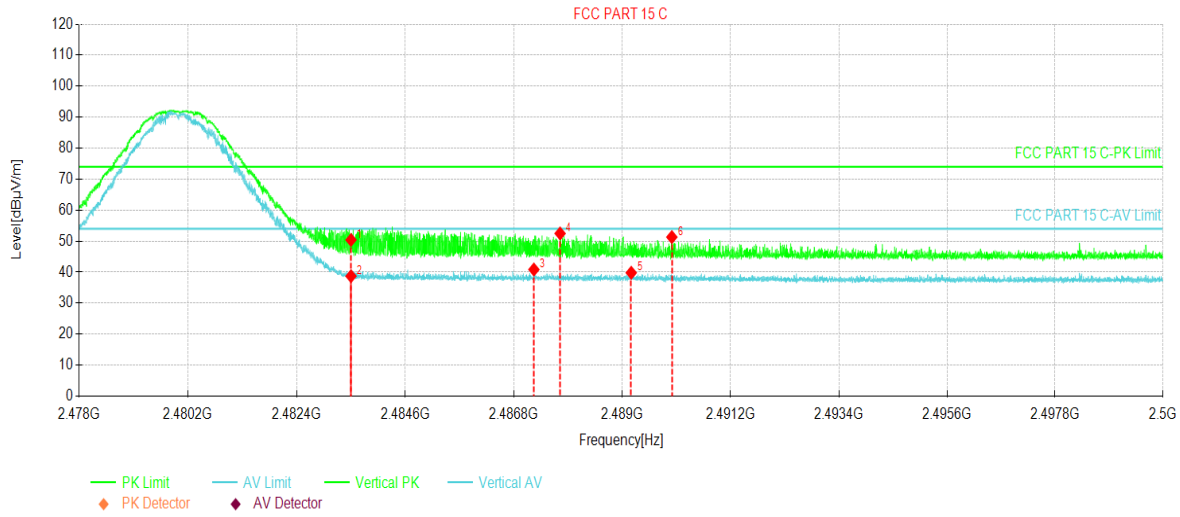
| Product Name: | Countertop Payment Terminal | Product Model: | A80 |
|---|---|---|---|
| Test By: | Mike | Test mode: | 3DH1 Tx mode |
| Test Channel: | Highest channel | Polarization: | Vertical |
| Test Voltage: | AC 120/60Hz | Environment: | Temp: 24℃ Huni: 57% |

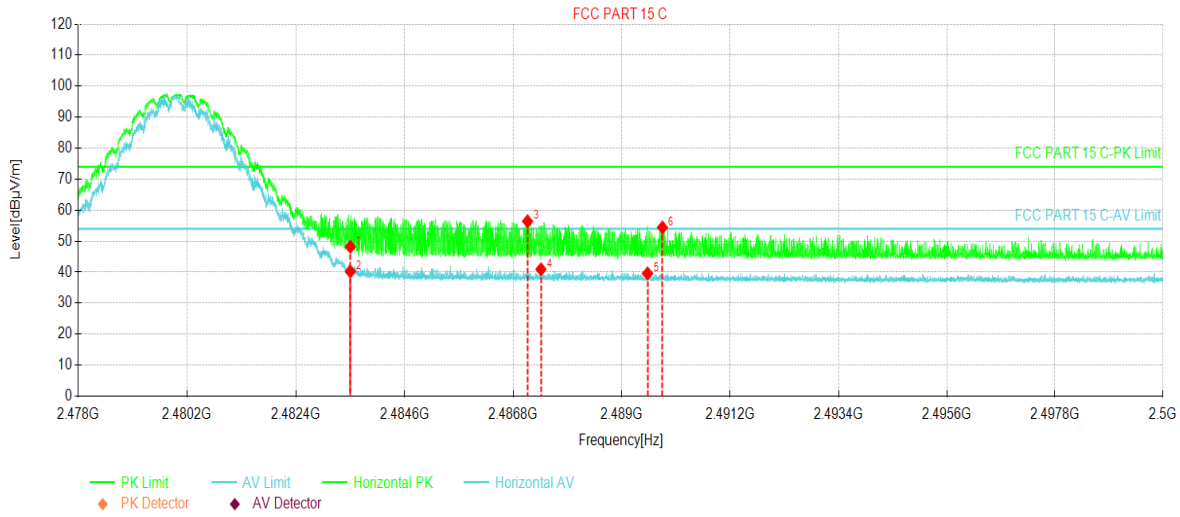



| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Trace | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 2483.50 | 42.70 | 50.39 | 7.69 | 74.00 | 23.61 | PK | Vertical |
| 2 | 2483.50 | 31.02 | 38.71 | 7.69 | 54.00 | 15.29 | AV | Vertical |
| 3 | 2487.20 | 33.13 | 40.84 | 7.71 | 54.00 | 13.16 | AV | Vertical |
| 4 | 2487.73 | 44.75 | 52.47 | 7.72 | 74.00 | 21.53 | PK | Vertical |
| 5 | 2489.18 | 32.07 | 39.80 | 7.73 | 54.00 | 14.20 | AV | Vertical |
| 6 | 2490.00 | 43.58 | 51.31 | 7.73 | 74.00 | 22.69 | PK | Vertical |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

| Product Name: | Countertop Payment Terminal | Product Model: | A80 |
|---|---|---|---|
| Test By: | Mike | Test mode: | 3DH1 Tx mode |
| Test Channel: | Highest channel | Polarization: | Horizontal |
| Test Voltage: | AC 120/60Hz | Environment: | Temp: 24℃ Huni: 57% |



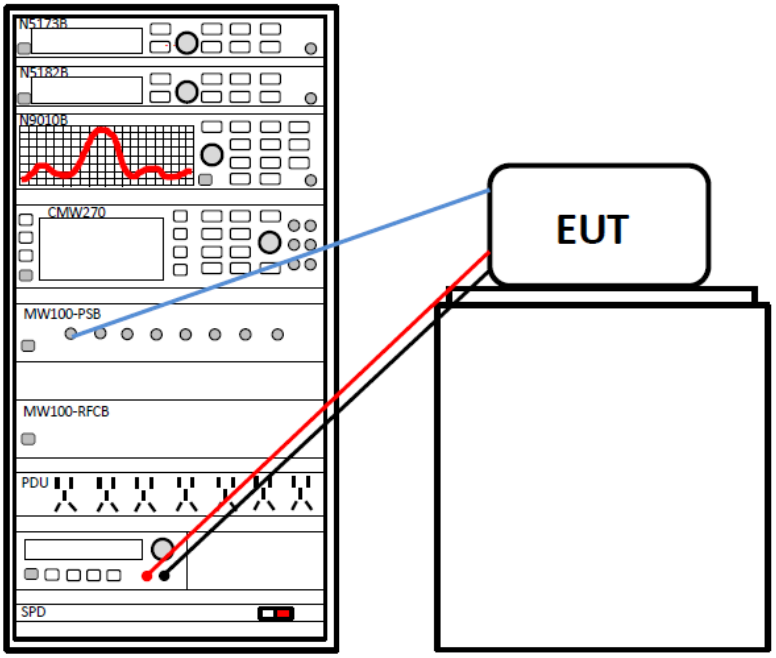

| NO. | Freq. [MHz] | Reading [dBµV/m] | Level [dBµV/m] | Factor [dB] | Limit [dBµV/m] | Margin [dB] | Trace | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 2483.50 | 40.51 | 48.20 | 7.69 | 74.00 | 25.80 | PK | Horizontal |
| 2 | 2483.50 | 32.52 | 40.21 | 7.69 | 54.00 | 13.79 | AV | Horizontal |
| 3 | 2487.08 | 48.70 | 56.41 | 7.71 | 74.00 | 17.59 | PK | Horizontal |
| 4 | 2487.36 | 33.21 | 40.92 | 7.71 | 54.00 | 13.08 | AV | Horizontal |
| 5 | 2489.52 | 31.85 | 39.58 | 7.73 | 54.00 | 14.42 | AV | Horizontal |
| 6 | 2489.82 | 46.69 | 54.42 | 7.73 | 74.00 | 19.58 | PK | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

# 6.10 Spurious Emission

## 6.10.1 Conducted Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (d) |
| 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. |
| Test setup: |  |
| Test Instruments: | Refer to section 5.9 for details |
| Test mode: | Non-hopping mode |
| Test results: | Pass |
| Measurement Data: | **Refer to Appendix A - BT** |

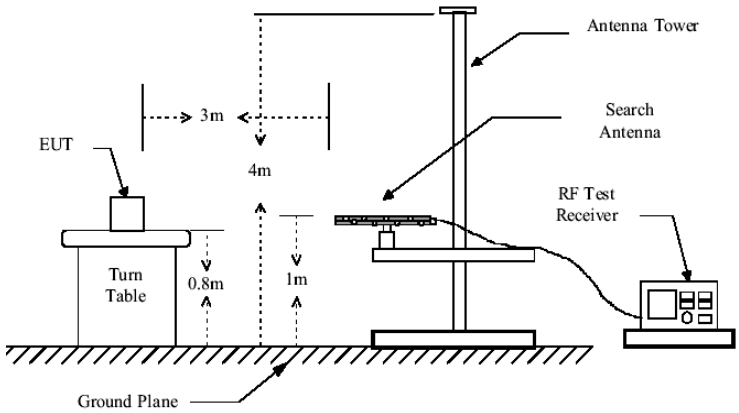
### 6.10.2 Radiated Emission Method

| | | | | | |
|---|---|---|---|---|---|
| Test Requirement: | FCC Part 15 C Section 15.209 | | | | |
| Test Frequency Range: | 9 kHz to 25 GHz | | | | |
| Test Distance: | 3m | | | | |
| Receiver setup: | Frequency | Detector | RBW | VBW | Remark |
| | 30MHz-1GHz | Quasi-peak | 120kHz | 300kHz | Quasi-peak Value |
| | Above 1GHz | Peak | 1MHz | 3MHz | Peak Value |
| | | RMS | 1MHz | 3MHz | Average Value |

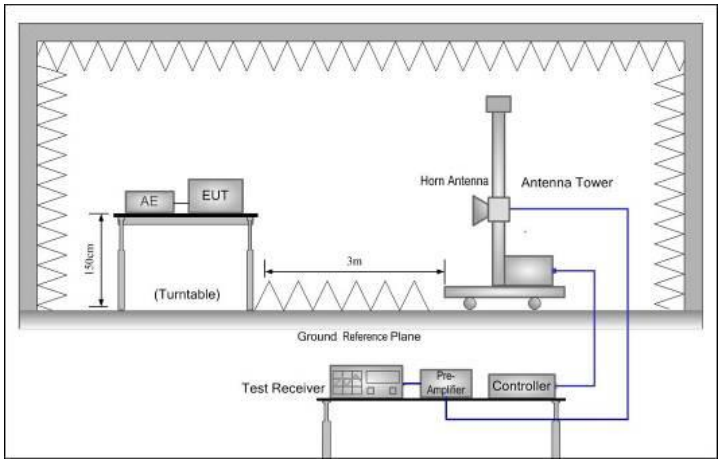
| Limit: | Frequency | Limit (dBuV/m @3m) | Remark |
|---|---|---|---|
| | 30MHz-88MHz | 40.0 | Quasi-peak Value |
| | 88MHz-216MHz | 43.5 | Quasi-peak Value |
| | 216MHz-960MHz | 46.0 | Quasi-peak Value |
| | 960MHz-1GHz | 54.0 | Quasi-peak Value |
| | Above 1GHz | 54.0 | Average Value |
| | | 74.0 | Peak Value |

Test setup:

Below 1GHz




Above 1GHz




Test Procedure:

1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz) /1.5m(above 1GHz) above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna

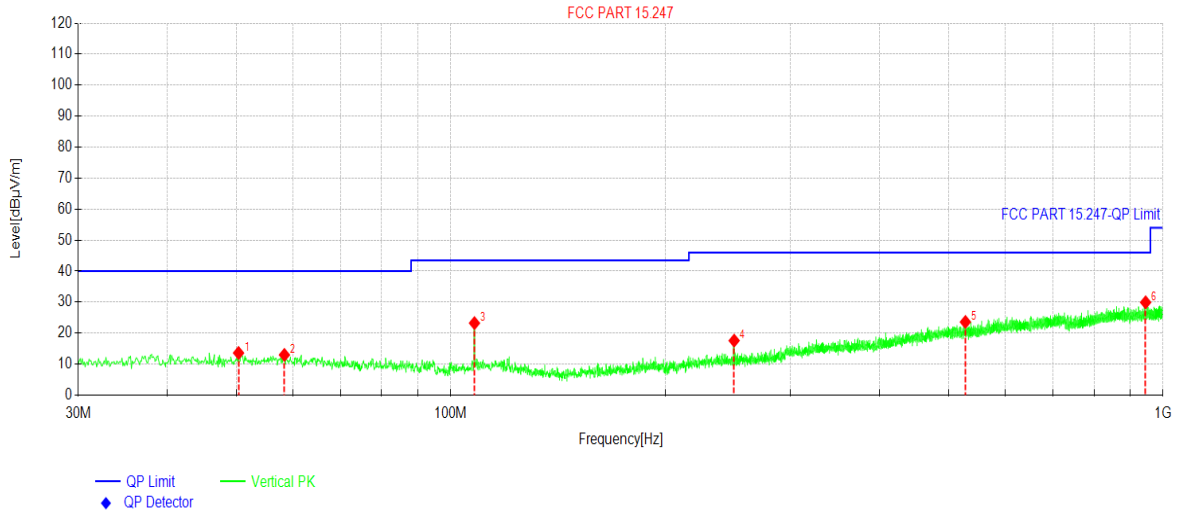
| | |
|---|---|
| | tower.<br>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.<br>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.<br>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.<br>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. |
| Test Instruments: | Refer to section 5.9 for details |
| Test mode: | Non-hopping mode |
| Test results: | Pass |
| Remark: | 1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.<br>2. 9 kHz to 30 MHz is noise floor and lower than the limit 20dB, so only shows the data of above 30MHz in this report.<br>3. Pre-scan adapter 1, adapter 2 and adapter 3, found adapter 1 was worse case mode, only reflects the worst mode |

**Measurement Data (worst case):**

**Below 1GHz:**

**Adapter 1:**

| **Product Name:** | Countertop Payment Terminal | **Product Model:** | A80 |
|---|---|---|---|
| **Test By:** | Mike | **Test mode:** | BT Tx mode |
| **Test Frequency:** | 30 MHz ~ 1 GHz | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

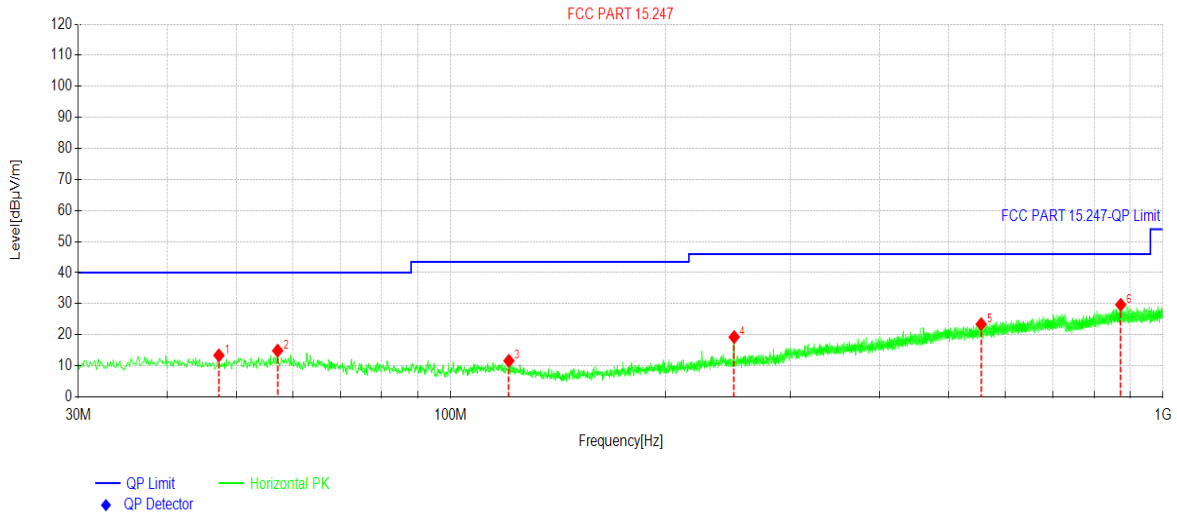



| NO. | Freq. [MHz] | Reading[dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 50.3720 | 28.30 | 13.60 | -14.70 | 40.00 | 26.40 | PK | Vertical |
| 2 | 58.4238 | 27.86 | 12.97 | -14.89 | 40.00 | 27.03 | PK | Vertical |
| 3 | 107.995 | 39.17 | 23.23 | -15.94 | 43.50 | 20.27 | PK | Vertical |
| 4 | 250.018 | 31.38 | 17.59 | -13.79 | 46.00 | 28.41 | PK | Vertical |
| 5 | 527.950 | 30.49 | 23.61 | -6.88 | 46.00 | 22.39 | PK | Vertical |
| 6 | 945.286 | 31.03 | 29.93 | -1.10 | 46.00 | 16.07 | PK | Vertical |

*Remark:*

1. *Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

| Product Name: | Countertop Payment Terminal | Product Model: | A80 |
|---|---|---|---|
| Test By: | Mike | Test mode: | BT Tx mode |
| Test Frequency: | 30 MHz ~ 1 GHz | Polarization: | Horizontal |
| Test Voltage: | AC 120/60Hz | Environment: | Temp: 24℃ Huni: 57% |




| NO. | Freq. [MHz] | Reading[dBμV/m] | Level [dBμV/m] | Factor [dB] | Limit [dBμV/m] | Margin [dB] | Trace | Polarity |
|---|---|---|---|---|---|---|---|---|
| 1 | 47.2677 | 28.25 | 13.36 | -14.89 | 40.00 | 26.64 | PK | Horizontal |
| 2 | 57.1627 | 29.67 | 14.88 | -14.79 | 40.00 | 25.12 | PK | Horizontal |
| 3 | 120.704 | 27.74 | 11.62 | -16.12 | 43.50 | 31.88 | PK | Horizontal |
| 4 | 250.018 | 33.06 | 19.27 | -13.79 | 46.00 | 26.73 | PK | Horizontal |
| 5 | 555.598 | 30.10 | 23.41 | -6.69 | 46.00 | 22.59 | PK | Horizontal |
| 6 | 872.335 | 31.12 | 29.67 | -1.45 | 46.00 | 16.33 | PK | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).*
2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

**Above 1GHz:**

| Test channel: Lowest channel | | | | | | |
|---|---|---|---|---|---|---|
| Detector: Peak Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4804.00 | 55.49 | -9.60 | 45.89 | 74.00 | 28.11 | Vertical |
| 4804.00 | 56.02 | -9.60 | 46.42 | 74.00 | 27.58 | Horizontal |
| Detector: Average Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4804.00 | 48.32 | -9.60 | 38.72 | 54.00 | 15.28 | Vertical |
| 4804.00 | 48.42 | -9.60 | 38.82 | 54.00 | 15.18 | Horizontal |
| | | | | | | |
| Test channel: Middle channel | | | | | | |
| Detector: Peak Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4882.00 | 48.43 | -9.05 | 39.38 | 74.00 | 34.62 | Vertical |
| 4882.00 | 55.52 | -9.05 | 46.47 | 74.00 | 27.53 | Horizontal |
| Detector: Average Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4882.00 | 47.87 | -9.05 | 38.82 | 54.00 | 15.18 | Vertical |
| 4882.00 | 48.37 | -9.05 | 39.32 | 54.00 | 14.68 | Horizontal |
| | | | | | | |
| Test channel: Highest channel | | | | | | |
| Detector: Peak Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4960.00 | 48.82 | -8.45 | 40.37 | 74.00 | 33.63 | Vertical |
| 4960.00 | 55.72 | -8.45 | 47.27 | 74.00 | 26.73 | Horizontal |
| Detector: Average Value | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Factor(dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Margin (dB) | Polarization |
| 4960.00 | 47.63 | -8.45 | 39.18 | 54.00 | 14.82 | Vertical |
| 4960.00 | 48.05 | -8.45 | 39.60 | 54.00 | 14.40 | Horizontal |

*Remark:*

*1. Final Level =Receiver Read level + Factor.*

2. *The emission levels of other frequencies are lower than the limit 20dB and not show in test report.*

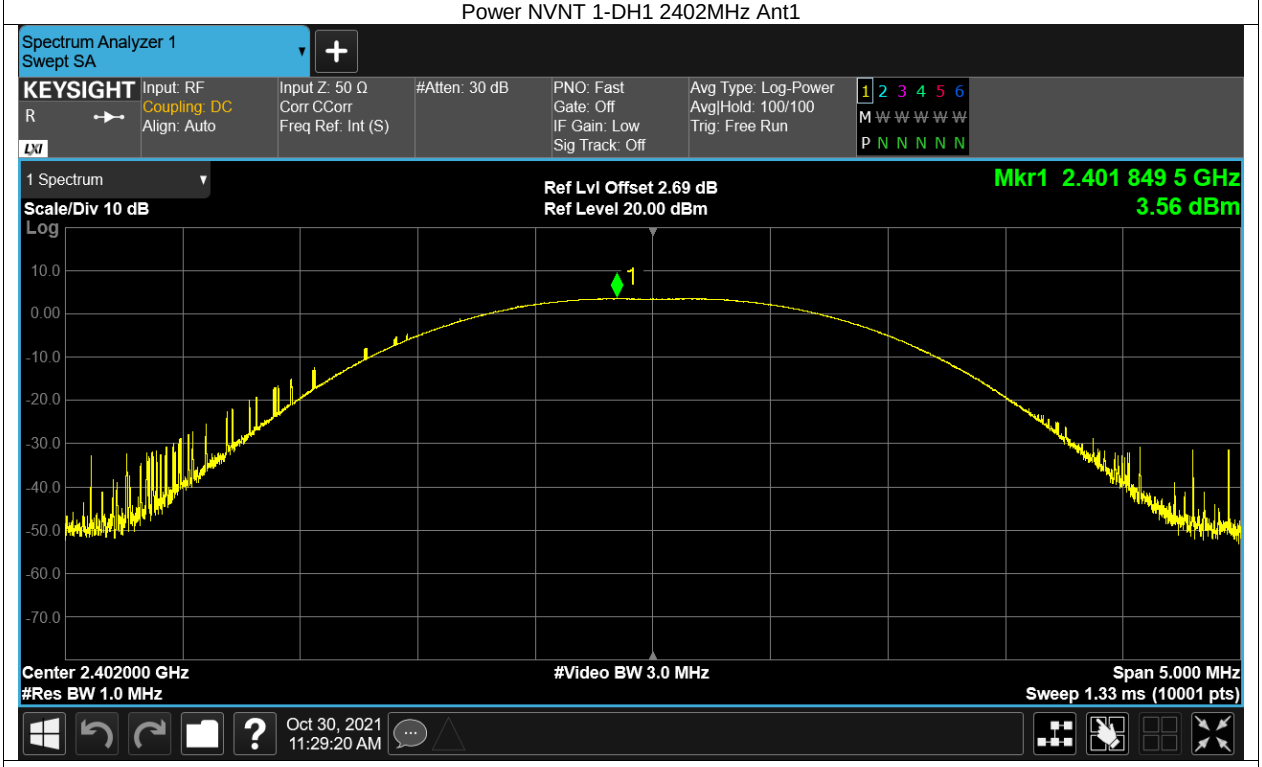
# Test Data

## Maximum Conducted Output Power

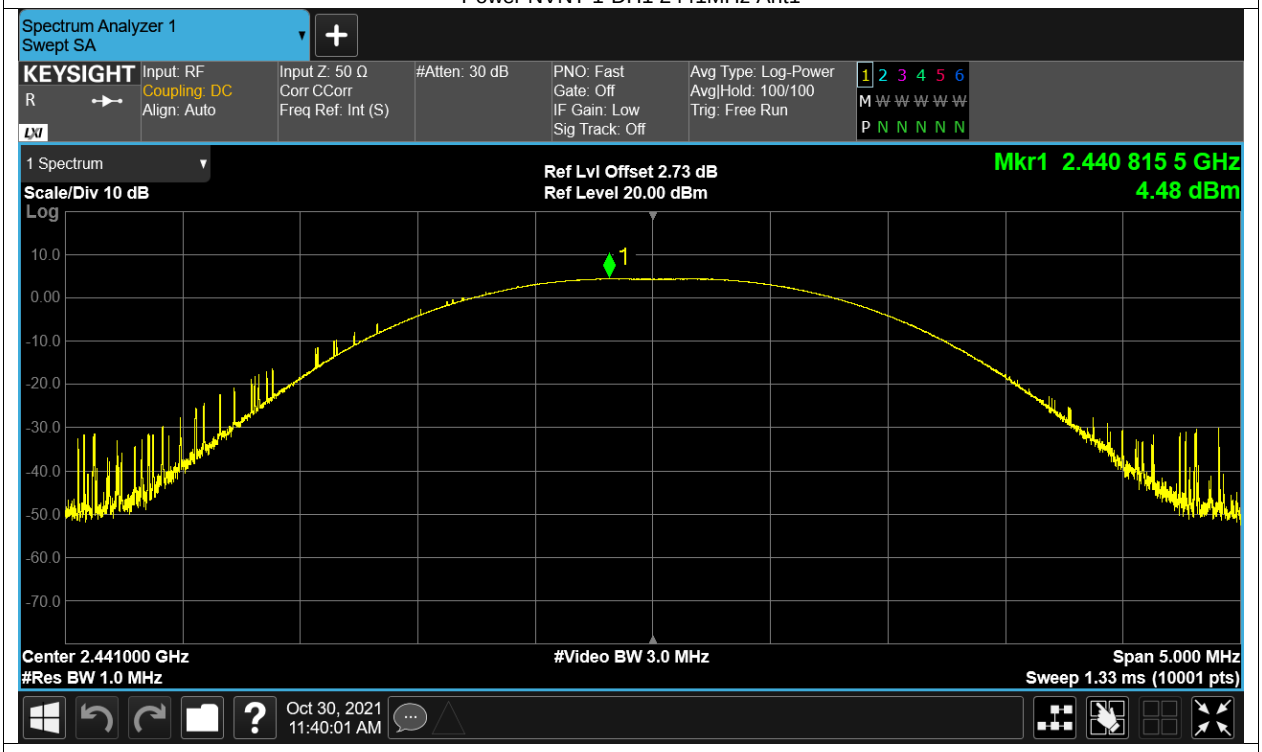
| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 3.556 | 30 | Pass |
| NVNT | 1-DH1 | 2441 | Ant1 | 4.475 | 30 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | 4.61 | 30 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | 5.654 | 21 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | 6.26 | 21 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | 6.48 | 21 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | 6.162 | 21 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | 6.914 | 21 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | 7.024 | 21 | Pass |

Test Graphs

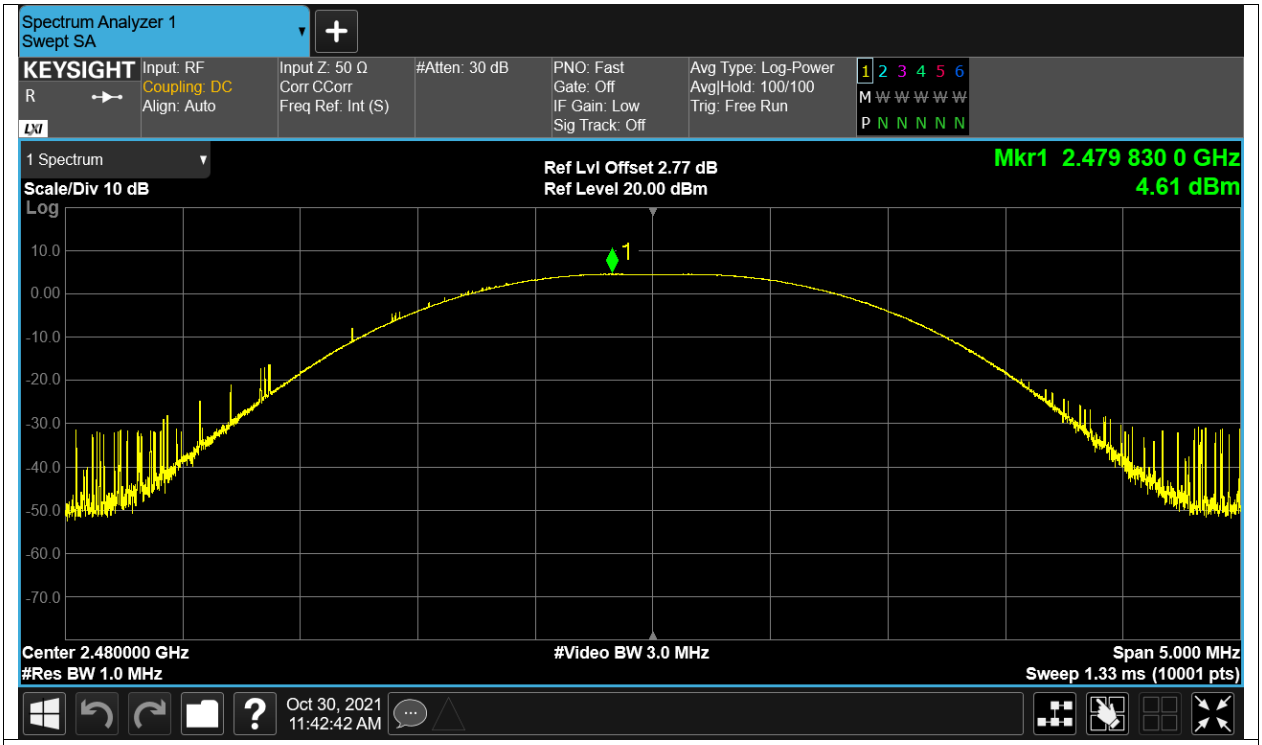
Power NVNT 1-DH1 2402MHz Ant1



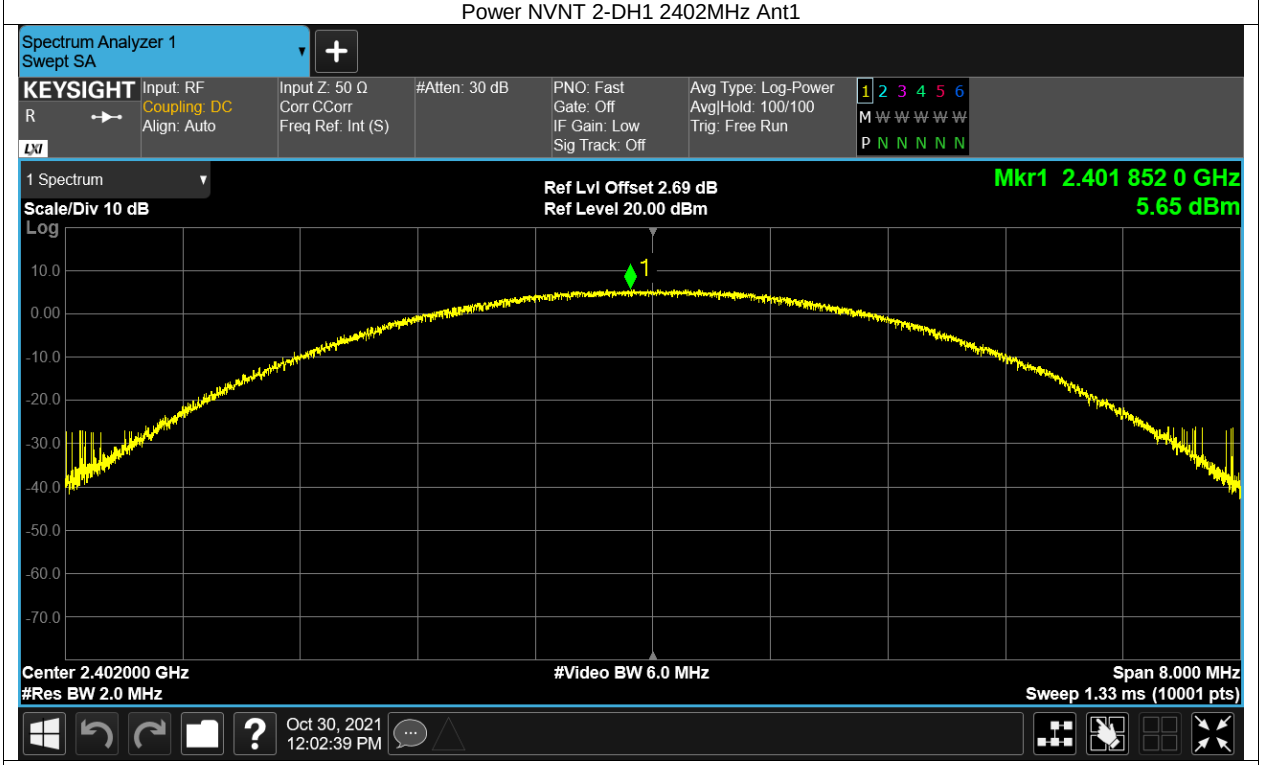

Power NVNT 1-DH1 2441MHz Ant1



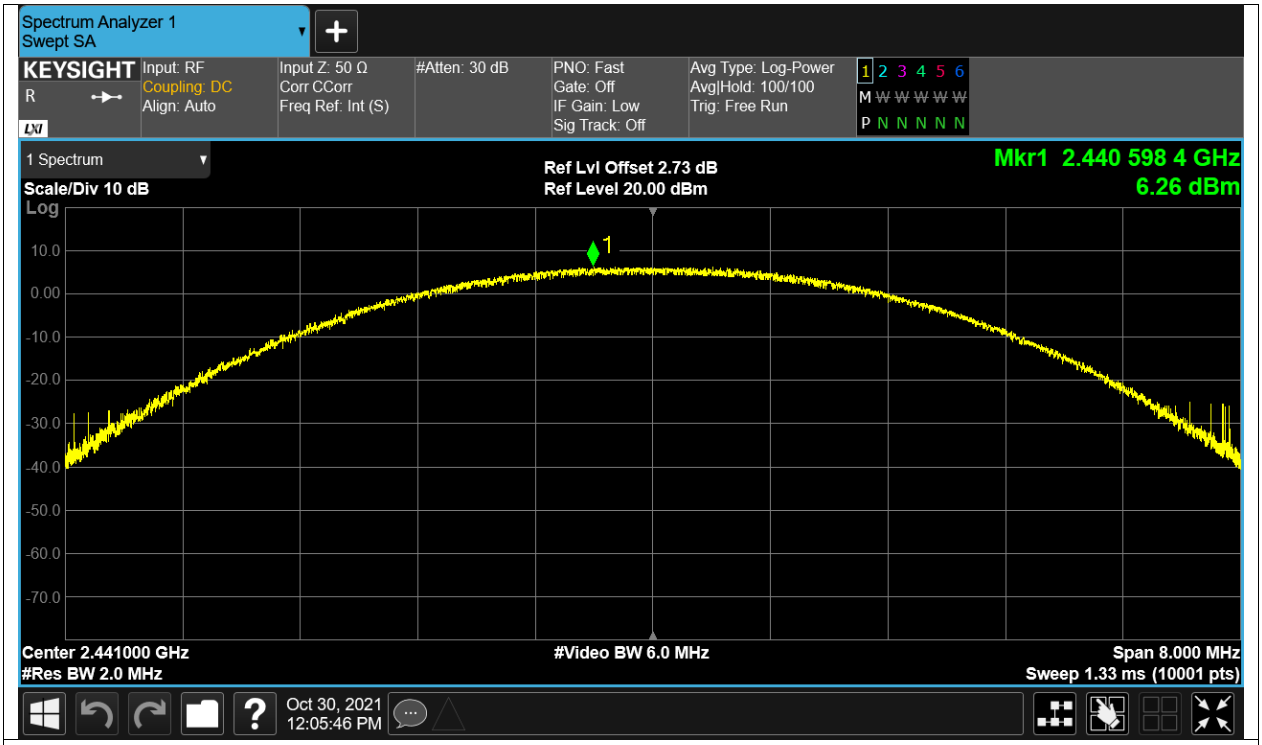

Power NVNT 1-DH1 2480MHz Ant1



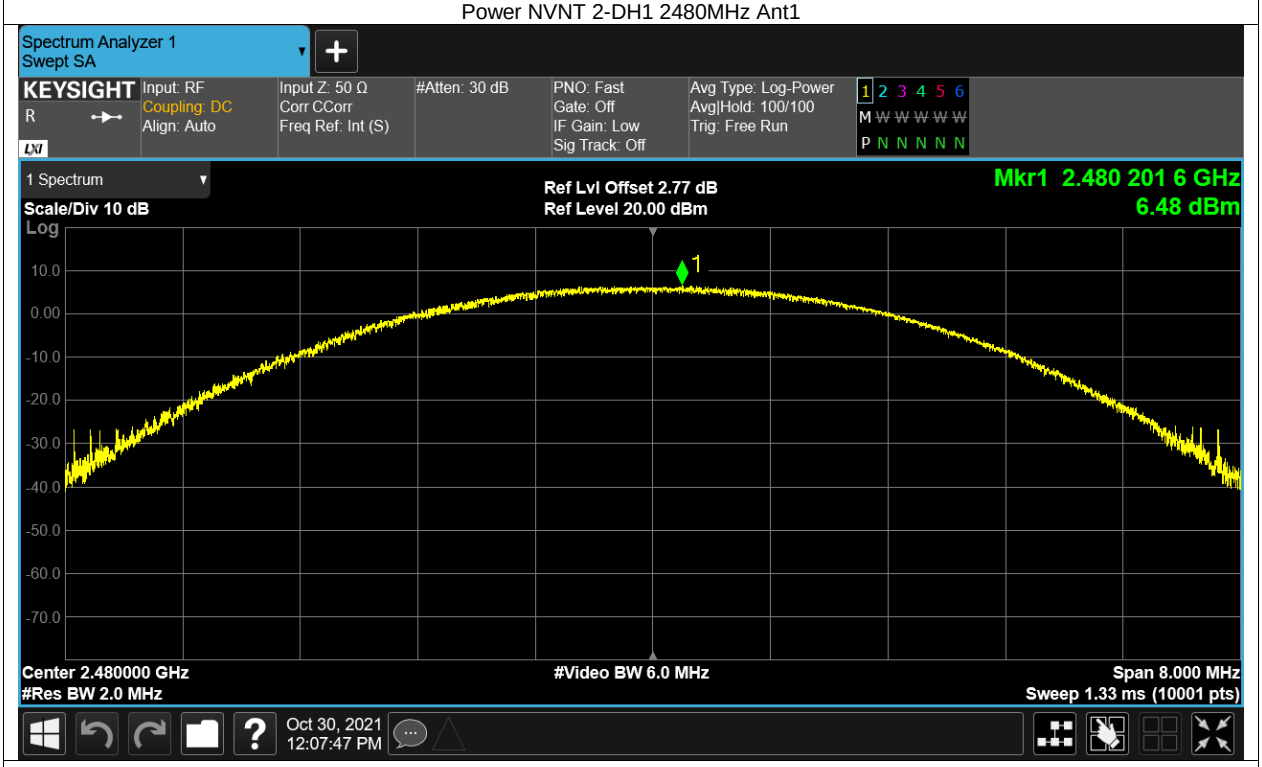

Power NVNT 2-DH1 2402MHz Ant1



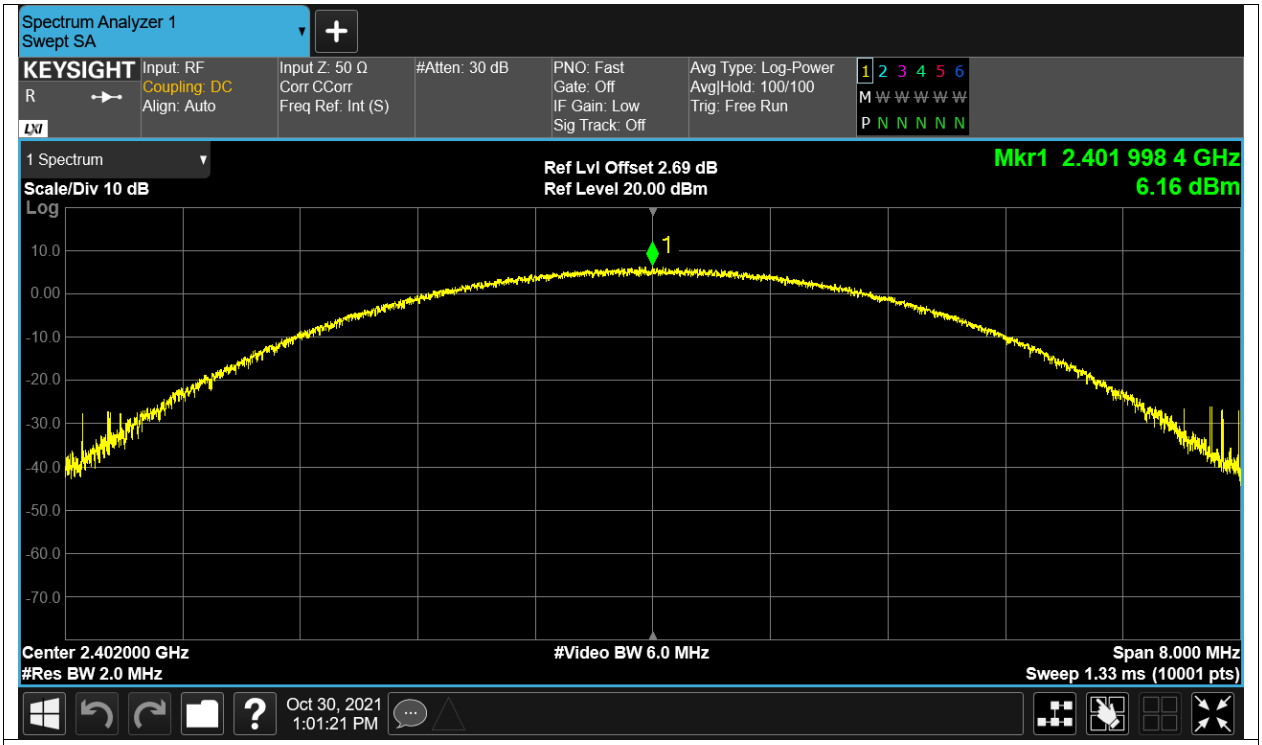

Power NVNT 2-DH1 2441MHz Ant1



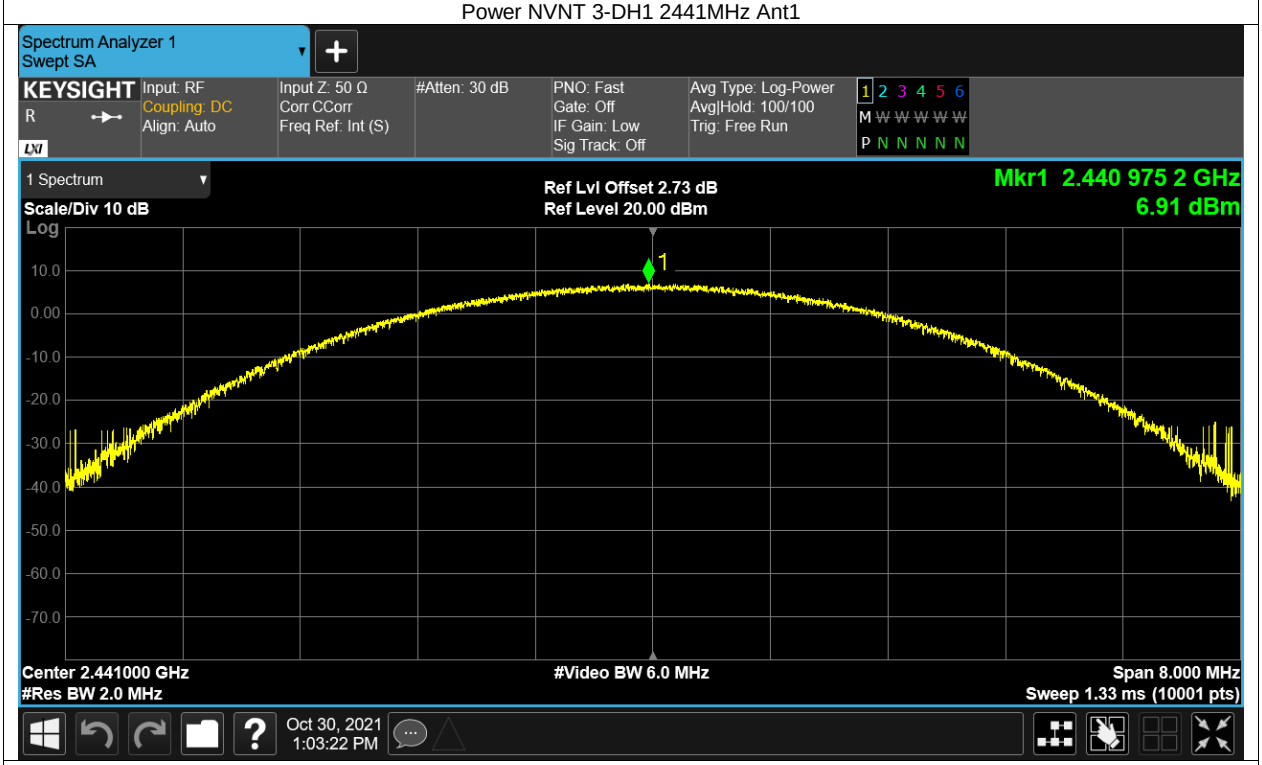

Power NVNT 2-DH1 2480MHz Ant1



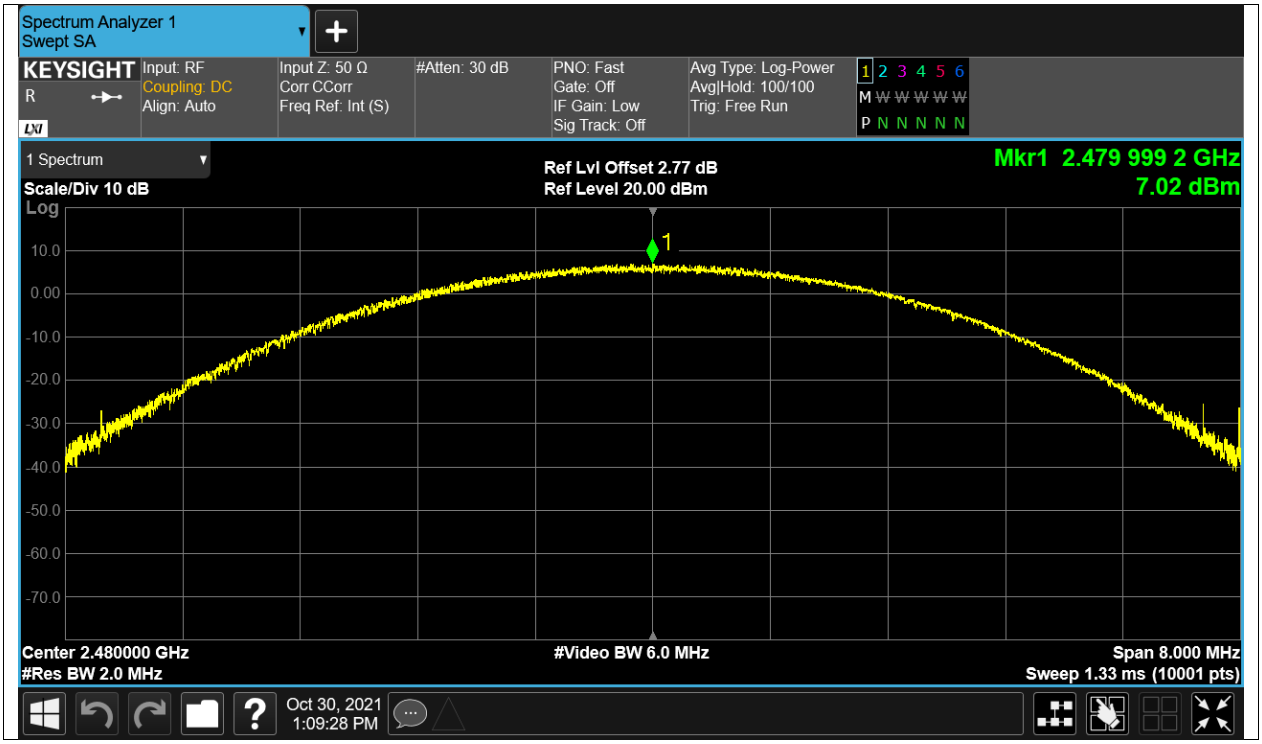

Power NVNT 3-DH1 2402MHz Ant1




Power NVNT 3-DH1 2441MHz Ant1




Power NVNT 3-DH1 2480MHz Ant1

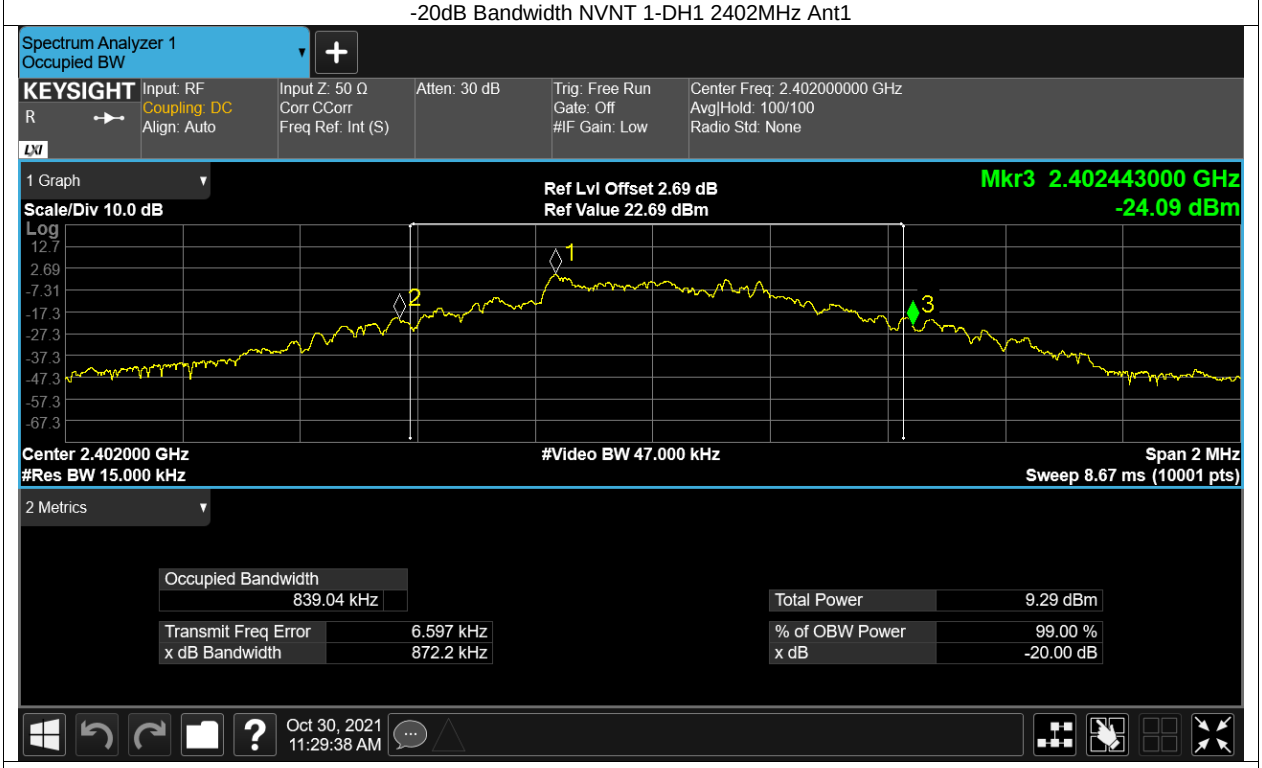

Spectrum Analyzer 1
Swept SA
KEYSIGHT
R
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.77 dB
Ref Level 20.00 dBm
Mkr1 2.479 999 2 GHz
7.02 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.480000 GHz
#Res BW 2.0 MHz
#Video BW 6.0 MHz
Span 8.000 MHz
Sweep 1.33 ms (10001 pts)
Oct 30, 2021
1:09:28 PM

# -20dB Bandwidth

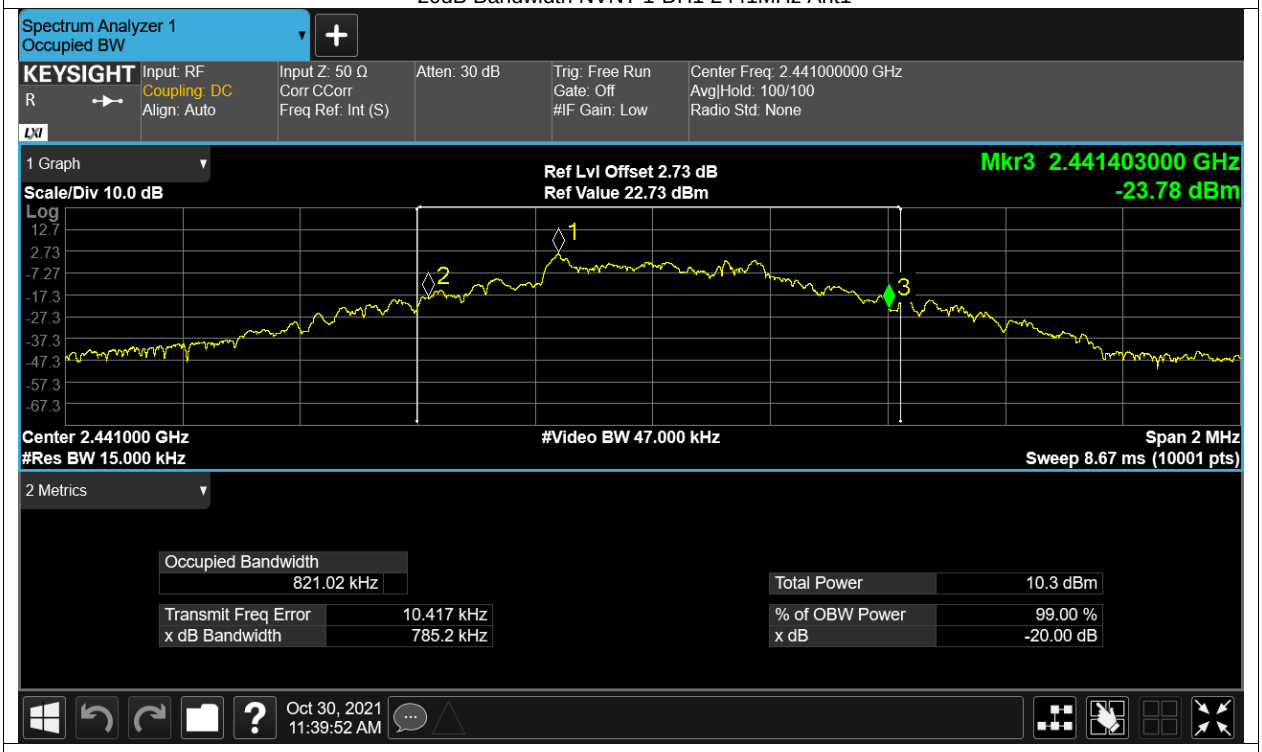
| Condition | Mode | Frequency (MHz) | Antenna | -20 dB Bandwidth (MHz) |
|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 0.872 |
| NVNT | 1-DH1 | 2441 | Ant1 | 0.785 |
| NVNT | 1-DH1 | 2480 | Ant1 | 0.867 |
| NVNT | 2-DH1 | 2402 | Ant1 | 1.253 |
| NVNT | 2-DH1 | 2441 | Ant1 | 1.251 |
| NVNT | 2-DH1 | 2480 | Ant1 | 1.248 |
| NVNT | 3-DH1 | 2402 | Ant1 | 1.217 |
| NVNT | 3-DH1 | 2441 | Ant1 | 1.212 |
| NVNT | 3-DH1 | 2480 | Ant1 | 1.216 |

Test Graphs

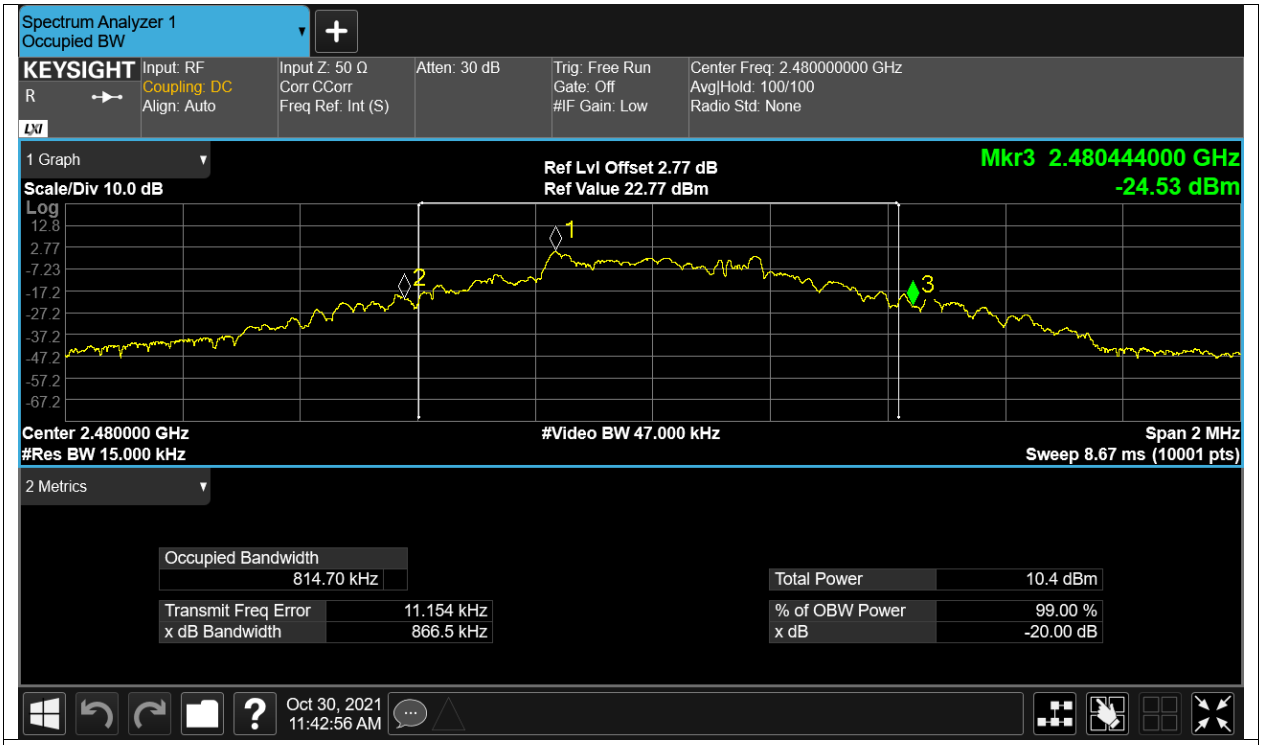
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



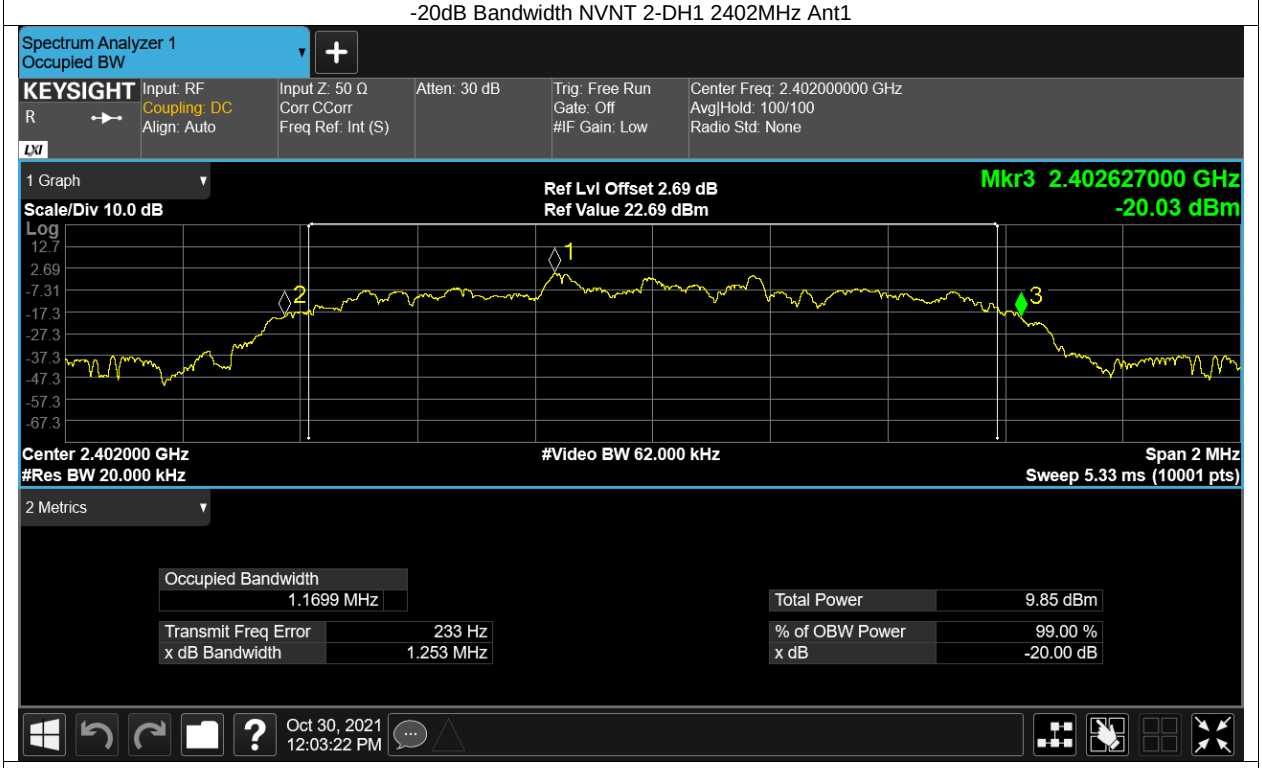

-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



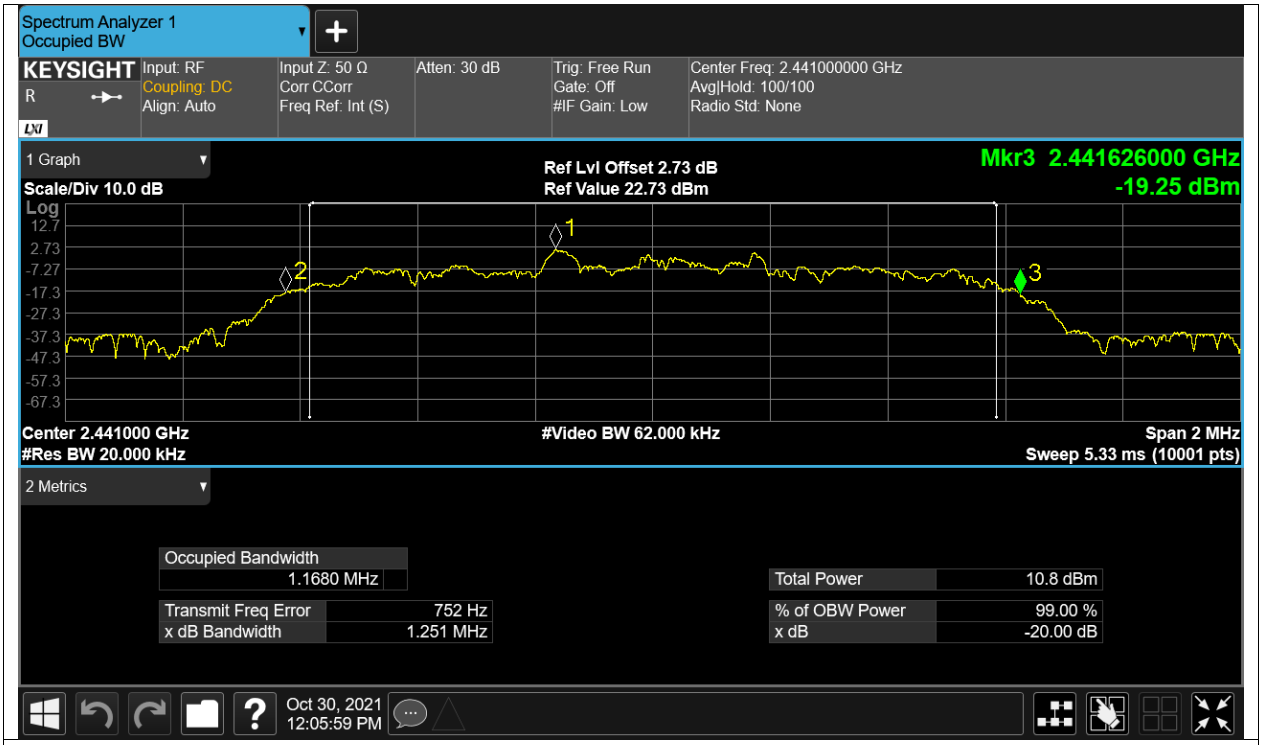

-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



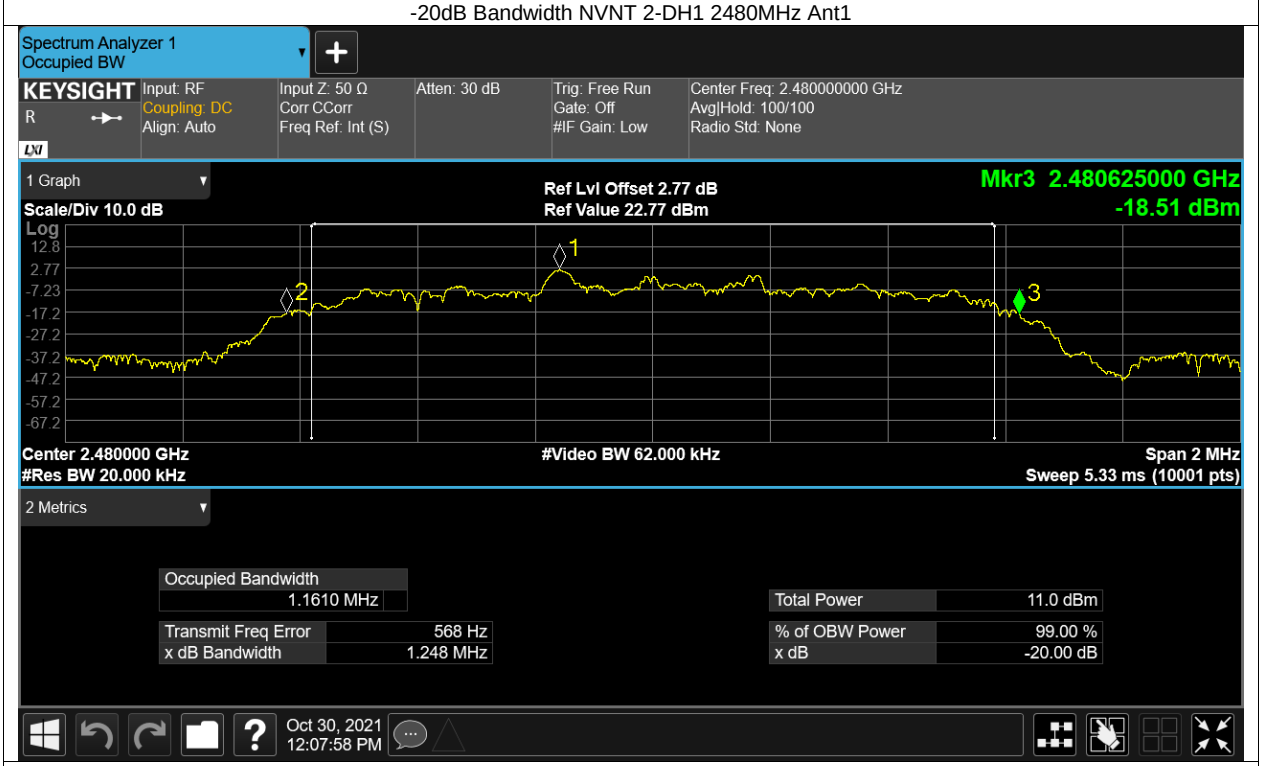

-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



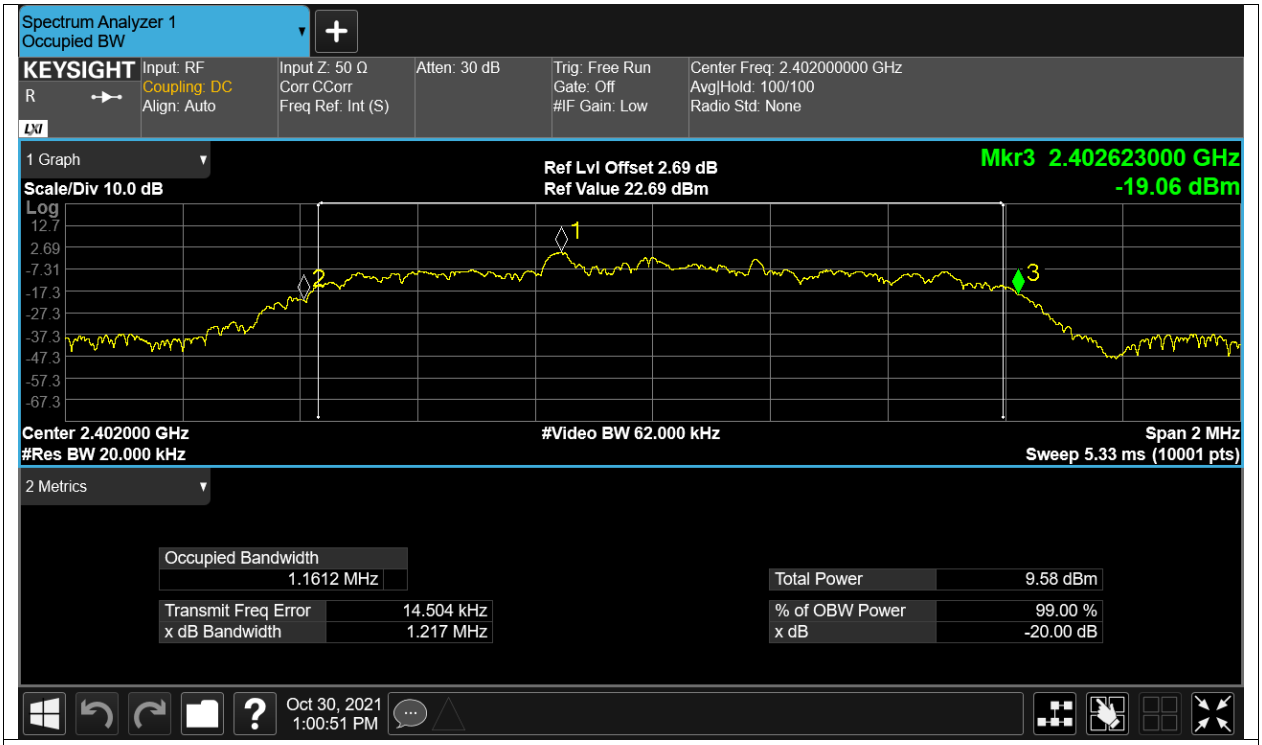

-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



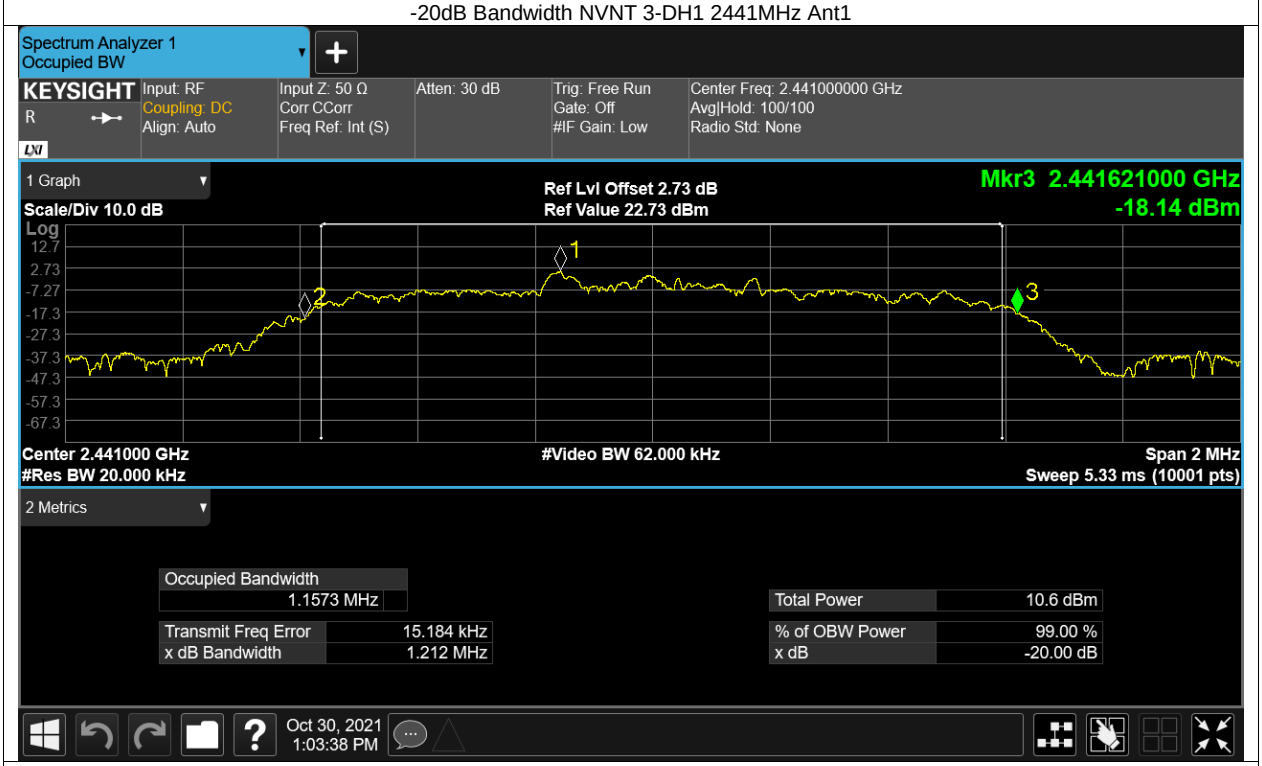

-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



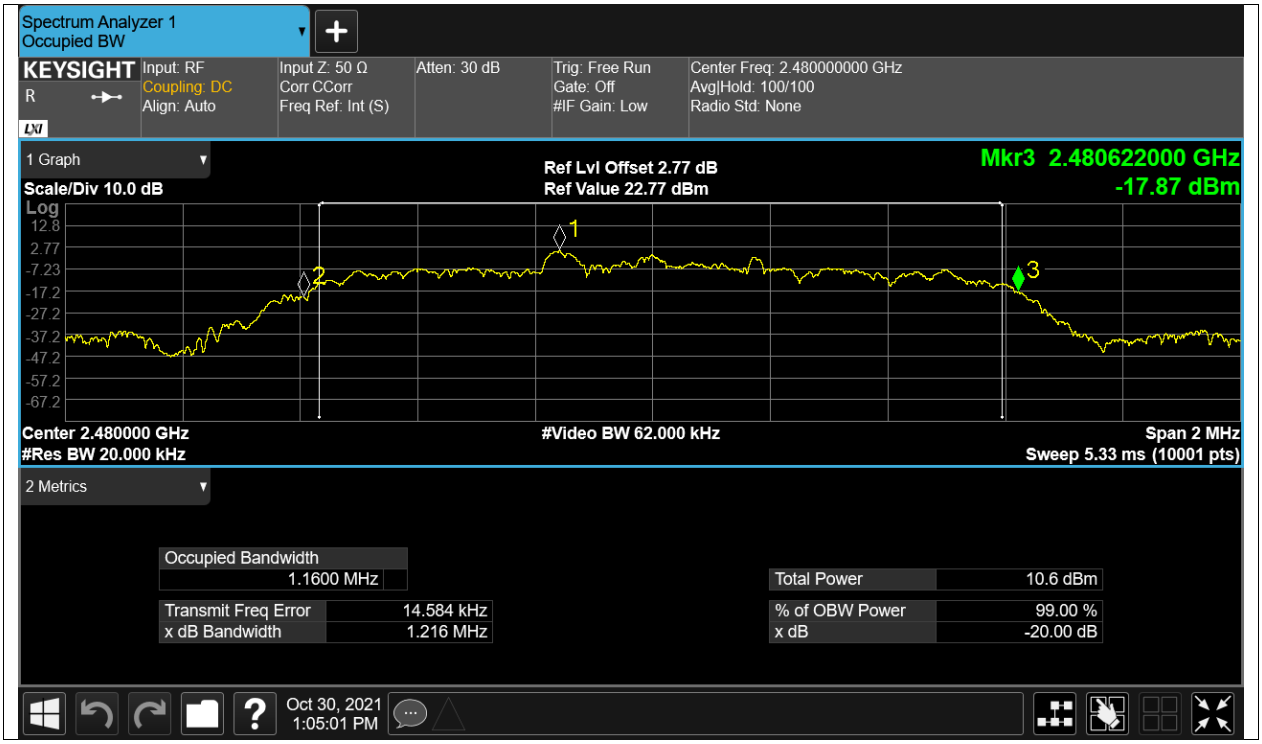

-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1




-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1




-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

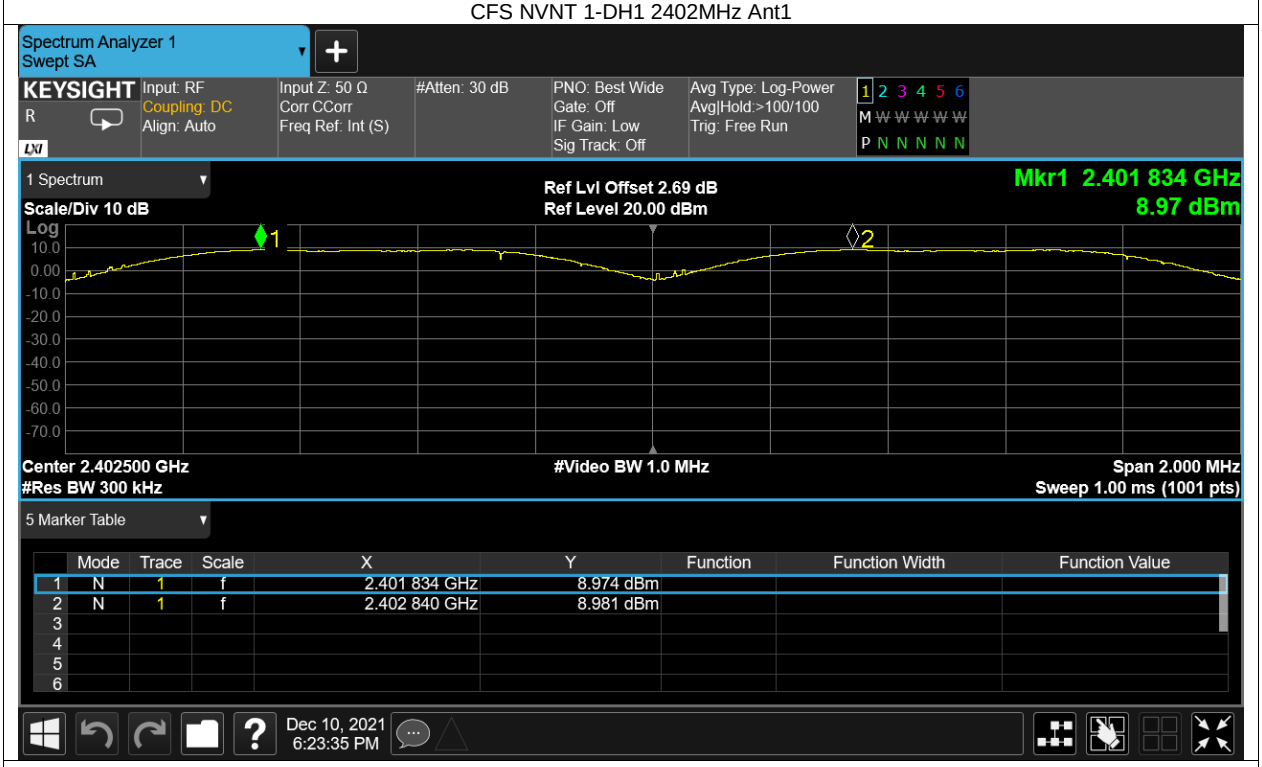

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.480000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.77 dB
Ref Value 22.77 dBm
Mkr3 2.480622000 GHz
-17.87 dBm
Scale/Div 10.0 dB
Log
12.8
2.77
-7.23
-17.2
-27.2
-37.2
-47.2
-57.2
-67.2
Center 2.480000 GHz
#Res BW 20.000 kHz
#Video BW 62.000 kHz
Span 2 MHz
Sweep 5.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.1600 MHz
Transmit Freq Error 14.584 kHz
x dB Bandwidth 1.216 MHz
Total Power 10.6 dBm
% of OBW Power 99.00 %
x dB -20.00 dB
Oct 30, 2021
1:05:01 PM

# Carrier Frequencies Separation

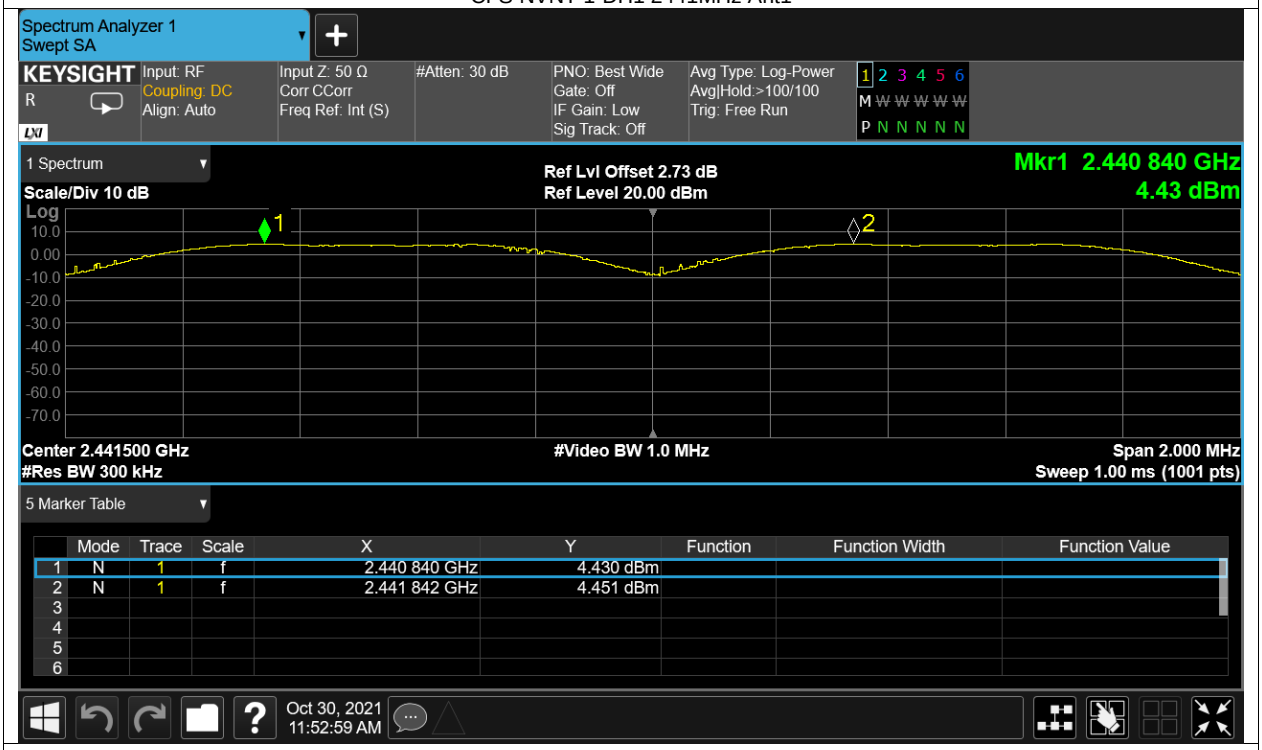
| Condition | Mode | Antenna | Hopping Freq1 (MHz) | Hopping Freq2 (MHz) | HFS (MHz) | Limit (MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | Ant1 | 2401.834 | 2402.84 | 1.006 | 0.872 | Pass |
| NVNT | 1-DH1 | Ant1 | 2440.84 | 2441.842 | 1.002 | 0.785 | Pass |
| NVNT | 1-DH1 | Ant1 | 2478.844 | 2479.836 | 0.992 | 0.867 | Pass |
| NVNT | 2-DH1 | Ant1 | 2401.838 | 2402.834 | 0.996 | 0.835 | Pass |
| NVNT | 2-DH1 | Ant1 | 2440.834 | 2441.844 | 1.01 | 0.834 | Pass |
| NVNT | 2-DH1 | Ant1 | 2478.846 | 2479.834 | 0.988 | 0.832 | Pass |
| NVNT | 3-DH1 | Ant1 | 2401.836 | 2402.84 | 1.004 | 0.811 | Pass |
| NVNT | 3-DH1 | Ant1 | 2440.85 | 2441.834 | 0.984 | 0.808 | Pass |
| NVNT | 3-DH1 | Ant1 | 2478.844 | 2479.842 | 0.998 | 0.811 | Pass |

Test Graphs

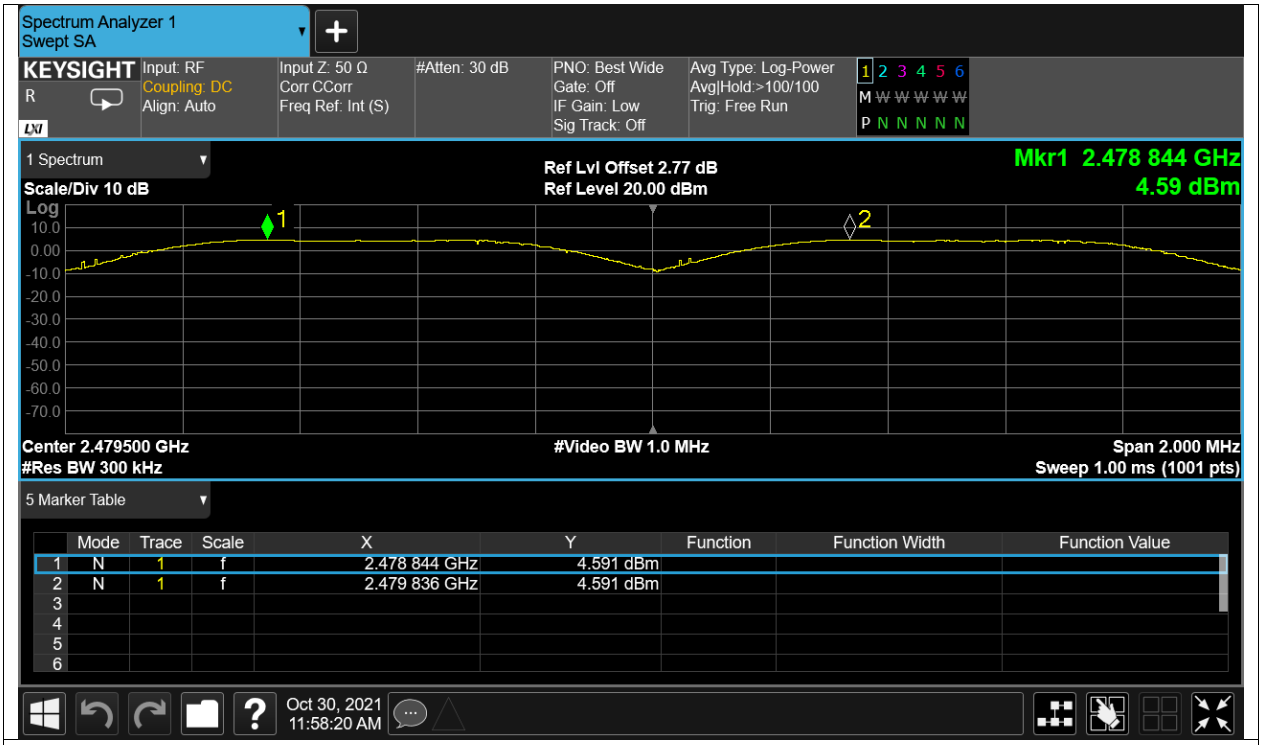
CFS NVNT 1-DH1 2402MHz Ant1



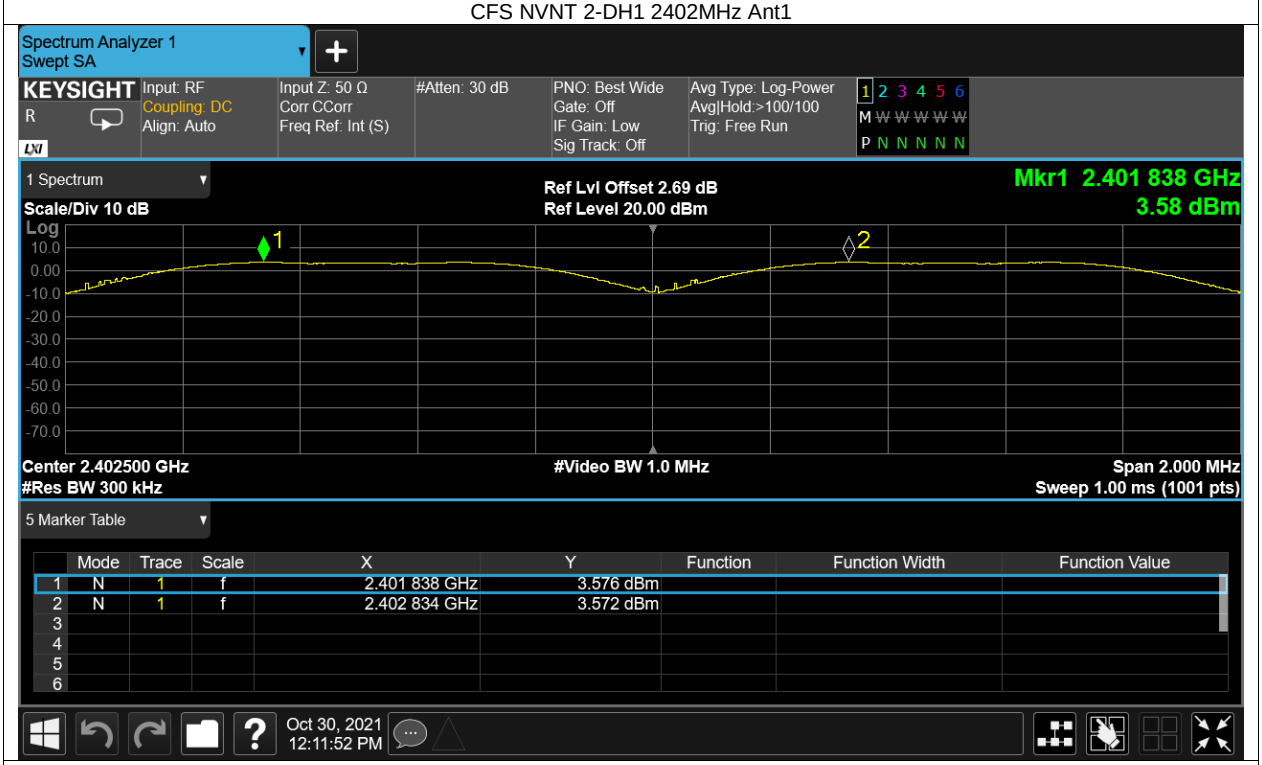

CFS NVNT 1-DH1 2441MHz Ant1



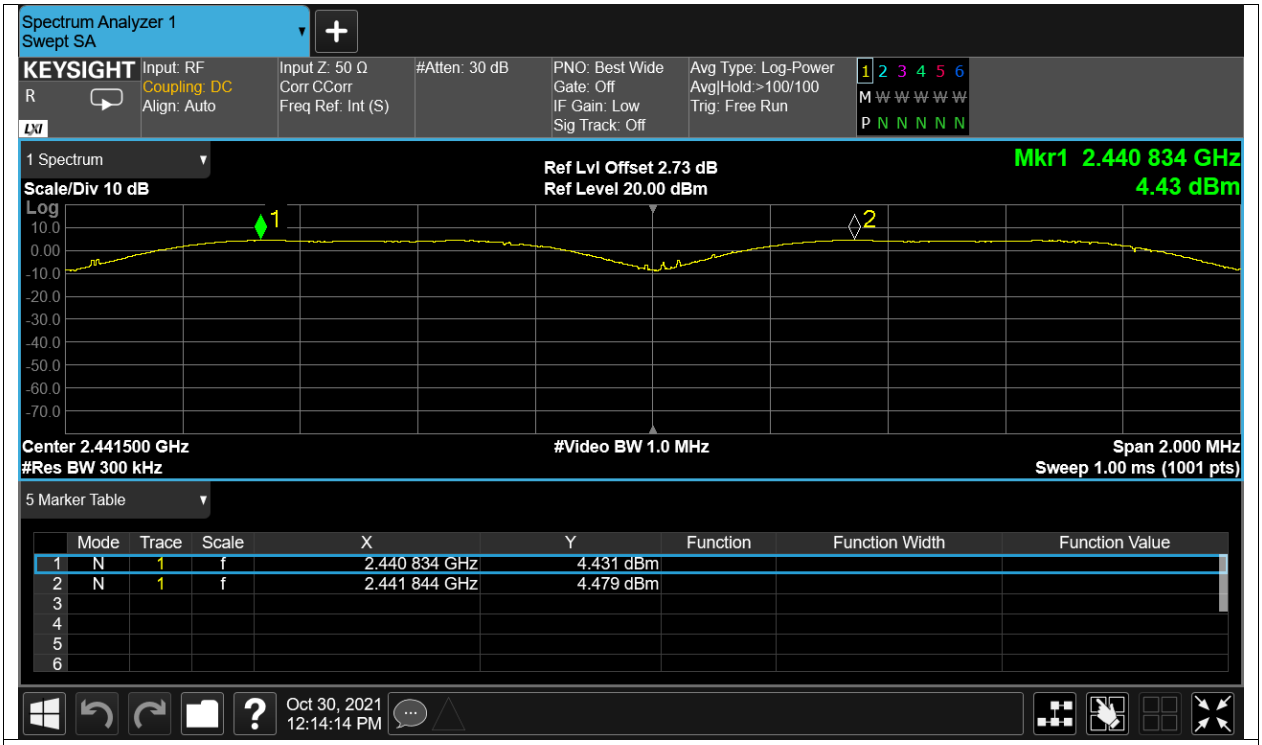

CFS NVNT 1-DH1 2480MHz Ant1



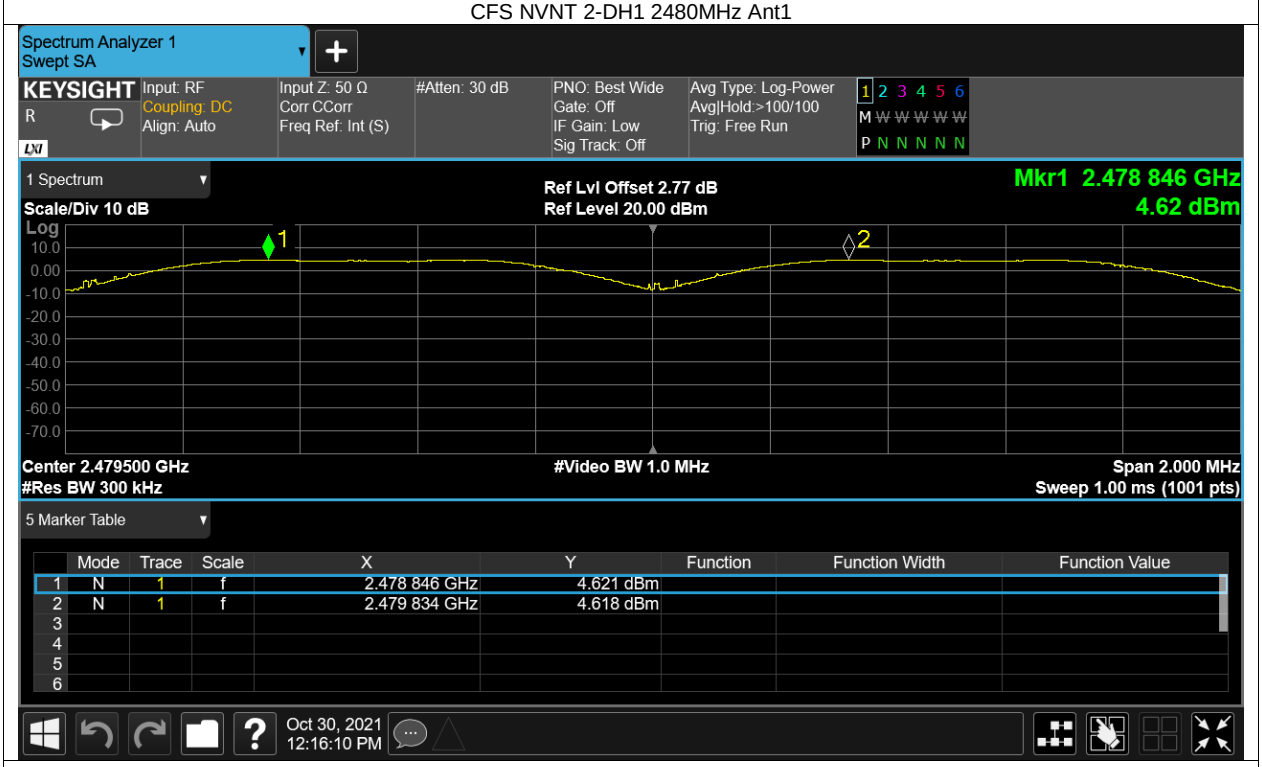

CFS NVNT 2-DH1 2402MHz Ant1



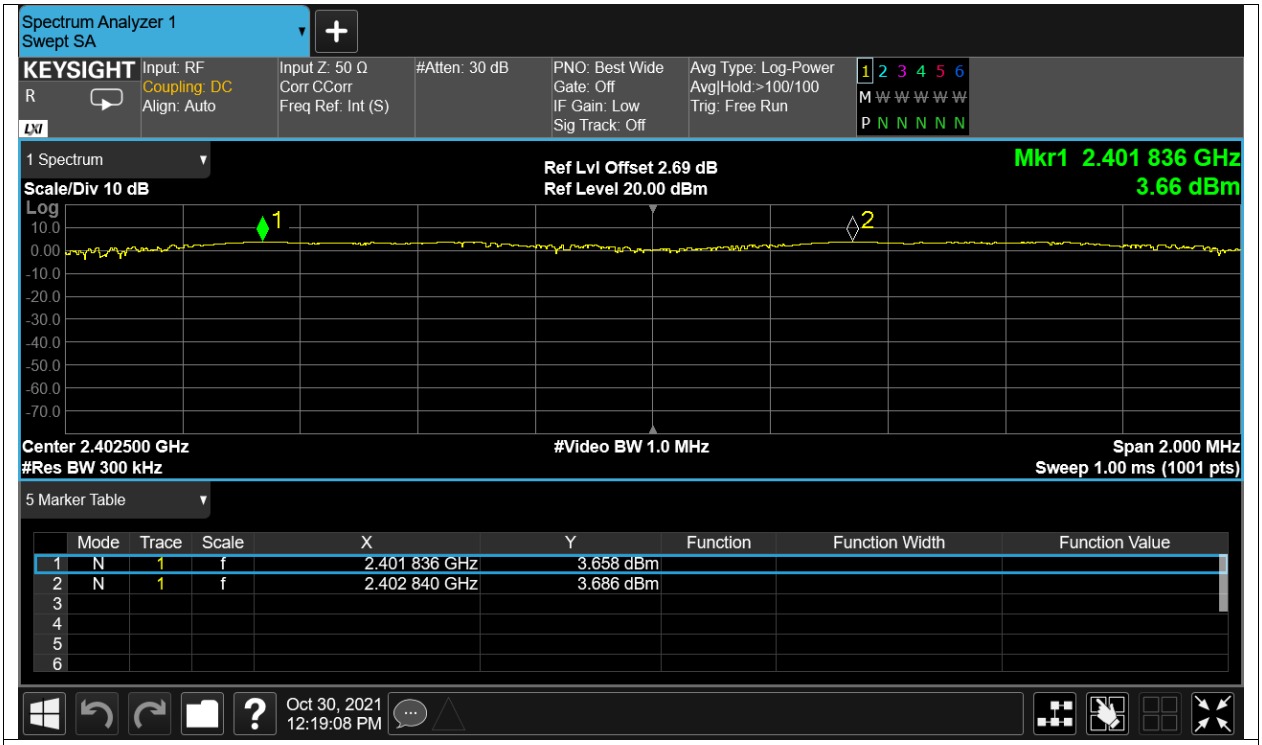

CFS NVNT 2-DH1 2441MHz Ant1



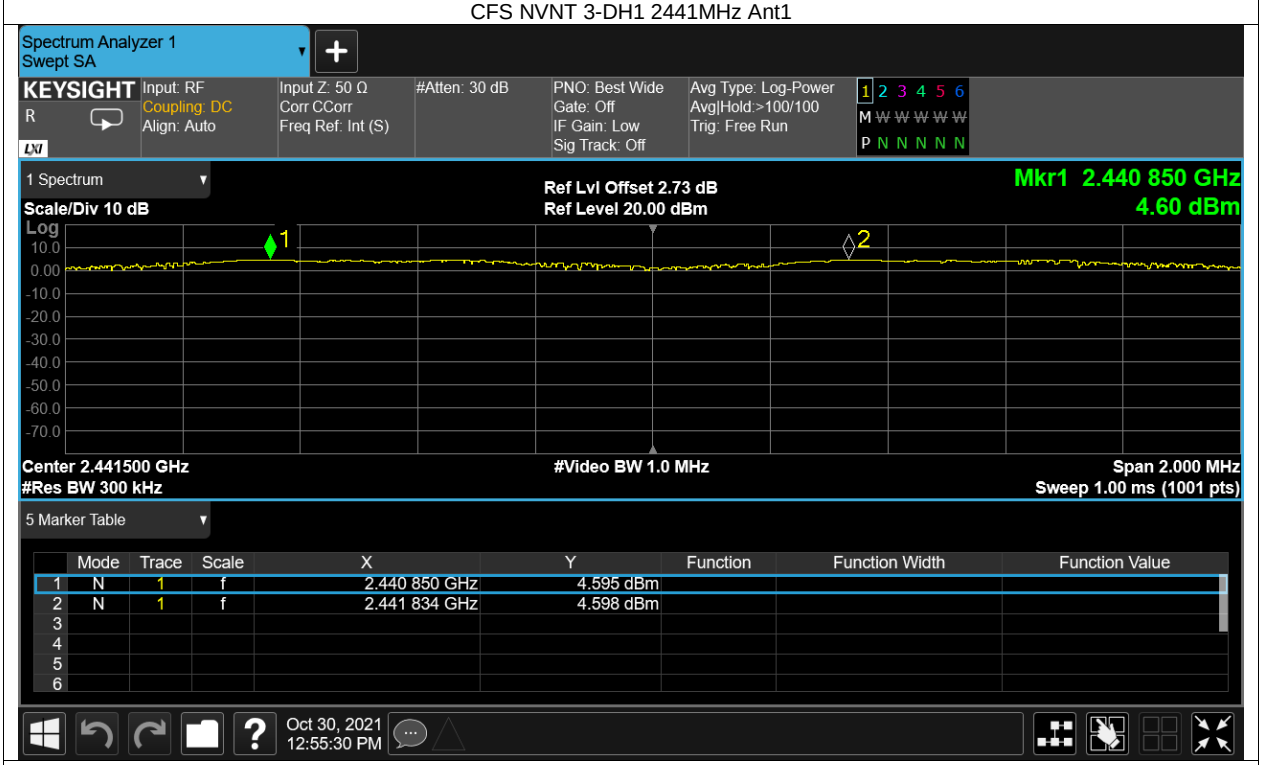

CFS NVNT 2-DH1 2480MHz Ant1



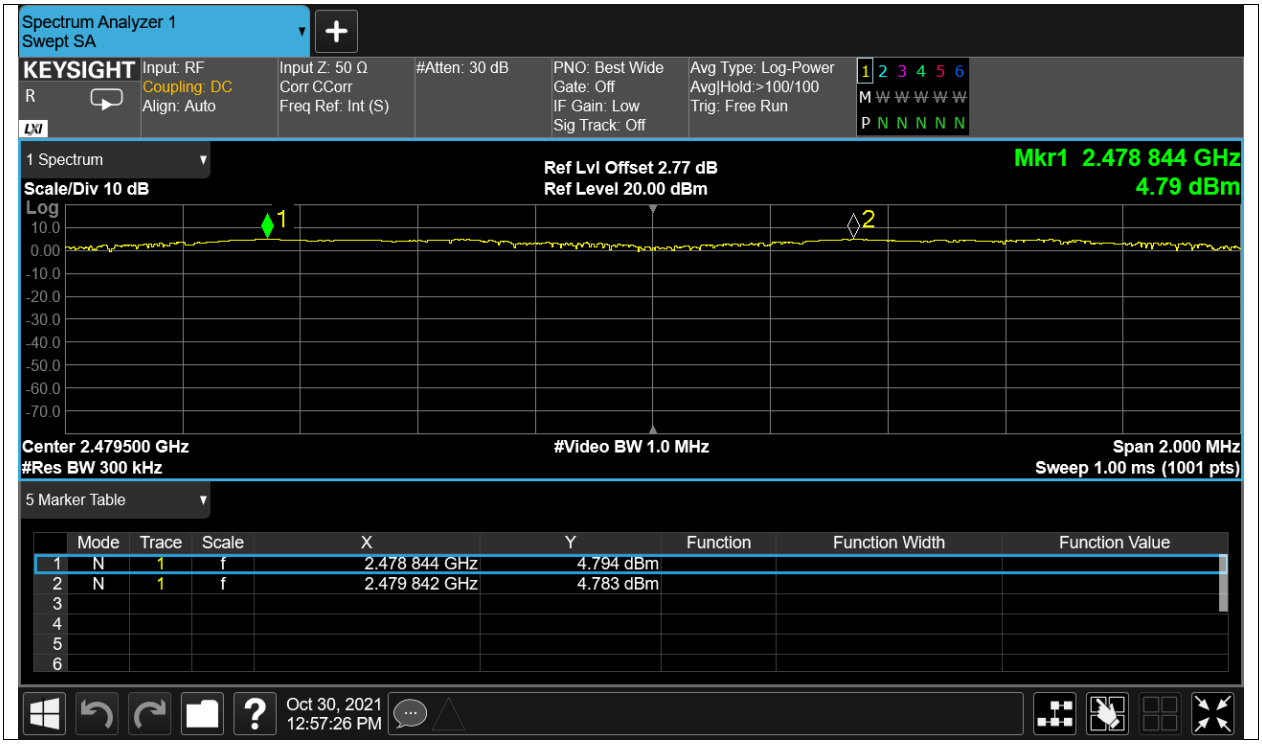

CFS NVNT 3-DH1 2402MHz Ant1




CFS NVNT 3-DH1 2441MHz Ant1




CFS NVNT 3-DH1 2480MHz Ant1

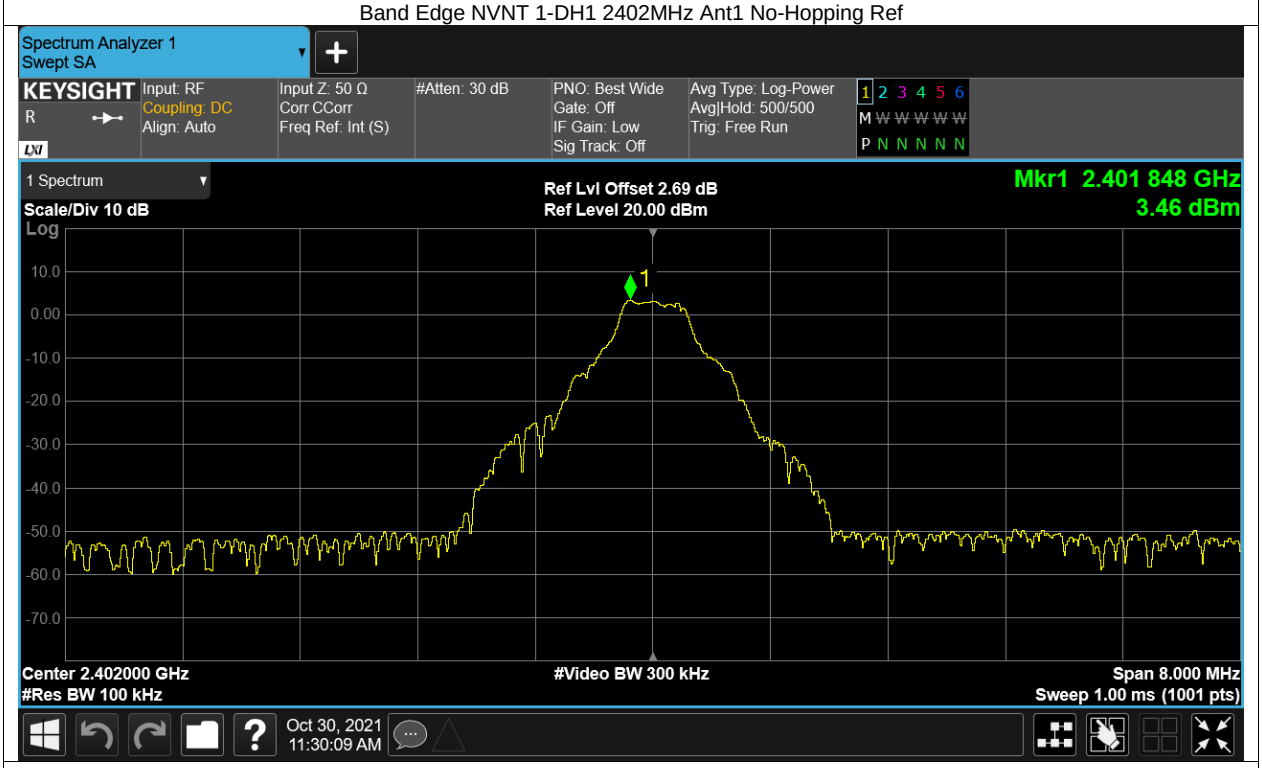

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold:>100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.77 dB
Ref Level 20.00 dBm
Mkr1 2.478 844 GHz
4.79 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.479500 GHz
#Res BW 300 kHz
#Video BW 1.0 MHz
Span 2.000 MHz
Sweep 1.00 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.478 844 GHz 4.794 dBm
2 N 1 f 2.479 842 GHz 4.783 dBm
3
4
5
6
Oct 30, 2021
12:57:26 PM

# Band Edge

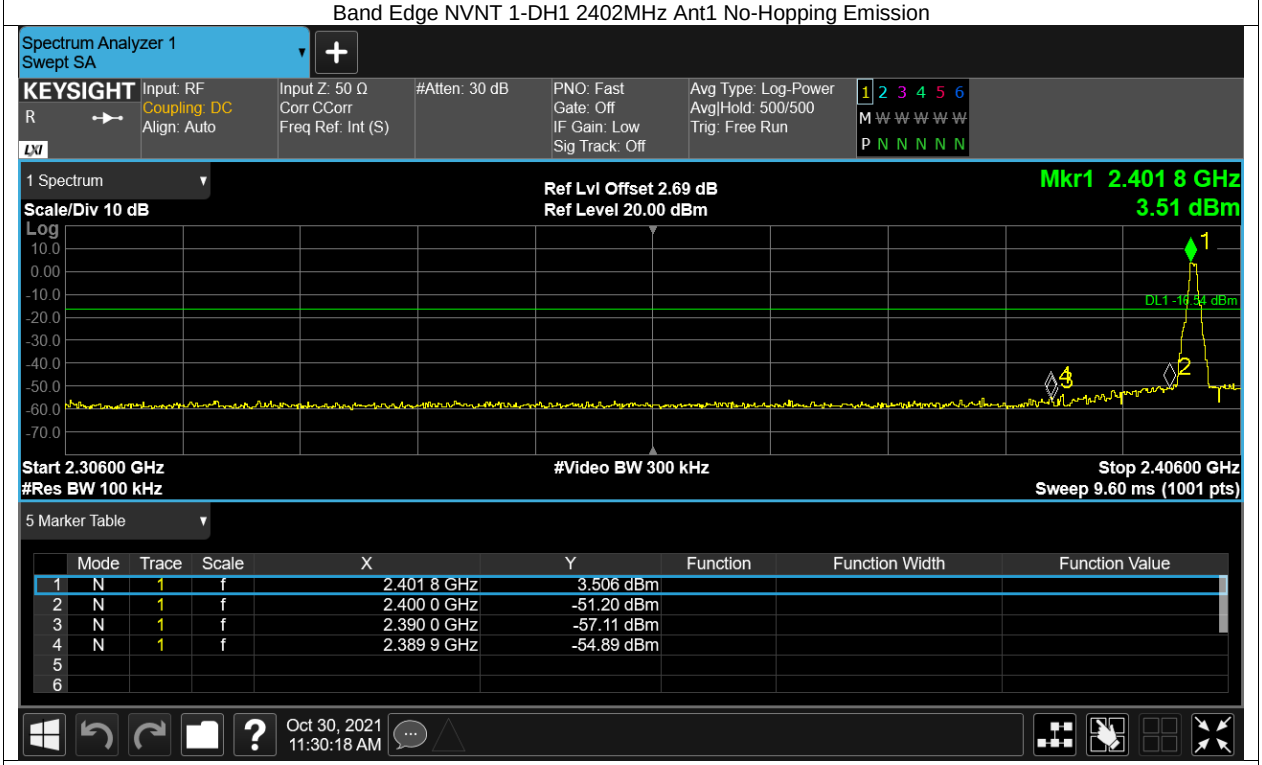
| Condition | Mode | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | -58.35 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | -53.26 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | -58.97 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | -54.62 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | -59.39 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | -54.8 | -20 | Pass |

Test Graphs

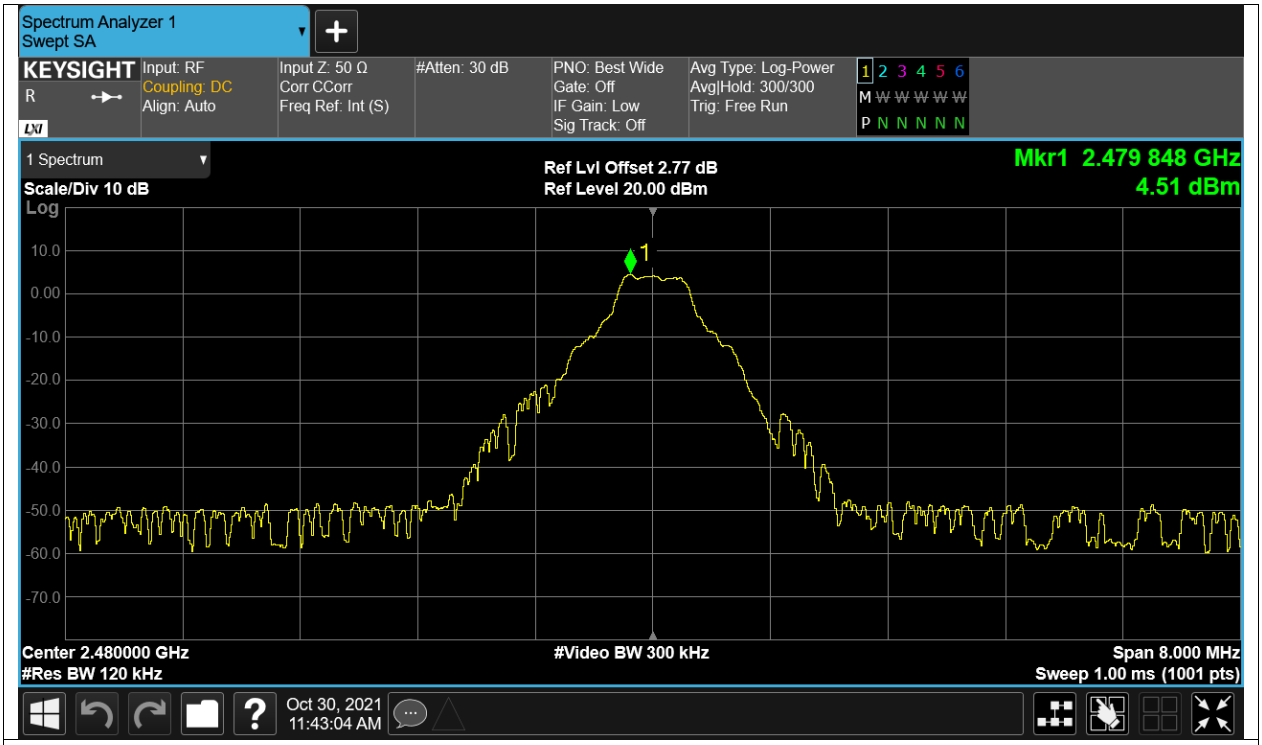
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



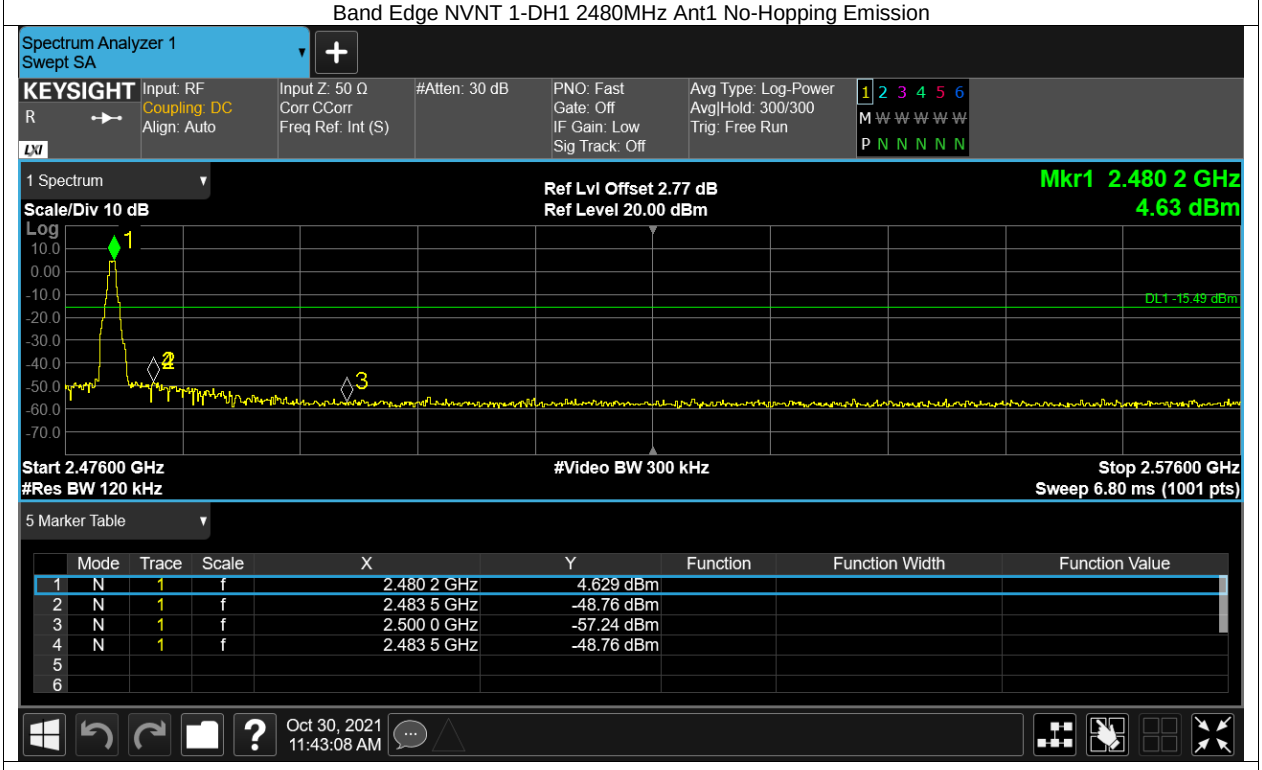

Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



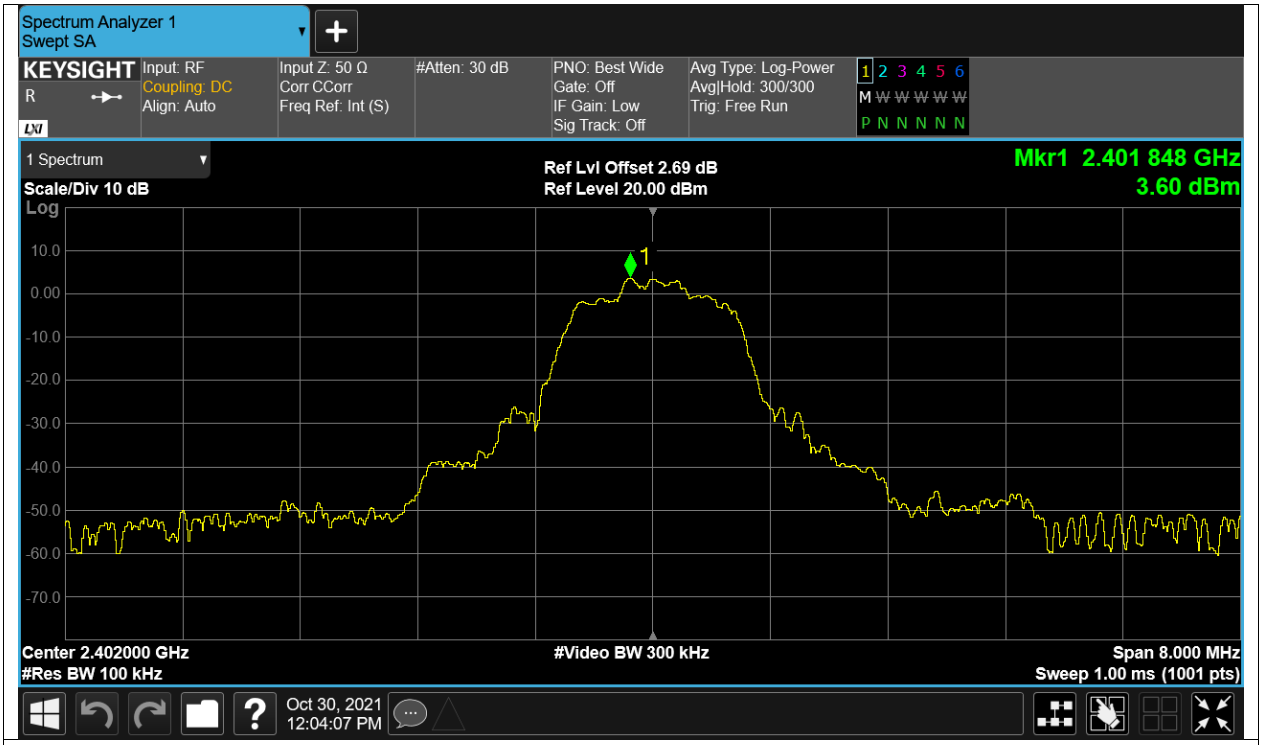

Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



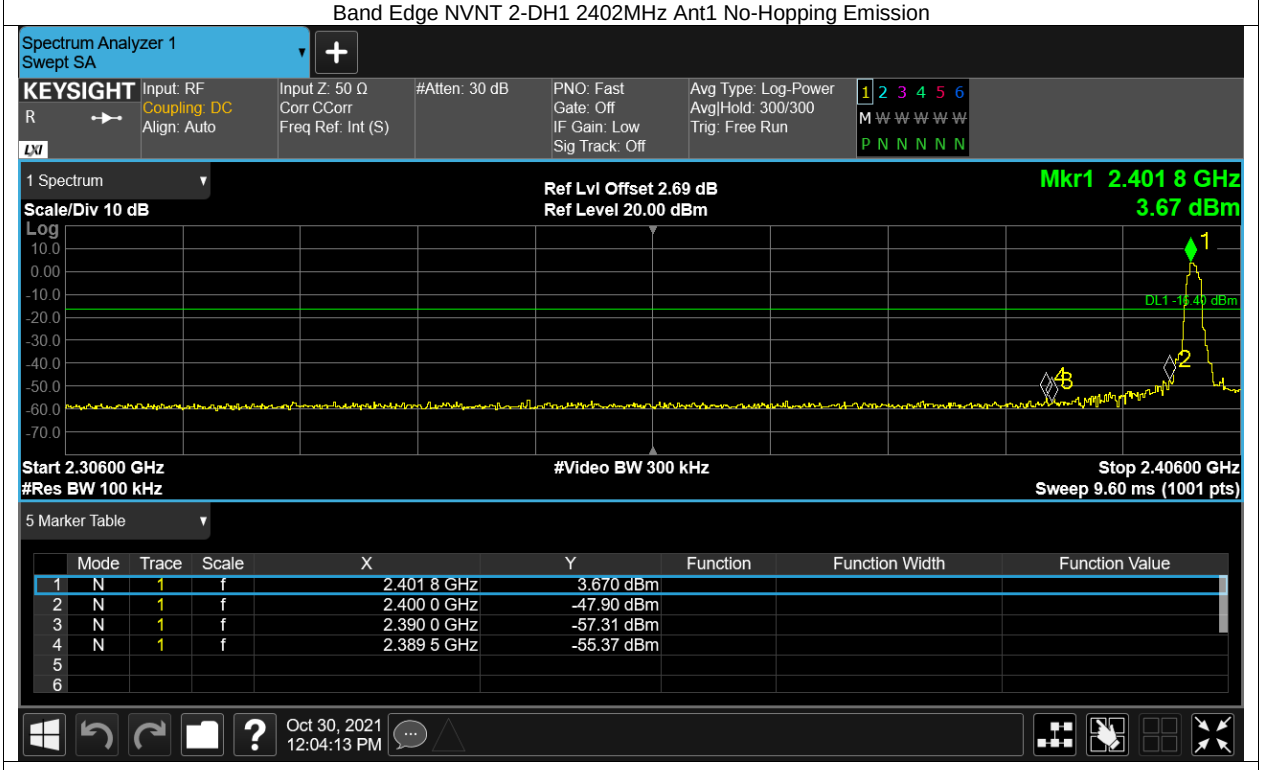

Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



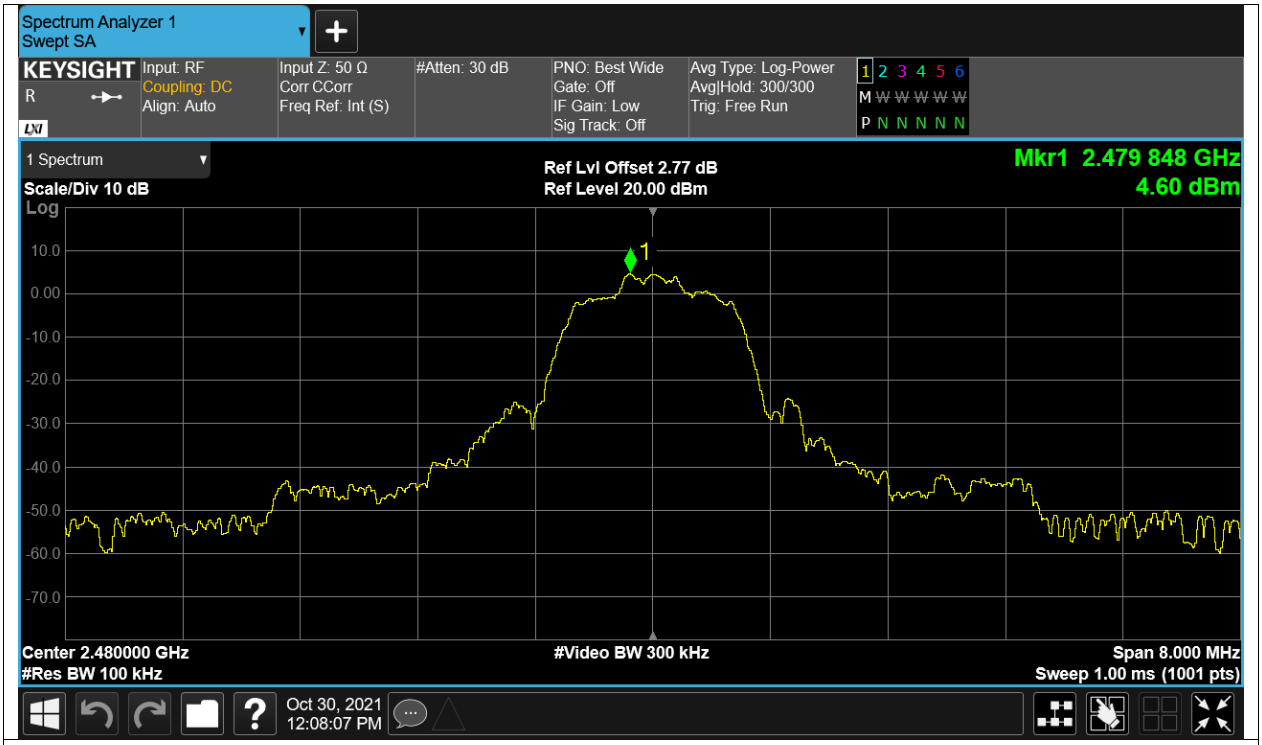

Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



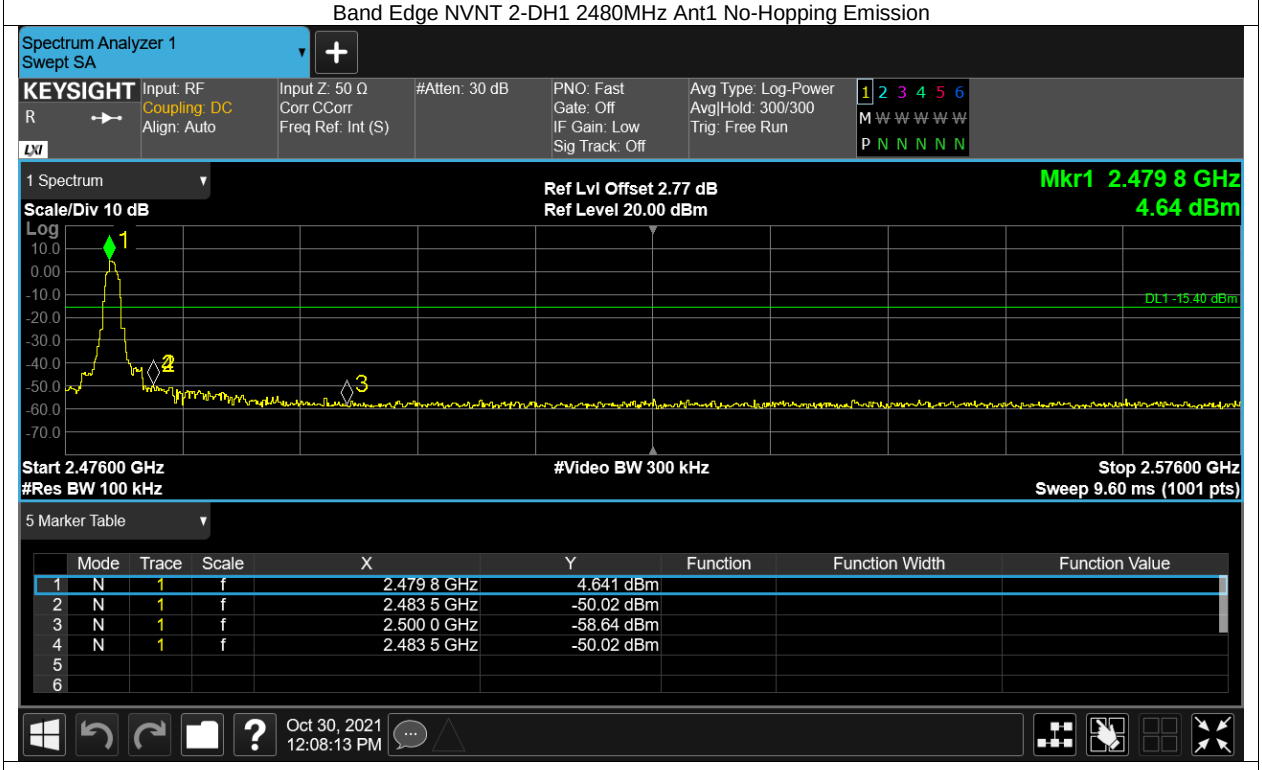

Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



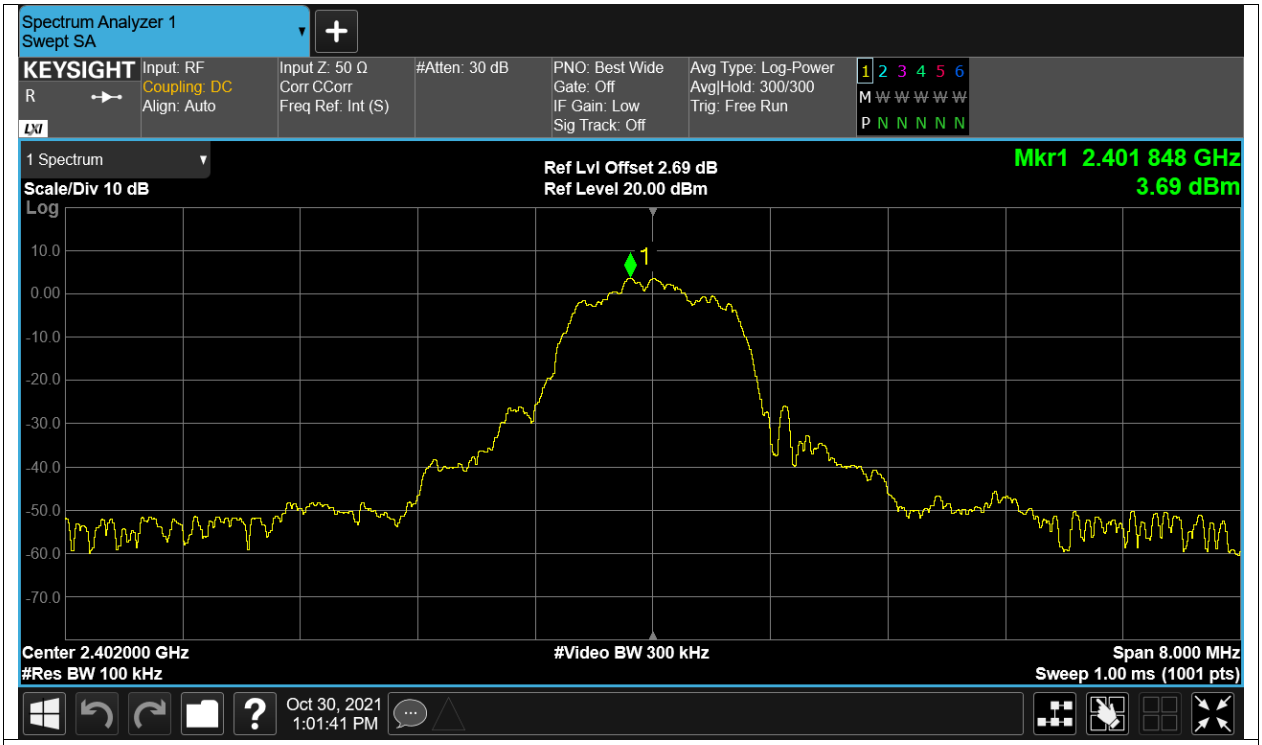

Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref



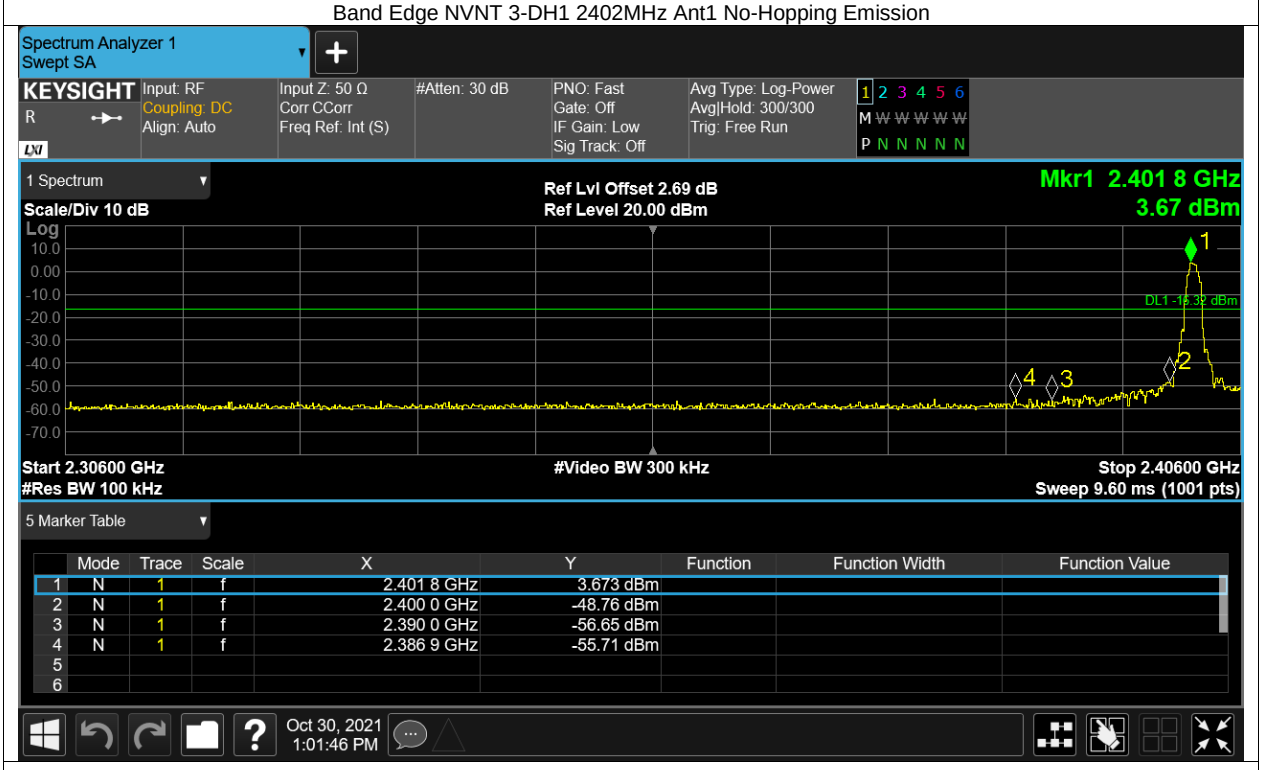

Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



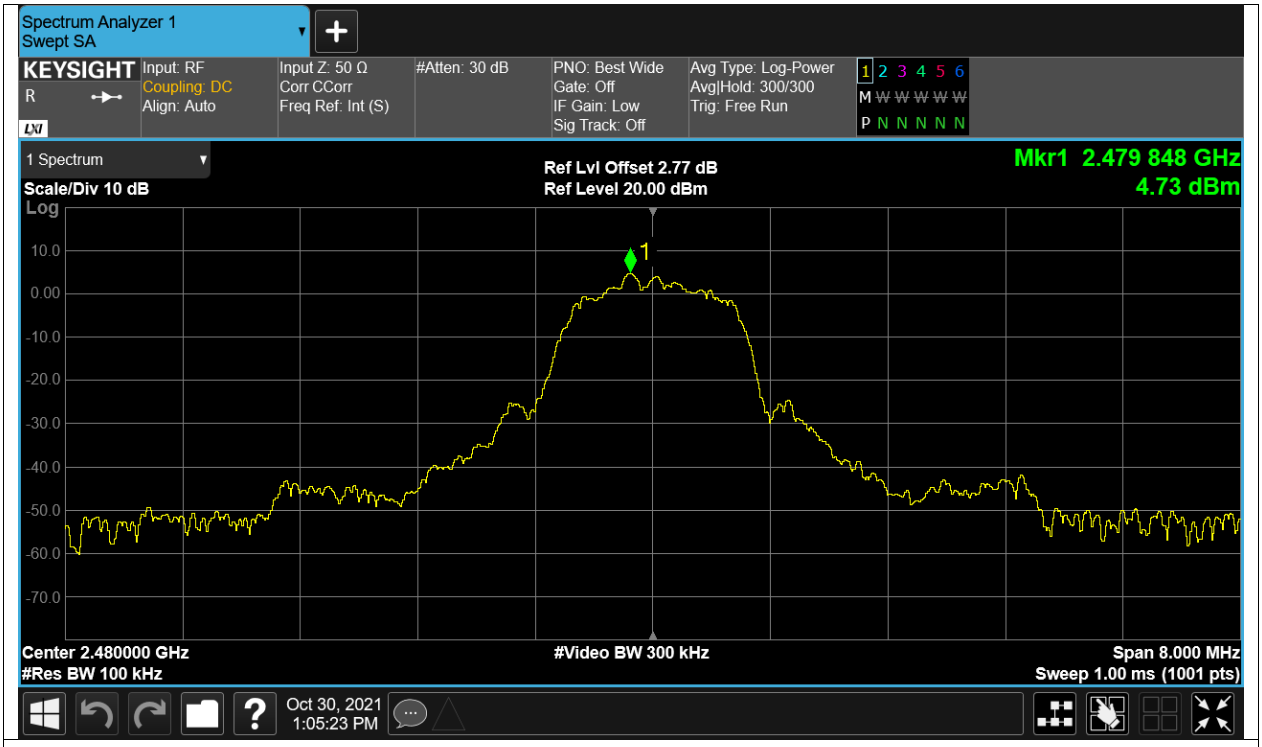

Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



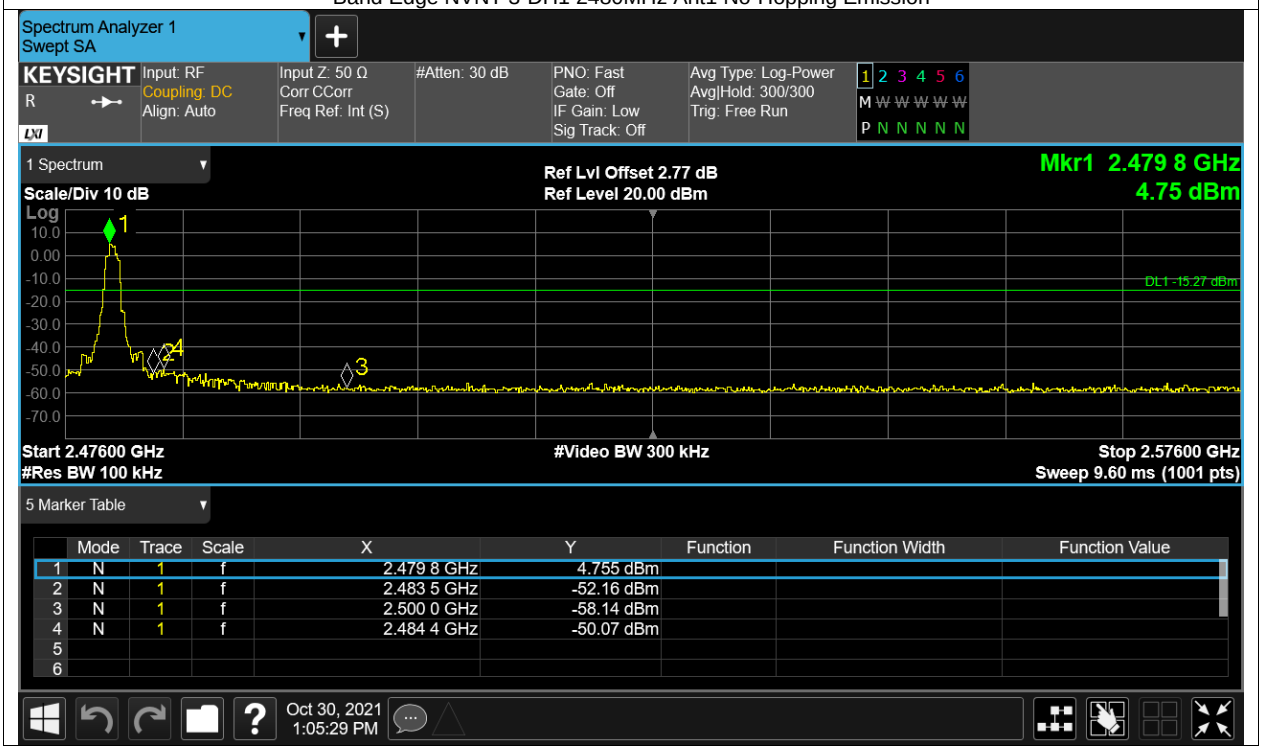

Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref




Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission

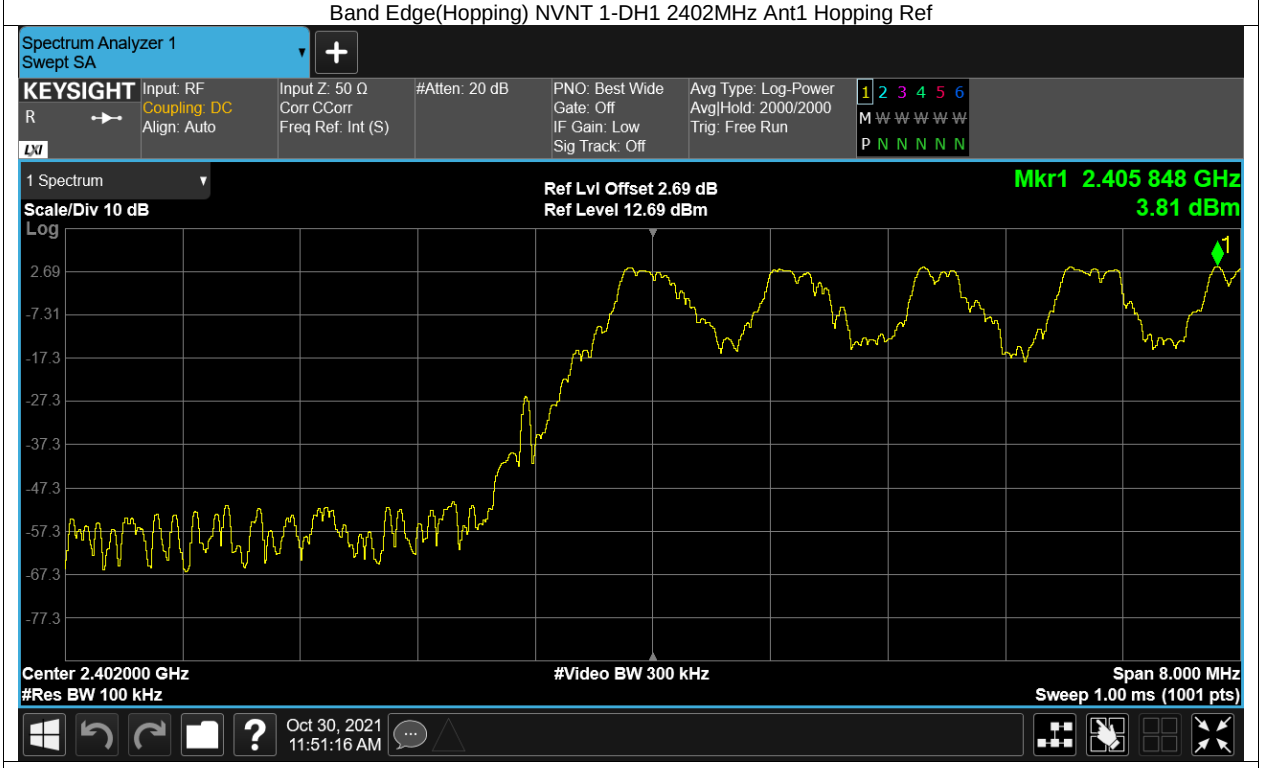


# Band Edge(Hopping)

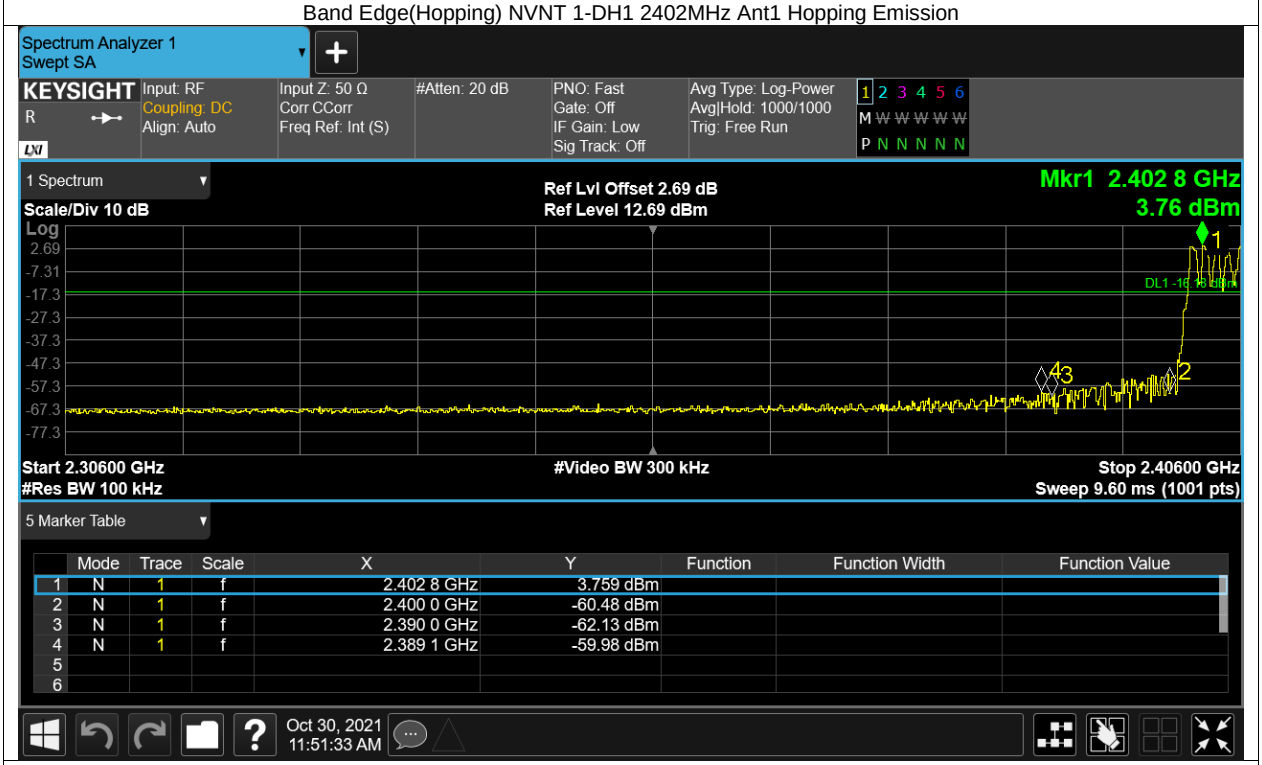
| Condition | Mode | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | Hopping | -63.79 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | Hopping | -56.72 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | Hopping | -58.76 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | Hopping | -56.71 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | Hopping | -59.22 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | Hopping | -55.33 | -20 | Pass |

Test Graphs

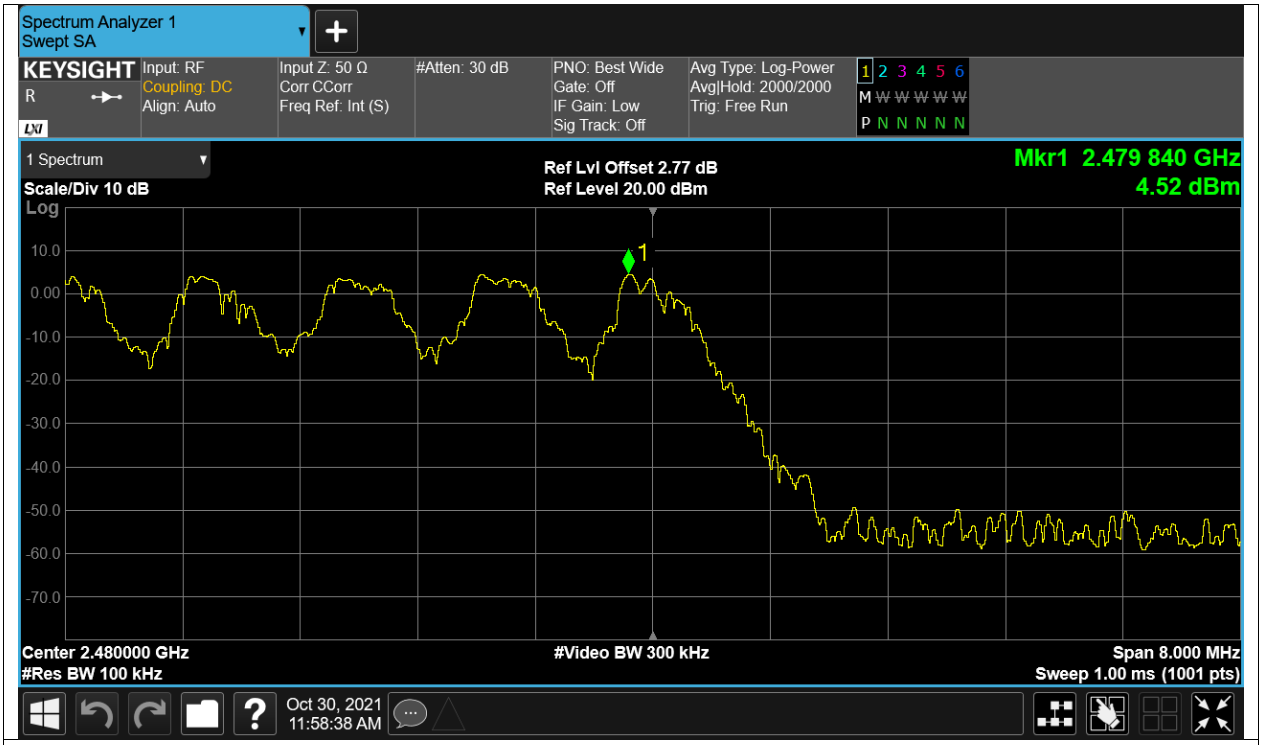
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref



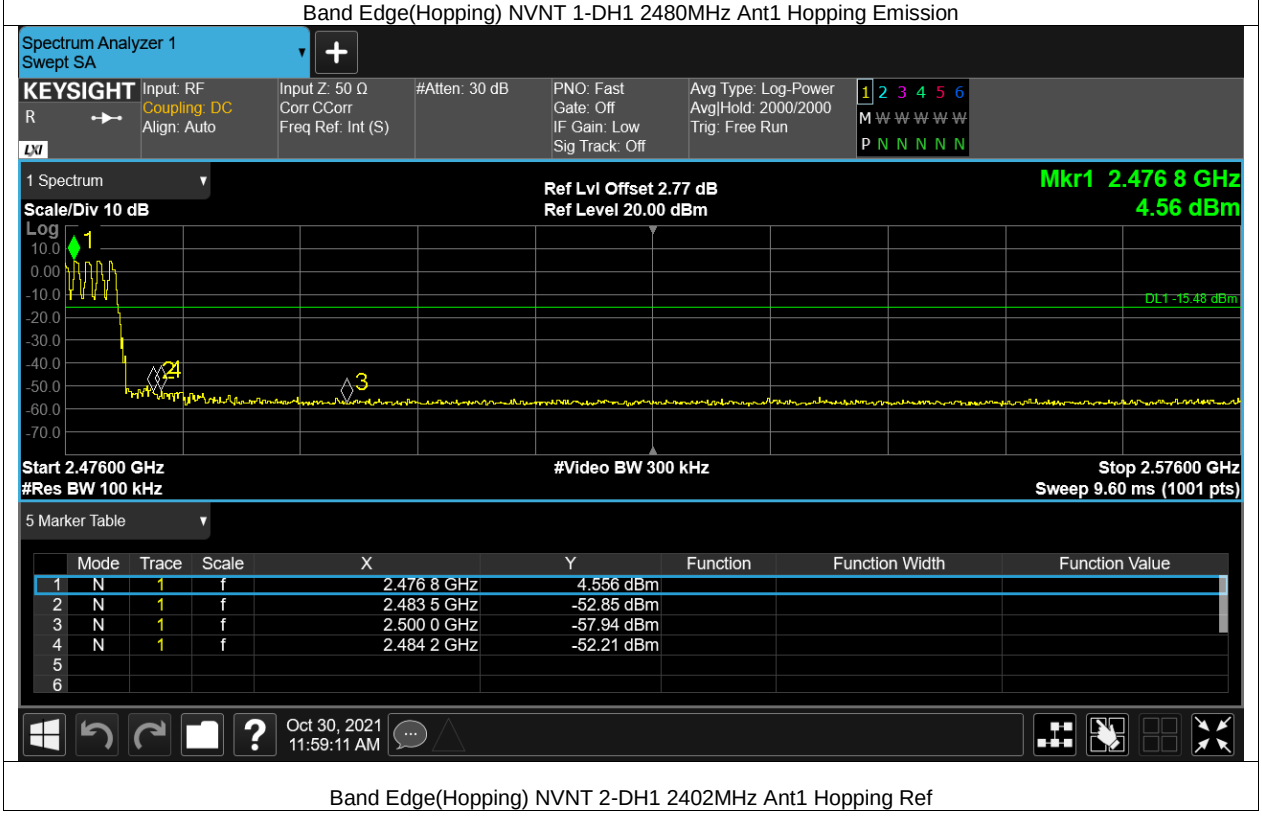

Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



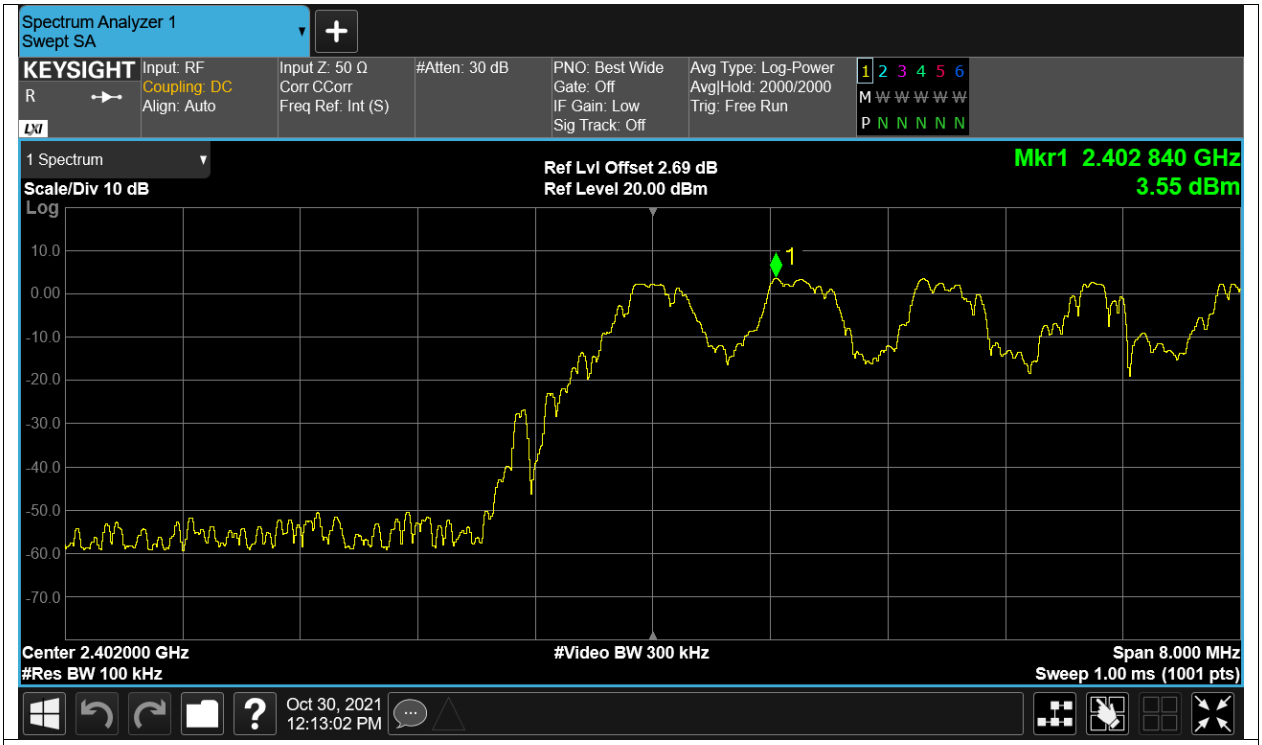

Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref



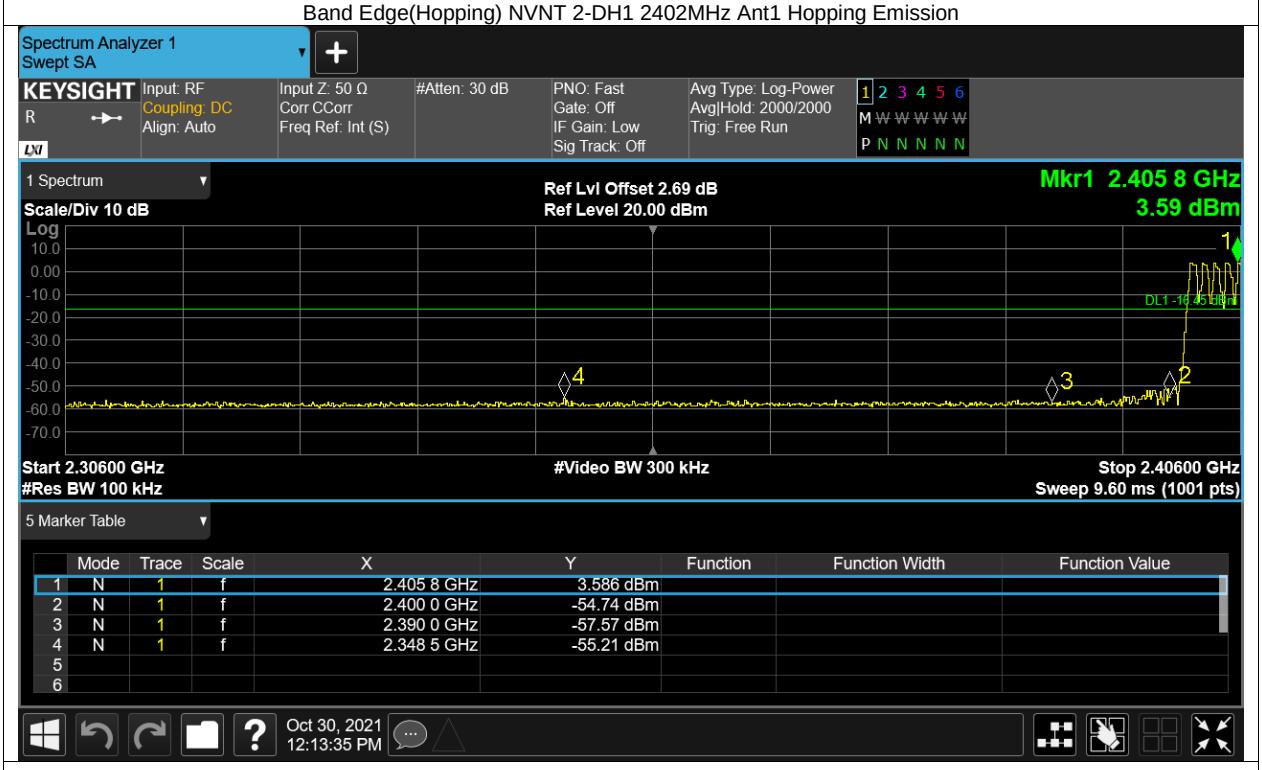

Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



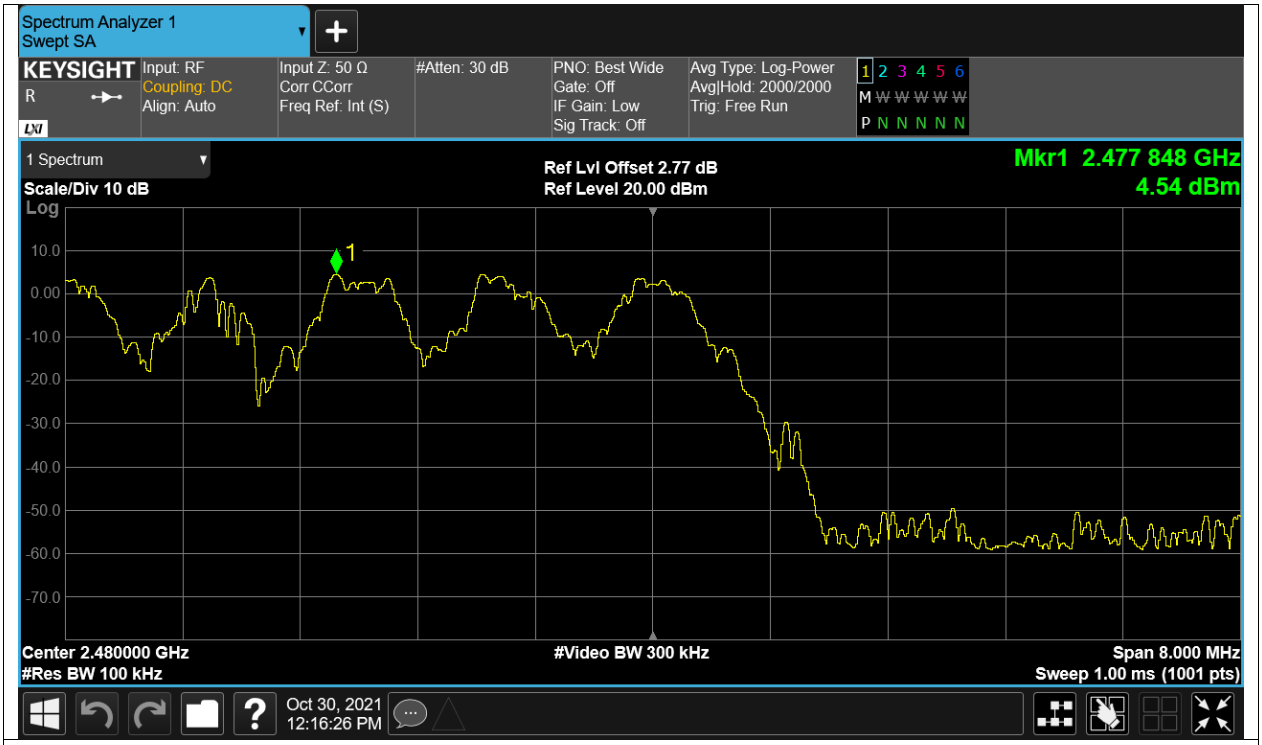

Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref



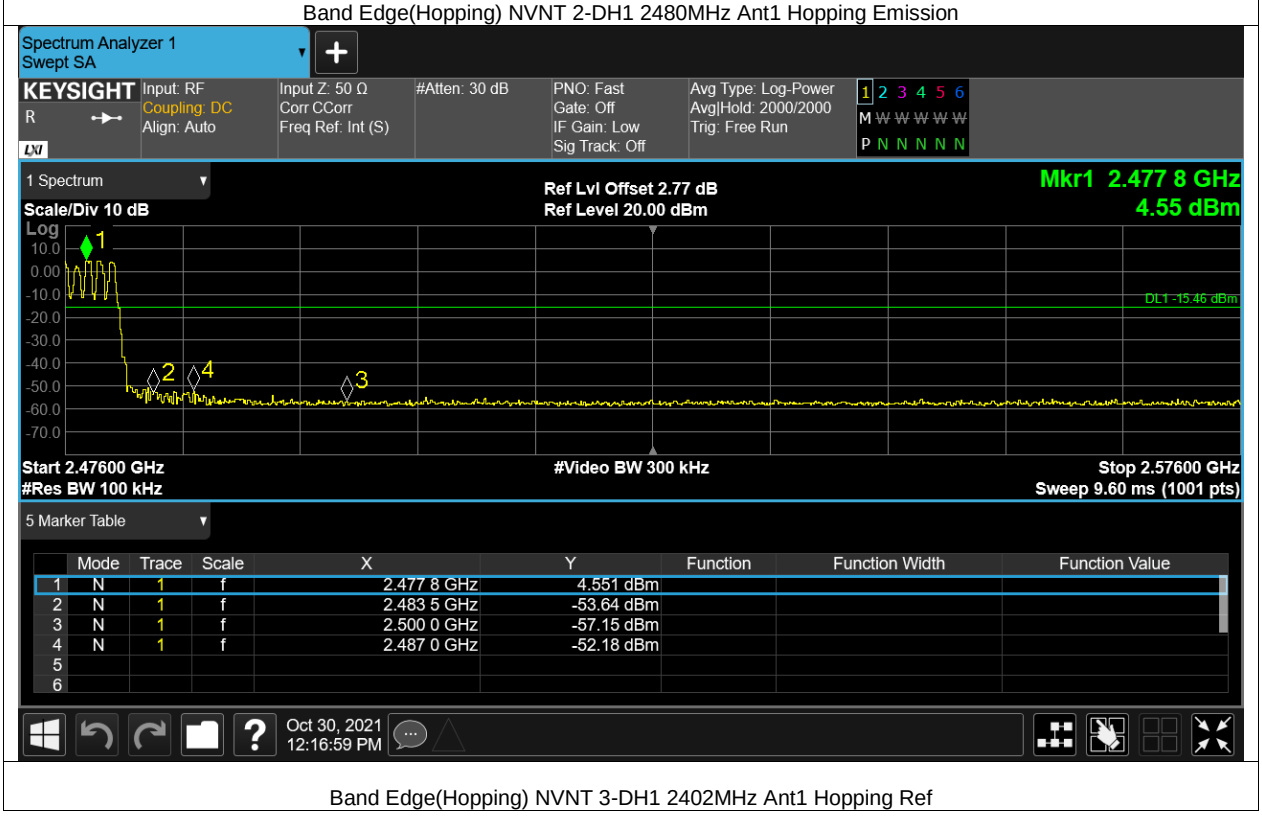

Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



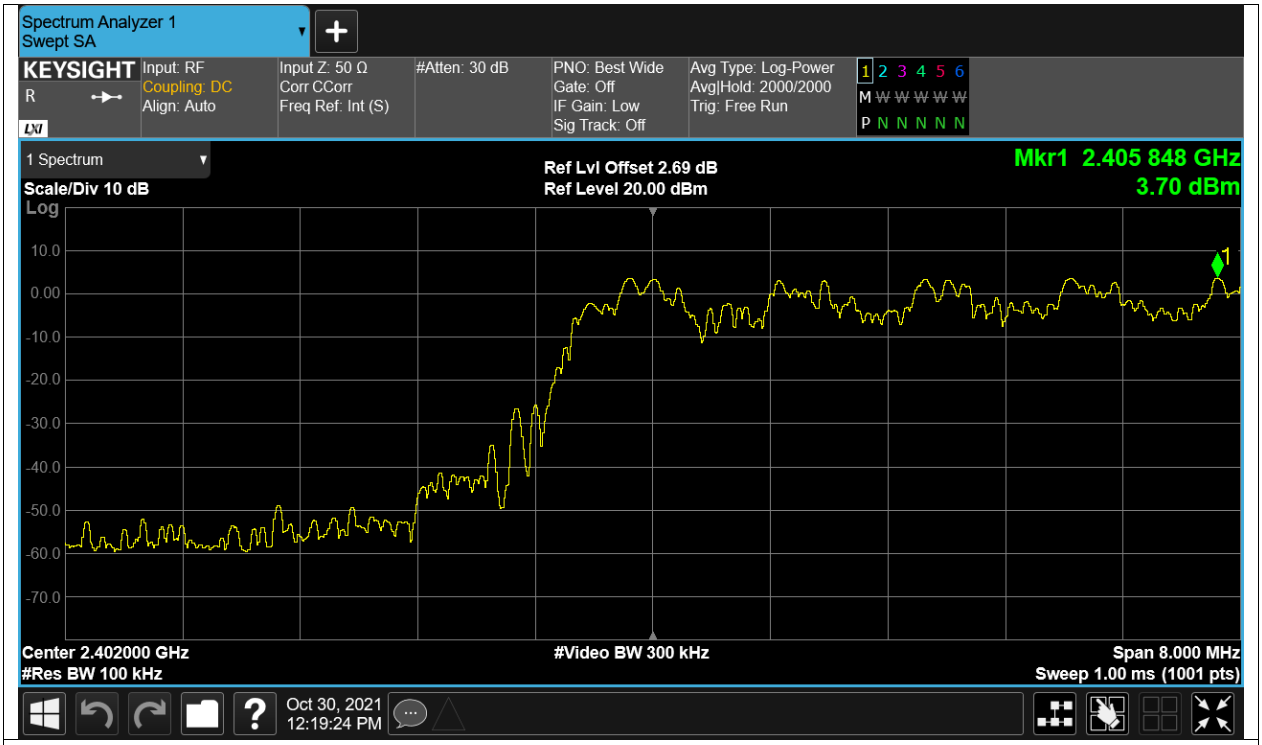

Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref



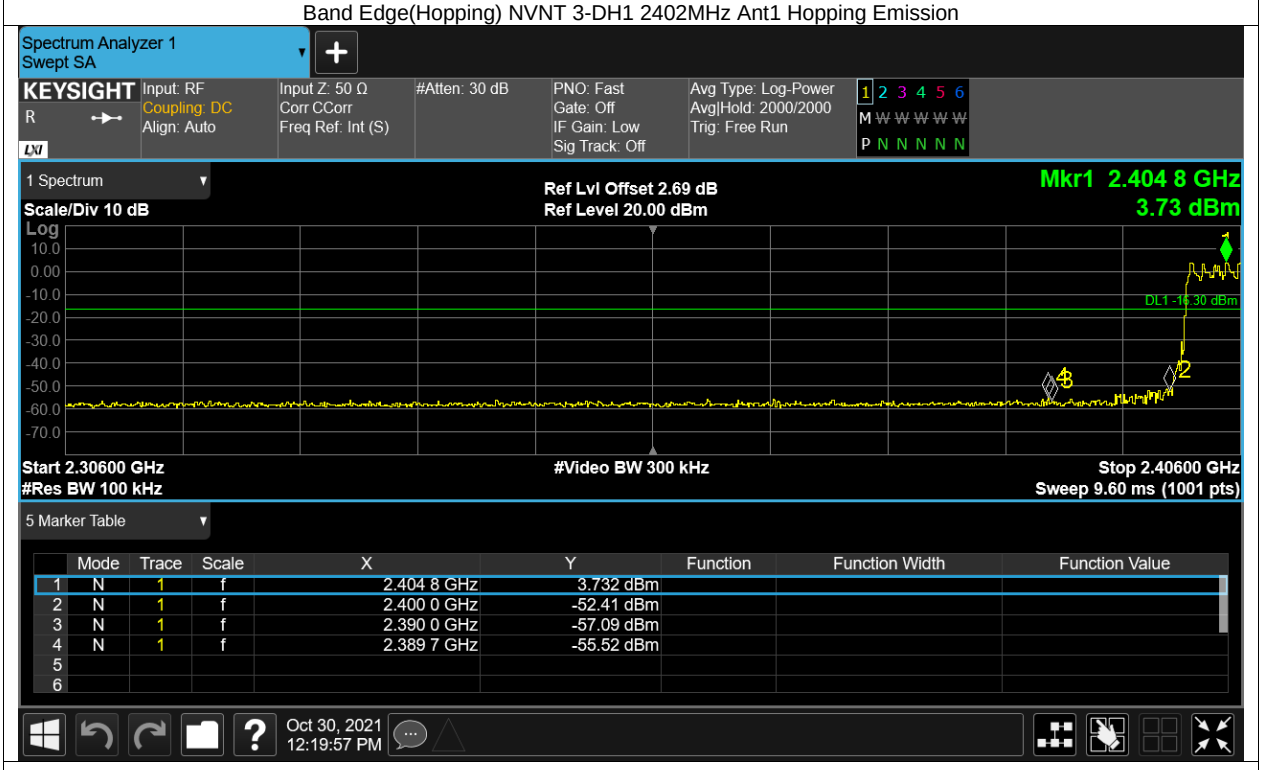

Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



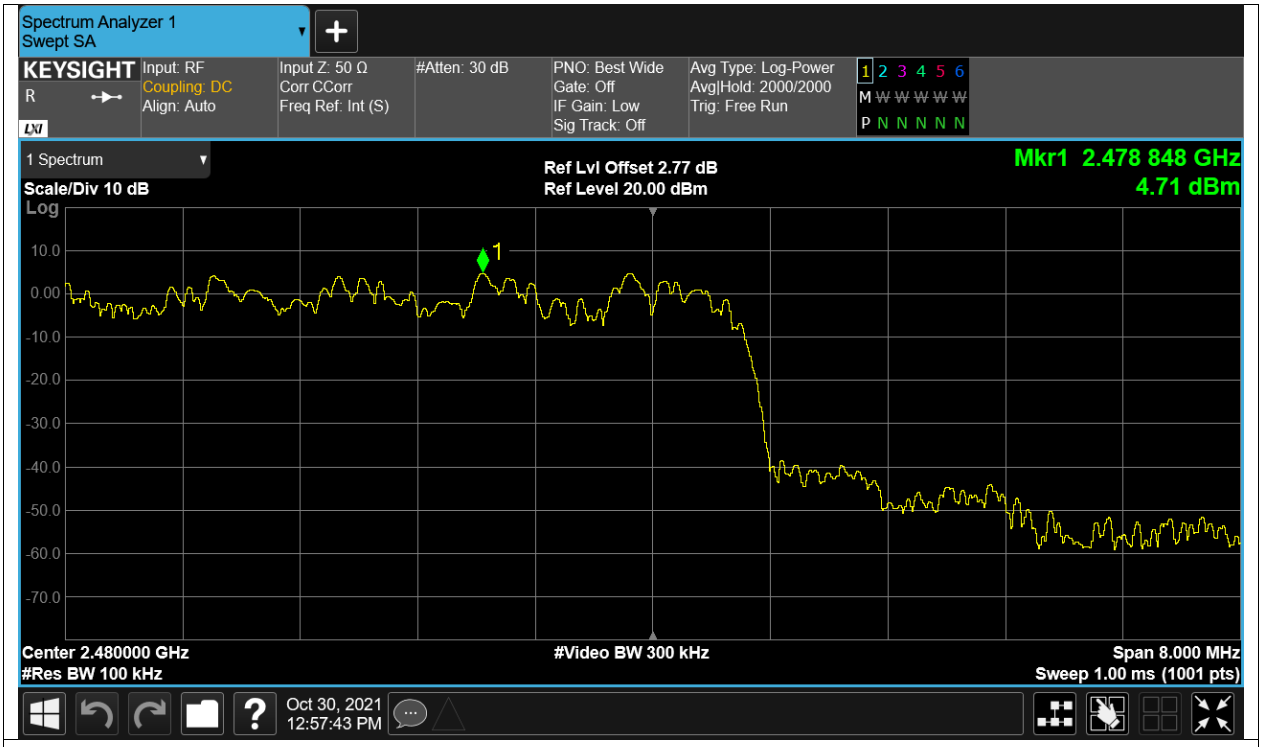

Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref



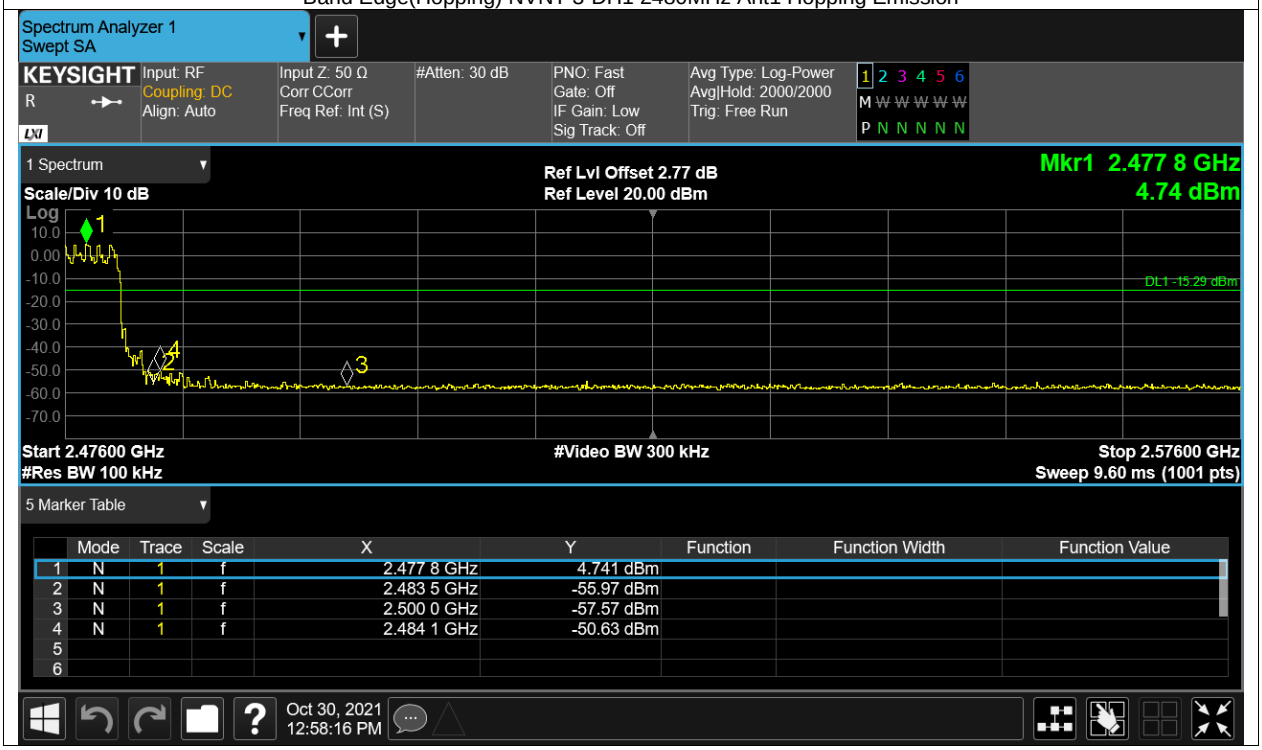

Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission




Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref




Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

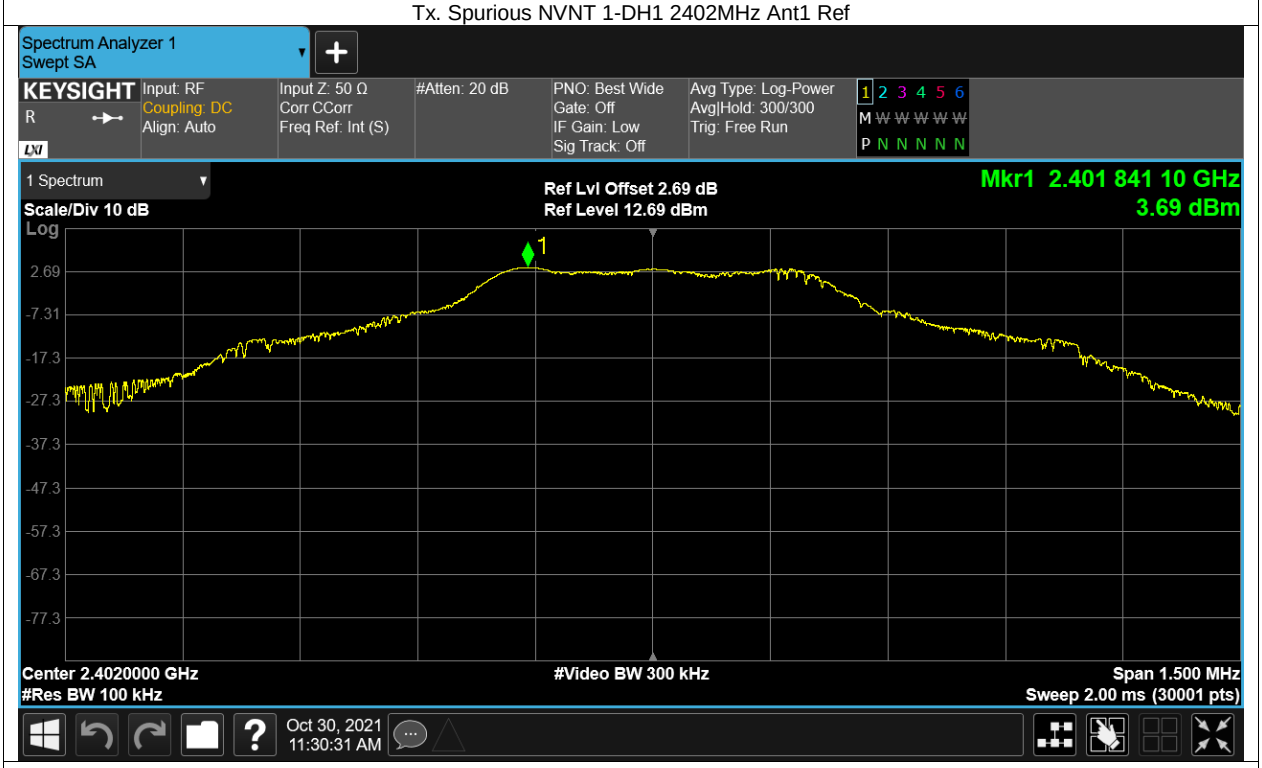


# Conducted RF Spurious Emission

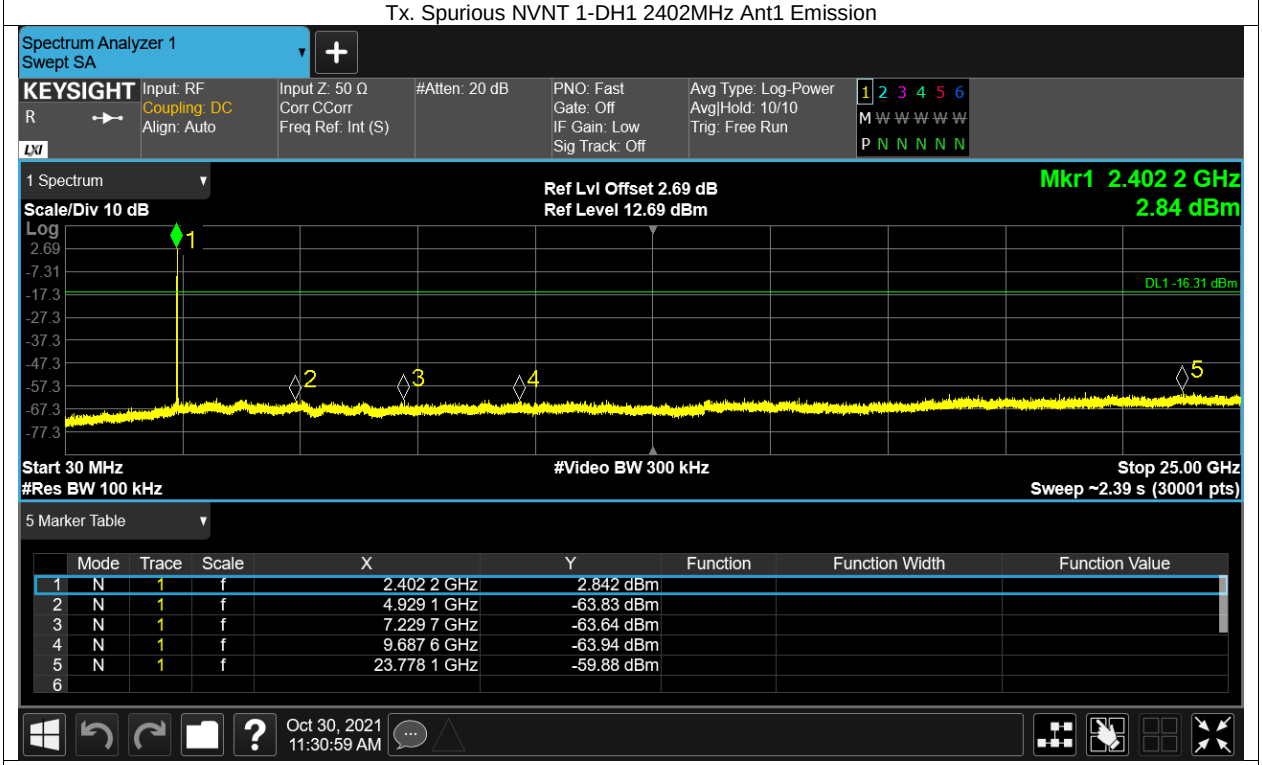
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | -63.57 | -20 | Pass |
| NVNT | 1-DH1 | 2441 | Ant1 | -64.62 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | -64.93 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | -63.97 | -20 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | -64.68 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | -63.84 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | -63.9 | -20 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | -63.44 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | -63.44 | -20 | Pass |

Test Graphs

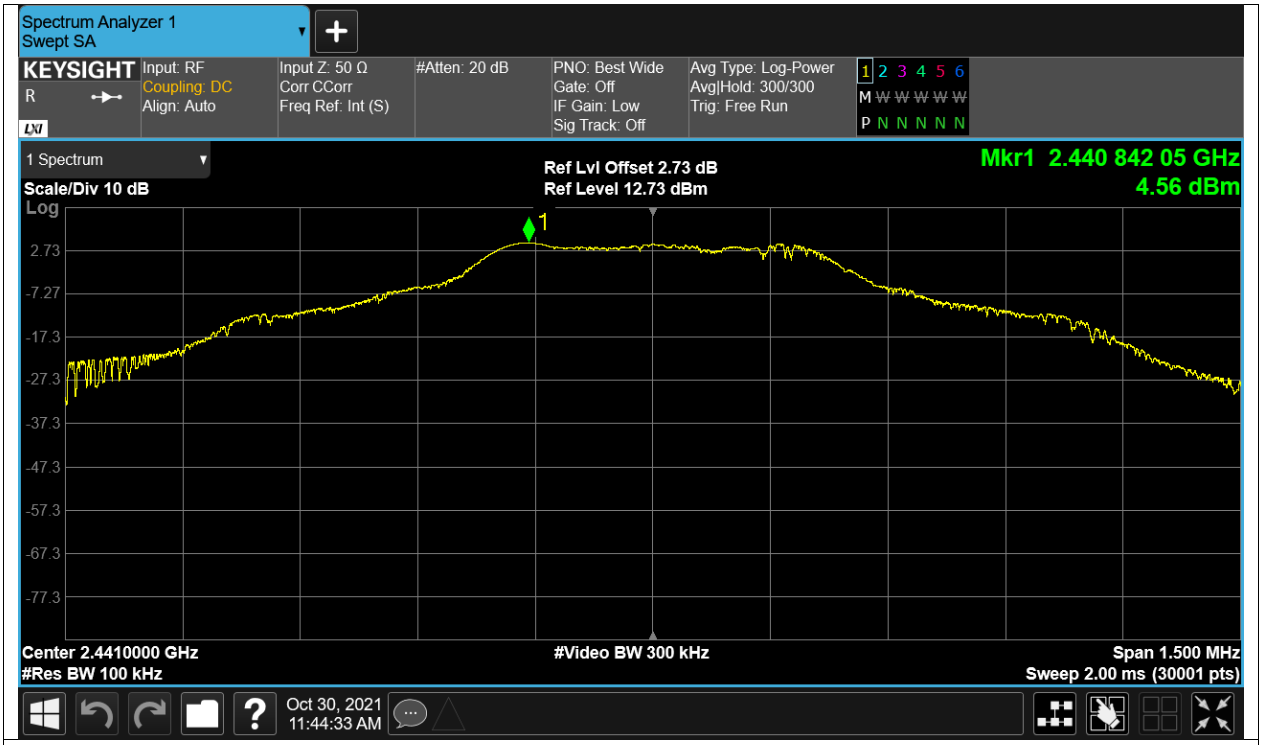
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



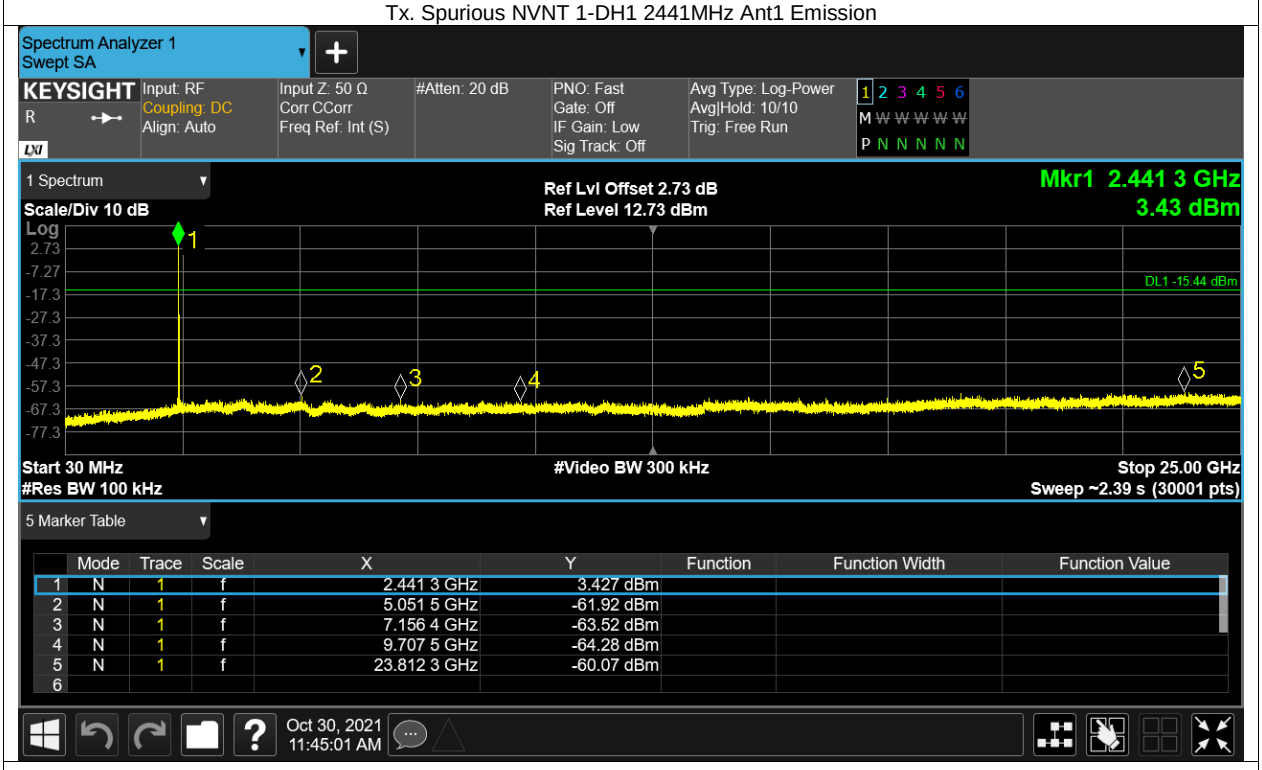

Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



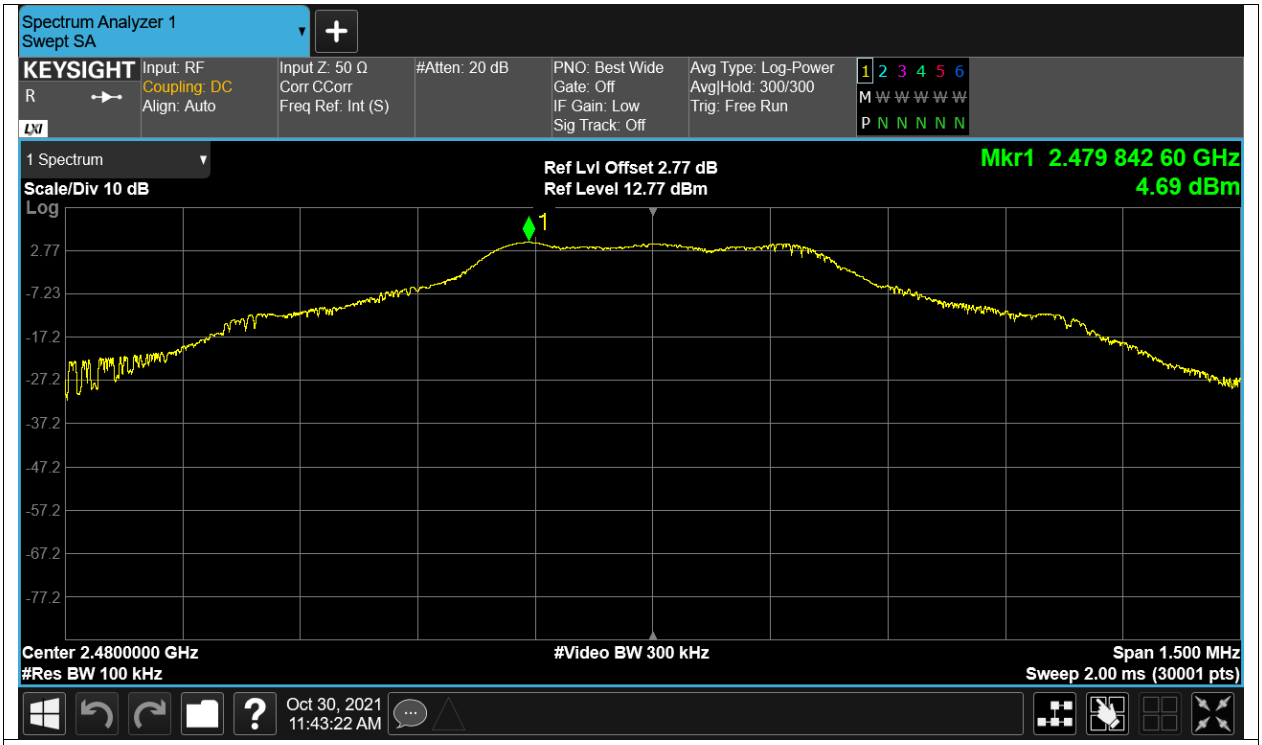

Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



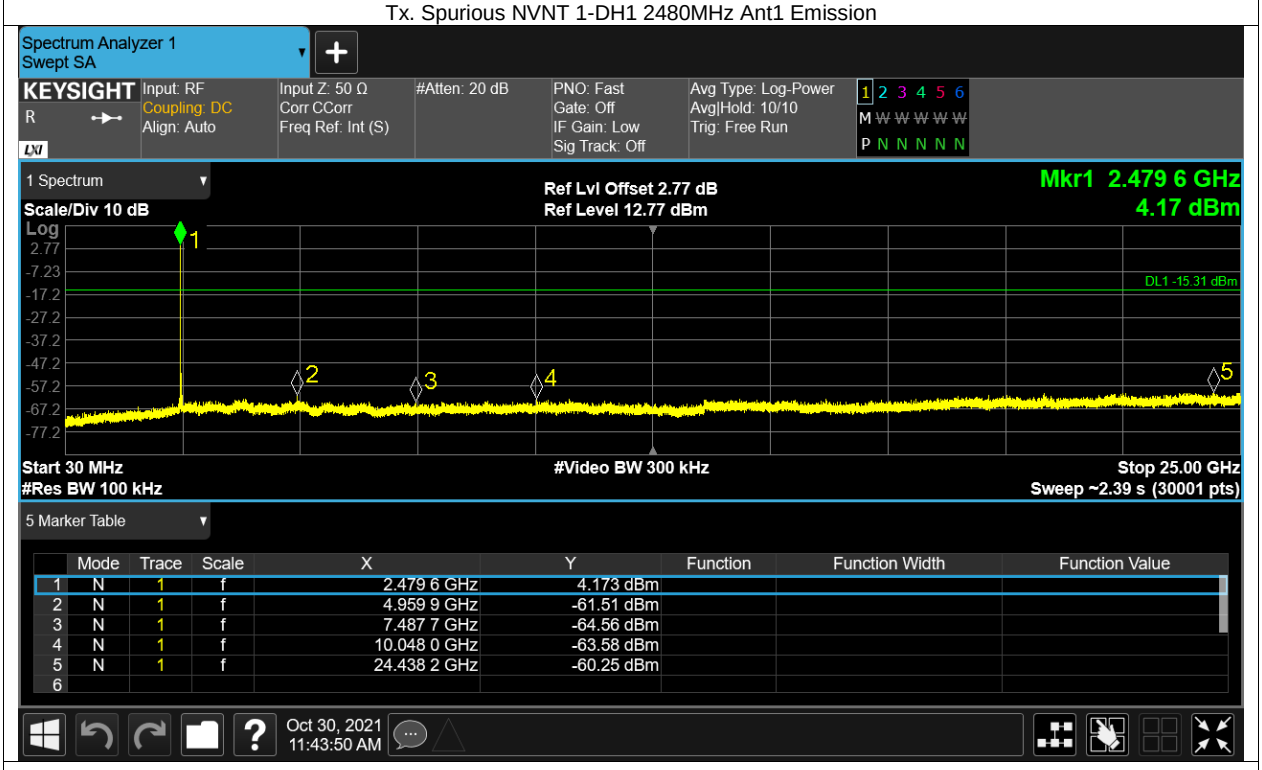

Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



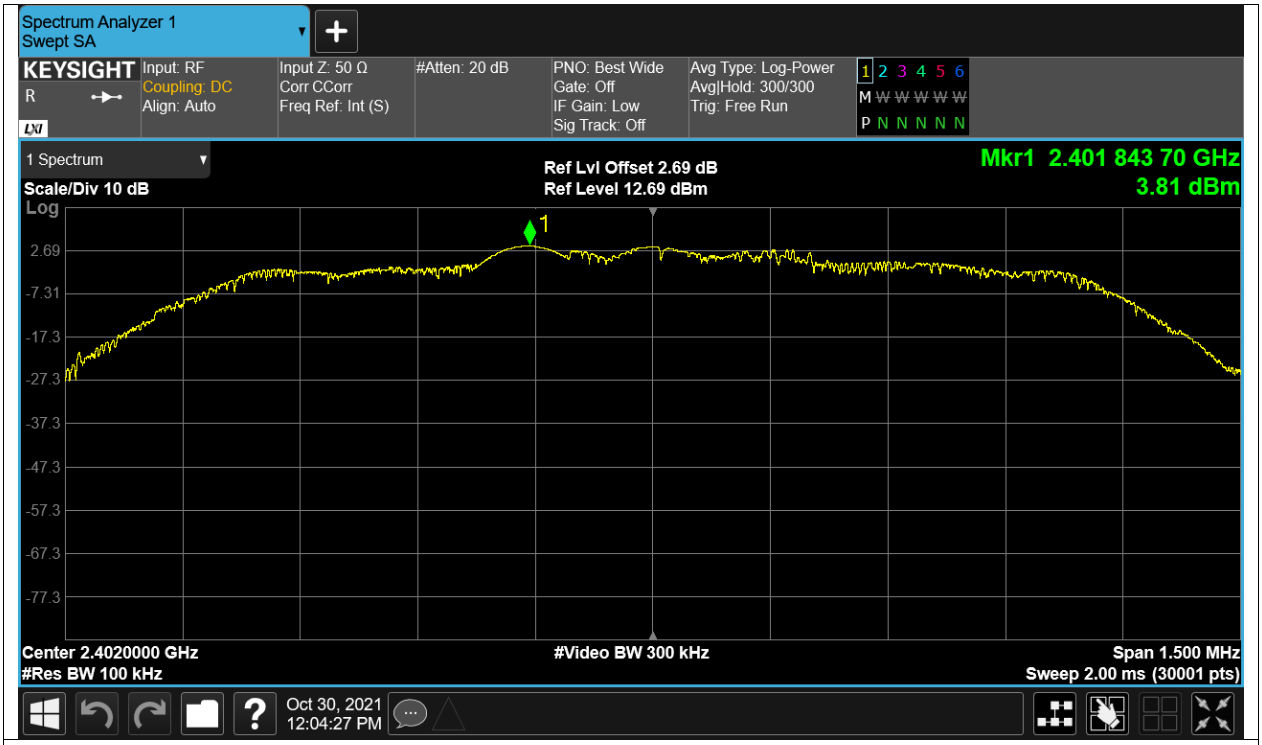

Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



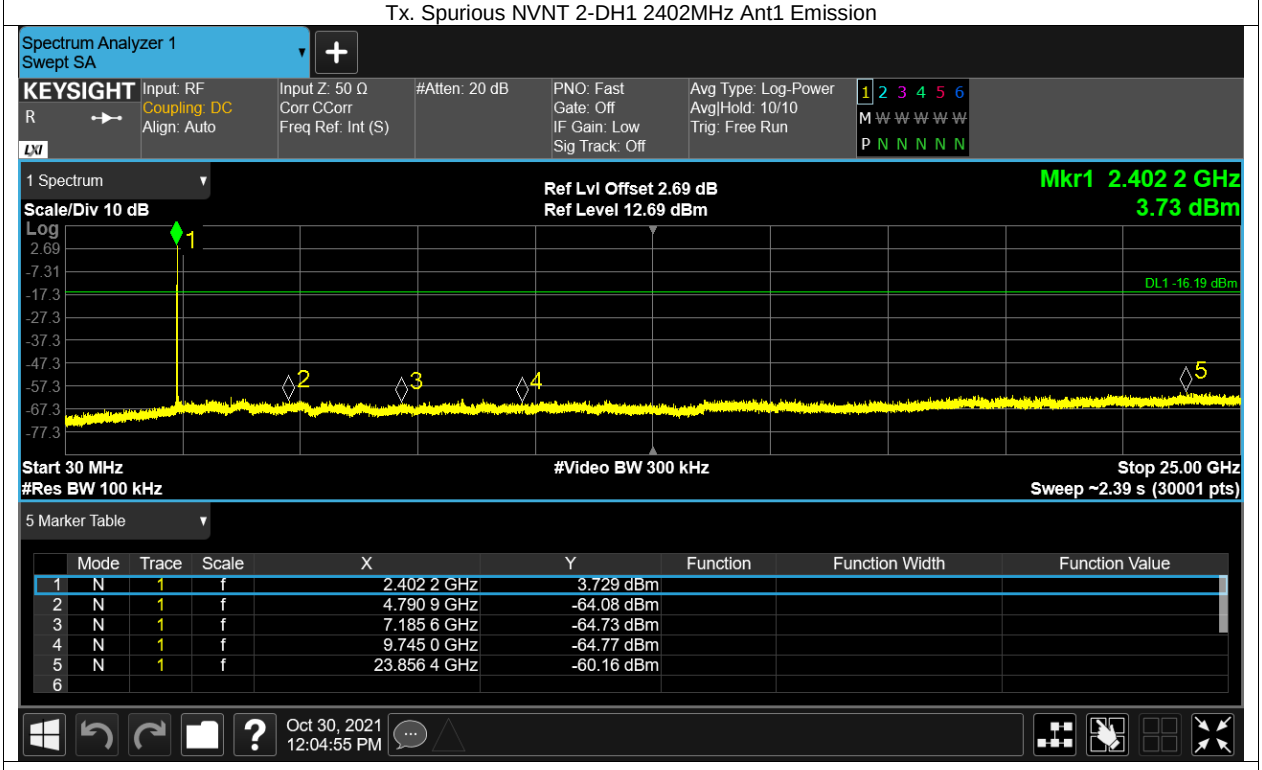

Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



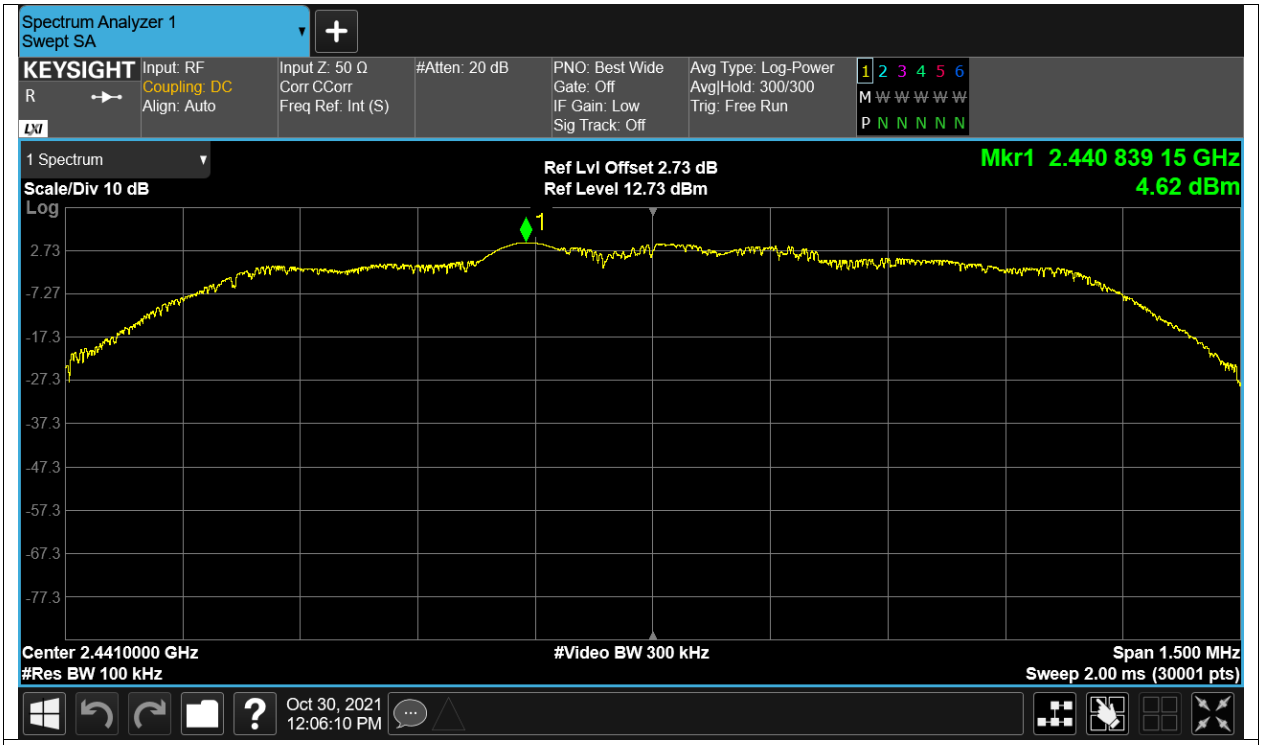

Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



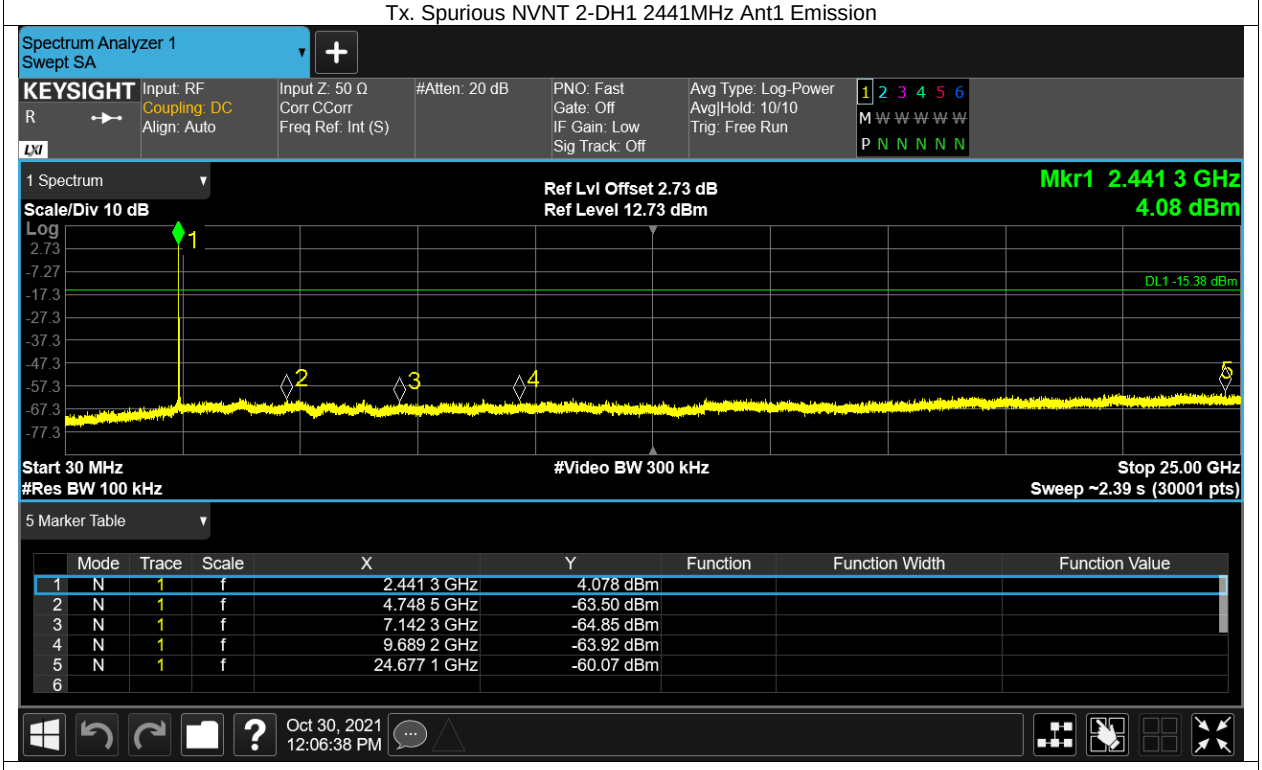

Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



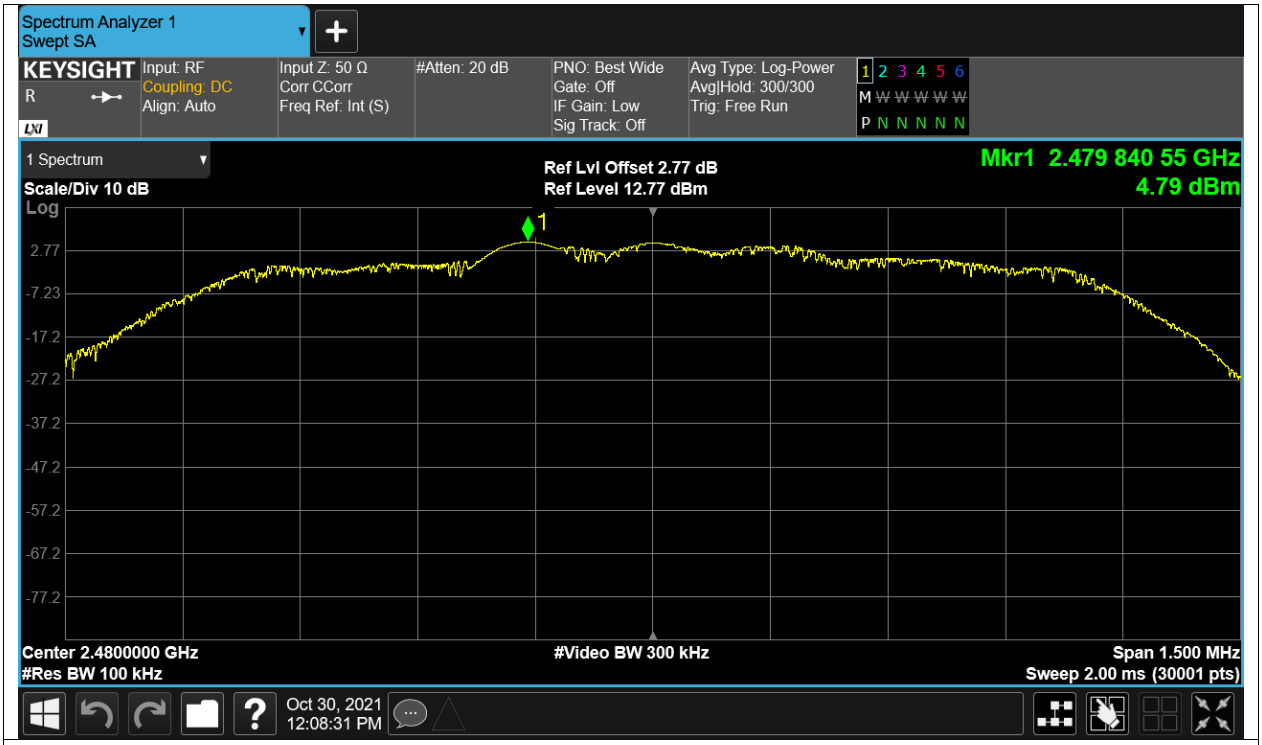

Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



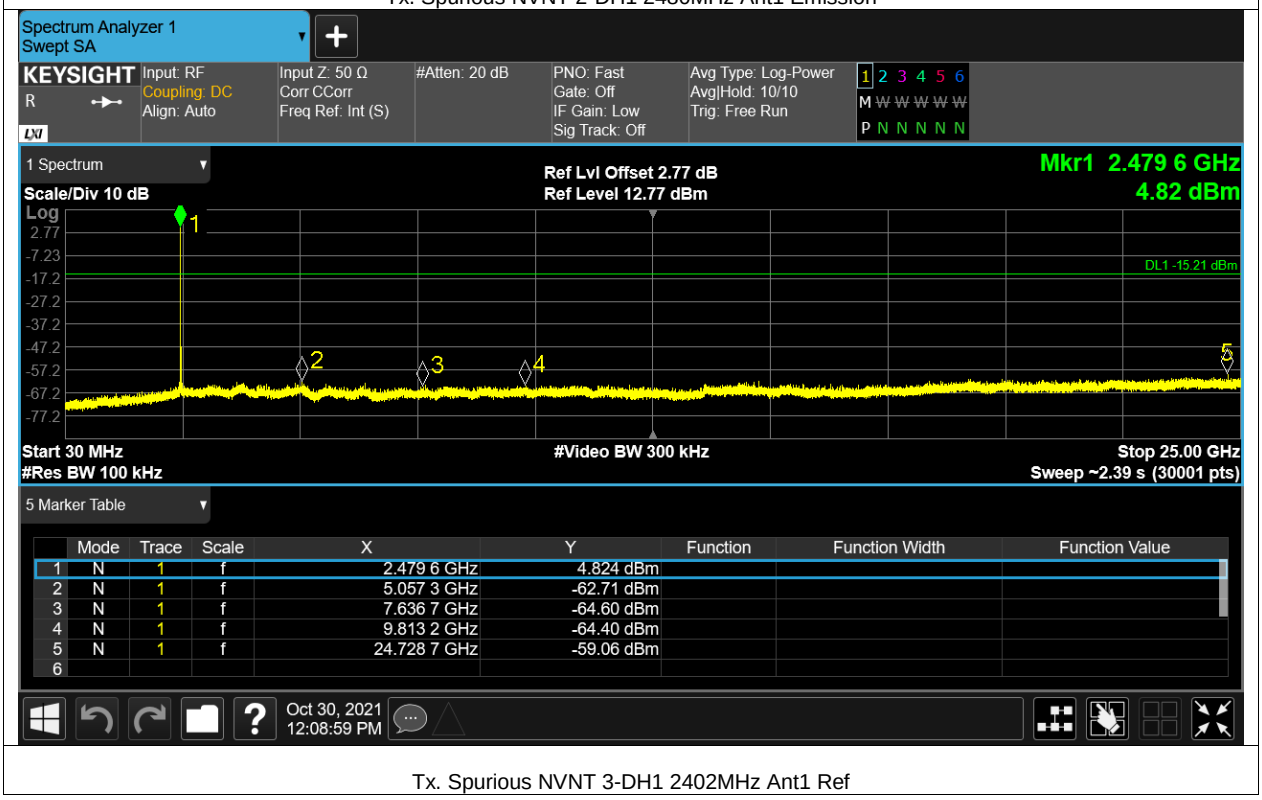

Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



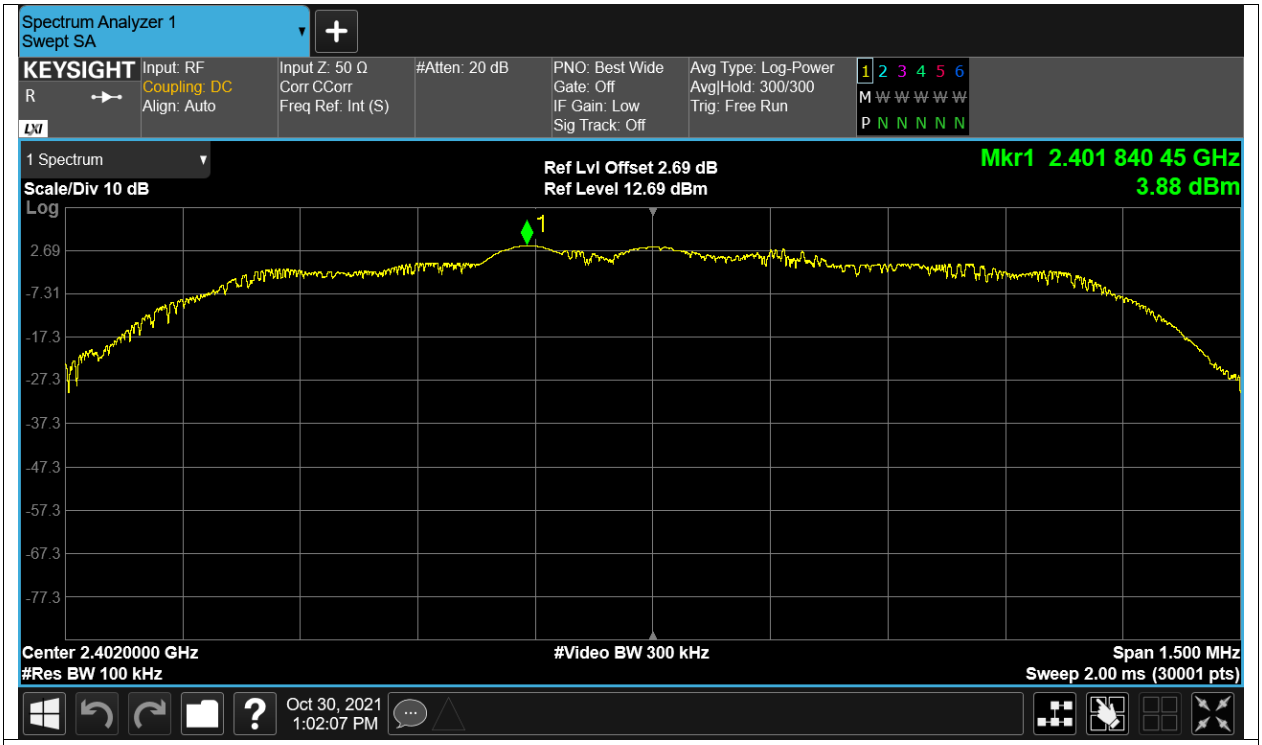

Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



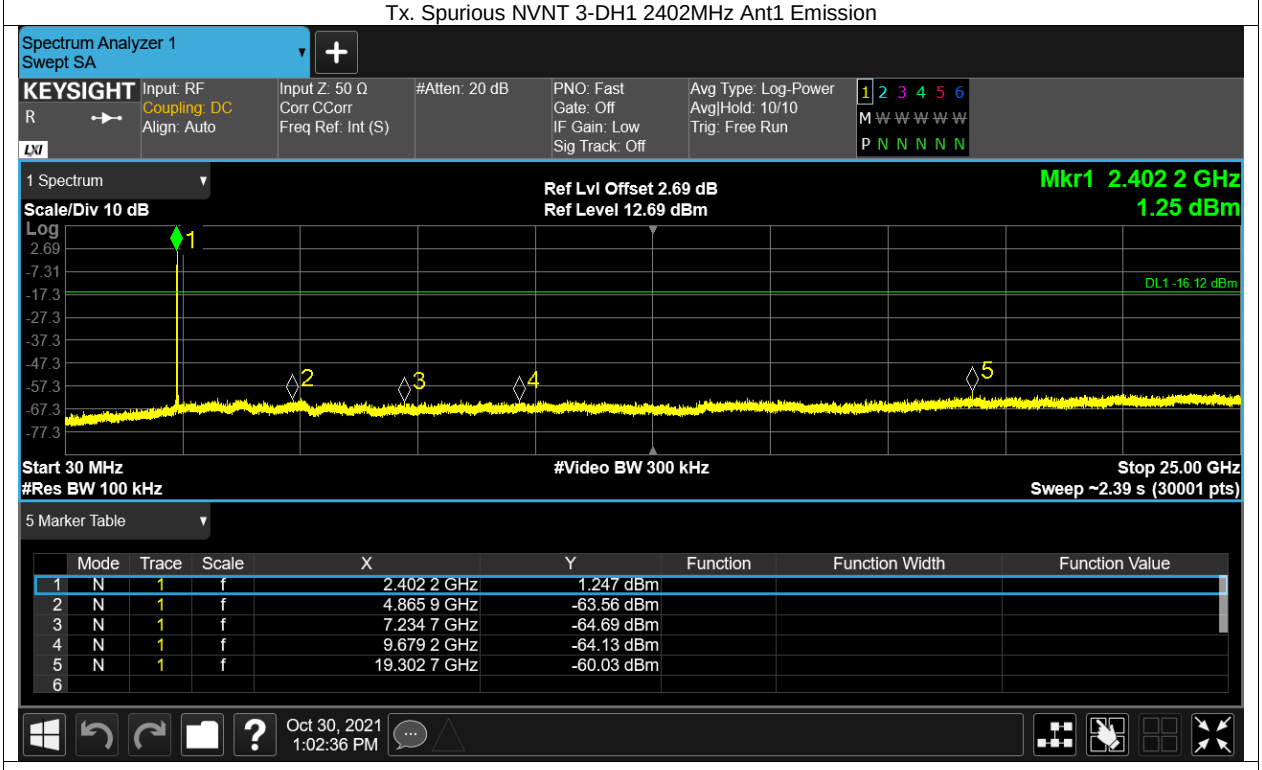

Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



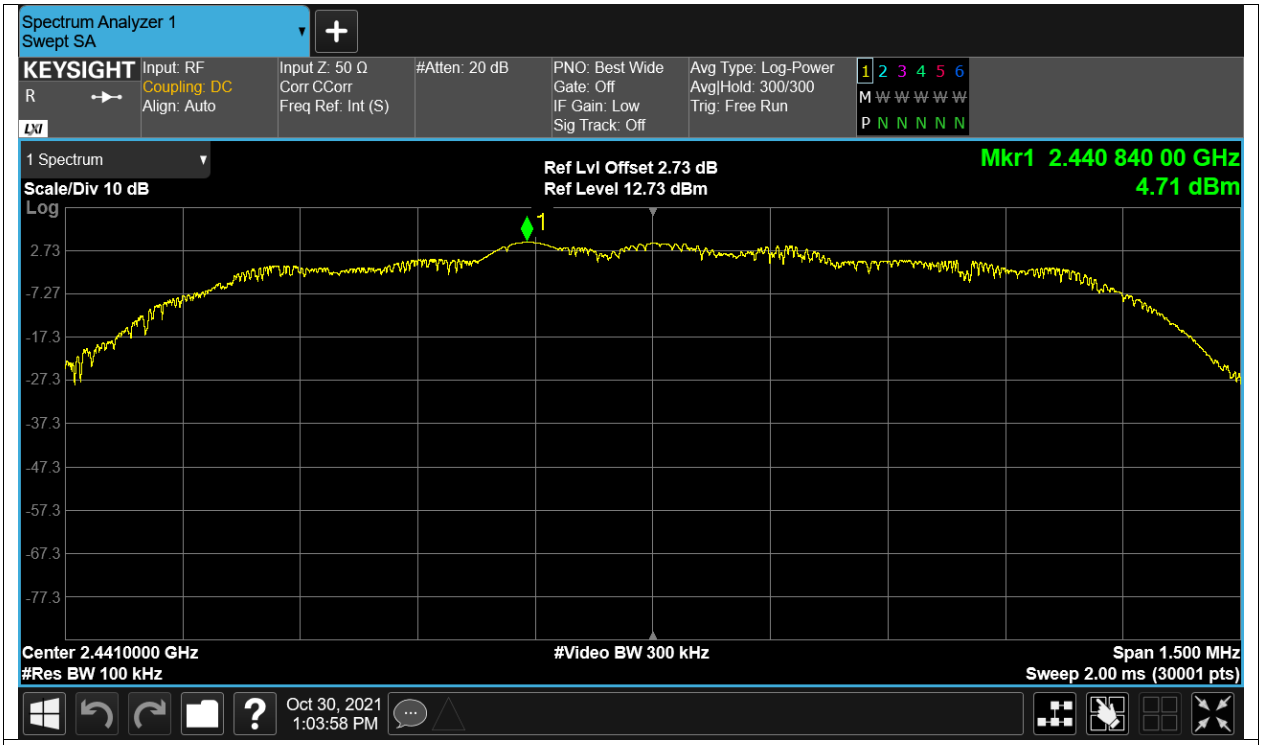

Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



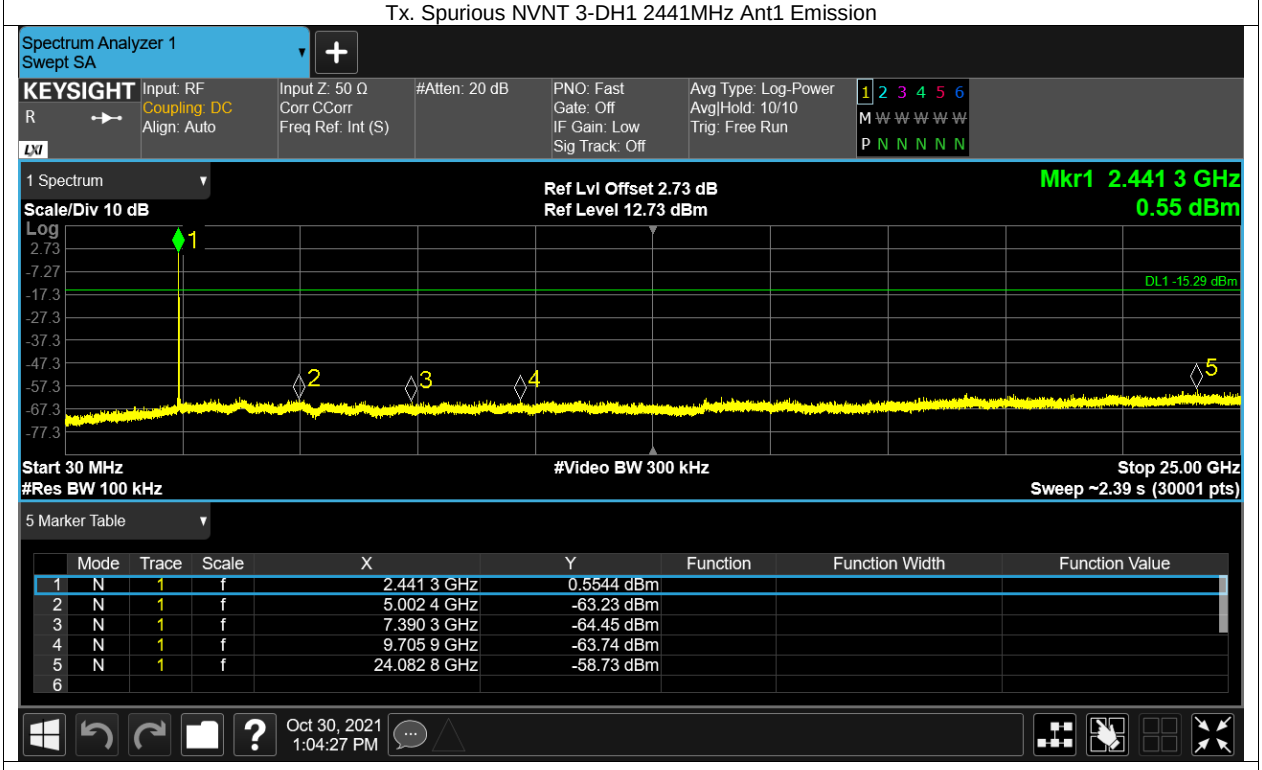

Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



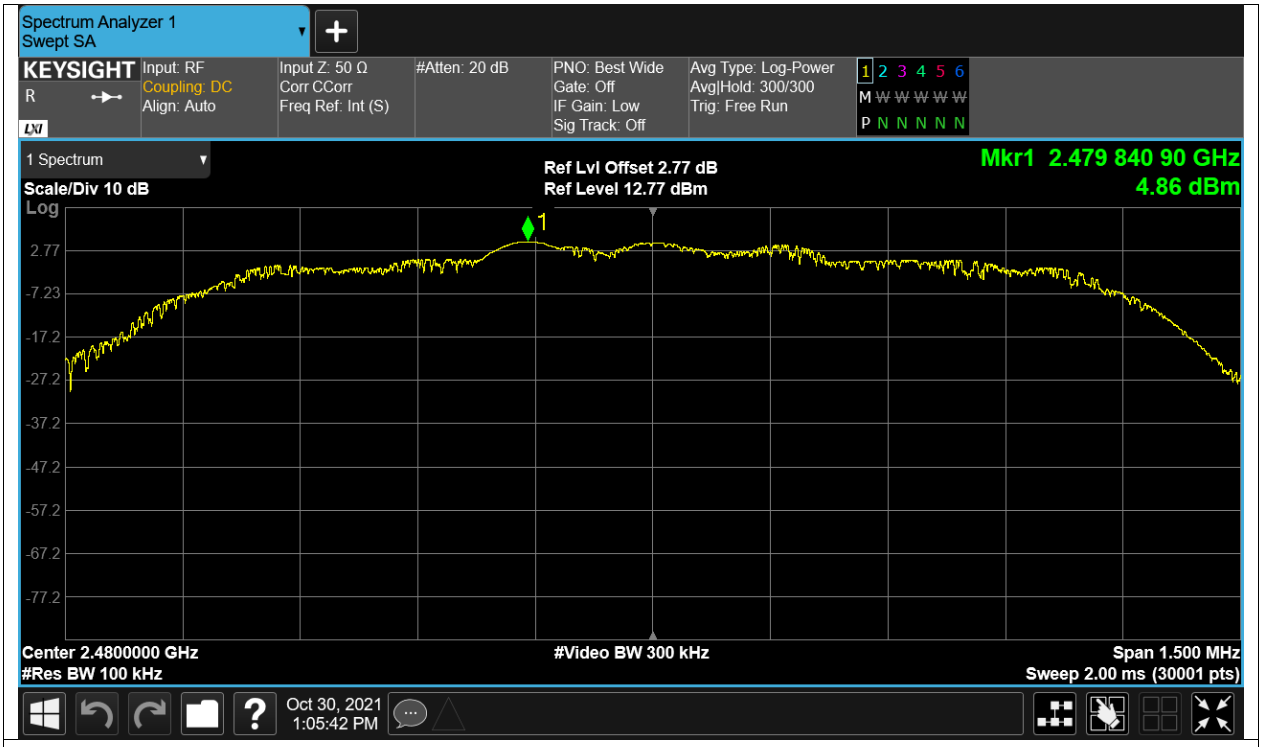

Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref



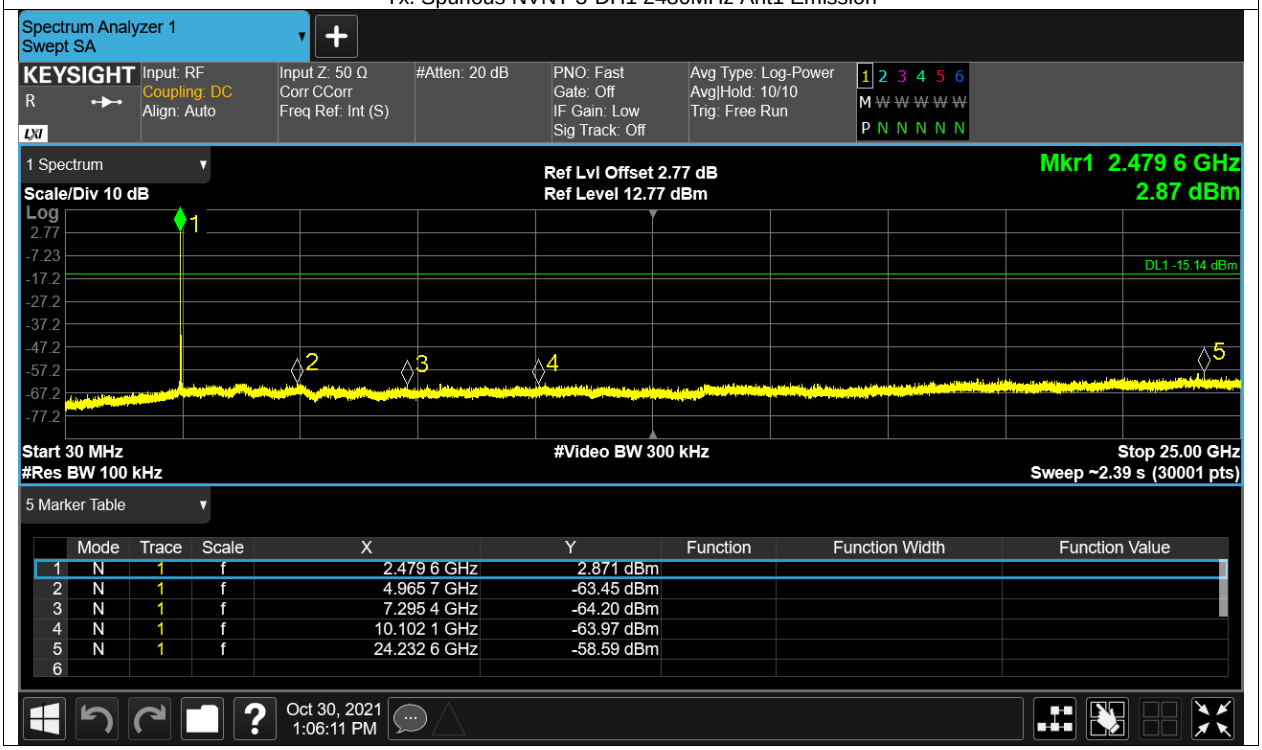

Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission




Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref




Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

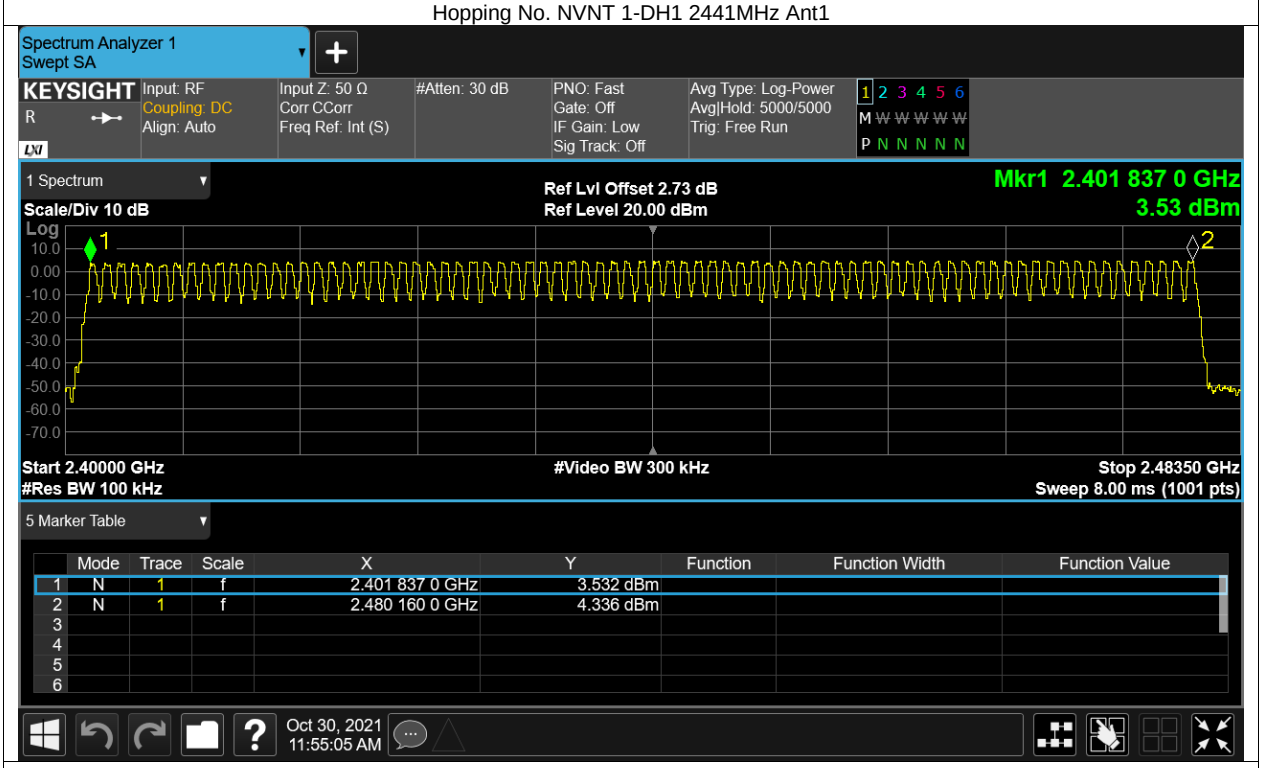


# Number of Hopping Channel

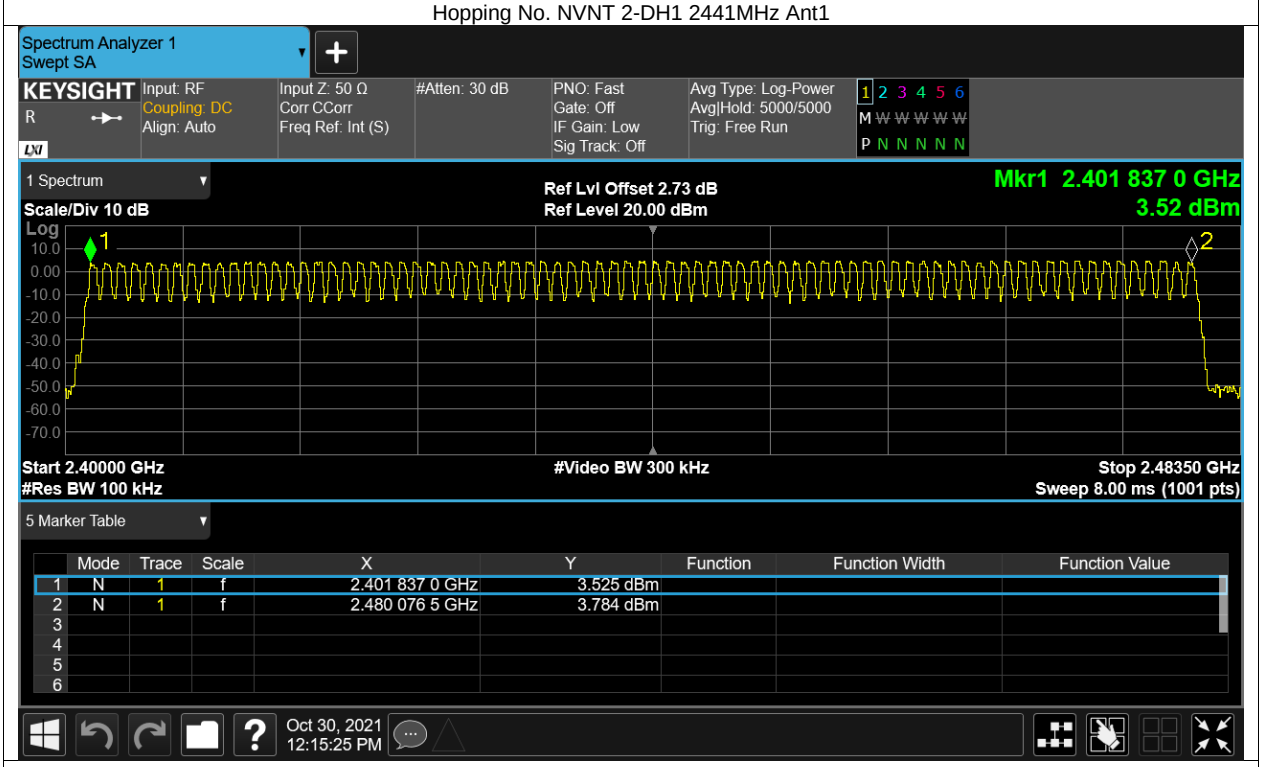
| Condition | Mode | Antenna | Hopping Number | Limit | Verdict |
|---|---|---|---|---|---|
| NVNT | 1-DH1 | Ant1 | 79 | 15 | Pass |
| NVNT | 2-DH1 | Ant1 | 79 | 15 | Pass |
| NVNT | 3-DH1 | Ant1 | 79 | 15 | Pass |

Test Graphs

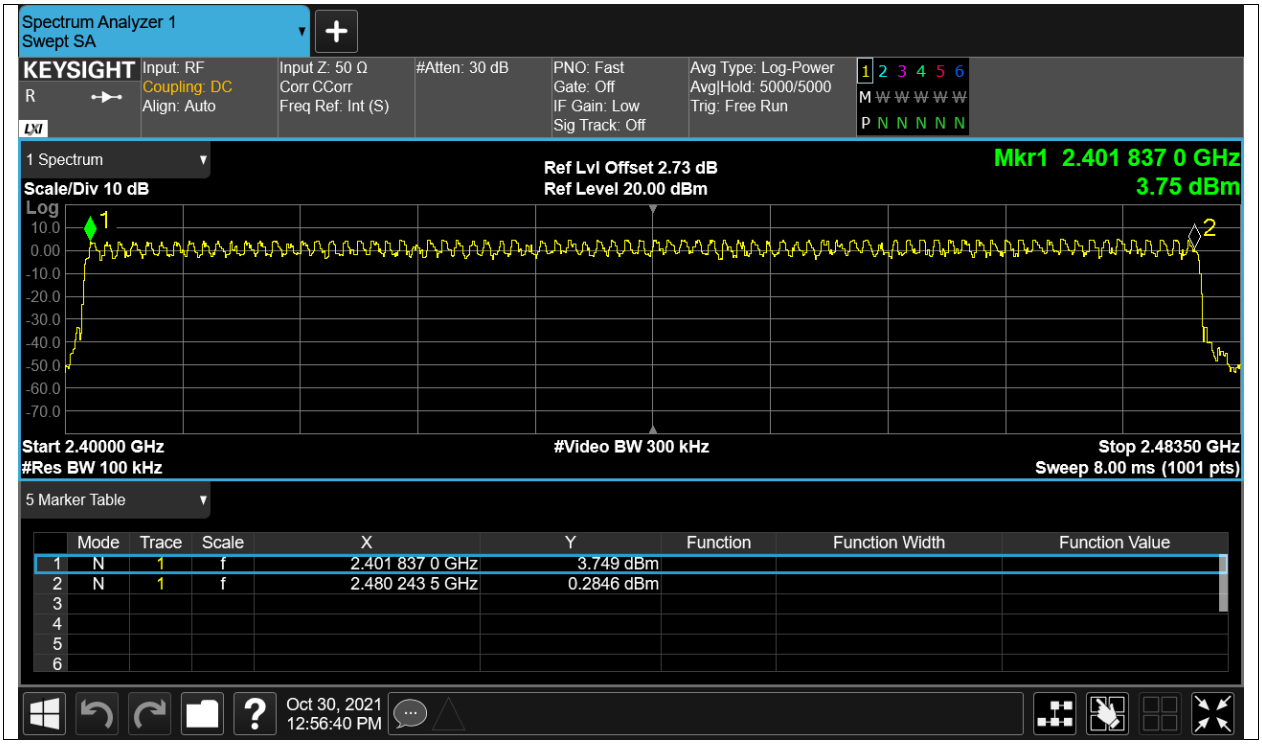
Hopping No. NVNT 1-DH1 2441MHz Ant1




Hopping No. NVNT 2-DH1 2441MHz Ant1




Hopping No. NVNT 3-DH1 2441MHz Ant1

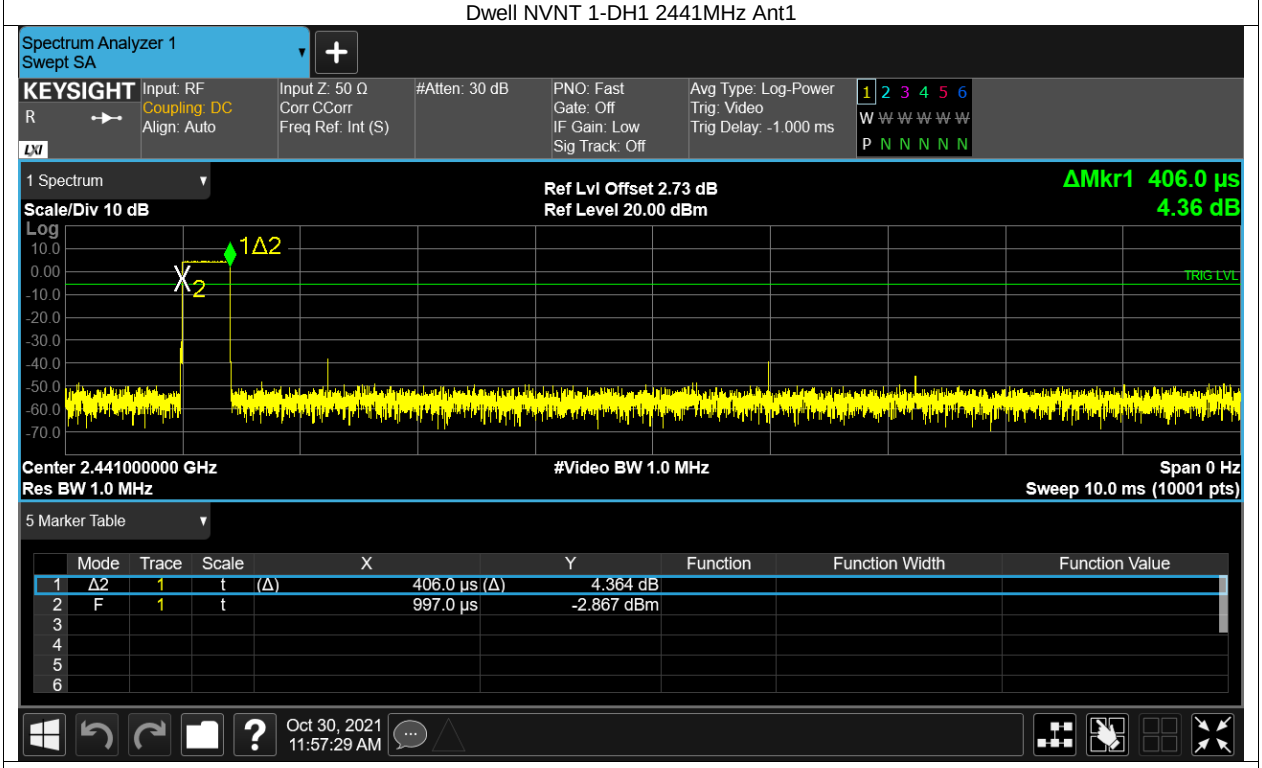

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 5000/5000
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.73 dB
Ref Level 20.00 dBm
Mkr1 2.401 837 0 GHz
3.75 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.40000 GHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 2.48350 GHz
Sweep 8.00 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.401 837 0 GHz 3.749 dBm
2 N 1 f 2.480 243 5 GHz 0.2846 dBm
Oct 30, 2021
12:56:40 PM

# Dwell Time

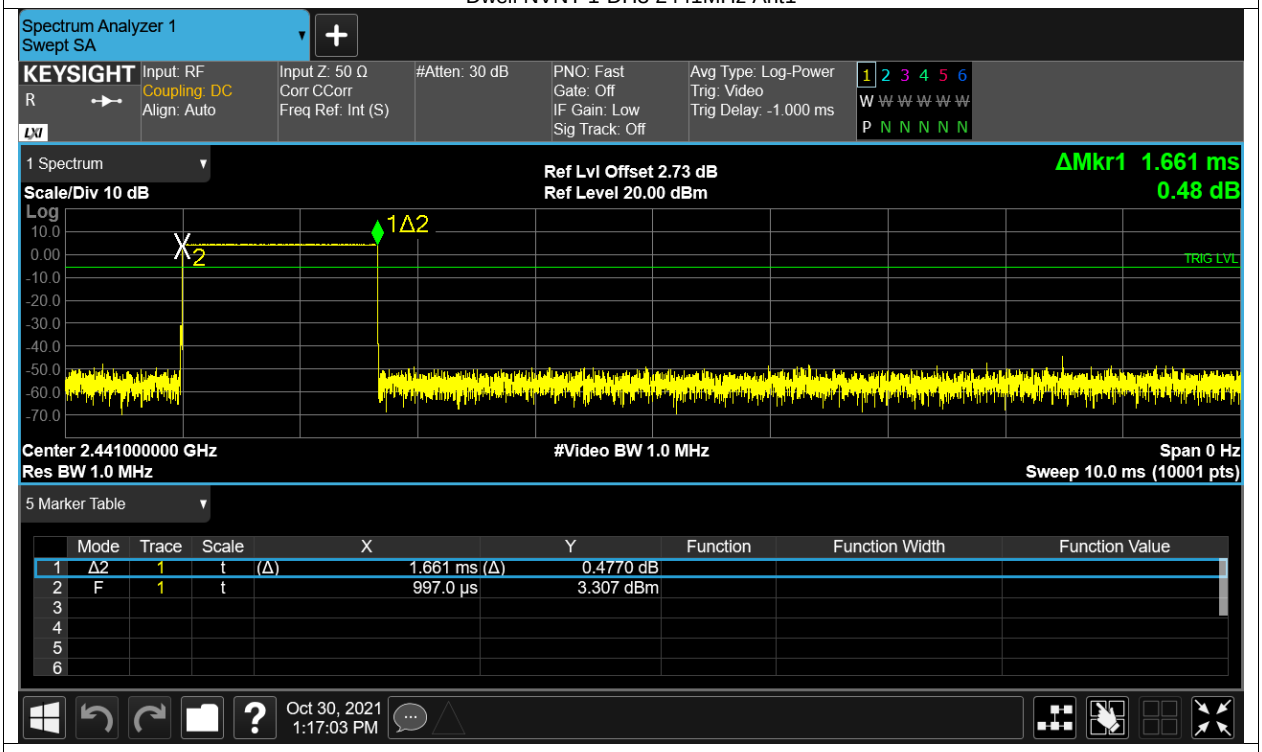
| Condition | Mode | Frequency (MHz) | Antenna | Pulse Time (ms) | Total Dwell Time (ms) | Period Time (ms) | Limit (ms) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2441 | Ant1 | 0.406 | 129.92 | 31600 | 400 | Pass |
| NVNT | 1-DH3 | 2441 | Ant1 | 1.661 | 265.76 | 31600 | 400 | Pass |
| NVNT | 1-DH5 | 2441 | Ant1 | 2.753 | 293.653 | 31600 | 400 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | 0.405 | 129.6 | 31600 | 400 | Pass |
| NVNT | 2-DH3 | 2441 | Ant1 | 1.65 | 264 | 31600 | 400 | Pass |
| NVNT | 2-DH5 | 2441 | Ant1 | 2.898 | 309.12 | 31600 | 400 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | 0.395 | 126.4 | 31600 | 400 | Pass |
| NVNT | 3-DH3 | 2441 | Ant1 | 1.646 | 263.36 | 31600 | 400 | Pass |
| NVNT | 3-DH5 | 2441 | Ant1 | 2.896 | 308.907 | 31600 | 400 | Pass |

Test Graphs

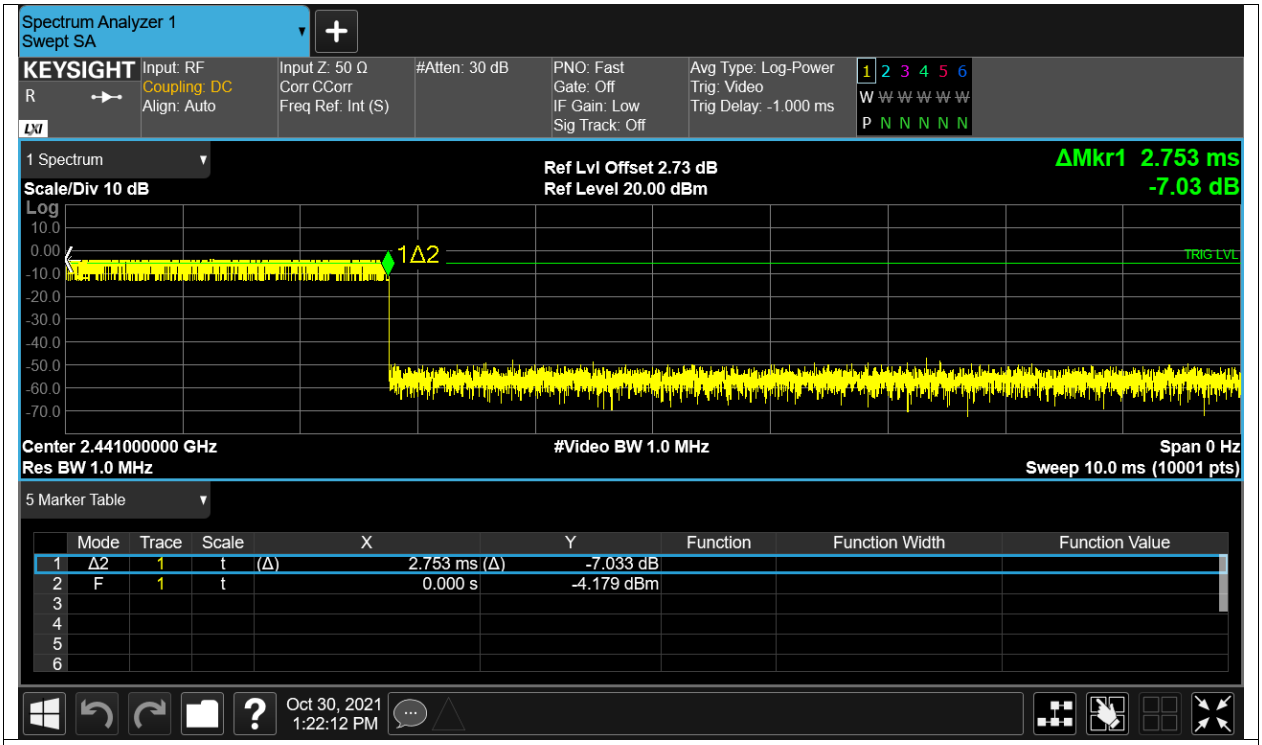
Dwell NVNT 1-DH1 2441MHz Ant1



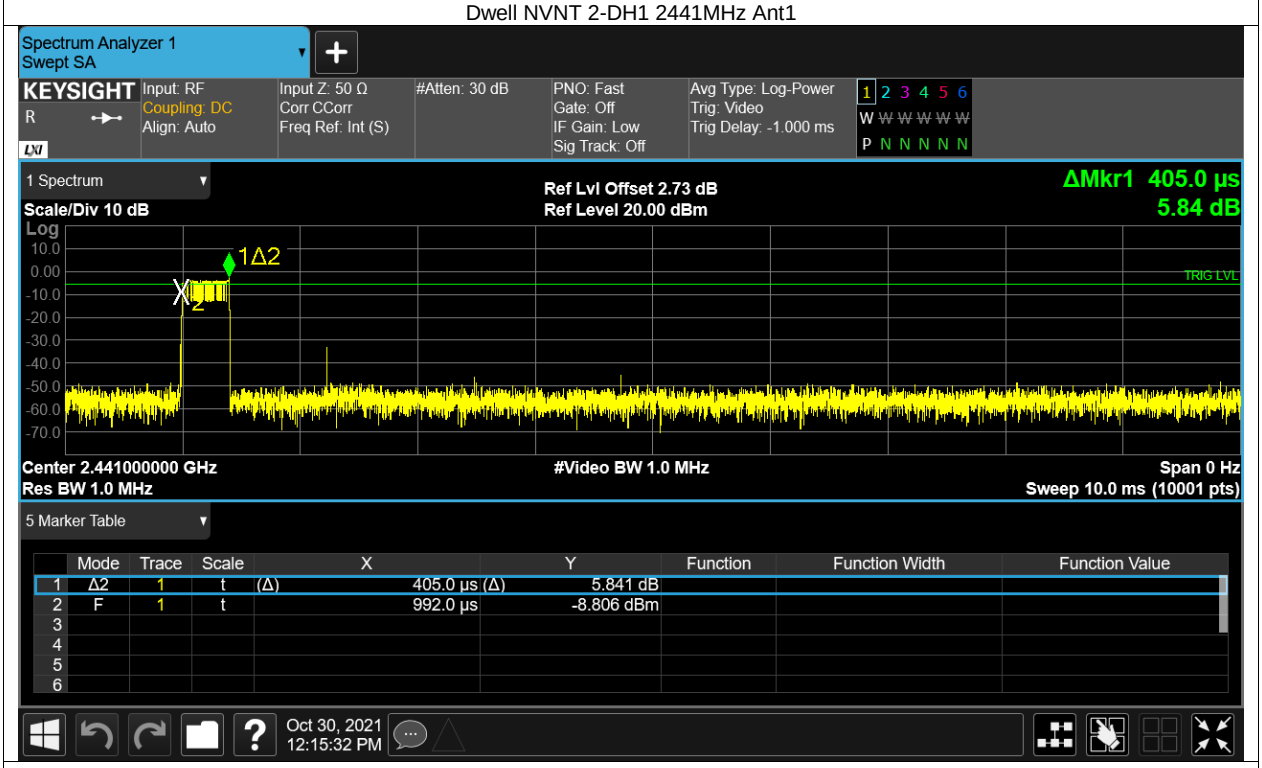

Dwell NVNT 1-DH3 2441MHz Ant1



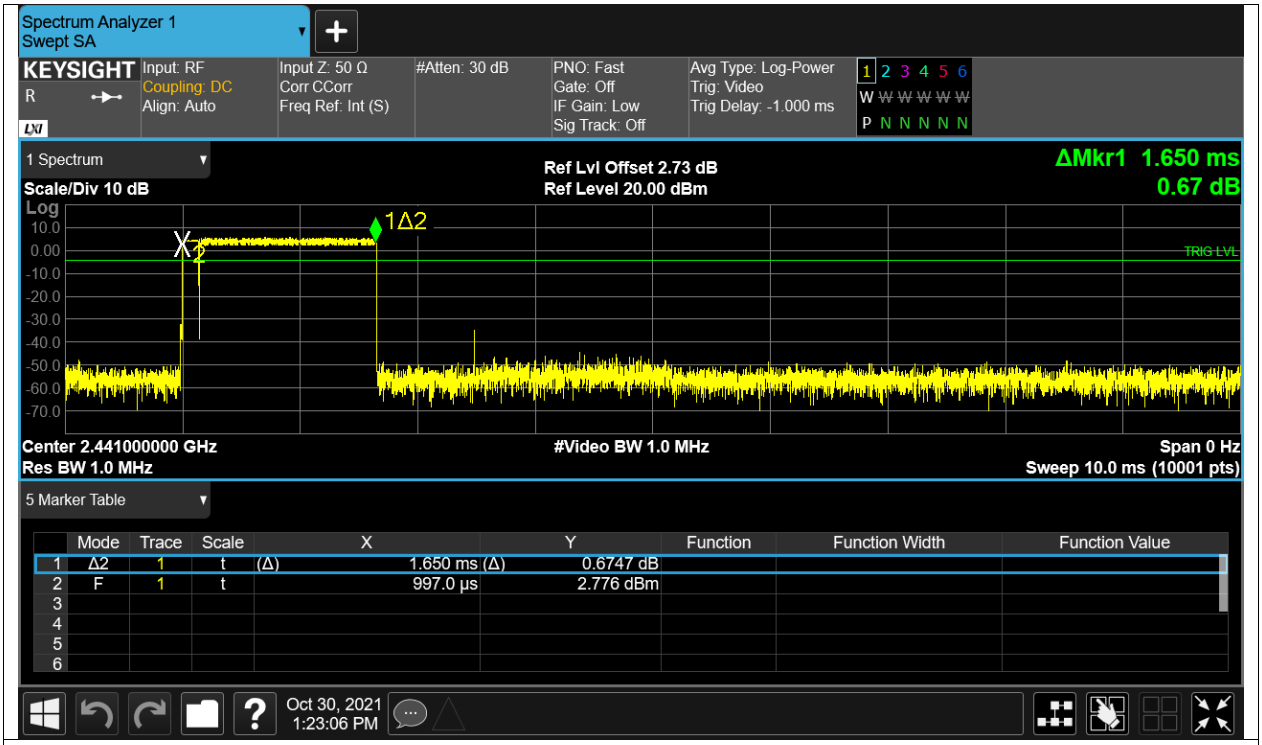

Dwell NVNT 1-DH5 2441MHz Ant1



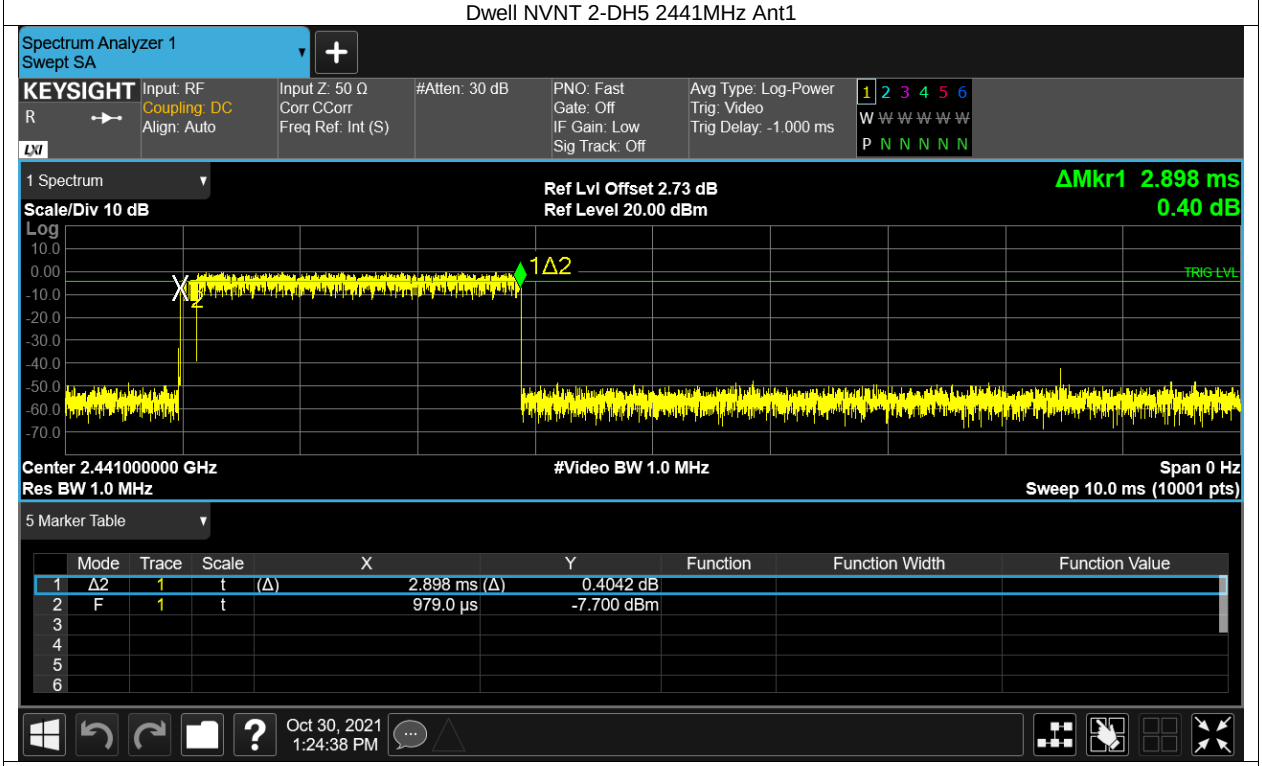

Dwell NVNT 2-DH1 2441MHz Ant1



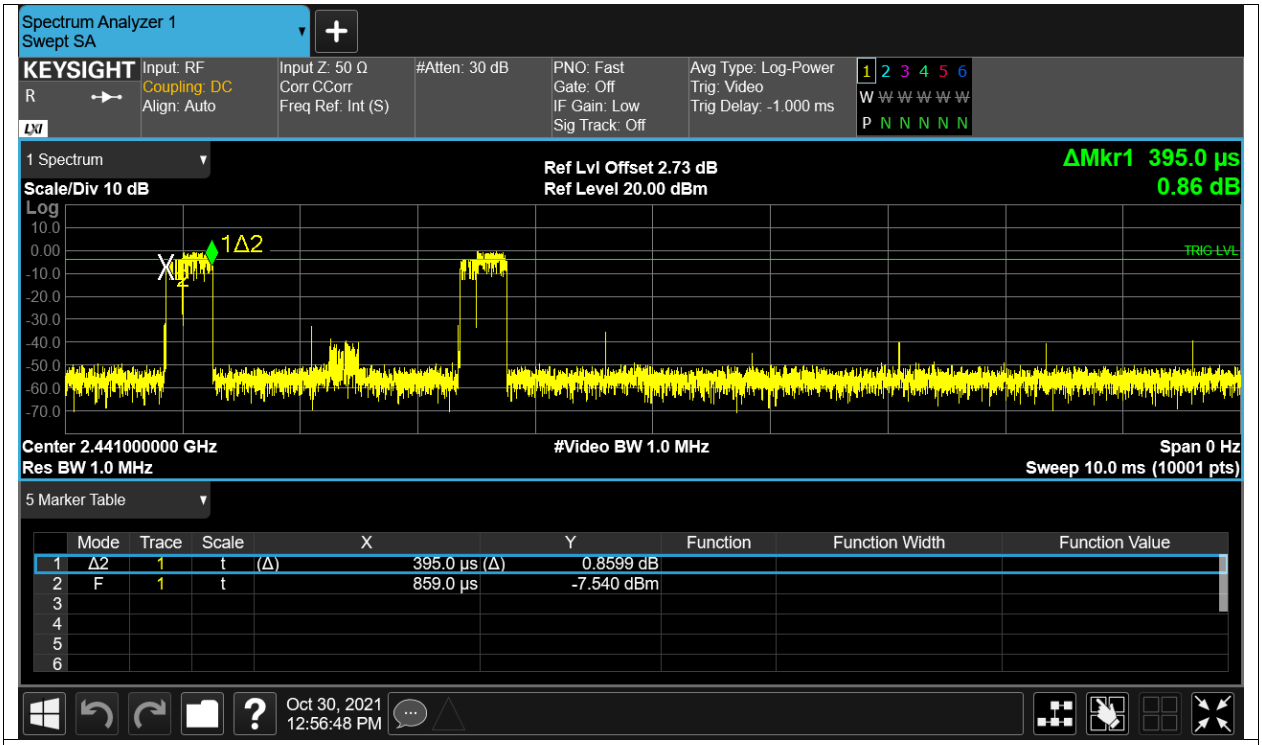

Dwell NVNT 2-DH3 2441MHz Ant1



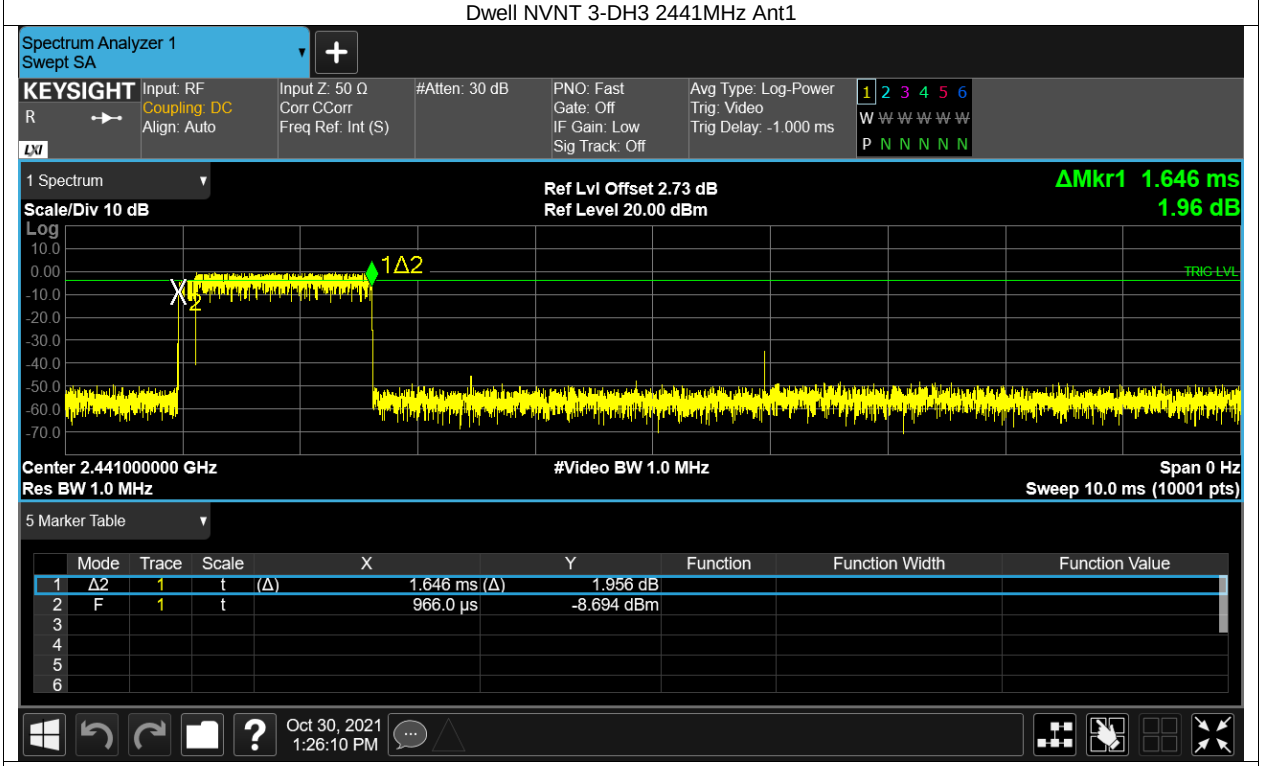

Dwell NVNT 2-DH5 2441MHz Ant1



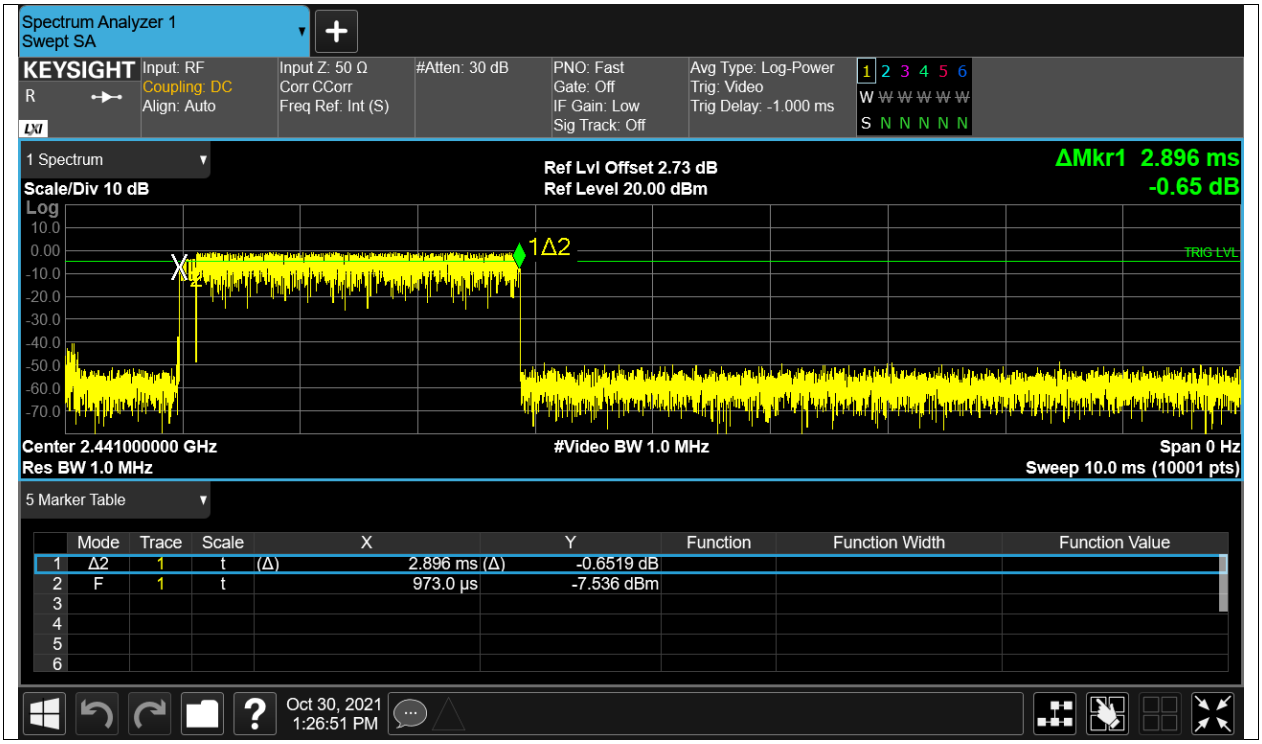

Dwell NVNT 3-DH1 2441MHz Ant1




Dwell NVNT 3-DH3 2441MHz Ant1




Dwell NVNT 3-DH5 2441MHz Ant1




------End of report------