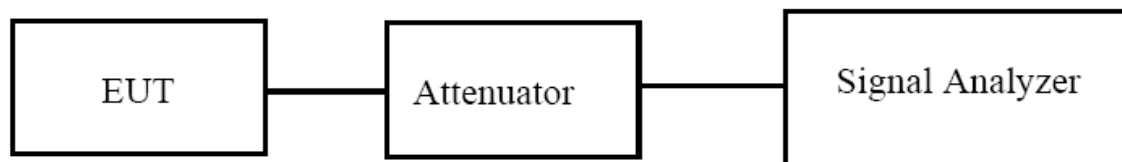




## 9. 26dB & 6dB & 99% Emission Bandwidth

### 9.1 Block Diagram Of Test Setup



### 9.2 Limit

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.  
(6dB bandwidth)>500kHz

### 9.3 Test Procedure

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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

- Set center frequency to the nominal EUT channel center frequency.
- Set span = 1.5 times to 5.0 times the OBW.
- Set RBW = 1 % to 5 % of the OBW
- Set VBW  $\geq 3 \cdot$  RBW
- 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.
- Use the 99 % power bandwidth function of the instrument (if available).
- 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.

6dB

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW)  $\geq 3 \times$  RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.

6. Allow the trace to stabilize.

7. 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.

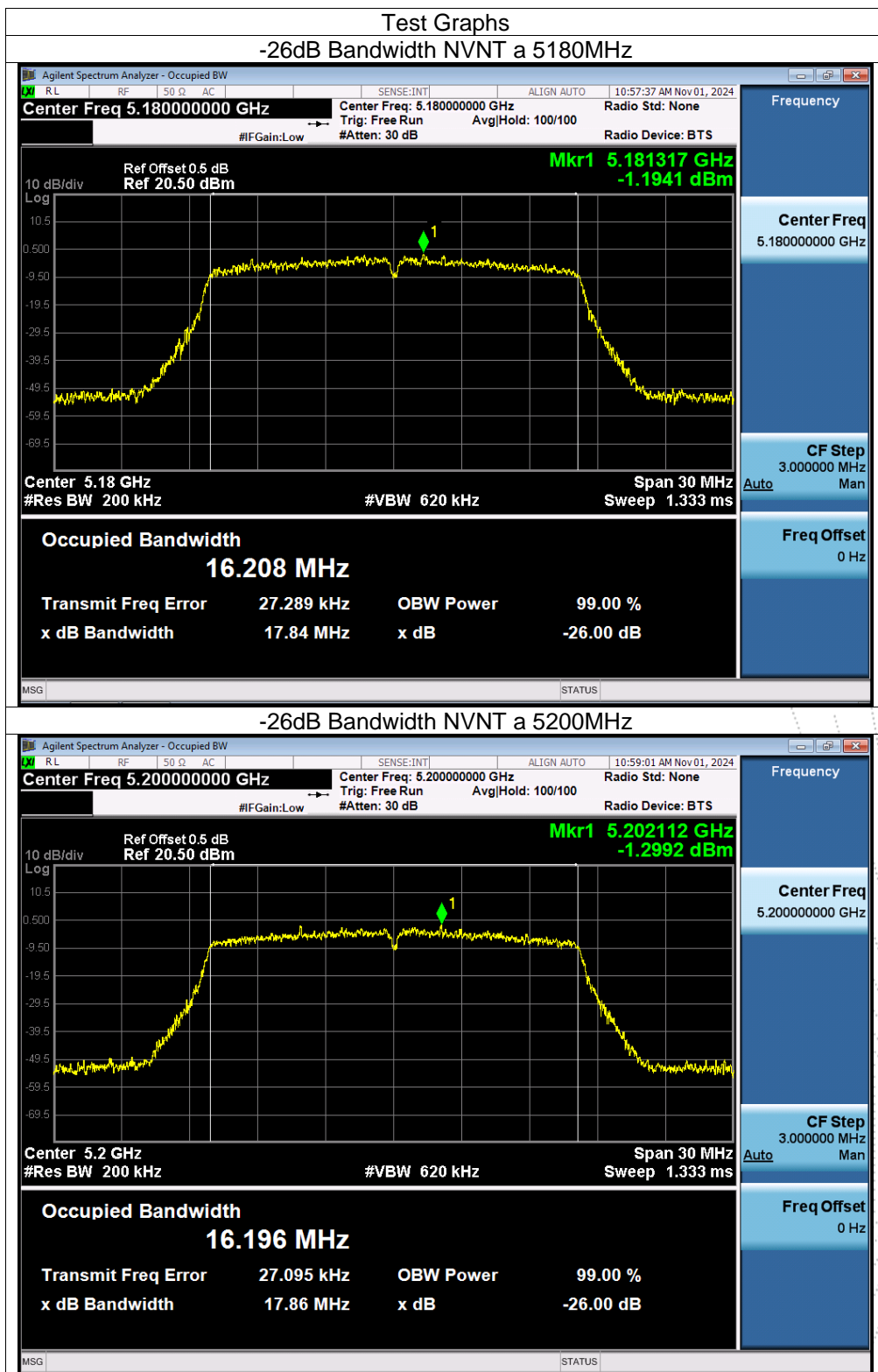
## 9.5 Test Result

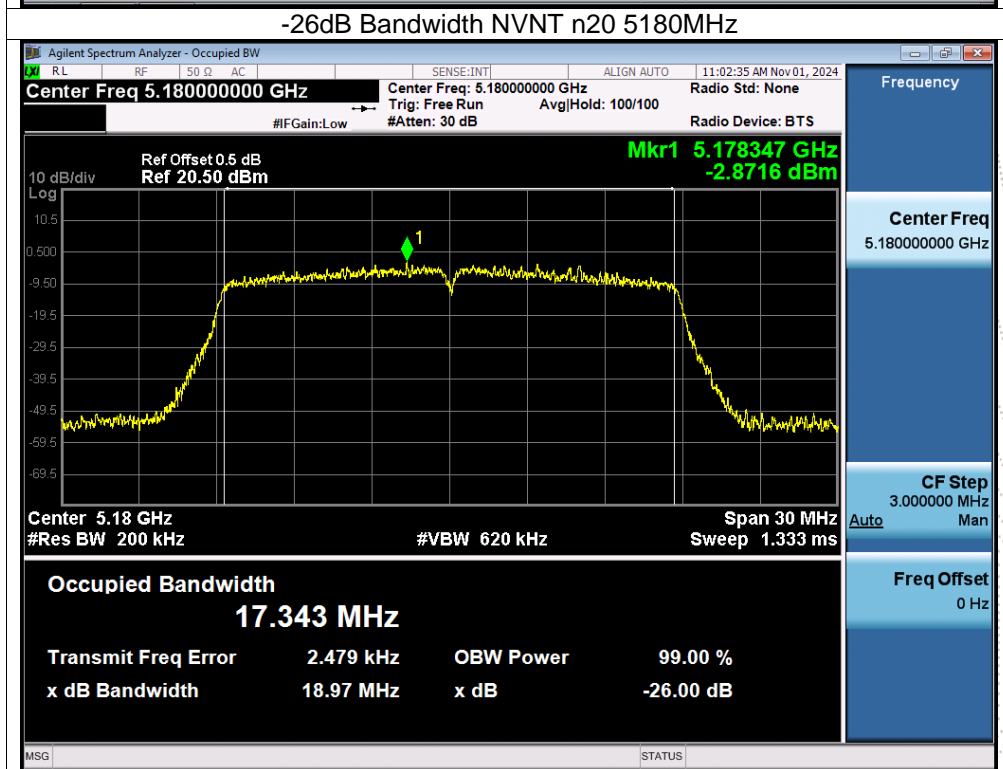
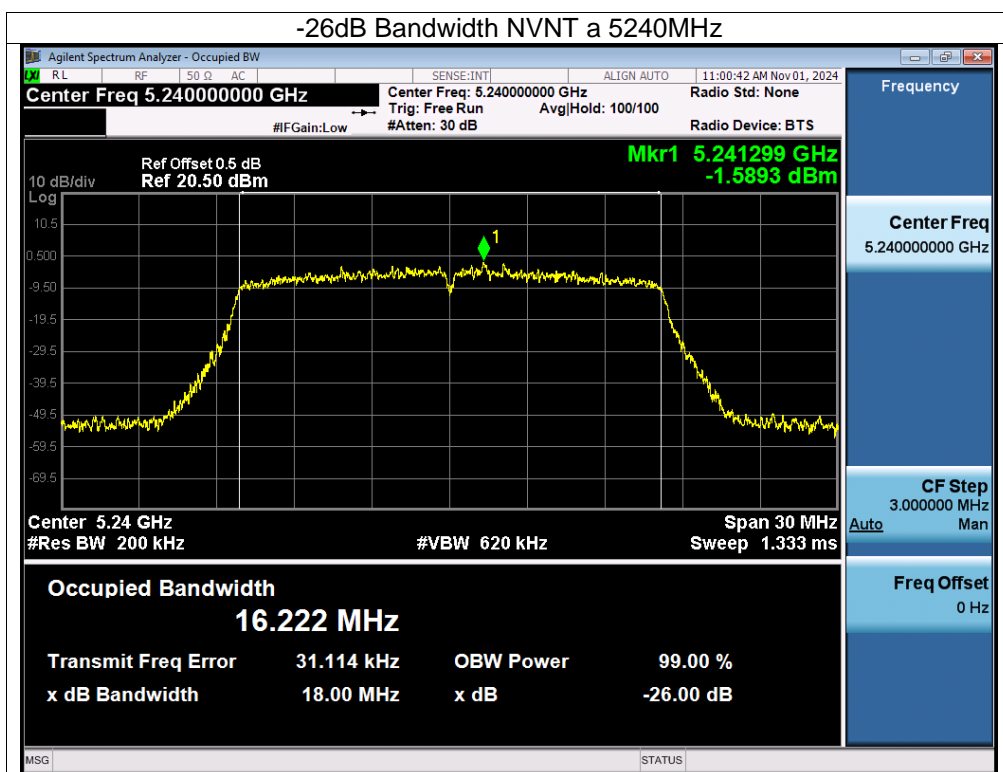
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101kPa	Test Voltage:	DC 7.6V
Test Mode:	TX Frequency U-NII-1 (5180-5240MHz)		

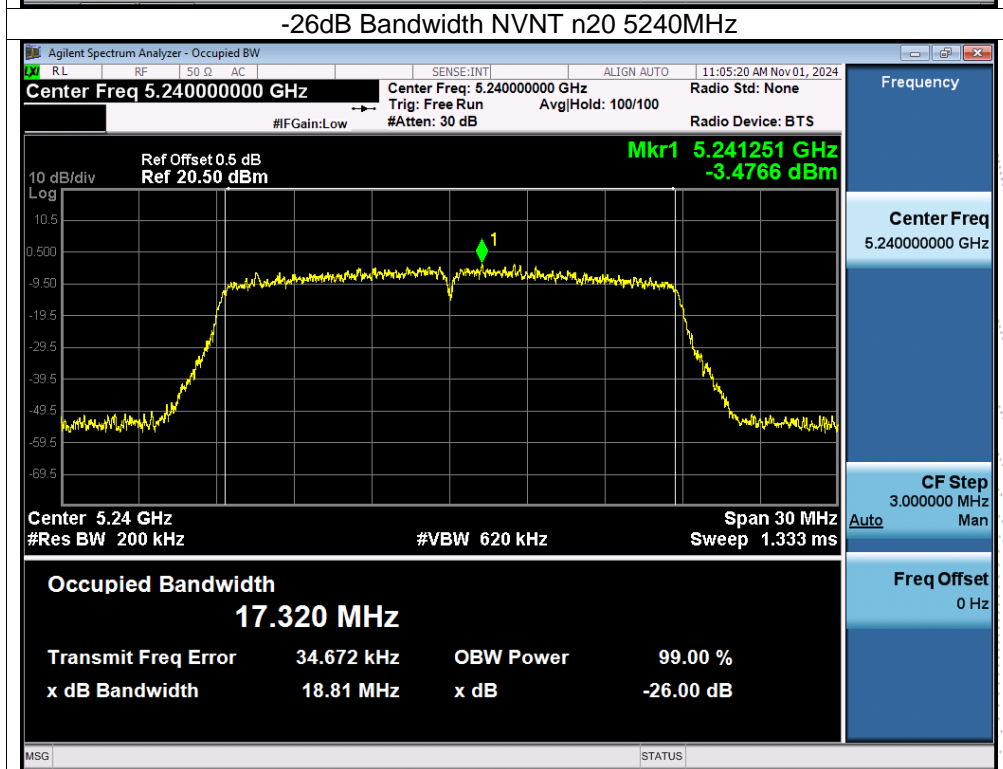
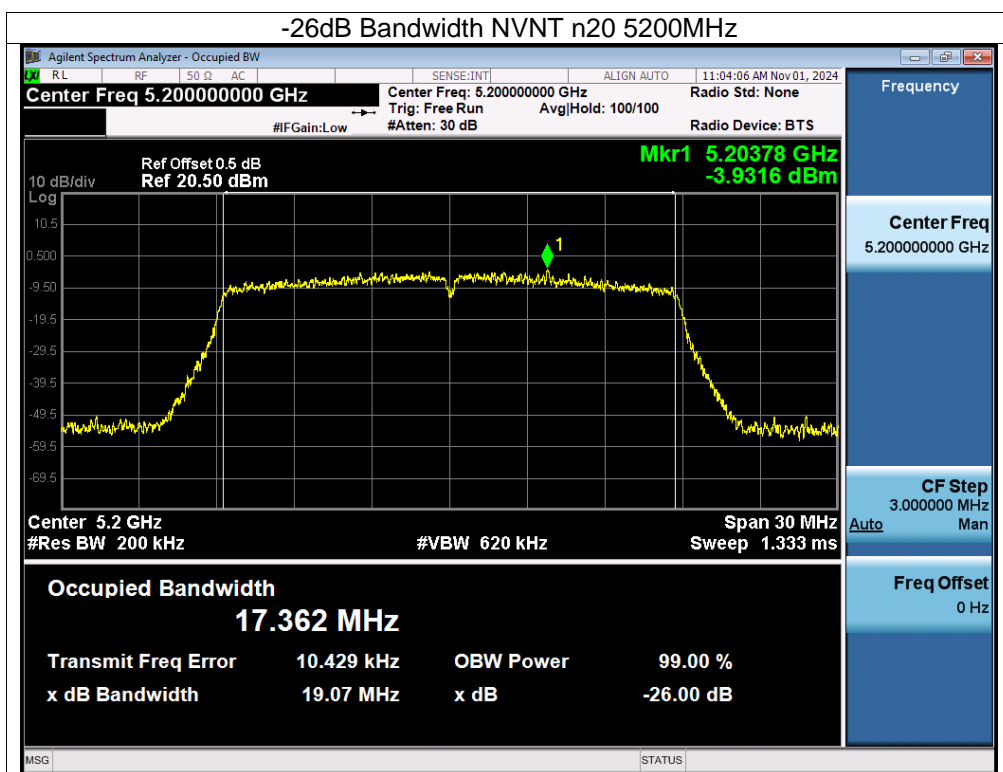
Condition	Mode	Frequency (MHz)	99% bandwidth (MHz)		-26dB bandwidth (MHz)		Result
			ANT A	ANT B	ANT A	ANT B	
NVNT	a	5180	16.202	16.197	18.027	17.843	Pass
NVNT	a	5200	16.21	16.216	17.967	17.857	Pass
NVNT	a	5240	16.205	16.217	17.885	18.001	Pass
NVNT	n20	5180	17.343	17.335	18.978	18.973	Pass
NVNT	n20	5200	17.363	17.358	18.776	19.074	Pass
NVNT	n20	5240	17.369	17.335	18.938	18.809	Pass
NVNT	n40	5190	35.749	35.773	38.72	38.578	Pass
NVNT	n40	5230	35.786	35.778	38.621	38.482	Pass
NVNT	ac20	5180	17.341	17.359	19.143	18.994	Pass
NVNT	ac20	5200	17.36	17.366	19.075	18.975	Pass
NVNT	ac20	5240	17.374	17.37	19.004	19.01	Pass
NVNT	ac40	5190	35.765	35.752	38.581	38.681	Pass
NVNT	ac40	5230	35.752	35.802	38.6	38.354	Pass
NVNT	ac80	5210	75.05	74.937	78.619	78.623	Pass
NVNT	ax20	5180	18.686	18.69	19.949	19.88	Pass
NVNT	ax20	5200	18.69	18.702	20.089	19.936	Pass
NVNT	ax20	5240	18.722	18.702	20.015	19.818	Pass
NVNT	ax40	5190	37.35	37.418	39.42	39.333	Pass
NVNT	ax40	5230	37.385	37.455	39.28	39.246	Pass
NVNT	ax80	5210	<b>76.784</b>	76.726	79.854	<b>80.226</b>	Pass

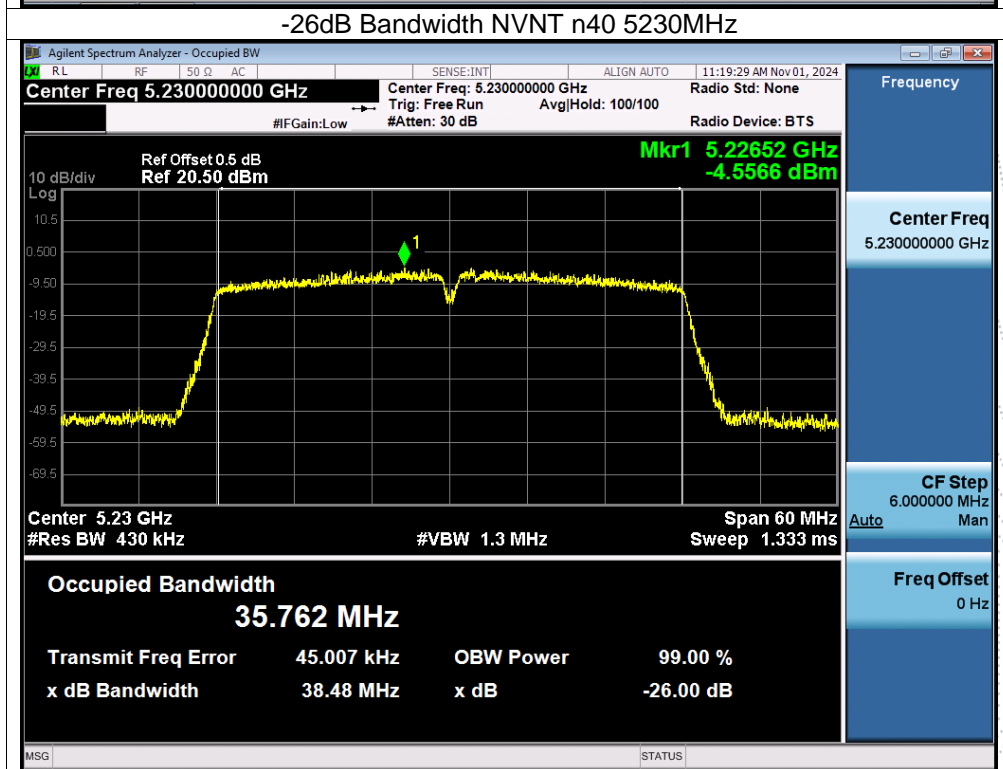
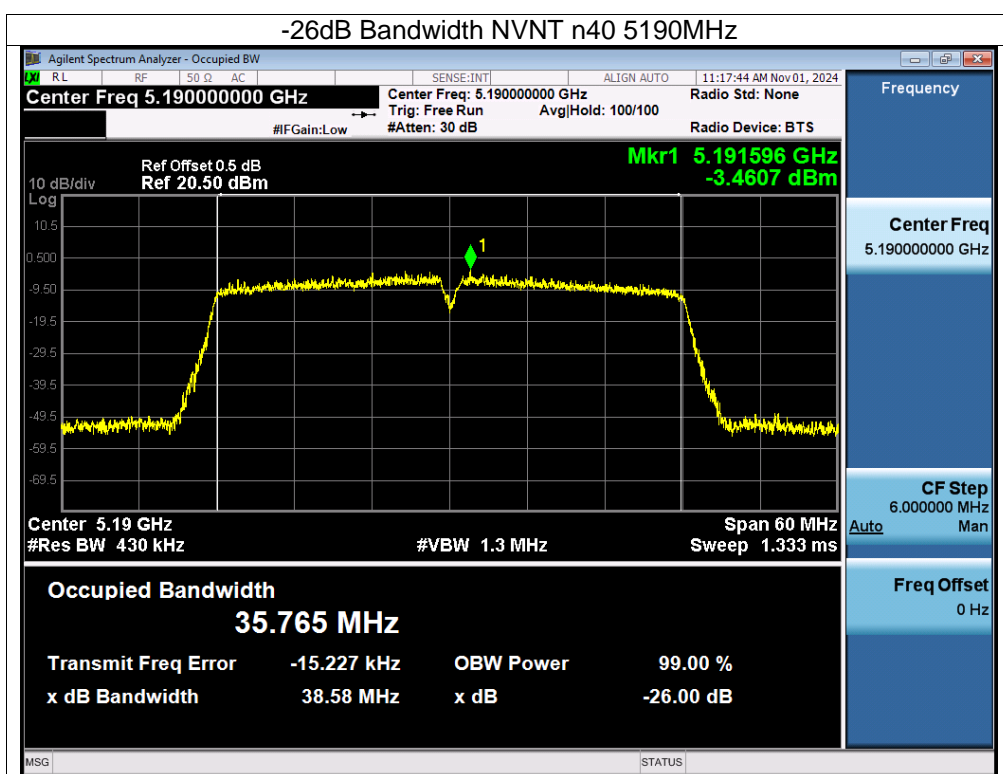


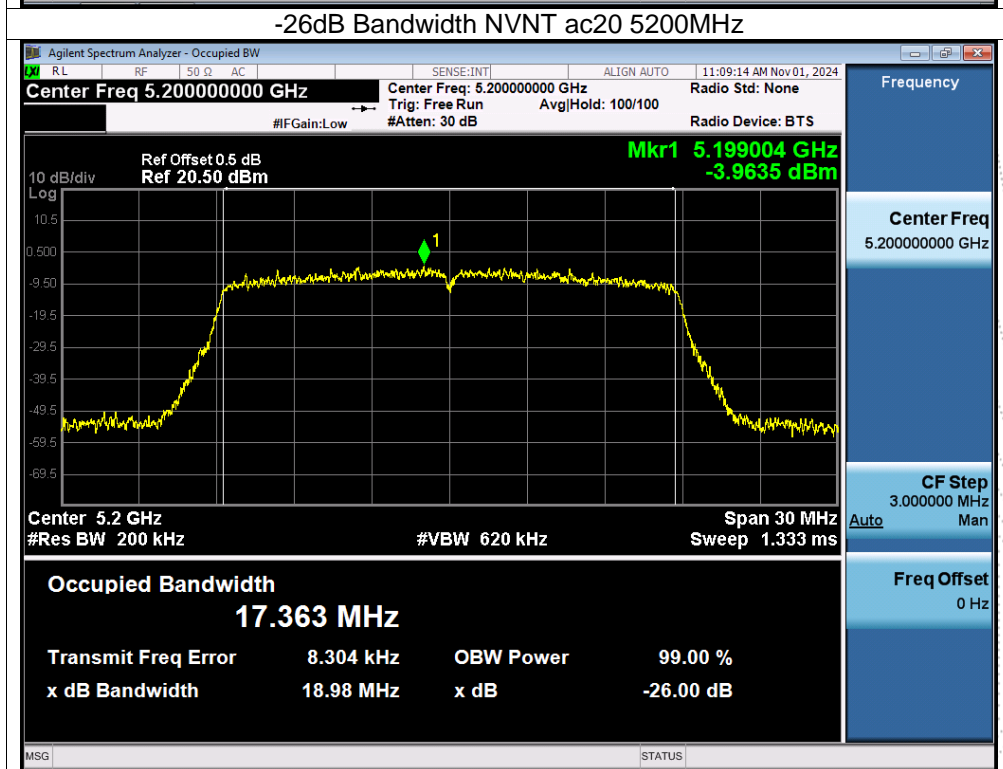
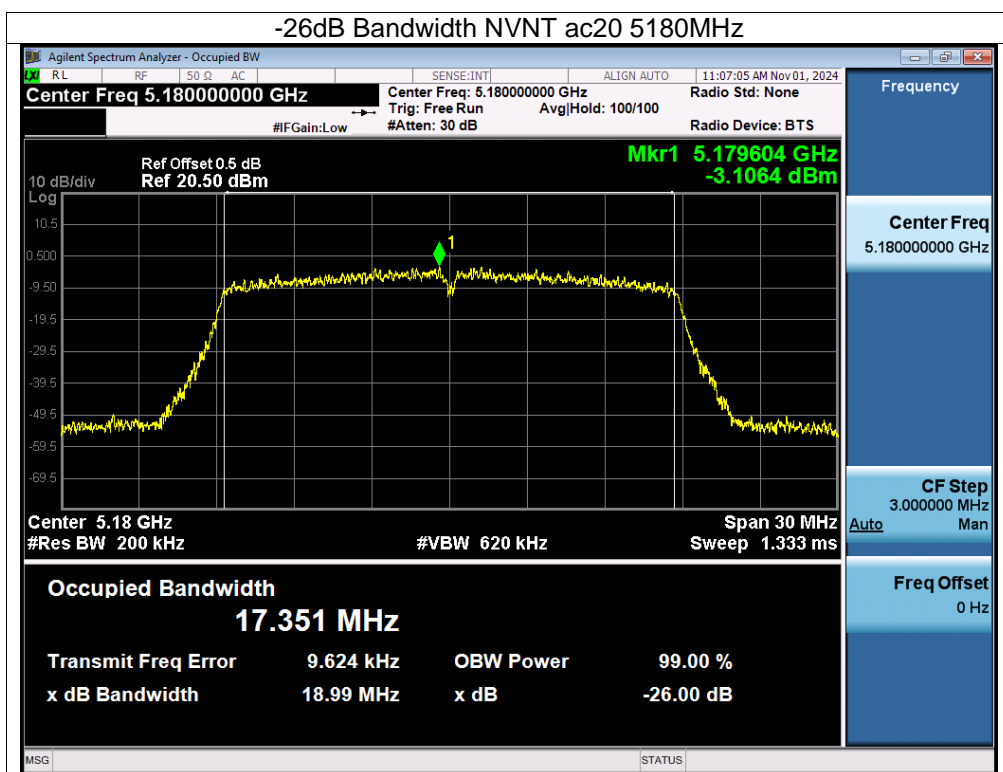
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.



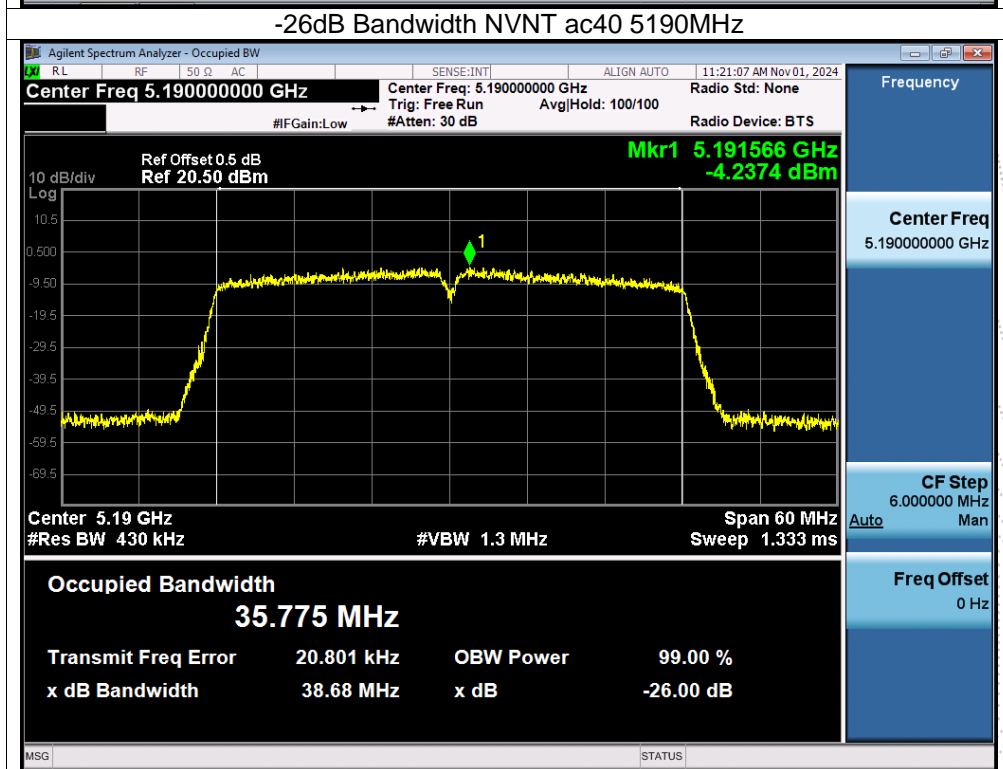
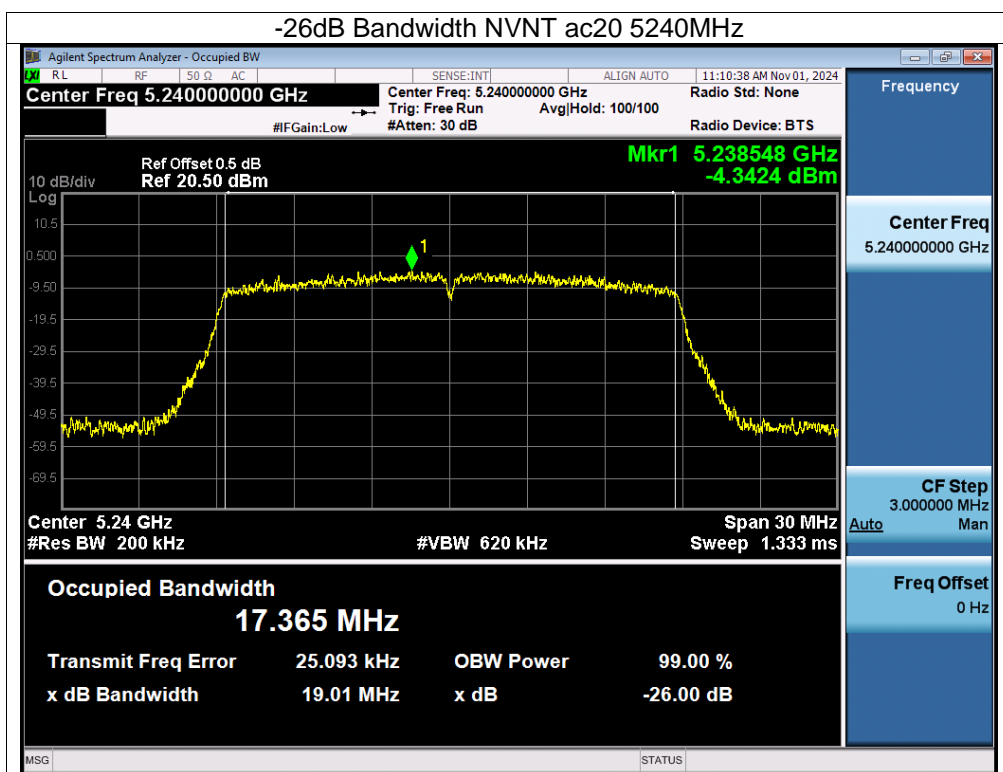




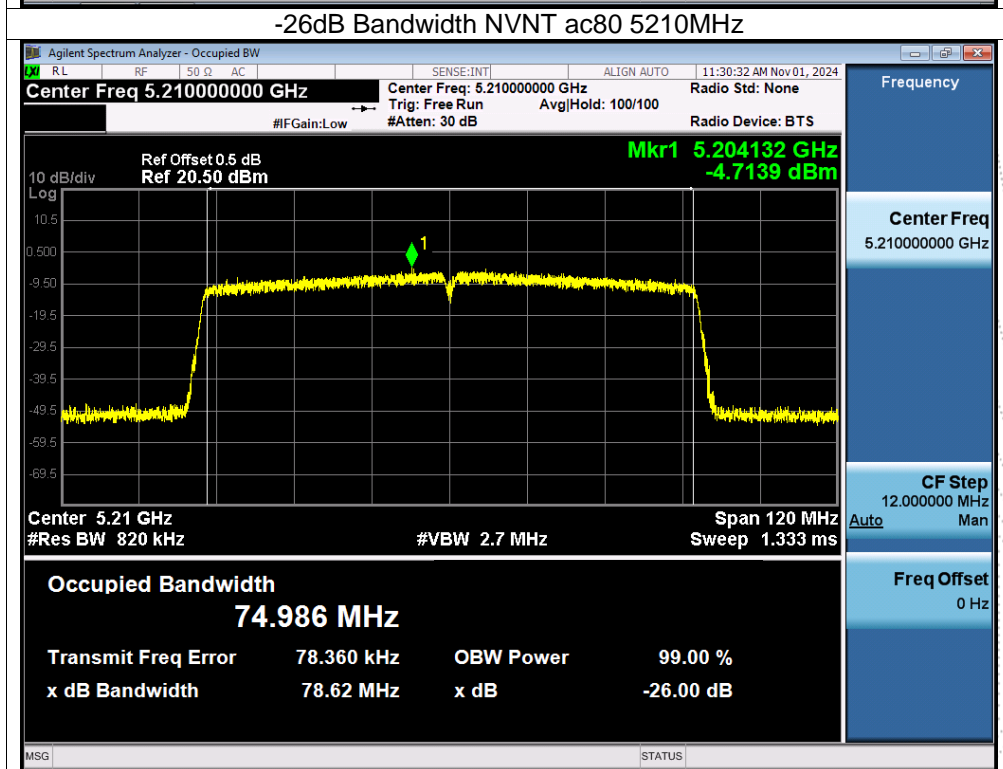
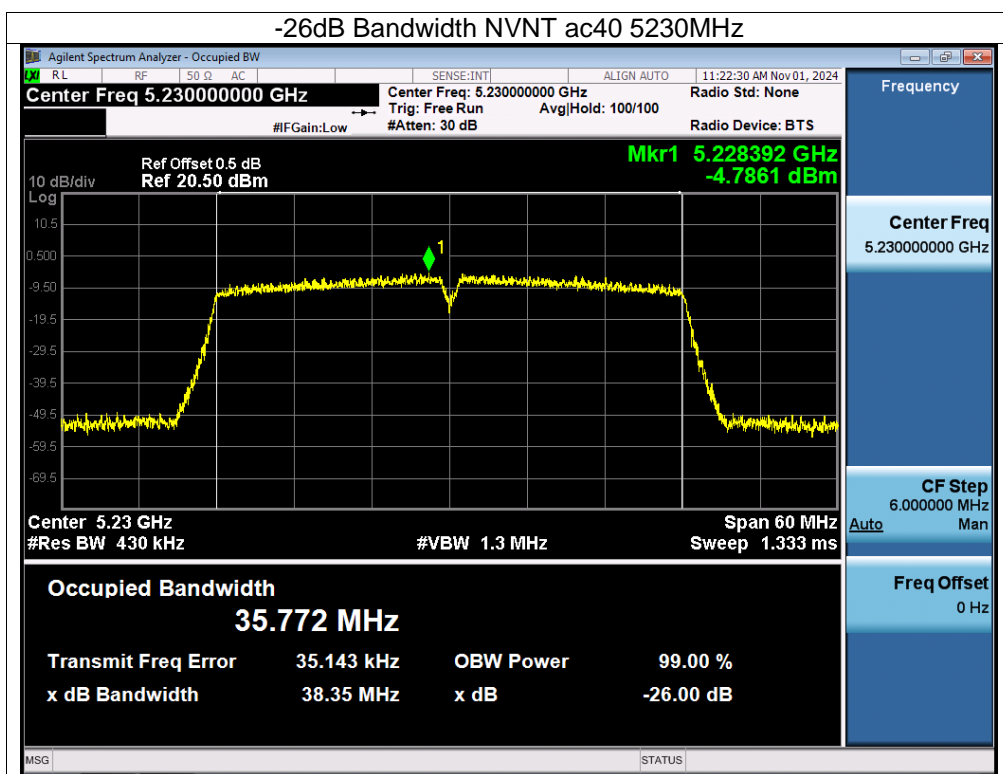


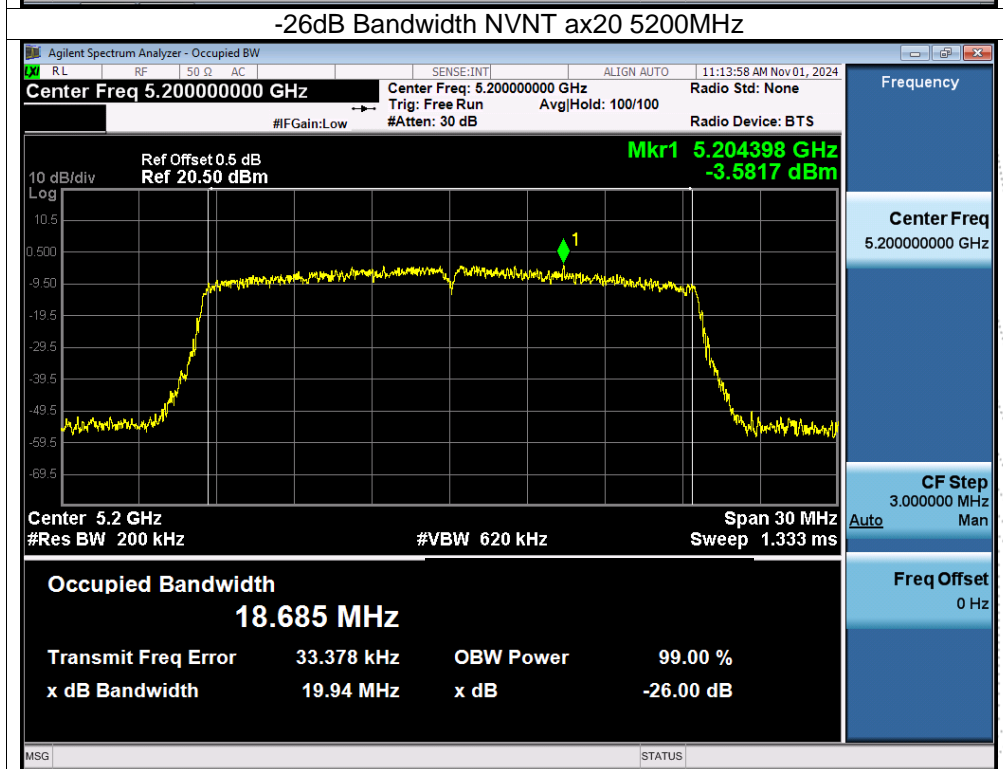
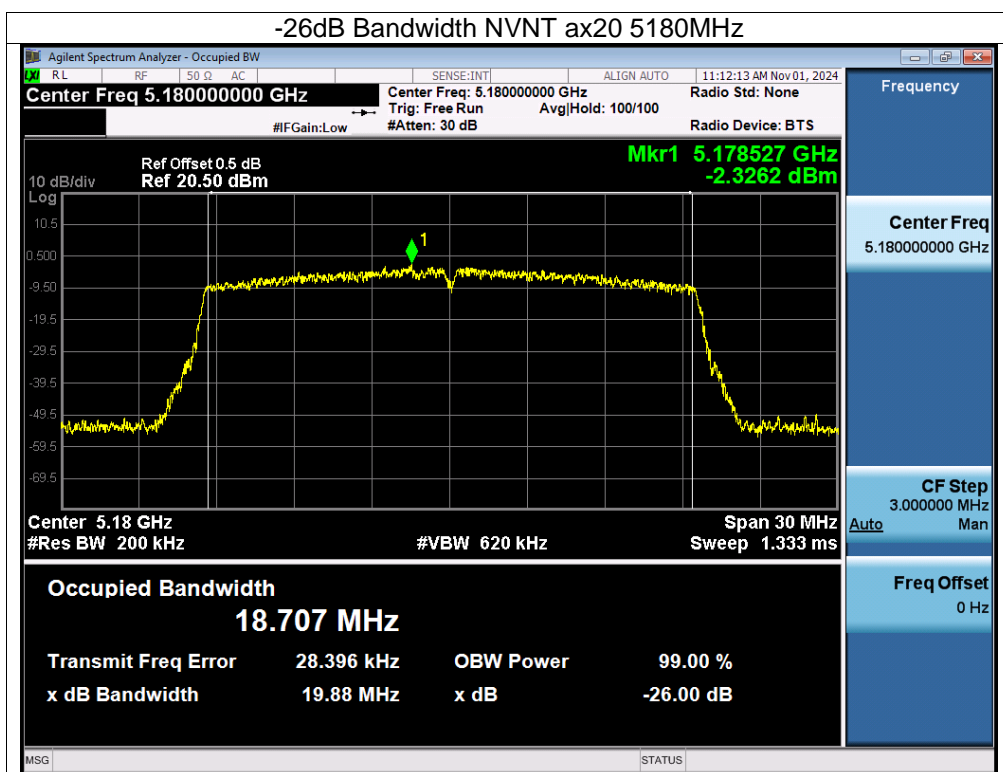


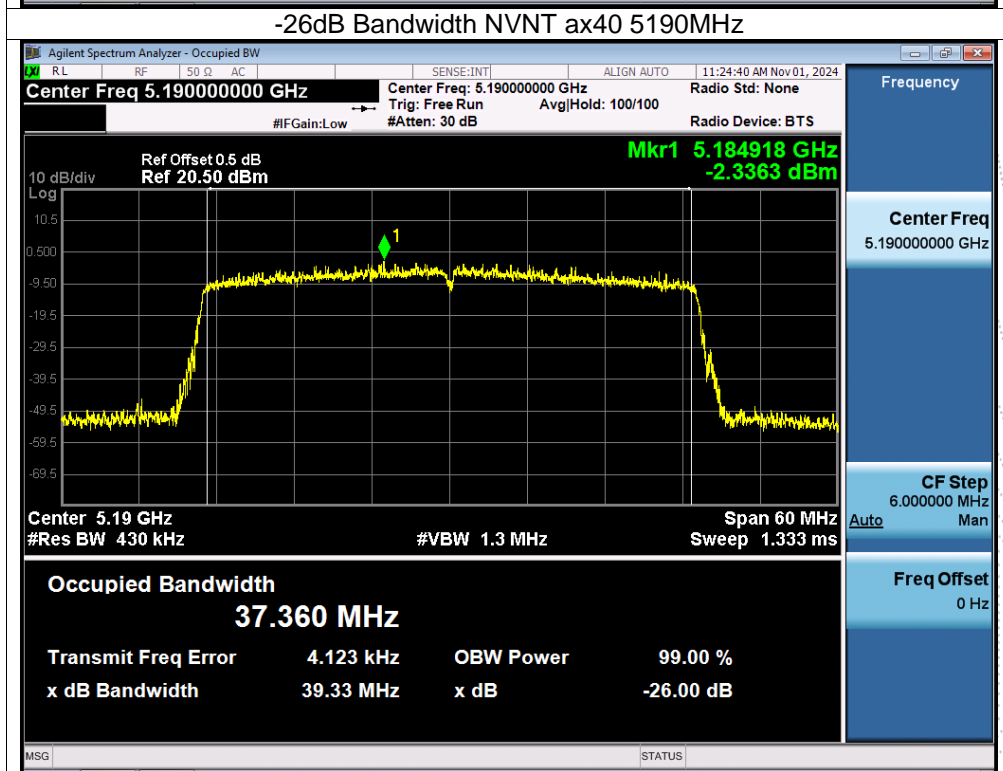
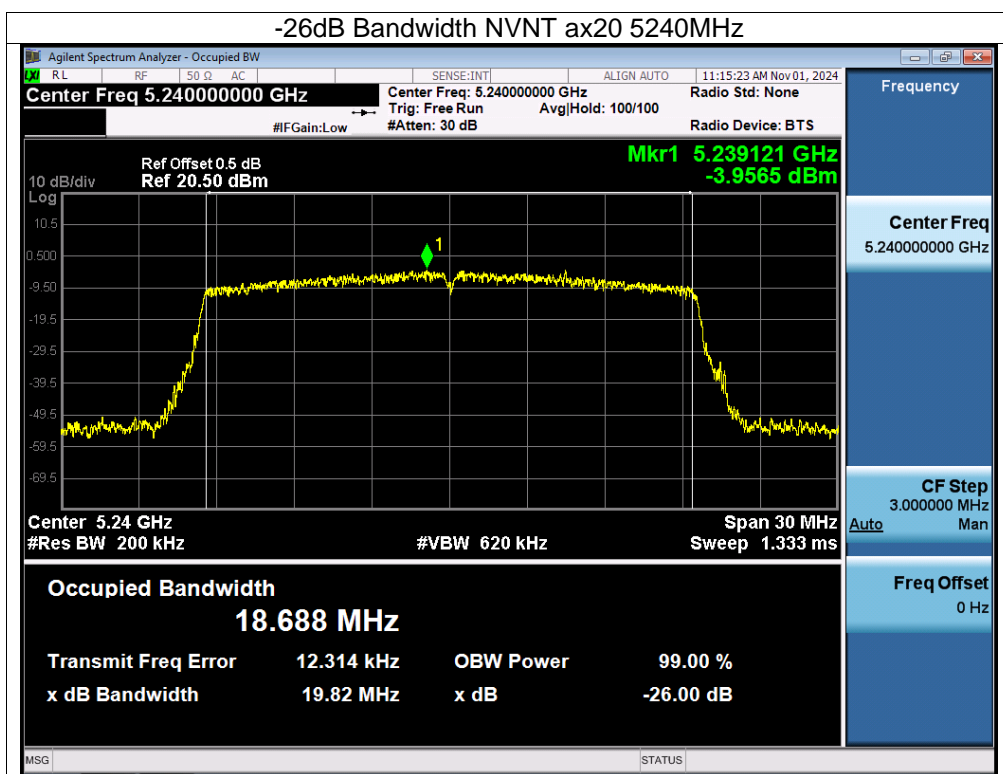


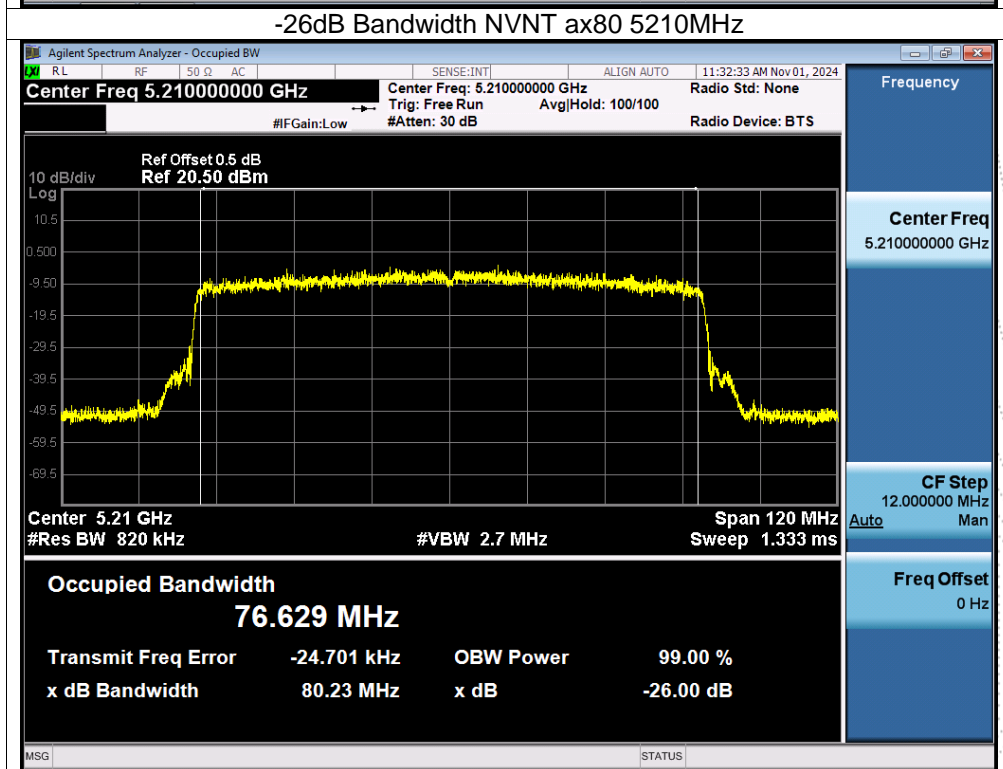
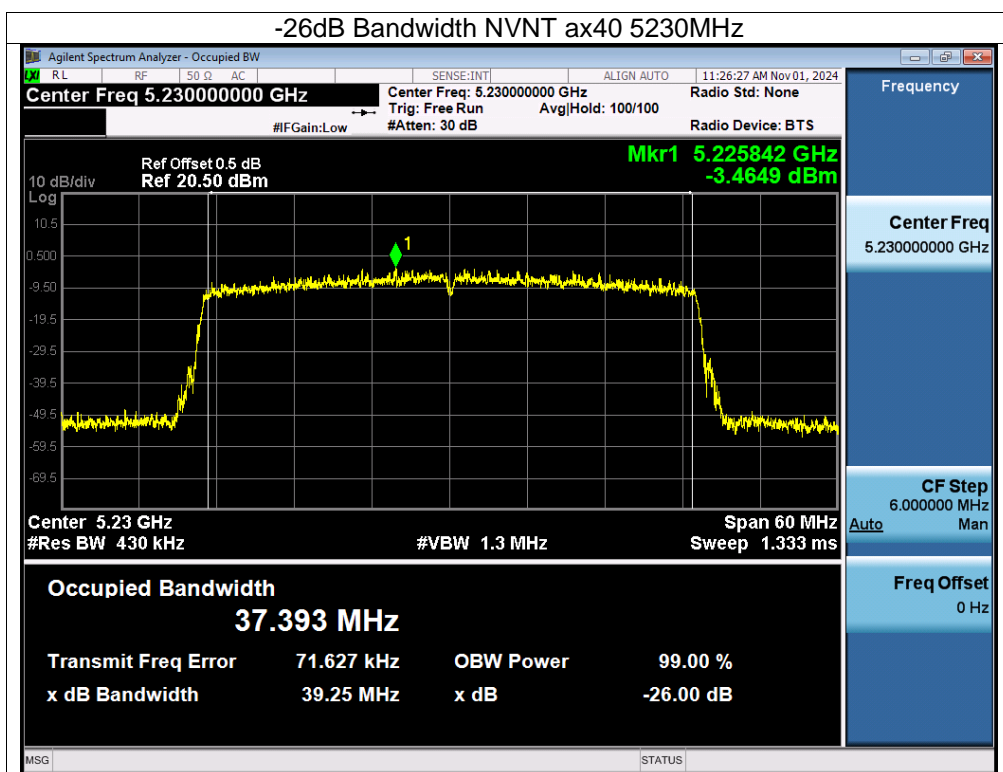




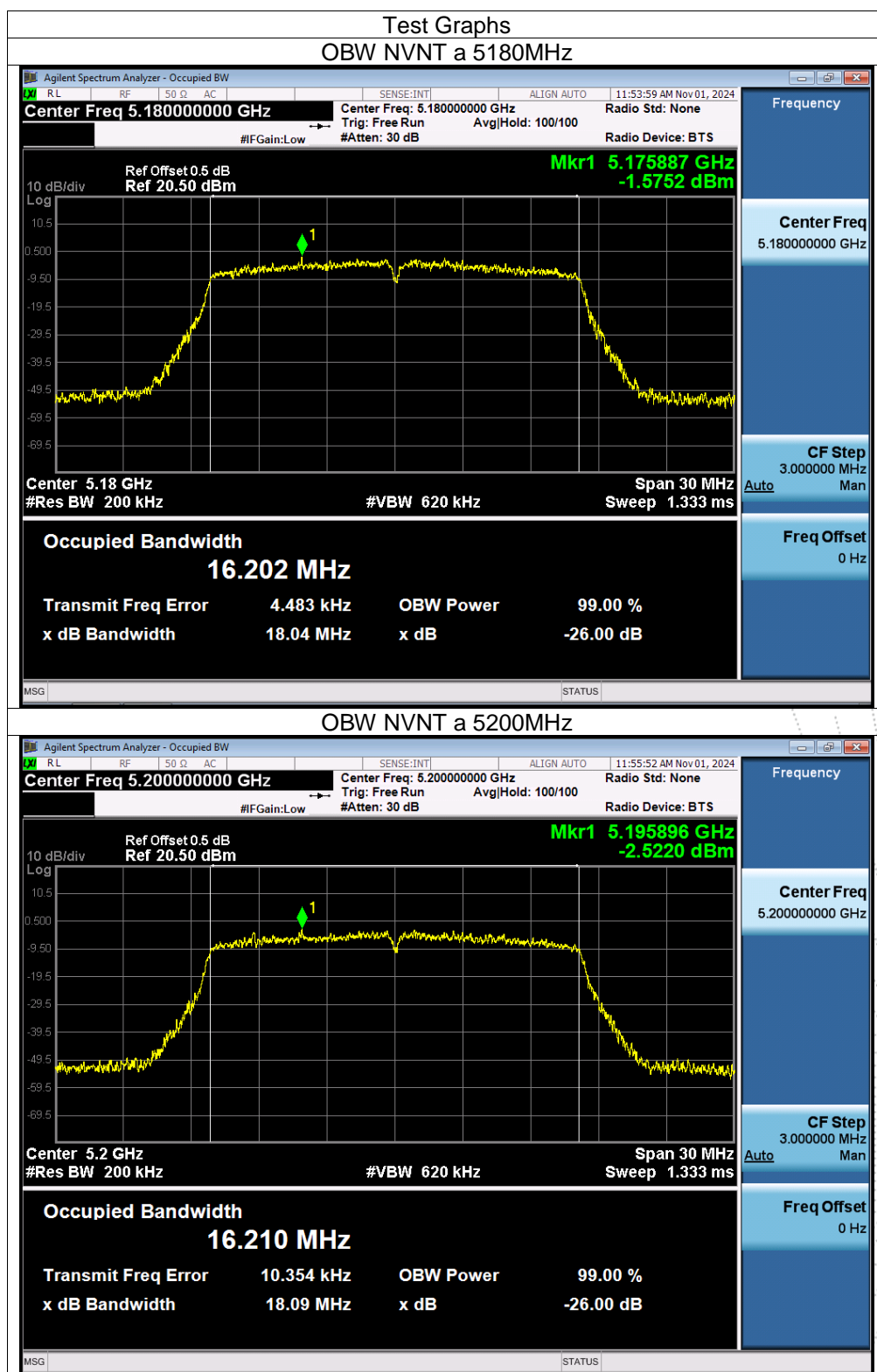




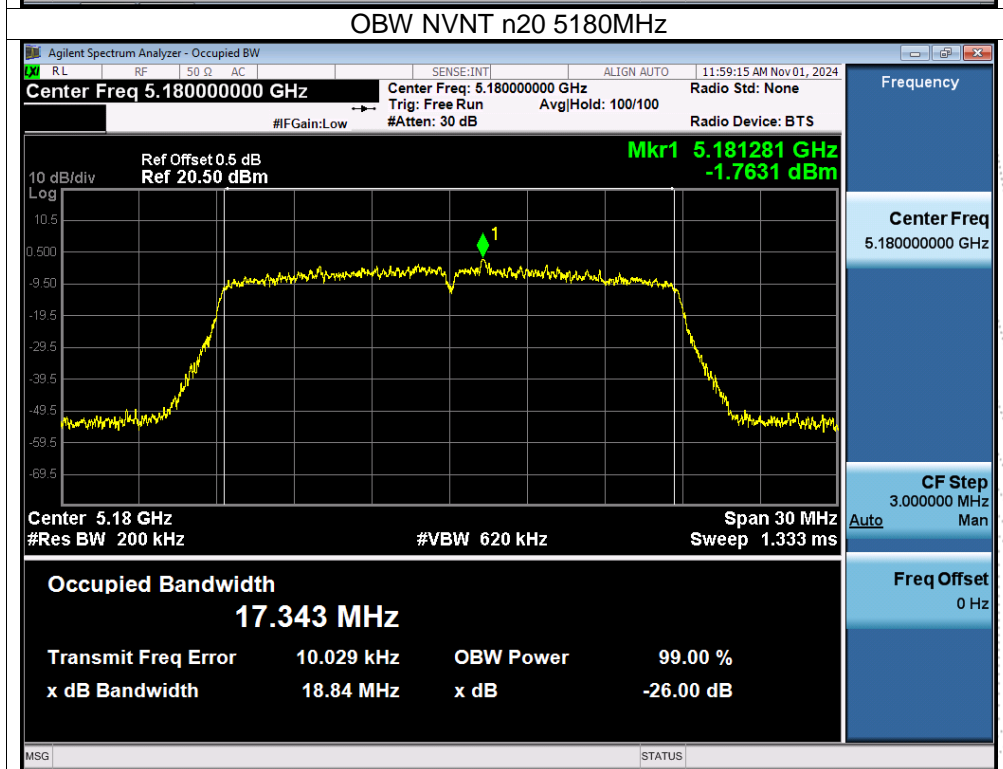
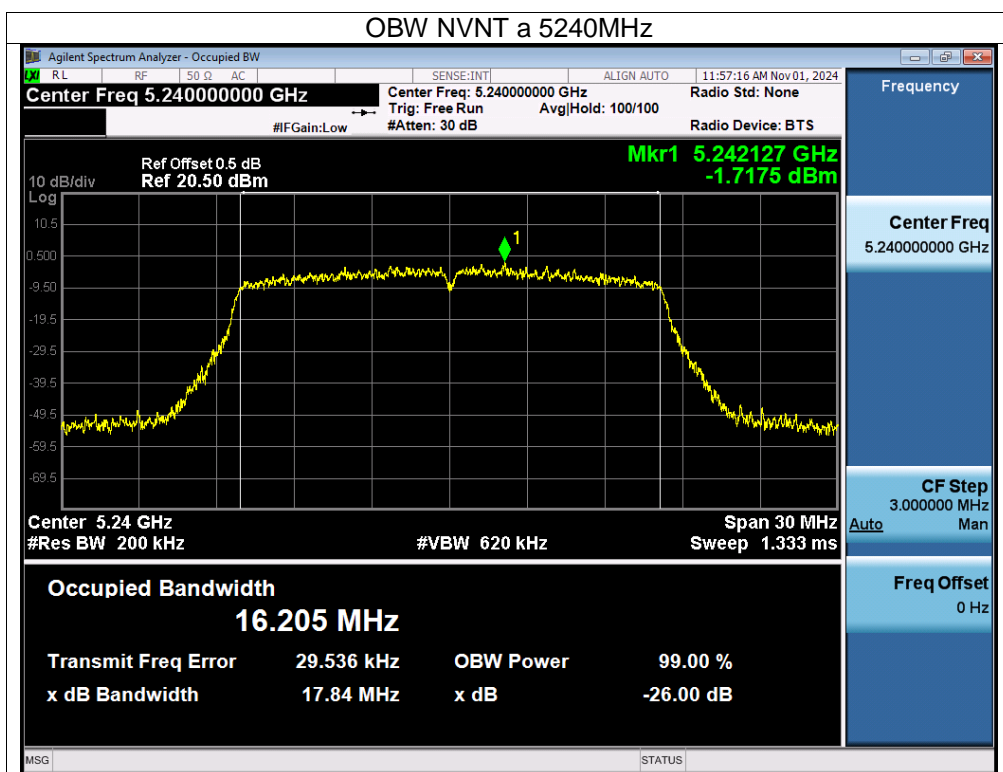




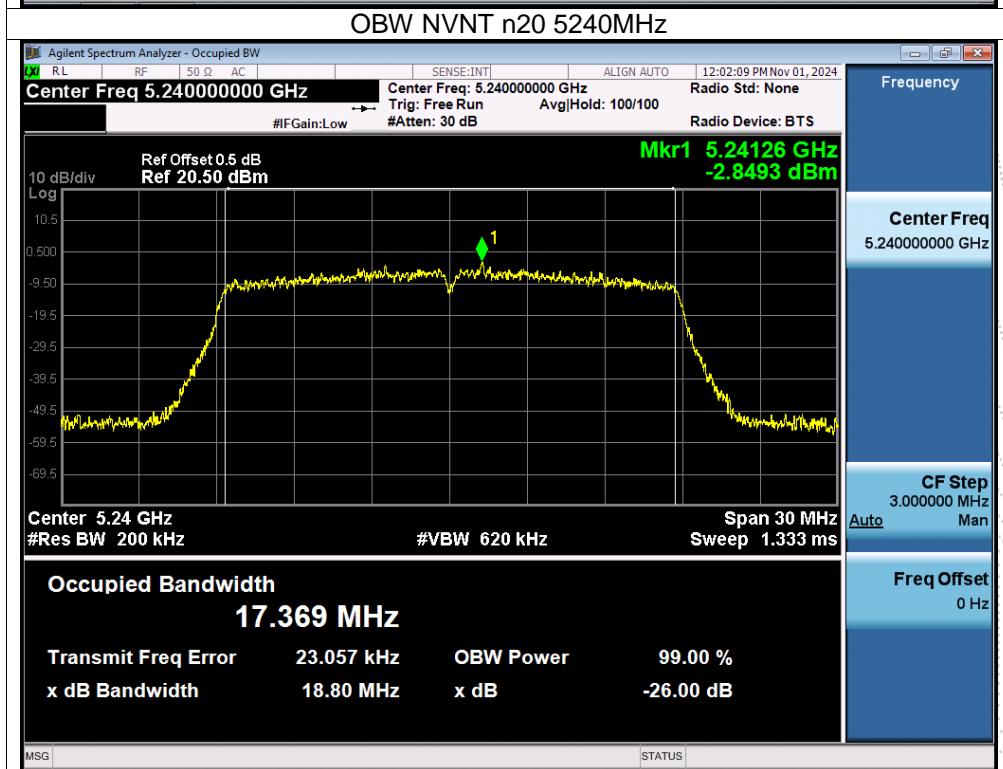
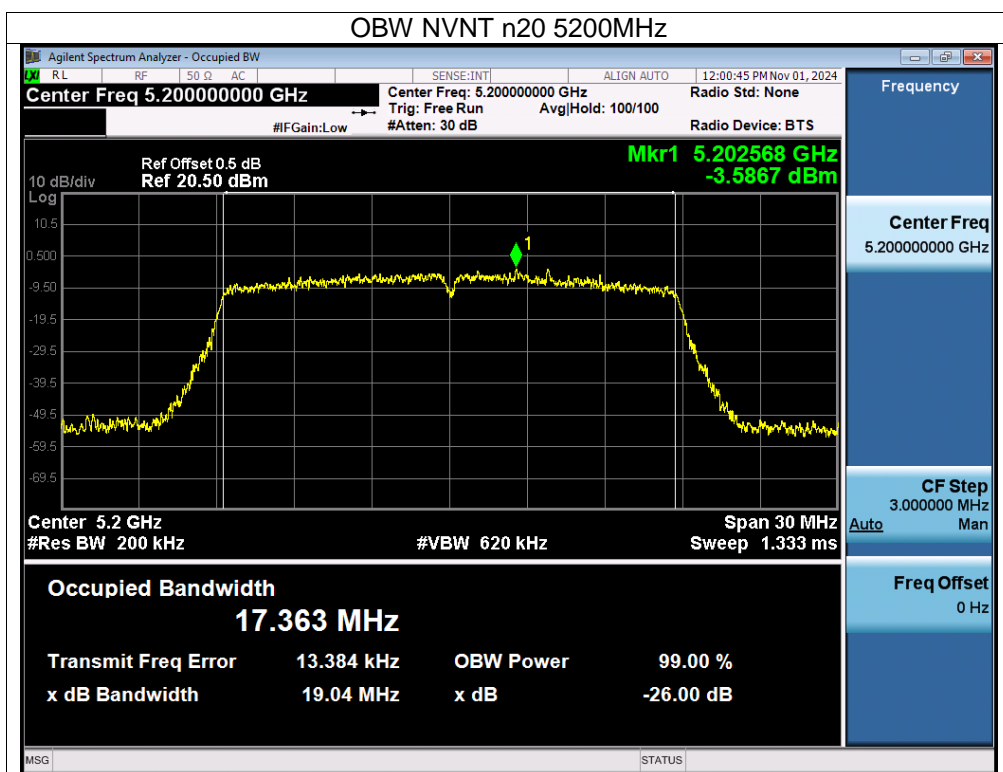
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

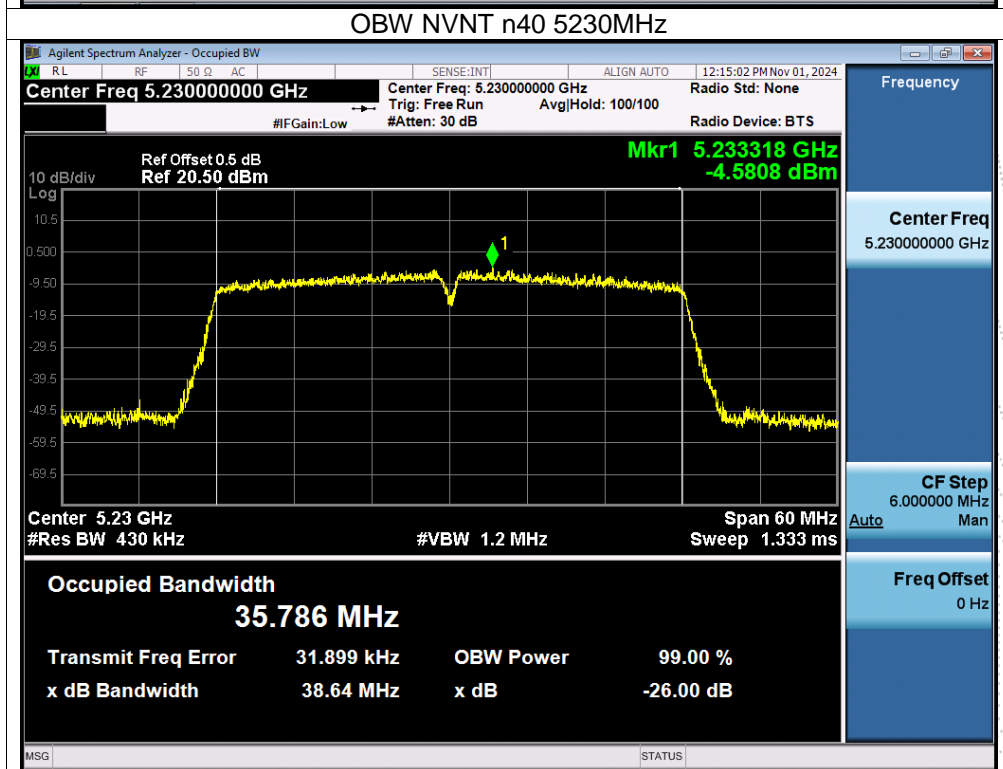
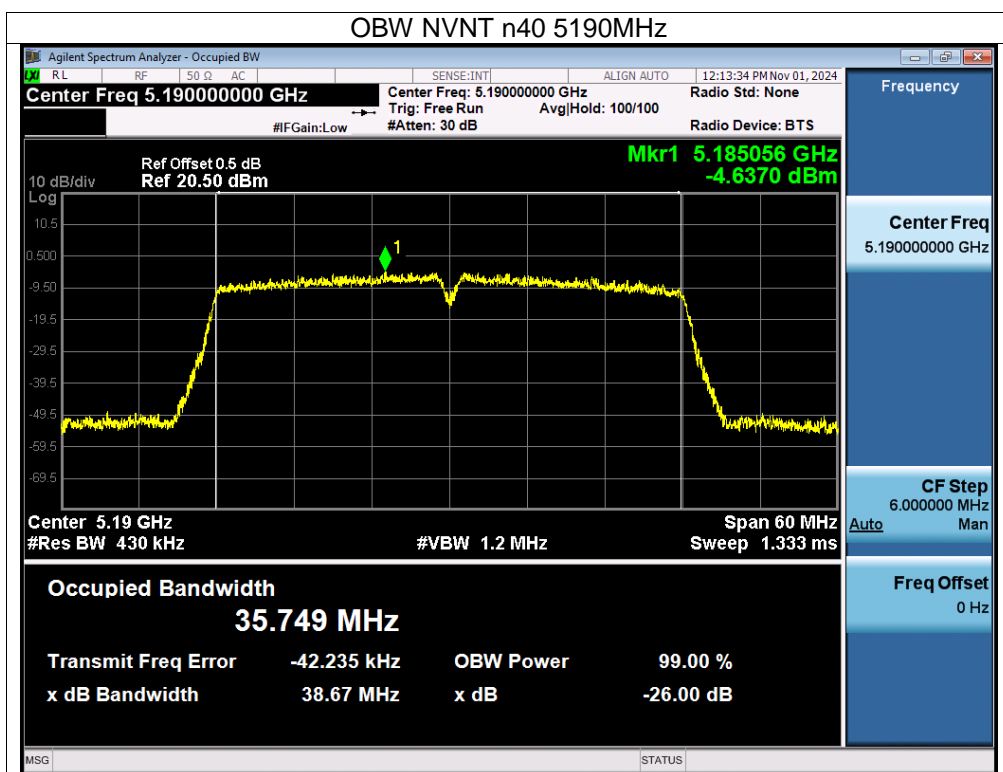


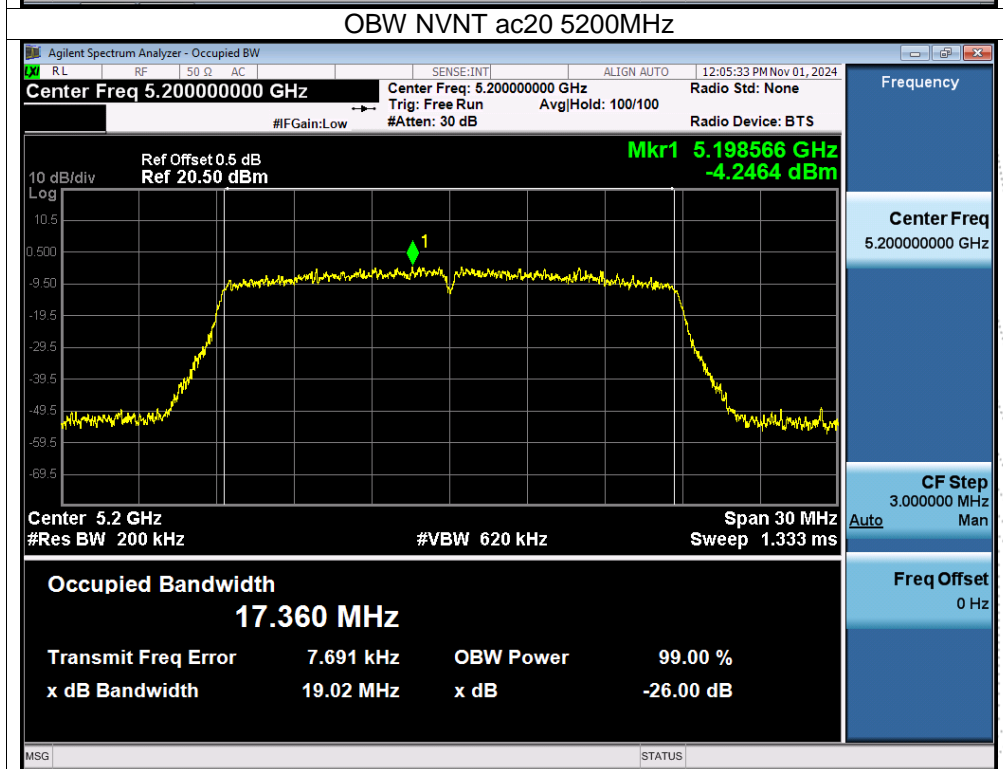
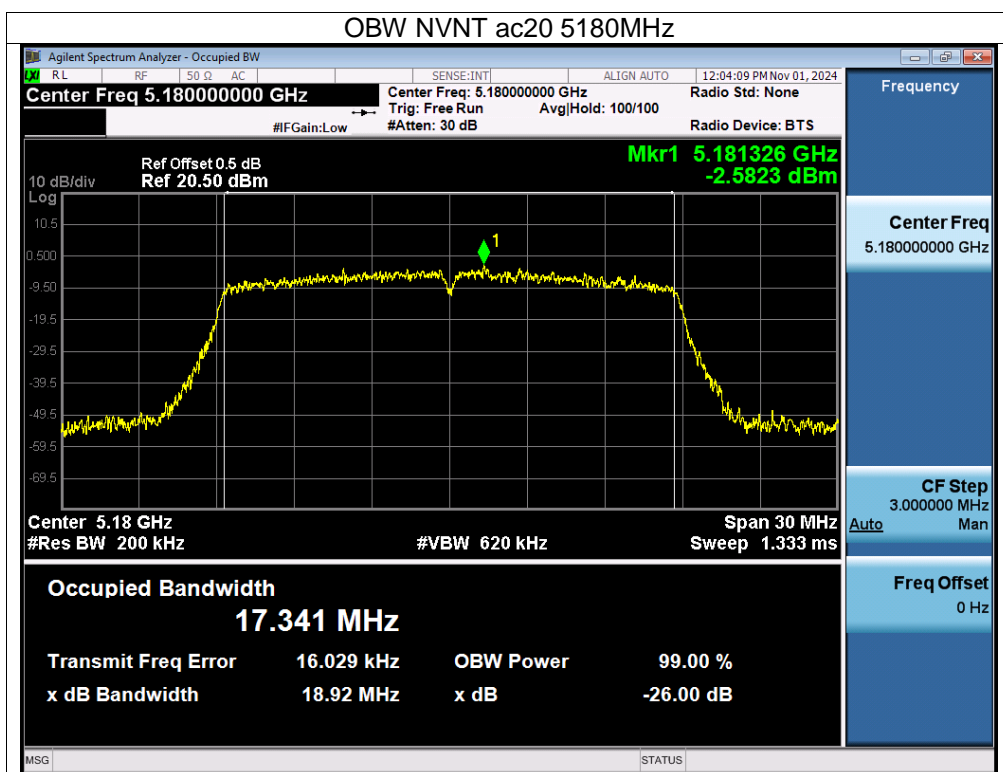


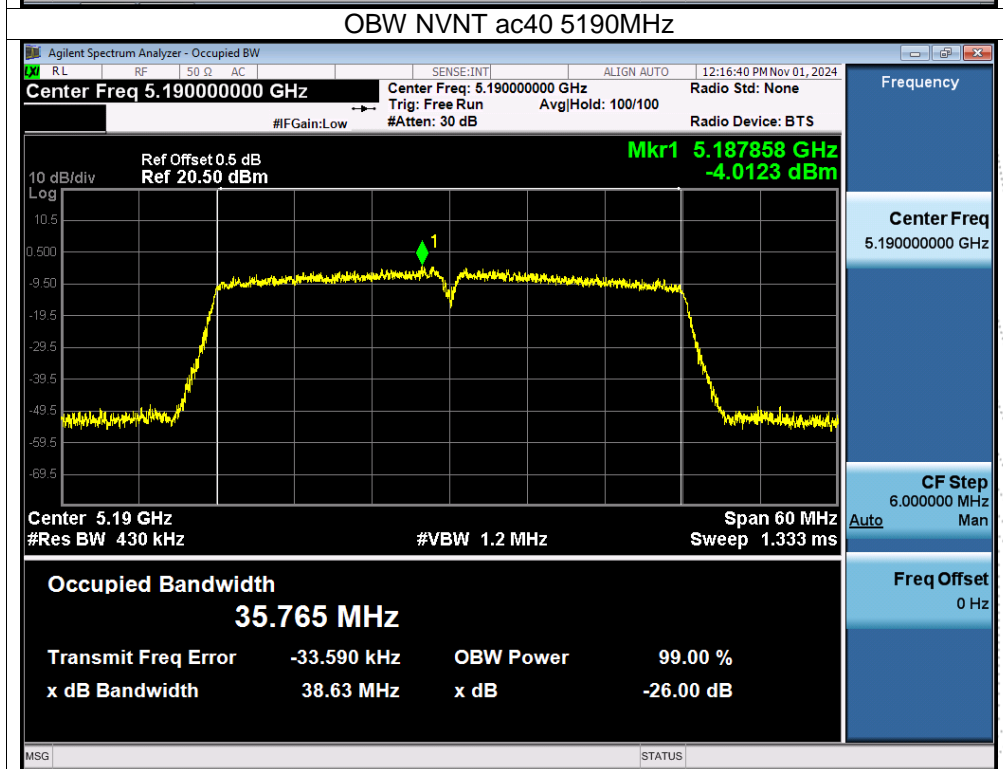
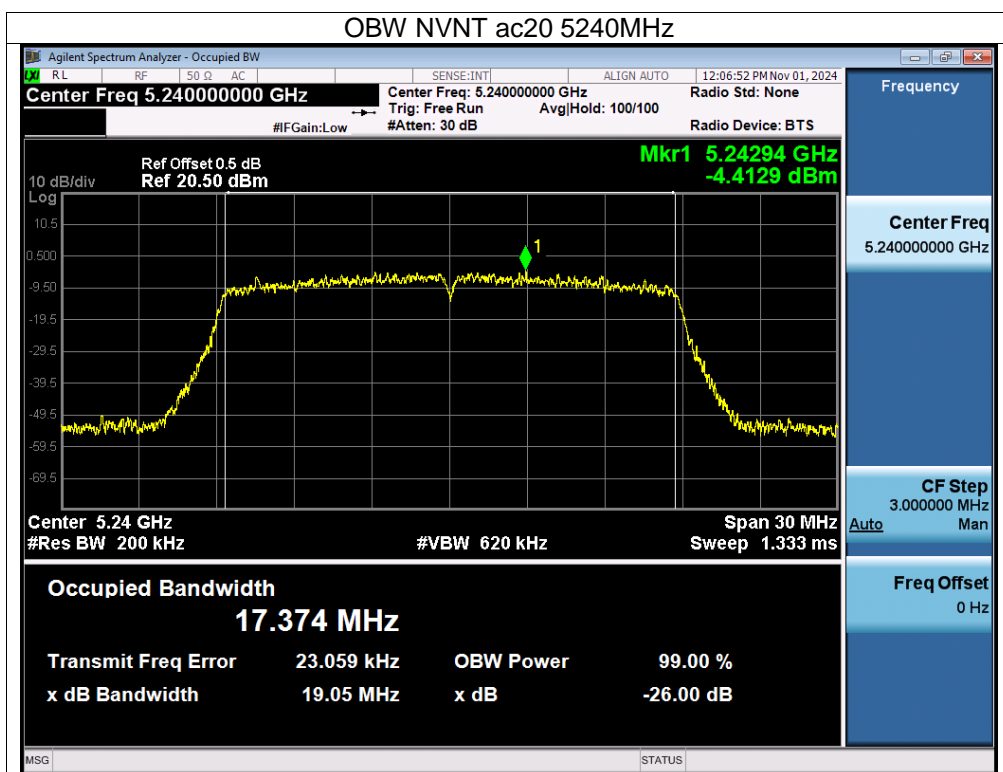


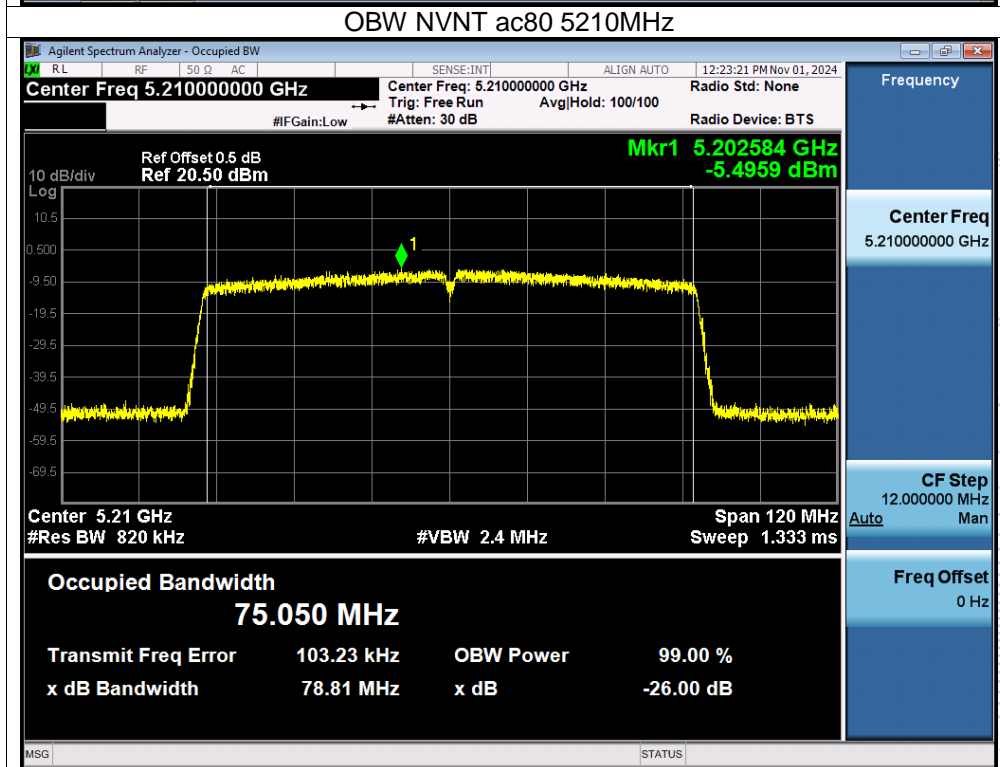
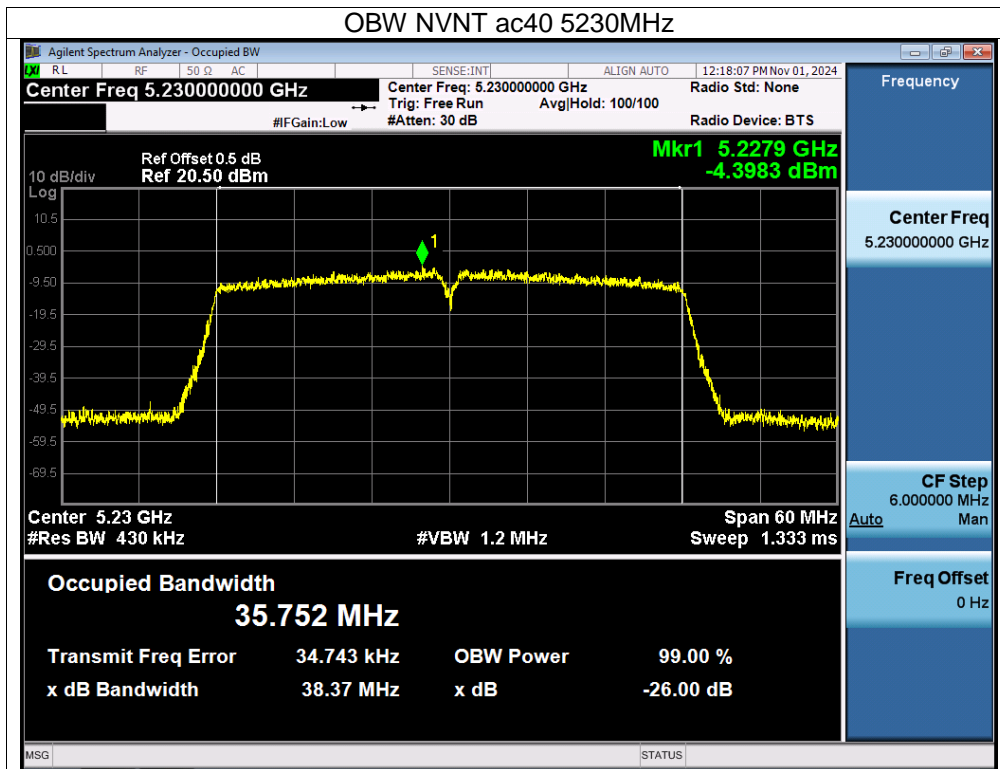




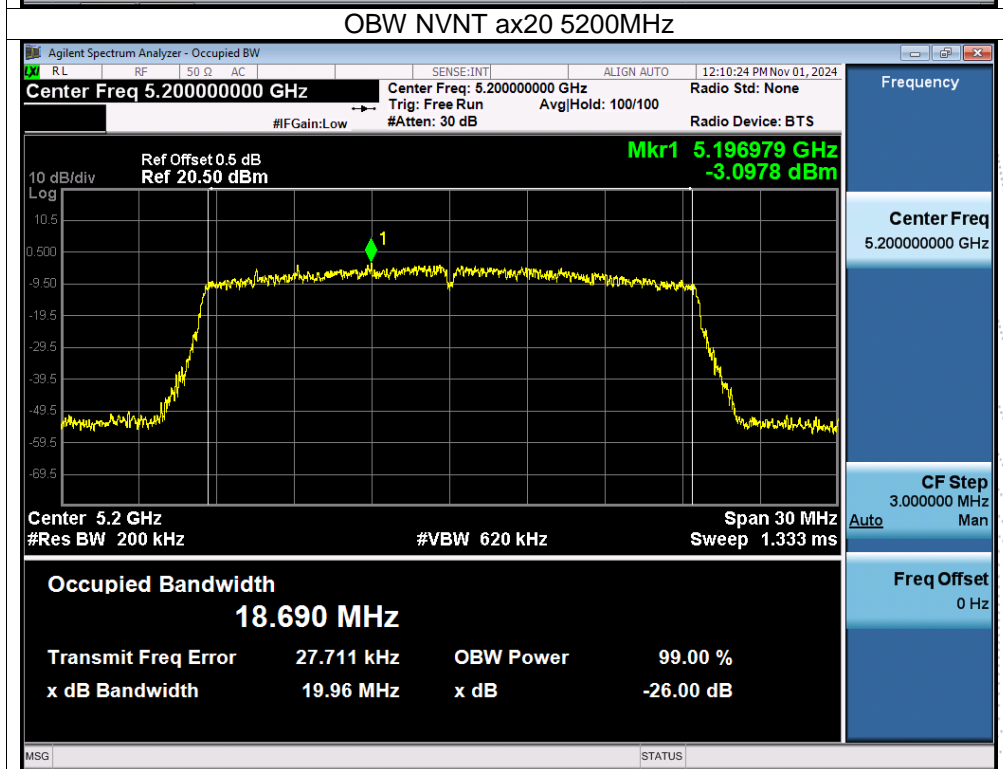
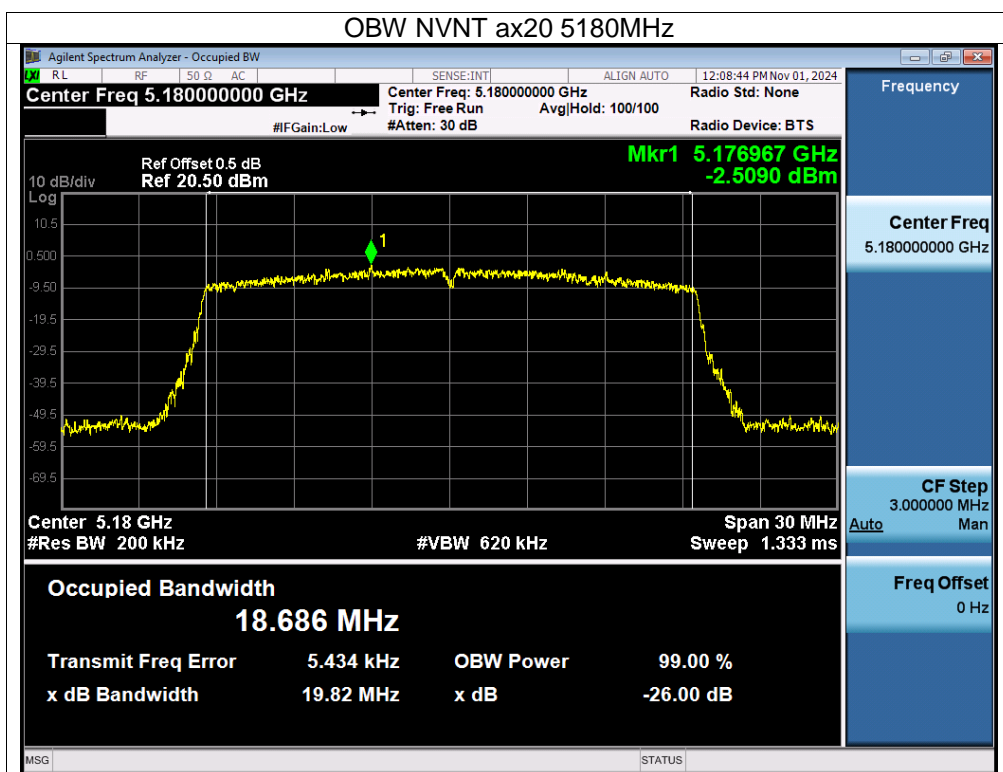




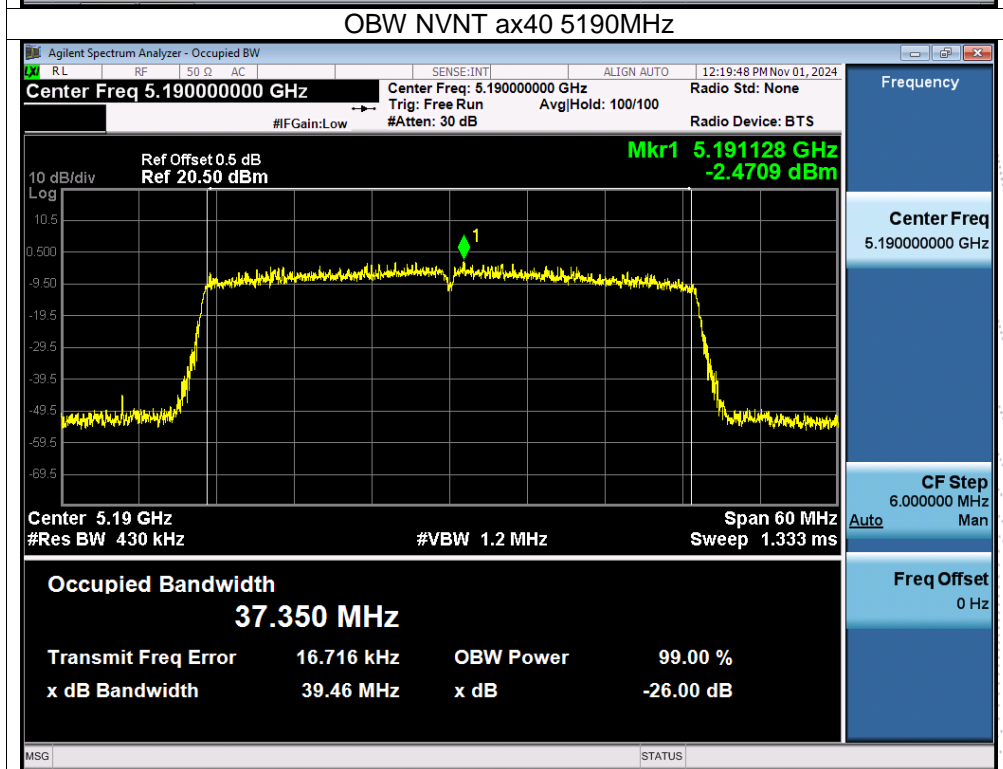
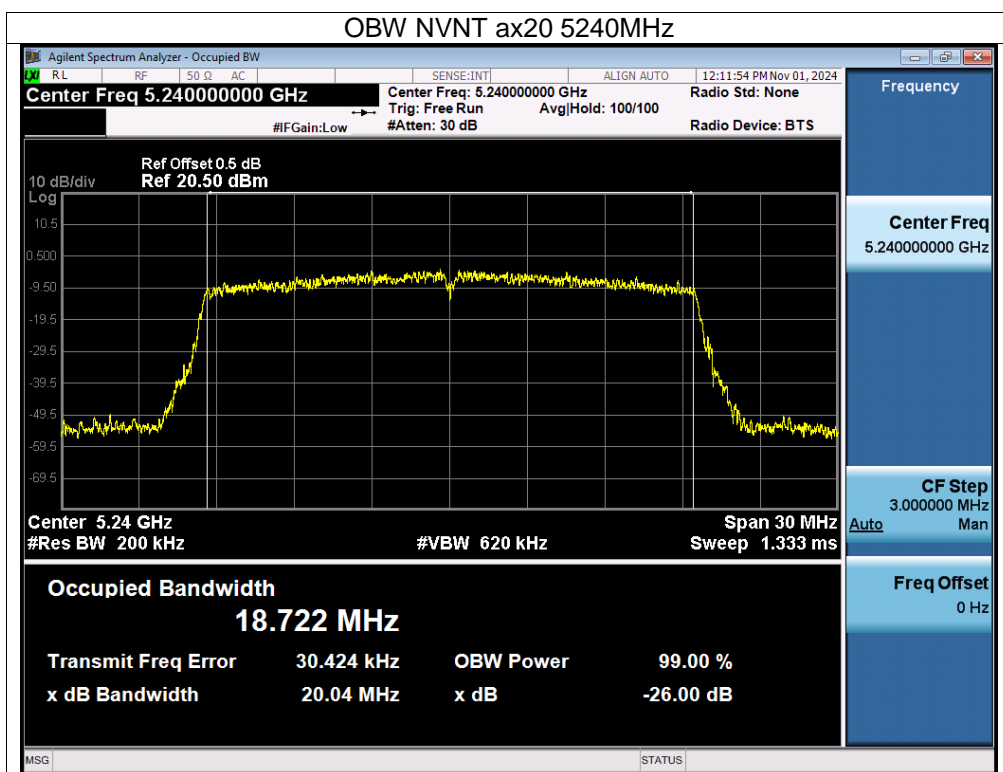


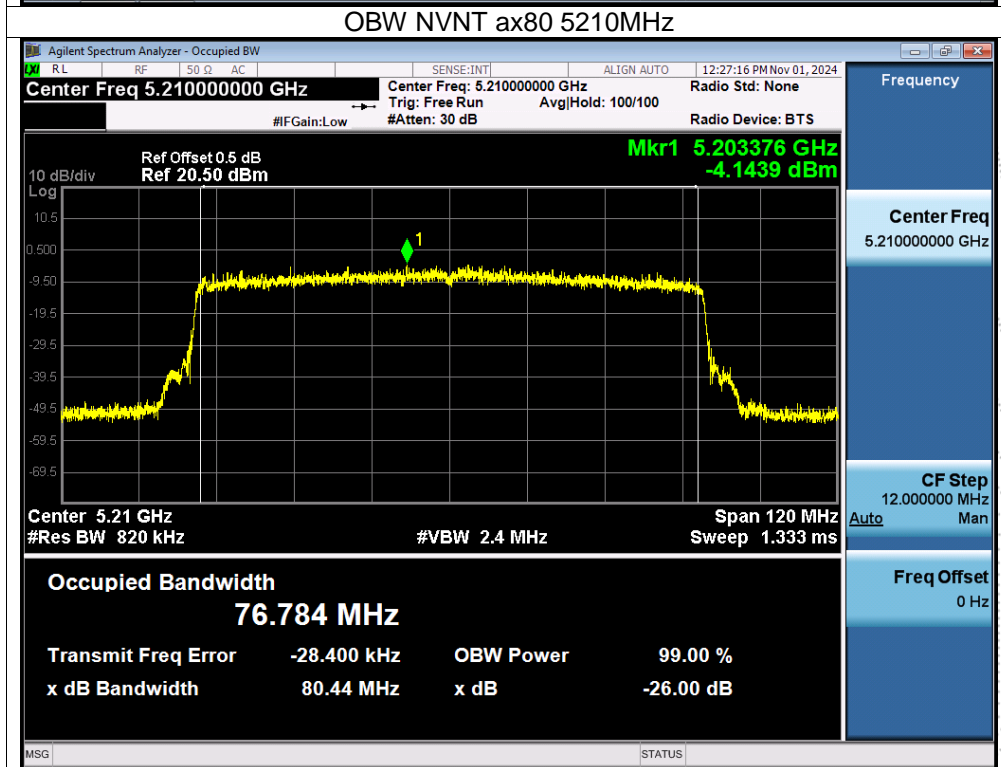
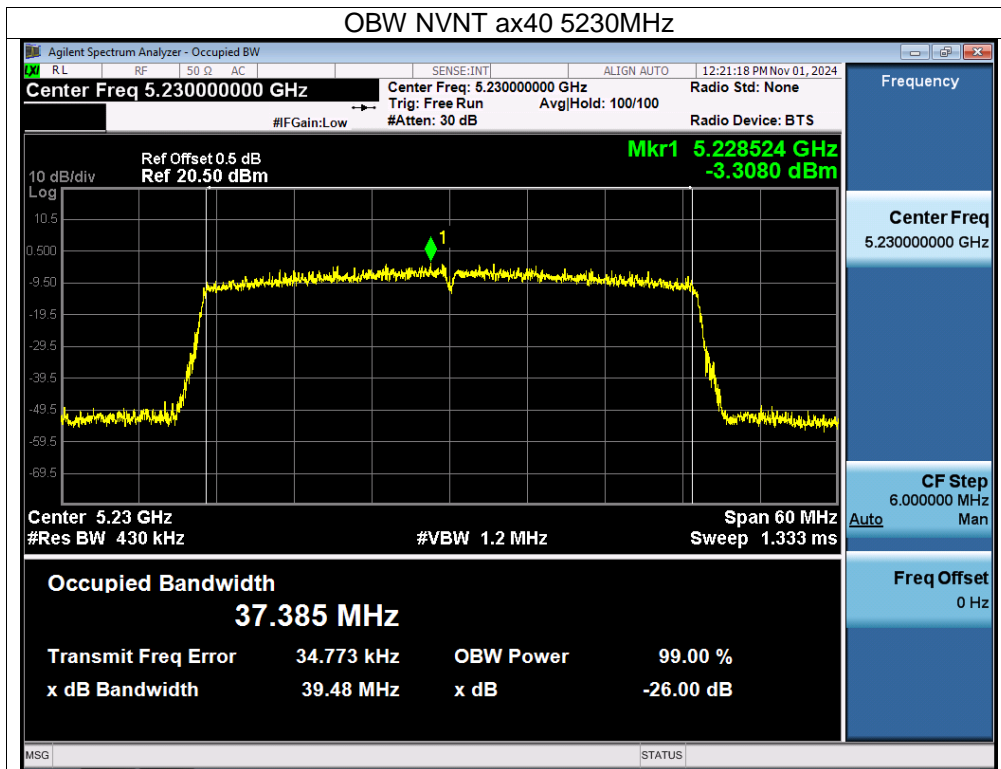








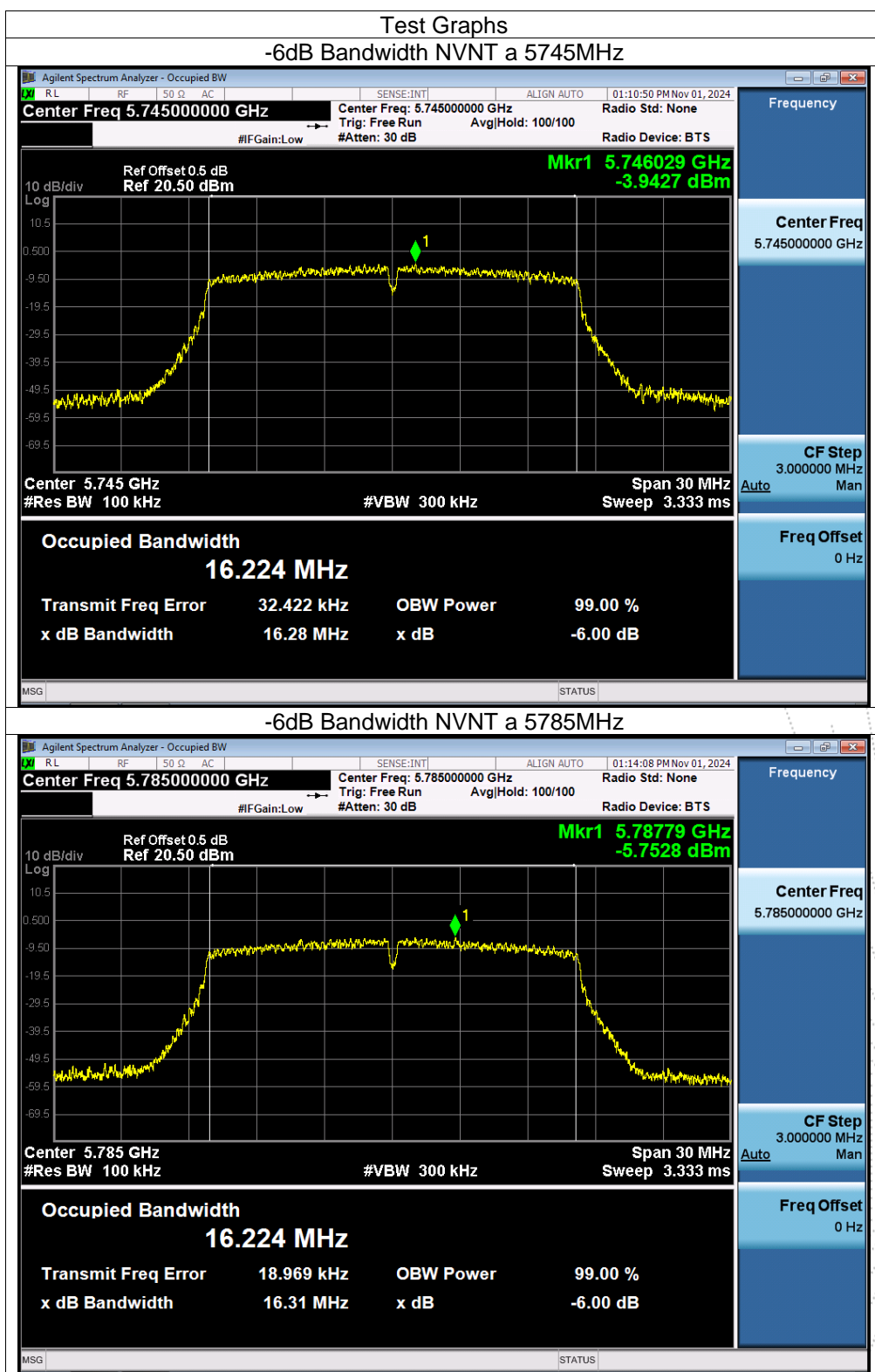


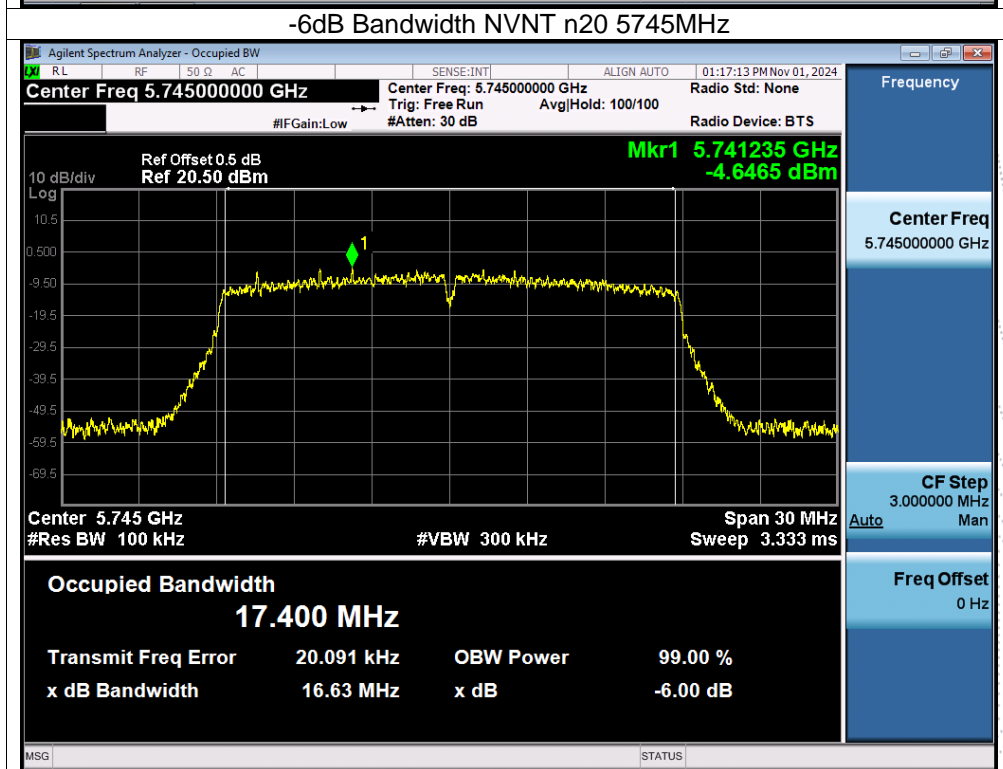
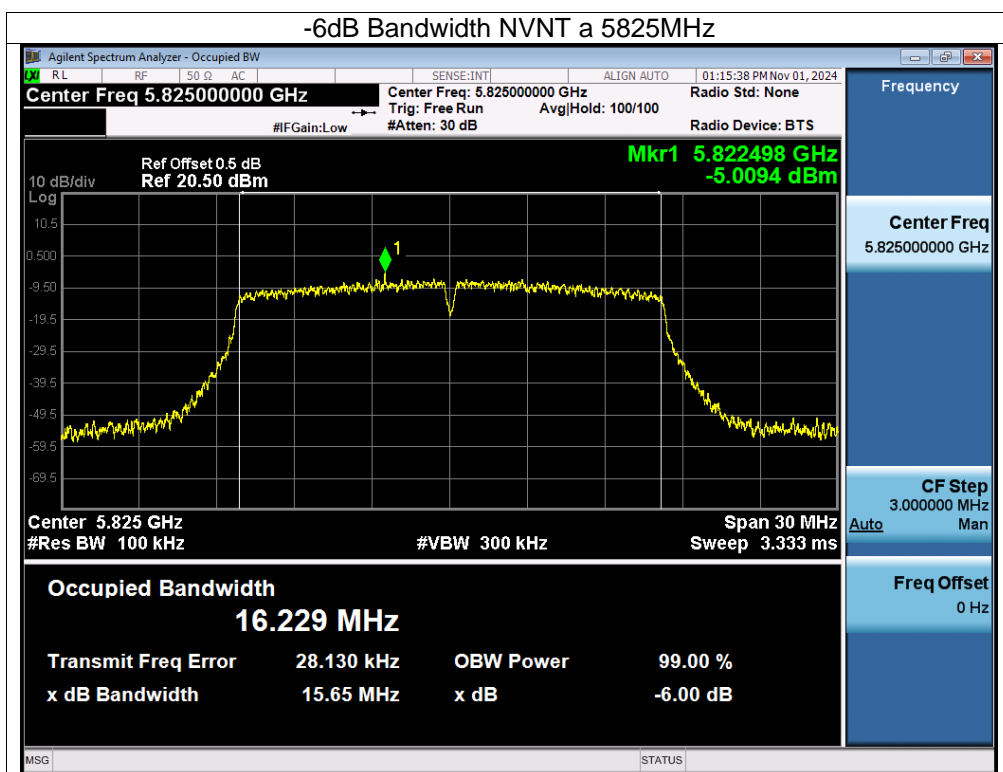


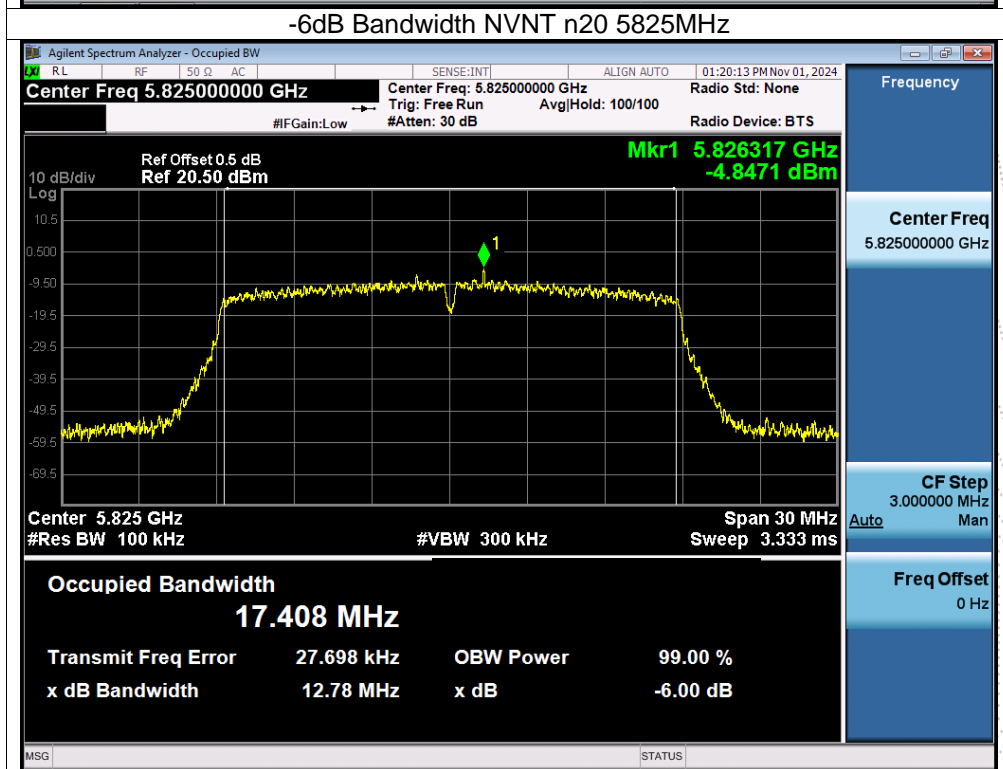
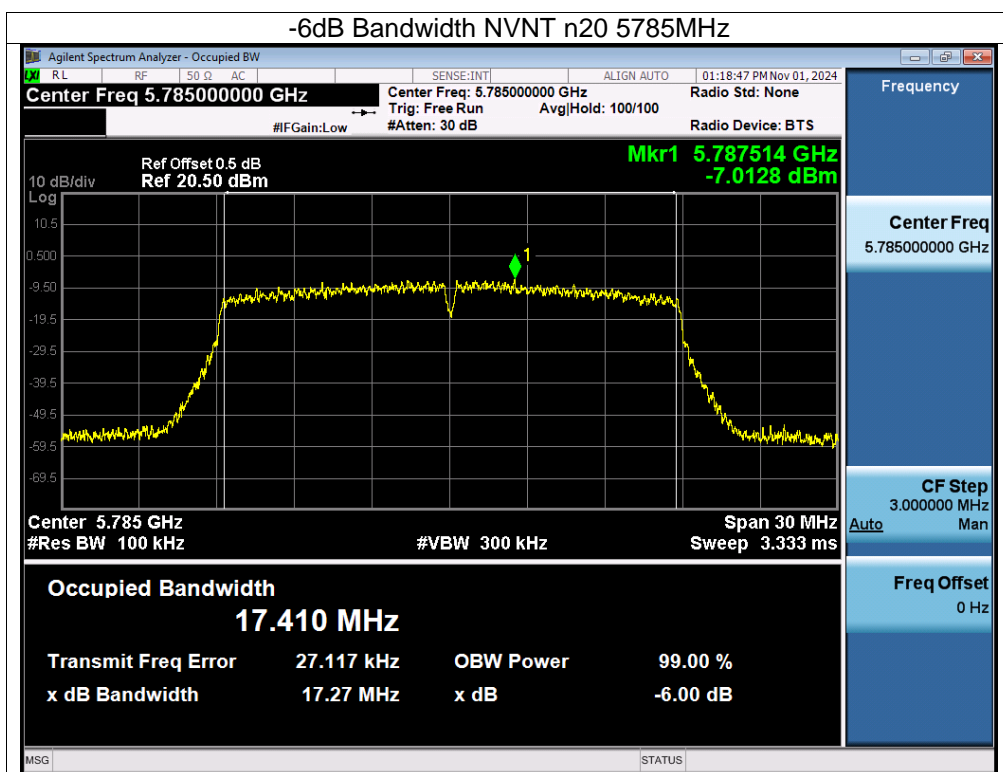
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 7.6V
Test Mode:	(5745-5825MHz)		

Condition	Mode	Frequency (MHz)	99% bandwidth (MHz)		-6dB bandwidth (MHz)			Result
			ANT A	ANT B	ANT A	ANT B	Limit	
NVNT	a	5745	16.221	16.226	13.779	16.283	0.5	Pass
NVNT	a	5785	16.2	16.203	16.308	16.309	0.5	Pass
NVNT	a	5825	16.214	16.225	12.788	15.648	0.5	Pass
NVNT	n20	5745	17.35	17.347	11.527	16.627	0.5	Pass
NVNT	n20	5785	17.338	17.336	15.288	17.274	0.5	Pass
NVNT	n20	5825	17.342	17.357	14.691	12.777	0.5	Pass
NVNT	n40	5755	35.71	35.717	26.357	29.632	0.5	Pass
NVNT	n40	5795	35.768	35.729	29.322	35.34	0.5	Pass
NVNT	ac20	5745	17.354	17.347	15.073	14.448	0.5	Pass
NVNT	ac20	5785	17.35	17.359	14.395	14.002	0.5	Pass
NVNT	ac20	5825	17.339	17.36	15.276	15.108	0.5	Pass
NVNT	ac40	5755	35.811	35.734	34.682	35.444	0.5	Pass
NVNT	ac40	5795	35.809	35.755	35.649	27.57	0.5	Pass
NVNT	ac80	5775	74.985	74.861	70.069	73.813	0.5	Pass
NVNT	ax20	5745	18.717	18.704	16.337	11.561	0.5	Pass
NVNT	ax20	5785	18.68	18.695	17.887	17.067	0.5	Pass
NVNT	ax20	5825	18.696	18.705	16.284	17.815	0.5	Pass
NVNT	ax40	5755	37.383	37.375	33.211	32.467	0.5	Pass
NVNT	ax40	5795	37.347	37.34	33.235	36.358	0.5	Pass
NVNT	ax80	5775	<b>76.598</b>	76.46	74.413	<b>77.251</b>	0.5	Pass

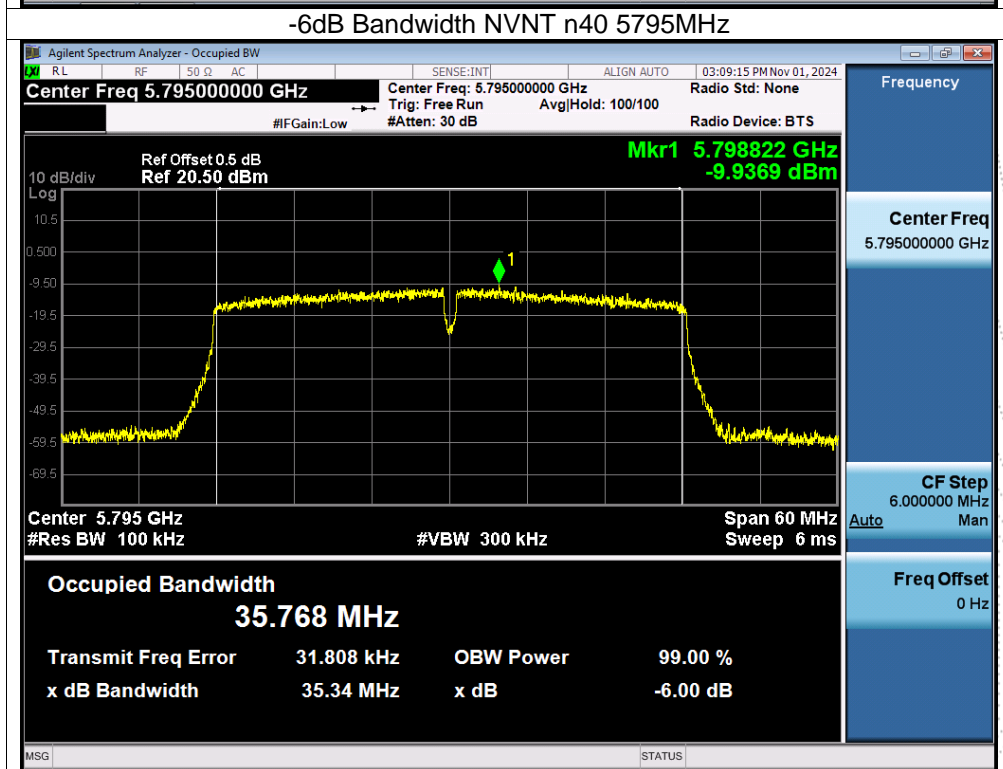
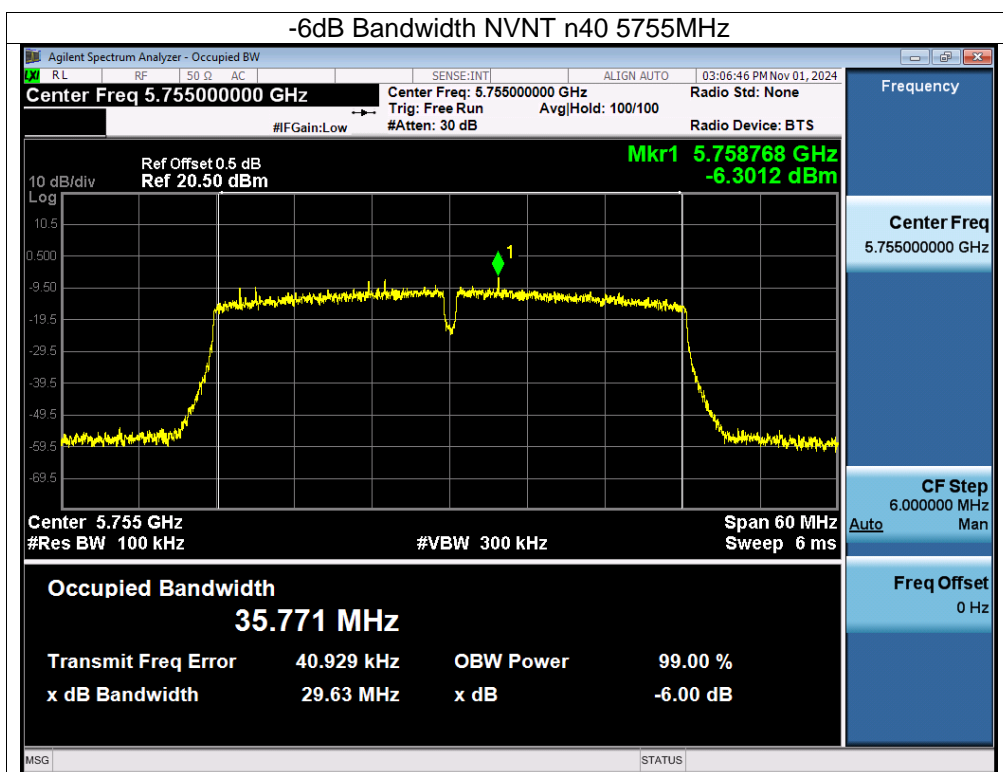
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

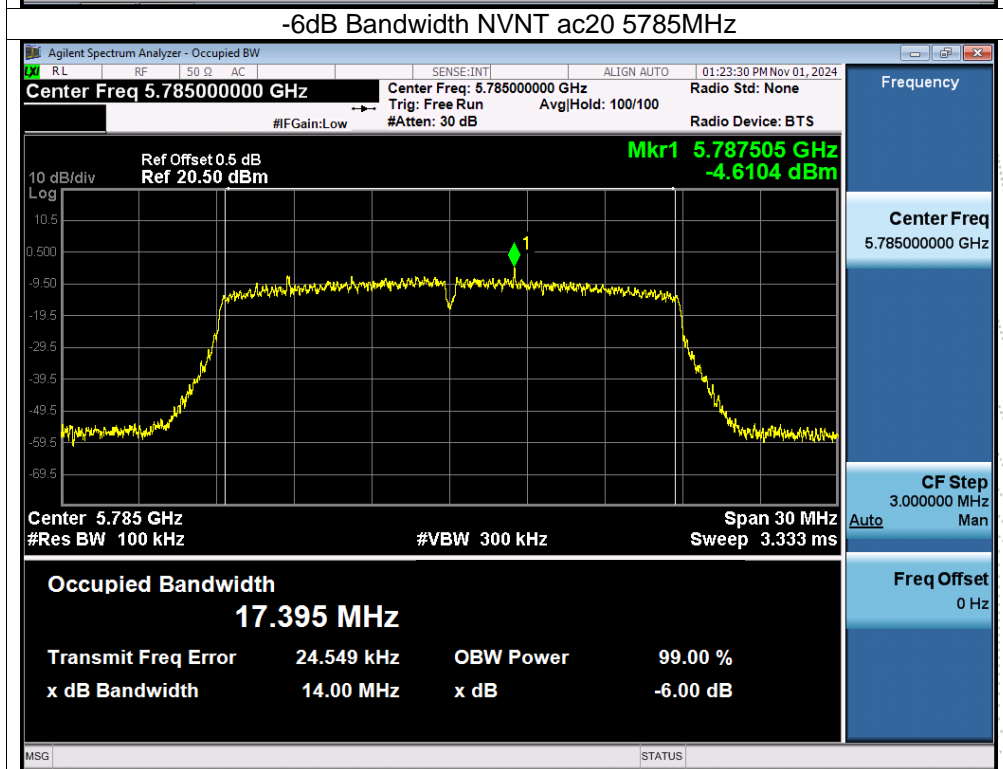
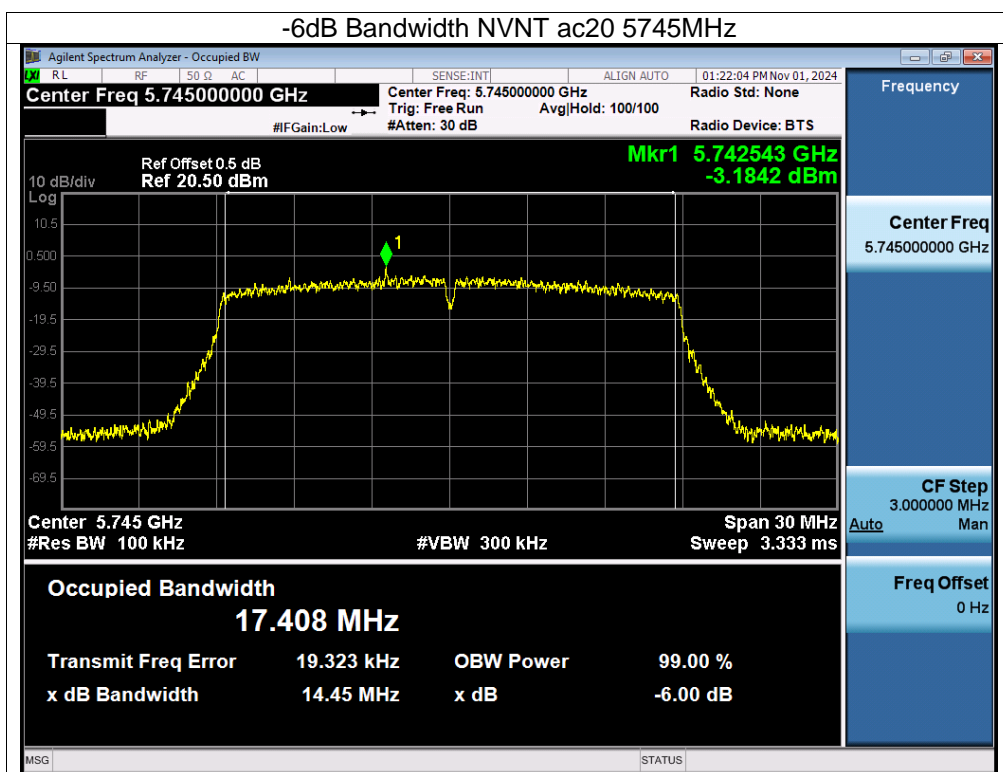


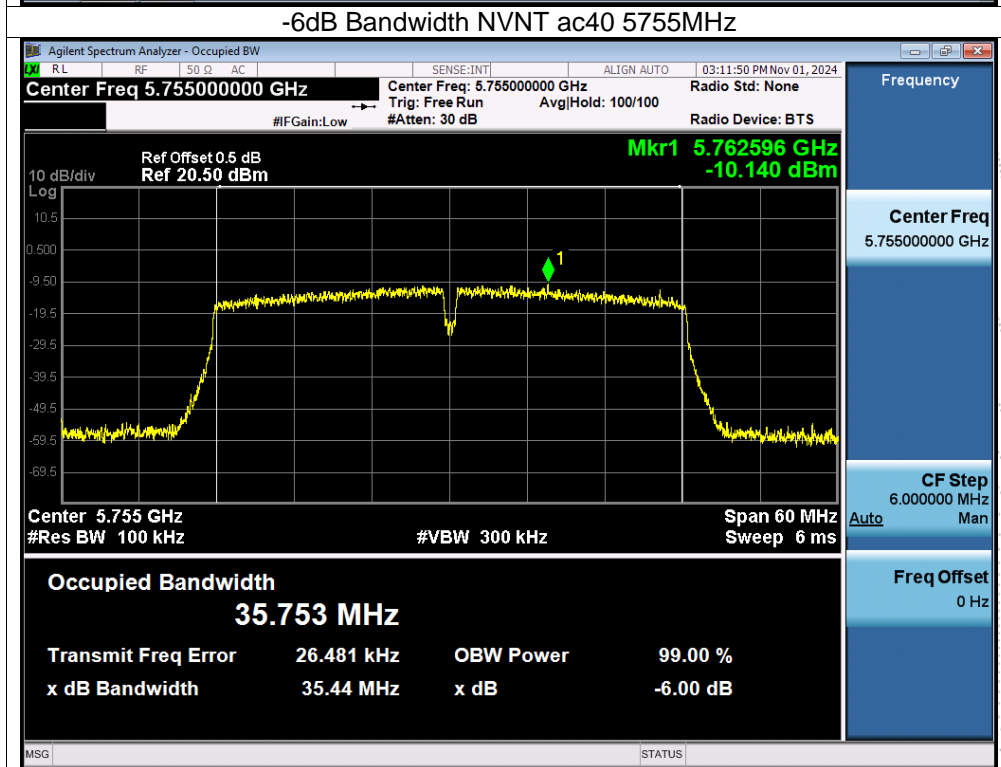
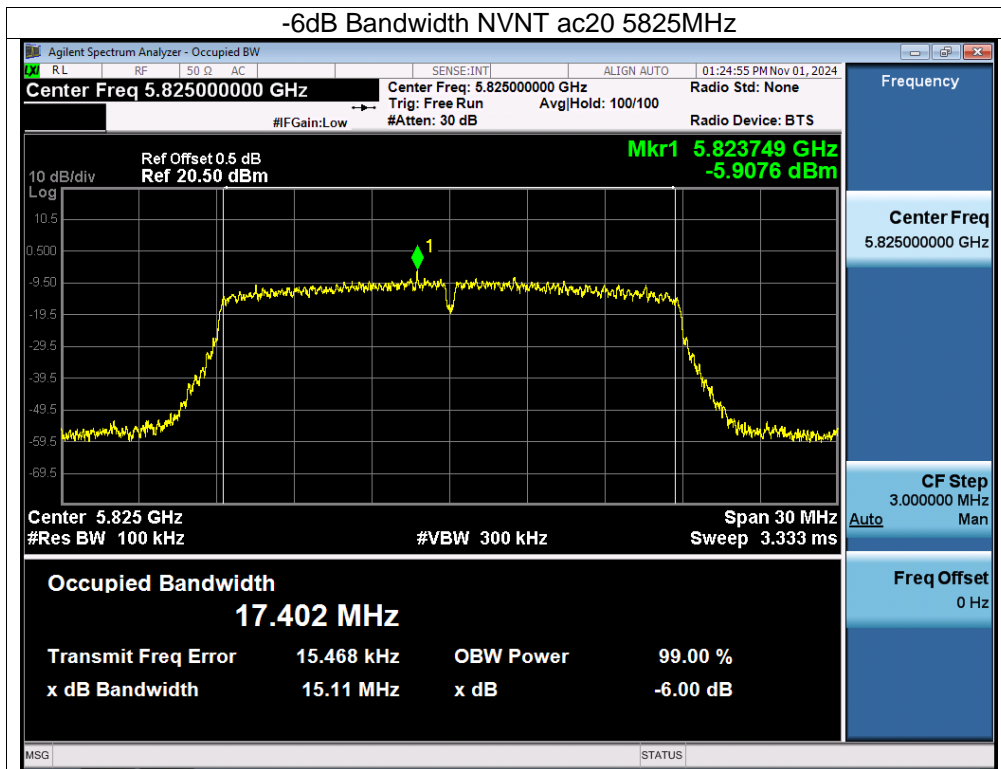


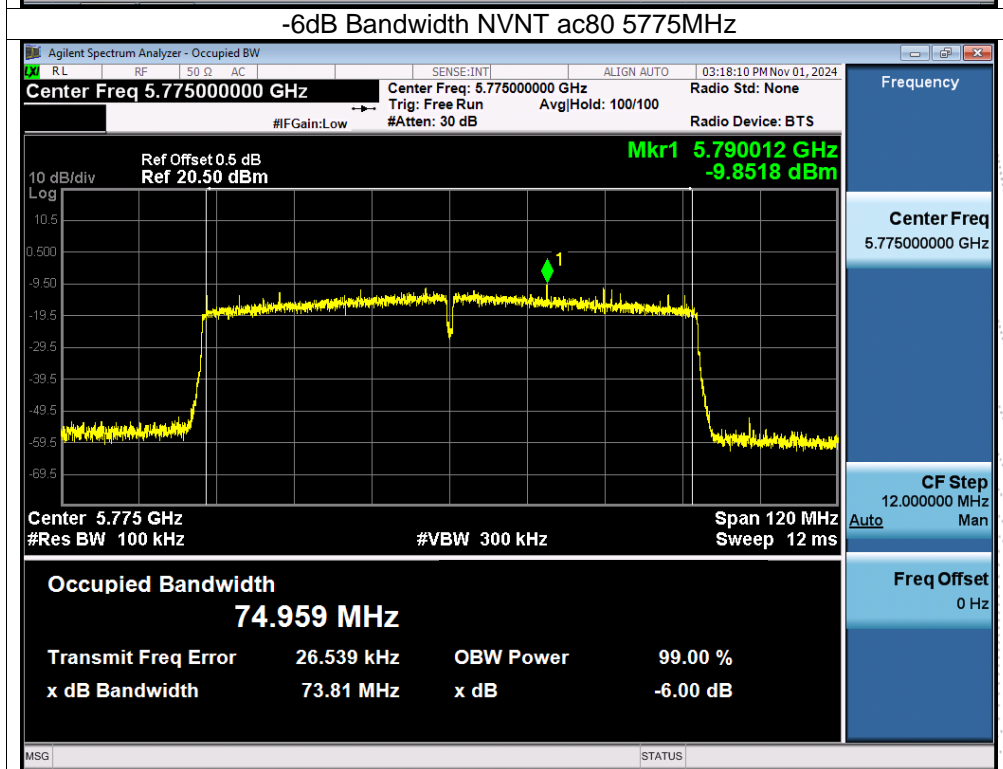
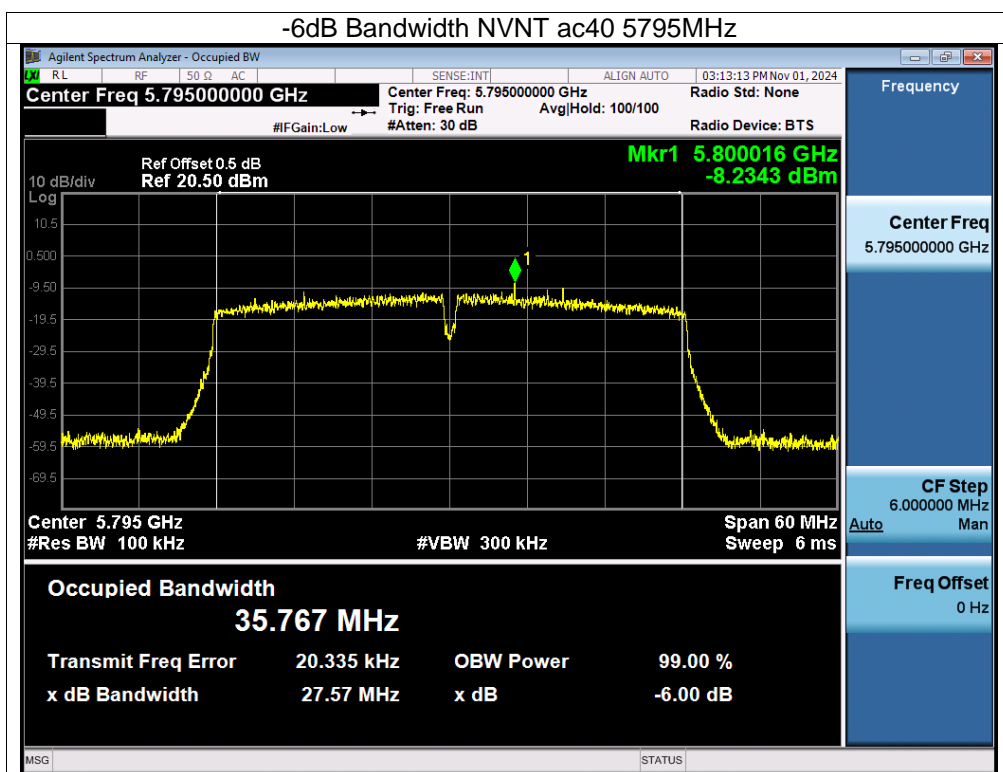


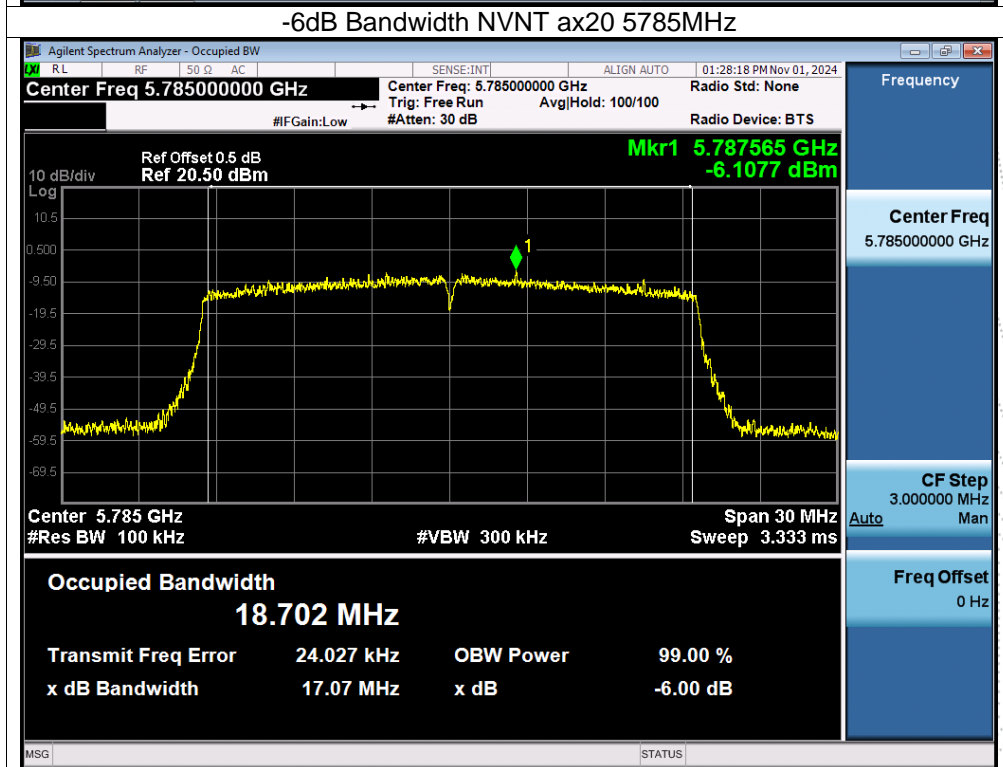
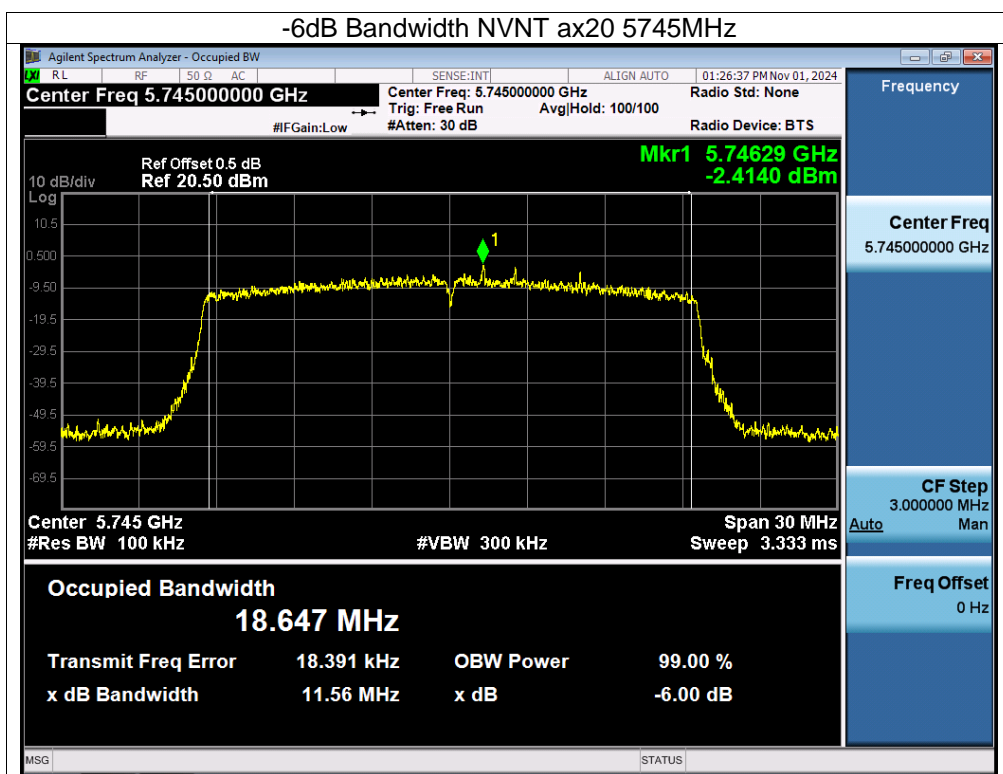




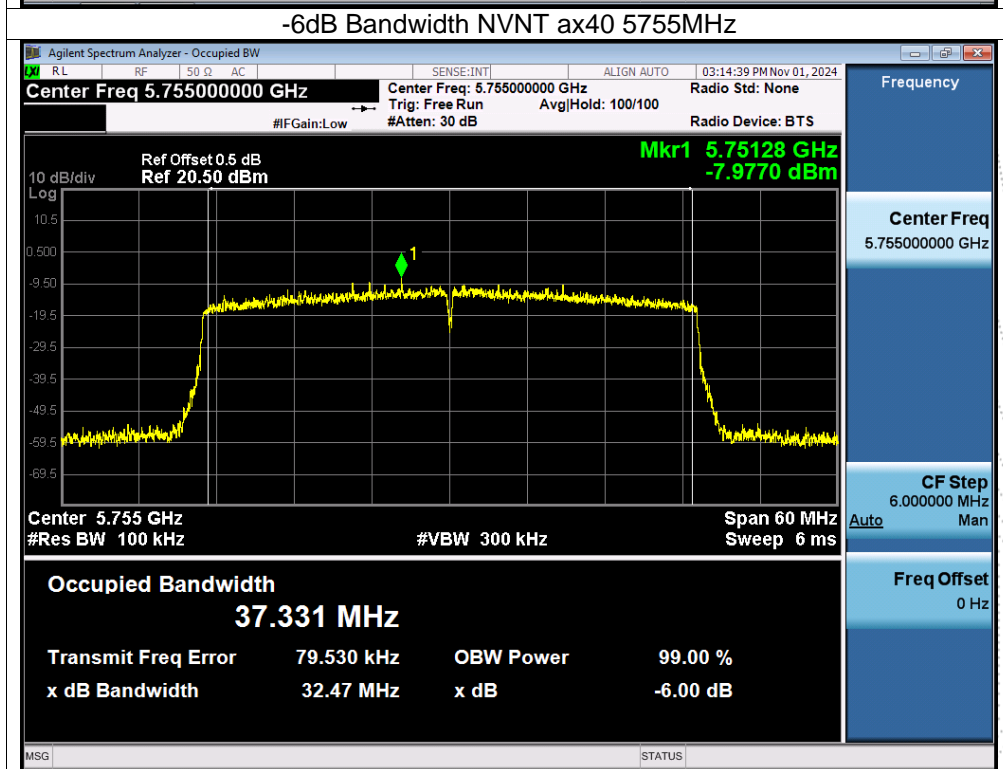
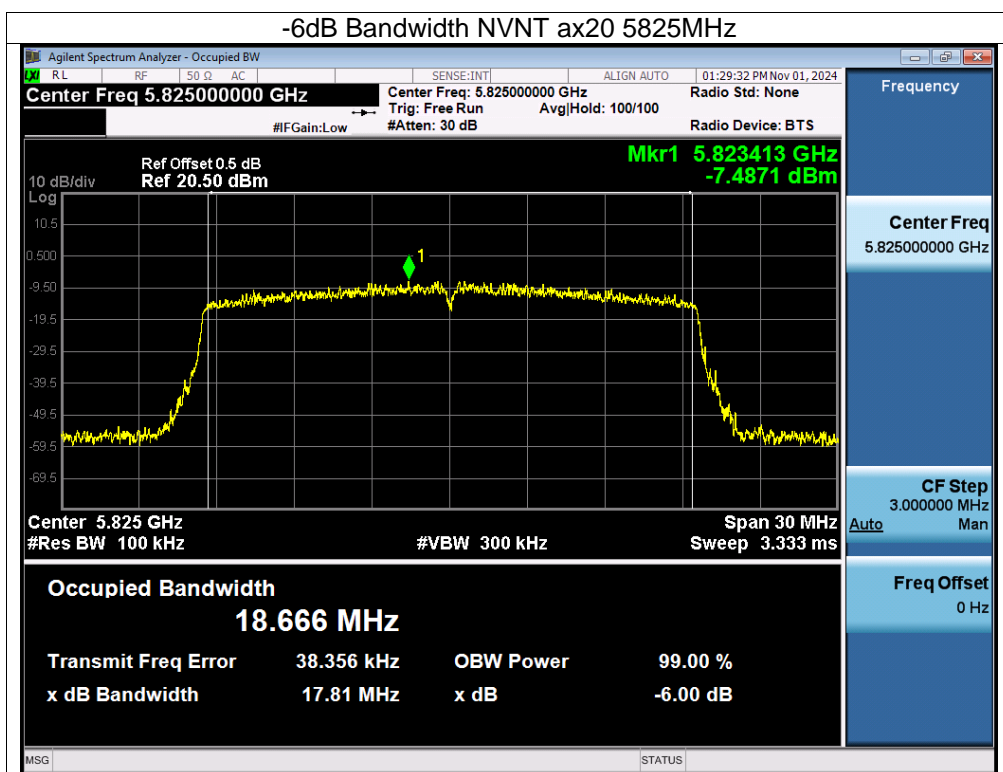


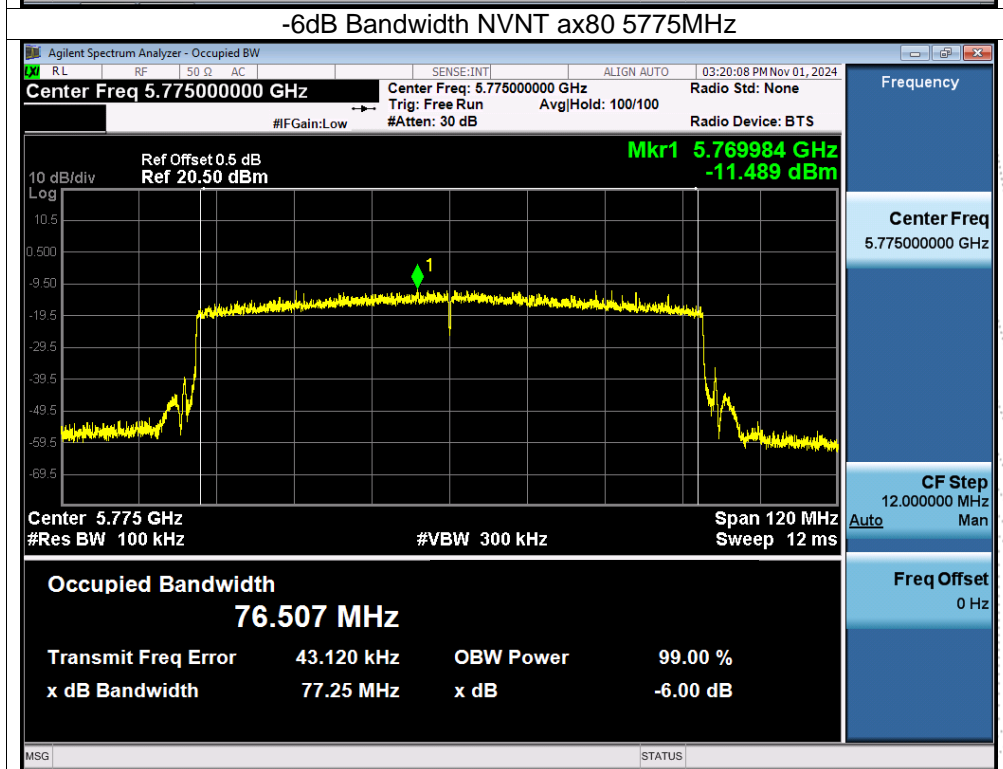
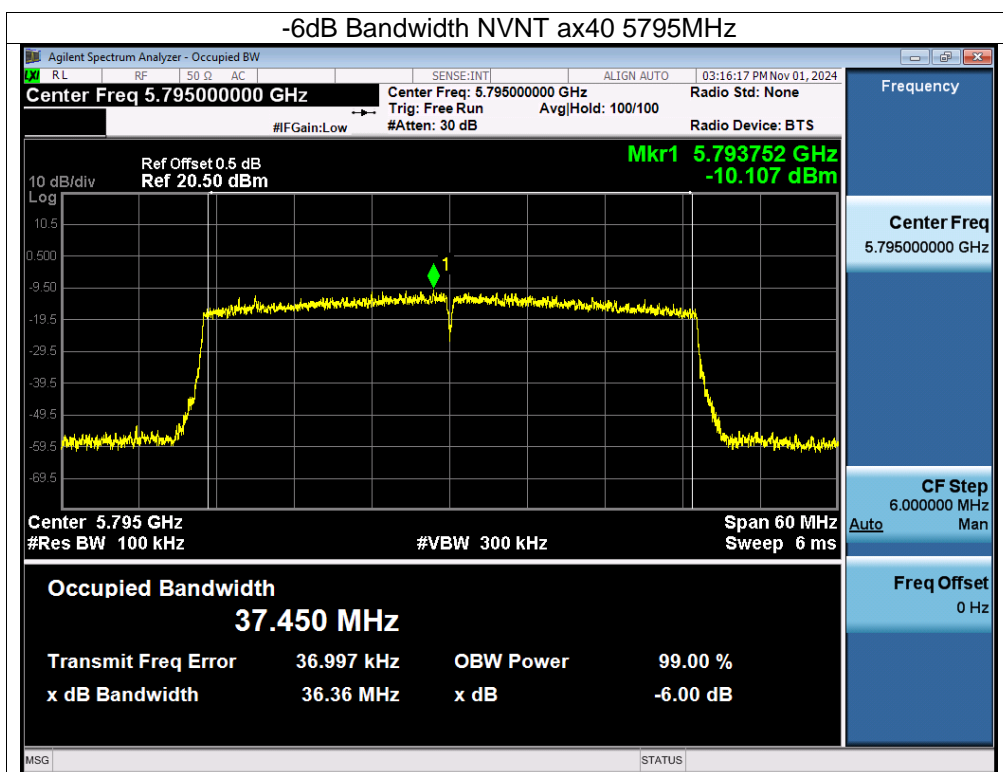












Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

