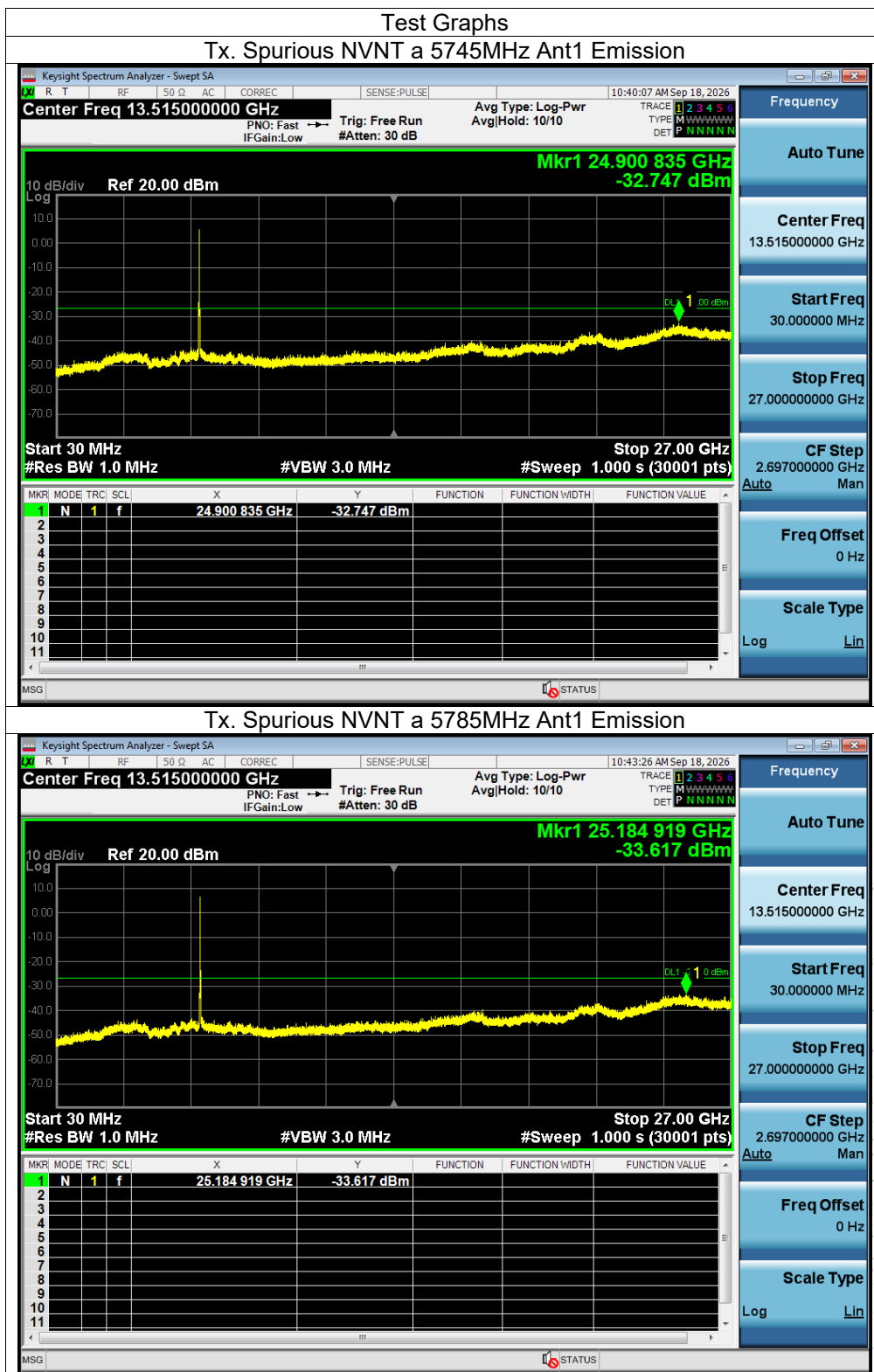
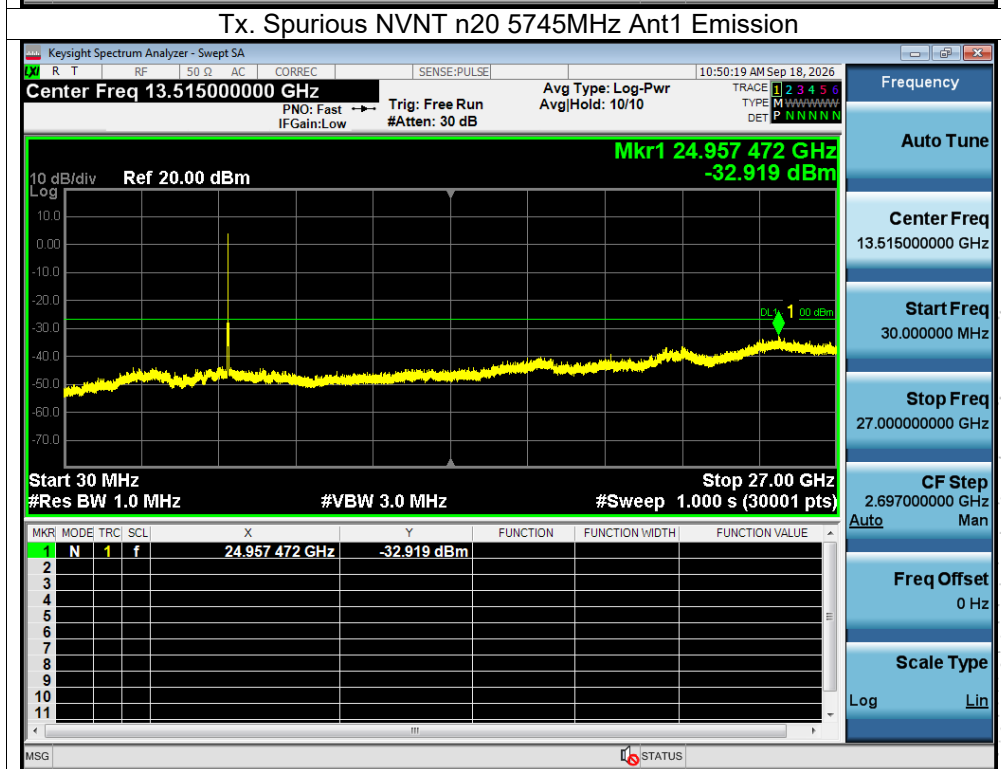
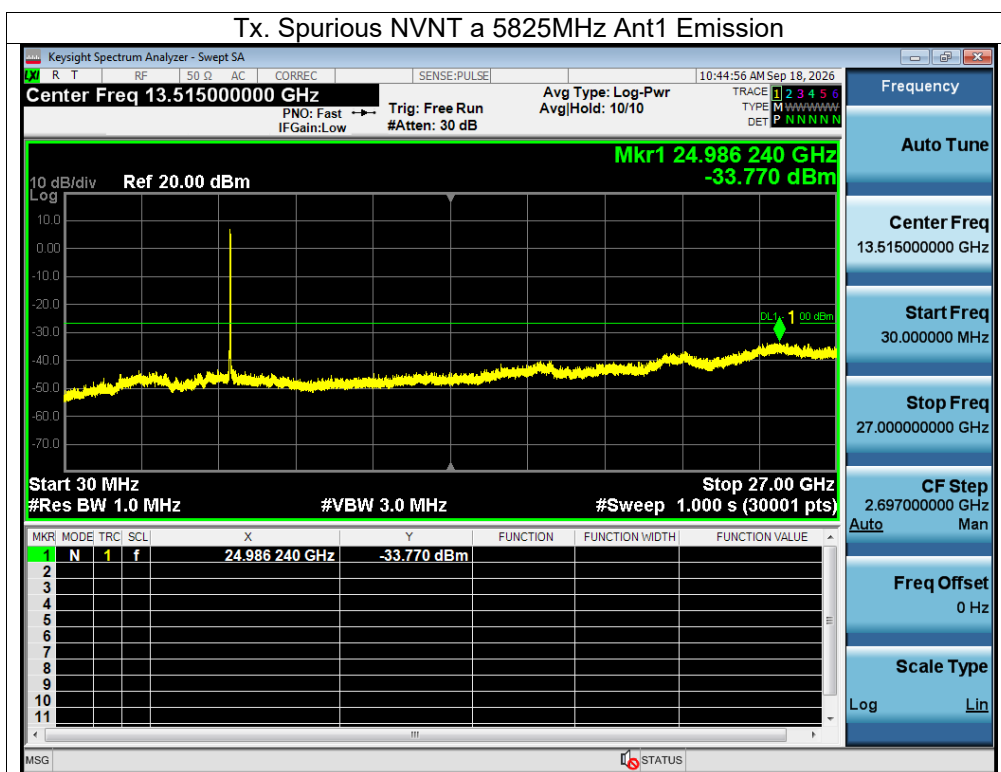
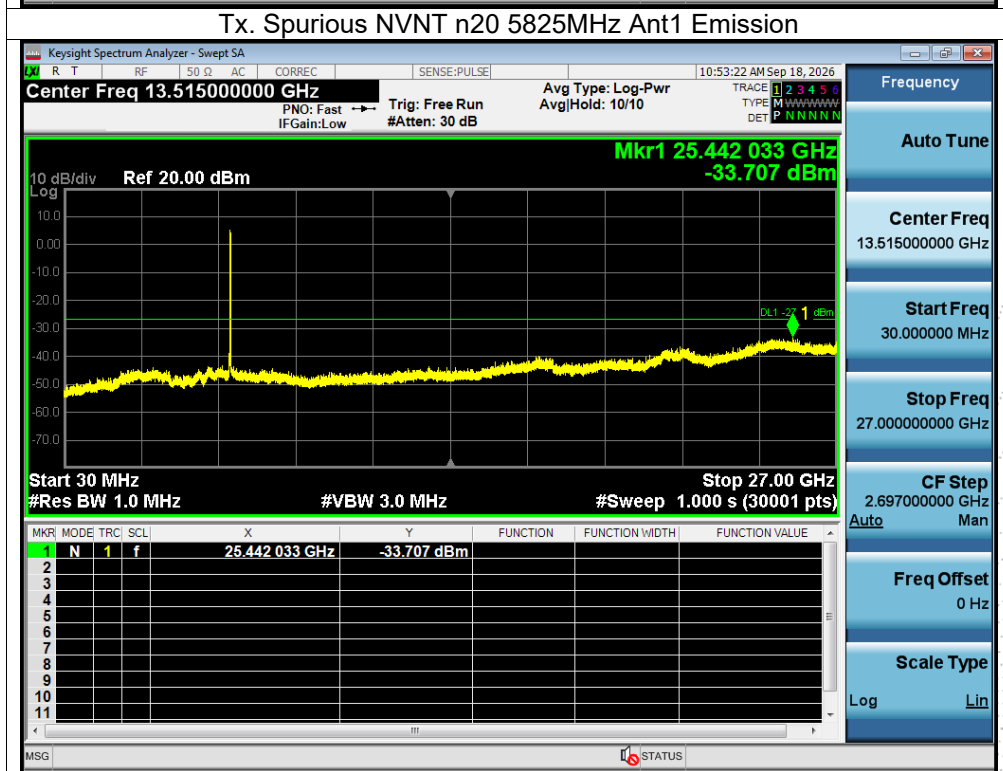
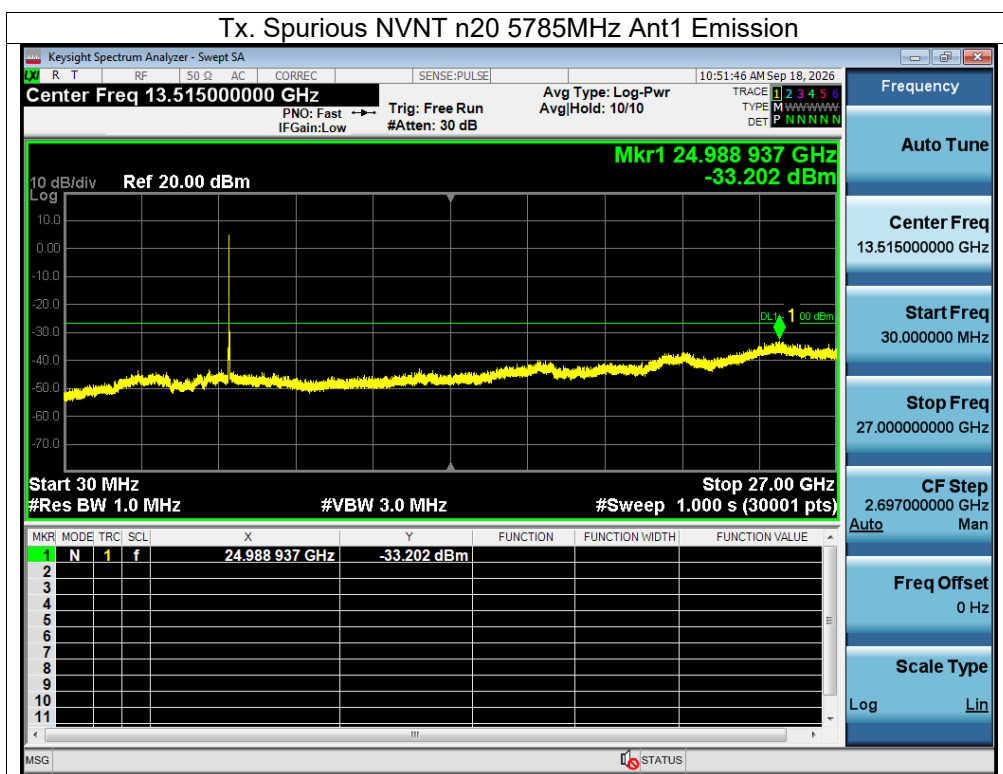
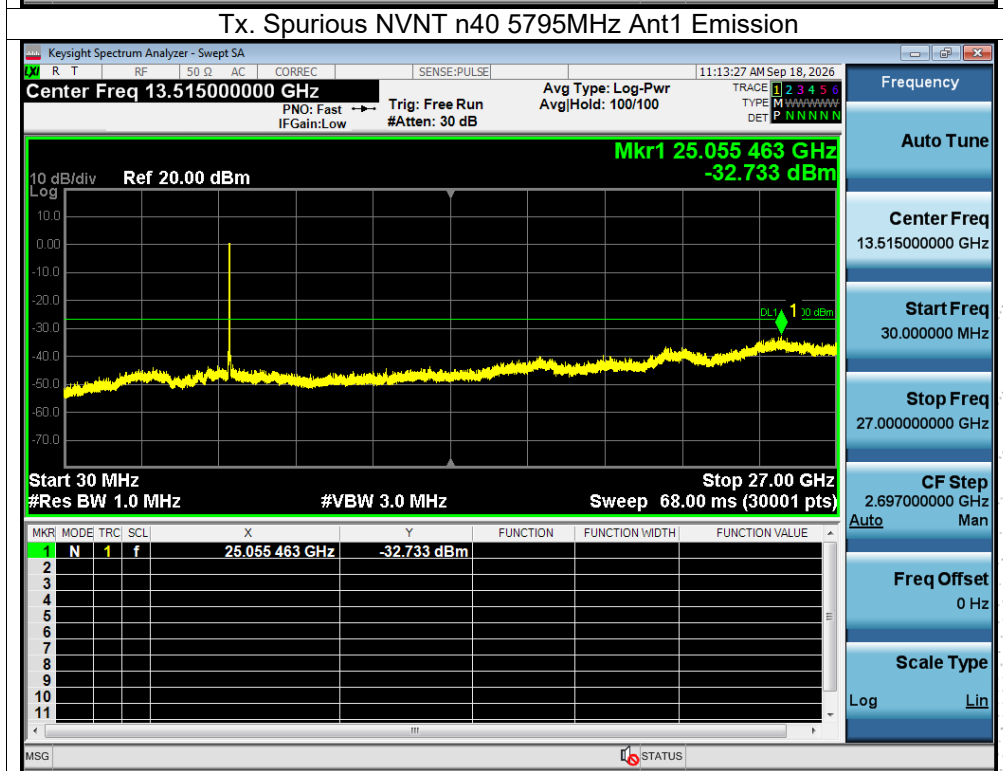
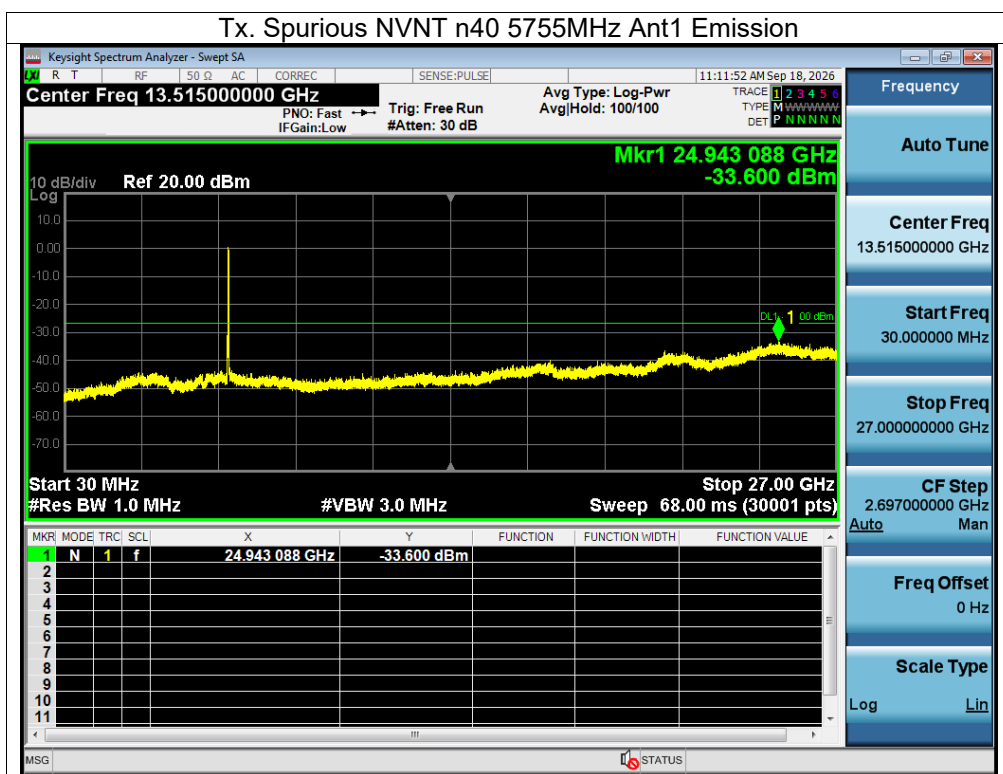


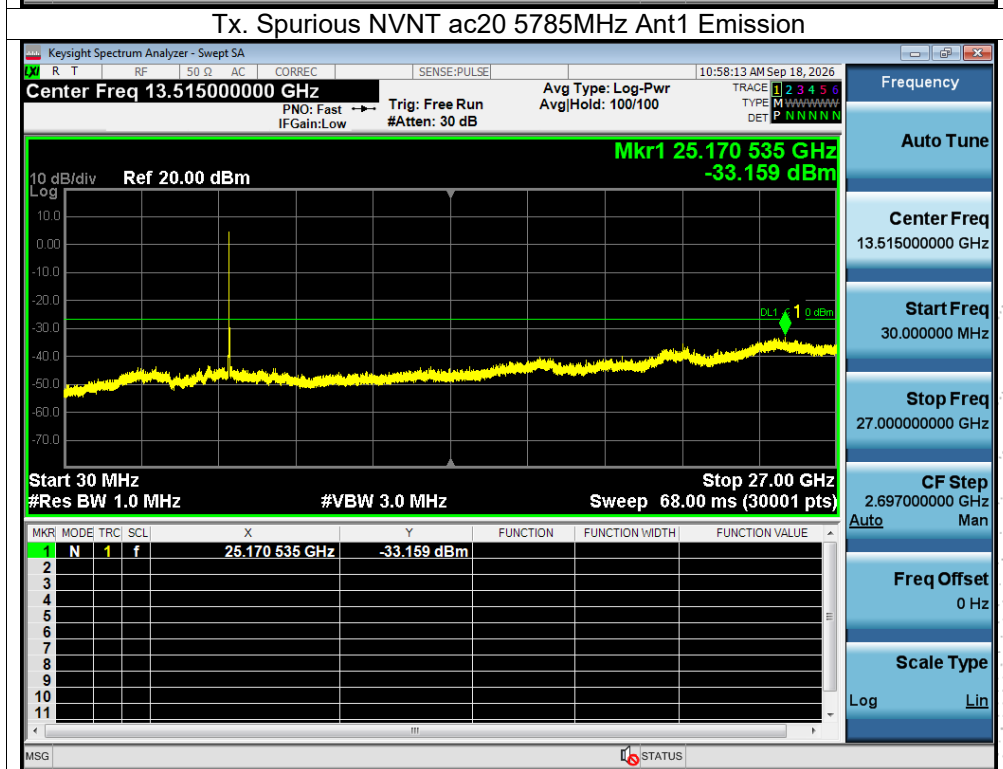
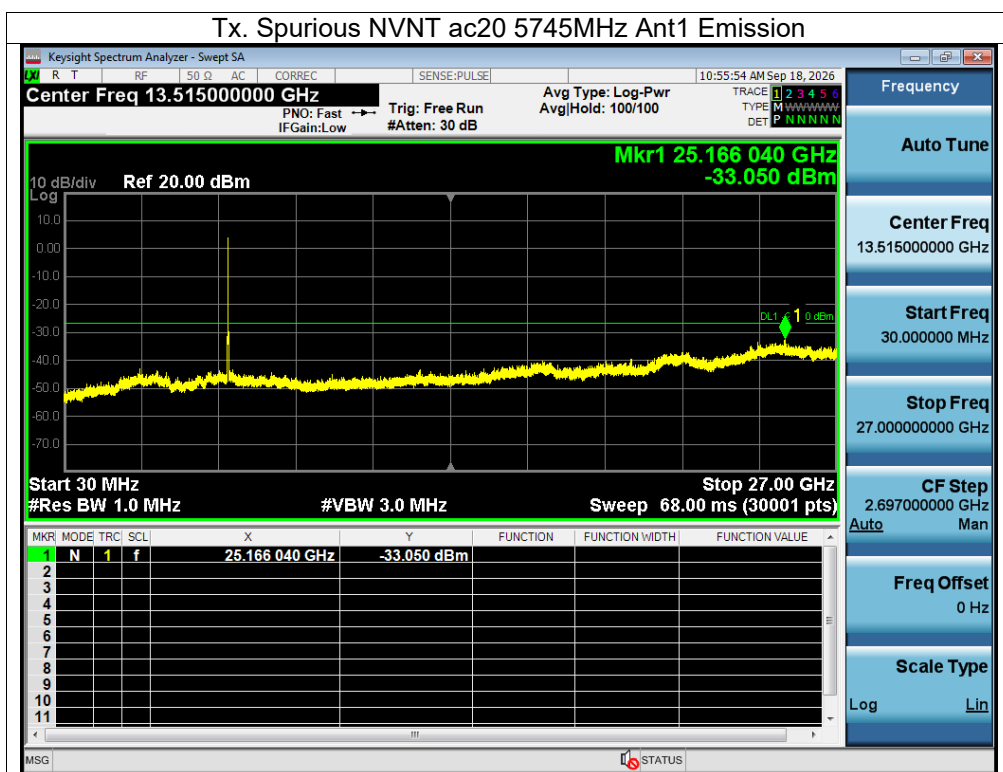
Test Mode:	5745-5825MHz
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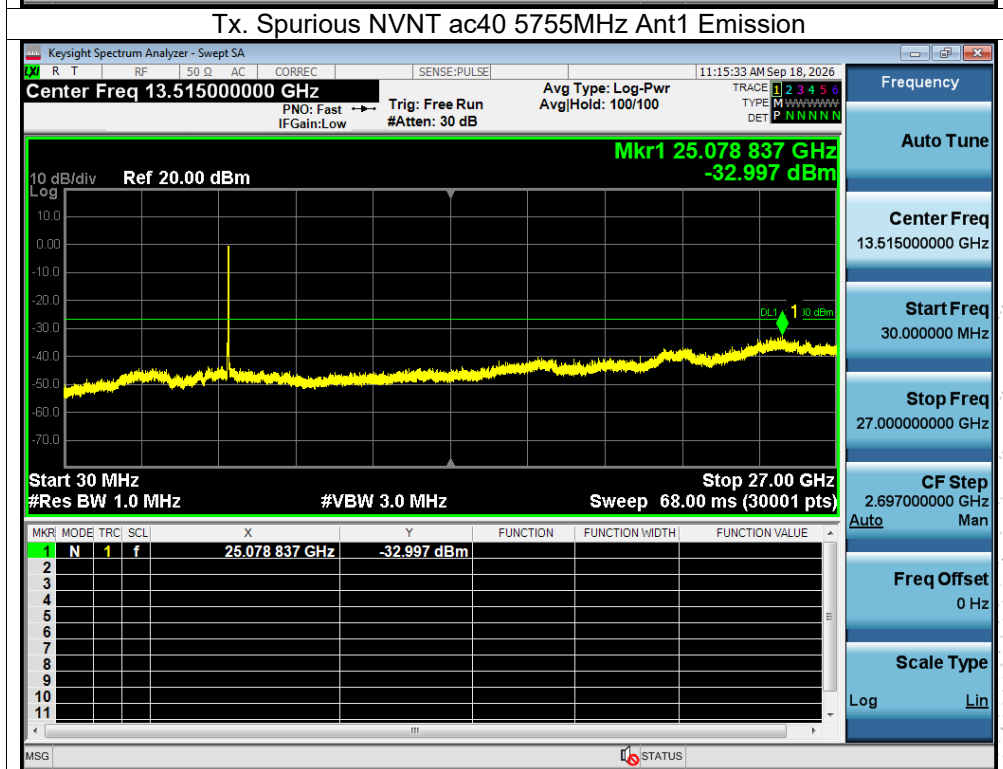
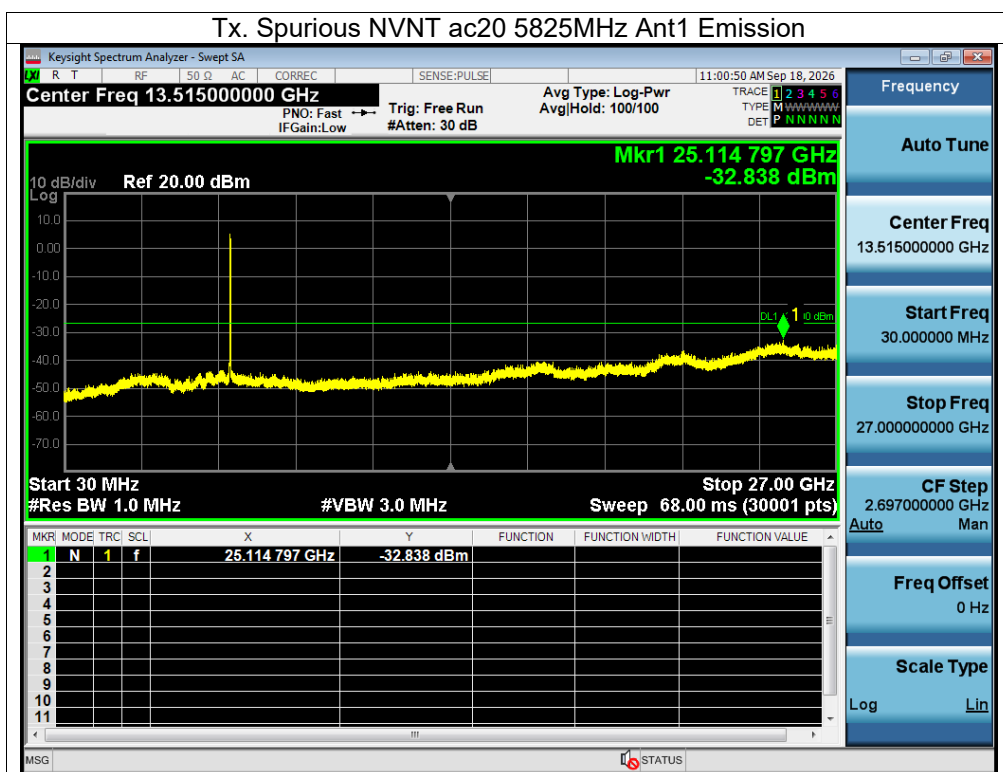




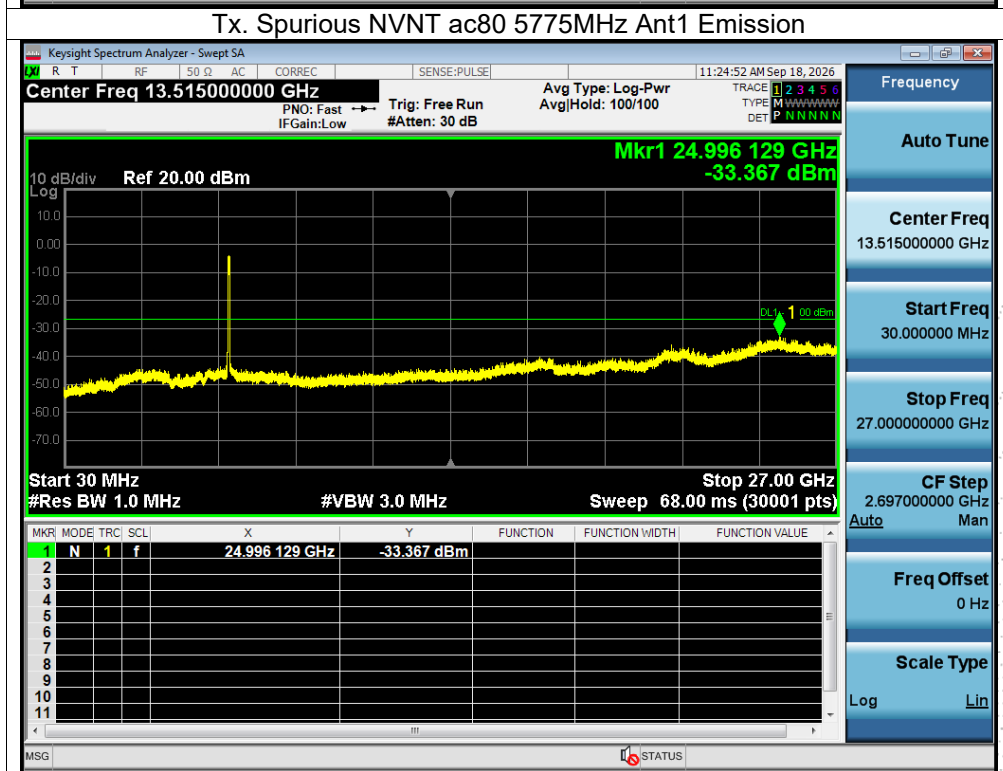
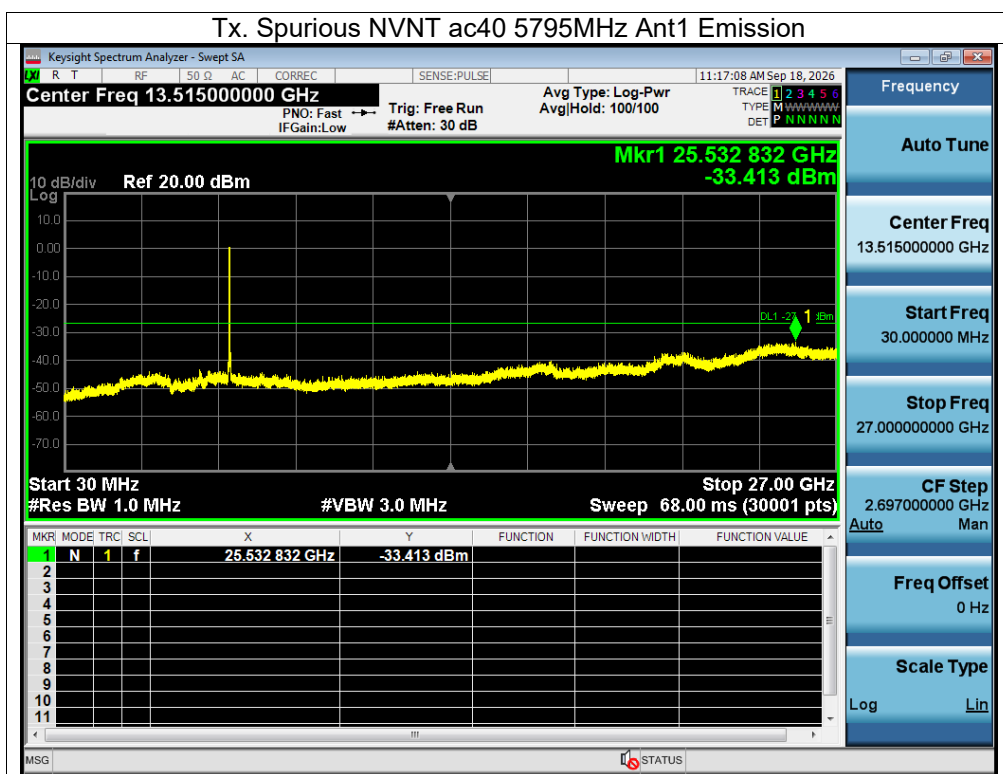


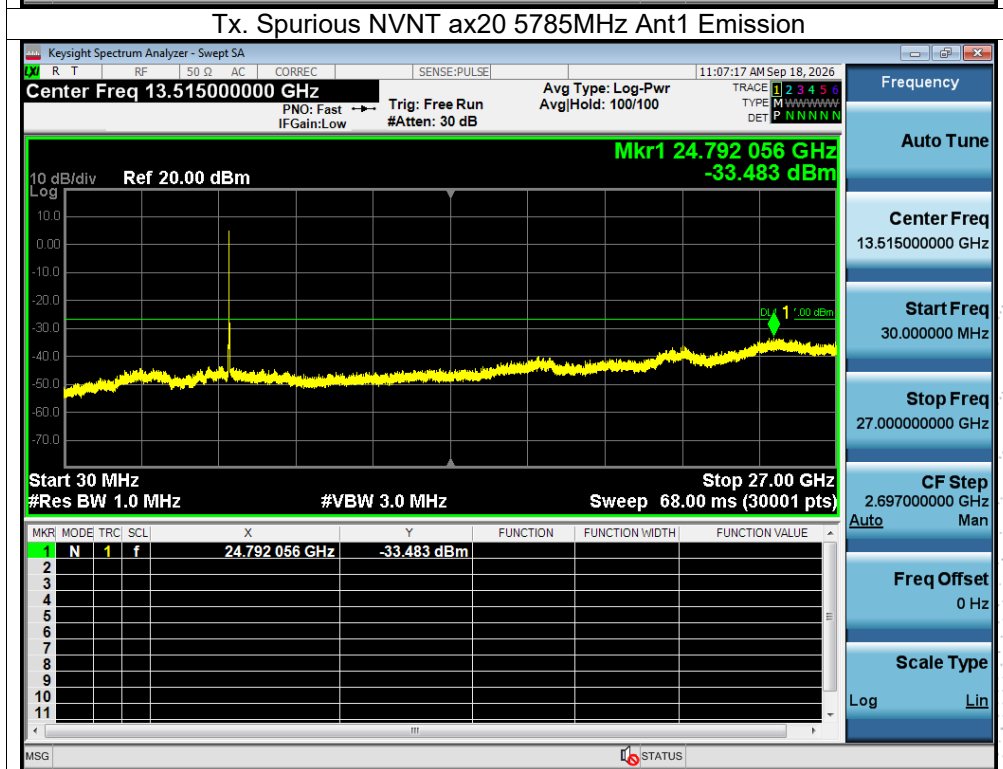
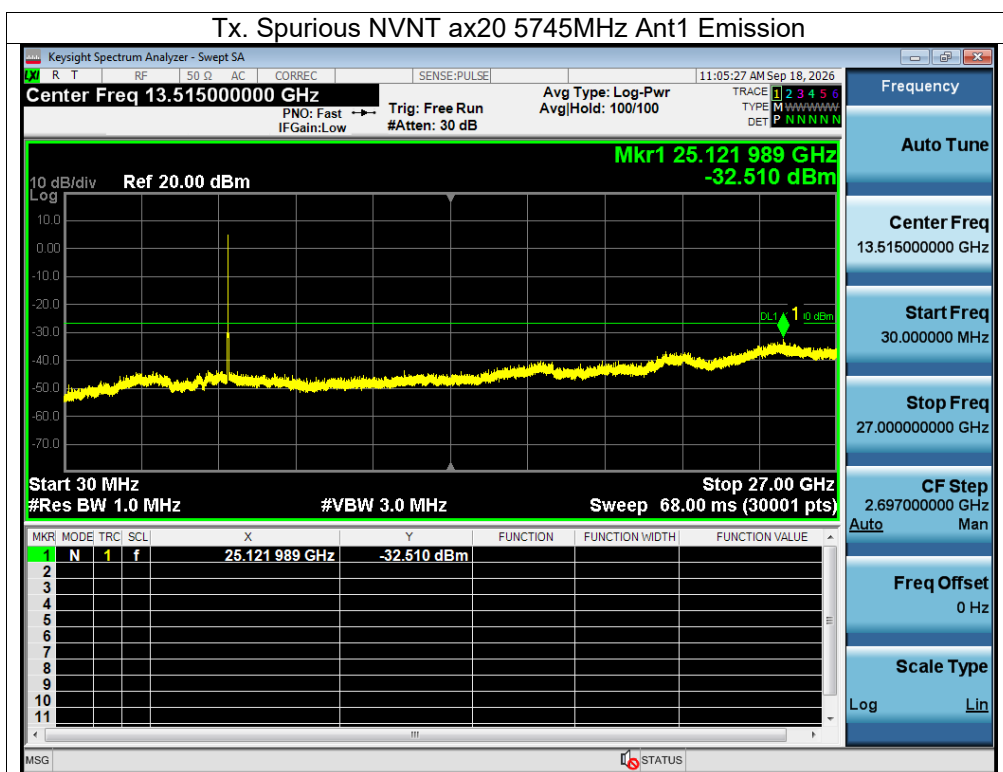


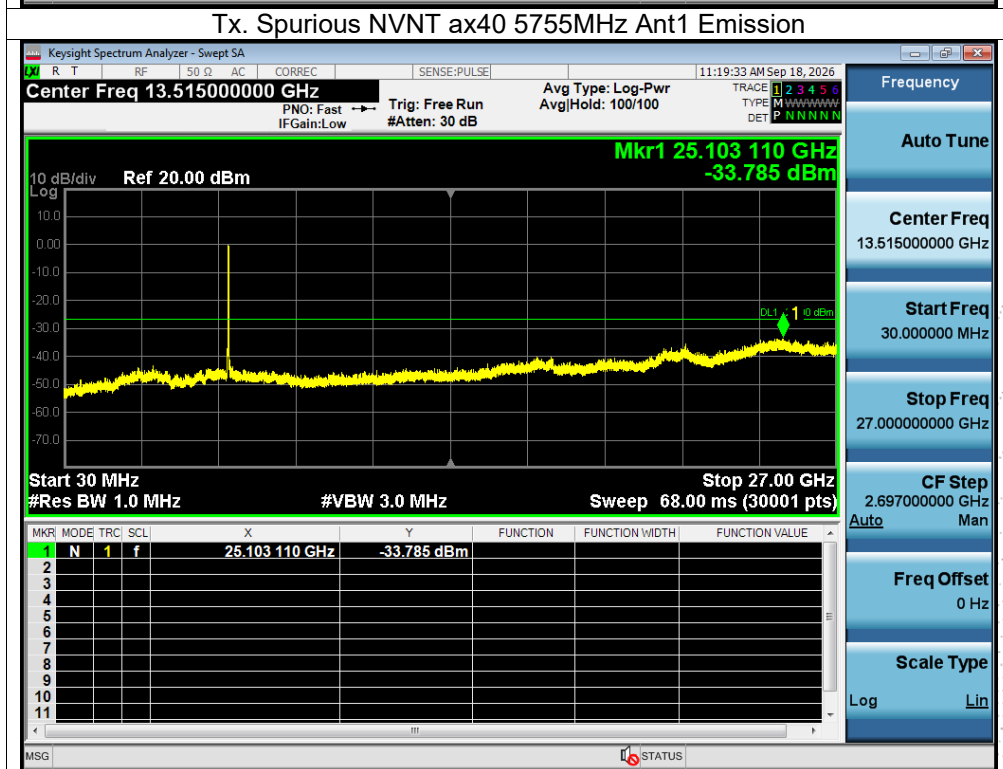
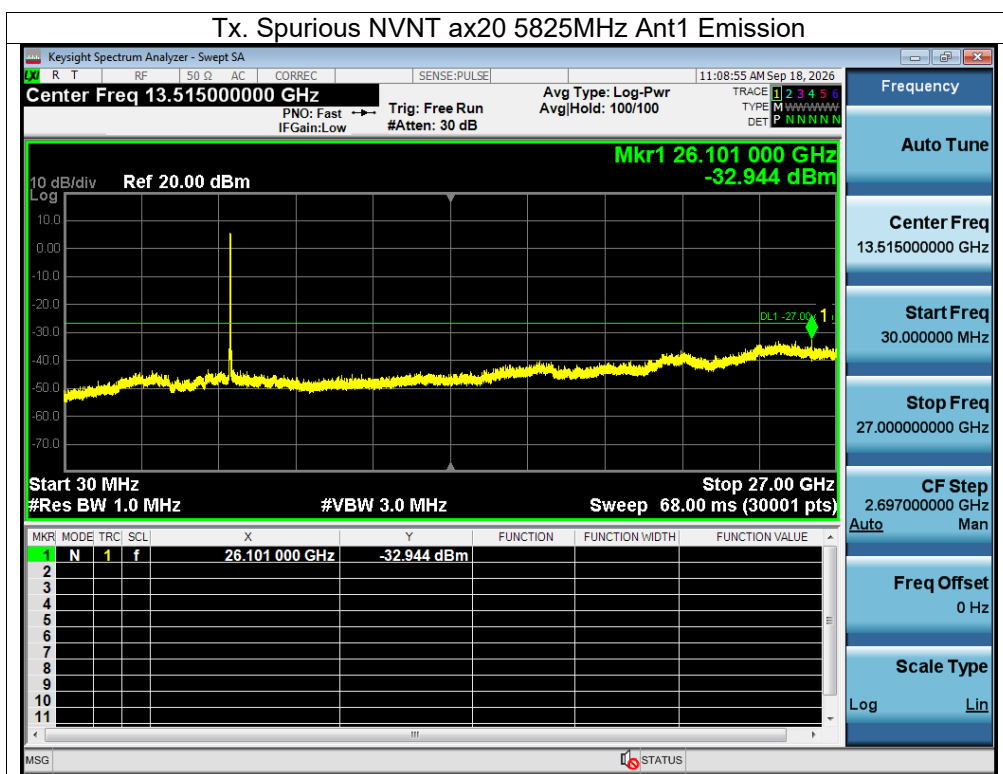


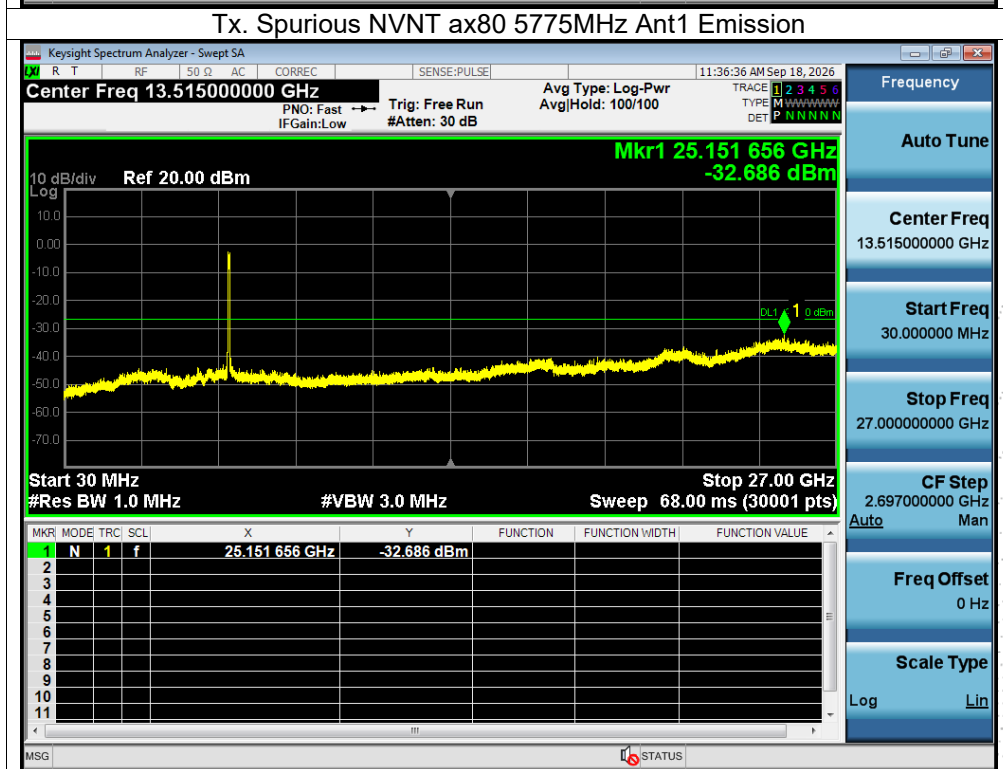
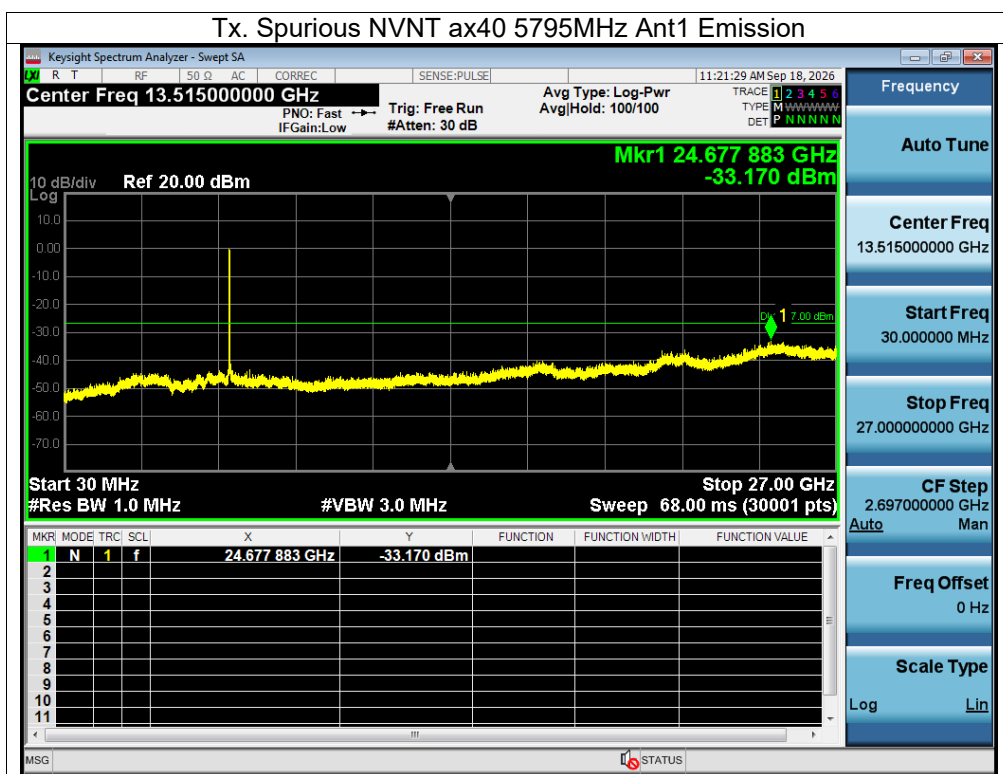


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13. Frequency Stability Measurement

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).

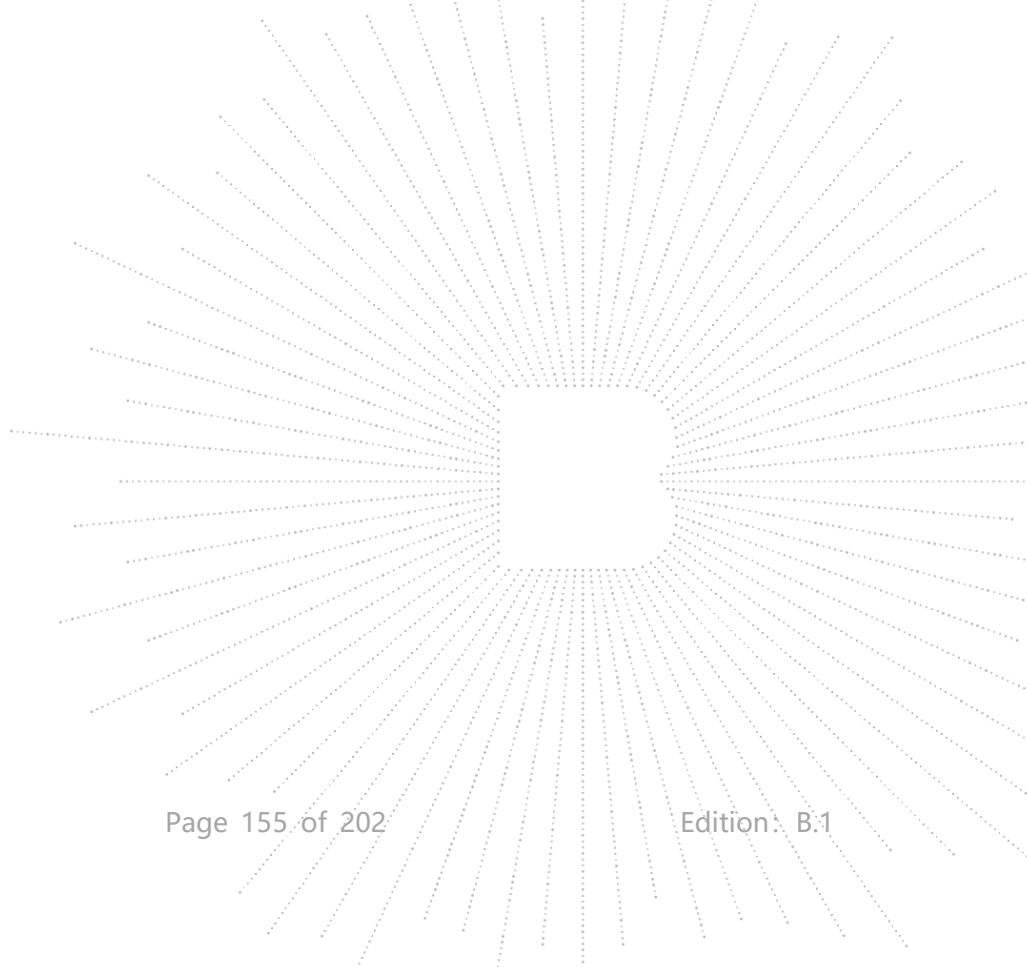
13.3 Test Procedure

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 $-20^\circ\text{C} \sim 70^\circ\text{C}$.

13.4 Test Result

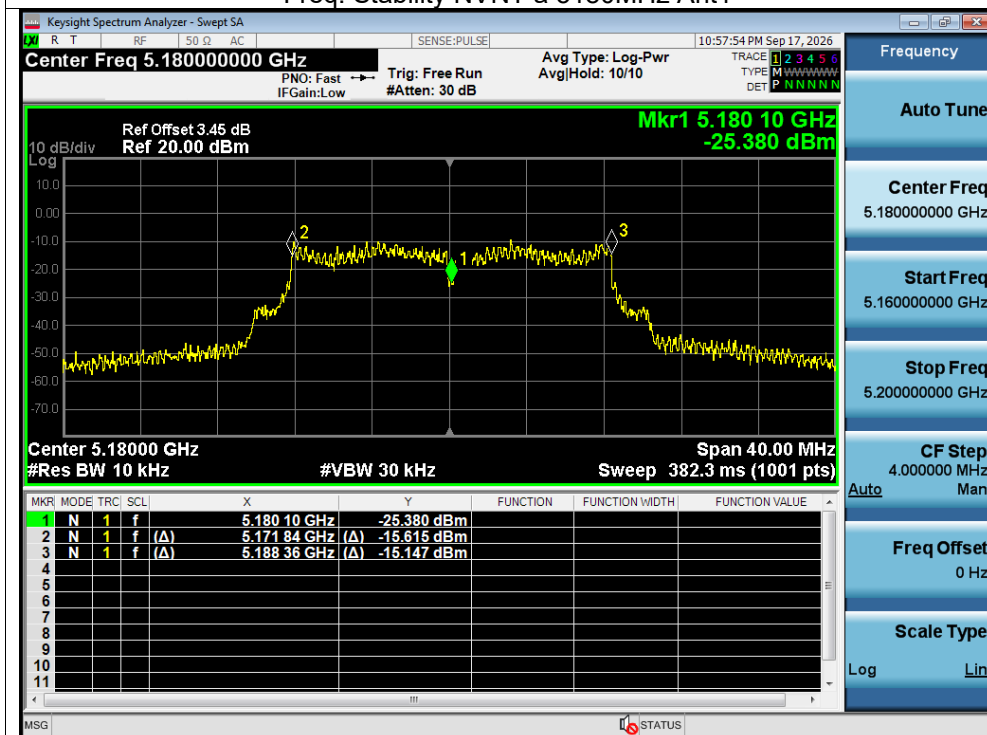
Temperature:	26 °C	Relative Humidity:	54%RH
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

Condition	Mode	Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	5180.1	100000	19.31	25	Pass
NVNT	a	5200	5200.12	120000	23.08	25	Pass
NVNT	a	5240	5240.08	80000	15.27	25	Pass
NVNT	n20	5180	5180.08	80000	15.44	25	Pass
NVNT	n20	5200	5200.08	80000	15.38	25	Pass
NVNT	n20	5240	5240.08	80000	15.27	25	Pass
NVNT	n40	5190	5190.08	80000	15.41	25	Pass
NVNT	n40	5230	5230.12	120000	22.94	25	Pass
NVNT	ac20	5180	5180.08	80000	15.44	25	Pass
NVNT	ac20	5200	5200.08	80000	15.38	25	Pass
NVNT	ac20	5240	5240.1	100000	19.08	25	Pass
NVNT	ac40	5190	5190.08	80000	15.41	25	Pass
NVNT	ac40	5230	5230.08	80000	15.3	25	Pass
NVNT	ac80	5210	5210.08	80000	15.36	25	Pass
NVNT	ax20	5180	5180.08	80000	15.44	25	Pass
NVNT	ax20	5200	5200.1	100000	19.23	25	Pass
NVNT	ax20	5240	5240.12	120000	22.9	25	Pass
NVNT	ax40	5190	5190.12	120000	23.12	25	Pass
NVNT	ax40	5230	5230.12	120000	22.94	25	Pass
NVNT	ax80	5210	5210.08	80000	15.36	25	Pass

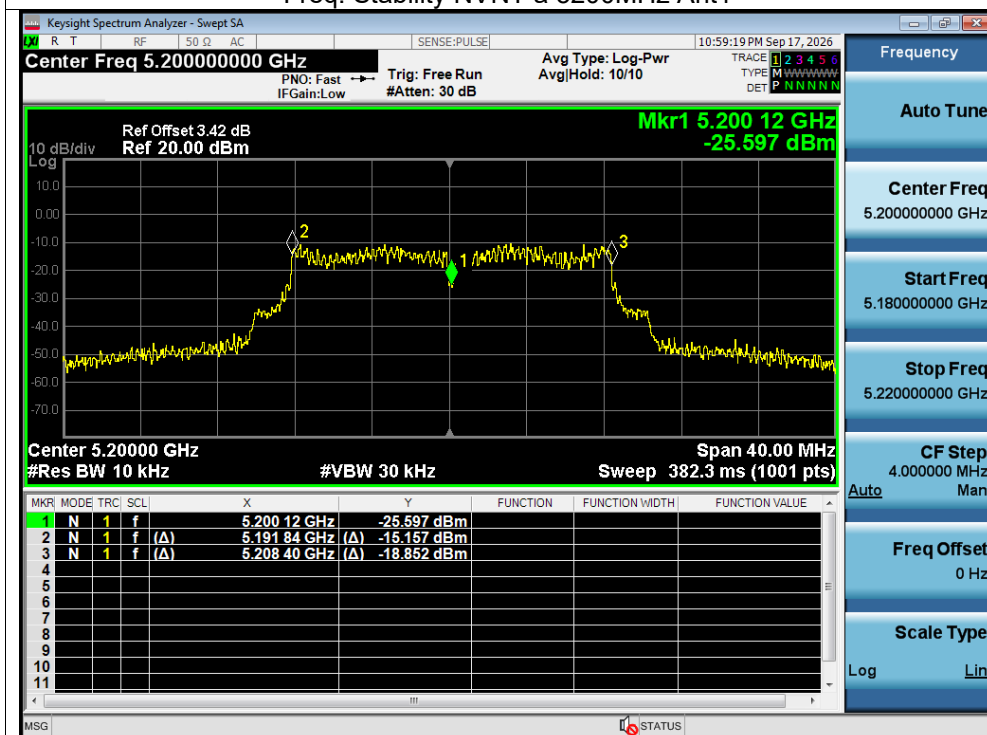


Test Graphs

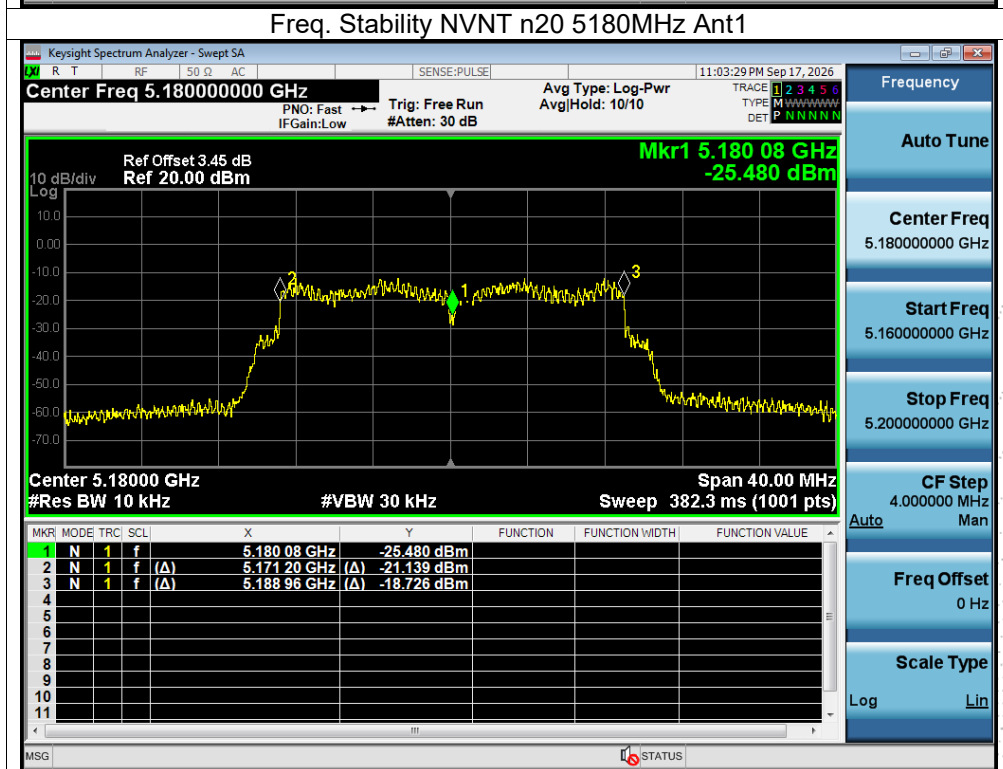
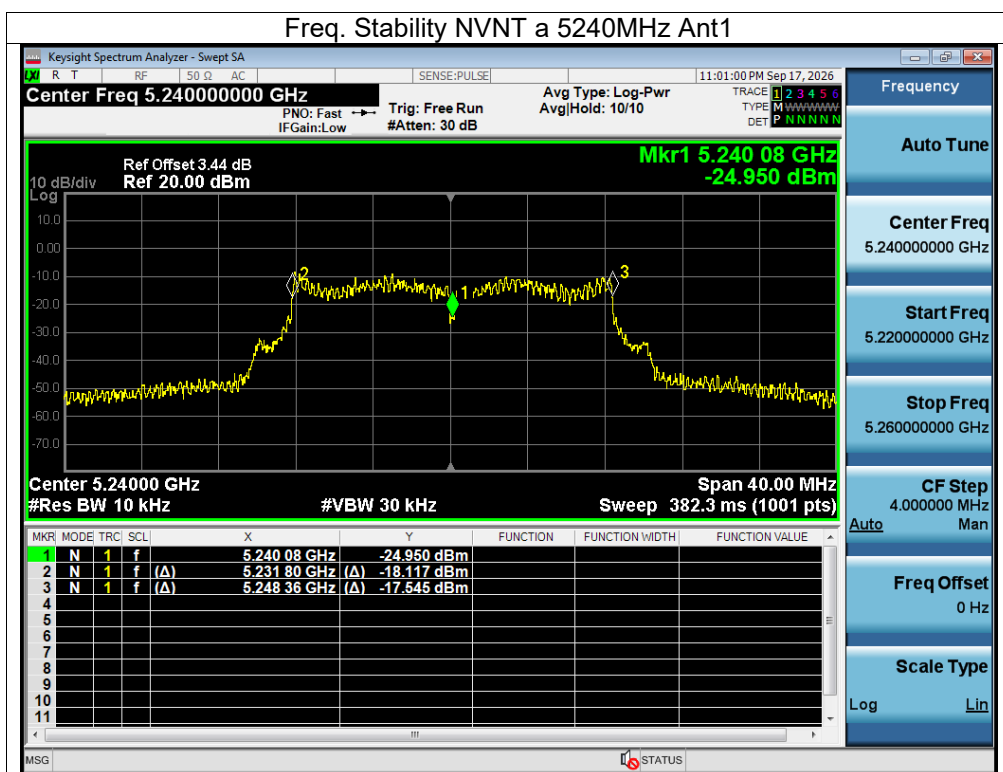
Freq. Stability NVNT a 5180MHz Ant1

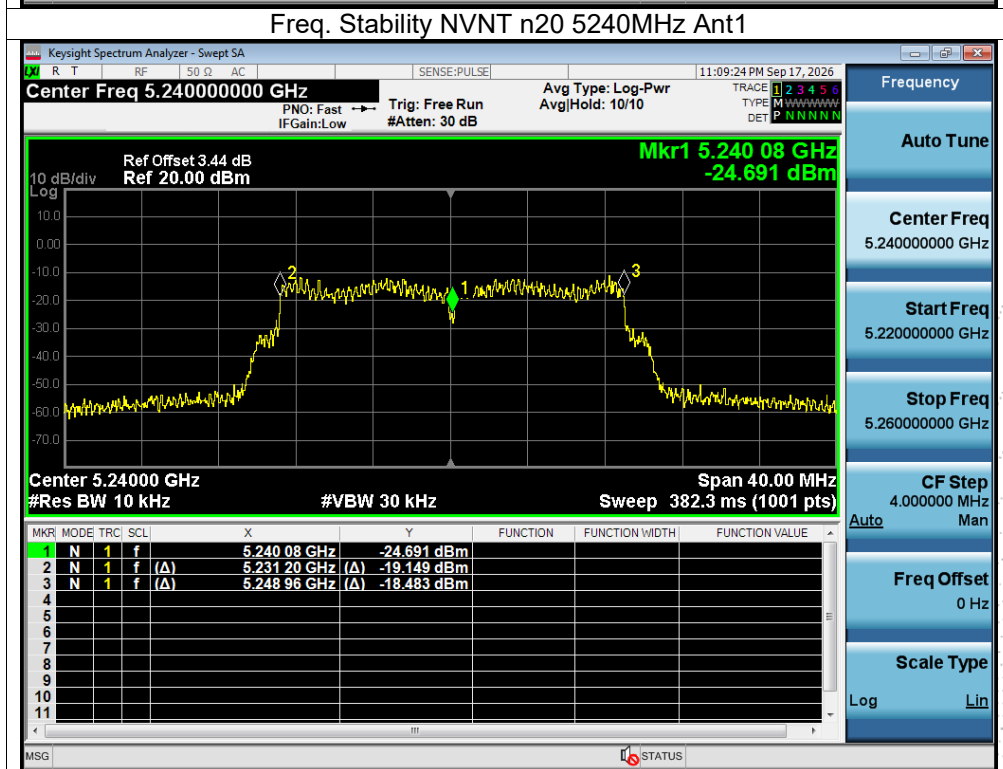
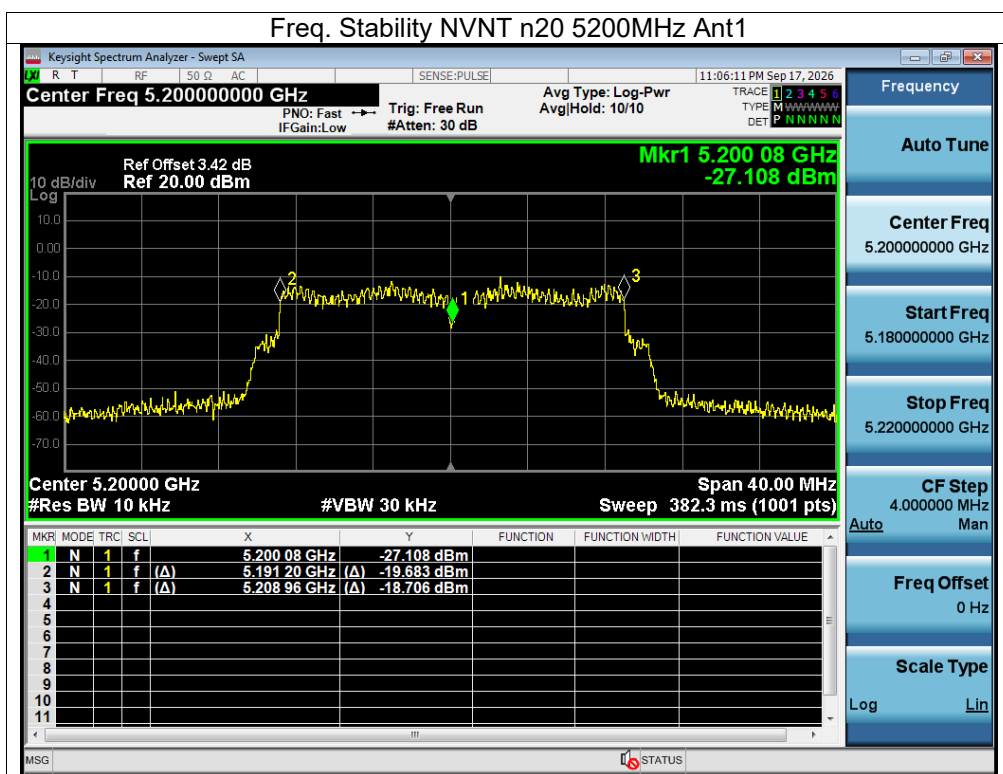


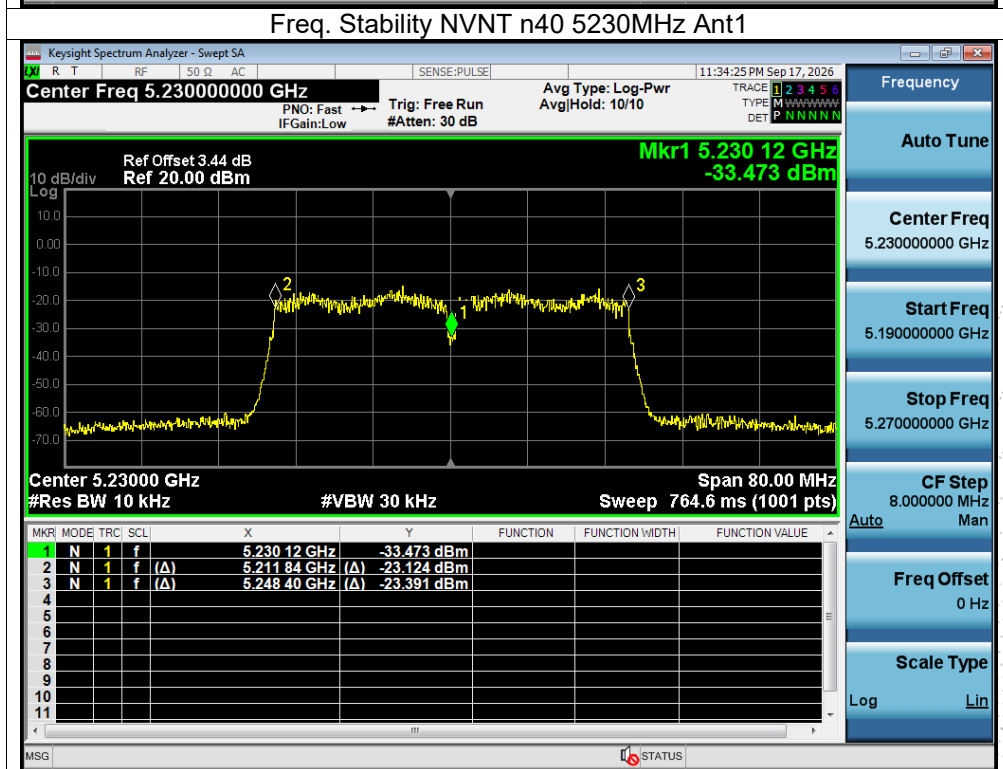
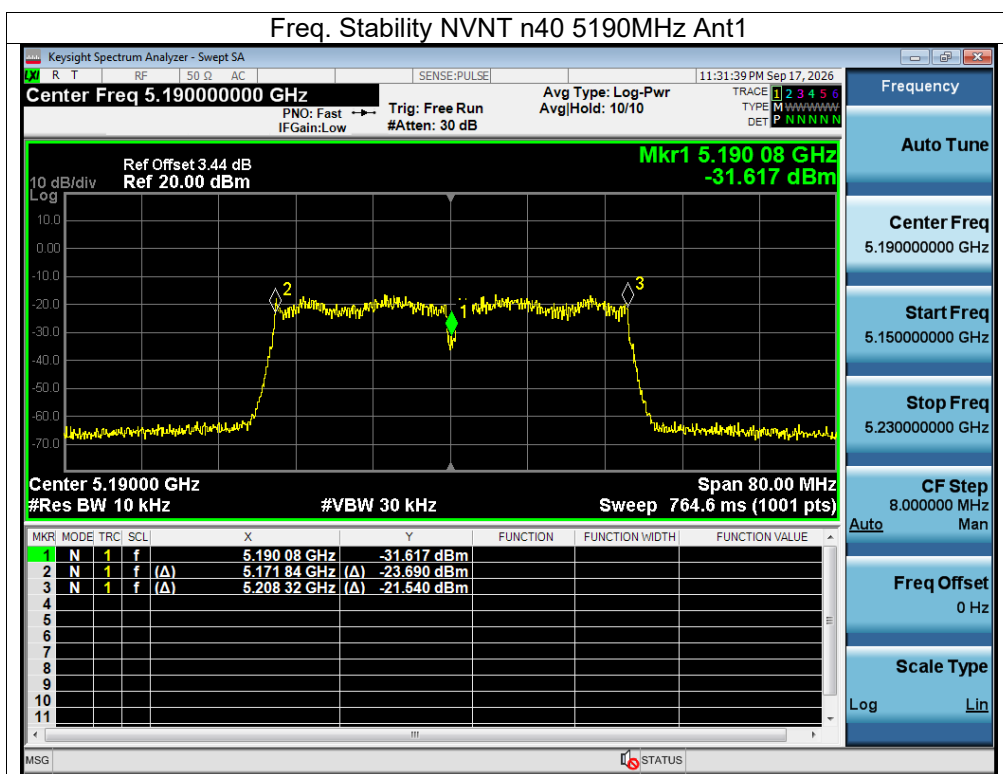
Freq. Stability NVNT a 5200MHz Ant1

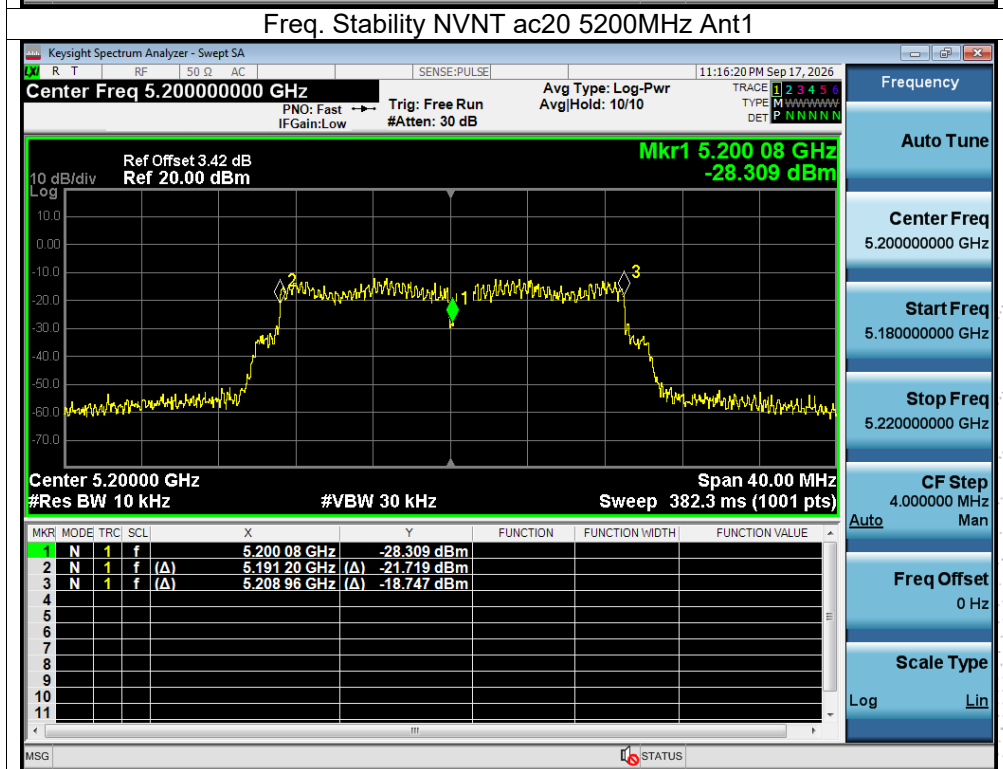
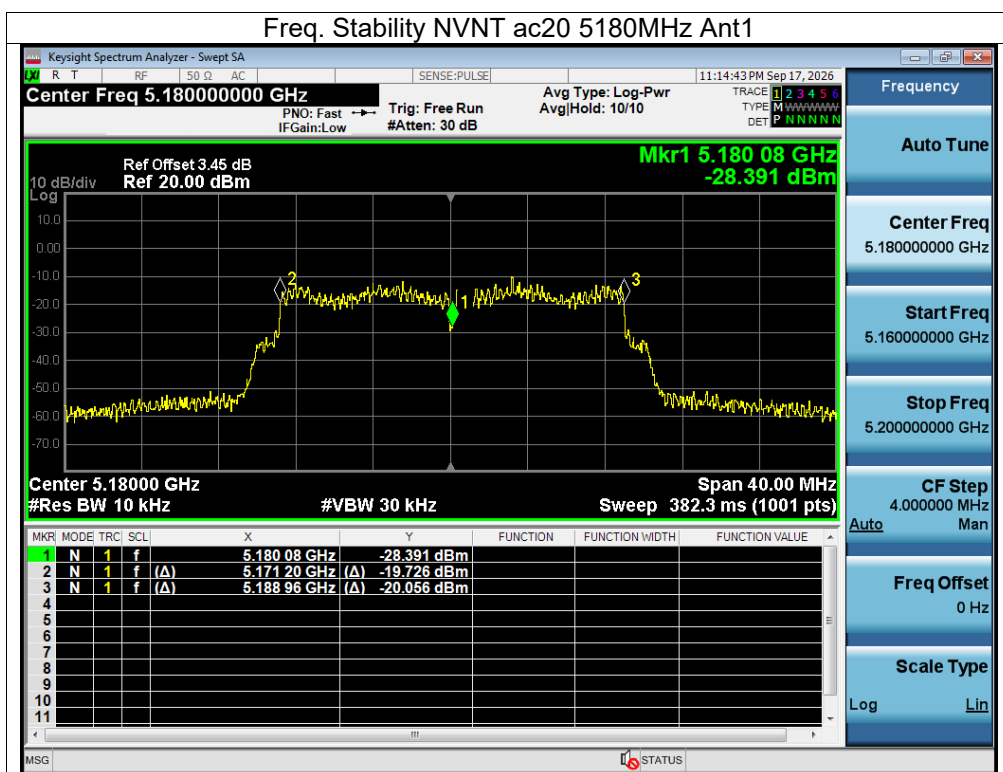


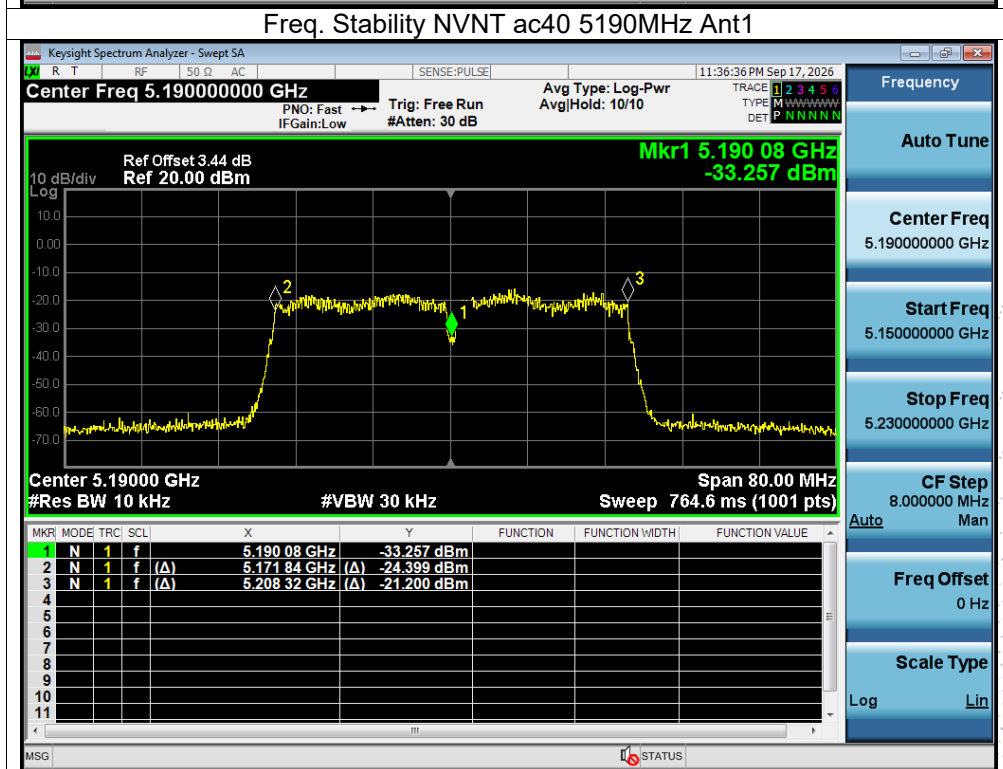
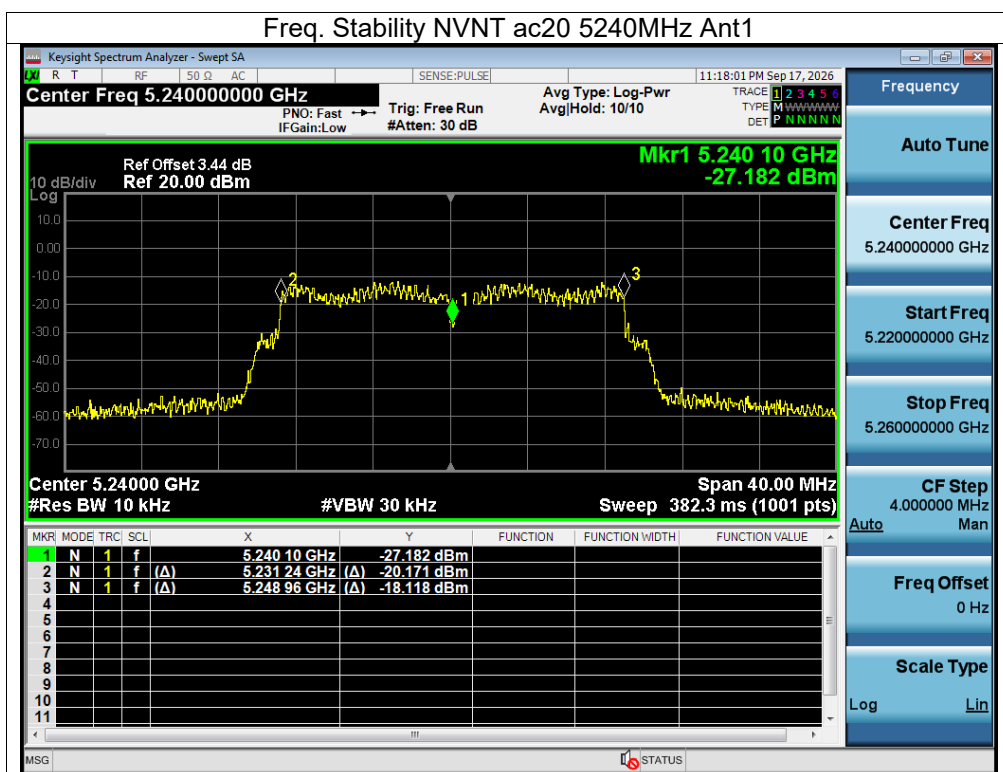
SHENZHEN



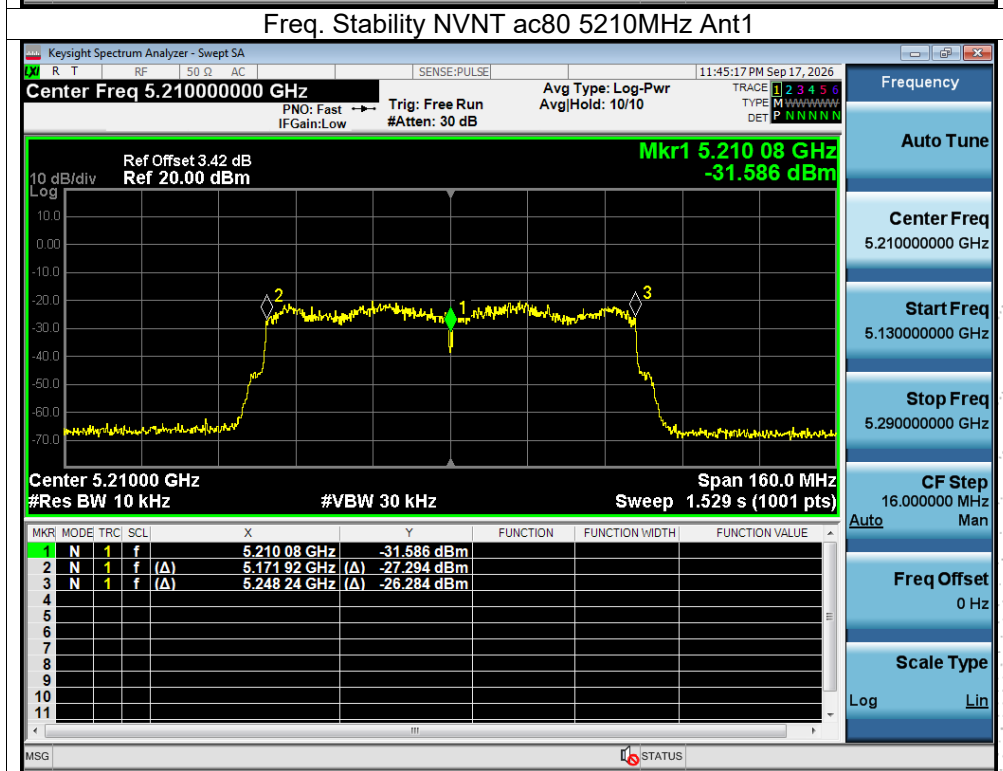
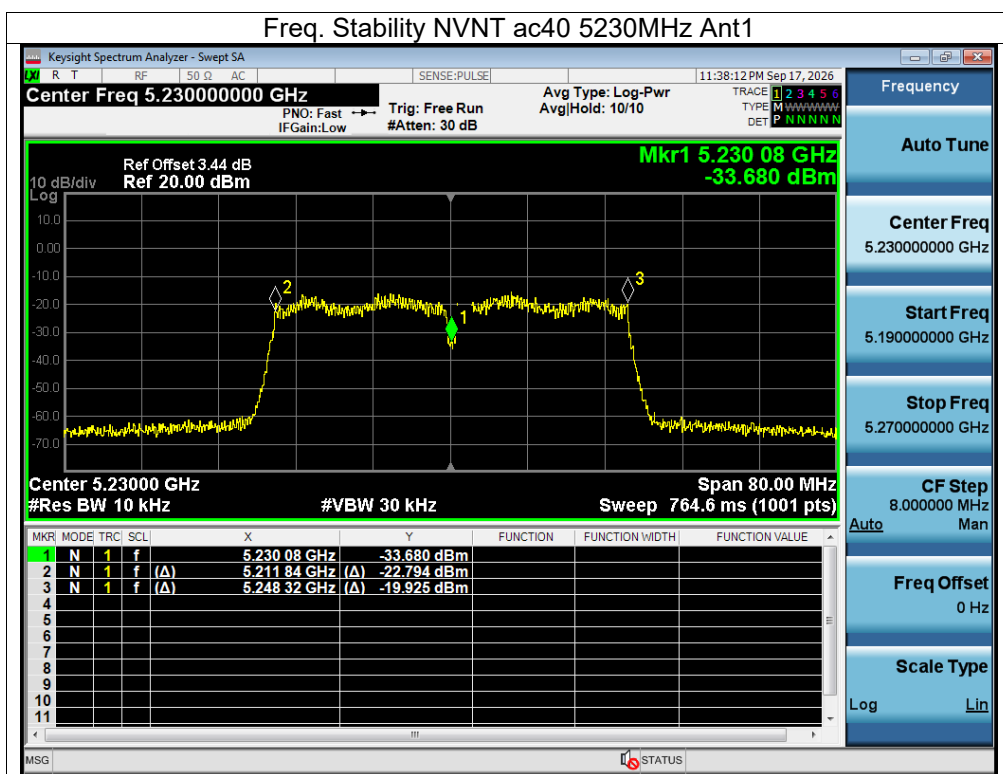


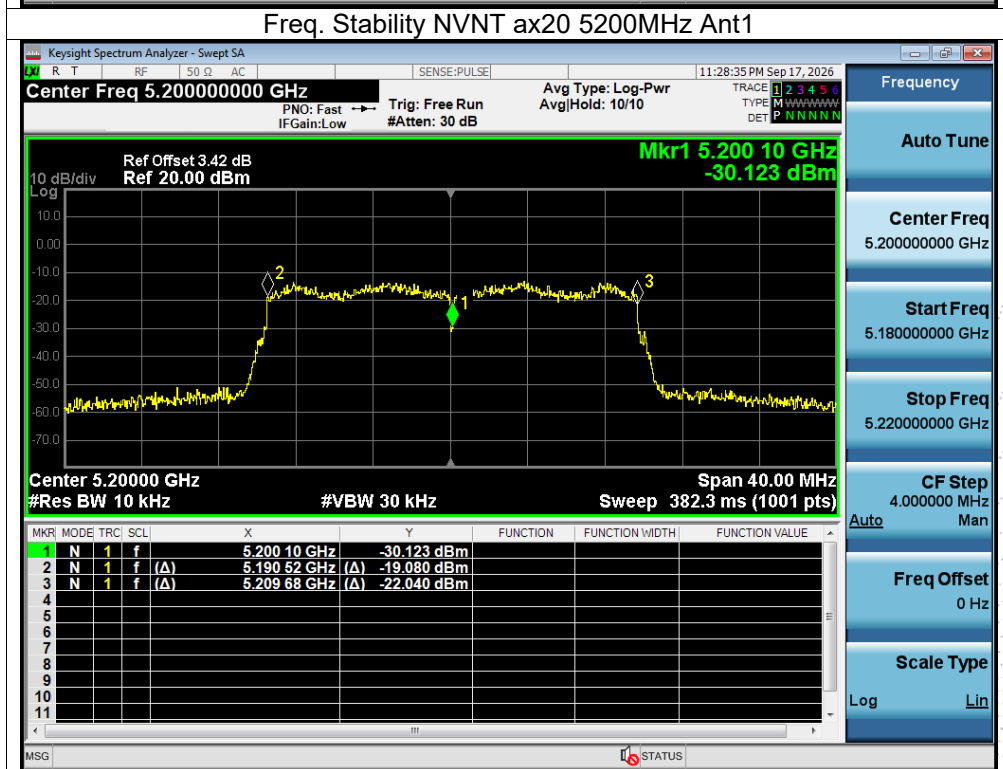
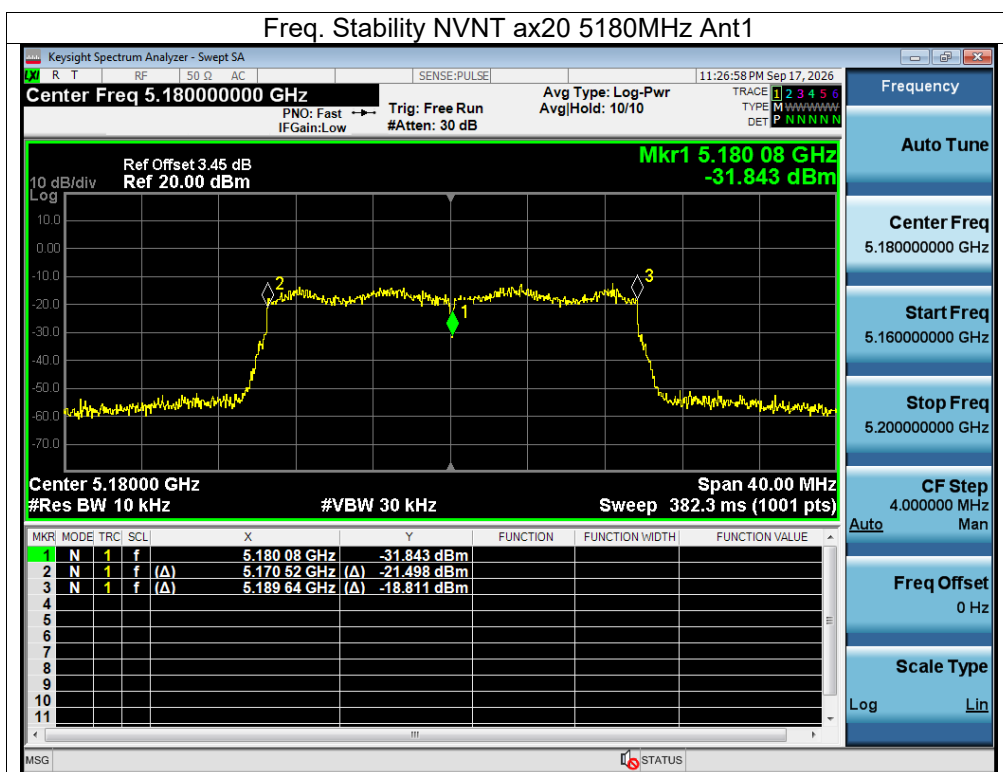


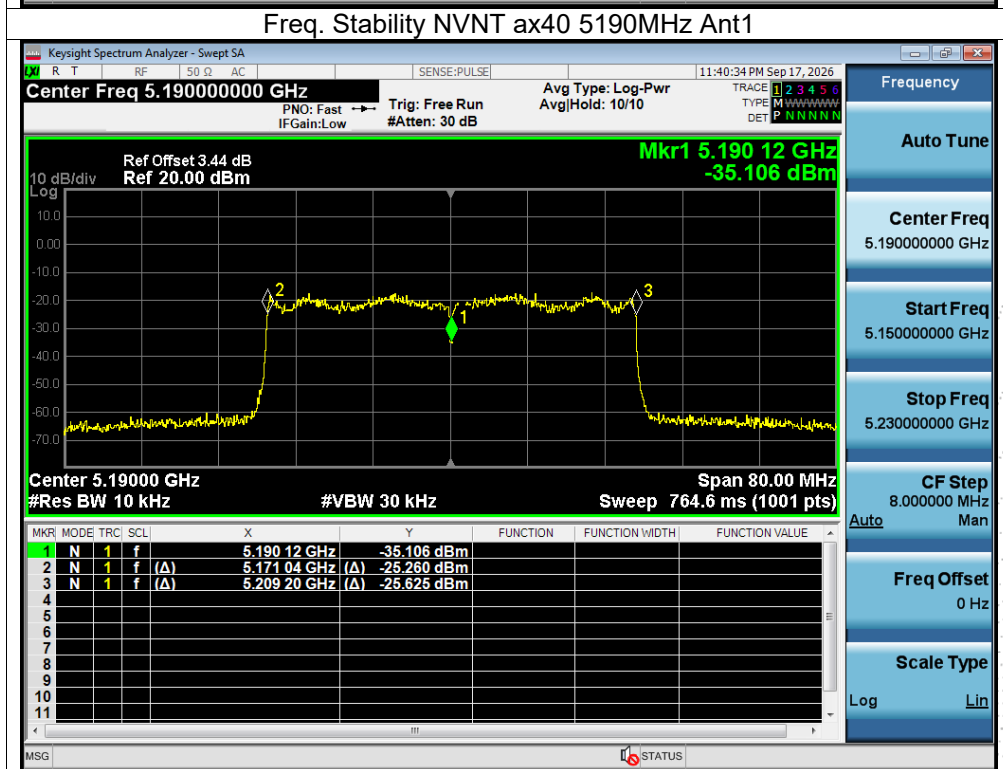
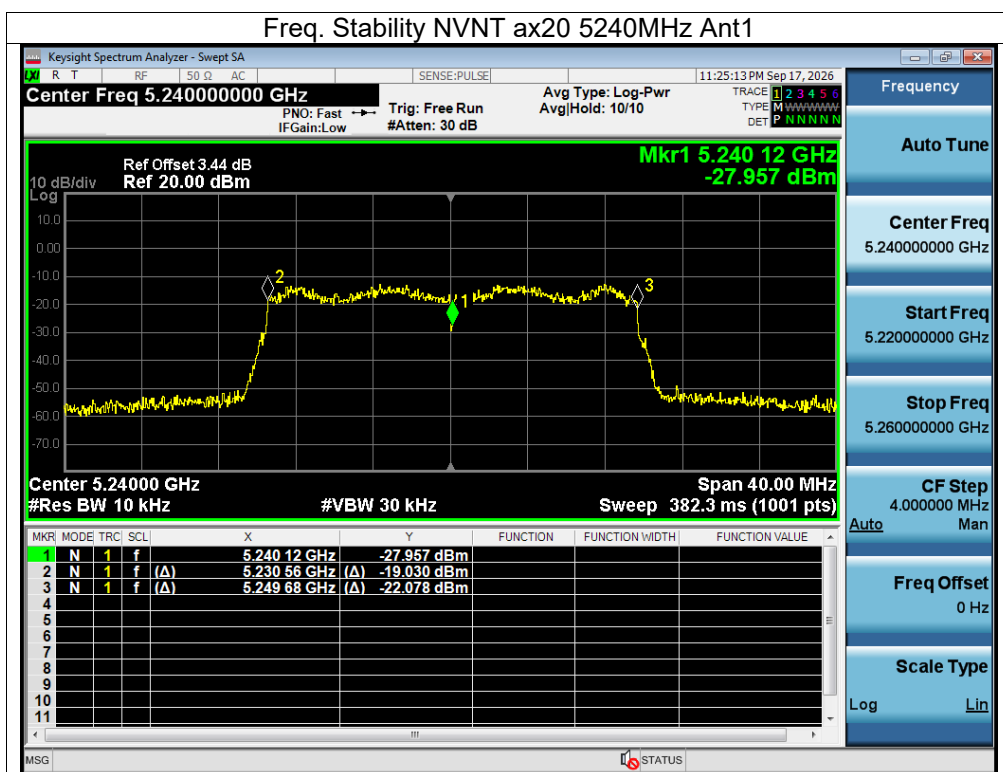


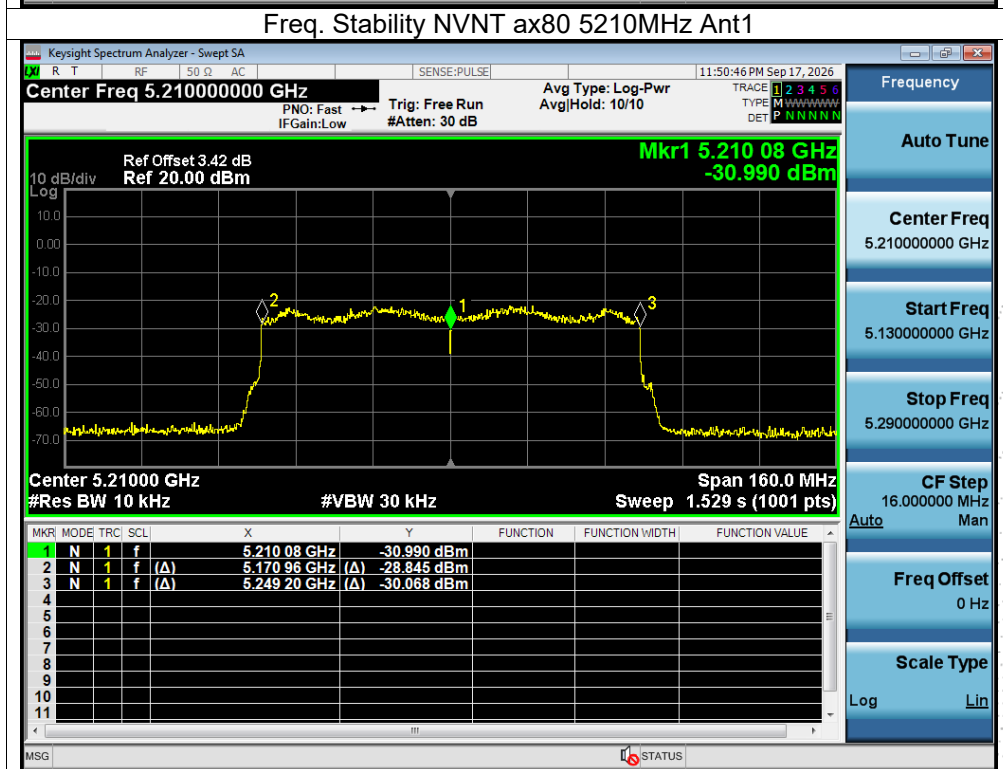
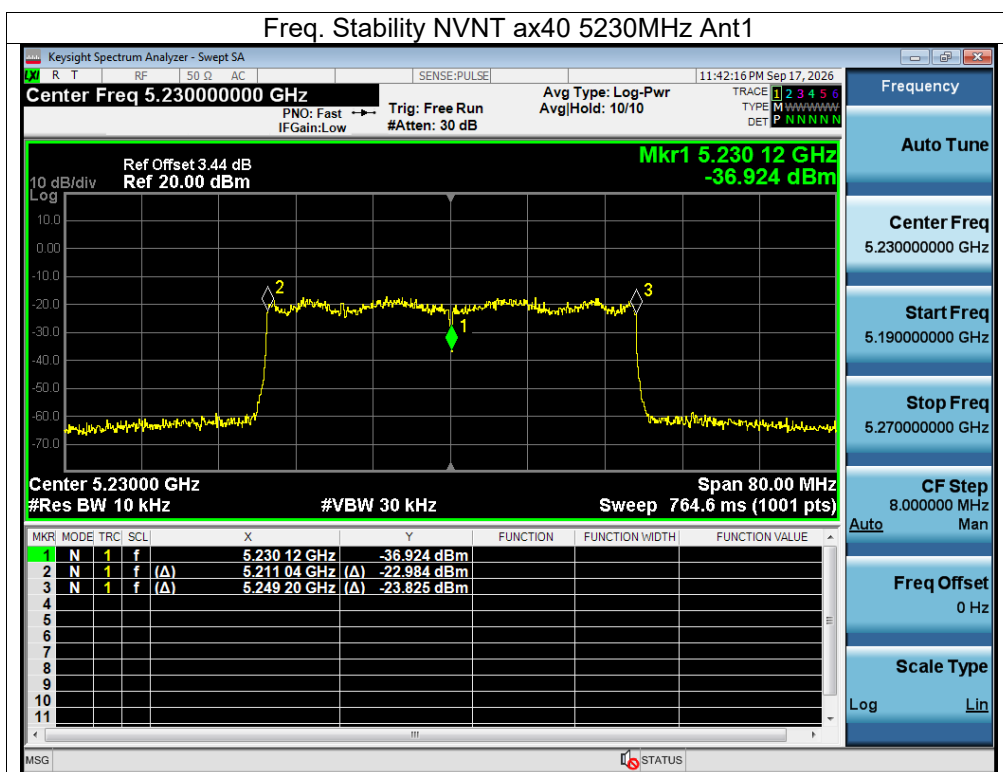


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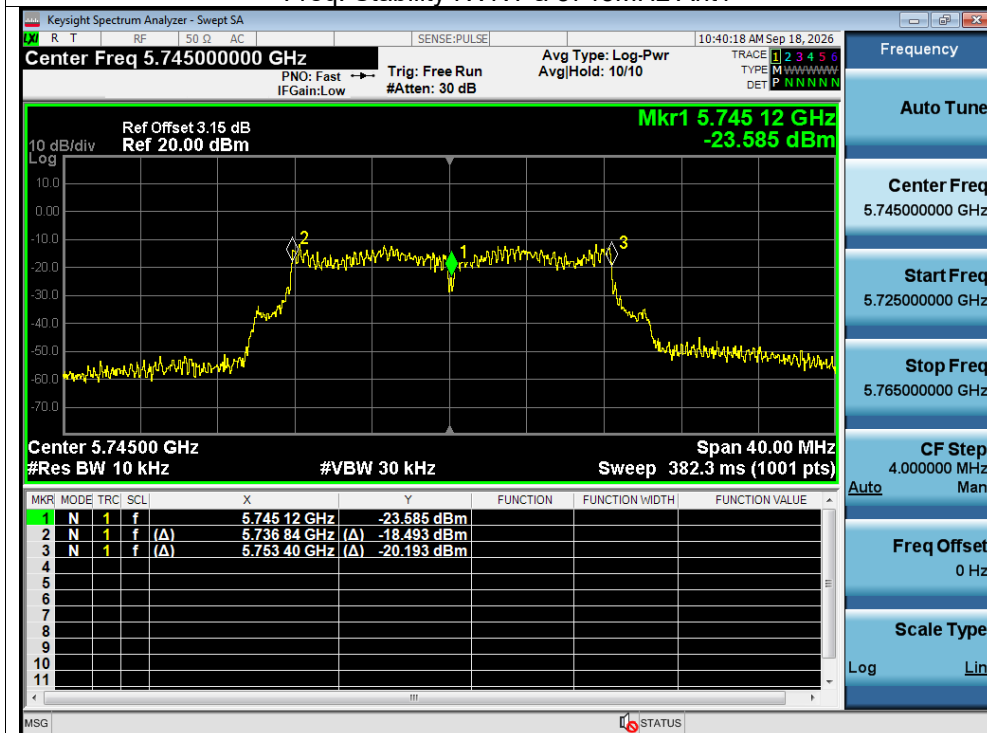


Temperature:	26 °C	Relative Humidity:	54%RH
Pressure:	101KPa	Test Voltage:	DC12V
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

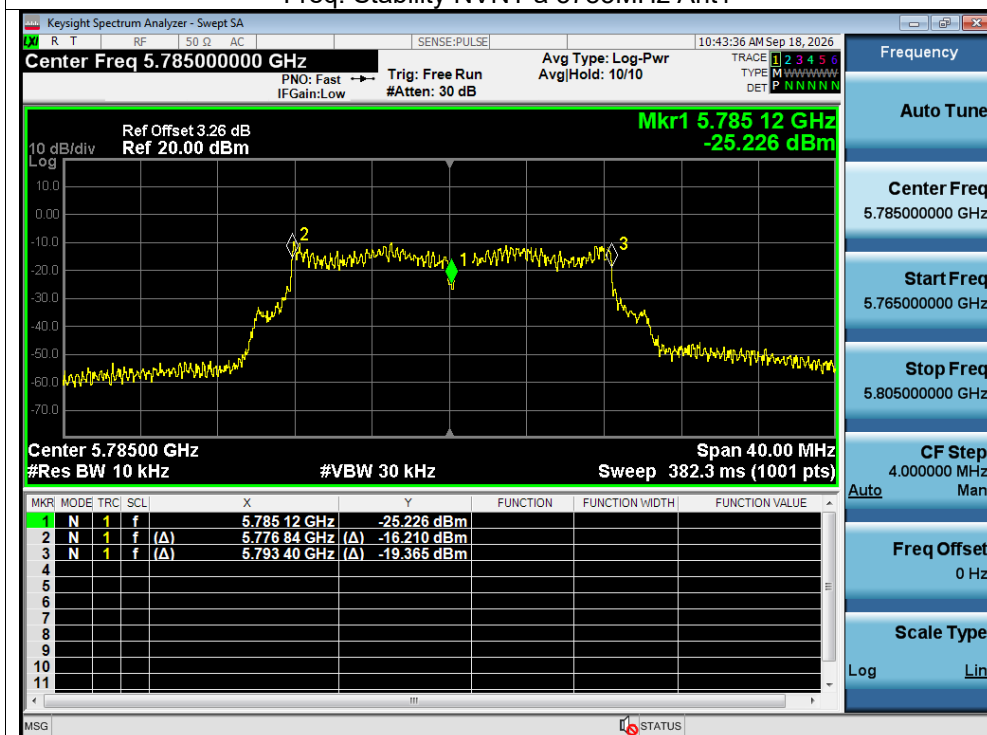
Condition	Mode	Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5745	5745.12	120000	20.89	25	Pass
NVNT	a	5785	5785.12	120000	20.74	25	Pass
NVNT	a	5825	5825.1	100000	17.17	25	Pass
NVNT	n20	5745	5745.1	100000	17.41	25	Pass
NVNT	n20	5785	5785.08	80000	13.83	25	Pass
NVNT	n20	5825	5825.12	120000	20.6	25	Pass
NVNT	n40	5755	5755.12	120000	20.85	25	Pass
NVNT	n40	5795	5795.12	120000	20.71	25	Pass
NVNT	ac20	5745	5745.1	100000	17.41	25	Pass
NVNT	ac20	5785	5785.1	100000	17.29	25	Pass
NVNT	ac20	5825	5825.08	80000	13.73	25	Pass
NVNT	ac40	5755	5755.12	120000	20.85	25	Pass
NVNT	ac40	5795	5795.08	80000	13.81	25	Pass
NVNT	ac80	5775	5775.08	80000	13.85	25	Pass
NVNT	ax20	5745	5745.1	100000	17.41	25	Pass
NVNT	ax20	5785	5785.12	120000	20.74	25	Pass
NVNT	ax20	5825	5825.1	100000	17.17	25	Pass
NVNT	ax40	5755	5755.12	120000	20.85	25	Pass
NVNT	ax40	5795	5795.12	120000	20.71	25	Pass
NVNT	ax80	5775	5775.08	80000	13.85	25	Pass

Test Graphs

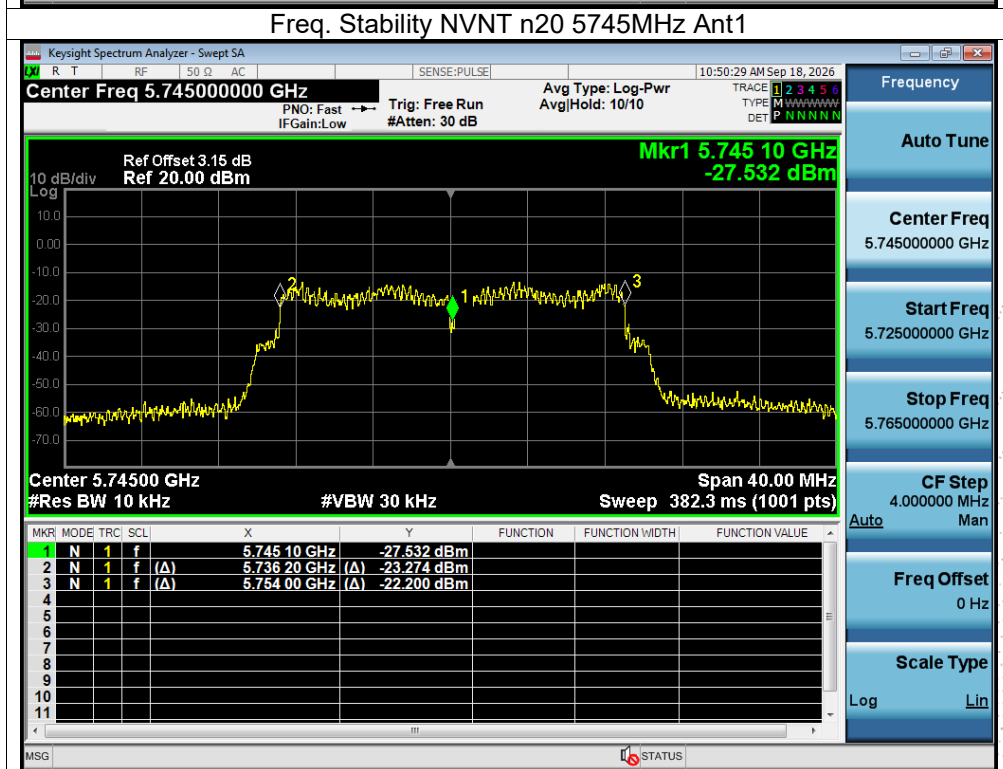
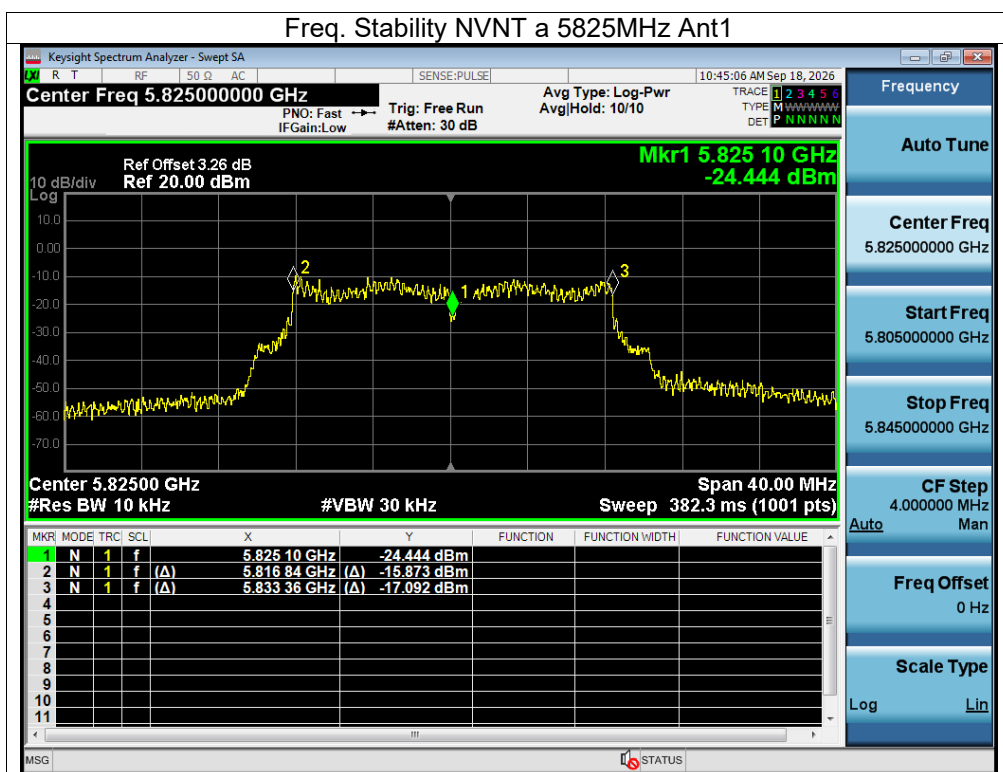
Freq. Stability NVNT a 5745MHz Ant1

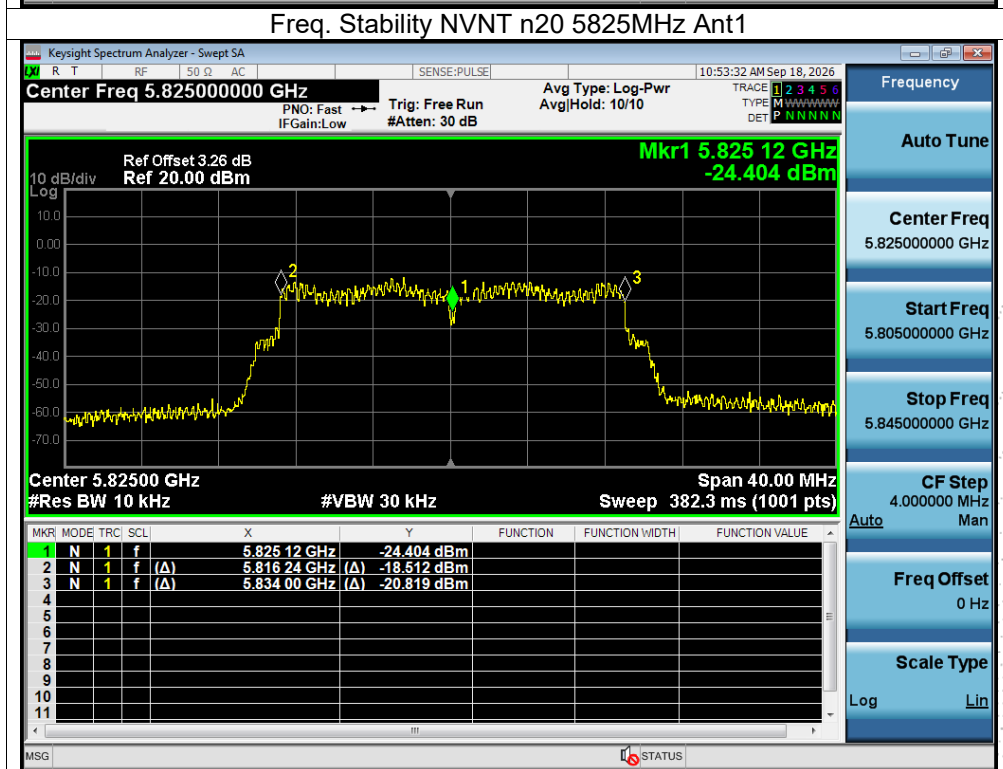
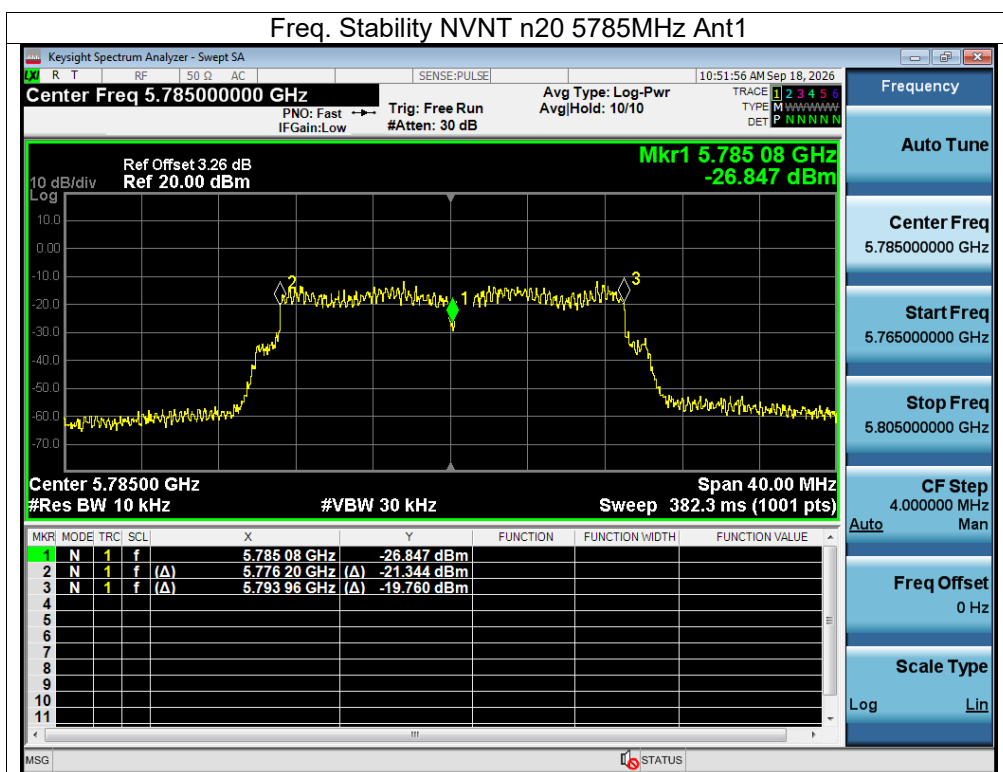


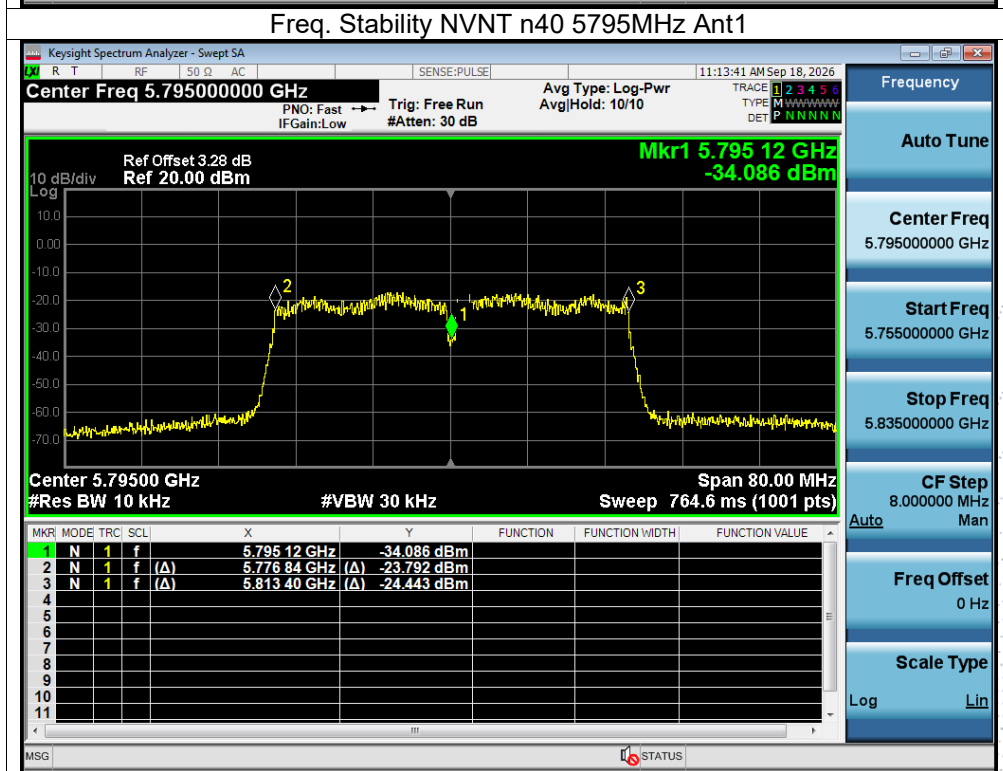
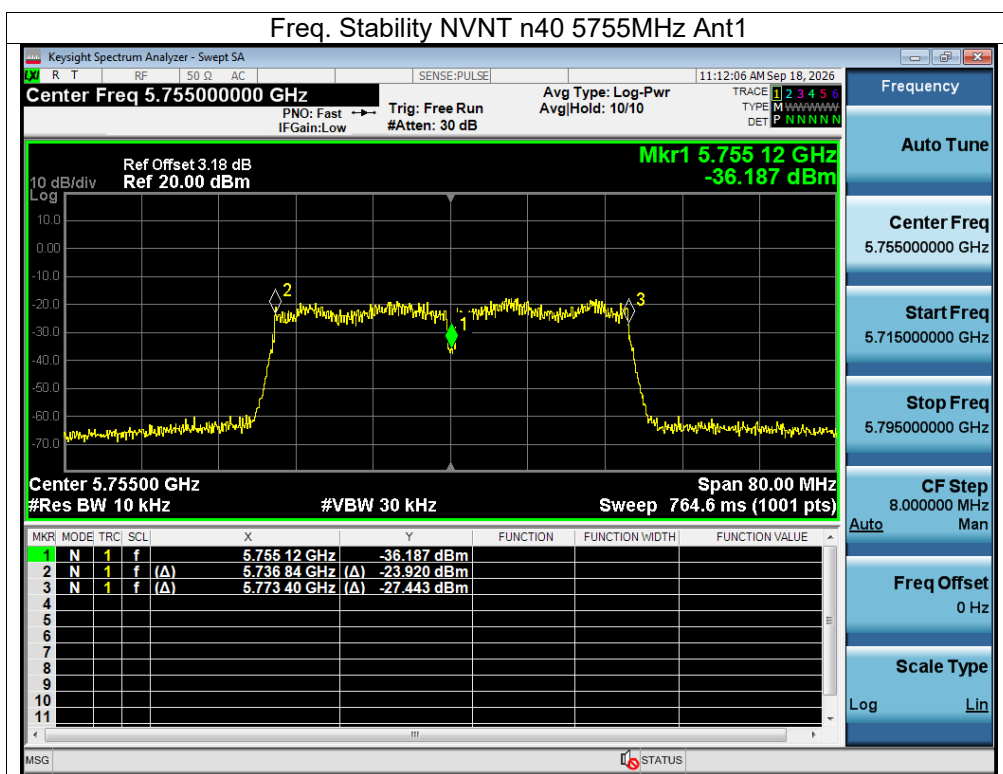
Freq. Stability NVNT a 5785MHz Ant1

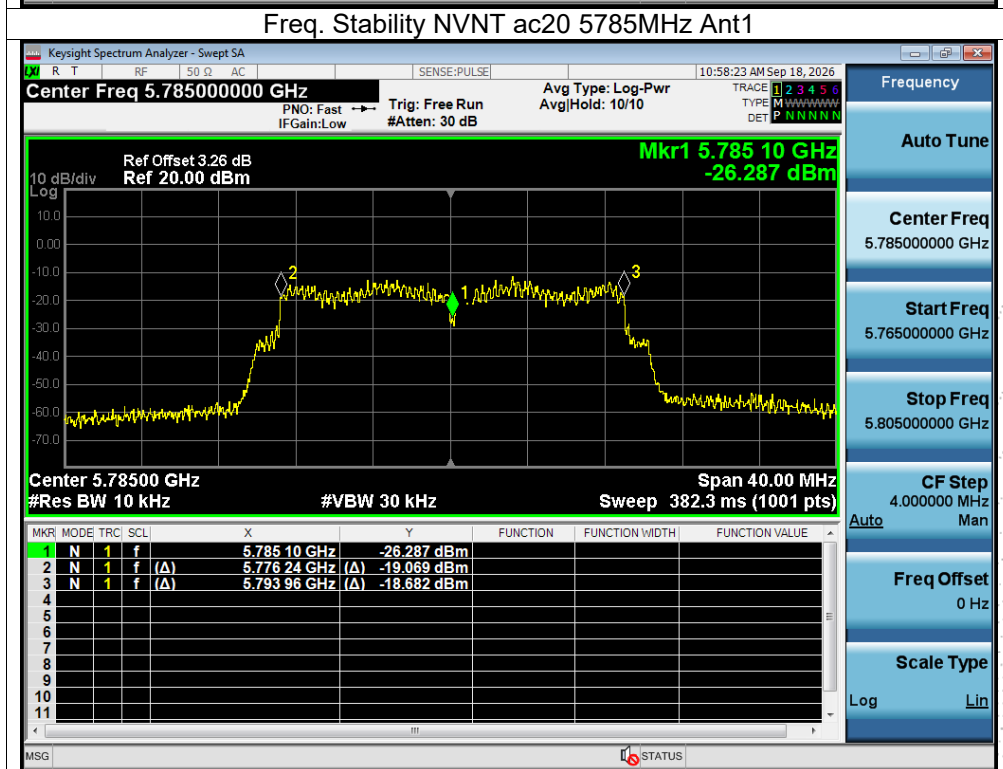
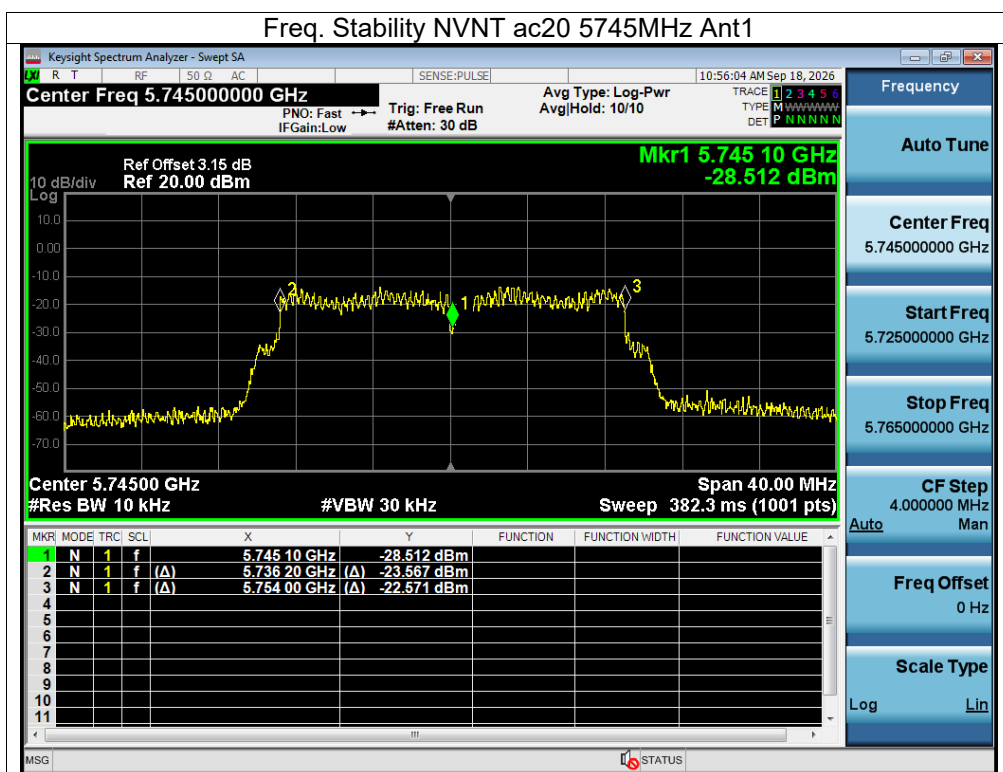


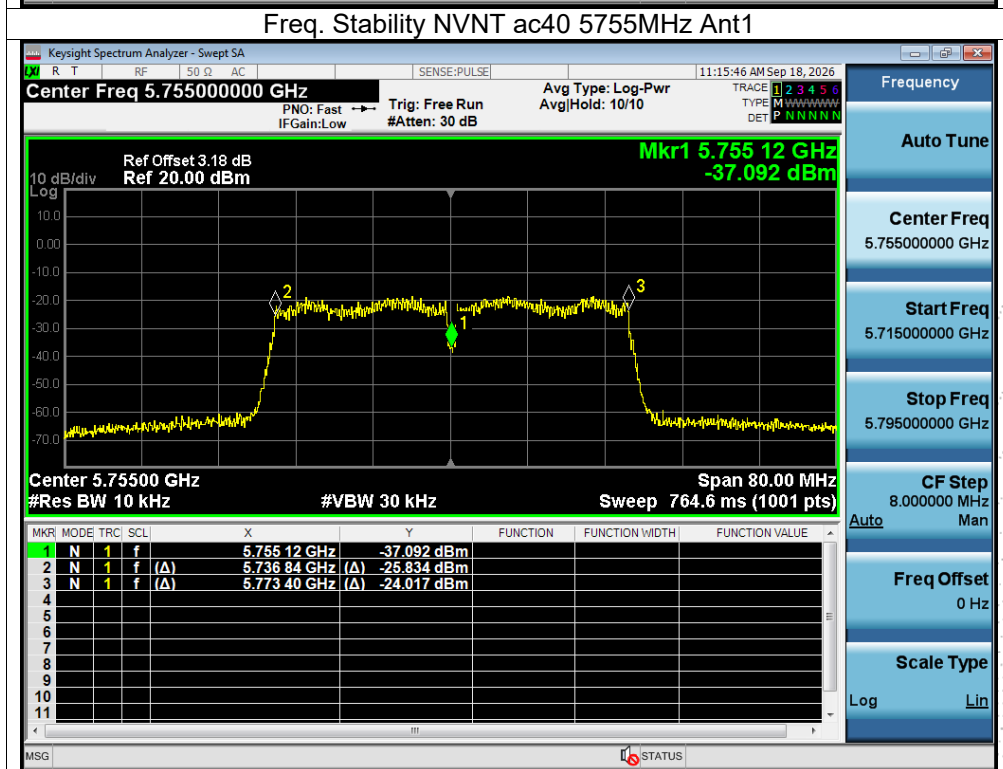
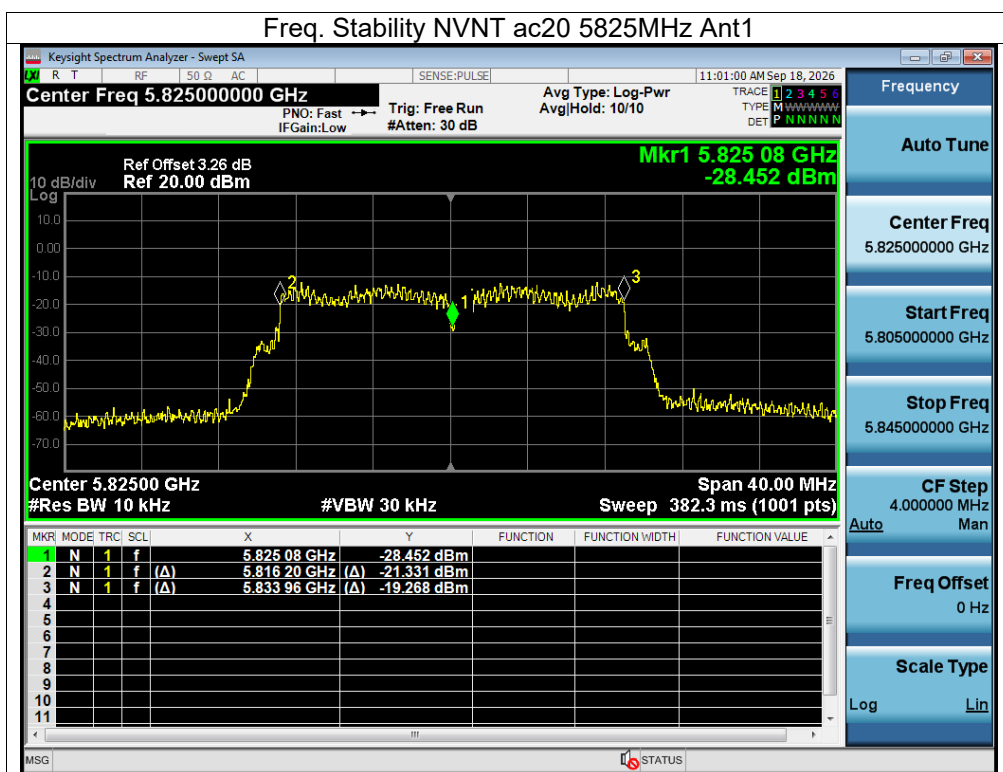
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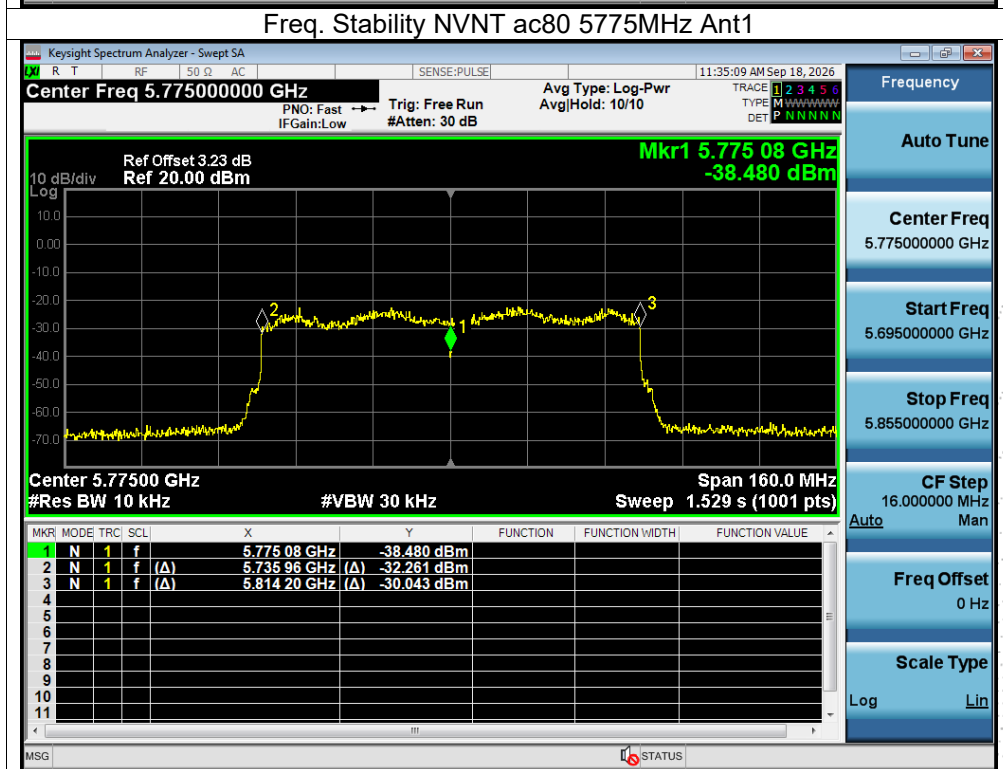
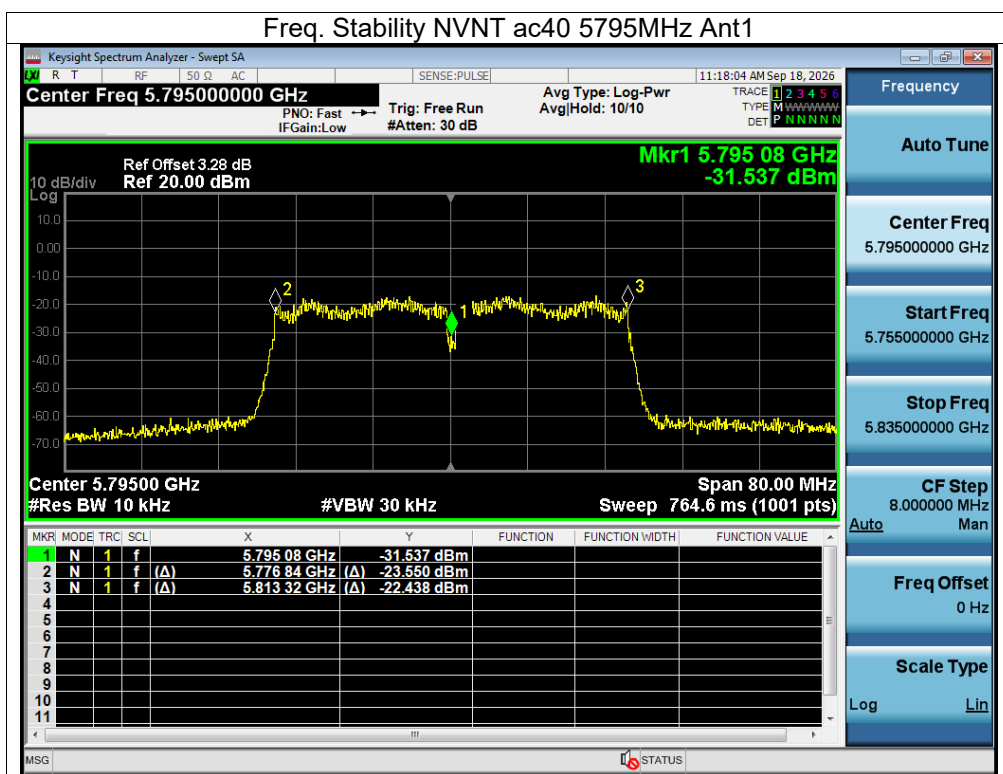




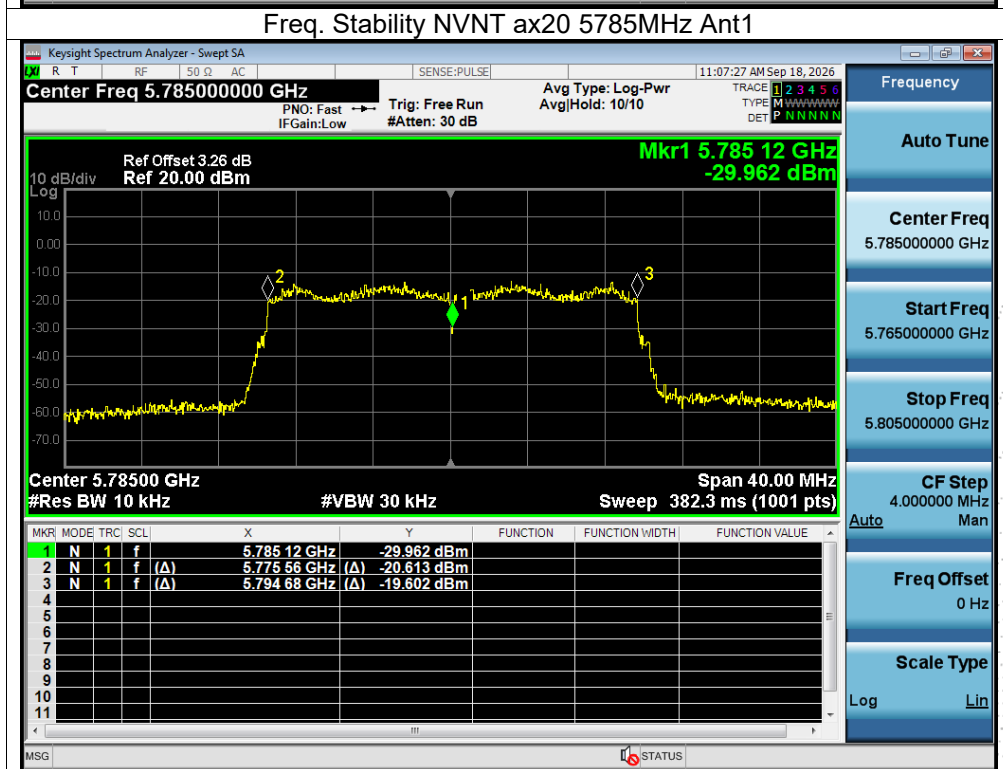
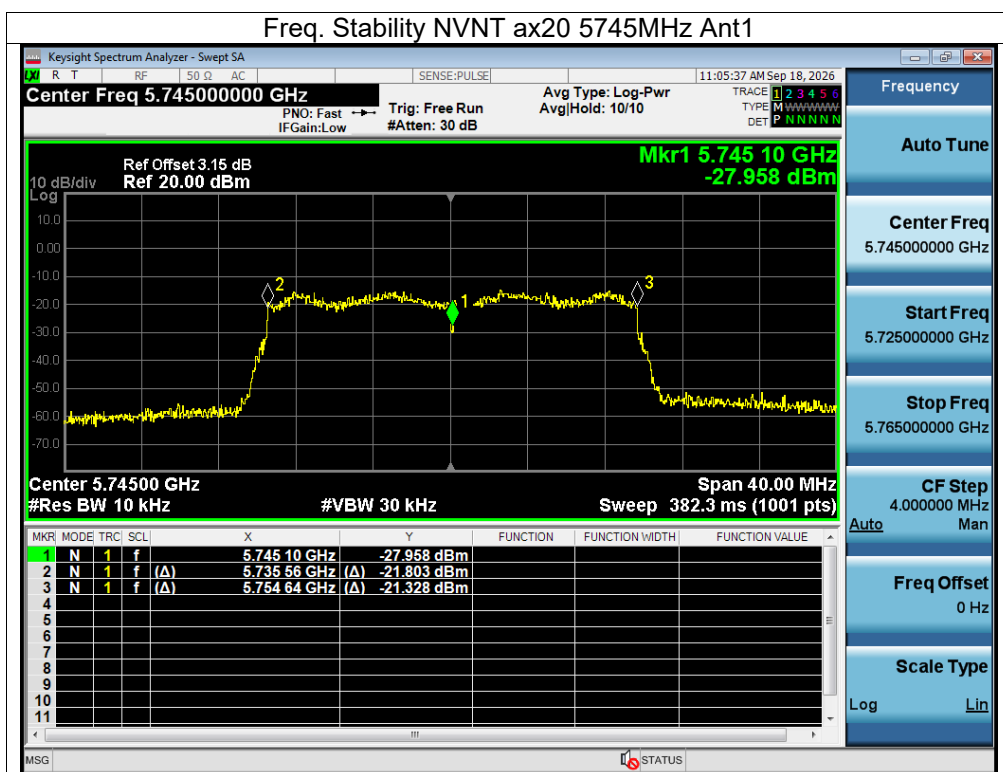


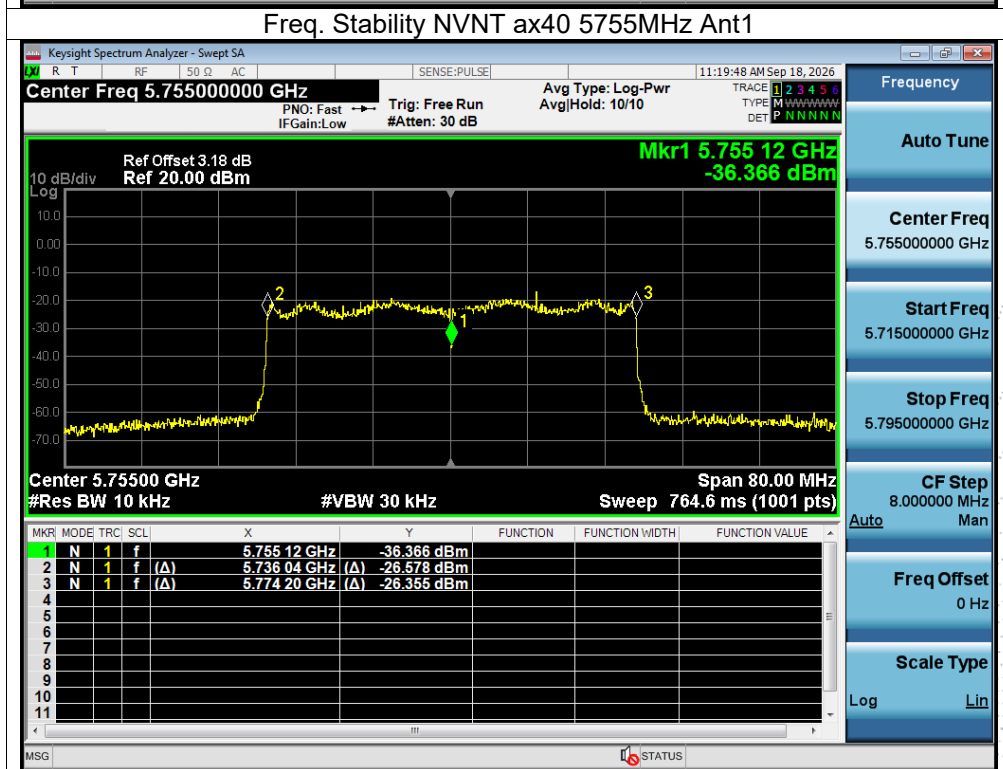
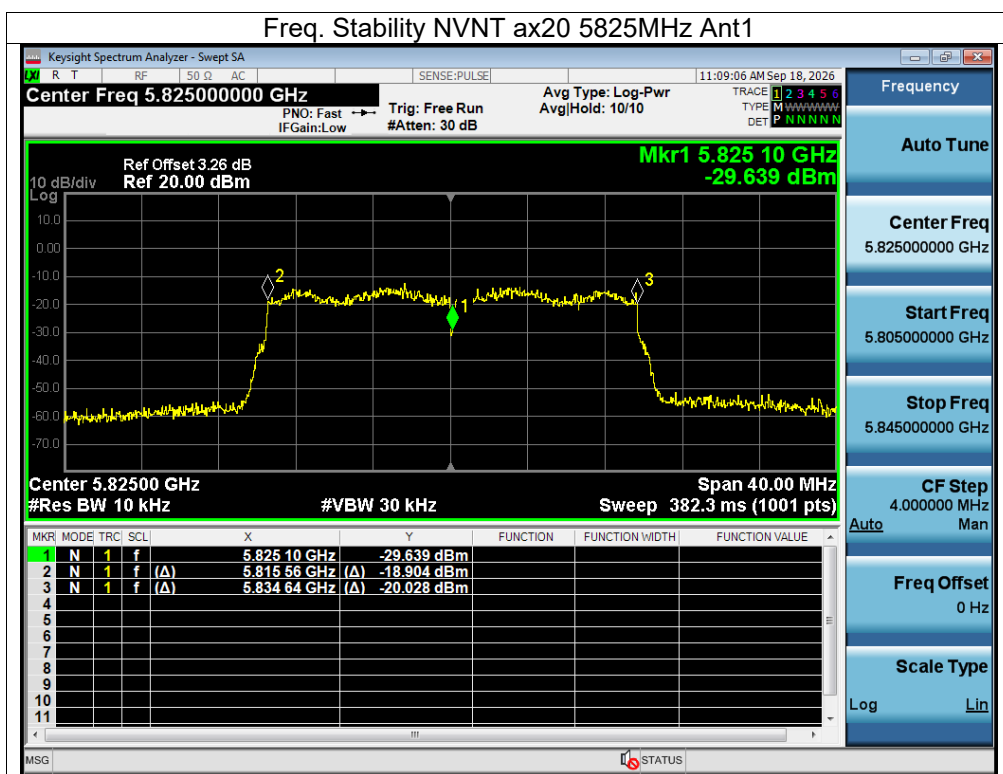


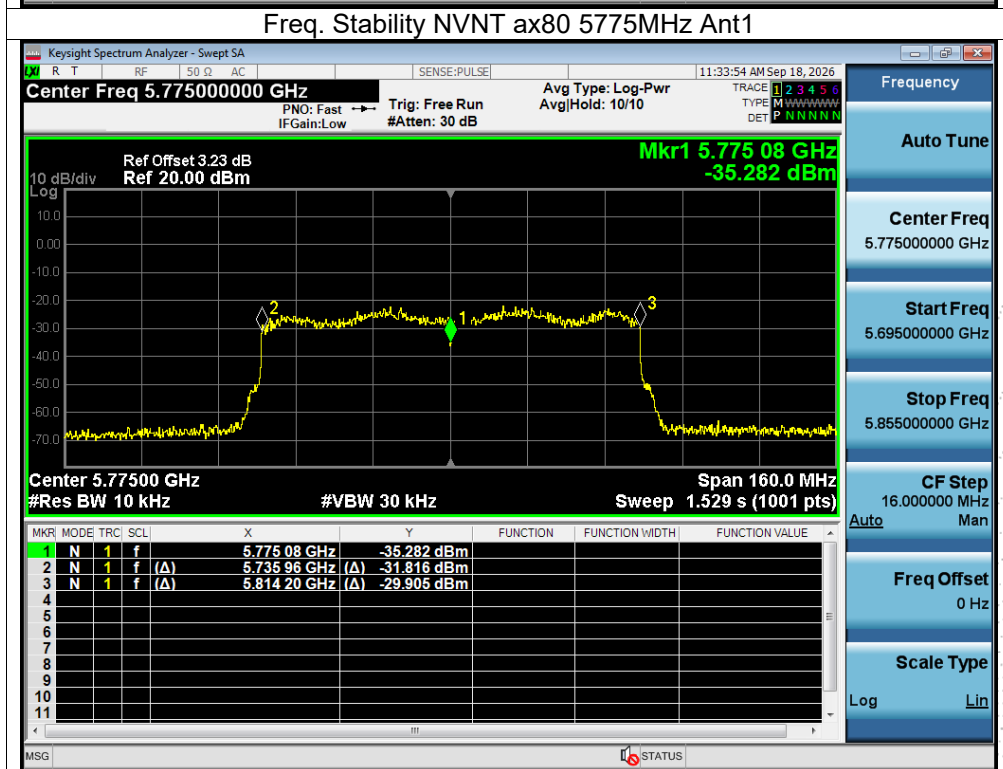
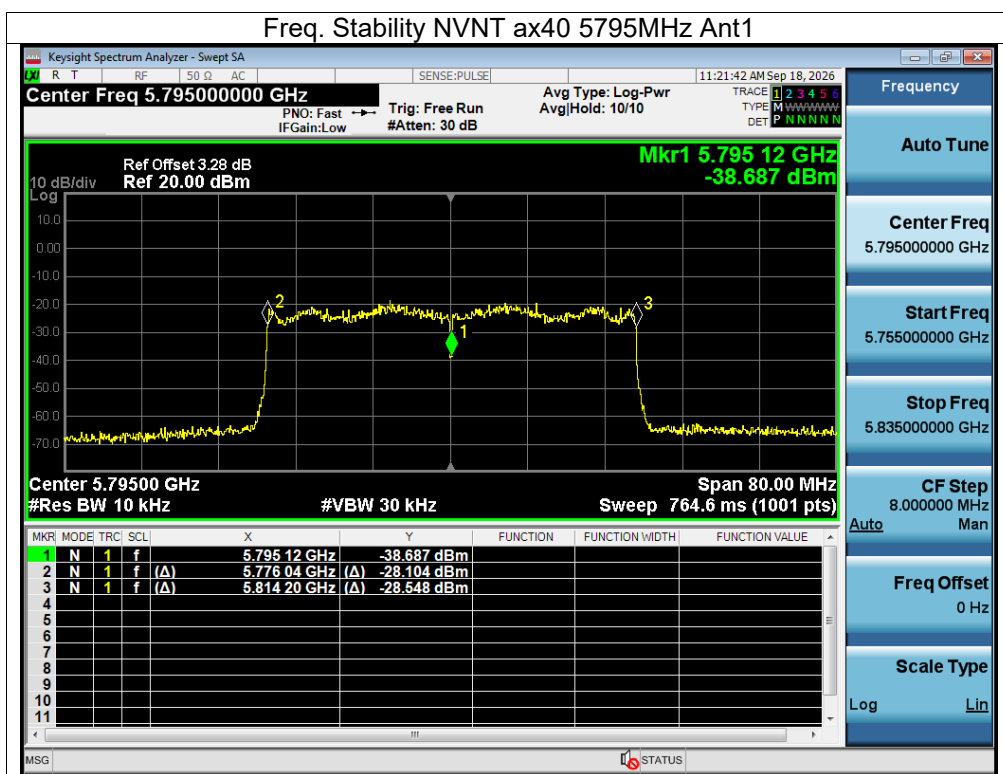




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14. Duty Cycle Of Test Signal

14.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

14.2 Formula

Duty Cycle = $T_{on} / (T_{on} + T_{off})$

14.3 Test Procedure

1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

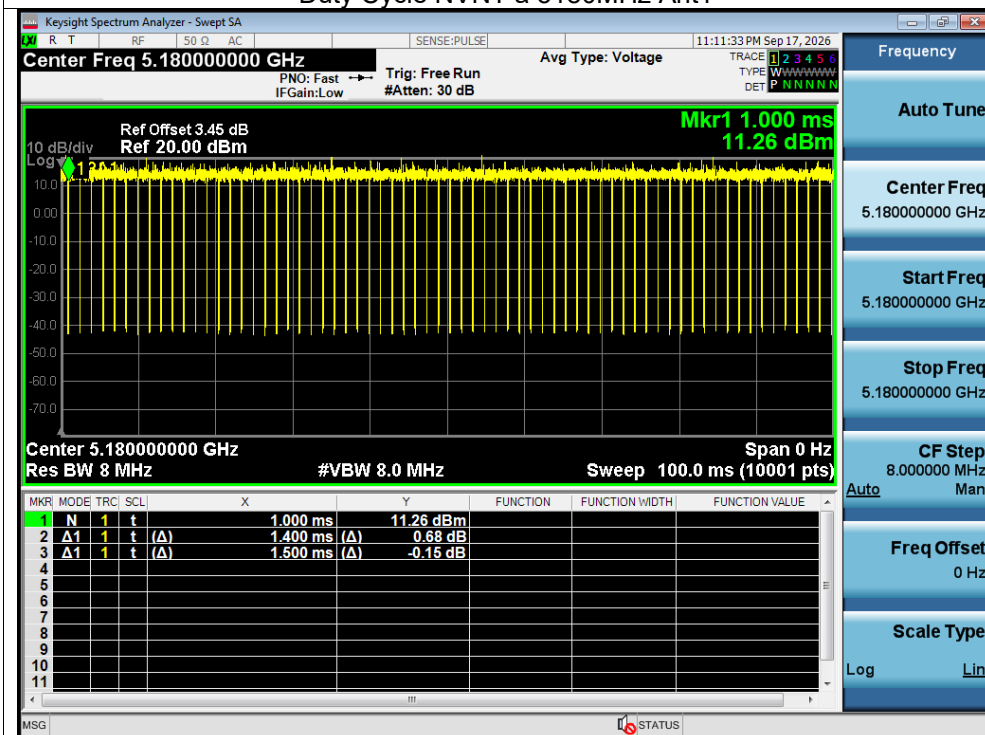
14.4 Test Result

5.1G

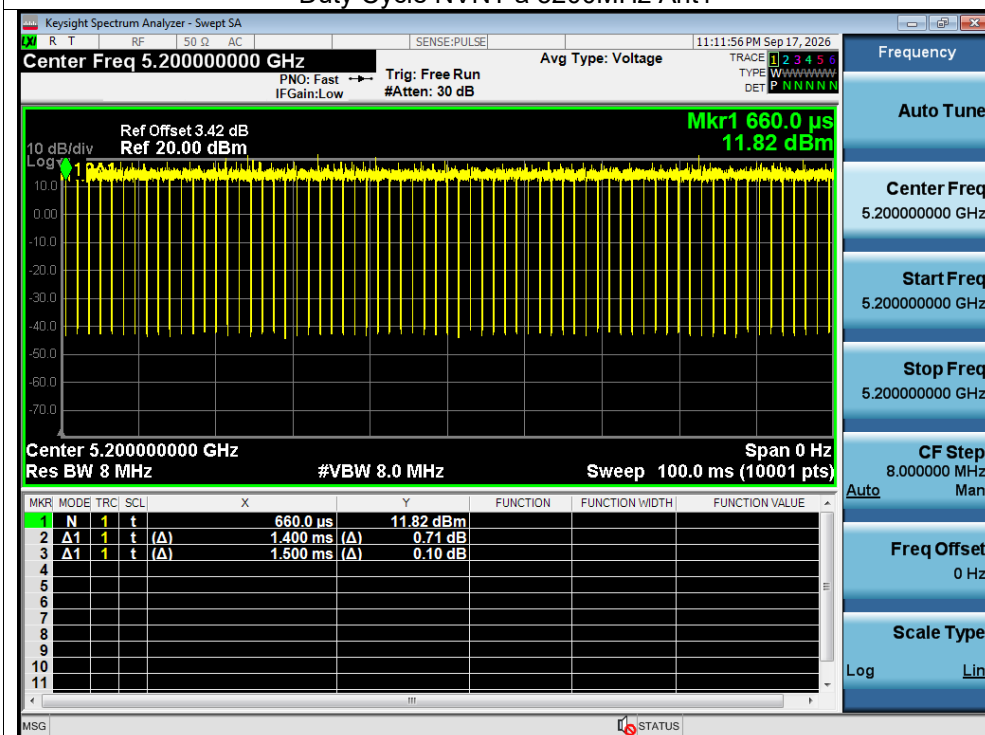
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	93.33	0.3	0.71
NVNT	a	5200	93.33	0.3	0.71
NVNT	a	5240	93.33	0.3	0.71
NVNT	n20	5180	98.08	0.08	0.2
NVNT	n20	5200	98.08	0.08	0.2
NVNT	n20	5240	98.08	0.08	0.2
NVNT	n40	5190	98.2	0.08	0.2
NVNT	n40	5230	98	0.09	0.2
NVNT	ac20	5180	98.08	0.08	0.2
NVNT	ac20	5200	98.28	0.08	0.19
NVNT	ac20	5240	98.09	0.08	0.19
NVNT	ac40	5190	98.01	0.09	0.2
NVNT	ac40	5230	98.01	0.09	0.2
NVNT	ac80	5210	98.08	0.08	0.2
NVNT	ax20	5180	97.5	0.11	0.26
NVNT	ax20	5200	97.5	0.11	0.26
NVNT	ax20	5240	97.5	0.11	0.26
NVNT	ax40	5190	97.49	0.11	0.26
NVNT	ax40	5230	97.49	0.11	0.26
NVNT	ax80	5210	97.66	0.1	0.24

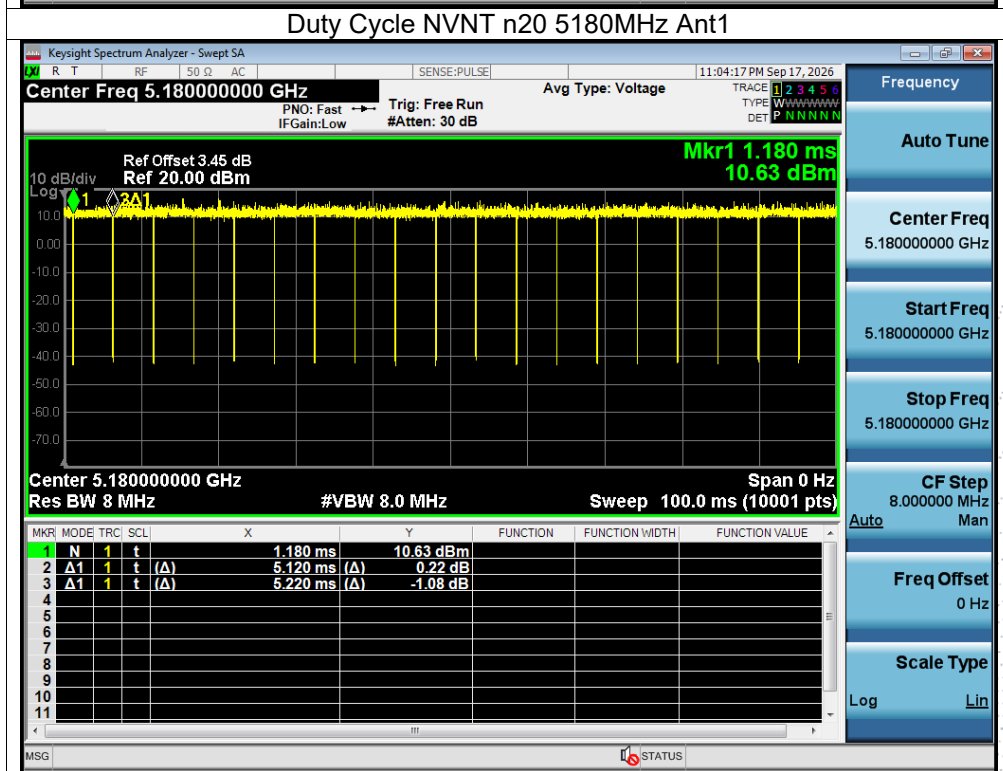
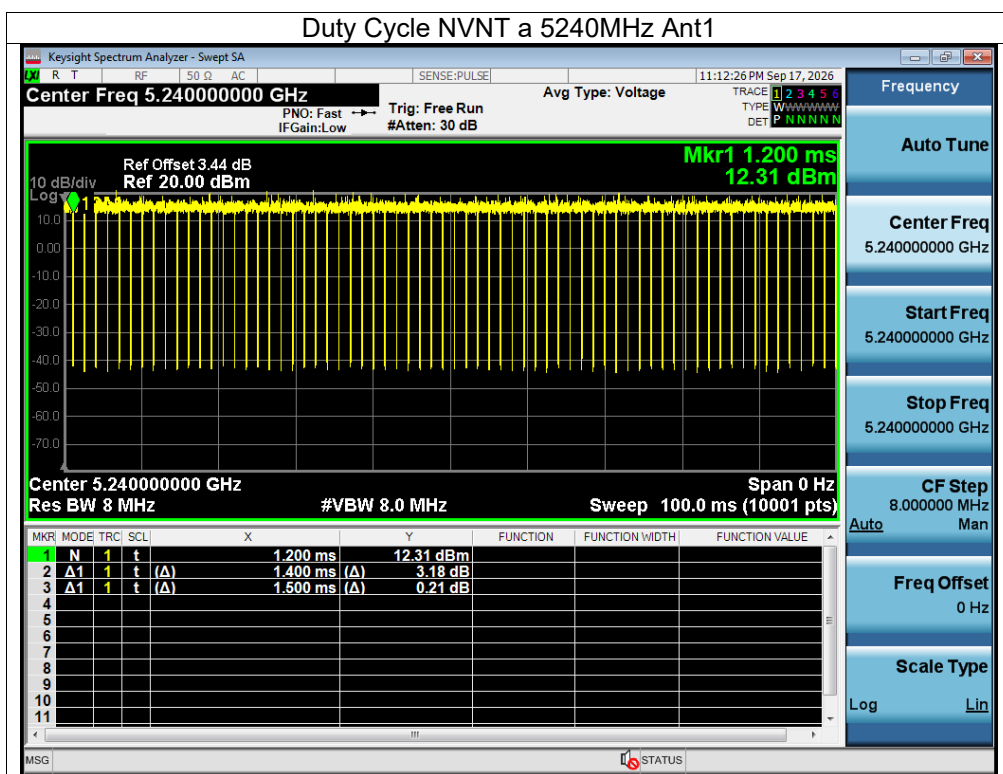
Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

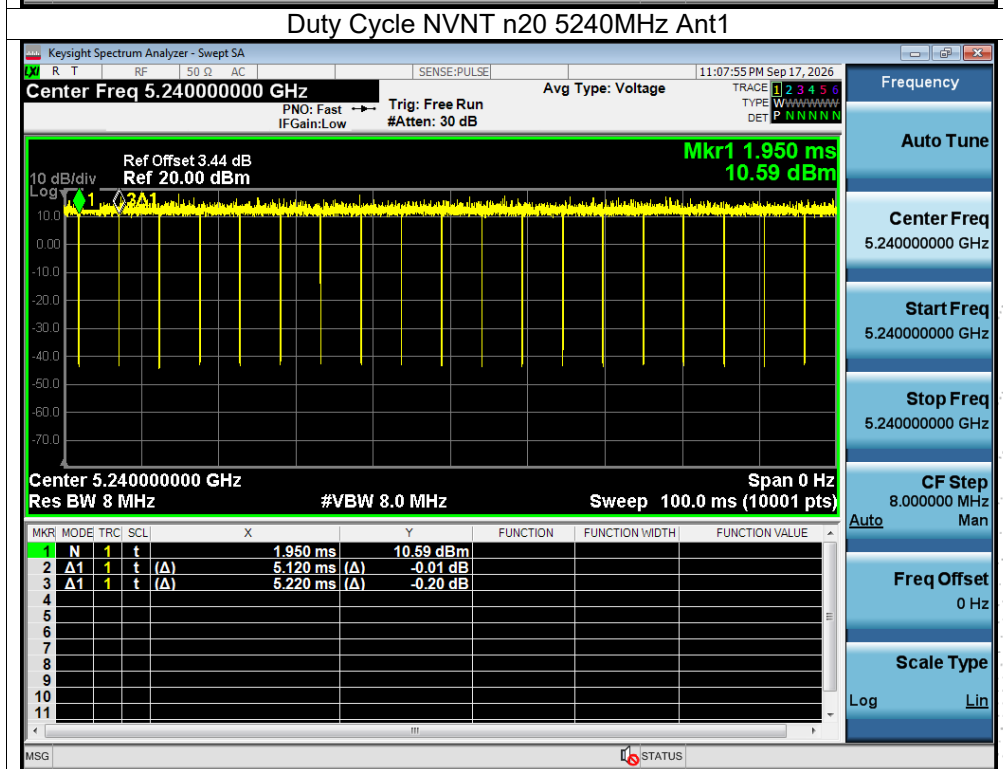
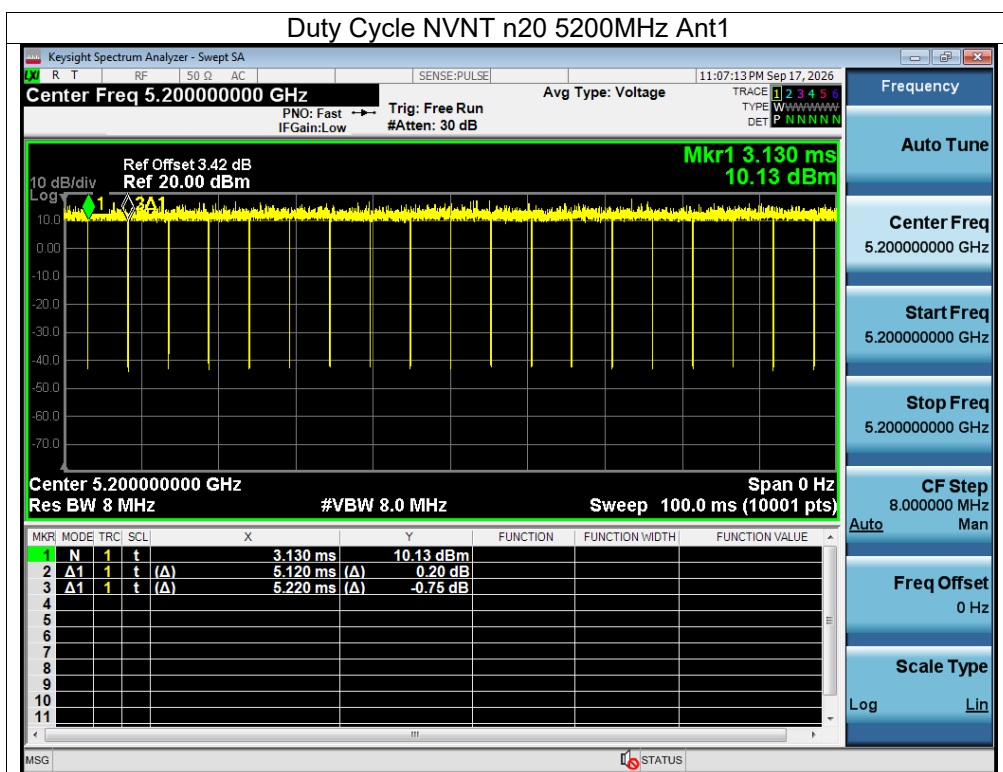


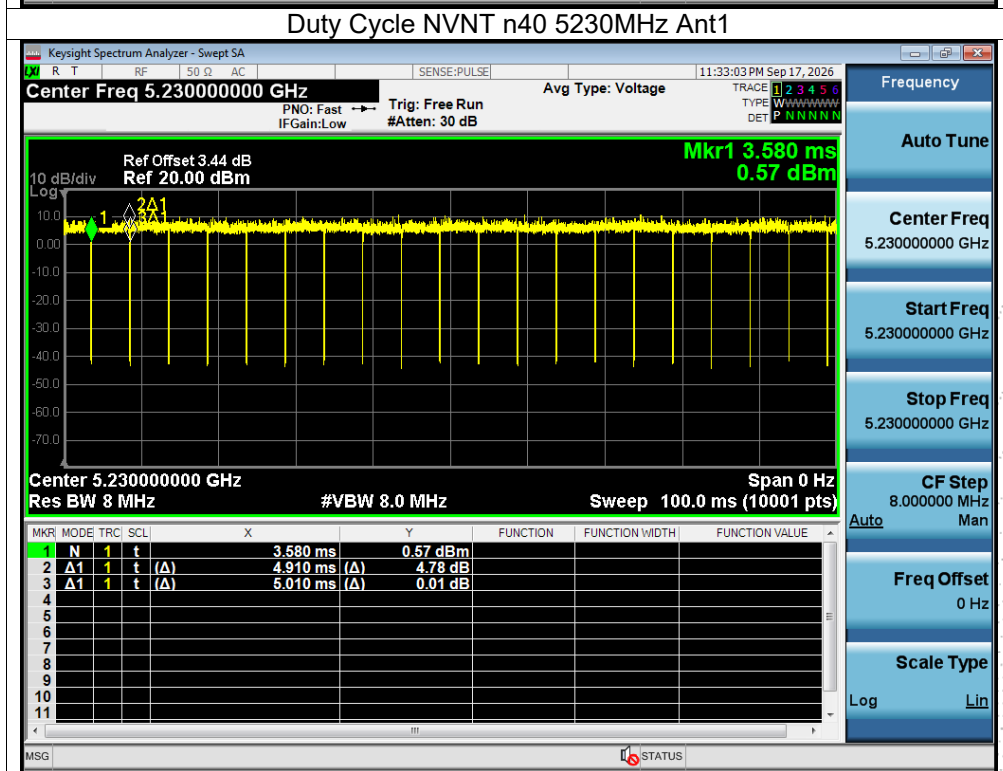
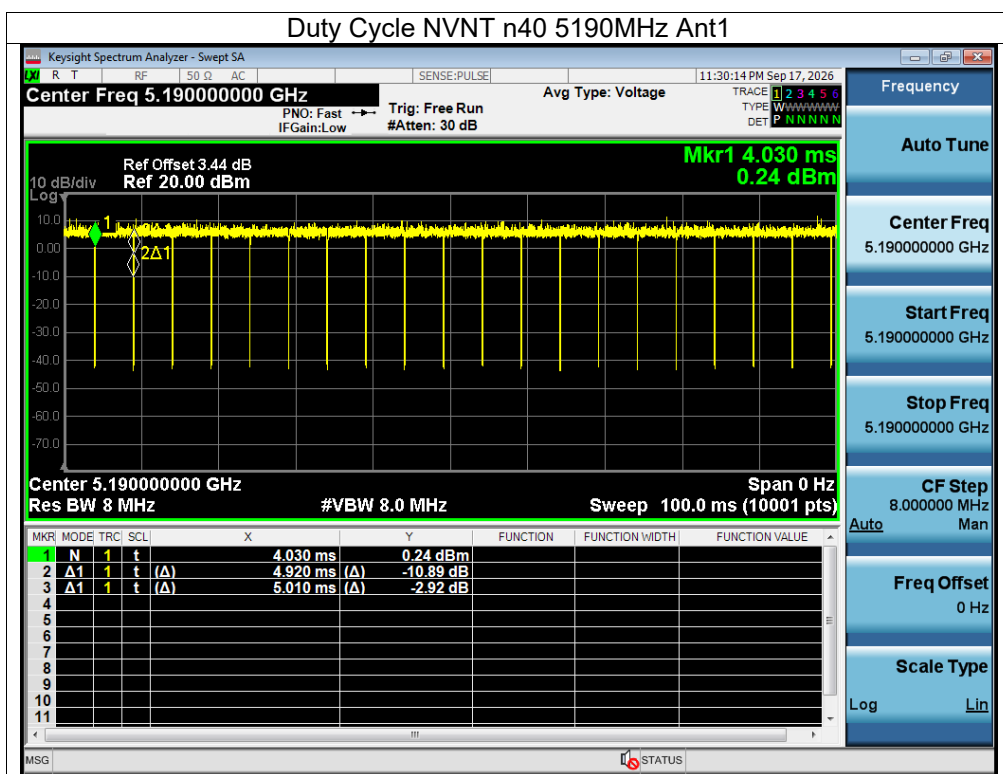
Duty Cycle NVNT a 5200MHz Ant1





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