

Appendix

Test Data

for BTEK241111036A02E16

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



Table of Contents

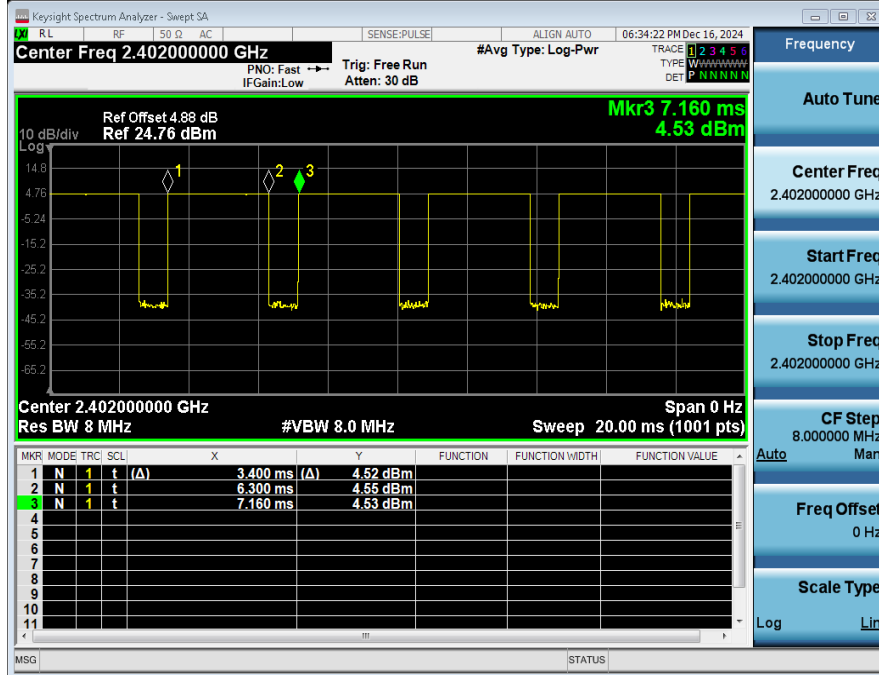
1. Duty Cycle.....	3
2. -20dB Bandwidth.....	8
3. 99% Occupied Bandwidth	13
4. Peak Output Power	18
5. Spurious Emissions	23
6. Bandedge.....	32
7. Carrier Frequencies Separation (Hopping)	44
8. Number of Hopping Channel (Hopping).....	49
9. Dwell Time (Hopping).....	51



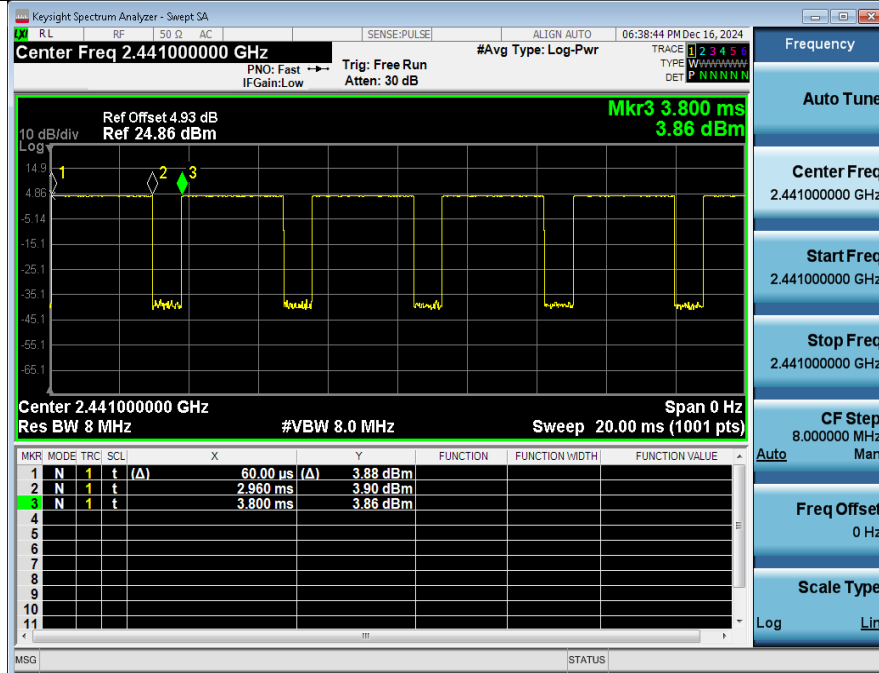
1. Duty Cycle

Condition	Antenna	Rate	Frequency (MHz)	Dutycycle(%)	Duty_factor
NVNT	ANT1	1-DH5	2402.00	77.66	1.10
NVNT	ANT1	1-DH5	2441.00	77.54	1.10
NVNT	ANT1	1-DH5	2480.00	78.19	1.07
NVNT	ANT1	2-DH5	2402.00	78.61	1.05
NVNT	ANT1	2-DH5	2441.00	78.07	1.07
NVNT	ANT1	2-DH5	2480.00	78.19	1.07
NVNT	ANT1	3-DH5	2402.00	78.07	1.07
NVNT	ANT1	3-DH5	2441.00	78.61	1.05
NVNT	ANT1	3-DH5	2480.00	78.19	1.07

Duty_Cycle_NVNT_ANT1_1-DH5_2402

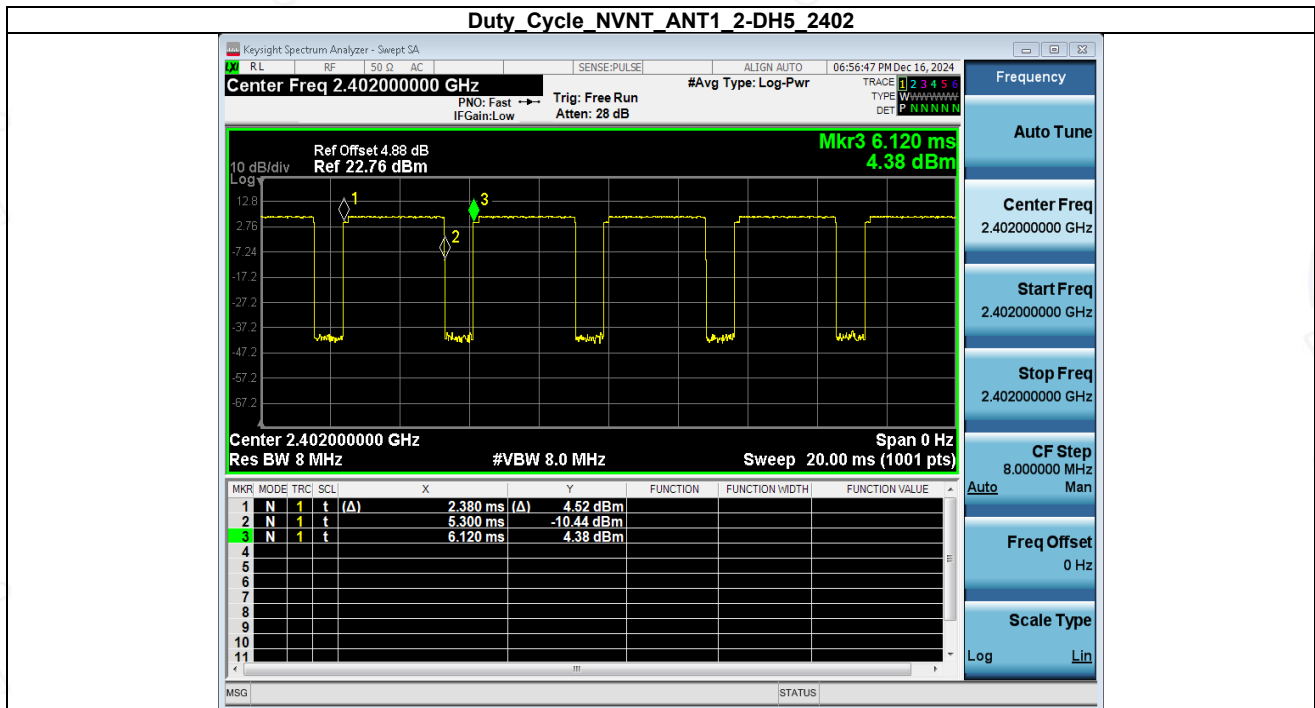
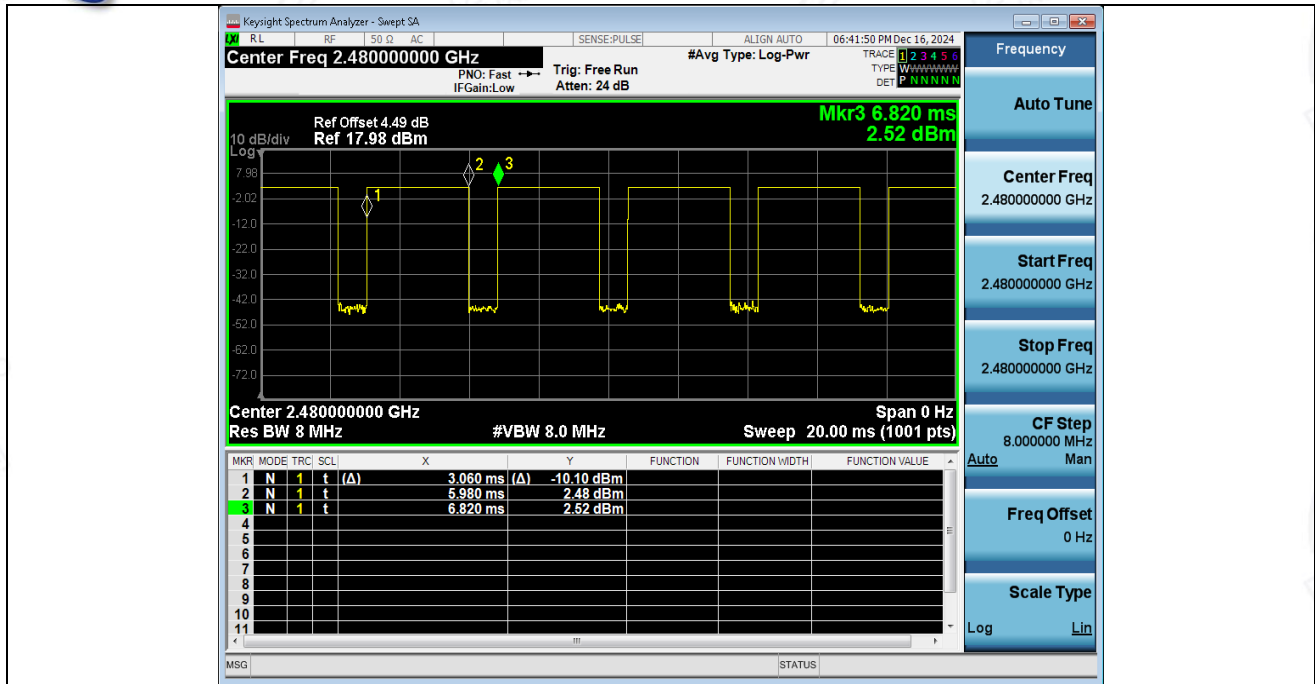


Duty_Cycle_NVNT_ANT1_1-DH5_2441



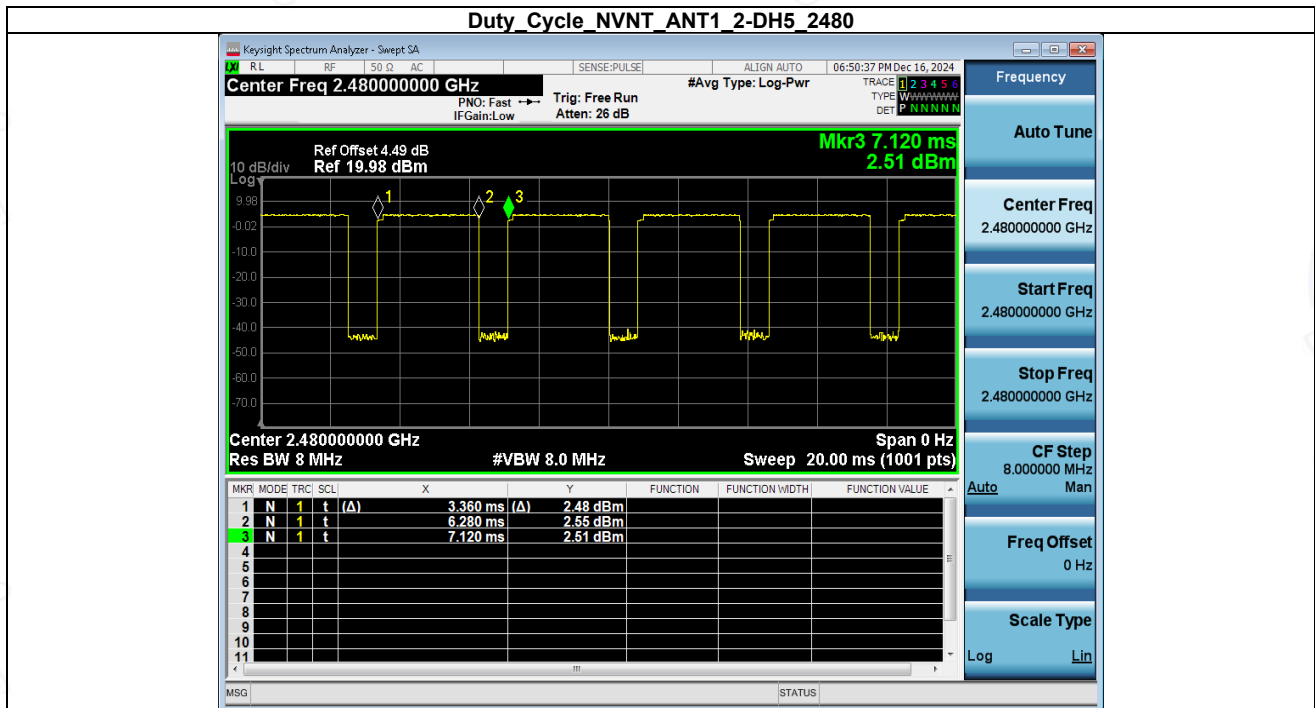
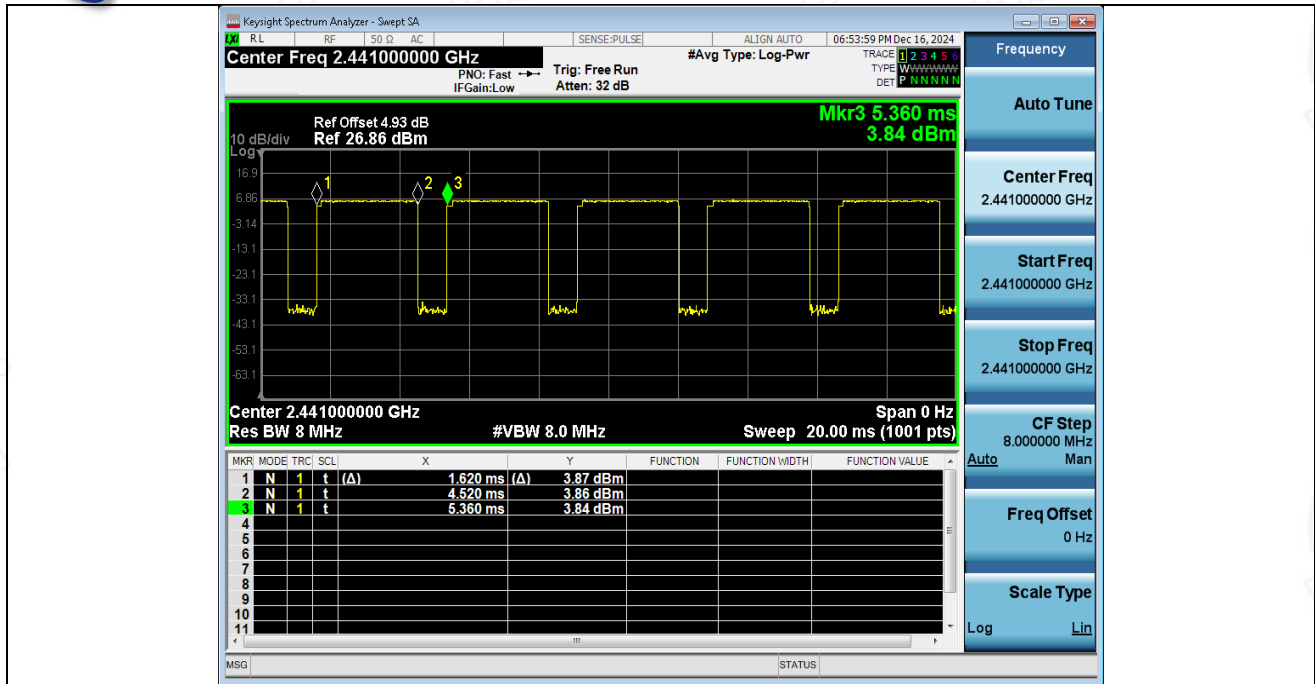
Duty_Cycle_NVNT_ANT1_1-DH5_2480





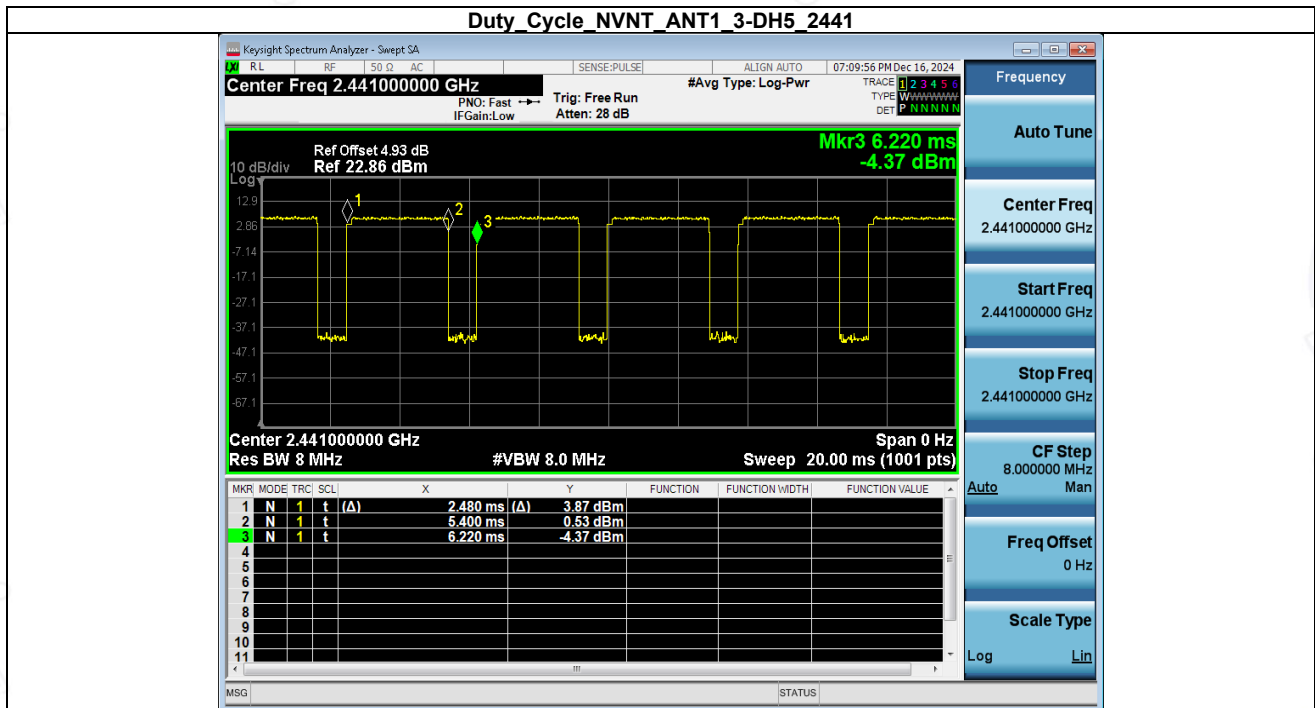
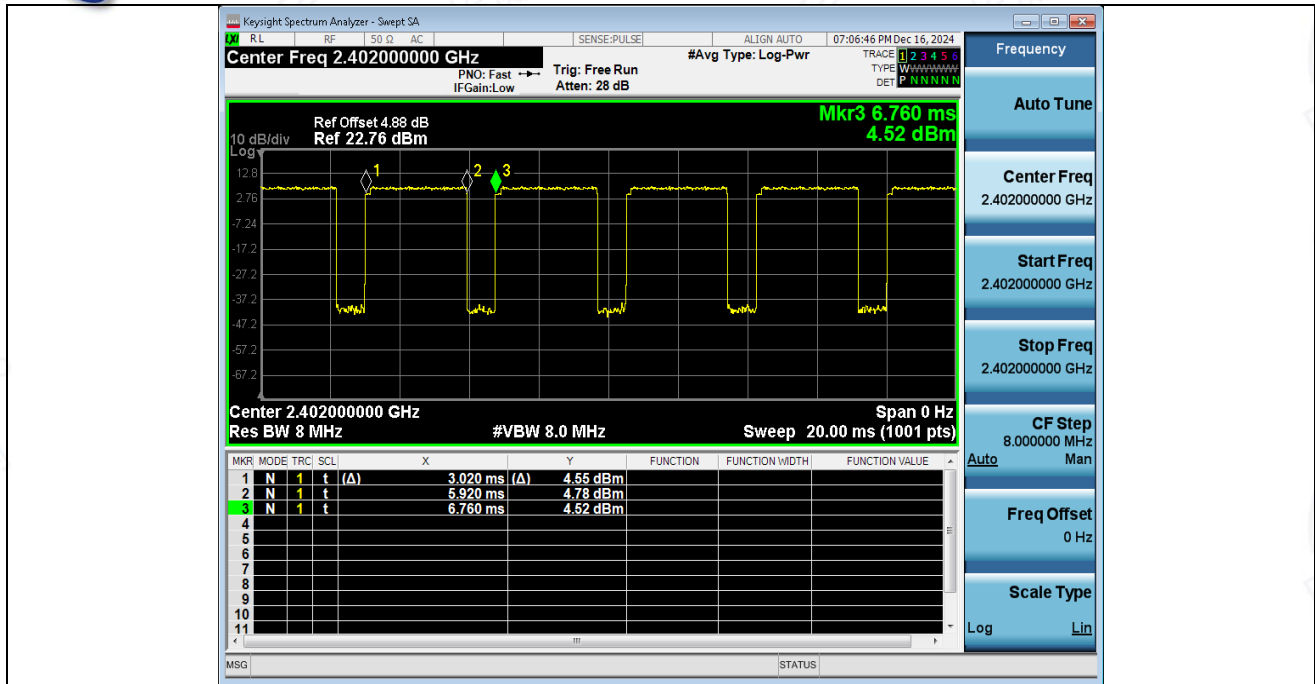
Duty Cycle_NVNT_ANT1_2-DH5_2441





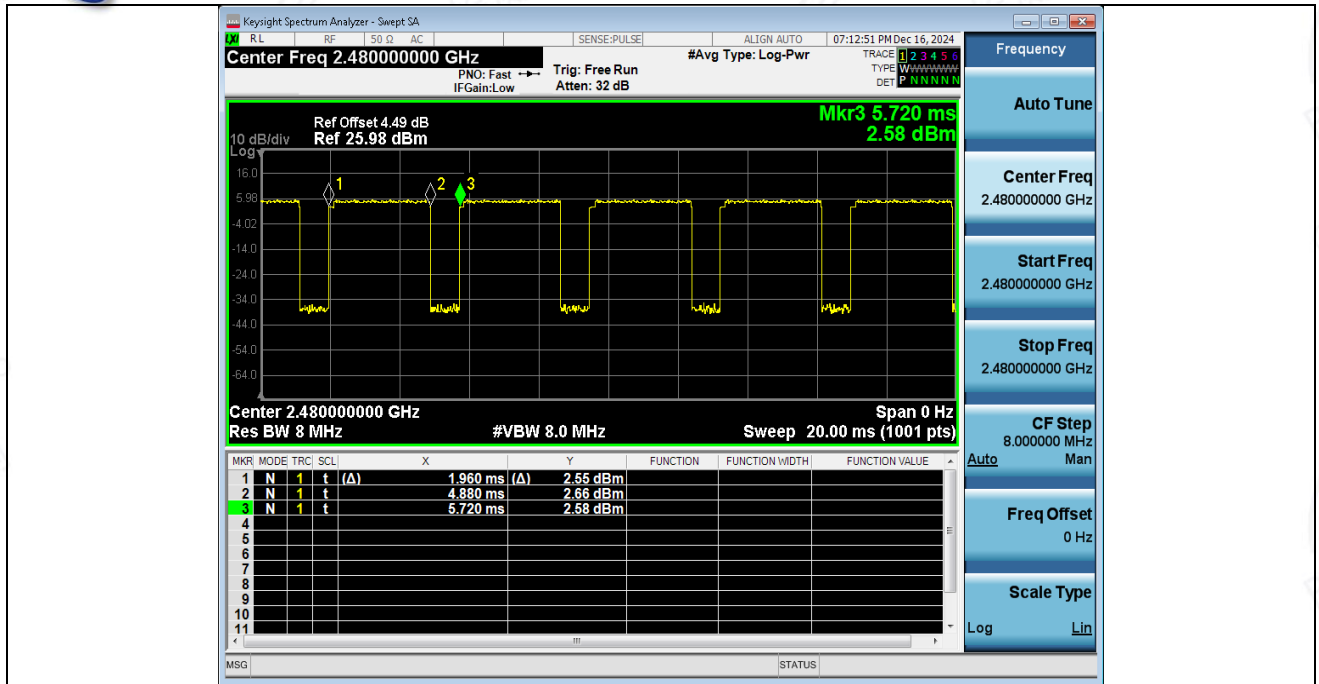
Duty Cycle_NVNT_ANT1_3-DH5_2402





Duty Cycle_NVNT_ANT1_3-DH5_2480

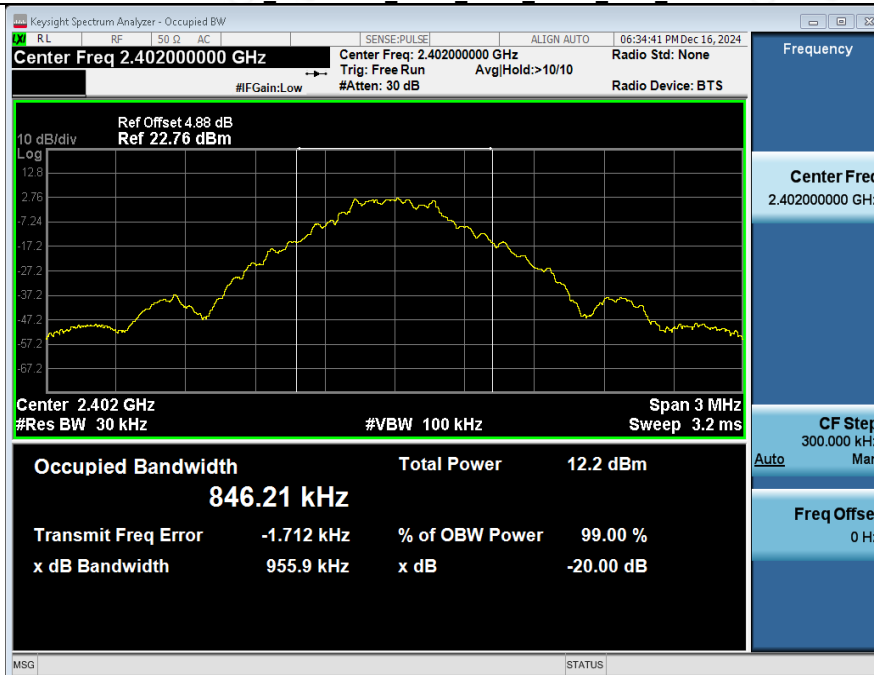




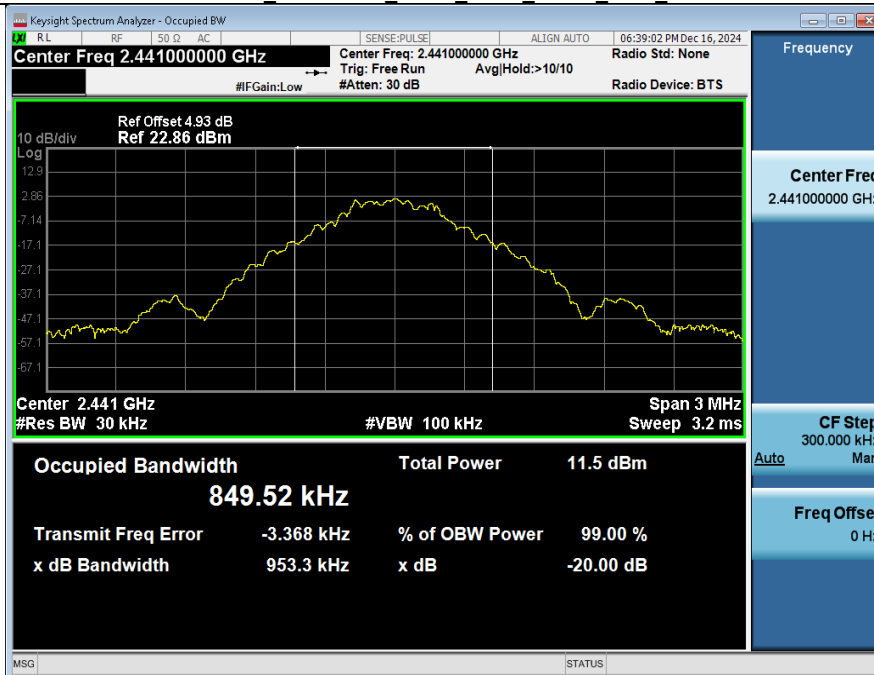
2. -20dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-20dB BW(MHz)	if larger than CFS
NVNT	ANT1	1-DH5	2402.00	0.956	No
NVNT	ANT1	1-DH5	2441.00	0.953	No
NVNT	ANT1	1-DH5	2480.00	0.953	No
NVNT	ANT1	2-DH5	2402.00	1.315	Yes
NVNT	ANT1	2-DH5	2441.00	1.314	Yes
NVNT	ANT1	2-DH5	2480.00	1.315	Yes
NVNT	ANT1	3-DH5	2402.00	1.308	Yes
NVNT	ANT1	3-DH5	2441.00	1.307	Yes
NVNT	ANT1	3-DH5	2480.00	1.305	Yes

-20dB Bandwidth NVNT ANT1 1-DH5 2402_00

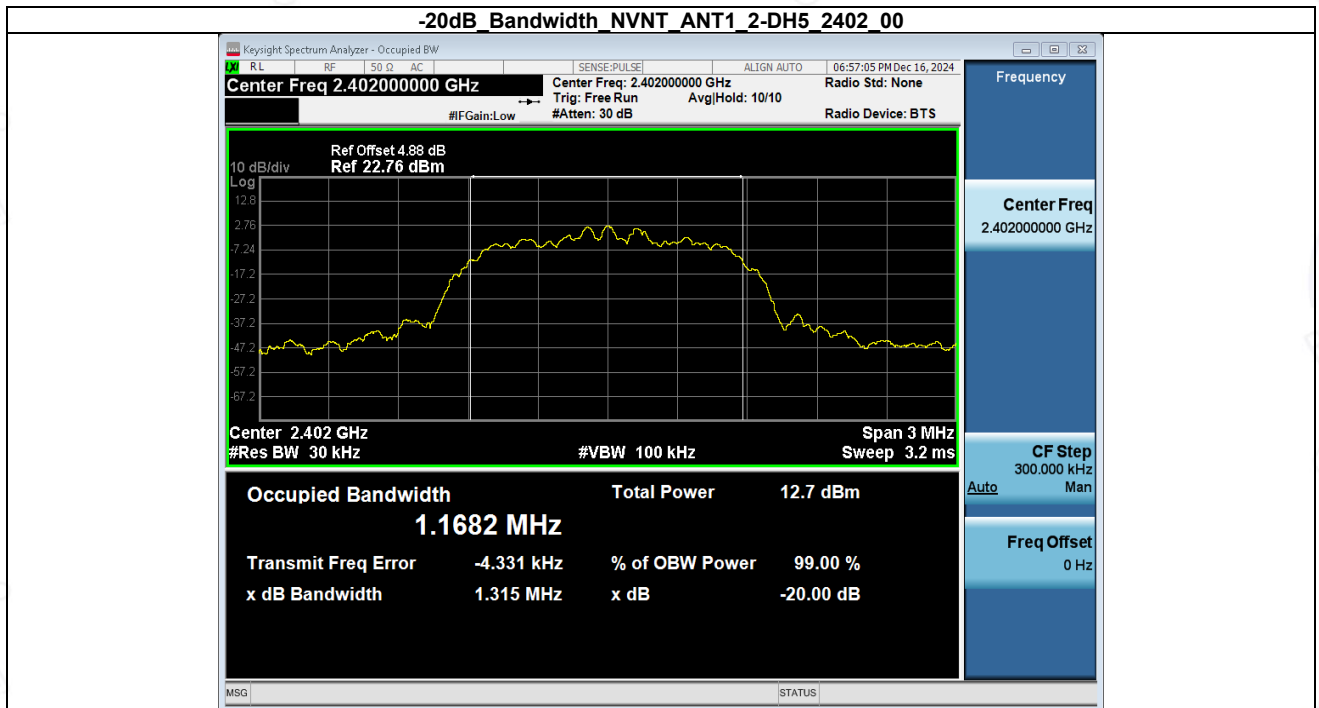


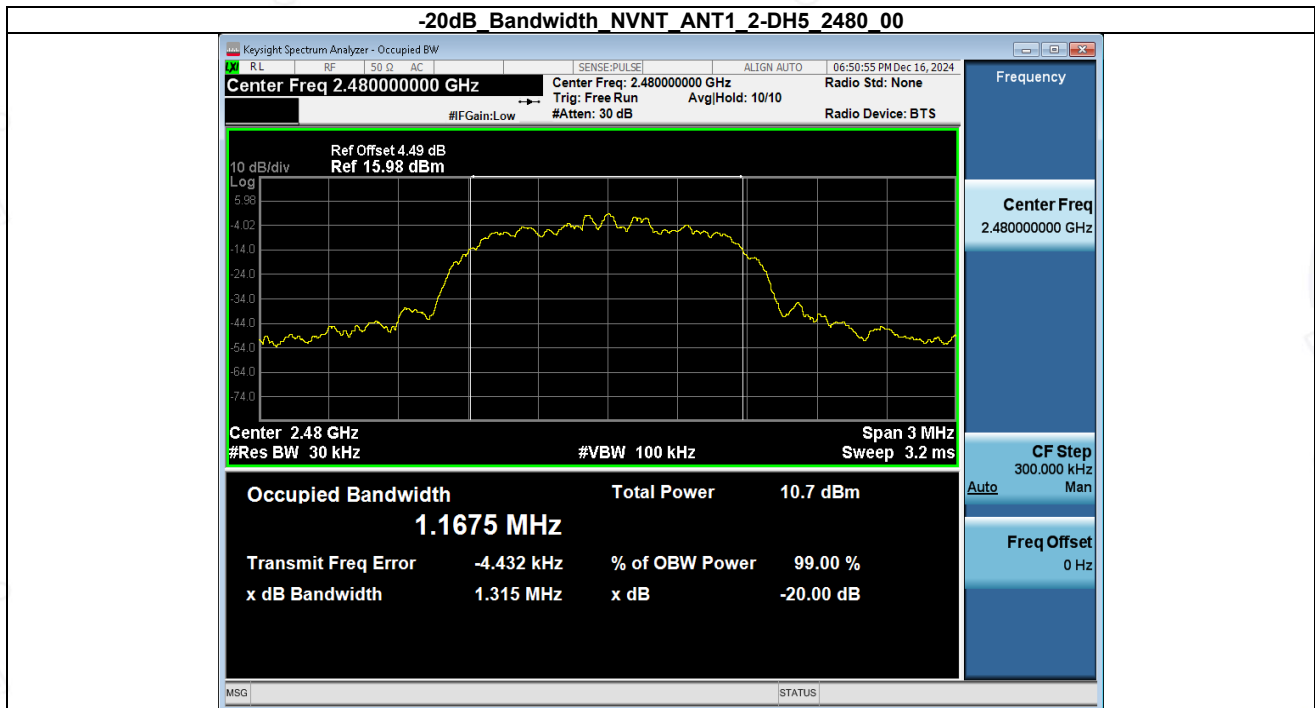
-20dB Bandwidth NVNT ANT1 1-DH5 2441_00

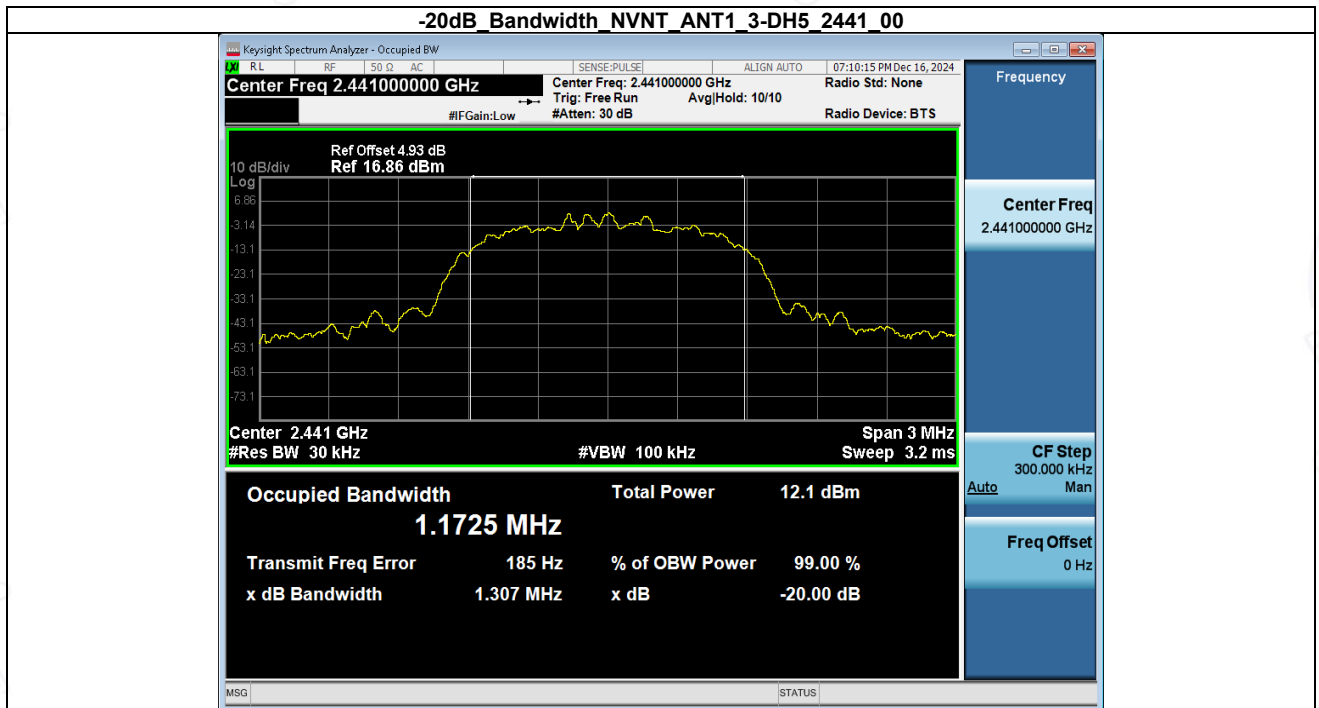
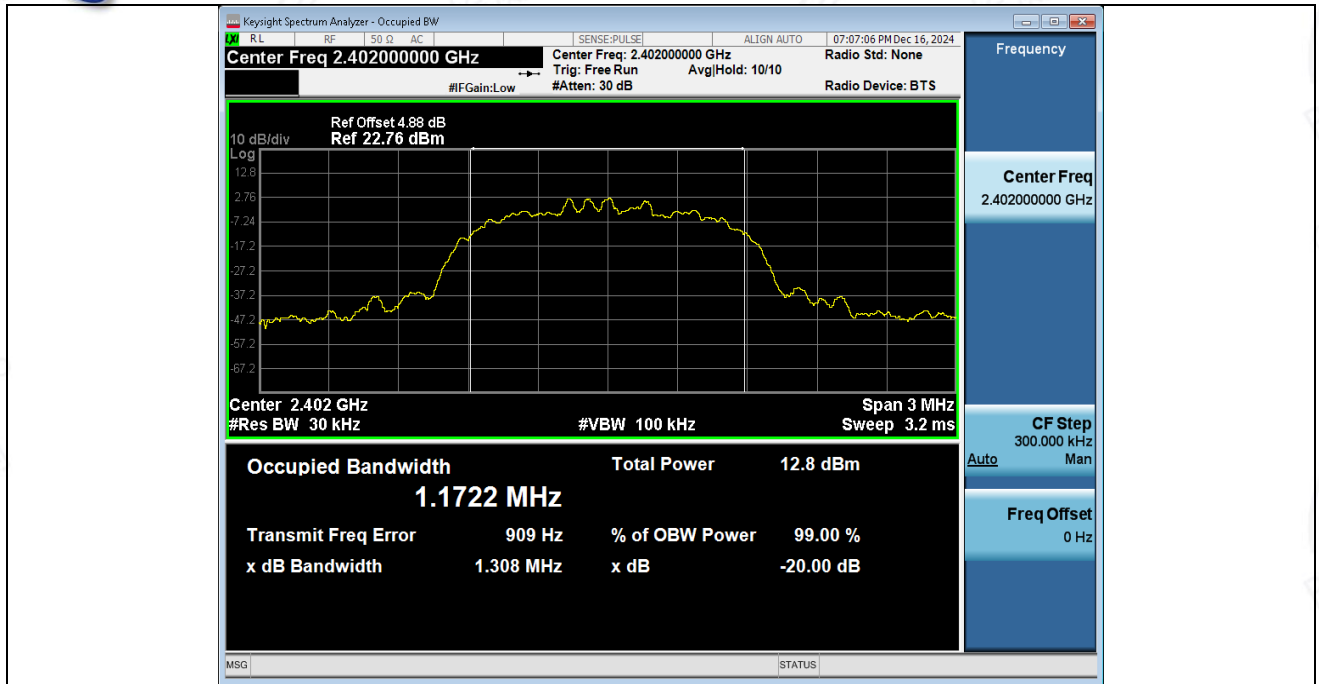


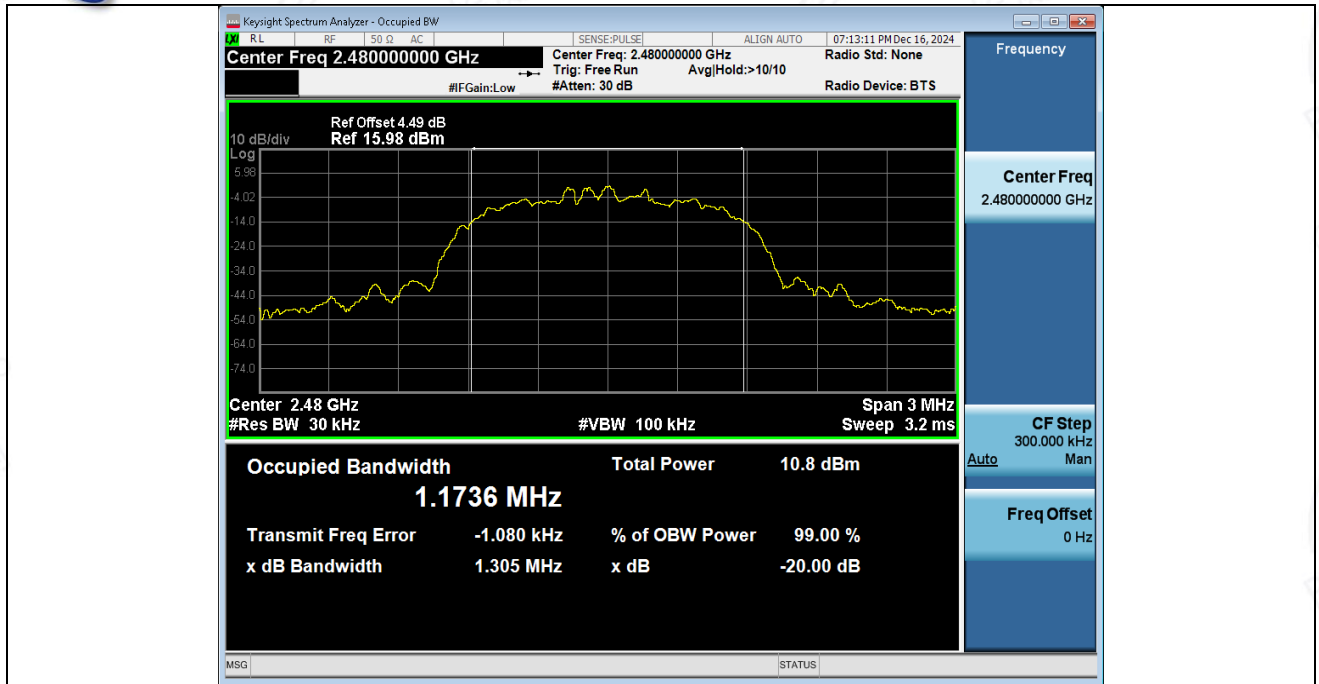
-20dB Bandwidth NVNT ANT1 1-DH5 2480_00











3. 99% Occupied Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	99% BW (MHz)
NVNT	ANT1	1-DH5	2402.00	0.847
NVNT	ANT1	1-DH5	2441.00	0.846
NVNT	ANT1	1-DH5	2480.00	0.843
NVNT	ANT1	2-DH5	2402.00	1.167
NVNT	ANT1	2-DH5	2441.00	1.168
NVNT	ANT1	2-DH5	2480.00	1.168
NVNT	ANT1	3-DH5	2402.00	1.170
NVNT	ANT1	3-DH5	2441.00	1.173
NVNT	ANT1	3-DH5	2480.00	1.172

99% Occupied Bandwidth NVNT ANT1 1-DH5 2402_00

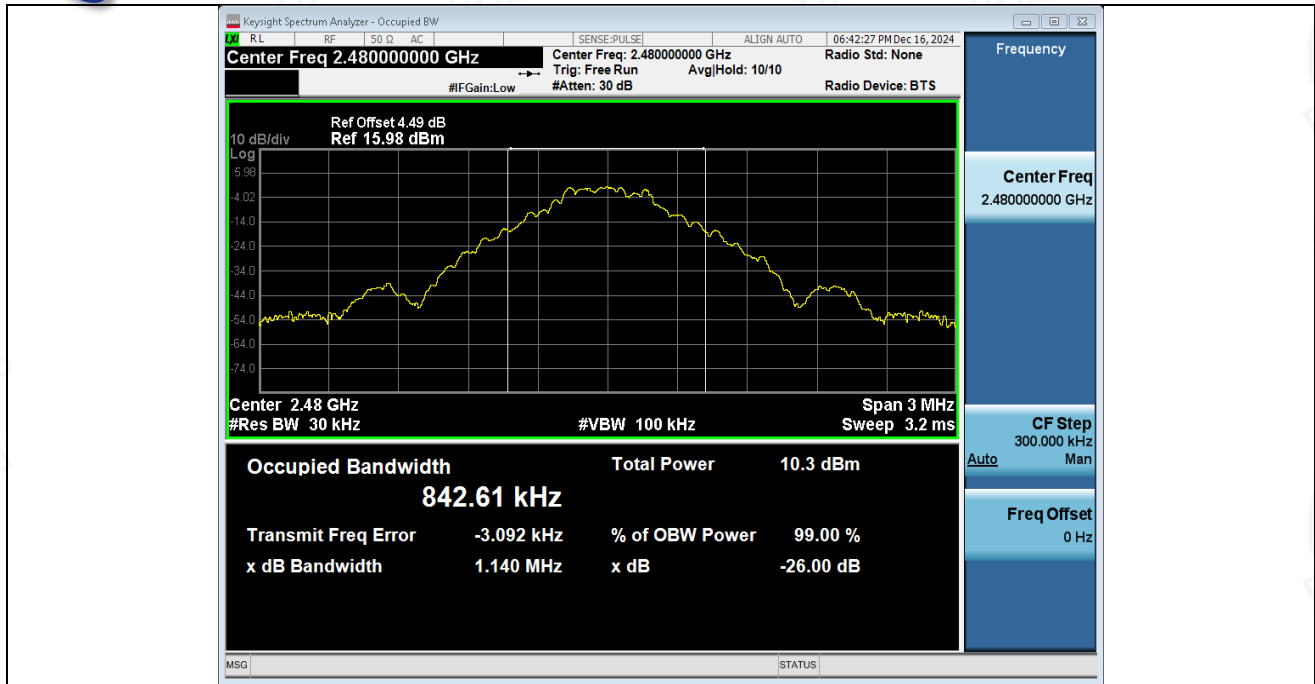


99% Occupied Bandwidth NVNT ANT1 1-DH5 2441_00



99% Occupied Bandwidth NVNT ANT1 1-DH5 2480_00





99% Occupied Bandwidth_NVNT_ANT1_2-DH5_2402_00

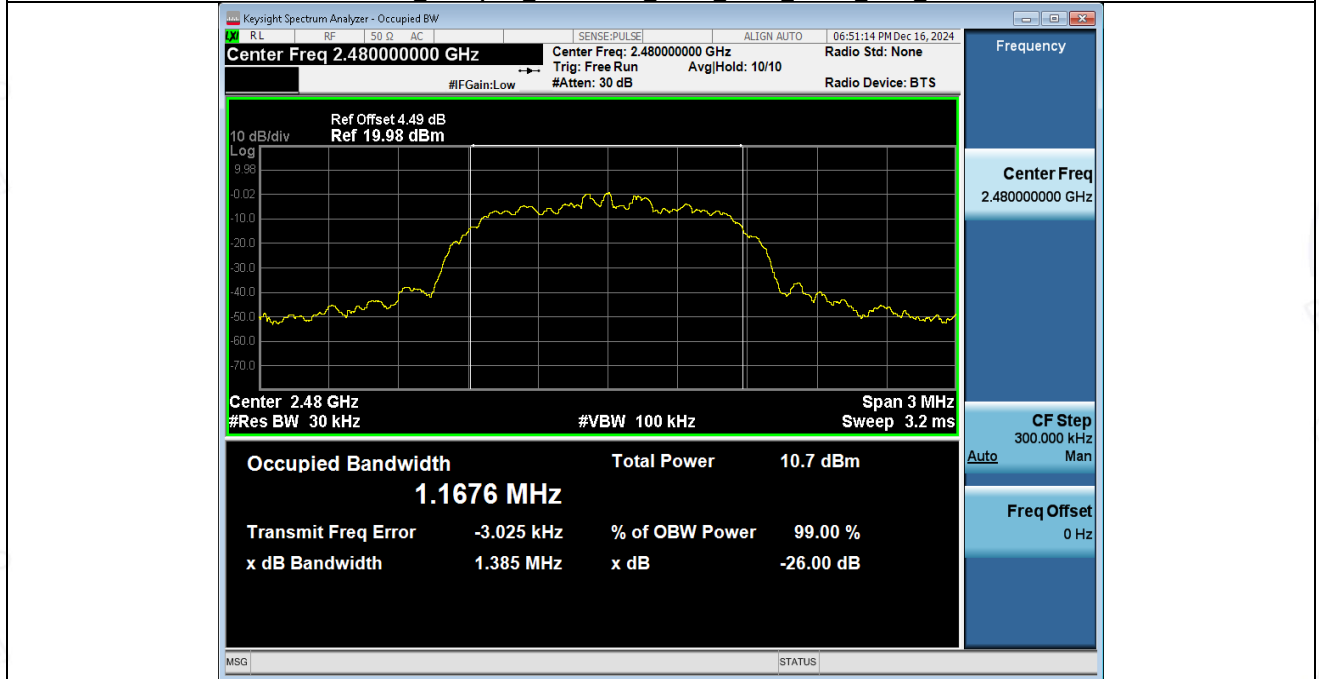


99% Occupied Bandwidth_NVNT_ANT1_2-DH5_2441_00



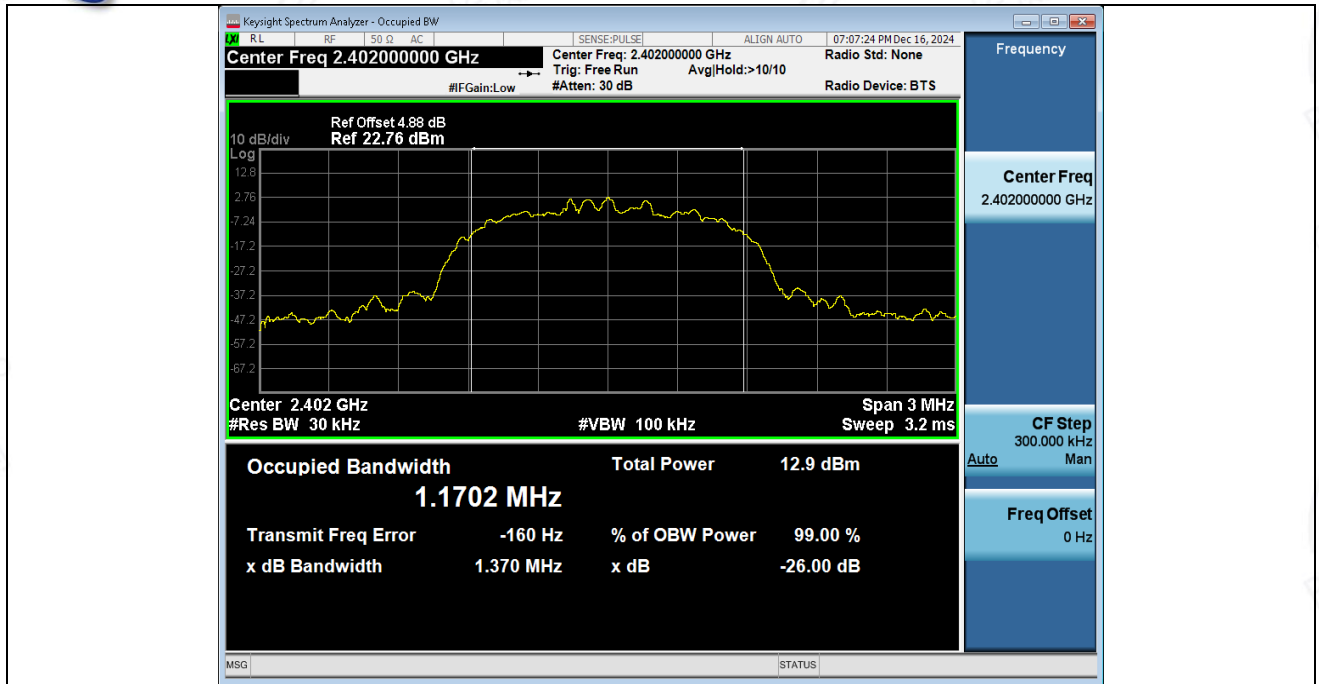


99% Occupied Bandwidth_NVNT_ANT1_2-DH5_2480_00



99% Occupied Bandwidth_NVNT_ANT1_3-DH5_2402_00



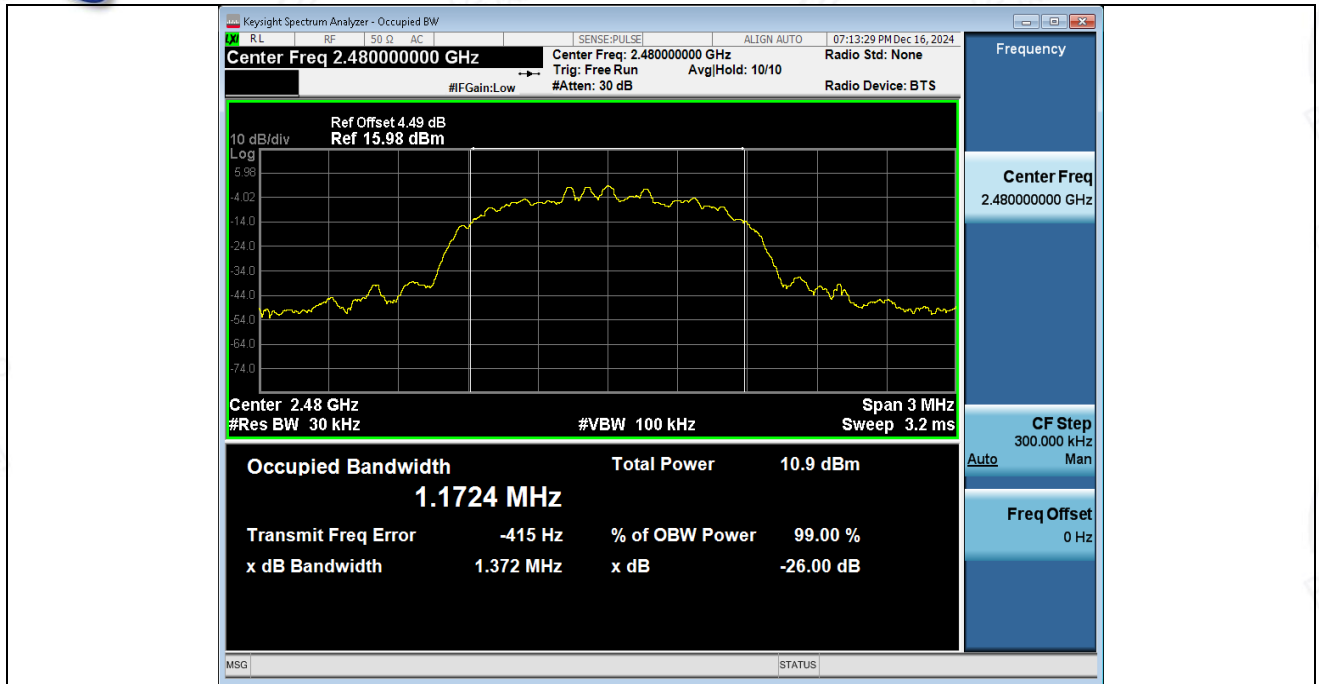


99% Occupied Bandwidth_NVNT_ANT1_3-DH5_2441_00



99% Occupied Bandwidth_NVNT_ANT1_3-DH5_2480_00

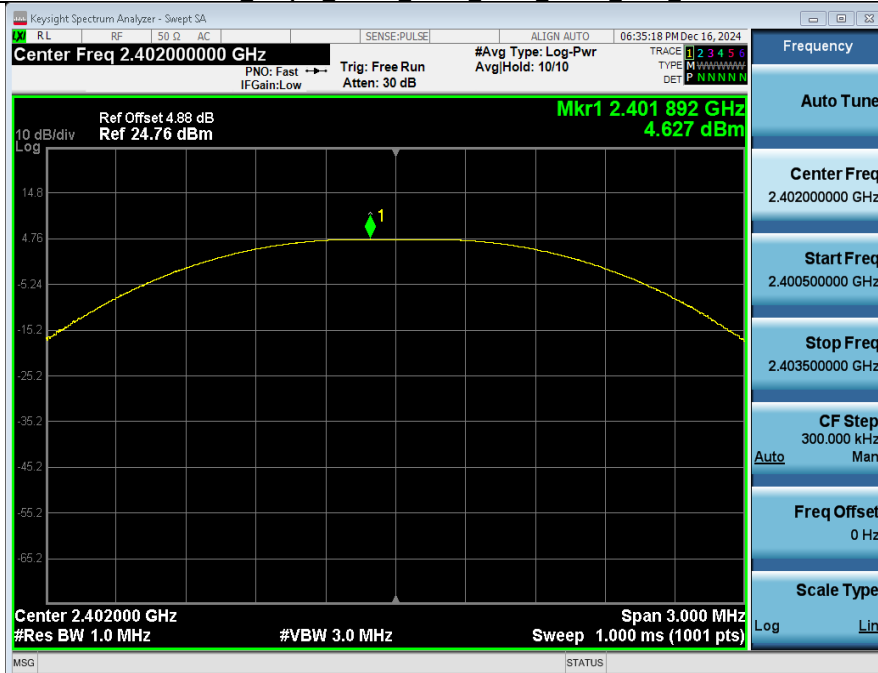




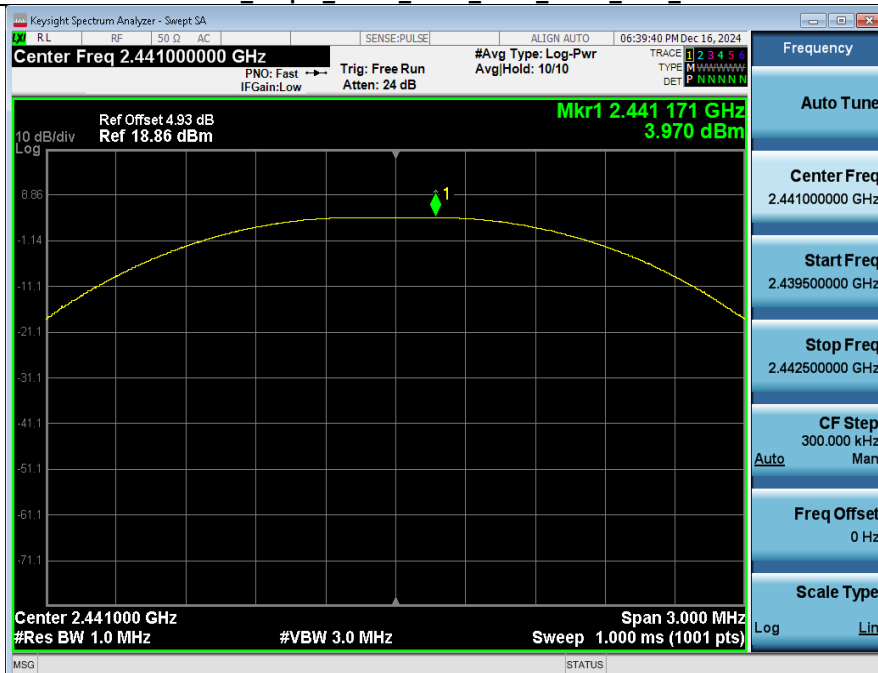
4. Peak Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Max. Conducted Power(dBm)	Max. Conducted Power(mW)	Limit(mW)	Result
NVNT	ANT1	1-DH5	2402.00	4.63	2.90	1000	Pass
NVNT	ANT1	1-DH5	2441.00	3.97	2.49	1000	Pass
NVNT	ANT1	1-DH5	2480.00	2.58	1.81	1000	Pass
NVNT	ANT1	2-DH5	2402.00	6.97	4.98	125	Pass
NVNT	ANT1	2-DH5	2441.00	6.31	4.28	125	Pass
NVNT	ANT1	2-DH5	2480.00	4.91	3.10	125	Pass
NVNT	ANT1	3-DH5	2402.00	7.54	5.68	125	Pass
NVNT	ANT1	3-DH5	2441.00	6.86	4.85	125	Pass
NVNT	ANT1	3-DH5	2480.00	5.50	3.55	125	Pass

Peak_Output_Power_NVNT_ANT1_1-DH5_2402_00

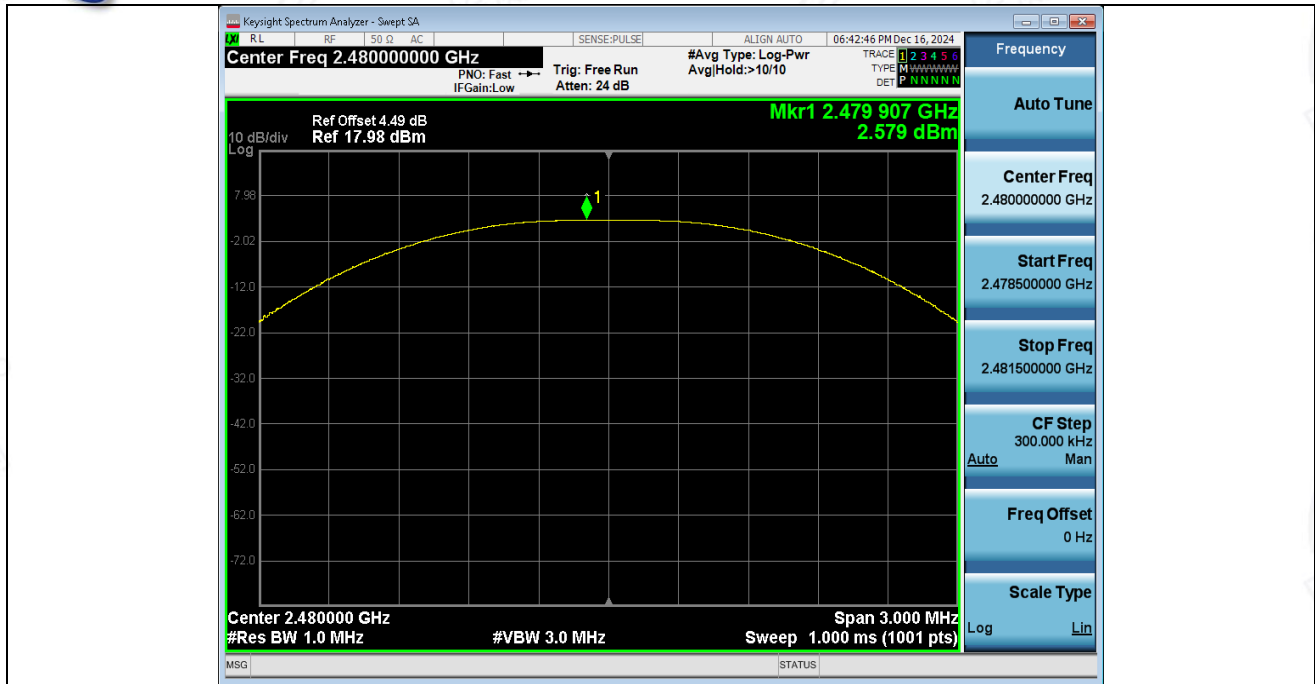


Peak_Output_Power_NVNT_ANT1_1-DH5_2441_00

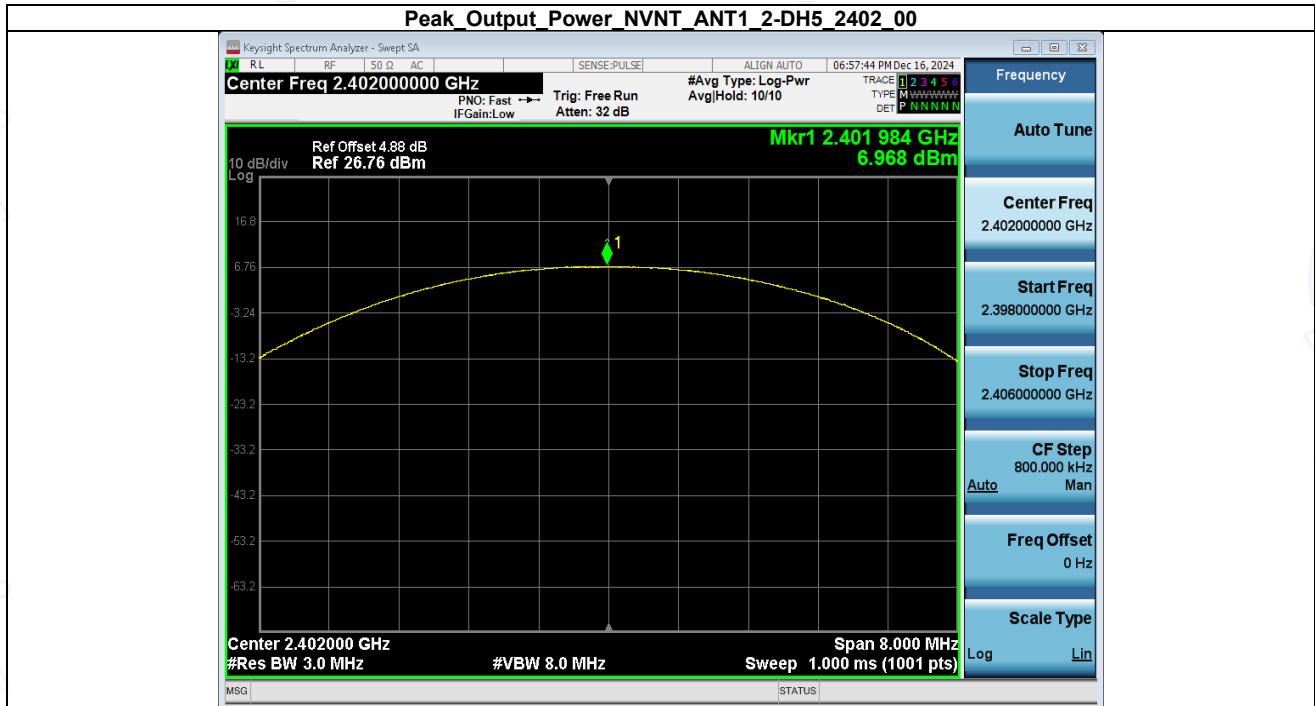


Peak_Output_Power_NVNT_ANT1_1-DH5_2480_00



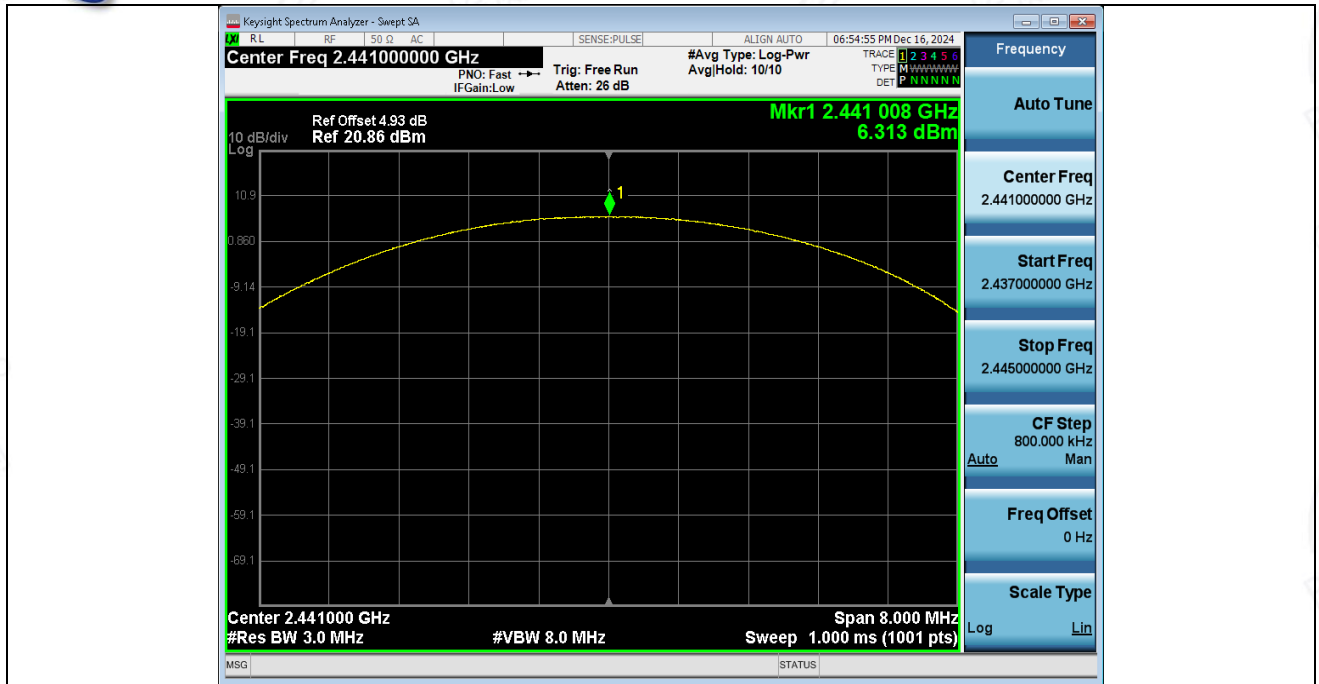


Peak_Output_Power_NVNT_ANT1_2-DH5_2402_00

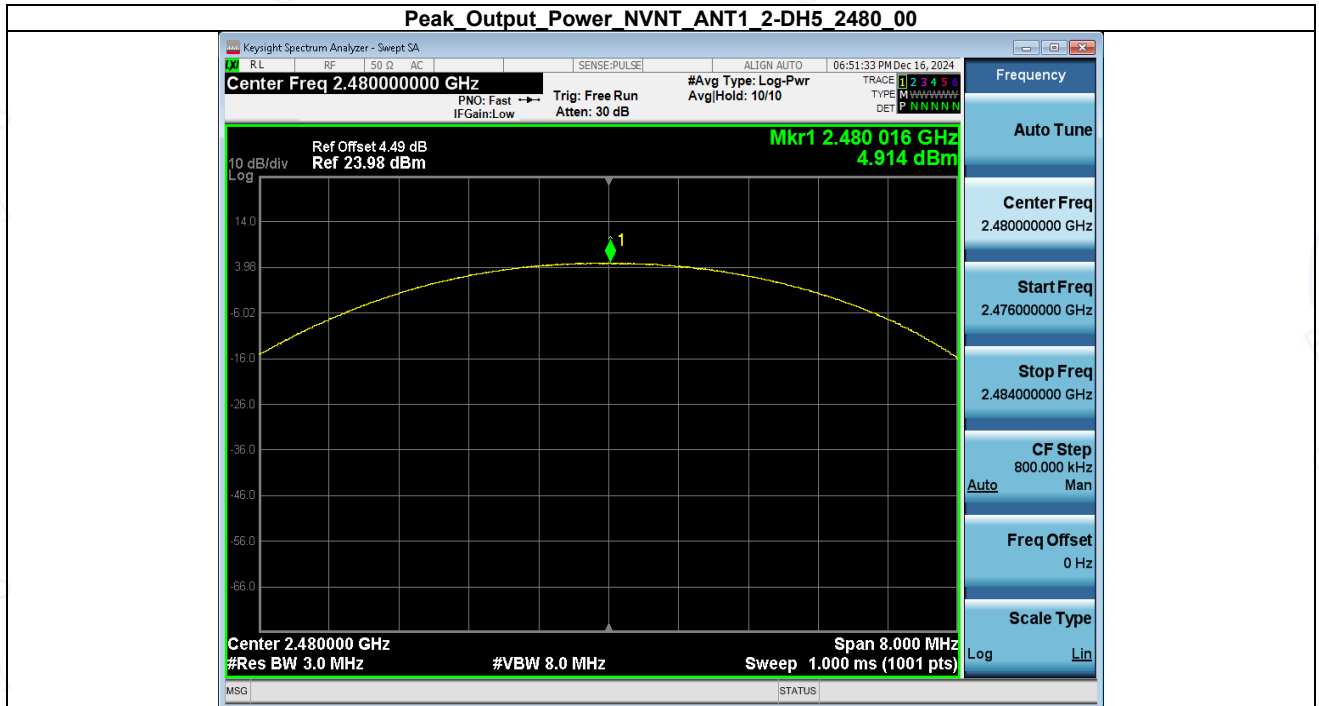


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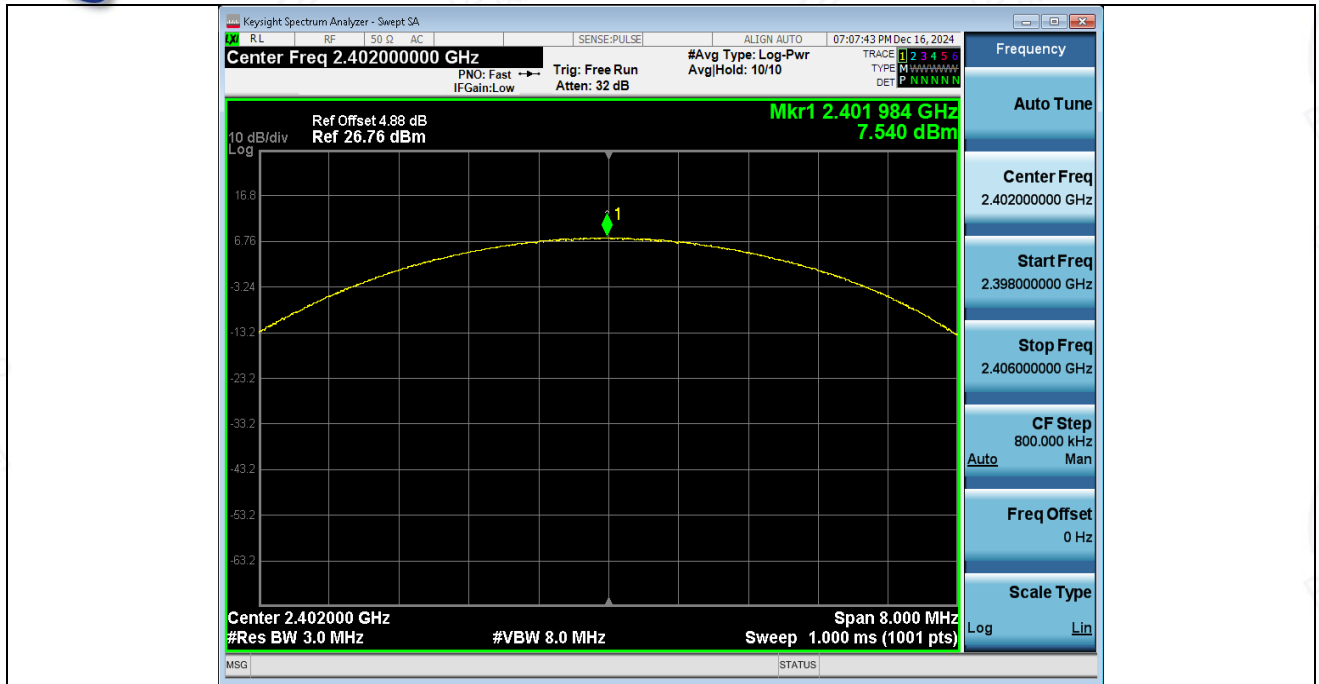


Peak_Output_Power_NVNT_ANT1_2-DH5_2480_00

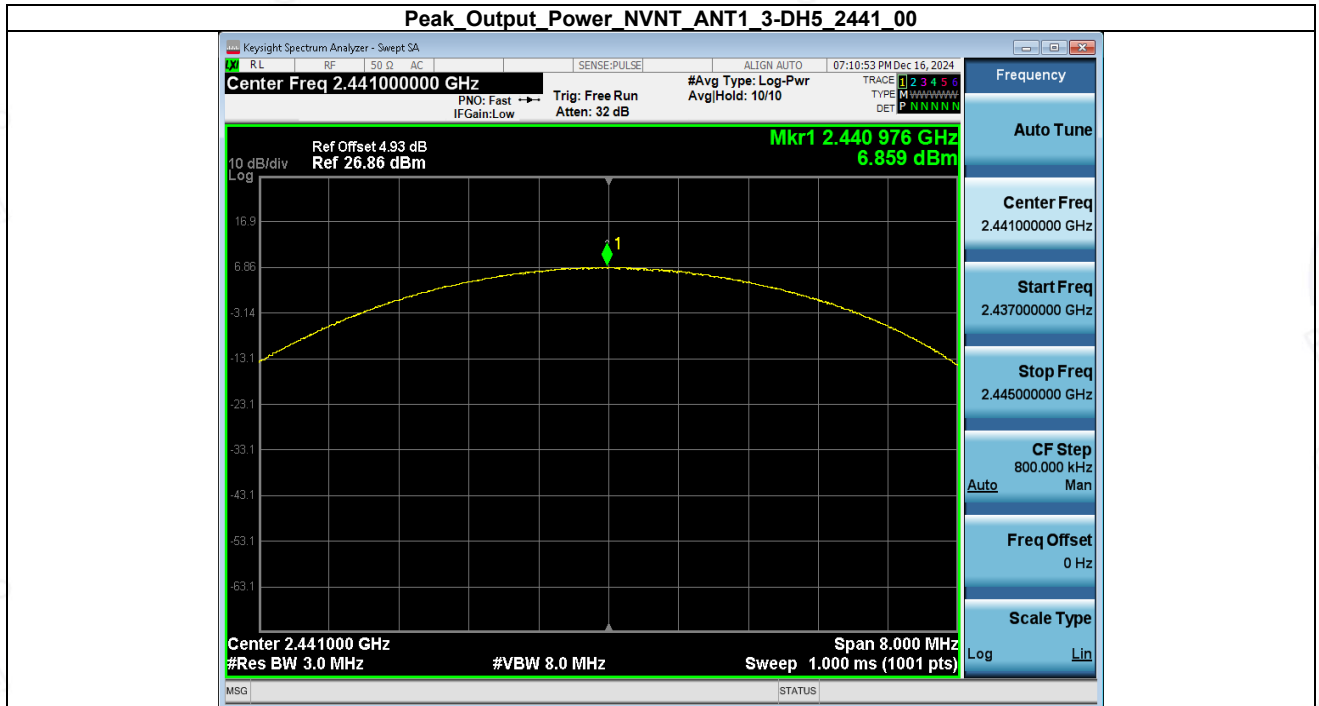


Peak_Output_Power_NVNT_ANT1_3-DH5_2402_00



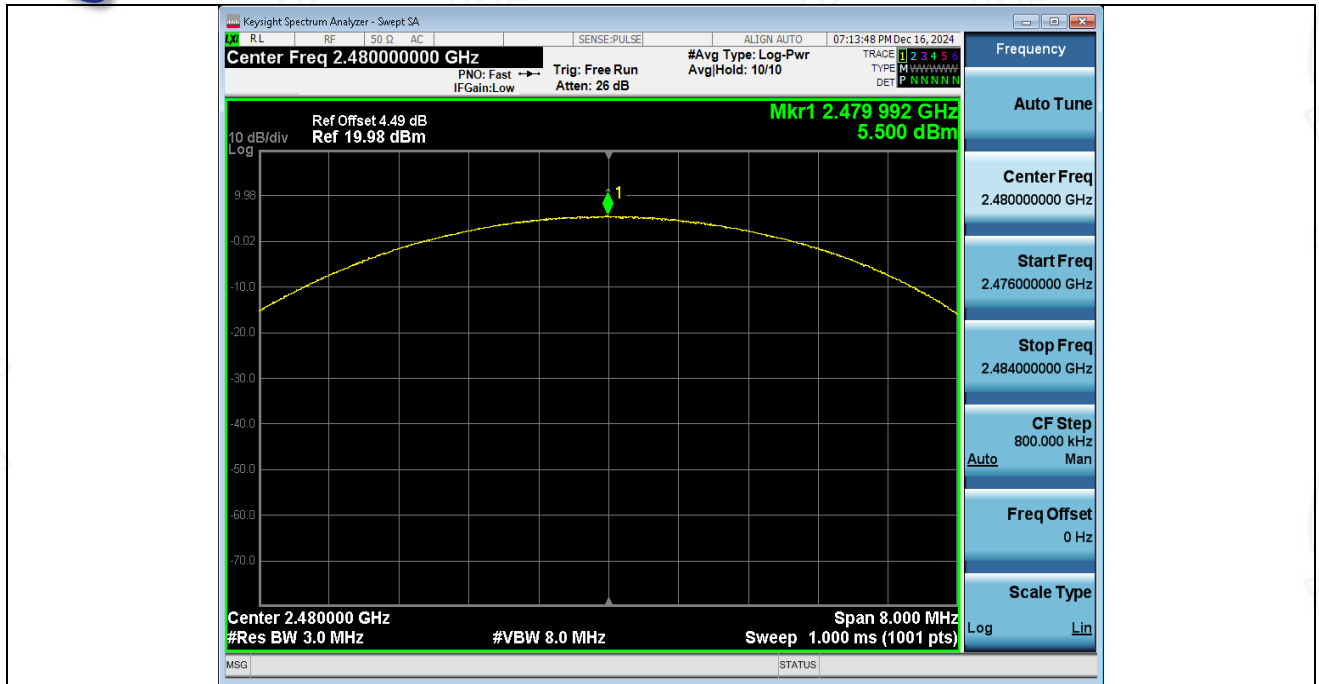


Peak_Output_Power_NVNT_ANT1_3-DH5_2441_00



Peak_Output_Power_NVNT_ANT1_3-DH5_2480_00





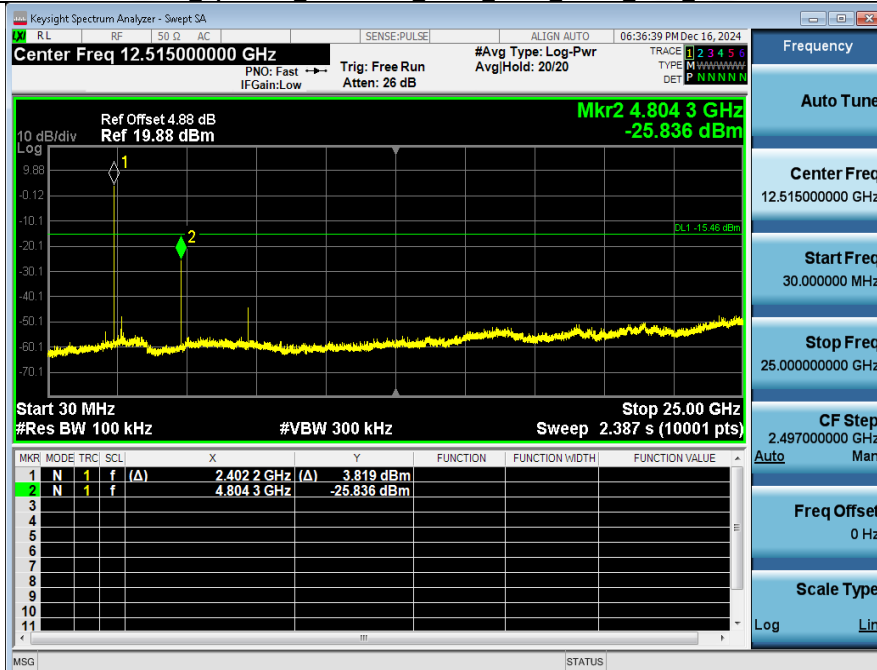
5. Spurious Emissions

Condition	Antenna	Modulation	TX Mode	Ref_level(dBm)	Spurious MAX.Value(dBm)	Limit	Result
NVNT	ANT1	1-DH5	2402.00	4.542	-25.836	-15.458	Pass
NVNT	ANT1	1-DH5	2441.00	3.780	-27.997	-16.220	Pass
NVNT	ANT1	1-DH5	2480.00	2.489	-31.753	-17.511	Pass
NVNT	ANT1	2-DH5	2402.00	4.525	-24.126	-15.475	Pass
NVNT	ANT1	2-DH5	2441.00	3.538	-29.519	-16.462	Pass
NVNT	ANT1	2-DH5	2480.00	2.251	-31.845	-17.749	Pass
NVNT	ANT1	3-DH5	2402.00	4.550	-26.302	-15.450	Pass
NVNT	ANT1	3-DH5	2441.00	3.897	-27.887	-16.103	Pass
NVNT	ANT1	3-DH5	2480.00	2.516	-30.400	-17.484	Pass

1 Reference Level NVNT ANT1 1-DH5 2402 00

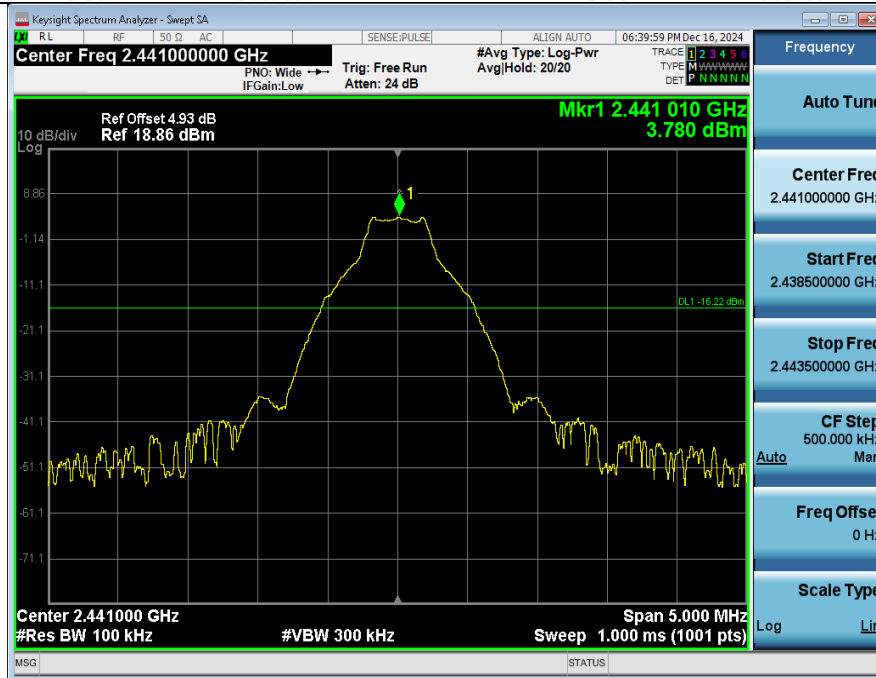


2 Spurious Emissions NVNT ANT1 1-DH5 2402 00

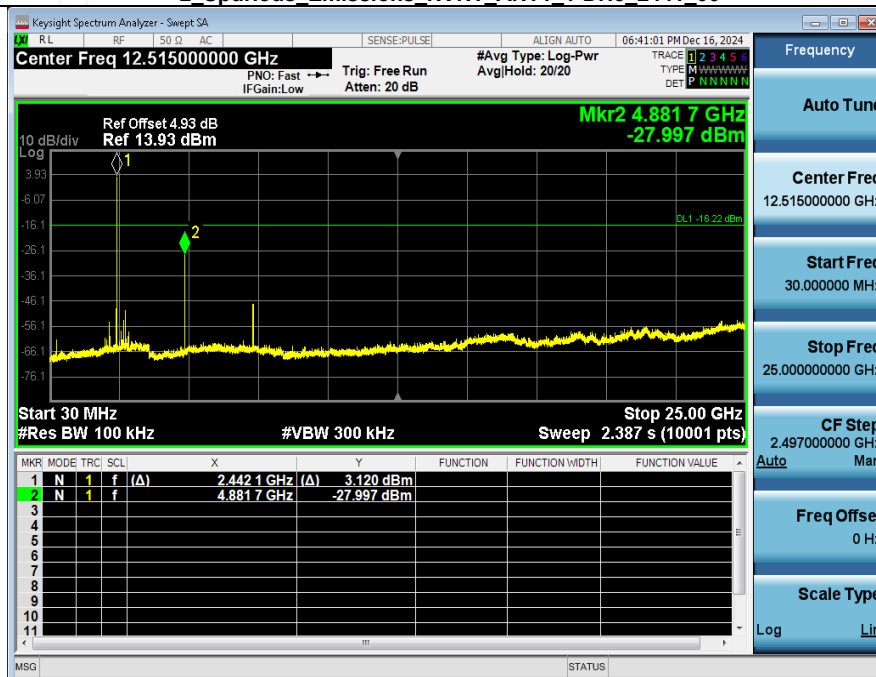


1 Reference Level NVNT ANT1 1-DH5 2441 00



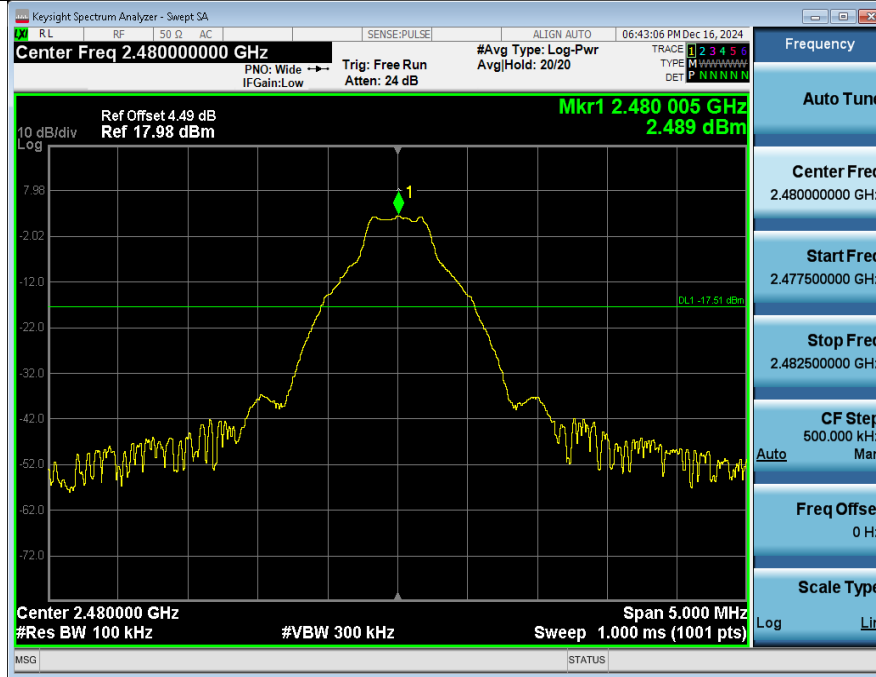


2_Spurious_Emissions_NVNT_ANT1_1-DH5_2441_00

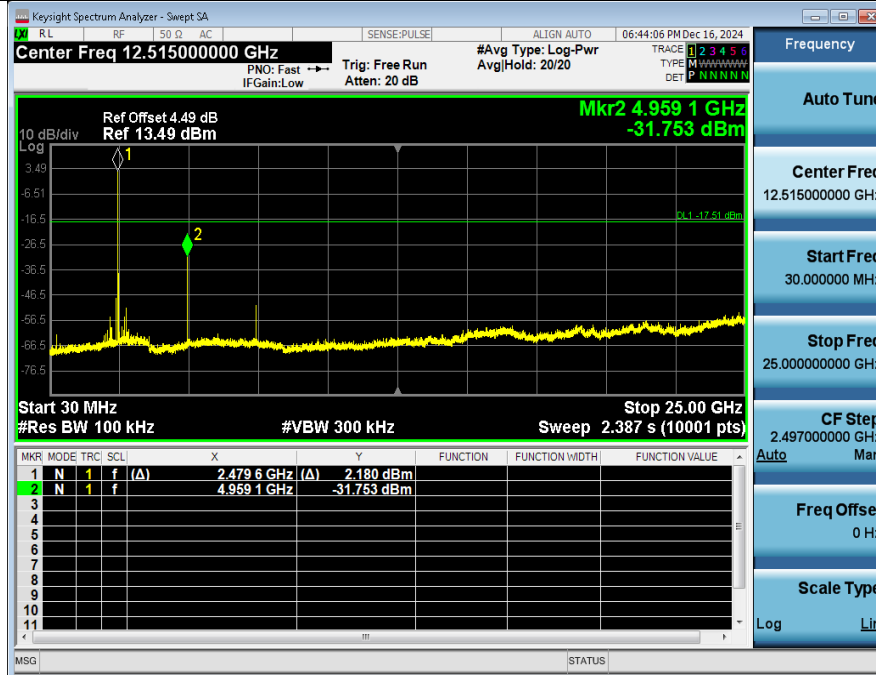


1_Reference_Level_NVNT_ANT1_1-DH5_2480_00





2 Spurious Emissions NVNT_ANT1_1-DH5_2480_00

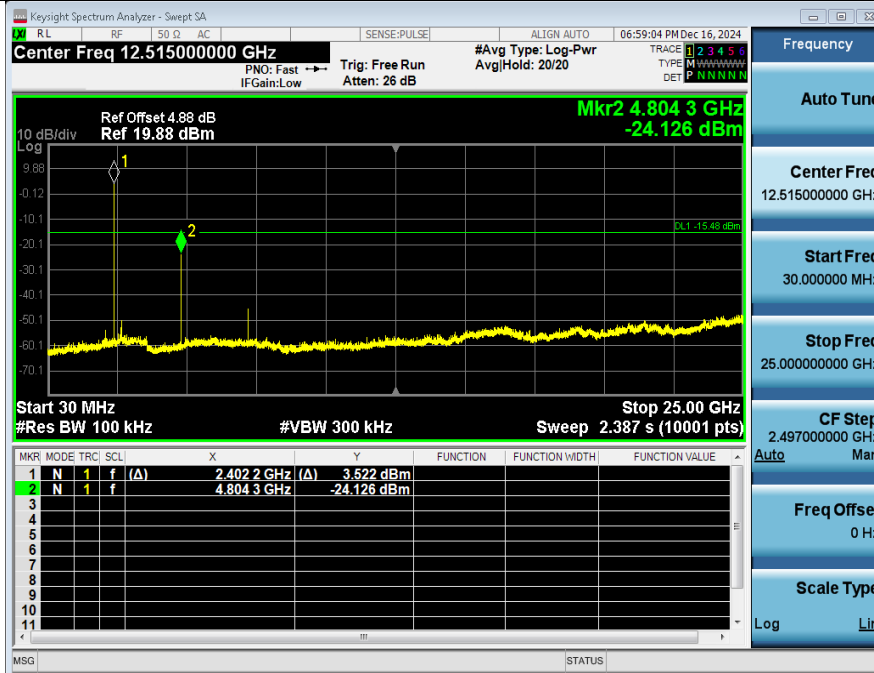


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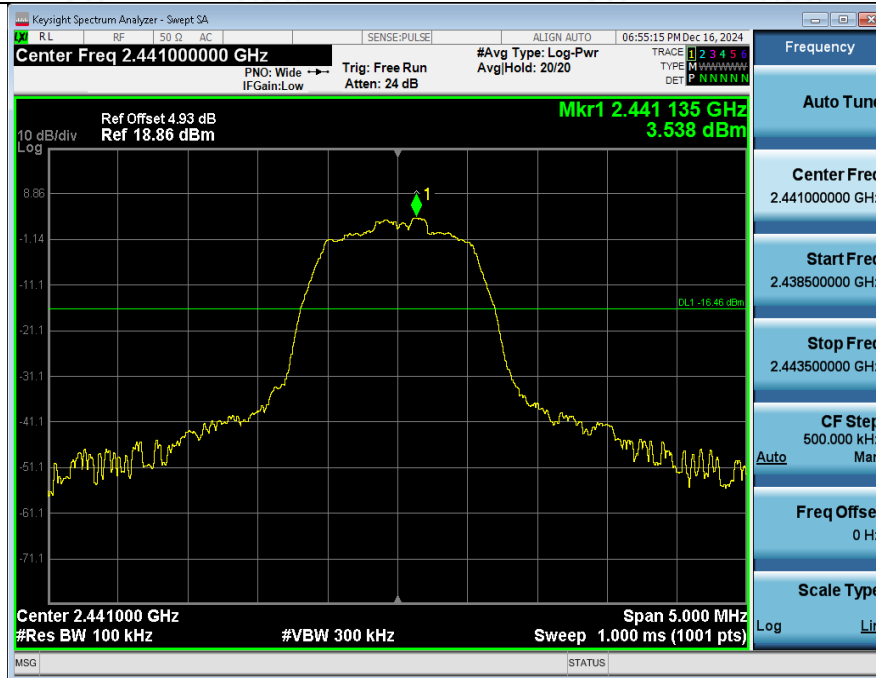


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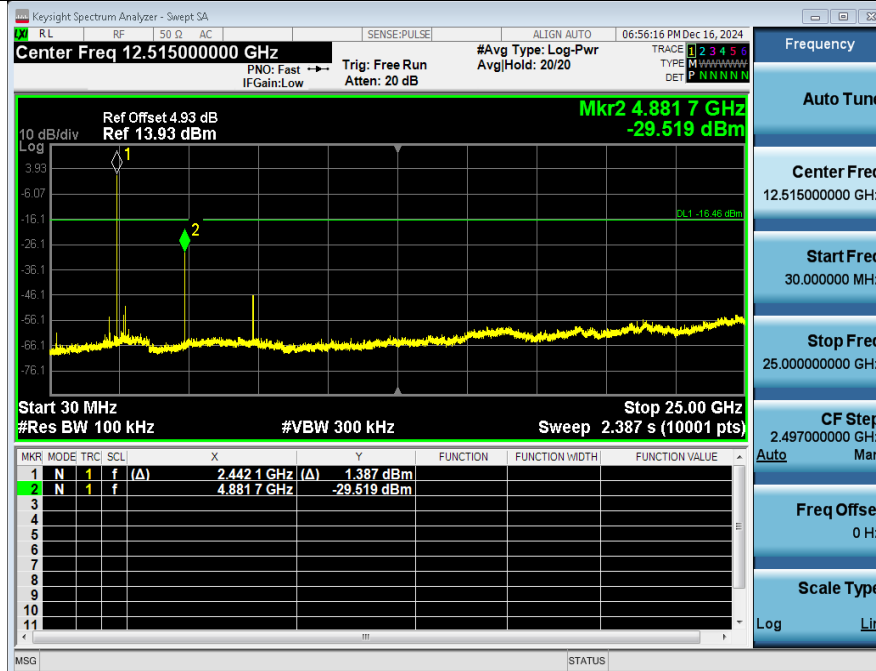


1_Reference_Level_NVNT_ANT1_2-DH5_2441_00





2_Spurious_Emissions_NVNT_ANT1_2-DH5_2441_00

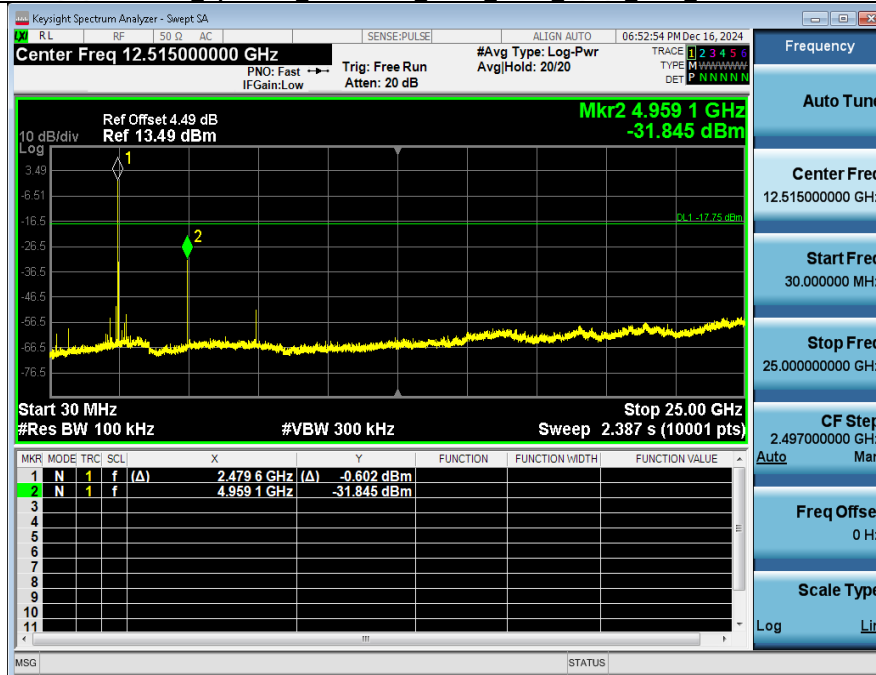


1_Reference_Level_NVNT_ANT1_2-DH5_2480_00





2_Spurious_Emissions_NVNT_ANT1_2-DH5_2480_00

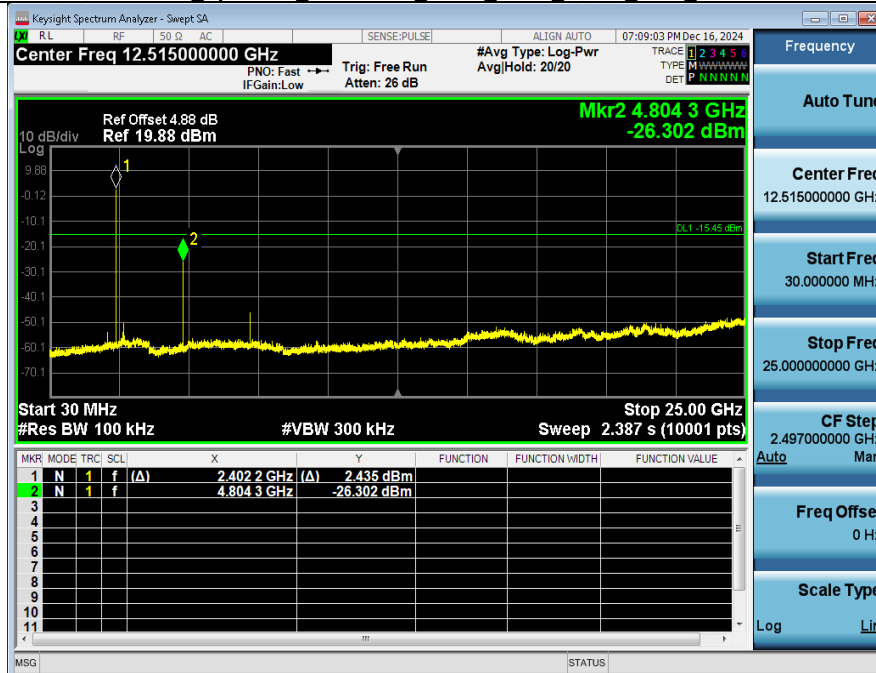


1_Reference_Level_NVNT_ANT1_3-DH5_2402_00



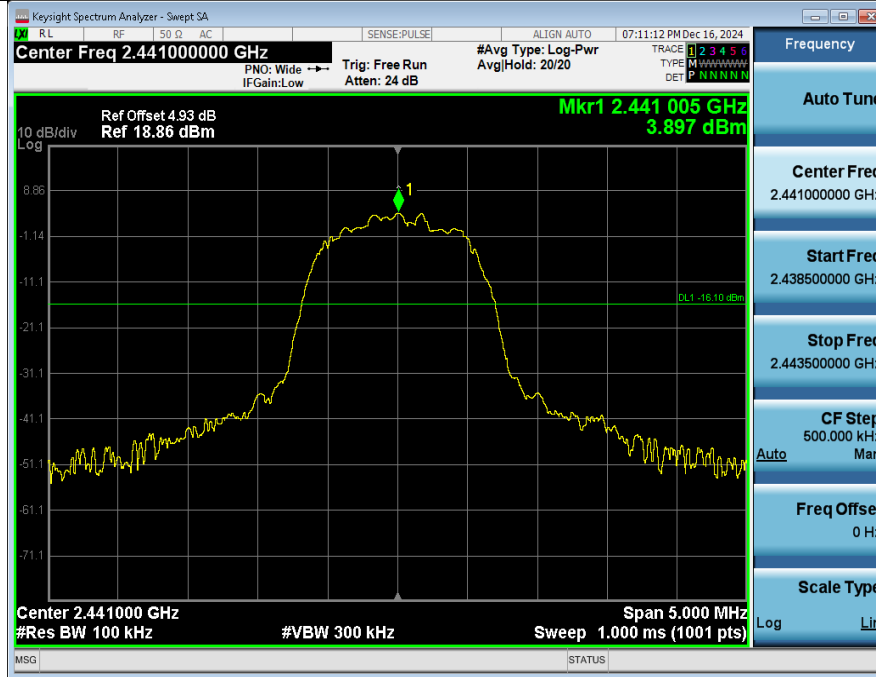


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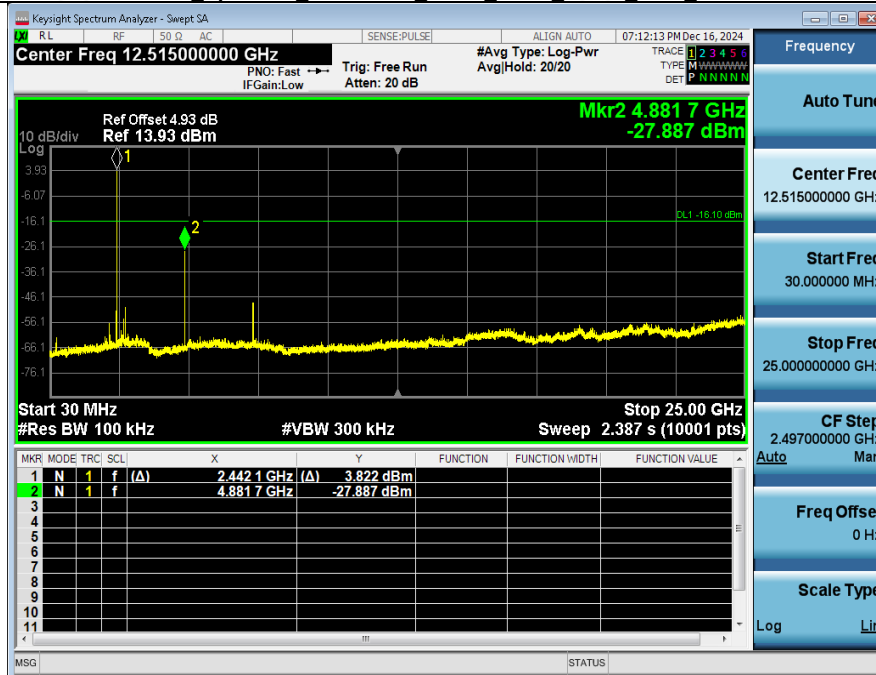


1_Reference_Level_NVNT_ANT1_3-DH5_2441_00



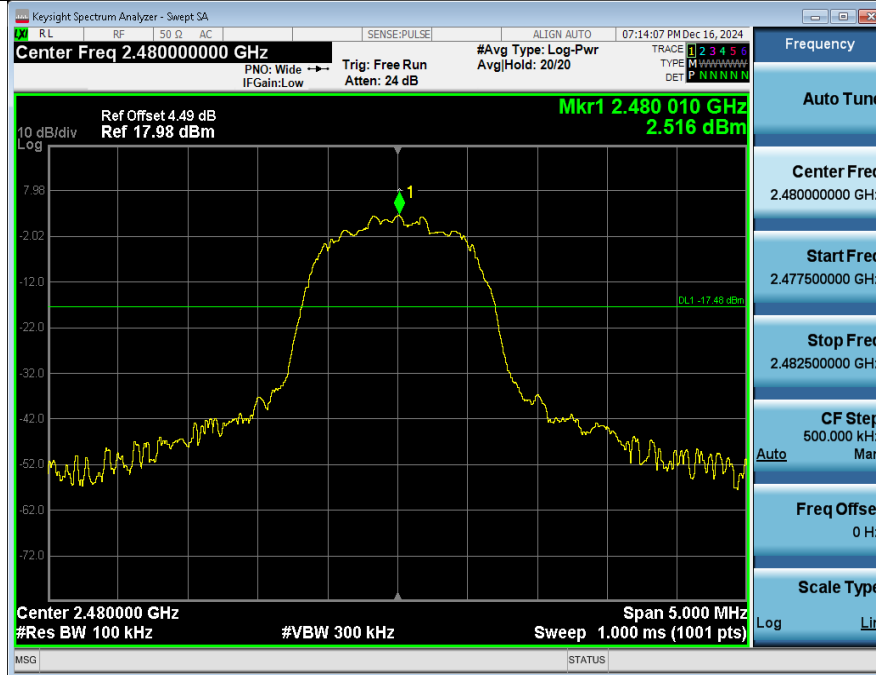


2_Spurious_Emissions_NVNT_ANT1_3-DH5_2441_00

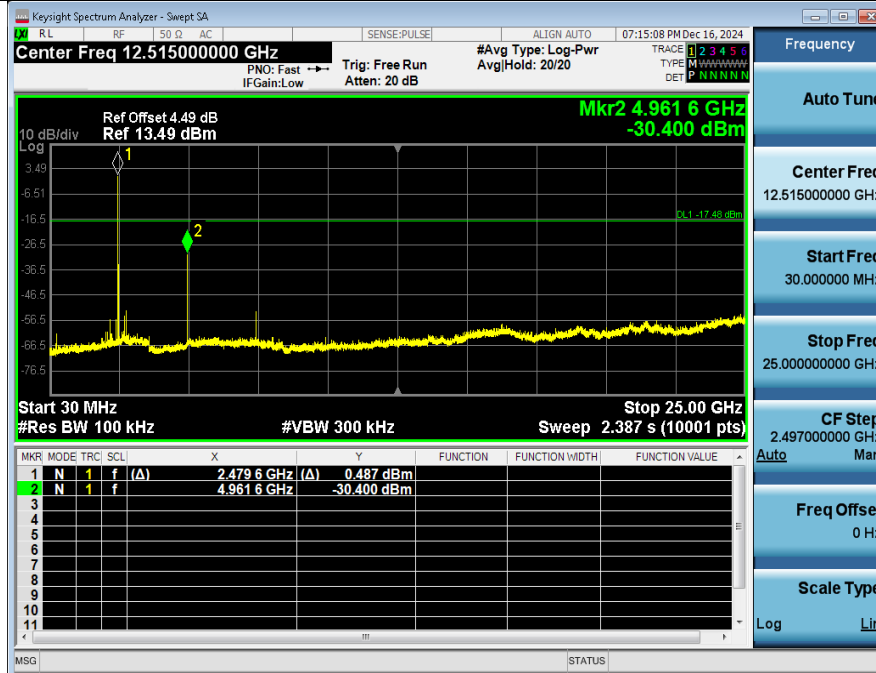


1_Reference_Level_NVNT_ANT1_3-DH5_2480_00





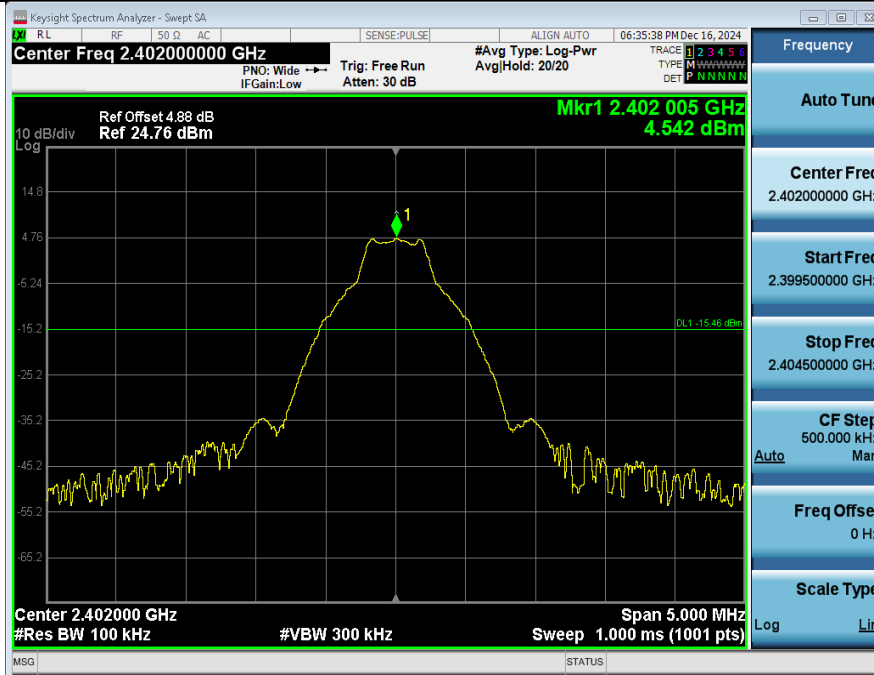
2 Spurious Emissions NVNT ANT1 3-DH5 2480 00



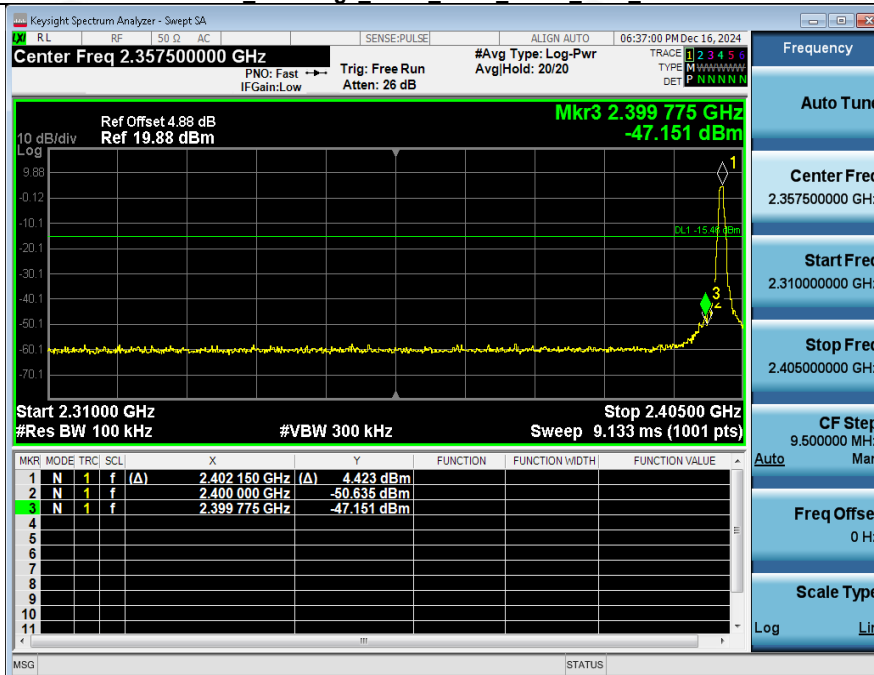
6. Bandedge

Condition	Antenna	Modulation	TX Mode	Ref_level(dBm)	Bandedge MAX.Value	Limit	Result
NVNT	ANT1	1-DH5	2402.00	4.542	-47.151	-15.458	Pass
NVNT	ANT1	1-DH5	Hopping_LCH	4.014	-55.775	-15.986	Pass
NVNT	ANT1	1-DH5	2480.00	2.489	-55.781	-17.511	Pass
NVNT	ANT1	1-DH5	Hopping_HCH	3.976	-58.083	-16.024	Pass
NVNT	ANT1	2-DH5	2402.00	4.525	-46.070	-15.475	Pass
NVNT	ANT1	2-DH5	Hopping_LCH	4.683	-54.325	-15.317	Pass
NVNT	ANT1	2-DH5	2480.00	2.251	-55.859	-17.749	Pass
NVNT	ANT1	2-DH5	Hopping_HCH	4.023	-56.262	-15.977	Pass
NVNT	ANT1	3-DH5	2402.00	4.550	-46.463	-15.450	Pass
NVNT	ANT1	3-DH5	Hopping_LCH	4.476	-51.199	-15.524	Pass
NVNT	ANT1	3-DH5	2480.00	2.516	-54.999	-17.484	Pass
NVNT	ANT1	3-DH5	Hopping_HCH	3.954	-58.204	-16.046	Pass

1_Reference_Level_NVNT_ANT1_1-DH5_2402_00



2_Bandedge_NVNT_ANT1_1-DH5_2402_00

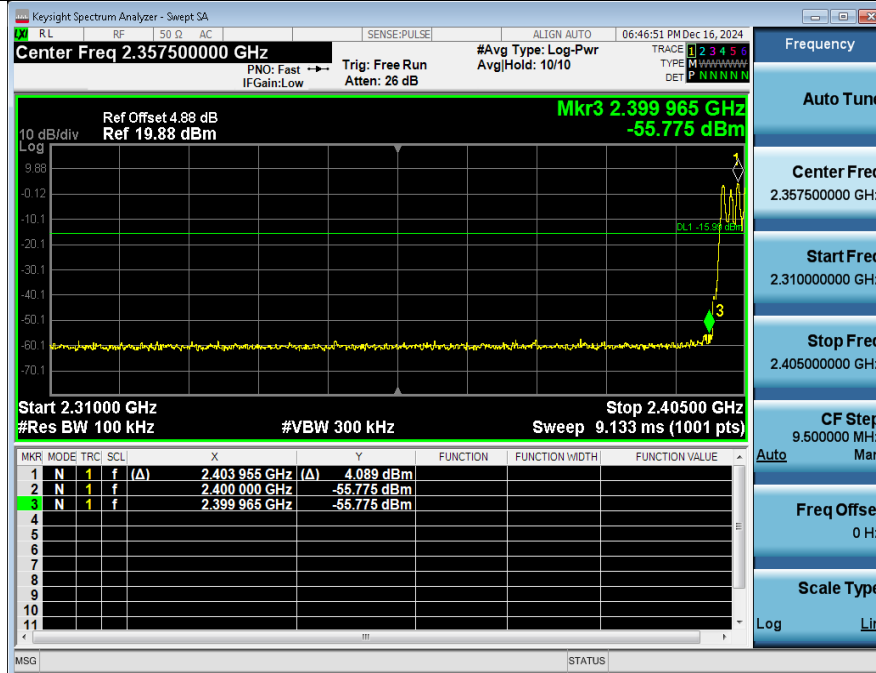


1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping



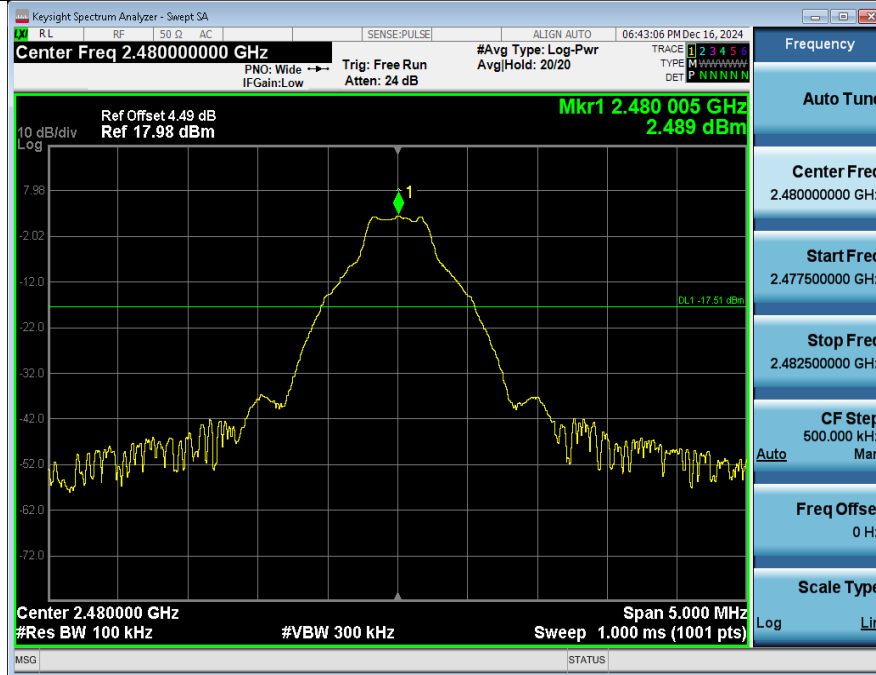


2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

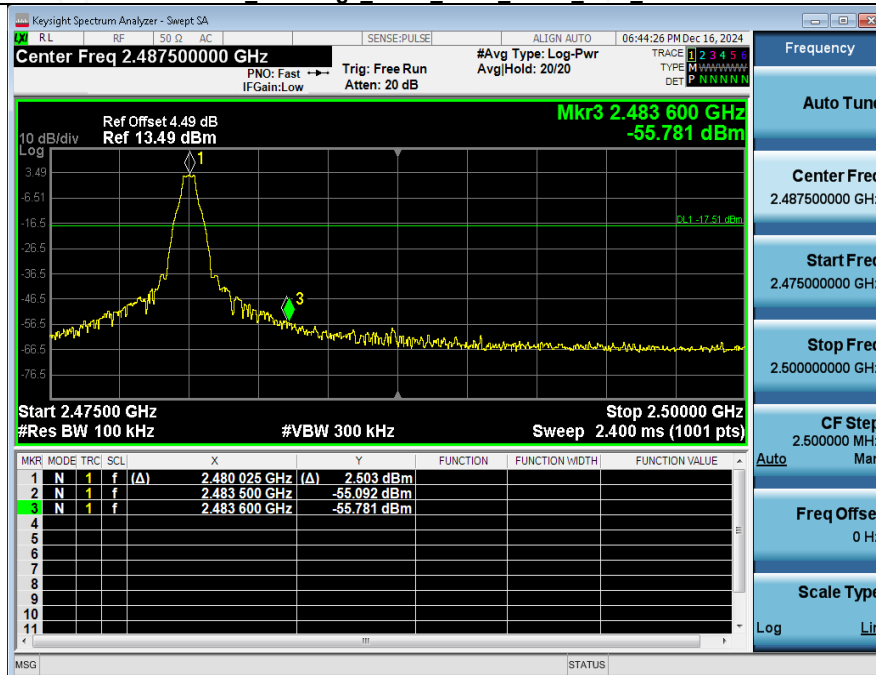


1_Reference_Level_NVNT_ANT1_1-DH5_2480_00



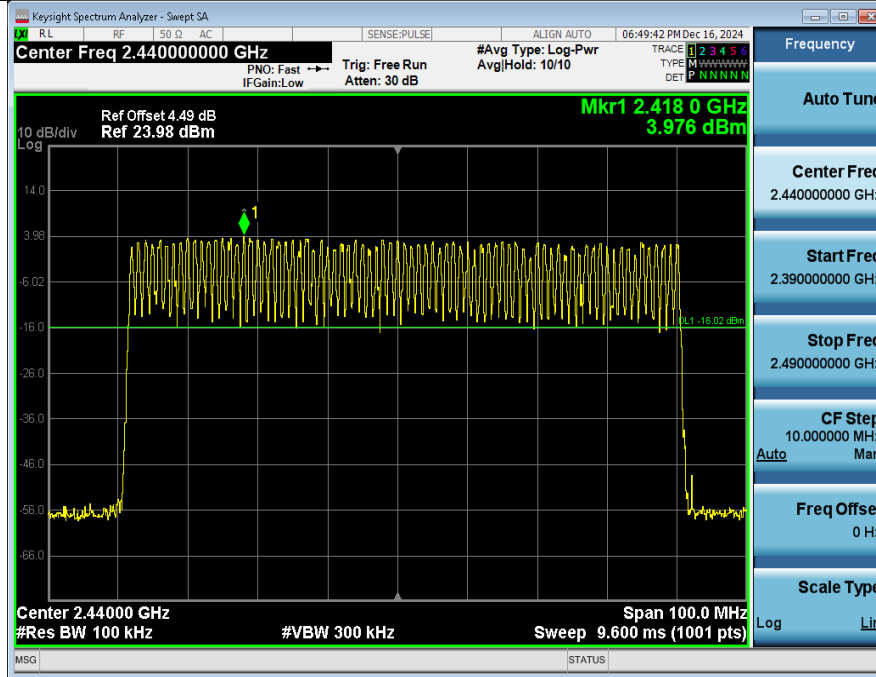


2_Bandedge_NVNT_ANT1_1-DH5_2480_00

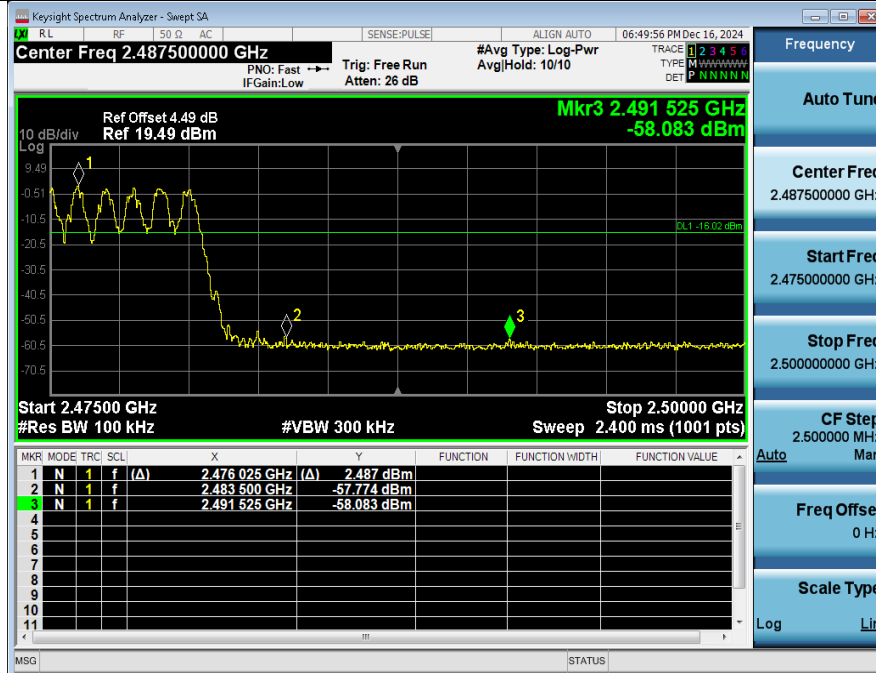


1_Reference_Level_Hopping_NVNT_ANT1_1-DH5_Hopping





2_Band_Edge_(Hopping)_NVNT_ANT1_1-DH5_Hopping

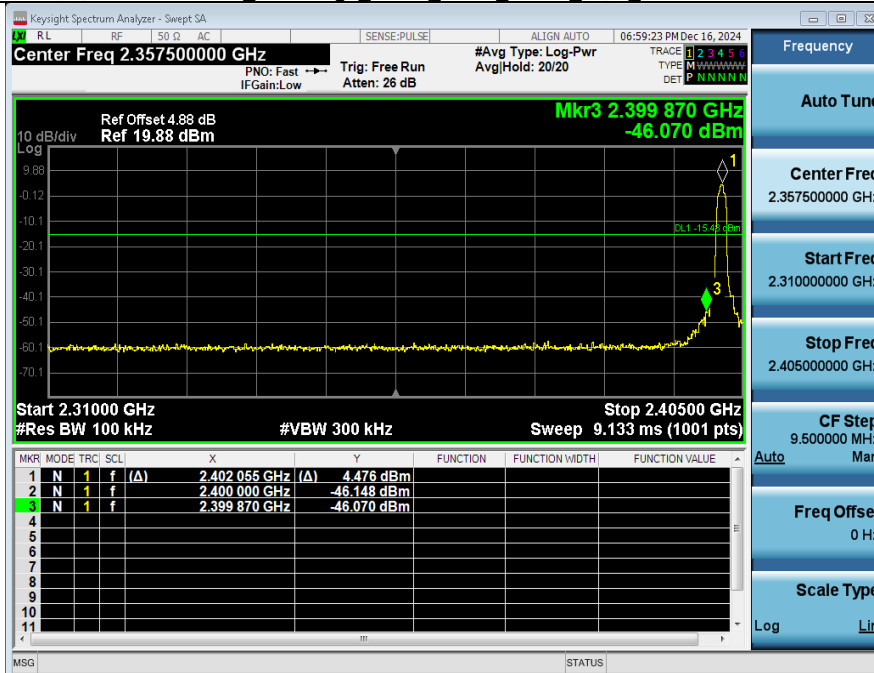


1_Reference_Level_NVNT_ANT1_2-DH5_2402_00



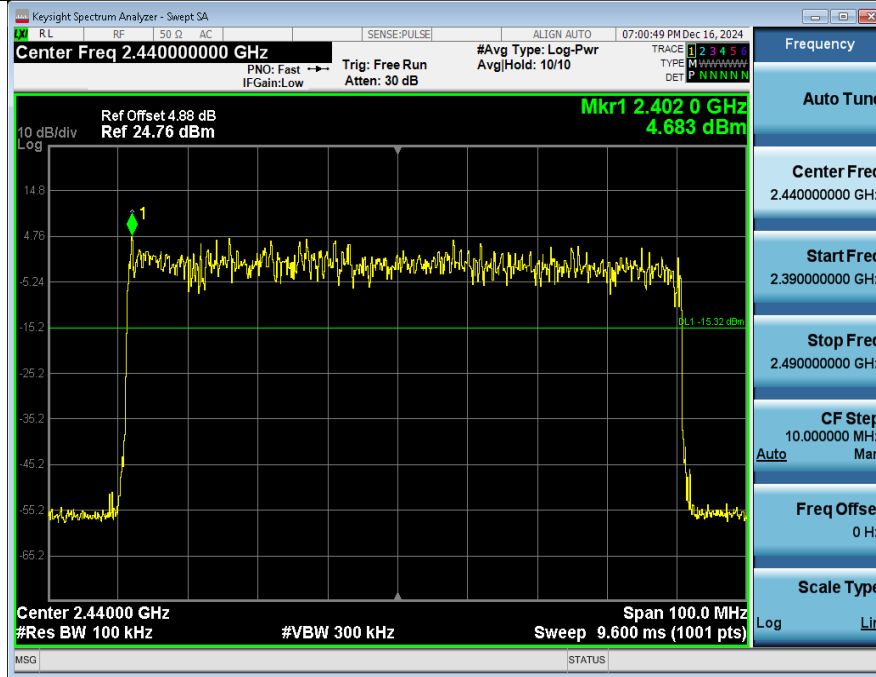


2_Bandedge_NVNT_ANT1_2-DH5_2402_00

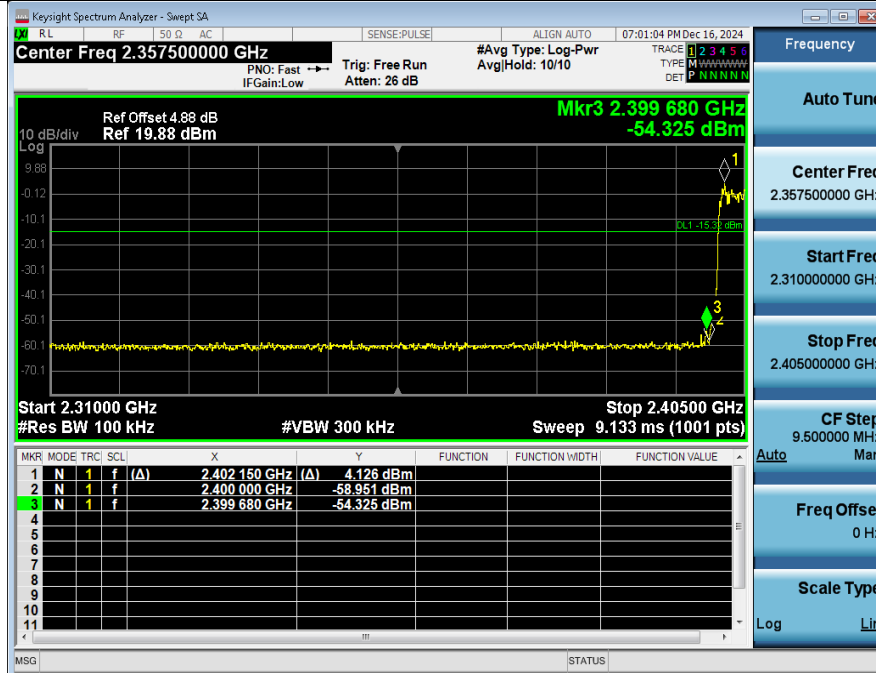


1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping





2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

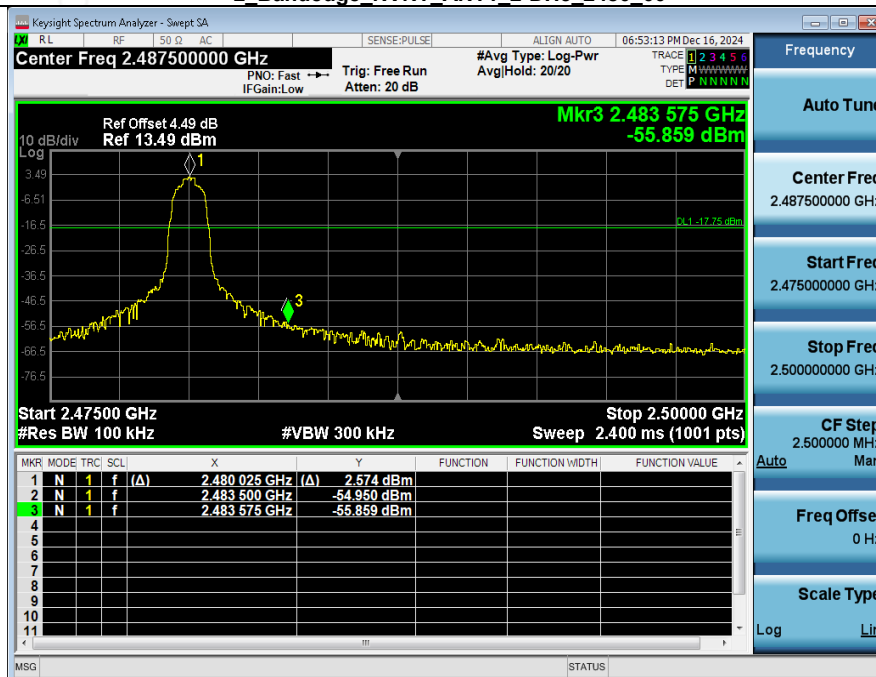


1_Reference_Level_NVNT_ANT1_2-DH5_2480_00



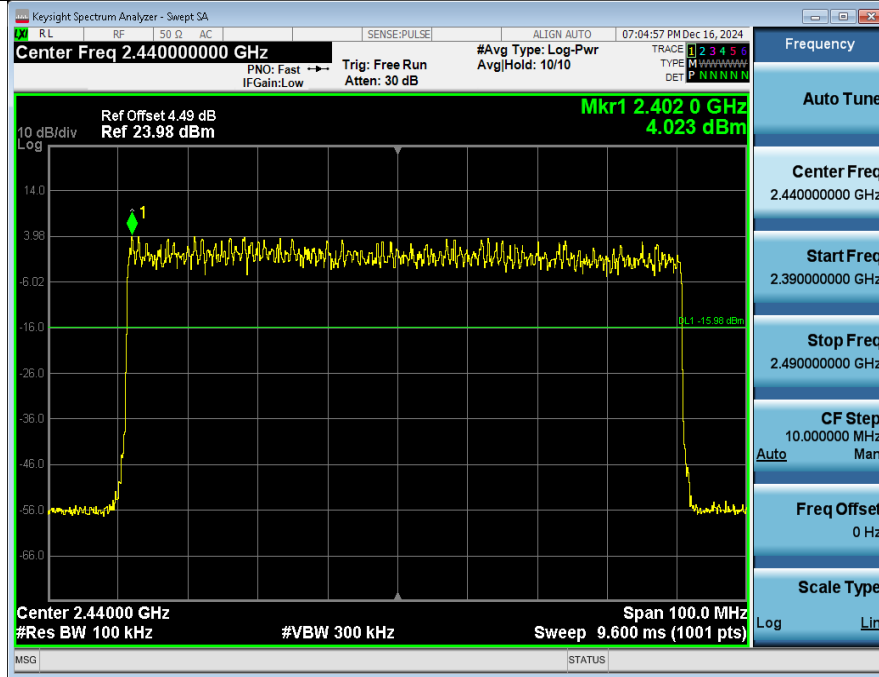


2_Bandedge_NVNT_ANT1_2-DH5_2480_00

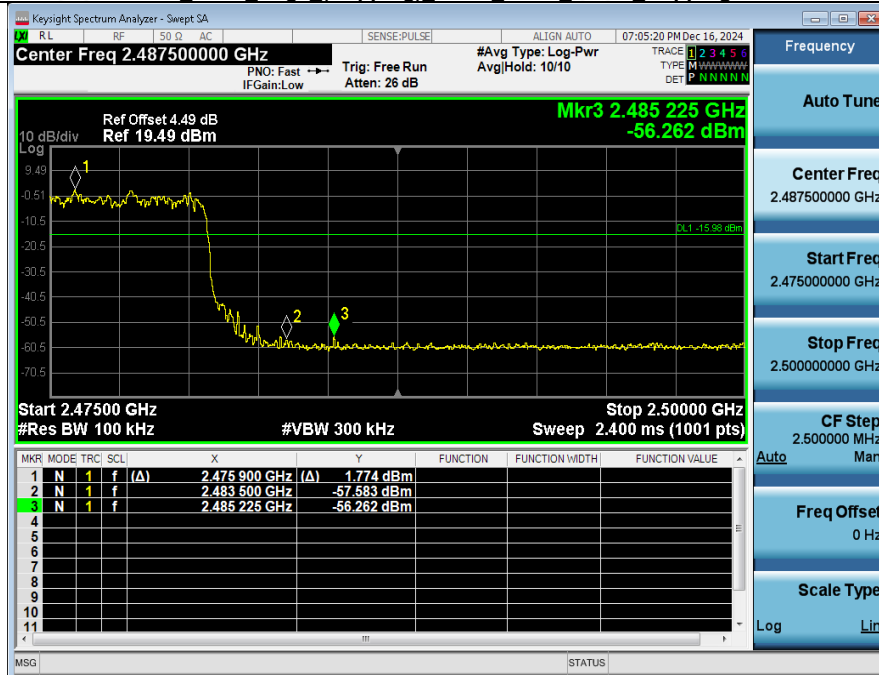


1_Reference_Level_Hopping_NVNT_ANT1_2-DH5_Hopping





2_Band_Edge_(Hopping)_NVNT_ANT1_2-DH5_Hopping

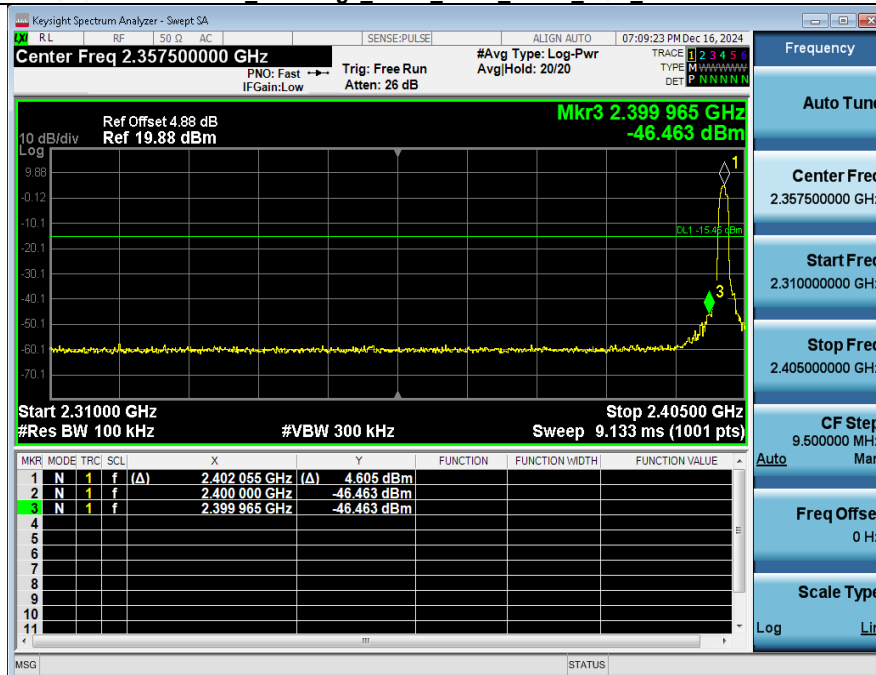


1_Reference_Level_NVNT_ANT1_3-DH5_2402_00



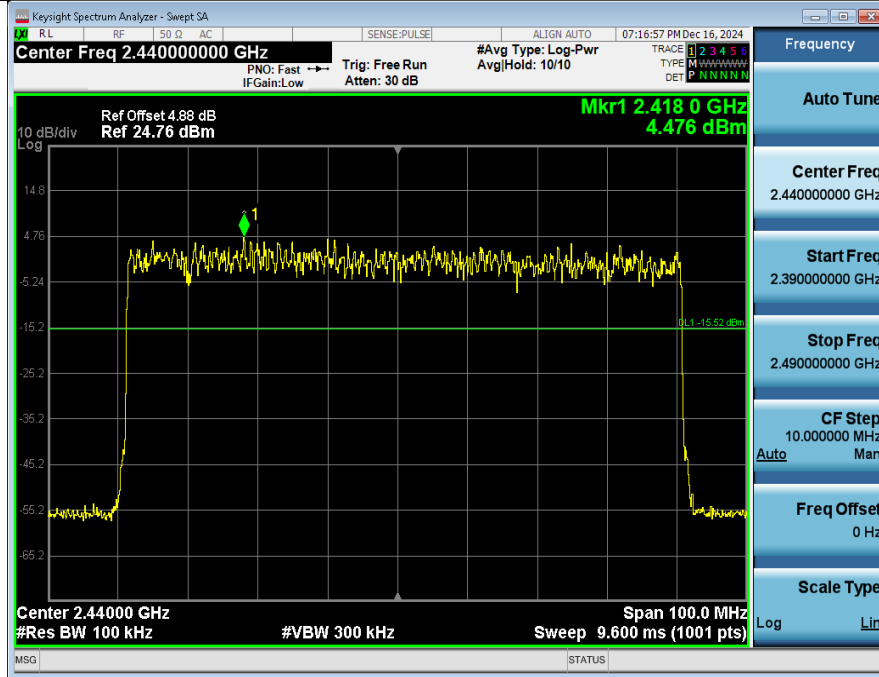


2_Bandedge_NVNT_ANT1_3-DH5_2402_00

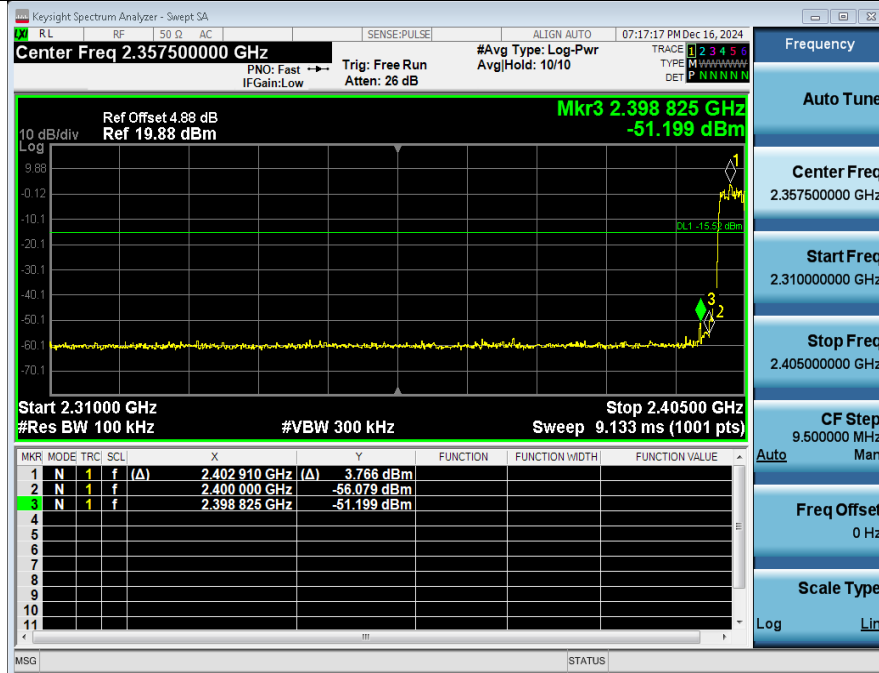


1_Reference_Level_Hopping_NVNT_ANT1_3-DH5_Hopping



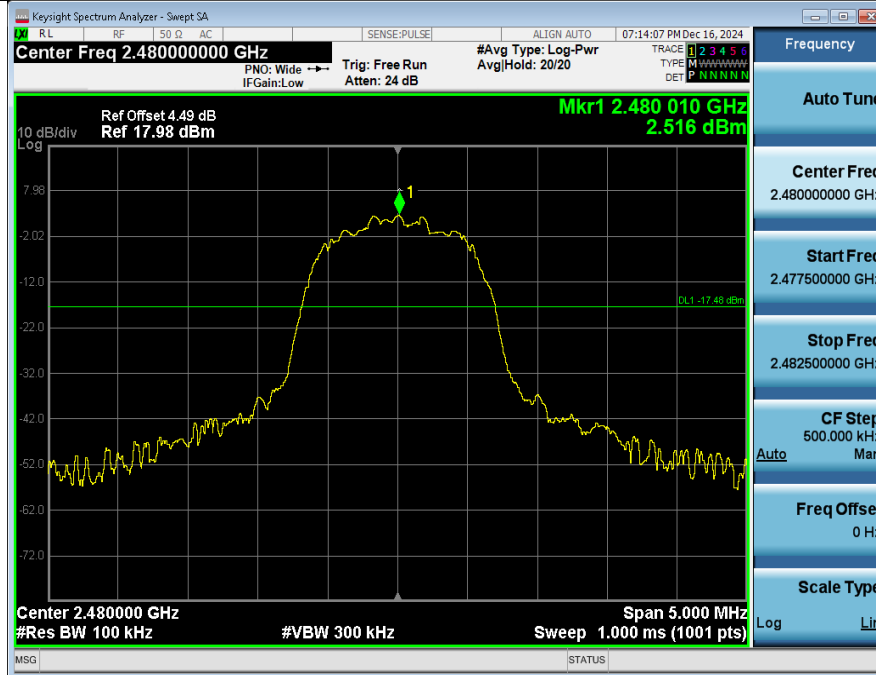


2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH5_Hopping

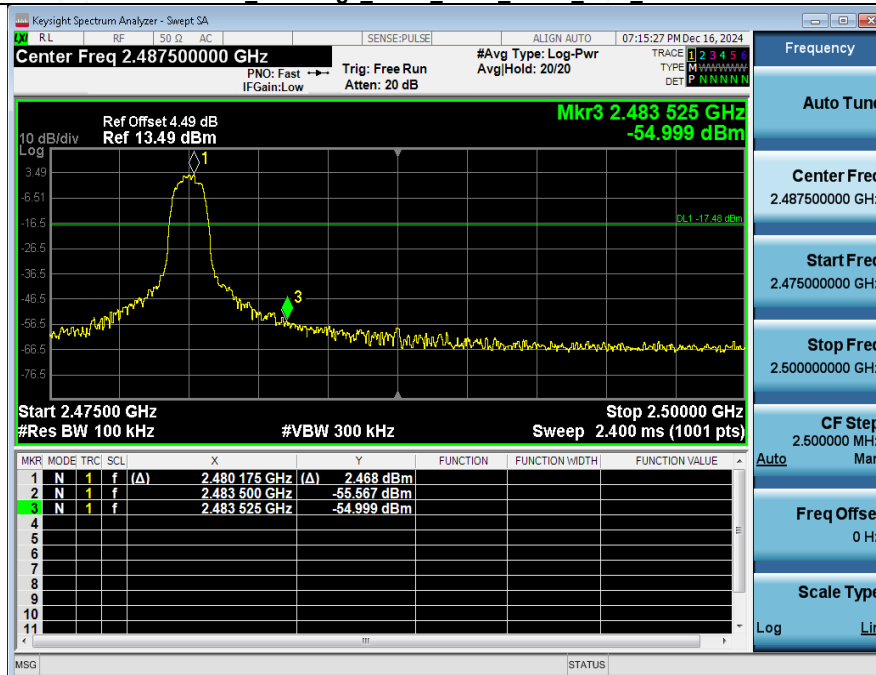


1_Reference_Level_NVNT_ANT1_3-DH5_2480_00



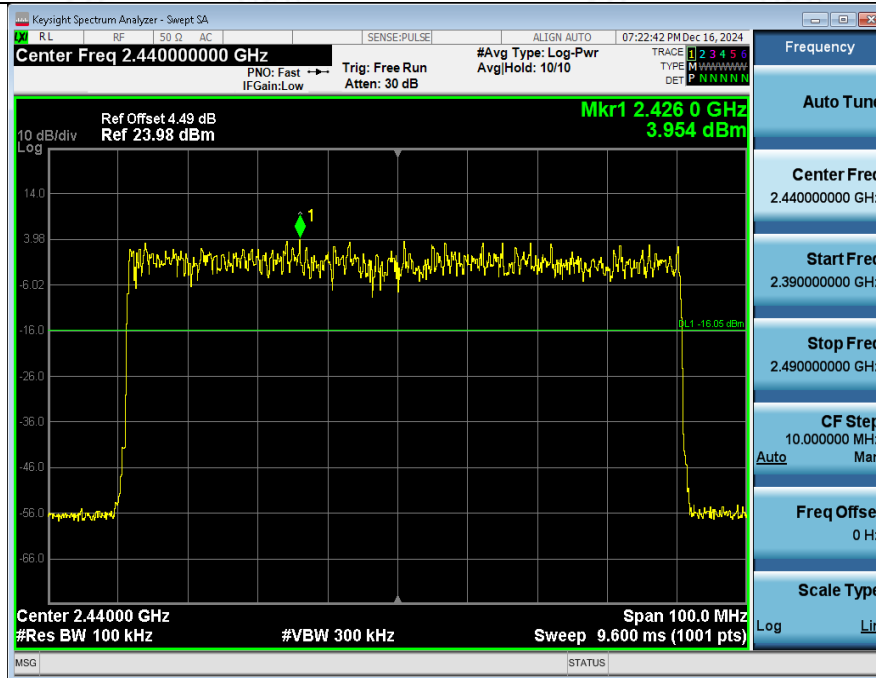


2_Bandedge_NVNT_ANT1_3-DH5_2480_00

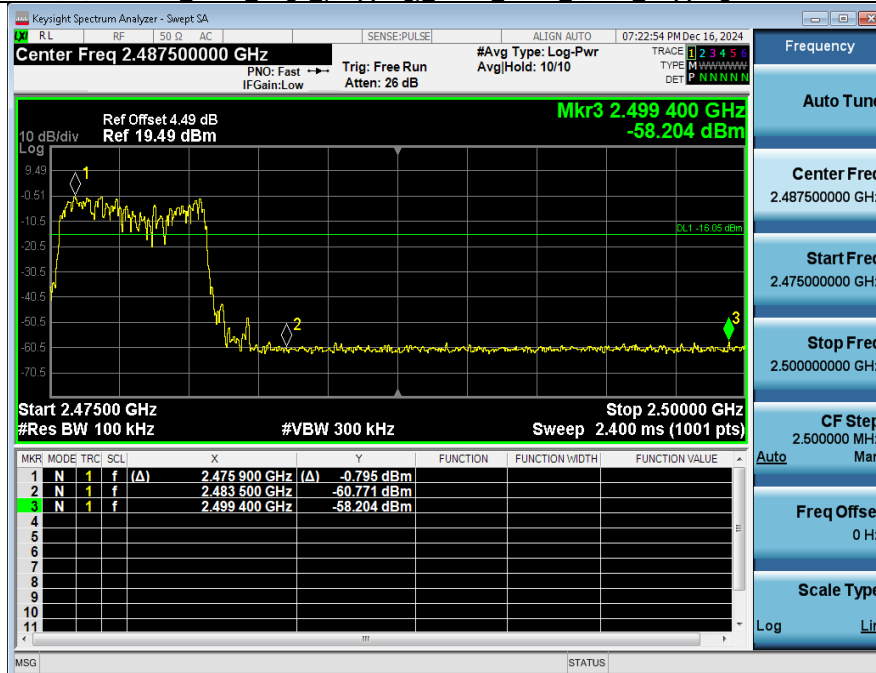


1_Reference_Level_Hopping_NVNT_ANT1_3-DH5_Hopping





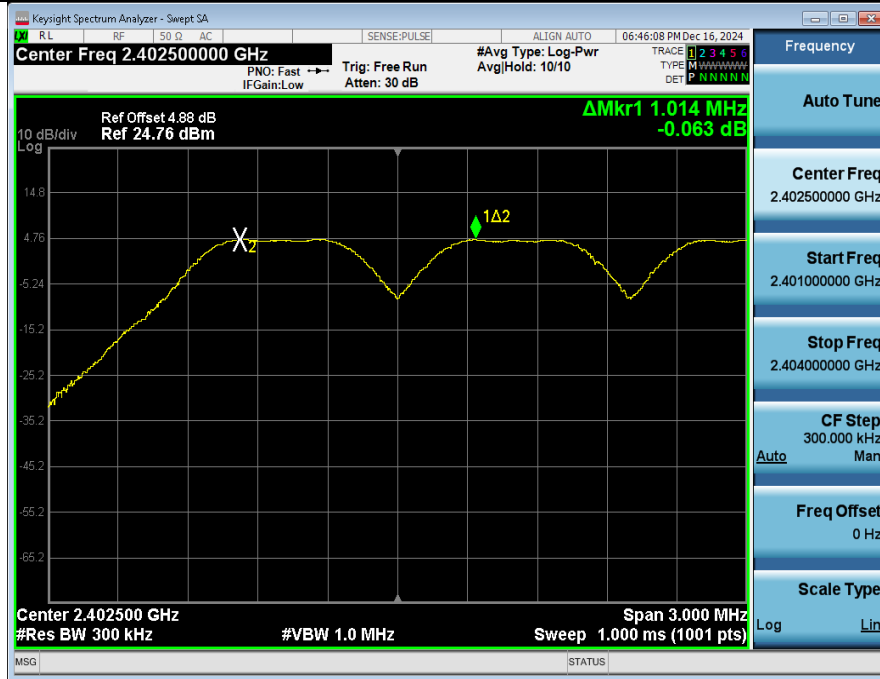
2_Band_Edge_(Hopping)_NVNT_ANT1_3-DH5_Hopping



7. Carrier Frequencies Separation (Hopping)

Condition	Antenna	Modulation	Frequency(MHz)	Hopping NO.0 (MHz)	Hopping NO.1 (MHz)	Carrier Frequencies Separation(MHz)	Limit(MHz)	Result
NVNT	ANT1	1-DH5	2402.00	2401.822	2402.836	1.01	0.956	Pass
NVNT	ANT1	1-DH5	2441.00	2440.822	2442.187	1.36	0.953	Pass
NVNT	ANT1	1-DH5	2480.00	2479.152	2480.163	1.01	0.953	Pass
NVNT	ANT1	2-DH5	2402.00	2402.173	2403.172	1.00	0.877	Pass
NVNT	ANT1	2-DH5	2441.00	2441.179	2442.157	0.98	0.876	Pass
NVNT	ANT1	2-DH5	2480.00	2478.870	2480.004	1.13	0.877	Pass
NVNT	ANT1	3-DH5	2402.00	2401.993	2403.166	1.17	0.872	Pass
NVNT	ANT1	3-DH5	2441.00	2441.008	2441.959	0.95	0.871	Pass
NVNT	ANT1	3-DH5	2480.00	2479.011	2480.175	1.16	0.870	Pass

Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH5_Hopping

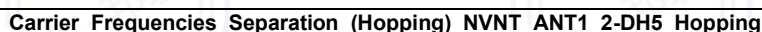
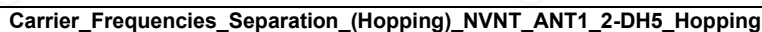


Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH5_Hopping



Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_1-DH5_Hopping







Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_2-DH5_Hopping



Carrier_Frequencies_Separation_(Hopping)_NVNT_ANT1_3-DH5_Hopping





Carrier Frequencies Separation (Hopping) NVNT ANT1 3-DH5 Hopping



Carrier Frequencies Separation (Hopping) NVNT ANT1 3-DH5 Hopping

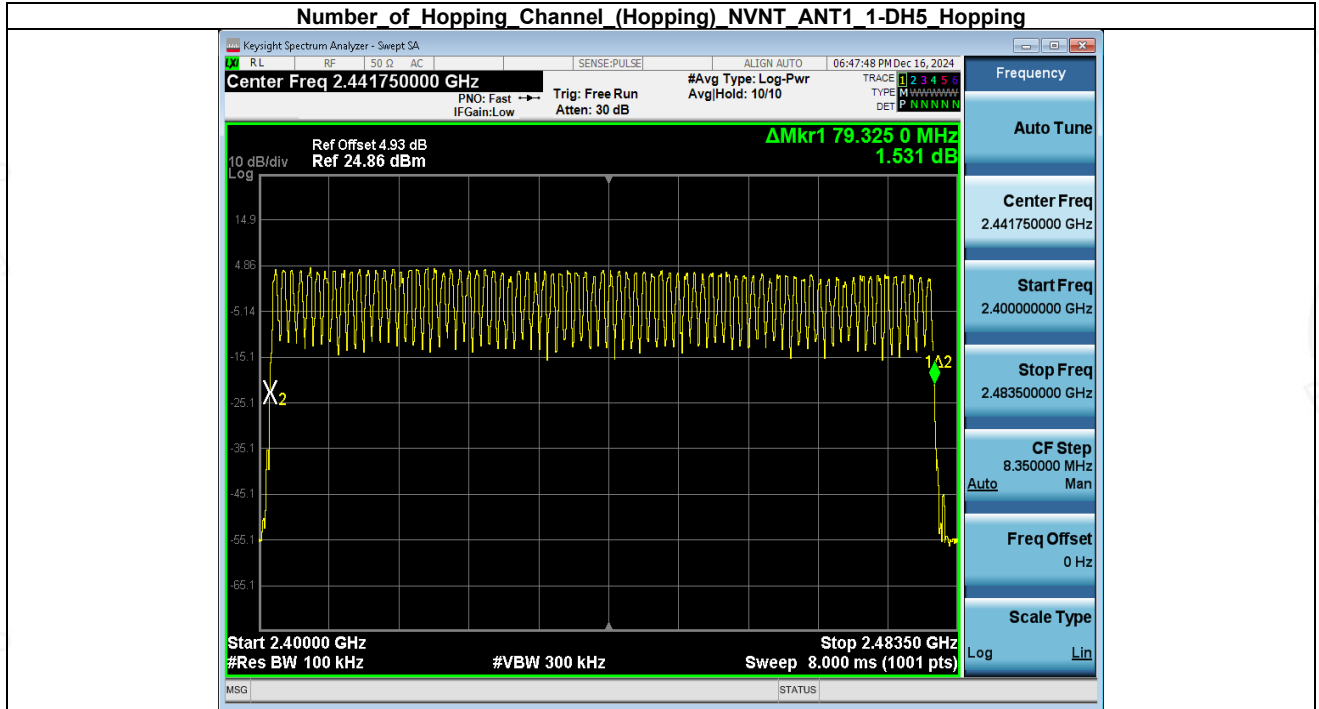




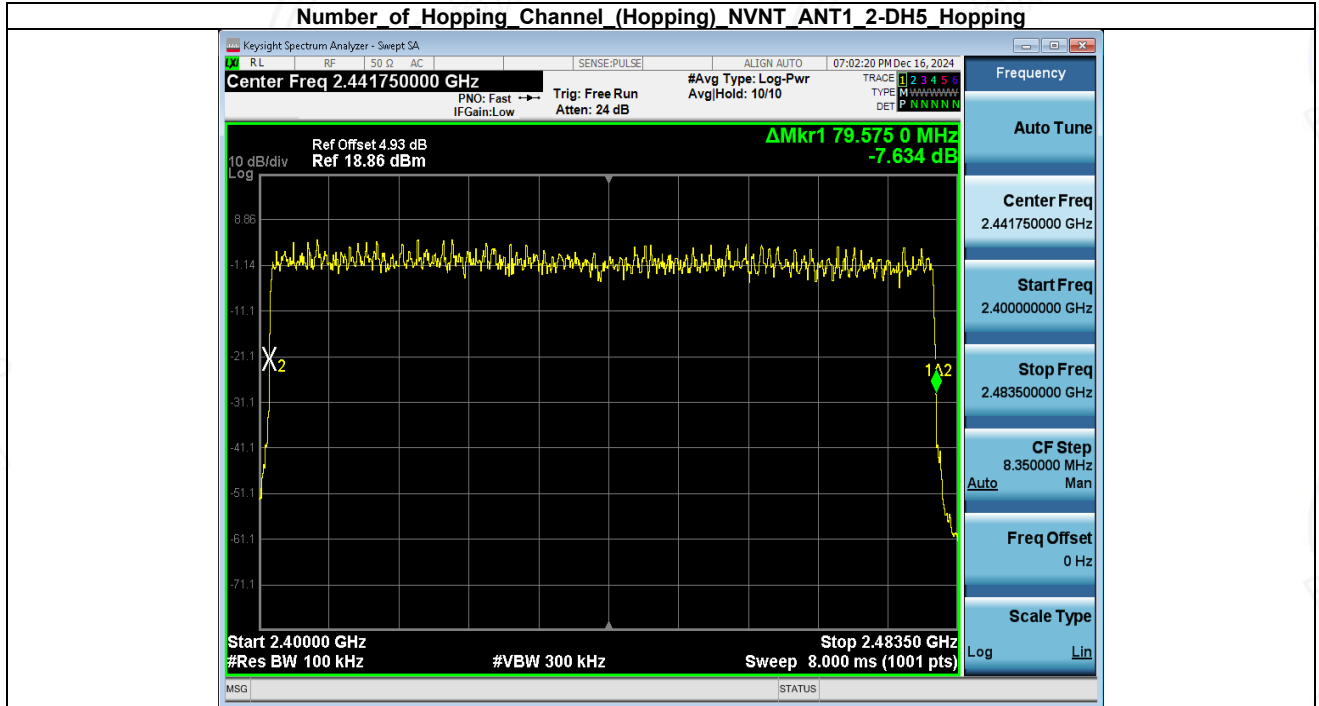
8. Number of Hopping Channel (Hopping)

Condition	Antenna	Modulation	Hopping Num	Limit	Result
NVNT	ANT1	1-DH5	79	15	Pass
NVNT	ANT1	2-DH5	79	15	Pass
NVNT	ANT1	3-DH5	79	15	Pass

Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_1-DH5_Hopping

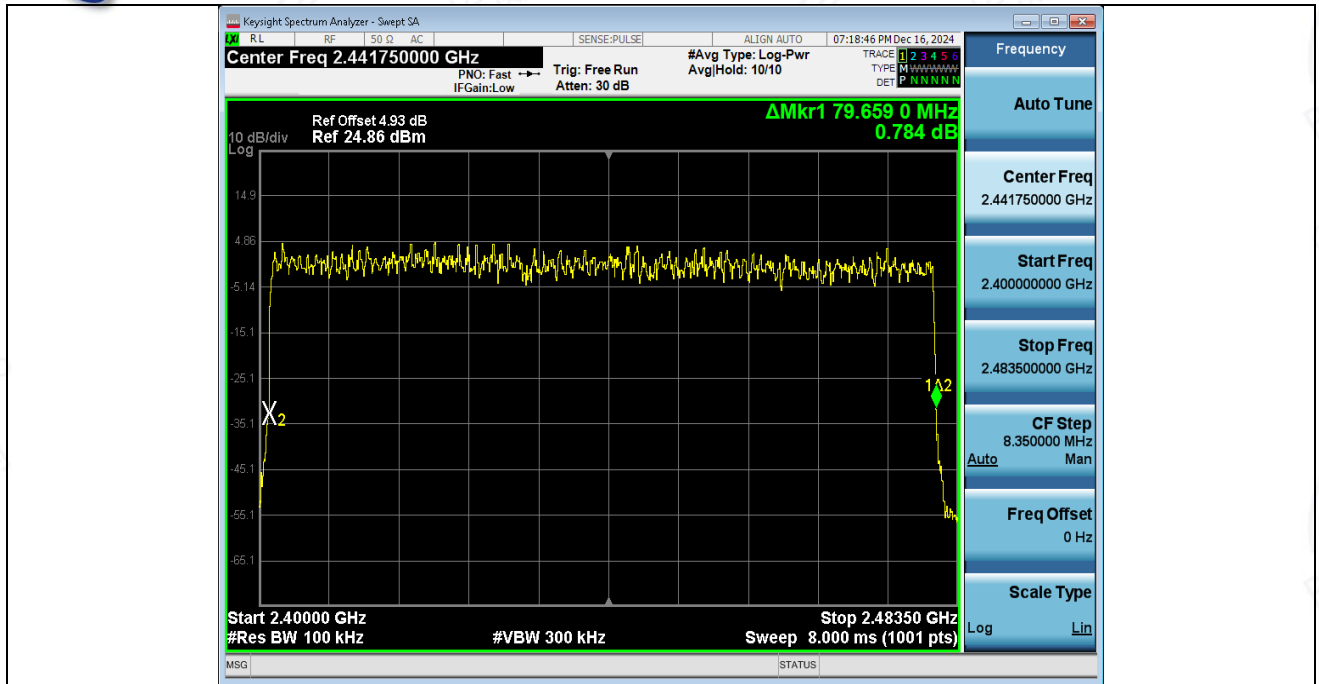


Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_2-DH5_Hopping



Number_of_Hopping_Channel_(Hopping)_NVNT_ANT1_3-DH5_Hopping

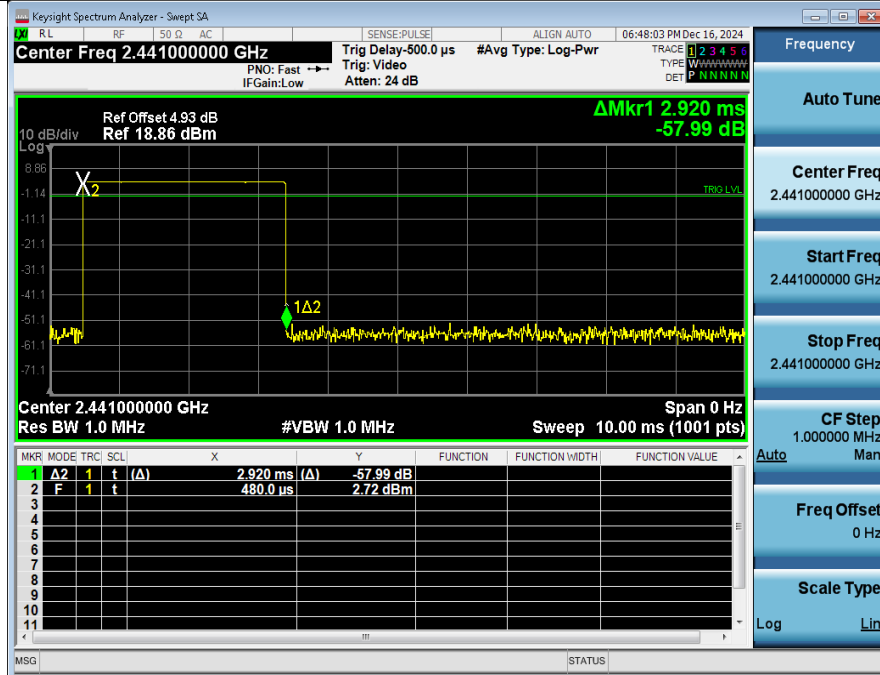




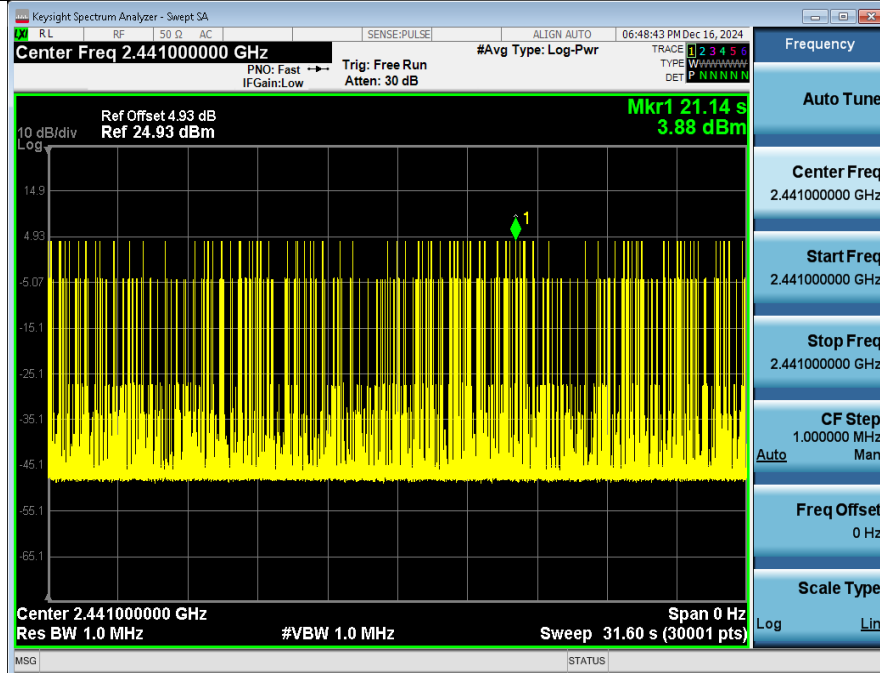
9. Dwell Time (Hopping)

Condition	Antenna	Packet Type	Pulse Time(ms)	Hops	Dwell Time(ms)	Limit(s)	Result
NVNT	ANT1	1-DH5	2.920	105.00	306.600	0.40	Pass
NVNT	ANT1	2-DH5	2.930	117.00	342.810	0.40	Pass
NVNT	ANT1	3-DH5	2.920	111.00	324.120	0.40	Pass

Dwell Time (Hopping) NVNT ANT1 1-DH5 2441 00 One Burst Time



Dwell Time (Hopping) NVNT ANT1 1-DH5 2441 00 Accumulated



Dwell Time (Hopping) NVNT ANT1 2-DH5 2441 00 One Burst Time



