

## 11. Peak Output Power Test

### 11.1 Block Diagram Of Test Setup



### 11.2 Limit

| FCC Part15 (15.247) , Subpart C |                   |                 |                       |        |
|---------------------------------|-------------------|-----------------|-----------------------|--------|
| Section                         | Test Item         | Limit           | Frequency Range (MHz) | Result |
| 15.247(b)(3)                    | Peak Output Power | 1 watt or 30dBm | 2400-2483.5           | PASS   |

### 11.3 Test Procedure

- a. The EUT was directly connected to the Power meter

### 11.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

## 11.5 Test Result

|              |        |                    |              |
|--------------|--------|--------------------|--------------|
| Temperature: | 26 °C  | Relative Humidity: | 54%RH        |
| Pressure:    | 101KPa | Test Voltage:      | AC 120V/60Hz |

| Test Mode  | Frequency(MHz) | Maximum Conducted Output Power(PK)<br>(dBm) | Limit (dBm) |
|------------|----------------|---------------------------------------------|-------------|
| 802.11b    | 2412           | 11.80                                       | 30          |
|            | 2437           | 12.14                                       | 30          |
|            | 2462           | 10.69                                       | 30          |
| 802.11g    | 2412           | 10.24                                       | 30          |
|            | 2437           | 10.37                                       | 30          |
|            | 2462           | 8.89                                        | 30          |
| 802.11n20  | 2412           | 7.68                                        | 30          |
|            | 2437           | 7.91                                        | 30          |
|            | 2462           | 5.76                                        | 30          |
| 802.11n40  | 2422           | 5.87                                        | 30          |
|            | 2437           | 5.82                                        | 30          |
|            | 2452           | 6.26                                        | 30          |
| 802.11ax20 | 2412           | 7.44                                        | 30          |
|            | 2437           | 7.83                                        | 30          |
|            | 2462           | 5.63                                        | 30          |
| 802.11ax40 | 2422           | 5.64                                        | 30          |
|            | 2437           | 5.80                                        | 30          |
|            | 2452           | 6.10                                        | 30          |

## 12. 100 kHz Bandwidth Of Frequency Band Edge

### 12.1 Block Diagram Of Test Setup



### 12.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

### 12.3 Test Procedure

Using the following spectrum analyzer setting:

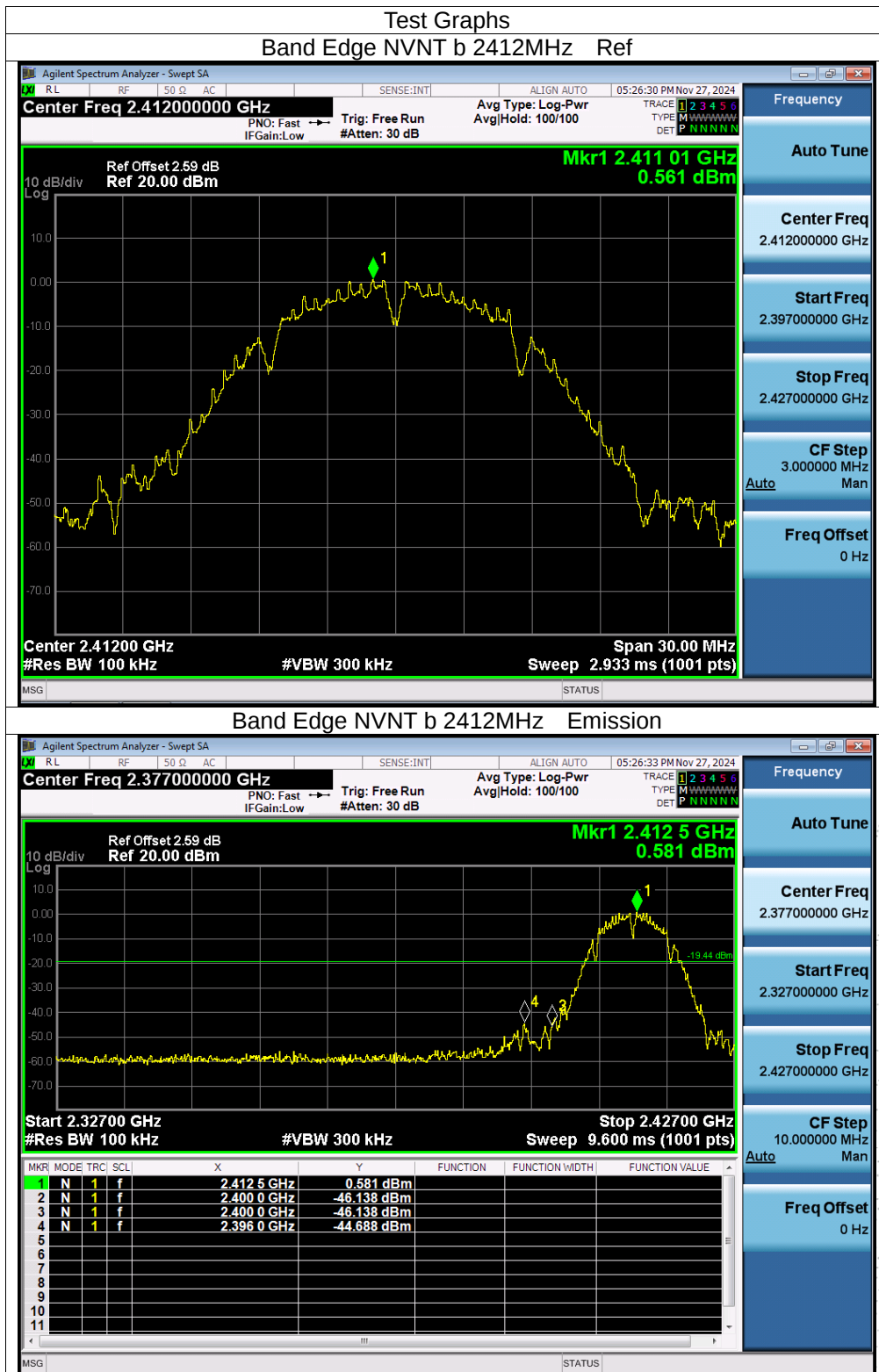
- Set the RBW = 100KHz.
- Set the VBW = 300KHz.
- Sweep time = auto couple.
- Detector function = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize..

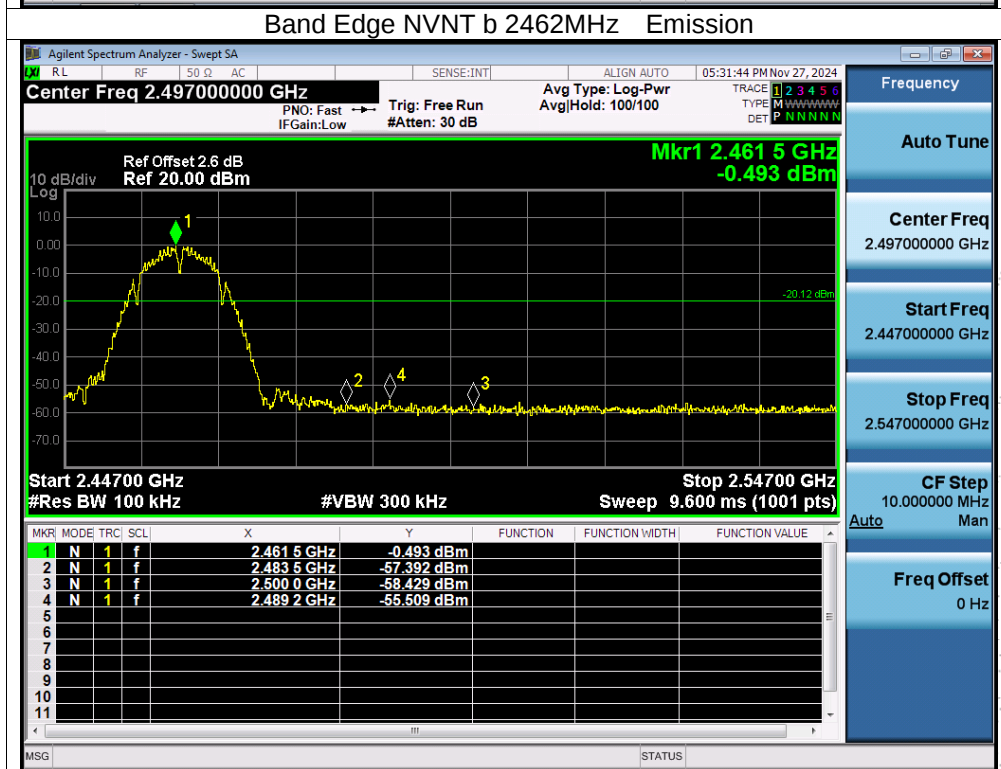
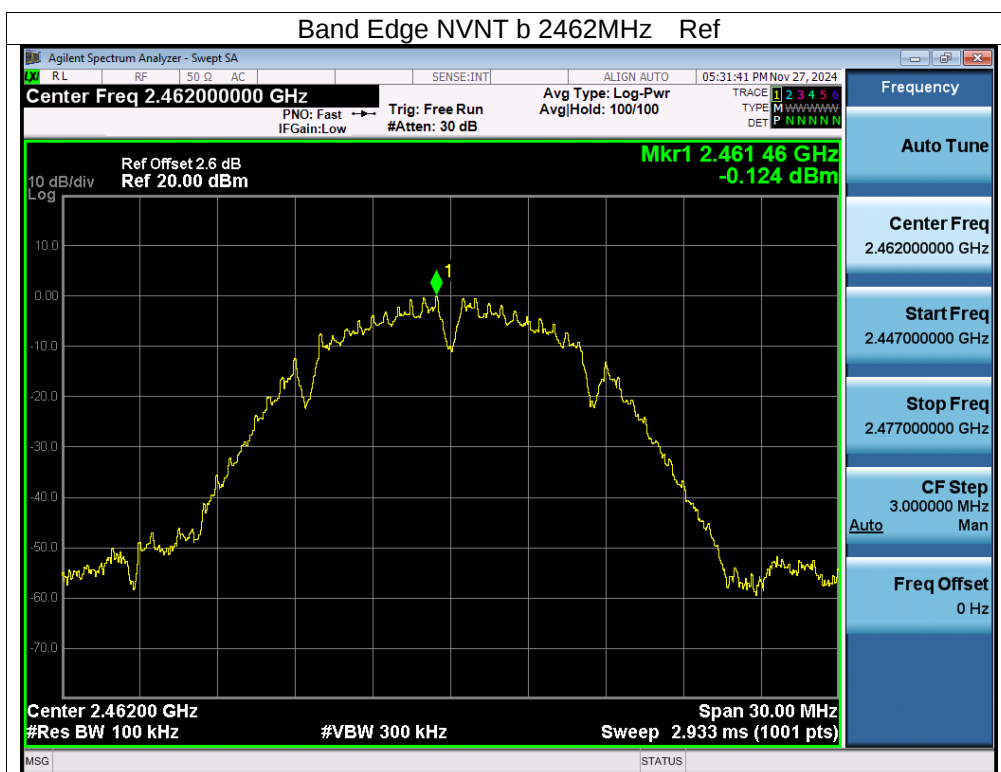
### 12.4 EUT Operating Conditions

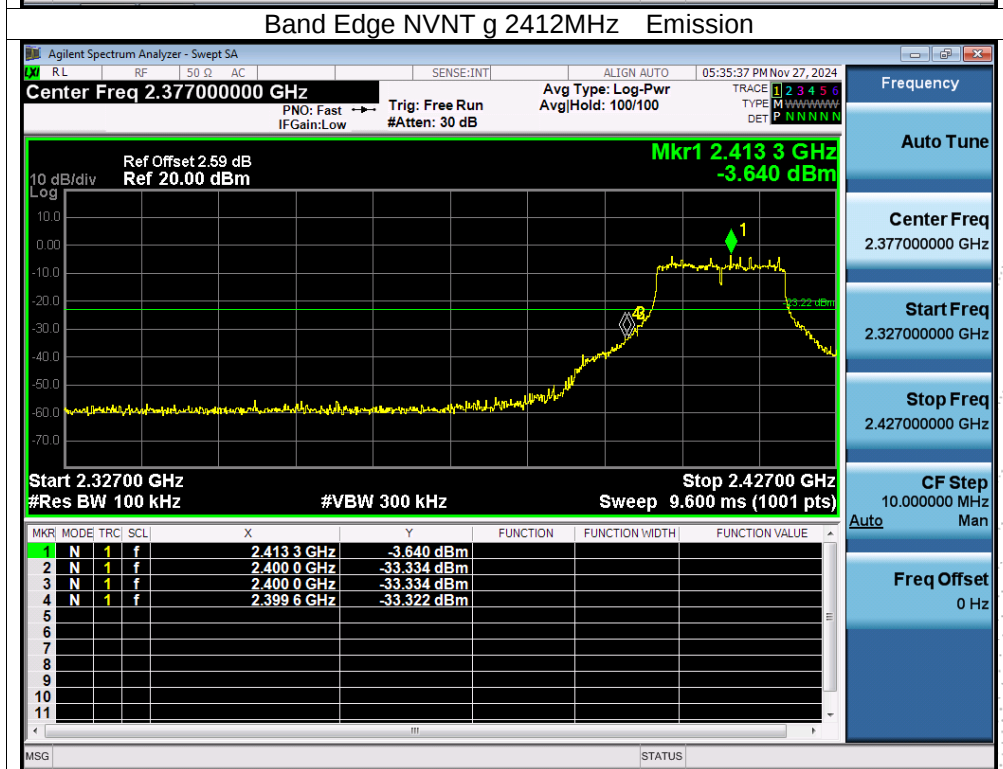
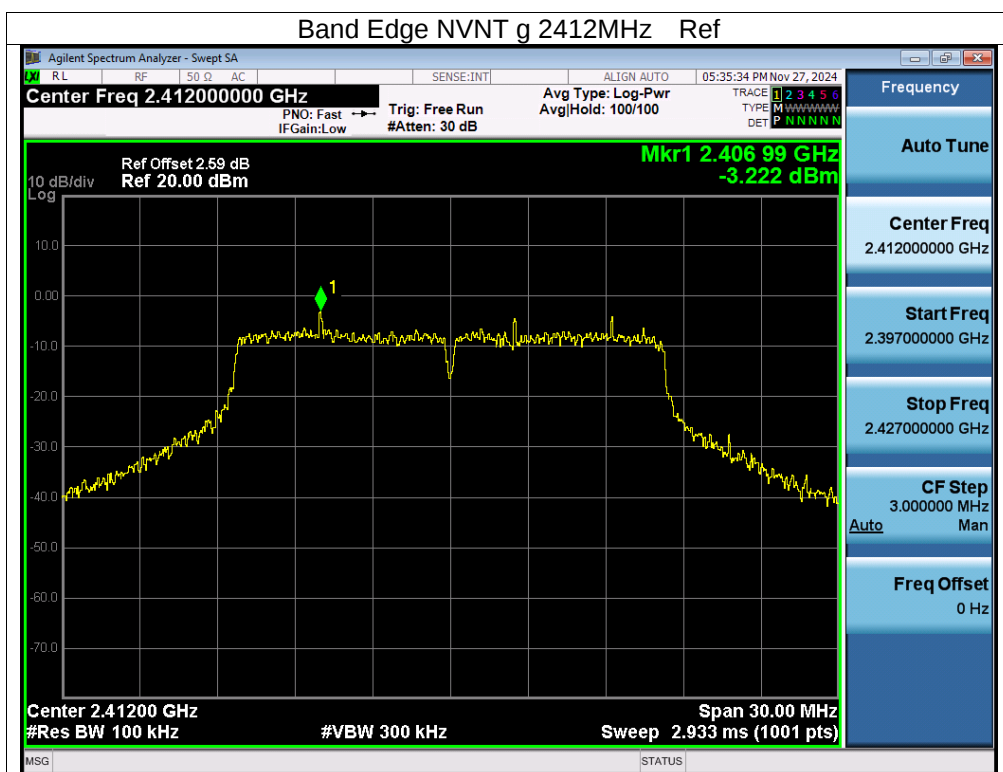
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

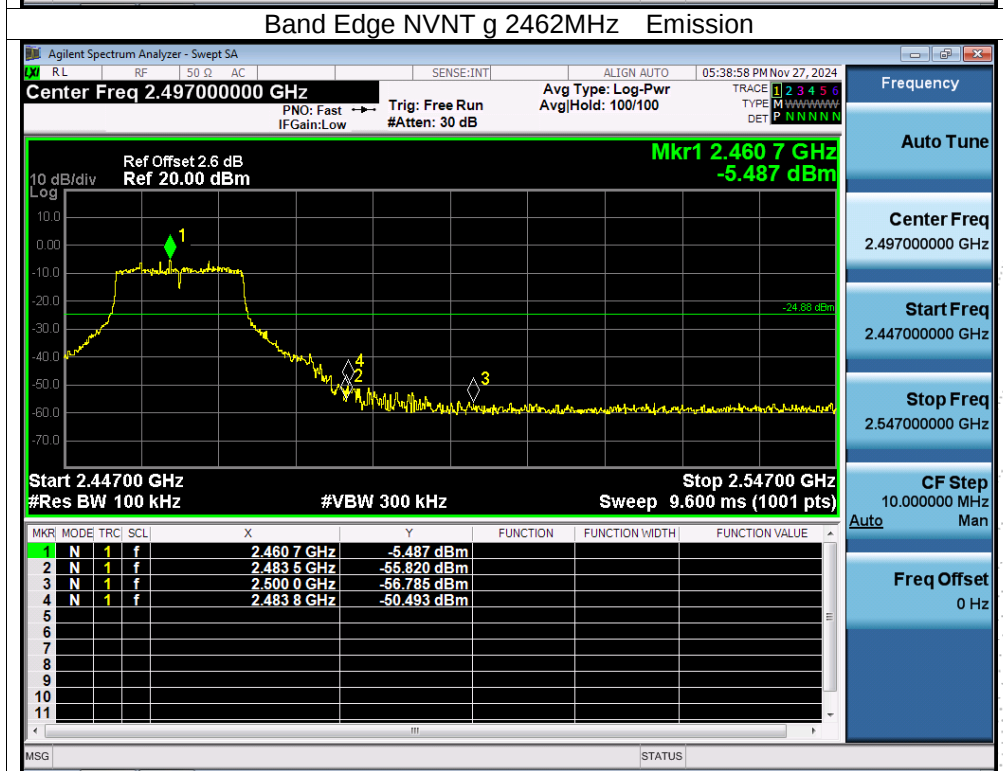
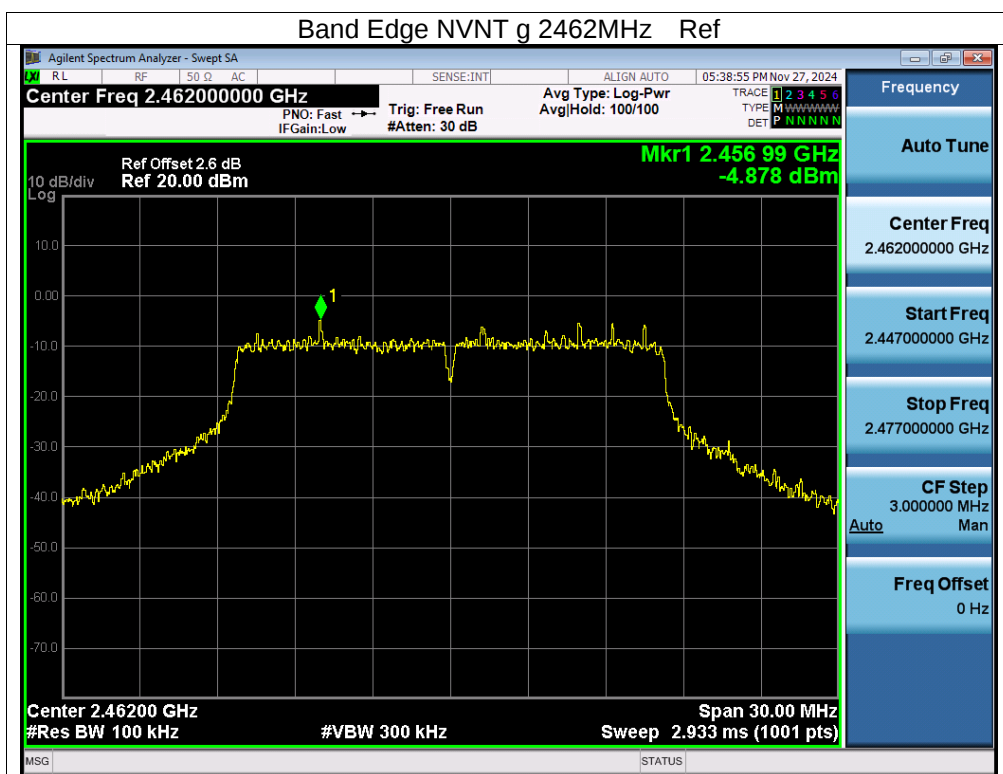
## 12.5 Test Result

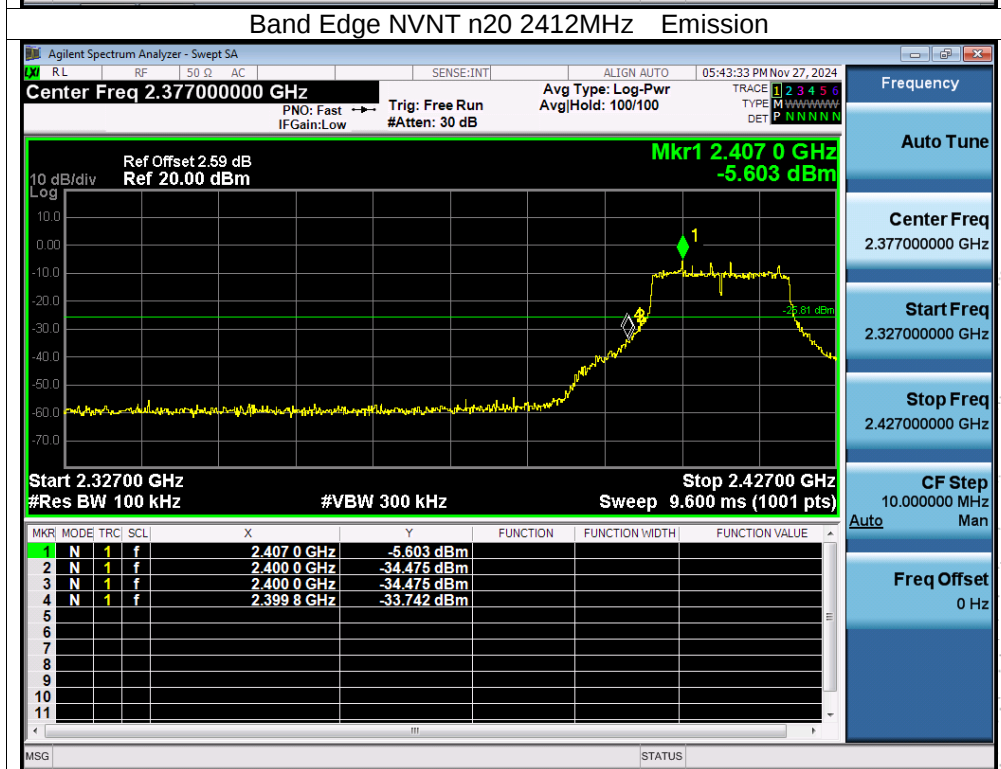
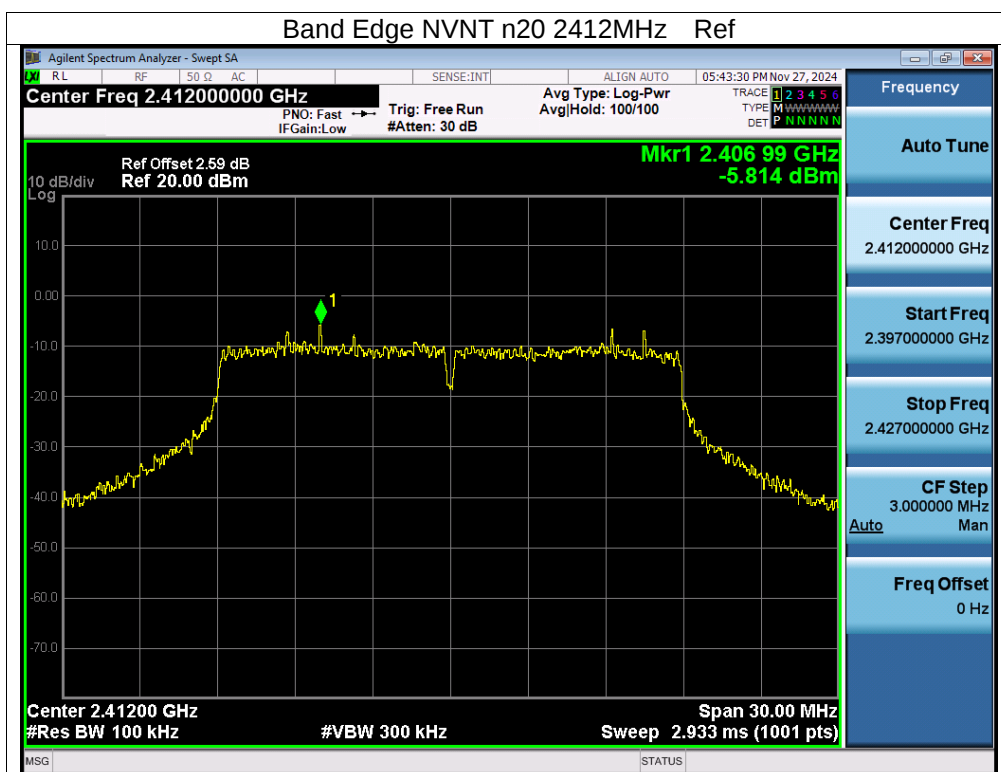


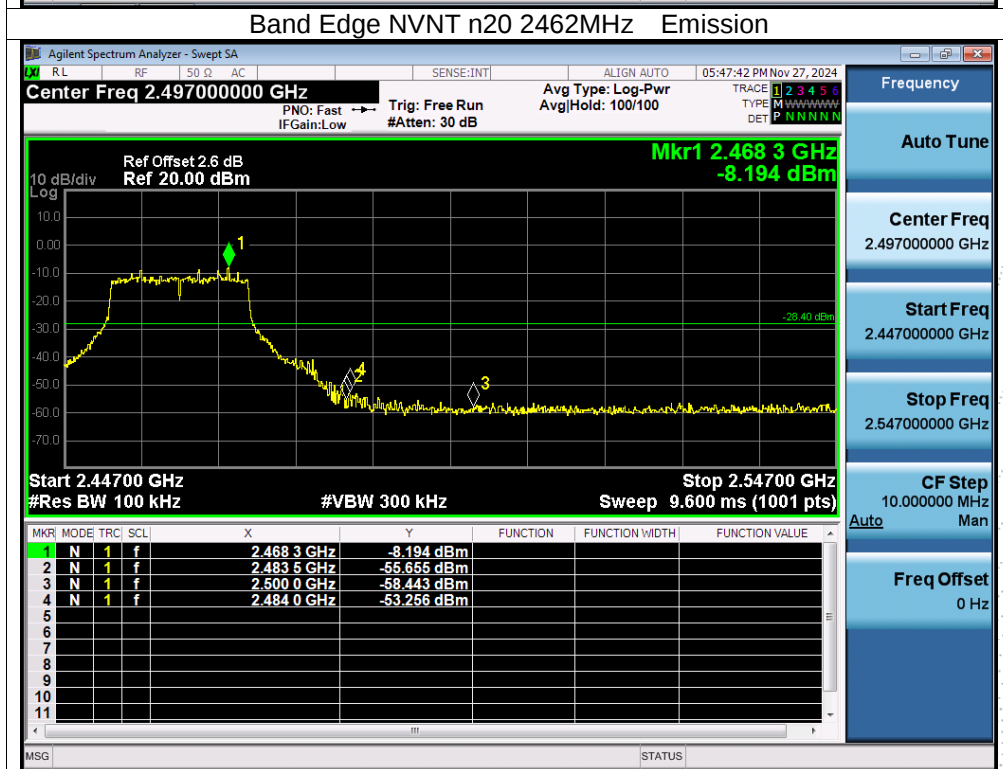
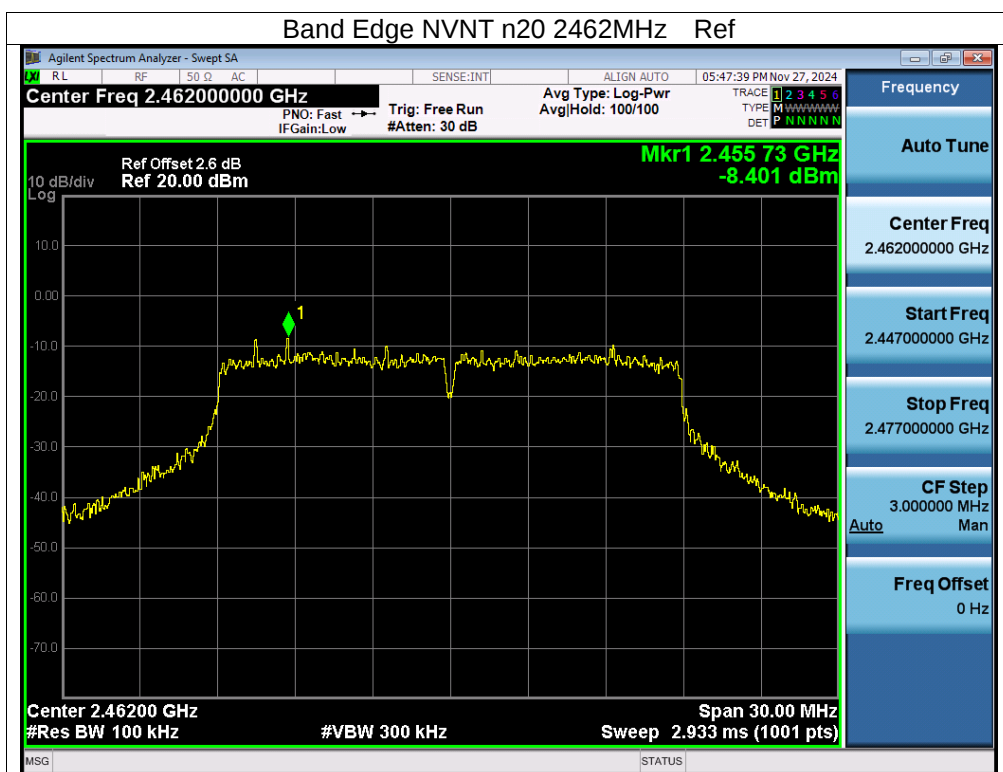


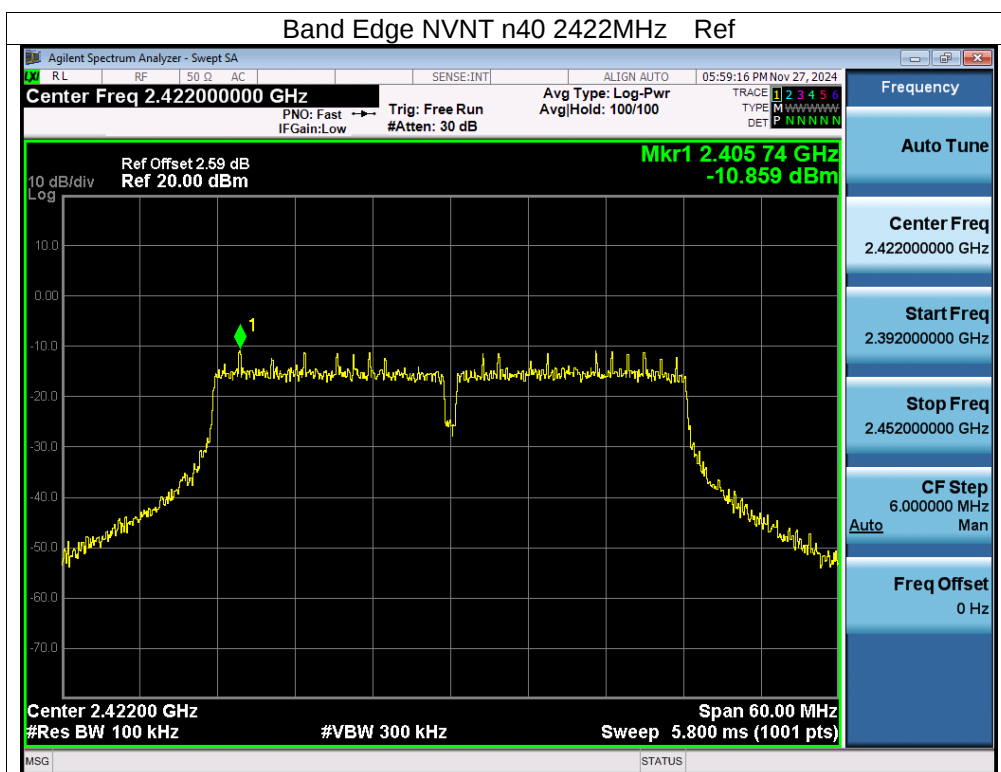


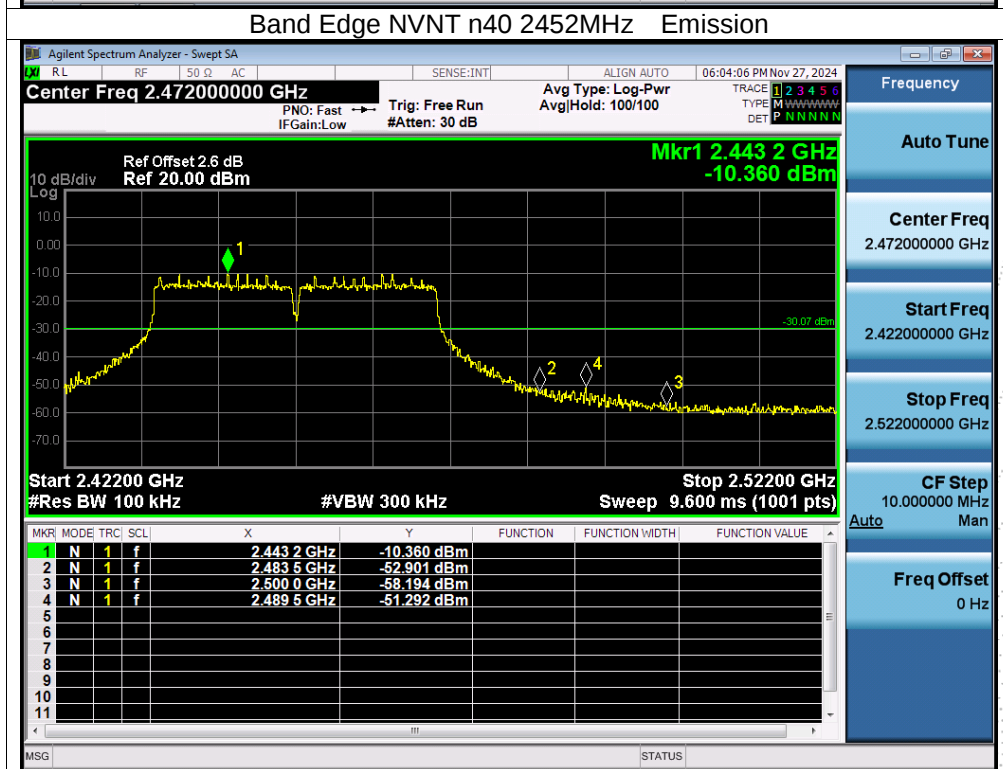
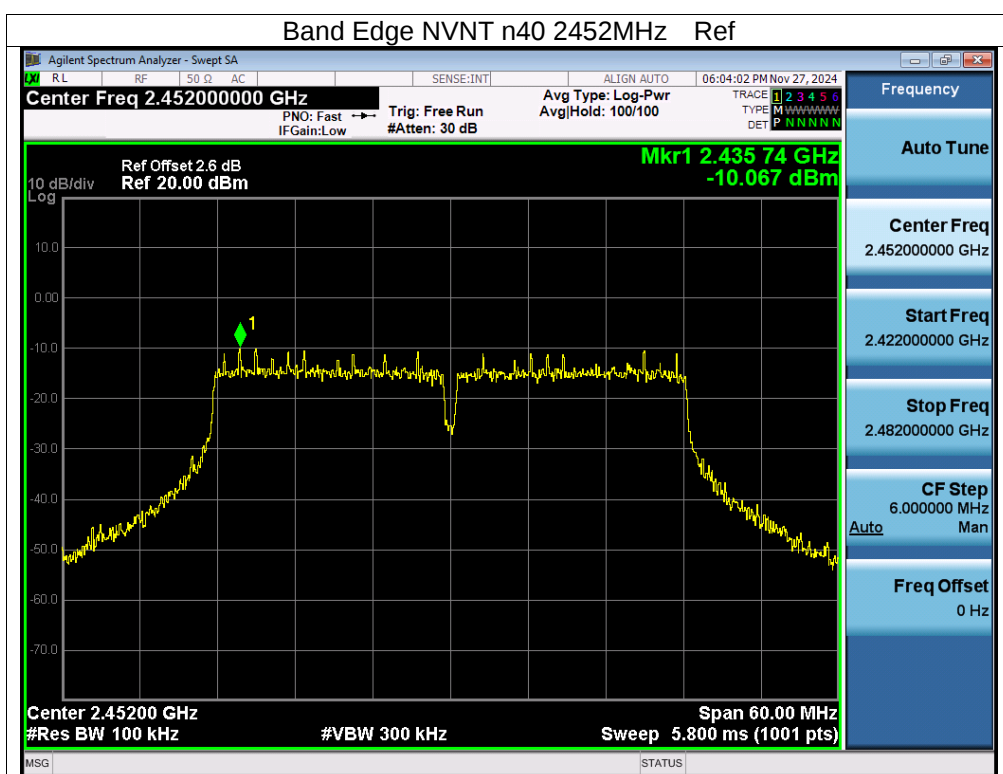
CO.LTD

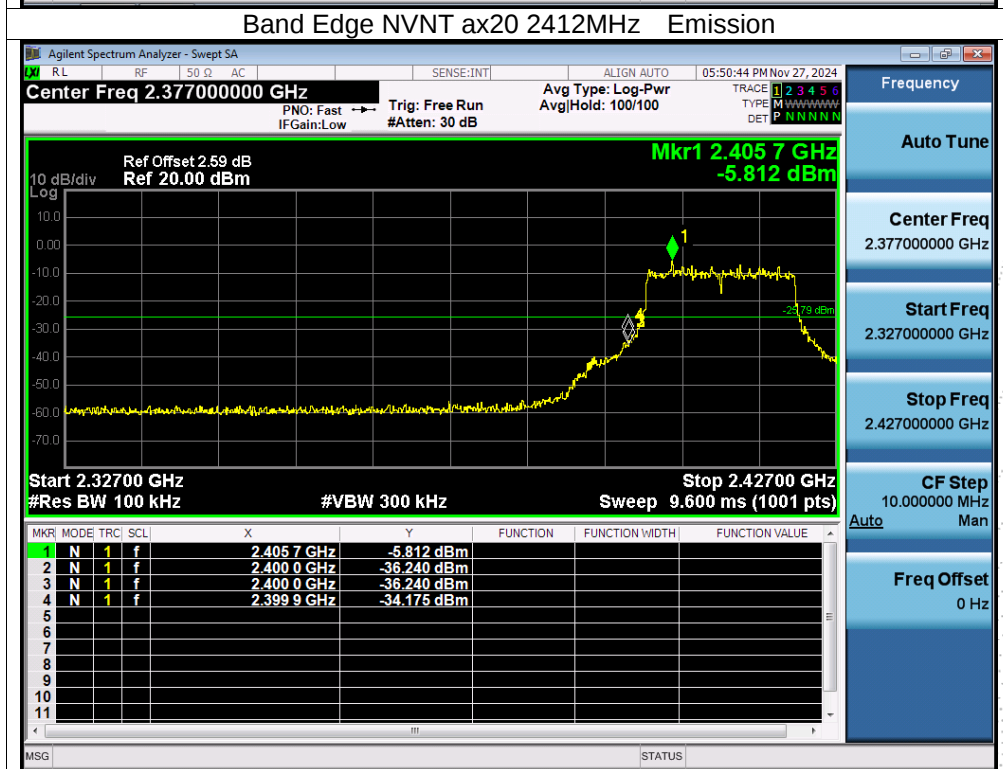
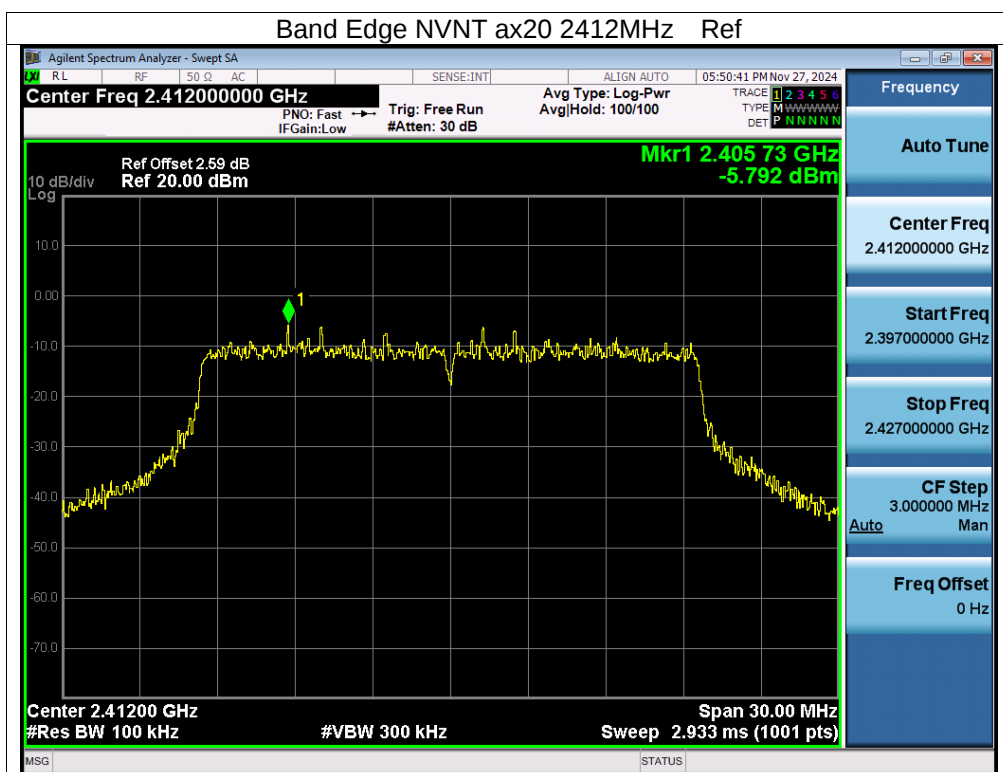


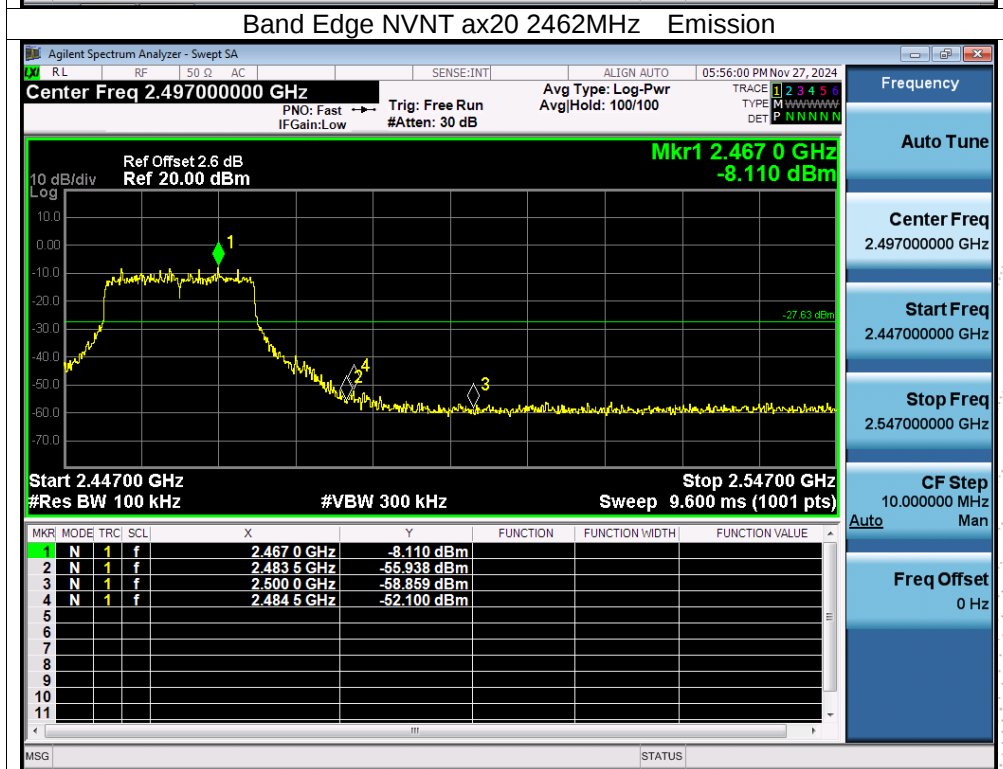
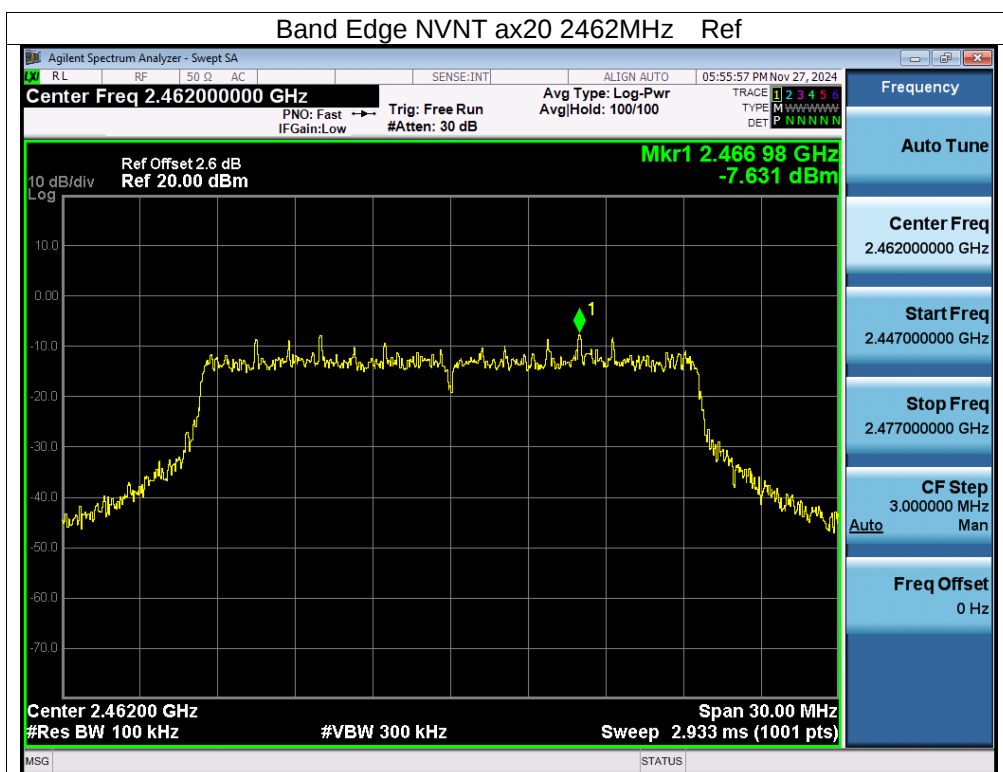


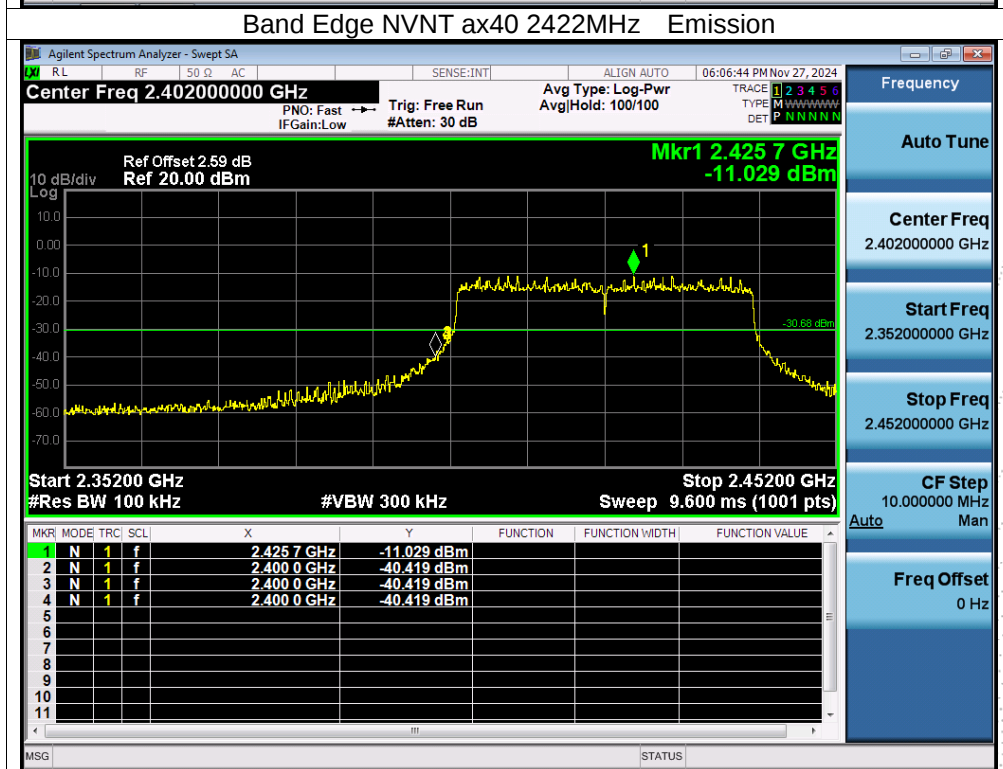
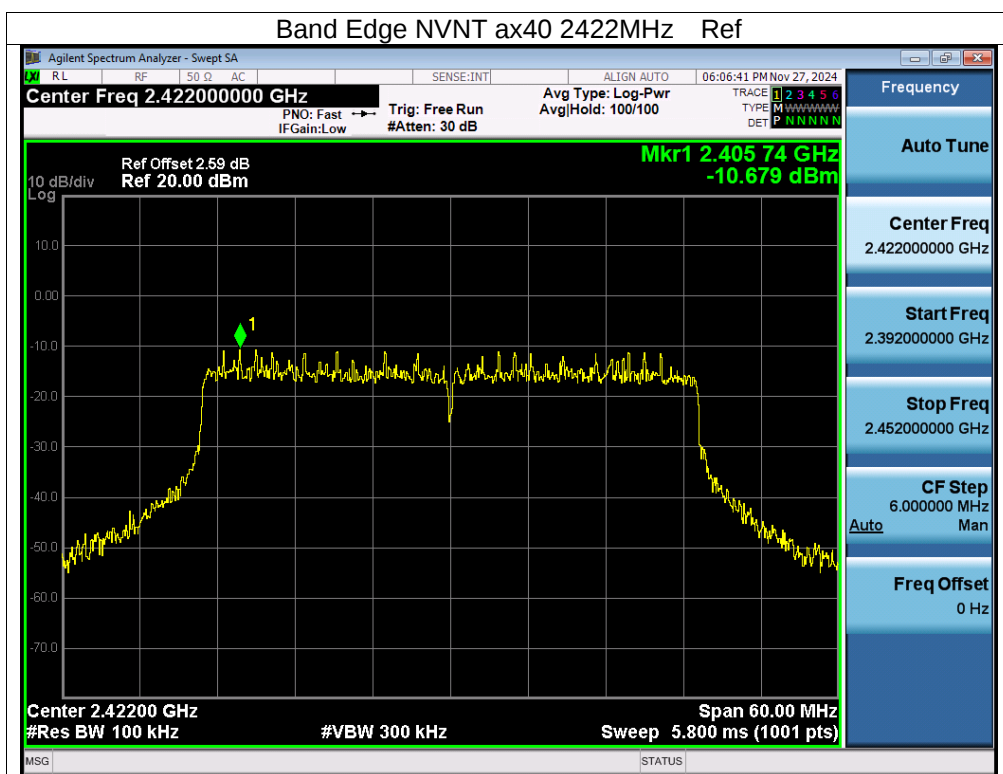


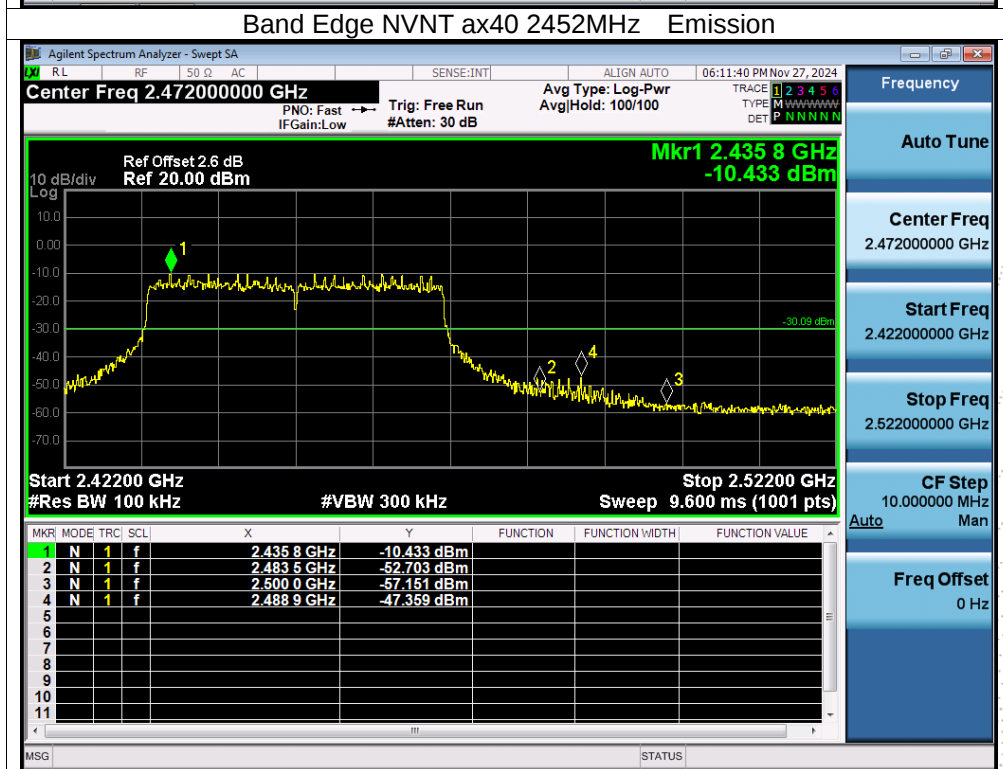
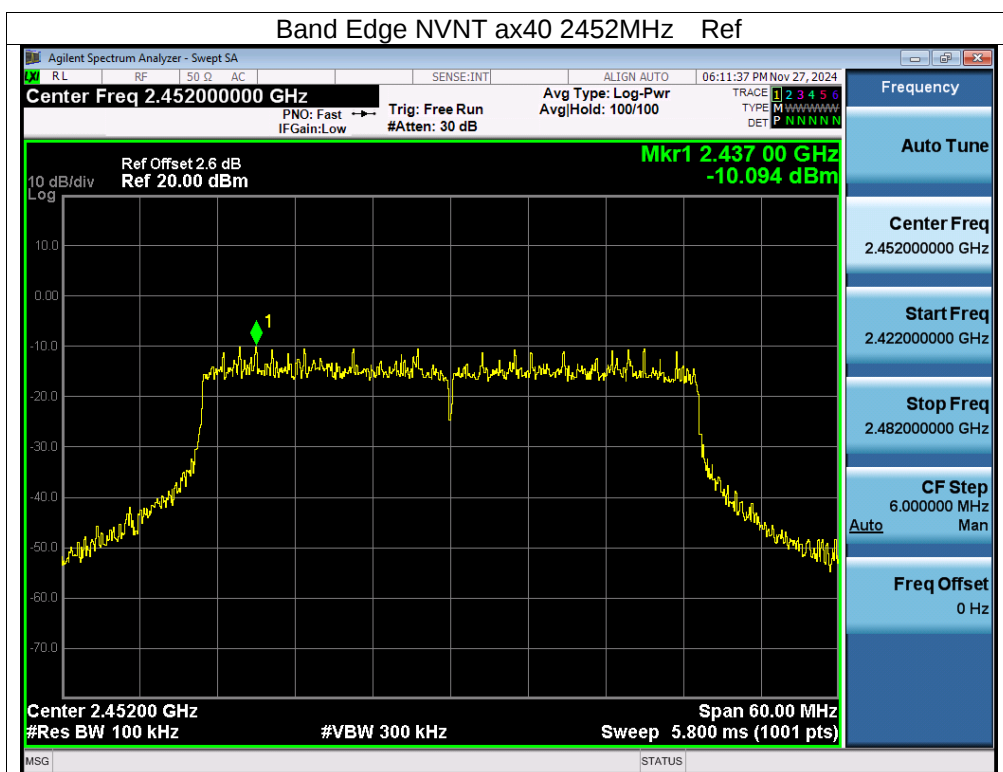




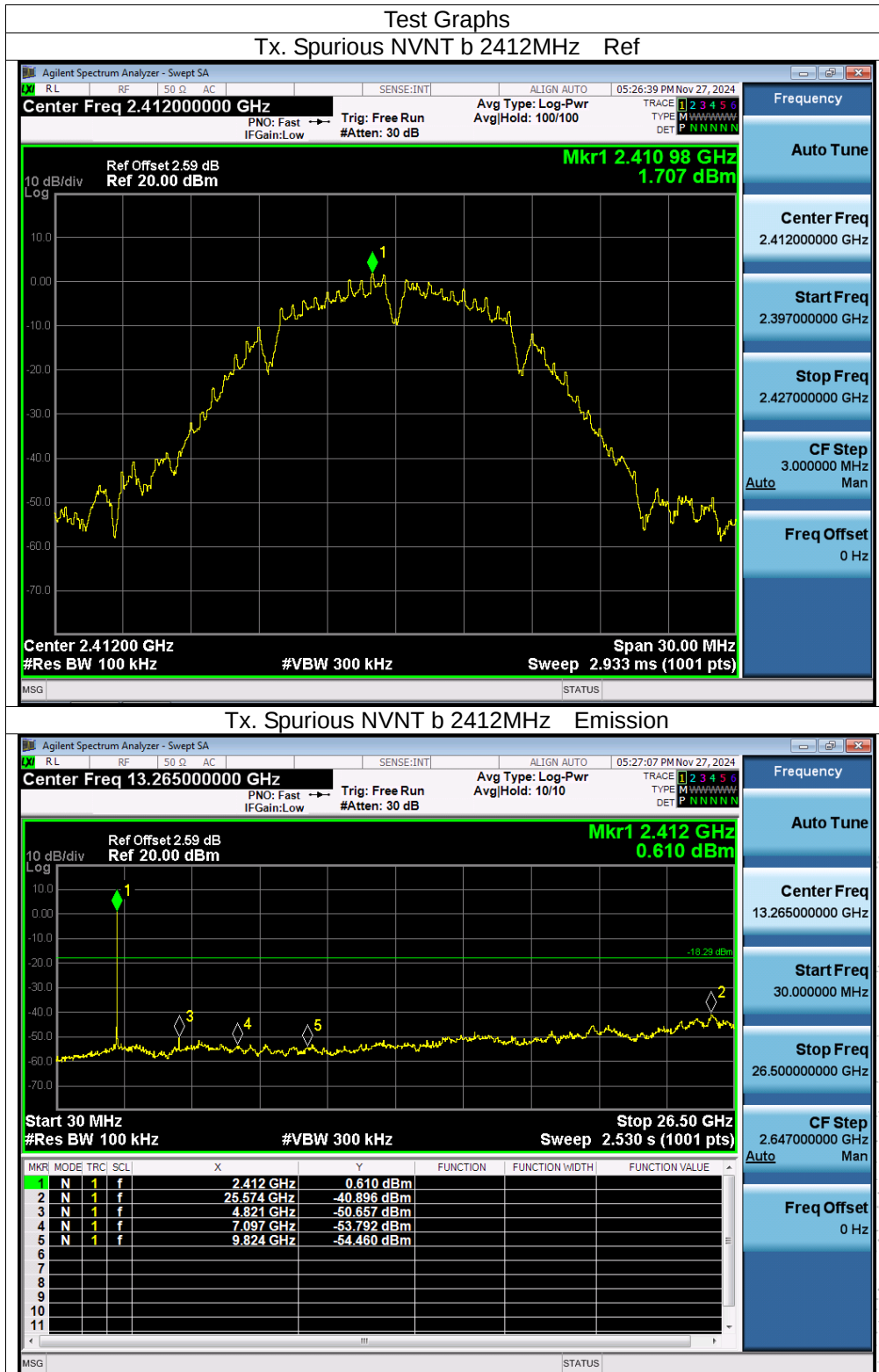


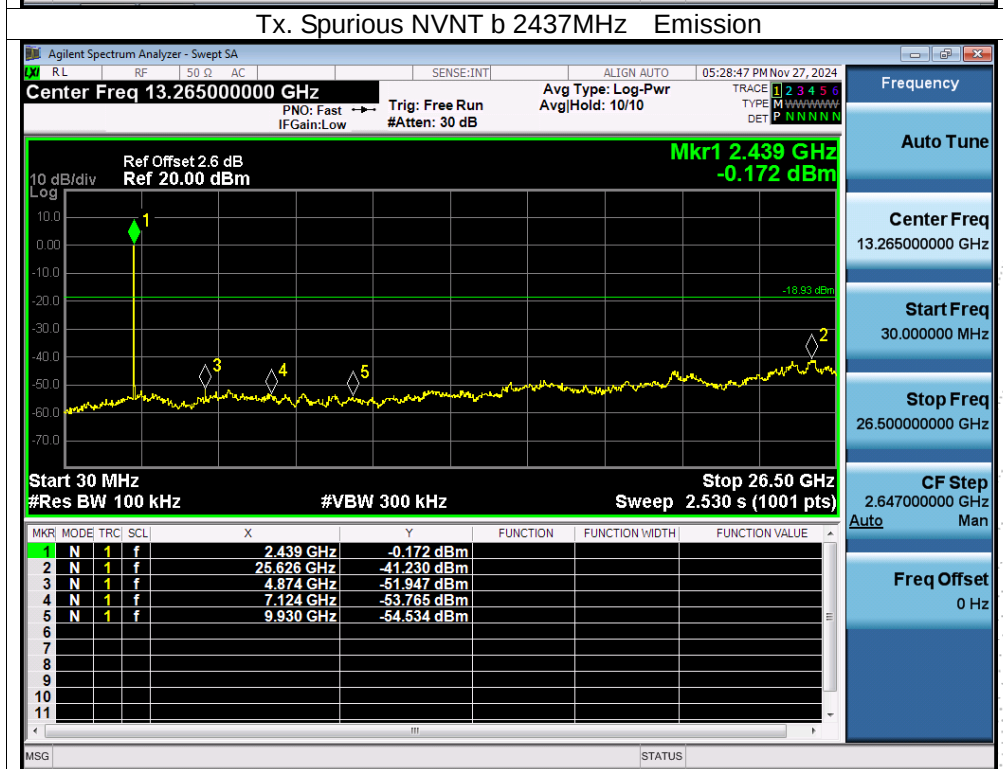
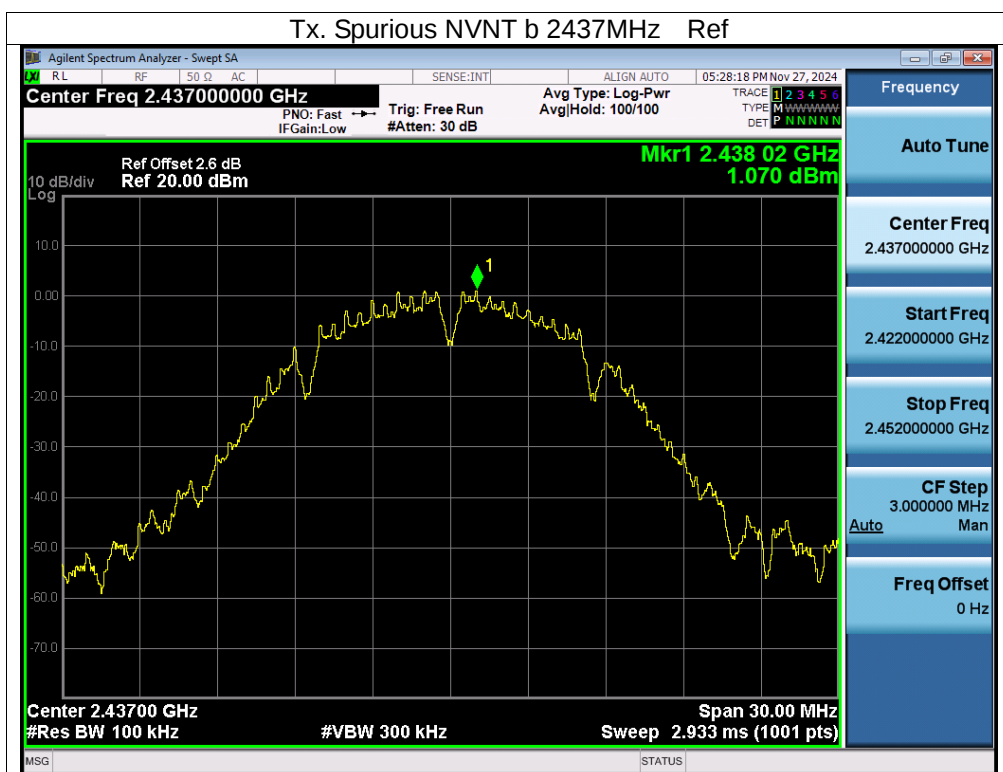


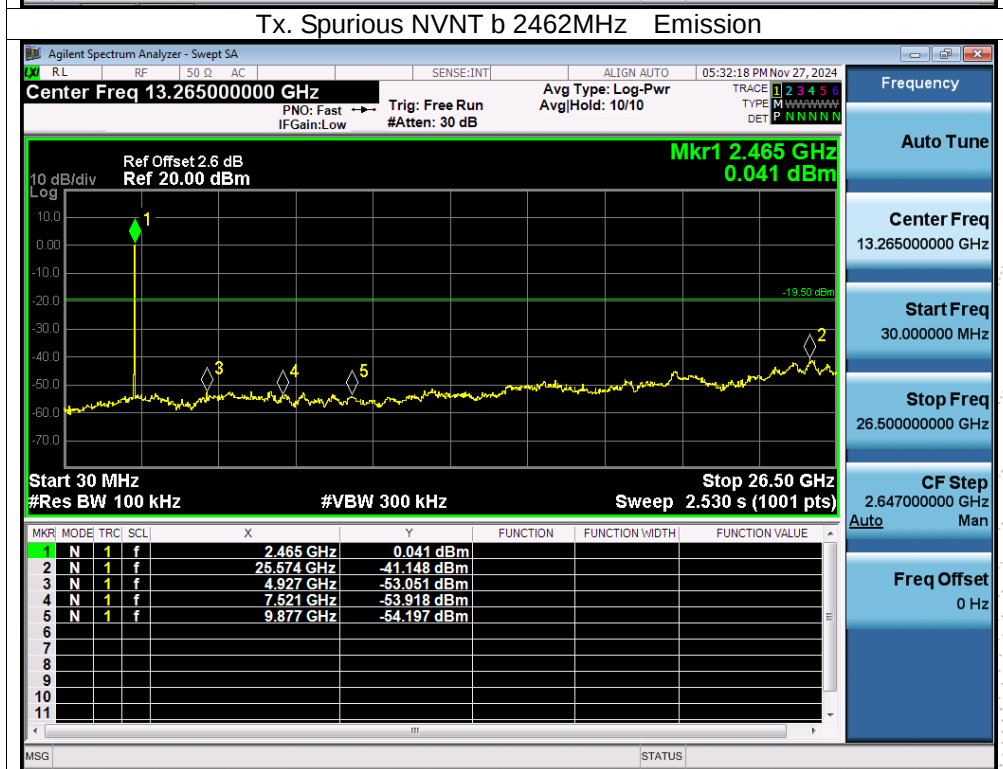
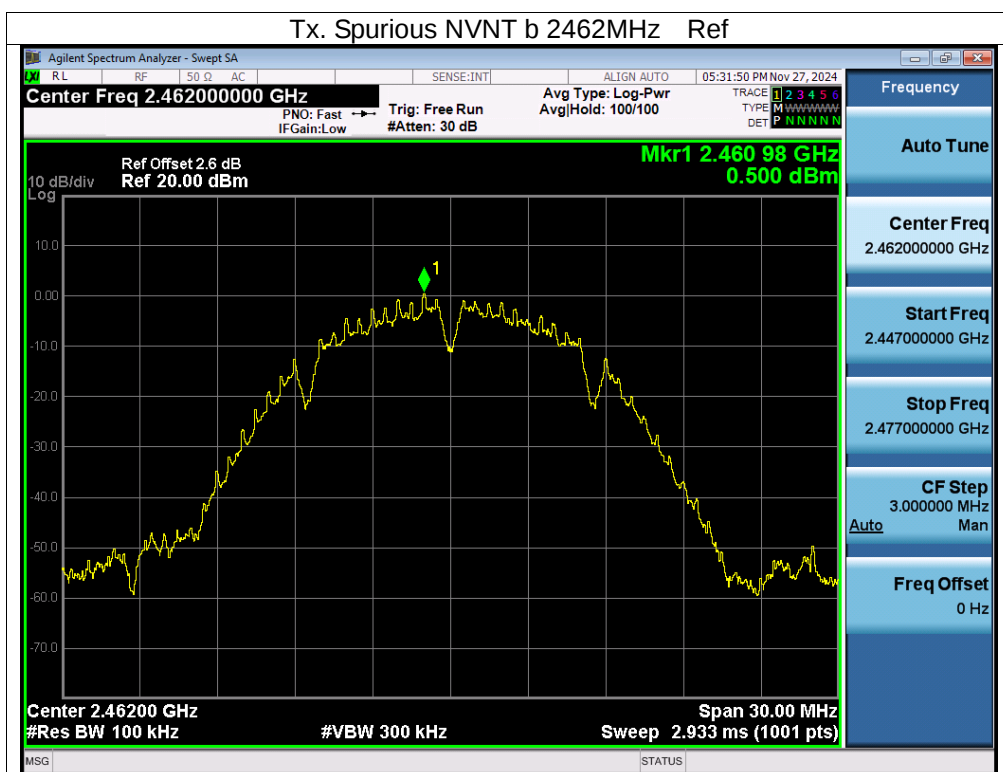




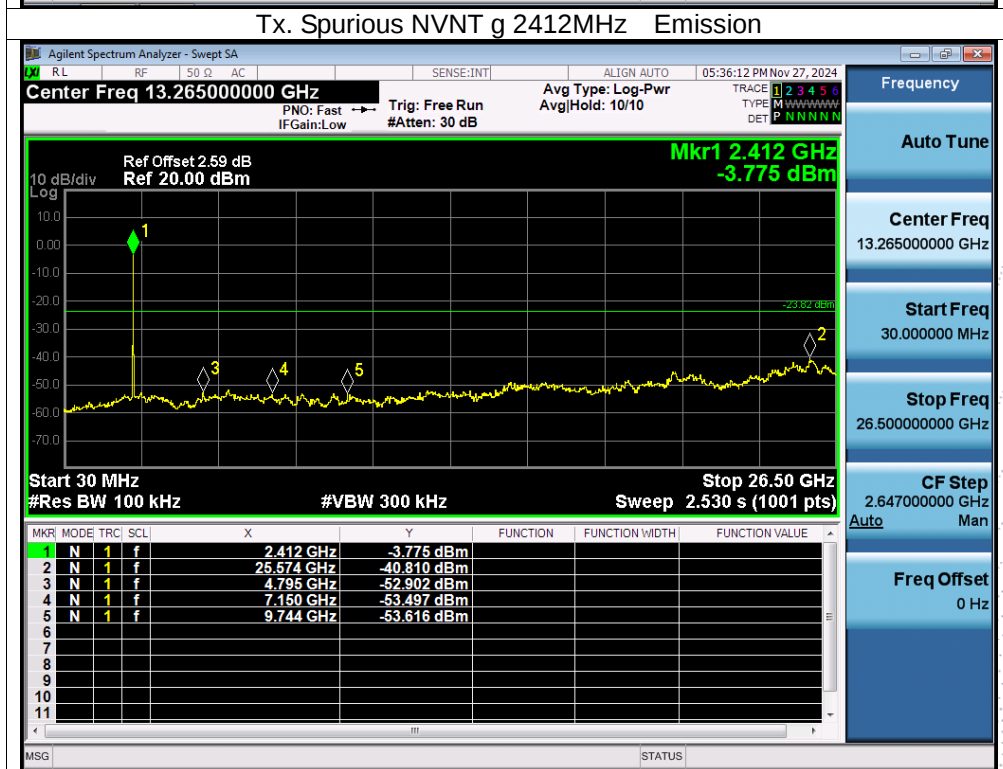
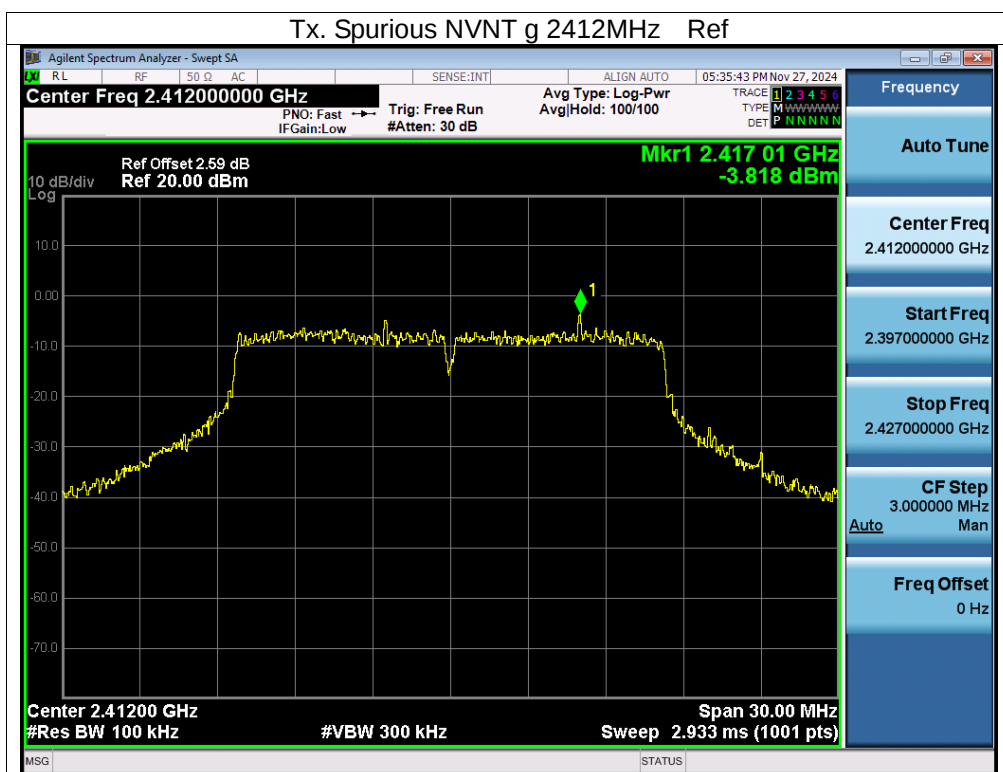
## Conducted Emission Measurement

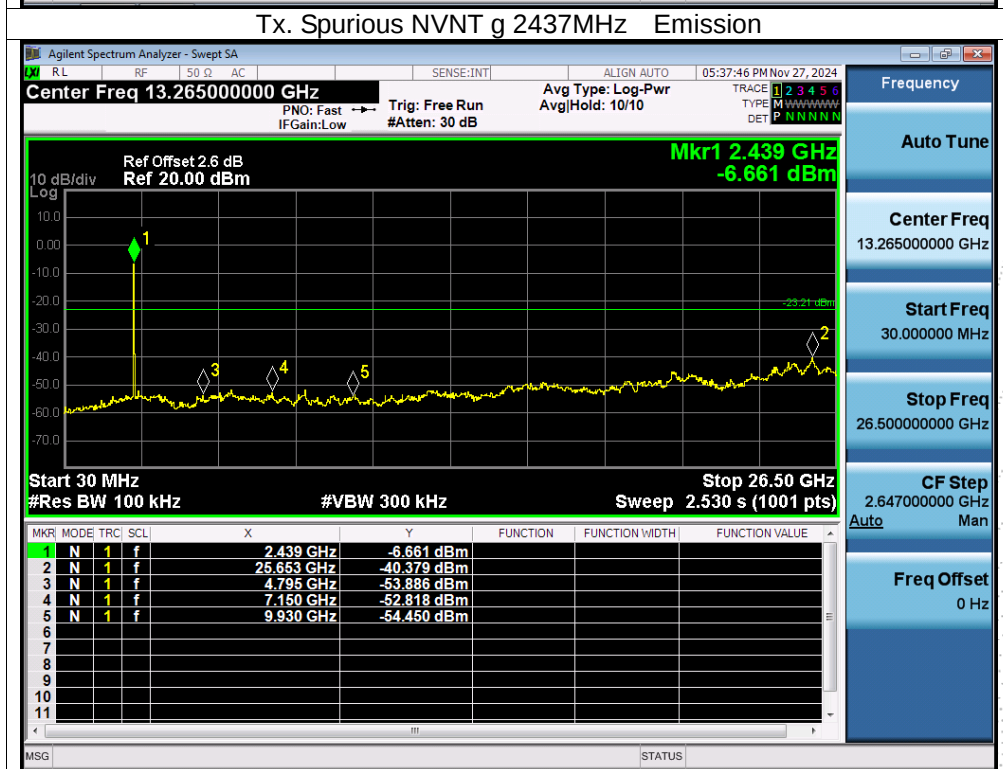
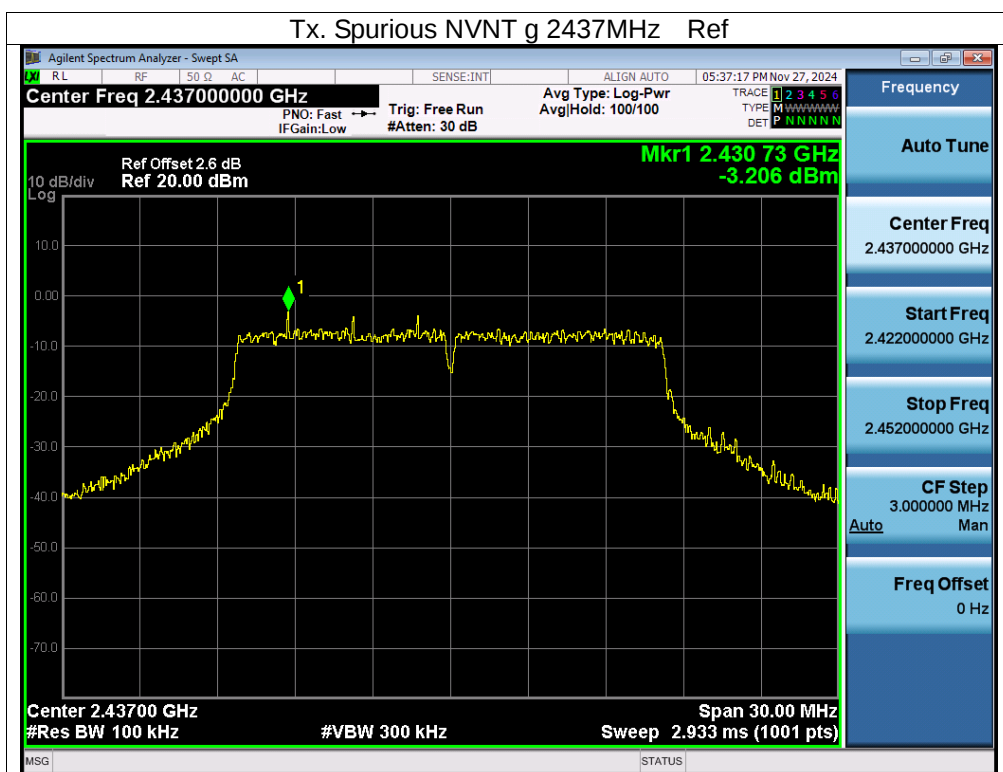


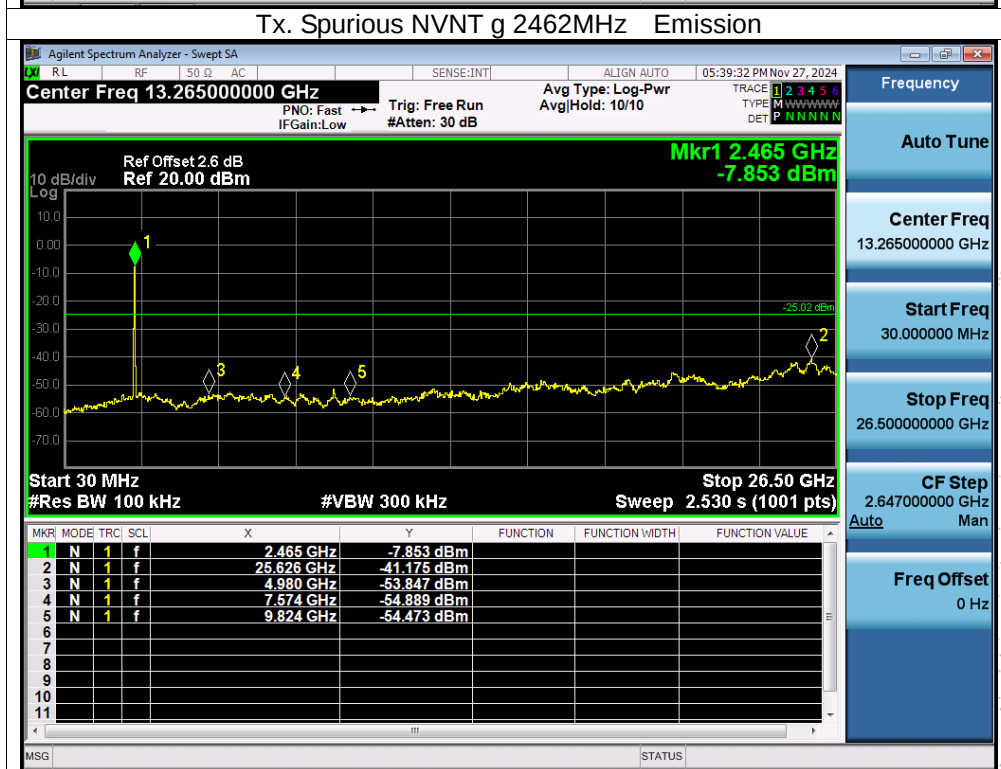
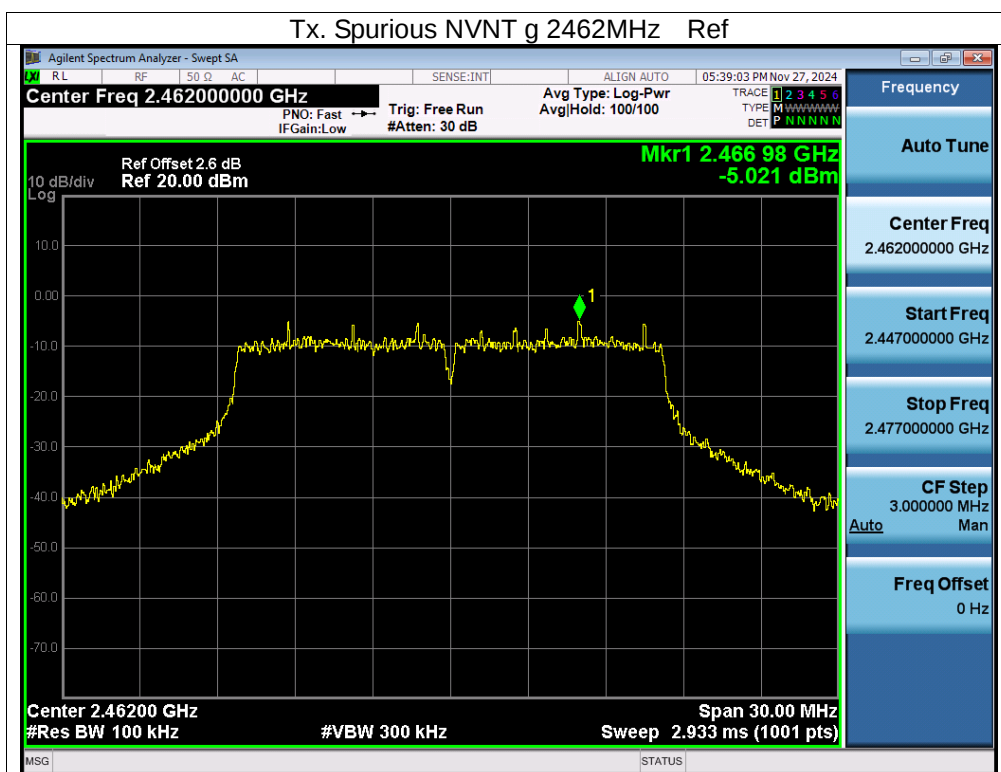


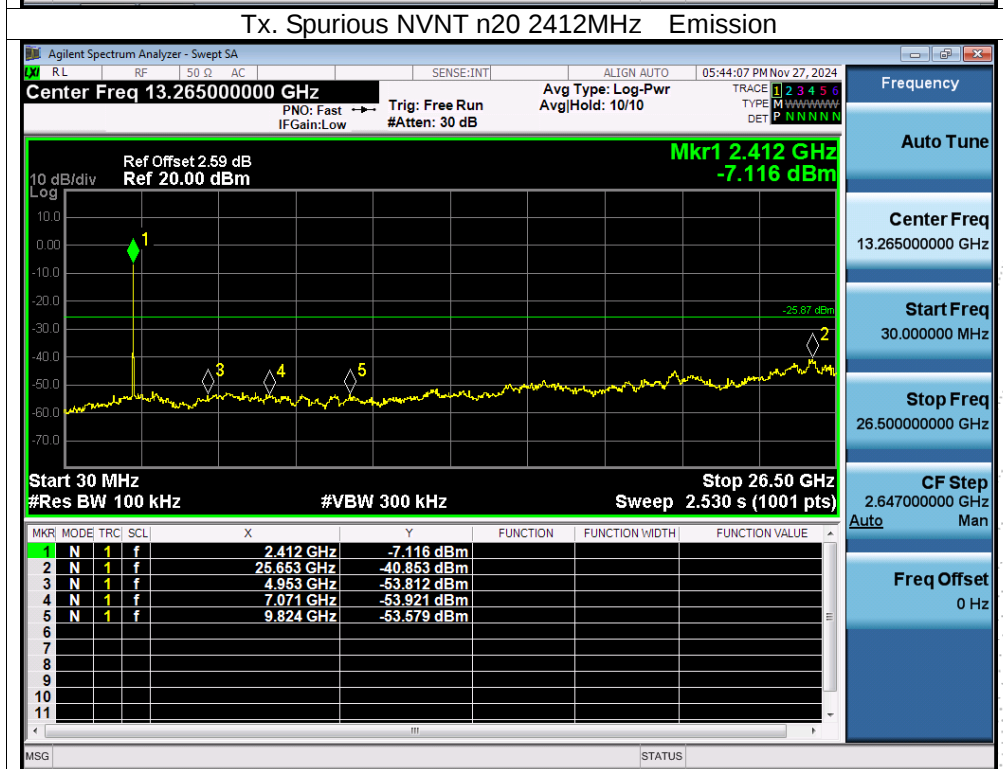
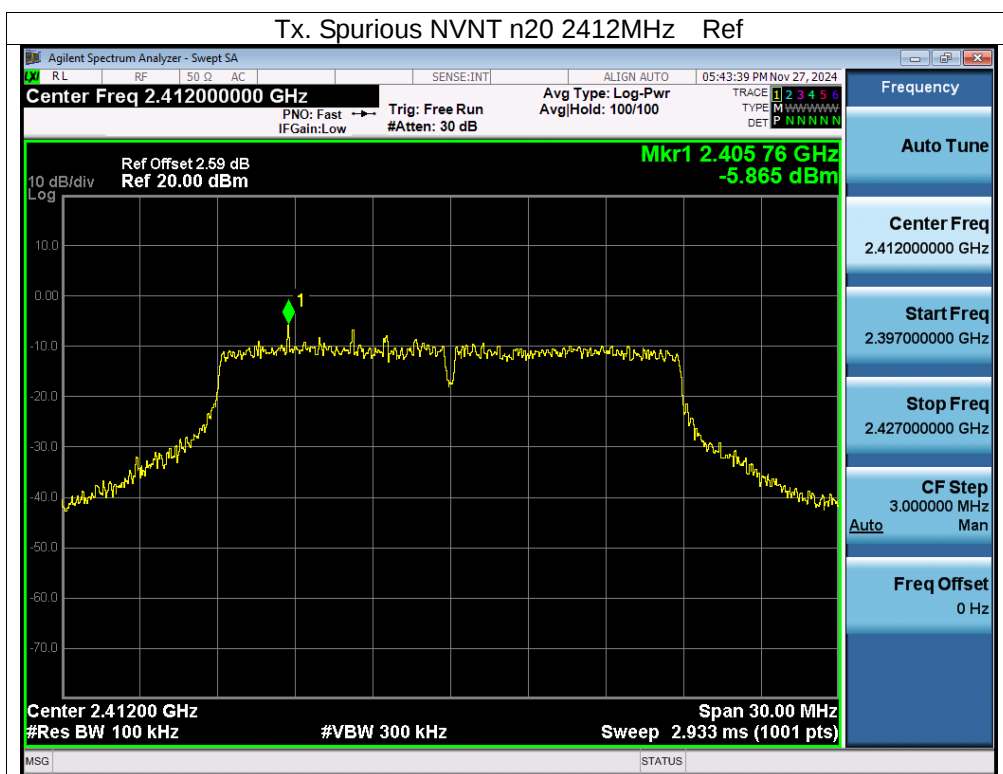


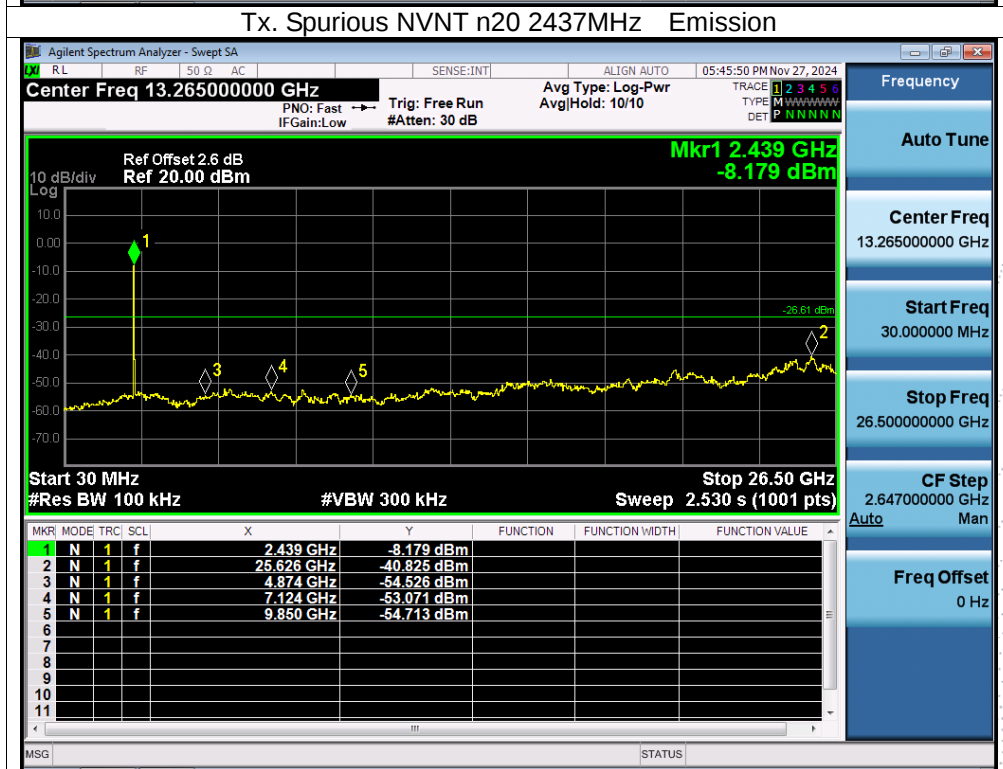
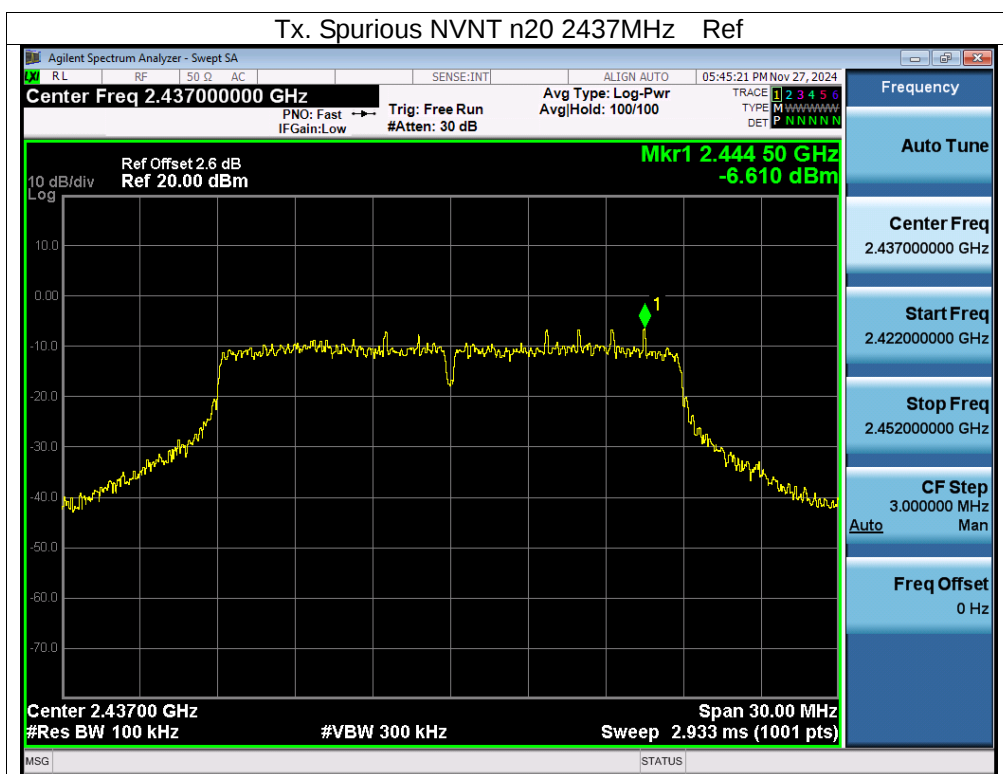
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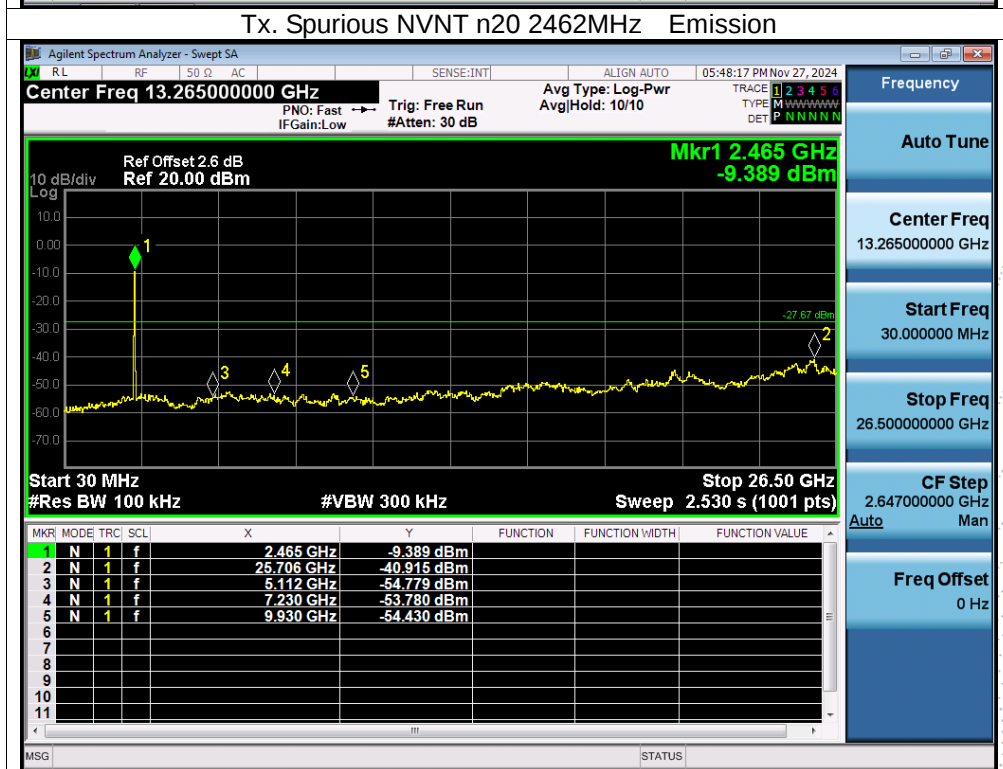
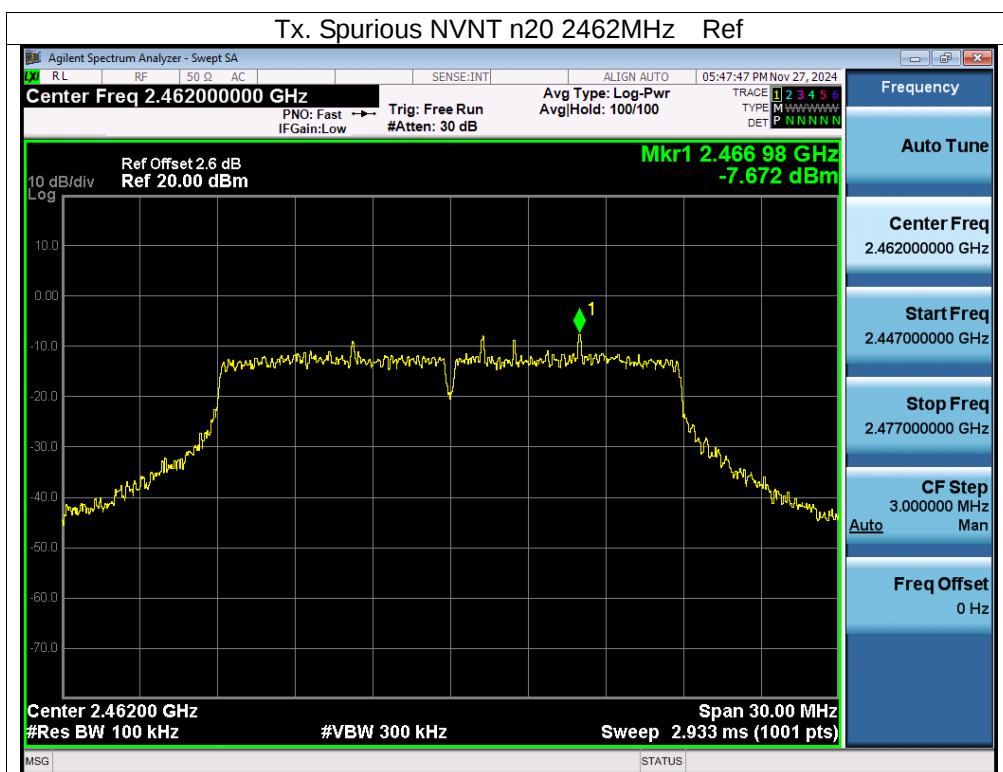


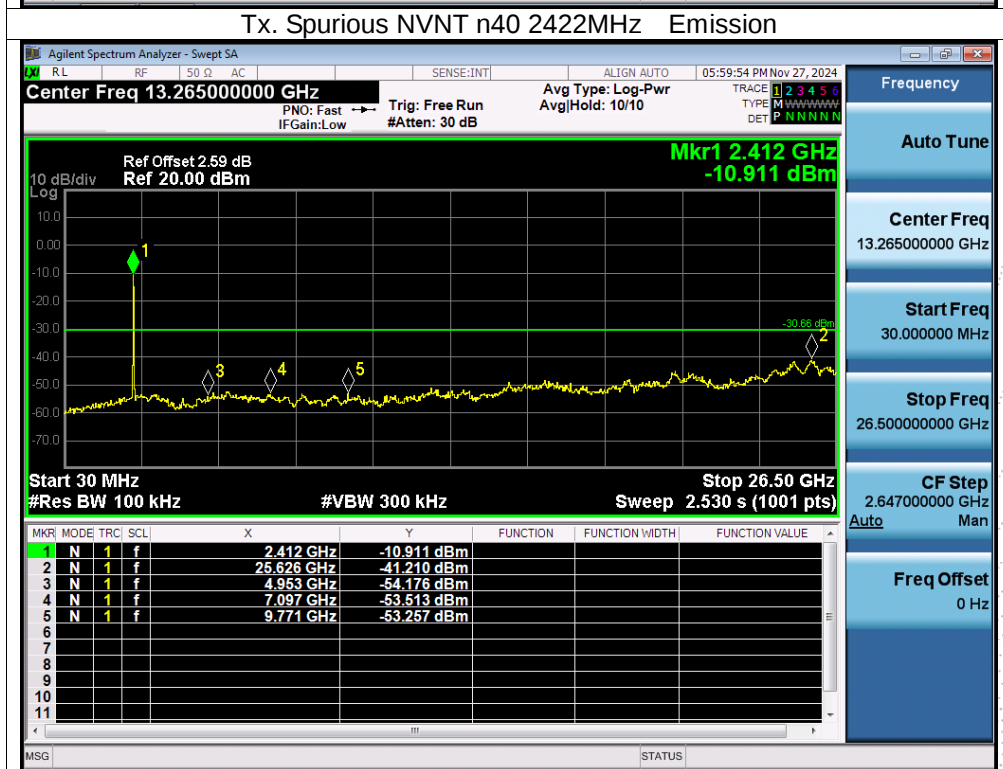
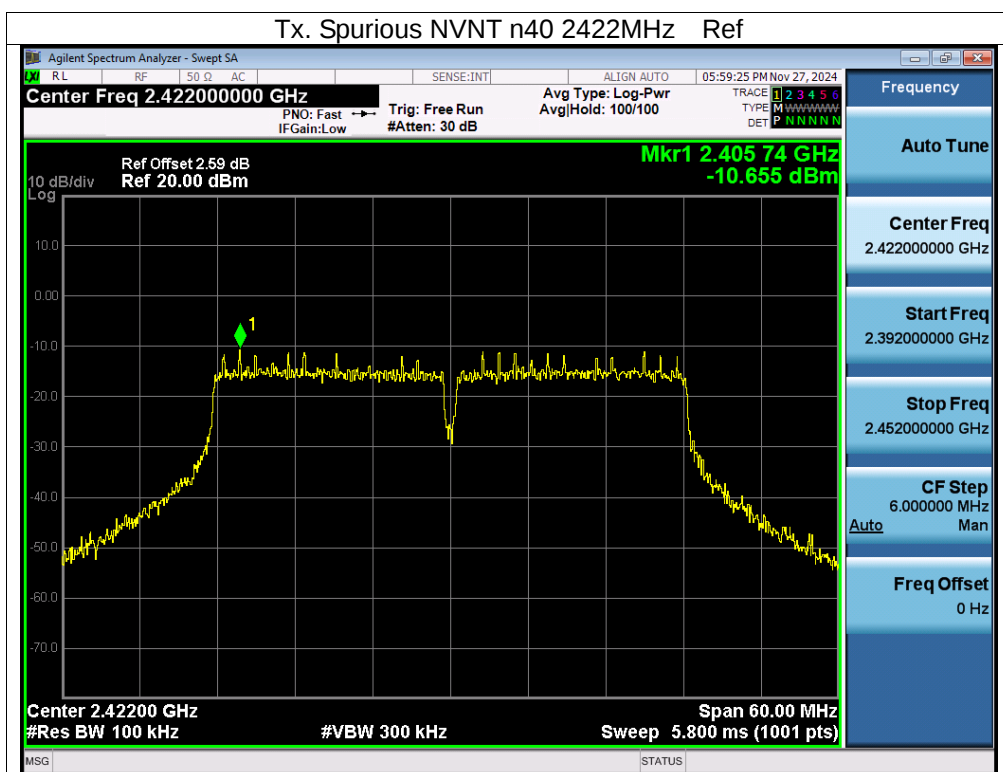


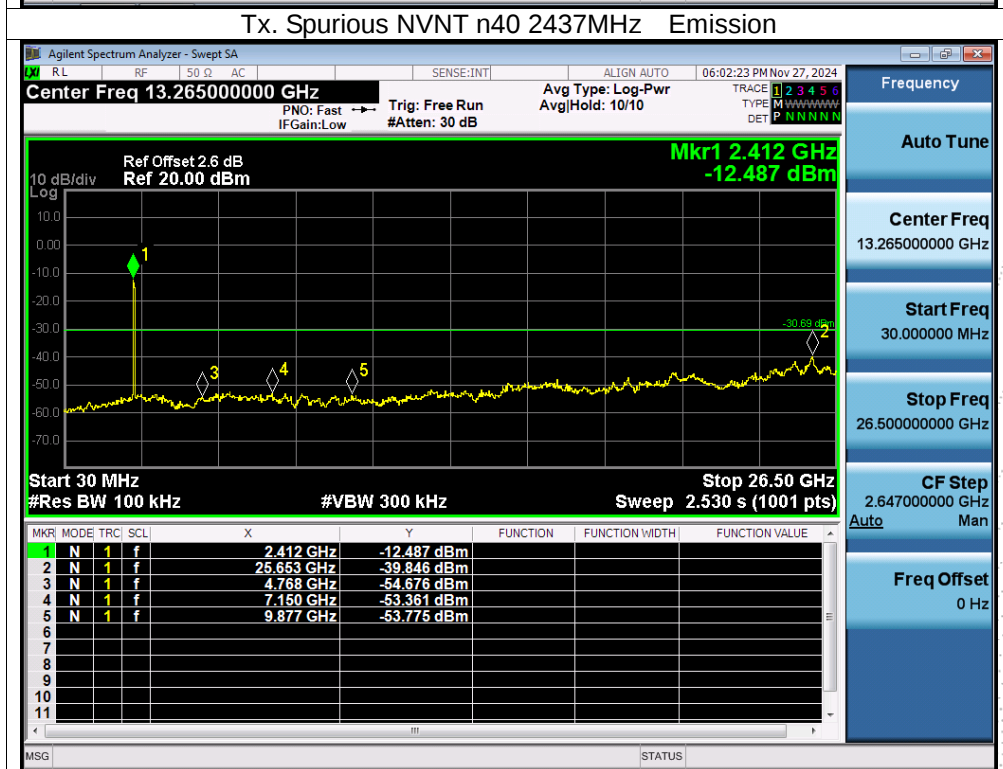
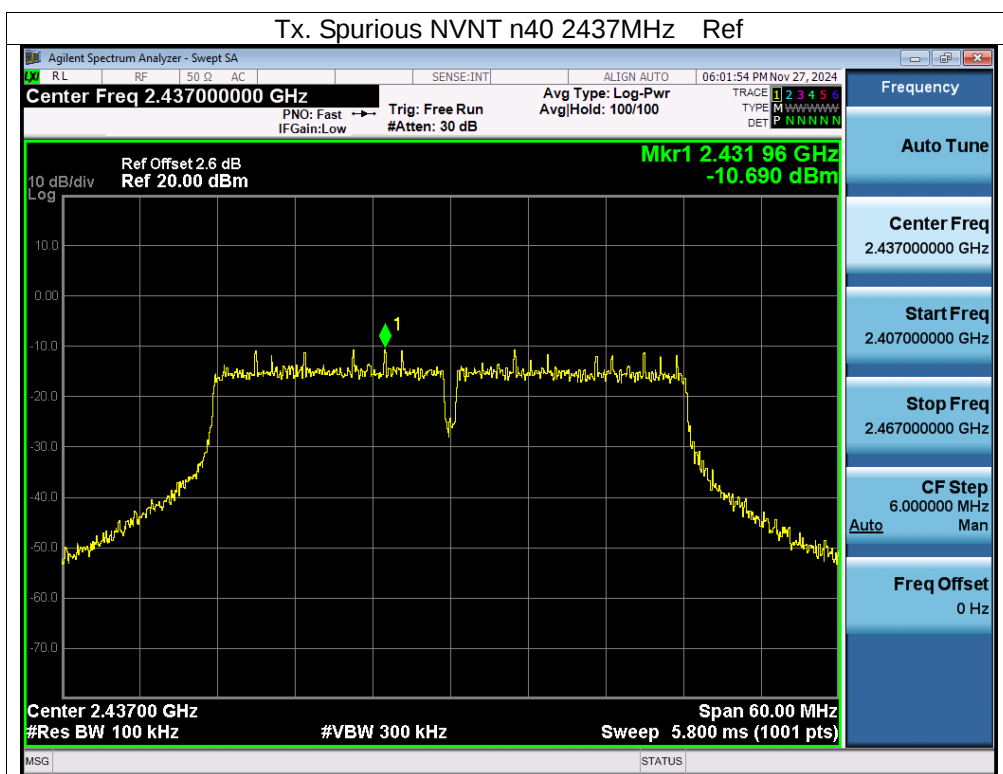


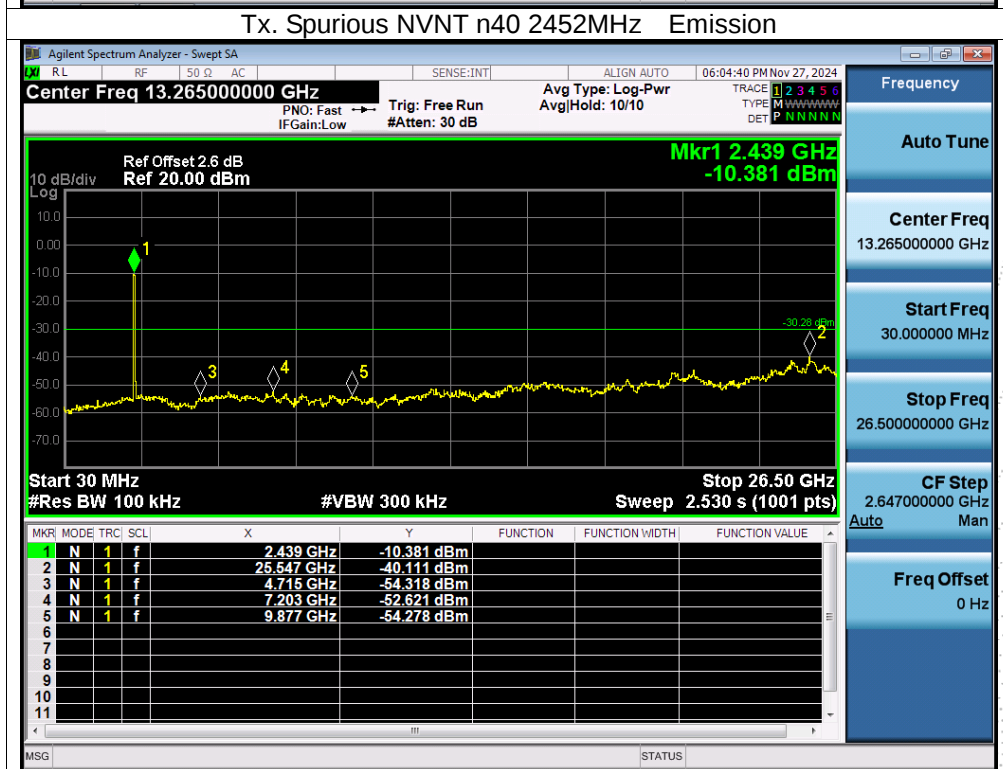
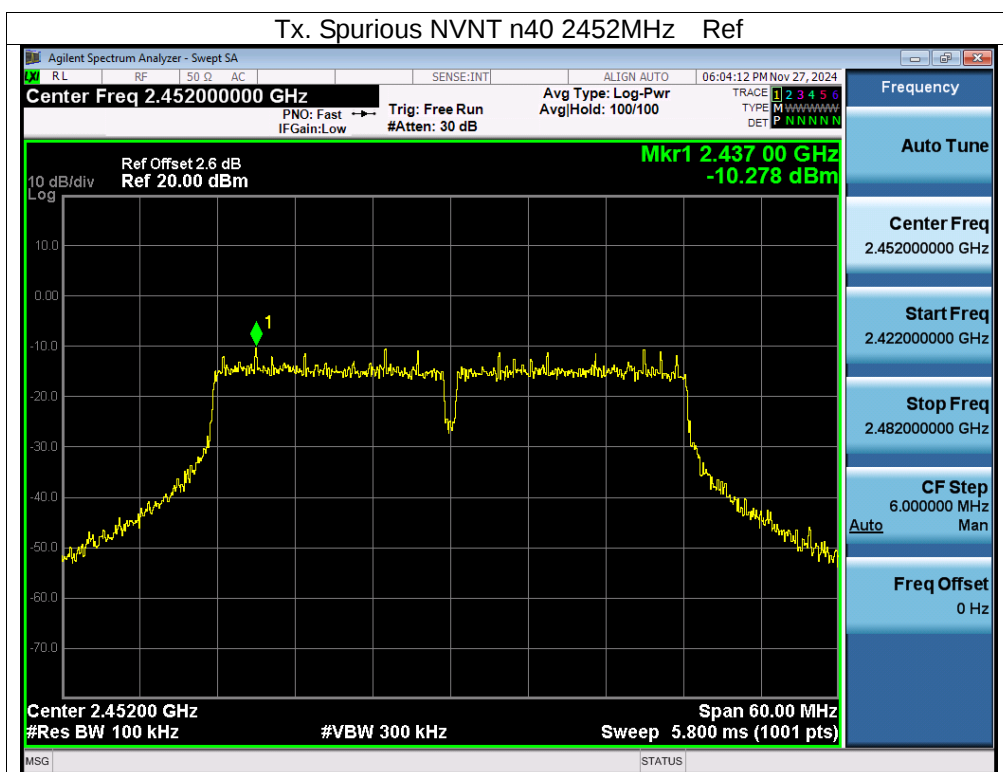


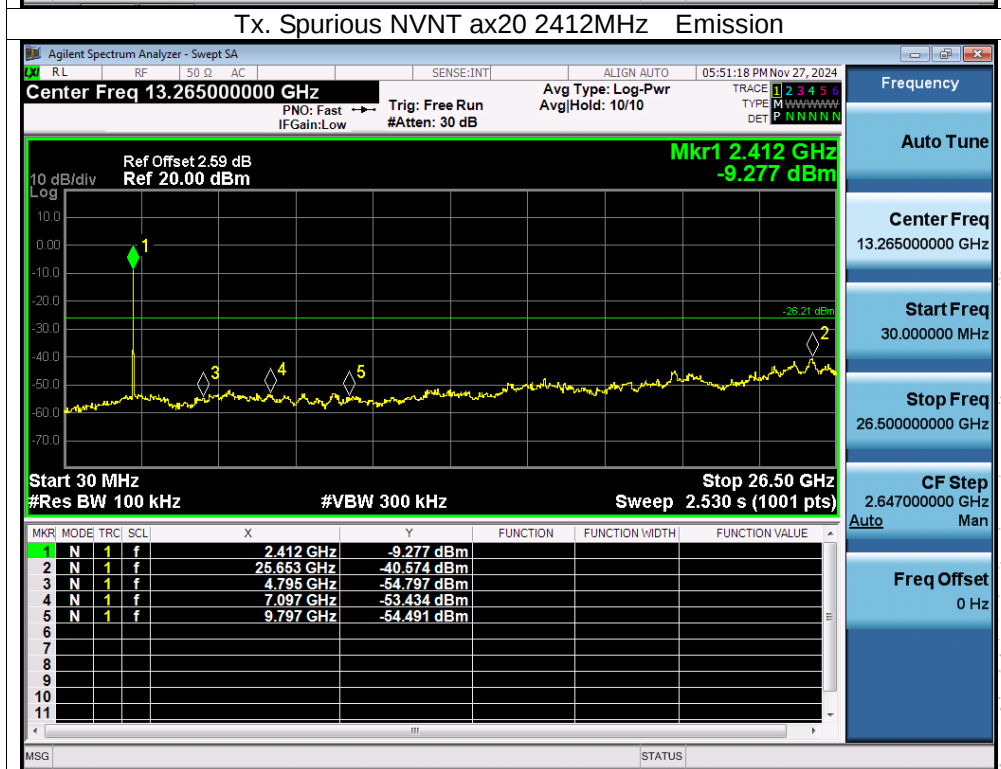
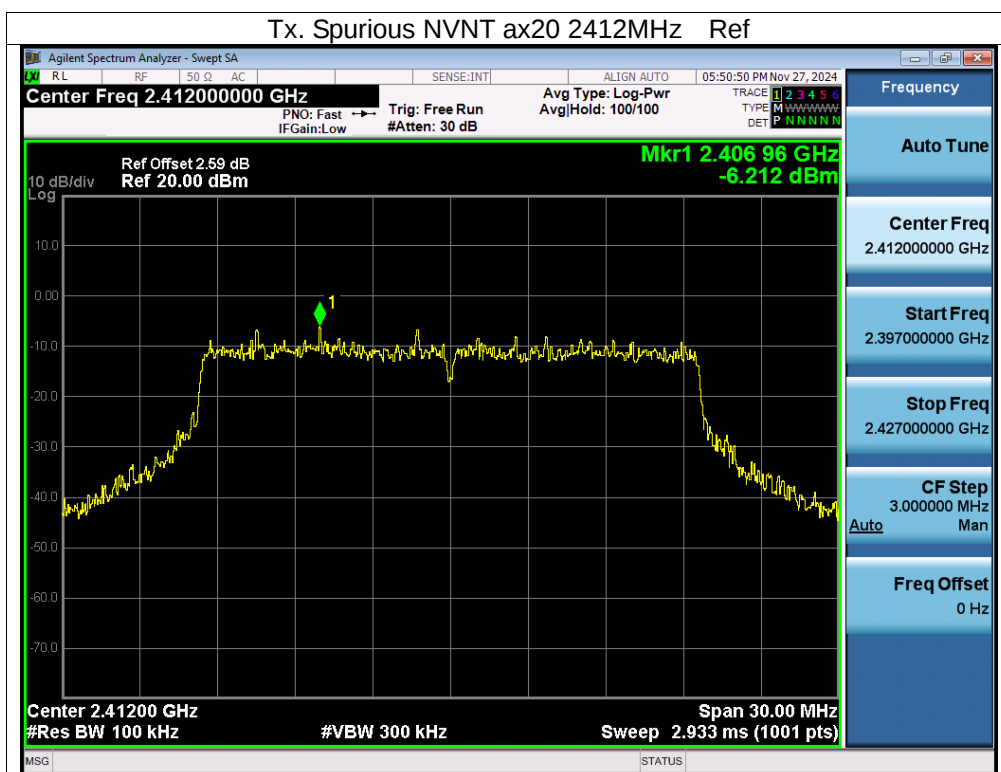


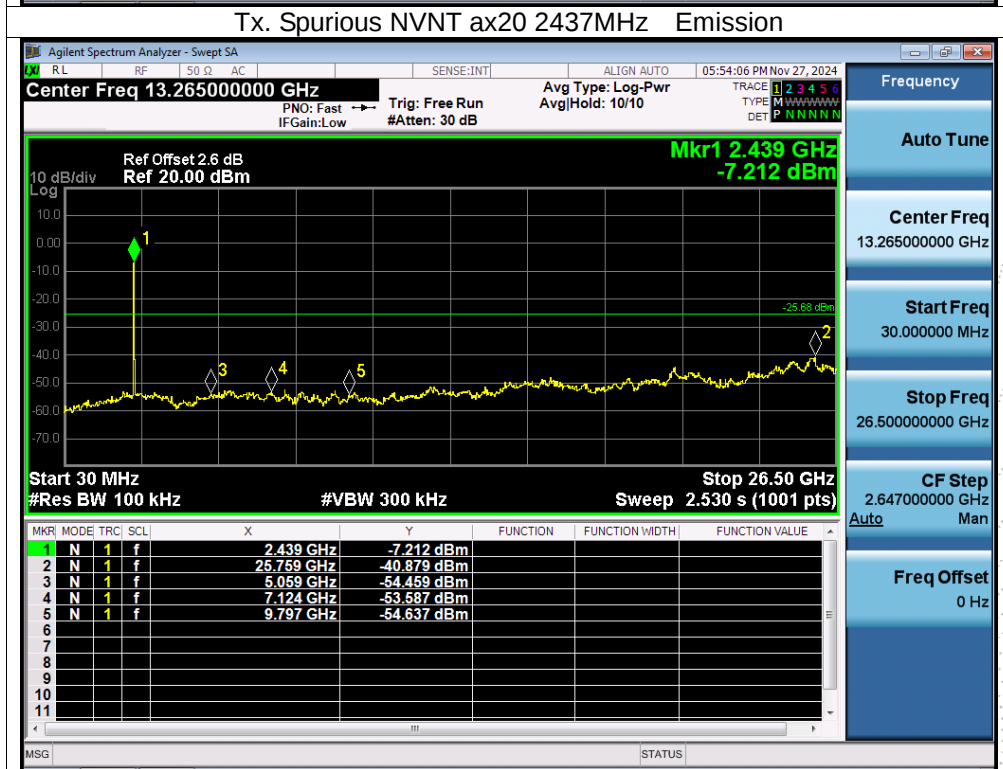
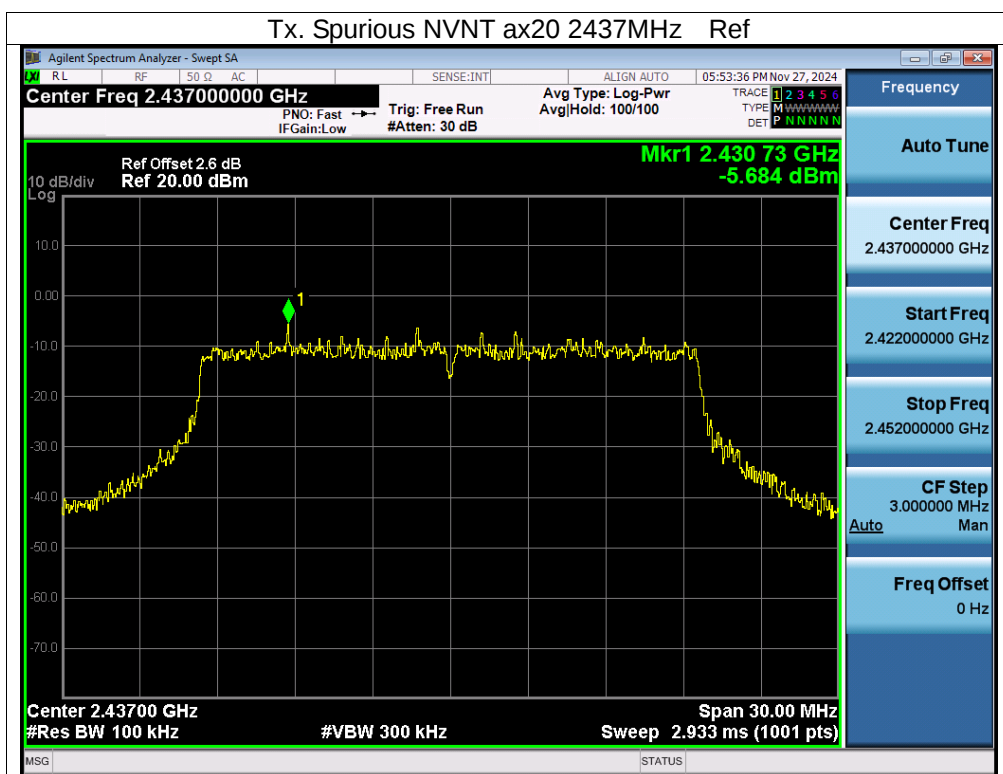


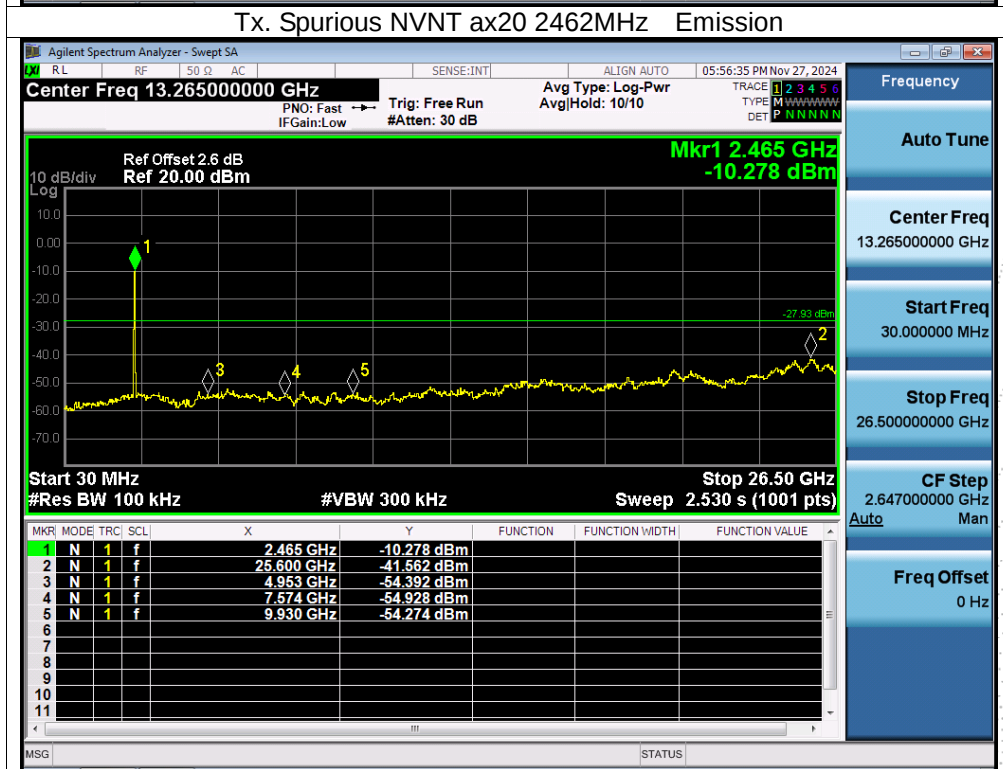
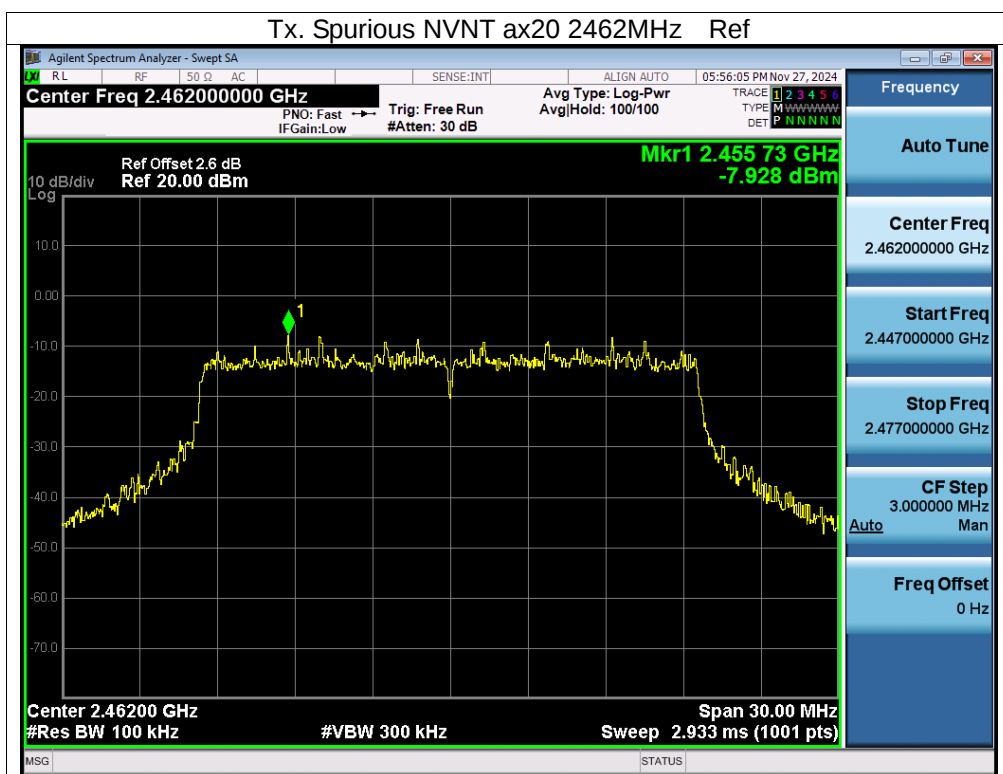


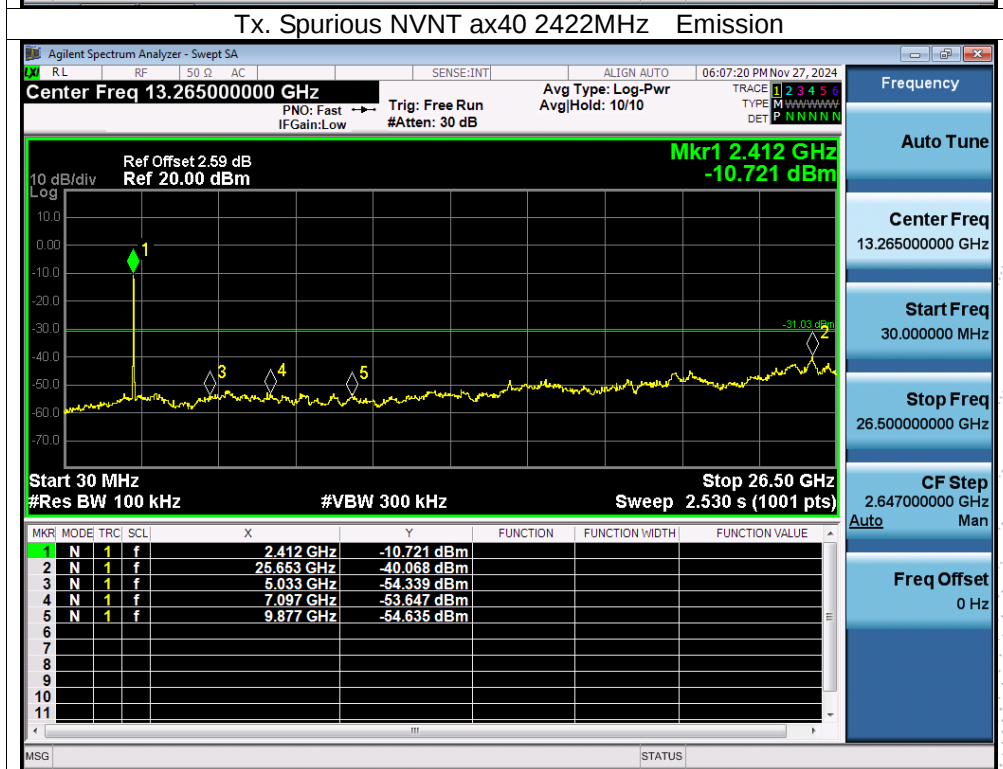
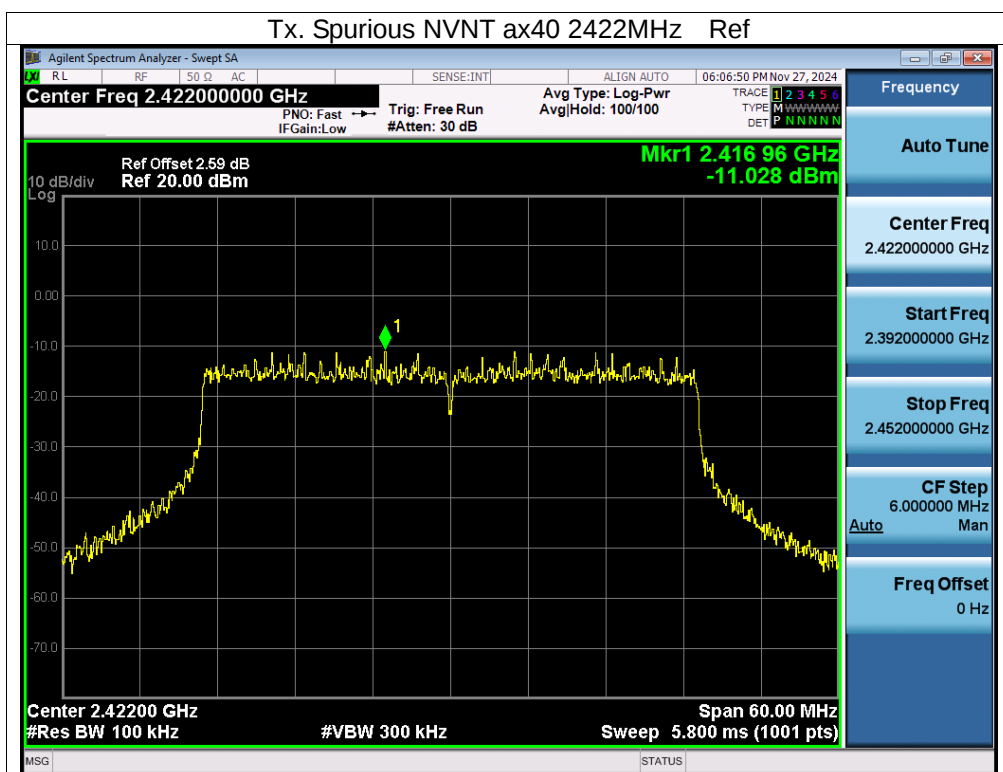


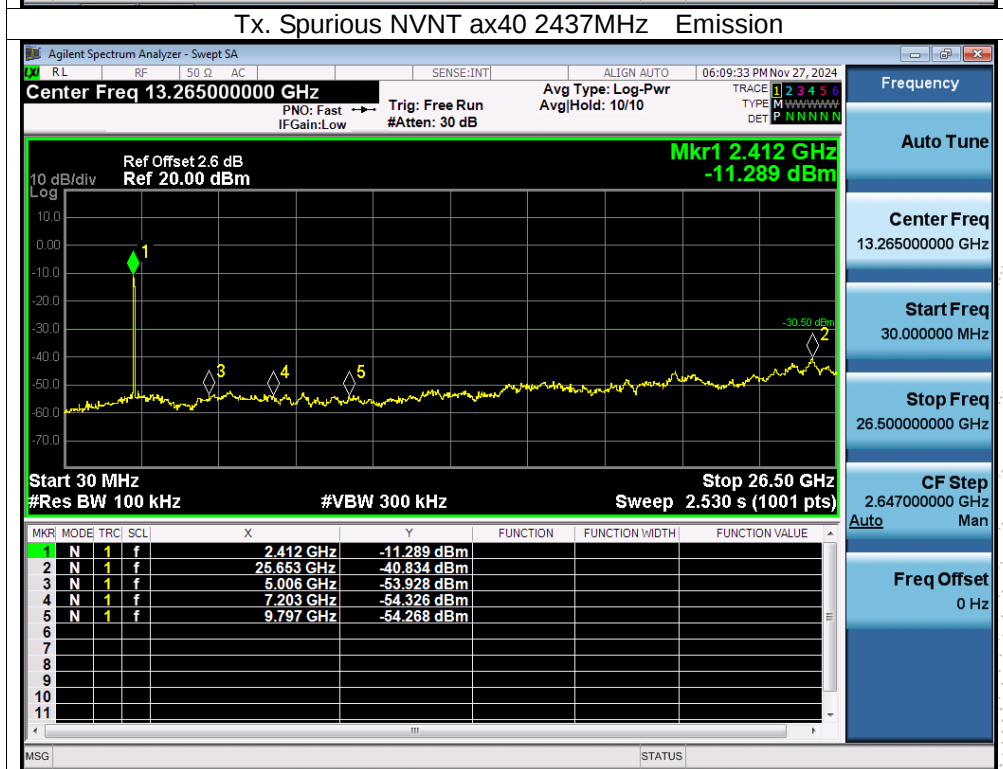
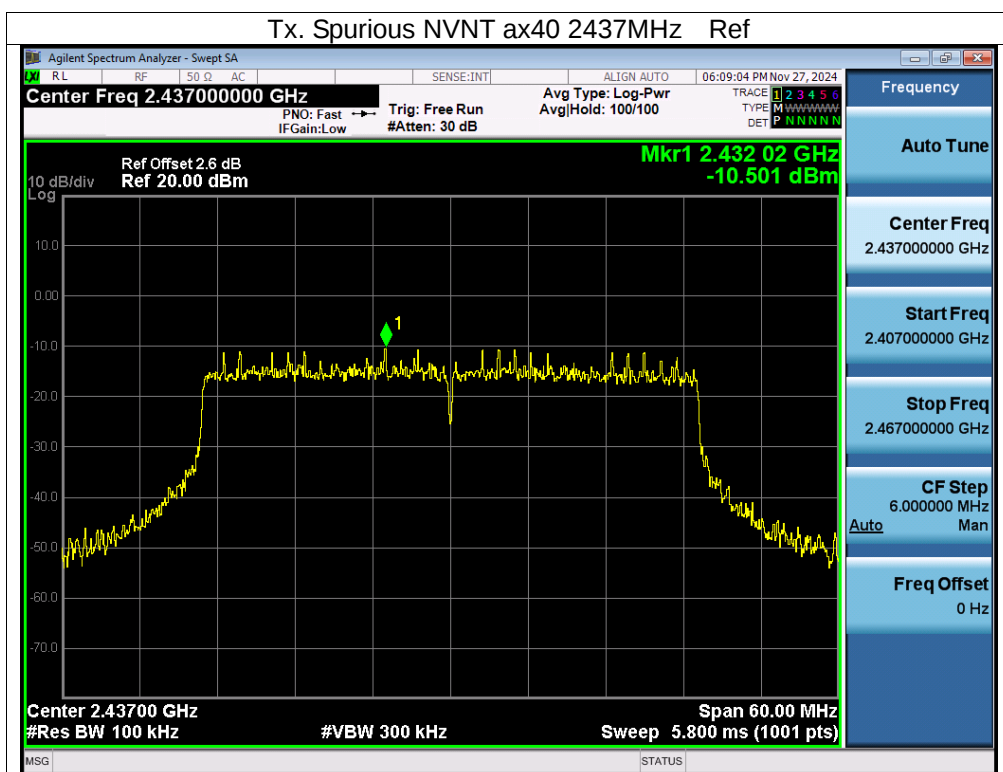


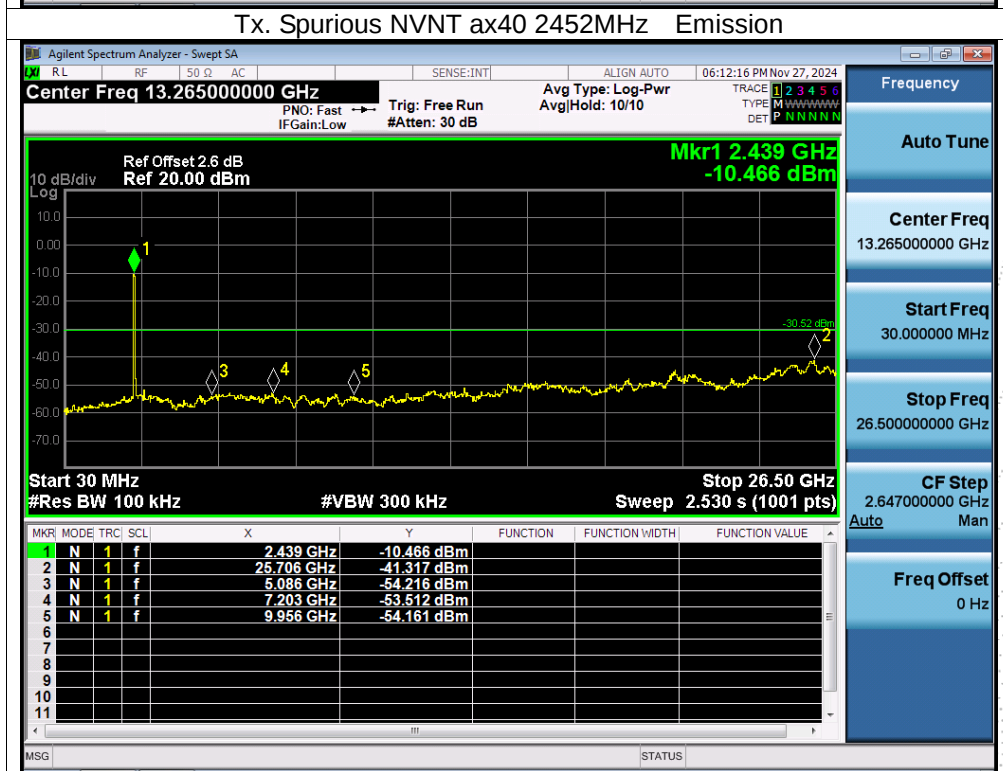
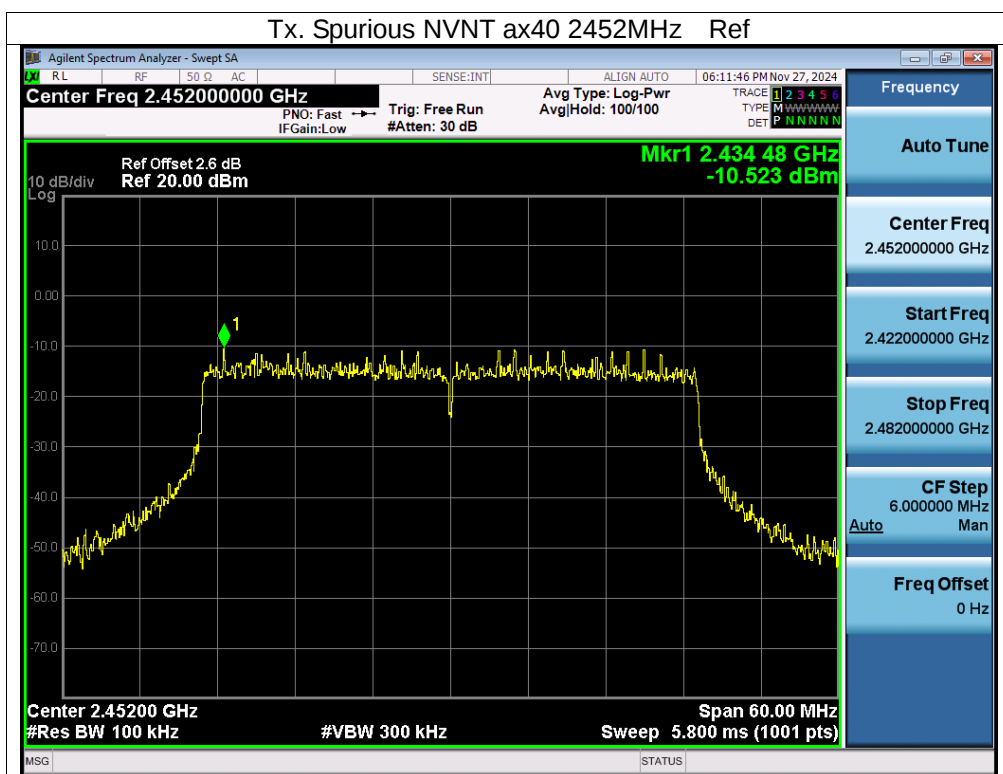












## 13. Duty Cycle Of Test Signal

### 13.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

### 13.2 Formula

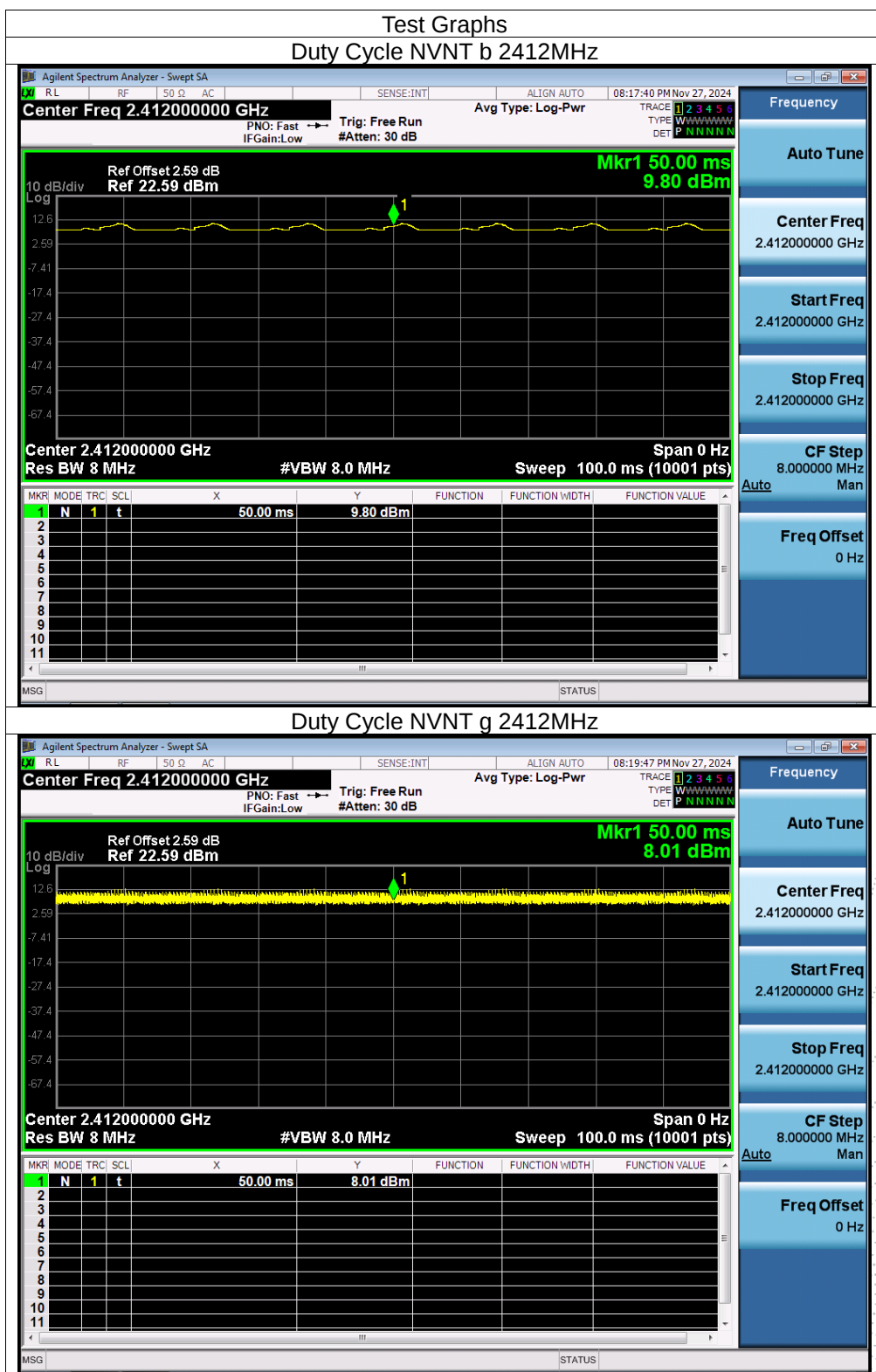
Duty Cycle =  $T_{on} / (T_{on} + T_{off})$

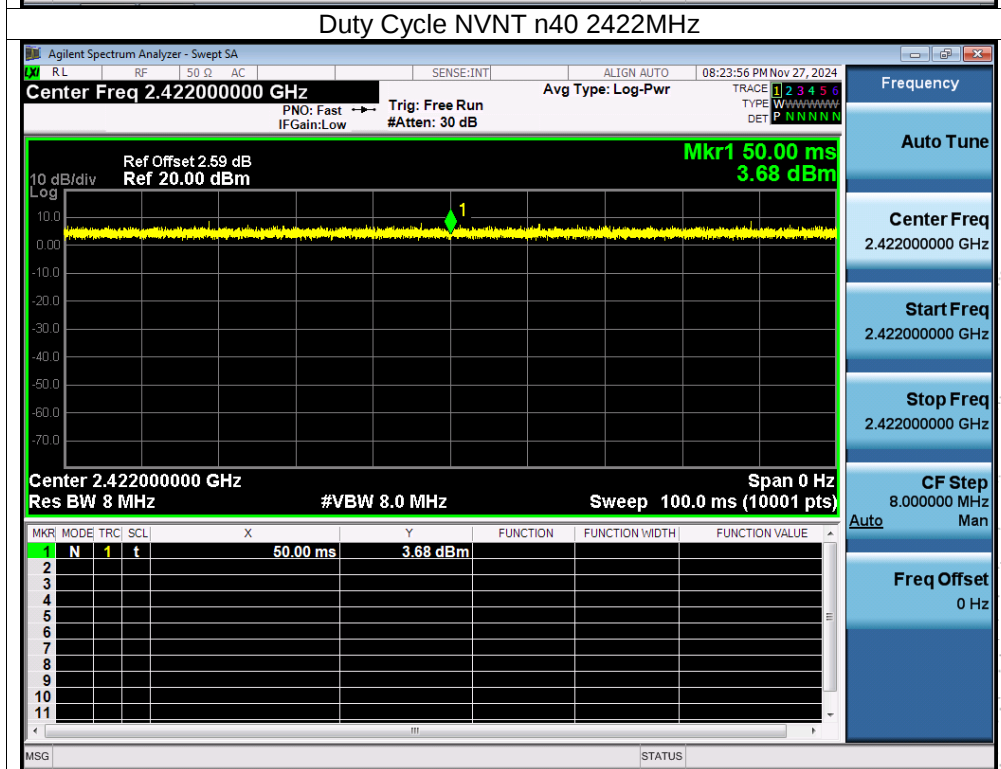
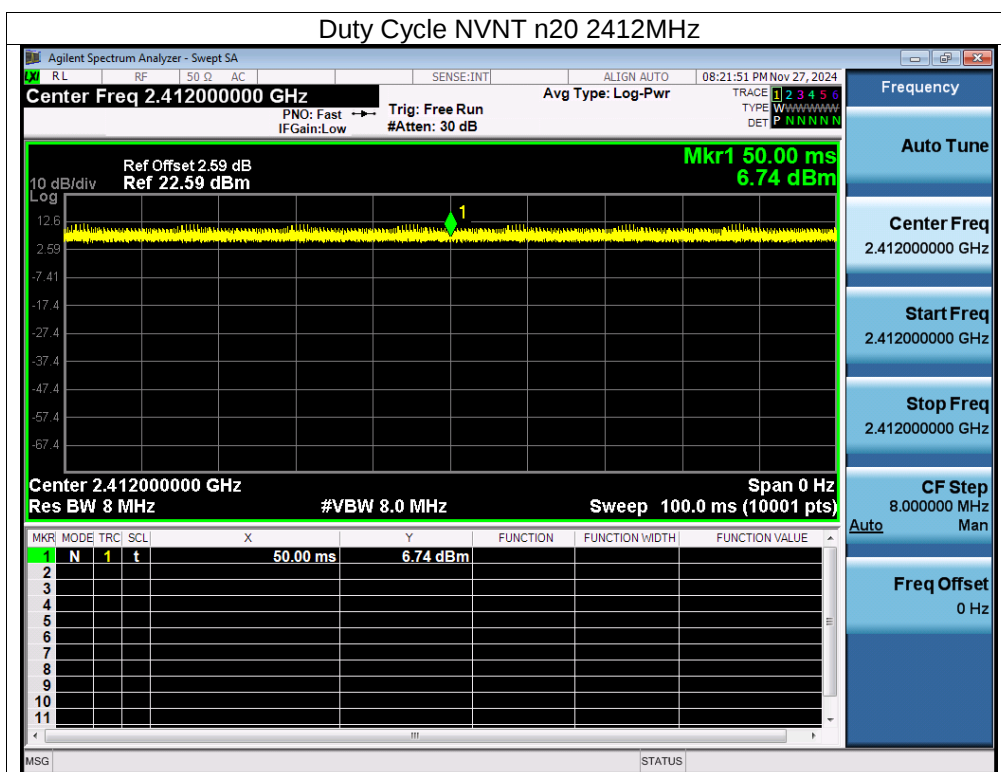
### 13.3 Test Procedure

1. Set span = Zero
2. RBW = 10MHz
3. VBW = 10MHz,
4. Detector = Peak

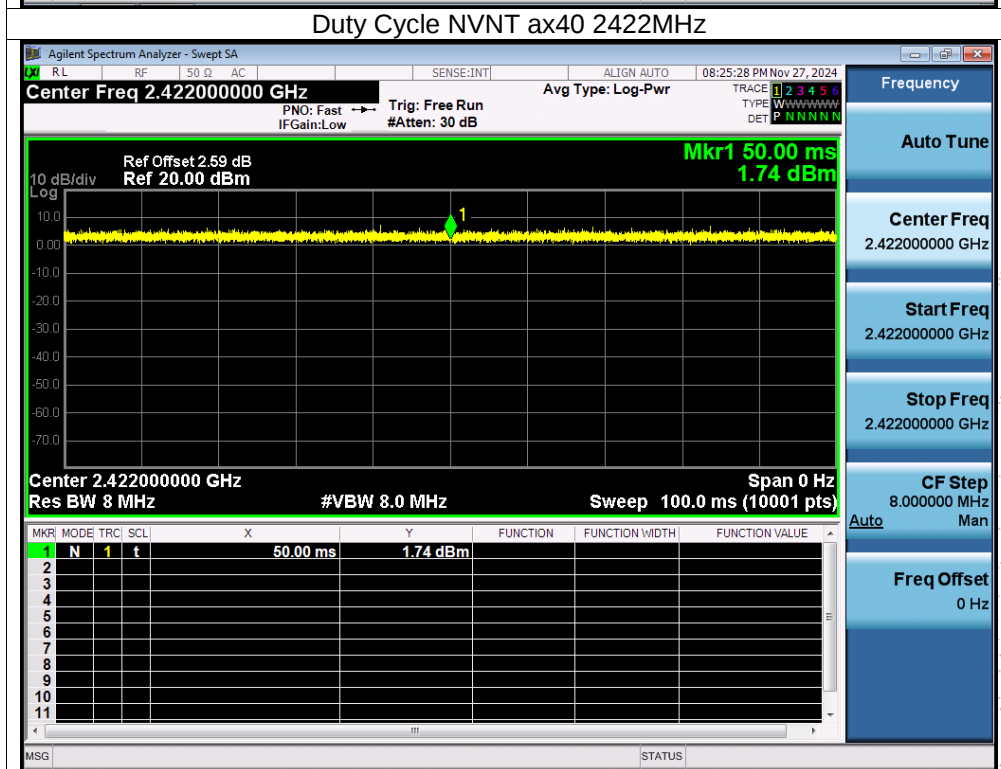
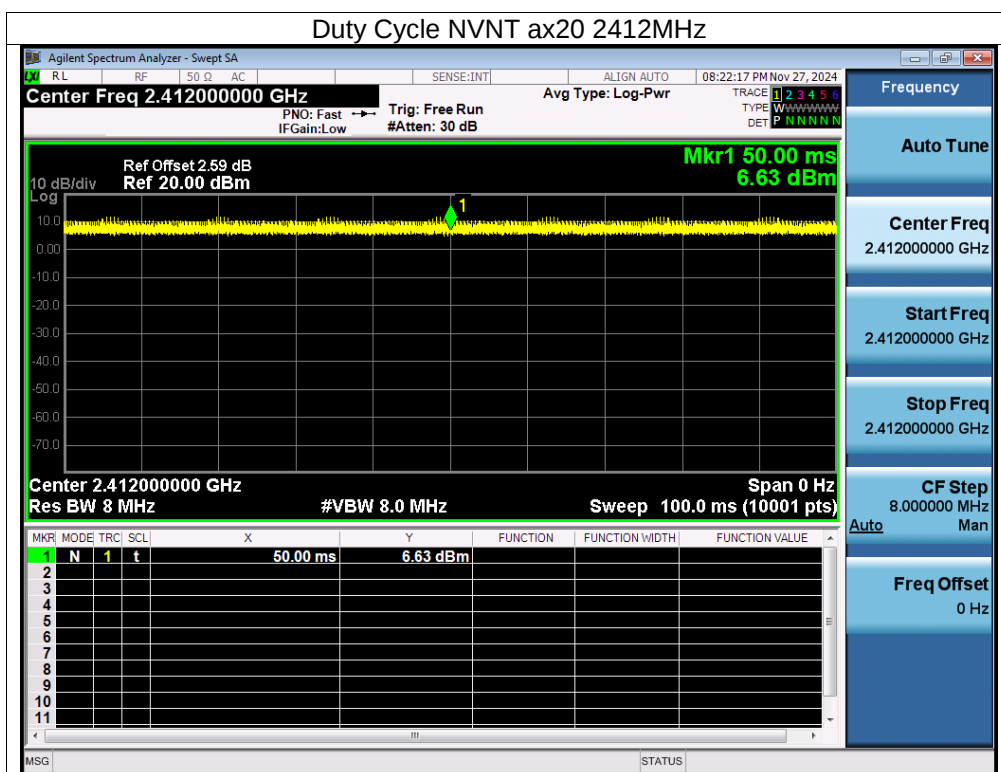
### 13.4 Test Result

| Test mode      | Frequency (MHz) | Duty Cycle(%) | Duty Fator(dB) |
|----------------|-----------------|---------------|----------------|
| 802.11b        | 2412            | 100           | 0              |
| 802.11g        | 2412            | 100           | 0              |
| 802.11n(HT20)  | 2412            | 100           | 0              |
| 802.11n(HT40)  | 2422            | 100           | 0              |
| 802.11ax(HT20) | 2412            | 100           | 0              |
| 802.11ax(HT40) | 2422            | 100           | 0              |





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SHENZHEN

## 14. Antenna Requirement

### 14.1 Limit

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 14.1 Test Result

The EUT antenna is External antenna, antenna connector type is RP-SMA, and it is inside the EUT, fulfill the requirement of this section.



## 15. EUT Photographs

EUT Photo



NOTE: Appendix-Photographs Of EUT Constructional Details

BCTC  
BCTC  
PPR  
Report

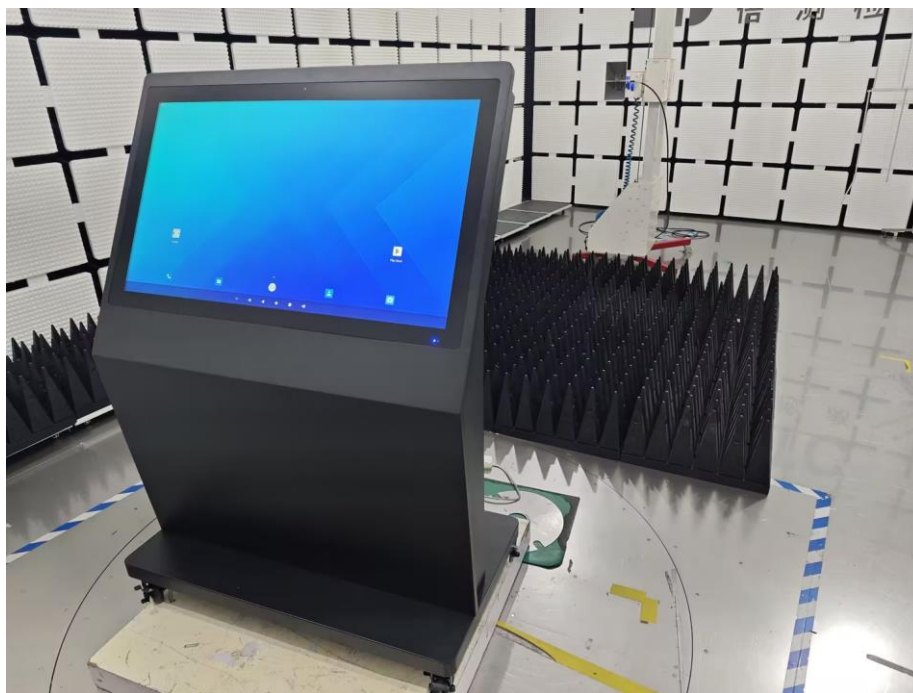
## 16. EUT Test Setup Photographs

### Conducted emissions



### Radiated Measurement Photos





**STATEMENT**

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

**Address:**

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

Consultation E-mail: [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

Complaint/Advice E-mail: [advice@bctc-lab.com.cn](mailto:advice@bctc-lab.com.cn)

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