

## Table of Contents

|                                 |    |
|---------------------------------|----|
| 1. -6dB Bandwidth .....         | 2  |
| 2. 99% Occupied Bandwidth ..... | 7  |
| 3. Duty Cycle .....             | 12 |
| 4. MAX. Output Power .....      | 17 |
| 5. Power Spectral Density ..... | 18 |
| 6. Bandedge .....               | 23 |
| 7. Spurious Emission .....      | 29 |

# 240719 FCC ID WIFI2.4

## FCC\_2.4G\_WIFI (Part15.247) Test Data

### 1. -6dB Bandwidth

| Condition | Antenna | Modulation    | Frequency (MHz) | -6dB BW(MHz) | limit(kHz) | Result |
|-----------|---------|---------------|-----------------|--------------|------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 9.04         | 500        | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 8.60         | 500        | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 9.08         | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 16.34        | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 16.36        | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 16.08        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 17.16        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 17.42        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 16.82        | 500        | Pass   |



**-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11b\_2437**



**-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11b\_2462**



**-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11g\_2412**



-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11g\_2437



-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11g\_2462



-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2412



-6dB\_Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2437



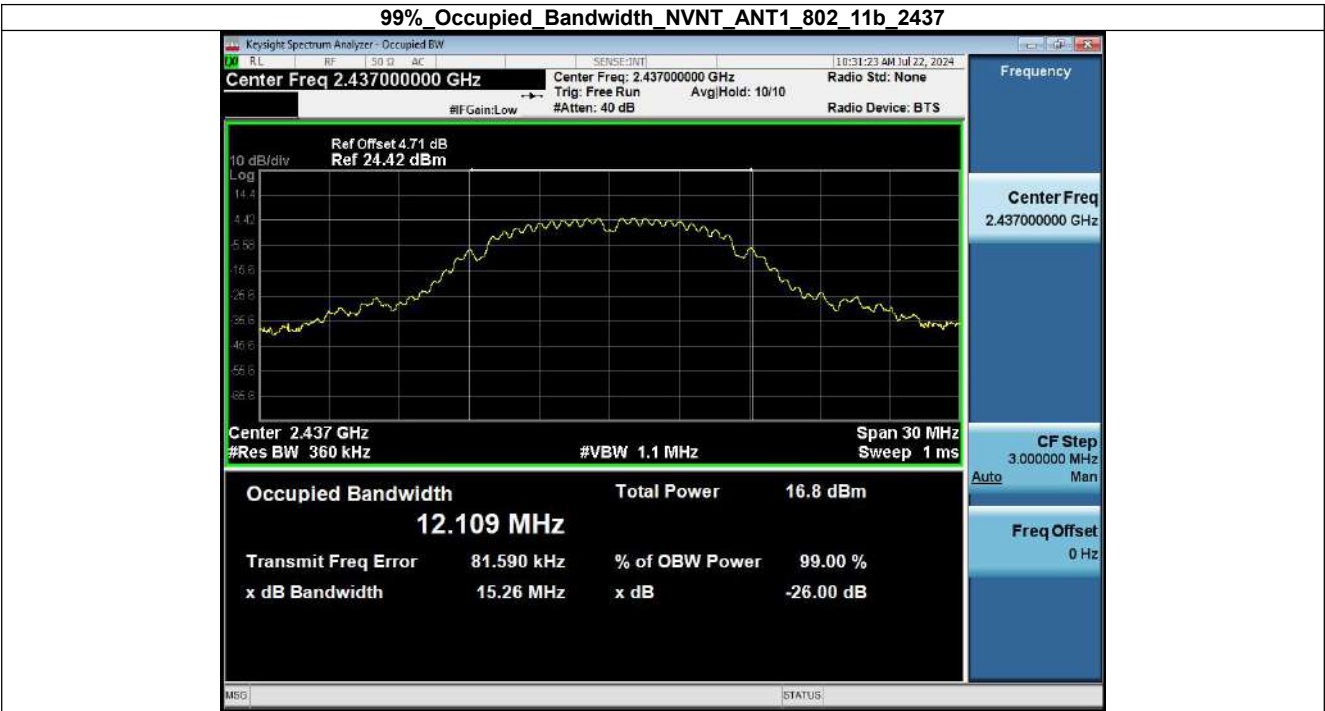
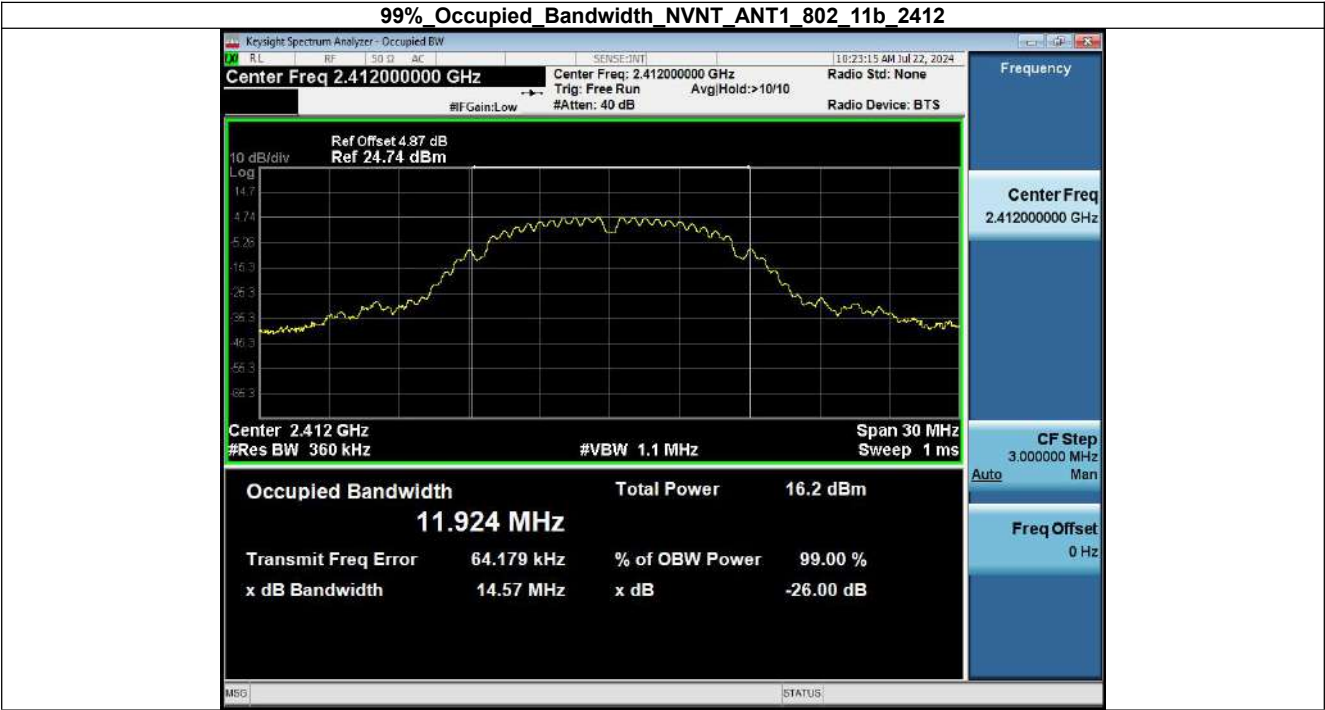
-6dB Bandwidth NVNT\_ANT1\_802\_11n(HT20)\_2462





2. 99% Occupied Bandwidth

| Condition | Antenna | Modulation    | Frequency (MHz) | 99% BW(MHz) |
|-----------|---------|---------------|-----------------|-------------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 11.924      |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 12.109      |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 12.125      |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 17.240      |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 17.184      |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 17.089      |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 17.943      |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 17.910      |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 17.885      |



### 99% Occupied Bandwidth NVNT\_ANT1\_802\_11b\_2462



### 99% Occupied Bandwidth NVNT\_ANT1\_802\_11g\_2412



### 99% Occupied Bandwidth NVNT\_ANT1\_802\_11g\_2437





99% Occupied Bandwidth\_NVNT\_ANT1\_802\_11g\_2462



99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2412



99% Occupied Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2437

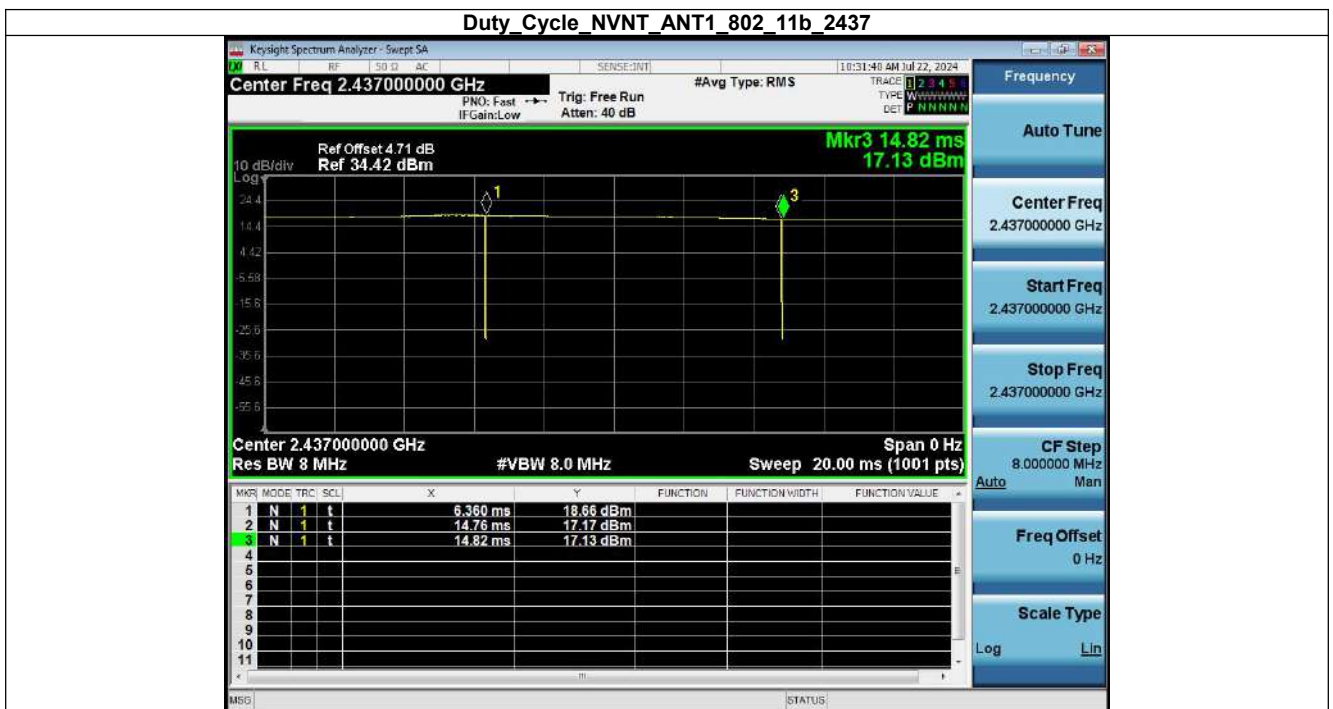
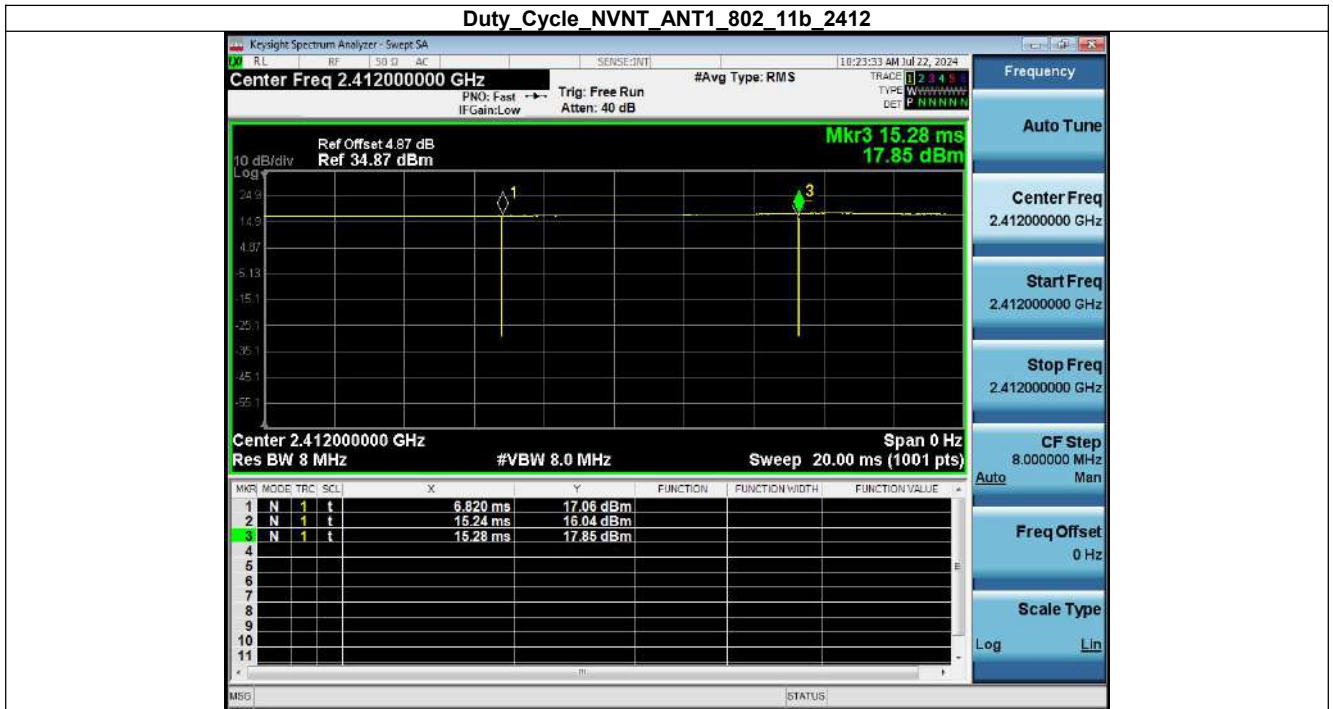


99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2462

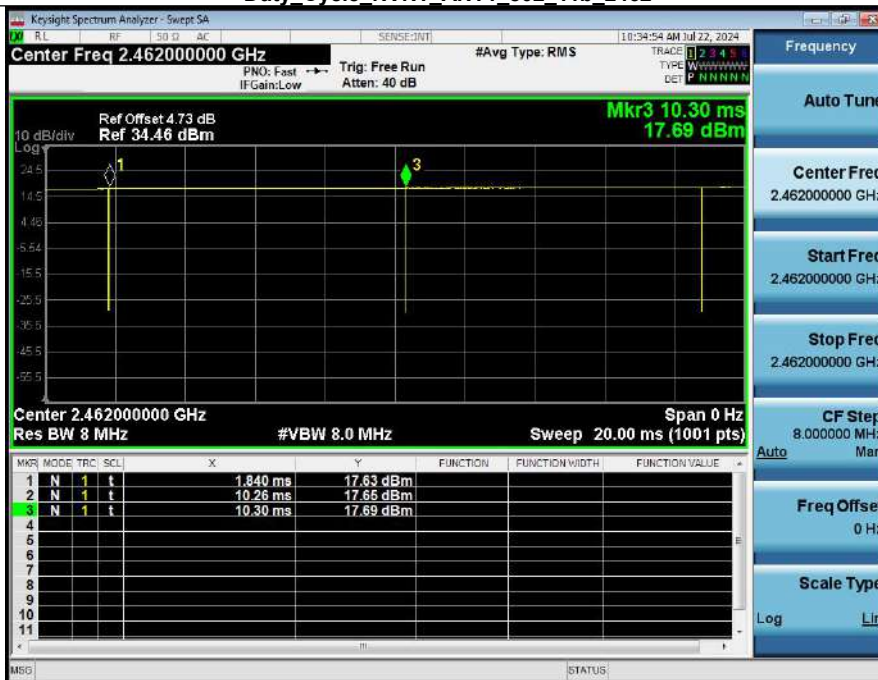


### 3. Duty Cycle

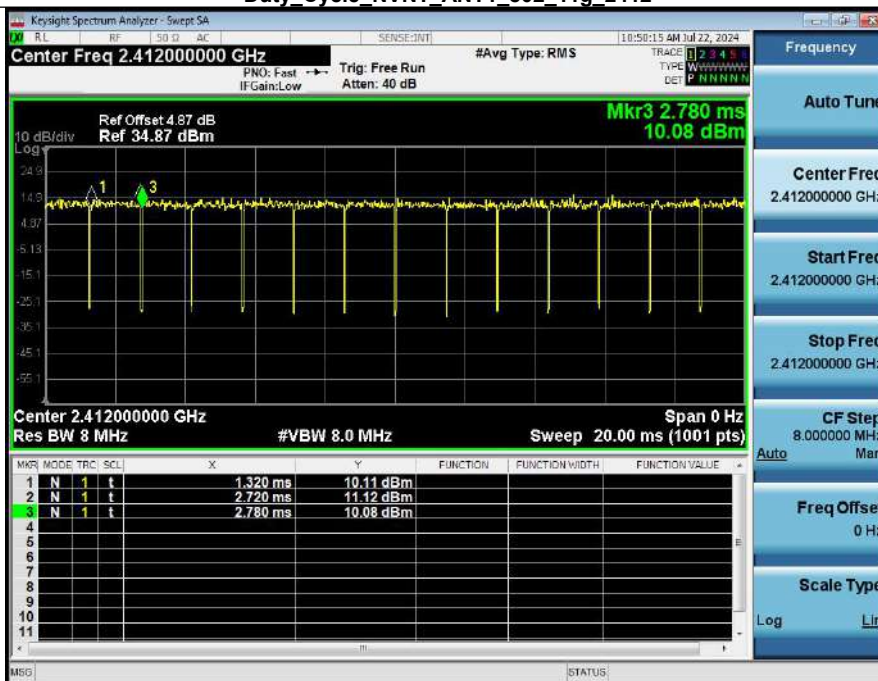
| Condition | Antenna | Modulation    | Frequency (MHz) | Duty cycle(%) | Duty factor(dB) |
|-----------|---------|---------------|-----------------|---------------|-----------------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 99.76         | 0.00            |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 99.53         | 0.00            |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 99.76         | 0.00            |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 97.26         | 0.12            |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 97.26         | 0.12            |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 98.61         | 0.00            |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 96.77         | 0.14            |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 98.36         | 0.00            |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 98.36         | 0.00            |



# Duty Cycle NVNT\_ANT1\_802\_11b\_2462

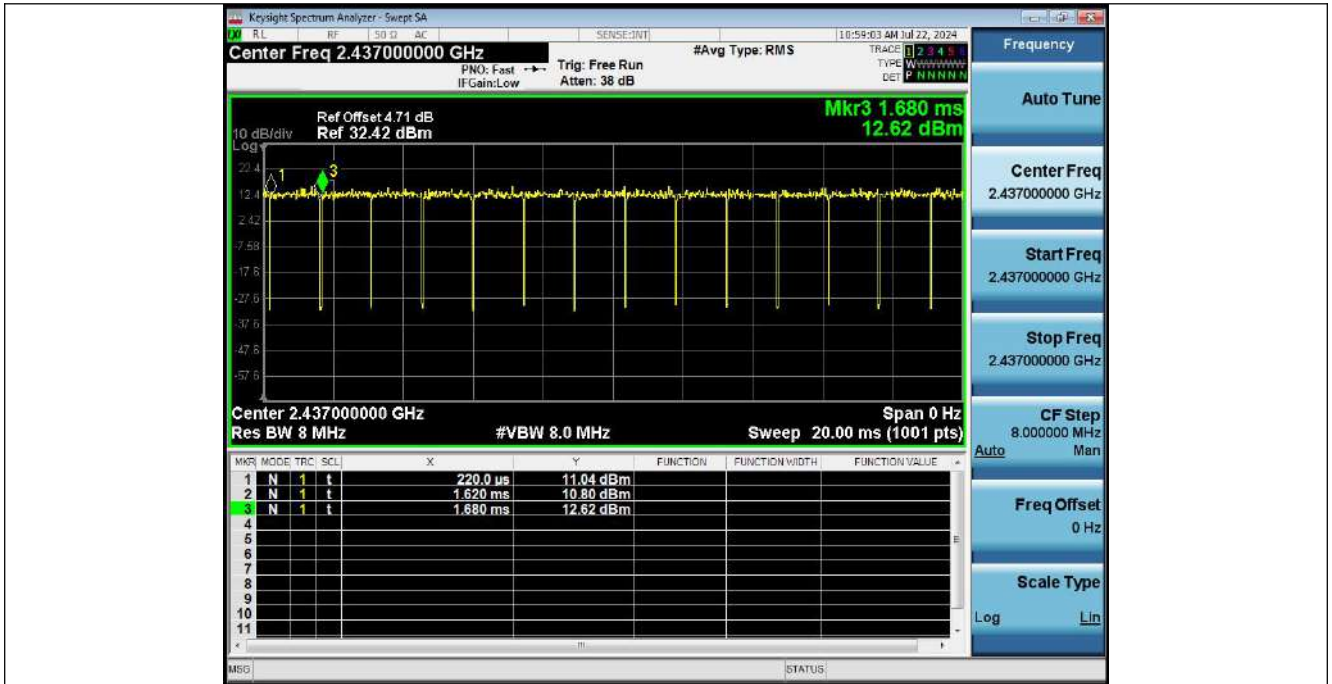


# Duty Cycle NVNT\_ANT1\_802\_11g\_2412

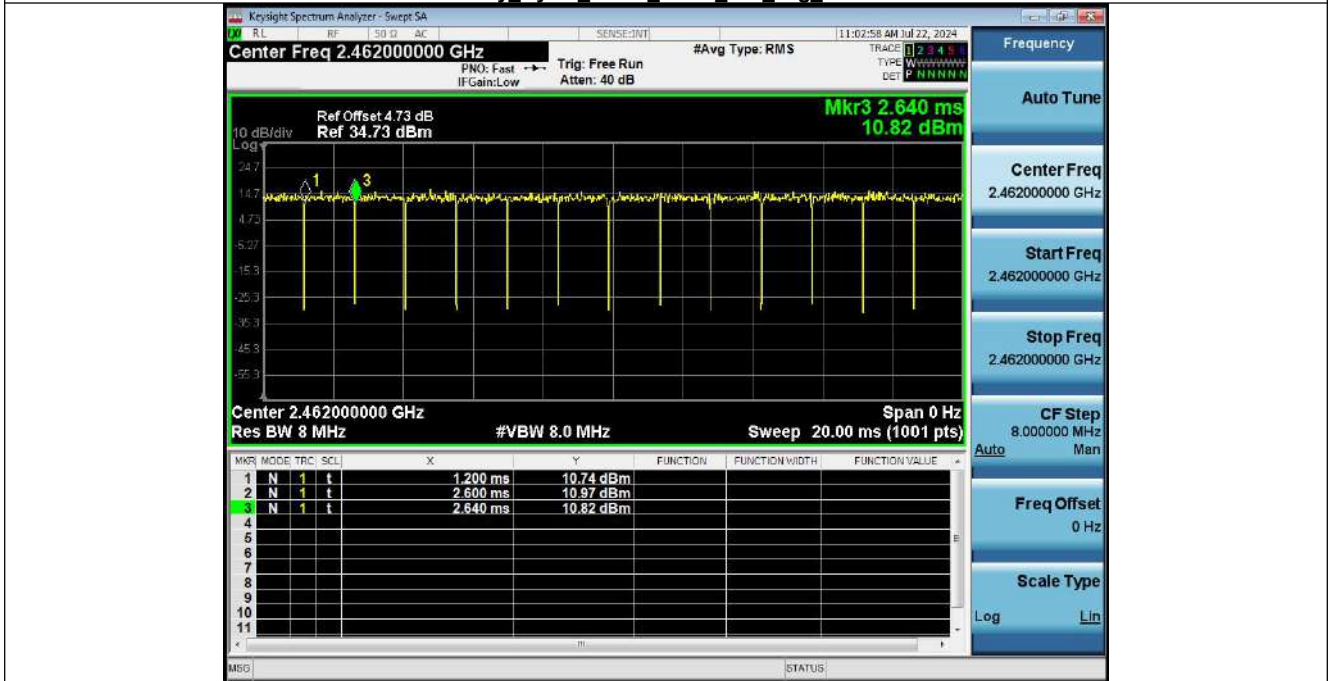


# Duty Cycle NVNT\_ANT1\_802\_11g\_2437



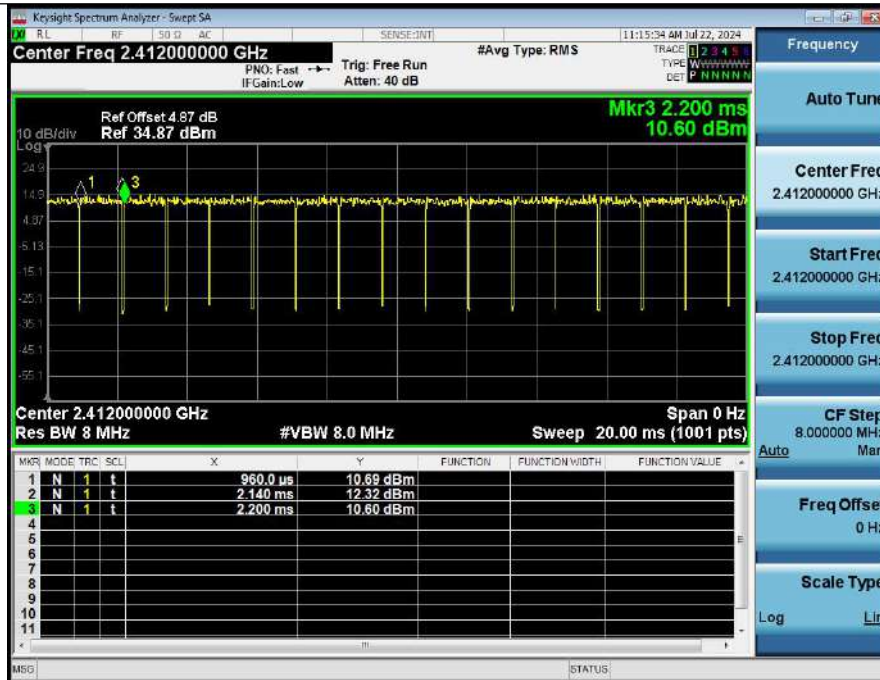


Duty\_Cycle\_NVNT\_ANT1\_802\_11g\_2462

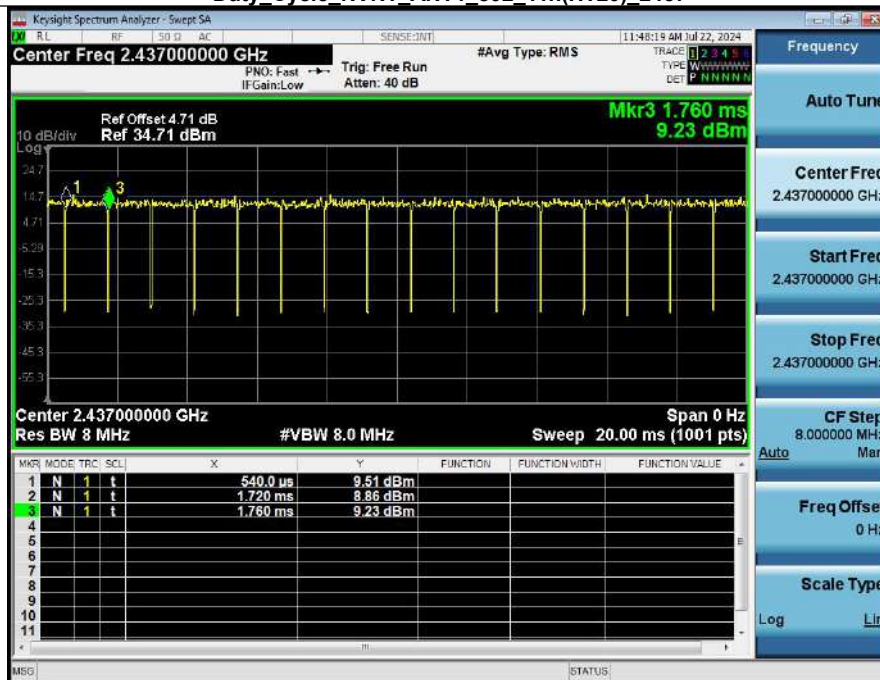


Duty\_Cycle\_NVNT\_ANT1\_802\_11n(HT20)\_2412

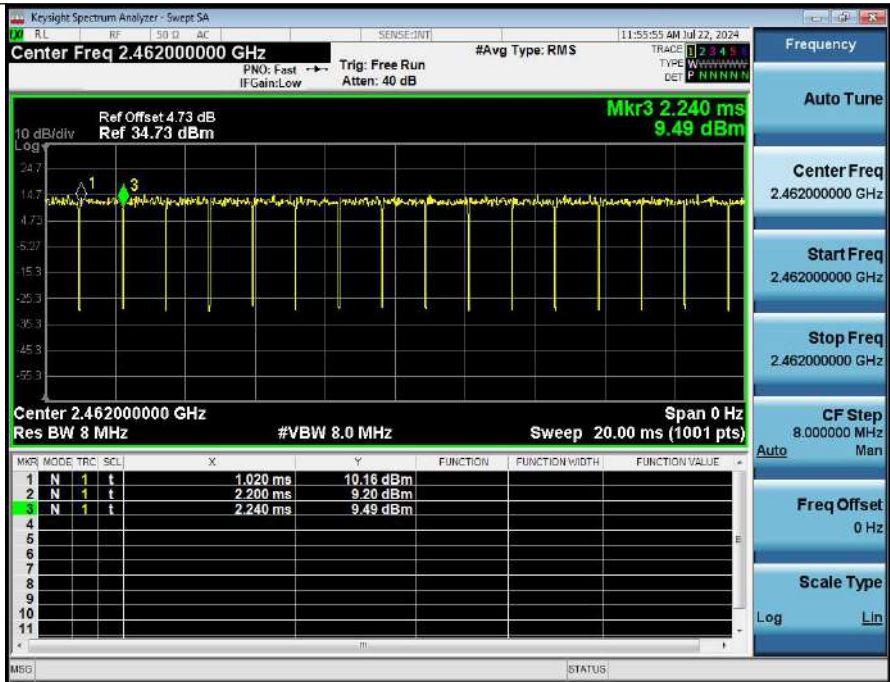




Duty\_Cycle\_NVNT\_ANT1\_802\_11n(HT20)\_2437



Duty\_Cycle\_NVNT\_ANT1\_802\_11n(HT20)\_2462



#### 4. MAX. Output Power

| Condition | Antenna | Modulation    | Frequency (MHz) | Detector | Conducted Power(dBm) | limit(dBm) | Result |
|-----------|---------|---------------|-----------------|----------|----------------------|------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | Peak     | 16.25                | 30         | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | Peak     | 16.43                | 30         | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | Peak     | 16.52                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | Peak     | 15.72                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | Peak     | 16.05                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | Peak     | 16.76                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | Peak     | 16.37                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | Peak     | 16.14                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | Peak     | 16.24                | 30         | Pass   |

5. Power Spectral Density

| Condition | Antenna | Modulation    | Frequency (MHz) | PSD(dBm/30kHz) | RB factor(dB) | PSD(dBm/3kHz) | limit(dBm/3kHz) | Result |
|-----------|---------|---------------|-----------------|----------------|---------------|---------------|-----------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 1.09           | -10.00        | -8.91         | 8               | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 1.22           | -10.00        | -8.78         | 8               | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 2.72           | -10.00        | -7.28         | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | -7.91          | -10.00        | -17.91        | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | -7.97          | -10.00        | -17.97        | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | -5.73          | -10.00        | -15.73        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | -7.59          | -10.00        | -17.59        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | -7.94          | -10.00        | -17.94        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | -7.30          | -10.00        | -17.30        | 8               | Pass   |



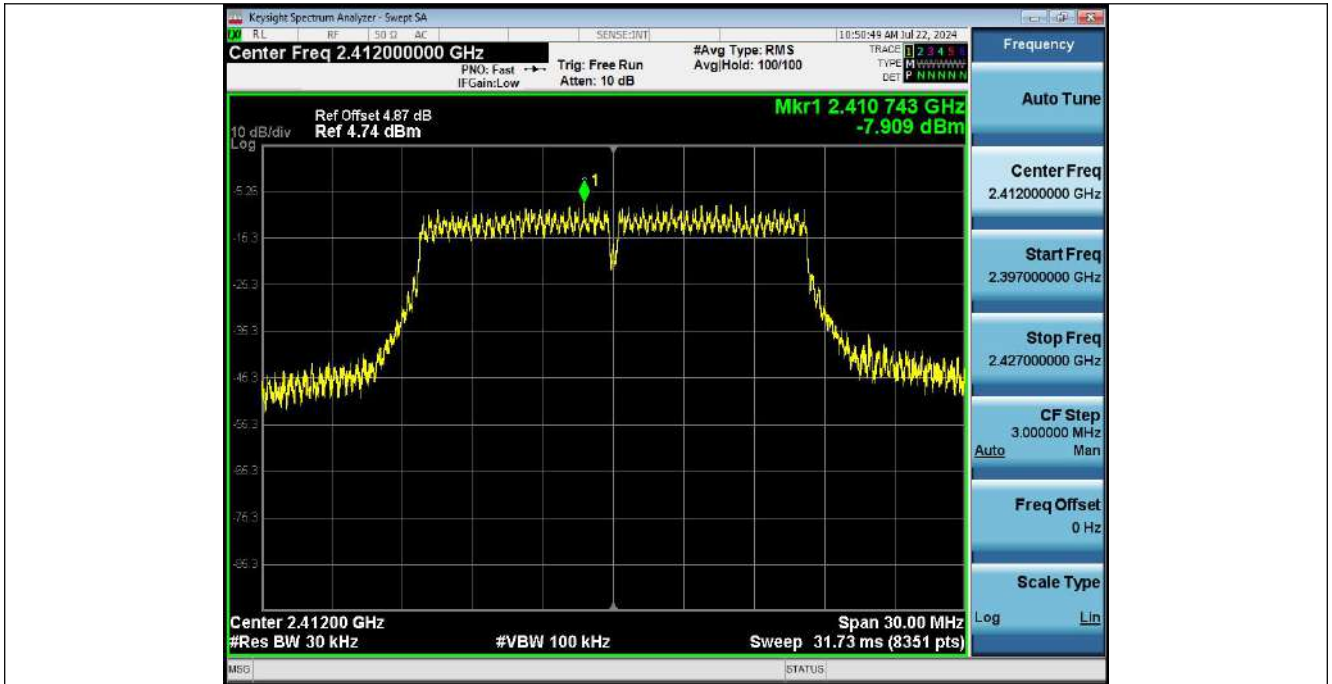
Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11b\_2437



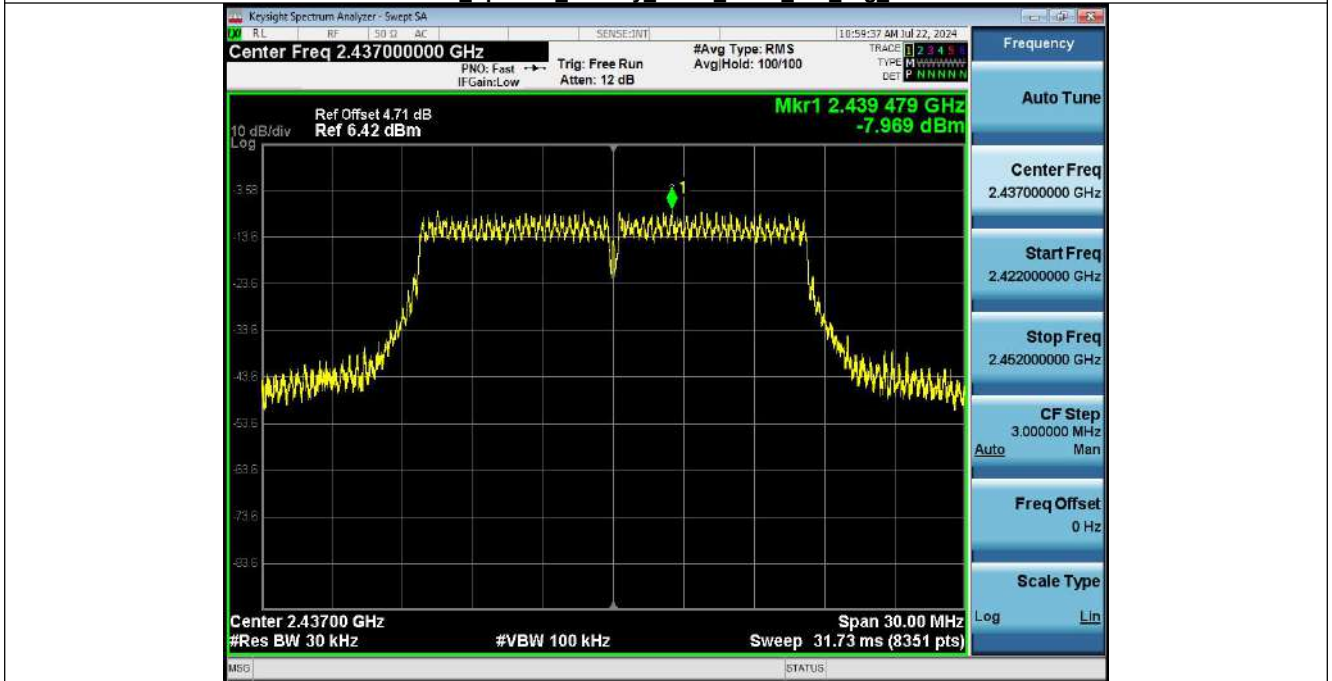
Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11b\_2462



Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11g\_2412

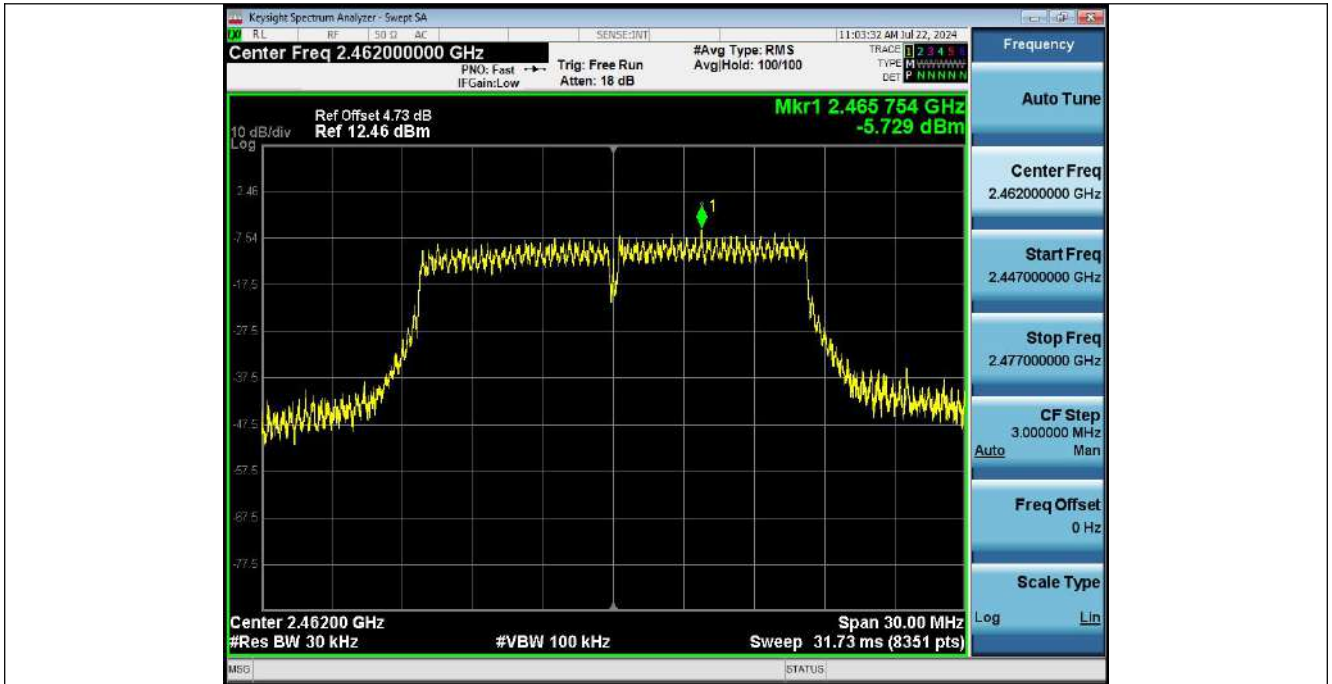


Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11g\_2437

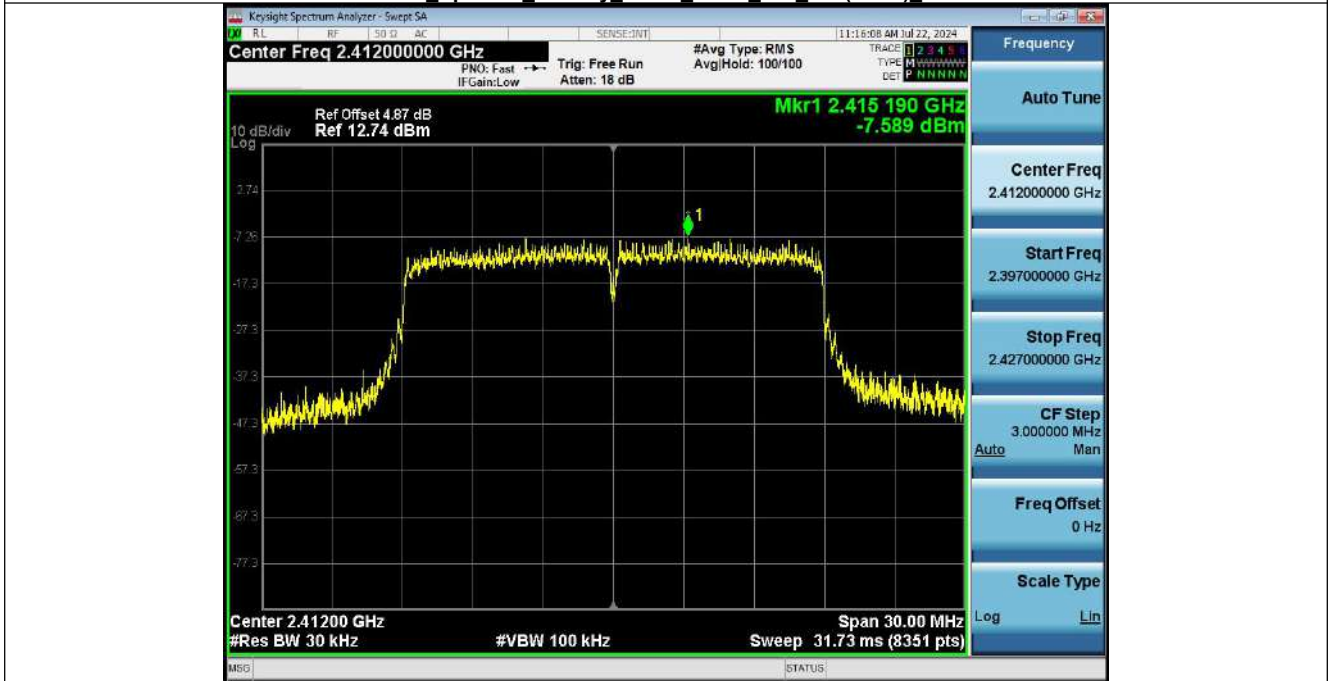


Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11g\_2462

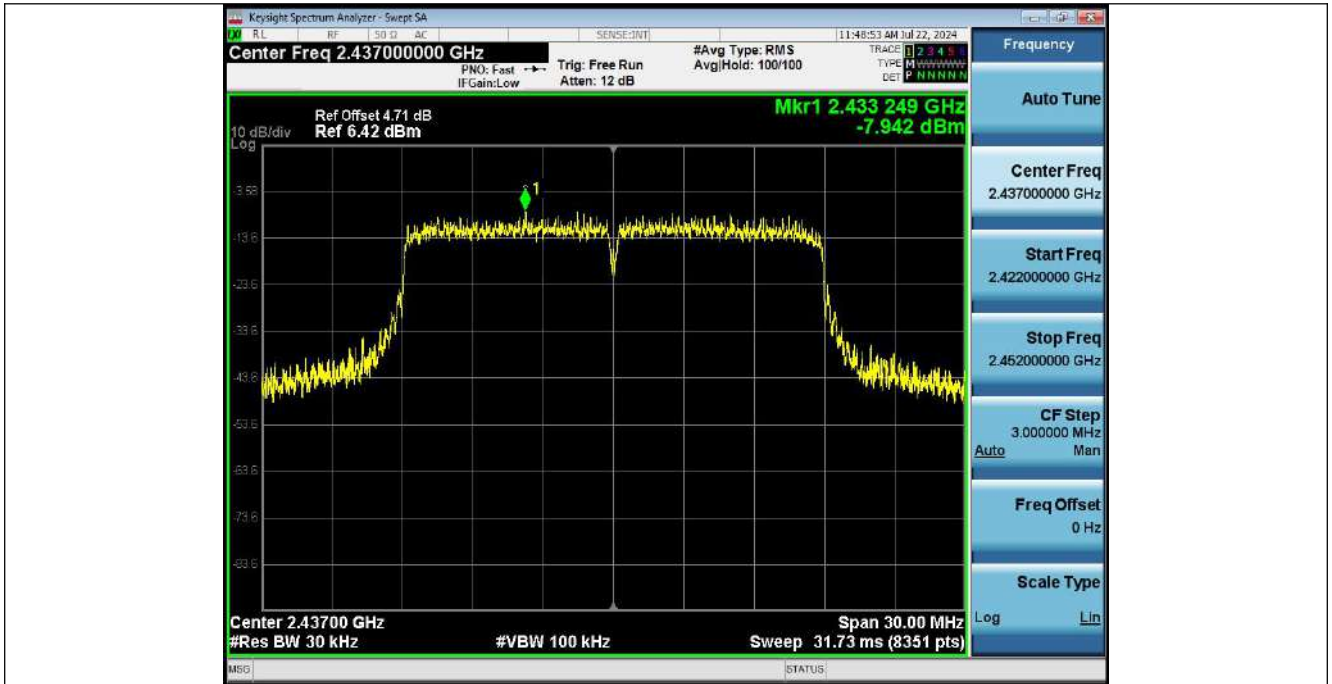




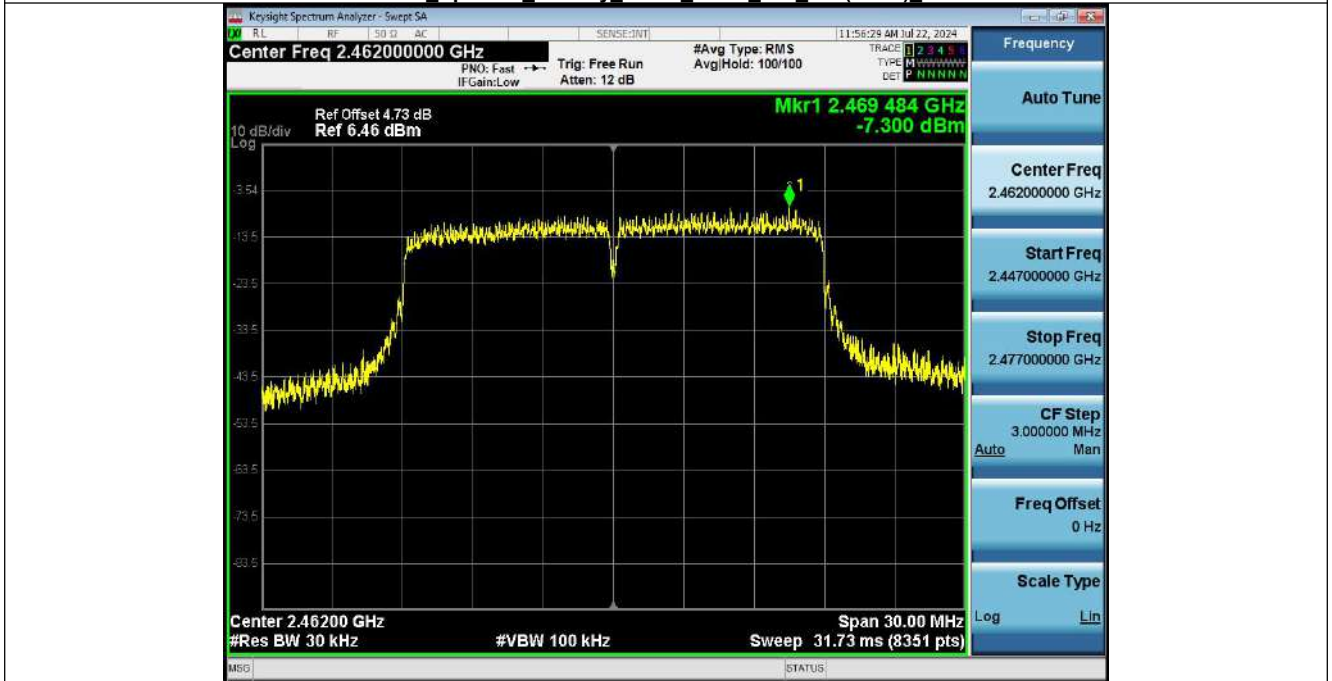
Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11n(HT20)\_2412



Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11n(HT20)\_2437



Power Spectral Density NVNT ANT1 802 11n(HT20) 2462



6. Bandedge

| Condition | Antenna | Modulation    | TX_Frequency (MHz) | Max. Mark_frequency(MHz) | Spurious level(dBm) | limit(dBm) | Result |
|-----------|---------|---------------|--------------------|--------------------------|---------------------|------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00            | 2399.936                 | -38.315             | -15.560    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00            | 2487.424                 | -57.482             | -14.981    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00            | 2399.824                 | -35.044             | -22.980    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00            | 2483.728                 | -41.765             | -22.059    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00            | 2399.824                 | -31.720             | -23.323    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00            | 2483.584                 | -41.268             | -22.538    | Pass   |



# 1 Reference Level NVNT\_ANT1\_802\_11b\_2462

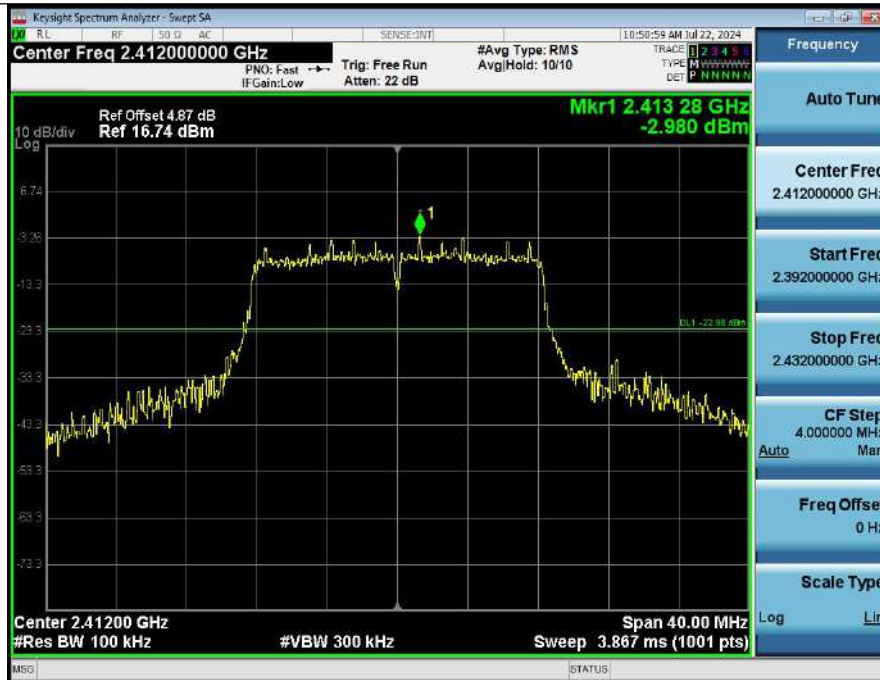


# 2 Bandedge NVNT\_ANT1\_802\_11b\_2462



# 1 Reference Level NVNT\_ANT1\_802\_11g\_2412

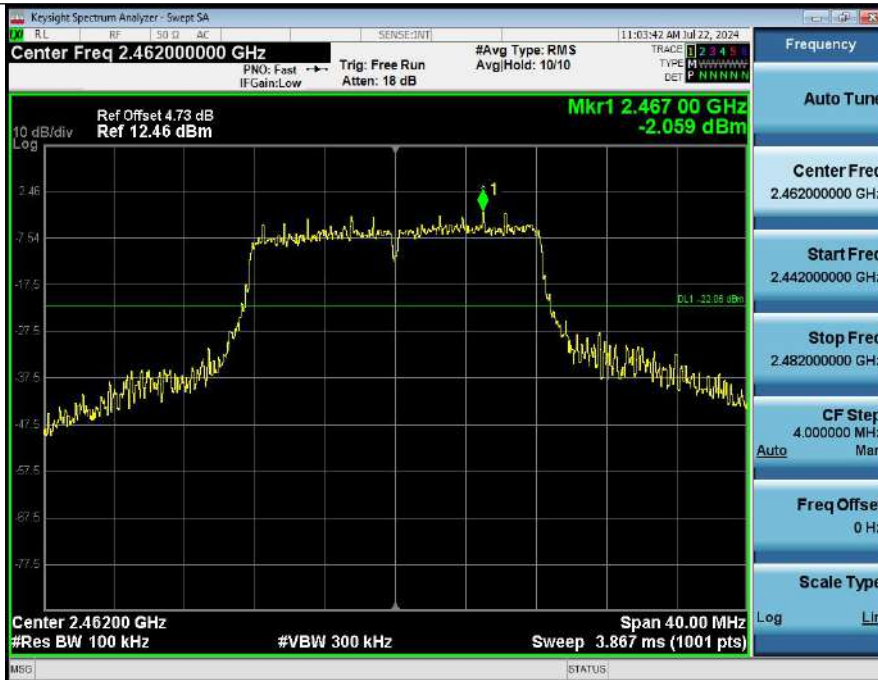




## 2\_Bandedge\_NVNT\_ANT1\_802\_11g\_2412



## 1\_Reference\_Level\_NVNT\_ANT1\_802\_11g\_2462

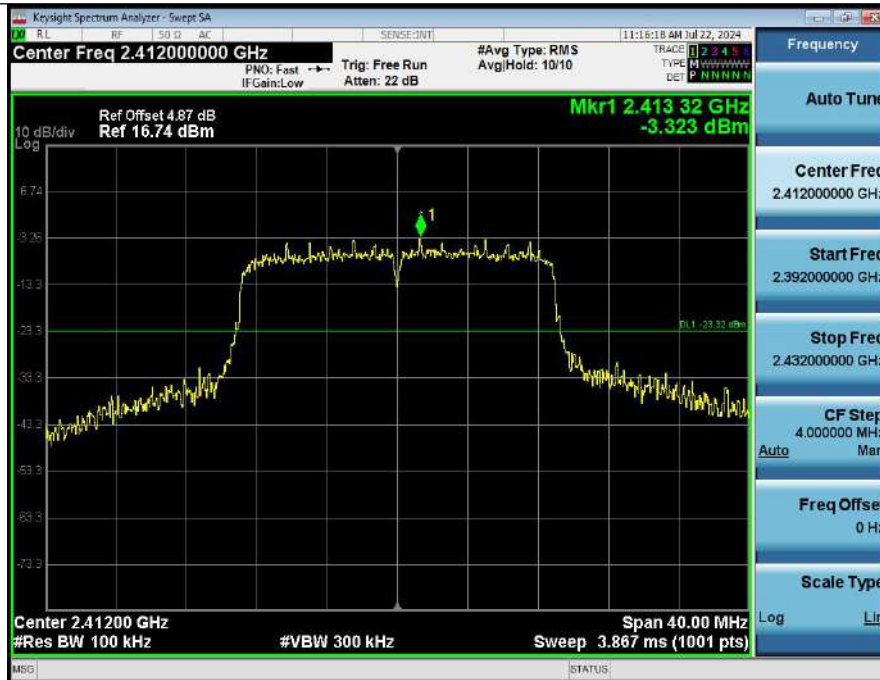


2\_Bandedge\_NVNT\_ANT1\_802\_11g\_2462



1\_Reference\_Level\_NVNT\_ANT1\_802\_11n(HT20)\_2412

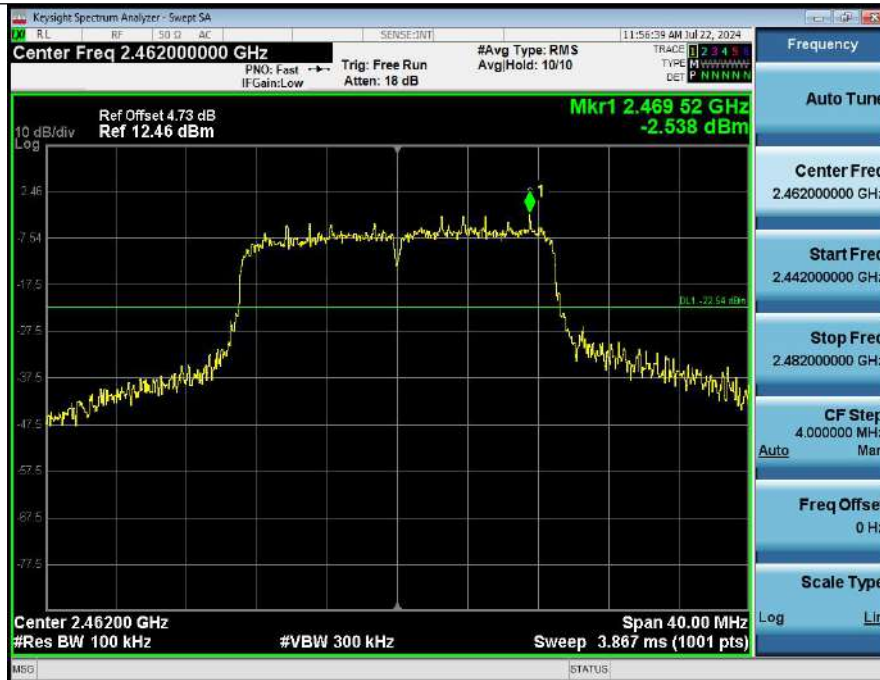




2\_Bandedge\_NVNT\_ANT1\_802\_11n(HT20)\_2412



1\_Reference\_Level\_NVNT\_ANT1\_802\_11n(HT20)\_2462



## 2\_Bandedge\_NVNT\_ANT1\_802\_11n(HT20)\_2462



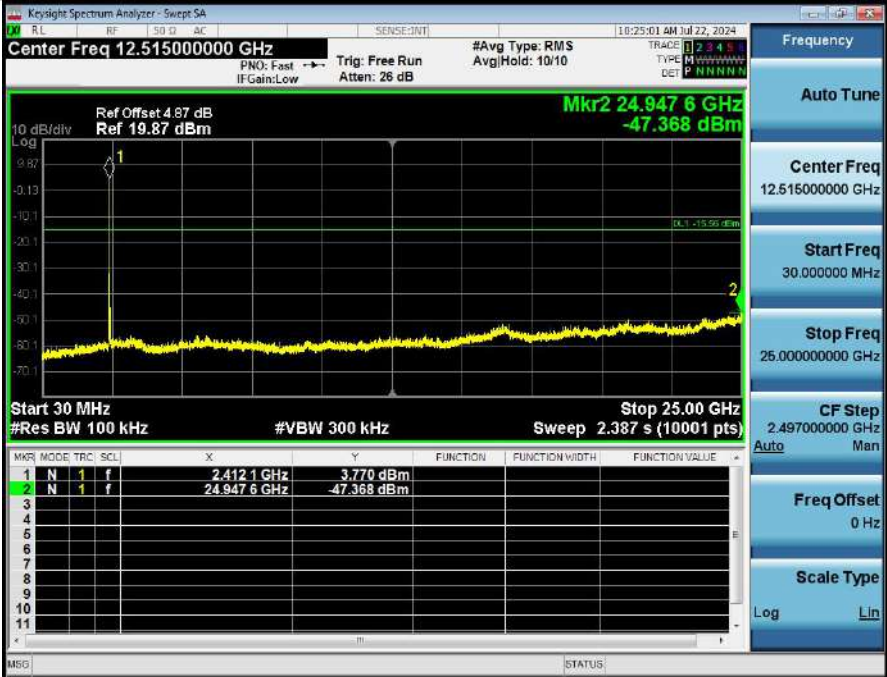
7. Spurious Emission

| Condition | Antenna | Modulation    | TX_Frequency (MHz) | Max. Mark_frequency(MHz) | Spurious level(dBm) | limit(dBm) | Result |
|-----------|---------|---------------|--------------------|--------------------------|---------------------|------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00            | 24947.563                | -47.368             | -15.560    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00            | 24990.012                | -51.484             | -15.238    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00            | 24995.006                | -52.397             | -14.981    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00            | 24962.545                | -55.241             | -22.980    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00            | 24962.545                | -54.812             | -23.100    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00            | 24975.030                | -59.376             | -22.059    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00            | 24855.174                | -55.828             | -23.323    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00            | 24503.097                | -55.521             | -23.012    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00            | 24900.120                | -58.889             | -22.538    | Pass   |

1\_Reference\_Level\_NVNT\_ANT1\_802\_11b\_2412



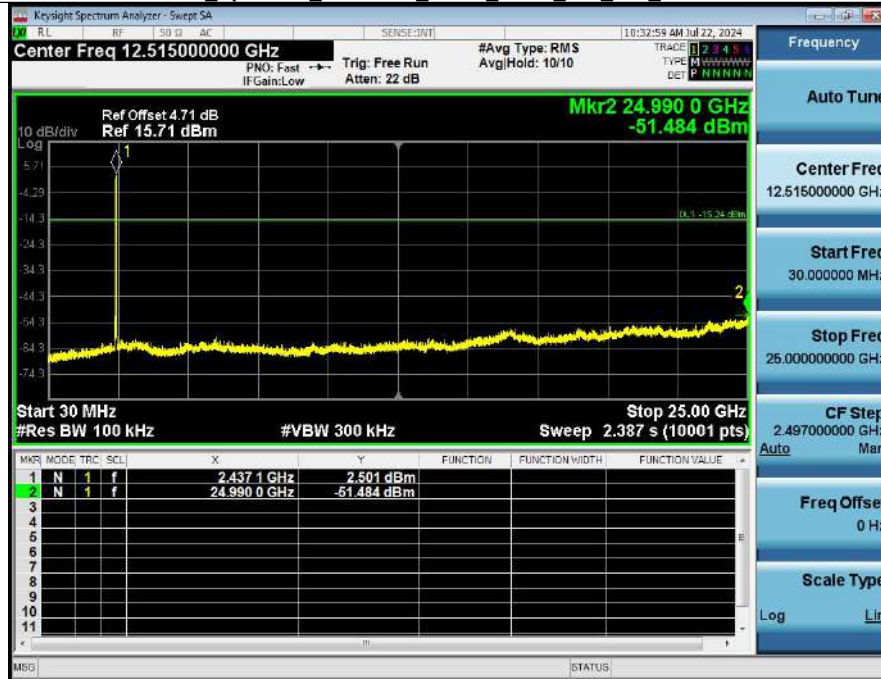
2\_Spurious\_Emission\_NVNT\_ANT1\_802\_11b\_2412



# 1 Reference Level NVNT\_ANT1\_802\_11b\_2437



# 2 Spurious Emission NVNT\_ANT1\_802\_11b\_2437

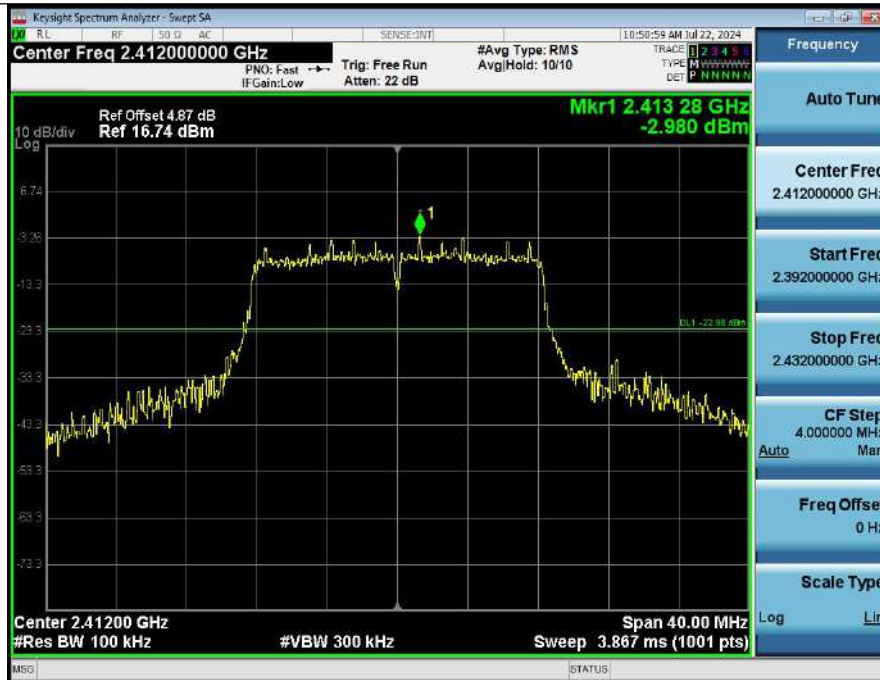


# 1 Reference Level NVNT\_ANT1\_802\_11b\_2462

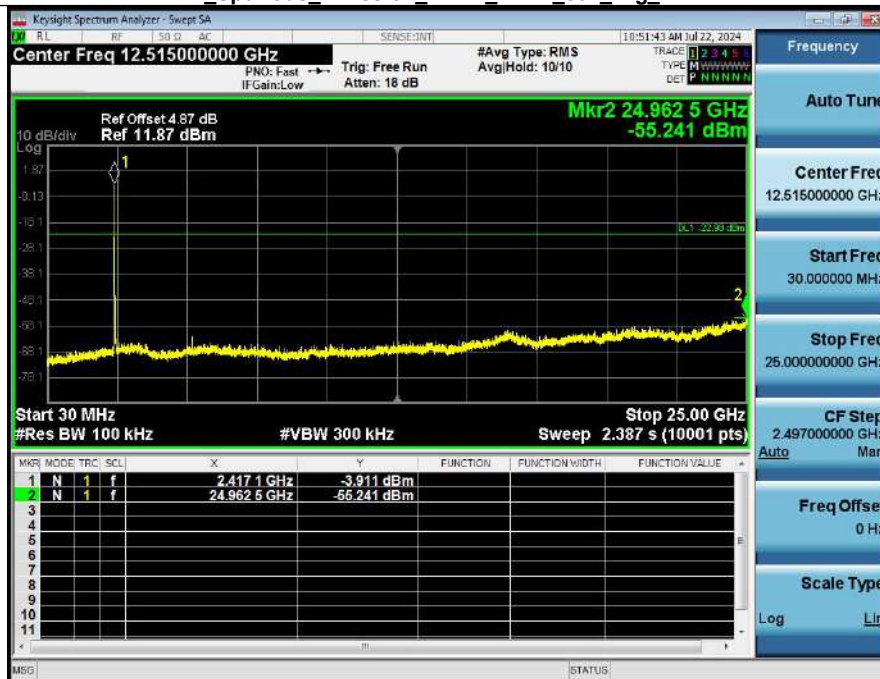




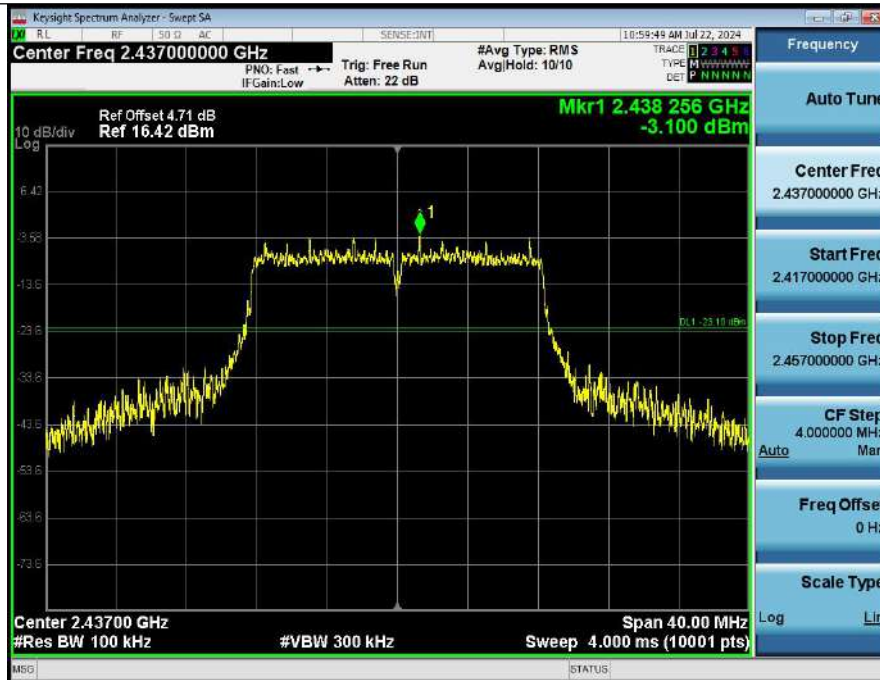




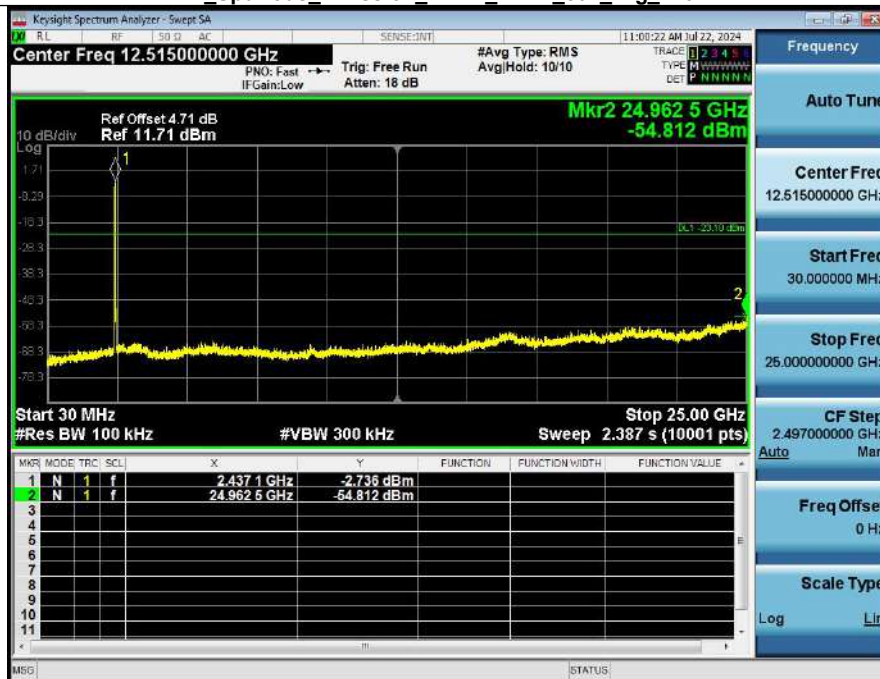
## 2\_Spurious\_Emission\_NVNT\_ANT1\_802\_11g\_2412



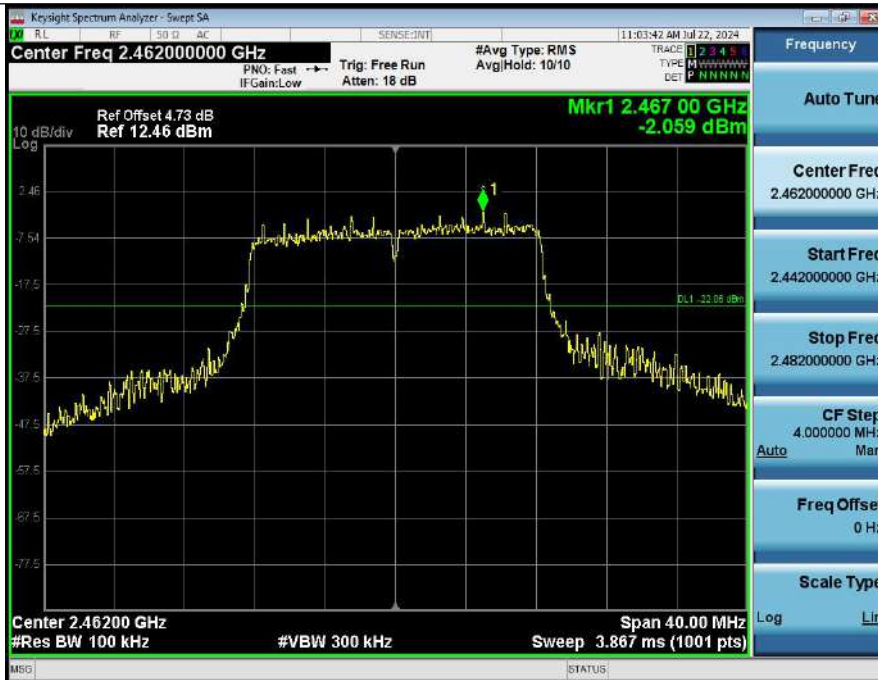
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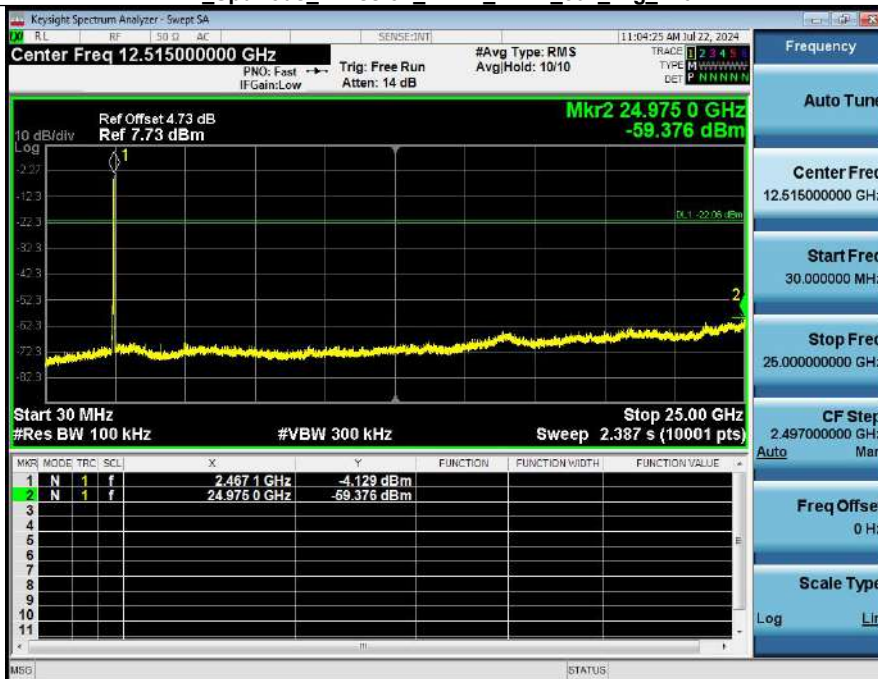
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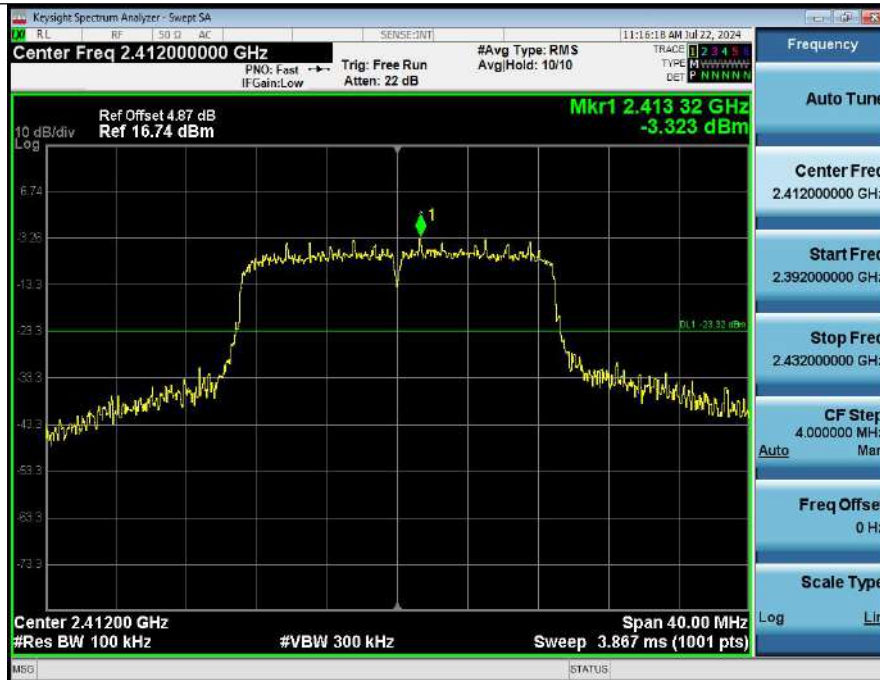
## 1\_Reference\_Level\_NVNT\_ANT1\_802\_11g\_2462



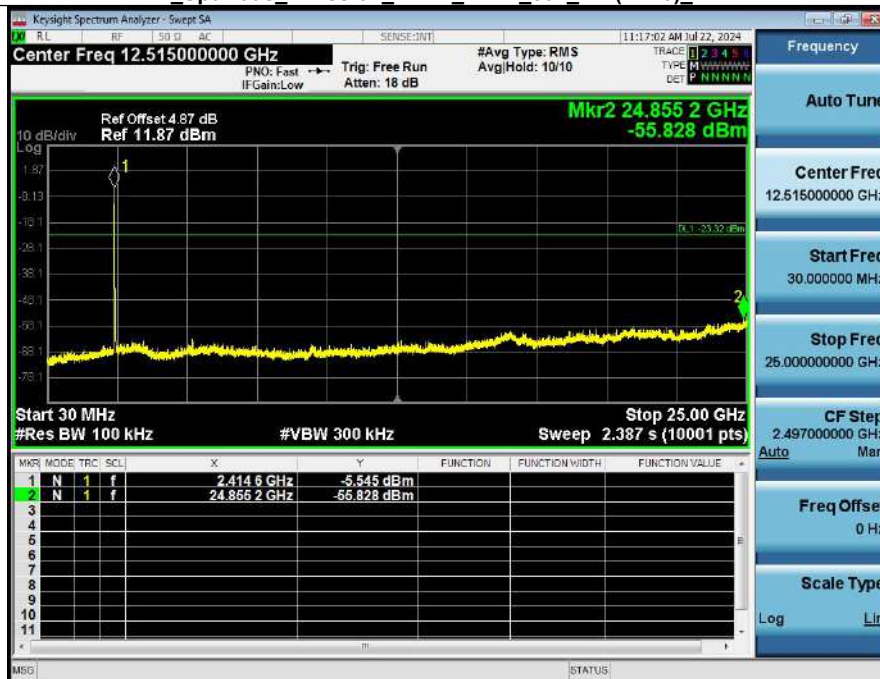
2\_Spurious\_Emission\_NVNT\_ANT1\_802\_11g\_2462



1\_Reference\_Level\_NVNT\_ANT1\_802\_11n(HT20)\_2412

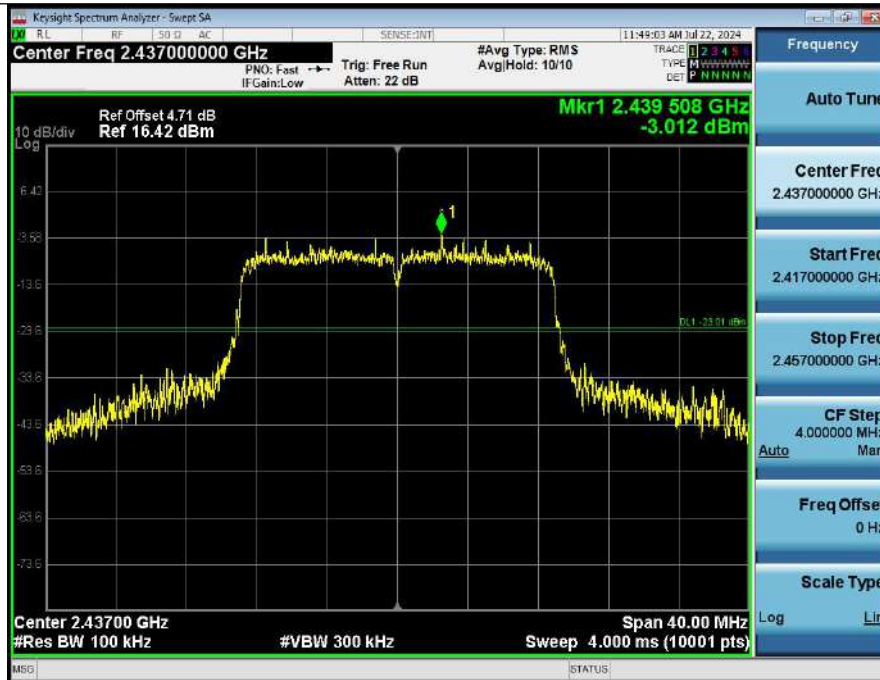


2 Spurious Emission\_NVNT\_ANT1\_802\_11n(HT20)\_2412

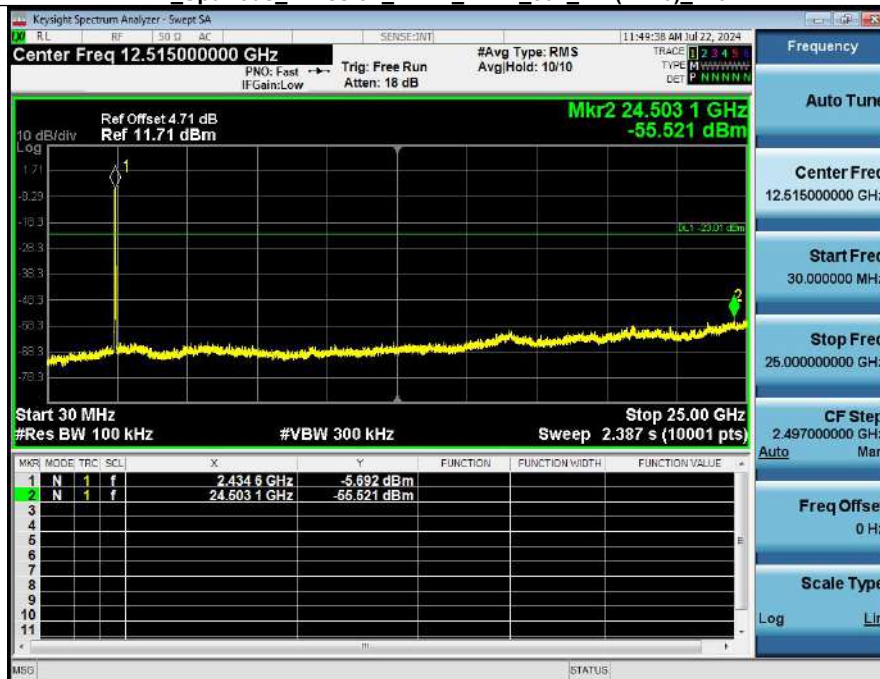


1 Reference\_Level\_NVNT\_ANT1\_802\_11n(HT20)\_2437



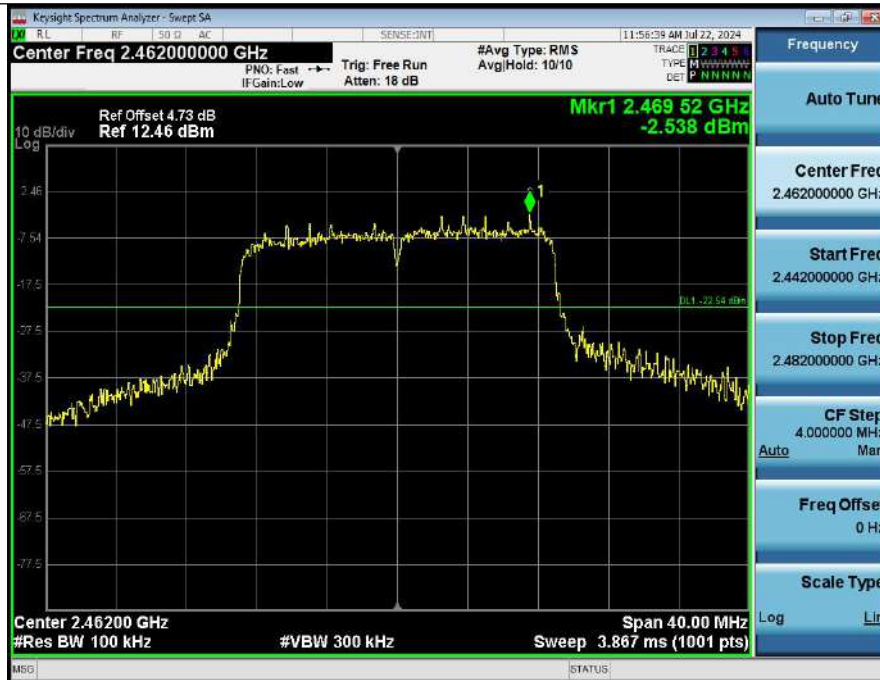


2 Spurious Emission\_NVNT\_ANT1\_802\_11n(HT20)\_2437



1 Reference\_Level\_NVNT\_ANT1\_802\_11n(HT20)\_2462





## 2 Spurious Emission\_NVNT\_ANT1\_802\_11n(HT20)\_2462

