

# Appendix

## Test Data

### for BTEK241210052A01E05

|                   |           |               |           |
|-------------------|-----------|---------------|-----------|
| Start date        | 2025/3/21 | Finish date   | 2025/3/21 |
| Temperature       | 22.3℃     | Humidity      | 43%       |
| RF specifications | BLE       | Test Engineer | Zora      |



## Table of Contents

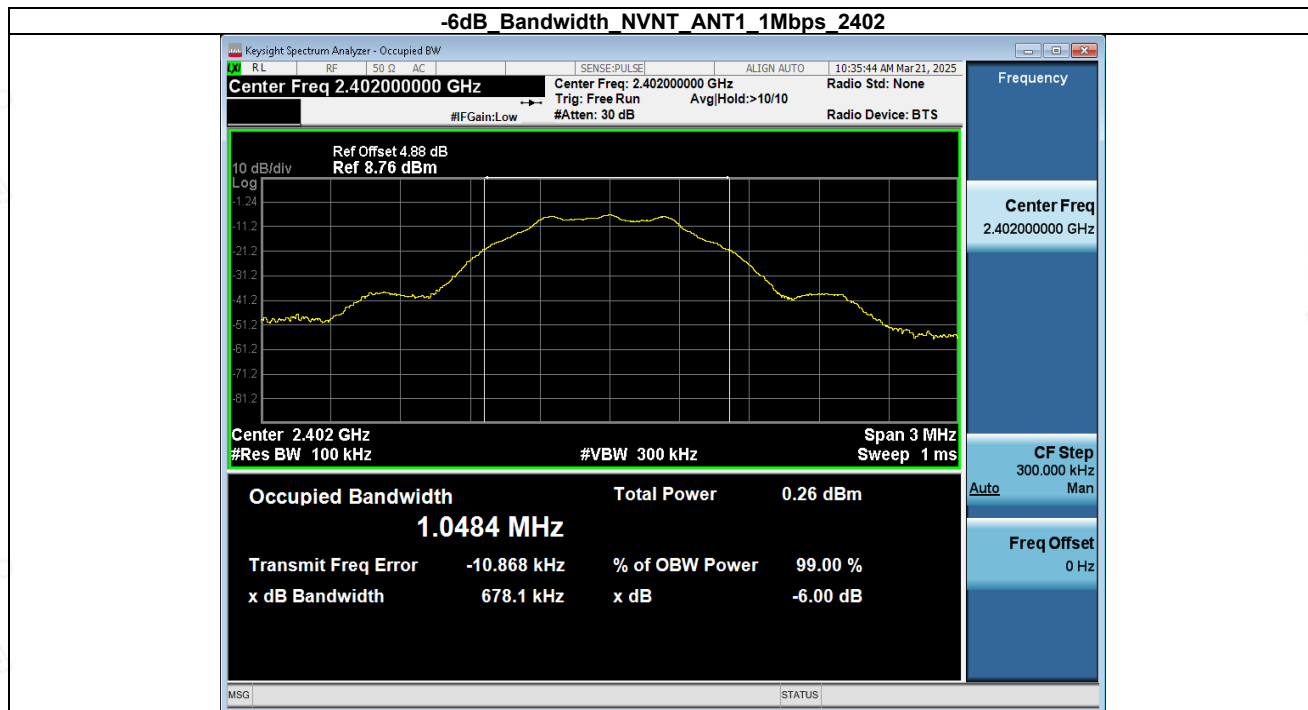
|                                 |    |
|---------------------------------|----|
| 1. -6dB Bandwidth.....          | 3  |
| 2. 99% Occupied Bandwidth ..... | 6  |
| 3. Duty Cycle.....              | 9  |
| 4. Peak Output Power .....      | 12 |
| 5. Power Spectral Density.....  | 15 |
| 6. Bandedge.....                | 18 |
| 7. Spurious Emission.....       | 22 |



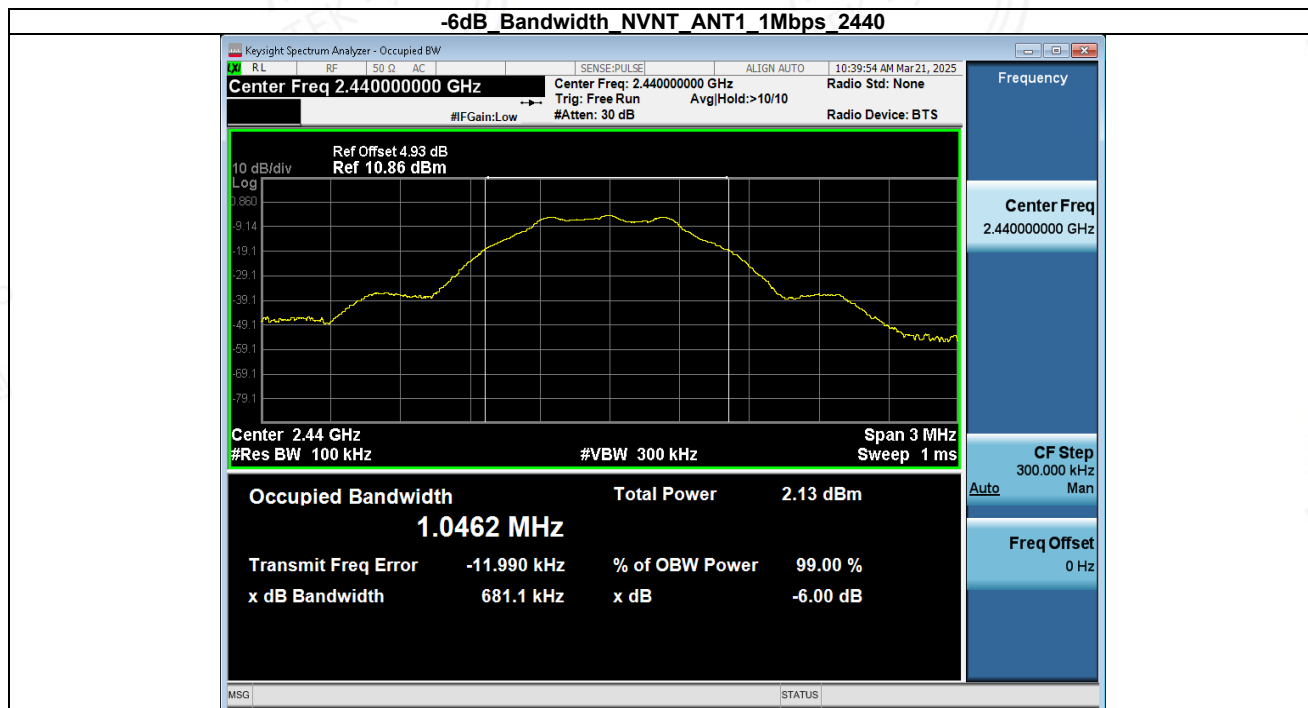
## 1. -6dB Bandwidth

| Condition | Antenna | Rate  | Frequency (MHz) | -6dB BW(kHz) | limit(kHz) | Result |
|-----------|---------|-------|-----------------|--------------|------------|--------|
| NVNT      | ANT1    | 1Mbps | 2402.00         | 678.10       | 500        | Pass   |
| NVNT      | ANT1    | 1Mbps | 2440.00         | 681.07       | 500        | Pass   |
| NVNT      | ANT1    | 1Mbps | 2480.00         | 676.65       | 500        | Pass   |
| NVNT      | ANT1    | 2Mbps | 2402.00         | 1152.09      | 500        | Pass   |
| NVNT      | ANT1    | 2Mbps | 2440.00         | 1156.08      | 500        | Pass   |
| NVNT      | ANT1    | 2Mbps | 2480.00         | 1147.65      | 500        | Pass   |

-6dB\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2402

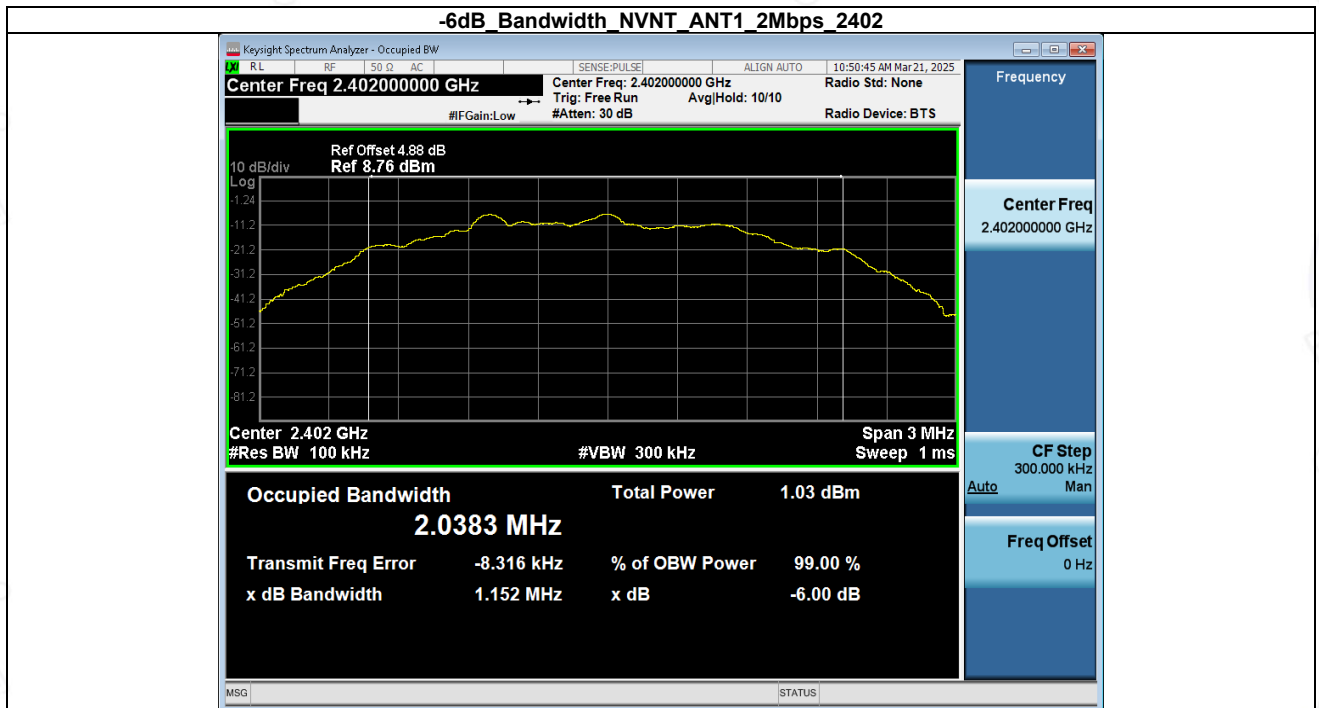


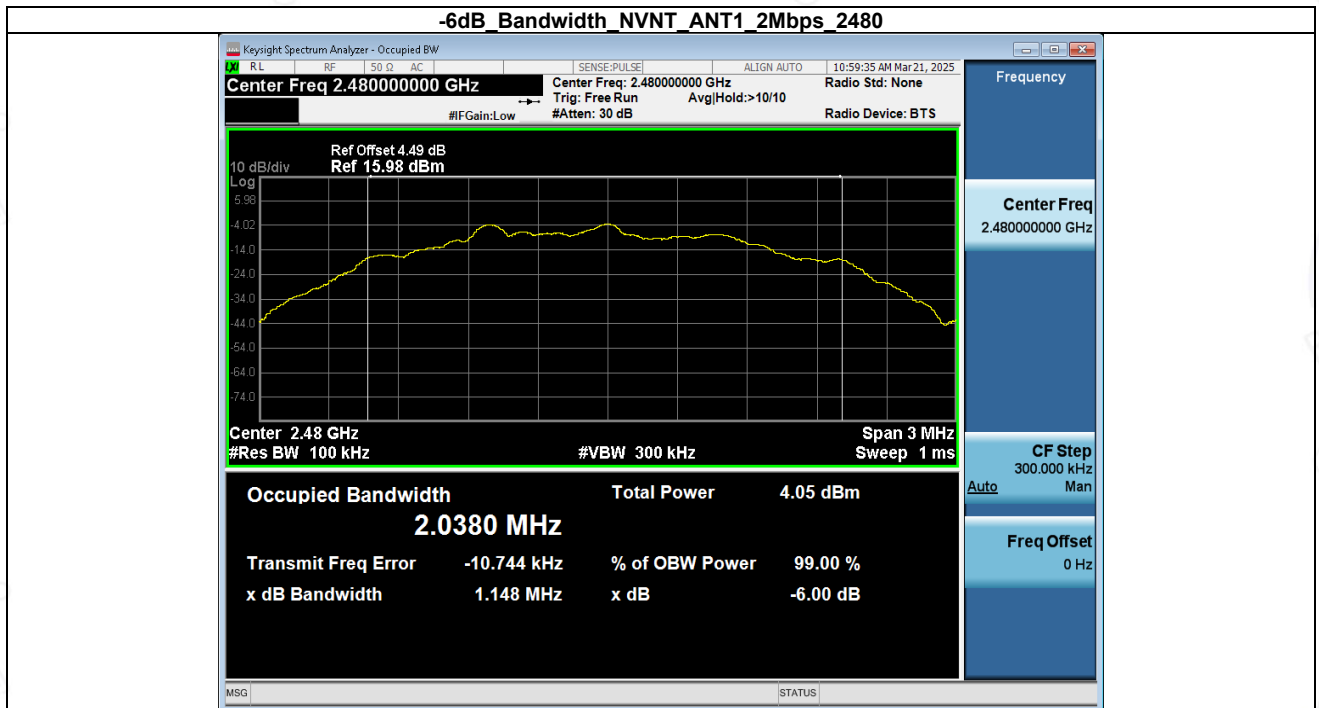
-6dB\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2440



-6dB\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2480









## 2. 99% Occupied Bandwidth

| Condition | Antenna | Rate  | Frequency (MHz) | 99% BW(MHz) |
|-----------|---------|-------|-----------------|-------------|
| NVNT      | ANT1    | 1Mbps | 2402.00         | 1.032       |
| NVNT      | ANT1    | 1Mbps | 2440.00         | 1.035       |
| NVNT      | ANT1    | 1Mbps | 2480.00         | 1.035       |
| NVNT      | ANT1    | 2Mbps | 2402.00         | 2.024       |
| NVNT      | ANT1    | 2Mbps | 2440.00         | 2.024       |
| NVNT      | ANT1    | 2Mbps | 2480.00         | 2.021       |

99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2402

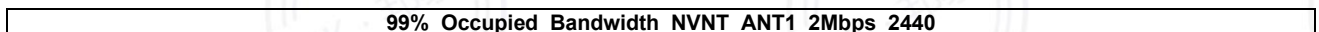
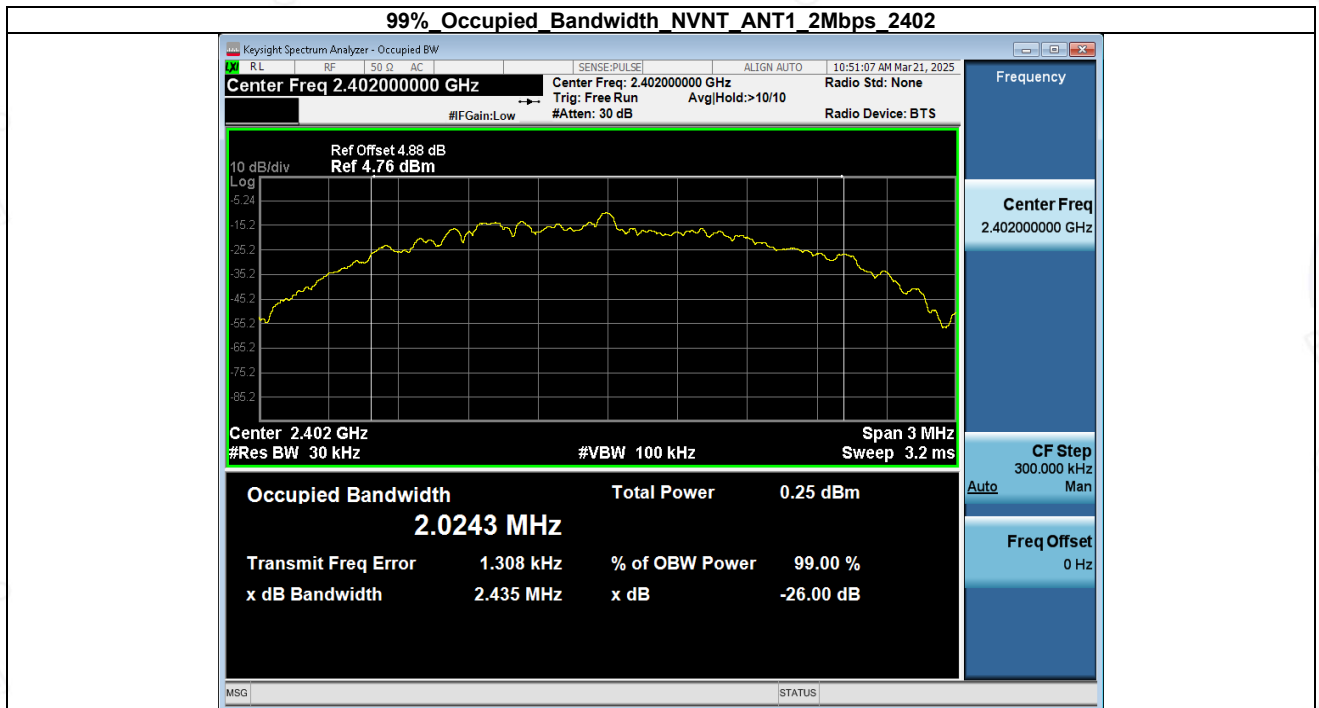


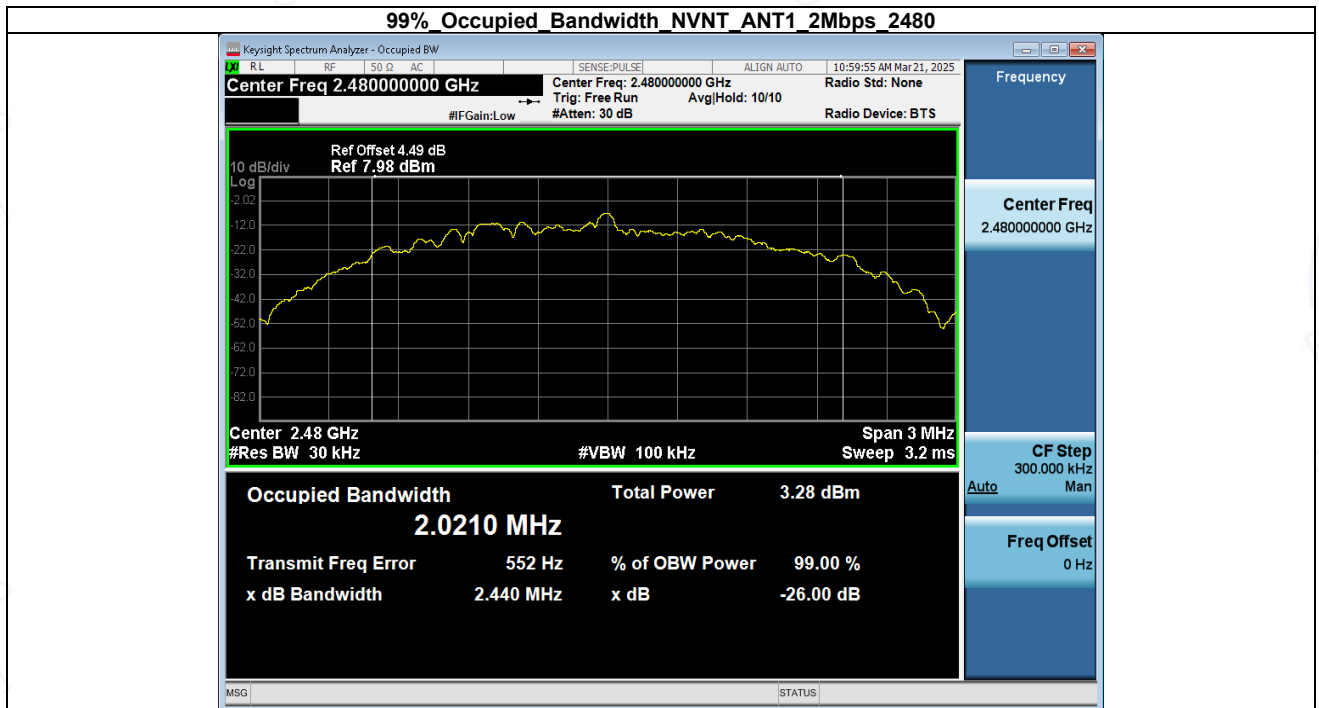
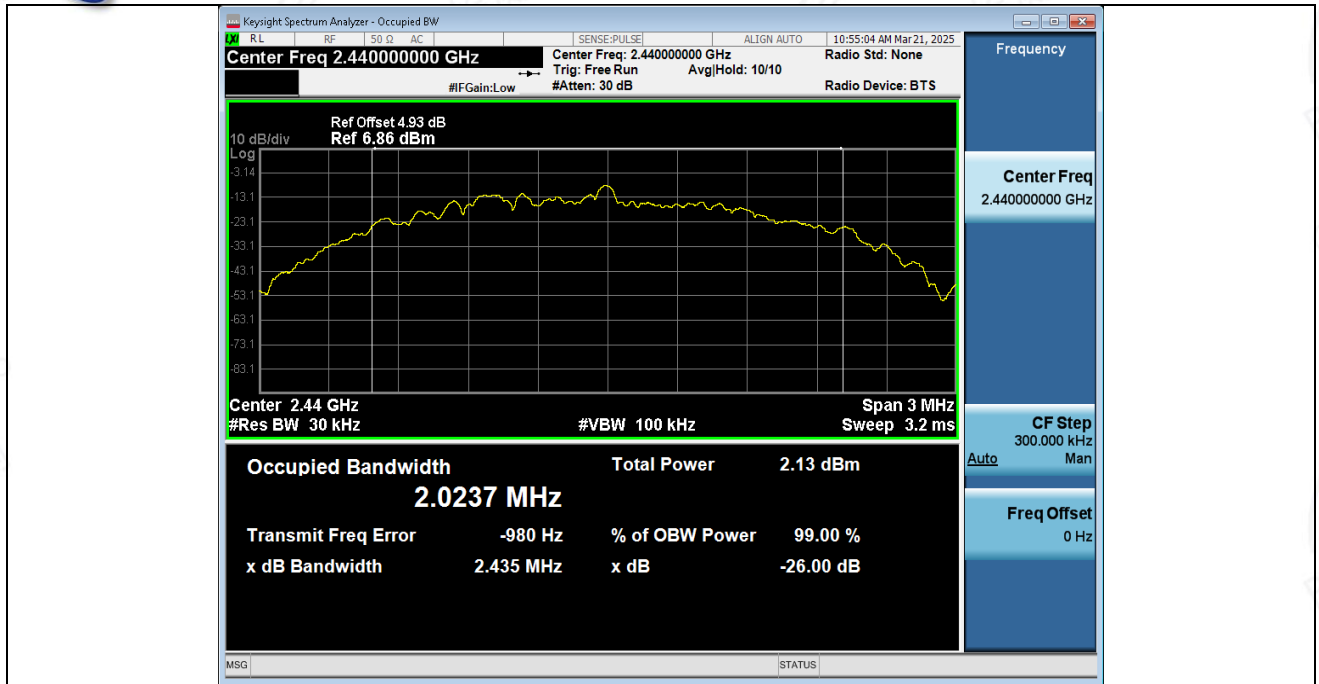
99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2440



99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_1Mbps\_2480





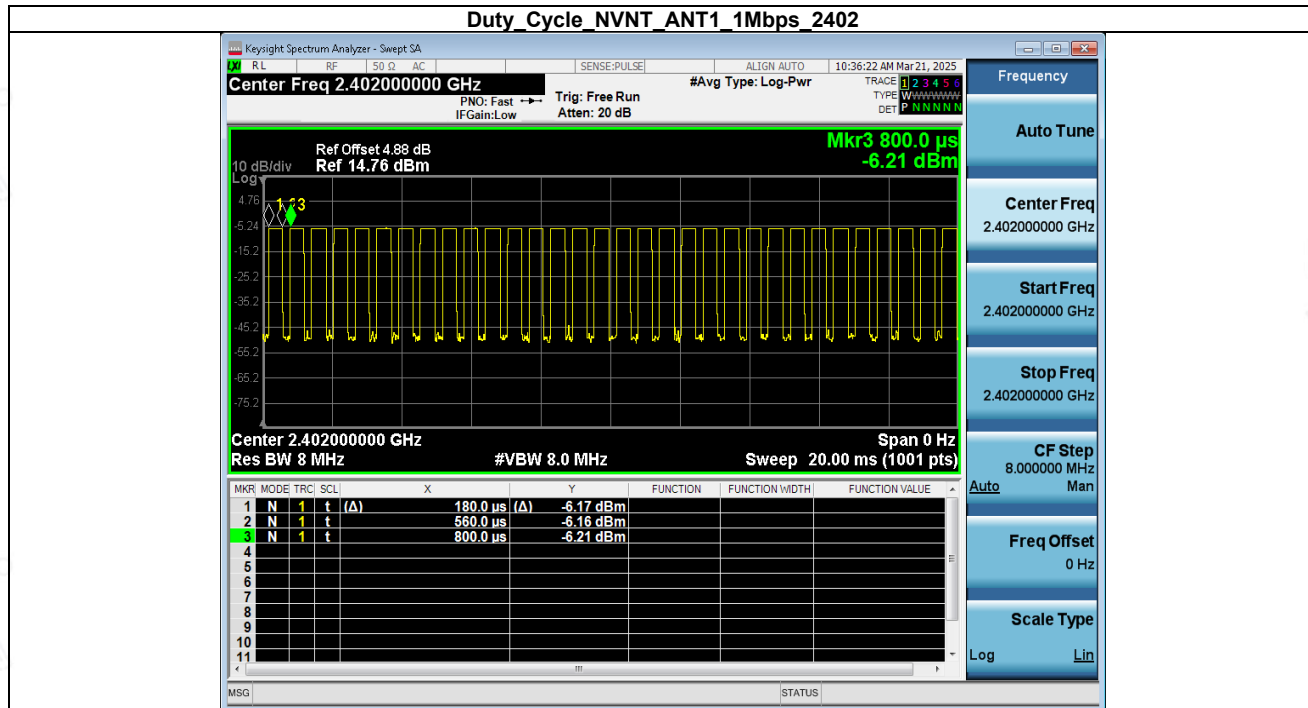




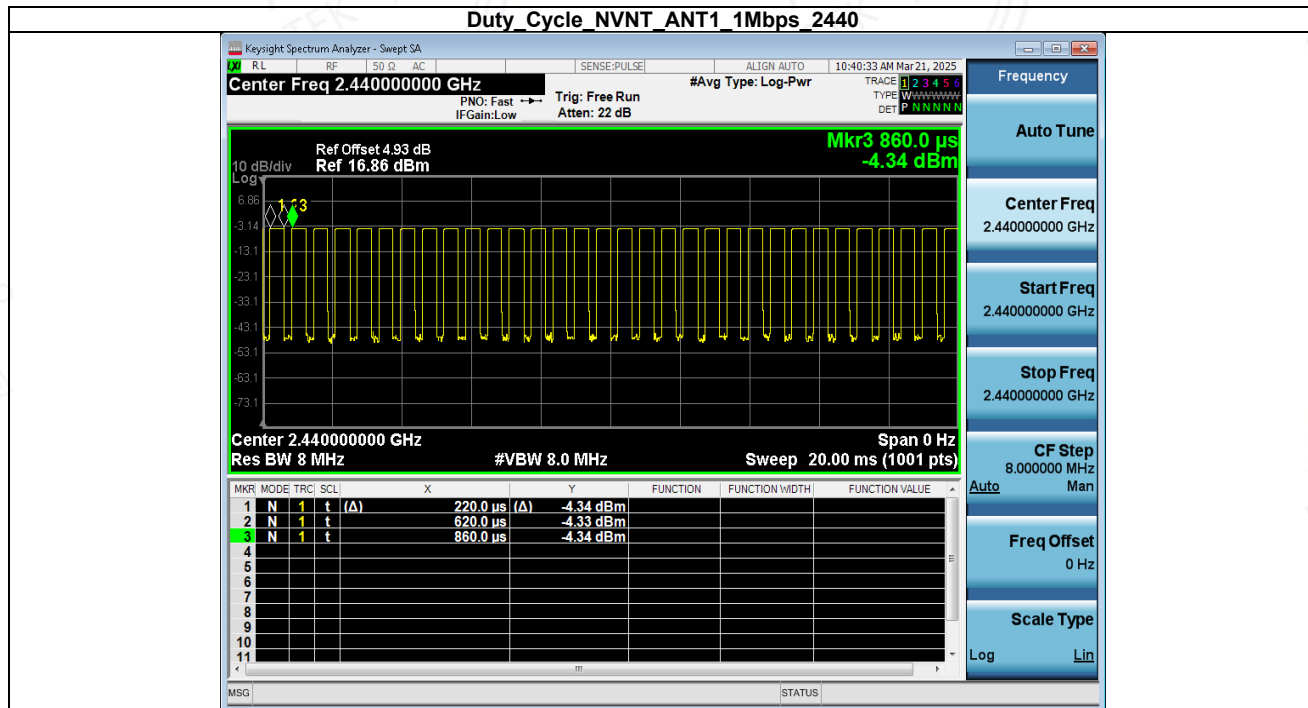
### 3. Duty Cycle

| Condition | Antenna | Rate  | Frequency (MHz) | Dutycycle(%) | Duty_factor |
|-----------|---------|-------|-----------------|--------------|-------------|
| NVNT      | ANT1    | 1Mbps | 2402.00         | 61.29        | 2.13        |
| NVNT      | ANT1    | 1Mbps | 2440.00         | 65.63        | 1.83        |
| NVNT      | ANT1    | 1Mbps | 2480.00         | 62.50        | 2.04        |
| NVNT      | ANT1    | 2Mbps | 2402.00         | 37.50        | 4.26        |
| NVNT      | ANT1    | 2Mbps | 2440.00         | 34.38        | 4.64        |
| NVNT      | ANT1    | 2Mbps | 2480.00         | 34.38        | 4.64        |

Duty Cycle\_NVNT\_ANT1\_1Mbps\_2402

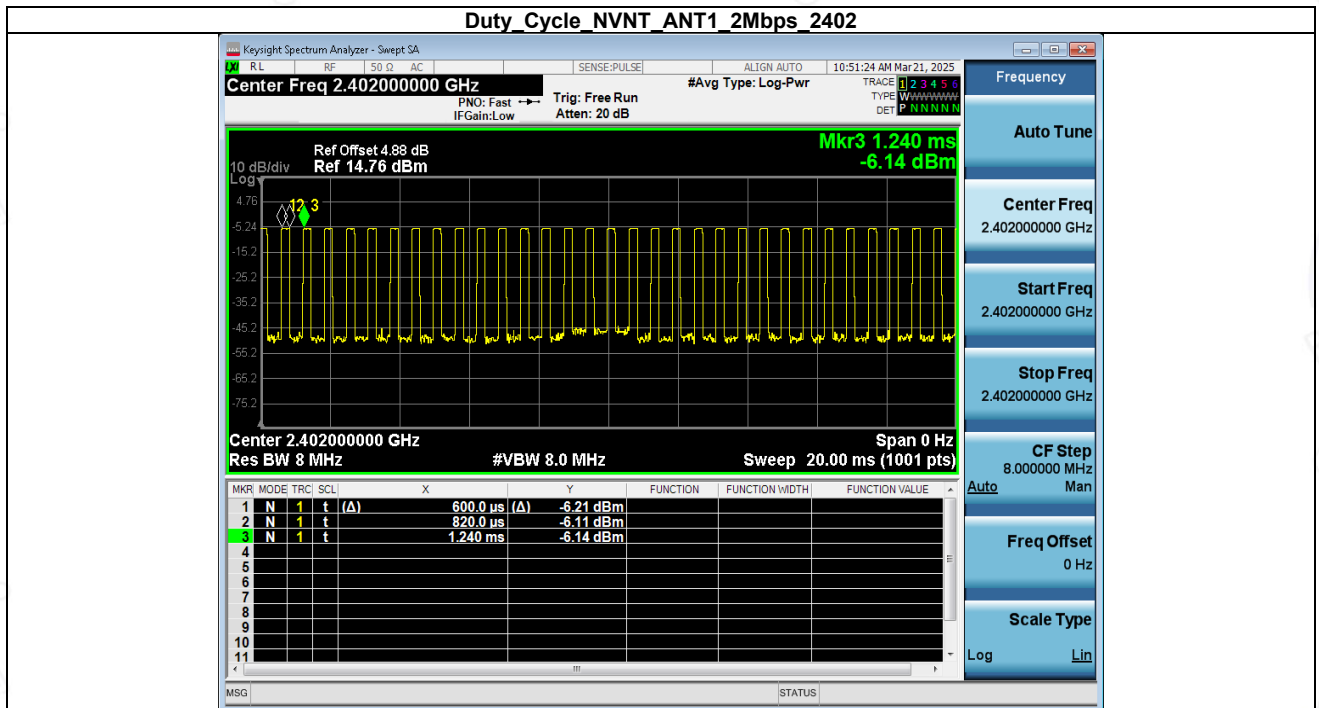
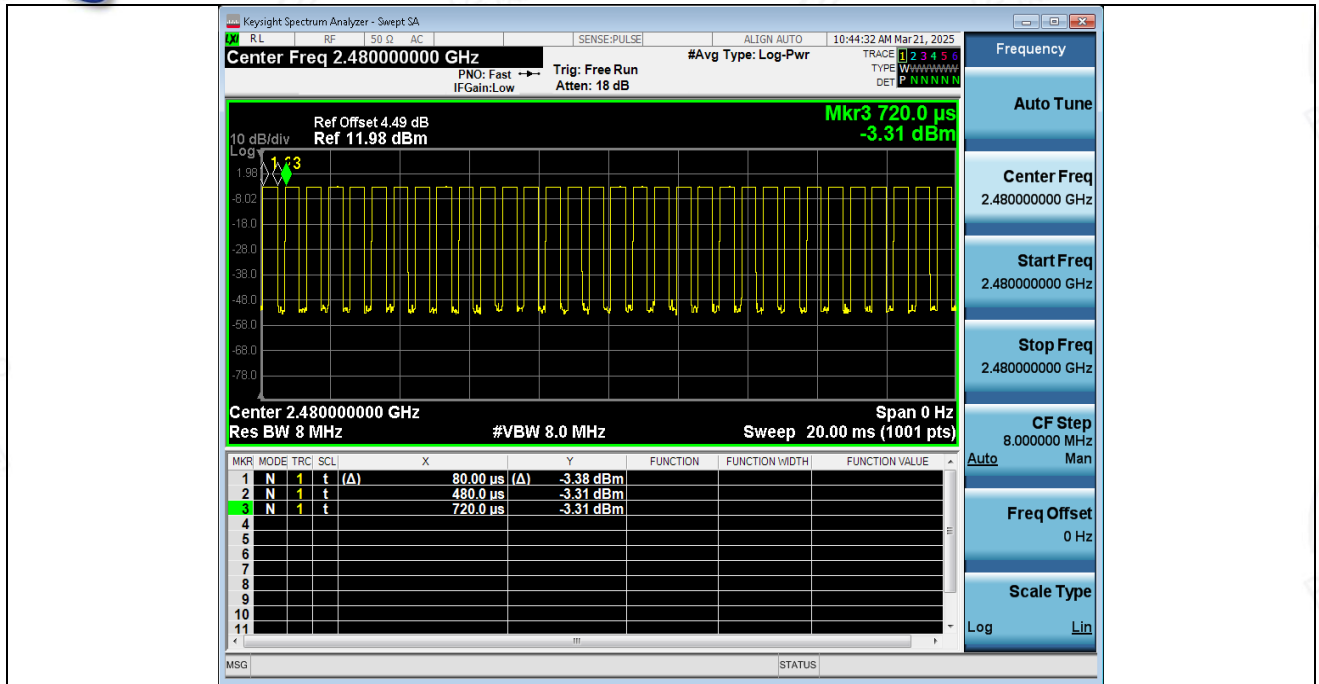


Duty Cycle\_NVNT\_ANT1\_1Mbps\_2440



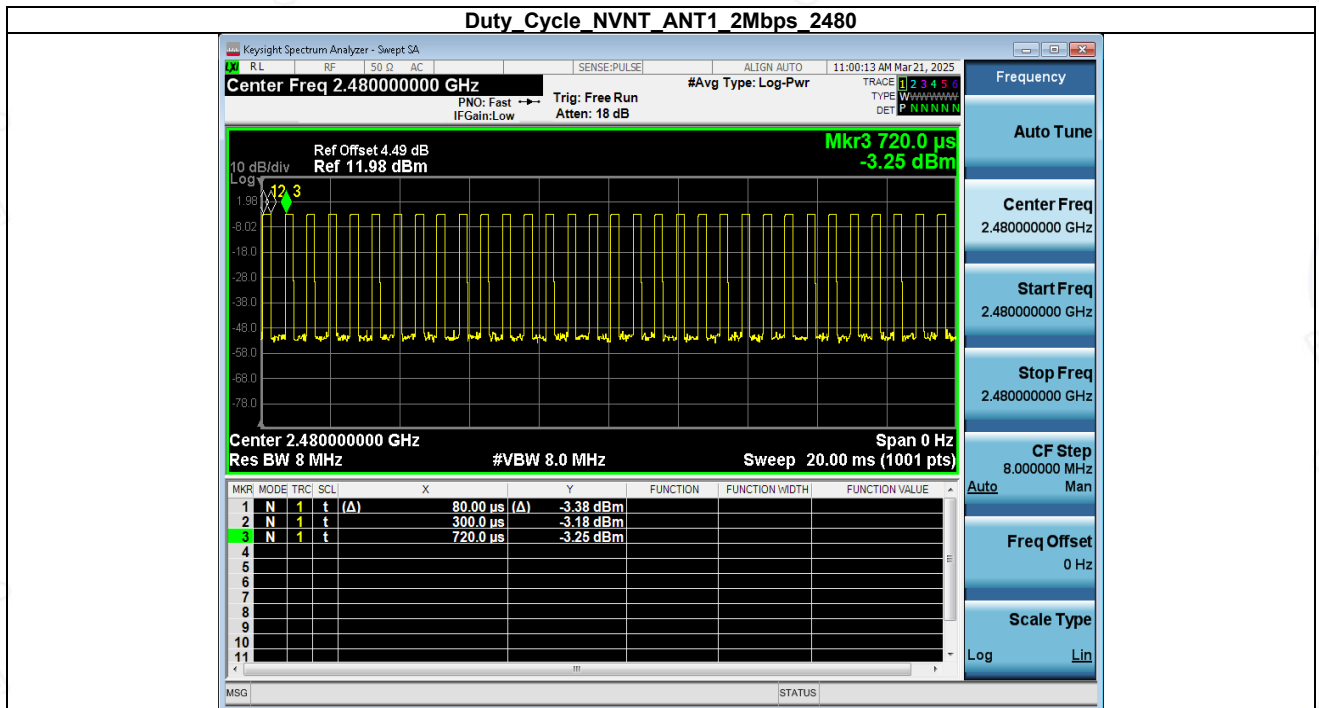
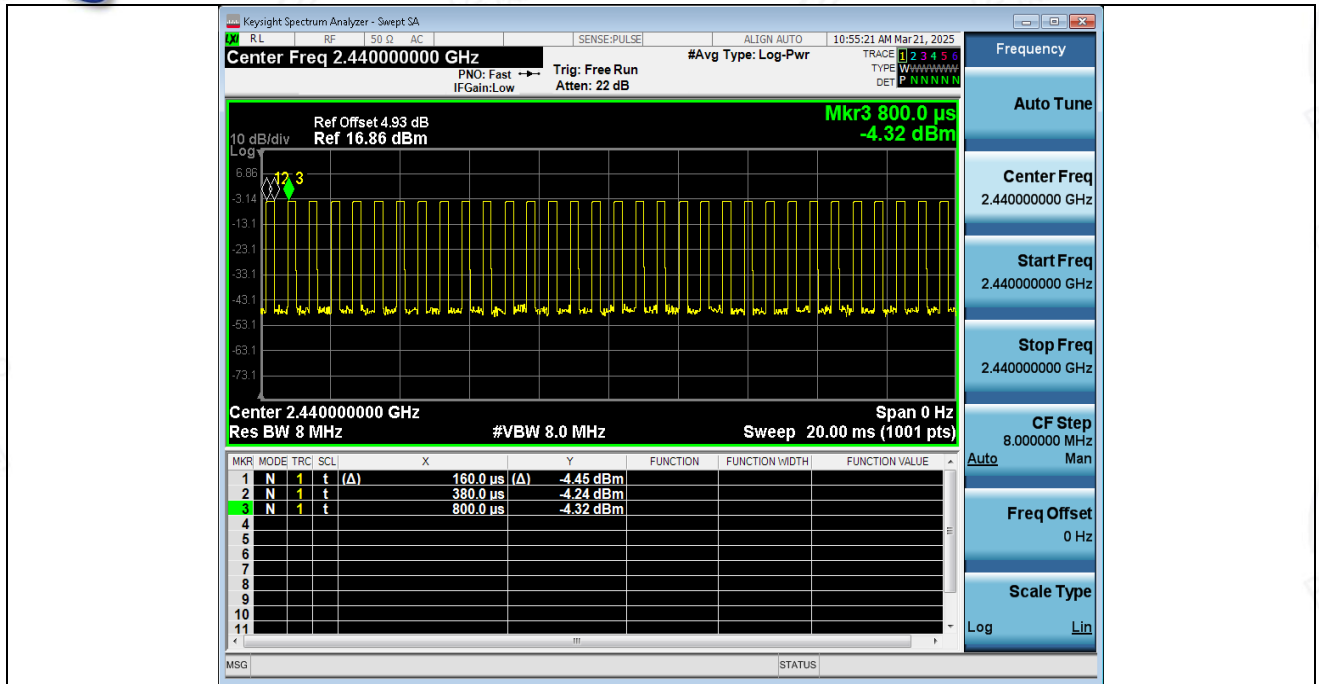
Duty Cycle\_NVNT\_ANT1\_1Mbps\_2480





Duty Cycle\_NVNT\_ANT1\_2Mbps\_2440

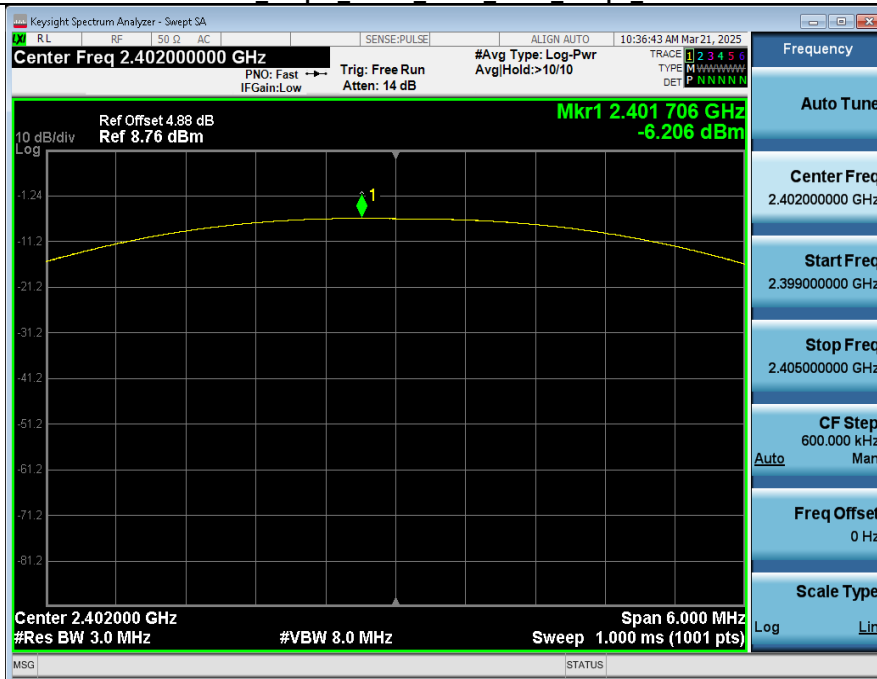




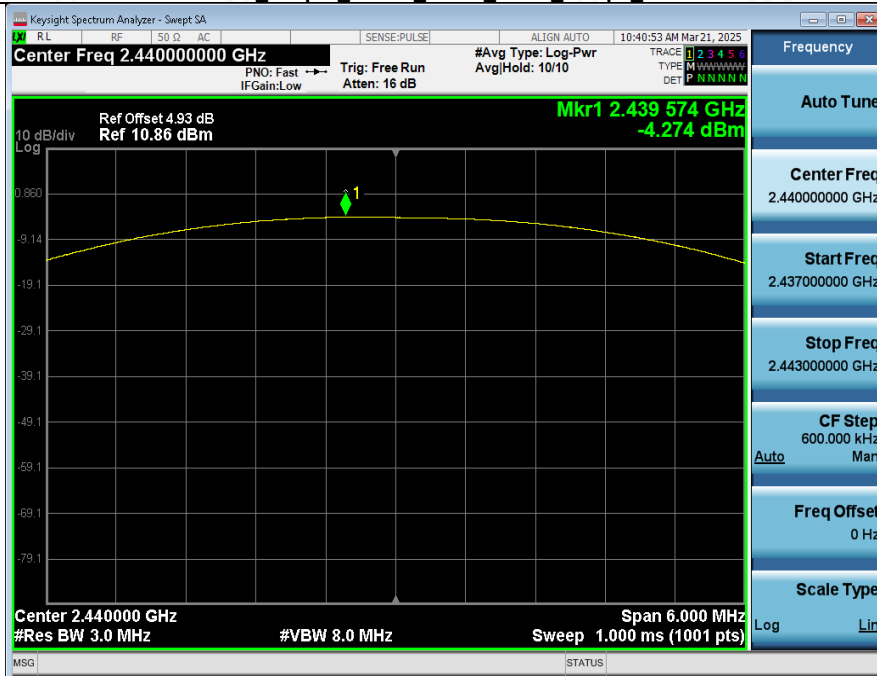
#### 4. Peak Output Power

| Condition | Antenna | Rate  | Frequency (MHz) | Max. Conducted Power(dBm) | Max. Conducted Power(mW) | Limit(mW) | Result |
|-----------|---------|-------|-----------------|---------------------------|--------------------------|-----------|--------|
| NVNT      | ANT1    | 1Mbps | 2402.00         | -6.21                     | 0.24                     | 1000      | Pass   |
| NVNT      | ANT1    | 1Mbps | 2440.00         | -4.27                     | 0.37                     | 1000      | Pass   |
| NVNT      | ANT1    | 1Mbps | 2480.00         | -3.30                     | 0.47                     | 1000      | Pass   |
| NVNT      | ANT1    | 2Mbps | 2402.00         | -6.03                     | 0.25                     | 1000      | Pass   |
| NVNT      | ANT1    | 2Mbps | 2440.00         | -4.19                     | 0.38                     | 1000      | Pass   |
| NVNT      | ANT1    | 2Mbps | 2480.00         | -3.17                     | 0.48                     | 1000      | Pass   |

Peak Output Power NVNT ANT1 1Mbps 2402

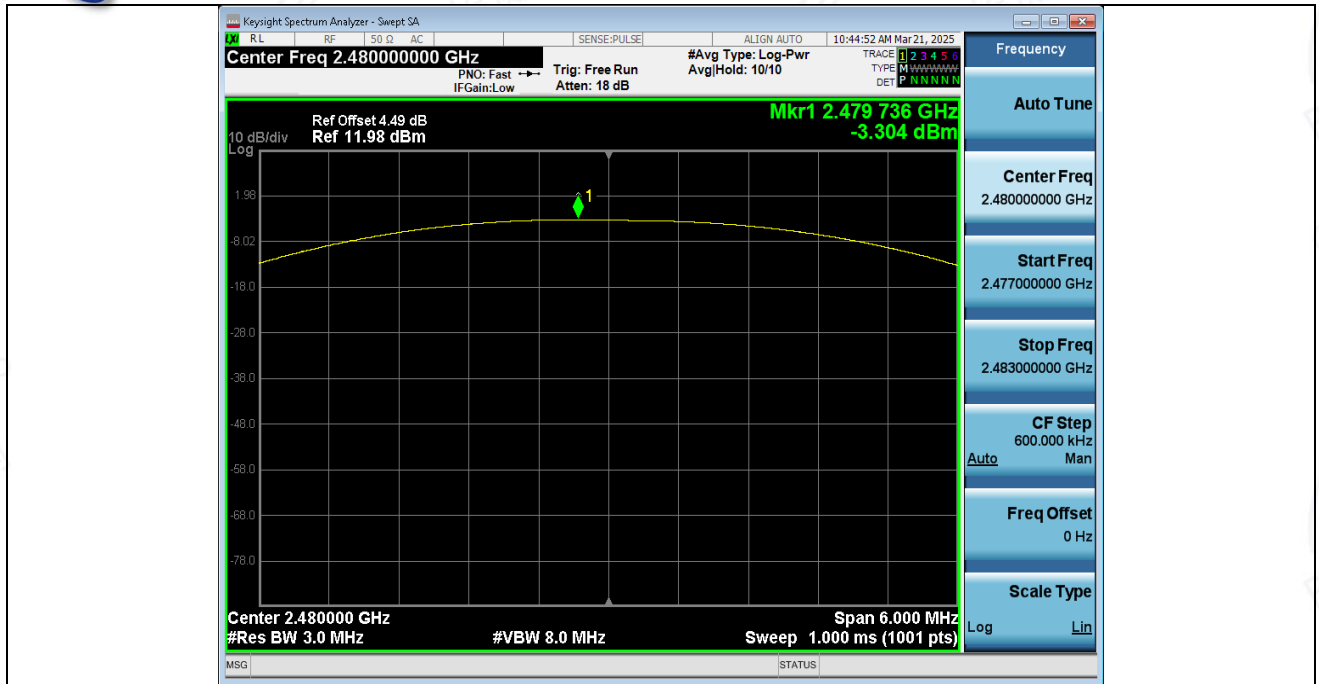


Peak Output Power NVNT ANT1 1Mbps 2440

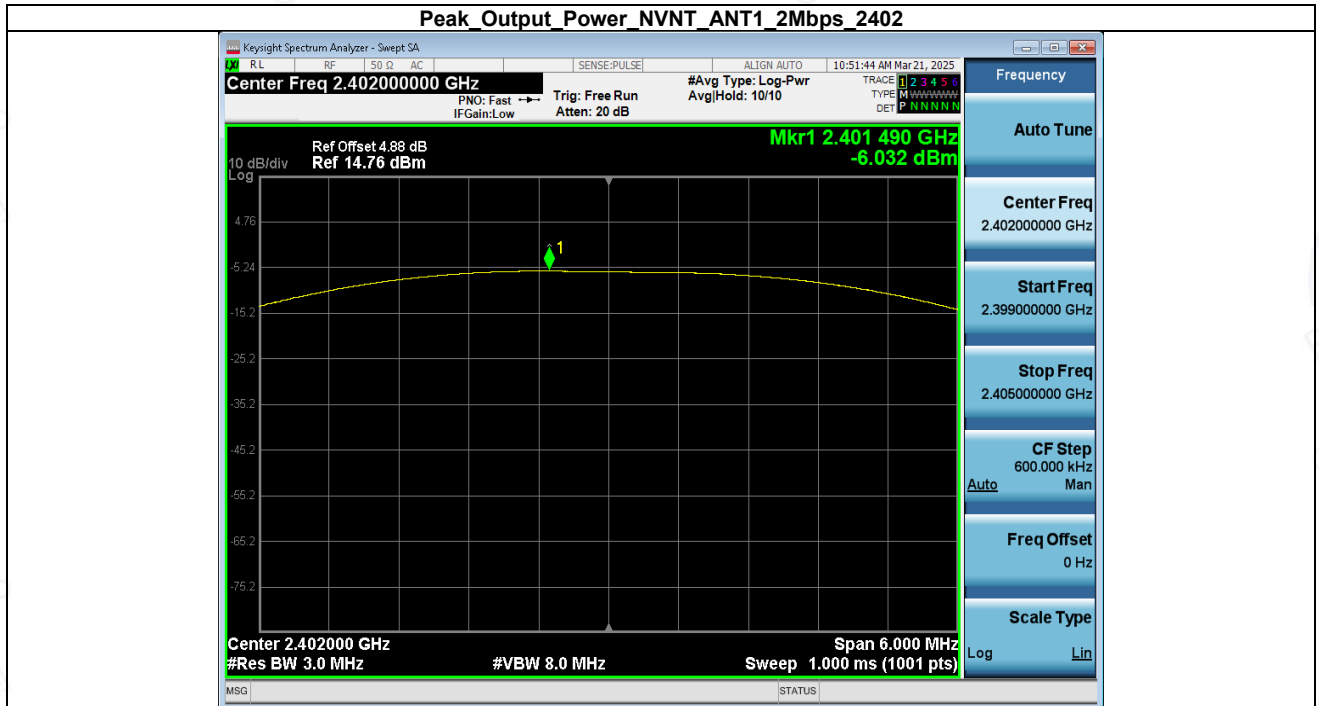


Peak Output Power NVNT ANT1 1Mbps 2480





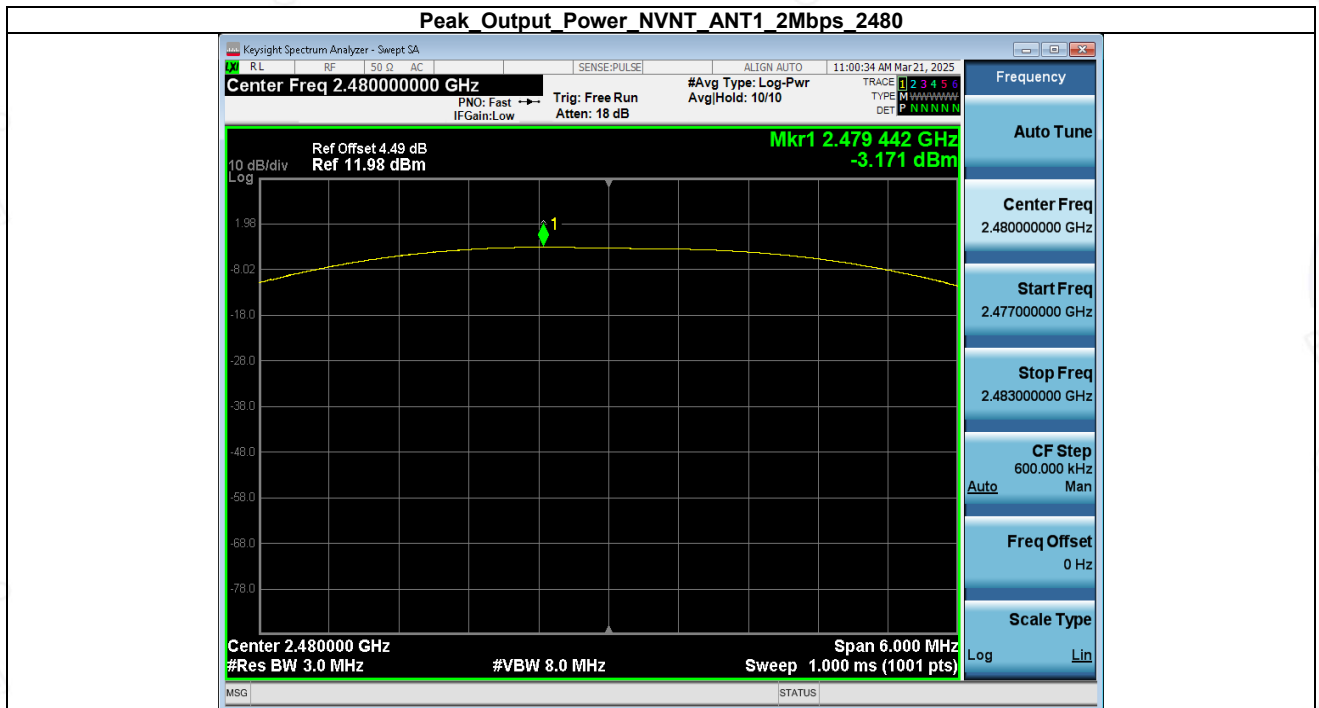
Peak\_Output\_Power\_NVNT\_ANT1\_2Mbps\_2402



Peak\_Output\_Power\_NVNT\_ANT1\_2Mbps\_2440



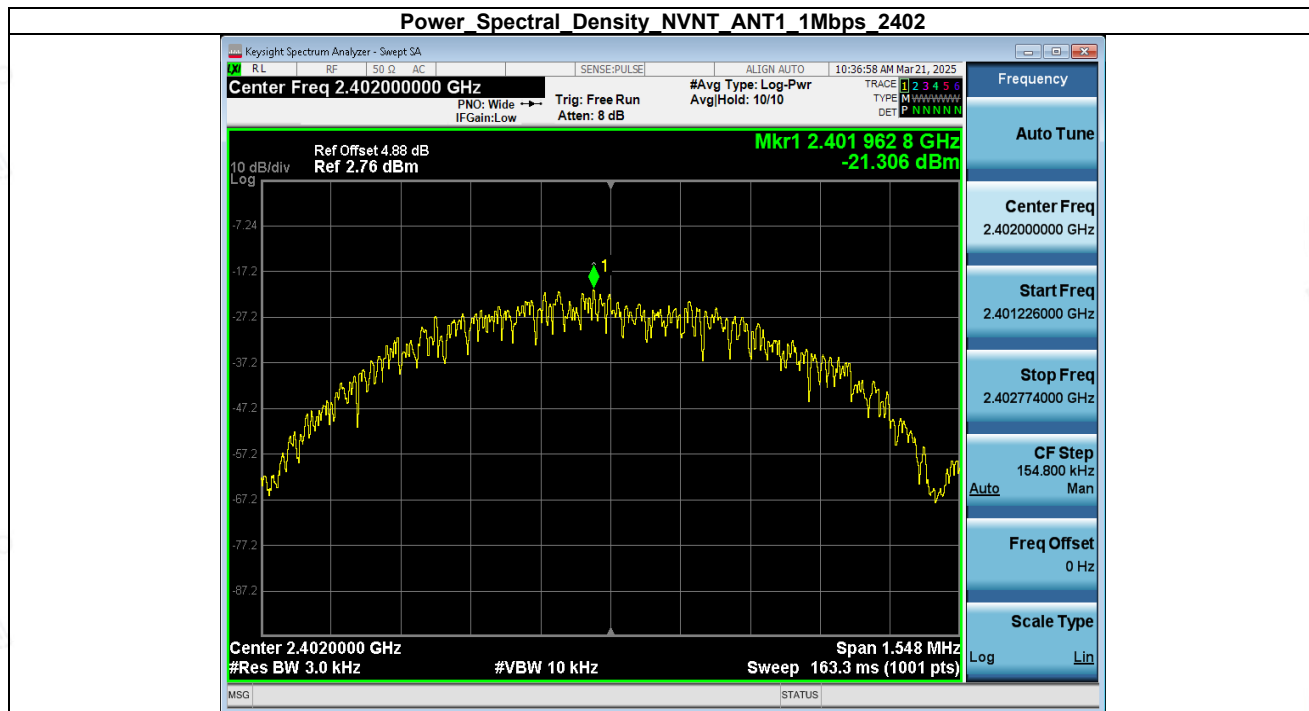




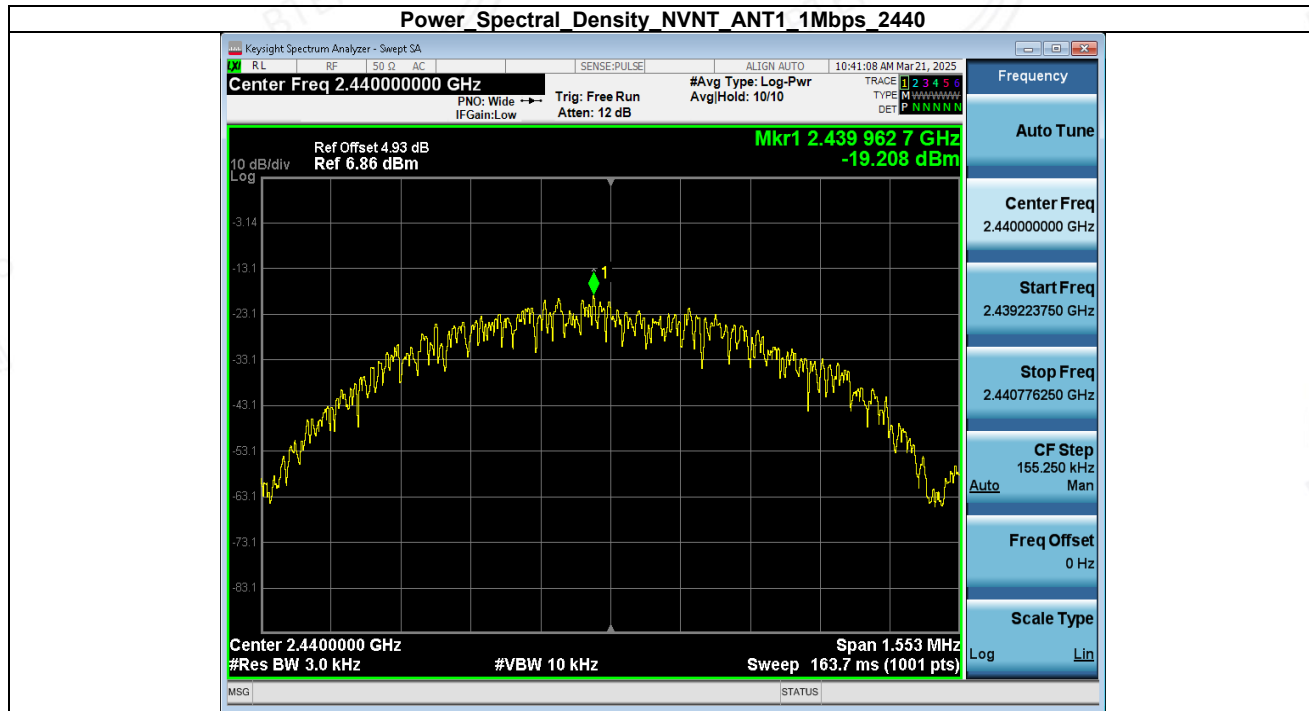
## 5. Power Spectral Density

| Condition | Antenna | Rate  | Frequency (MHz) | Power Spectral Density(dBm/3kHz) | Limit(dBm/3kHz) | Result |
|-----------|---------|-------|-----------------|----------------------------------|-----------------|--------|
| NVNT      | ANT1    | 1Mbps | 2402.00         | -21.31                           | 8               | Pass   |
| NVNT      | ANT1    | 1Mbps | 2440.00         | -19.21                           | 8               | Pass   |
| NVNT      | ANT1    | 1Mbps | 2480.00         | -18.23                           | 8               | Pass   |
| NVNT      | ANT1    | 2Mbps | 2402.00         | -24.64                           | 8               | Pass   |
| NVNT      | ANT1    | 2Mbps | 2440.00         | -22.68                           | 8               | Pass   |
| NVNT      | ANT1    | 2Mbps | 2480.00         | -21.74                           | 8               | Pass   |

Power Spectral Density\_NVNT\_ANT1\_1Mbps\_2402

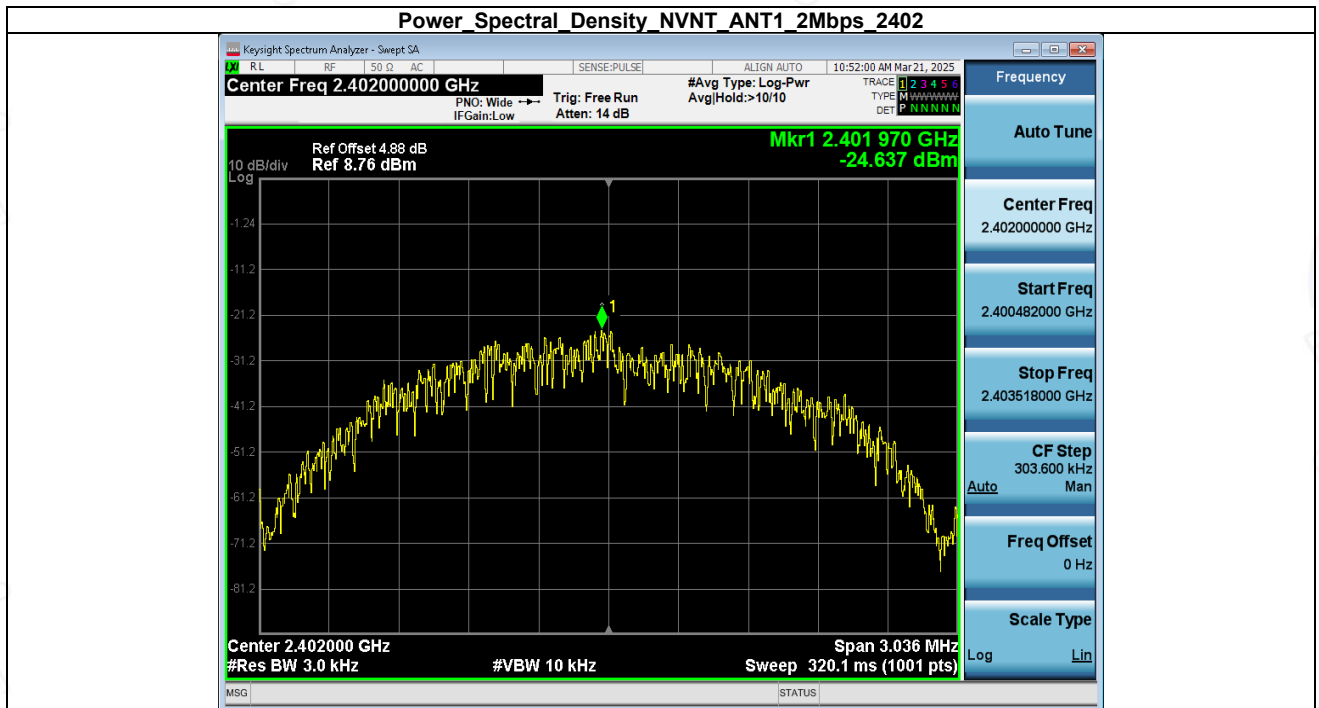
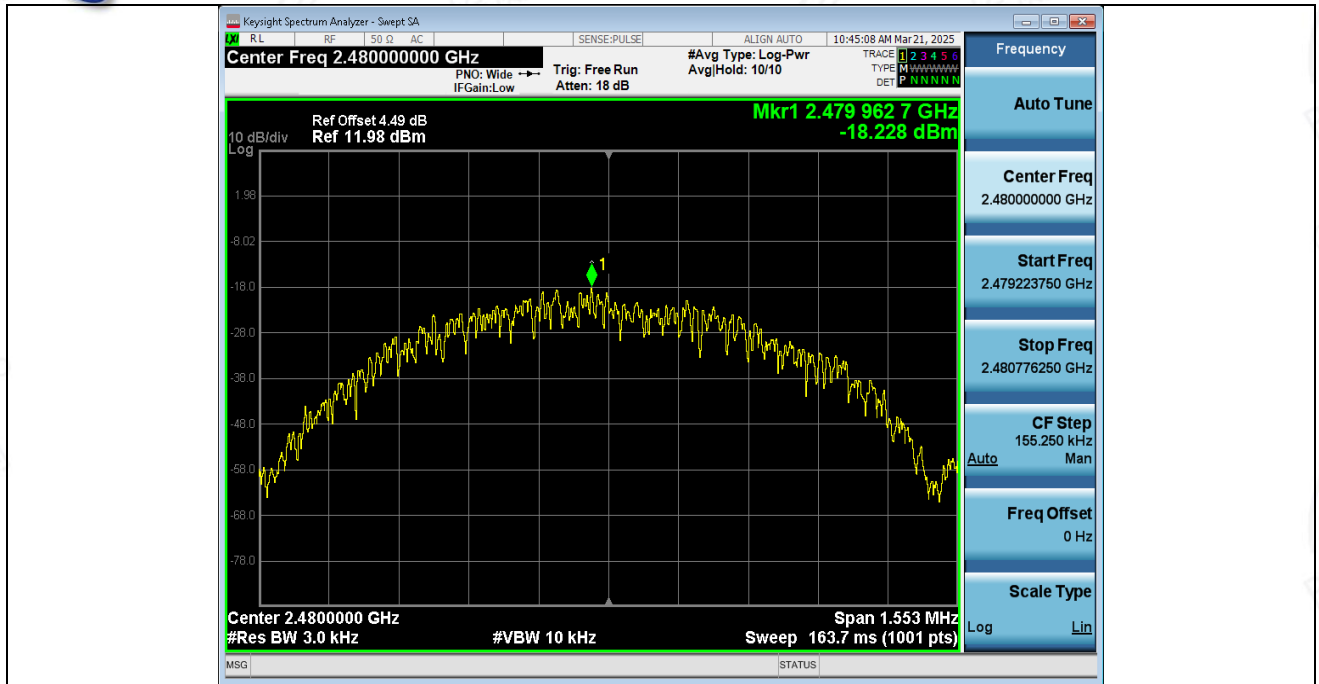


Power Spectral Density\_NVNT\_ANT1\_1Mbps\_2440



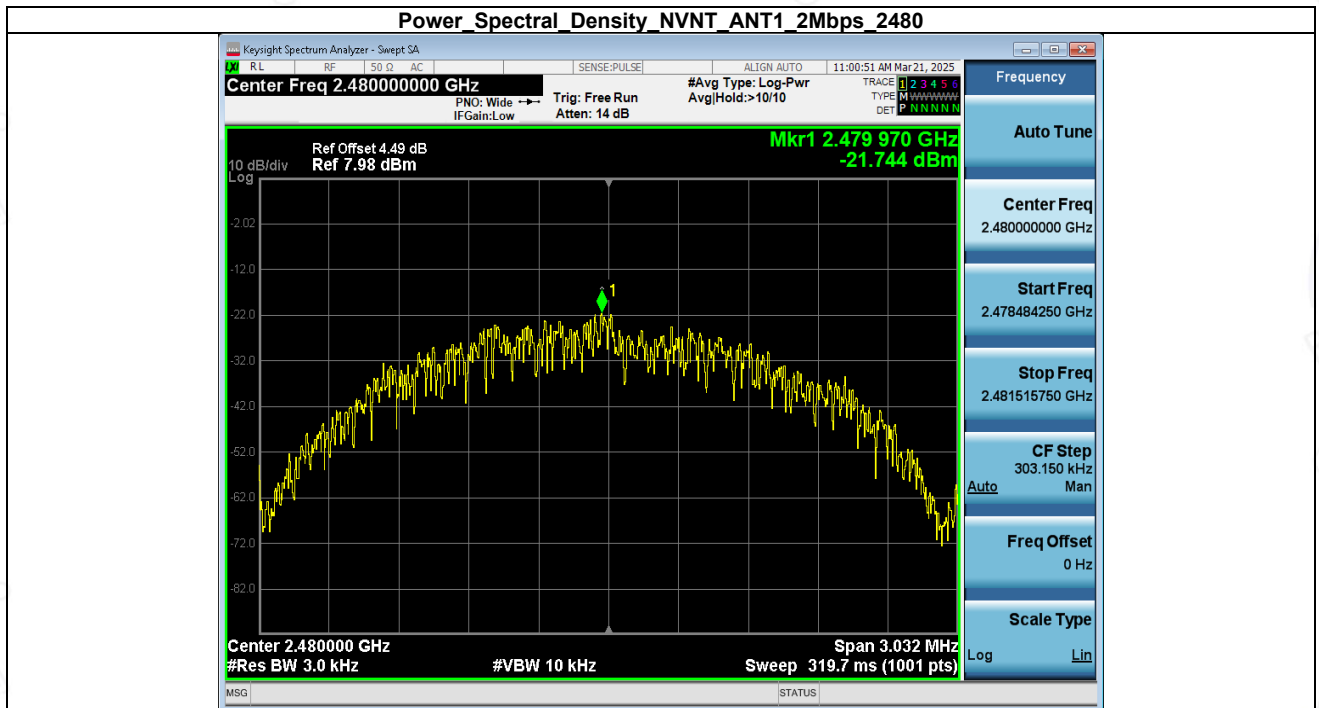
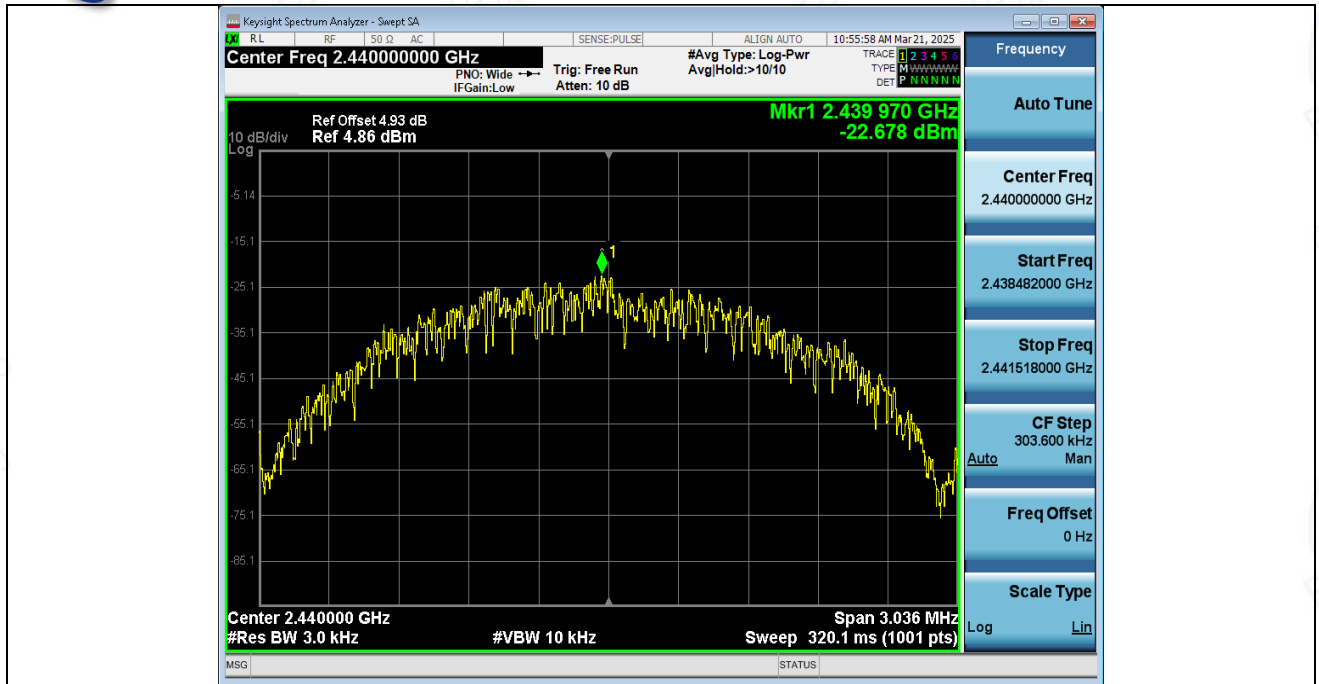
Power Spectral Density\_NVNT\_ANT1\_1Mbps\_2480





Power Spectral Density\_NVNT\_ANT1\_2Mbps\_2440





## 6. Bandedge

| Condition | Antenna | Modulation | TX_Frequency (MHz) | Max. Mark_freq(MHz) | Ref_level(dBm) | Spurious level(dBm) | limit(dBm) | Result |
|-----------|---------|------------|--------------------|---------------------|----------------|---------------------|------------|--------|
| NVNT      | ANT1    | 1Mbps      | 2402.00            | 2399.015            | -6.471         | -46.201             | -26.471    | Pass   |
| NVNT      | ANT1    | 1Mbps      | 2480.00            | 2483.700            | -3.566         | -52.005             | -23.566    | Pass   |
| NVNT      | ANT1    | 2Mbps      | 2402.00            | 2399.965            | -6.523         | -39.456             | -26.523    | Pass   |
| NVNT      | ANT1    | 2Mbps      | 2480.00            | 2498.775            | -3.562         | -55.408             | -23.562    | Pass   |

1\_Reference\_Level\_NVNT\_ANT1\_1Mbps\_2402



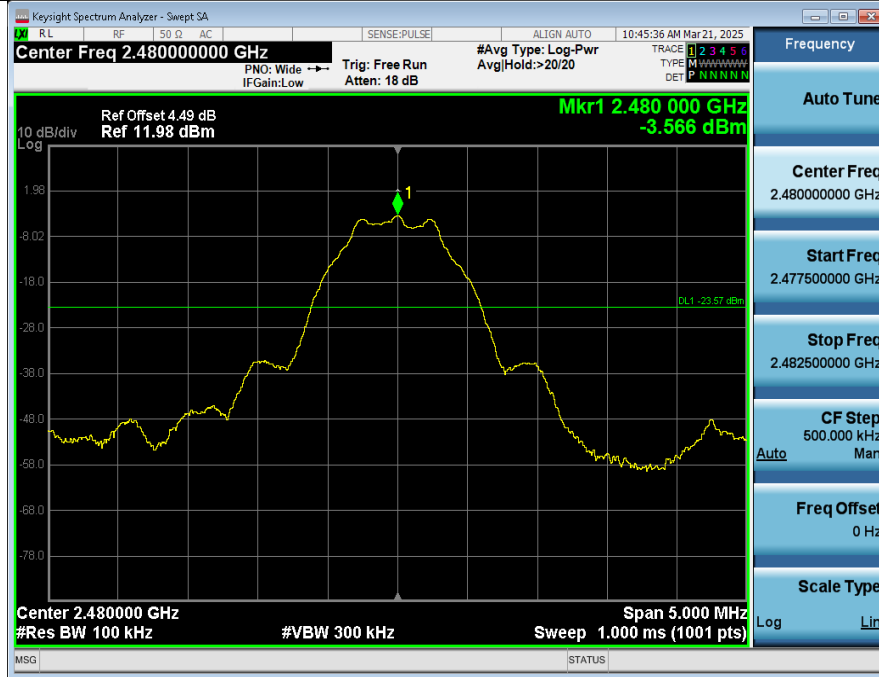
2\_Bandedge\_NVNT\_ANT1\_1Mbps\_2402



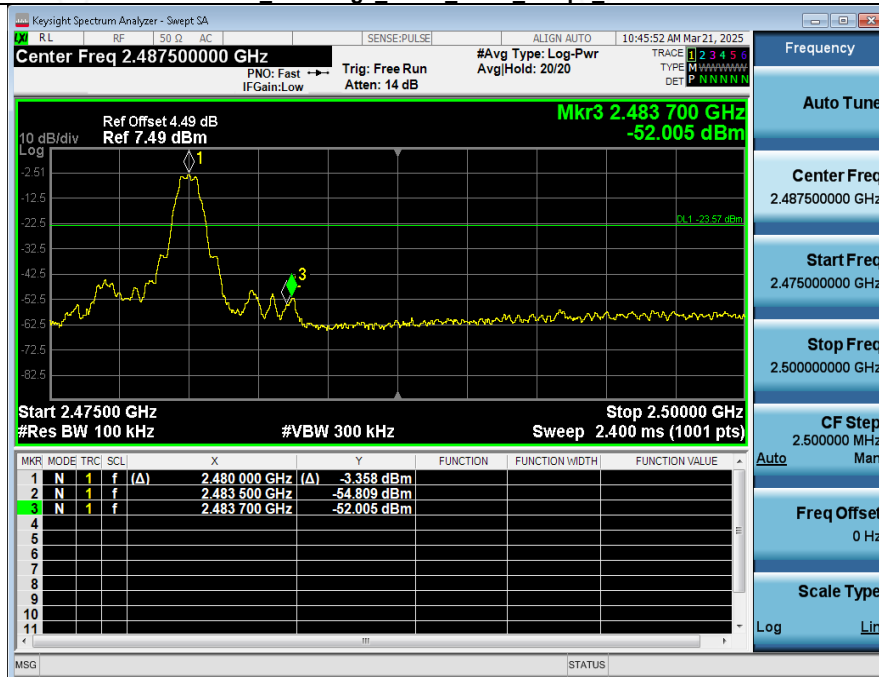
1\_Reference\_Level\_NVNT\_ANT1\_1Mbps\_2480







2\_Bandedge\_NVNT\_ANT1\_1Mbps\_2480



1\_Reference\_Level\_NVNT\_ANT1\_2Mbps\_2402





2\_Bandedge\_NVNT\_ANT1\_2Mbps\_2402

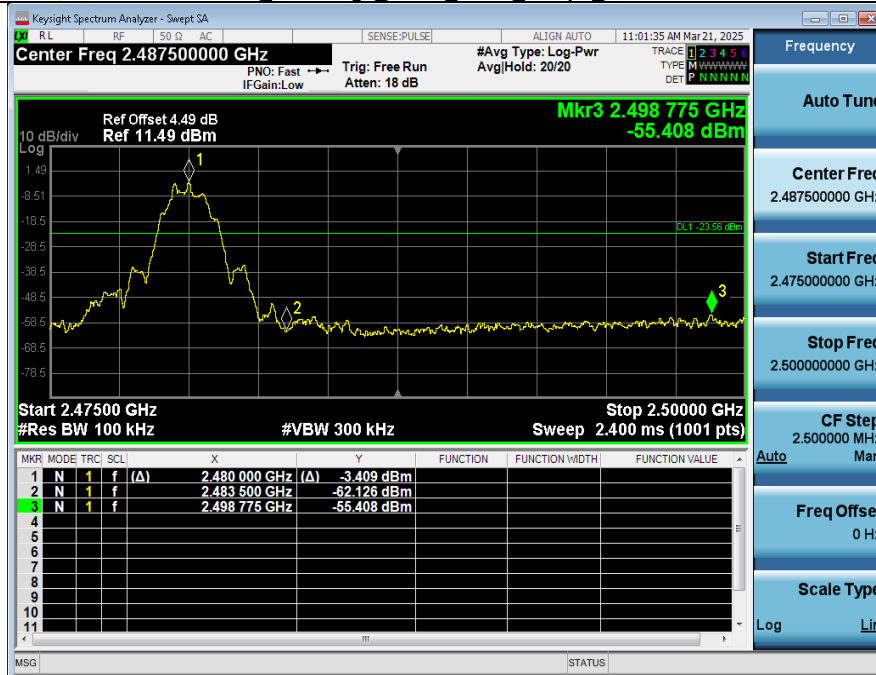


1\_Reference\_Level\_NVNT\_ANT1\_2Mbps\_2480





## 2\_Bandedge\_NVNT\_ANT1\_2Mbps\_2480



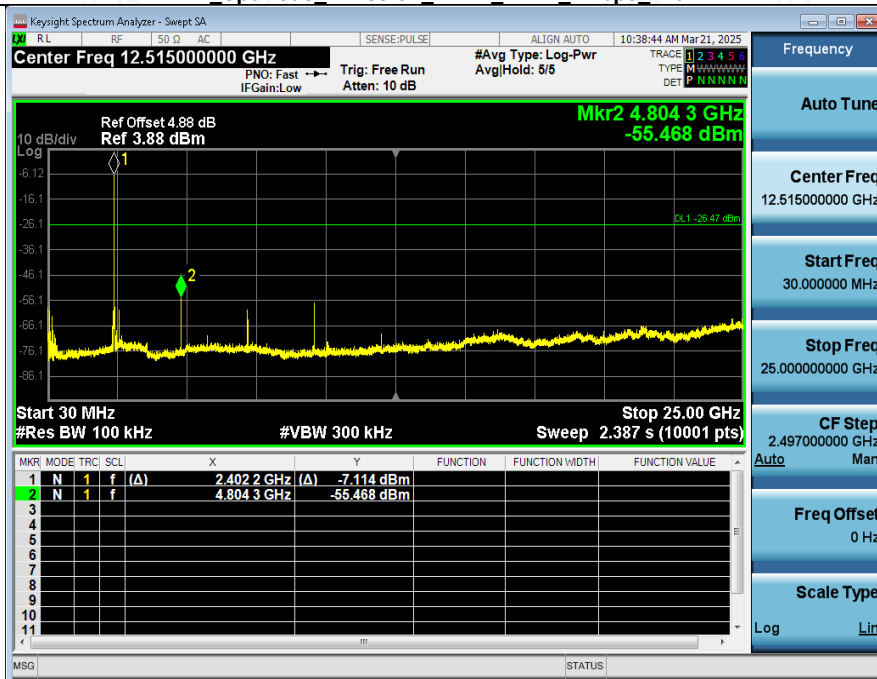
## 7. Spurious Emission

| Condition | Antenna | Modulation | TX_Frequency (MHz) | Ref_level(dBm) | Spurious level(dBm) | limit(dBm) | Result |
|-----------|---------|------------|--------------------|----------------|---------------------|------------|--------|
| NVNT      | ANT1    | 1Mbps      | 2402.00            | -6.471         | -55.468             | -26.471    | Pass   |
| NVNT      | ANT1    | 1Mbps      | 2440.00            | -4.547         | -52.994             | -24.547    | Pass   |
| NVNT      | ANT1    | 1Mbps      | 2480.00            | -3.566         | -54.201             | -23.566    | Pass   |
| NVNT      | ANT1    | 2Mbps      | 2402.00            | -6.523         | -57.575             | -26.523    | Pass   |
| NVNT      | ANT1    | 2Mbps      | 2440.00            | -4.630         | -54.029             | -24.630    | Pass   |
| NVNT      | ANT1    | 2Mbps      | 2480.00            | -3.562         | -54.733             | -23.562    | Pass   |

1 Reference\_Level\_NVNT\_ANT1\_1Mbps\_2402



2 Spurious Emission\_NVNT\_ANT1\_1Mbps\_2402

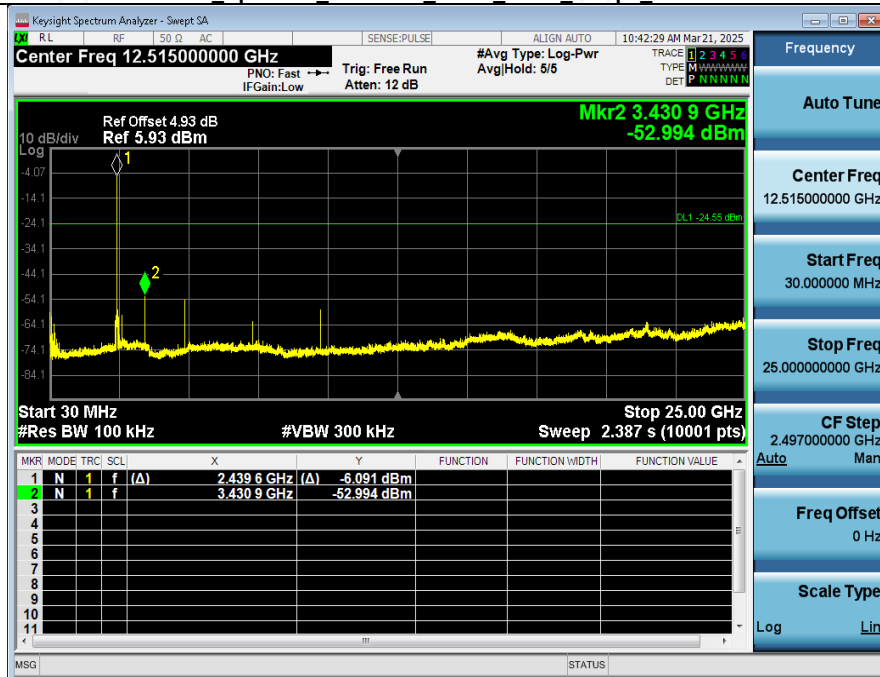


1 Reference\_Level\_NVNT\_ANT1\_1Mbps\_2440





2\_Spurious\_Emission\_NVNT\_ANT1\_1Mbps\_2440



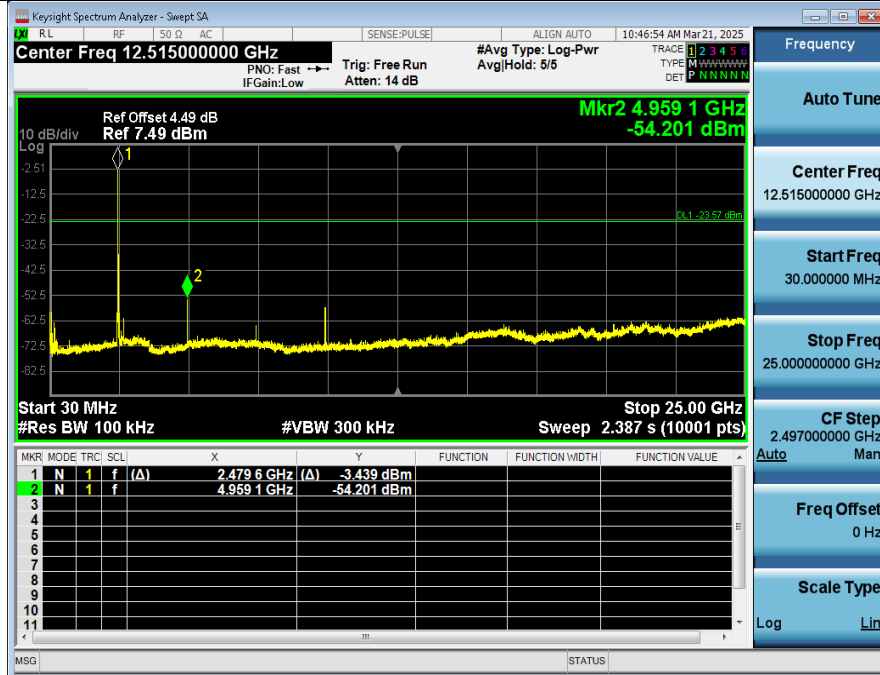
1\_Reference\_Level\_NVNT\_ANT1\_1Mbps\_2480







2\_Spurious\_Emission\_NVNT\_ANT1\_1Mbps\_2480

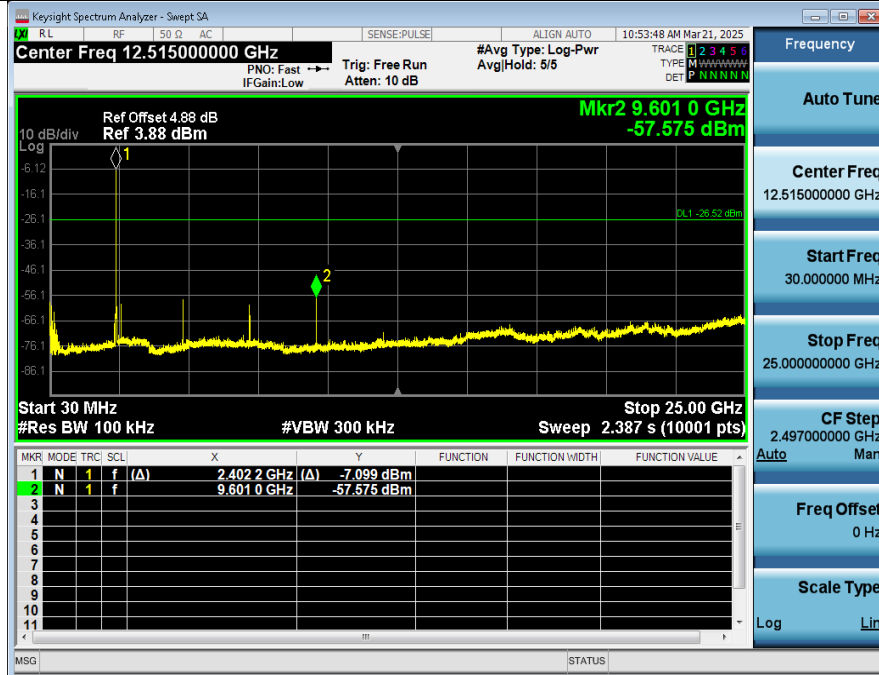


1\_Reference\_Level\_NVNT\_ANT1\_2Mbps\_2402





## 2\_Spurious\_Emission\_NVNT\_ANT1\_2Mbps\_2402

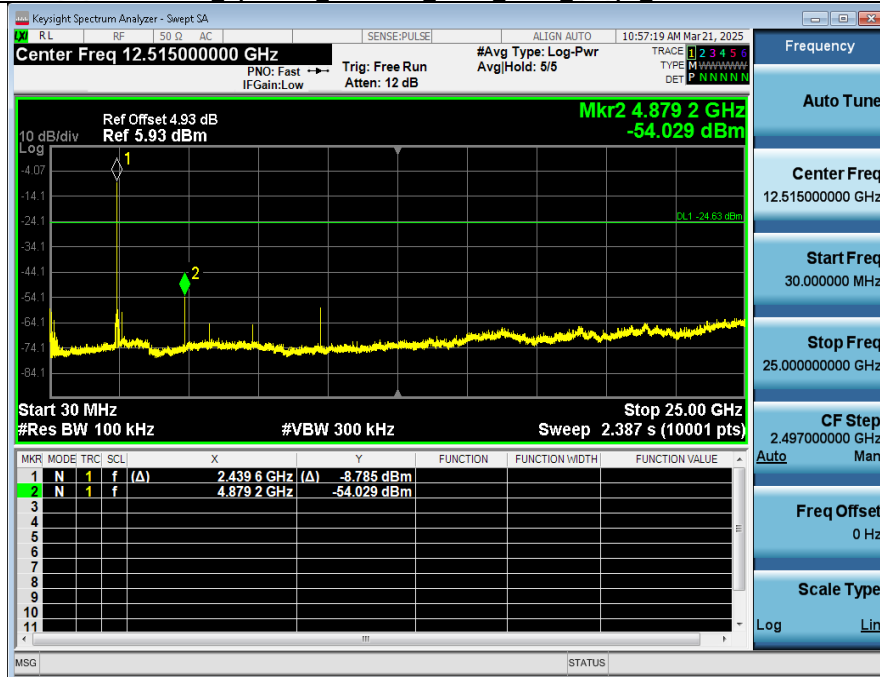


## 1\_Reference\_Level\_NVNT\_ANT1\_2Mbps\_2440





2\_Spurious\_Emission\_NVNT\_ANT1\_2Mbps\_2440



1\_Reference\_Level\_NVNT\_ANT1\_2Mbps\_2480





## 2 Spurious Emission NVNT\_ANT1\_2Mbps\_2480

