

# FCC TEST REPORT

## FCC ID:2BC96NI-8411

**Product** : Birdfy Feeder Bamboo Mini  
**Model Name** : NI-8411, NI-8410, NI-8412, NI-8413, NI-8414,  
NI-8415, NI-8416 ,NI-8417, NI-8418, NI-8419  
**Brand** : Birdfy  
**Report No.** : NCT240341135XE1-2

Prepared for

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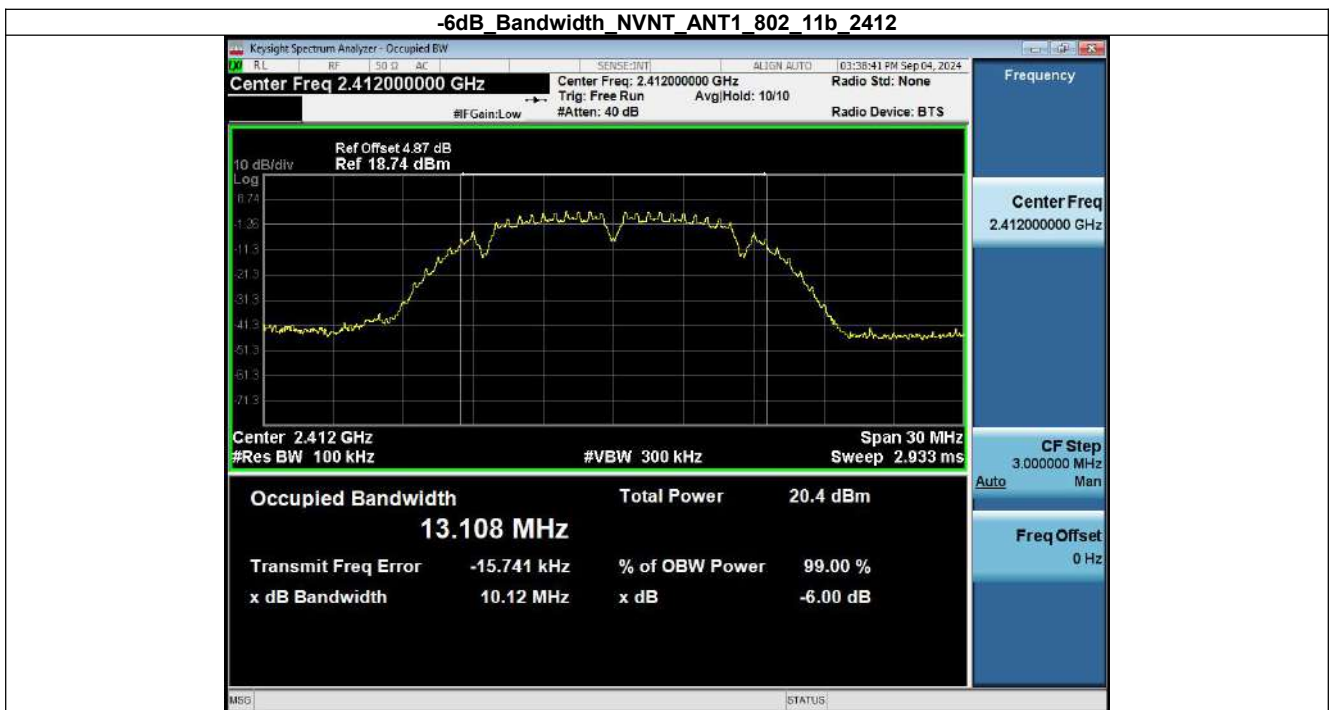
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# FCC ID

## 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         | 10.12        | 500        | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 10.12        | 500        | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 10.11        | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 16.46        | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 16.41        | 500        | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 16.42        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 17.64        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 17.65        | 500        | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 17.62        | 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



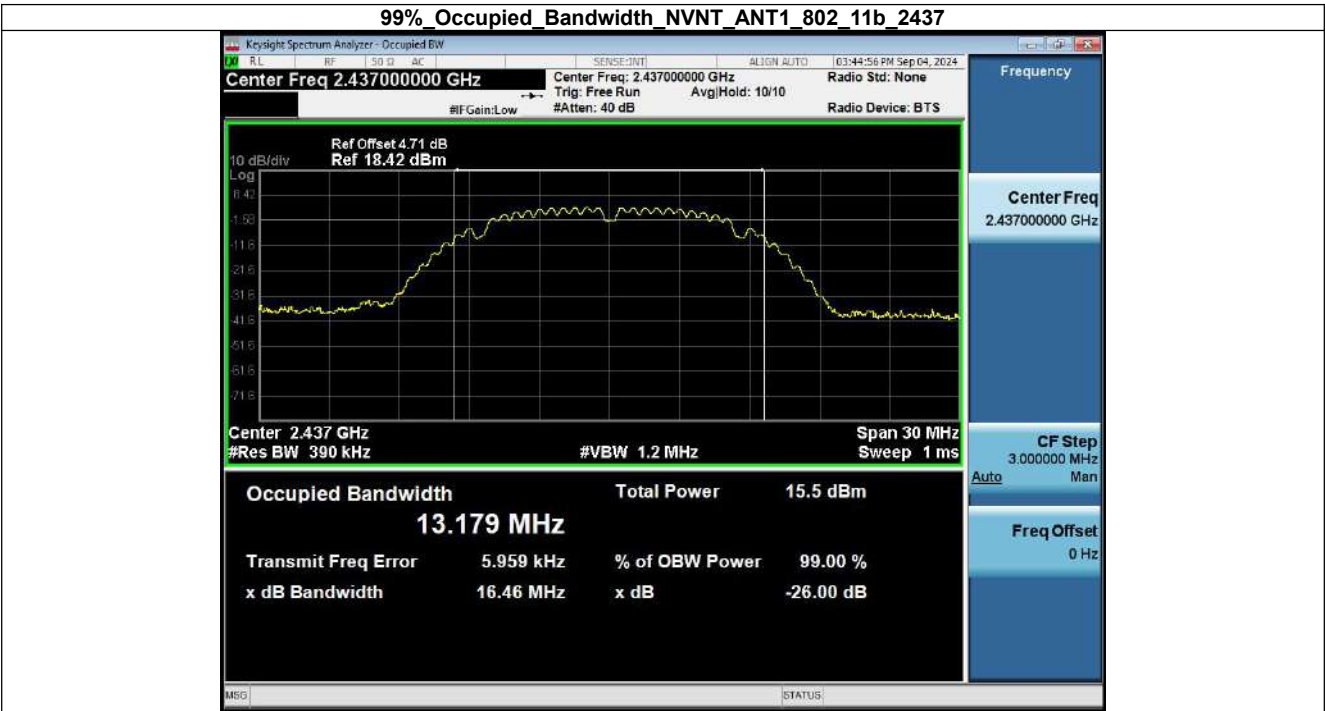
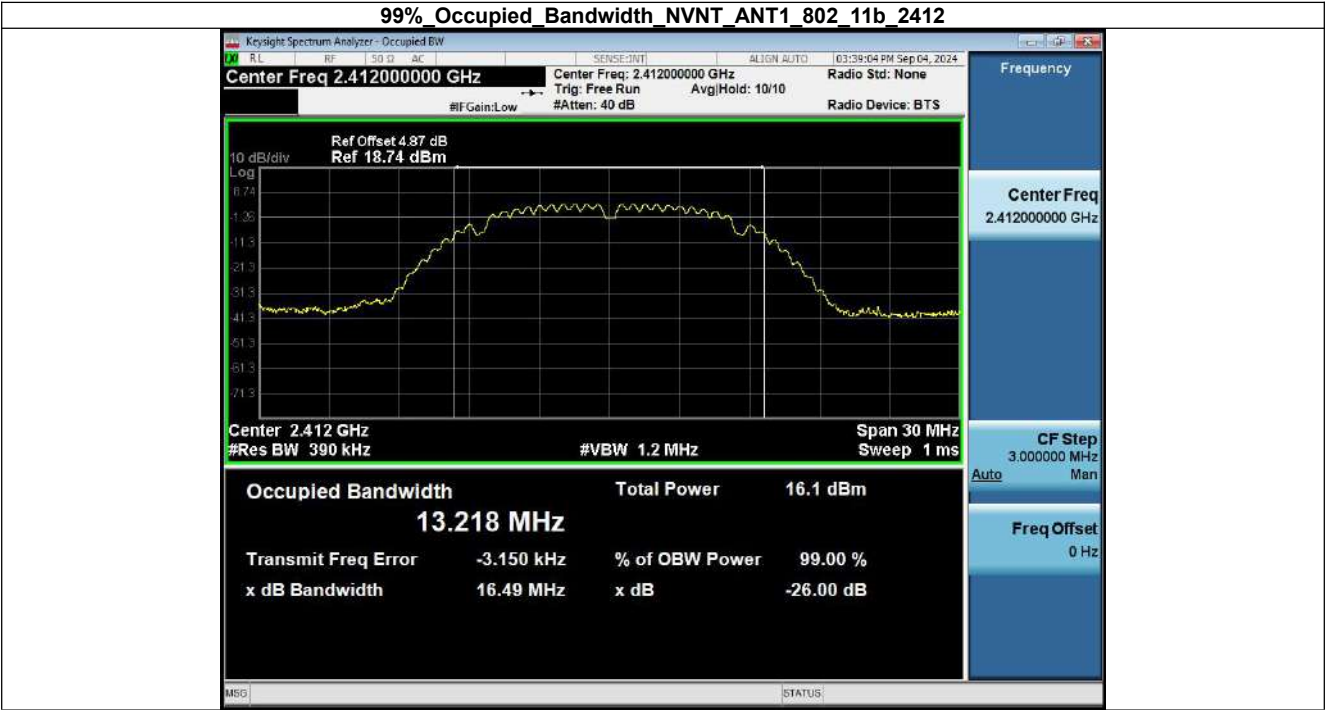
-6dB Bandwidth NVNT\_ANT1 802\_11n(HT20) 2462





2. 99% Occupied Bandwidth

| Condition | Antenna | Modulation    | Frequency (MHz) | 99% BW(MHz) |
|-----------|---------|---------------|-----------------|-------------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 13.218      |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 13.179      |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 13.105      |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 16.979      |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 16.997      |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 16.966      |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 17.914      |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 17.914      |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 17.887      |





### 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

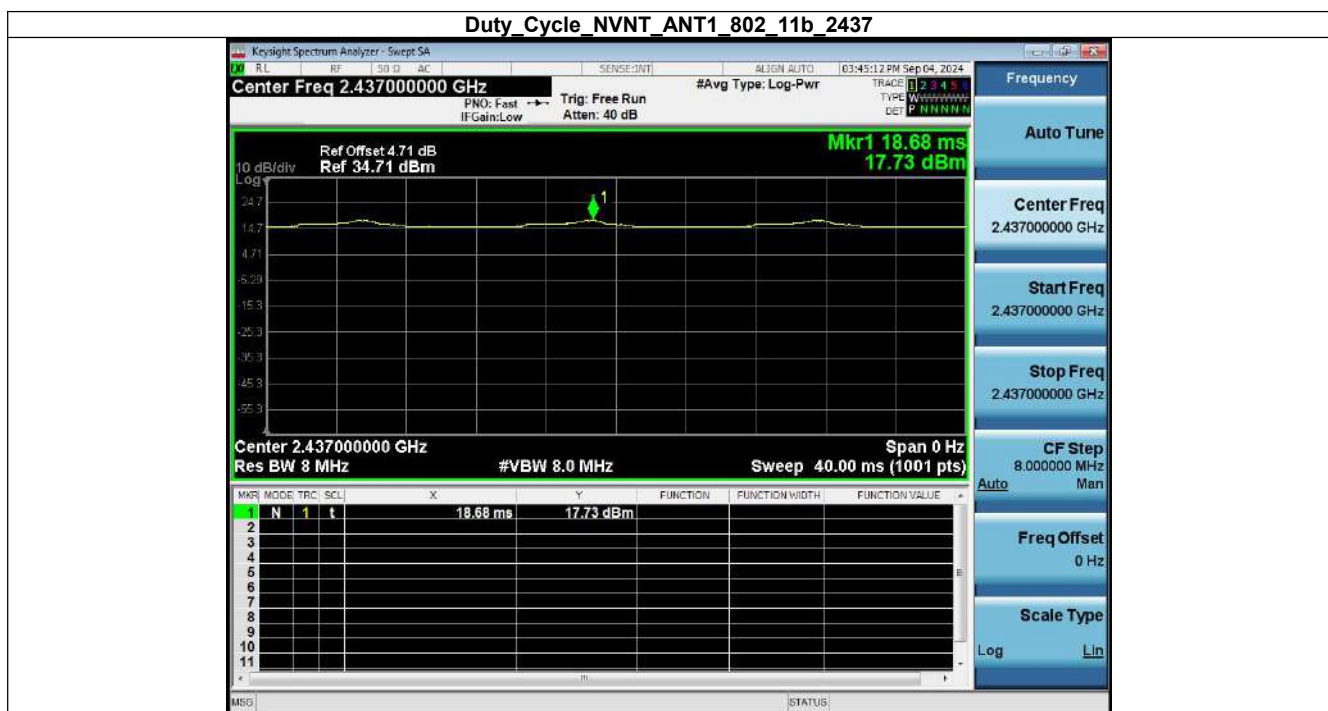
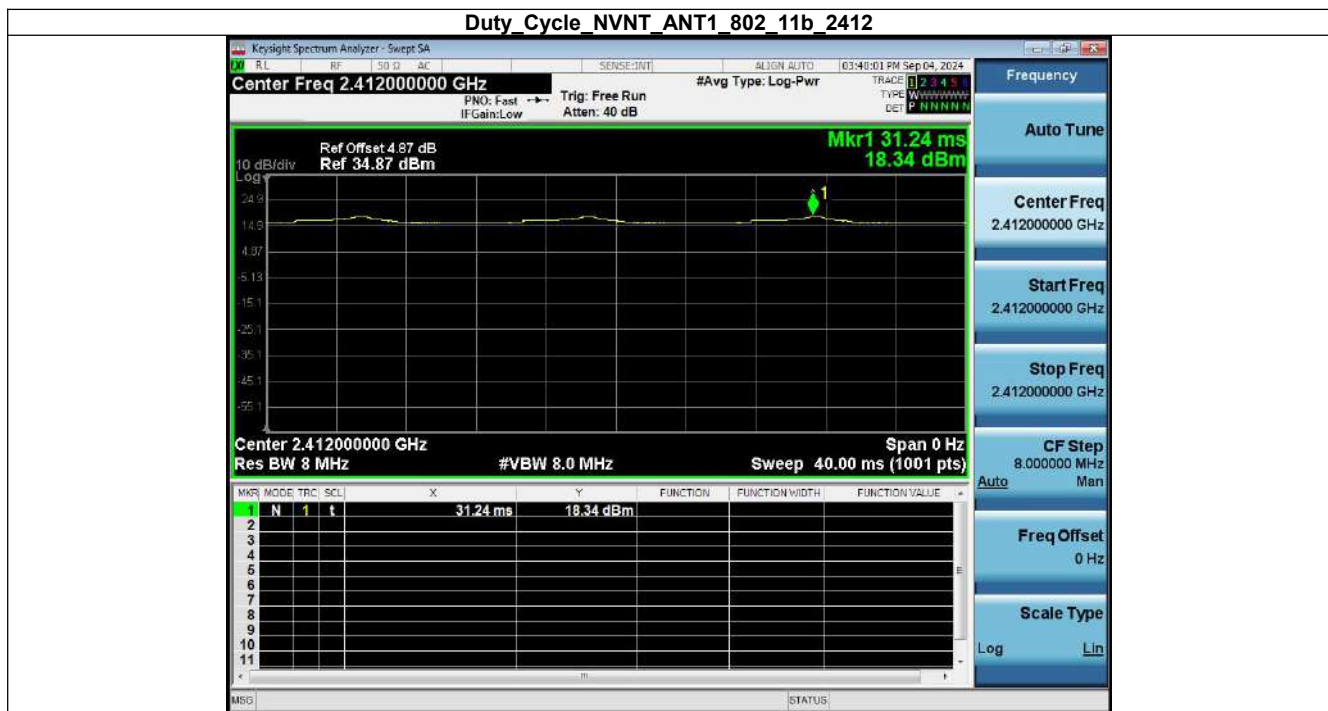


99%\_Occupied\_Bandwidth\_NVNT\_ANT1\_802\_11n(HT20)\_2462



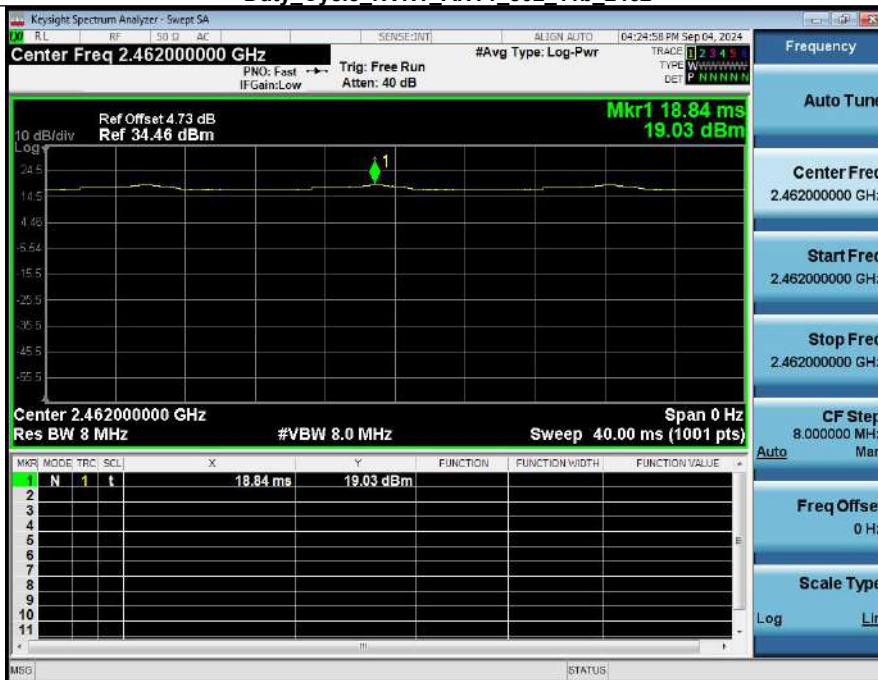
### 3. Duty Cycle

| Condition | Antenna | Modulation    | Frequency (MHz) | Duty cycle(%) | Duty factor(dB) |
|-----------|---------|---------------|-----------------|---------------|-----------------|
| NVNT      | ANT1    | 802.11b       | 2412.00         | 100           | 0.00            |
| NVNT      | ANT1    | 802.11b       | 2437.00         | 100           | 0.00            |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 100           | 0.00            |
| NVNT      | ANT1    | 802.11g       | 2412.00         | 99.28         | 0.00            |
| NVNT      | ANT1    | 802.11g       | 2437.00         | 99.28         | 0.00            |
| NVNT      | ANT1    | 802.11g       | 2462.00         | 99.28         | 0.00            |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | 99.22         | 0.00            |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | 99.22         | 0.00            |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | 99.22         | 0.00            |

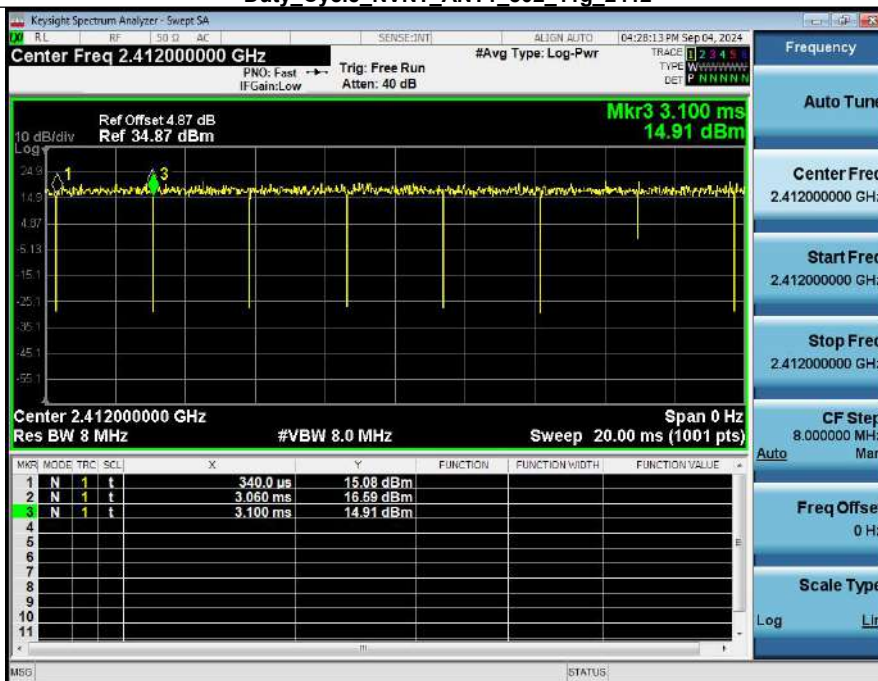




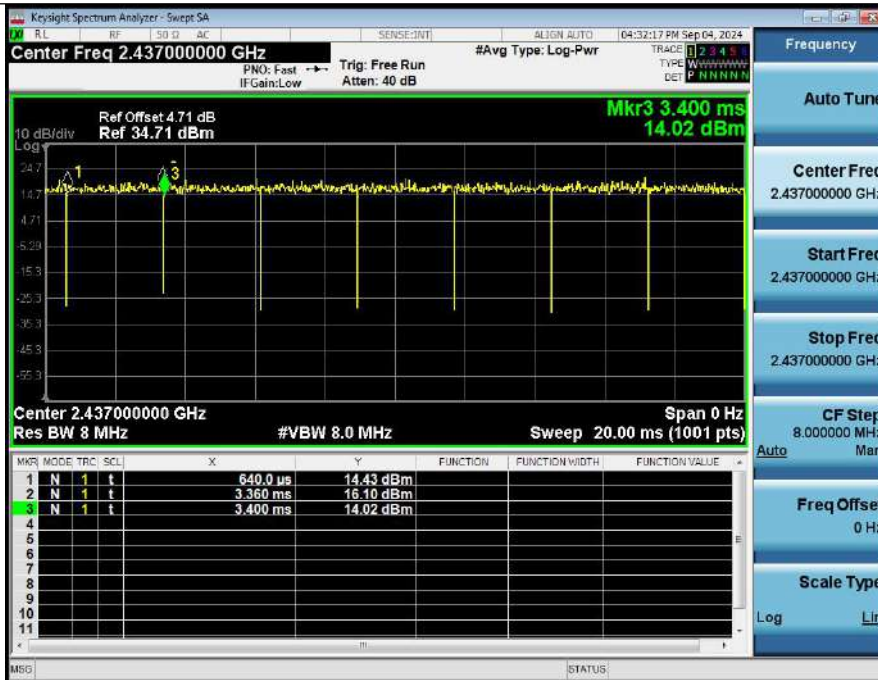
# Duty Cycle NVNT\_ANT1\_802\_11b\_2462



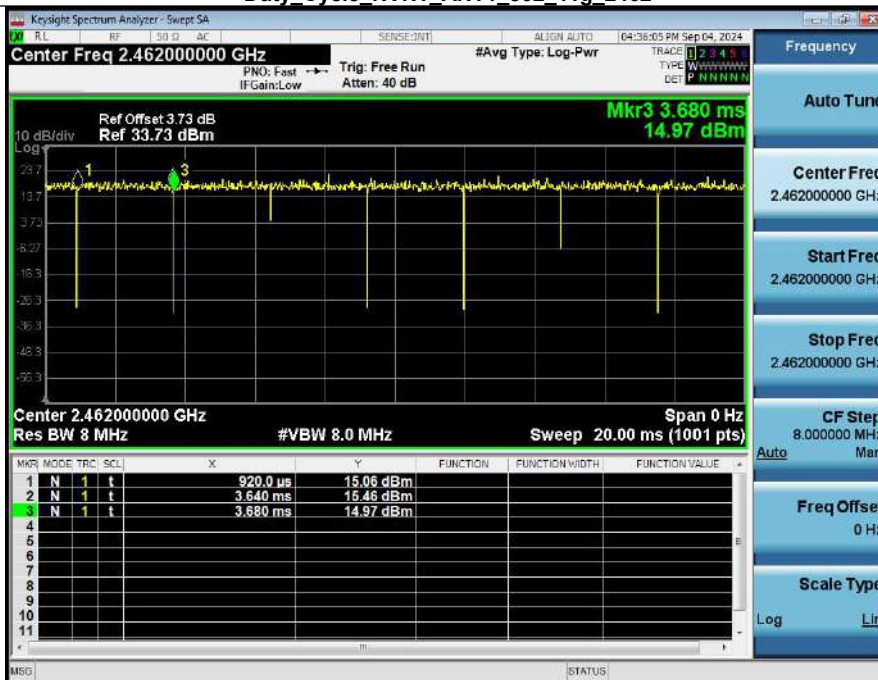
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# Duty Cycle NVNT\_ANT1\_802\_11g\_2437

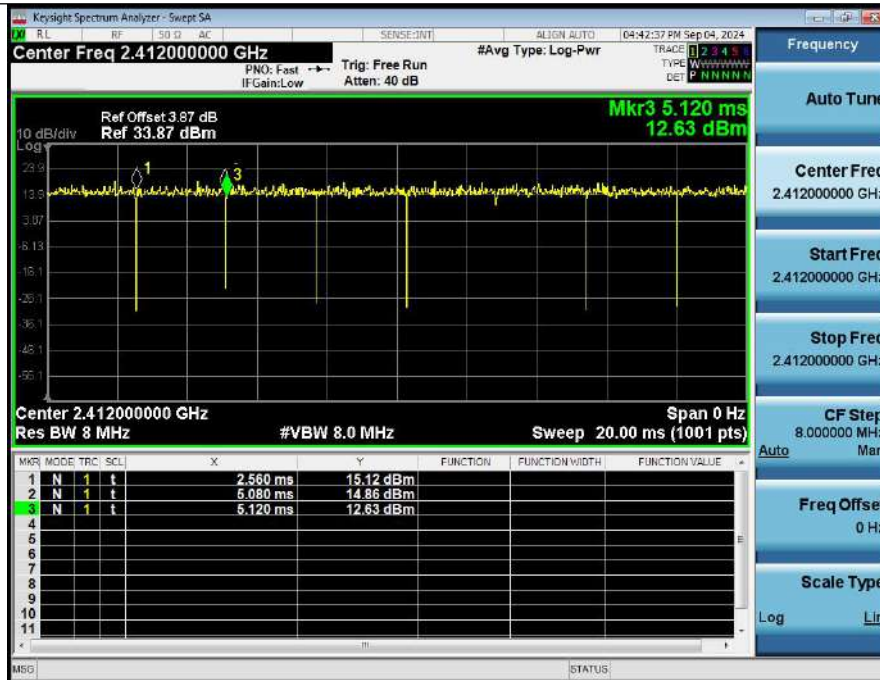


Duty\_Cycle\_NVNT\_ANT1\_802\_11g\_2462

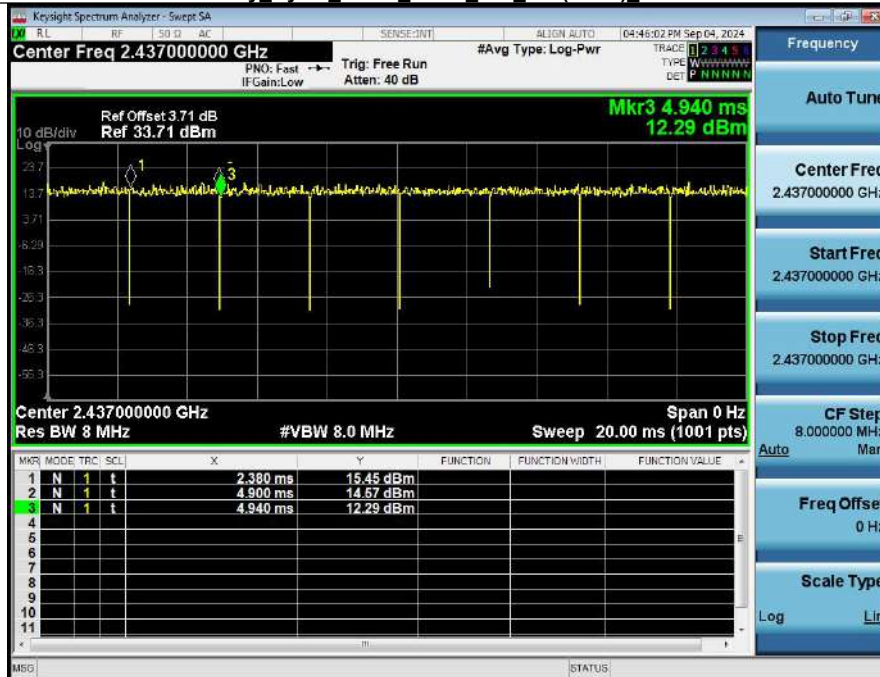


Duty\_Cycle\_NVNT\_ANT1\_802\_11n(HT20)\_2412

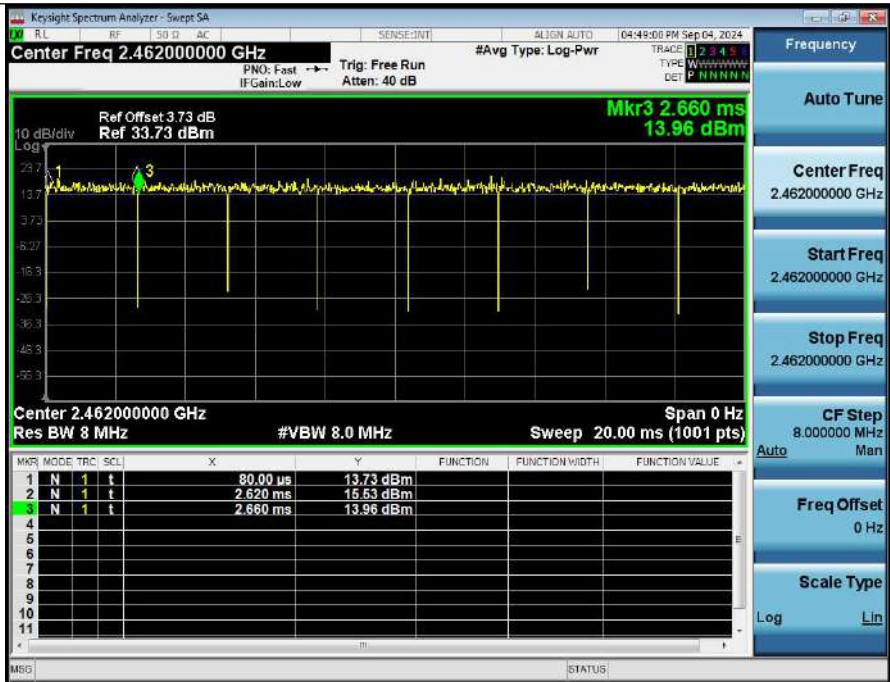




Duty\_Cycle\_NVNT\_ANT1\_802\_11n(HT20)\_2437



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     | 18.89                | 30         | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | Peak     | 18.33                | 30         | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | Peak     | 18.85                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | Peak     | 16.46                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | Peak     | 16.89                | 30         | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | Peak     | 16.51                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | Peak     | 15.71                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | Peak     | 16.13                | 30         | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | Peak     | 16.81                | 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         | 0.62           | -10.00        | -9.38         | 8               | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00         | -0.13          | -10.00        | -10.13        | 8               | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00         | 1.69           | -10.00        | -8.31         | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00         | -2.27          | -10.00        | -12.27        | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00         | -3.08          | -10.00        | -13.08        | 8               | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00         | -2.53          | -10.00        | -12.53        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00         | -4.55          | -10.00        | -14.55        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00         | -5.39          | -10.00        | -15.39        | 8               | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00         | -3.72          | -10.00        | -13.72        | 8               | Pass   |



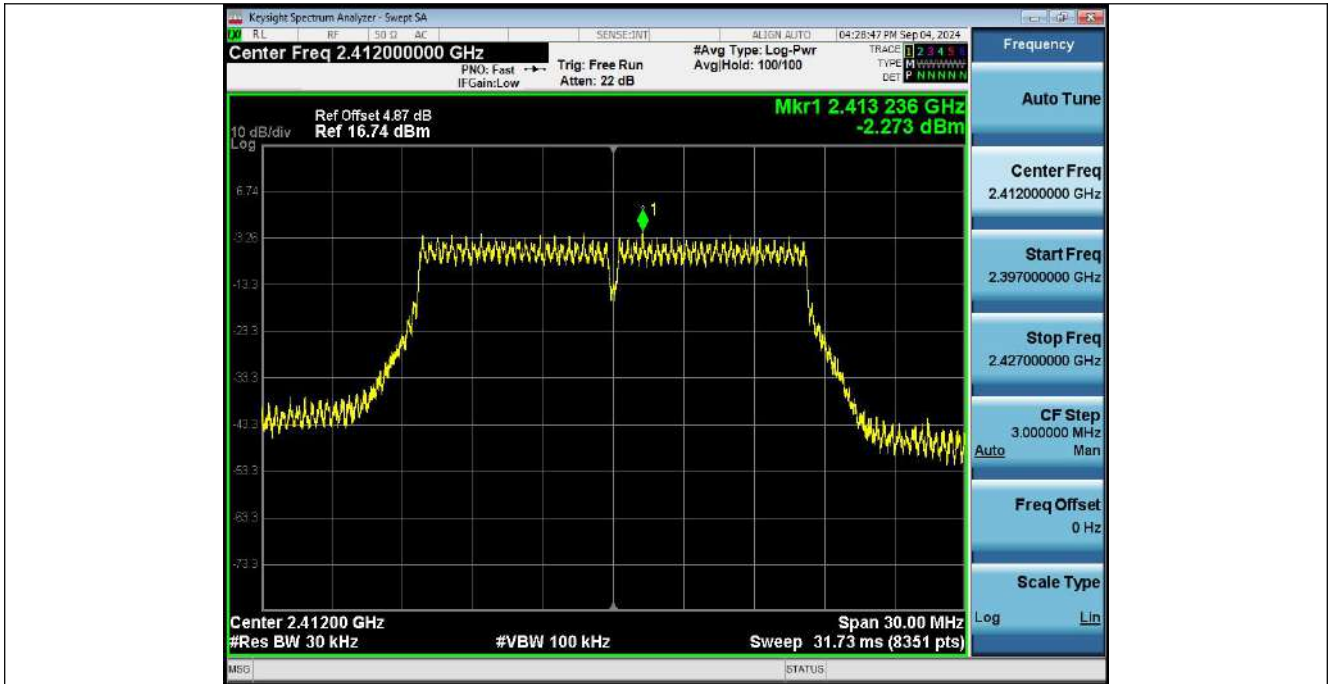
Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11b\_2437



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



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

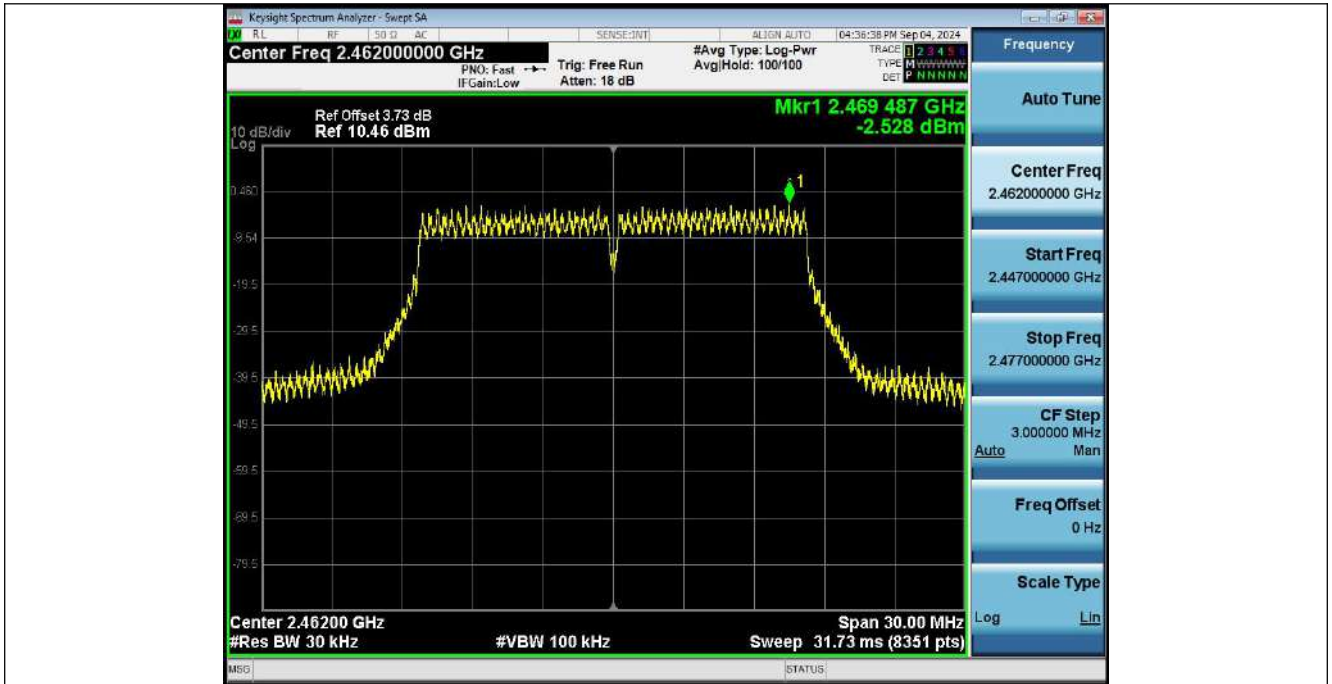


Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11g\_2437



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





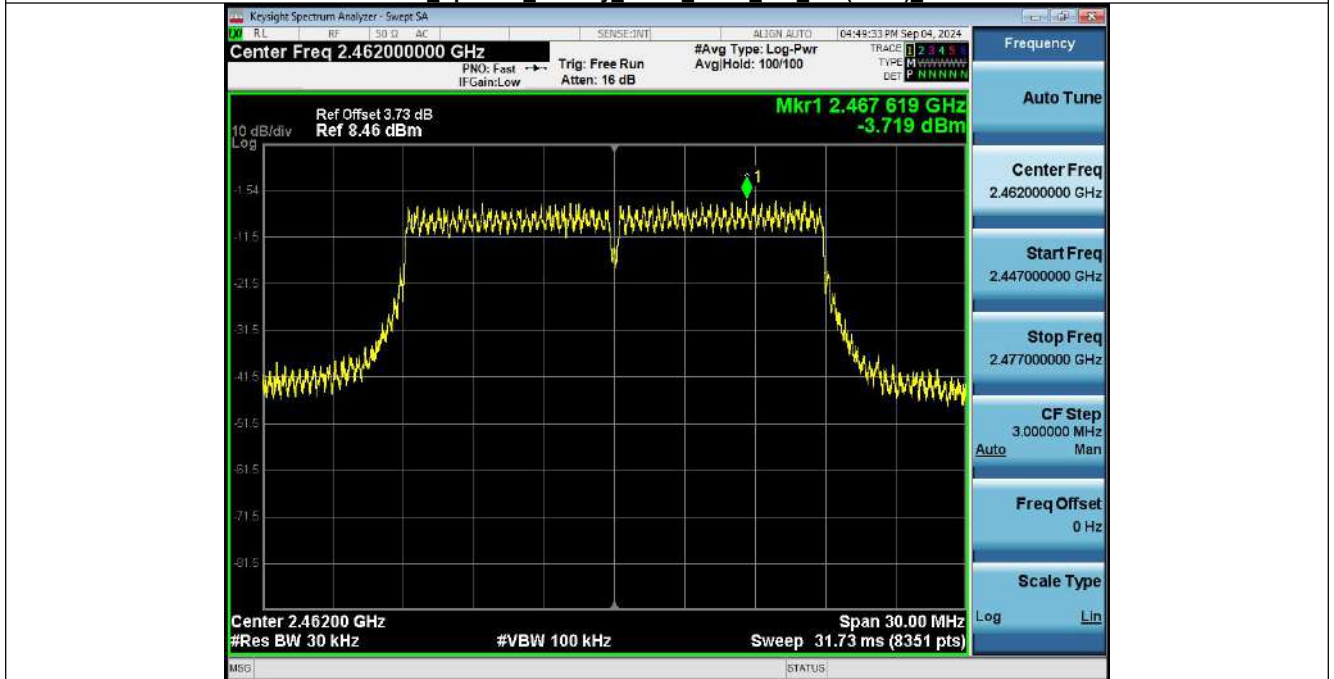
Power\_Spectral\_Density\_NVNT\_ANT1\_802\_11n(HT20)\_2412



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            | 2397.024                 | -42.582             | -16.509    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00            | 2488.912                 | -50.140             | -15.609    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00            | 2398.816                 | -33.179             | -17.526    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00            | 2483.920                 | -39.977             | -17.581    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00            | 2399.152                 | -36.524             | -20.154    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00            | 2483.872                 | -39.379             | -19.284    | Pass   |

1 Reference Level NVNT\_ANT1\_802\_11b\_2412



2 Bandedge\_NVNT\_ANT1\_802\_11b\_2412



1 Reference\_Level\_NVNT\_ANT1\_802\_11b\_2462

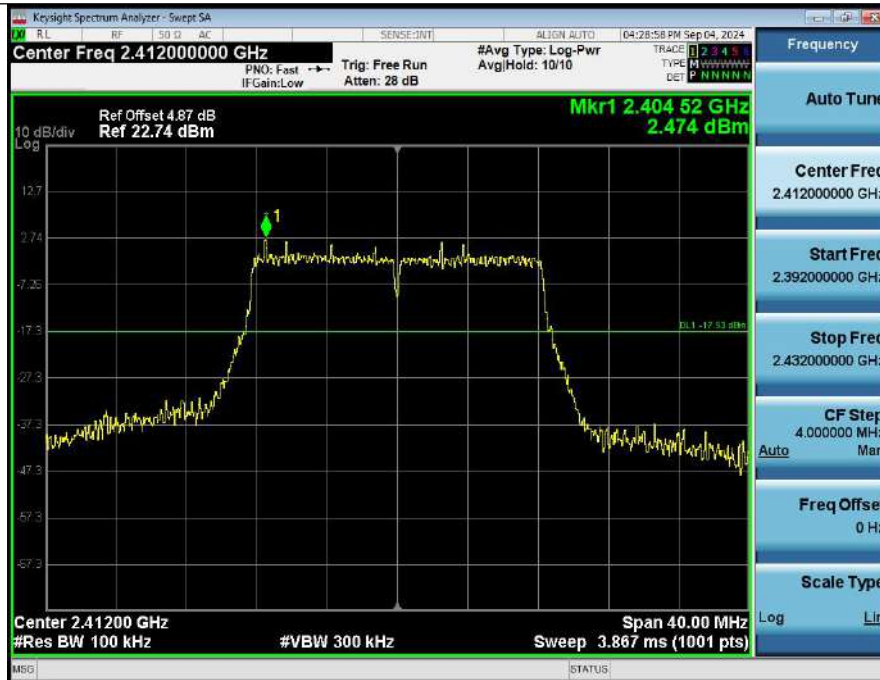


2\_Bandedge\_NVNT\_ANT1\_802\_11b\_2462



1\_Reference\_Level\_NVNT\_ANT1\_802\_11g\_2412

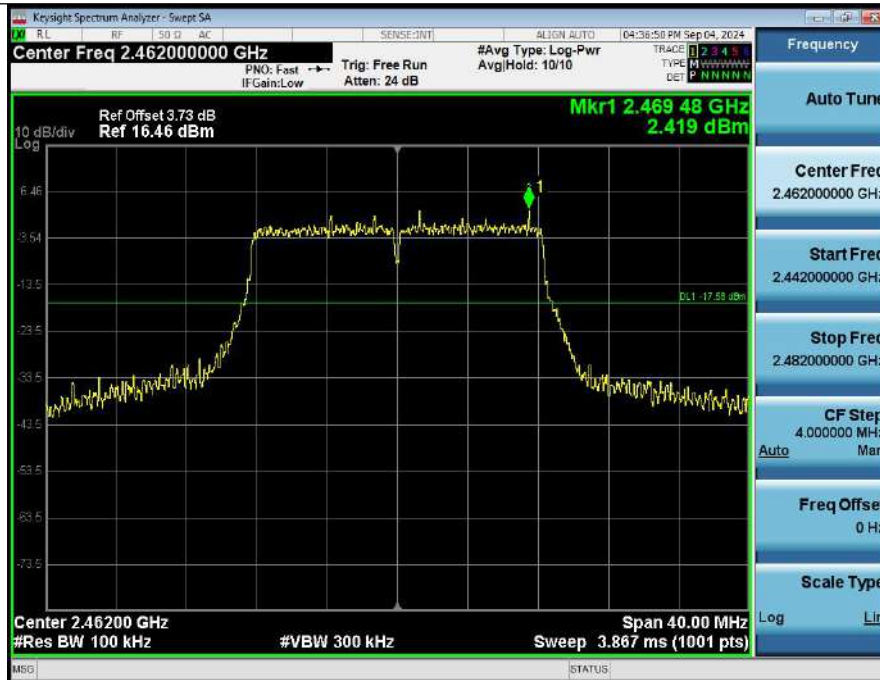




2\_Bandedge\_NVNT\_ANT1\_802\_11g\_2412



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

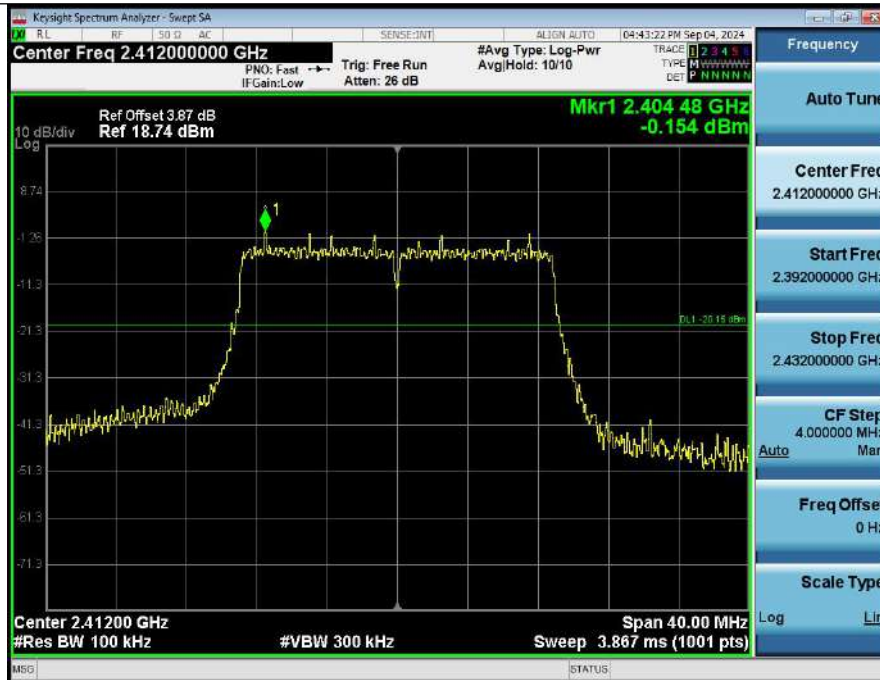


2\_Bandedge\_NVNT\_ANT1\_802\_11g\_2462



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

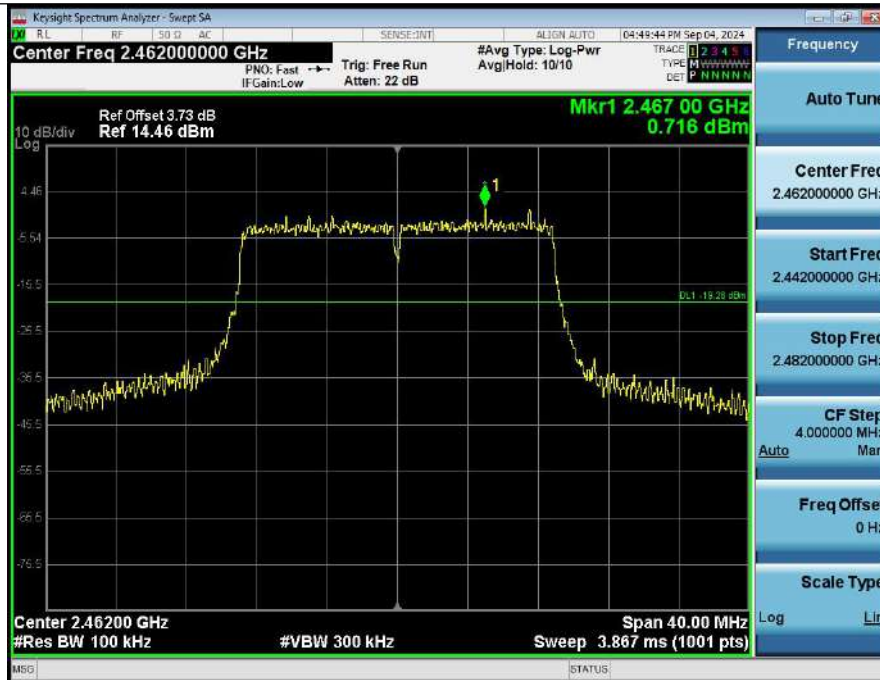




2\_Bandedge\_NVNT\_ANT1\_802\_11n(HT20)\_2412



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



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



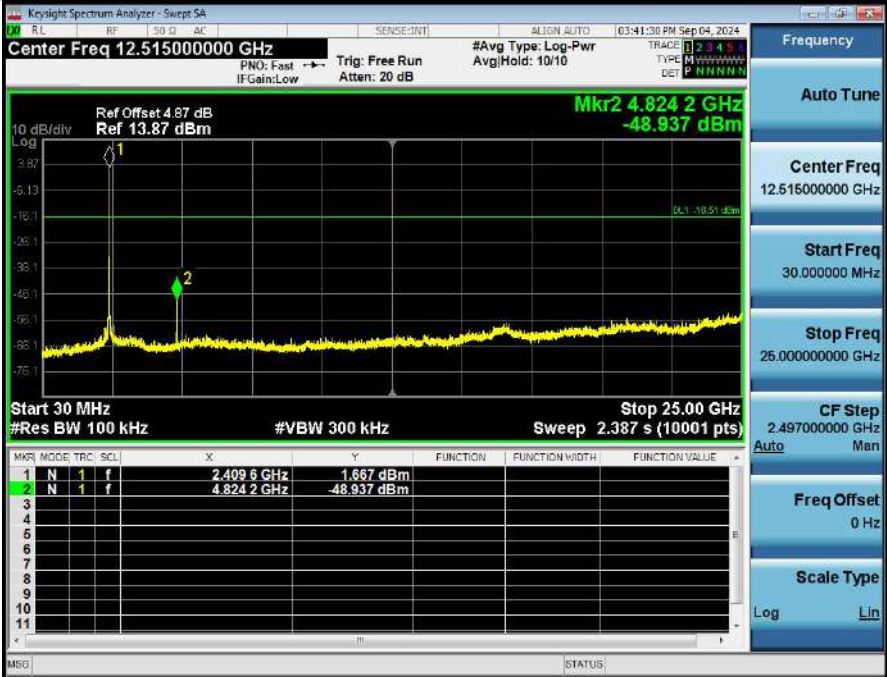
7. Spurious Emission

| Condition | Antenna | Modulation    | TX_Frequency (MHz) | Max. Mark_frequency(MHz) | Spurious level(dBm) | limit(dBm) | Result |
|-----------|---------|---------------|--------------------|--------------------------|---------------------|------------|--------|
| NVNT      | ANT1    | 802.11b       | 2412.00            | 4824.240                 | -48.937             | -16.509    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2437.00            | 4874.180                 | -50.551             | -16.816    | Pass   |
| NVNT      | ANT1    | 802.11b       | 2462.00            | 23616.662                | -47.303             | -15.609    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2412.00            | 24995.006                | -49.174             | -17.526    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2437.00            | 716.675                  | -53.656             | -19.829    | Pass   |
| NVNT      | ANT1    | 802.11g       | 2462.00            | 2502.030                 | -54.022             | -17.581    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2412.00            | 24985.018                | -51.710             | -20.154    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2437.00            | 24960.048                | -52.513             | -20.988    | Pass   |
| NVNT      | ANT1    | 802.11n(HT20) | 2462.00            | 2502.030                 | -56.157             | -19.284    | Pass   |

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



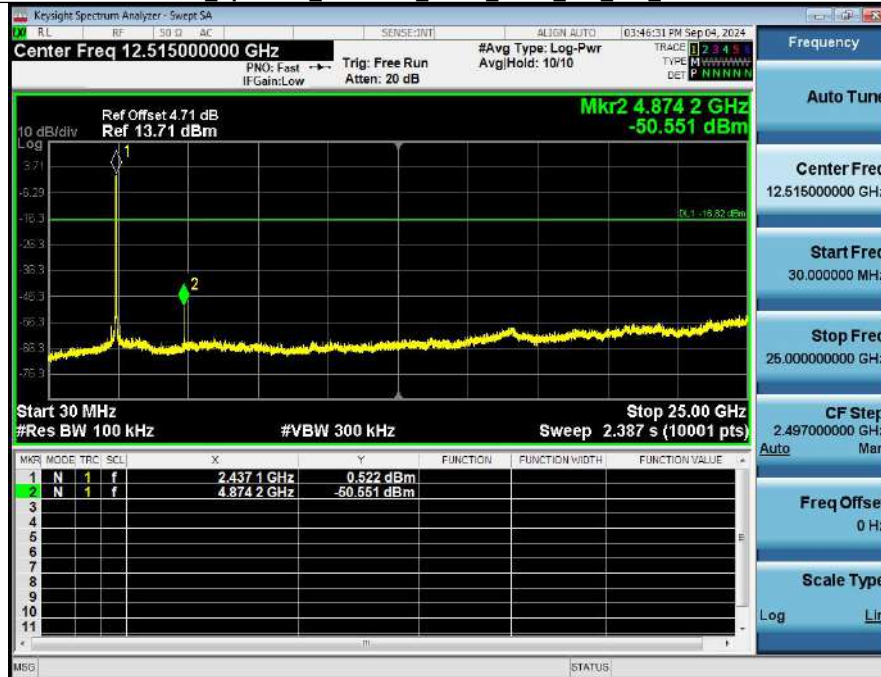
2\_Spurious\_Emission\_NVNT\_ANT1\_802\_11b\_2412



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



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



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

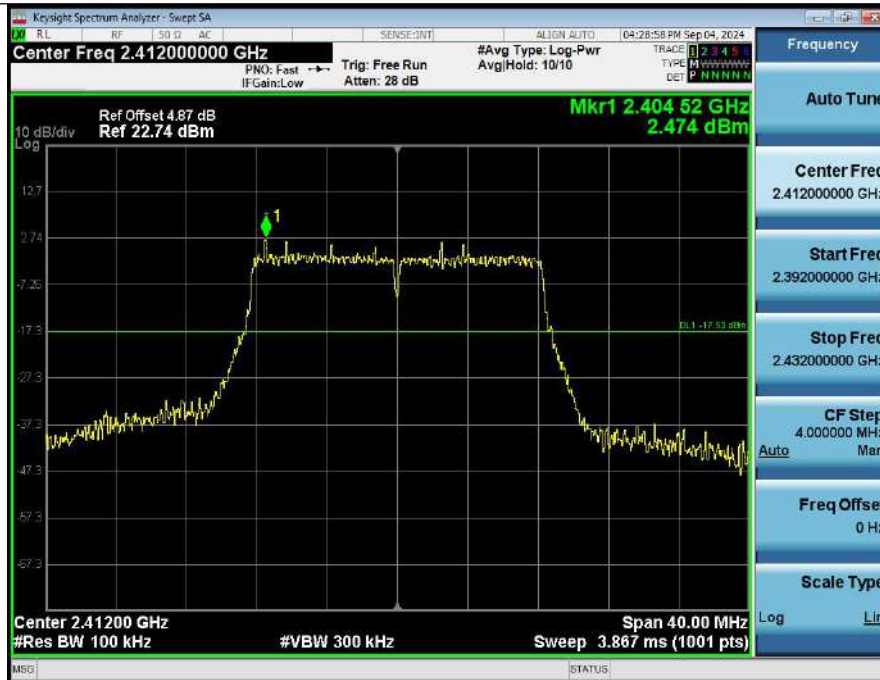




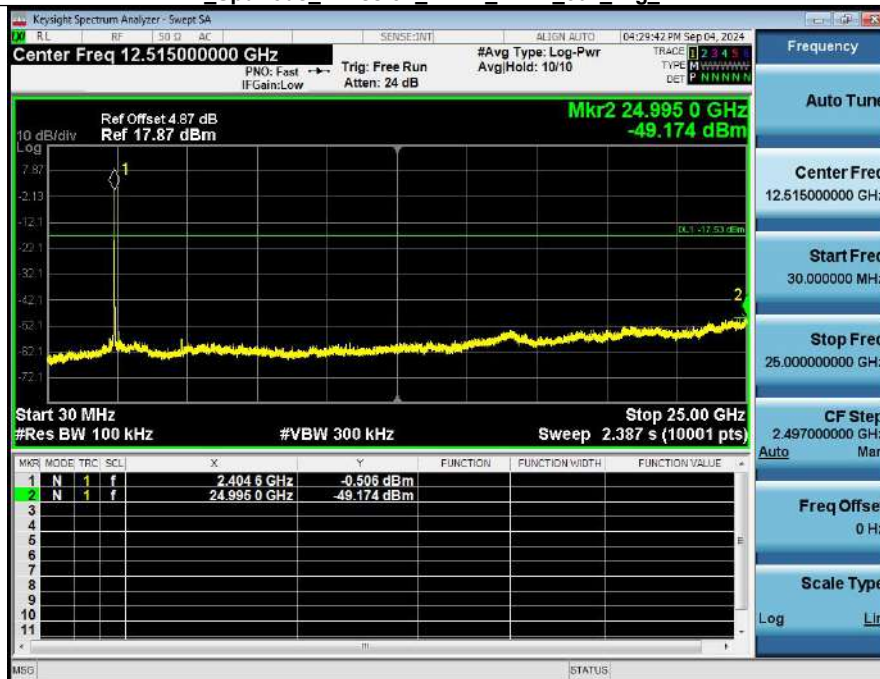
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1\_Reference\_Level\_NVNT\_ANT1\_802\_11g\_2412

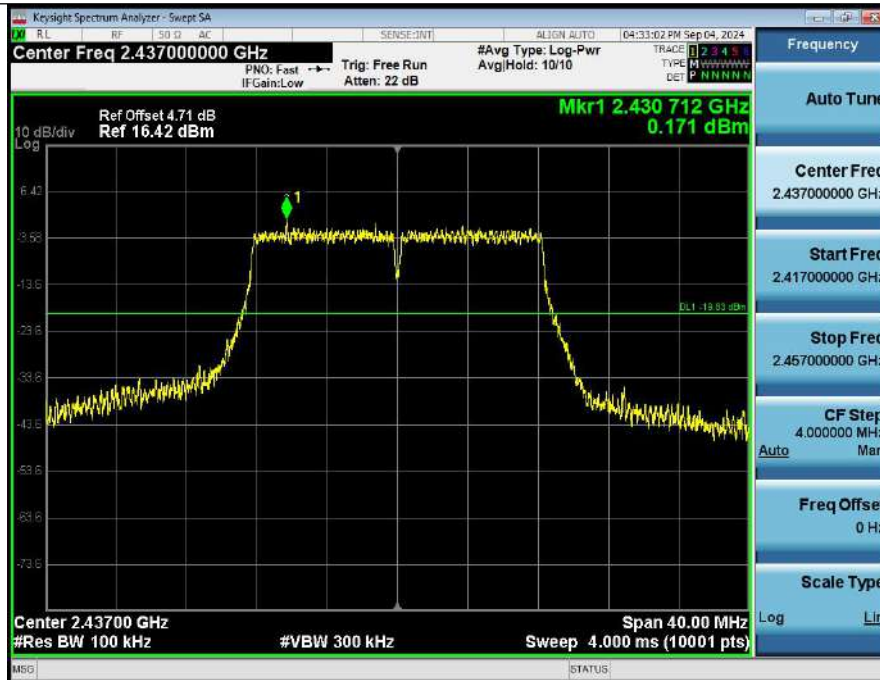


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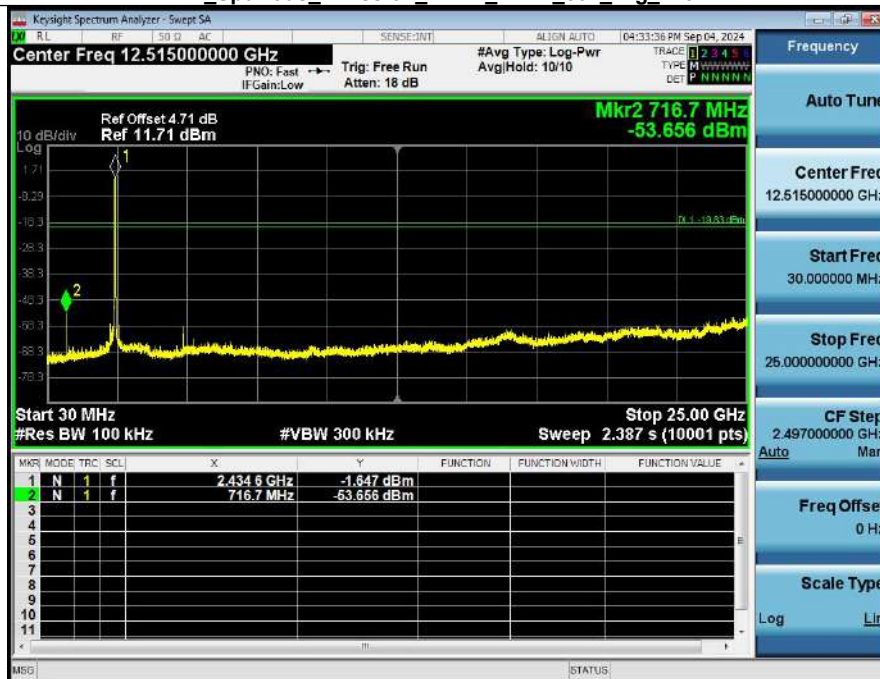


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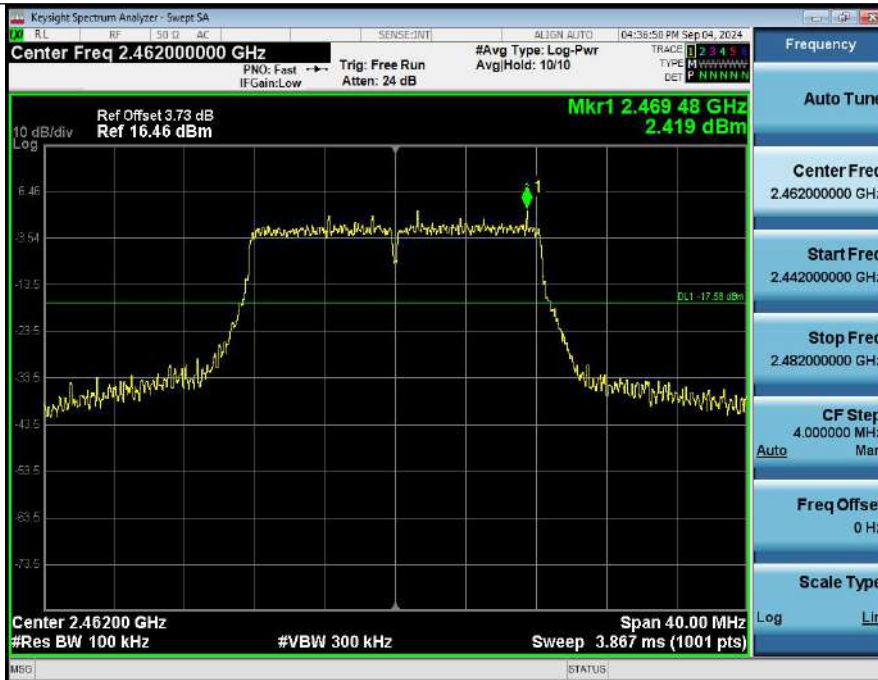




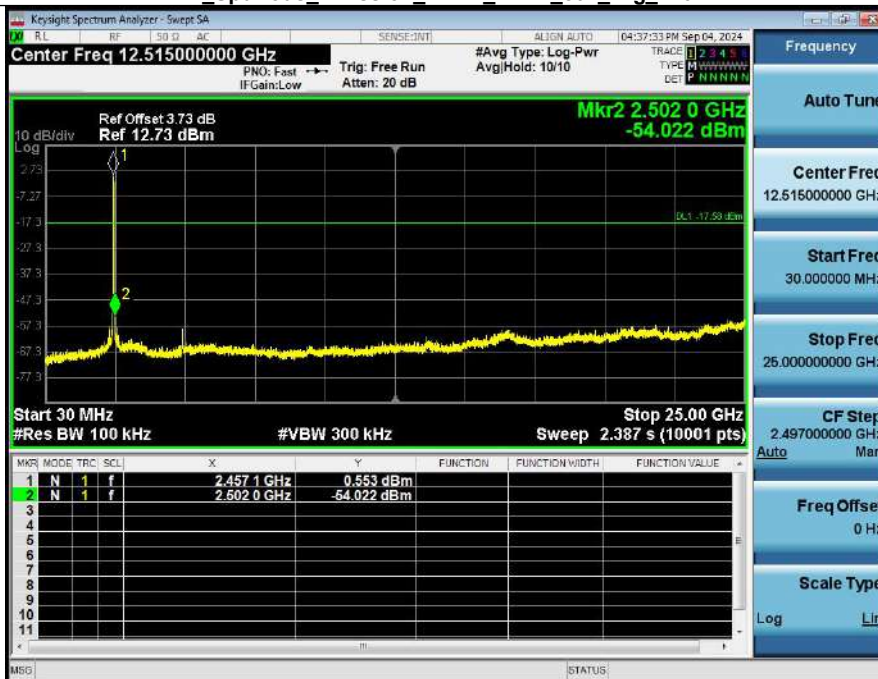
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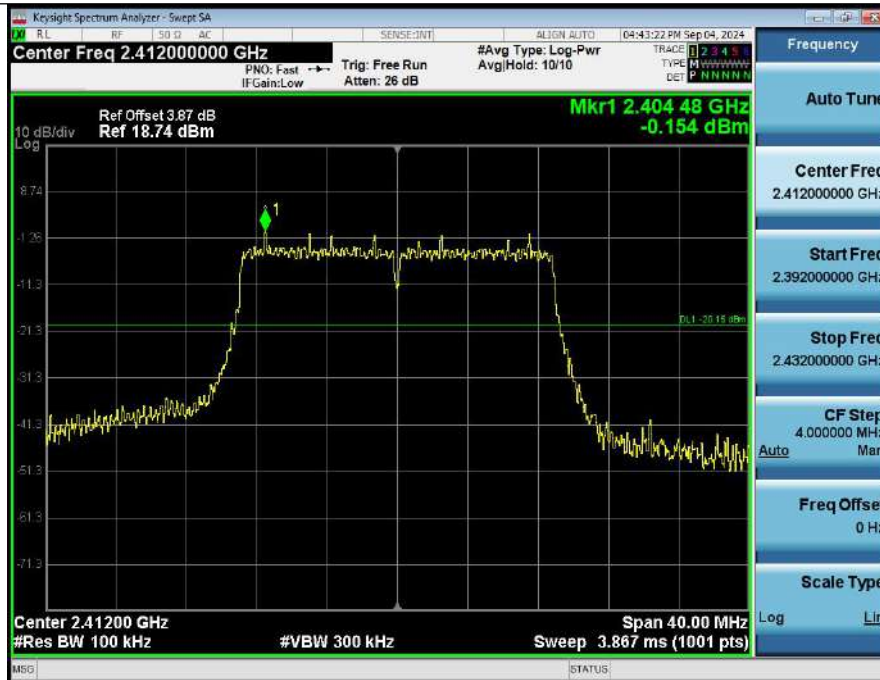
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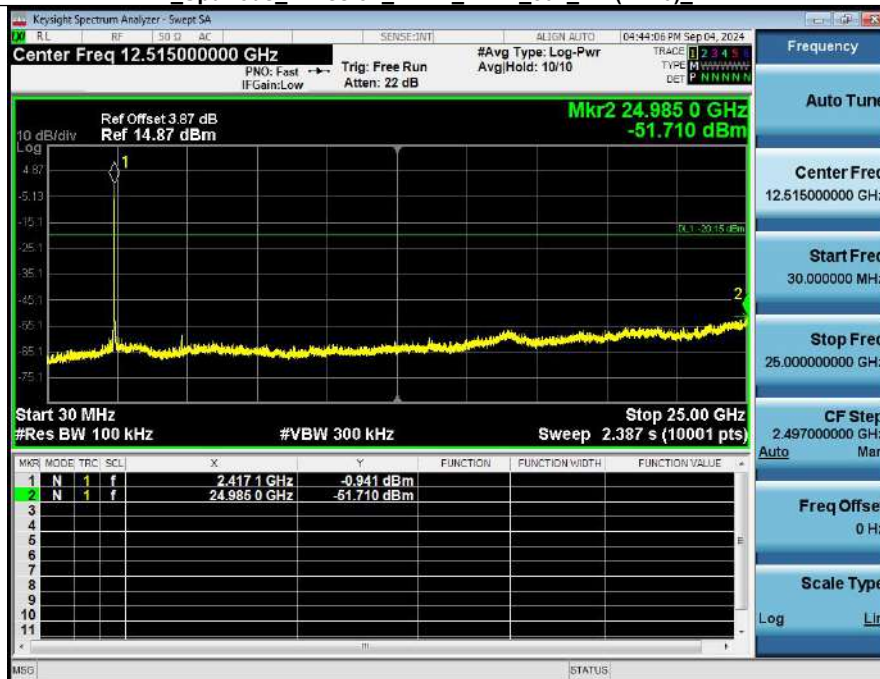
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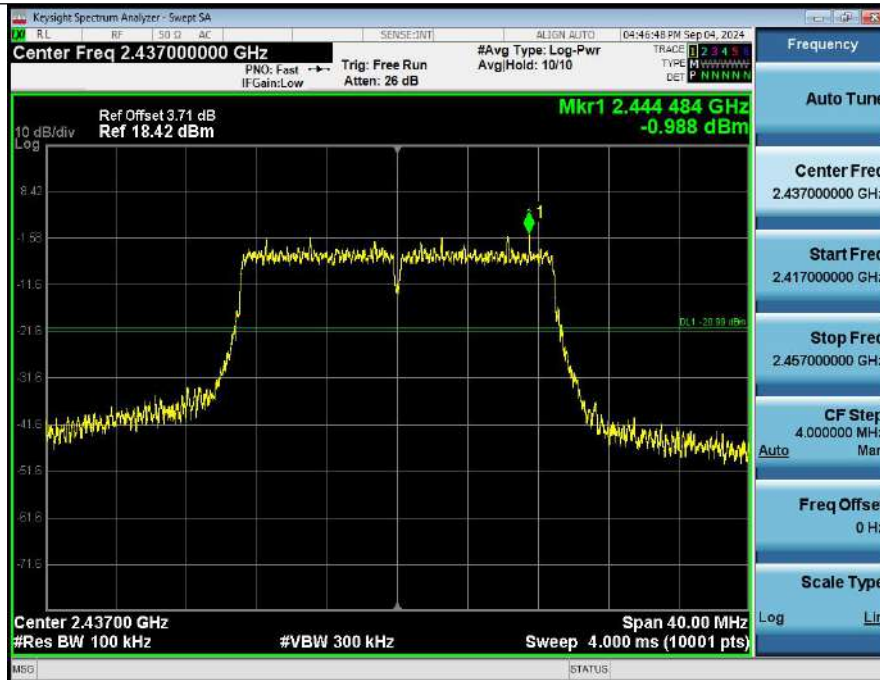
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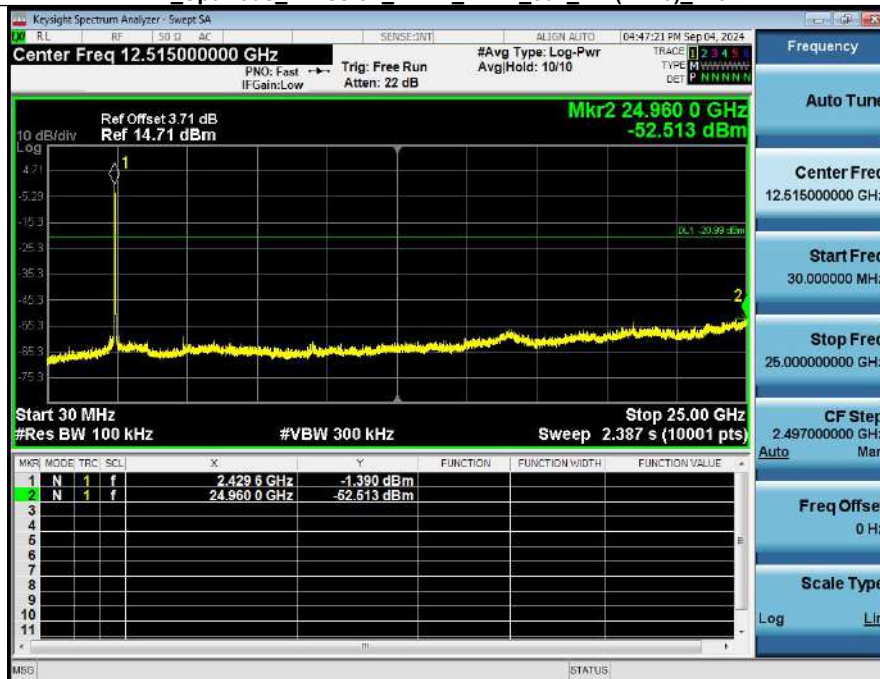
2 Spurious Emission\_NVNT\_ANT1\_802\_11n(HT20)\_2412



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

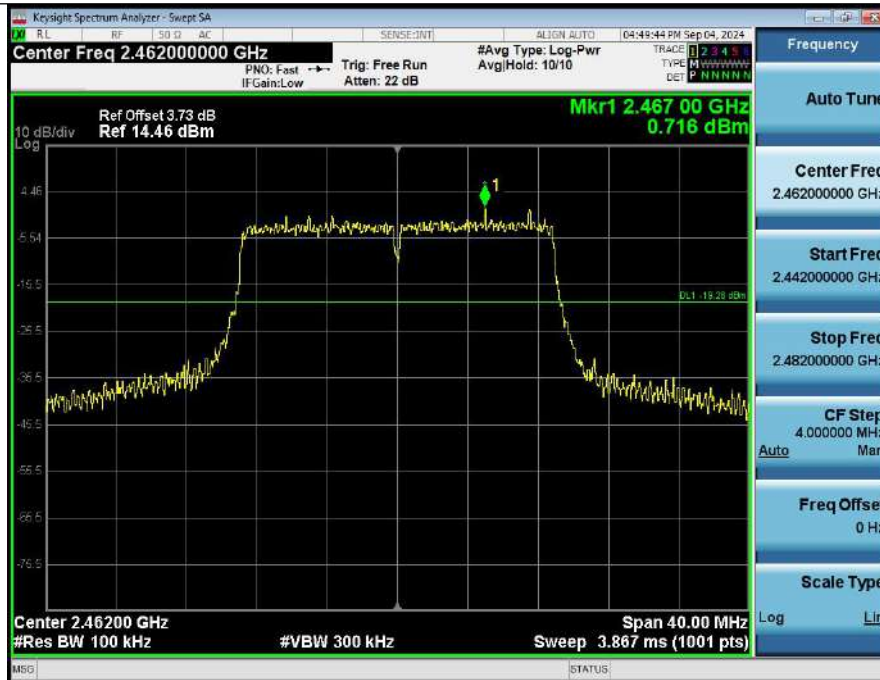


## 2 Spurious Emission\_NVNT\_ANT1\_802\_11n(HT20)\_2437



## 1 Reference Level\_NVNT\_ANT1\_802\_11n(HT20)\_2462





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

