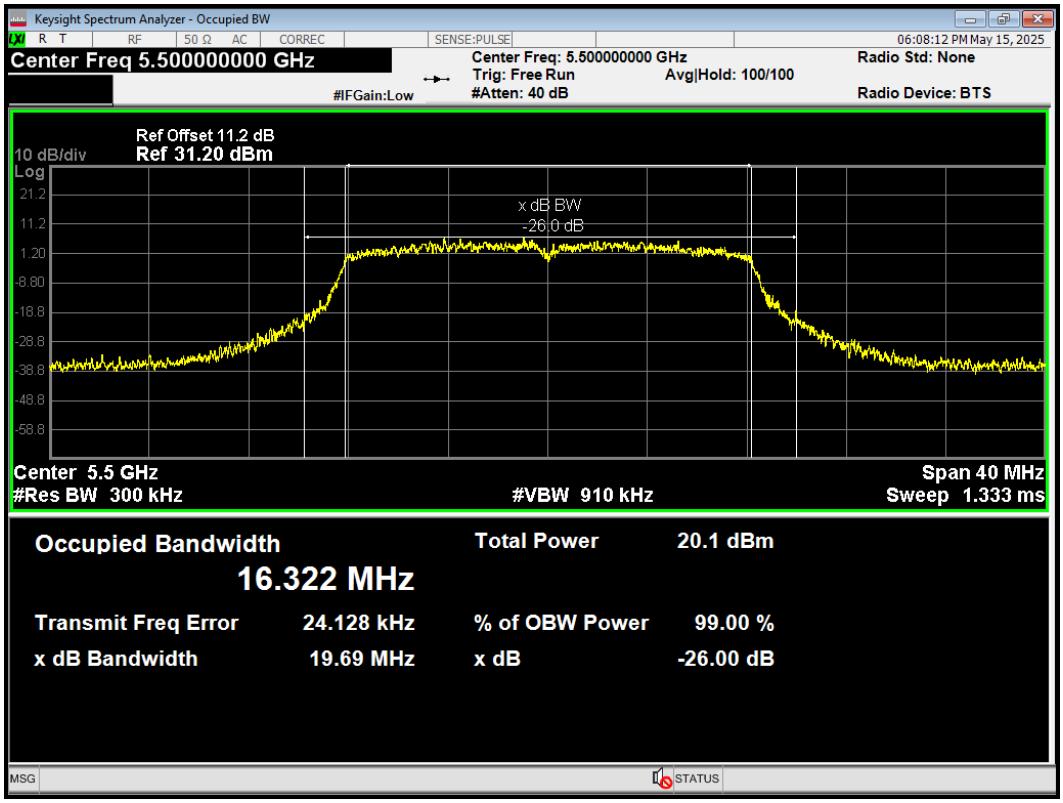



OBW 802.11n(HT40) 5310MHz

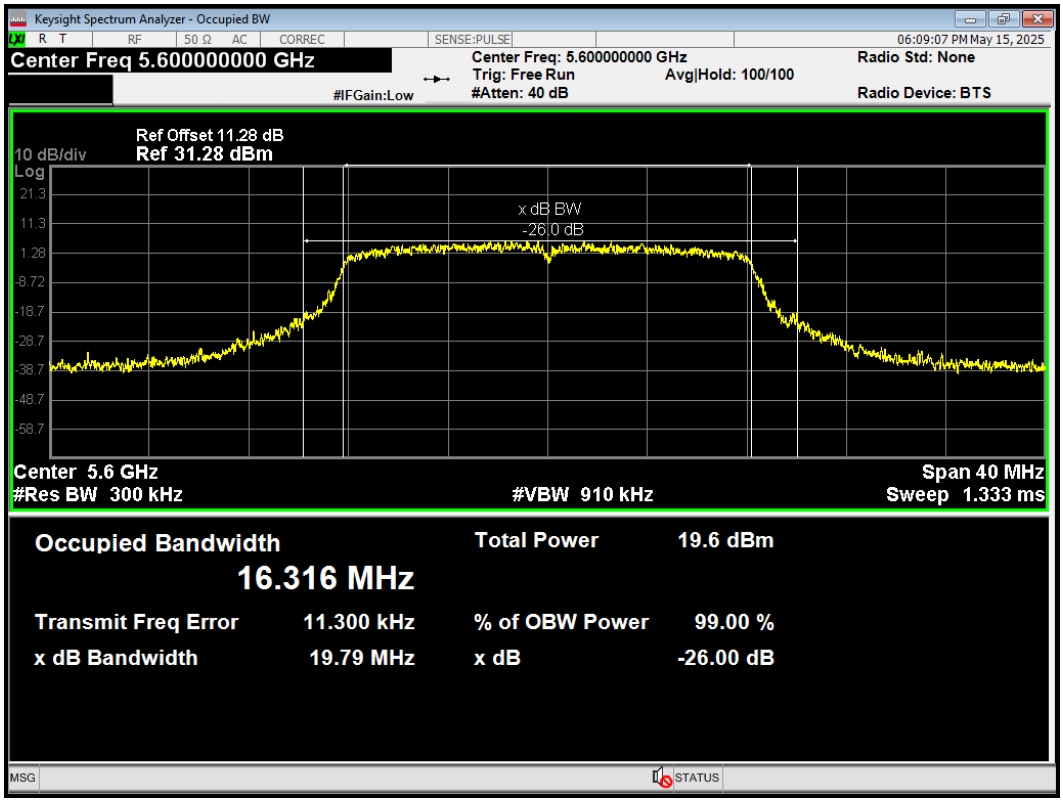


**U-NII-2C**

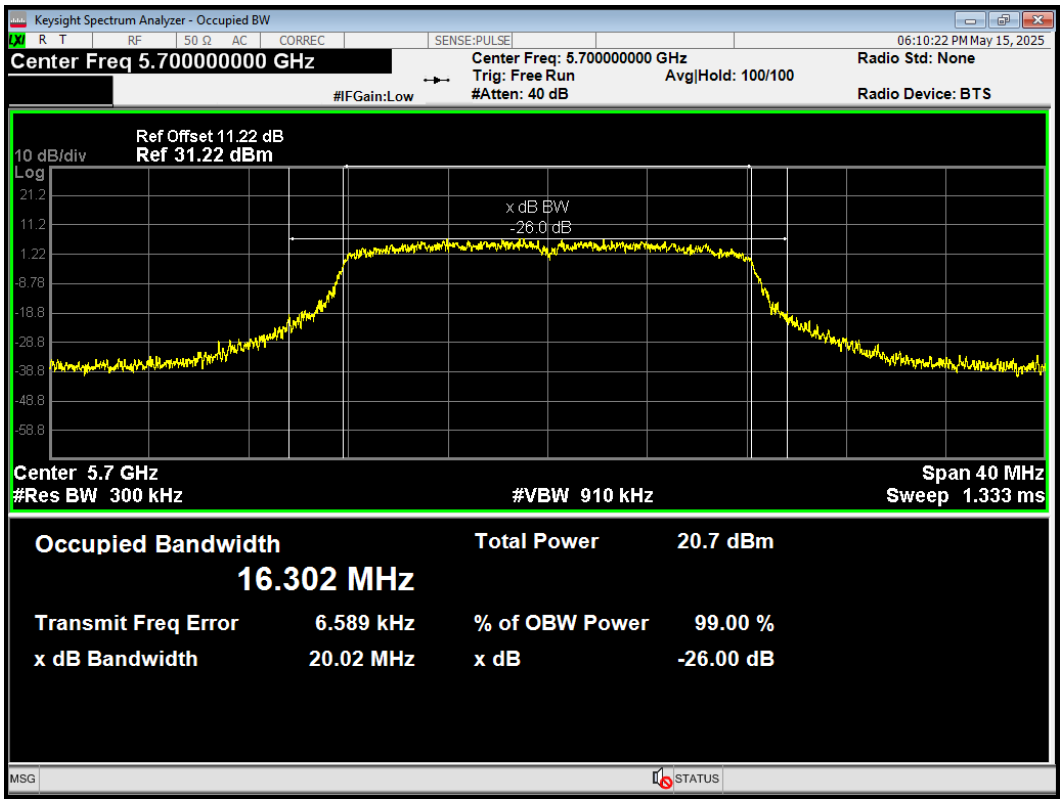
OBW 802.11a 5500MHz



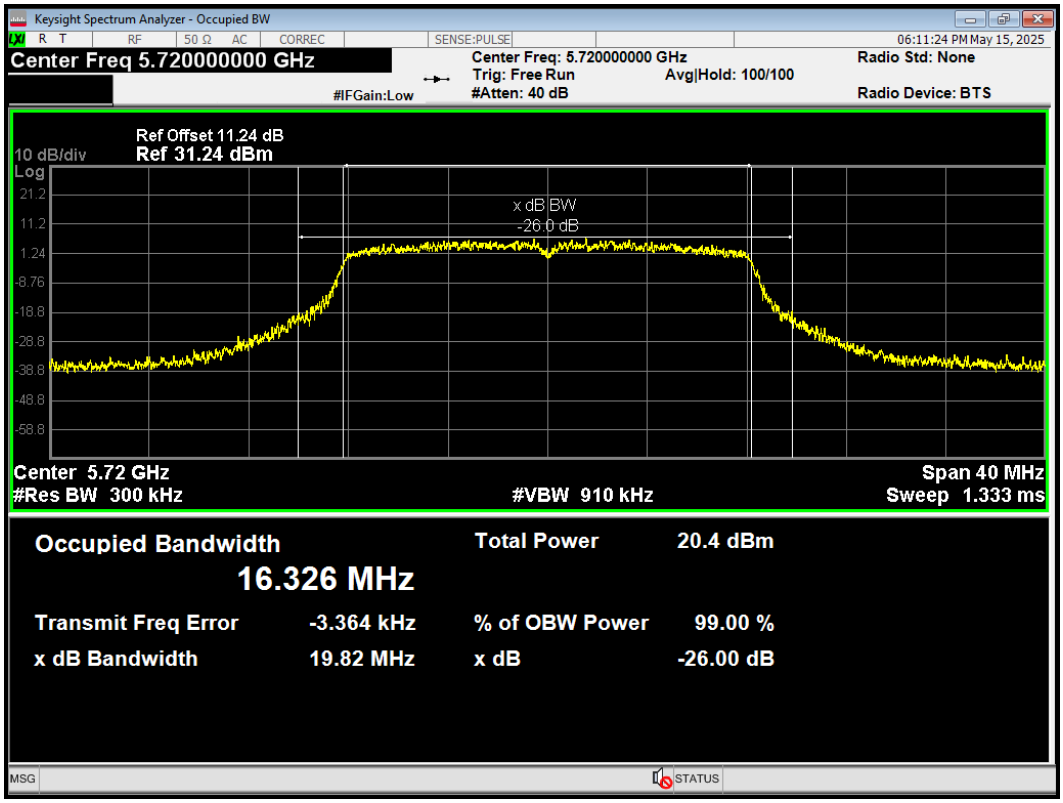

OBW 802.11a 5600MHz



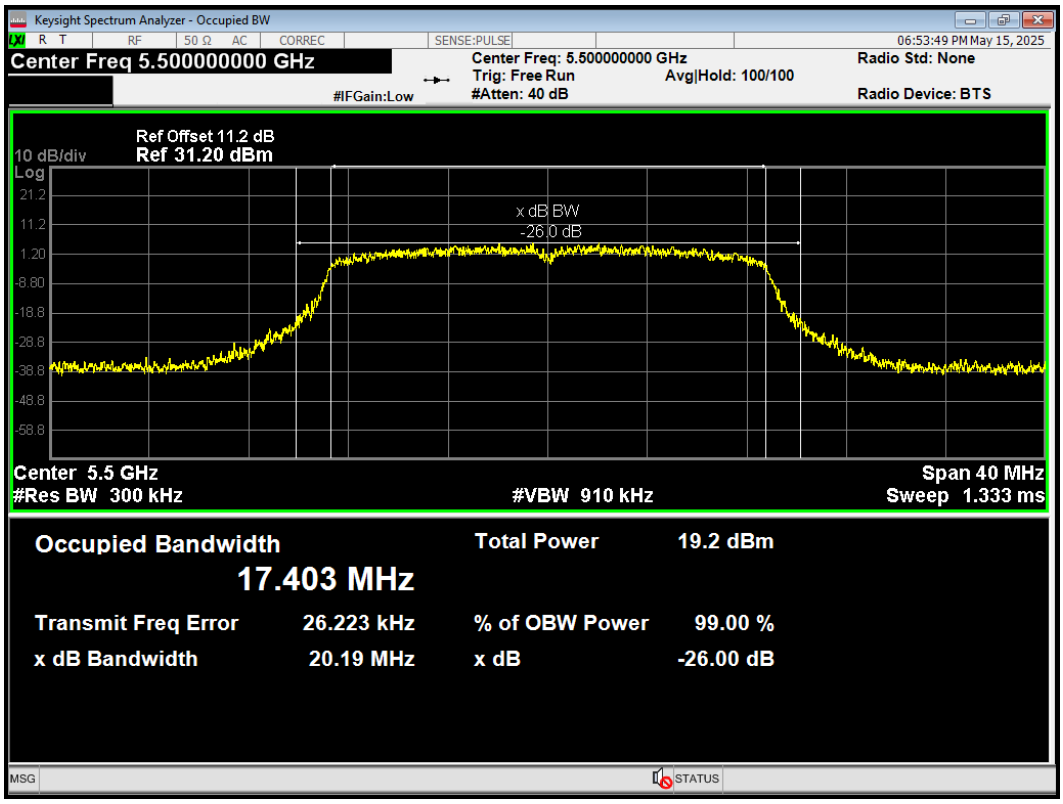
OBW 802.11a 5700MHz



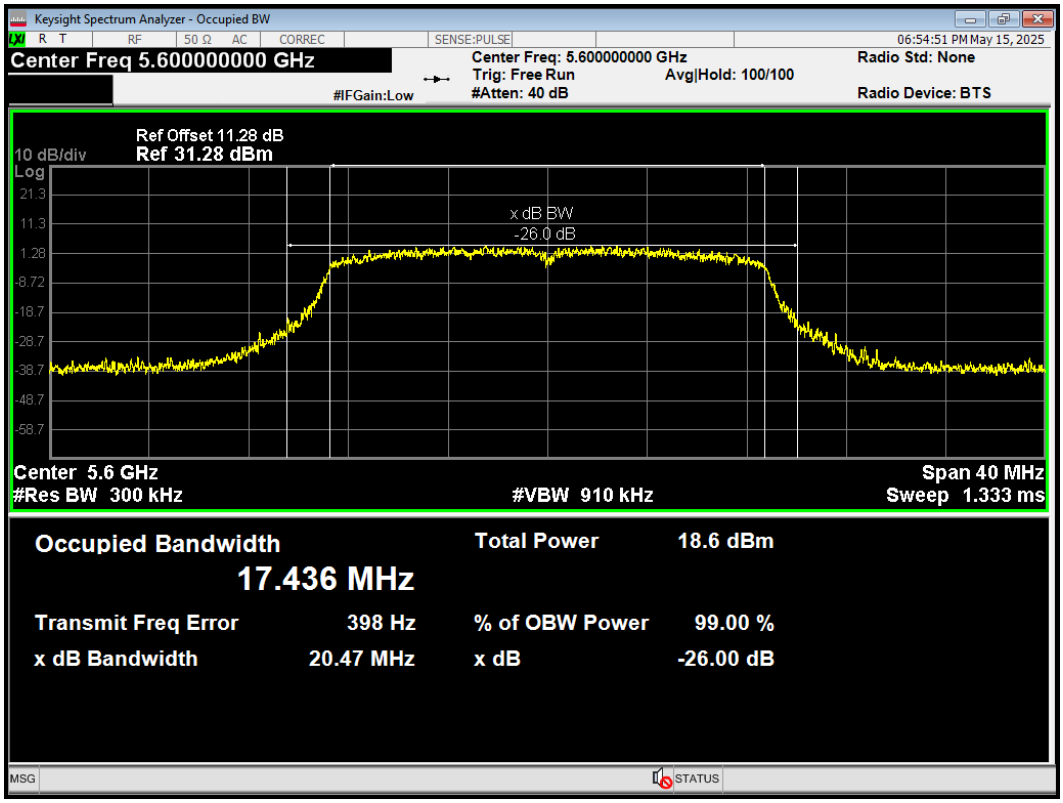

OBW 802.11a 5720MHz



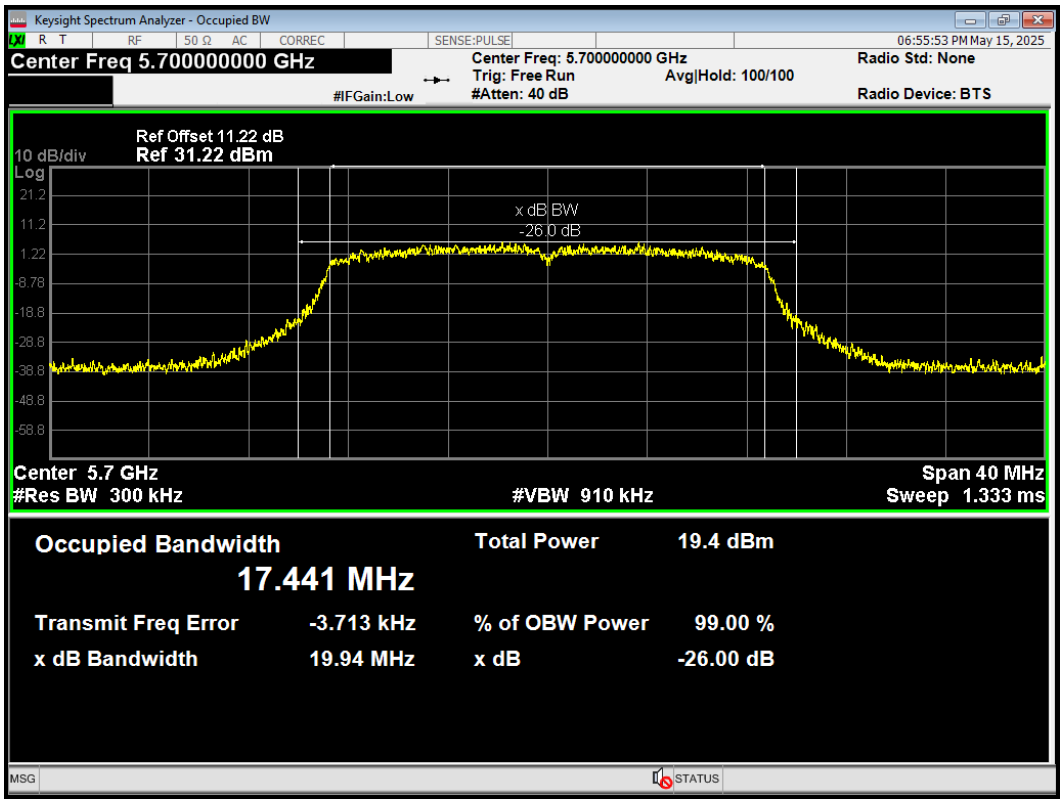
OBW 802.11ac(VHT20) 5500MHz



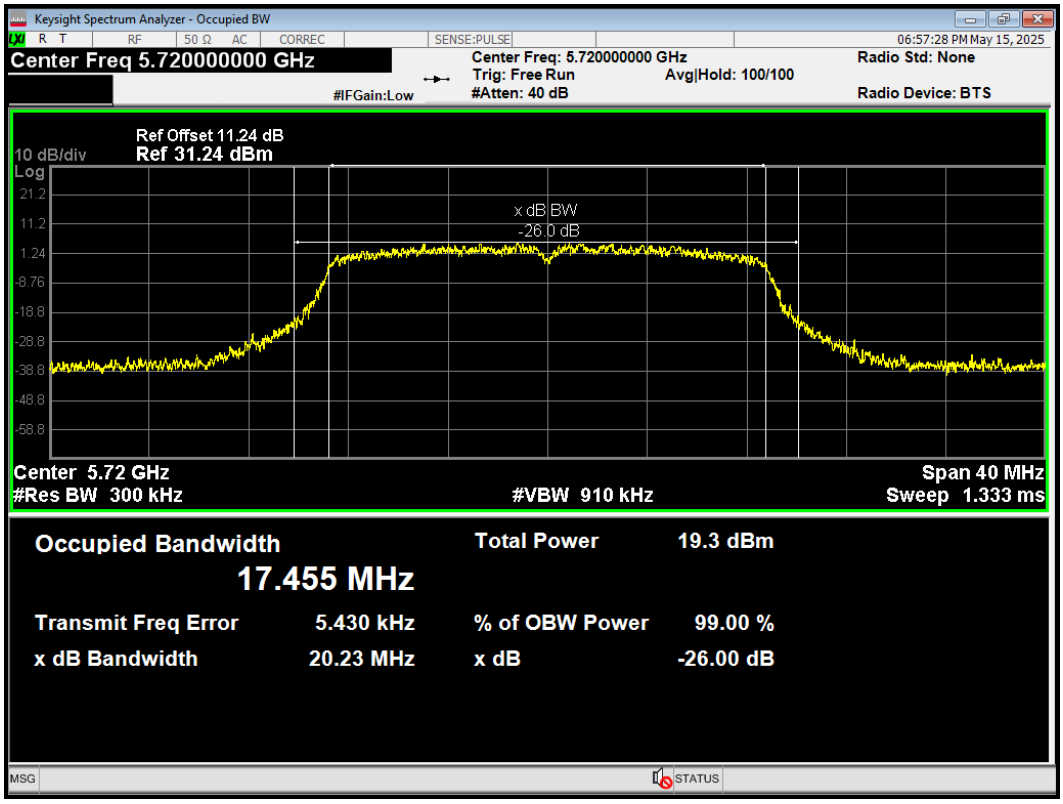

OBW 802.11ac(VHT20) 5600MHz



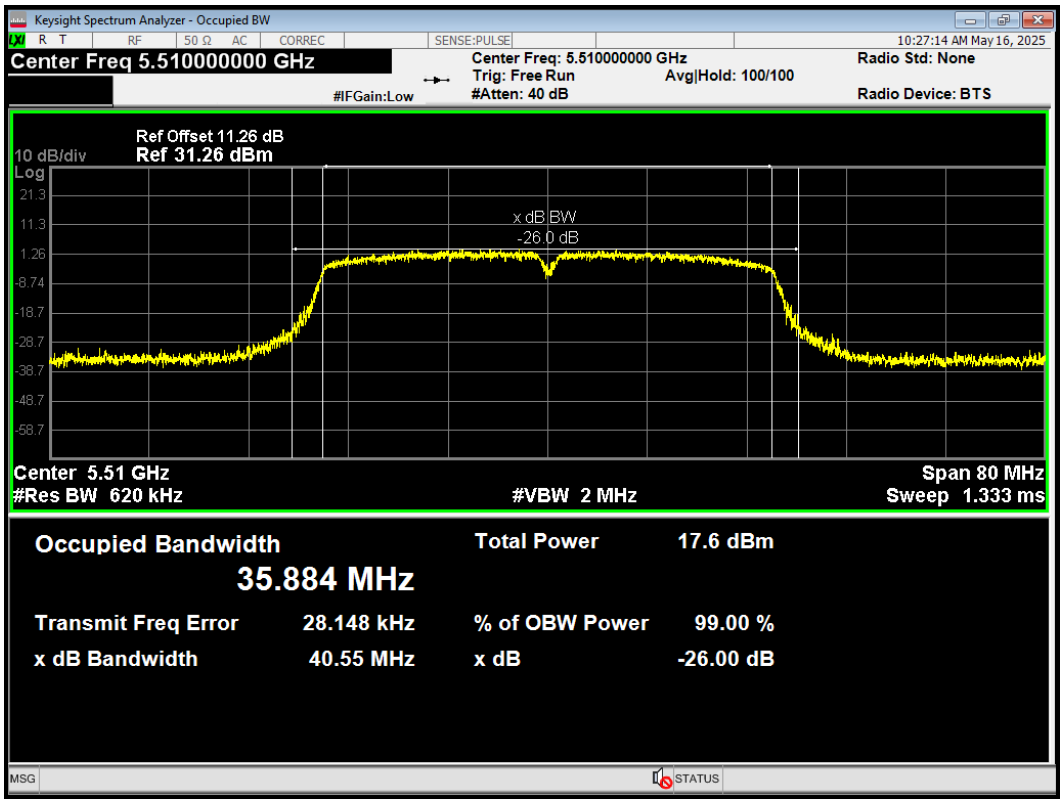
OBW 802.11ac(VHT20) 5700MHz



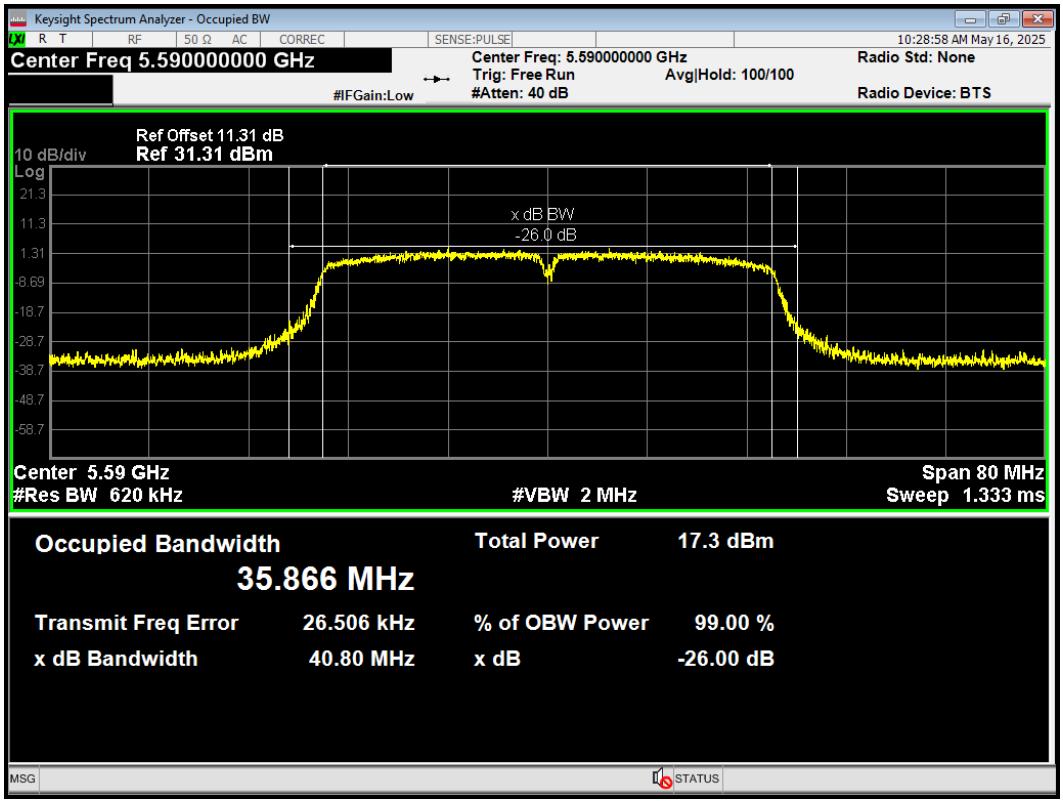

OBW 802.11ac(VHT20) 5720MHz



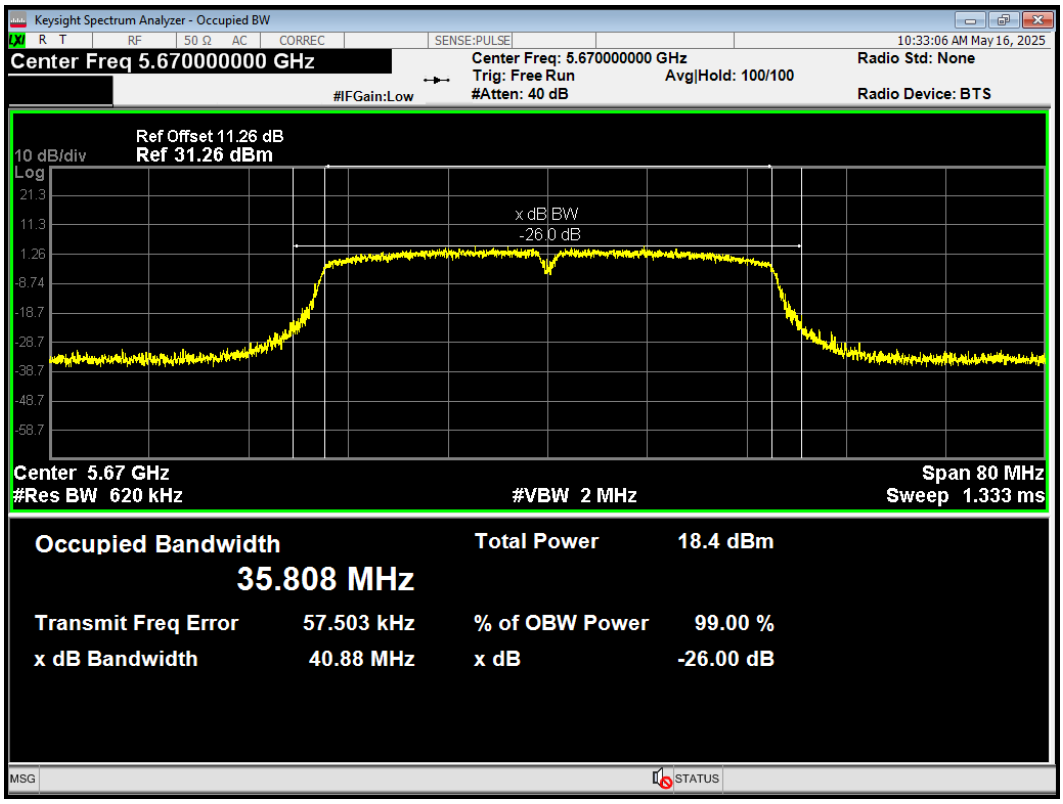
OBW 802.11ac(VHT40) 5510MHz



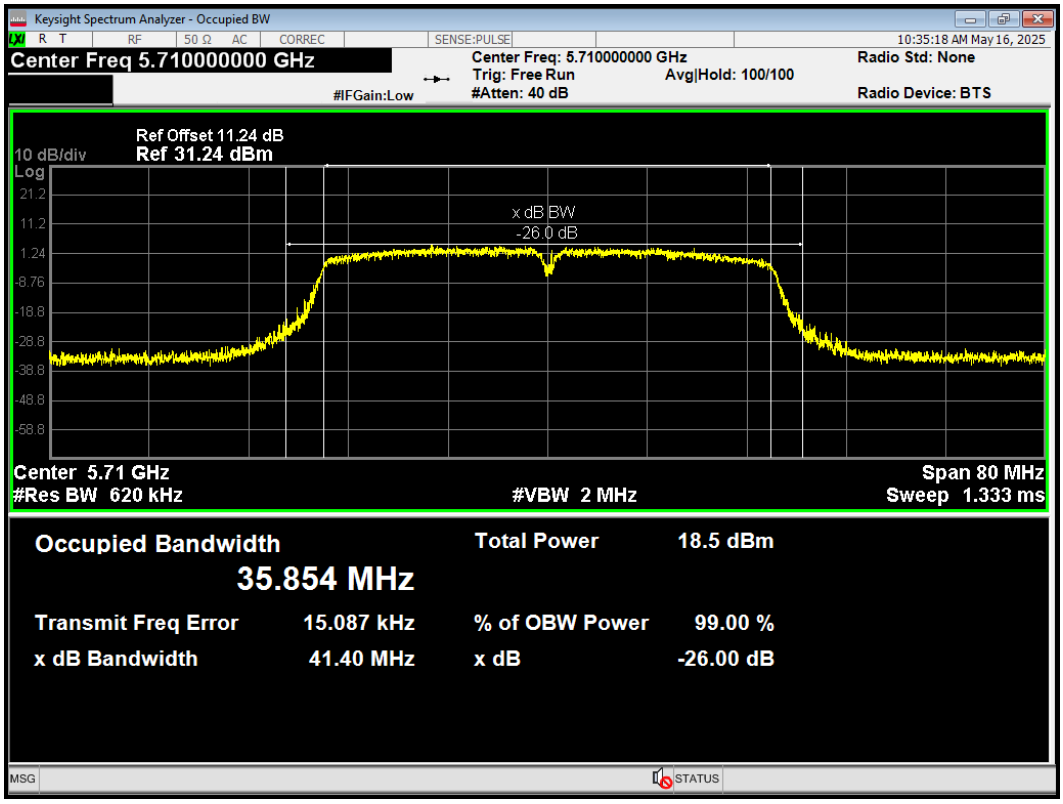

OBW 802.11ac(VHT40) 5590MHz



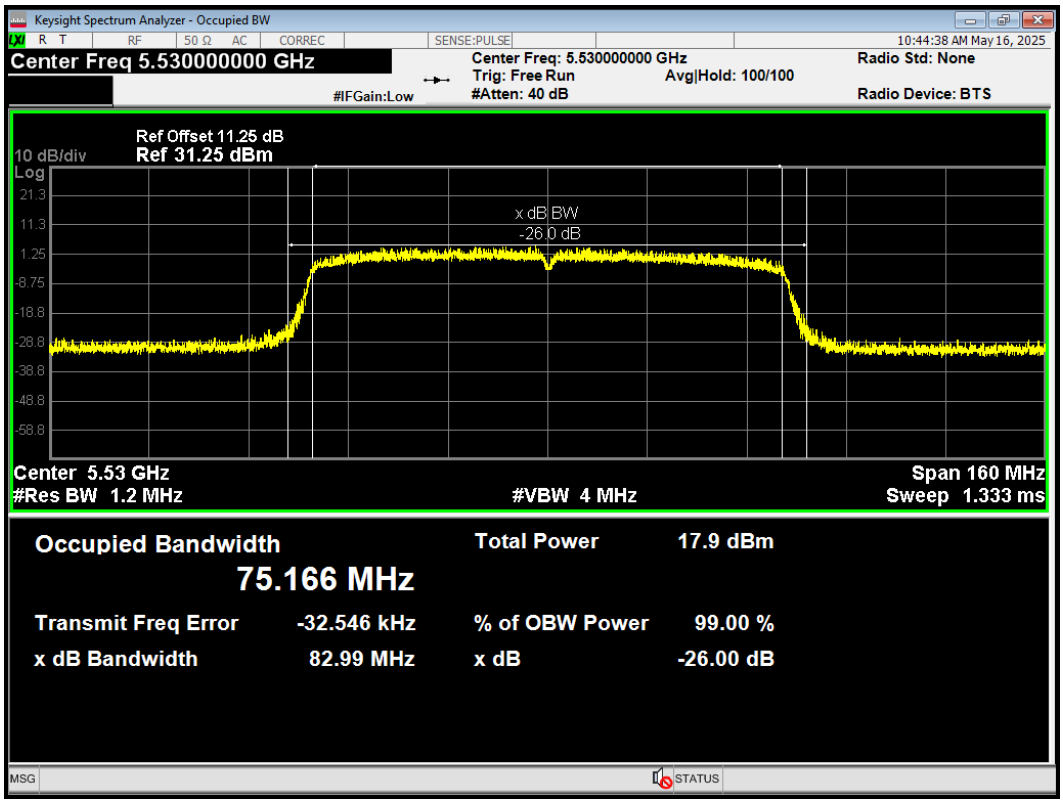
OBW 802.11ac(VHT40) 5670MHz



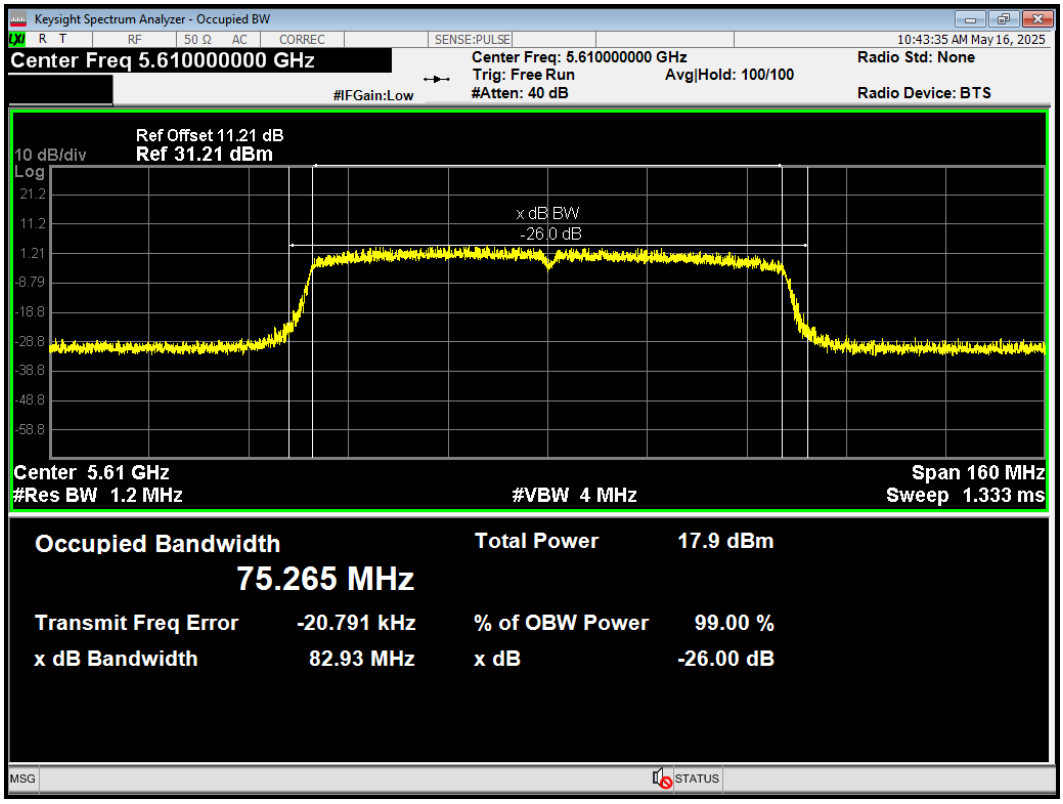

OBW 802.11ac(VHT40) 5710MHz



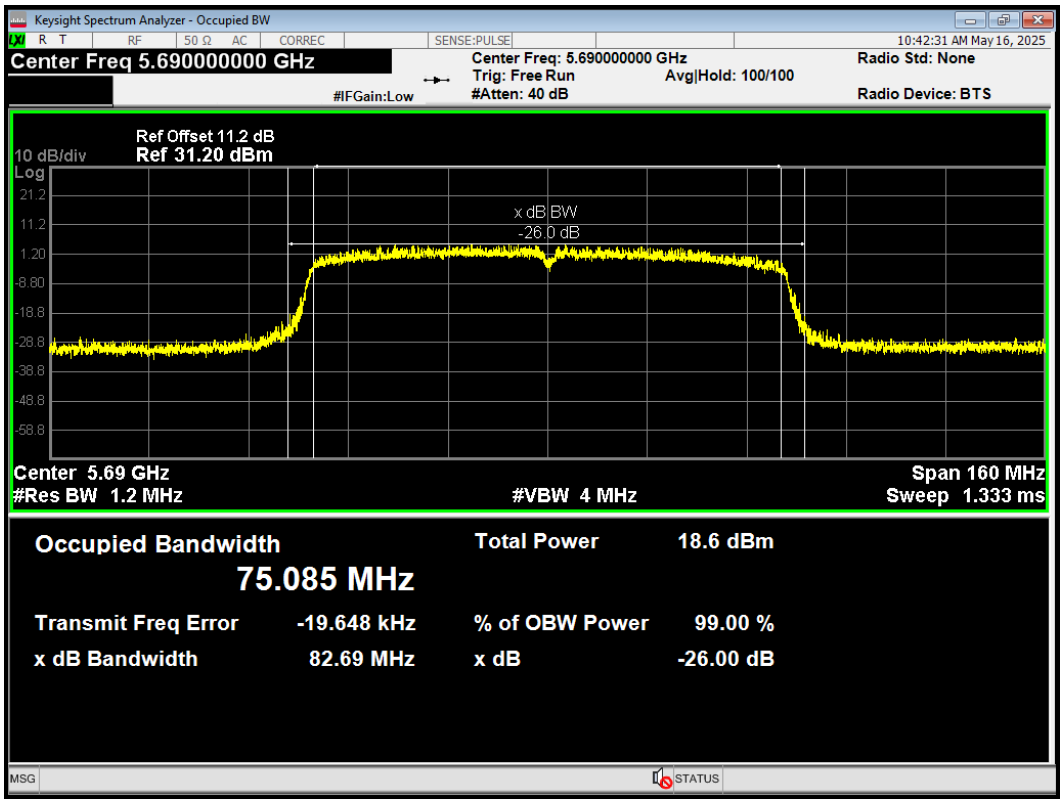
OBW 802.11ac(VHT80) 5530MHz



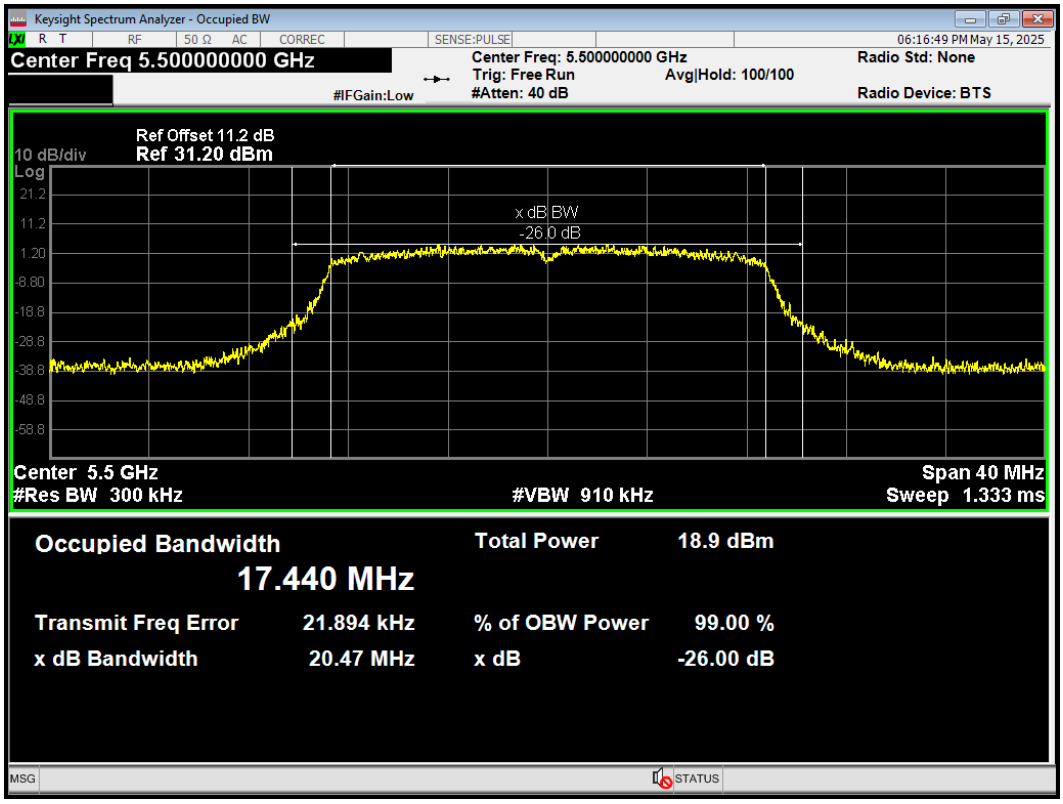

OBW 802.11ac(VHT80) 5610MHz



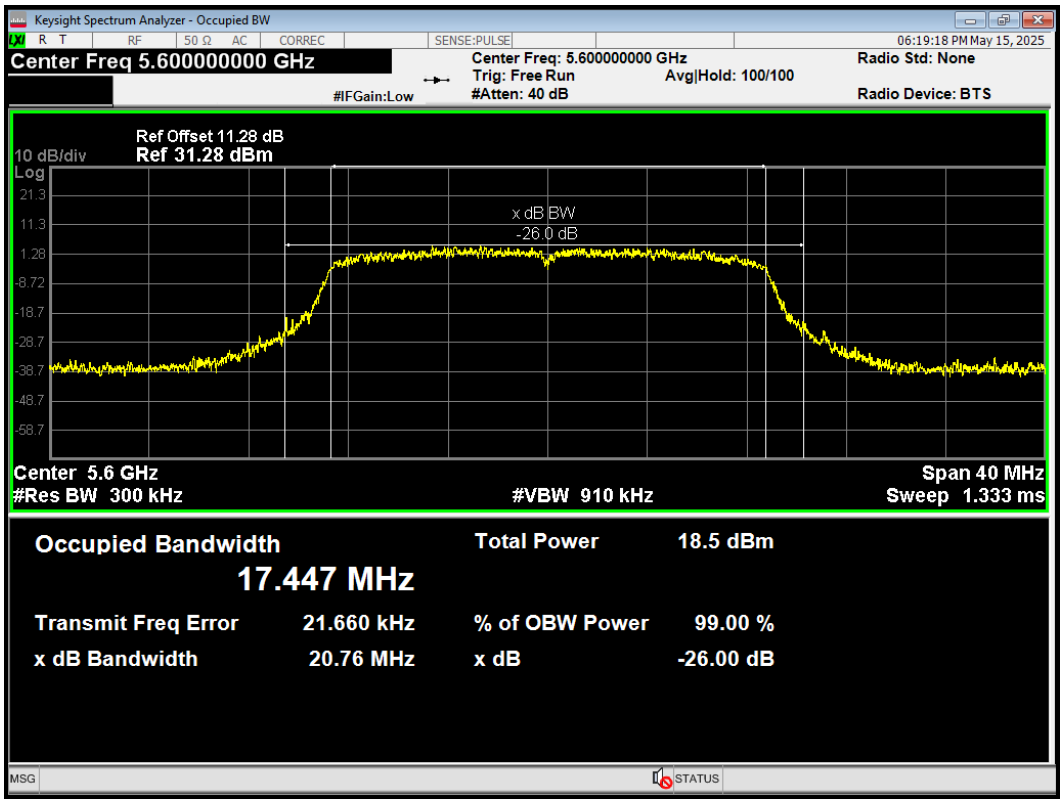
OBW 802.11ac(VHT80) 5690MHz



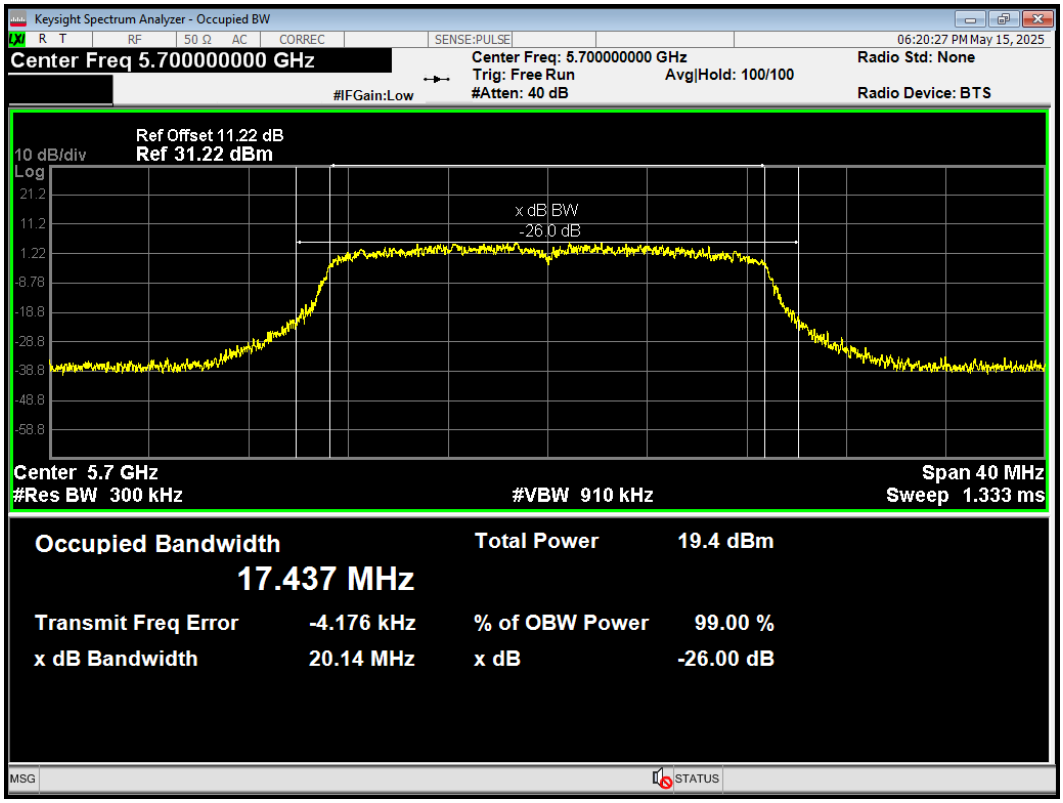

OBW 802.11n(HT20) 5500MHz



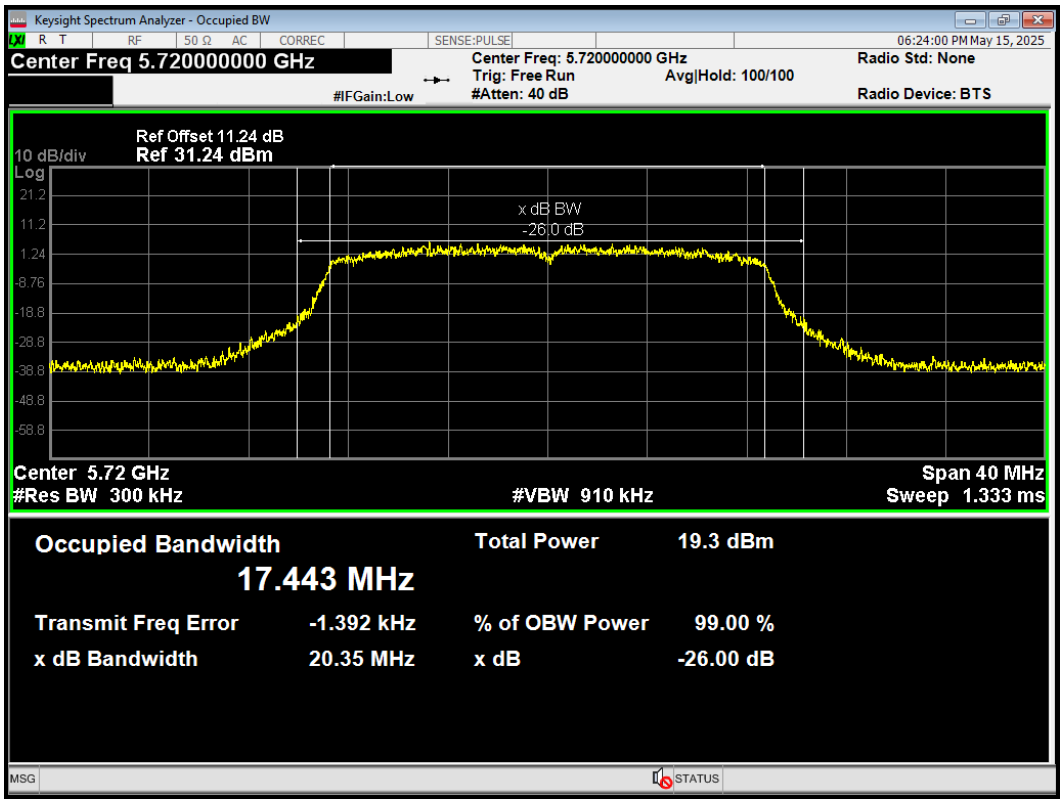
OBW 802.11n(HT20) 5600MHz



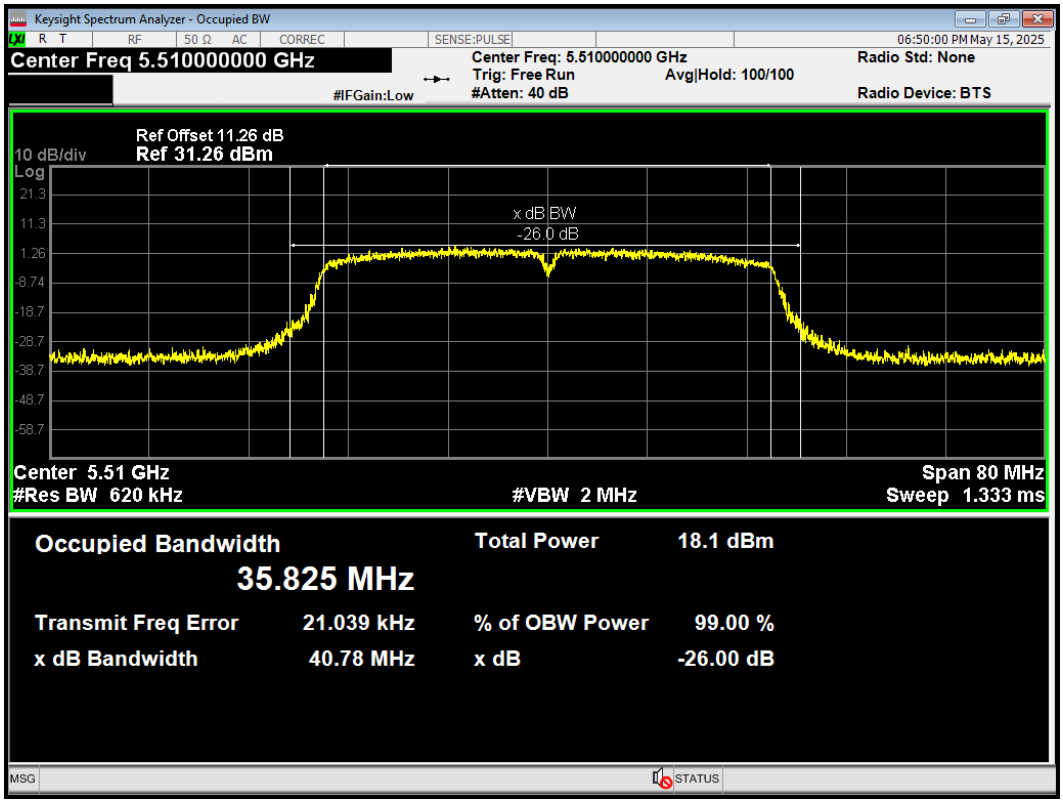

OBW 802.11n(HT20) 5700MHz



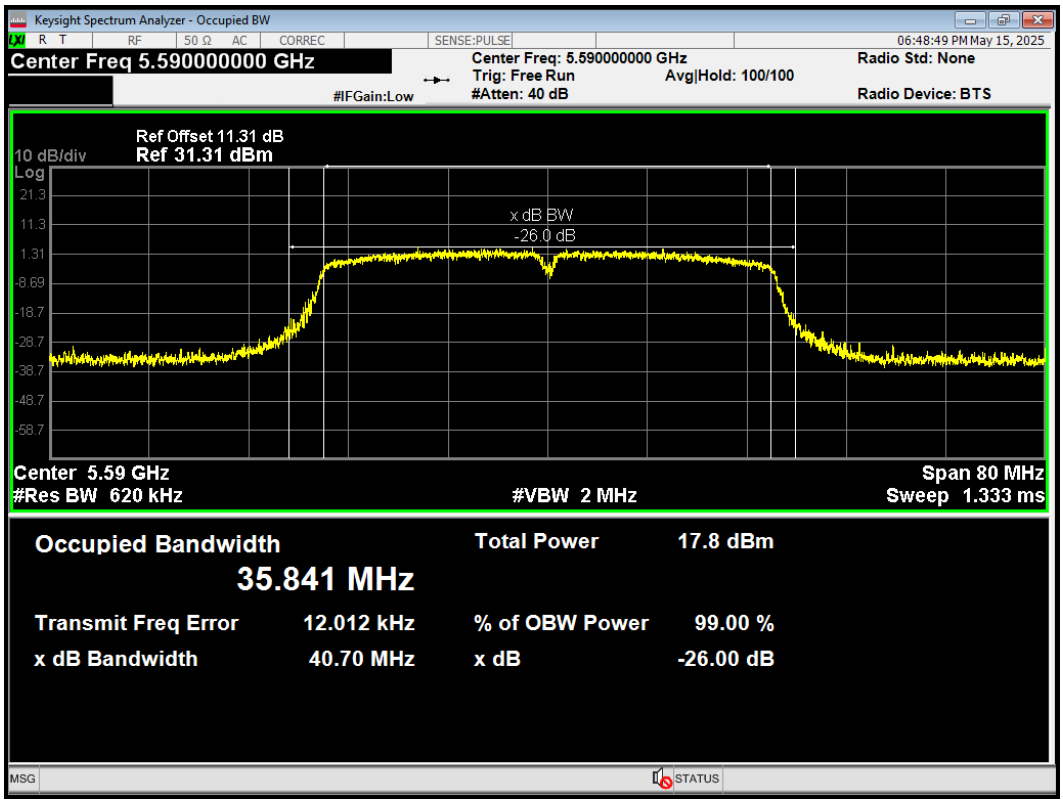
OBW 802.11n(HT20) 5720MHz



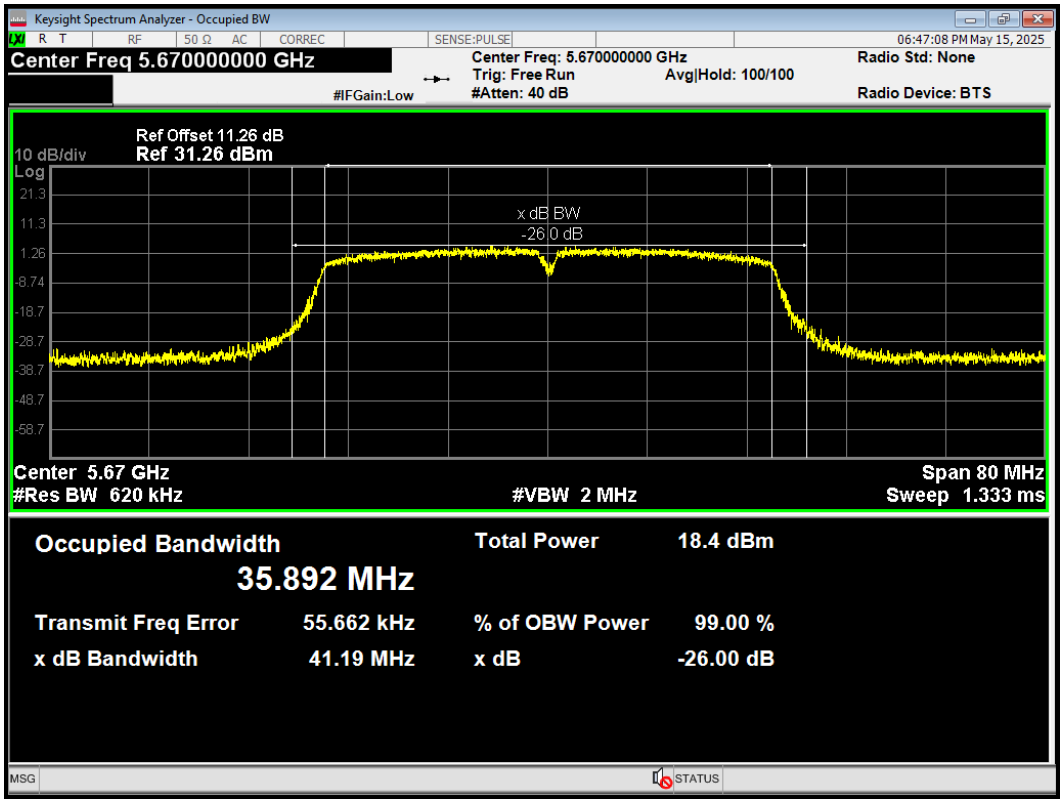

OBW 802.11n(HT40) 5510MHz



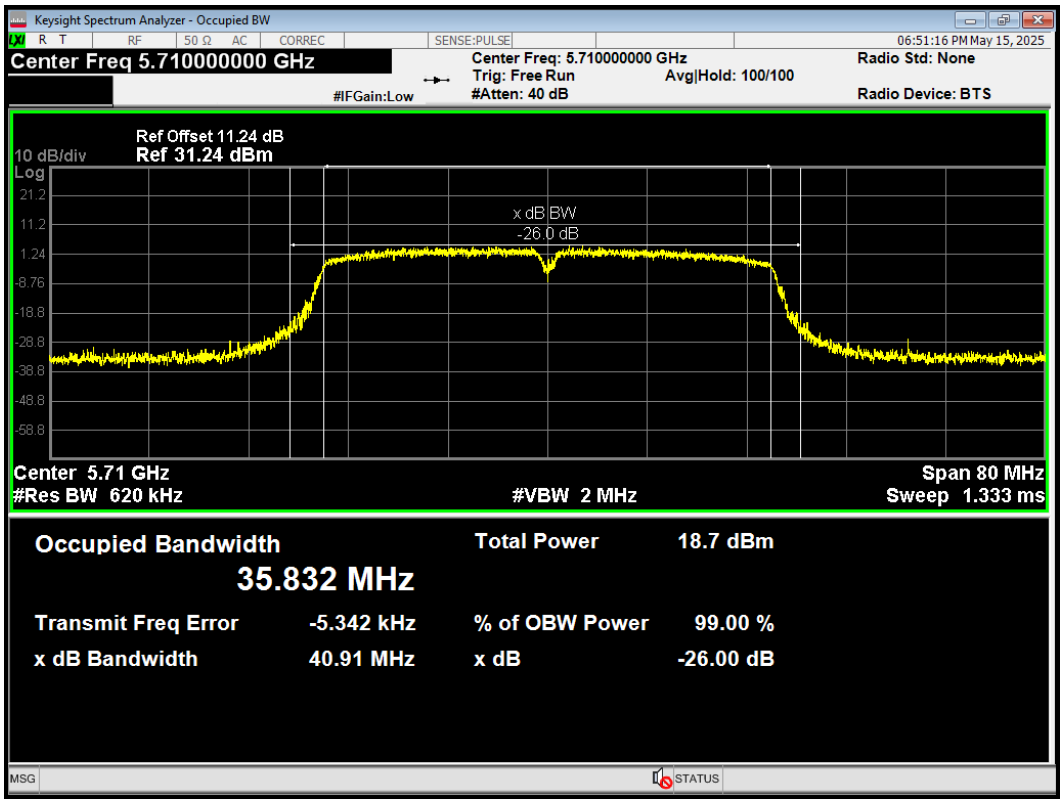
OBW 802.11n(HT40) 5590MHz




OBW 802.11n(HT40) 5670MHz

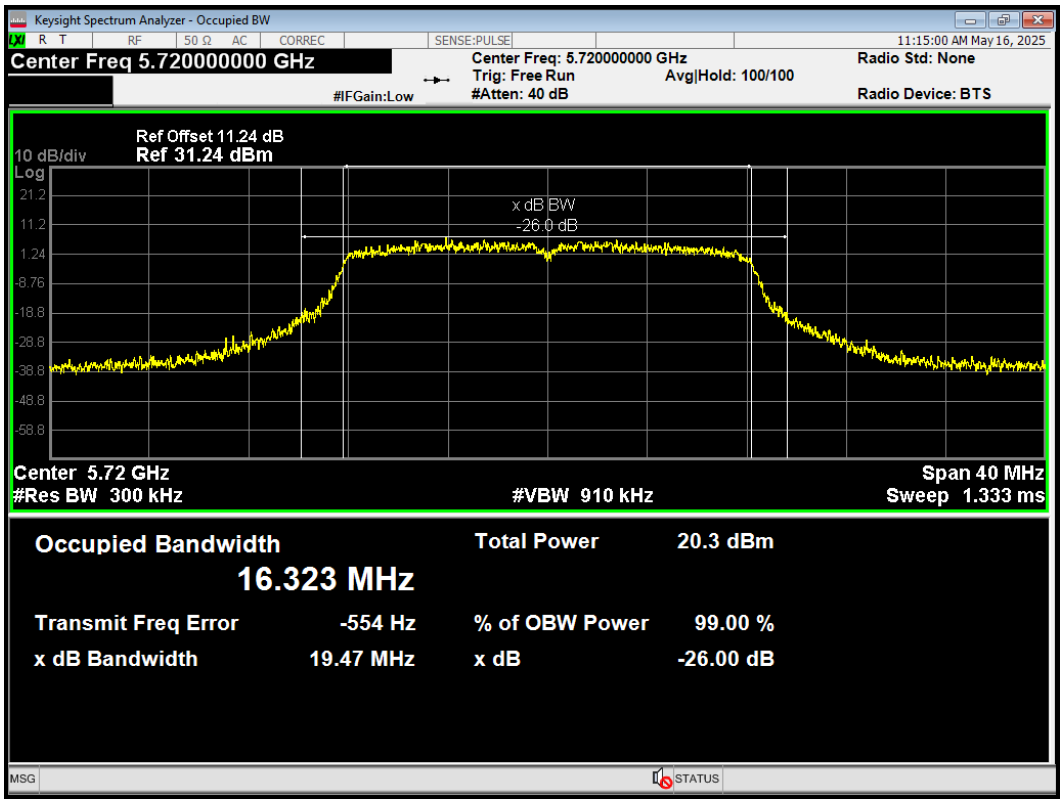


OBW 802.11n(HT40) 5710MHz

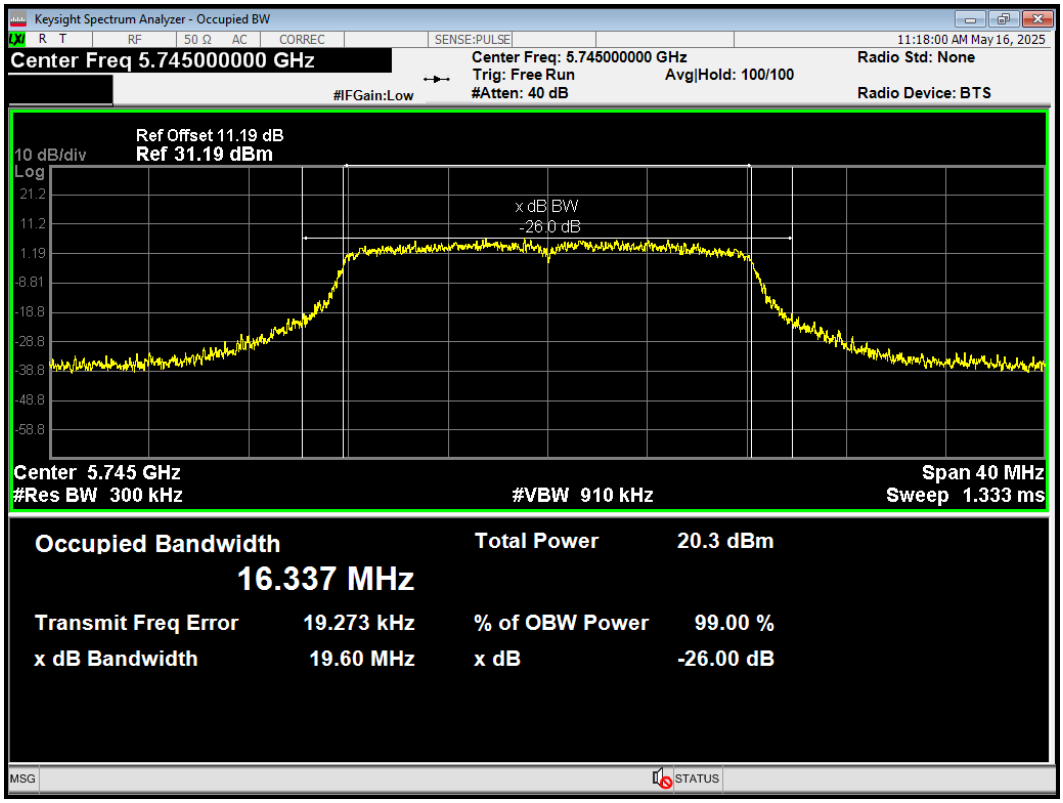


**U-NII-3**

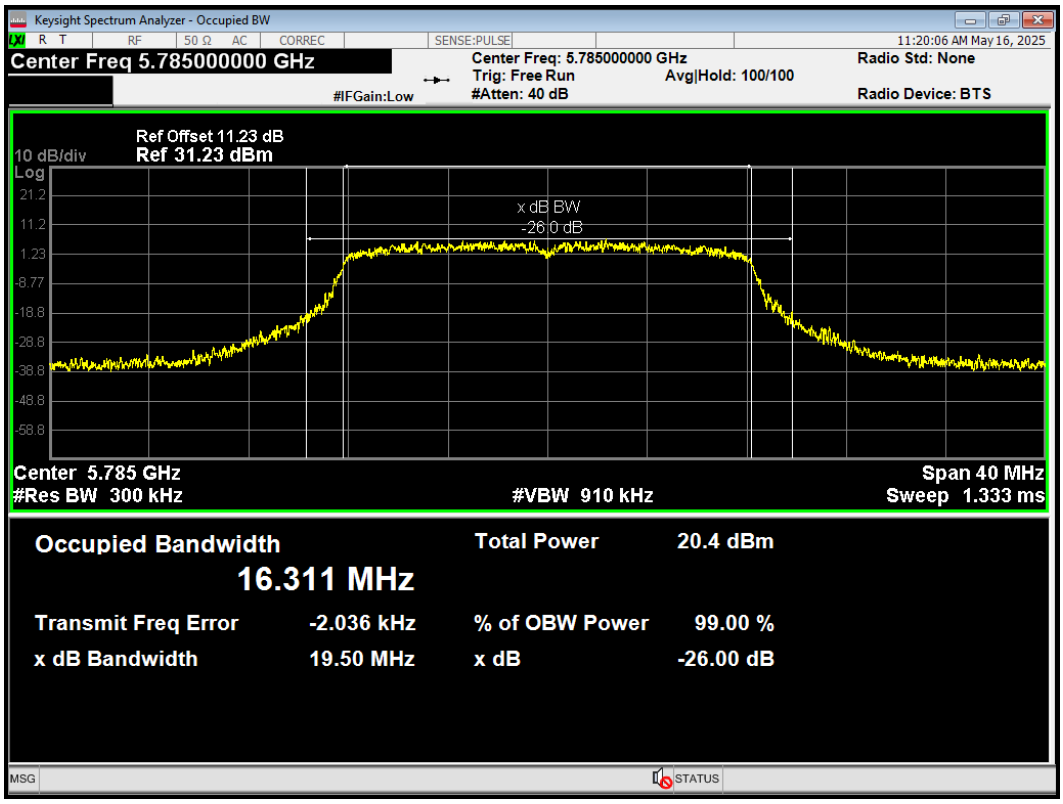
OBW 802.11a 5720MHz



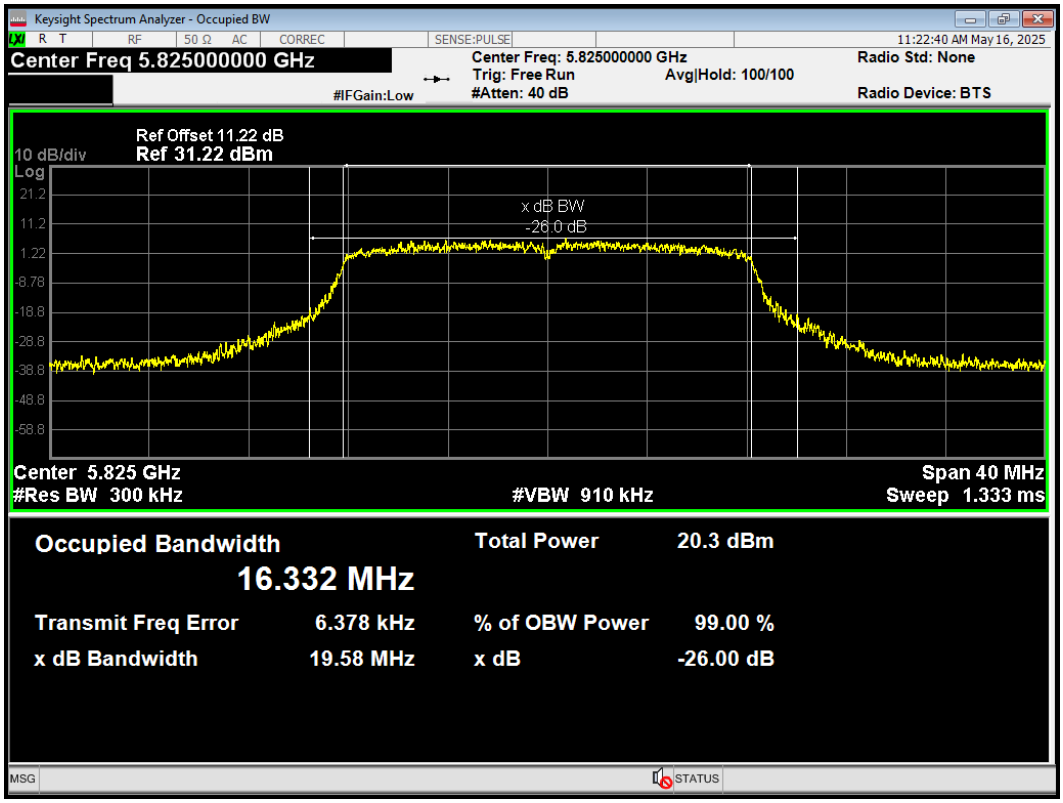

OBW 802.11a 5745MHz



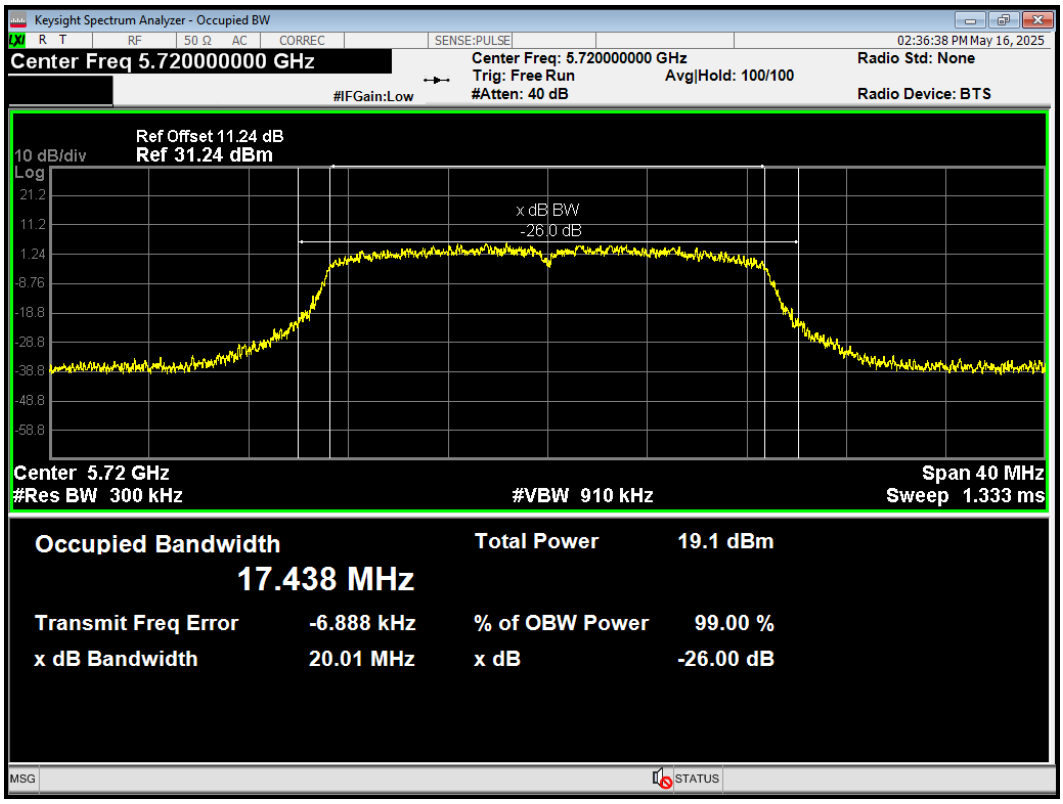
OBW 802.11a 5785MHz



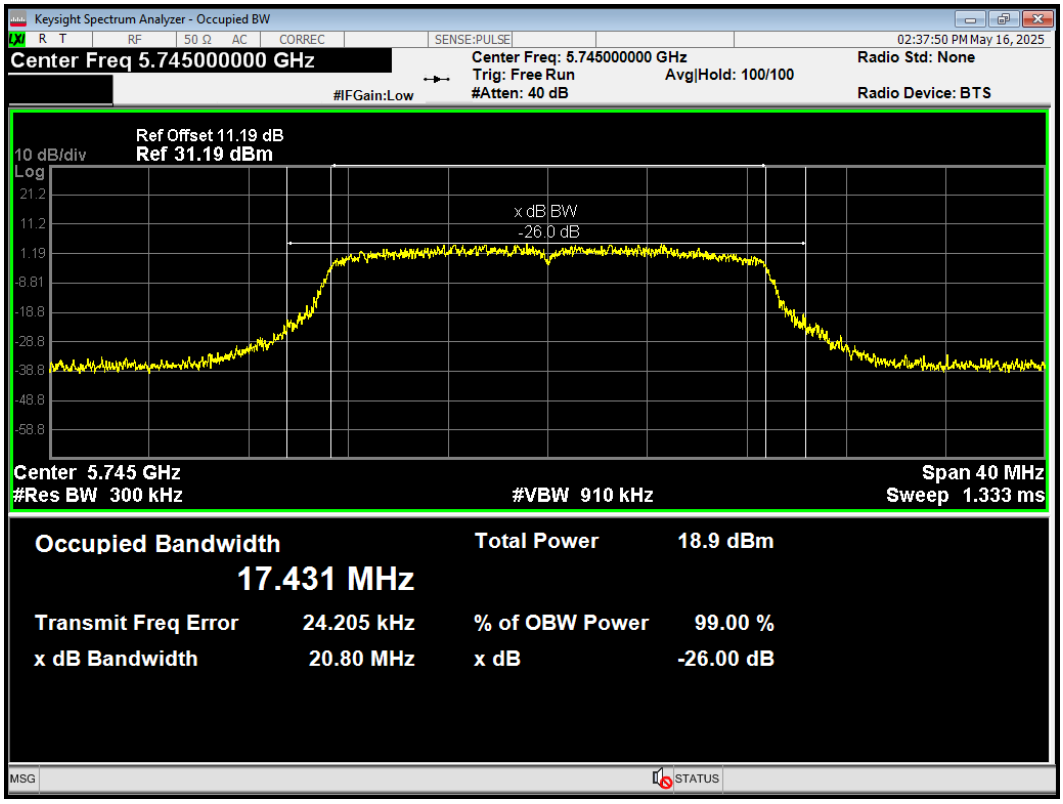

OBW 802.11a 5825MHz



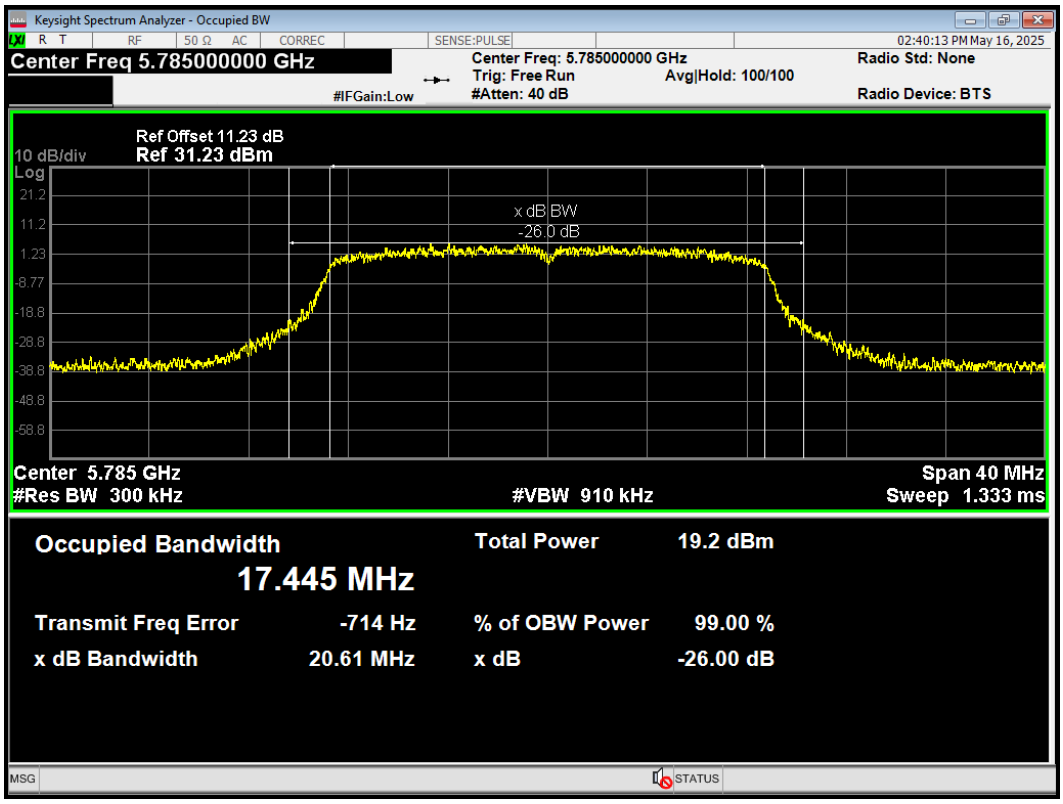
OBW 802.11ac(VHT20) 5720MHz



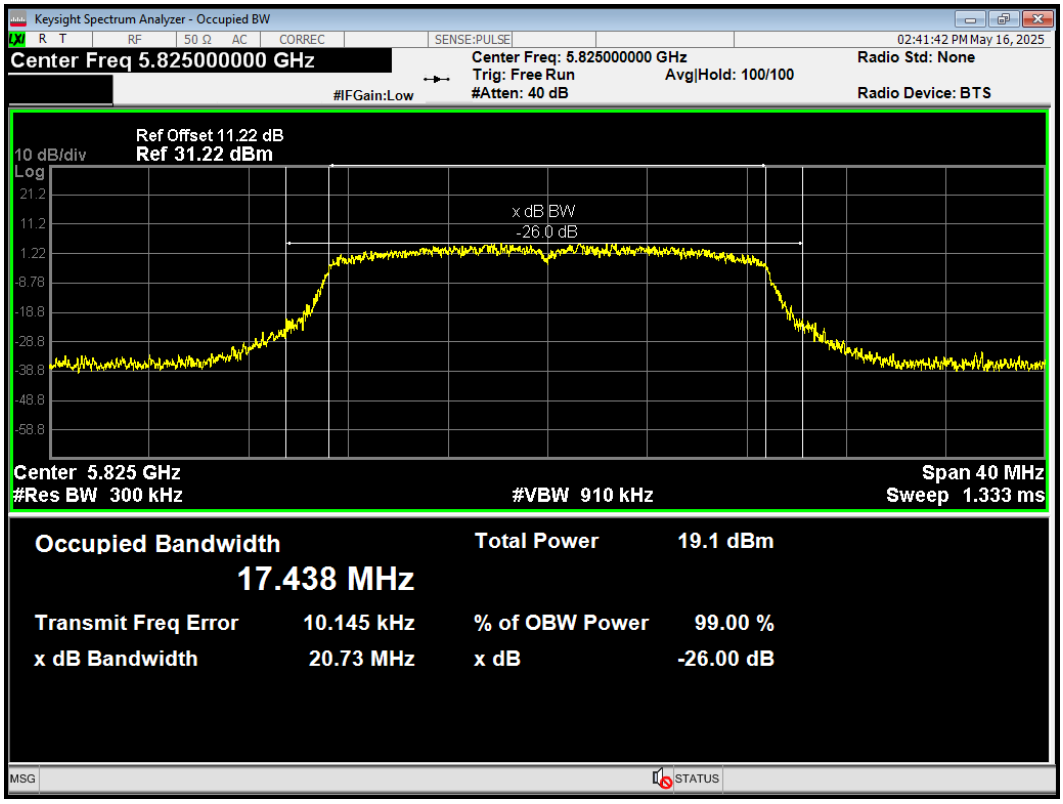

OBW 802.11ac(VHT20) 5745MHz



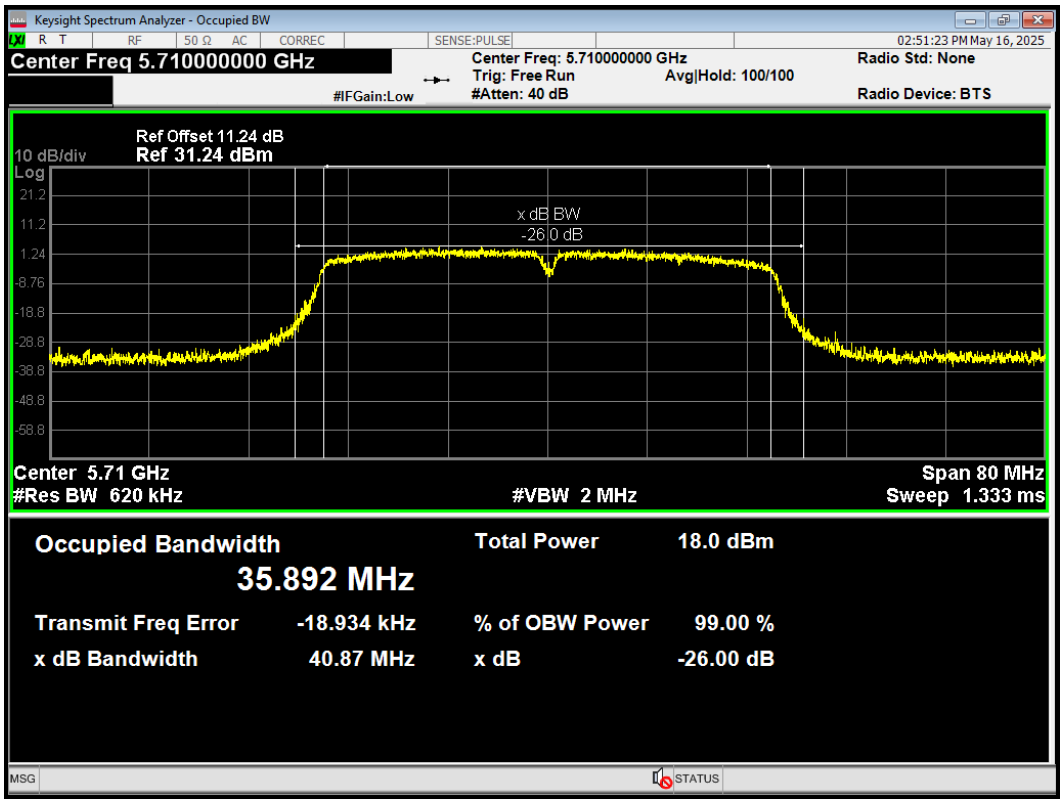
OBW 802.11ac(VHT20) 5785MHz



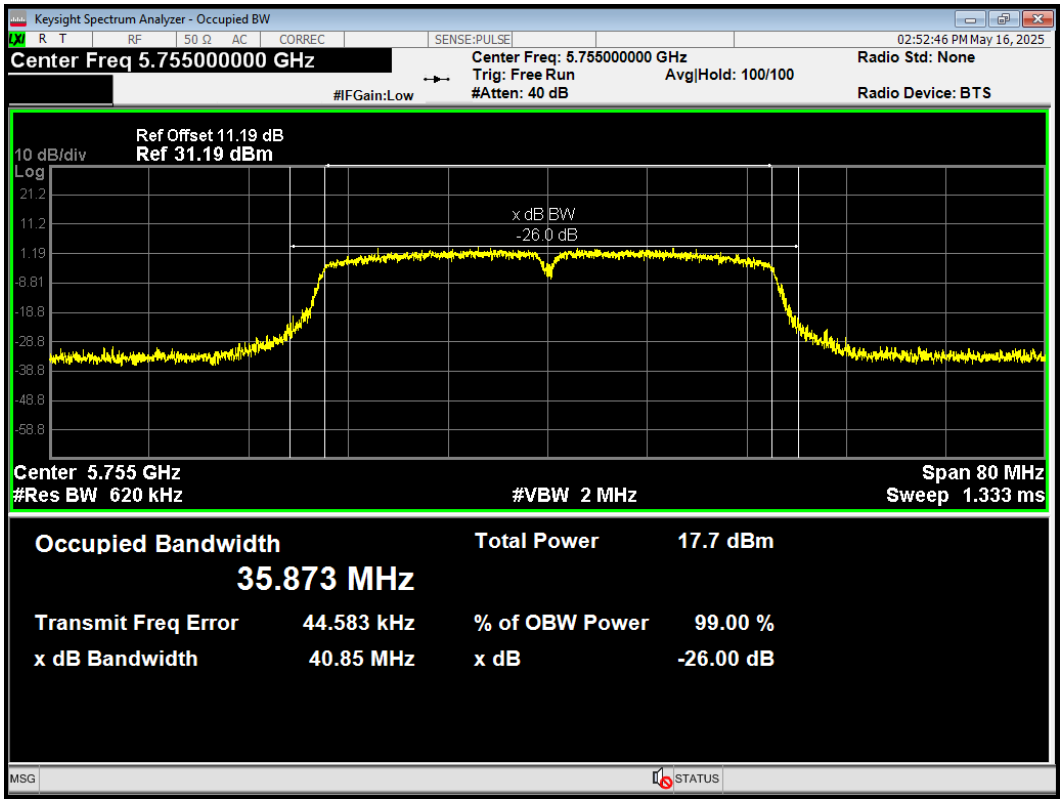

OBW 802.11ac(VHT20) 5825MHz



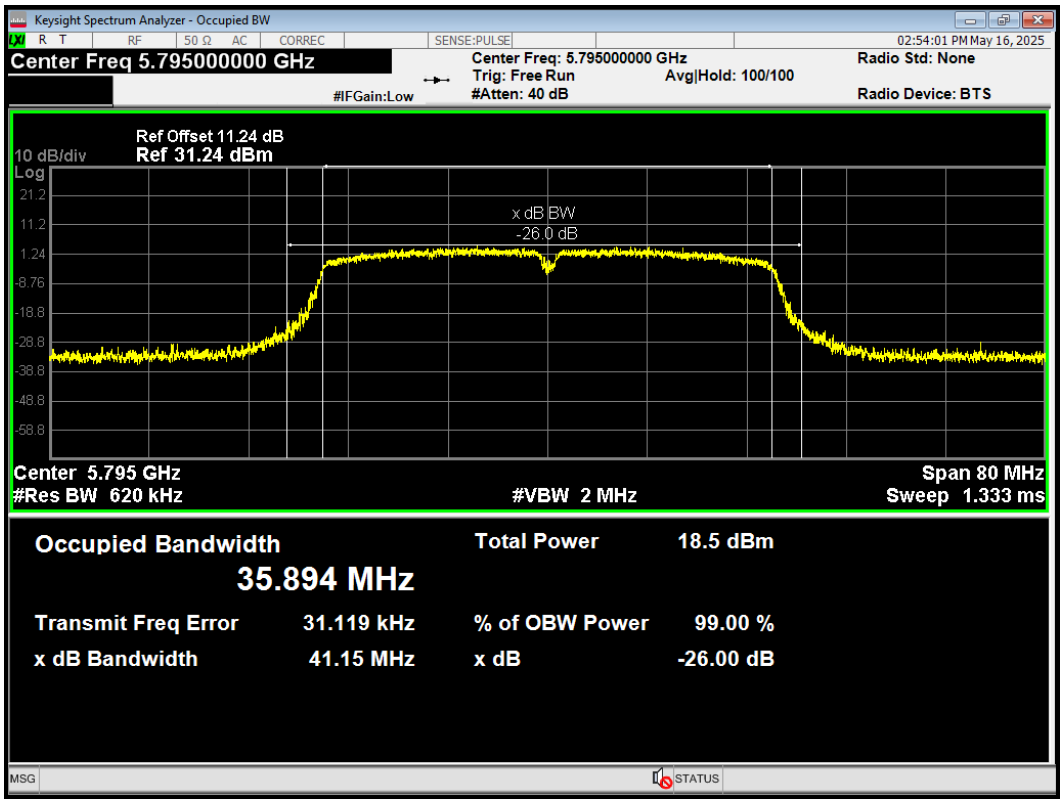
OBW 802.11ac(VHT40) 5710MHz



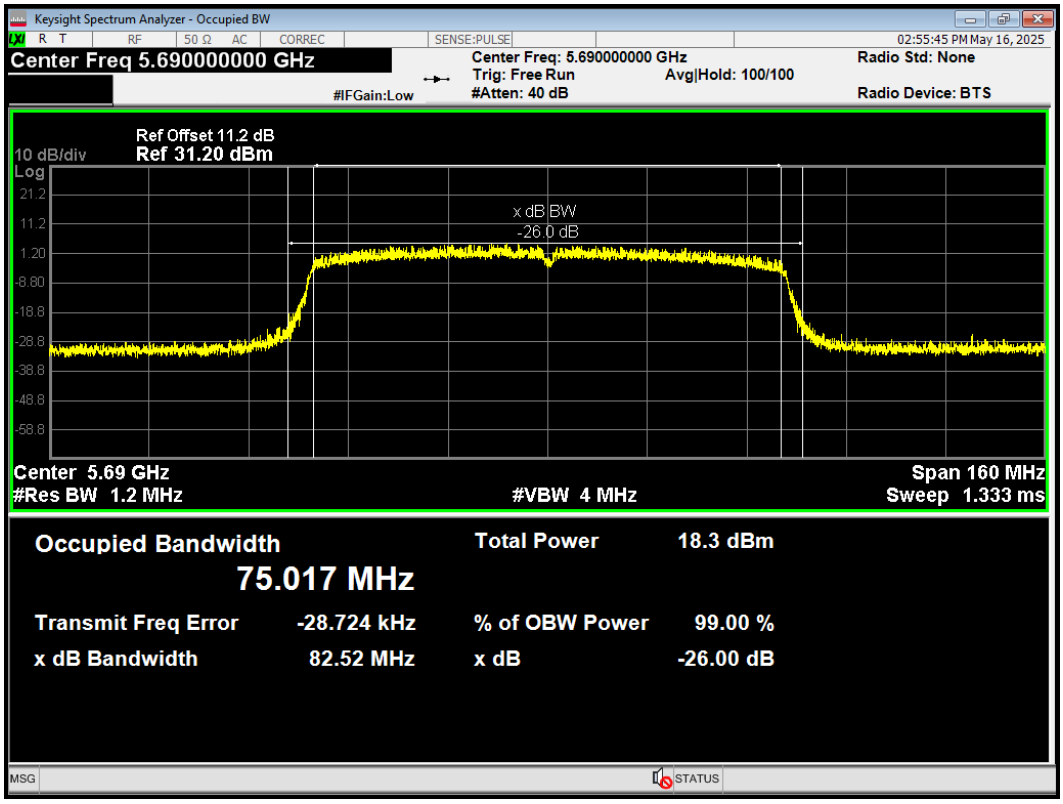

OBW 802.11ac(VHT40) 5755MHz



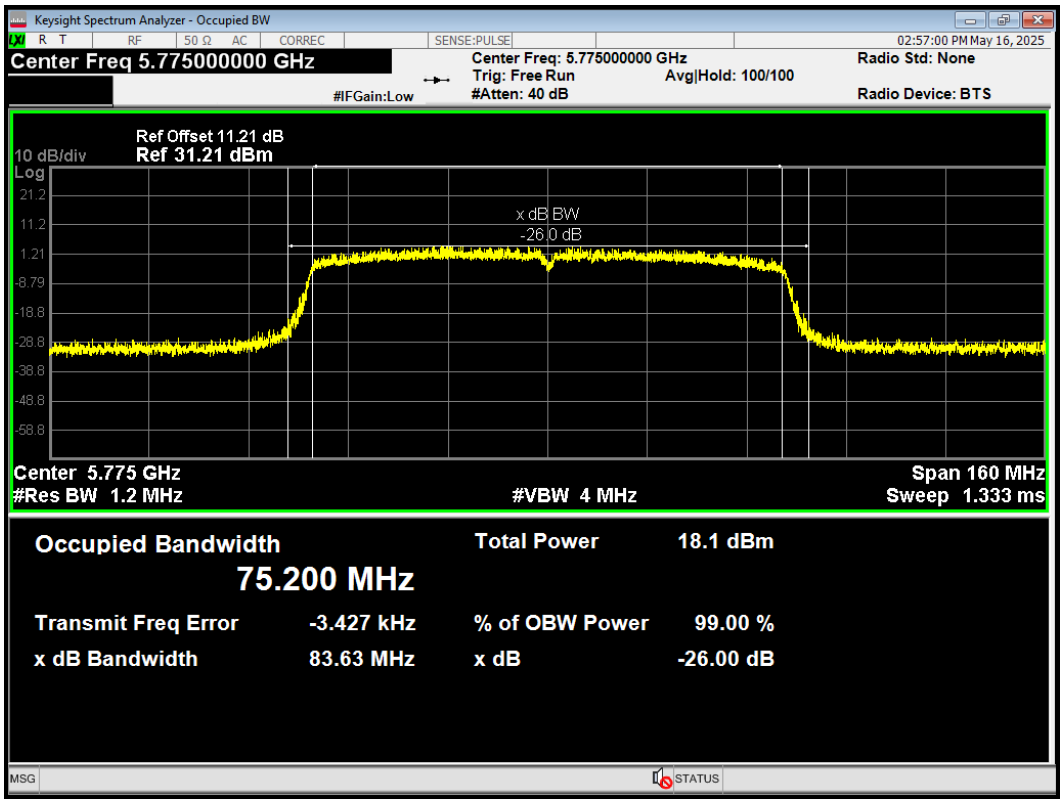
OBW 802.11ac(VHT40) 5795MHz



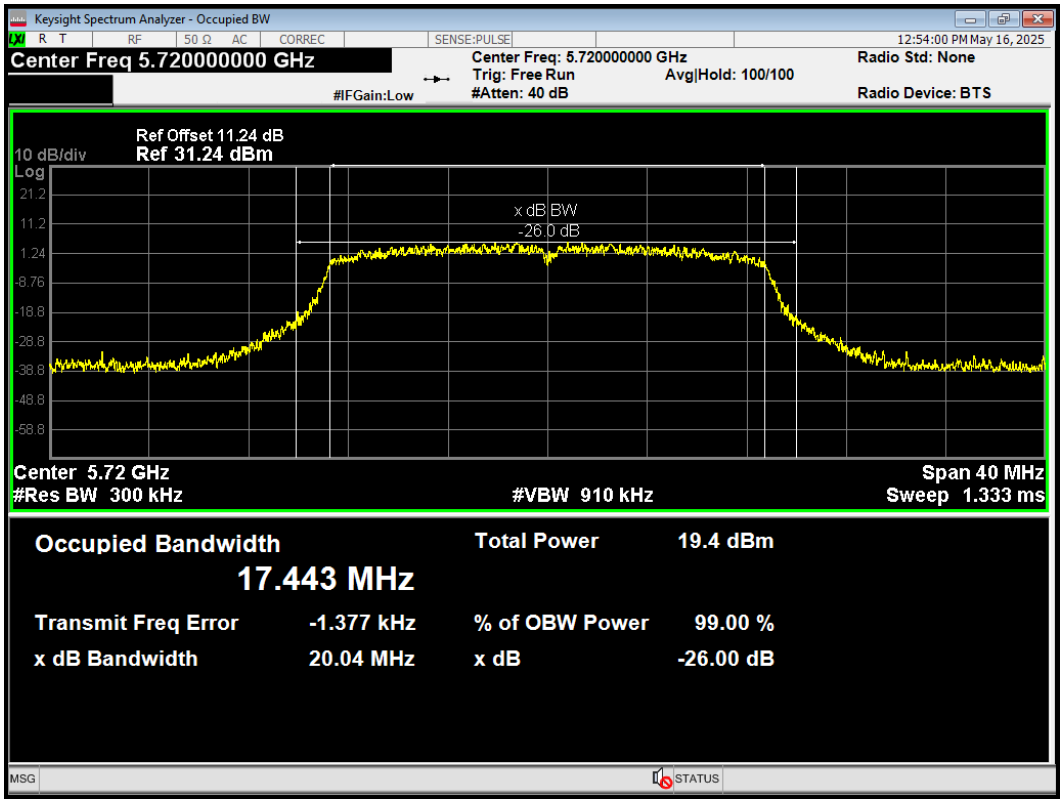

OBW 802.11ac(VHT80) 5690MHz



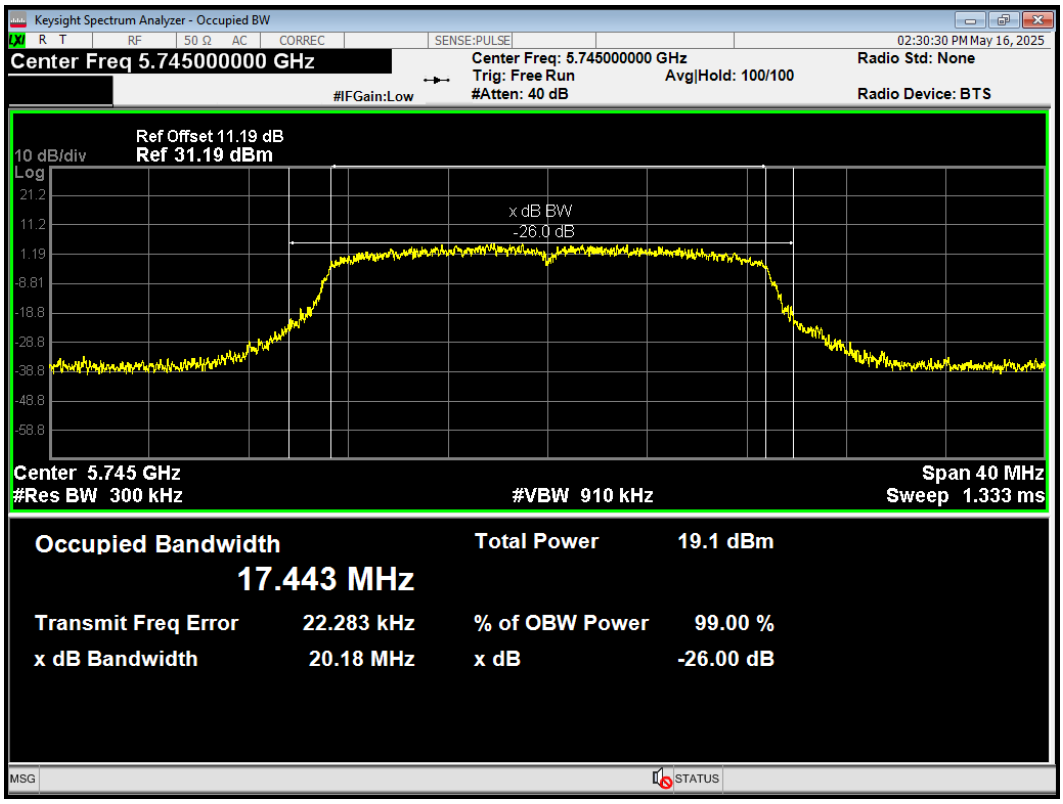
OBW 802.11ac(VHT80) 5775MHz



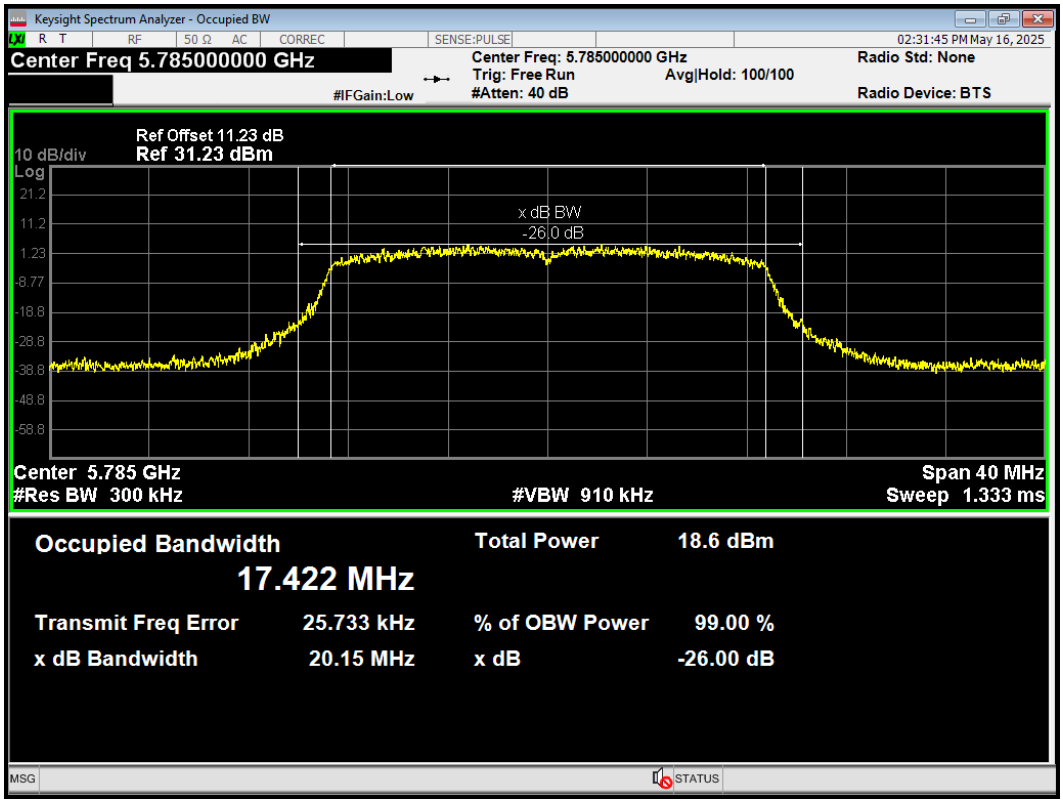

OBW 802.11n(HT20) 5720MHz



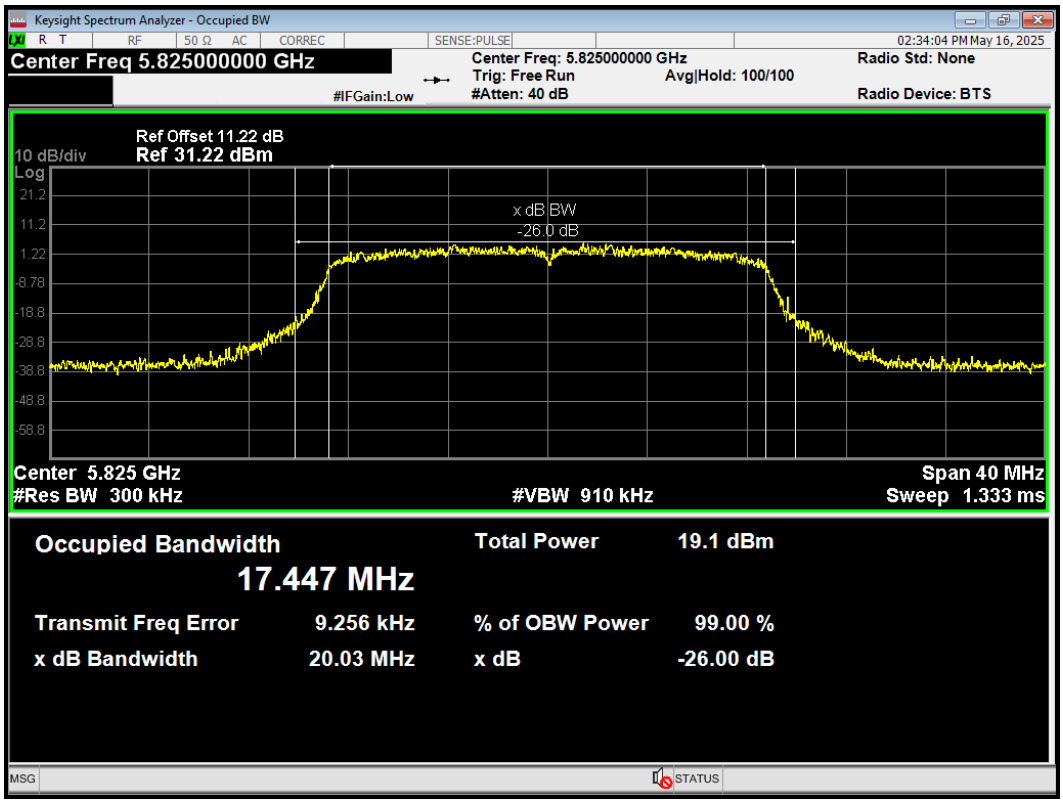
OBW 802.11n(HT20) 5745MHz



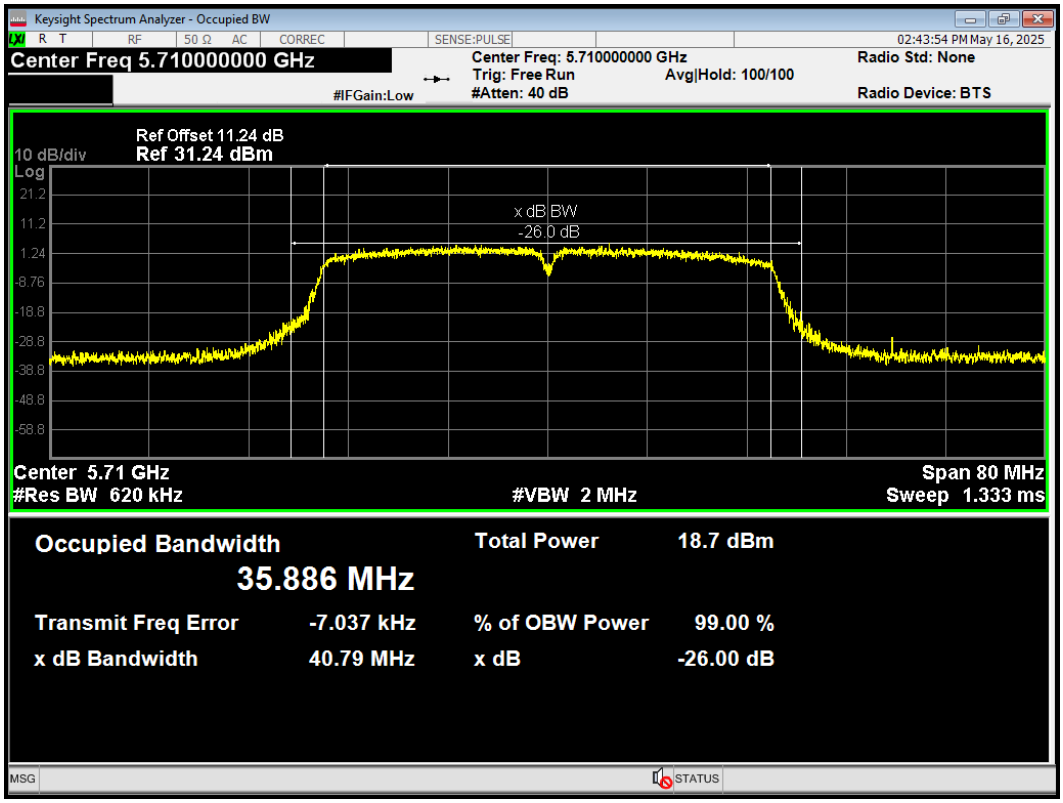

OBW 802.11n(HT20) 5785MHz



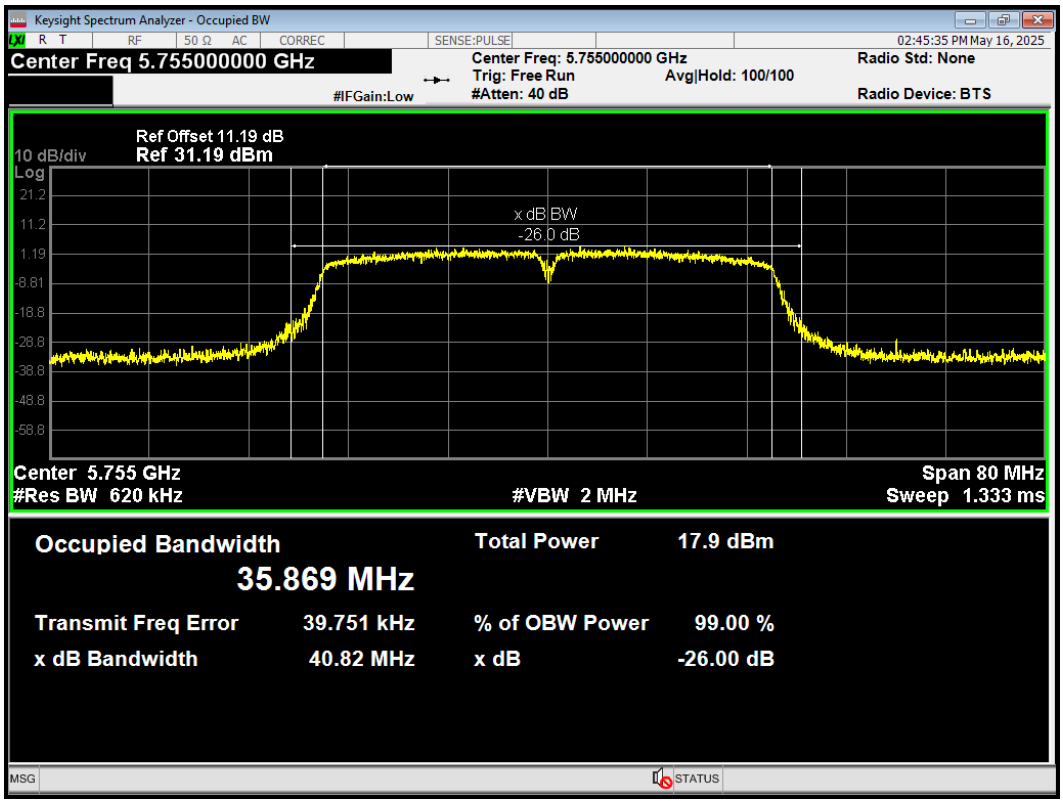
OBW 802.11n(HT20) 5825MHz



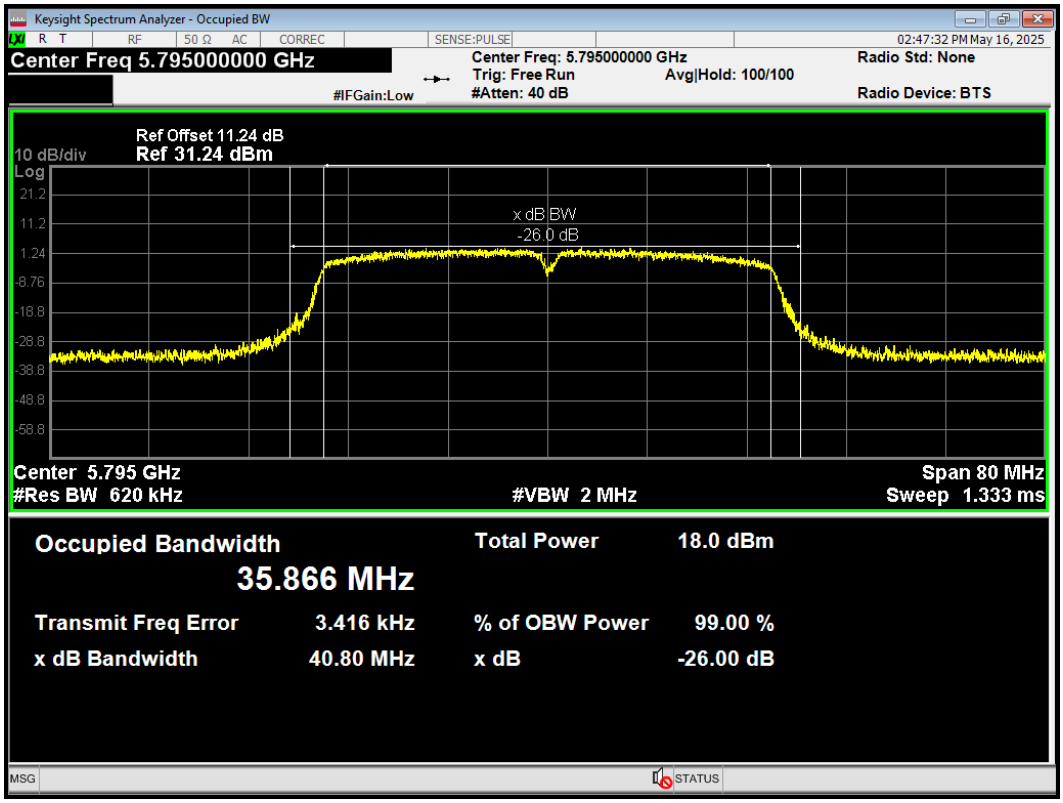

OBW 802.11n(HT40) 5710MHz



OBW 802.11n(HT40) 5755MHz



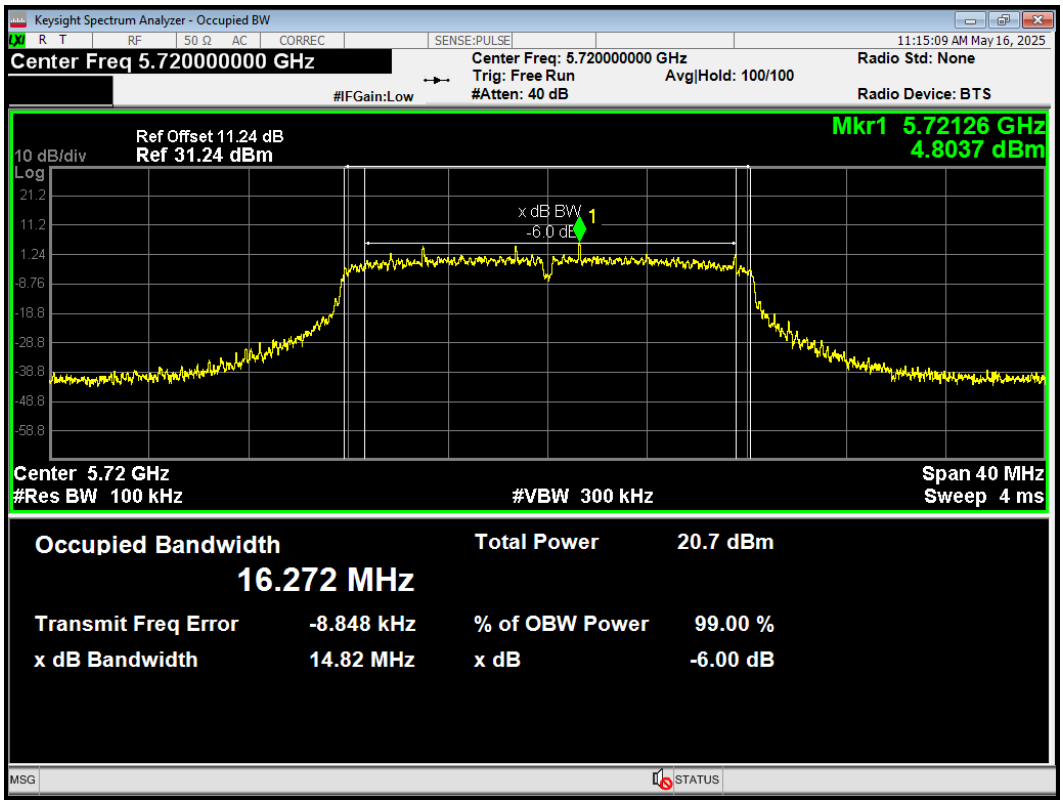

OBW 802.11n(HT40) 5795MHz



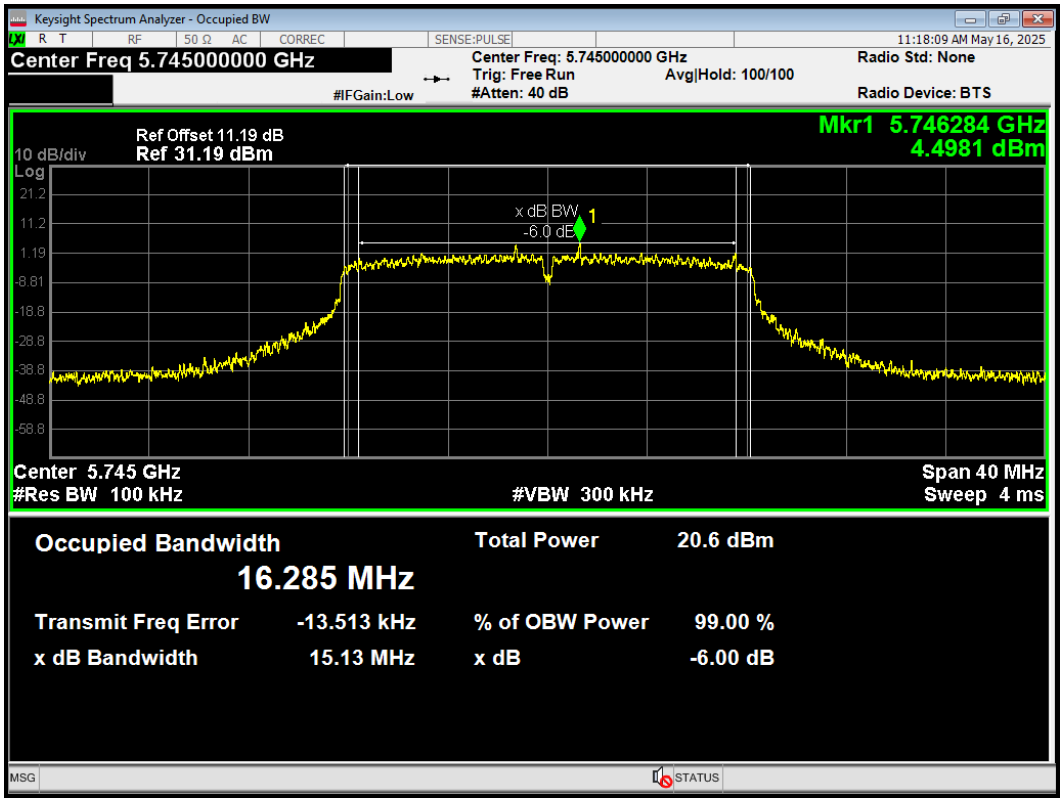
## Minimum 6 dB bandwidth

## U-NII-3

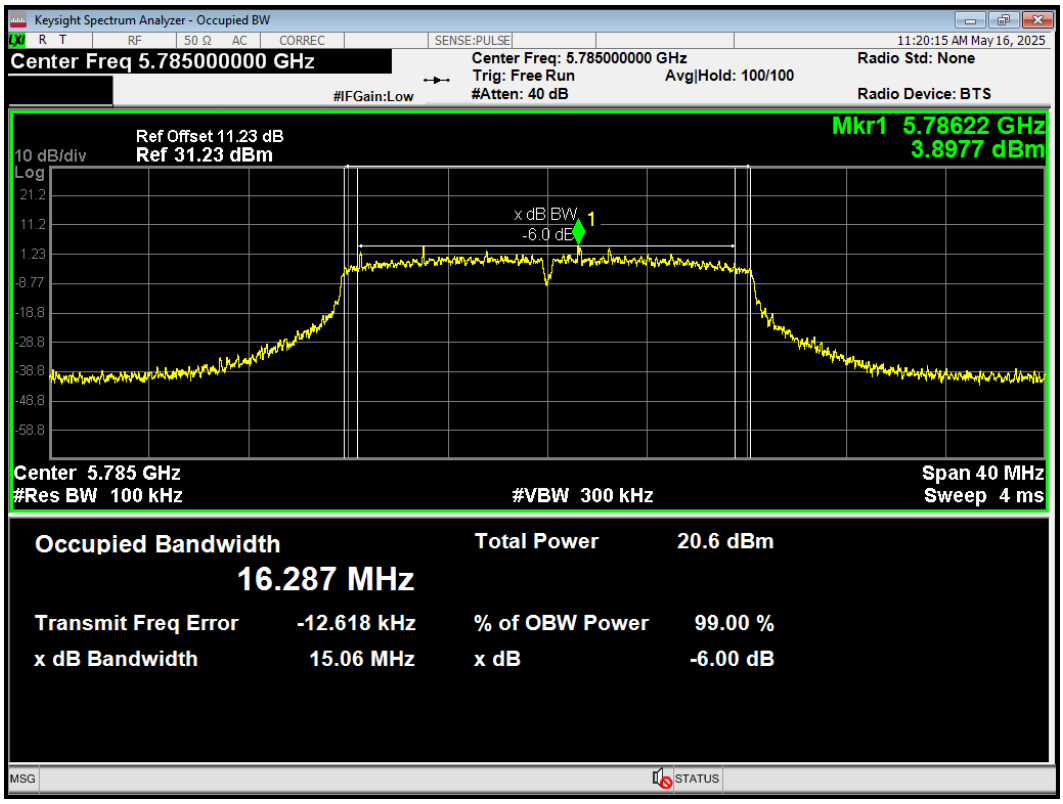
-6dB Bandwidth 802.11a 5720MHz



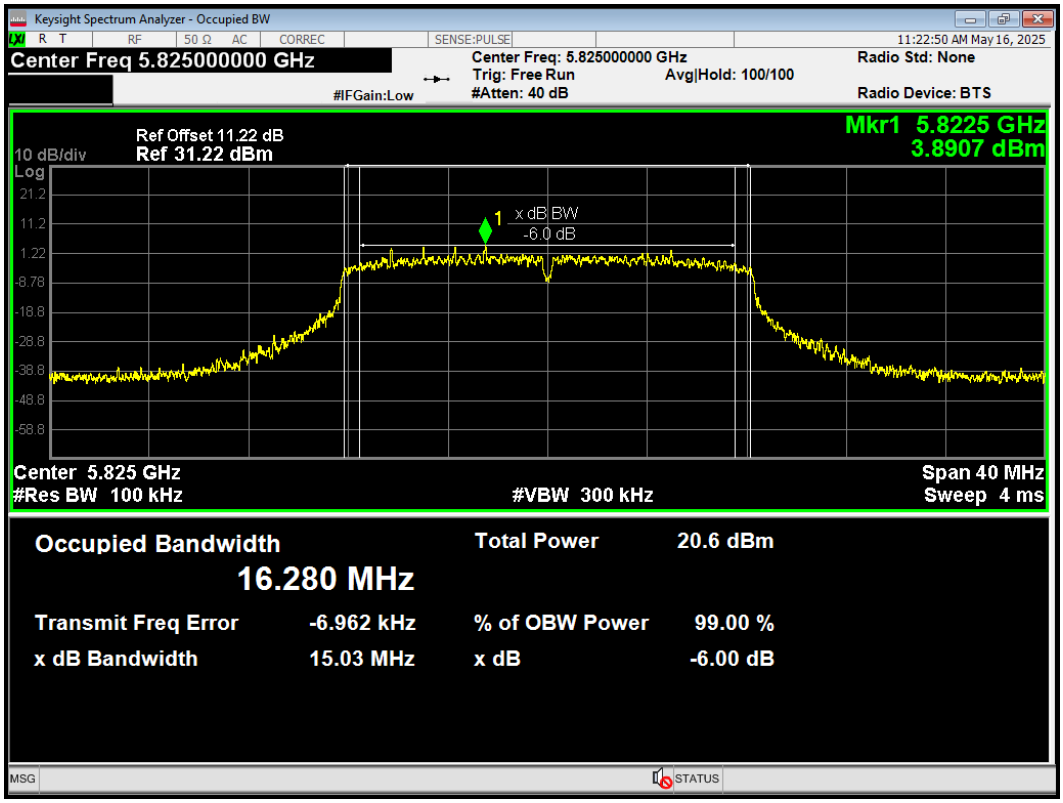

-6dB Bandwidth 802.11a 5745MHz



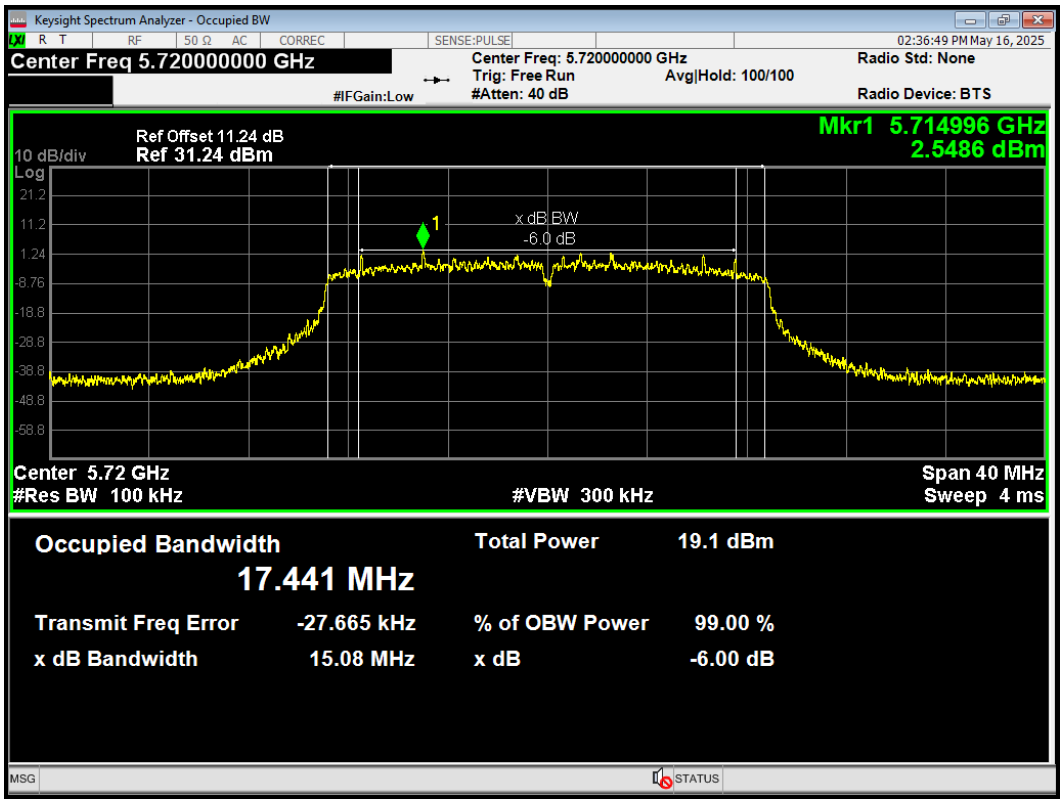
-6dB Bandwidth 802.11a 5785MHz



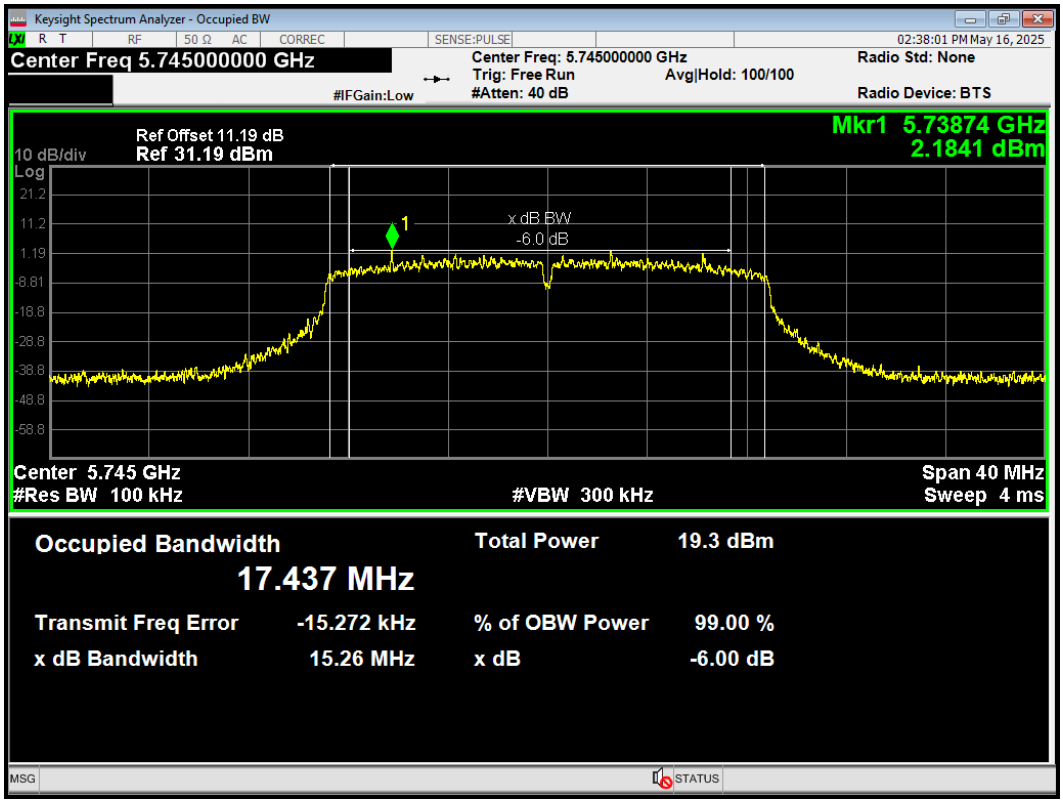

-6dB Bandwidth 802.11a 5825MHz



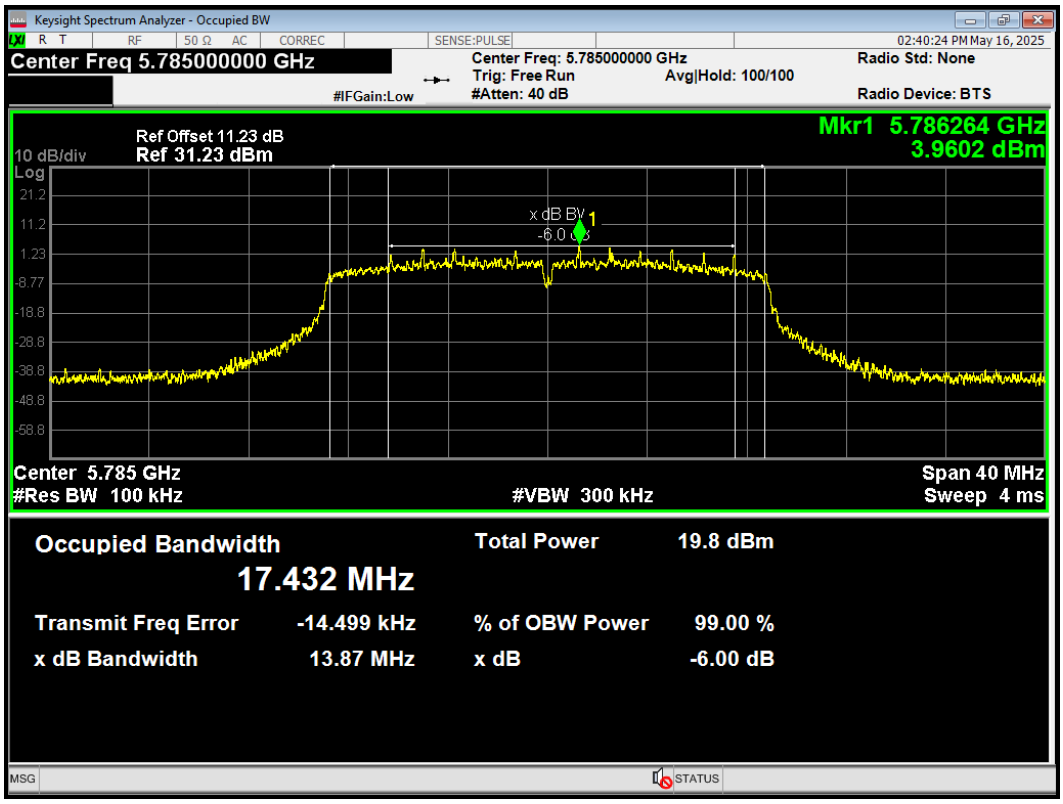
-6dB Bandwidth 802.11ac(VHT20) 5720MHz



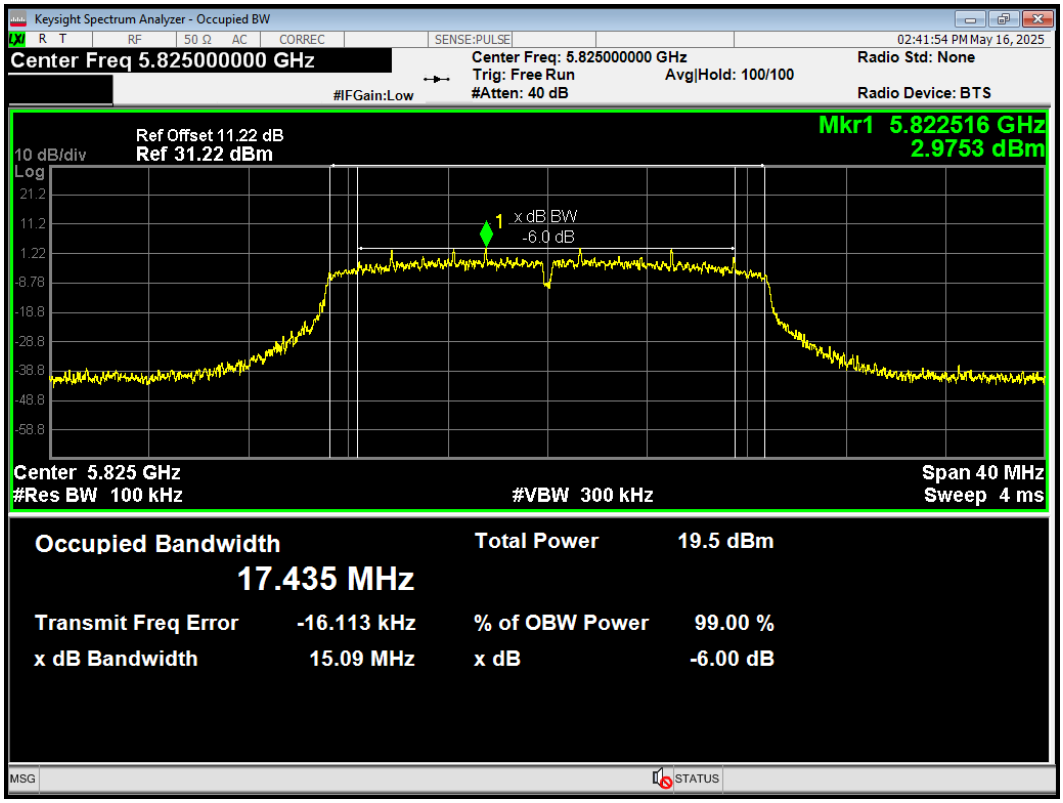

-6dB Bandwidth 802.11ac(VHT20) 5745MHz



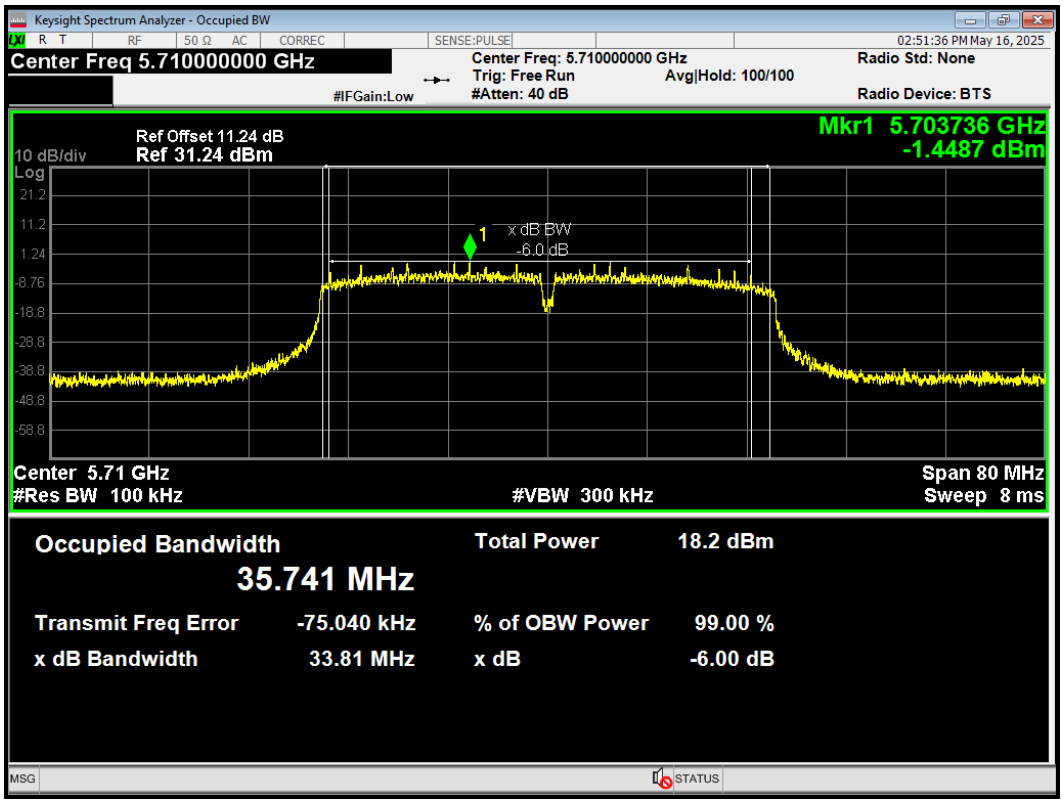
-6dB Bandwidth 802.11ac(VHT20) 5785MHz



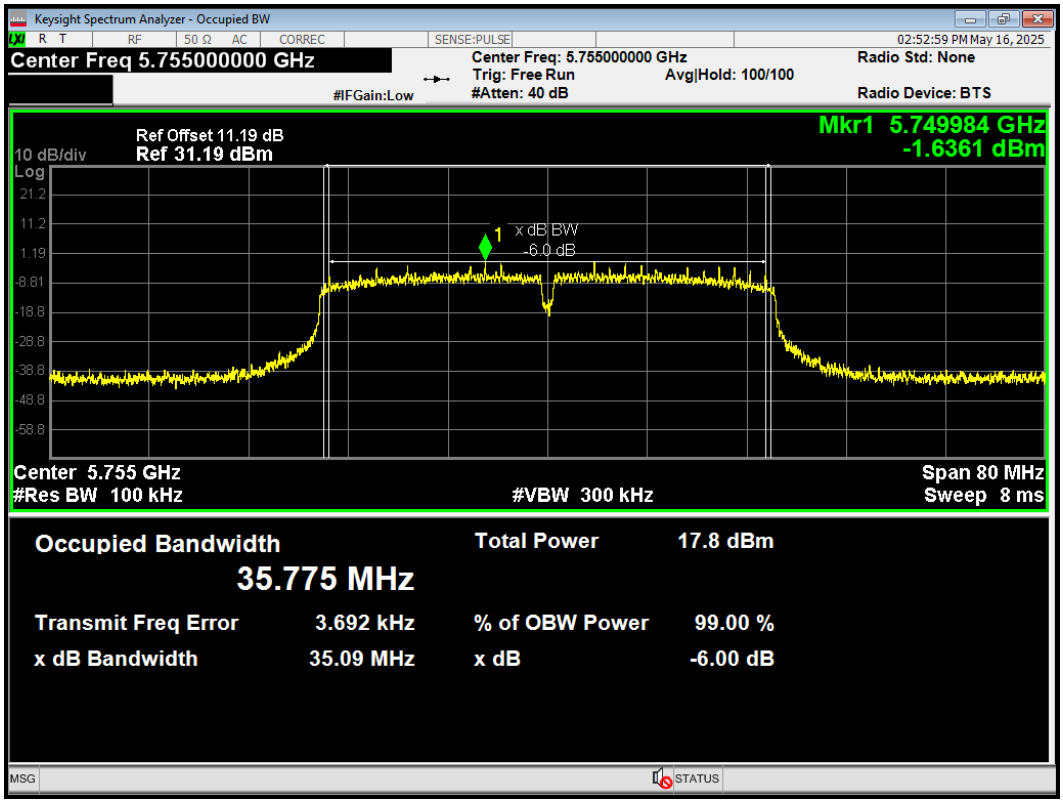

-6dB Bandwidth 802.11ac(VHT20) 5825MHz



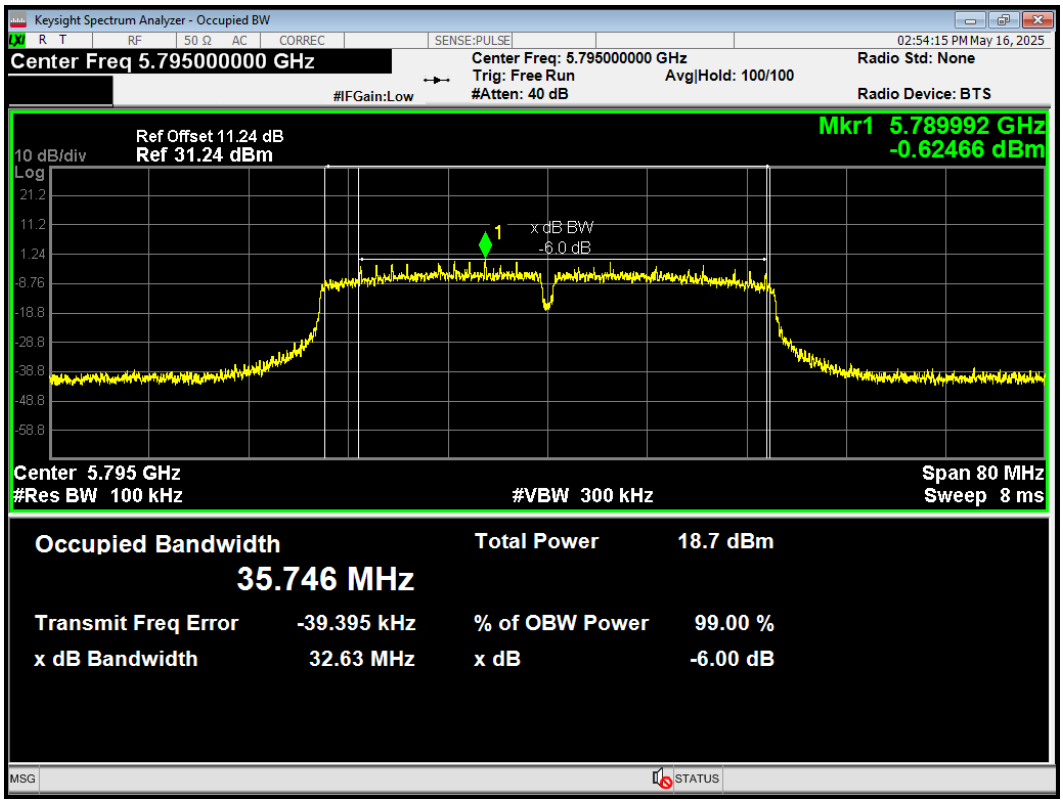
-6dB Bandwidth 802.11ac(VHT40) 5710MHz



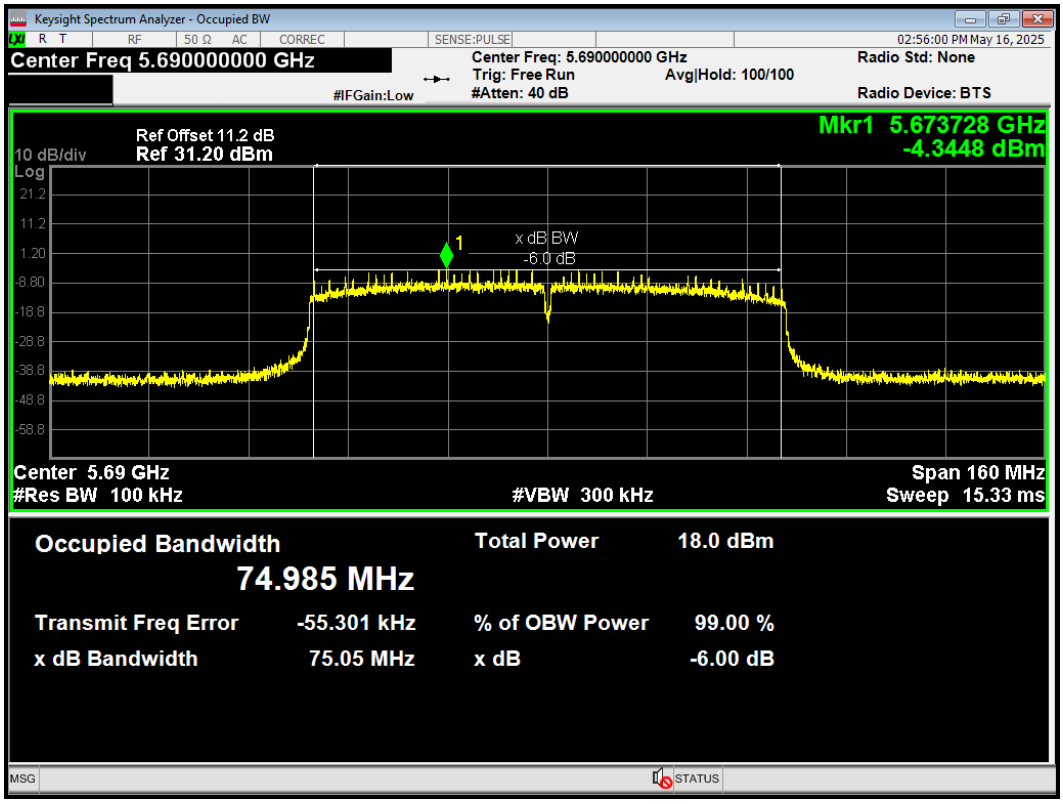

-6dB Bandwidth 802.11ac(VHT40) 5755MHz



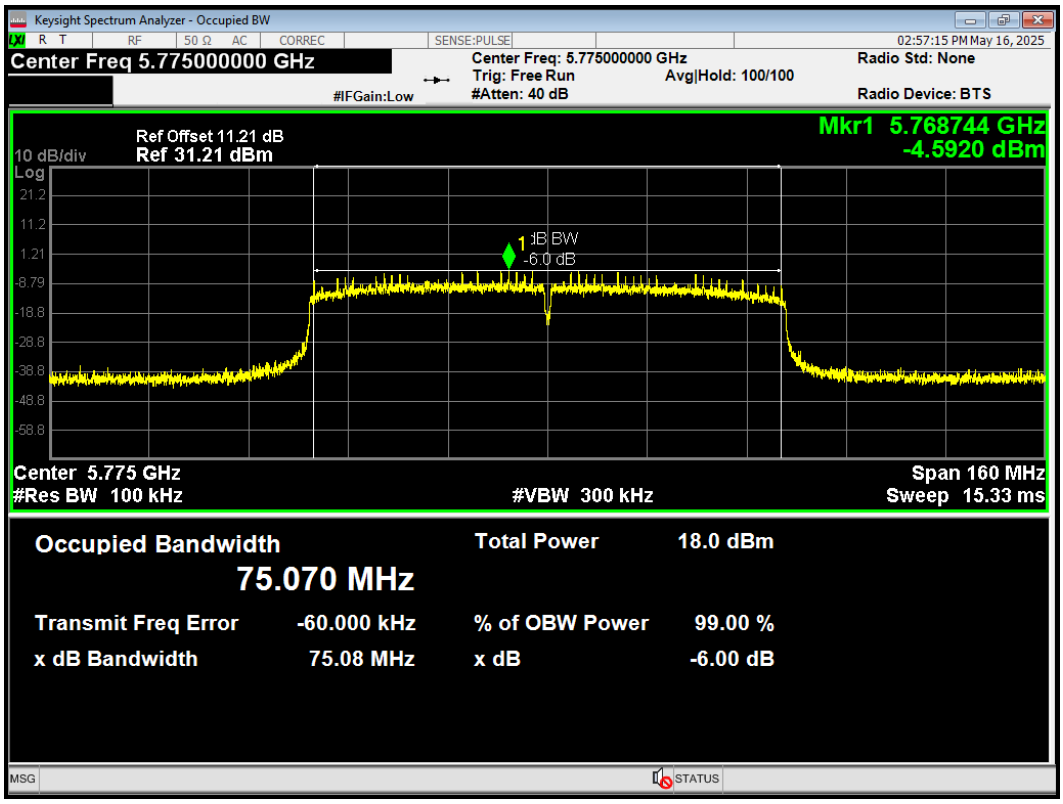
-6dB Bandwidth 802.11ac(VHT40) 5795MHz



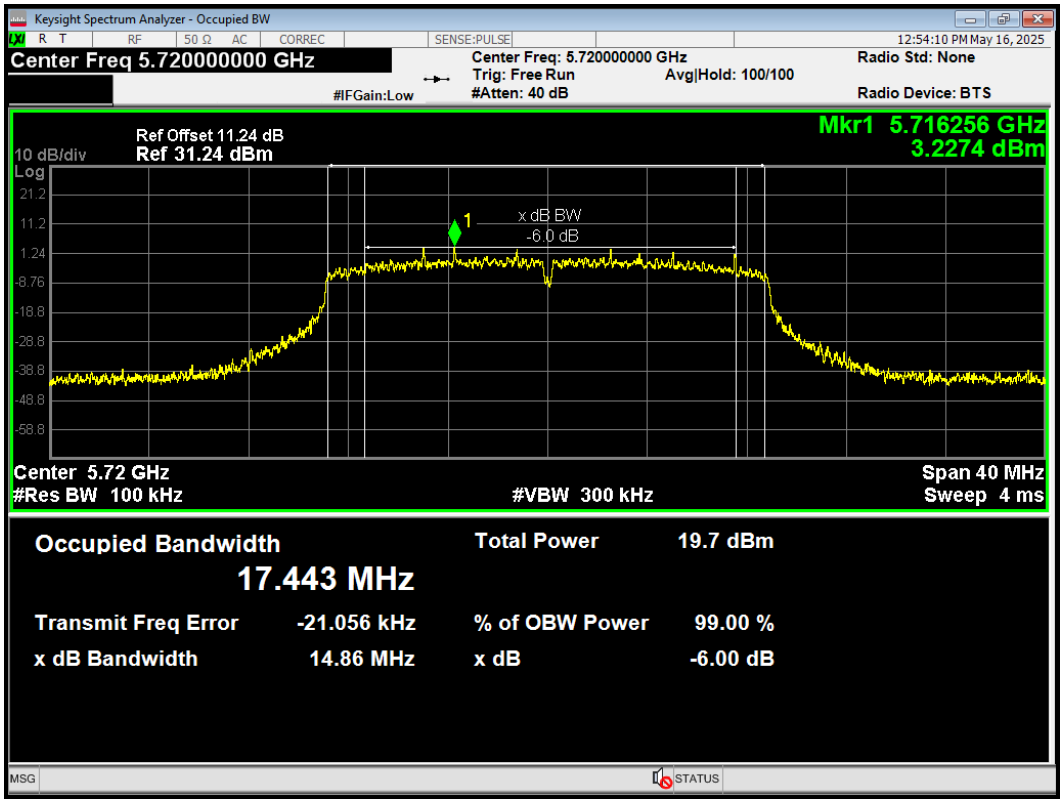

-6dB Bandwidth 802.11ac(VHT80) 5690MHz



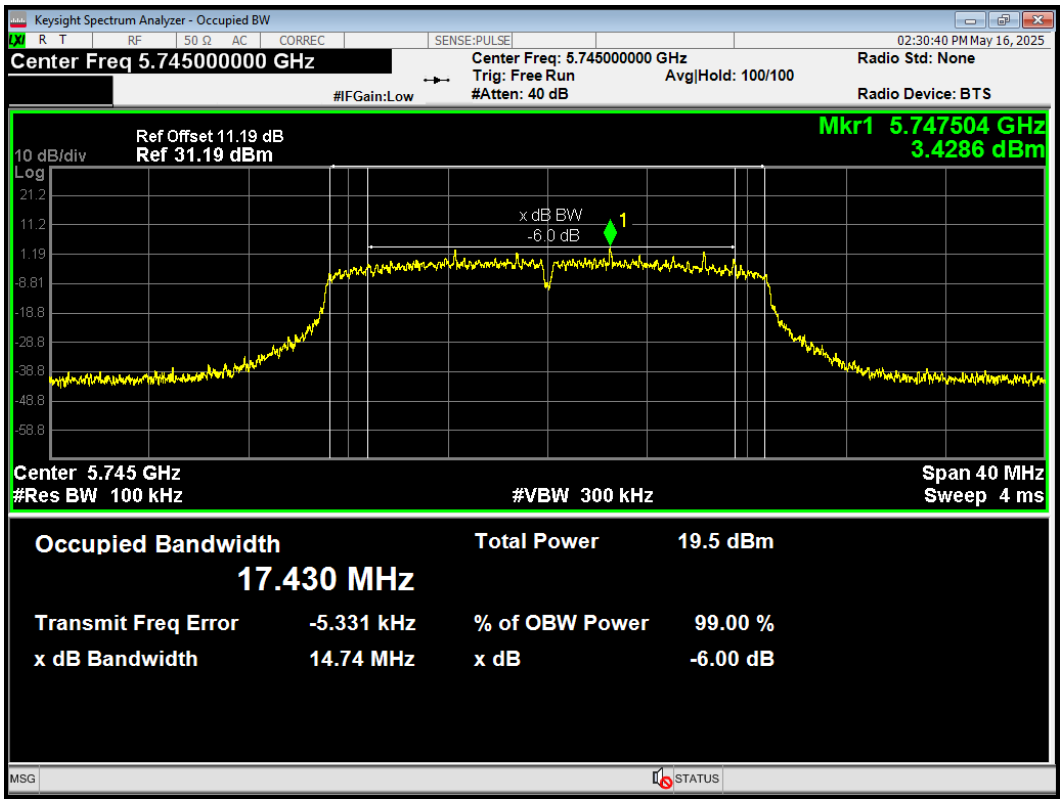
-6dB Bandwidth 802.11ac(VHT80) 5775MHz



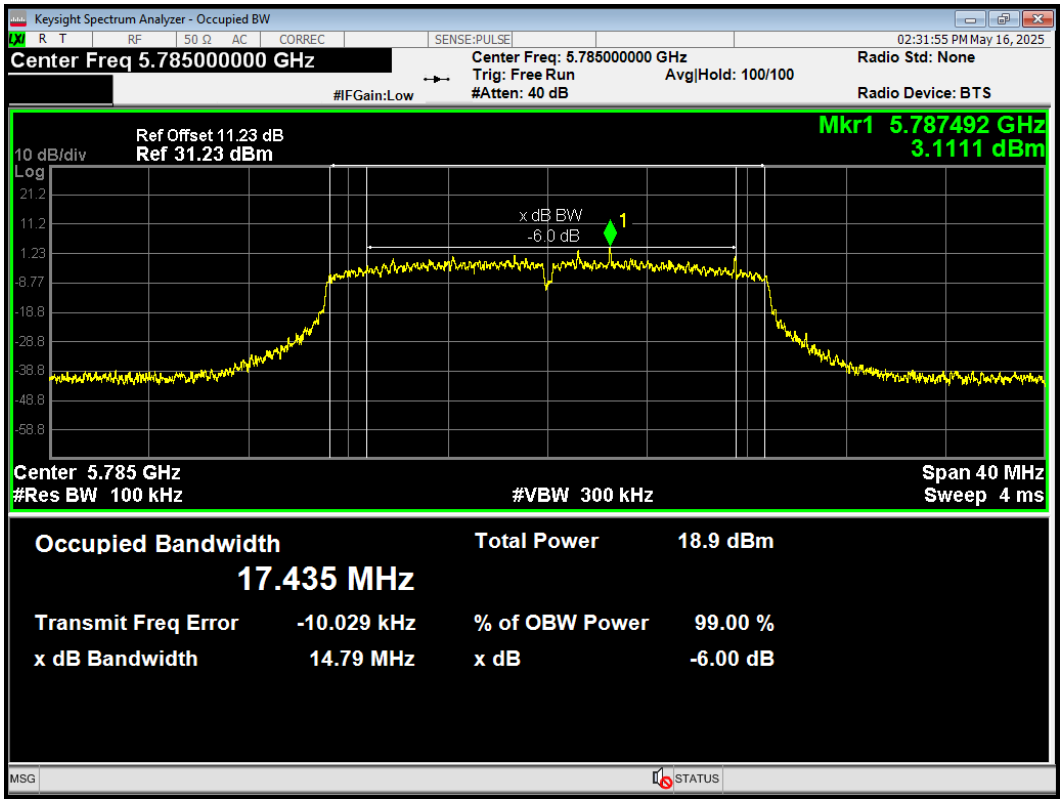

-6dB Bandwidth 802.11n(HT20) 5720MHz



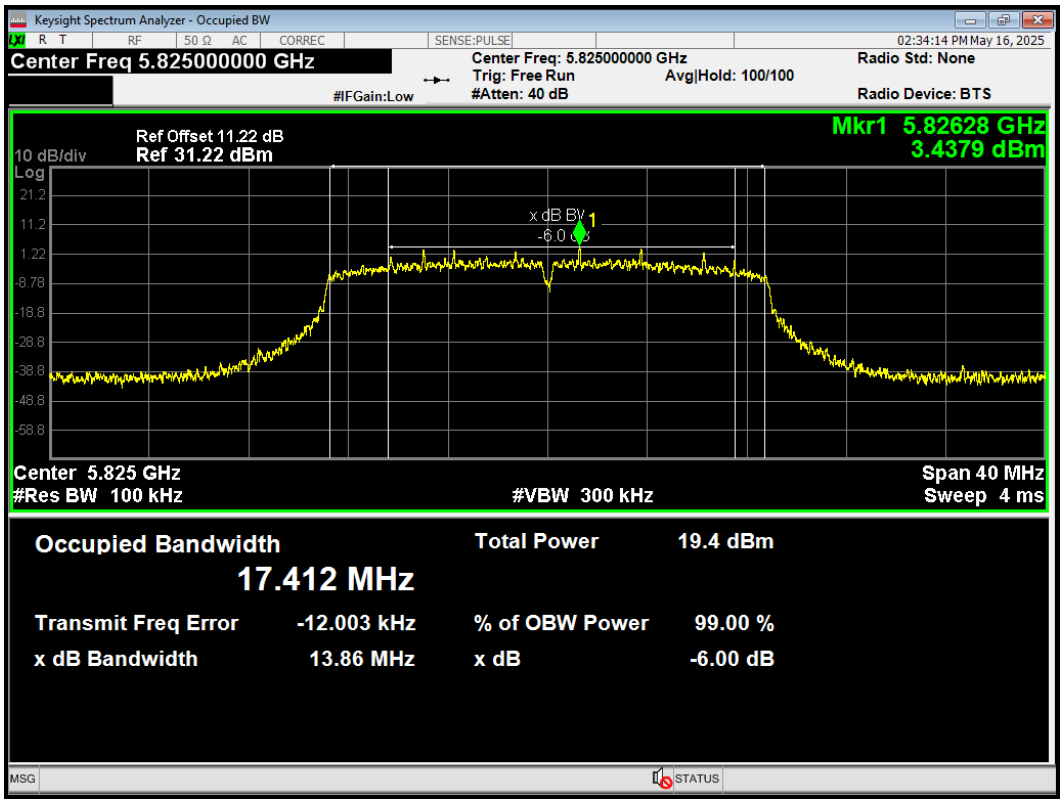
-6dB Bandwidth 802.11n(HT20) 5745MHz



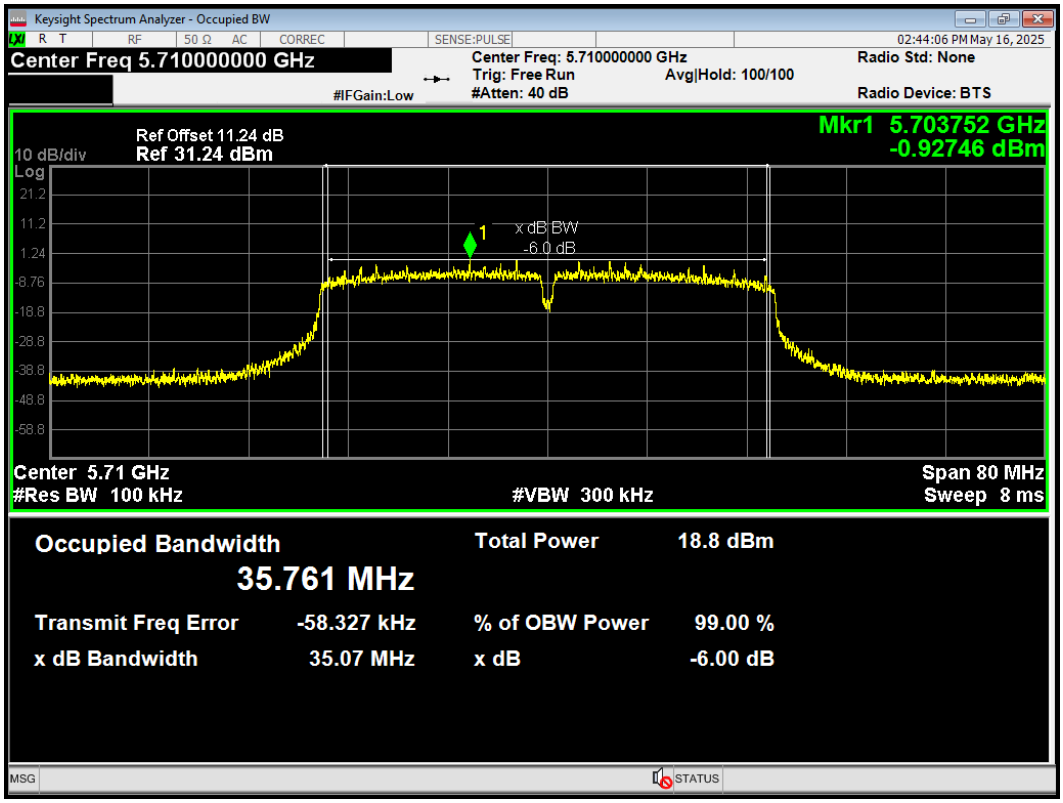

-6dB Bandwidth 802.11n(HT20) 5785MHz



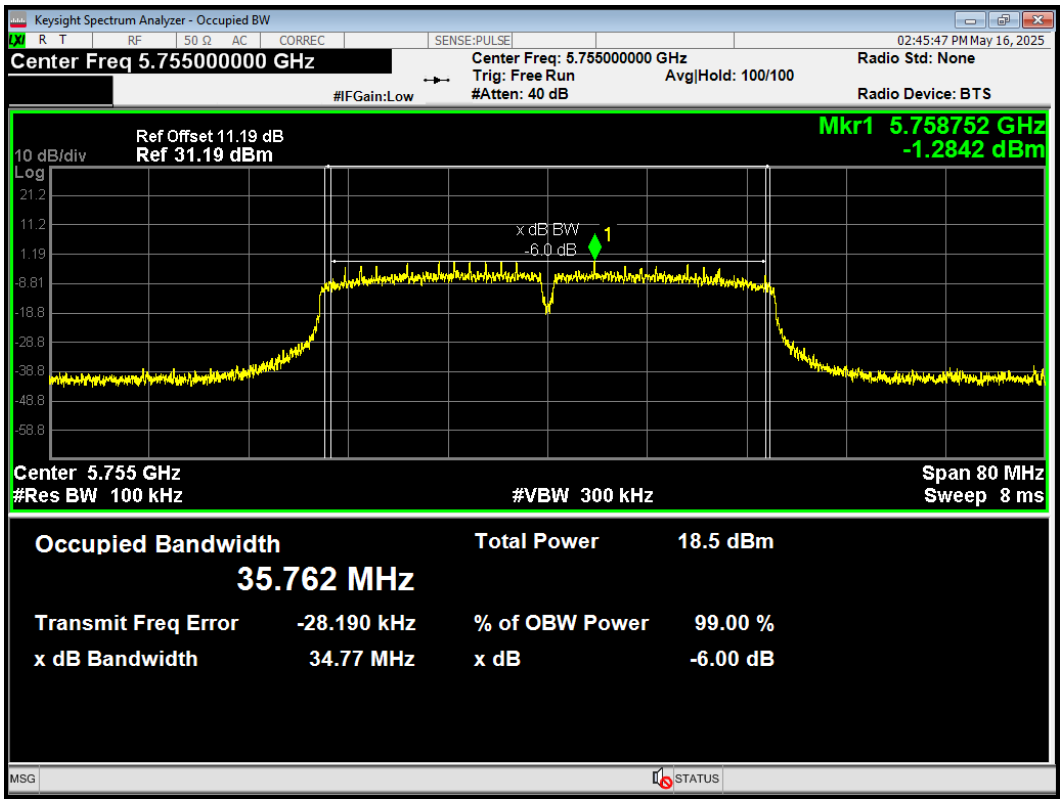
-6dB Bandwidth 802.11n(HT20) 5825MHz



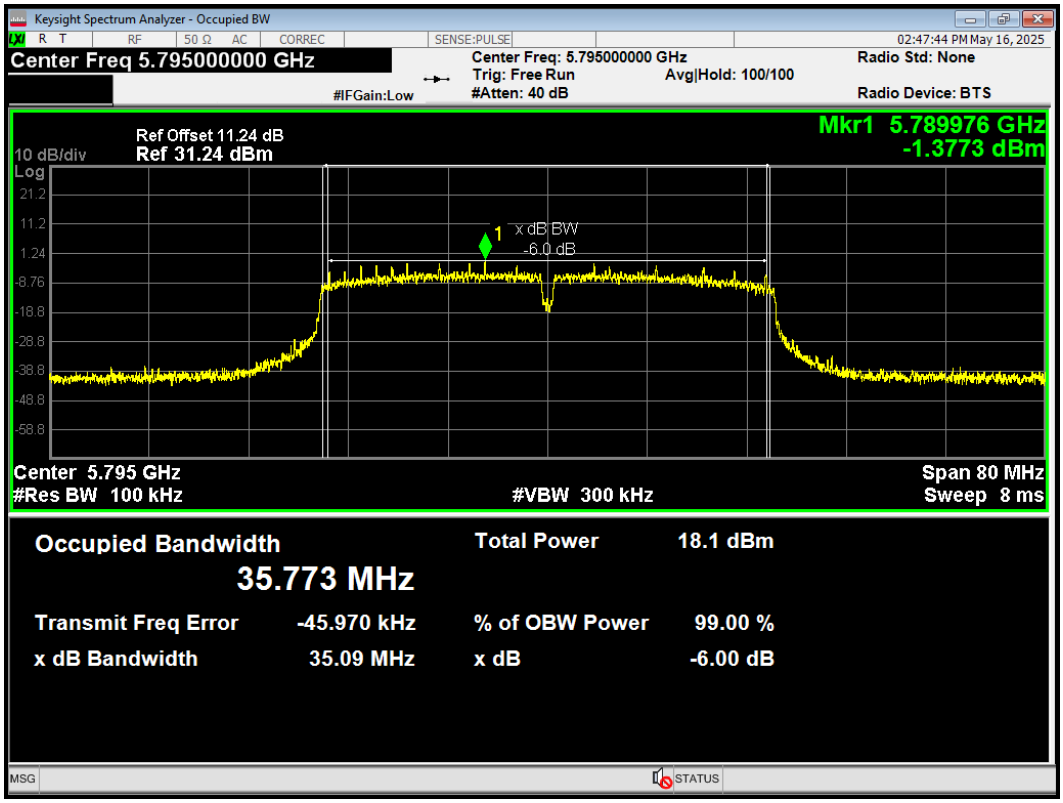

-6dB Bandwidth 802.11n(HT40) 5710MHz



-6dB Bandwidth 802.11n(HT40) 5755MHz




-6dB Bandwidth 802.11n(HT40) 5795MHz



## 5.2. Average Power Output

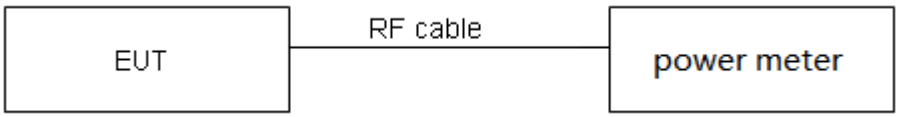
### Ambient condition

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 15°C ~ 35°C | 20% ~ 80% | 86 kPa ~ 106 kPa |

### Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

### Test Setup




### Limits

Rule FCC Part 15.407(a)(1) / FCC Part 15.407(a) (2) / FCC Part 15.407(a) (3)
(1) For the band 5.15-5.25 GHz.
(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude

the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(3)For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k$ = 2, $U$= 0.44 dB.

**Test Results**

| Mode | Duty cycle | Duty cycle correction Factor (dB) |
|---|---|---|
| 802.11a | 0.919 | 0.370 |
| 802.11n HT20 | 0.942 | 0.260 |
| 802.11n HT40 | 0.906 | 0.430 |
| 802.11ac VHT20 | 0.947 | 0.240 |
| 802.11ac VHT40 | 0.868 | 0.610 |
| 802.11ac VHT80 | 0.825 | 0.840 |
| Note: when Duty cycle≥0.98, Duty cycle correction Factor not required. | | |

| Power Index | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Channel | 802.11a | 802.11n HT20 | 802.11ac VHT20 | Channel | 802.11n HT40 | 802.11ac VHT40 | Channel | 802.11ac VHT80 |
| CH36 | 14.5 | 13.5 | 13.5 | CH38 | 12 | 12 | CH42 | 11.5 |
| CH40 | 14.5 | 13.5 | 13.5 | CH46 | 12 | 12 | / | / |
| CH48 | 14.5 | 13.5 | 13.5 | / | / | / | / | / |
| CH52 | 14.5 | 13.5 | 13.5 | CH54 | 12 | 12 | CH58 | 11.5 |
| CH60 | 14.5 | 13.5 | 13.5 | CH62 | 12 | 12 | / | / |
| CH64 | 14.5 | 13.5 | 13.5 | / | / | / | / | / |
| CH100 | 14.5 | 13.5 | 13.5 | CH102 | 12 | 12 | CH106 | 11.5 |
| CH120 | 14.5 | 13.5 | 13.5 | CH118 | 12 | 12 | CH122 | 11.5 |
| CH140 | 14.5 | 13.5 | 13.5 | CH134 | 12 | 12 | CH138 | 11.5 |
| CH144 | 14.5 | 13.5 | 13.5 | CH142 | 12 | 12 | / | / |
| CH149 | 14.5 | 13.5 | 13.5 | CH151 | 12 | 12 | CH155 | 11.5 |
| CH157 | 14.5 | 13.5 | 13.5 | CH159 | 12 | 12 | / | / |
| CH165 | 14.5 | 13.5 | 13.5 | / | / | / | / | / |

| Test Mode | | Channel/ Frequency (MHz) | B=26 dB bandwidth (MHz) | Limit 11 dBm + 10 log B (dBm) | Final Limit (dBm) |
|---|---|---|---|---|---|
| U-NII-2A | 802.11a | 52/5260 | 19.50 | 23.90 | 23.90 |
| | | 60/5300 | 19.50 | 23.90 | 23.90 |
| | | 64/5320 | 19.85 | 23.98 | 23.98 |
| | 802.11n HT20 | 52/5260 | 20.27 | 24.07 | 24.00 |
| | | 60/5300 | 20.06 | 24.02 | 24.00 |
| | | 64/5320 | 20.57 | 24.13 | 24.00 |
| | 802.11n HT40 | 54/5270 | 40.28 | 27.05 | 24.00 |
| | | 62/5310 | 40.60 | 27.09 | 24.00 |
| | 802.11ac VHT20 | 52/5260 | 20.25 | 24.06 | 24.00 |
| | | 60/5300 | 20.50 | 24.12 | 24.00 |
| | | 64/5320 | 20.48 | 24.11 | 24.00 |
| | 802.11ac VHT40 | 54/5270 | 40.64 | 27.09 | 24.00 |
| | | 62/5310 | 40.67 | 27.09 | 24.00 |
| | 802.11ac VHT80 | 58/5290 | 83.83 | 30.23 | 24.00 |
| U-NII-2C | 802.11a | 100/5500 | 19.69 | 23.94 | 23.94 |
| | | 120/5600 | 19.79 | 23.97 | 23.97 |
| | | 140/5700 | 20.02 | 24.01 | 24.00 |
| | | 144/5720 | 19.82 | 23.97 | 23.97 |
| | 802.11n HT20 | 100/5500 | 20.47 | 24.11 | 24.00 |
| | | 120/5600 | 20.76 | 24.17 | 24.00 |
| | | 140/5700 | 20.14 | 24.04 | 24.00 |
| | | 144/5720 | 20.35 | 24.08 | 24.00 |
| | 802.11n HT40 | 102/5510 | 40.78 | 27.10 | 24.00 |
| | | 118/5590 | 40.70 | 27.10 | 24.00 |
| | | 134/5670 | 41.19 | 27.15 | 24.00 |
| | | 142/5710 | 40.91 | 27.12 | 24.00 |
| | 802.11ac VHT20 | 100/5500 | 20.19 | 24.05 | 24.00 |
| | | 120/5600 | 20.47 | 24.11 | 24.00 |
| | | 140/5700 | 19.95 | 24.00 | 24.00 |
| | | 144/5720 | 20.23 | 24.06 | 24.00 |
| | 802.11ac VHT40 | 102/5510 | 40.55 | 27.08 | 24.00 |
| | | 118/5590 | 40.80 | 27.11 | 24.00 |
| | | 134/5670 | 40.88 | 27.11 | 24.00 |
| | | 142/5710 | 41.40 | 27.17 | 24.00 |
| | 802.11ac VHT80 | 106/5530 | 82.99 | 30.19 | 24.00 |
| | | 122/5610 | 82.94 | 30.19 | 24.00 |
| | | 138/5690 | 82.69 | 30.17 | 24.00 |
| Note: 250mW=24dBm | | | | | |

**AP**

**U-NII-1**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 36/5180 | 14.98 | 15.35 | 30.00 | PASS |
| | 40/5200 | 14.94 | 15.31 | 30.00 | PASS |
| | 48/5240 | 14.91 | 15.28 | 30.00 | PASS |
| 802.11n HT20 | 36/5180 | 13.61 | 13.87 | 30.00 | PASS |
| | 40/5200 | 13.70 | 13.96 | 30.00 | PASS |
| | 48/5240 | 13.56 | 13.82 | 30.00 | PASS |
| 802.11n HT40 | 38/5190 | 12.35 | 12.78 | 30.00 | PASS |
| | 46/5230 | 12.29 | 12.72 | 30.00 | PASS |
| 802.11ac VHT20 | 36/5180 | 13.63 | 13.87 | 30.00 | PASS |
| | 40/5200 | 13.58 | 13.82 | 30.00 | PASS |
| | 48/5240 | 13.56 | 13.80 | 30.00 | PASS |
| 802.11ac VHT40 | 38/5190 | 12.37 | 12.98 | 30.00 | PASS |
| | 46/5230 | 12.20 | 12.81 | 30.00 | PASS |
| 802.11ac VHT80 | 42/5210 | 10.73 | 11.57 | 30.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-2A**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 52/5260 | 14.98 | 15.35 | 23.90 | PASS |
| | 60/5300 | 15.13 | 15.50 | 23.90 | PASS |
| | 64/5320 | 14.99 | 15.36 | 23.98 | PASS |
| 802.11n HT20 | 52/5260 | 13.65 | 13.91 | 24.00 | PASS |
| | 60/5300 | 13.72 | 13.98 | 24.00 | PASS |
| | 64/5320 | 13.61 | 13.87 | 24.00 | PASS |
| 802.11n HT40 | 54/5270 | 11.62 | 12.05 | 24.00 | PASS |
| | 62/5310 | 11.55 | 11.98 | 24.00 | PASS |
| 802.11ac VHT20 | 52/5260 | 13.72 | 13.96 | 24.00 | PASS |
| | 60/5300 | 13.72 | 13.96 | 24.00 | PASS |
| | 64/5320 | 13.64 | 13.88 | 24.00 | PASS |
| 802.11ac VHT40 | 54/5270 | 12.47 | 13.08 | 24.00 | PASS |
| | 62/5310 | 12.27 | 12.88 | 24.00 | PASS |
| 802.11ac VHT80 | 58/5290 | 11.30 | 12.14 | 24.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-2C**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 100/5500 | 14.12 | 14.49 | 23.94 | PASS |
| | 120/5600 | 13.67 | 14.04 | 23.97 | PASS |
| | 140/5700 | 14.65 | 15.02 | 24.00 | PASS |
| | 144/5720 | 13.62 | 13.99 | 23.97 | PASS |
| 802.11n HT20 | 100/5500 | 12.91 | 13.17 | 24.00 | PASS |
| | 120/5600 | 12.51 | 12.77 | 24.00 | PASS |
| | 140/5700 | 13.36 | 13.62 | 24.00 | PASS |
| | 144/5720 | 12.57 | 12.83 | 24.00 | PASS |
| 802.11n HT40 | 102/5510 | 11.50 | 11.93 | 24.00 | PASS |
| | 118/5590 | 11.37 | 11.80 | 24.00 | PASS |
| | 134/5670 | 11.94 | 12.37 | 24.00 | PASS |
| | 142/5710 | 11.91 | 12.34 | 24.00 | PASS |
| 802.11ac VHT20 | 100/5500 | 13.08 | 13.32 | 24.00 | PASS |
| | 120/5600 | 12.53 | 12.77 | 24.00 | PASS |
| | 140/5700 | 13.46 | 13.70 | 24.00 | PASS |
| | 144/5720 | 12.58 | 12.82 | 24.00 | PASS |
| 802.11ac VHT40 | 102/5510 | 11.14 | 11.75 | 24.00 | PASS |
| | 118/5590 | 11.65 | 12.26 | 24.00 | PASS |
| | 134/5670 | 11.88 | 12.49 | 24.00 | PASS |
| | 142/5710 | 11.74 | 12.35 | 24.00 | PASS |
| 802.11ac VHT80 | 106/5530 | 10.46 | 11.30 | 24.00 | PASS |
| | 122/5610 | 10.33 | 11.17 | 24.00 | PASS |
| | 138/5690 | 10.50 | 11.34 | 24.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-3**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 144/5720 | 6.30 | 6.67 | 30.00 | PASS |
| | 149/5745 | 14.03 | 14.40 | 30.00 | PASS |
| | 157/5785 | 14.20 | 14.57 | 30.00 | PASS |
| | 165/5825 | 14.28 | 14.65 | 30.00 | PASS |
| 802.11n HT20 | 144/5720 | 5.53 | 5.79 | 30.00 | PASS |
| | 149/5745 | 12.82 | 13.08 | 30.00 | PASS |
| | 157/5785 | 12.80 | 13.06 | 30.00 | PASS |
| | 165/5825 | 12.70 | 12.96 | 30.00 | PASS |
| 802.11n HT40 | 142/5710 | -0.79 | -0.36 | 30.00 | PASS |
| | 151/5755 | 11.76 | 12.19 | 30.00 | PASS |
| | 159/5795 | 11.44 | 11.87 | 30.00 | PASS |
| 802.11ac VHT20 | 144/5720 | 5.31 | 5.55 | 30.00 | PASS |
| | 149/5745 | 12.24 | 12.48 | 30.00 | PASS |
| | 157/5785 | 13.10 | 13.34 | 30.00 | PASS |
| | 165/5825 | 12.95 | 13.19 | 30.00 | PASS |
| 802.11ac VHT40 | 142/5710 | -1.99 | -1.38 | 30.00 | PASS |
| | 151/5755 | 11.14 | 11.75 | 30.00 | PASS |
| | 159/5795 | 11.92 | 12.53 | 30.00 | PASS |
| 802.11ac VHT80 | 138/5690 | -6.65 | -5.81 | 30.00 | PASS |
| | 155/5775 | 10.46 | 11.30 | 30.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**STA**

**U-NII-1**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 36/5180 | 14.98 | 15.35 | 24.00 | PASS |
| | 40/5200 | 14.94 | 15.31 | 24.00 | PASS |
| | 48/5240 | 14.91 | 15.28 | 24.00 | PASS |
| 802.11n HT20 | 36/5180 | 13.61 | 13.87 | 24.00 | PASS |
| | 40/5200 | 13.70 | 13.96 | 24.00 | PASS |
| | 48/5240 | 13.56 | 13.82 | 24.00 | PASS |
| 802.11n HT40 | 38/5190 | 12.35 | 12.78 | 24.00 | PASS |
| | 46/5230 | 12.29 | 12.72 | 24.00 | PASS |
| 802.11ac VHT20 | 36/5180 | 13.63 | 13.87 | 24.00 | PASS |
| | 40/5200 | 13.58 | 13.82 | 24.00 | PASS |
| | 48/5240 | 13.56 | 13.80 | 24.00 | PASS |
| 802.11ac VHT40 | 38/5190 | 12.37 | 12.98 | 24.00 | PASS |
| | 46/5230 | 12.20 | 12.81 | 24.00 | PASS |
| 802.11ac VHT80 | 42/5210 | 10.73 | 11.57 | 24.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-2A**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 52/5260 | 14.98 | 15.35 | 23.90 | PASS |
| | 60/5300 | 15.13 | 15.50 | 23.90 | PASS |
| | 64/5320 | 14.99 | 15.36 | 23.98 | PASS |
| 802.11n HT20 | 52/5260 | 13.65 | 13.91 | 24.00 | PASS |
| | 60/5300 | 13.72 | 13.98 | 24.00 | PASS |
| | 64/5320 | 13.61 | 13.87 | 24.00 | PASS |
| 802.11n HT40 | 54/5270 | 11.62 | 12.05 | 24.00 | PASS |
| | 62/5310 | 11.55 | 11.98 | 24.00 | PASS |
| 802.11ac VHT20 | 52/5260 | 13.72 | 13.96 | 24.00 | PASS |
| | 60/5300 | 13.72 | 13.96 | 24.00 | PASS |
| | 64/5320 | 13.64 | 13.88 | 24.00 | PASS |
| 802.11ac VHT40 | 54/5270 | 12.47 | 13.08 | 24.00 | PASS |
| | 62/5310 | 12.27 | 12.88 | 24.00 | PASS |
| 802.11ac VHT80 | 58/5290 | 11.30 | 12.14 | 24.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-2C**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 100/5500 | 14.12 | 14.49 | 23.94 | PASS |
| | 120/5600 | 13.67 | 14.04 | 23.97 | PASS |
| | 140/5700 | 14.65 | 15.02 | 24.00 | PASS |
| | 144/5720 | 13.62 | 13.99 | 23.97 | PASS |
| 802.11n HT20 | 100/5500 | 12.91 | 13.17 | 24.00 | PASS |
| | 120/5600 | 12.51 | 12.77 | 24.00 | PASS |
| | 140/5700 | 13.36 | 13.62 | 24.00 | PASS |
| | 144/5720 | 12.57 | 12.83 | 24.00 | PASS |
| 802.11n HT40 | 102/5510 | 11.50 | 11.93 | 24.00 | PASS |
| | 118/5590 | 11.37 | 11.80 | 24.00 | PASS |
| | 134/5670 | 11.94 | 12.37 | 24.00 | PASS |
| | 142/5710 | 11.91 | 12.34 | 24.00 | PASS |
| 802.11ac VHT20 | 100/5500 | 13.08 | 13.32 | 24.00 | PASS |
| | 120/5600 | 12.53 | 12.77 | 24.00 | PASS |
| | 140/5700 | 13.46 | 13.70 | 24.00 | PASS |
| | 144/5720 | 12.58 | 12.82 | 24.00 | PASS |
| 802.11ac VHT40 | 102/5510 | 11.14 | 11.75 | 24.00 | PASS |
| | 118/5590 | 11.65 | 12.26 | 24.00 | PASS |
| | 134/5670 | 11.88 | 12.49 | 24.00 | PASS |
| | 142/5710 | 11.74 | 12.35 | 24.00 | PASS |
| 802.11ac VHT80 | 106/5530 | 10.46 | 11.30 | 24.00 | PASS |
| | 122/5610 | 10.33 | 11.17 | 24.00 | PASS |
| | 138/5690 | 10.50 | 11.34 | 24.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

**U-NII-3**

| Test Mode | Channel/ Frequency (MHz) | Average Power Measured (dBm) | Average Power with duty factor (dBm) | Limit (dBm) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 144/5720 | 6.30 | 6.67 | 30.00 | PASS |
| | 149/5745 | 14.03 | 14.40 | 30.00 | PASS |
| | 157/5785 | 14.20 | 14.57 | 30.00 | PASS |
| | 165/5825 | 14.28 | 14.65 | 30.00 | PASS |
| 802.11n HT20 | 144/5720 | 5.53 | 5.79 | 30.00 | PASS |
| | 149/5745 | 12.82 | 13.08 | 30.00 | PASS |
| | 157/5785 | 12.80 | 13.06 | 30.00 | PASS |
| | 165/5825 | 12.70 | 12.96 | 30.00 | PASS |
| 802.11n HT40 | 142/5710 | -0.79 | -0.36 | 30.00 | PASS |
| | 151/5755 | 11.76 | 12.19 | 30.00 | PASS |
| | 159/5795 | 11.44 | 11.87 | 30.00 | PASS |
| 802.11ac VHT20 | 144/5720 | 5.31 | 5.55 | 30.00 | PASS |
| | 149/5745 | 12.24 | 12.48 | 30.00 | PASS |
| | 157/5785 | 13.10 | 13.34 | 30.00 | PASS |
| | 165/5825 | 12.95 | 13.19 | 30.00 | PASS |
| 802.11ac VHT40 | 142/5710 | -1.99 | -1.38 | 30.00 | PASS |
| | 151/5755 | 11.14 | 11.75 | 30.00 | PASS |
| | 159/5795 | 11.92 | 12.53 | 30.00 | PASS |
| 802.11ac VHT80 | 138/5690 | -6.65 | -5.81 | 30.00 | PASS |
| | 155/5775 | 10.46 | 11.30 | 30.00 | PASS |
| Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor | | | | | |

## 5.3. Frequency Stability

**Ambient condition**

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 15°C ~ 35°C | 20% ~ 80% | 86 kPa ~ 106 kPa |

**Method of Measurement**

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10°C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15°C to +25 °C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.

b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).
c) Measure the frequency at each of the frequencies specified in 5.6.
d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

**Limit**

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

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k$ = 2, $U$= 936Hz

**Test Results**

| Voltage (V) | Temperature (°C) | U-NII-1 Test Results | | | |
|---|---|---|---|---|---|
| | | 5200MHz | | | |
| | | 1min | 2min | 5min | 10min |
| 3.3 | -30 | 5199.996661 | 5199.987457 | 5199.981639 | 5199.977572 |
| 3.3 | -20 | 5200.000622 | 5199.986506 | 5199.977602 | 5199.976969 |
| 3.3 | -10 | 5199.996512 | 5199.979295 | 5199.974761 | 5199.970778 |
| 3.3 | 0 | 5199.999083 | 5199.985518 | 5199.973930 | 5199.973972 |
| 3.3 | 10 | 5199.991367 | 5199.978229 | 5199.968306 | 5199.968466 |
| 3.3 | 20 | 5199.983837 | 5199.969485 | 5199.963925 | 5199.960978 |
| 3.3 | 30 | 5199.981129 | 5199.968511 | 5199.954861 | 5199.952391 |
| 3.3 | 40 | 5199.978076 | 5199.959517 | 5199.949775 | 5199.944659 |
| 3.3 | 50 | 5199.977570 | 5199.954629 | 5199.945605 | 5199.935281 |
| 3.14 | 20 | 5199.975891 | 5199.954403 | 5199.940889 | 5199.928524 |
| 3.46 | 20 | 5199.969990 | 5199.951684 | 5199.932963 | 5199.926672 |
| Max. ΔMHz | | -0.030010 | -0.048316 | -0.067037 | -0.073328 |
| PPM | | -5.771154 | -9.291538 | -12.891731 | -14.101538 |

| Voltage (V) | Temperature (°C) | U-NII-2A Test Results | | | |
|---|---|---|---|---|---|
| | | 5300MHz | | | |
| | | 1min | 2min | 5min | 10min |
| 3.3 | -30 | 5299.995300 | 5299.991458 | 5299.984345 | 5299.980992 |
| 3.3 | -20 | 5299.987737 | 5299.985611 | 5299.977863 | 5299.979693 |
| 3.3 | -10 | 5299.986183 | 5299.978140 | 5299.968658 | 5299.974787 |
| 3.3 | 0 | 5299.980304 | 5299.980371 | 5299.976882 | 5299.975695 |
| 3.3 | 10 | 5299.975739 | 5299.970460 | 5299.968894 | 5299.973396 |
| 3.3 | 20 | 5299.973277 | 5299.964441 | 5299.965508 | 5299.965092 |
| 3.3 | 30 | 5299.964992 | 5299.961591 | 5299.960906 | 5299.961951 |
| 3.3 | 40 | 5299.962099 | 5299.957425 | 5299.957161 | 5299.957802 |
| 3.3 | 50 | 5299.961469 | 5299.947566 | 5299.955704 | 5299.957001 |
| 3.14 | 20 | 5299.959697 | 5299.939616 | 5299.948901 | 5299.956079 |
| 3.46 | 20 | 5299.951002 | 5299.937761 | 5299.944443 | 5299.954168 |
| Max. ΔMHz | | -0.048998 | -0.062239 | -0.055557 | -0.045832 |
| PPM | | -9.244906 | -11.743208 | -10.482453 | -8.647547 |

| Voltage (V) | Temperature (°C) | U-NII-2C Test Results | | | |
|---|---|---|---|---|---|
| | | 5580MHz | | | |
| | | 1min | 2min | 5min | 10min |
| 3.3 | -30 | 5580.009525 | 5580.003201 | 5580.001622 | 5579.995422 |
| 3.3 | -20 | 5580.004216 | 5579.996589 | 5580.000037 | 5579.993146 |
| 3.3 | -10 | 5579.998222 | 5579.992133 | 5579.997814 | 5579.991261 |
| 3.3 | 0 | 5579.997937 | 5579.989029 | 5579.991124 | 5579.990121 |
| 3.3 | 10 | 5579.989088 | 5579.986964 | 5579.988757 | 5579.987363 |
| 3.3 | 20 | 5579.980892 | 5579.982107 | 5579.980251 | 5579.982149 |
| 3.3 | 30 | 5579.973074 | 5579.976023 | 5579.976741 | 5579.979623 |
| 3.3 | 40 | 5579.972946 | 5579.968358 | 5579.970657 | 5579.977898 |
| 3.3 | 50 | 5579.967652 | 5579.959451 | 5579.969969 | 5579.970512 |
| 3.14 | 20 | 5579.963323 | 5579.953117 | 5579.965633 | 5579.963978 |
| 3.46 | 20 | 5579.958552 | 5579.949978 | 5579.964265 | 5579.954436 |
| Max. ΔMHz | | -0.041448 | -0.050022 | -0.035735 | -0.045564 |
| PPM | | -7.427957 | -8.964516 | -6.404122 | -8.165591 |

| Voltage (V) | Temperature (°C) | U-NII-3 Test Results | | | |
|---|---|---|---|---|---|
| | | 5785MHz | | | |
| | | 1min | 2min | 5min | 10min |
| 3.3 | -30 | 5785.002923 | 5784.997861 | 5784.994197 | 5784.990244 |
| 3.3 | -20 | 5784.999132 | 5784.996078 | 5784.986074 | 5784.989400 |
| 3.3 | -10 | 5784.992176 | 5784.993636 | 5784.985700 | 5784.981624 |
| 3.3 | 0 | 5784.996840 | 5784.993650 | 5784.978314 | 5784.983302 |
| 3.3 | 10 | 5784.992962 | 5784.991663 | 5784.973190 | 5784.982908 |
| 3.3 | 20 | 5784.989844 | 5784.986070 | 5784.963432 | 5784.979076 |
| 3.3 | 30 | 5784.989580 | 5784.984364 | 5784.962040 | 5784.977055 |
| 3.3 | 40 | 5784.984679 | 5784.983310 | 5784.955667 | 5784.974477 |
| 3.3 | 50 | 5784.977120 | 5784.981291 | 5784.951510 | 5784.970654 |
| 3.14 | 20 | 5784.973119 | 5784.973724 | 5784.949929 | 5784.963398 |
| 3.46 | 20 | 5784.970549 | 5784.971218 | 5784.943267 | 5784.953479 |
| Max. ΔMHz | | -0.029451 | -0.028782 | -0.056733 | -0.046521 |
| PPM | | -5.090925 | -4.975281 | -9.806914 | -8.041659 |

## 5.4. Power Spectral Density

### Ambient condition

| Temperature | Relative humidity | Pressure |
|---|---|---|
| 15°C ~ 35°C | 20% ~ 80% | 86 kPa ~ 106 kPa |

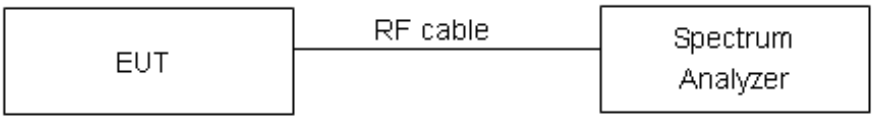
### Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz, 5.250-5.350GHz, 5.470-5.725GHz.
Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

### Test setup




### Limits

Rule FCC Part 15.407(a)(1)/ FCC Part 15.407(a)(2) / FCC Part 15.407(a)(3)
For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the

amount in dB that the directional gain of the antenna exceeds 6 dBi.

| Frequency Bands/GHz | Limits |
|---|---|
| 5.15-5.25 | 17/MHz |
| 5.25-5.35 and 5.47-5.725 | 11dBm/MHz |
| 5.725-5.85 | 30dBm/500kHz |

**Measurement Uncertainty**

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k$ = 2, $U$= 0.75dB.

**Test Results:**

**AP**

**U-NII-1**

| Mode | Channel/ Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 36/5180 | 5.04 | 5.41 | 17 | PASS |
| | 40/5200 | 5.09 | 5.46 | 17 | PASS |
| | 48/5240 | 5.08 | 5.45 | 17 | PASS |
| 802.11n HT20 | 36/5180 | 3.45 | 3.71 | 17 | PASS |
| | 40/5200 | 3.55 | 3.81 | 17 | PASS |
| | 48/5240 | 3.53 | 3.79 | 17 | PASS |
| 802.11n HT40 | 38/5190 | -0.84 | -0.41 | 17 | PASS |
| | 46/5230 | -0.90 | -0.47 | 17 | PASS |
| 802.11ac VHT20 | 36/5180 | 3.54 | 3.78 | 17 | PASS |
| | 40/5200 | 3.26 | 3.50 | 17 | PASS |
| | 48/5240 | 3.94 | 4.18 | 17 | PASS |
| 802.11ac VHT40 | 38/5190 | -0.86 | -0.25 | 17 | PASS |
| | 46/5230 | -1.03 | -0.42 | 17 | PASS |
| 802.11ac VHT80 | 42/5210 | -5.61 | -4.77 | 17 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-2A**

| Mode | Channel /Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 52/5260 | 5.23 | 5.60 | 11 | PASS |
| | 60/5300 | 4.96 | 5.33 | 11 | PASS |
| | 64/5320 | 4.96 | 5.33 | 11 | PASS |
| 802.11n HT20 | 52/5260 | 3.51 | 3.77 | 11 | PASS |
| | 60/5300 | 3.52 | 3.78 | 11 | PASS |
| | 64/5320 | 3.31 | 3.57 | 11 | PASS |
| 802.11n HT40 | 54/5270 | -1.55 | -1.12 | 11 | PASS |
| | 62/5310 | -1.62 | -1.19 | 11 | PASS |
| 802.11ac VHT20 | 52/5260 | 3.53 | 3.77 | 11 | PASS |
| | 60/5300 | 3.57 | 3.81 | 11 | PASS |
| | 64/5320 | 3.55 | 3.79 | 11 | PASS |
| 802.11ac VHT40 | 54/5270 | -0.97 | -0.36 | 11 | PASS |
| | 62/5310 | -0.90 | -0.29 | 11 | PASS |
| 802.11ac VHT80 | 58/5290 | -5.25 | -4.41 | 11 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-2C**

| Mode | Channel /Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 100/5500 | 4.26 | 4.63 | 11 | PASS |
| | 120/5600 | 3.80 | 4.17 | 11 | PASS |
| | 140/5700 | 4.75 | 5.12 | 11 | PASS |
| | 144/5720 | 4.35 | 4.72 | 11 | PASS |
| 802.11n HT20 | 100/5500 | 2.99 | 3.25 | 11 | PASS |
| | 120/5600 | 2.41 | 2.67 | 11 | PASS |
| | 140/5700 | 3.22 | 3.48 | 11 | PASS |
| | 144/5720 | 3.20 | 3.46 | 11 | PASS |
| 802.11n HT40 | 102/5510 | -1.30 | -0.87 | 11 | PASS |
| | 118/5590 | -1.68 | -1.25 | 11 | PASS |
| | 134/5670 | -1.21 | -0.78 | 11 | PASS |
| | 142/5710 | -1.05 | -0.62 | 11 | PASS |
| 802.11ac VHT20 | 100/5500 | 2.72 | 2.96 | 11 | PASS |
| | 120/5600 | 2.41 | 2.65 | 11 | PASS |
| | 140/5700 | 3.49 | 3.73 | 11 | PASS |
| | 144/5720 | 3.17 | 3.41 | 11 | PASS |
| 802.11ac VHT40 | 102/5510 | -2.04 | -1.43 | 11 | PASS |
| | 118/5590 | -1.51 | -0.90 | 11 | PASS |
| | 134/5670 | -1.18 | -0.57 | 11 | PASS |
| | 142/5710 | -1.15 | -0.54 | 11 | PASS |
| 802.11ac VHT80 | 106/5530 | -5.92 | -5.08 | 11 | PASS |
| | 122/5610 | -5.81 | -4.97 | 11 | PASS |
| | 138/5690 | -4.99 | -4.15 | 11 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-3**

| Mode | Channel /Frequency (MHz) | Read Value (dBm/470kHz) | Power Spectral Density (dBm/500kHz) | Limit (dBm/500kHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 144/5720 | -0.27 | 0.01 | 30 | PASS |
| | 149/5745 | 0.90 | 1.18 | 30 | PASS |
| | 157/5785 | 0.87 | 1.15 | 30 | PASS |
| | 165/5825 | 0.84 | 1.12 | 30 | PASS |
| 802.11n HT20 | 144/5720 | -1.46 | -1.29 | 30 | PASS |
| | 149/5745 | -1.05 | -0.88 | 30 | PASS |
| | 157/5785 | -0.18 | -0.01 | 30 | PASS |
| | 165/5825 | -0.36 | -0.19 | 30 | PASS |
| 802.11n HT40 | 142/5710 | -7.90 | -7.56 | 30 | PASS |
| | 151/5755 | -4.82 | -4.48 | 30 | PASS |
| | 159/5795 | -5.17 | -4.83 | 30 | PASS |
| 802.11ac VHT20 | 144/5720 | -2.35 | -2.20 | 30 | PASS |
| | 149/5745 | -0.14 | 0.01 | 30 | PASS |
| | 157/5785 | -0.52 | -0.37 | 30 | PASS |
| | 165/5825 | -0.57 | -0.42 | 30 | PASS |
| 802.11ac VHT40 | 142/5710 | -8.49 | -7.97 | 30 | PASS |
| | 151/5755 | -5.50 | -4.98 | 30 | PASS |
| | 159/5795 | -5.07 | -4.55 | 30 | PASS |
| 802.11ac VHT80 | 138/5690 | -13.28 | -12.53 | 30 | PASS |
| | 155/5775 | -8.75 | -8.00 | 30 | PASS |
| Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470) | | | | | |

**STA**

**U-NII-1**

| Mode | Channel/ Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 36/5180 | 5.04 | 5.41 | 11 | PASS |
| | 40/5200 | 5.09 | 5.46 | 11 | PASS |
| | 48/5240 | 5.08 | 5.45 | 11 | PASS |
| 802.11n HT20 | 36/5180 | 3.45 | 3.71 | 11 | PASS |
| | 40/5200 | 3.55 | 3.81 | 11 | PASS |
| | 48/5240 | 3.53 | 3.79 | 11 | PASS |
| 802.11n HT40 | 38/5190 | -0.84 | -0.41 | 11 | PASS |
| | 46/5230 | -0.90 | -0.47 | 11 | PASS |
| 802.11ac VHT20 | 36/5180 | 3.54 | 3.78 | 11 | PASS |
| | 40/5200 | 3.26 | 3.50 | 11 | PASS |
| | 48/5240 | 3.94 | 4.18 | 11 | PASS |
| 802.11ac VHT40 | 38/5190 | -0.86 | -0.25 | 11 | PASS |
| | 46/5230 | -1.03 | -0.42 | 11 | PASS |
| 802.11ac VHT80 | 42/5210 | -5.61 | -4.77 | 11 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-2A**

| Mode | Channel /Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 52/5260 | 5.23 | 5.60 | 11 | PASS |
| | 60/5300 | 4.96 | 5.33 | 11 | PASS |
| | 64/5320 | 4.96 | 5.33 | 11 | PASS |
| 802.11n HT20 | 52/5260 | 3.51 | 3.77 | 11 | PASS |
| | 60/5300 | 3.52 | 3.78 | 11 | PASS |
| | 64/5320 | 3.31 | 3.57 | 11 | PASS |
| 802.11n HT40 | 54/5270 | -1.55 | -1.12 | 11 | PASS |
| | 62/5310 | -1.62 | -1.19 | 11 | PASS |
| 802.11ac VHT20 | 52/5260 | 3.53 | 3.77 | 11 | PASS |
| | 60/5300 | 3.57 | 3.81 | 11 | PASS |
| | 64/5320 | 3.55 | 3.79 | 11 | PASS |
| 802.11ac VHT40 | 54/5270 | -0.97 | -0.36 | 11 | PASS |
| | 62/5310 | -0.90 | -0.29 | 11 | PASS |
| 802.11ac VHT80 | 58/5290 | -5.25 | -4.41 | 11 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-2C**

| Mode | Channel /Frequency (MHz) | Read Value (dBm /MHz) | Power Spectral Density (dBm /MHz) | Limit (dBm /MHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 100/5500 | 4.26 | 4.63 | 11 | PASS |
| | 120/5600 | 3.80 | 4.17 | 11 | PASS |
| | 140/5700 | 4.75 | 5.12 | 11 | PASS |
| | 144/5720 | 4.35 | 4.72 | 11 | PASS |
| 802.11n HT20 | 100/5500 | 2.99 | 3.25 | 11 | PASS |
| | 120/5600 | 2.41 | 2.67 | 11 | PASS |
| | 140/5700 | 3.22 | 3.48 | 11 | PASS |
| | 144/5720 | 3.20 | 3.46 | 11 | PASS |
| 802.11n HT40 | 102/5510 | -1.30 | -0.87 | 11 | PASS |
| | 118/5590 | -1.68 | -1.25 | 11 | PASS |
| | 134/5670 | -1.21 | -0.78 | 11 | PASS |
| | 142/5710 | -1.05 | -0.62 | 11 | PASS |
| 802.11ac VHT20 | 100/5500 | 2.72 | 2.96 | 11 | PASS |
| | 120/5600 | 2.41 | 2.65 | 11 | PASS |
| | 140/5700 | 3.49 | 3.73 | 11 | PASS |
| | 144/5720 | 3.17 | 3.41 | 11 | PASS |
| 802.11ac VHT40 | 102/5510 | -2.04 | -1.43 | 11 | PASS |
| | 118/5590 | -1.51 | -0.90 | 11 | PASS |
| | 134/5670 | -1.18 | -0.57 | 11 | PASS |
| | 142/5710 | -1.15 | -0.54 | 11 | PASS |
| 802.11ac VHT80 | 106/5530 | -5.92 | -5.08 | 11 | PASS |
| | 122/5610 | -5.81 | -4.97 | 11 | PASS |
| | 138/5690 | -4.99 | -4.15 | 11 | PASS |
| Note: Power Spectral Density =Read Value+Duty cycle correction factor | | | | | |

**U-NII-3**

| Mode | Channel /Frequency (MHz) | Read Value (dBm/470kHz) | Power Spectral Density (dBm/500kHz) | Limit (dBm/500kHz) | Conclusion |
|---|---|---|---|---|---|
| 802.11a | 144/5720 | -0.27 | 0.01 | 30 | PASS |
| | 149/5745 | 0.90 | 1.18 | 30 | PASS |
| | 157/5785 | 0.87 | 1.15 | 30 | PASS |
| | 165/5825 | 0.84 | 1.12 | 30 | PASS |
| 802.11n HT20 | 144/5720 | -1.46 | -1.29 | 30 | PASS |
| | 149/5745 | -1.05 | -0.88 | 30 | PASS |
| | 157/5785 | -0.18 | -0.01 | 30 | PASS |
| | 165/5825 | -0.36 | -0.19 | 30 | PASS |
| 802.11n HT40 | 142/5710 | -7.90 | -7.56 | 30 | PASS |
| | 151/5755 | -4.82 | -4.48 | 30 | PASS |
| | 159/5795 | -5.17 | -4.83 | 30 | PASS |
| 802.11ac VHT20 | 144/5720 | -2.35 | -2.20 | 30 | PASS |
| | 149/5745 | -0.14 | 0.01 | 30 | PASS |
| | 157/5785 | -0.52 | -0.37 | 30 | PASS |
| | 165/5825 | -0.57 | -0.42 | 30 | PASS |
| 802.11ac VHT40 | 142/5710 | -8.49 | -7.97 | 30 | PASS |
| | 151/5755 | -5.50 | -4.98 | 30 | PASS |
| | 159/5795 | -5.07 | -4.55 | 30 | PASS |
| 802.11ac VHT80 | 138/5690 | -13.28 | -12.53 | 30 | PASS |
| | 155/5775 | -8.75 | -8.00 | 30 | PASS |
| Note: PSD=Read Value+Duty cycle correction factor +10*log(500/470) | | | | | |