# Appendix B

## RF Test Data for 2.4GWIFI(Conducted Measurement)

**Product Name: Smart TV**

**Test Model: VI-32T232**

**Environmental Conditions**

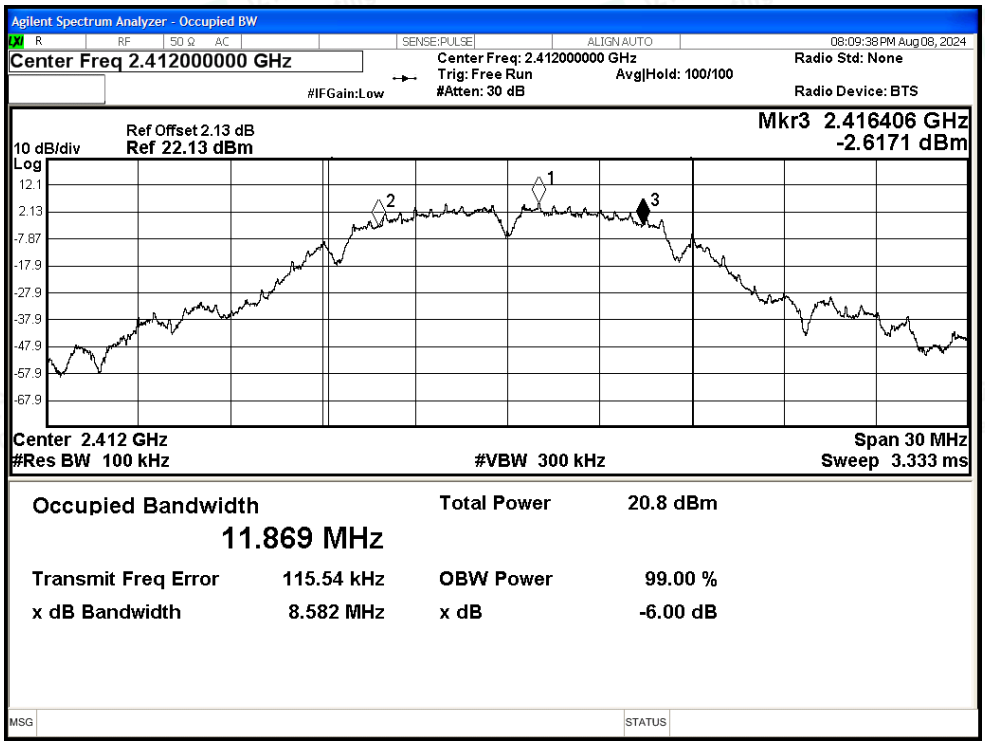
| | |
|---|---|
| Temperature: | 23.8°C |
| Relative Humidity: | 52.1% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Paddi Chen |
| Supervised by: | Nick Peng |

# B.1 -6dB Bandwidth

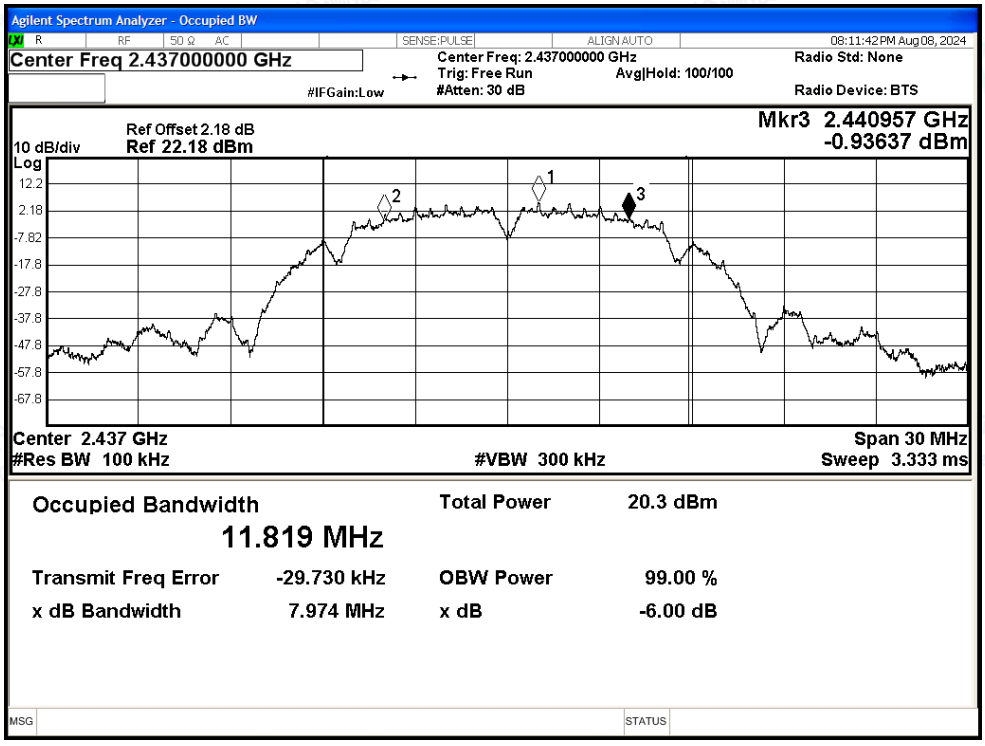
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 8.582 | >=0.5 | Pass |
| NVNT | b | 2437 | Ant1 | 7.974 | >=0.5 | Pass |
| NVNT | b | 2462 | Ant1 | 8.564 | >=0.5 | Pass |
| NVNT | g | 2412 | Ant1 | 16.056 | >=0.5 | Pass |
| NVNT | g | 2437 | Ant1 | 16.318 | >=0.5 | Pass |
| NVNT | g | 2462 | Ant1 | 16.298 | >=0.5 | Pass |
| NVNT | n20 | 2412 | Ant1 | 16.697 | >=0.5 | Pass |
| NVNT | n20 | 2437 | Ant1 | 17.041 | >=0.5 | Pass |
| NVNT | n20 | 2462 | Ant1 | 17.23 | >=0.5 | Pass |
| NVNT | n40 | 2422 | Ant1 | 35.504 | >=0.5 | Pass |
| NVNT | n40 | 2437 | Ant1 | 35.416 | >=0.5 | Pass |
| NVNT | n40 | 2452 | Ant1 | 35.396 | >=0.5 | Pass |

Test Graphs

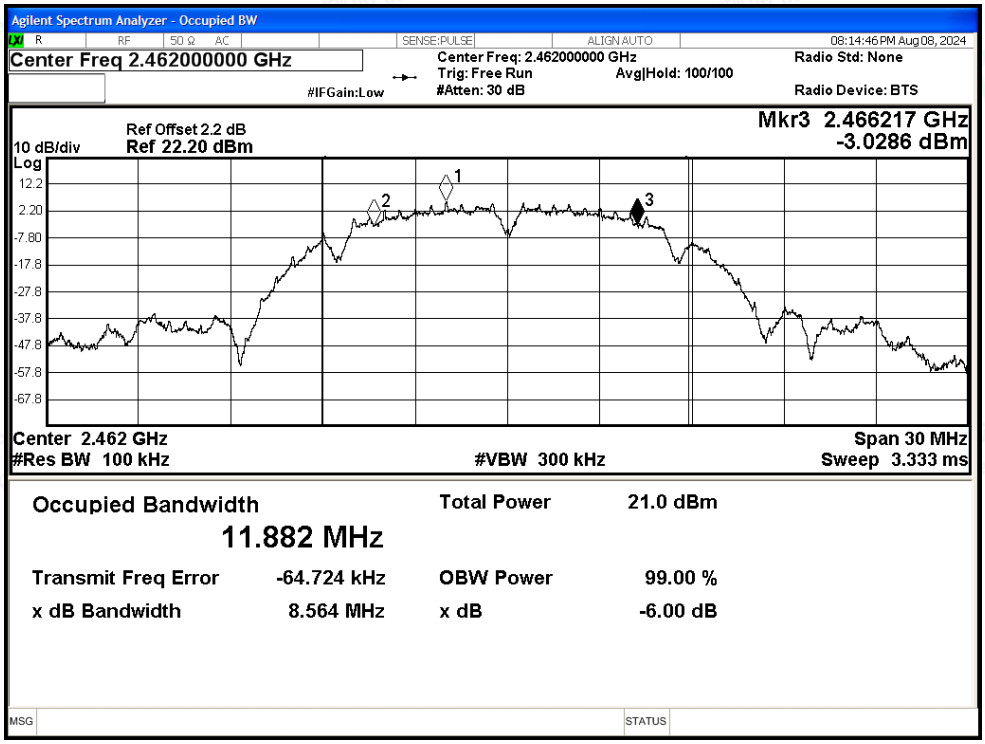
-6dB Bandwidth NVNT b 2412MHz Ant1



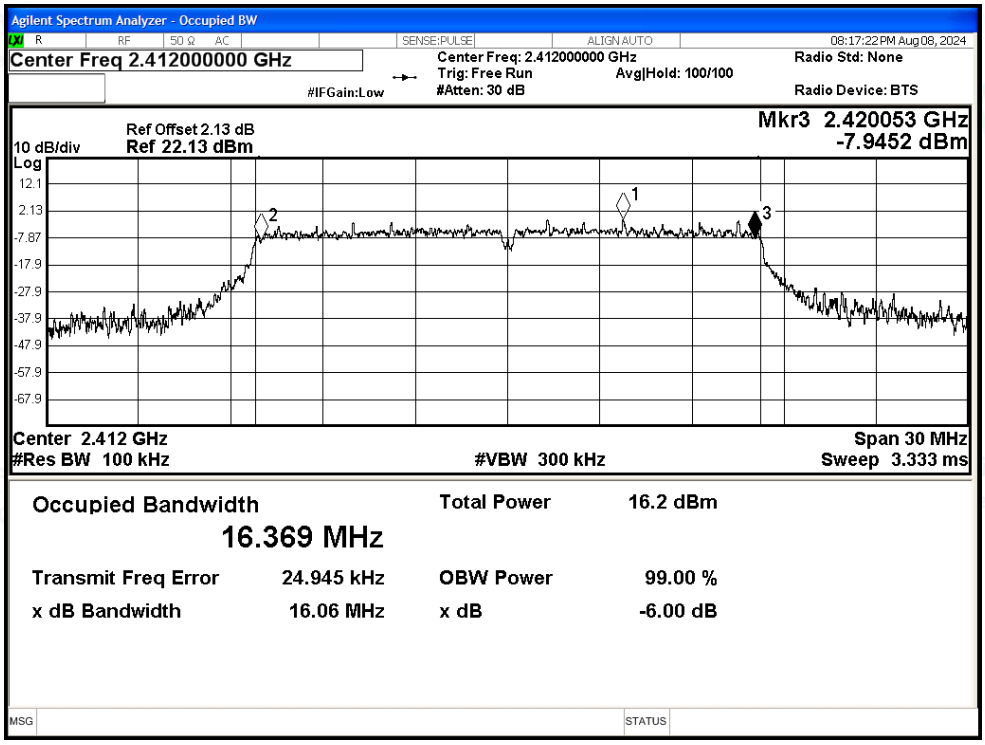

-6dB Bandwidth NVNT b 2437MHz Ant1



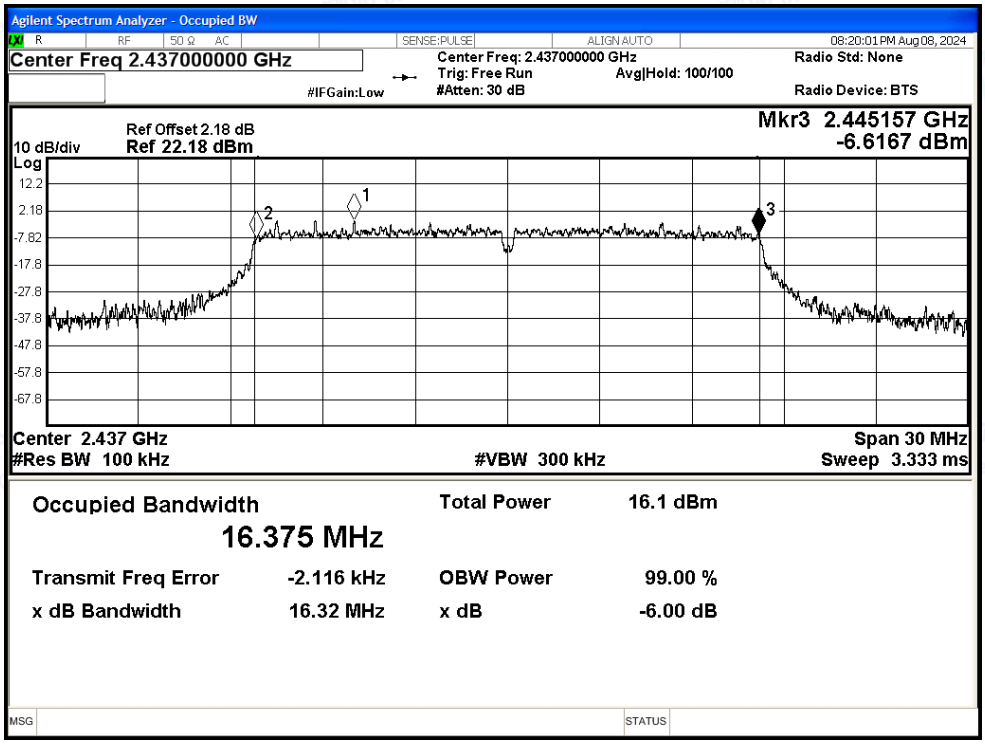
-6dB Bandwidth NVNT b 2462MHz Ant1



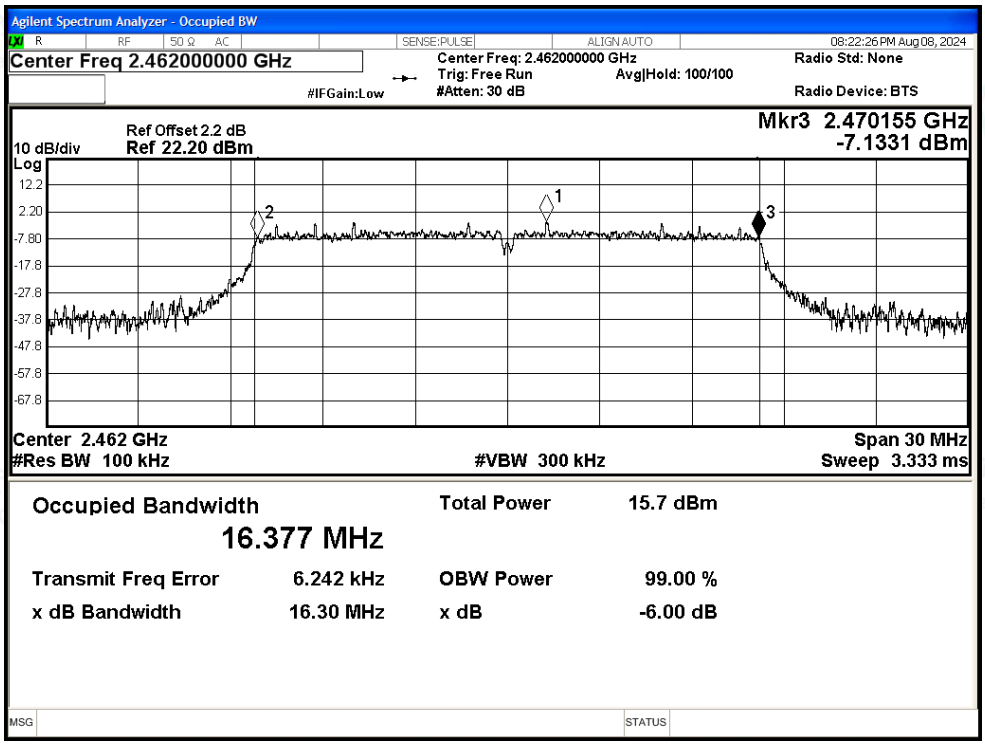

-6dB Bandwidth NVNT g 2412MHz Ant1



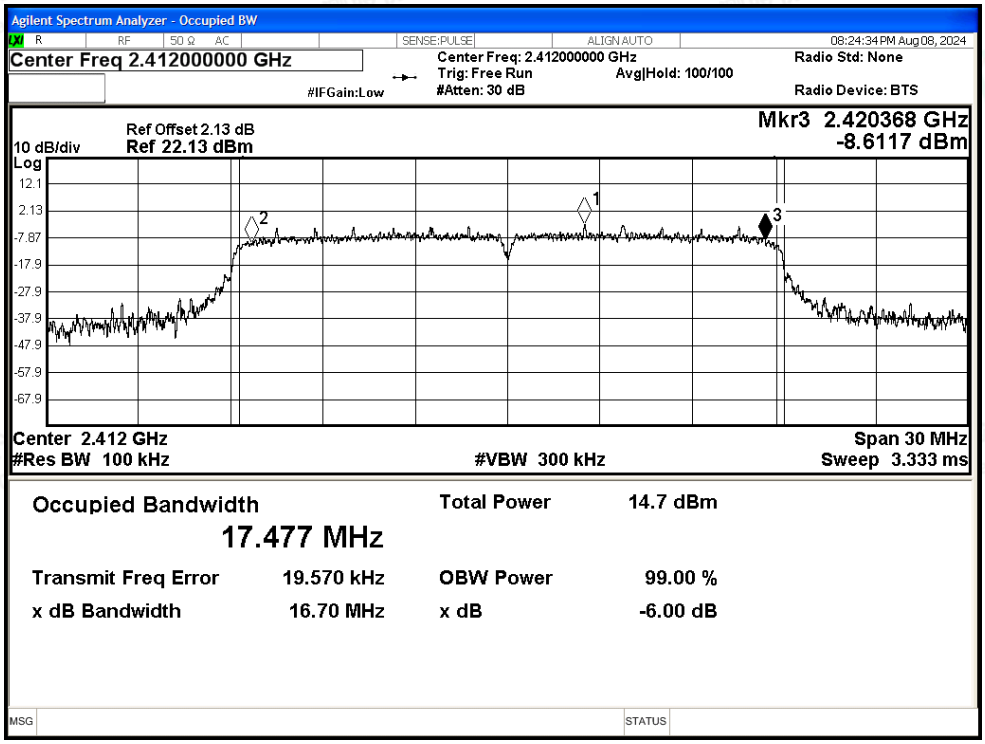
-6dB Bandwidth NVNT g 2437MHz Ant1



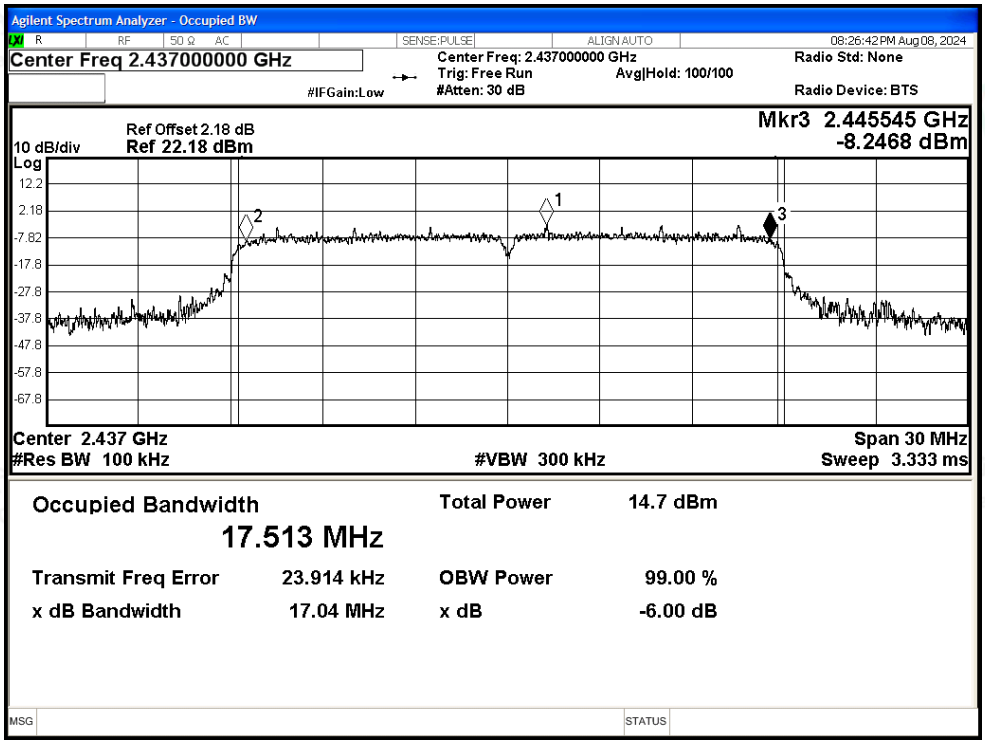

-6dB Bandwidth NVNT g 2462MHz Ant1



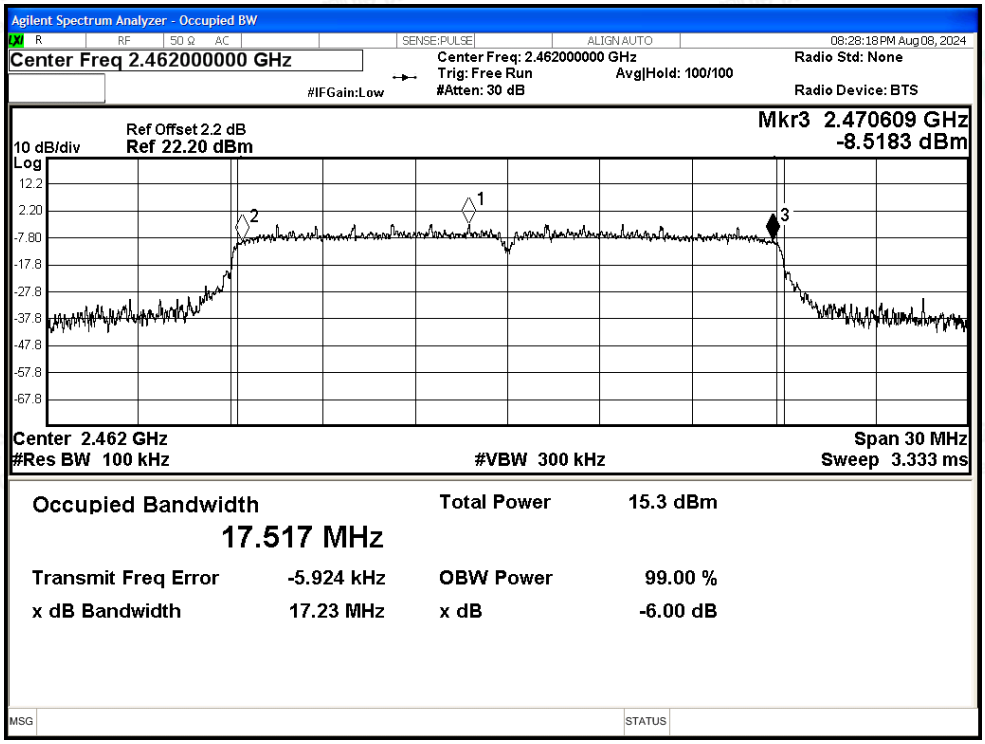
-6dB Bandwidth NVNT n20 2412MHz Ant1



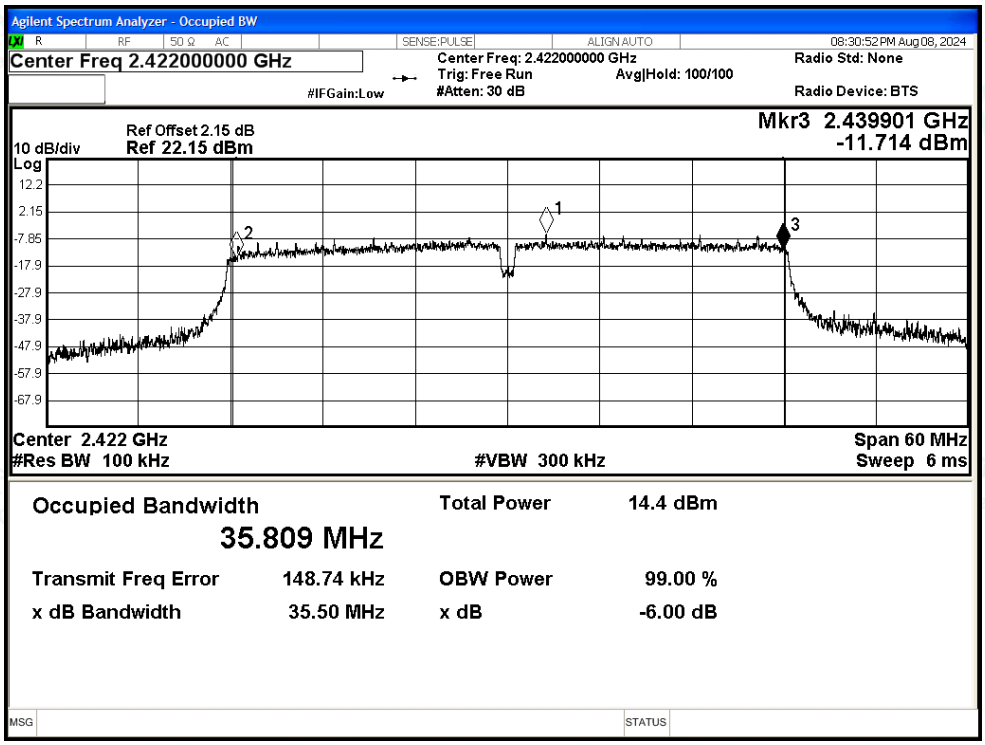

-6dB Bandwidth NVNT n20 2437MHz Ant1



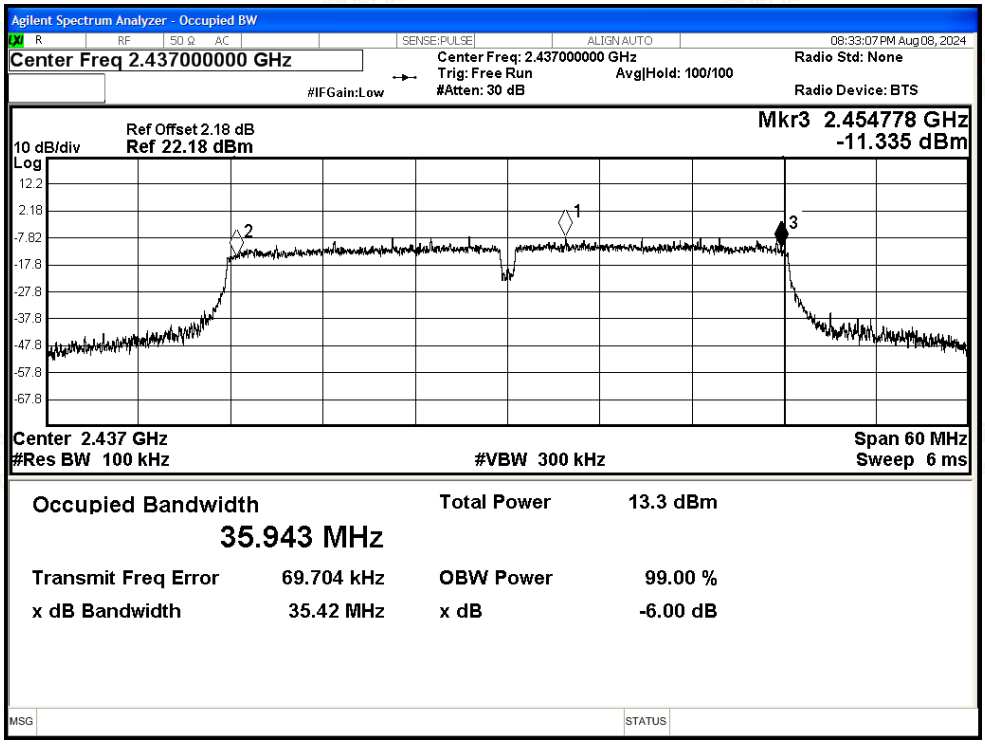
-6dB Bandwidth NVNT n20 2462MHz Ant1



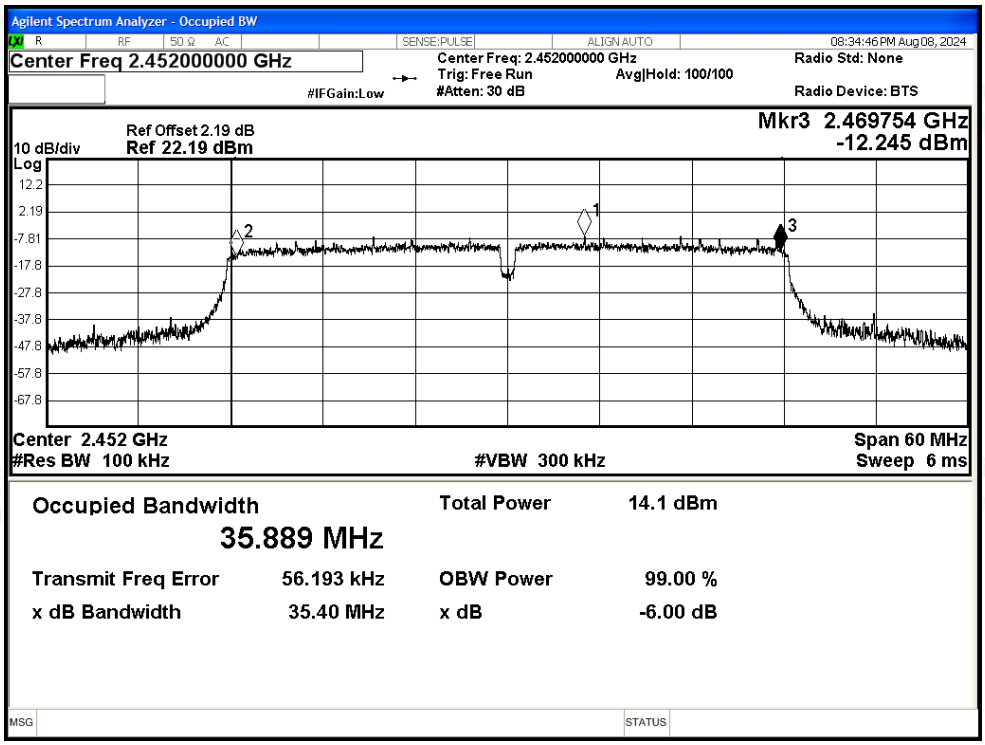

-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



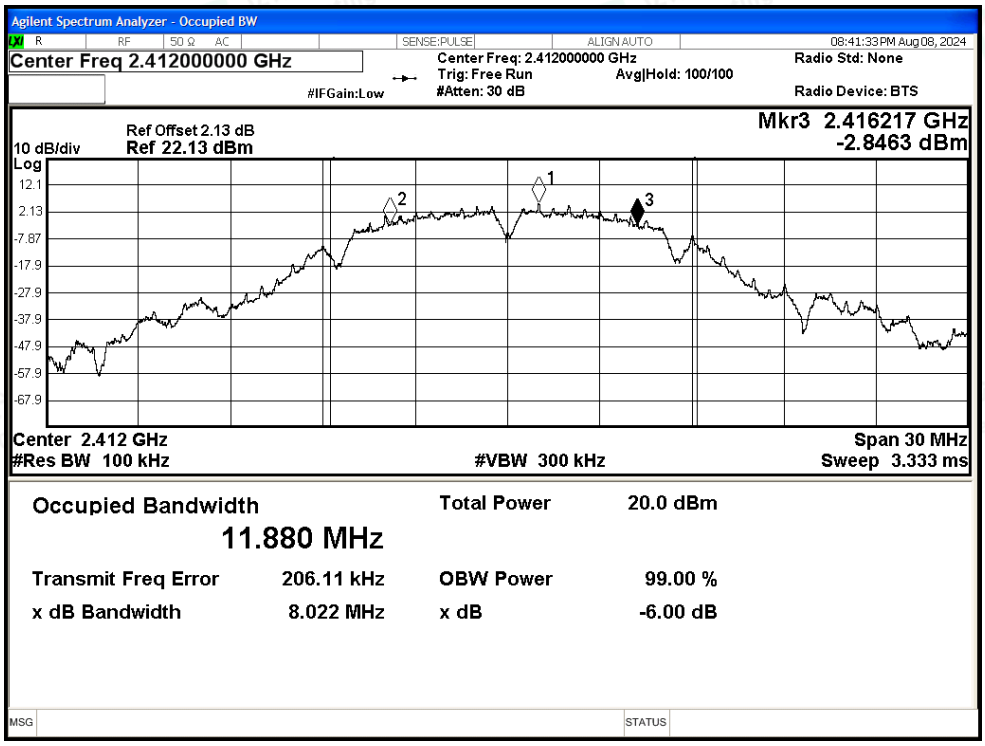

-6dB Bandwidth NVNT n40 2452MHz Ant1



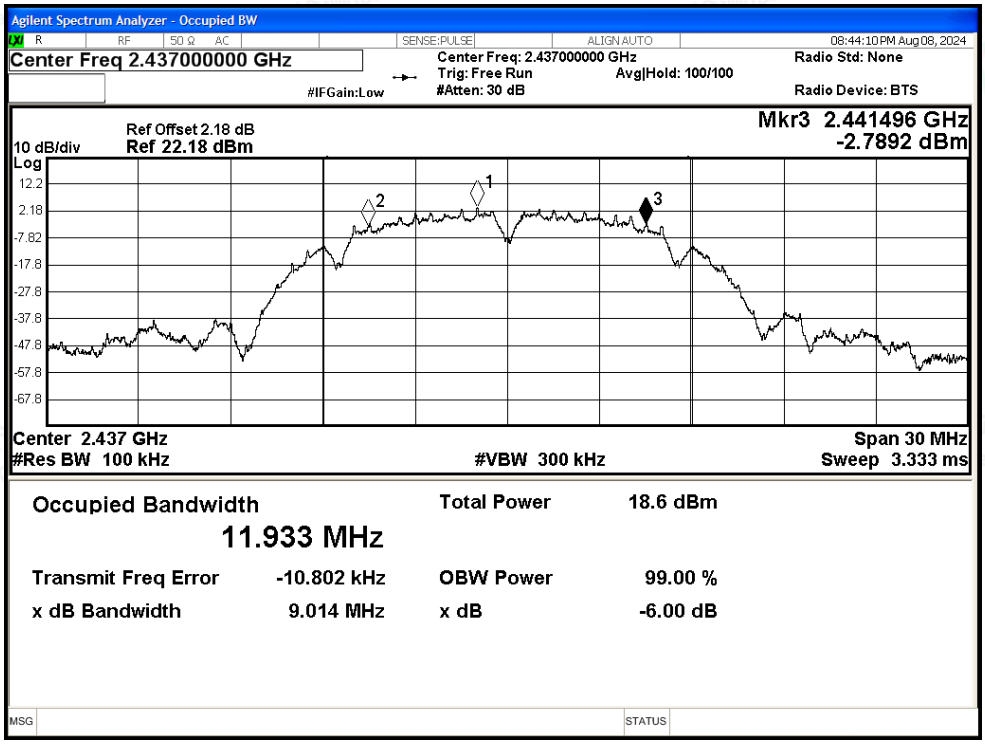
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant2 | 8.022 | >=0.5 | Pass |
| NVNT | b | 2437 | Ant2 | 9.014 | >=0.5 | Pass |
| NVNT | b | 2462 | Ant2 | 8.091 | >=0.5 | Pass |
| NVNT | g | 2412 | Ant2 | 16.066 | >=0.5 | Pass |
| NVNT | g | 2437 | Ant2 | 16.309 | >=0.5 | Pass |
| NVNT | g | 2462 | Ant2 | 16.318 | >=0.5 | Pass |
| NVNT | n20 | 2412 | Ant2 | 17.103 | >=0.5 | Pass |
| NVNT | n20 | 2437 | Ant2 | 17.065 | >=0.5 | Pass |
| NVNT | n20 | 2462 | Ant2 | 16.969 | >=0.5 | Pass |
| NVNT | n40 | 2422 | Ant2 | 35.671 | >=0.5 | Pass |
| NVNT | n40 | 2437 | Ant2 | 34.917 | >=0.5 | Pass |
| NVNT | n40 | 2452 | Ant2 | 35.202 | >=0.5 | Pass |

Test Graphs

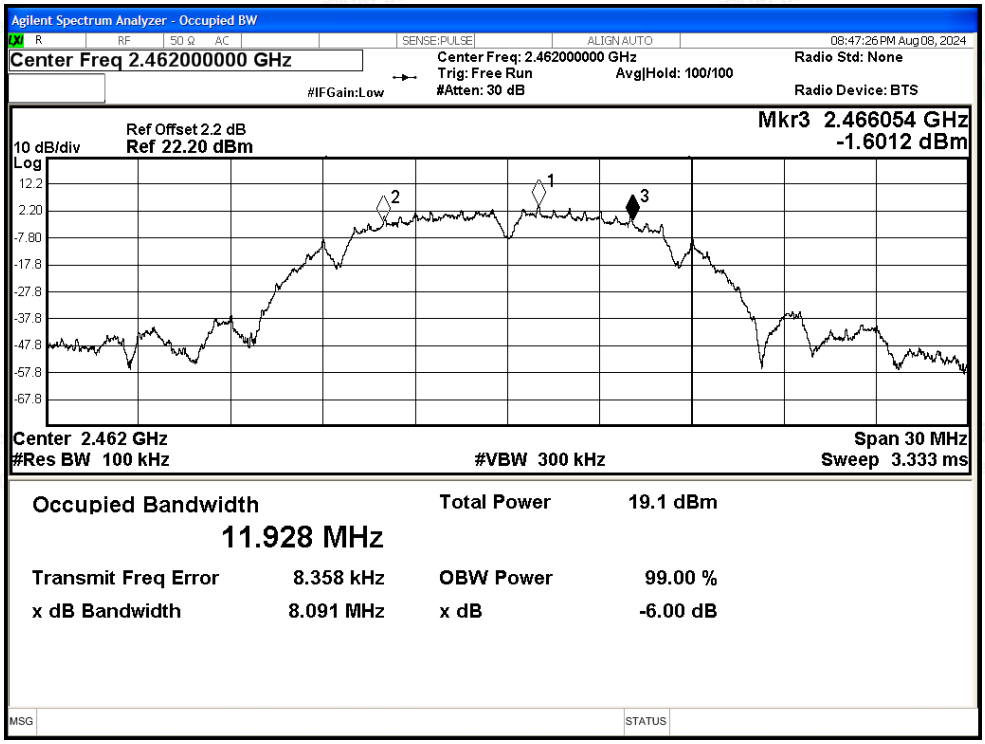
-6dB Bandwidth NVNT b 2412MHz Ant2



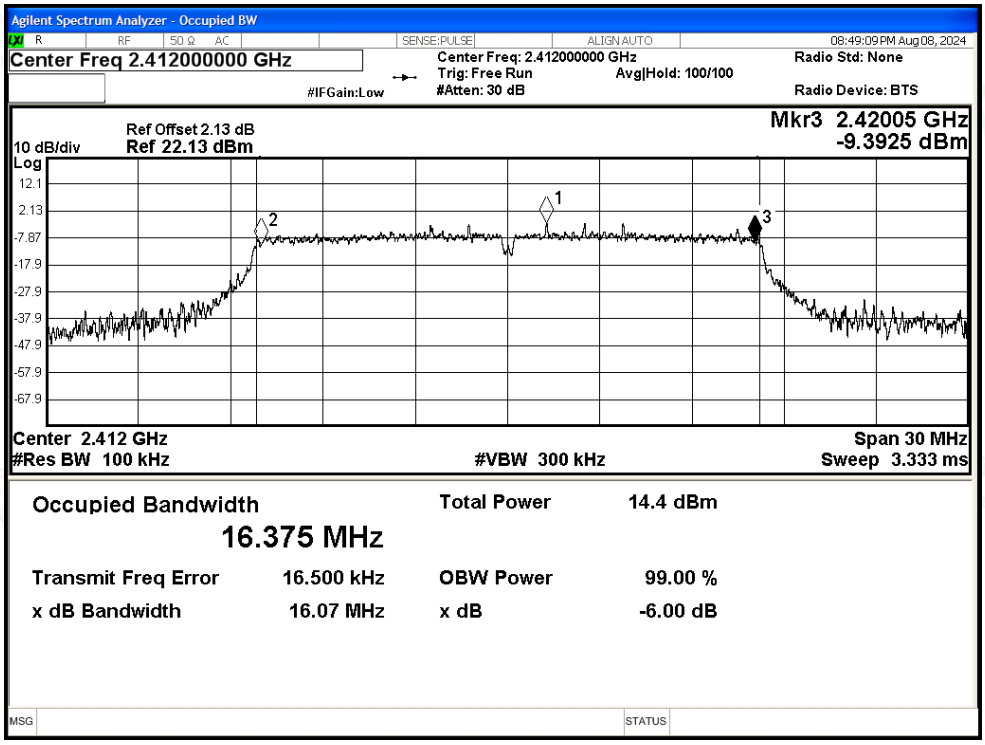

-6dB Bandwidth NVNT b 2437MHz Ant2



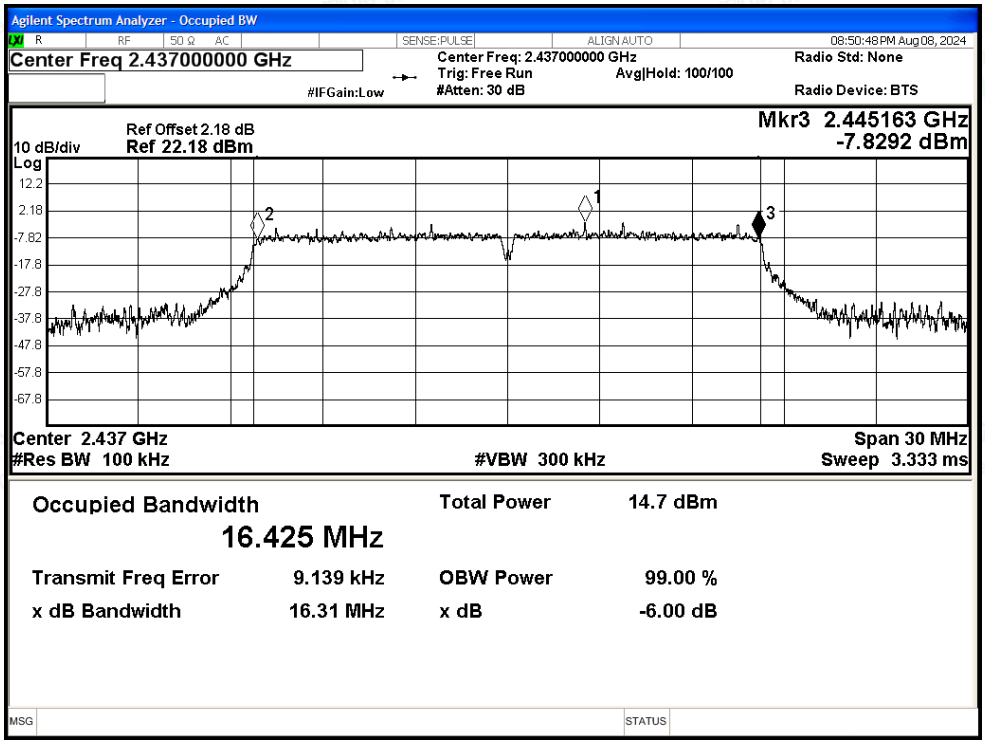
-6dB Bandwidth NVNT b 2462MHz Ant2



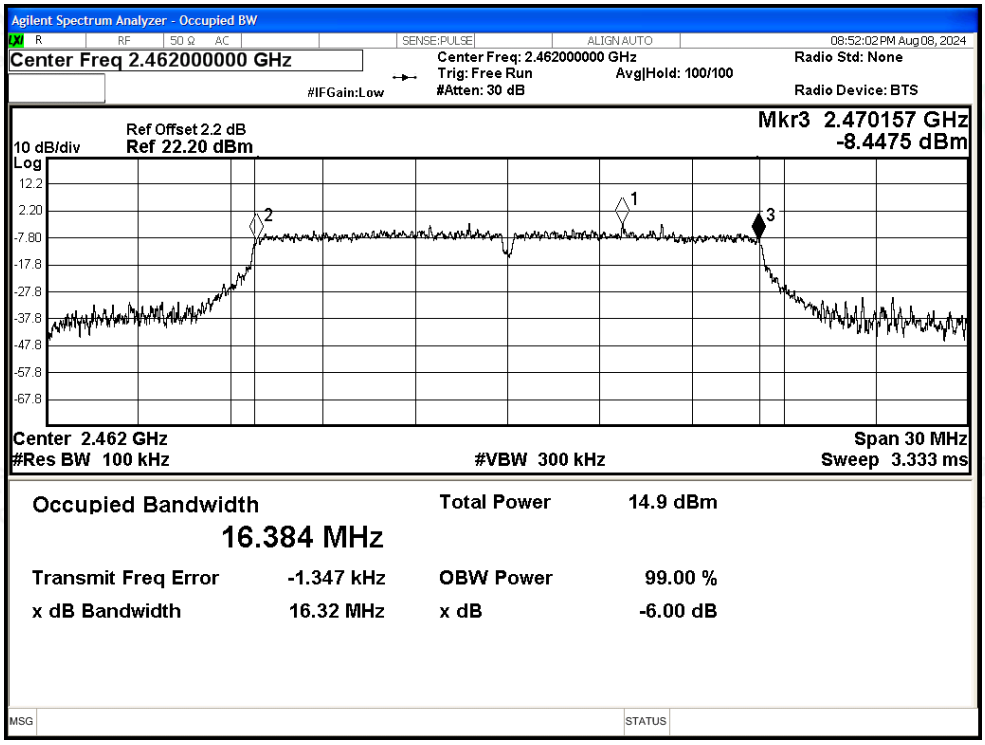

-6dB Bandwidth NVNT g 2412MHz Ant2



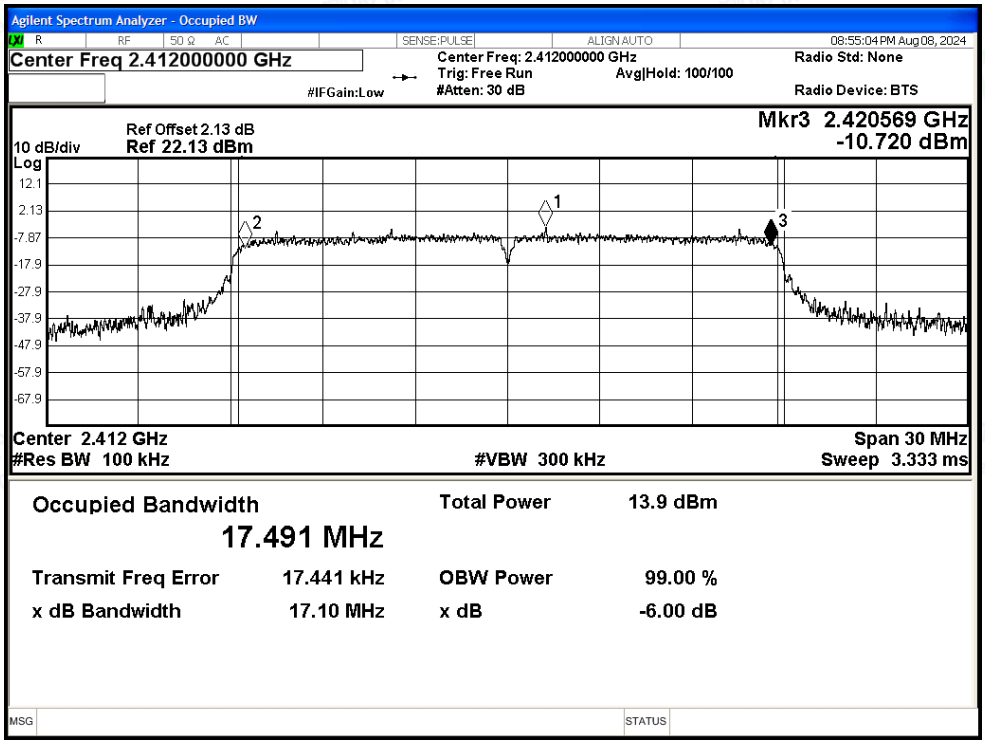
-6dB Bandwidth NVNT g 2437MHz Ant2



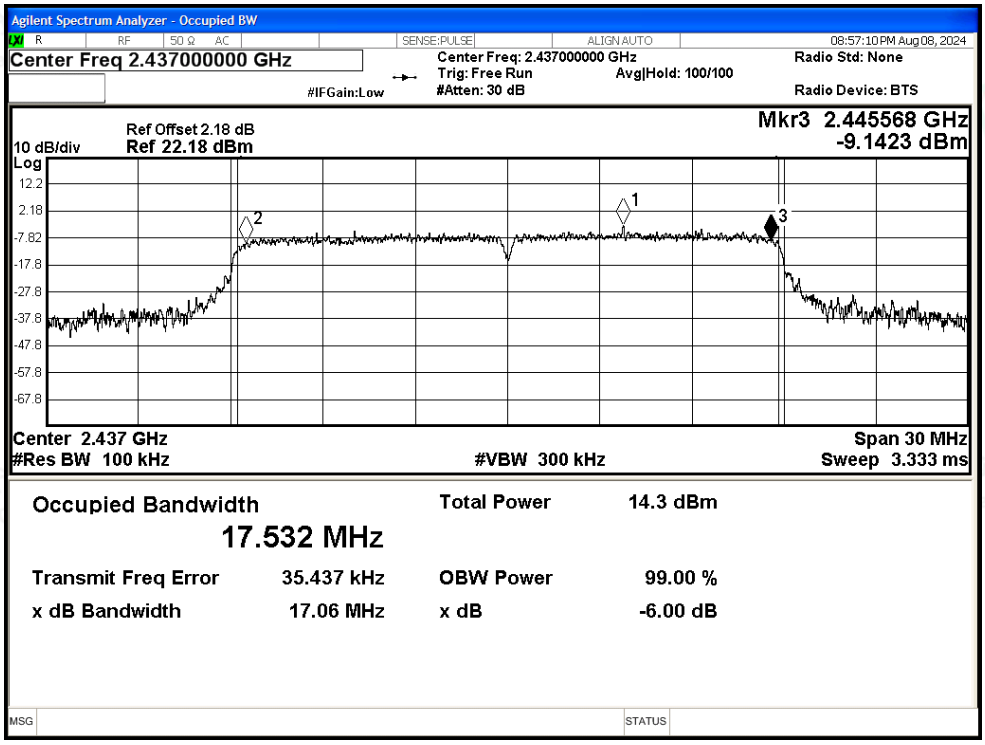

-6dB Bandwidth NVNT g 2462MHz Ant2



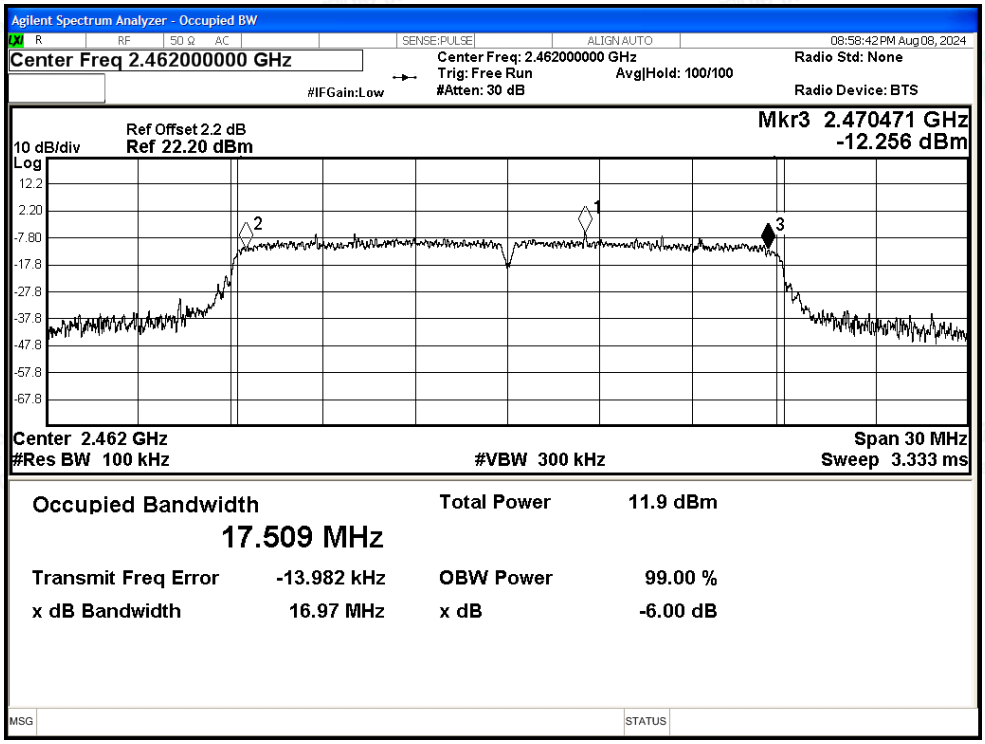
-6dB Bandwidth NVNT n20 2412MHz Ant2



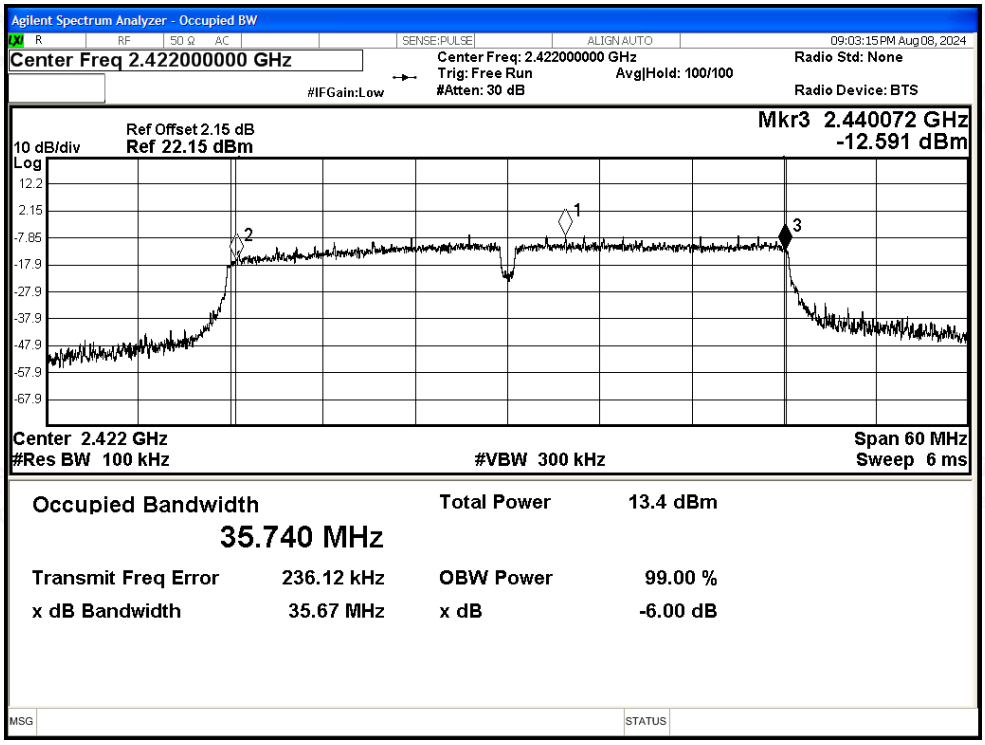

-6dB Bandwidth NVNT n20 2437MHz Ant2



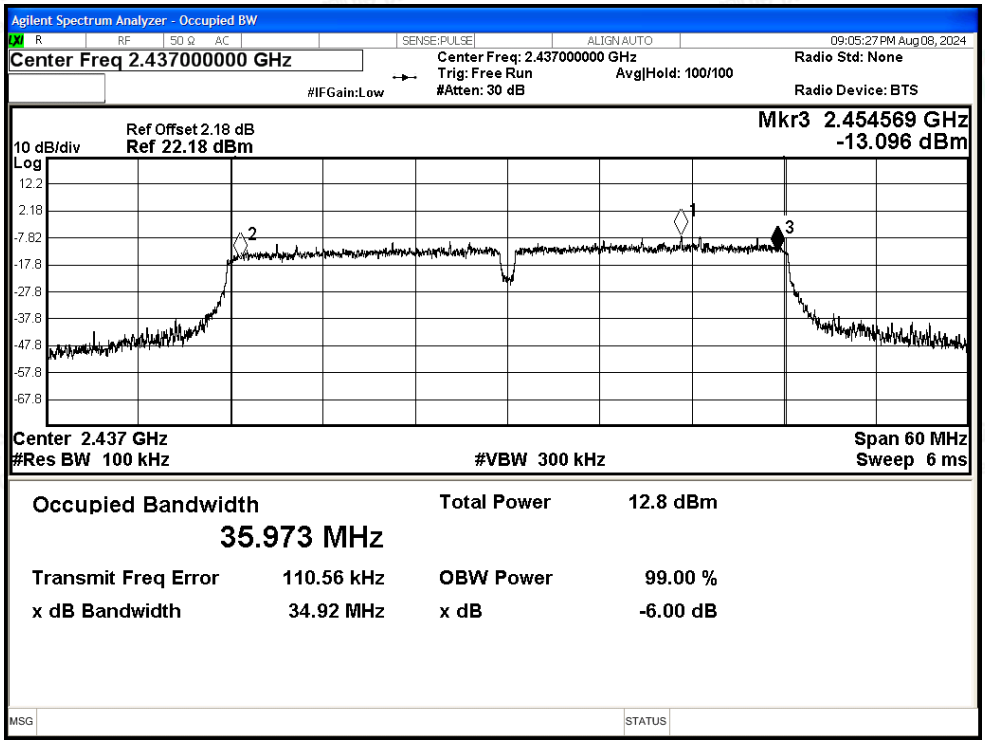
-6dB Bandwidth NVNT n20 2462MHz Ant2



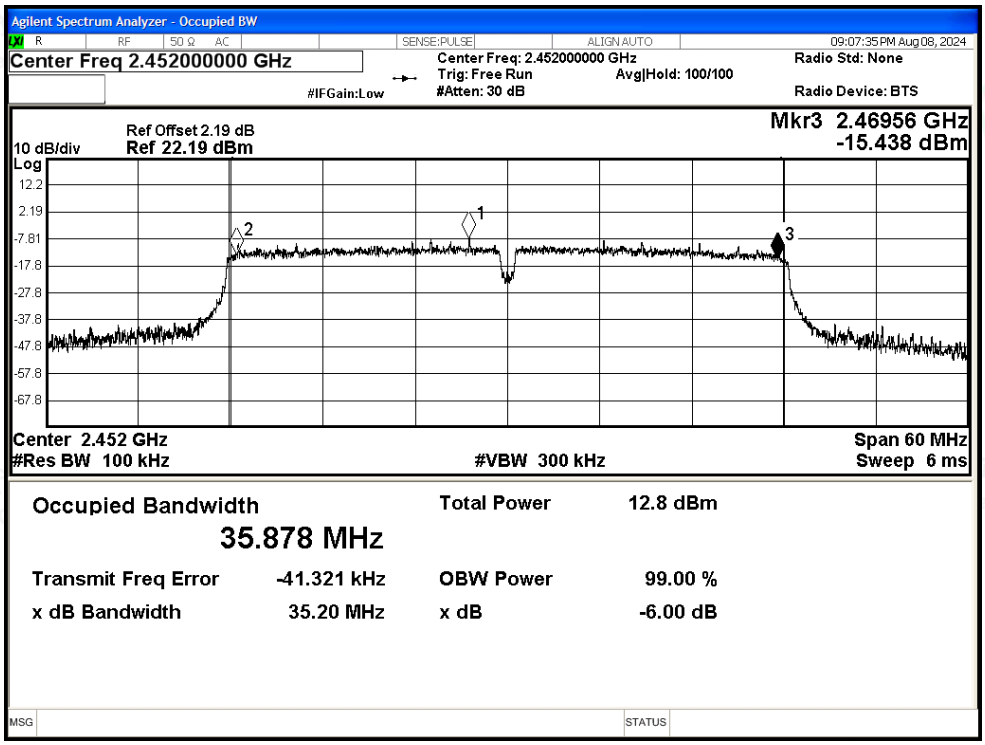

-6dB Bandwidth NVNT n40 2422MHz Ant2



-6dB Bandwidth NVNT n40 2437MHz Ant2




-6dB Bandwidth NVNT n40 2452MHz Ant2



# B.2 Maximum Peak Conducted Output Power

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 15.76 | 30 | Pass |
| NVNT | b | 2437 | Ant1 | 15.19 | 30 | Pass |
| NVNT | b | 2462 | Ant1 | 15.78 | 30 | Pass |
| NVNT | g | 2412 | Ant1 | 14.79 | 30 | Pass |
| NVNT | g | 2437 | Ant1 | 14.73 | 30 | Pass |
| NVNT | g | 2462 | Ant1 | 14.34 | 30 | Pass |
| NVNT | n20 | 2412 | Ant1 | 13.19 | 30 | Pass |
| NVNT | n20 | 2437 | Ant1 | 13.21 | 30 | Pass |
| NVNT | n20 | 2462 | Ant1 | 13.9 | 30 | Pass |
| NVNT | n40 | 2422 | Ant1 | 12.81 | 30 | Pass |
| NVNT | n40 | 2437 | Ant1 | 12.87 | 30 | Pass |
| NVNT | n40 | 2452 | Ant1 | 12.56 | 30 | Pass |

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant2 | 14.26 | 30 | Pass |
| NVNT | b | 2437 | Ant2 | 14.84 | 30 | Pass |
| NVNT | b | 2462 | Ant2 | 14.13 | 30 | Pass |
| NVNT | g | 2412 | Ant2 | 13.16 | 30 | Pass |
| NVNT | g | 2437 | Ant2 | 13.51 | 30 | Pass |
| NVNT | g | 2462 | Ant2 | 13.9 | 30 | Pass |
| NVNT | n20 | 2412 | Ant2 | 12.58 | 30 | Pass |
| NVNT | n20 | 2437 | Ant2 | 13.06 | 30 | Pass |
| NVNT | n20 | 2462 | Ant2 | 12.81 | 30 | Pass |
| NVNT | n40 | 2422 | Ant2 | 11.93 | 30 | Pass |
| NVNT | n40 | 2437 | Ant2 | 11.31 | 30 | Pass |
| NVNT | n40 | 2452 | Ant2 | 11.35 | 30 | Pass |

MIMO

| Condition | Mode | Frequency (MHz) | Total Power (dBm) | | | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| | | | Ant1 | Ant2 | Ant1+Ant2 | | |
| NVNT | n20 | 2412 | 13.19 | 12.58 | 15.91 | 30 | Pass |
| NVNT | n20 | 2437 | 13.21 | 13.06 | 16.15 | 30 | Pass |
| NVNT | n20 | 2462 | 13.9 | 12.81 | 16.40 | 30 | Pass |
| NVNT | n40 | 2422 | 12.81 | 11.93 | 15.40 | 30 | Pass |
| NVNT | n40 | 2437 | 12.87 | 11.31 | 15.17 | 30 | Pass |
| NVNT | n40 | 2452 | 12.56 | 11.35 | 15.01 | 30 | Pass |

# B.3 Maximum Power Spectral Density Level

| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -8.89 | 8 | Pass |
| NVNT | b | 2437 | Ant1 | -8.36 | 8 | Pass |
| NVNT | b | 2462 | Ant1 | -7.81 | 8 | Pass |
| NVNT | g | 2412 | Ant1 | -15.31 | 8 | Pass |
| NVNT | g | 2437 | Ant1 | -15.92 | 8 | Pass |
| NVNT | g | 2462 | Ant1 | -16.16 | 8 | Pass |
| NVNT | n20 | 2412 | Ant1 | -18.35 | 8 | Pass |
| NVNT | n20 | 2437 | Ant1 | -16.69 | 8 | Pass |
| NVNT | n20 | 2462 | Ant1 | -16.68 | 8 | Pass |
| NVNT | n40 | 2422 | Ant1 | -20.3 | 8 | Pass |
| NVNT | n40 | 2437 | Ant1 | -21.73 | 8 | Pass |
| NVNT | n40 | 2452 | Ant1 | -20.42 | 8 | Pass |

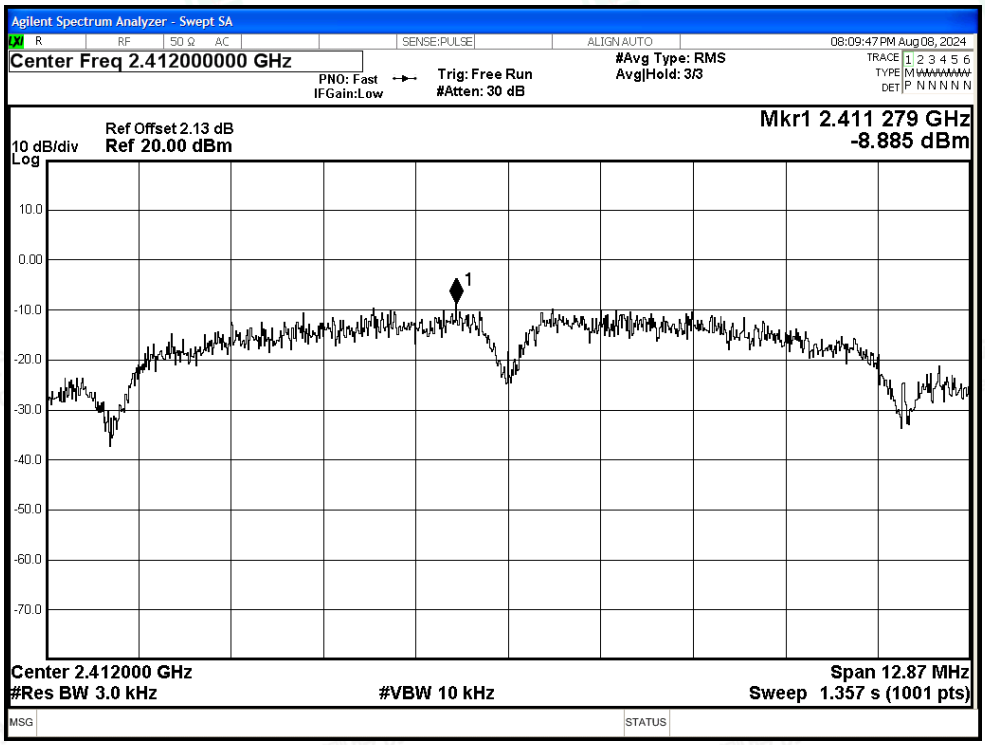
| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/3kHz) | Limit (dBm/3kHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant2 | -10.82 | 8 | Pass |
| NVNT | b | 2437 | Ant2 | -9.15 | 8 | Pass |
| NVNT | b | 2462 | Ant2 | -9.11 | 8 | Pass |
| NVNT | g | 2412 | Ant2 | -17.63 | 8 | Pass |
| NVNT | g | 2437 | Ant2 | -17.35 | 8 | Pass |
| NVNT | g | 2462 | Ant2 | -16.86 | 8 | Pass |
| NVNT | n20 | 2412 | Ant2 | -17.21 | 8 | Pass |
| NVNT | n20 | 2437 | Ant2 | -17.36 | 8 | Pass |
| NVNT | n20 | 2462 | Ant2 | -18.61 | 8 | Pass |
| NVNT | n40 | 2422 | Ant2 | -21.42 | 8 | Pass |
| NVNT | n40 | 2437 | Ant2 | -21.92 | 8 | Pass |
| NVNT | n40 | 2452 | Ant2 | -21.48 | 8 | Pass |

MIMO

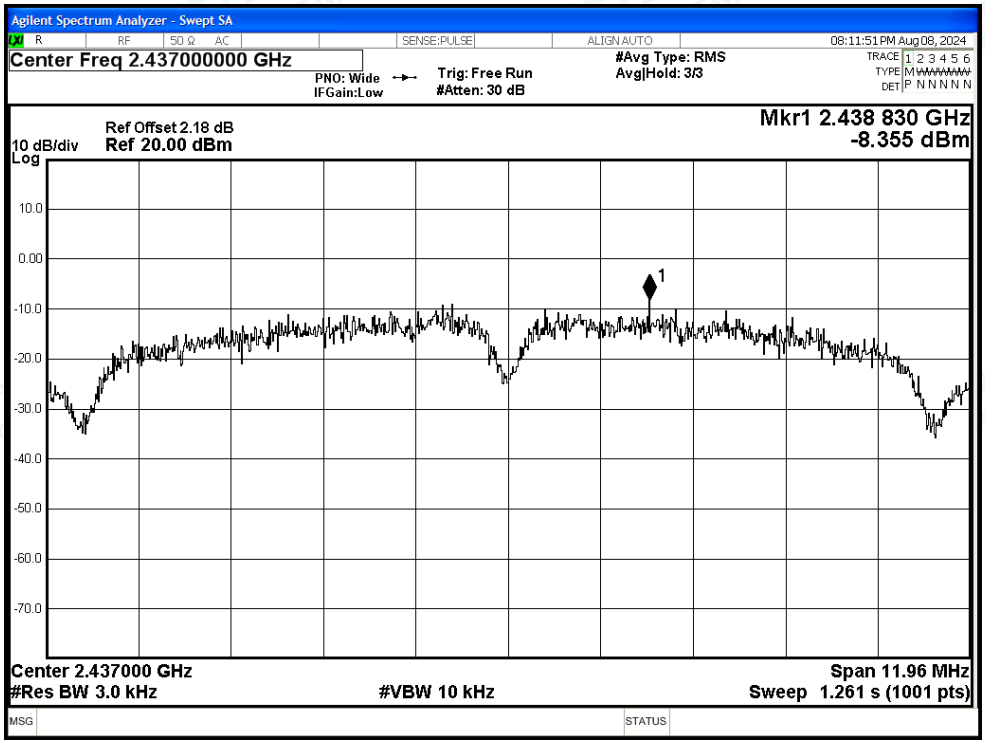
| Condition | Mode | Frequency (MHz) | Total PSD (dBm/3kHz) | | | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| | | | Ant1 | Ant2 | Ant1+Ant2 | | |
| NVNT | n20 | 2412 | -18.35 | -17.21 | -14.73 | 8 | Pass |
| NVNT | n20 | 2437 | -16.69 | -17.36 | -14.00 | 8 | Pass |
| NVNT | n20 | 2462 | -16.68 | -18.61 | -14.53 | 8 | Pass |
| NVNT | n40 | 2412 | -20.3 | -21.42 | -17.81 | 8 | Pass |
| NVNT | n40 | 2437 | -21.73 | -21.92 | -18.81 | 8 | Pass |
| NVNT | n40 | 2462 | -20.42 | -21.48 | -17.91 | 8 | Pass |

Test Graphs

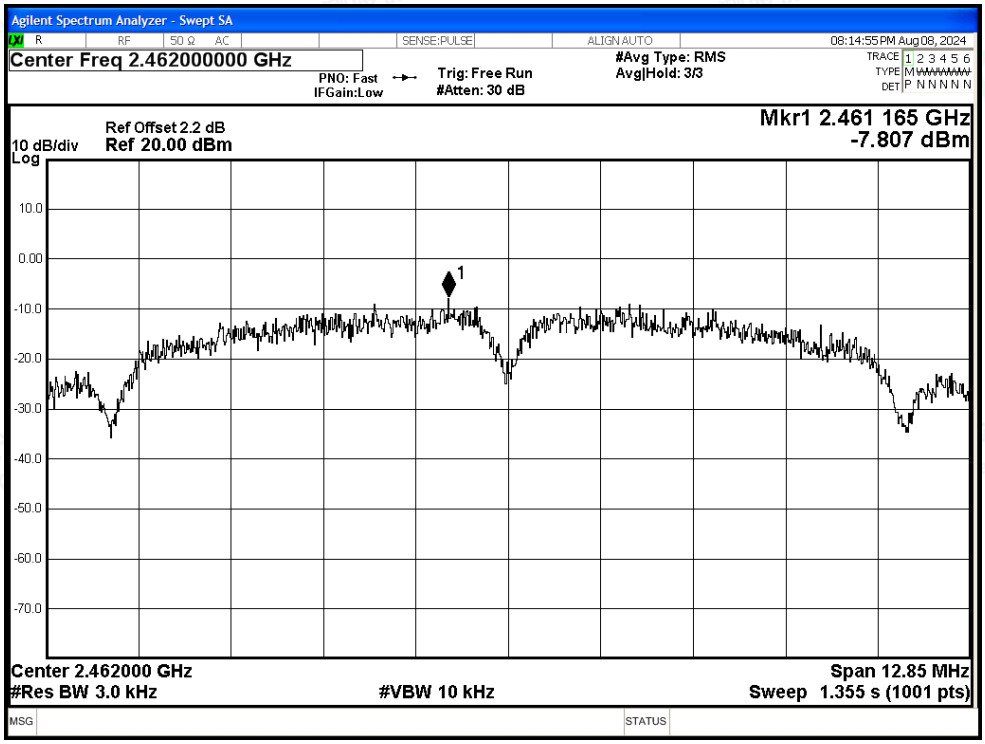
PSD NVNT b 2412MHz Ant1



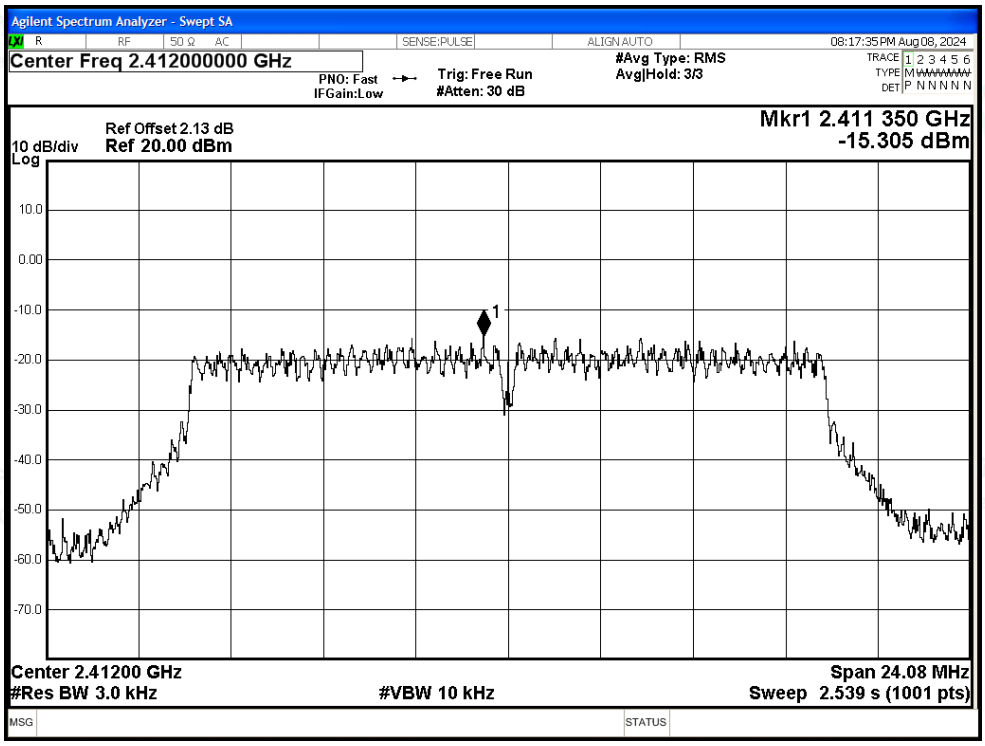

PSD NVNT b 2437MHz Ant1



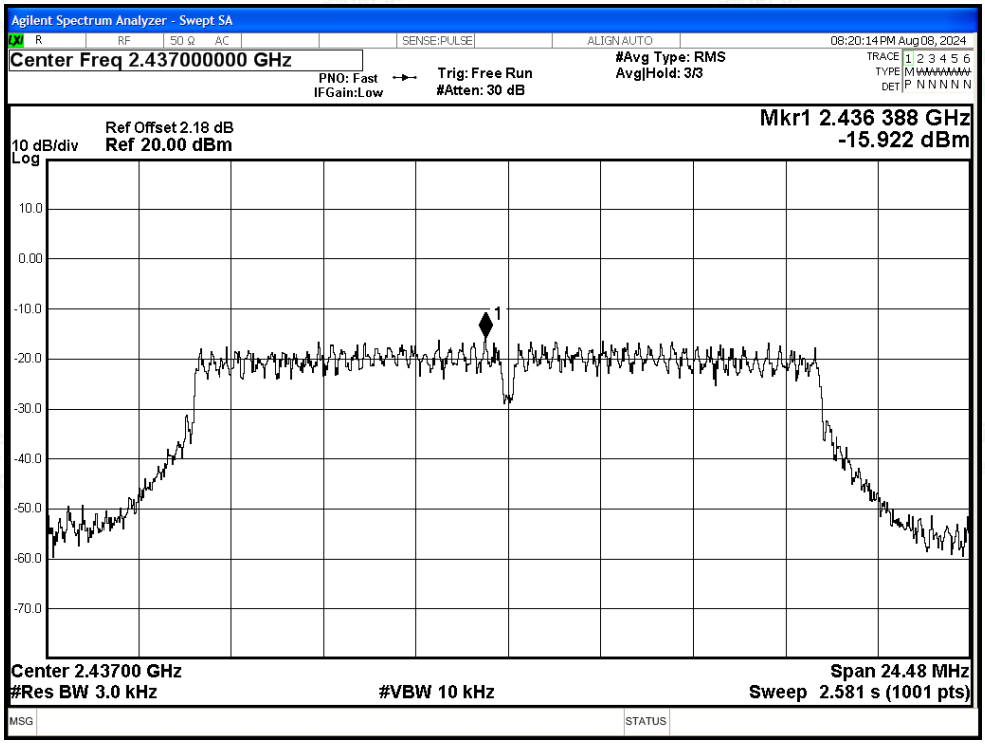
PSD NVNT b 2462MHz Ant1



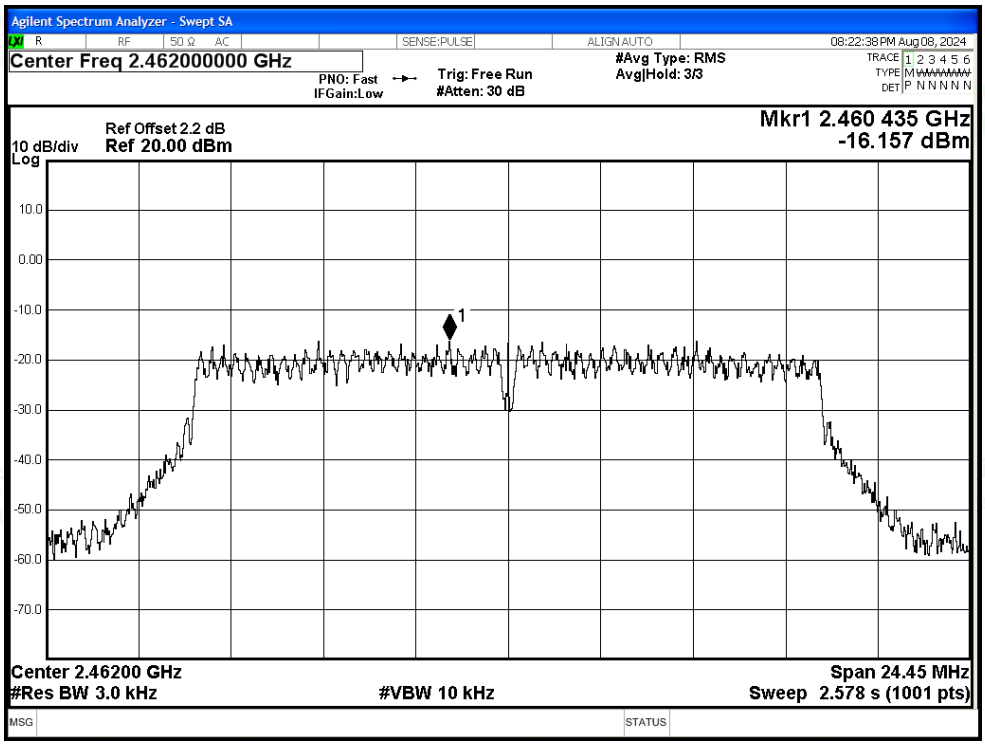

PSD NVNT g 2412MHz Ant1



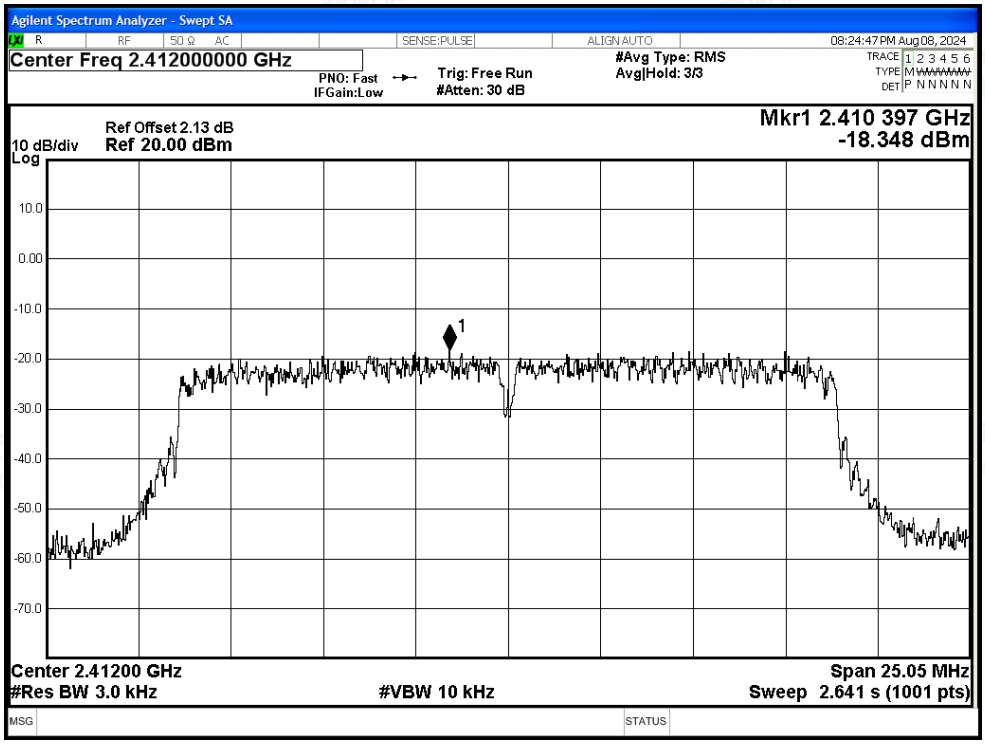
PSD NVNT g 2437MHz Ant1



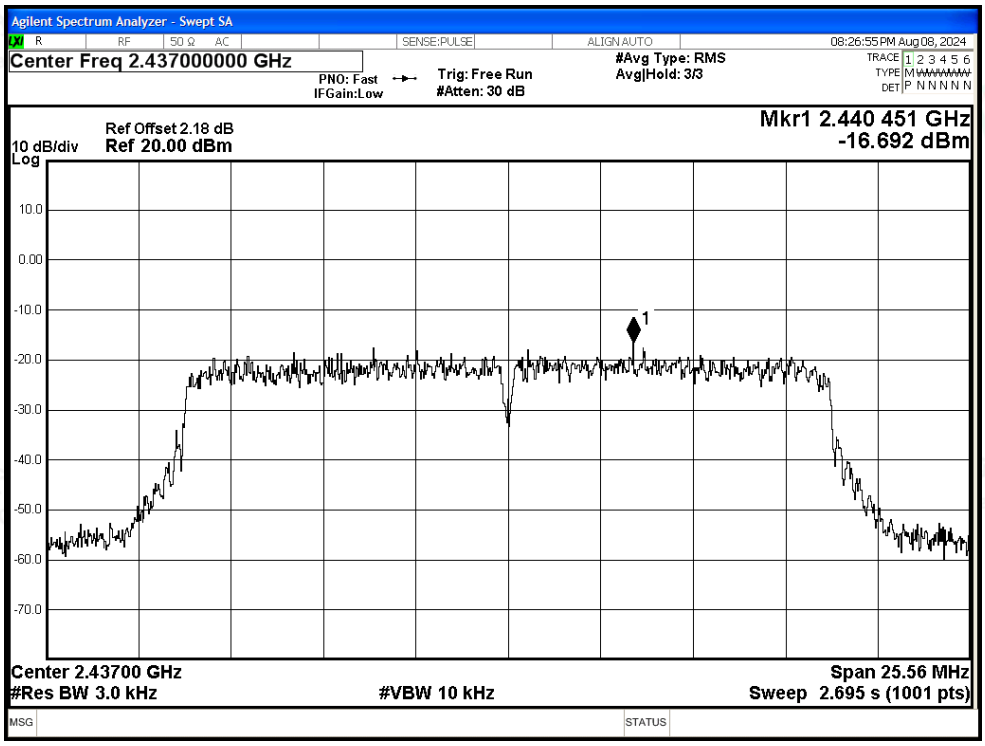

PSD NVNT g 2462MHz Ant1



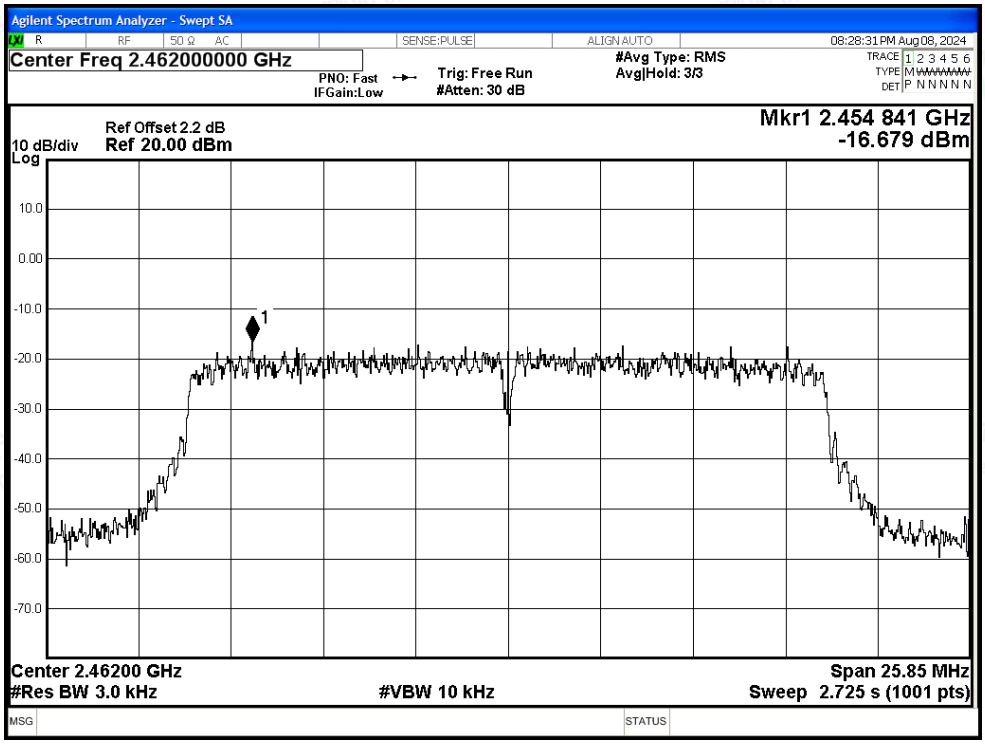
PSD NVNT n20 2412MHz Ant1



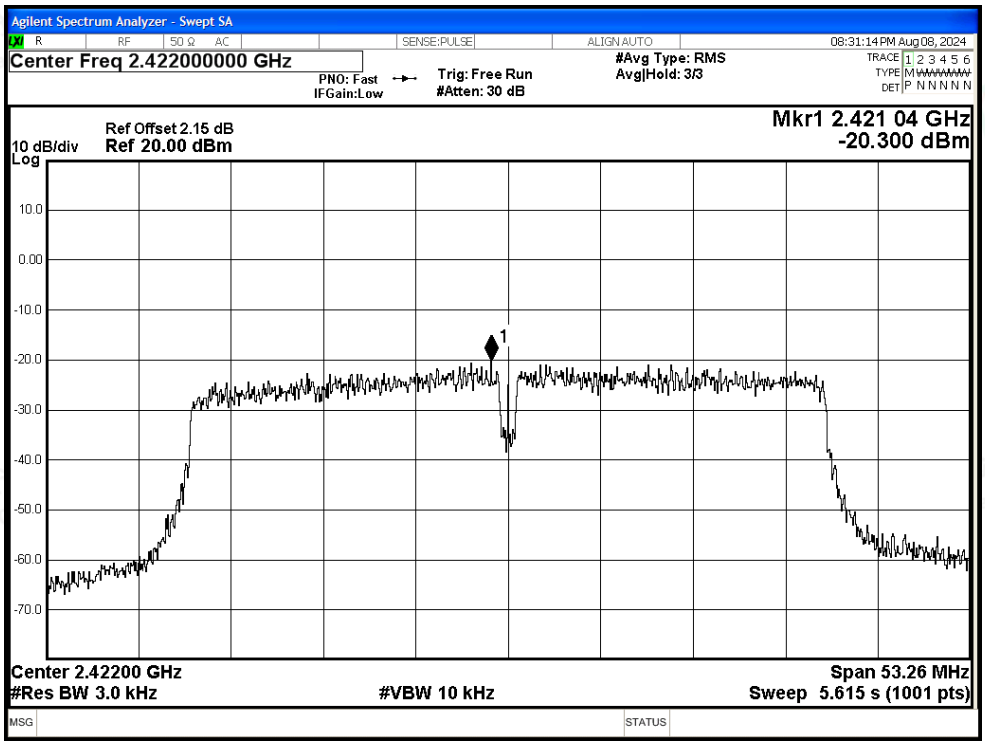

PSD NVNT n20 2437MHz Ant1



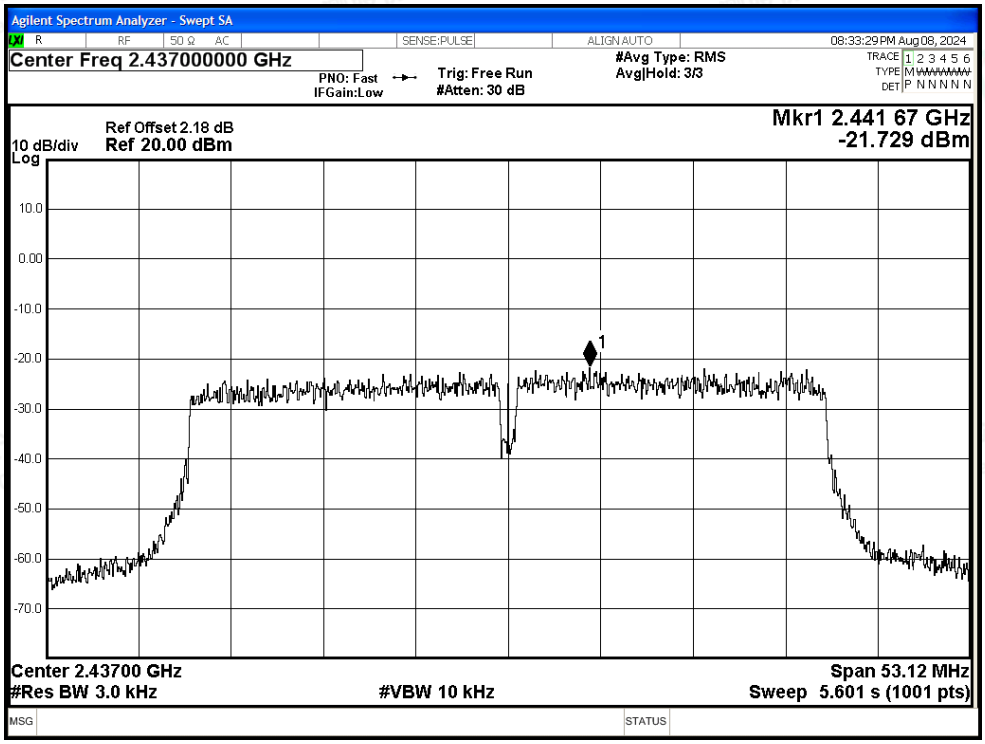
PSD NVNT n20 2462MHz Ant1



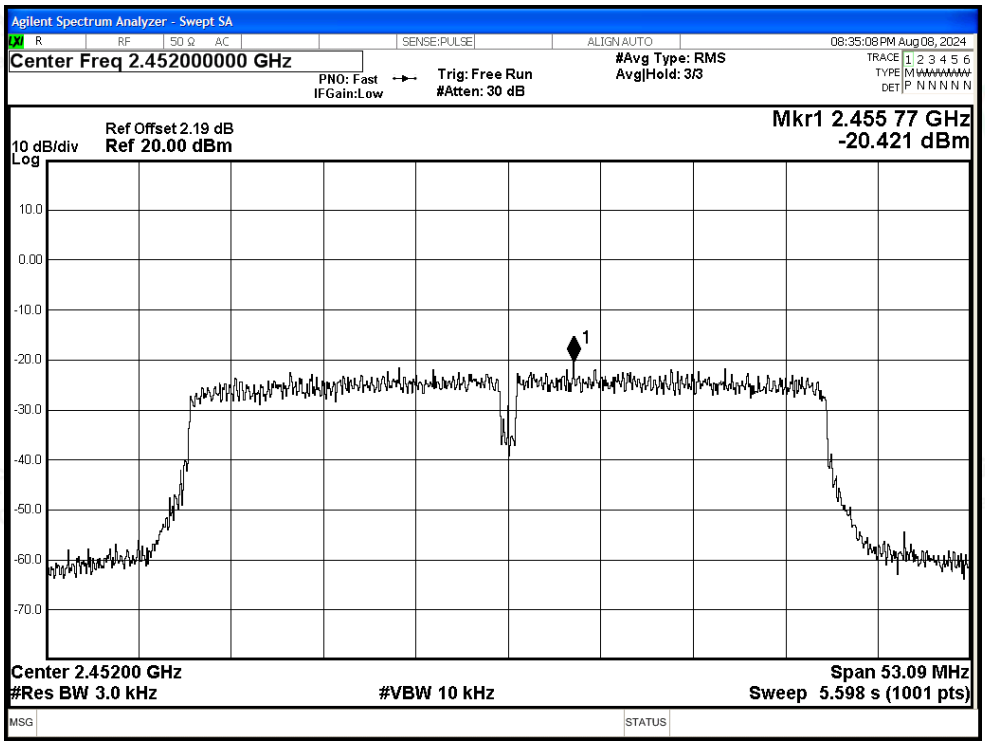

PSD NVNT n40 2422MHz Ant1



PSD NVNT n40 2437MHz Ant1

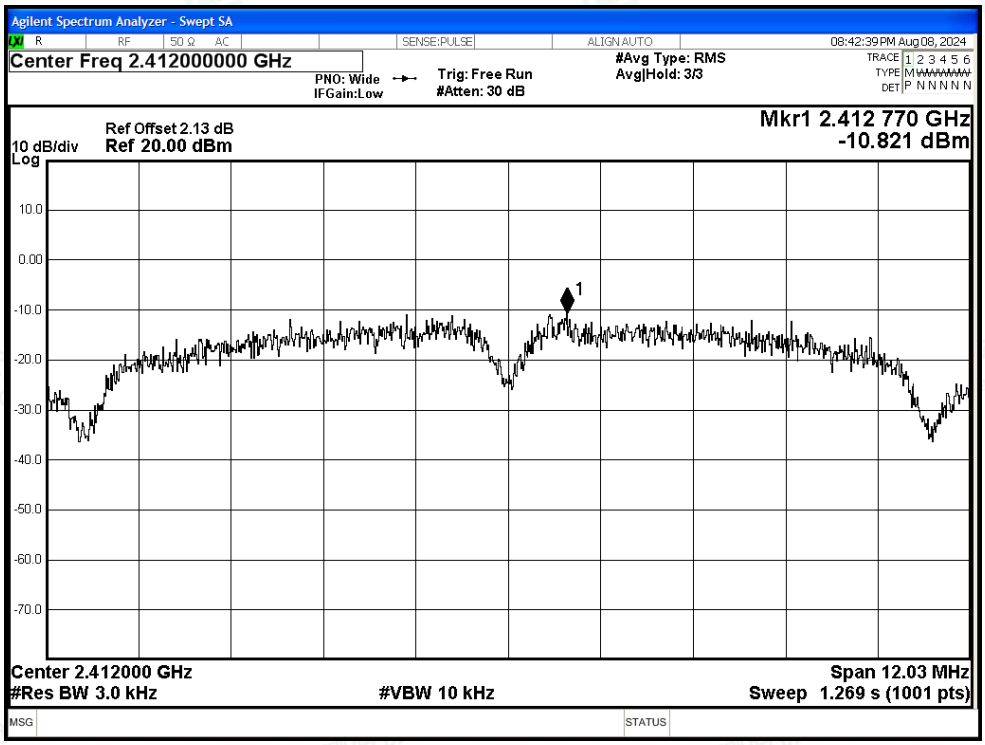



PSD NVNT n40 2452MHz Ant1

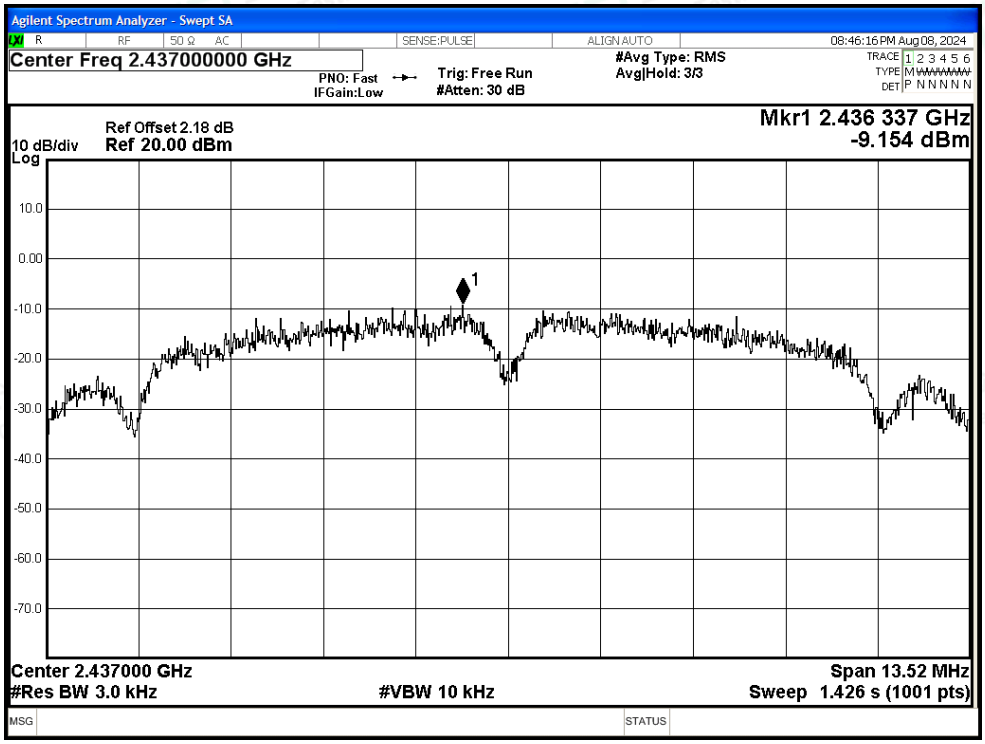


Test Graphs

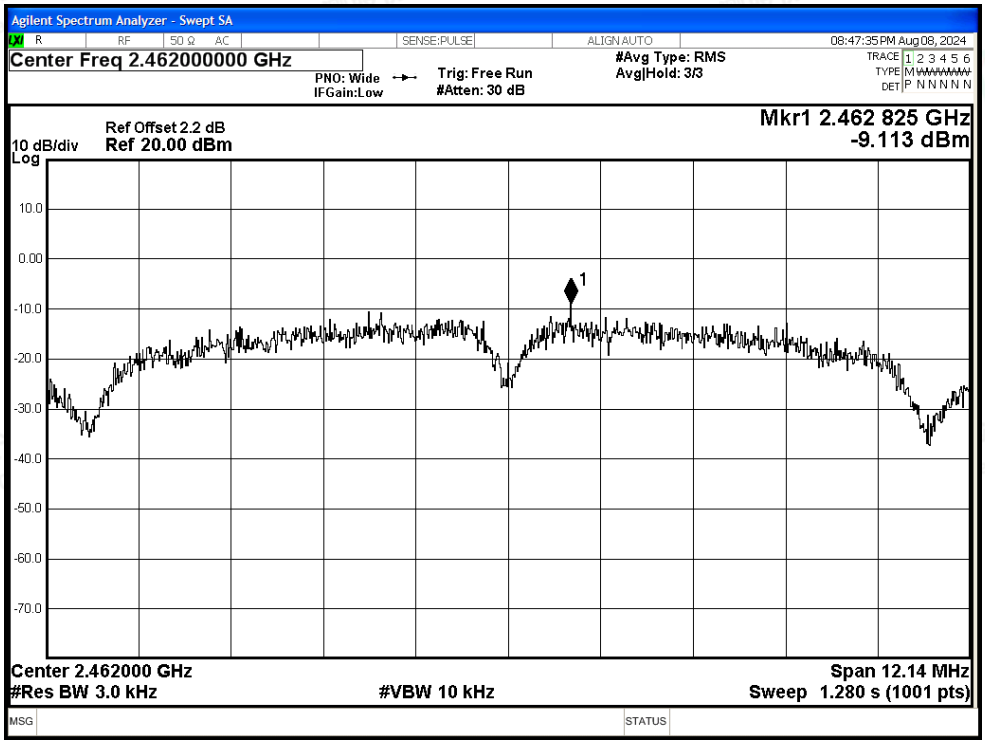
PSD NVNT b 2412MHz Ant2



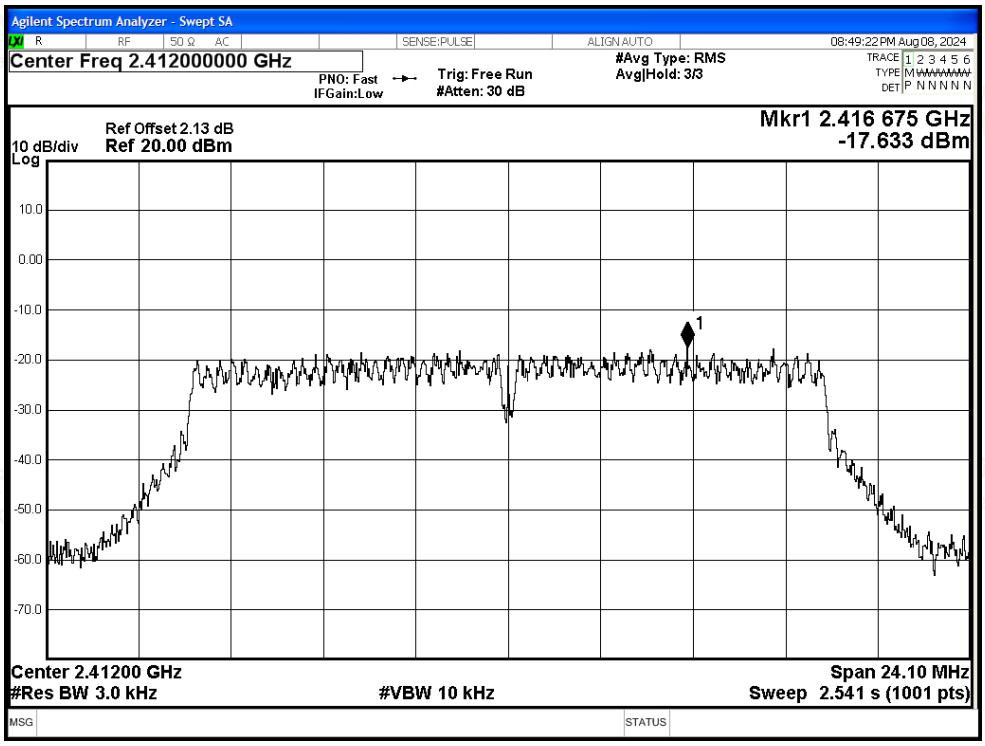

PSD NVNT b 2437MHz Ant2



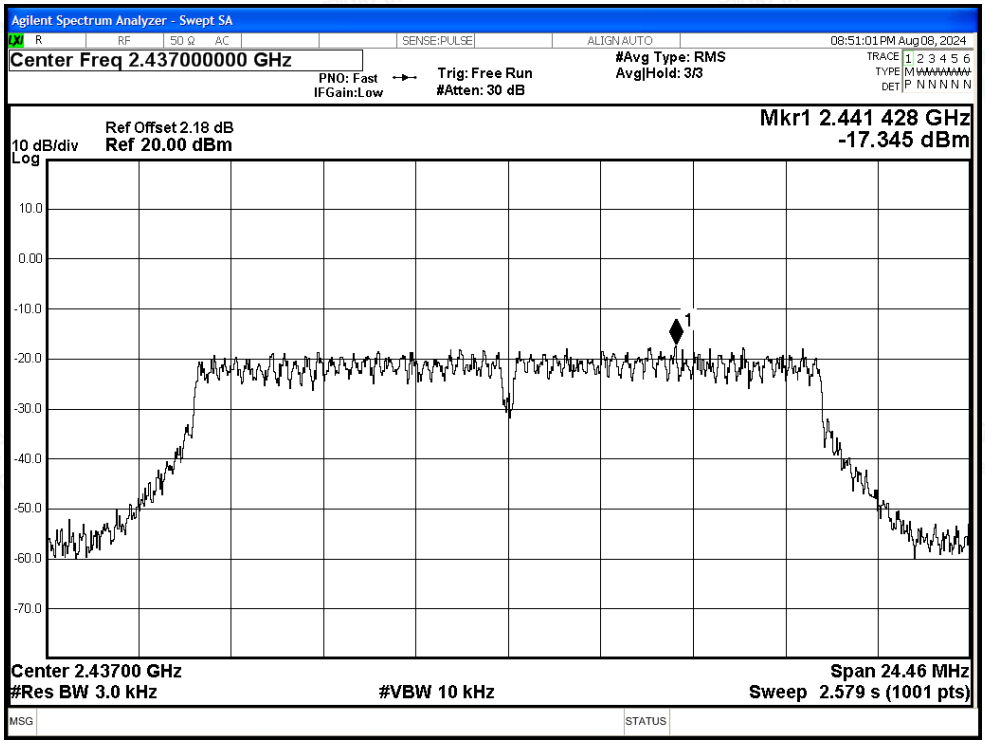
PSD NVNT b 2462MHz Ant2



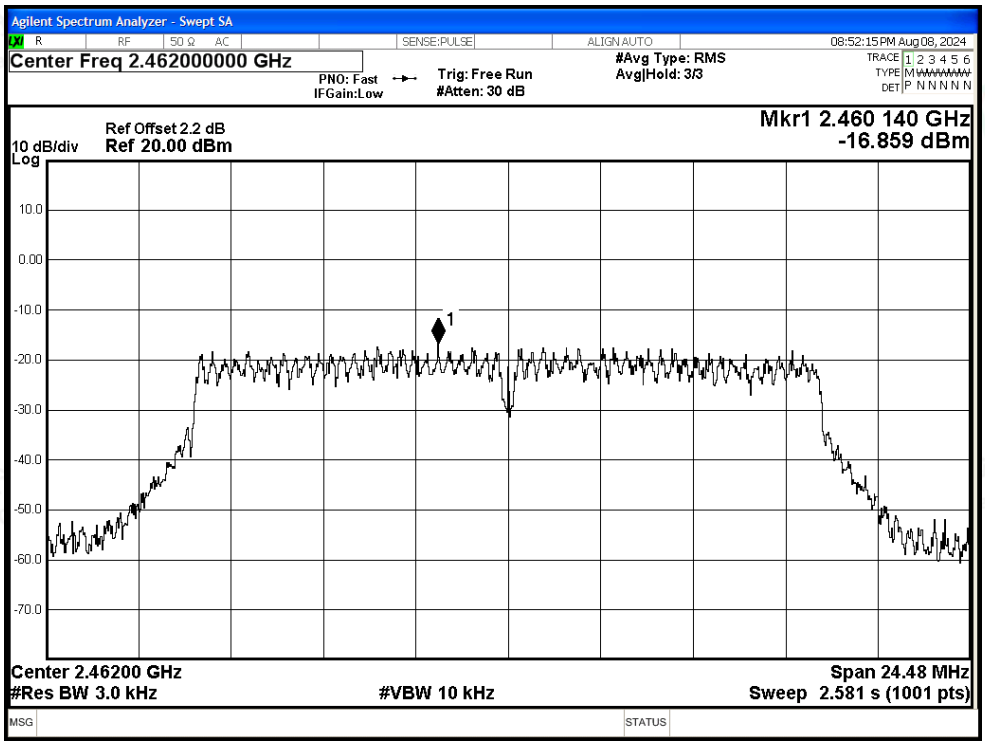

PSD NVNT g 2412MHz Ant2



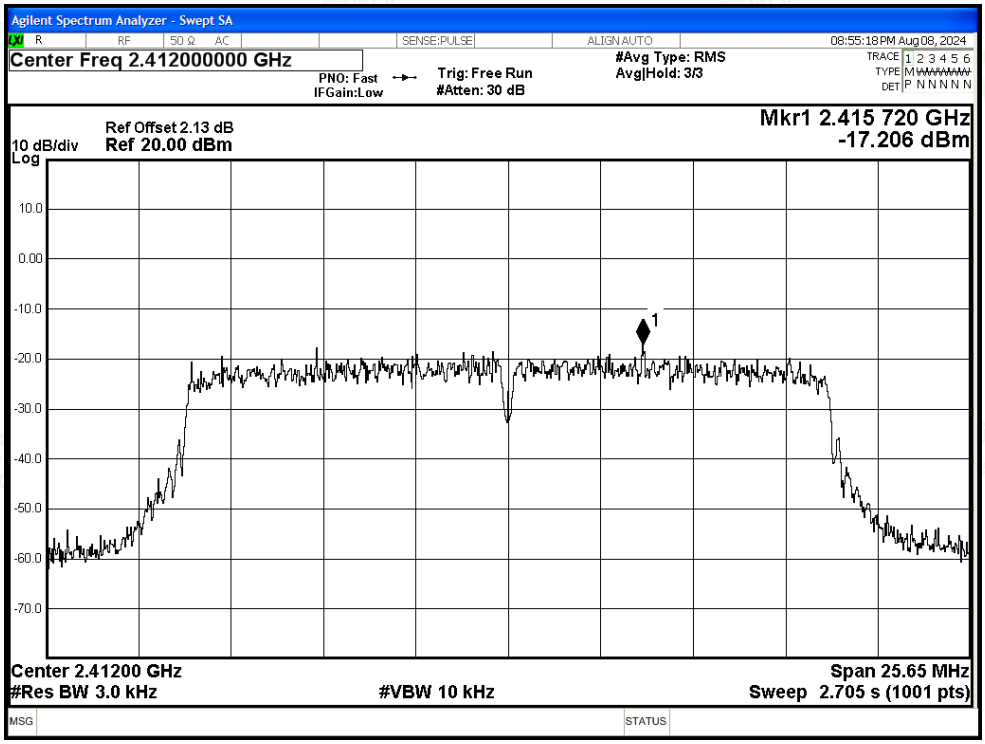
PSD NVNT g 2437MHz Ant2



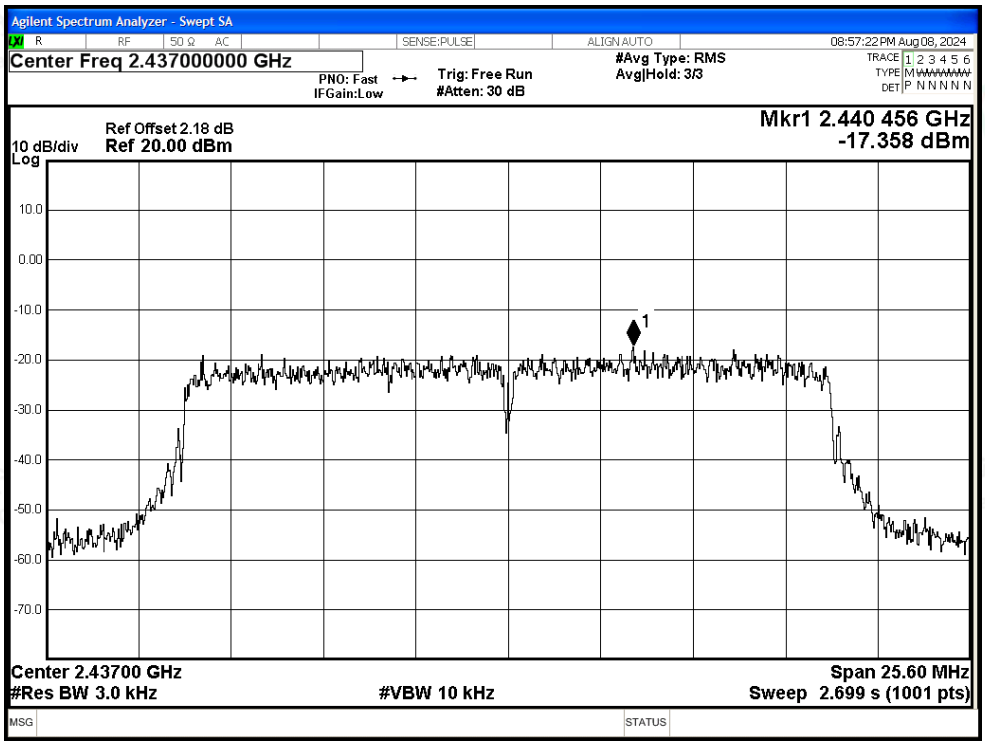

PSD NVNT g 2462MHz Ant2



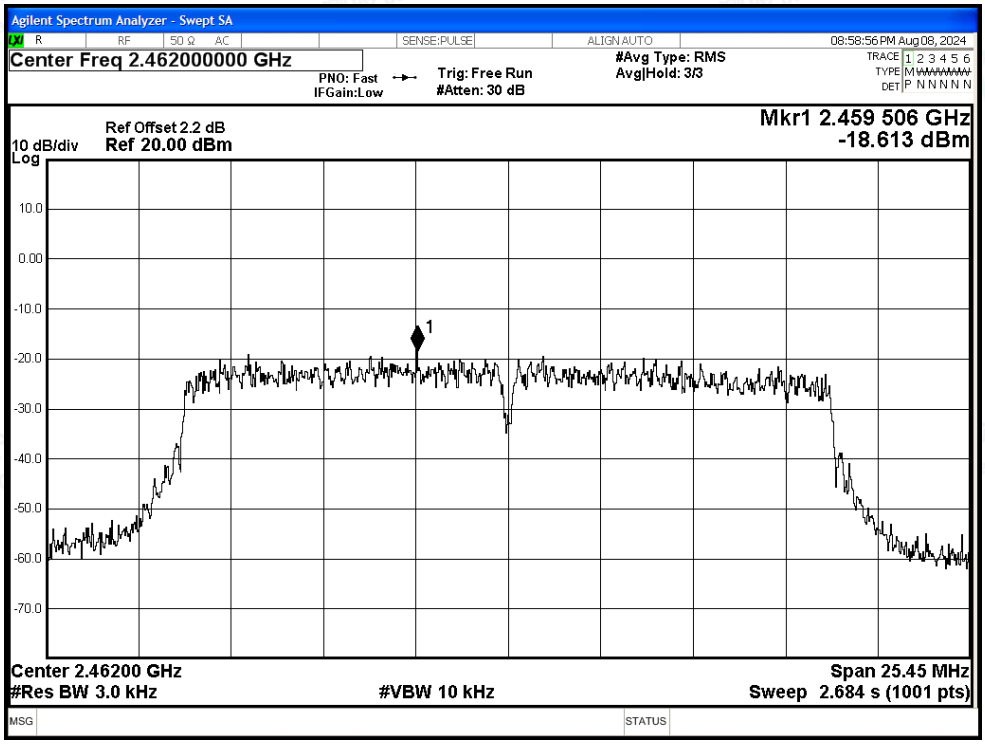
PSD NVNT n20 2412MHz Ant2



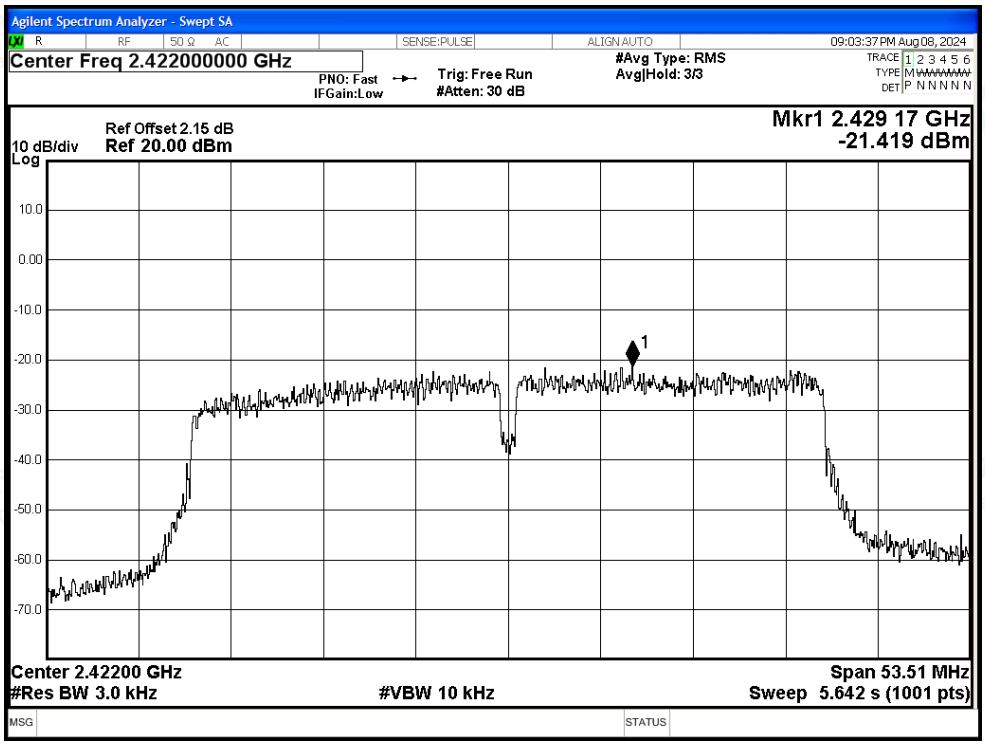

PSD NVNT n20 2437MHz Ant2



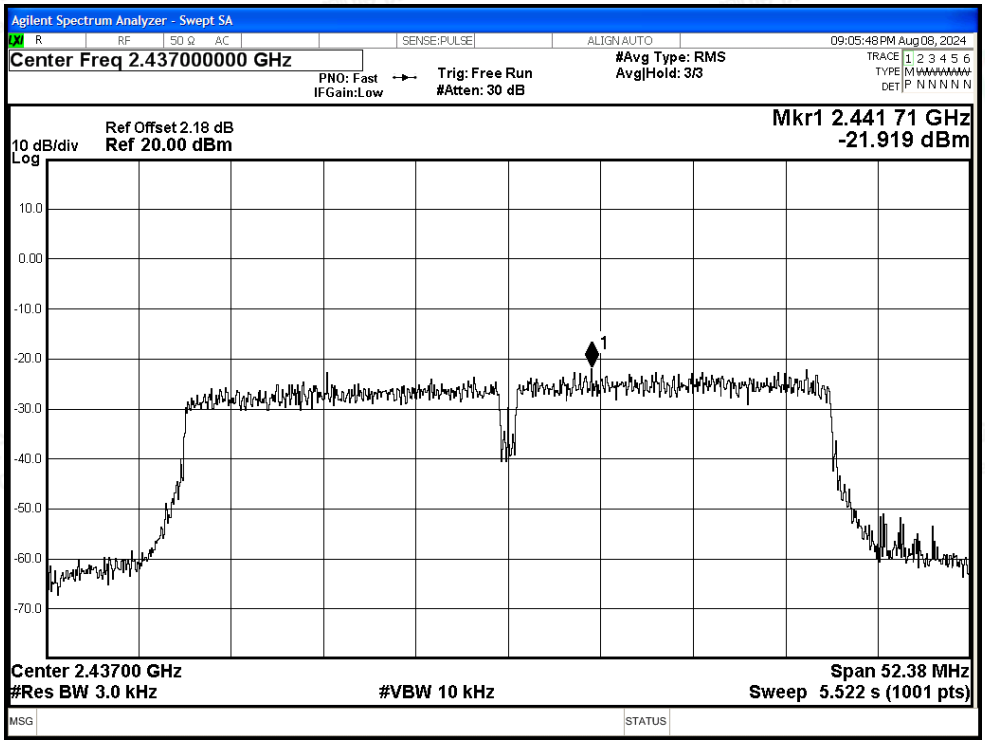
PSD NVNT n20 2462MHz Ant2



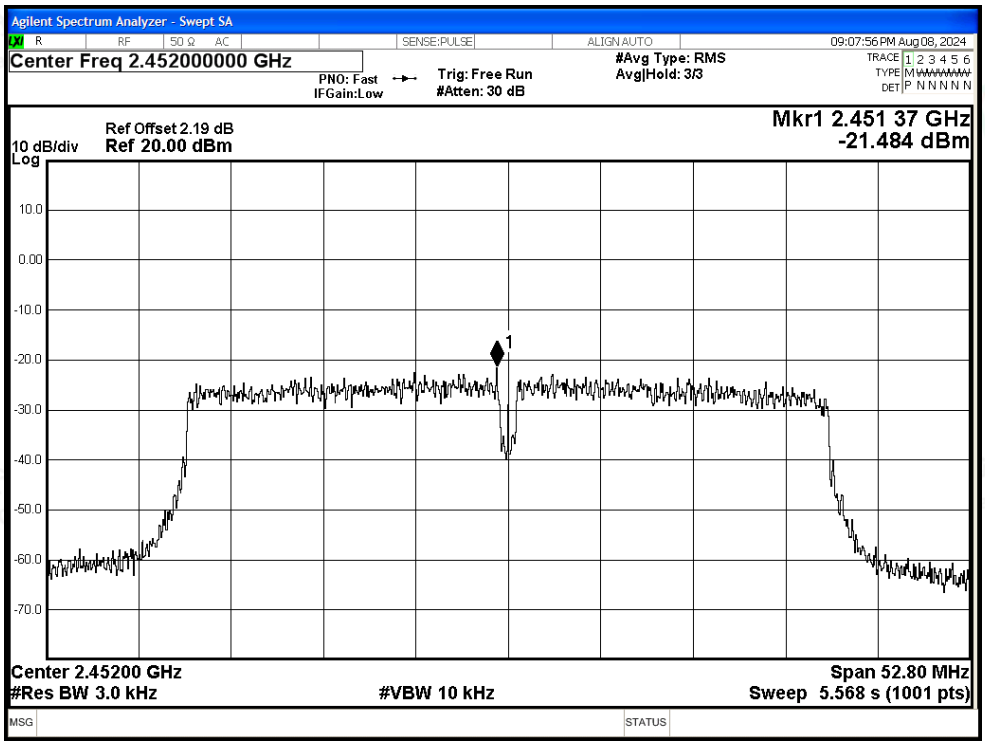

PSD NVNT n40 2422MHz Ant2



PSD NVNT n40 2437MHz Ant2




PSD NVNT n40 2452MHz Ant2

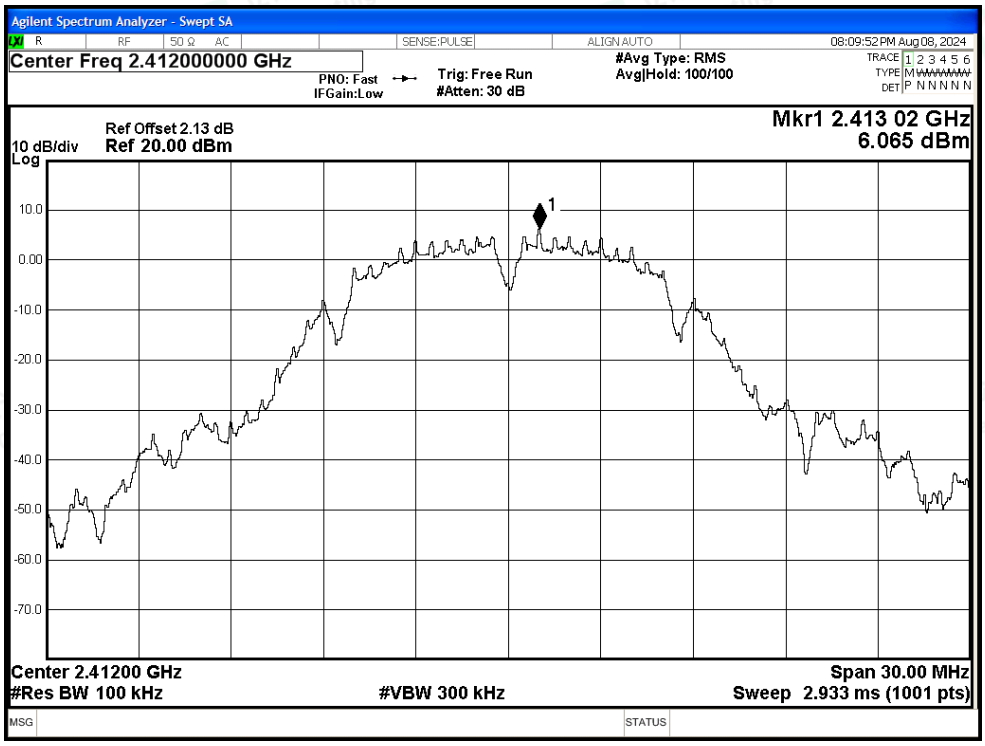


# B.4 Band Edge

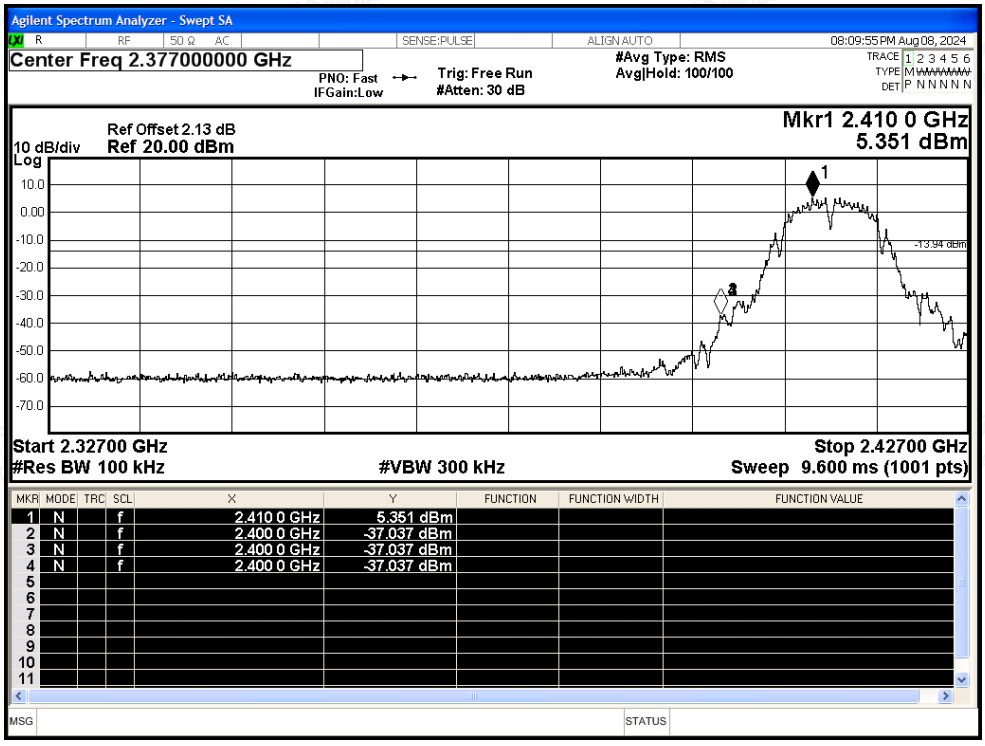
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -43.1 | -20 | Pass |
| NVNT | b | 2462 | Ant1 | -61.88 | -20 | Pass |
| NVNT | g | 2412 | Ant1 | -34.16 | -20 | Pass |
| NVNT | g | 2462 | Ant1 | -43.4 | -20 | Pass |
| NVNT | n20 | 2412 | Ant1 | -31.21 | -20 | Pass |
| NVNT | n20 | 2462 | Ant1 | -42.29 | -20 | Pass |
| NVNT | n40 | 2422 | Ant1 | -35.26 | -20 | Pass |
| NVNT | n40 | 2452 | Ant1 | -38.53 | -20 | Pass |

Test Graphs

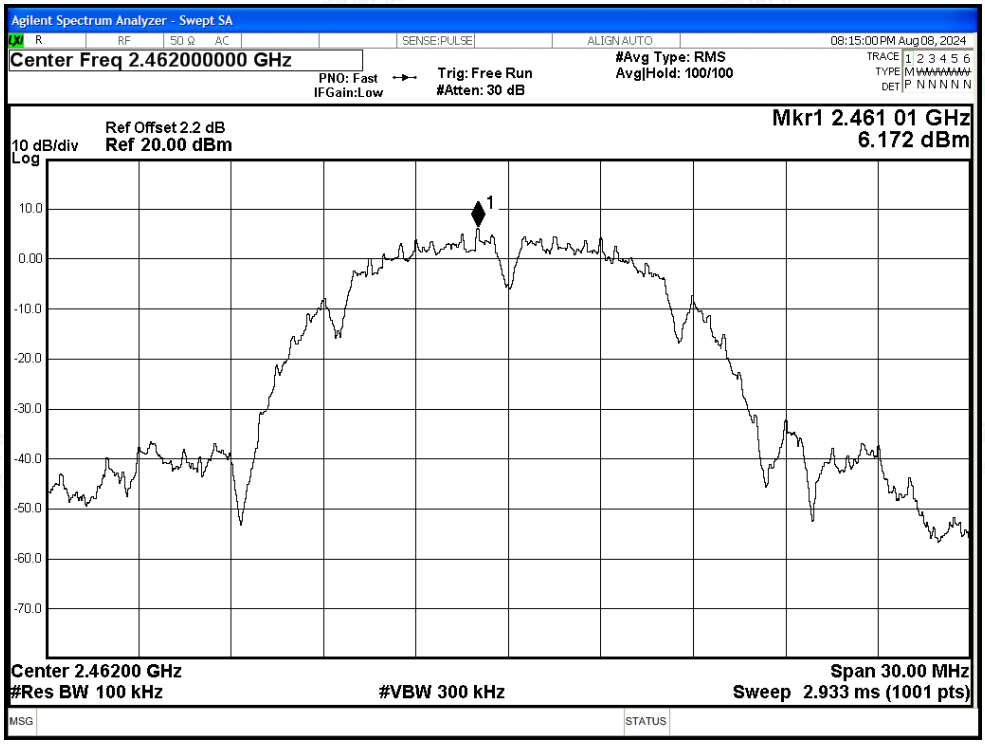
Band Edge NVNT b 2412MHz Ant1 Ref



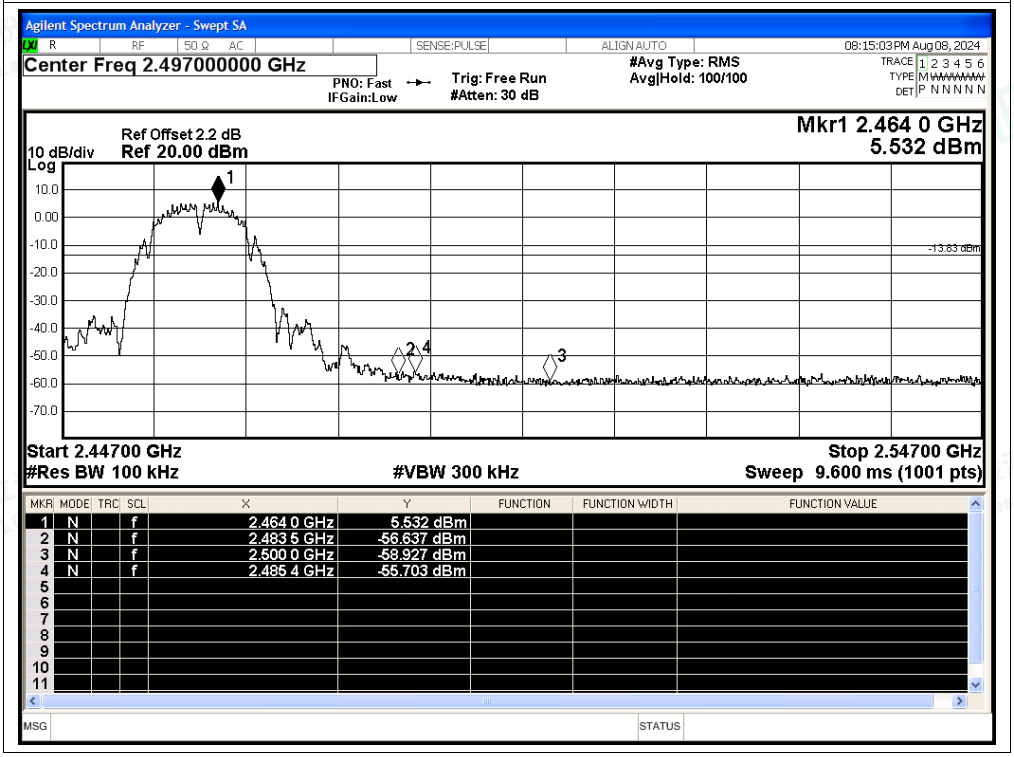

Band Edge NVNT b 2412MHz Ant1 Emission



Band Edge NVNT b 2462MHz Ant1 Ref

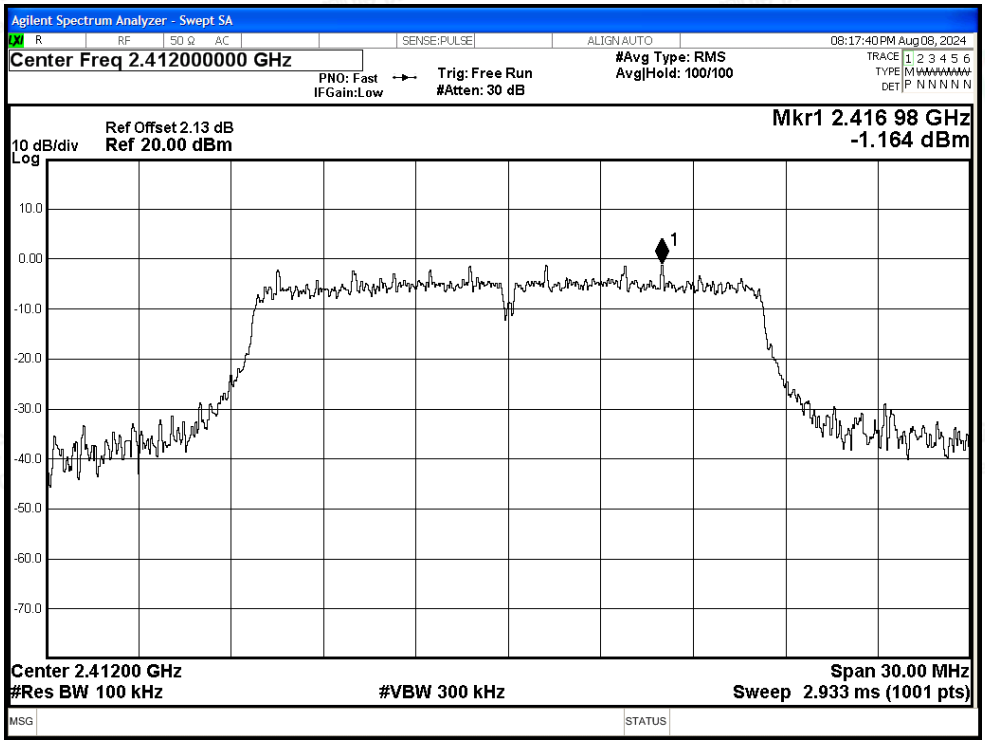



Band Edge NVNT b 2462MHz Ant1 Emission

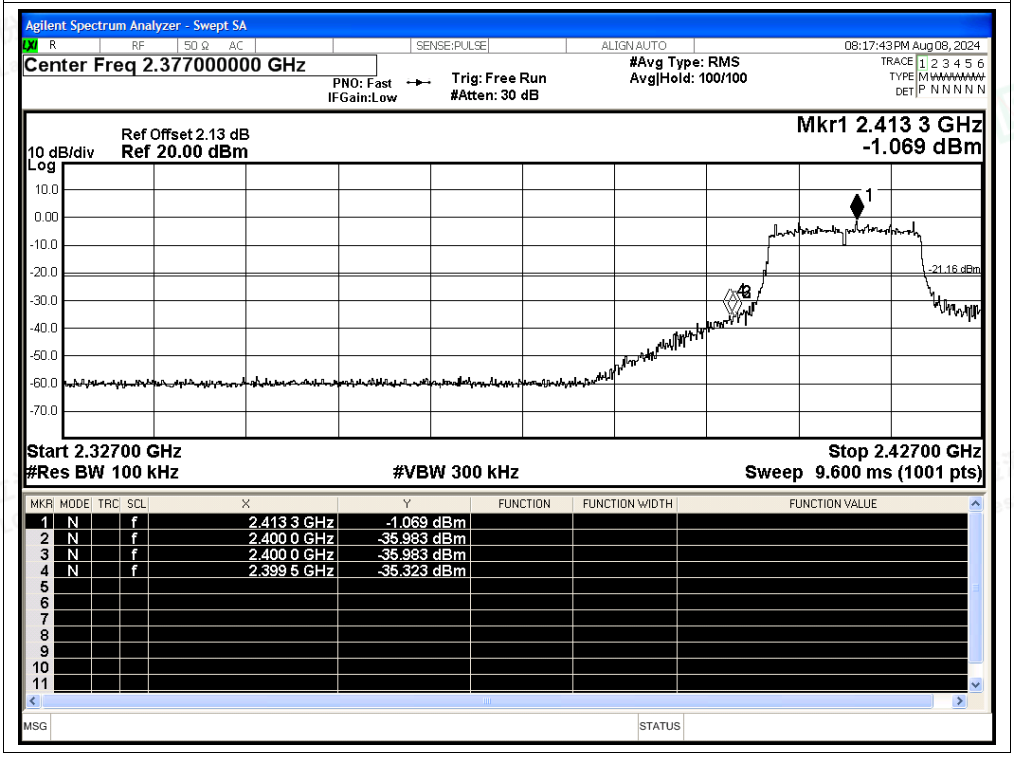



| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|---|---|---|---|---|---|---|---|---|
| 1 | N | | f | 2.464 0 GHz | 5.532 dBm | | | |
| 2 | N | | f | 2.483 5 GHz | -56.637 dBm | | | |
| 3 | N | | f | 2.500 0 GHz | -58.927 dBm | | | |
| 4 | N | | f | 2.485 4 GHz | -55.703 dBm | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

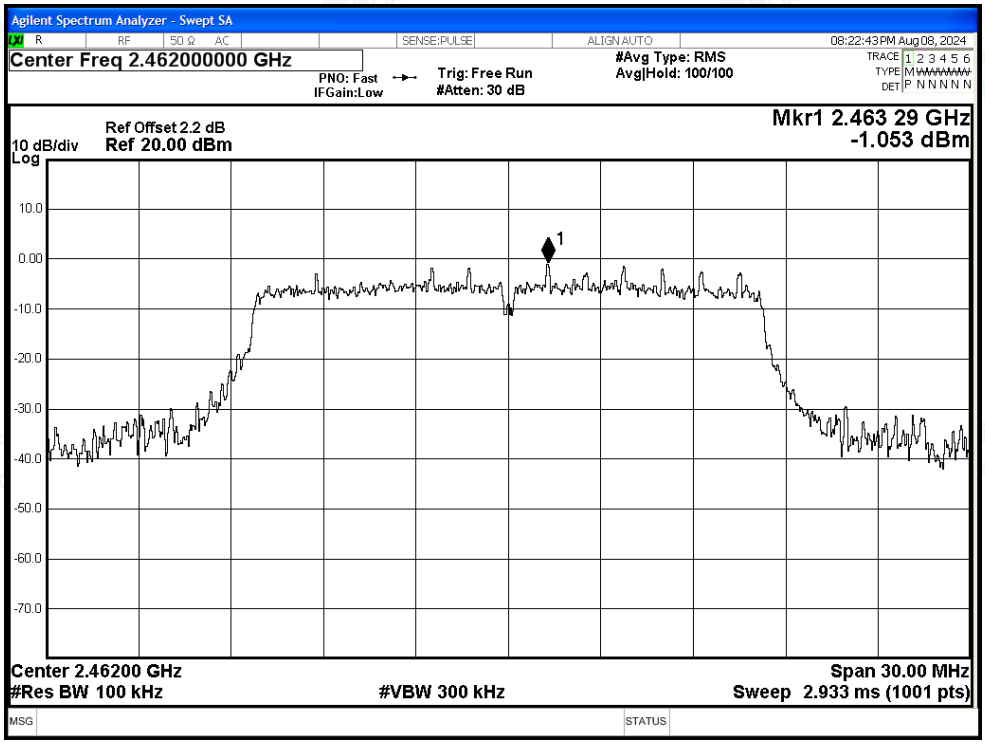
Band Edge NVNT g 2412MHz Ant1 Ref



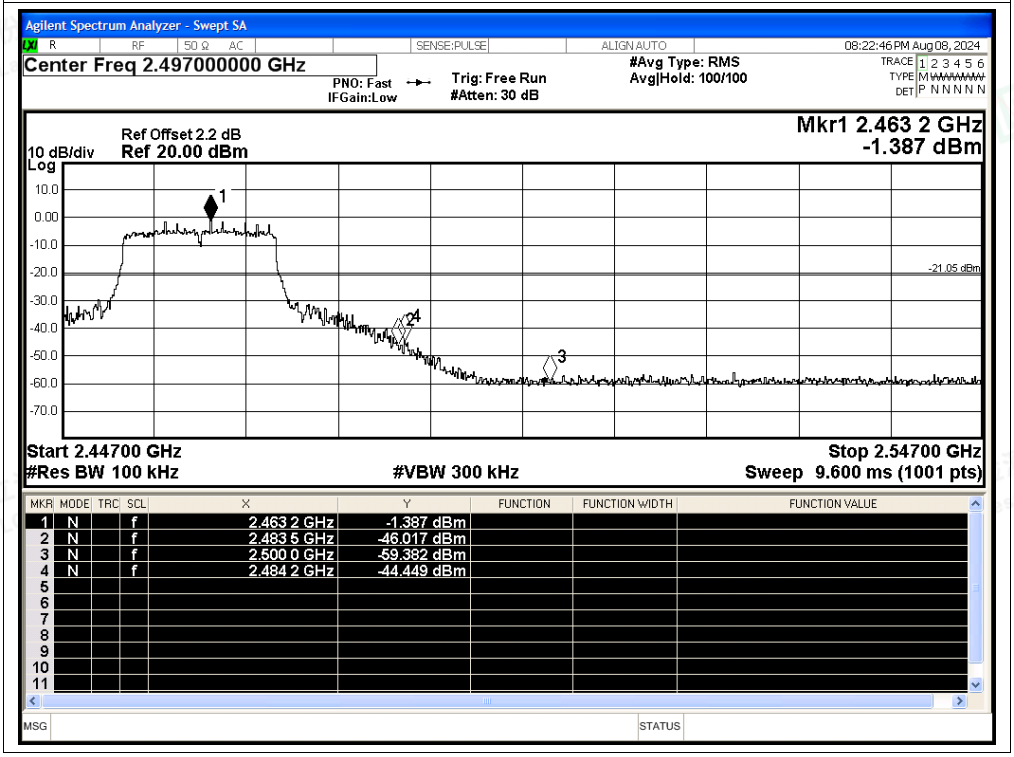

Band Edge NVNT g 2412MHz Ant1 Emission



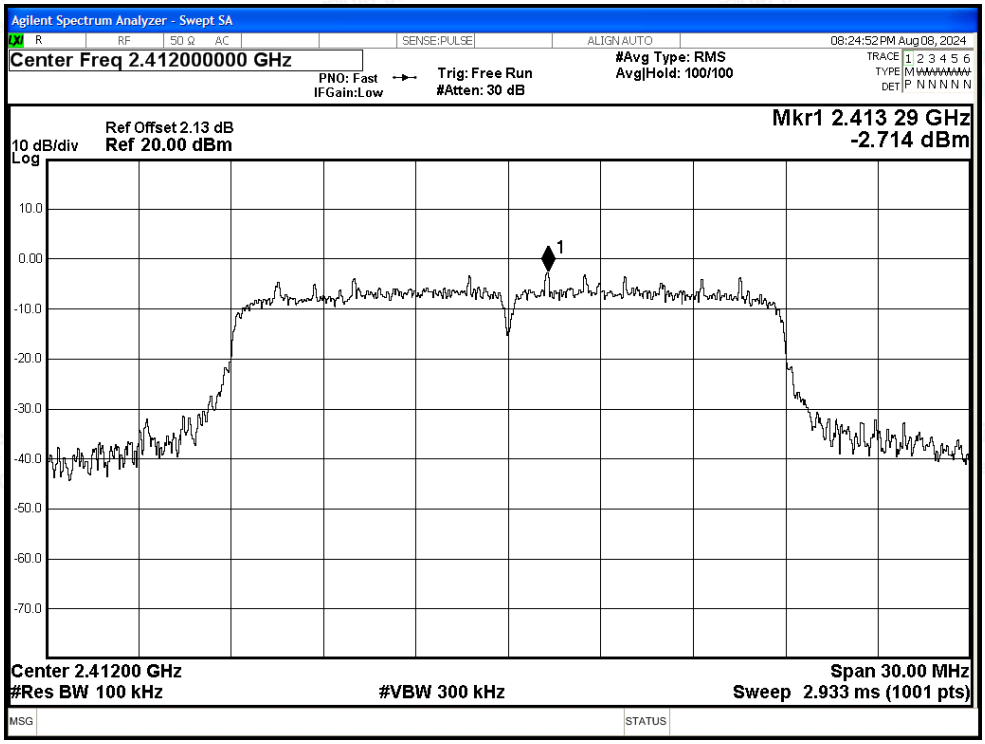
Band Edge NVNT g 2462MHz Ant1 Ref



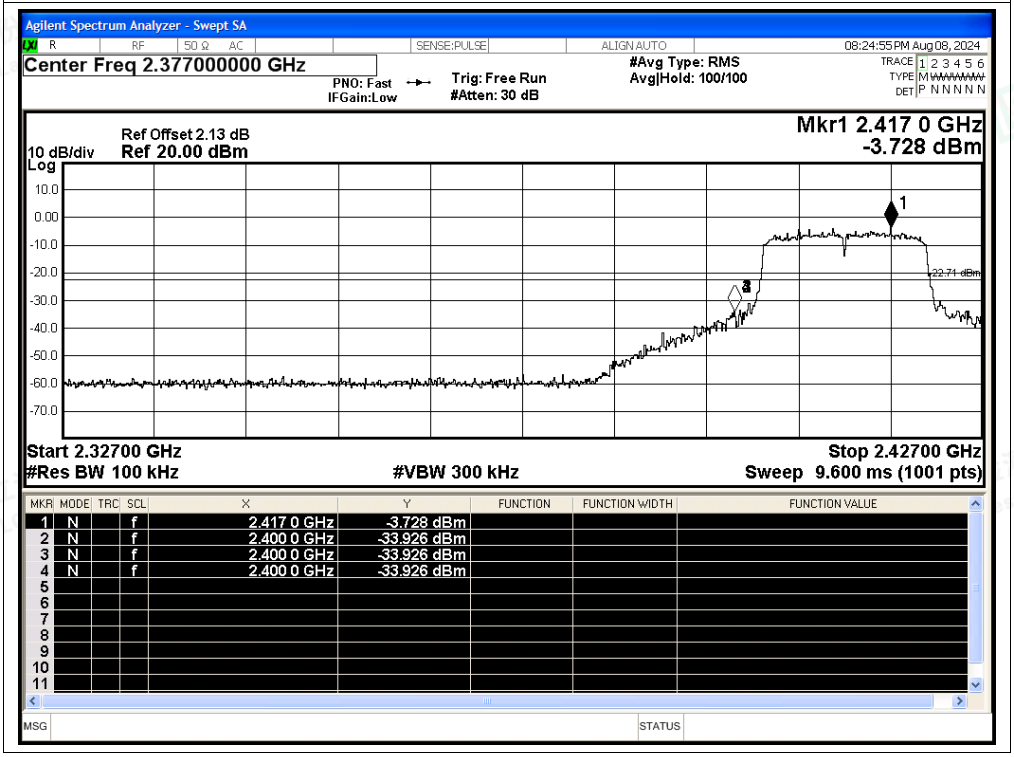

Band Edge NVNT g 2462MHz Ant1 Emission



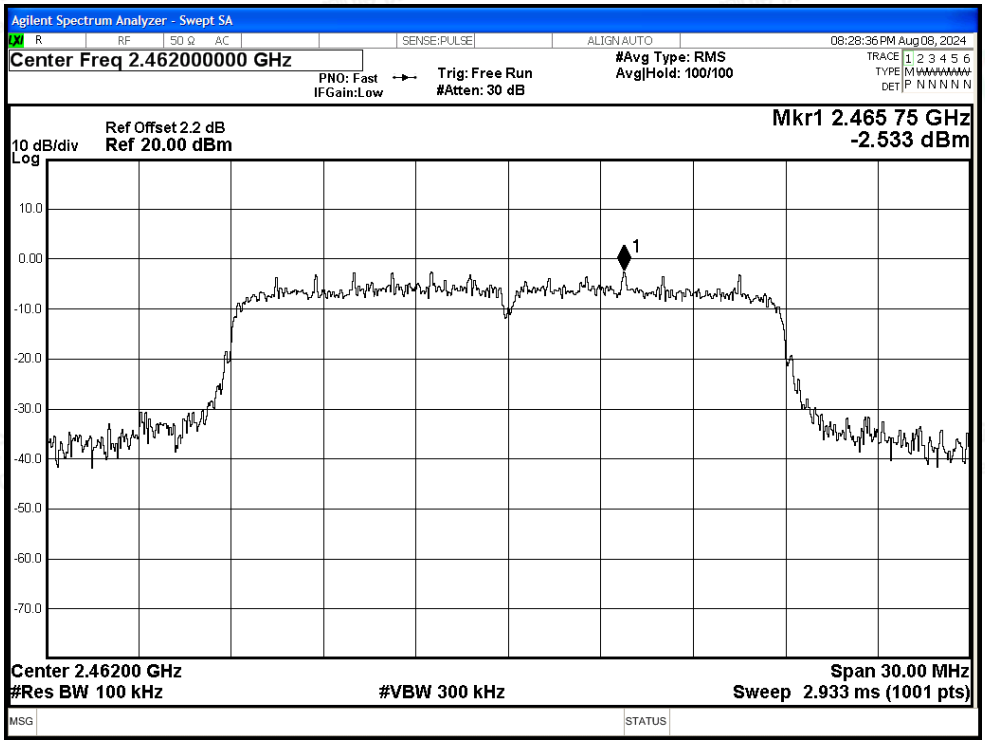
Band Edge NVNT n20 2412MHz Ant1 Ref



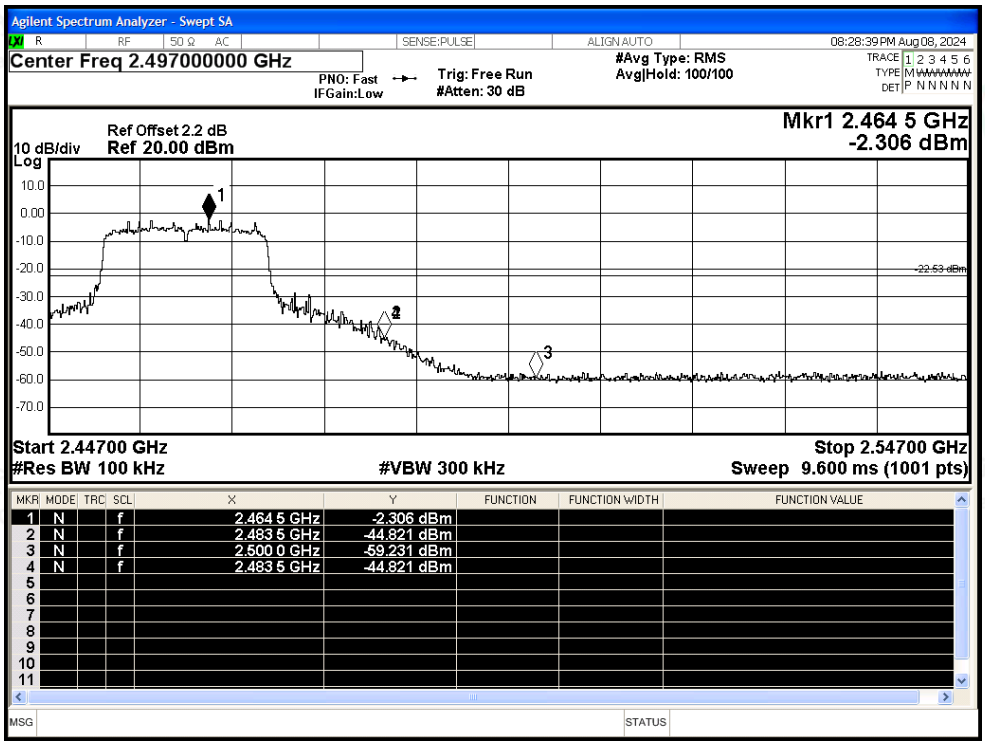

Band Edge NVNT n20 2412MHz Ant1 Emission



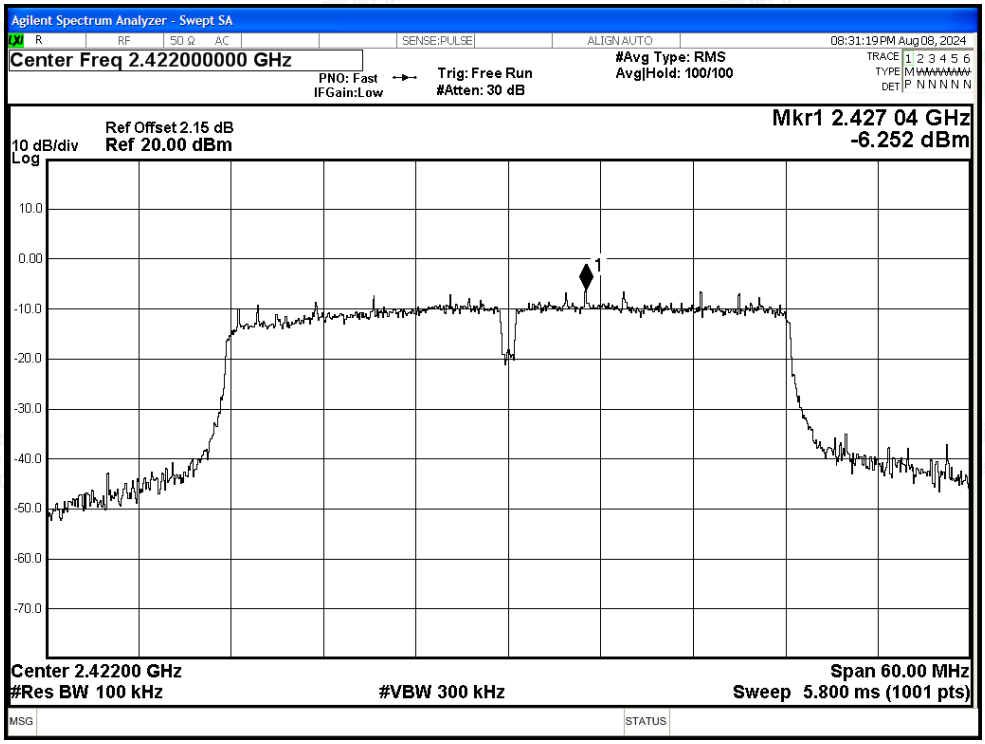
Band Edge NVNT n20 2462MHz Ant1 Ref



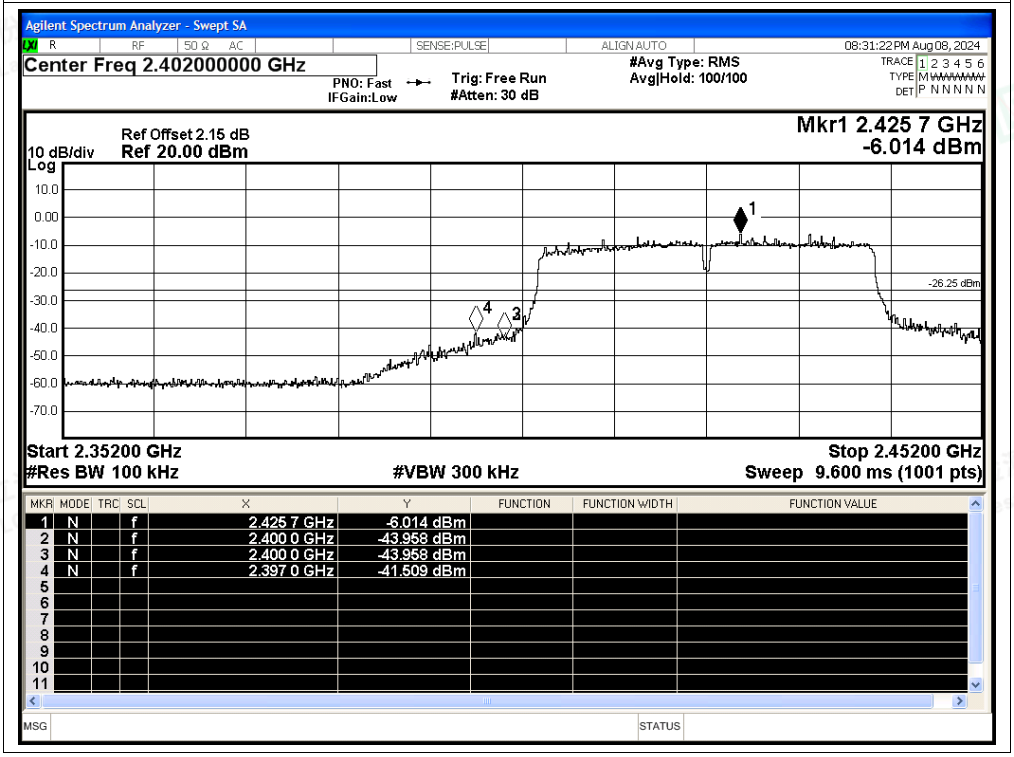

Band Edge NVNT n20 2462MHz Ant1 Emission



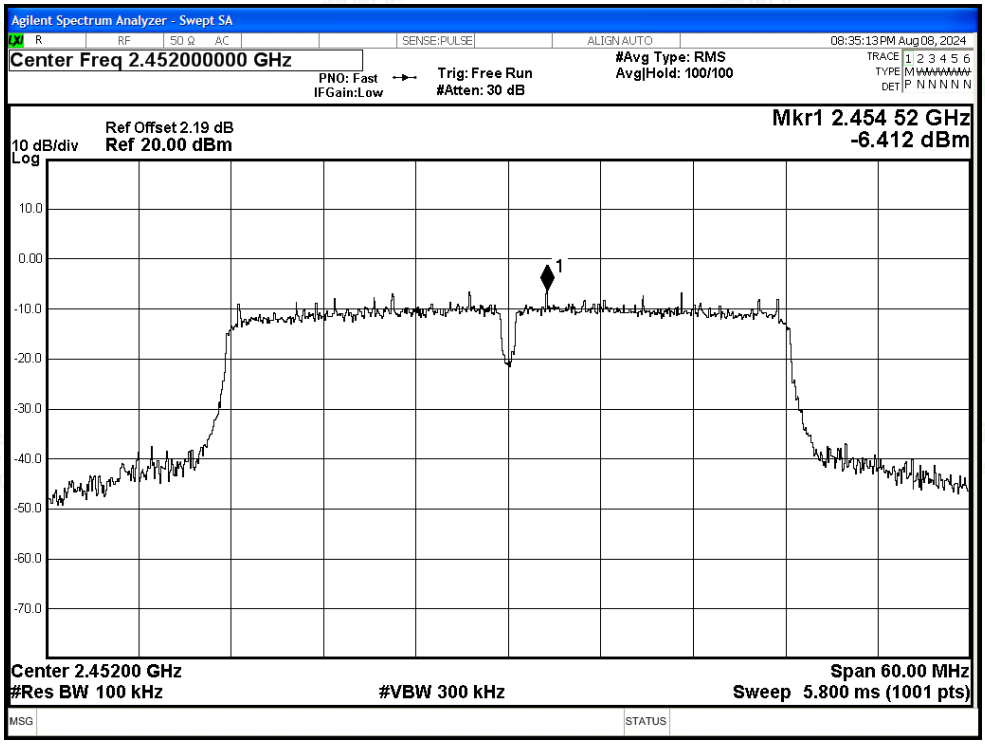
Band Edge NVNT n40 2422MHz Ant1 Ref



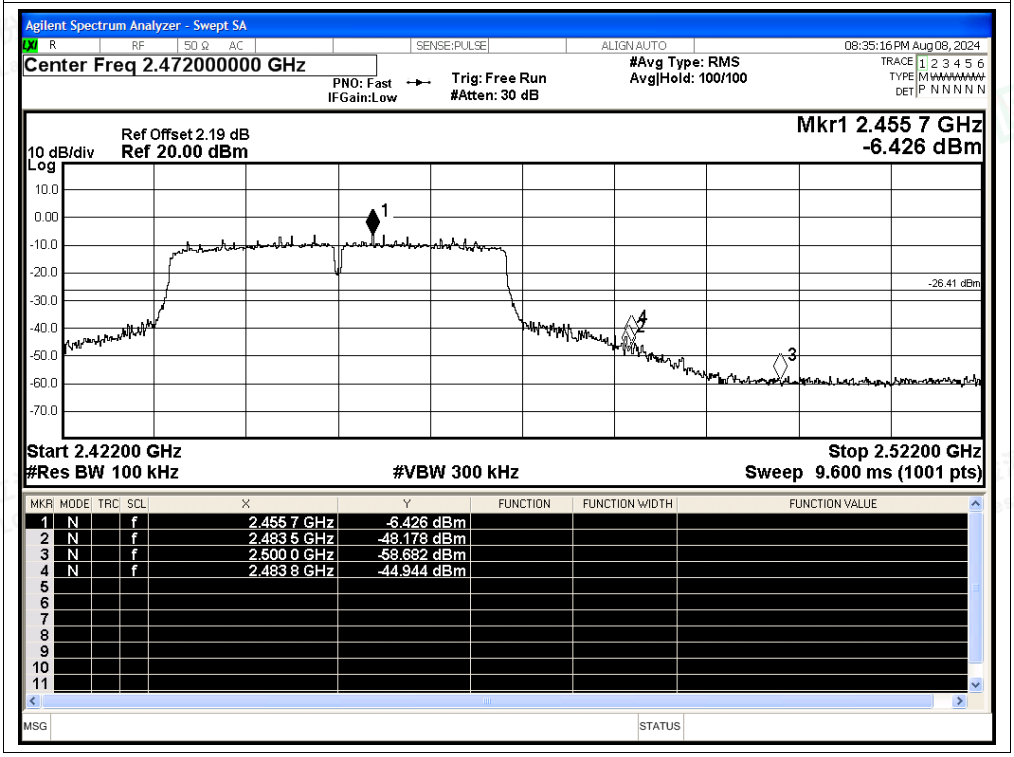

Band Edge NVNT n40 2422MHz Ant1 Emission



Band Edge NVNT n40 2452MHz Ant1 Ref




Band Edge NVNT n40 2452MHz Ant1 Emission

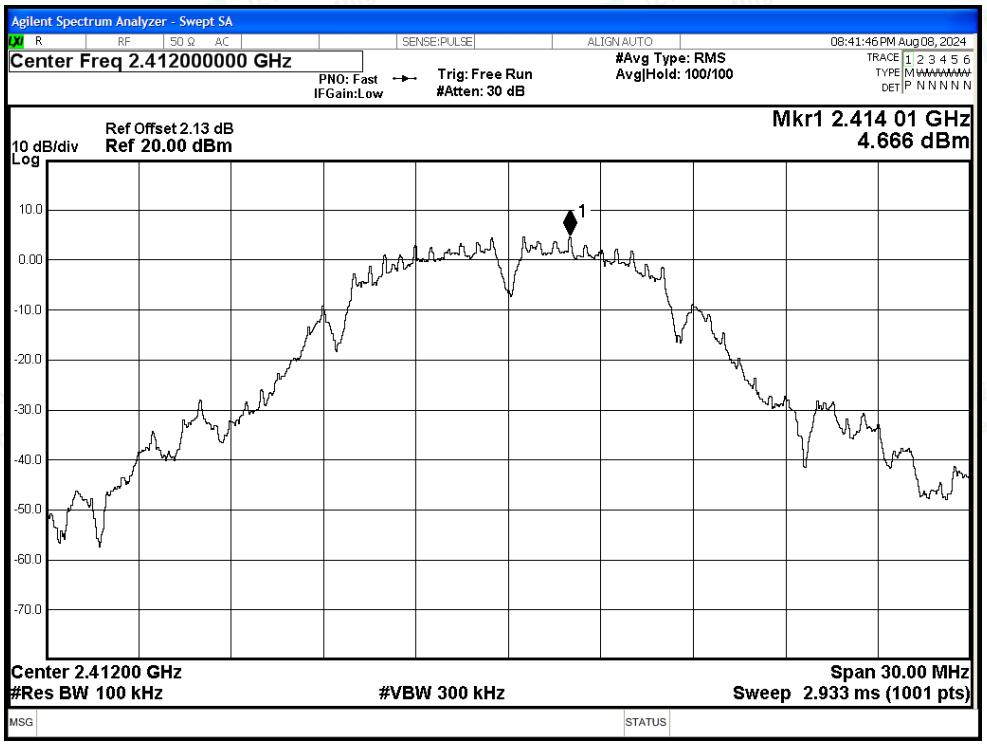



| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|---|---|---|---|---|---|---|---|---|
| 1 | N | | f | 2.455 7 GHz | -6.426 dBm | | | |
| 2 | N | | f | 2.483 5 GHz | -48.178 dBm | | | |
| 3 | N | | f | 2.500 0 GHz | -58.682 dBm | | | |
| 4 | N | | f | 2.483 8 GHz | -44.944 dBm | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

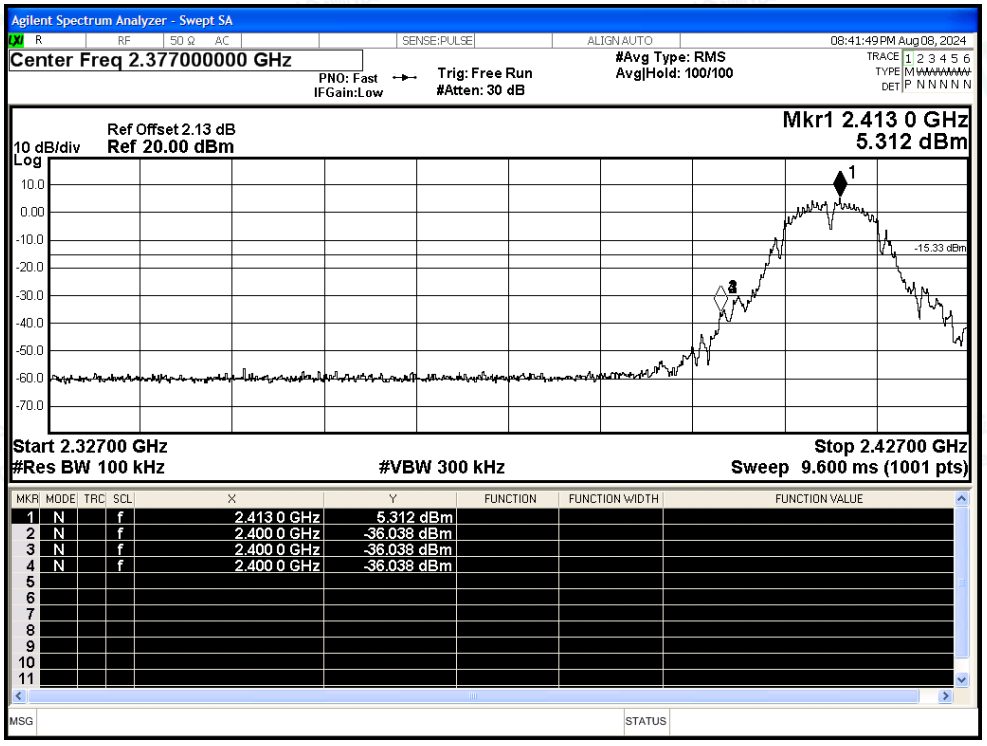
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant2 | -40.7 | -20 | Pass |
| NVNT | b | 2462 | Ant2 | -58.61 | -20 | Pass |
| NVNT | g | 2412 | Ant2 | -32.04 | -20 | Pass |
| NVNT | g | 2462 | Ant2 | -43.09 | -20 | Pass |
| NVNT | n20 | 2412 | Ant2 | -31.24 | -20 | Pass |
| NVNT | n20 | 2462 | Ant2 | -42.93 | -20 | Pass |
| NVNT | n40 | 2422 | Ant2 | -38.16 | -20 | Pass |
| NVNT | n40 | 2452 | Ant2 | -38.47 | -20 | Pass |

Test Graphs

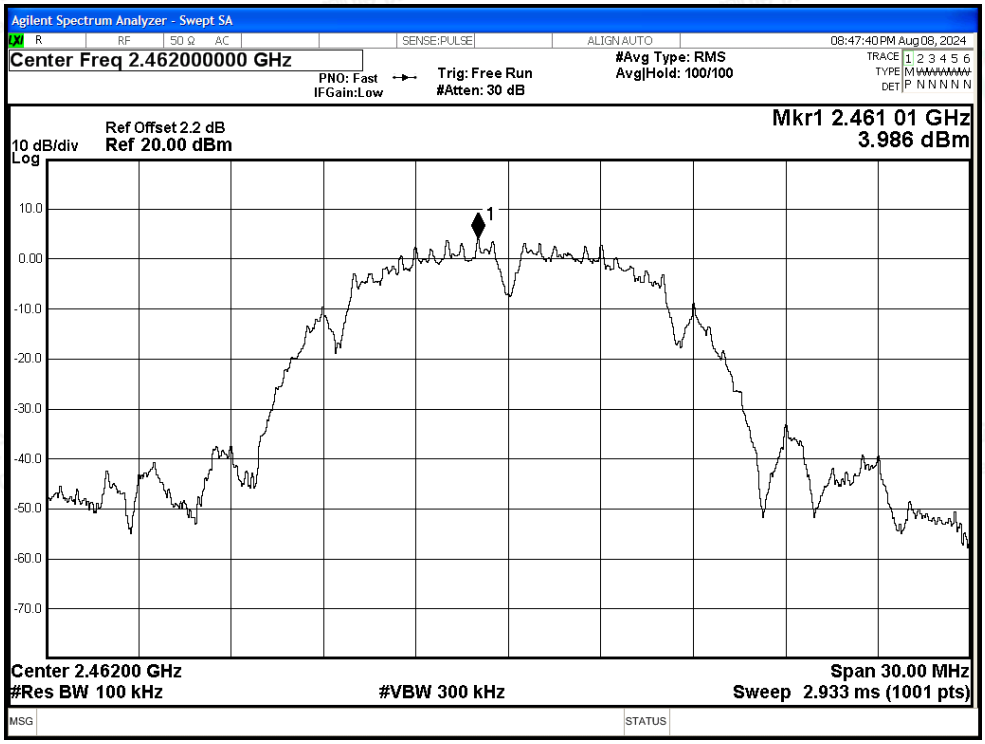
Band Edge NVNT b 2412MHz Ant2 Ref



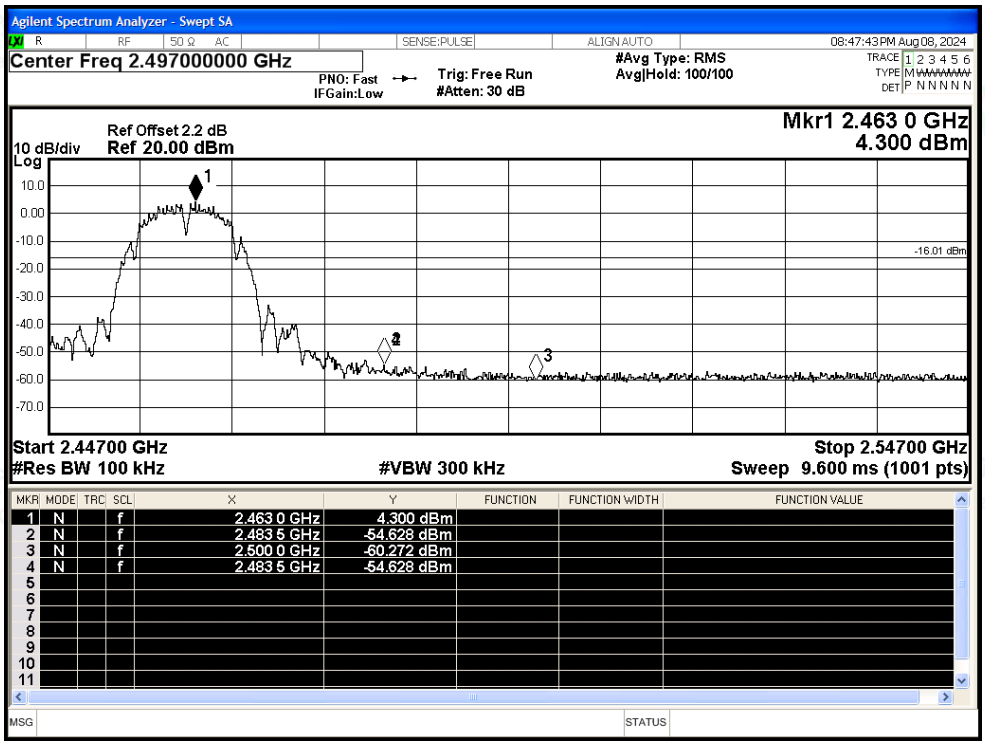

Band Edge NVNT b 2412MHz Ant2 Emission



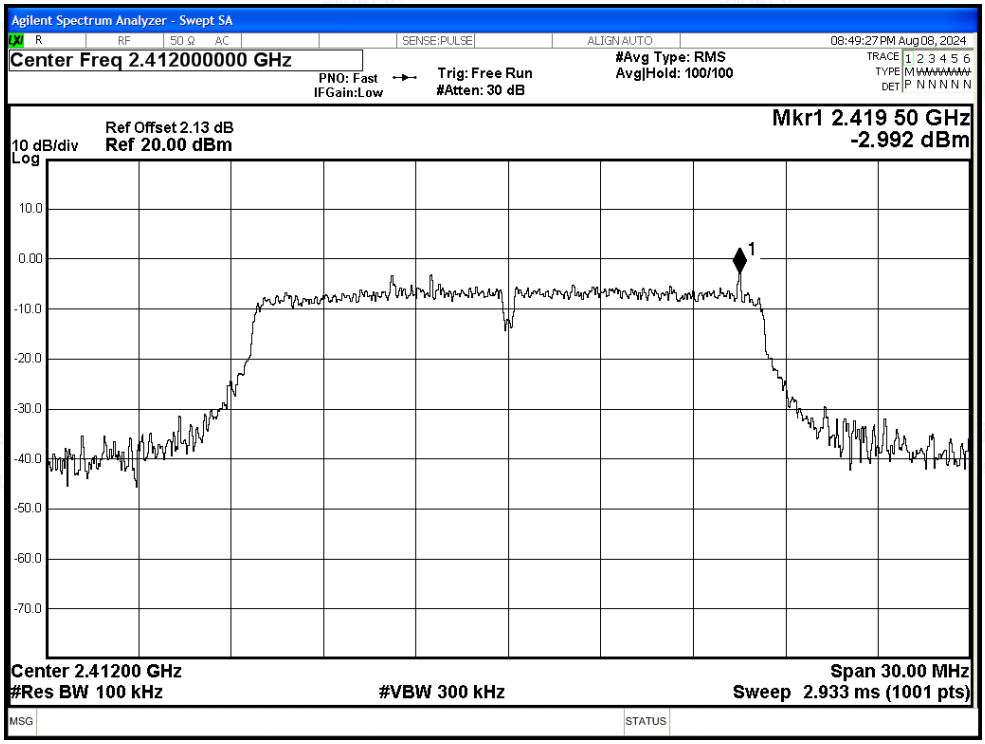
Band Edge NVNT b 2462MHz Ant2 Ref



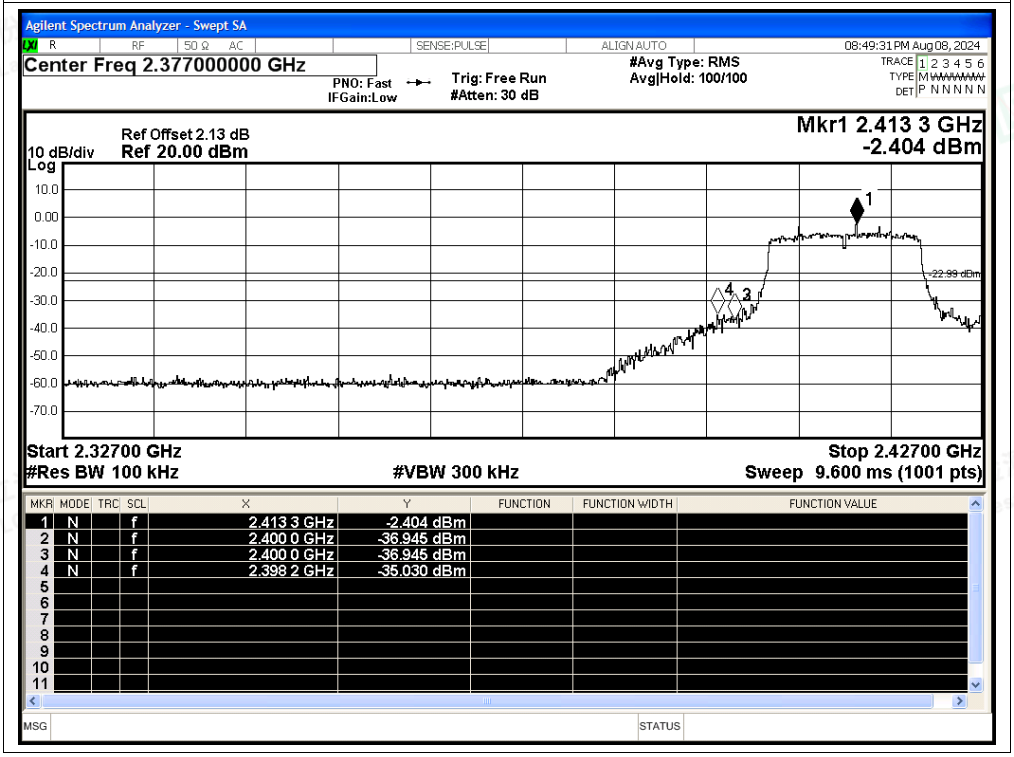

Band Edge NVNT b 2462MHz Ant2 Emission



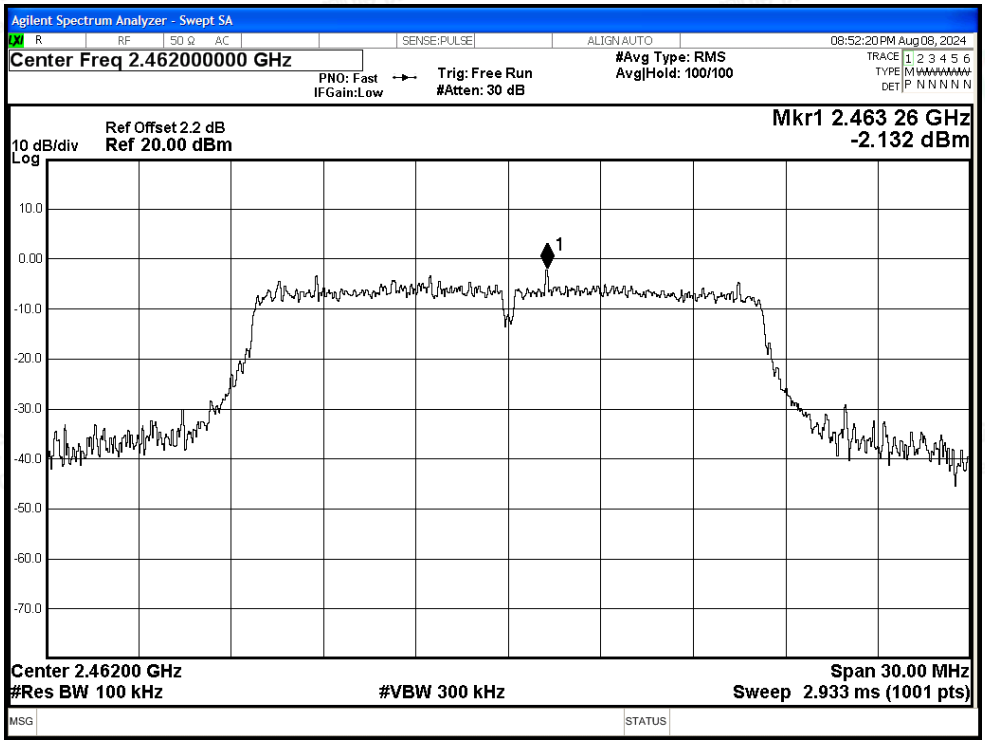
Band Edge NVNT g 2412MHz Ant2 Ref



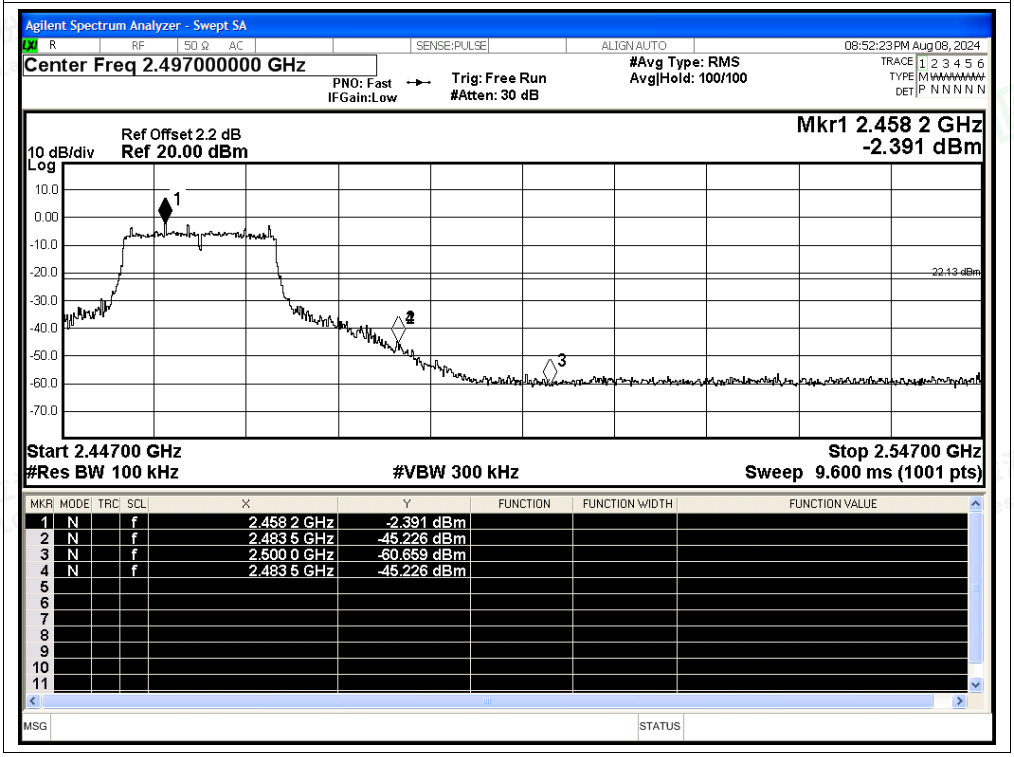

Band Edge NVNT g 2412MHz Ant2 Emission



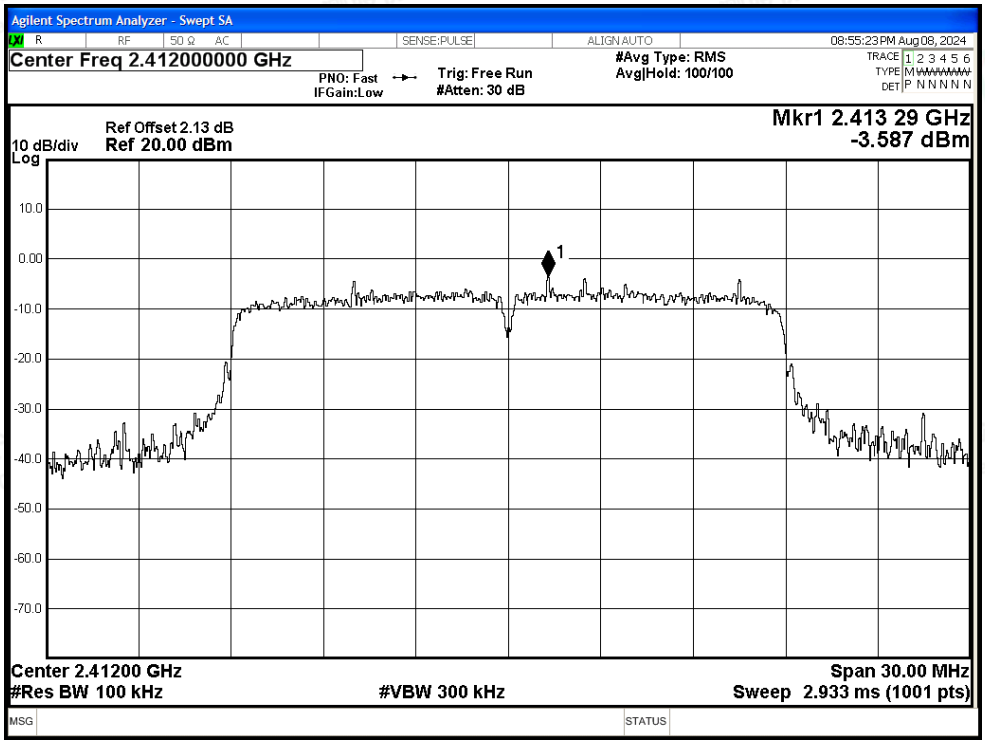
Band Edge NVNT g 2462MHz Ant2 Ref



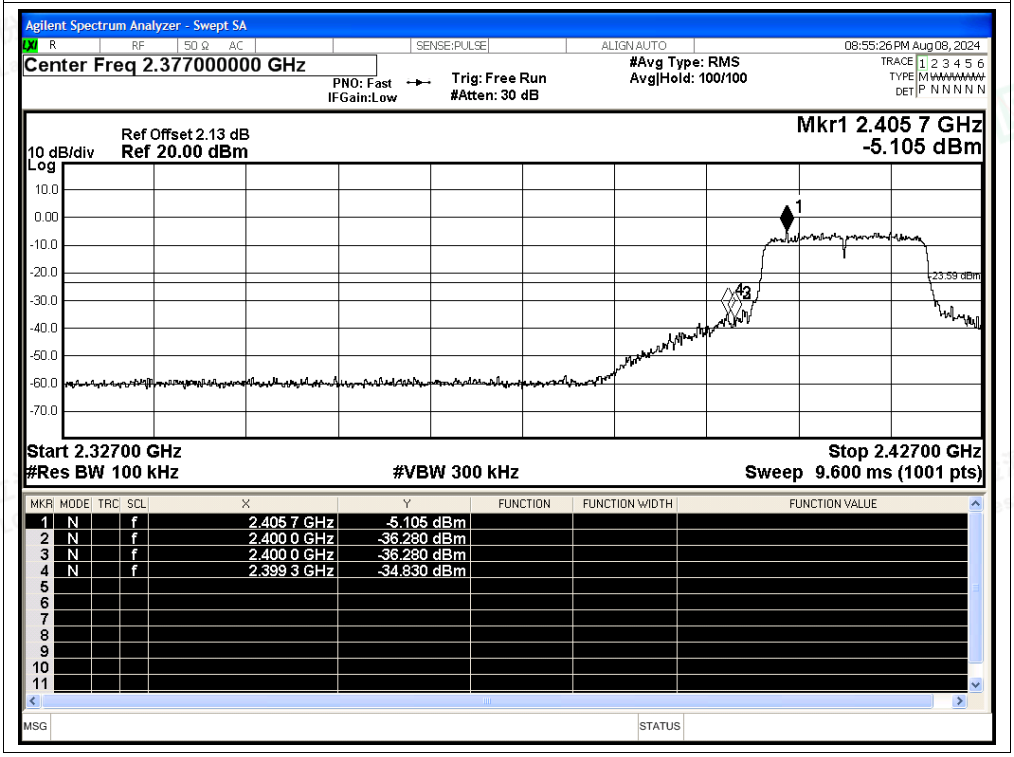

Band Edge NVNT g 2462MHz Ant2 Emission



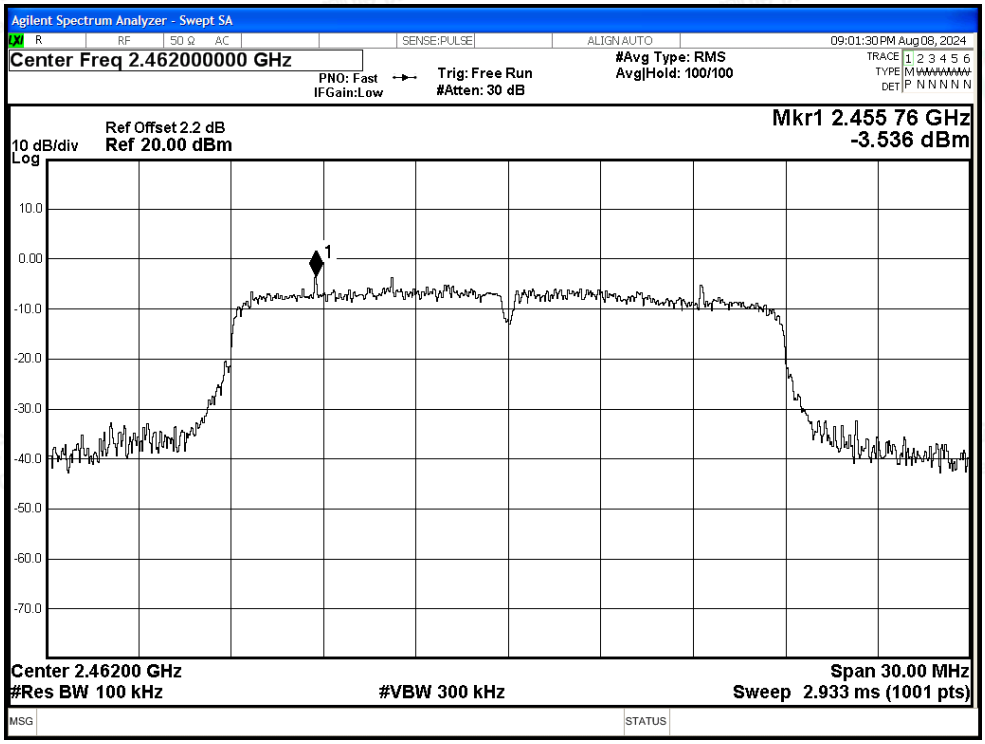
Band Edge NVNT n20 2412MHz Ant2 Ref



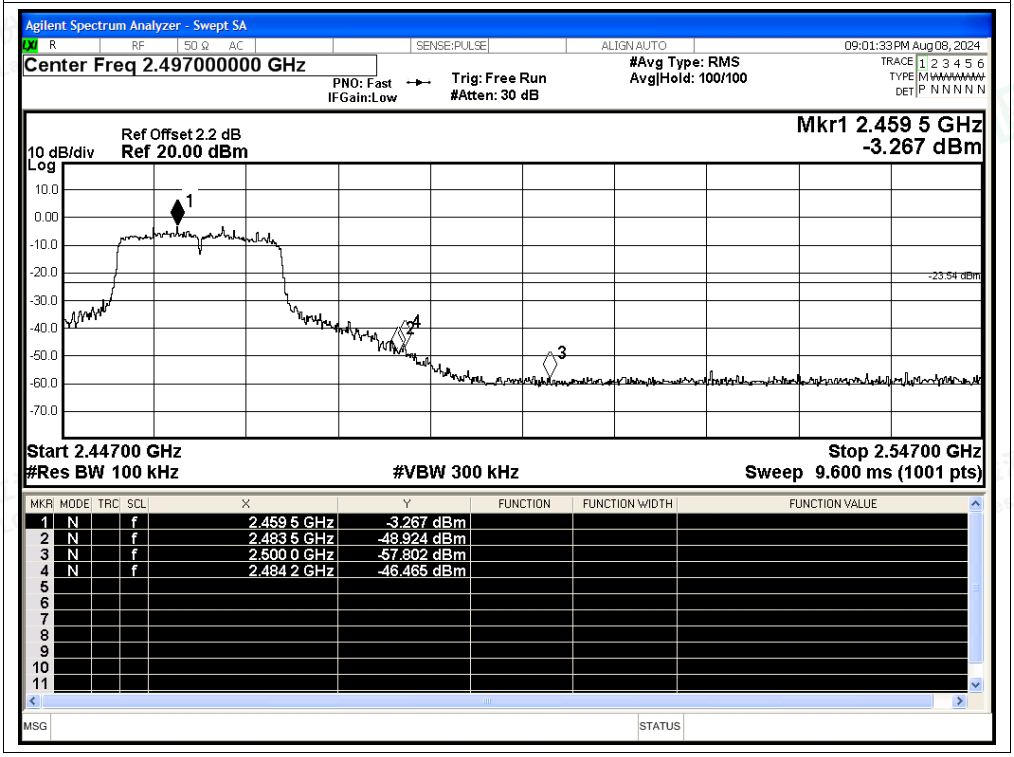

Band Edge NVNT n20 2412MHz Ant2 Emission



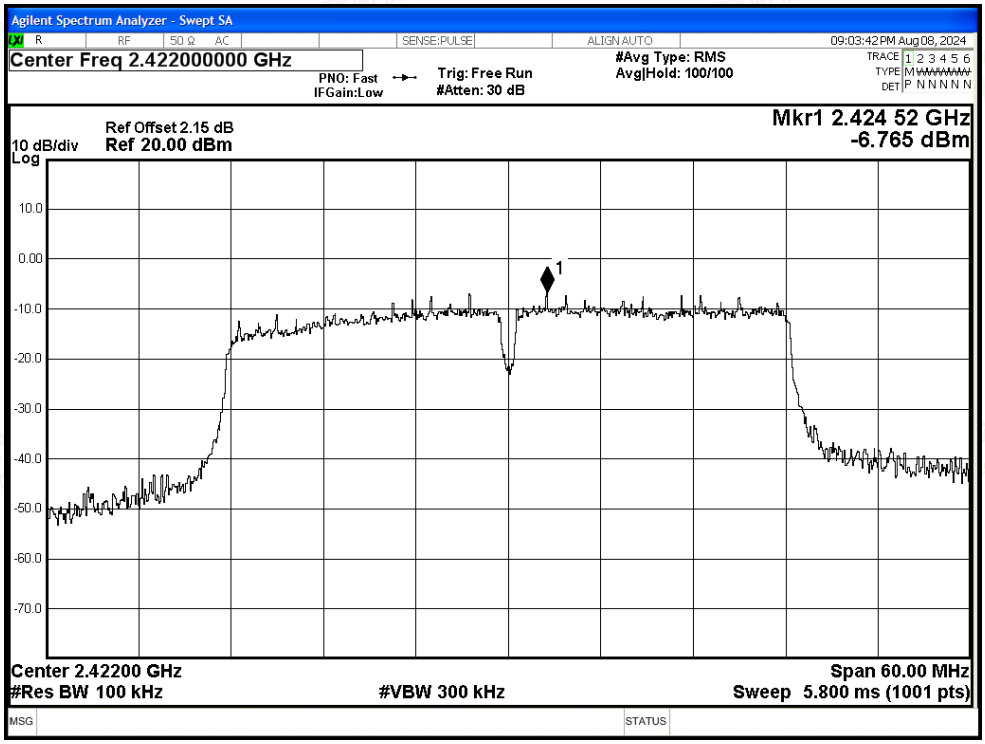
Band Edge NVNT n20 2462MHz Ant2 Ref



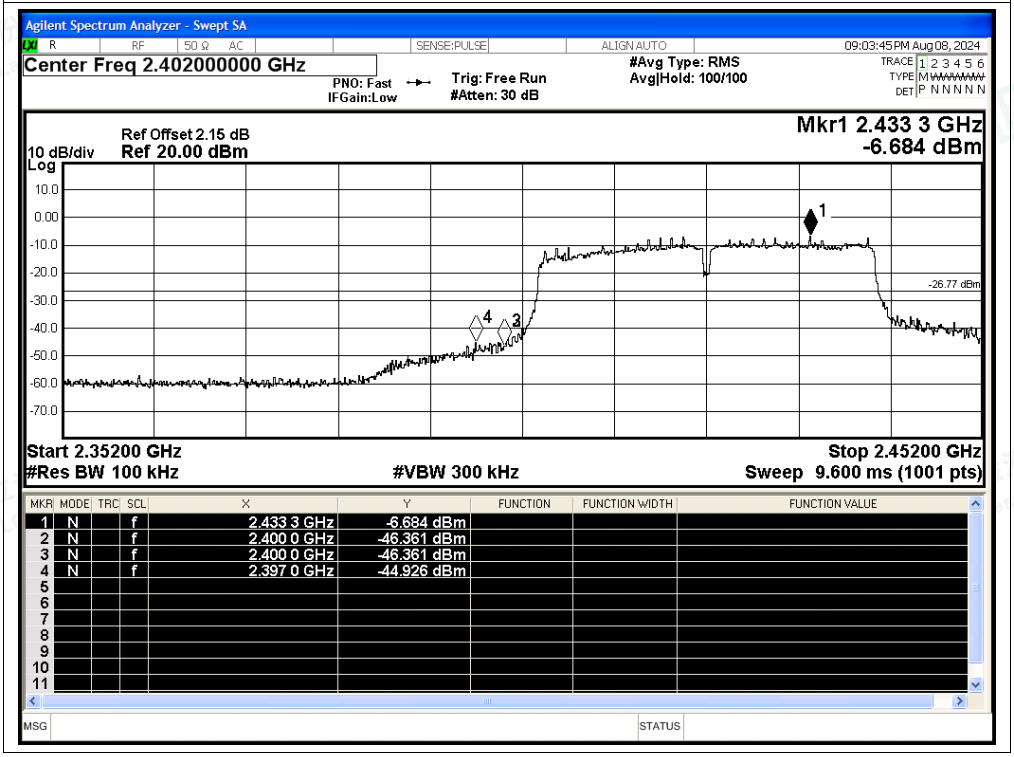

Band Edge NVNT n20 2462MHz Ant2 Emission



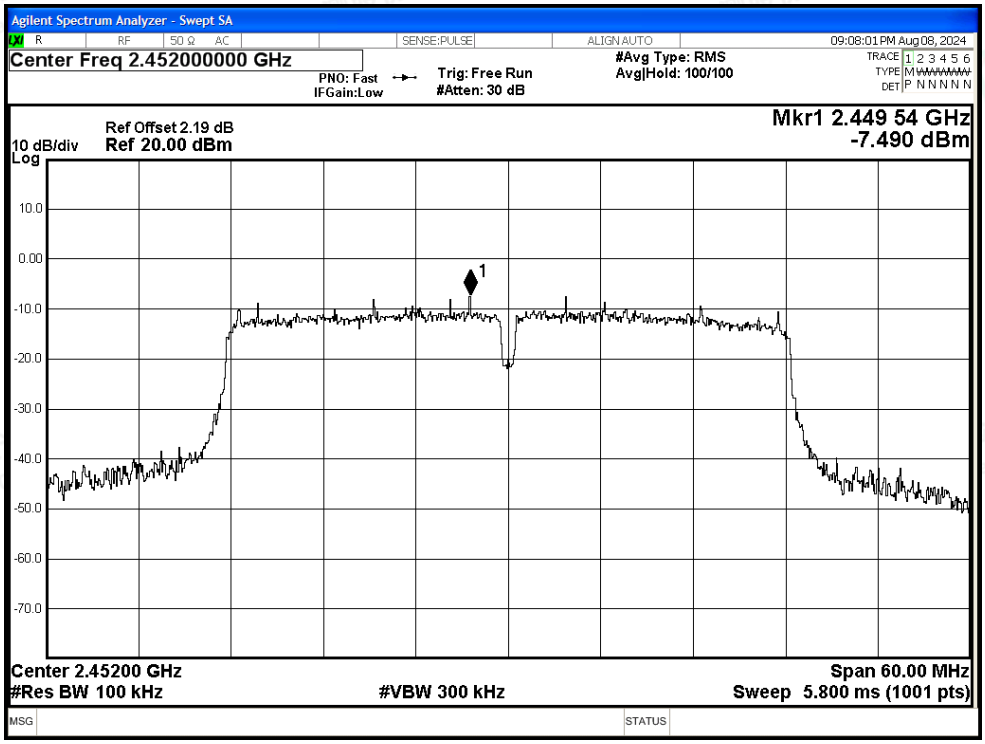
Band Edge NVNT n40 2422MHz Ant2 Ref



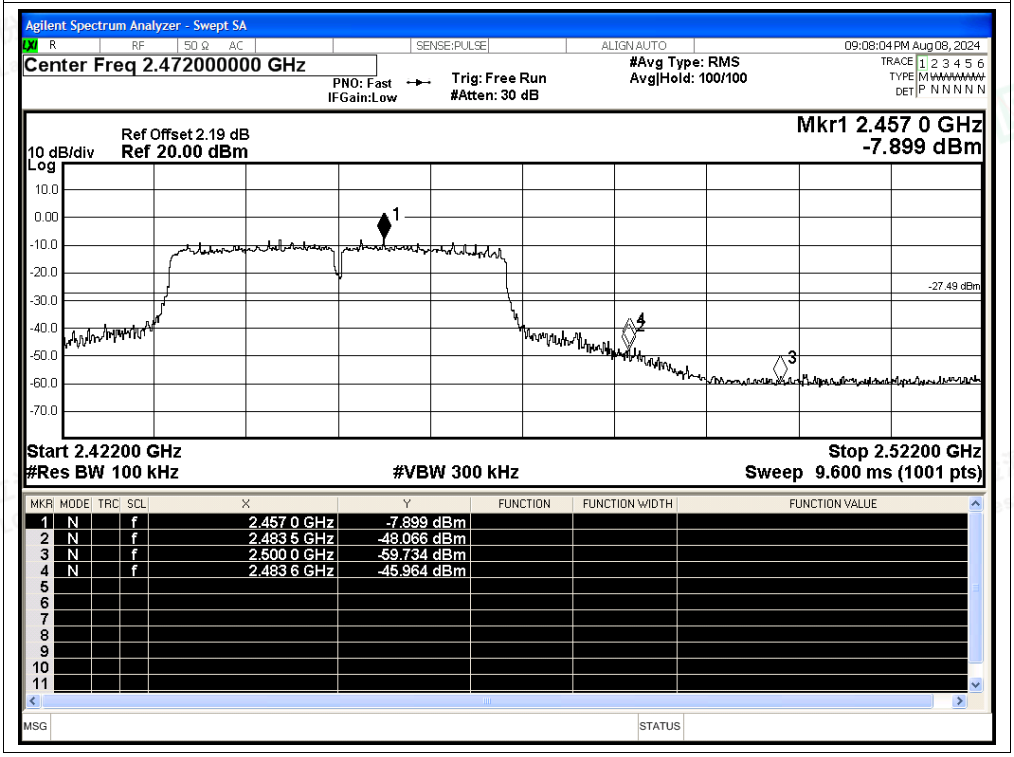

Band Edge NVNT n40 2422MHz Ant2 Emission



Band Edge NVNT n40 2452MHz Ant2 Ref




Band Edge NVNT n40 2452MHz Ant2 Emission

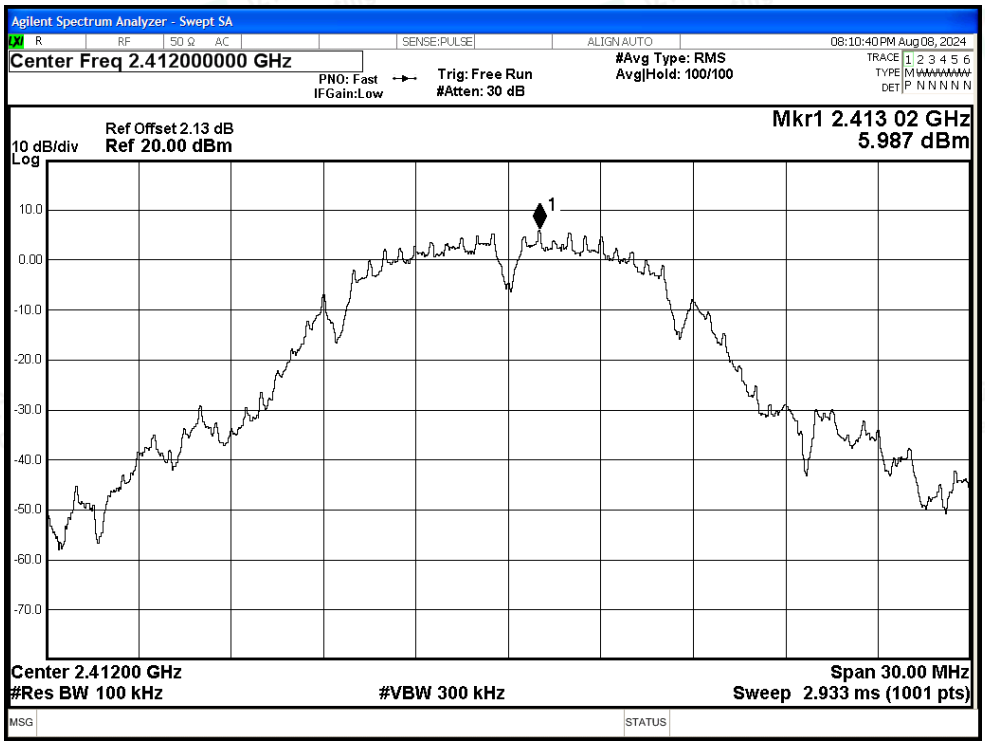


# B.5 Conducted RF Spurious Emission

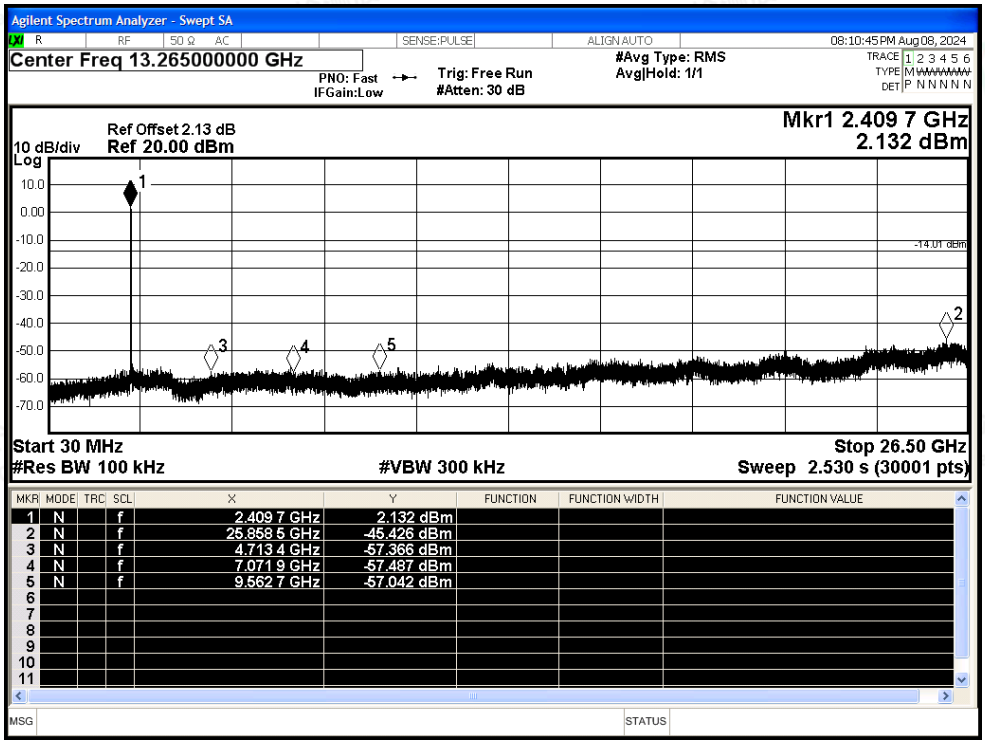
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -51.41 | -20 | Pass |
| NVNT | b | 2437 | Ant1 | -52.24 | -20 | Pass |
| NVNT | b | 2462 | Ant1 | -51.99 | -20 | Pass |
| NVNT | g | 2412 | Ant1 | -45.62 | -20 | Pass |
| NVNT | g | 2437 | Ant1 | -45.28 | -20 | Pass |
| NVNT | g | 2462 | Ant1 | -45.05 | -20 | Pass |
| NVNT | n20 | 2412 | Ant1 | -42.89 | -20 | Pass |
| NVNT | n20 | 2437 | Ant1 | -36.01 | -20 | Pass |
| NVNT | n20 | 2462 | Ant1 | -44.43 | -20 | Pass |
| NVNT | n40 | 2422 | Ant1 | -39.72 | -20 | Pass |
| NVNT | n40 | 2437 | Ant1 | -37.83 | -20 | Pass |
| NVNT | n40 | 2452 | Ant1 | -39.36 | -20 | Pass |

Test Graphs

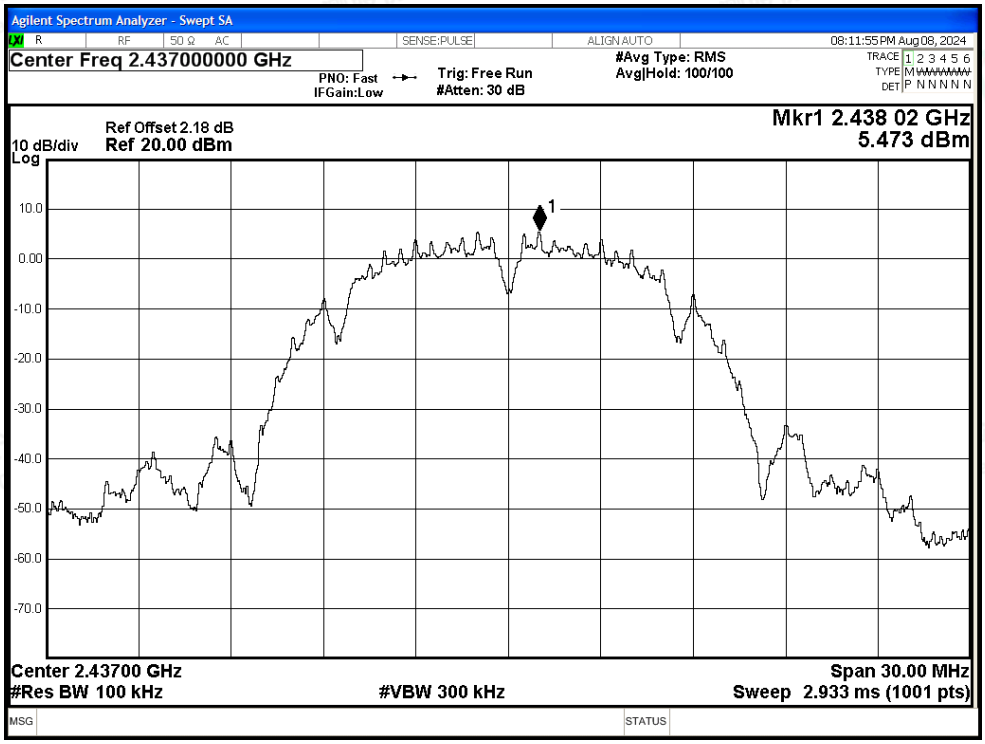
Tx. Spurious NVNT b 2412MHz Ant1 Ref



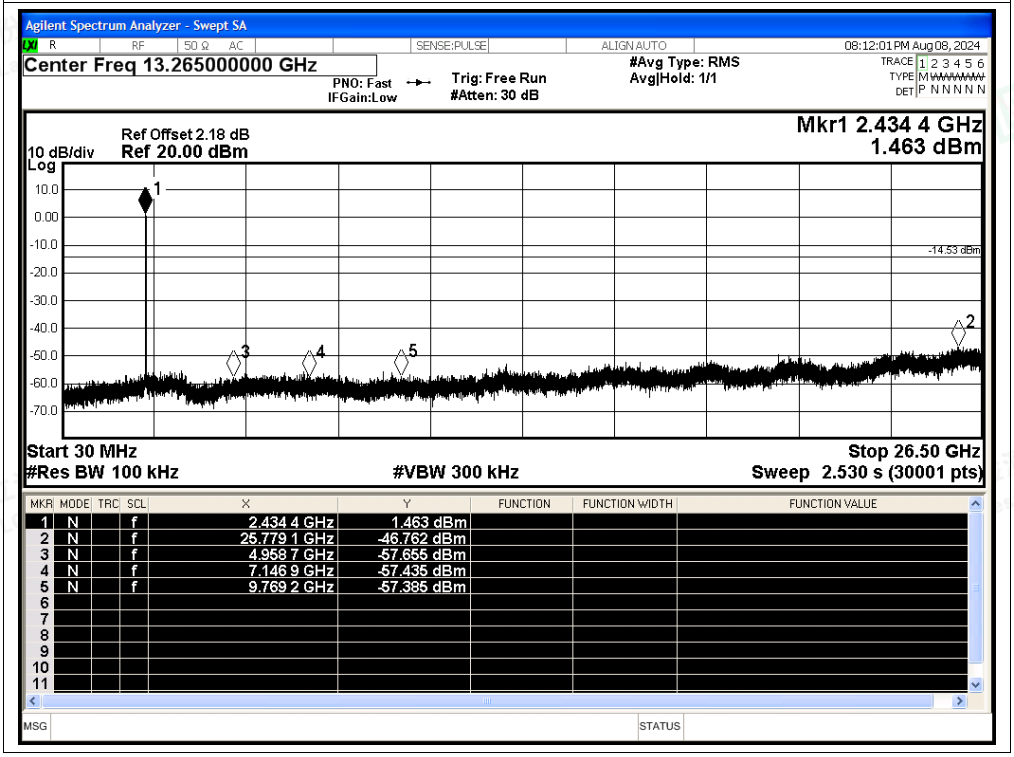

Tx. Spurious NVNT b 2412MHz Ant1 Emission



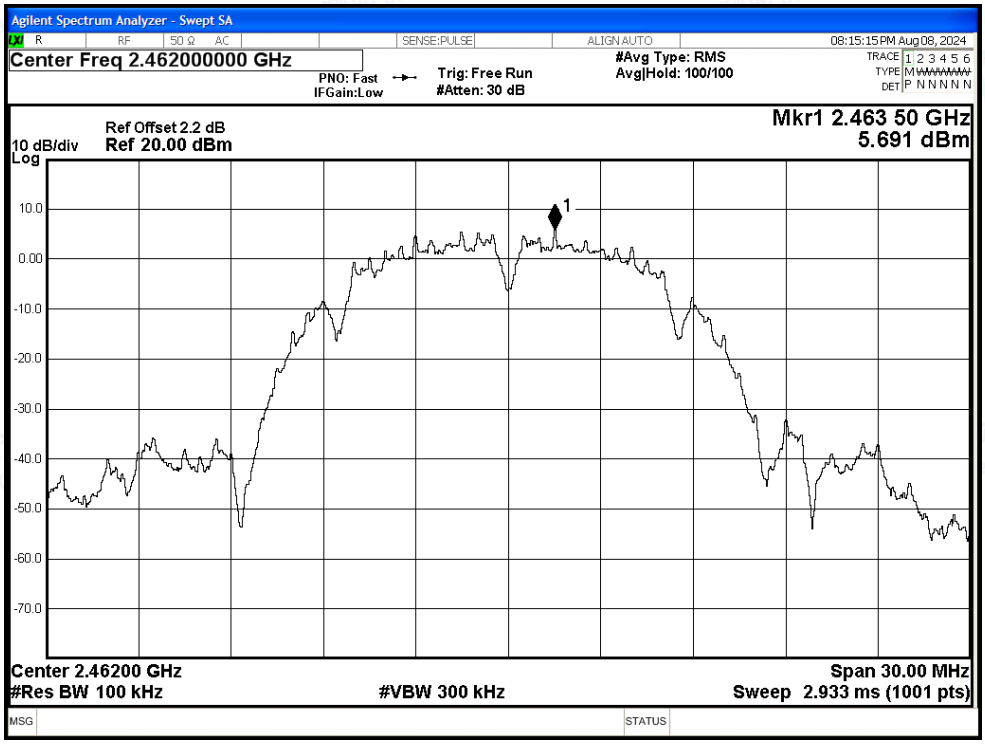
Tx. Spurious NVNT b 2437MHz Ant1 Ref



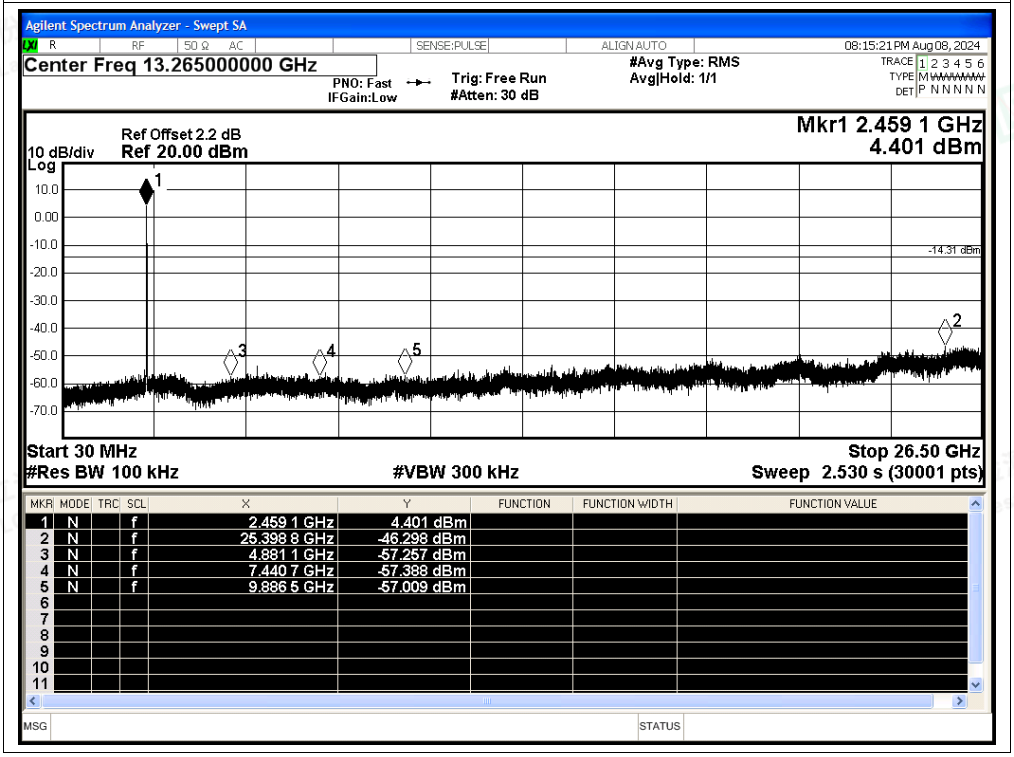

Tx. Spurious NVNT b 2437MHz Ant1 Emission



Tx. Spurious NVNT b 2462MHz Ant1 Ref

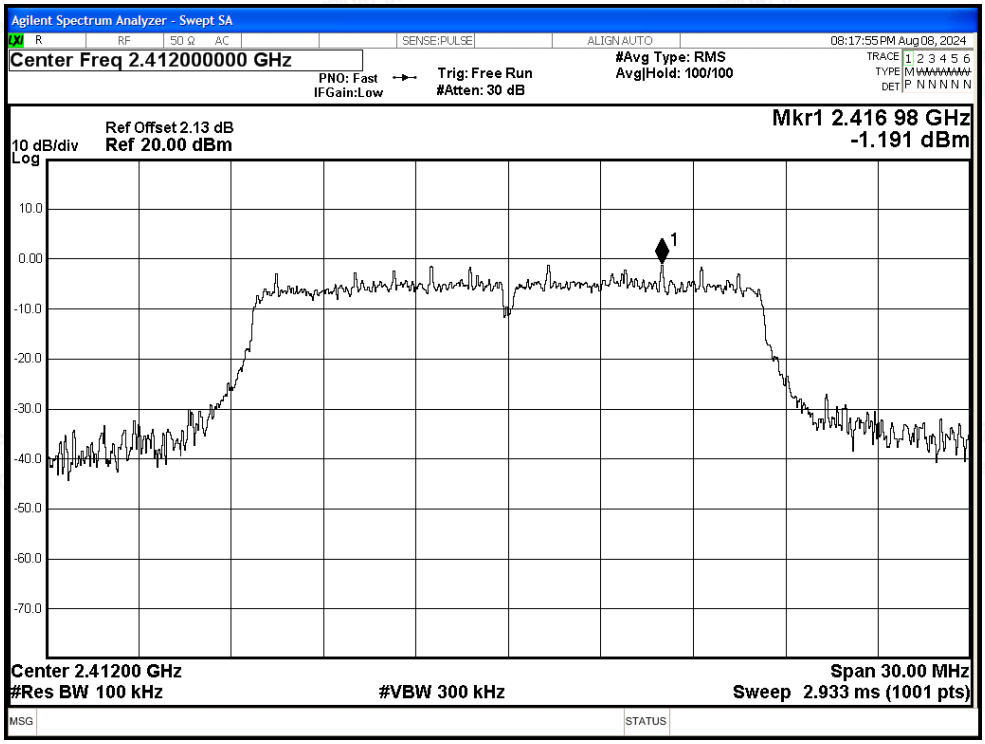



Tx. Spurious NVNT b 2462MHz Ant1 Emission

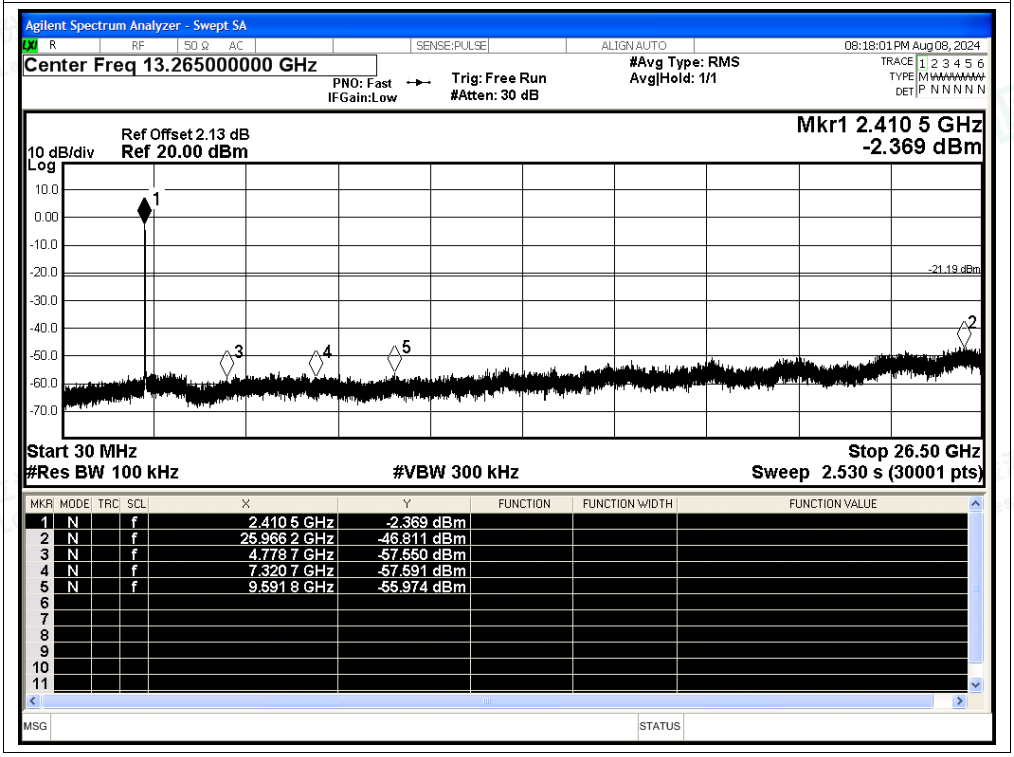



| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|---|---|---|---|---|---|---|---|---|
| 1 | N | | f | 2.459 1 GHz | 4.401 dBm | | | |
| 2 | N | | f | 25.398 8 GHz | -46.298 dBm | | | |
| 3 | N | | f | 4.881 1 GHz | -57.257 dBm | | | |
| 4 | N | | f | 7.440 7 GHz | -57.388 dBm | | | |
| 5 | N | | f | 9.886 5 GHz | -57.009 dBm | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

Tx. Spurious NVNT g 2412MHz Ant1 Ref

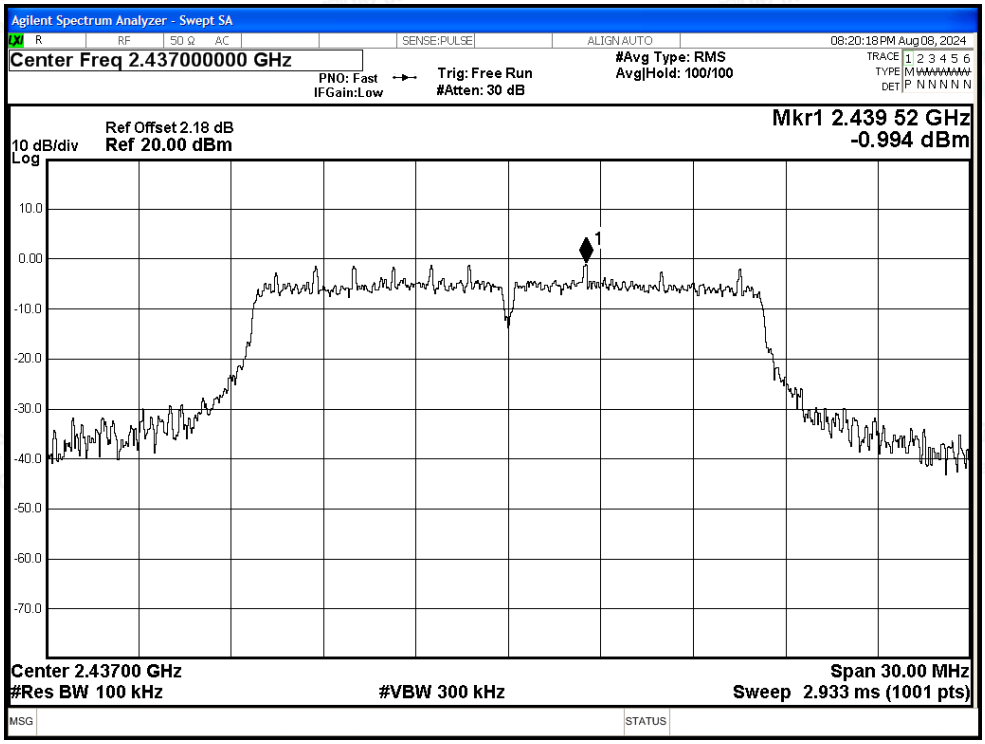



Tx. Spurious NVNT g 2412MHz Ant1 Emission

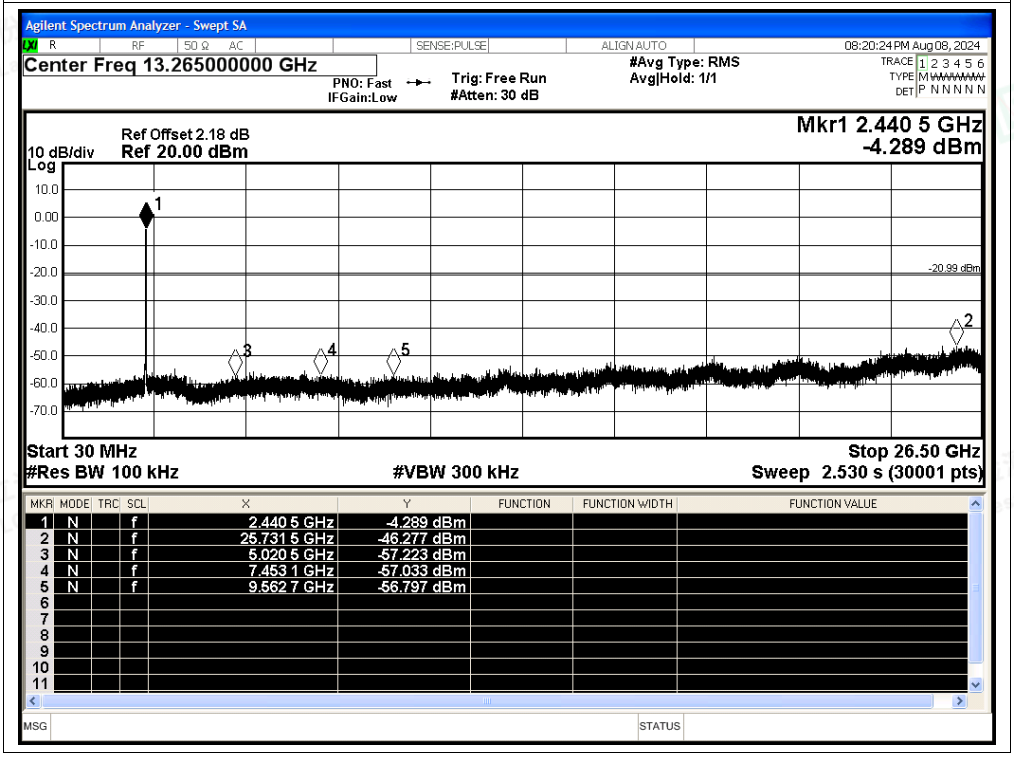



| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|---|---|---|---|---|---|---|---|---|
| 1 | N | | f | 2.410 5 GHz | -2.369 dBm | | | |
| 2 | N | | f | 25.966 2 GHz | -46.811 dBm | | | |
| 3 | N | | f | 4.778 7 GHz | -57.550 dBm | | | |
| 4 | N | | f | 7.320 7 GHz | -57.591 dBm | | | |
| 5 | N | | f | 9.591 8 GHz | -55.974 dBm | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

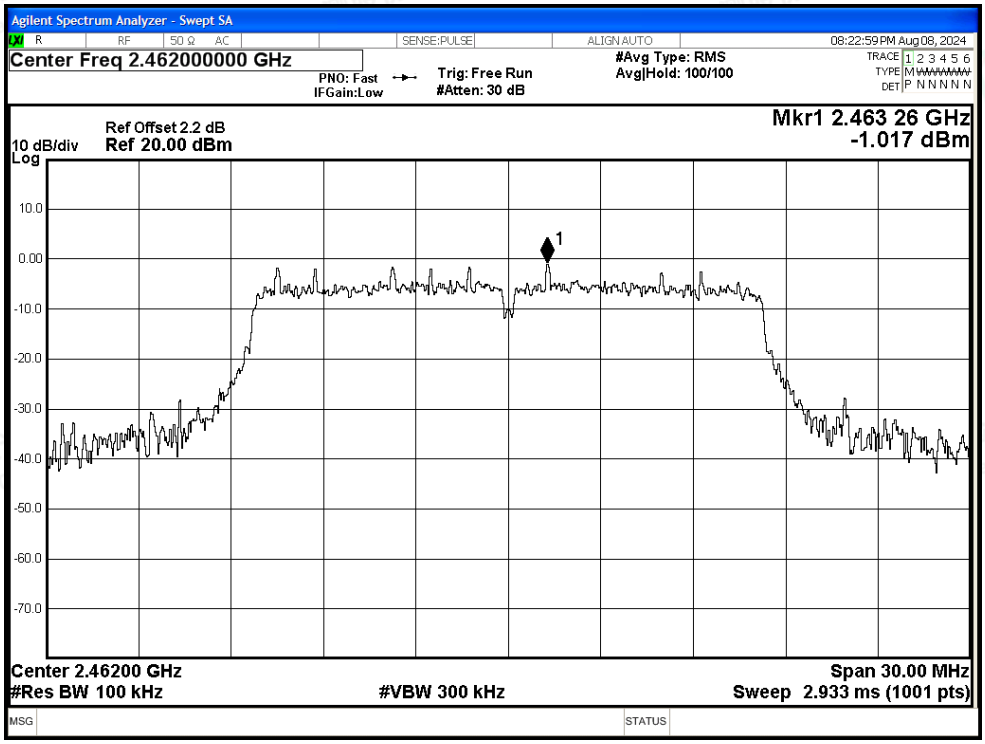
Tx. Spurious NVNT g 2437MHz Ant1 Ref



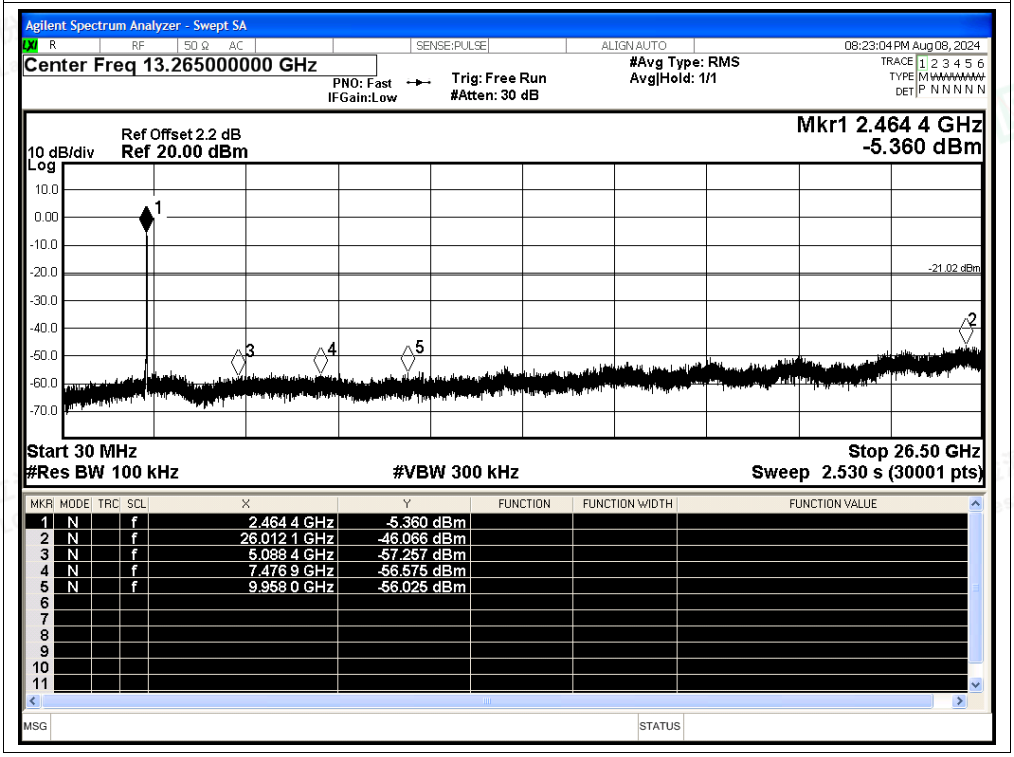

Tx. Spurious NVNT g 2437MHz Ant1 Emission



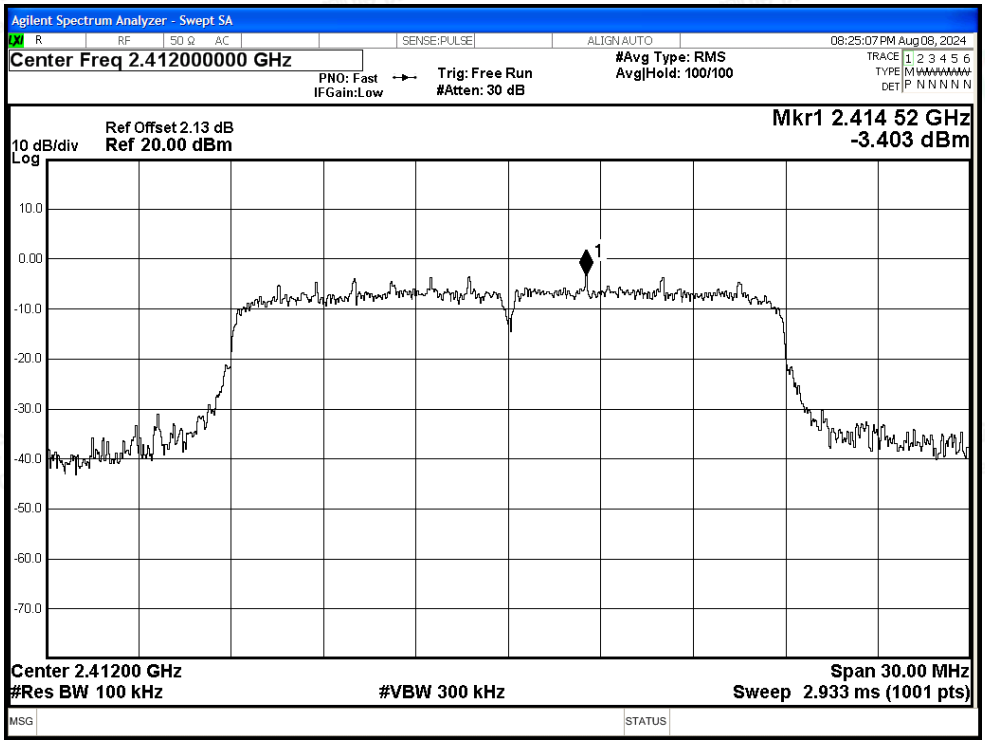
Tx. Spurious NVNT g 2462MHz Ant1 Ref



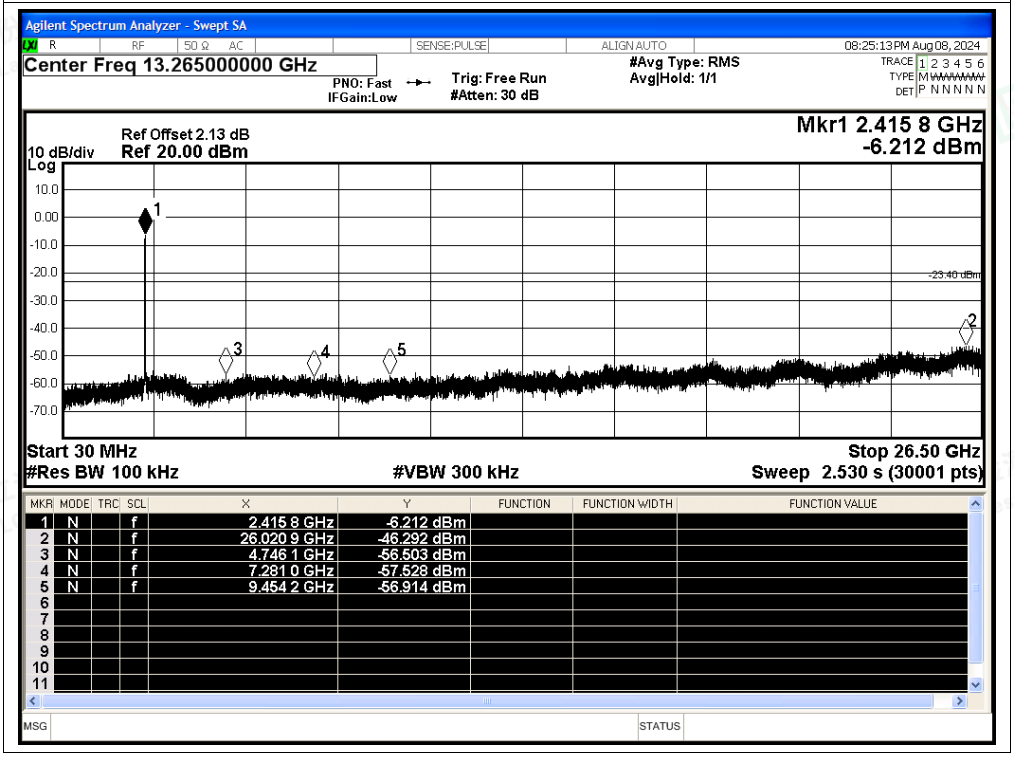

Tx. Spurious NVNT g 2462MHz Ant1 Emission



Tx. Spurious NVNT n20 2412MHz Ant1 Ref

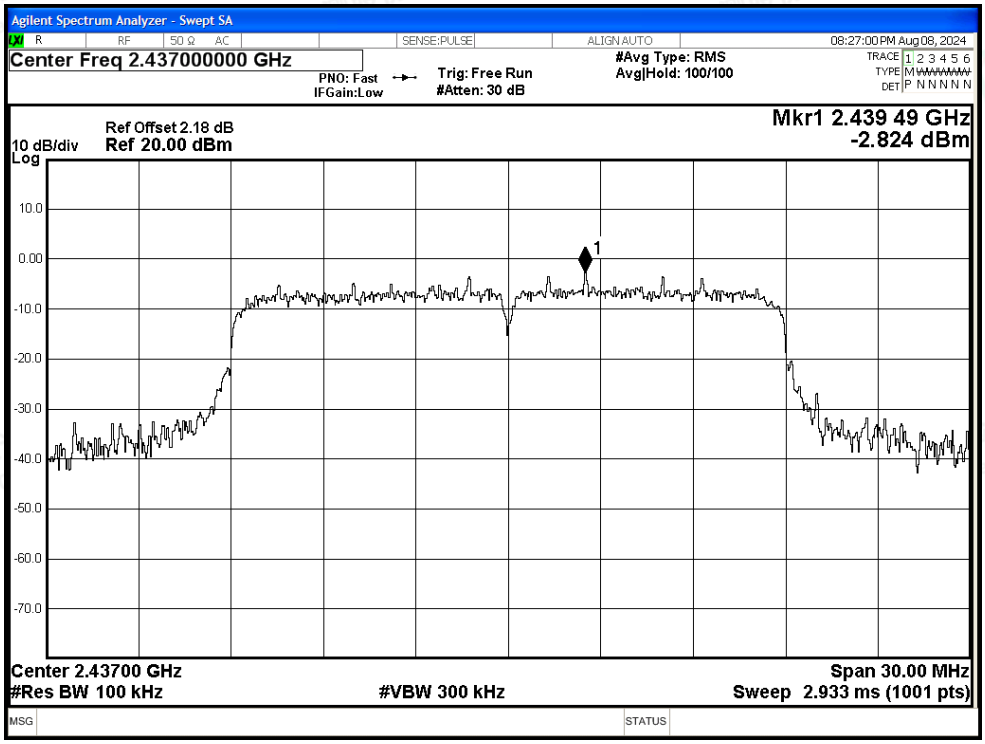



Tx. Spurious NVNT n20 2412MHz Ant1 Emission

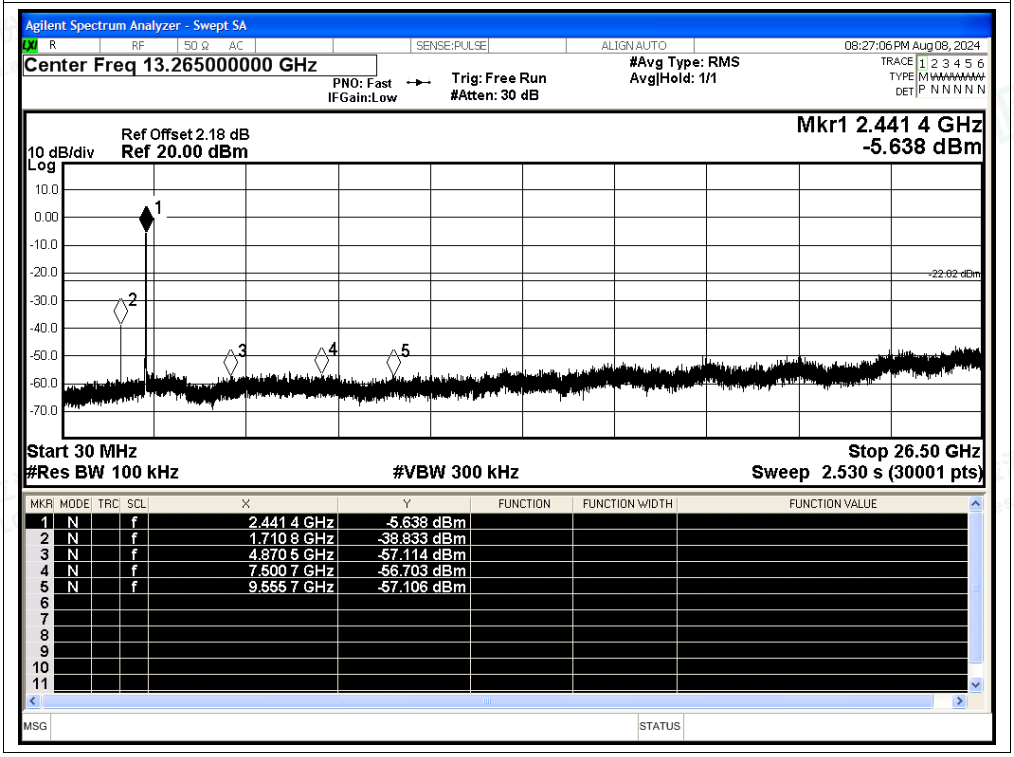



| MKR | MODE | TRC | SCL | X | Y | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|---|---|---|---|---|---|---|---|---|
| 1 | N | | f | 2.415 8 GHz | -6.212 dBm | | | |
| 2 | N | | f | 26.020 9 GHz | -46.292 dBm | | | |
| 3 | N | | f | 4.746 1 GHz | -56.503 dBm | | | |
| 4 | N | | f | 7.281 0 GHz | -57.528 dBm | | | |
| 5 | N | | f | 9.454 2 GHz | -56.914 dBm | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |

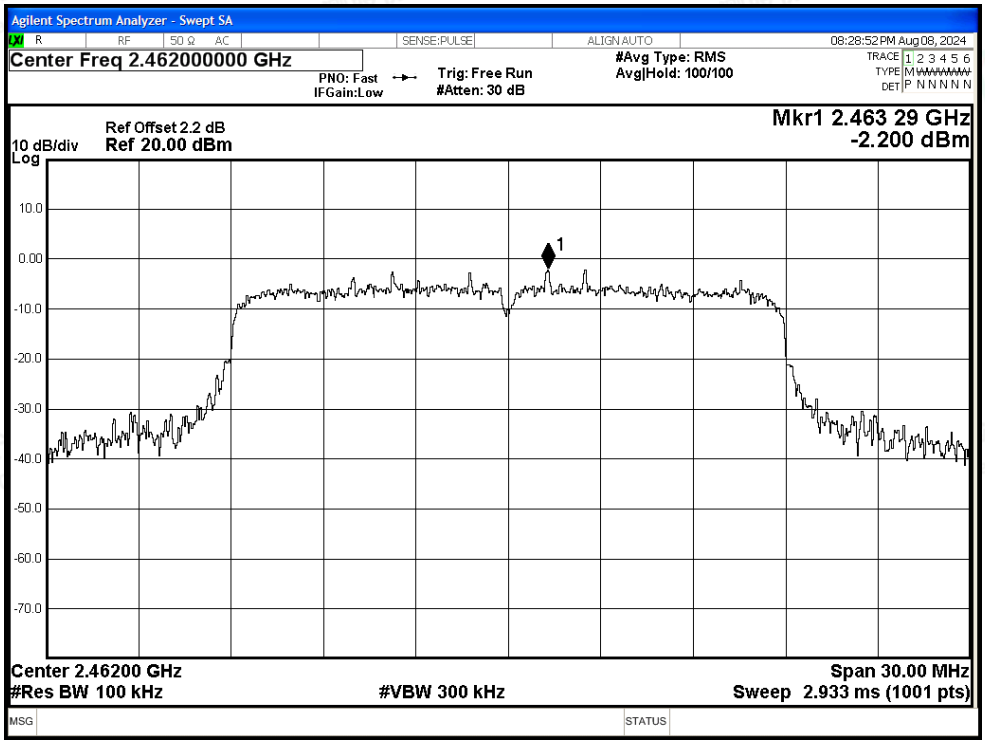
Tx. Spurious NVNT n20 2437MHz Ant1 Ref



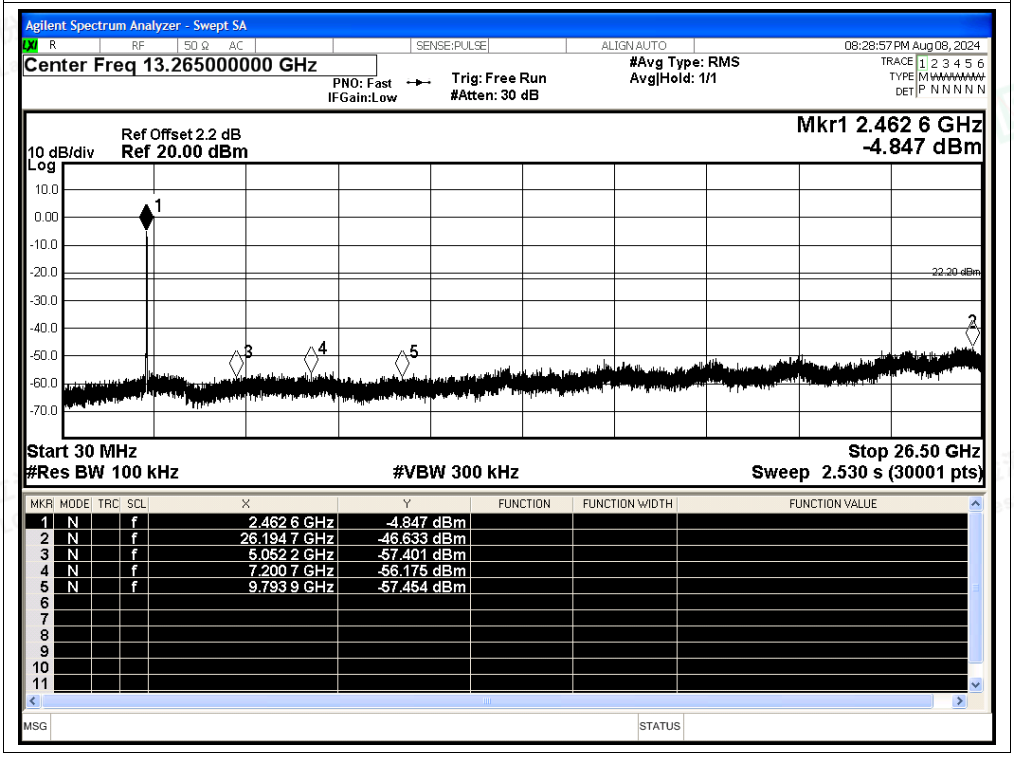

Tx. Spurious NVNT n20 2437MHz Ant1 Emission



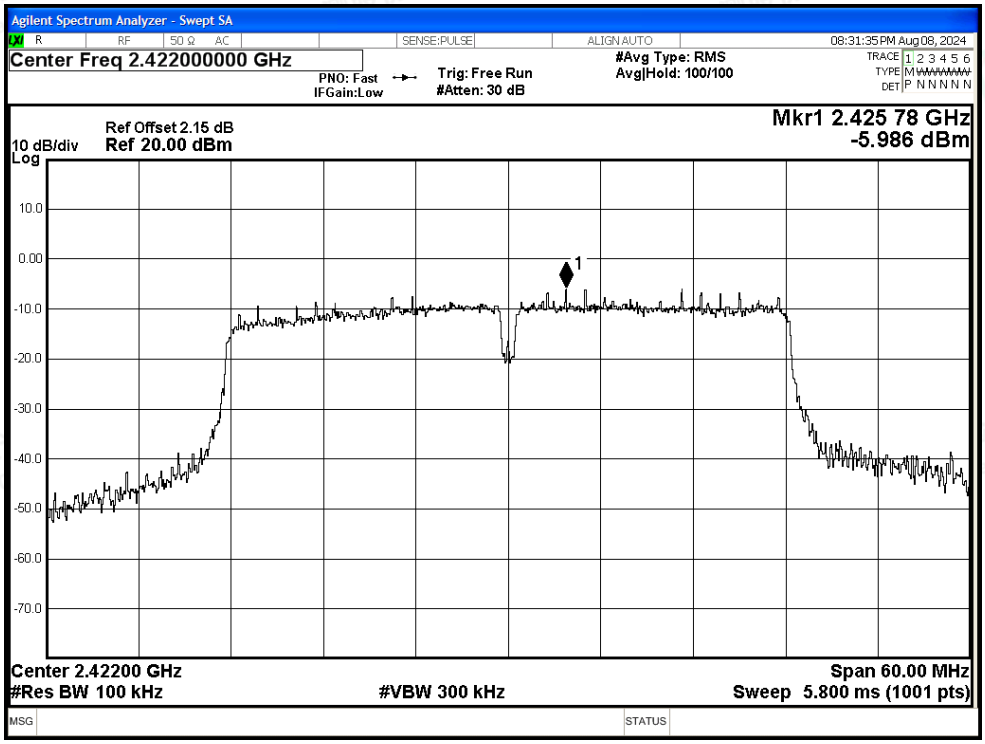
Tx. Spurious NVNT n20 2462MHz Ant1 Ref



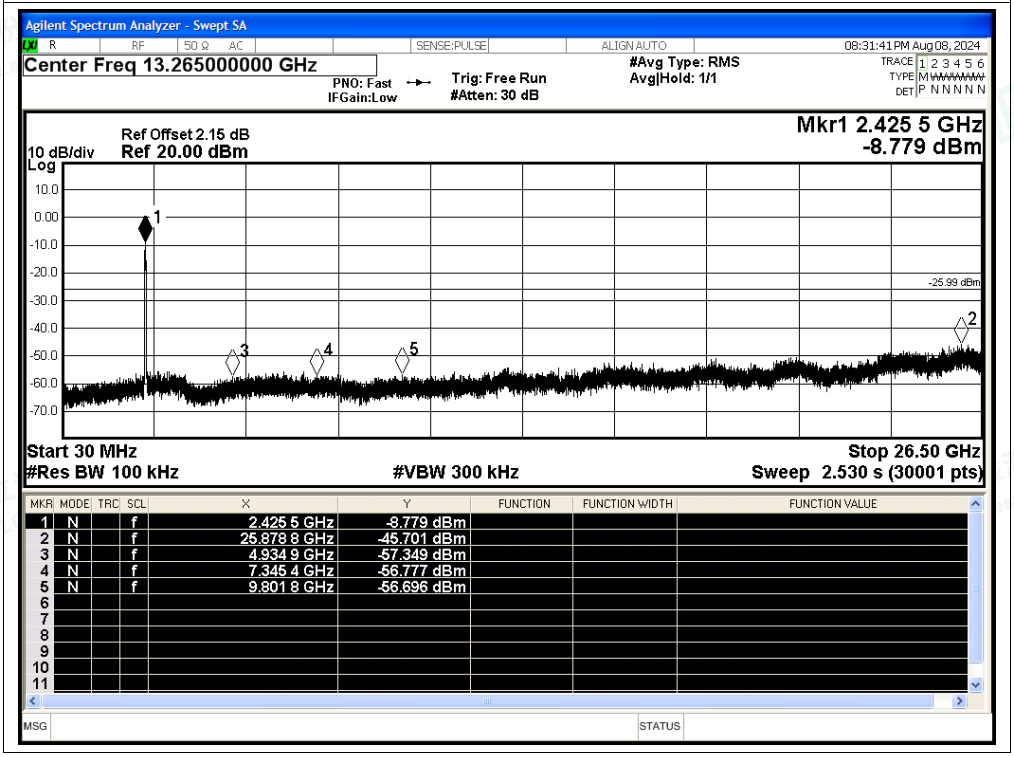

Tx. Spurious NVNT n20 2462MHz Ant1 Emission



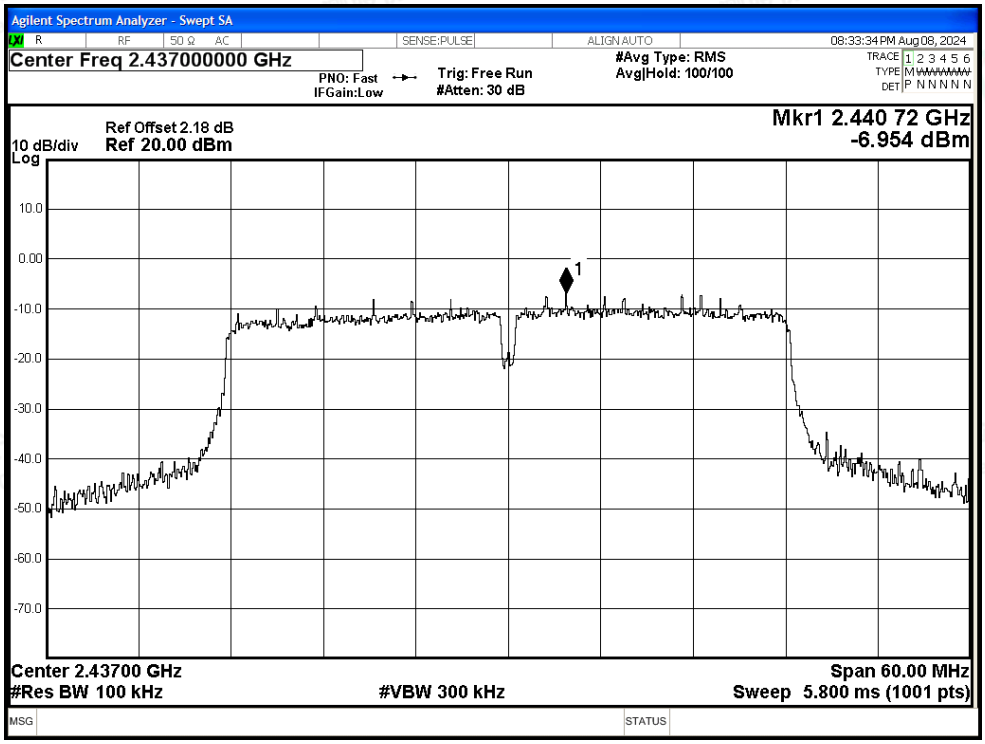
Tx. Spurious NVNT n40 2422MHz Ant1 Ref



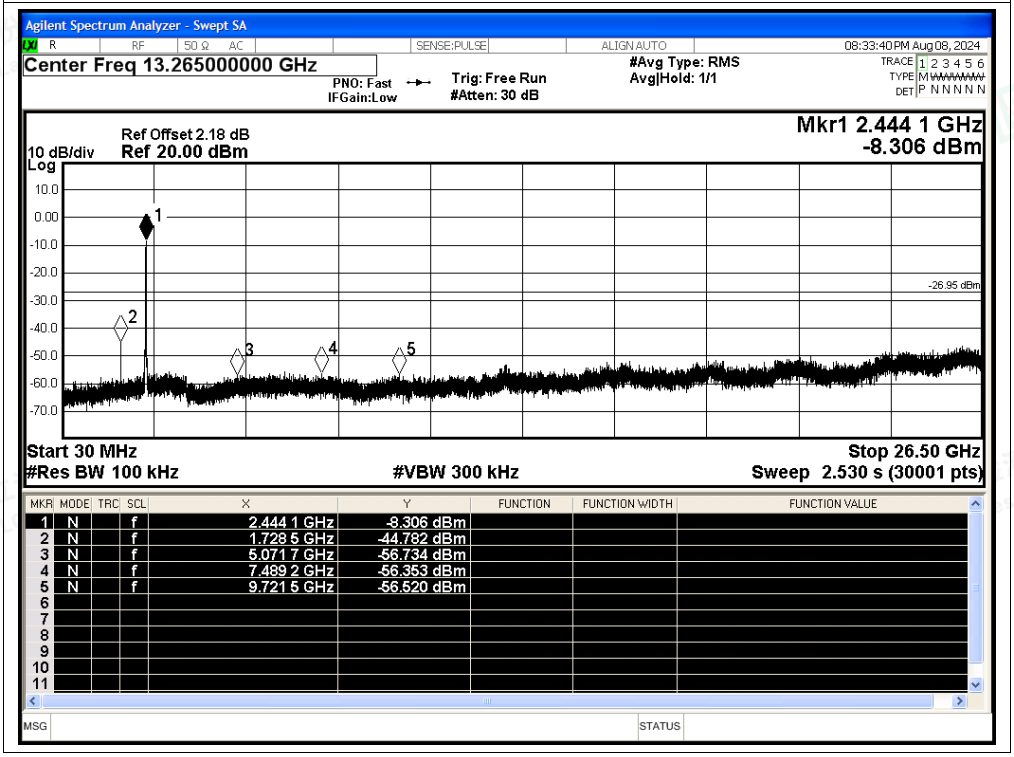

Tx. Spurious NVNT n40 2422MHz Ant1 Emission



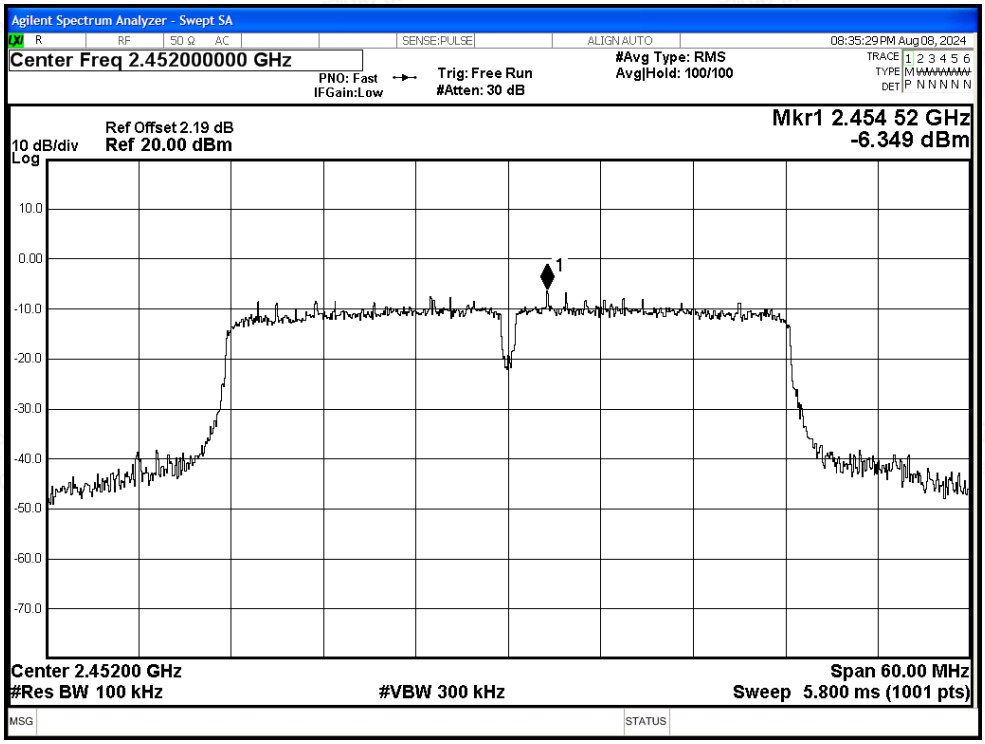
Tx. Spurious NVNT n40 2437MHz Ant1 Ref




Tx. Spurious NVNT n40 2437MHz Ant1 Emission



Tx. Spurious NVNT n40 2452MHz Ant1 Ref




Tx. Spurious NVNT n40 2452MHz Ant1 Emission