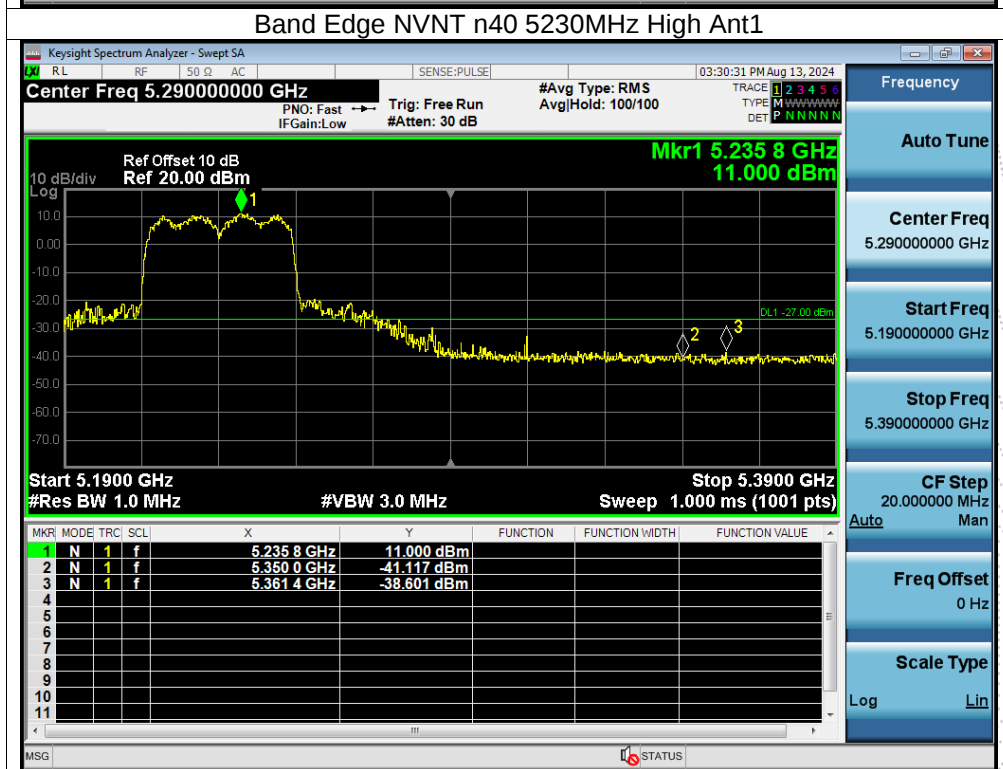
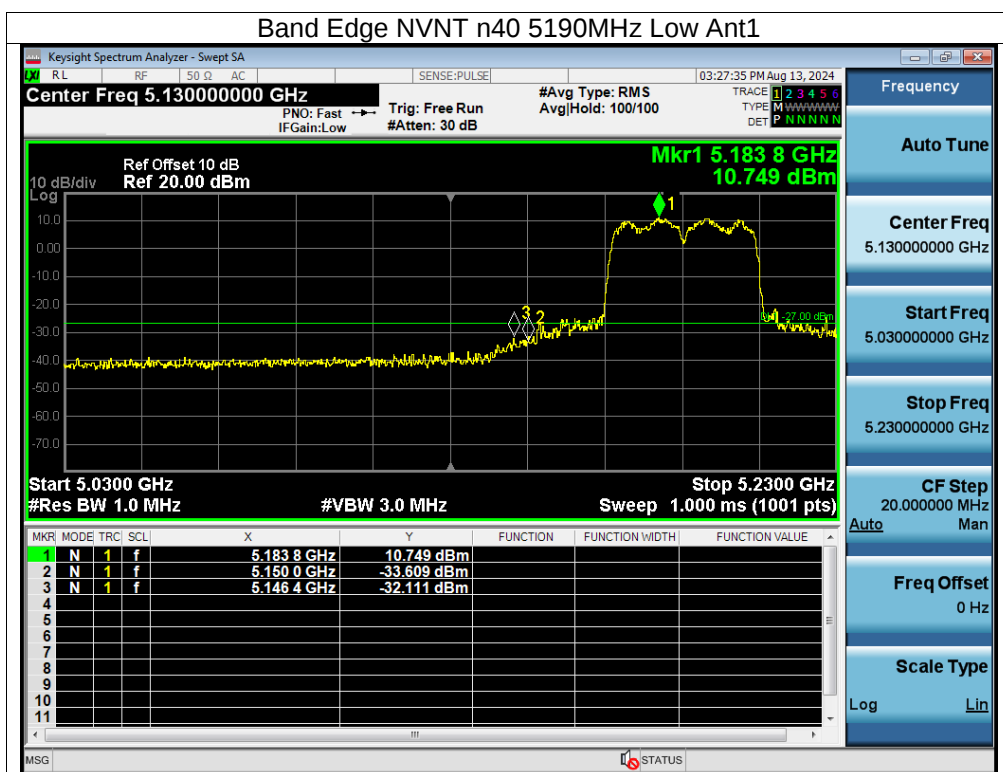
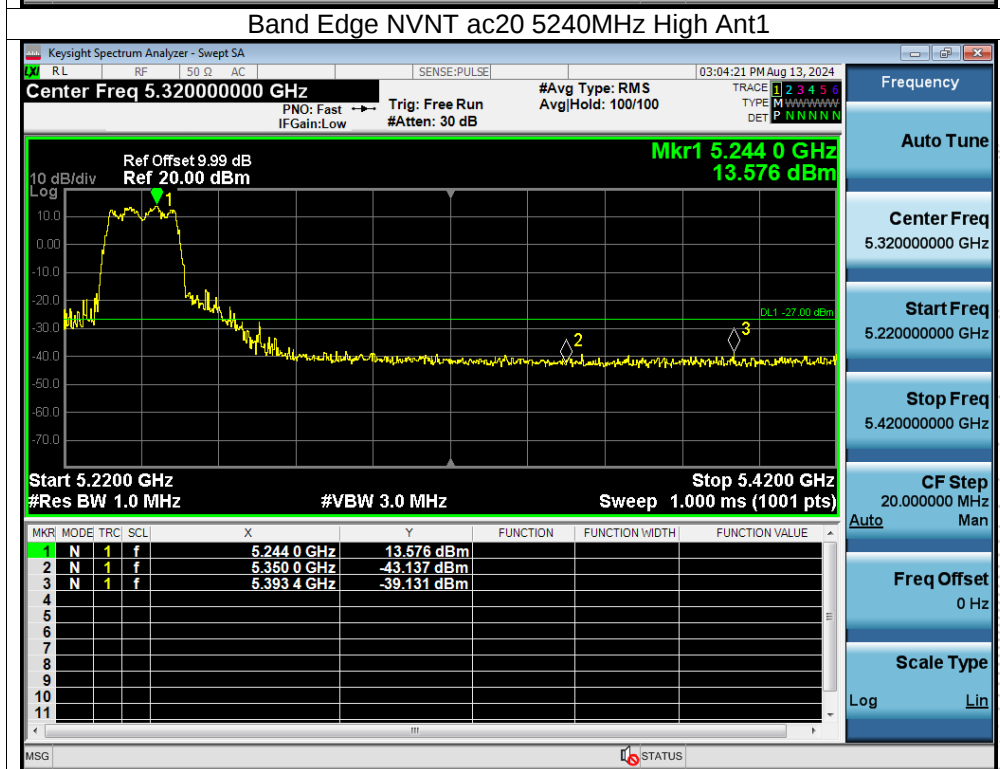
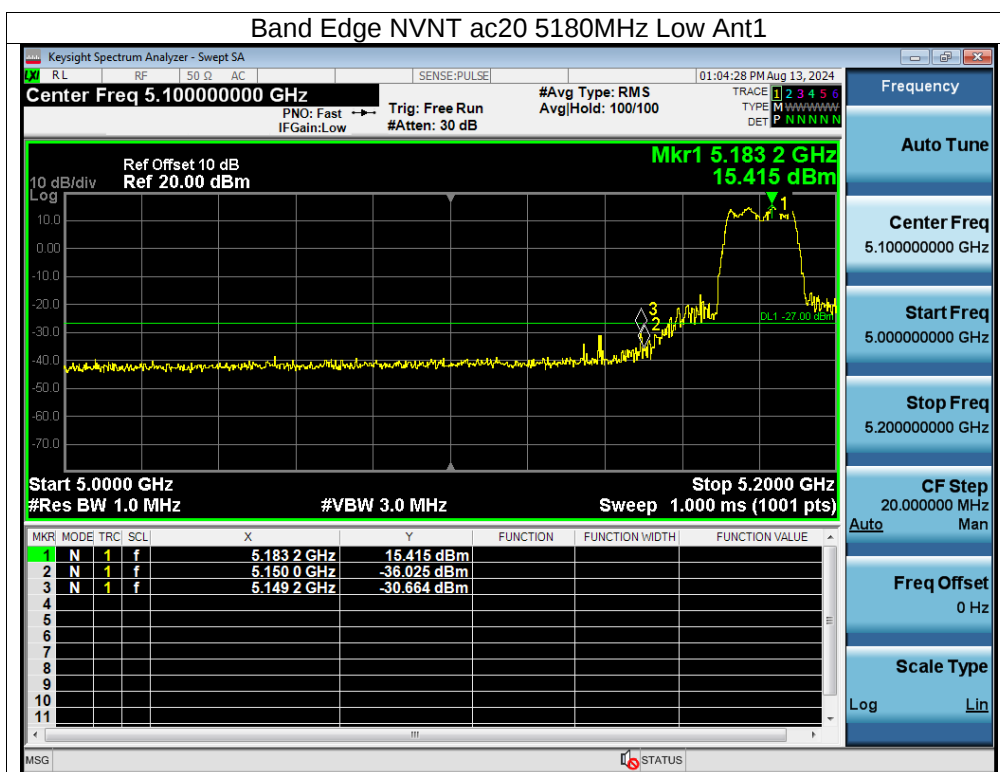
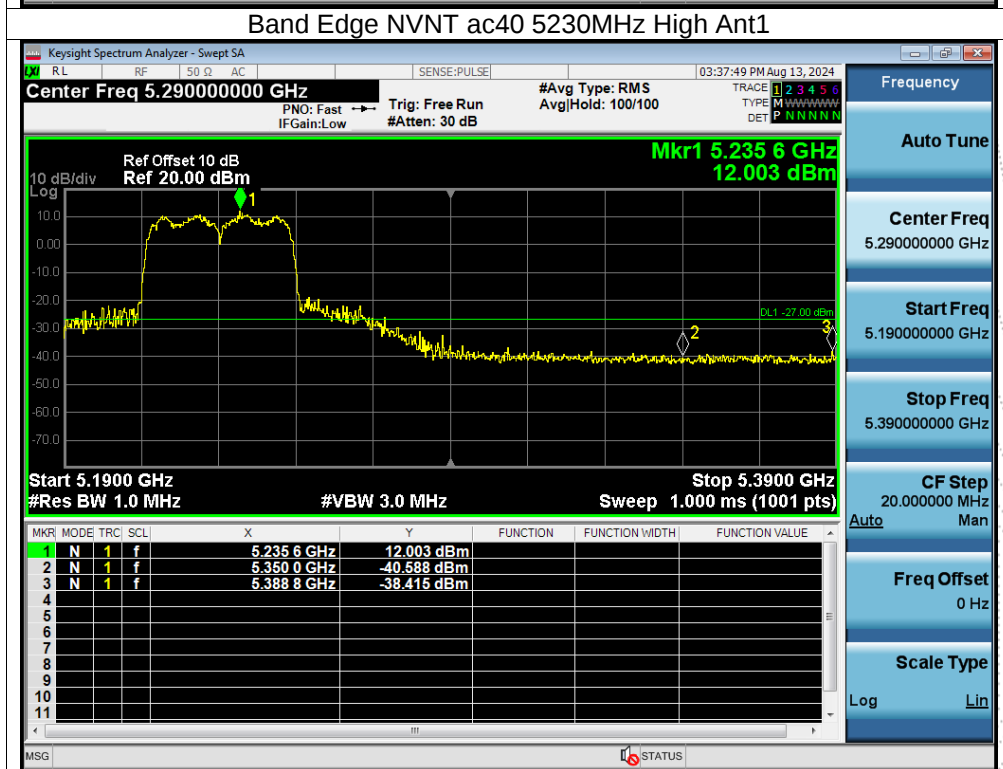
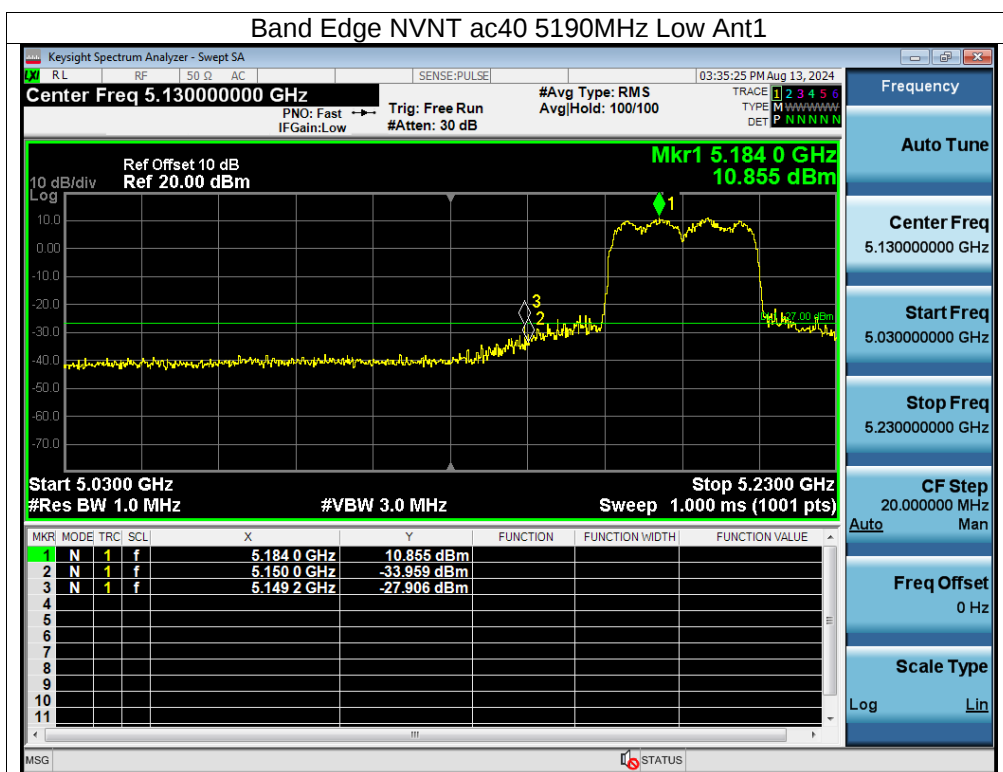
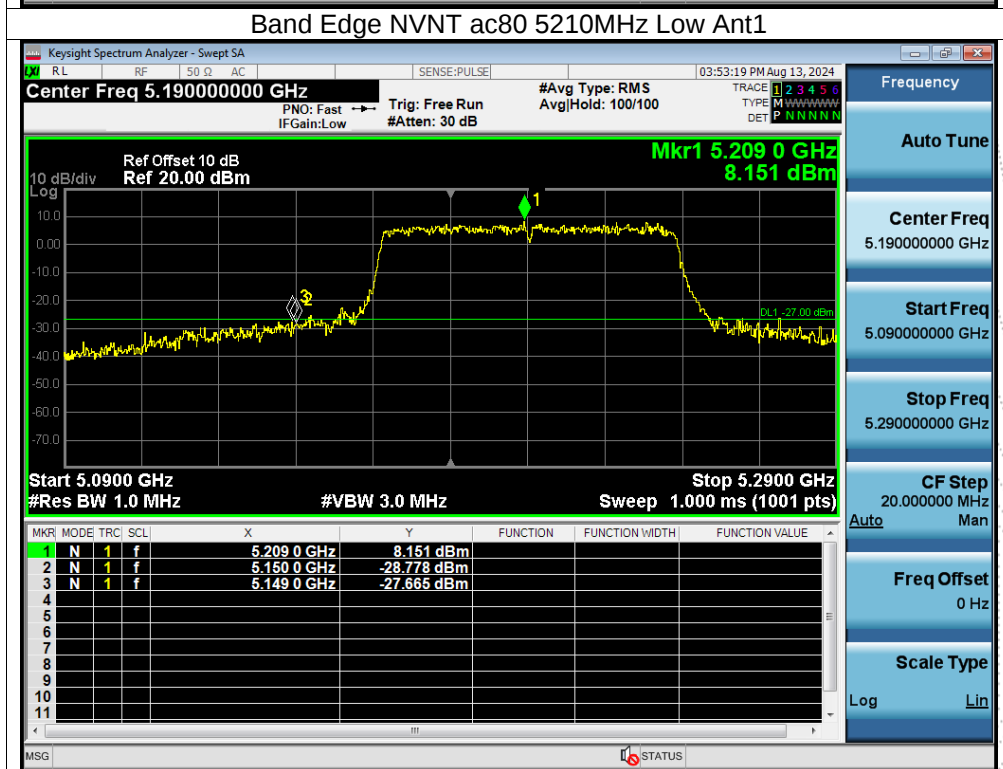
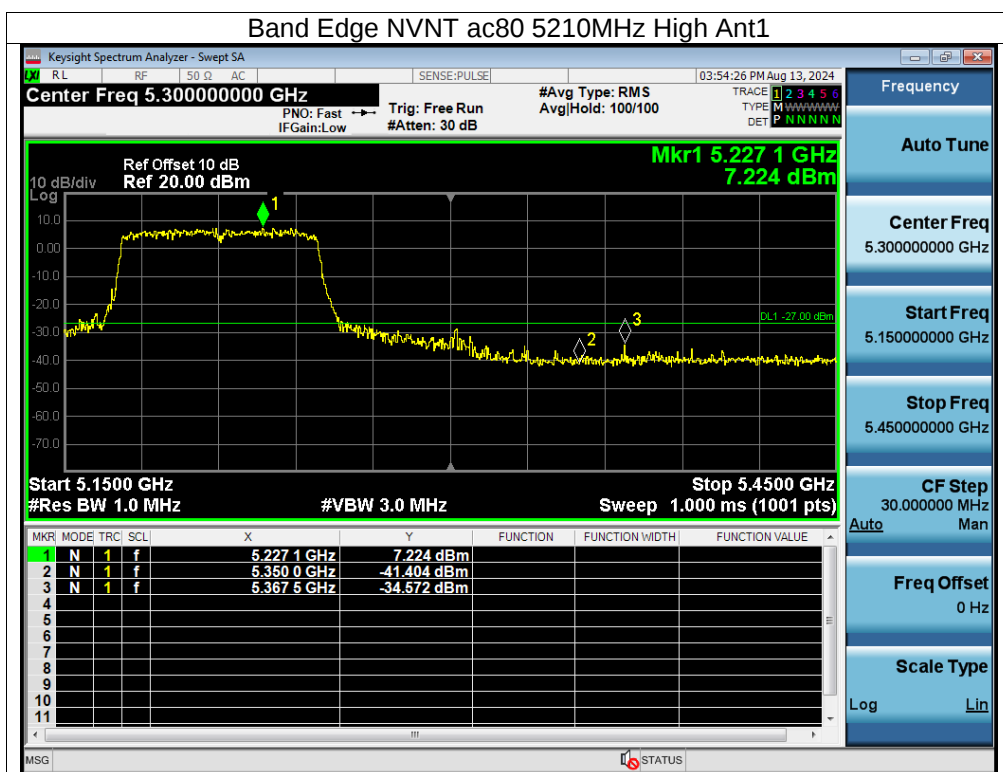
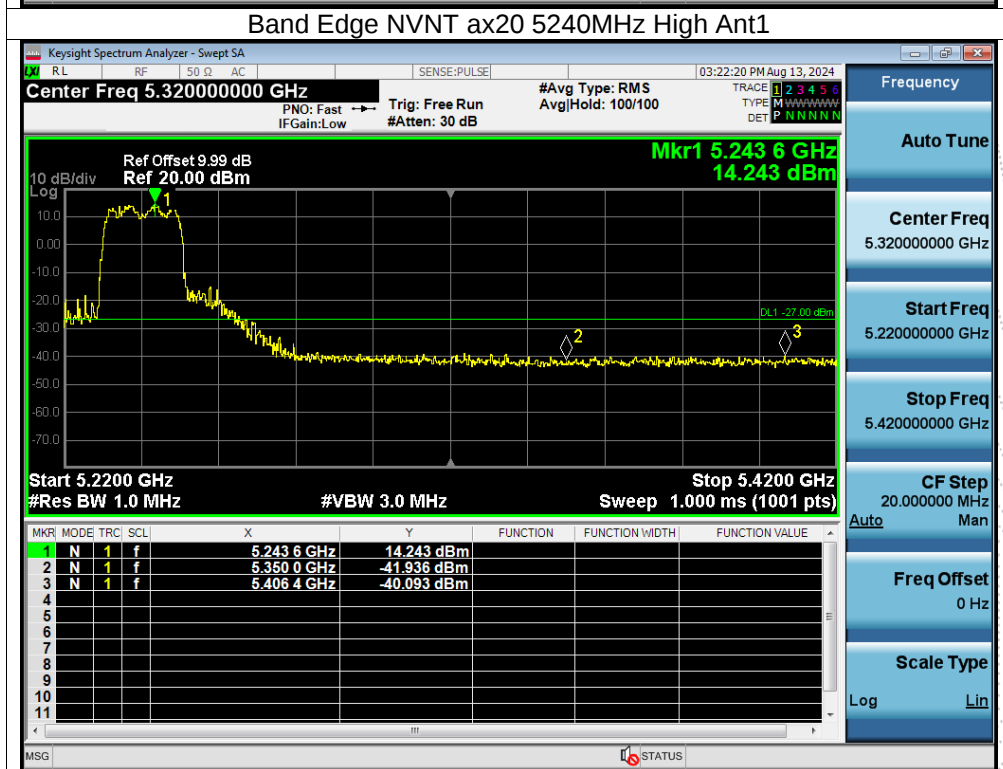
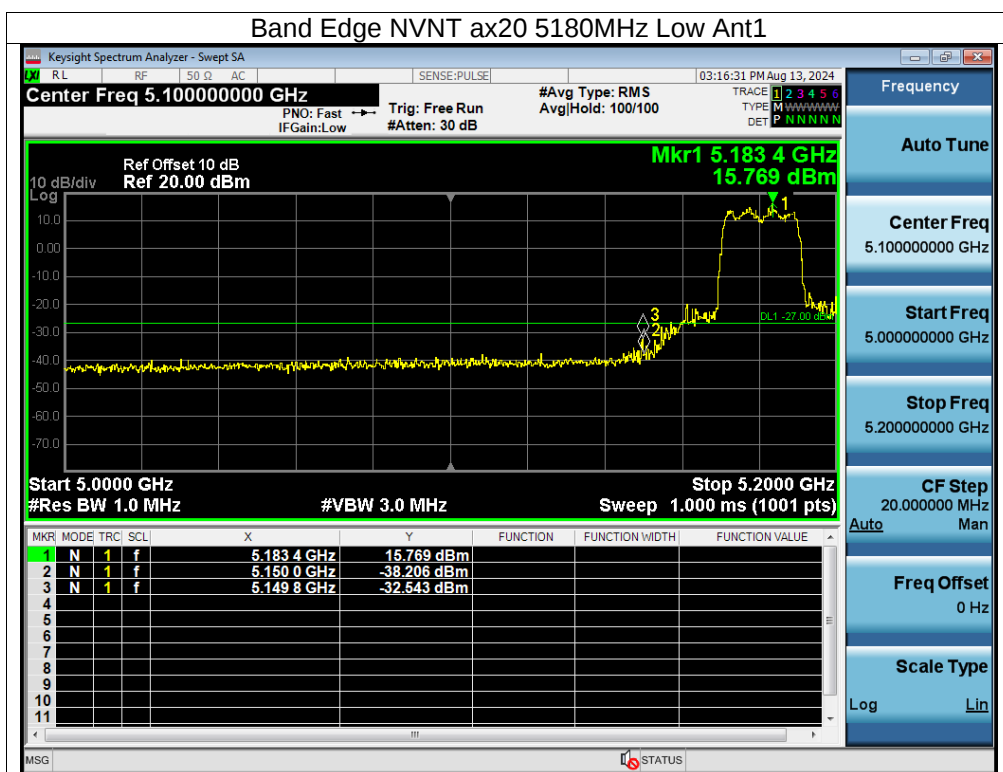


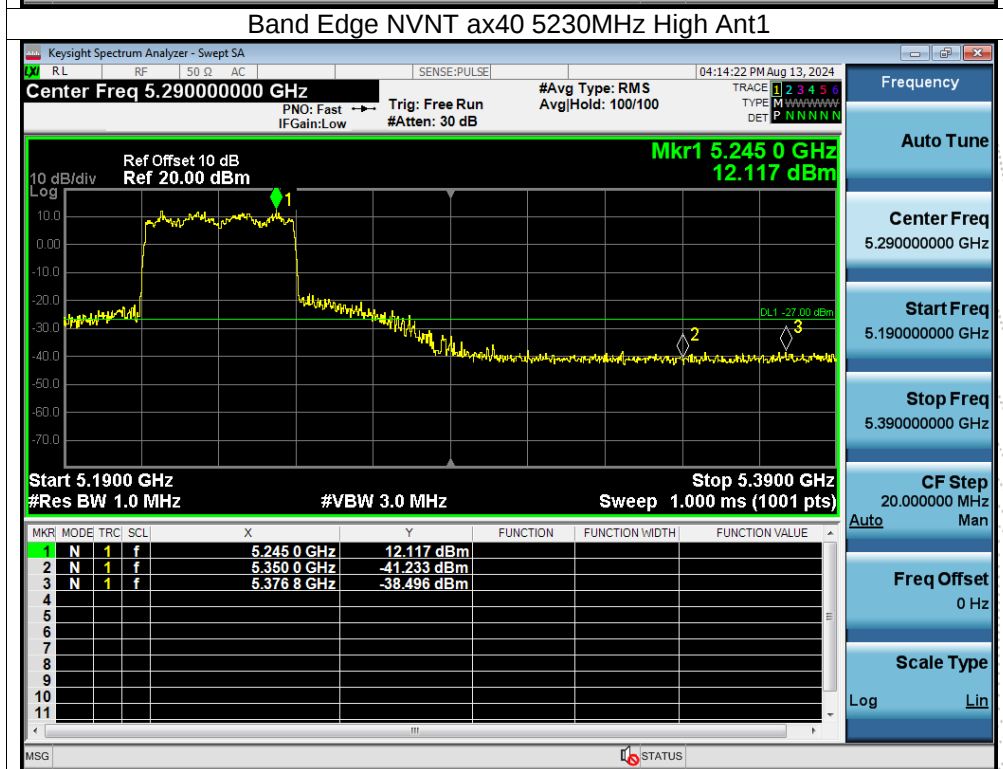
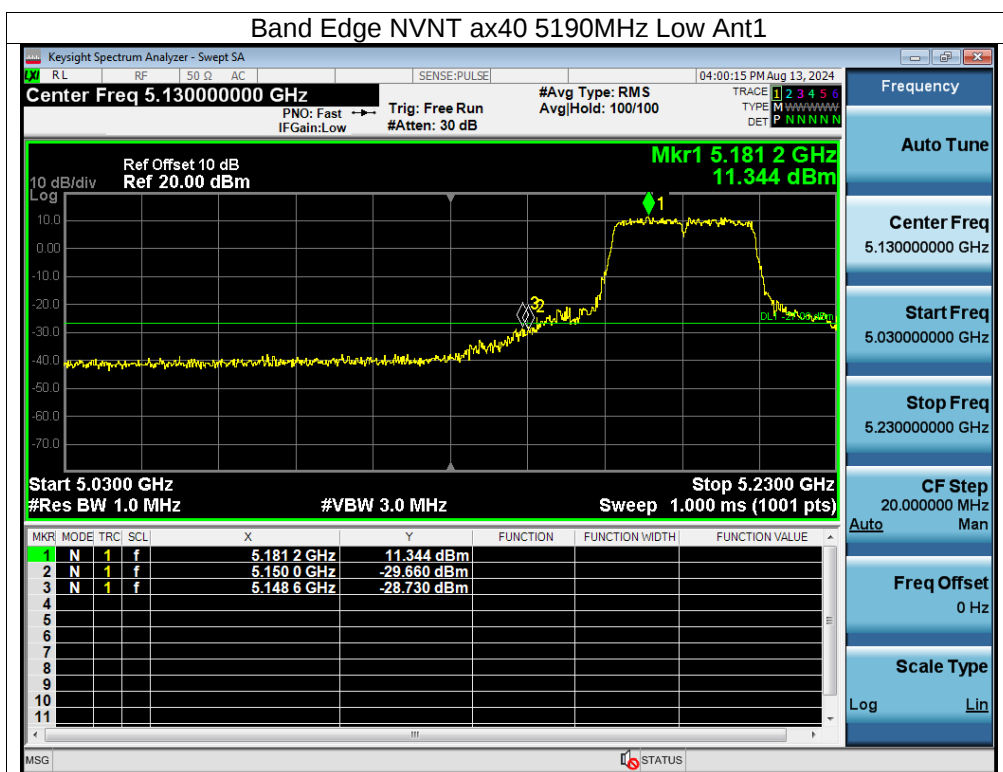


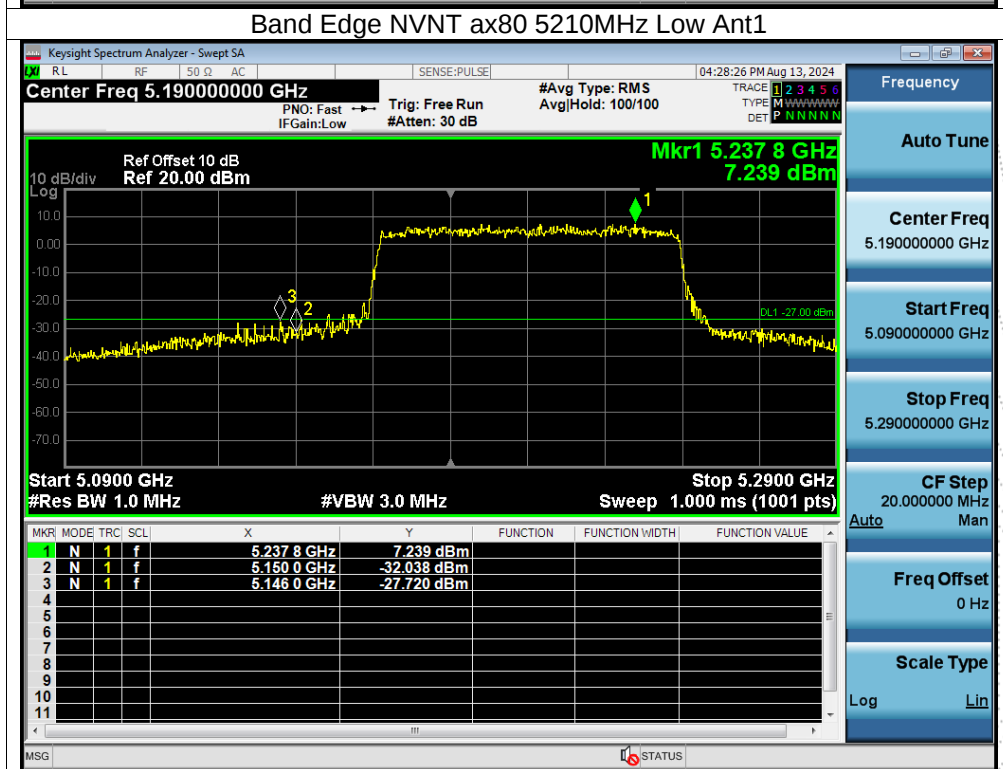
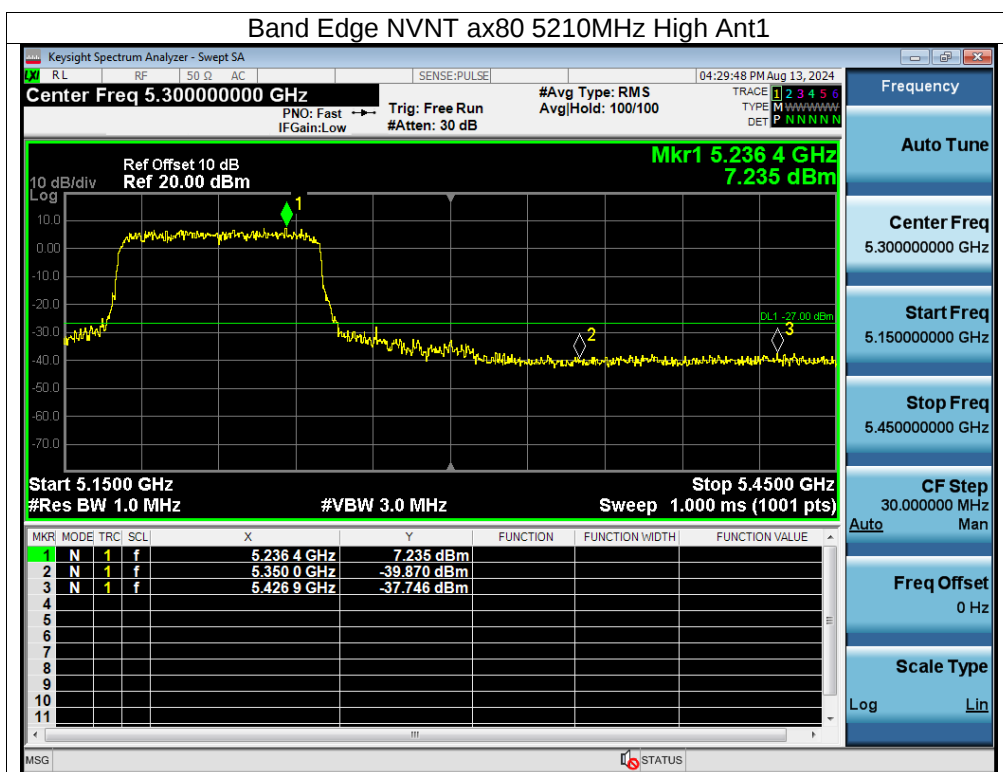








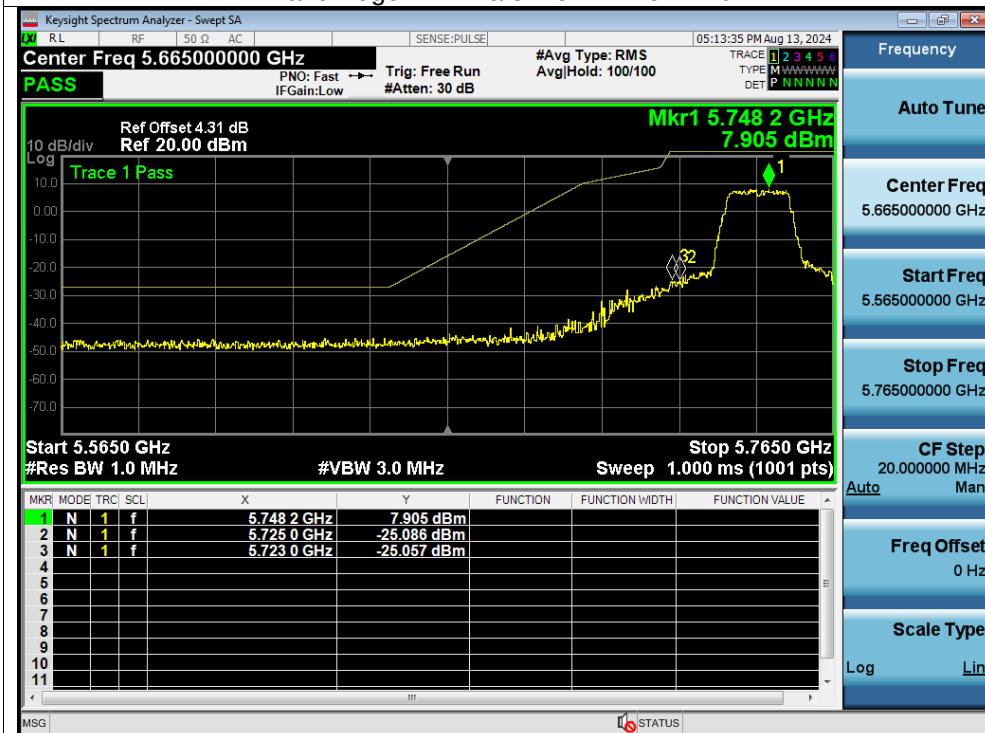




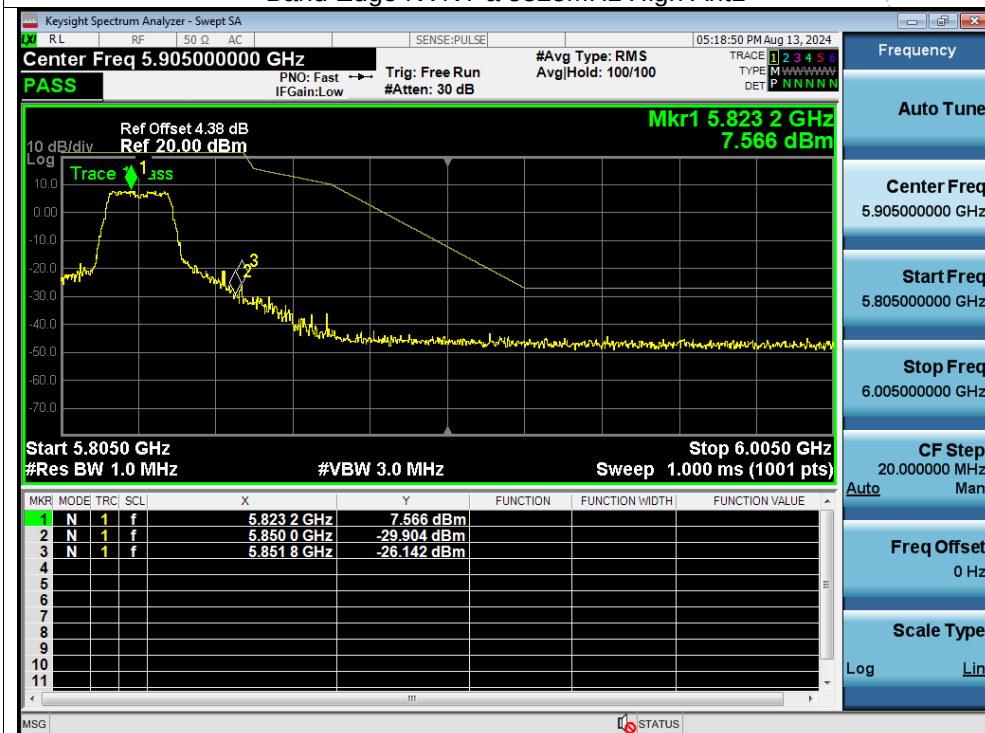
5745-5825MHz

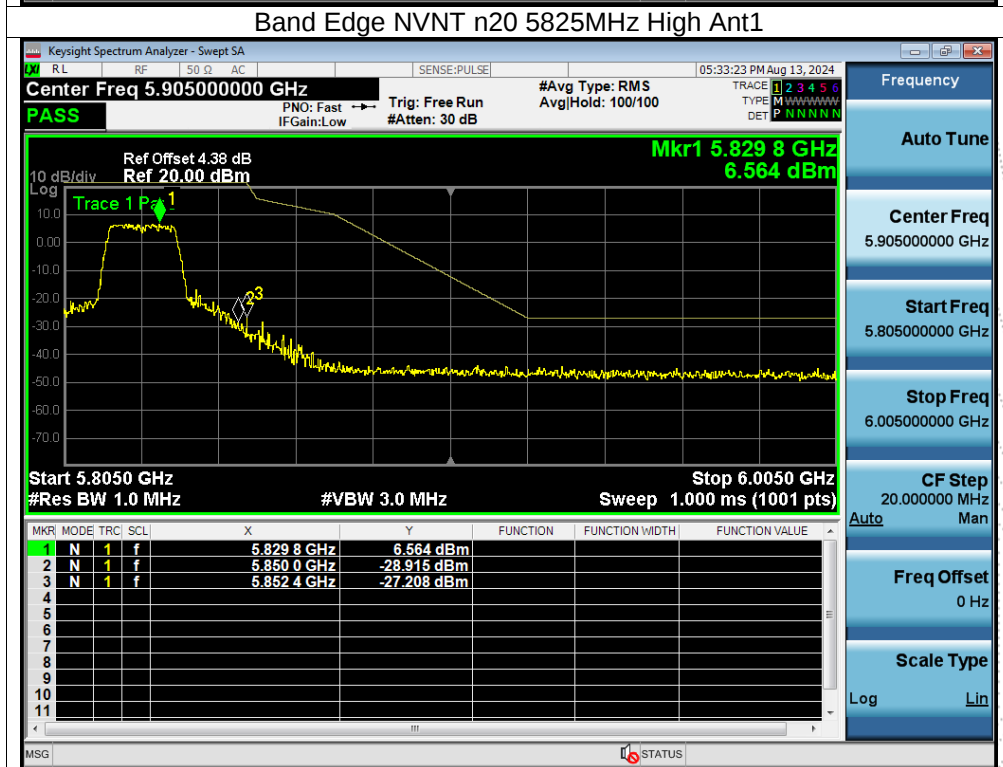
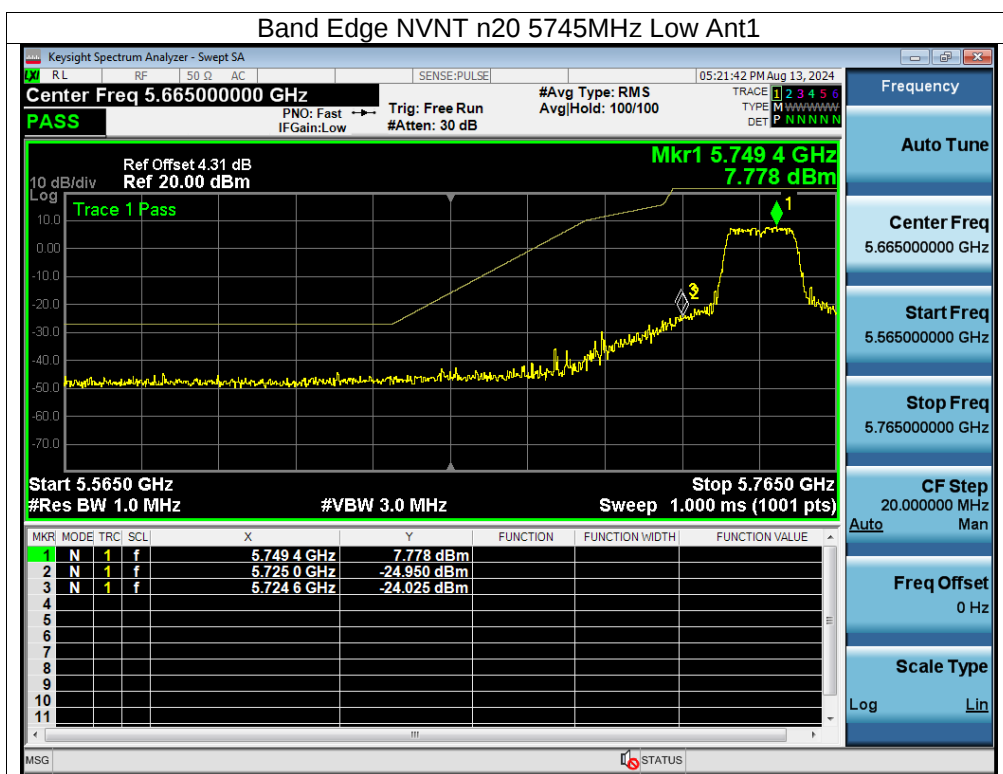
Test Graphs

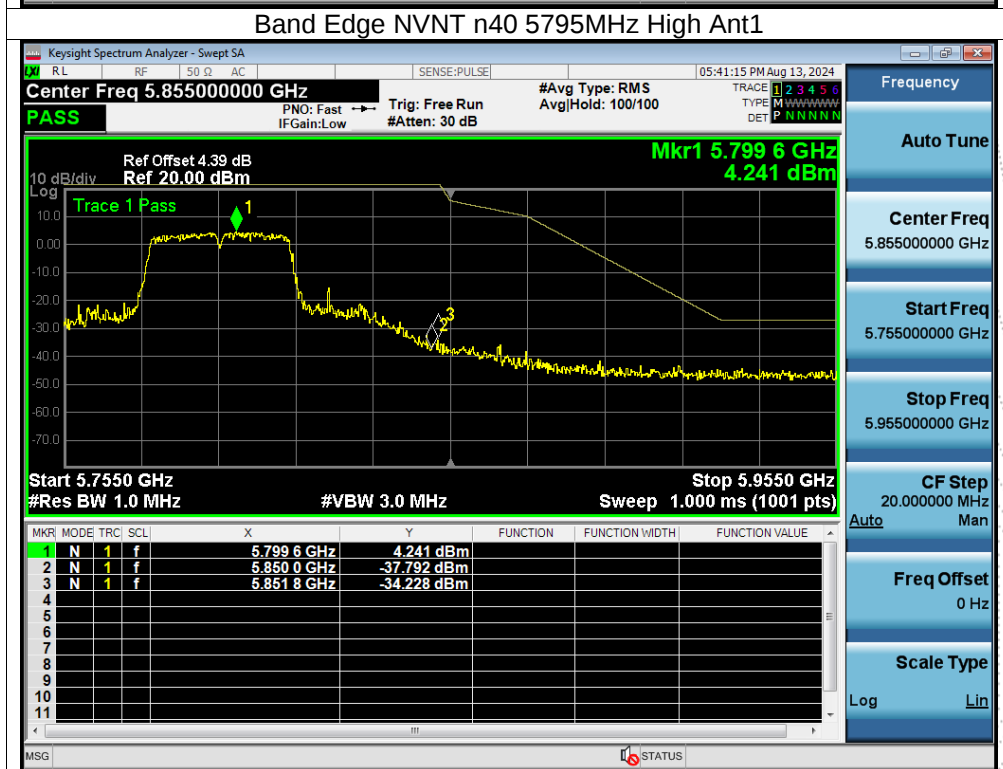
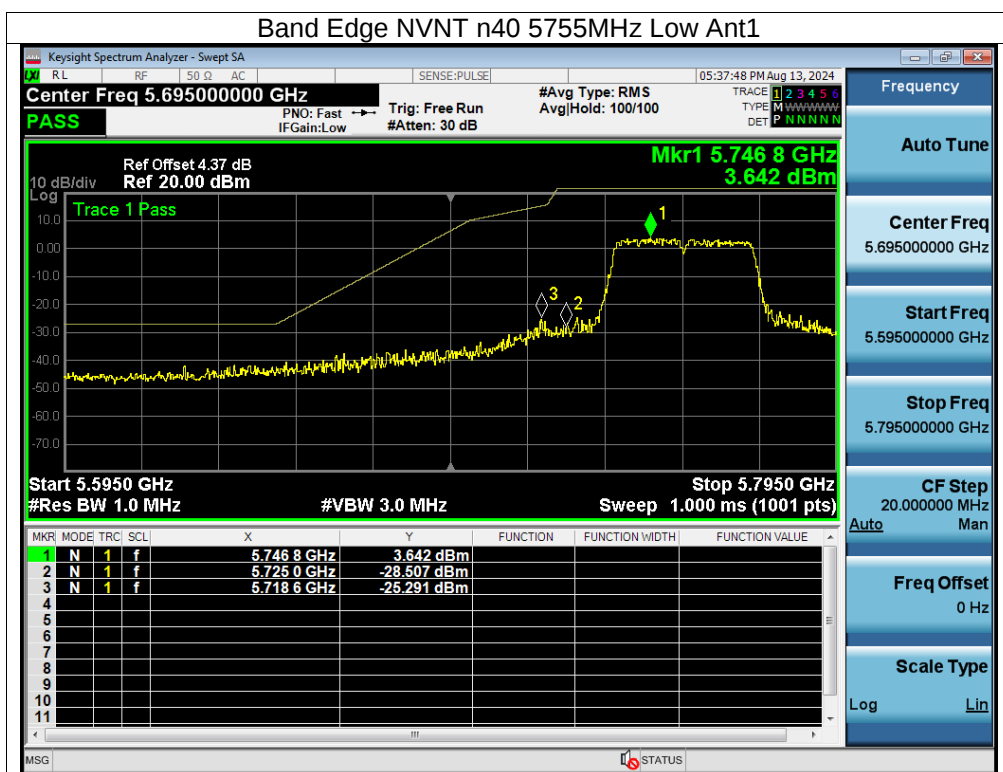
Band Edge NVNT a 5745MHz Low Ant1

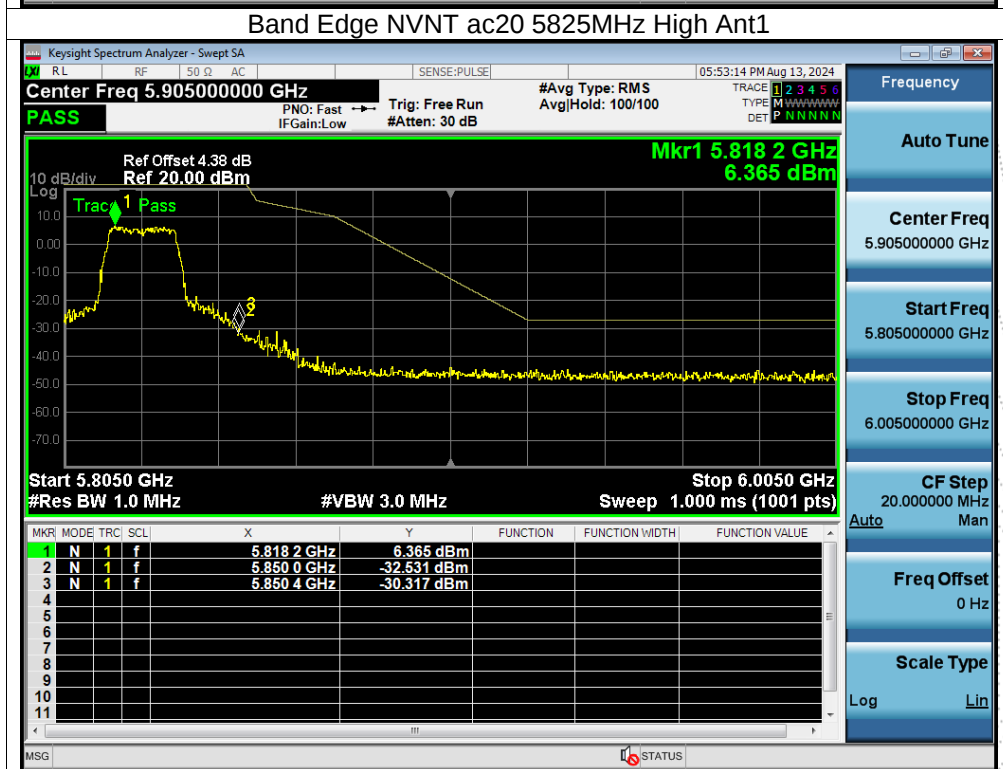
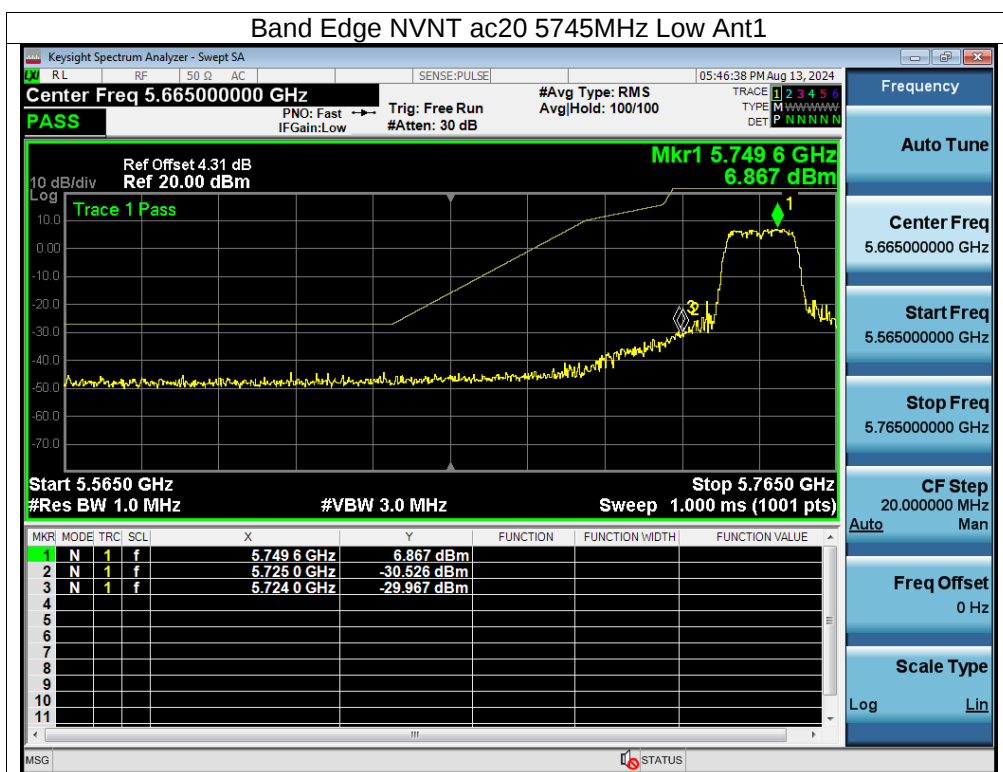


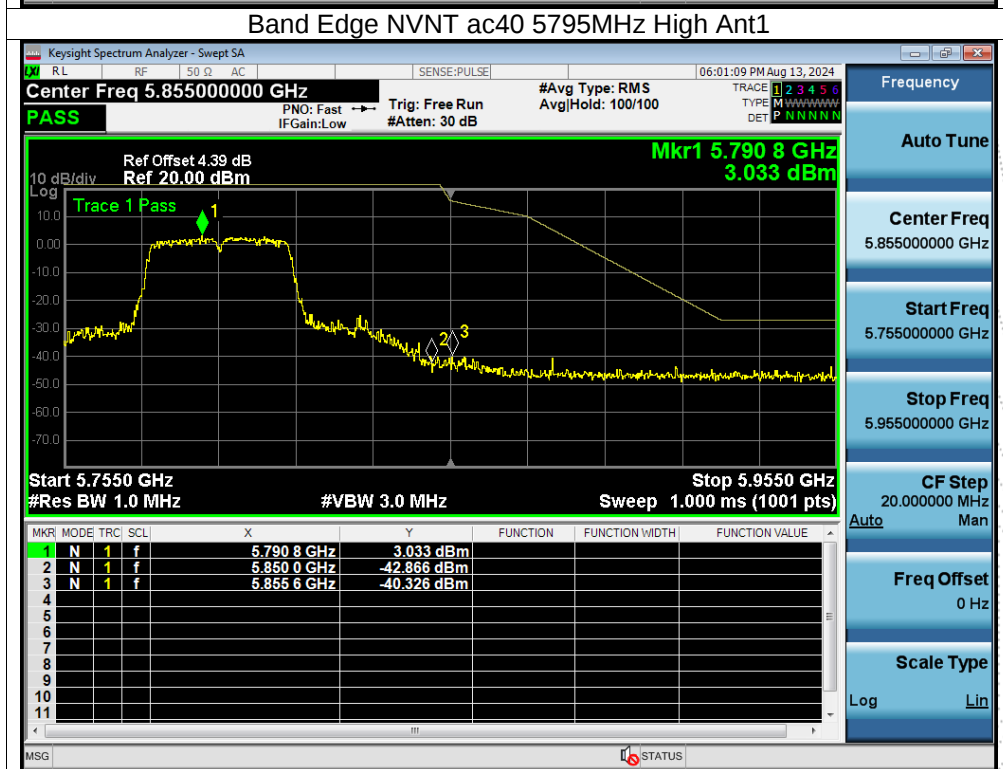
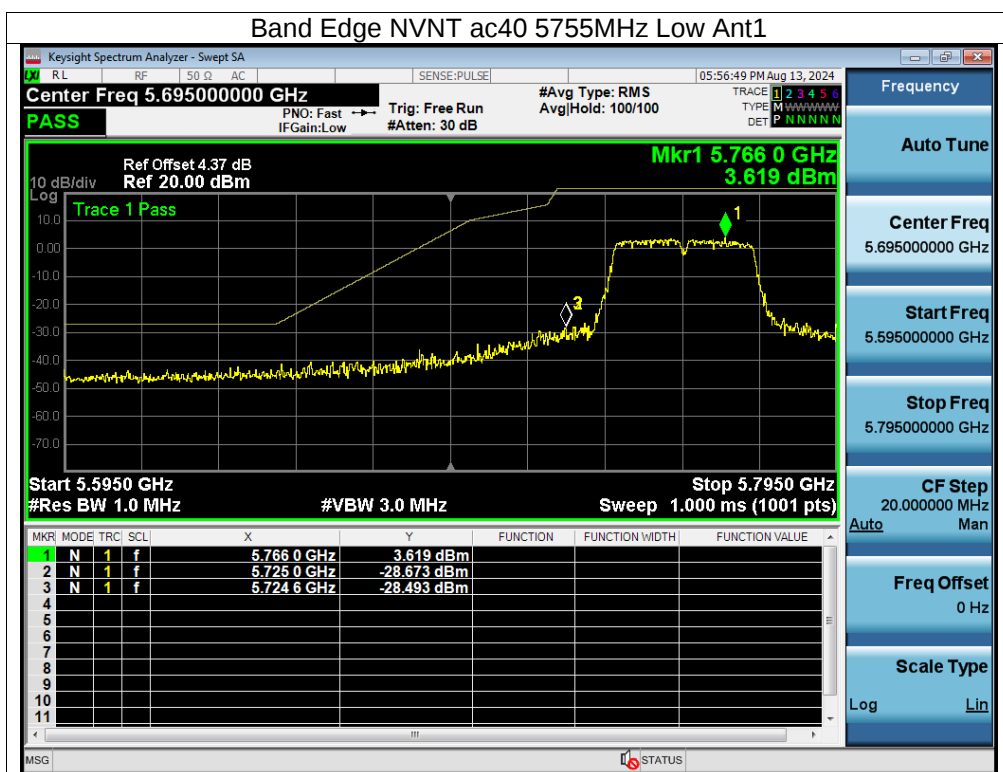
Band Edge NVNT a 5825MHz High Ant1

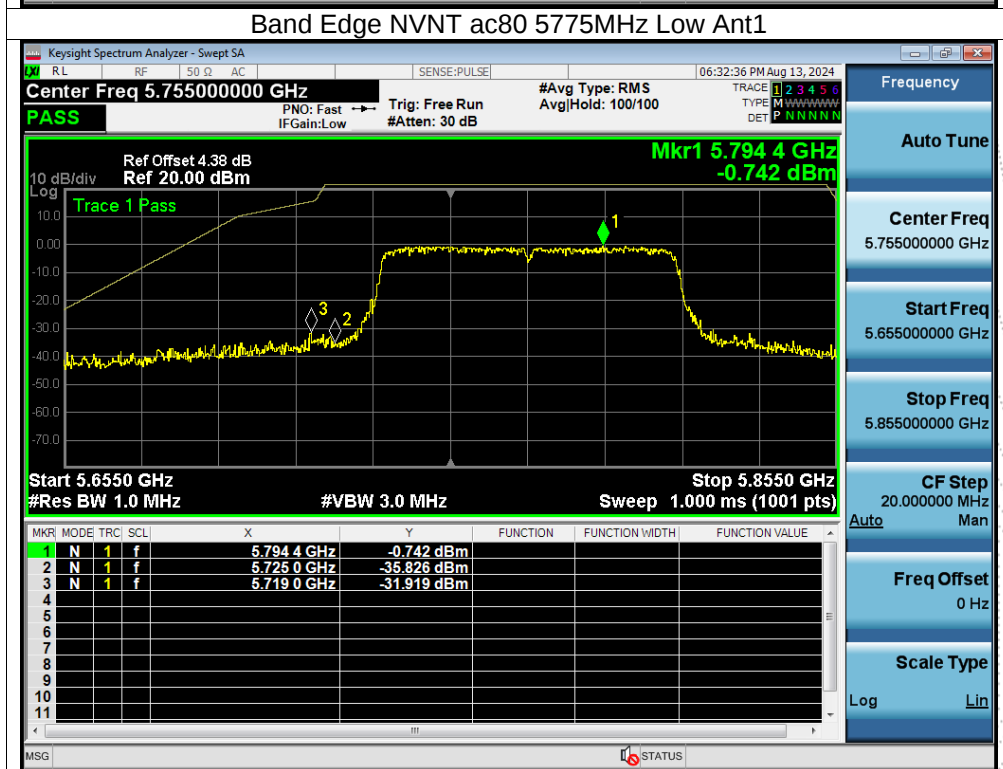
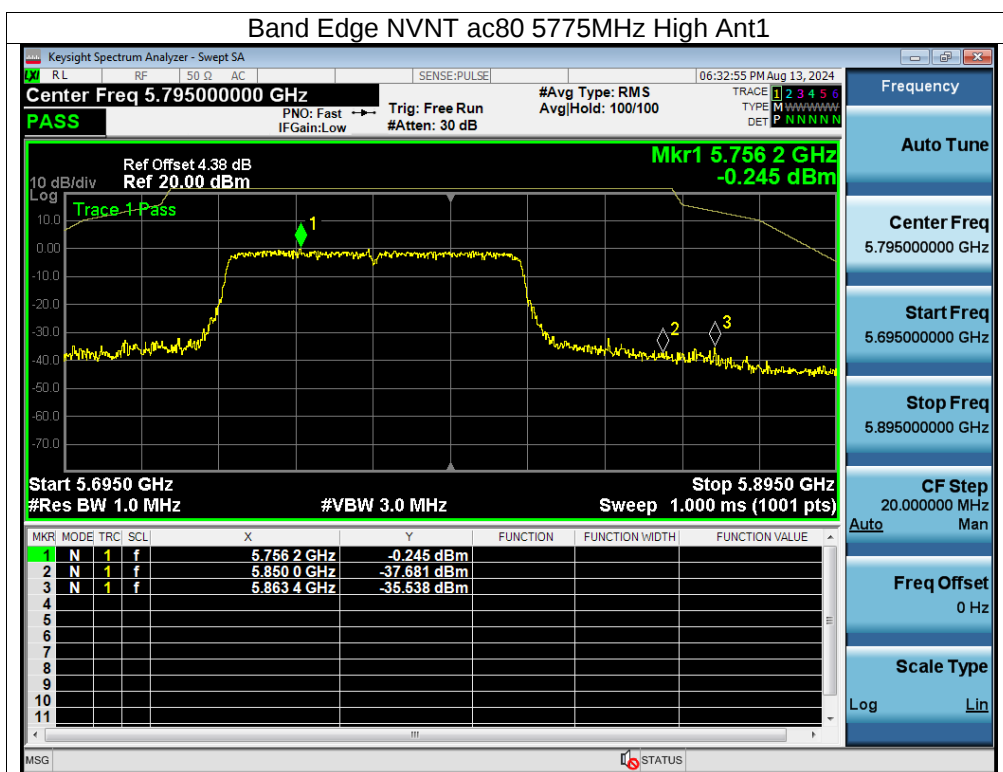


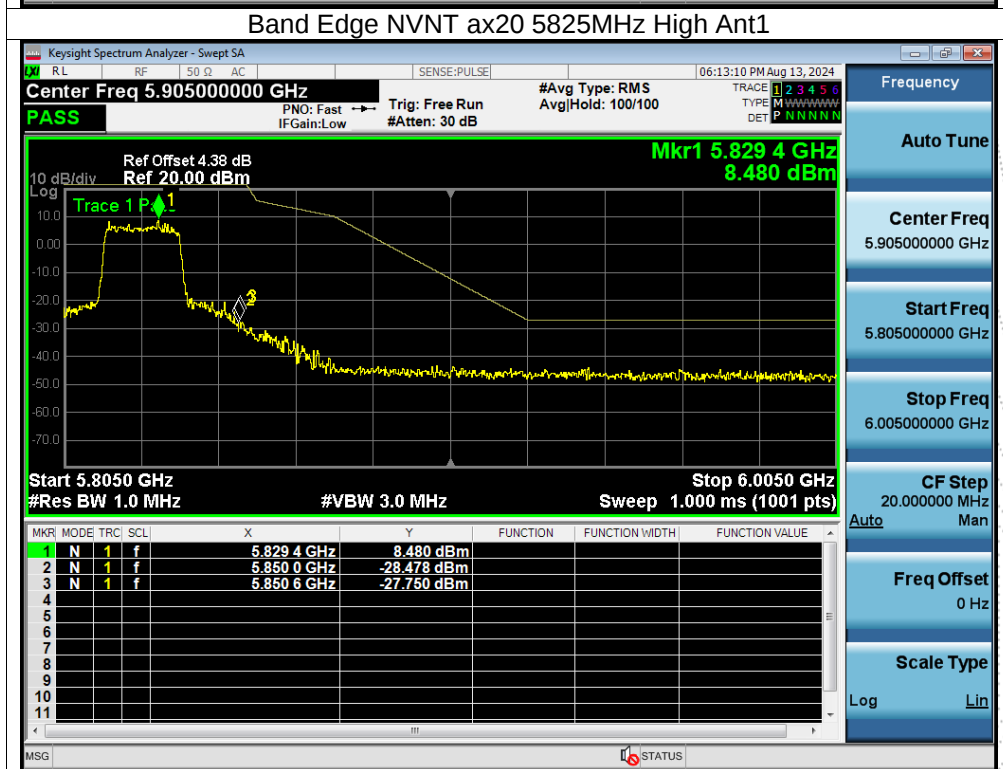
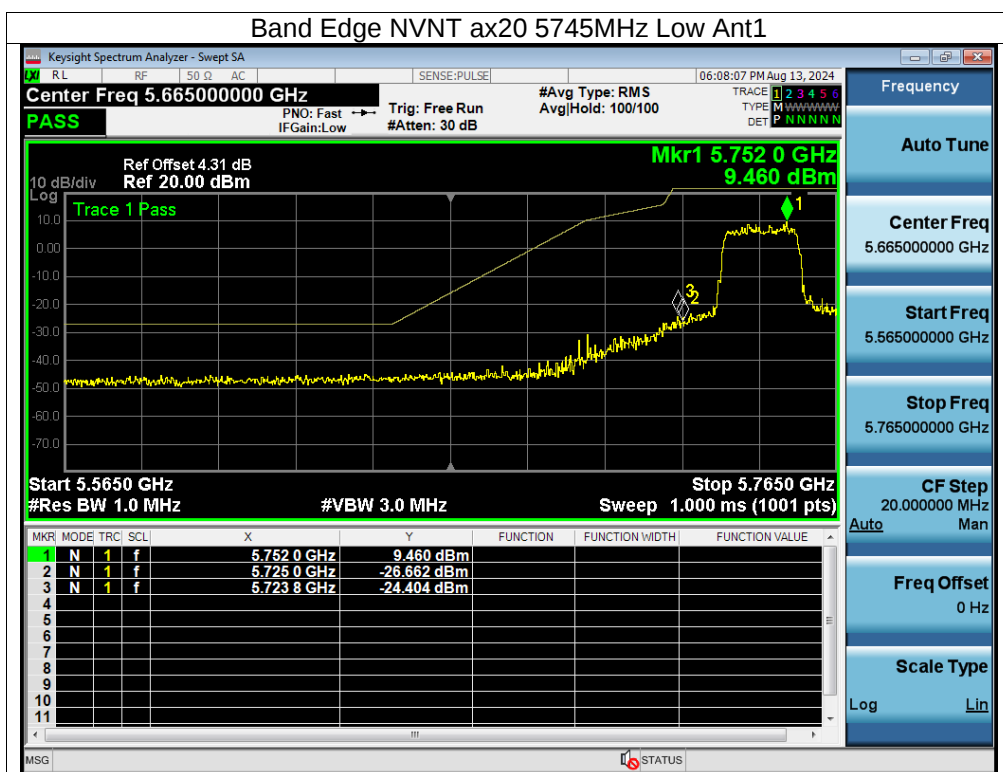


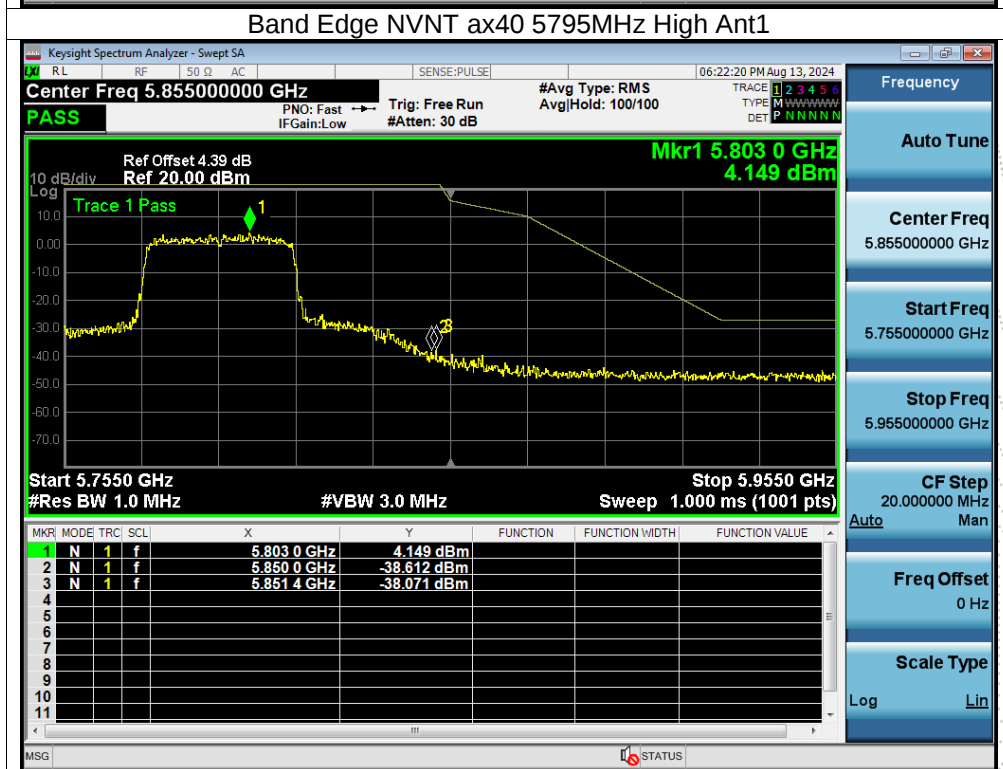
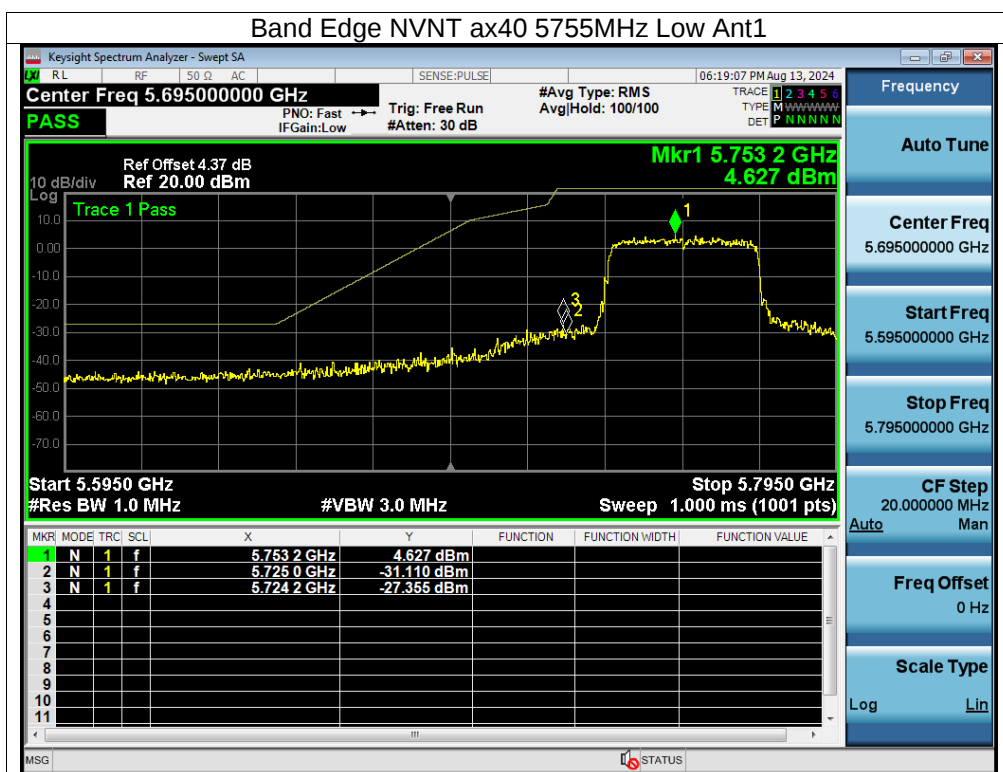


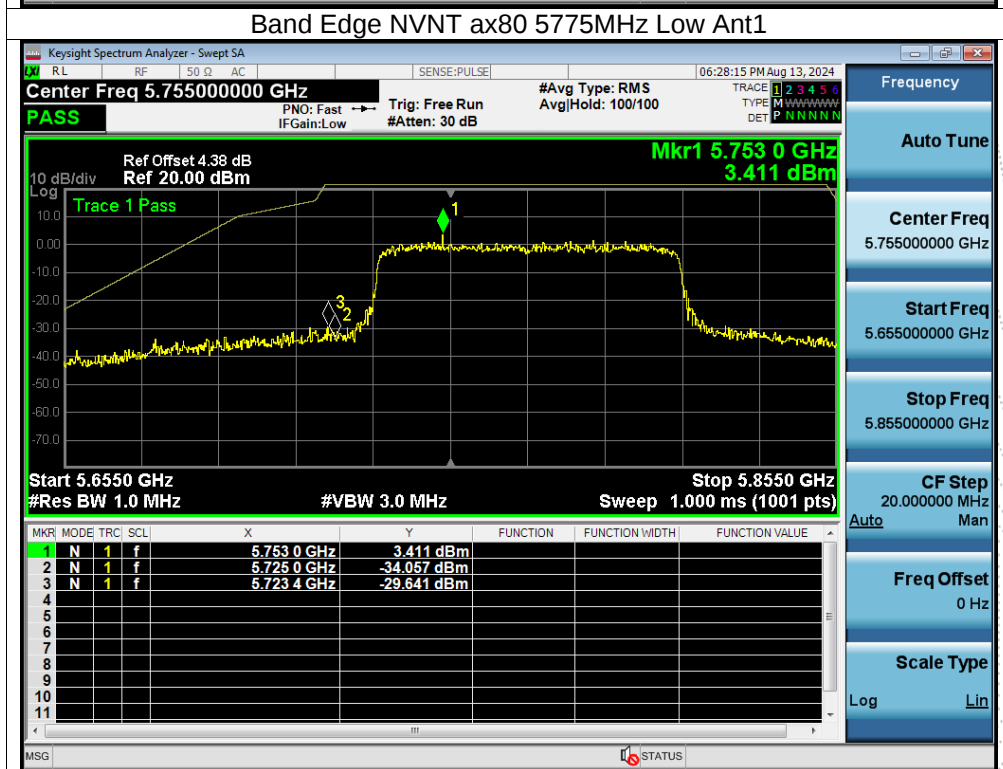
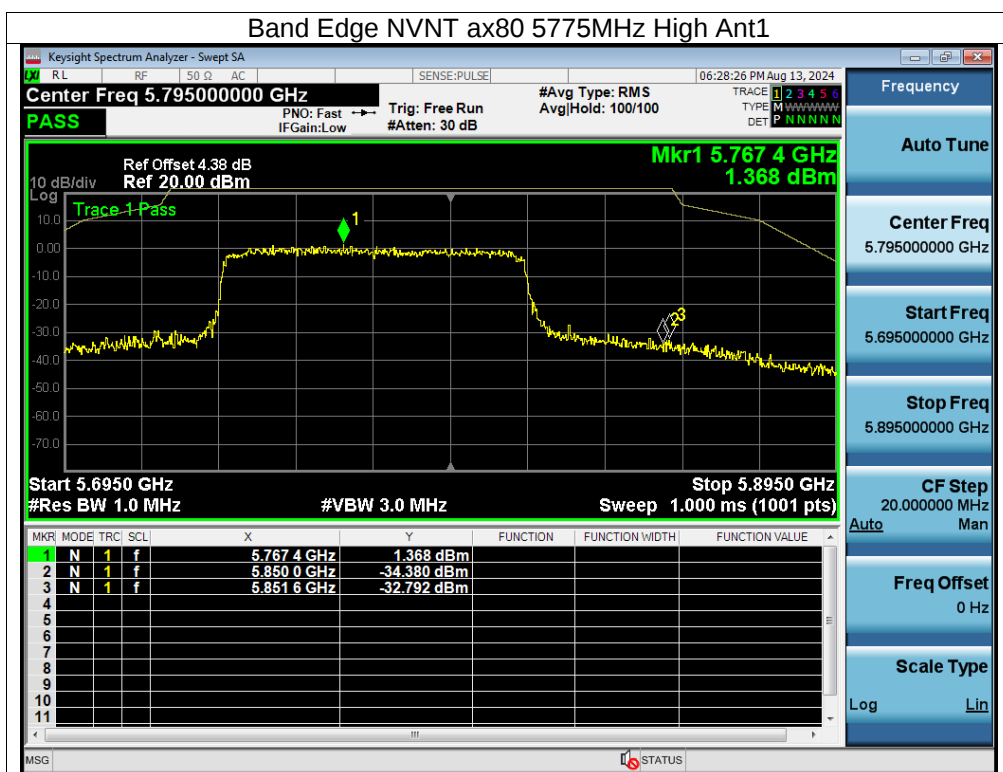












12. Spurious RF Conducted Emissions

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge..

12.3 Test Procedure

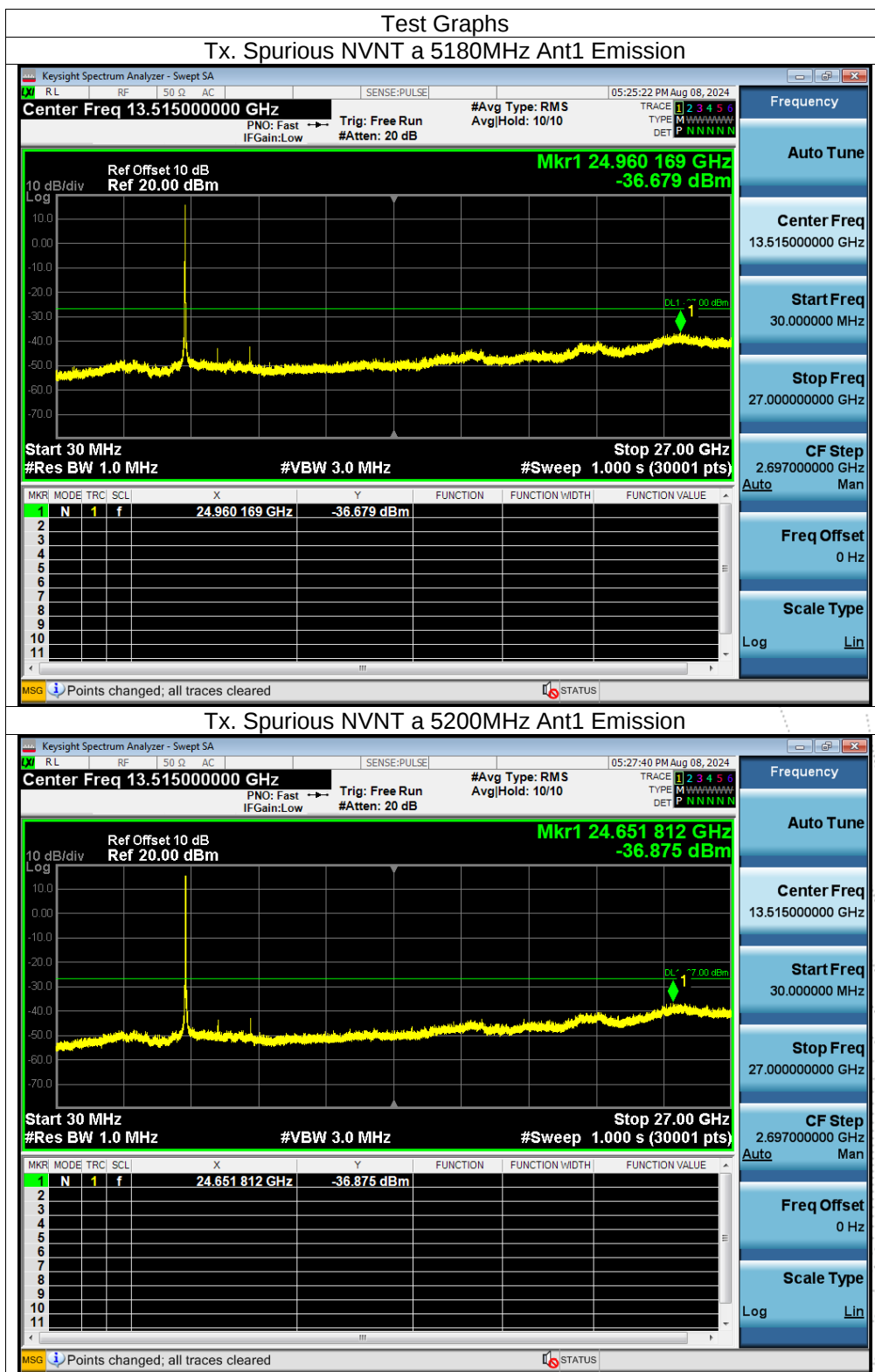
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

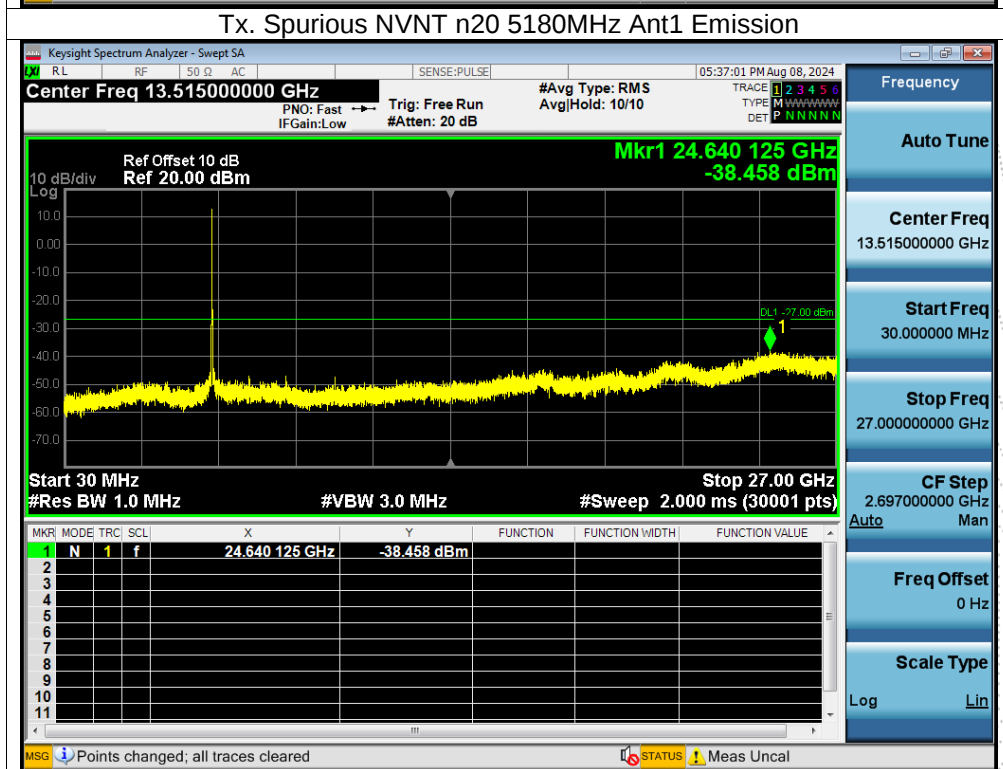
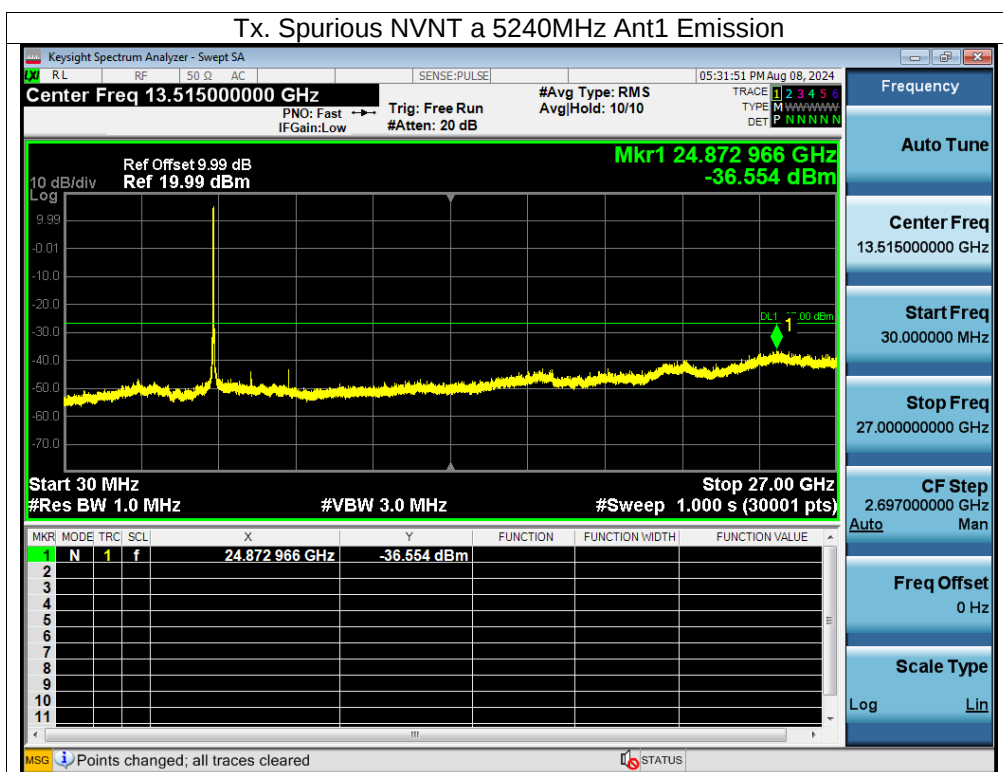
12.4 Test Result

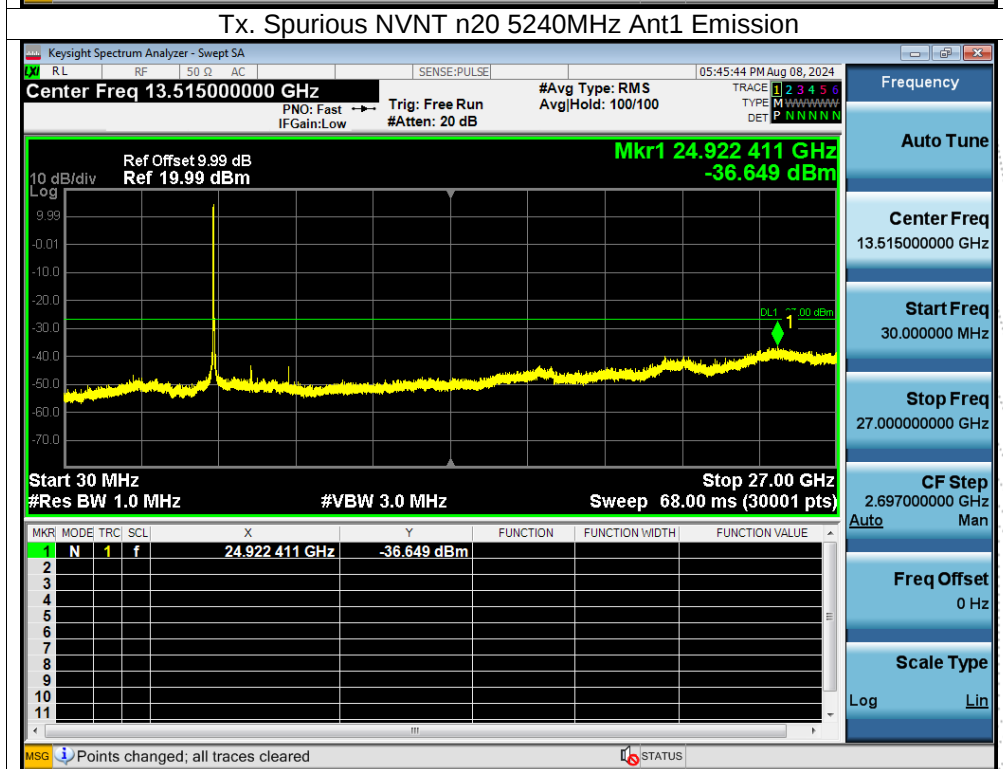
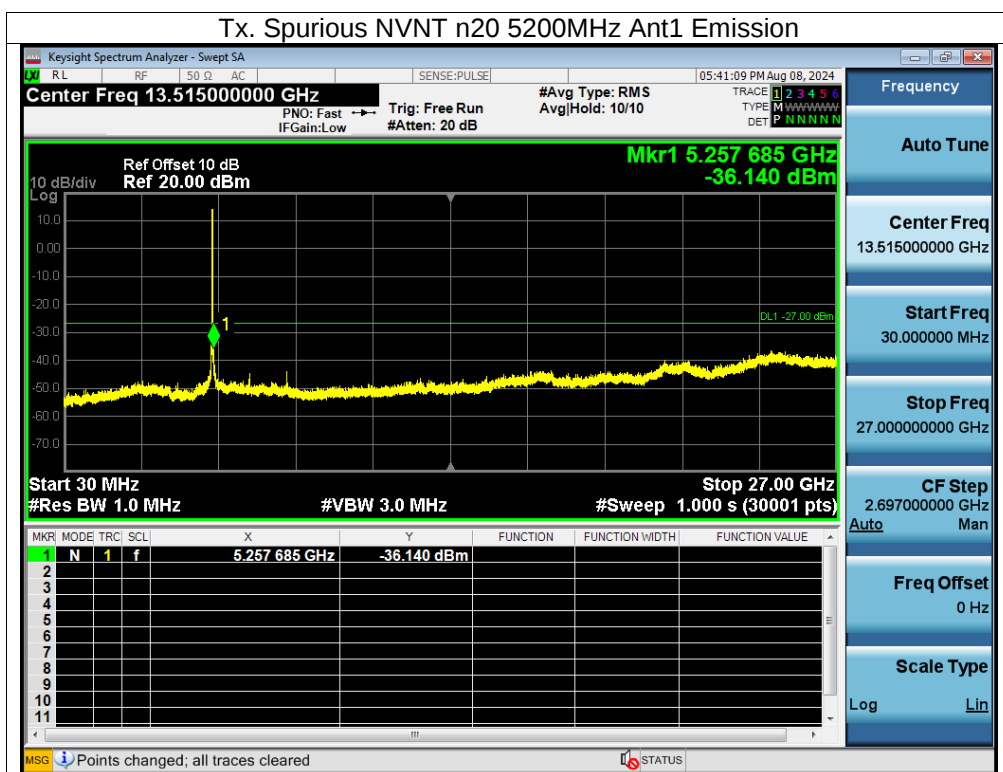
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.

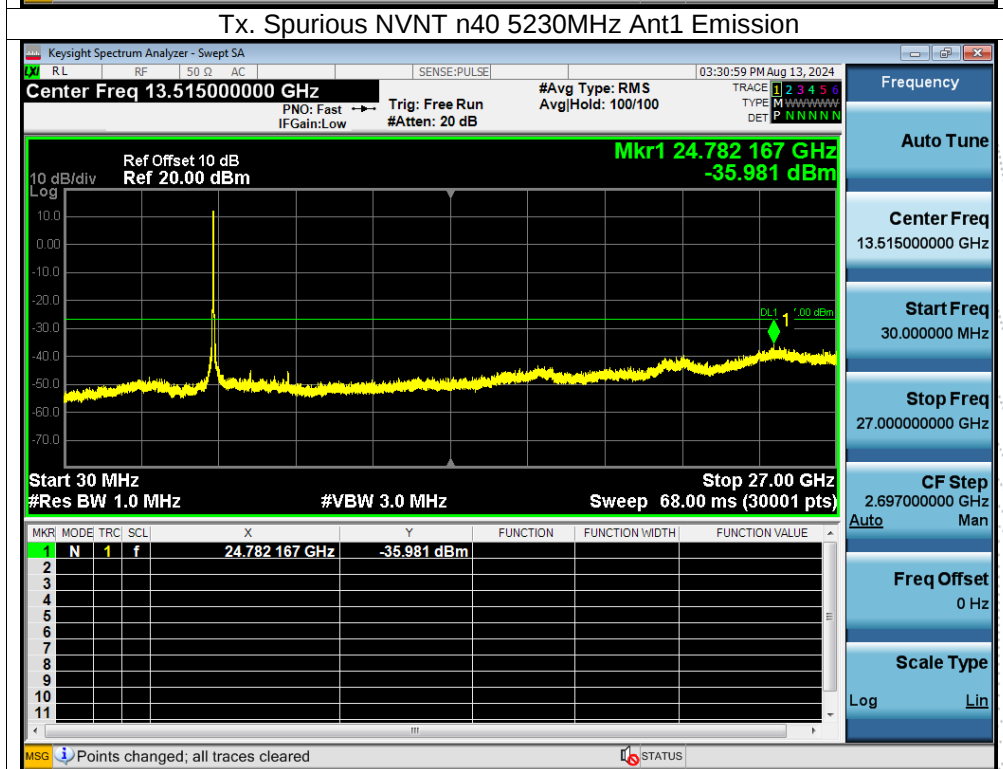
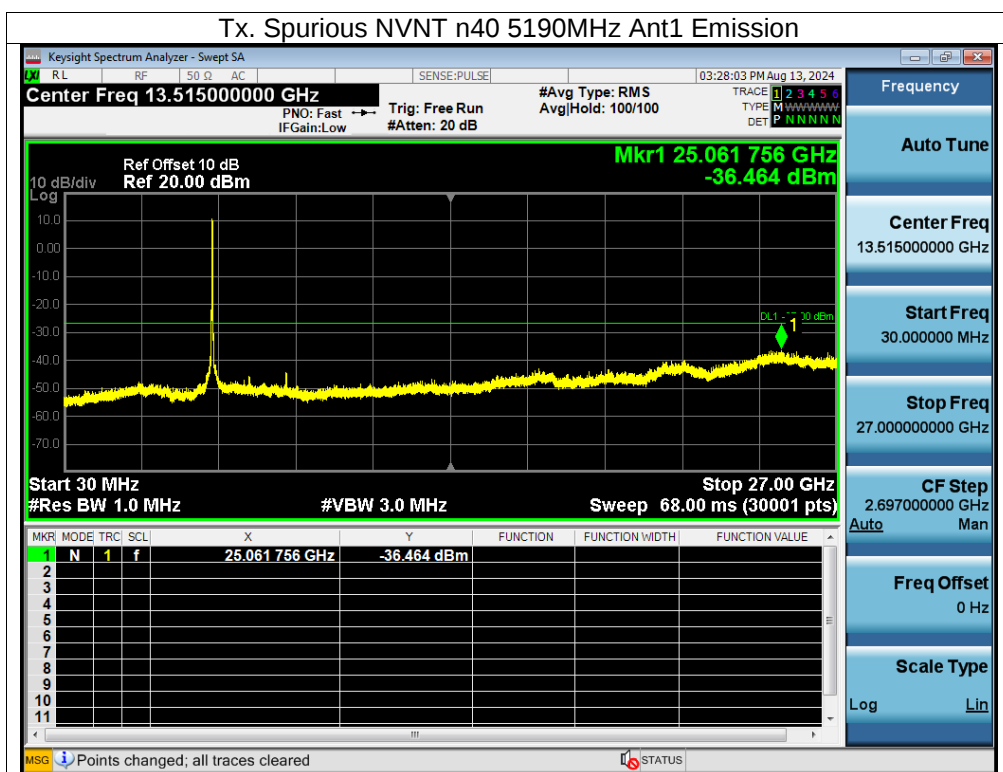
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

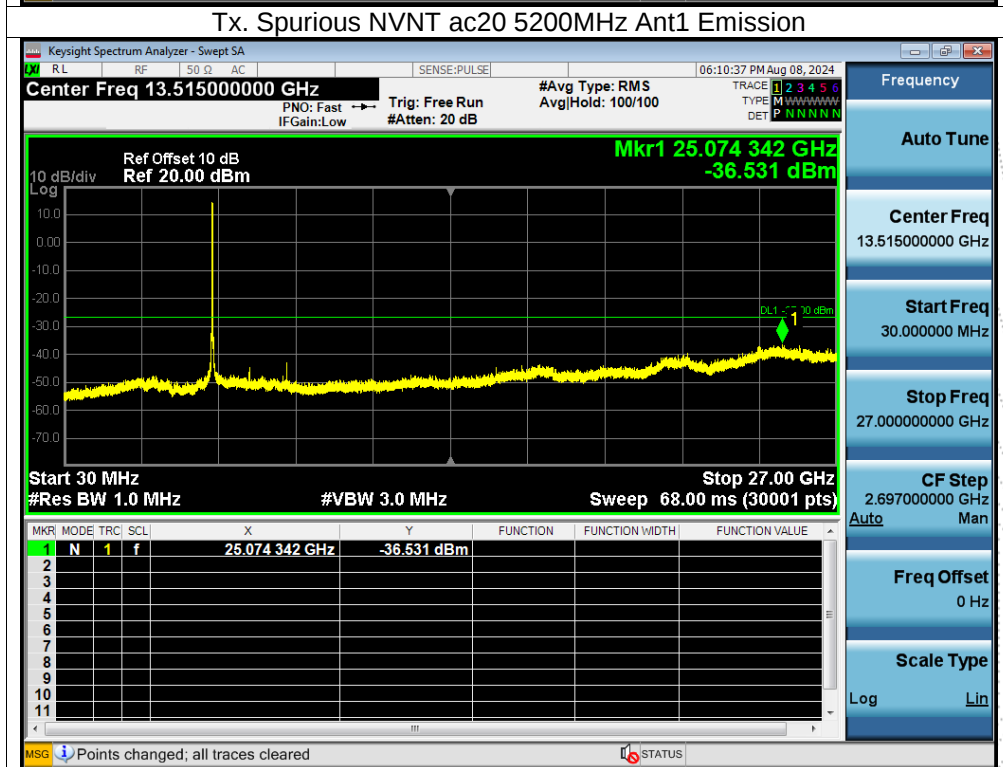
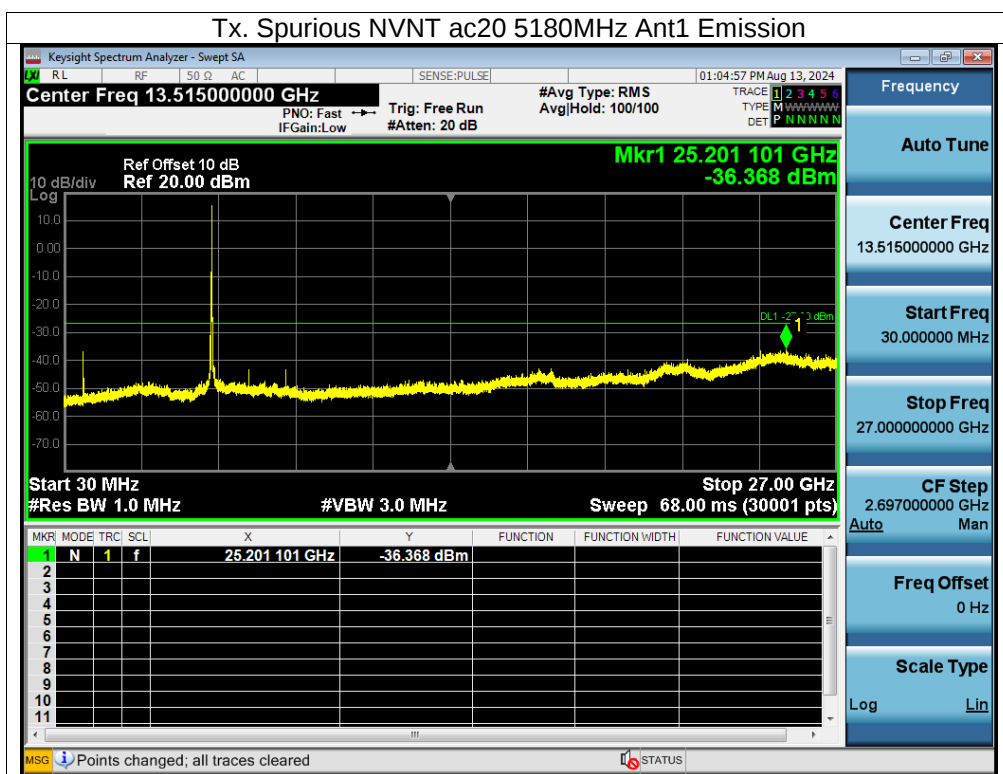
5180-5240MHz

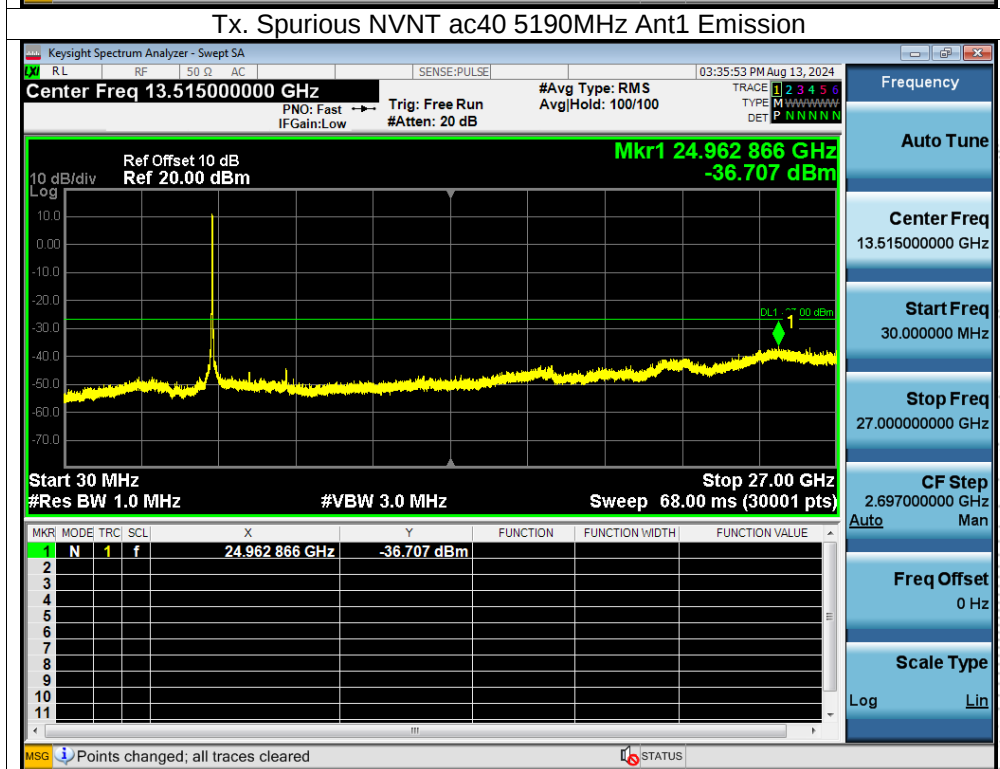
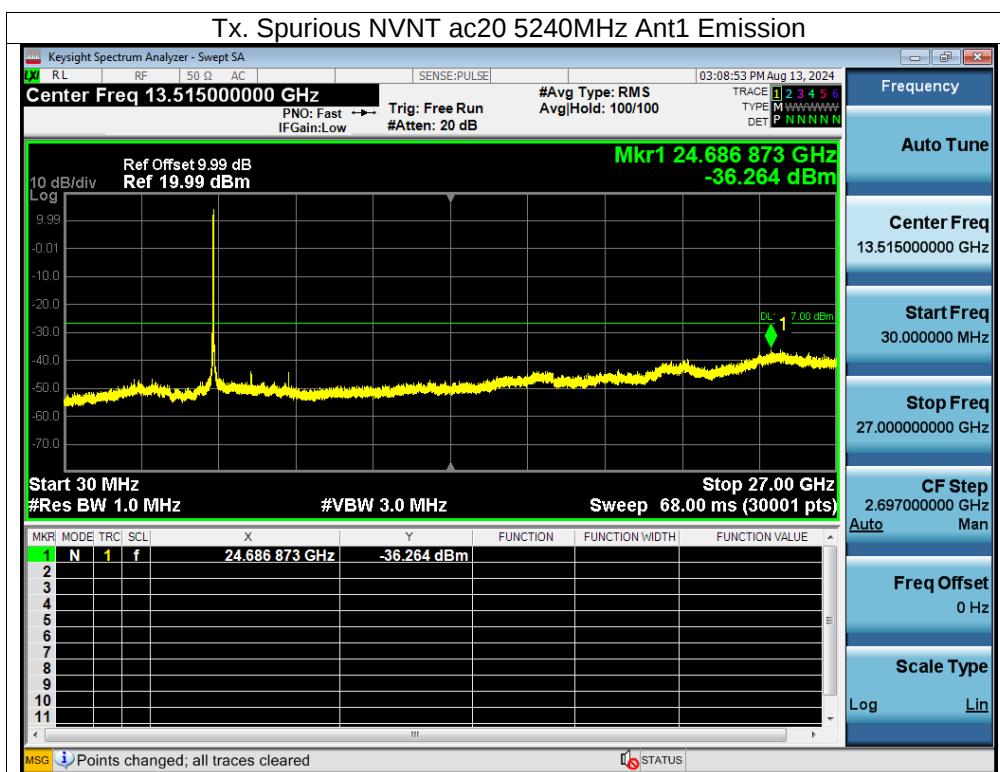


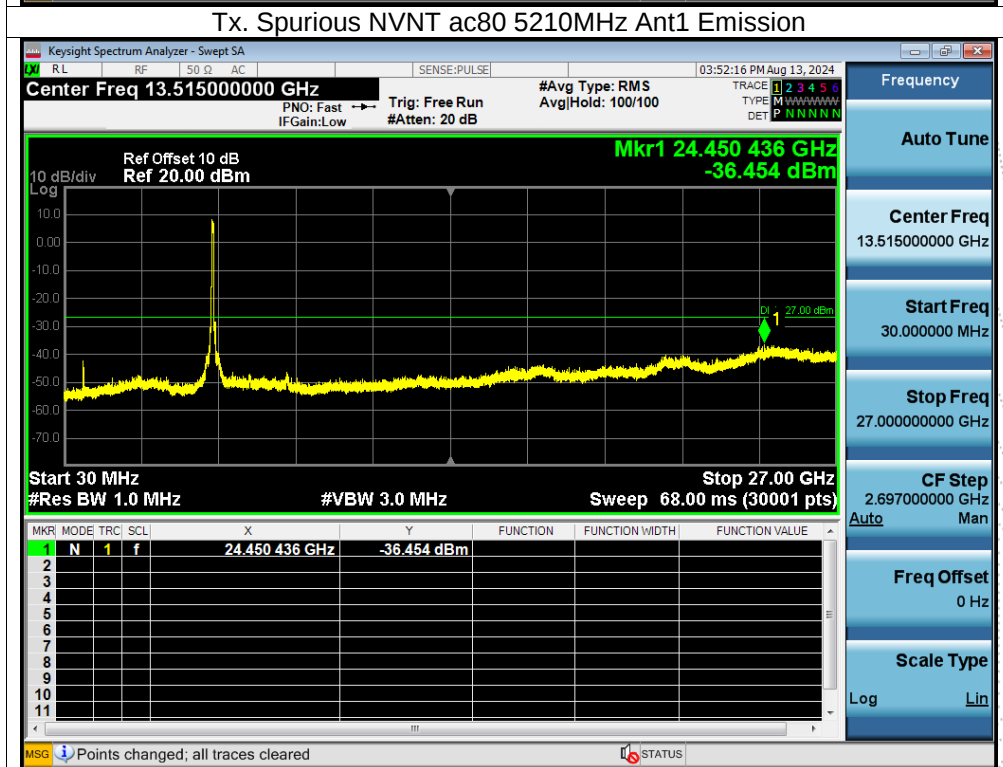
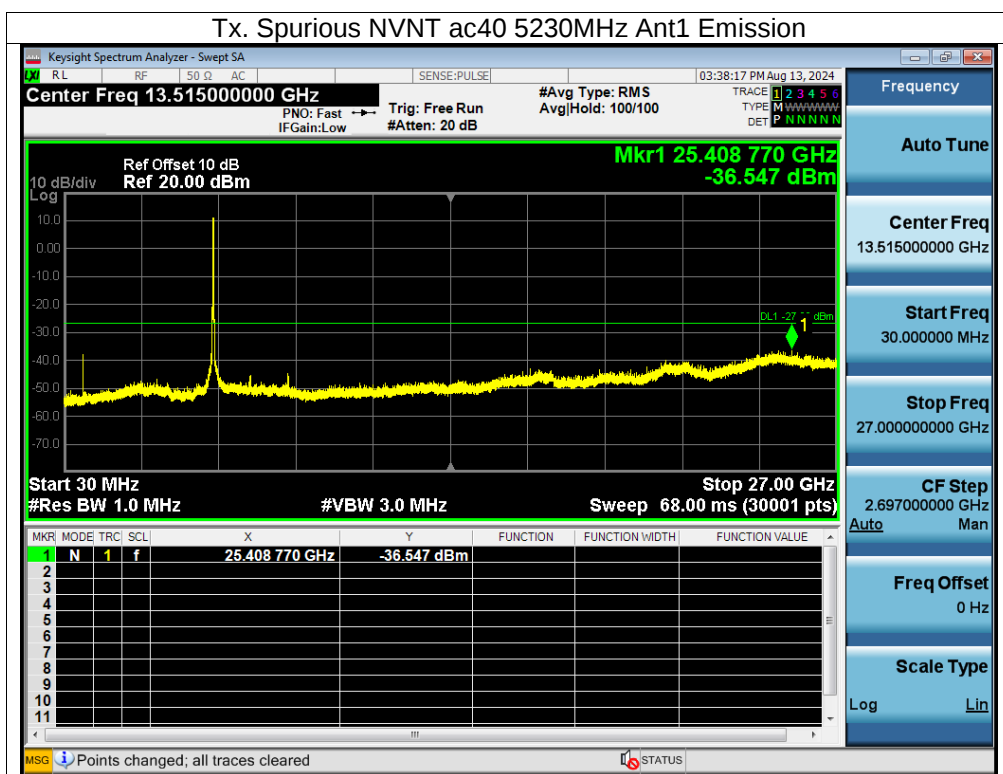


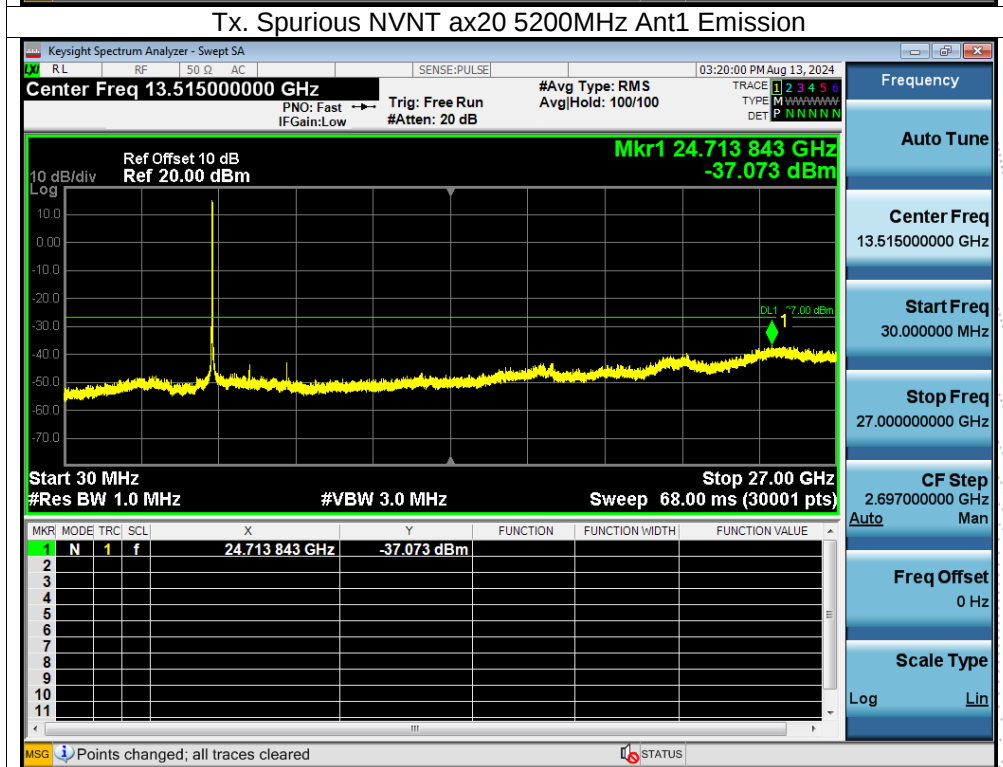
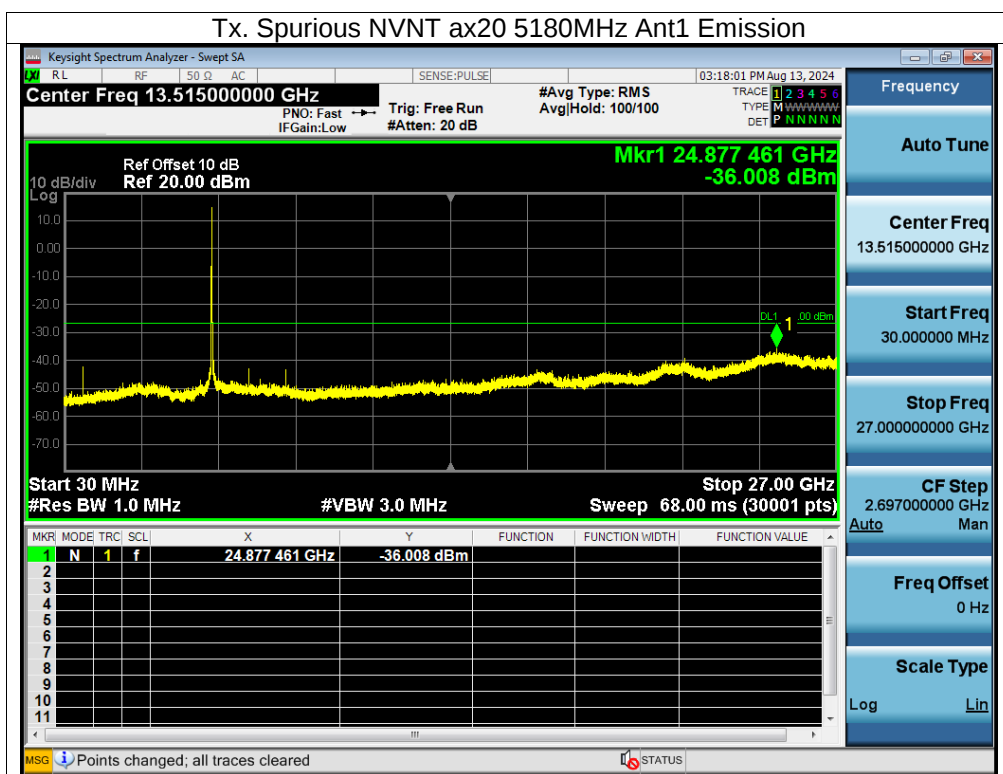


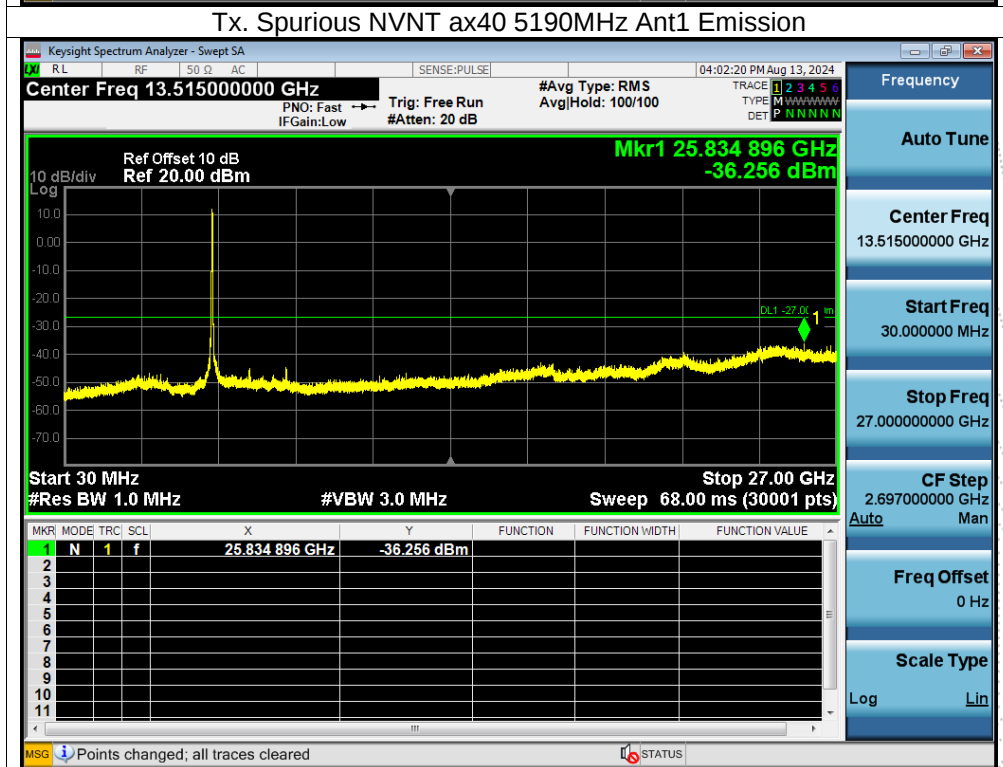
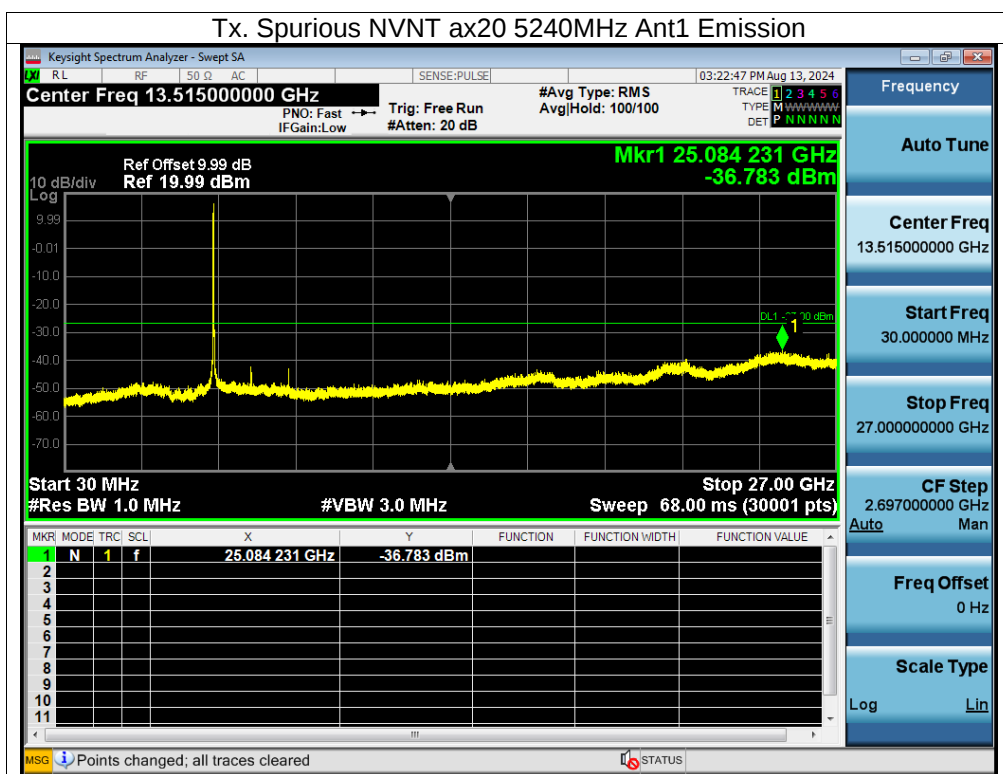


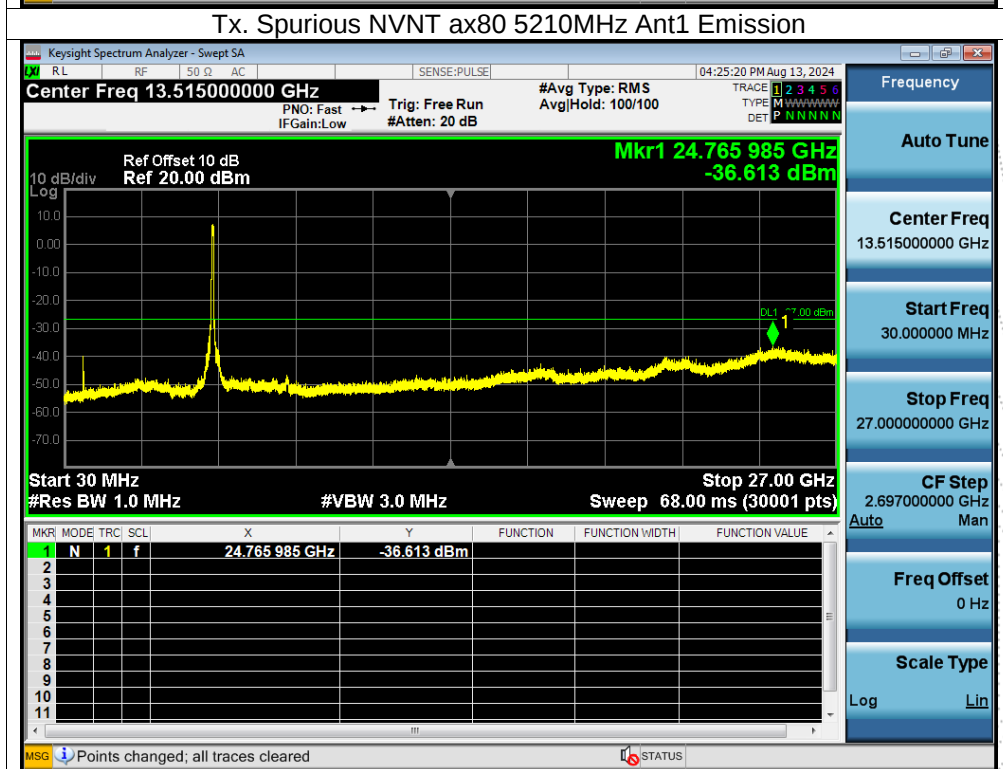
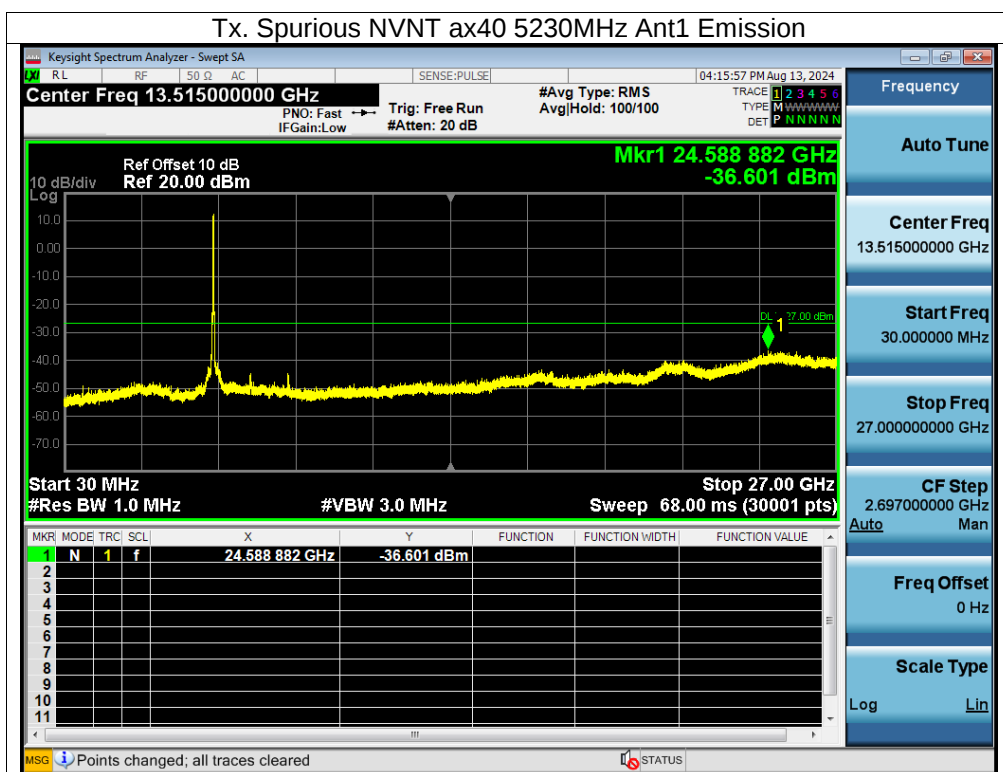




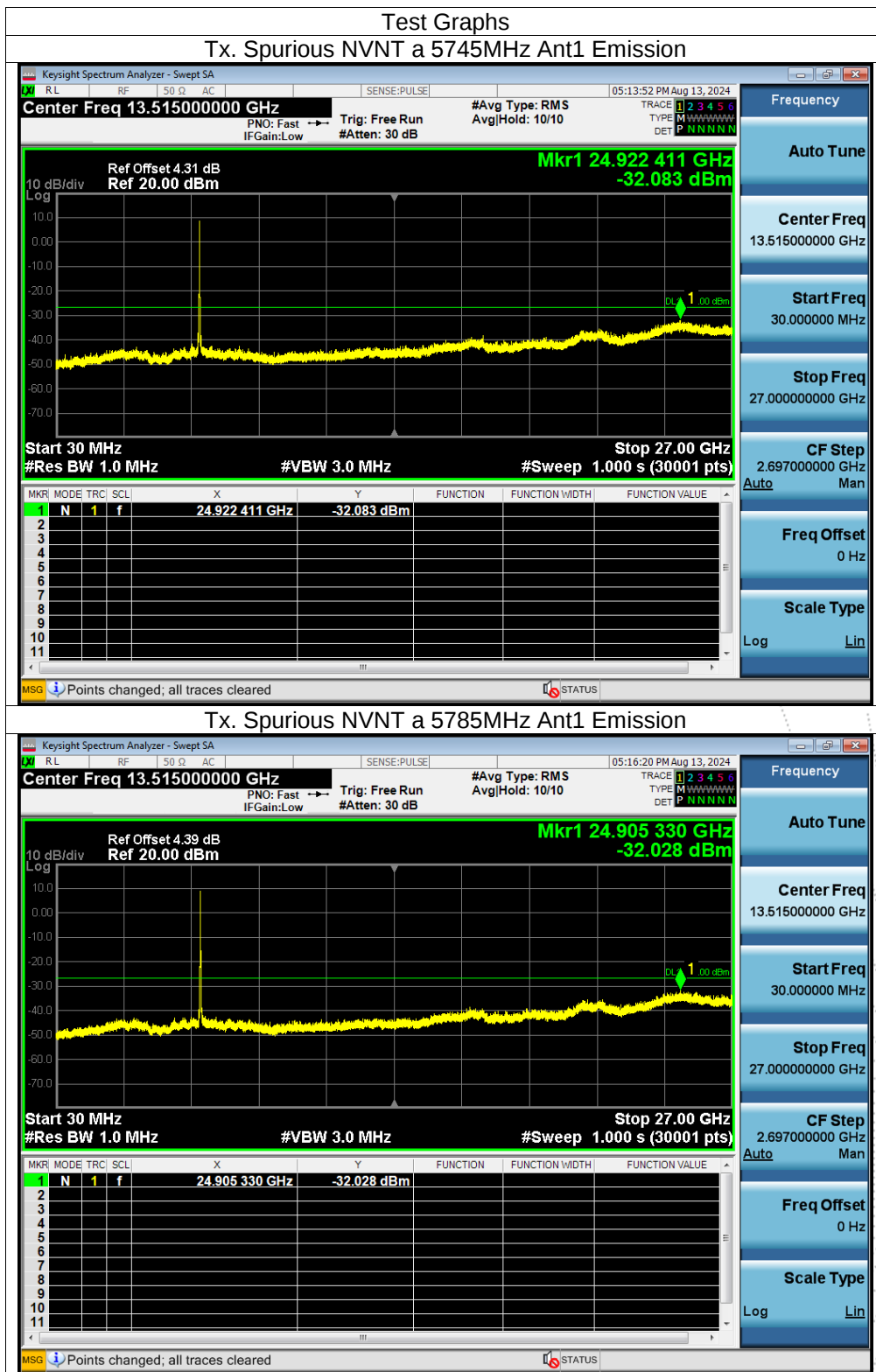


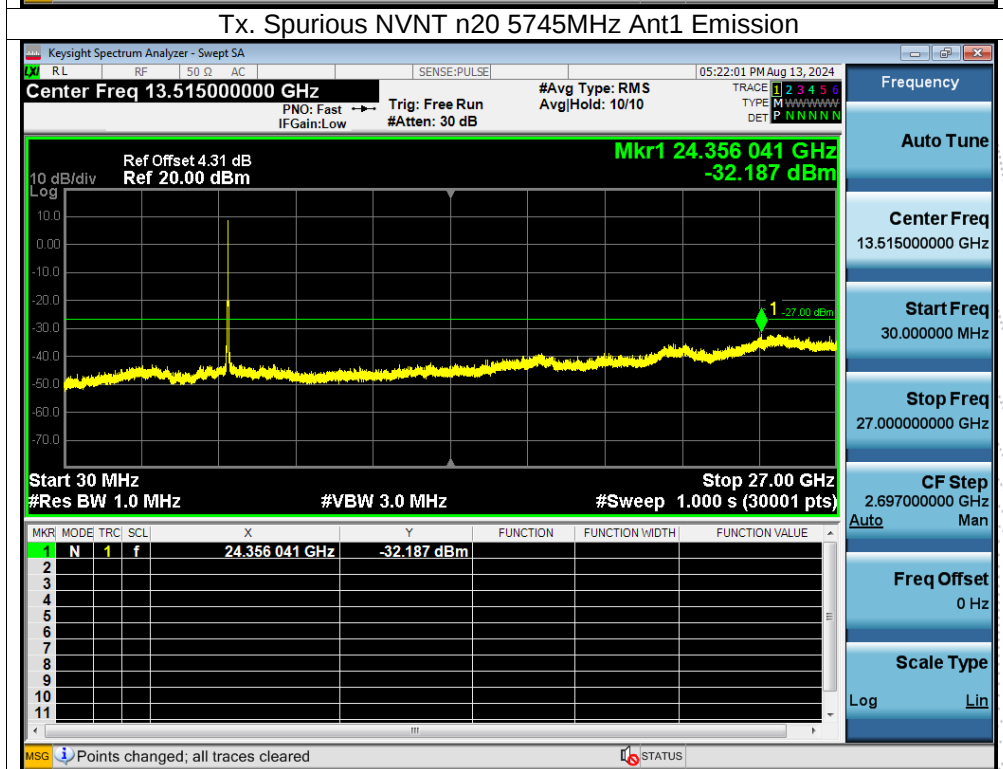
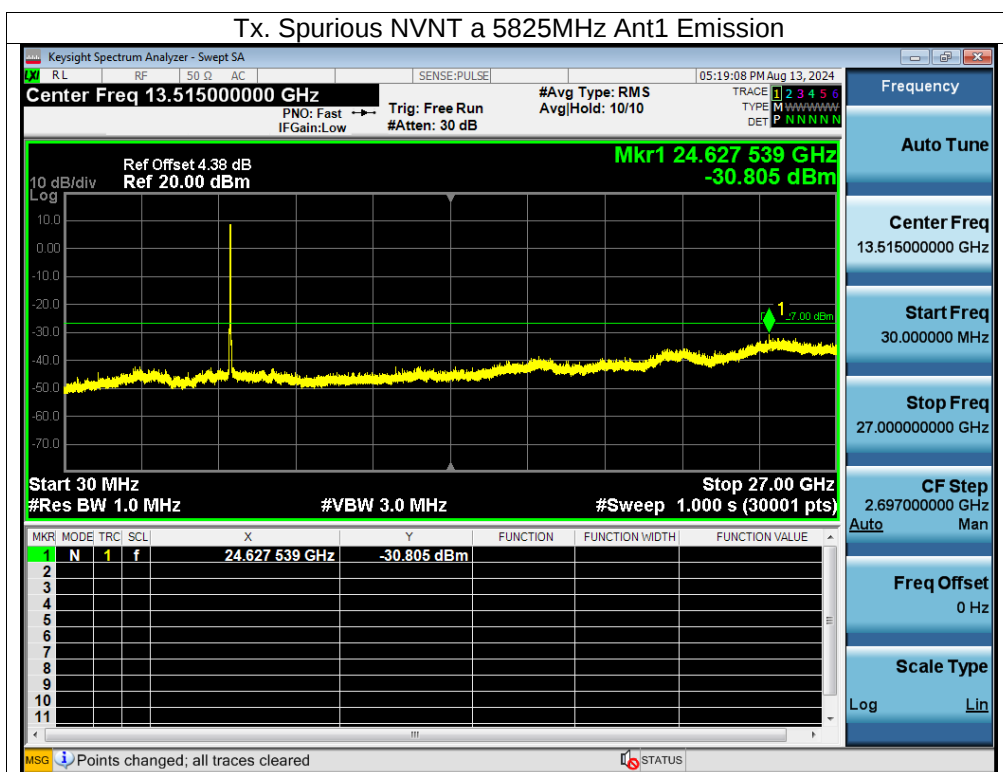


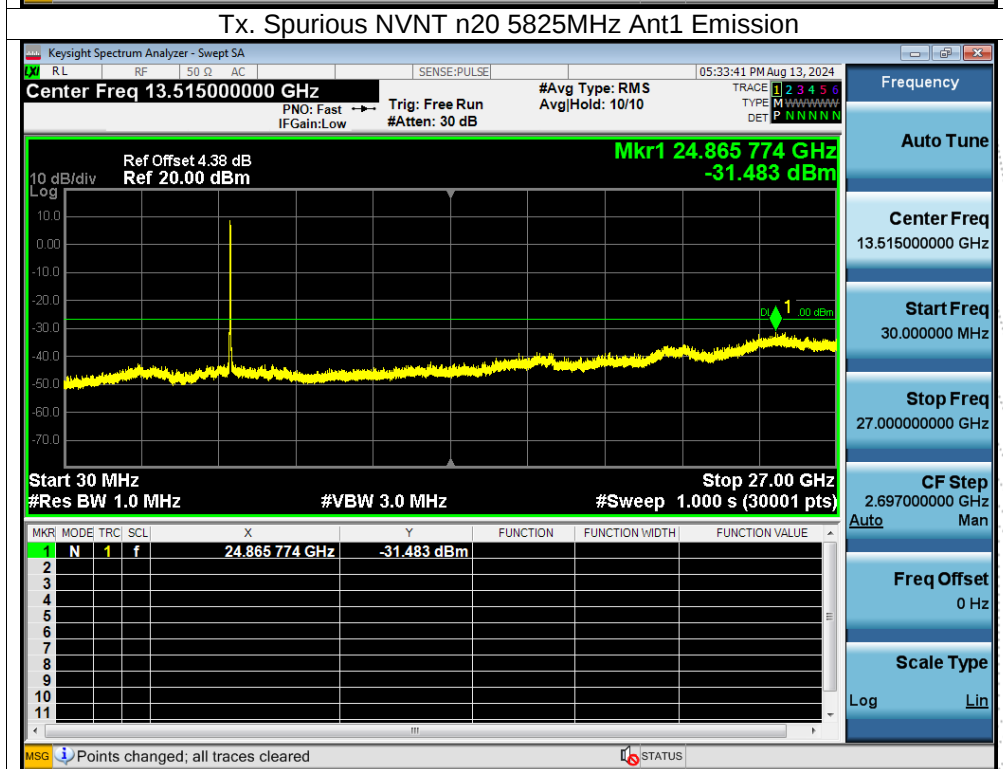
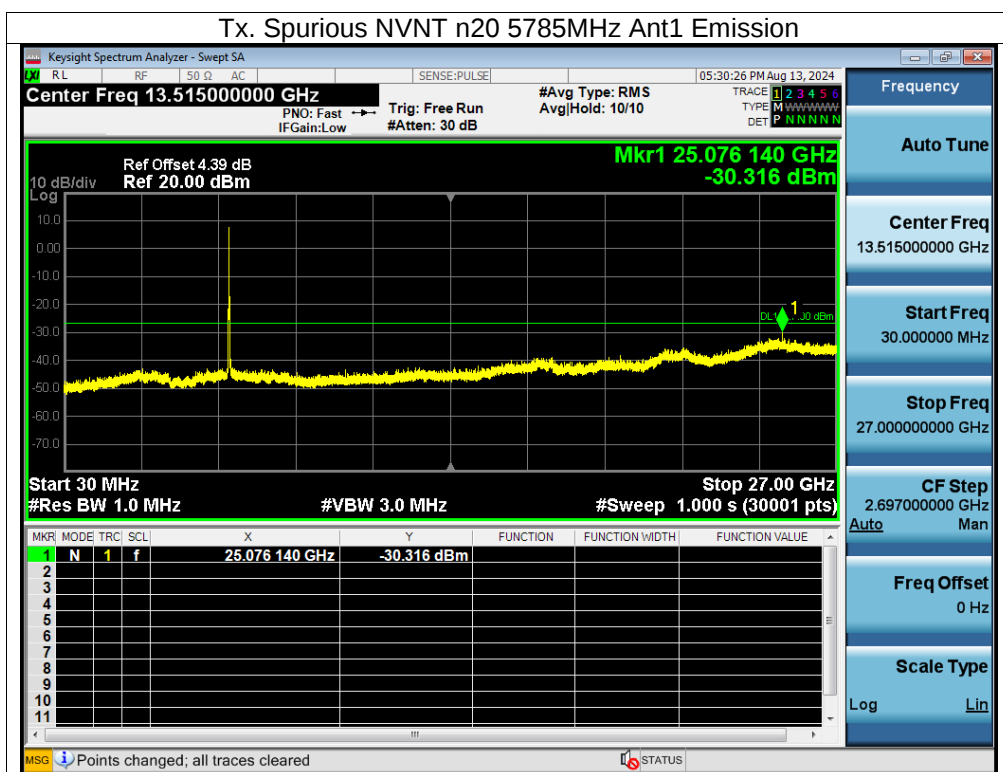


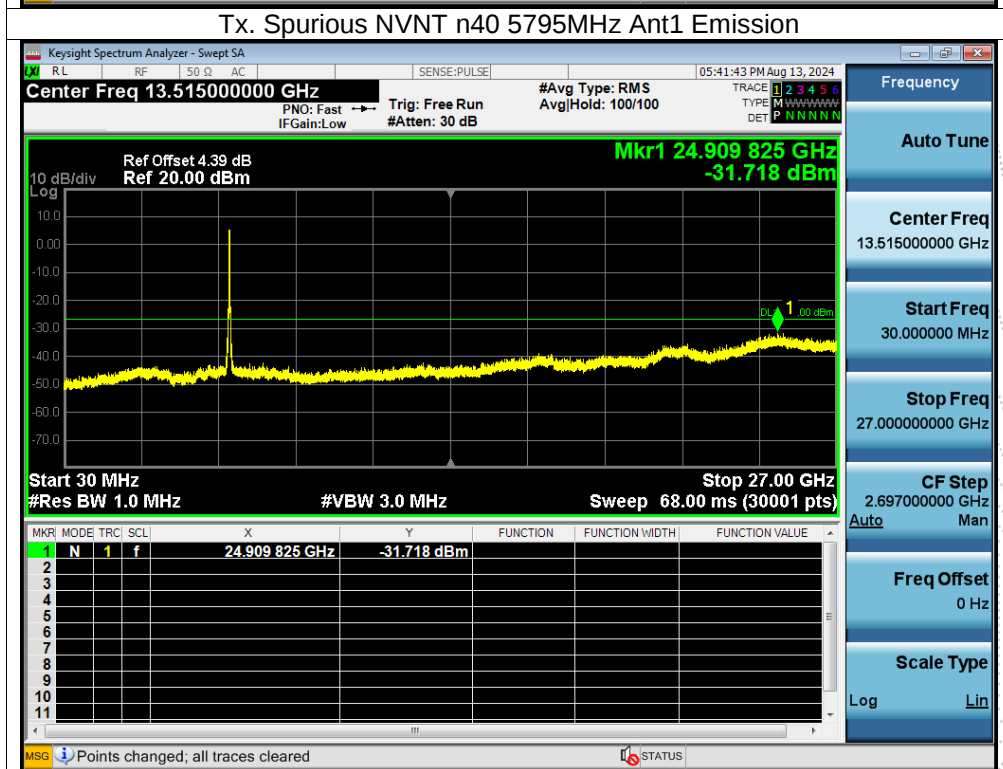
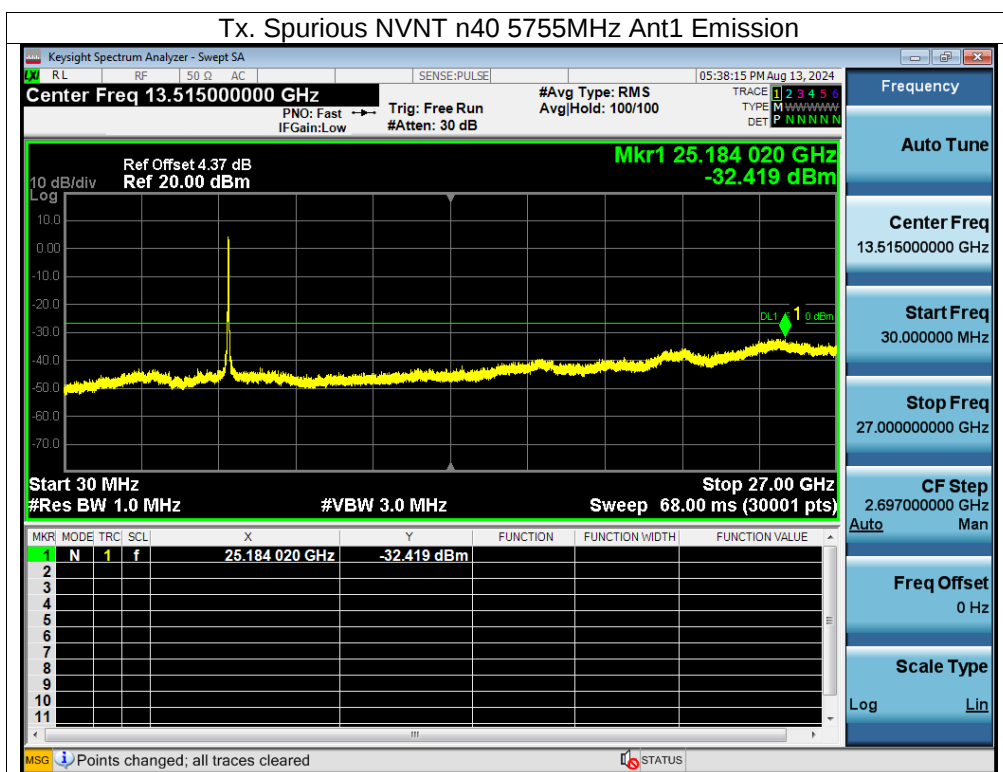


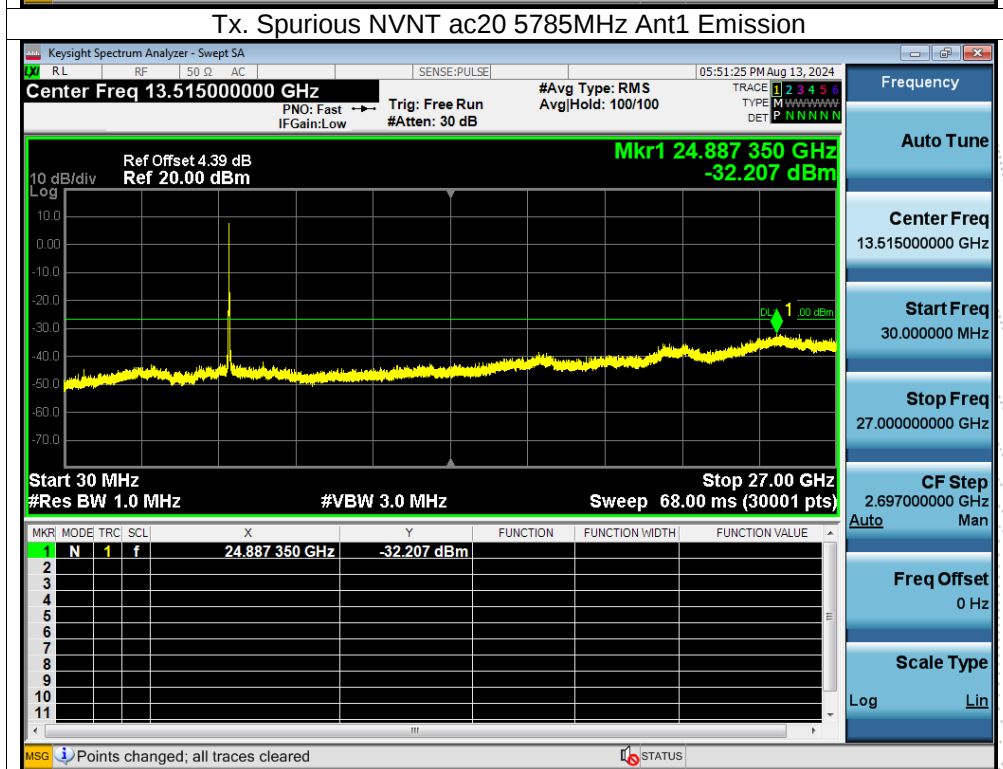
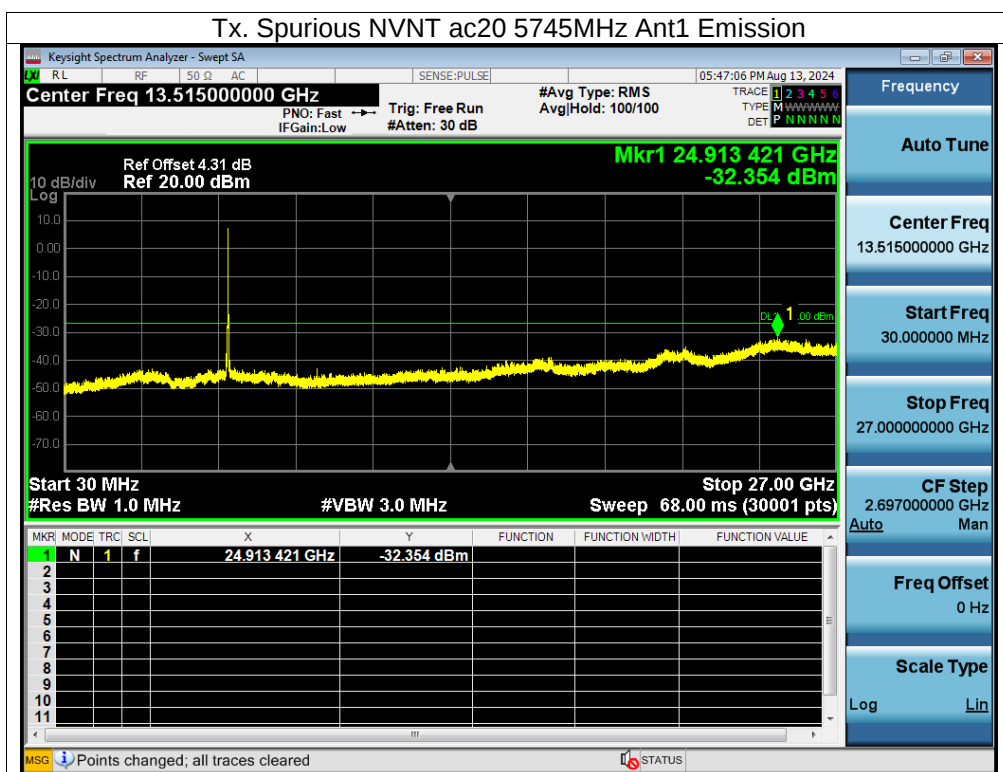
5745-58250MHz

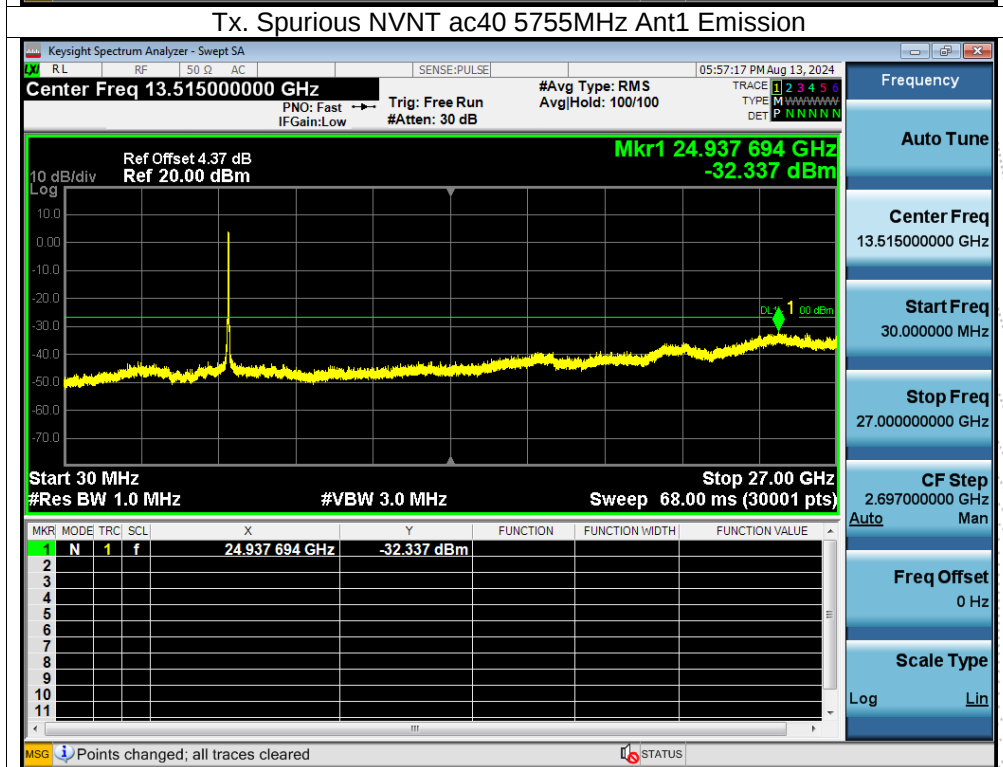
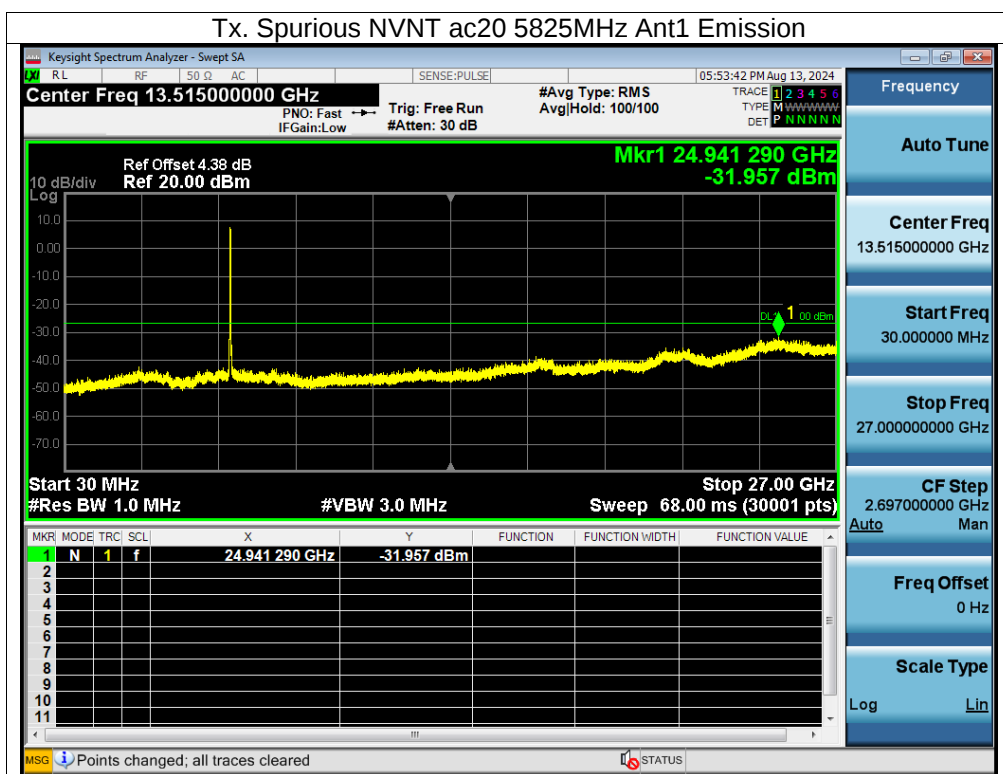


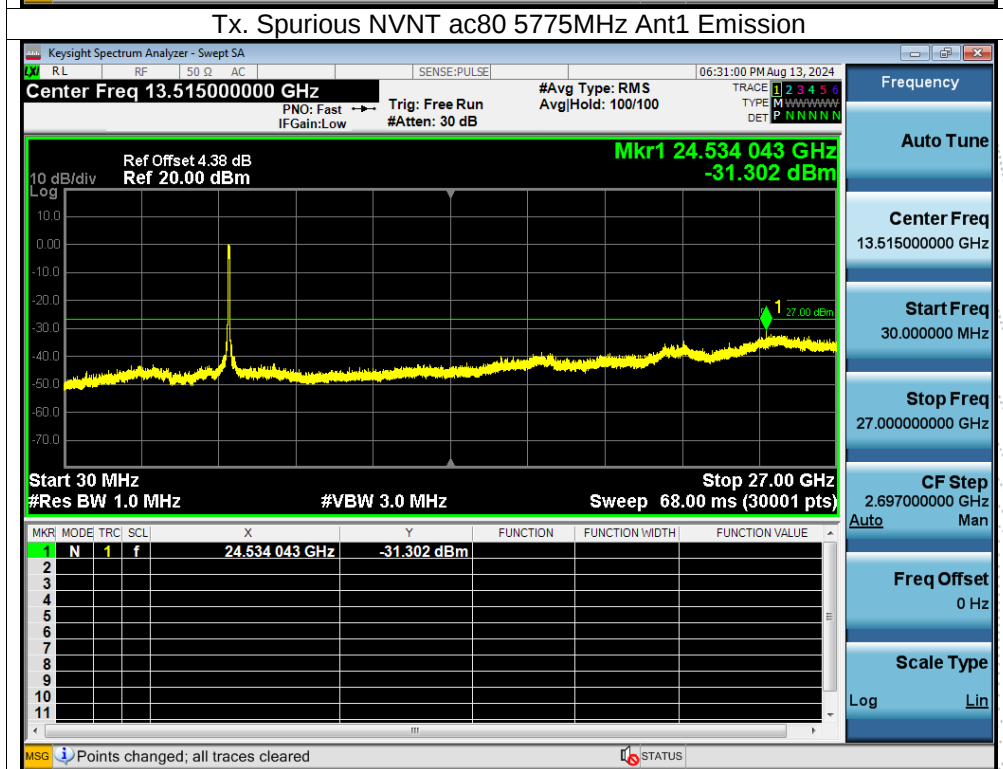
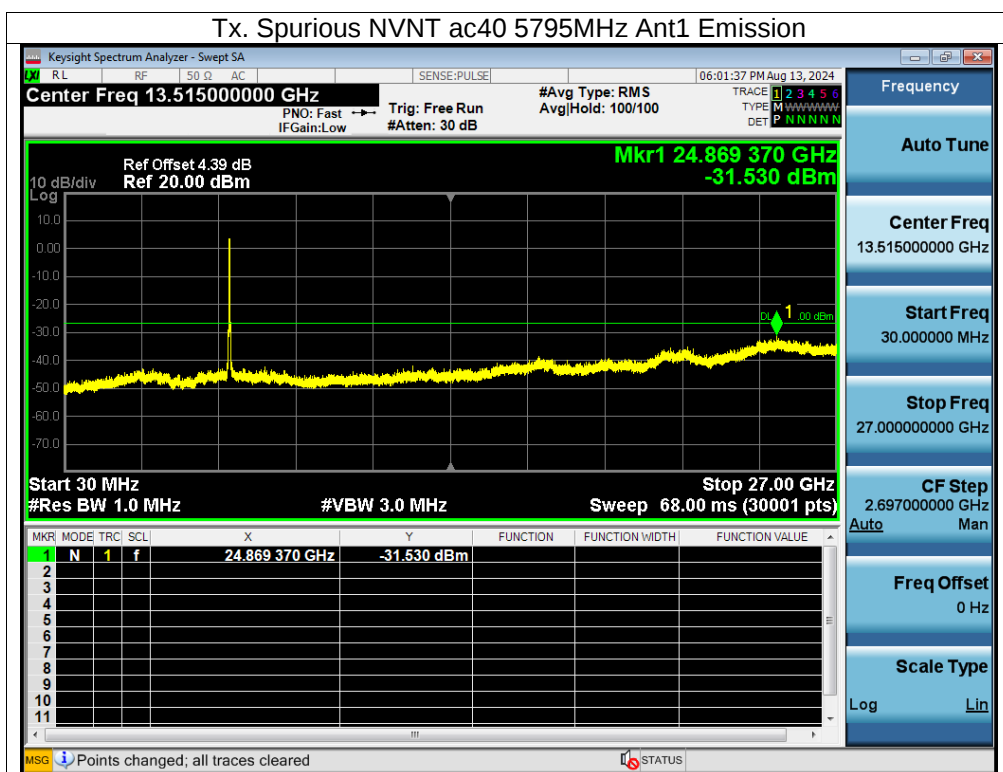


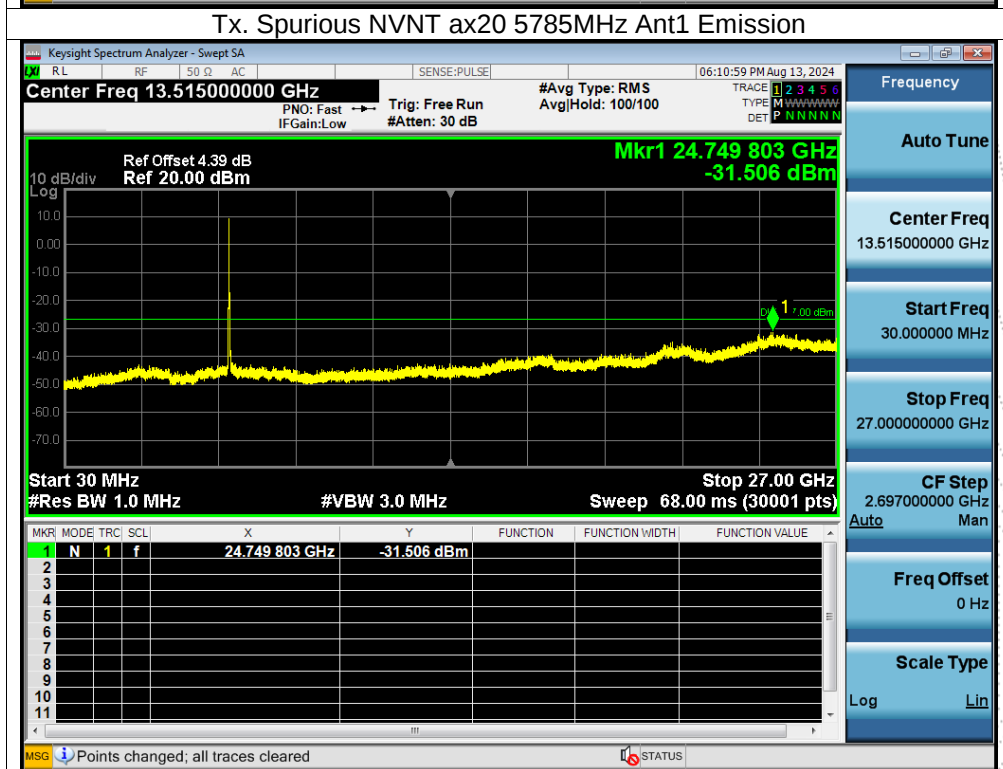
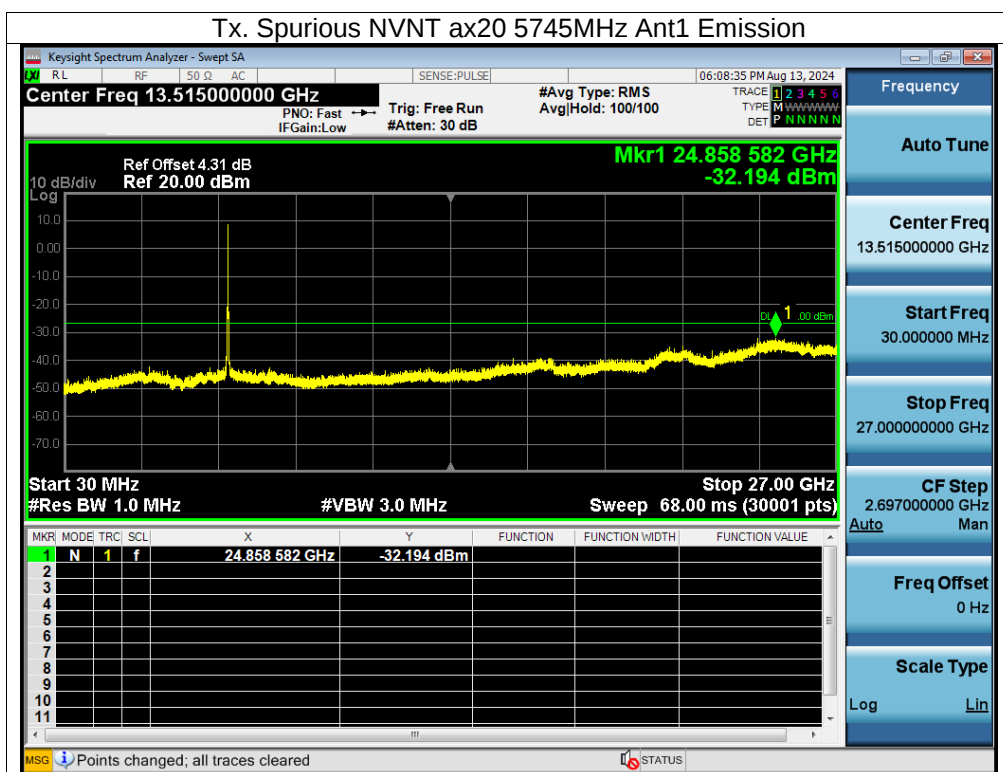


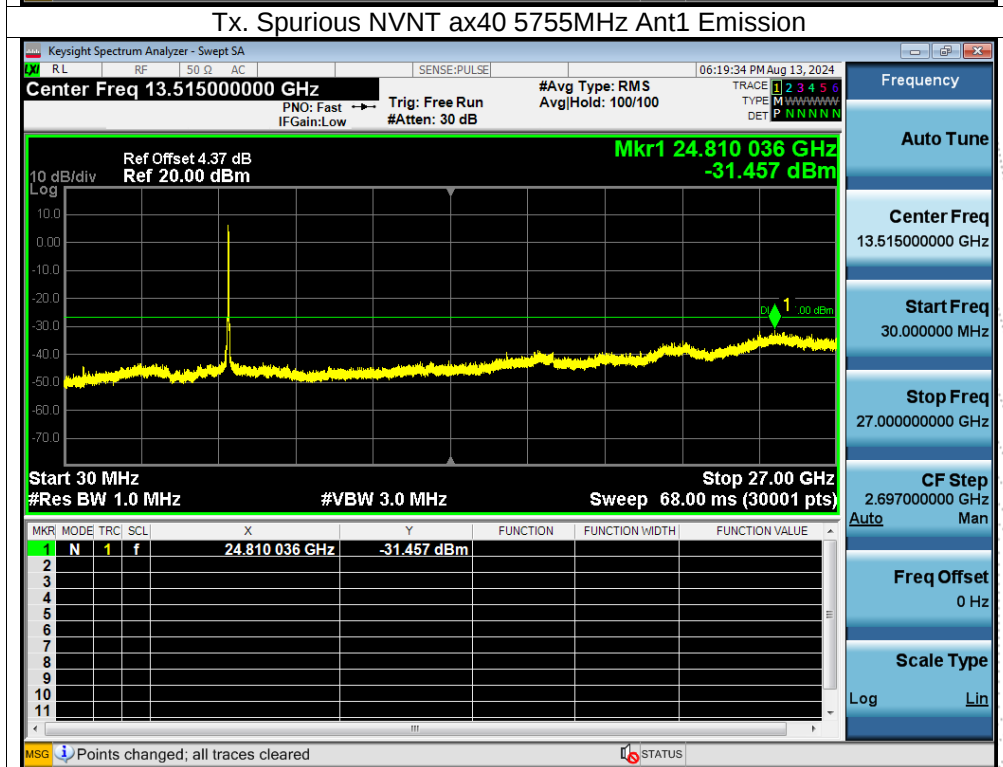
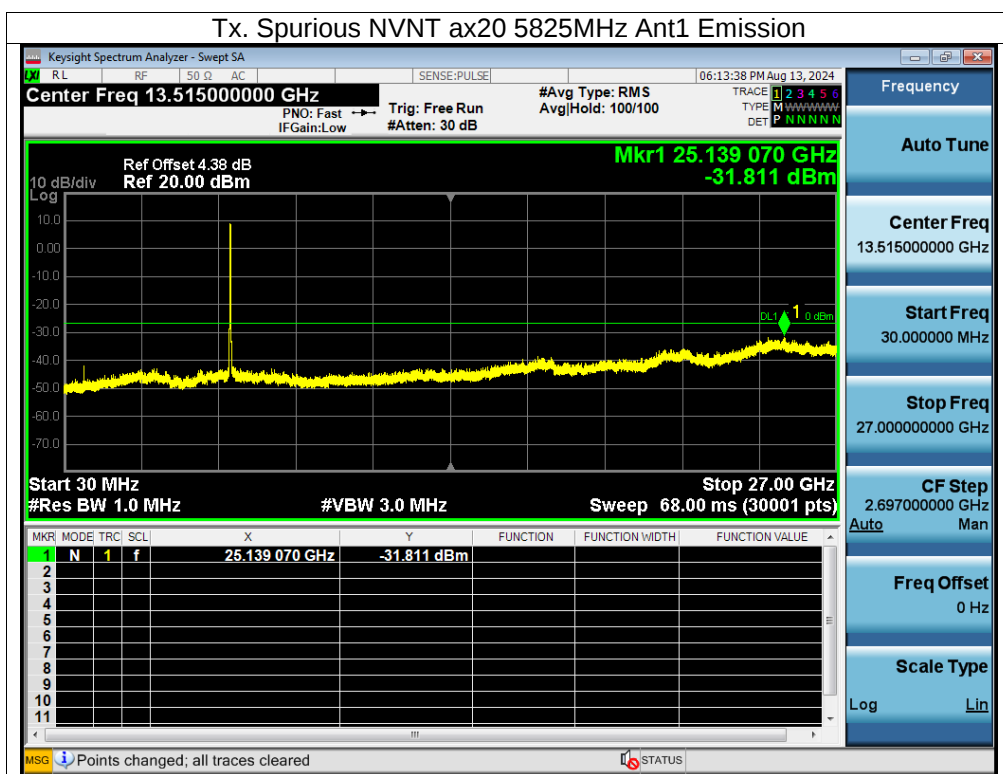


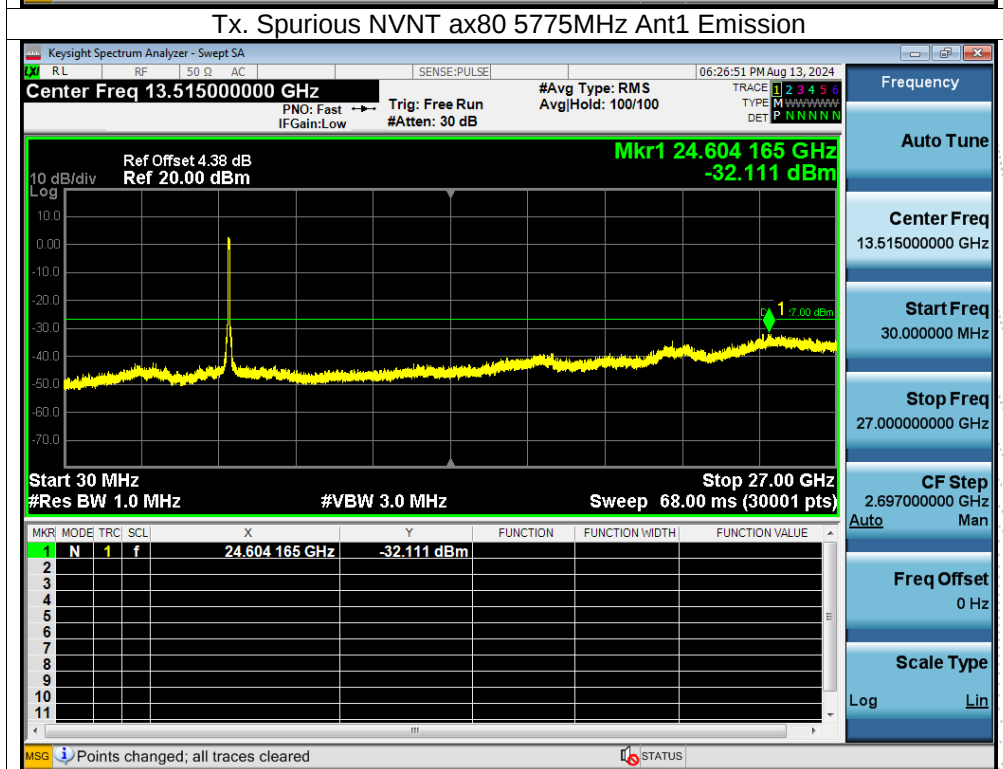
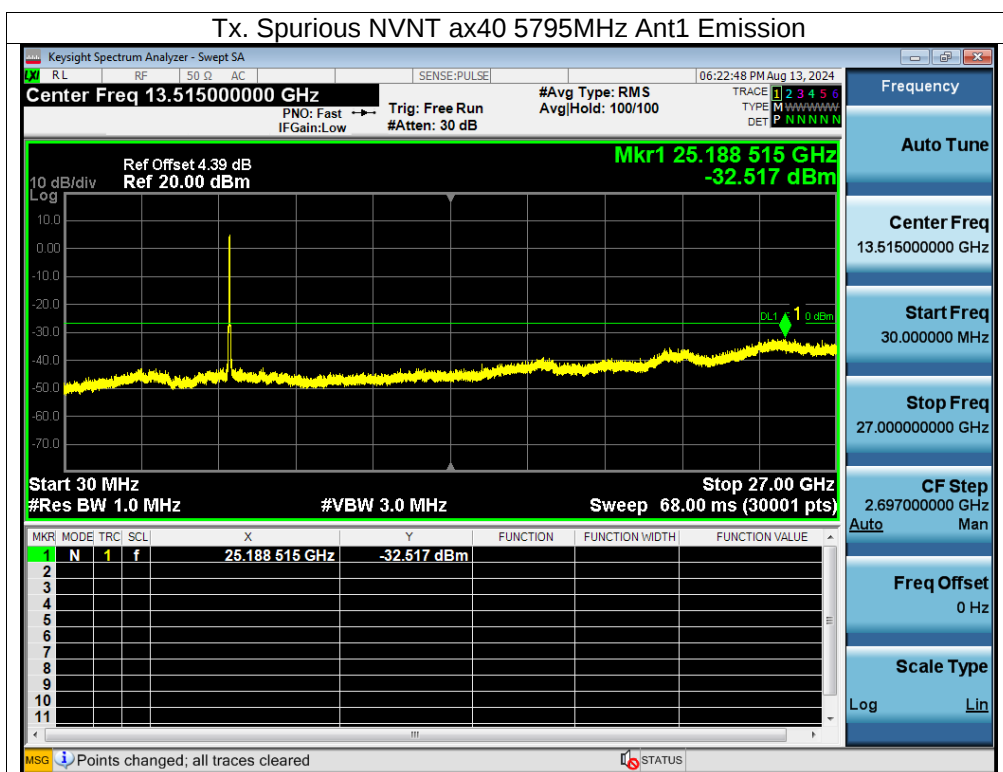






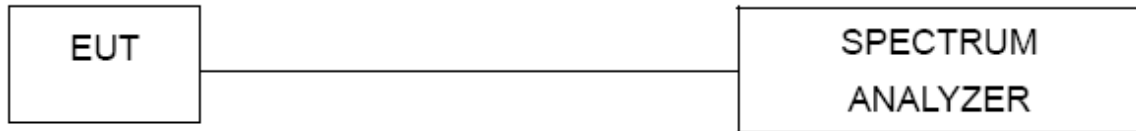






13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



13.2 Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification)..

13.3 Test Procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and he limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -20°C ~ 70°C .

13.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5180.0107	5180	0.0107	2.0584
		V max (V)	27.60	5180.0111	5180	0.0111	2.1380
		V min (V)	20.40	5180.0104	5180	0.0104	2.0096
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5180.0022	5180	0.0022	0.4308
		T (°C)	-10	5180.0032	5180	0.0032	0.6138
		T (°C)	0	5180.0036	5180	0.0036	0.6935
		T (°C)	10	5180.0117	5180	0.0117	2.2597
		T (°C)	20	5180.0101	5180	0.0101	1.9494
		T (°C)	30	5180.0022	5180	0.0022	0.4232
		T (°C)	40	5180.0127	5180	0.0127	2.4549
		T (°C)	50	5180.0123	5180	0.0123	2.3747
		T (°C)	60	5180.0073	5180	0.0073	1.4110
		T (°C)	70	5180.0062	5180	0.0062	1.2029
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5200.0111	5200	0.0111	2.1383
		V max (V)	27.60	5200.0040	5200	0.0040	0.7637
		V min (V)	20.40	5200.0004	5200	0.0004	0.0674
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5200.00163	5200	0.00163	0.3133
		T (°C)	-10	5200.00720	5200	0.00720	1.3846
		T (°C)	0	5200.00300	5200	0.00300	0.5768
		T (°C)	10	5200.01115	5200	0.01115	2.1451
		T (°C)	20	5200.00342	5200	0.00342	0.6582
		T (°C)	30	5200.00314	5200	0.00314	0.6034
		T (°C)	40	5200.01194	5200	0.01194	2.2954
		T (°C)	50	5200.01061	5200	0.01061	2.0411
		T (°C)	60	5200.00077	5200	0.00077	0.1475
		T (°C)	70	5200.00549	5200	0.00549	1.0549
Limits				5150-5250 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5240.0124	5240	0.0124	2.3577
		V max (V)	27.60	5240.0078	5240	0.0078	1.4924
		V min (V)	20.40	5240.0044	5240	0.0044	0.8466
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5240.0007	5240	0.0007	0.1342
		T (°C)	-10	5240.0045	5240	0.0045	0.8541
		T (°C)	0	5240.0062	5240	0.0062	1.1821
		T (°C)	10	5240.0007	5240	0.0007	0.1310
		T (°C)	20	5240.0130	5240	0.0130	2.4853
		T (°C)	30	5240.0023	5240	0.0023	0.4330
		T (°C)	40	5240.0092	5240	0.0092	1.7582
		T (°C)	50	5240.0096	5240	0.0096	1.8298
		T (°C)	60	5240.0023	5240	0.0023	0.4434
		T (°C)	70	5240.0127	5240	0.0127	2.4302
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 24V
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stabilit

TEST CONDITIONS				Reference Frequency:5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5745.00211	5745	0.00211	0.3670
		V max (V)	27.60	5745.01053	5745	0.01053	1.8329
		V min (V)	20.40	5745.01106	5745	0.01106	1.9253
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5745.00563	5745	0.00563	0.9801
		T (°C)	-10	5745.00308	5745	0.00308	0.5363
		T (°C)	0	5745.00211	5745	0.00211	0.3673
		T (°C)	10	5745.00996	5745	0.00996	1.7331
		T (°C)	20	5745.00844	5745	0.00844	1.4698
		T (°C)	30	5745.01209	5745	0.01209	2.1038
		T (°C)	40	5745.00747	5745	0.00747	1.2994
		T (°C)	50	5745.01249	5745	0.01249	2.1748
		T (°C)	60	5745.00762	5745	0.00762	1.3258
		T (°C)	70	5745.01250	5745	0.01250	2.1766
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5785.00658	5785	0.00658	1.1367
		V max (V)	27.60	5785.00601	5785	0.00601	1.0384
		V min (V)	20.40	5785.00772	5785	0.00772	1.3347
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5785.01112	5785	0.01112	1.9230
		T (°C)	-10	5785.00110	5785	0.00110	0.1905
		T (°C)	0	5785.01207	5785	0.01207	2.0868
		T (°C)	10	5785.00229	5785	0.00229	0.3963
		T (°C)	20	5785.01283	5785	0.01283	2.2179
		T (°C)	30	5785.00606	5785	0.00606	1.0474
		T (°C)	40	5785.00771	5785	0.00771	1.3324
		T (°C)	50	5785.01246	5785	0.01246	2.1536
		T (°C)	60	5785.00126	5785	0.00126	0.2185
		T (°C)	70	5785.00256	5785	0.00256	0.4417
Limits				5725-5850 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	24.00	5825.01207	5825	0.01207	2.0721
		V max (V)	27.60	5825.00080	5825	0.00080	0.1380
		V min (V)	20.40	5825.00341	5825	0.00341	0.5851
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	24	T (°C)	-20	5825.01245	5825	0.01245	2.1378
		T (°C)	-10	5825.01048	5825	0.01048	1.7996
		T (°C)	0	5825.00547	5825	0.00547	0.9398
		T (°C)	10	5825.00111	5825	0.00111	0.1902
		T (°C)	20	5825.00642	5825	0.00642	1.1027
		T (°C)	30	5825.00025	5825	0.00025	0.0424
		T (°C)	40	5825.00301	5825	0.00301	0.5166
		T (°C)	50	5825.00700	5825	0.00700	1.2018
		T (°C)	60	5825.01175	5825	0.01175	2.0164
		T (°C)	70	5825.01345	5825	0.01345	2.3091
Limits				5725-5850 MHz			
Result				Complies			