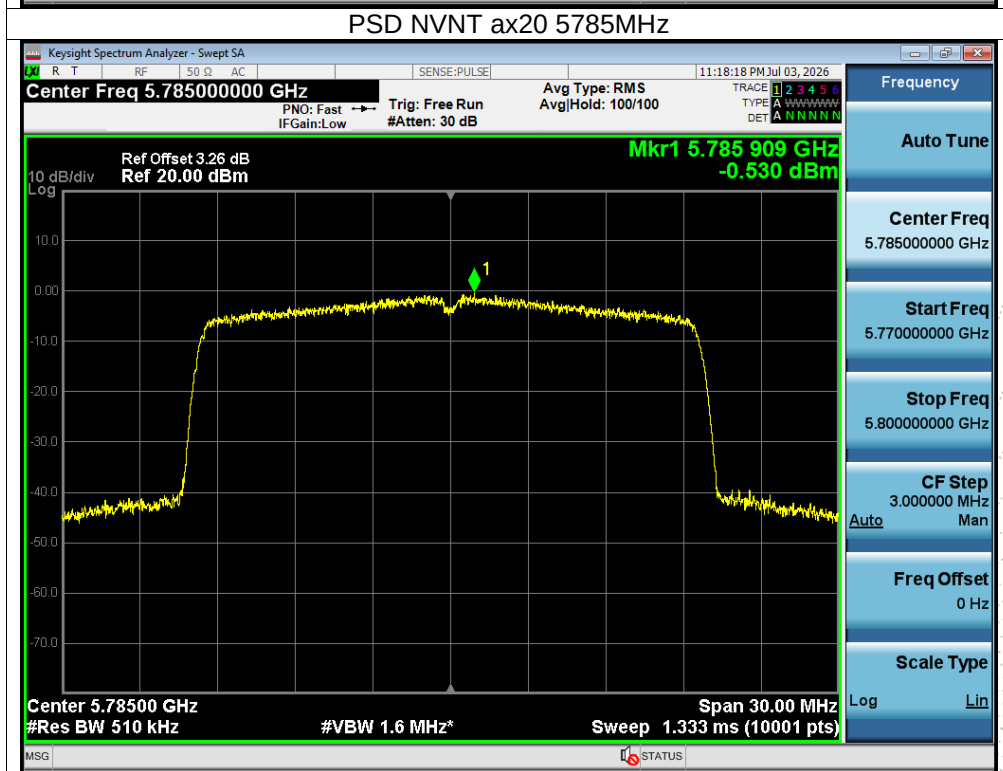
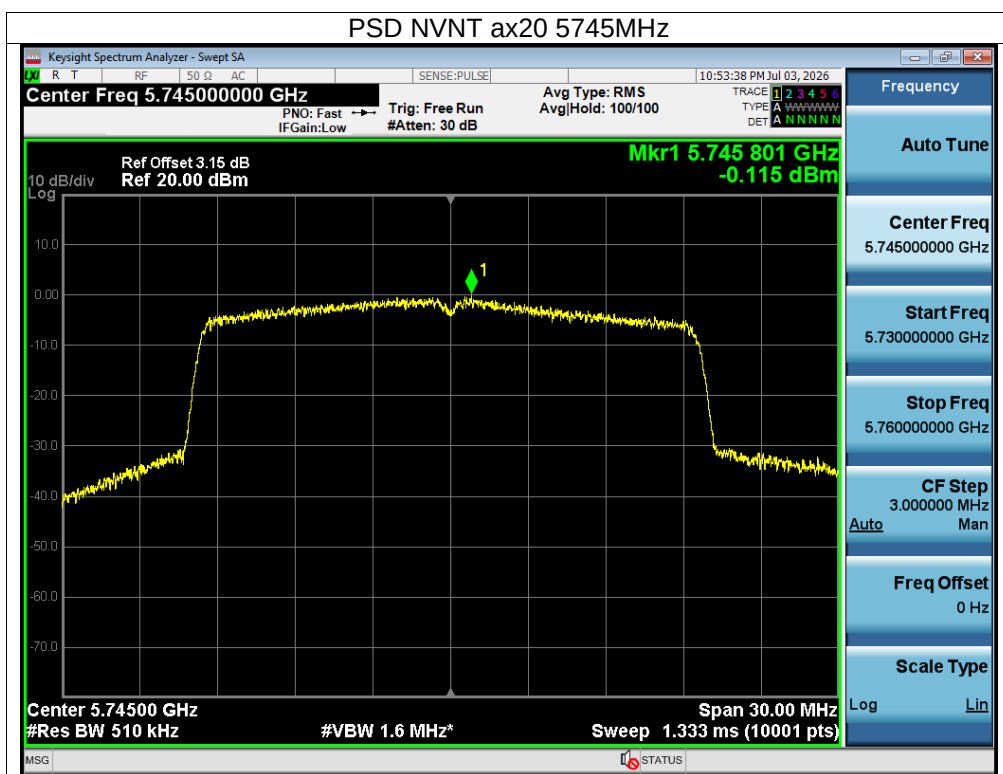
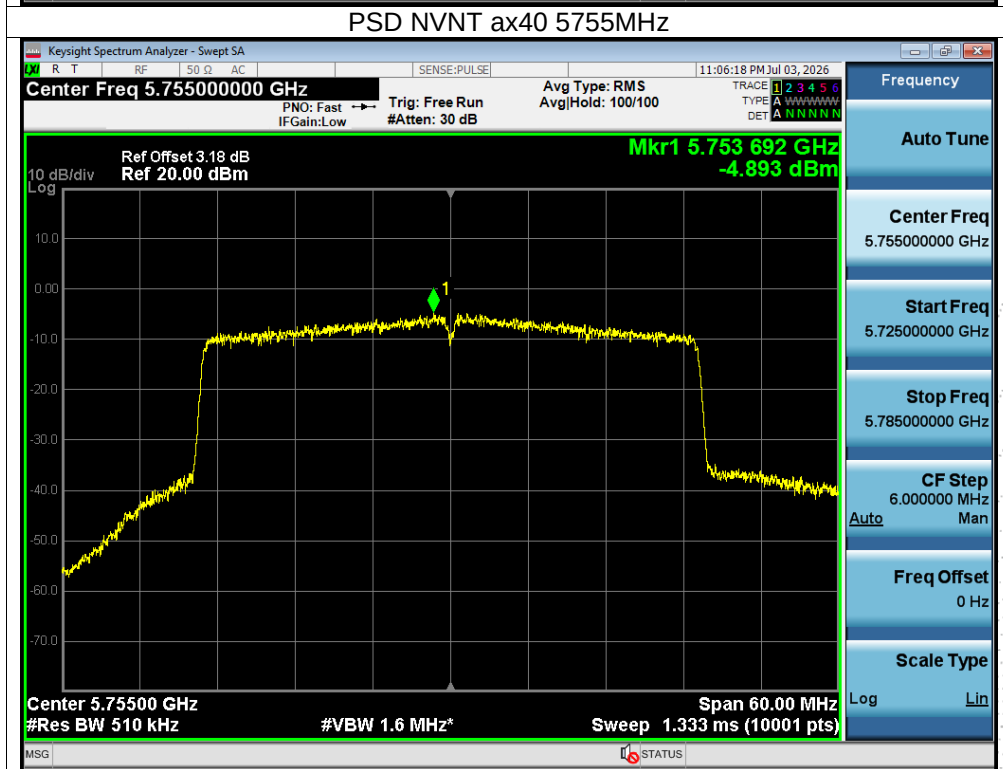
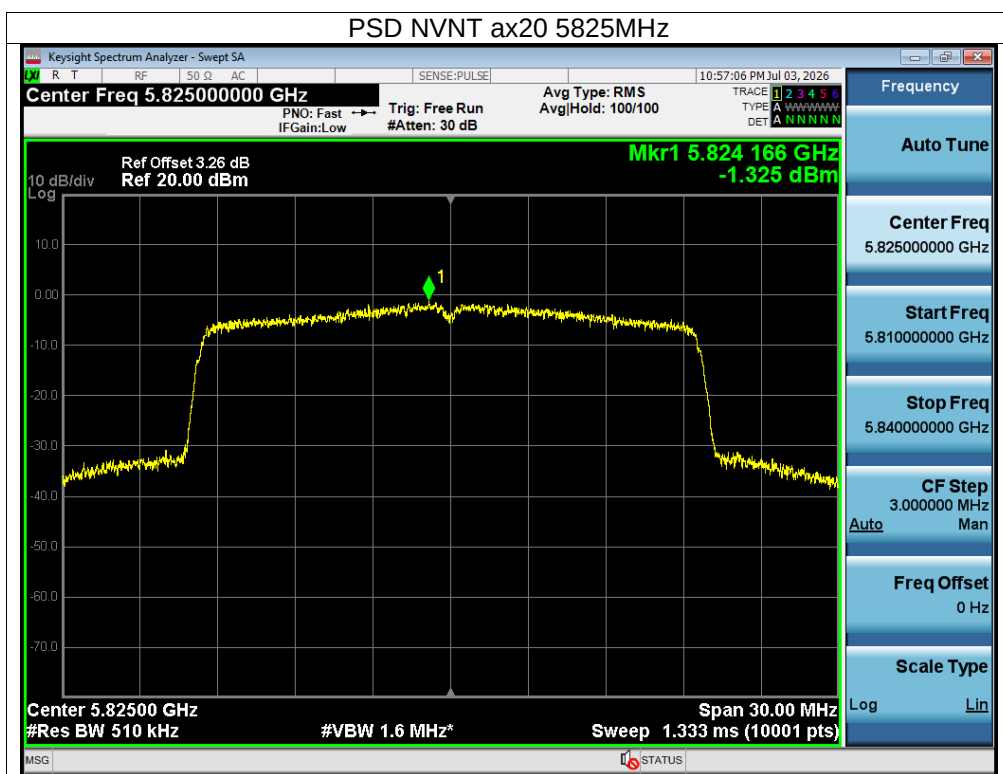
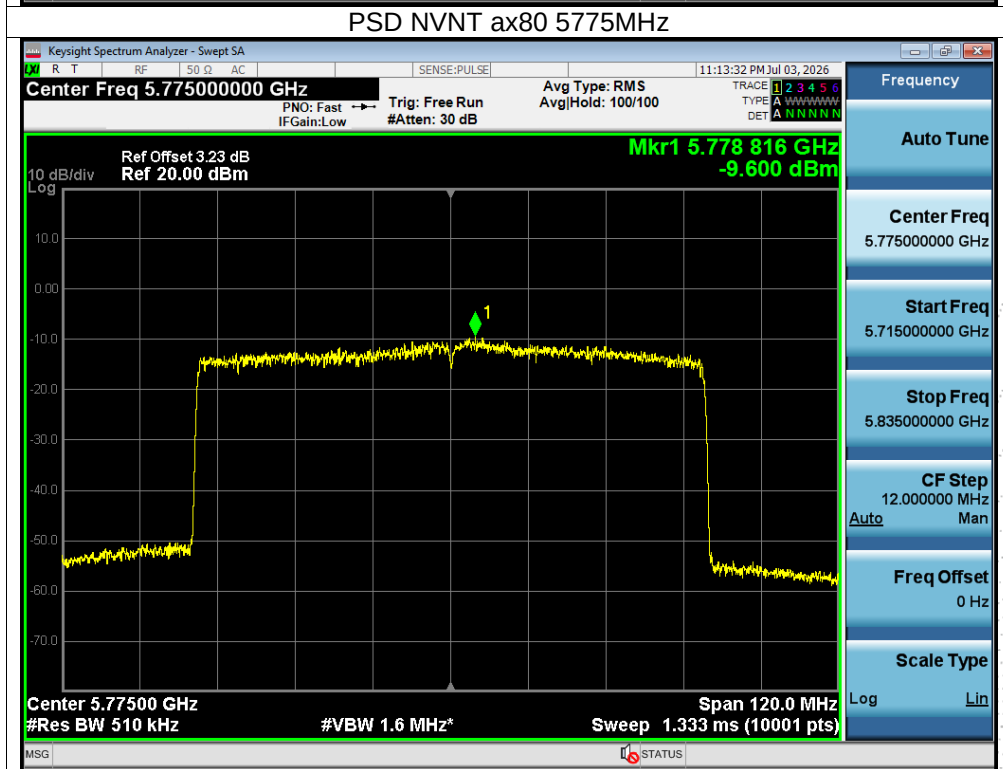
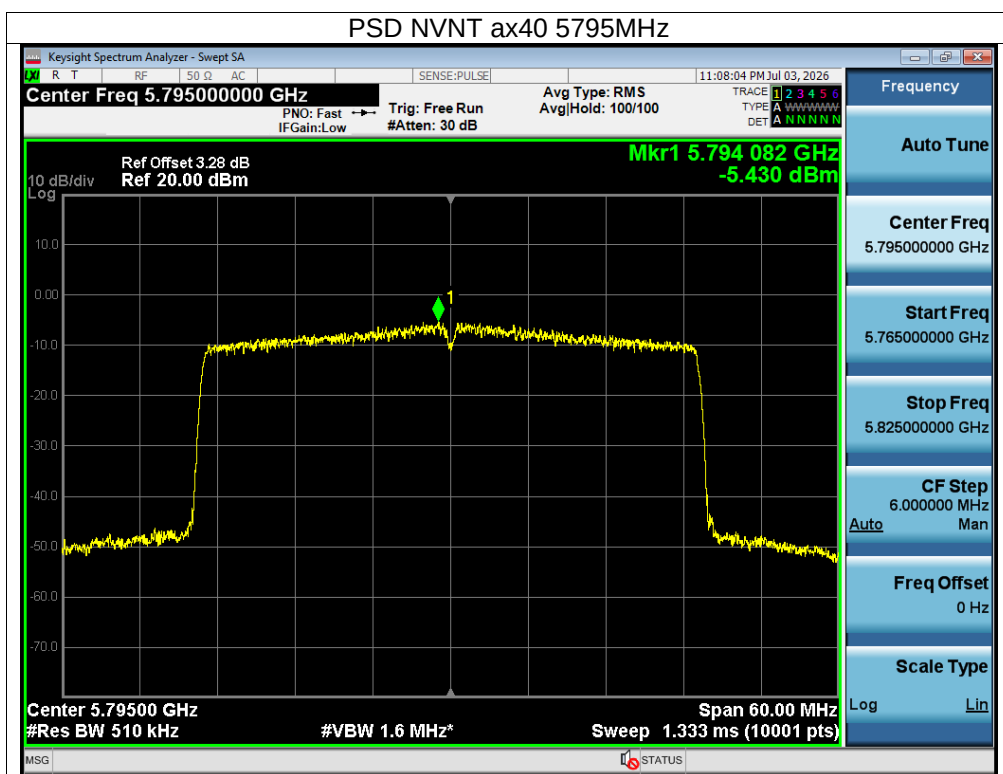
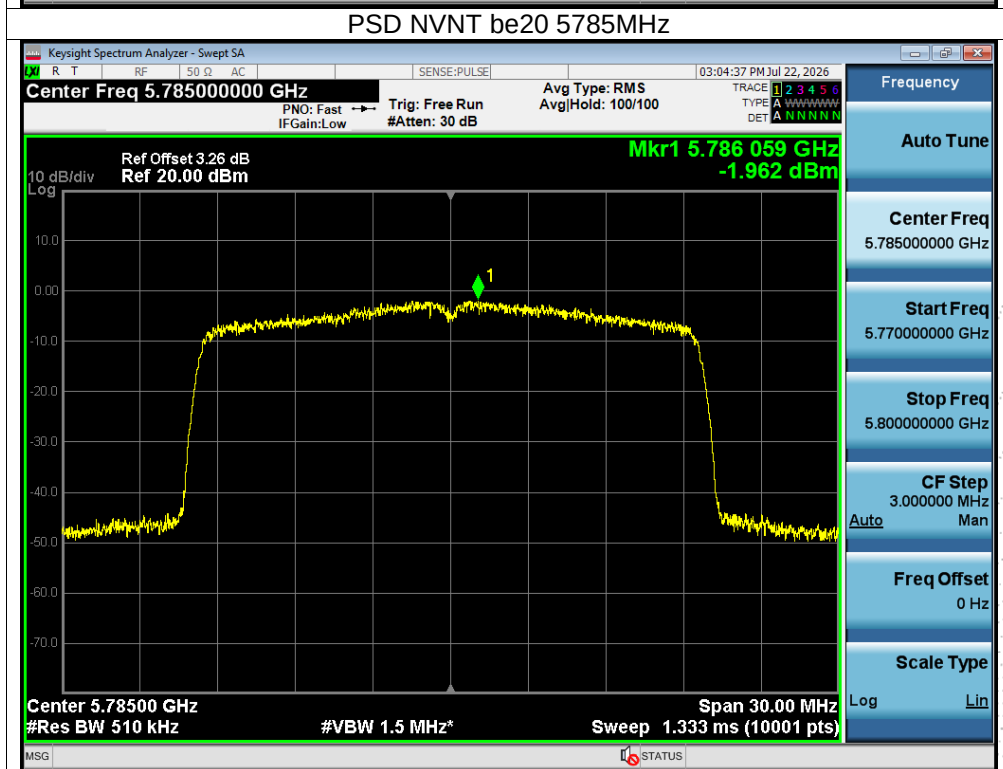
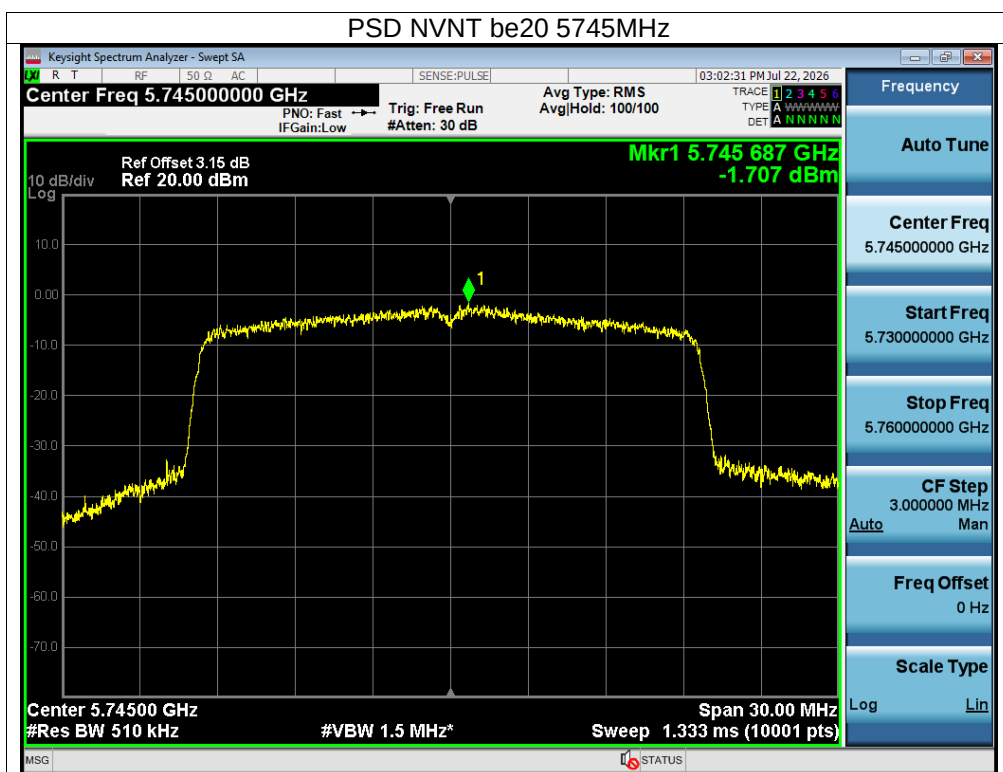
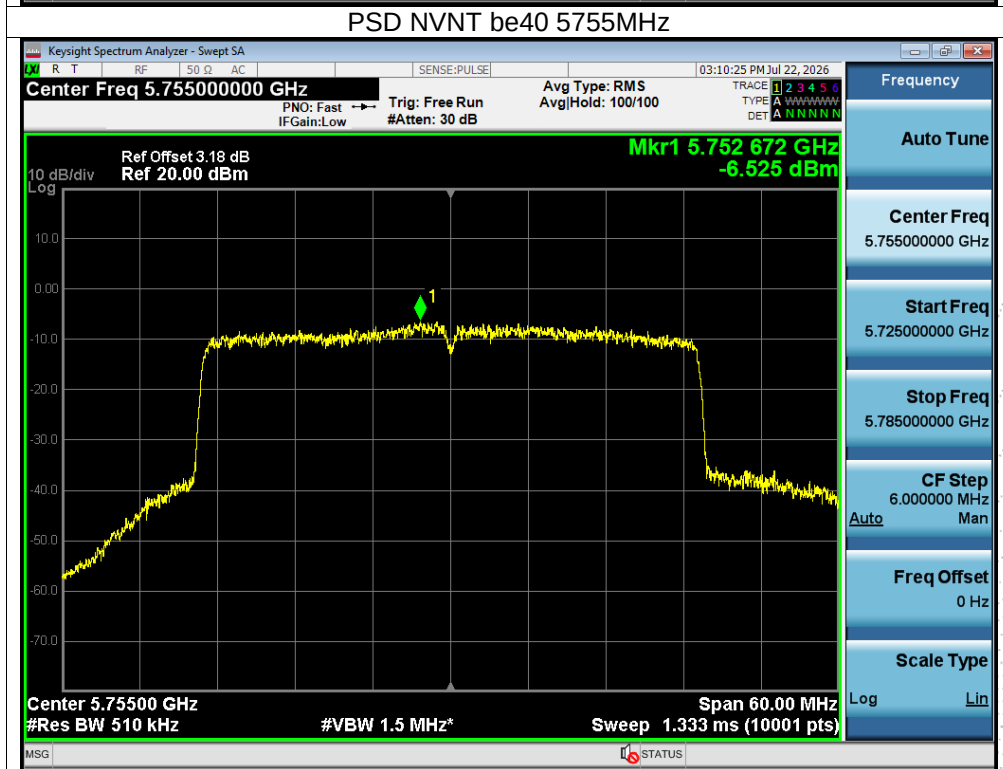
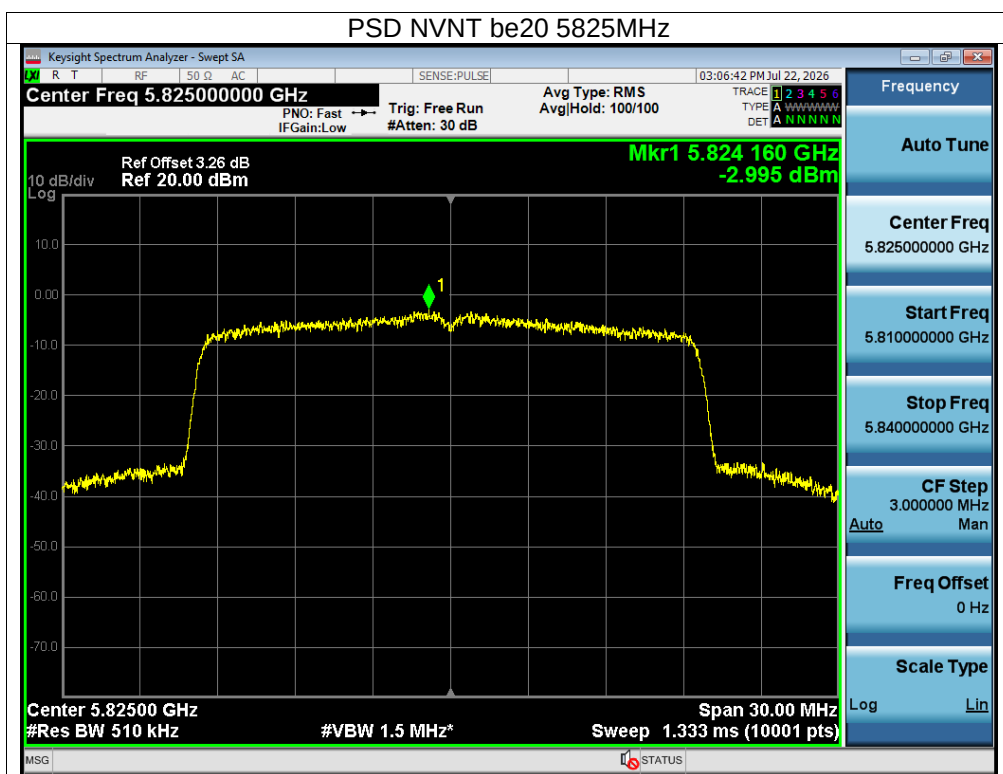


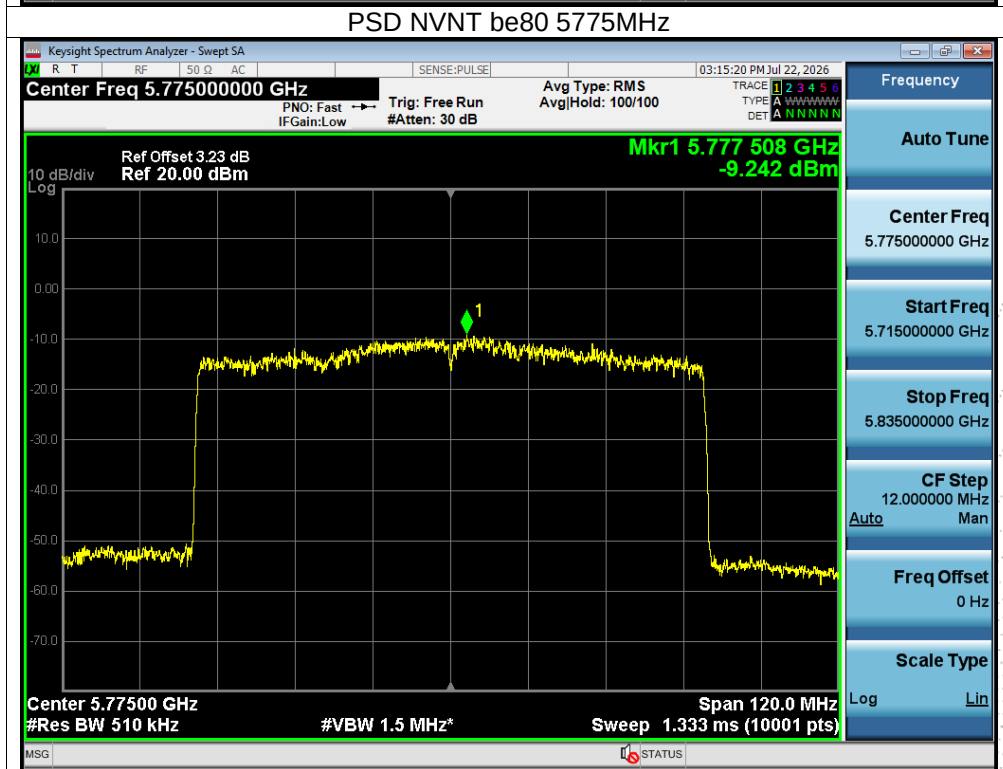
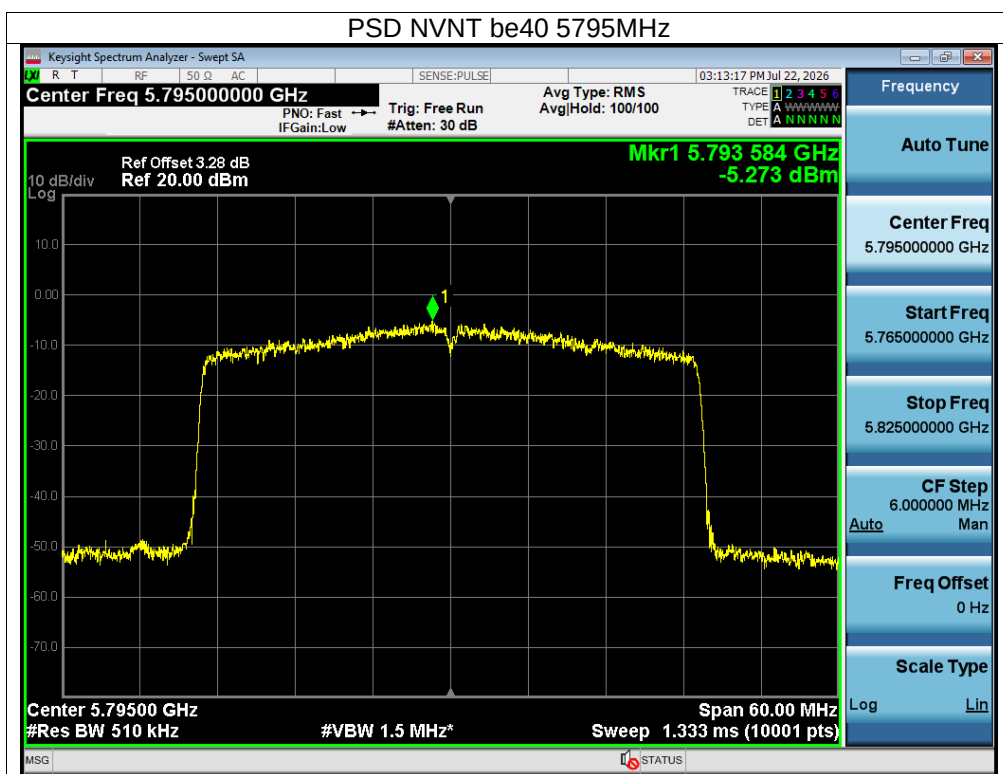






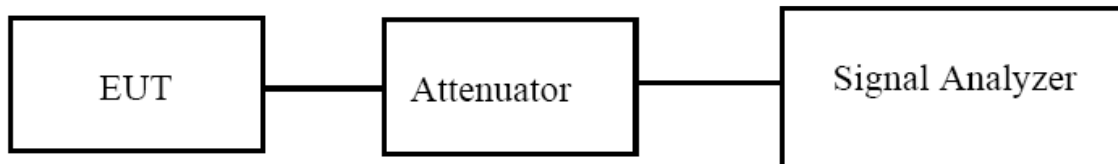






9. 26dB & 6dB & 99% Emission Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

(1) For the band 5.15-5.25 GHz.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

9.3 Test Procedure

- a) Set RBW = approximately 1% of the emission bandwidth.
- b) Set the VBW > RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW $\geq 3 \cdot$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

Emission bandwidth for the band 5.725 GHz to 5.85 GHz

The following procedure shall be used for measuring this bandwidth:

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- c) Detector = Peak.
- d) Trace mode = max-hold.
- e) Sweep = No faster than coupled (auto) time.
- f) Allow the trace to stabilize.
- g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

9.4 EUT Operating Conditions

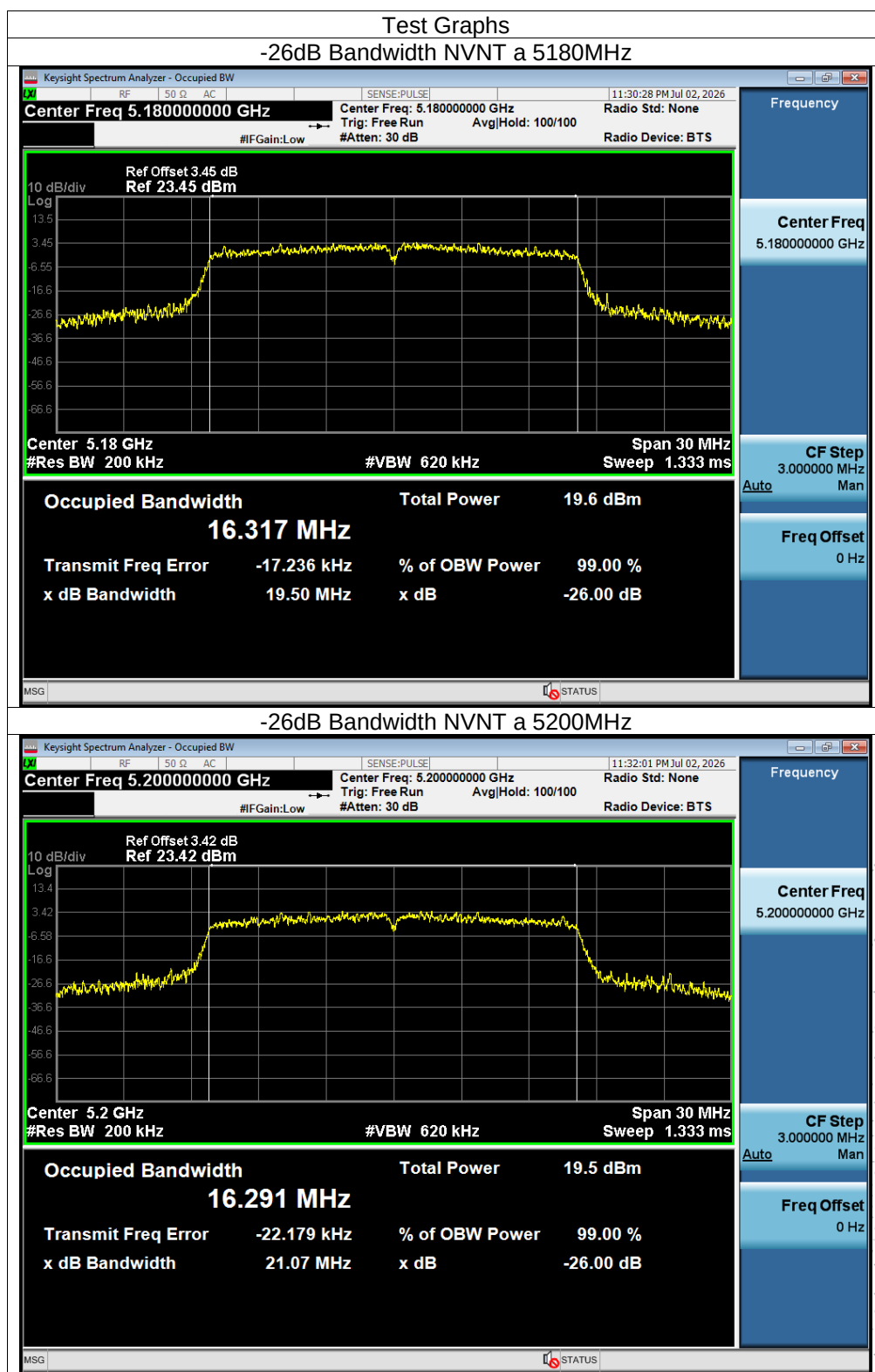
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

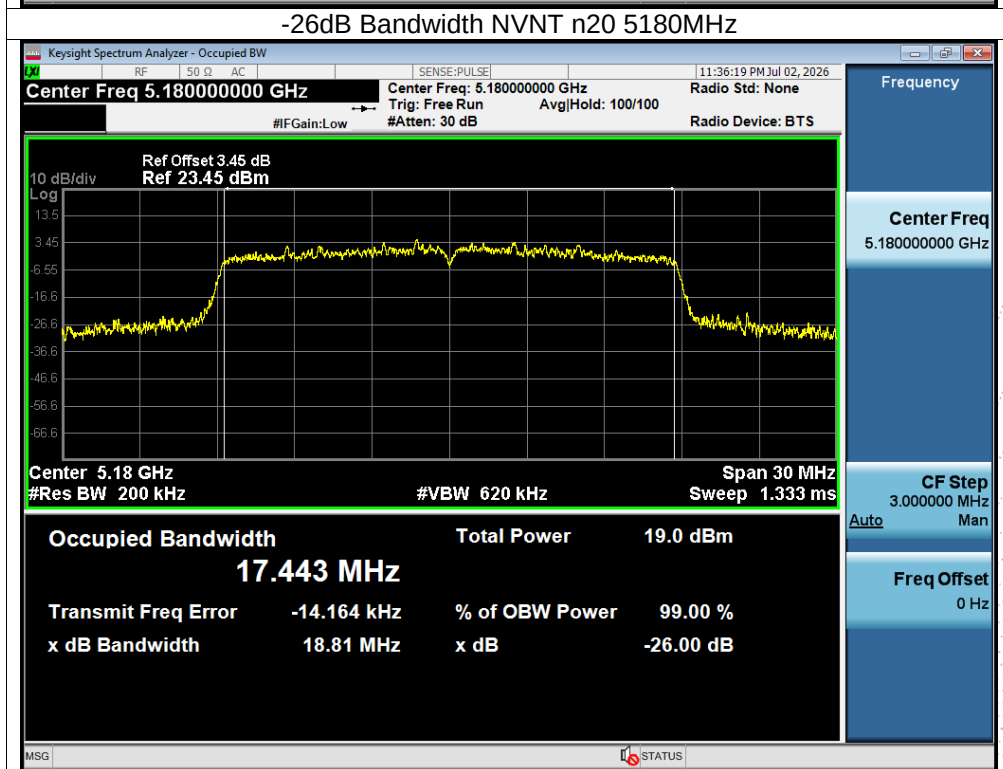
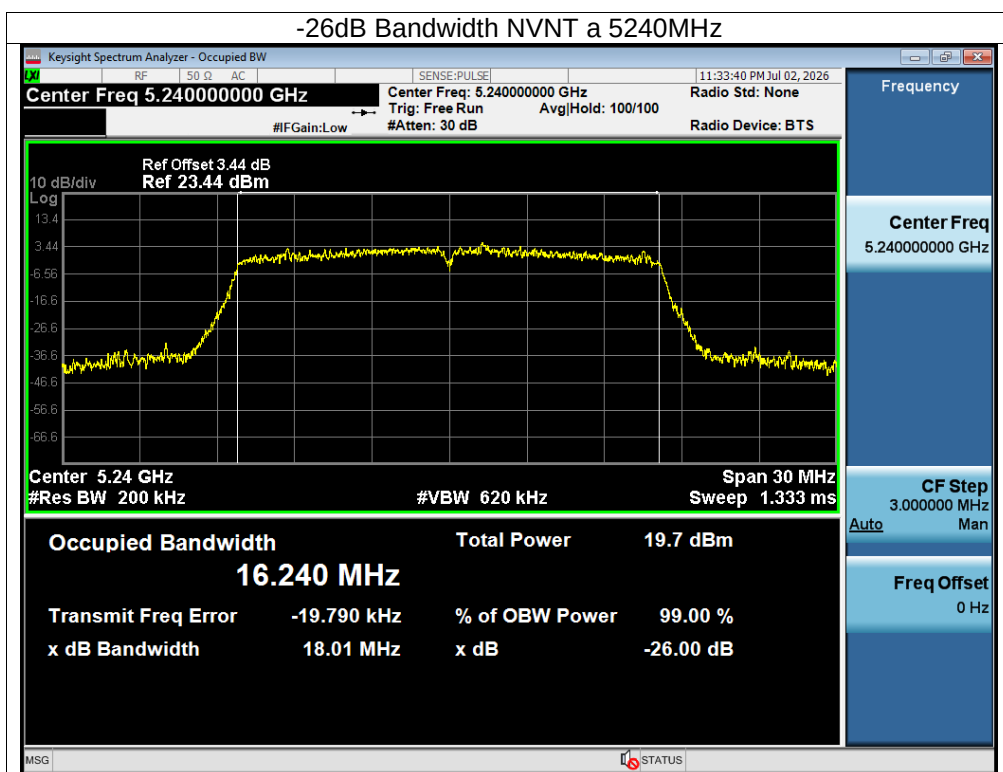
9.5 Test Result

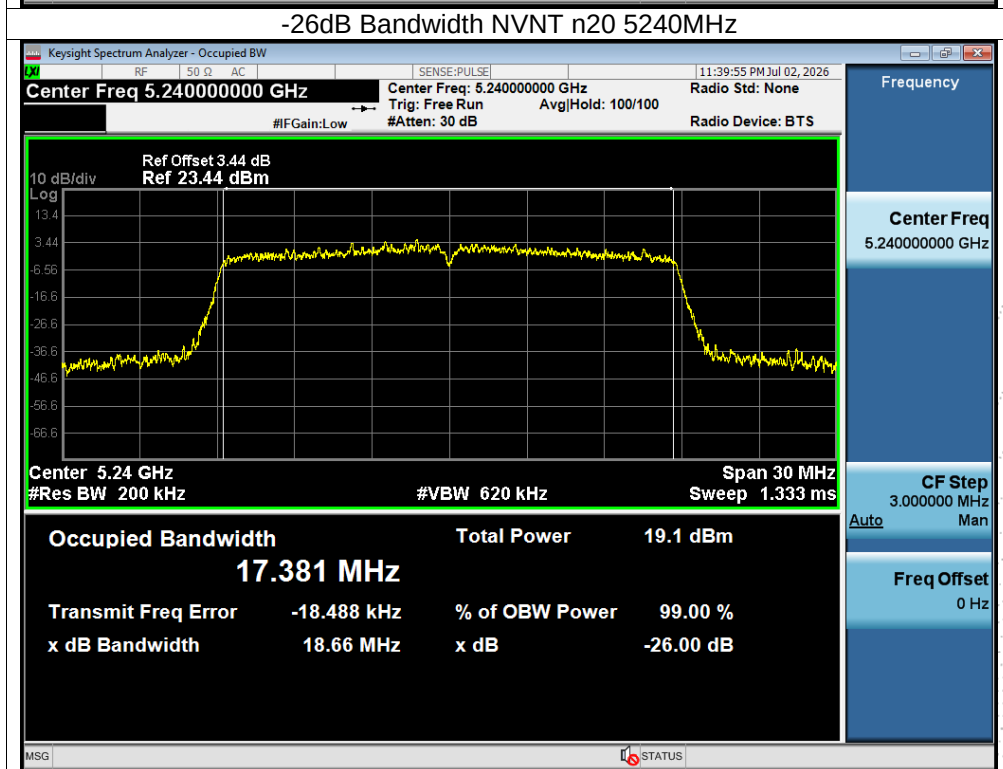
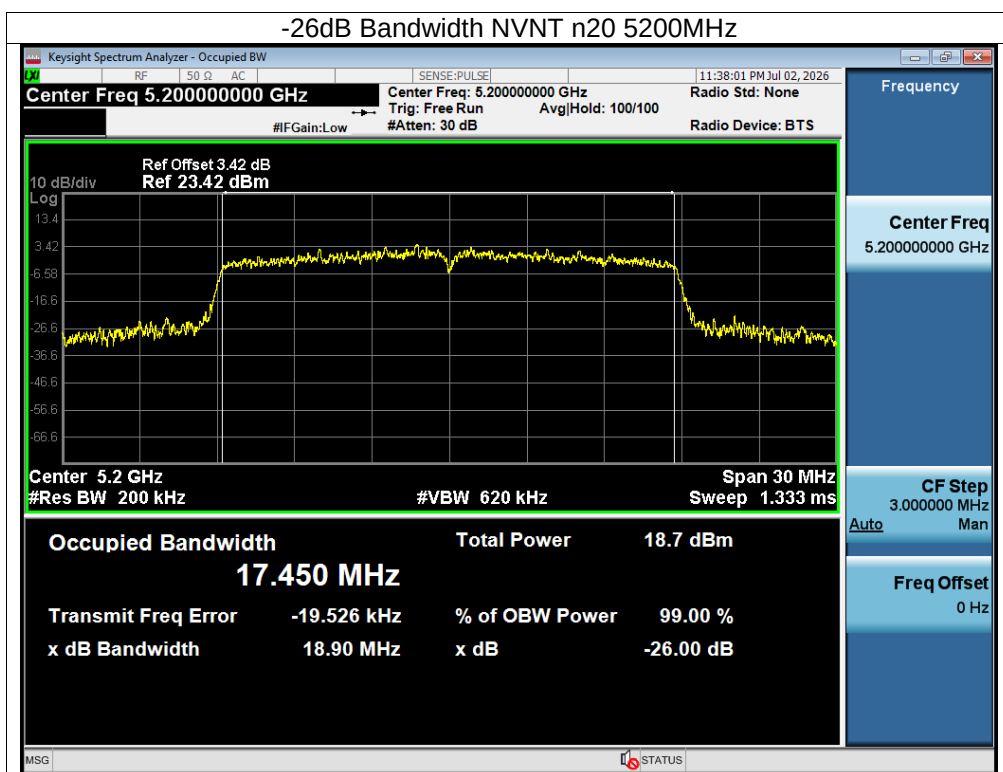
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5180-5240MHz)		

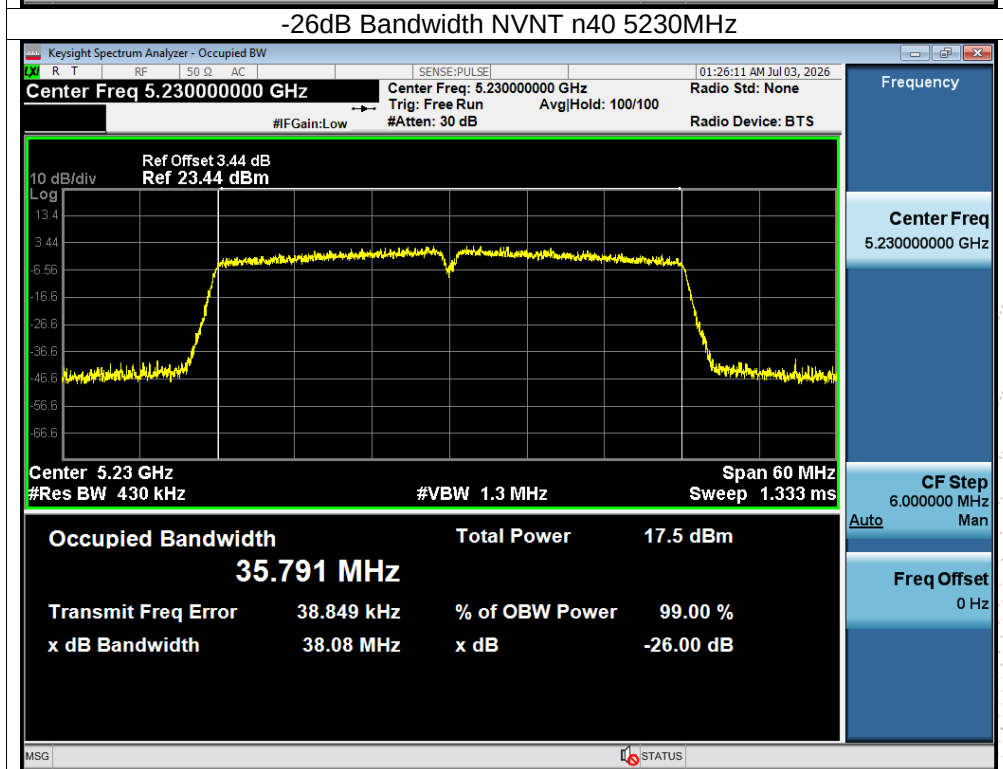
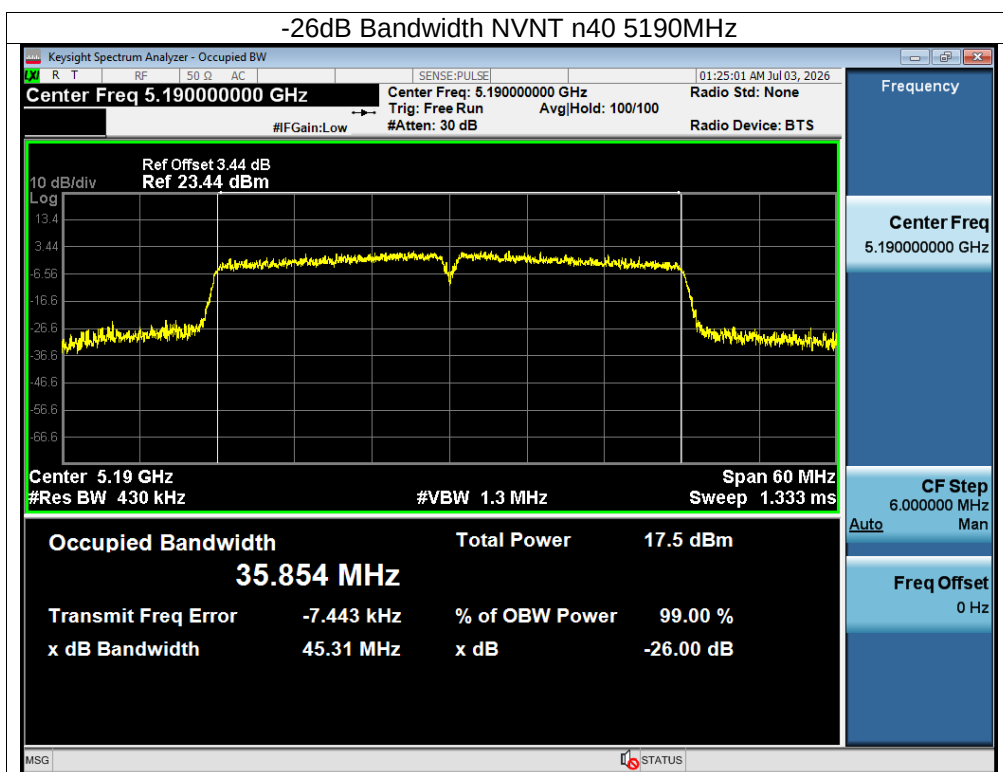
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5180	19.497	20.016	16.301	16.304	Pass
NVNT	a	5200	21.067	21.493	16.319	16.326	Pass
NVNT	a	5240	18.013	18.14	16.259	16.262	Pass
NVNT	n20	5180	18.808	20.857	17.431	17.453	Pass
NVNT	n20	5200	18.903	19.26	17.445	17.426	Pass
NVNT	n20	5240	18.66	18.723	17.39	17.382	Pass
NVNT	n40	5190	45.307	43.138	35.862	35.903	Pass
NVNT	n40	5230	38.079	38.193	35.785	35.789	Pass
NVNT	ac20	5180	22.542	21.515	17.423	17.477	Pass
NVNT	ac20	5200	21.716	20.714	17.426	17.444	Pass
NVNT	ac20	5240	18.644	18.602	17.362	17.426	Pass
NVNT	ac40	5190	47.278	38.068	35.859	35.882	Pass
NVNT	ac40	5230	38.274	37.949	35.8	35.81	Pass
NVNT	ac80	5210	103.134	99.259	75.409	75.411	Pass
NVNT	ax20	5180	19.768	19.761	18.789	18.809	Pass
NVNT	ax20	5200	19.815	20.031	18.782	18.787	Pass
NVNT	ax20	5240	19.658	19.744	18.762	18.759	Pass
NVNT	ax40	5190	39.47	40.327	37.551	37.552	Pass
NVNT	ax40	5230	39.278	39.114	37.521	37.444	Pass
NVNT	ax80	5210	88.127	93.126	77.04	77.132	Pass
NVNT	be20	5180	19.828	20.955	18.78	18.768	Pass
NVNT	be20	5200	19.706	22.84	18.778	18.785	Pass
NVNT	be20	5240	19.76	19.741	18.719	18.733	Pass
NVNT	be40	5190	39.281	39.184	37.621	37.46	Pass
NVNT	be40	5230	39.398	38.976	37.501	37.556	Pass
NVNT	be80	5210	87.036	90.674	77.038	77.032	Pass

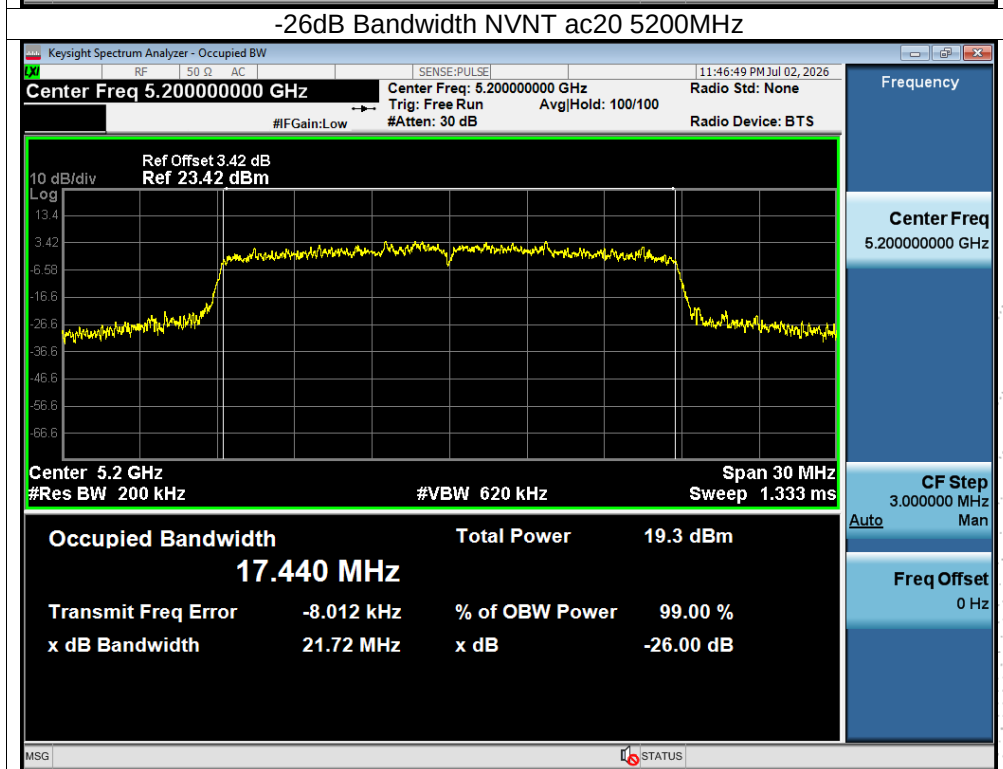
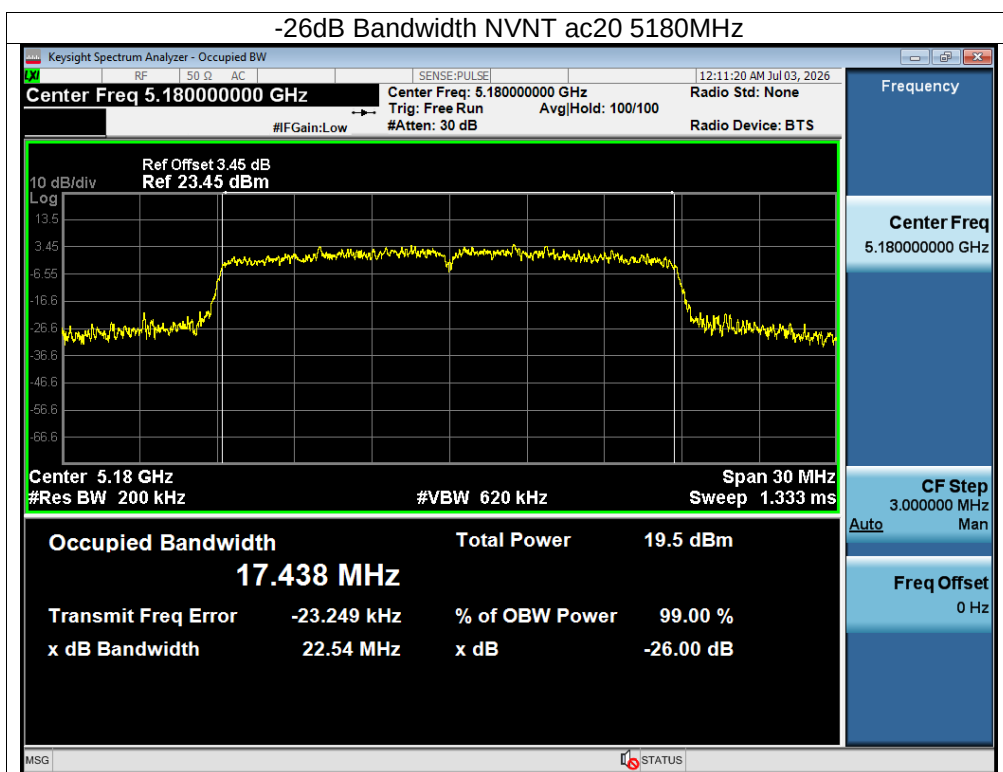
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

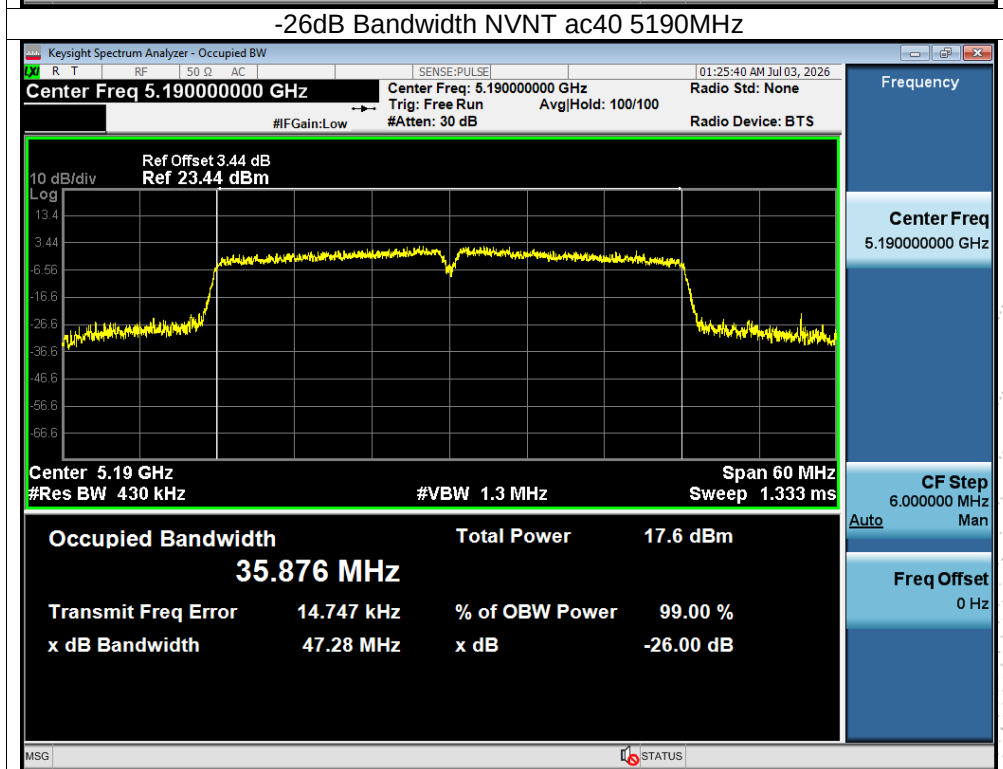
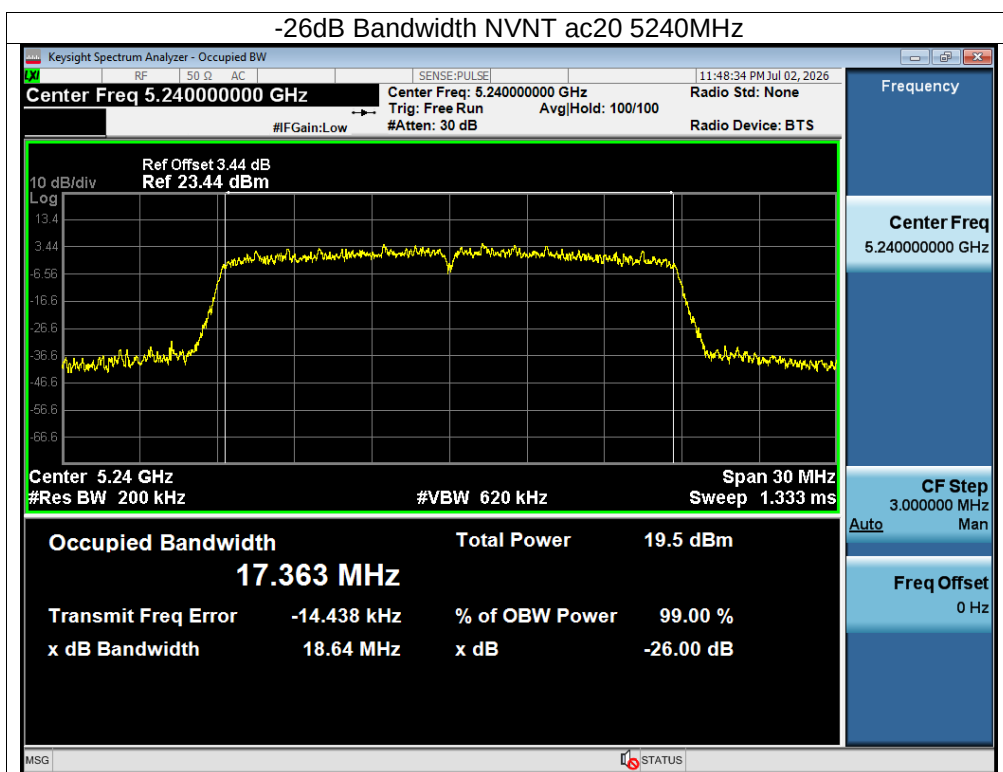


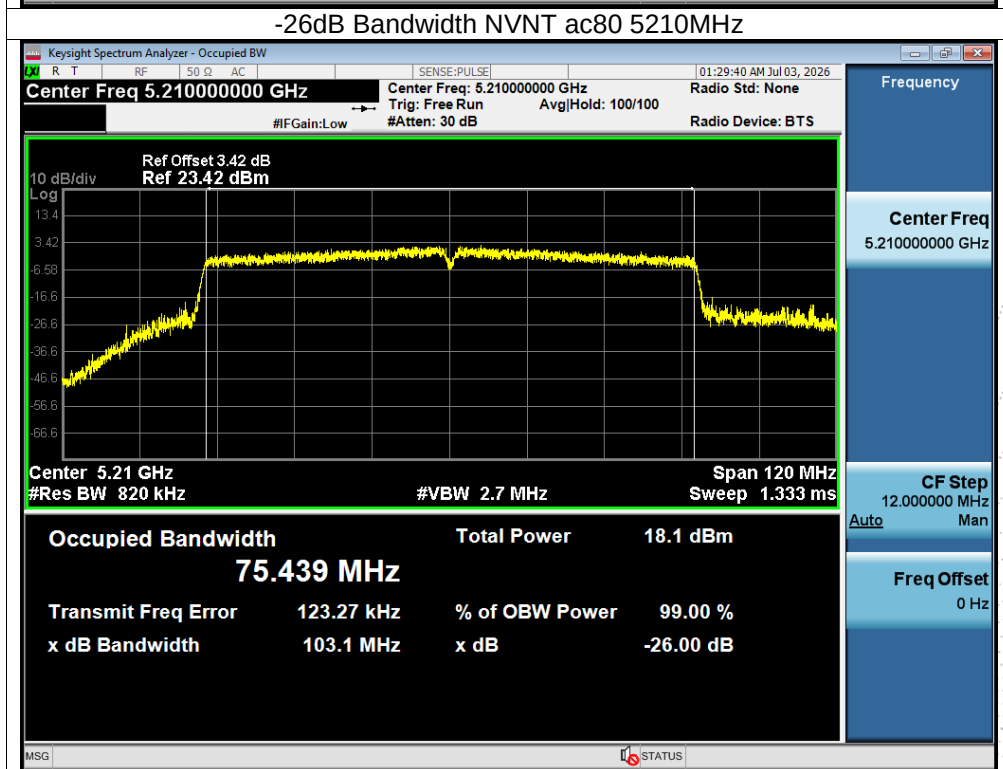
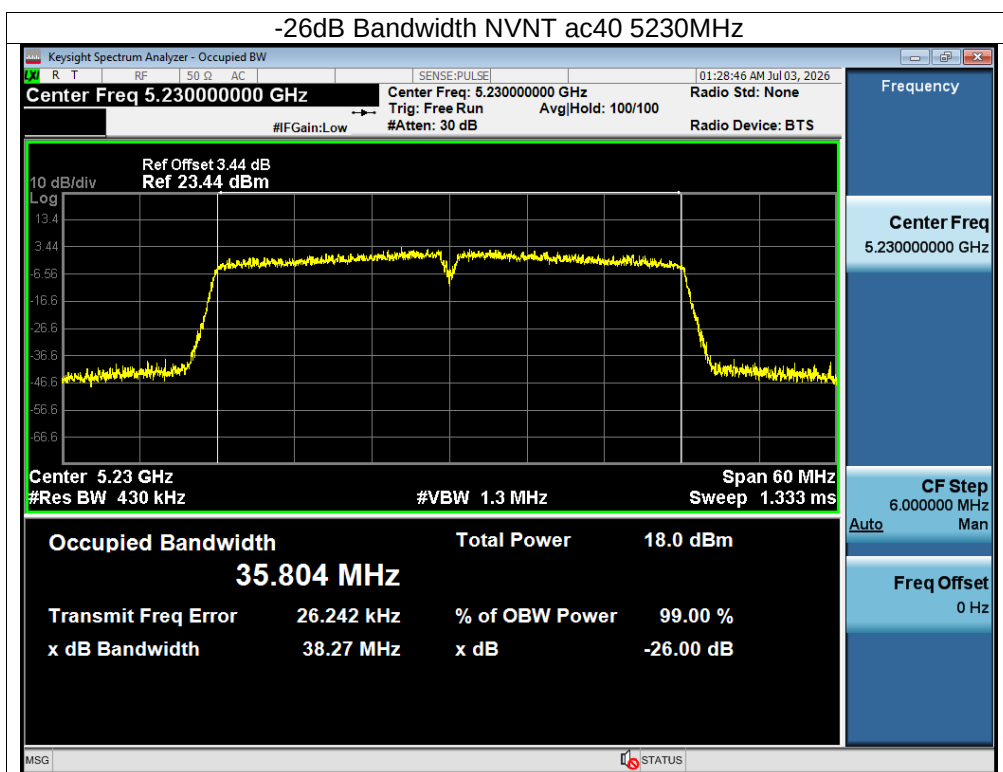


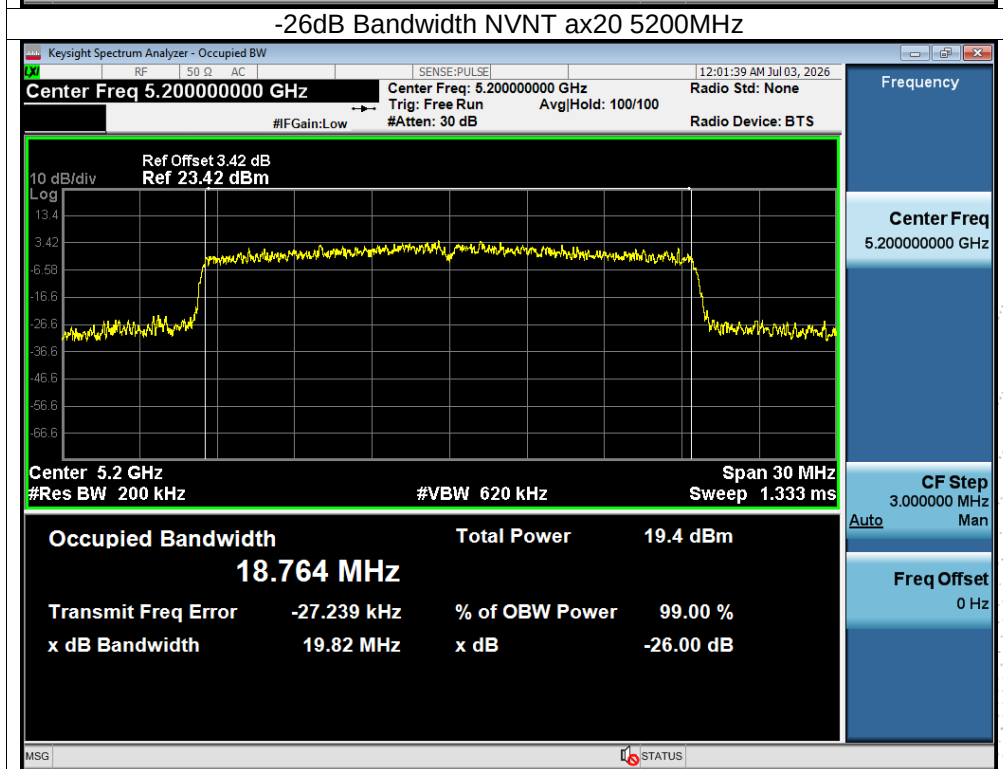
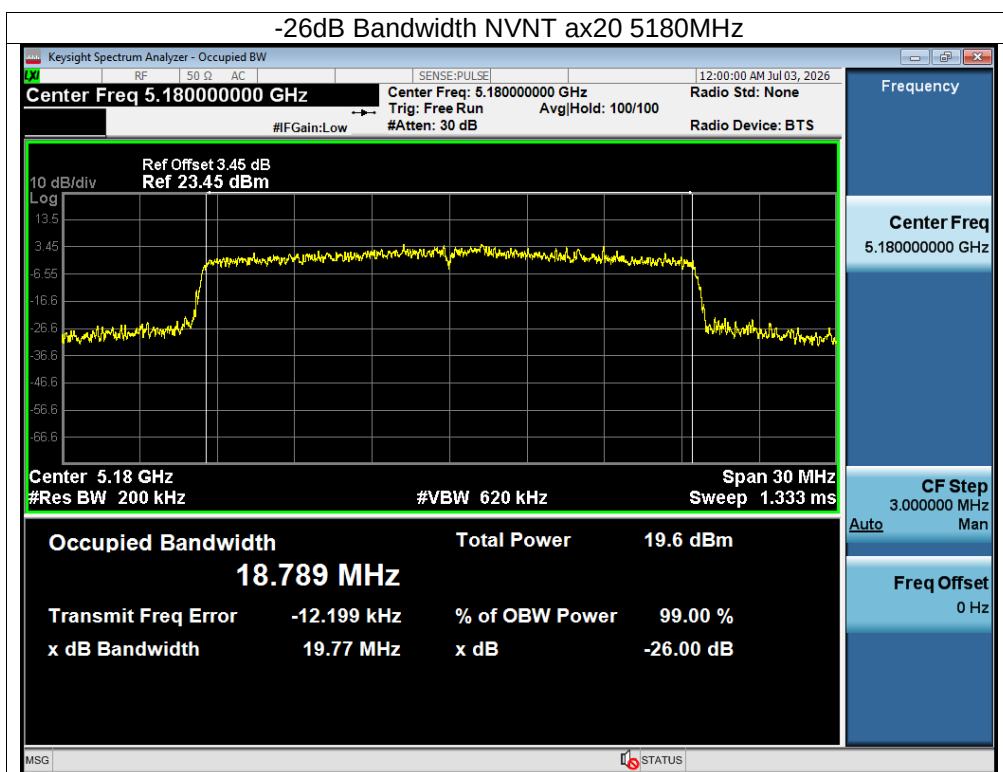


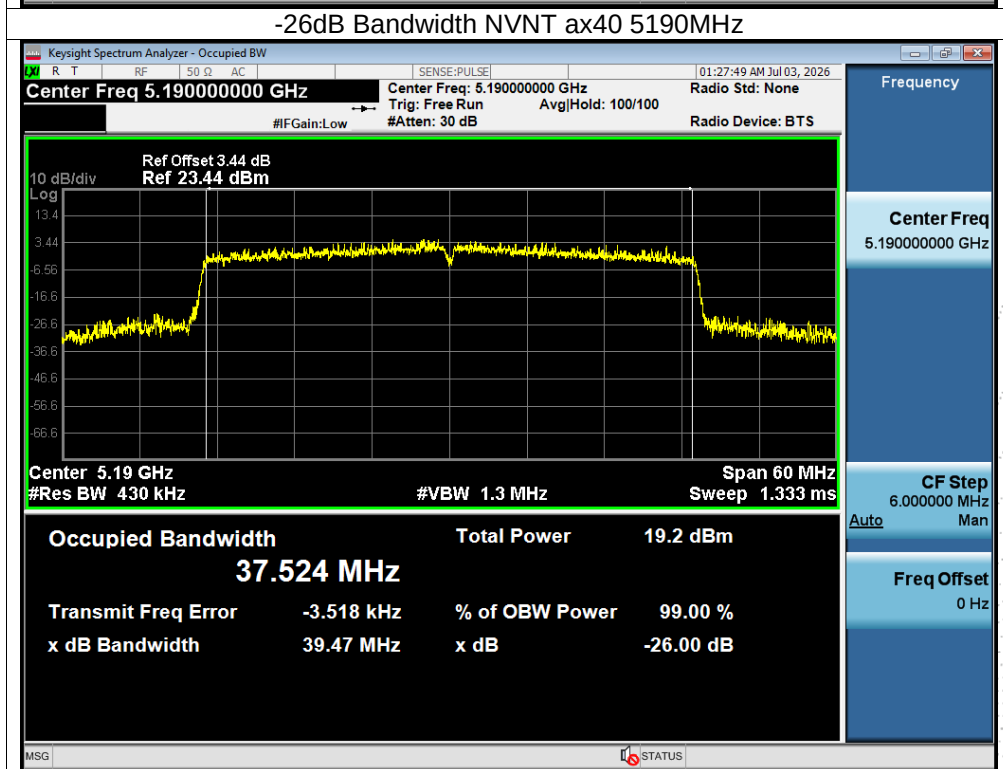
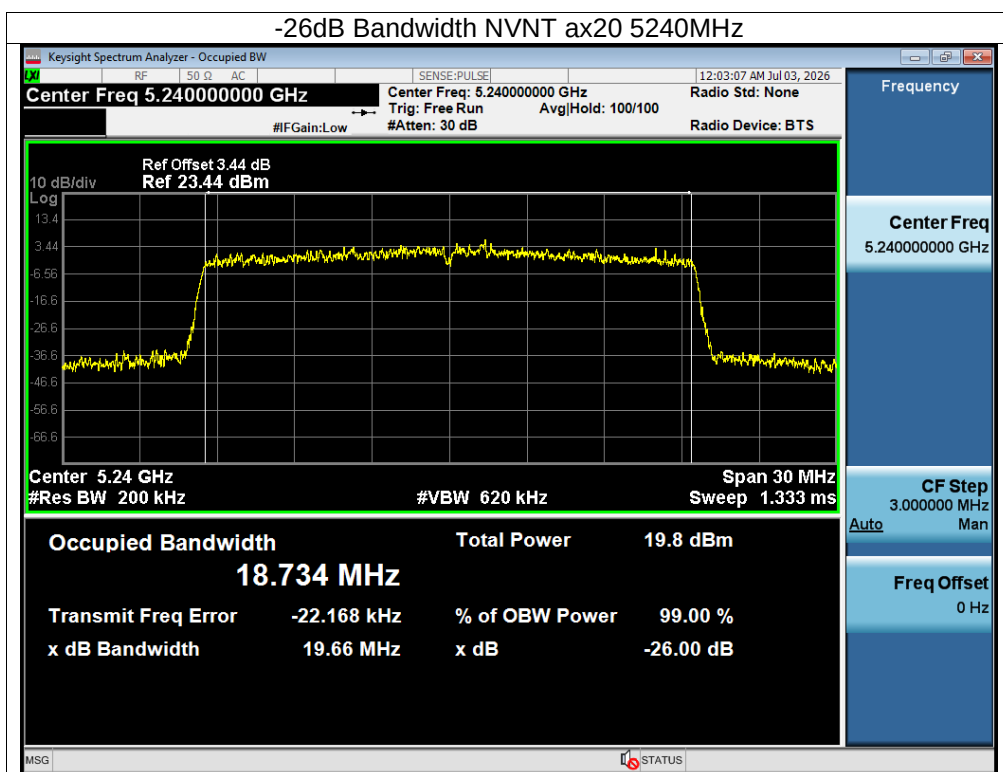


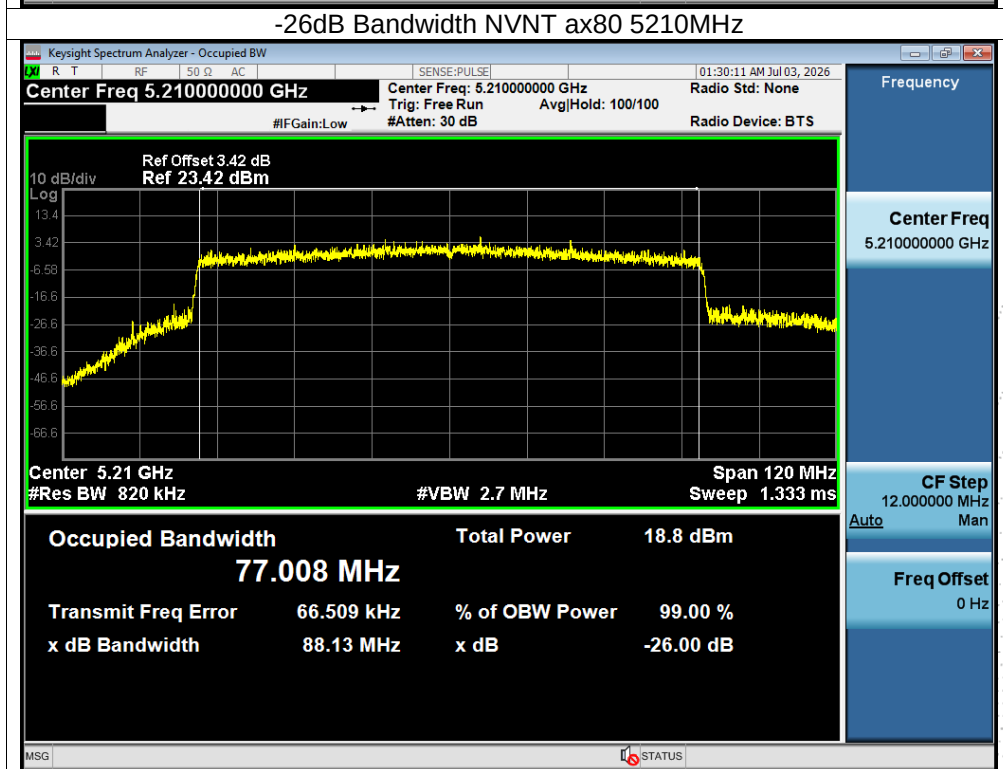
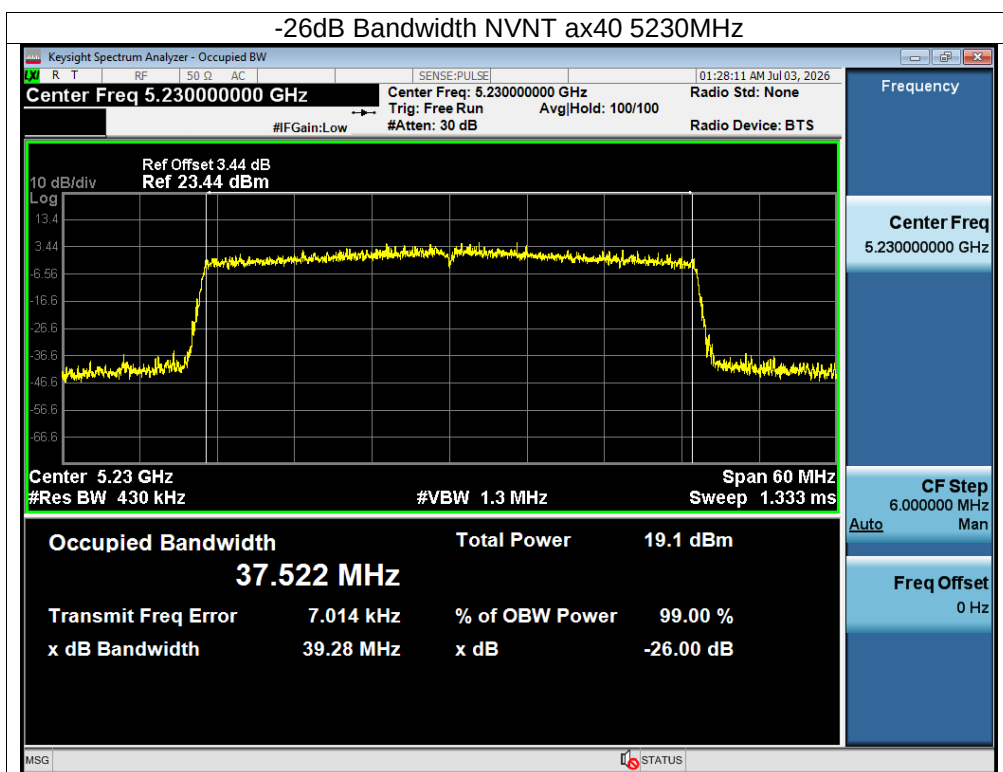


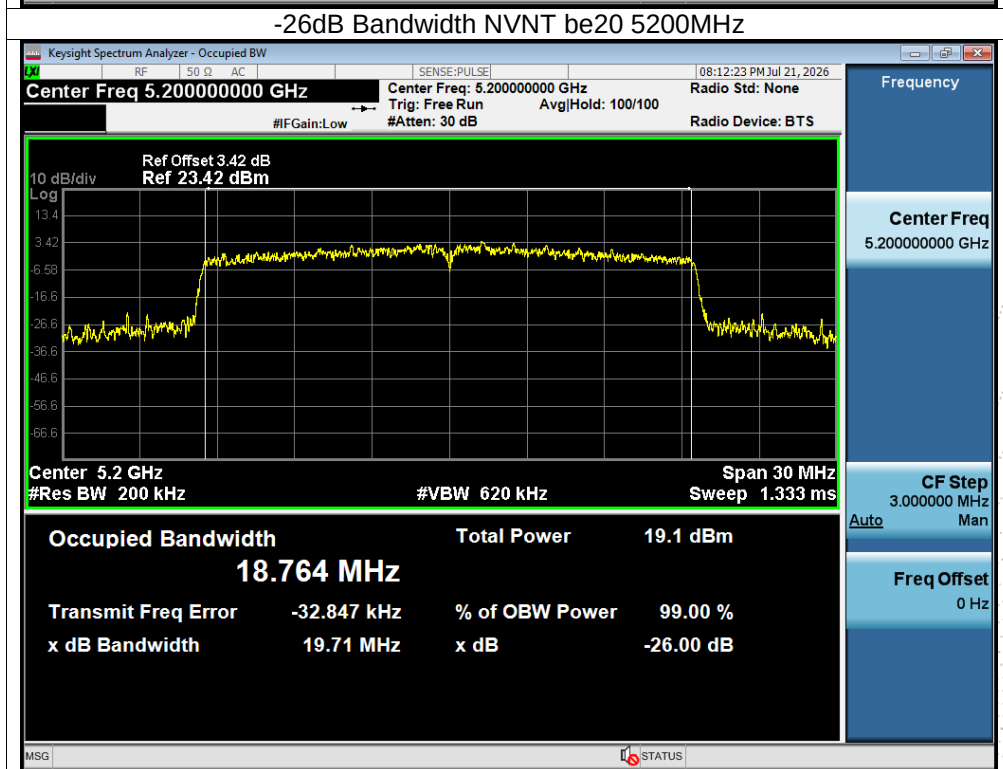
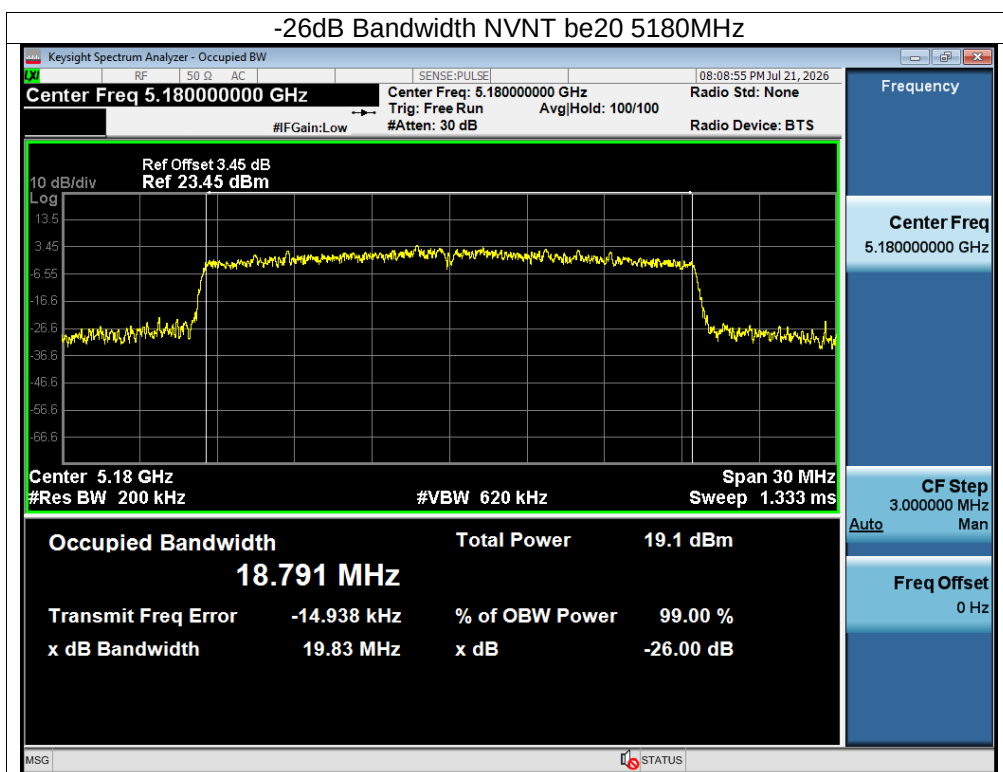


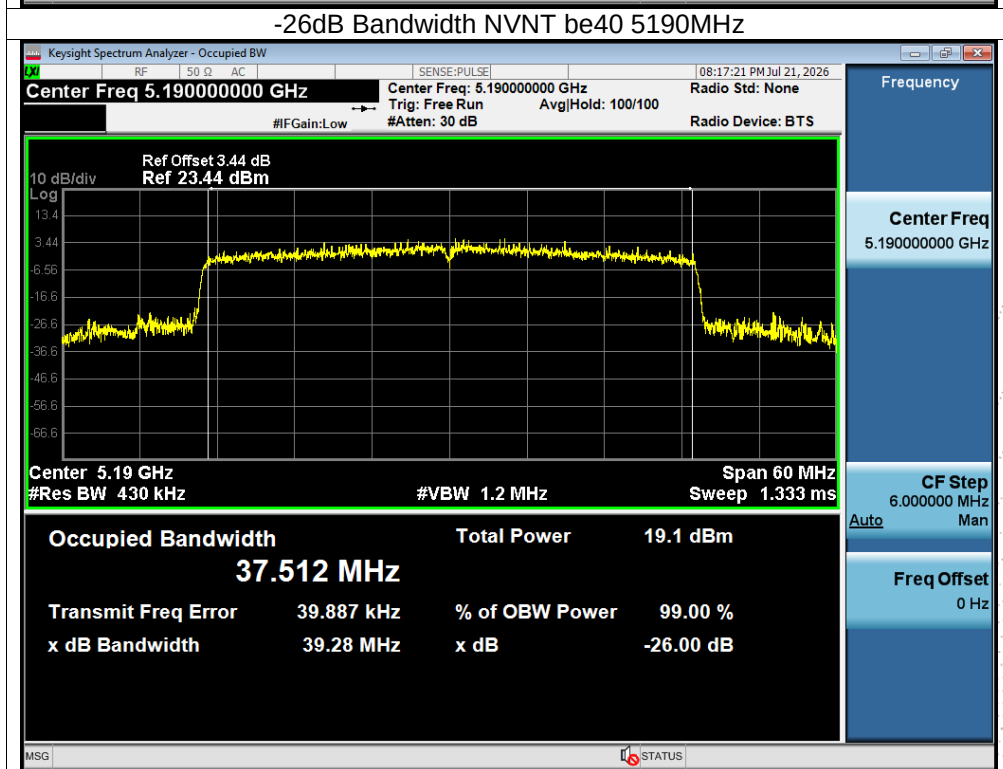
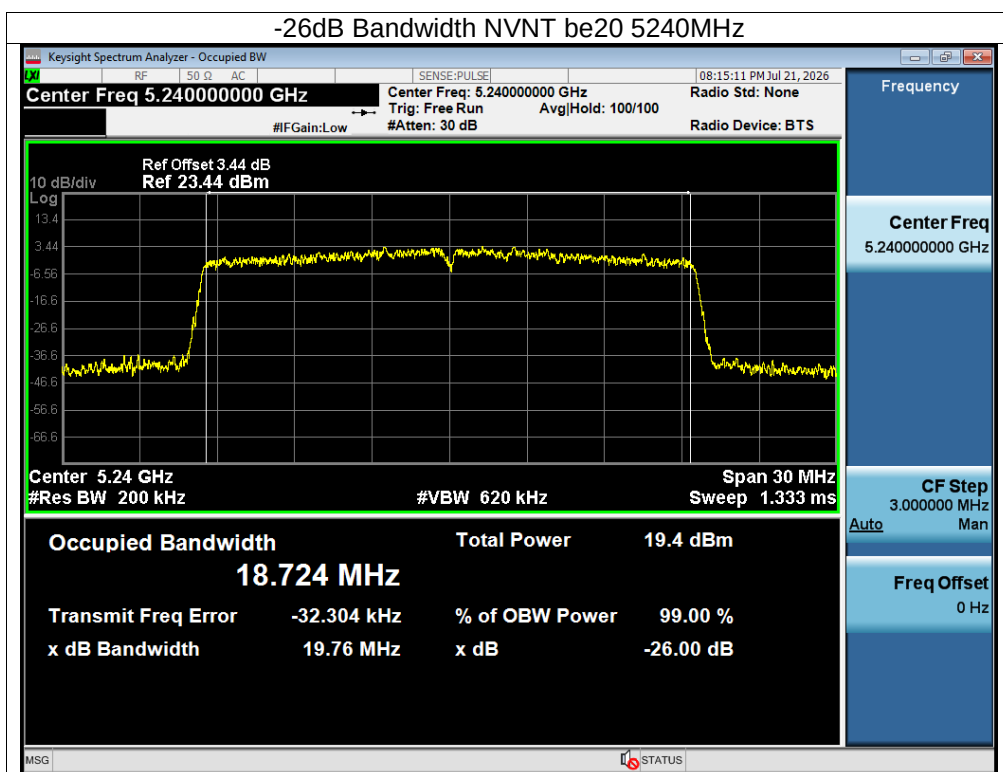


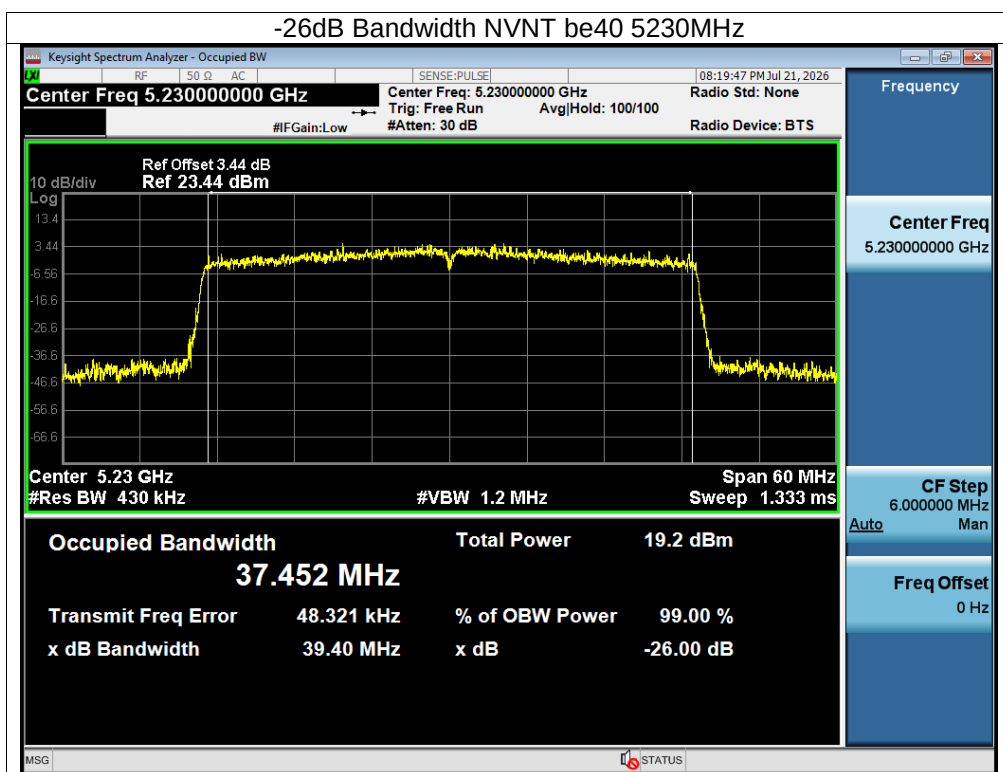




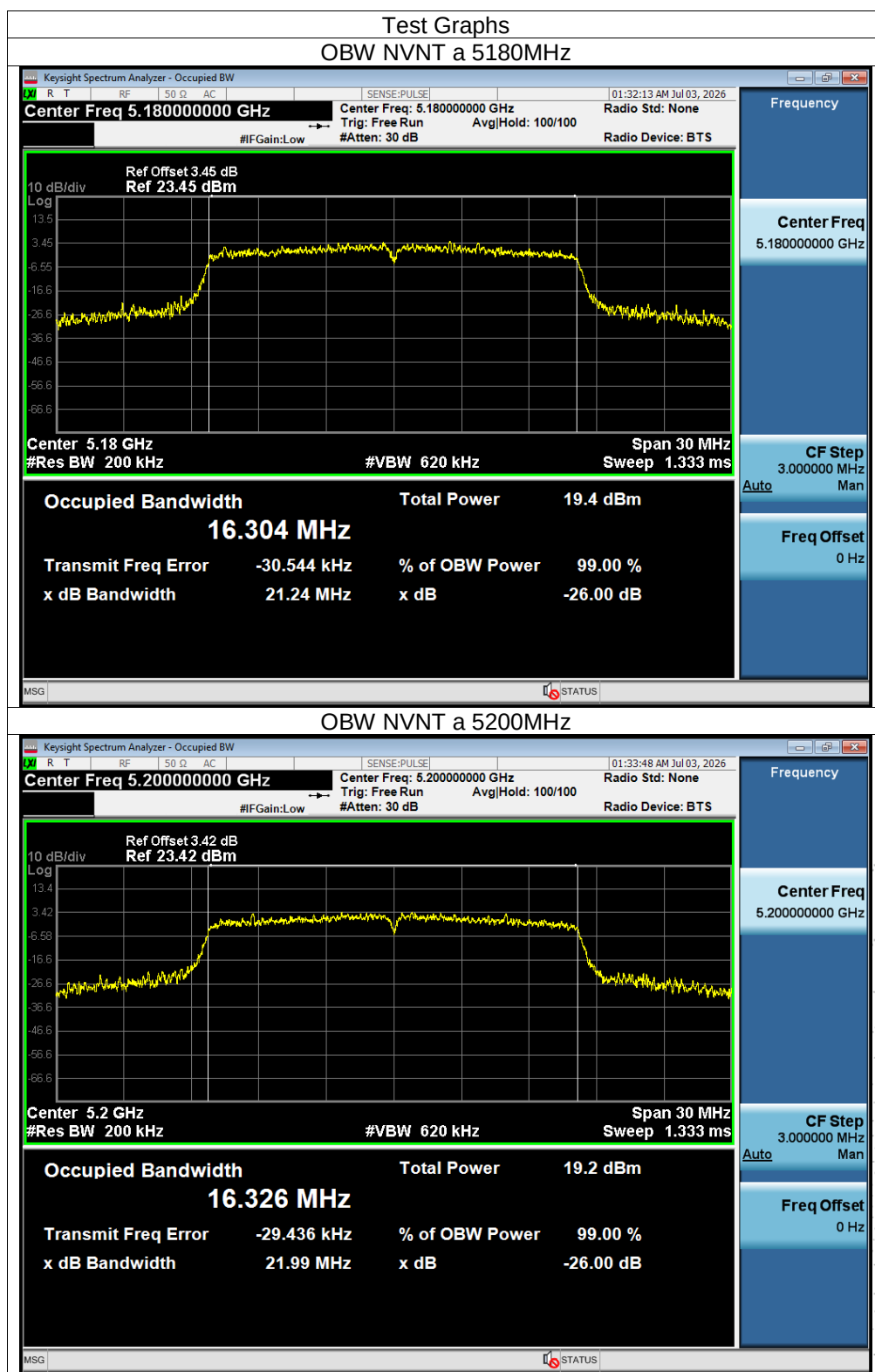


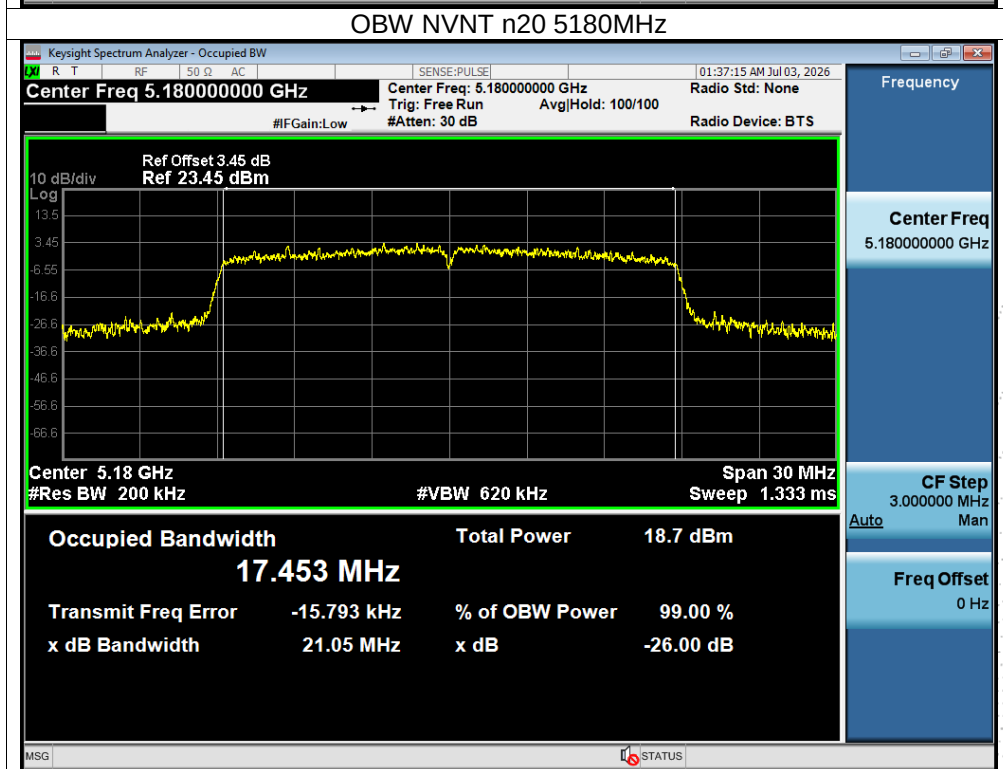
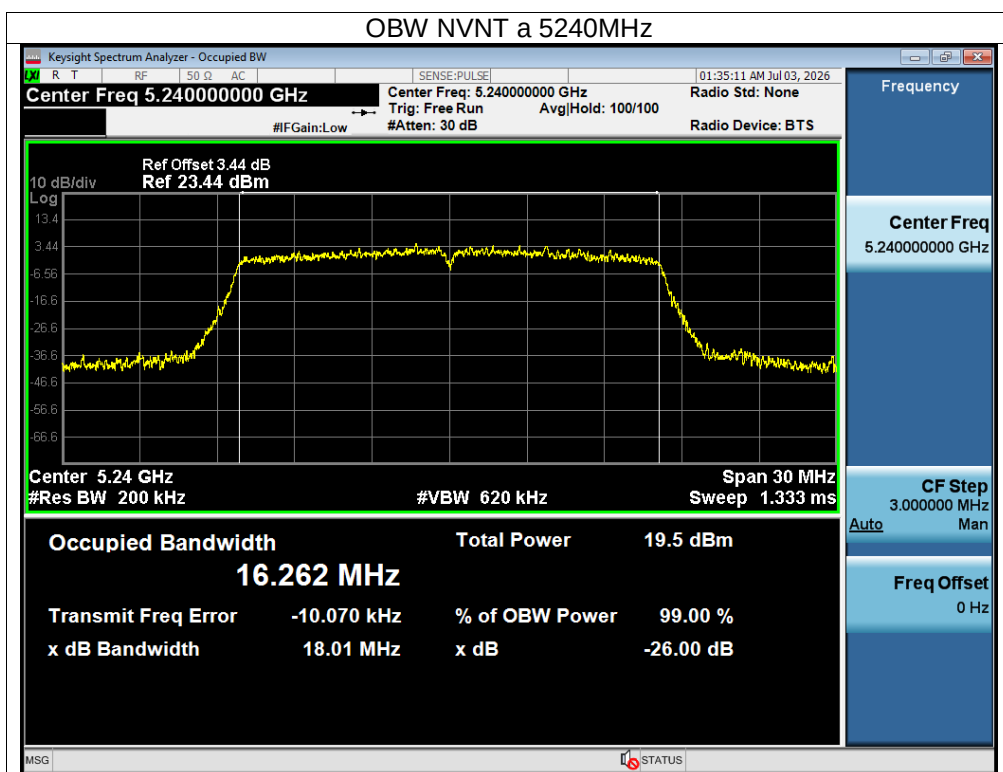


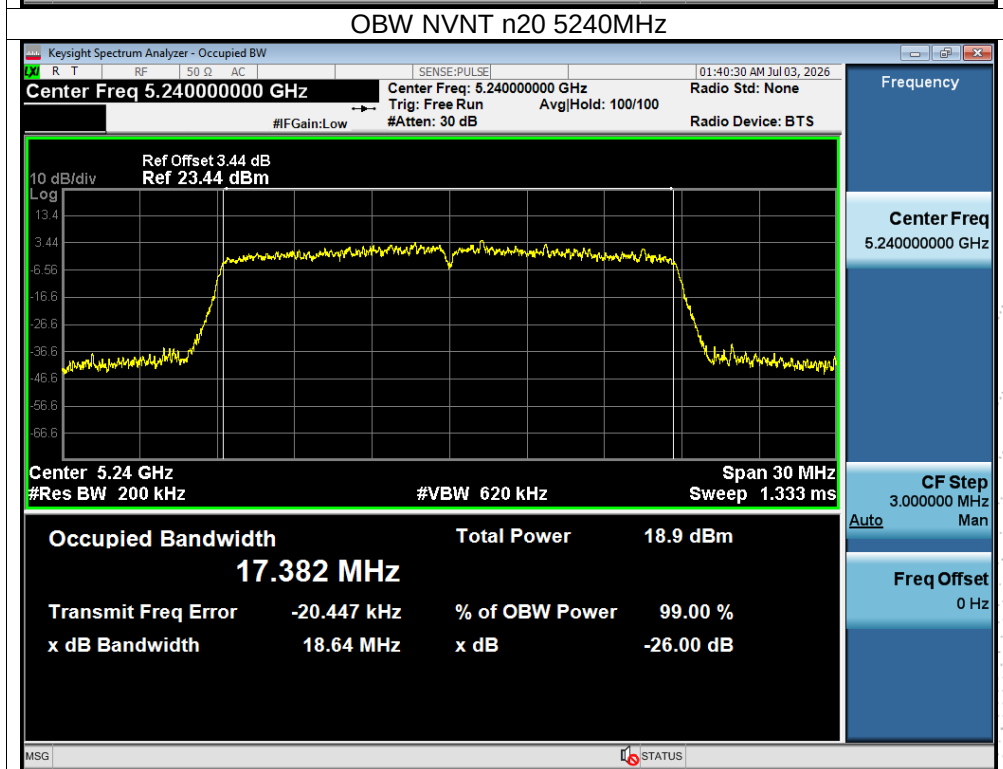
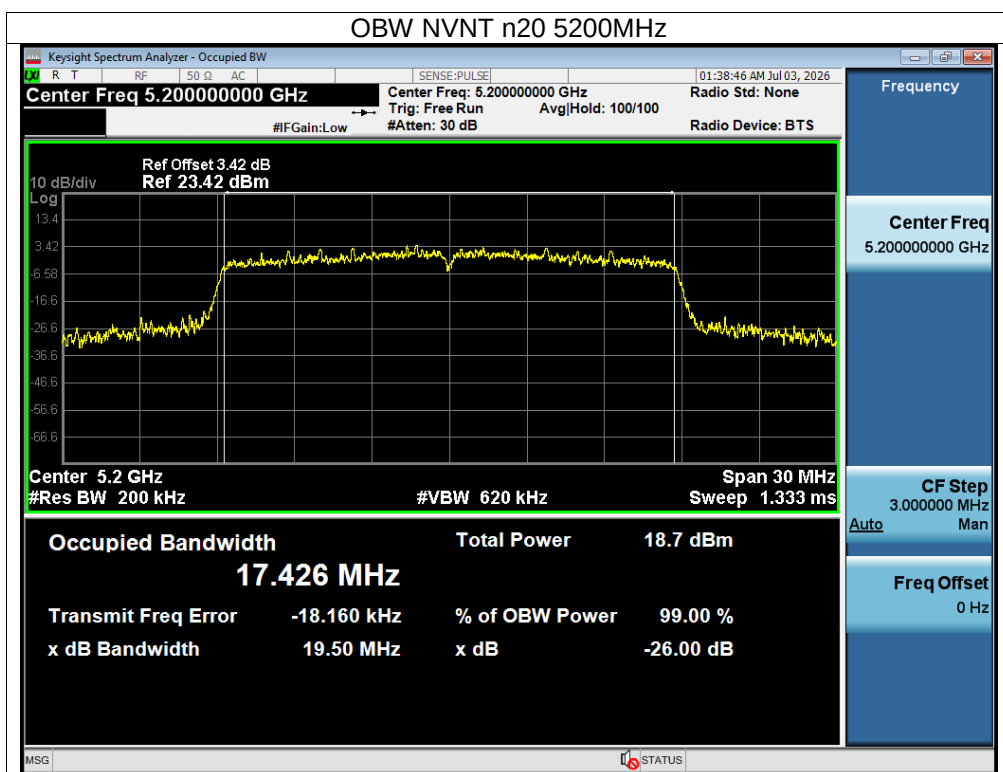


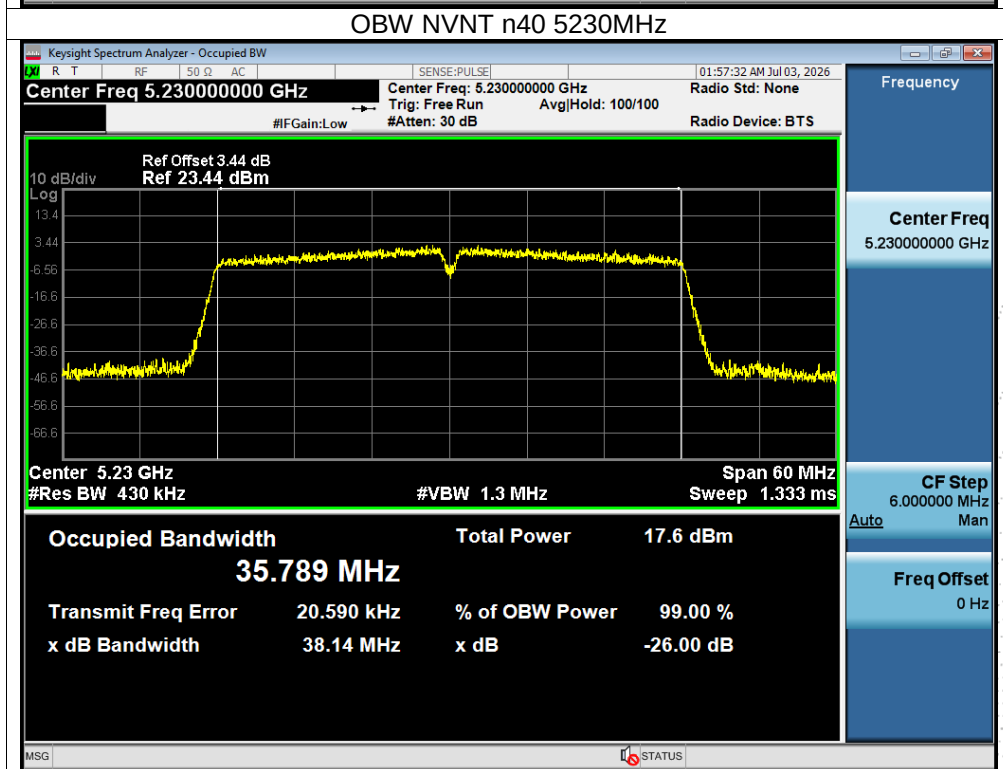
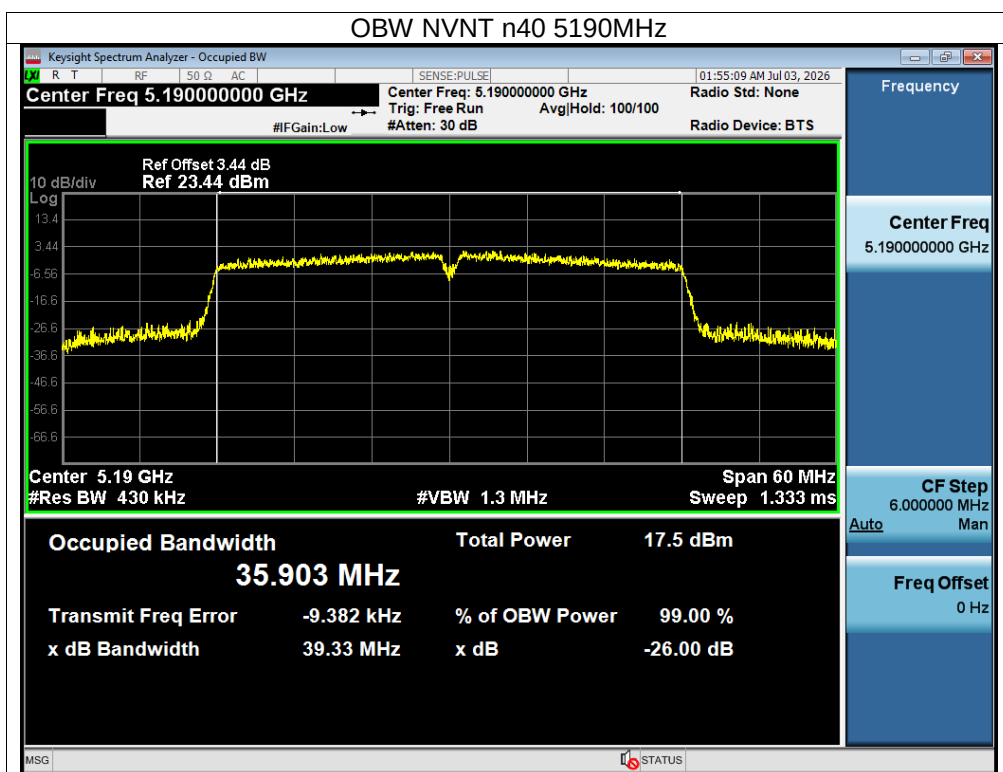


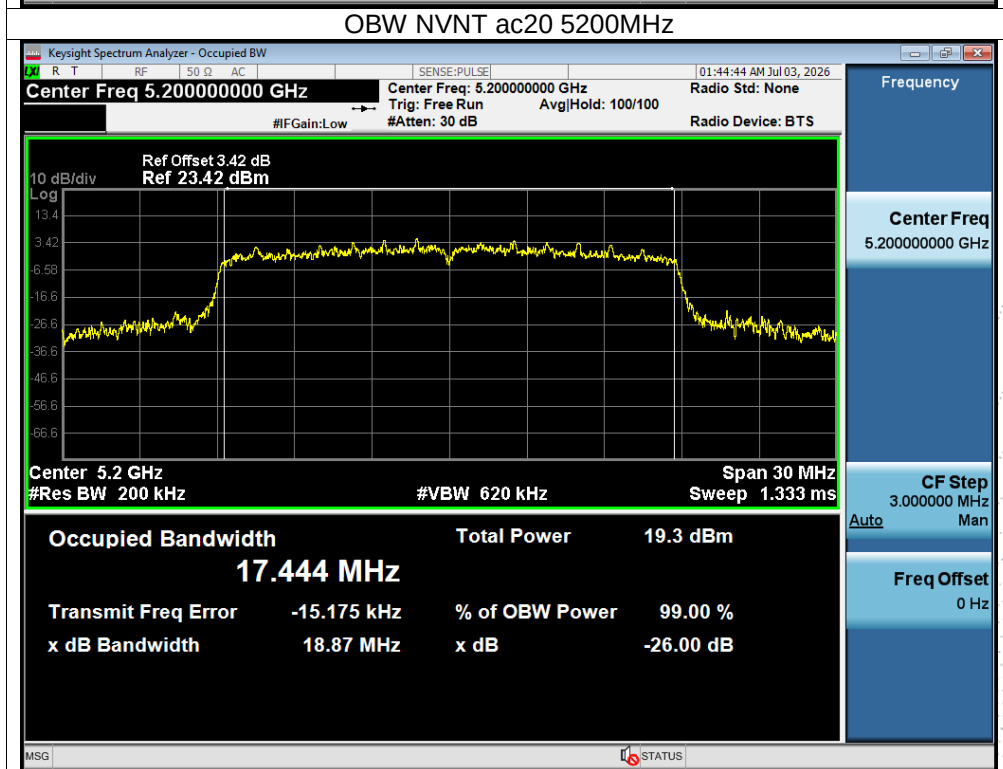
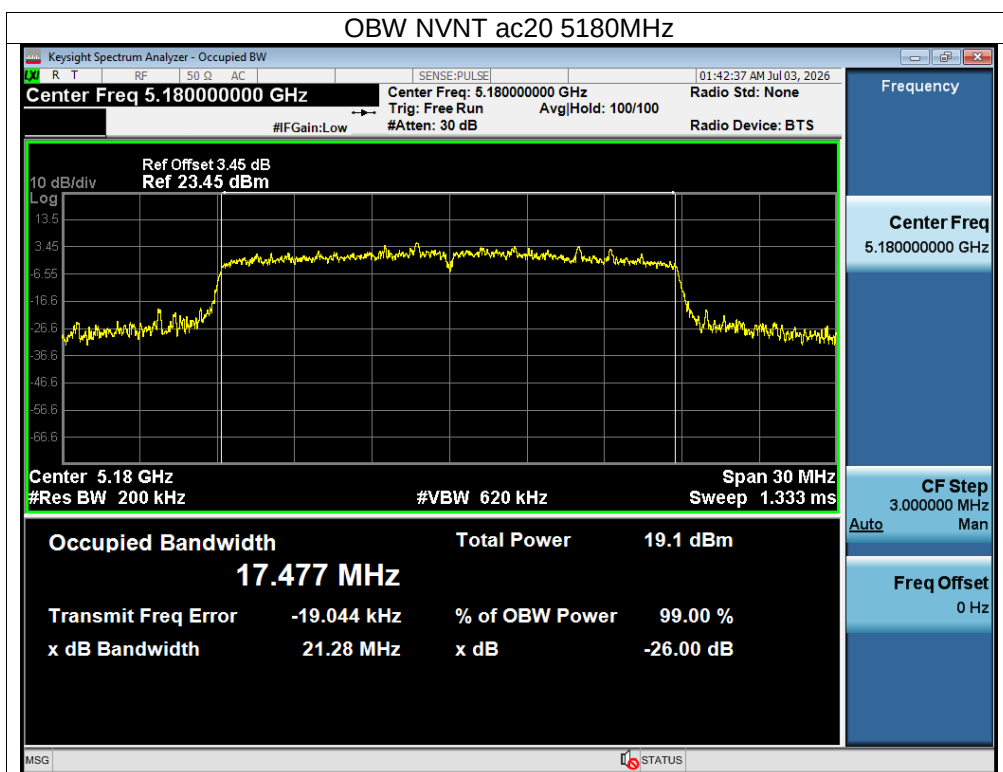
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

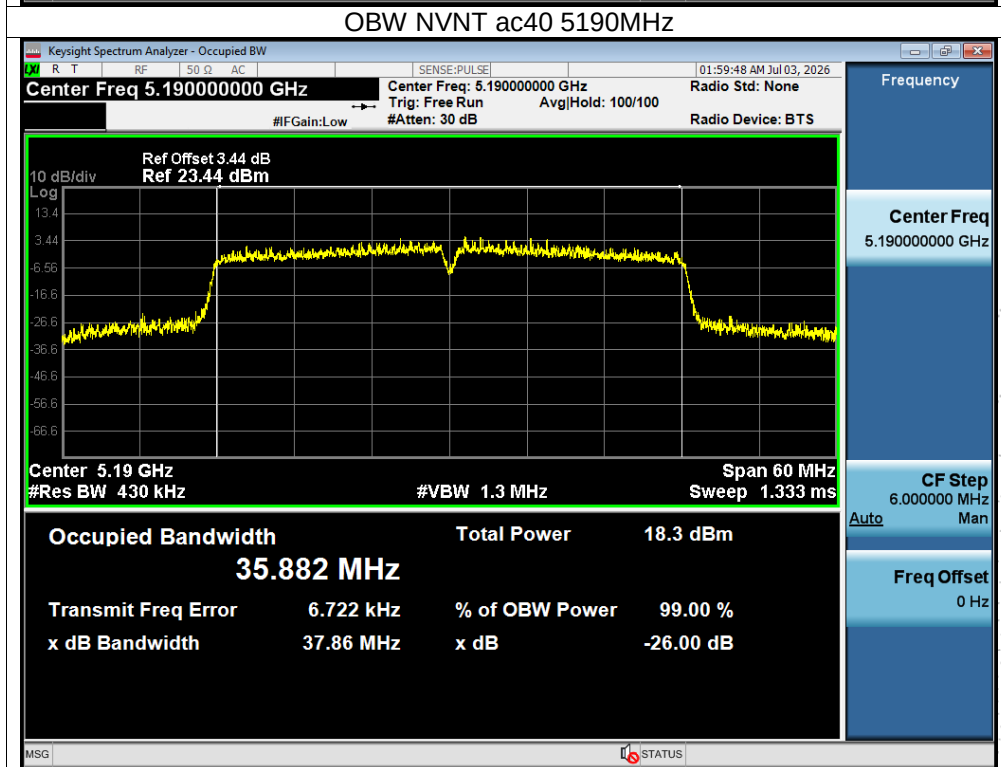
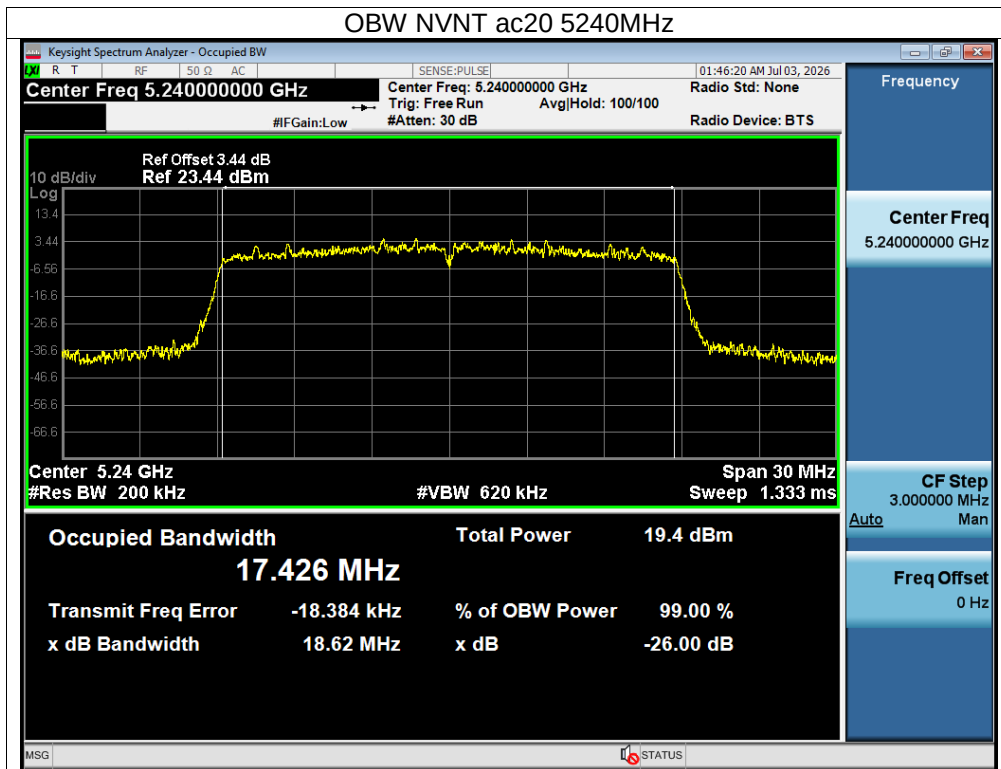


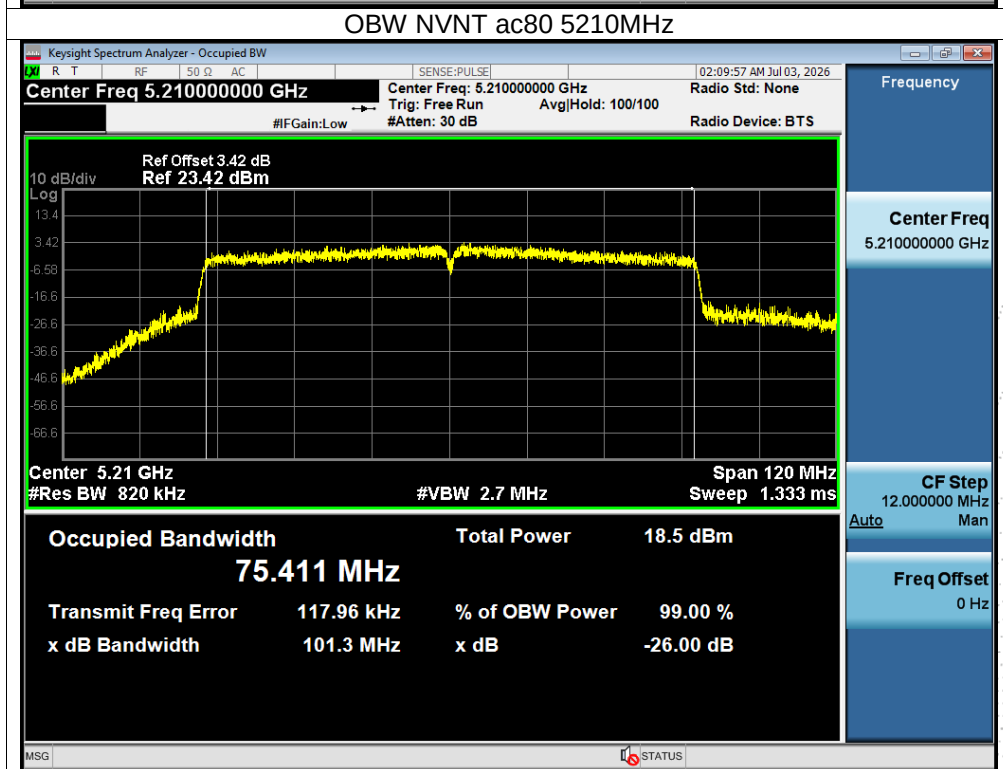
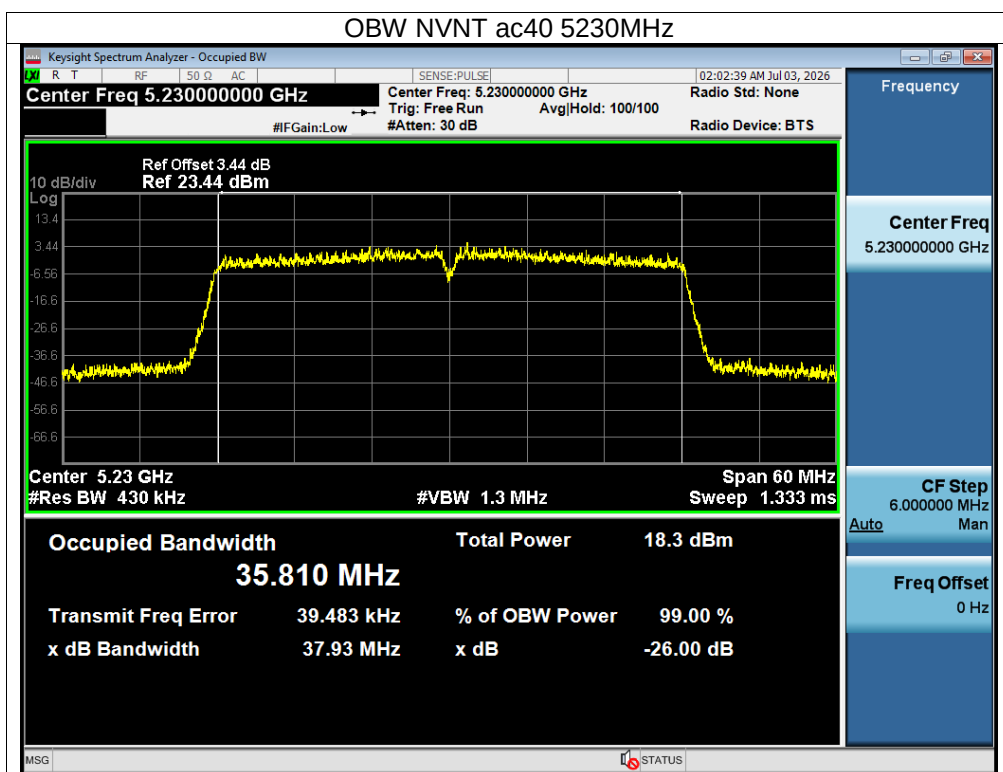


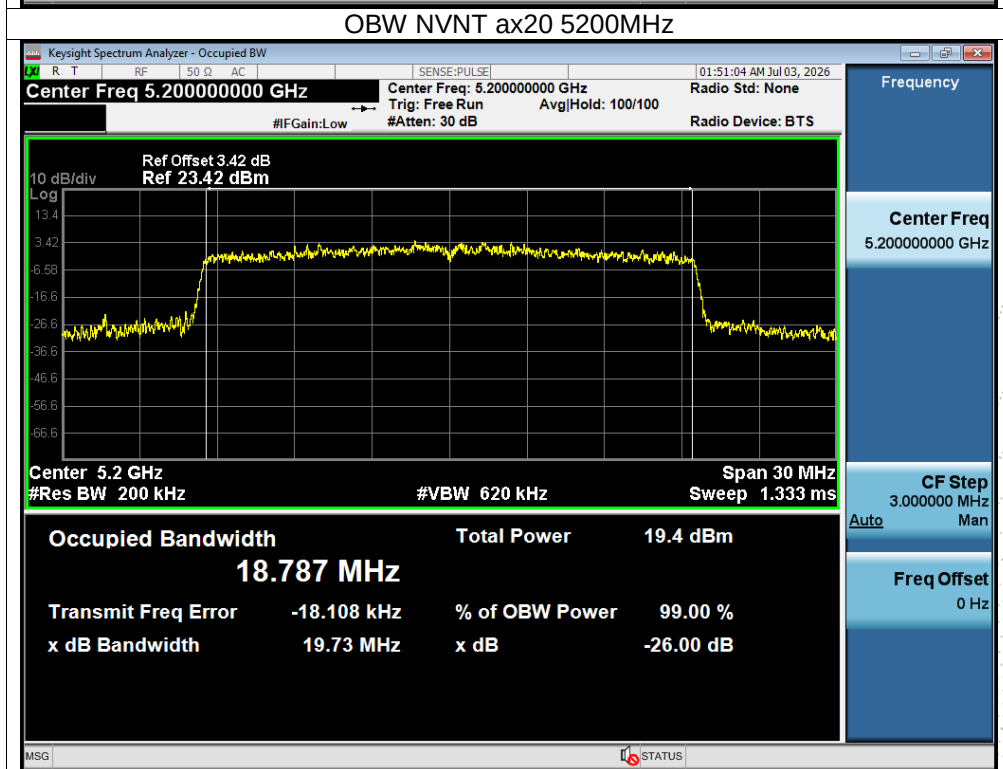
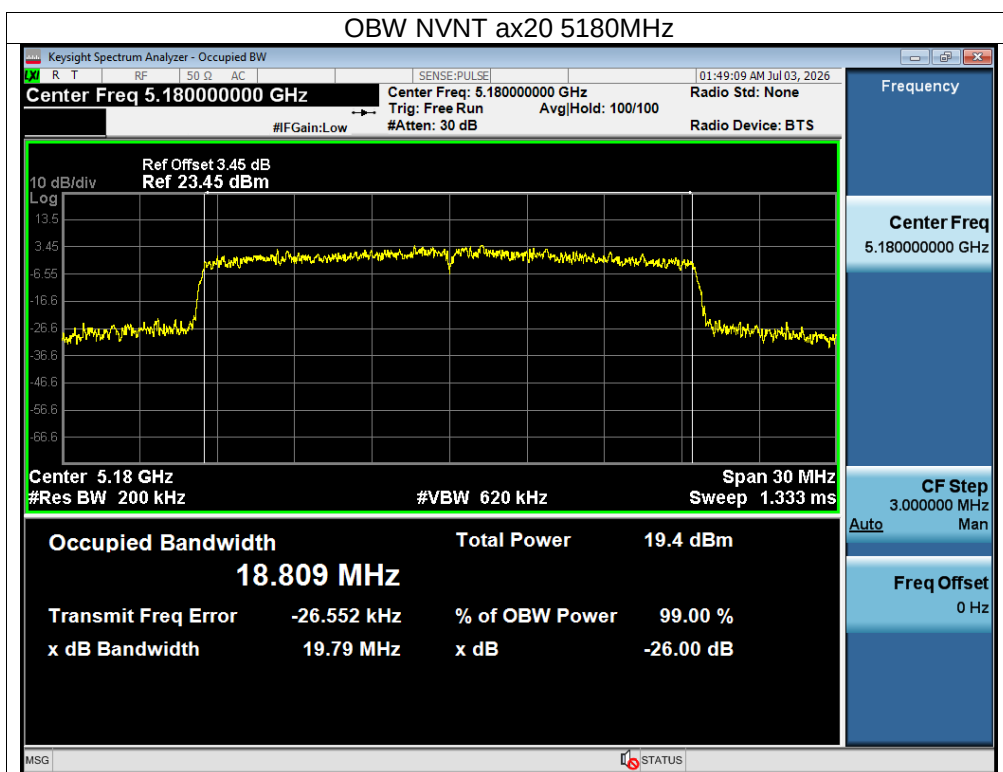


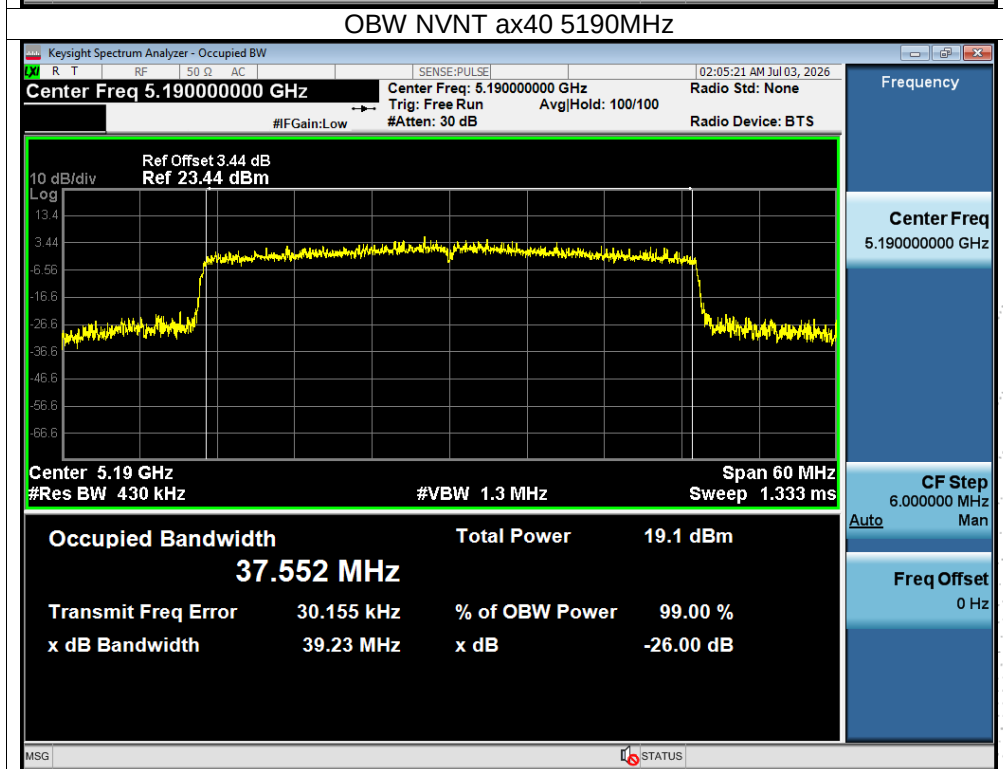
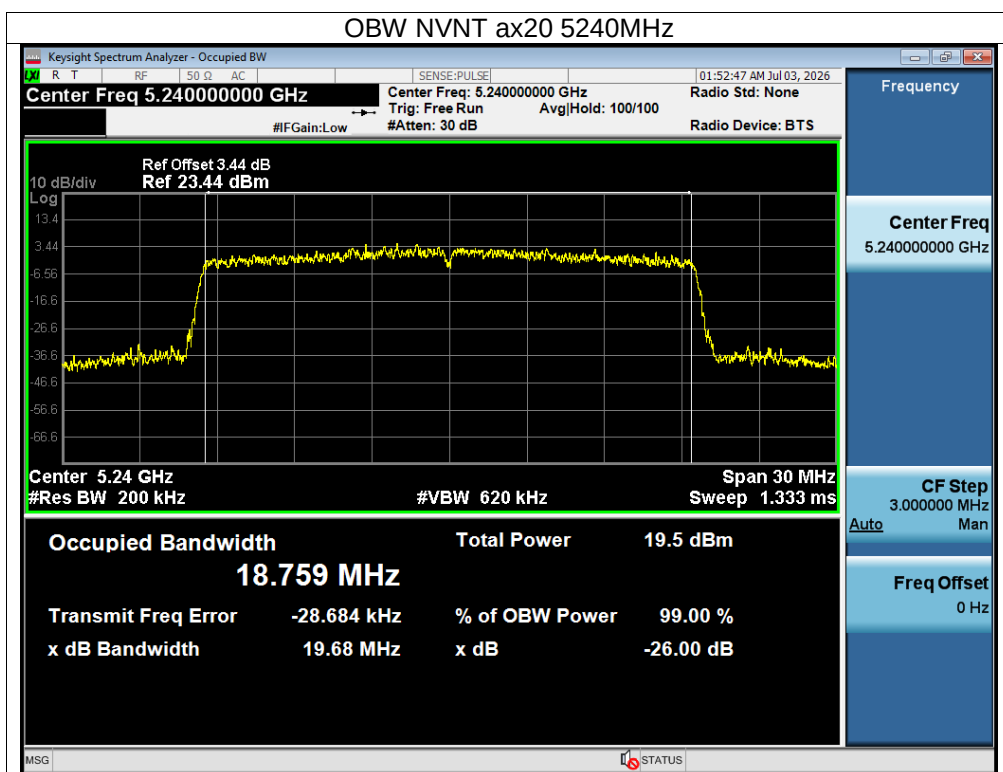


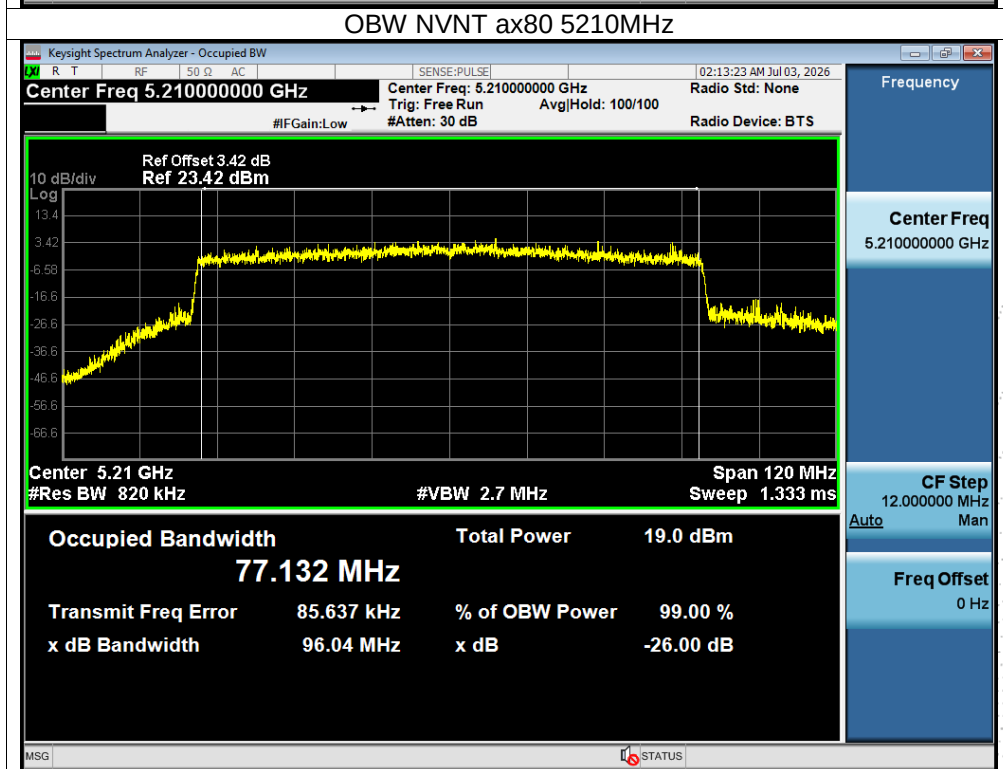
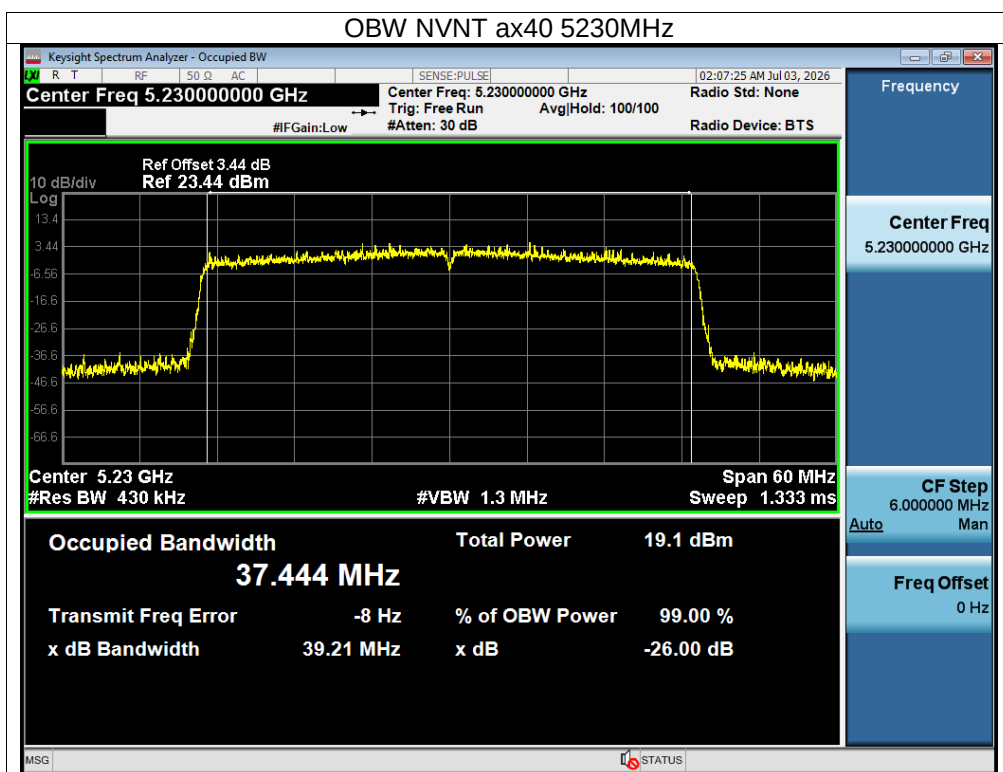


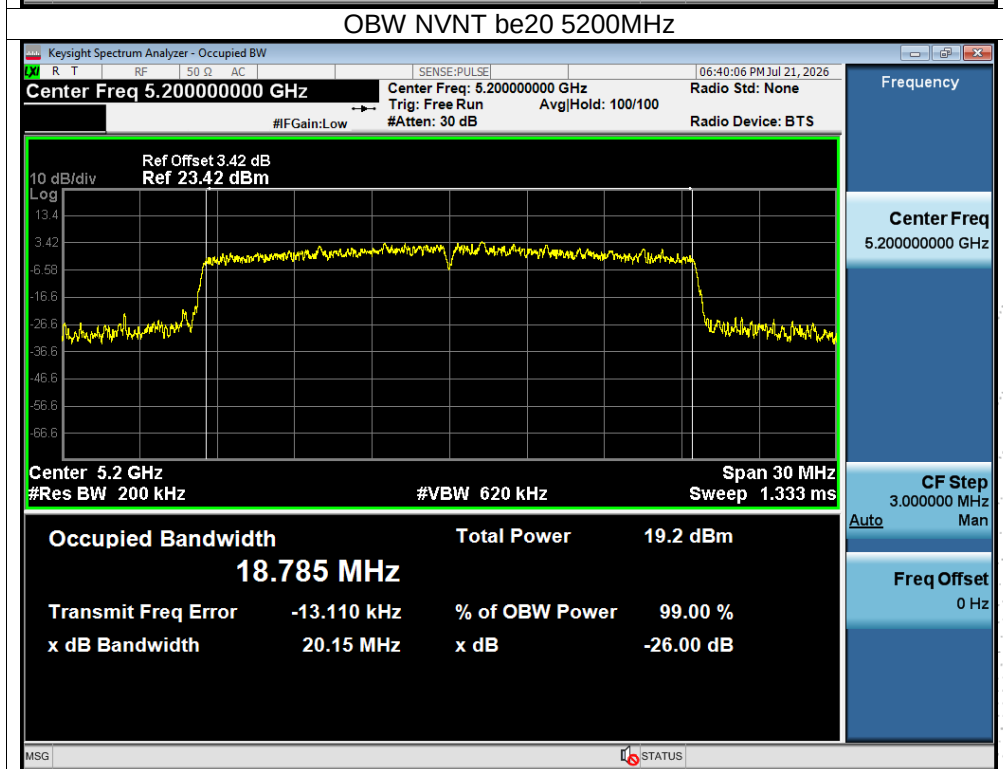
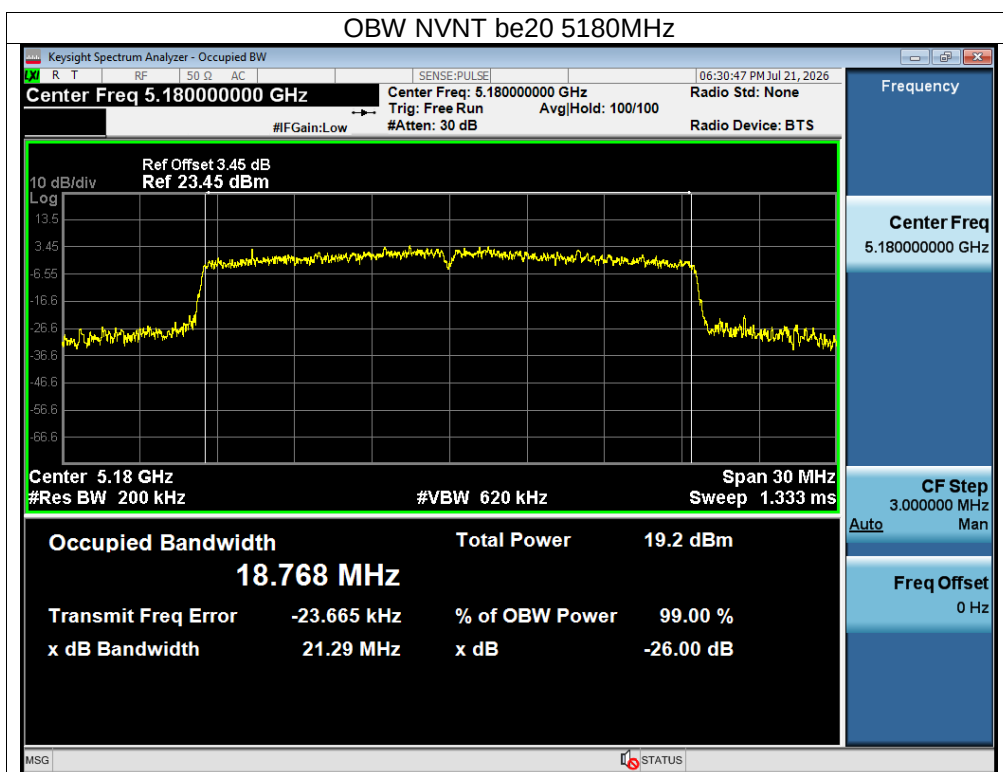


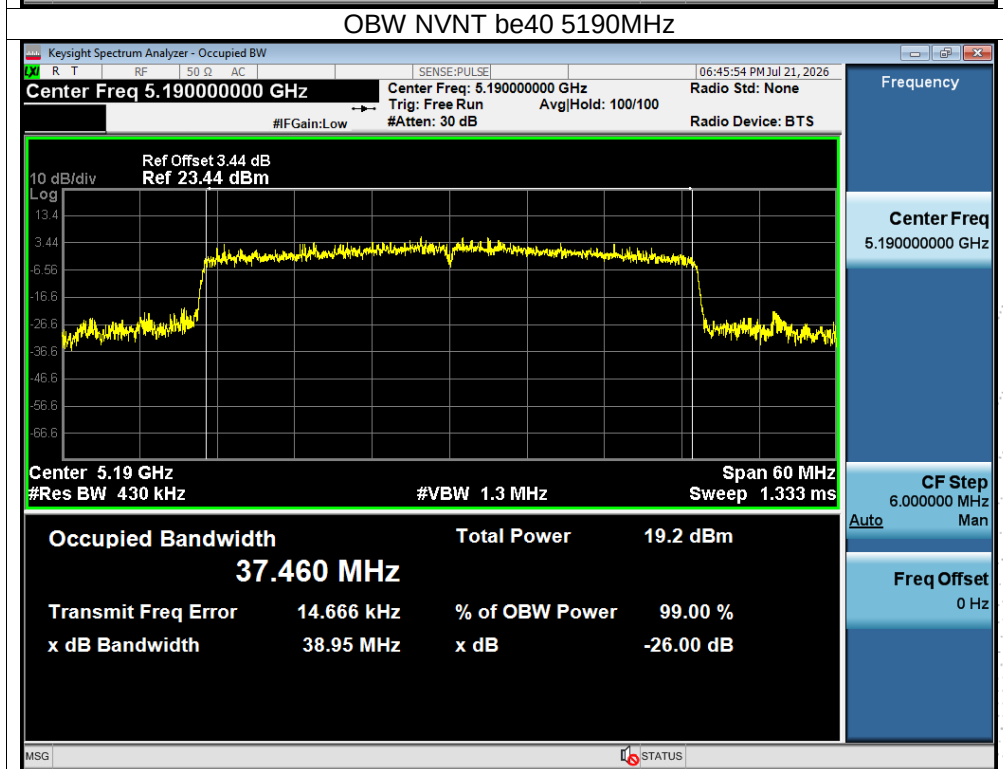
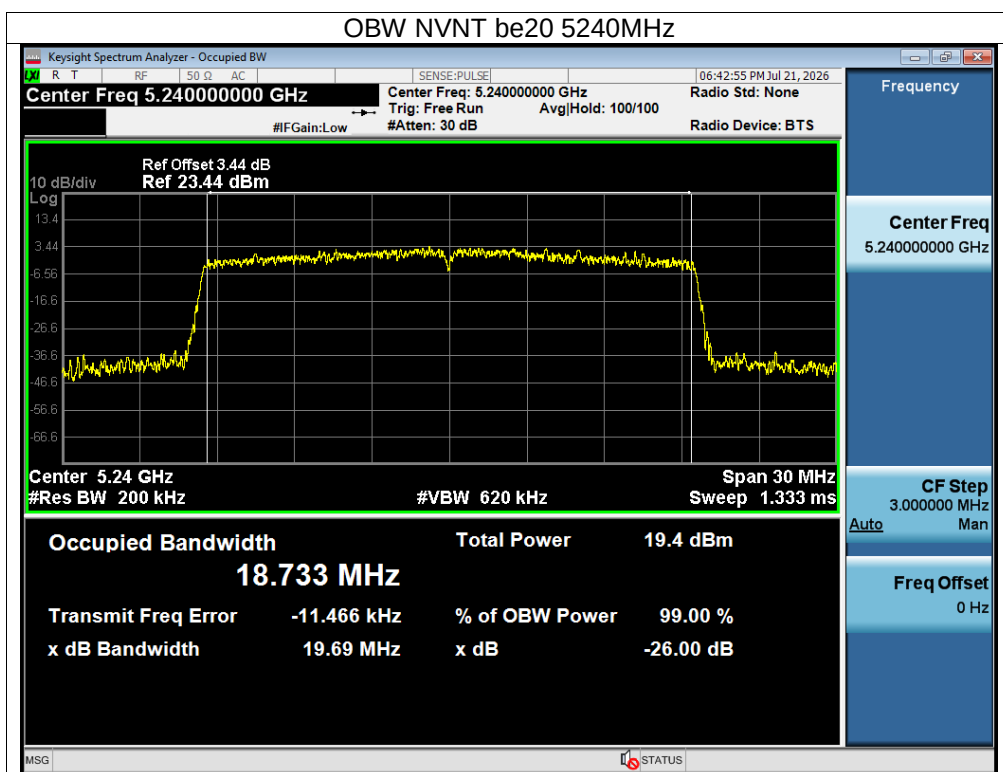


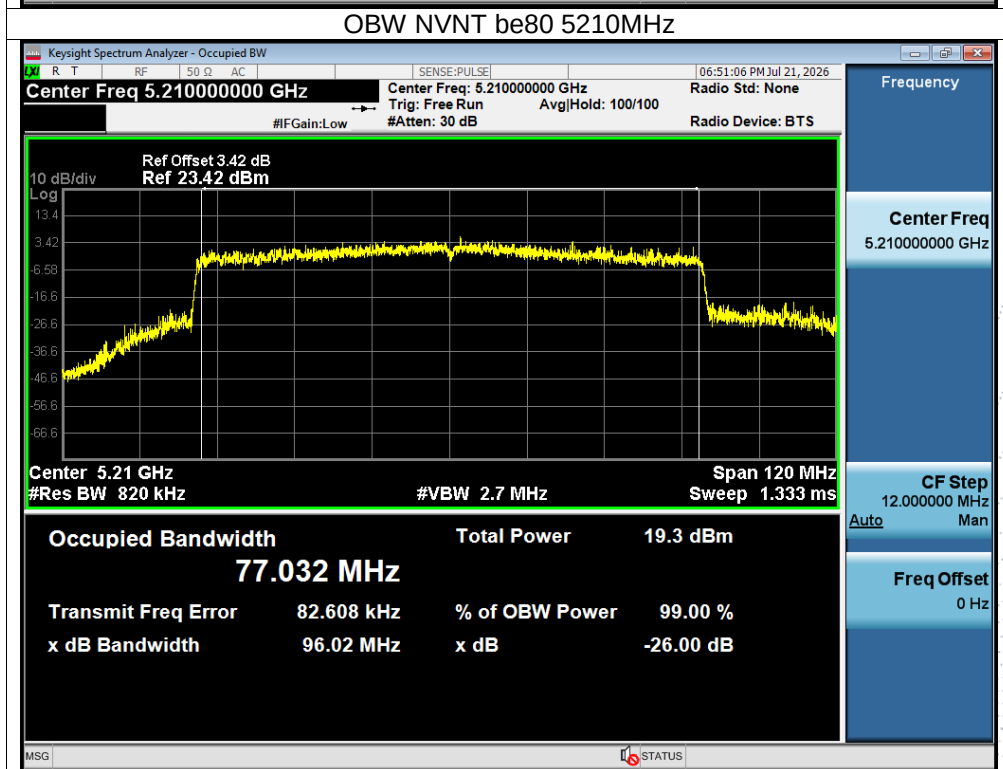
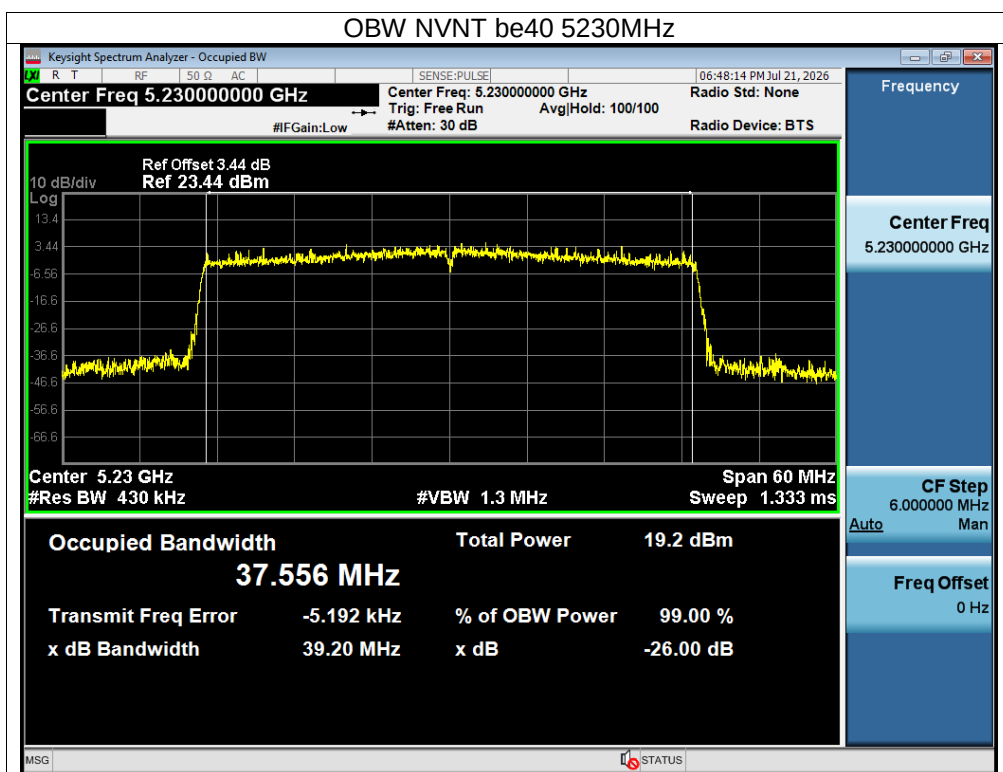








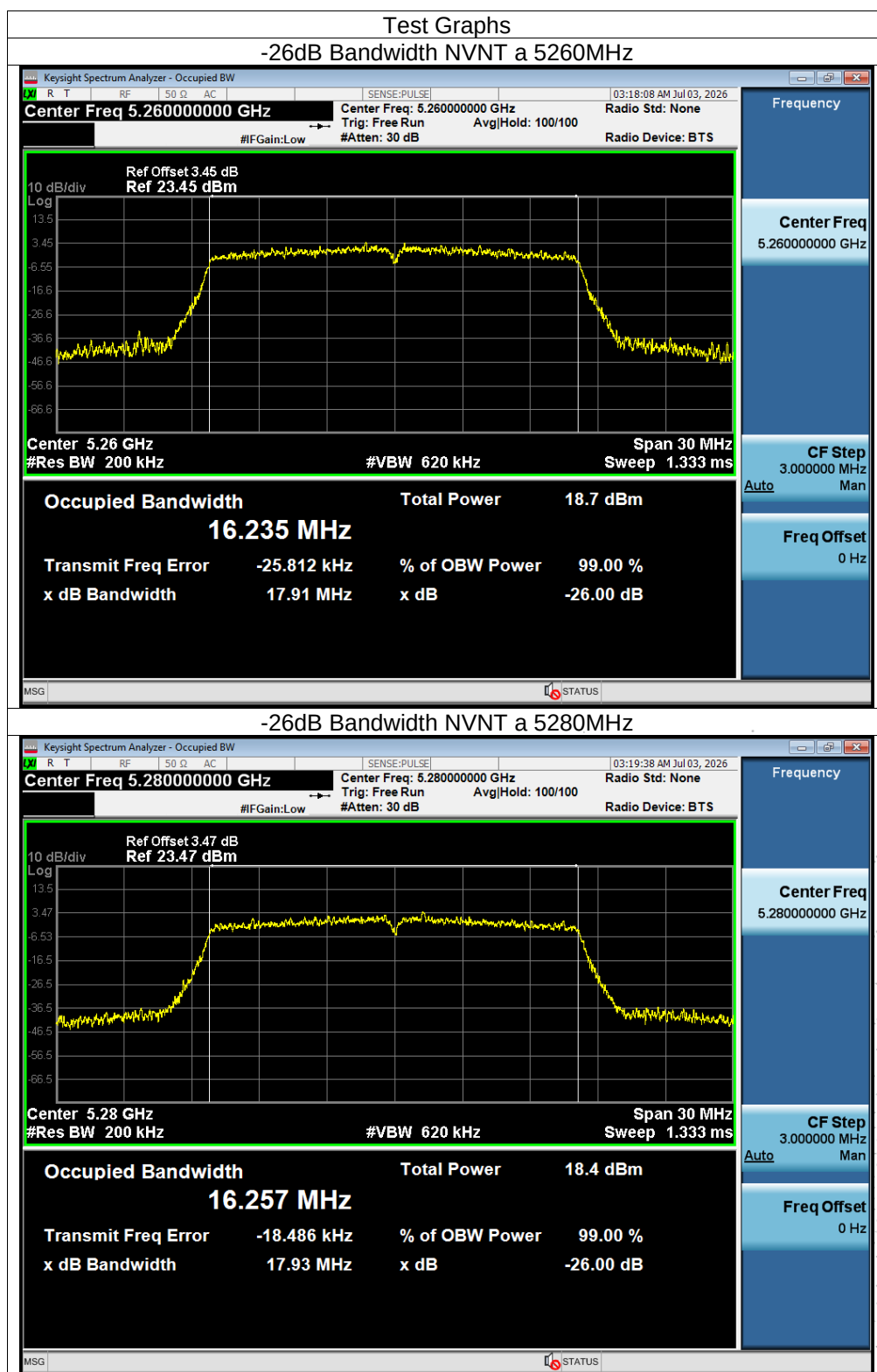


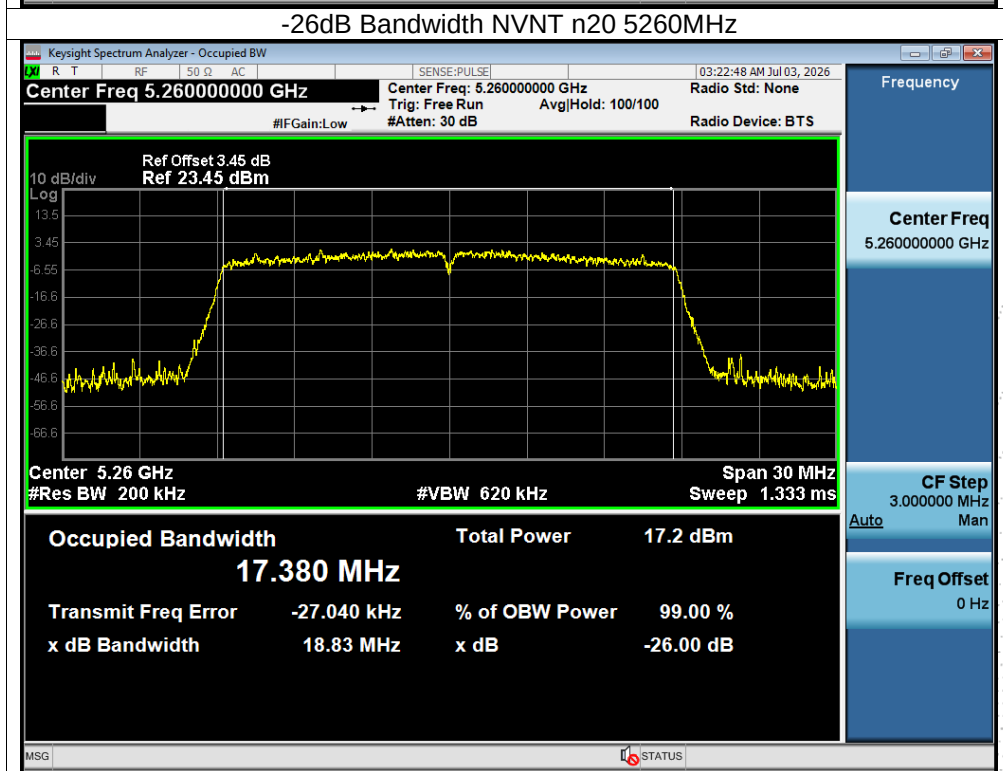
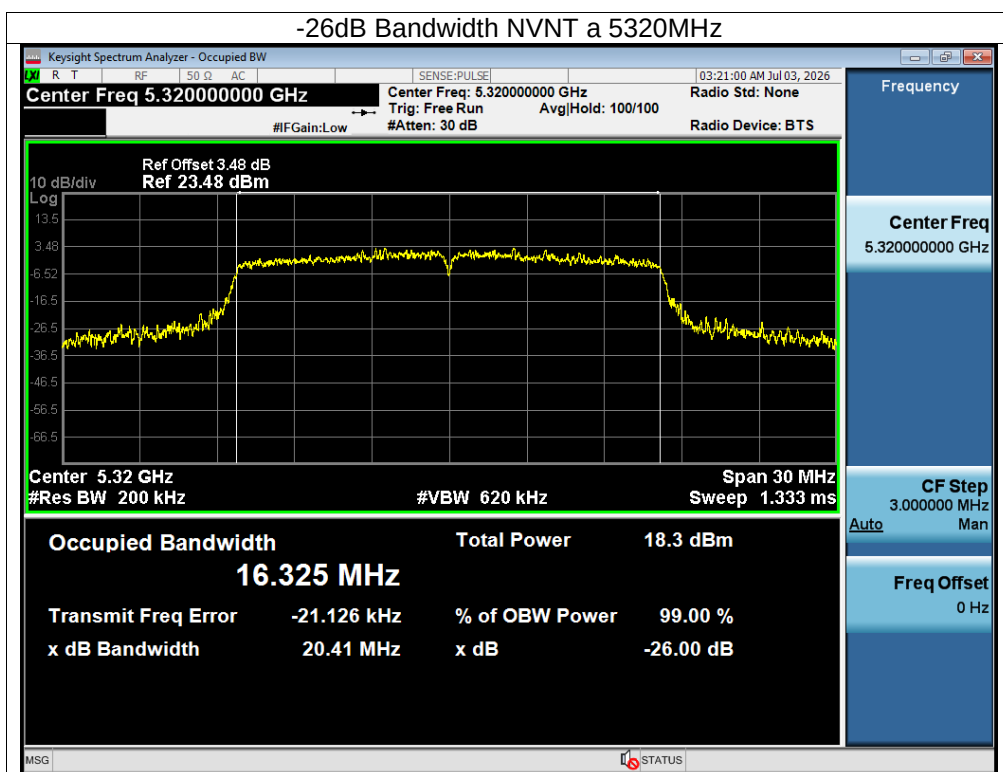


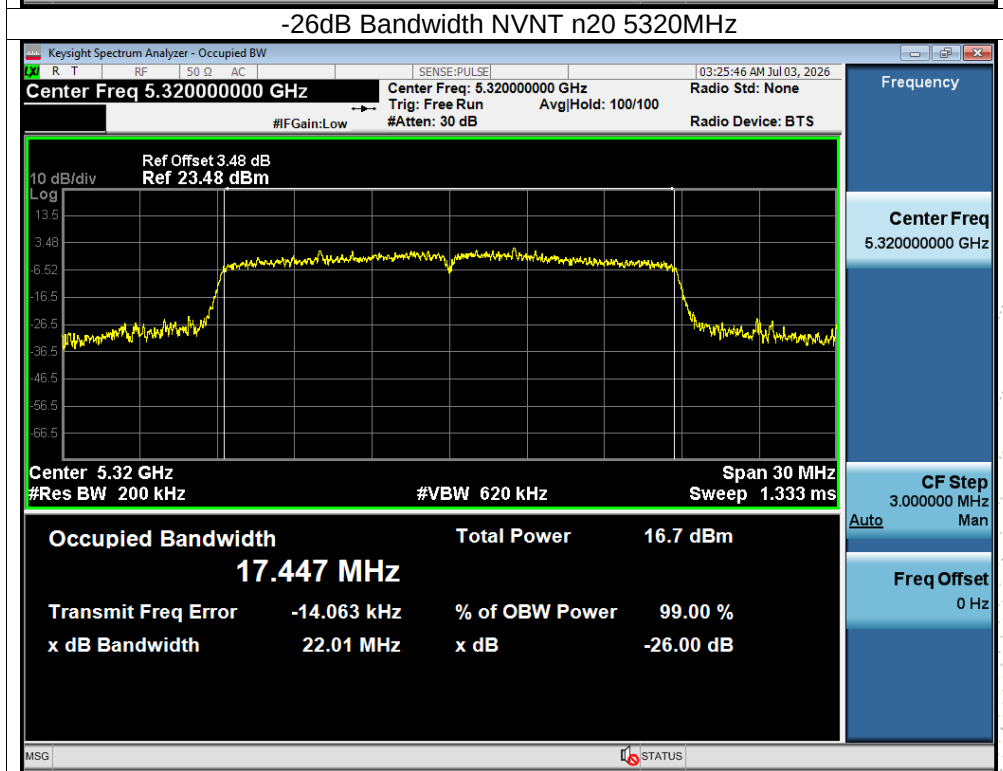
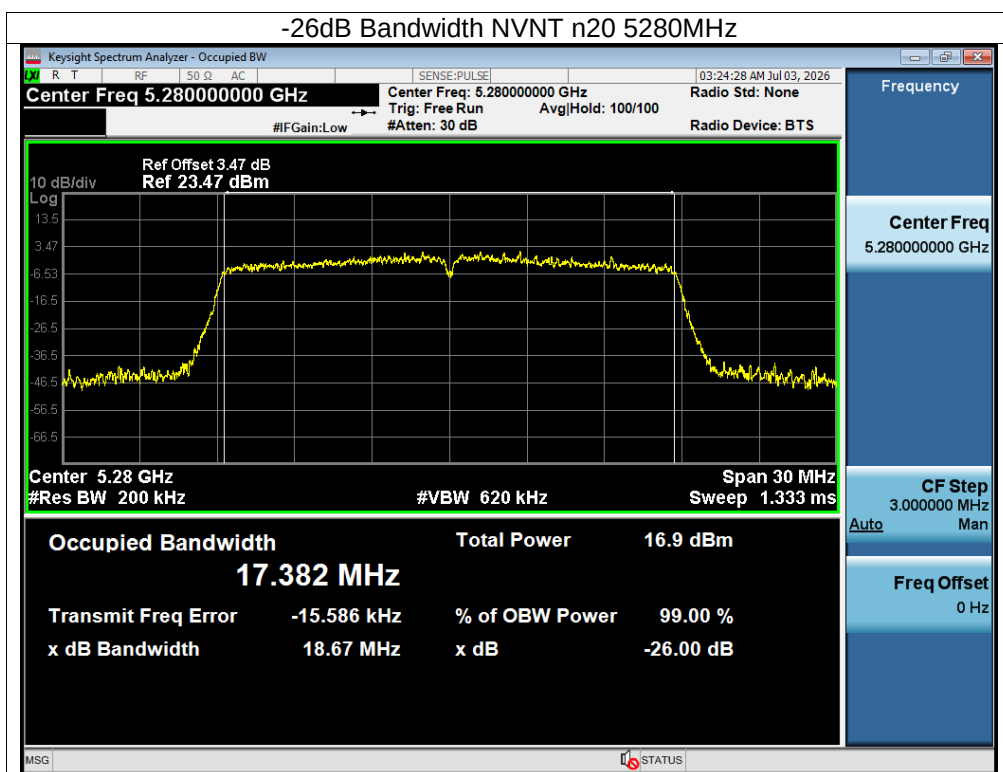
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5260-5320MHz)		

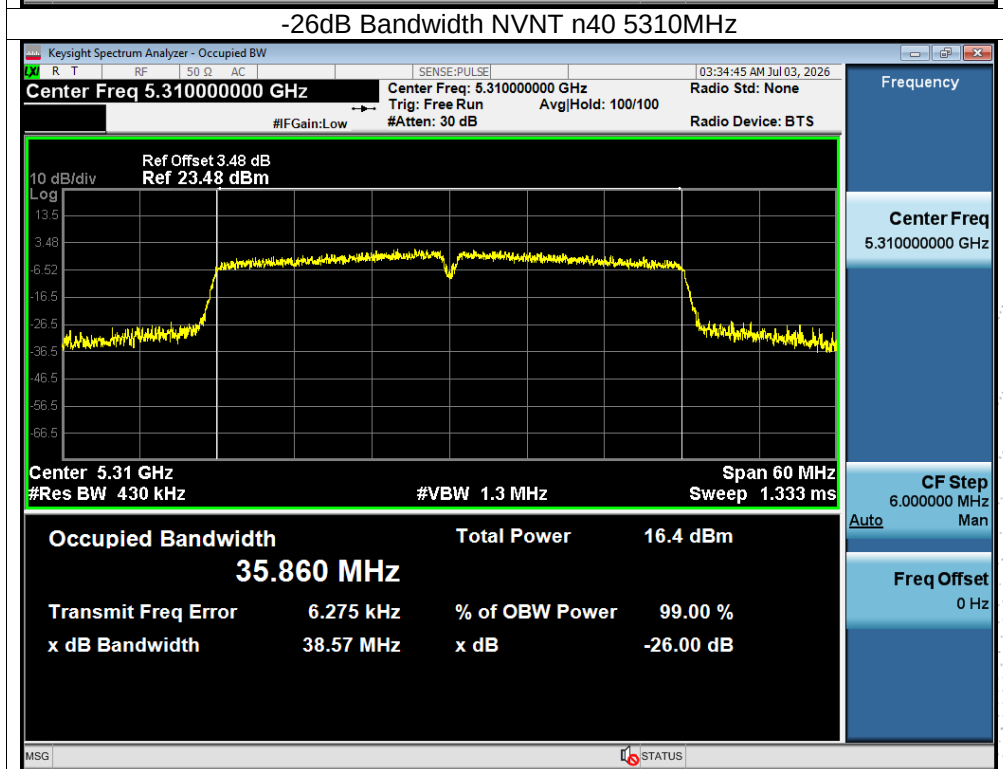
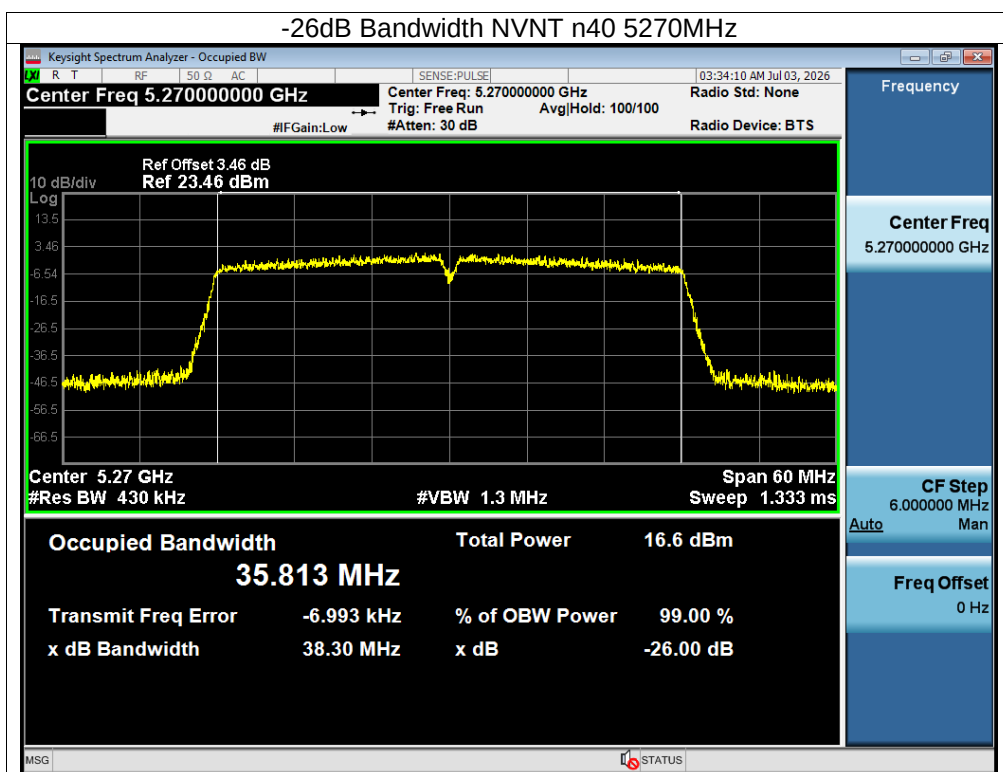
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5260	17.912	18.129	16.256	16.268	Pass
NVNT	a	5280	17.925	18.021	16.247	16.269	Pass
NVNT	a	5320	20.406	18.678	16.303	16.294	Pass
NVNT	n20	5260	18.828	18.715	17.384	17.379	Pass
NVNT	n20	5280	18.672	18.728	17.397	17.391	Pass
NVNT	n20	5320	22.007	18.891	17.45	17.455	Pass
NVNT	n40	5270	38.301	38.23	35.807	35.801	Pass
NVNT	n40	5310	38.57	42.05	35.888	35.886	Pass
NVNT	ac20	5260	18.728	18.692	17.378	17.43	Pass
NVNT	ac20	5280	18.672	18.603	17.408	17.419	Pass
NVNT	ac20	5320	19.167	20.805	17.445	17.483	Pass
NVNT	ac40	5270	38.22	38.136	35.861	35.842	Pass
NVNT	ac40	5310	39.091	38.082	35.9	35.876	Pass
NVNT	ac80	5290	102.825	101.804	75.43	75.372	Pass
NVNT	ax20	5260	19.703	19.647	18.733	18.759	Pass
NVNT	ax20	5280	19.7	19.77	18.755	18.78	Pass
NVNT	ax20	5320	19.735	20.998	18.785	18.76	Pass
NVNT	ax40	5270	39.324	39.203	37.605	37.501	Pass
NVNT	ax40	5310	39.139	39.262	37.515	37.559	Pass
NVNT	ax80	5290	95.935	97.859	77.013	77.056	Pass
NVNT	be20	5260	19.553	19.764	18.767	18.744	Pass
NVNT	be20	5280	19.641	19.691	18.736	18.738	Pass
NVNT	be20	5320	19.698	20.799	18.785	18.773	Pass
NVNT	be40	5270	39.191	39.164	37.566	37.409	Pass
NVNT	be40	5310	39.259	39.249	37.589	37.638	Pass
NVNT	be80	5290	98.575	97.824	77.086	77.054	Pass

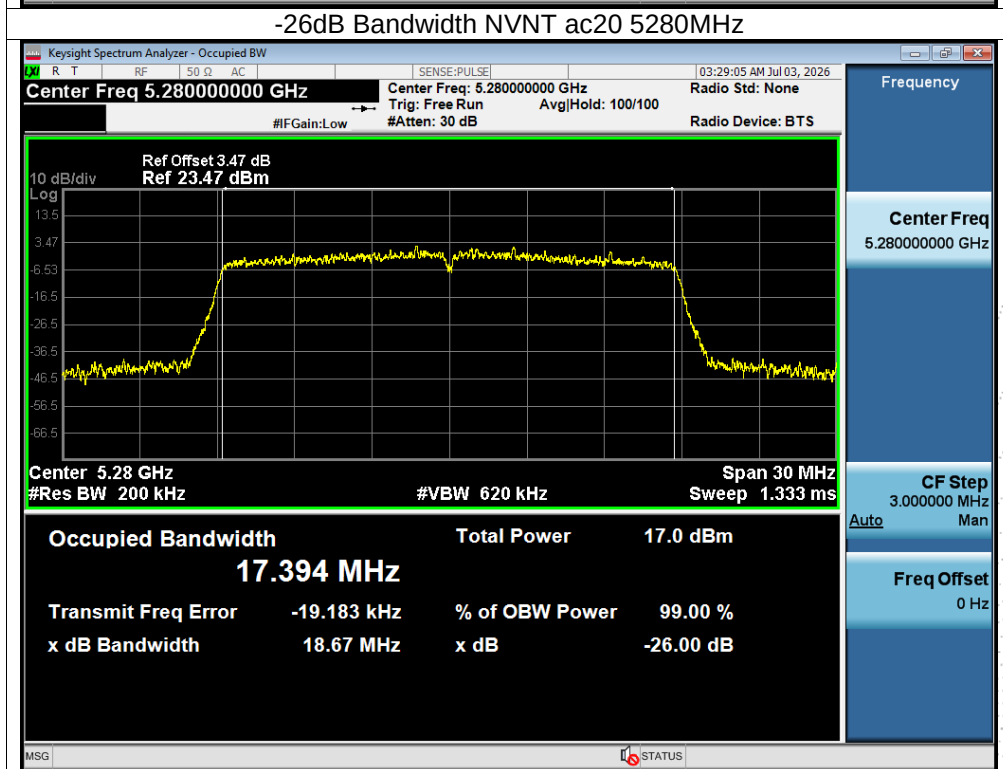
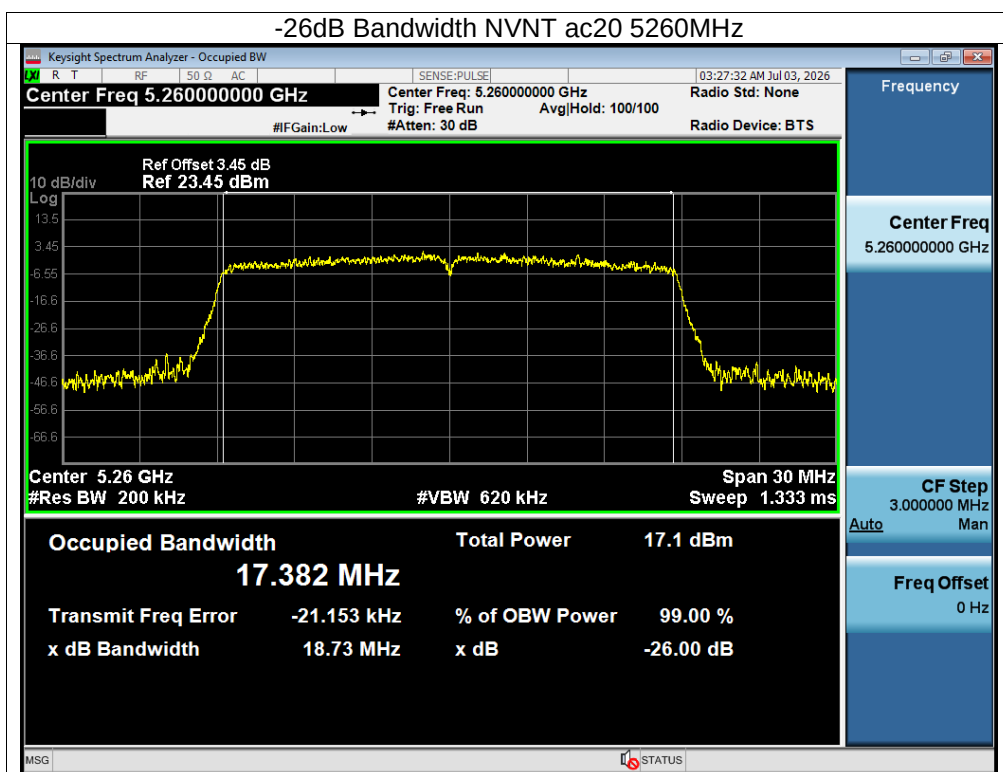
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

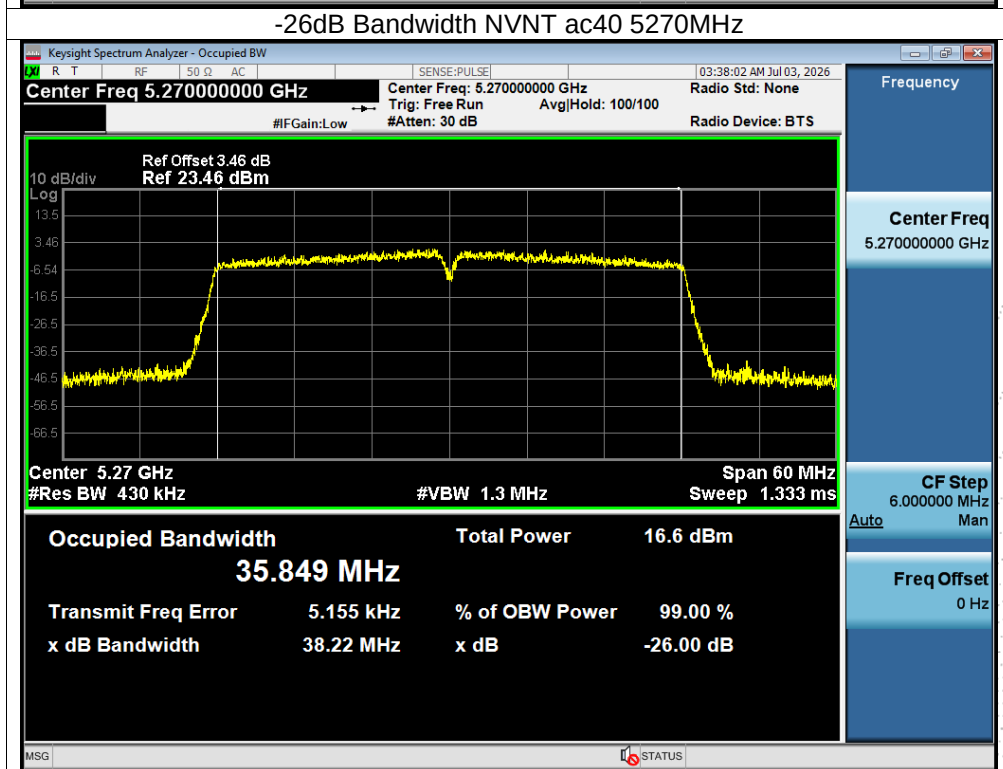
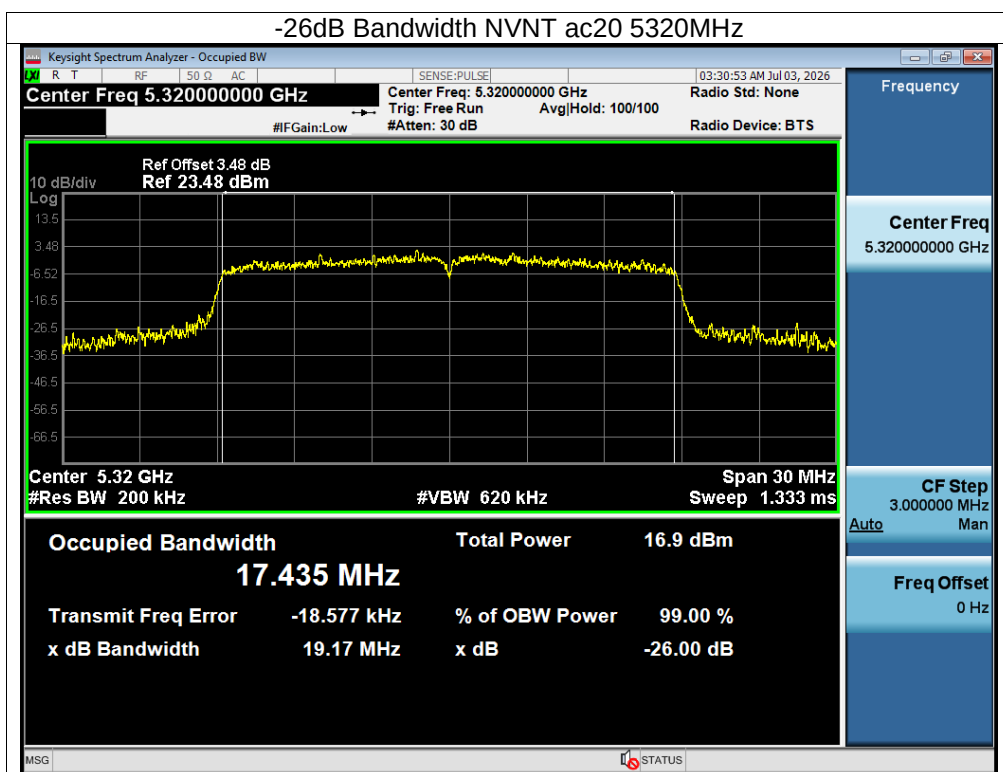


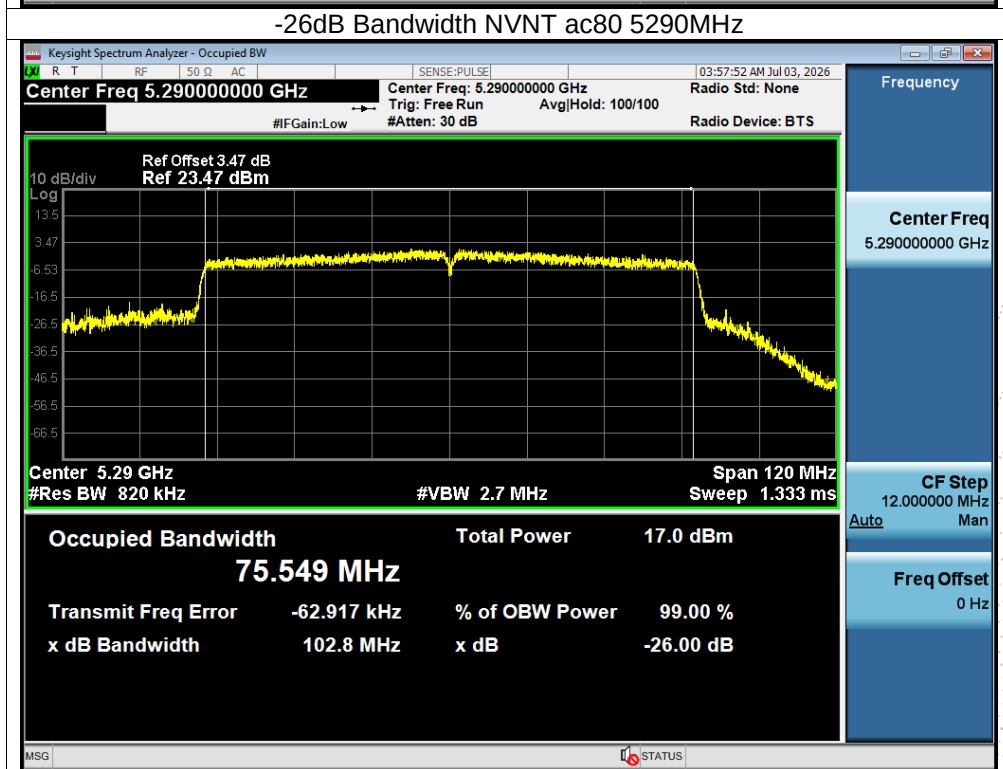
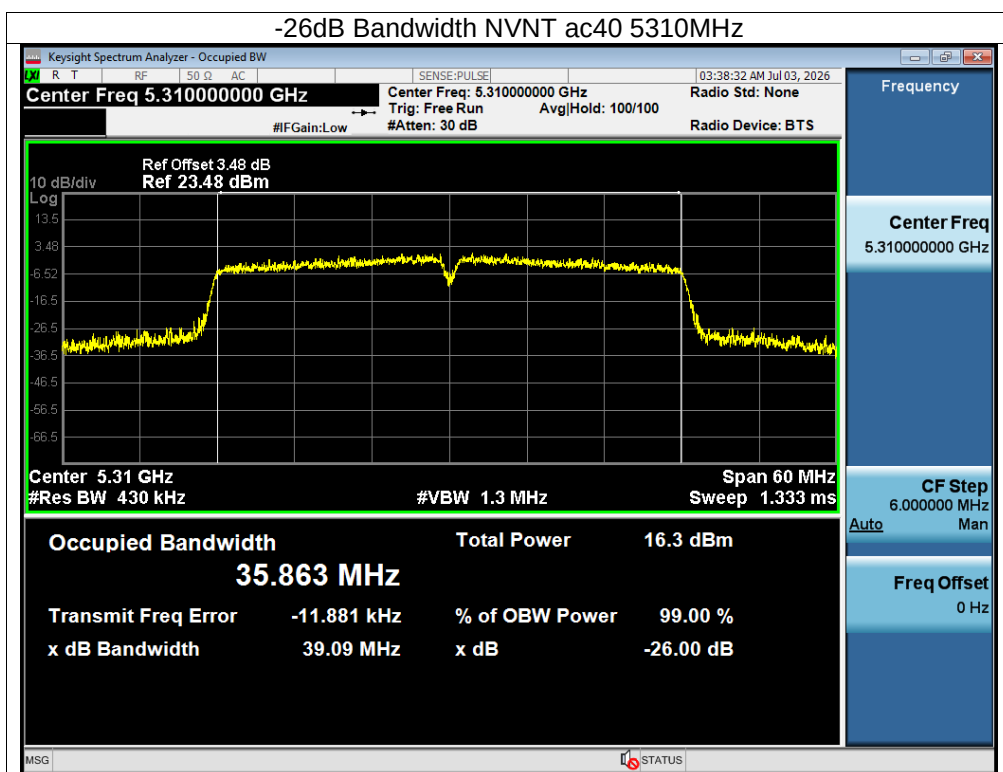


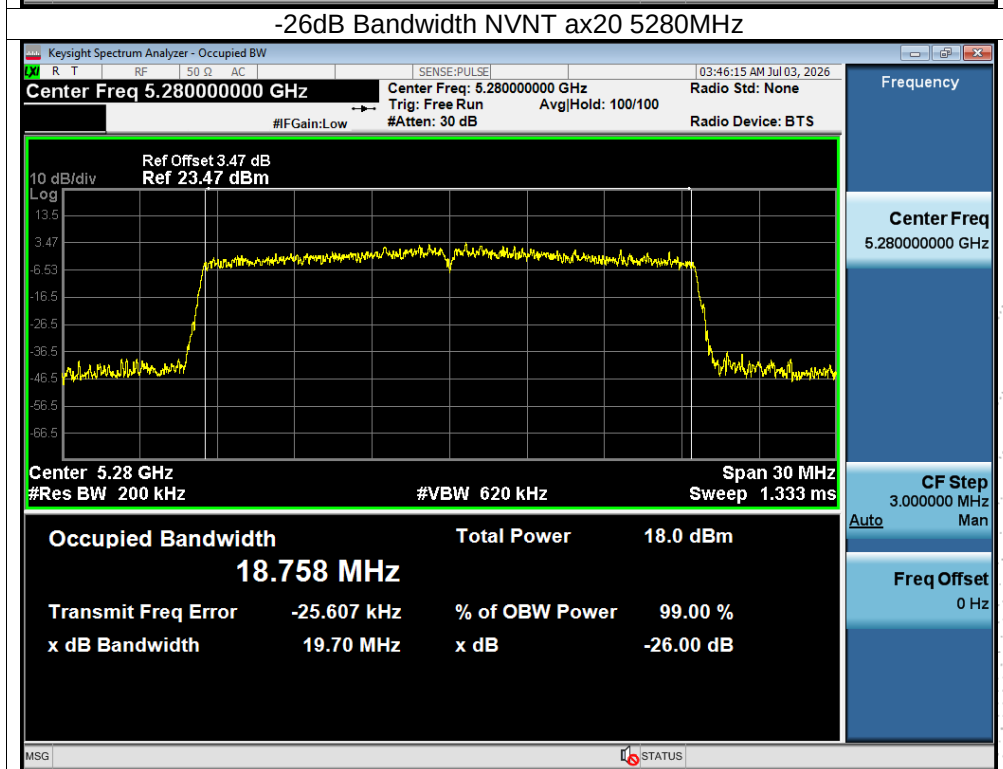
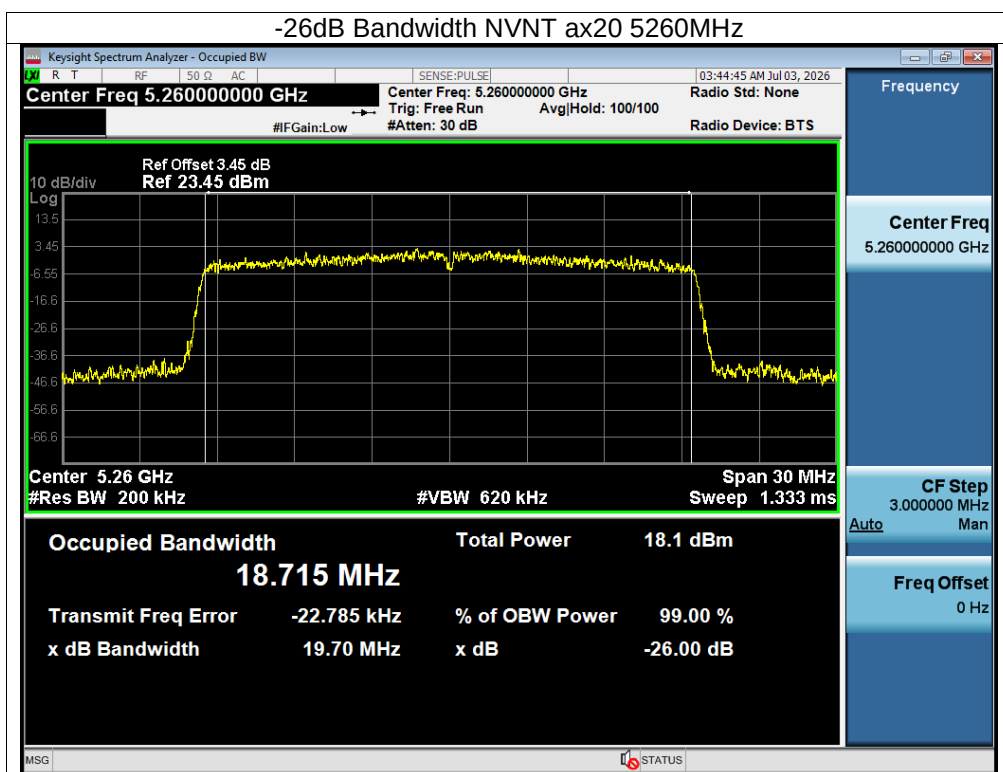


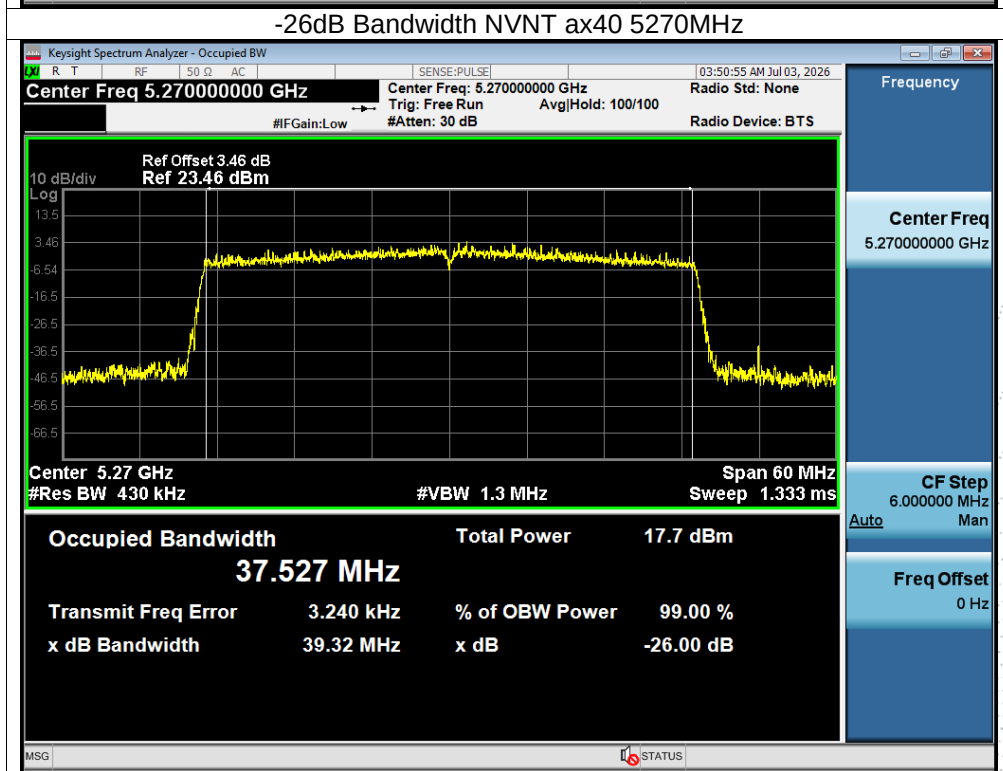
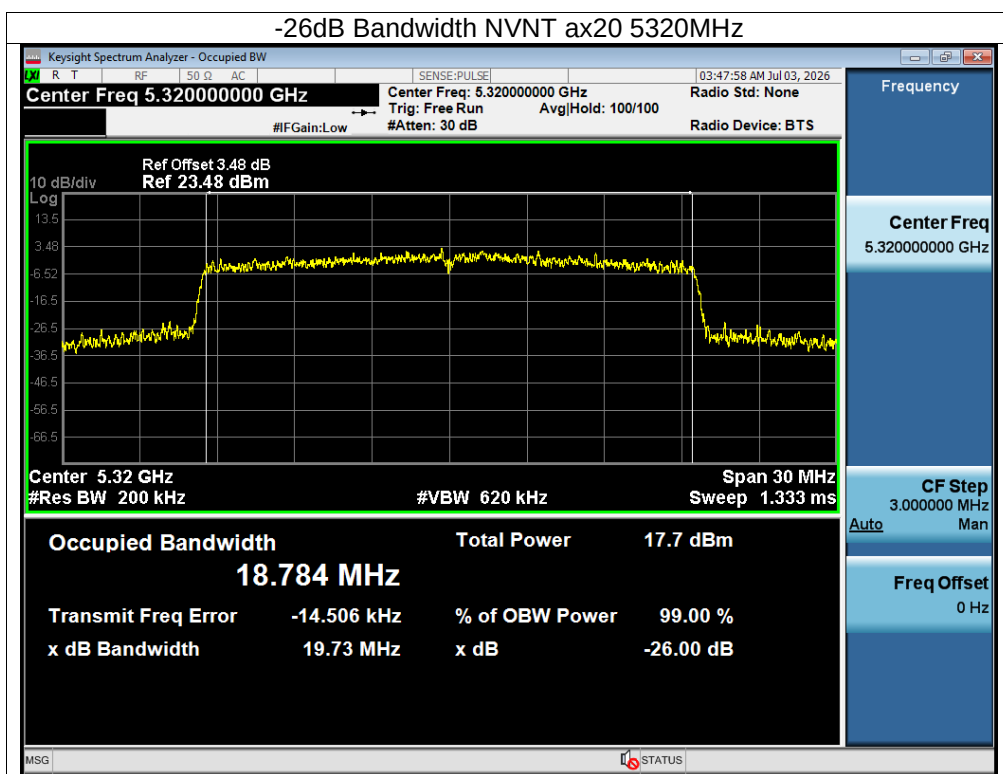


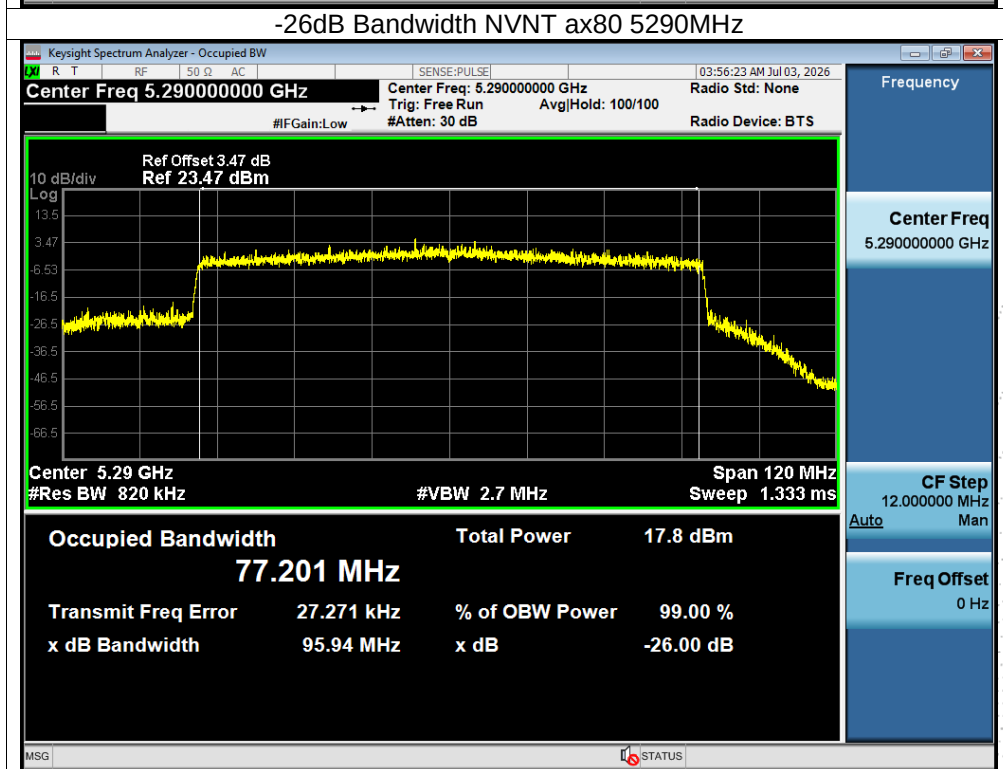
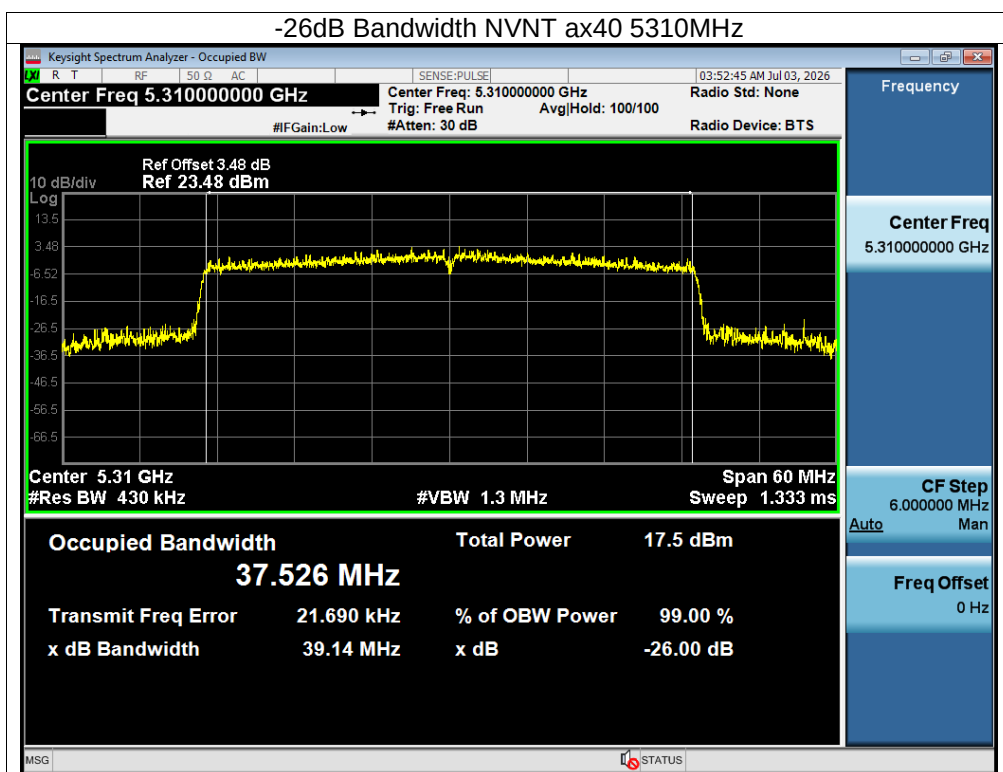


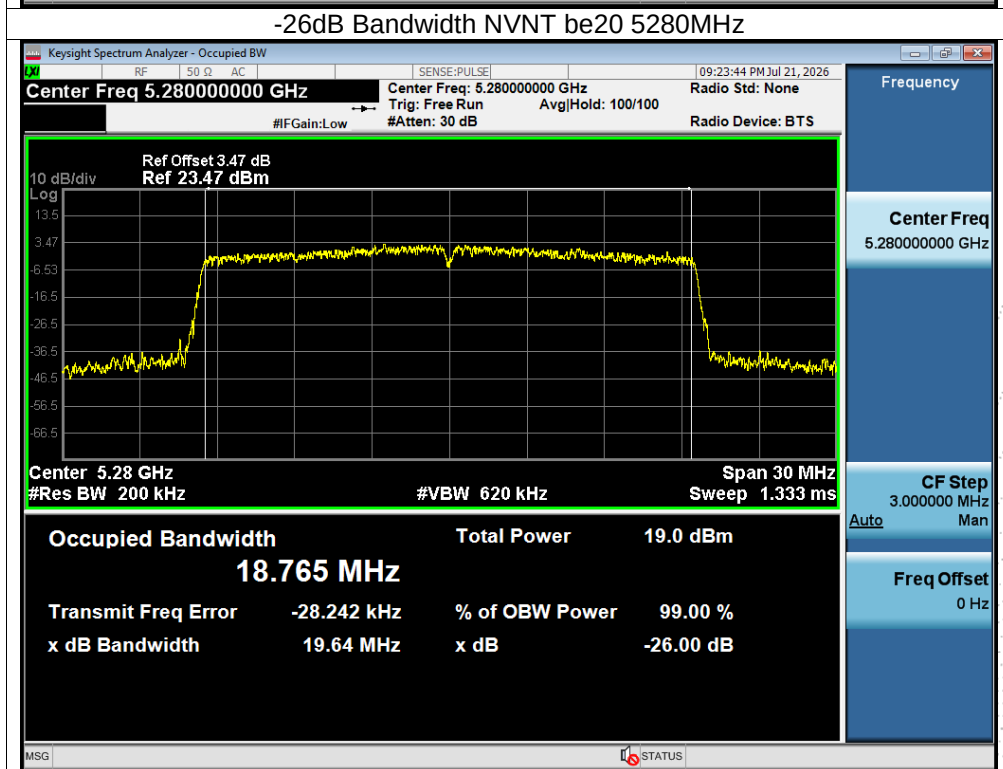
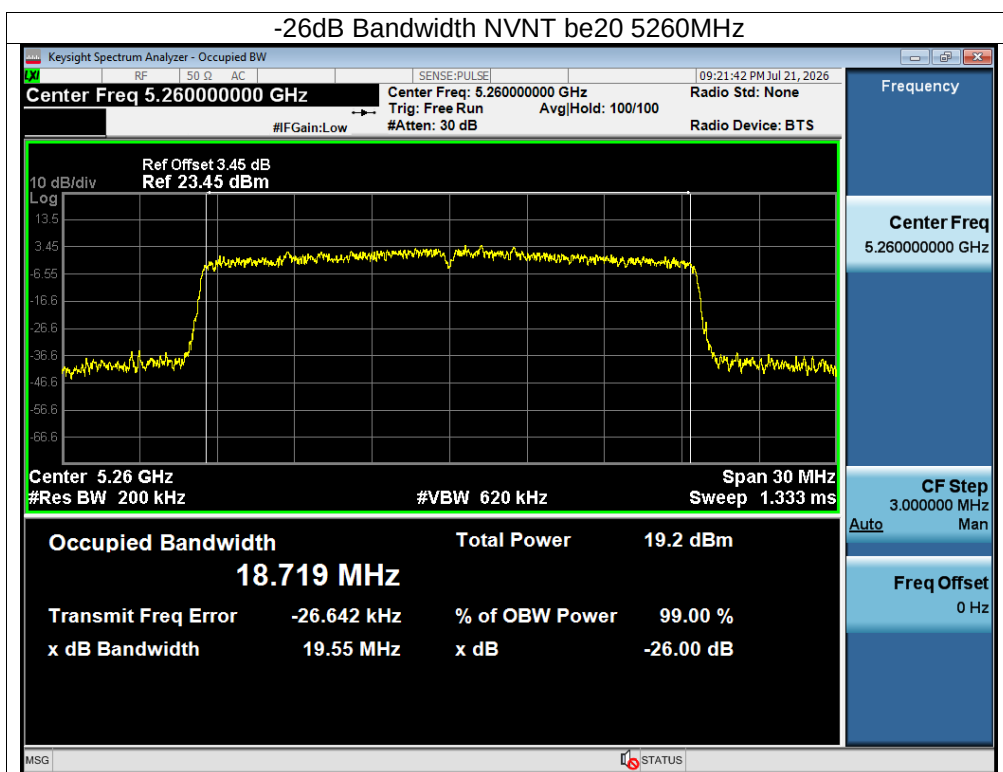


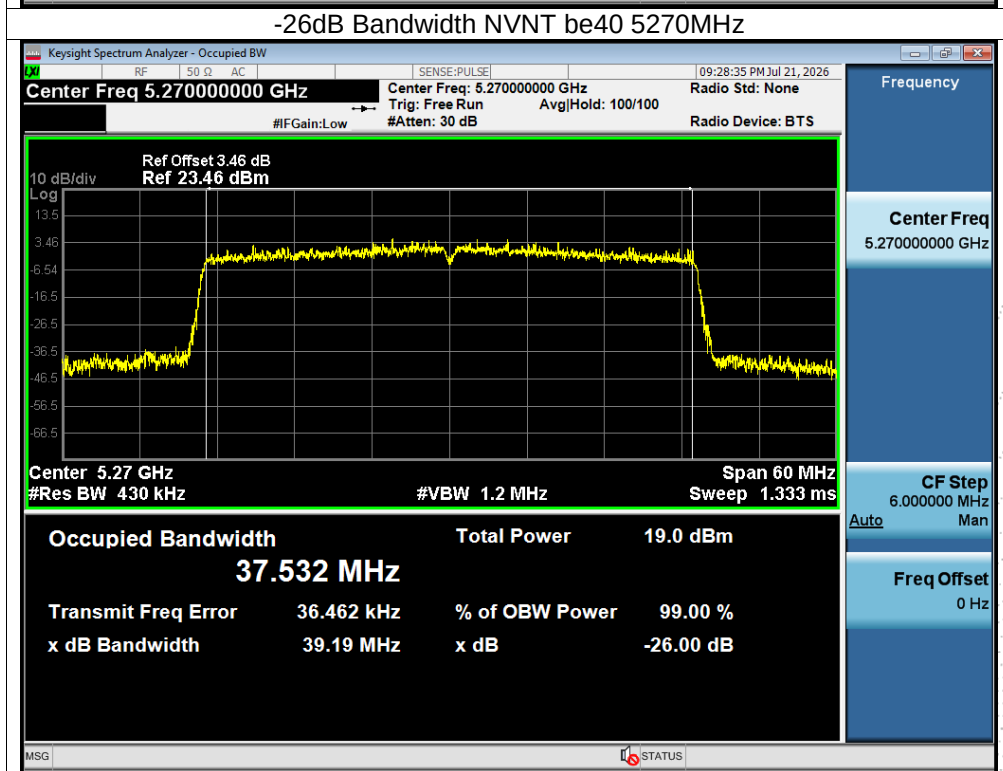
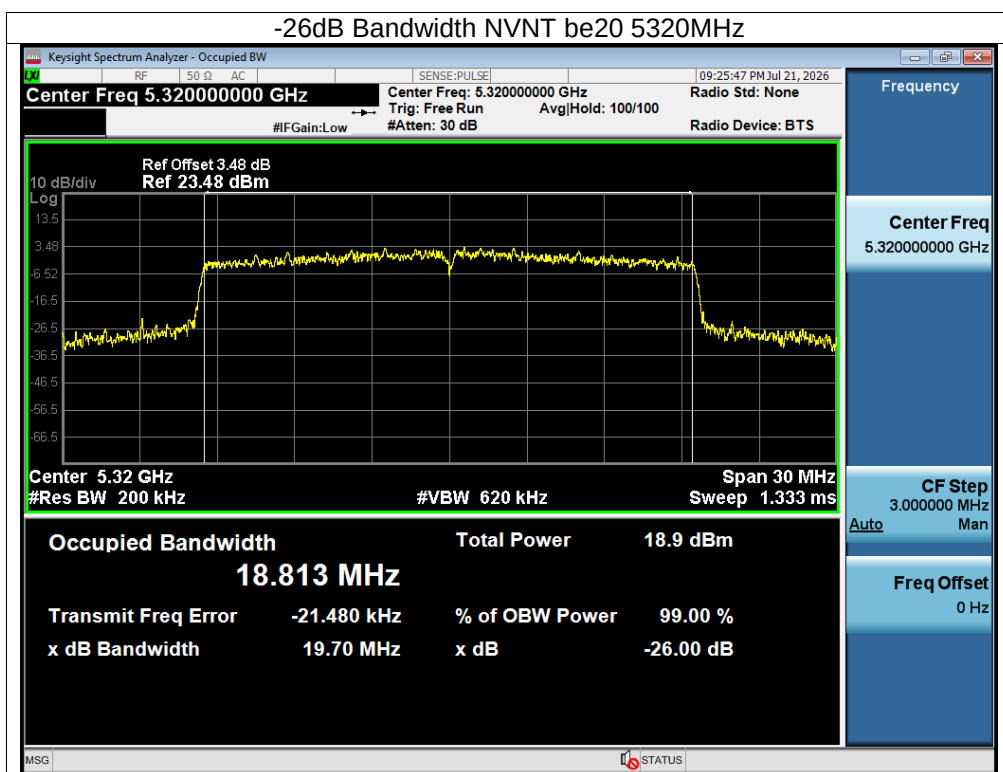


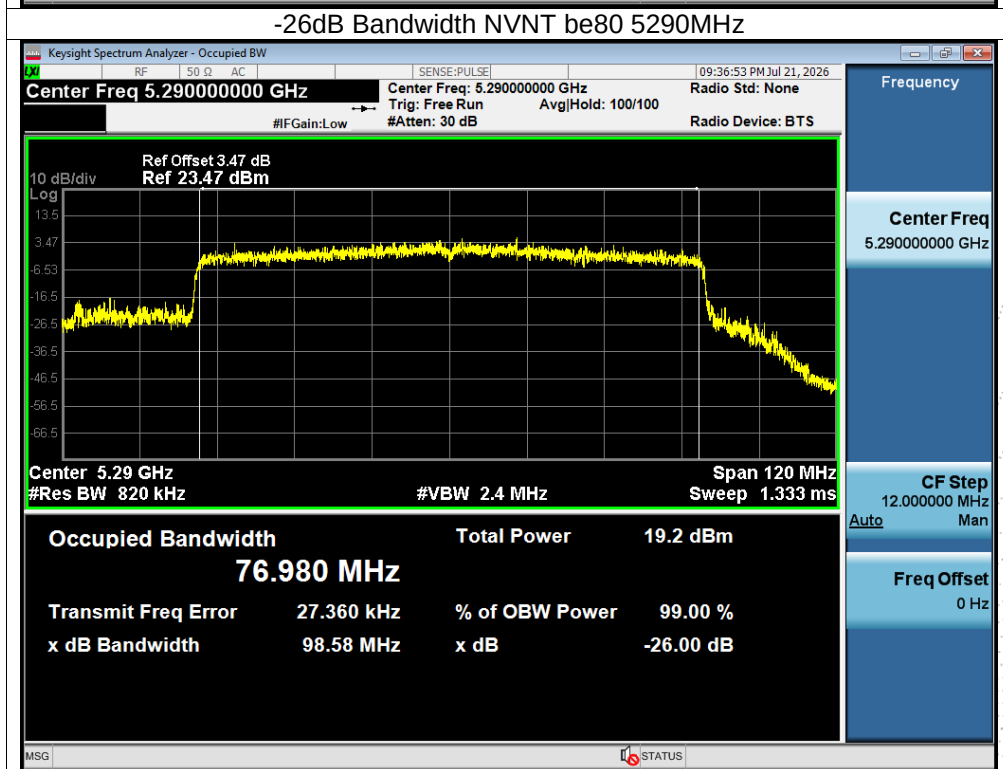
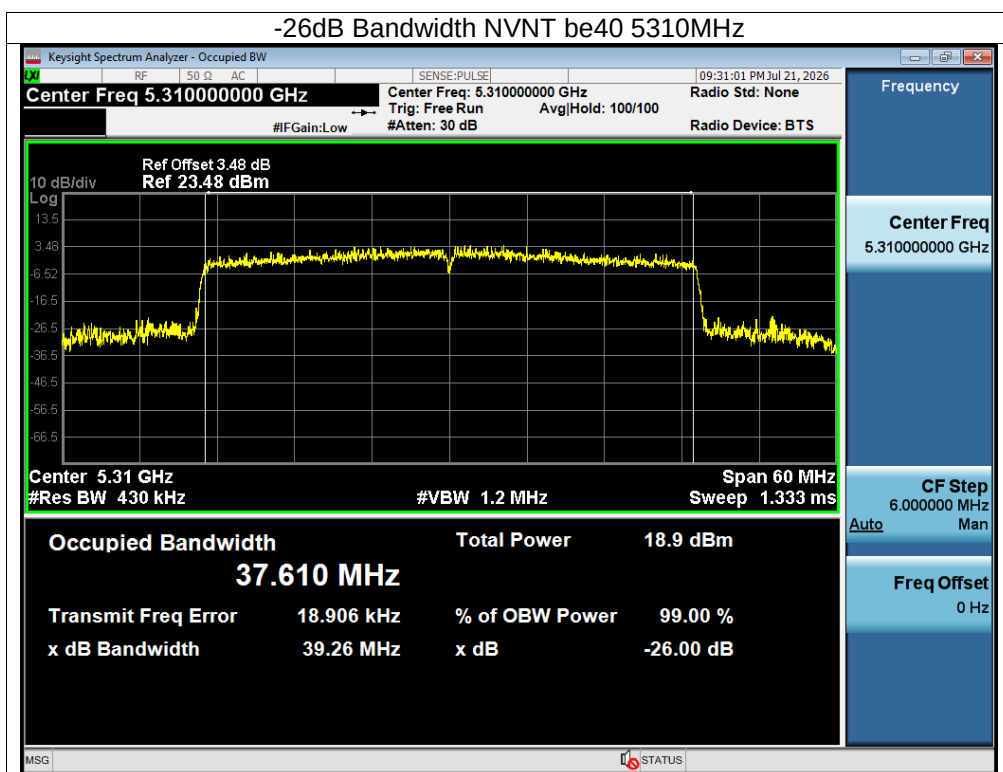












Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

