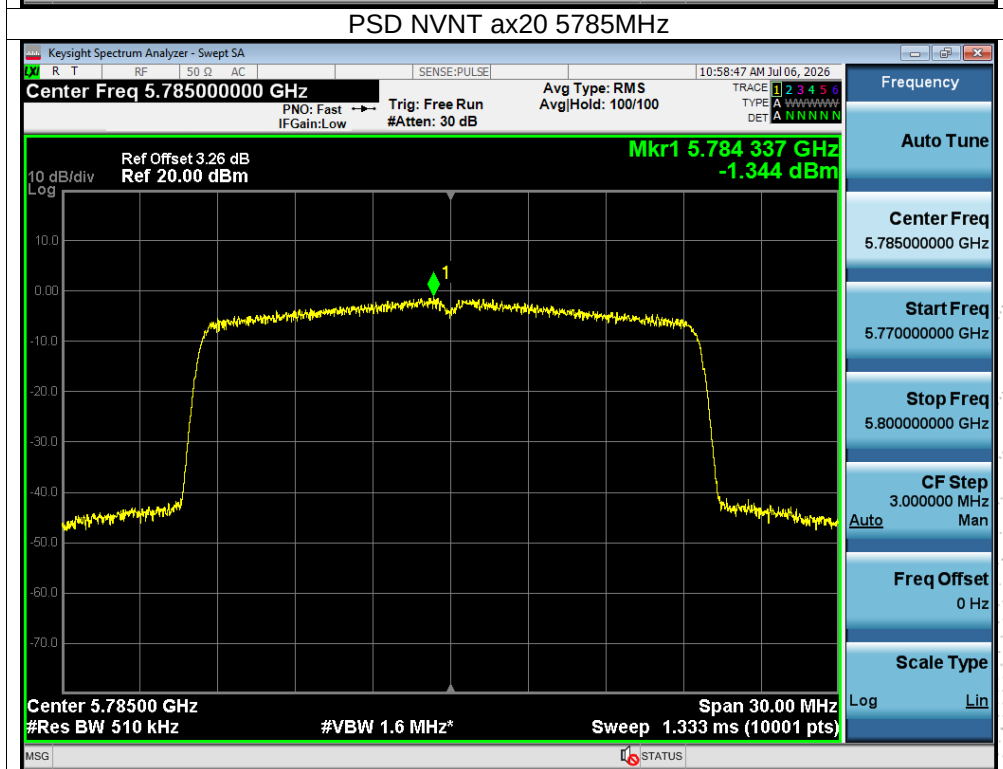
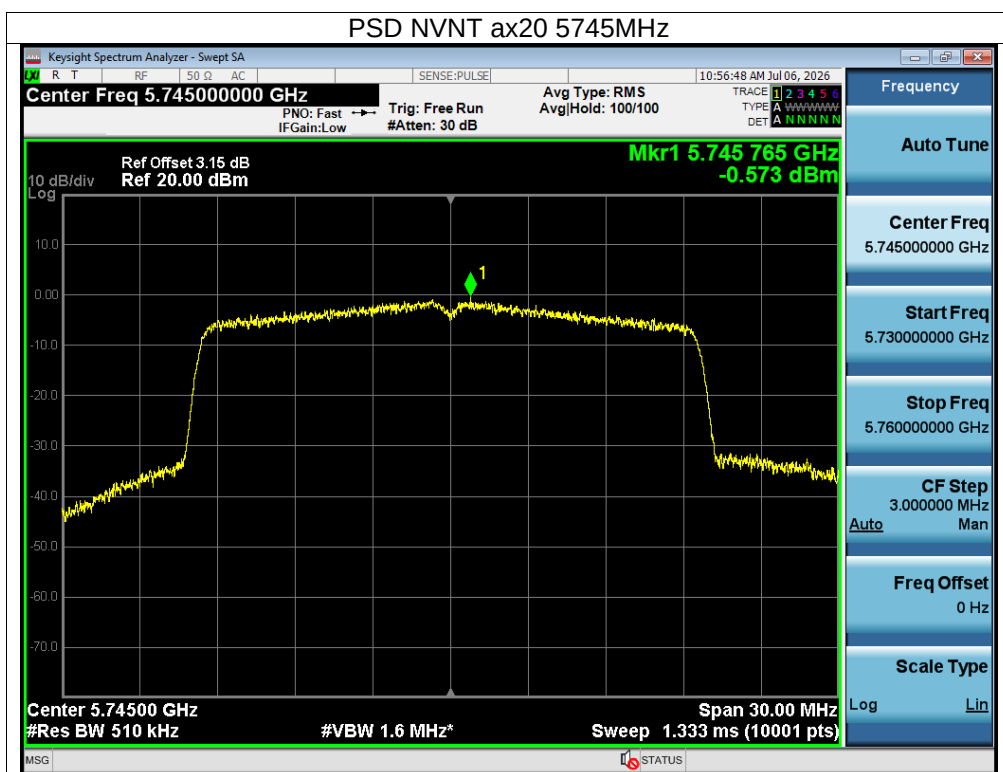
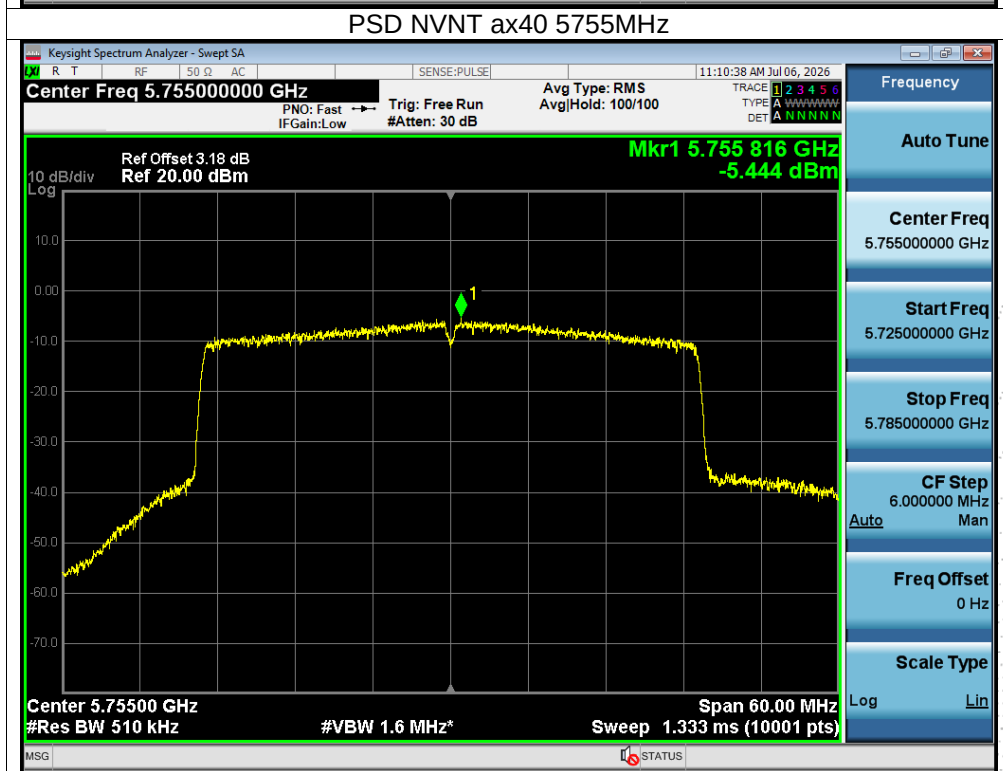
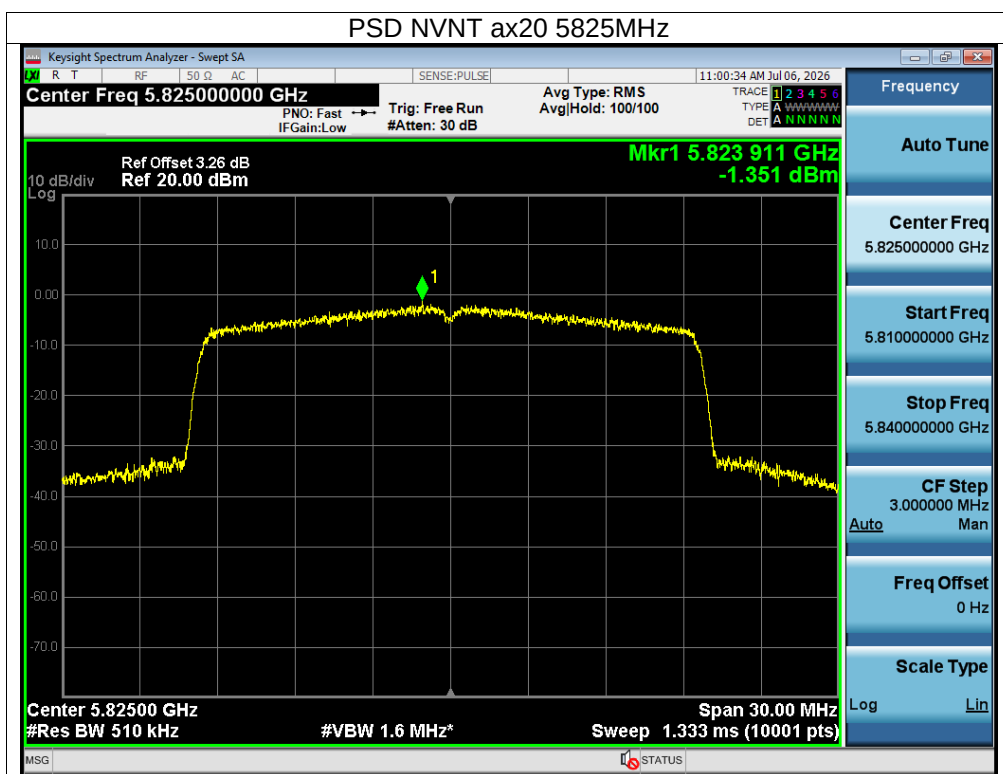
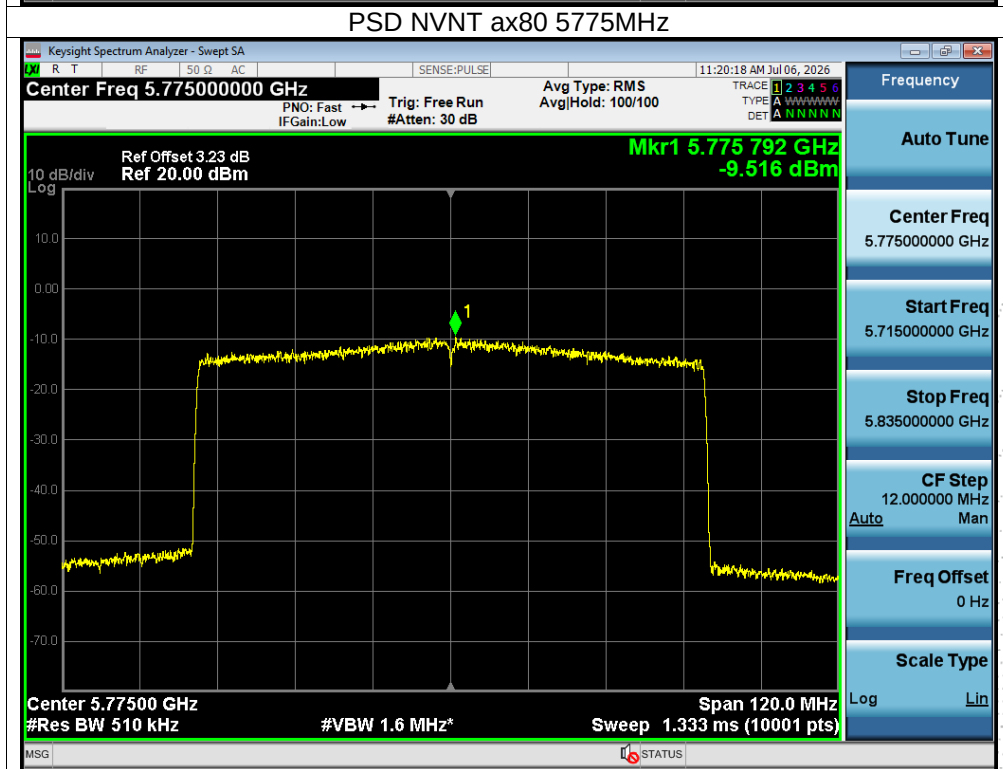
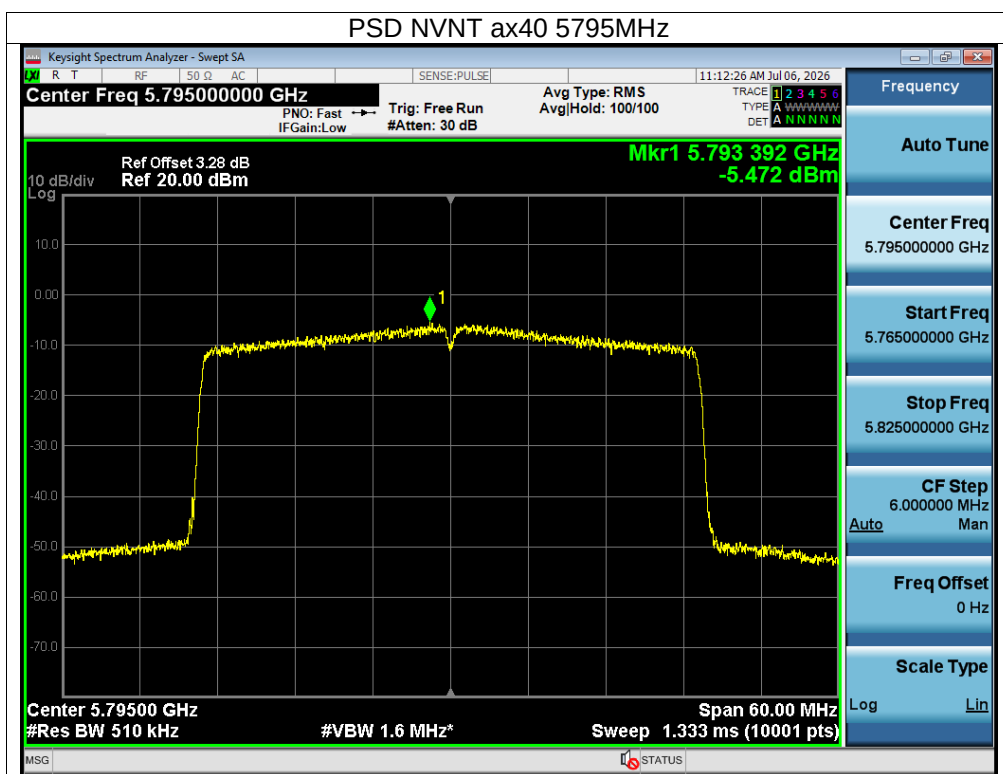
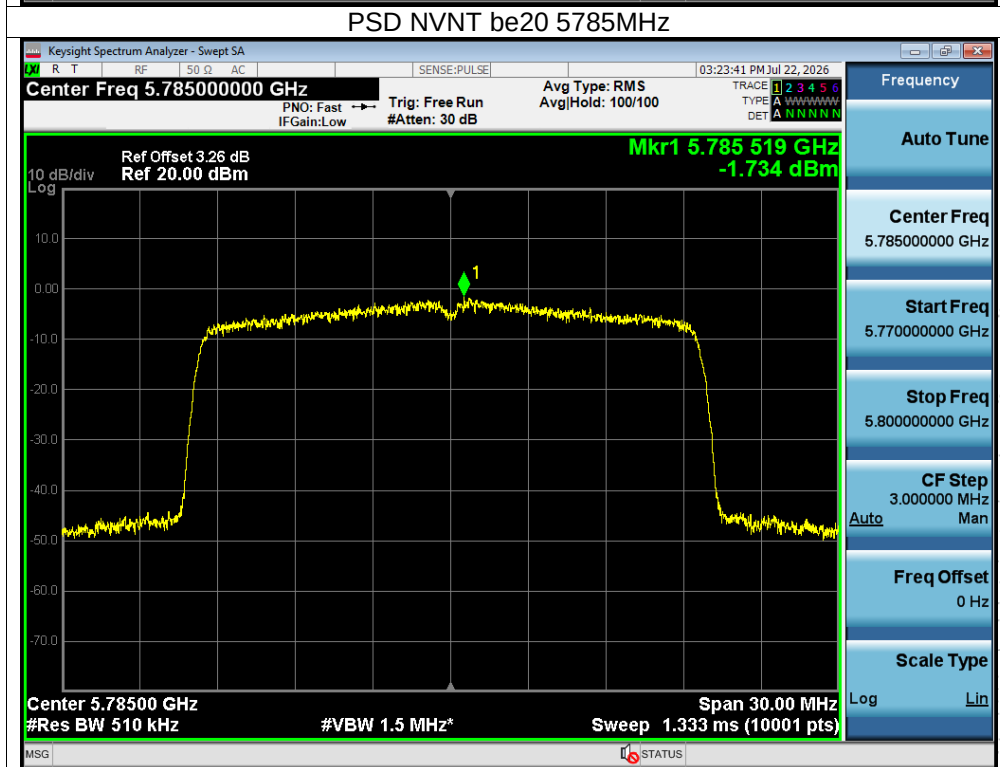
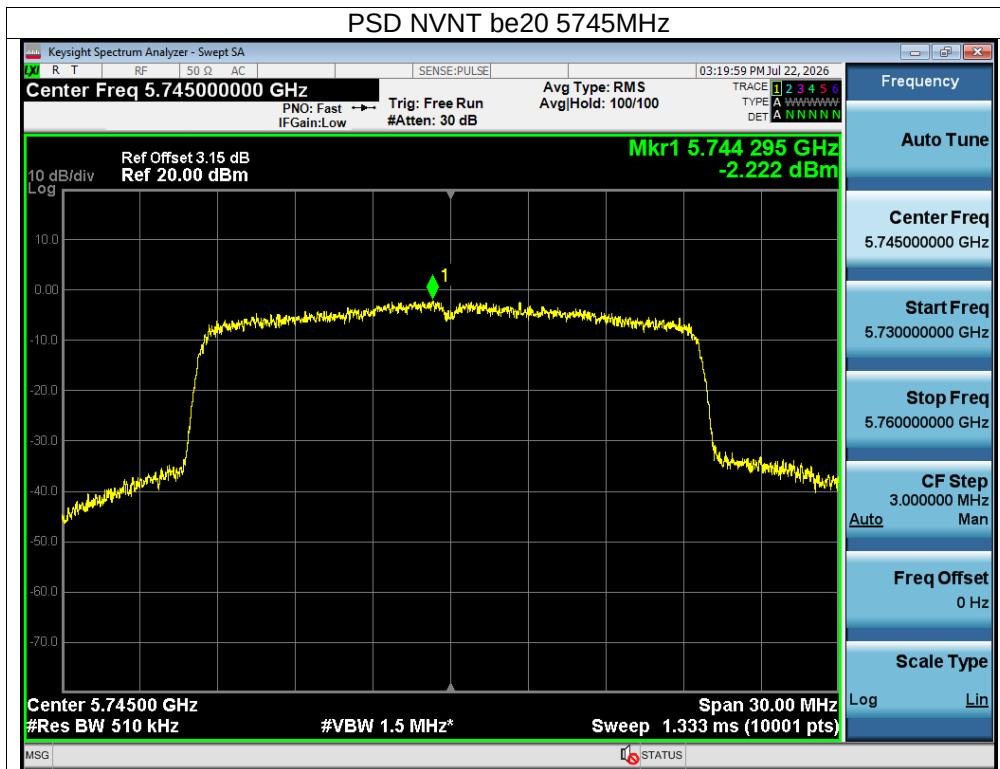
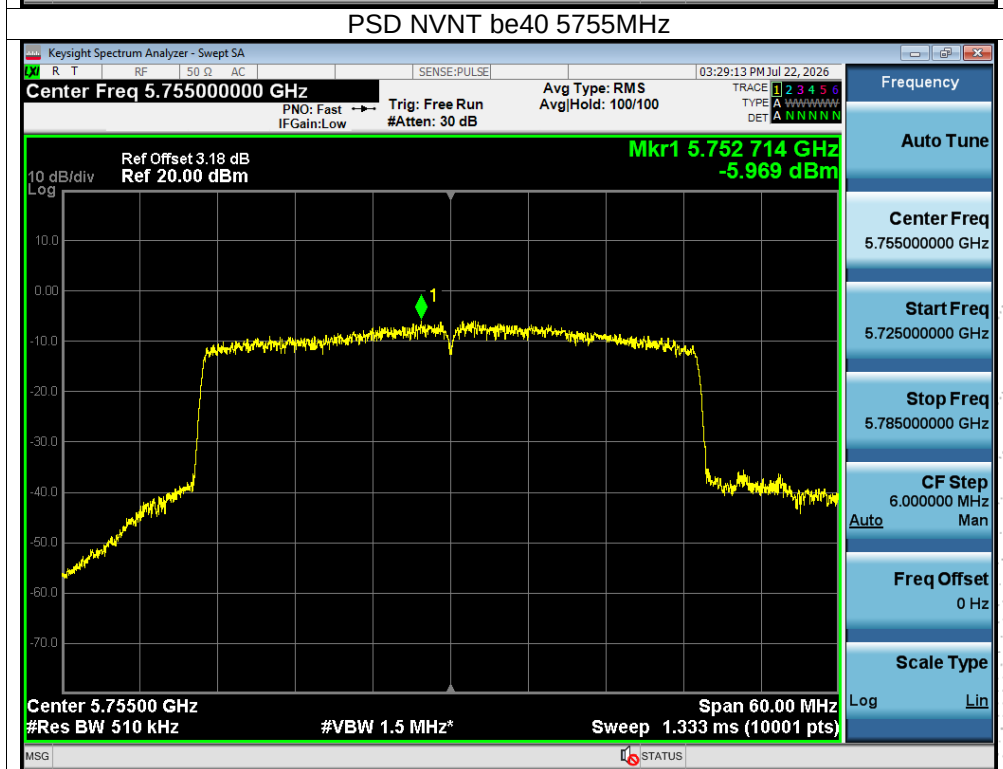
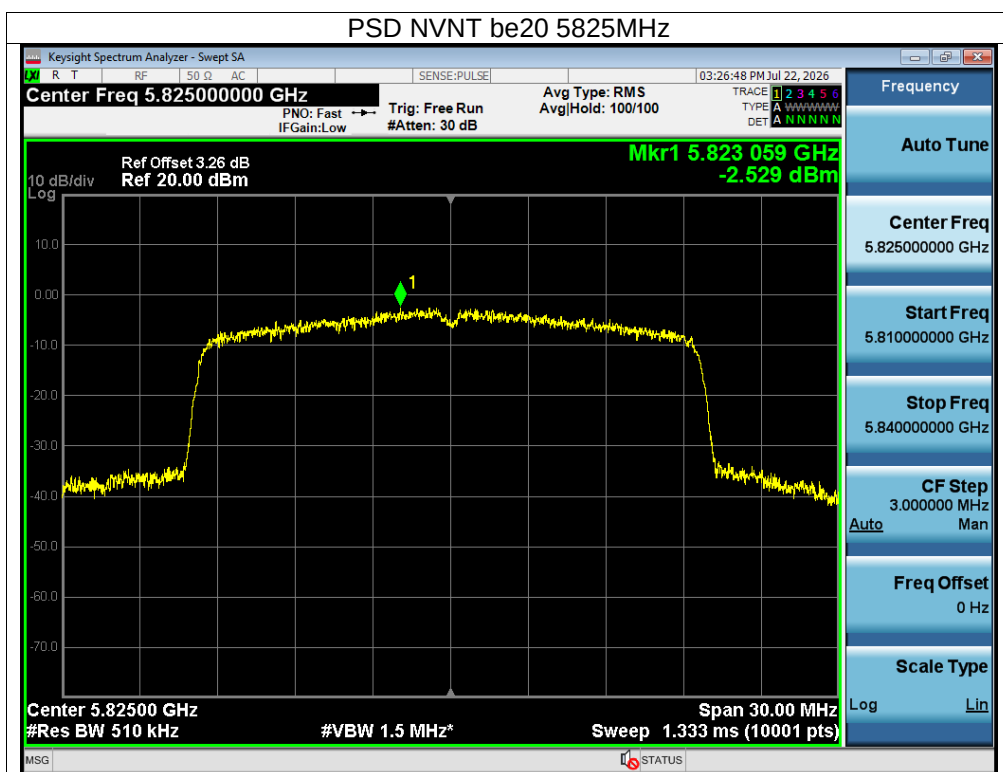


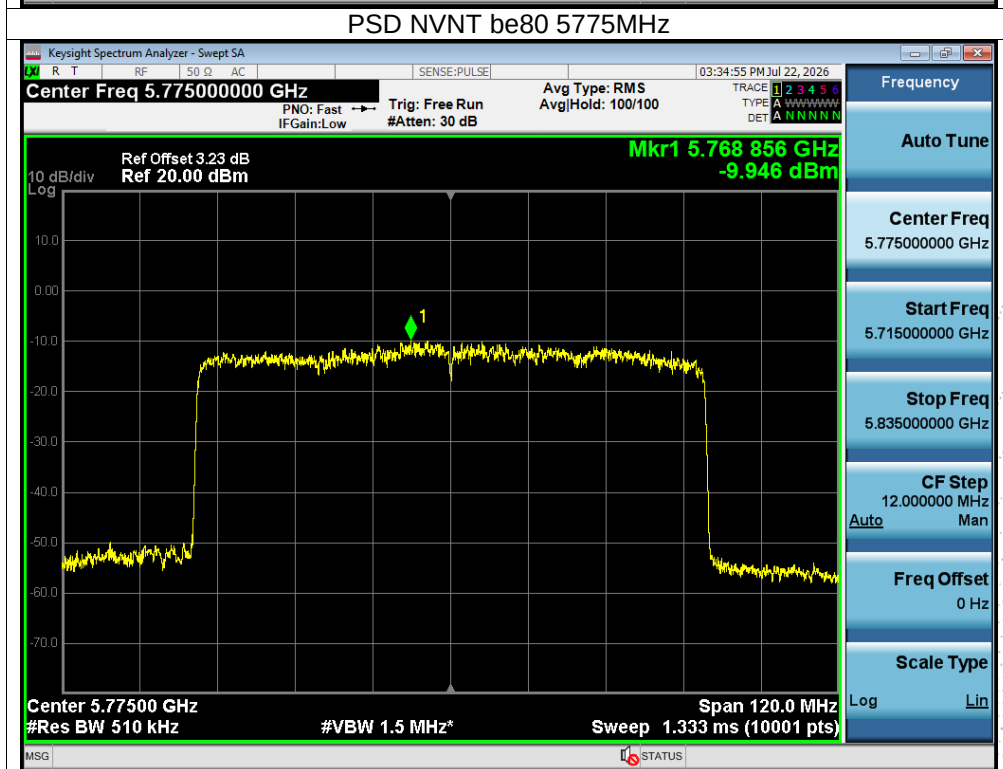
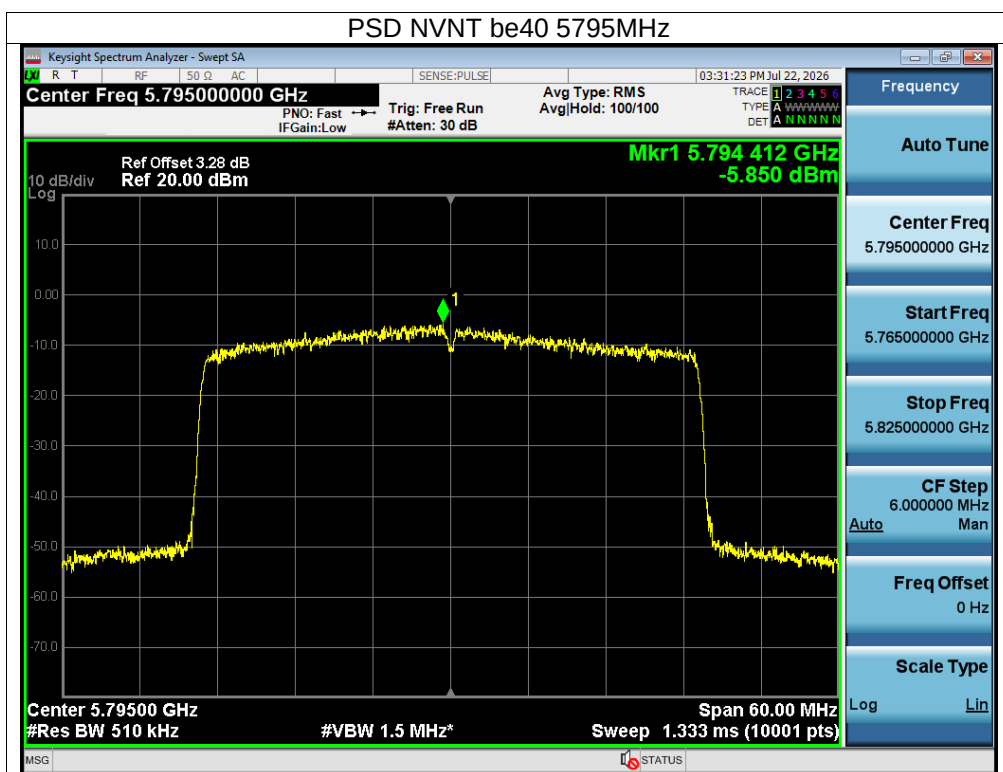






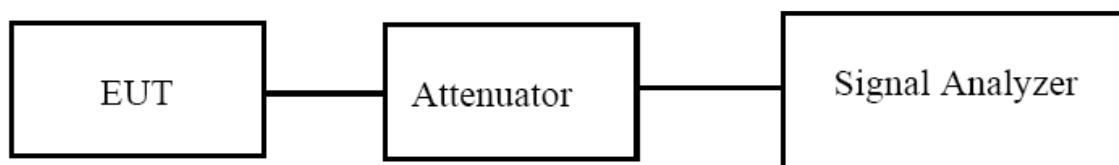






9. 26dB & 6dB & 99% Emission Bandwidth

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 $\geq 3 \cdot \text{RBW}$
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) $\geq 3 \times \text{RBW}$.
- 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

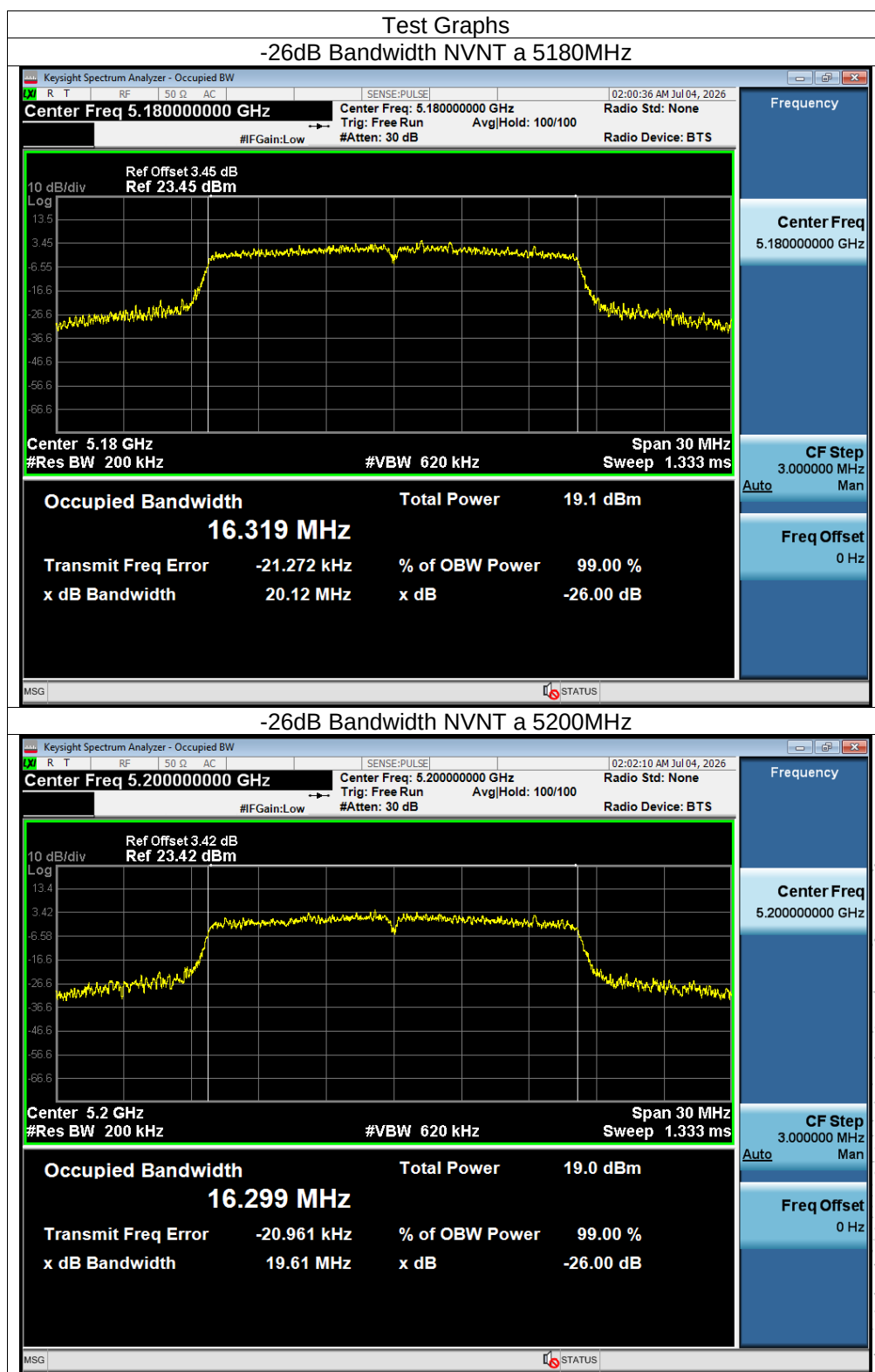
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

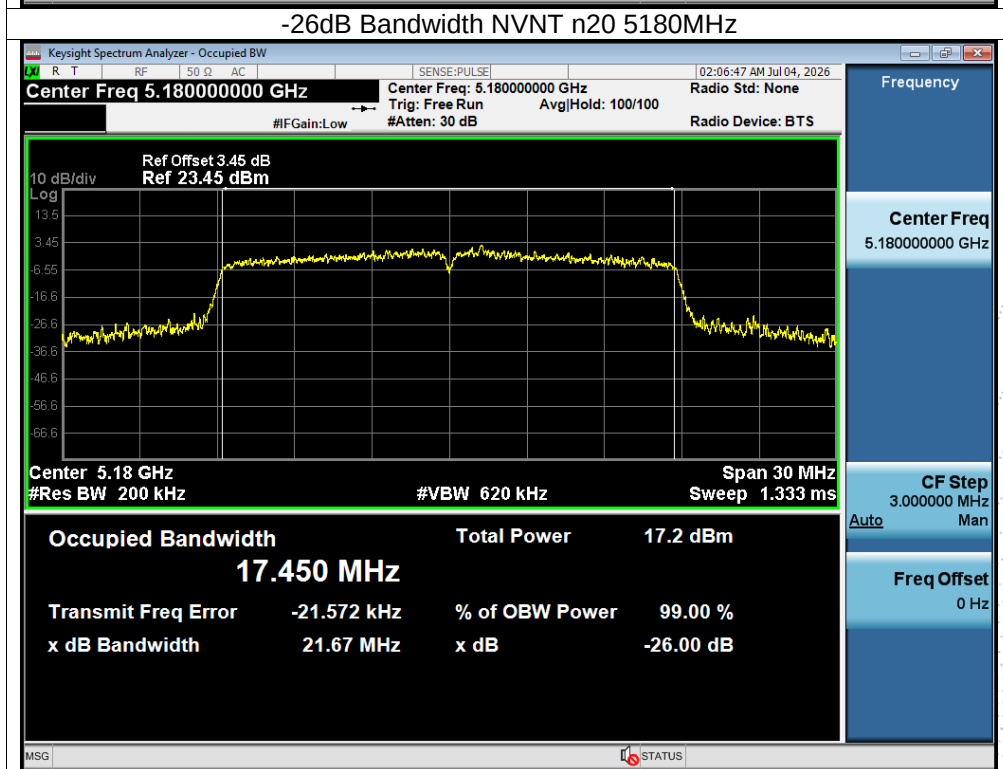
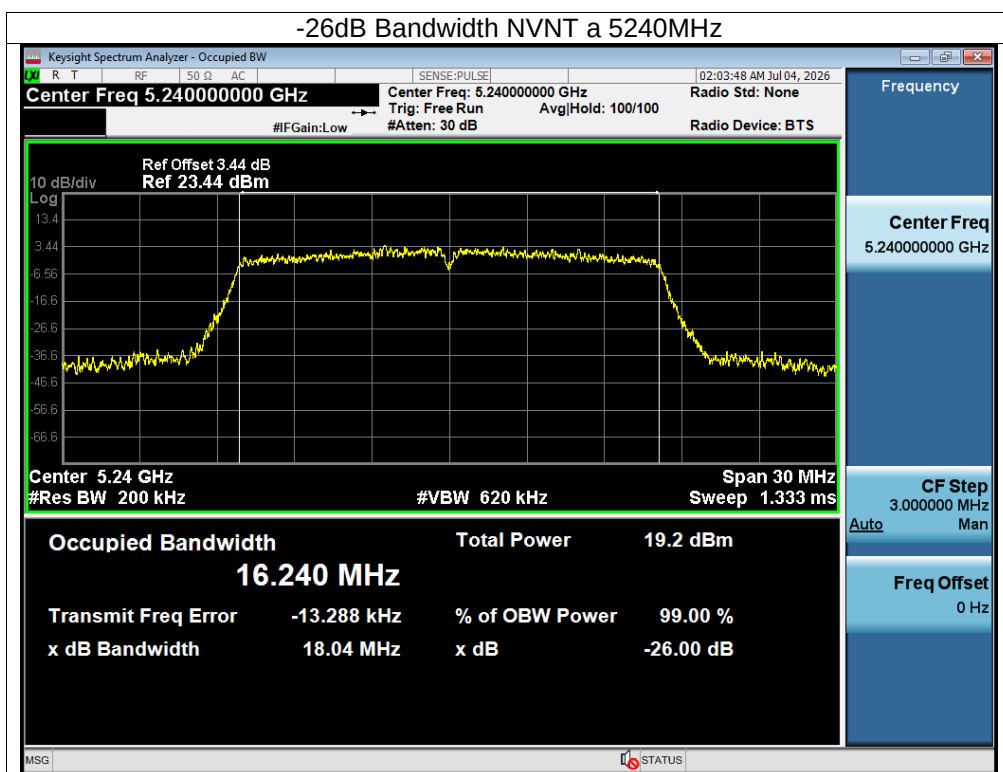
9.5 Test Result

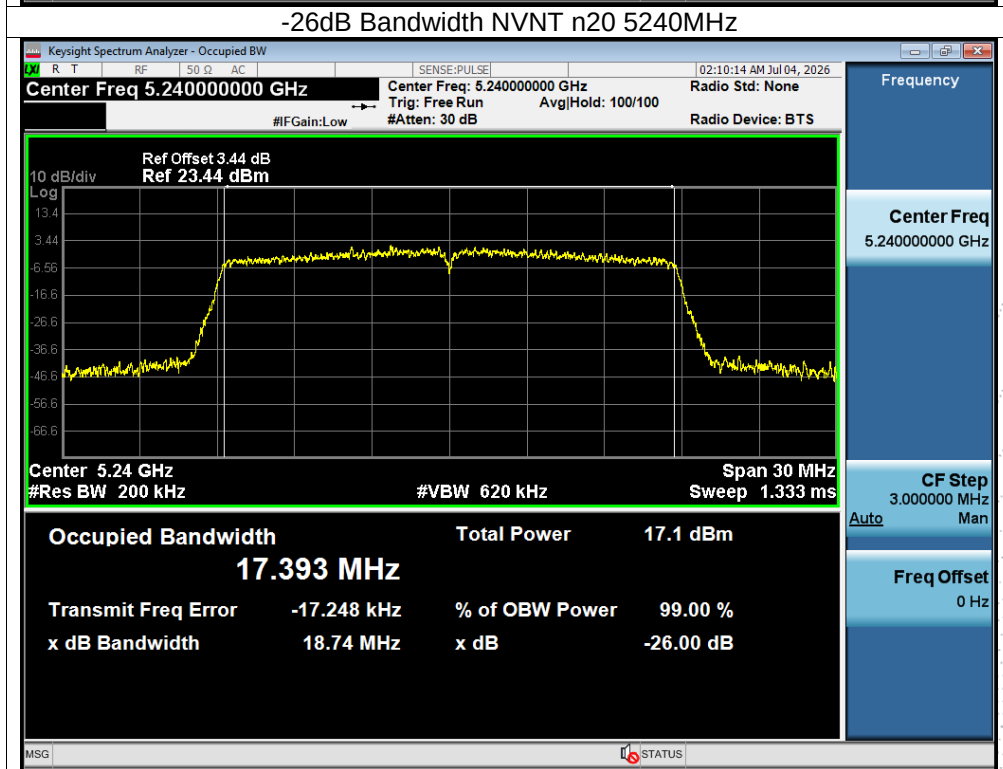
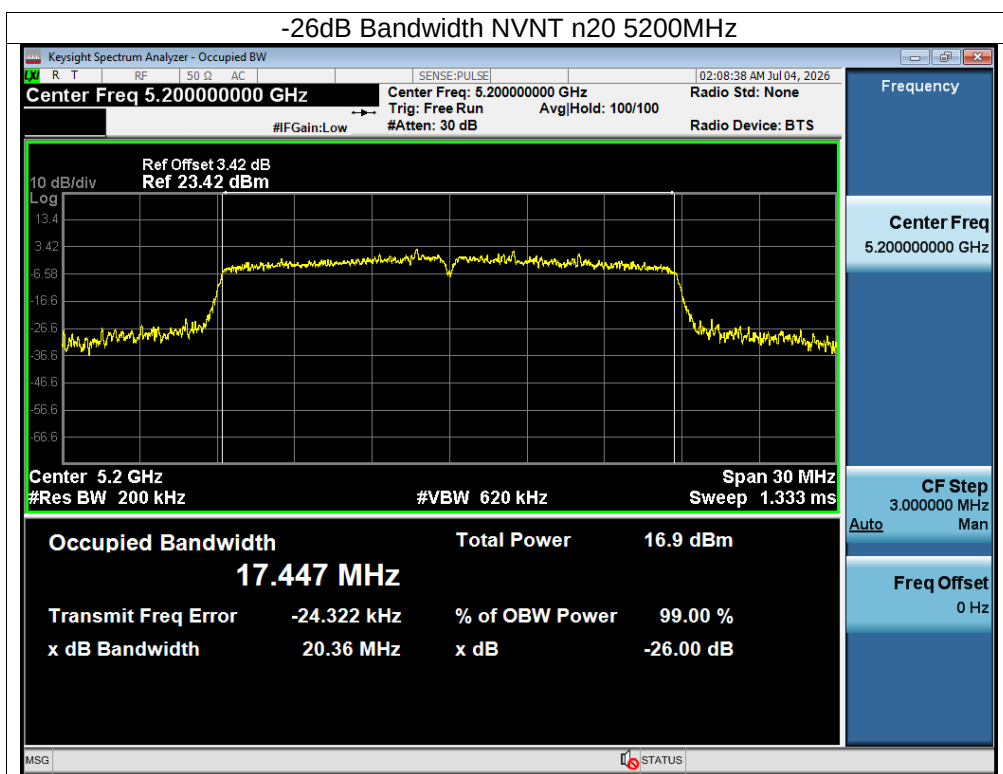
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5180-5240MHz)		

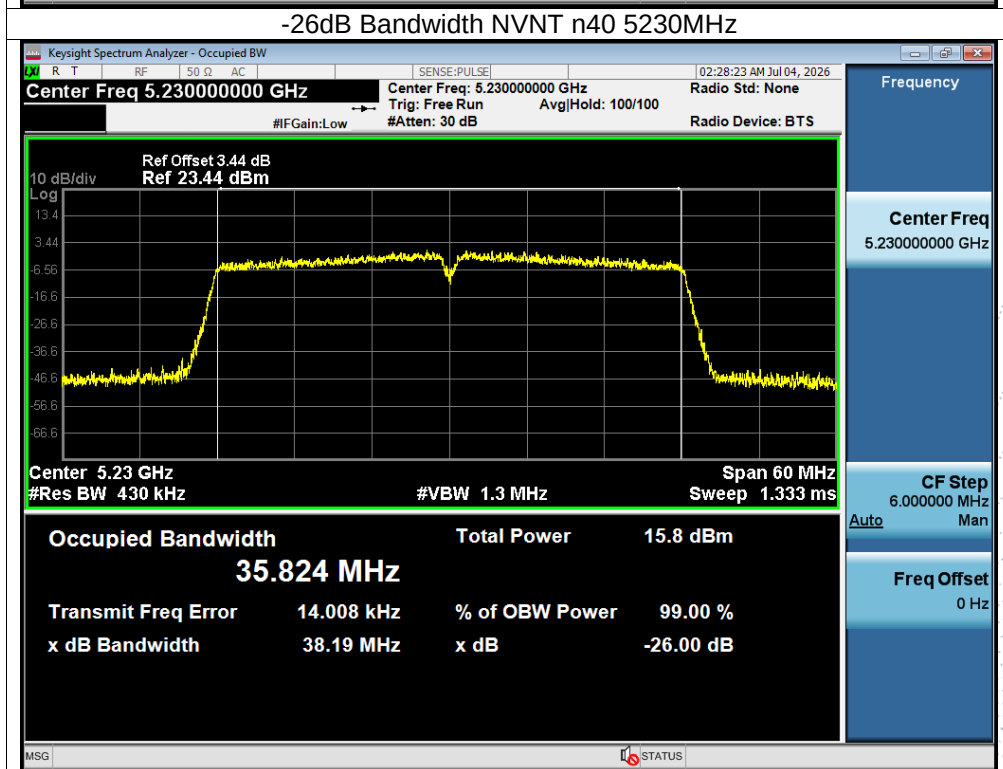
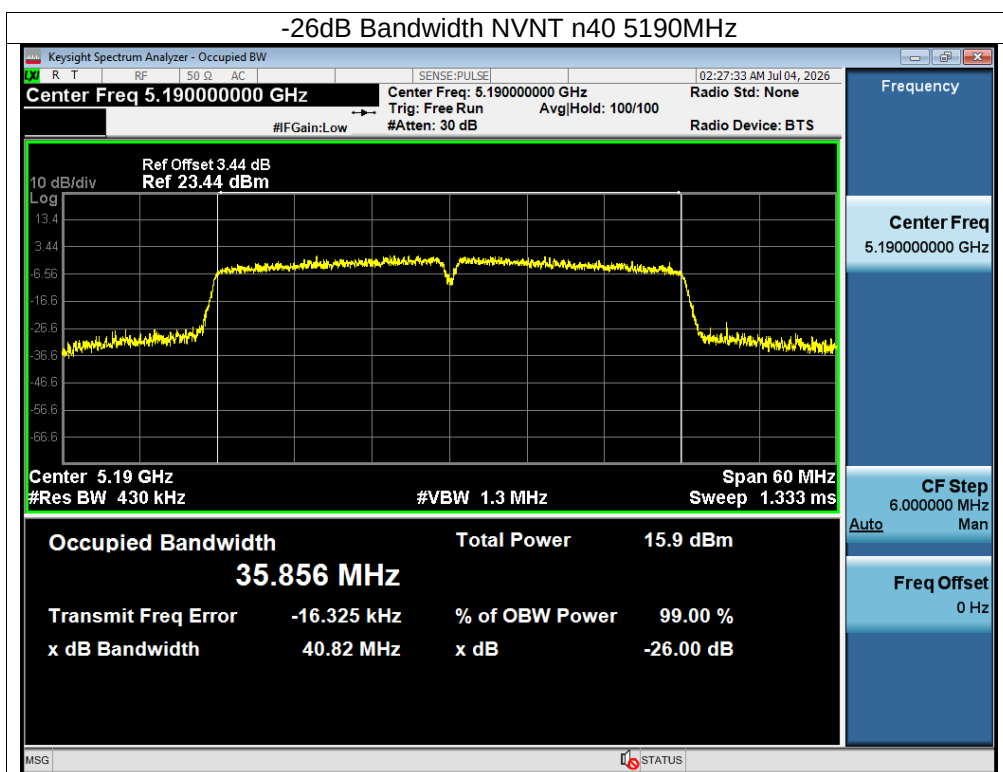
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5180	22.727	20.119	16.299	16.314	Pass
NVNT	a	5200	19.042	19.612	16.309	16.291	Pass
NVNT	a	5240	18.175	18.039	16.272	16.26	Pass
NVNT	n20	5180	18.738	21.668	17.439	17.456	Pass
NVNT	n20	5200	20.984	20.361	17.461	17.438	Pass
NVNT	n20	5240	18.636	18.74	17.379	17.402	Pass
NVNT	n40	5190	40.677	40.818	35.804	35.9	Pass
NVNT	n40	5230	38.15	38.194	35.795	35.758	Pass
NVNT	ac20	5180	19.647	21.627	17.438	17.493	Pass
NVNT	ac20	5200	19.851	22.878	17.433	17.447	Pass
NVNT	ac20	5240	18.812	18.678	17.388	17.425	Pass
NVNT	ac40	5190	45.045	38.337	35.869	35.873	Pass
NVNT	ac40	5230	38.118	37.905	35.825	35.801	Pass
NVNT	ac80	5210	100.366	103.375	75.461	75.411	Pass
NVNT	ax20	5180	19.737	19.777	18.764	18.79	Pass
NVNT	ax20	5200	19.759	21.729	18.786	18.752	Pass
NVNT	ax20	5240	19.583	19.713	18.754	18.753	Pass
NVNT	ax40	5190	39.294	39.29	37.616	37.547	Pass
NVNT	ax40	5230	39.254	39.294	37.464	37.467	Pass
NVNT	ax80	5210	91.914	101.702	77.026	77.038	Pass
NVNT	be20	5180	19.668	21.117	18.766	18.773	Pass
NVNT	be20	5200	19.751	20.586	18.768	18.767	Pass
NVNT	be20	5240	19.674	19.719	18.726	18.718	Pass
NVNT	be40	5190	43.153	39.234	37.569	37.545	Pass
NVNT	be40	5230	39.388	39.332	37.589	37.56	Pass
NVNT	be80	5210	98.781	89.458	77.011	77.184	Pass

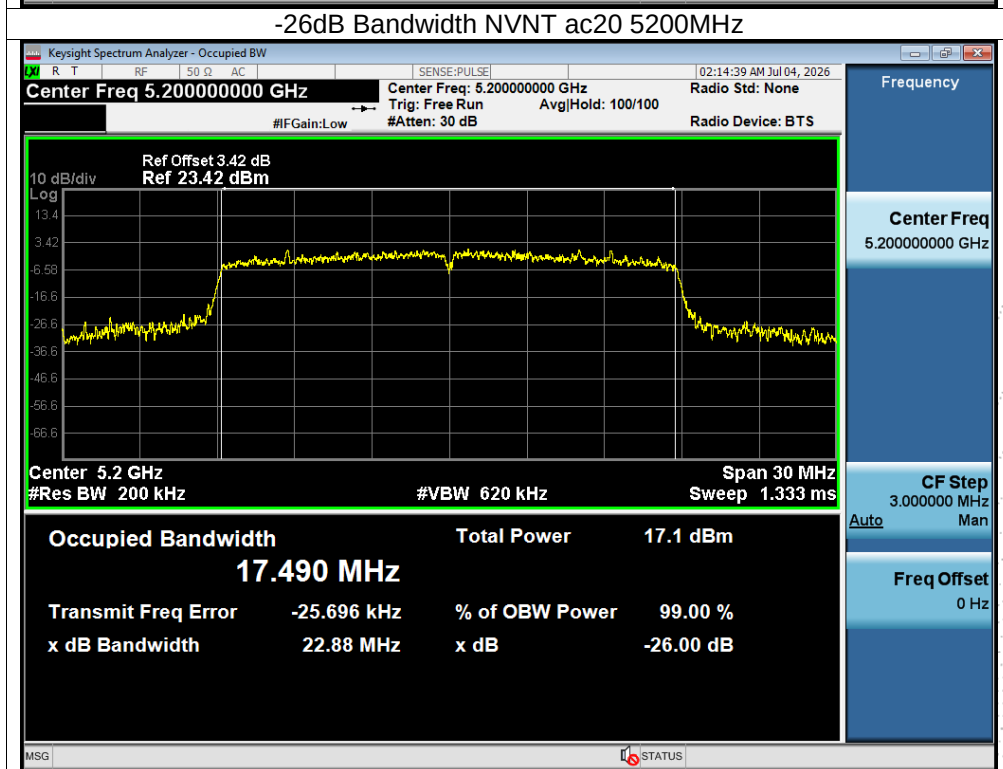
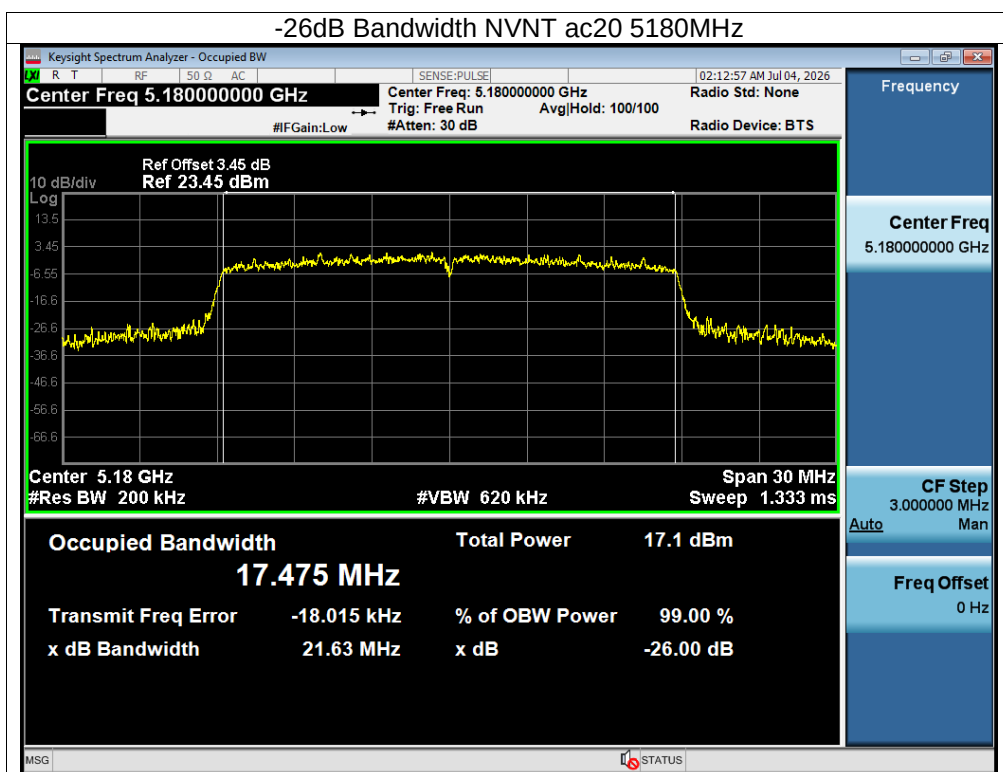
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

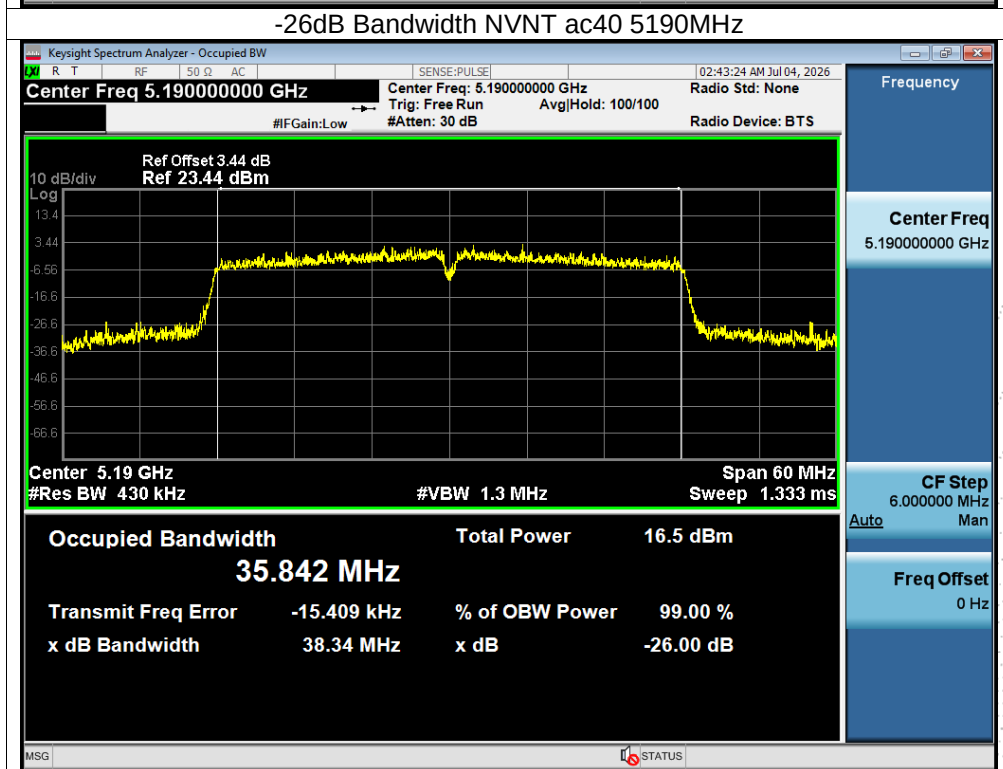
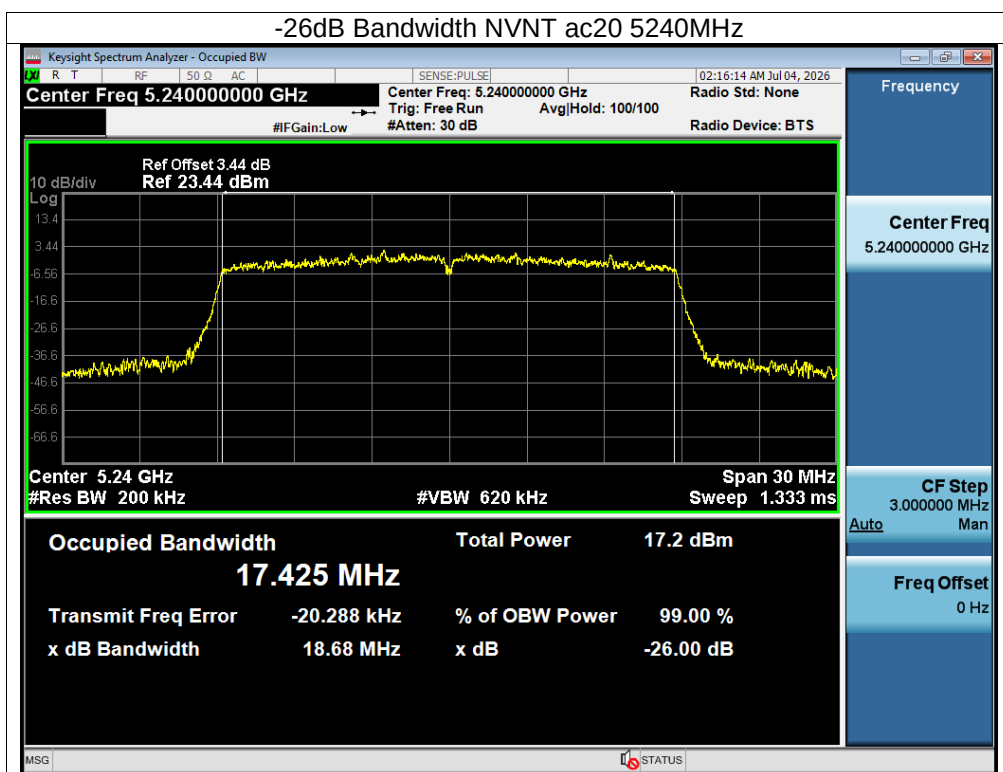


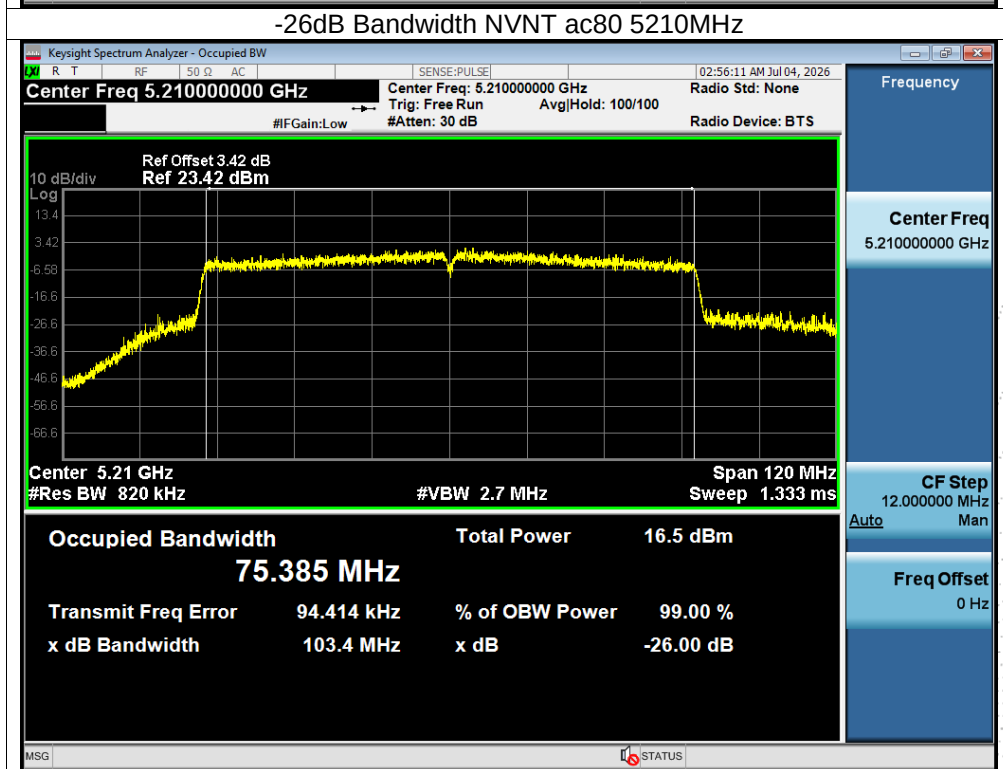
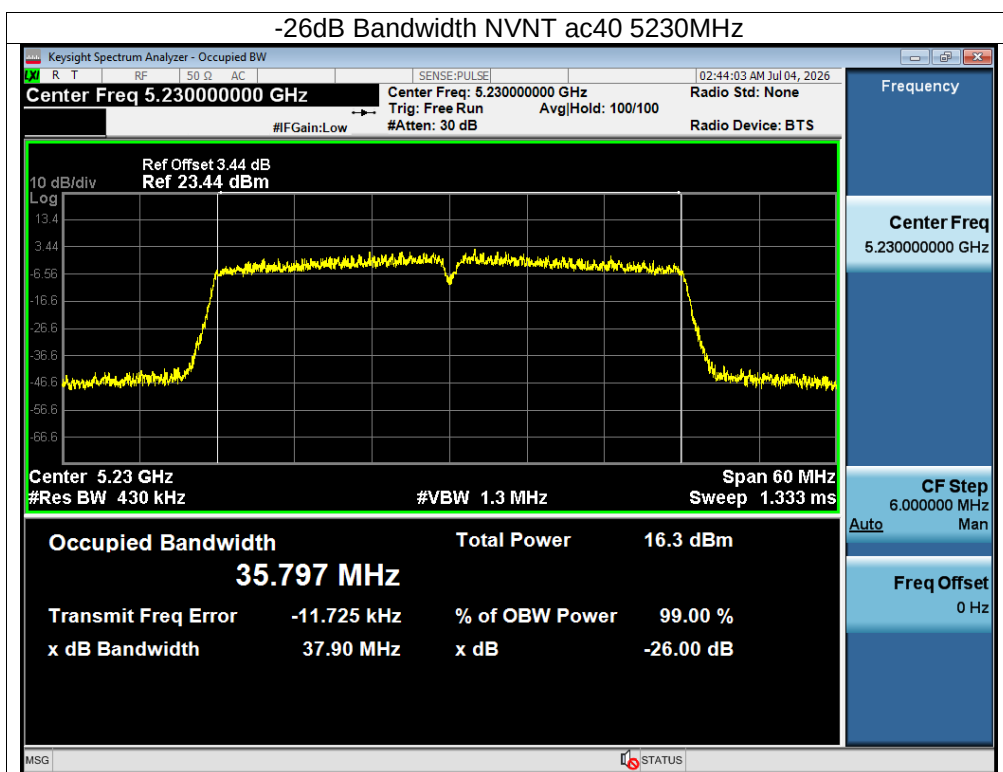


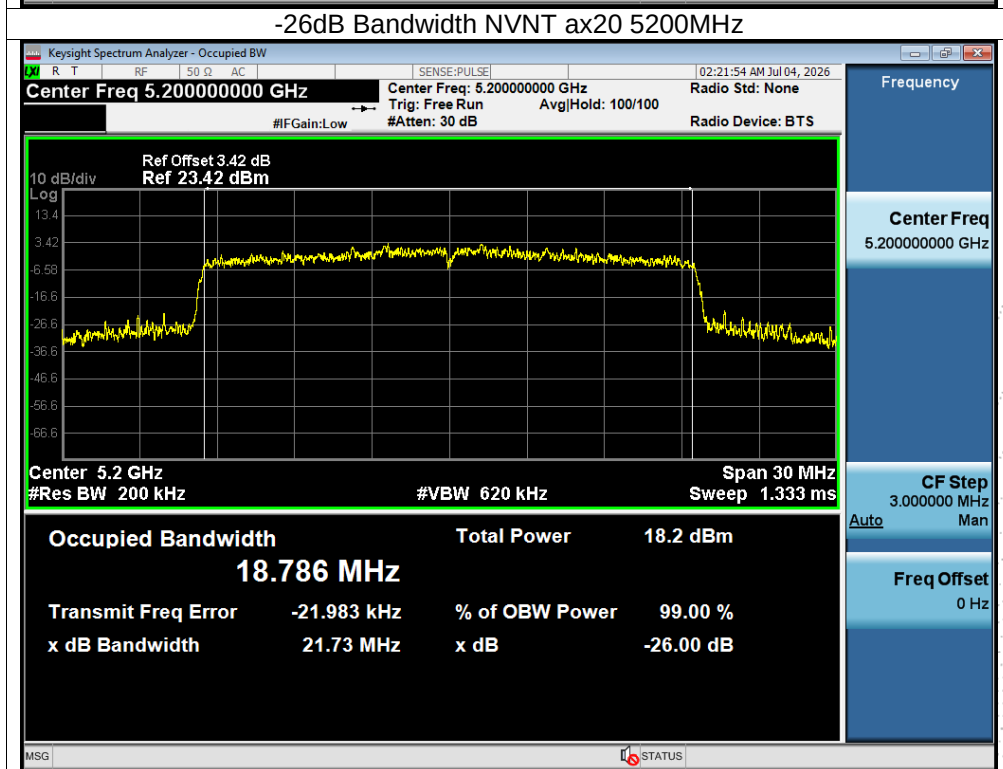
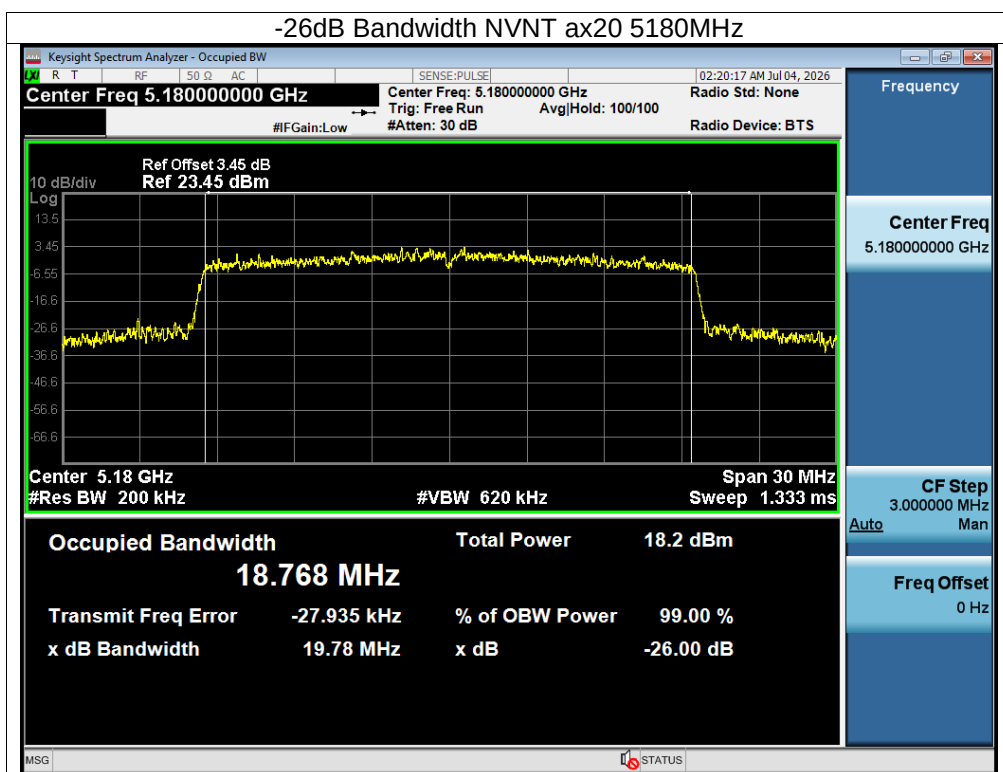


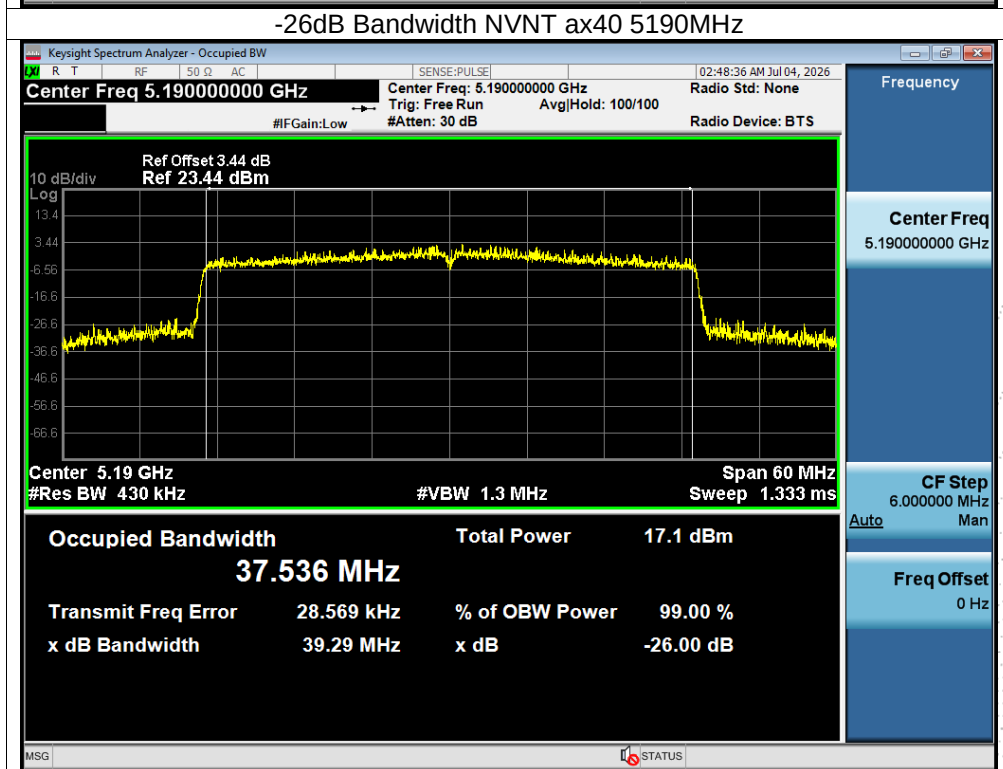
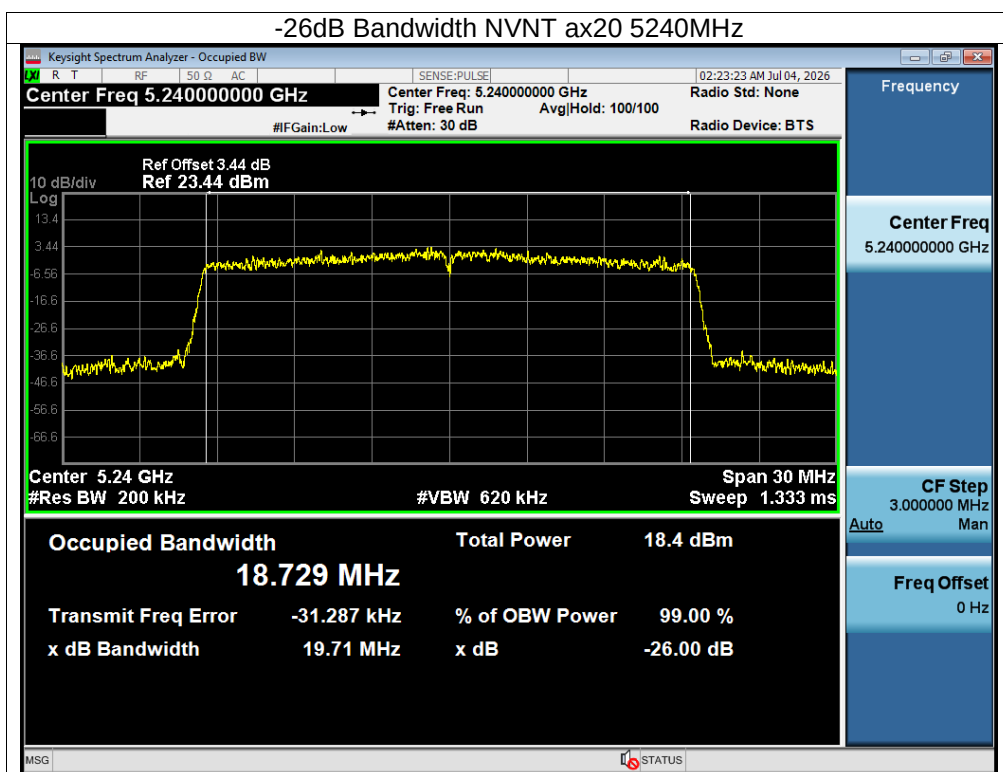


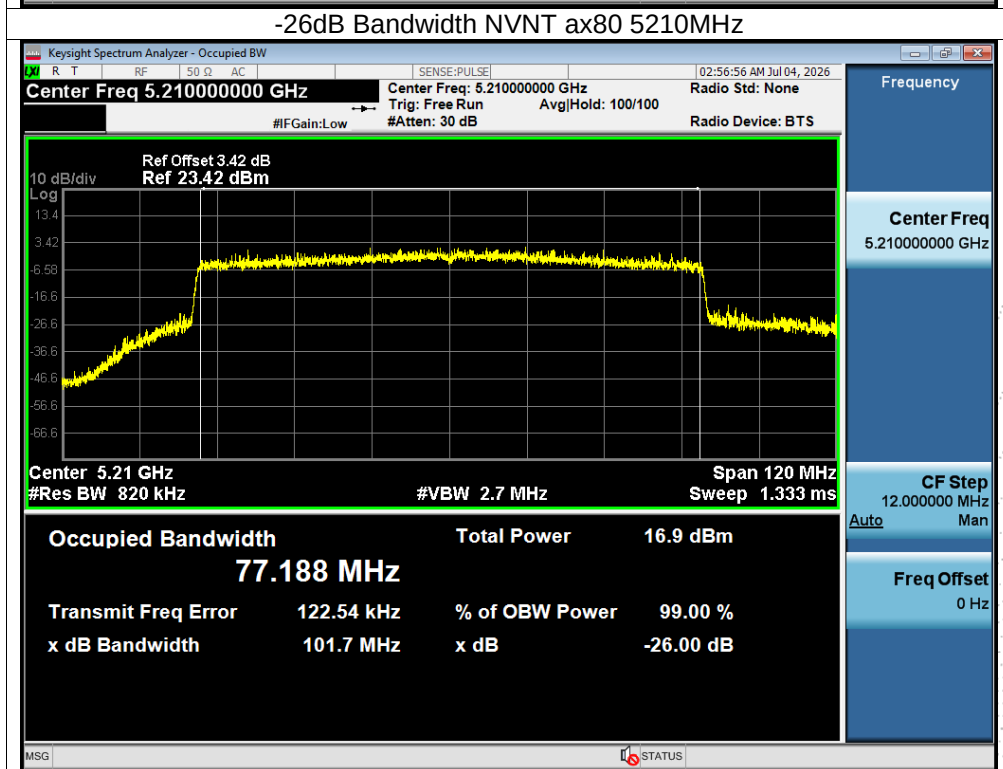
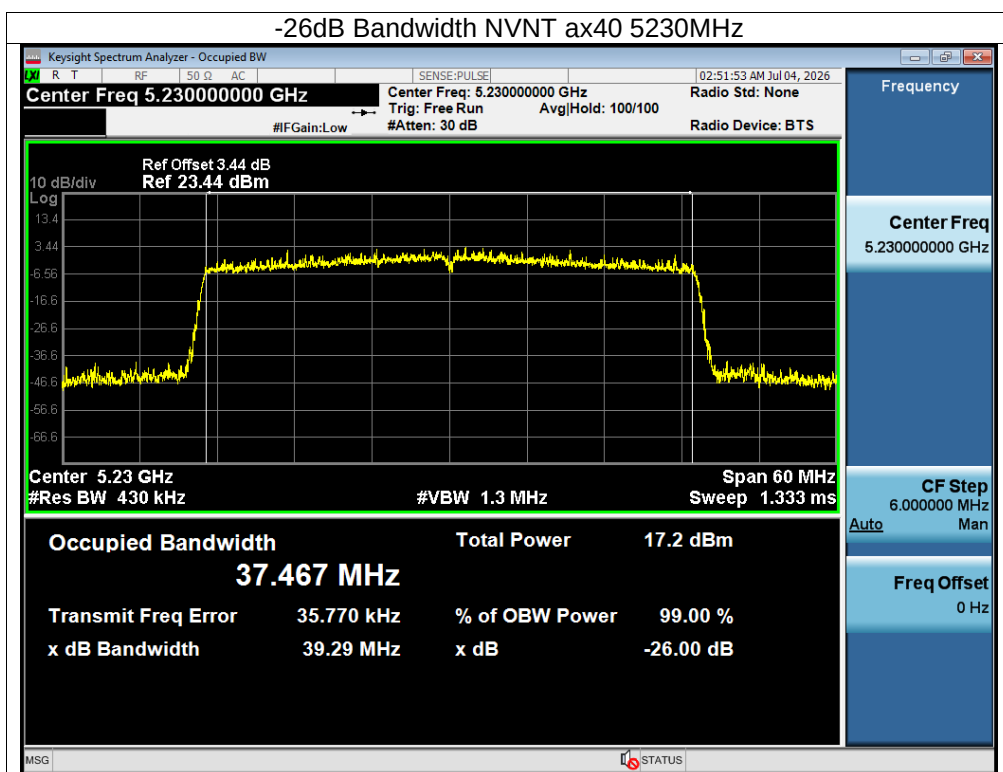


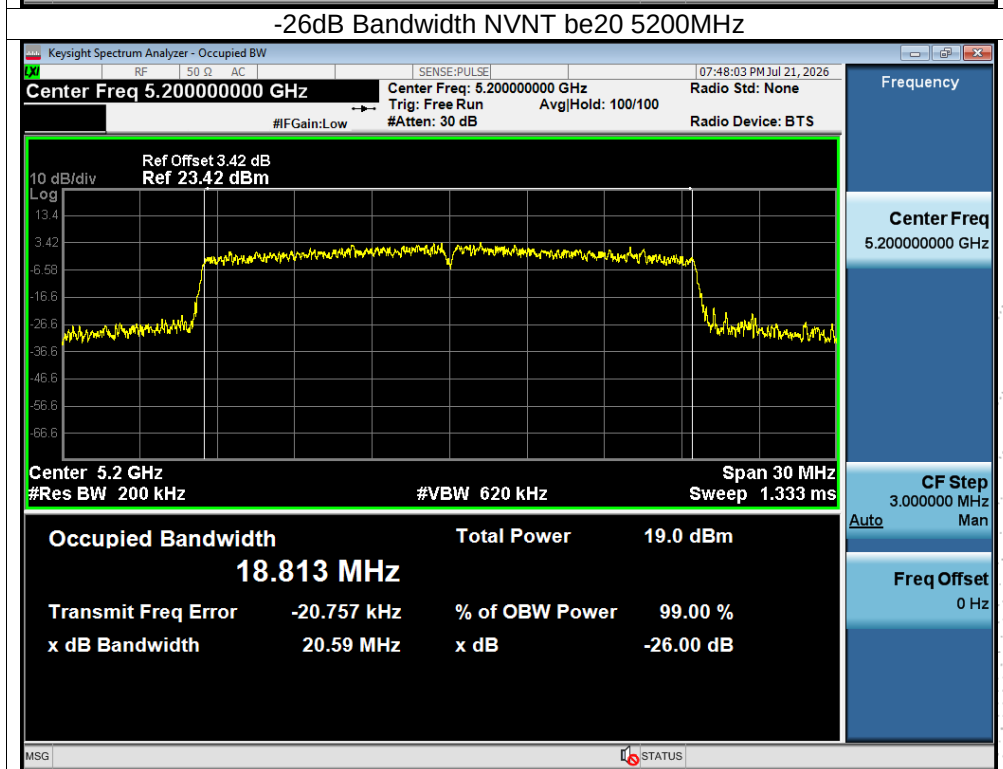
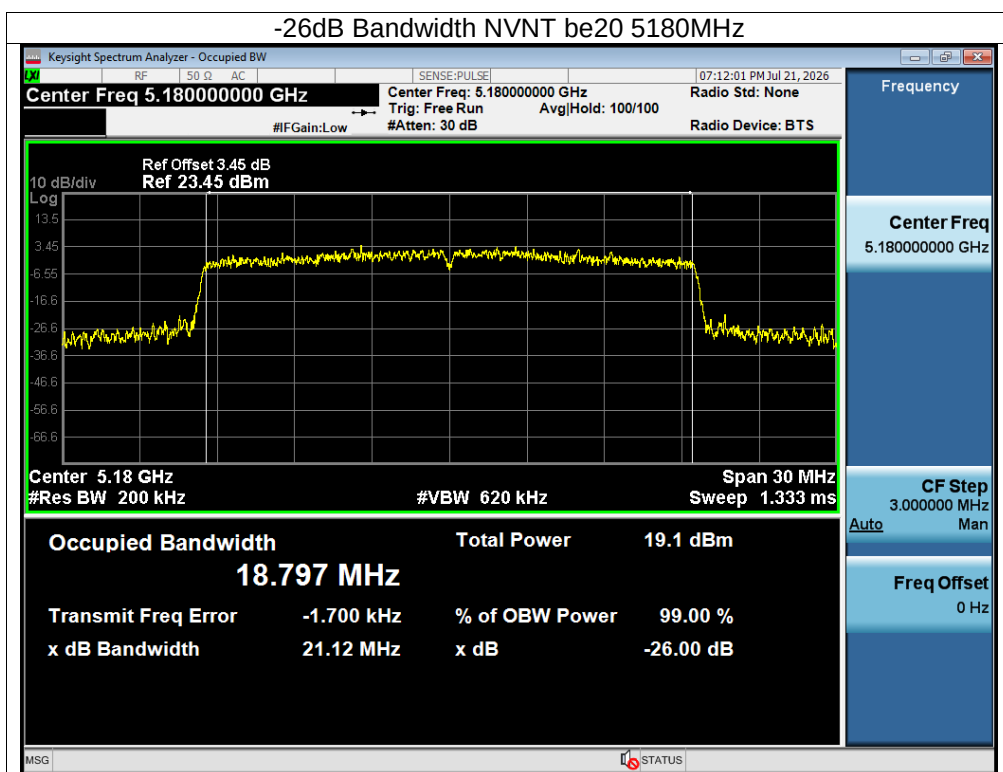


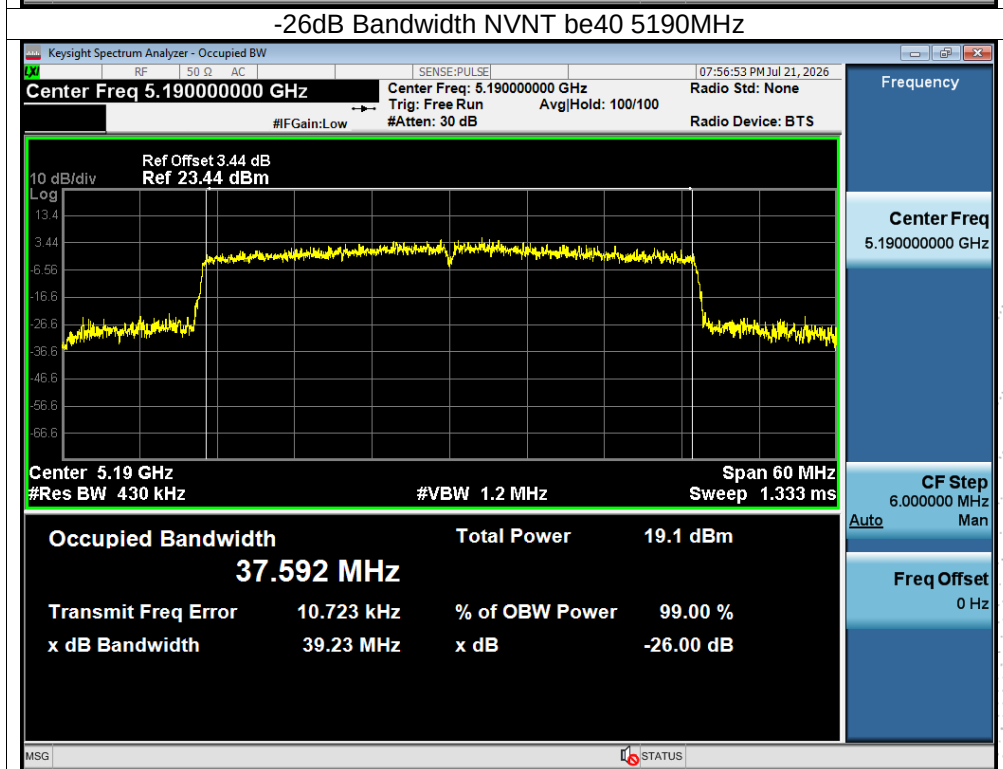
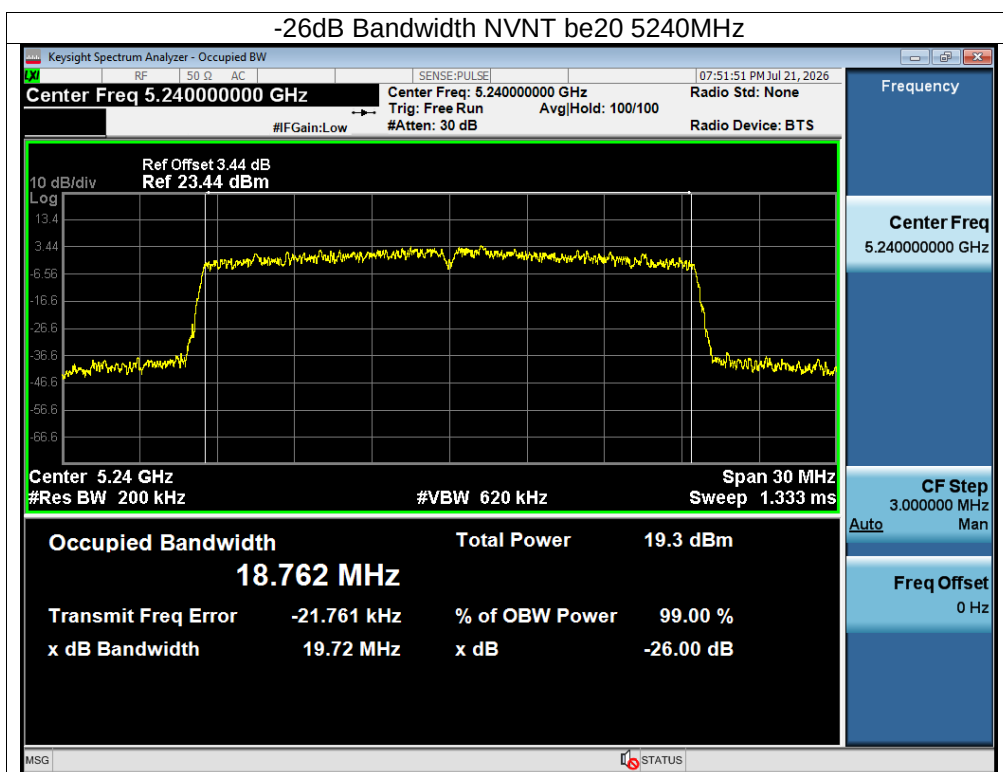


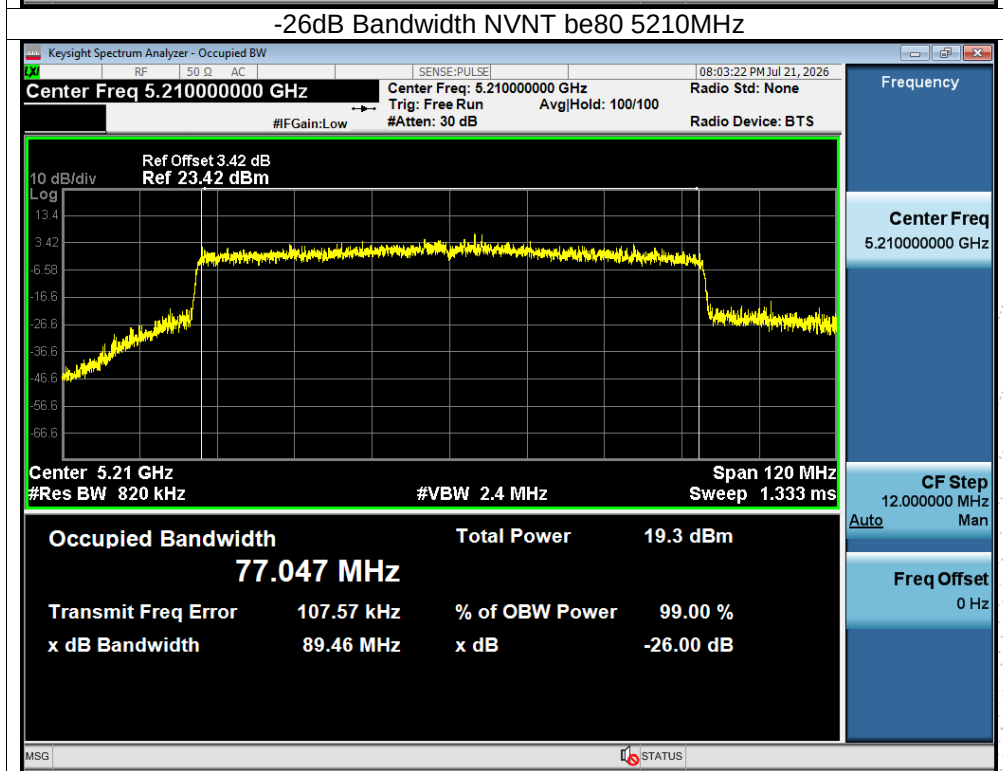
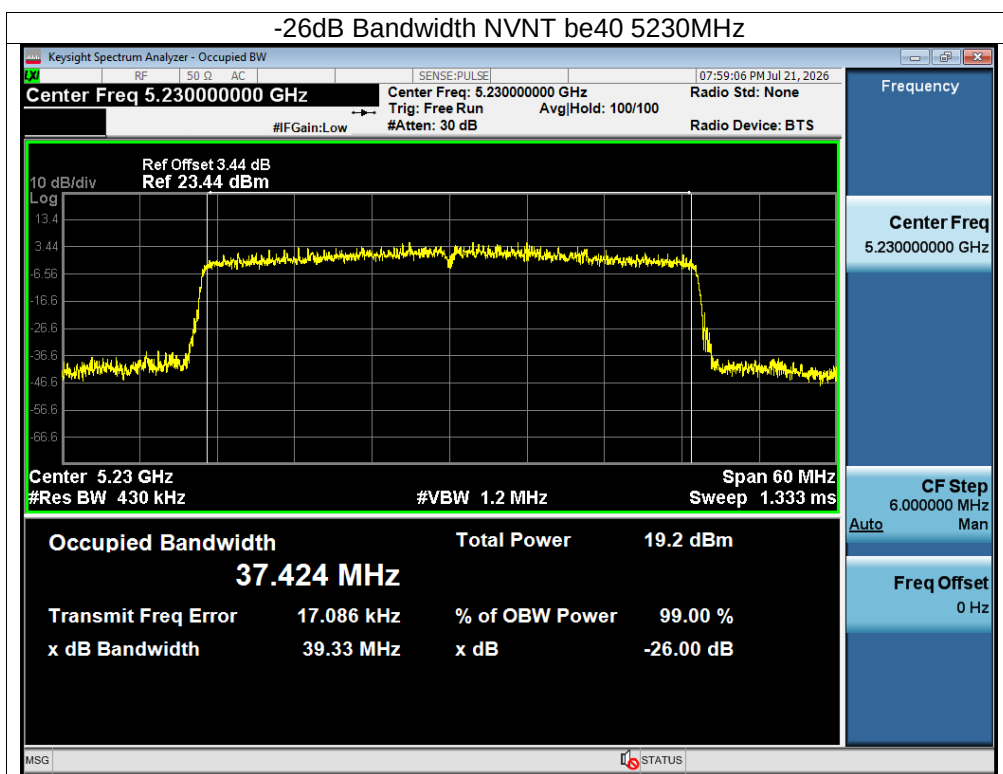




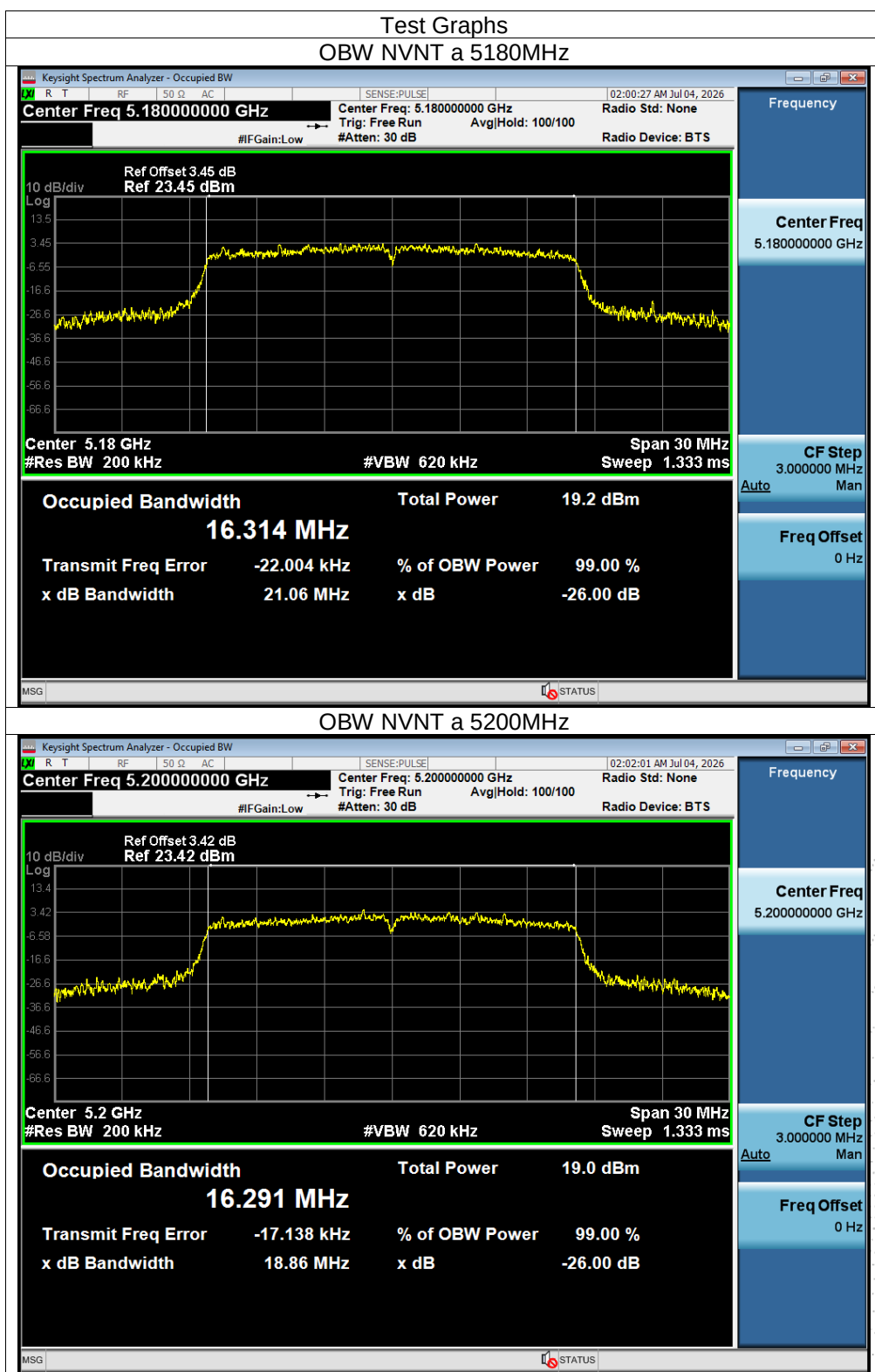


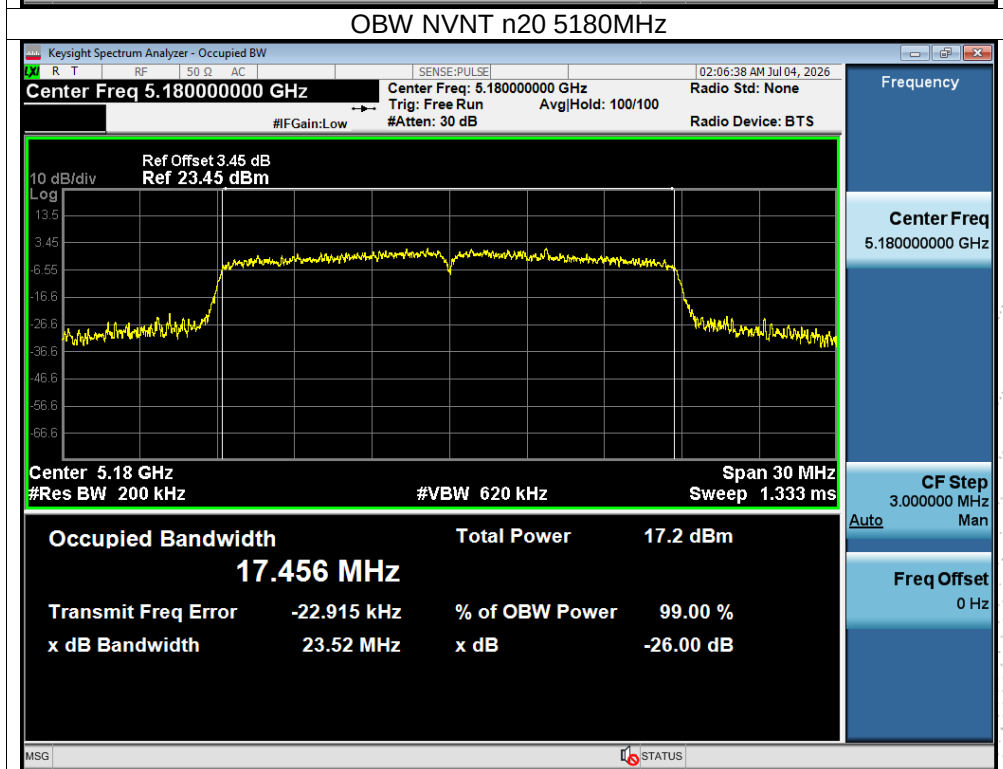
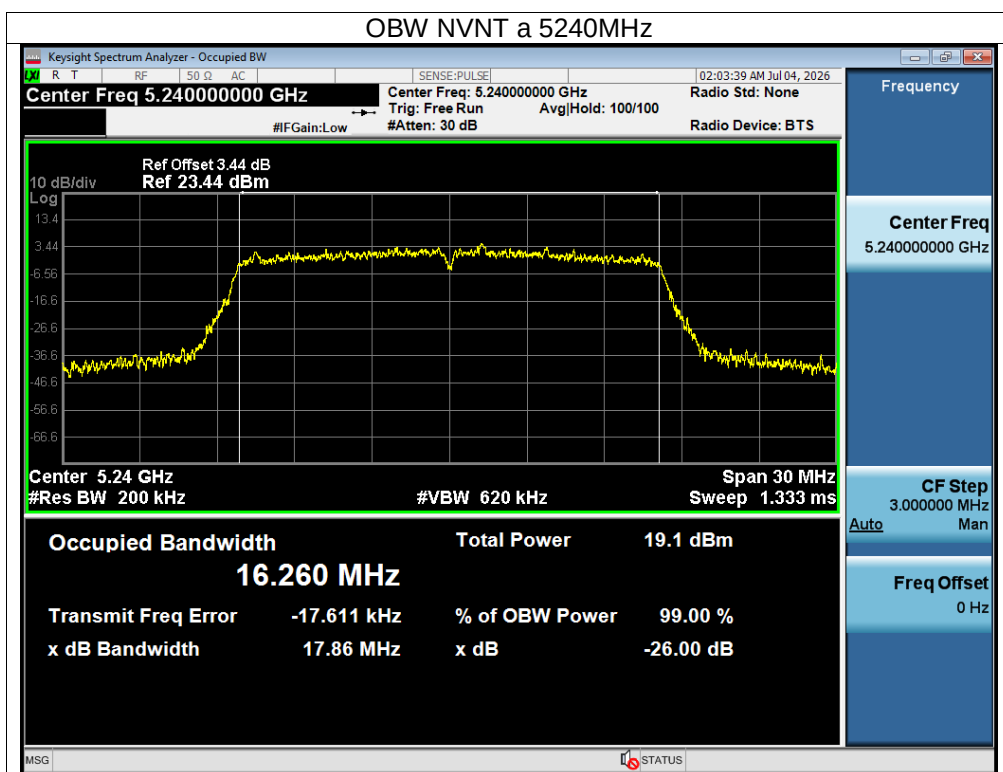


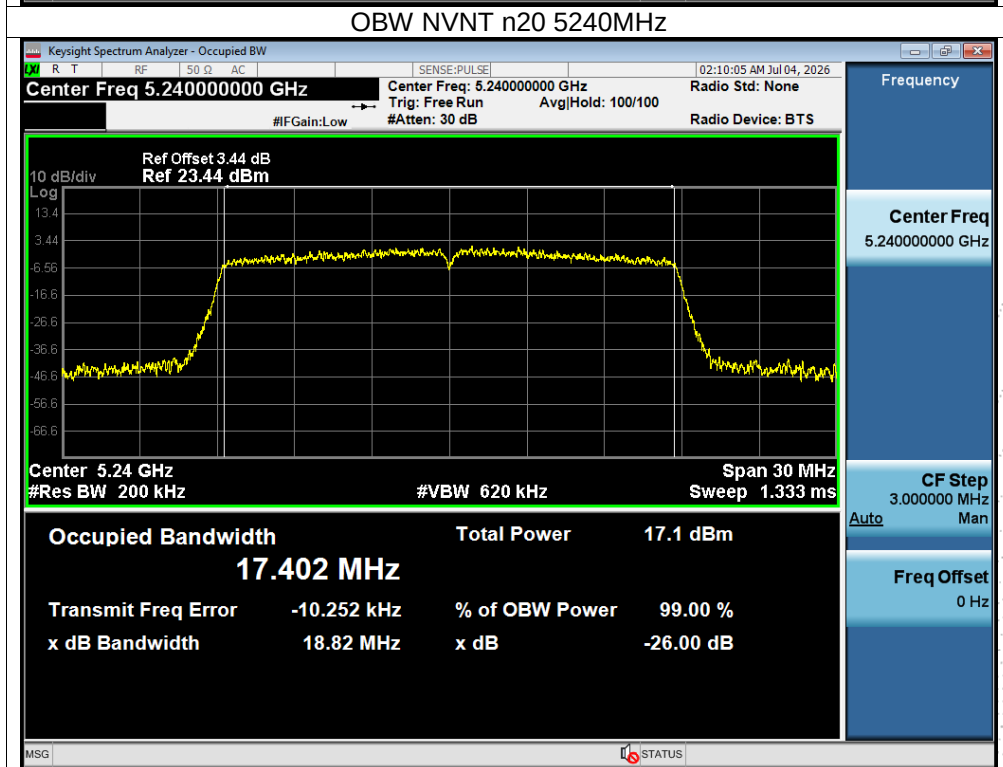
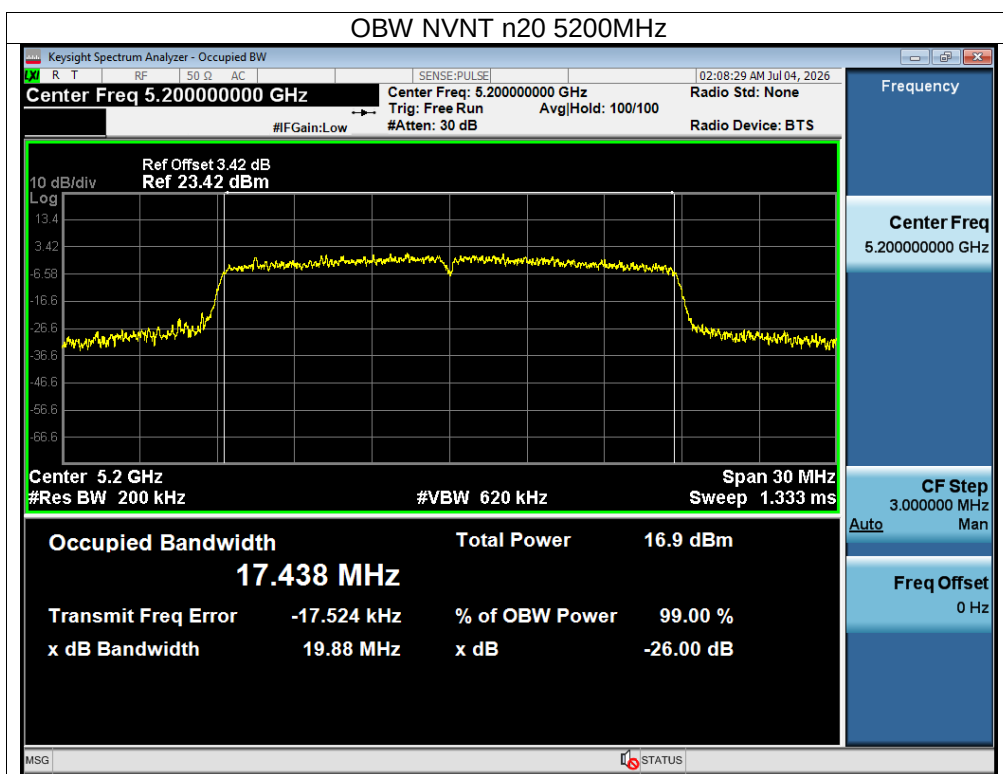


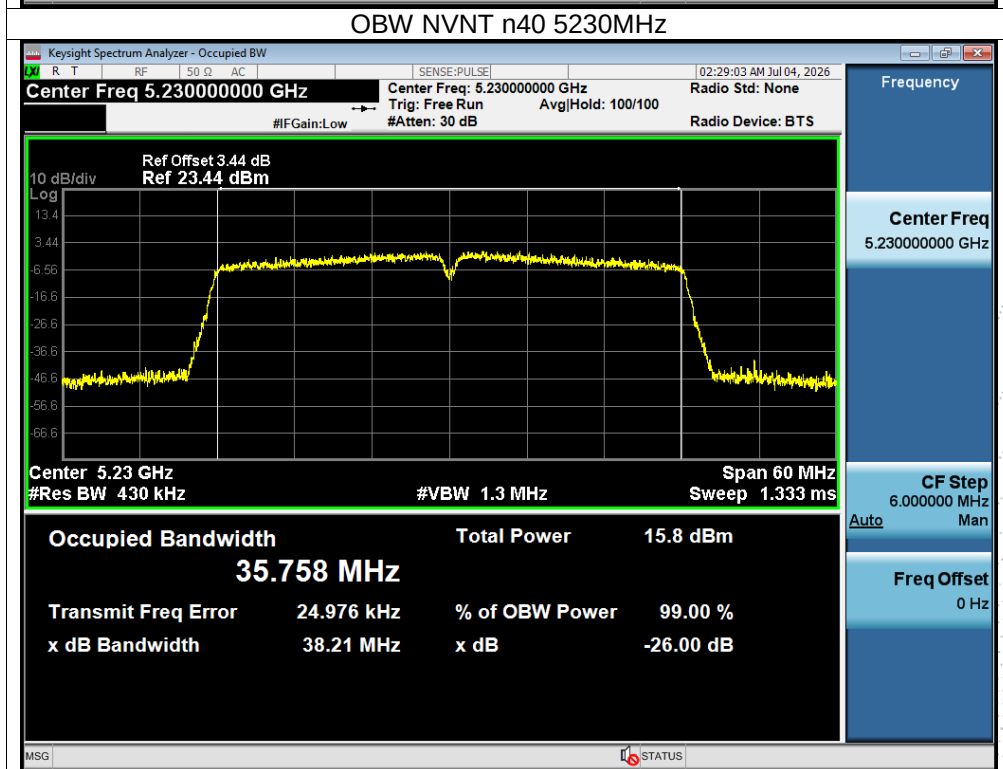
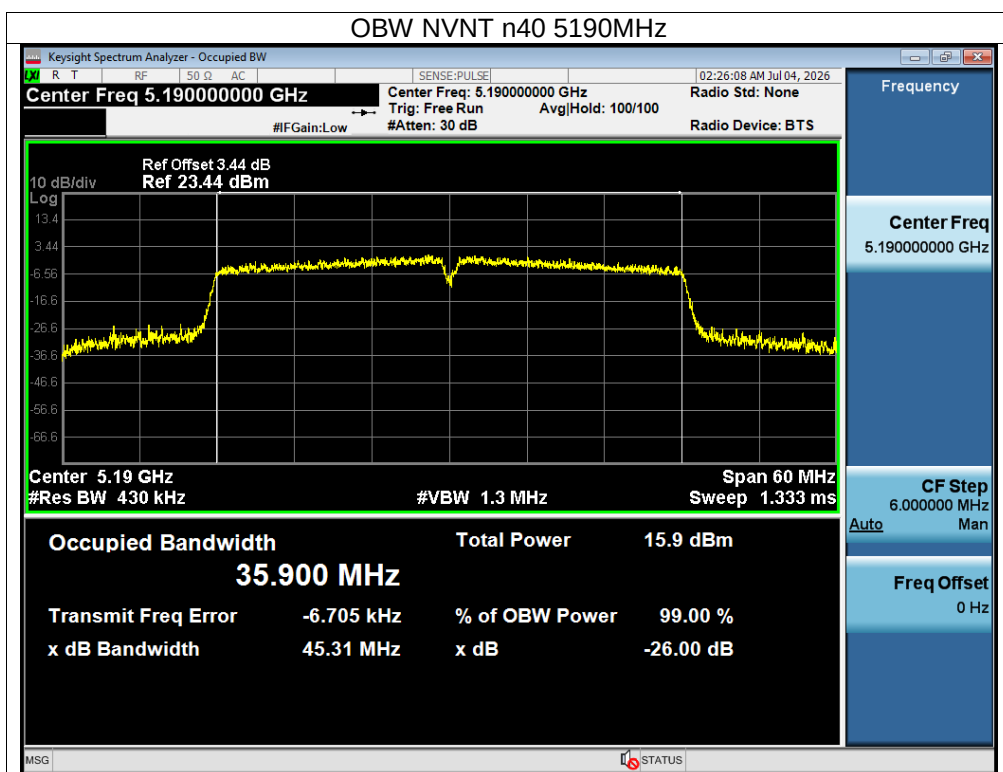


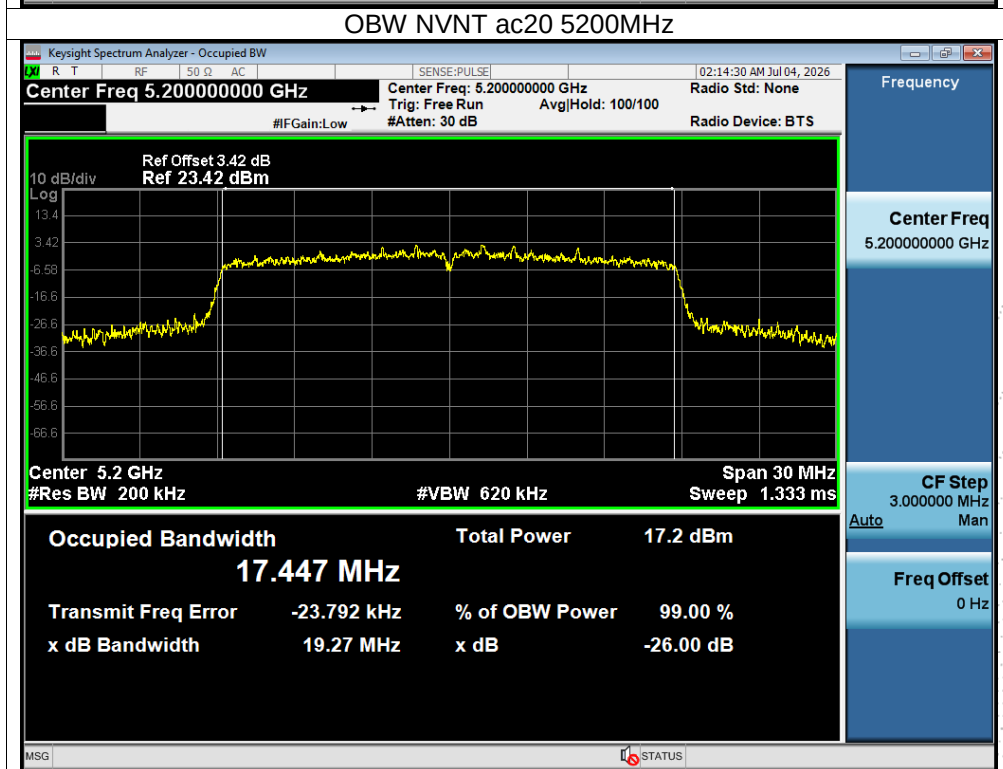
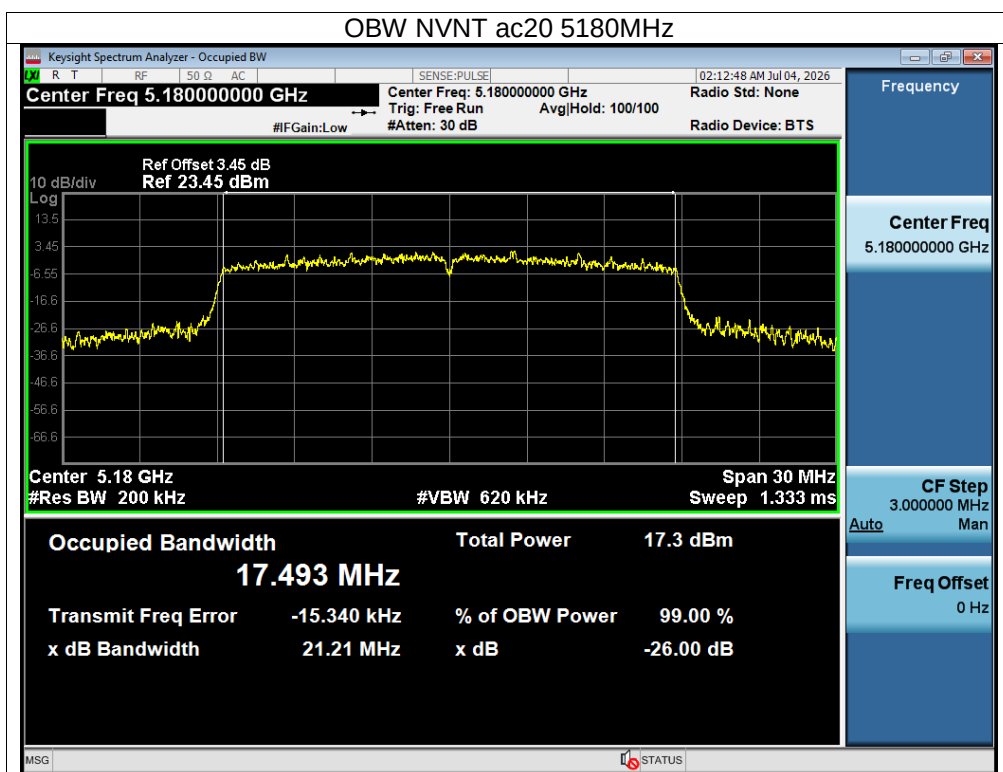
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

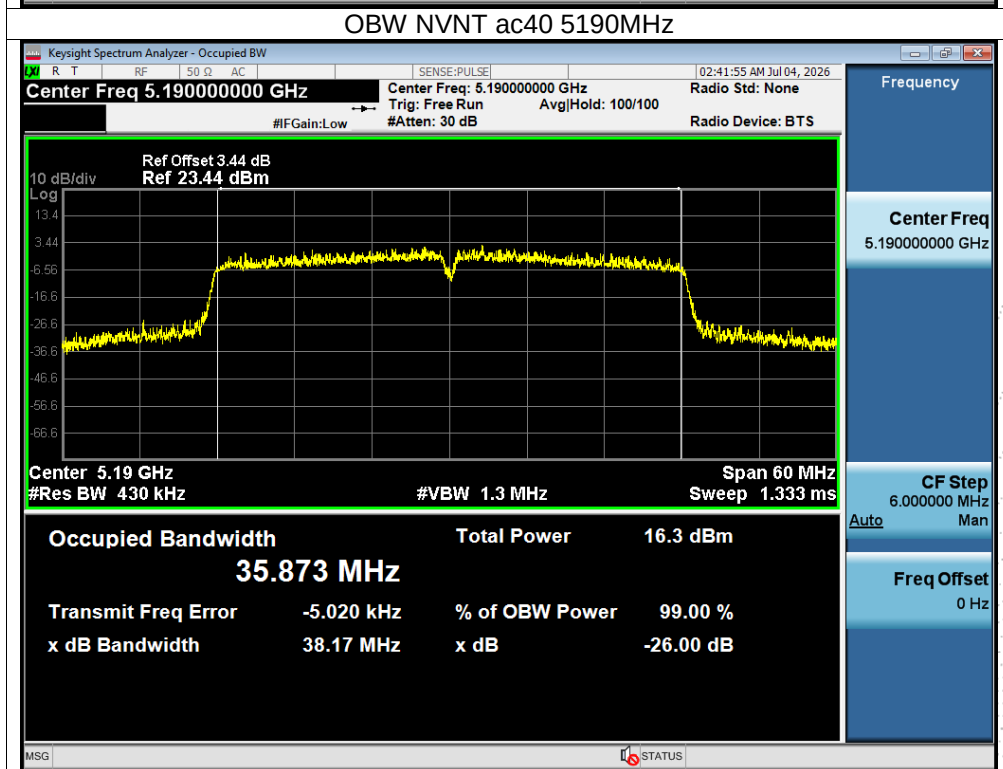
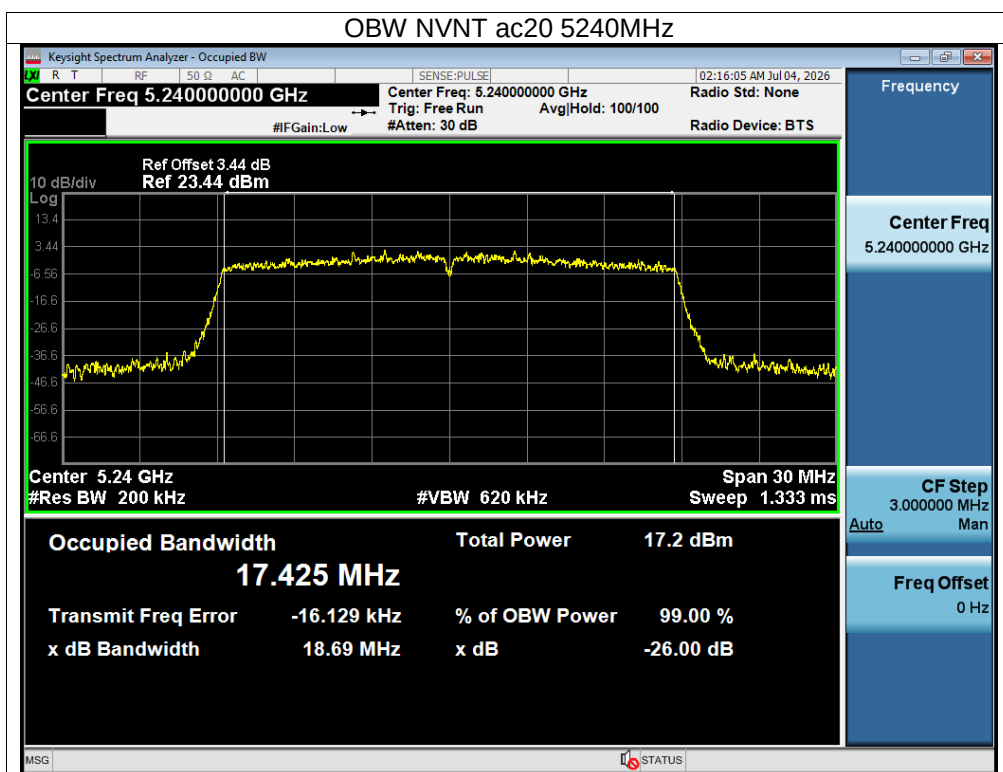


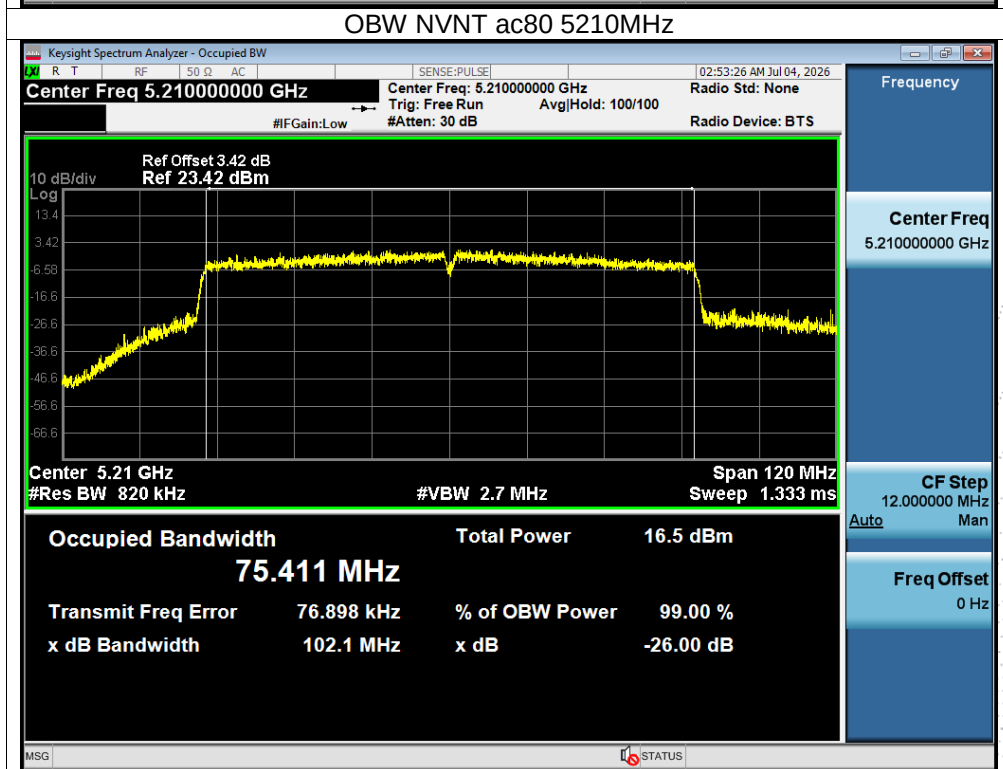
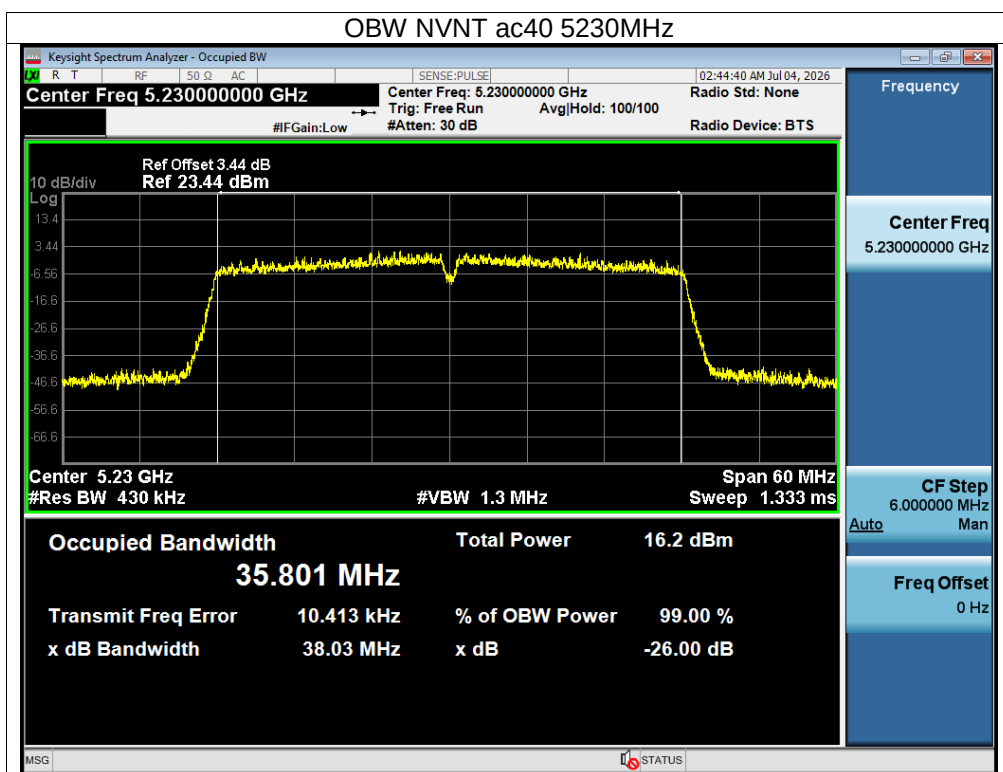


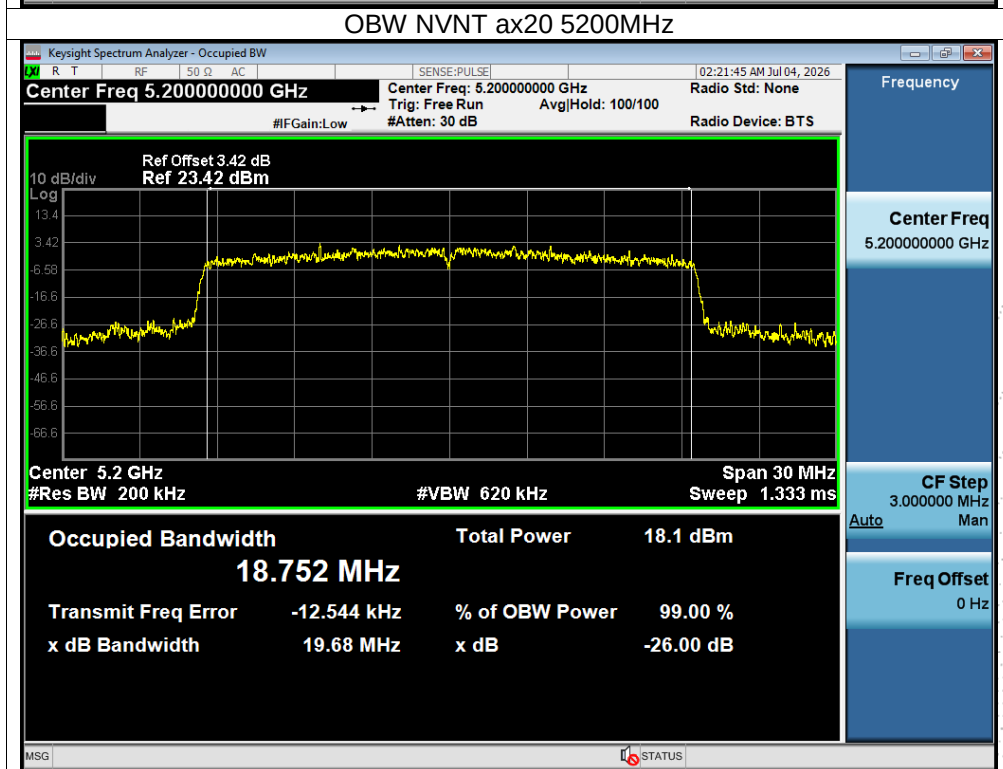
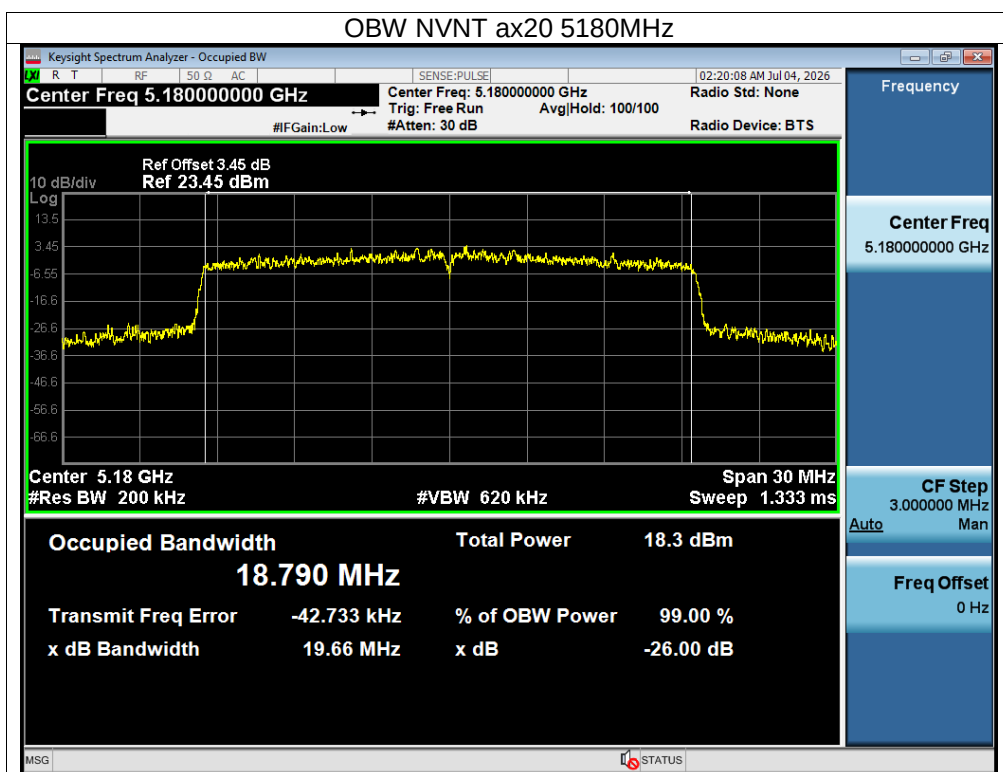


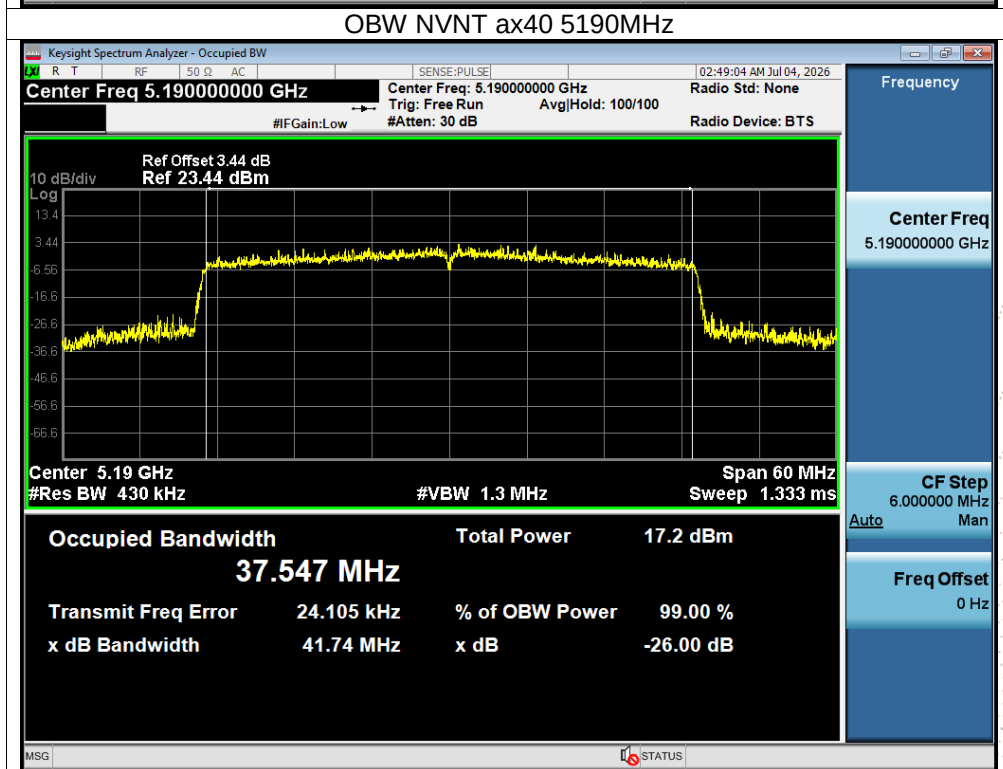
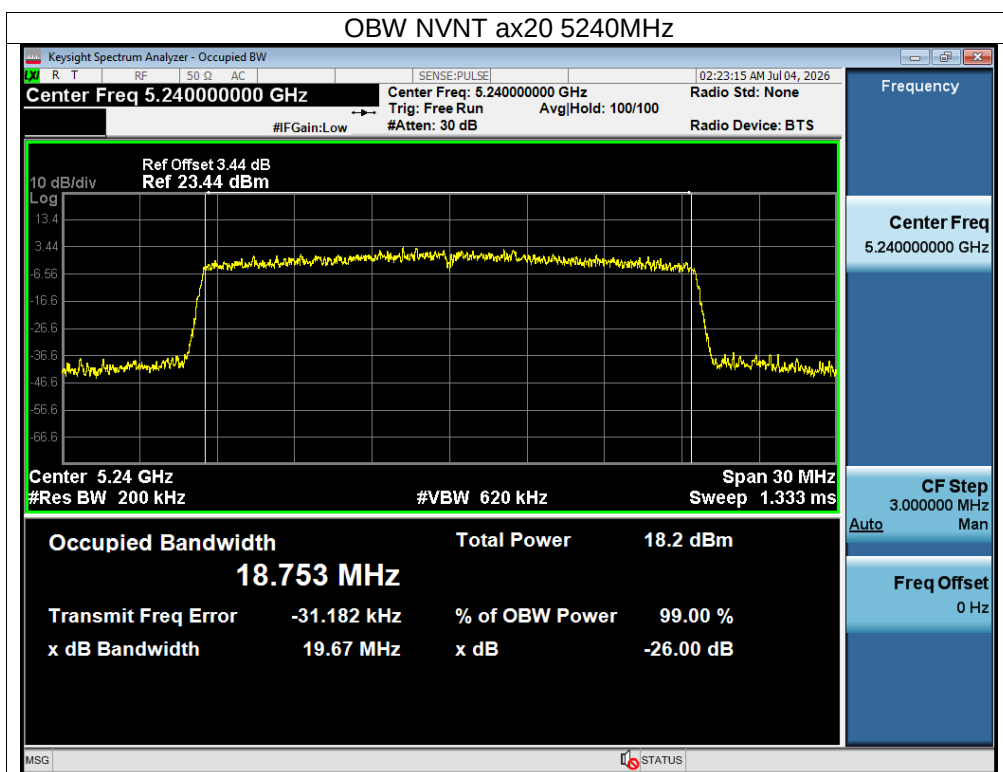


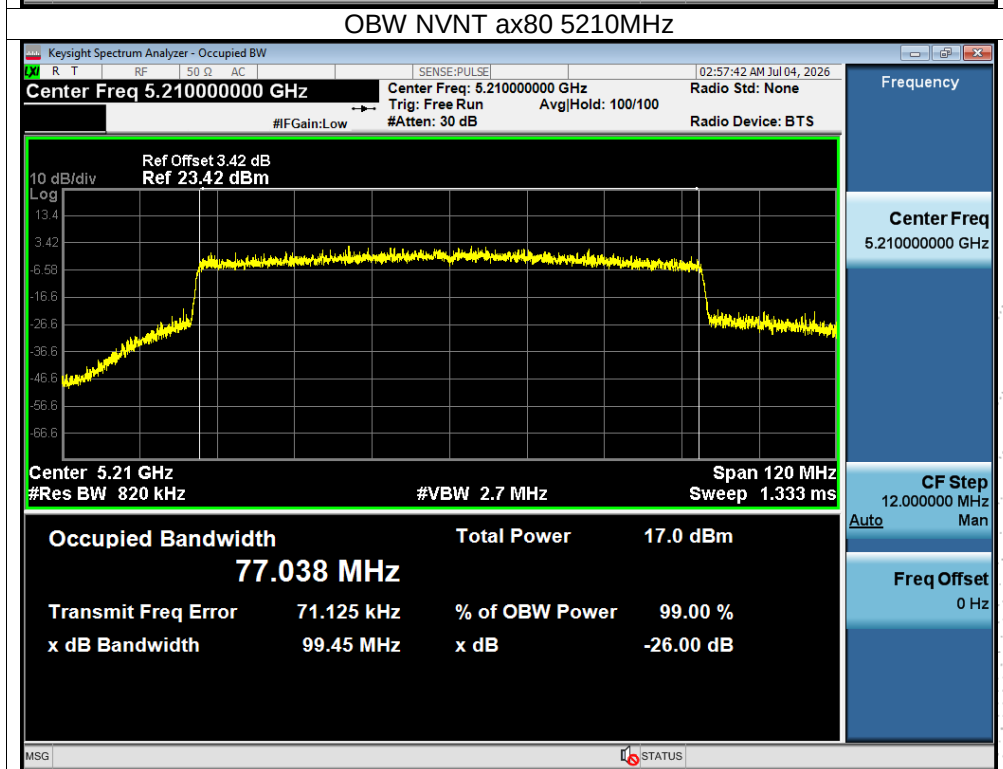
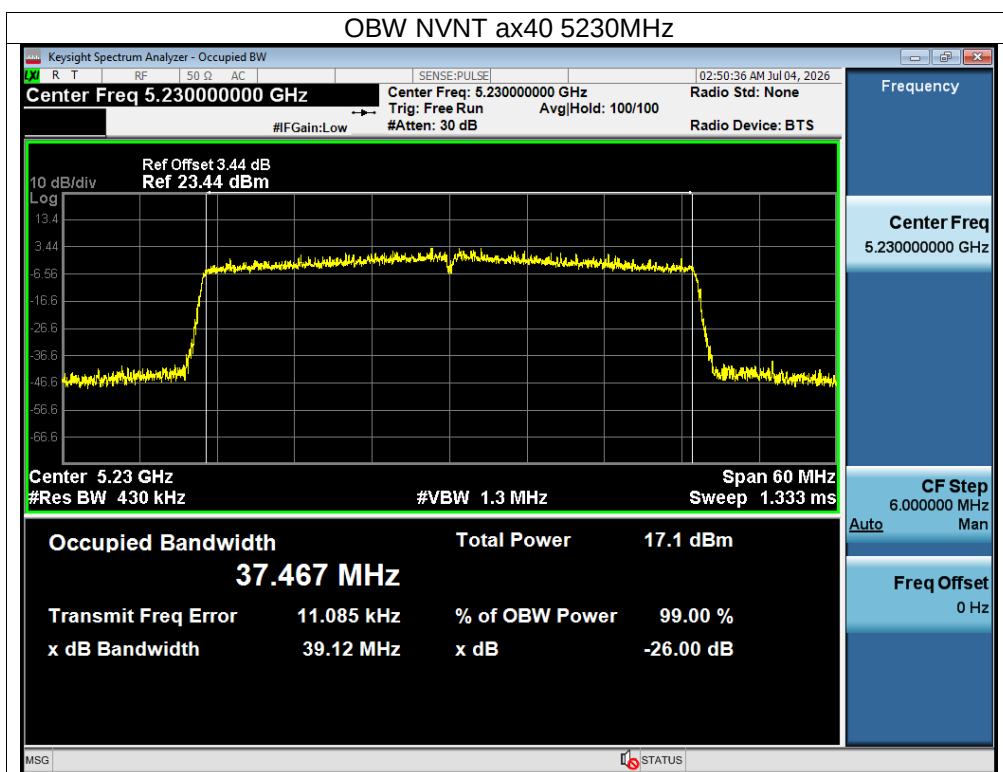


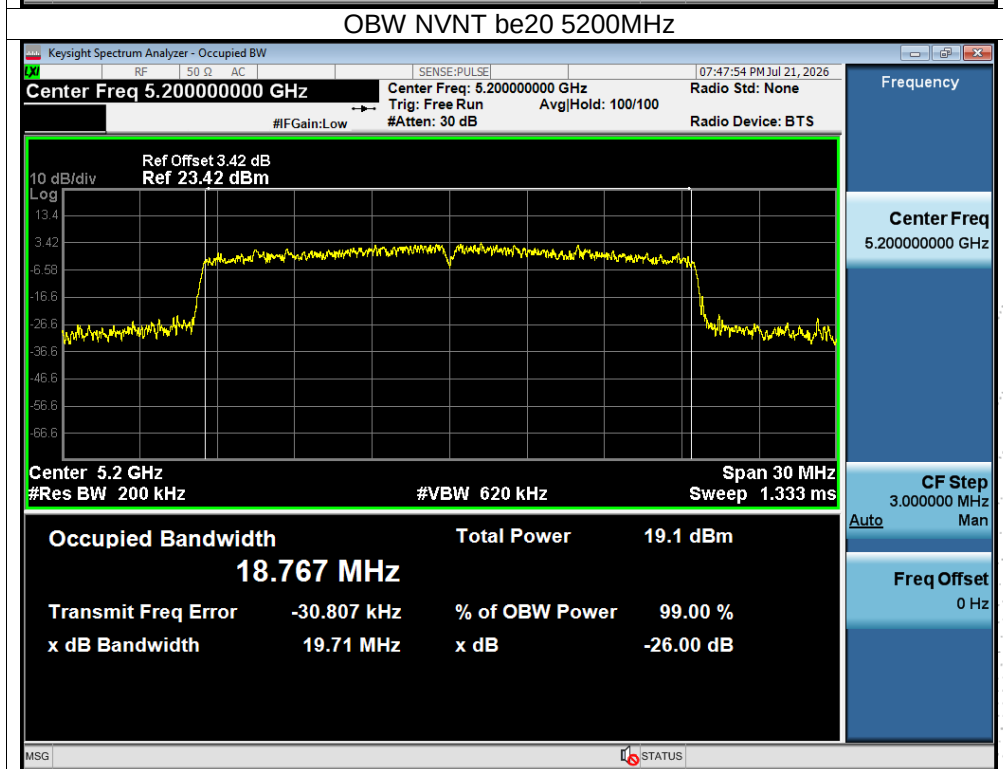
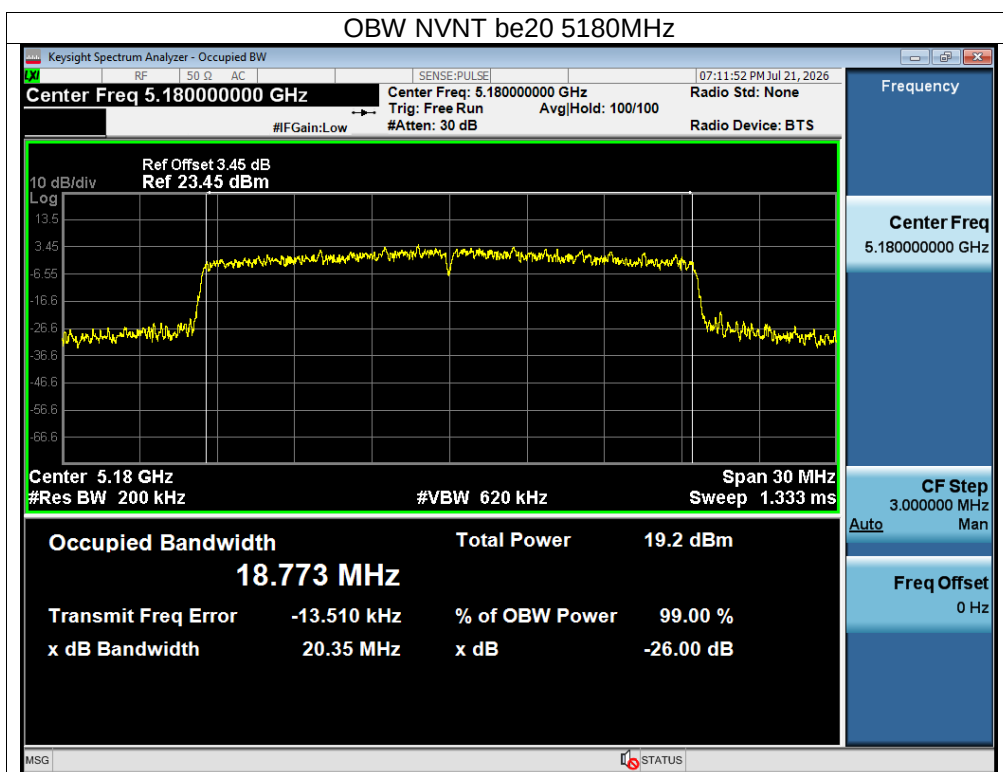


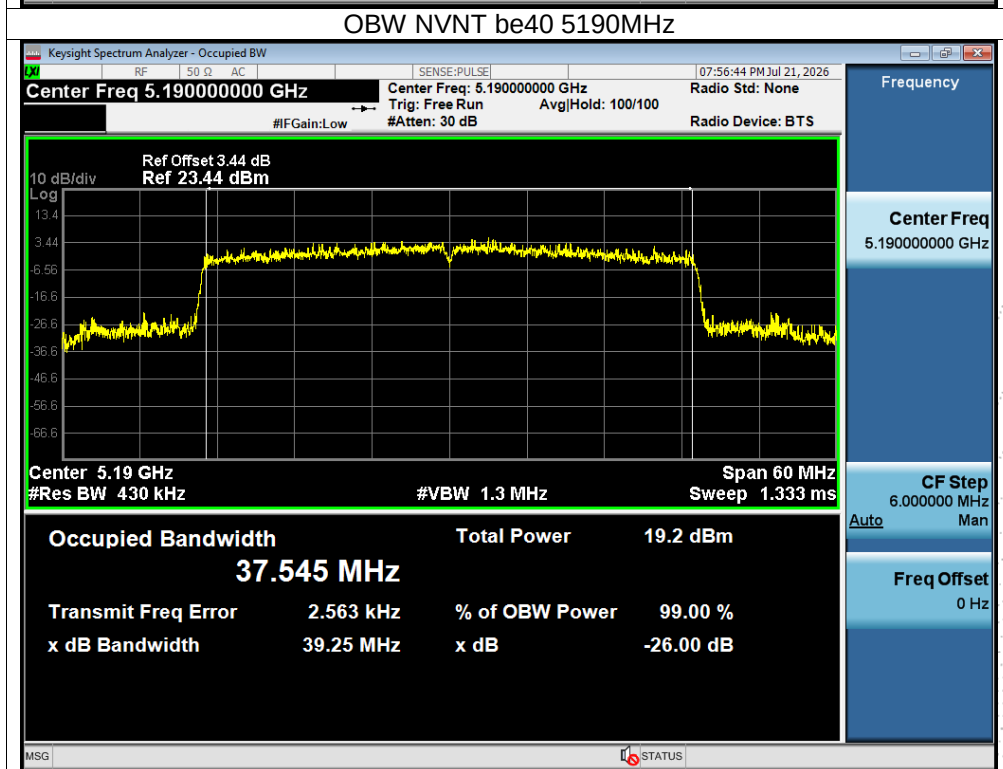
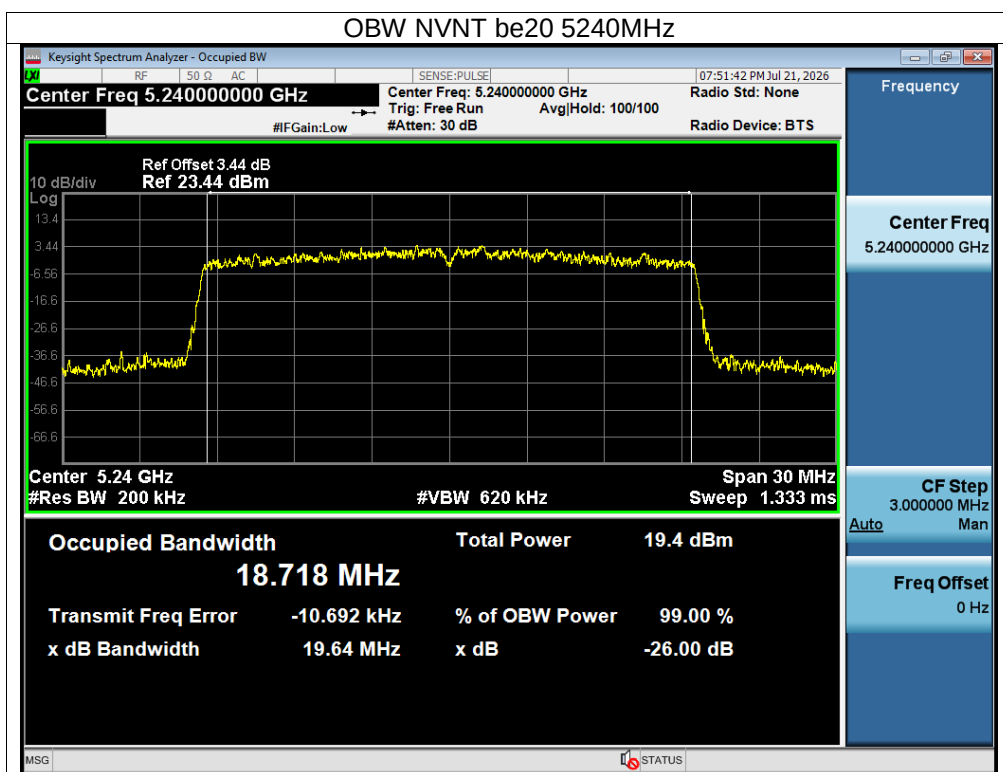


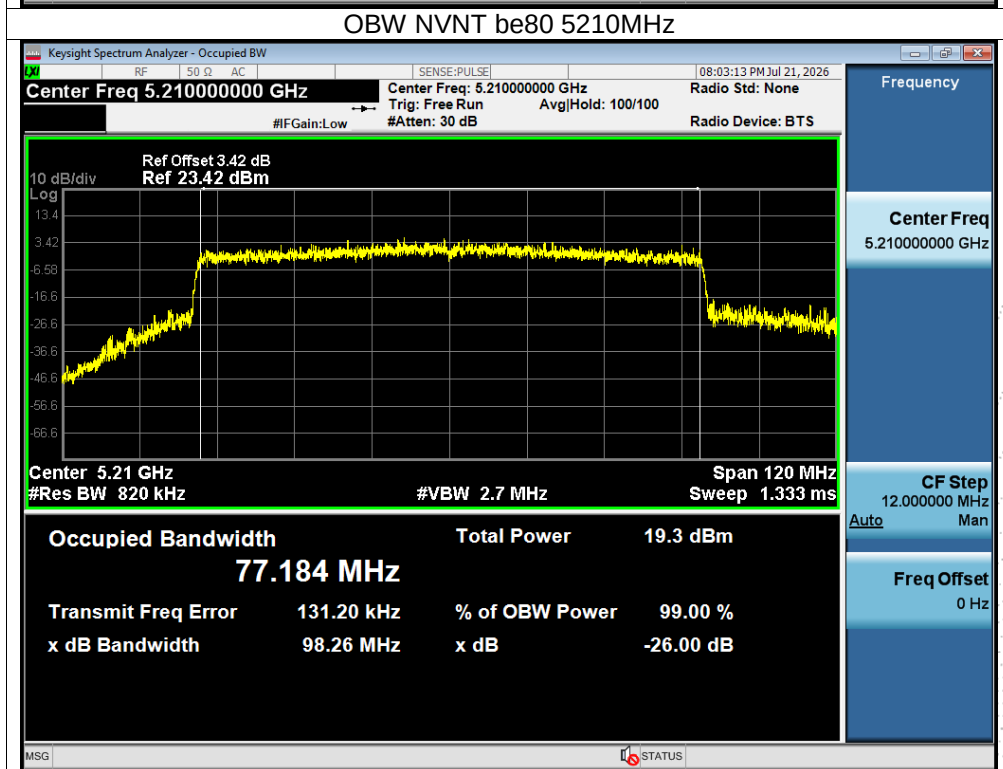
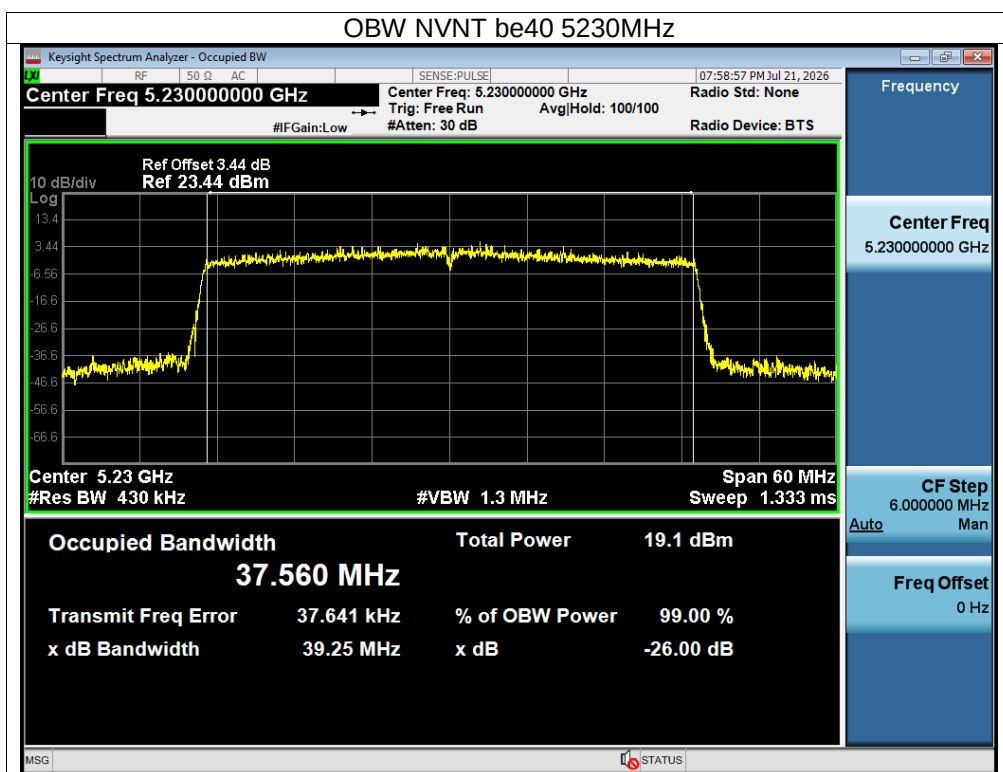








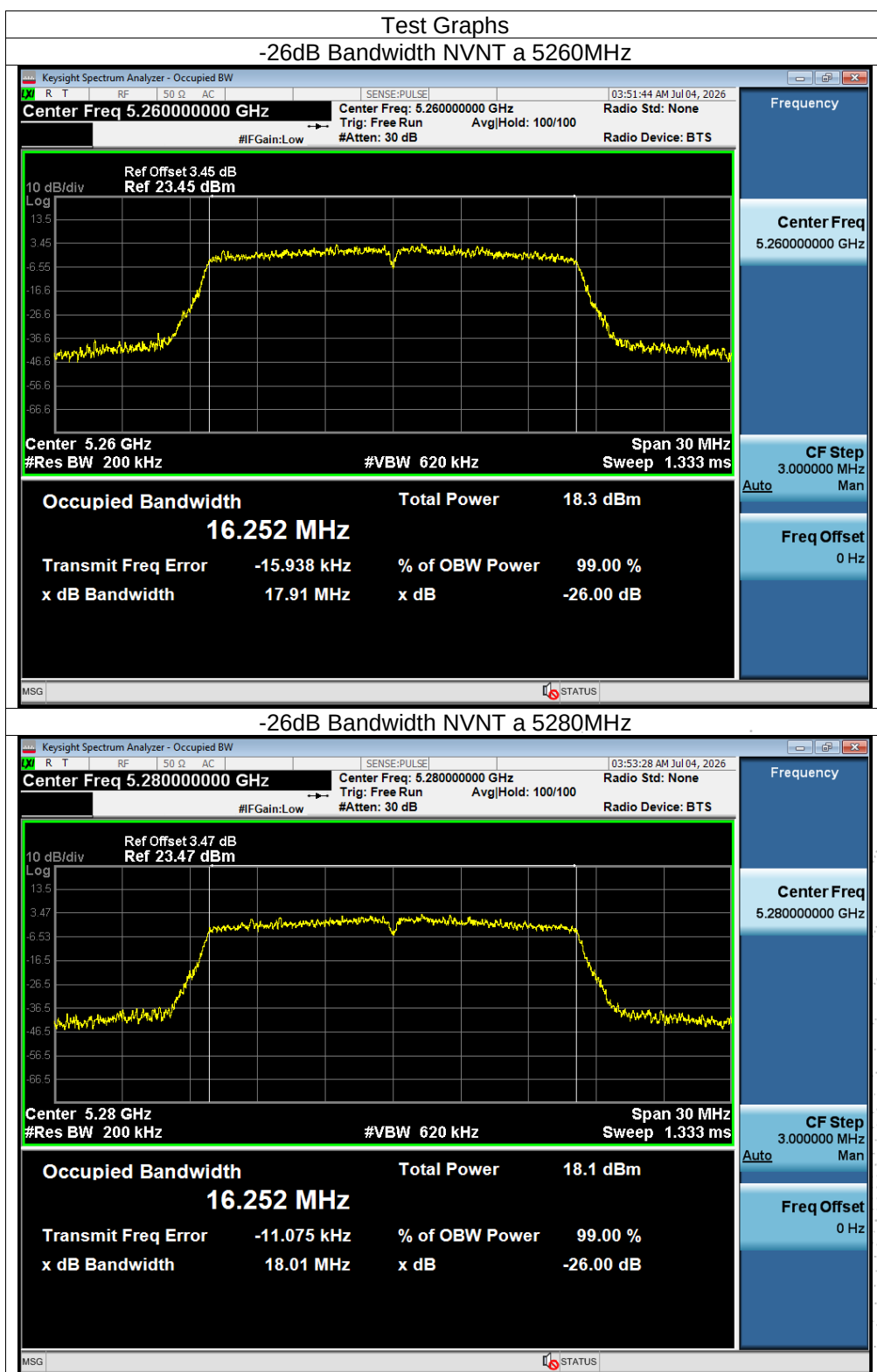


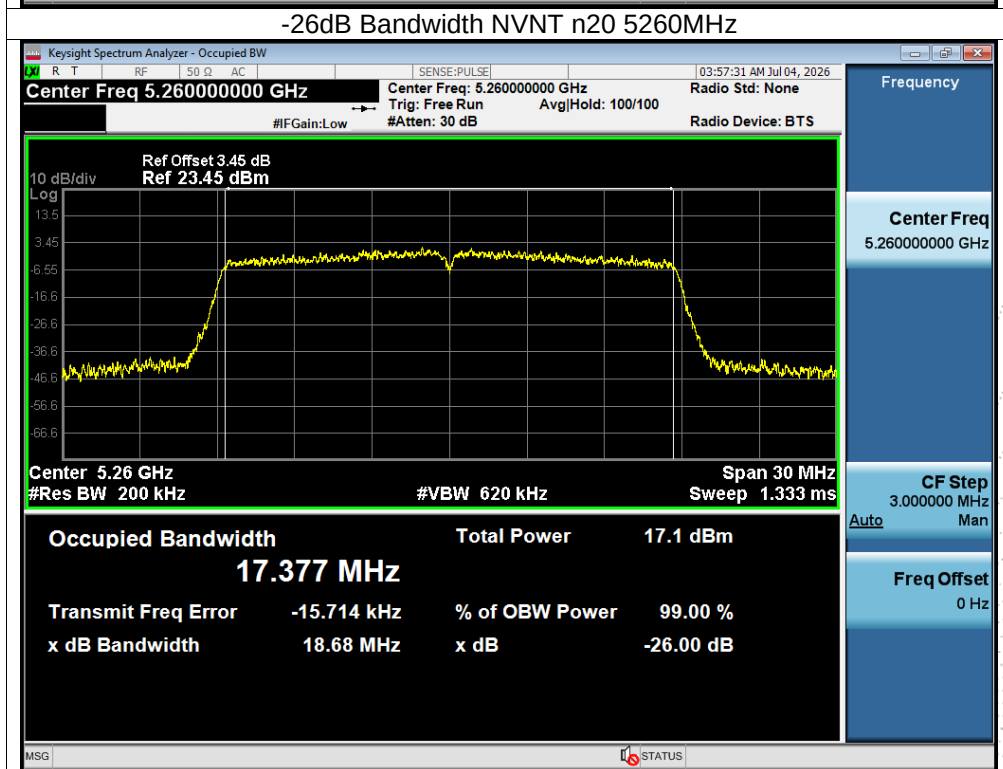
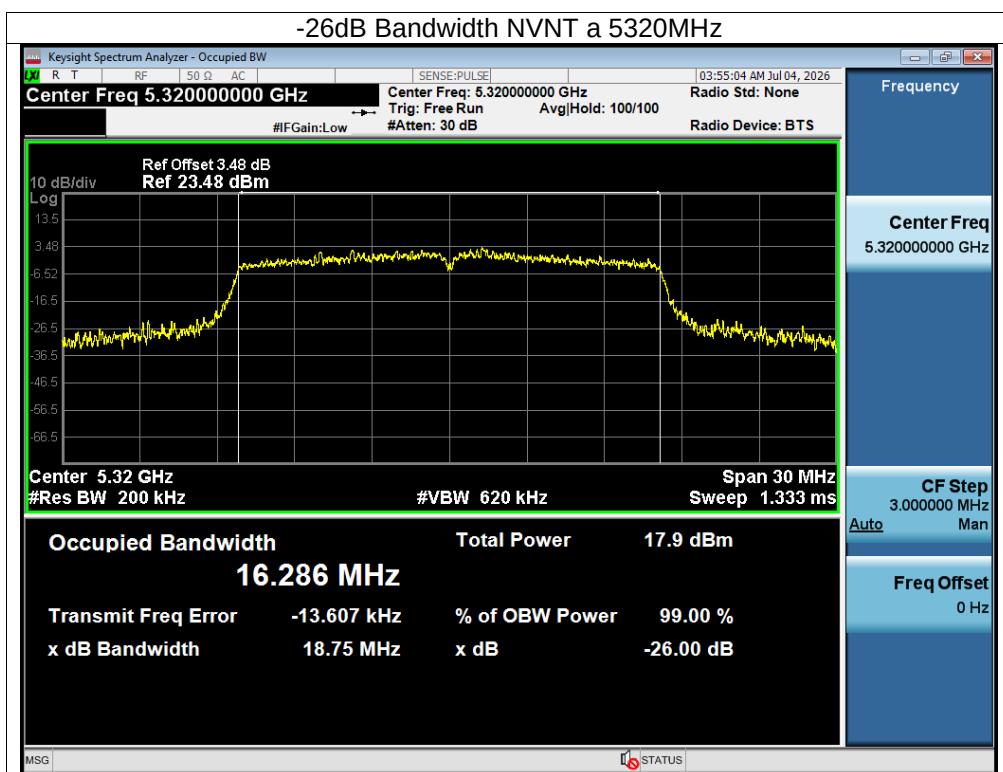


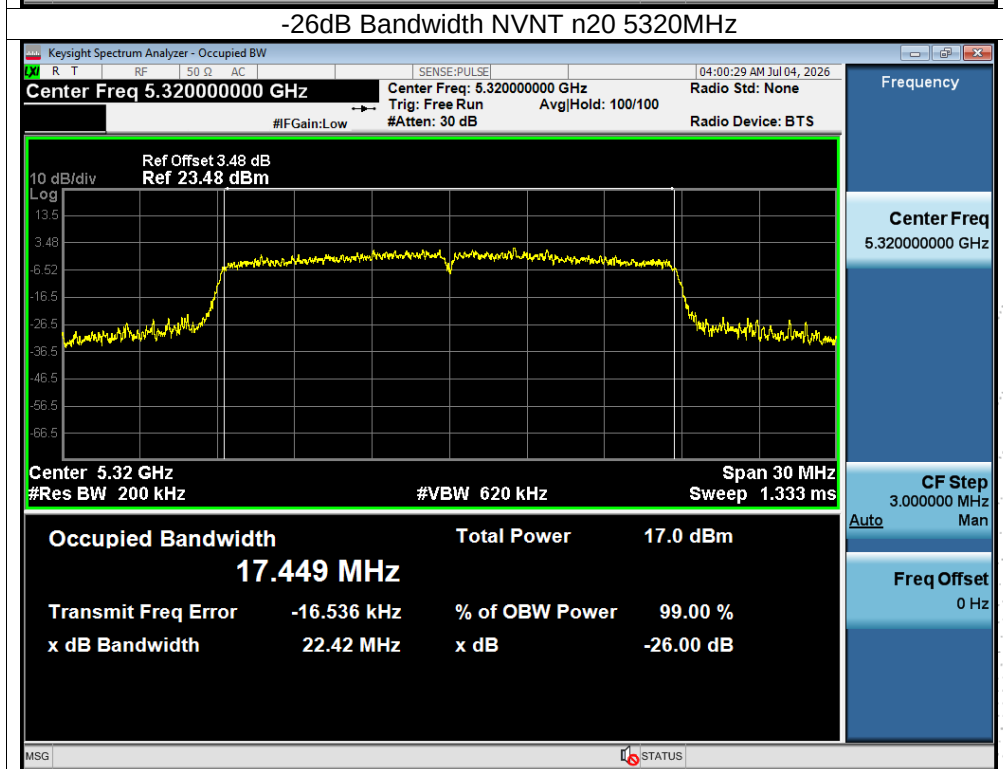
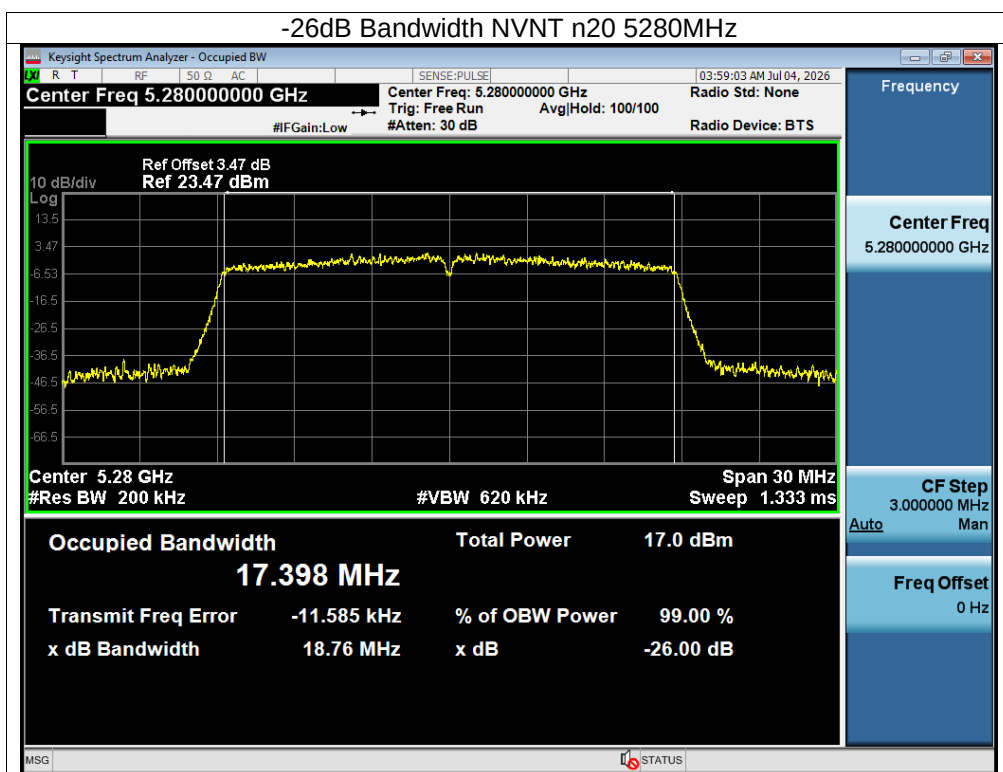
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5260-5320MHz)		

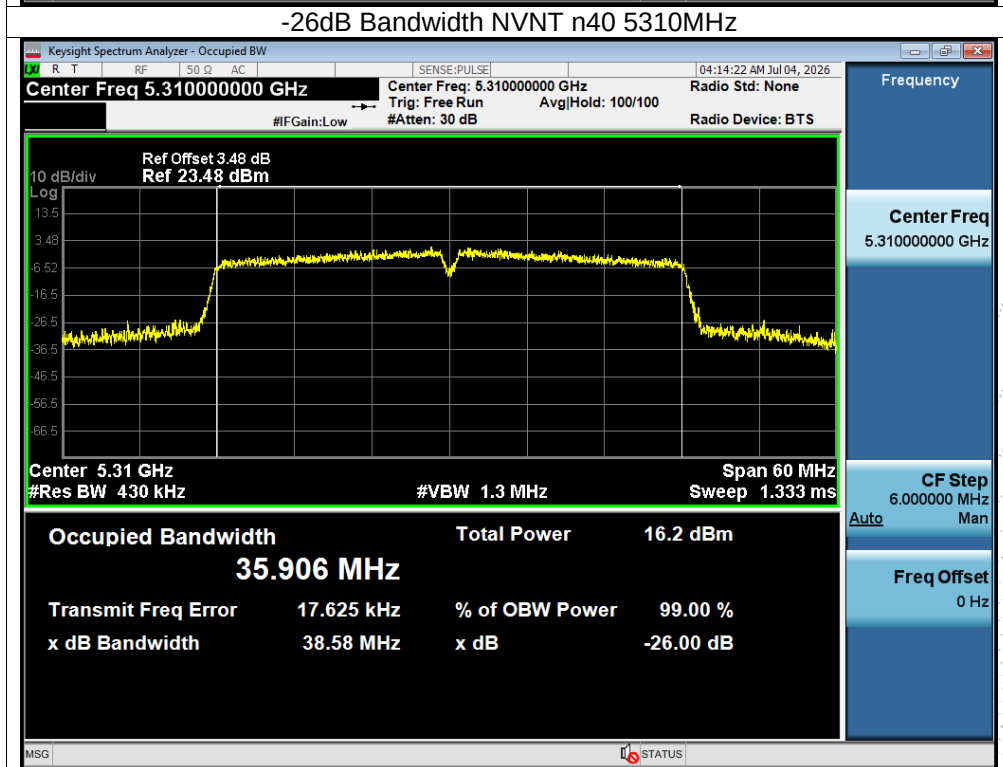
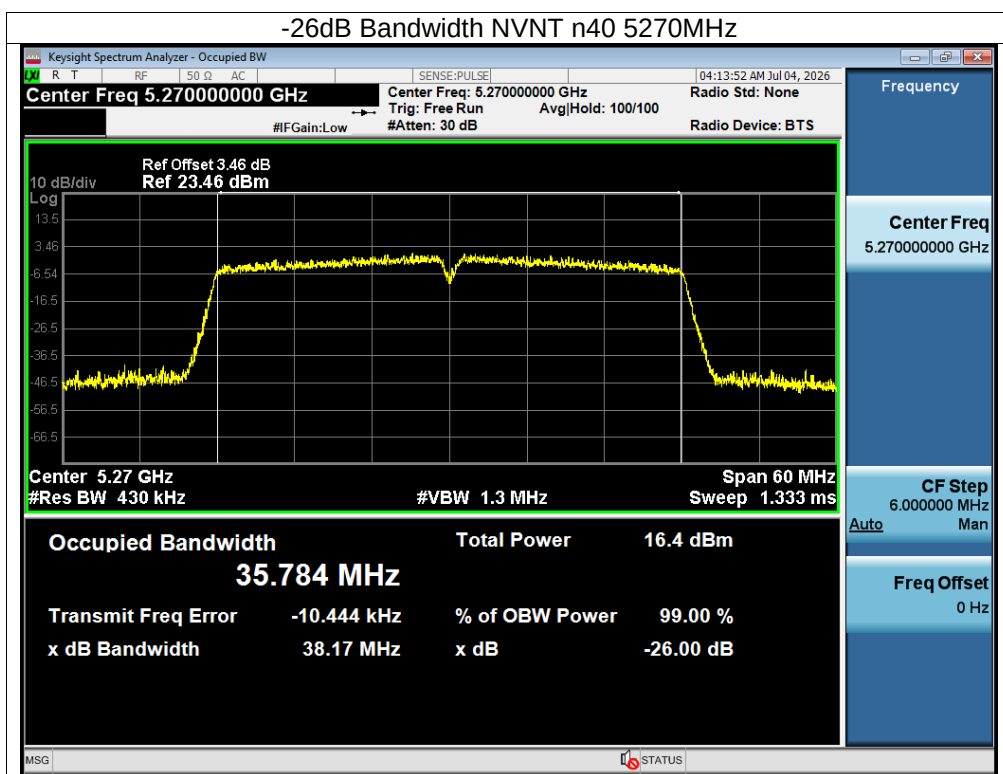
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5260	17.911	18.317	16.266	16.274	Pass
NVNT	a	5280	18.007	17.915	16.26	16.238	Pass
NVNT	a	5320	18.749	21.133	16.333	16.31	Pass
NVNT	n20	5260	18.683	18.719	17.387	17.388	Pass
NVNT	n20	5280	18.765	18.621	17.394	17.394	Pass
NVNT	n20	5320	22.424	20.167	17.45	17.442	Pass
NVNT	n40	5270	38.166	38.294	35.794	35.788	Pass
NVNT	n40	5310	38.581	38.66	35.865	35.879	Pass
NVNT	ac20	5260	18.585	18.757	17.37	17.433	Pass
NVNT	ac20	5280	18.598	18.709	17.398	17.404	Pass
NVNT	ac20	5320	21.851	19.372	17.451	17.457	Pass
NVNT	ac40	5270	38.419	37.867	35.796	35.833	Pass
NVNT	ac40	5310	38.329	38.038	35.859	35.926	Pass
NVNT	ac80	5290	103.429	101.985	75.524	75.41	Pass
NVNT	ax20	5260	19.677	19.718	18.762	18.758	Pass
NVNT	ax20	5280	19.782	19.751	18.747	18.758	Pass
NVNT	ax20	5320	19.696	20.228	18.784	18.803	Pass
NVNT	ax40	5270	39.265	39.324	37.502	37.523	Pass
NVNT	ax40	5310	41.759	39.332	37.552	37.536	Pass
NVNT	ax80	5290	99.144	97.971	77.041	77.208	Pass
NVNT	be20	5260	19.681	19.805	18.737	18.769	Pass
NVNT	be20	5280	19.739	19.754	18.732	18.73	Pass
NVNT	be20	5320	20.663	19.824	18.794	18.792	Pass
NVNT	be40	5270	39.093	39.368	37.488	37.568	Pass
NVNT	be40	5310	39.286	39.485	37.539	37.546	Pass
NVNT	be80	5290	98.382	100.782	77.099	77.062	Pass

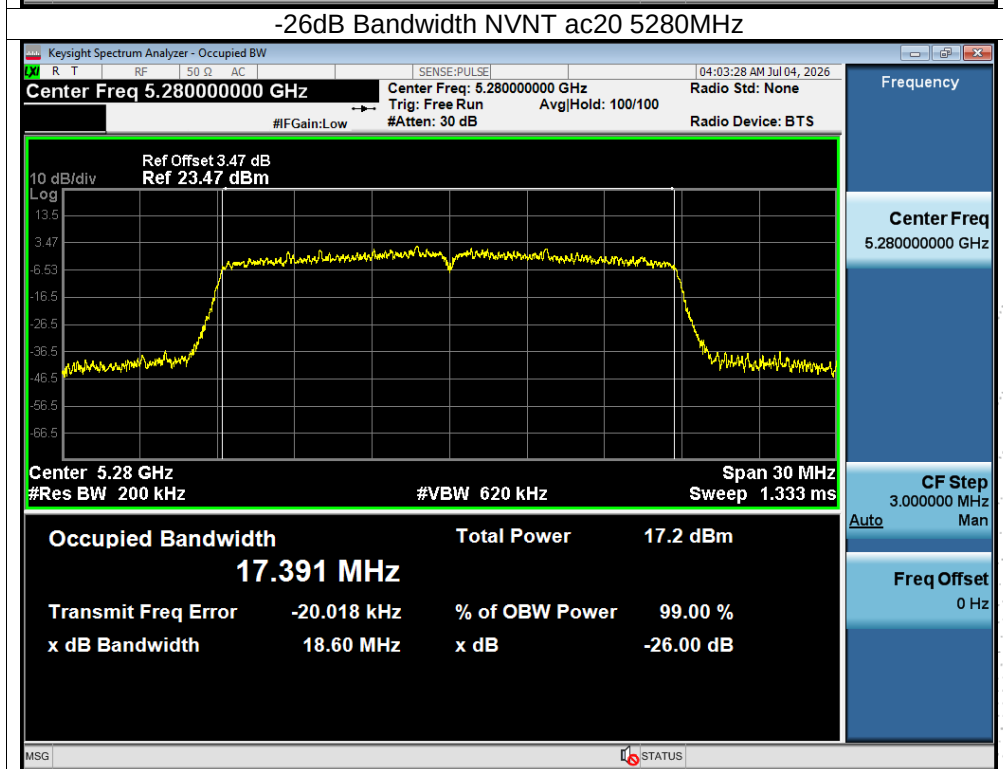
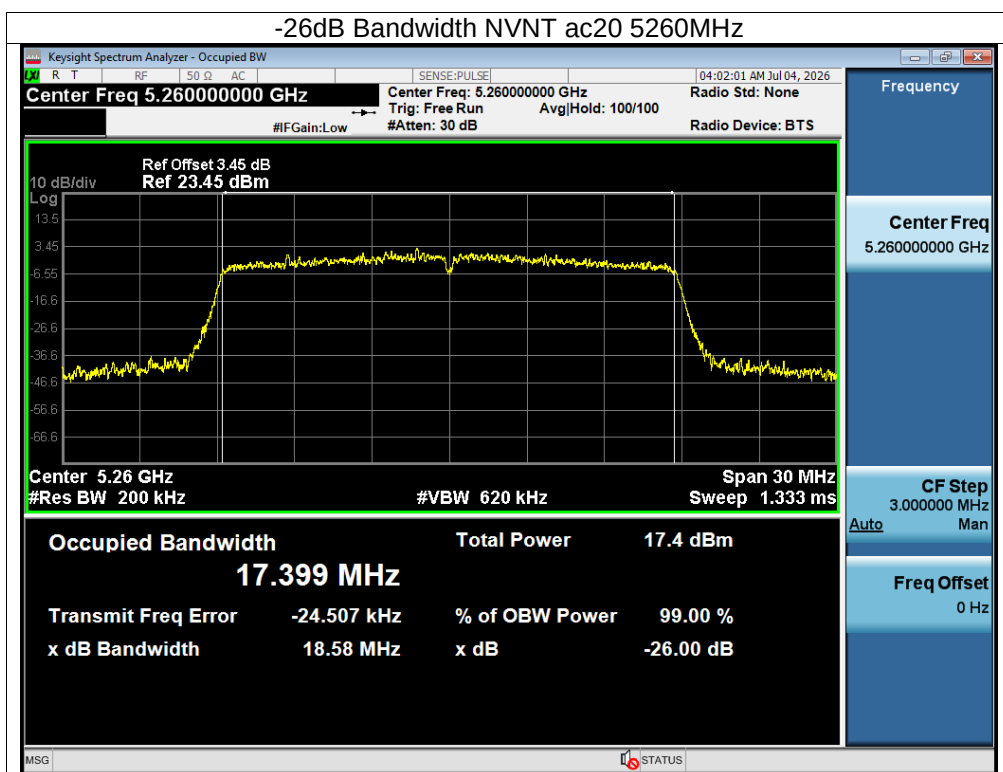
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

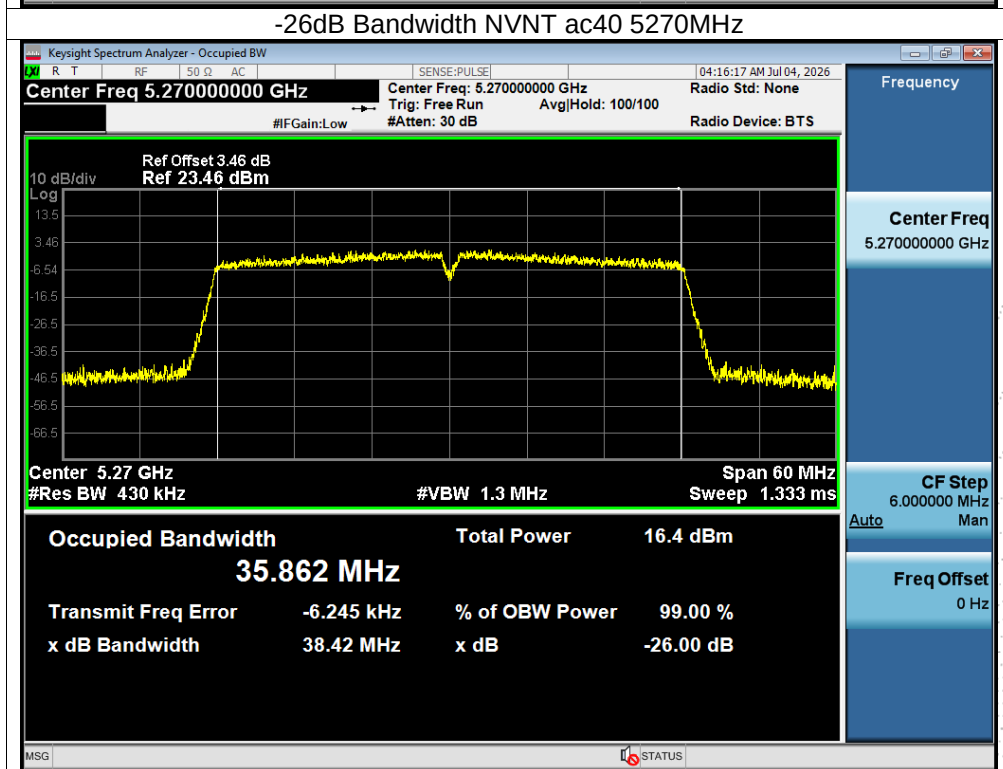
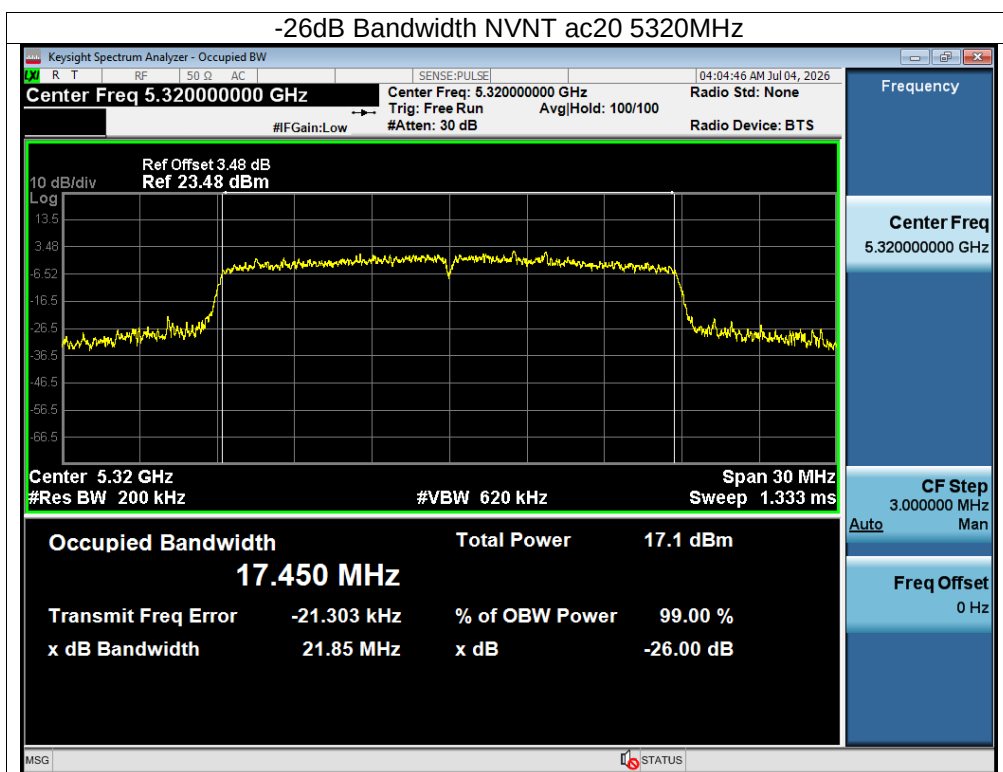


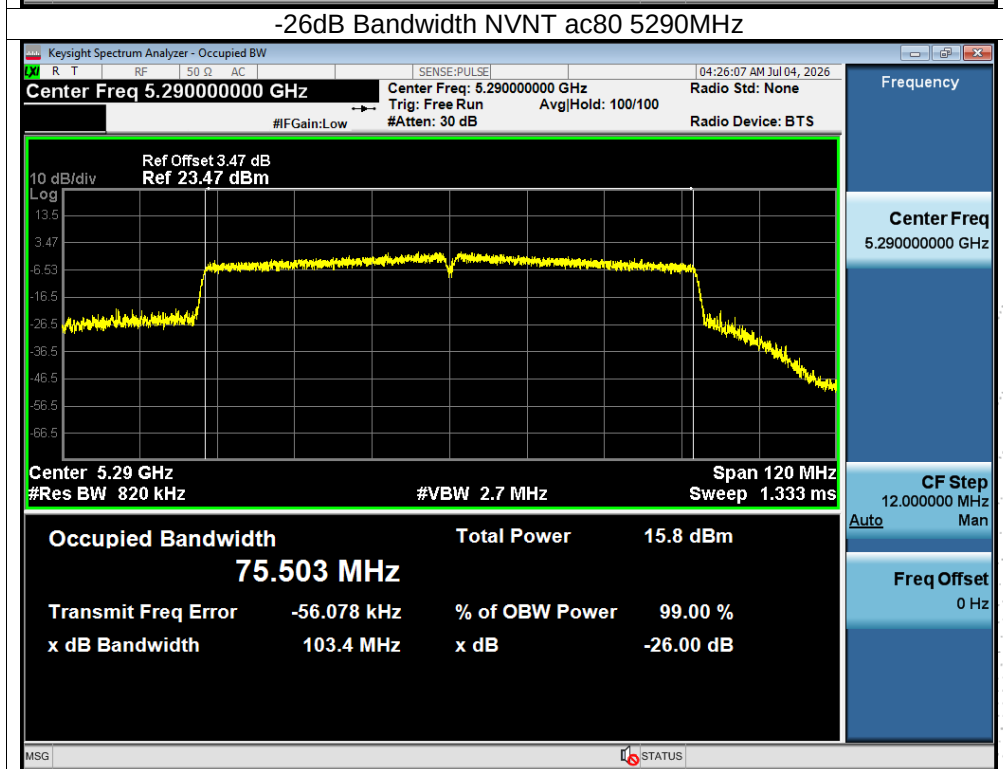
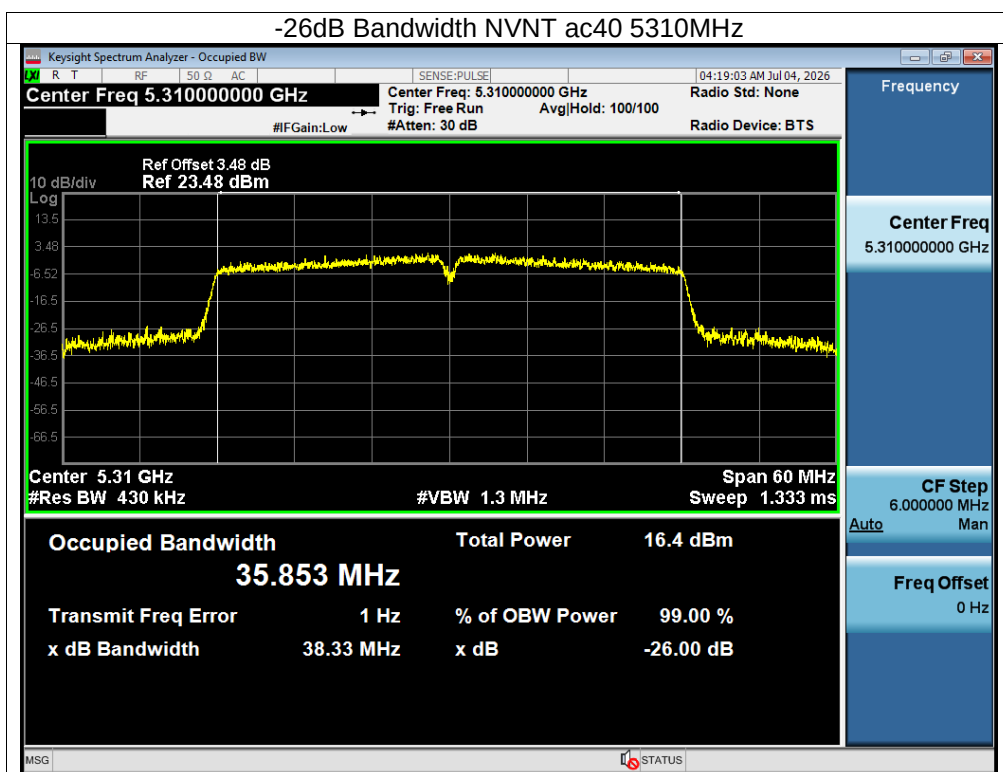


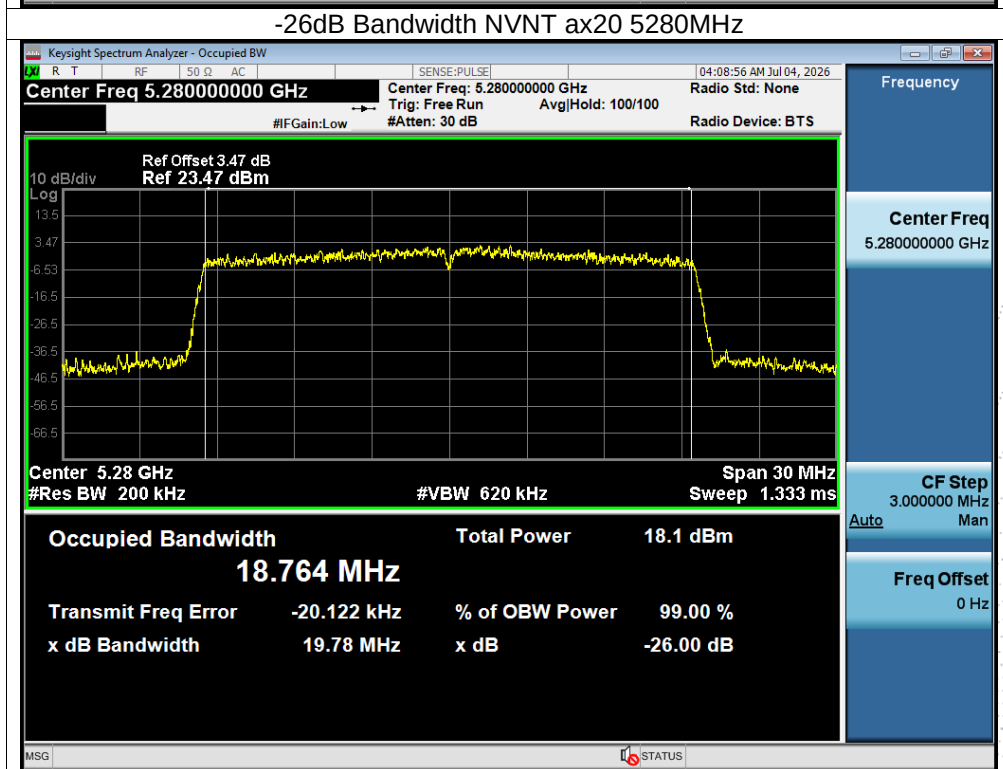
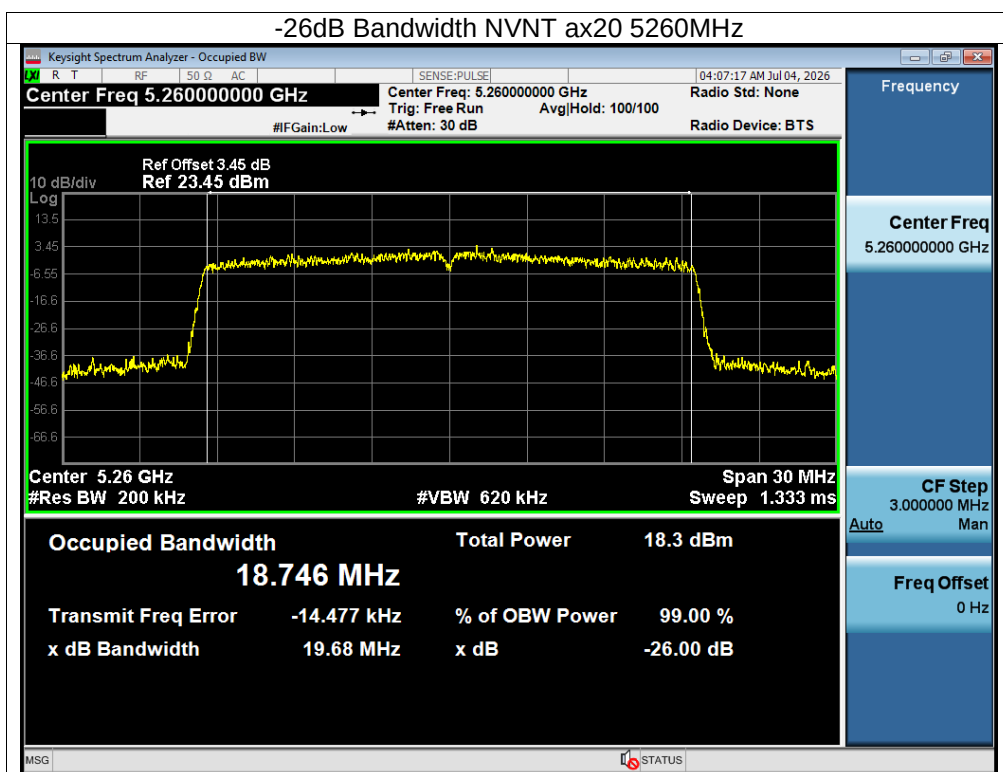


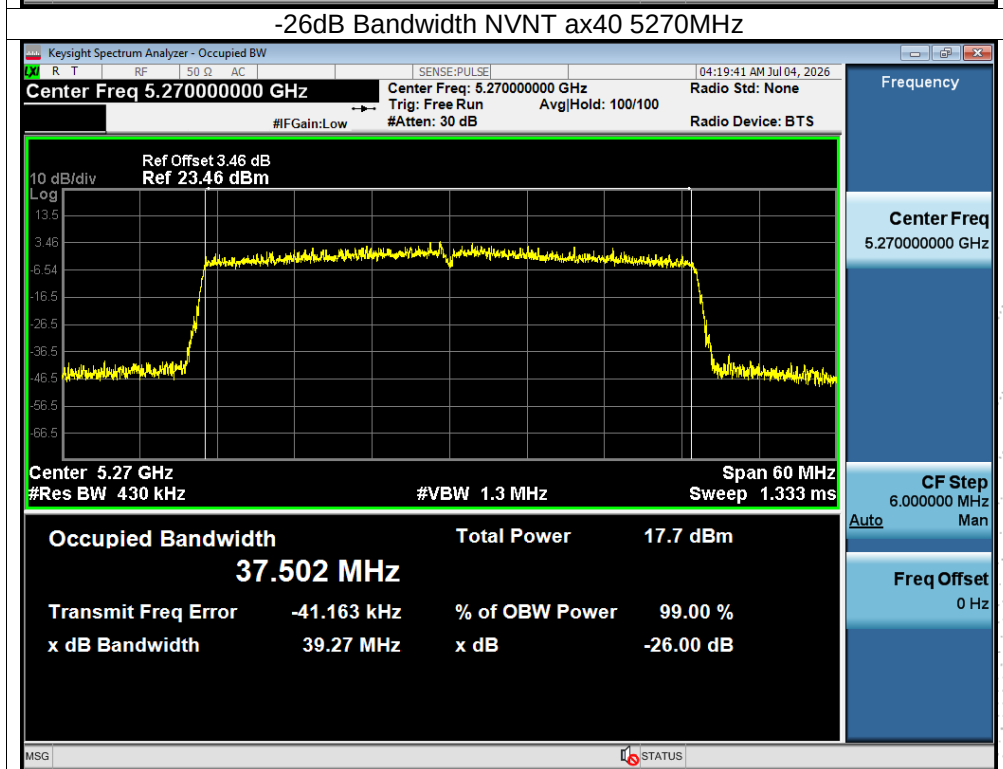
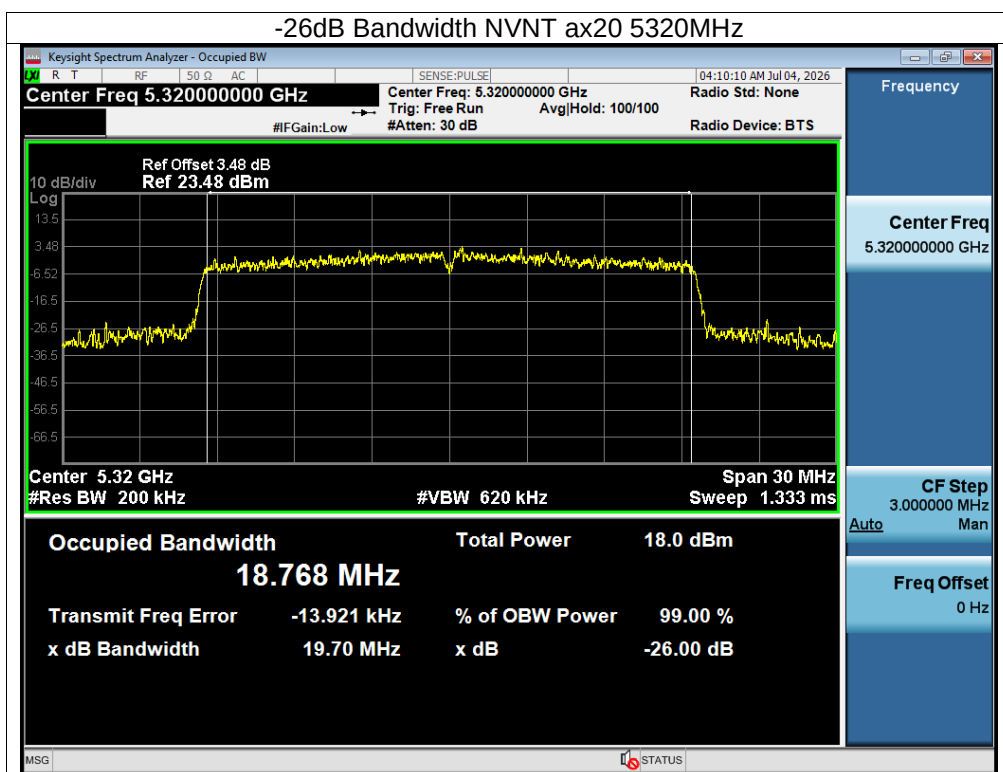


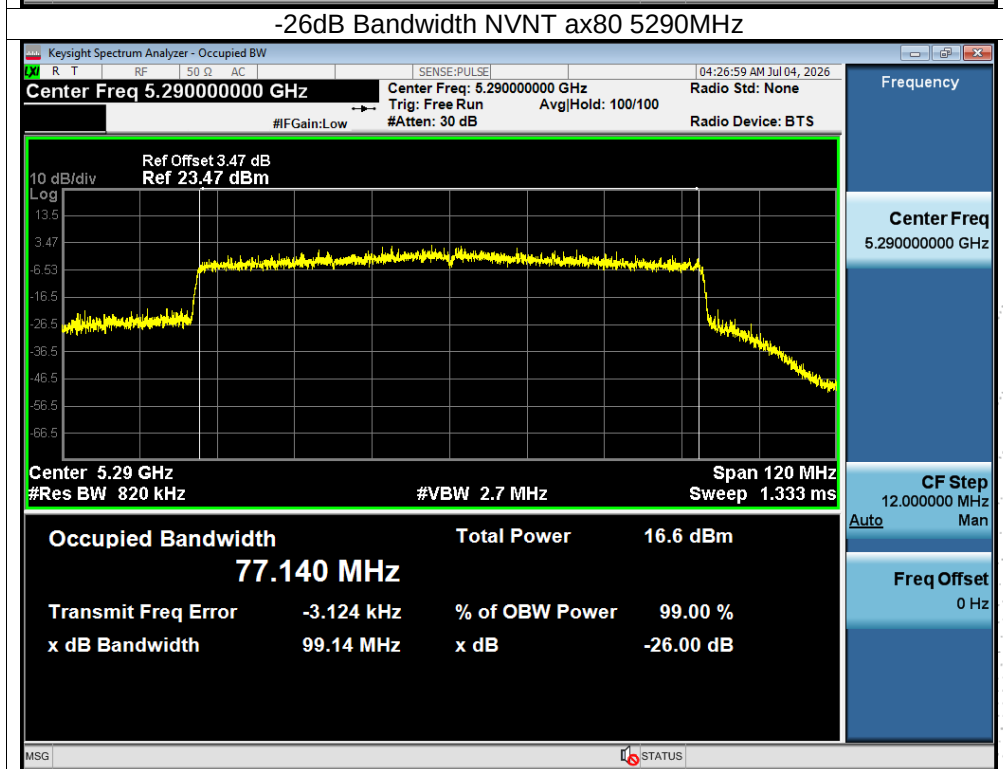
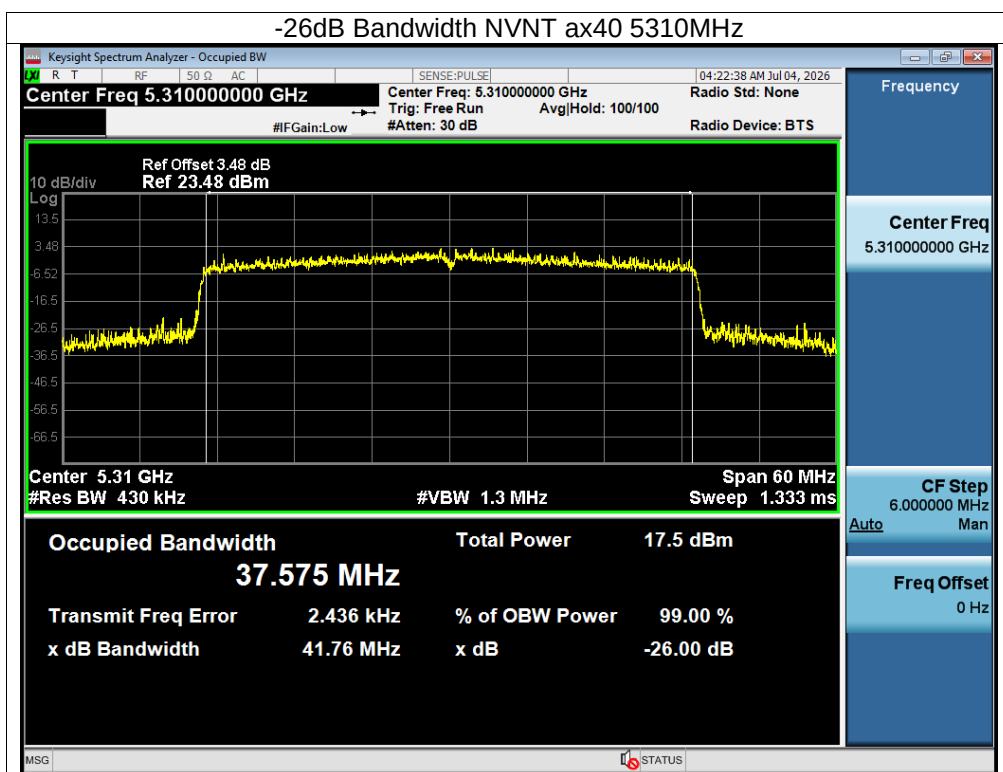


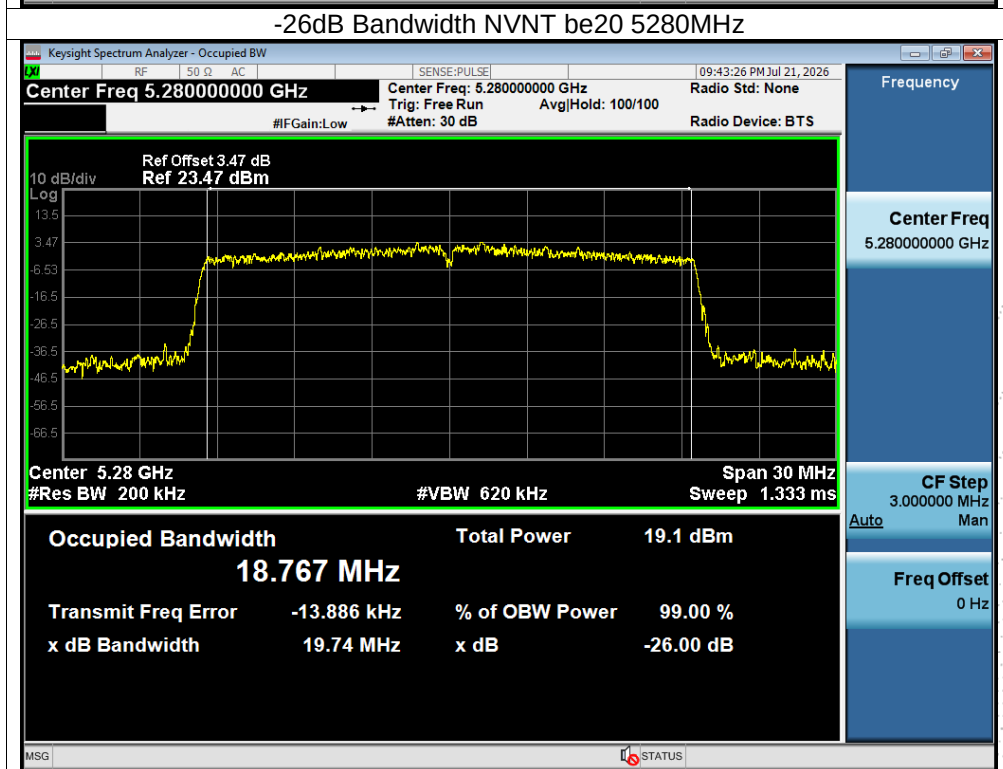
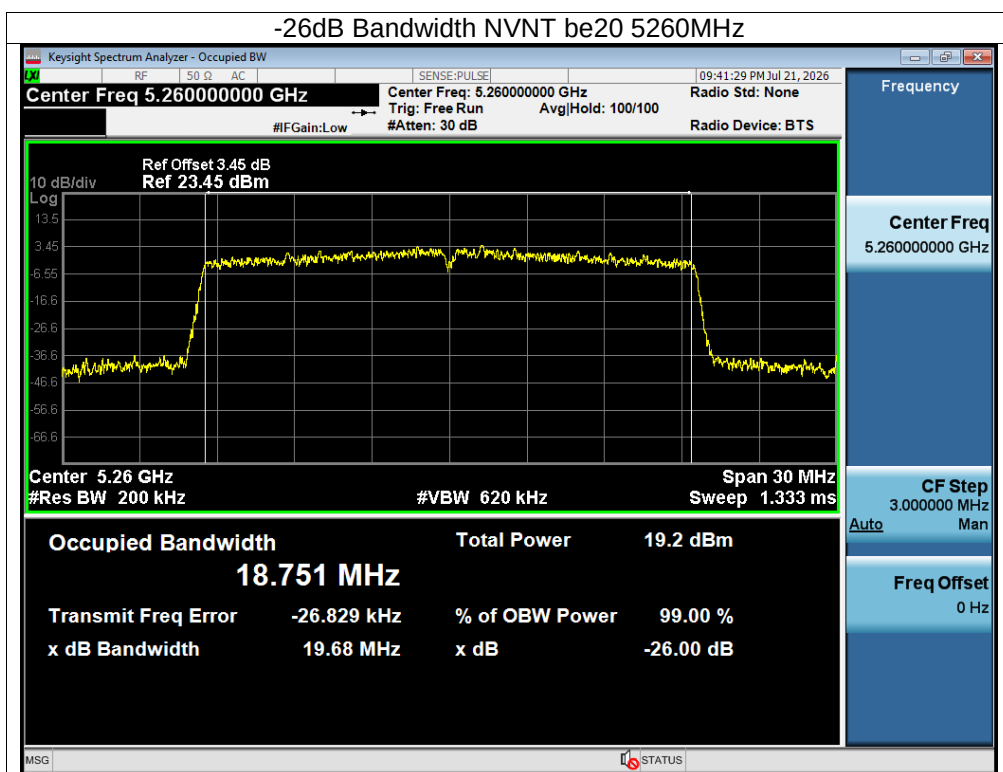


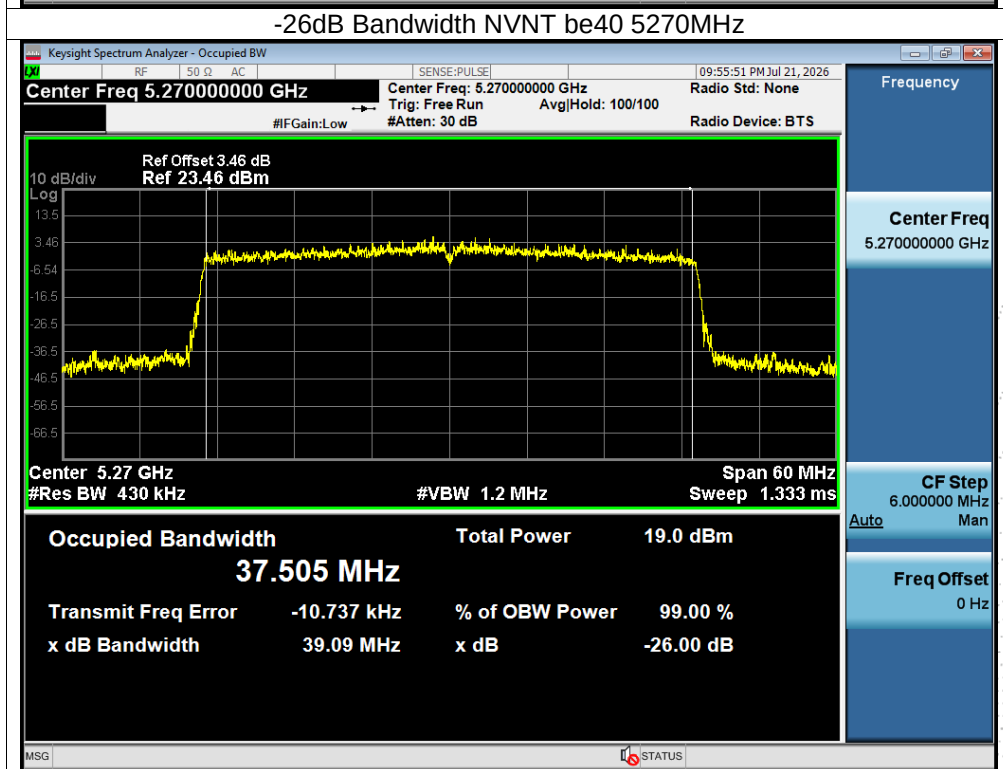
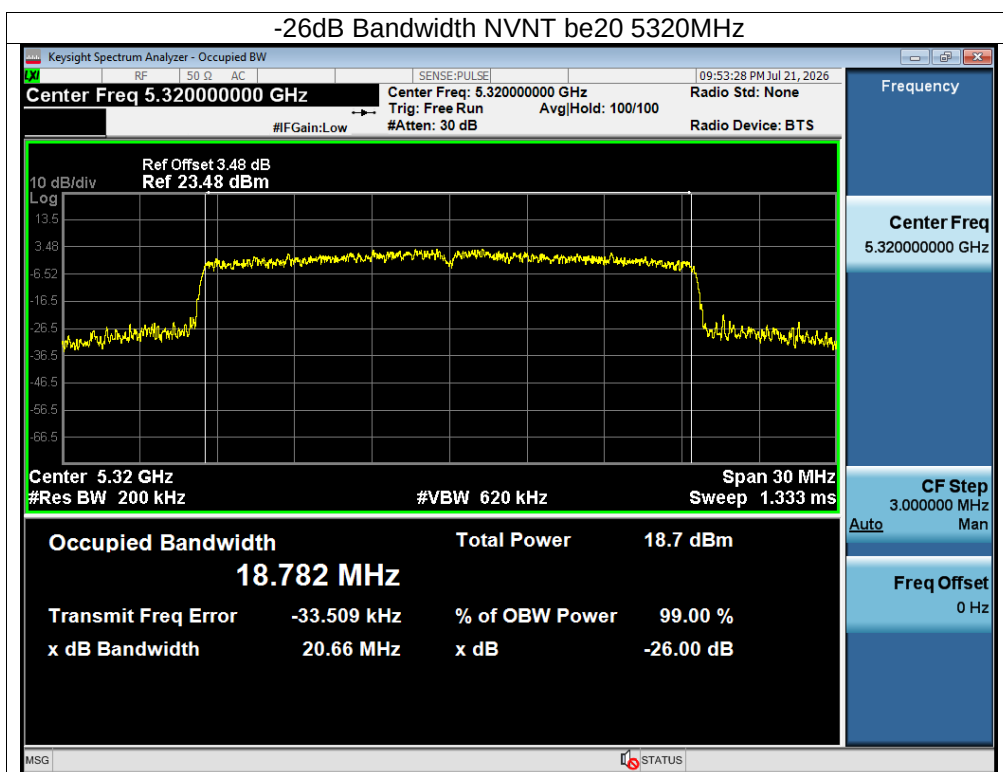


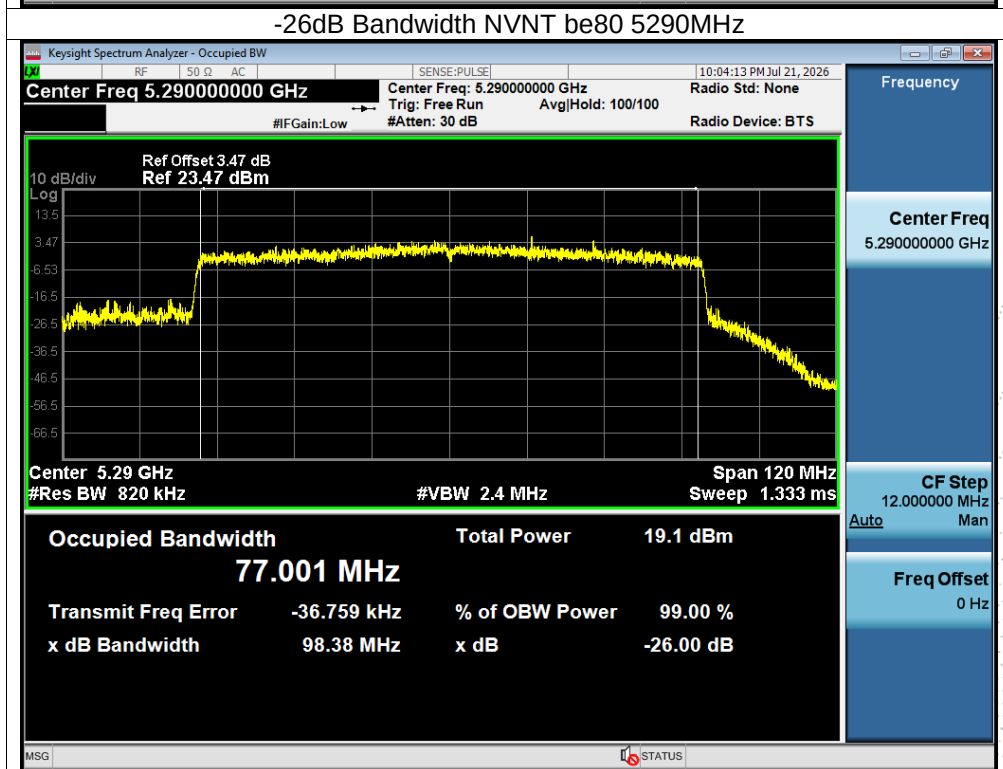
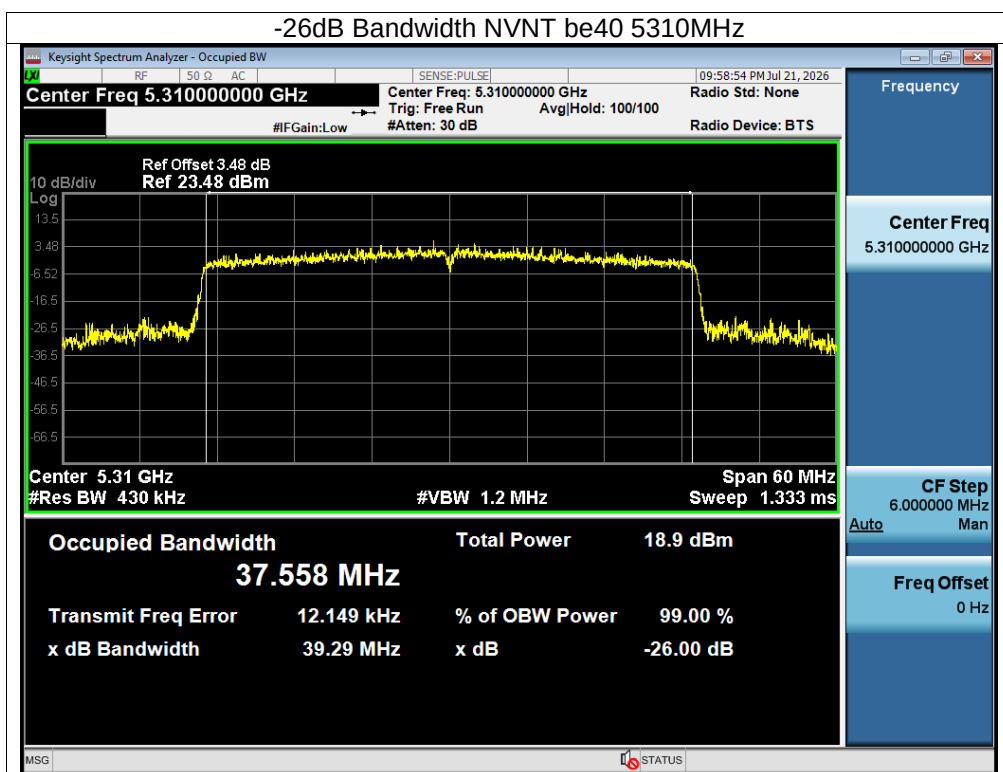












Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

