# RF Test Data for Bluetooth(BDR+EDR) (Conducted Measurements)

| General Description of EUT | |
|---|---|
| **Product Name:** | **StiX** |
| **Test Model:** | **3700** |
| **Sample ID:** | **202211-0053-01-2** |
| **Environmental Conditions** | |
| **Temperature:** | **25℃** |
| **Relative Humidity:** | **55%** |
| **Test Voltage:** | **DC 5V** |
| **Test Engineer:** | **Huang jian ping** |
| Note: For a more detailed features description, please refer to the report TBR-C-202211-0053-5 | |

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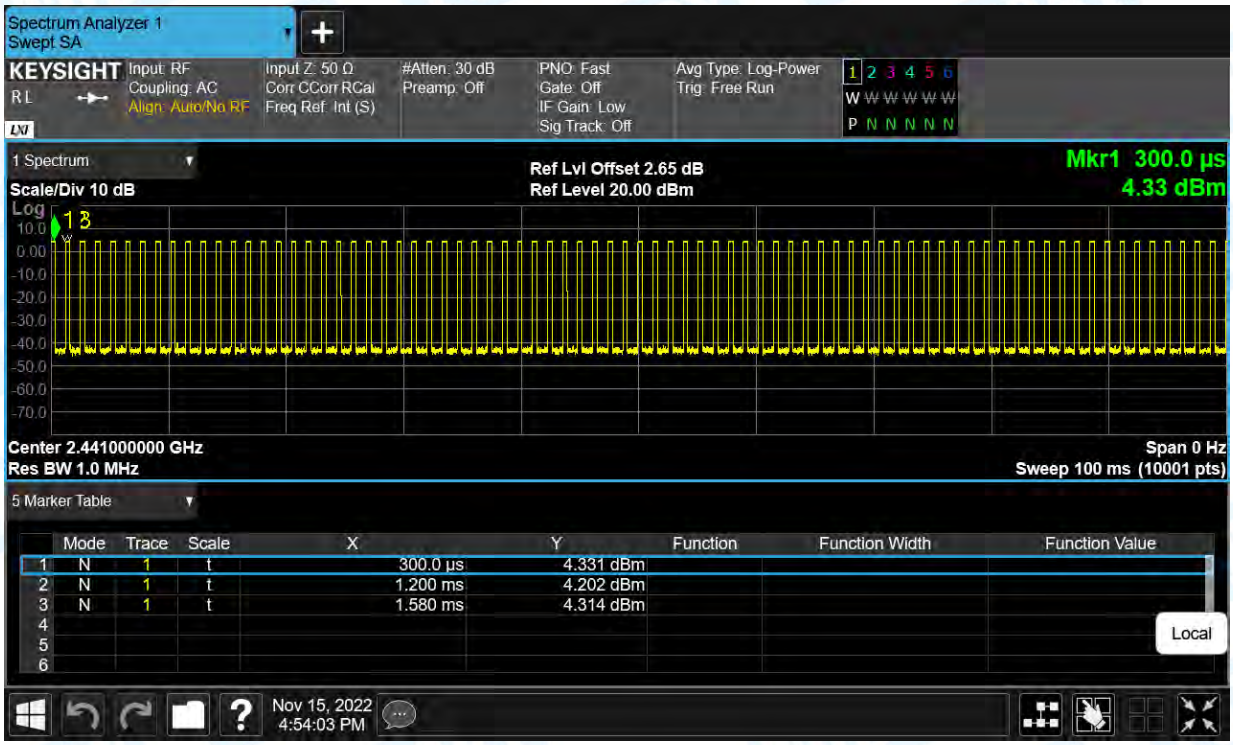
# 1. Duty Cycle

| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 29.69 | 5.27 | 2.63 |
| NVNT | 1-DH1 | 2441 | Ant1 | 29.69 | 5.27 | 2.63 |
| NVNT | 1-DH1 | 2480 | Ant1 | 29.69 | 5.27 | 2.63 |
| NVNT | 2-DH1 | 2402 | Ant1 | 30.23 | 5.2 | 2.56 |
| NVNT | 2-DH1 | 2441 | Ant1 | 30 | 5.23 | 2.56 |
| NVNT | 2-DH1 | 2480 | Ant1 | 29.46 | 5.31 | 2.63 |
| NVNT | 3-DH1 | 2402 | Ant1 | 30.23 | 5.2 | 2.56 |
| NVNT | 3-DH1 | 2441 | Ant1 | 30 | 5.23 | 2.56 |
| NVNT | 3-DH1 | 2480 | Ant1 | 30.23 | 5.2 | 2.56 |

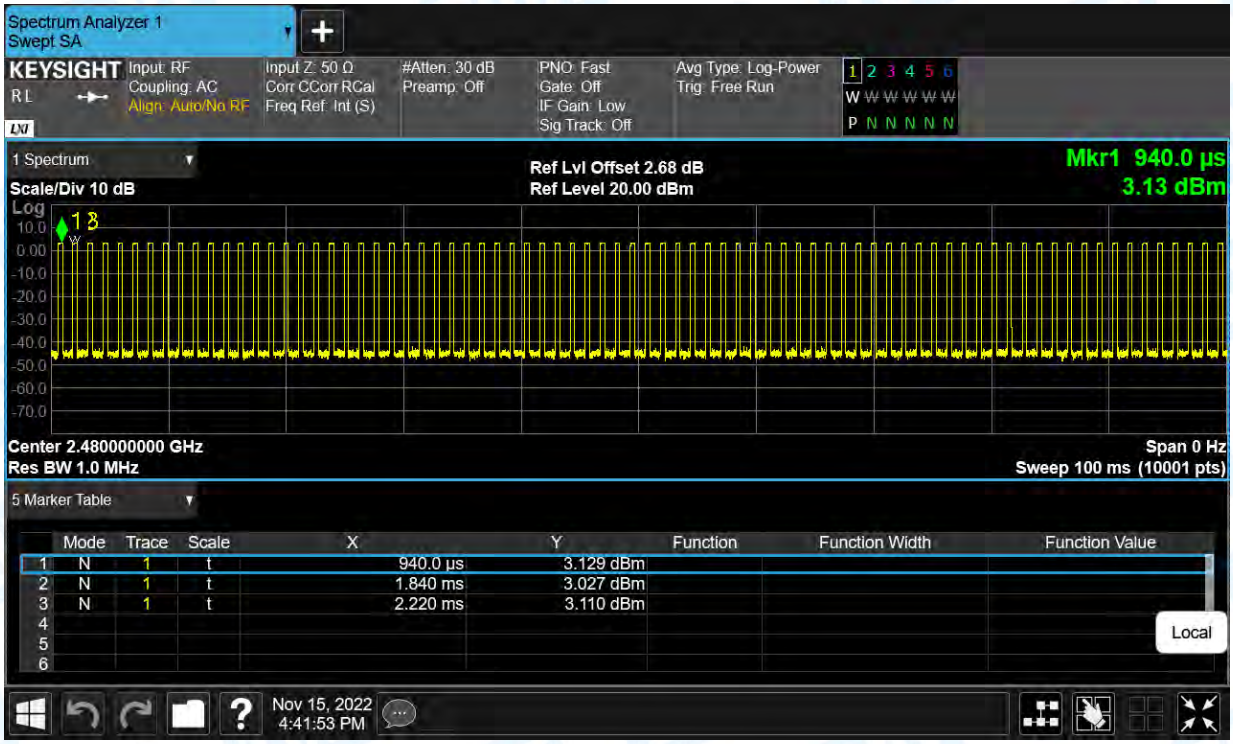
Test Graphs

Duty Cycle NVNT 1-DH1 2402MHz Ant1

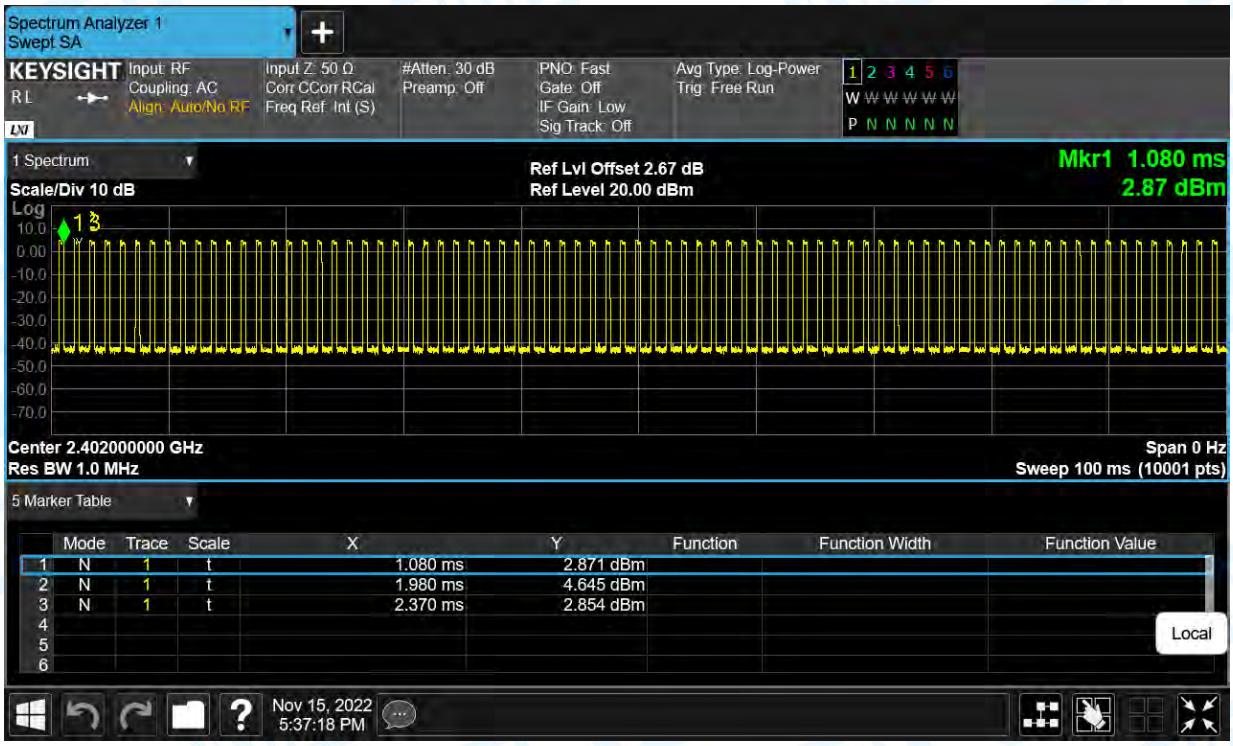
Duty Cycle NVNT 1-DH1 2441MHz Ant1



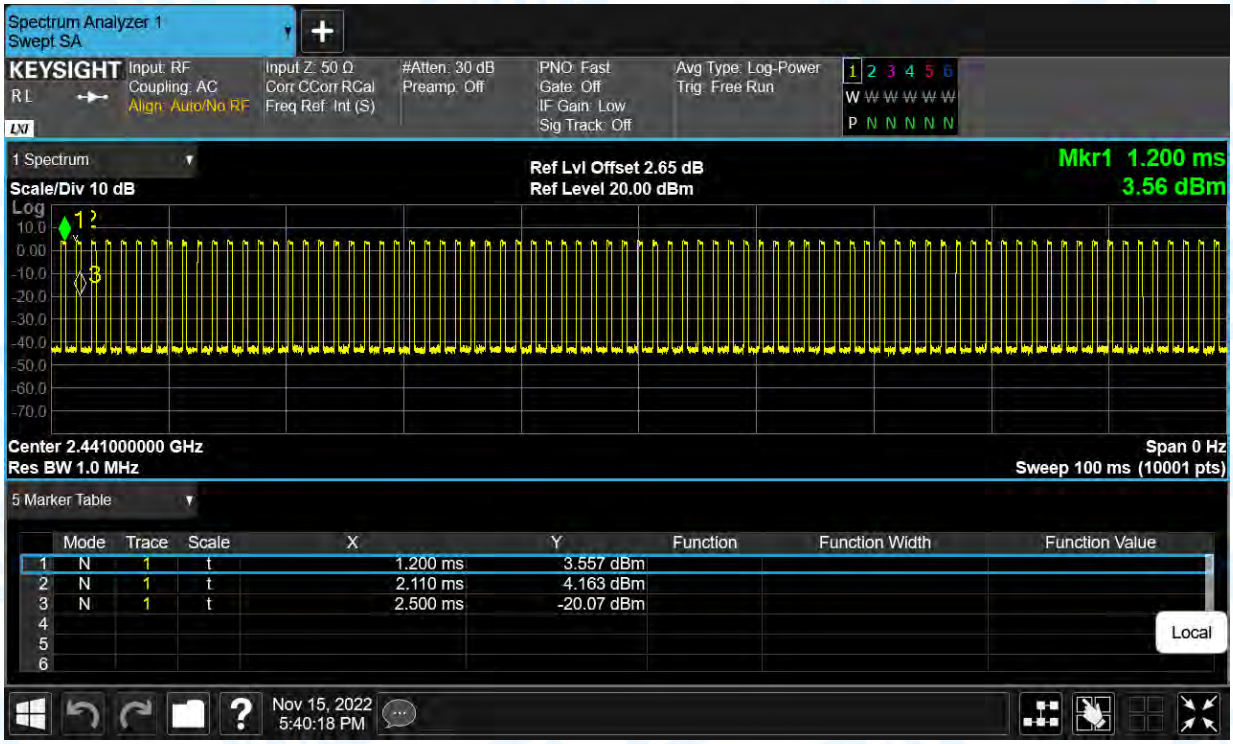
Duty Cycle NVNT 1-DH1 2480MHz Ant1



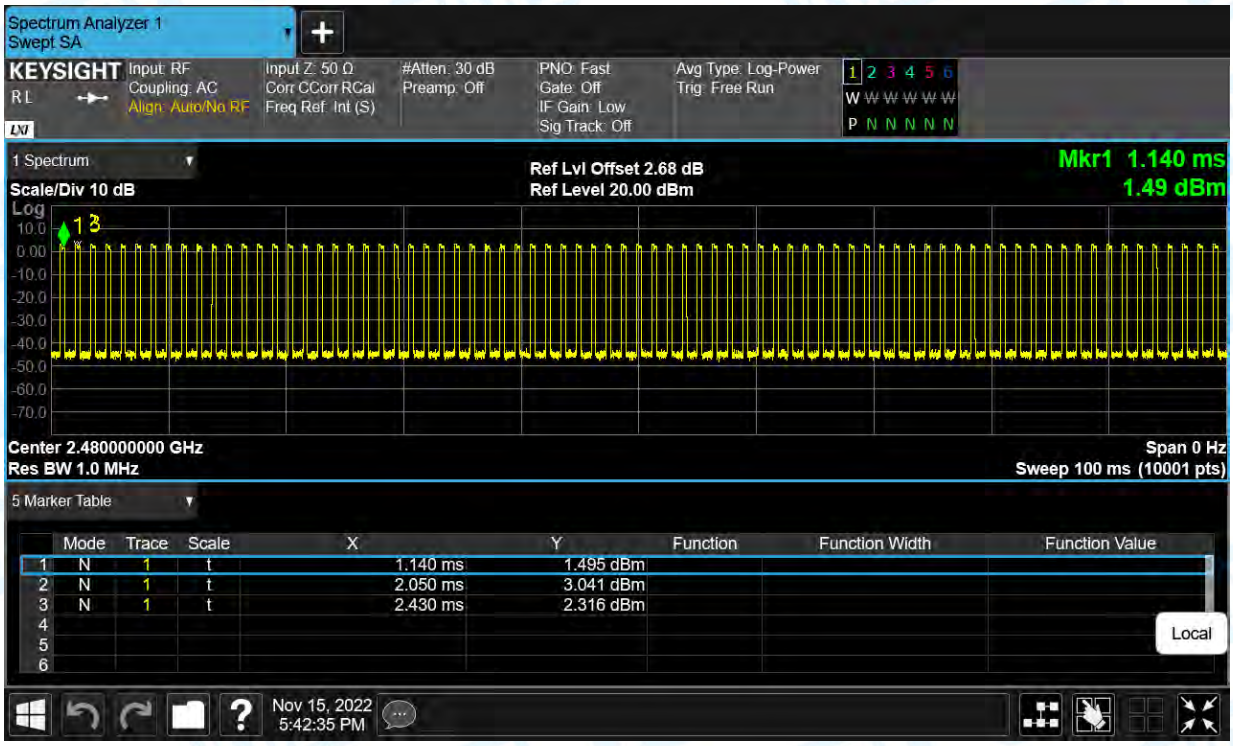

Duty Cycle NVNT 2-DH1 2402MHz Ant1



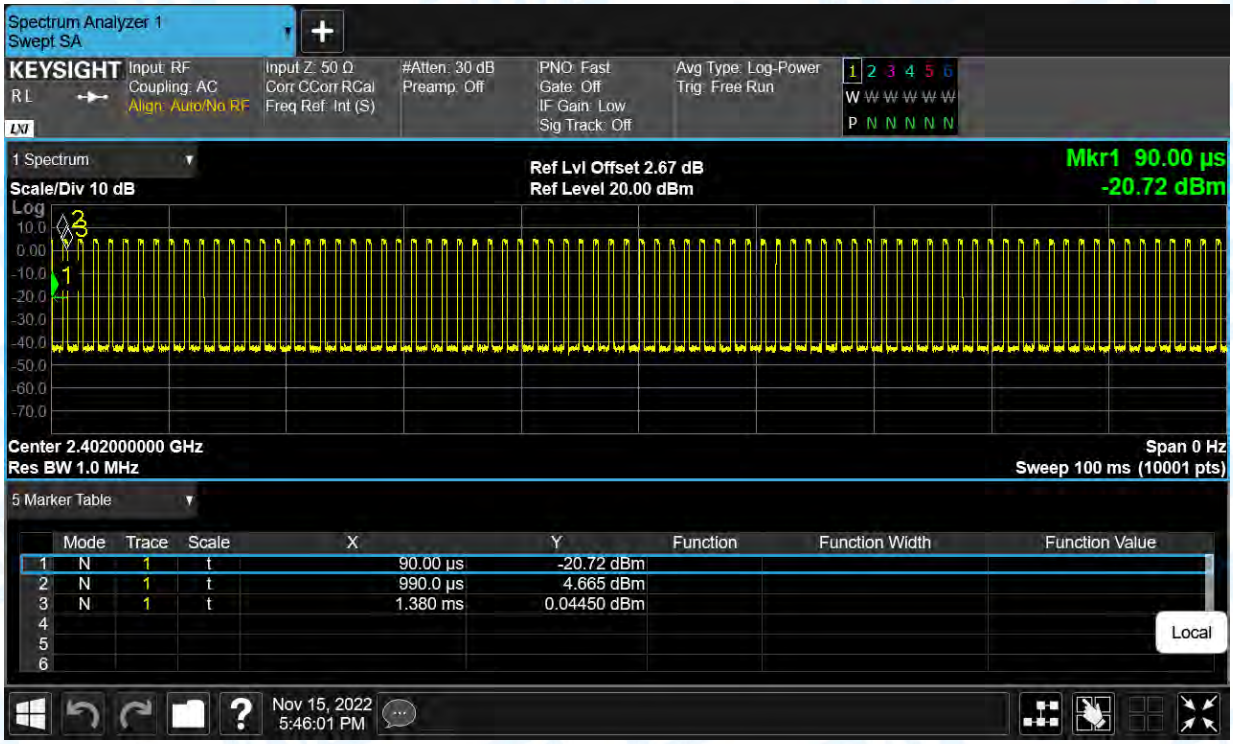
Duty Cycle NVNT 2-DH1 2441MHz Ant1




Duty Cycle NVNT 2-DH1 2480MHz Ant1

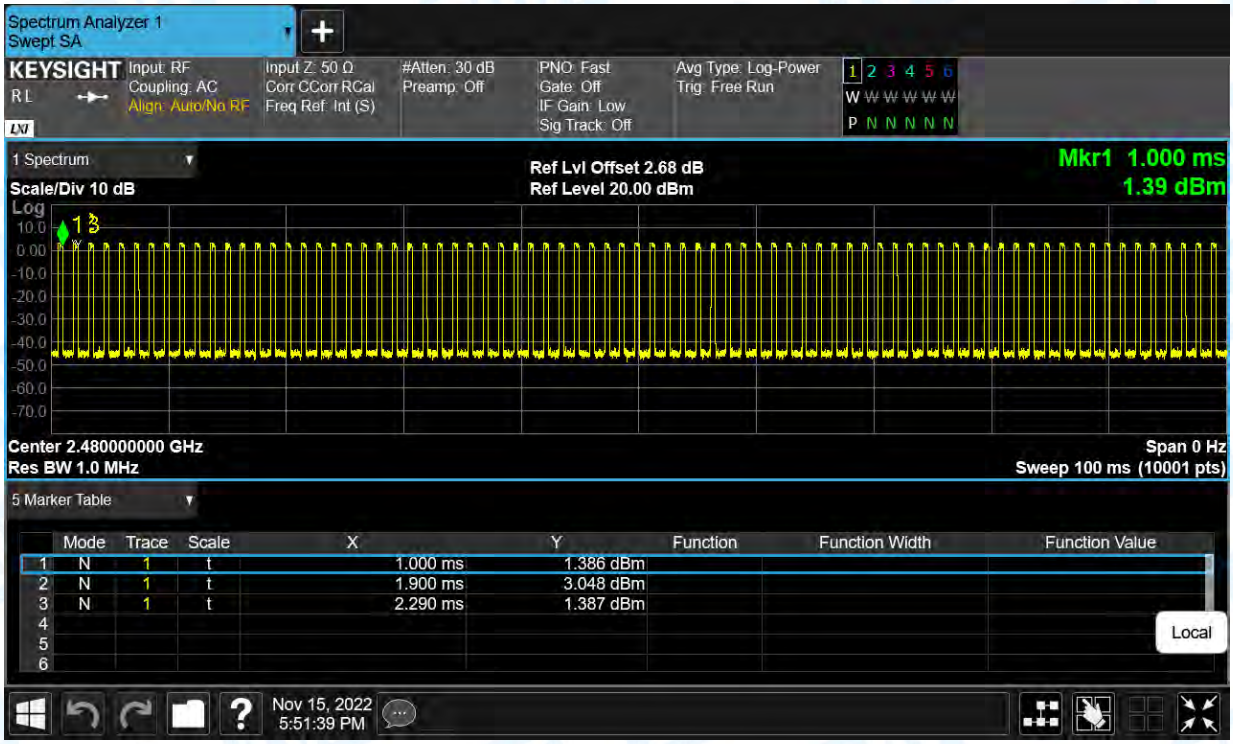


Duty Cycle NVNT 3-DH1 2402MHz Ant1




Duty Cycle NVNT 3-DH1 2441MHz Ant1

Duty Cycle NVNT 3-DH1 2480MHz Ant1



## 2. Maximum Conducted Output Power

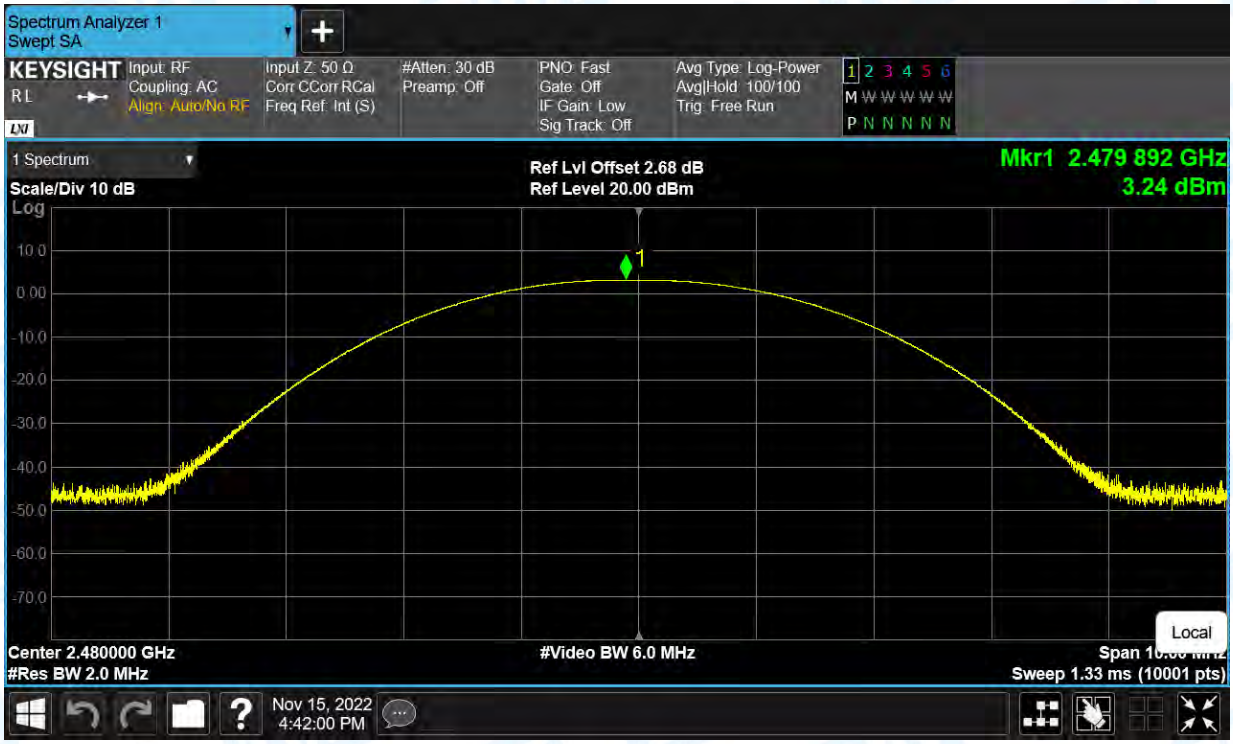
| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 4.944 | 21 | Pass |
| NVNT | 1-DH1 | 2441 | Ant1 | 4.346 | 21 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | 3.235 | 21 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | 4.885 | 21 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | 4.404 | 21 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | 3.24 | 21 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | 5.267 | 21 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | 4.812 | 21 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | 3.762 | 21 | Pass |

Test Graphs

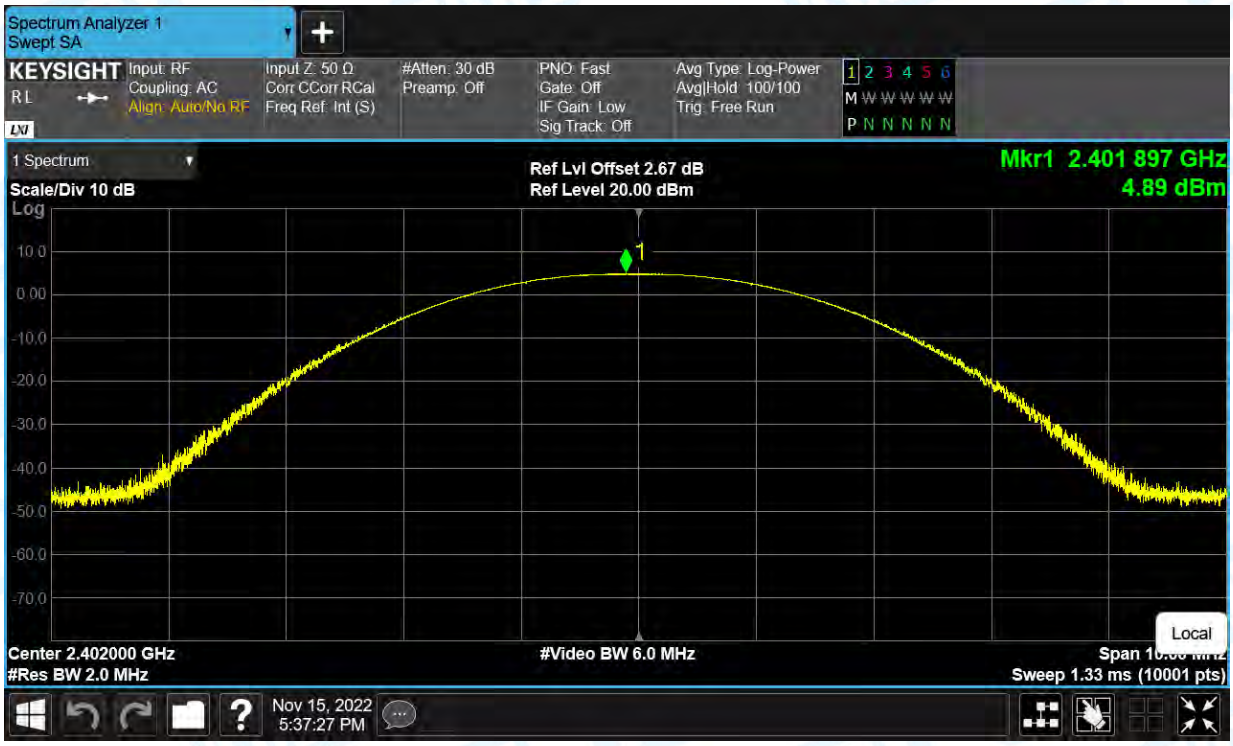
Power NVNT 1-DH1 2402MHz Ant1

Power NVNT 1-DH1 2441MHz Ant1

Power NVNT 1-DH1 2480MHz Ant1



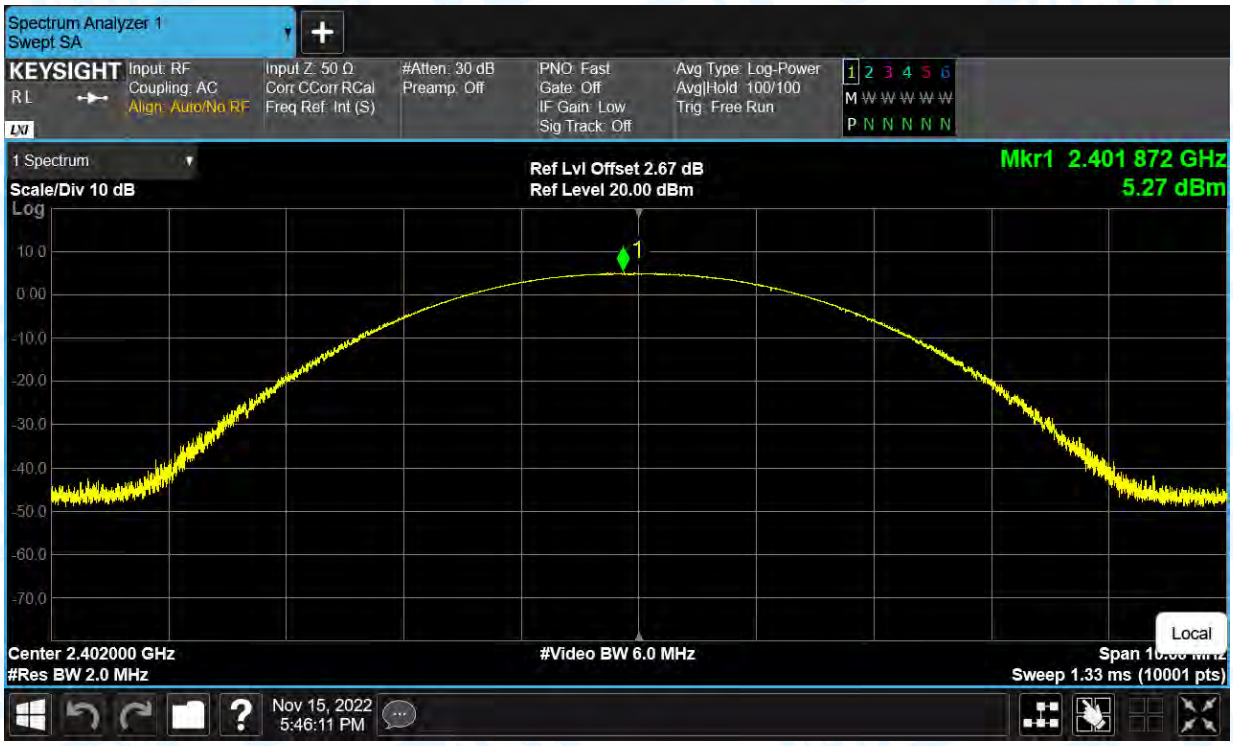

Power NVNT 2-DH1 2402MHz Ant1



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

# 3. -20dB Bandwidth

| Condition | Mode | Frequency (MHz) | Antenna | -20 dB Bandwidth (MHz) | Limit -20 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 0.96 | 0 | Pass |
| NVNT | 1-DH1 | 2441 | Ant1 | 1 | 0 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | 0.94 | 0 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | 1.24 | 0 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | 1.24 | 0 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | 1.23 | 0 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | 1.22 | 0 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | 1.2 | 0 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | 1.19 | 0 | Pass |

Test Graphs

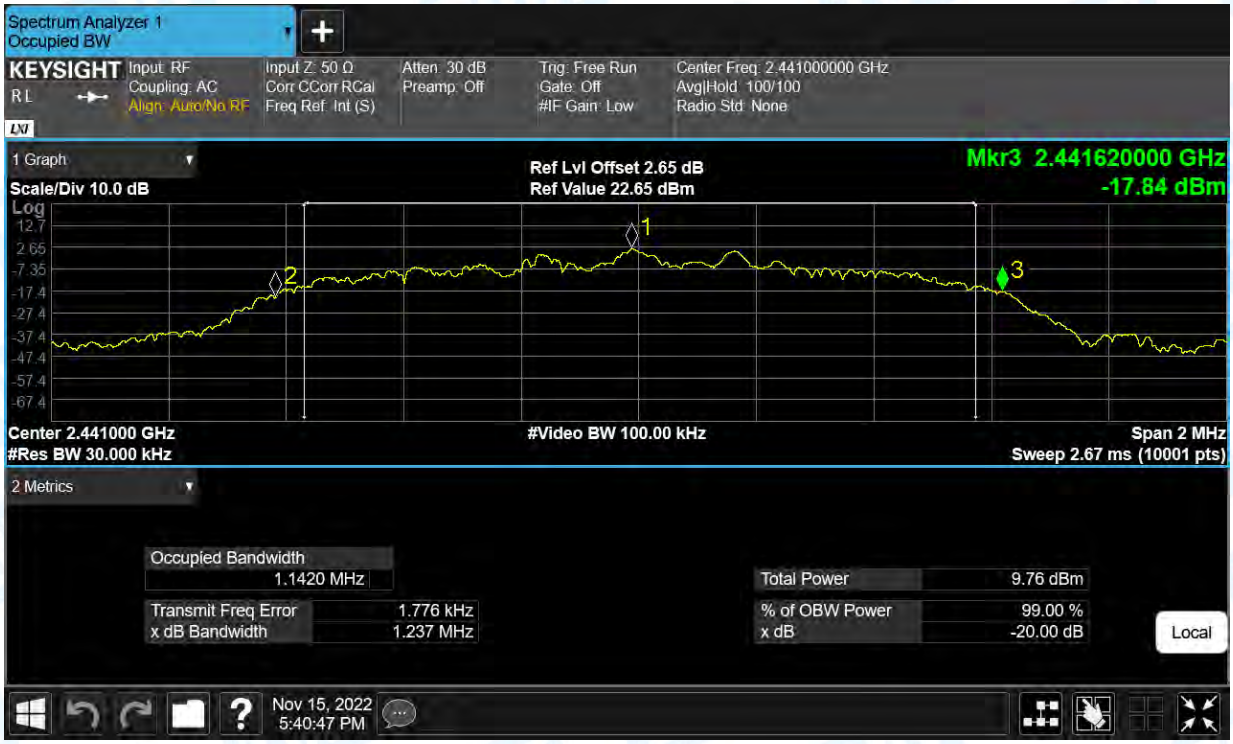
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1

-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1

-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1

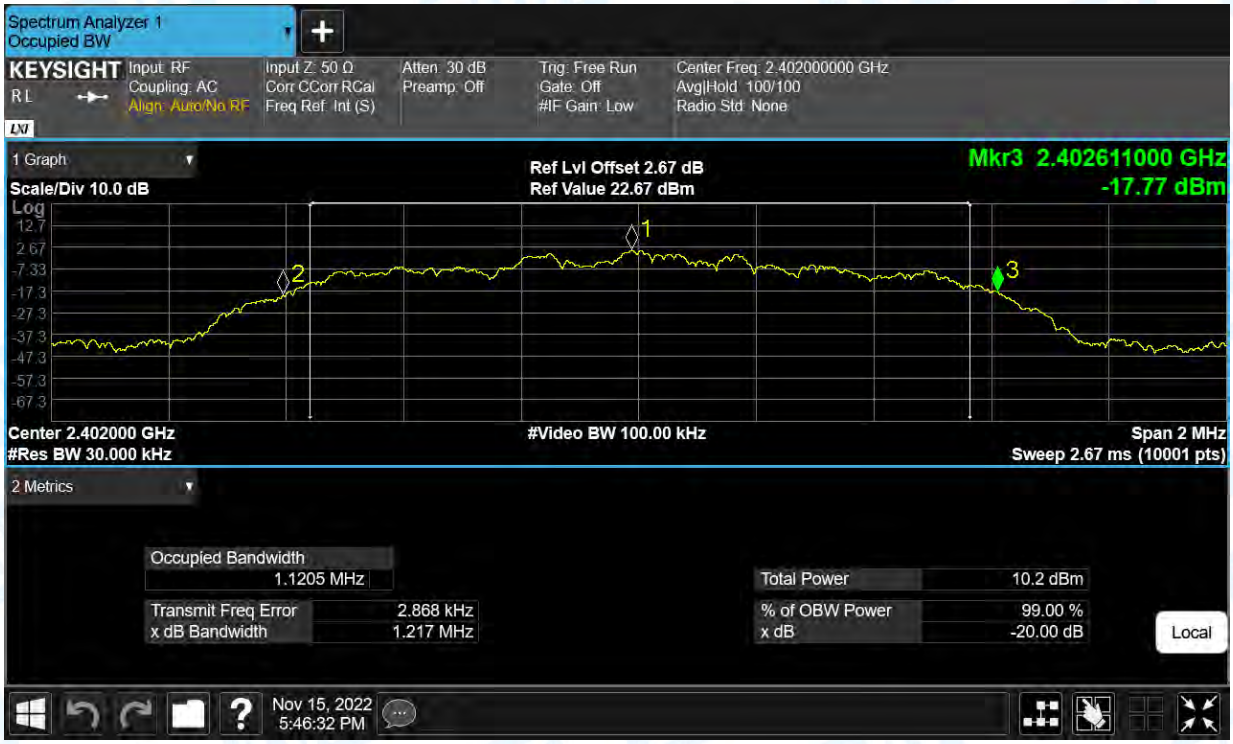
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1

-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



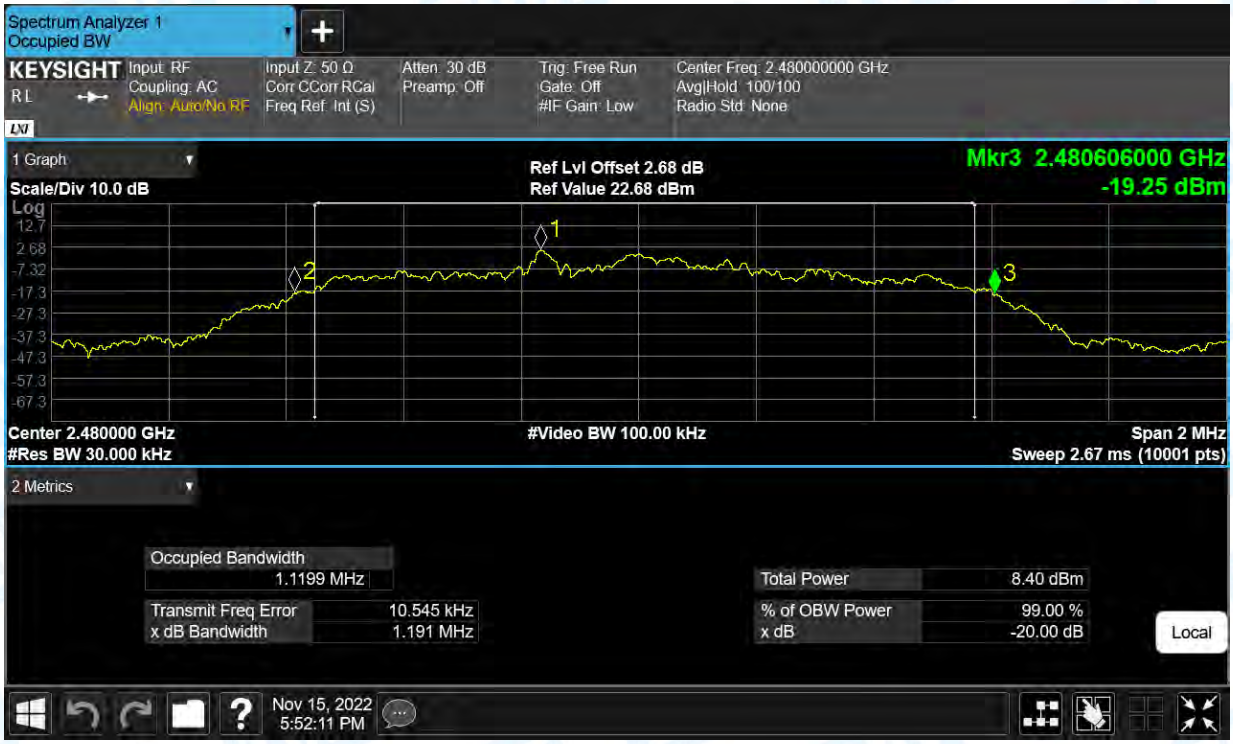

-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1

-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1




-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1

-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1



# 4. Occupied Channel Bandwidth

| Condition | Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | 0.921 |
| NVNT | 1-DH1 | 2441 | Ant1 | 0.917 |
| NVNT | 1-DH1 | 2480 | Ant1 | 0.918 |
| NVNT | 2-DH1 | 2402 | Ant1 | 1.136 |
| NVNT | 2-DH1 | 2441 | Ant1 | 1.139 |
| NVNT | 2-DH1 | 2480 | Ant1 | 1.141 |
| NVNT | 3-DH1 | 2402 | Ant1 | 1.107 |
| NVNT | 3-DH1 | 2441 | Ant1 | 1.155 |
| NVNT | 3-DH1 | 2480 | Ant1 | 1.121 |

Test Graphs

OBW NVNT 1-DH1 2402MHz Ant1

OBW NVNT 1-DH1 2441MHz Ant1

OBW NVNT 1-DH1 2480MHz Ant1

OBW NVNT 2-DH1 2402MHz Ant1

OBW NVNT 2-DH1 2441MHz Ant1

OBW NVNT 2-DH1 2480MHz Ant1

OBW NVNT 3-DH1 2402MHz Ant1

OBW NVNT 3-DH1 2441MHz Ant1

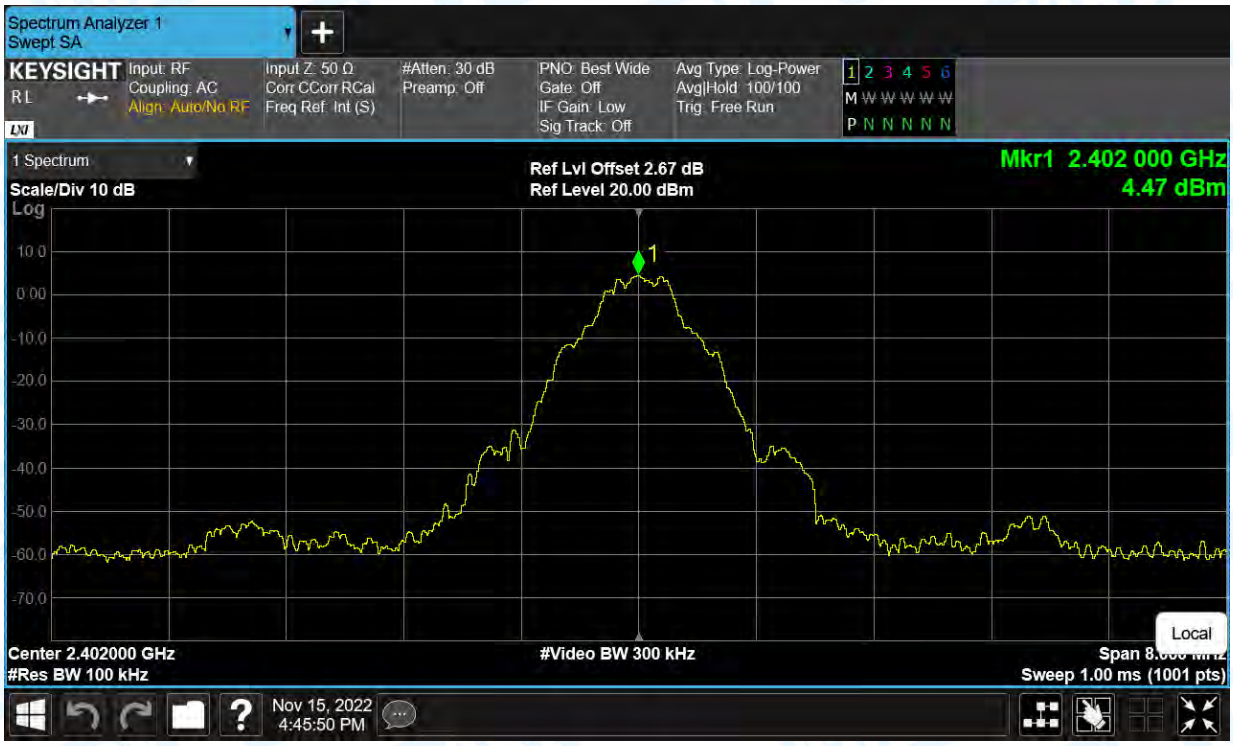
OBW NVNT 3-DH1 2480MHz Ant1

# 5. Band Edge

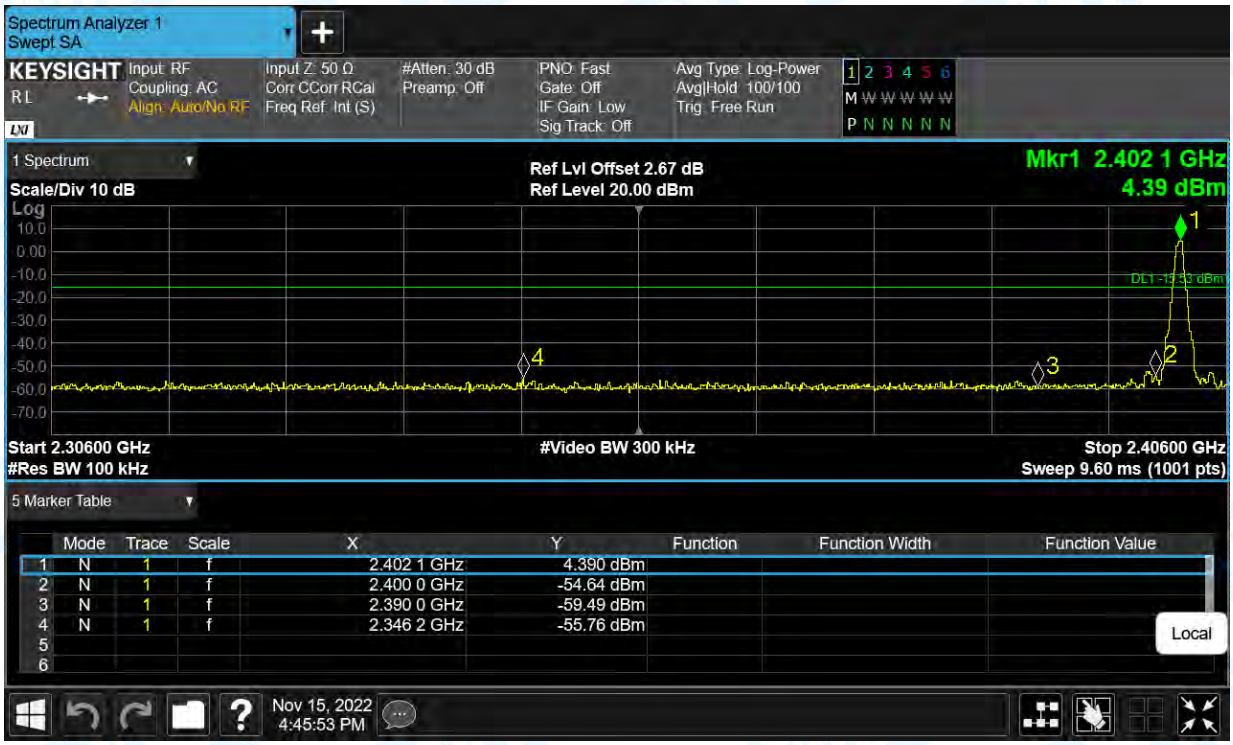
| Condition | Mode | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | -60.23 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | -58.94 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | -61.06 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | -59.73 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | -60.79 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | -59.43 | -20 | Pass |

Test Graphs

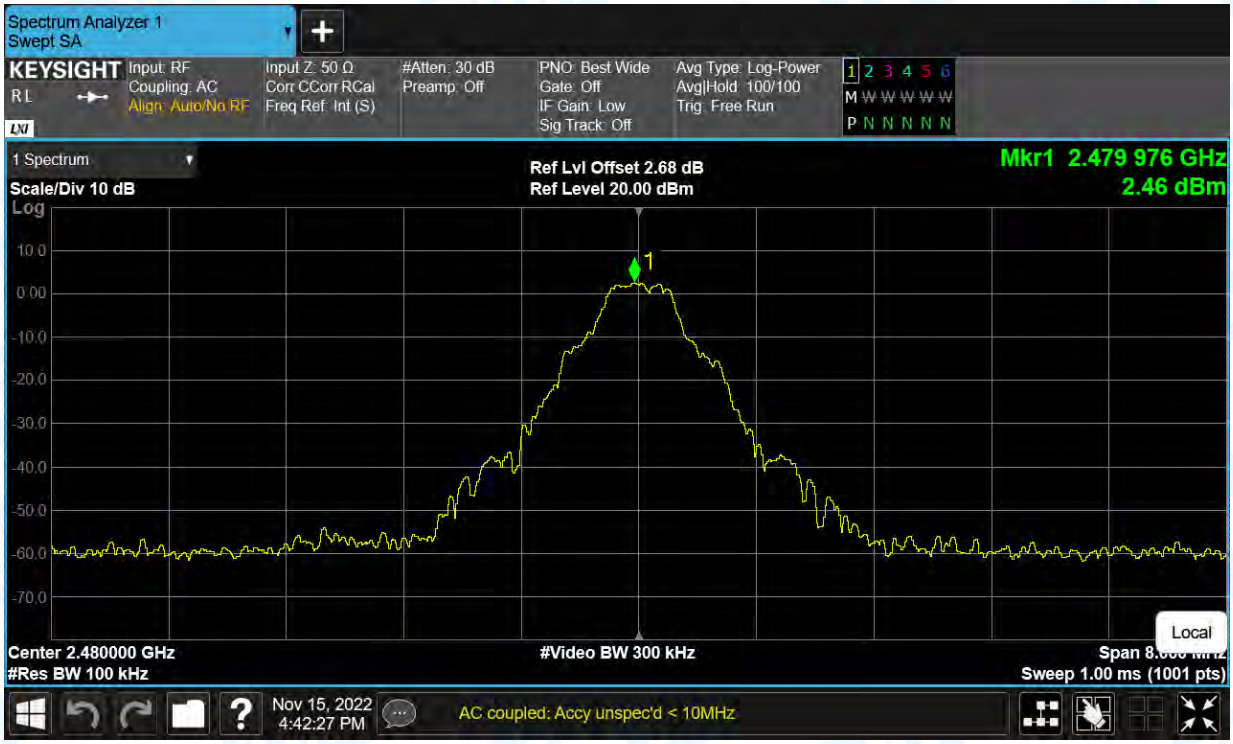
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



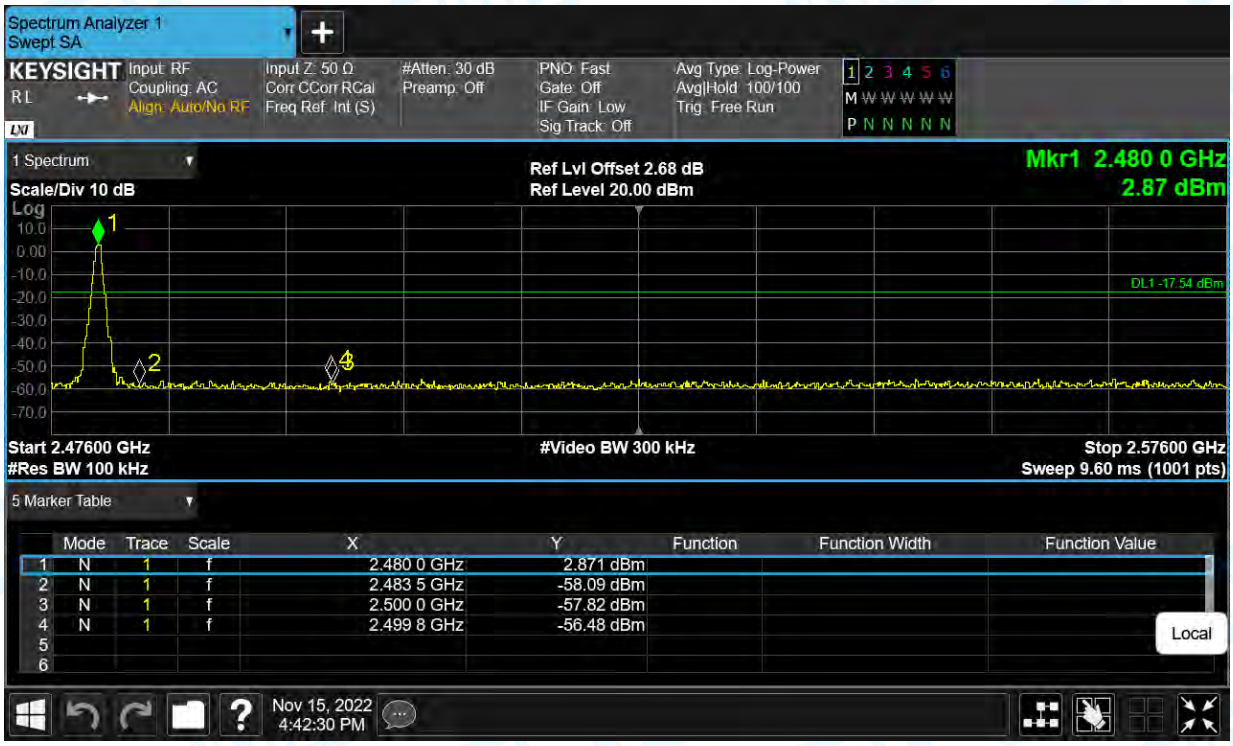

Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



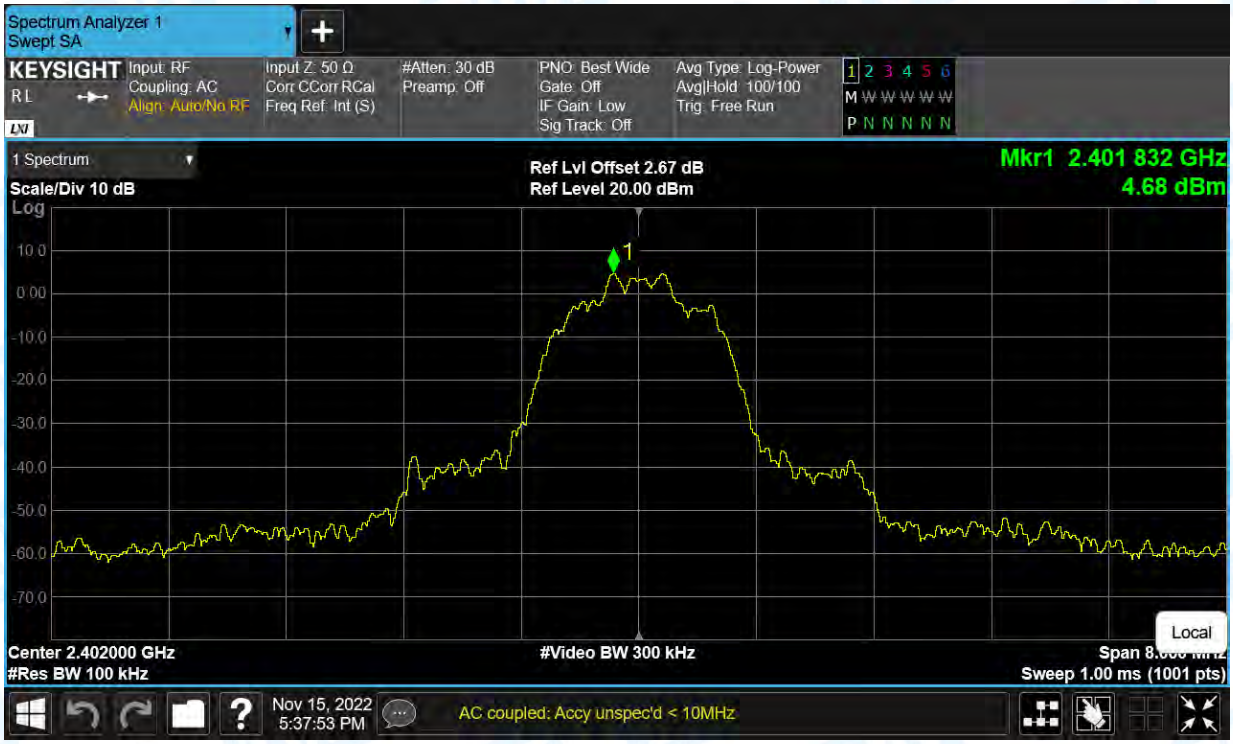
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



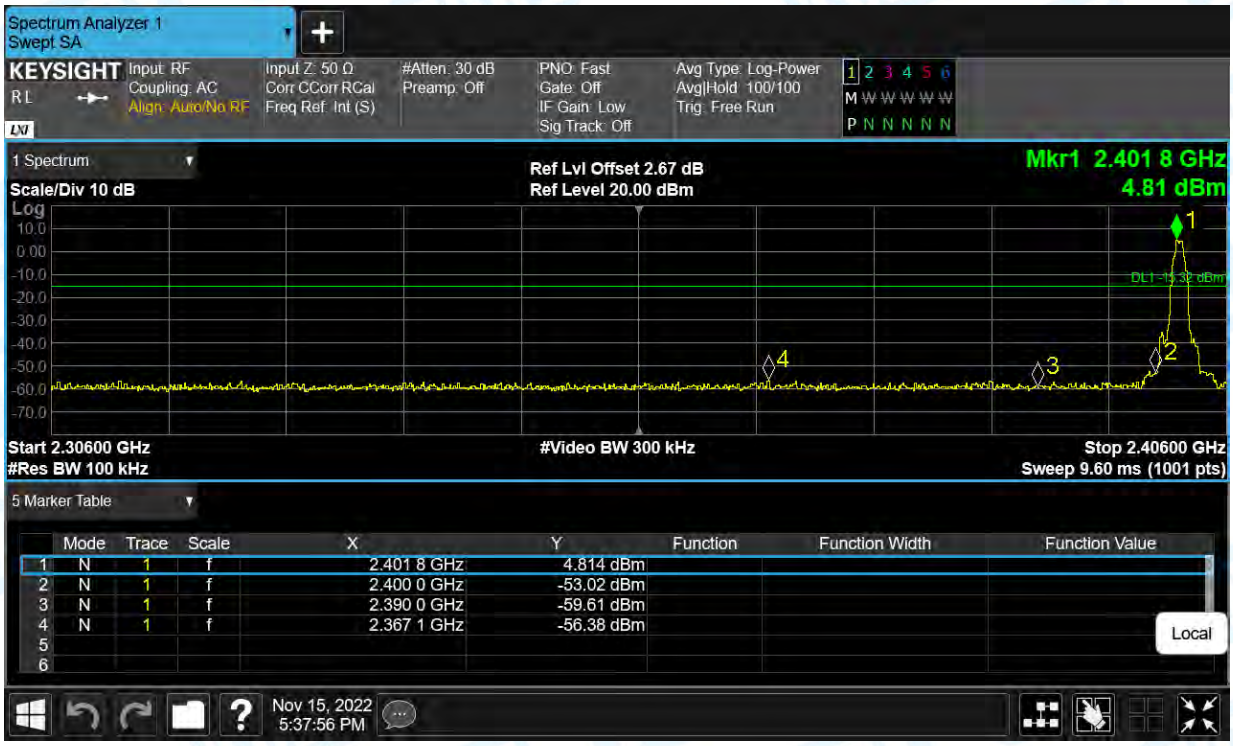

Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



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

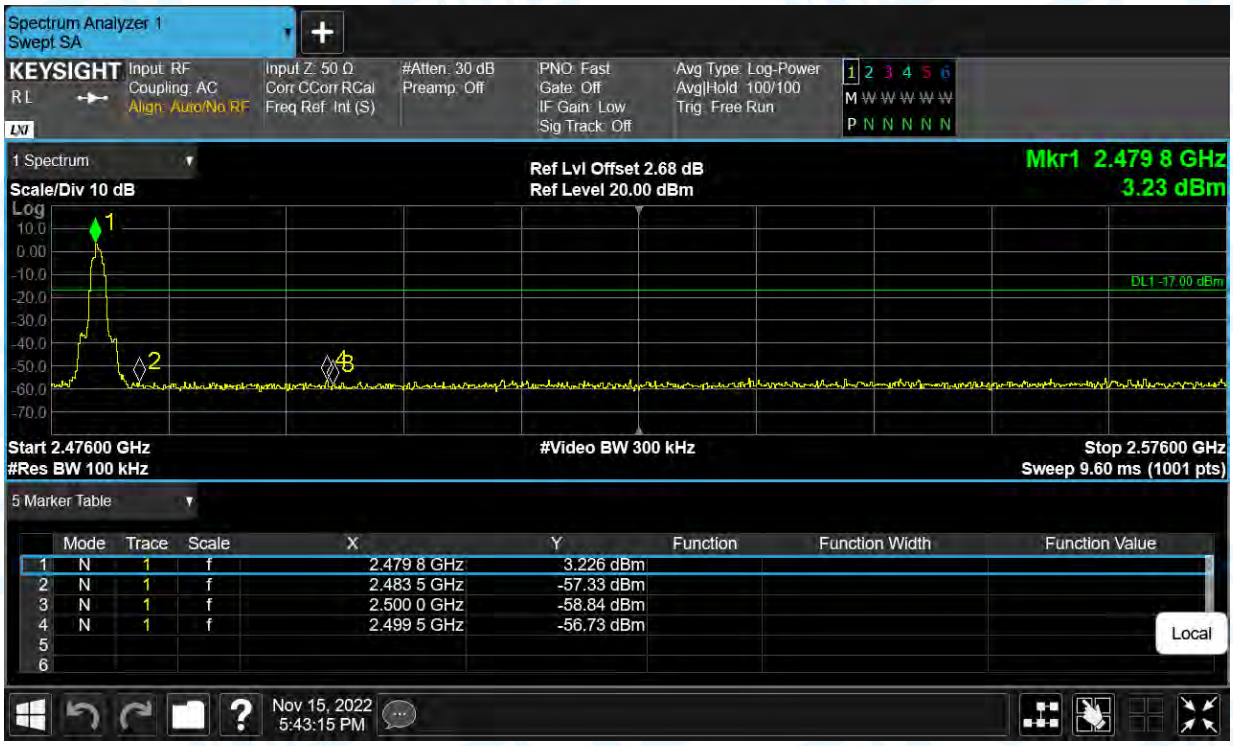



Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission

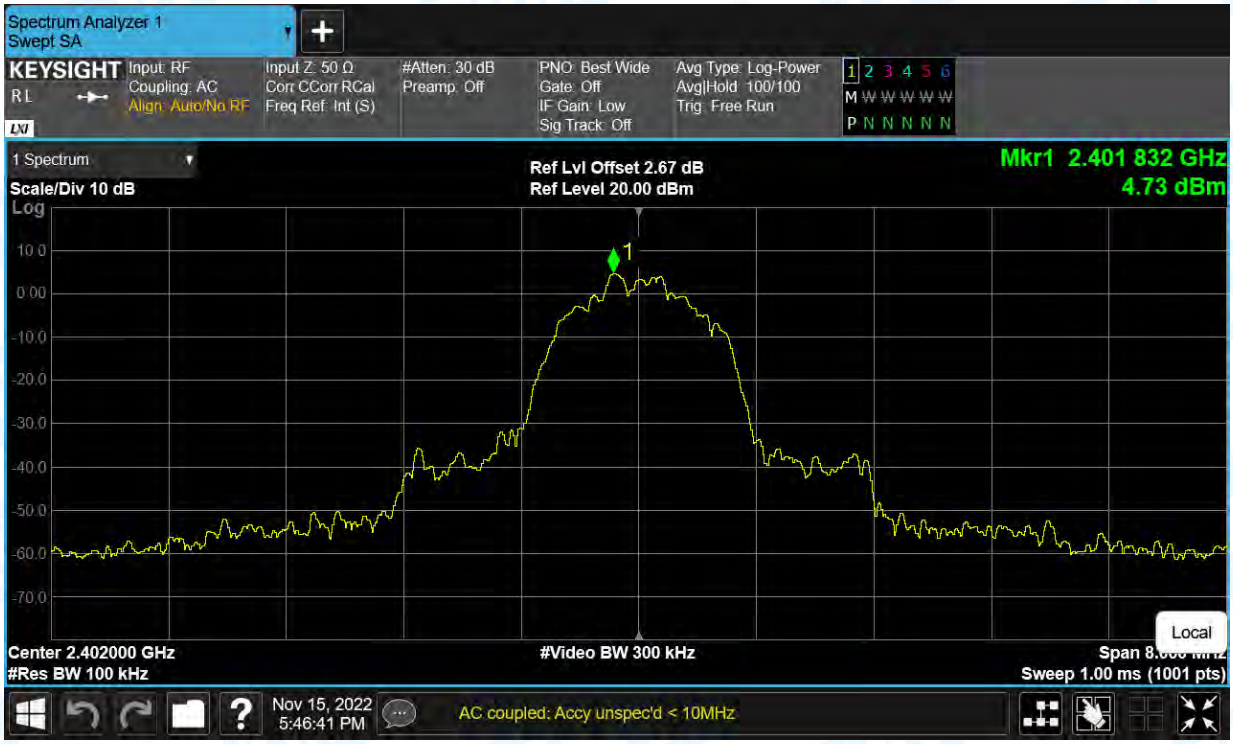


Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref

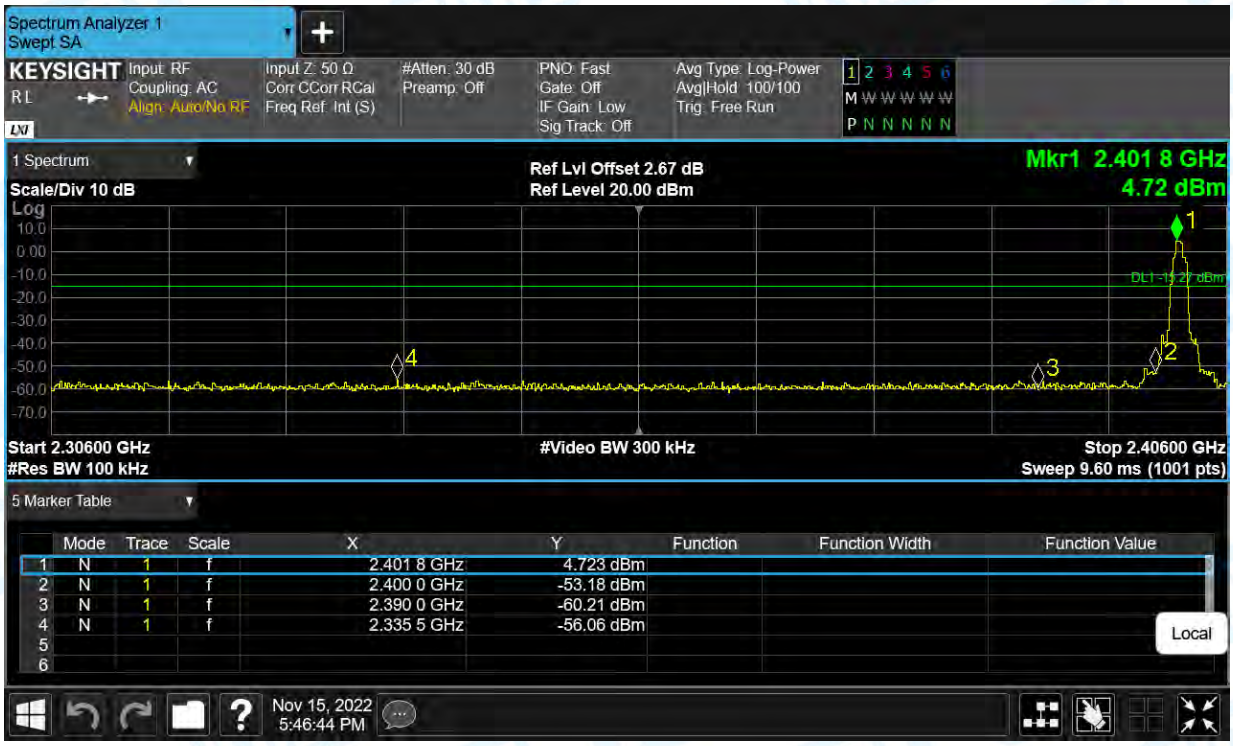
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



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

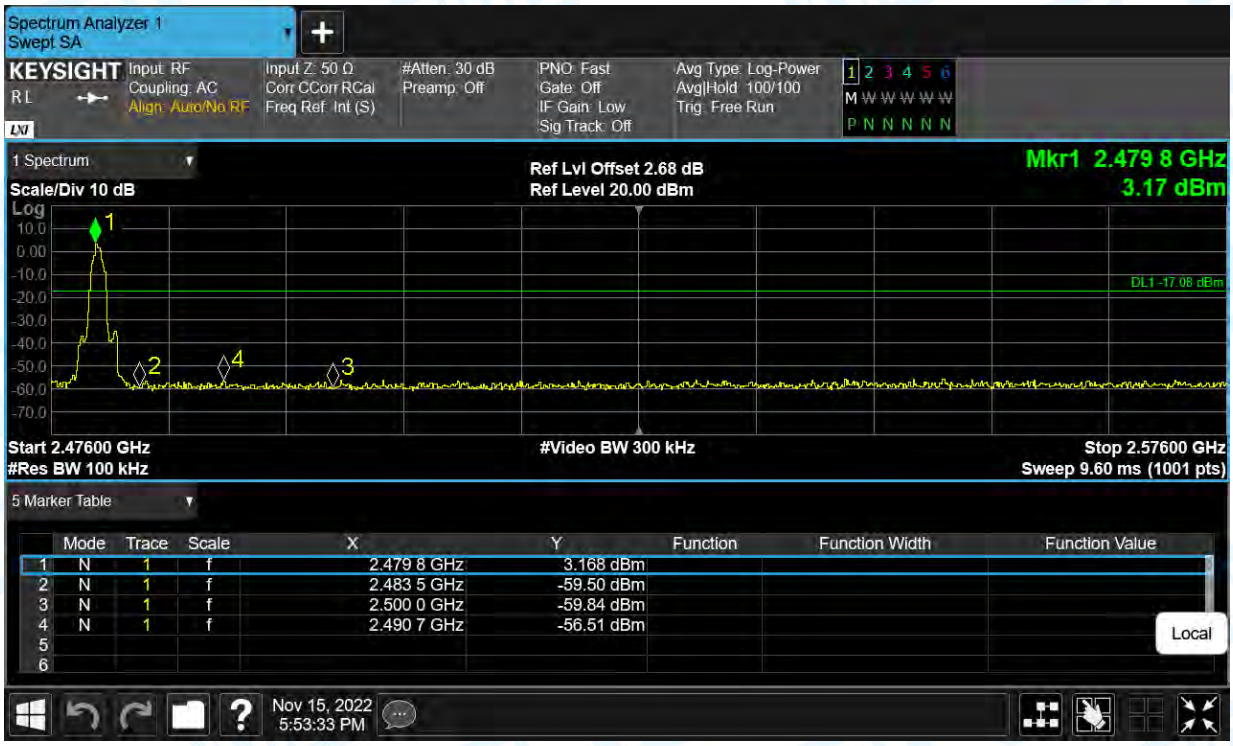



Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



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

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



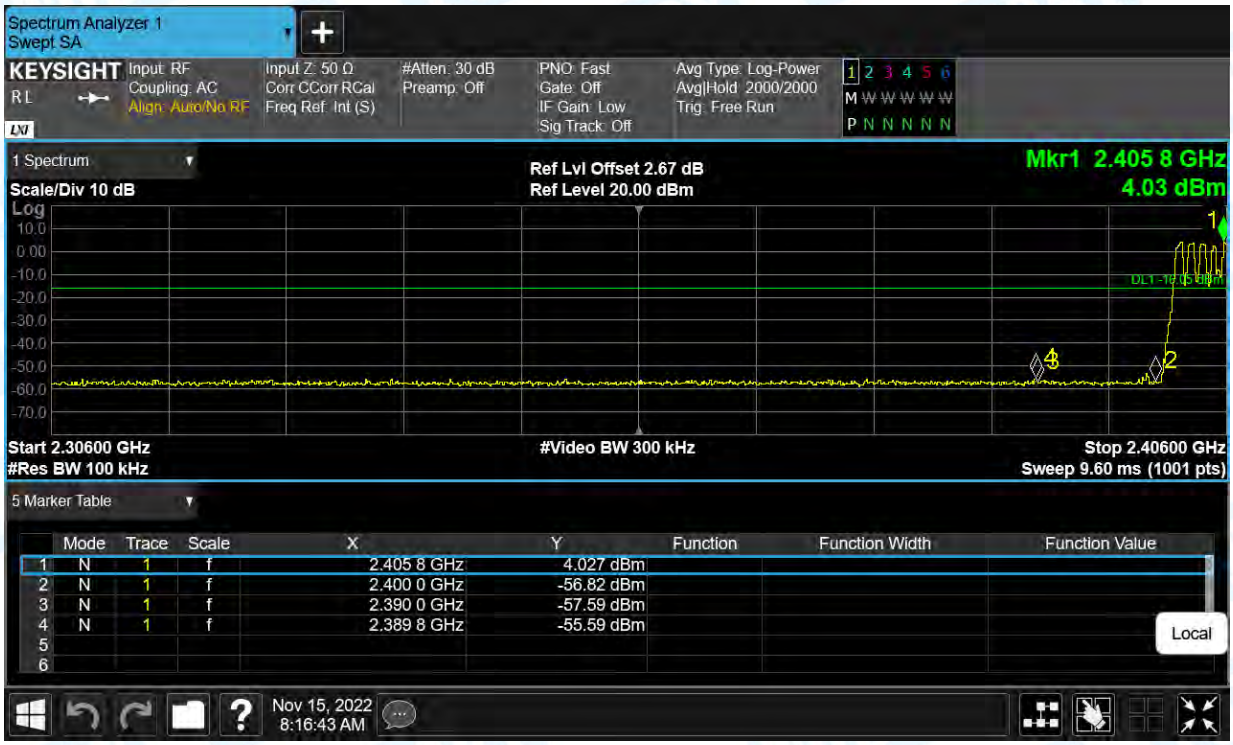
# 6. Band Edge(Hopping)

| Condition | Mode | Frequency (MHz) | Antenna | Hopping Mode | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | Hopping | -59.54 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | Hopping | -57.29 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | Hopping | -58.77 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | Hopping | -57.61 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | Hopping | -58.68 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | Hopping | -57.66 | -20 | Pass |

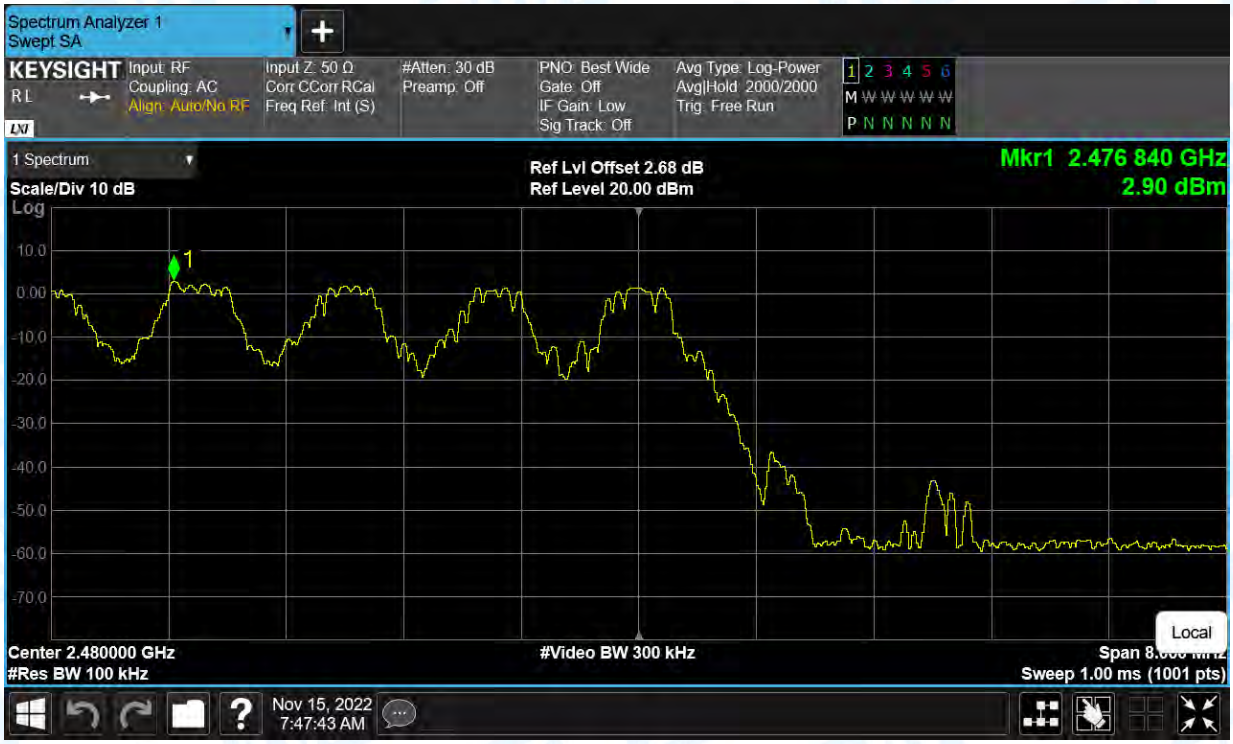
Test Graphs

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

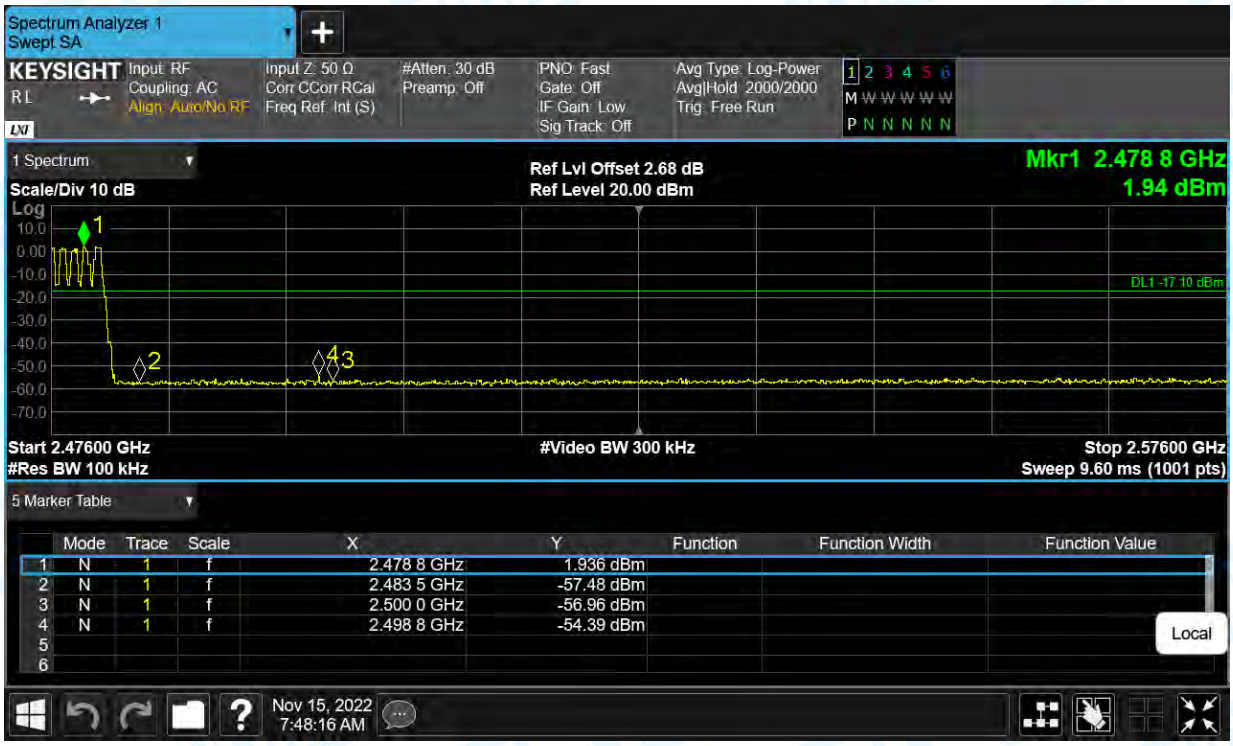
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



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

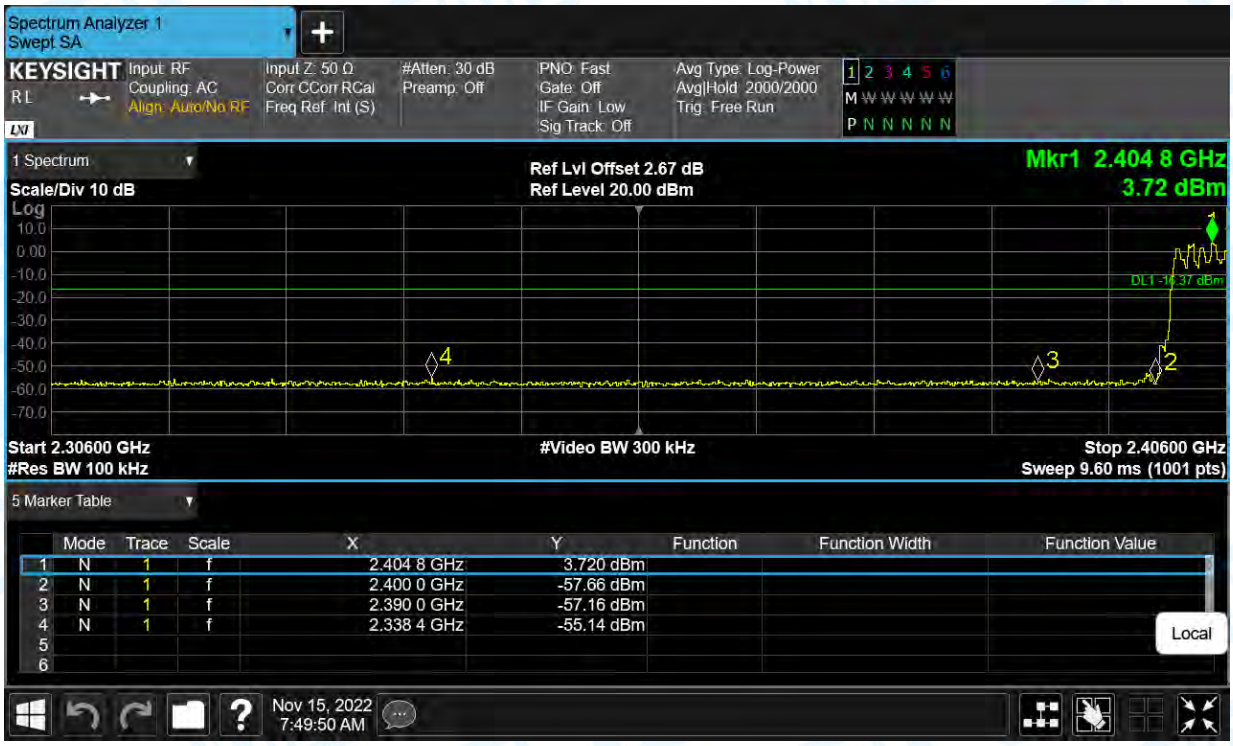



Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



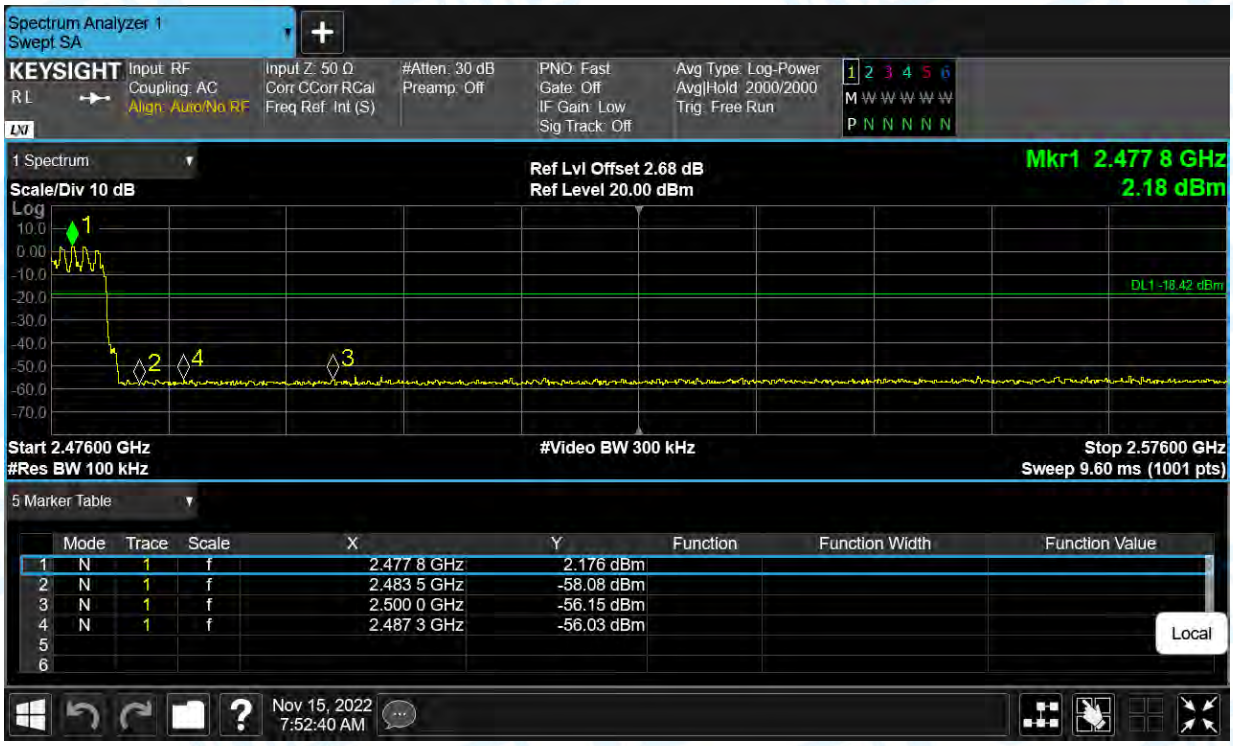
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

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

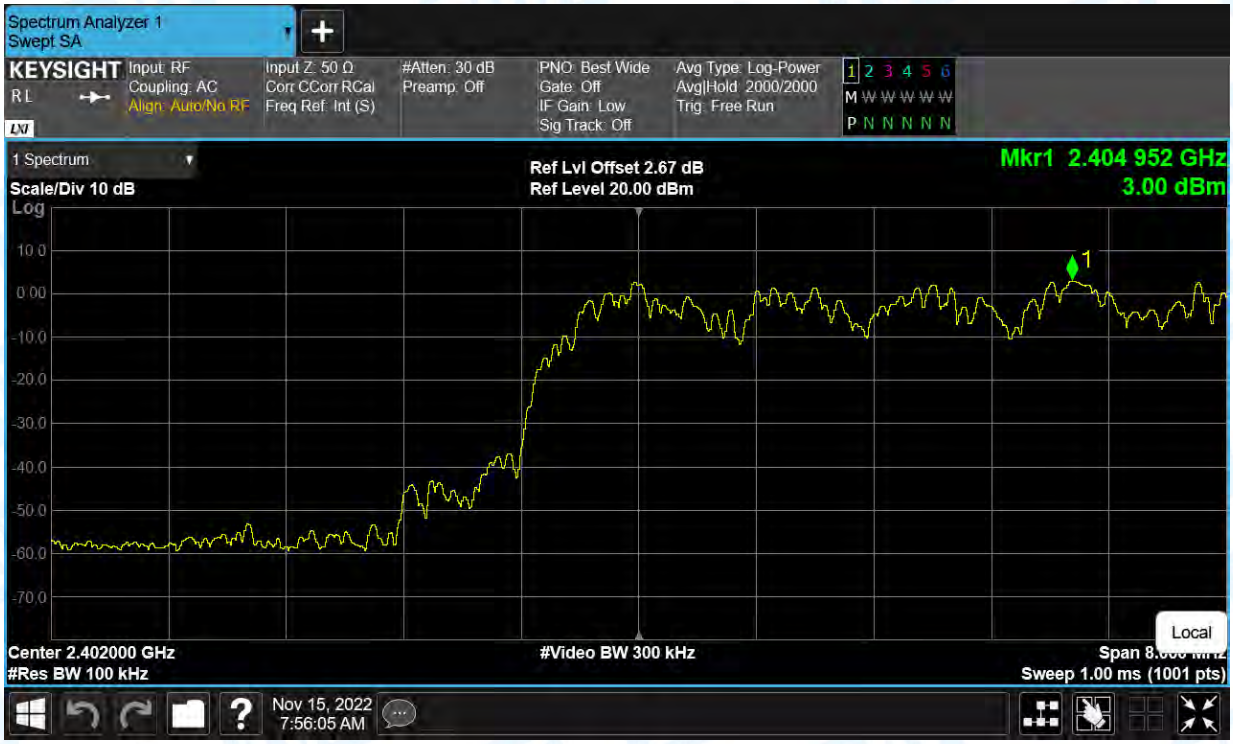


Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref

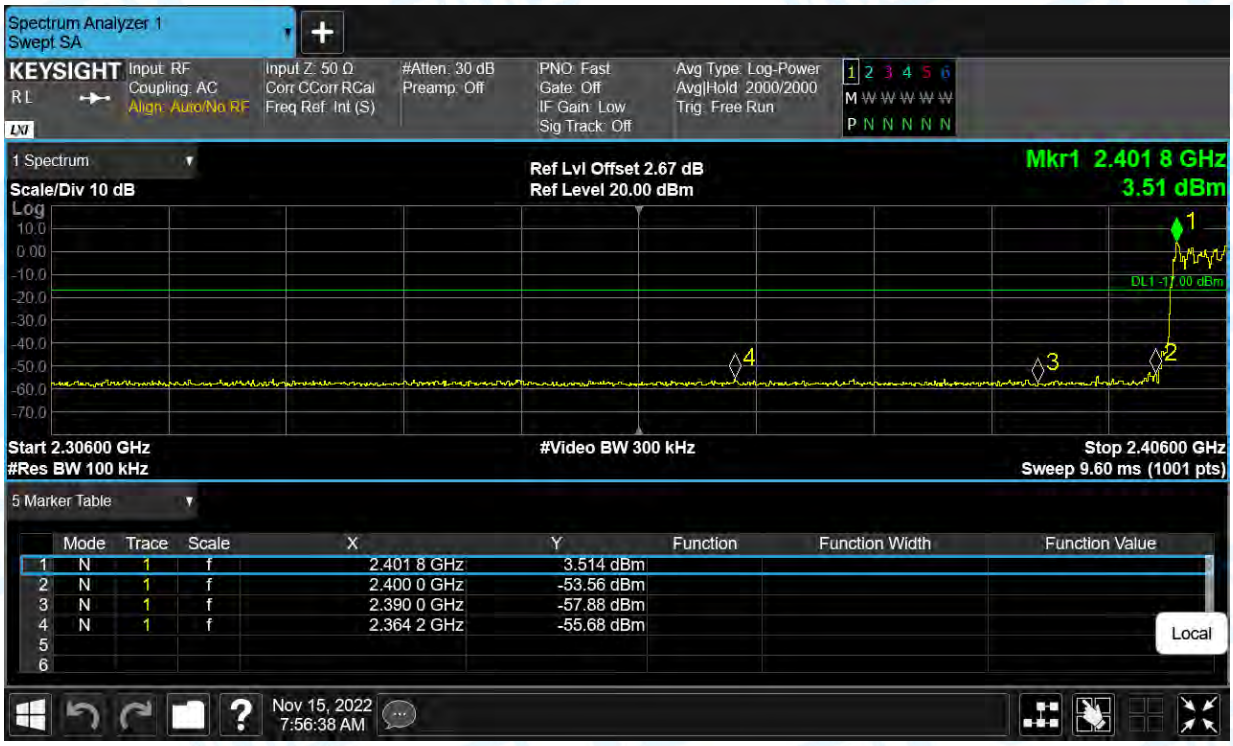
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



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

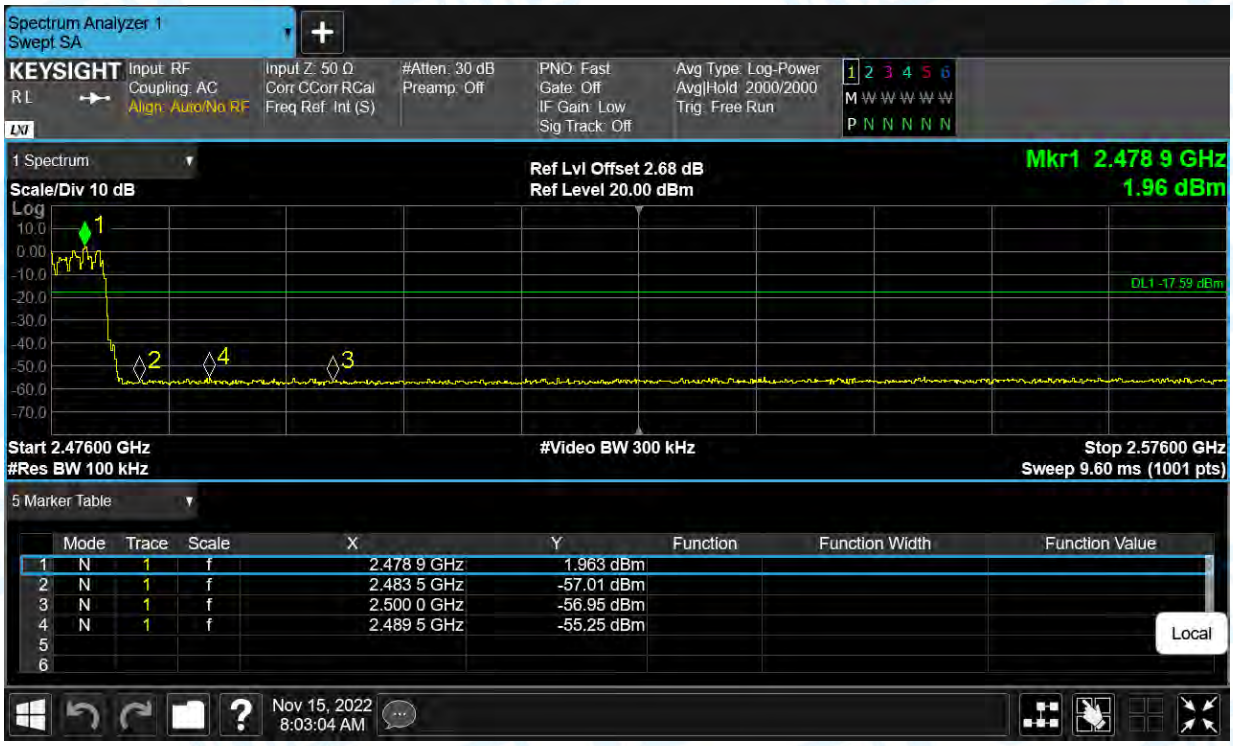



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



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

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



# 7. Conducted RF Spurious Emission

| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | -56.11 | -20 | Pass |
| NVNT | 1-DH1 | 2441 | Ant1 | -55.51 | -20 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | -54.58 | -20 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | -56.18 | -20 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | -55.53 | -20 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | -55.31 | -20 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | -55.52 | -20 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | -56.09 | -20 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | -54.64 | -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

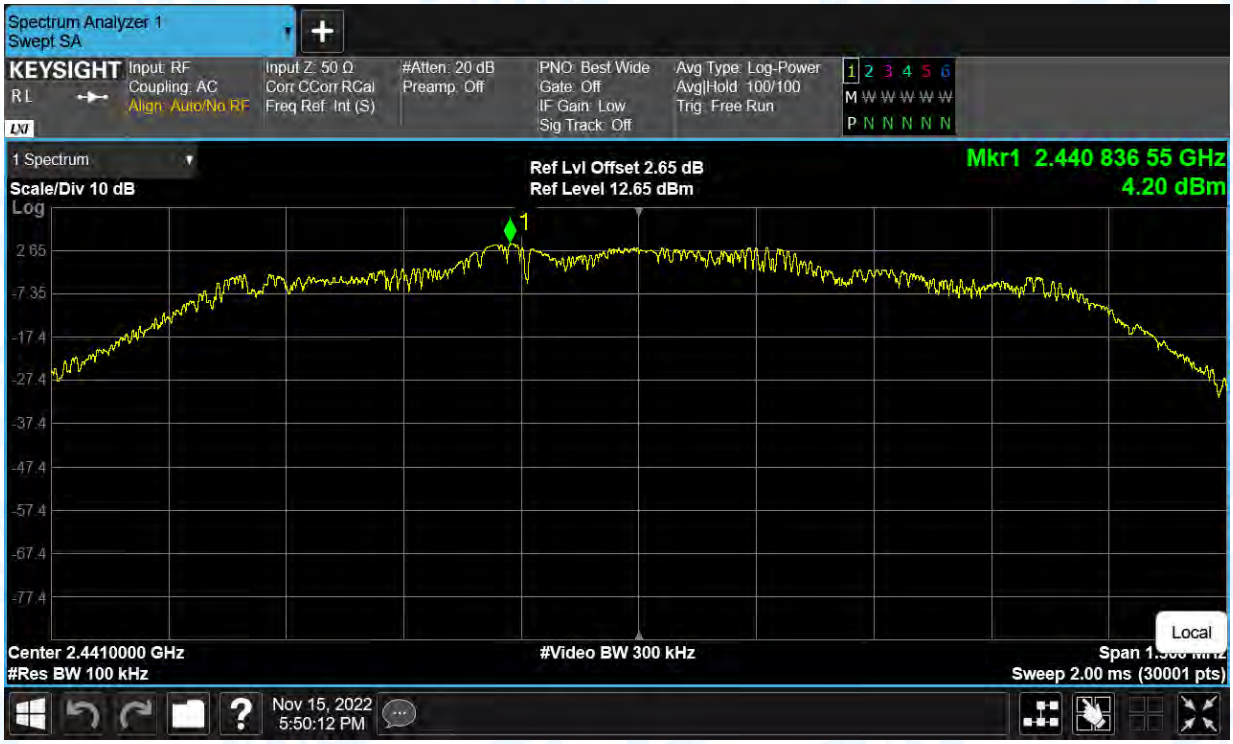
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref

Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission

Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref

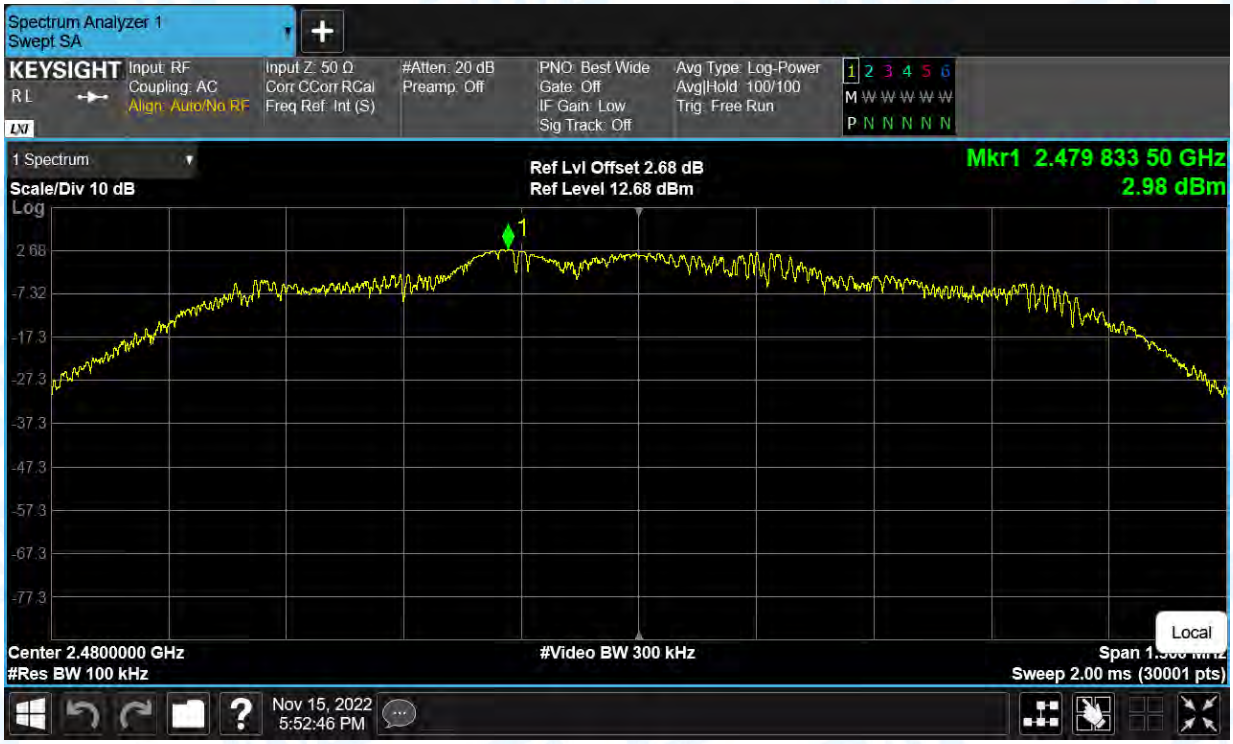
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission

Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref




Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission

Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



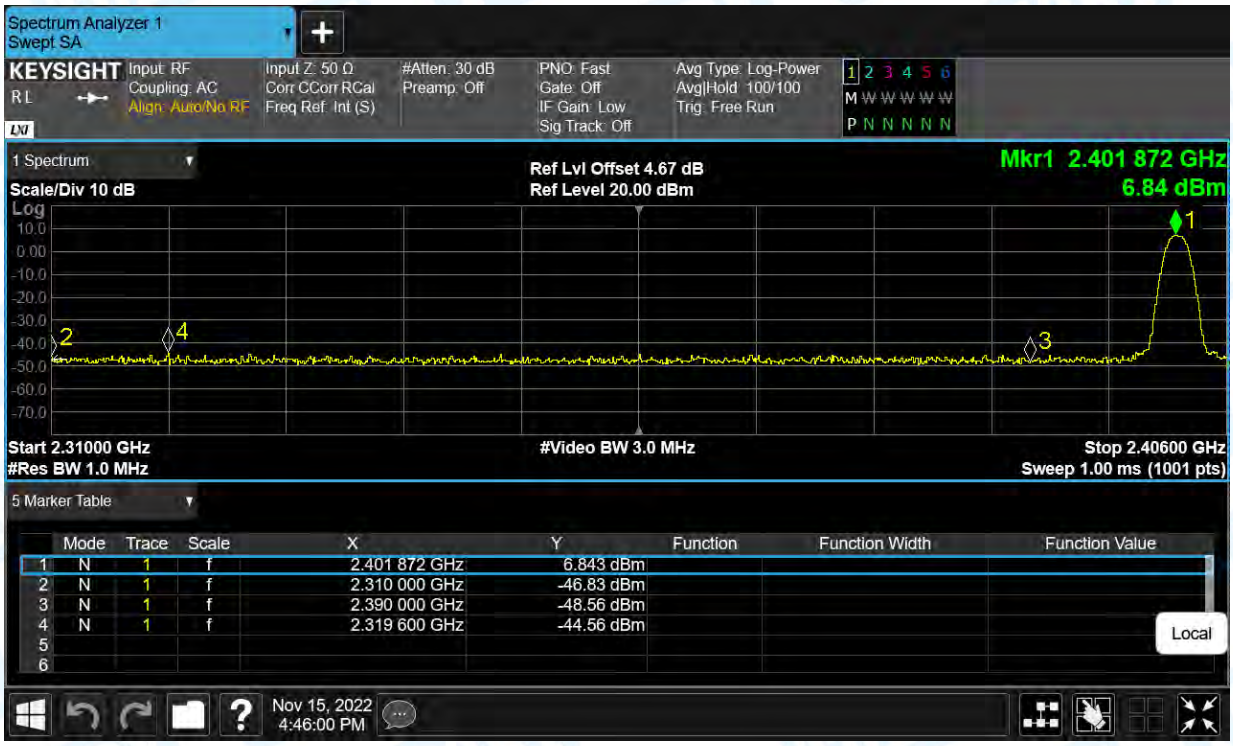

Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

# 8. Restrict Band

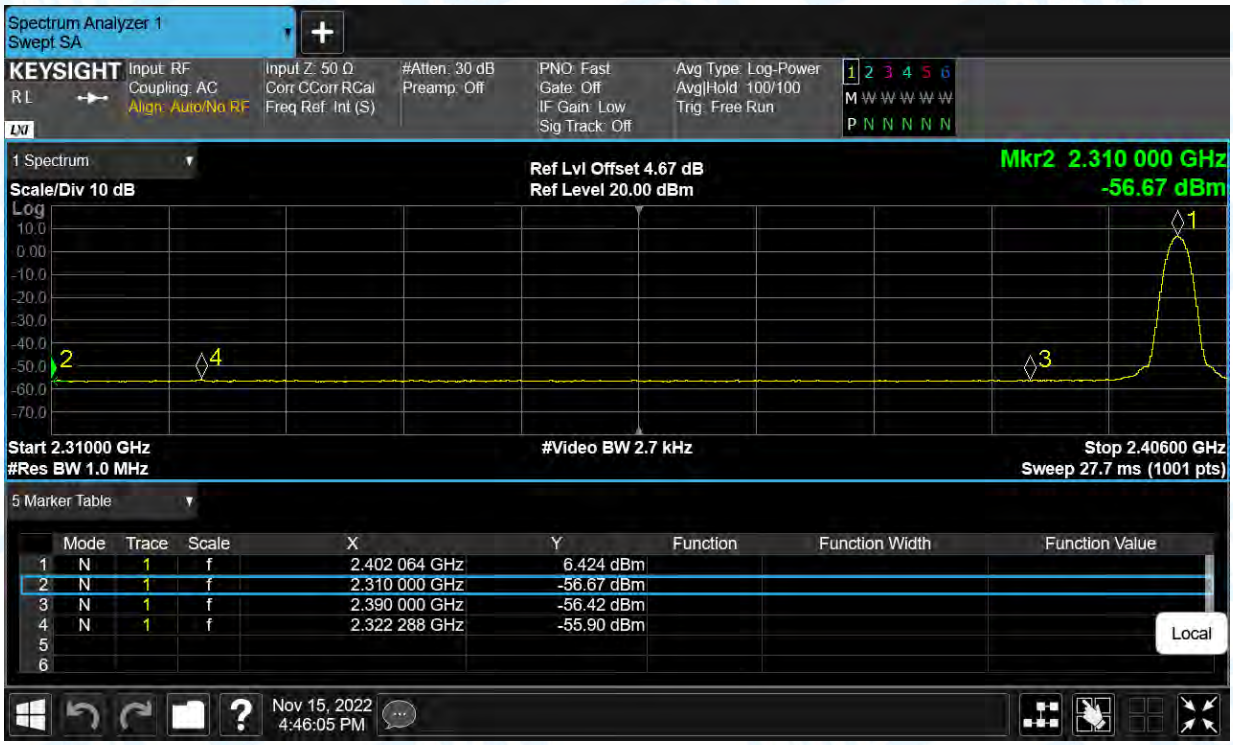
| Condition | Mode | Frequency (MHz) | Antenna | Hopping Mode | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -46.83 | 2 | 50.43 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -56.67 | 2 | 40.59 | Average | 54 | Pass |
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2319.6 | -44.56 | 2 | 52.7 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2322.288 | -55.9 | 2 | 41.36 | Average | 54 | Pass |
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -47.92 | 2 | 49.34 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -56.44 | 2 | 40.82 | Average | 54 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -46.91 | 2 | 50.35 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -55.82 | 2 | 41.44 | Average | 54 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2484.016 | -44.46 | 2 | 52.8 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2483.824 | -55.23 | 2 | 42.03 | Average | 54 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -45.56 | 2 | 51.7 | Peak | 74 | Pass |
| NVNT | 1-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -56.36 | 2 | 40.9 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -45.97 | 2 | 51.29 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -56.74 | 2 | 40.52 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2366.928 | -44.42 | 2 | 52.84 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2321.904 | -55.96 | 2 | 41.3 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -47.65 | 2 | 49.61 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -56.64 | 2 | 40.62 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -47.98 | 2 | 49.28 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -55.87 | 2 | 41.39 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2490.616 | -43.61 | 2 | 53.65 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2483.896 | -55.44 | 2 | 41.82 | Average | 54 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -46.73 | 2 | 50.53 | Peak | 74 | Pass |
| NVNT | 2-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -56.13 | 2 | 41.13 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -45.9 | 2 | 51.36 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2310 | -56.59 | 2 | 40.67 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2370.96 | -44.67 | 2 | 52.59 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2389.68 | -55.79 | 2 | 41.47 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -47.65 | 2 | 49.61 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2402 | Ant1 | No-Hopping | 2390 | -56.32 | 2 | 40.94 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -46.99 | 2 | 50.27 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2483.5 | -55.87 | 2 | 41.39 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2498.536 | -44.17 | 2 | 53.09 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2483.872 | -55.42 | 2 | 41.84 | Average | 54 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -47.46 | 2 | 49.8 | Peak | 74 | Pass |
| NVNT | 3-DH1 | 2480 | Ant1 | No-Hopping | 2500 | -56.38 | 2 | 40.88 | Average | 54 | Pass |

Test Graphs

Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Peak



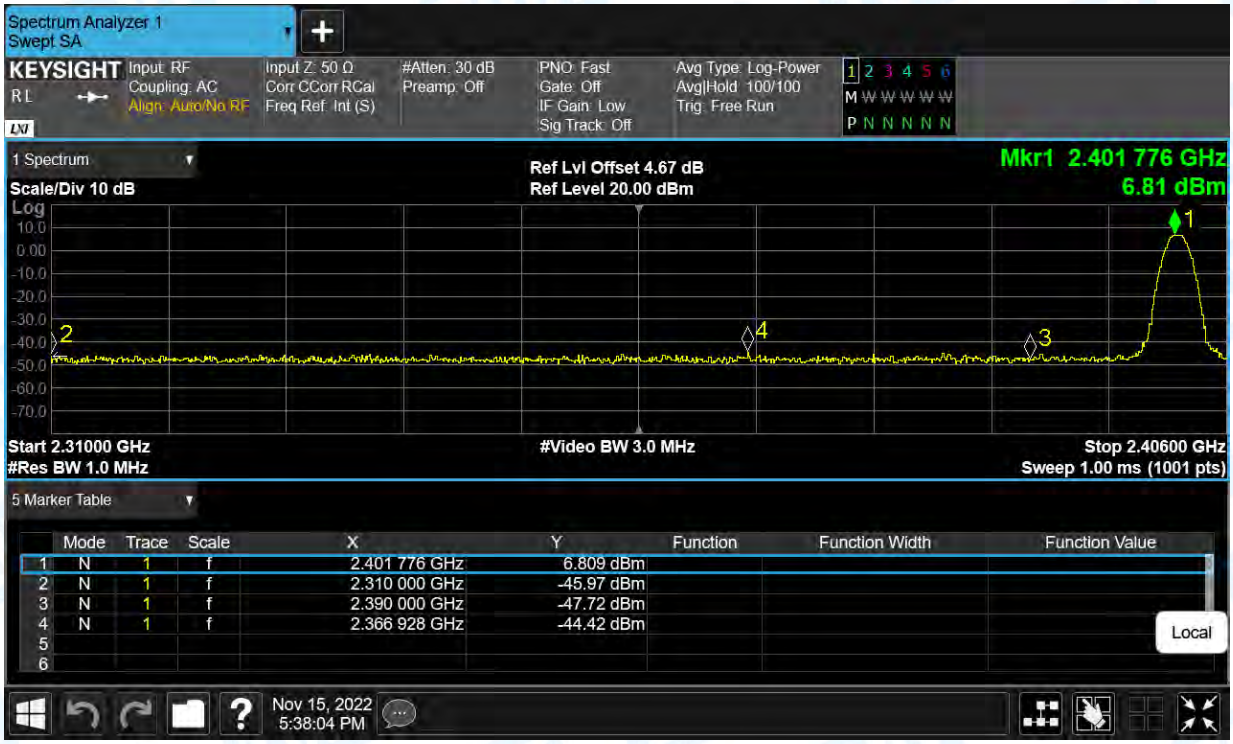

Restrict Band NVNT 1-DH1 2402MHz Ant1 No-Hopping Average



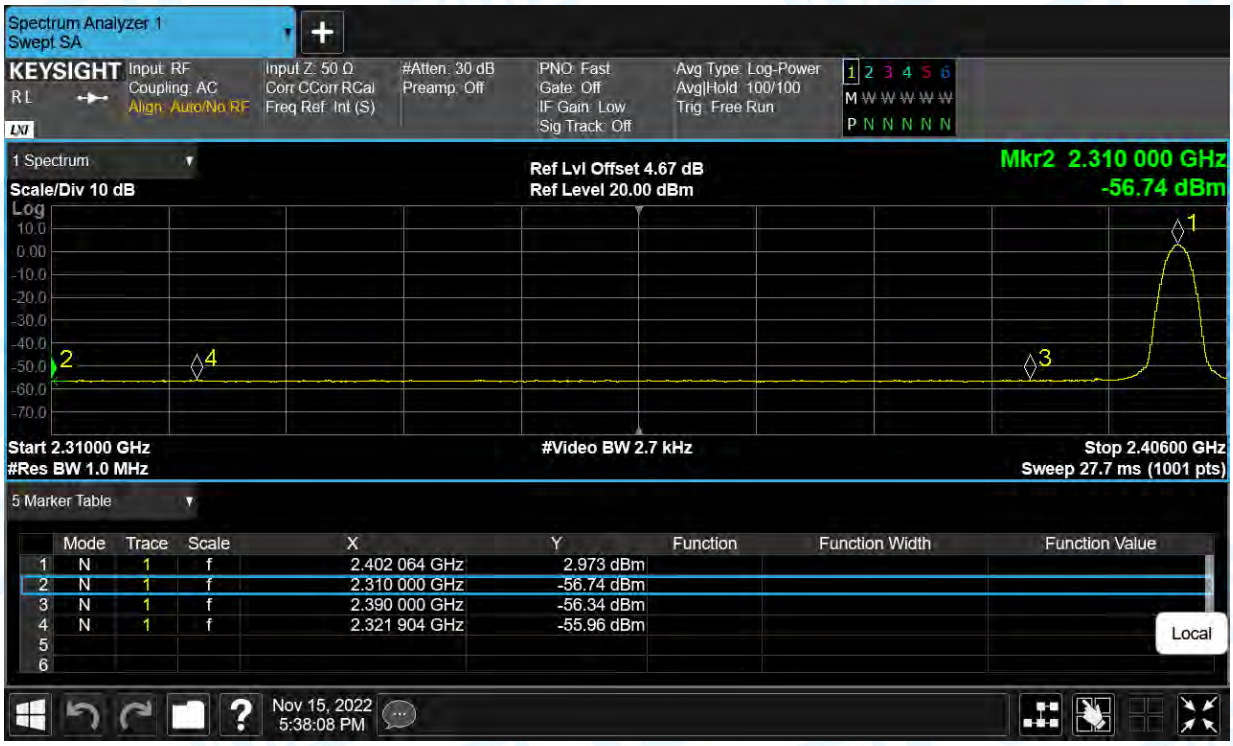
Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Peak

Restrict Band NVNT 1-DH1 2480MHz Ant1 No-Hopping Average

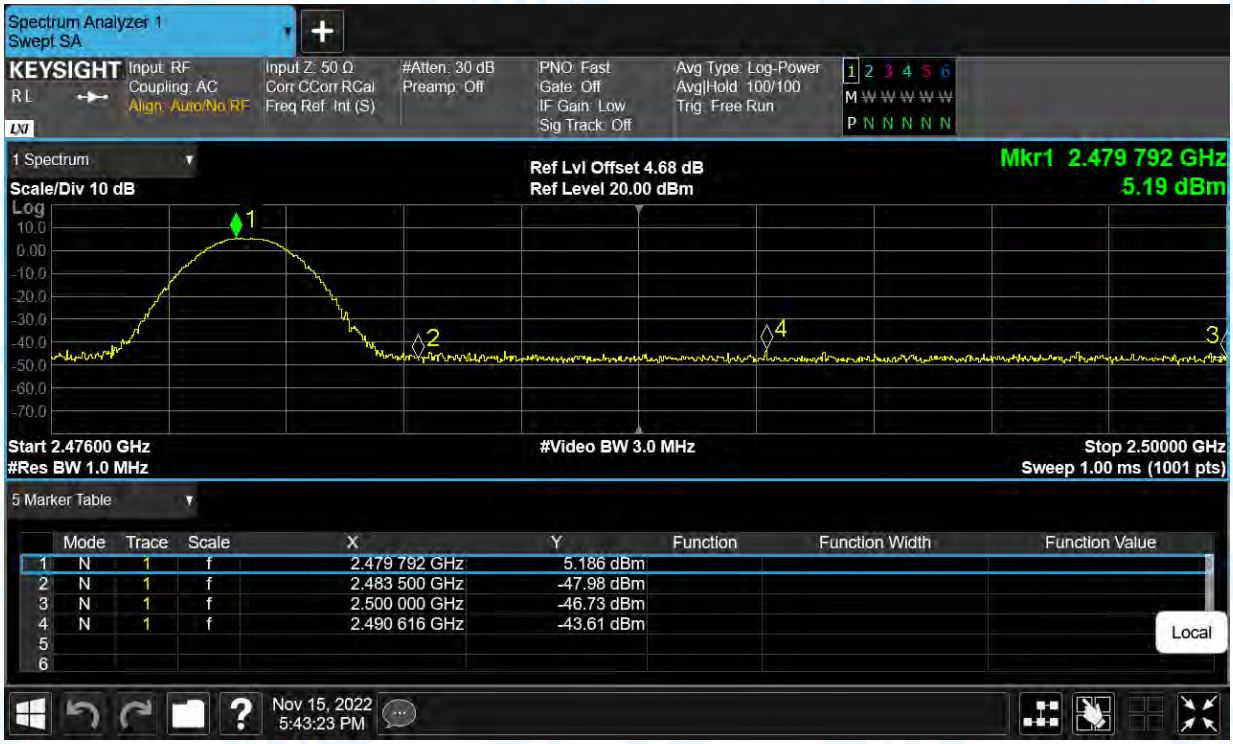
Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Peak




Restrict Band NVNT 2-DH1 2402MHz Ant1 No-Hopping Average

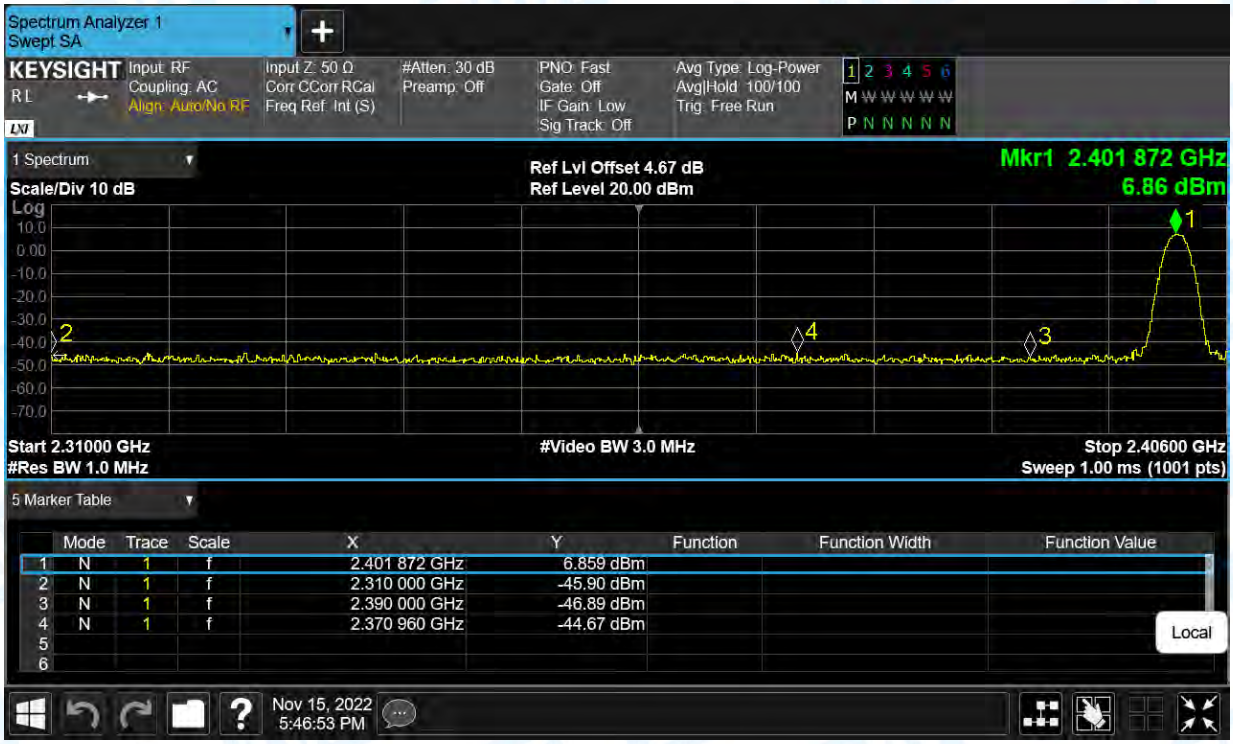


Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Peak

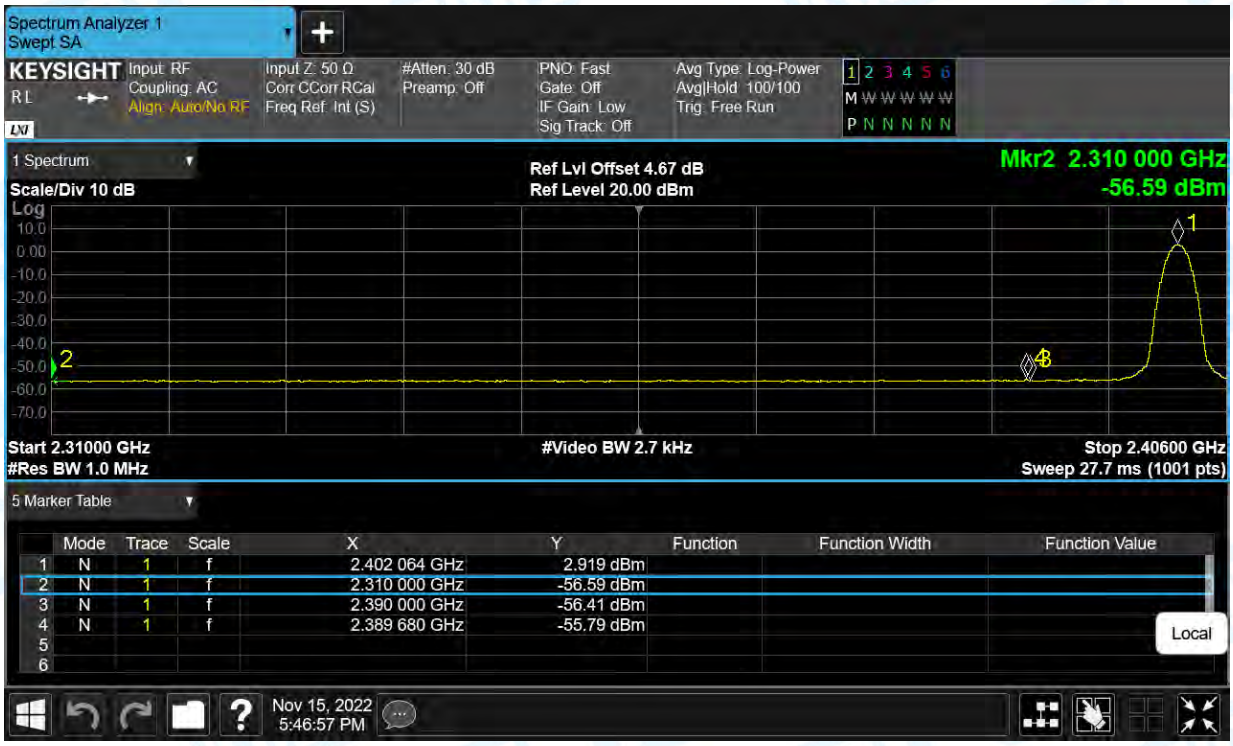



Restrict Band NVNT 2-DH1 2480MHz Ant1 No-Hopping Average

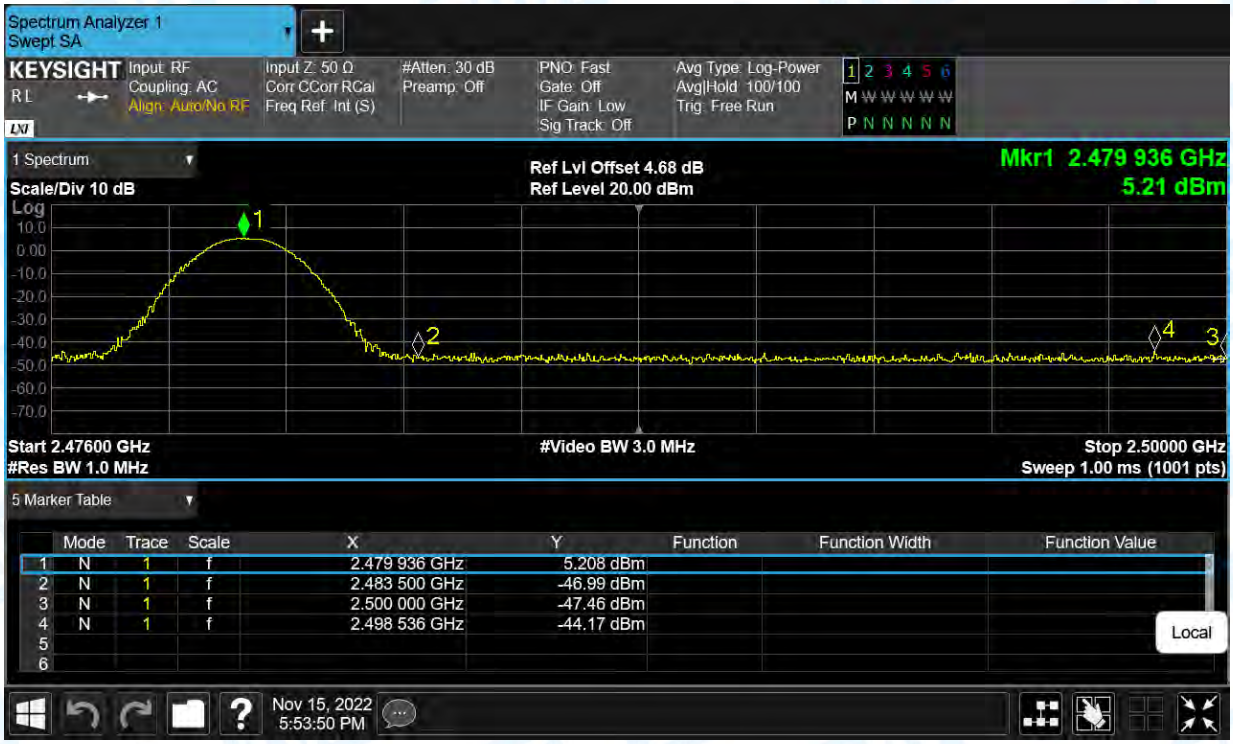
Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Peak




Restrict Band NVNT 3-DH1 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Peak




Restrict Band NVNT 3-DH1 2480MHz Ant1 No-Hopping Average

# 9. Carrier Frequencies Separation

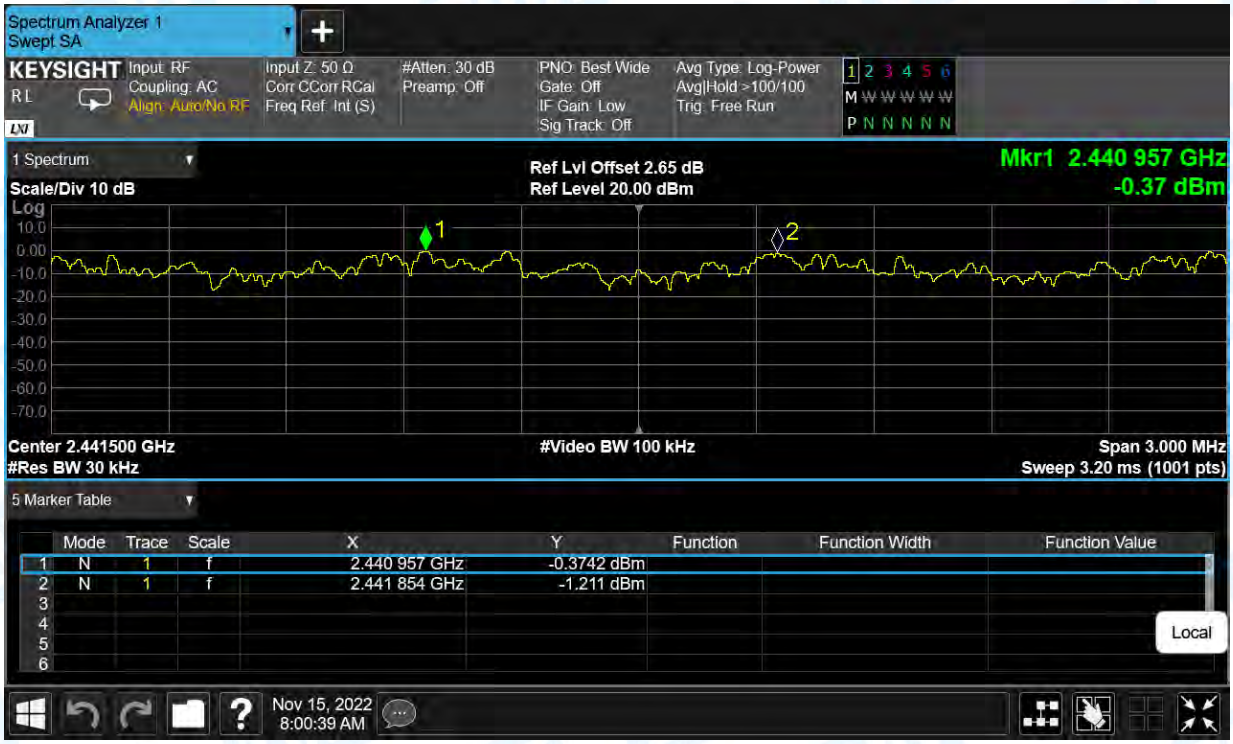
| Condition | Mode | Antenna | Hopping Freq1 (MHz) | Hopping Freq2 (MHz) | HFS (MHz) | Limit (MHz) | Verdict |
|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | Ant1 | 2441.032 | 2441.833 | 0.801 | 0.025 | Pass |
| NVNT | 2-DH1 | Ant1 | 2440.822 | 2442.151 | 1.329 | 0.025 | Pass |
| NVNT | 3-DH1 | Ant1 | 2440.957 | 2441.854 | 0.897 | 0.025 | Pass |

Test Graphs

CFS NVNT 1-DH1 2441MHz Ant1

CFS NVNT 2-DH1 2441MHz Ant1

CFS NVNT 3-DH1 2441MHz Ant1

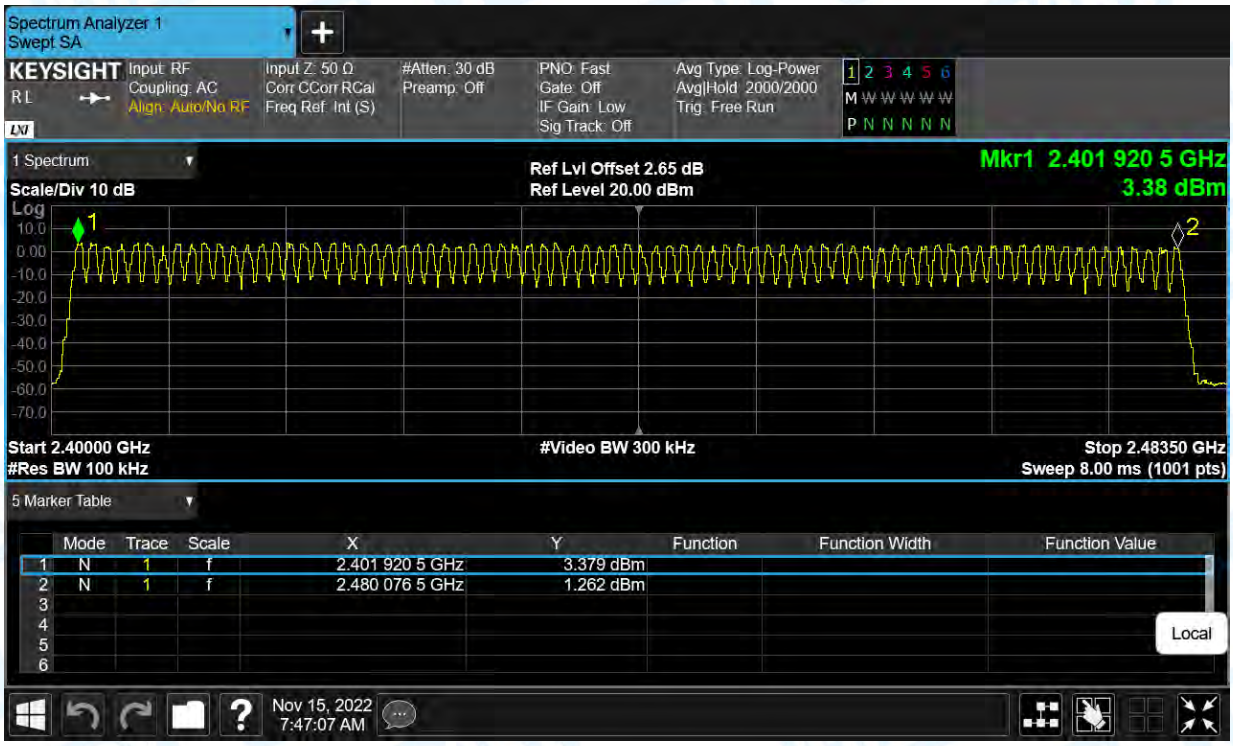


# 10. Number of Hopping Channel

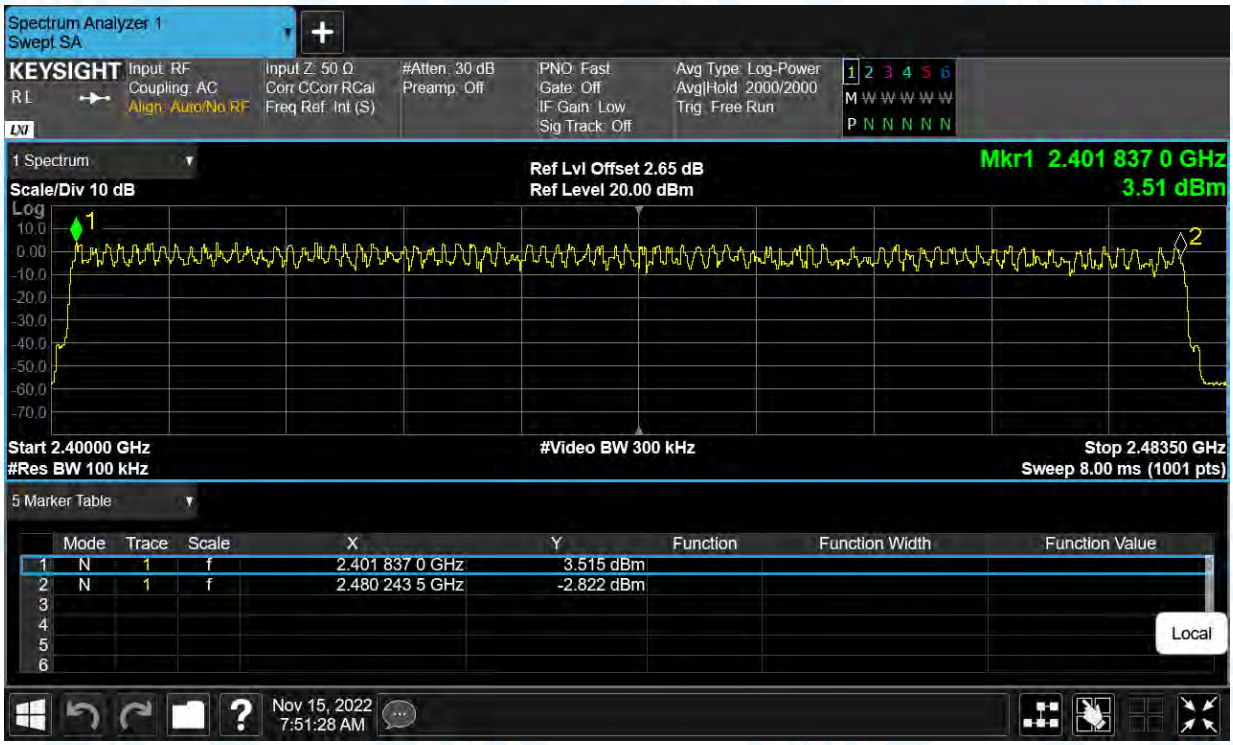
| Condition | Mode | Antenna | Hopping Number | Limit | Verdict |
|---|---|---|---|---|---|
| NVNT | 1-DH1 | Ant1 | 79 | 15 | Pass |
| NVNT | 2-DH1 | Ant1 | 79 | 15 | Pass |
| NVNT | 3-DH1 | Ant1 | 79 | 15 | Pass |

Test Graphs

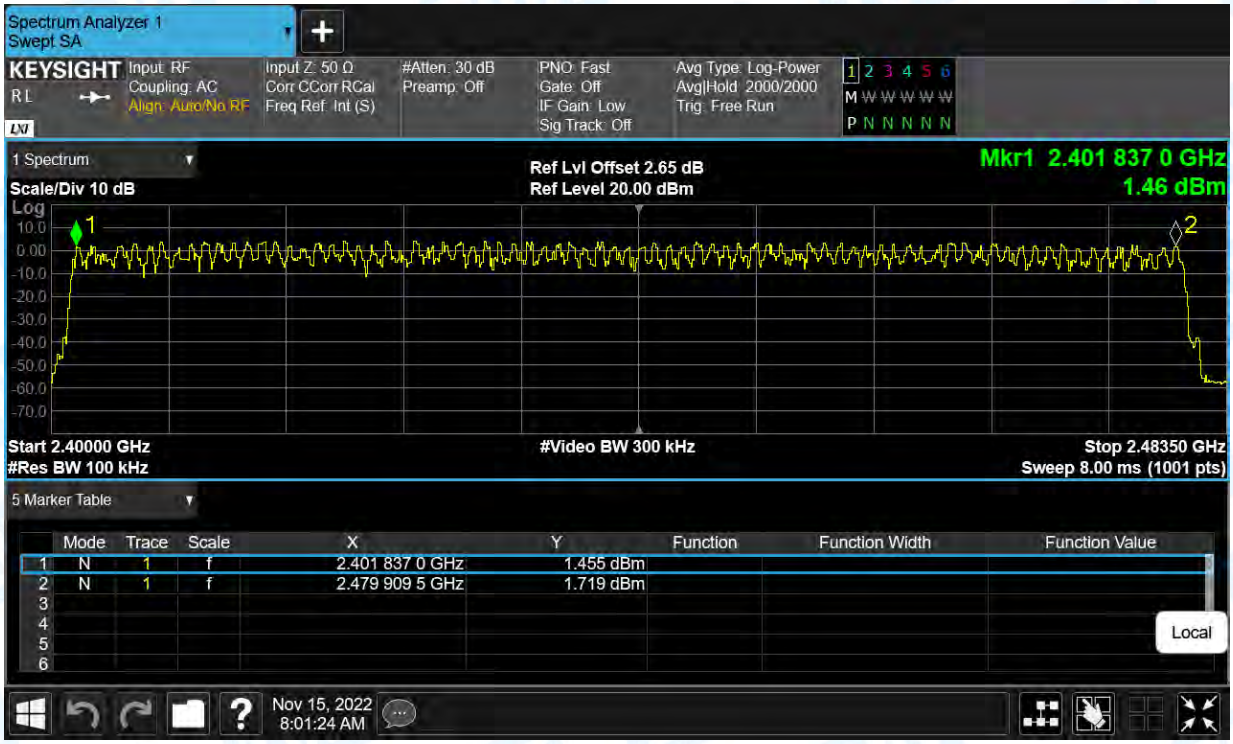
Hopping No. NVNT 1-DH1 2441MHz Ant1




Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

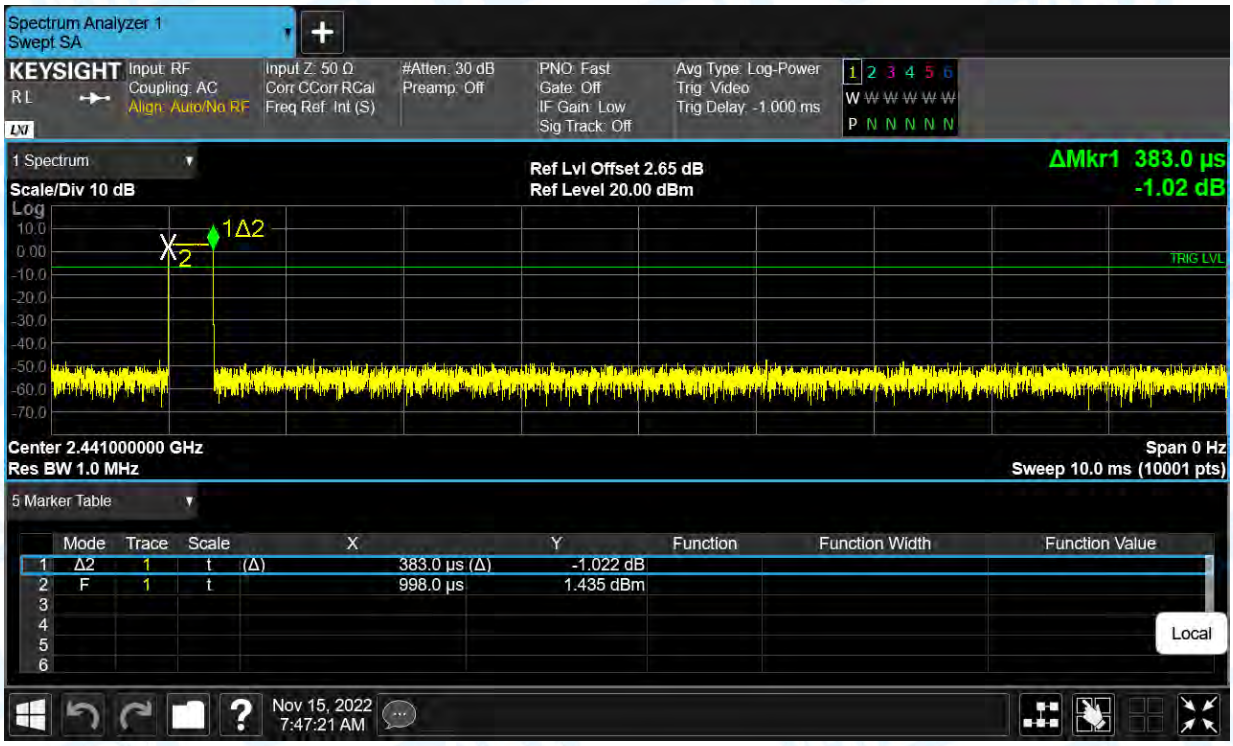


# 11. Dwell Time

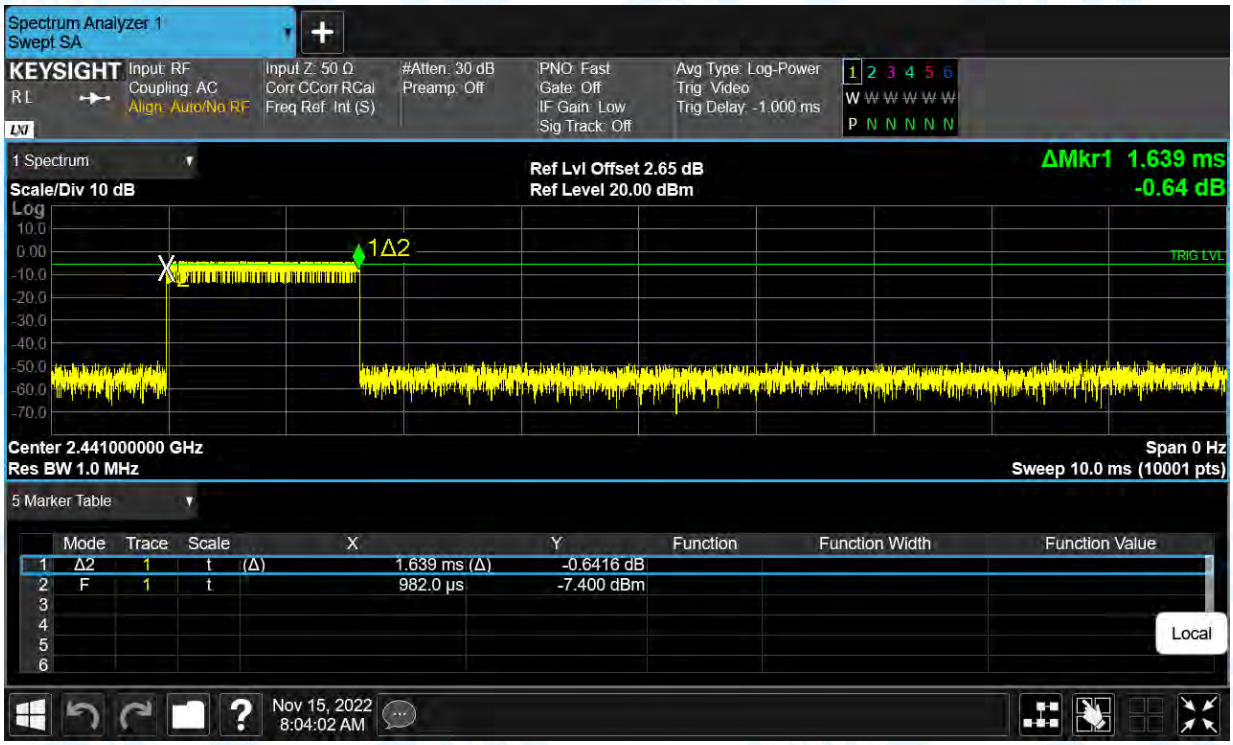
| Condition | Mode | Frequency (MHz) | Antenna | Pulse Time (ms) | Total Dwell Time (ms) | Period Time (ms) | Limit (ms) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2441 | Ant1 | 0.383 | 122.56 | 31600 | 400 | Pass |
| NVNT | 1-DH3 | 2441 | Ant1 | 1.639 | 262.24 | 31600 | 400 | Pass |
| NVNT | 1-DH5 | 2441 | Ant1 | 2.887 | 307.947 | 31600 | 400 | Pass |
| NVNT | 2-DH1 | 2441 | Ant1 | 0.391 | 125.12 | 31600 | 400 | Pass |
| NVNT | 2-DH3 | 2441 | Ant1 | 1.643 | 262.88 | 31600 | 400 | Pass |
| NVNT | 2-DH5 | 2441 | Ant1 | 2.891 | 308.373 | 31600 | 400 | Pass |
| NVNT | 3-DH1 | 2441 | Ant1 | 0.392 | 125.44 | 31600 | 400 | Pass |
| NVNT | 3-DH3 | 2441 | Ant1 | 1.642 | 262.72 | 31600 | 400 | Pass |
| NVNT | 3-DH5 | 2441 | Ant1 | 2.893 | 308.587 | 31600 | 400 | Pass |

Test Graphs

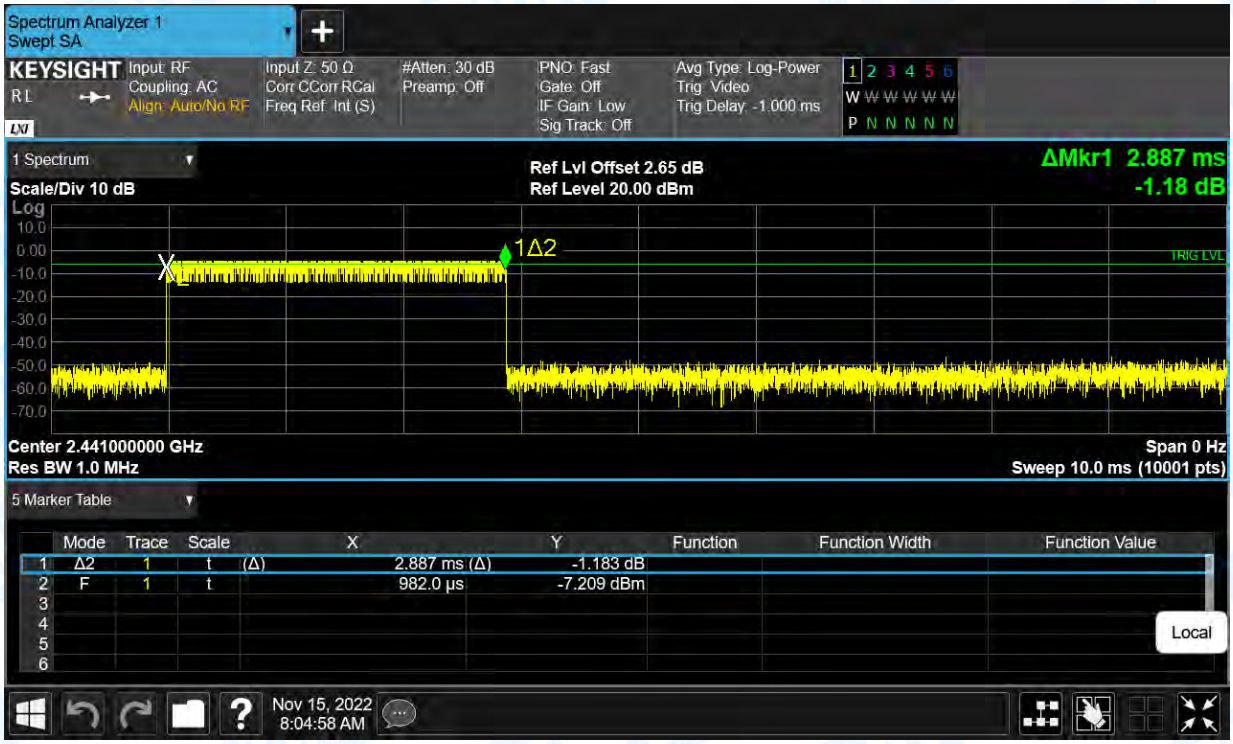
Dwell NVNT 1-DH1 2441MHz Ant1



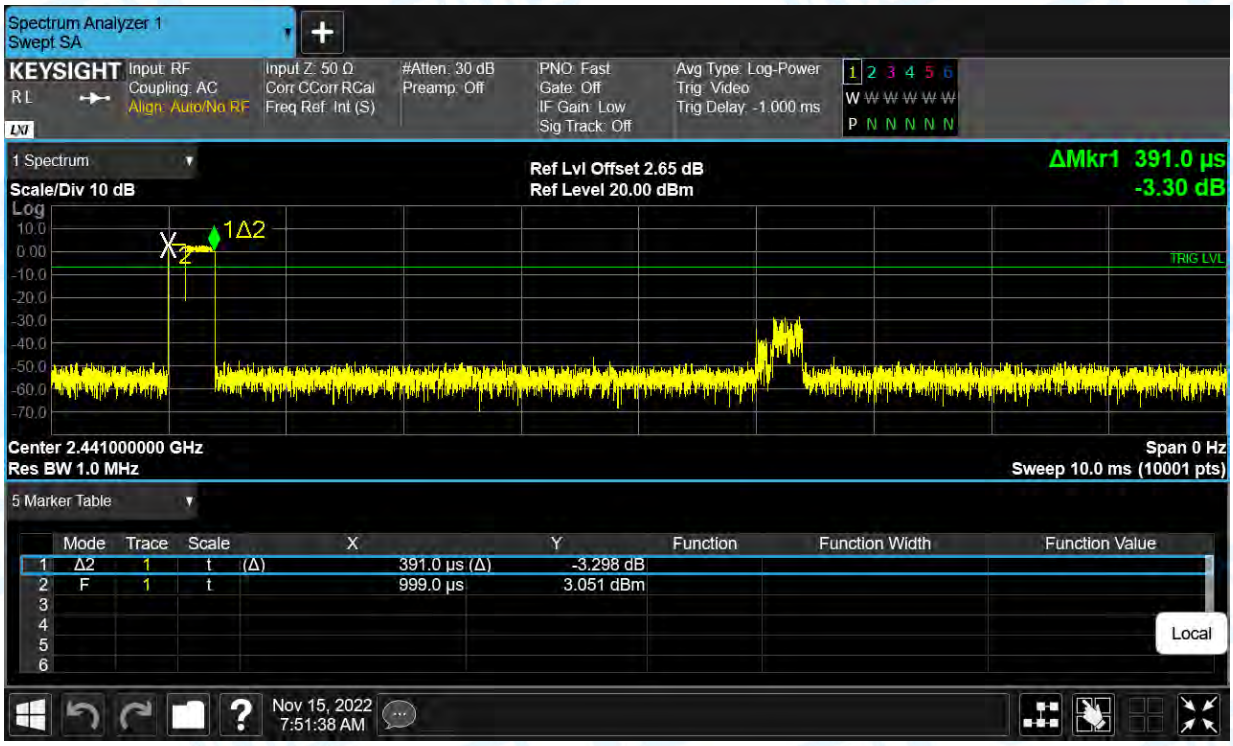

Dwell NVNT 1-DH3 2441MHz Ant1



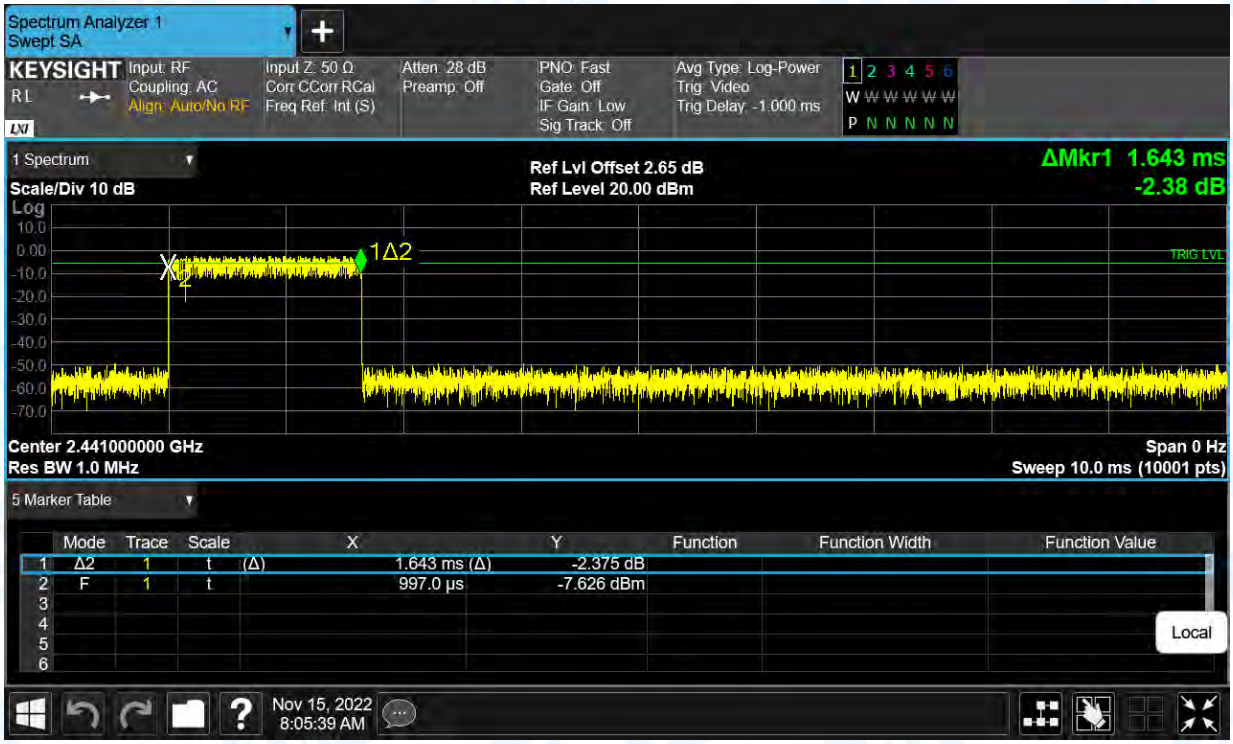
Dwell NVNT 1-DH5 2441MHz Ant1




Dwell NVNT 2-DH1 2441MHz Ant1

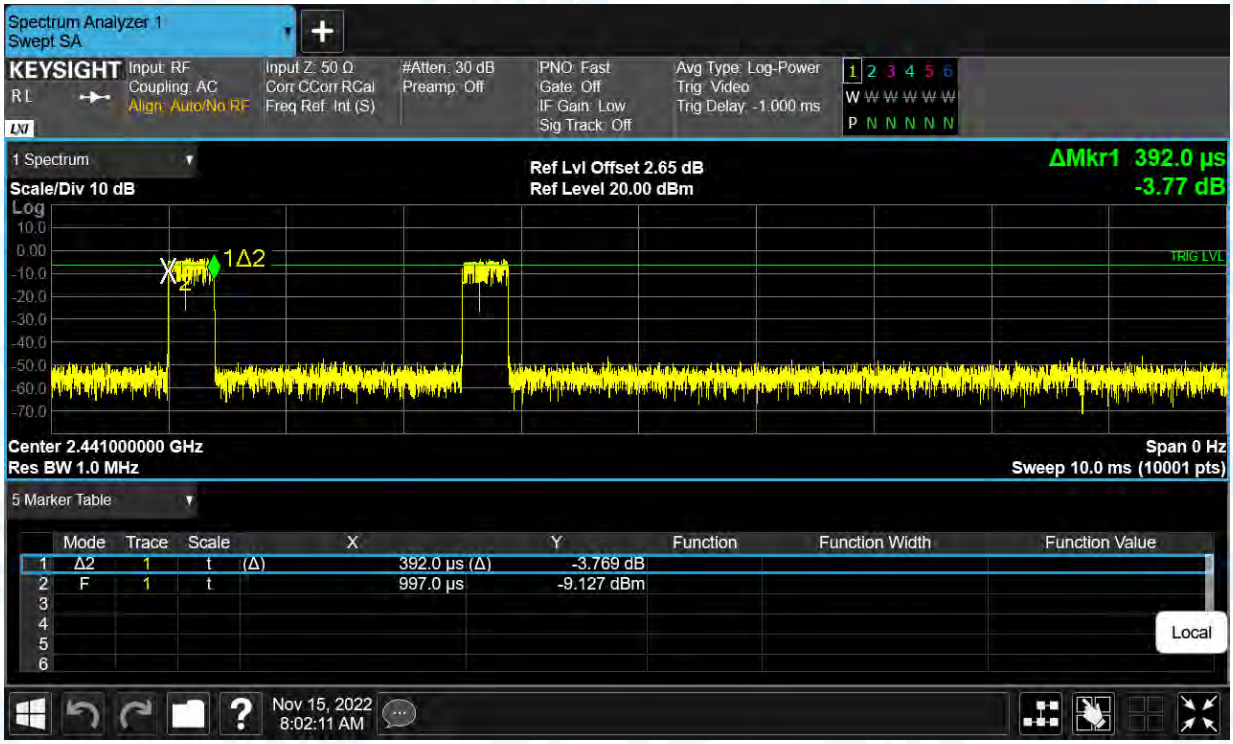


Dwell NVNT 2-DH3 2441MHz Ant1

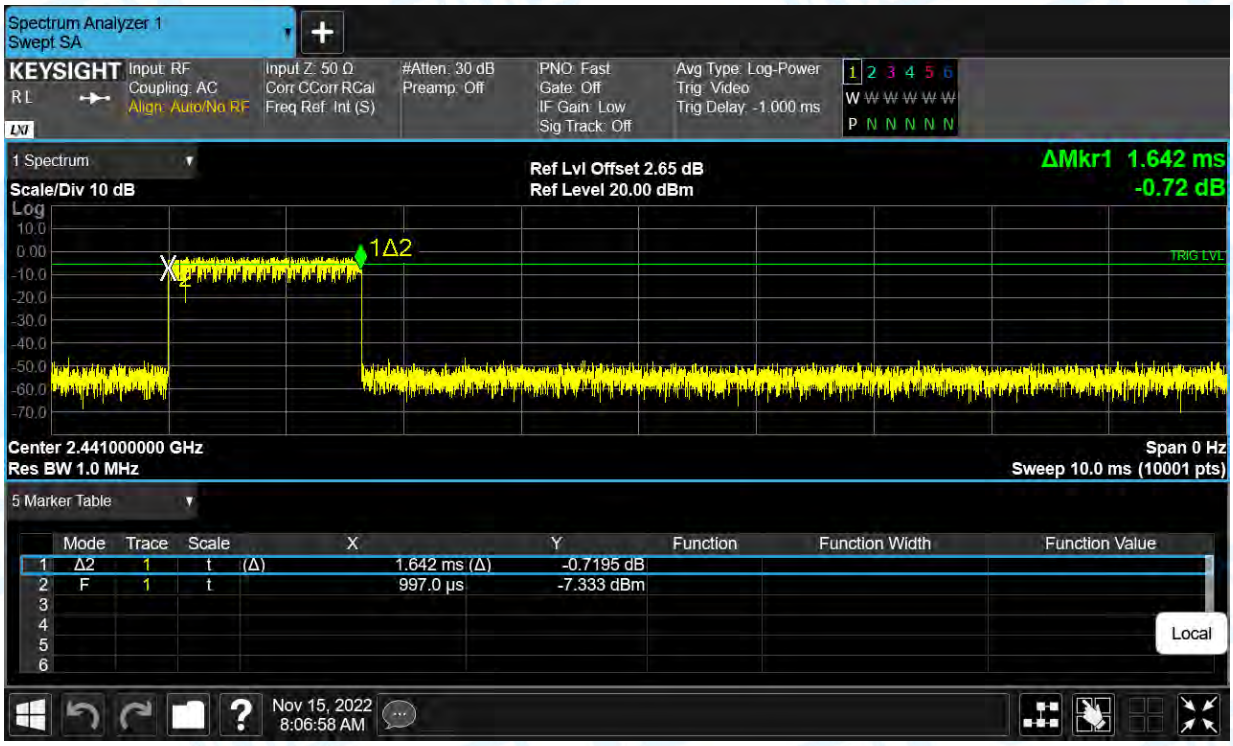



Dwell NVNT 2-DH5 2441MHz Ant1

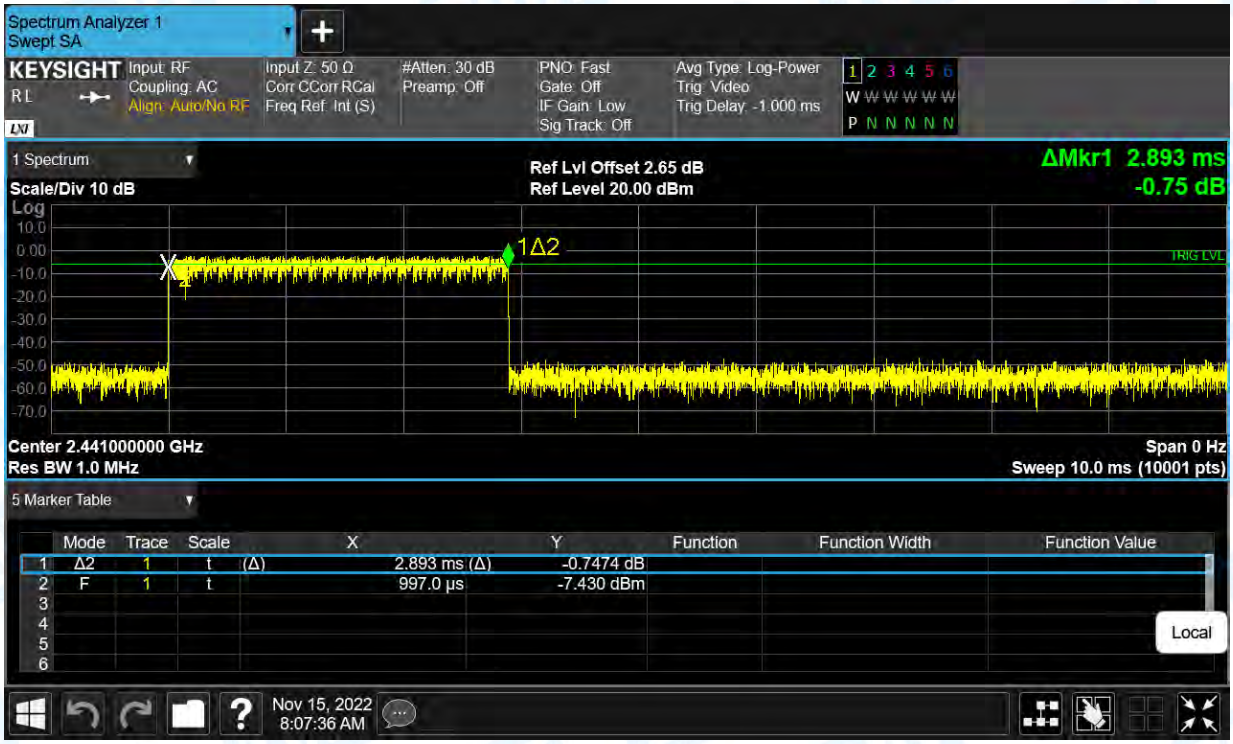
Dwell NVNT 3-DH1 2441MHz Ant1




Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1




**-----END OF THE REPORT-----**