

Appendix

Test Data

for BTEK241218089A01E04

Start date	2024/12/30	Finish date	2024/12/30
Temperature	21.3℃	Humidity	33%
RF specifications	2.4G WIFI	Test Engineer	Zora



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1. -6dB Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	-6dB BW(MHz)	limit(kHz)	Result
NVNT	ANT1	802.11b	2412.00	8.70	500	Pass
NVNT	ANT1	802.11b	2437.00	8.18	500	Pass
NVNT	ANT1	802.11b	2462.00	8.22	500	Pass
NVNT	ANT1	802.11g	2412.00	16.44	500	Pass
NVNT	ANT1	802.11g	2437.00	15.65	500	Pass
NVNT	ANT1	802.11g	2462.00	15.30	500	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	17.75	500	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	16.86	500	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	16.01	500	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	34.25	500	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	33.81	500	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	36.60	500	Pass

-6dB Bandwidth_NVNT_ANT1_802_11b_2412



-6dB Bandwidth_NVNT_ANT1_802_11b_2437

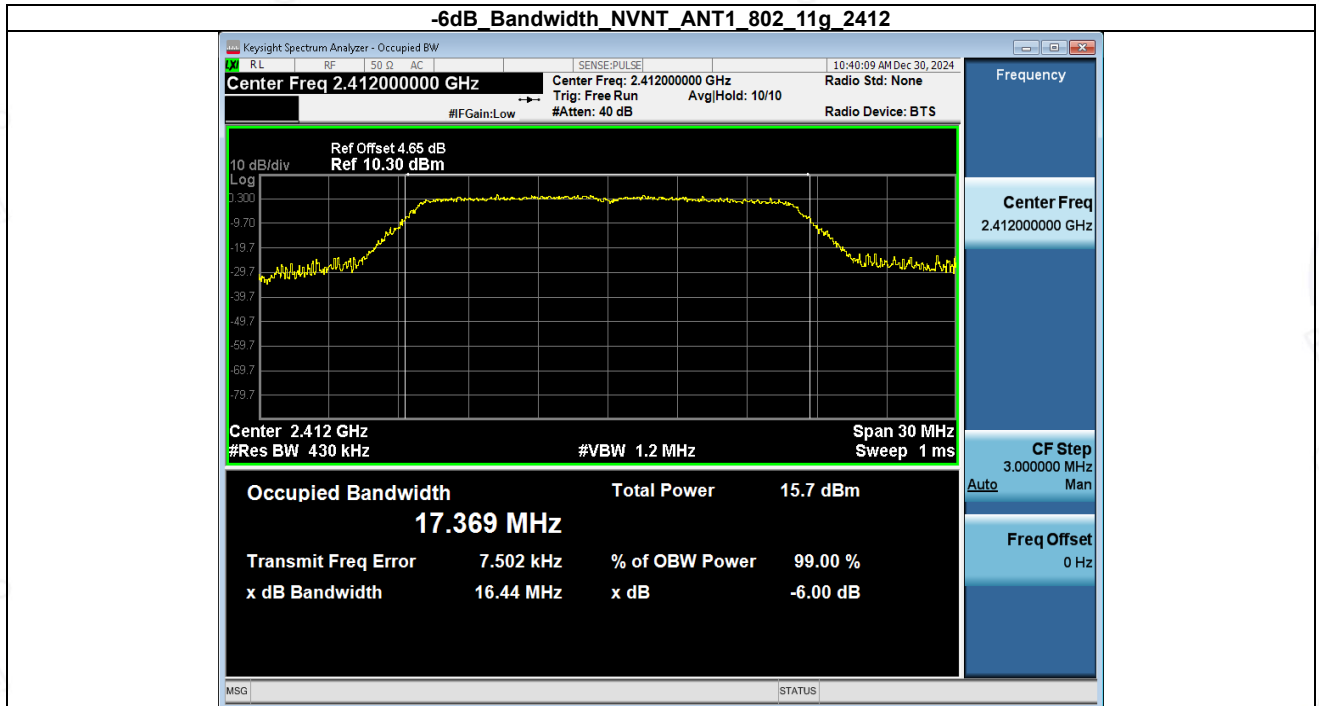


-6dB Bandwidth_NVNT_ANT1_802_11b_2462



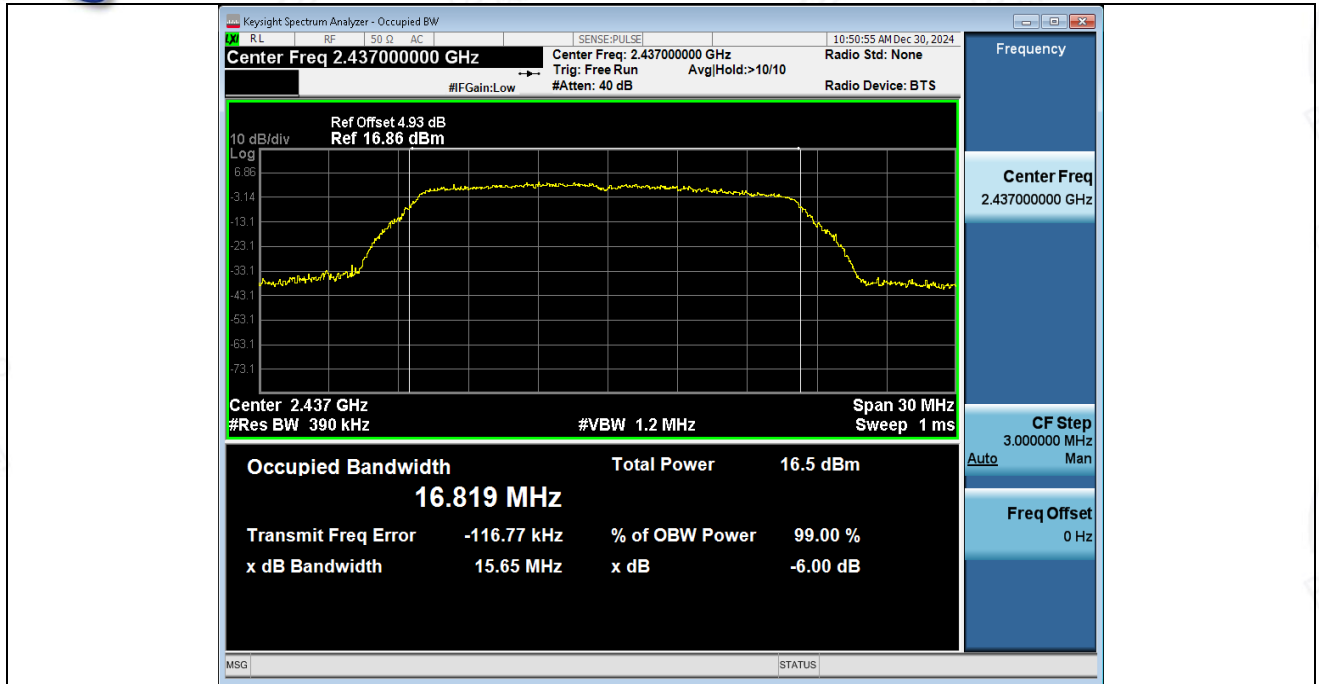


-6dB Bandwidth_NVNT_ANT1_802_11g_2412

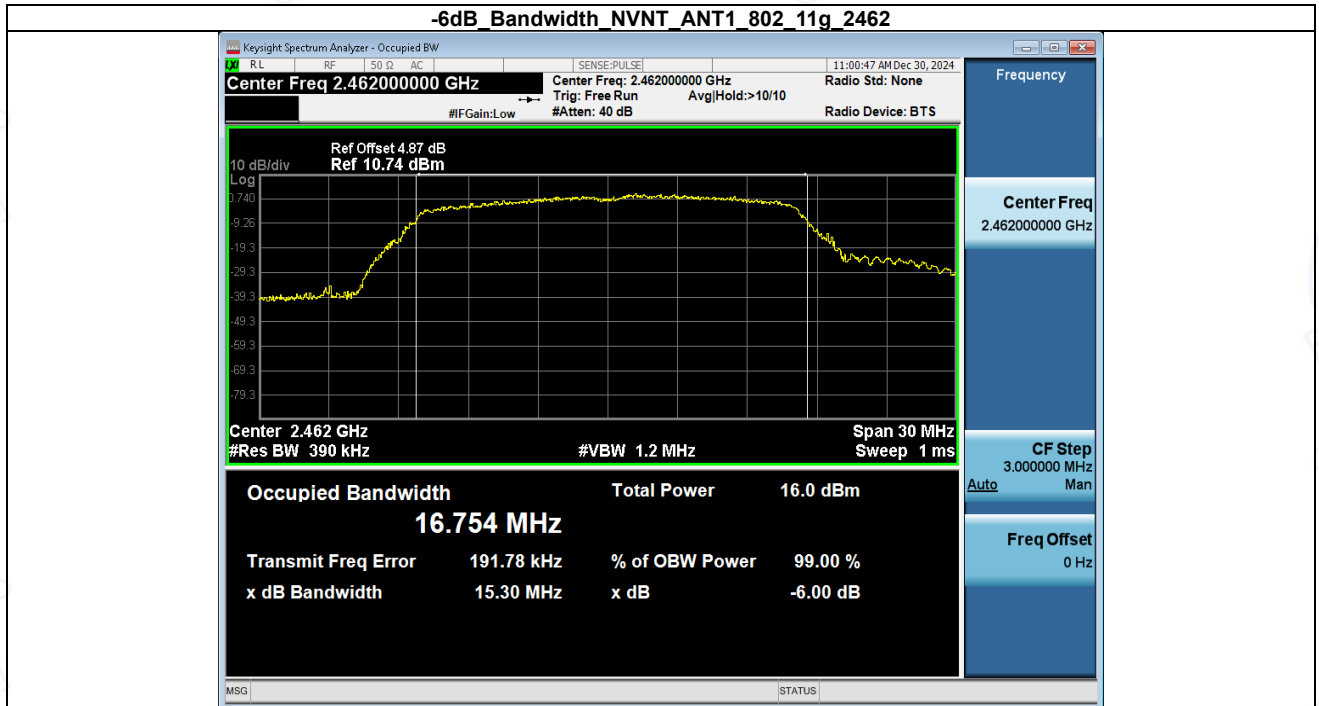


-6dB Bandwidth_NVNT_ANT1_802_11g_2437



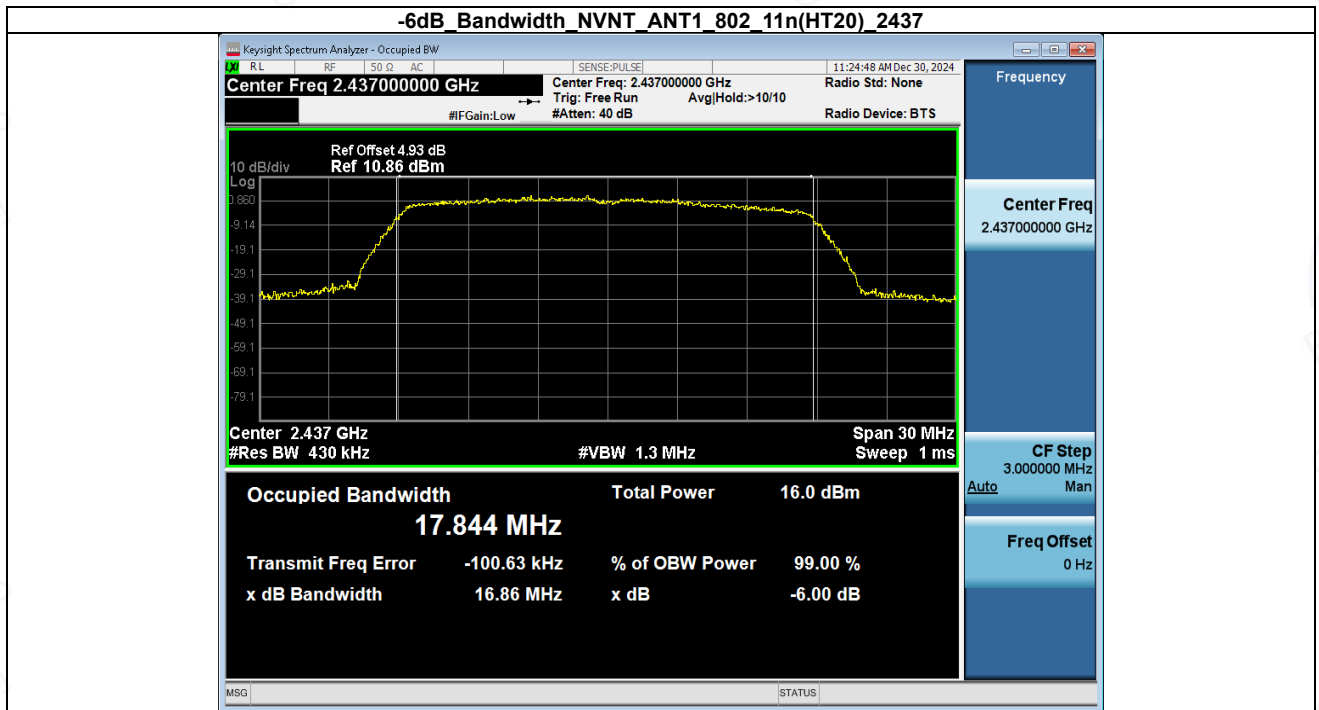
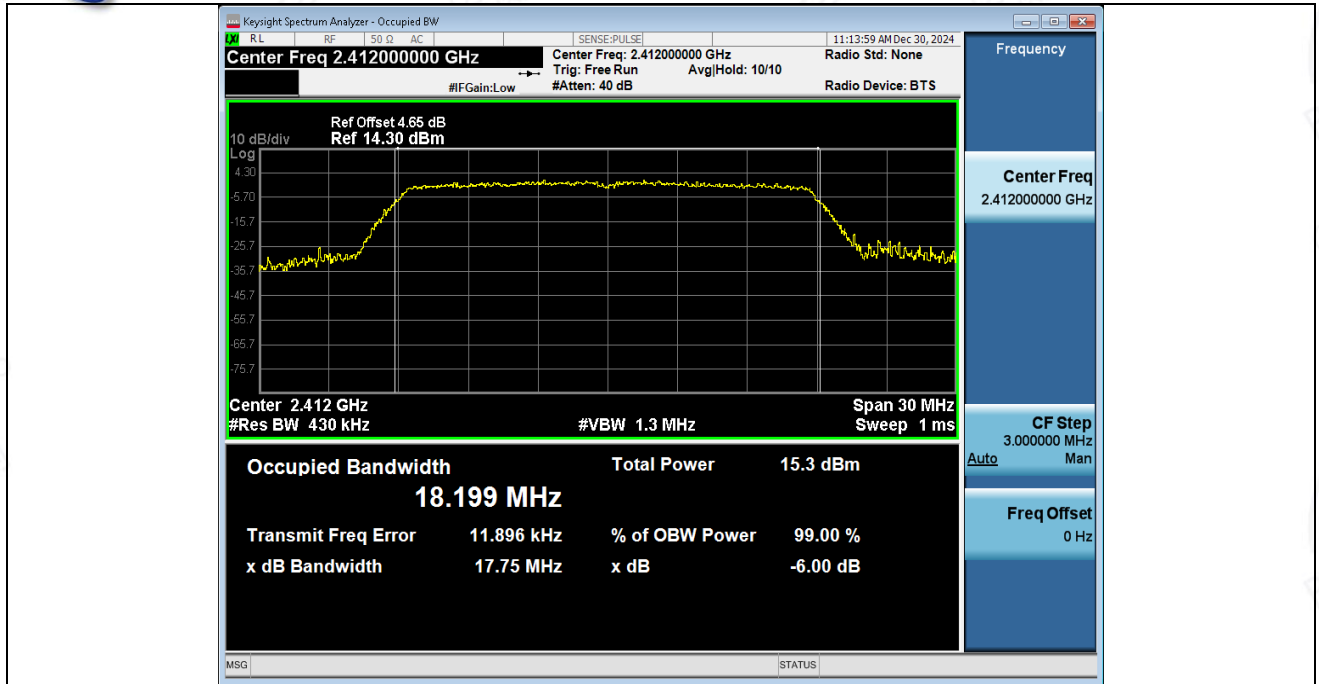


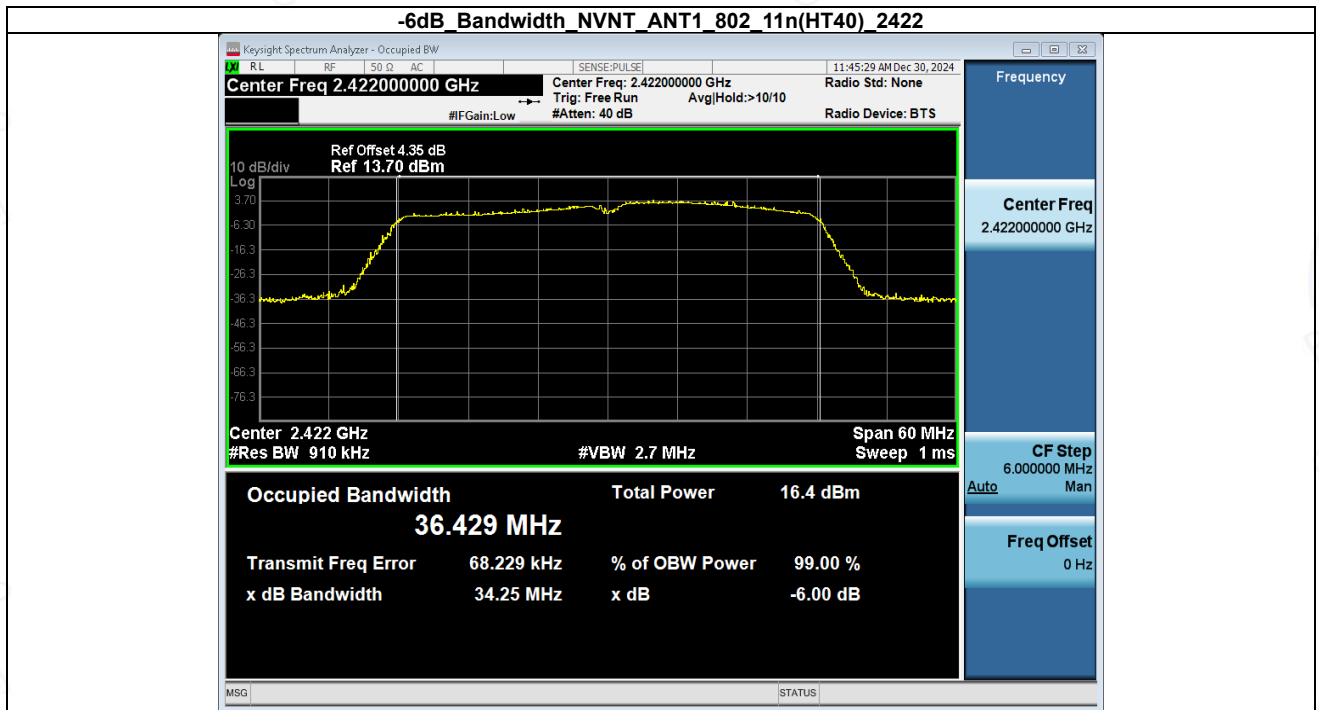
-6dB_Bandwidth_NVNT_ANT1_802_11g_2462

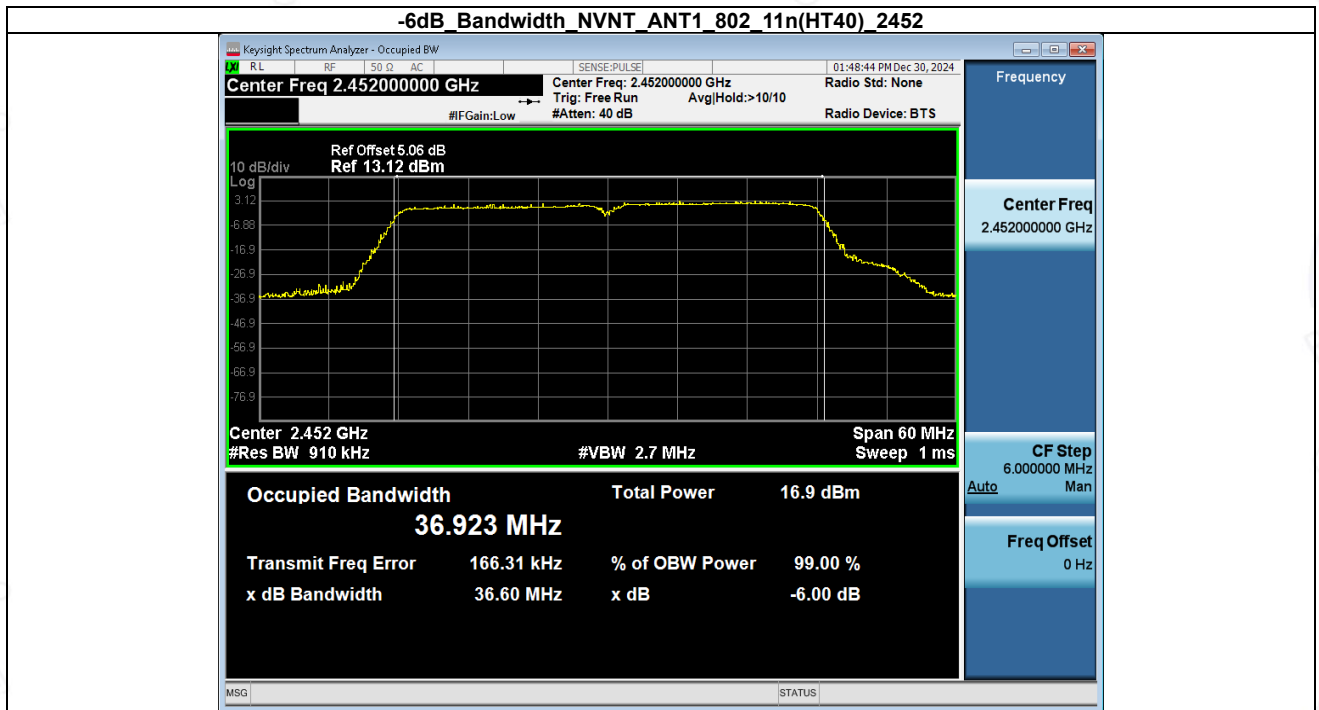
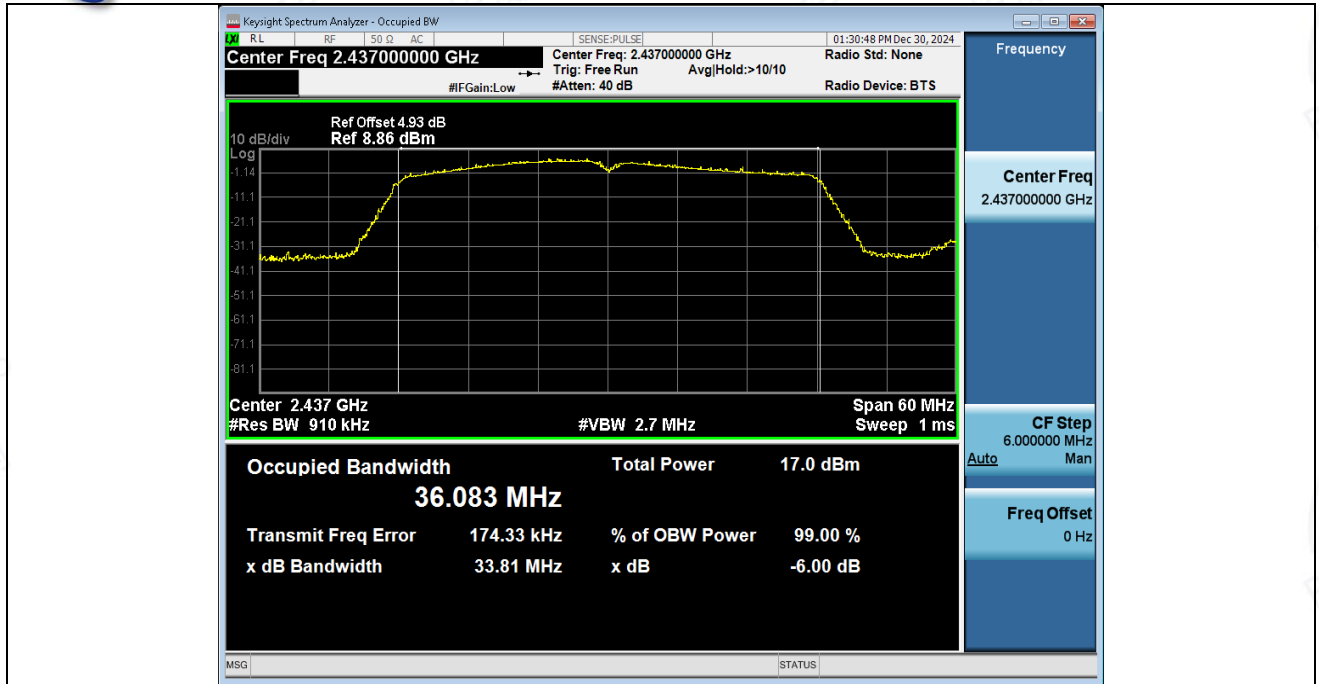


-6dB_Bandwidth_NVNT_ANT1_802_11n(HT20)_2412





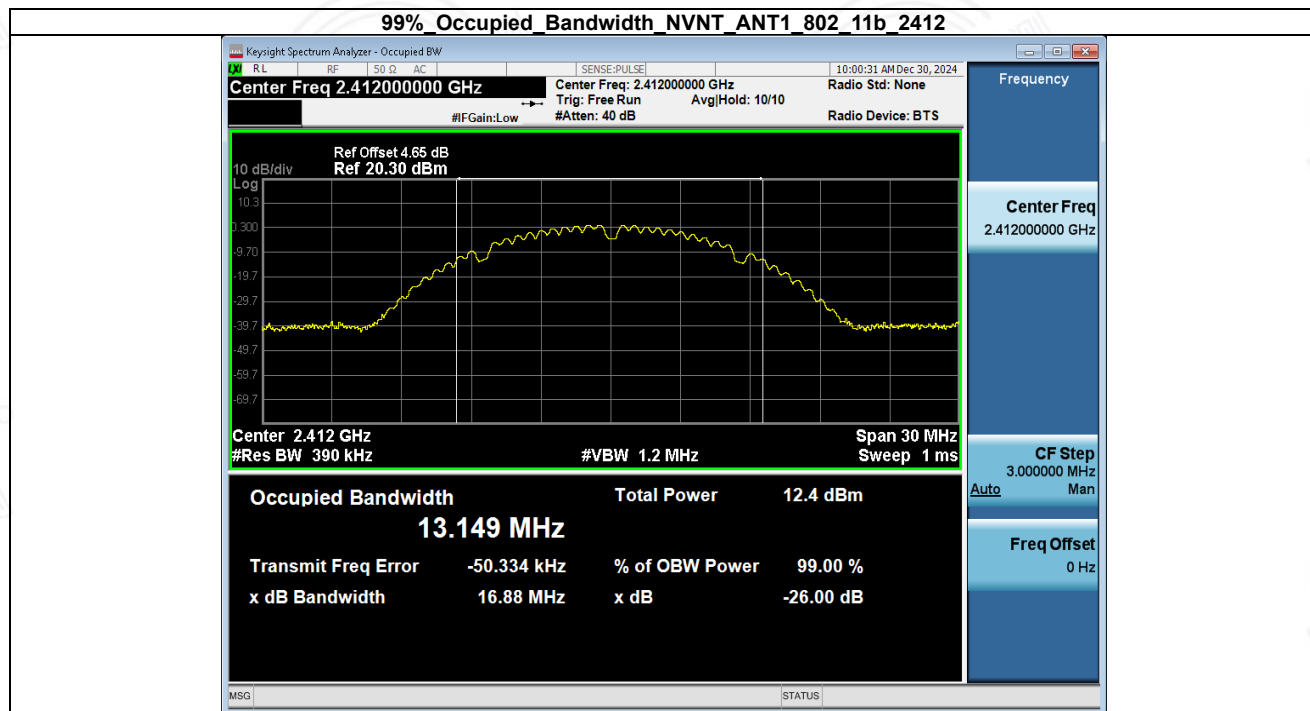




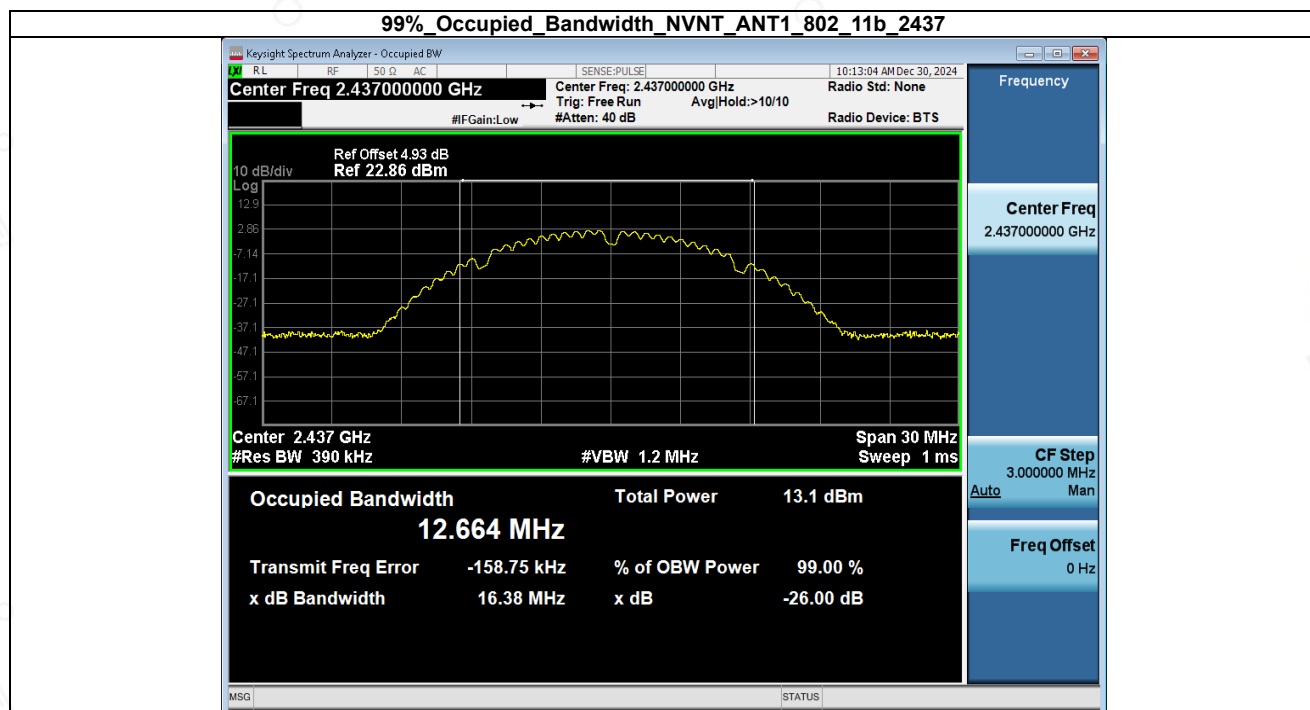
2. 99% Occupied Bandwidth

Condition	Antenna	Modulation	Frequency (MHz)	99% BW (MHz)
NVNT	ANT1	802.11b	2412.00	13.149
NVNT	ANT1	802.11b	2437.00	12.664
NVNT	ANT1	802.11b	2462.00	13.369
NVNT	ANT1	802.11g	2412.00	17.732
NVNT	ANT1	802.11g	2437.00	16.959
NVNT	ANT1	802.11g	2462.00	17.064
NVNT	ANT1	802.11n(HT20)	2412.00	18.329
NVNT	ANT1	802.11n(HT20)	2437.00	17.968
NVNT	ANT1	802.11n(HT20)	2462.00	17.959
NVNT	ANT1	802.11n(HT40)	2422.00	36.370
NVNT	ANT1	802.11n(HT40)	2437.00	36.016
NVNT	ANT1	802.11n(HT40)	2452.00	37.086

99% Occupied Bandwidth NVNT ANT1 802_11b_2412

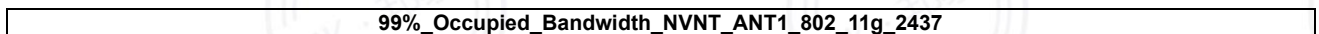
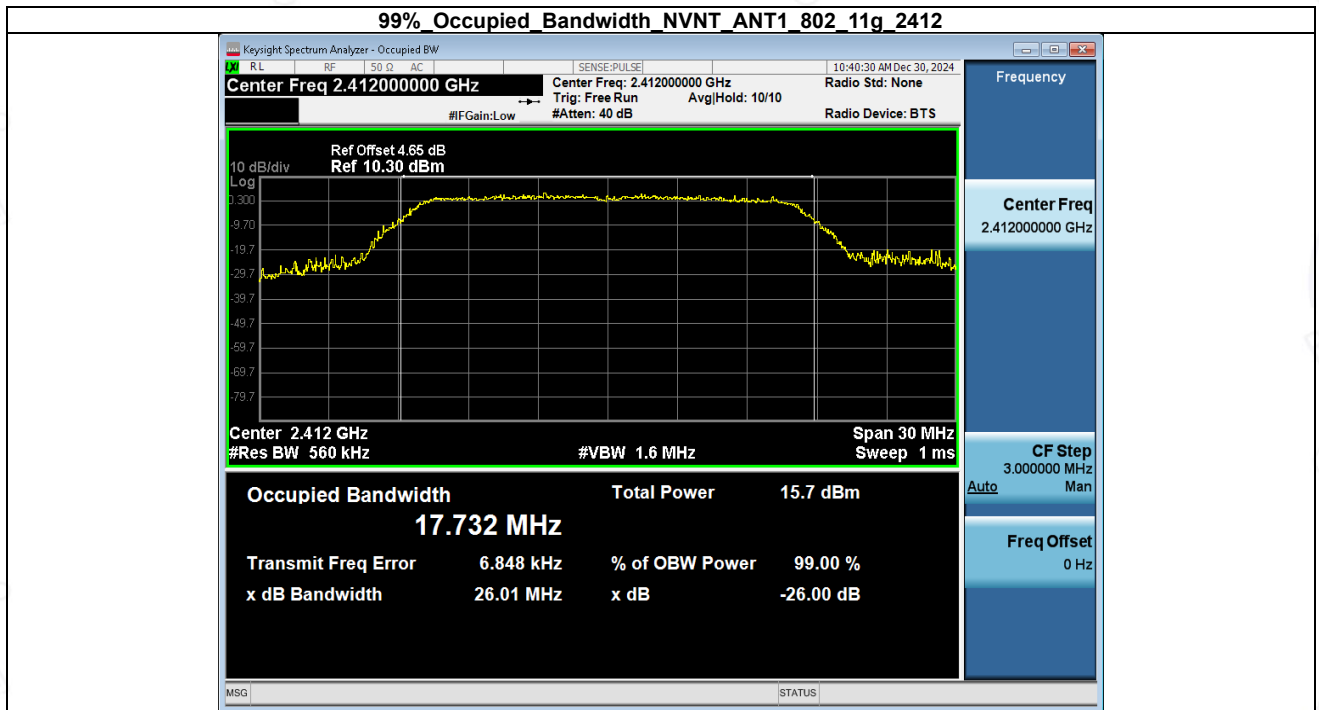


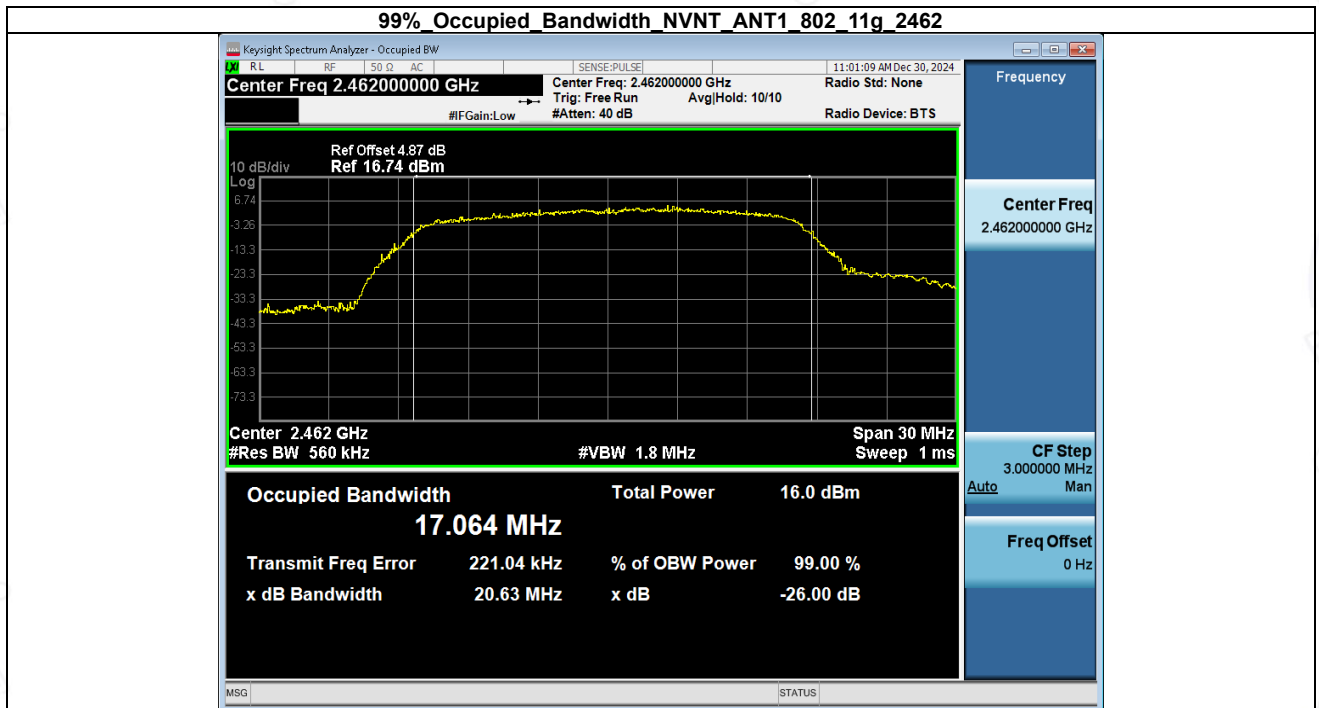
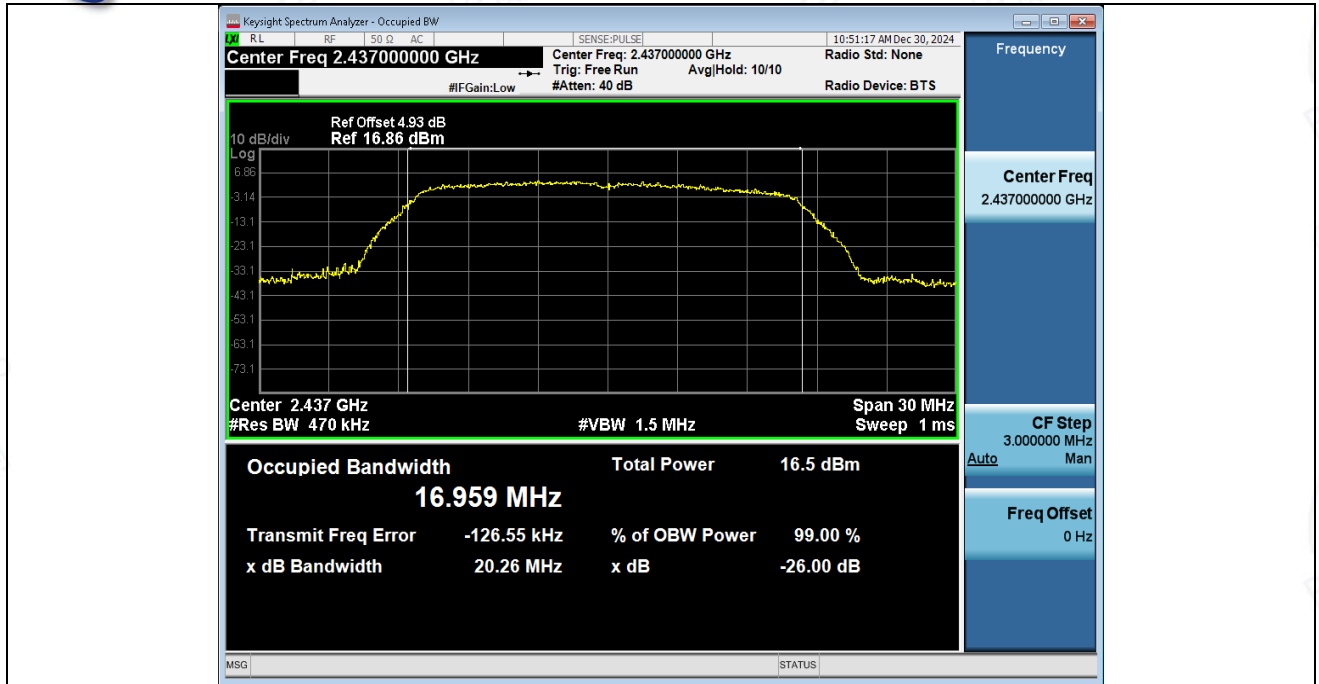
99% Occupied Bandwidth NVNT ANT1 802_11b_2437



99% Occupied Bandwidth NVNT ANT1 802_11b_2462

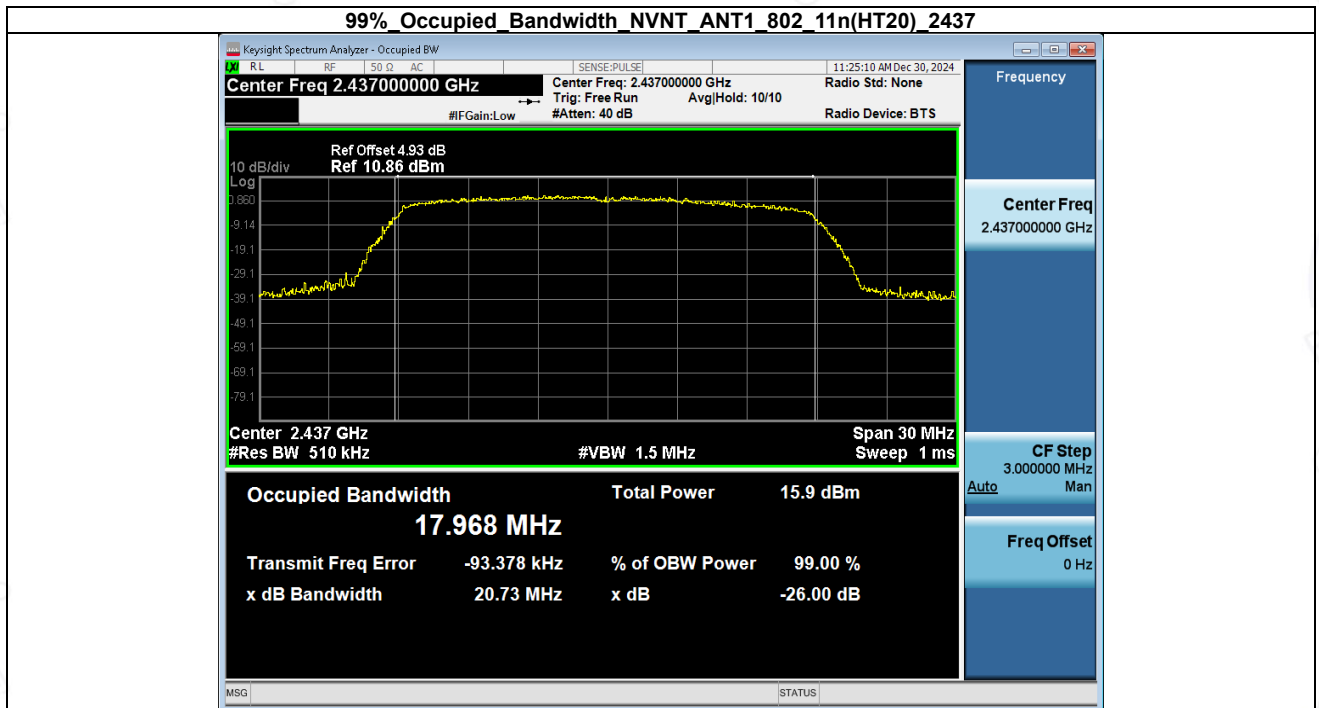
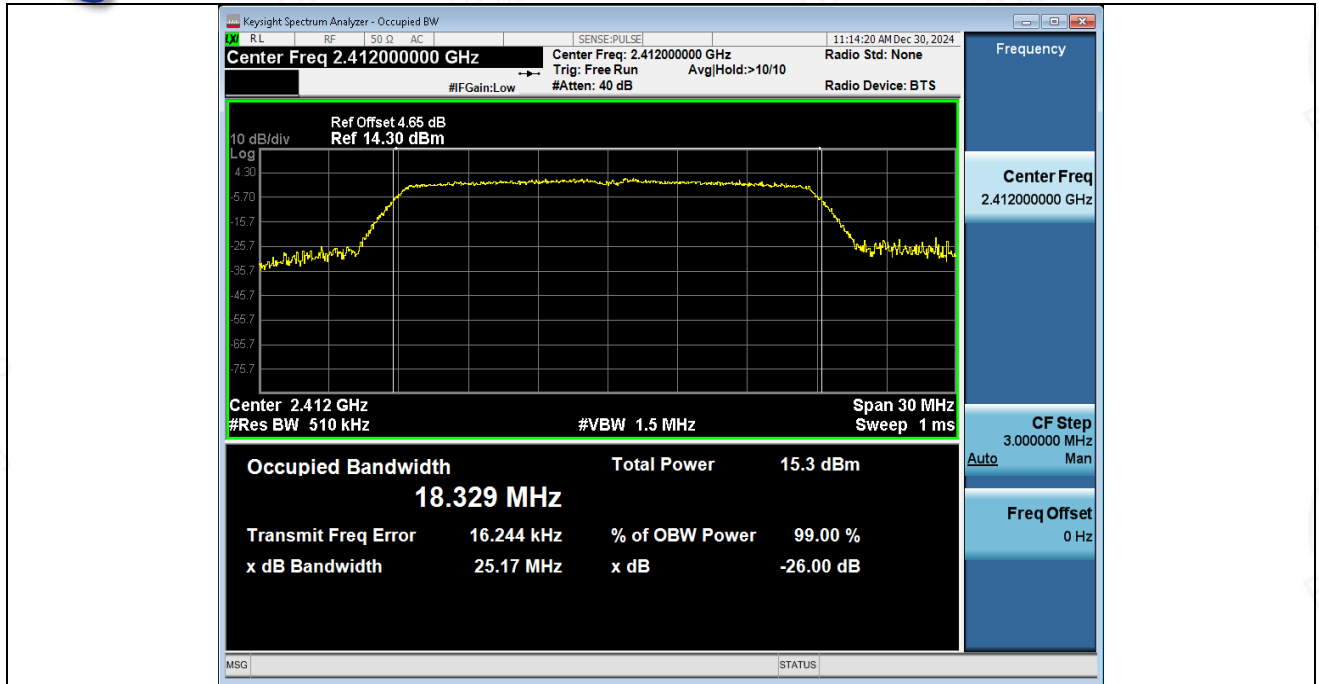






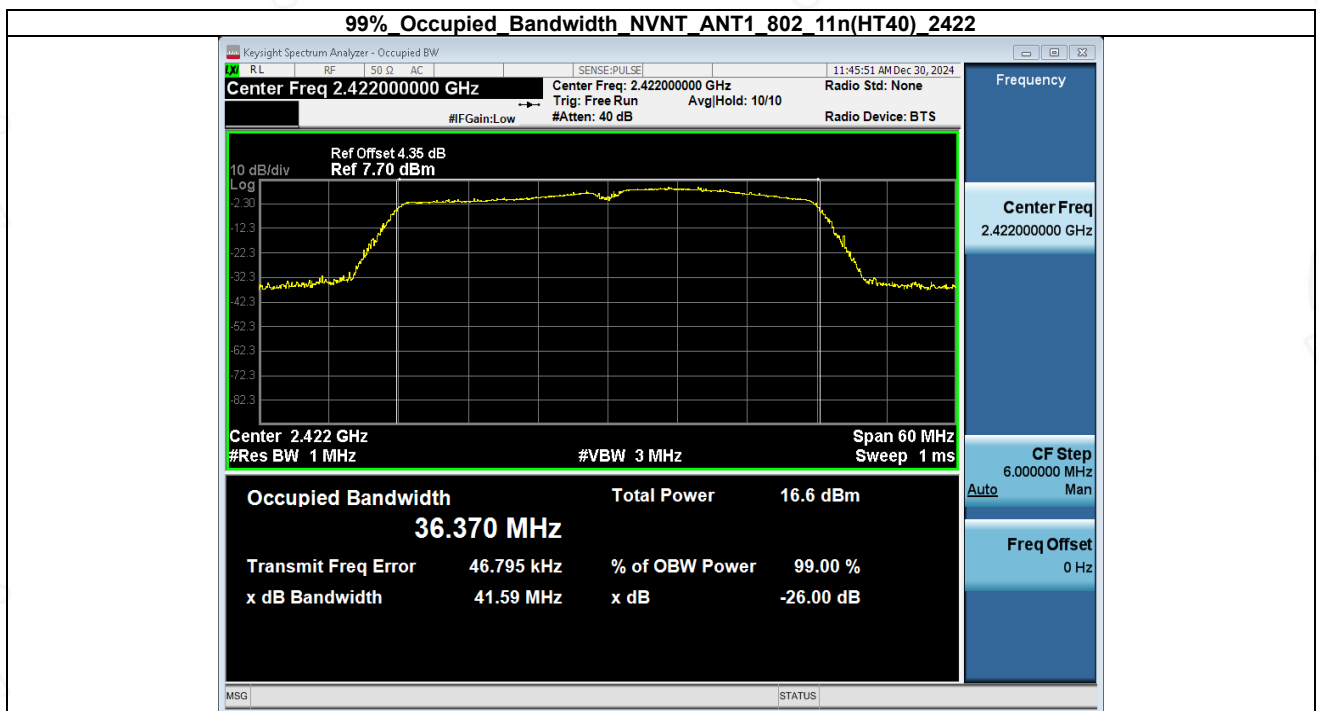
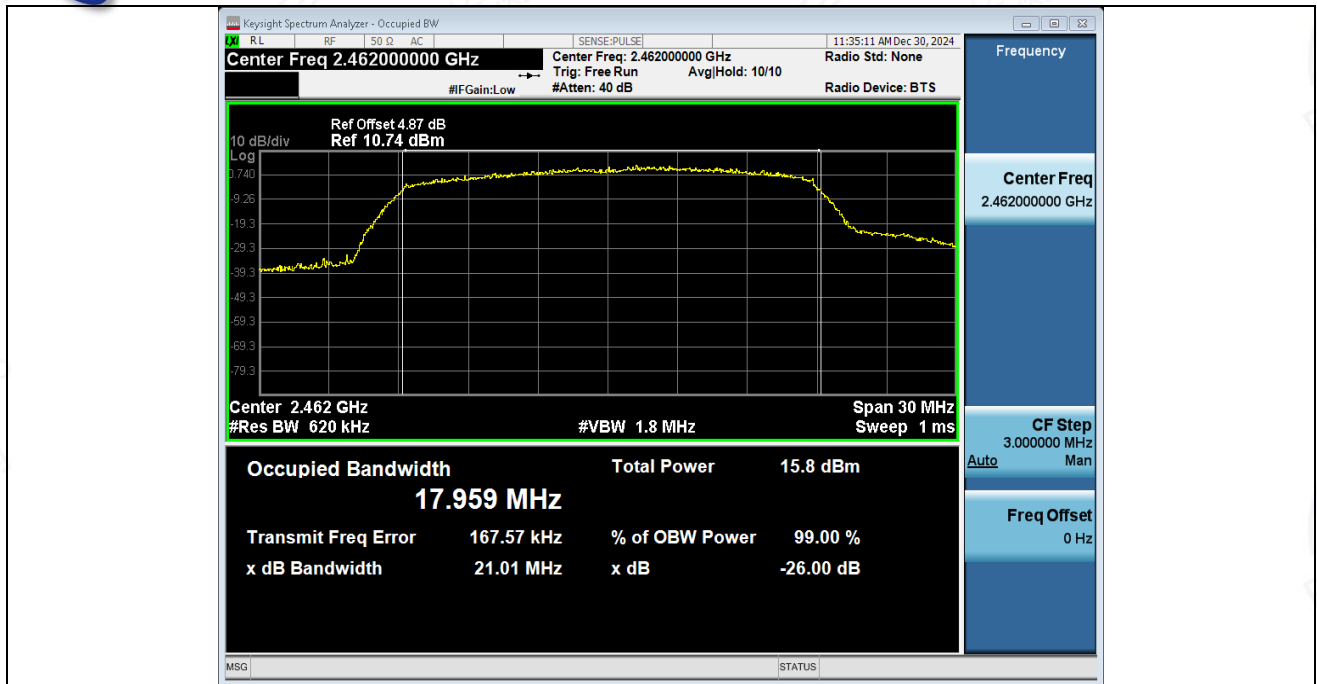
99% Occupied Bandwidth NVNT_ANT1_802_11n(HT20)_2412

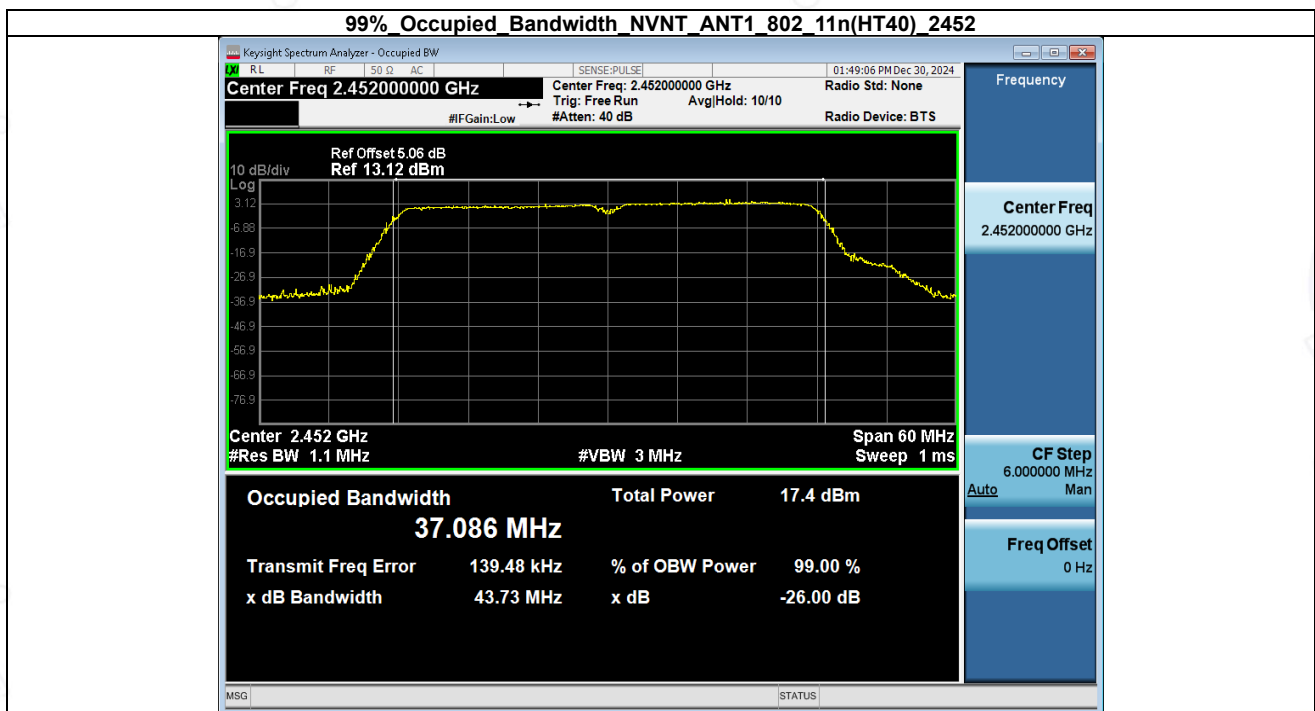
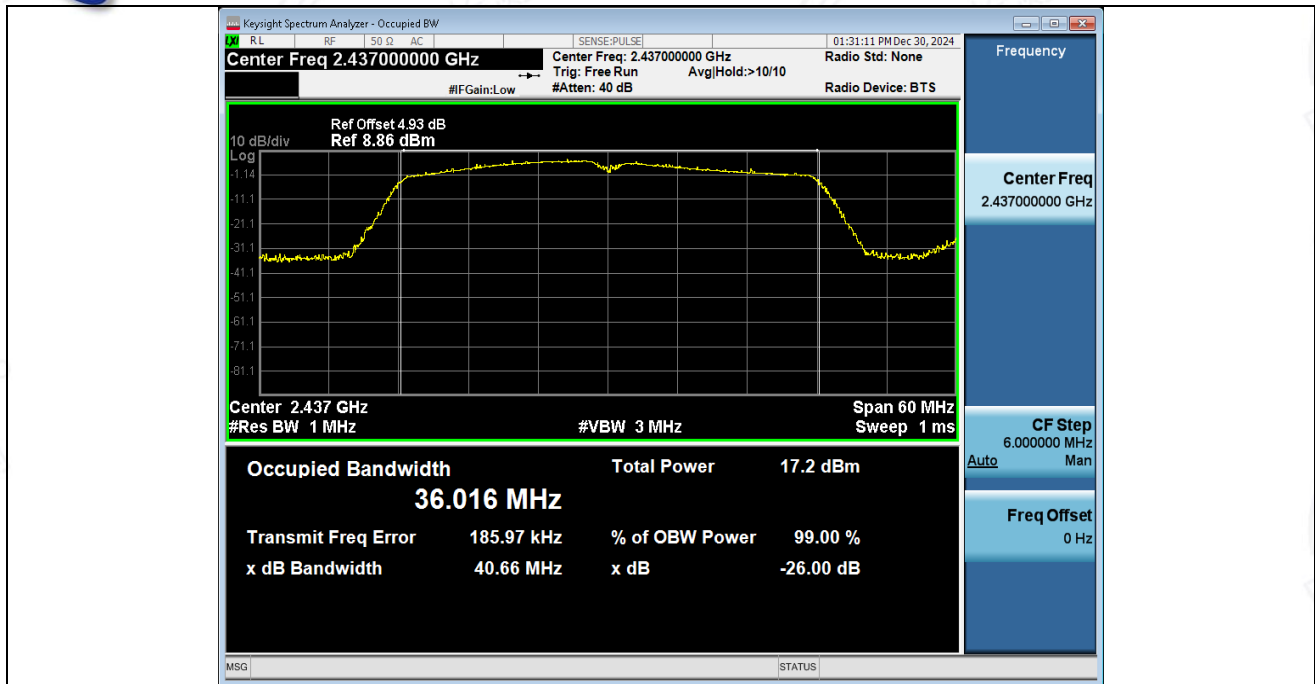




99% Occupied Bandwidth_NVNT_ANT1_802_11n(HT20)_2462



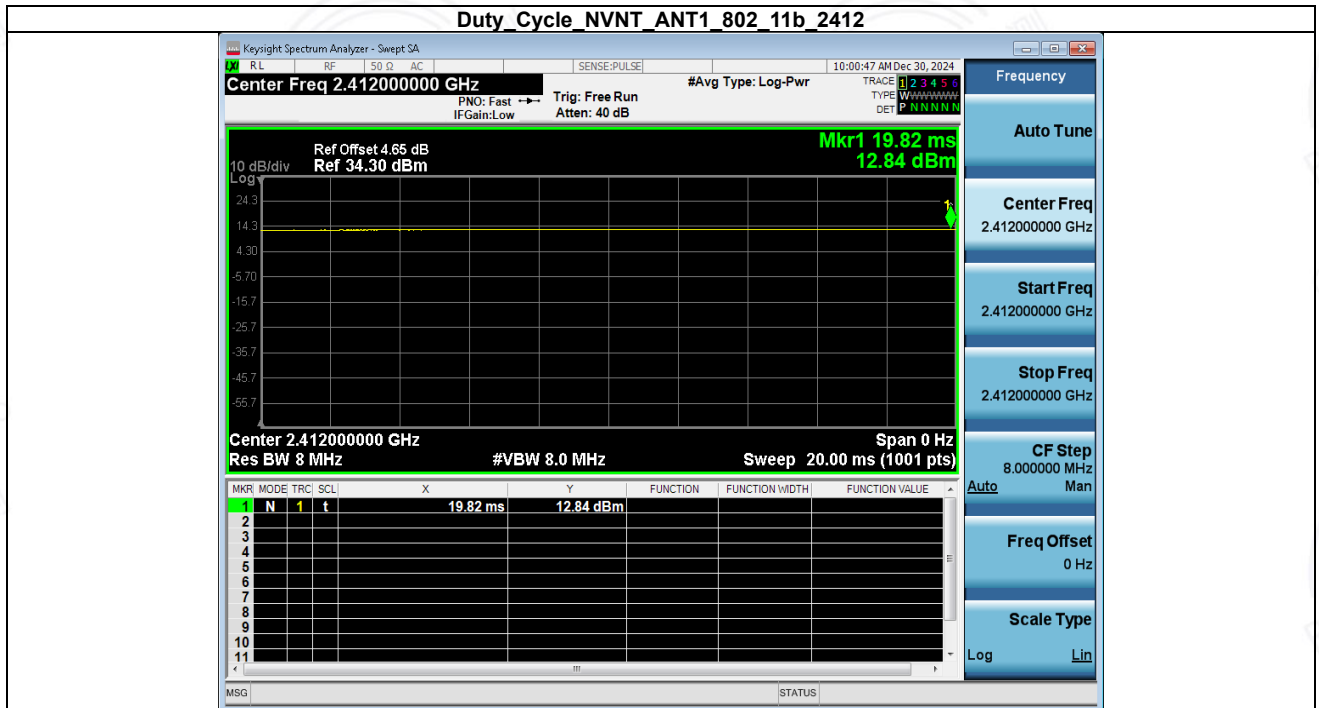




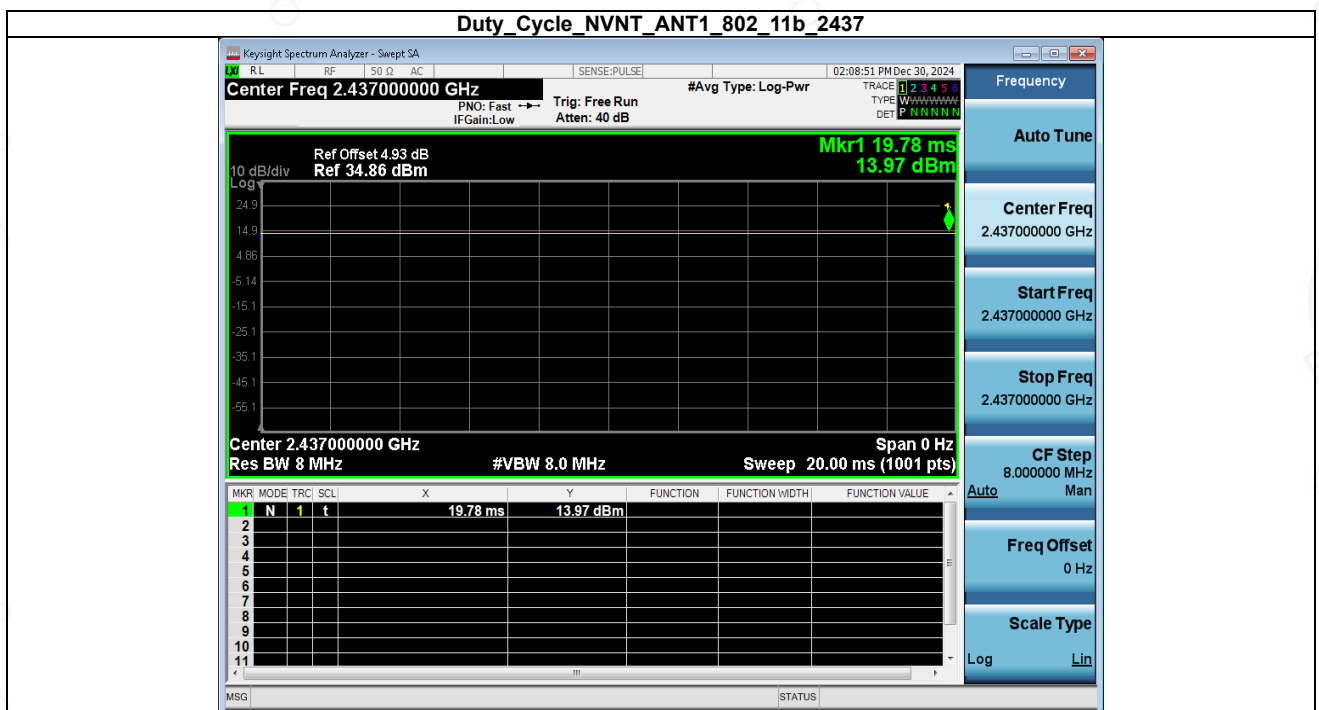
3. Duty Cycle

Condition	Antenna	Modulation	Frequency (MHz)	Duty cycle(%)	Duty factor(dB)
NVNT	ANT1	802.11b	2412.00	100	0.00
NVNT	ANT1	802.11b	2437.00	100	0.00
NVNT	ANT1	802.11b	2462.00	100	0.00
NVNT	ANT1	802.11g	2412.00	100	0.00
NVNT	ANT1	802.11g	2437.00	100	0.00
NVNT	ANT1	802.11g	2462.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2412.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT20)	2462.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2422.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2437.00	100	0.00
NVNT	ANT1	802.11n(HT40)	2452.00	100	0.00

Duty_Cycle_NVNT_ANT1_802_11b_2412

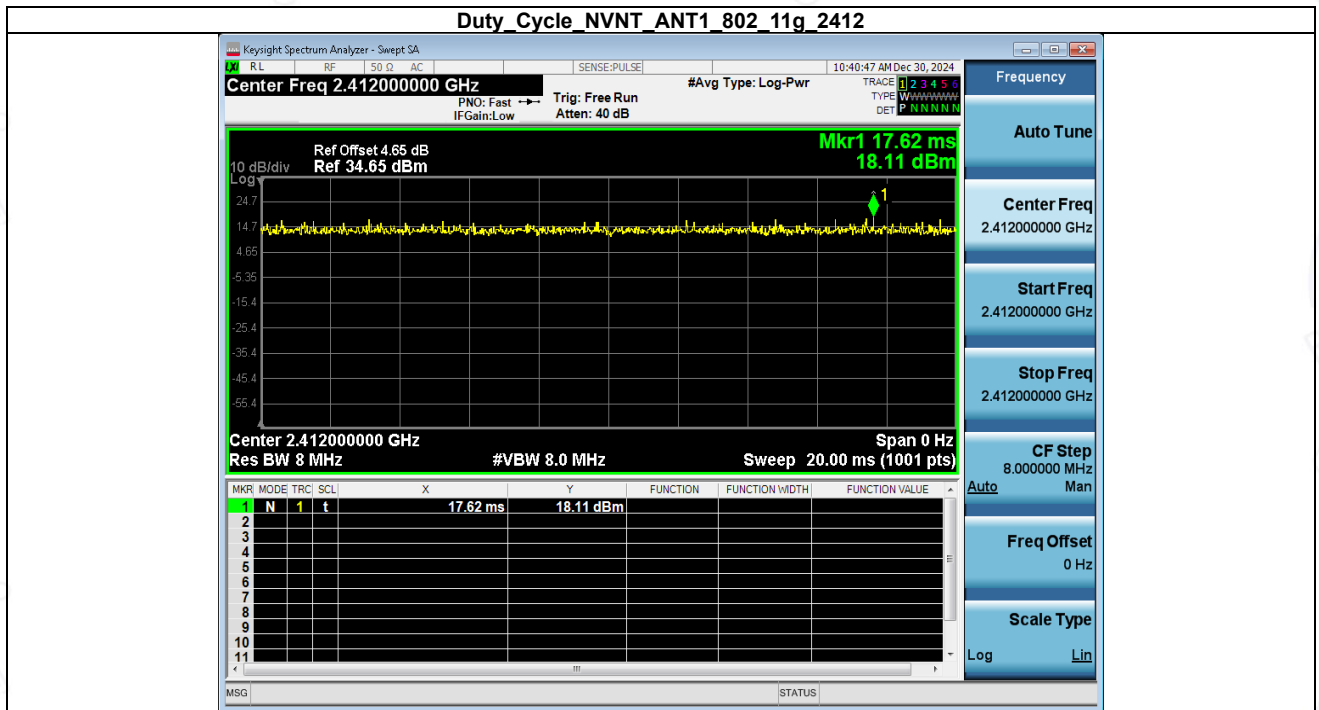
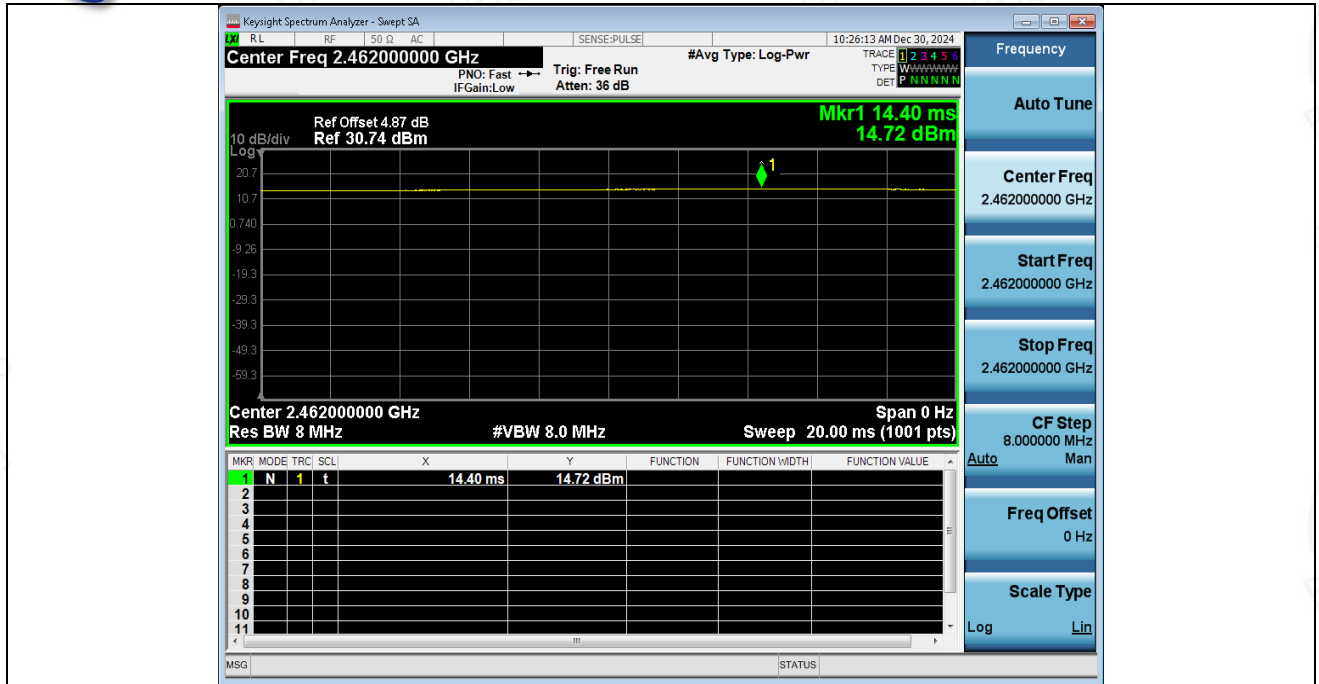


Duty_Cycle_NVNT_ANT1_802_11b_2437



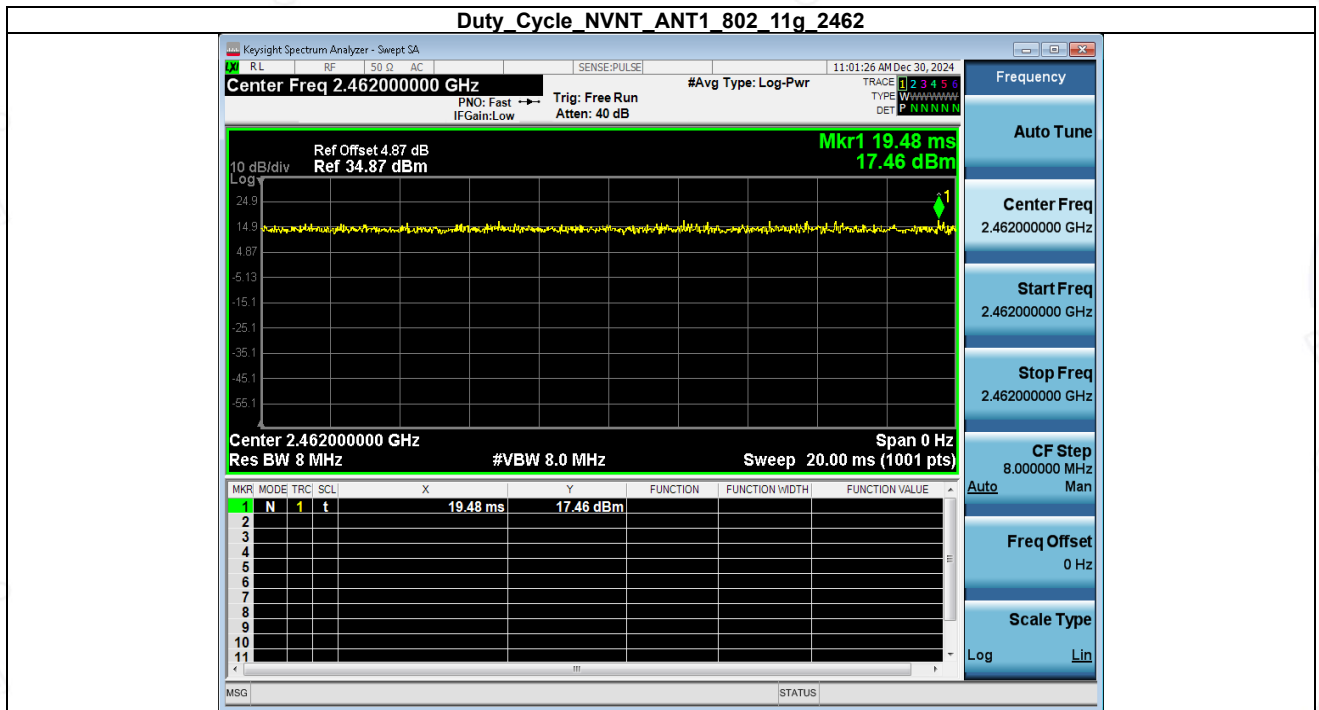
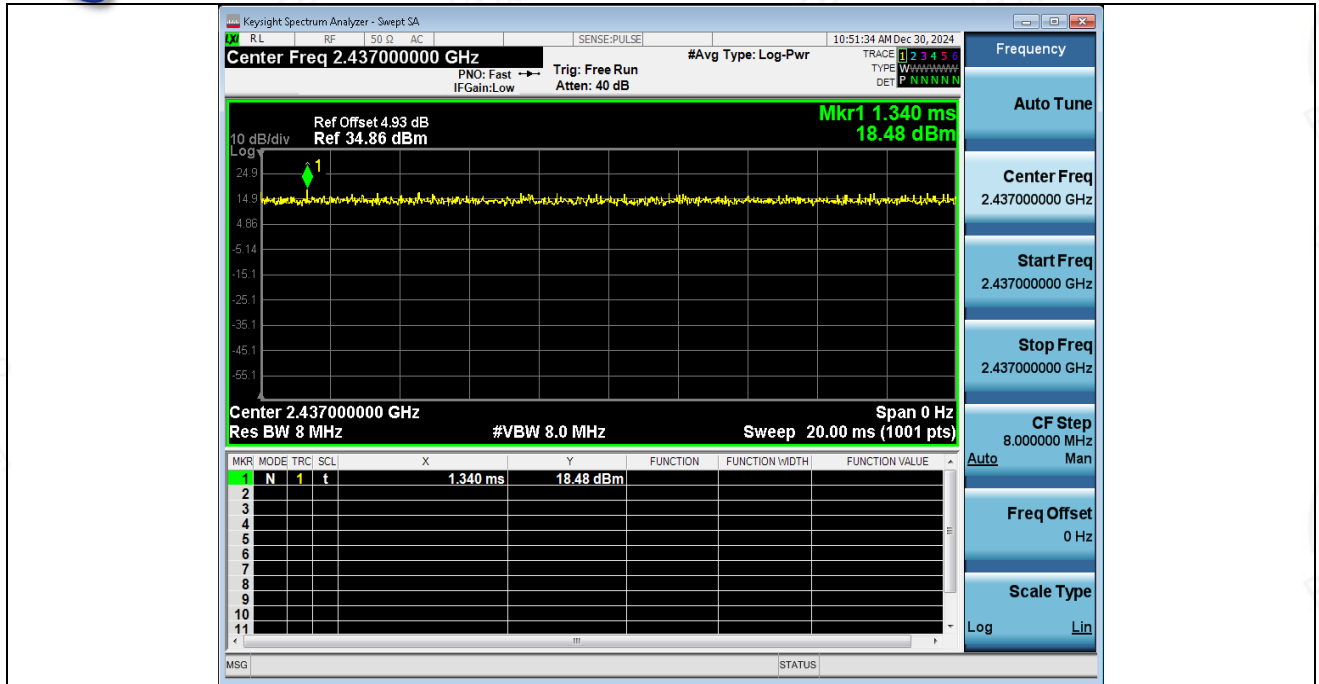
Duty_Cycle_NVNT_ANT1_802_11b_2462





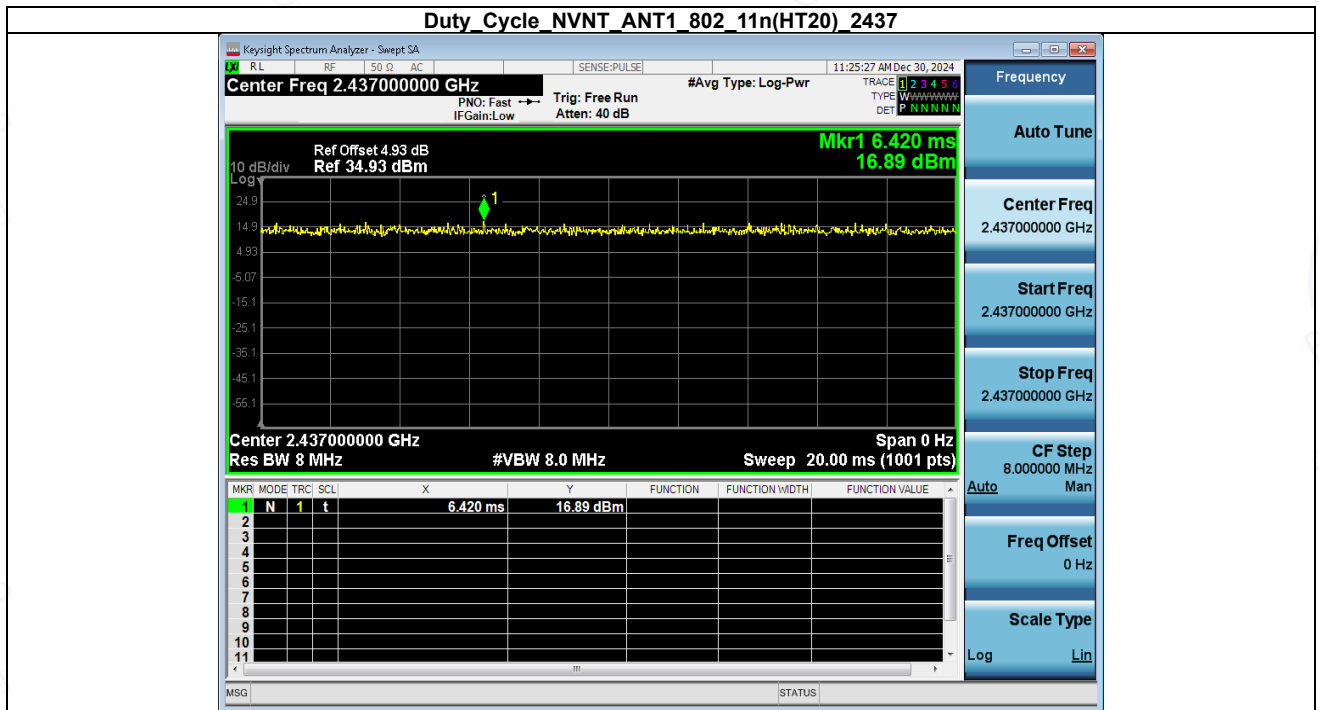
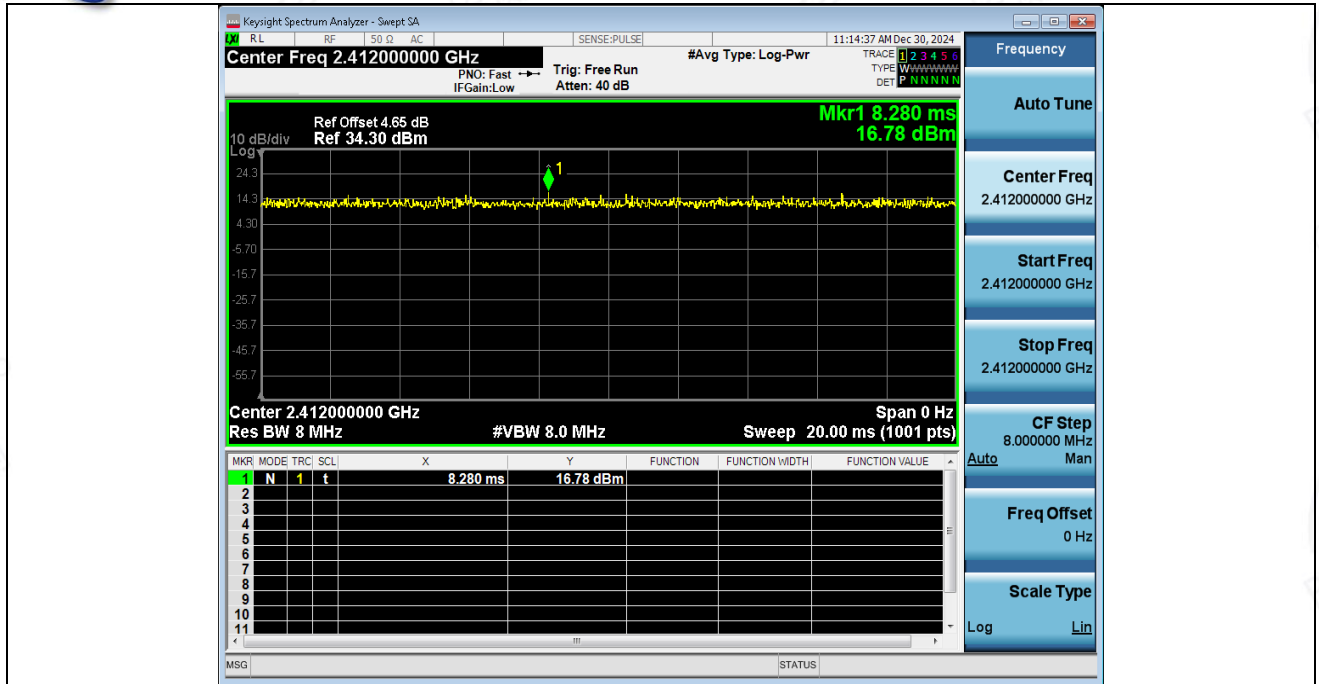
Duty Cycle NVNT_ANT1_802_11g_2437





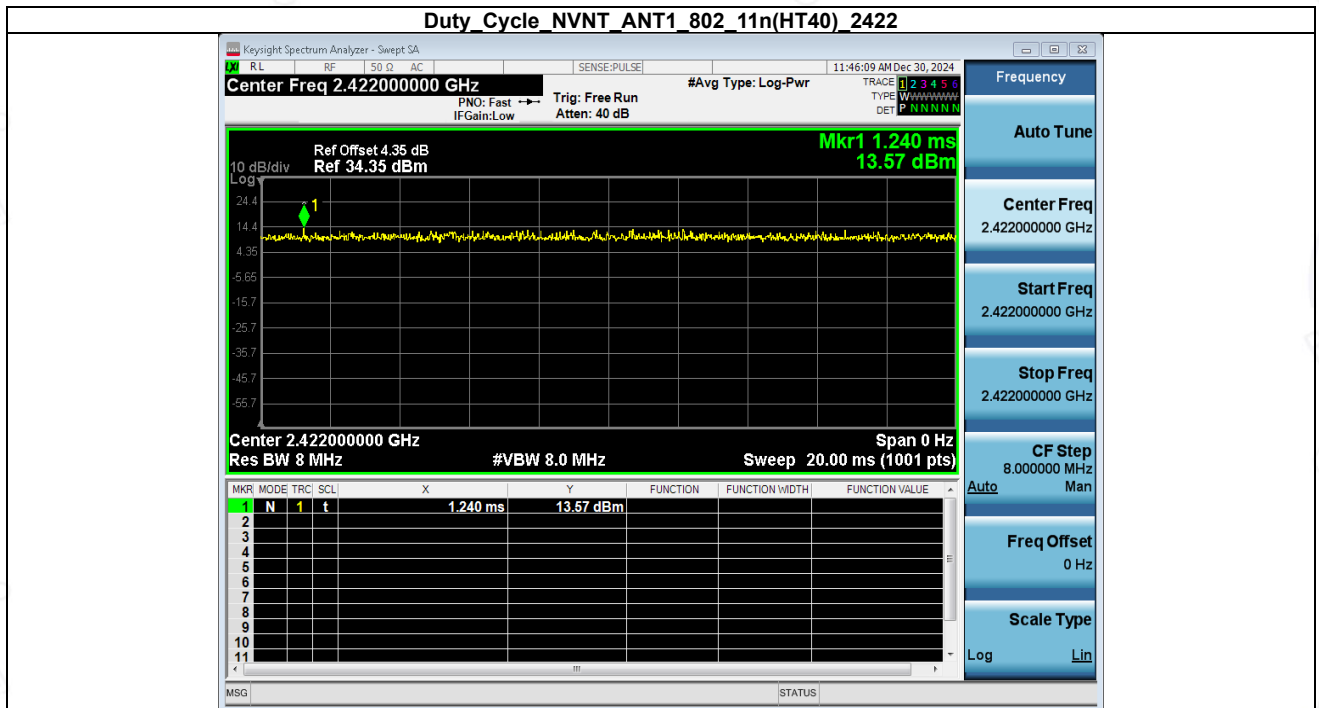
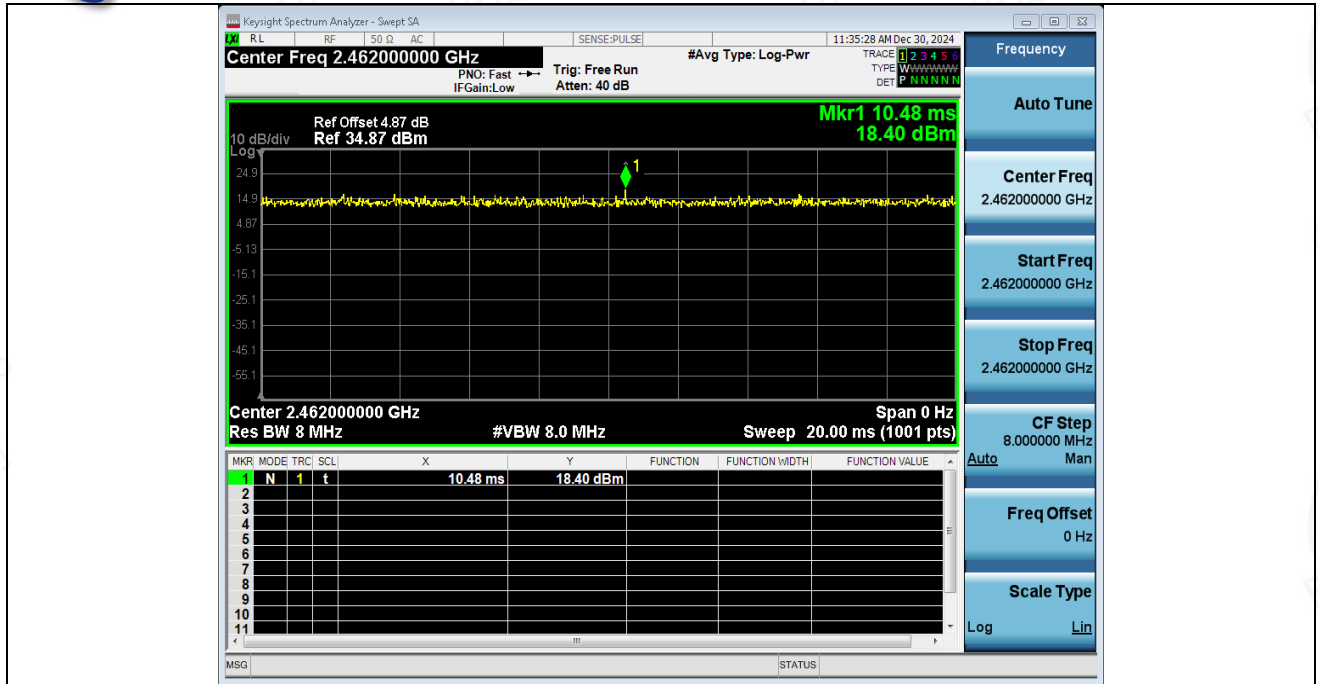
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2412





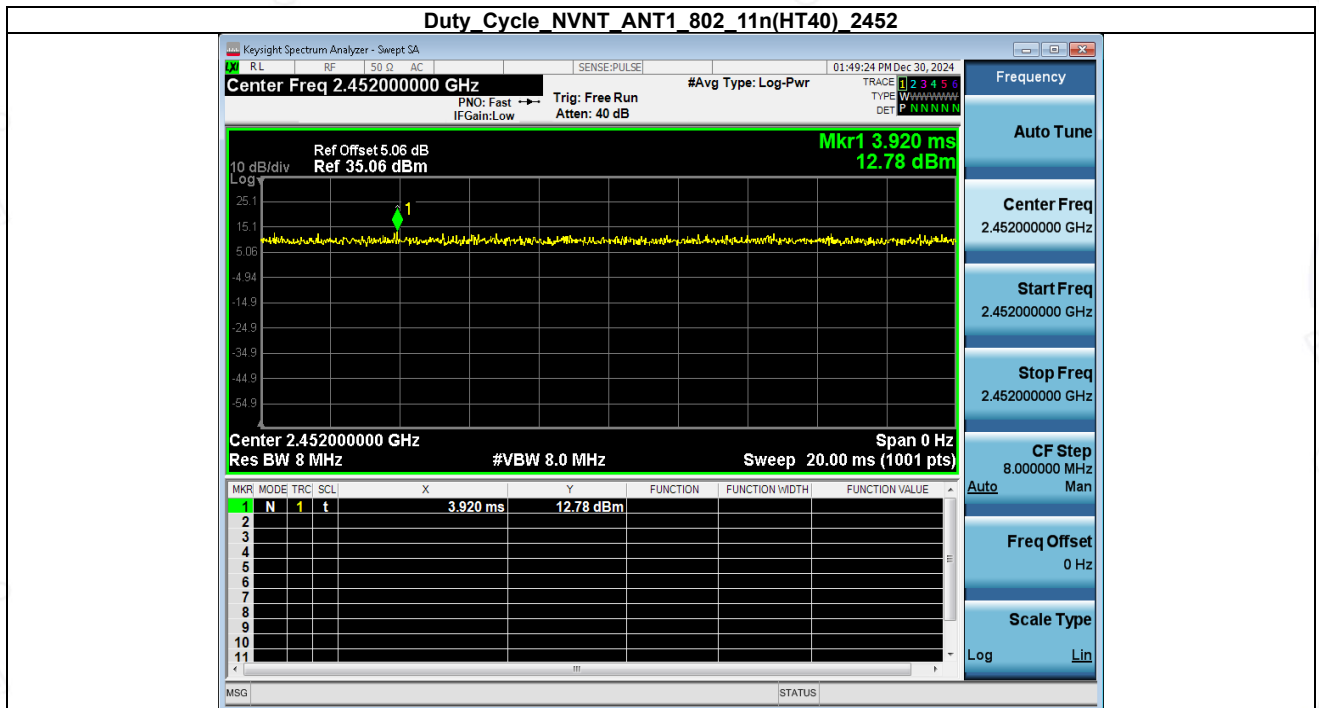
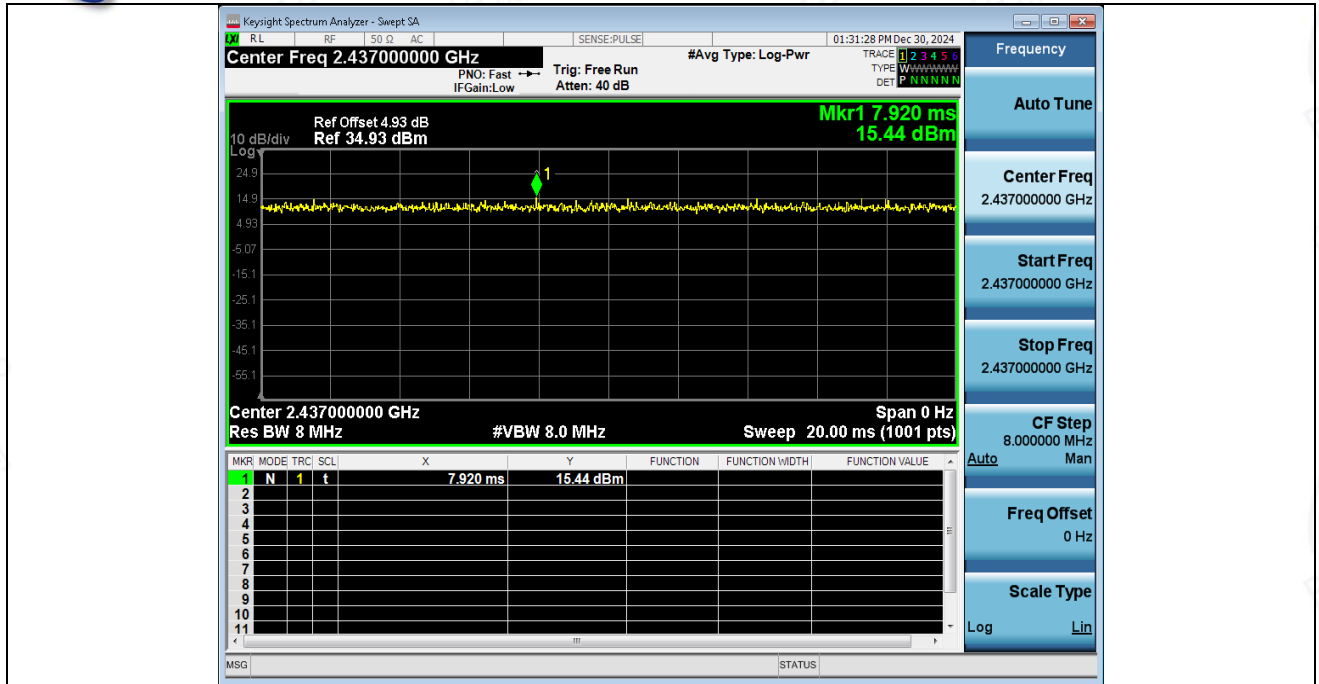
Duty_Cycle_NVNT_ANT1_802_11n(HT20)_2462





Duty Cycle NVNT_ANT1_802_11n(HT40)_2437

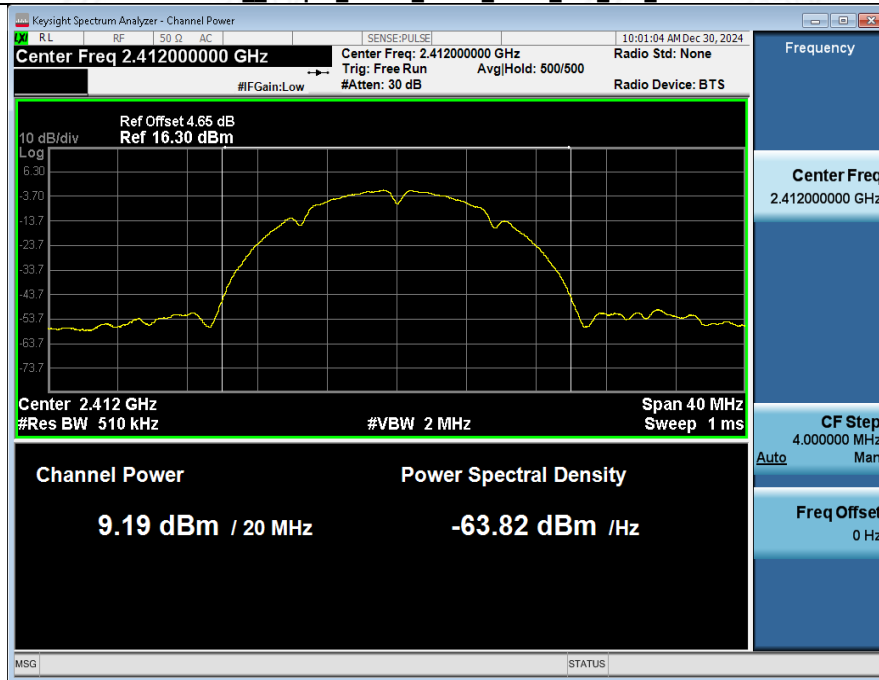




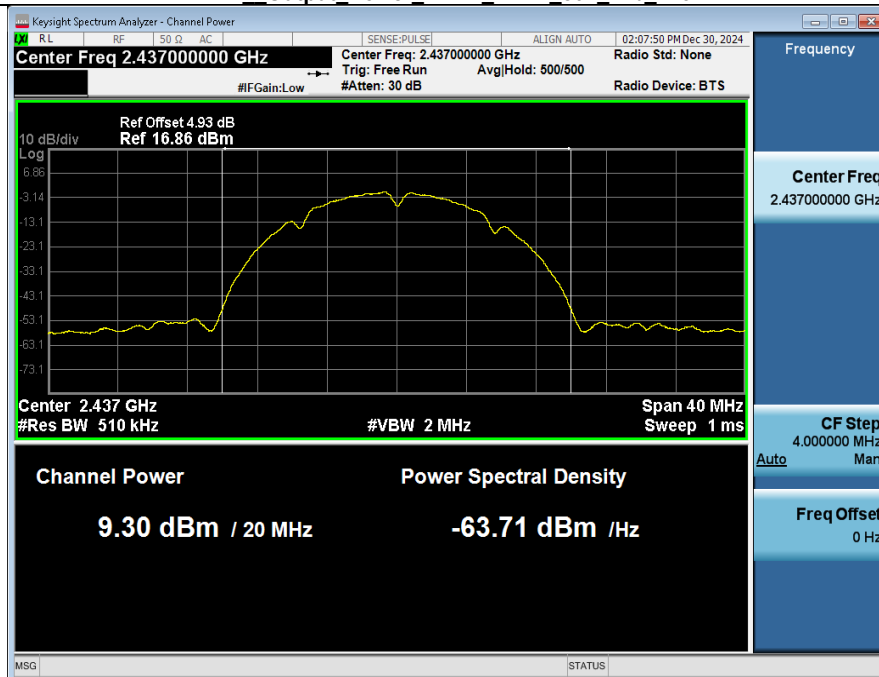
4. MAX. Output Power

Condition	Antenna	Modulation	Frequency (MHz)	Detector	Conducted Power(dBm)	Duty factor(dB)	Total Power(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	RMS	9.19	0.00	9.19	30	Pass
NVNT	ANT1	802.11b	2437.00	RMS	9.30	0.00	9.30	30	Pass
NVNT	ANT1	802.11b	2462.00	RMS	9.44	0.00	9.44	30	Pass
NVNT	ANT1	802.11g	2412.00	RMS	8.61	0.00	8.61	30	Pass
NVNT	ANT1	802.11g	2437.00	RMS	9.37	0.00	9.37	30	Pass
NVNT	ANT1	802.11g	2462.00	RMS	8.94	0.00	8.94	30	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	RMS	8.14	0.00	8.14	30	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	RMS	8.82	0.00	8.82	30	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	RMS	8.69	0.00	8.69	30	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	RMS	8.50	0.00	8.50	30	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	RMS	9.15	0.00	9.15	30	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	RMS	9.06	0.00	9.06	30	Pass

MAX Output Power NVNT ANT1 802 11b 2412

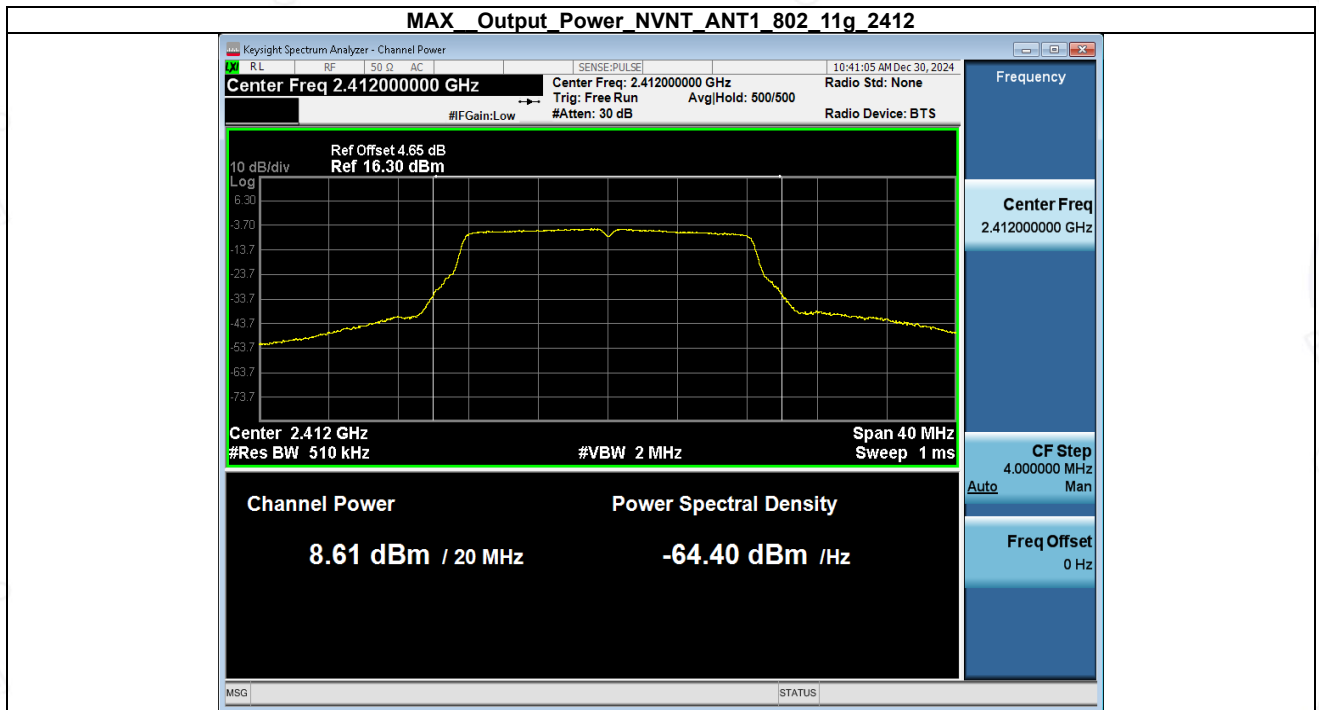
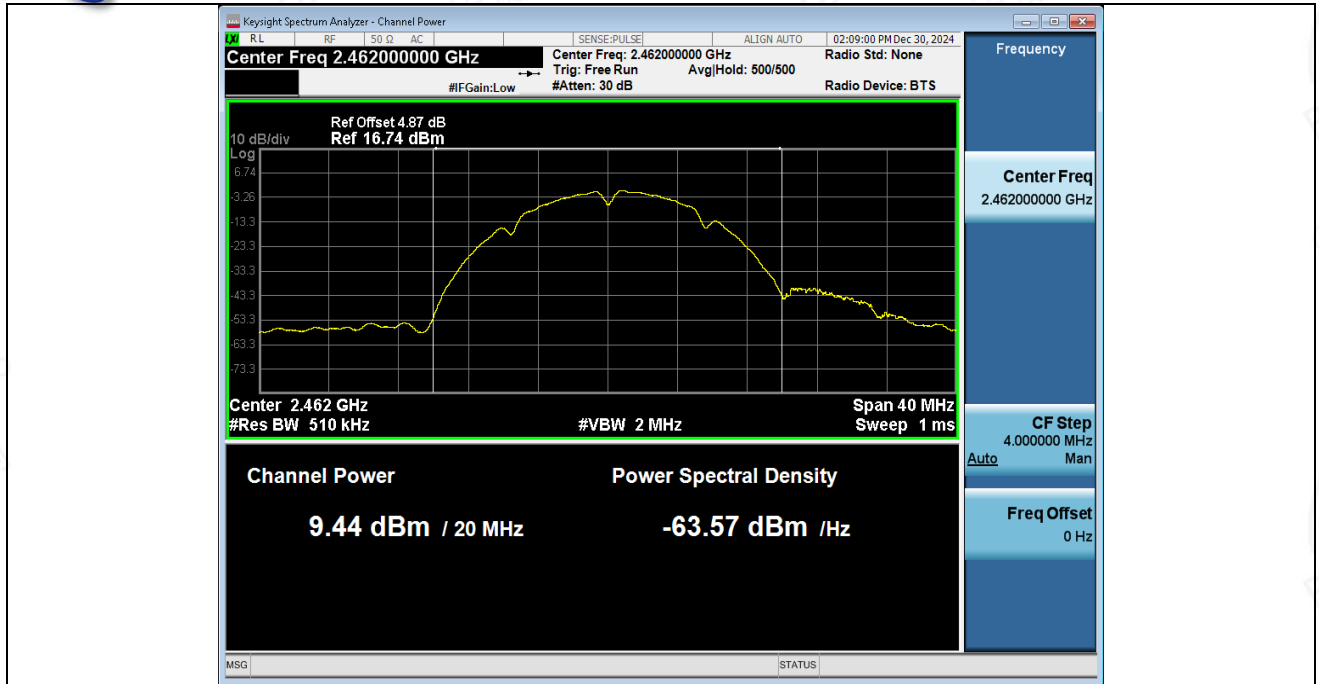


MAX Output Power NVNT ANT1 802 11b 2437



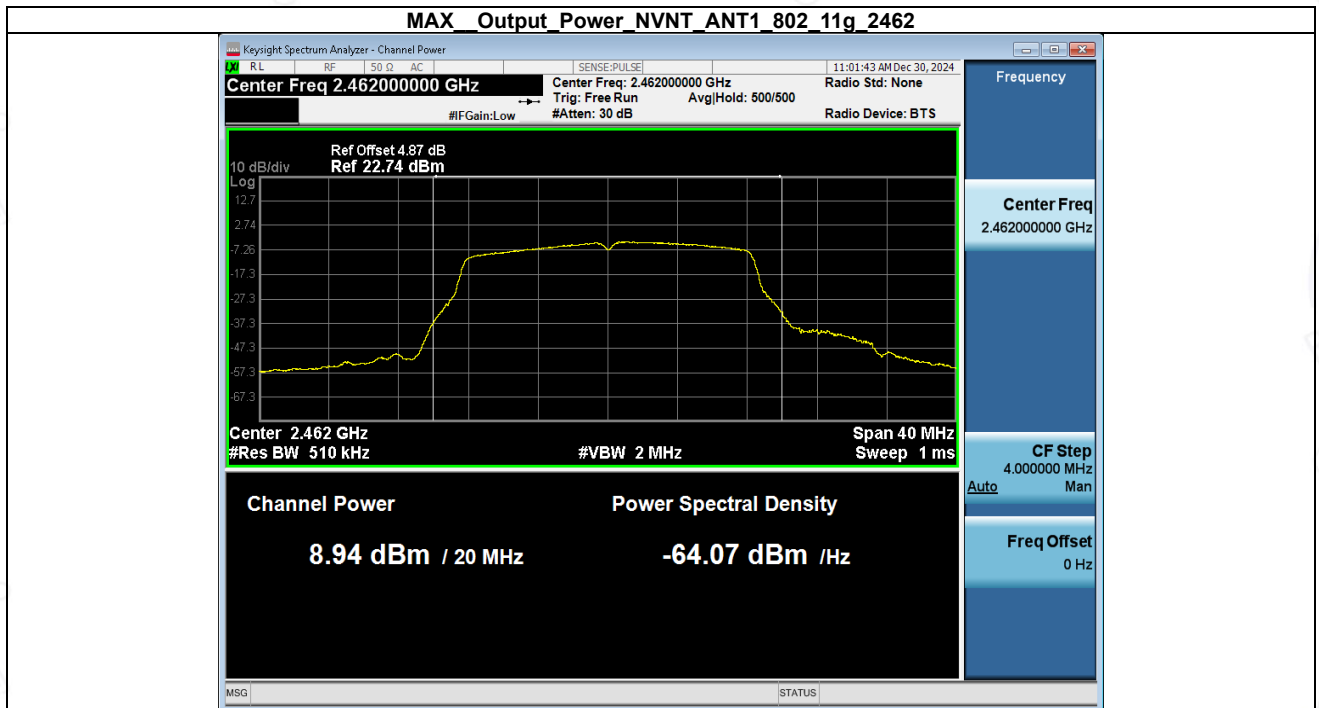
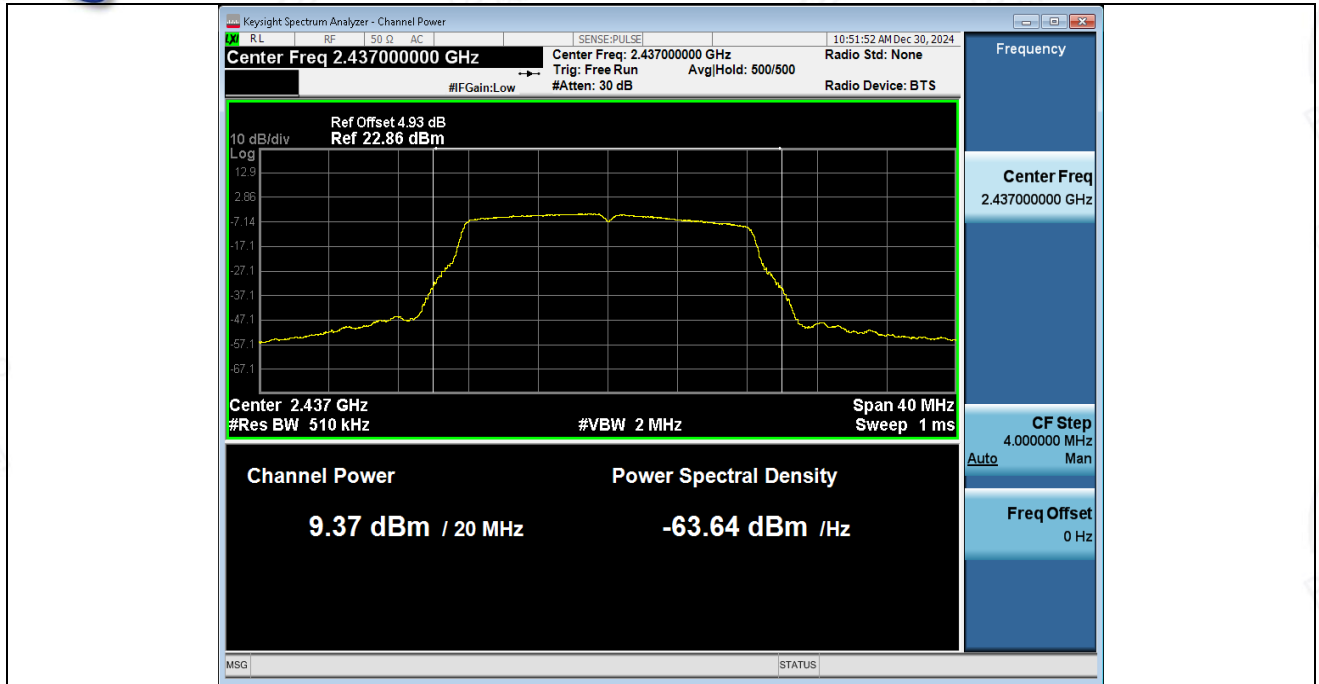
MAX Output Power NVNT ANT1 802 11b 2462





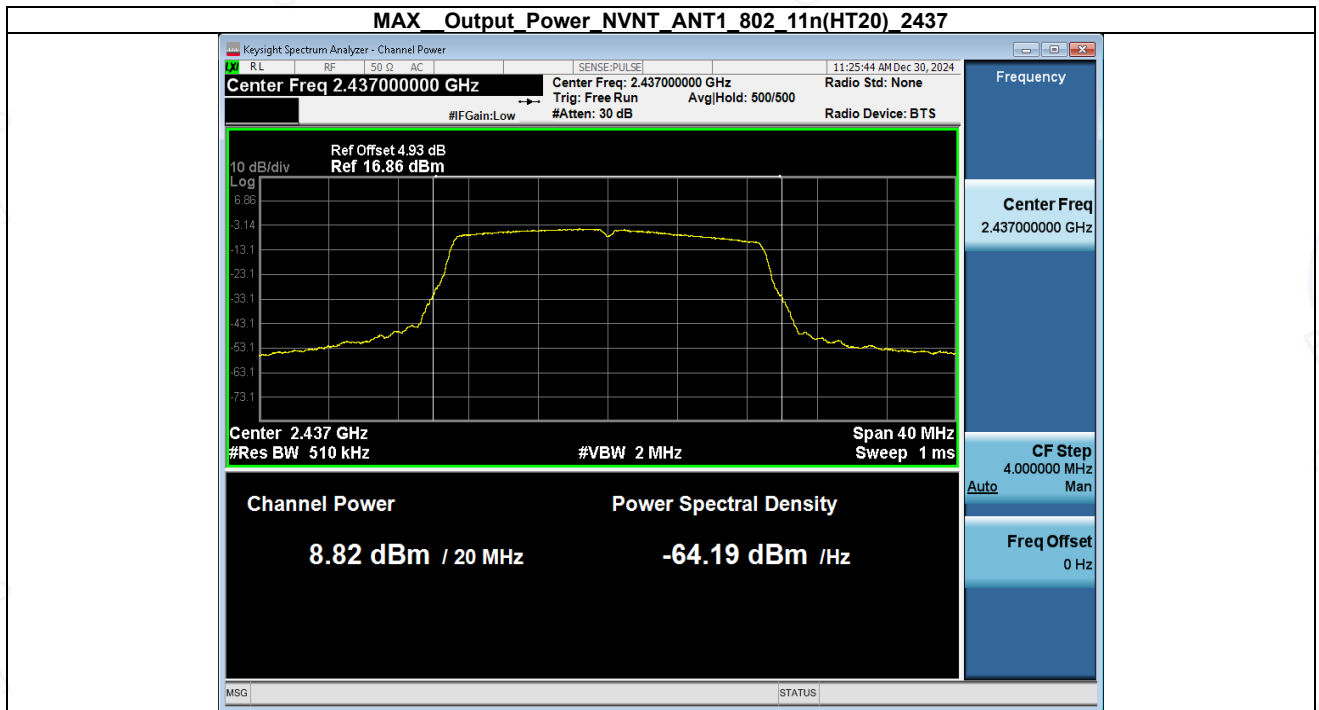
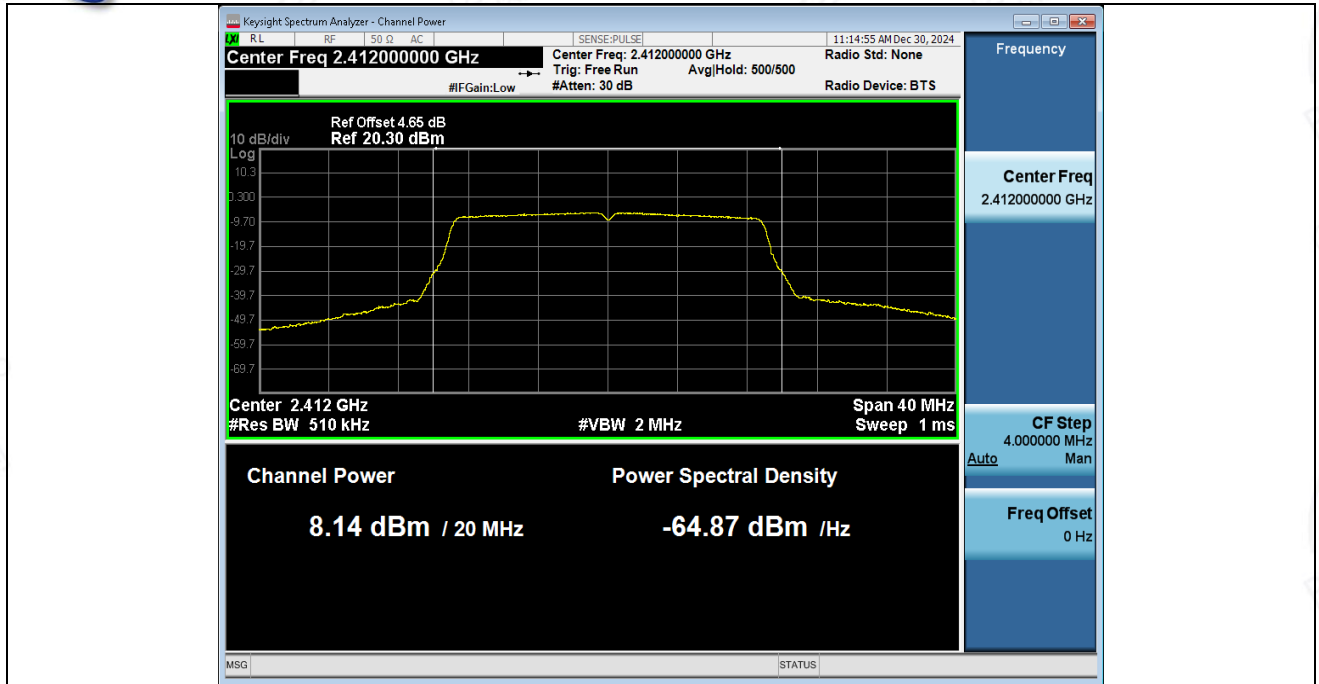
MAX Output Power NVNT_ANT1_802_11g_2437





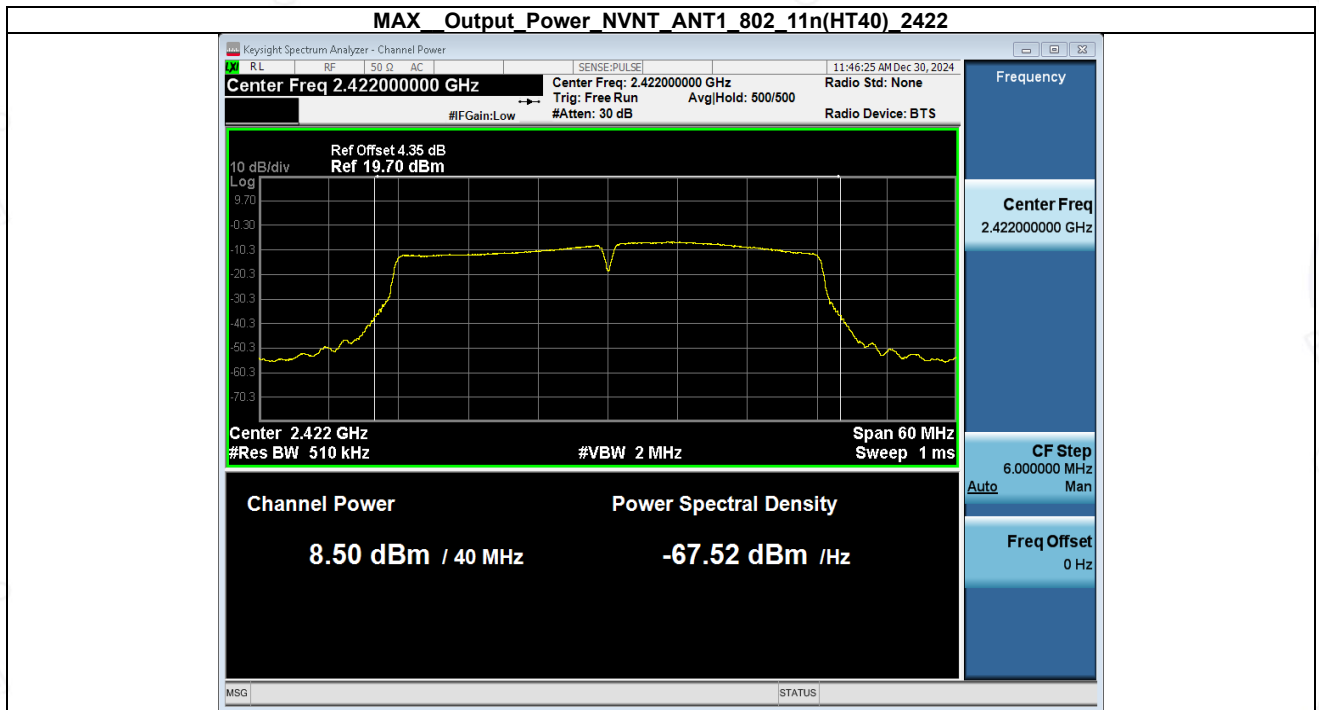
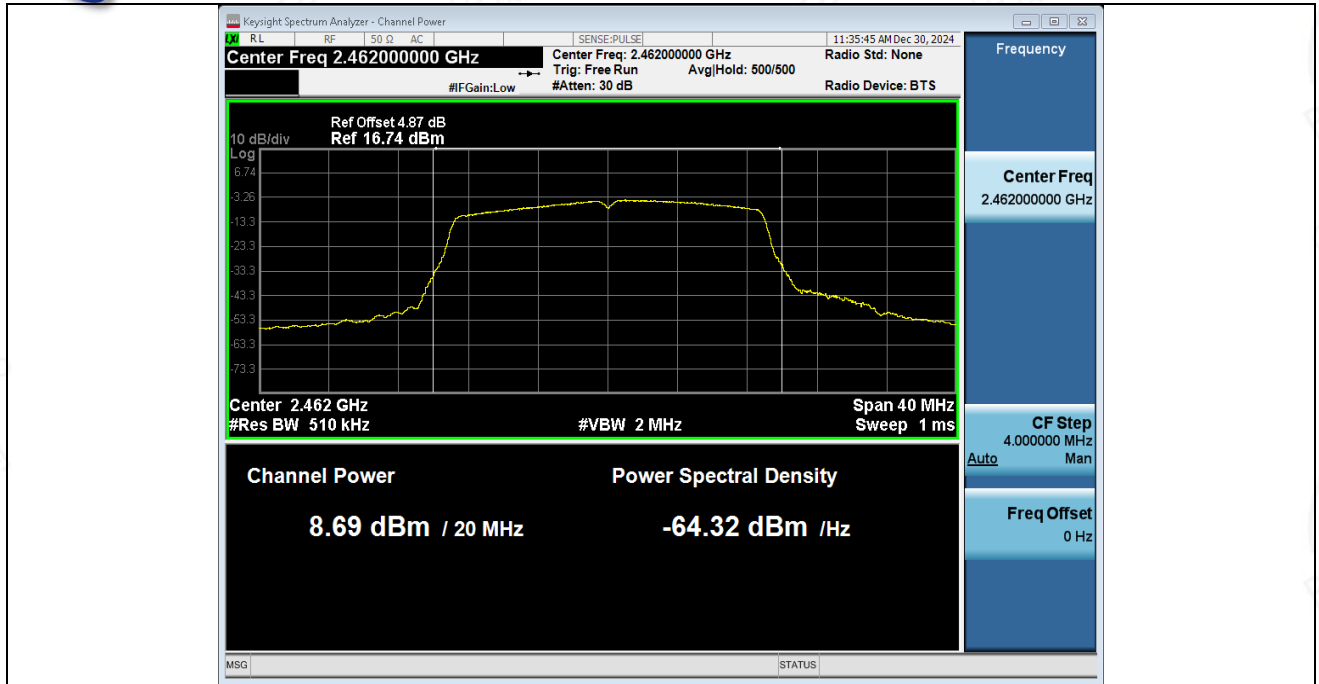
MAX Output Power_NVNT_ANT1_802_11n(HT20)_2412





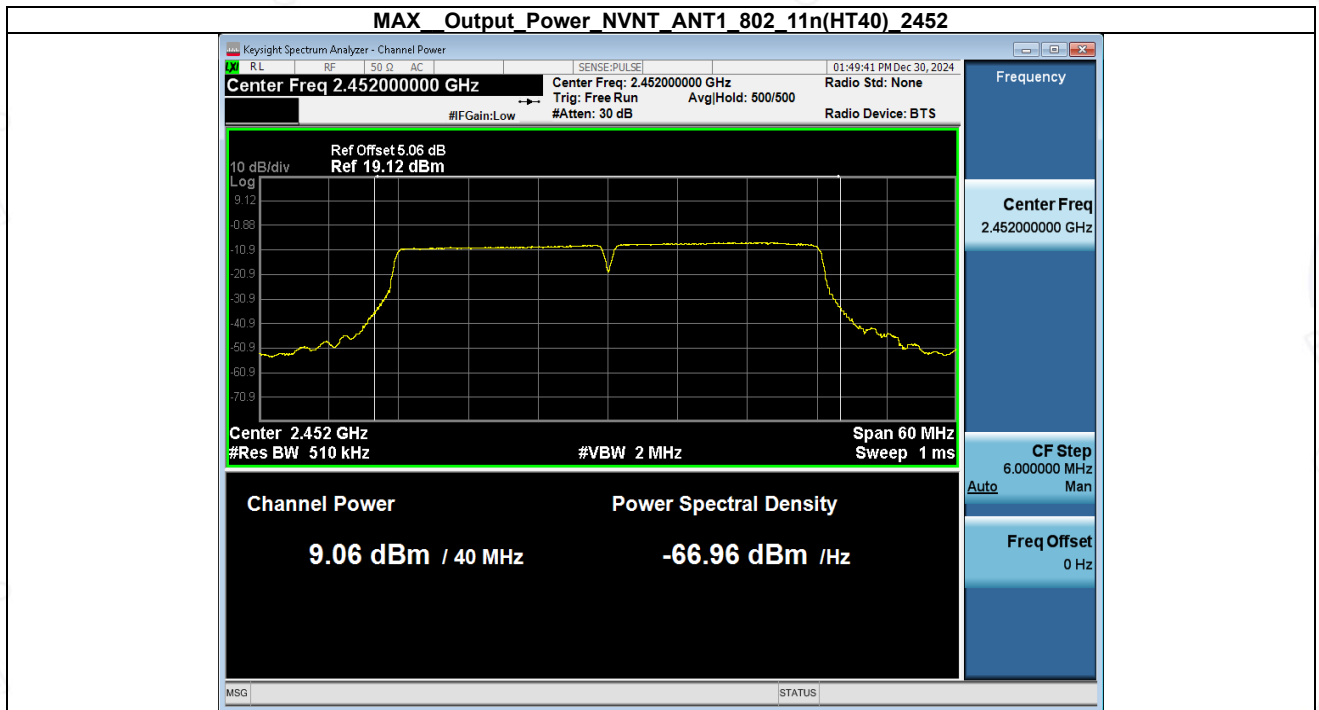
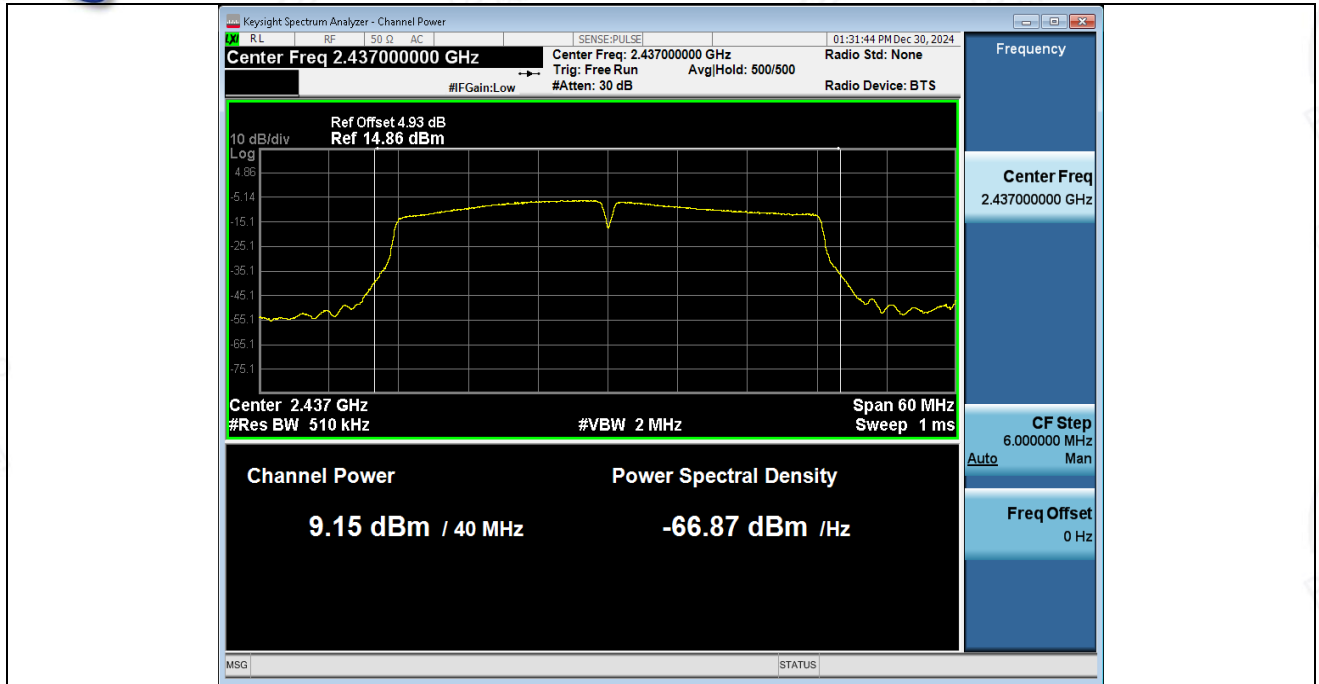
MAX Output Power NVNT_ANT1_802_11n(HT20)_2462





MAX Output Power NVNT ANT1_802_11n(HT40)_2437

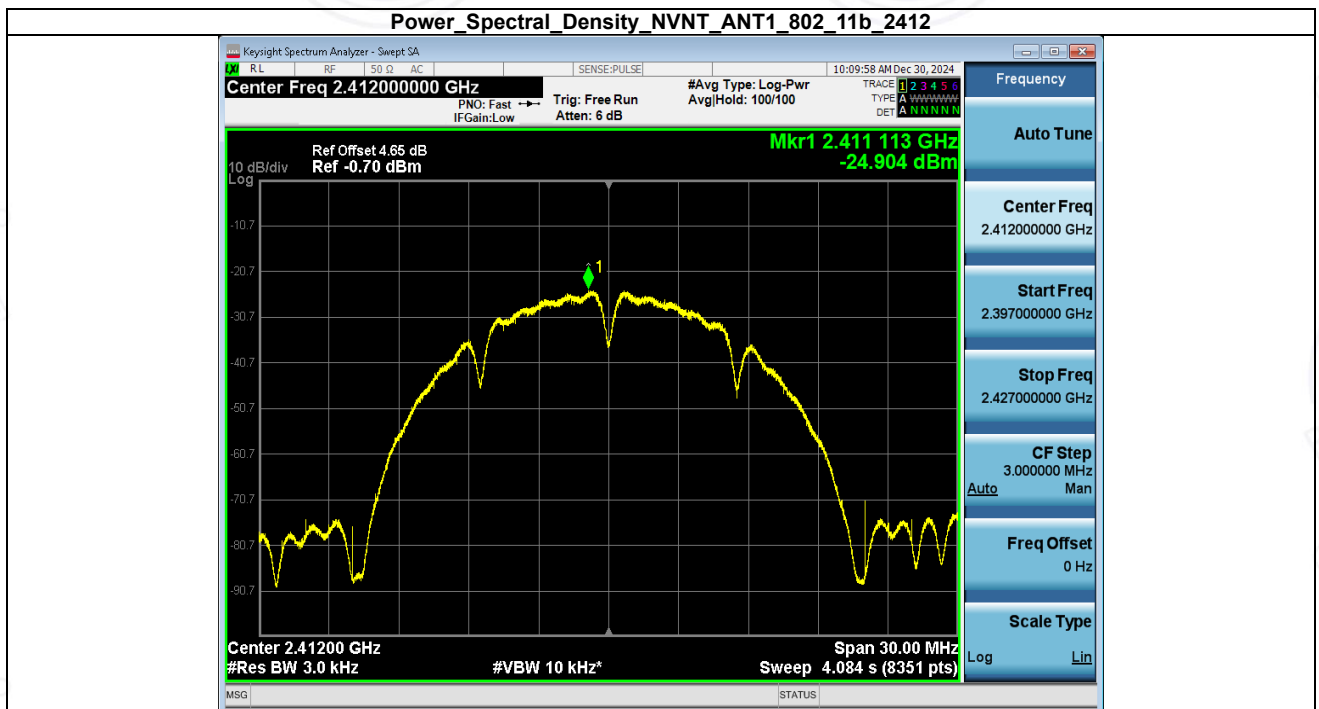




5. Power Spectral Density

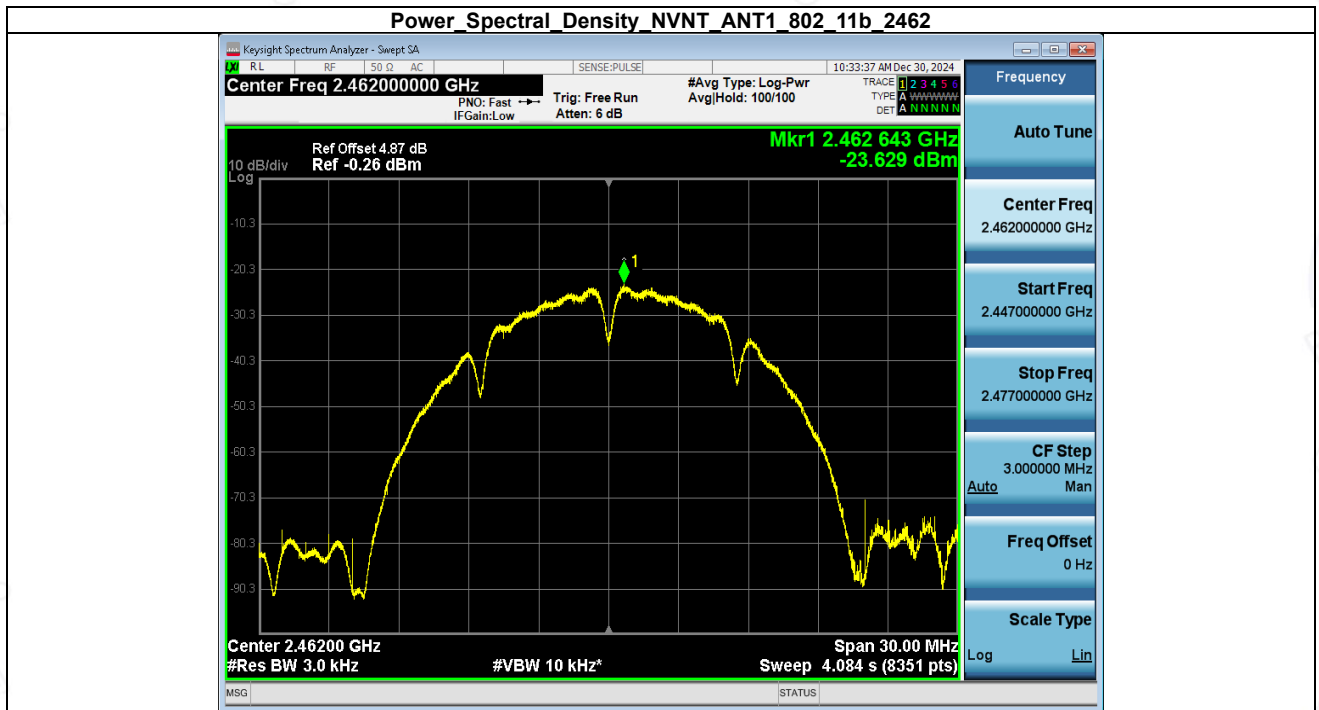
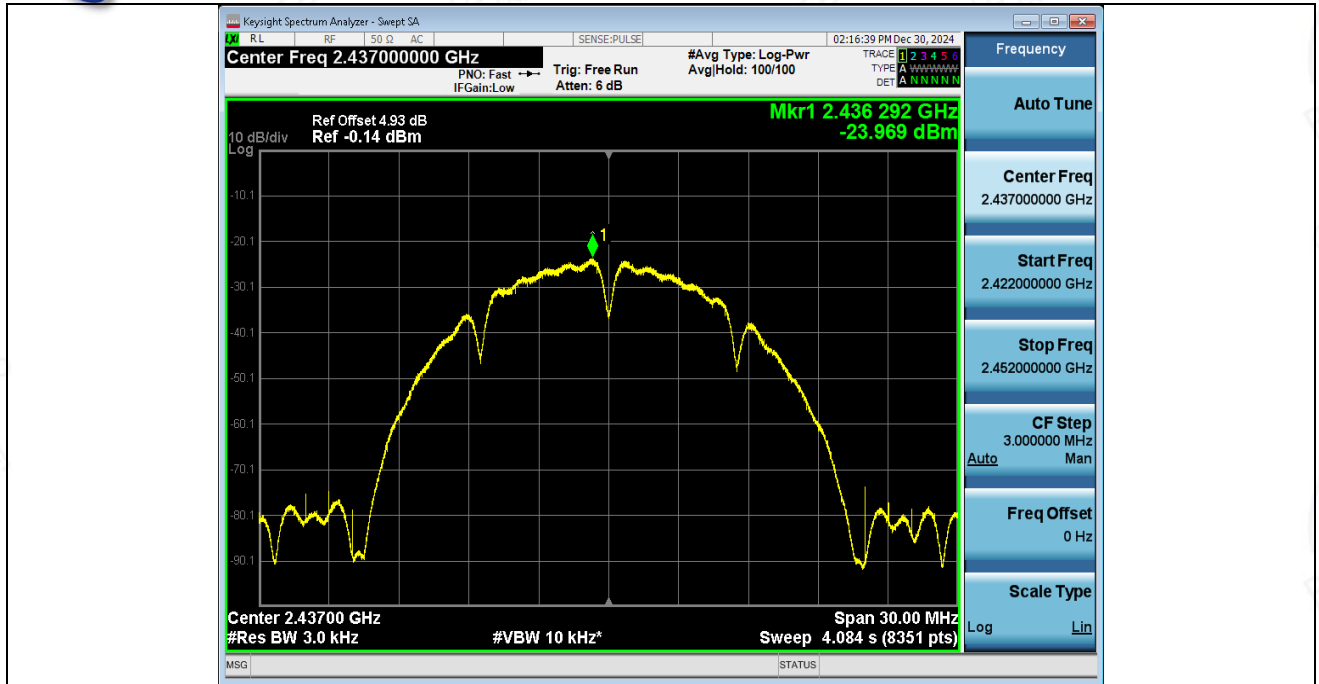
Condition	Antenna	Modulation	Frequency (MHz)	SA_PSD(dBm/3kHz)	Duty factor(dB)	RB factor(dB)	PSD(dBm/3kHz)	limit(dBm/3kHz)	Result
NVNT	ANT1	802.11b	2412.00	-24.90	0.00	0.00	-24.90	8	Pass
NVNT	ANT1	802.11b	2437.00	-23.97	0.00	0.00	-23.97	8	Pass
NVNT	ANT1	802.11b	2462.00	-23.63	0.00	0.00	-23.63	8	Pass
NVNT	ANT1	802.11g	2412.00	-27.51	0.00	0.00	-27.51	8	Pass
NVNT	ANT1	802.11g	2437.00	-26.08	0.00	0.00	-26.08	8	Pass
NVNT	ANT1	802.11g	2462.00	-26.35	0.00	0.00	-26.35	8	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	-28.64	0.00	0.00	-28.64	8	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	-27.38	0.00	0.00	-27.38	8	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	-27.17	0.00	0.00	-27.17	8	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	-30.12	0.00	0.00	-30.12	8	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	-29.34	0.00	0.00	-29.34	8	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	-30.73	0.00	0.00	-30.73	8	Pass

Power_Spectral_Density_NVNT_ANT1_802_11b_2412



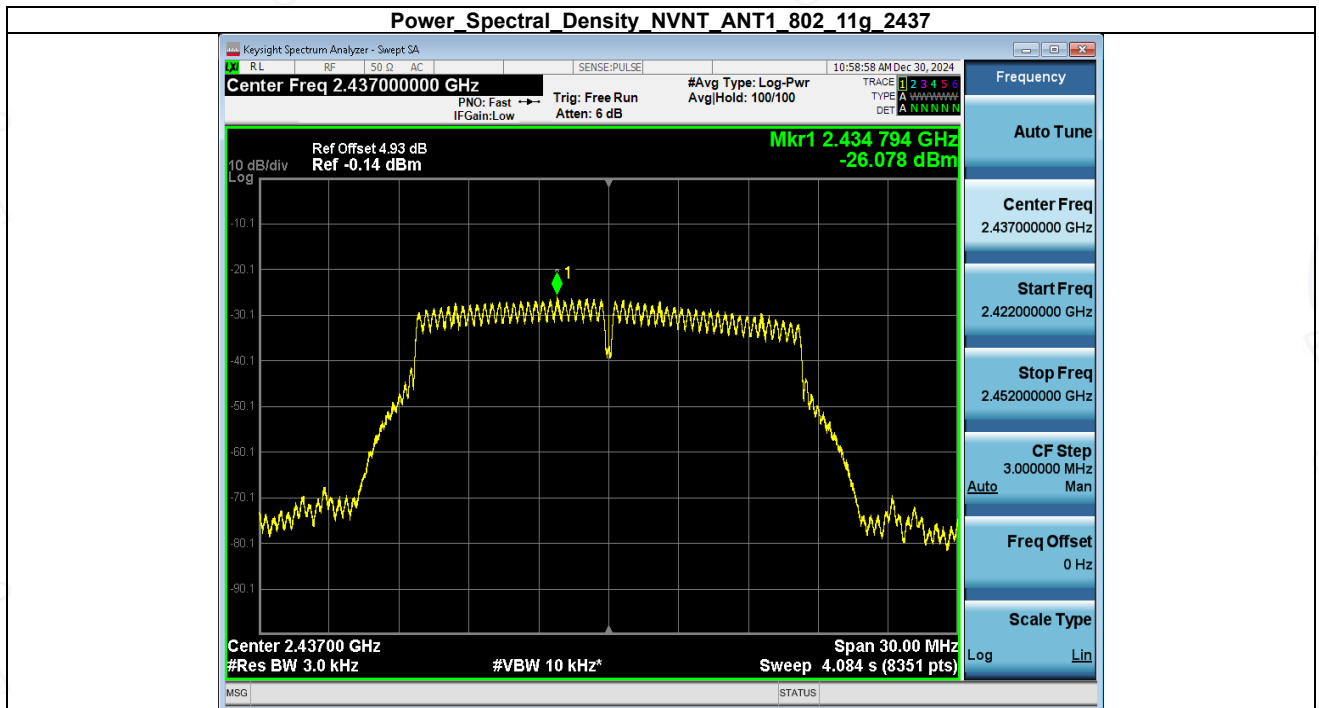
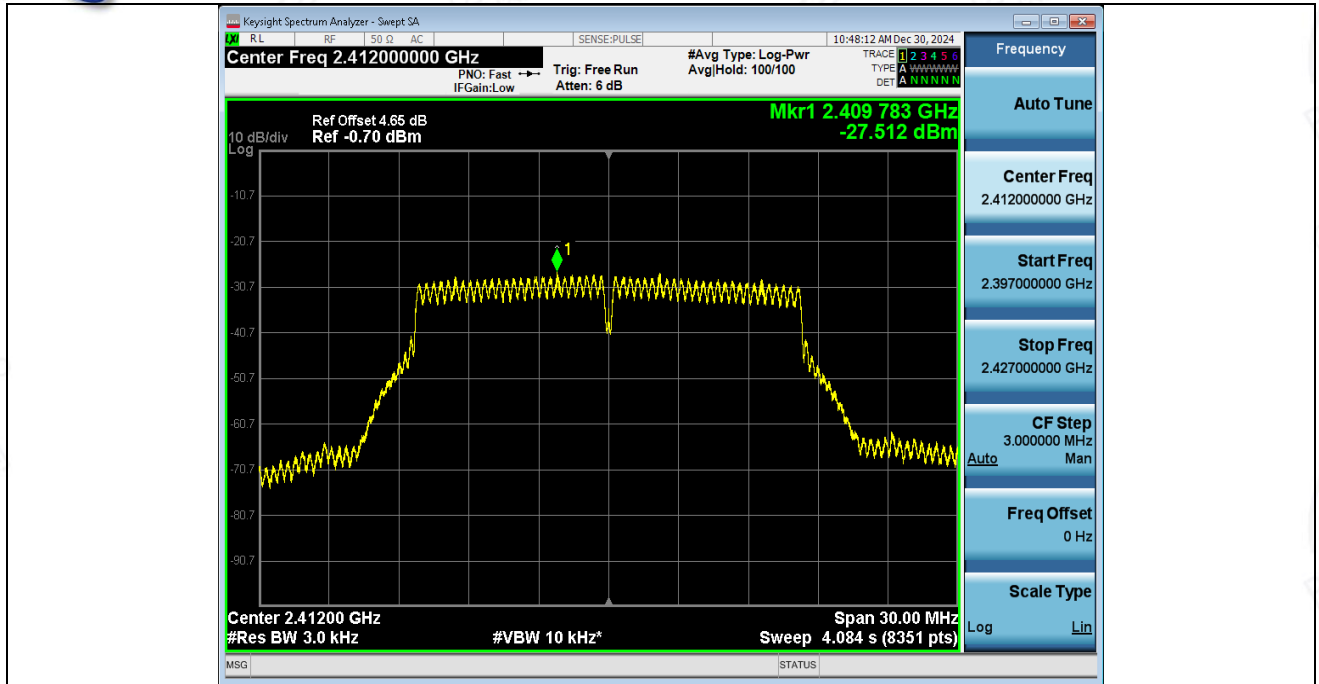
Power_Spectral_Density_NVNT_ANT1_802_11b_2437





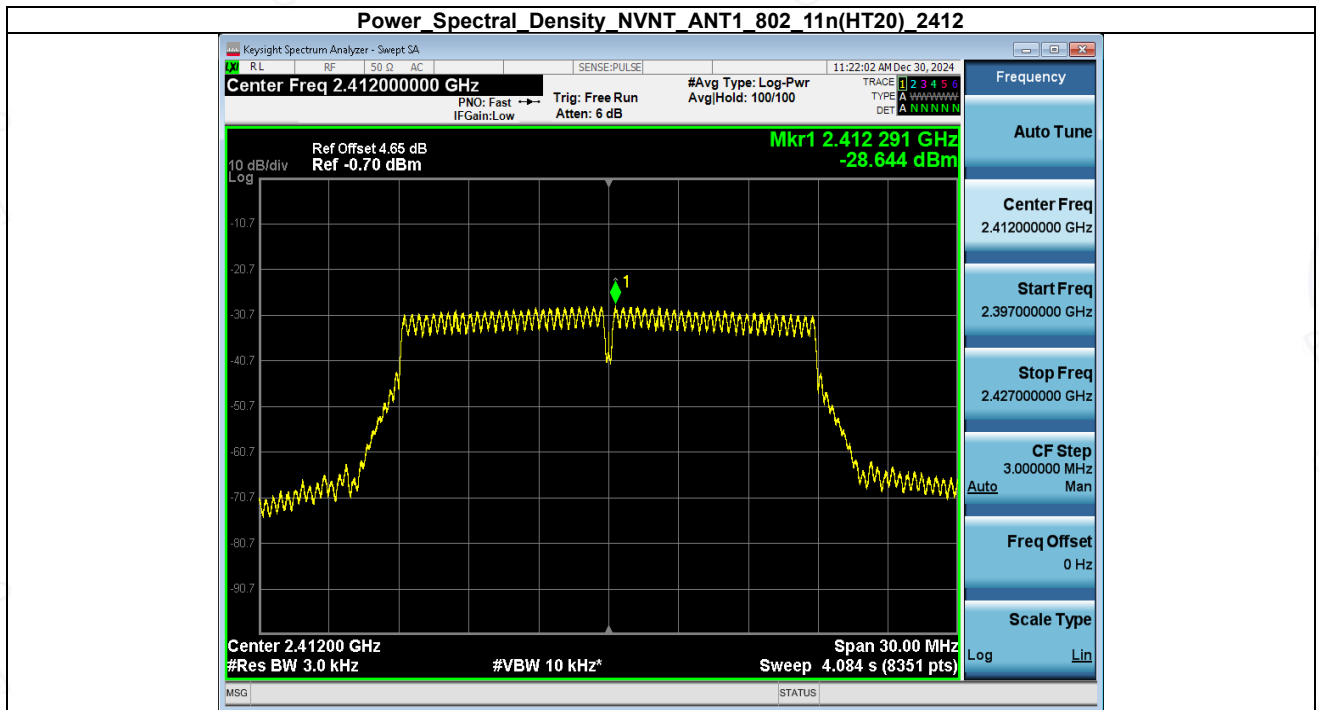
Power Spectral Density NVNT_ANT1_802_11g_2412





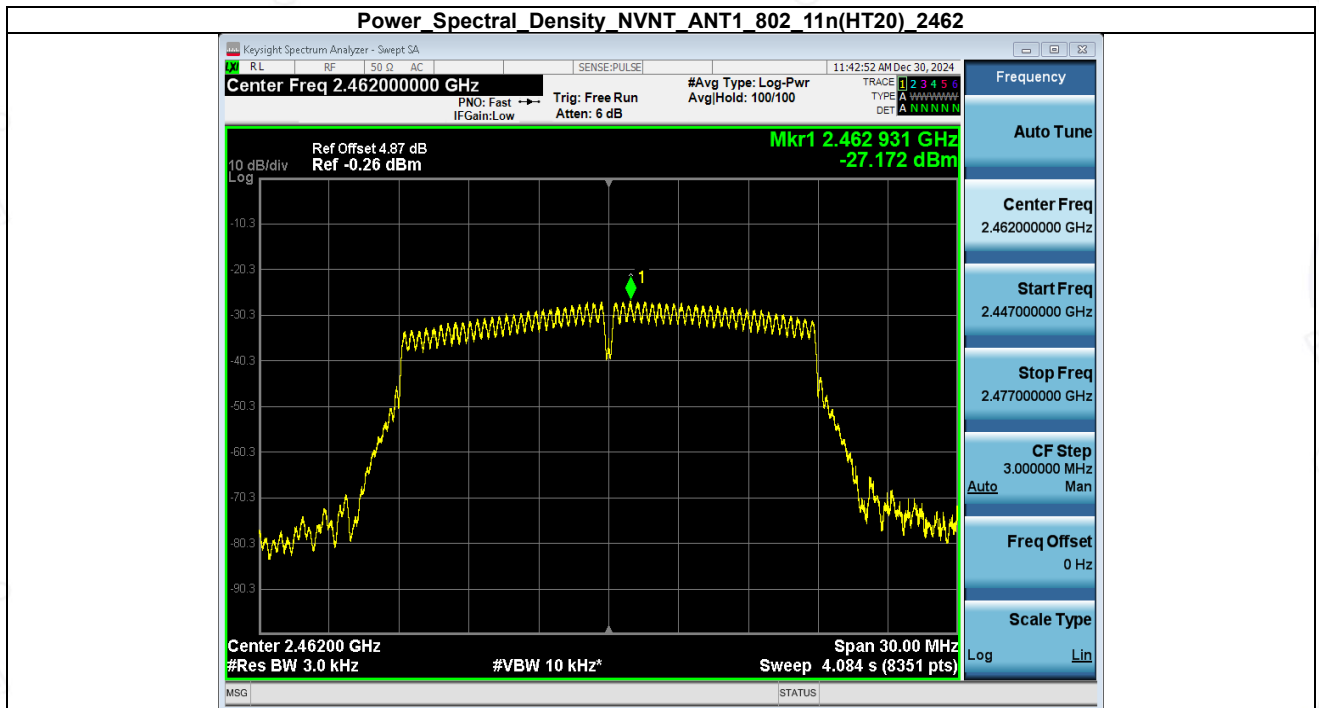
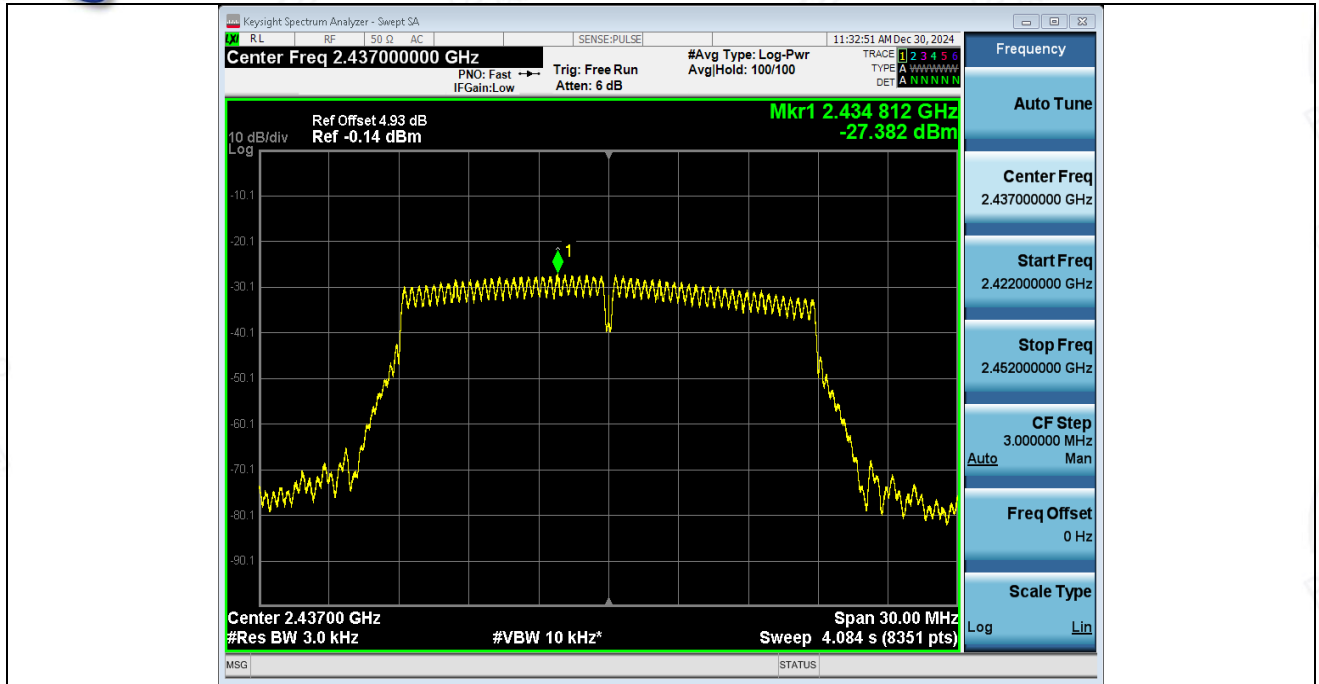
Power Spectral Density NVNT_ANT1_802_11g_2462

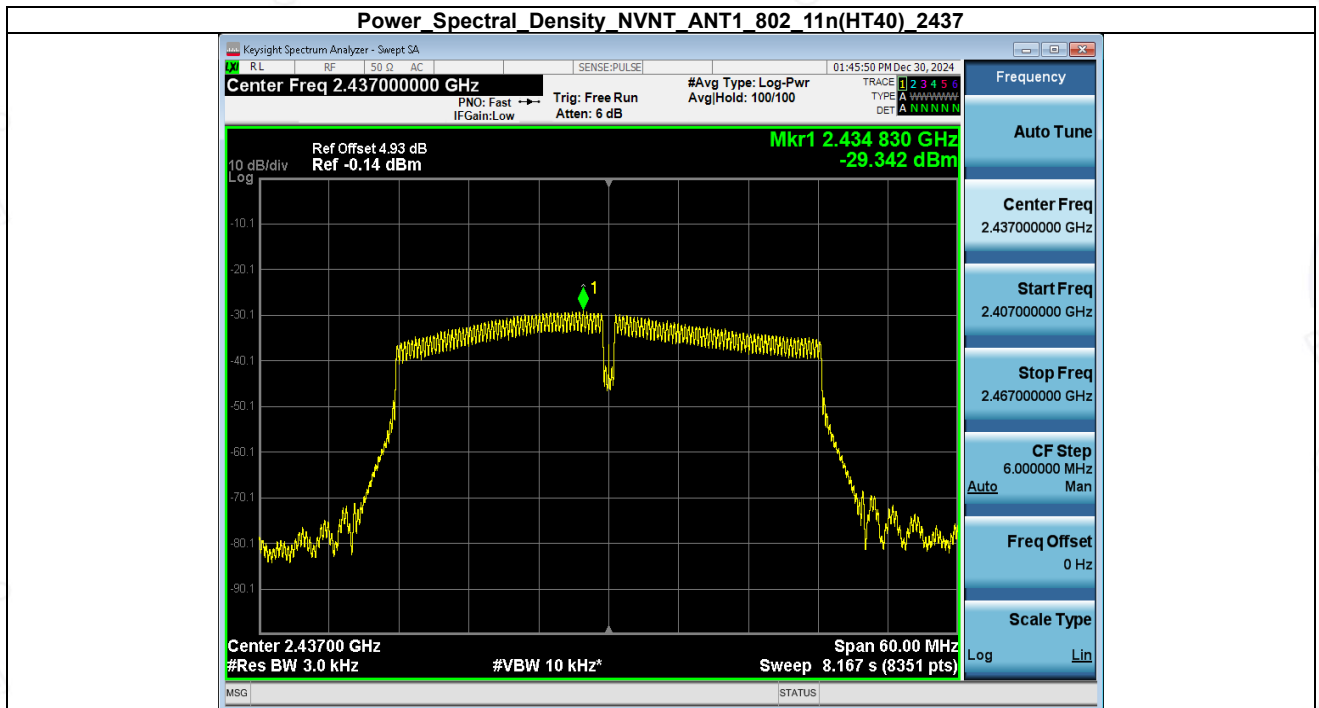
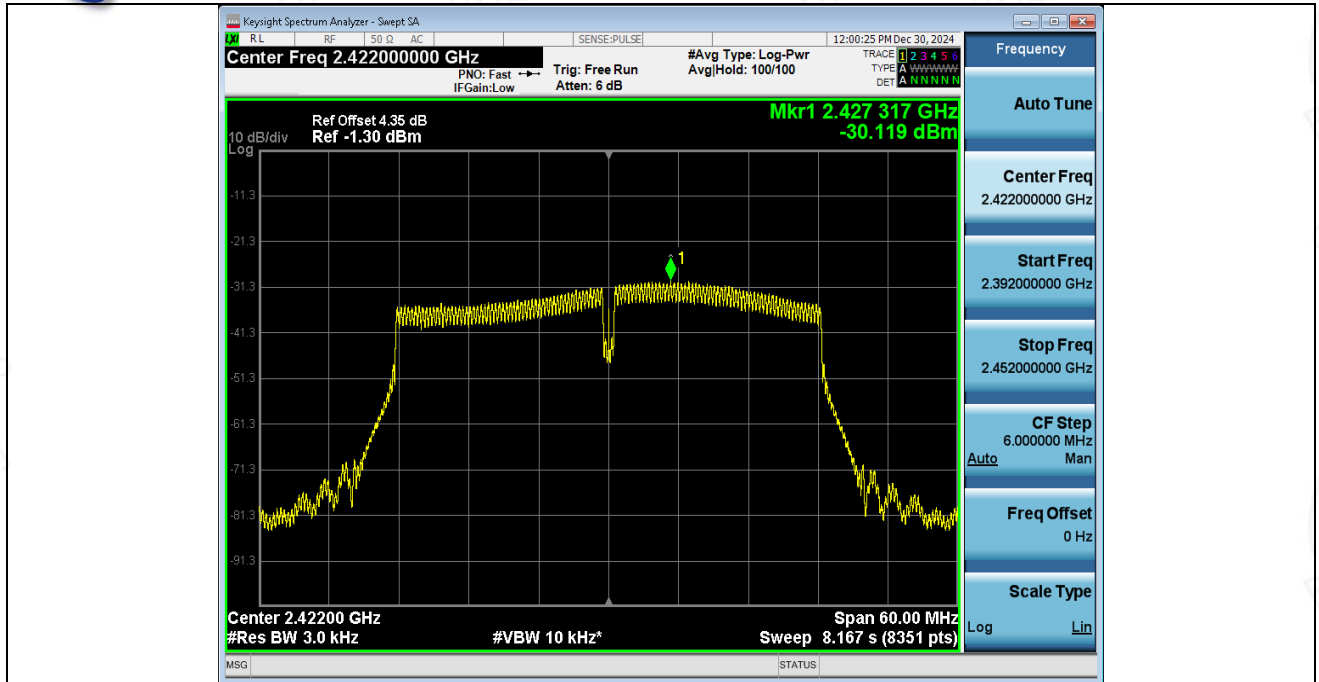




Power Spectral Density NVNT_ANT1_802_11n(HT20)_2437

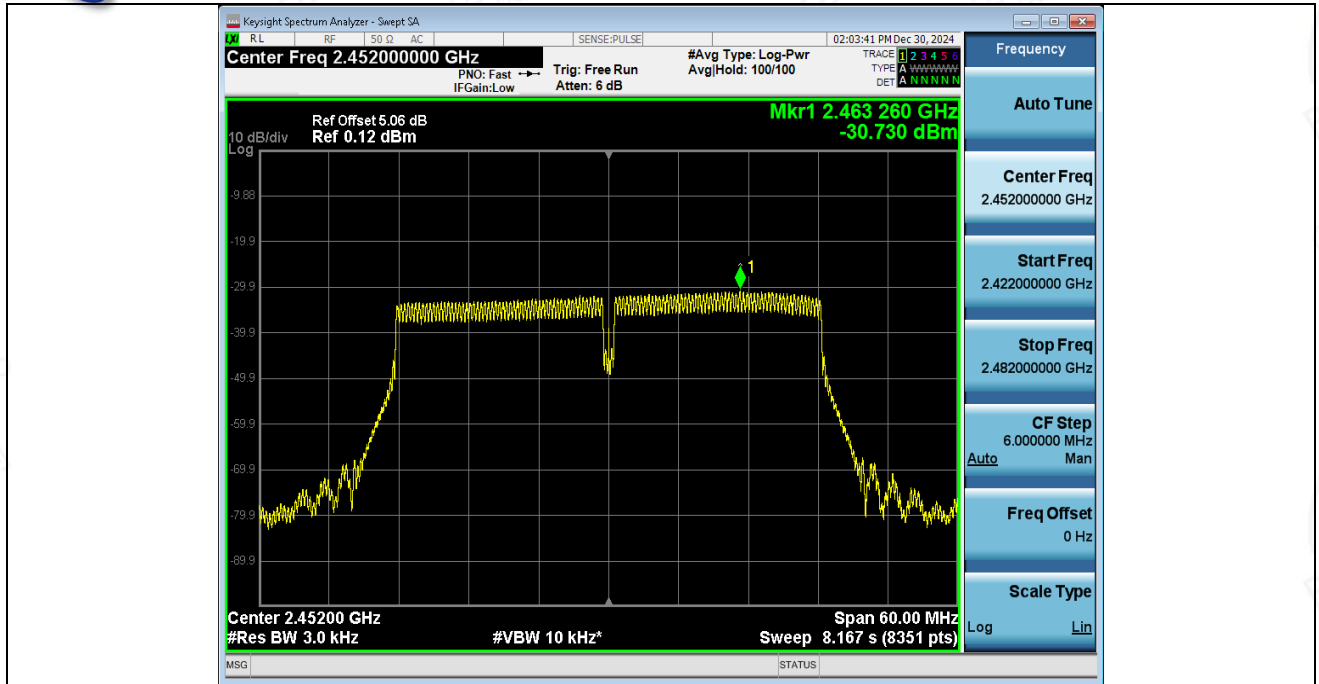






Power Spectral Density NVNT_ANT1_802_11n(HT40)_2452

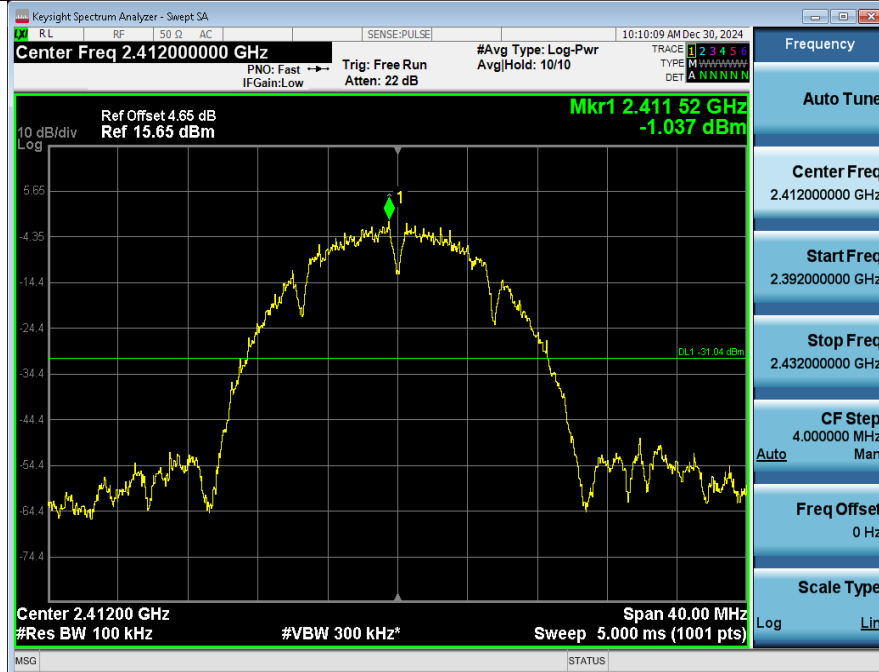




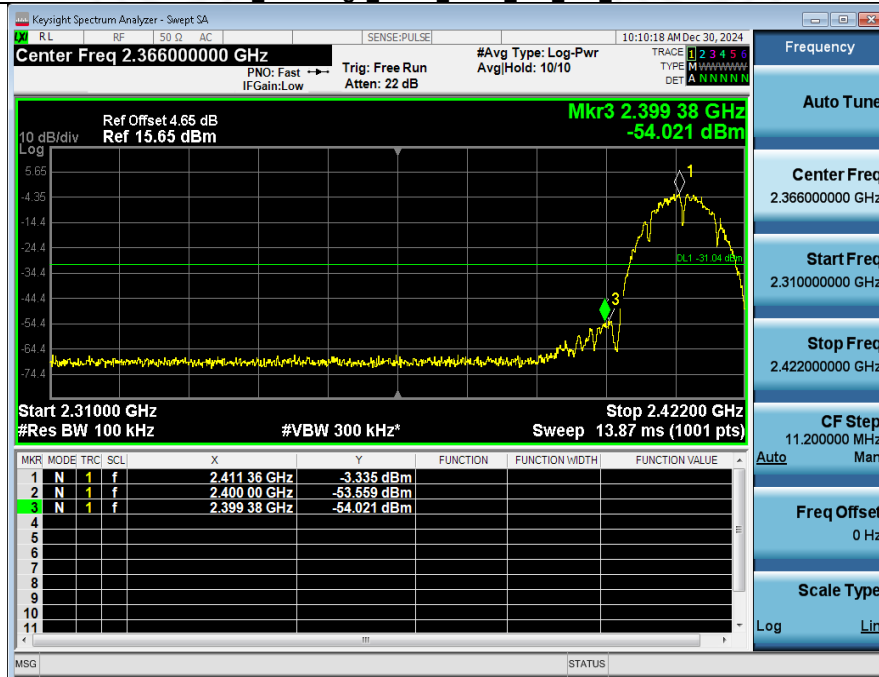
6. Bandedge

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark_freq(MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	2399.376	-1.037	-54.021	-31.037	Pass
NVNT	ANT1	802.11b	2462.00	2485.600	-0.064	-57.232	-30.064	Pass
NVNT	ANT1	802.11g	2412.00	2399.936	-6.693	-43.310	-36.693	Pass
NVNT	ANT1	802.11g	2462.00	2485.600	-5.153	-57.607	-35.153	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	2399.824	-6.905	-44.350	-36.905	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	2485.072	-5.411	-57.368	-35.411	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	2399.232	-8.135	-48.604	-38.135	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	2483.680	-9.224	-55.236	-39.224	Pass

1 Reference Level NVNT ANT1 802 11b 2412



2 Bandedge NVNT ANT1 802 11b 2412



1 Reference Level NVNT ANT1 802 11b 2462



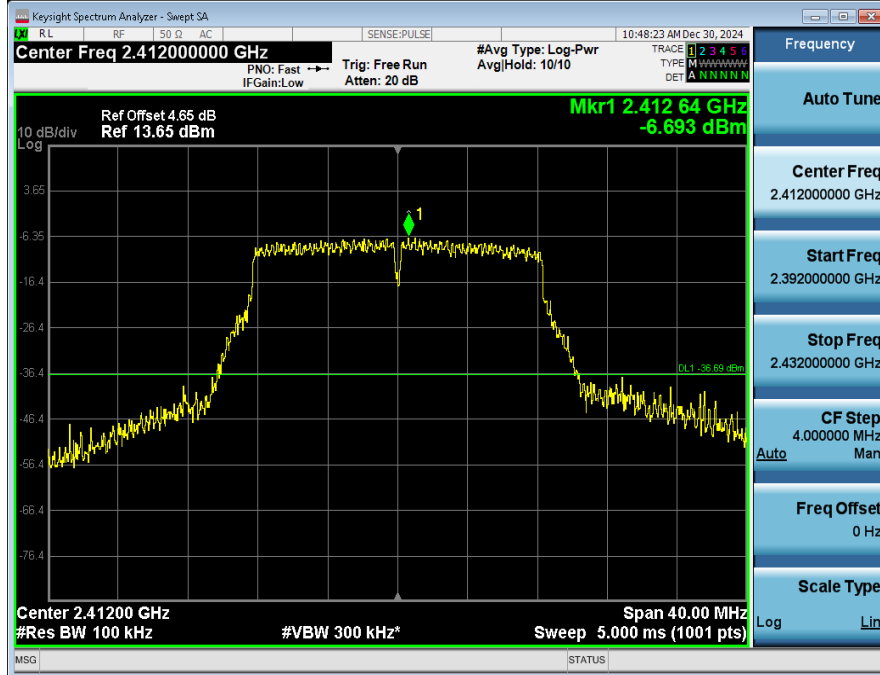


2_Bandedge_NVNT_ANT1_802_11b_2462

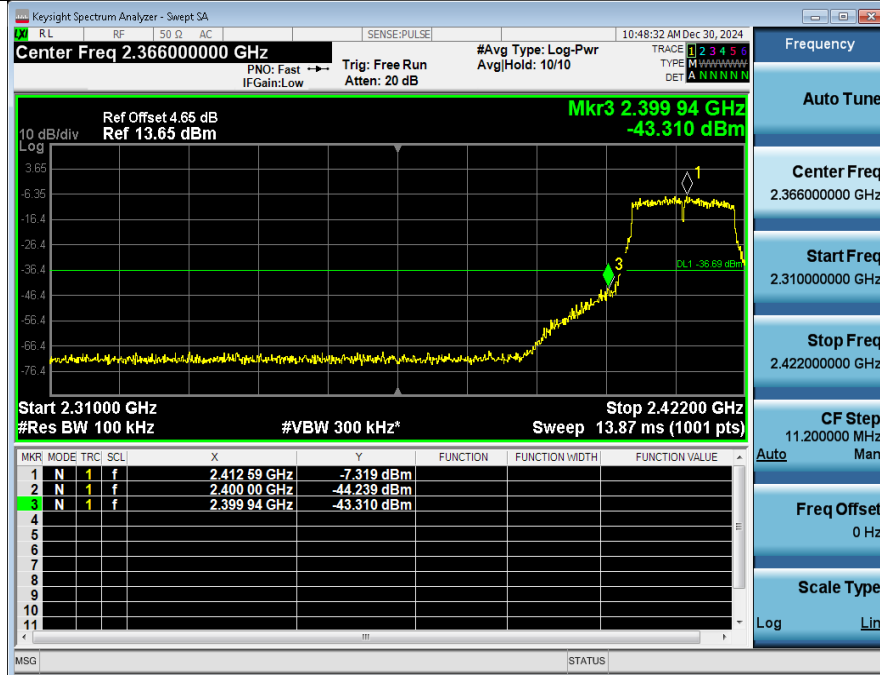


1_Reference_Level_NVNT_ANT1_802_11g_2412





2_Bandedge_NVNT_ANT1_802_11g_2412



1_Reference_Level_NVNT_ANT1_802_11g_2462



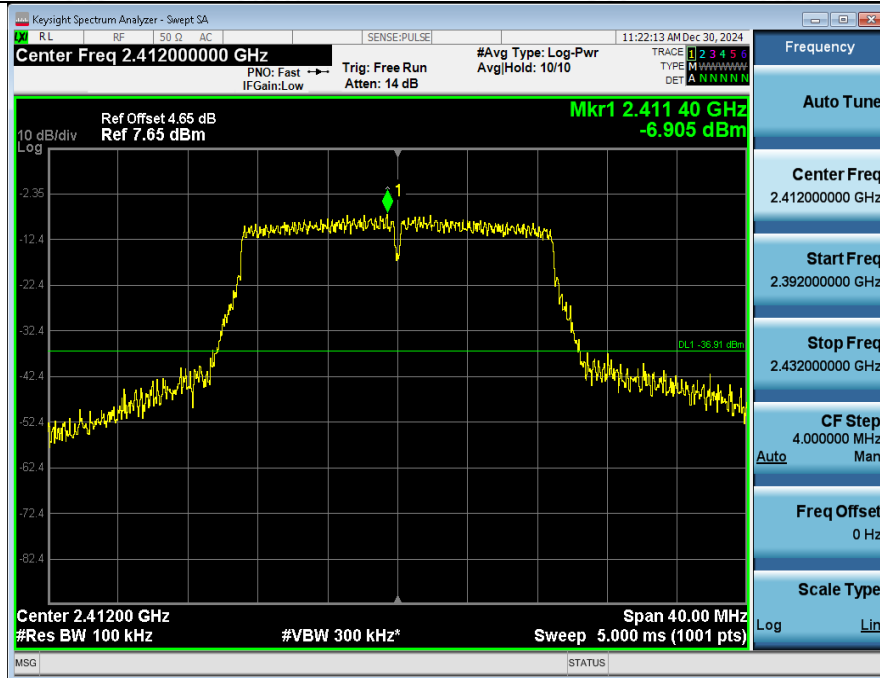


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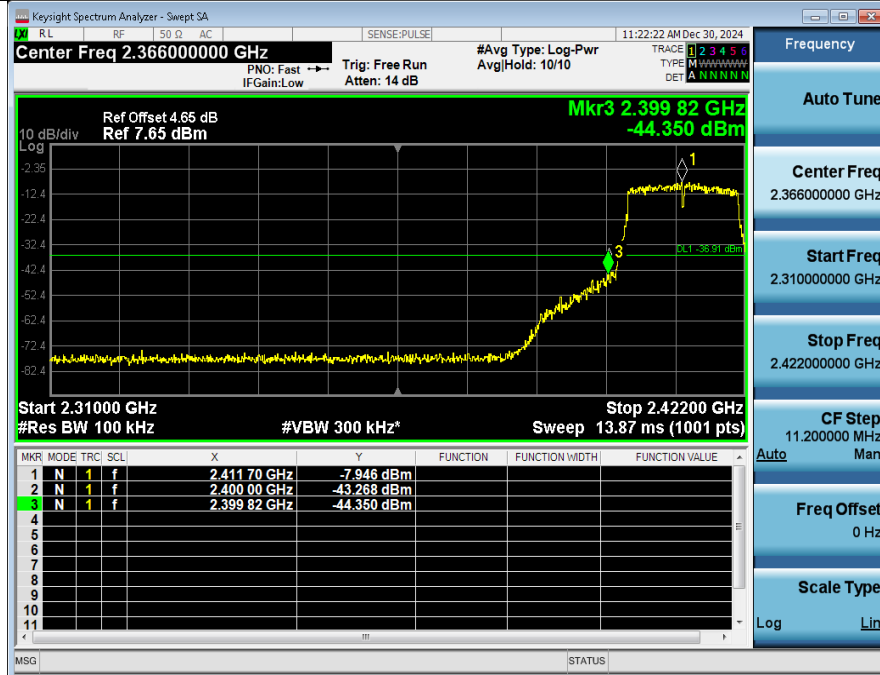


1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2412





2_Bandedge_NVNT_ANT1_802_11n(HT20)_2412



1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2462





2_Bandedge_NVNT_ANT1_802_11n(HT20)_2462

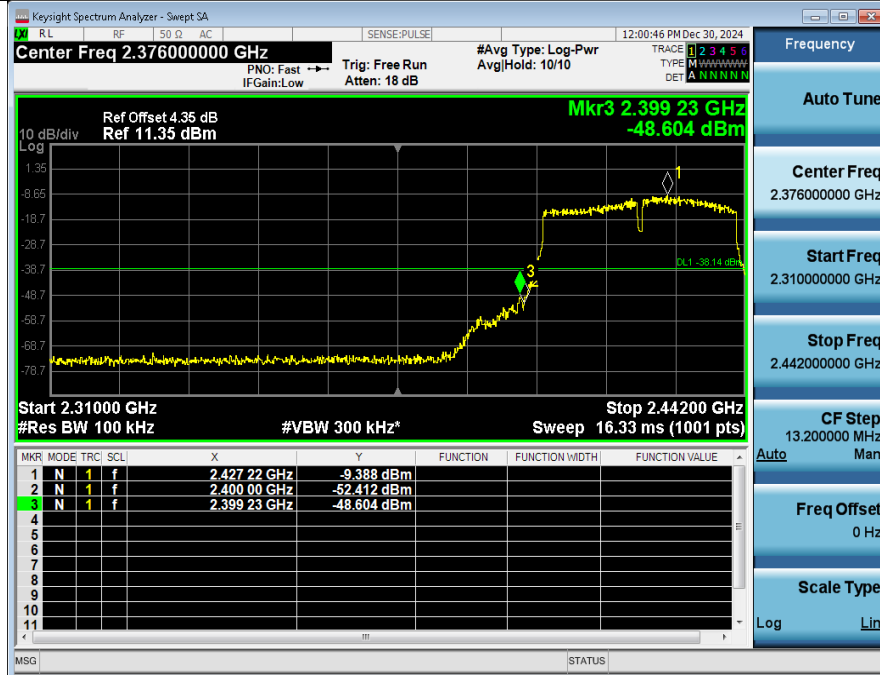


1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2422





2_Bandedge_NVNT_ANT1_802_11n(HT40)_2422



1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2452





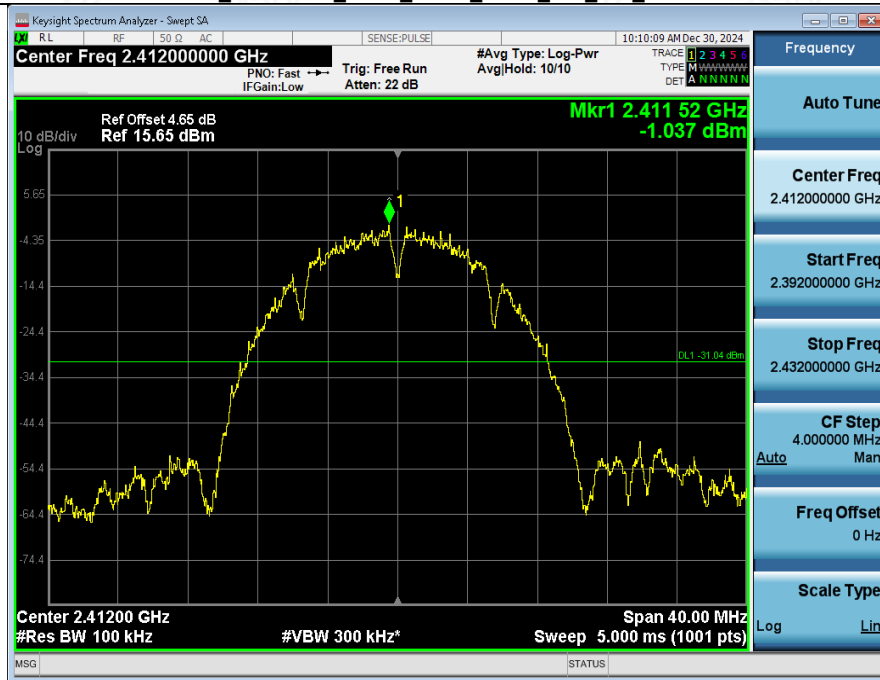
2_Bandedge_NVNT_ANT1_802_11n(HT40)_2452



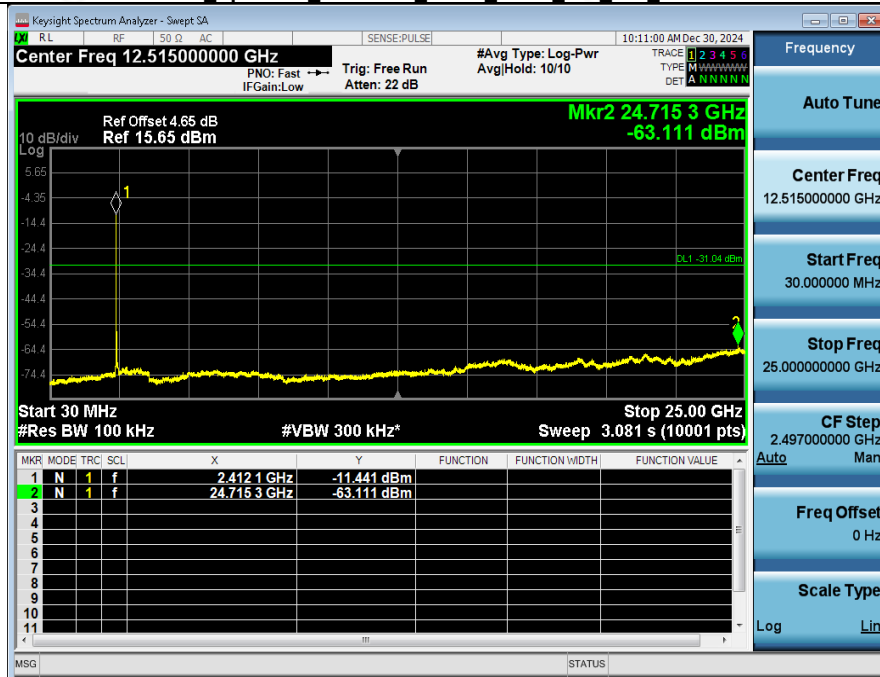
7. Spurious Emission

Condition	Antenna	Modulation	TX_Frequency (MHz)	Max. Mark_freq(MHz)	Ref_level(dBm)	Spurious level(dBm)	limit(dBm)	Result
NVNT	ANT1	802.11b	2412.00	24715.342	-1.037	-63.111	-31.037	Pass
NVNT	ANT1	802.11b	2437.00	24745.306	0.614	-67.498	-29.386	Pass
NVNT	ANT1	802.11b	2462.00	24742.809	-0.064	-63.486	-30.064	Pass
NVNT	ANT1	802.11g	2412.00	24735.318	-6.693	-66.002	-36.693	Pass
NVNT	ANT1	802.11g	2437.00	24752.797	-4.427	-63.565	-34.427	Pass
NVNT	ANT1	802.11g	2462.00	24780.264	-5.153	-63.780	-35.153	Pass
NVNT	ANT1	802.11n(HT20)	2412.00	24887.635	-6.905	-72.091	-36.905	Pass
NVNT	ANT1	802.11n(HT20)	2437.00	24810.228	-4.476	-69.599	-34.476	Pass
NVNT	ANT1	802.11n(HT20)	2462.00	24765.282	-5.411	-69.710	-35.411	Pass
NVNT	ANT1	802.11n(HT40)	2422.00	24775.270	-8.135	-68.104	-38.135	Pass
NVNT	ANT1	802.11n(HT40)	2437.00	24800.240	-6.637	-65.421	-36.637	Pass
NVNT	ANT1	802.11n(HT40)	2452.00	24902.617	-9.224	-72.589	-39.224	Pass

1 Reference_Level_NVNT_ANT1_802_11b_2412

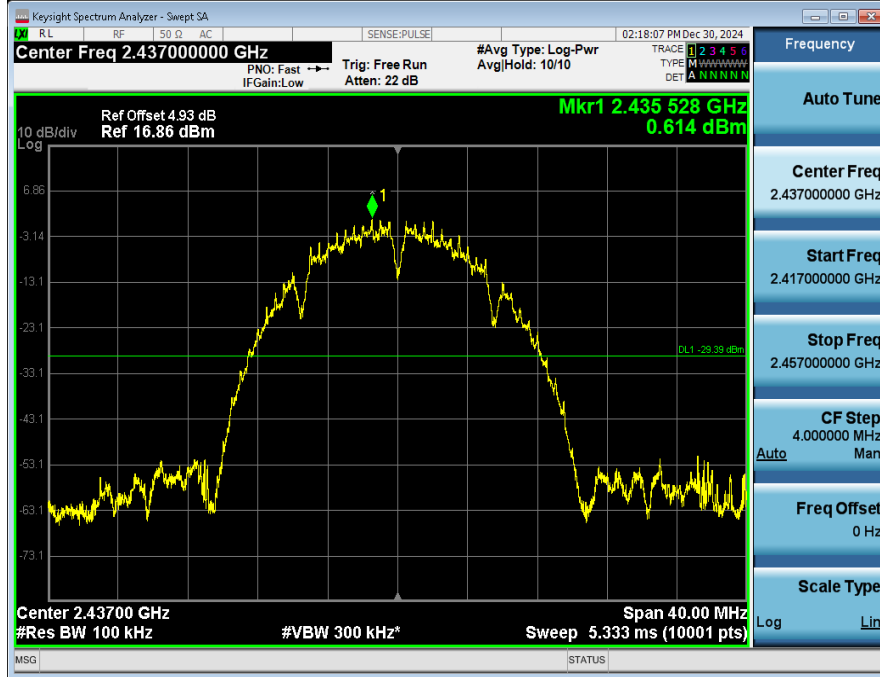


2 Spurious_Emission_NVNT_ANT1_802_11b_2412

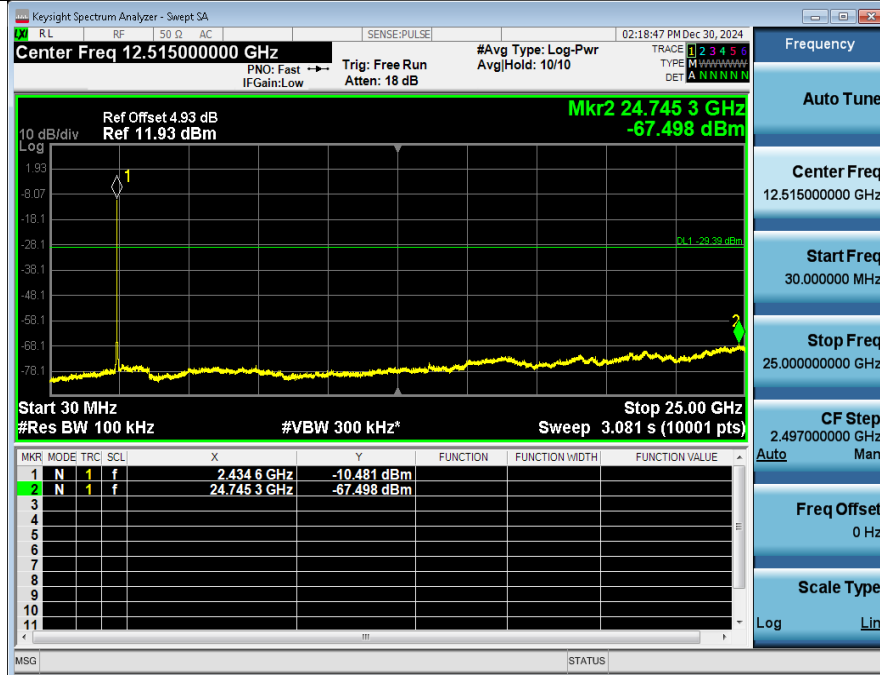


1 Reference_Level_NVNT_ANT1_802_11b_2437





2_Spurious_Emission_NVNT_ANT1_802_11b_2437

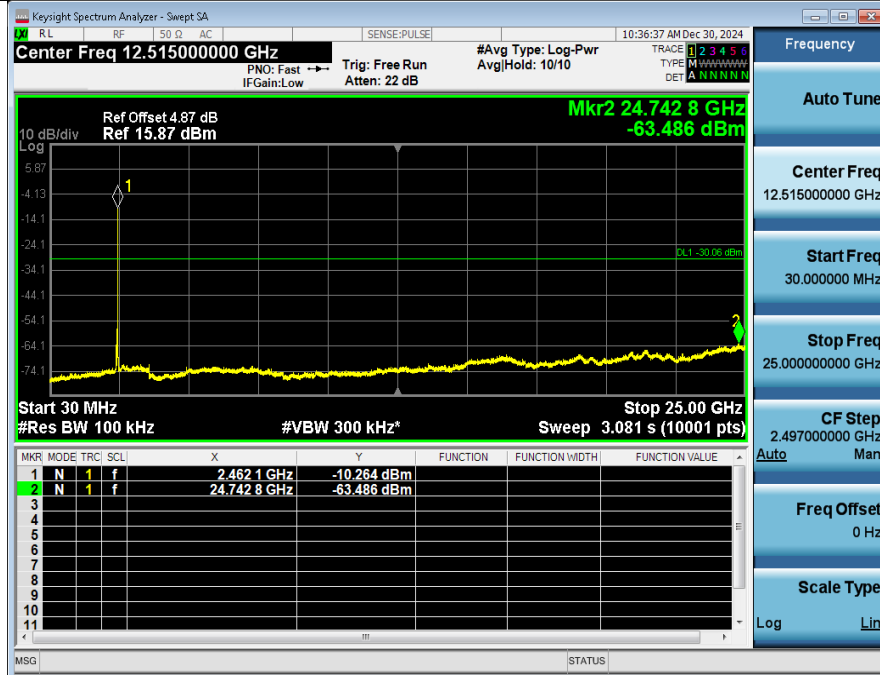


1_Reference_Level_NVNT_ANT1_802_11b_2462





2_Spurious_Emission_NVNT_ANT1_802_11b_2462

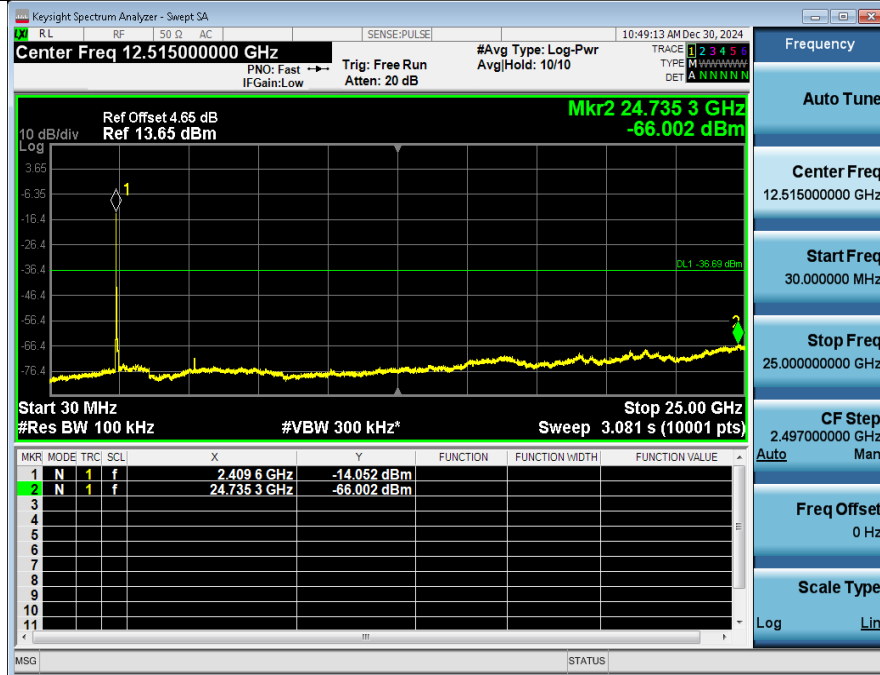


1_Reference_Level_NVNT_ANT1_802_11g_2412



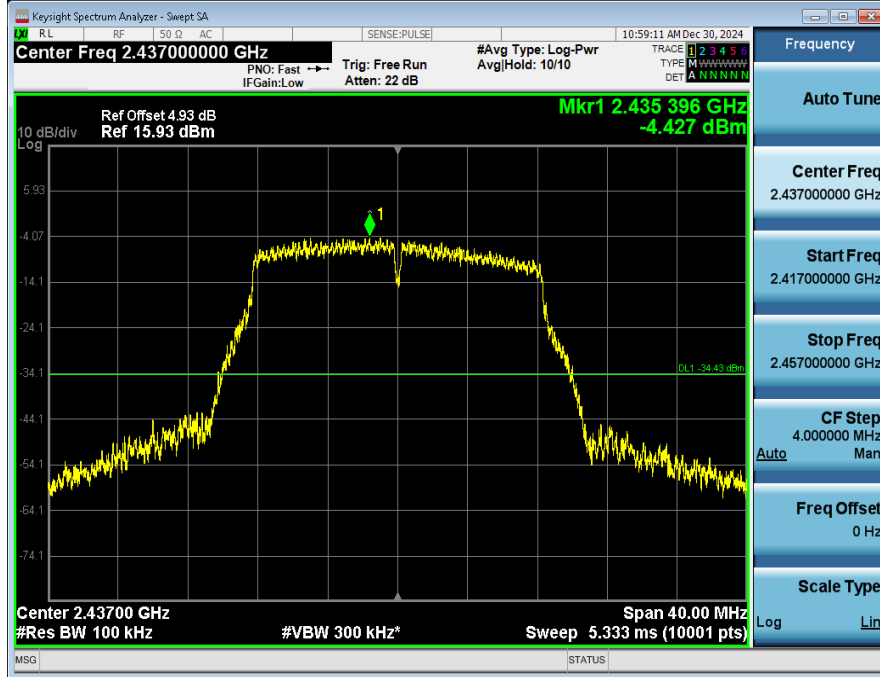


2_Spurious_Emission_NVNT_ANT1_802_11g_2412

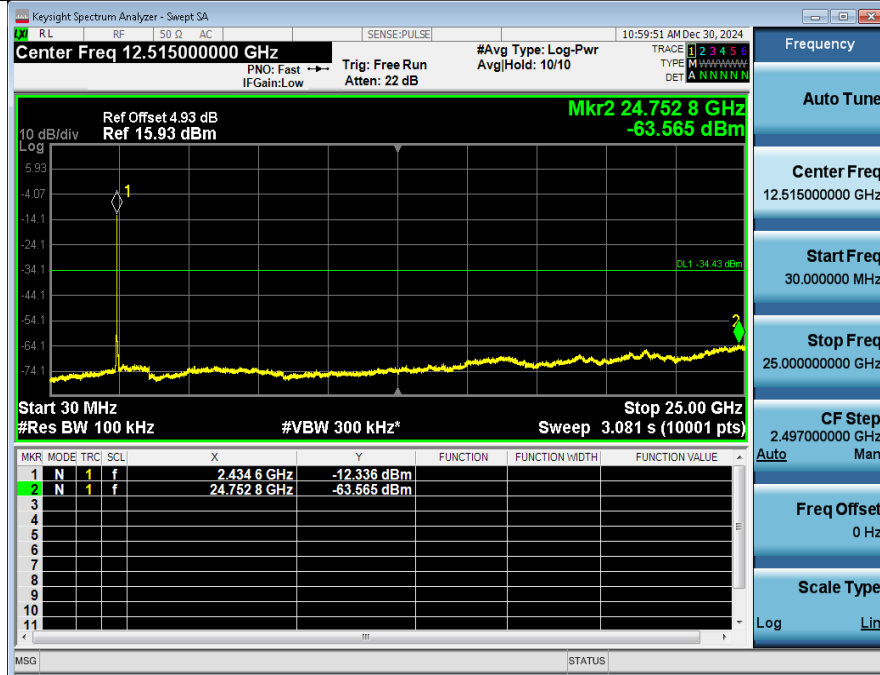


1_Reference_Level_NVNT_ANT1_802_11g_2437





2_Spurious_Emission_NVNT_ANT1_802_11g_2437

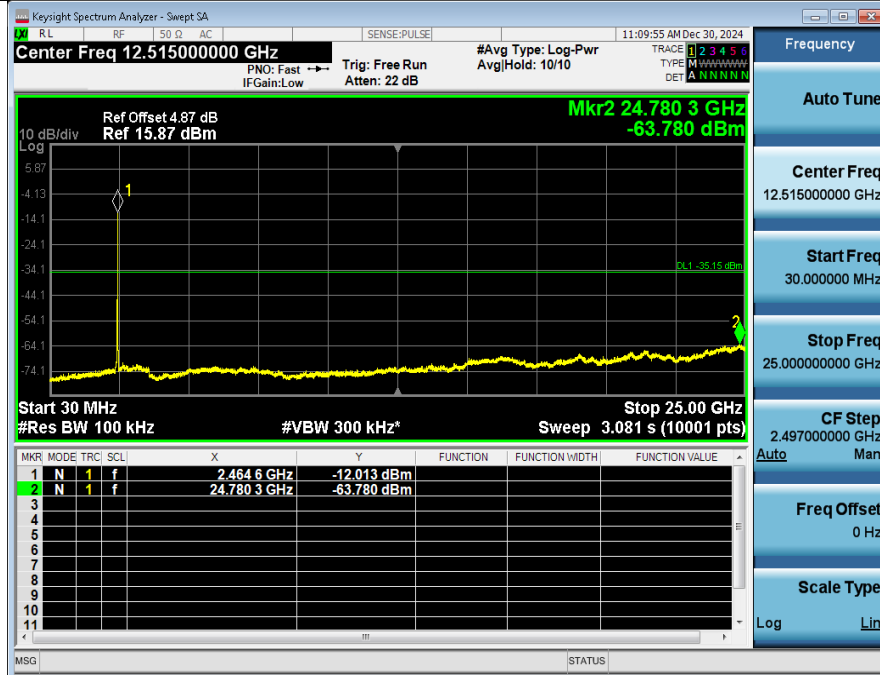


1_Reference_Level_NVNT_ANT1_802_11g_2462



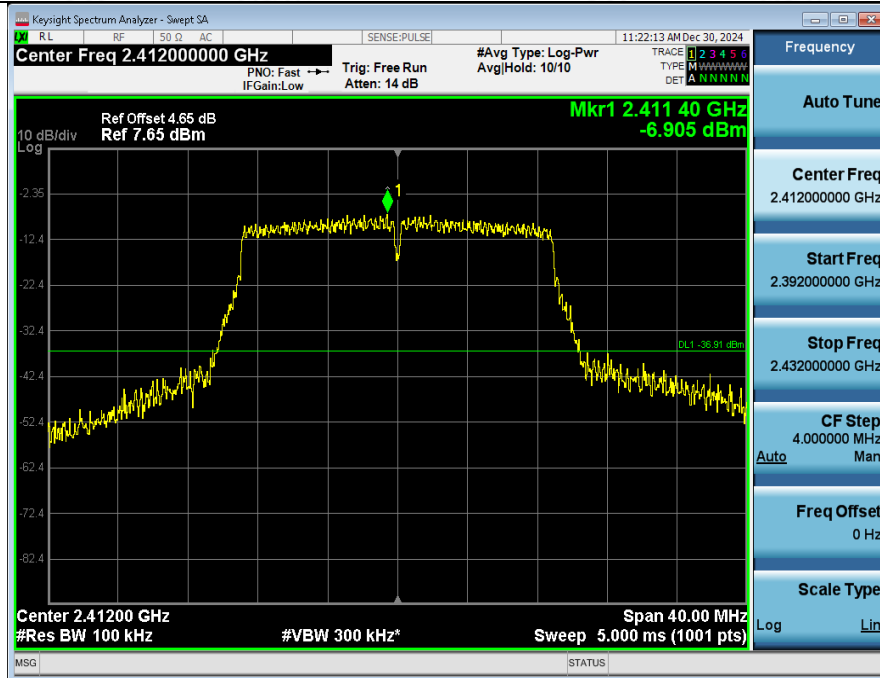


2_Spurious_Emission_NVNT_ANT1_802_11g_2462

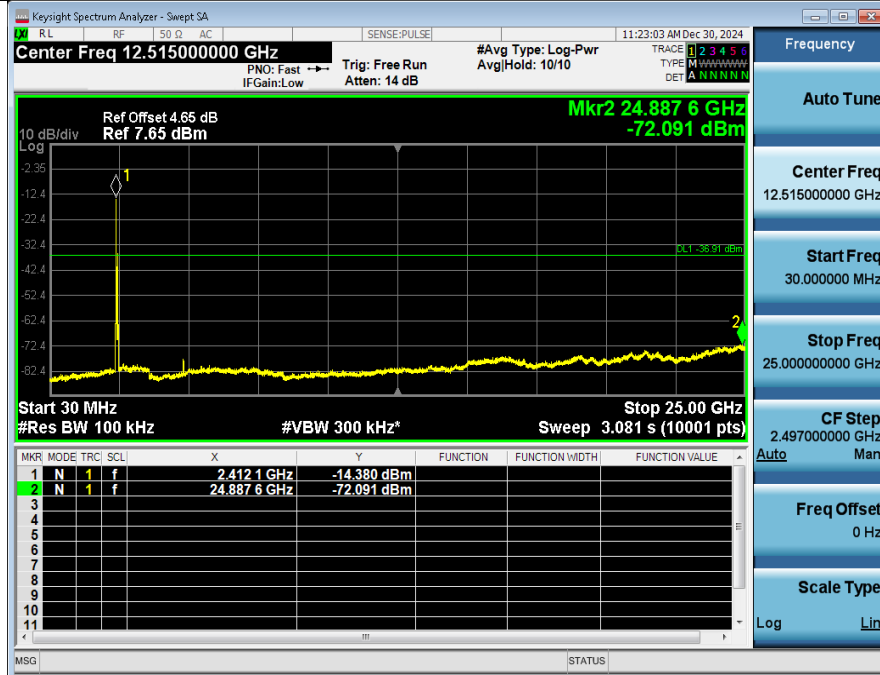


1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2412



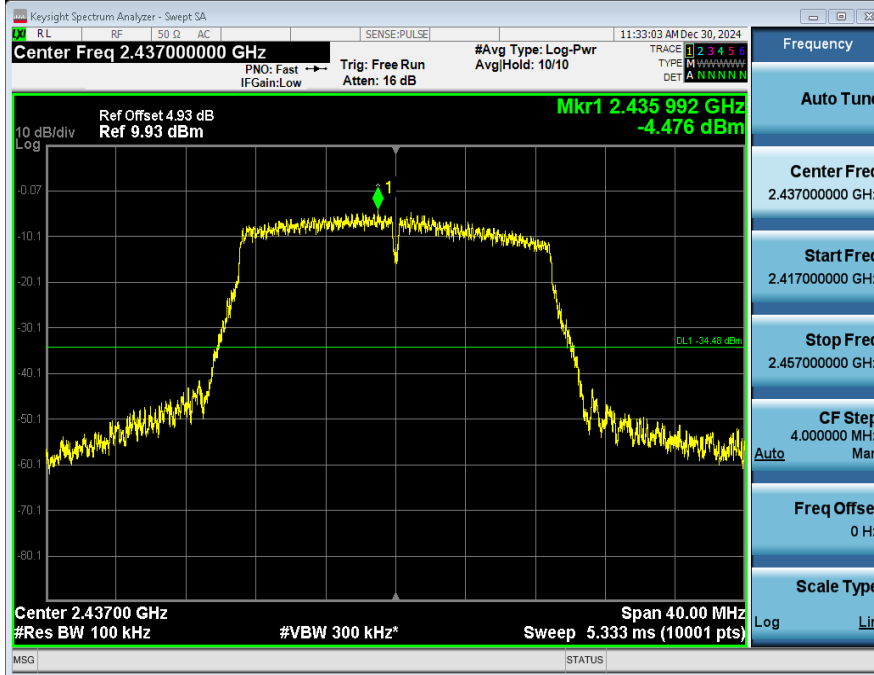


2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2412

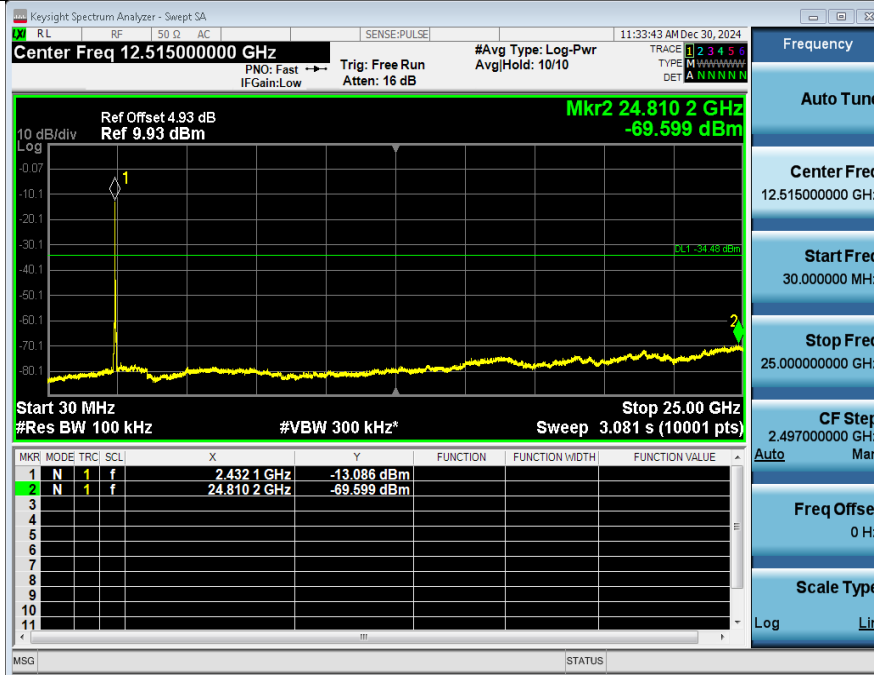


1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2437





2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2437

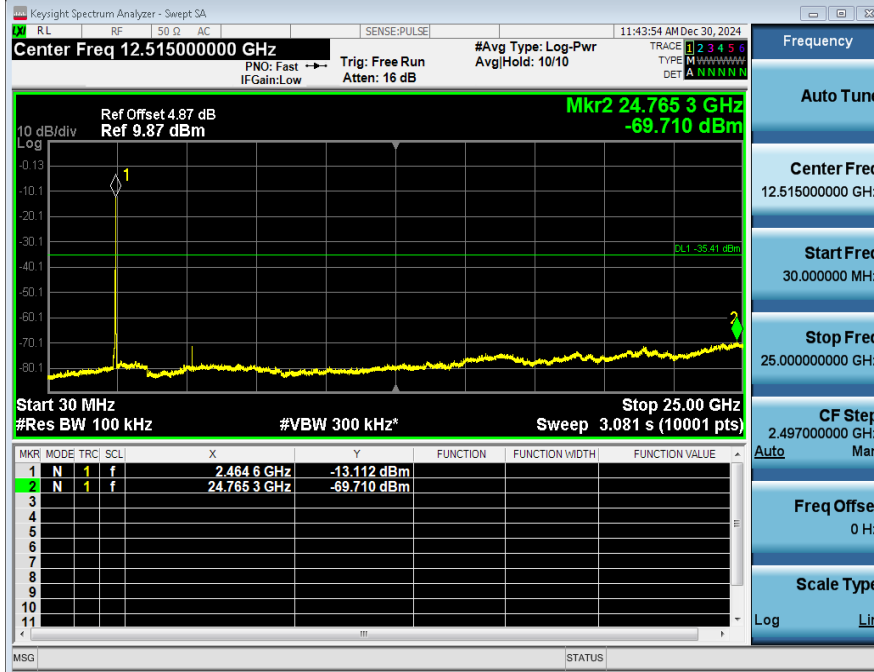


1_Reference_Level_NVNT_ANT1_802_11n(HT20)_2462





2_Spurious_Emission_NVNT_ANT1_802_11n(HT20)_2462

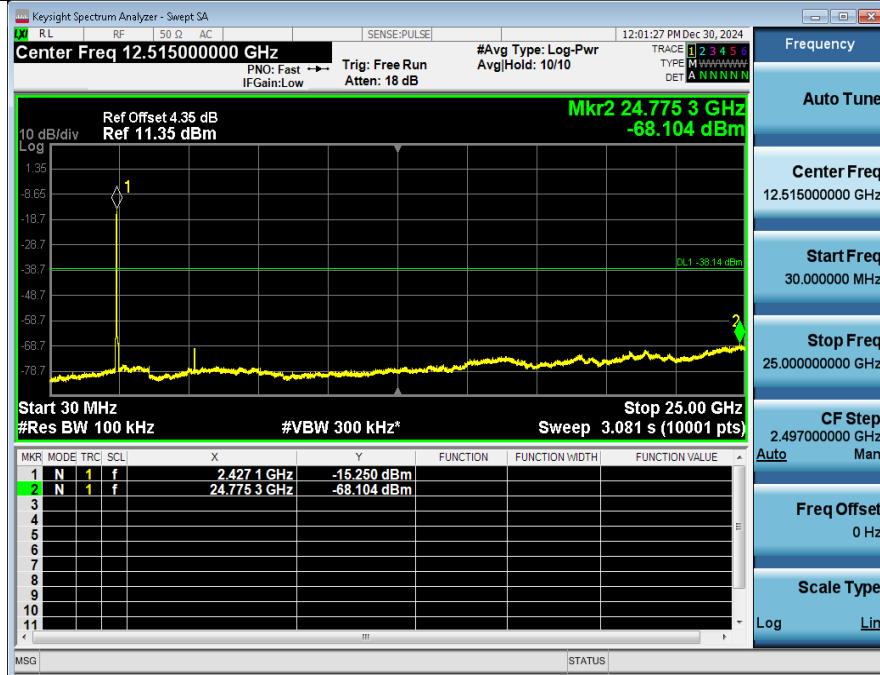


1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2422





2_Spurious_Emission_NVNT_ANT1_802_11n(HT40)_2422

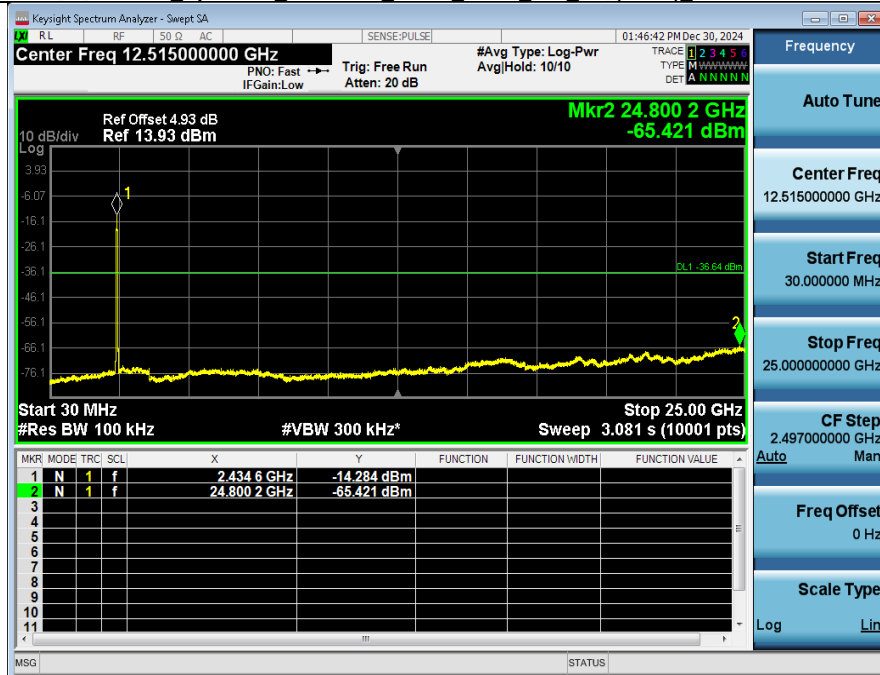


1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2437





2_Spurious_Emission_NVNT_ANT1_802_11n(HT40)_2437



1_Reference_Level_NVNT_ANT1_802_11n(HT40)_2452





2 Spurious Emission NVNT ANT1_802_11n(HT40)_2452

