# RF Test Data for 2.4G WiFi (Conducted Measurements)

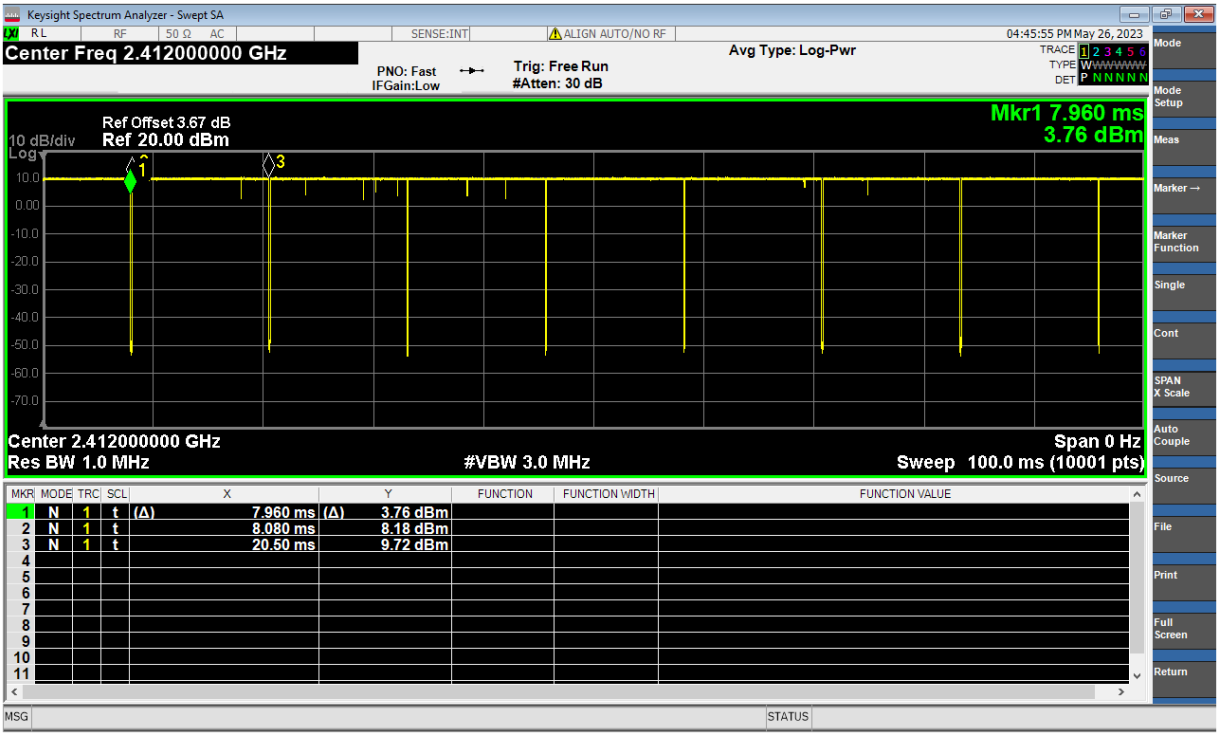
| General Description of EUT | |
|---|---|
| **Product Name:** | Automatic pet feeder |
| **Test Model:** | PF300 |
| **Sample ID:** | RW-C-202303-0318-5-2# |
| **Environmental Conditions** | |
| **Temperature:** | 24℃ |
| **Relative Humidity:** | 50% |
| **Test Voltage:** | DC 5V |
| **Test Engineer:** | Liujiming |
| Note: For a more detailed features description, please refer to the report TBR-C-202303-0318-5<br>The report only show the worst case data | |

## Duty Cycle

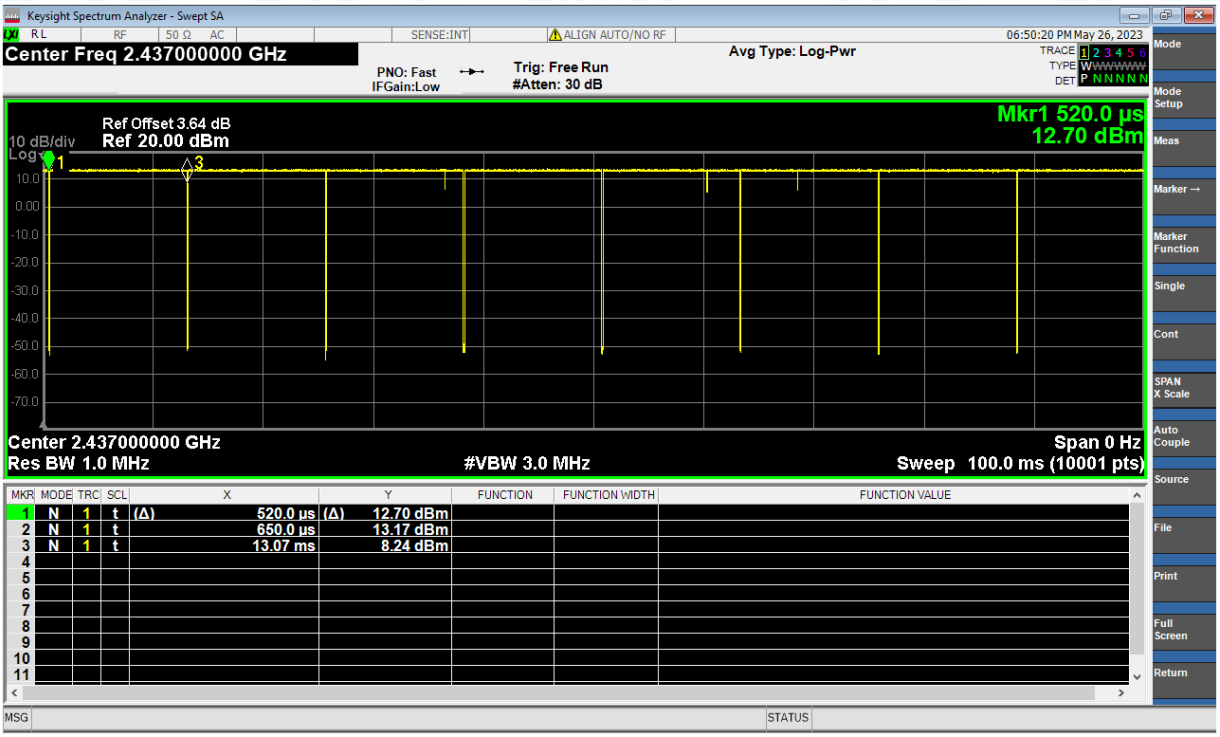
| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 99.04 | 0.04 | 0.08 |
| NVNT | b | 2437 | Ant1 | 98.96 | 0.05 | 0.08 |
| NVNT | b | 2462 | Ant1 | 98.96 | 0.05 | 0.08 |
| NVNT | g | 2412 | Ant1 | 94.06 | 0.27 | 0.49 |
| NVNT | g | 2437 | Ant1 | 94.09 | 0.26 | 0.48 |
| NVNT | g | 2462 | Ant1 | 94.52 | 0.24 | 0.48 |
| NVNT | n(HT20) | 2412 | Ant1 | 93.66 | 0.28 | 0.52 |
| NVNT | n(HT20) | 2437 | Ant1 | 93.66 | 0.28 | 0.52 |
| NVNT | n(HT20) | 2462 | Ant1 | 93.66 | 0.28 | 0.52 |

Test Graphs

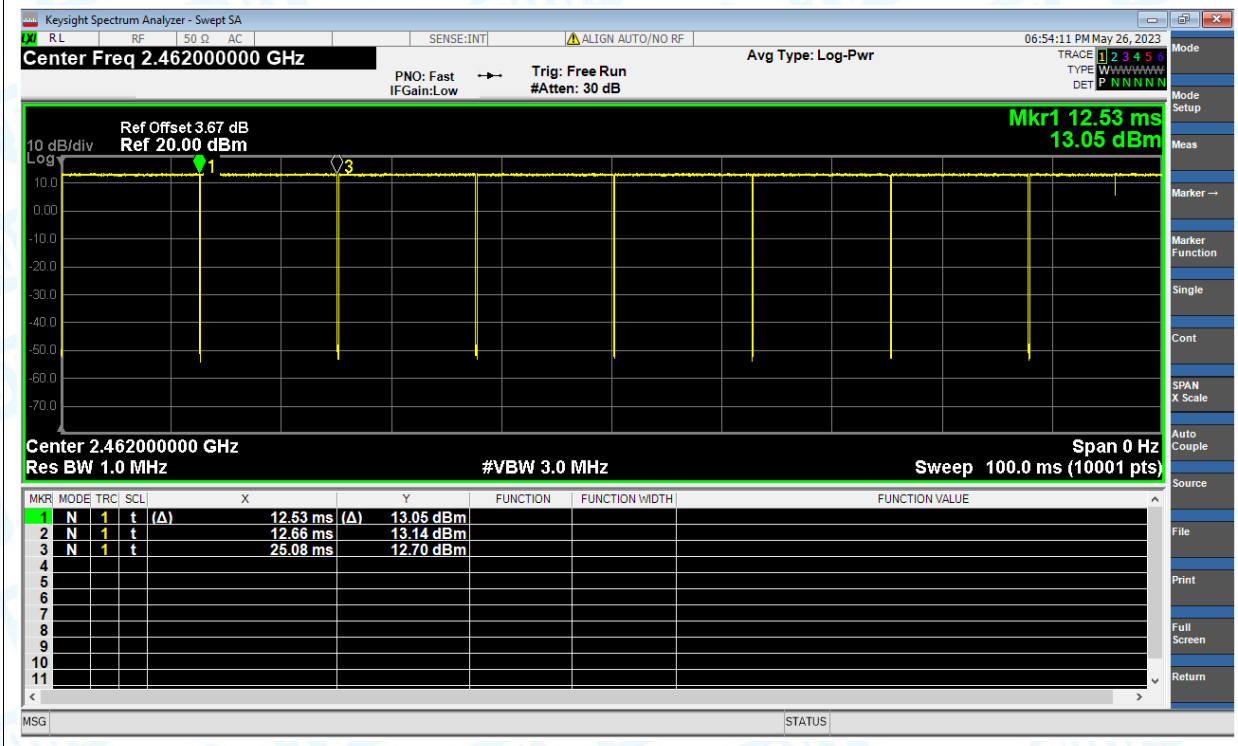
Duty Cycle NVNT b 2412MHz Ant1



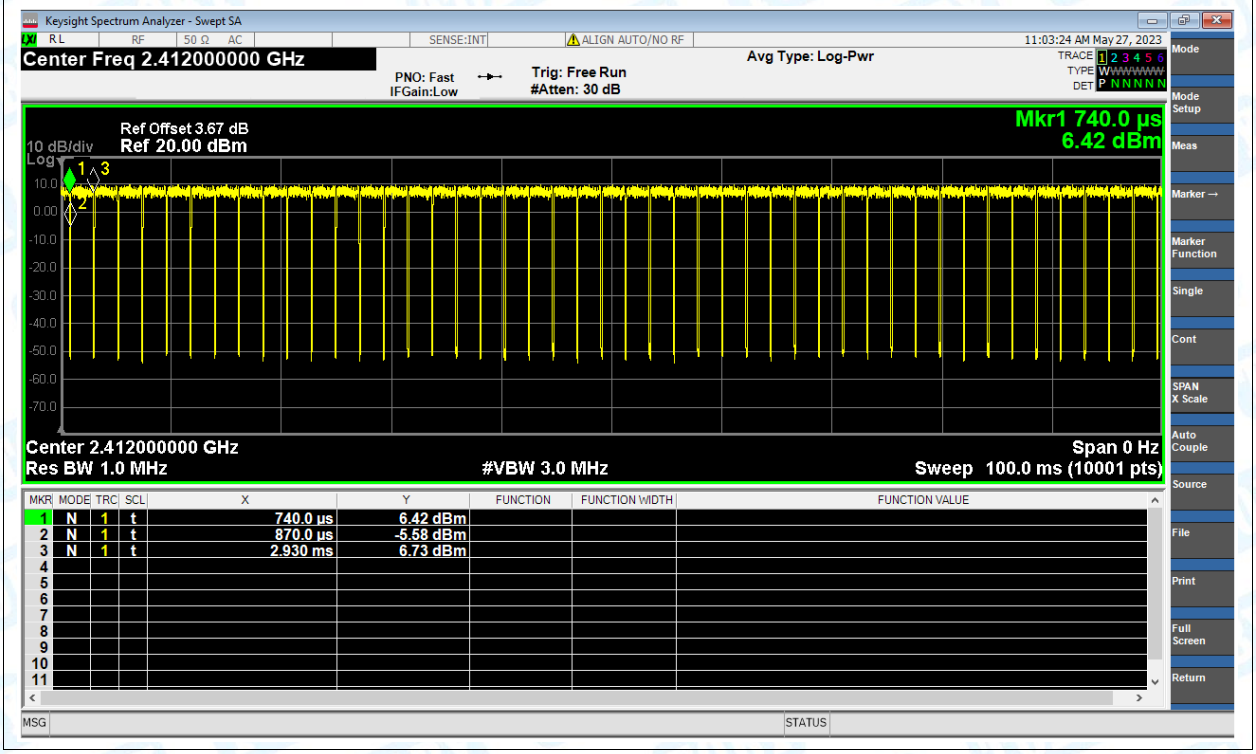

Duty Cycle NVNT b 2437MHz Ant1



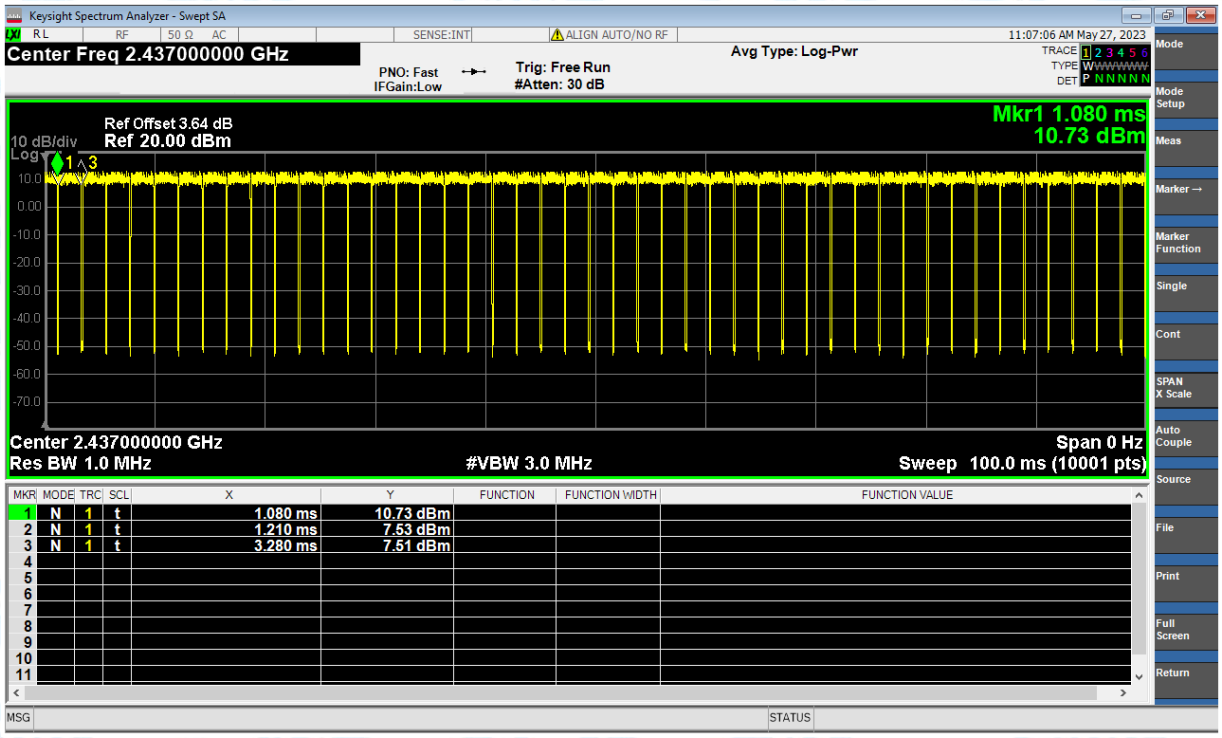
Duty Cycle NVNT b 2462MHz Ant1



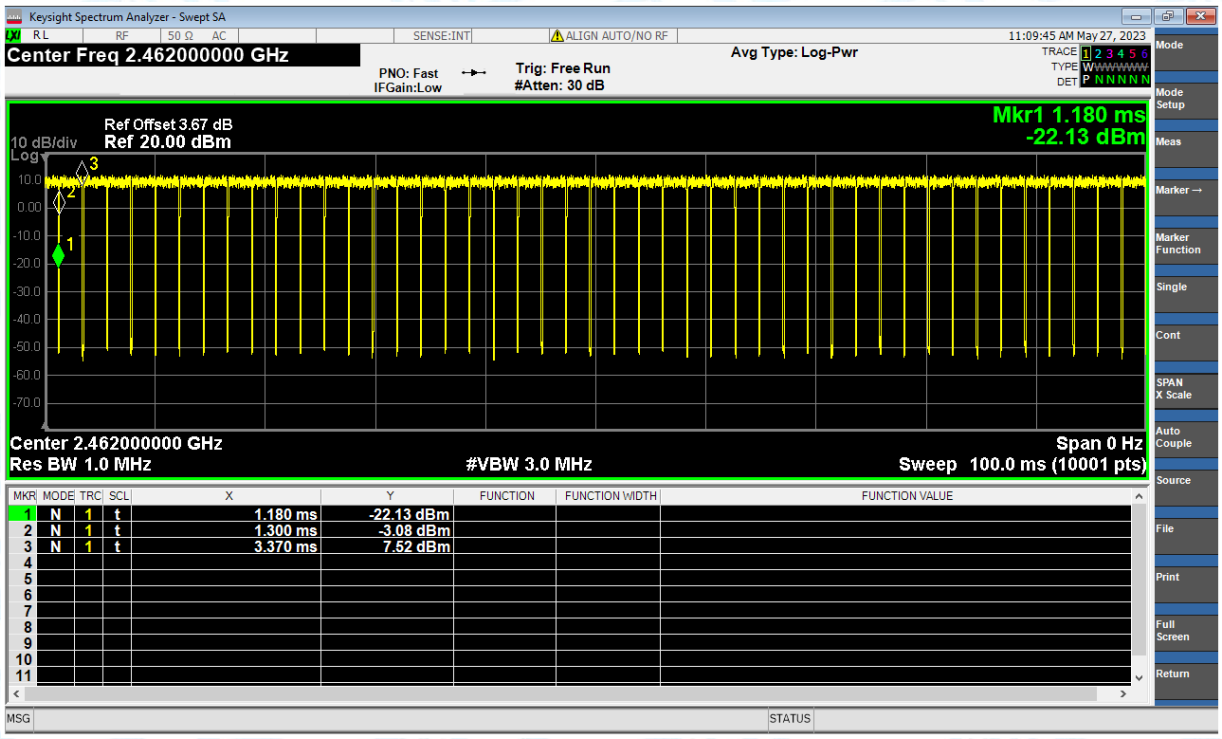

Duty Cycle NVNT g 2412MHz Ant1



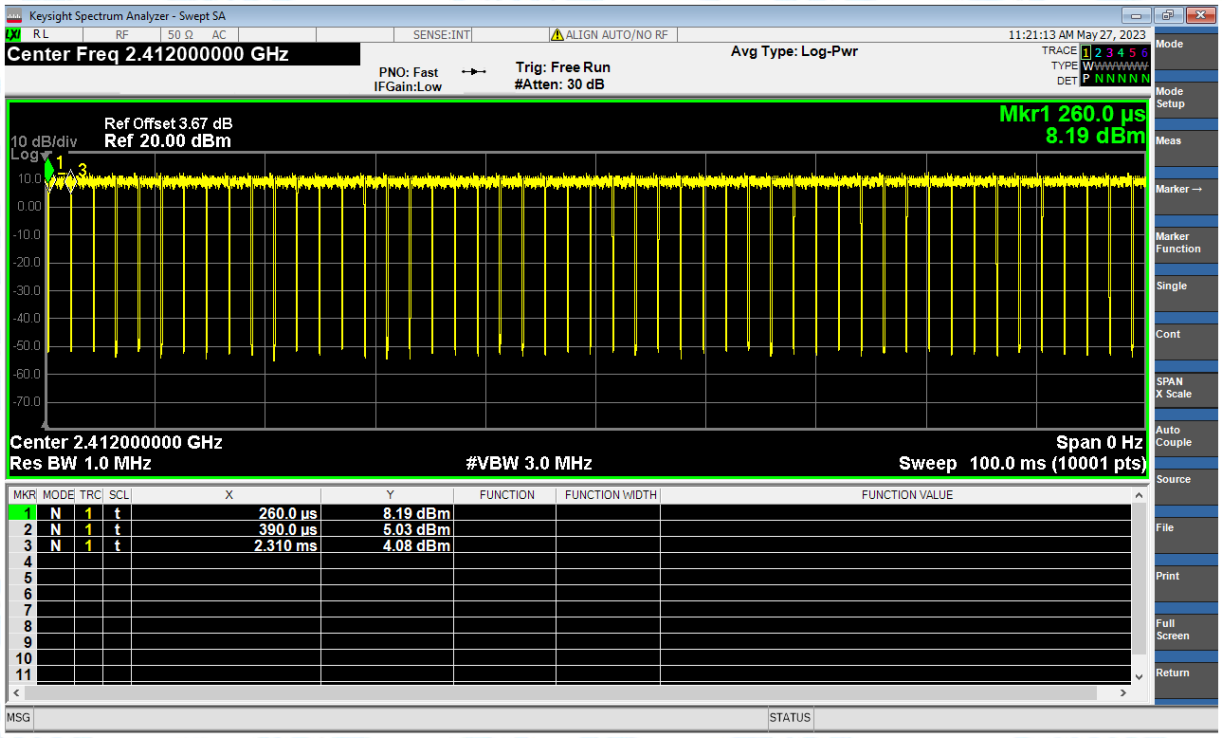
Duty Cycle NVNT g 2437MHz Ant1



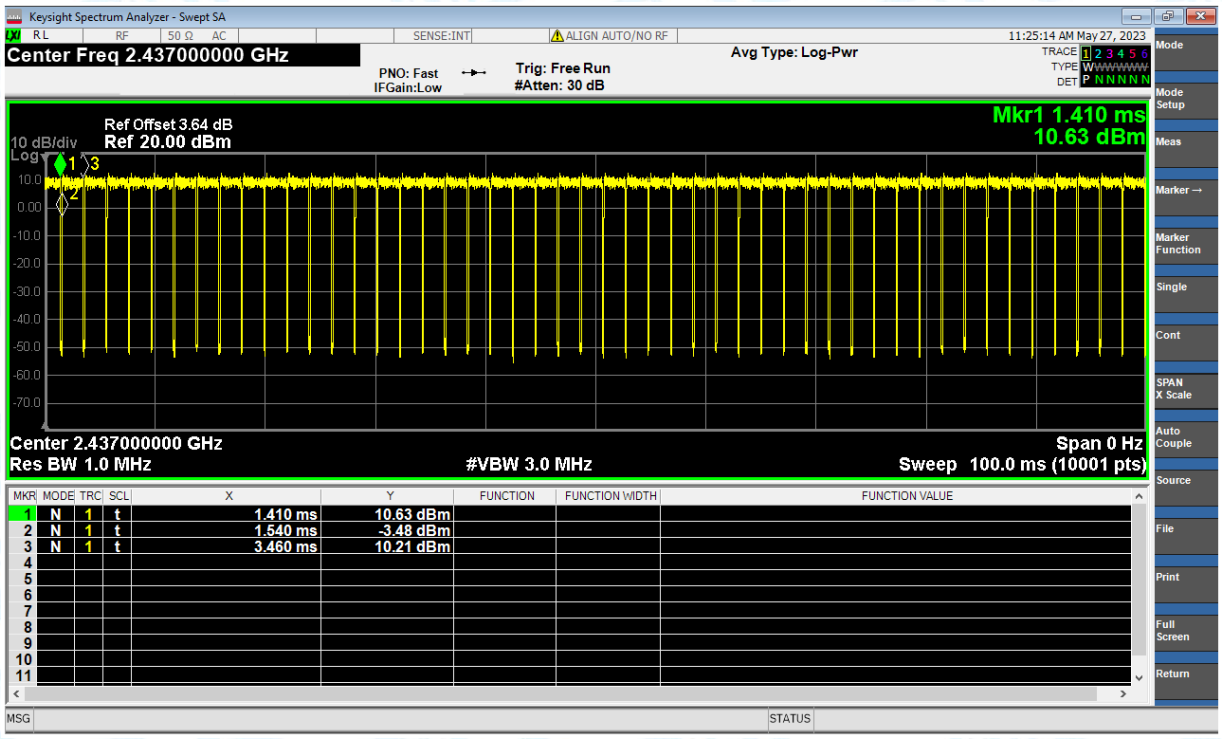

Duty Cycle NVNT g 2462MHz Ant1



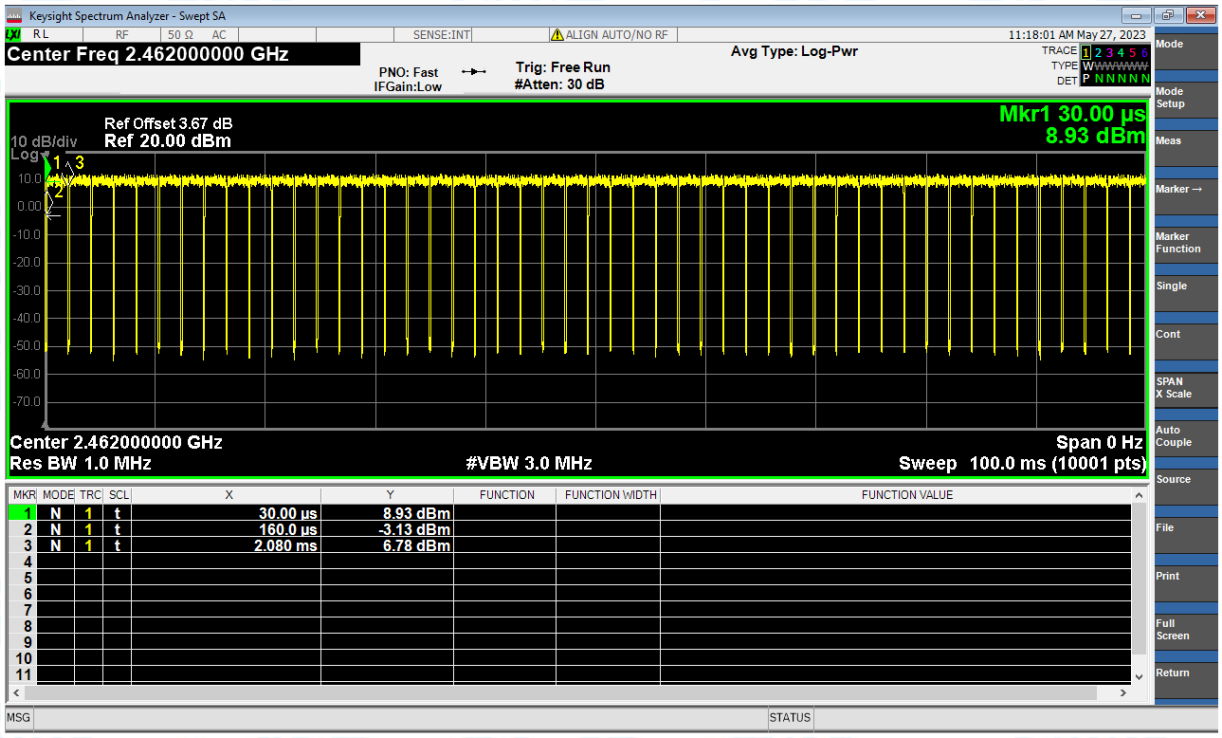
Duty Cycle NVNT n(HT20) 2412MHz Ant1




Duty Cycle NVNT n(HT20) 2437MHz Ant1



Duty Cycle NVNT n(HT20) 2462MHz Ant1



# Maximum Conducted Output Power

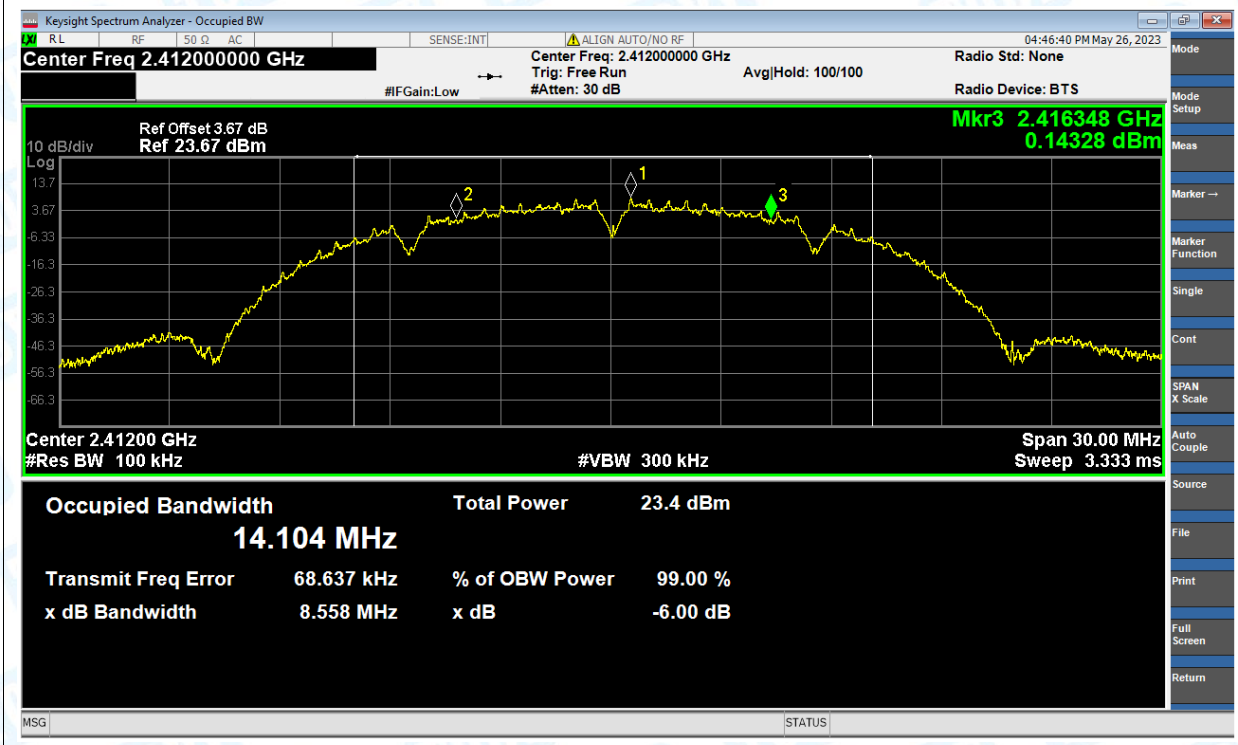
| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 17.184 | 30 | Pass |
| NVNT | b | 2437 | Ant1 | 17.864 | 30 | Pass |
| NVNT | b | 2462 | Ant1 | 17.179 | 30 | Pass |
| NVNT | g | 2412 | Ant1 | 16.724 | 30 | Pass |
| NVNT | g | 2437 | Ant1 | 16.64 | 30 | Pass |
| NVNT | g | 2462 | Ant1 | 16.846 | 30 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 16.456 | 30 | Pass |
| NVNT | n(HT20) | 2437 | Ant1 | 16.608 | 30 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 16.285 | 30 | Pass |

# -6dB Bandwidth

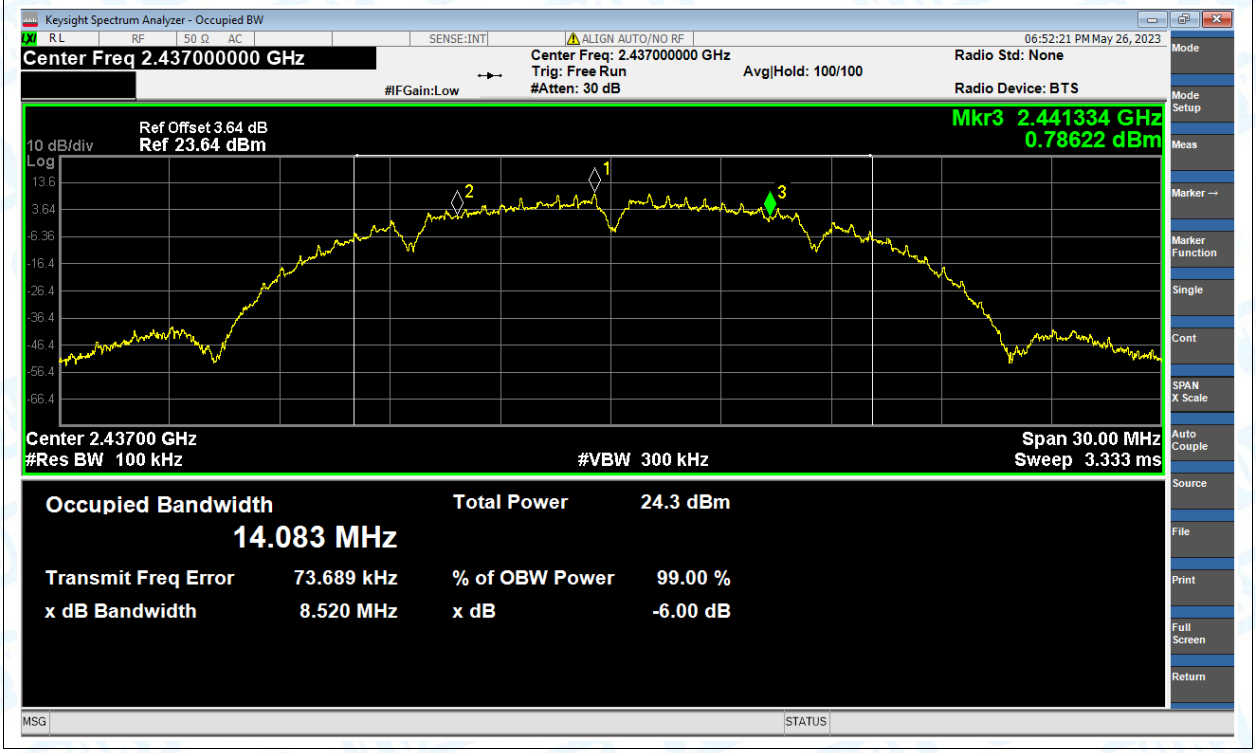
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 8.56 | 0.5 | Pass |
| NVNT | b | 2437 | Ant1 | 8.52 | 0.5 | Pass |
| NVNT | b | 2462 | Ant1 | 9.07 | 0.5 | Pass |
| NVNT | g | 2412 | Ant1 | 16.33 | 0.5 | Pass |
| NVNT | g | 2437 | Ant1 | 16.36 | 0.5 | Pass |
| NVNT | g | 2462 | Ant1 | 16.33 | 0.5 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 17.54 | 0.5 | Pass |
| NVNT | n(HT20) | 2437 | Ant1 | 17.57 | 0.5 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 17.57 | 0.5 | Pass |

Test Graphs

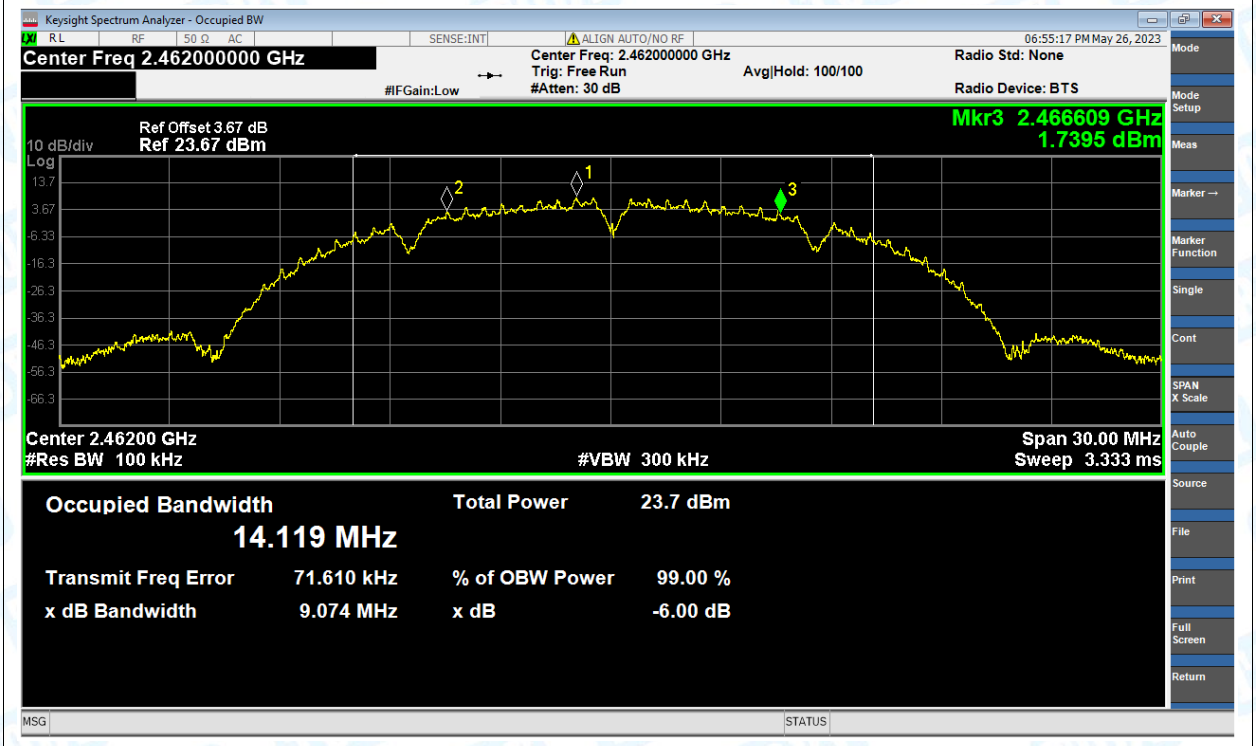
-6dB Bandwidth NVNT b 2412MHz Ant1



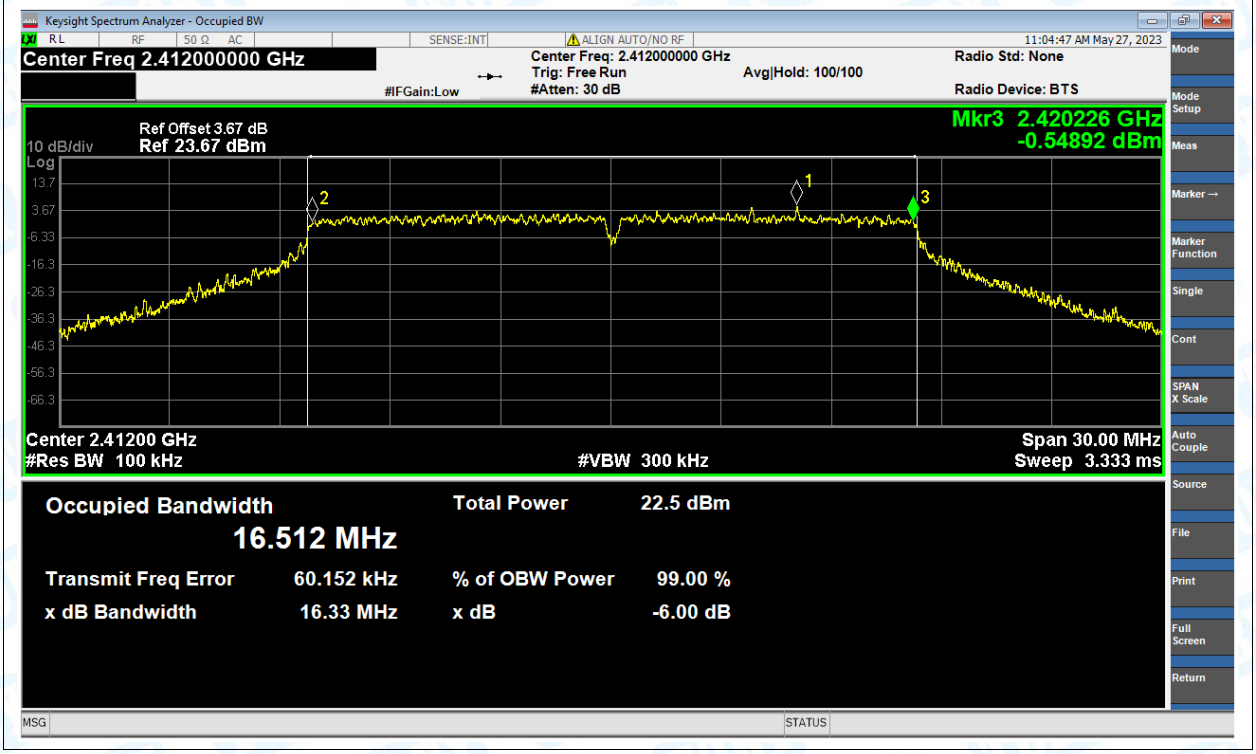

-6dB Bandwidth NVNT b 2437MHz Ant1



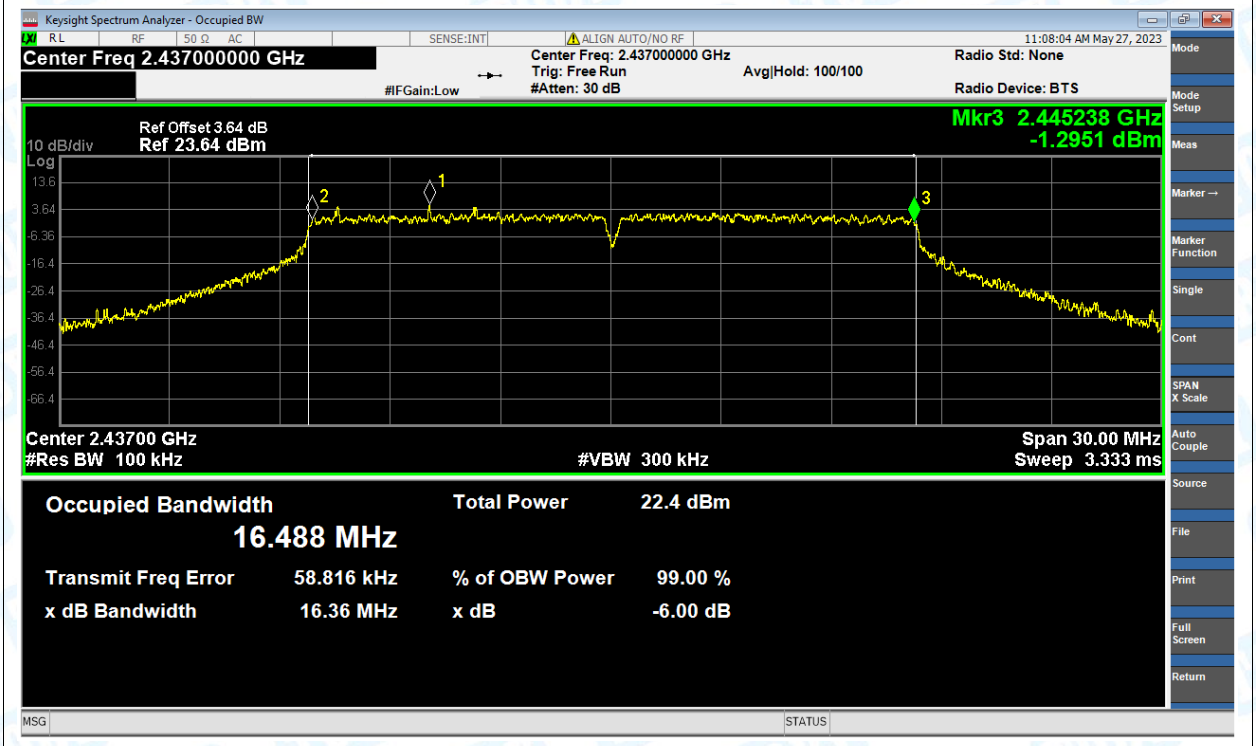
-6dB Bandwidth NVNT b 2462MHz Ant1



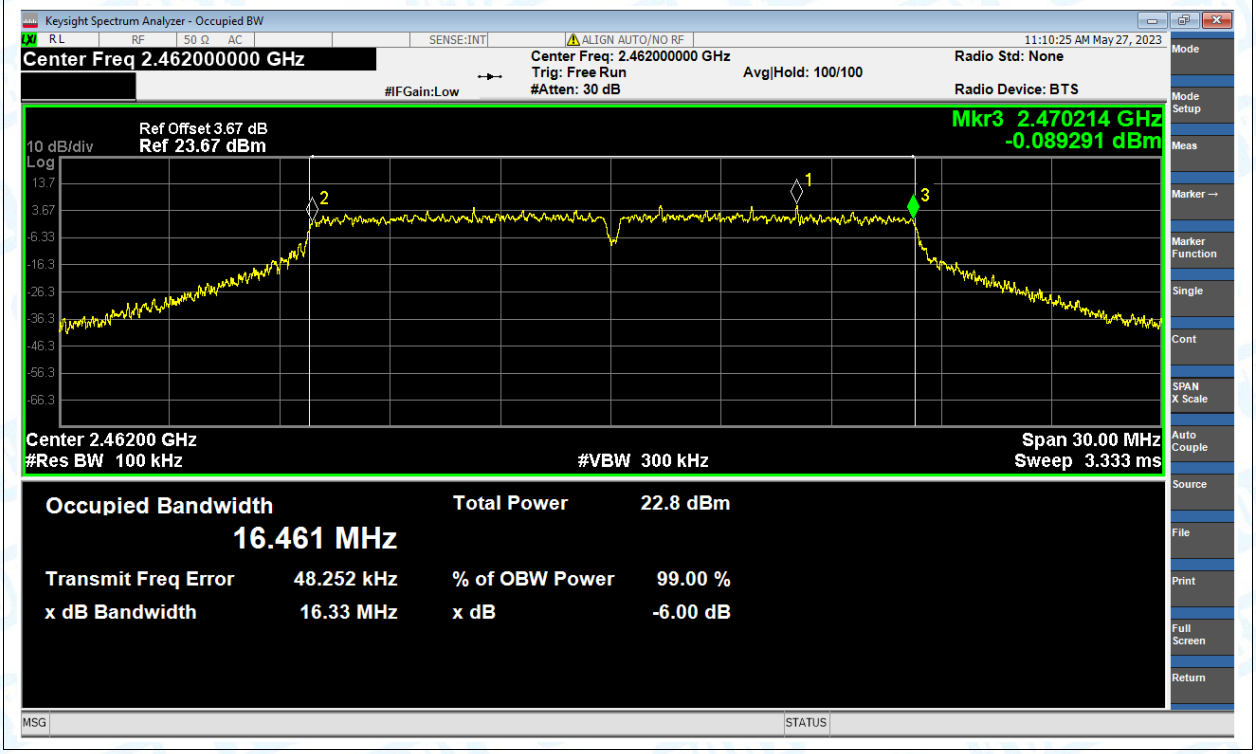

-6dB Bandwidth NVNT g 2412MHz Ant1



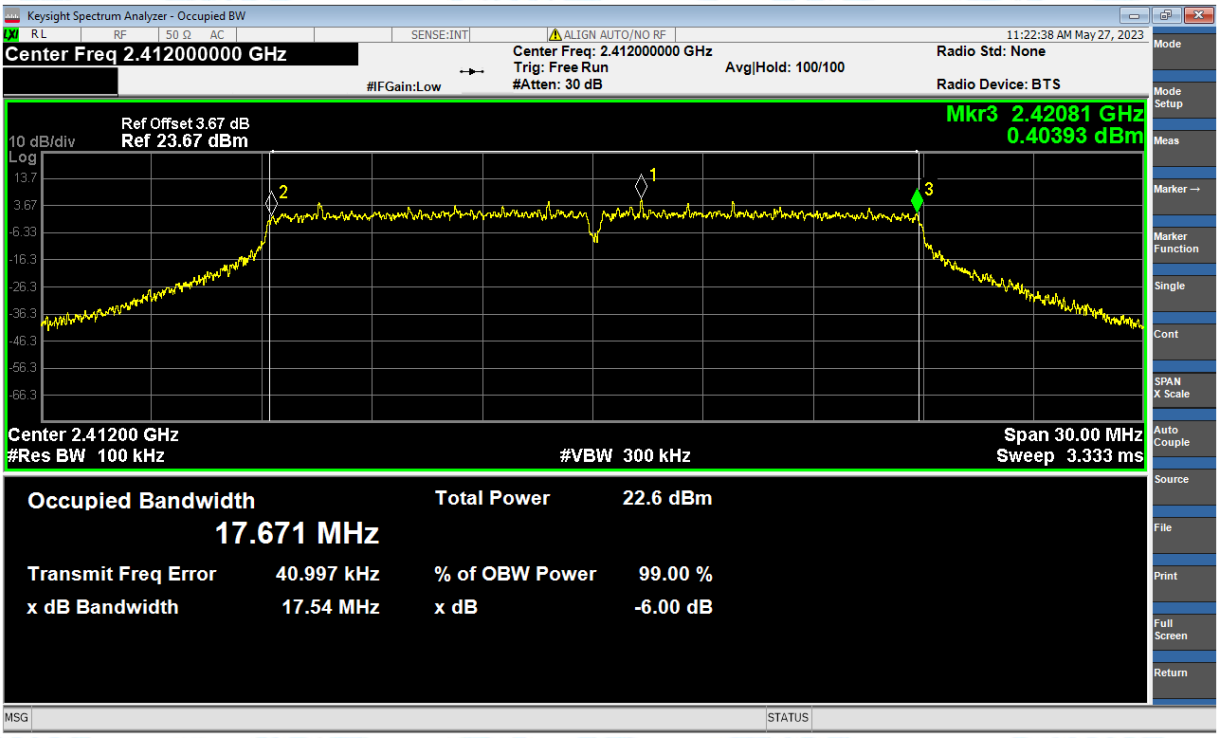
-6dB Bandwidth NVNT g 2437MHz Ant1



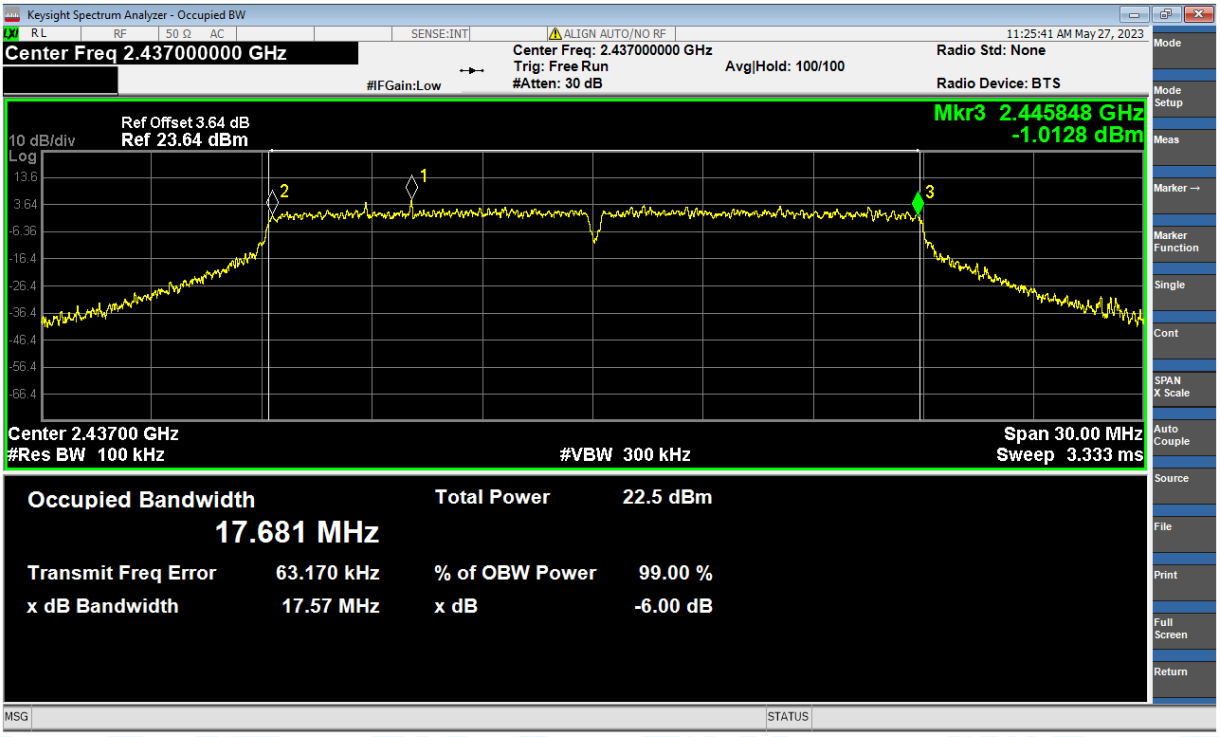

-6dB Bandwidth NVNT g 2462MHz Ant1



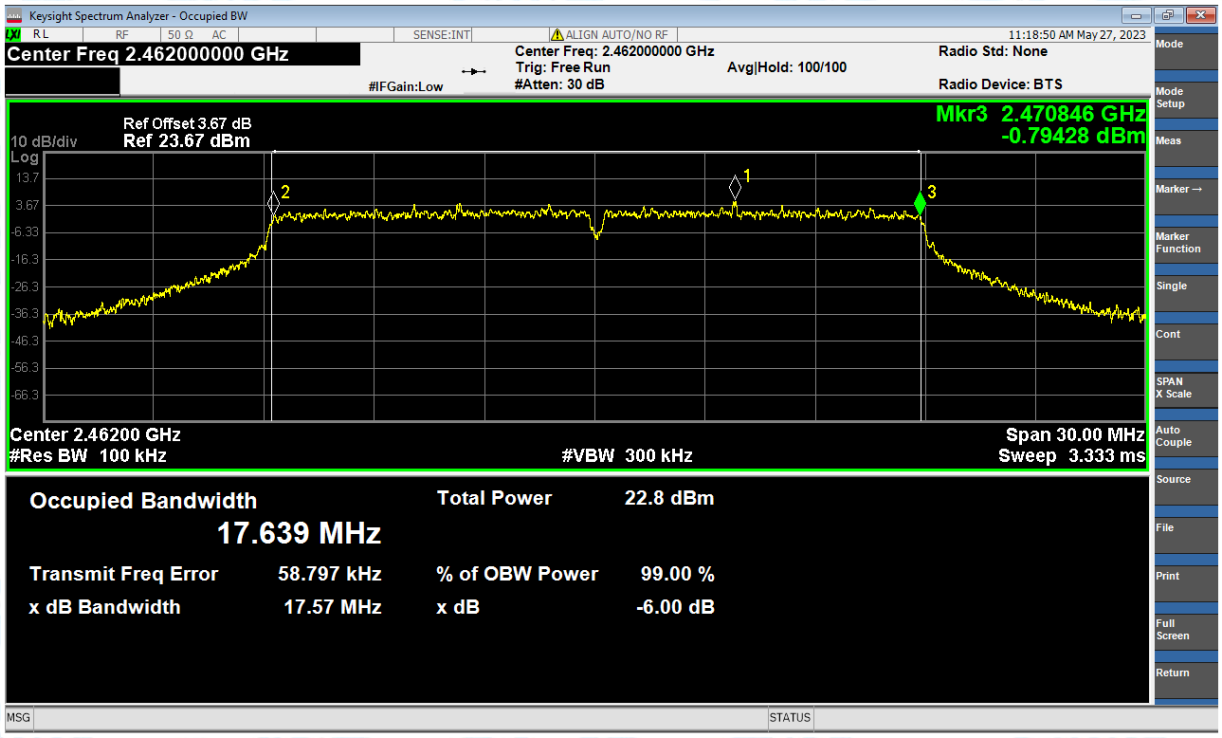
-6dB Bandwidth NVNT n(HT20) 2412MHz Ant1




-6dB Bandwidth NVNT n(HT20) 2437MHz Ant1



-6dB Bandwidth NVNT n(HT20) 2462MHz Ant1

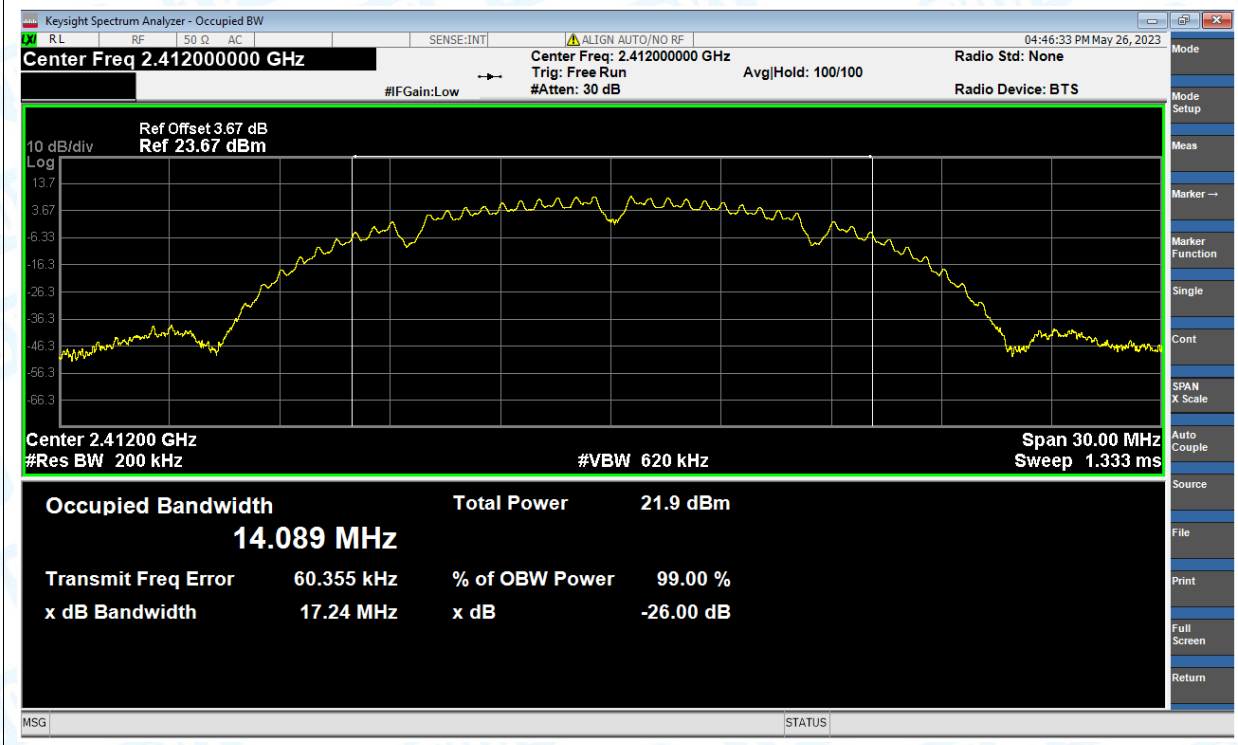


# Occupied Channel Bandwidth

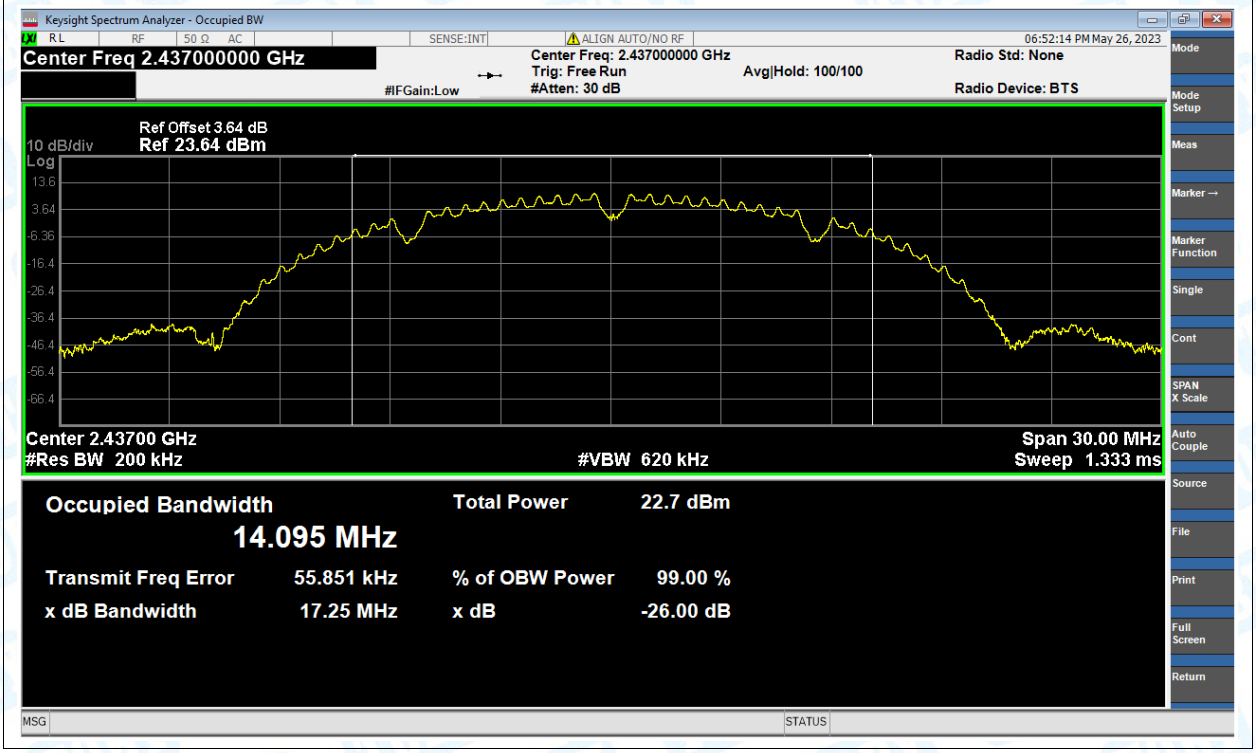
| Condition | Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 14.089 |
| NVNT | b | 2437 | Ant1 | 14.095 |
| NVNT | b | 2462 | Ant1 | 14.086 |
| NVNT | g | 2412 | Ant1 | 16.634 |
| NVNT | g | 2437 | Ant1 | 16.63 |
| NVNT | g | 2462 | Ant1 | 16.667 |
| NVNT | n(HT20) | 2412 | Ant1 | 17.783 |
| NVNT | n(HT20) | 2437 | Ant1 | 17.781 |
| NVNT | n(HT20) | 2462 | Ant1 | 17.737 |

Test Graphs

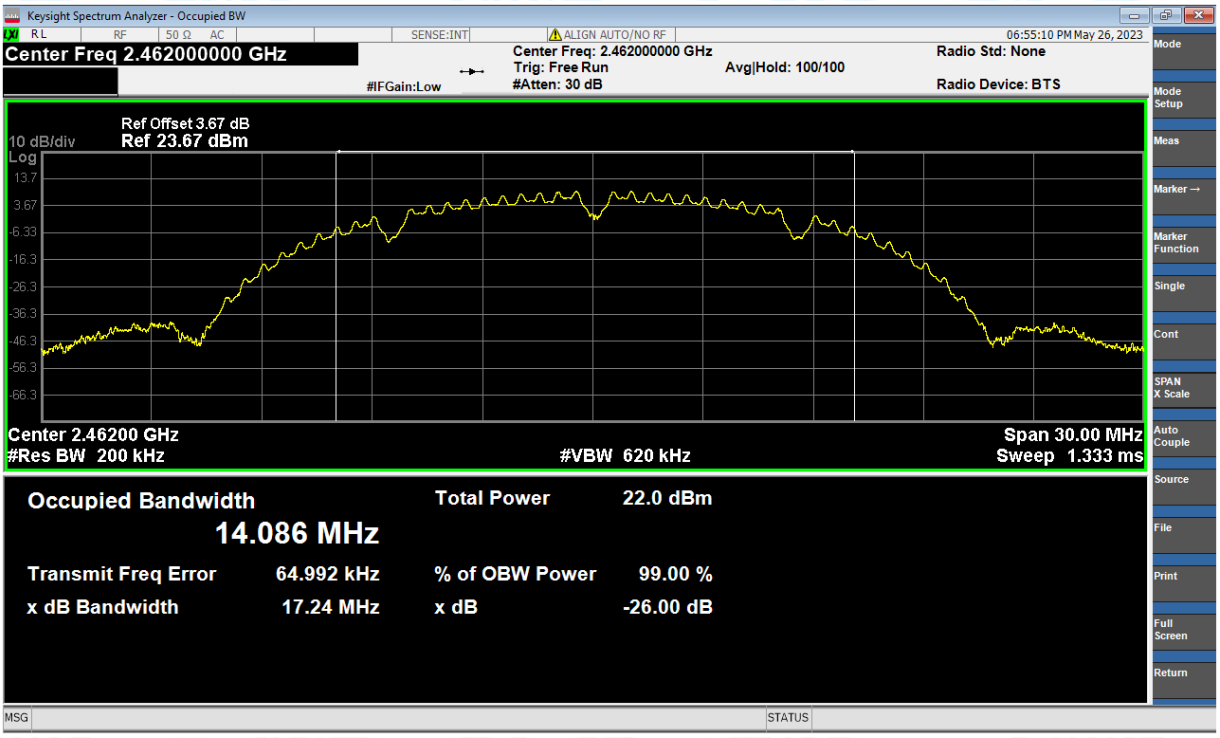
OBW NVNT b 2412MHz Ant1



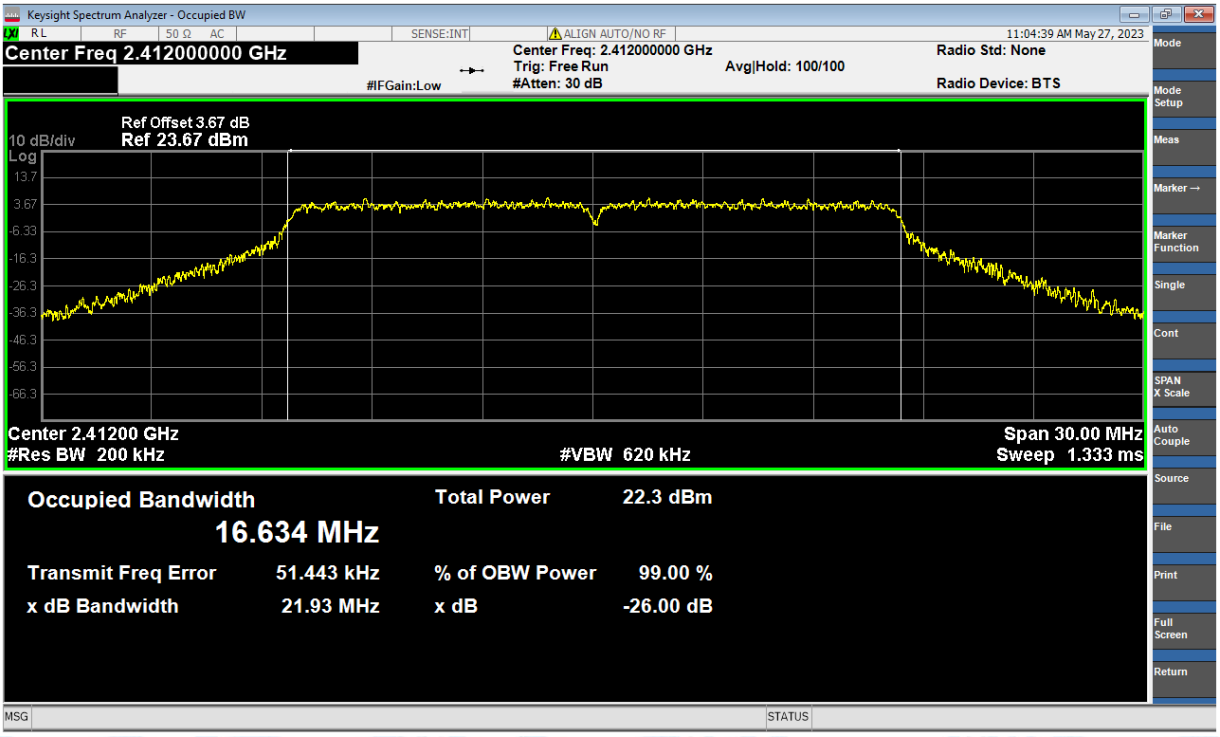

OBW NVNT b 2437MHz Ant1



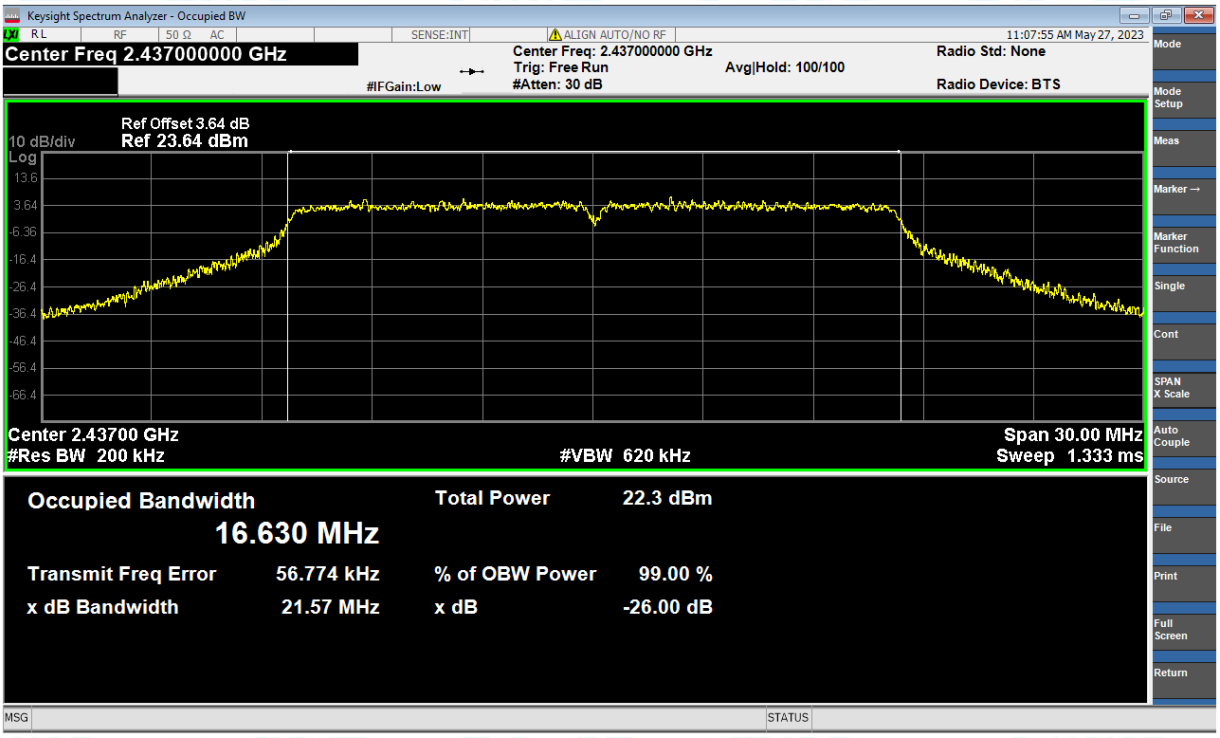
OBW NVNT b 2462MHz Ant1



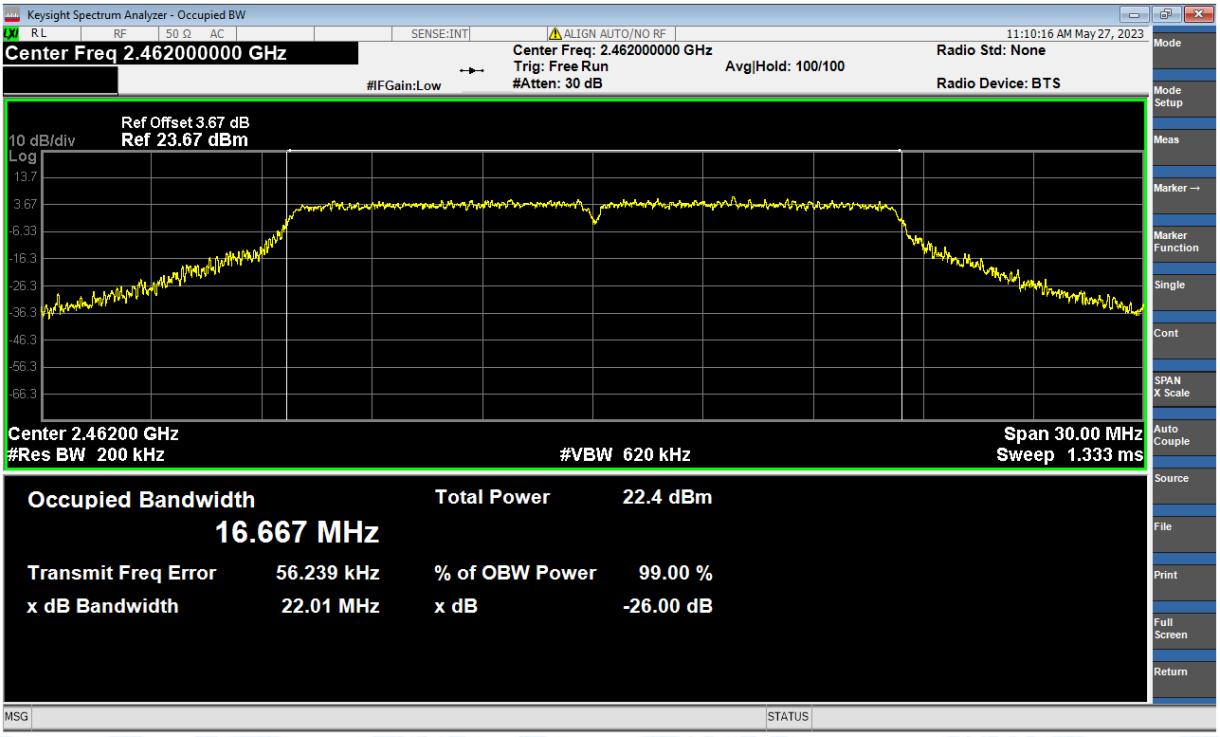

OBW NVNT g 2412MHz Ant1



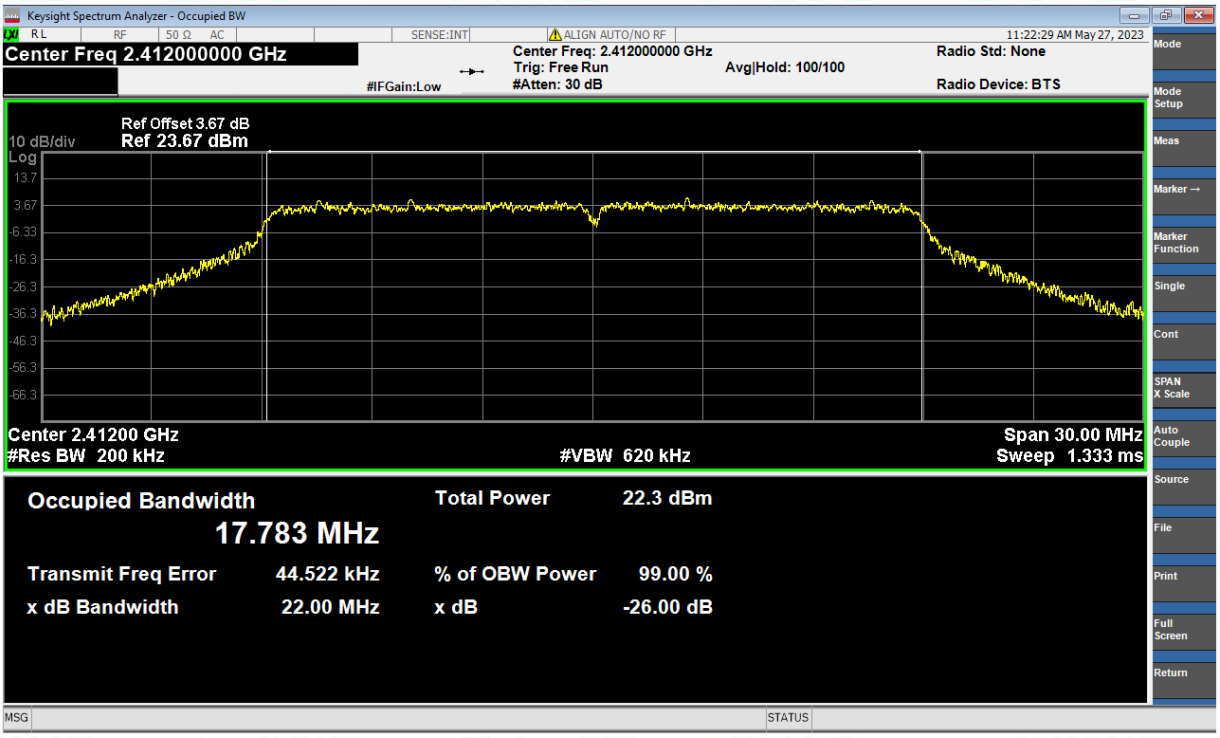
OBW NVNT g 2437MHz Ant1



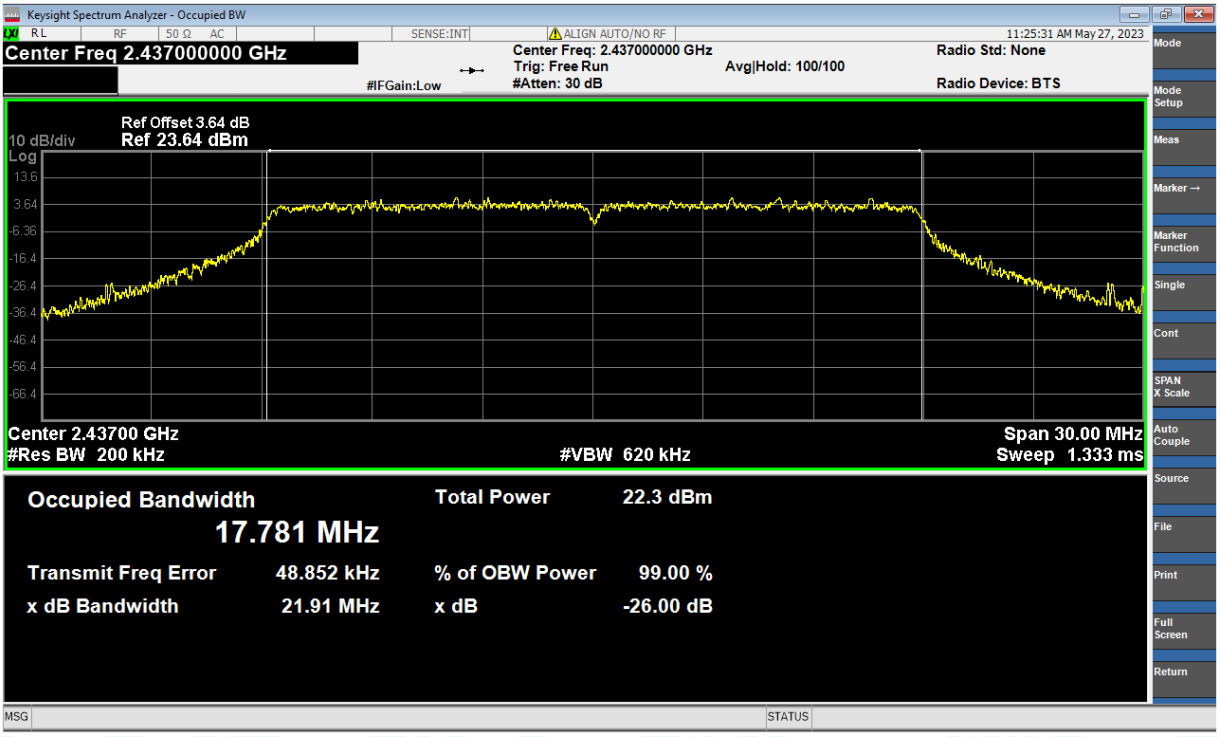

OBW NVNT g 2462MHz Ant1



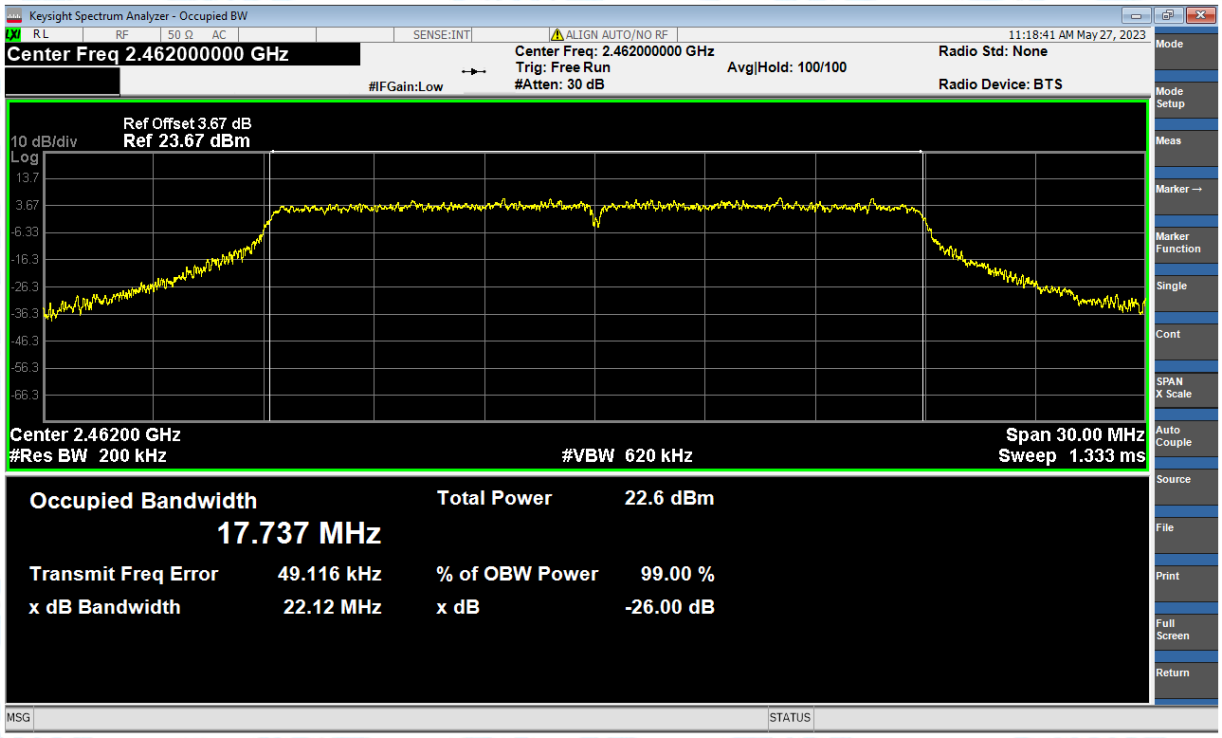
OBW NVNT n(HT20) 2412MHz Ant1




OBW NVNT n(HT20) 2437MHz Ant1



OBW NVNT n(HT20) 2462MHz Ant1

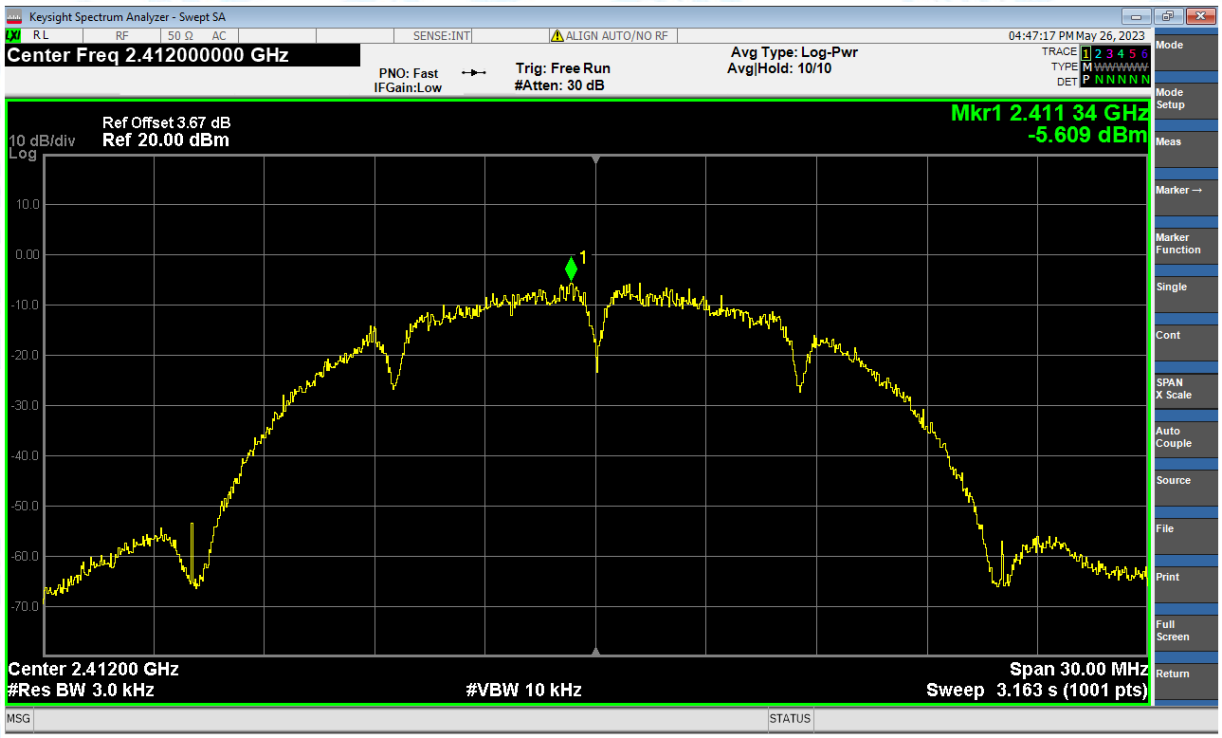


# Maximum Power Spectral Density Level

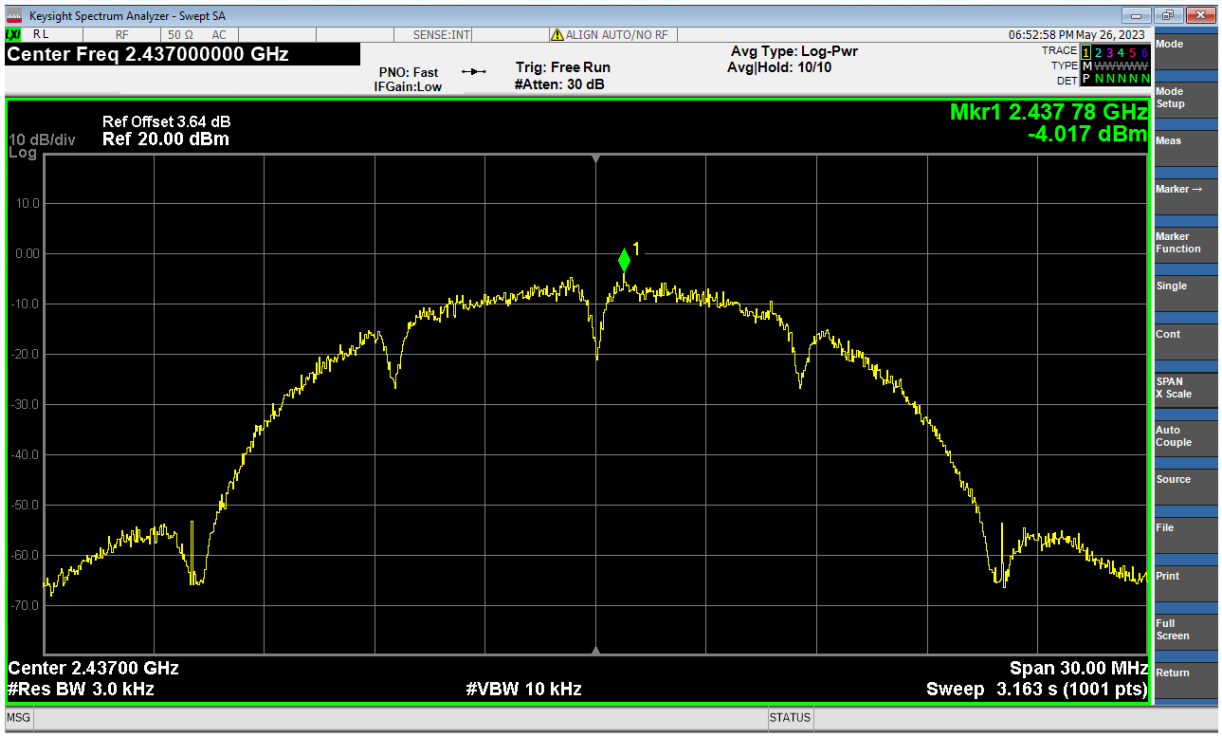
| Condition | Mode | Frequency (MHz) | Antenna | Max PSD (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -5.609 | 8 | Pass |
| NVNT | b | 2437 | Ant1 | -4.017 | 8 | Pass |
| NVNT | b | 2462 | Ant1 | -5.19 | 8 | Pass |
| NVNT | g | 2412 | Ant1 | -8.662 | 8 | Pass |
| NVNT | g | 2437 | Ant1 | -8.447 | 8 | Pass |
| NVNT | g | 2462 | Ant1 | -7.252 | 8 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | -9.489 | 8 | Pass |
| NVNT | n(HT20) | 2437 | Ant1 | -7.458 | 8 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | -7.991 | 8 | Pass |

Test Graphs

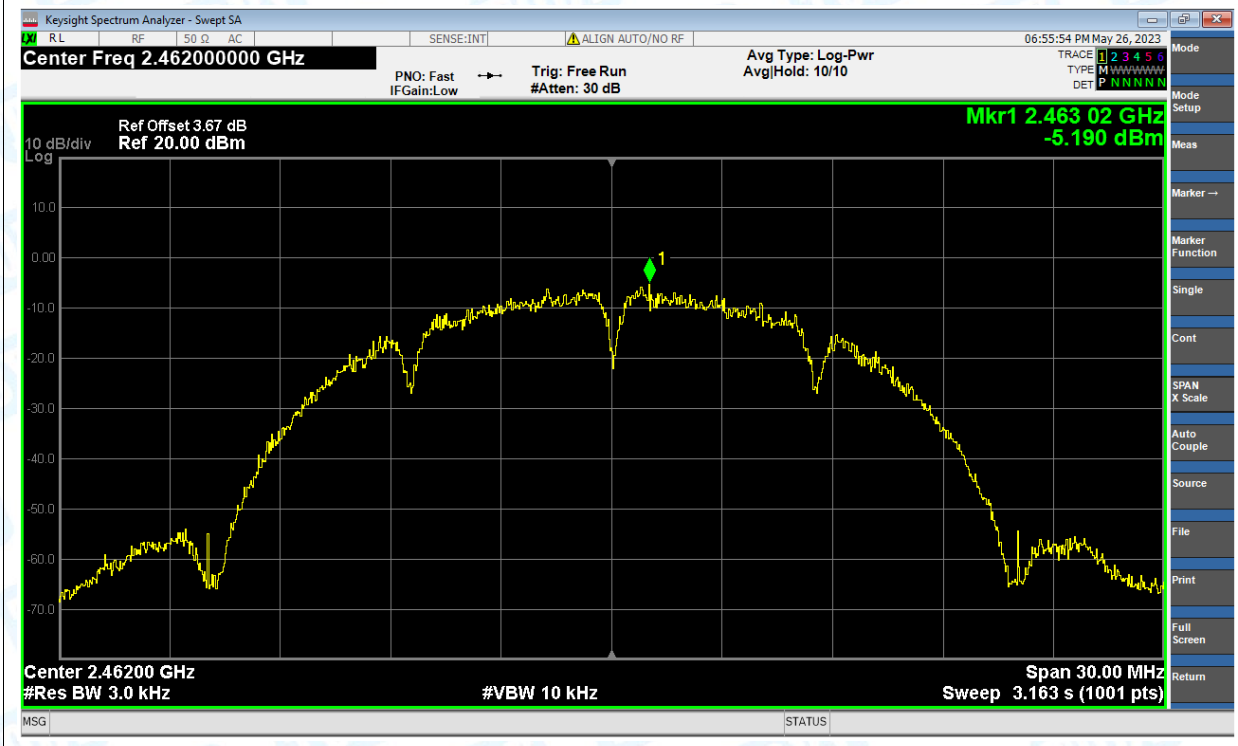
PSD NVNT b 2412MHz Ant1



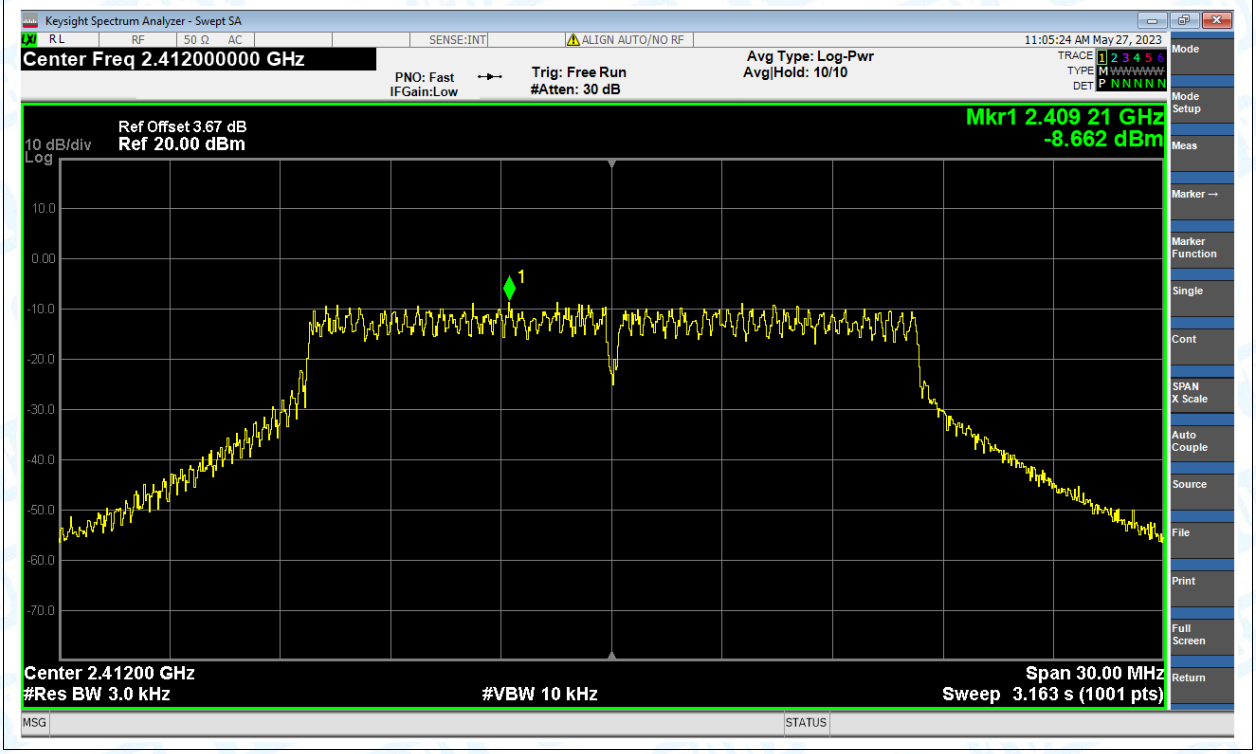

PSD NVNT b 2437MHz Ant1



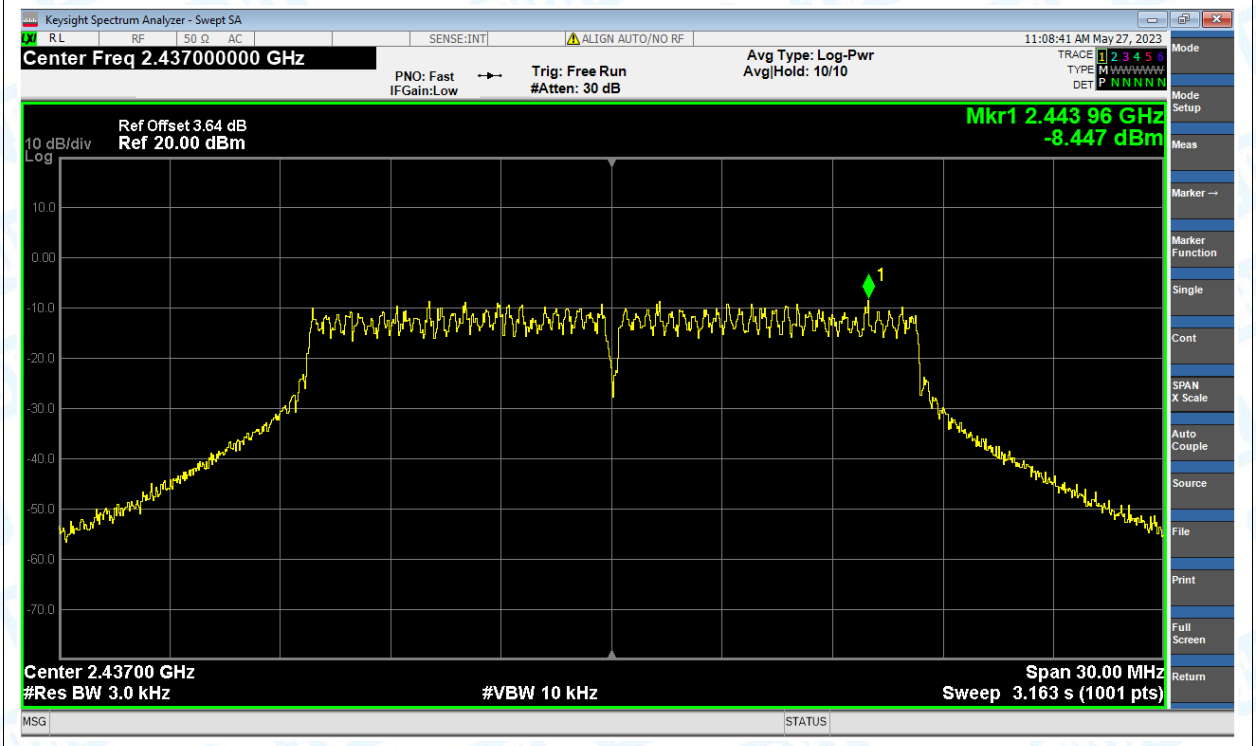
PSD NVNT b 2462MHz Ant1



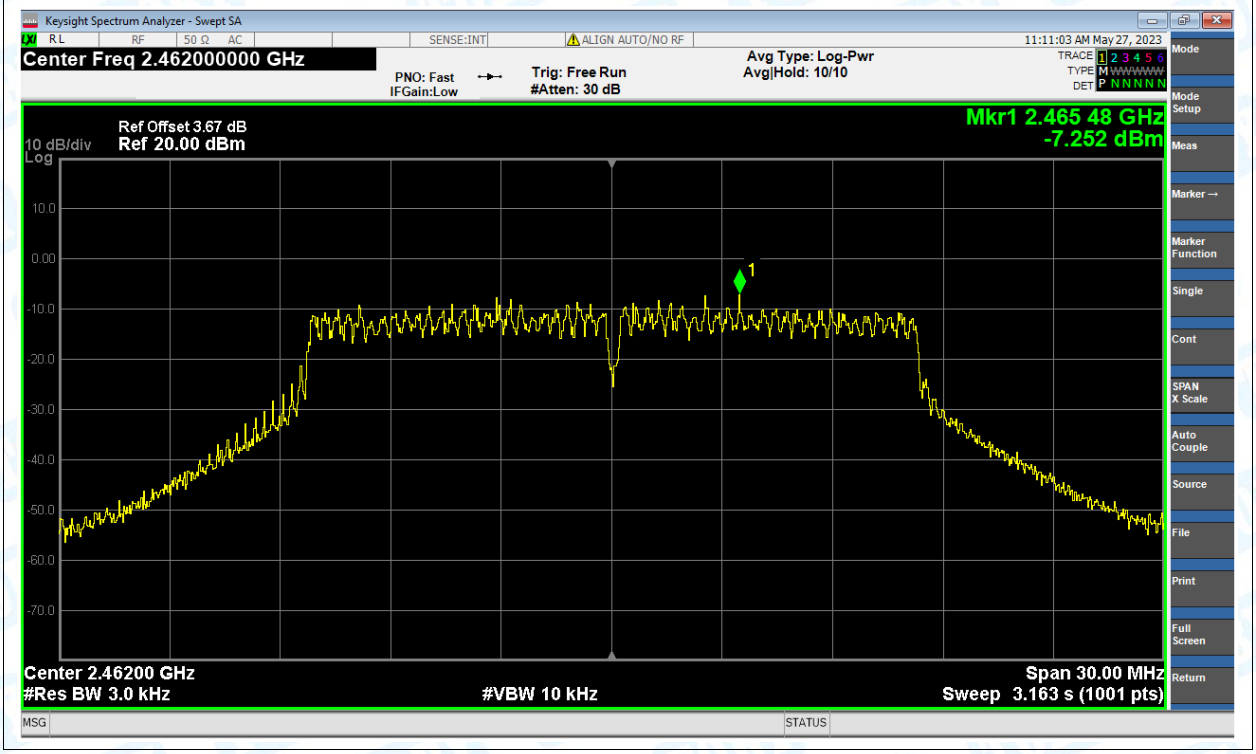

PSD NVNT g 2412MHz Ant1



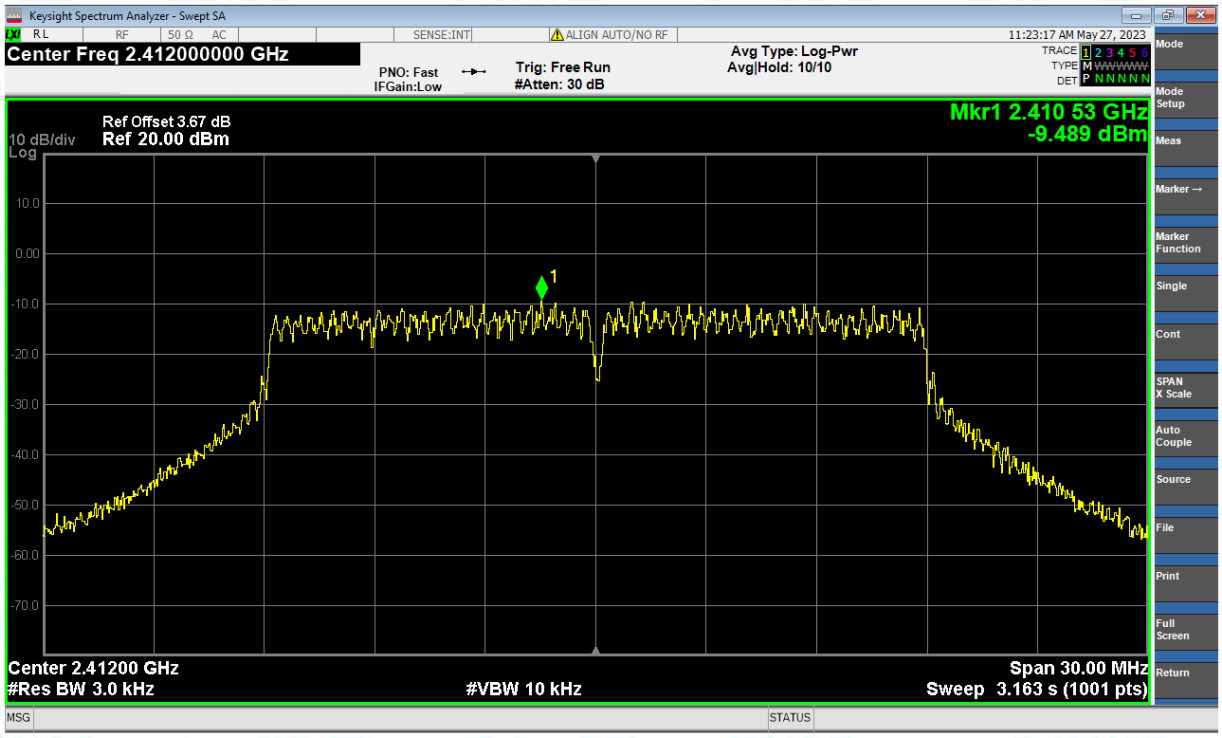
PSD NVNT g 2437MHz Ant1



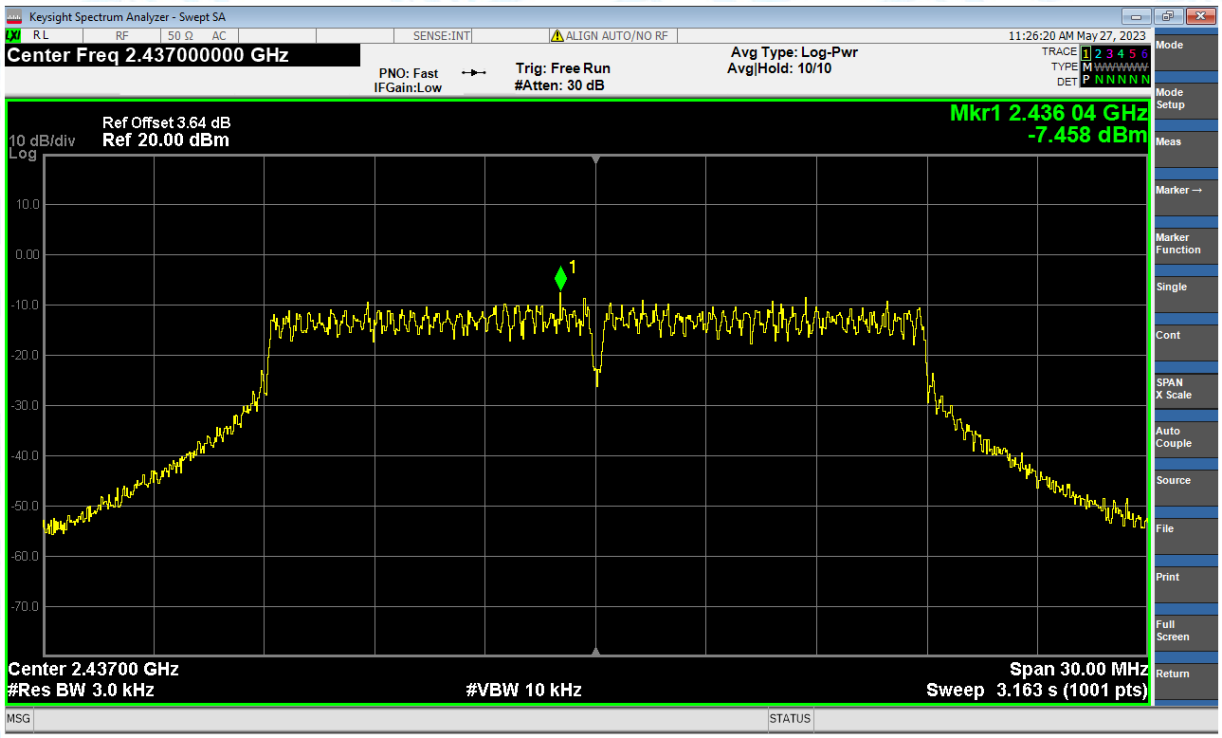

PSD NVNT g 2462MHz Ant1



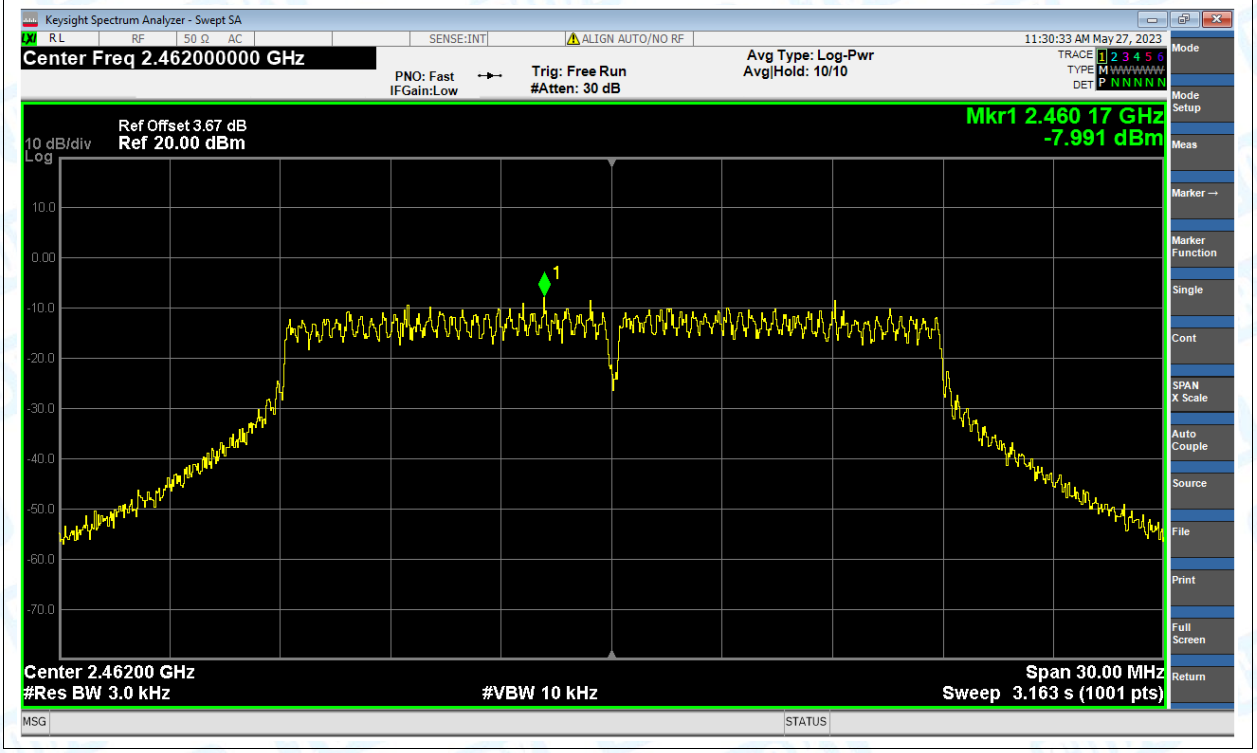
PSD NVNT n(HT20) 2412MHz Ant1




PSD NVNT n(HT20) 2437MHz Ant1



PSD NVNT n(HT20) 2462MHz Ant1

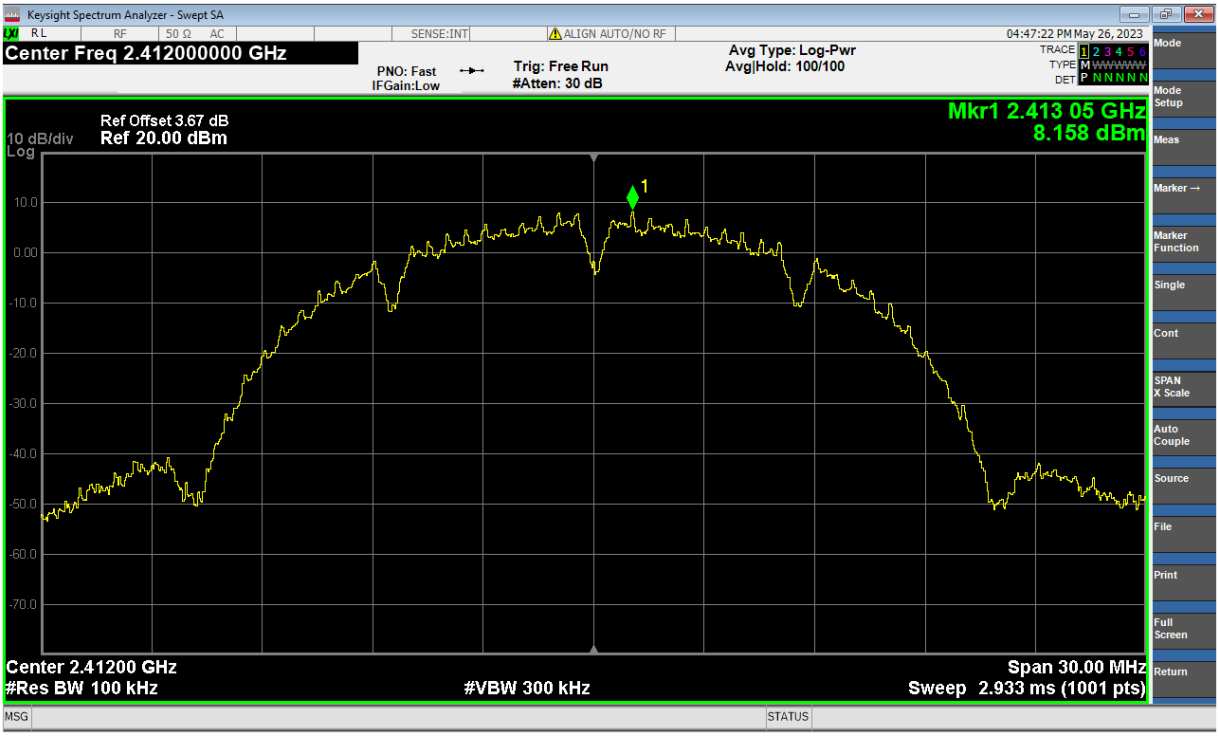


# Band Edge

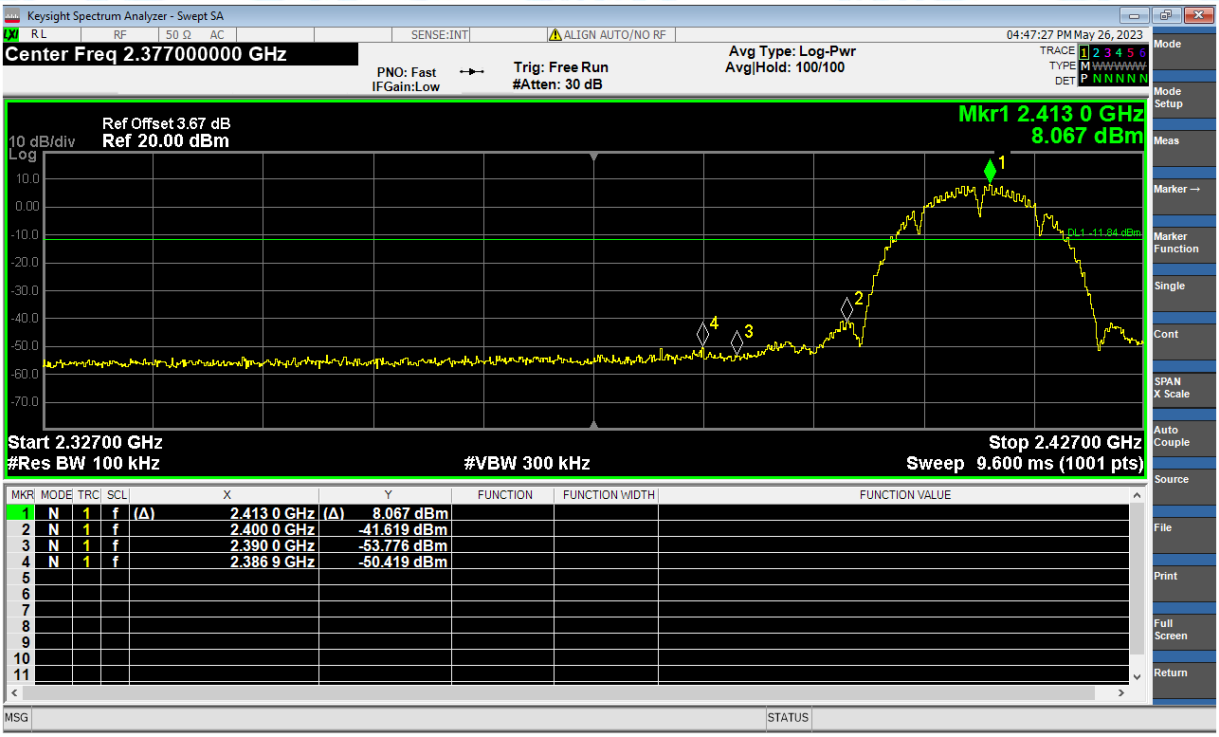
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -58.58 | -20 | Pass |
| NVNT | b | 2462 | Ant1 | -59.73 | -20 | Pass |
| NVNT | g | 2412 | Ant1 | -52.45 | -20 | Pass |
| NVNT | g | 2462 | Ant1 | -46.28 | -20 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | -51.76 | -20 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | -42.98 | -20 | Pass |

Test Graphs

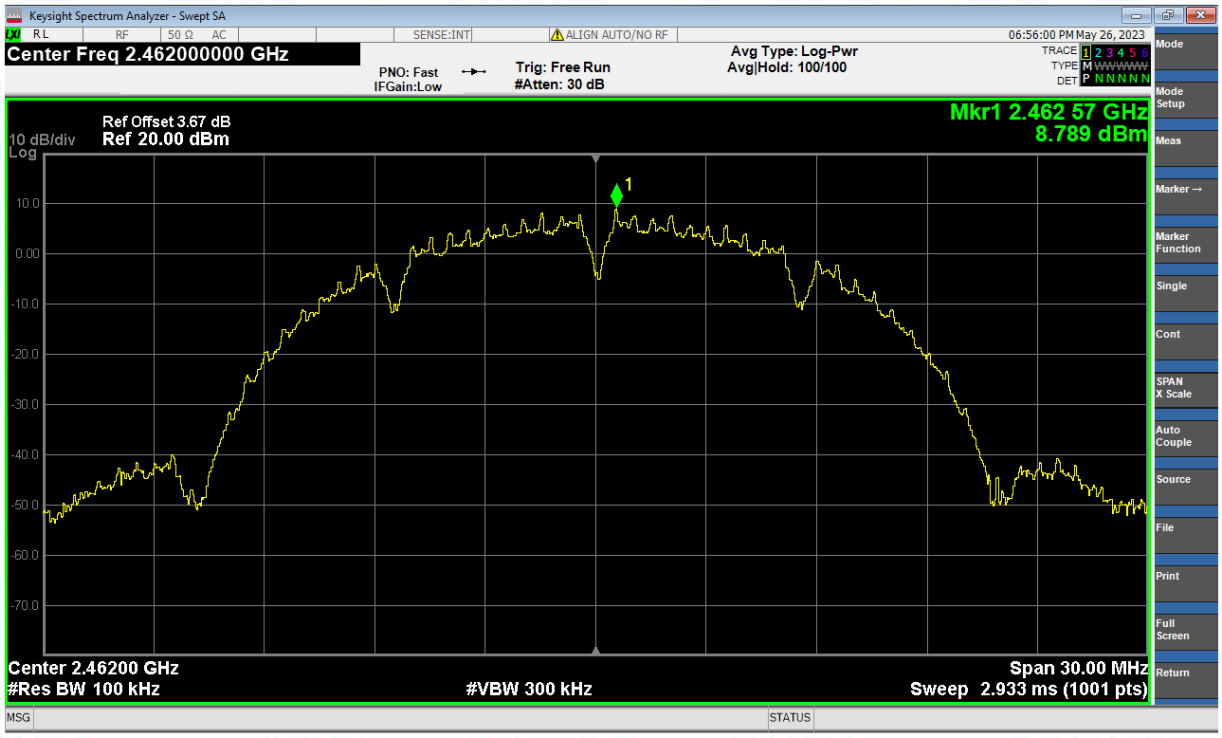
Band Edge NVNT b 2412MHz Ant1 Ref



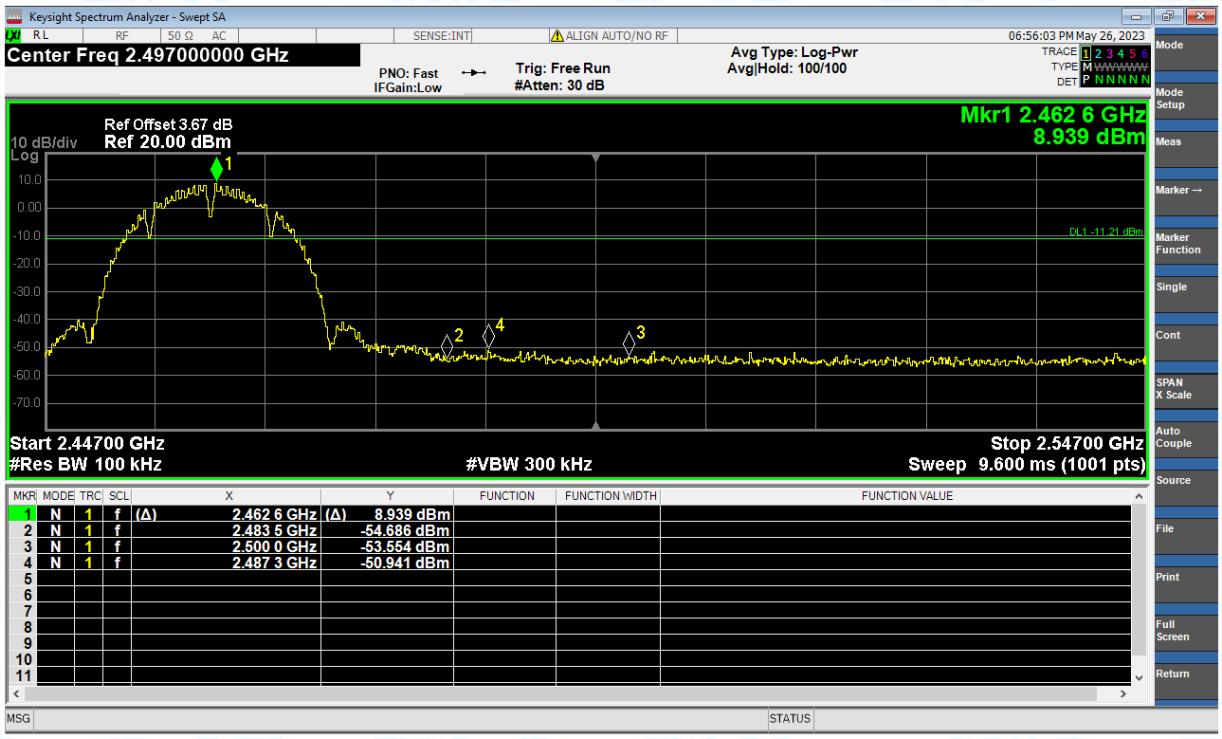

Band Edge NVNT b 2412MHz Ant1 Emission



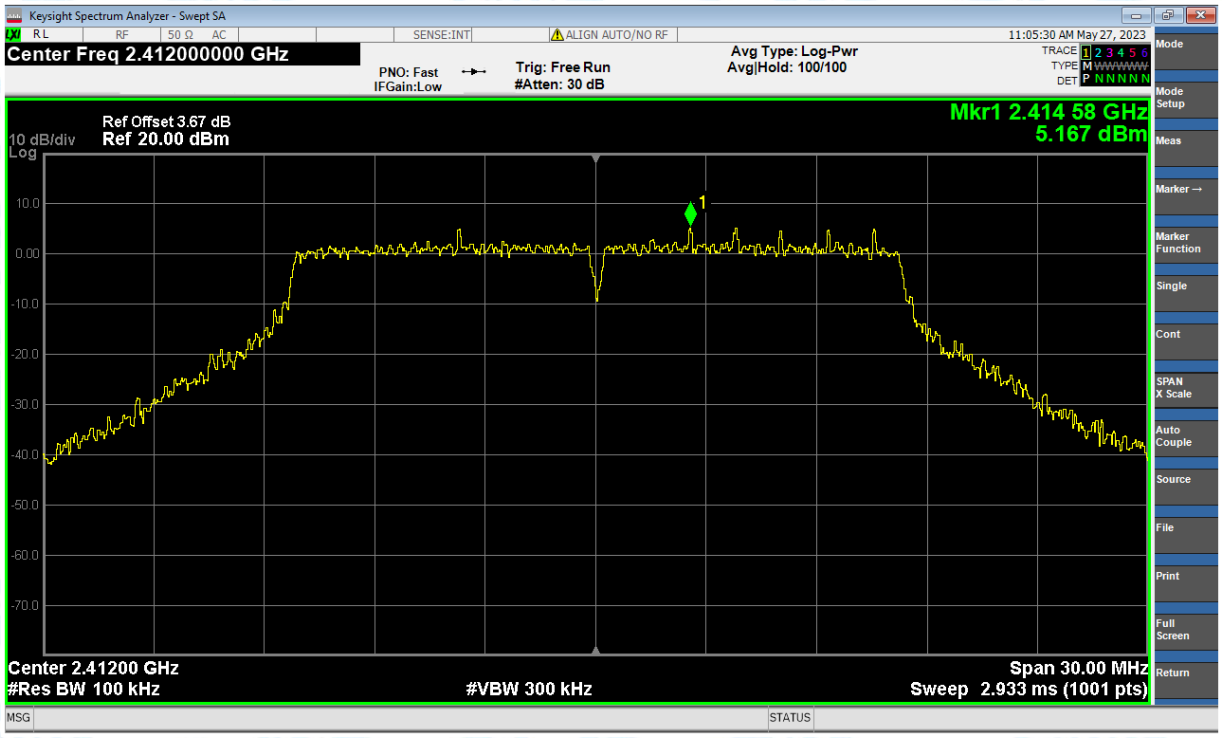
Band Edge NVNT b 2462MHz Ant1 Ref



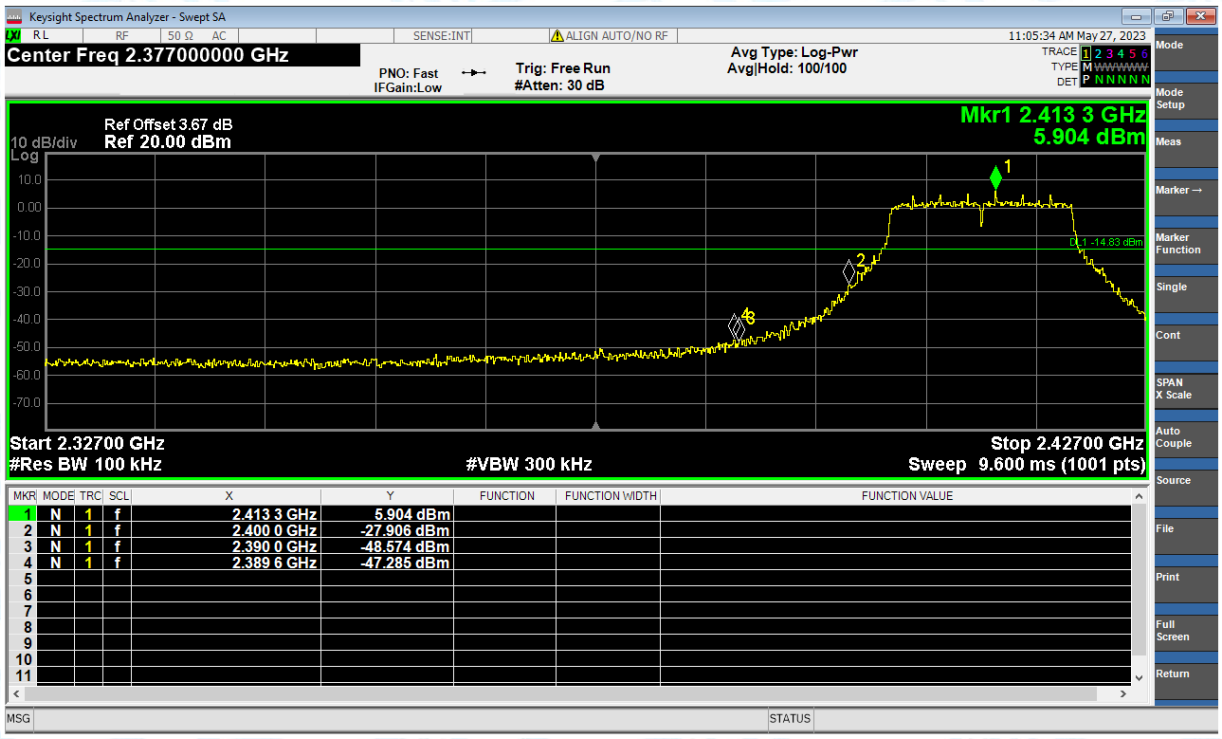

Band Edge NVNT b 2462MHz Ant1 Emission



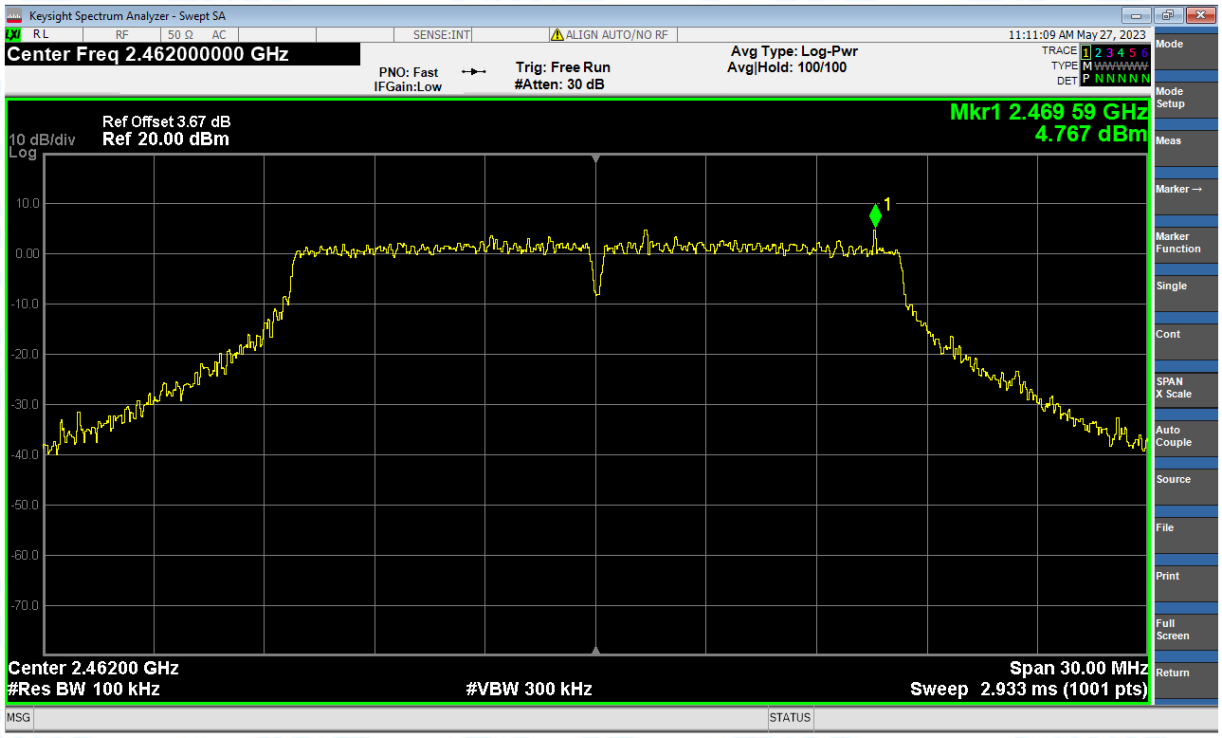
Band Edge NVNT g 2412MHz Ant1 Ref



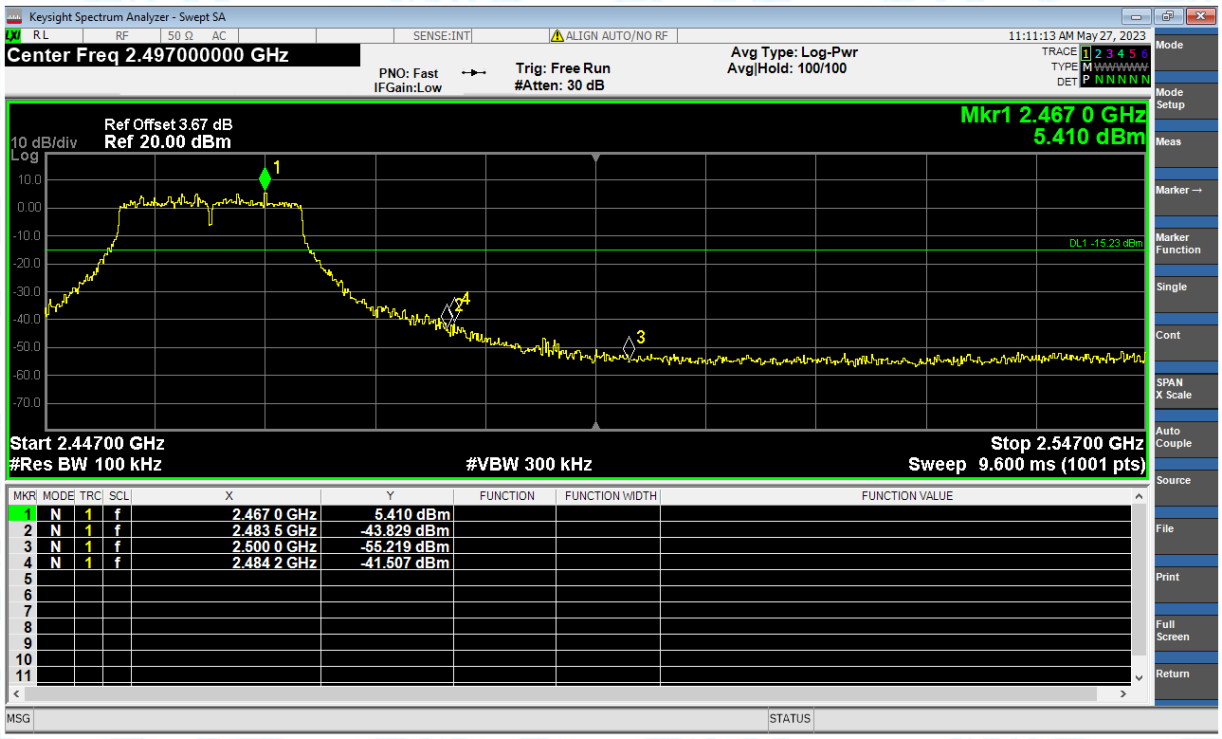

Band Edge NVNT g 2412MHz Ant1 Emission



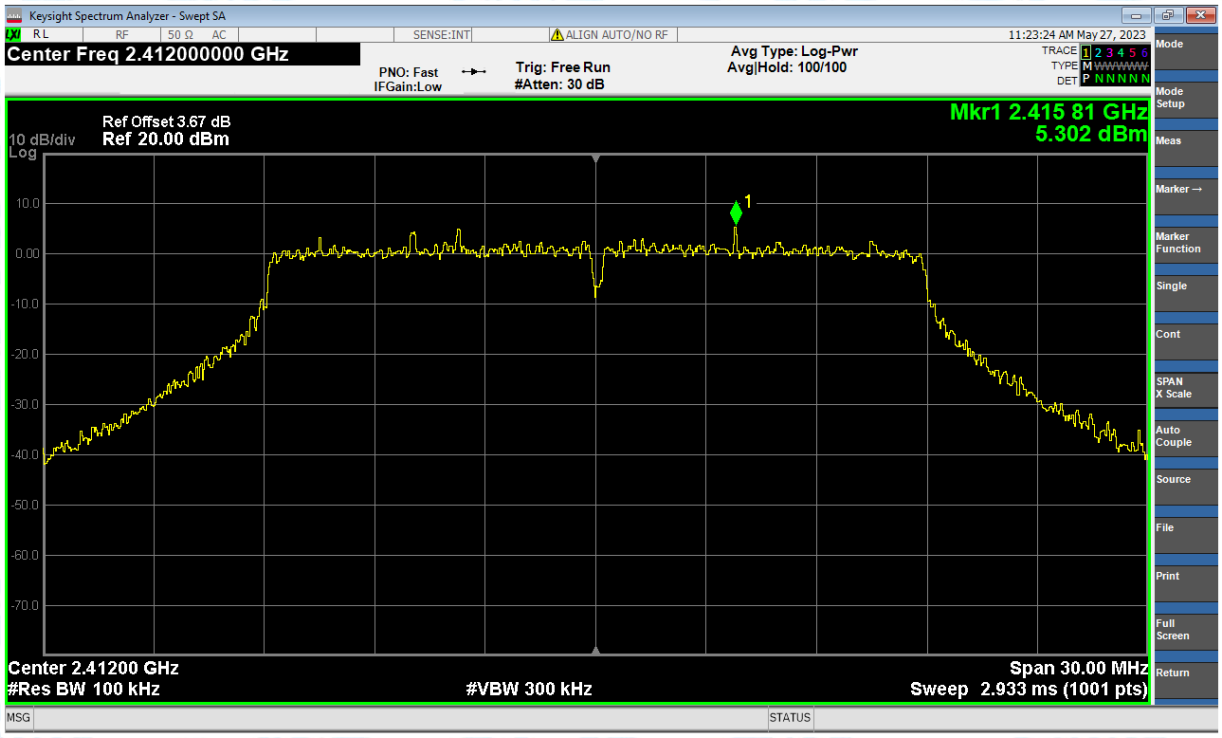
Band Edge NVNT g 2462MHz Ant1 Ref



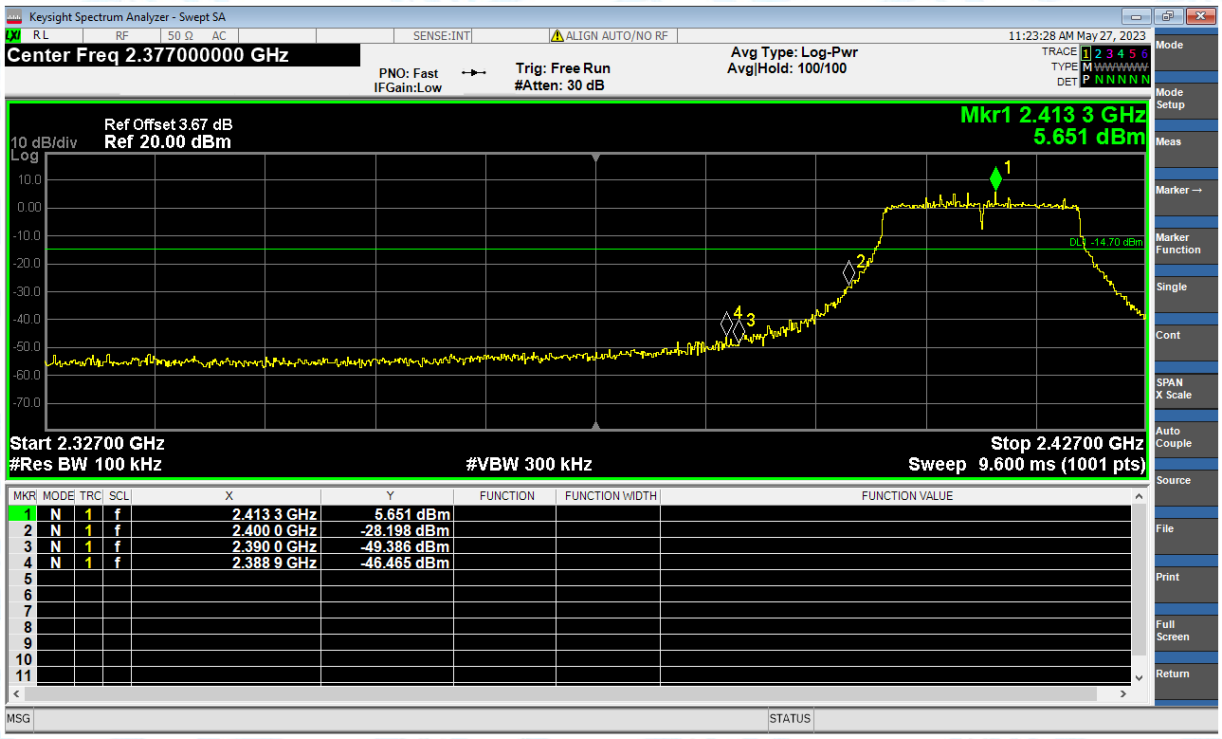

Band Edge NVNT g 2462MHz Ant1 Emission



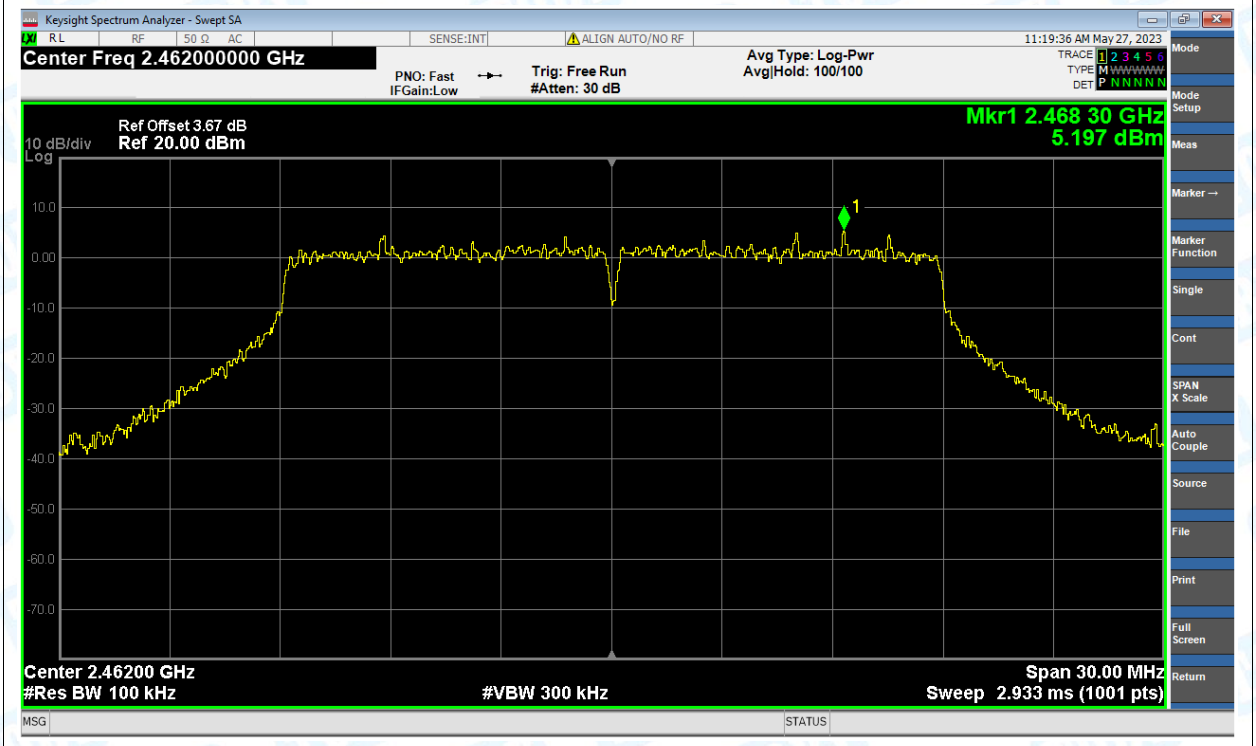
Band Edge NVNT n(HT20) 2412MHz Ant1 Ref



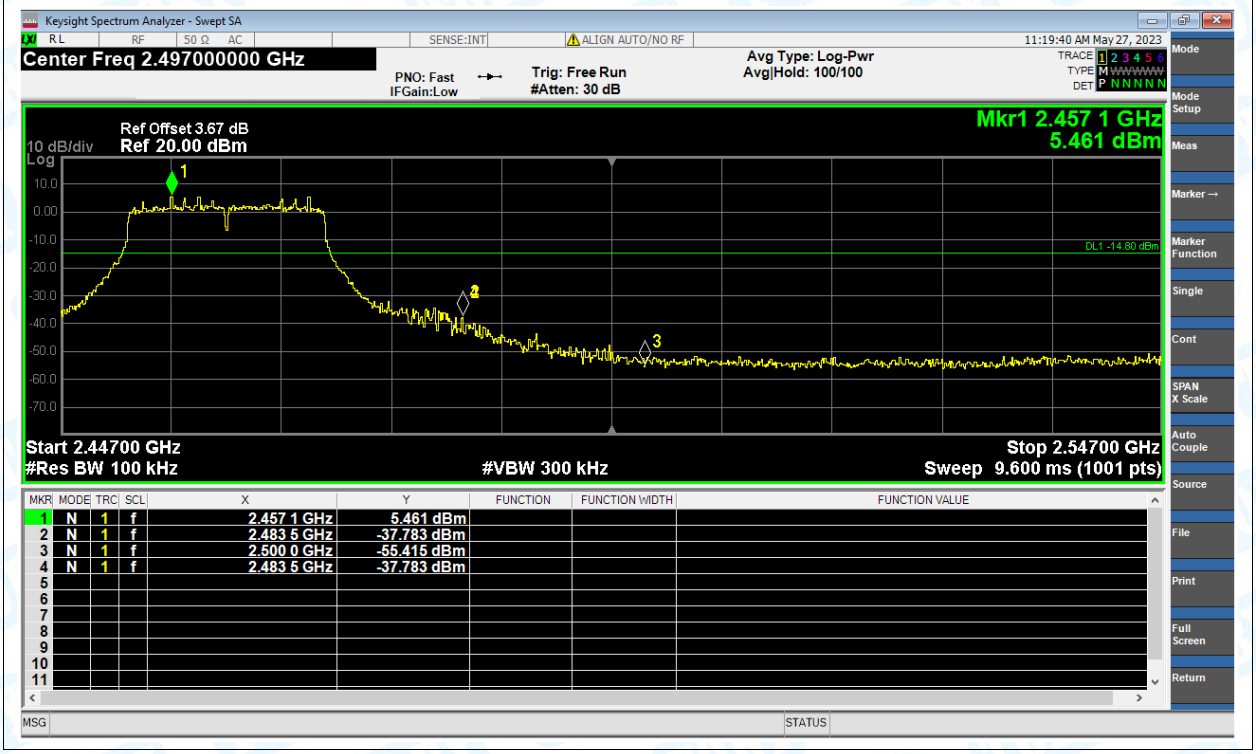

Band Edge NVNT n(HT20) 2412MHz Ant1 Emission



Band Edge NVNT n(HT20) 2462MHz Ant1 Ref




Band Edge NVNT n(HT20) 2462MHz Ant1 Emission

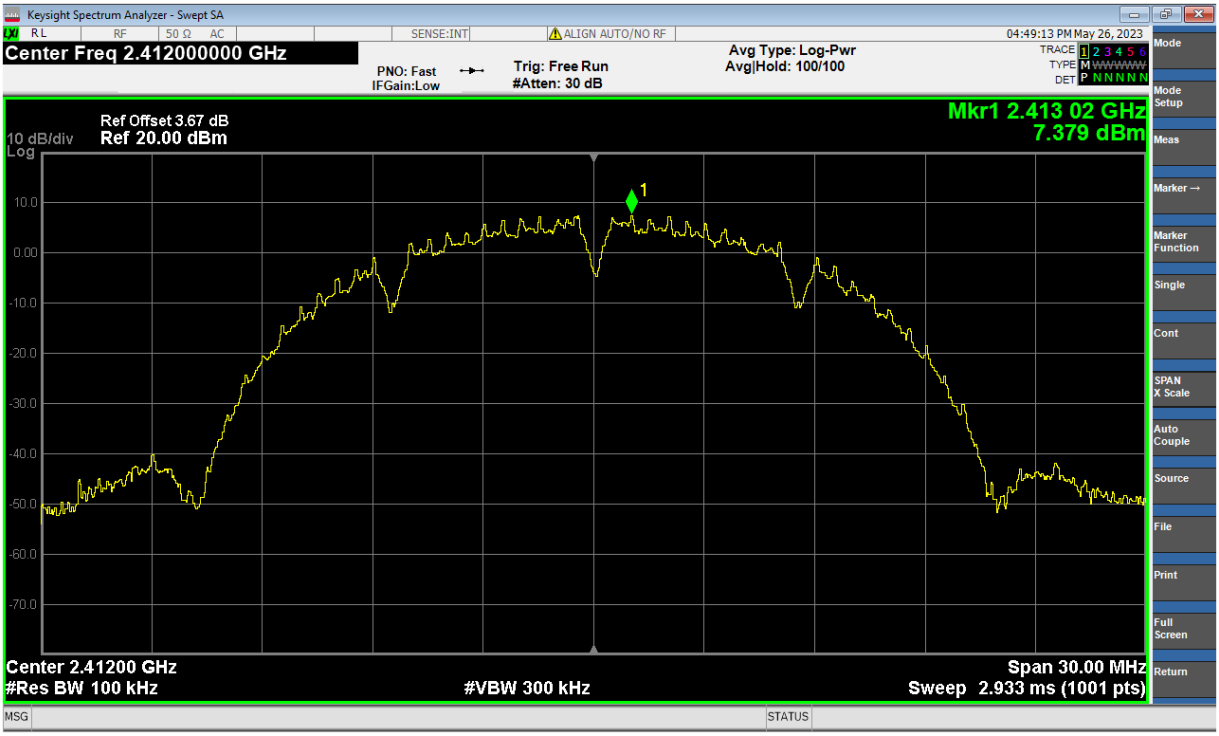


# Conducted RF Spurious Emission

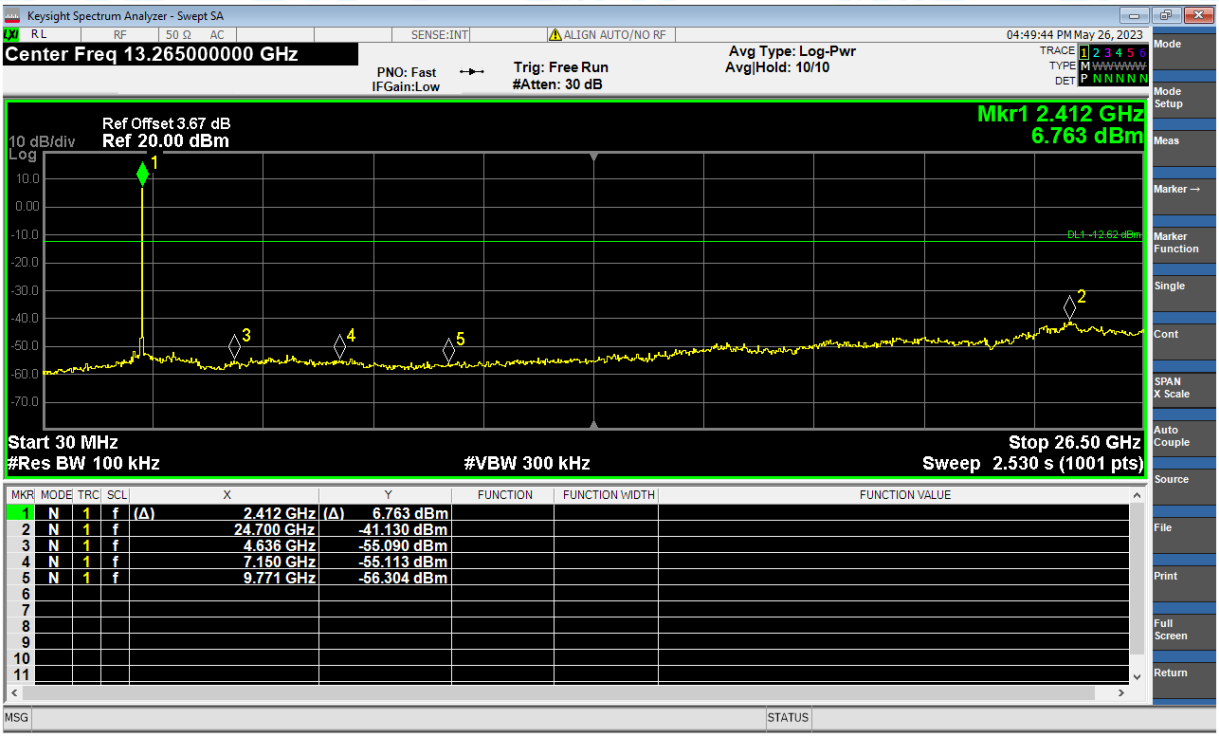
| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | -48.51 | -20 | Pass |
| NVNT | b | 2437 | Ant1 | -50.13 | -20 | Pass |
| NVNT | b | 2462 | Ant1 | -48.77 | -20 | Pass |
| NVNT | g | 2412 | Ant1 | -45.81 | -20 | Pass |
| NVNT | g | 2437 | Ant1 | -46.82 | -20 | Pass |
| NVNT | g | 2462 | Ant1 | -46.03 | -20 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | -46.76 | -20 | Pass |
| NVNT | n(HT20) | 2437 | Ant1 | -45.5 | -20 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | -46.77 | -20 | Pass |

Test Graphs

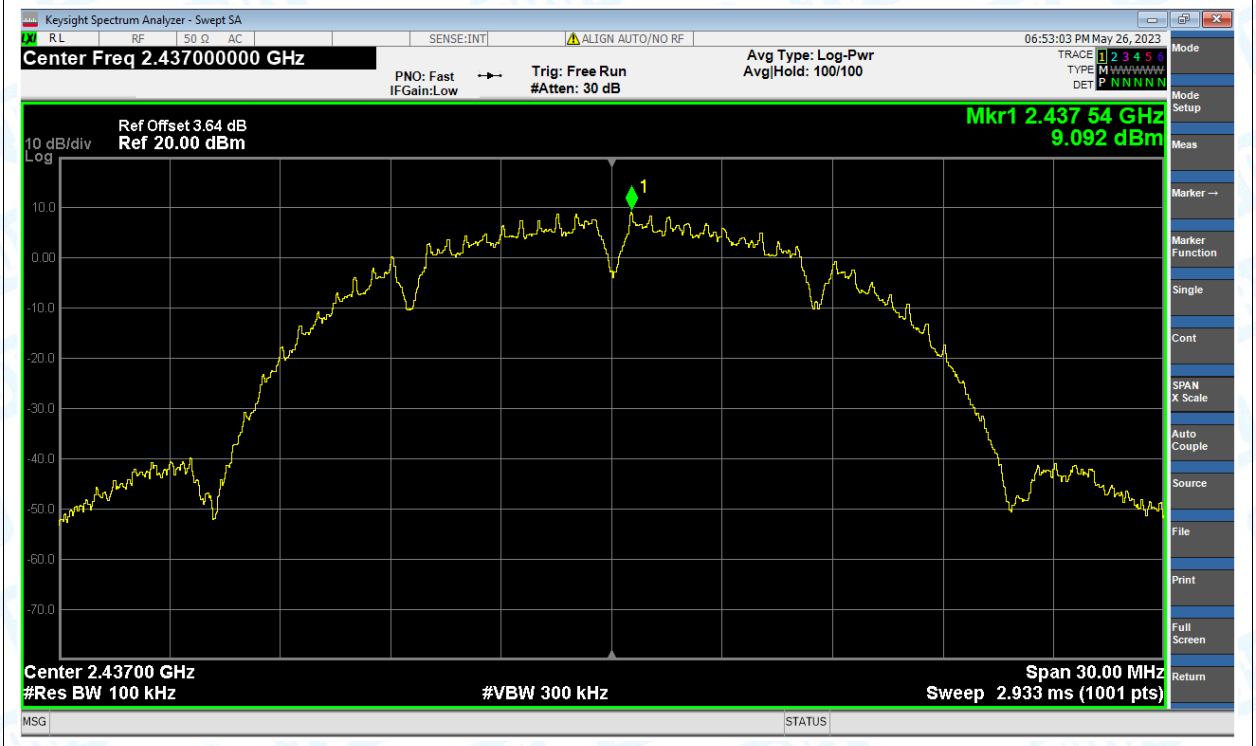
Tx. Spurious NVNT b 2412MHz Ant1 Ref



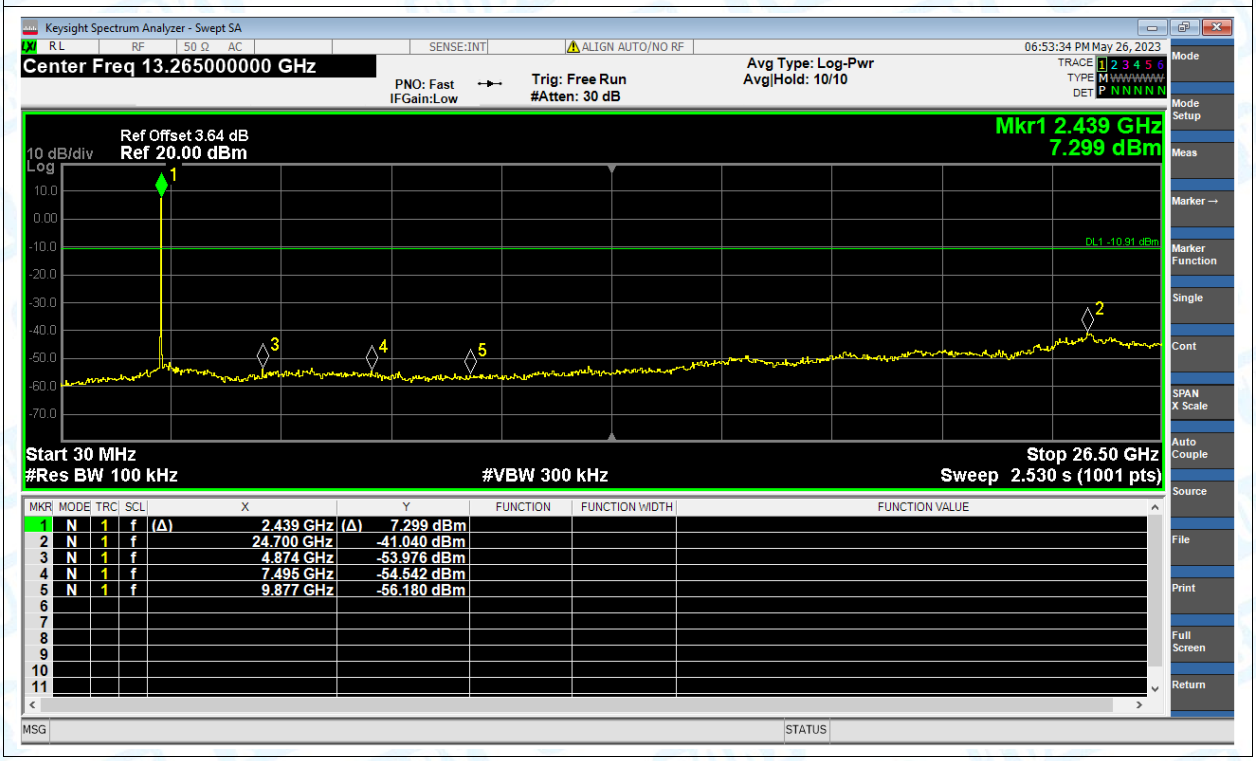

Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref




Tx. Spurious NVNT b 2437MHz Ant1 Emission



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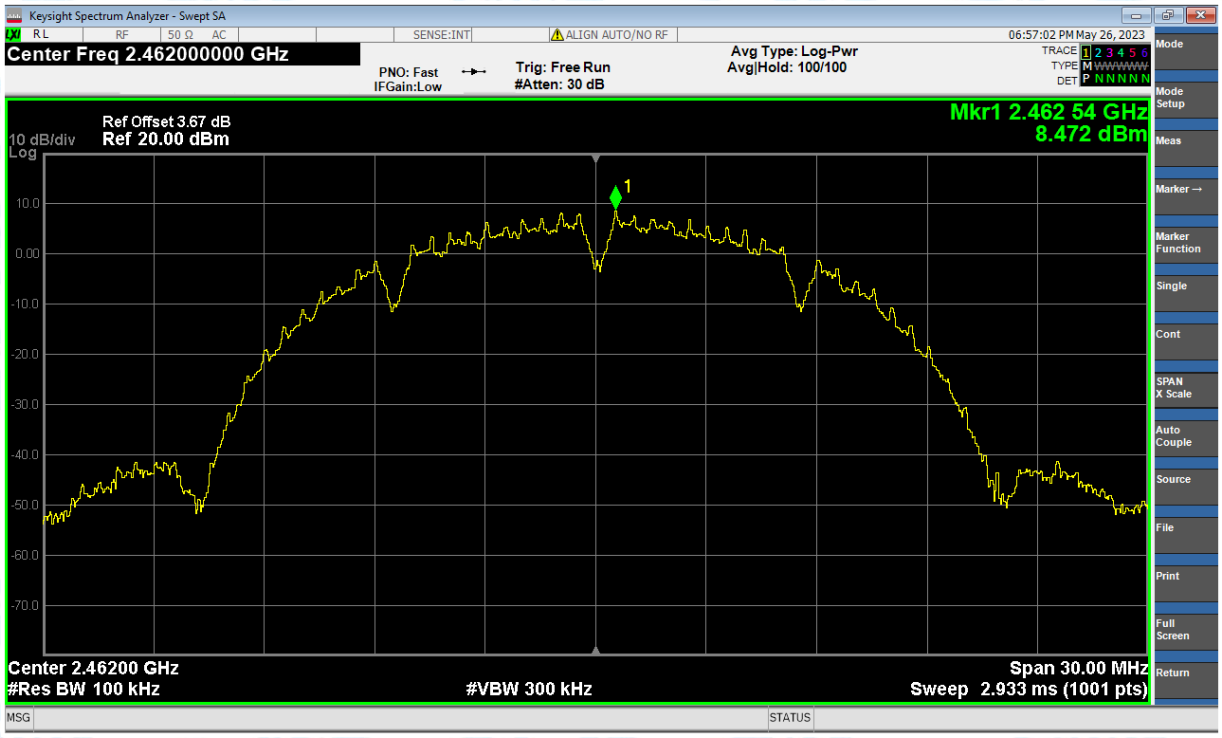


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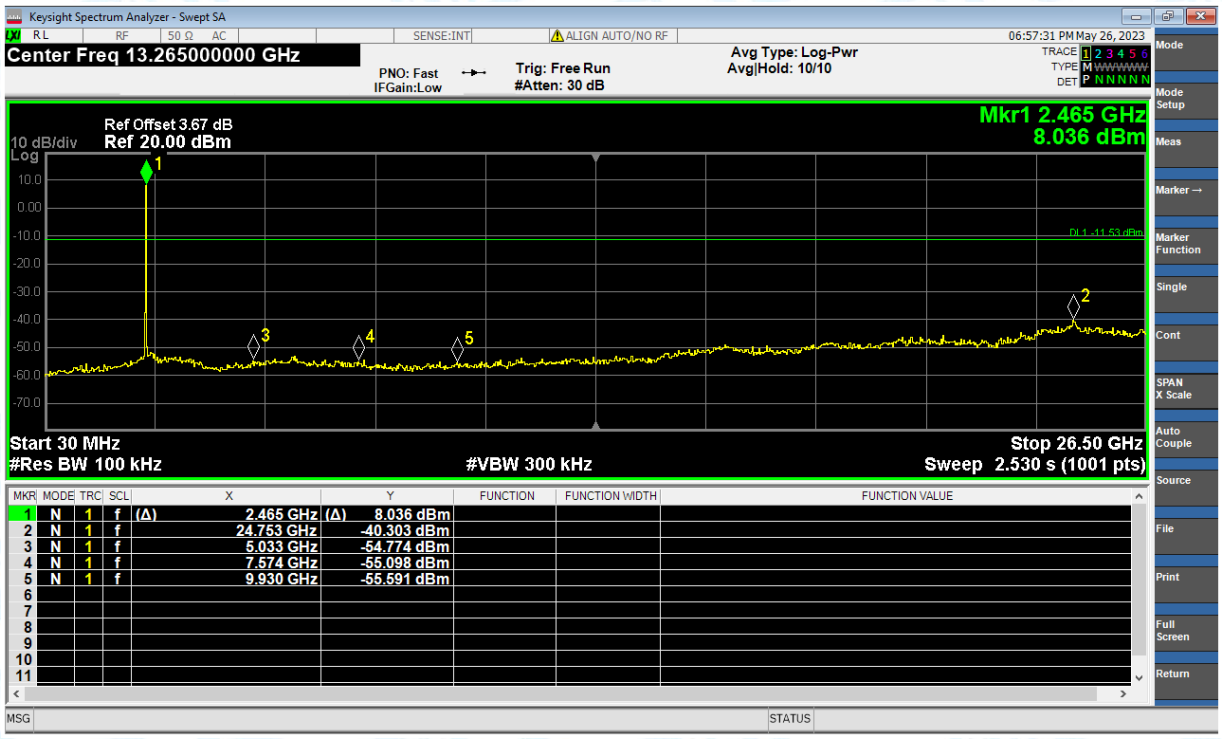

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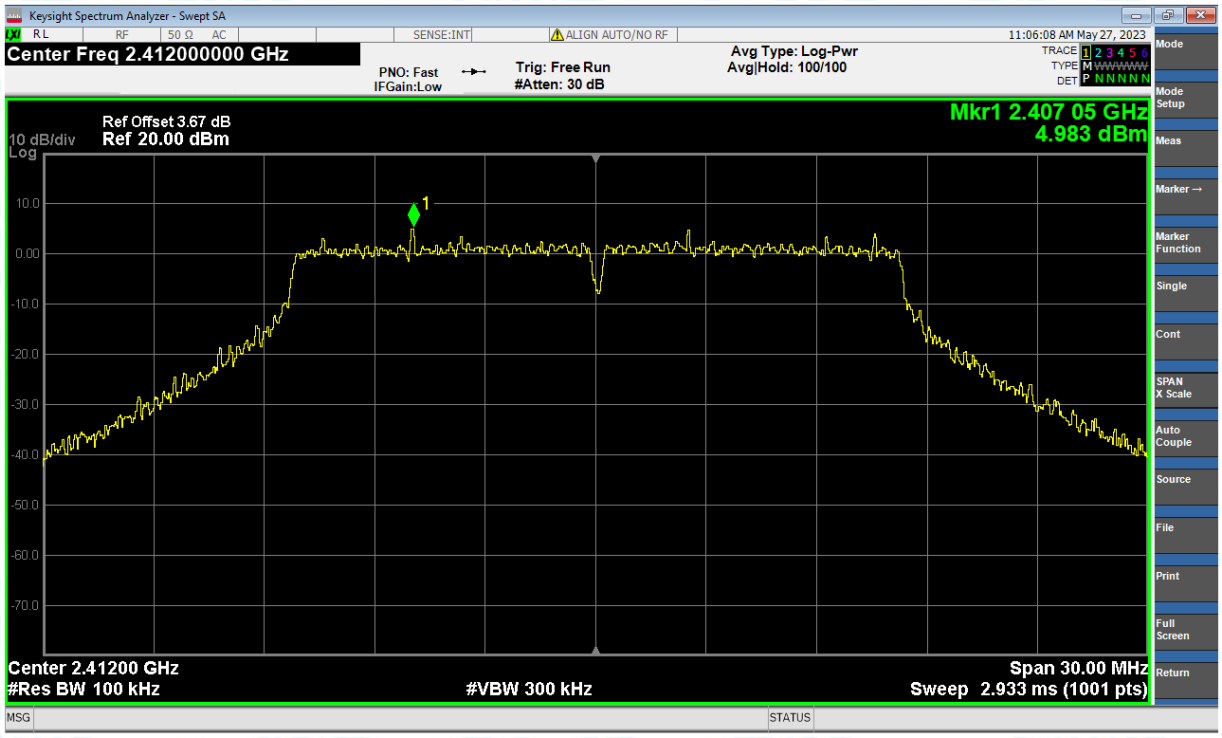
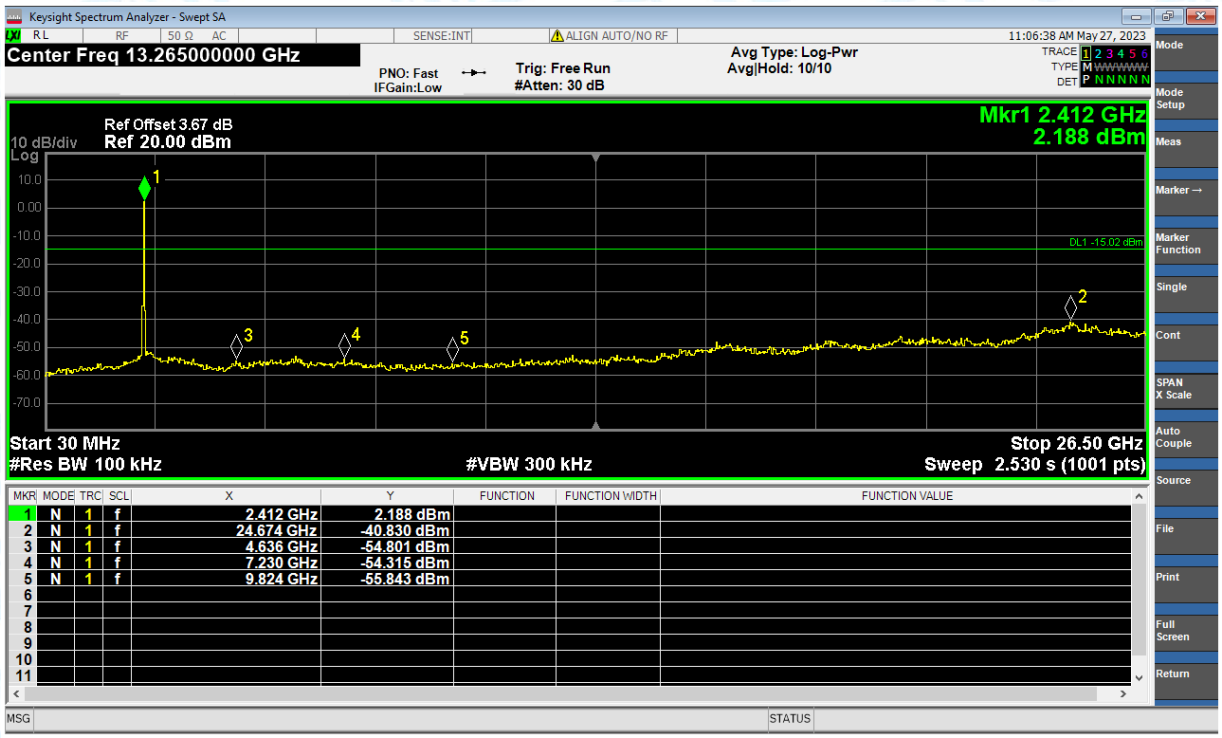
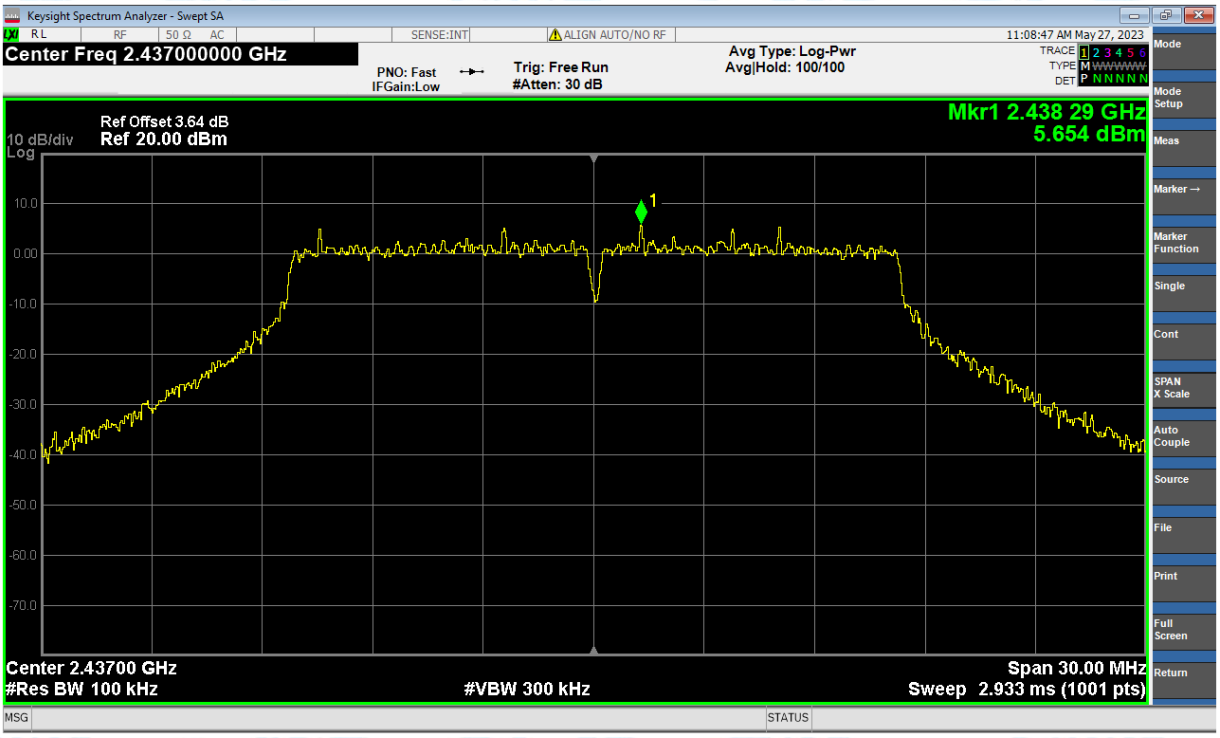



Tx. Spurious NVNT g 2412MHz Ant1 Emission



Tx. Spurious NVNT g 2437MHz Ant1 Ref

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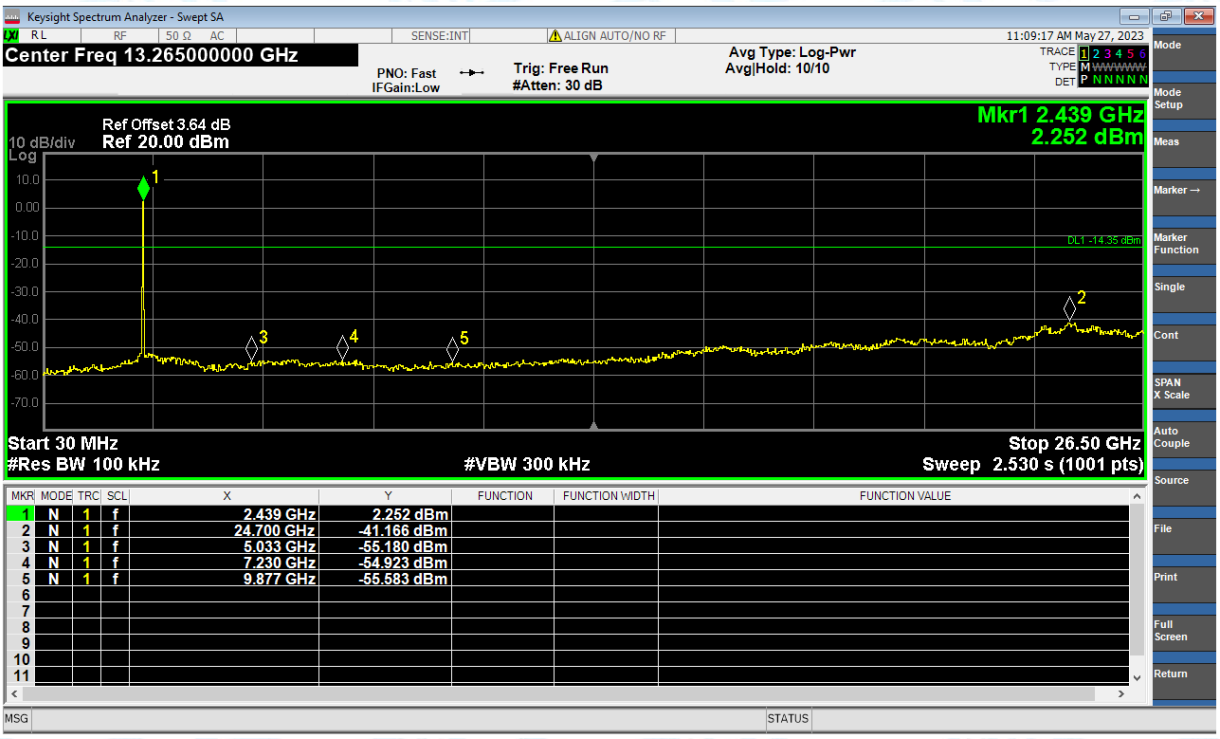

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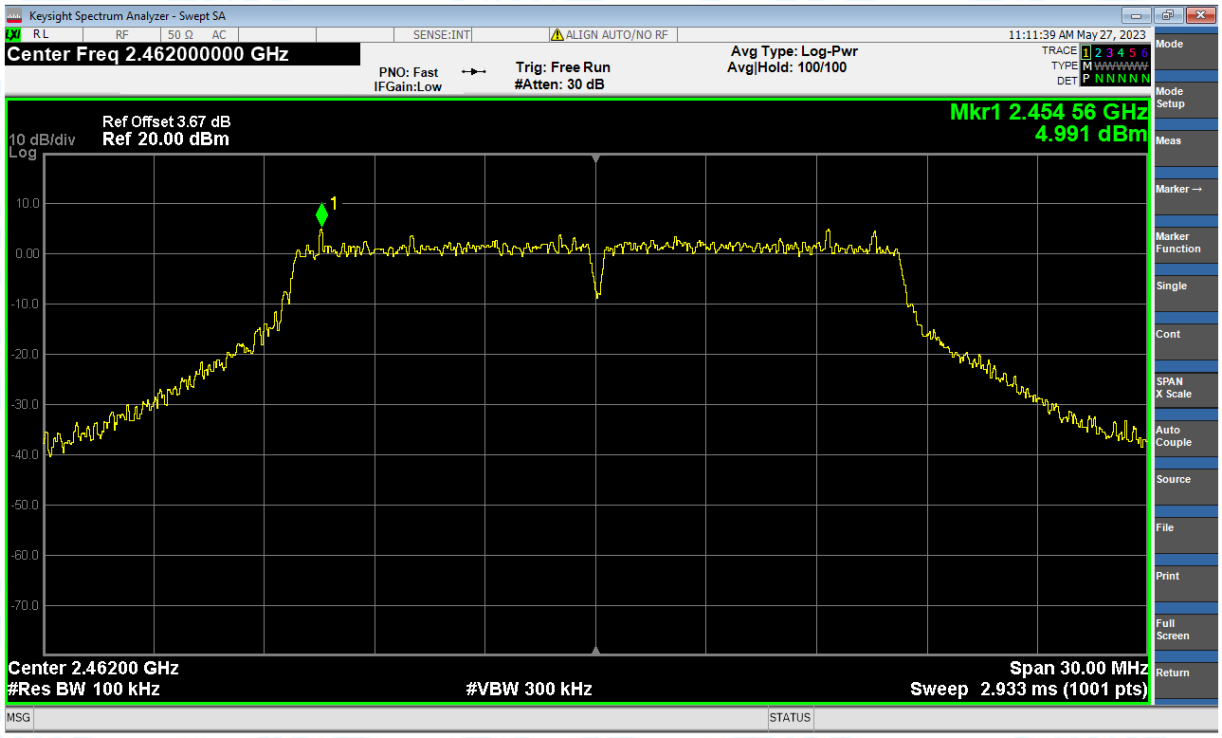


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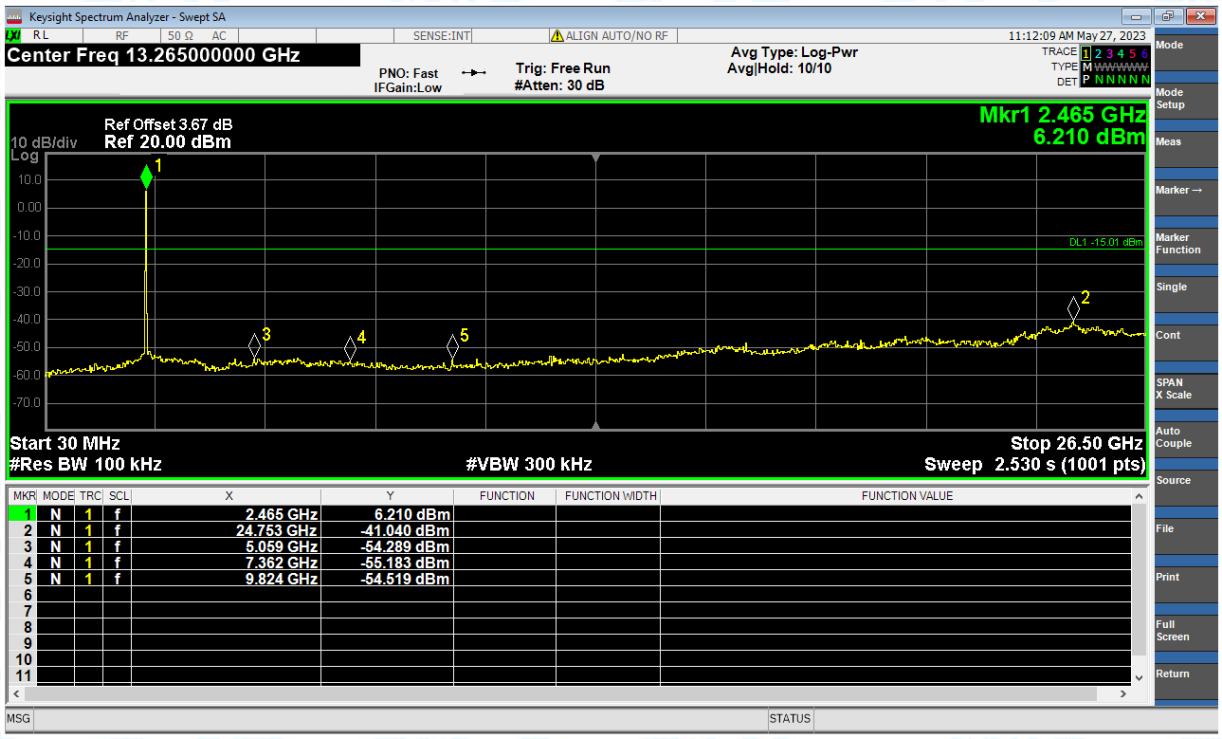
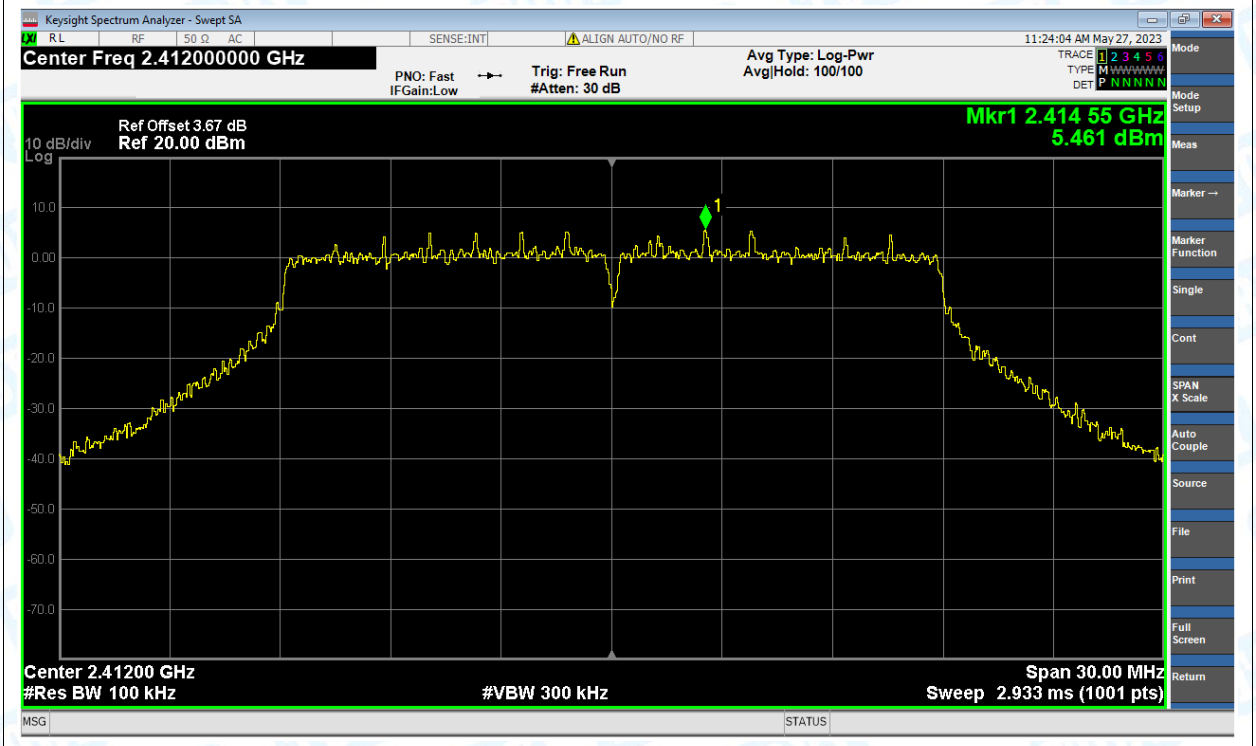


Tx. Spurious NVNT n(HT20) 2412MHz Ant1 Ref

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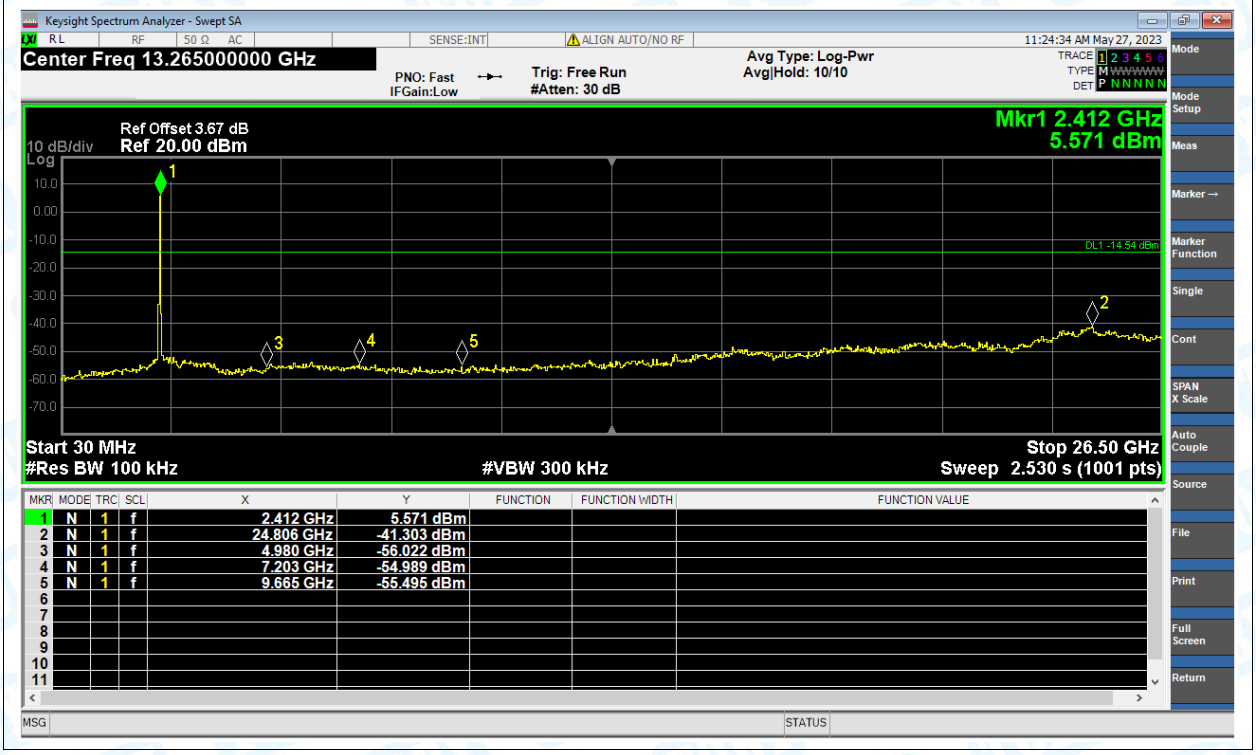

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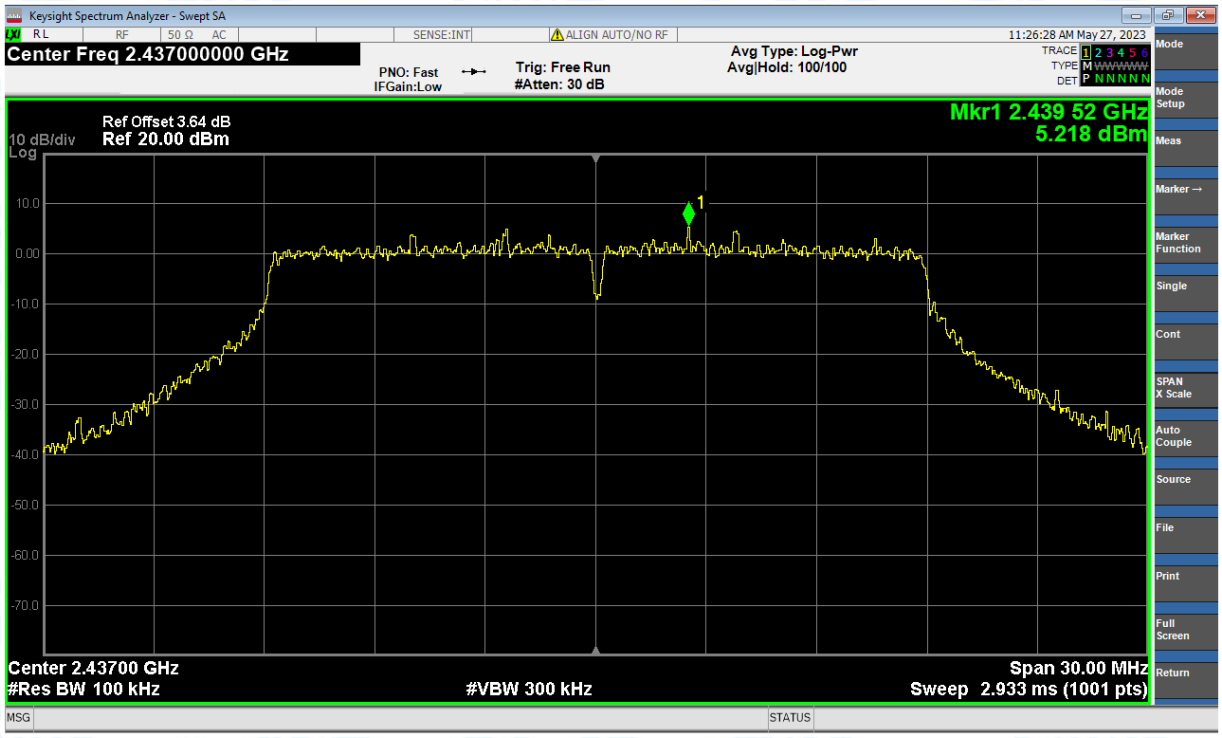


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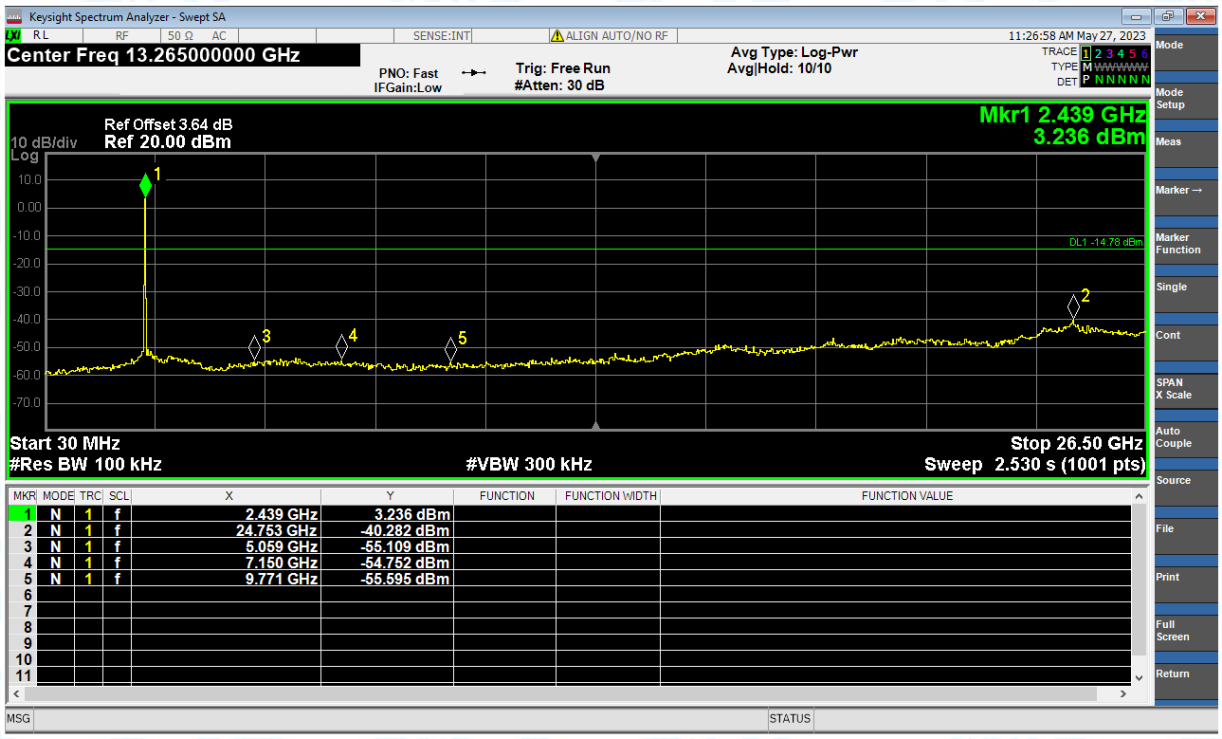
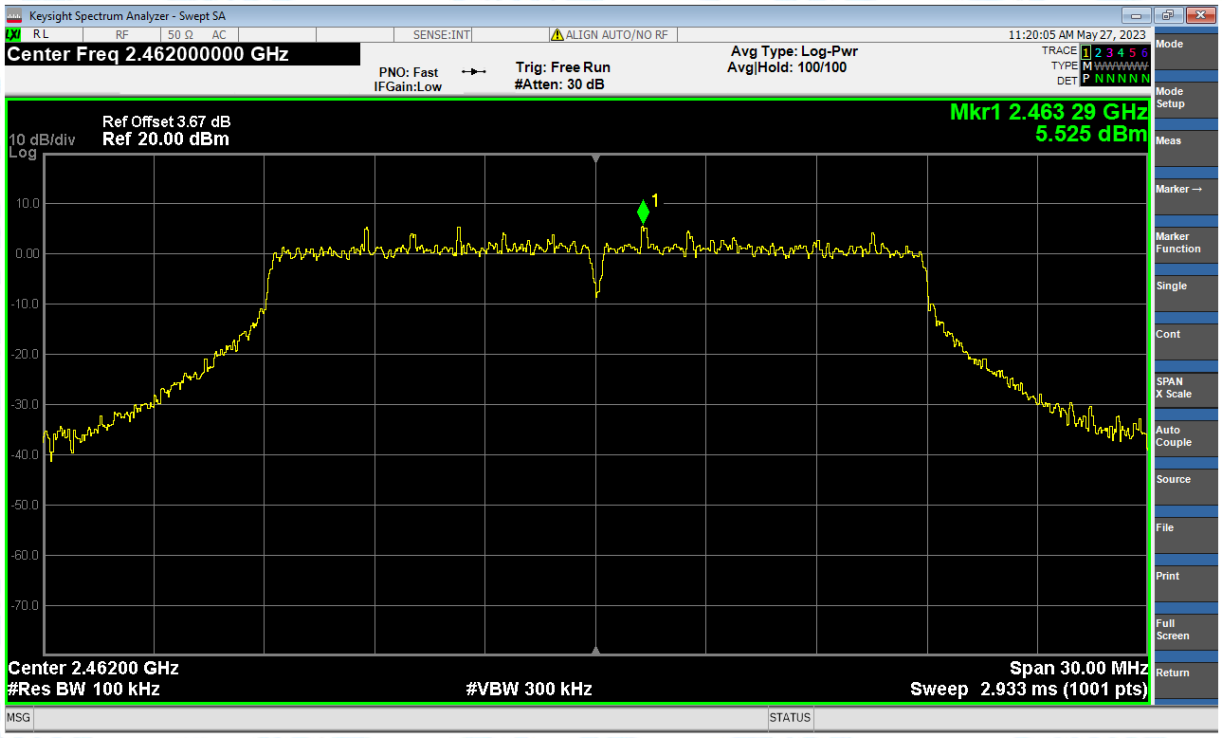
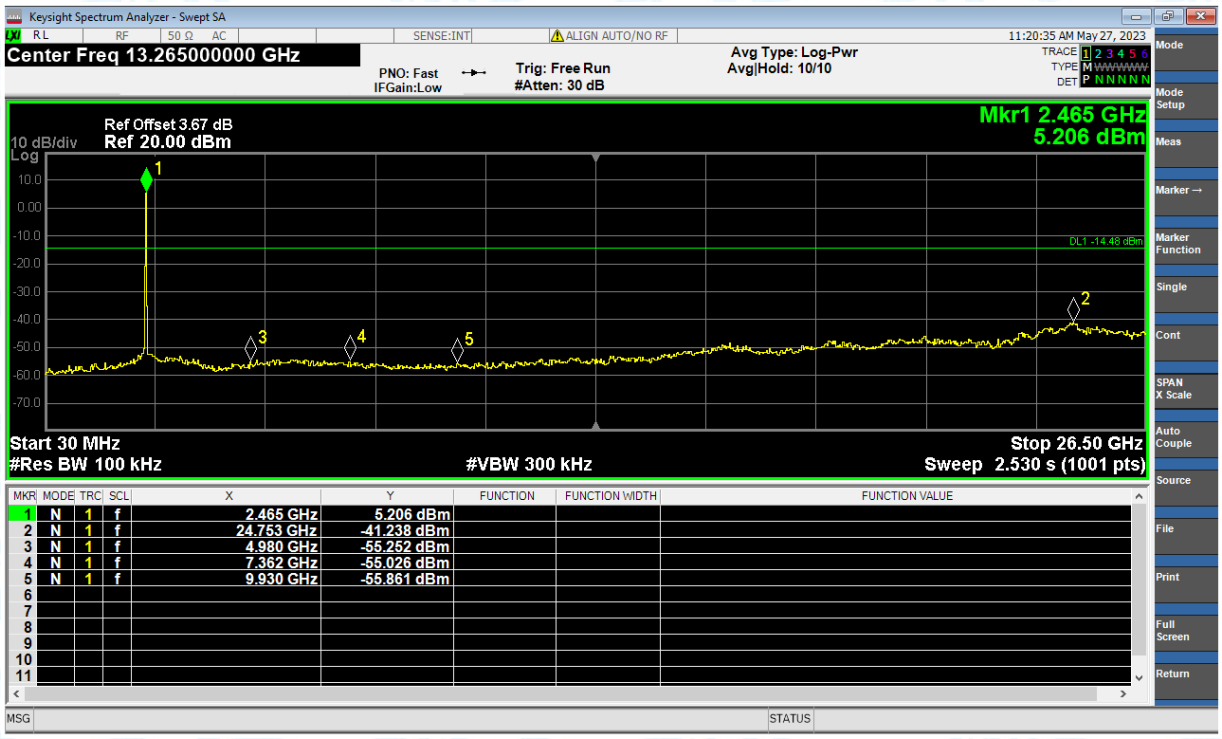


Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Ref




Tx. Spurious NVNT n(HT20) 2462MHz Ant1 Emission

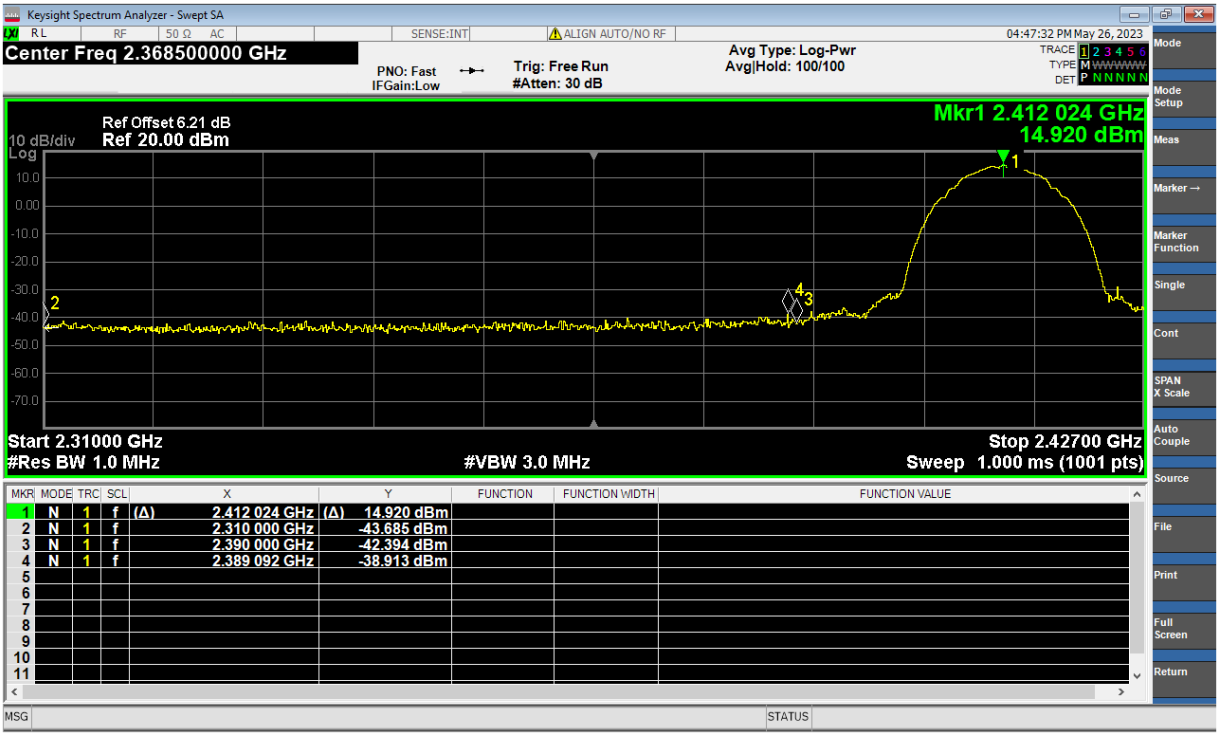


# Restrict Band

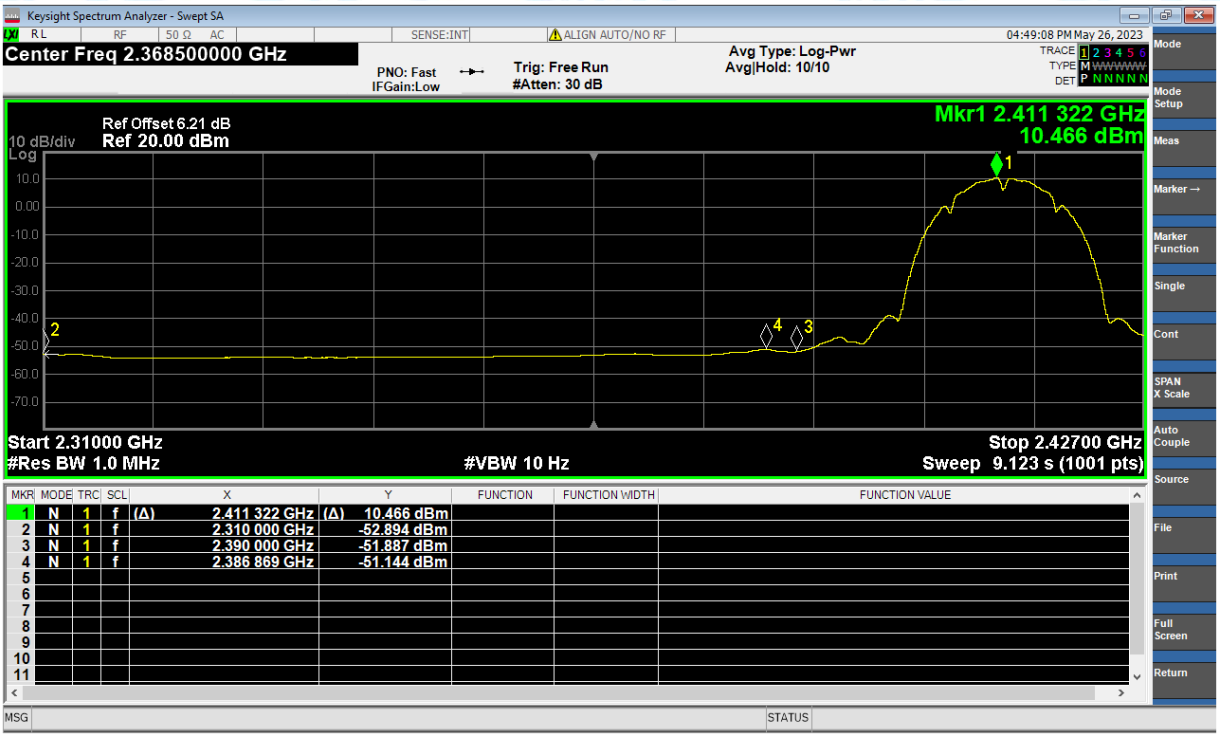
| Condition | Mode | Frequency (MHz) | Antenna | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|---|---|---|---|---|---|---|---|---|---|---|
| NVNT | b | 2412 | Ant1 | 2310 | -43.68 | 2.54 | 54.12 | Peak | 74 | Pass |
| NVNT | b | 2412 | Ant1 | 2310 | -52.89 | 2.54 | 44.91 | Average | 54 | Pass |
| NVNT | b | 2412 | Ant1 | 2389.092 | -38.91 | 2.54 | 58.89 | Peak | 74 | Pass |
| NVNT | b | 2412 | Ant1 | 2386.869 | -51.14 | 2.54 | 46.66 | Average | 54 | Pass |
| NVNT | b | 2412 | Ant1 | 2390 | -42.39 | 2.54 | 55.41 | Peak | 74 | Pass |
| NVNT | b | 2412 | Ant1 | 2390 | -51.89 | 2.54 | 45.91 | Average | 54 | Pass |
| NVNT | b | 2462 | Ant1 | 2483.5 | -42.45 | 2.54 | 55.35 | Peak | 74 | Pass |
| NVNT | b | 2462 | Ant1 | 2483.5 | -51.55 | 2.54 | 46.25 | Average | 54 | Pass |
| NVNT | b | 2462 | Ant1 | 2487.333 | -39.34 | 2.54 | 58.46 | Peak | 74 | Pass |
| NVNT | b | 2462 | Ant1 | 2487.439 | -51.12 | 2.54 | 46.68 | Average | 54 | Pass |
| NVNT | b | 2462 | Ant1 | 2500 | -42.18 | 2.54 | 55.62 | Peak | 74 | Pass |
| NVNT | b | 2462 | Ant1 | 2500 | -52.36 | 2.54 | 45.44 | Average | 54 | Pass |
| NVNT | g | 2412 | Ant1 | 2310 | -45.18 | 2.54 | 52.62 | Peak | 74 | Pass |
| NVNT | g | 2412 | Ant1 | 2310 | -53.17 | 2.54 | 44.63 | Average | 54 | Pass |
| NVNT | g | 2412 | Ant1 | 2388.624 | -31.48 | 2.54 | 66.32 | Peak | 74 | Pass |
| NVNT | g | 2412 | Ant1 | 2389.911 | -47.68 | 2.54 | 50.12 | Average | 54 | Pass |
| NVNT | g | 2412 | Ant1 | 2390 | -31.21 | 2.54 | 66.59 | Peak | 74 | Pass |
| NVNT | g | 2412 | Ant1 | 2390 | -47.53 | 2.54 | 50.27 | Average | 54 | Pass |
| NVNT | g | 2462 | Ant1 | 2483.5 | -26.3 | 2.54 | 71.5 | Peak | 74 | Pass |
| NVNT | g | 2462 | Ant1 | 2483.5 | -44.91 | 2.54 | 52.89 | Average | 54 | Pass |
| NVNT | g | 2462 | Ant1 | 2483.623 | -25.02 | 2.54 | 72.78 | Peak | 74 | Pass |
| NVNT | g | 2462 | Ant1 | 2483.57 | -44.83 | 2.54 | 52.97 | Average | 54 | Pass |
| NVNT | g | 2462 | Ant1 | 2500 | -40.5 | 2.54 | 57.3 | Peak | 74 | Pass |
| NVNT | g | 2462 | Ant1 | 2500 | -51.66 | 2.54 | 46.14 | Average | 54 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2310 | -41.95 | 2.54 | 55.85 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2310 | -53.19 | 2.54 | 44.61 | Average | 54 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2389.911 | -30.68 | 2.54 | 67.12 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2389.911 | -46.79 | 2.54 | 51.01 | Average | 54 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2390 | -30.81 | 2.54 | 66.99 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2412 | Ant1 | 2390 | -46.86 | 2.54 | 50.94 | Average | 54 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2483.5 | -27.82 | 2.54 | 69.98 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2483.5 | -47.23 | 2.54 | 50.57 | Average | 54 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2483.782 | -27.38 | 2.54 | 70.42 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2483.676 | -47.15 | 2.54 | 50.65 | Average | 54 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2500 | -41.66 | 2.54 | 56.14 | Peak | 74 | Pass |
| NVNT | n(HT20) | 2462 | Ant1 | 2500 | -51.66 | 2.54 | 46.14 | Average | 54 | Pass |

Test Graphs

Restrict Band NVNT b 2412MHz Ant1 Peak



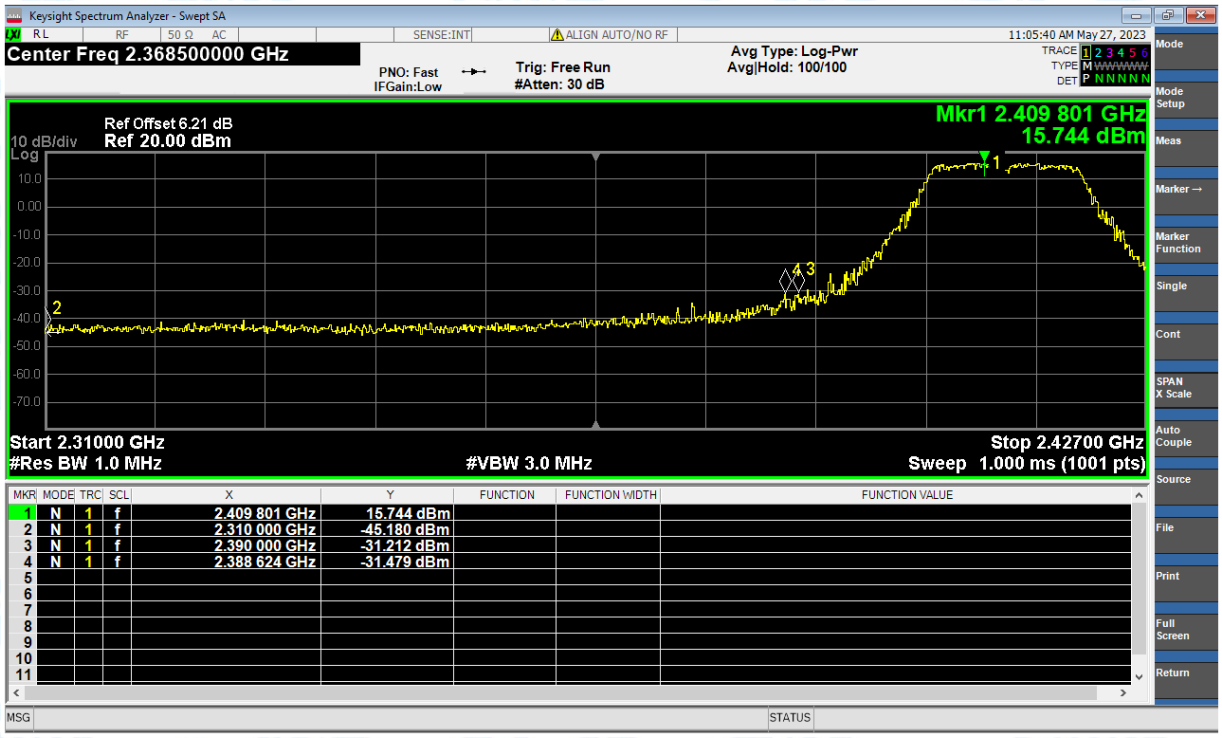

Restrict Band NVNT b 2412MHz Ant1 Average



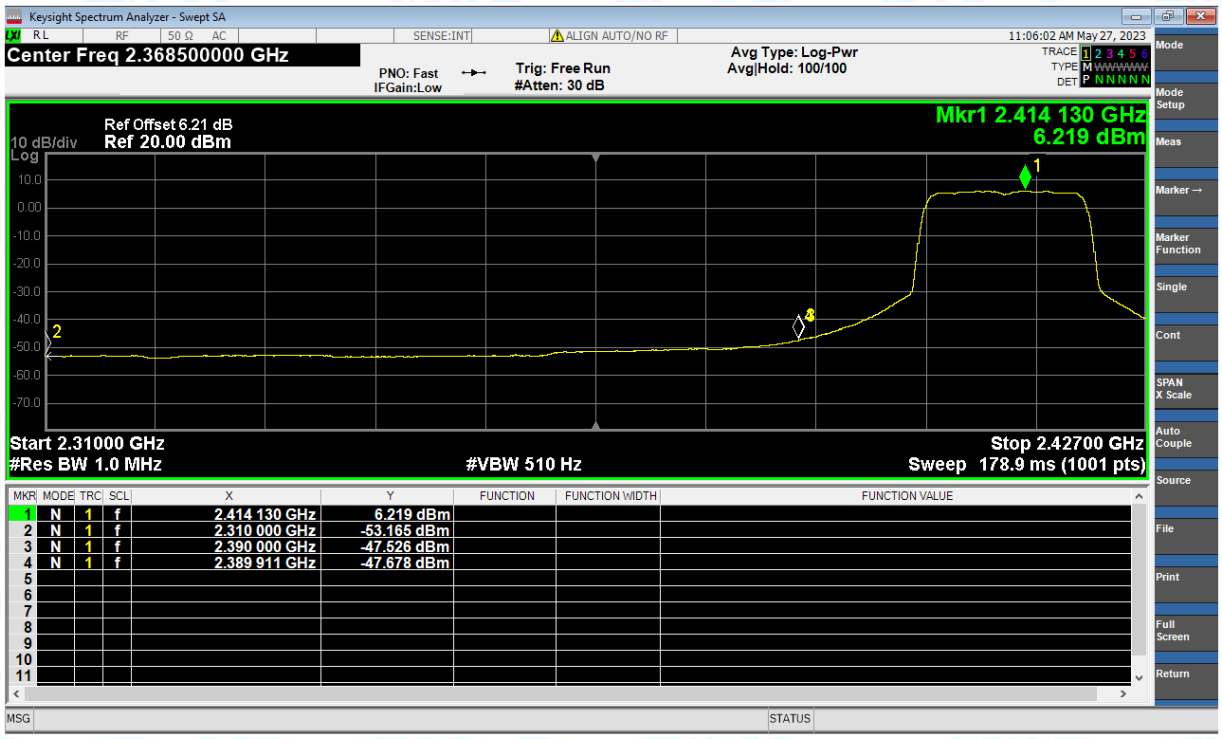
Restrict Band NVNT b 2462MHz Ant1 Peak

Restrict Band NVNT b 2462MHz Ant1 Average

Restrict Band NVNT g 2412MHz Ant1 Peak



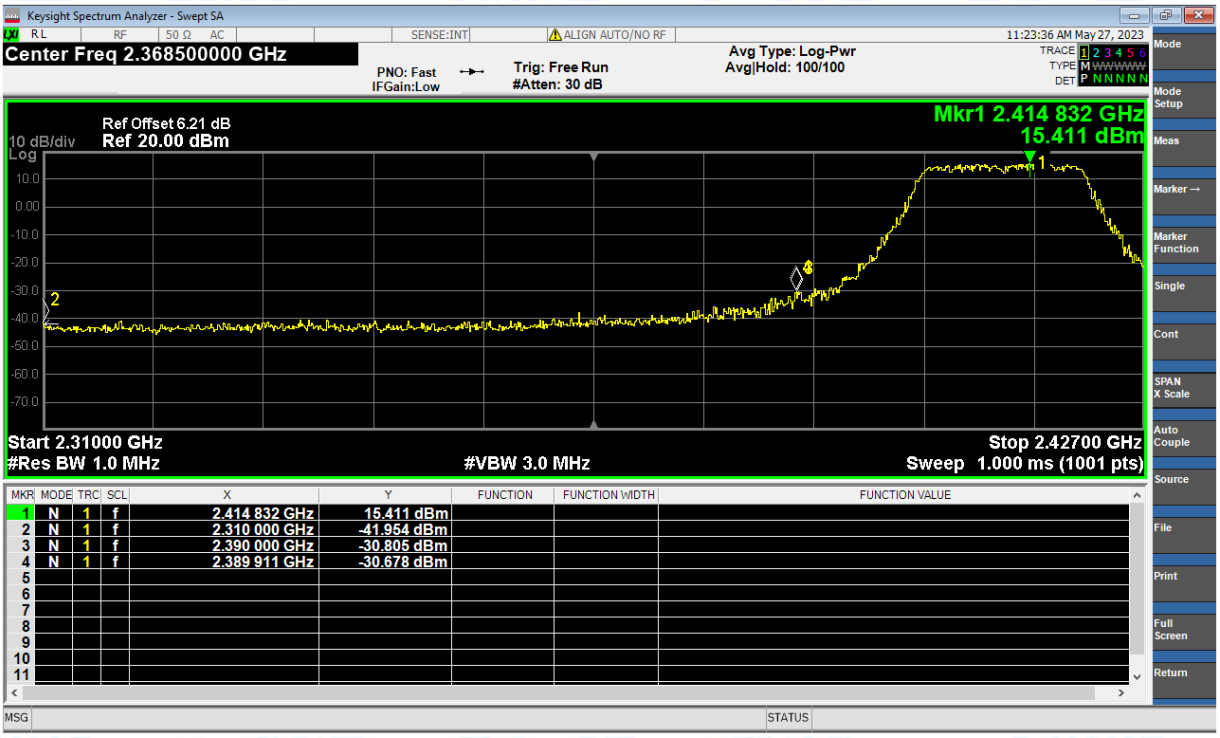

Restrict Band NVNT g 2412MHz Ant1 Average



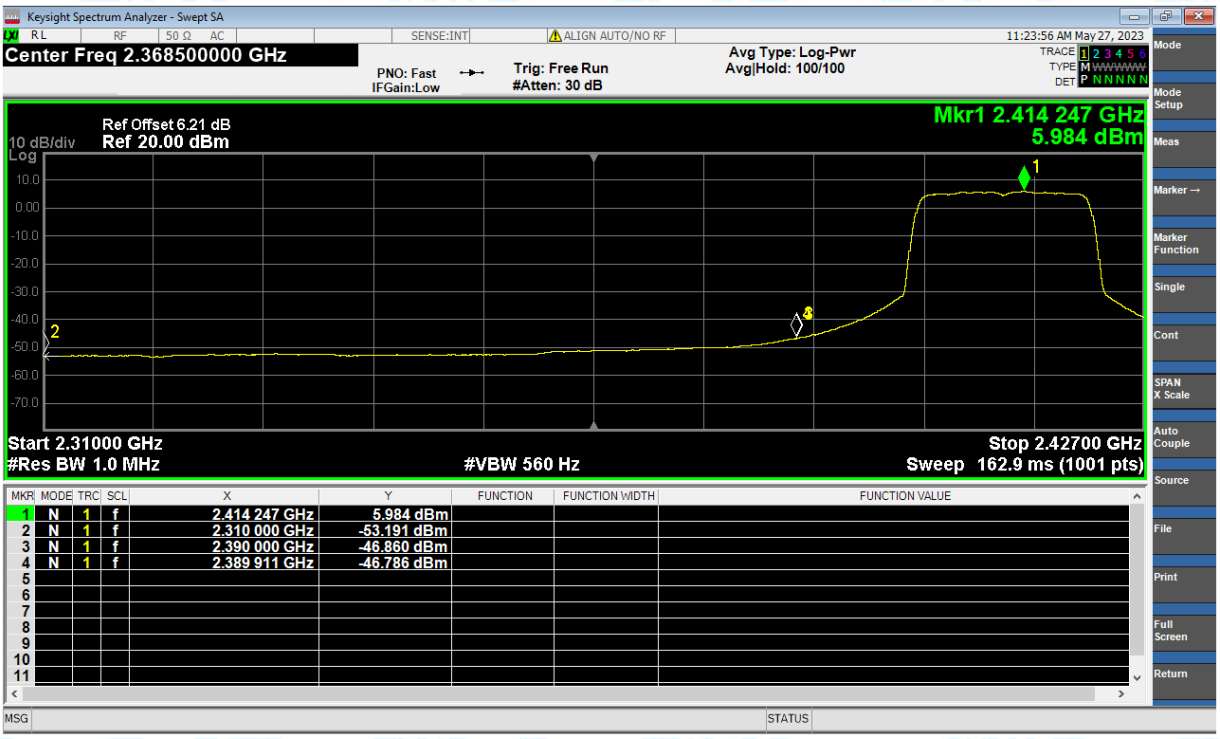
Restrict Band NVNT g 2462MHz Ant1 Peak

Restrict Band NVNT g 2462MHz Ant1 Average

Restrict Band NVNT n(HT20) 2412MHz Ant1 Peak




Restrict Band NVNT n(HT20) 2412MHz Ant1 Average



Restrict Band NVNT n(HT20) 2462MHz Ant1 Peak

Restrict Band NVNT n(HT20) 2462MHz Ant1 Average