



# ELEMENT WASHINGTON DC LLC

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## MEASUREMENT REPORT FCC PART 15.407 802.11ax/be (OFDMA)

**Applicant Name:**  
Microsoft Corporation  
One Microsoft Way  
Redmond, WA 98052  
United States

**Date of Testing:**  
01/03/2024 - 03/18/2024  
**Test Report Issue Date:**  
4/3/2024  
**Test Site/Location:**  
Element lab., Columbia, MD, USA  
**Test Report Serial No.:**  
1M2311170118-10.C3K

|                   |                              |
|-------------------|------------------------------|
| <b>FCC ID:</b>    | <b>C3K2085</b>               |
| <b>APPLICANT:</b> | <b>Microsoft Corporation</b> |

**Application Type:** Certification  
**Model:** 2085  
**EUT Type:** Portable Computing Device  
**Frequency Range:** 5180 – 5885MHz  
**Modulation Type:** OFDMA  
**FCC Equipment Class:** Unlicensed National Information Infrastructure TX (NII)  
**FCC Rule Part(s):** Part 15 Subpart E (15.407)  
**Test Procedure(s):** ANSI C63.10-2013

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

RJ Ortanez  
Executive Vice President



|  |   |   |  |
|--|---|---|--|
| <b>FCC ID:</b> C3K2085                         | <b>MEASUREMENT REPORT</b>                     |   | <b>Approved by:</b><br>Technical Manager |
| <b>Test Report S/N:</b><br>1M2311170118-10.C3K | <b>Test Dates:</b><br>01/03/2024 - 03/18/2024 | <b>EUT Type:</b><br>Portable Computing Device | Page 1 of 155                            |

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## MEASUREMENT REPORT

| Channel Bandwidth [MHz] | UNII Band | Tx Frequency [MHz] | MIMO            |                  |
|-------------------------|-----------|--------------------|-----------------|------------------|
|                         |           |                    | Max. Power [mW] | Max. Power [dBm] |
| 20                      | 1         | 5180 - 5240        | 136.95          | 21.37            |
|                         | 2A        | 5260 - 5320        | 121.10          | 20.83            |
|                         | 2C        | 5500 - 5720        | 122.11          | 20.87            |
|                         | 3         | 5745 - 5825        | 223.12          | 23.49            |
|                         | 4         | 5845 - 5885        | 362.38          | 25.59            |
| 40                      | 1         | 5190 - 5230        | 62.38           | 17.95            |
|                         | 2A        | 5270 - 5310        | 61.89           | 17.92            |
|                         | 2C        | 5510 - 5710        | 121.50          | 20.85            |
|                         | 3         | 5755 - 5795        | 121.50          | 20.85            |
|                         | 4         | 5835 - 5875        | 667.22          | 28.24            |
| 80                      | 1         | 5210               | 55.35           | 17.43            |
|                         | 2A        | 5290               | 59.63           | 17.75            |
|                         | 2C        | 5530 - 5690        | 119.96          | 20.79            |
|                         | 3         | 5775               | 124.14          | 20.94            |
|                         | 4         | 5855               | 667.22          | 28.24            |
| 160                     | 1/2A      | 5250               | 53.80           | 17.31            |
|                         | 2C        | 5570               | 43.59           | 16.39            |
|                         | 3/4       | 5815               | 221.25          | 23.45            |

### EUT Overview

**Note:** The UNII Band 4 max power values shown in the above table are e.i.r.p values.

|   |  |  |                                   |
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## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

### 1.2 Element Test Location

These measurement tests were conducted at the Element laboratory located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

### 1.3 Test Facility / Accreditations

Measurements were performed at Element lab located in Columbia, MD 21046, U.S.A.

- Element Washington DC LLC is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- Element Washington DC LLC TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISED Standards (RSS).
- Element Washington DC LLC facility is a registered (2451B) test laboratory with the site description on file with ISED.
- Element Washington DC LLC is a Recognized U.S. Certification Assessment Body (CAB # US0110) for ISED Canada as designated by NIST under the U.S. and Canada Mutual Recognition Agreements (MRAs).

|   |  |  |                                   |
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## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Microsoft Corporation Portable Computing Device FCC ID: C3K2085**. The test data contained in this report pertains only to the emissions due to the EUT's UNII transmitter.

**Test Device Serial No.:** 1P4R2, 1P4X2, 1P4S2, 1P4D2, 1P4F2, 9V9V2

### 2.2 Device Capabilities

This device contains the following capabilities:

802.11b/g/n/ac/ax/be WLAN, 802.11a/n/ac/ax/be UNII (5GHz and 6GHz), Bluetooth (1x, EDR, LE), NFC

| Band 1 |                 | Band 2A |                 | Band 2C |                 | Band 3 |                 | Band 3/4 |                 |
|--------|-----------------|---------|-----------------|---------|-----------------|--------|-----------------|----------|-----------------|
| Ch.    | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.    | Frequency (MHz) | Ch.      | Frequency (MHz) |
| 36     | 5180            | 52      | 5260            | 100     | 5500            | 149    | 5745            | 169      | 5845            |
| :      | :               | :       | :               | :       | :               | :      | :               | :        | :               |
| 40     | 5200            | 56      | 5280            | 120     | 5600            | 157    | 5785            | 173      | 5865            |
| :      | :               | :       | :               | :       | :               | :      | :               | :        | :               |
| 48     | 5240            | 64      | 5320            | 144     | 5720            | 165    | 5825            | 177      | 5885            |

Table 2-1. 802.11ax/be (20MHz) Frequency / Channel Operations

| Band 1 |                 | Band 2A |                 | Band 2C |                 | Band 3 |                 | Band 3/4 |                 |
|--------|-----------------|---------|-----------------|---------|-----------------|--------|-----------------|----------|-----------------|
| Ch.    | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.    | Frequency (MHz) | Ch.      | Frequency (MHz) |
| 38     | 5190            | 54      | 5270            | 102     | 5510            | 151    | 5755            | 167      | 5835            |
| :      | :               | :       | :               | :       | :               | :      | :               | :        | :               |
| 46     | 5230            | 62      | 5310            | 118     | 5590            | 159    | 5795            | 175      | 5875            |
|        |                 |         |                 | :       | :               |        |                 |          |                 |
|        |                 |         |                 | 142     | 5710            |        |                 |          |                 |

Table 2-2. 802.11ax/be (40MHz BW) Frequency / Channel Operations

| Band 1 |                 | Band 2A |                 | Band 2C |                 | Band 3 |                 | Band 3/4 |                 |
|--------|-----------------|---------|-----------------|---------|-----------------|--------|-----------------|----------|-----------------|
| Ch.    | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.    | Frequency (MHz) | Ch.      | Frequency (MHz) |
| 42     | 5210            | 58      | 5290            | 106     | 5530            | 155    | 5775            | 167      | 5835            |
|        |                 |         |                 | :       | :               |        |                 |          |                 |
|        |                 |         |                 | 122     | 5610            |        |                 |          |                 |
|        |                 |         |                 | :       | :               |        |                 |          |                 |
|        |                 |         |                 | 138     | 5690            |        |                 |          |                 |

Table 2-3. 802.11ax/be (80MHz BW) Frequency / Channel Operations

| Band 1/2A |                 | Band 2C |                 | Band 3/4 |                 |
|-----------|-----------------|---------|-----------------|----------|-----------------|
| Ch.       | Frequency (MHz) | Ch.     | Frequency (MHz) | Ch.      | Frequency (MHz) |
| 50        | 5250            | 114     | 5570            | 163      | 5815            |

Table 2-4. 802.11ax/be (160MHz BW) Frequency / Channel Operations

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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**Notes:**

- 5GHz NII operation is possible in 20MHz, 40MHz, 80MHz, and 160MHz channel bandwidths. The maximum achievable duty cycles for all modes were determined based on measurements performed on a spectrum analyzer in zero-span mode with RBW = 8MHz, VBW = 50MHz, and detector = peak per the guidance of Section B)2)b) of ANSI C63.10-2013. The RBW and VBW were both greater than 50/T, where T is the minimum transmission duration, and the number of sweep points across T was greater than 100. The duty cycles are as follows:

| Band | Bandwidth | Tone Type | Tone Size | MIMO (1+2)     |
|------|-----------|-----------|-----------|----------------|
|      |           |           |           | Duty Cycle [%] |
| 5GHz | 20MHz     | RU        | 26T       | 99.24          |
|      |           |           | 52T       | 99.19          |
|      |           |           | 106T      | 99.14          |
|      |           |           | 242T      | 98.54          |
|      |           | MRU       | 52+26T    | 99.19          |
|      |           |           | 106+26T   | 98.53          |
|      | 40MHz     | RU        | 26T       | 99.24          |
|      |           |           | 52T       | 99.28          |
|      |           |           | 106T      | 99.19          |
|      |           |           | 242T      | 98.62          |
|      |           |           | 484T      | 97.28          |
|      | 80MHz     | RU        | 26T       | 99.24          |
|      |           |           | 52T       | 99.24          |
|      |           |           | 106T      | 99.19          |
|      |           |           | 242T      | 98.70          |
|      |           |           | 484T      | 97.49          |
|      |           | 996T      | 96.13     |                |
|      | MRU       | 484+242T  | 97.11     |                |
|      | 160MHz    | RU        | 26T       | 99.24          |
|      |           |           | 52T       | 99.19          |
|      |           |           | 106T      | 99.14          |
|      |           |           | 242T      | 98.62          |
|      |           |           | 484T      | 97.49          |
|      |           |           | 996T      | 96.23          |
|      |           |           | 2x996T    | 95.60          |
|      |           | MRU       | 996+484T  | 96.61          |

**Table 2-5. Measured Duty Cycles – 11ax/be**

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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2. The device employs MIMO technology. Below are the possible configurations.

| WiFi Configurations |      | SISO |      | SDM  |      | CDD  |      |
|---------------------|------|------|------|------|------|------|------|
|                     |      | ANT1 | ANT2 | ANT1 | ANT2 | ANT1 | ANT2 |
| 5GHz                | 11a  | ✓    | ✓    | ✗    | ✗    | ✓    | ✓    |
|                     | 11n  | ✓    | ✓    | ✓    | ✓    | ✓    | ✓    |
|                     | 11ac | ✓    | ✓    | ✓    | ✓    | ✓    | ✓    |
|                     | 11ax | ✓    | ✓    | ✓    | ✓    | ✓    | ✓    |
|                     | 11be | ✓    | ✓    | ✓    | ✓    | ✓    | ✓    |

Table 2-6. Frequency / Channel Operations

✓ = Support; ✗ = NOT Support

**SISO** = Single Input Single Output

**SDM** = Spatial Diversity Multiplexing – MIMO function

**CDD** = Cyclic Delay Diversity – 2Tx Function

3. The device supports the following data rates (shown in Mbps):

| MCS Index | Spatial Stream | OFDMA (802.11ax) |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |          |
|-----------|----------------|------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|           |                | 26T              |          |          | 52T      |          |          | 106T     |          |          | 242T     |          |          | 484T     |          |          | 996T     |          |          | 2x996T   |          |          |
|           |                | 0.8µs GI         | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI | 0.8µs GI | 1.6µs GI | 3.2µs GI |
| 0         | 1              | 0.9              | 0.8      | 0.8      | 1.8      | 1.7      | 1.5      | 3.8      | 3.5      | 3.2      | 8.6      | 8.1      | 7.3      | 17.2     | 16.3     | 14.6     | 36       | 34       | 30.6     | 72.1     | 68.1     | 61.3     |
| 1         | 1              | 1.8              | 1.7      | 1.5      | 3.5      | 3.3      | 3        | 7.5      | 7.1      | 6.4      | 17.2     | 16.3     | 14.6     | 34.4     | 32.5     | 29.3     | 72.1     | 68.1     | 61.3     | 144.1    | 136.1    | 122.5    |
| 2         | 1              | 2.6              | 2.5      | 2.3      | 5.3      | 5        | 4.5      | 11.3     | 10.6     | 9.6      | 25.8     | 24.4     | 21.9     | 51.6     | 48.8     | 43.9     | 108.1    | 102.1    | 91.9     | 216.2    | 204.2    | 183.8    |
| 3         | 1              | 3.5              | 3.3      | 3        | 7.1      | 6.7      | 6        | 15       | 14.2     | 12.8     | 34.4     | 32.5     | 29.3     | 68.8     | 65       | 58.5     | 144.1    | 136.1    | 122.5    | 288.2    | 272.2    | 245      |
| 4         | 1              | 5.3              | 5        | 4.5      | 10.6     | 10       | 9        | 22.5     | 21.3     | 19.1     | 51.6     | 48.8     | 43.9     | 103.2    | 97.5     | 87.8     | 216.2    | 204.2    | 183.8    | 432.4    | 408.3    | 367.5    |
| 5         | 1              | 7.1              | 6.7      | 6        | 14.1     | 13.3     | 12       | 30       | 28.3     | 25.5     | 68.8     | 65       | 58.5     | 137.6    | 130      | 117      | 288.2    | 272.2    | 245      | 576.5    | 544.4    | 490      |
| 6         | 1              | 7.9              | 7.5      | 6.8      | 15.9     | 15       | 13.5     | 33.8     | 31.9     | 28.7     | 77.4     | 73.1     | 65.8     | 154.9    | 146.3    | 131.6    | 324.3    | 306.3    | 275.6    | 648.5    | 612.5    | 551.3    |
| 7         | 1              | 8.8              | 8.3      | 7.5      | 17.6     | 16.7     | 15       | 37.5     | 35.4     | 31.9     | 86       | 81.3     | 73.1     | 172.1    | 162.5    | 146.3    | 360.3    | 340.3    | 306.3    | 720.6    | 680.6    | 612.5    |
| 8         | 1              | 10.6             | 10       | 9        | 21.2     | 20       | 18       | 45       | 42.5     | 38.3     | 103.2    | 97.5     | 87.8     | 206.5    | 195      | 175.5    | 432.4    | 408.3    | 367.5    | 864.7    | 816.7    | 735      |
| 9         | 1              | 11.8             | 11.1     | 10       | 23.5     | 22.2     | 20       | 50       | 47.2     | 42.5     | 114.7    | 108.3    | 97.5     | 229.4    | 216.7    | 195      | 480.4    | 453.7    | 408.3    | 960.8    | 907.4    | 816.7    |
| 10        | 1              | 13.2             | 12.5     | 11.3     | 26.5     | 25       | 22.5     | 56.3     | 53.1     | 47.8     | 129      | 121.9    | 109.7    | 258.1    | 243.8    | 219.4    | 540.4    | 510.4    | 459.4    | 1080.9   | 1020.8   | 918.8    |
| 11        | 1              | 14.7             | 13.9     | 12.5     | 29.4     | 27.8     | 25       | 62.5     | 59       | 53.1     | 143.4    | 135.4    | 121.9    | 286.8    | 270.8    | 243.8    | 600.5    | 567.1    | 510.4    | 1201     | 1134.3   | 1020.8   |
| 0         | 2              | 1.8              | 1.7      | 1.5      | 3.5      | 3.3      | 3        | 7.5      | 7.1      | 6.4      | 17.2     | 16.3     | 14.6     | 34.4     | 32.5     | 29.3     | 72.1     | 68.1     | 61.3     | 144.1    | 136.1    | 122.5    |
| 1         | 2              | 3.5              | 3.3      | 3        | 7.1      | 6.7      | 6        | 15       | 14.2     | 12.8     | 34.4     | 32.5     | 29.3     | 68.8     | 65       | 58.5     | 144.1    | 136.1    | 122.5    | 288.2    | 272.2    | 245      |
| 2         | 2              | 5.3              | 5        | 4.5      | 10.6     | 10       | 9        | 22.5     | 21.3     | 19.1     | 51.6     | 48.8     | 43.9     | 103.2    | 97.5     | 87.8     | 216.2    | 204.2    | 183.8    | 432.4    | 408.3    | 367.5    |
| 3         | 2              | 7.1              | 6.7      | 6        | 14.1     | 13.3     | 12       | 30       | 28.3     | 25.5     | 68.8     | 65       | 58.5     | 137.6    | 130      | 117      | 288.2    | 272.2    | 245      | 576.5    | 544.4    | 490      |
| 4         | 2              | 10.6             | 10       | 9        | 21.2     | 20       | 18       | 45       | 42.5     | 38.3     | 103.2    | 97.5     | 87.8     | 206.5    | 195      | 175.5    | 432.4    | 408.3    | 367.5    | 864.7    | 816.7    | 735      |
| 5         | 2              | 14.1             | 13.3     | 12       | 28.2     | 26.7     | 24       | 60       | 56.7     | 51       | 137.6    | 130      | 117      | 275.3    | 260      | 234      | 576.5    | 544.4    | 490      | 1152.9   | 1088.9   | 980      |
| 6         | 2              | 15.9             | 15       | 13.5     | 31.8     | 30       | 27       | 67.5     | 63.8     | 57.4     | 154.9    | 146.3    | 131.6    | 309.7    | 292.5    | 263.3    | 648.5    | 612.5    | 551.3    | 1297.1   | 1225     | 1102.5   |
| 7         | 2              | 17.6             | 16.7     | 15       | 35.3     | 33.3     | 30       | 75       | 70.8     | 63.8     | 172.1    | 162.5    | 146.3    | 344.1    | 325      | 292.5    | 720.6    | 680.6    | 612.5    | 1441.2   | 1361.1   | 1225     |
| 8         | 2              | 21.2             | 20       | 18       | 42.4     | 40       | 36       | 90       | 85       | 76.5     | 206.5    | 195      | 175.5    | 412.9    | 390      | 351      | 864.7    | 816.7    | 735      | 1729.4   | 1633.3   | 1470     |
| 9         | 2              | 23.5             | 22.2     | 20       | 47.1     | 44.4     | 40       | 100      | 94.4     | 85       | 229.4    | 216.7    | 195      | 458.8    | 433.3    | 390      | 960.8    | 907.4    | 816.7    | 1921.6   | 1814.8   | 1633.3   |
| 10        | 2              | 26.5             | 25       | 22.5     | 52.9     | 50       | 45       | 112.5    | 106.3    | 95.6     | 258.1    | 243.8    | 219.4    | 516.2    | 487.5    | 438.8    | 1080.9   | 1020.8   | 918.8    | 2161.8   | 2041.7   | 1837.5   |
| 11        | 2              | 29.4             | 27.8     | 25       | 58.8     | 55.6     | 50       | 125      | 118.1    | 106.3    | 286.8    | 270.8    | 243.8    | 573.5    | 541.7    | 487.5    | 1201     | 1134.3   | 1020.8   | 2402     | 2268.5   | 2041.7   |

Table 2-7. Supported Data Rates

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 7 of 155                     |

### 2.3 Antenna Description

The following antenna gains were used for the testing.

| Frequency [GHz] | Antenna 1 Gain [dBi] | Antenna 2 Gain [dBi] | Directional Ant. Gain [dBi] |
|-----------------|----------------------|----------------------|-----------------------------|
| 5.20            | 3.60                 | 4.60                 | 7.12                        |
| 5.30            | 2.90                 | 4.90                 | 6.97                        |
| 5.50            | 4.40                 | 5.10                 | 7.77                        |
| 5.80            | 4.40                 | 5.00                 | 7.72                        |
| 5.85            | 3.90                 | 4.60                 | 7.27                        |

**Table 2-8. Antenna Peak Gain**

### 2.4 Test Configuration

The device has either an OLED or LCD display type. Testing was performed with both display types and only worst-case emissions are reported.

ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing. See 5GHz UNII OFDM report for AC line conducted emissions test setups, 7.6 for radiated emissions test setups, and 7.2, 7.3, 7.4, and 7.5 for antenna port conducted emissions test setups.

### 2.5 Software and Firmware

The test was conducted with software/firmware version 2024.111.46 installed on the EUT.

### 2.6 EMI Suppression Device(s) / Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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## 3.0 DESCRIPTION OF TESTS

### 3.1 Evaluation Procedure

The measurement procedures described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) was used in the measurement of the EUT.

**Deviation from measurement procedure.....None**

### 3.2 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 414788 D01 v01r01.

### 3.3 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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## 4.0 ANTENNA REQUIREMENTS

**Excerpt from §15.203 of the FCC Rules/Regulations:**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connection to an external antenna.

**Conclusion:**

The EUT complies with the requirement of §15.203.

|   |  |  |  |
|---|--|--|--|
| FCC ID: C3K2085                         | <b>MEASUREMENT REPORT</b>              |  | <b>Approved by:</b><br>Technical Manager |
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## 5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Contribution                     | Expanded Uncertainty ( $\pm$ dB) |
|----------------------------------|----------------------------------|
| Conducted Bench Top Measurements | 1.13                             |
| Line Conducted Disturbance       | 3.09                             |
| Radiated Disturbance (<1GHz)     | 4.98                             |
| Radiated Disturbance (>1GHz)     | 5.07                             |
| Radiated Disturbance (>18GHz)    | 5.09                             |

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
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## 6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

| Manufacturer          | Model     | Description                         | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|-------------------------------------|------------|--------------|------------|---------------|
| N/A                   | WL25-1    | Conducted Cable Set (25GHz)         | 11/15/2023 | Annual       | 11/15/2024 | WL25-1        |
| N/A                   | WL25-2    | WLAN Cable Set (25GHz)              | 11/15/2023 | Annual       | 11/15/2024 | WL25-2        |
| N/A                   | WL40-1    | WLAN Cable Set (40GHz)              | 11/15/2023 | Annual       | 11/15/2024 | WL40-1        |
| N/A                   | ETS-001   | EMC Cable and Switch System         | 11/15/2023 | Annual       | 11/15/2024 | ETS-001       |
| N/A                   | ETS-002   | EMC Cable and Switch System         | 11/15/2023 | Annual       | 11/15/2024 | ETS-002       |
| N/A                   | AP1-002   | EMC Cable and Switch System         | 11/15/2023 | Annual       | 11/15/2024 | AP1-002       |
| N/A                   | AP2-001   | EMC Cable and Switch System         | 11/15/2023 | Annual       | 11/15/2024 | AP2-001       |
| N/A                   | AP2-002   | EMC Cable and Switch System         | 11/15/2023 | Annual       | 11/15/2024 | AP2-002       |
| Anritsu               | MA2411B   | Pulse Power Sensor                  | 11/8/2023  | Annual       | 11/8/2024  | 1027293       |
| Anritsu               | MA2411B   | Pulse Power Sensor                  | 6/14/2023  | Annual       | 6/14/2024  | 1911105       |
| Com-Power             | AL-130    | 9kHz - 30MHz Loop Antenna           | 4/13/2022  | Biennial     | 4/13/2024  | 121034        |
| Keysight Technologies | N9038A    | MXE EMI Receiver                    | 8/30/2023  | Annual       | 8/30/2024  | MY51210133    |
| Keysight Technologies | N9030A    | PXA Signal Analyzer                 | 2/29/2024  | Annual       | 3/1/2025   | MY55410501    |
| Keysight Technologies | N9020A    | MXA Signal Analyzer                 | 3/15/2023  | Annual       | 3/15/2024  | MY54500644    |
| Pasternack            | NMLC-2    | Line Conducted Emissions Cable (NM) | 11/15/2023 | Annual       | 11/15/2024 | NMLC-2        |
| Rohde & Schwarz       | ESU26     | EMI Test Receiver (26.5GHz)         | 9/25/2023  | Annual       | 9/25/2024  | 100342        |
| Rohde & Schwarz       | ESU40     | EMI Test Receiver (40GHz)           | 9/11/2023  | Annual       | 9/11/2024  | 100348        |
| Rohde & Schwarz       | FSW67     | Signal / Spectrum Analyzer          | 2/15/2024  | Annual       | 2/15/2025  | 103200        |
| Rohde & Schwarz       | SFUNIT-Rx | Shielded Filter Unit                | 3/15/2023  | Biennial     | 3/15/2025  | 102136        |
| Rohde & Schwarz       | SFUNIT-Rx | Shielded Filter Unit                | 3/15/2023  | Biennial     | 3/15/2025  | 102132        |
| Rohde & Schwarz       | SFUNIT-Rx | Shielded Filter Unit                | 1/11/2024  | Annual       | 1/11/2025  | 102151        |
| Sunol Sciences        | DRH-118   | Horn (Small)                        | 2/21/2024  | Biennial     | 2/21/2026  | A050307       |
| Sunol Sciences        | JB5       | Bi-Log Antenna (30M-5GHz)           | 8/30/2022  | Biennial     | 8/30/2024  | A051107       |

**Table 6-1. Annual Test Equipment Calibration Schedule**

**Note:**

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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## 7.0 TEST RESULTS

### 7.1 Summary

Company Name: Microsoft Corporation  
 FCC ID: C3K2085  
 FCC Classification: Unlicensed National Information Infrastructure (UNII)

| FCC Part Section(s)                          | RSS Section(s) | Test Description  | Test Limit   | Test Condition | Test Result | Reference           |
|--|----------------|---|--|----------------|-------------|---------------------|
| N/A  | RSS-Gen [6.7]  | 26dB Bandwidth  | N/A  | CONDUCTED      | PASS        | Section 7.2         |
| 15.407€                                      | RSS-Gen [6.7]  | 6dB Bandwidth   | >500kHz (5725-5850MHz and 5850 – 5895MHz)  |                | PASS        | Section 7.3         |
| 15.407 (a)(1)(iv), (a)(2), (a)(3)            | RSS-247 [6.2]  | Maximum Conducted Output Power  | Maximum conducted powers must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])           |                | PASS        | Section 7.4         |
| 15.407 (a)(1)(iv), (a)(2), (a)(3)            | RSS-247 [6.2]  | Maximum Power Spectral Density  | Maximum power spectral density must meet the limits detailed in 15.407 (a) (RSS-247 [6.2])     |                | PASS        | Section 7.5         |
| 15.407(h)                                    | RSS-247 [6.3]  | Dynamic Frequency Selection   | See DFS Test Report  |                | PASS        | See DFS Test Report |
| 15.407(b)(1), (b)(2), (b)(3), (b)(4)         | RSS-247 [6.2]  | Undesirable Emissions   | Undesirable emissions must meet the limits detailed in 15.407(b) (RSS-247 [6.2])               | RADIATED       | PASS        | Section 7.6         |
| 15.205, 15.407(b)(1), (b)(4), (b)(5), (b)(6) | RSS-Gen [8.9]  | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 (RSS-Gen [8.9]) |                | PASS        | Section 7.6, 7.7    |

**Table 7-1. Summary of Test Results**

#### Notes:

- 1) All channels, modes, and modulations/data rates were investigated among all UNII bands. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables and attenuators.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element “EMC Software Tool,” Version 1.2.1.
- 5) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is Element “Chamber Automation,” Version 1.6.4.
- 6) 802.11ax/be OFDMA testing was performed for all signal tone configurations as specified by the 802.11ax standard. Worst case results are determined and reported per the guidance provided at the October 2018 TCB Workshop.
- 7) Only one RU index could be selected at a time, so no contiguous or non-contiguous RUs were considered for testing.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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## 7.2 26dB Bandwidth Measurement

### Test Overview and Limit

The bandwidth at 26dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26dB bandwidth.

***The 26dB bandwidth is used to determine the conducted power limits.***

### Test Procedure Used

ANSI C63.10-2013 – Section 12.4

### Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 26dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 26. The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = approximately 1% of the emission bandwidth
3. VBW  $\geq$  3 x RBW
4. Detector = Peak
5. Trace mode = max hold

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-1. Test Instrument & Measurement Setup**

### Test Notes

The 26dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
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## MIMO 26dB Bandwidth Measurements

|           | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 26dB Bandwidth [MHz] | Antenna-2 26dB Bandwidth [MHz] |
|-----------|-----------------|-------------|---------|--------------------------------|--------------------------------|
| Band 1    | 5180            | be (20MHz)  | 36      | 18.75                          | 18.30                          |
|           | 5200            | be (20MHz)  | 40      | 18.61                          | 18.32                          |
|           | 5240            | be (20MHz)  | 48      | 18.61                          | 18.42                          |
|           | 5190            | be (40MHz)  | 38      | 24.97                          | 24.48                          |
|           | 5230            | be (40MHz)  | 46      | 25.97                          | 25.21                          |
|           | 5210            | be (80MHz)  | 42      | 34.74                          | 35.12                          |
| Band 1/2A | 5250            | be (160MHz) | 50      | 40.52                          | 37.22                          |
| Band 2A   | 5260            | be (20MHz)  | 52      | 18.43                          | 18.37                          |
|           | 5280            | be (20MHz)  | 56      | 18.55                          | 18.23                          |
|           | 5320            | be (20MHz)  | 64      | 18.74                          | 18.29                          |
|           | 5270            | be (40MHz)  | 54      | 25.94                          | 24.24                          |
|           | 5310            | be (40MHz)  | 62      | 25.97                          | 24.75                          |
|           | 5290            | be (80MHz)  | 58      | 35.30                          | 35.95                          |
| Band 2C   | 5500            | be (20MHz)  | 100     | 20.49                          | 20.36                          |
|           | 5600            | be (20MHz)  | 120     | 20.02                          | 20.47                          |
|           | 5720            | be (20MHz)  | 144     | 20.44                          | 20.62                          |
|           | 5510            | be (40MHz)  | 102     | 24.91                          | 24.92                          |
|           | 5590            | be (40MHz)  | 118     | 21.50                          | 22.54                          |
|           | 5710            | be (40MHz)  | 142     | 22.23                          | 23.05                          |
|           | 5530            | be (80MHz)  | 106     | 37.38                          | 36.51                          |
|           | 5610            | be (80MHz)  | 122     | 29.86                          | 29.48                          |
|           | 5690            | be (80MHz)  | 138     | 27.85                          | 28.09                          |
|           | 5570            | be (160MHz) | 114     | 42.20                          | 39.70                          |

Table 7-2. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT1/2 (26 Tones)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
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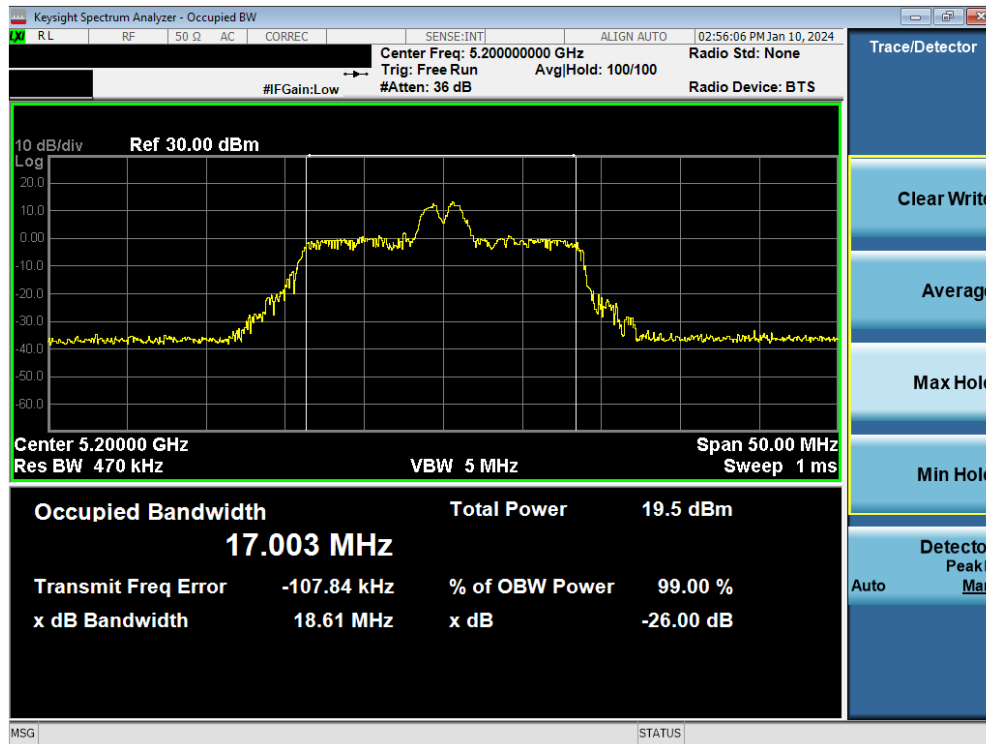
|           | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 26dB Bandwidth [MHz] | Antenna-2 26dB Bandwidth [MHz] |
|-----------|-----------------|-------------|---------|--------------------------------|--------------------------------|
| Band 1    | 5180            | be (20MHz)  | 36      | 21.99                          | 22.23                          |
|           | 5200            | be (20MHz)  | 40      | 21.73                          | 21.88                          |
|           | 5240            | be (20MHz)  | 48      | 22.01                          | 21.91                          |
|           | 5190            | be (40MHz)  | 38      | 44.86                          | 43.61                          |
|           | 5230            | be (40MHz)  | 46      | 45.00                          | 44.82                          |
|           | 5210            | be (80MHz)  | 42      | 93.43                          | 90.29                          |
| Band 1/2A | 5250            | be (160MHz) | 50      | 177.81                         | 184.65                         |
| Band 2A   | 5260            | be (20MHz)  | 52      | 22.12                          | 21.98                          |
|           | 5280            | be (20MHz)  | 56      | 22.06                          | 22.28                          |
|           | 5320            | be (20MHz)  | 64      | 22.26                          | 22.15                          |
|           | 5270            | be (40MHz)  | 54      | 44.74                          | 44.14                          |
|           | 5310            | be (40MHz)  | 62      | 44.59                          | 44.68                          |
|           | 5290            | be (80MHz)  | 58      | 93.39                          | 87.38                          |
| Band 2C   | 5500            | be (20MHz)  | 100     | 22.33                          | 21.76                          |
|           | 5600            | be (20MHz)  | 120     | 22.28                          | 22.07                          |
|           | 5720            | be (20MHz)  | 144     | 22.01                          | 22.20                          |
|           | 5510            | be (40MHz)  | 102     | 45.93                          | 43.33                          |
|           | 5590            | be (40MHz)  | 118     | 45.24                          | 44.41                          |
|           | 5710            | be (40MHz)  | 142     | 42.85                          | 44.04                          |
|           | 5530            | be (80MHz)  | 106     | 93.67                          | 89.78                          |
|           | 5610            | be (80MHz)  | 122     | 94.51                          | 89.26                          |
|           | 5690            | be (80MHz)  | 138     | 95.08                          | 89.51                          |
|           | 5570            | be (160MHz) | 114     | 183.68                         | 180.69                         |

**Table 7-3. Bands 1, 2A, 2C Conducted 26dB Bandwidth Measurements MIMO ANT1/2 (Full Tones)**

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
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## 7.2.1 MIMO Antenna-1 26dB Bandwidth Measurements

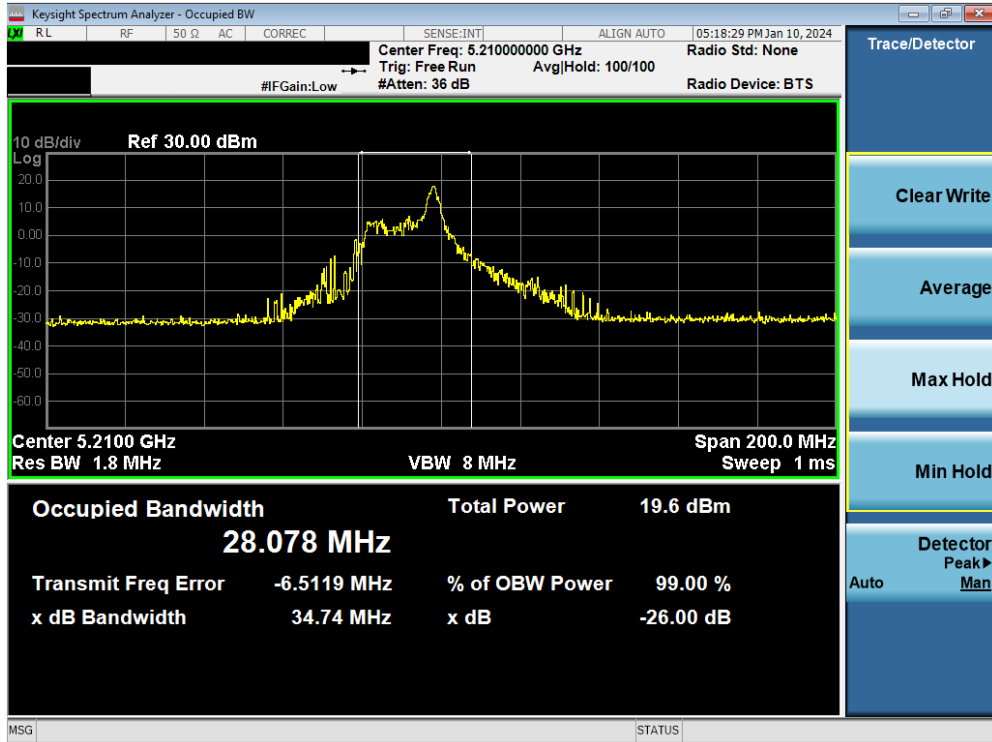


Plot 7-1. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 40)

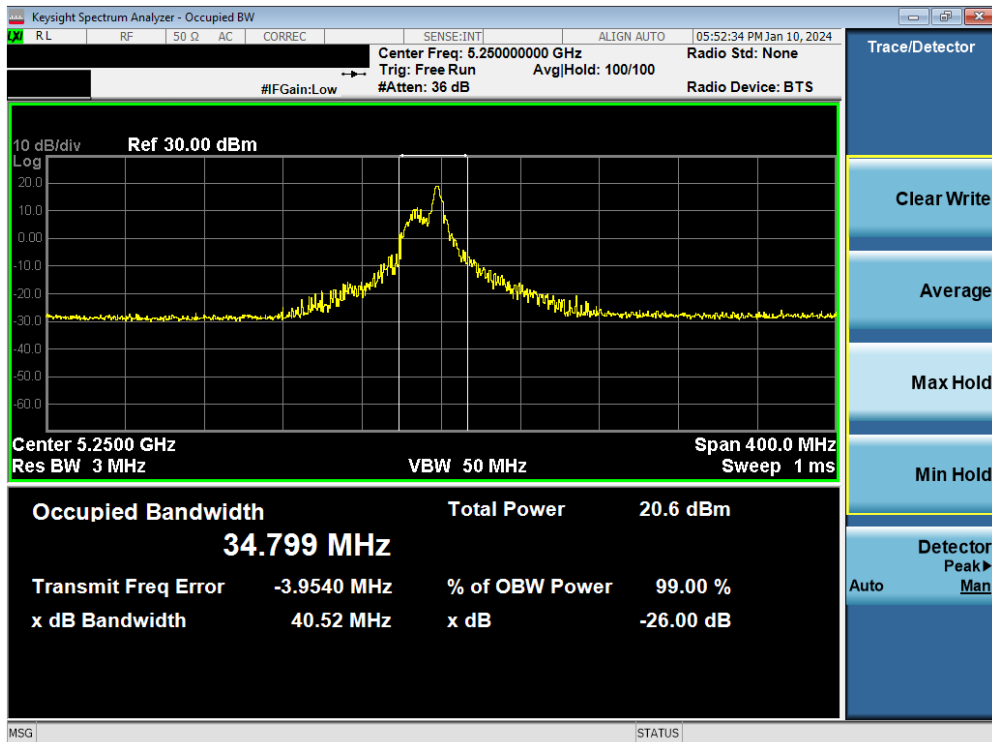


Plot 7-2. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 38)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
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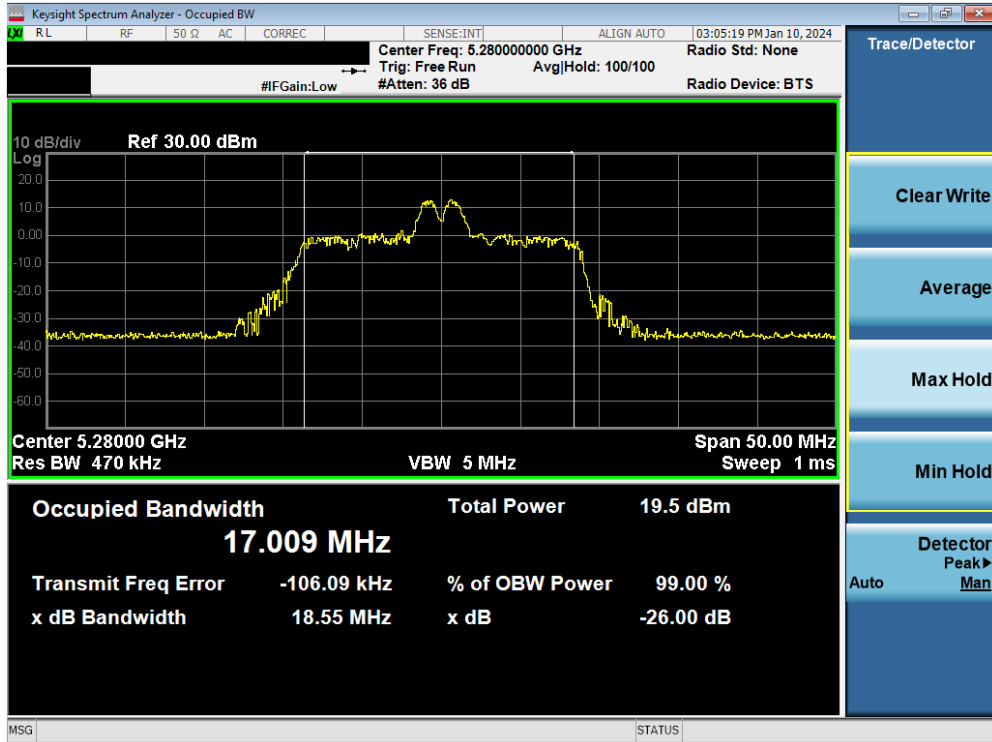


Plot 7-3. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 42)

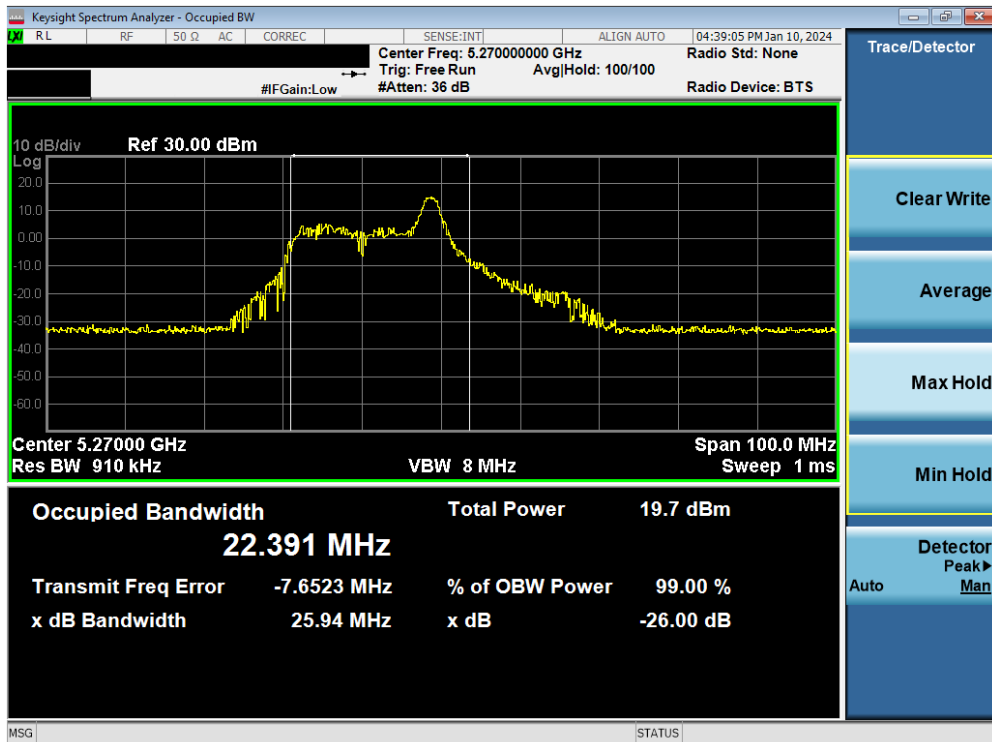


Plot 7-4. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11be – 26 Tones (UNII Band 1/2A) – Ch. 50)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 18 of 155                    |

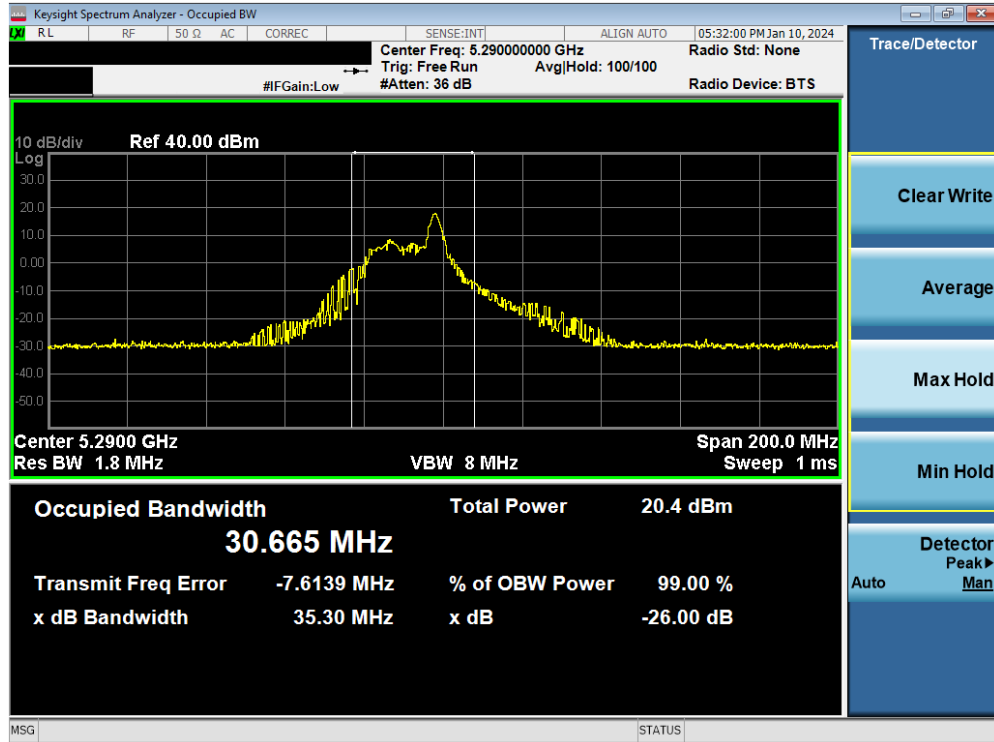


Plot 7-5. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 56)

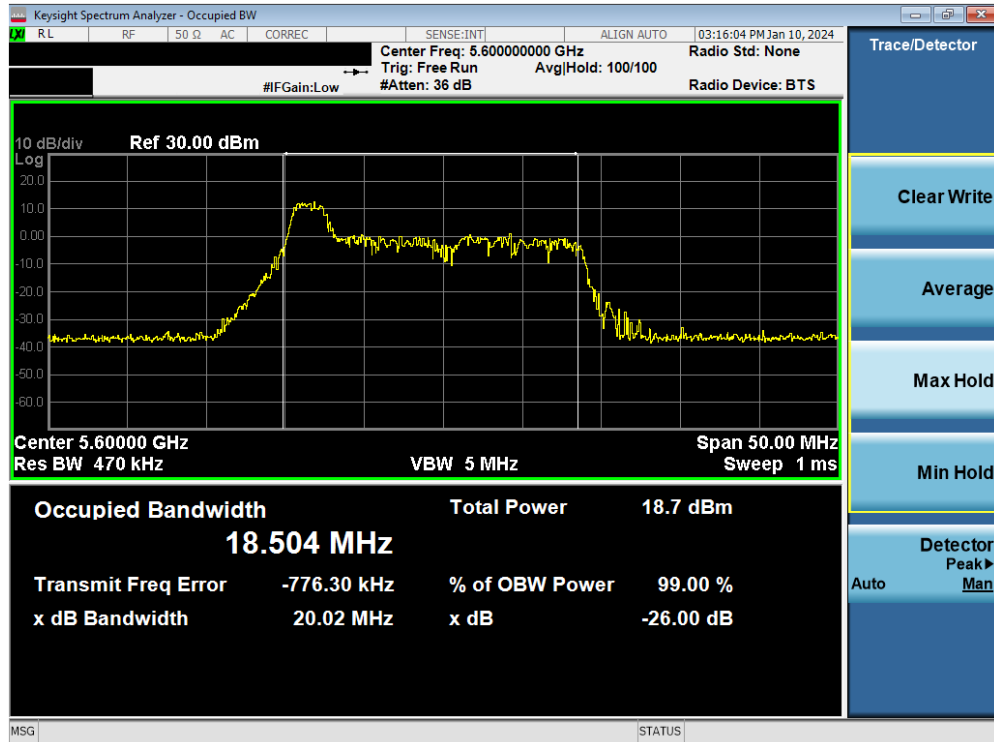


Plot 7-6. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 54)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 19 of 155                    |

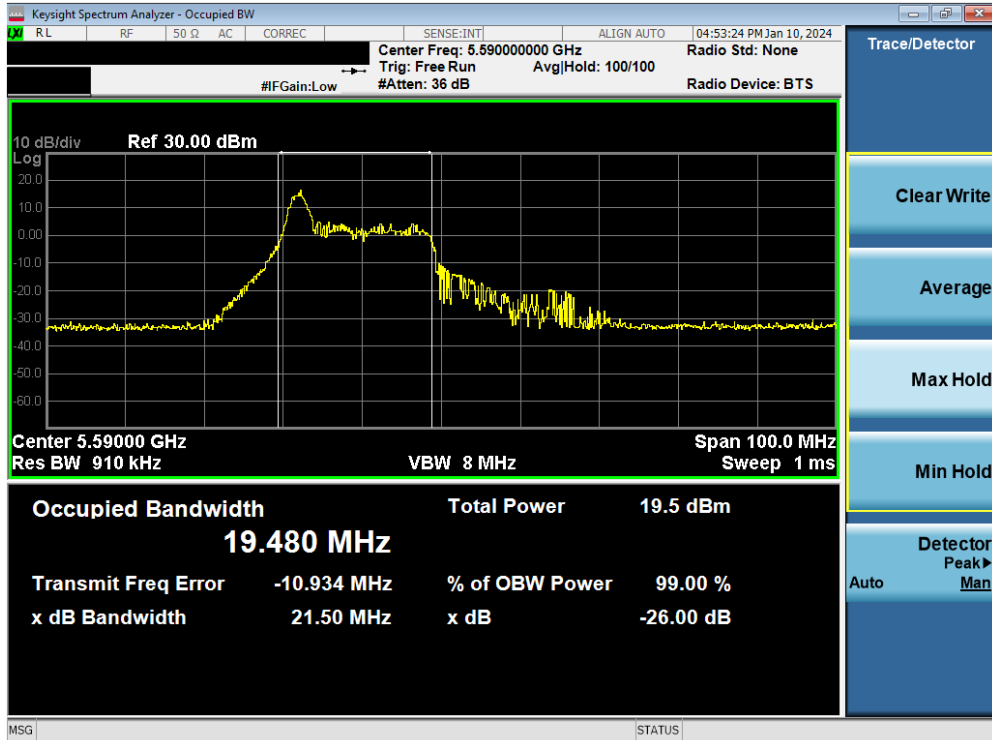


Plot 7-7. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 58)

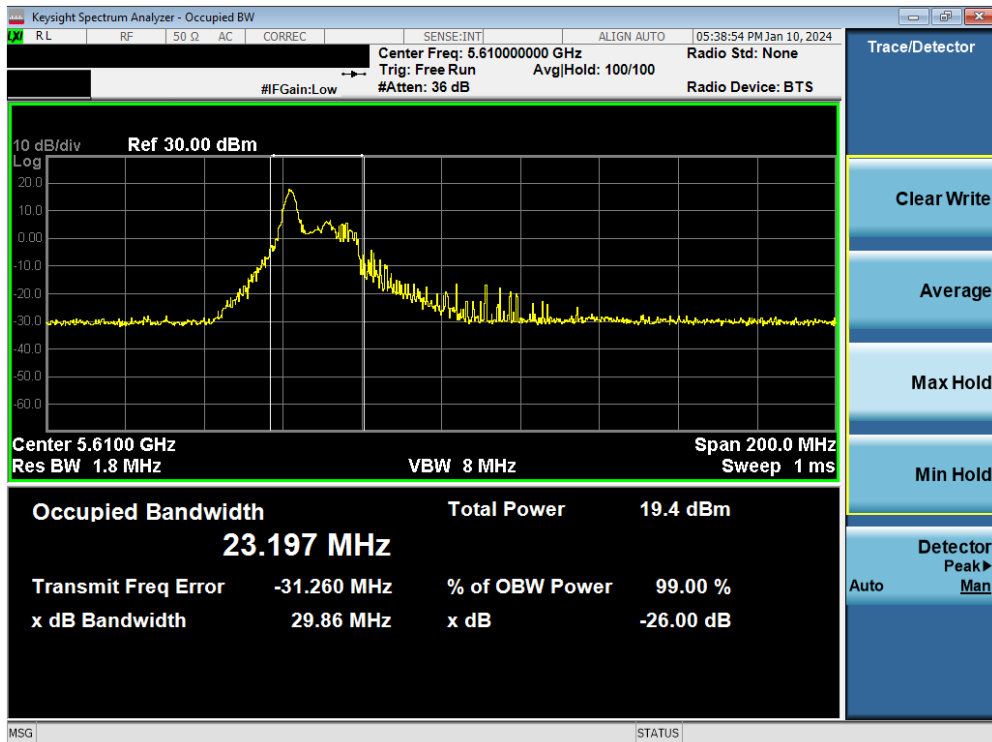


Plot 7-8. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 120)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 20 of 155                    |

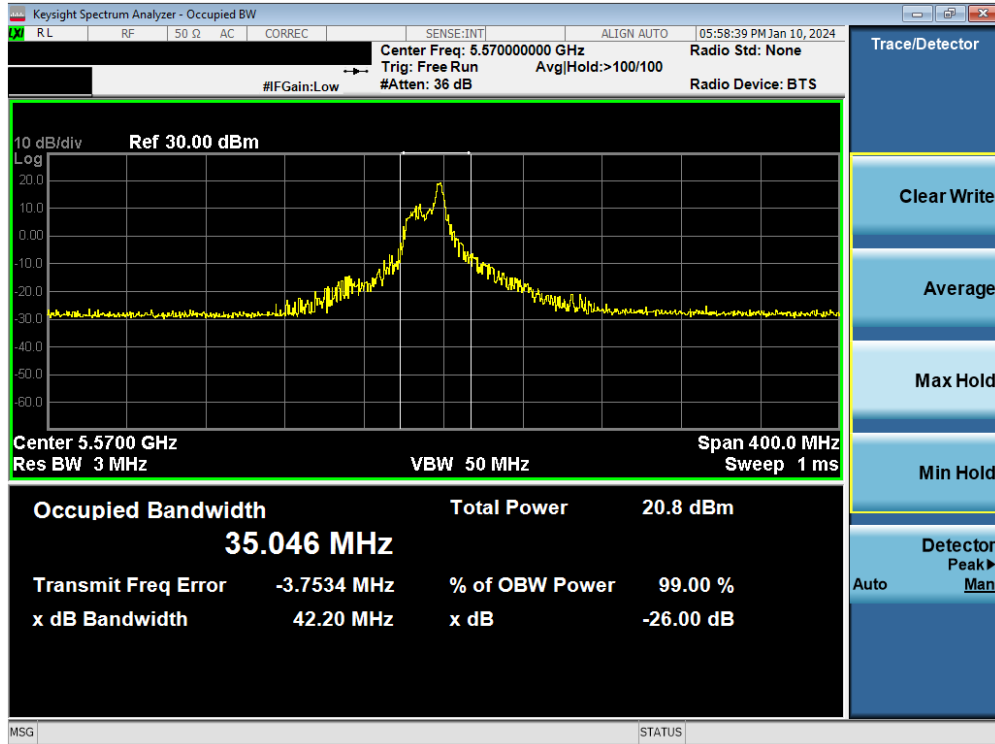


Plot 7-9. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 118)

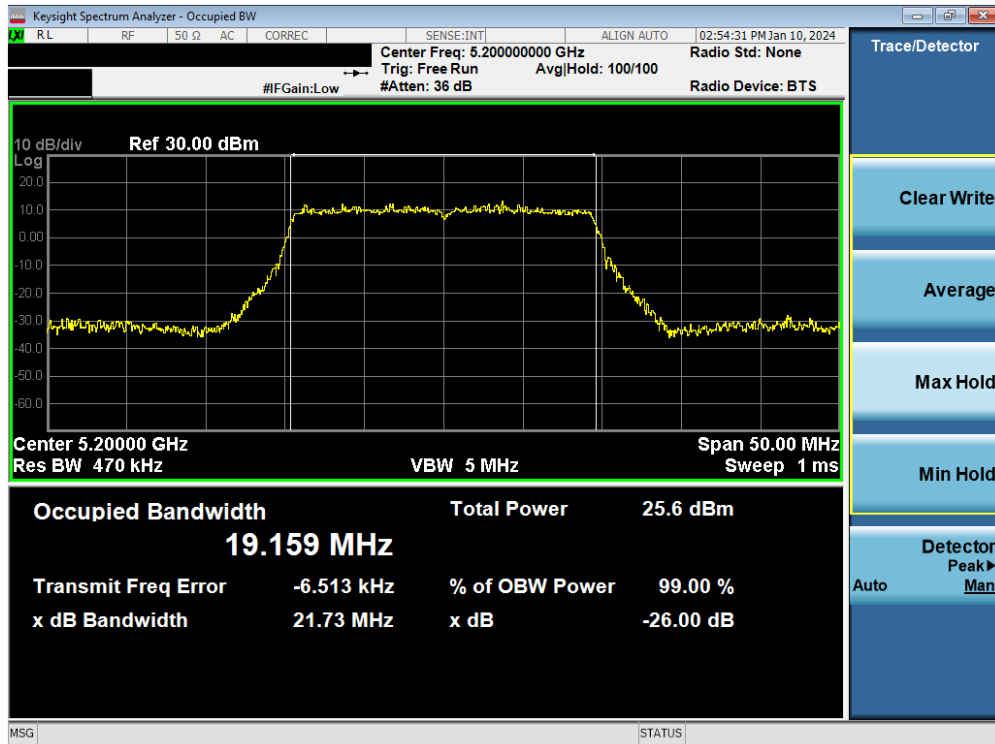


Plot 7-10. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 122)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 21 of 155                    |

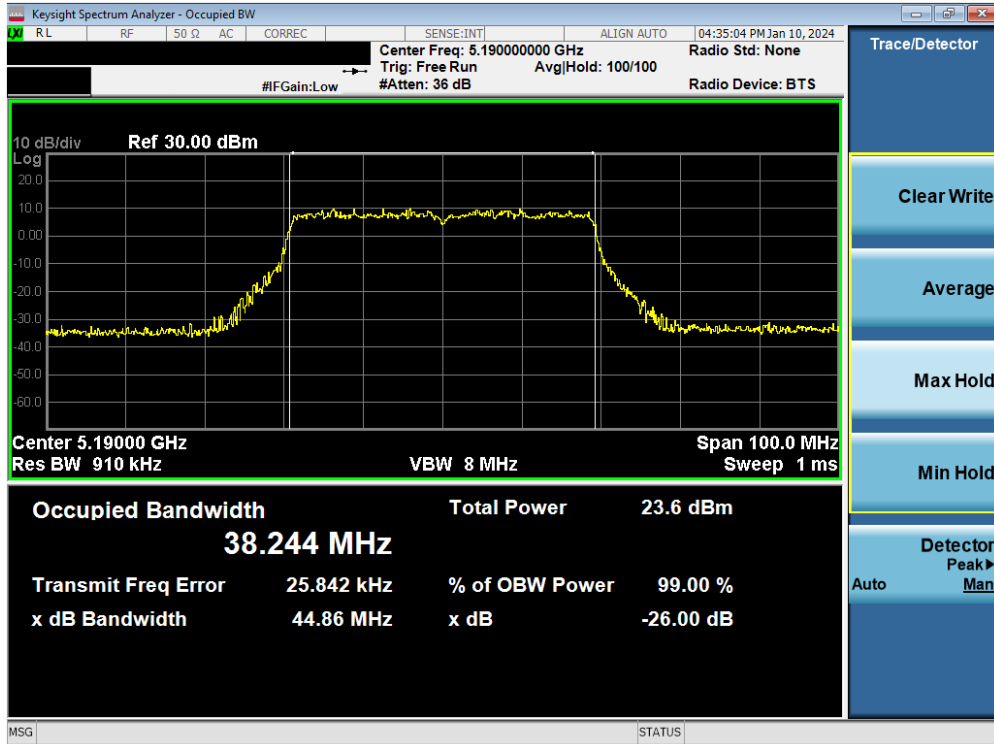


Plot 7-11. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 114)

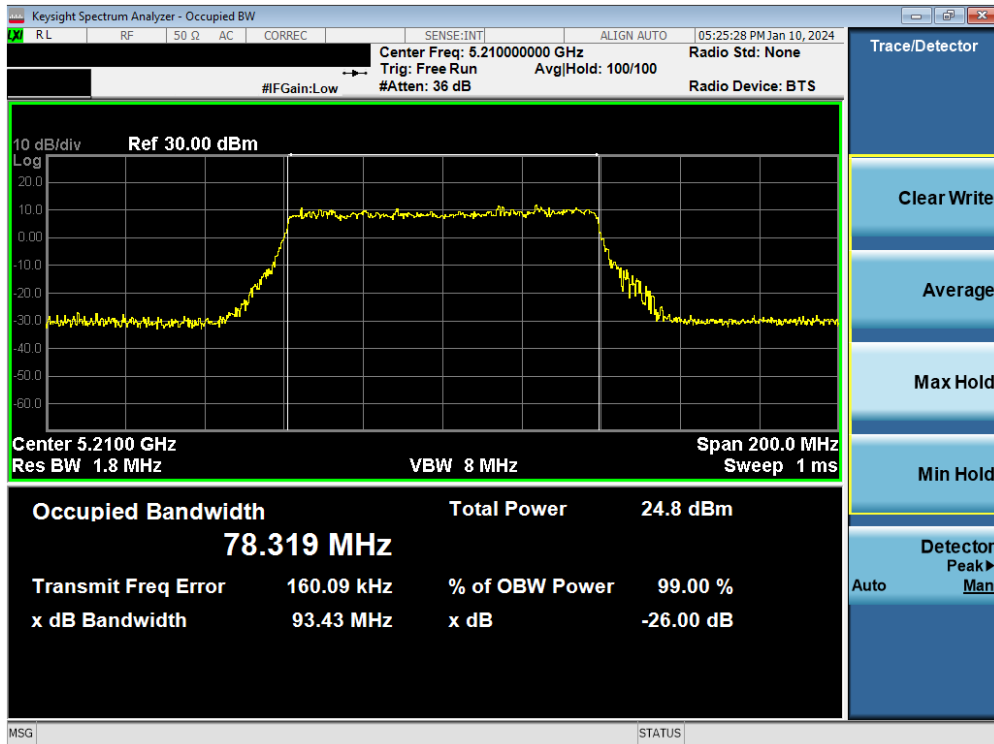


Plot 7-12. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 1) – Ch. 40)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 22 of 155                    |

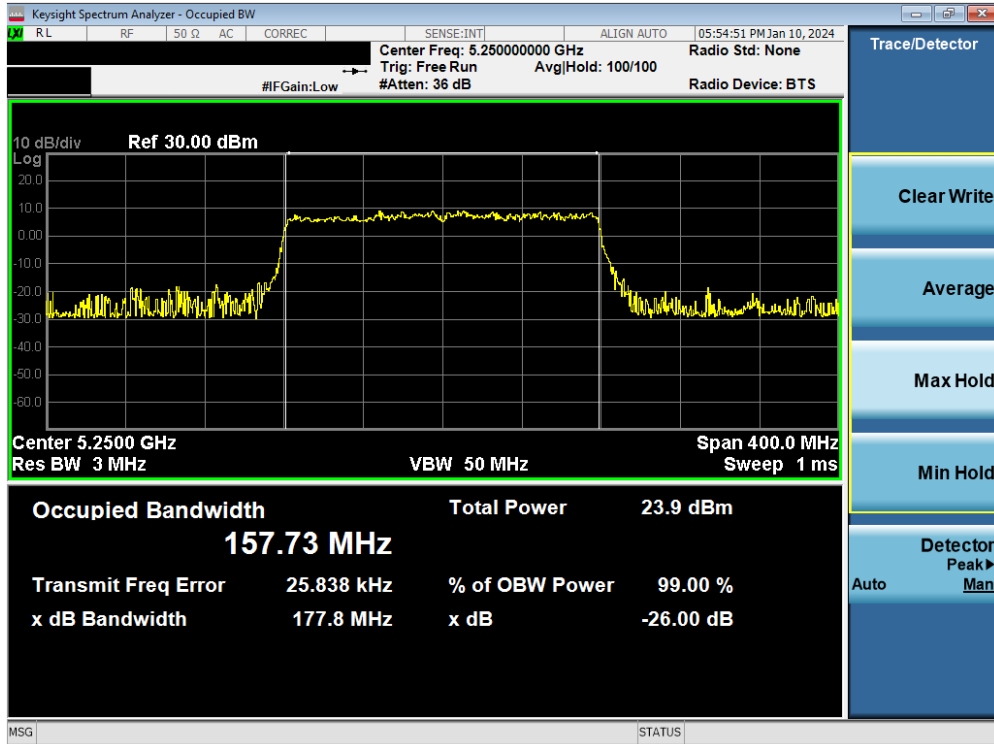


Plot 7-13. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 1) – Ch. 38)

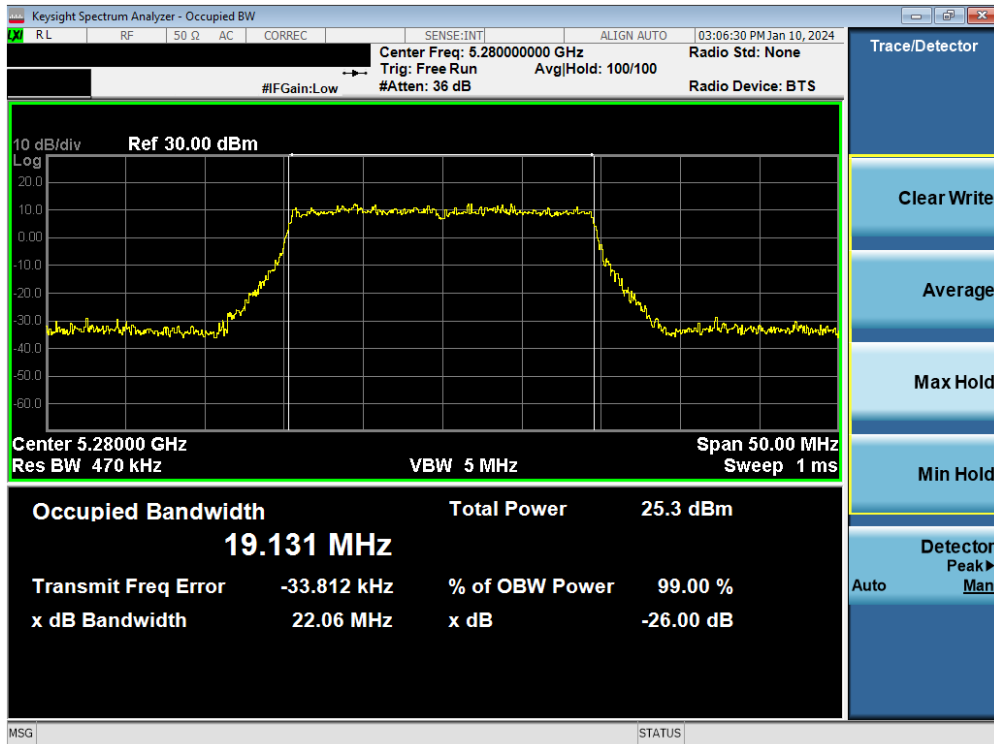


Plot 7-14. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 1) – Ch. 42)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 23 of 155                    |



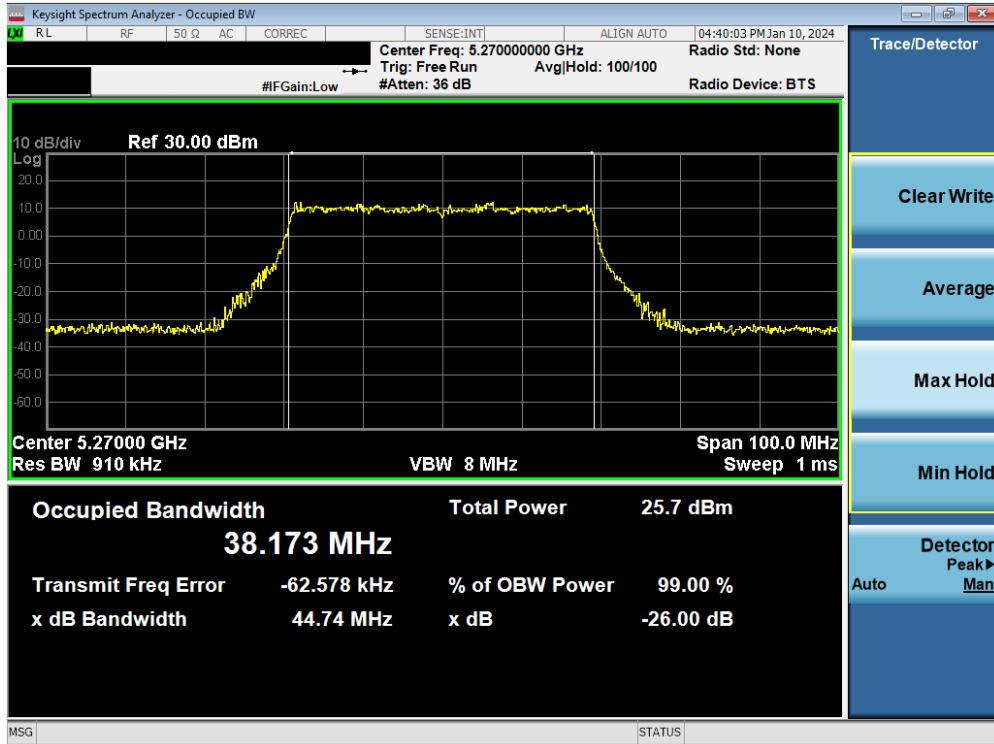
Plot 7-15. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11be – 2x996 Tones (UNII Band 1/2A) – Ch. 50)



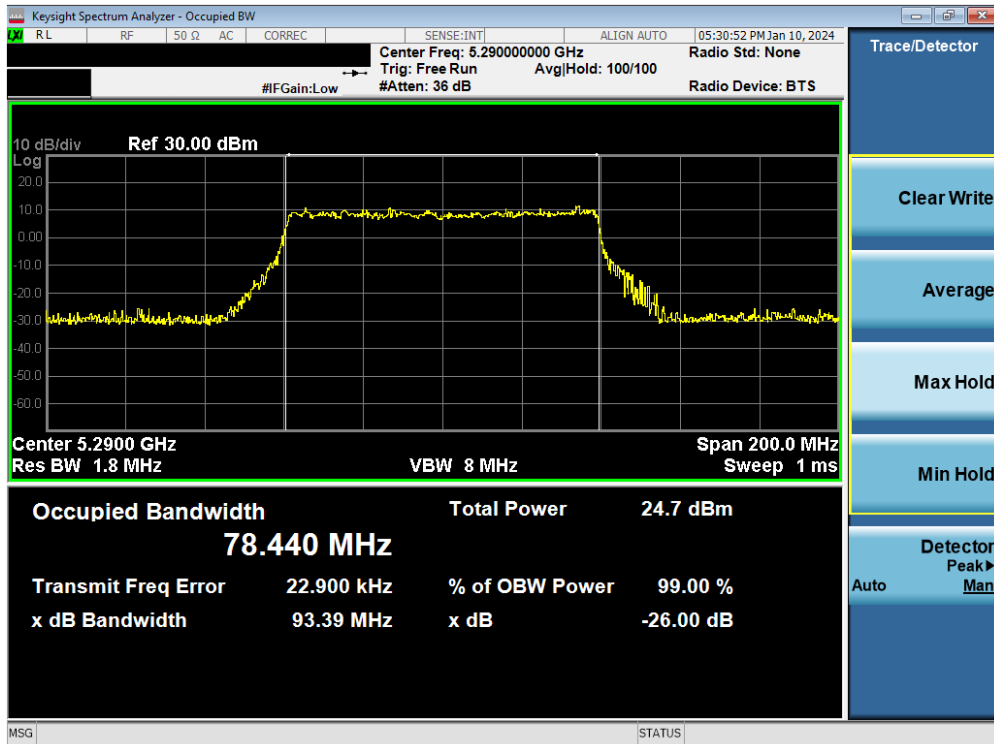
Plot 7-16. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 2A) – Ch. 56)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 24 of 155                    |



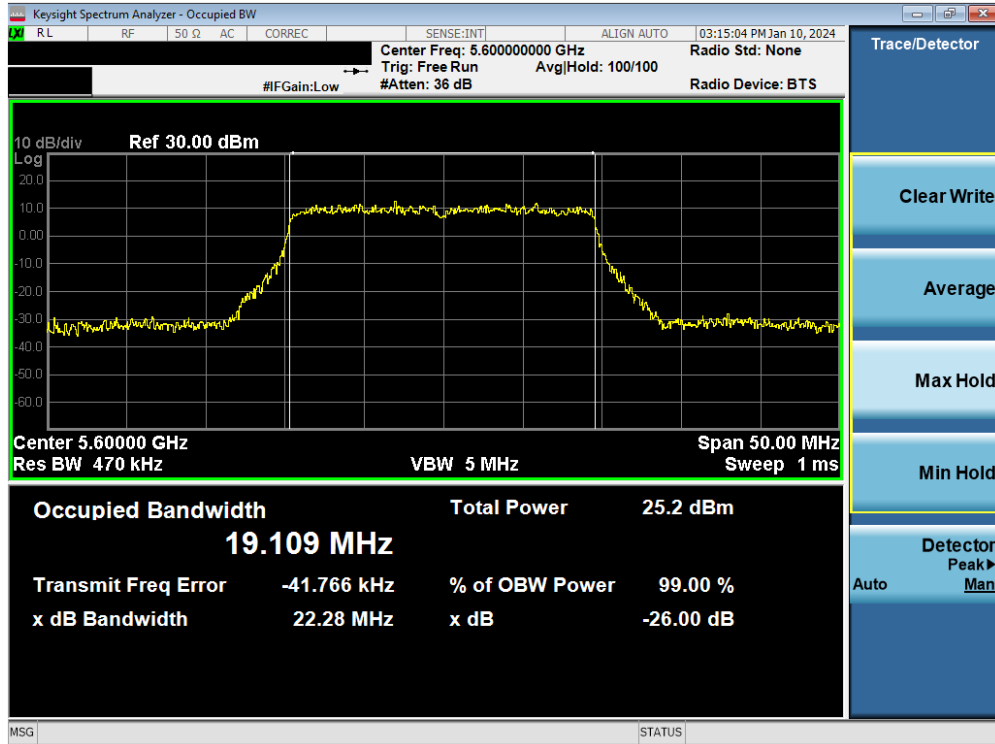


Plot 7-17. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 2A) – Ch. 54)

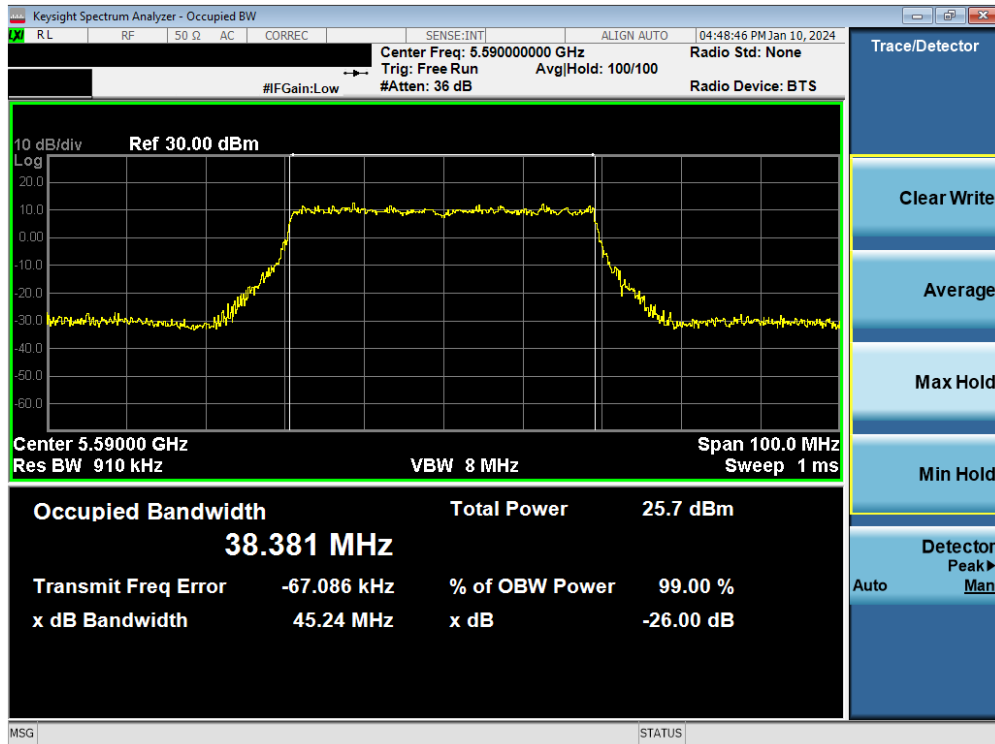


Plot 7-18. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 2A) – Ch. 58)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 25 of 155                    |

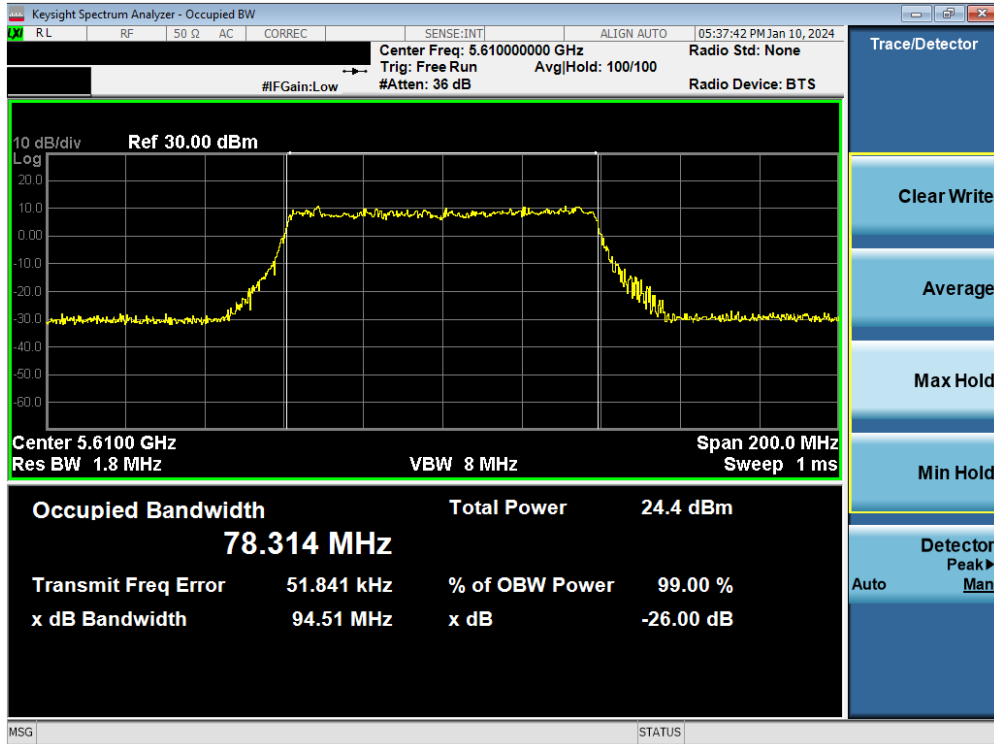


Plot 7-19. 26dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 2C) – Ch. 120)

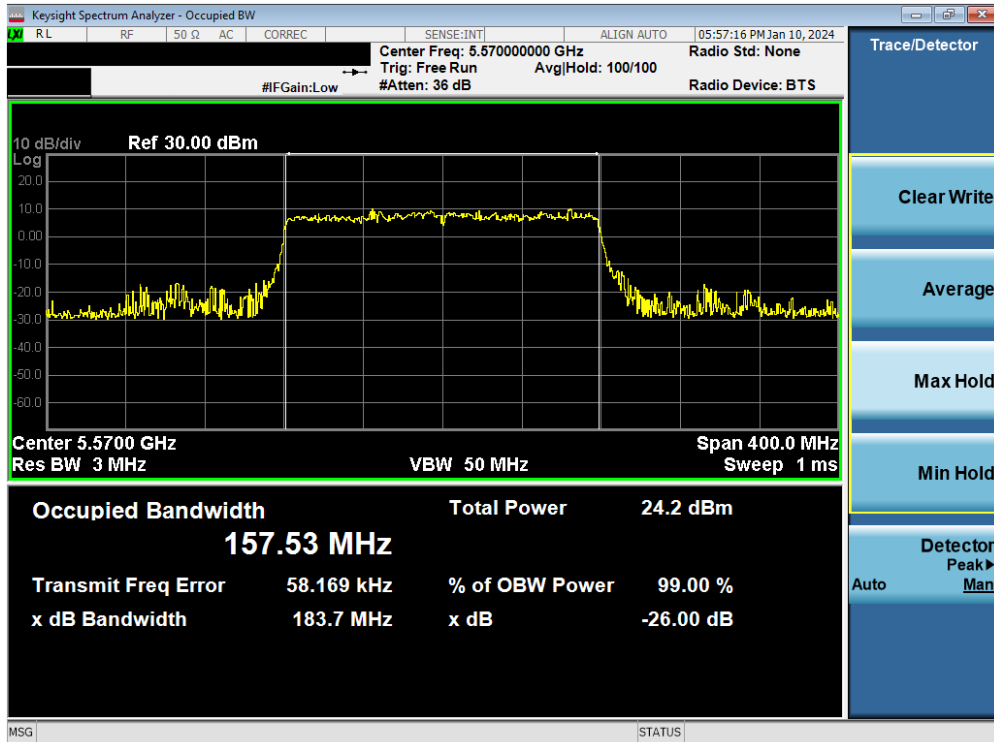


Plot 7-20. 26dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 2C) – Ch. 118)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 26 of 155                    |



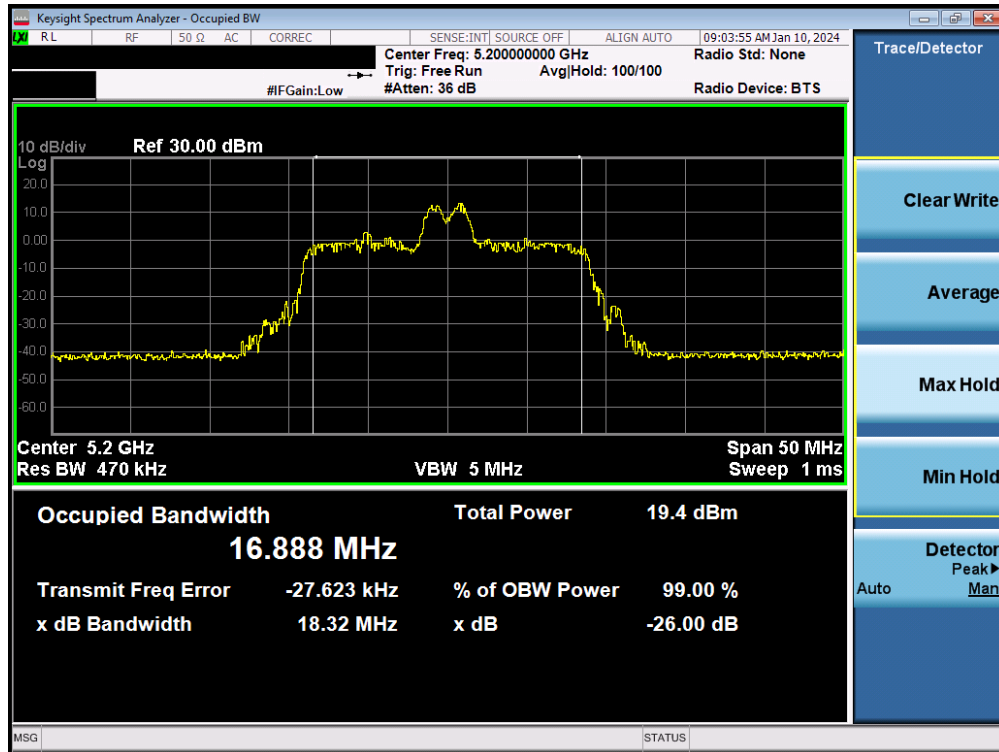
Plot 7-21. 26dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 2C) – Ch. 122)



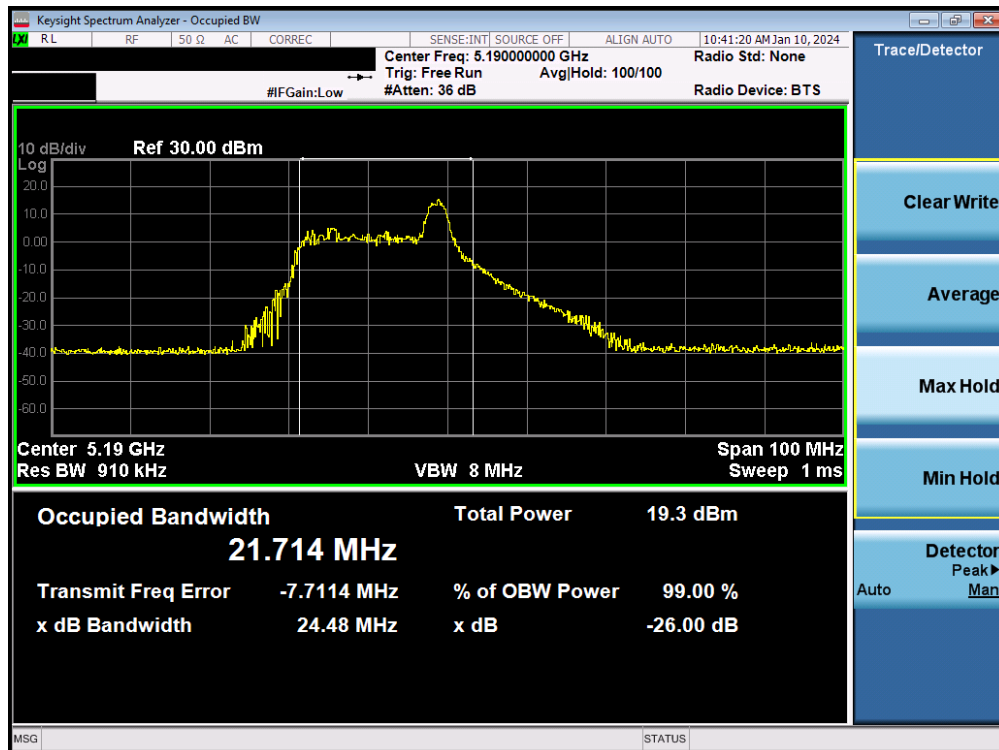
Plot 7-22. 26dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11be – 2x996 Tones (UNII Band 2C) – Ch. 114)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 27 of 155                    |

## 7.2.2 MIMO Antenna-2 26dB Bandwidth Measurements

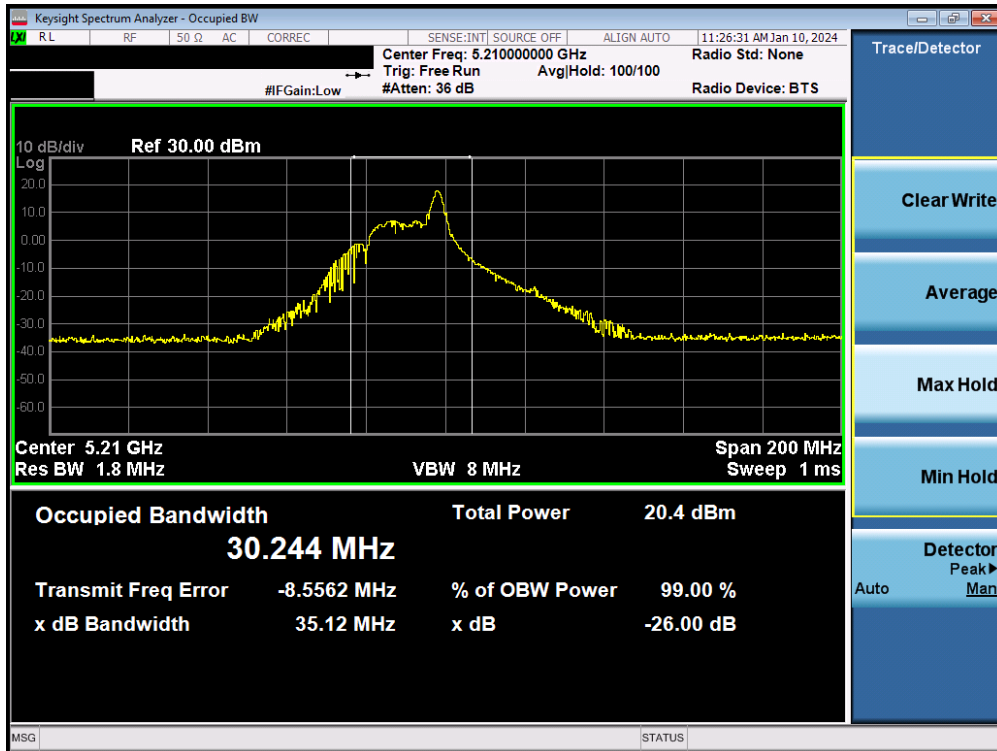


Plot 7-23. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 40)

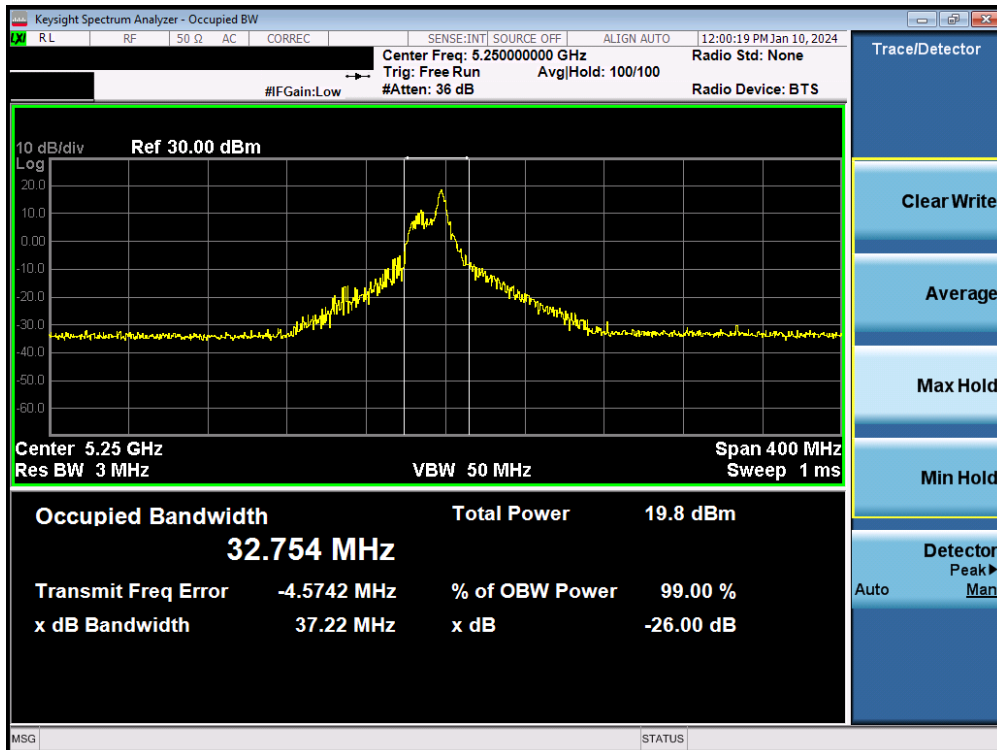


Plot 7-24. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 38)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 28 of 155                    |

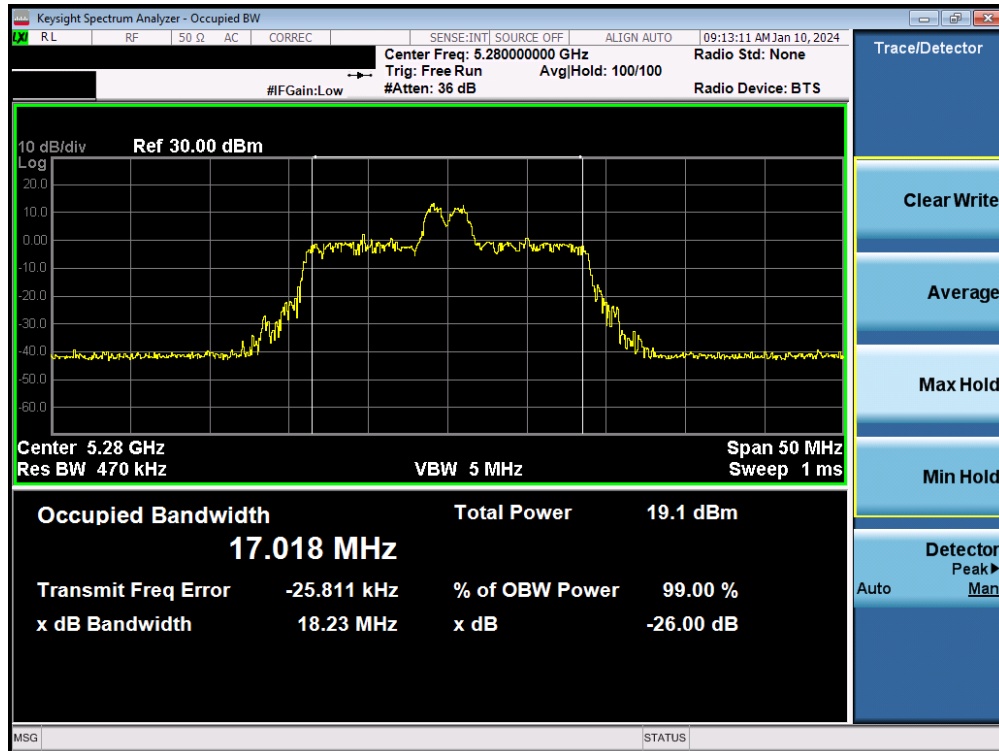


Plot 7-25. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 42)



Plot 7-26. 26dB Bandwidth Plot MIMO ANT2 (160MHz(U) BW 802.11be – 26 Tones (UNII Band 1/2A) – Ch. 50)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 29 of 155                    |

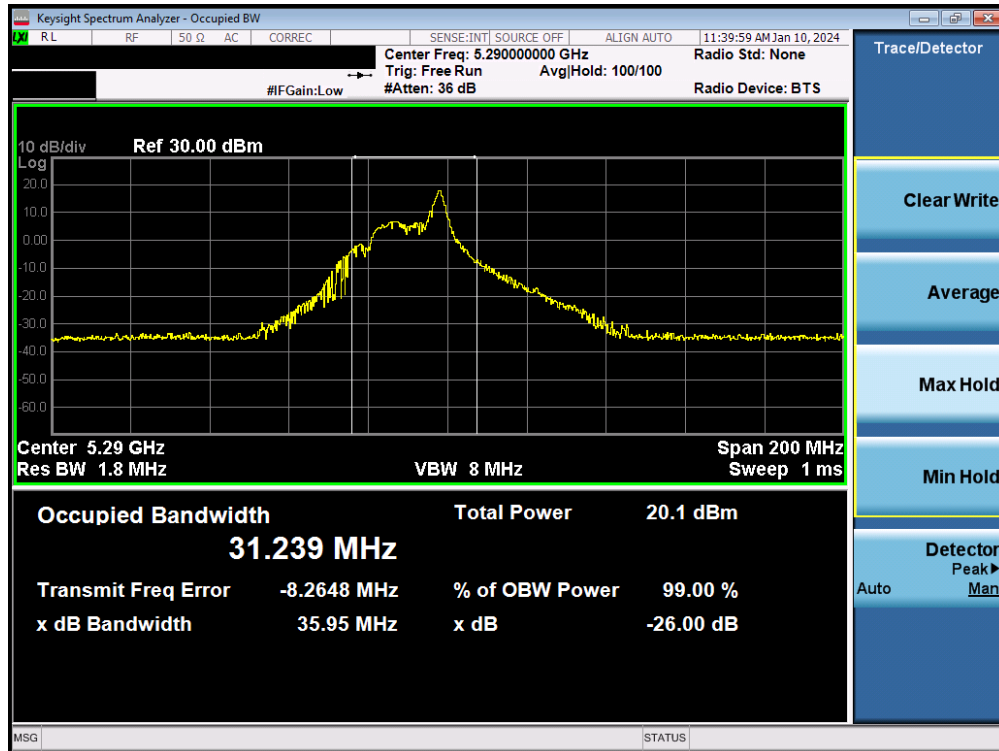


Plot 7-27. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 56)

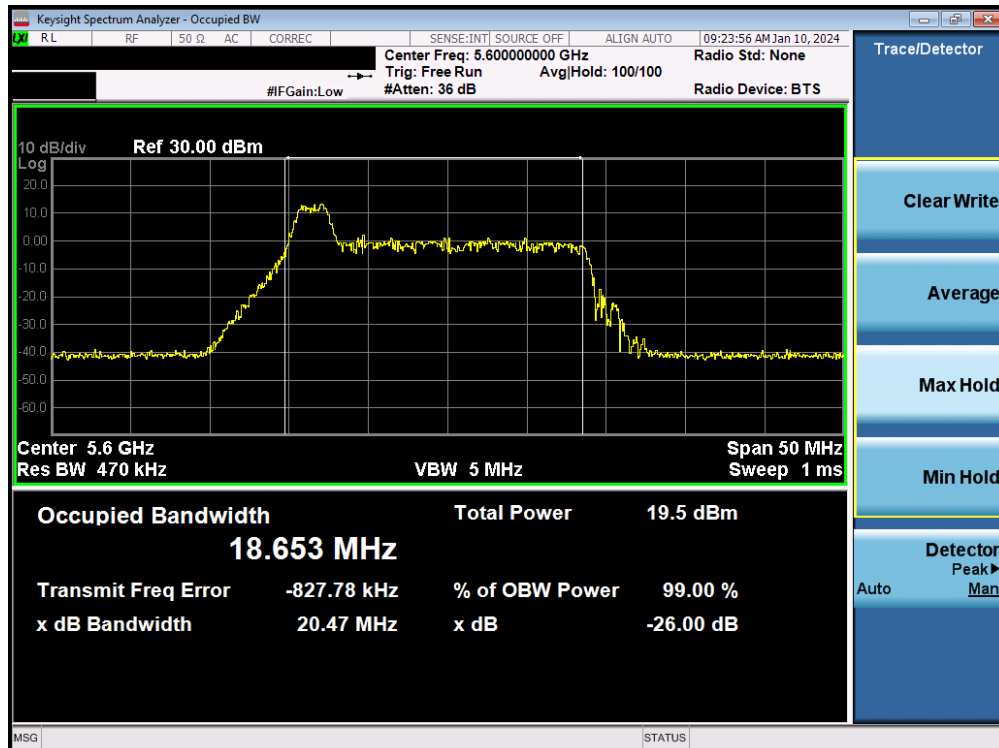


Plot 7-28. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 54)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 30 of 155                    |

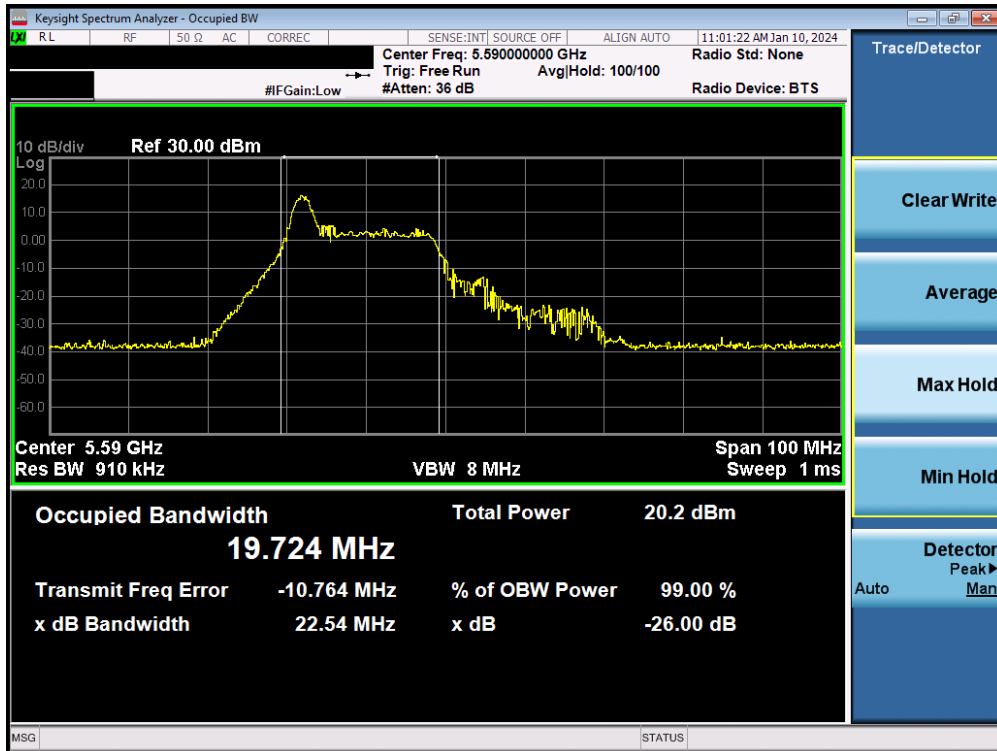


Plot 7-29. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 58)

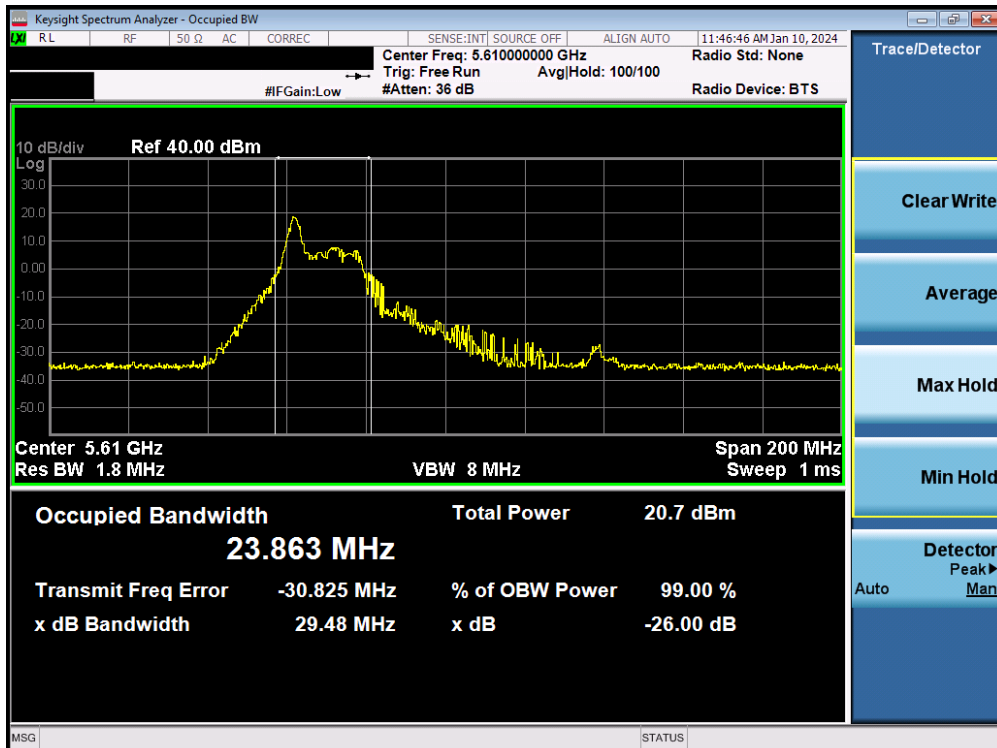


Plot 7-30. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 120)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 31 of 155                    |



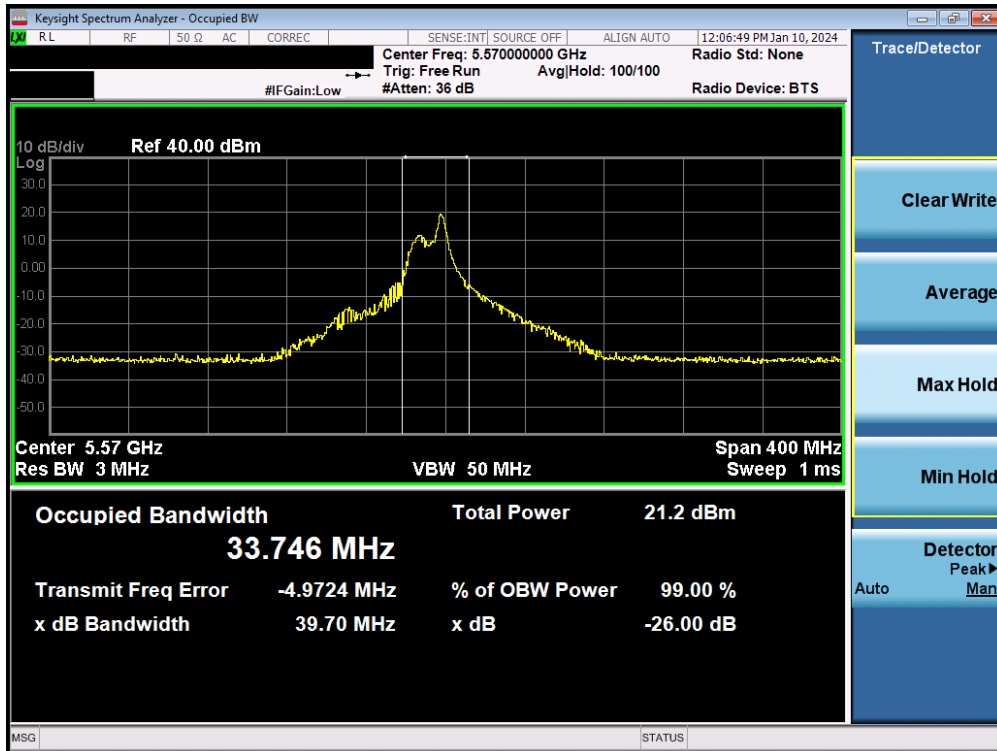
Plot 7-31. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 118)



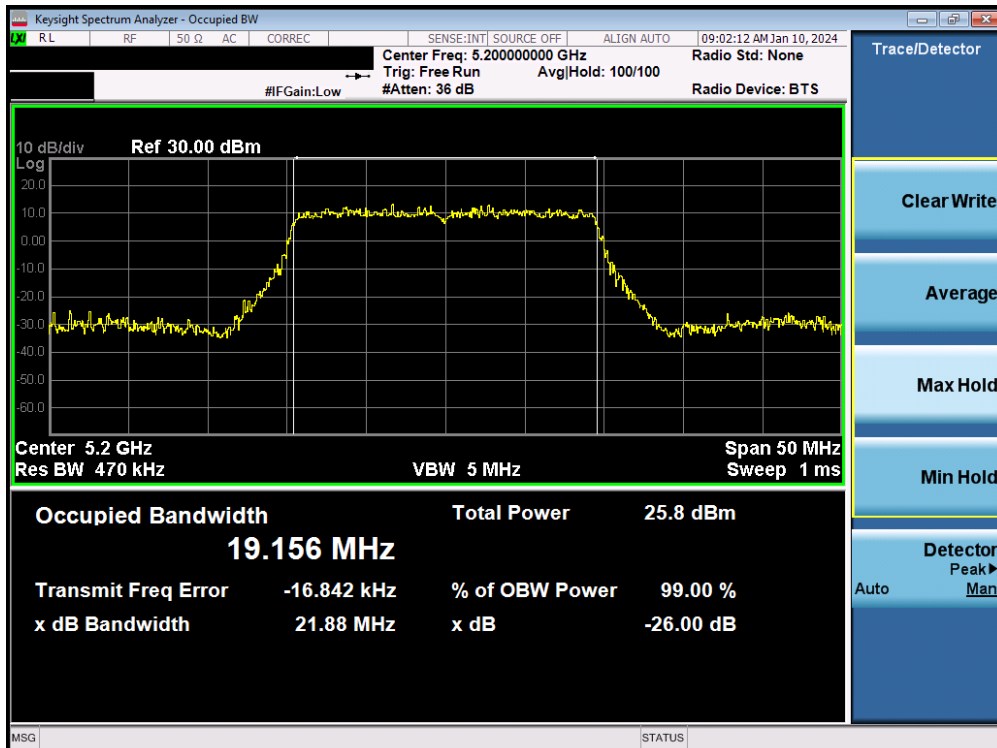
Plot 7-32. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 122)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 32 of 155                    |



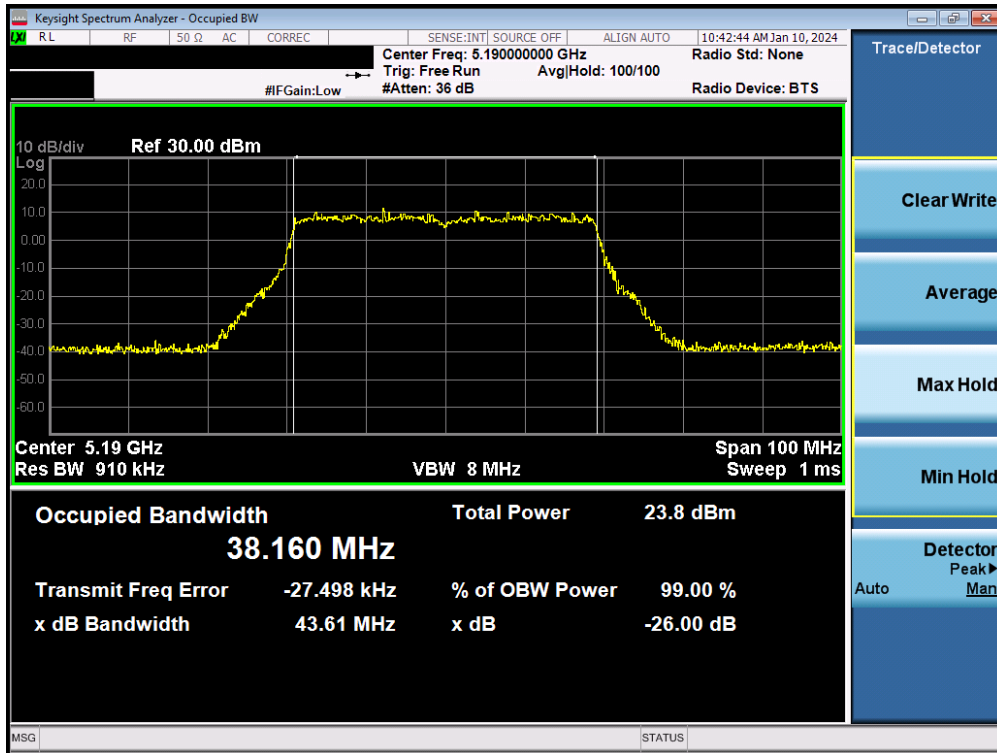


Plot 7-33. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 114)

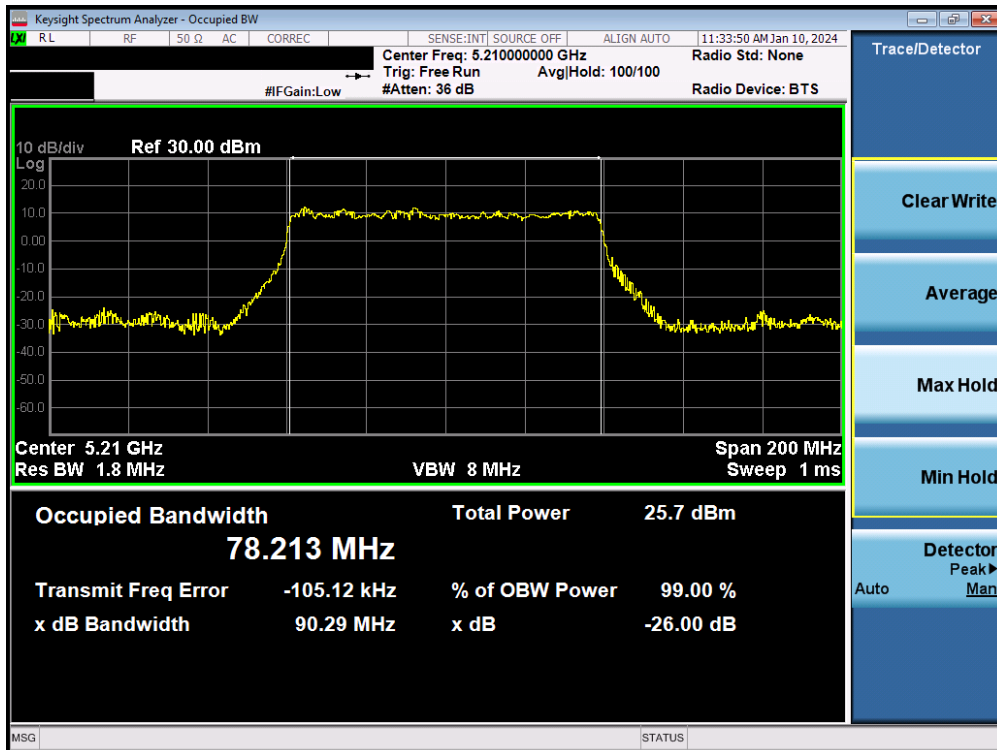


Plot 7-34. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 242 Tones (UNII Band 1) – Ch. 40)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 33 of 155                    |

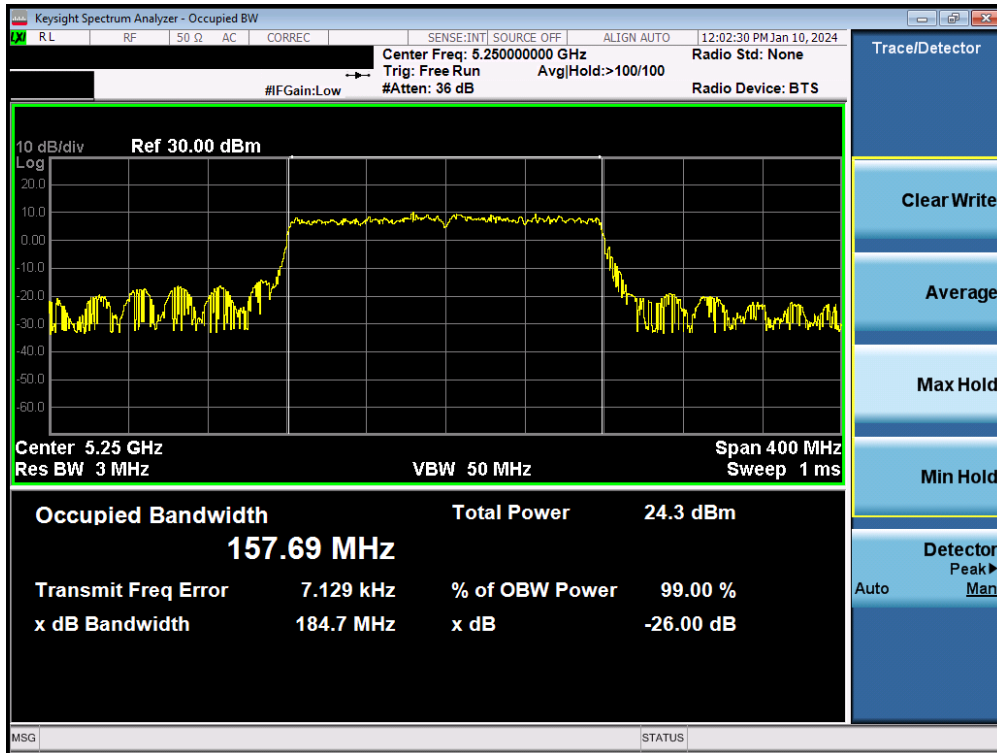


Plot 7-35. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 484 Tones (UNII Band 1) – Ch. 38)

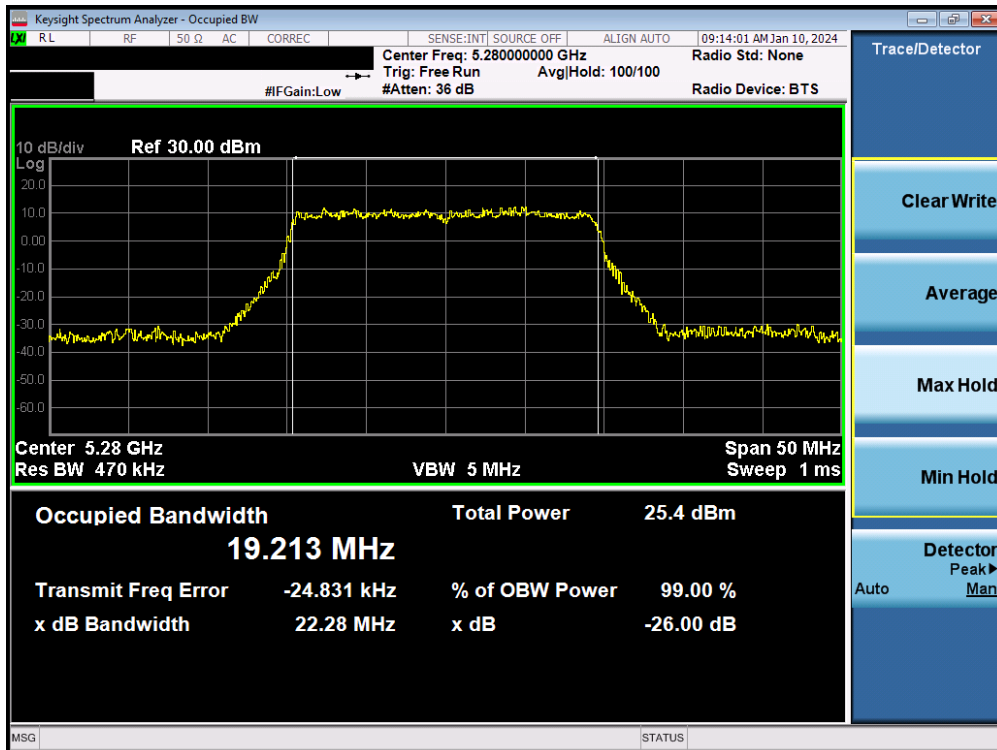


Plot 7-36. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 996 Tones (UNII Band 1) – Ch. 42)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | <b>MEASUREMENT REPORT</b>              |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 34 of 155                    |

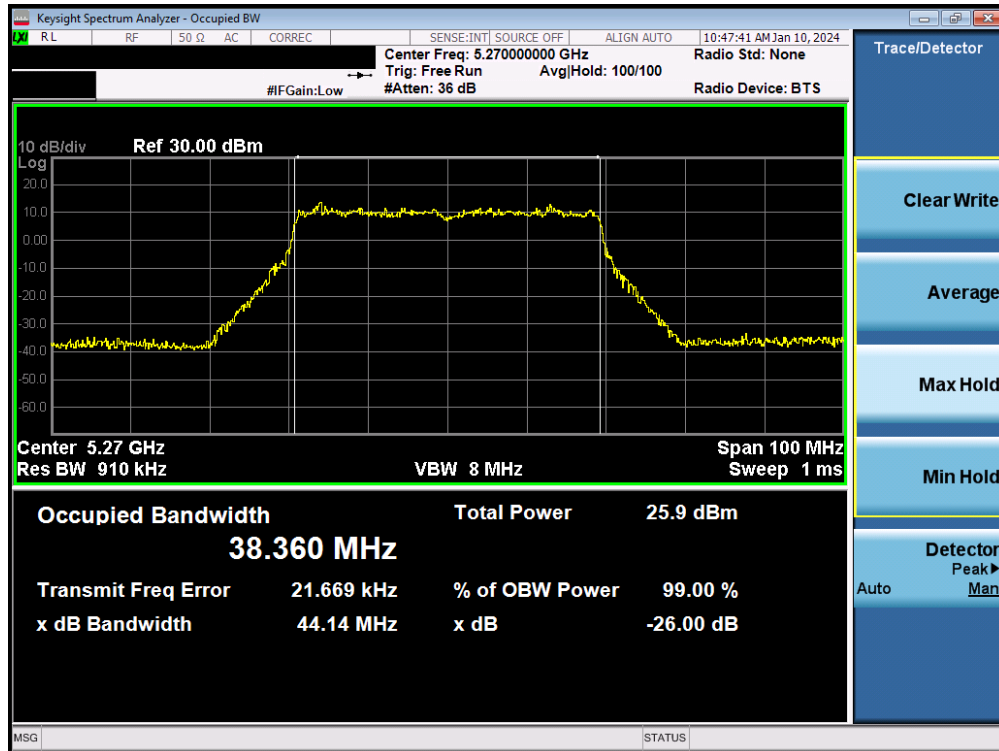


Plot 7-37. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11be – 2x996 Tones (UNII Band 1/2A) – Ch. 50)

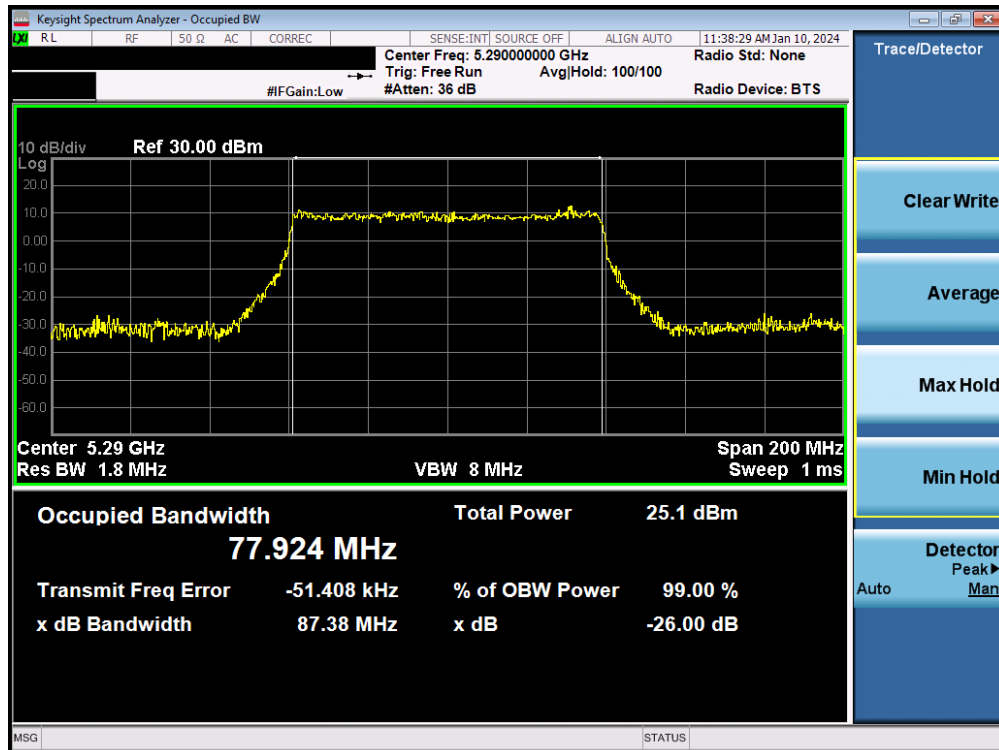


Plot 7-38. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 242 Tones (UNII Band 2A) – Ch. 56)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 35 of 155                    |

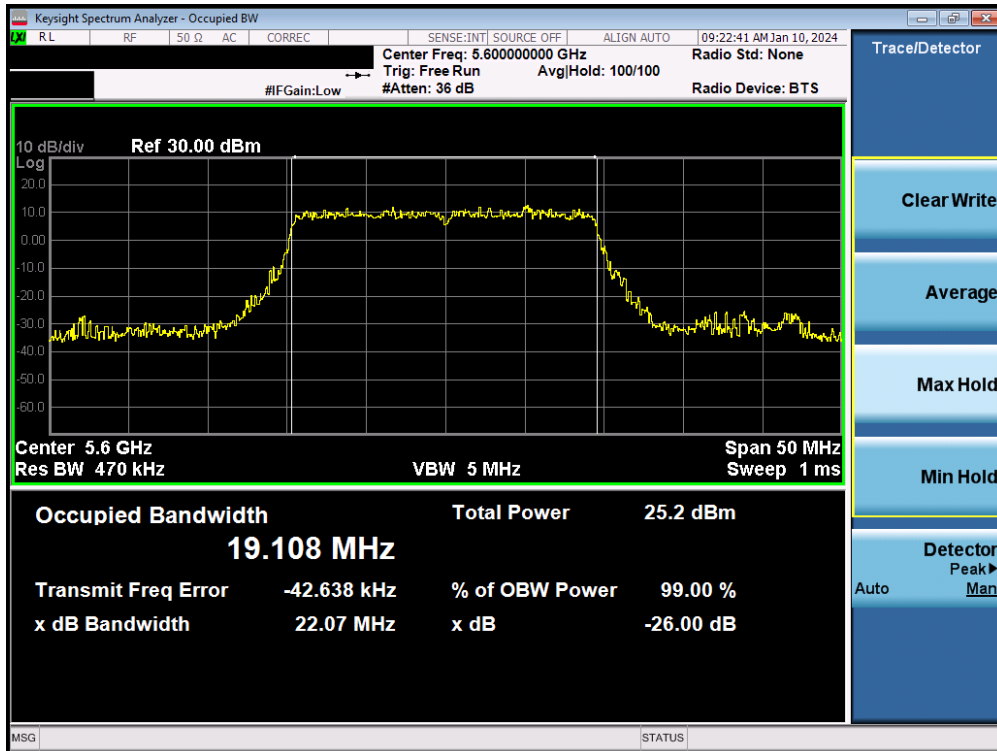


Plot 7-39. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 484 Tones (UNII Band 2A) – Ch. 54)

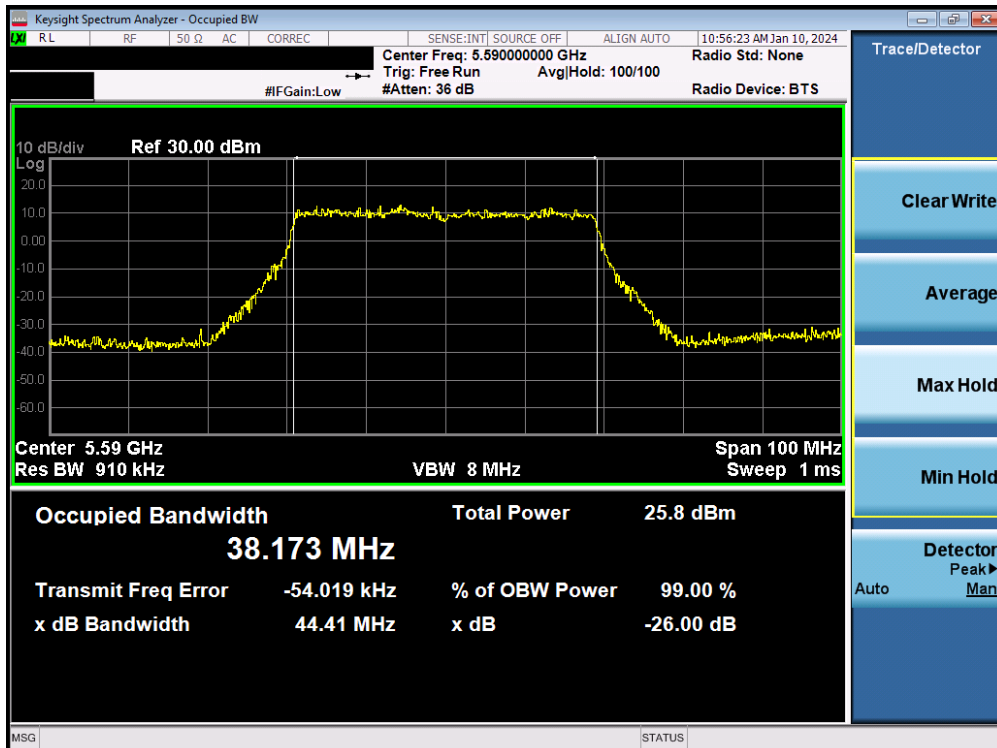


Plot 7-40. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 996 Tones (UNII Band 2A) – Ch. 58)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 36 of 155                    |

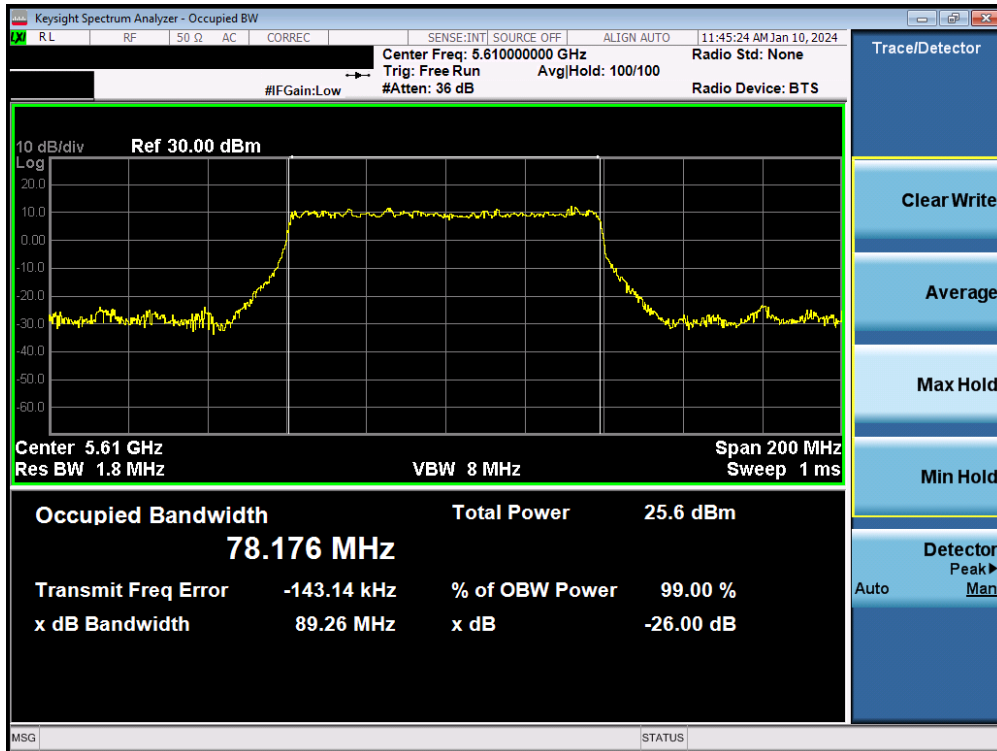


Plot 7-41. 26dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 242 Tones (UNII Band 2C) – Ch. 120)

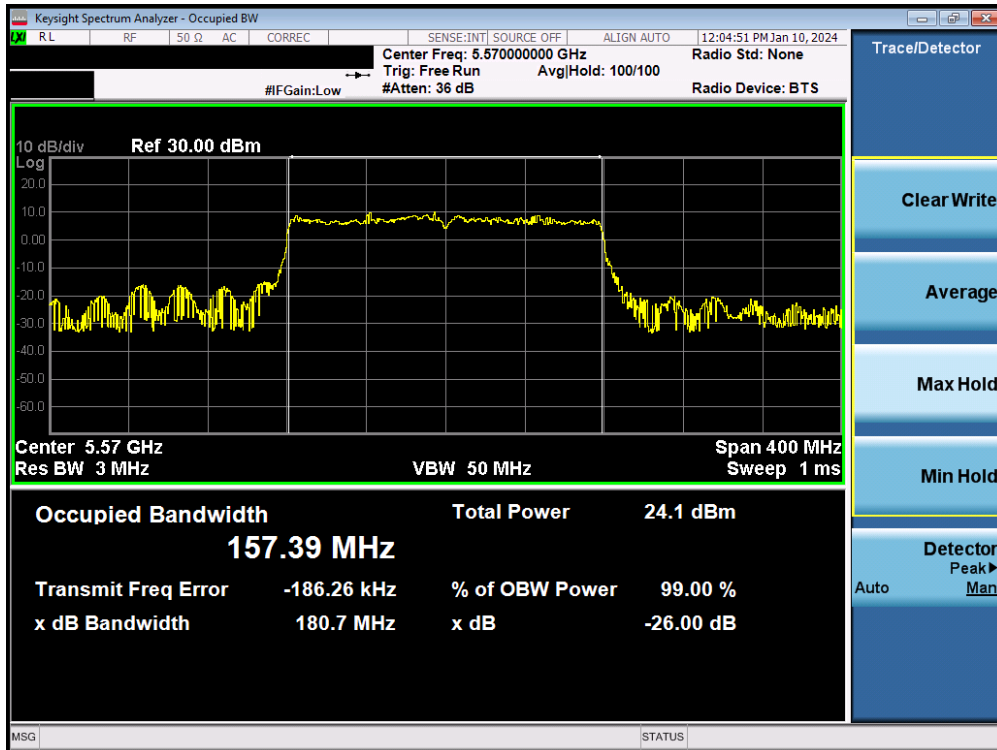


Plot 7-42. 26dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 484 Tones (UNII Band 2C) – Ch. 118)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 37 of 155                    |



Plot 7-43. 26dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 996 Tones (UNII Band 2C) – Ch. 122)



Plot 7-44. 26dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11be – 2x996 Tones (UNII Band 2C) – Ch. 114)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 38 of 155                    |

### 7.3 6dB Bandwidth Measurement

#### Test Overview and Limit

The bandwidth at 6dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 6dB bandwidth.

***In the 5.725 – 5.850GHz and 5.850-5.895GHz bands, the 6dB bandwidth must be  $\geq 500$  kHz.***

#### Test Procedure Used

ANSI C63.10-2013 – Section 6.9.2

#### Test Settings

1. The signal analyzers' automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to  $X = 6$ . The automatic bandwidth measurement function also has the capability of simultaneously measuring the 99% occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 100 kHz
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-2. Test Instrument & Measurement Setup**

#### Test Notes

The 6dB Bandwidth measurement for each channel was measured with the RU index showing the highest conducted power.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | <b>MEASUREMENT REPORT</b>              |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 39 of 155                    |

## MIMO 6dB Bandwidth Measurements

|        | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 6dB Bandwidth [MHz] | Antenna-2 6dB Bandwidth [MHz] |
|--------|-----------------|-------------|---------|-------------------------------|-------------------------------|
| Band 3 | 5745            | be (20MHz)  | 149     | 2.75                          | 2.70                          |
|        | 5785            | be (20MHz)  | 157     | 2.12                          | 2.14                          |
|        | 5825            | be (20MHz)  | 165     | 2.11                          | 2.11                          |
|        | 5755            | be (40MHz)  | 151     | 2.14                          | 2.32                          |
|        | 5795            | be (40MHz)  | 159     | 2.18                          | 2.18                          |
|        | 5775            | be (80MHz)  | 155     | 2.26                          | 2.21                          |
|        | 5815            | be (160MHz) | 163     | 2.54                          | 2.84                          |

**Table 7-4. Band 3 Conducted 6dB Bandwidth Measurements MIMO ANT1/2 (26 Tones)**

|          | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 6dB Bandwidth [MHz] | Antenna-2 6dB Bandwidth [MHz] |
|----------|-----------------|-------------|---------|-------------------------------|-------------------------------|
| Band 3/4 | 5845            | be (20MHz)  | 169     | 2.10                          | 2.11                          |
| Band 4   | 5865            | be (20MHz)  | 173     | 2.11                          | 2.09                          |
|          | 5885            | be (20MHz)  | 177     | 2.13                          | 2.06                          |
| Band 3/4 | 5835            | be (40MHz)  | 167     | 2.16                          | 2.19                          |
| Band 4   | 5875            | be (40MHz)  | 175     | 2.13                          | 2.20                          |
| Band 3/4 | 5855            | be (80MHz)  | 171     | 2.23                          | 2.28                          |
| Band 4   | 5815            | be (160MHz) | 163     | 2.55                          | 2.59                          |

**Table 7-5. Bands 3/4 Conducted 6dB Bandwidth Measurements MIMO ANT1/2 (26 Tones)**

|        | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 6dB Bandwidth [MHz] | Antenna-2 6dB Bandwidth [MHz] |
|--------|-----------------|-------------|---------|-------------------------------|-------------------------------|
| Band 3 | 5745            | be (20MHz)  | 149     | 18.95                         | 18.94                         |
|        | 5785            | be (20MHz)  | 157     | 18.89                         | 18.80                         |
|        | 5825            | be (20MHz)  | 165     | 18.93                         | 18.89                         |
|        | 5755            | be (40MHz)  | 151     | 38.10                         | 38.01                         |
|        | 5795            | be (40MHz)  | 159     | 38.15                         | 38.05                         |
|        | 5775            | be (80MHz)  | 155     | 78.14                         | 77.91                         |

**Table 7-6. Band 3 Conducted 6dB Bandwidth Measurements MIMO ANT1/2 (Full Tones)**

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 40 of 155                    |

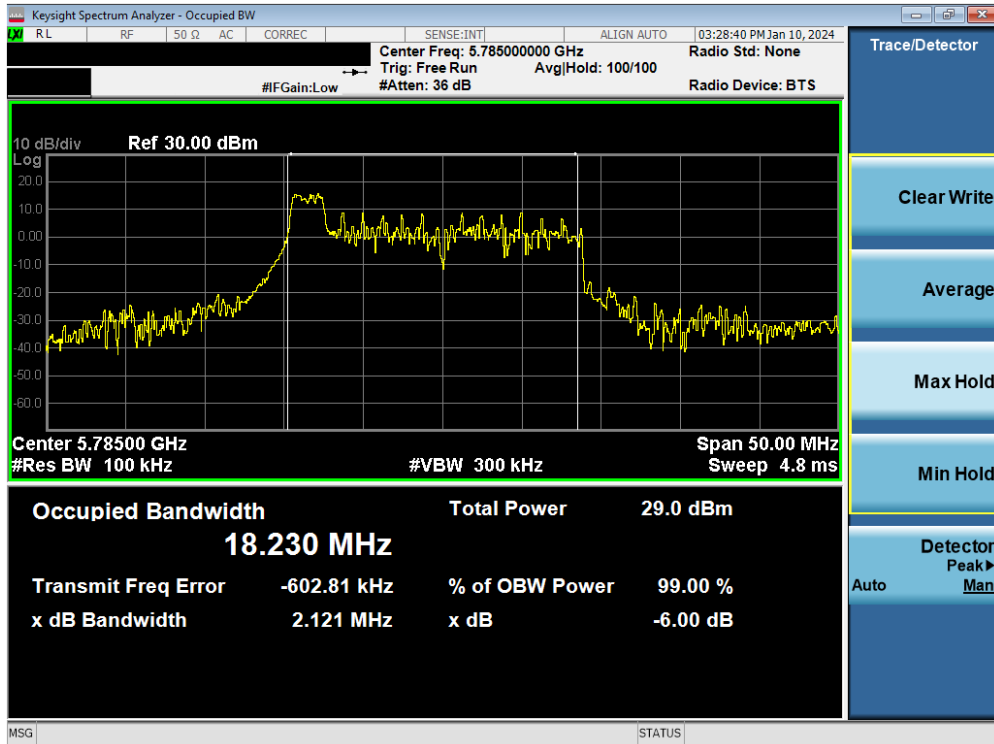


|                 | Frequency [MHz] | 802.11 MODE | Channel | Antenna-1 6dB Bandwidth [MHz] | Antenna-2 6dB Bandwidth [MHz] |
|-----------------|-----------------|-------------|---------|-------------------------------|-------------------------------|
| <b>Band 3/4</b> | 5845            | be (20MHz)  | 169     | 18.96                         | 19.03                         |
| <b>Band 4</b>   | 5865            | be (20MHz)  | 173     | 18.94                         | 18.95                         |
|                 | 5885            | be (20MHz)  | 177     | 18.95                         | 18.89                         |
| <b>Band 3/4</b> | 5835            | be (40MHz)  | 167     | 38.30                         | 37.95                         |
| <b>Band 4</b>   | 5875            | be (40MHz)  | 175     | 38.20                         | 38.09                         |
| <b>Band 3/4</b> | 5855            | be (80MHz)  | 171     | 78.08                         | 78.04                         |
|                 | 5815            | be (160MHz) | 163     | 158.08                        | 158.22                        |

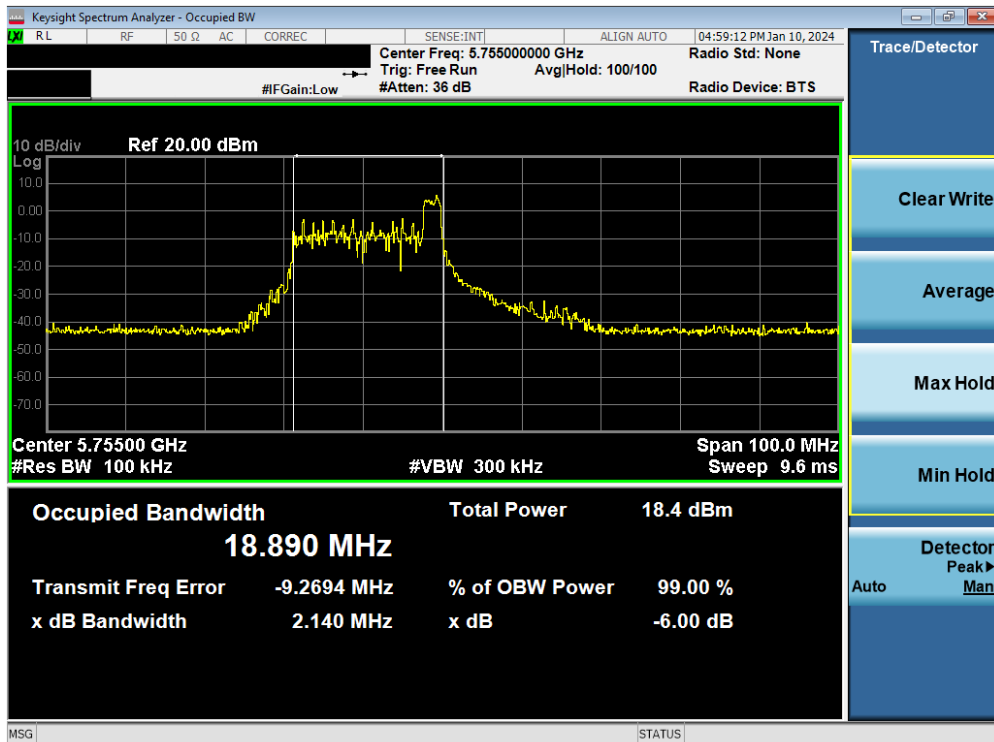
**Table 7-7. Bands 3/4 Conducted 6dB Bandwidth Measurements MIMO ANT1/2 (Full Tones)**

|  |   |   |  |
|--|---|---|--|
| <b>FCC ID:</b> C3K2085                         | <b>MEASUREMENT REPORT</b>                     |   | <b>Approved by:</b><br>Technical Manager |
| <b>Test Report S/N:</b><br>1M2311170118-10.C3K | <b>Test Dates:</b><br>01/03/2024 - 03/18/2024 | <b>EUT Type:</b><br>Portable Computing Device | Page 41 of 155                           |

### 7.3.1 MIMO Antenna-1 6dB Bandwidth Measurements

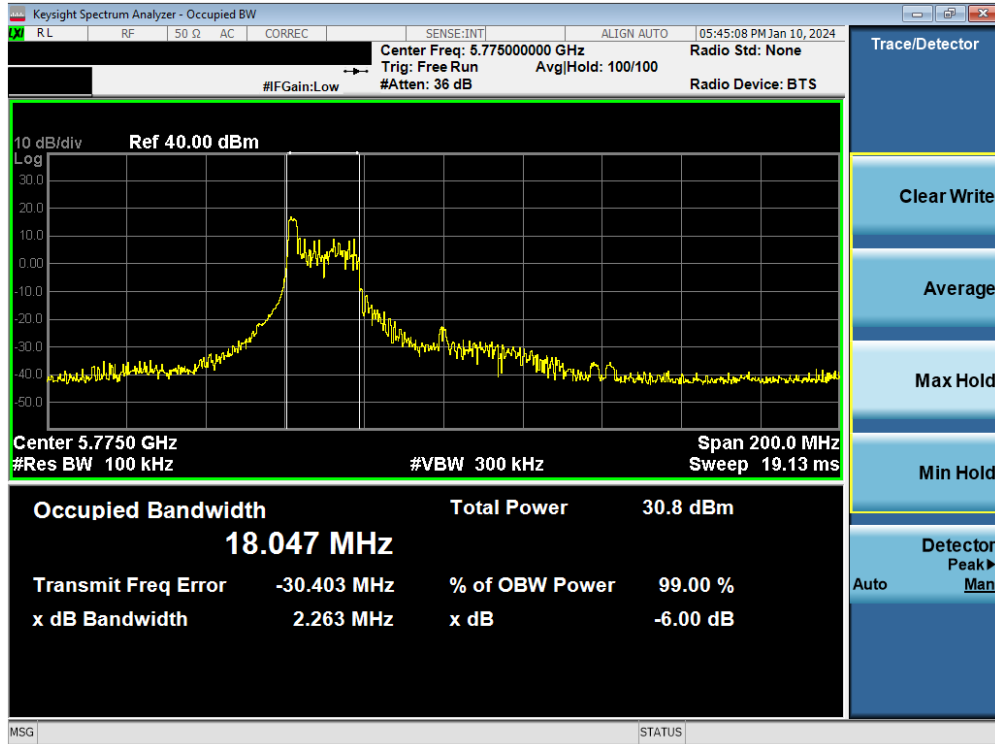


Plot 7-45. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 157)

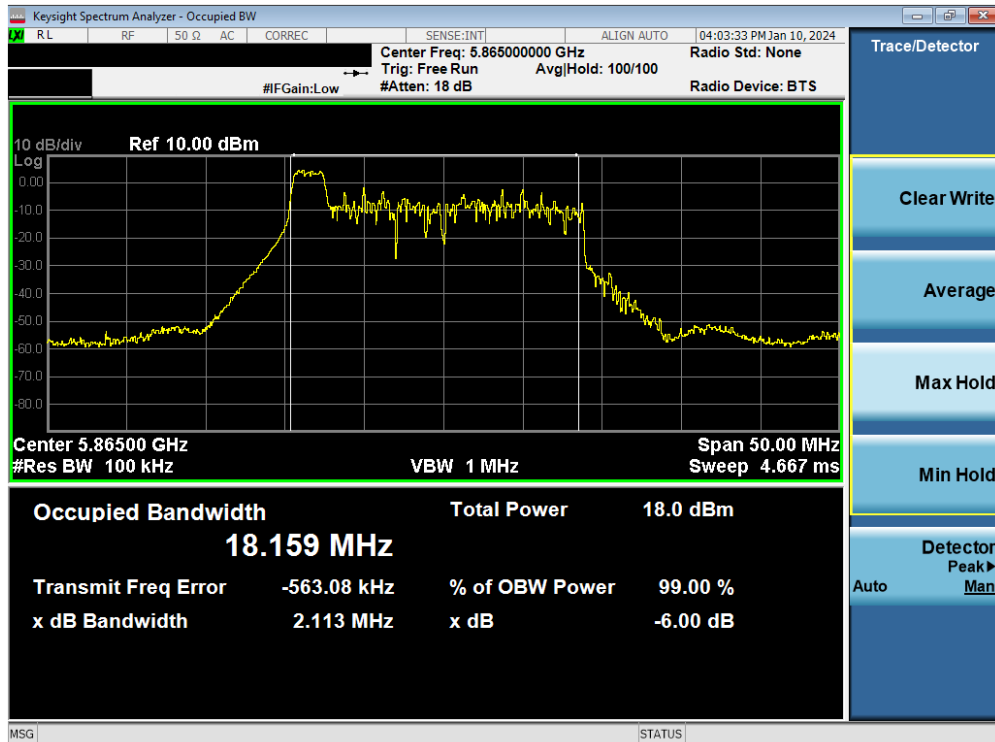


Plot 7-46. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 151)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 42 of 155                    |

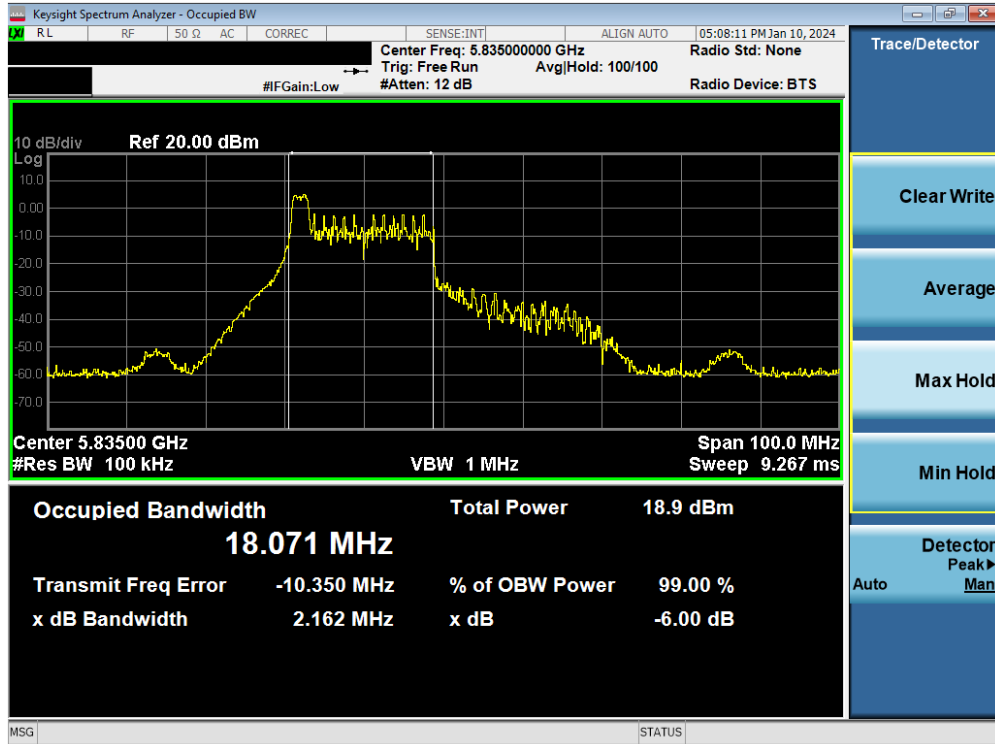


Plot 7-47. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 155)

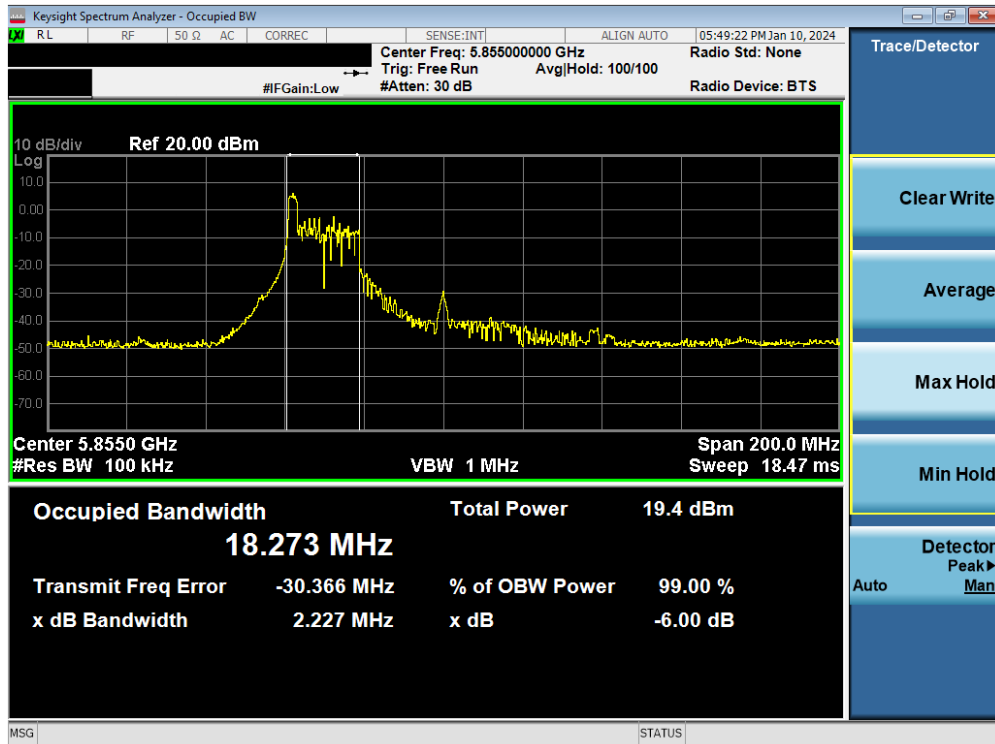


Plot 7-48. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 4) – Ch. 173)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 43 of 155                    |

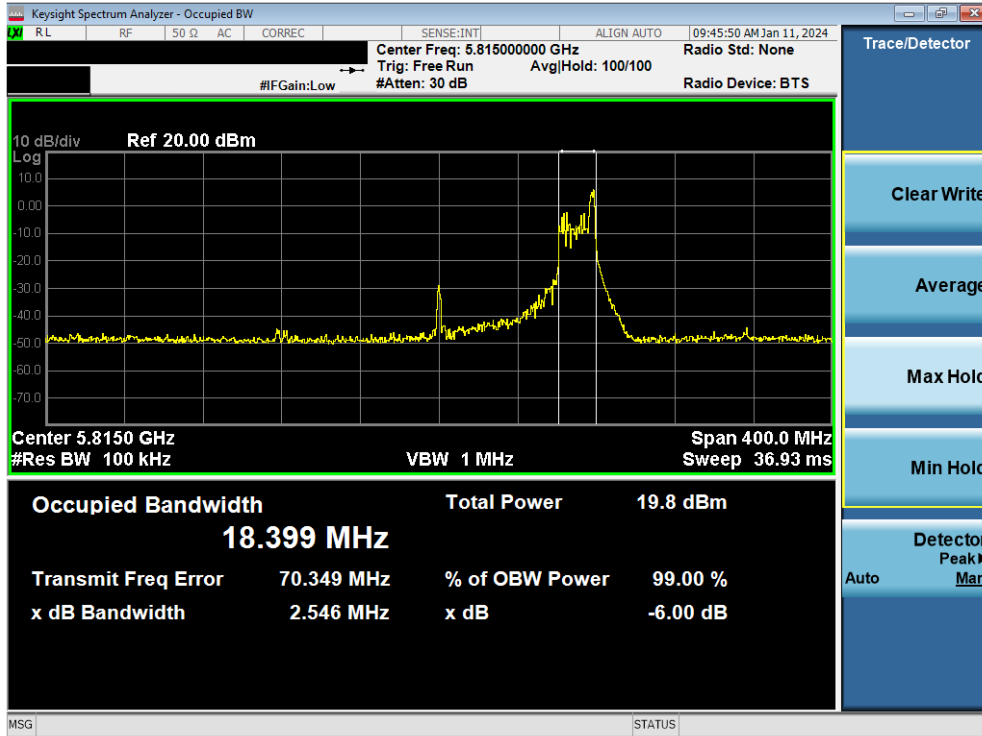


Plot 7-49. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 167)

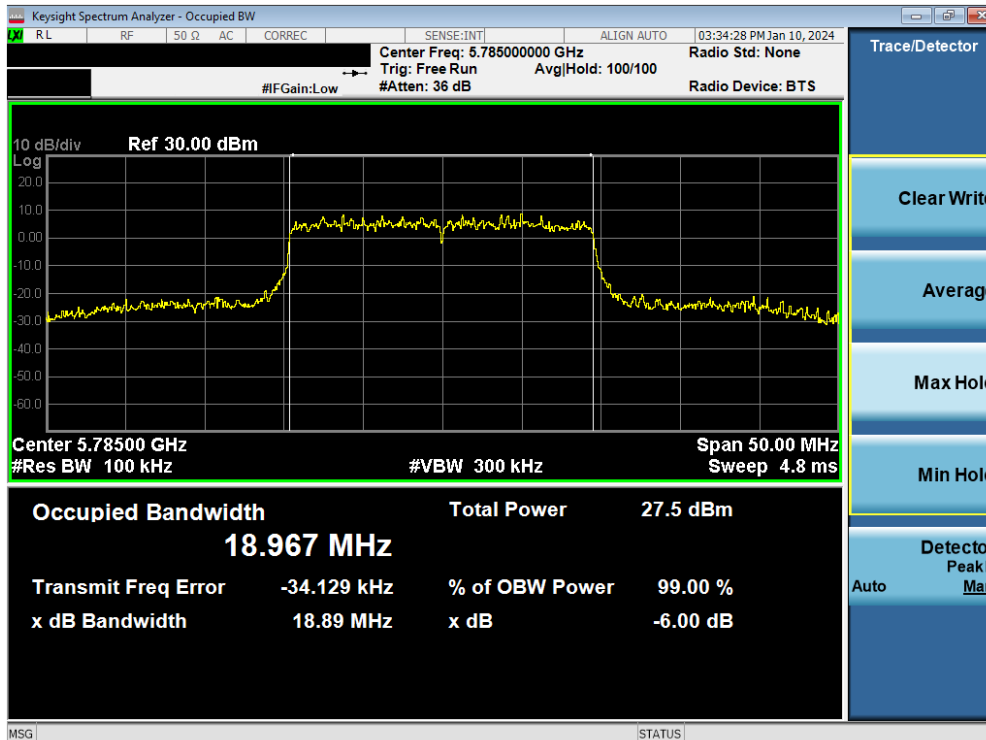


Plot 7-50. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 171)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 44 of 155                    |

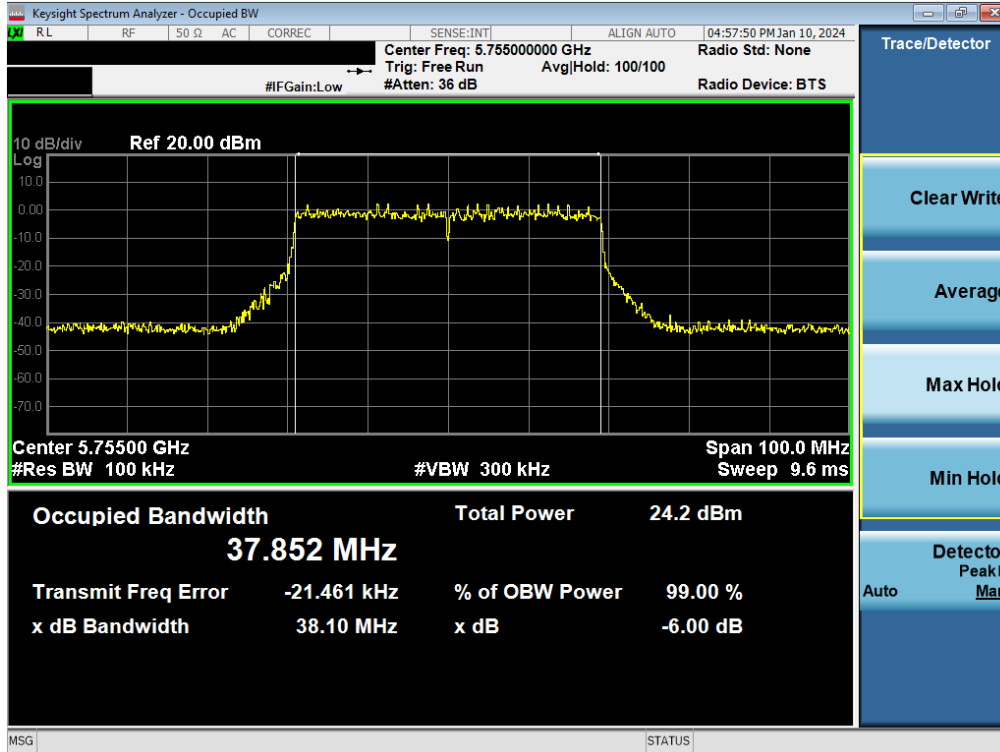


Plot 7-51. 6dB Bandwidth Plot MIMO ANT1 (160MHz(U) BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 163)

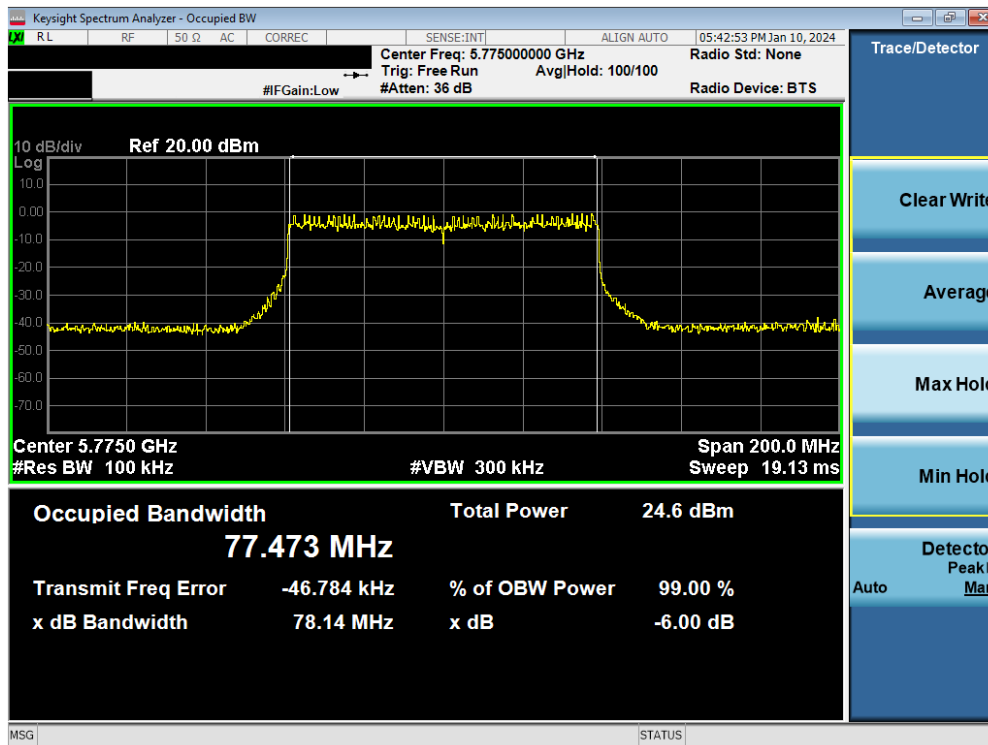


Plot 7-52. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 3) – Ch. 157)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 45 of 155                    |

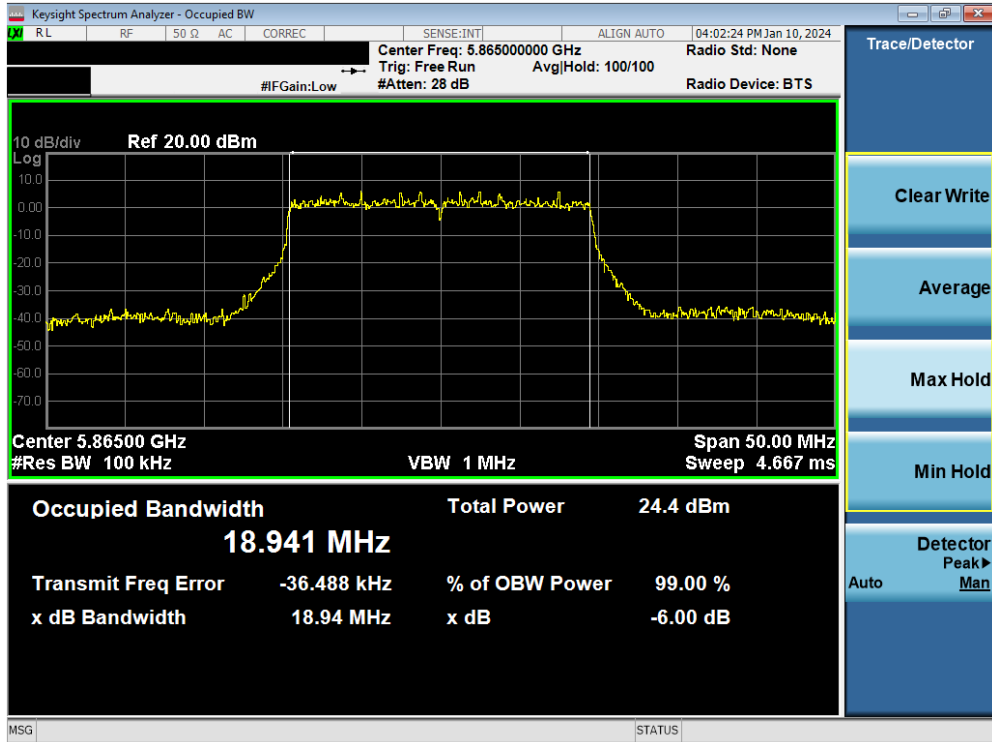


Plot 7-53. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 3) – Ch. 151)

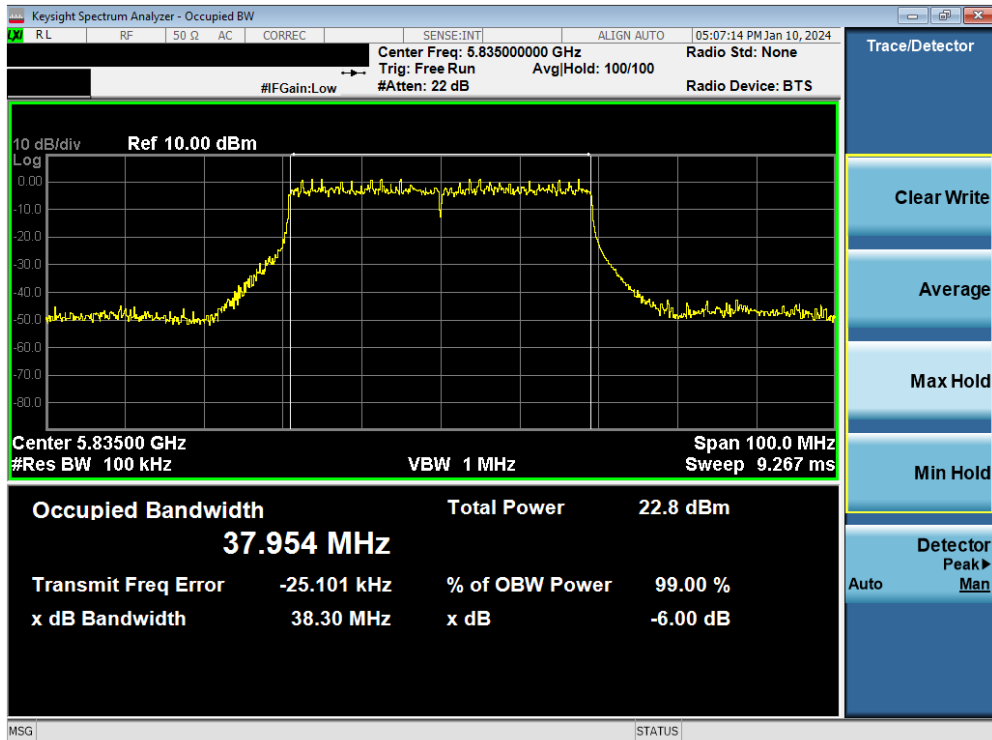


Plot 7-54. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 3) – Ch. 155)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 46 of 155                    |

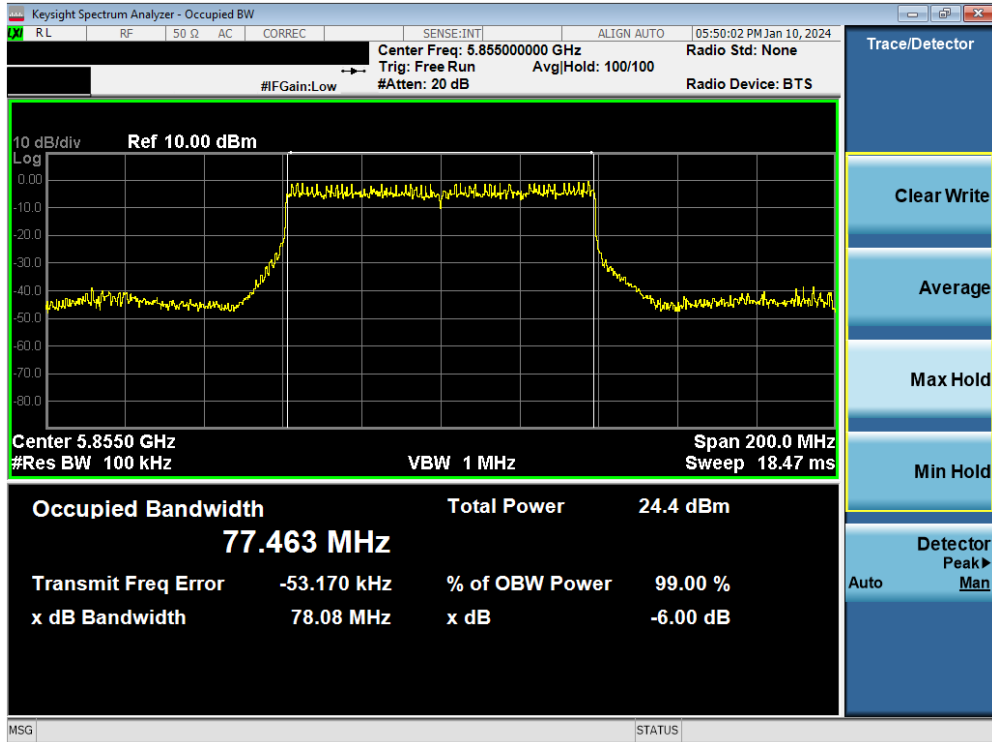


Plot 7-55. 6dB Bandwidth Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 4) – Ch. 173)

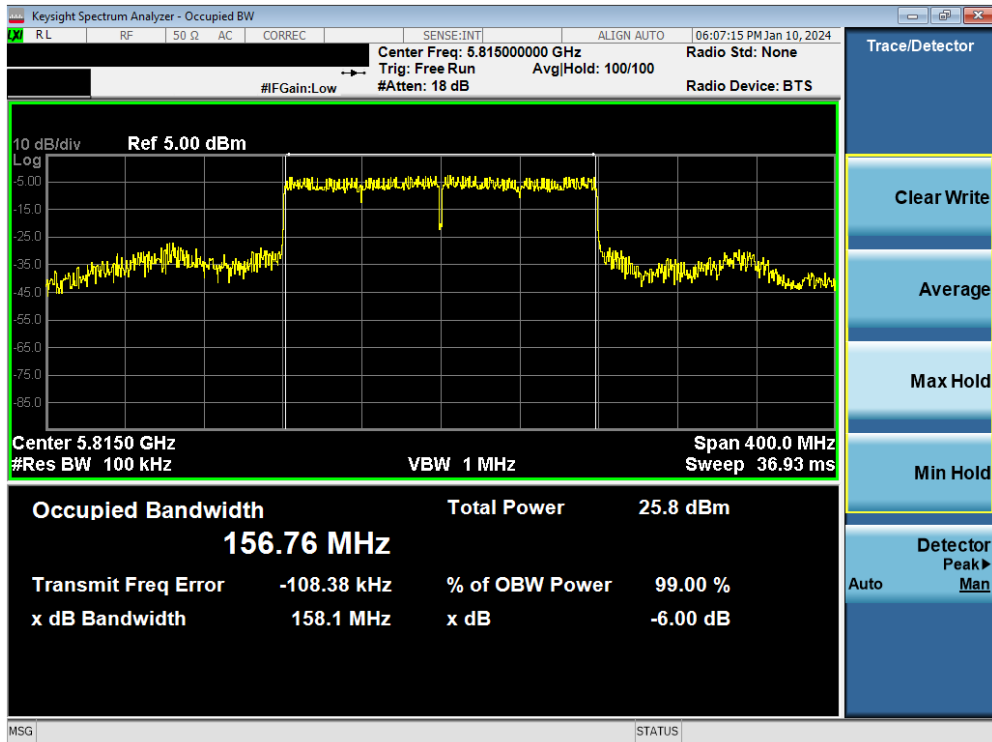


Plot 7-56. 6dB Bandwidth Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 3/4) – Ch. 167)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 47 of 155                    |



Plot 7-57. 6dB Bandwidth Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 3/4) – Ch. 171)

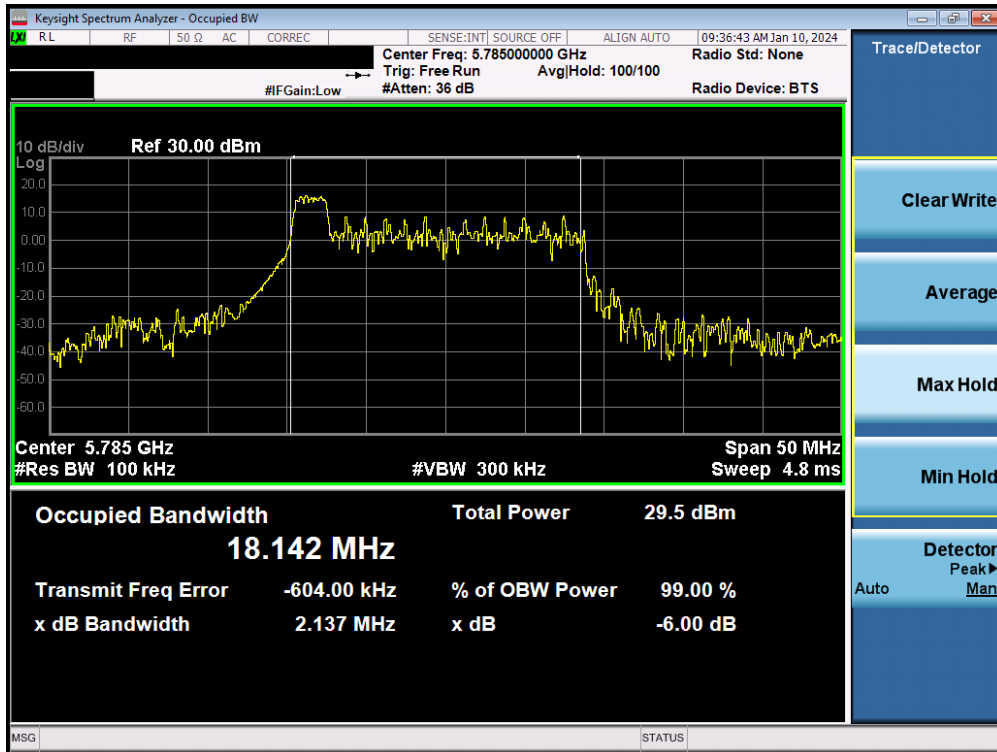


Plot 7-58. 6dB Bandwidth Plot MIMO ANT1 (160MHz BW 802.11be – 996\*2 Tones (UNII Band 3/4) – Ch. 163)

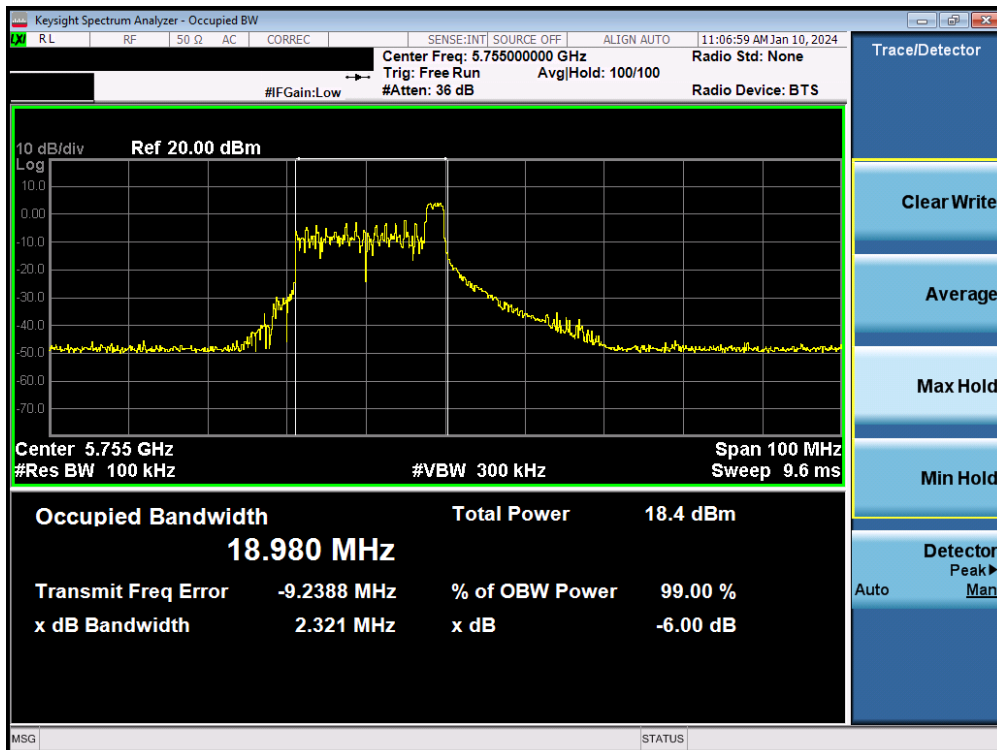
|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 48 of 155                    |



### 7.3.2 MIMO Antenna-2 6dB Bandwidth Measurements



Plot 7-59. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 157)

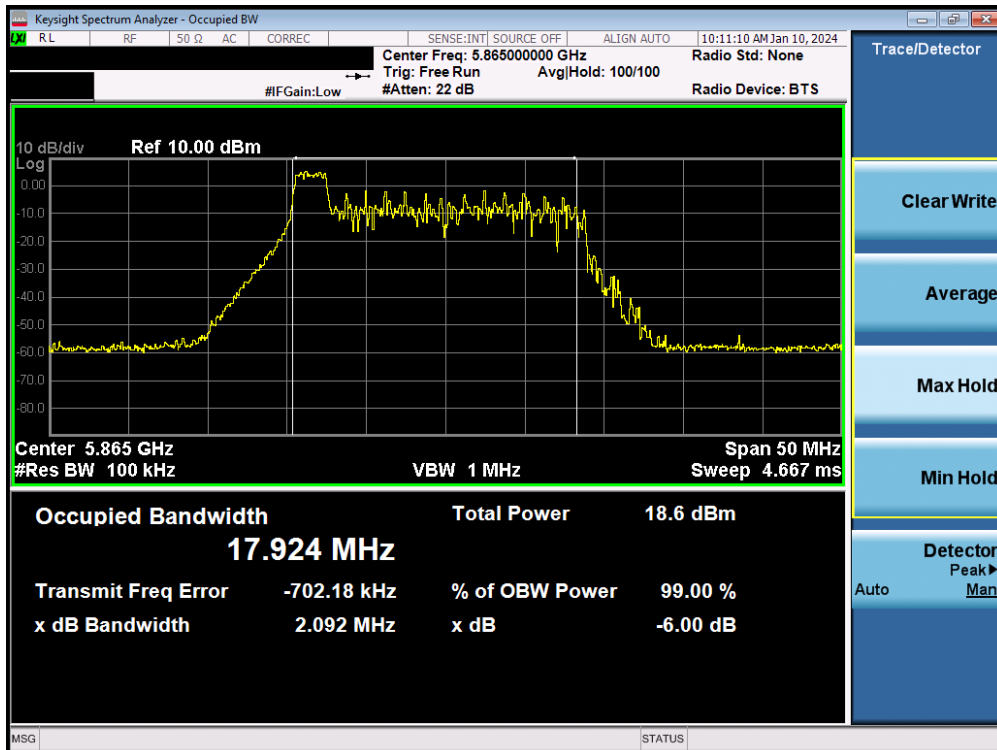


Plot 7-60. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 151)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 49 of 155                    |

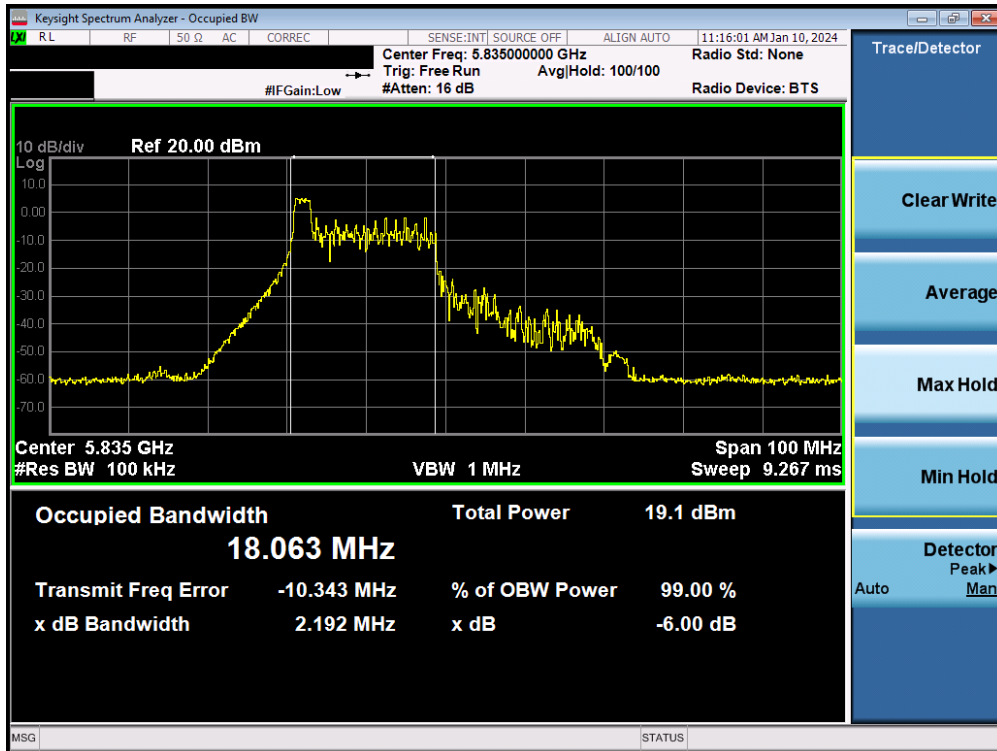


Plot 7-61. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 155)



Plot 7-62. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 26 Tones (UNII Band 4) – Ch. 173)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 50 of 155                    |

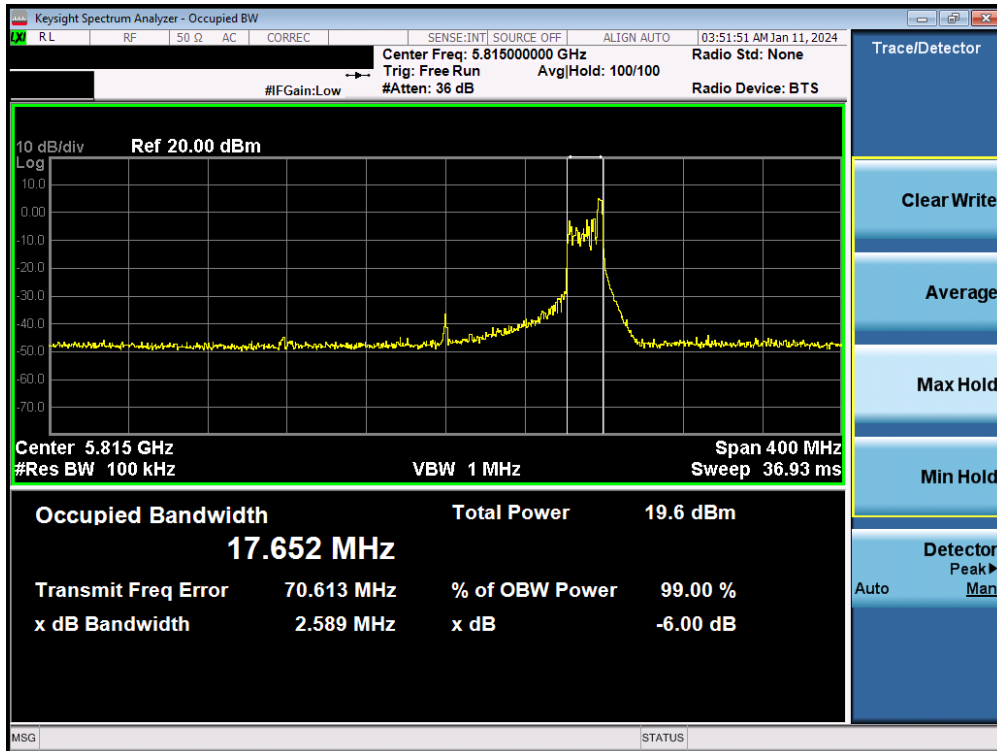


Plot 7-63. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 167)

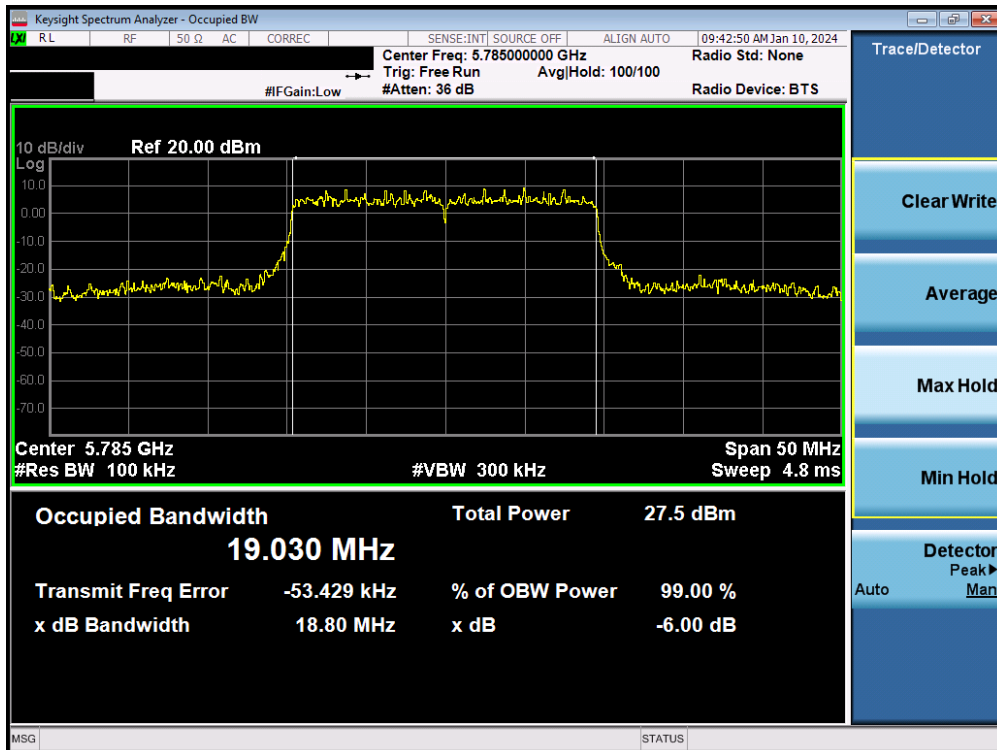


Plot 7-64. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 171)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 51 of 155                    |

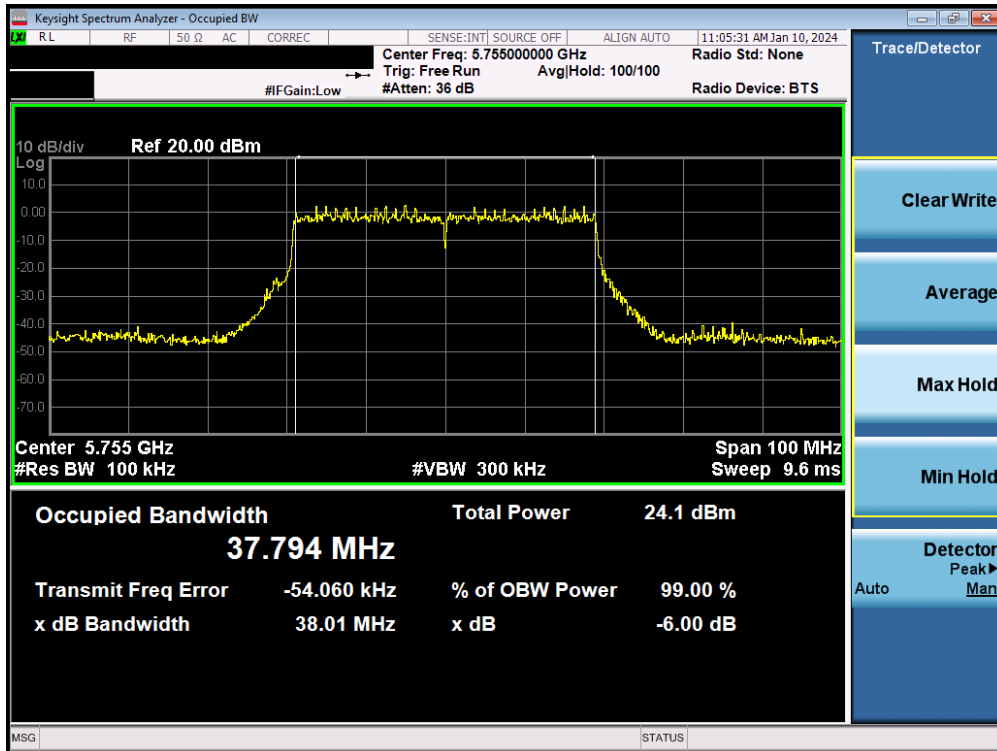


Plot 7-65. 6dB Bandwidth Plot MIMO ANT2 (160MHz(U) BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 163)

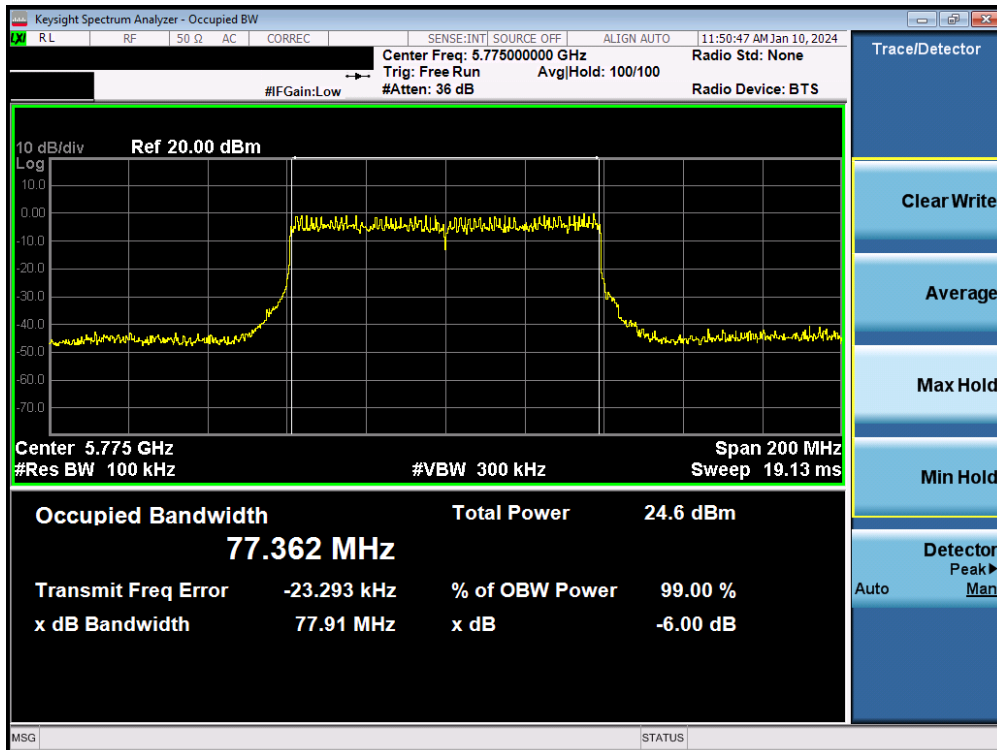


Plot 7-66. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 242 Tones (UNII Band 3) – Ch. 157)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 52 of 155                    |

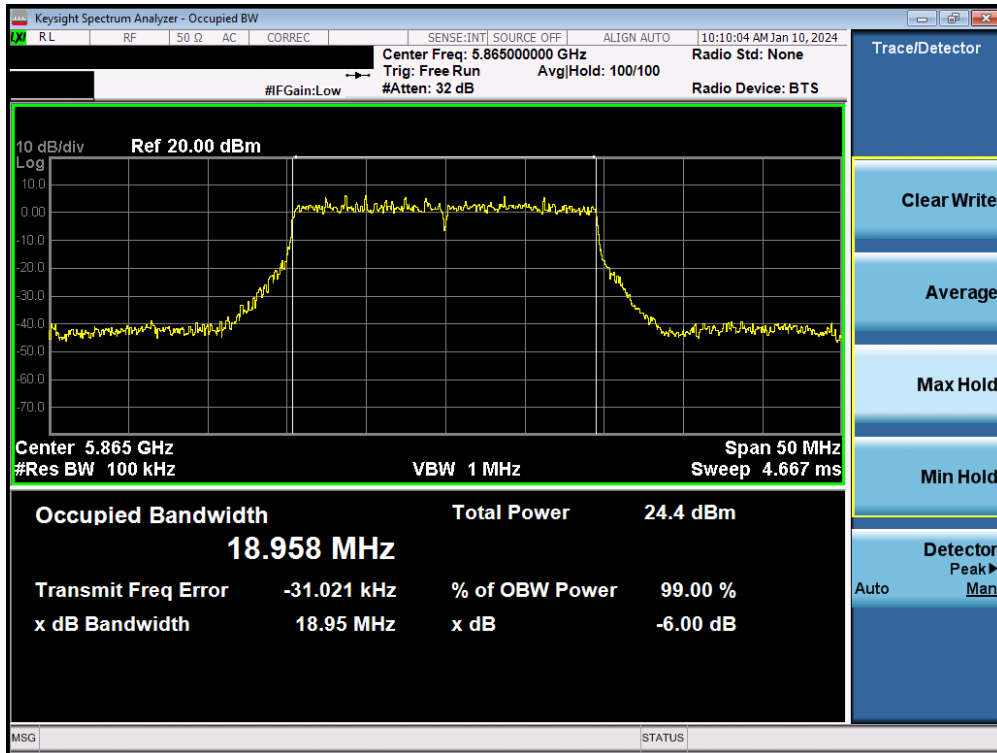


Plot 7-67. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 484 Tones (UNII Band 3) – Ch. 151)

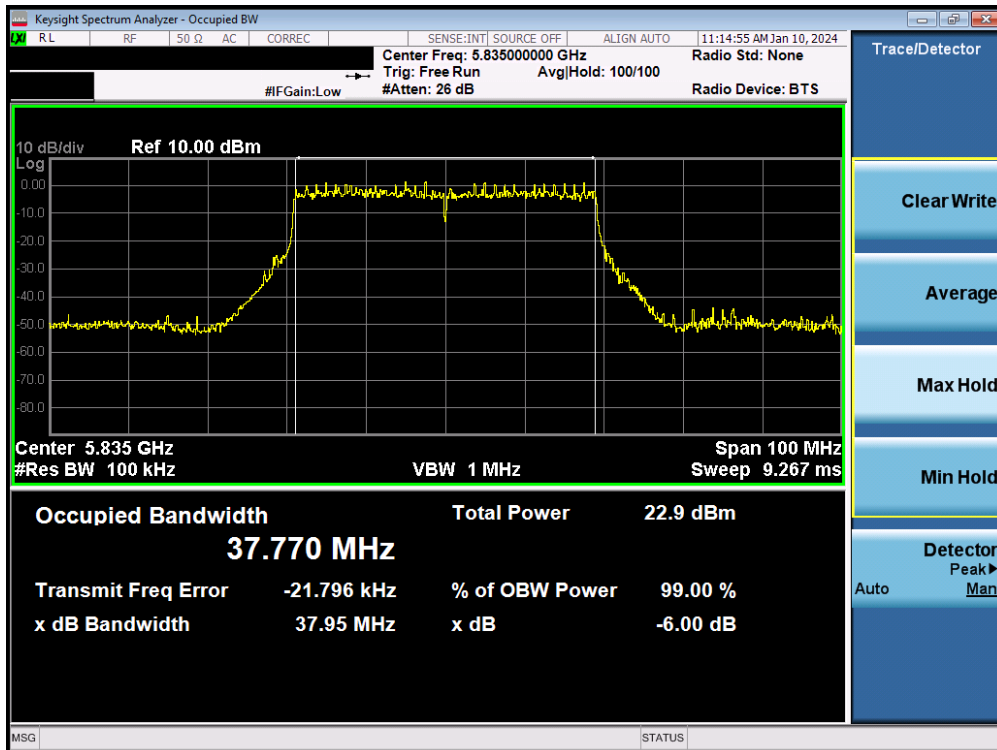


Plot 7-68. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 996 Tones (UNII Band 3) – Ch. 155)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 53 of 155                    |

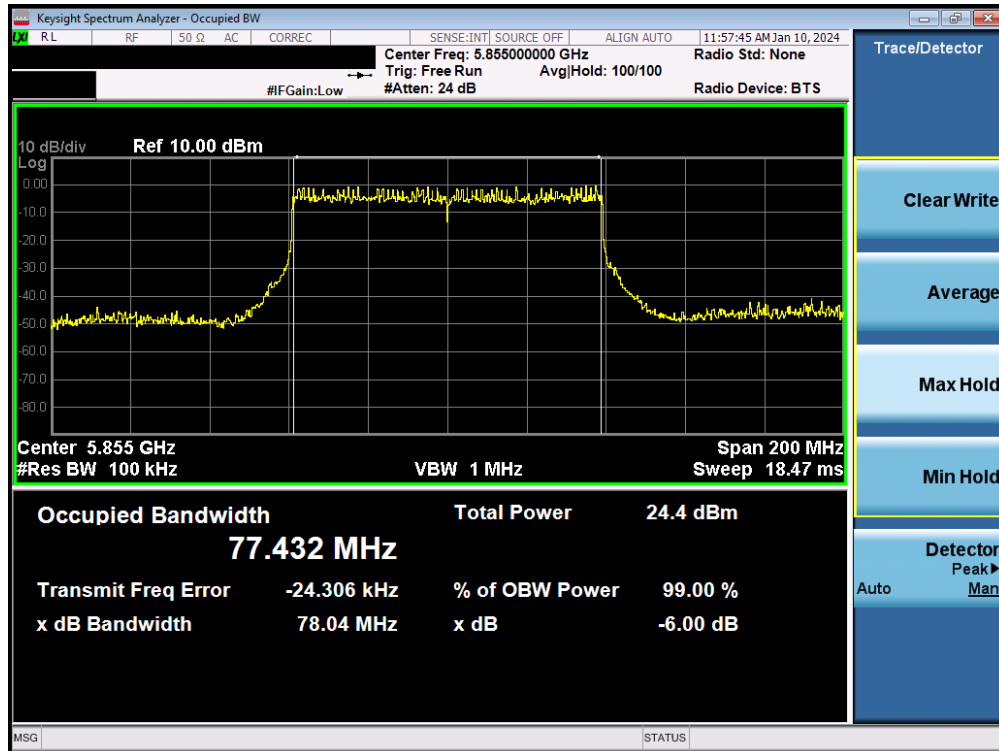


Plot 7-69. 6dB Bandwidth Plot MIMO ANT2 (20MHz BW 802.11be – 242 Tones (UNII Band 4) – Ch. 173)

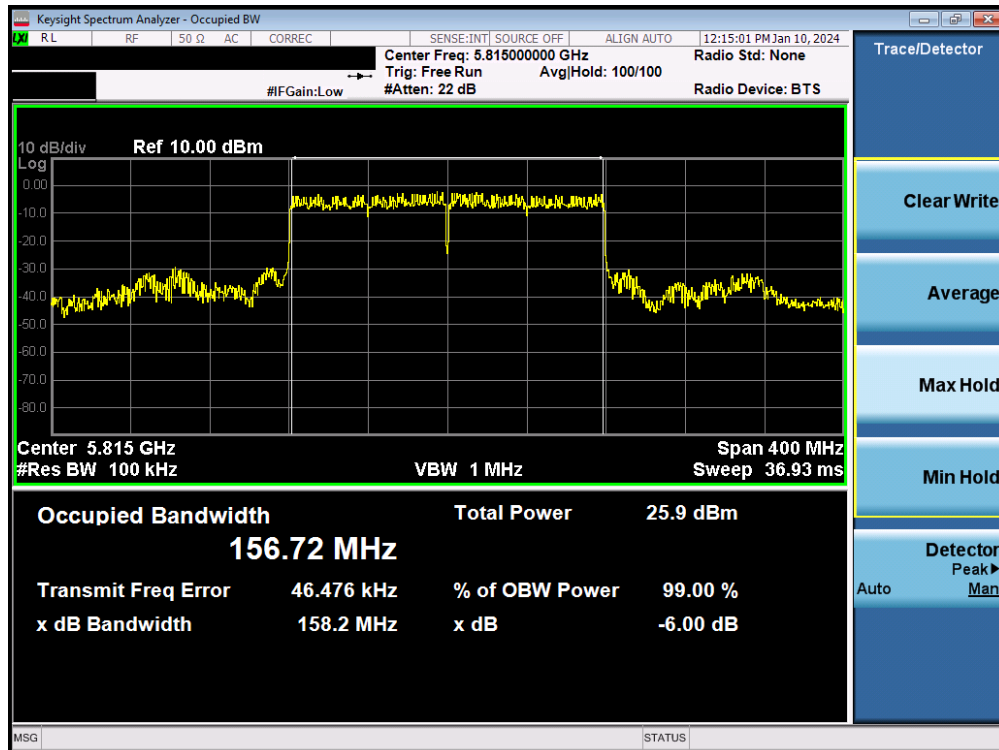


Plot 7-70. 6dB Bandwidth Plot MIMO ANT2 (40MHz BW 802.11be – 484 Tones (UNII Band 3/4) – Ch. 167)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 54 of 155                    |



Plot 7-71. 6dB Bandwidth Plot MIMO ANT2 (80MHz BW 802.11be – 996 Tones (UNII Band 3/4) – Ch. 171)



Plot 7-72. 6dB Bandwidth Plot MIMO ANT2 (160MHz BW 802.11be – 996\*2 Tones (UNII Band 3/4) – Ch. 163)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 55 of 155                    |

## 7.4 UNII Output Power Measurement

### Test Overview and Limits

A transmitter antenna terminal of the EUT is connected to the input of an RF pulse power sensor. Measurement is made using a broadband average power meter while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies.

*The output power limits are specified in the tables below.*

| UNII Band | Frequency Range  | Maximum Conducted Power Limit                                   |      | Maximum e.i.r.p |   |
|-----------|------------------|---|------|-----------------|---|
|           |                  | FCC   | ISED | FCC             | ISED  |
| UNII 1    | 5.15 – 5.25GHz   | 23.98dBm (250mW)  | N/A  | N/A             | The lesser of 23.01dBm (200mW) or 10dBm + 10log <sub>10</sub> B |
| UNII 2A   | 5.25 – 5.35GHz   | The lesser of 23.98dBm (250mW) or 11dBm + 10log <sub>10</sub> B |      | N/A             | The lesser of 30dBm (1W) or 17dBm + 10log <sub>10</sub> B       |
| UNII 2C   | 5.47 – 5.725GHz  |   |      |                 |   |
| UNII 3    | 5.725 – 5.850GHz | 30dBm (1W)  |      | N/A             | N/A   |
| UNII 4    | 5.850 – 5.895GHz | N/A   |      | 30dBm (1W)      | 30dBm (1W)  |

### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.3.2 Method PM-G

ANSI C63.10-2013 – Section 14.2 Measure-and-Sum Technique

### Test Settings

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-3. Test Instrument & Measurement Setup**

### Test Notes

None.

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | <b>MEASUREMENT REPORT</b>              |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 56 of 155                    |





# MIMO Conducted Output Power Measurements

| Band     | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       |       |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dB] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |        |      |      |       |
|----------|------------|---------|-------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|--------|------|------|-------|
|          |            |         |       | RU Index                      |       |       |       |       |       |       |       |       |                             |                             |                     |                   |                     |                     |        |      |      |       |
|          |            |         |       | 0                             |       |       | 8     |       |       | 16    |       |       |                             |                             |                     |                   |                     |                     |        |      |      |       |
| 20MHz BW | 1          | 5180    | 36    | 26T                           | ANT1  | ANT2  | MIMO  | ANT1  | ANT2  | MIMO  | ANT1  | ANT2  | MIMO                        | 23.98                       | -11.14              | 7.12              | 20.00               | 30.0                | -10.03 |      |      |       |
|          |            |         |       |                               | 5200  | 40    | 26T   | 9.43  | 9.12  | 12.29 | 9.98  | 9.68  | 12.84                       |                             |                     |                   |                     |                     |        | 9.51 | 9.14 | 12.34 |
|          |            |         |       |                               | 5240  | 48    | 26T   | 9.54  | 9.20  | 12.38 | 9.99  | 9.74  | 12.88                       |                             |                     |                   |                     |                     |        | 9.52 | 9.22 | 12.38 |
|          | 2A         | 5260    | 52    | 26T                           | 9.42  | 9.25  | 12.35 | 9.92  | 9.87  | 12.91 | 9.40  | 9.22  | 12.32                       |                             |                     |                   |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5280  | 56    | 26T   | 9.53  | 9.24  | 12.40 | 9.97  | 9.68  | 12.84                       | 9.55                        | 9.13                | 12.36             |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5320  | 64    | 26T   | 9.51  | 9.23  | 12.38 | 9.99  | 9.72  | 12.87                       | 9.54                        | 9.21                | 12.38             |                     |                     |        |      |      |       |
|          | 2C         | 5500    | 100   | 26T                           | 8.53  | 8.19  | 11.37 | 8.99  | 8.71  | 11.86 | 8.53  | 8.17  | 11.35                       |                             |                     |                   |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5600  | 120   | 26T   | 8.97  | 8.18  | 11.29 | 8.01  | 8.23  | 11.13                       | 8.40                        | 8.13                | 11.28             |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5650  | 120   | 26T   | 8.56  | 8.50  | 11.54 | 8.01  | 8.46  | 11.25                       | 8.53                        | 8.31                | 11.43             |                     |                     |        |      |      |       |
|          | 3          | 5720    | 144   | 26T                           | 8.71  | 8.48  | 11.61 | 8.21  | 8.50  | 11.37 | 8.75  | 8.42  | 11.60                       |                             |                     |                   |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5745  | 149   | 26T   | 8.72  | 8.92  | 11.83 | 8.75  | 8.91  | 11.84                       | 8.75                        | 8.87                | 11.82             |                     |                     |        |      |      |       |
|          |            |         |       |                               | 5785  | 157   | 26T   | 8.52  | 8.89  | 8.72  | 8.52  | 8.88  | 8.22                        | 8.53                        | 8.62                | 8.69              |                     |                     |        |      |      |       |
| 4        | 5825       | 165     | 26T   | 20.49                         | 20.45 | 23.48 | 20.27 | 20.20 | 23.25 | 20.49 | 20.36 | 23.44 |                             |                             |                     |                   |                     |                     |        |      |      |       |
|          |            |         |       | 5845                          | 169   | 26T   | 5.61  | 5.90  | 8.77  | 5.51  | 5.94  | 8.74  | 5.62                        | 5.88                        | 8.76                |                   |                     |                     |        |      |      |       |
|          |            |         |       | 5885                          | 173   | 26T   | 9.21  | 9.08  | 12.15 | 9.13  | 8.87  | 12.01 | 9.20                        | 9.01                        | 12.11               |                   |                     |                     |        |      |      |       |
| 5885     | 177        | 26T     | 8.63  | 8.92                          | 8.78  | 8.70  | 8.88  | 8.80  | 8.70  | 9.00  | 8.81  |       |                             |                             |                     |                   |                     |                     |        |      |      |       |

Table 7-8. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (26 Tones)

| Band     | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       |       |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dB] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |       |       |       |       |
|----------|------------|---------|-------|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|-------|-------|-------|-------|
|          |            |         |       | RU Index                      |       |       |       |       |       |       |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 37                            |       |       | 39    |       |       | 40    |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
| 20MHz BW | 1          | 5180    | 36    | 52T                           | ANT1  | ANT2  | MIMO  | ANT1  | ANT2  | MIMO  | ANT1  | ANT2  | MIMO                        | 23.98                       | -9.20               | 7.12              | 21.90               | 30.0                | -8.10 |       |       |       |
|          |            |         |       |                               | 5200  | 40    | 52T   | 11.17 | 11.79 | 14.50 | 11.53 | 11.95 | 14.78                       |                             |                     |                   |                     |                     |       | 11.19 | 11.76 | 14.49 |
|          |            |         |       |                               | 5240  | 48    | 52T   | 11.78 | 12.35 | 15.09 | 11.56 | 12.16 | 14.88                       |                             |                     |                   |                     |                     |       | 11.77 | 12.32 | 15.06 |
|          | 2A         | 5260    | 52    | 52T                           | 11.83 | 12.42 | 15.15 | 11.59 | 12.29 | 14.96 | 11.82 | 12.38 | 15.12                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5280  | 56    | 52T   | 11.26 | 11.84 | 14.57 | 11.51 | 11.65 | 14.59                       | 11.32                       | 11.82               | 14.59             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5320  | 64    | 52T   | 11.38 | 11.91 | 14.66 | 11.56 | 11.74 | 14.66                       | 11.37                       | 11.89               | 14.65             |                     |                     |       |       |       |       |
|          | 2C         | 5500    | 100   | 52T                           | 10.56 | 10.83 | 13.70 | 10.56 | 10.22 | 13.40 | 10.59 | 10.77 | 13.69                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5600  | 120   | 52T   | 11.04 | 11.35 | 14.21 | 10.86 | 11.17 | 14.03                       | 10.98                       | 11.52               | 14.16             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5650  | 120   | 52T   | 11.11 | 11.49 | 14.31 | 10.96 | 11.29 | 14.14                       | 11.09                       | 11.33               | 14.22             |                     |                     |       |       |       |       |
|          | 3          | 5720    | 144   | 52T                           | 10.87 | 10.99 | 13.94 | 10.71 | 10.85 | 13.80 | 10.89 | 10.95 | 13.93                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5745  | 149   | 52T   | 11.04 | 11.35 | 14.21 | 10.86 | 11.17 | 14.03                       | 10.98                       | 11.52               | 14.16             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5785  | 157   | 52T   | 20.49 | 20.46 | 23.49 | 20.29 | 20.26 | 23.28                       | 20.49                       | 20.44               | 23.48             |                     |                     |       |       |       |       |
| 4        | 5825       | 165     | 52T   | 20.49                         | 20.46 | 23.49 | 20.29 | 20.21 | 23.25 | 20.49 | 20.42 | 23.47 |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5845                          | 169   | 52T   | 9.28  | 9.08  | 12.18 | 9.15  | 8.91  | 12.04 | 9.25                        | 9.03                        | 12.15               |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5885                          | 173   | 52T   | 9.21  | 9.08  | 12.15 | 9.13  | 8.87  | 12.01 | 9.20                        | 9.01                        | 12.11               |                   |                     |                     |       |       |       |       |
| 5885     | 177        | 52T     | 8.85  | 9.08                          | 11.98 | 8.63  | 8.88  | 11.77 | 8.84  | 9.06  | 11.96 |       |                             |                             |                     |                   |                     |                     |       |       |       |       |

Table 7-9. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (52 Tones)

| Band     | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dB] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |       |       |       |       |
|----------|------------|---------|-------|-------------------------------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|-------|-------|-------|-------|
|          |            |         |       | RU Index                      |       |       |       |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 53                            |       | 54    |       | 54    |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
| 20MHz BW | 1          | 5180    | 36    | 106T                          | ANT1  | ANT2  | MIMO  | ANT1  | ANT2  | MIMO                        | 23.98                       | -6.13               | 7.12              | 24.97               | 30.0                | -5.03 |       |       |       |
|          |            |         |       |                               | 5200  | 40    | 106T  | 14.76 | 14.92 | 17.85                       |                             |                     |                   |                     |                     |       | 14.77 | 14.84 | 17.82 |
|          |            |         |       |                               | 5240  | 48    | 106T  | 15.22 | 15.41 | 18.33                       |                             |                     |                   |                     |                     |       | 15.23 | 15.42 | 18.34 |
|          | 2A         | 5260    | 52    | 106T                          | 15.26 | 15.30 | 18.29 | 15.31 | 15.26 | 18.30                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5280  | 56    | 106T  | 14.82 | 14.67 | 17.76                       | 14.82                       | 14.63               | 17.74             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5320  | 64    | 106T  | 11.04 | 11.35 | 14.21                       | 10.86                       | 11.17               | 14.03             |                     |                     |       |       |       |       |
|          | 2C         | 5500    | 100   | 106T                          | 13.98 | 13.97 | 16.99 | 13.98 | 13.96 | 16.98                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5600  | 120   | 106T  | 14.29 | 14.41 | 17.36                       | 14.31                       | 14.35               | 17.34             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5650  | 120   | 106T  | 14.35 | 14.77 | 17.58                       | 14.29                       | 14.64               | 17.48             |                     |                     |       |       |       |       |
|          | 3          | 5720    | 144   | 106T                          | 13.53 | 13.59 | 16.57 | 13.53 | 13.52 | 16.54                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5745  | 149   | 106T  | 13.87 | 13.87 | 16.84                       | 13.68                       | 13.72               | 16.81             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5785  | 157   | 106T  | 20.21 | 20.12 | 23.17                       | 20.20                       | 20.13               | 23.17             |                     |                     |       |       |       |       |
| 4        | 5825       | 165     | 106T  | 20.18                         | 20.11 | 23.15 | 20.18 | 20.06 | 23.13 |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5845                          | 169   | 106T  | 11.79 | 11.78 | 14.80 | 11.82                       | 11.77                       | 14.80               |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5885                          | 173   | 106T  | 11.74 | 11.70 | 14.73 | 11.73                       | 11.71                       | 14.73               |                   |                     |                     |       |       |       |       |
| 5885     | 177        | 106T    | 11.81 | 11.75                         | 14.79 | 11.75 | 11.71 | 14.74 |       |                             |                             |                     |                   |                     |                     |       |       |       |       |

Table 7-10. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (106 Tones)

| Band     | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dB] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |       |       |       |       |
|----------|------------|---------|-------|-------------------------------|-------|-------|-----------------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|-------|-------|-------|-------|
|          |            |         |       | RU Index                      |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 61                            |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
| 20MHz BW | 1          | 5180    | 36    | 242T                          | ANT1  | ANT2  | MIMO                        | 23.98                       | -3.29               | 7.12              | 27.82               | 30.0                | -2.18 |       |       |       |
|          |            |         |       |                               | 5200  | 40    | 242T                        |                             |                     |                   |                     |                     |       | 17.63 | 17.73 | 20.69 |
|          |            |         |       |                               | 5240  | 48    | 242T                        |                             |                     |                   |                     |                     |       | 18.17 | 18.34 | 21.27 |
|          | 2A         | 5260    | 52    | 242T                          | 18.30 | 18.41 | 21.37                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5280  | 56    | 242T                        | 17.78                       | 17.83               | 20.82             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5320  | 64    | 242T                        | 17.82                       | 17.82               | 20.83             |                     |                     |       |       |       |       |
|          | 2C         | 5500    | 100   | 242T                          | 14.86 | 14.91 | 17.90                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5600  | 120   | 242T                        | 17.67                       | 17.82               | 20.76             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5650  | 120   | 242T                        | 17.74                       | 17.97               | 20.87             |                     |                     |       |       |       |       |
|          | 3          | 5720    | 144   | 242T                          | 16.99 | 16.96 | 19.99                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5745  | 149   | 242T                        | 17.99                       | 17.91               | 20.96             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5785  | 157   | 242T                        | 20.49                       | 20.46               | 23.49             |                     |                     |       |       |       |       |
| 4        | 5825       | 165     | 242T  | 20.12                         | 19.91 | 23.03 |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5845                          | 169   | 242T  | 15.32                       | 15.29                       | 18.32               |                   |                     |                     |       |       |       |       |
|          |            |         |       | 5885                          | 173   | 242T  | 15.26                       | 15.33                       | 18.31               |                   |                     |                     |       |       |       |       |
| 5885     | 177        | 242T    | 15.33 | 15.30                         | 18.32 |       |                             |                             |                     |                   |                     |                     |       |       |       |       |

Table 7-11. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (242 Tones)

| Band     | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dB] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |       |       |       |       |
|----------|------------|---------|-------|-------------------------------|-------|-------|-----------------------------|-----------------------------|---------------------|-------------------|---------------------|---------------------|-------|-------|-------|-------|
|          |            |         |       | RU Index                      |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       | 65                            |       |       |                             |                             |                     |                   |                     |                     |       |       |       |       |
| 40MHz BW | 1          | 5190    | 38    | 484T                          | ANT1  | ANT2  | MIMO                        | 23.98                       | -6.40               | 7.12              | 24.70               | 30.0                | -5.30 |       |       |       |
|          |            |         |       |                               | 5230  | 46    | 484T                        |                             |                     |                   |                     |                     |       | 14.39 | 14.74 | 17.58 |
|          |            |         |       |                               | 5270  | 54    | 484T                        |                             |                     |                   |                     |                     |       | 14.89 | 14.99 | 17.95 |
|          | 2A         | 5310    | 62    | 484T                          | 14.82 | 14.99 | 17.92                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5350  | 70    | 484T                        | 14.36                       | 14.78               | 17.59             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5390  | 78    | 484T                        | 14.65                       | 14.96               | 17.82             |                     |                     |       |       |       |       |
|          | 2C         | 5510    | 102   | 484T                          | 14.46 | 14.99 | 17.74                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5550  | 110   | 484T                        | 14.55                       | 14.60               | 17.59             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5590  | 118   | 484T                        | 17.69                       | 17.86               | 20.79             |                     |                     |       |       |       |       |
|          | 3          | 5755    | 151   | 484T                          | 17.71 | 17.96 | 20.85                       |                             |                     |                   |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5795  | 159   | 484T                        | 17.90                       | 17.98               | 20.95             |                     |                     |       |       |       |       |
|          |            |         |       |                               | 5835  | 167   | 484T                        | 17.98                       | 17.95               | 20.98             |                     |                     |       |       |       |       |
| 5875     | 175        | 484T    | 17.98 | 17.95                         | 20.98 |       |                             |                             |                     |                   |                     |                     |       |       |       |       |

Table 7-12. MIMO 40MHz BW (UNII) Maximum Conducted Output Power (484 Tones)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 57 of 155                    |



| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|----------|------|------------|---------|-------|-------------------------------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|          |      |            |         |       | RU Index                      |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | 67                            |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | ANT1                          | ANT2  | MIMO  |                             |                             |                      |                   |                     |                     |
| 1        | 5210 | 42         | 996T    | 14.14 | 14.09                         | 17.12 | 23.98 | -6.86                       | 7.12                        | 24.25                | 30.0              | -5.75               |                     |
| 2A       | 5290 | 58         | 996T    | 14.16 | 14.49                         | 17.34 | 23.98 | -6.64                       | 6.97                        | 24.31                | 30.0              | -5.69               |                     |
| 2C       | 5530 | 106        | 996T    | 12.67 | 13.28                         | 16.00 | 23.98 | -7.98                       | 7.77                        | 23.77                | 30.0              | -6.23               |                     |
|          | 5610 | 122        | 996T    | 12.83 | 13.37                         | 16.11 | 23.98 | -7.87                       | 7.77                        | 23.88                | 30.0              | -6.12               |                     |
| 3        | 5690 | 138        | 996T    | 17.74 | 17.82                         | 20.79 | 23.98 | -3.19                       | 7.77                        | 28.56                | 30.0              | -1.44               |                     |
|          | 5775 | 155        | 996T    | 13.22 | 13.36                         | 16.30 | 30    | -13.70                      | 7.72                        | 24.02                | 36.0              | -11.98              |                     |
| 4        | 5855 | 171        | 996T    | 13.29 | 13.34                         | 16.32 | -     | -                           | 7.27                        | 23.59                | 30.0              | -6.41               |                     |

Table 7-13. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (996 Tones)

| 160MHz BW | Band | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|-----------|------|------------|---------|-------|-------------------------------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|           |      |            |         |       | RU Index                      |       |       |                             |                             |                      |                   |                     |                     |
|           |      |            |         |       | 68                            |       |       |                             |                             |                      |                   |                     |                     |
|           |      |            |         |       | ANT1                          | ANT2  | MIMO  |                             |                             |                      |                   |                     |                     |
| 1/2A      | 5250 | 50         | 2x996T  | 14.17 | 14.43                         | 17.31 | 23.98 | -6.67                       | 7.12                        | 24.43                | 30.0              | -5.57               |                     |
| 2C        | 5570 | 114        | 2x996T  | 13.38 | 13.39                         | 16.39 | 23.98 | -7.59                       | 7.77                        | 24.16                | 30.0              | -5.84               |                     |
| 3/4       | 5815 | 163        | 2x996T  | 13.15 | 12.98                         | 16.07 | -     | -                           | 7.27                        | 23.34                | 30.0              | -6.66               |                     |

Table 7-14. MIMO 160MHz BW (UNII) Maximum Conducted Output Power (2x996 Tones)

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       |        |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|----------|------|------------|---------|-------|-------------------------------|-------|-------|--------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|          |      |            |         |       | MRU Index                     |       |       |        |       |       |       |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | 70                            |       |       | 71     |       |       | 72    |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | ANT1                          | ANT2  | MIMO  | ANT1   | ANT2  | MIMO  | ANT1  | ANT2  | MIMO  |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | 1                             | 5300  | 40    | 52+26T | 11.98 | 12.11 | 14.86 | 11.83 | 12.19 |                             |                             |                      |                   |                     |                     |
| 2A       | 5280 | 56         | 52+26T  | 11.42 | 11.56                         | 14.50 | 11.50 | 11.64  | 14.58 | 11.43 | 11.54 | 14.45 | 23.98 | -9.40                       | 6.97                        | 21.54                | 30.0              | -8.46               |                     |
| 2C       | 5600 | 120        | 52+26T  | 10.94 | 11.34                         | 14.15 | 11.02 | 11.38  | 14.21 | 10.94 | 11.21 | 14.09 | 23.98 | -9.77                       | 7.77                        | 21.98                | 30.0              | -8.02               |                     |
|          | 5785 | 157        | 52+26T  | 20.34 | 20.32                         | 23.54 | 20.33 | 20.22  | 23.29 | 20.30 | 20.14 | 23.23 | 30    | -6.56                       | 7.72                        | 31.06                | 36.0              | -4.94               |                     |
| 4        | 5855 | 173        | 52+26T  | 9.08  | 8.90                          | 12.00 | 9.14  | 8.92   | 12.04 | 9.07  | 8.81  | 11.95 | -     | -                           | 7.27                        | 19.31                | 30.0              | -10.69              |                     |

Table 7-15. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (52 + 26 Tones)

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Average Conducted Power (dBm) |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|----------|------|------------|---------|-------|-------------------------------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|          |      |            |         |       | MRU Index                     |       |       |       |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | 82                            |       |       | 83    |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |         |       | ANT1                          | ANT2  | MIMO  | ANT1  | ANT2  | MIMO  |                             |                             |                      |                   |                     |                     |
| 1        | 5200 | 40         | 26+106T | 15.33 | 15.44                         | 18.39 | 15.35 | 15.45 | 18.41 | 23.98 | -5.57                       | 7.12                        | 25.53                | 30.0              | -4.47               |                     |
| 2A       | 5280 | 56         | 26+106T | 14.80 | 14.58                         | 17.70 | 14.85 | 14.58 | 17.73 | 23.98 | -6.25                       | 6.97                        | 24.69                | 30.0              | -5.31               |                     |
| 2C       | 5600 | 120        | 26+106T | 14.37 | 14.79                         | 17.59 | 14.38 | 14.71 | 17.56 | 23.98 | -6.39                       | 7.77                        | 25.36                | 30.0              | -4.64               |                     |
|          | 5785 | 157        | 26+106T | 20.11 | 20.09                         | 23.11 | 20.25 | 20.16 | 23.21 | 30    | -6.79                       | 7.72                        | 30.93                | 36.0              | -5.07               |                     |
| 4        | 5855 | 173        | 26+106T | 11.76 | 11.77                         | 14.77 | 11.78 | 11.77 | 14.78 | -     | -                           | 7.27                        | 22.05                | 30.0              | -7.95               |                     |

Table 7-16. MIMO 20MHz BW (UNII) Maximum Conducted Output Power (106 + 26 Tones)

| 80MHz BW | Band | Freq [MHz] | Channel  | Tones | Average Conducted Power (dBm) |       |       |          |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|----------|------|------------|----------|-------|-------------------------------|-------|-------|----------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|          |      |            |          |       | MRU Index                     |       |       |          |       |       |       |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |          |       | MRU3                          |       |       | MRU1     |       |       |       |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |          |       | ANT1                          | ANT2  | MIMO  | ANT1     | ANT2  | MIMO  |       |       |       |                             |                             |                      |                   |                     |                     |
|          |      |            |          |       | 1                             | 5210  | 42    | 484+242T | 14.31 | 14.47 | 17.40 | 14.35 | 14.49 |                             |                             |                      |                   |                     |                     |
| 2A       | 5290 | 58         | 484+242T | 14.44 | 14.90                         | 17.69 | 14.50 | 14.98    | 17.75 | 23.98 | -6.23 | 6.97  | 24.72 | 30.0                        | -5.28                       |                      |                   |                     |                     |
| 2C       | 5530 | 106        | 484+242T | 14.05 | 14.73                         | 17.42 | 14.04 | 14.66    | 17.37 | 23.98 | -6.56 | 7.77  | 25.18 | 30.0                        | -4.82                       |                      |                   |                     |                     |
|          | 5610 | 122        | 484+242T | 14.23 | 14.78                         | 17.52 | 14.18 | 14.73    | 17.47 | 23.98 | -6.46 | 7.77  | 25.29 | 30.0                        | -4.71                       |                      |                   |                     |                     |
| 3        | 5690 | 138        | 484+242T | 14.57 | 14.83                         | 17.71 | 14.57 | 14.83    | 17.71 | 23.98 | -6.27 | 7.77  | 25.48 | 30.0                        | -4.52                       |                      |                   |                     |                     |
|          | 5775 | 155        | 484+242T | 17.87 | 17.99                         | 20.94 | 17.87 | 17.99    | 20.94 | 30    | -9.06 | 7.72  | 28.65 | 36.0                        | -7.35                       |                      |                   |                     |                     |
| 4        | 5855 | 171        | 484+242T | 17.93 | 17.94                         | 20.95 | 17.96 | 17.99    | 20.99 | -     | -     | 7.27  | 28.25 | 30.0                        | -1.75                       |                      |                   |                     |                     |

Table 7-17. MIMO 80MHz BW (UNII) Maximum Conducted Output Power (484 + 242 Tones)

| 160MHz BW | Band | Freq [MHz] | Channel  | Tones | Average Conducted Power (dBm) |       |       |       |       |       | Conducted Power Limit [dBm] | Conducted Power Margin [dB] | Dir. Ant. Gain [dBi] | Max e.i.r.p [dBm] | e.i.r.p Limit [dBm] | e.i.r.p Margin [dB] |
|-----------|------|------------|----------|-------|-------------------------------|-------|-------|-------|-------|-------|-----------------------------|-----------------------------|----------------------|-------------------|---------------------|---------------------|
|           |      |            |          |       | MRU Index                     |       |       |       |       |       |                             |                             |                      |                   |                     |                     |
|           |      |            |          |       | MRU1                          |       |       | MRU4  |       |       |                             |                             |                      |                   |                     |                     |
|           |      |            |          |       | ANT1                          | ANT2  | MIMO  | ANT1  | ANT2  | MIMO  |                             |                             |                      |                   |                     |                     |
| 1/2A      | 5250 | 50         | 996+484T | 13.78 | 14.05                         | 16.93 | 13.87 | 14.15 | 17.02 | 23.98 | -6.96                       | 7.12                        | 24.15                | 30.0              | -5.85               |                     |
| 2C        | 5570 | 114        | 996+484T | 12.75 | 13.32                         | 16.05 | 12.70 | 13.14 | 15.93 | 23.98 | -7.93                       | 7.77                        | 23.82                | 30.0              | -6.18               |                     |
| 3/4       | 5815 | 163        | 996+484T | 13.12 | 13.16                         | 16.15 | 13.12 | 13.22 | 16.18 | -     | -                           | 7.27                        | 23.45                | 30.0              | -6.55               |                     |

Table 7-18. MIMO 160MHz BW (UNII) Maximum Conducted Output Power (996 + 484 Tones)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 58 of 155                    |



**Note:**

Per ANSI C63.10-2013 and KDB 662911 v02r01 Section E1), the conducted powers at Antenna 1 and Antenna 2 were first measured separately during MIMO transmission as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Per ANSI C63.10-2013 Section 14.4.3, the directional gain is calculated using the following formula, where  $G_N$  is the gain of the nth antenna and  $N_{ANT}$ , the total number of antennas used.

$$\text{Directional gain} = 10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}] \text{ dBi}$$

**Sample MIMO Calculation:**

At 5845MHz in 802.11be (20MHz BW) mode, the average conducted output power was measured to be 5.61 dBm for Antenna 1 and 5.90 dBm for Antenna 2.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(5.61 \text{ dBm} + 5.90 \text{ dBm}) = (3.64 \text{ mW} + 3.89 \text{ mW}) = 7.53 \text{ mW} = 8.77 \text{ dBm}$$

**Sample e.i.r.p. Calculation:**

At 5845MHz in 802.11be (20MHz BW) mode, the average MIMO conducted power was calculated to be 8.77 dBm with directional gain of 7.27 dBi.

$$\text{e.i.r.p. (dBm)} = \text{Conducted Power (dBm)} + \text{Ant gain (dBi)}$$

$$8.77 \text{ dBm} + 7.27 \text{ dBi} = 16.04 \text{ dBm}$$

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 59 of 155                    |

## 7.5 Maximum Power Spectral Density

### Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013, and at the appropriate frequencies. Method SA-1, as defined in ANSI C63.10-2013, was used to measure the power spectral density.

**The output power density limits are as specified in the tables below.**

| UNII Band | Frequency Range  | Maximum Power Spectral Density |                   |
|-----------|------------------|--------------------------------|-------------------|
|           |                  | FCC                            | ISED              |
| UNII 1    | 5.15 – 5.25GHz   | 11dBm/MHz                      | 10dBm/MHz e.i.r.p |
| UNII 2A   | 5.25 – 5.35GHz   | 11dBm/MHz                      |                   |
| UNII 2C   | 5.47 – 5.725GHz  |                                |                   |
| UNII 3    | 5.725 – 5.850GHz | 30dBm/500kHz                   |                   |
| UNII 4    | 5.850 – 5.895GHz | 14dBm/MHz e.i.r.p              |                   |

### Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2 (Method SA-1)

ANSI C63.10-2013 – Section 14.3.2.2 Measure-and-Sum Technique

### Test Settings

1. Analyzer was set to the center frequency of the UNII channel under investigation
2. Span was set to encompass the entire emission bandwidth of the signal
3. RBW = 1MHz
4. VBW = 3MHz
5. Number of sweep points  $\geq 2 \times (\text{span}/\text{RBW})$
6. Sweep time = auto
7. Detector = power averaging (RMS)
8. Trigger was set to free run for all modes
9. Trace was averaged over 100 sweeps
10. The peak search function of the spectrum analyzer was used to find the peak of the spectrum.

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-4. Test Instrument & Measurement Setup**

### Test Notes

The power spectral density for each channel was measured with the RU index showing the highest conducted power.

| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
|---|--|--|-----------------------------------|
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 60 of 155                    |

## Summed MIMO Power Spectral Density Measurements

|           | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|-----------|-----------------|-------------|---------|---------------------|---------------------|-----------------------|-------------------------|-------------|
| Band 1    | 5180            | be (20MHz)  | 36      | 6.23                | 5.75                | 9.01                  | 9.88                    | -0.87       |
|           | 5200            | be (20MHz)  | 40      | 6.17                | 5.82                | 9.01                  | 9.88                    | -0.87       |
|           | 5240            | be (20MHz)  | 48      | 6.31                | 5.69                | 9.02                  | 9.88                    | -0.85       |
|           | 5190            | be (40MHz)  | 38      | 6.58                | 6.76                | 9.68                  | 9.88                    | -0.19       |
|           | 5230            | be (40MHz)  | 46      | 7.07                | 6.57                | 9.83                  | 9.88                    | -0.04       |
|           | 5210            | be (80MHz)  | 42      | 6.35                | 6.67                | 9.52                  | 9.88                    | -0.35       |
| Band 1/2A | 5250            | be (160MHz) | 50      | 6.54                | 6.60                | 9.58                  | 10.03                   | -0.45       |
| Band 2A   | 5260            | be (20MHz)  | 52      | 6.41                | 5.64                | 9.05                  | 10.03                   | -0.98       |
|           | 5280            | be (20MHz)  | 56      | 6.11                | 5.96                | 9.05                  | 10.03                   | -0.99       |
|           | 5320            | be (20MHz)  | 64      | 5.17                | 4.78                | 7.99                  | 10.03                   | -2.04       |
|           | 5270            | be (40MHz)  | 54      | 6.83                | 6.50                | 9.68                  | 10.03                   | -0.35       |
|           | 5310            | be (40MHz)  | 62      | 7.03                | 6.70                | 9.88                  | 10.03                   | -0.15       |
|           | 5290            | be (80MHz)  | 58      | 6.80                | 6.64                | 9.73                  | 10.03                   | -0.30       |
| Band 2C   | 5500            | be (20MHz)  | 100     | 5.67                | 5.71                | 8.70                  | 9.23                    | -0.53       |
|           | 5600            | be (20MHz)  | 120     | 5.85                | 5.40                | 8.64                  | 9.23                    | -0.59       |
|           | 5720            | be (20MHz)  | 144     | 6.26                | 5.74                | 9.02                  | 9.23                    | -0.22       |
|           | 5510            | be (40MHz)  | 102     | 6.02                | 6.20                | 9.12                  | 9.23                    | -0.11       |
|           | 5590            | be (40MHz)  | 118     | 6.03                | 5.86                | 8.95                  | 9.23                    | -0.28       |
|           | 5710            | be (40MHz)  | 142     | 6.26                | 5.81                | 9.05                  | 9.23                    | -0.18       |
|           | 5530            | be (80MHz)  | 106     | 5.98                | 6.10                | 9.05                  | 9.23                    | -0.18       |
|           | 5610            | be (80MHz)  | 122     | 5.54                | 5.92                | 8.75                  | 9.23                    | -0.49       |
|           | 5690            | be (80MHz)  | 138     | 5.57                | 5.95                | 8.77                  | 9.23                    | -0.46       |
|           | 5570            | be (160MHz) | 114     | 5.83                | 5.98                | 8.91                  | 9.23                    | -0.32       |

Table 7-19. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

|        | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|--------|-----------------|-------------|---------|---------------------|---------------------|-----------------------|-------------------------|-------------|
| Band 3 | 5745            | be (20MHz)  | 149     | 3.25                | 3.16                | 6.22                  | 30.00                   | -23.78      |
|        | 5785            | be (20MHz)  | 157     | 14.76               | 14.97               | 17.87                 | 30.00                   | -12.13      |
|        | 5825            | be (20MHz)  | 165     | 14.70               | 14.73               | 17.72                 | 30.00                   | -12.28      |
|        | 5755            | be (40MHz)  | 151     | 3.09                | 3.65                | 6.39                  | 30.00                   | -23.61      |
|        | 5795            | be (40MHz)  | 159     | 14.95               | 15.47               | 18.23                 | 30.00                   | -11.77      |
|        | 5775            | be (80MHz)  | 155     | 14.73               | 15.29               | 18.03                 | 30.00                   | -11.97      |
|        | 5815            | be (160MHz) | 163     | 17.22               | 17.62               | 20.44                 | 30.00                   | -9.56       |

Table 7-20. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 61 of 155                    |

|          | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | Antenna Gain [dBi] | MIMO Summed EIRP PSD [dBm] | Max EIRP PSD [dBm] | Margin [dB] |
|----------|-----------------|-------------|---------|---------------------|---------------------|--------------------|----------------------------|--------------------|-------------|
| Band 3/4 | 5845            | be (20MHz)  | 169     | 2.77                | 2.81                | 7.27               | 13.07                      | 14.00              | -0.93       |
| Band 4   | 5865            | be (20MHz)  | 173     | 2.35                | 2.97                | 7.27               | 12.95                      | 14.00              | -1.05       |
|          | 5885            | be (20MHz)  | 177     | 2.63                | 2.85                | 7.27               | 13.02                      | 14.00              | -0.98       |
| Band 3/4 | 5835            | be (40MHz)  | 167     | 3.14                | 3.30                | 7.27               | 13.50                      | 14.00              | -0.50       |
| Band 4   | 5875            | be (40MHz)  | 175     | 3.01                | 2.92                | 7.27               | 13.25                      | 14.00              | -0.75       |
| Band 3/4 | 5855            | be (80MHz)  | 171     | 3.01                | 3.47                | 7.27               | 13.52                      | 14.00              | -0.48       |
| Band 4   | 5815            | be (160MHz) | 163     | 2.26                | 2.70                | 7.27               | 12.76                      | 14.00              | -1.24       |

**Table 7-21. Bands 3/4 MIMO Conducted Power Spectral Density Measurements MIMO (26 Tones)**

|           | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|-----------|-----------------|-------------|---------|---------------------|---------------------|-----------|-----------------------|-------------------------|-------------|
| Band 1    | 5180            | be (20MHz)  | 36      | 5.72                | 5.72                | 0.00      | 8.73                  | 9.88                    | -1.15       |
|           | 5200            | be (20MHz)  | 40      | 6.32                | 6.39                | 0.00      | 9.36                  | 9.88                    | -0.51       |
|           | 5240            | be (20MHz)  | 48      | 6.50                | 6.33                | 0.00      | 9.42                  | 9.88                    | -0.45       |
|           | 5190            | be (40MHz)  | 38      | 0.65                | 0.72                | 0.12      | 3.81                  | 9.88                    | -6.06       |
|           | 5230            | be (40MHz)  | 46      | 6.08                | 5.85                | 0.12      | 9.10                  | 9.88                    | -0.78       |
|           | 5210            | be (80MHz)  | 42      | -1.04               | -1.06               | 0.17      | 2.13                  | 9.88                    | -7.75       |
| Band 1/2A | 5250            | be (160MHz) | 50      | -3.31               | -3.14               | 0.20      | -0.02                 | 10.03                   | -10.05      |
| Band 2A   | 5260            | be (20MHz)  | 52      | 5.91                | 5.83                | 0.00      | 8.88                  | 10.03                   | -1.15       |
|           | 5280            | be (20MHz)  | 56      | 5.91                | 5.99                | 0.00      | 8.96                  | 10.03                   | -1.08       |
|           | 5320            | be (20MHz)  | 64      | 2.99                | 3.06                | 0.00      | 6.03                  | 10.03                   | -4.00       |
|           | 5270            | be (40MHz)  | 54      | 6.12                | 6.17                | 0.12      | 9.28                  | 10.03                   | -0.76       |
|           | 5310            | be (40MHz)  | 62      | 6.15                | 6.07                | 0.12      | 9.24                  | 10.03                   | -0.79       |
| Band 2C   | 5290            | be (80MHz)  | 58      | -1.25               | -0.78               | 0.17      | 2.17                  | 10.03                   | -7.86       |
|           | 5500            | be (20MHz)  | 100     | 5.88                | 5.89                | 0.00      | 8.90                  | 9.23                    | -0.34       |
|           | 5600            | be (20MHz)  | 120     | 5.96                | 5.91                | 0.00      | 8.94                  | 9.23                    | -0.29       |
|           | 5720            | be (20MHz)  | 144     | 5.43                | 5.19                | 0.00      | 8.32                  | 9.23                    | -0.91       |
|           | 5510            | be (40MHz)  | 102     | 5.65                | 5.98                | 0.12      | 8.95                  | 9.23                    | -0.28       |
|           | 5590            | be (40MHz)  | 118     | 5.45                | 5.31                | 0.12      | 8.51                  | 9.23                    | -0.72       |
|           | 5710            | be (40MHz)  | 142     | 5.83                | 5.77                | 0.12      | 8.93                  | 9.23                    | -0.30       |
|           | 5530            | be (80MHz)  | 106     | 2.62                | 3.21                | 0.17      | 6.11                  | 9.23                    | -3.13       |
|           | 5610            | be (80MHz)  | 122     | 2.77                | 3.00                | 0.17      | 6.07                  | 9.23                    | -3.17       |
| 5690      | be (80MHz)      | 138         | 3.09    | 3.36                | 0.17                | 6.40      | 9.23                  | -2.83                   |             |
|           | 5570            | be (160MHz) | 114     | -3.13               | -2.88               | 0.20      | 0.21                  | 9.23                    | -9.03       |

**Table 7-22. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)**

|        | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|--------|-----------------|-------------|---------|---------------------|---------------------|-----------|-----------------------|-------------------------|-------------|
| Band 3 | 5745            | be (20MHz)  | 149     | 3.46                | 3.35                | 0.00      | 6.41                  | 30.00                   | -23.59      |
|        | 5785            | be (20MHz)  | 157     | 5.97                | 5.60                | 0.00      | 8.80                  | 30.00                   | -21.20      |
|        | 5825            | be (20MHz)  | 165     | 5.70                | 5.72                | 0.00      | 8.72                  | 30.00                   | -21.28      |
|        | 5755            | be (40MHz)  | 151     | 3.70                | 3.32                | 0.12      | 6.64                  | 30.00                   | -23.36      |
|        | 5795            | be (40MHz)  | 159     | 3.30                | 3.84                | 0.12      | 6.71                  | 30.00                   | -23.29      |
|        | 5775            | be (80MHz)  | 155     | 0.24                | 0.45                | 0.17      | 3.52                  | 30.00                   | -26.48      |

**Table 7-23. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)**

|   |  |  |  |                                   |  |  |
|---|--|--|--|-----------------------------------|--|--|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  |  | Approved by:<br>Technical Manager |  |  |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device |  | Page 62 of 155                    |  |  |

|          | Frequency [MHz] | 802.11 MODE | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | Antenna Gain [dBi] | MIMO Summed EIRP PSD [dBm] | Max EIRP PSD [dBm] | Margin [dB] |
|----------|-----------------|-------------|---------|---------------------|---------------------|-----------|--------------------|----------------------------|--------------------|-------------|
| Band 3/4 | 5845            | be (20MHz)  | 169     | 2.94                | 3.24                | 0.00      | 7.27               | 13.37                      | 14.00              | -0.63       |
| Band 4   | 5865            | be (20MHz)  | 173     | 3.15                | 3.16                | 0.00      | 7.27               | 13.43                      | 14.00              | -0.57       |
|          | 5885            | be (20MHz)  | 177     | 3.18                | 3.10                | 0.00      | 7.27               | 13.42                      | 14.00              | -0.58       |
| Band 3/4 | 5835            | be (40MHz)  | 167     | 3.07                | 3.01                | 0.12      | 7.27               | 13.44                      | 14.00              | -0.56       |
| Band 4   | 5875            | be (40MHz)  | 175     | 2.91                | 3.06                | 0.12      | 7.27               | 13.38                      | 14.00              | -0.62       |
| Band 3/4 | 5855            | be (80MHz)  | 171     | 2.43                | 2.88                | 0.17      | 7.27               | 13.11                      | 14.00              | -0.89       |
|          | 5815            | be (160MHz) | 163     | -2.91               | -3.33               | 0.20      | 7.27               | 7.36                       | 14.00              | -6.64       |

**Table 7-24. Bands 3/4 MIMO Conducted Power Spectral Density Measurements MIMO (Full Tones)**

|           | Frequency [MHz] | 802.11 MODE | MRU Case | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|-----------|-----------------|-------------|----------|---------|---------------------|---------------------|-----------|-----------------------|-------------------------|-------------|
| Band 1    | 5200            | be (20MHz)  | 52+26T   | 40      | 4.49                | 4.47                | 0.00      | 7.49                  | 9.88                    | -2.39       |
|           | 5200            | be (20MHz)  | 106+26T  | 40      | 5.96                | 5.65                | 0.00      | 8.82                  | 9.88                    | -1.06       |
|           | 5210            | be (80MHz)  | 484+242T | 42      | -1.50               | -1.55               | 0.17      | 1.66                  | 9.88                    | -8.22       |
| Band 1/2A | 5250            | be (160MHz) | 996+484T | 50      | -4.73               | -4.40               | 0.20      | -1.35                 | 10.03                   | -11.38      |
| Band 2A   | 5280            | be (20MHz)  | 52+26T   | 56      | 4.41                | 4.81                | 0.00      | 7.62                  | 10.03                   | -2.41       |
|           | 5280            | be (20MHz)  | 106+26T  | 56      | 5.53                | 5.33                | 0.00      | 8.44                  | 10.03                   | -1.59       |
|           | 5290            | be (80MHz)  | 484+242T | 58      | -1.34               | -1.21               | 0.17      | 1.90                  | 10.03                   | -8.13       |
| Band 2C   | 5600            | be (20MHz)  | 52+26T   | 120     | 4.62                | 4.72                | 0.00      | 7.68                  | 10.03                   | -2.35       |
|           | 5600            | be (20MHz)  | 106+26T  | 120     | 5.46                | 5.40                | 0.00      | 8.44                  | 9.23                    | -0.79       |
|           | 5610            | be (80MHz)  | 484+242T | 122     | -1.41               | -1.43               | 0.17      | 1.76                  | 9.23                    | -7.47       |
|           | 5570            | be (160MHz) | 996+484T | 114     | -4.53               | -4.54               | 0.20      | -1.33                 | 9.23                    | -10.56      |

**Table 7-25. Bands 1, 2A, 2C MIMO Conducted Power Spectral Density Measurements MIMO (MRU Cases)**

|        | Frequency [MHz] | 802.11 MODE | MRU Case | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | MIMO Summed PSD [dBm] | Max Conducted PSD [dBm] | Margin [dB] |
|--------|-----------------|-------------|----------|---------|---------------------|---------------------|-----------|-----------------------|-------------------------|-------------|
| Band 3 | 5785            | be (20MHz)  | 52+26T   | 157     | 10.30               | 9.93                | 0.00      | 13.13                 | 30.00                   | -16.87      |
|        | 5785            | be (20MHz)  | 106+26T  | 157     | 8.40                | 7.65                | 0.00      | 11.05                 | 30.00                   | -18.95      |
|        | 5775            | be (80MHz)  | 484+242T | 155     | -0.96               | -0.91               | 0.17      | 2.24                  | 30.00                   | -27.76      |

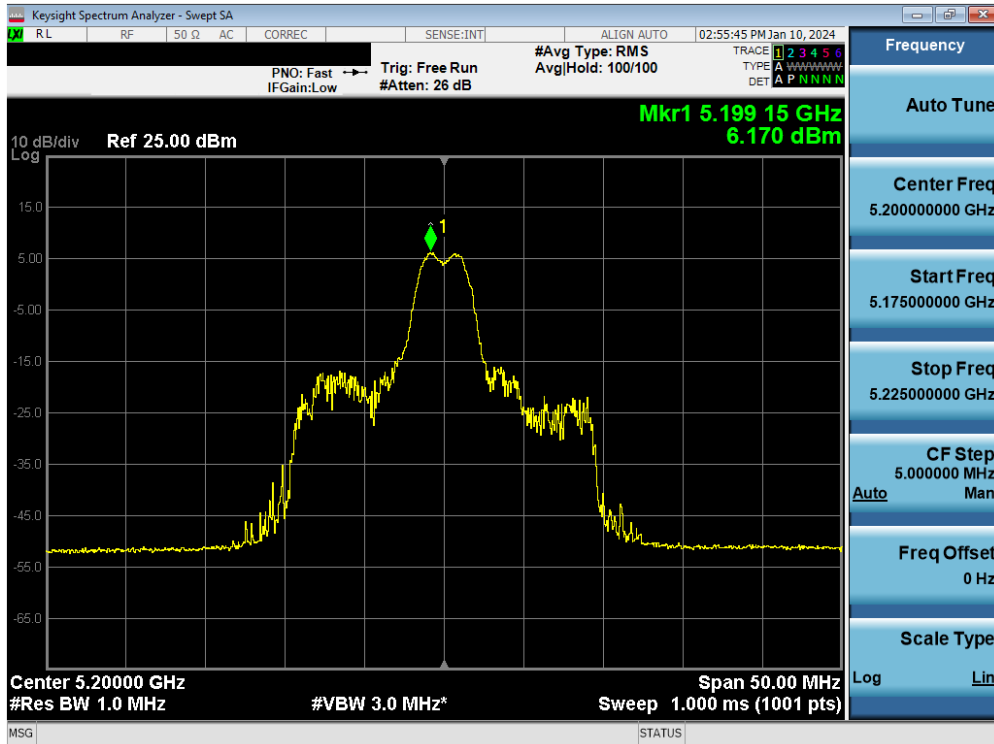
**Table 7-26. Band 3 MIMO Conducted Power Spectral Density Measurements MIMO (MRU Cases)**

|          | Frequency [MHz] | 802.11 MODE | MRU Case | Channel | Antenna 1 PSD [dBm] | Antenna 2 PSD [dBm] | DCCF [dB] | Antenna Gain [dBi] | MIMO Summed EIRP PSD [dBm] | Max EIRP PSD [dBm] | Margin [dB] |
|----------|-----------------|-------------|----------|---------|---------------------|---------------------|-----------|--------------------|----------------------------|--------------------|-------------|
| Band 4   | 5865            | be (20MHz)  | 52+26T   | 173     | 1.80                | 1.57                | 0.00      | 7.27               | 11.97                      | 14.00              | -2.03       |
| Band 4   | 5865            | be (20MHz)  | 106+26T  | 173     | 2.20                | 2.25                | 0.00      | 7.27               | 12.50                      | 14.00              | -1.50       |
| Band 3/4 | 5855            | be (80MHz)  | 484+242T | 171     | 1.20                | 1.88                | 0.17      | 7.27               | 12.00                      | 14.00              | -2.00       |
|          | 5815            | be (160MHz) | 996+484T | 163     | -4.49               | -4.97               | 0.20      | 7.27               | 5.75                       | 14.00              | -8.25       |

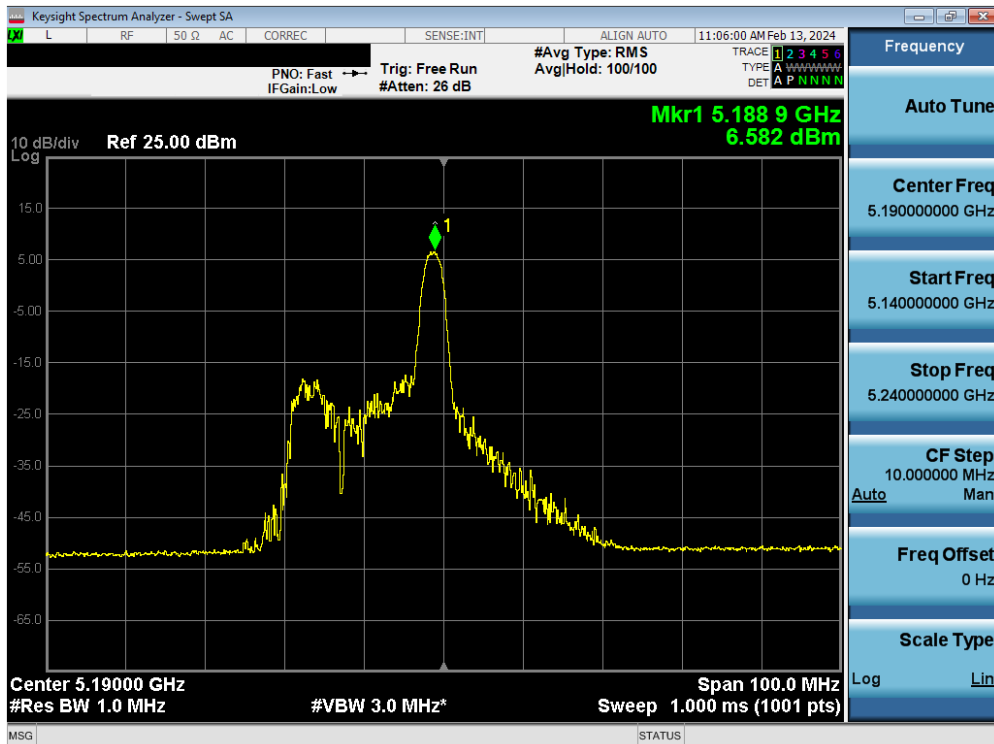
**Table 7-27. Bands 3/4 MIMO Conducted Power Spectral Density Measurements MIMO (MRU Cases)**

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | <b>MEASUREMENT REPORT</b>              |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 63 of 155                    |

### 7.5.1 MIMO Antenna-1 Power Spectral Density Measurements



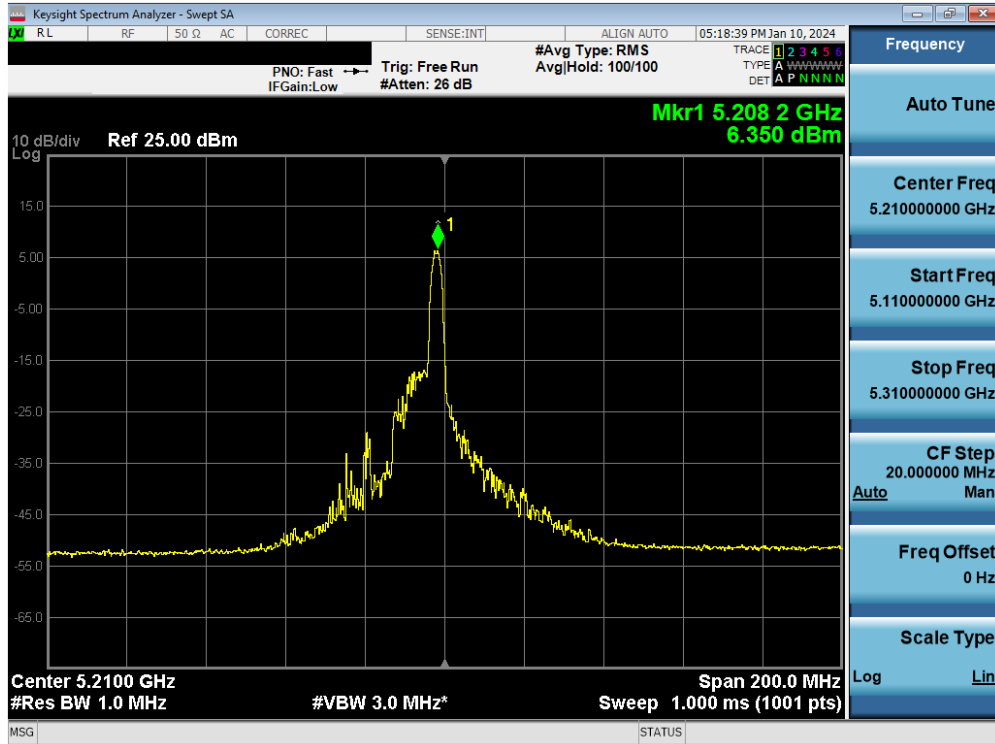
Plot 7-73. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 40)



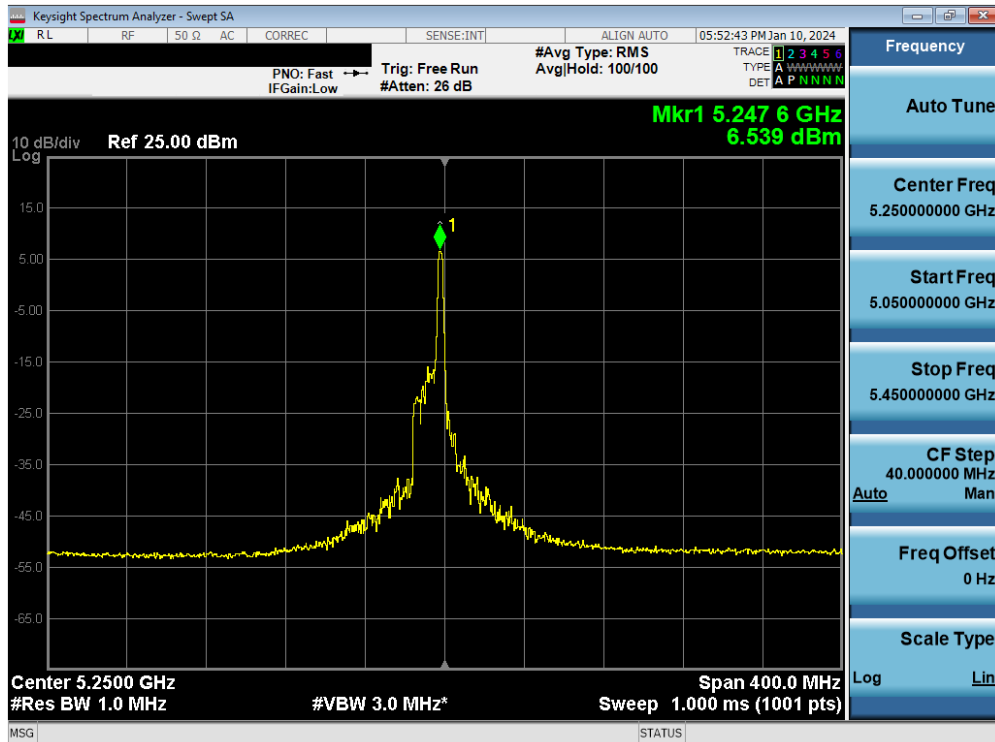
Plot 7-74. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 38)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 64 of 155                    |



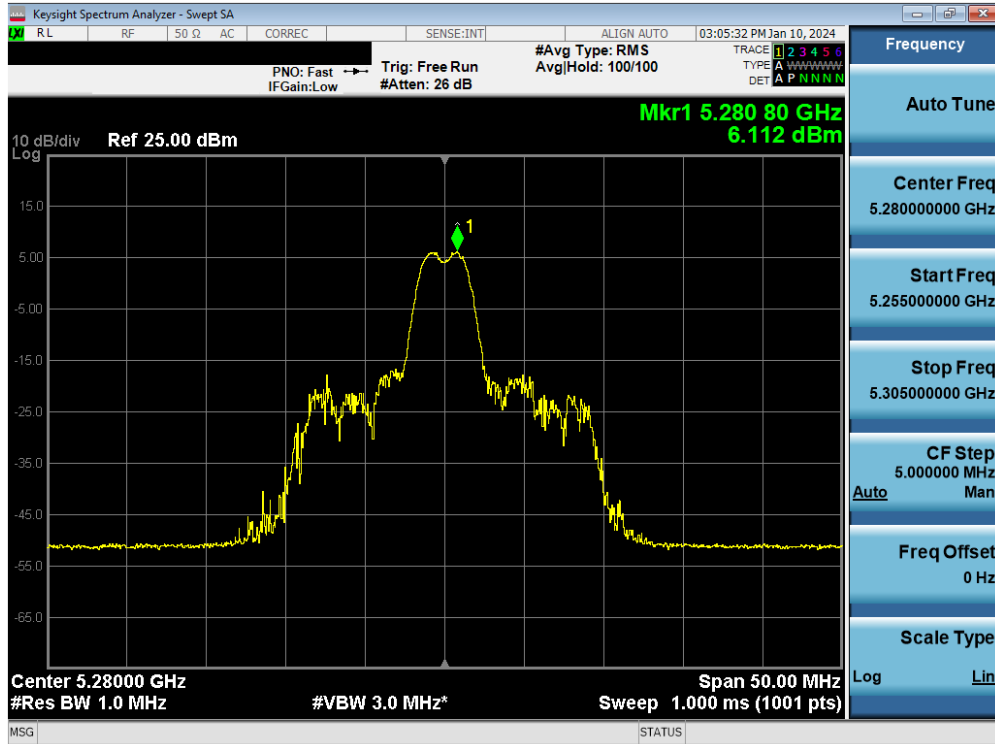


Plot 7-75. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 1) – Ch. 42)

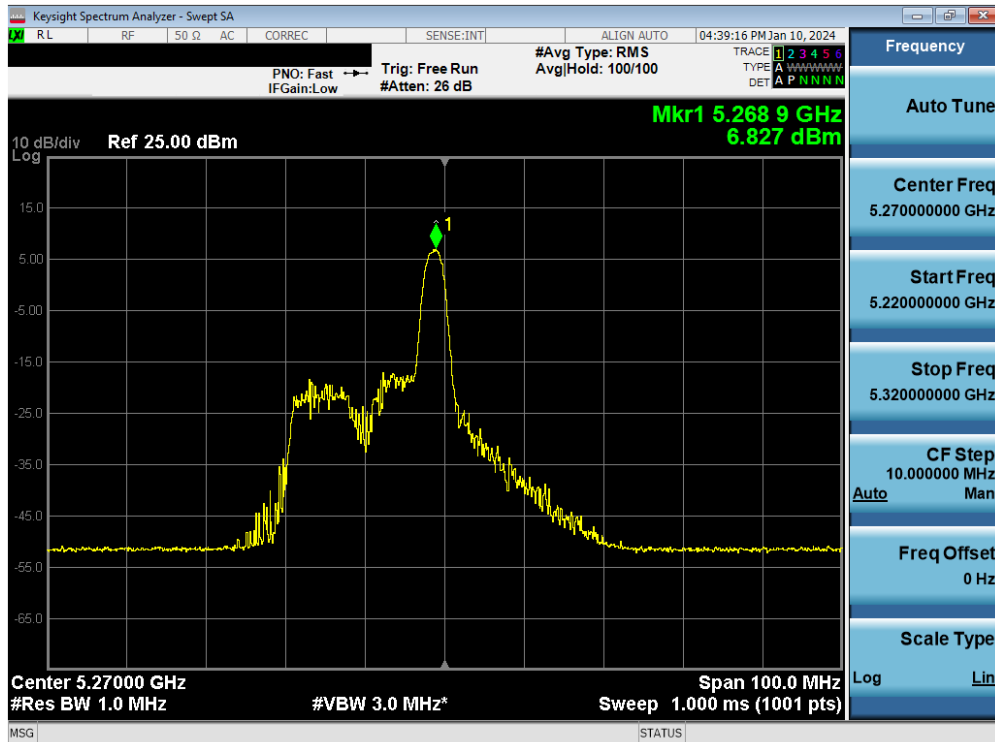


Plot 7-76. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 26 Tones (UNII Band 1/2A) – Ch. 50)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 65 of 155                    |

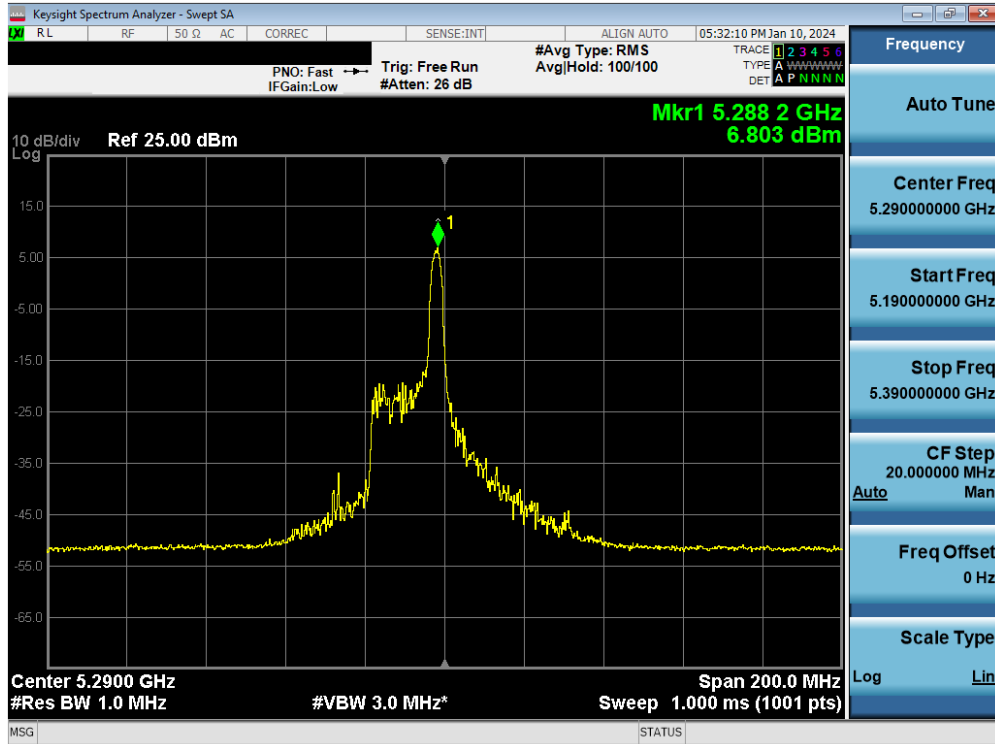


Plot 7-77. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 56)

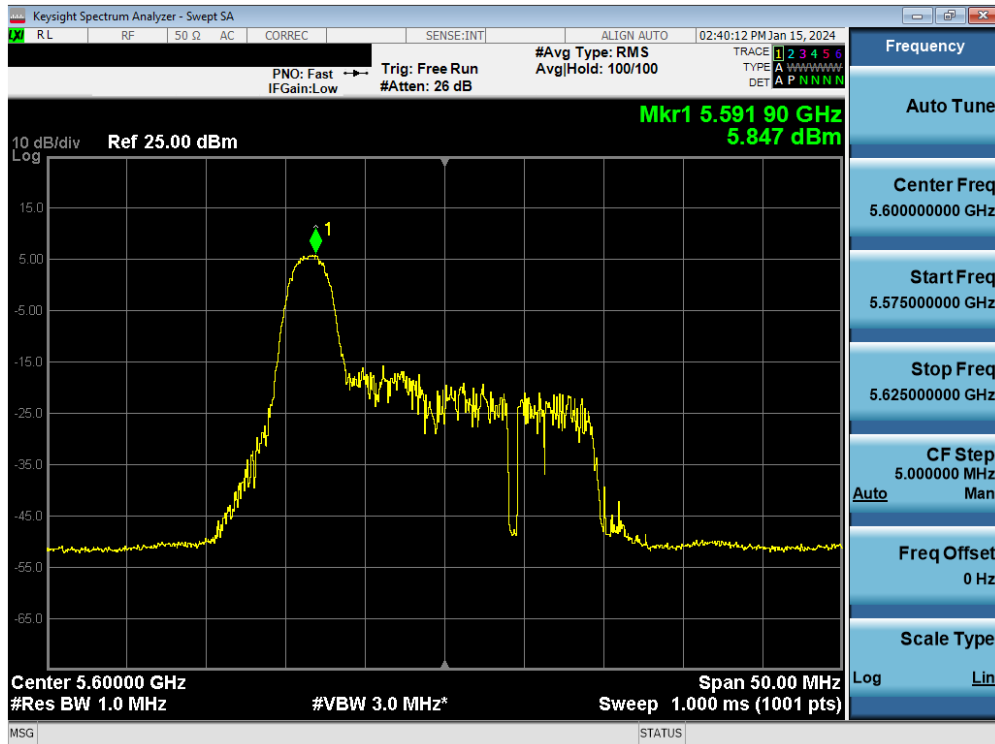


Plot 7-78. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 54)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 66 of 155                    |



Plot 7-79. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 2A) – Ch. 58)

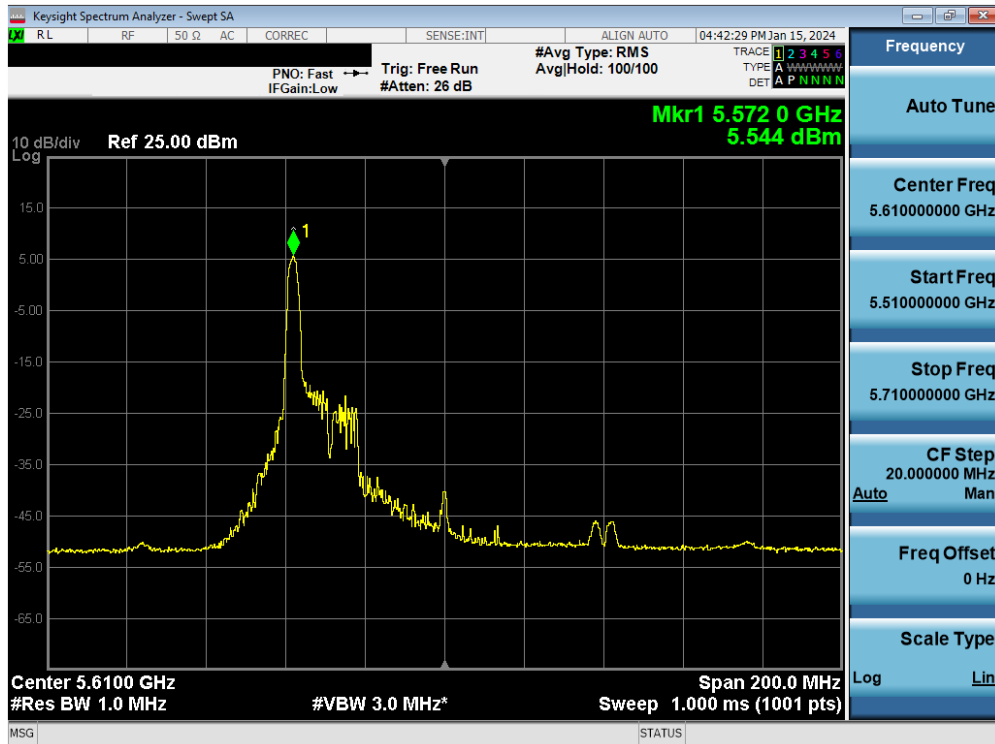


Plot 7-80. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 120)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 67 of 155                    |

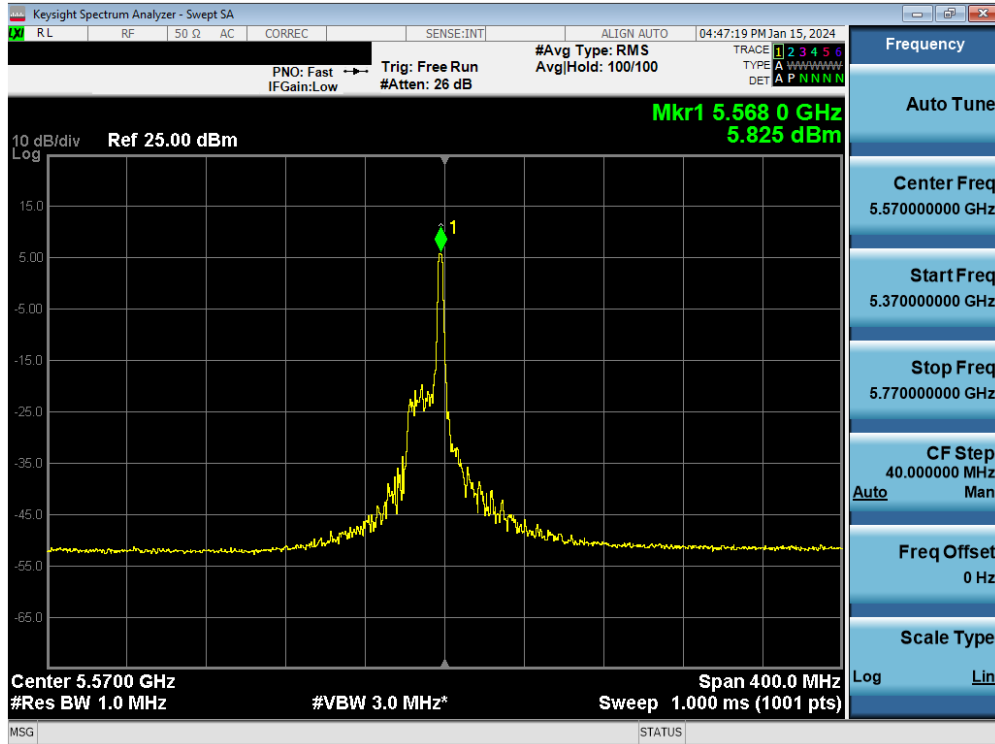


Plot 7-81. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 118)



Plot 7-82. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 122)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 68 of 155                    |

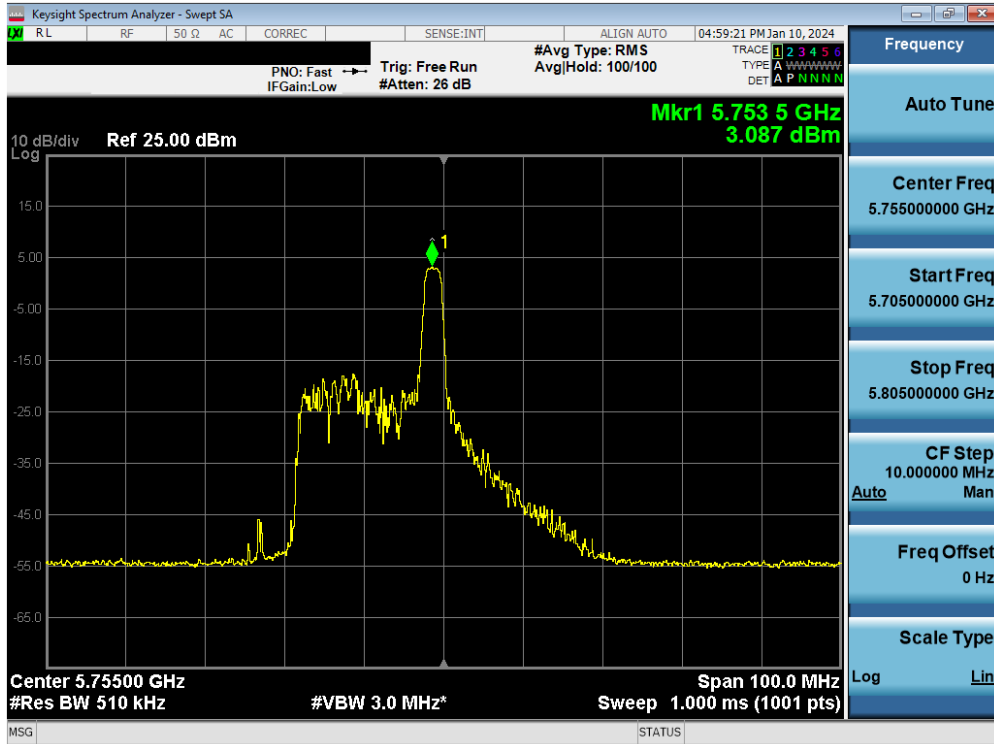


Plot 7-83. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 26 Tones (UNII Band 2C) – Ch. 114)

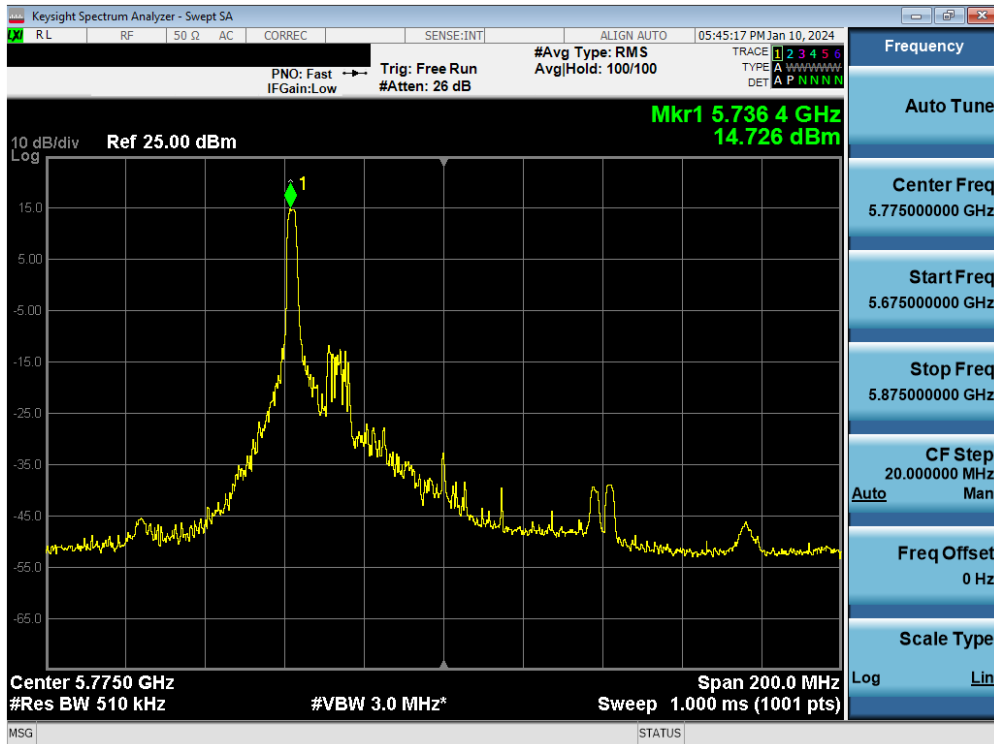


Plot 7-84. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 157)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 69 of 155                    |

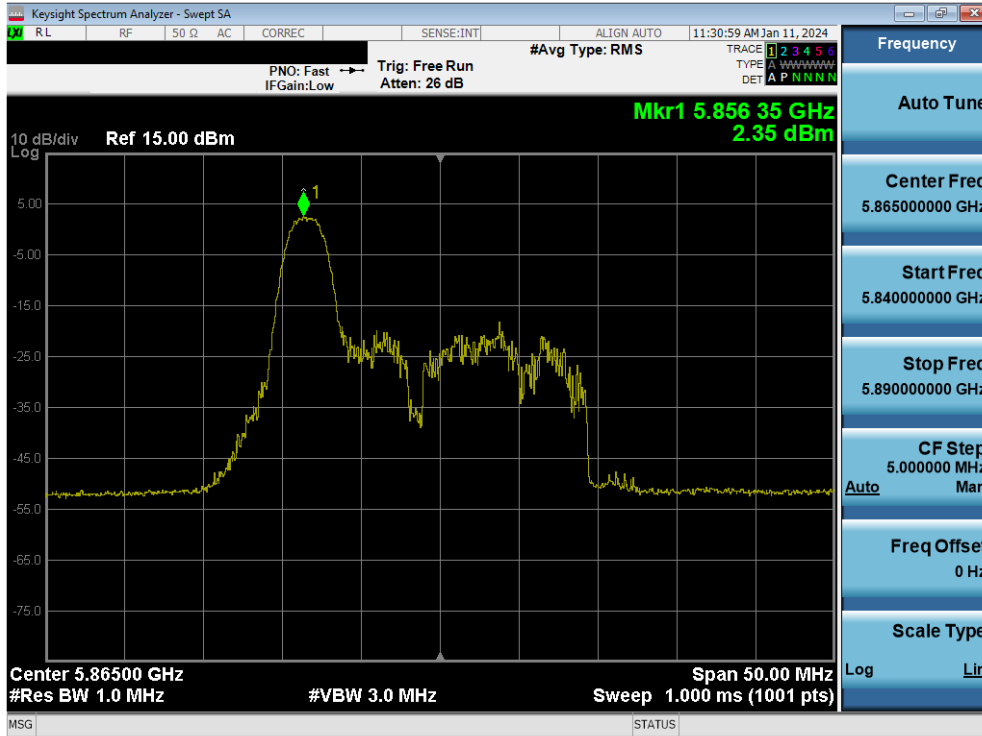


Plot 7-85. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 151)

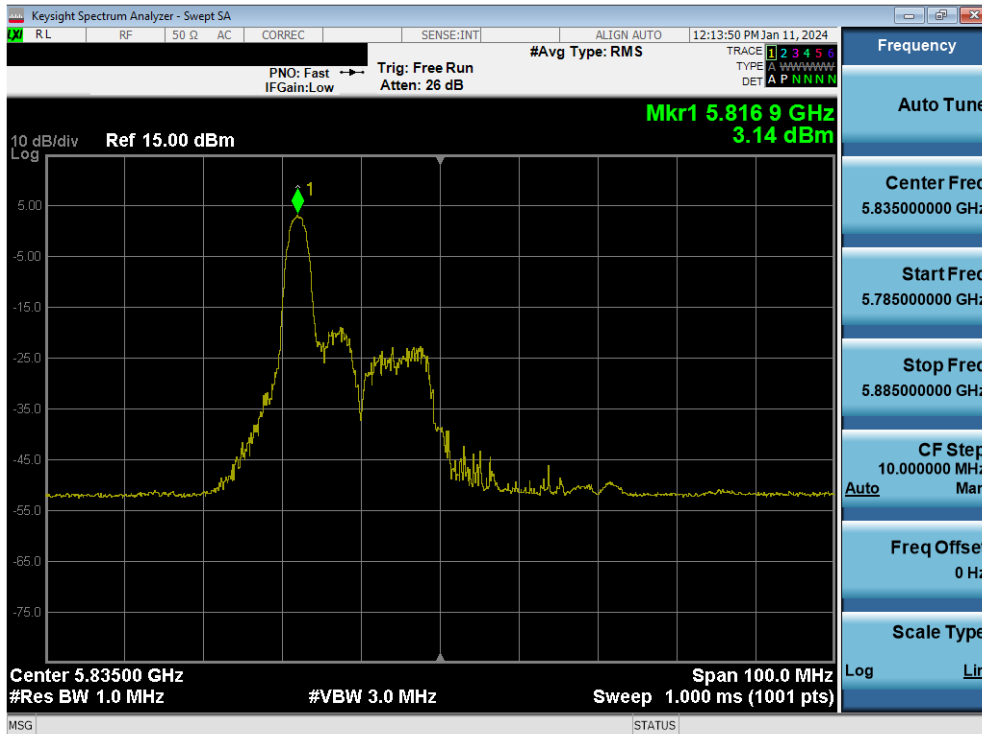


Plot 7-86. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 3) – Ch. 155)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 70 of 155                    |

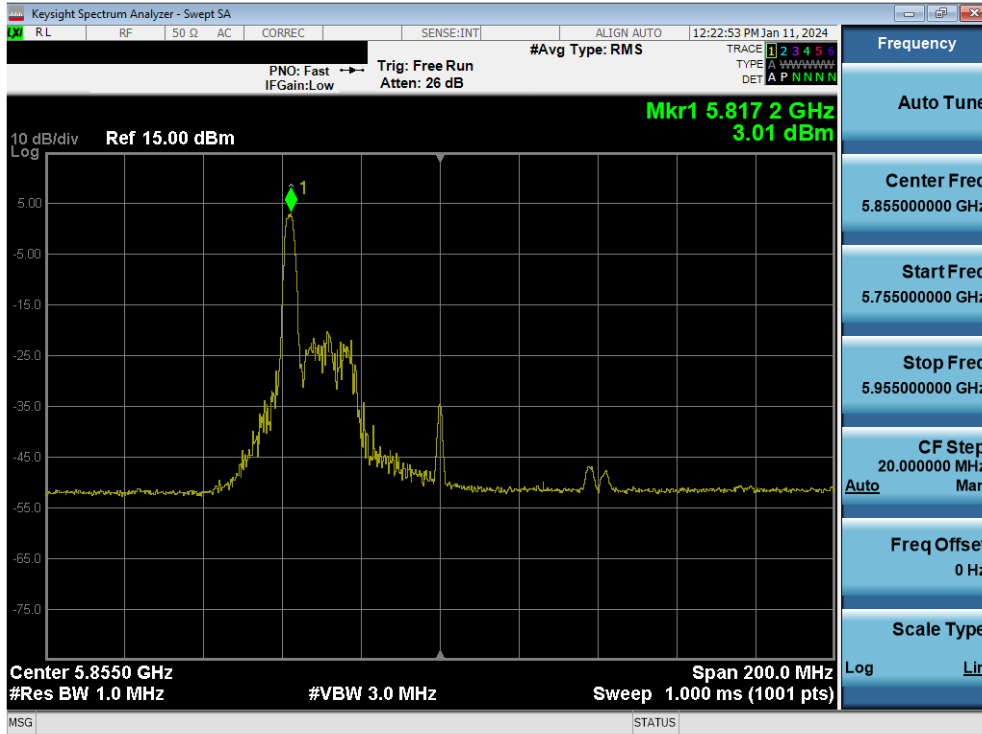


Plot 7-87. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 26 Tones (UNII Band 4) – Ch. 173)

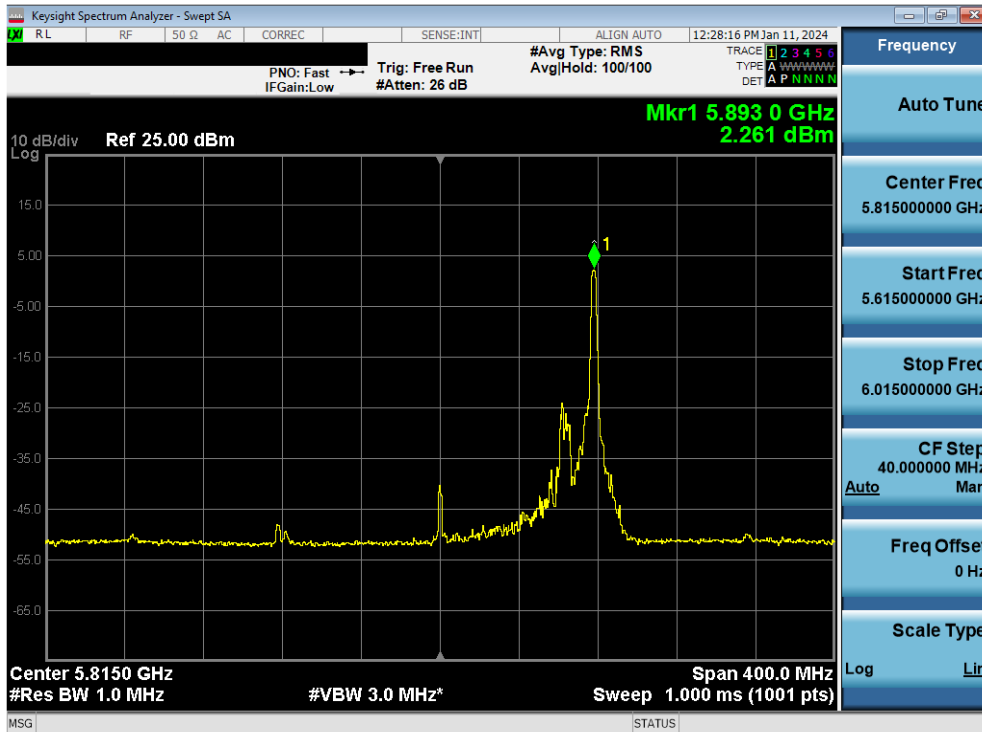


Plot 7-88. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 167)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 71 of 155                    |



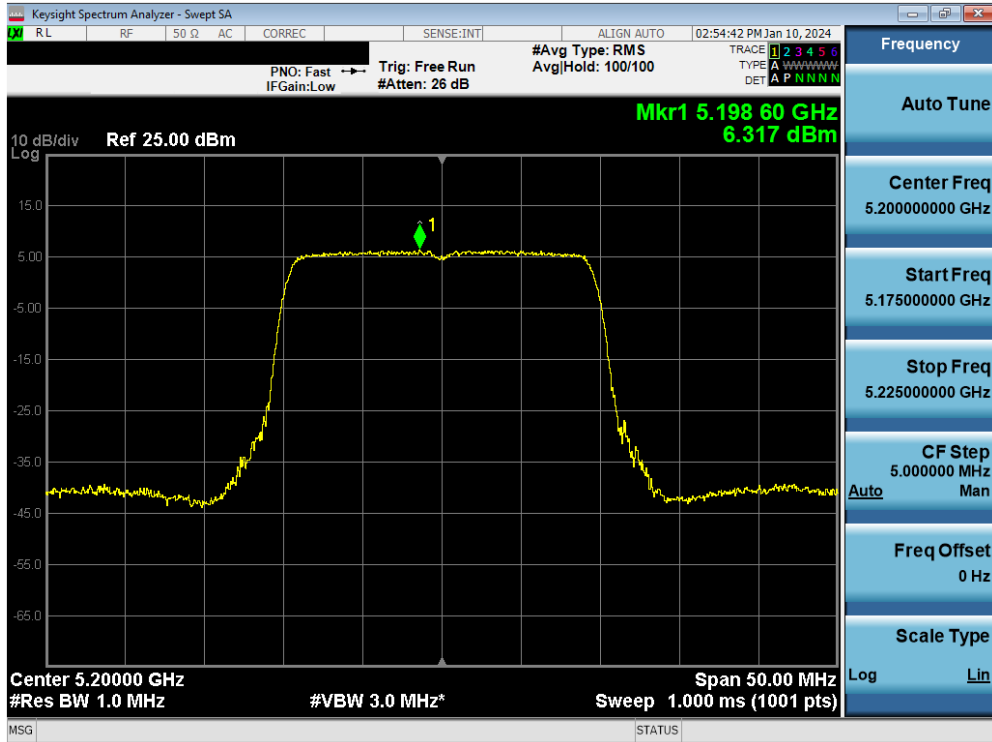
Plot 7-89. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 171)



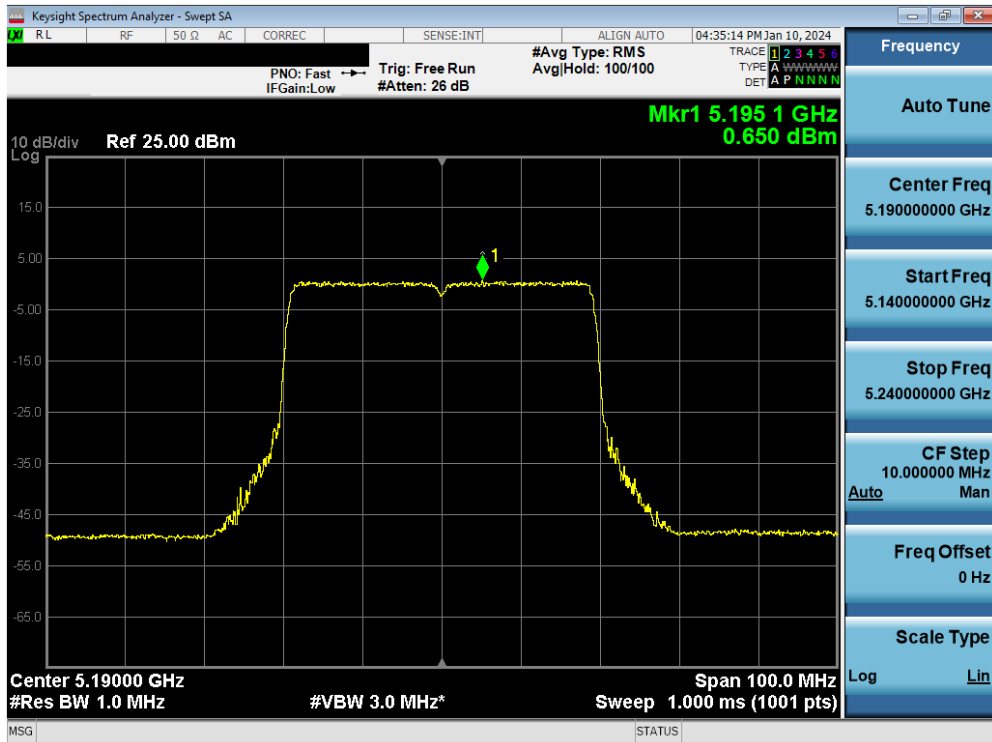
Plot 7-90. Power Spectral Density Plot MIMO ANT1 (160MHz(U) BW 802.11be – 26 Tones (UNII Band 3/4) – Ch. 163)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 72 of 155                    |



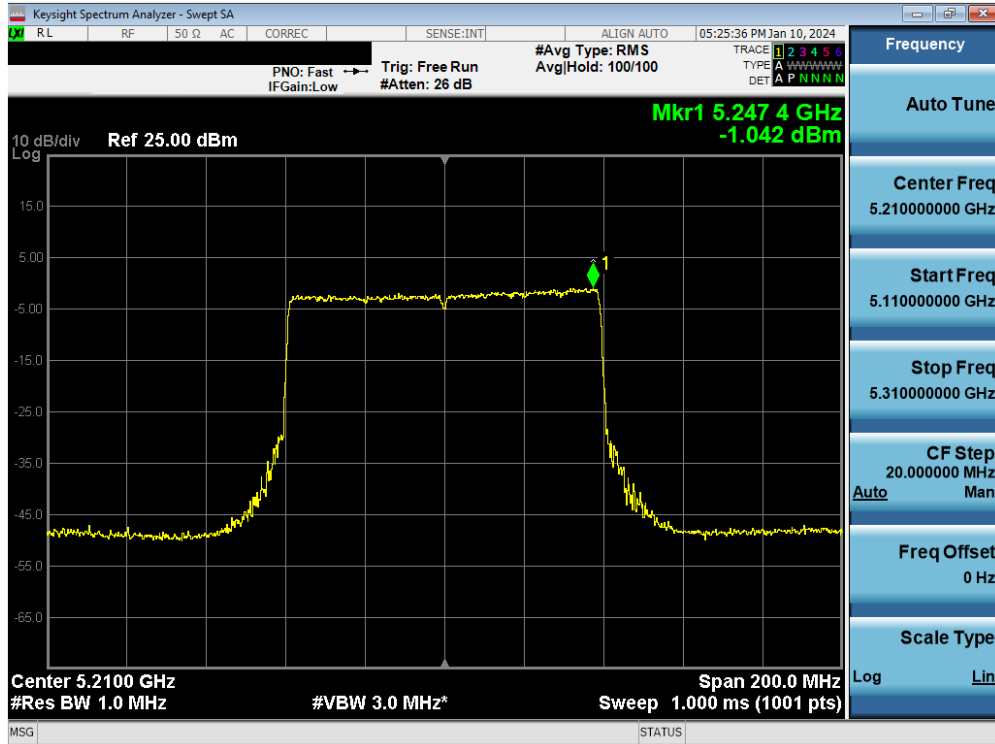


Plot 7-91. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 1) – Ch. 40)

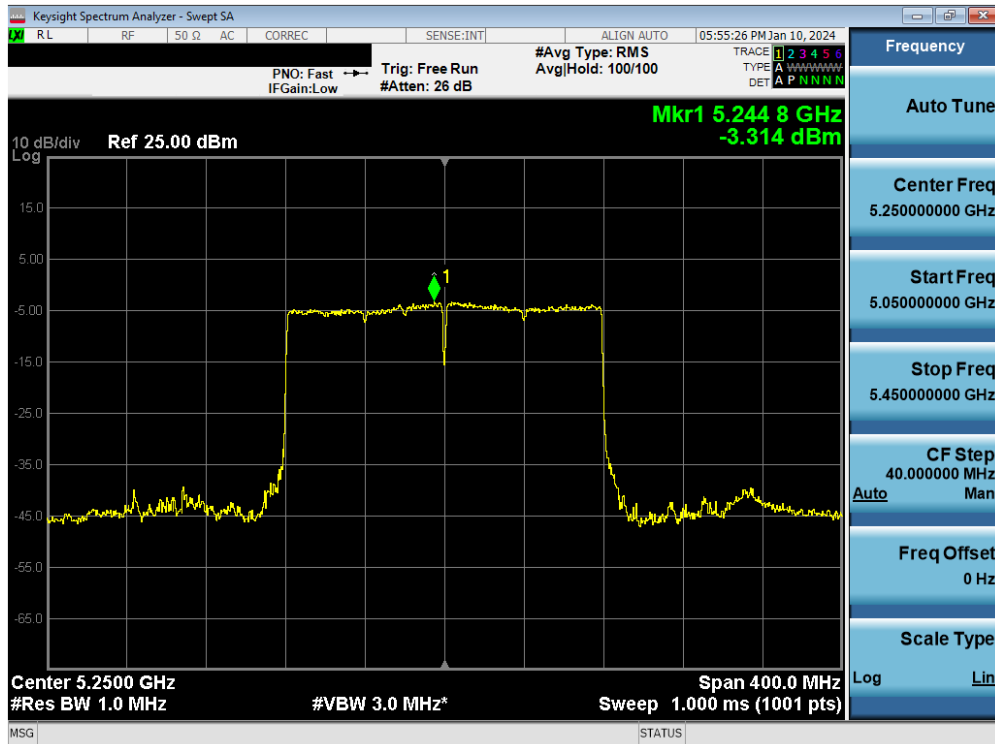


Plot 7-92. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 1) – Ch. 38)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 73 of 155                    |

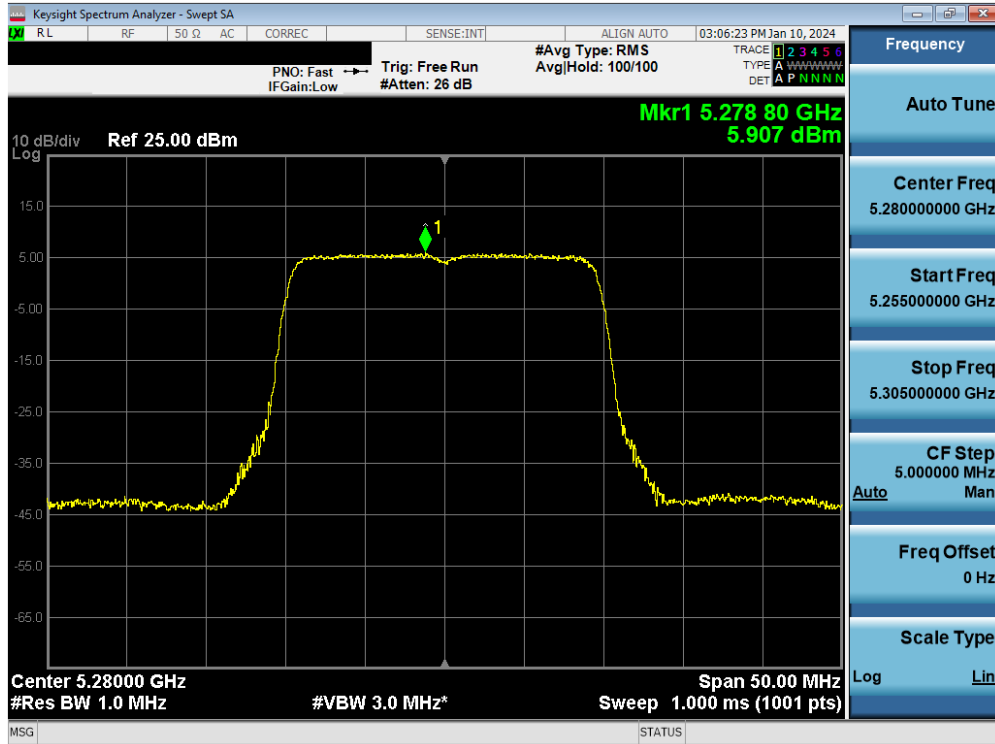


Plot 7-93. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 1) – Ch. 42)

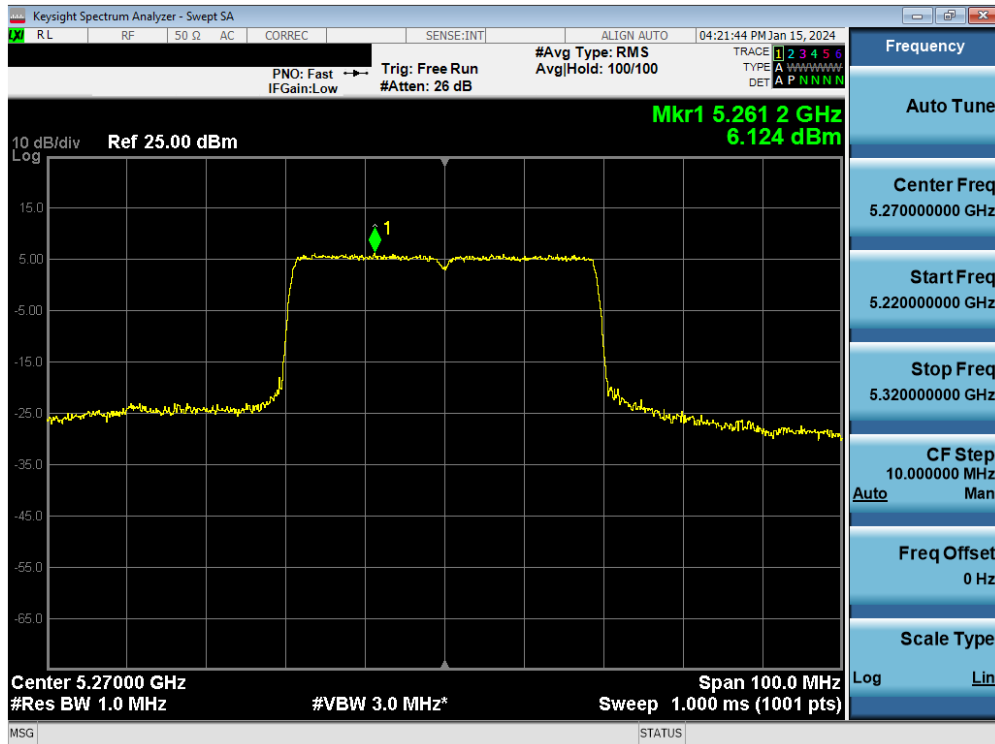


Plot 7-94. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 2x996 Tones (UNII Band 1/2A) – Ch. 50)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 74 of 155                    |

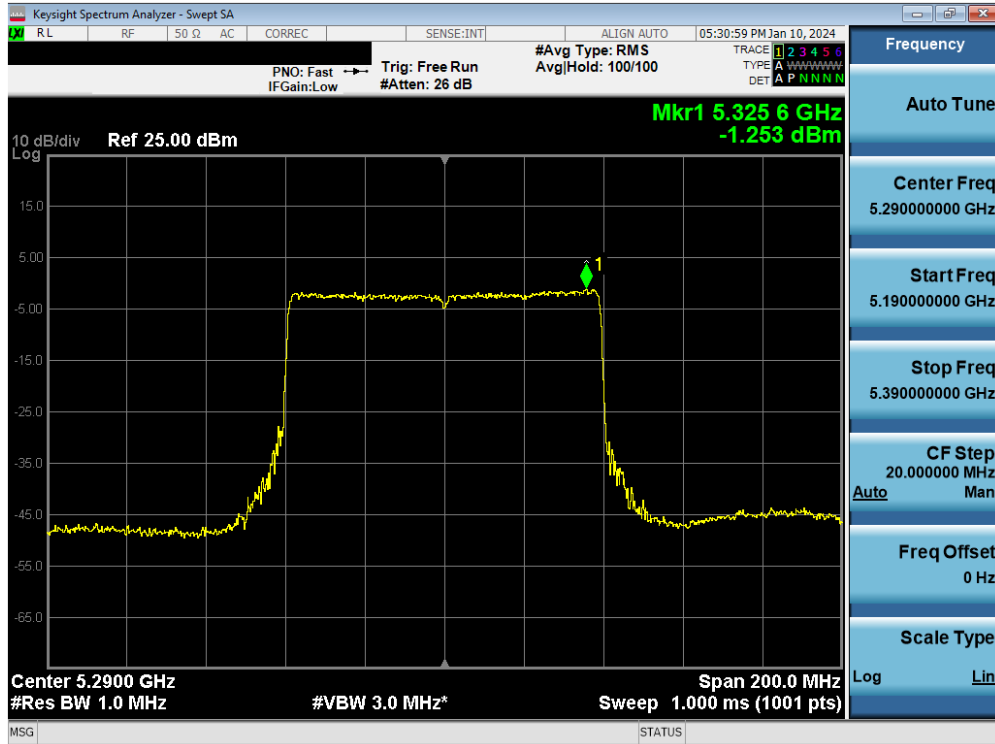


Plot 7-95. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 2A) – Ch. 56)

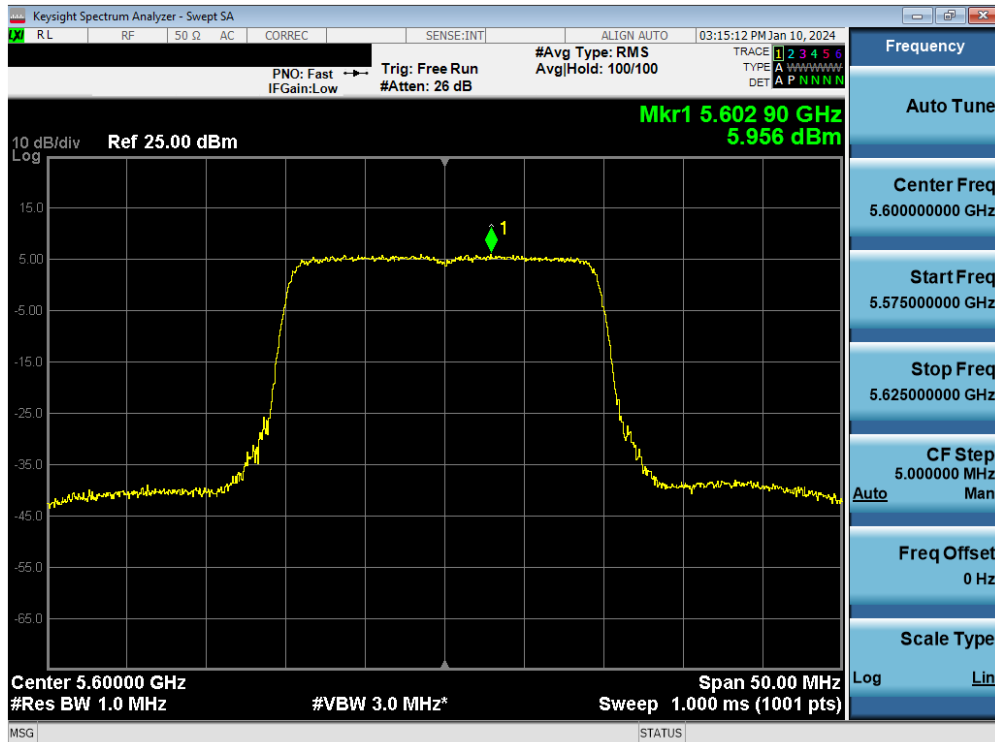


Plot 7-96. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 2A) – Ch. 54)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 75 of 155                    |



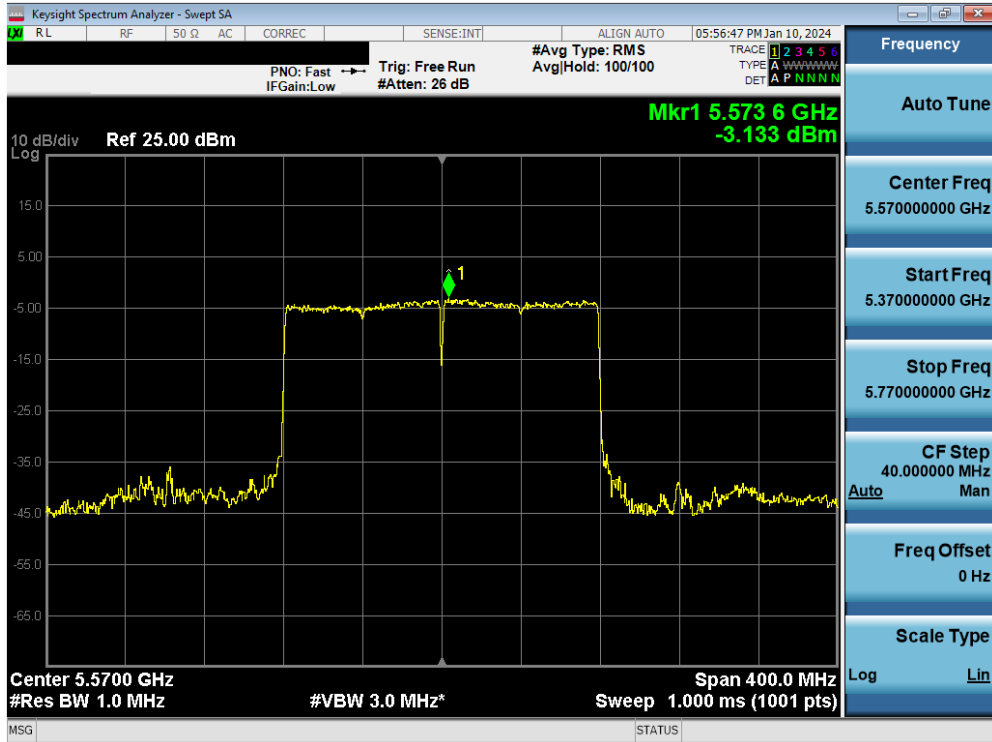
Plot 7-97. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 2A) – Ch. 58)



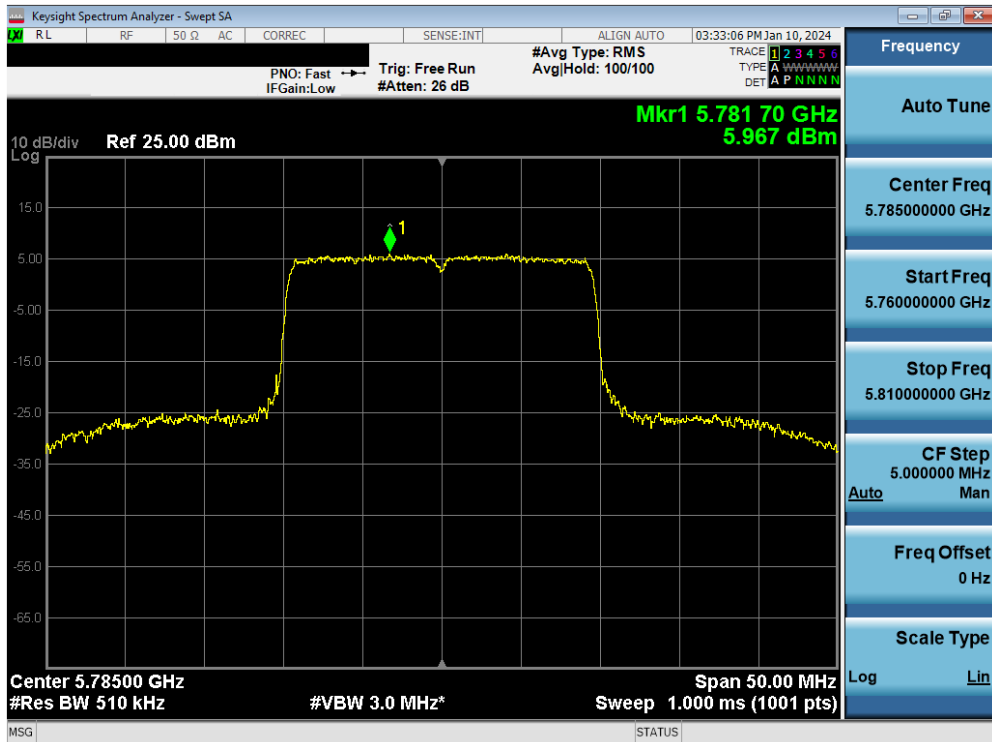
Plot 7-98. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 2C) – Ch. 120)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 76 of 155                    |



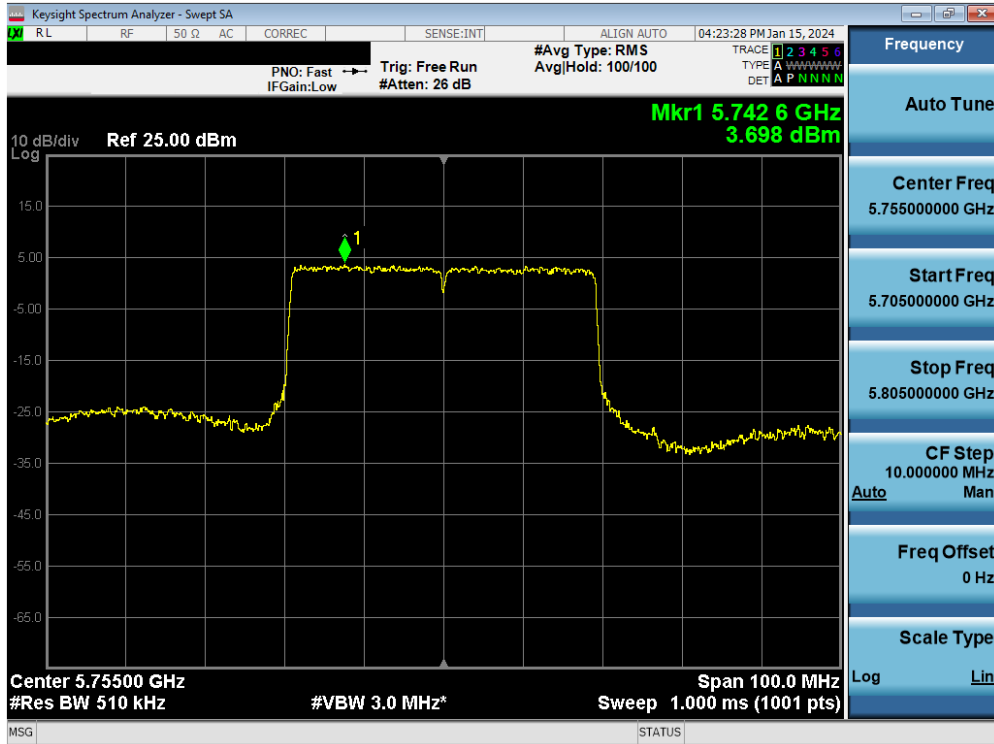


Plot 7-101. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 2x996 Tones (UNII Band 2C) – Ch. 114)

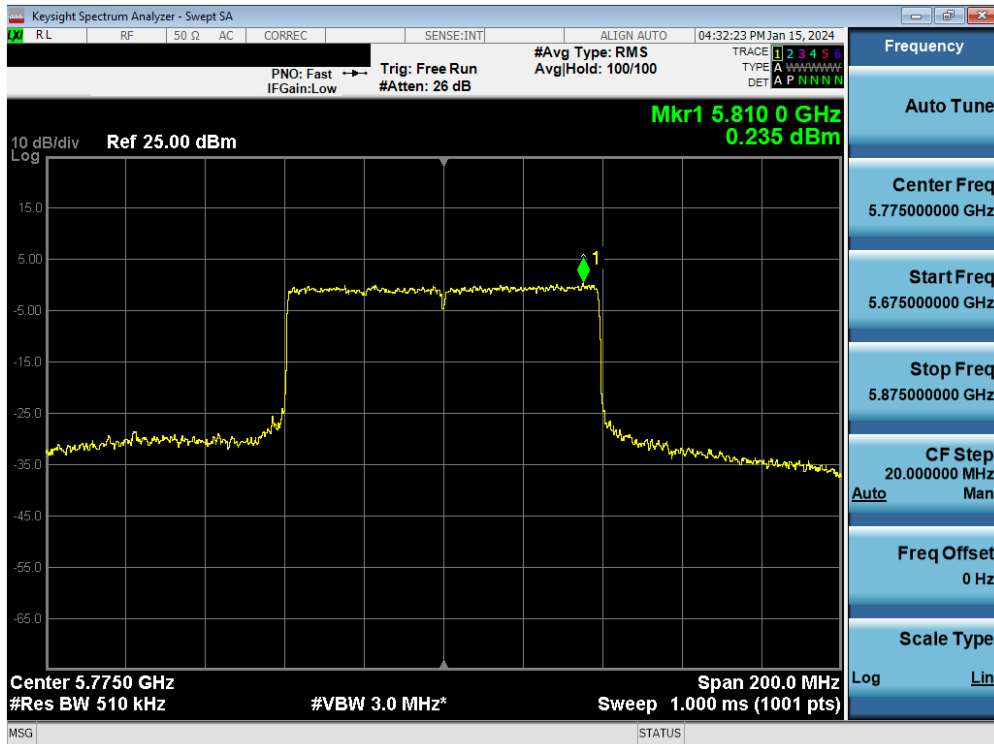


Plot 7-102. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 3) – Ch. 157)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 78 of 155                    |

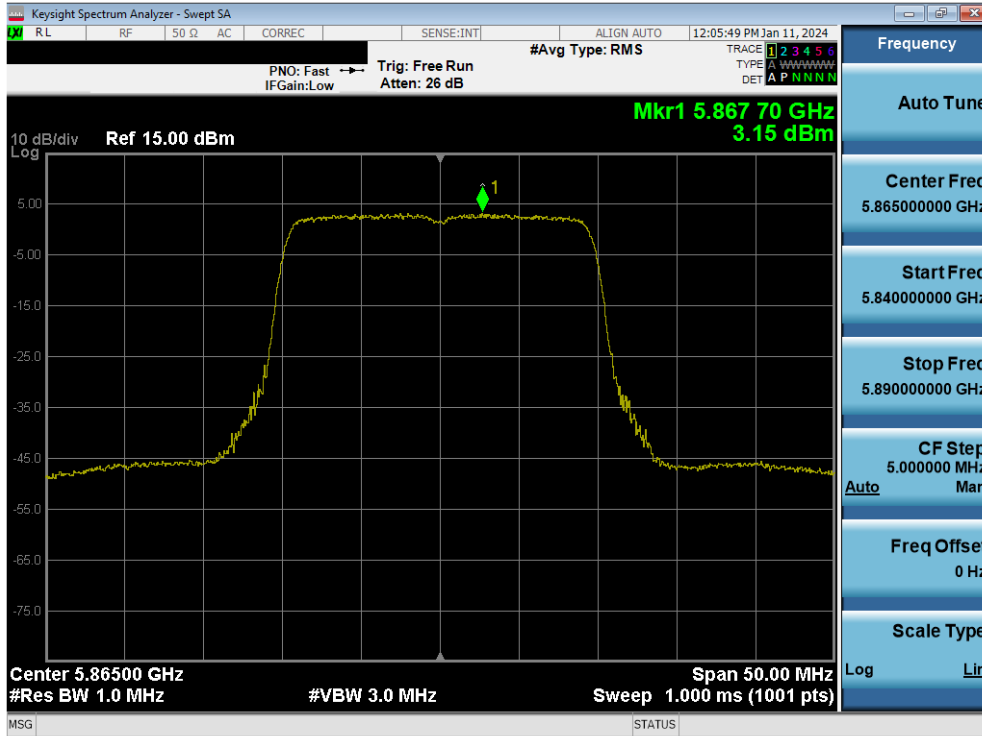


Plot 7-103. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 3) – Ch. 151)

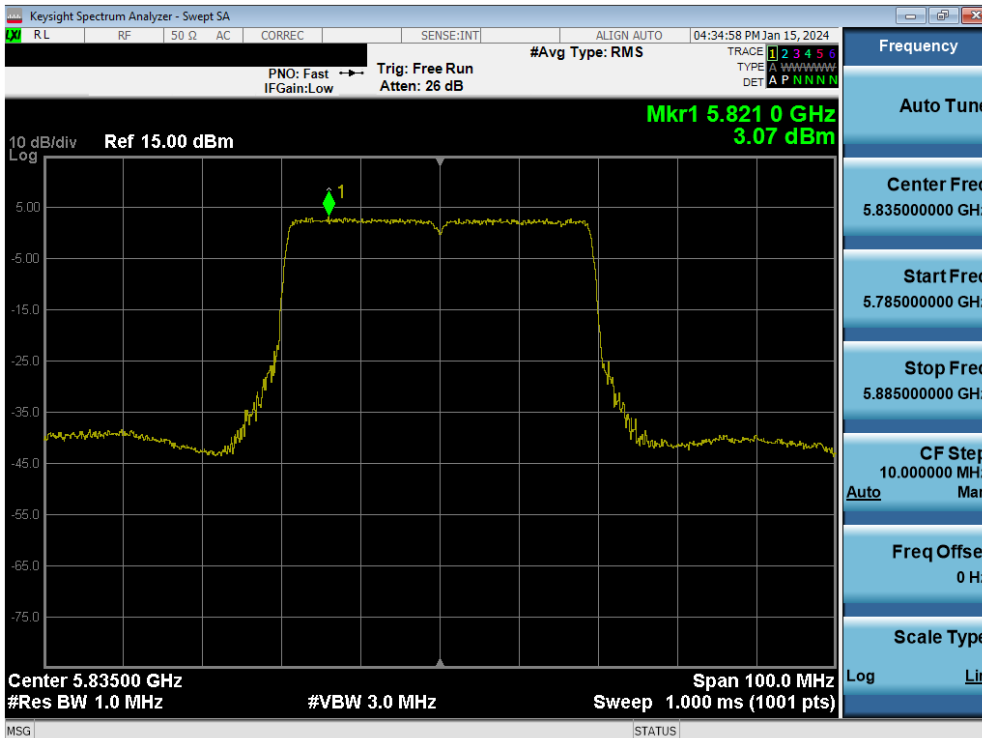


Plot 7-104. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 3) – Ch. 155)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 79 of 155                    |



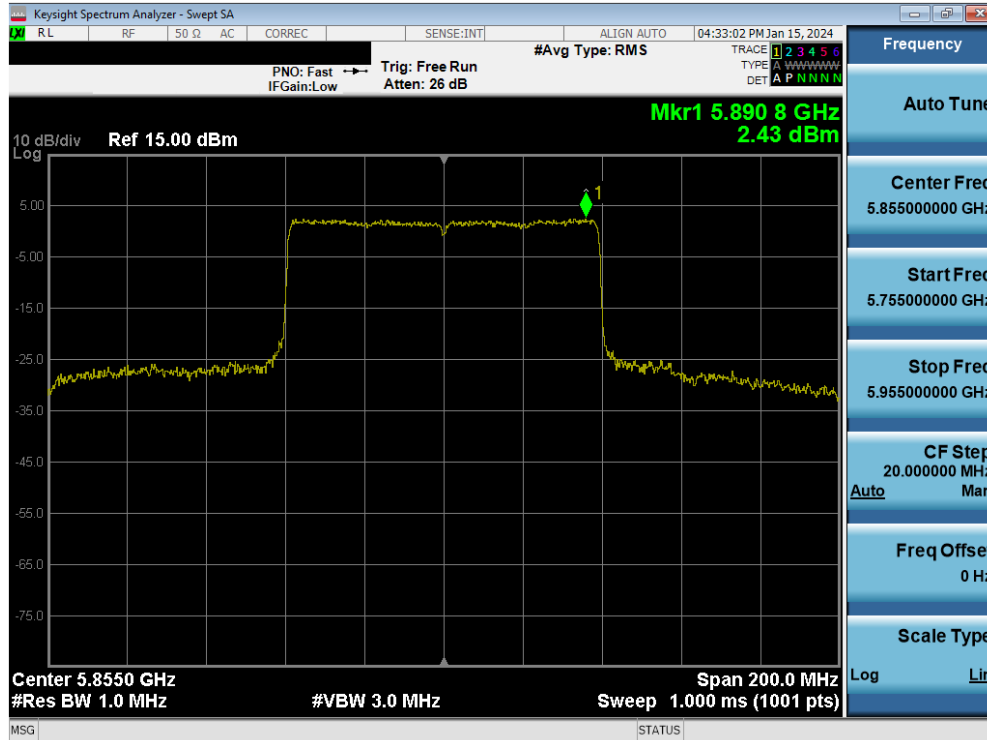
Plot 7-105. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 242 Tones (UNII Band 4) – Ch. 173)



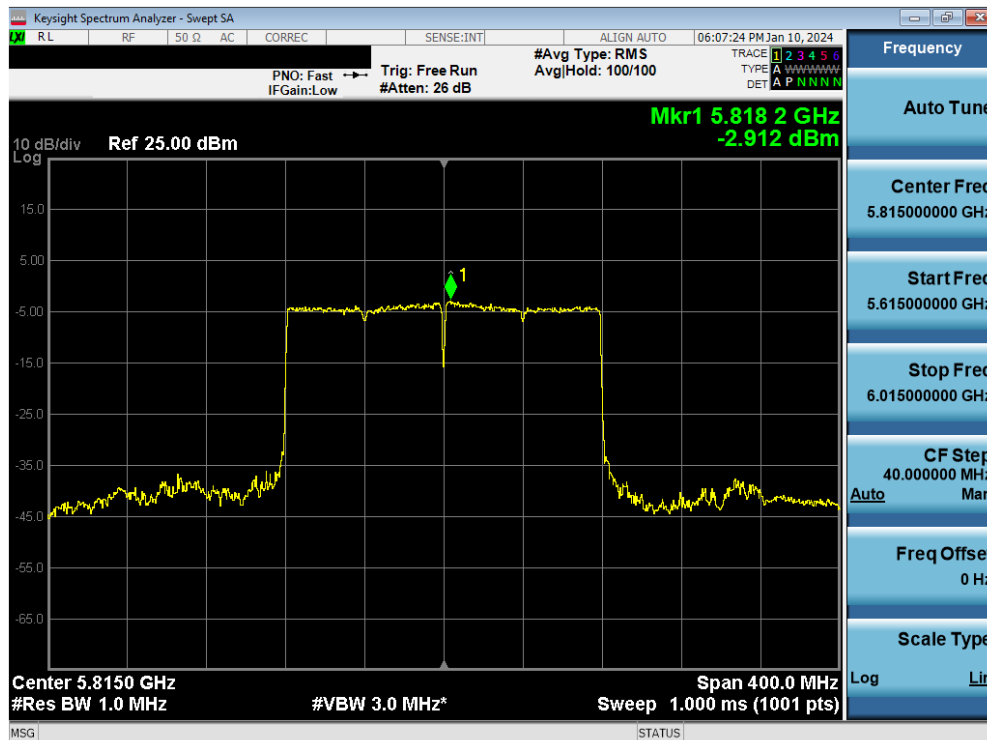
Plot 7-106. Power Spectral Density Plot MIMO ANT1 (40MHz BW 802.11be – 484 Tones (UNII Band 3/4) – Ch. 167)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 80 of 155                    |



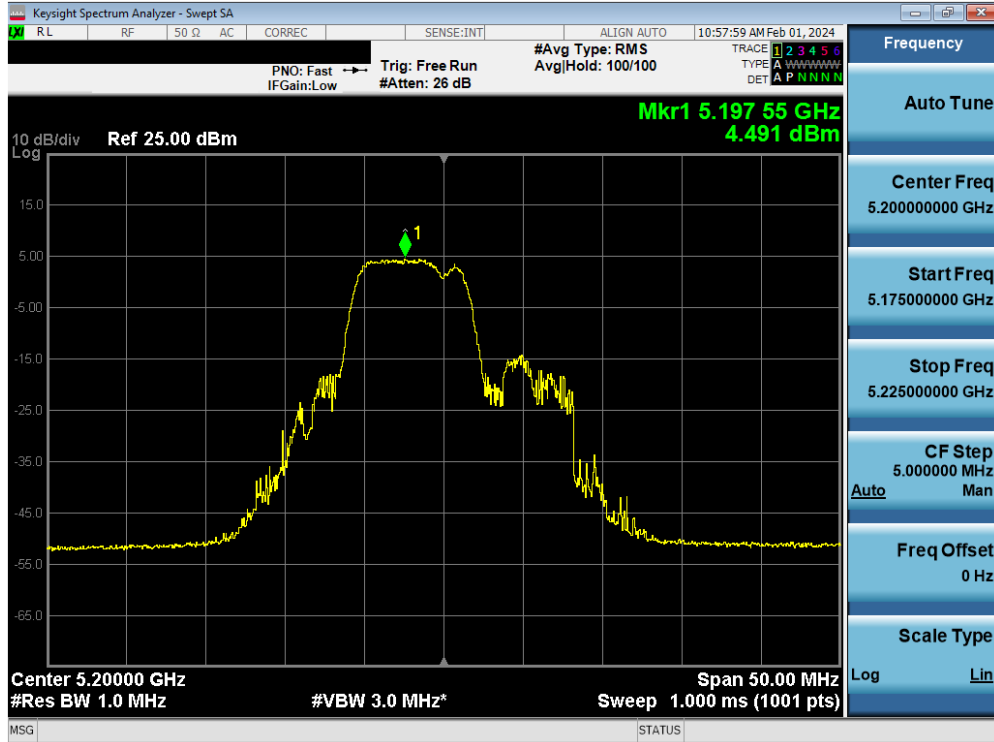


Plot 7-107. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 996 Tones (UNII Band 3/4) – Ch. 171)

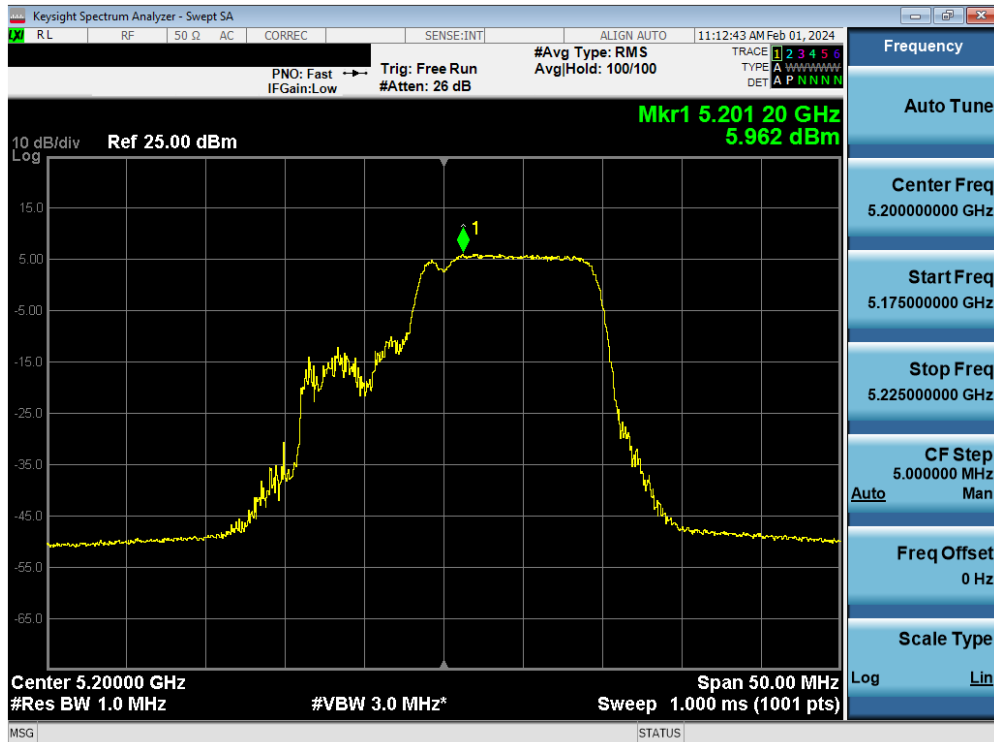


Plot 7-108. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 2x996 Tones (UNII Band 3/4) – Ch. 163)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 81 of 155                    |

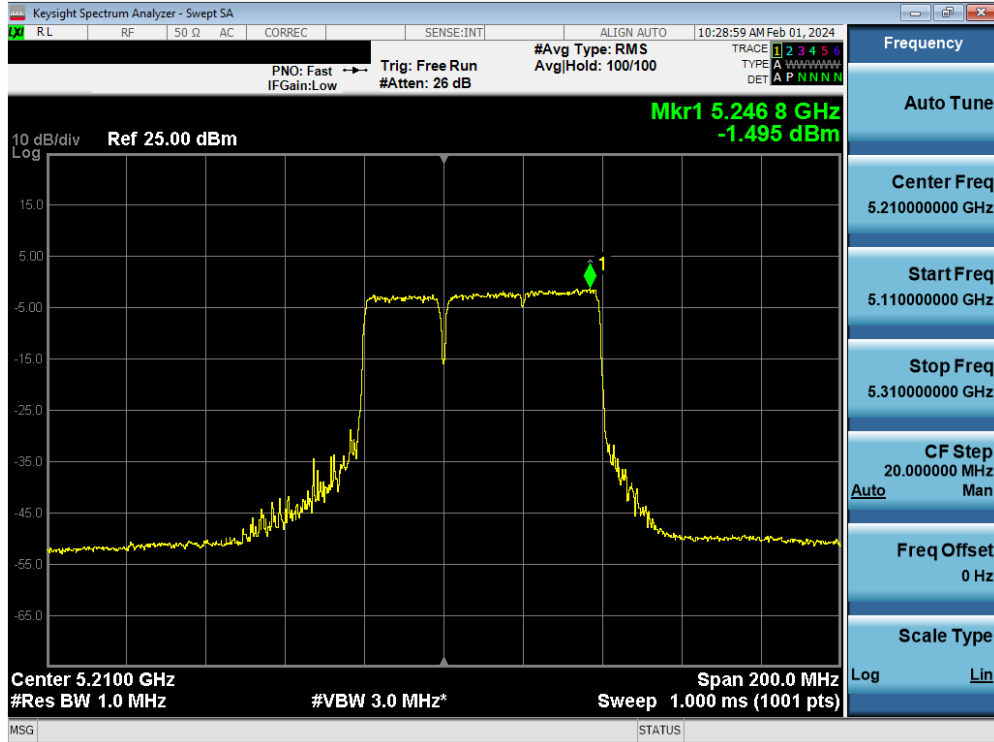


Plot 7-109. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 52+26 Tones (UNII Band 1) – Ch. 40)

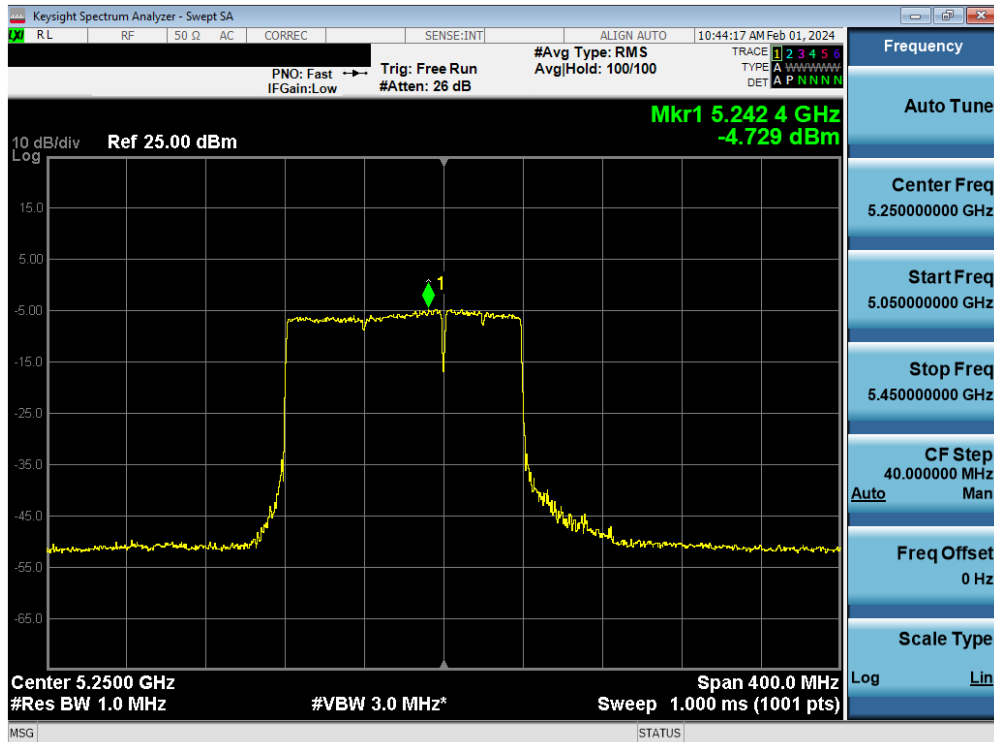


Plot 7-110. Power Spectral Density Plot MIMO ANT1 (20MHz BW 802.11be – 106+26 Tones (UNII Band 1) – Ch. 40)

| FCC ID: C3K2085                         |  | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
|---|--|--|--|-----------------------------------|
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device |  | Page 82 of 155                    |



Plot 7-111. Power Spectral Density Plot MIMO ANT1 (80MHz BW 802.11be – 484+242Tones (UNII Band 1) – Ch. 42)



Plot 7-112. Power Spectral Density Plot MIMO ANT1 (160MHz BW 802.11be – 996+484 Tones (UNII Band 1/2A) – Ch. 50)

|   |  |  |                                   |
|---|--|--|-----------------------------------|
| FCC ID: C3K2085                         | MEASUREMENT REPORT                     |  | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2311170118-10.C3K | Test Dates:<br>01/03/2024 - 03/18/2024 | EUT Type:<br>Portable Computing Device | Page 83 of 155                    |

