# Appendix G

## RF Test Data for 5.8GWIFI (Conducted Measurement)

**Product Name: IPTV Set-Top Box**

**Test Model: SML-5041W**

**Environmental Conditions**

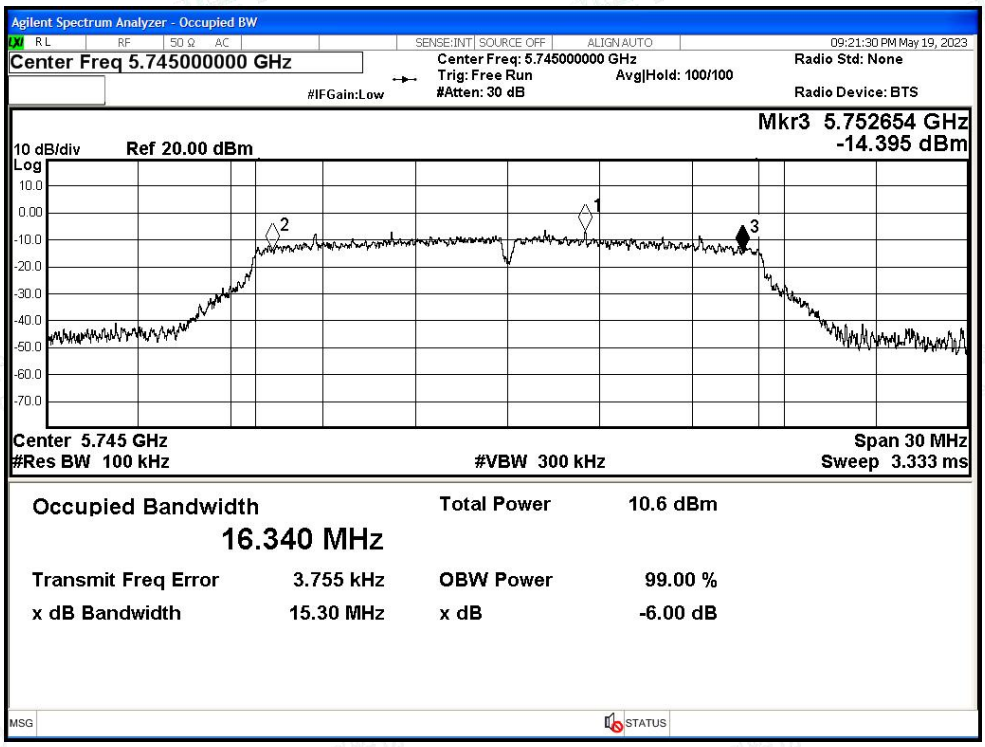
| | |
|---|---|
| Temperature: | 23.8° C |
| Relative Humidity: | 52.1% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Mening Su |
| Supervised by: | Ling Zhu |

# G.1 -6dB Bandwidth

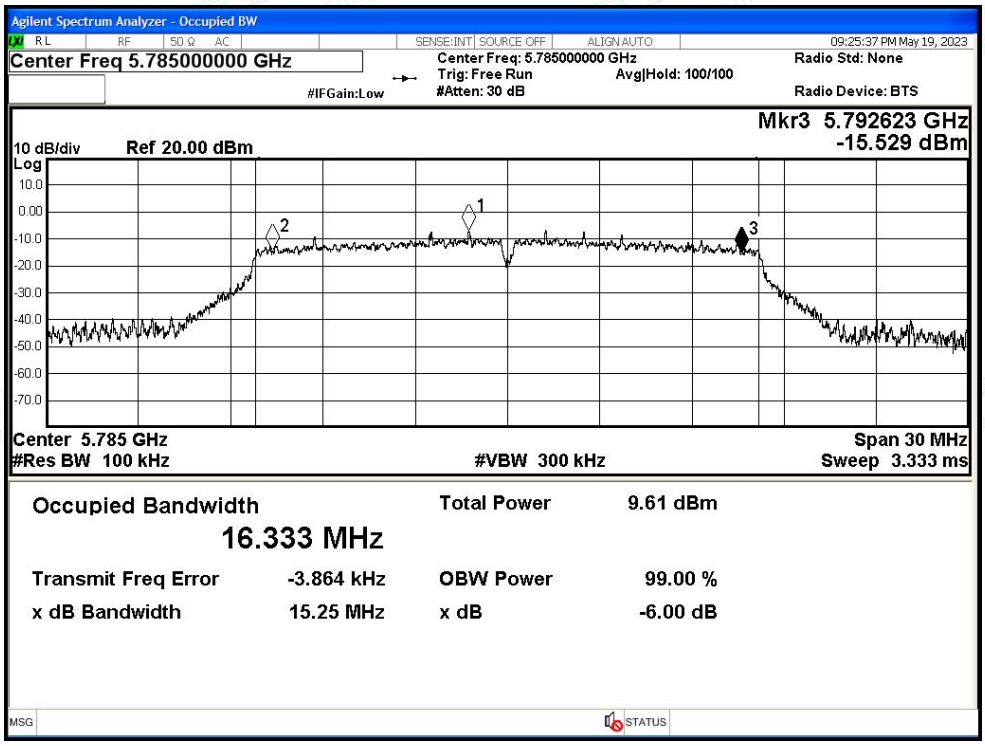
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant0 | 15.301 | 0.5 | Pass |
| NVNT | a | 5785 | Ant0 | 15.255 | 0.5 | Pass |
| NVNT | a | 5825 | Ant0 | 14.046 | 0.5 | Pass |
| NVNT | n20 | 5745 | Ant0 | 15.334 | 0.5 | Pass |
| NVNT | n20 | 5785 | Ant0 | 14.996 | 0.5 | Pass |
| NVNT | n20 | 5825 | Ant0 | 13.746 | 0.5 | Pass |
| NVNT | n40 | 5755 | Ant0 | 35.108 | 0.5 | Pass |
| NVNT | n40 | 5795 | Ant0 | 33.869 | 0.5 | Pass |
| NVNT | ac20 | 5745 | Ant0 | 15.491 | 0.5 | Pass |
| NVNT | ac20 | 5785 | Ant0 | 14.989 | 0.5 | Pass |
| NVNT | ac20 | 5825 | Ant0 | 13.838 | 0.5 | Pass |
| NVNT | ac40 | 5755 | Ant0 | 35.108 | 0.5 | Pass |
| NVNT | ac40 | 5795 | Ant0 | 32.613 | 0.5 | Pass |
| NVNT | ac80 | 5775 | Ant0 | 75.086 | 0.5 | Pass |

Test Graphs

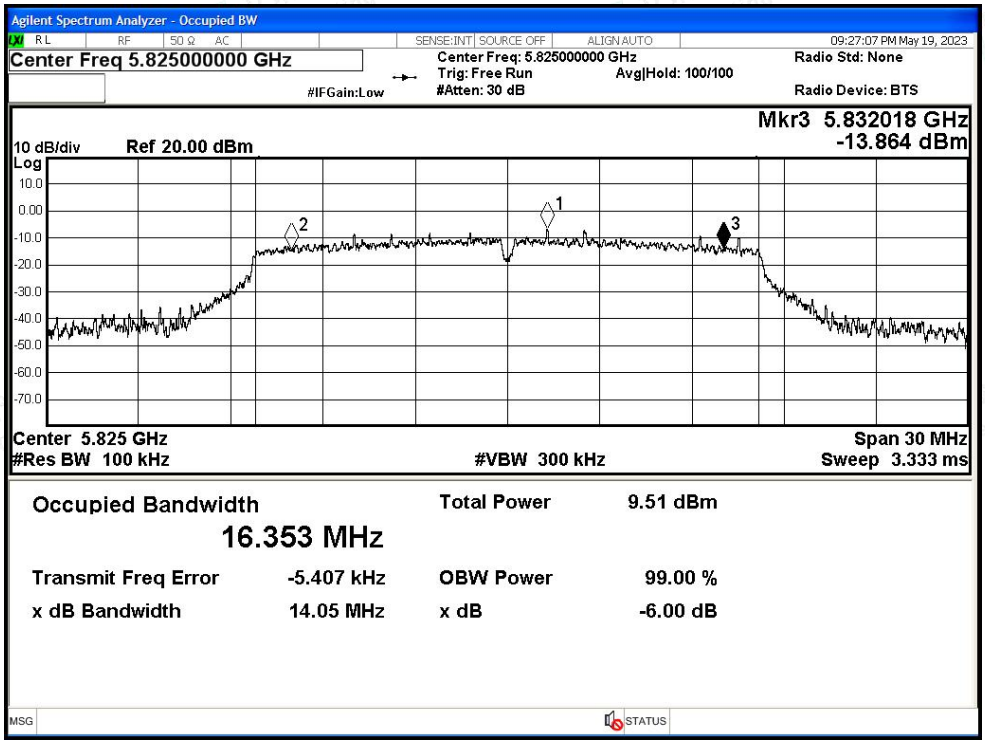
-6dB Bandwidth NVNT a 5745MHz Ant0



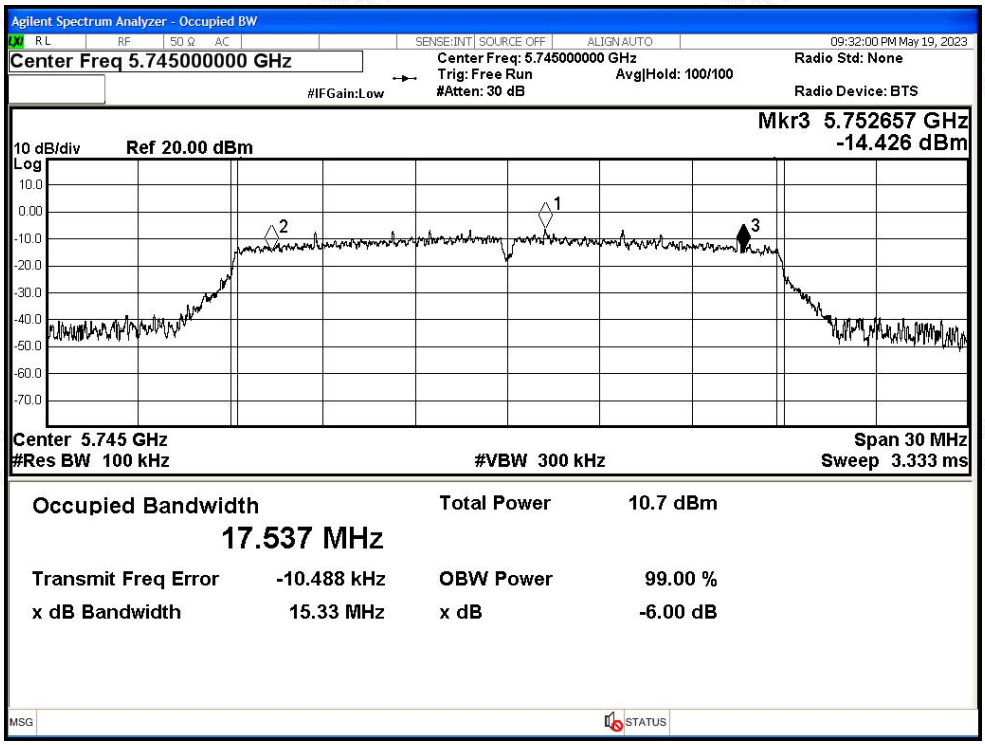

-6dB Bandwidth NVNT a 5785MHz Ant0



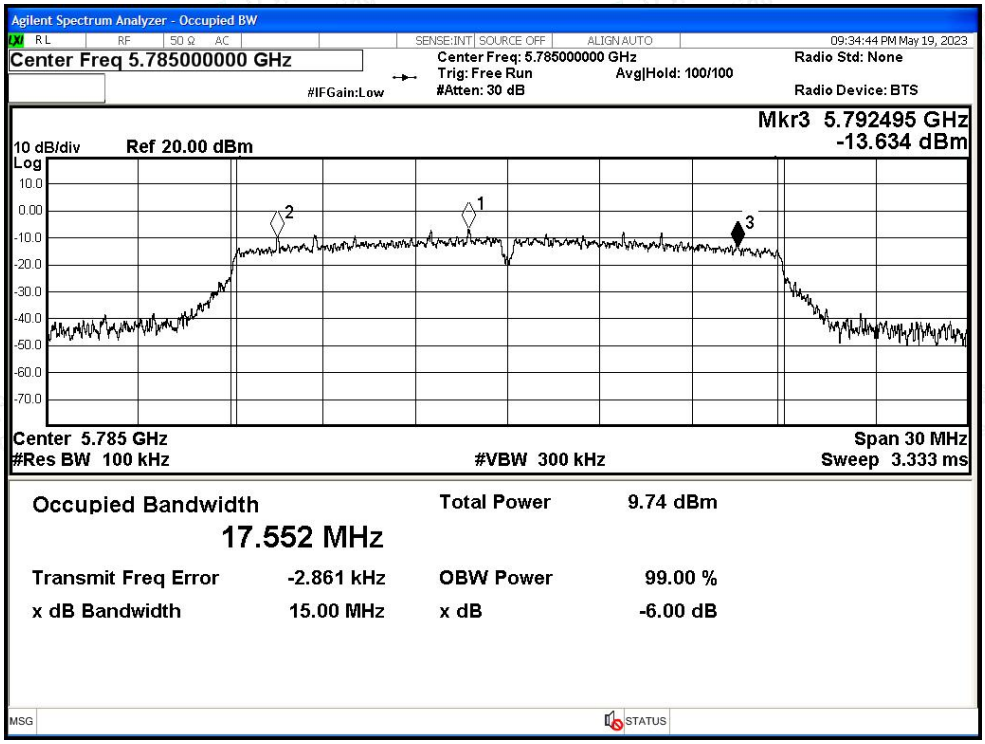
-6dB Bandwidth NVNT a 5825MHz Ant0



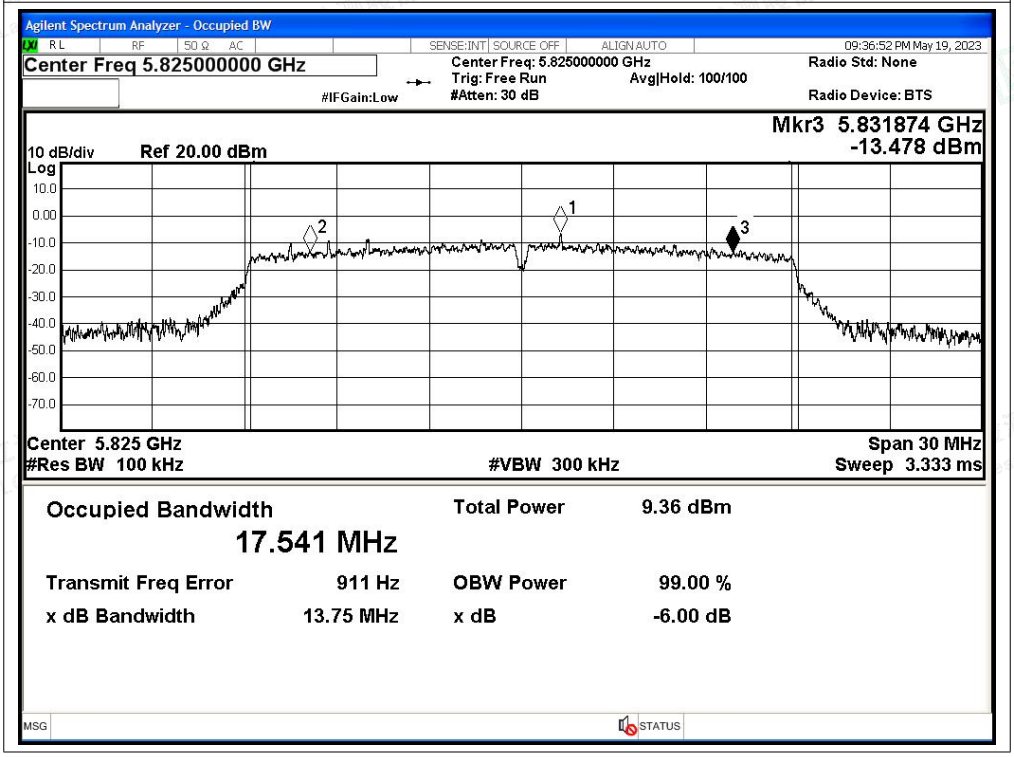

-6dB Bandwidth NVNT n20 5745MHz Ant0



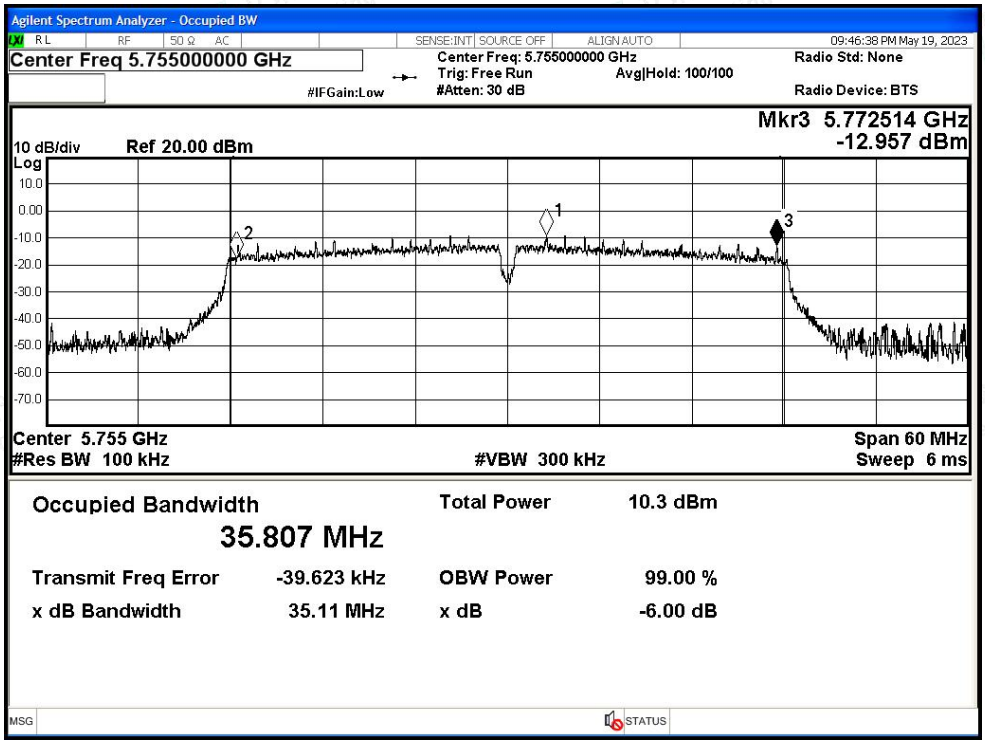
-6dB Bandwidth NVNT n20 5785MHz Ant0



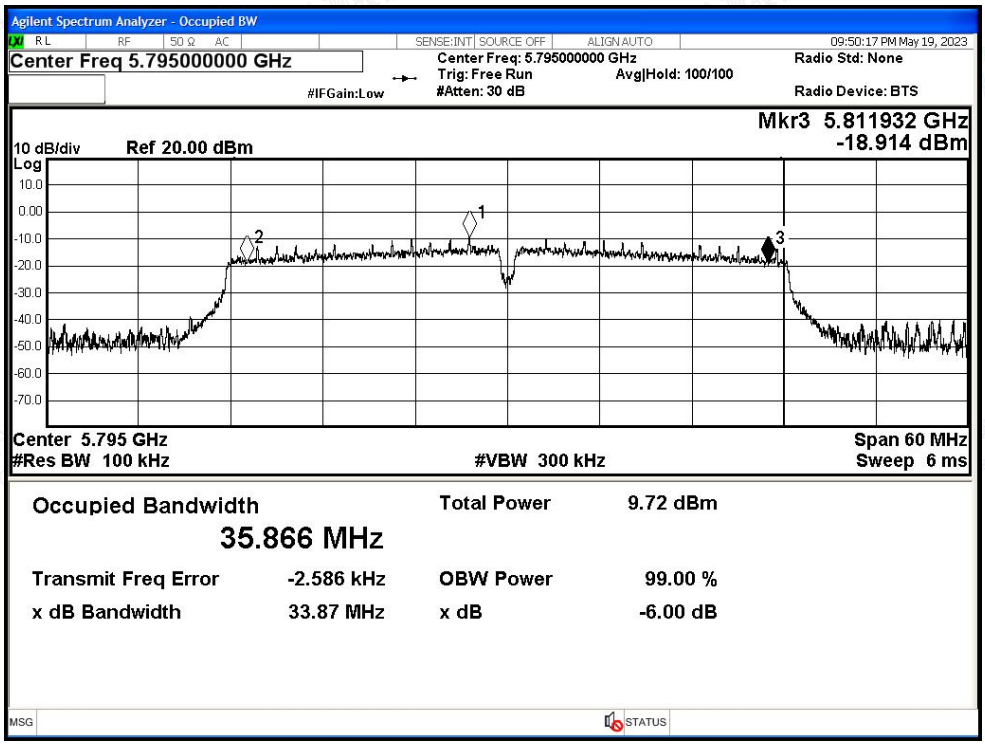

-6dB Bandwidth NVNT n20 5825MHz Ant0



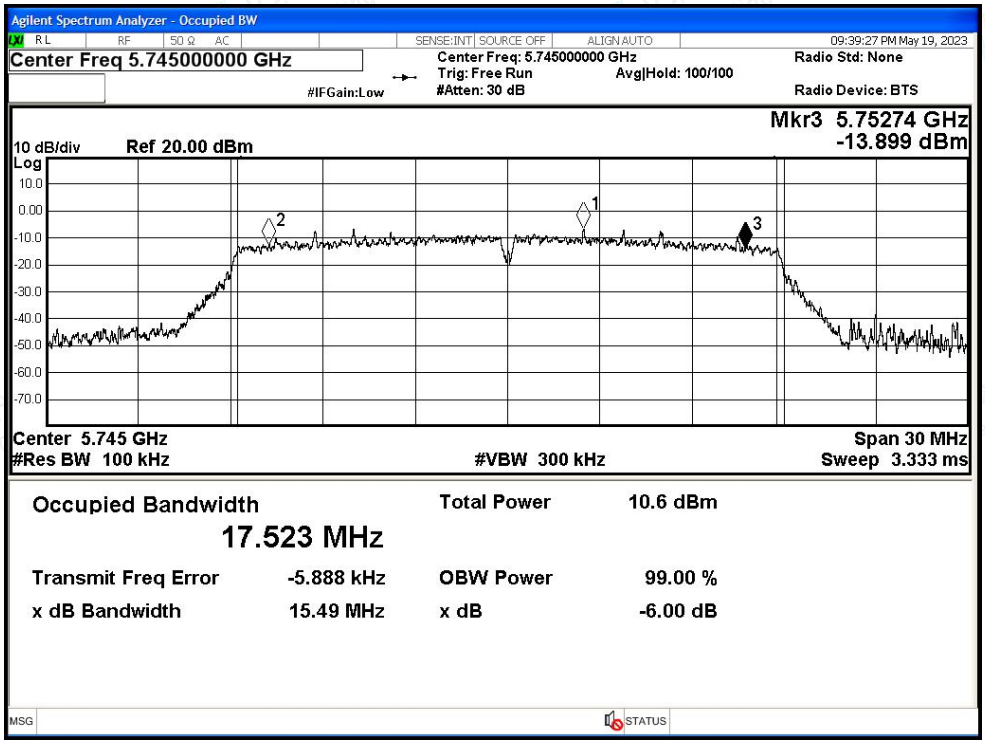
-6dB Bandwidth NVNT n40 5755MHz Ant0



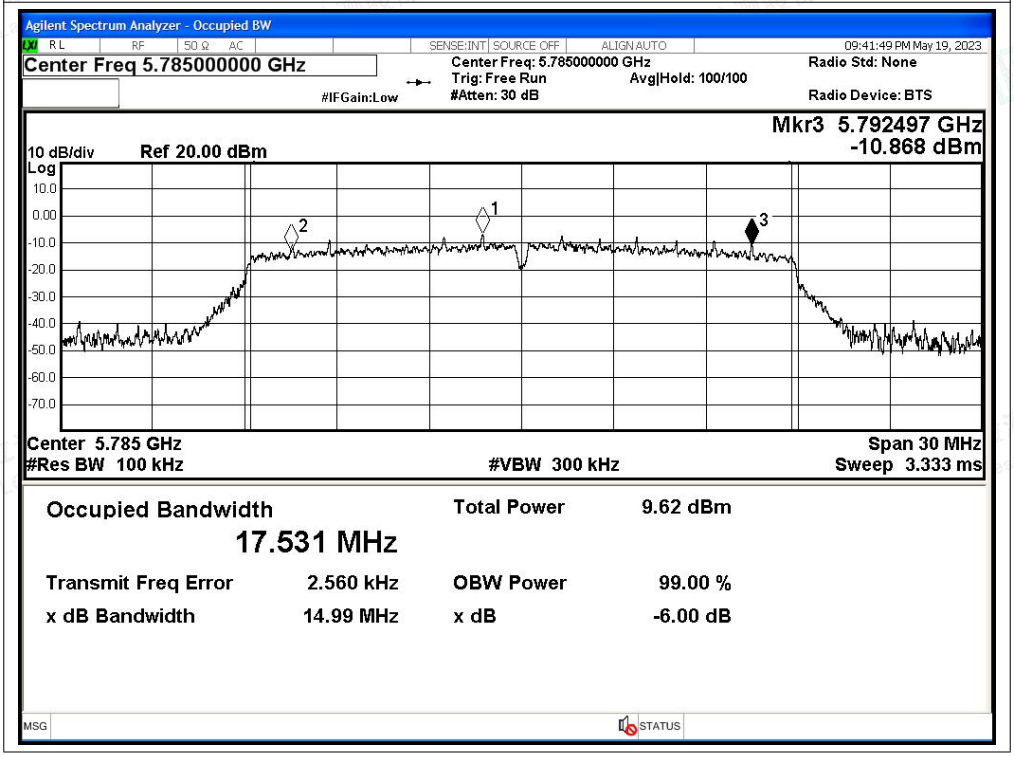

-6dB Bandwidth NVNT n40 5795MHz Ant0



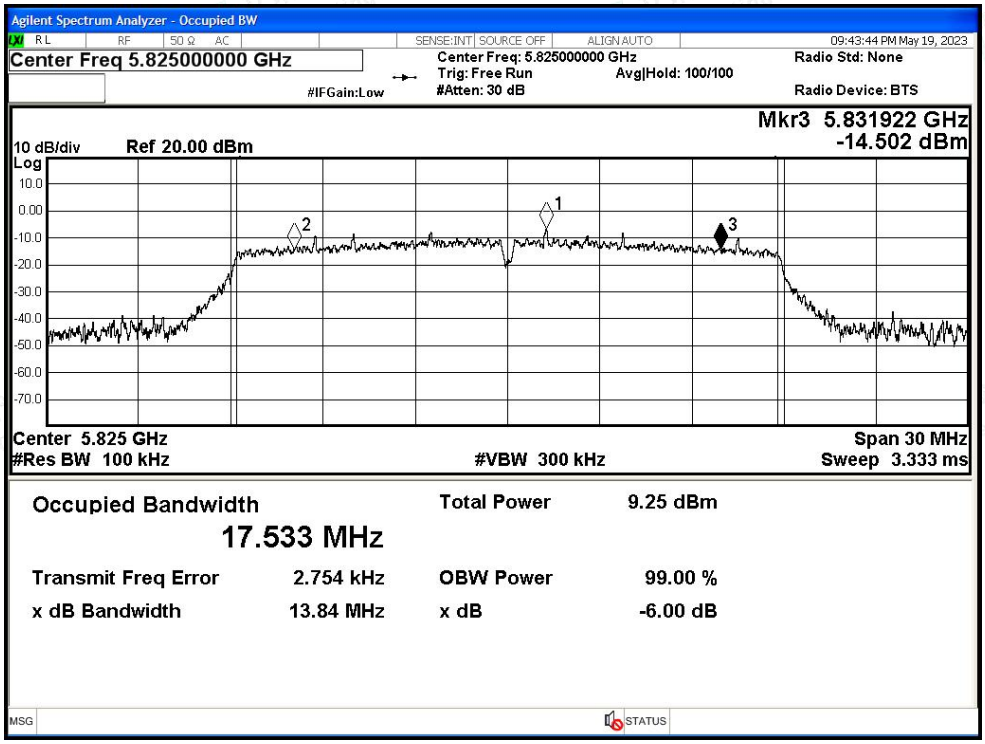
-6dB Bandwidth NVNT ac20 5745MHz Ant0



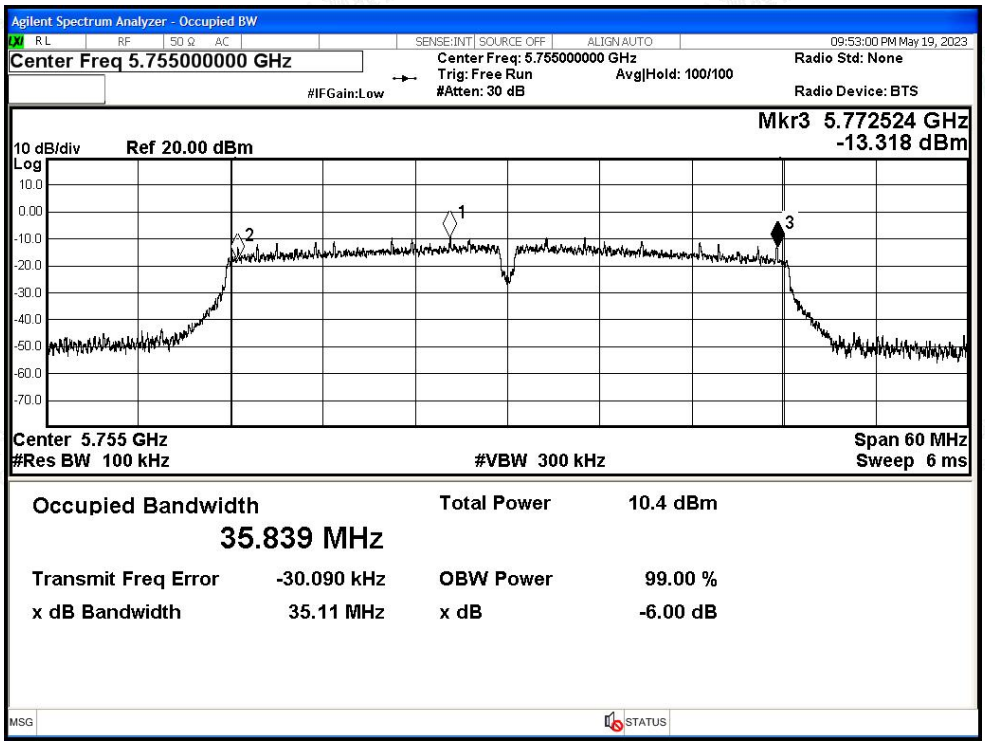

-6dB Bandwidth NVNT ac20 5785MHz Ant0



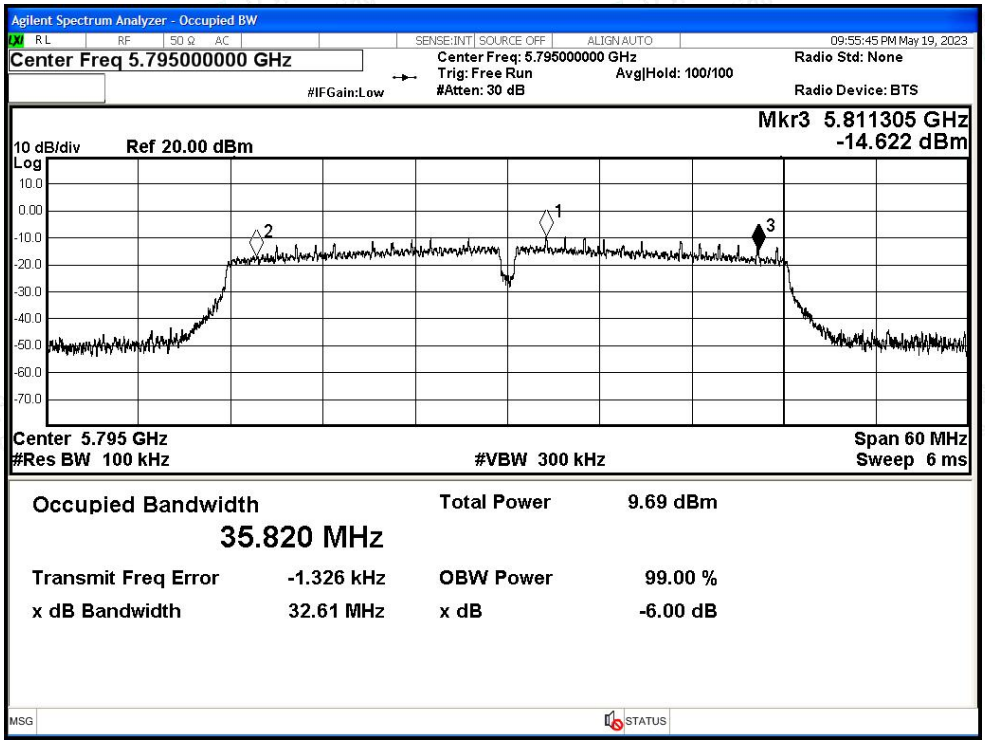
-6dB Bandwidth NVNT ac20 5825MHz Ant0



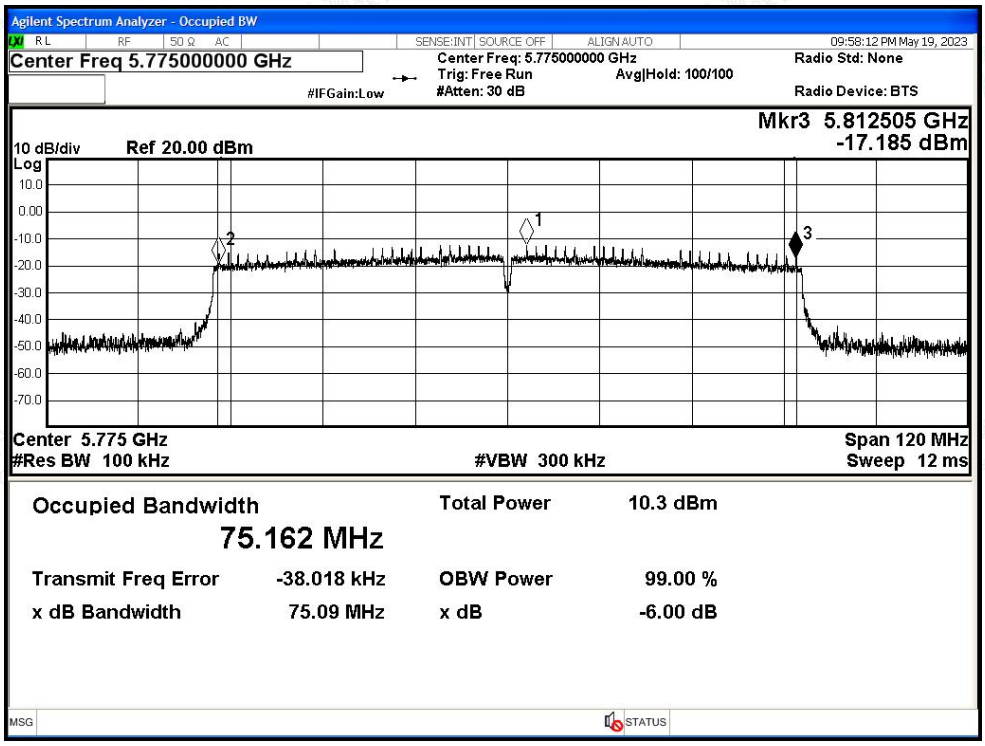

-6dB Bandwidth NVNT ac40 5755MHz Ant0



-6dB Bandwidth NVNT ac40 5795MHz Ant0



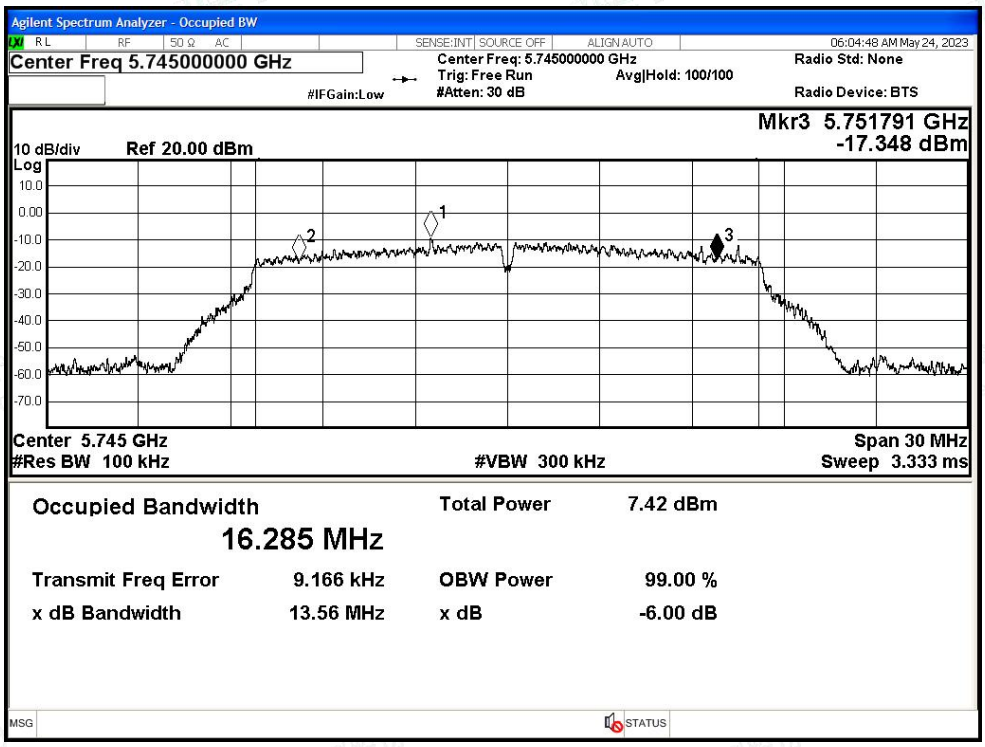

-6dB Bandwidth NVNT ac80 5775MHz Ant0



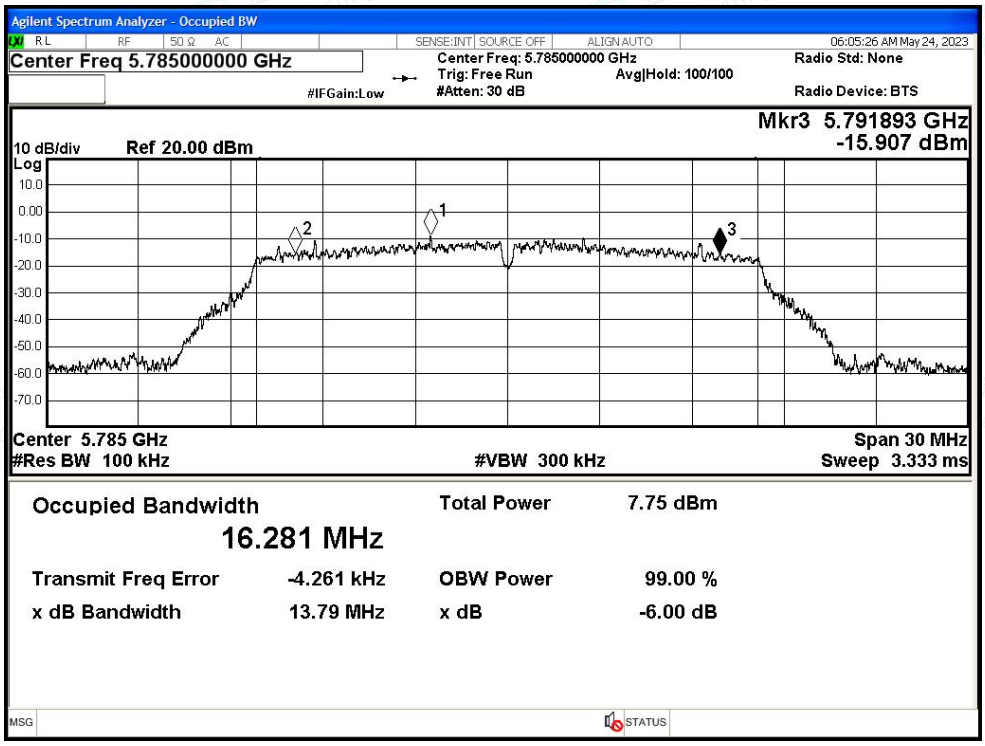
| Condition | Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant1 | 13.565 | 0.5 | Pass |
| NVNT | a | 5785 | Ant1 | 13.794 | 0.5 | Pass |
| NVNT | a | 5825 | Ant1 | 15.058 | 0.5 | Pass |
| NVNT | n20 | 5745 | Ant1 | 14.164 | 0.5 | Pass |
| NVNT | n20 | 5785 | Ant1 | 14.759 | 0.5 | Pass |
| NVNT | n20 | 5825 | Ant1 | 14.984 | 0.5 | Pass |
| NVNT | n40 | 5755 | Ant1 | 35.089 | 0.5 | Pass |
| NVNT | n40 | 5795 | Ant1 | 35.032 | 0.5 | Pass |
| NVNT | ac20 | 5745 | Ant1 | 13.457 | 0.5 | Pass |
| NVNT | ac20 | 5785 | Ant1 | 13.146 | 0.5 | Pass |
| NVNT | ac20 | 5825 | Ant1 | 14.685 | 0.5 | Pass |
| NVNT | ac40 | 5755 | Ant1 | 32.521 | 0.5 | Pass |
| NVNT | ac40 | 5795 | Ant1 | 35.053 | 0.5 | Pass |
| NVNT | ac80 | 5775 | Ant1 | 75.315 | 0.5 | Pass |

Test Graphs

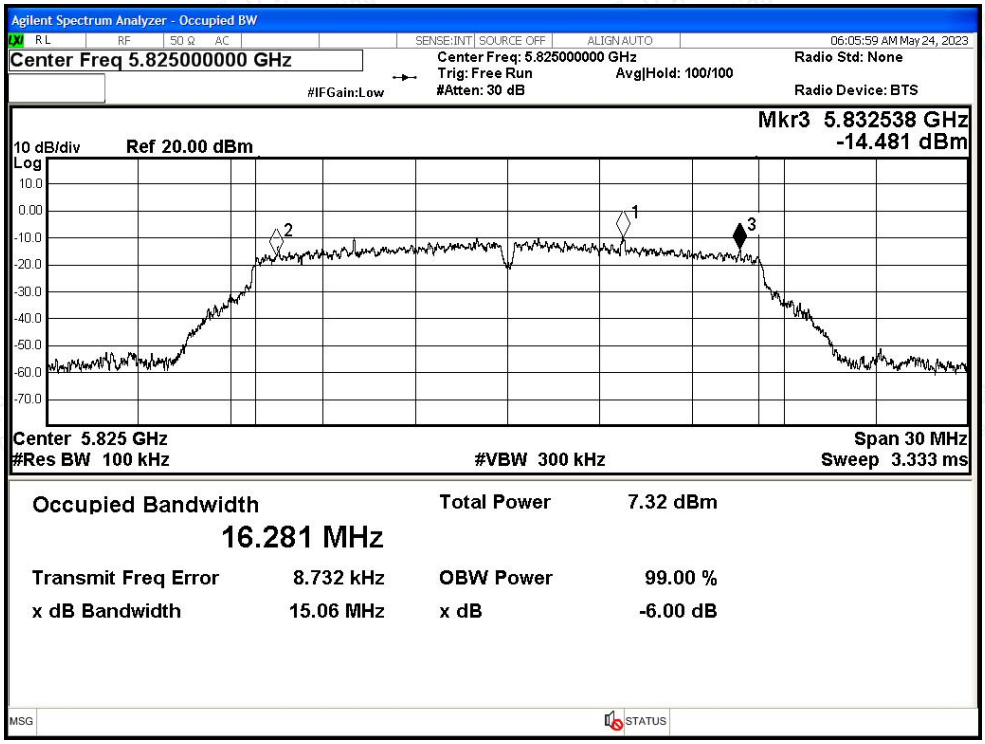
-6dB Bandwidth NVNT a 5745MHz Ant1



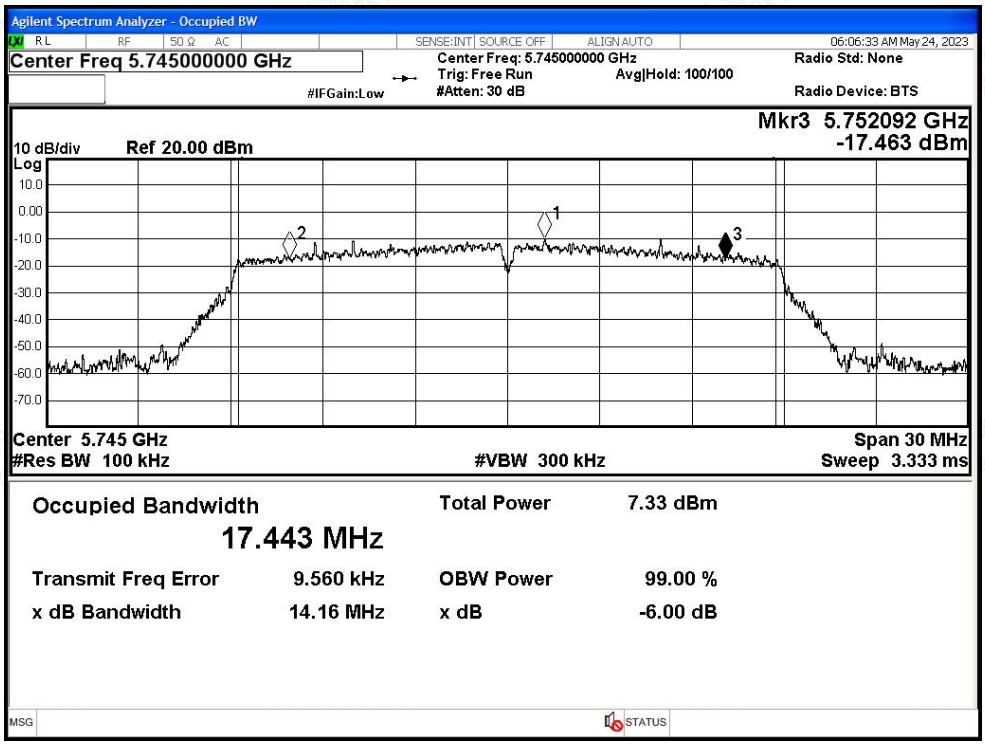

-6dB Bandwidth NVNT a 5785MHz Ant1



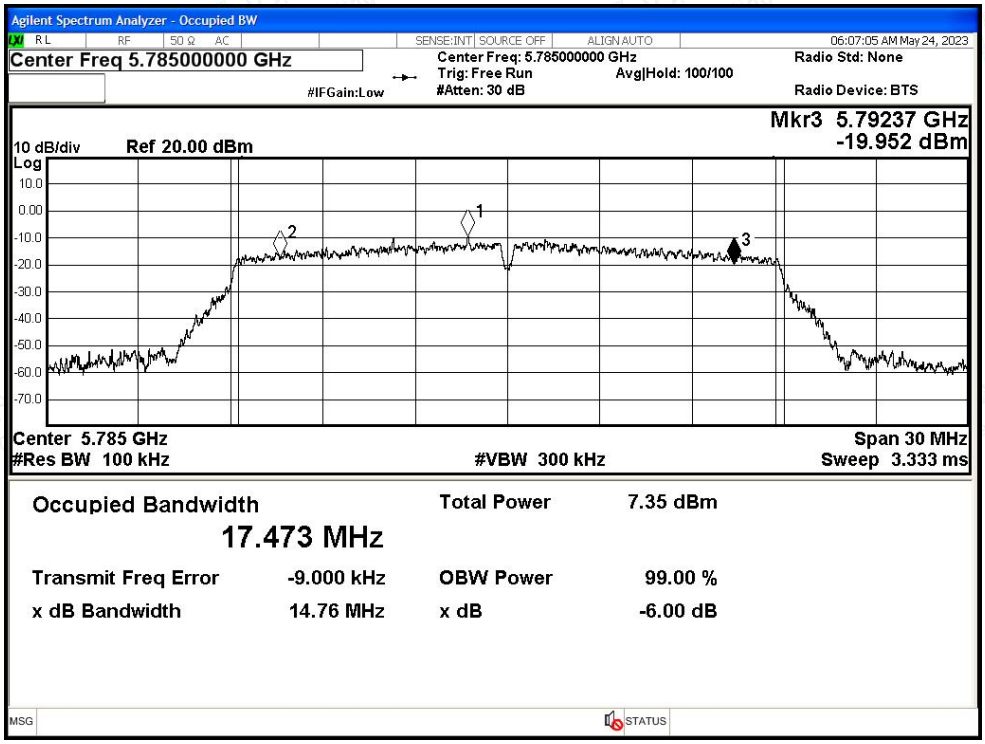
-6dB Bandwidth NVNT a 5825MHz Ant1



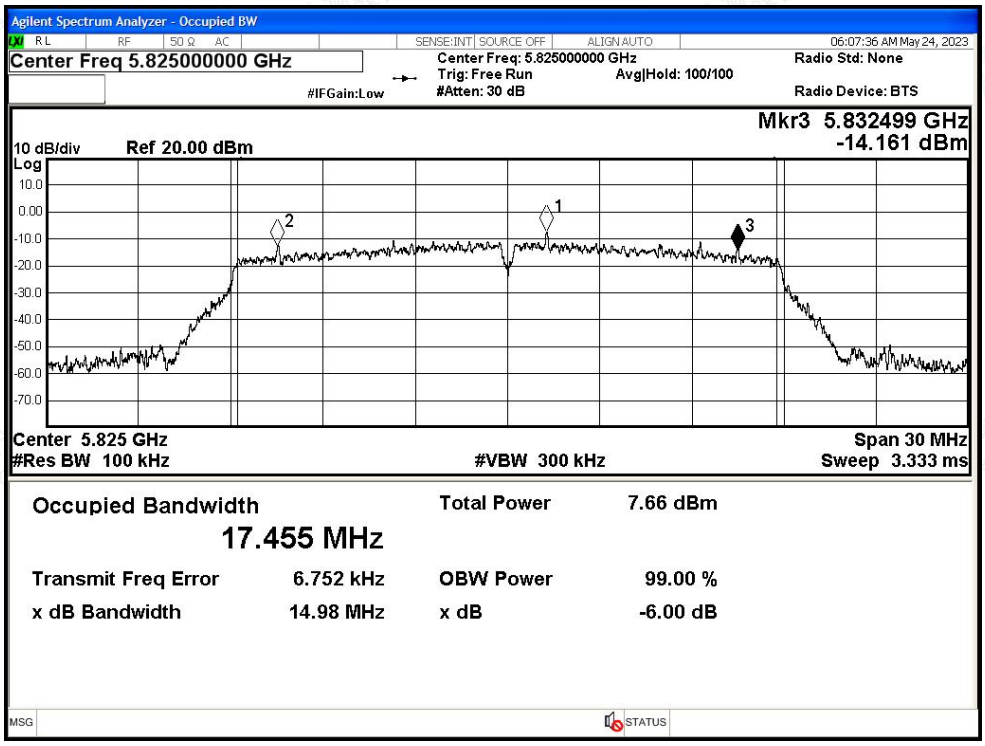

-6dB Bandwidth NVNT n20 5745MHz Ant1



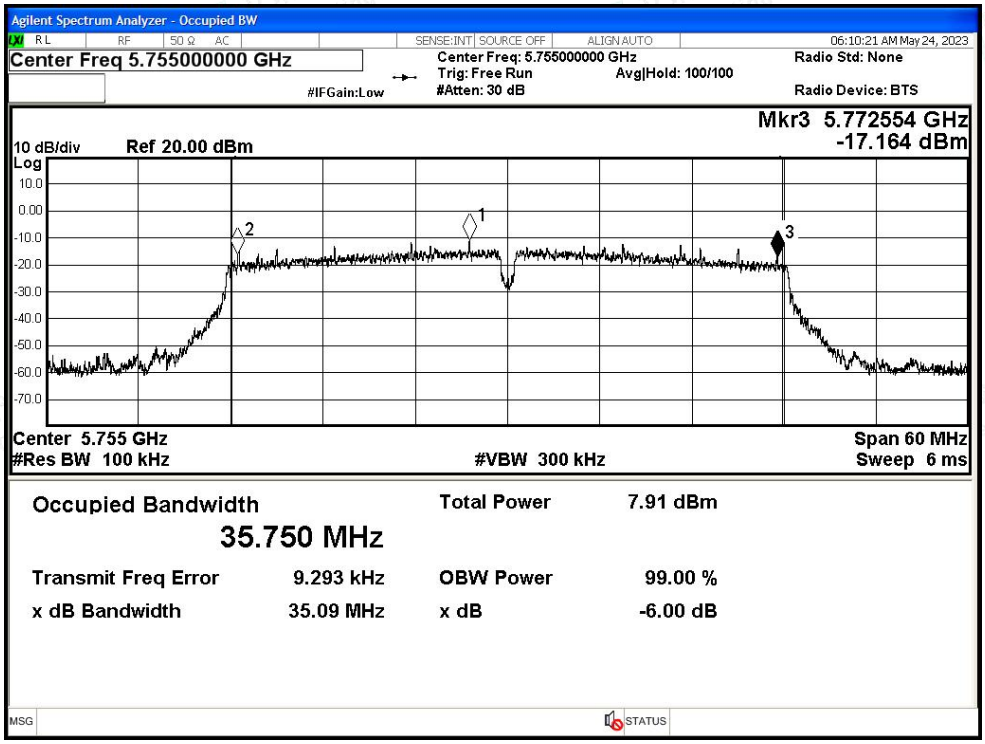
-6dB Bandwidth NVNT n20 5785MHz Ant1



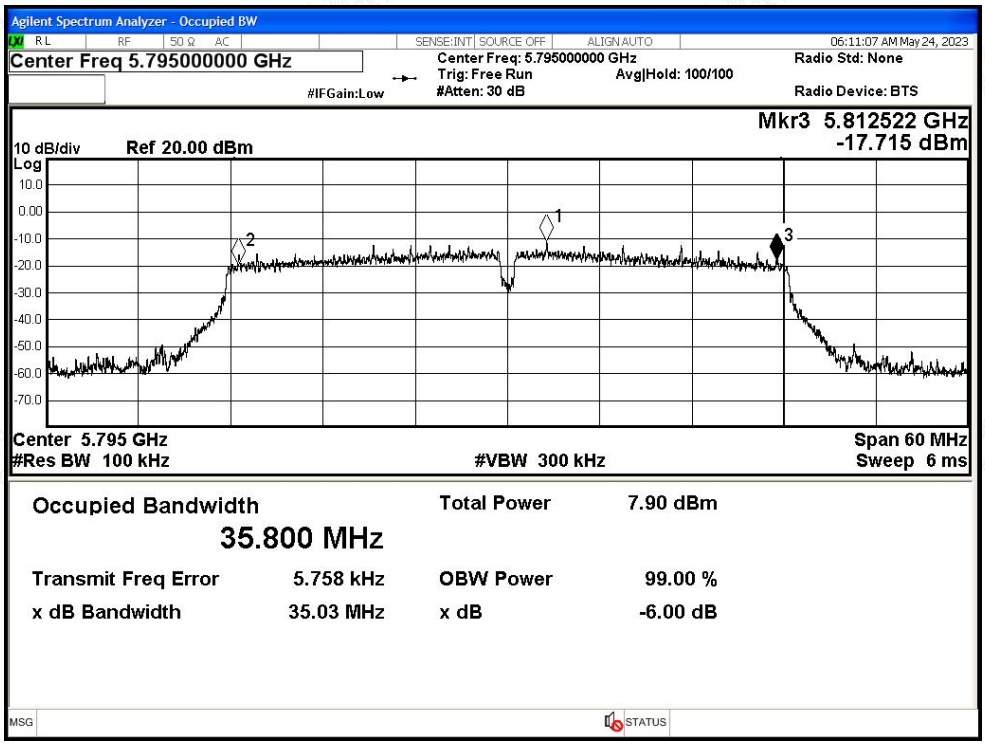

-6dB Bandwidth NVNT n20 5825MHz Ant1



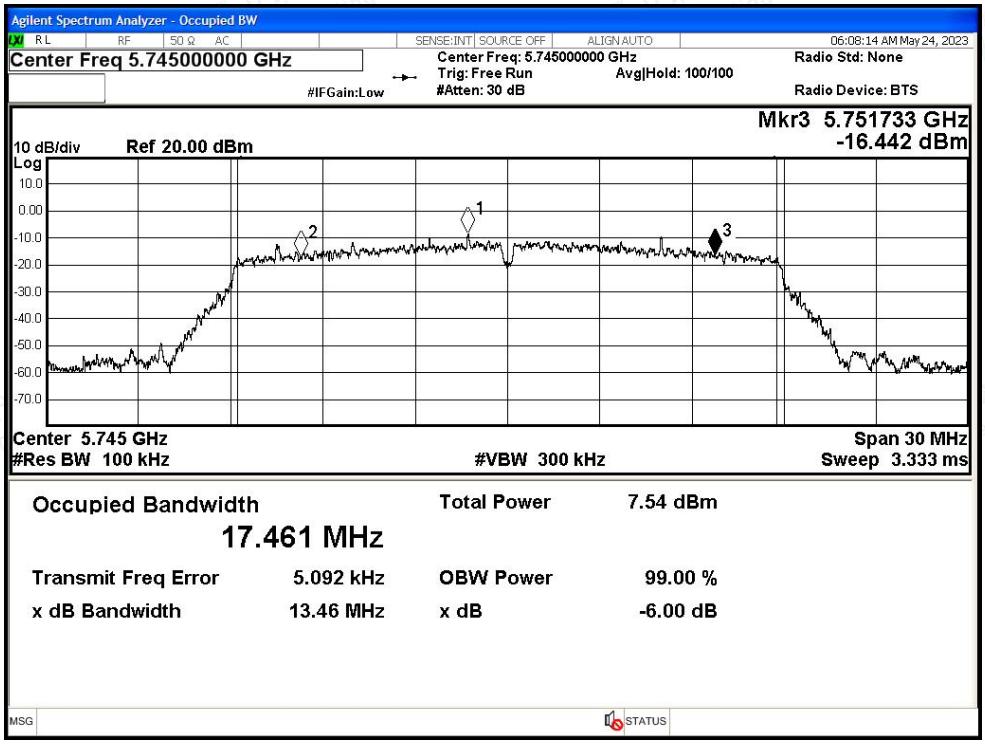
-6dB Bandwidth NVNT n40 5755MHz Ant1



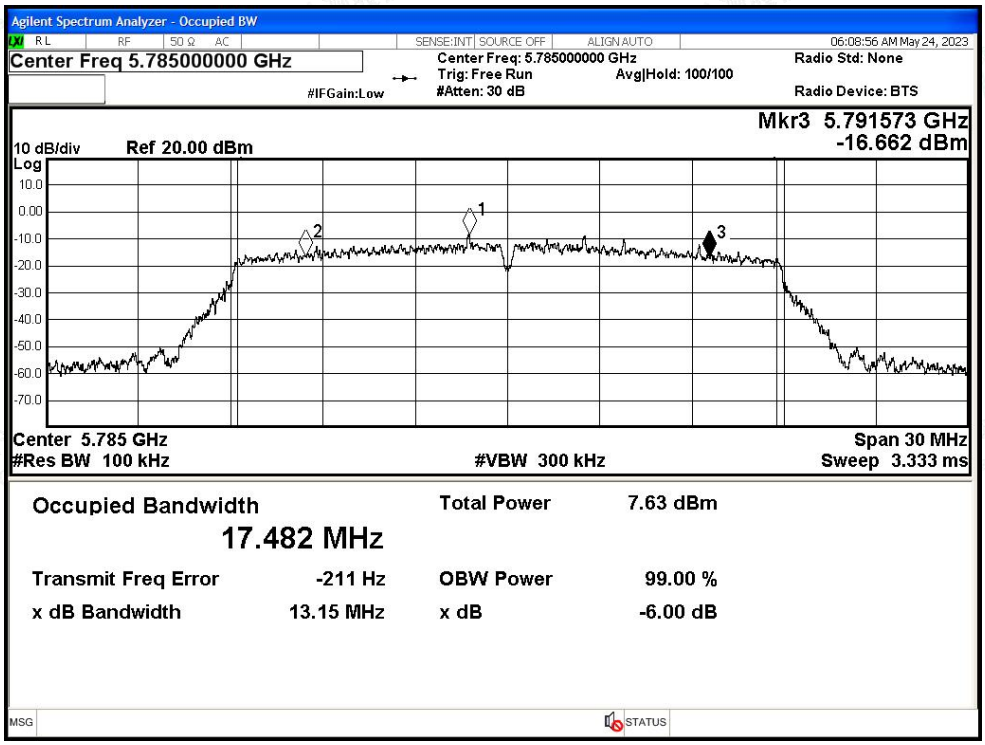

-6dB Bandwidth NVNT n40 5795MHz Ant1



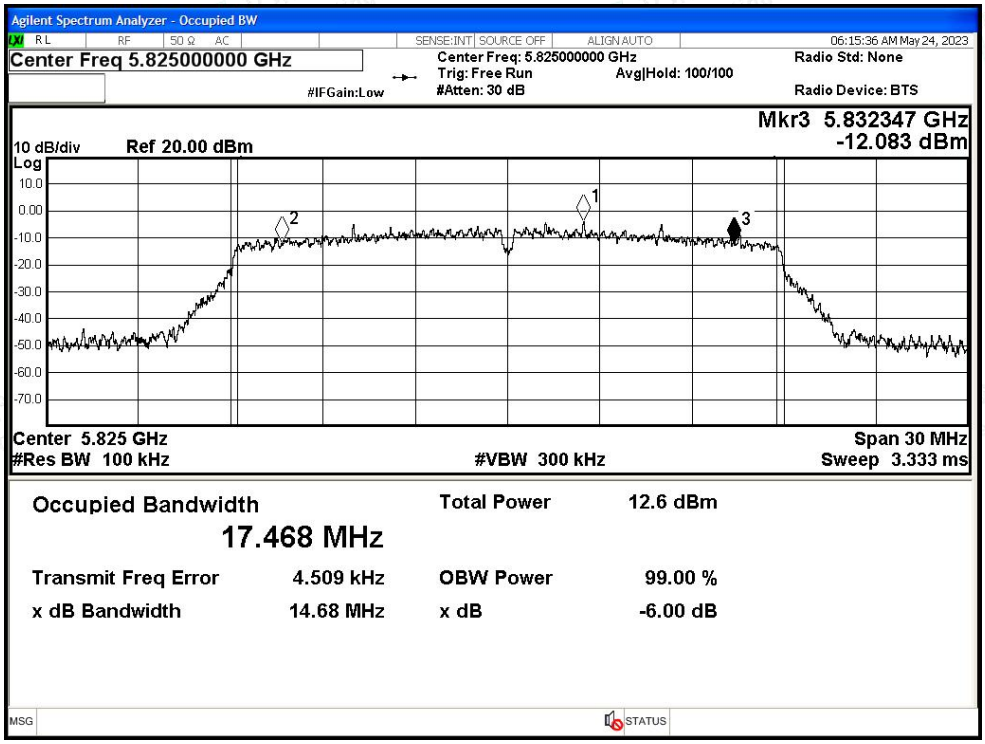
-6dB Bandwidth NVNT ac20 5745MHz Ant1



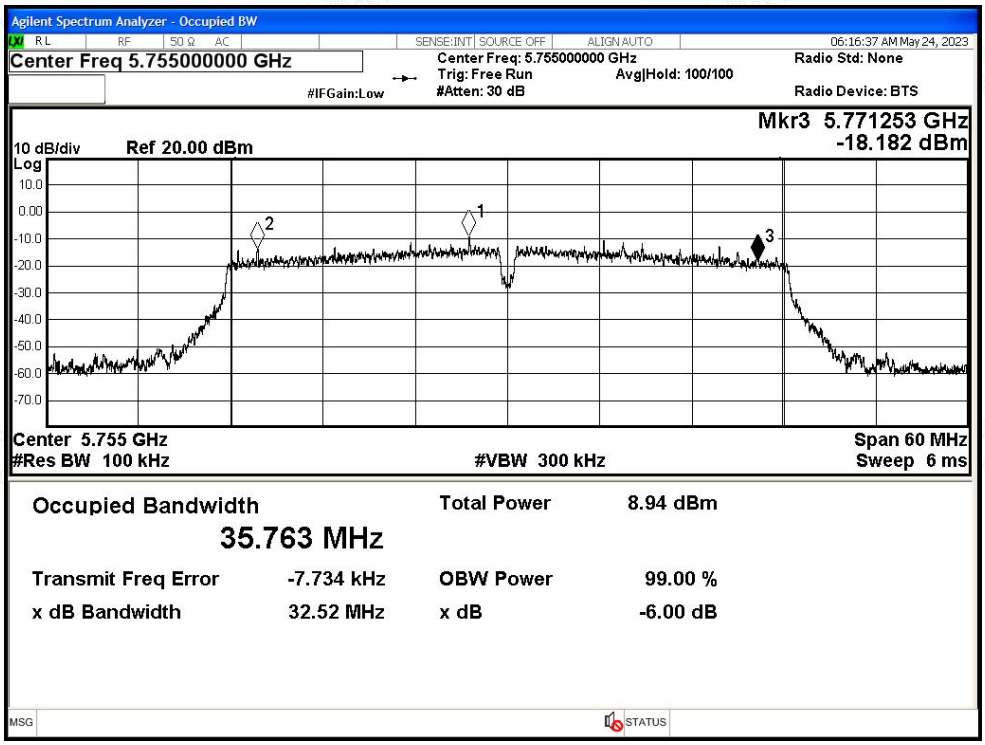

-6dB Bandwidth NVNT ac20 5785MHz Ant1



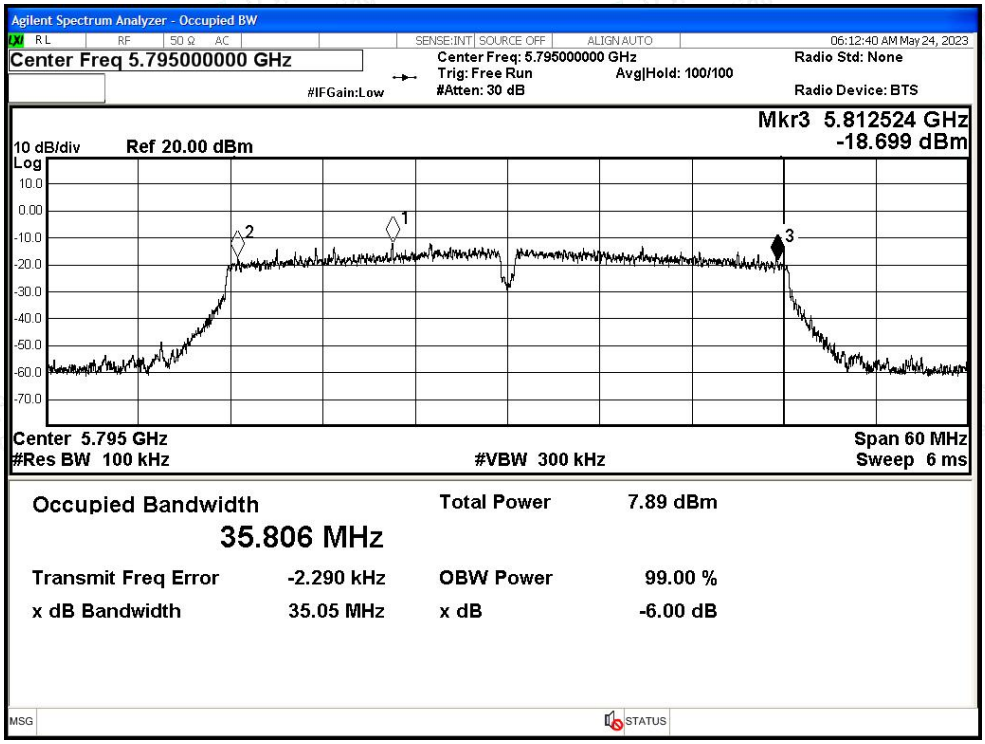
-6dB Bandwidth NVNT ac20 5825MHz Ant1



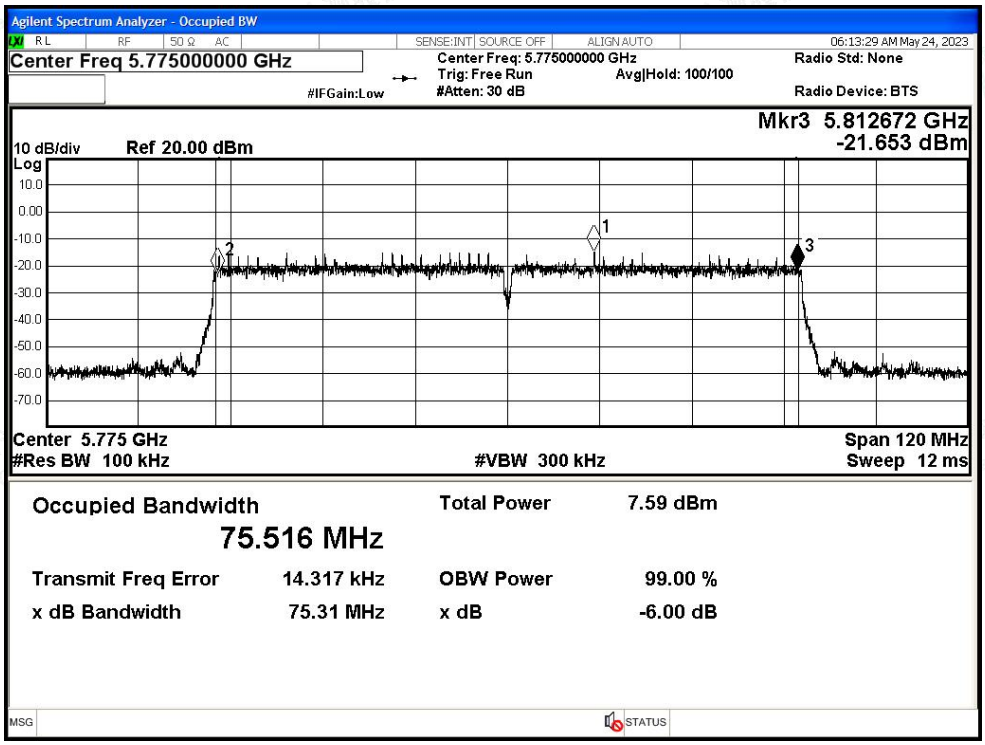

-6dB Bandwidth NVNT ac40 5755MHz Ant1



-6dB Bandwidth NVNT ac40 5795MHz Ant1




-6dB Bandwidth NVNT ac80 5775MHz Ant1



# G.2 Maximum Conducted Output Power

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant0 | 9.97 | 0.13 | 10.1 | 30 | Pass |
| NVNT | a | 5785 | Ant0 | 10.34 | 0.14 | 10.48 | 30 | Pass |
| NVNT | a | 5825 | Ant0 | 10.05 | 0.13 | 10.18 | 30 | Pass |
| NVNT | n20 | 5745 | Ant0 | 9.89 | 0.15 | 10.04 | 30 | Pass |
| NVNT | n20 | 5785 | Ant0 | 10.28 | 0.14 | 10.42 | 30 | Pass |
| NVNT | n20 | 5825 | Ant0 | 10.46 | 0.14 | 10.6 | 30 | Pass |
| NVNT | n40 | 5755 | Ant0 | 10.49 | 0.29 | 10.78 | 30 | Pass |
| NVNT | n40 | 5795 | Ant0 | 10.41 | 0.28 | 10.69 | 30 | Pass |
| NVNT | ac20 | 5745 | Ant0 | 10.7 | 0.15 | 10.85 | 30 | Pass |
| NVNT | ac20 | 5785 | Ant0 | 10.7 | 0.14 | 10.84 | 30 | Pass |
| NVNT | ac20 | 5825 | Ant0 | 10.4 | 0.14 | 10.54 | 30 | Pass |
| NVNT | ac40 | 5755 | Ant0 | 10.62 | 0.28 | 10.9 | 30 | Pass |
| NVNT | ac40 | 5795 | Ant0 | 10.11 | 0.28 | 10.39 | 30 | Pass |
| NVNT | ac80 | 5775 | Ant0 | 10.66 | 0.55 | 11.21 | 30 | Pass |

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant1 | 10.16 | 0.11 | 10.27 | 30 | Pass |
| NVNT | a | 5785 | Ant1 | 9.9 | 0.11 | 10.01 | 30 | Pass |
| NVNT | a | 5825 | Ant1 | 9.95 | 0.11 | 10.06 | 30 | Pass |
| NVNT | n20 | 5745 | Ant1 | 9.74 | 0.12 | 9.86 | 30 | Pass |
| NVNT | n20 | 5785 | Ant1 | 10.34 | 0.12 | 10.46 | 30 | Pass |
| NVNT | n20 | 5825 | Ant1 | 10.75 | 0.12 | 10.87 | 30 | Pass |
| NVNT | n40 | 5755 | Ant1 | 10.31 | 0.23 | 10.54 | 30 | Pass |
| NVNT | n40 | 5795 | Ant1 | 10.6 | 0.23 | 10.83 | 30 | Pass |
| NVNT | ac20 | 5745 | Ant1 | 10.8 | 0.12 | 10.92 | 30 | Pass |
| NVNT | ac20 | 5785 | Ant1 | 10.4 | 0.11 | 10.51 | 30 | Pass |
| NVNT | ac20 | 5825 | Ant1 | 10.76 | 0.12 | 10.88 | 30 | Pass |
| NVNT | ac40 | 5755 | Ant1 | 10.33 | 0.23 | 10.56 | 30 | Pass |
| NVNT | ac40 | 5795 | Ant1 | 10.64 | 0.23 | 10.87 | 30 | Pass |
| NVNT | ac80 | 5775 | Ant1 | 10.73 | 0.44 | 11.17 | 30 | Pass |

MIMO

| Condition | Mode | Frequency (MHz) | Total Power (dBm) | | | Limit (dBm) | Verdict |
|---|---|---|---|---|---|---|---|
| | | | Ant0 | Ant1 | Ant0+Ant1 | | |
| NVNT | n20 | 5745 | 10.04 | 9.86 | 12.96 | 30 | Pass |
| NVNT | n20 | 5785 | 10.42 | 10.46 | 13.45 | 30 | Pass |
| NVNT | n20 | 5825 | 10.6 | 10.87 | 13.75 | 30 | Pass |
| NVNT | n40 | 5755 | 10.78 | 10.54 | 13.67 | 30 | Pass |
| NVNT | n40 | 5795 | 10.69 | 10.83 | 13.77 | 30 | Pass |
| NVNT | ac20 | 5745 | 10.85 | 10.92 | 13.90 | 30 | Pass |
| NVNT | ac20 | 5785 | 10.84 | 10.51 | 13.69 | 30 | Pass |
| NVNT | ac20 | 5825 | 10.54 | 10.88 | 13.72 | 30 | Pass |
| NVNT | ac40 | 5755 | 10.9 | 10.56 | 13.74 | 30 | Pass |
| NVNT | ac40 | 5795 | 10.39 | 10.87 | 13.65 | 30 | Pass |
| NVNT | ac80 | 5775 | 11.21 | 11.17 | 14.20 | 30 | Pass |

# G.3 Maximum Power Spectral Density Level

| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/500KHz) | Duty Factor (dB) | Total PSD (dBm/500KHz) | Limit (dBm/500KHz) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant0 | -4.99 | 0.13 | -4.86 | 30 | Pass |
| NVNT | a | 5785 | Ant0 | -5.51 | 0.14 | -5.37 | 30 | Pass |
| NVNT | a | 5825 | Ant0 | -5.31 | 0.13 | -5.18 | 30 | Pass |
| NVNT | n20 | 5745 | Ant0 | -5.91 | 0.15 | -5.76 | 30 | Pass |
| NVNT | n20 | 5785 | Ant0 | -5.31 | 0.14 | -5.17 | 30 | Pass |
| NVNT | n20 | 5825 | Ant0 | -5.15 | 0.14 | -5.01 | 30 | Pass |
| NVNT | n40 | 5755 | Ant0 | -8.66 | 0.29 | -8.37 | 30 | Pass |
| NVNT | n40 | 5795 | Ant0 | -8.38 | 0.28 | -8.1 | 30 | Pass |
| NVNT | ac20 | 5745 | Ant0 | -4.95 | 0.15 | -4.8 | 30 | Pass |
| NVNT | ac20 | 5785 | Ant0 | -4.85 | 0.14 | -4.71 | 30 | Pass |
| NVNT | ac20 | 5825 | Ant0 | -5.35 | 0.14 | -5.21 | 30 | Pass |
| NVNT | ac40 | 5755 | Ant0 | -8.39 | 0.28 | -8.11 | 30 | Pass |
| NVNT | ac40 | 5795 | Ant0 | -8.34 | 0.28 | -8.06 | 30 | Pass |
| NVNT | ac80 | 5775 | Ant0 | -13.26 | 0.55 | -12.71 | 30 | Pass |

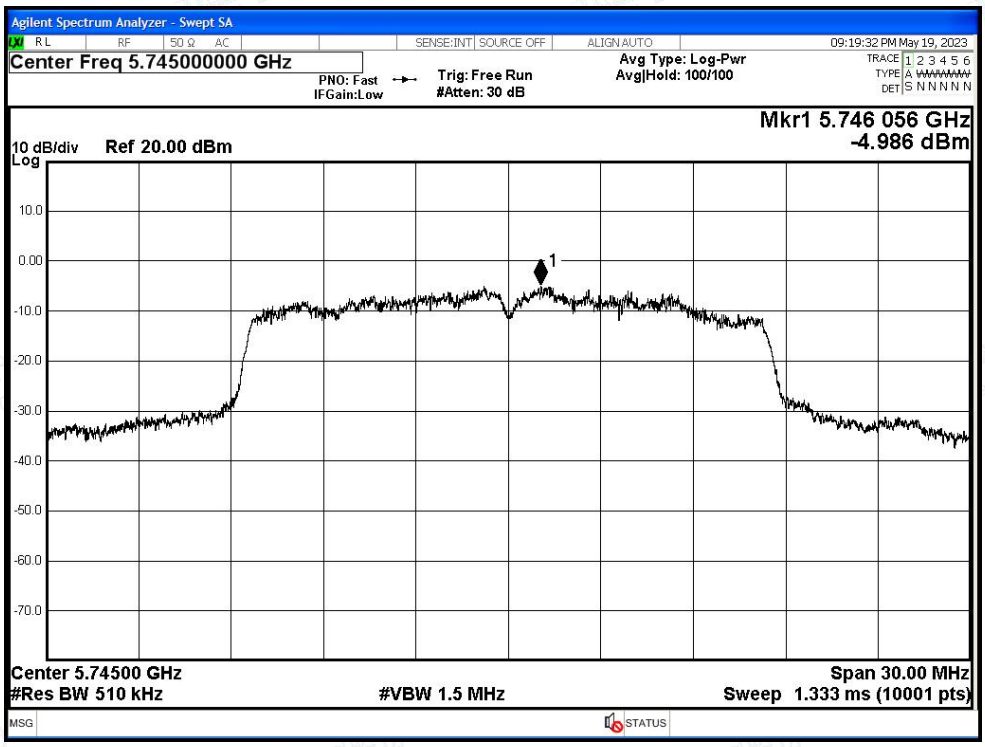
| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/500KHz) | Duty Factor (dB) | Total PSD (dBm/500KHz) | Limit (dBm/500KHz) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | a | 5745 | Ant1 | -5.15 | 0.11 | -5.04 | 30 | Pass |
| NVNT | a | 5785 | Ant1 | -5.35 | 0.11 | -5.24 | 30 | Pass |
| NVNT | a | 5825 | Ant1 | -5.1 | 0.11 | -4.99 | 30 | Pass |
| NVNT | n20 | 5745 | Ant1 | -5.67 | 0.12 | -5.55 | 30 | Pass |
| NVNT | n20 | 5785 | Ant1 | -4.77 | 0.12 | -4.65 | 30 | Pass |
| NVNT | n20 | 5825 | Ant1 | -3.77 | 0.12 | -3.65 | 30 | Pass |
| NVNT | n40 | 5755 | Ant1 | -7.85 | 0.23 | -7.62 | 30 | Pass |
| NVNT | n40 | 5795 | Ant1 | -7.85 | 0.23 | -7.62 | 30 | Pass |
| NVNT | ac20 | 5745 | Ant1 | -4.21 | 0.12 | -4.09 | 30 | Pass |
| NVNT | ac20 | 5785 | Ant1 | -4.81 | 0.11 | -4.7 | 30 | Pass |
| NVNT | ac20 | 5825 | Ant1 | -4.37 | 0.12 | -4.25 | 30 | Pass |
| NVNT | ac40 | 5755 | Ant1 | -8.49 | 0.23 | -8.26 | 30 | Pass |
| NVNT | ac40 | 5795 | Ant1 | -8.1 | 0.23 | -7.87 | 30 | Pass |
| NVNT | ac80 | 5775 | Ant1 | -13.33 | 0.44 | -12.89 | 30 | Pass |

MIMO

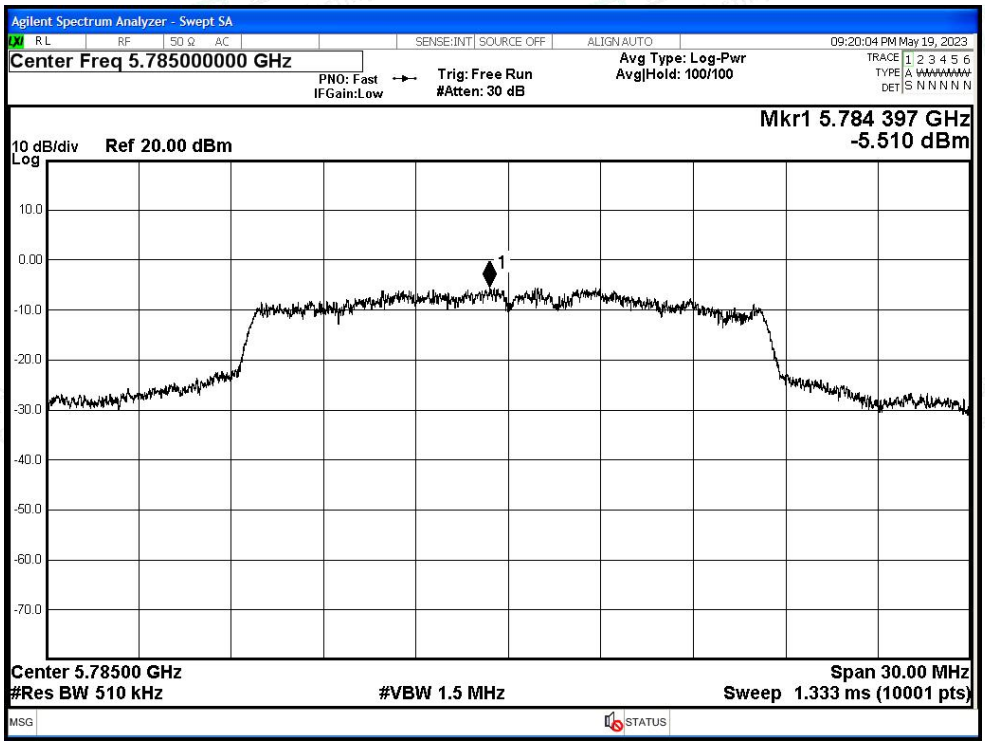
| Condition | Mode | Frequency (MHz) | Total PSD (dBm/500KHz) | | | Limit (dBm/500KHz) | Verdict |
|---|---|---|---|---|---|---|---|
| | | | Ant0 | Ant1 | Ant0+Ant1 | | |
| NVNT | n20 | 5745 | -5.76 | -5.55 | -2.64 | 30 | Pass |
| NVNT | n20 | 5785 | -5.17 | -4.65 | -1.89 | 30 | Pass |
| NVNT | n20 | 5825 | -5.01 | -3.65 | -1.27 | 30 | Pass |
| NVNT | n40 | 5755 | -8.37 | -7.62 | -4.97 | 30 | Pass |
| NVNT | n40 | 5795 | -8.1 | -7.62 | -4.84 | 30 | Pass |
| NVNT | ac20 | 5745 | -4.8 | -4.09 | -1.42 | 30 | Pass |
| NVNT | ac20 | 5785 | -4.71 | -4.7 | -1.69 | 30 | Pass |
| NVNT | ac20 | 5825 | -5.21 | -4.25 | -1.69 | 30 | Pass |
| NVNT | ac40 | 5755 | -8.11 | -8.26 | -5.17 | 30 | Pass |
| NVNT | ac40 | 5795 | -8.06 | -7.87 | -4.95 | 30 | Pass |
| NVNT | ac80 | 5775 | -12.71 | -12.89 | -9.79 | 30 | Pass |

Test Graphs

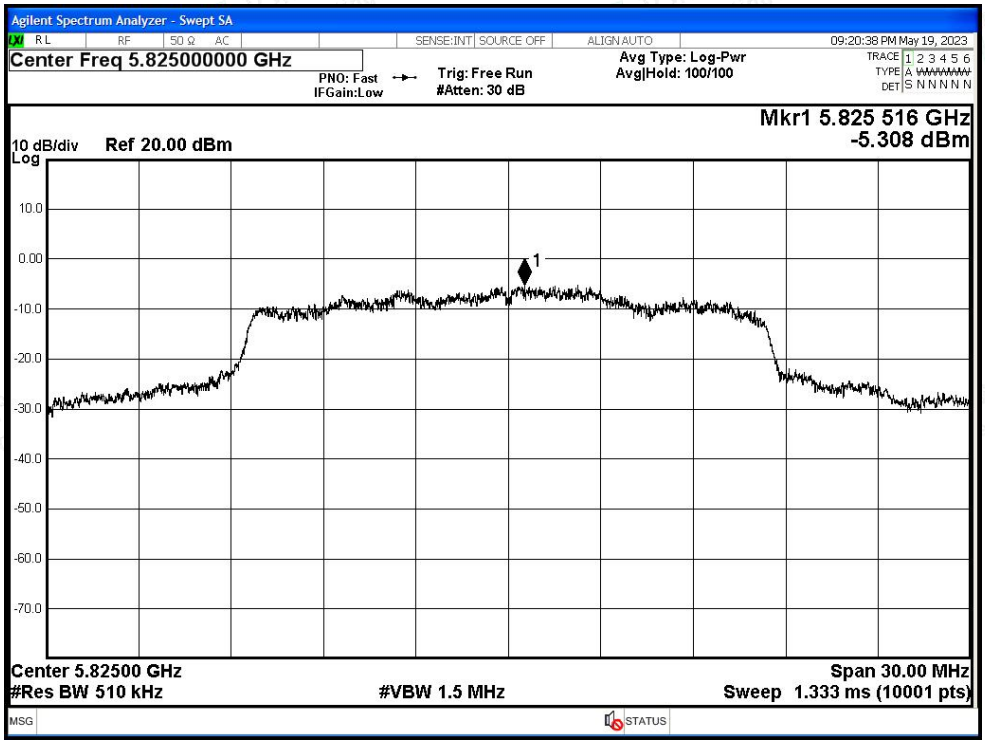
PSD NVNT a 5745MHz Ant0



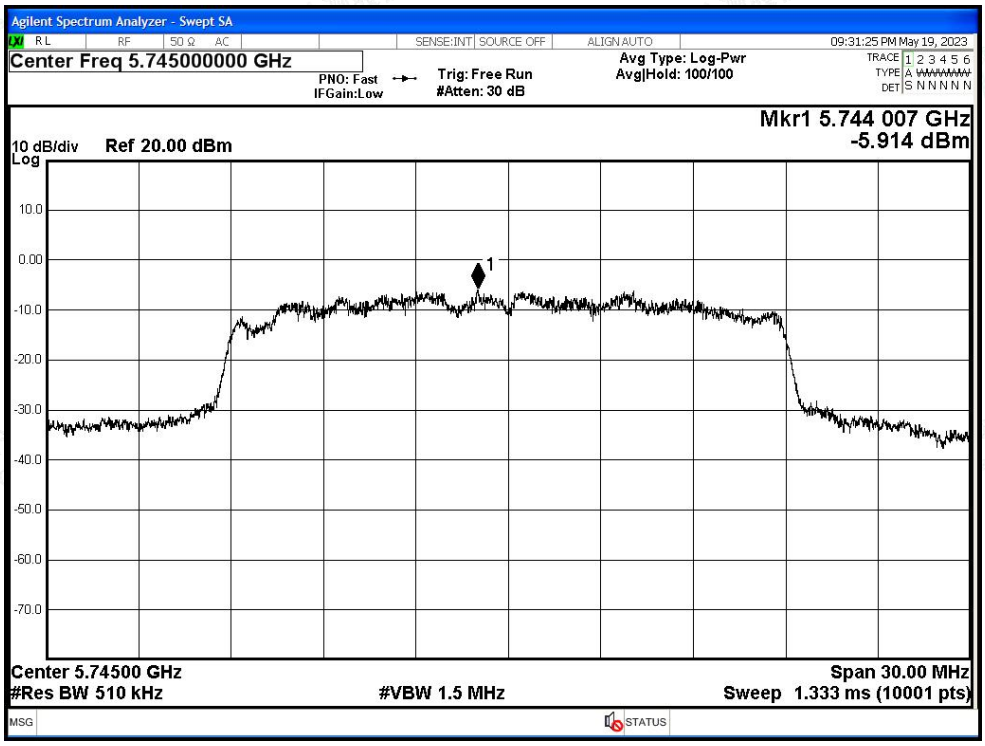

PSD NVNT a 5785MHz Ant0



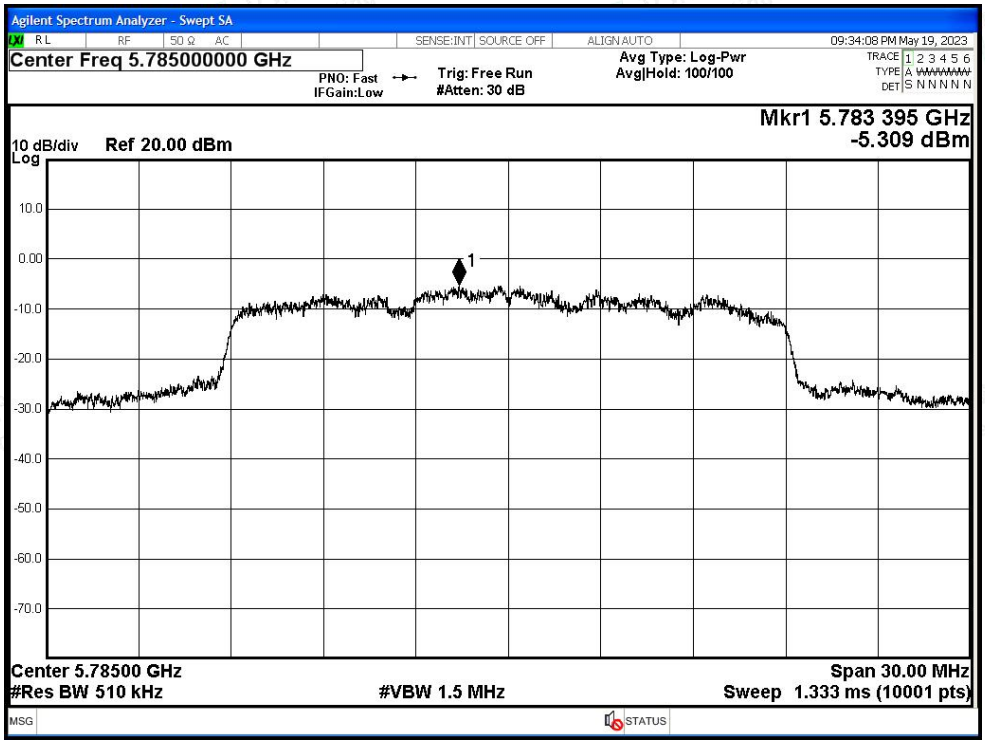
PSD NVNT a 5825MHz Ant0



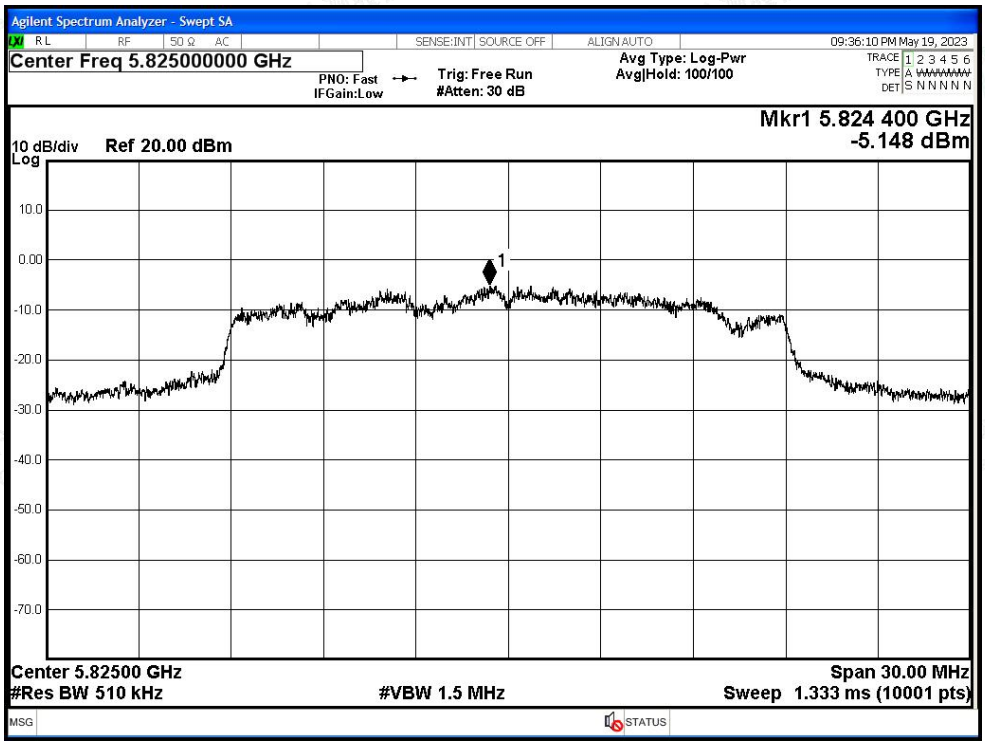

PSD NVNT n20 5745MHz Ant0



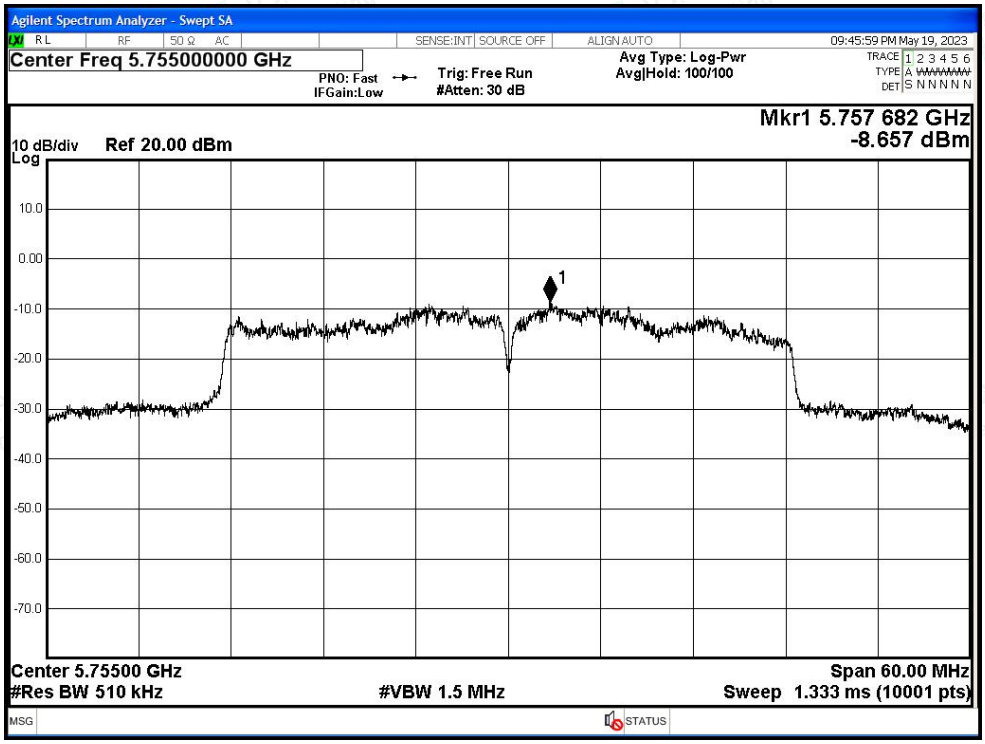
PSD NVNT n20 5785MHz Ant0



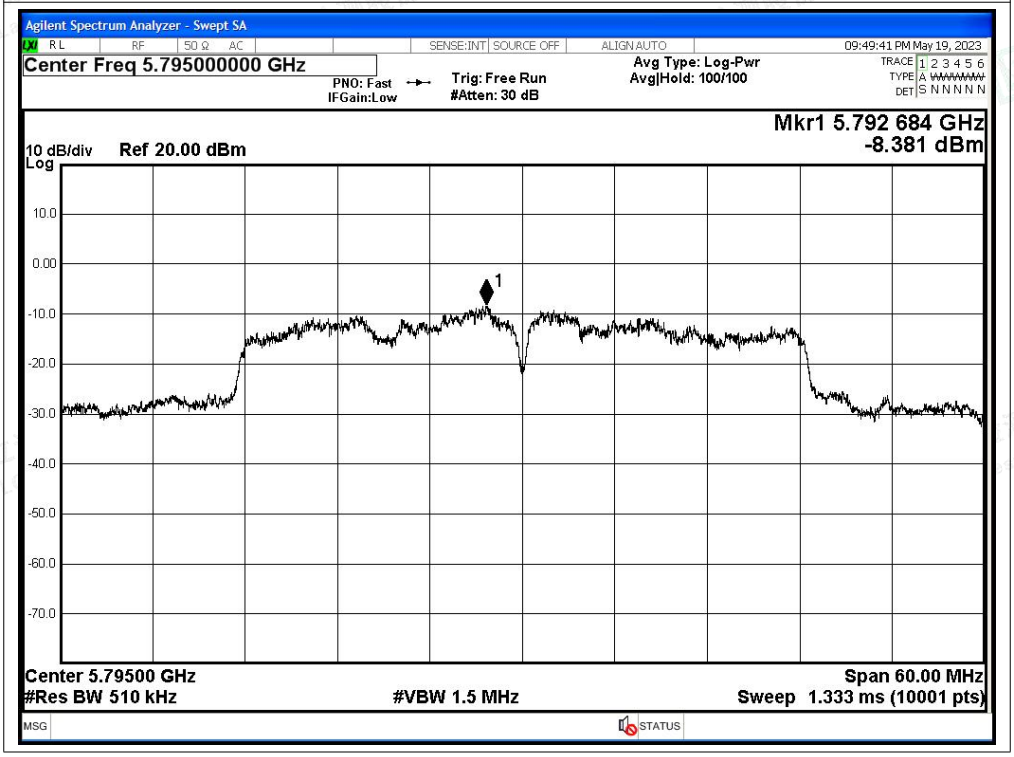

PSD NVNT n20 5825MHz Ant0



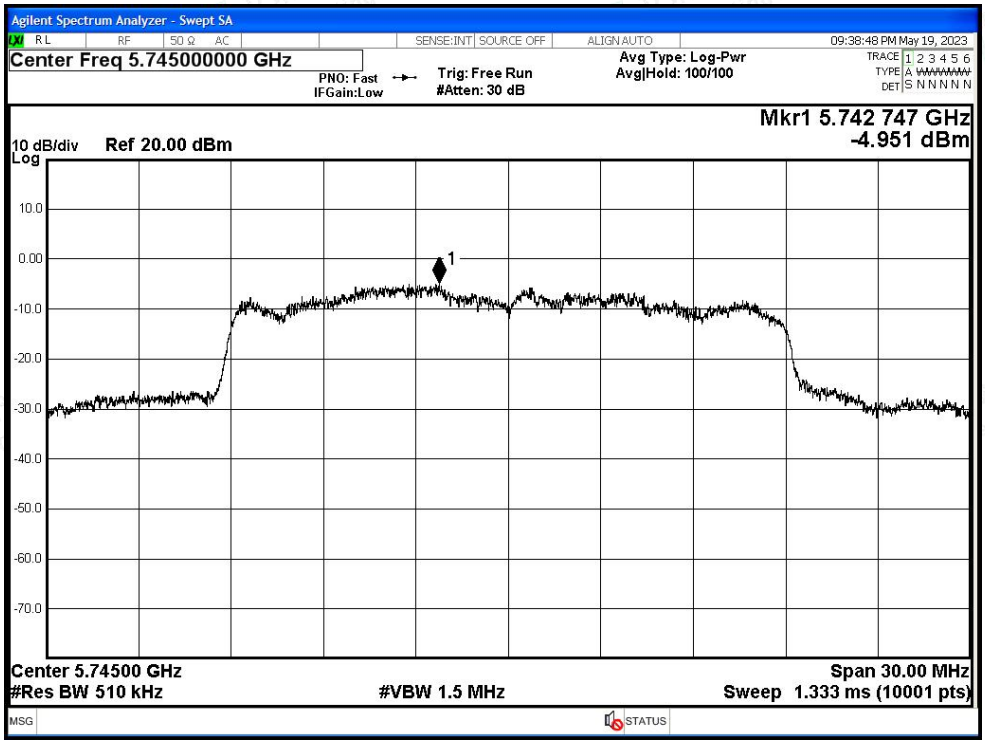
PSD NVNT n40 5755MHz Ant0



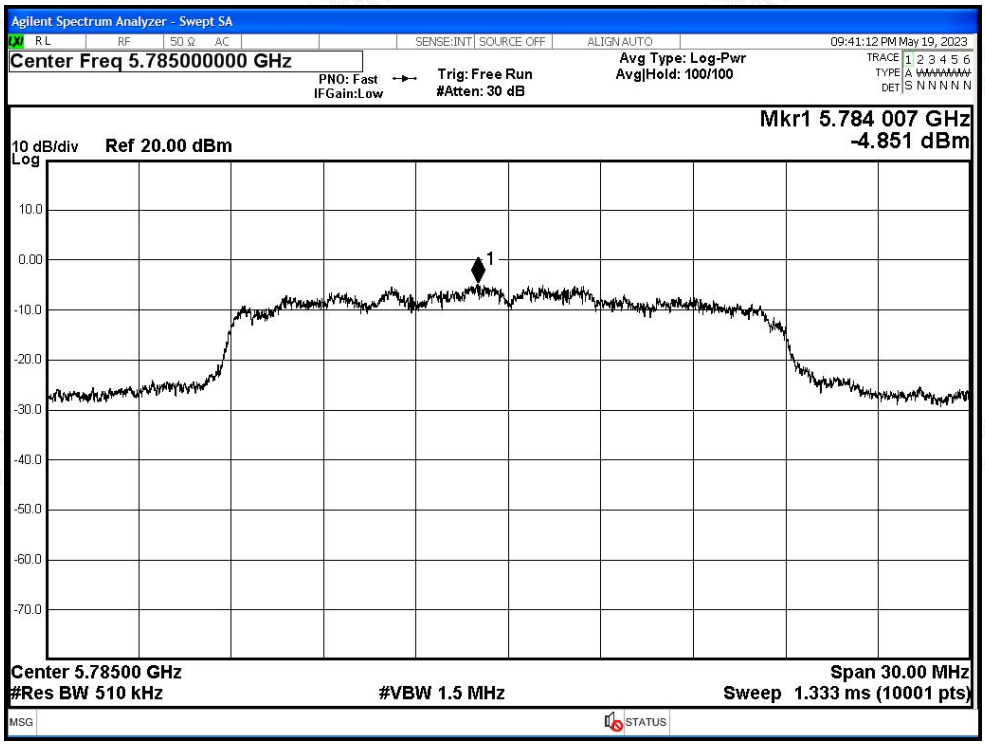

PSD NVNT n40 5795MHz Ant0



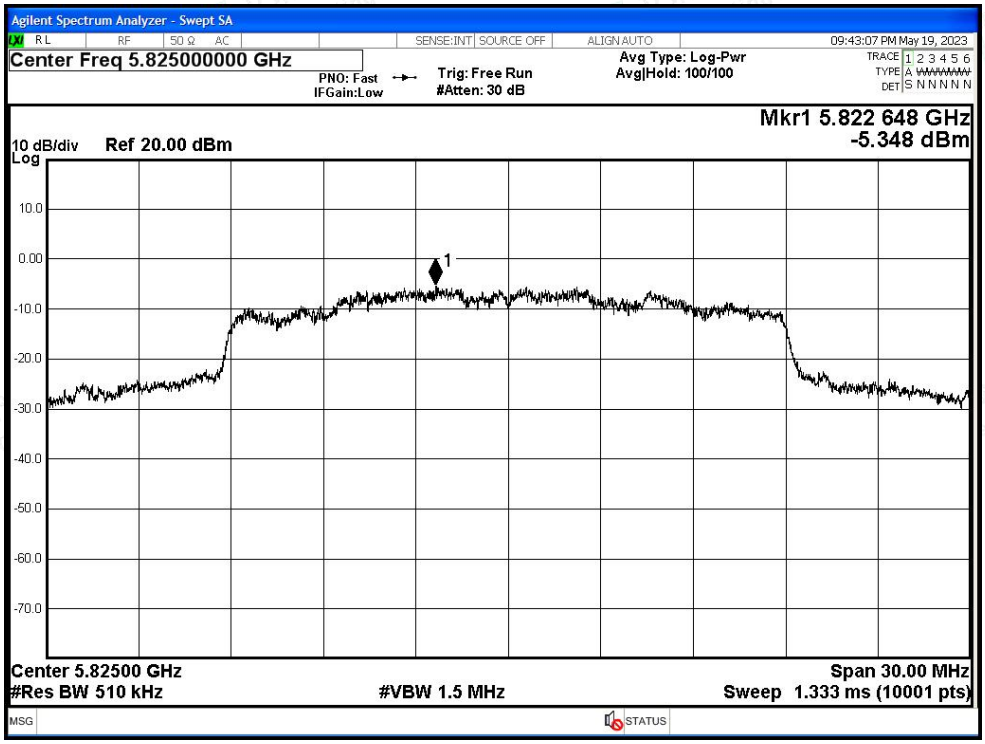
PSD NVNT ac20 5745MHz Ant0



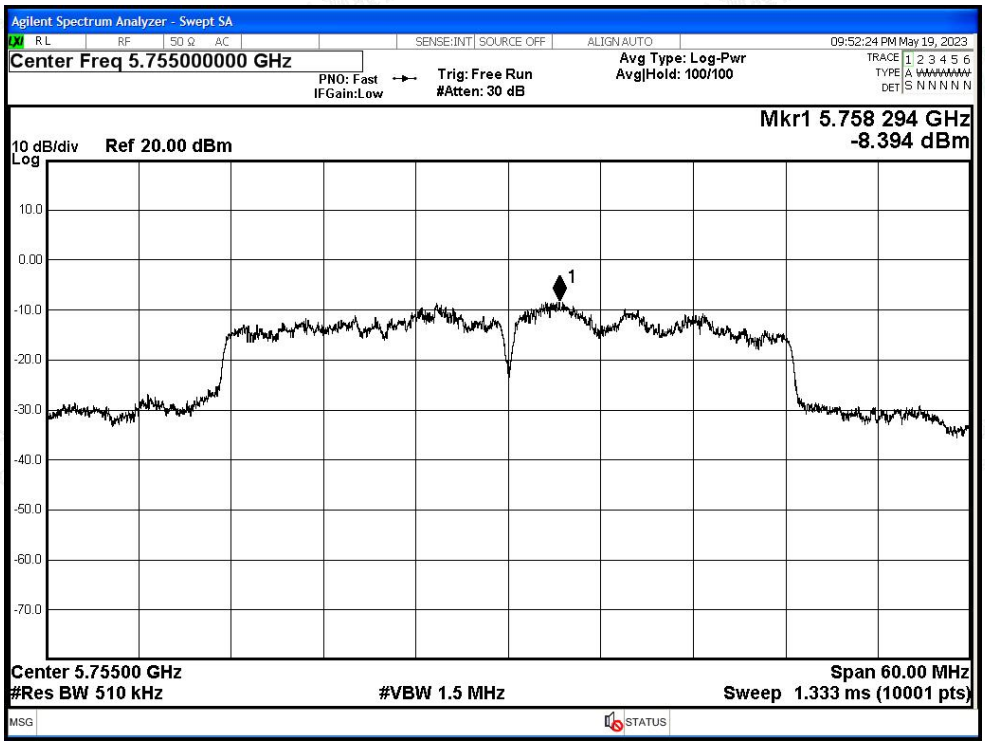

PSD NVNT ac20 5785MHz Ant0



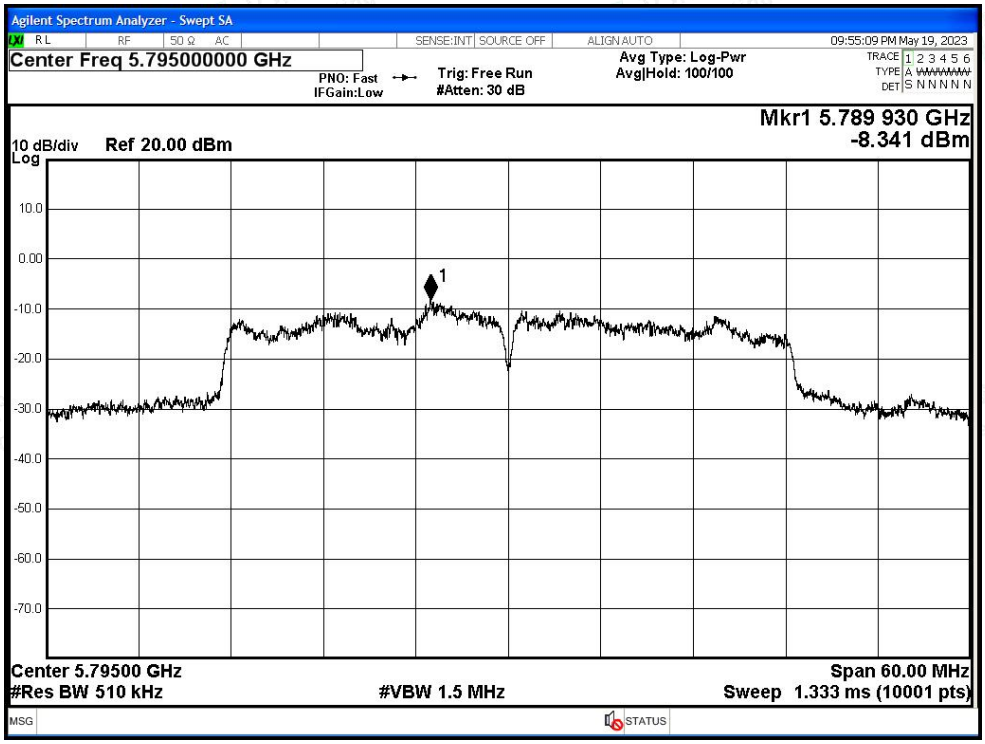
PSD NVNT ac20 5825MHz Ant0



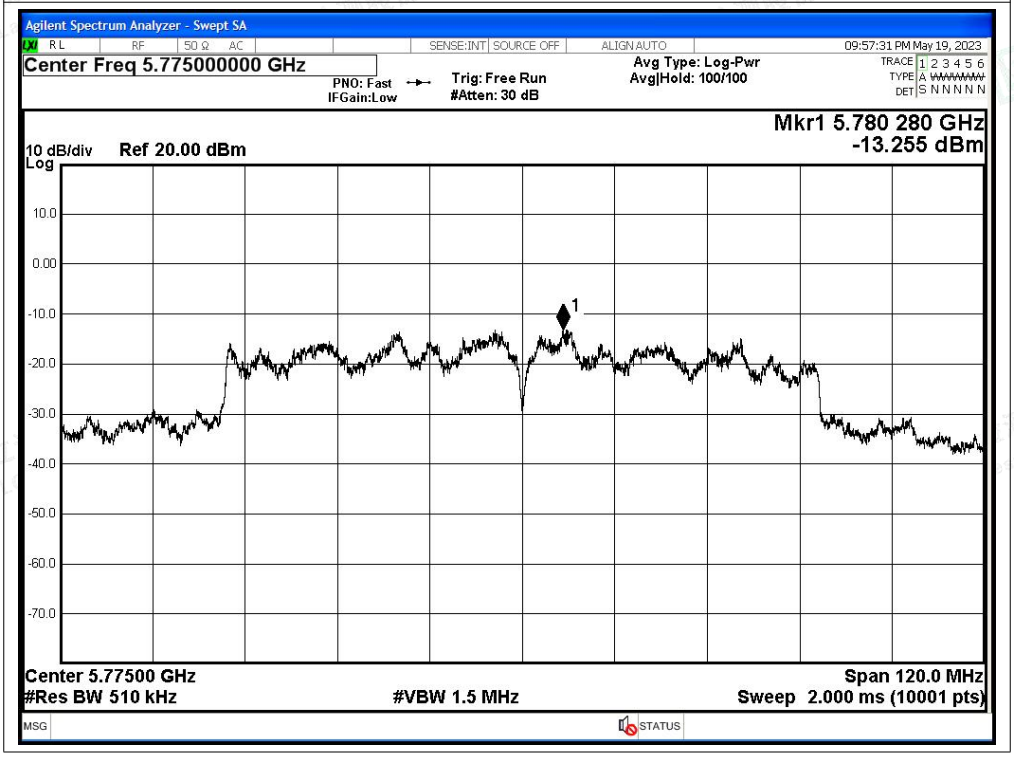

PSD NVNT ac40 5755MHz Ant0



PSD NVNT ac40 5795MHz Ant0

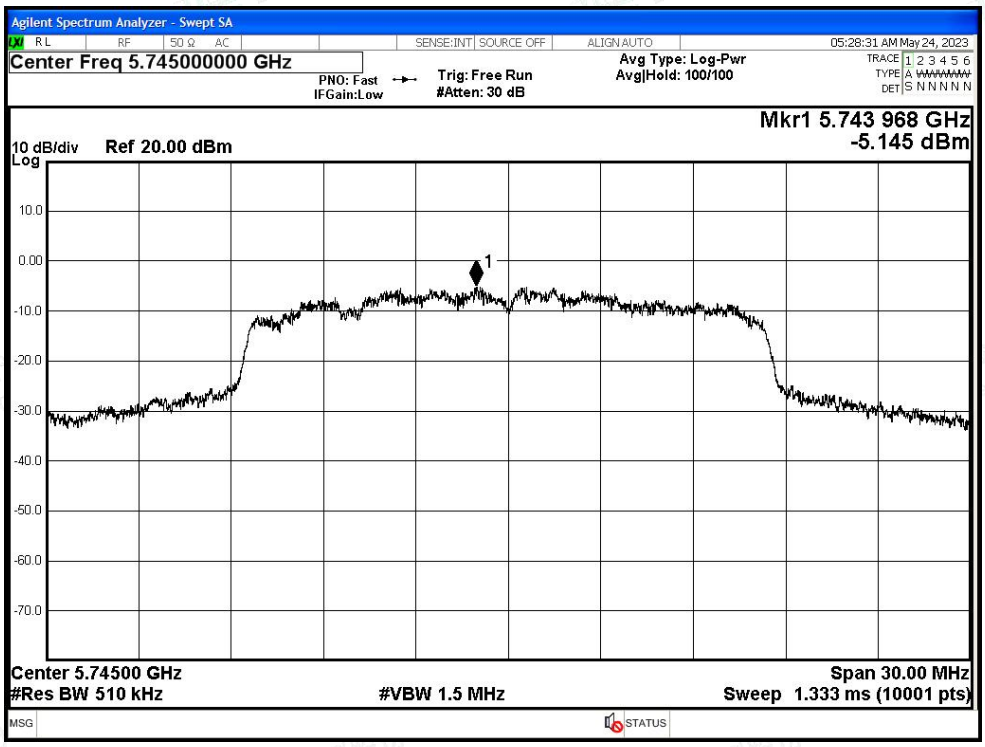



PSD NVNT ac80 5775MHz Ant0

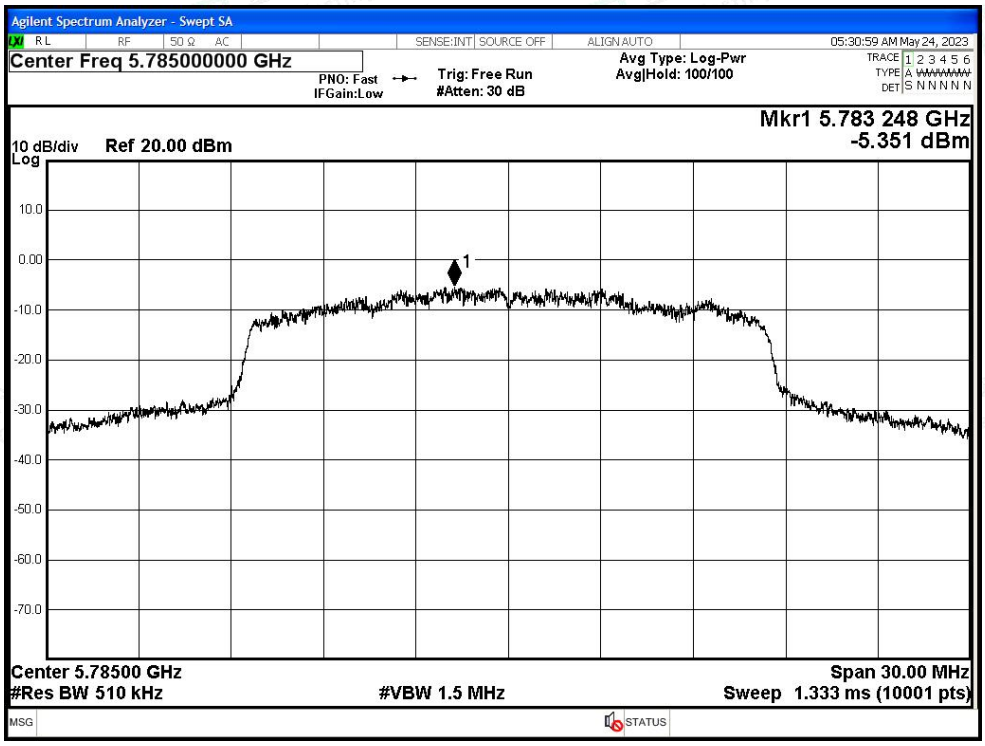


Test Graphs

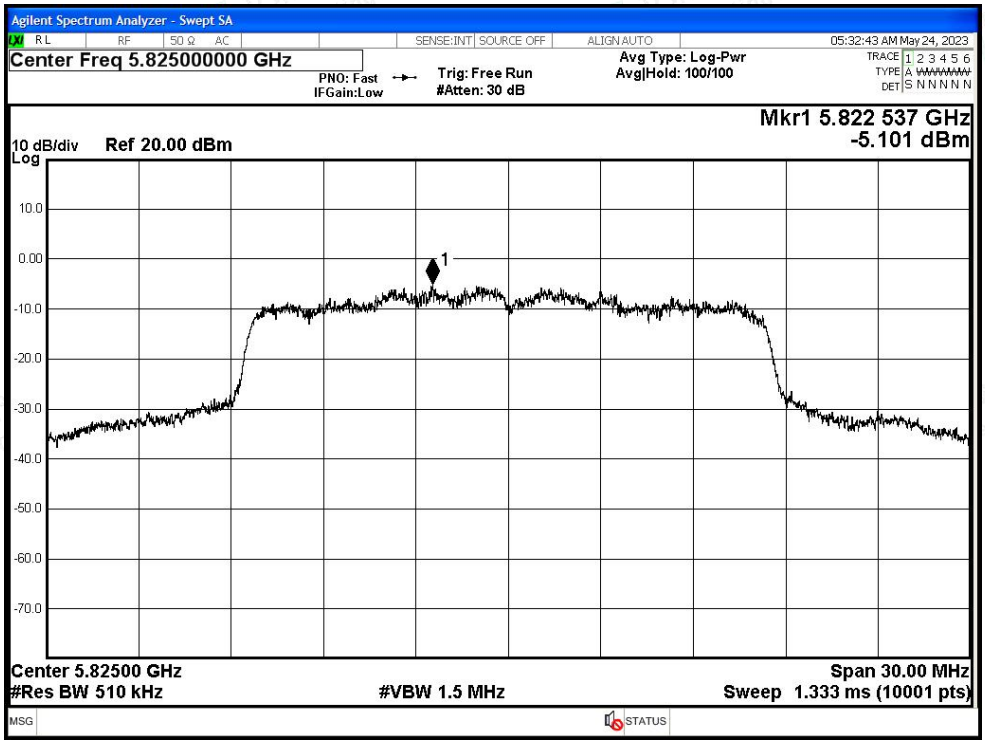
PSD NVNT a 5745MHz Ant1



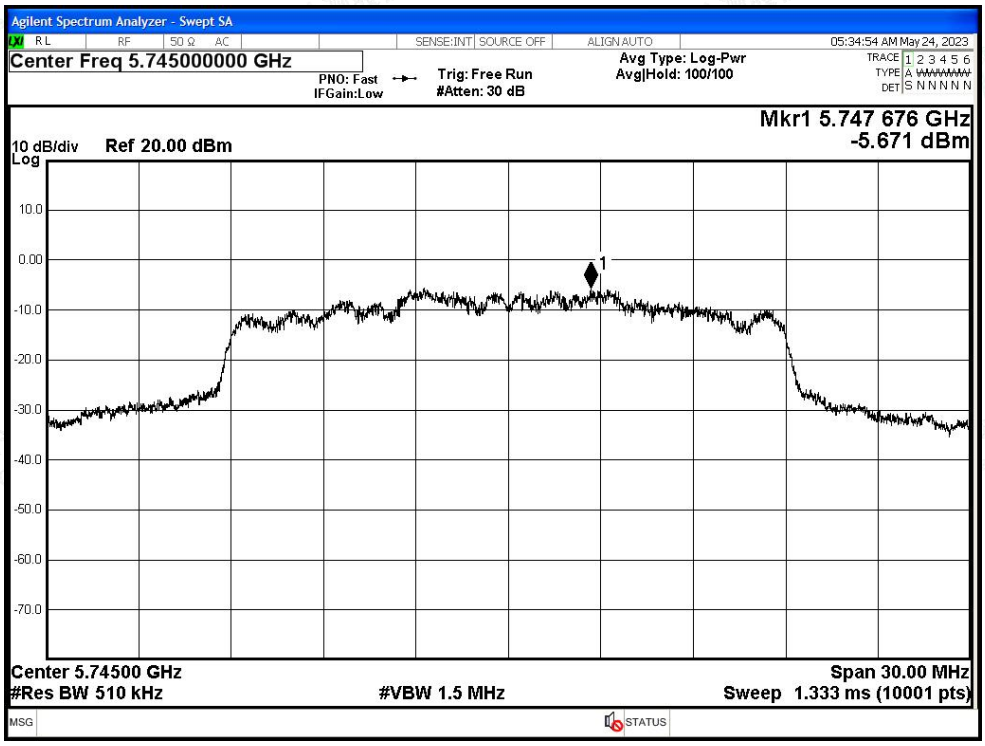

PSD NVNT a 5785MHz Ant1



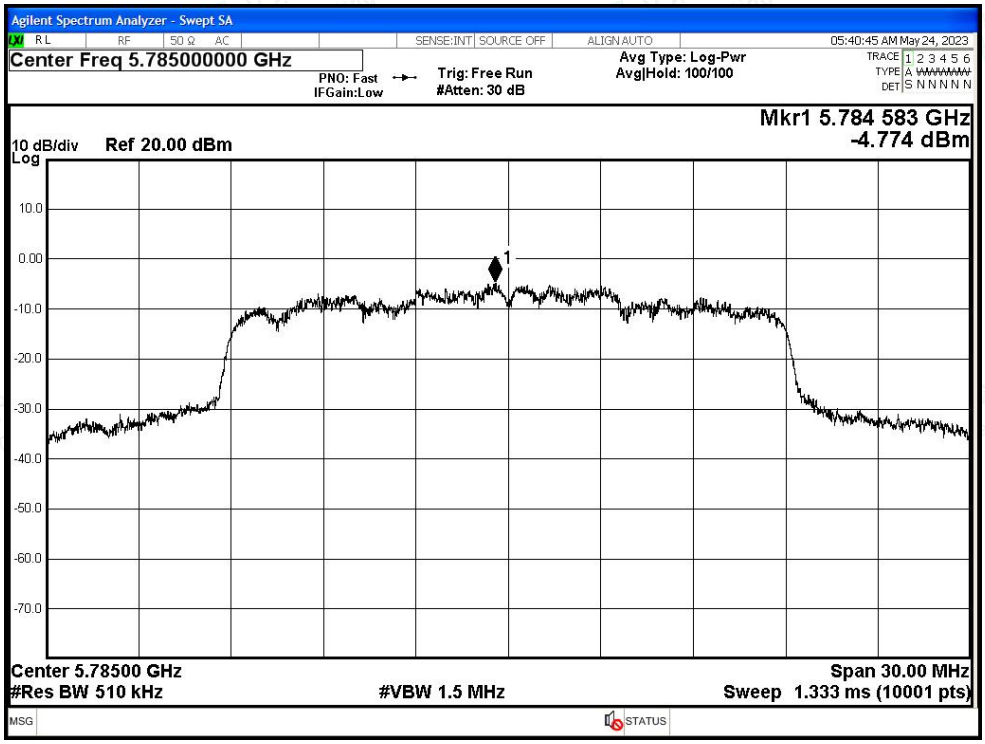
PSD NVNT a 5825MHz Ant1

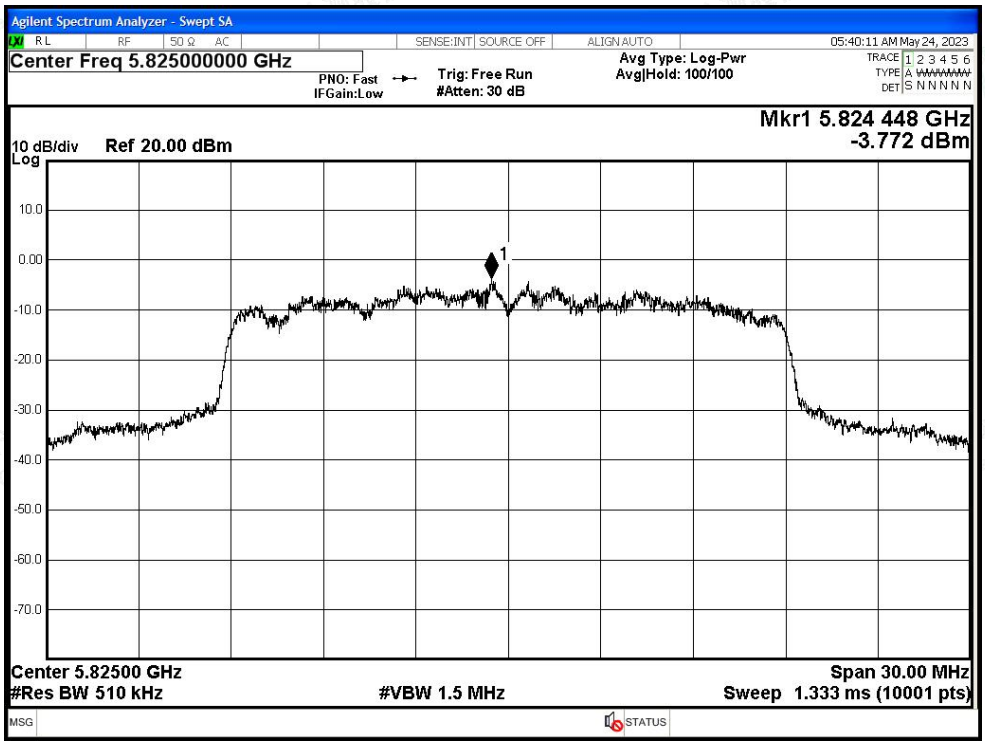



PSD NVNT n20 5745MHz Ant1



PSD NVNT n20 5785MHz Ant1




PSD NVNT n20 5825MHz Ant1