

Appendix

Test Data

for BTEK241111036A02E15

Start date	2024/12/16	Finish date	2024/12/16
Temperature	18.1℃	Humidity	29%
RF specifications	BLE - Module 1 7663	Test Engineer	Zora



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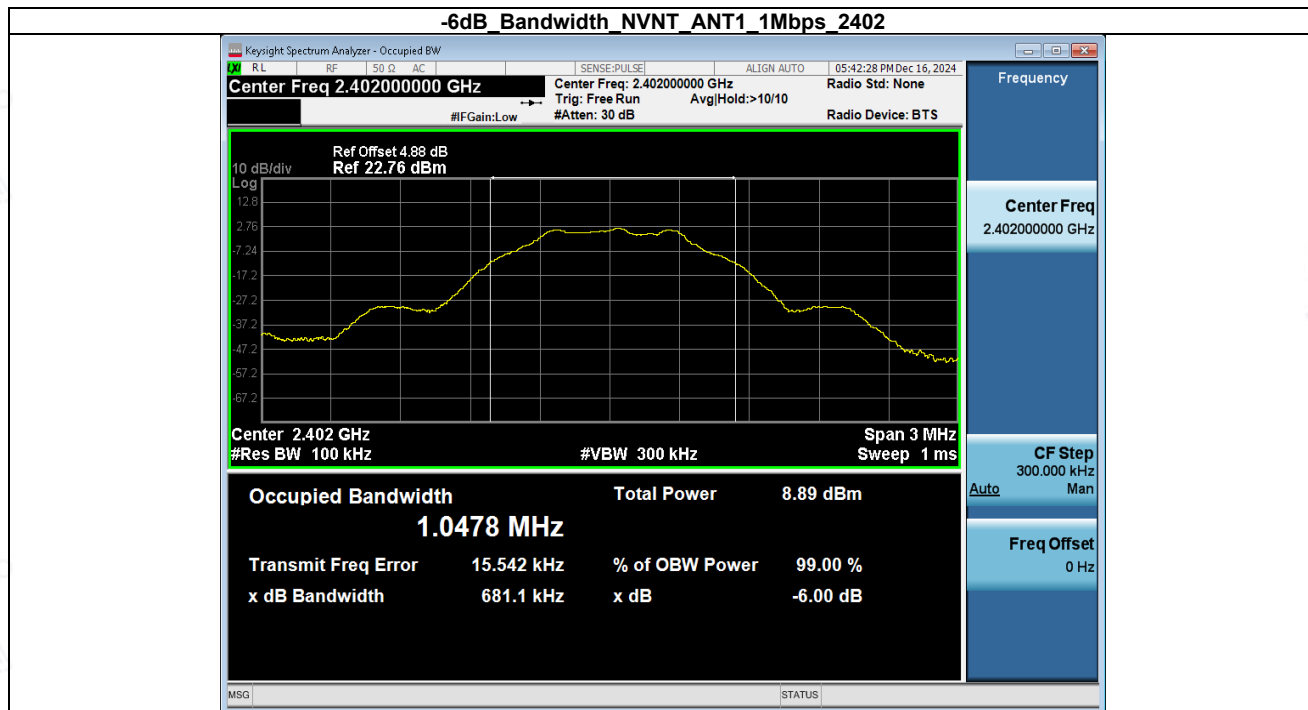
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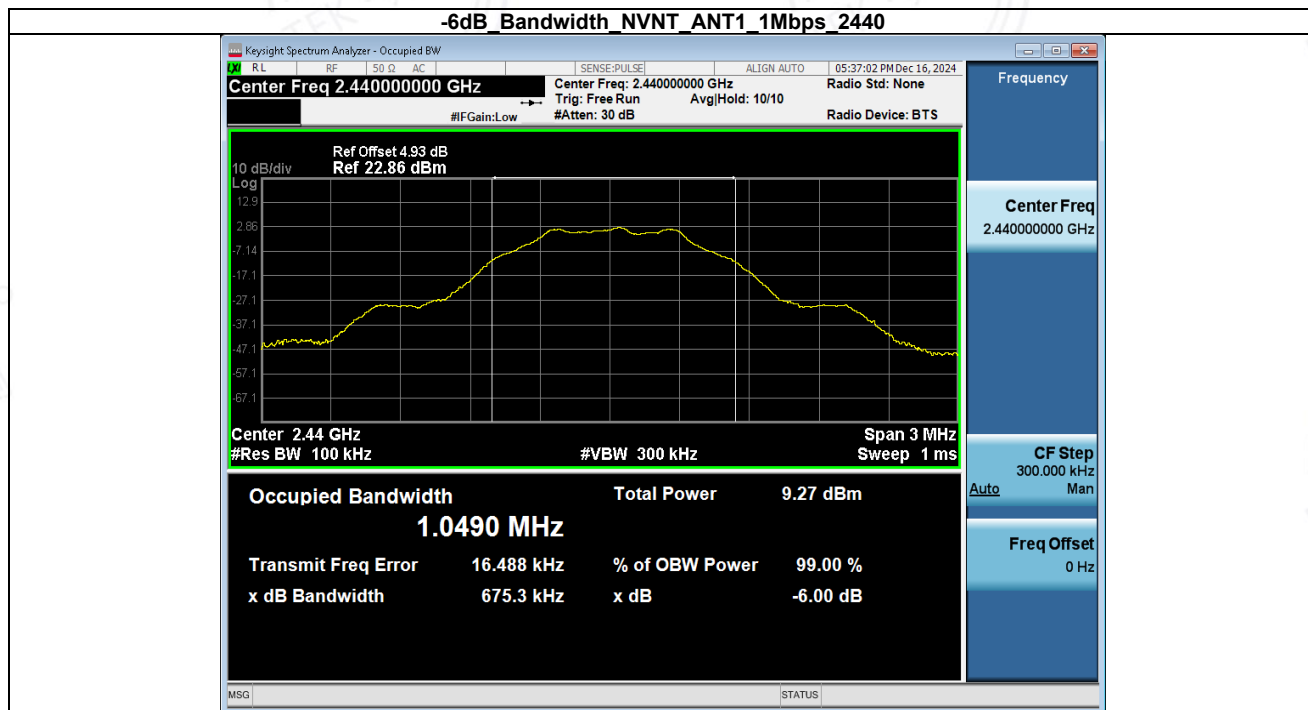
1. -6dB Bandwidth

Condition	Antenna	Rate	Frequency (MHz)	-6dB BW(kHz)	limit(kHz)	Result
NVNT	ANT1	1Mbps	2402.00	681.12	500	Pass
NVNT	ANT1	1Mbps	2440.00	675.30	500	Pass
NVNT	ANT1	1Mbps	2480.00	680.80	500	Pass
NVNT	ANT1	2Mbps	2402.00	1164.82	500	Pass
NVNT	ANT1	2Mbps	2440.00	1159.83	500	Pass
NVNT	ANT1	2Mbps	2480.00	1158.11	500	Pass

-6dB_Bandwidth_NVNT_ANT1_1Mbps_2402

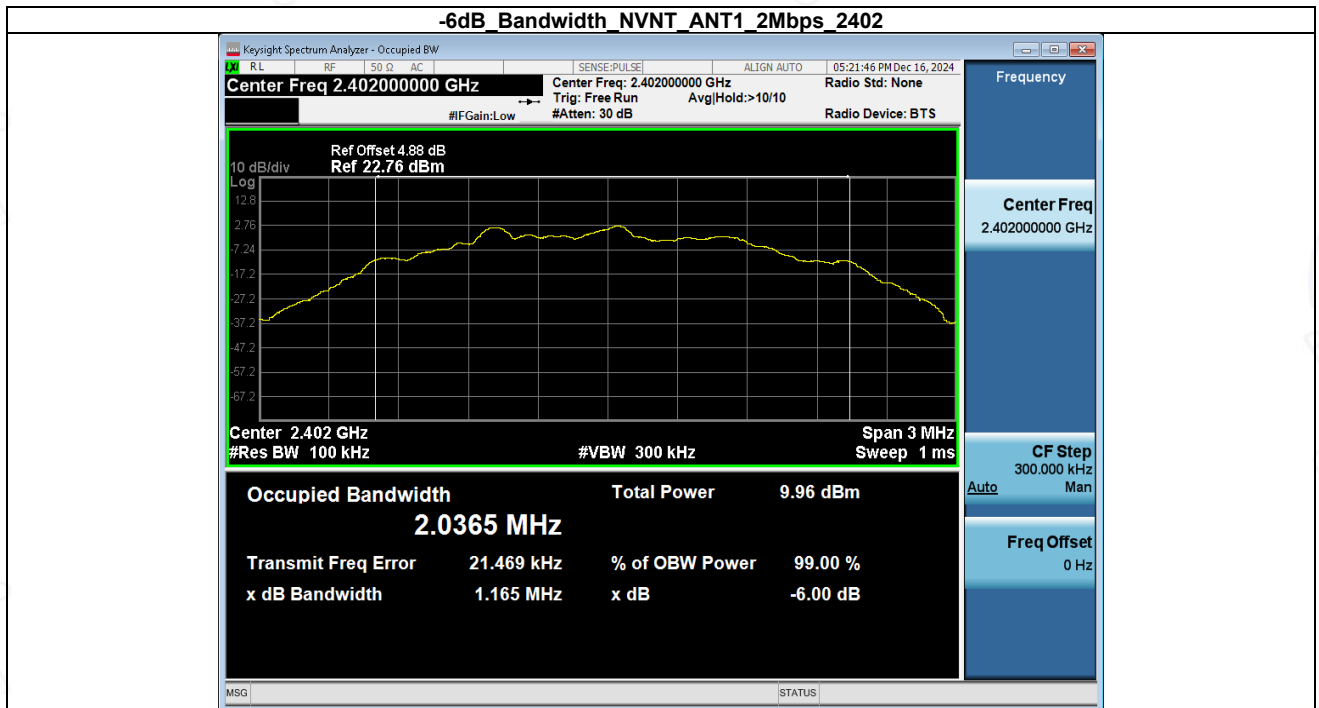


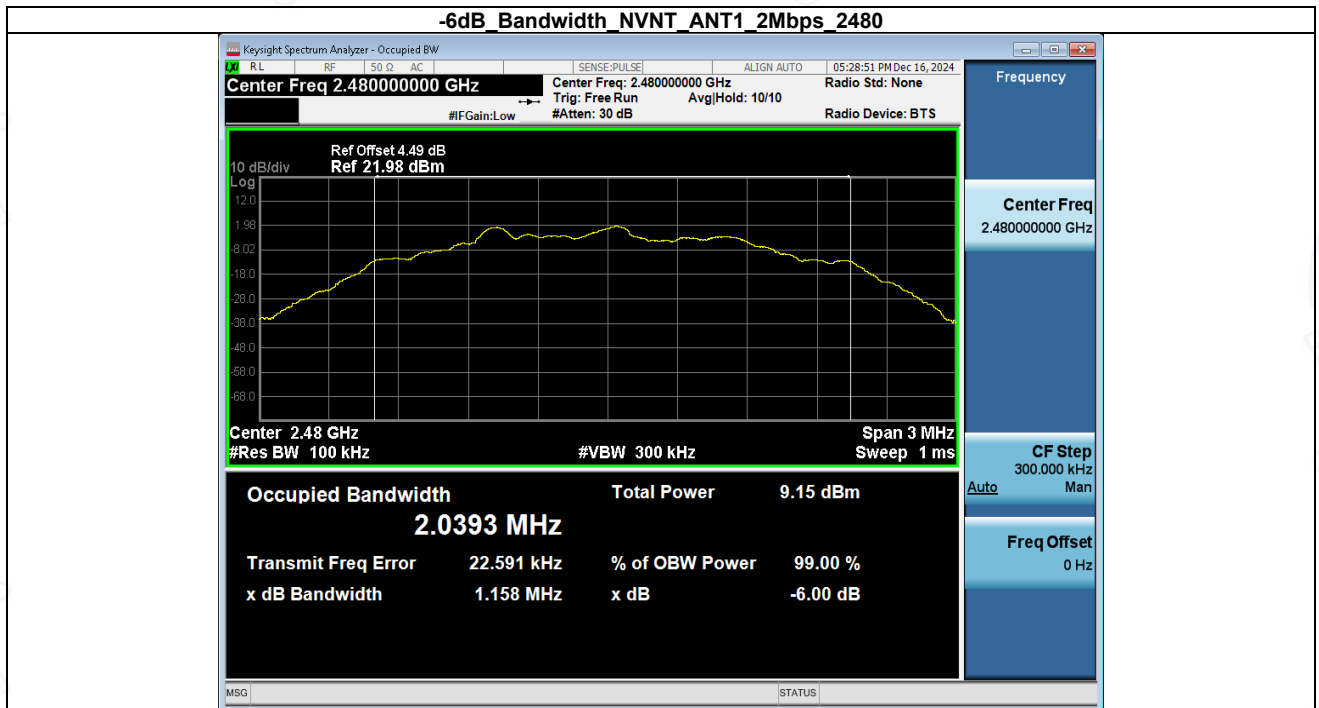
-6dB_Bandwidth_NVNT_ANT1_1Mbps_2440



-6dB_Bandwidth_NVNT_ANT1_1Mbps_2480







2. 99% Occupied Bandwidth

Condition	Antenna	Rate	Frequency (MHz)	99% BW(MHz)
NVNT	ANT1	1Mbps	2402.00	1.033
NVNT	ANT1	1Mbps	2440.00	1.033
NVNT	ANT1	1Mbps	2480.00	1.034
NVNT	ANT1	2Mbps	2402.00	2.030
NVNT	ANT1	2Mbps	2440.00	2.029
NVNT	ANT1	2Mbps	2480.00	2.028

99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2402

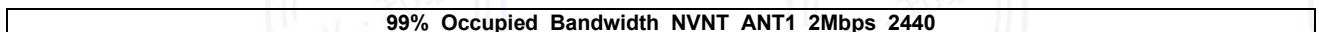
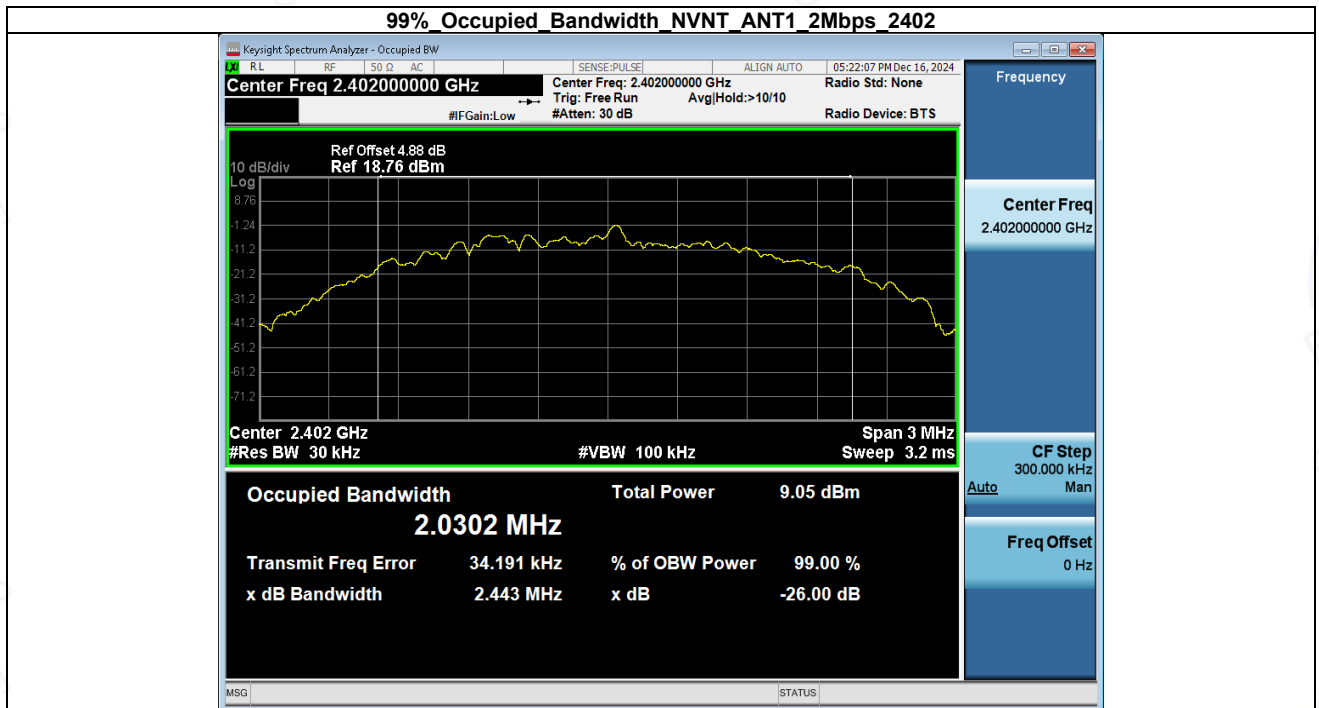


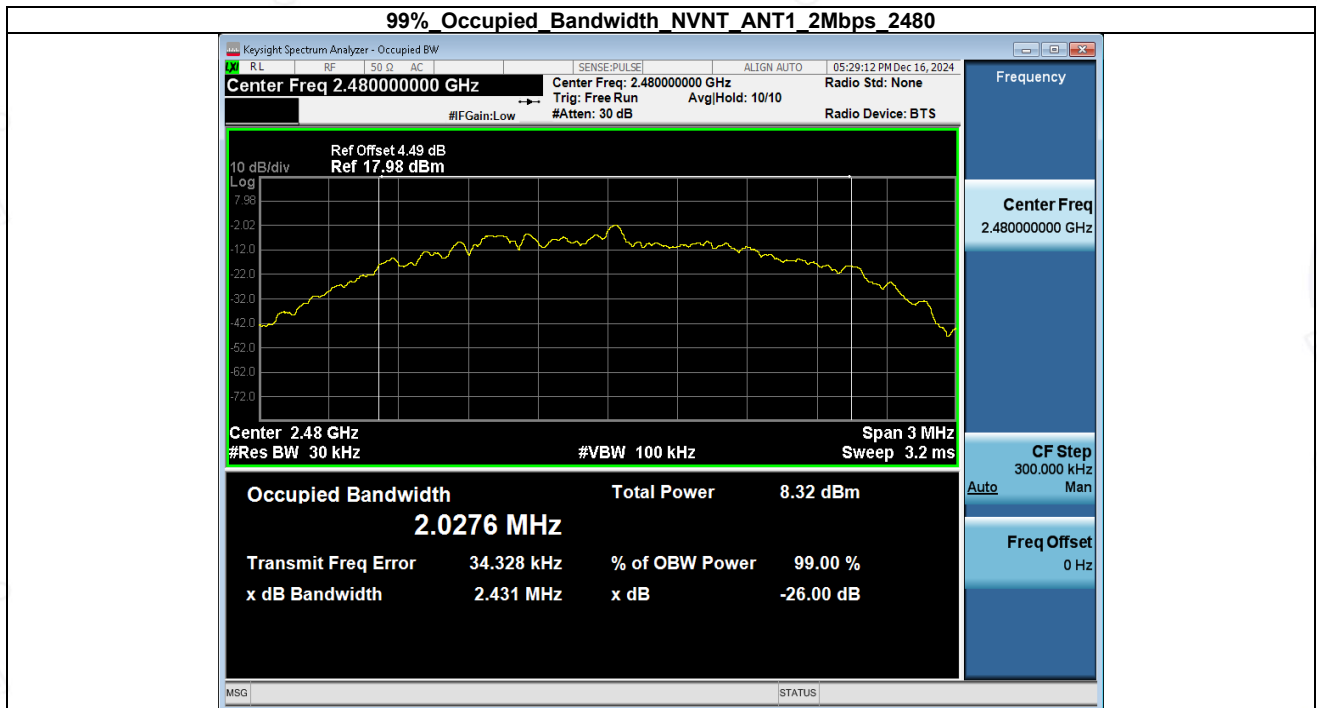
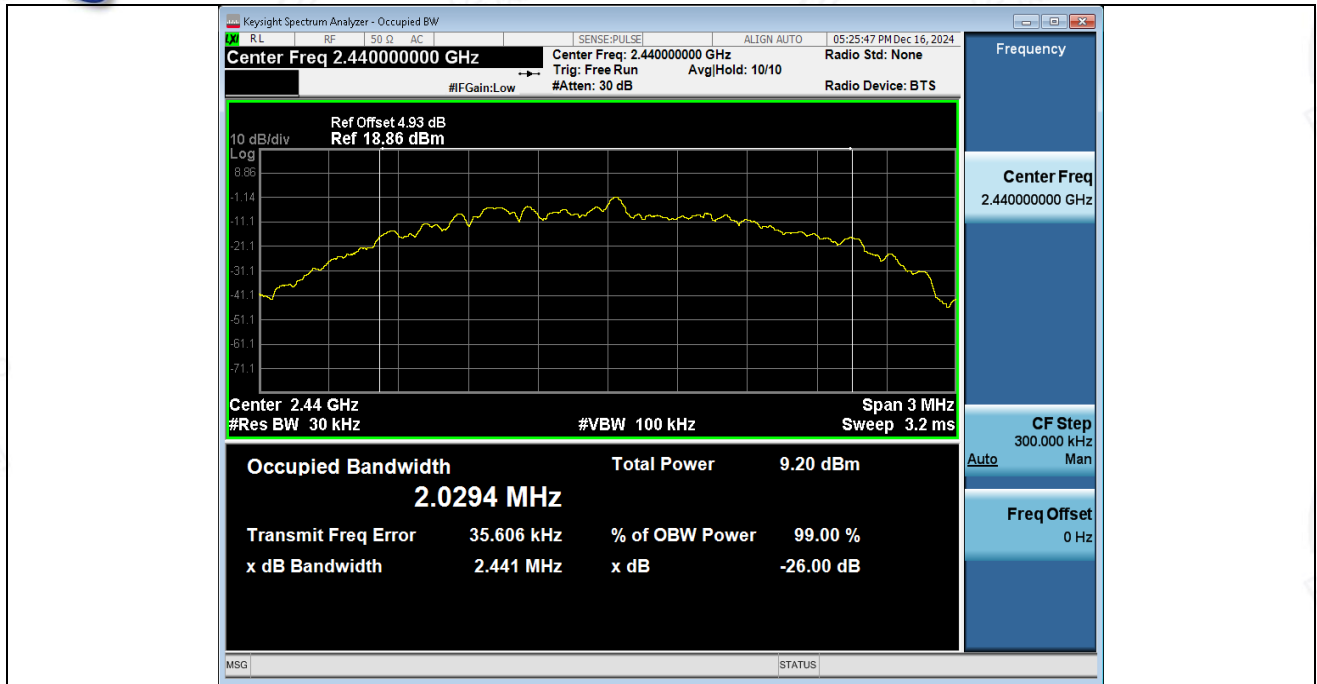
99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2440



99%_Occupied_Bandwidth_NVNT_ANT1_1Mbps_2480



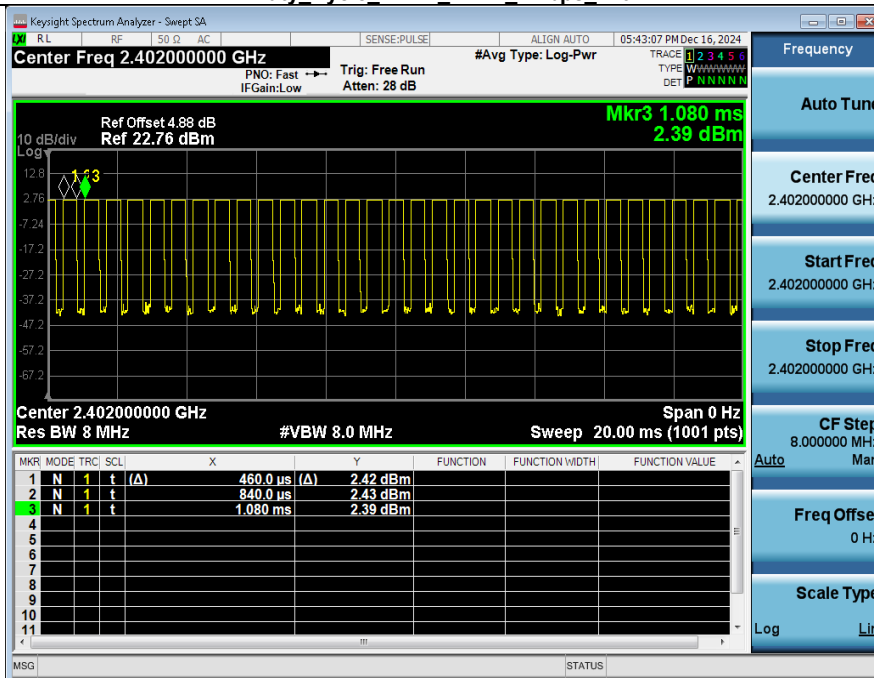




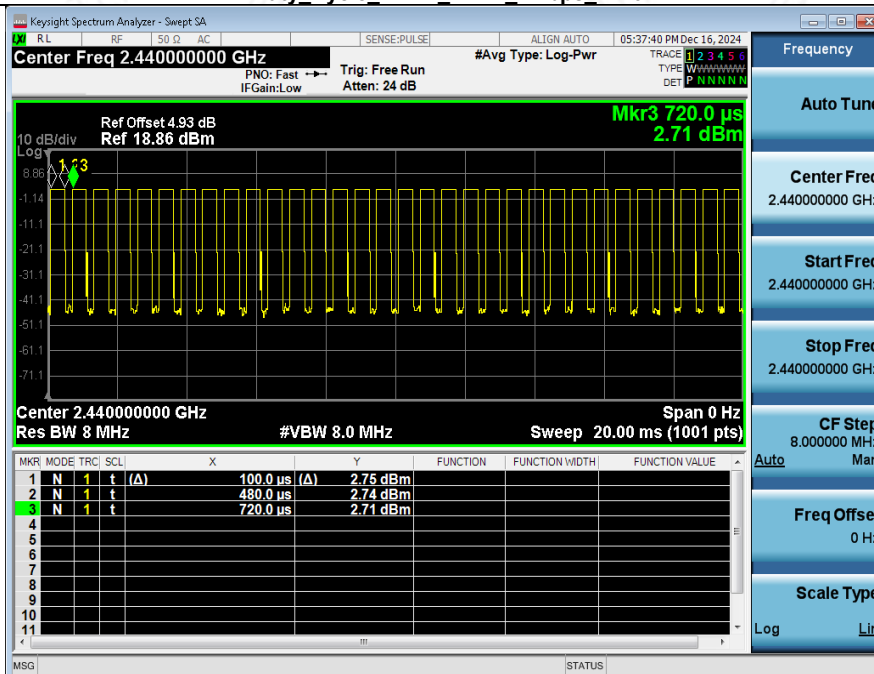
3. Duty Cycle

Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	1Mbps	2402.00	64.52	1.90
NVNT	ANT1	1Mbps	2440.00	61.29	2.13
NVNT	ANT1	1Mbps	2480.00	67.74	1.69
NVNT	ANT1	2Mbps	2402.00	35.48	4.50
NVNT	ANT1	2Mbps	2440.00	35.48	4.50
NVNT	ANT1	2Mbps	2480.00	35.48	4.50

Duty Cycle_NVNT_ANT1_1Mbps_2402

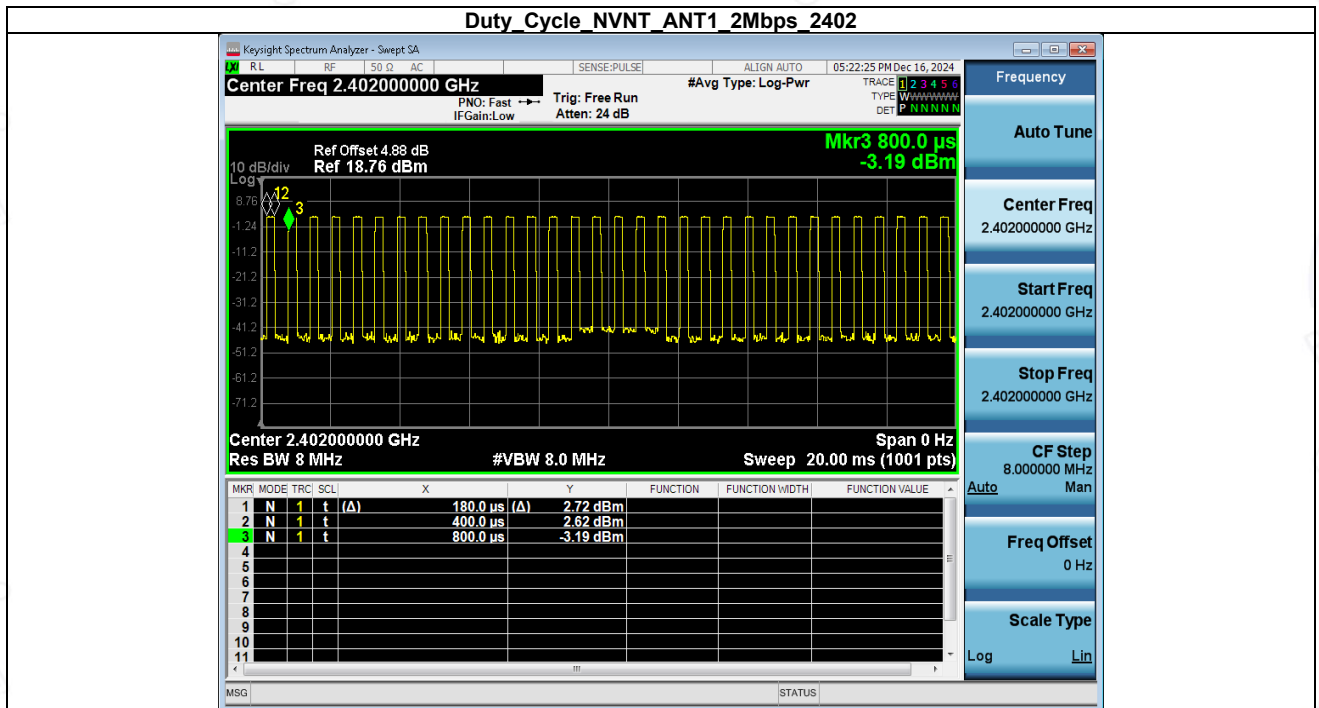
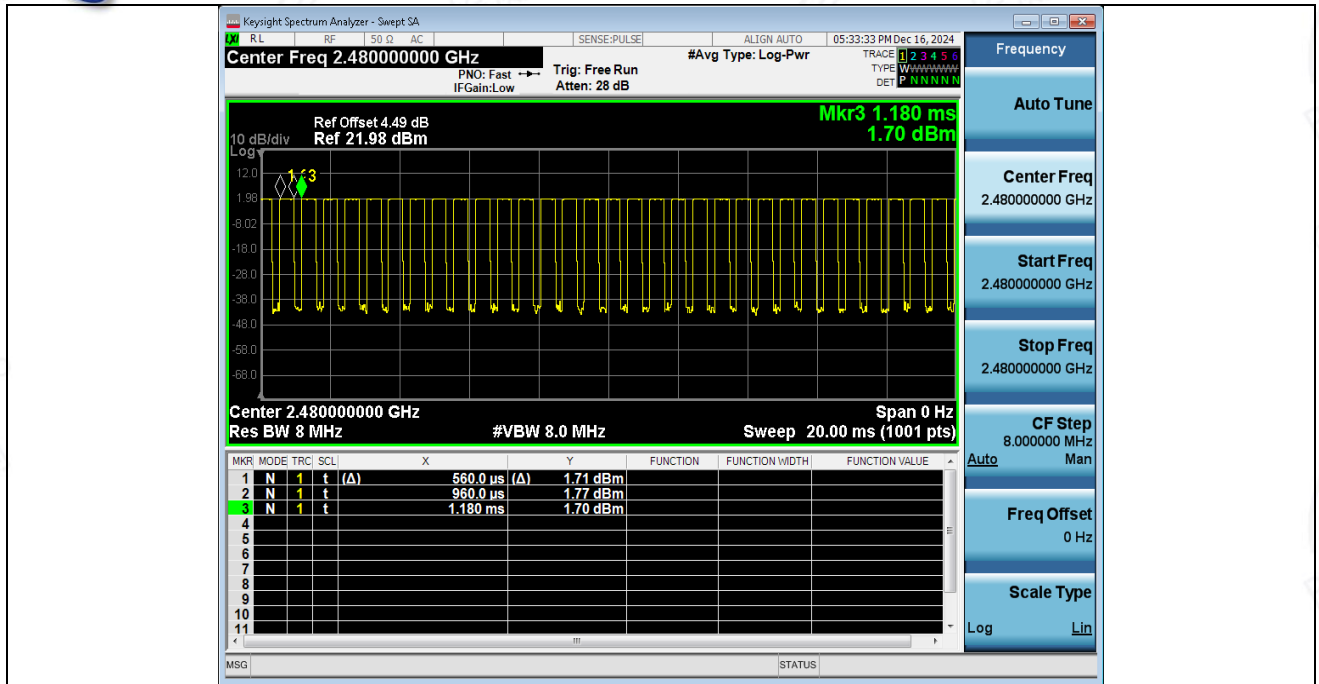


Duty Cycle_NVNT_ANT1_1Mbps_2440



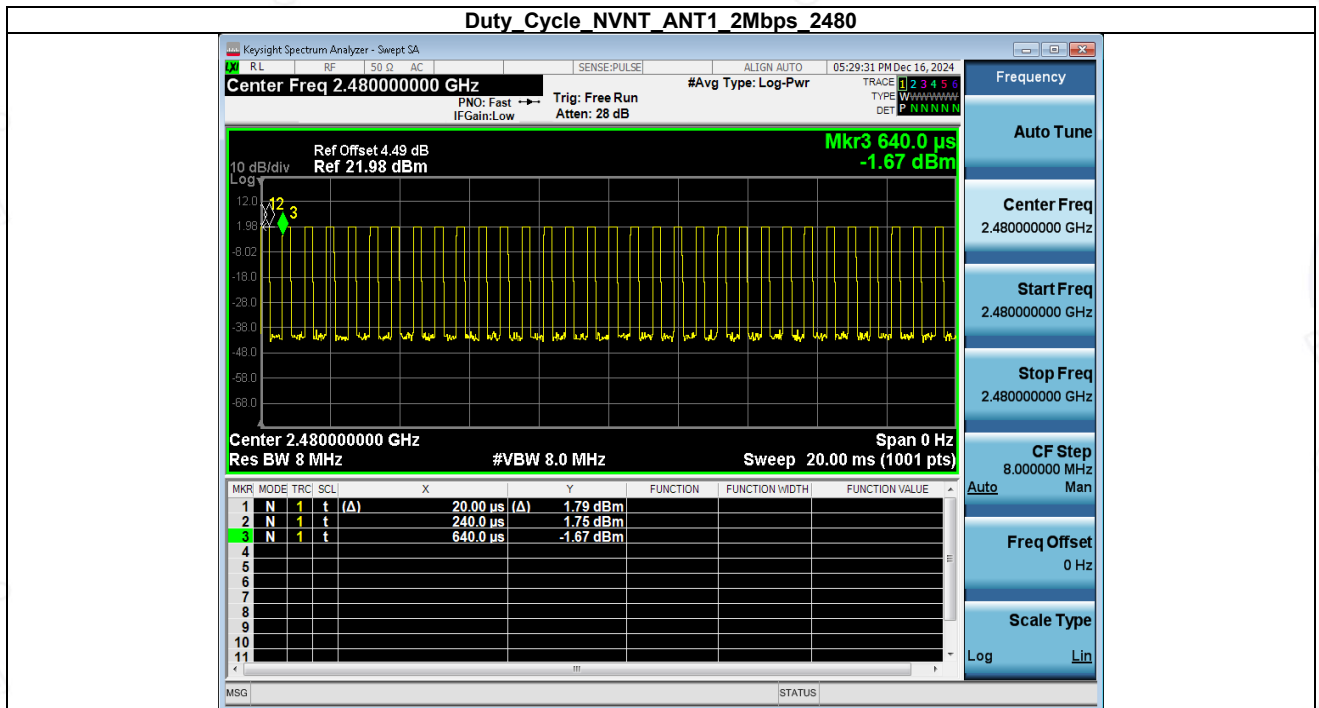
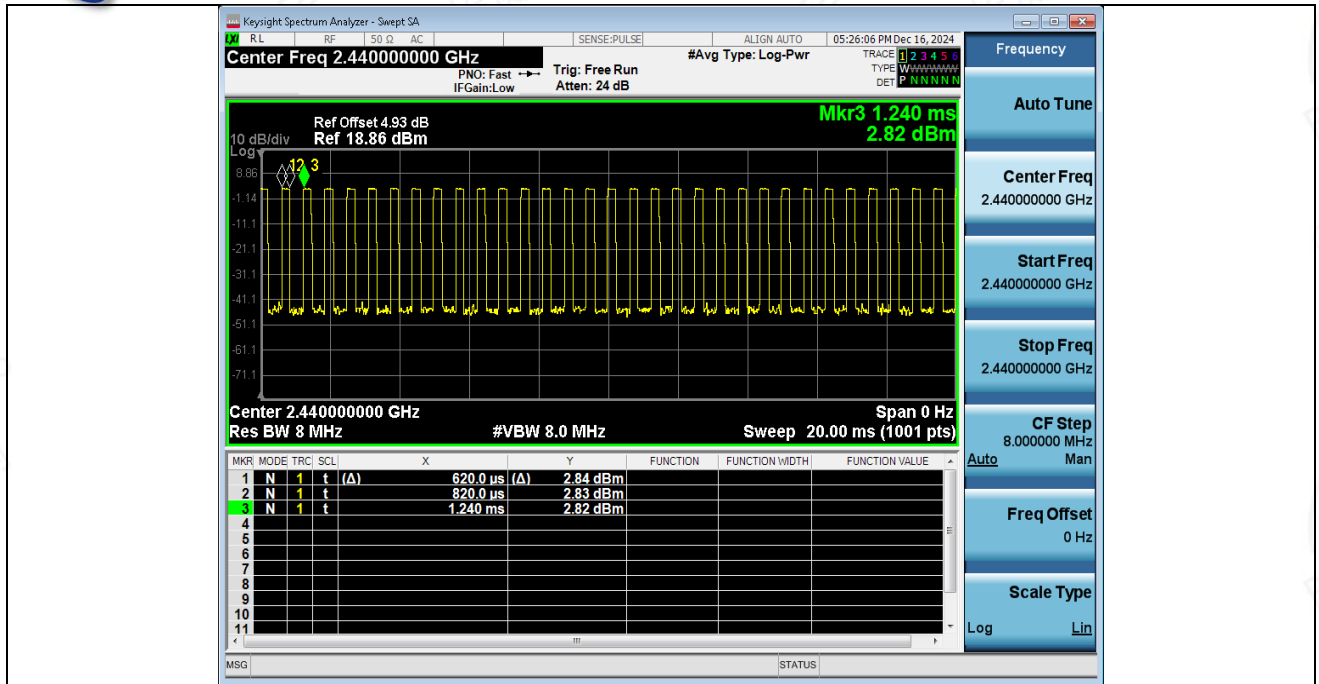
Duty Cycle_NVNT_ANT1_1Mbps_2480





Duty Cycle_NVNT_ANT1_2Mbps_2440





4. Peak Output Power

Condition	Antenna	Rate	Frequency (MHz)	Max. Conducted Power(dBm)	Max. Conducted Power(mW)	Limit(mW)	Result
NVNT	ANT1	1Mbps	2402.00	2.44	1.75	1000	Pass
NVNT	ANT1	1Mbps	2440.00	2.77	1.89	1000	Pass
NVNT	ANT1	1Mbps	2480.00	1.78	1.51	1000	Pass
NVNT	ANT1	2Mbps	2402.00	2.71	1.87	1000	Pass
NVNT	ANT1	2Mbps	2440.00	2.82	1.91	1000	Pass
NVNT	ANT1	2Mbps	2480.00	1.86	1.53	1000	Pass

Peak Output Power NVNT ANT1 1Mbps 2402

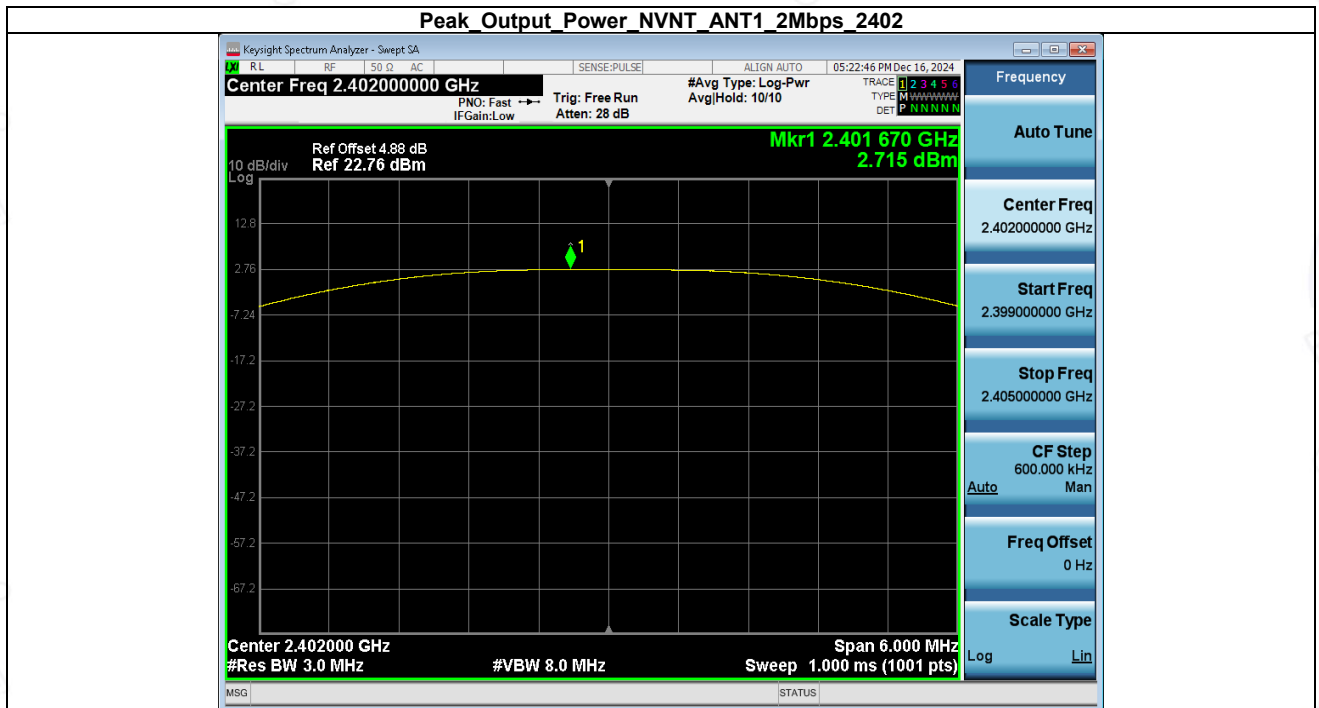


Peak Output Power NVNT ANT1 1Mbps 2440



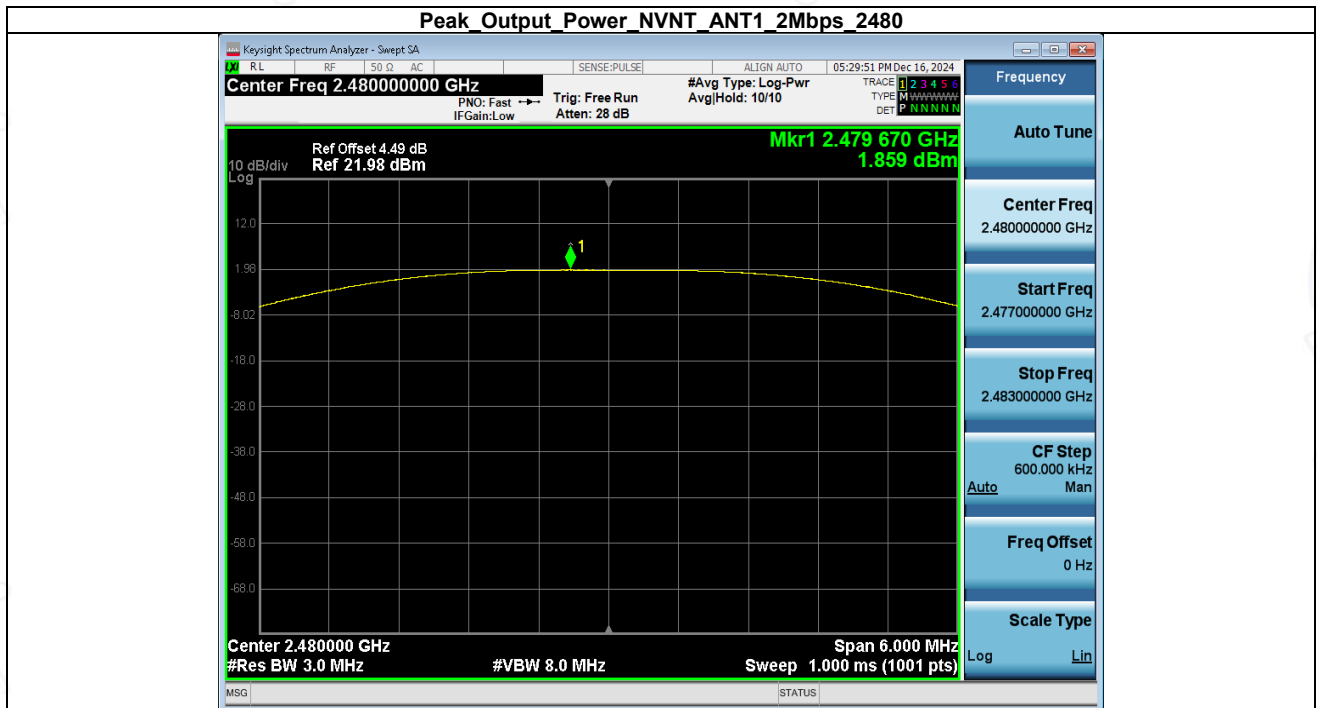
Peak Output Power NVNT ANT1 1Mbps 2480





Peak_Output_Power_NVNT_ANT1_2Mbps_2440

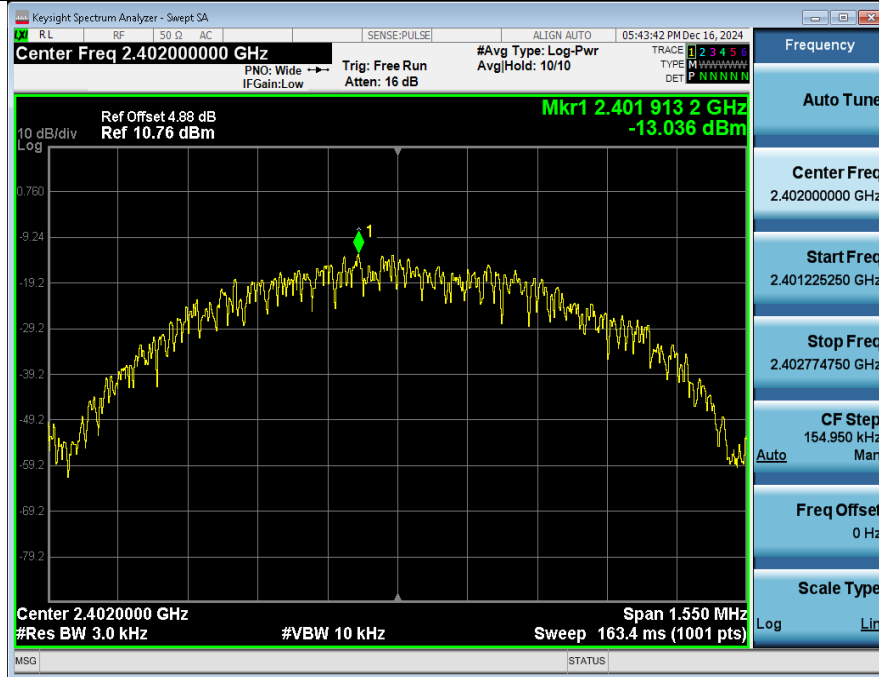




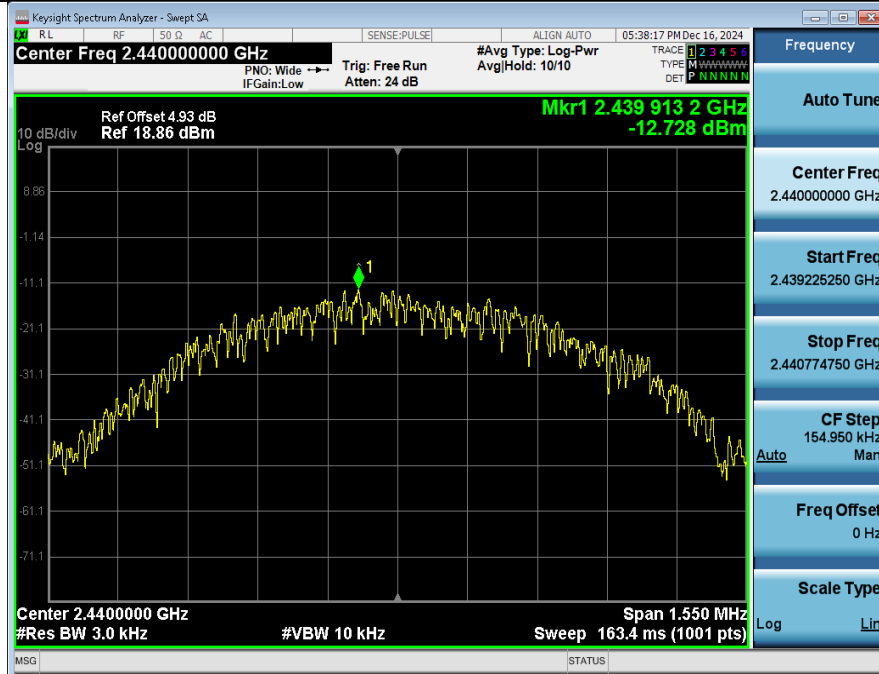
5. Power Spectral Density

Condition	Antenna	Rate	Frequency (MHz)	Power Spectral Density(dBm/3kHz)	Limit(dBm/3kHz)	Result
NVNT	ANT1	1Mbps	2402.00	-13.04	8	Pass
NVNT	ANT1	1Mbps	2440.00	-12.73	8	Pass
NVNT	ANT1	1Mbps	2480.00	-13.85	8	Pass
NVNT	ANT1	2Mbps	2402.00	-15.60	8	Pass
NVNT	ANT1	2Mbps	2440.00	-15.19	8	Pass
NVNT	ANT1	2Mbps	2480.00	-16.57	8	Pass

Power Spectral Density_NVNT_ANT1_1Mbps_2402

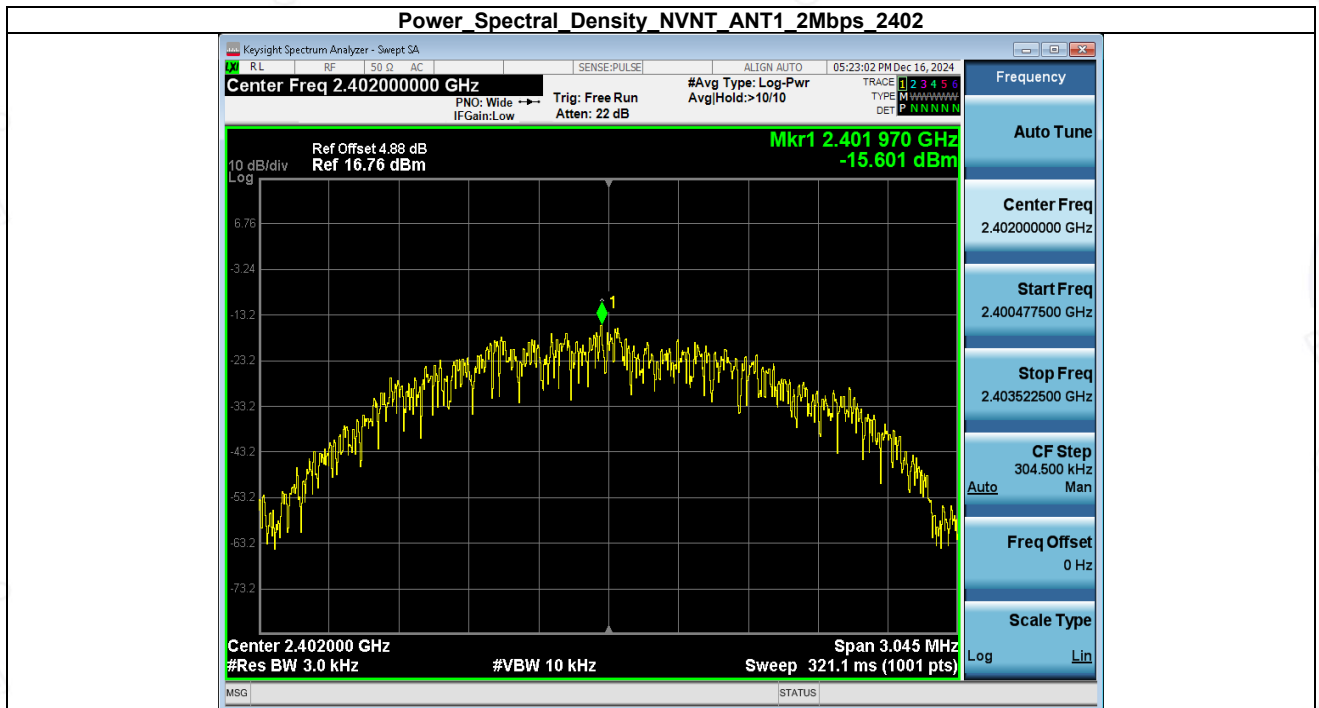
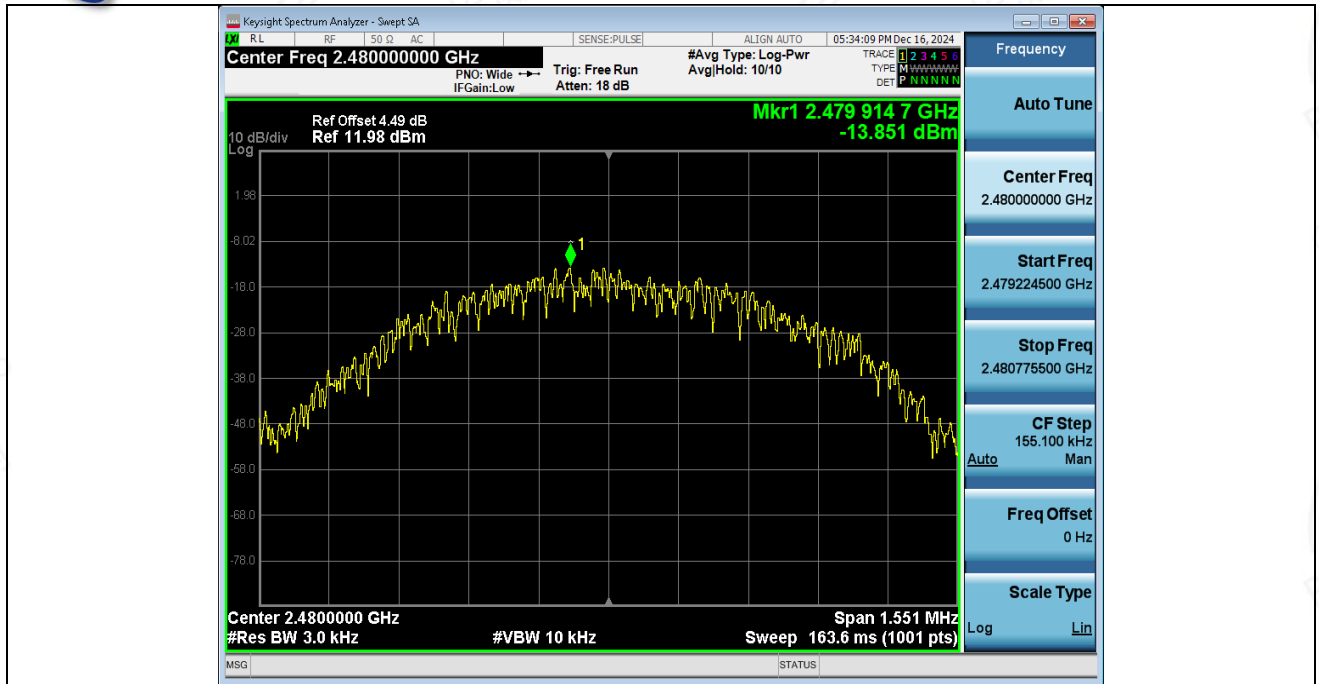


Power Spectral Density_NVNT_ANT1_1Mbps_2440



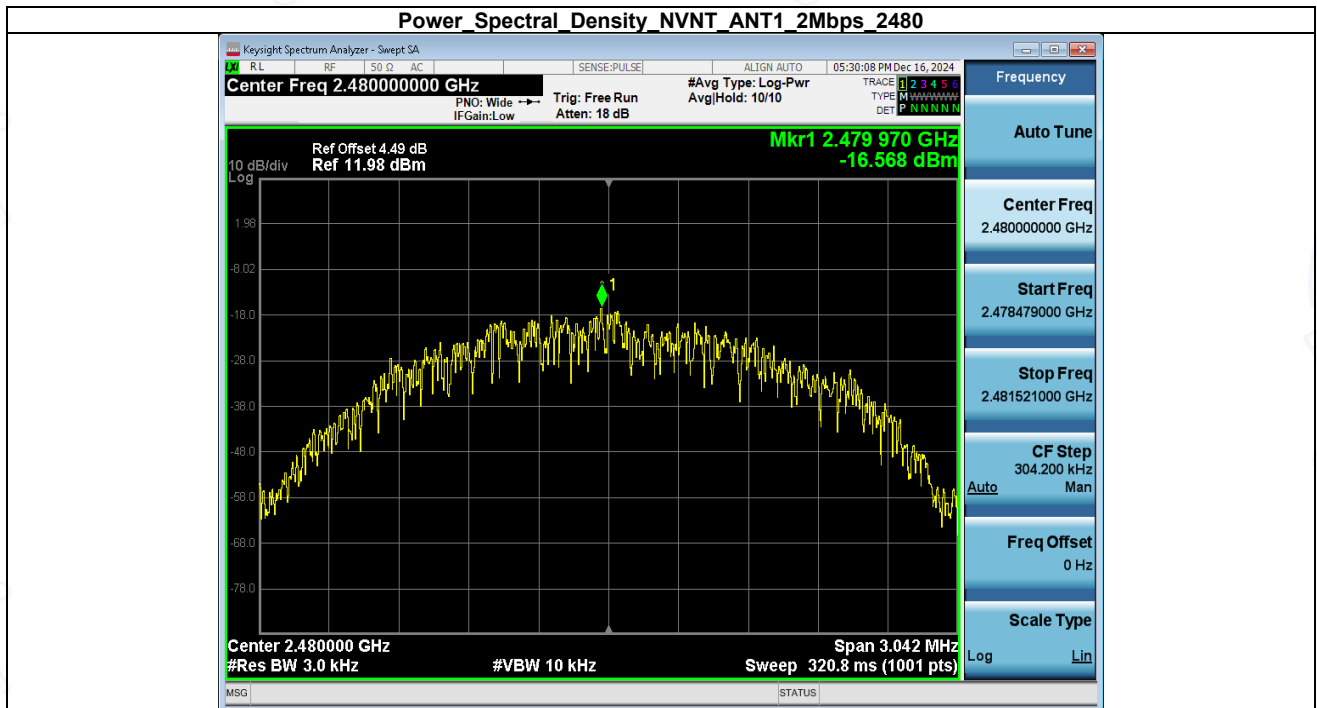
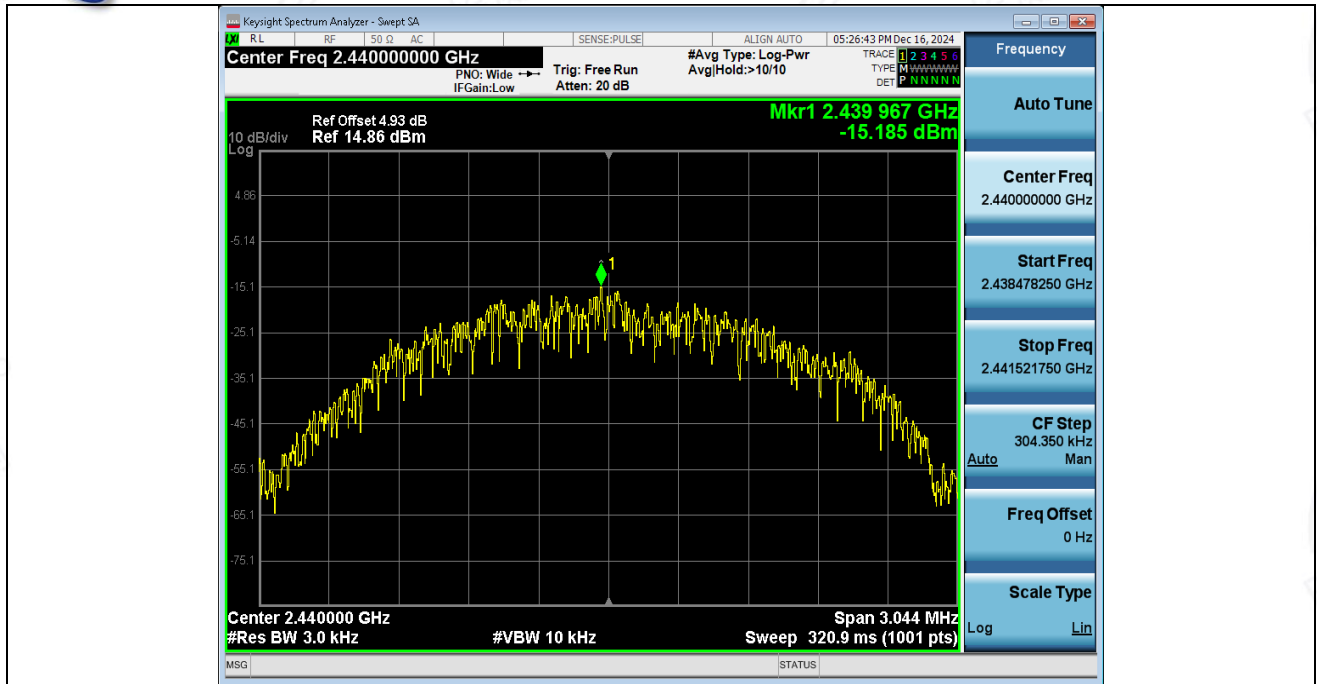
Power Spectral Density_NVNT_ANT1_1Mbps_2480





Power Spectral Density_NVNT_ANT1_2Mbps_2440





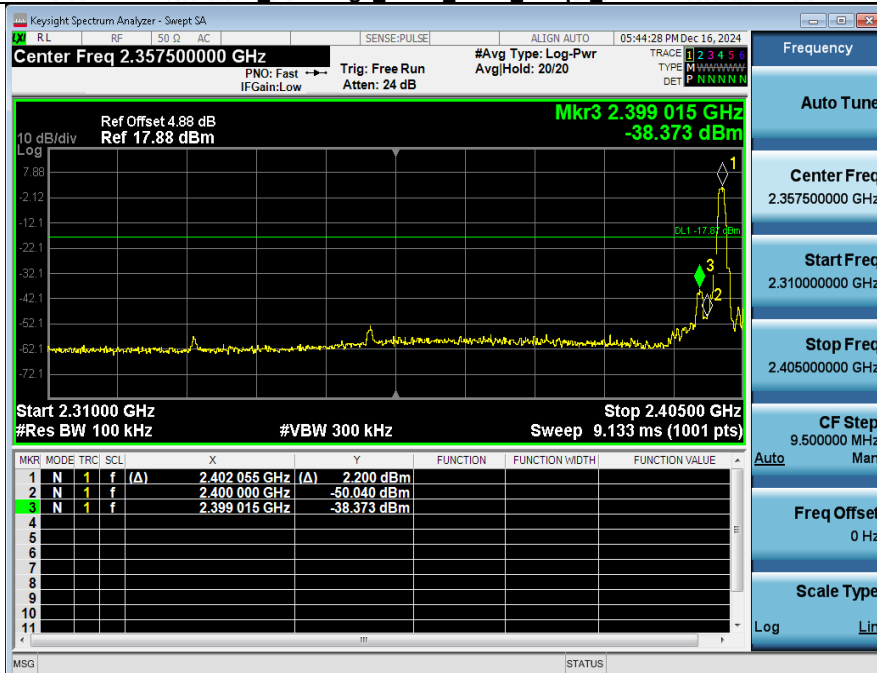
6. Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark_freq(MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	1Mbps	2402.00	2399.015	2.132	-38.373	-17.868	Pass
NVNT	ANT1	1Mbps	2480.00	2493.575	1.528	-57.961	-18.472	Pass
NVNT	ANT1	2Mbps	2402.00	2399.965	2.460	-31.570	-17.540	Pass
NVNT	ANT1	2Mbps	2480.00	2485.450	1.576	-48.069	-18.424	Pass

1_Reference_Level_NVNT_ANT1_1Mbps_2402



2_Bandedge_NVNT_ANT1_1Mbps_2402

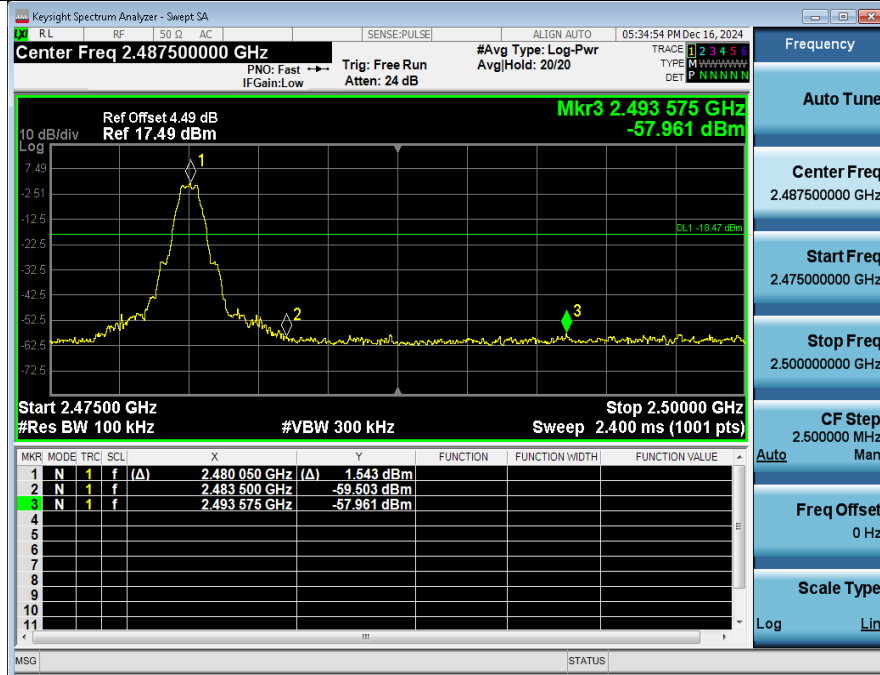


1_Reference_Level_NVNT_ANT1_1Mbps_2480





2_Bandedge_NVNT_ANT1_1Mbps_2480

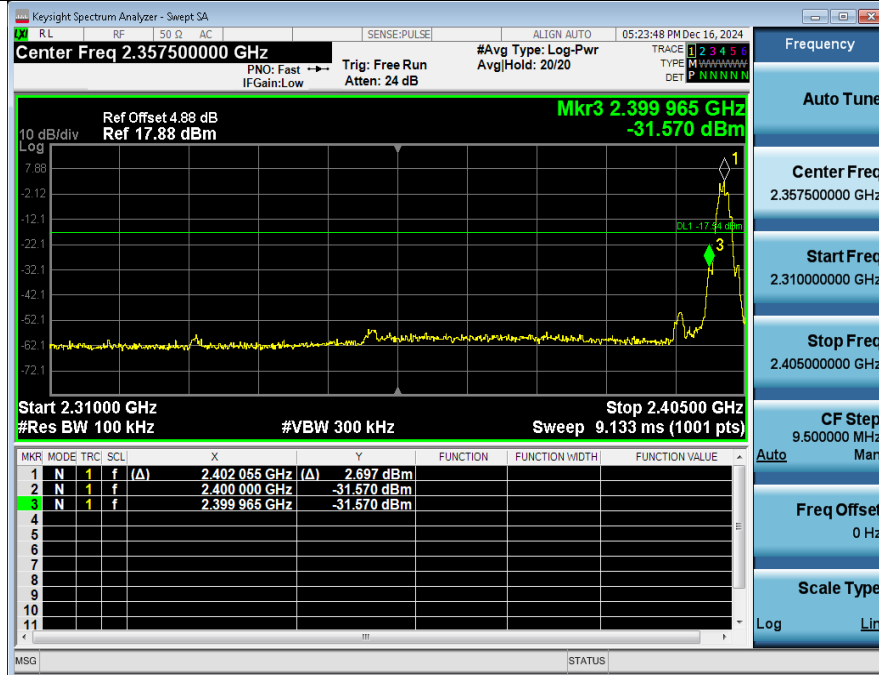


1_Reference_Level_NVNT_ANT1_2Mbps_2402





2_Bandedge_NVNT_ANT1_2Mbps_2402



1_Reference_Level_NVNT_ANT1_2Mbps_2480





2_Bandedge_NVNT_ANT1_2Mbps_2480



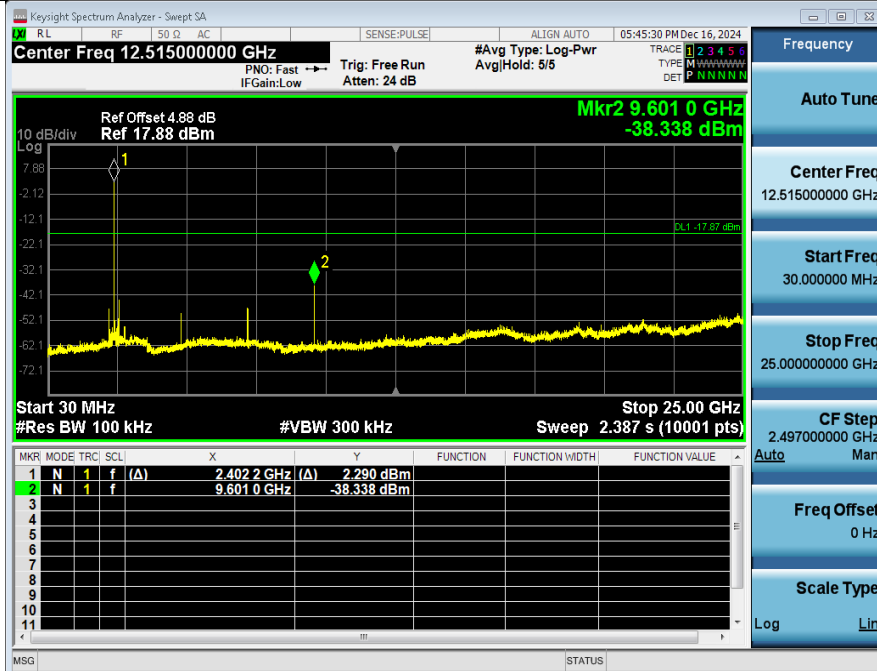
7. Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	1Mbps	2402.00	2.132	-38.338	-17.868	Pass
NVNT	ANT1	1Mbps	2440.00	2.509	-40.318	-17.491	Pass
NVNT	ANT1	1Mbps	2480.00	1.528	-41.118	-18.472	Pass
NVNT	ANT1	2Mbps	2402.00	2.460	-38.448	-17.540	Pass
NVNT	ANT1	2Mbps	2440.00	2.587	-40.332	-17.413	Pass
NVNT	ANT1	2Mbps	2480.00	1.576	-40.892	-18.424	Pass

1 Reference_Level_NVNT_ANT1_1Mbps_2402



2 Spurious Emission_NVNT_ANT1_1Mbps_2402

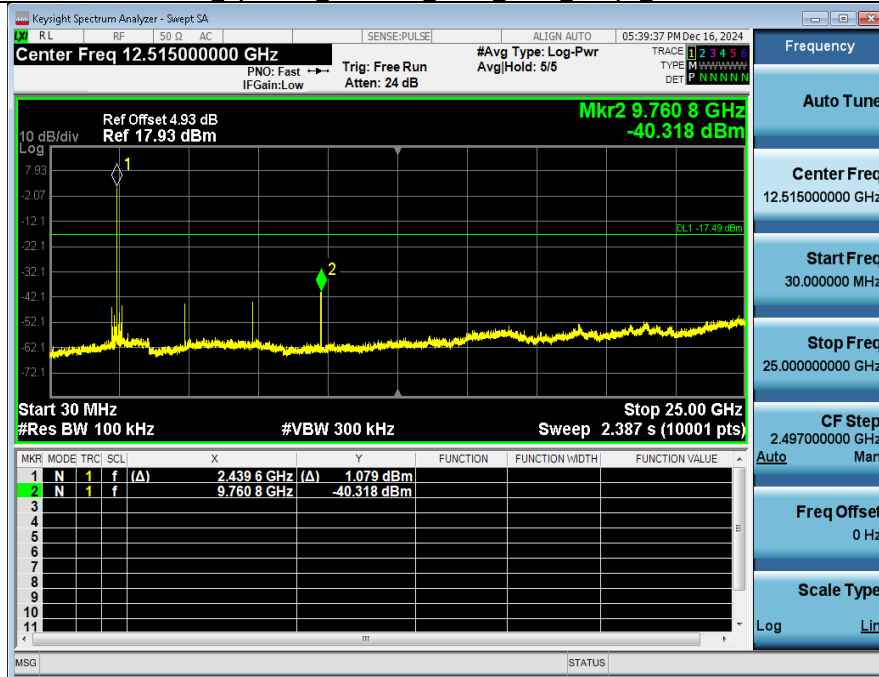


1 Reference_Level_NVNT_ANT1_1Mbps_2440





2_Spurious_Emission_NVNT_ANT1_1Mbps_2440

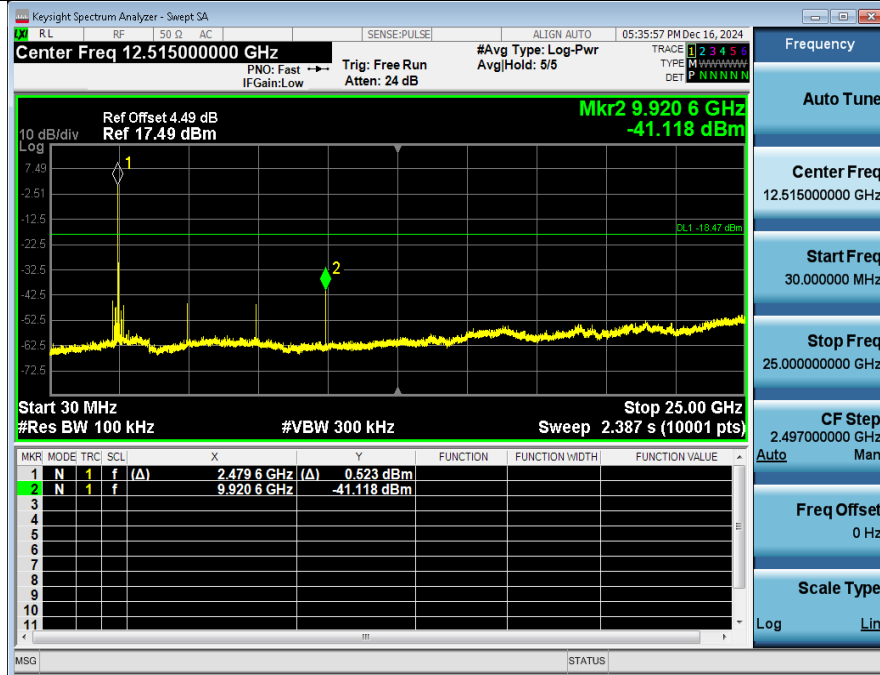


1_Reference_Level_NVNT_ANT1_1Mbps_2480





2_Spurious_Emission_NVNT_ANT1_1Mbps_2480

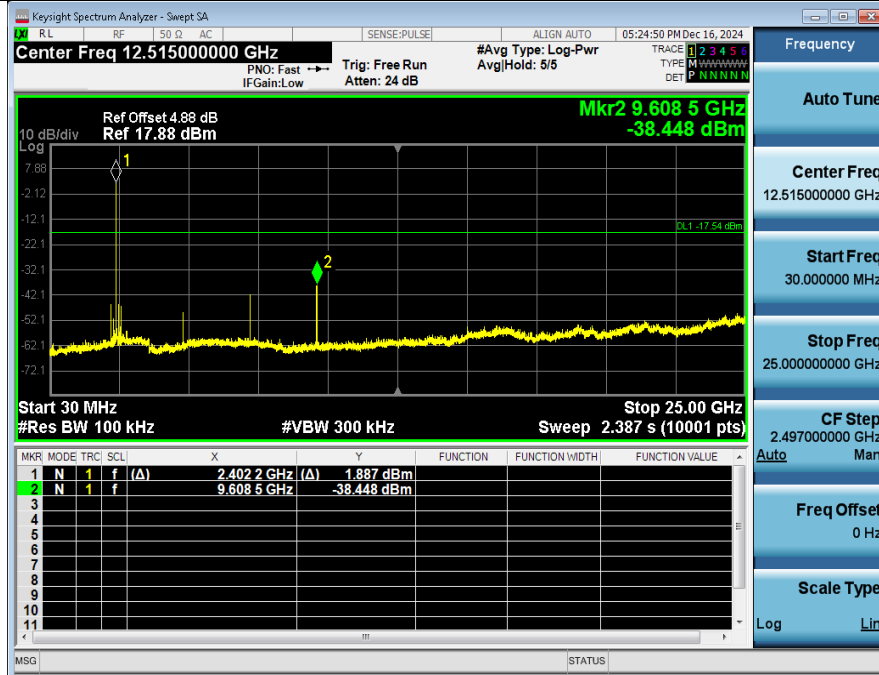


1_Reference_Level_NVNT_ANT1_2Mbps_2402





2_Spurious_Emission_NVNT_ANT1_2Mbps_2402

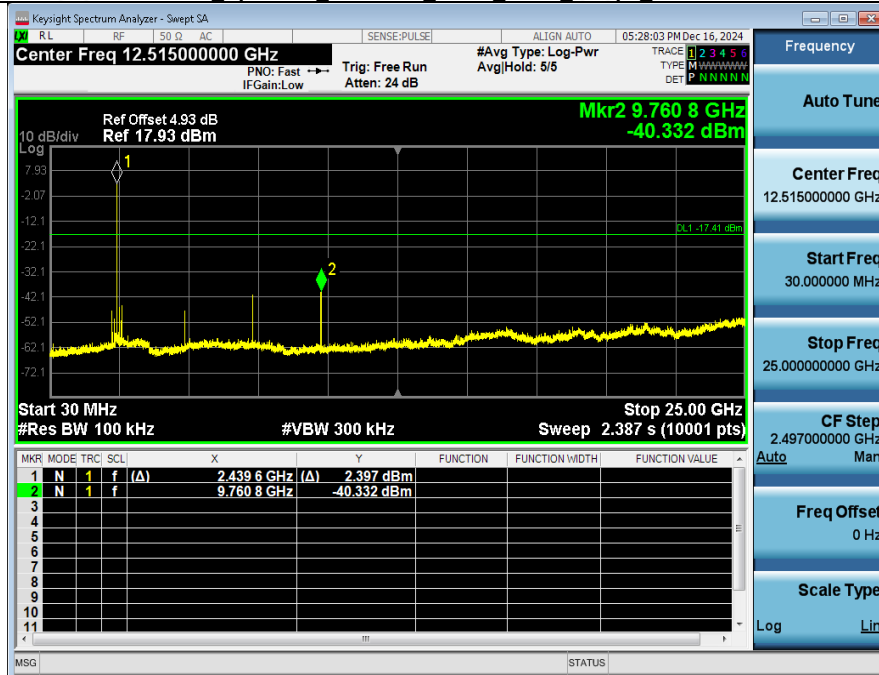


1_Reference_Level_NVNT_ANT1_2Mbps_2440





2_Spurious_Emission_NVNT_ANT1_2Mbps_2440



1_Reference_Level_NVNT_ANT1_2Mbps_2480





2 Spurious Emission NVNT_ANT1_2Mbps_2480

