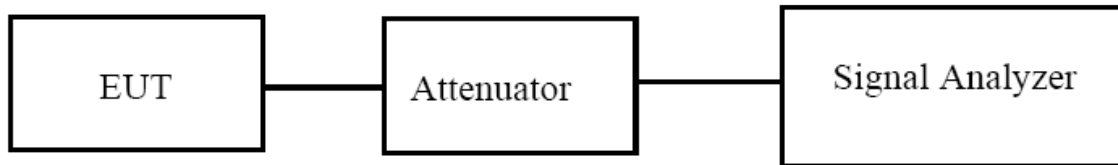


## 9. 26dB & 6dB & 99% Emission Bandwidth

### 9.1 Block Diagram Of Test Setup



### 9.2 Limit

(1) For the band 5.15-5.25 GHz.

(iv) For mobile and portable 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

- 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.

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.

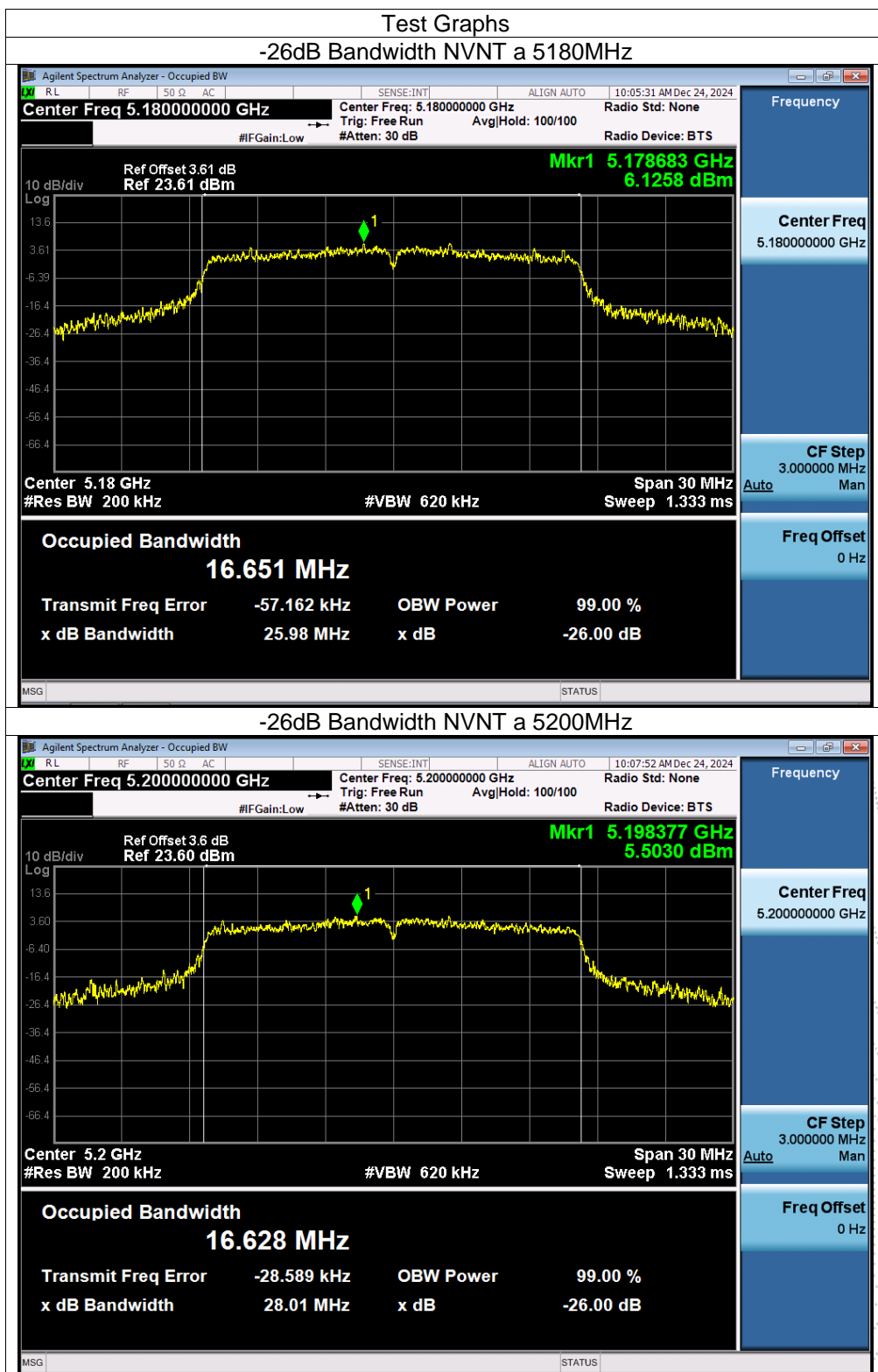
## 9.4 EUT Operating Conditions

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.

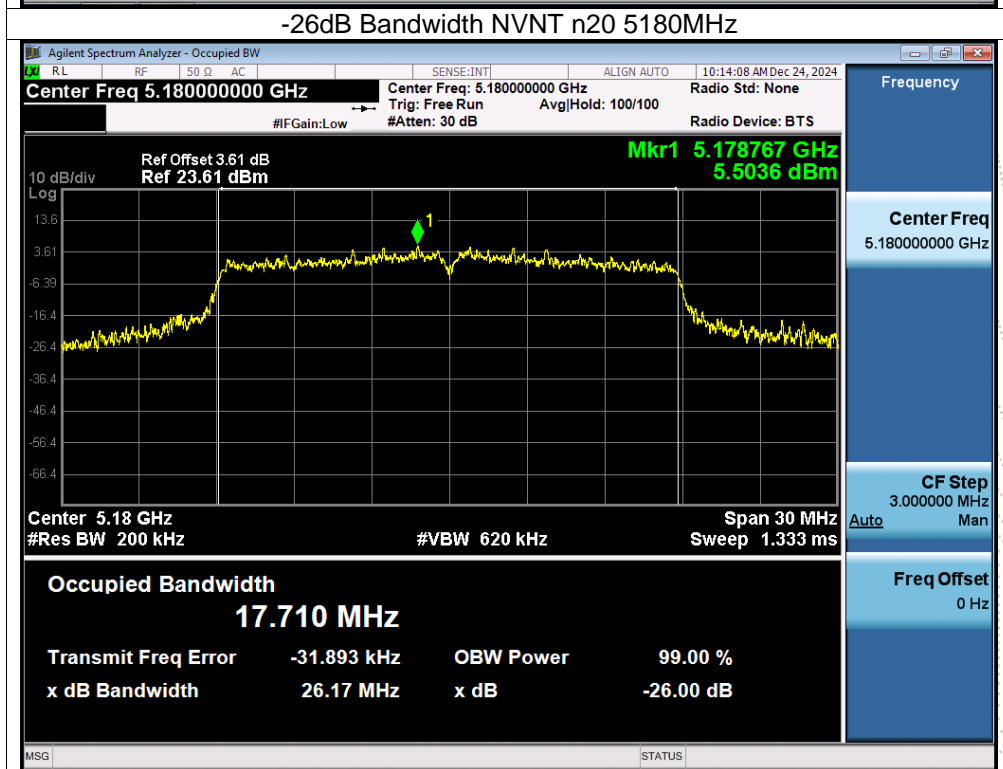
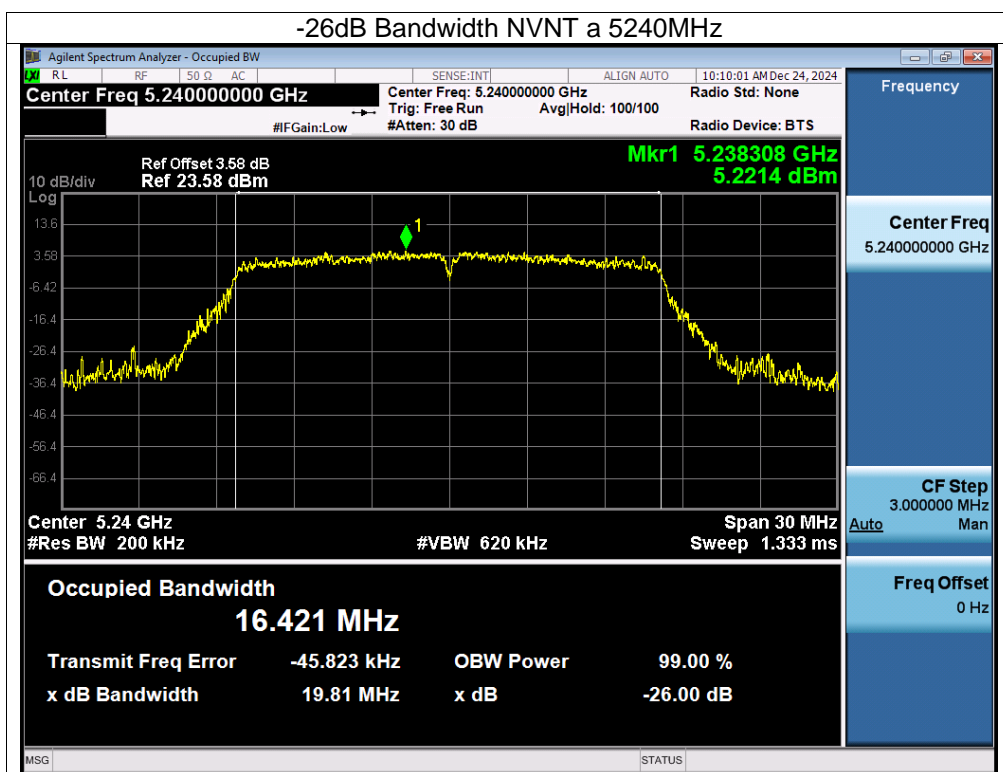
## 9.5 Test Result

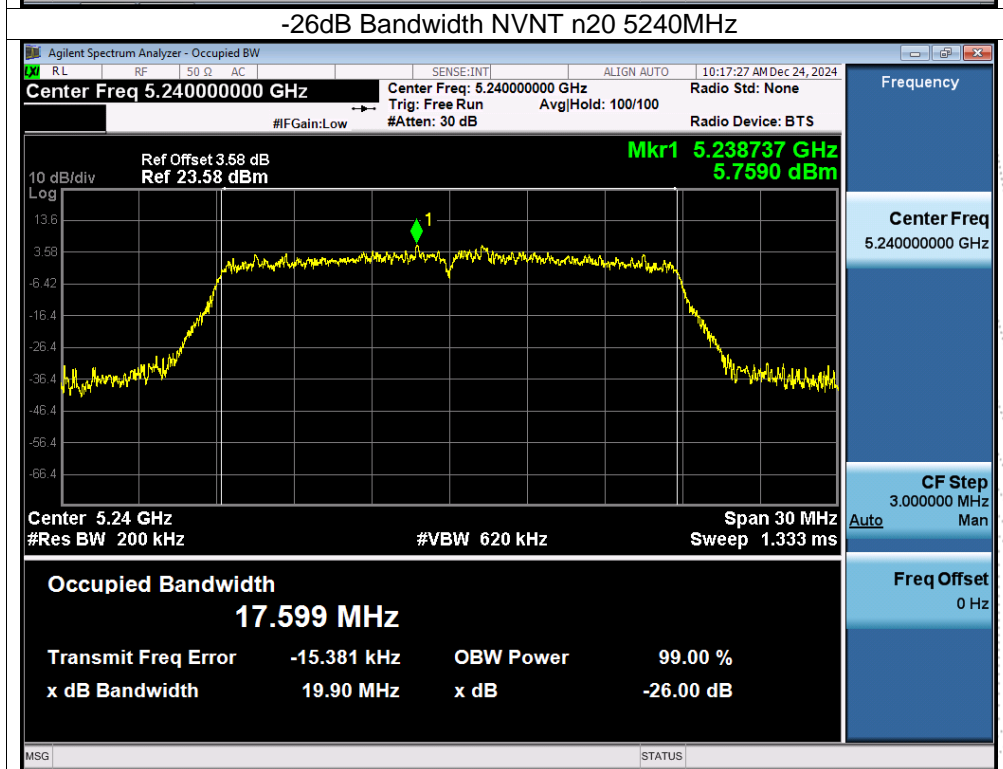
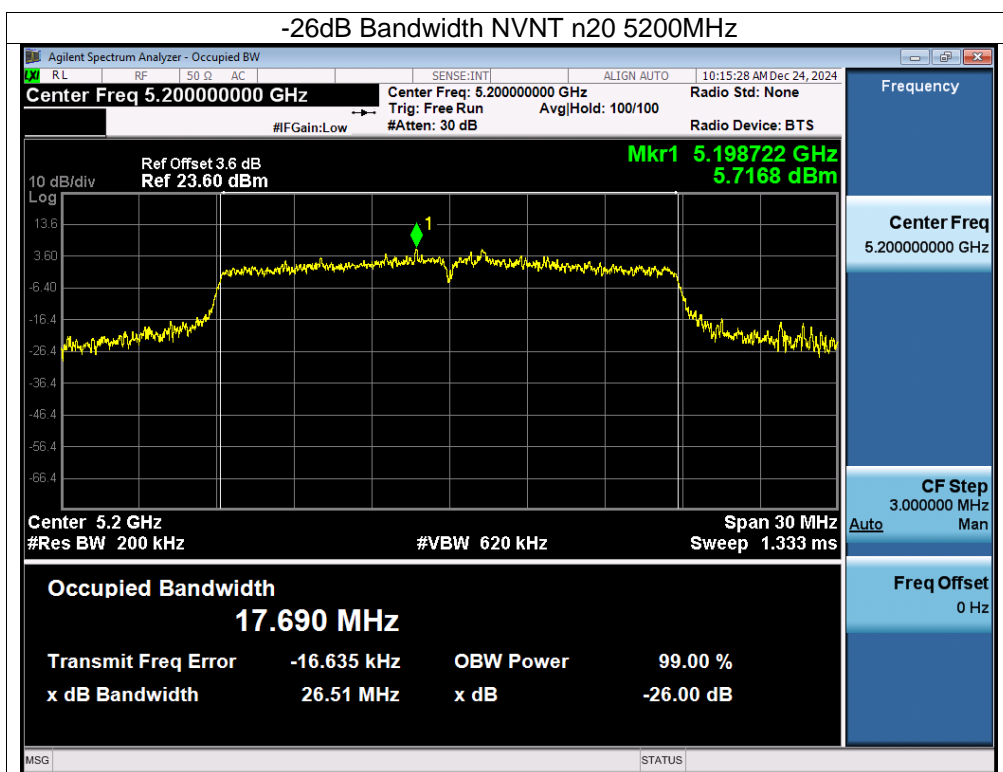
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	(5180-5240MHz)		

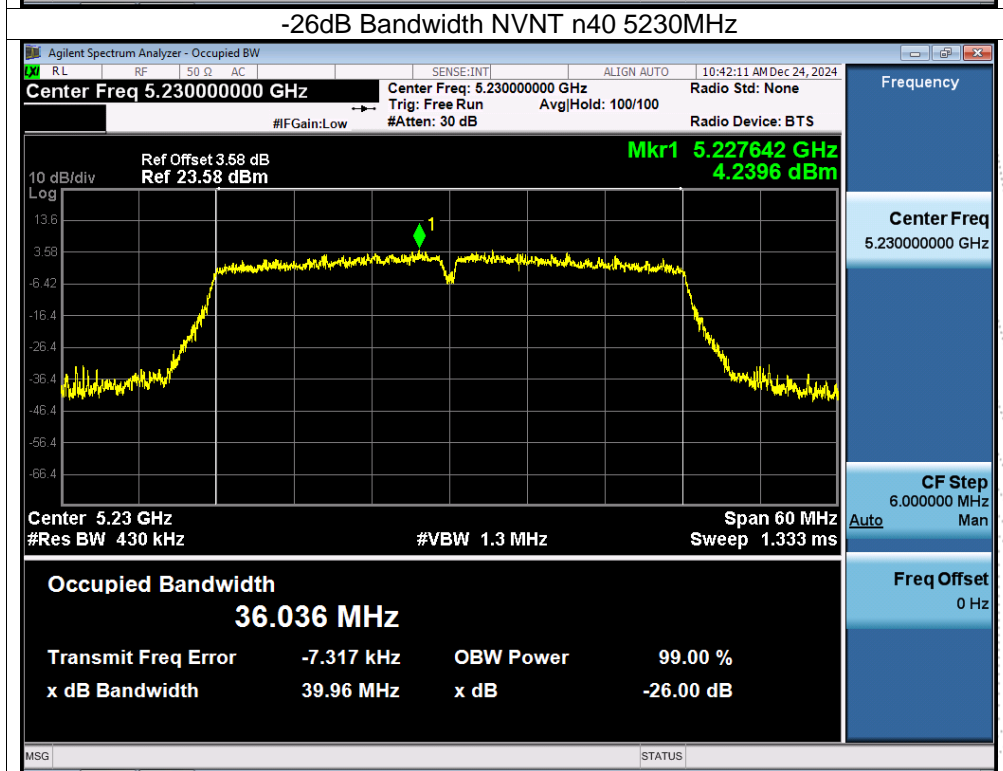
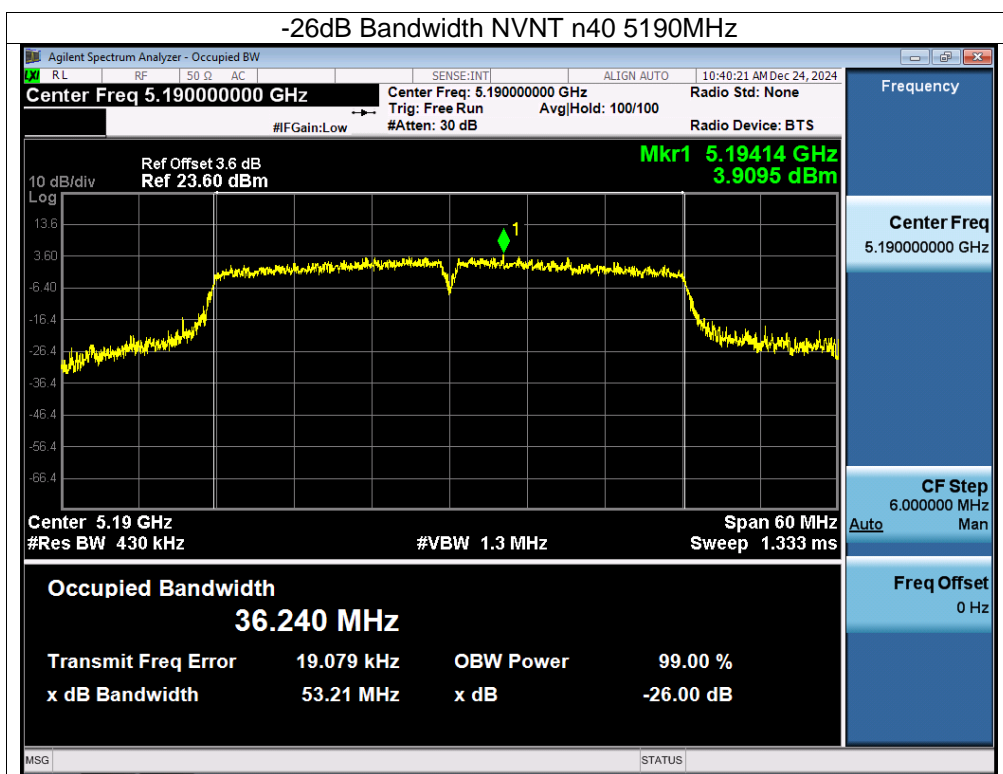
Condition	Mode	Frequency (MHz)	99% bandwidth (MHz)	-26dB bandwidth (MHz)	Result
NVNT	a	5180	16.614	25.985	Pass
NVNT	a	5200	16.591	28.007	Pass
NVNT	a	5240	16.437	19.811	Pass
NVNT	n20	5180	17.688	26.171	Pass
NVNT	n20	5200	17.708	26.514	Pass
NVNT	n20	5240	17.571	19.902	Pass
NVNT	n40	5190	36.23	53.213	Pass
NVNT	n40	5230	35.999	39.958	Pass
NVNT	ac20	5180	17.704	26.55	Pass
NVNT	ac20	5200	17.691	26.584	Pass
NVNT	ac20	5240	17.588	19.89	Pass
NVNT	ac40	5190	36.213	53.025	Pass
NVNT	ac40	5230	36.028	39.775	Pass
NVNT	ac80	5210	75.456	97.108	Pass
NVNT	ax20	5180	18.91	21.093	Pass
NVNT	ax20	5200	18.863	20.85	Pass
NVNT	ax20	5240	18.803	19.745	Pass
NVNT	ax40	5190	37.537	39.28	Pass
NVNT	ax40	5230	37.557	39.341	Pass
NVNT	ax80	5210	76.817	81.879	Pass



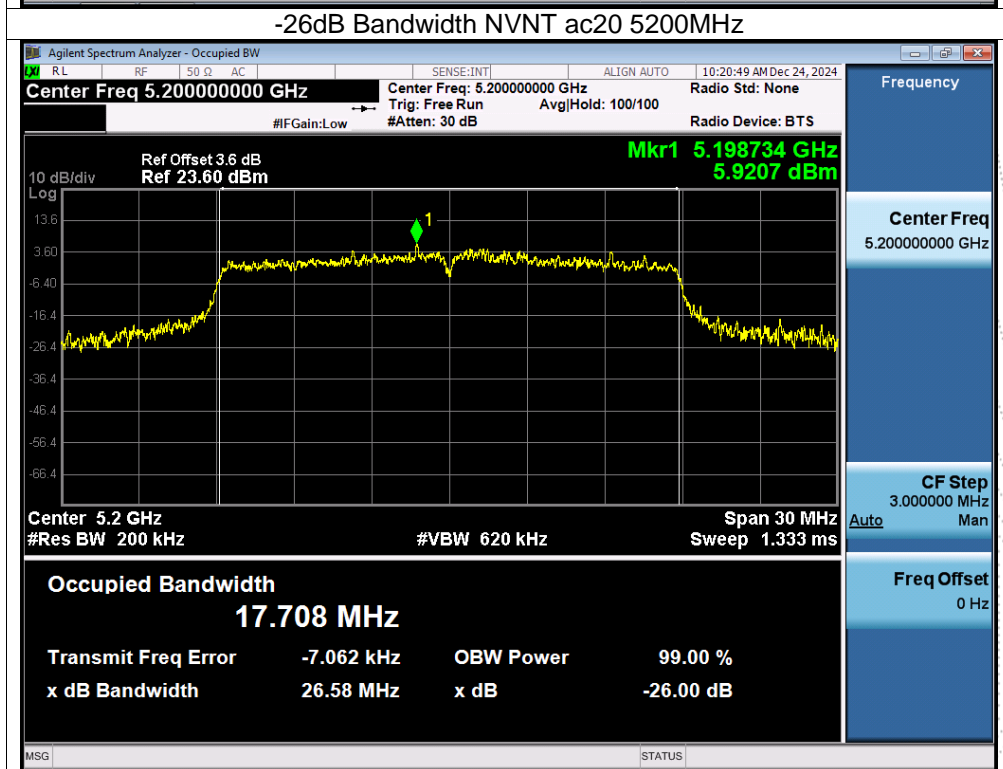
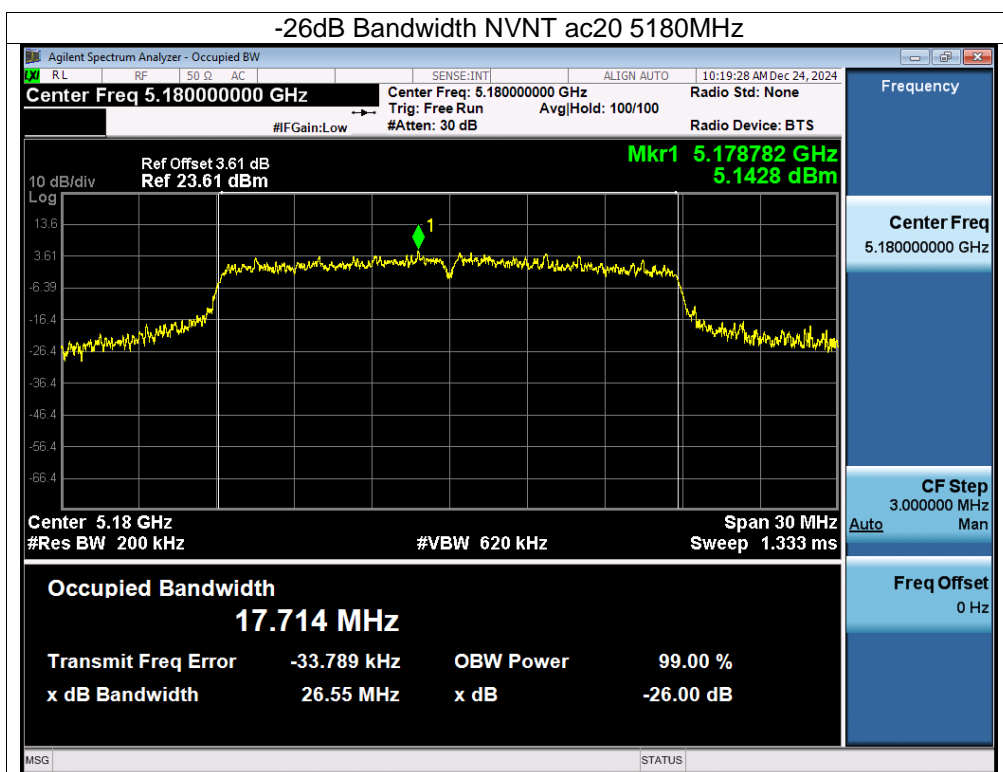


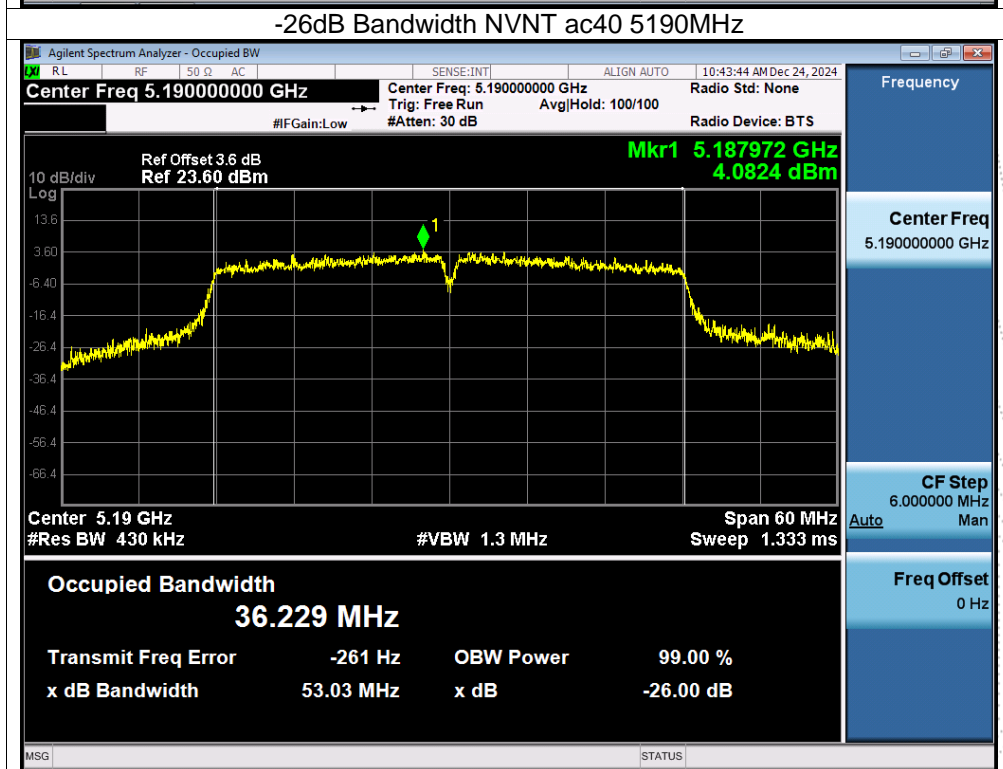
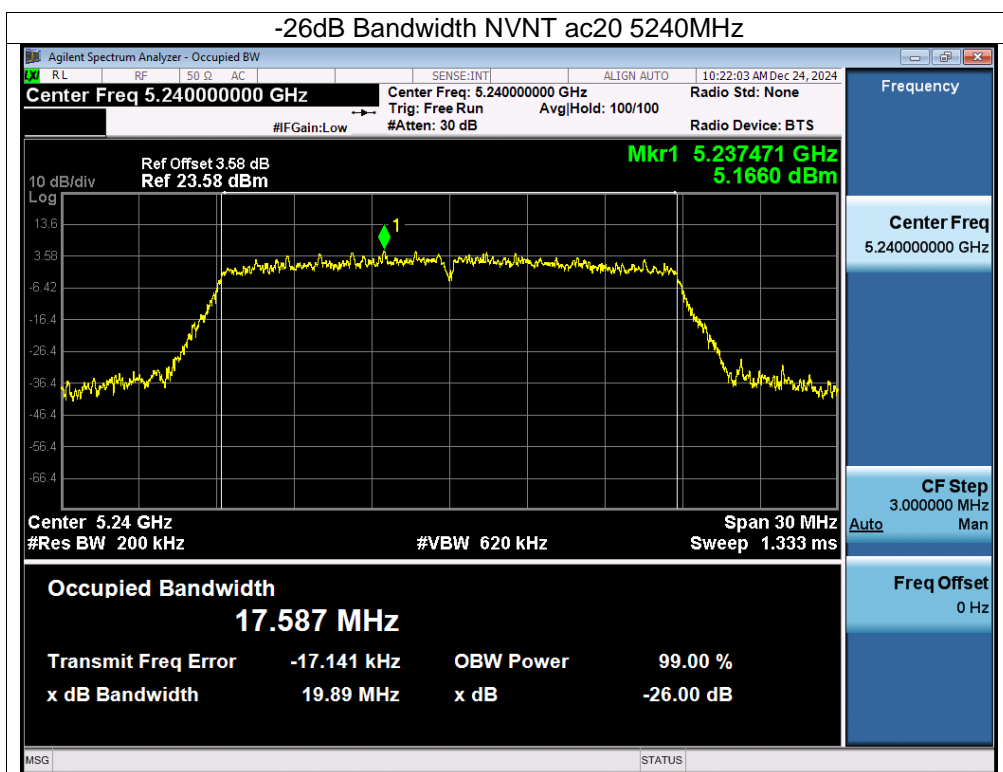


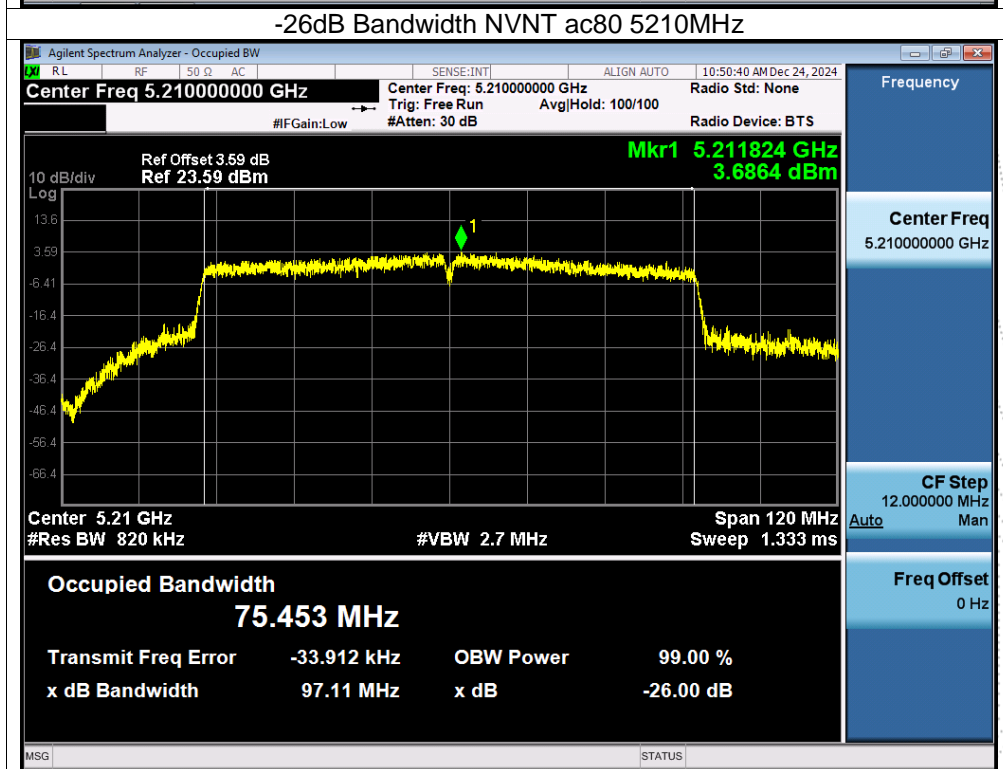
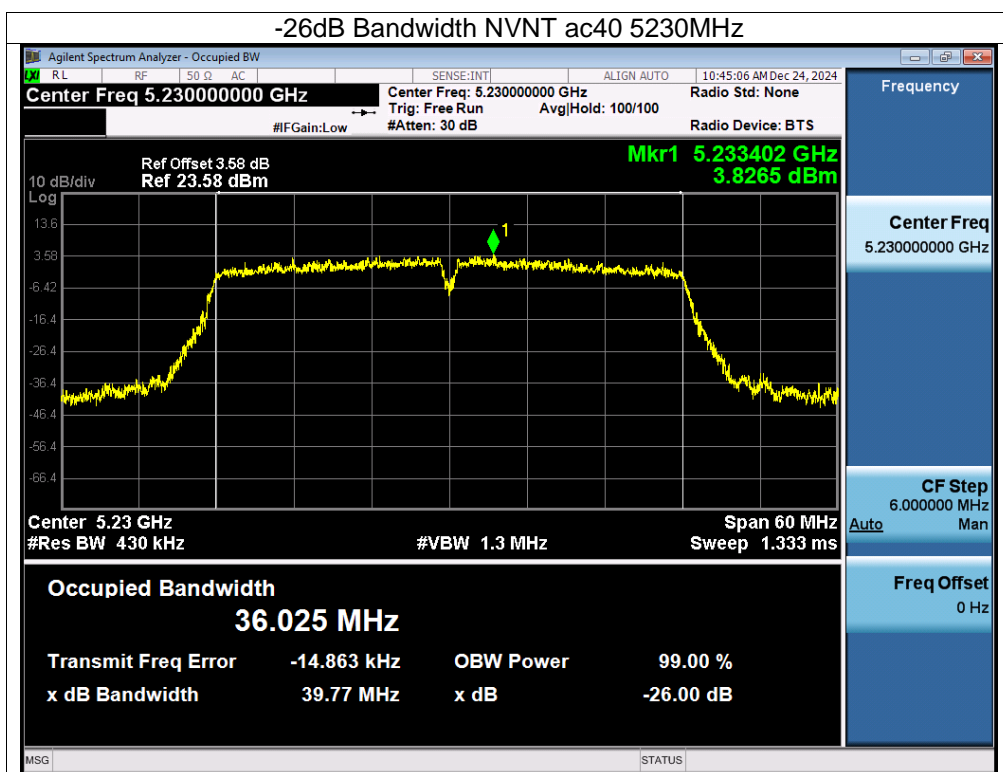


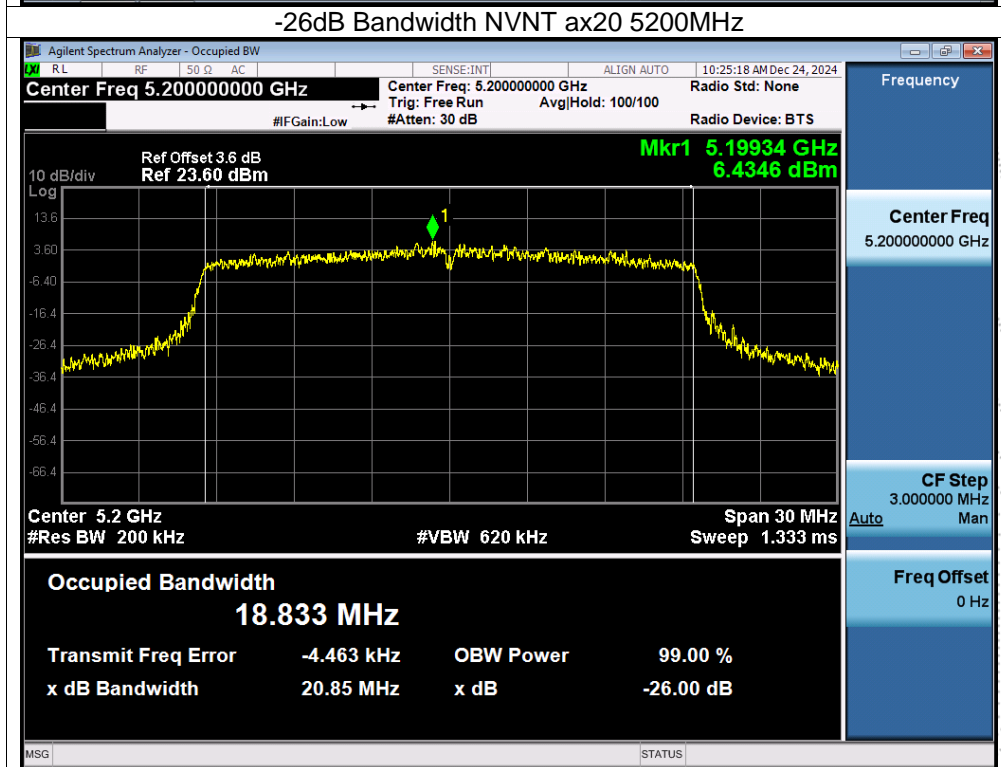
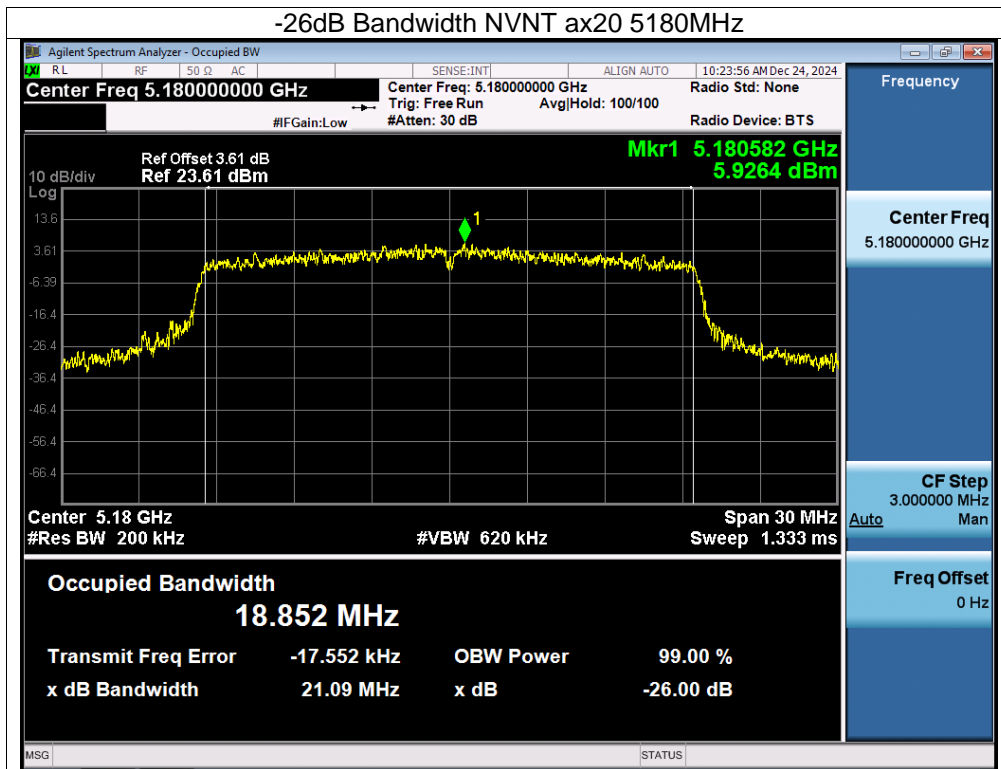


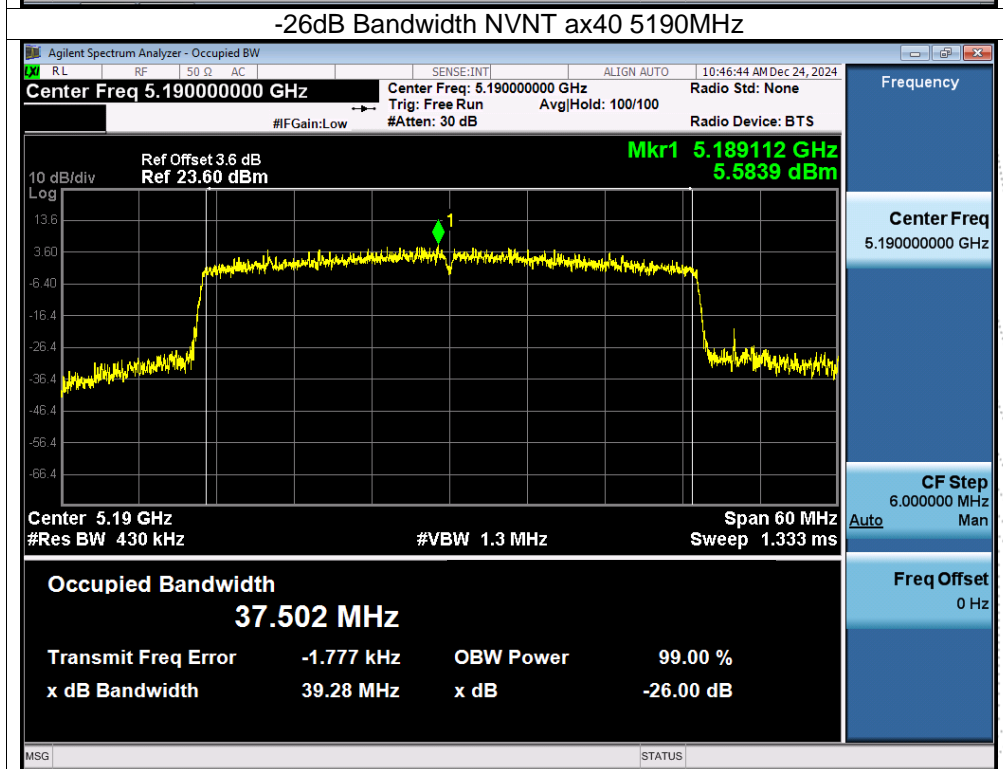
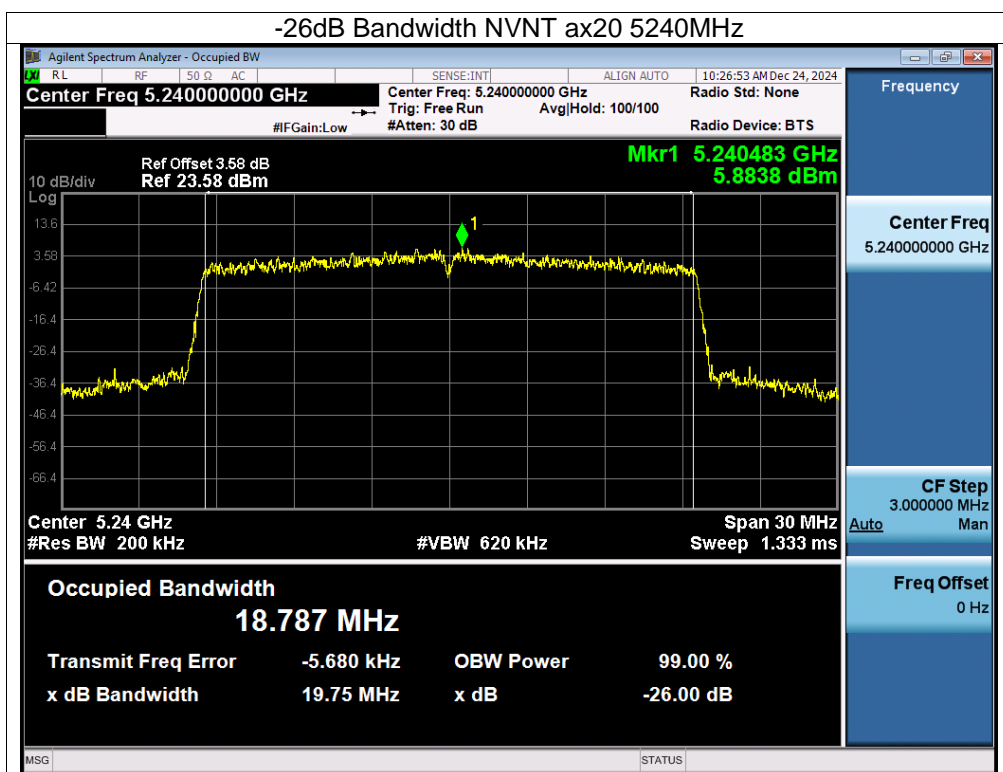




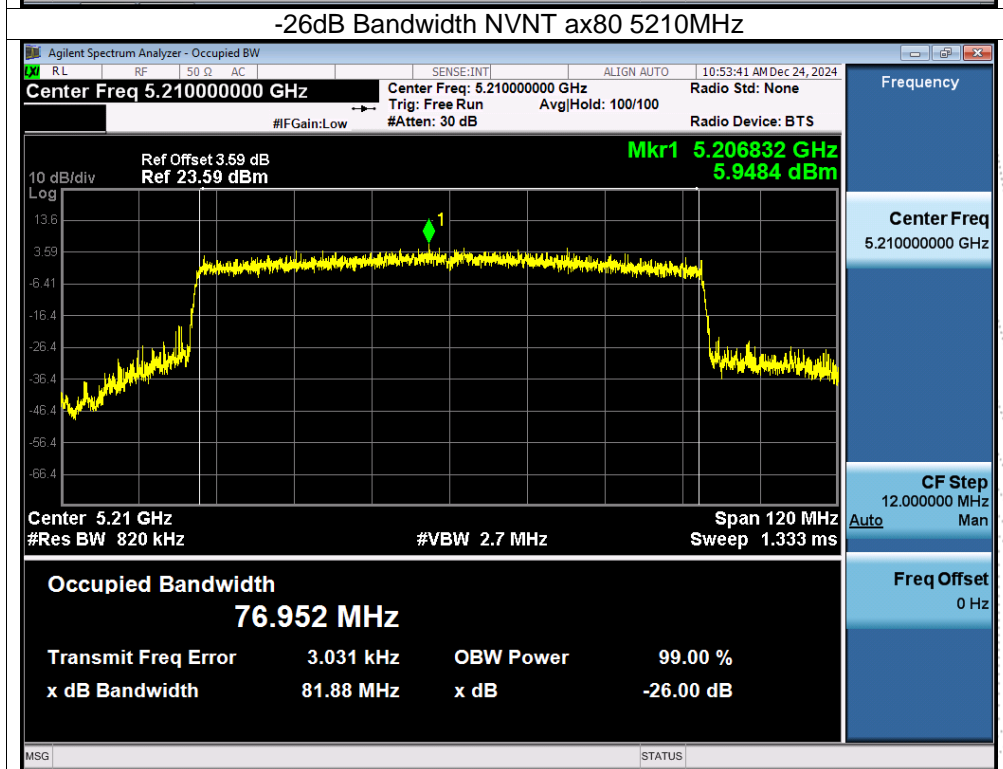
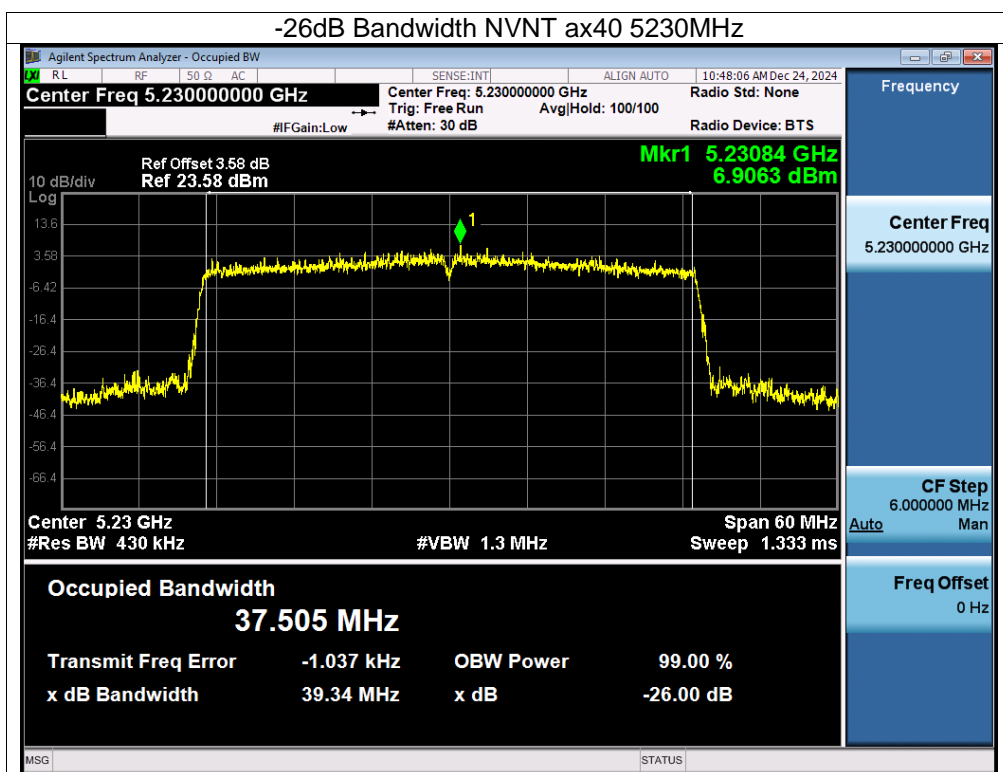


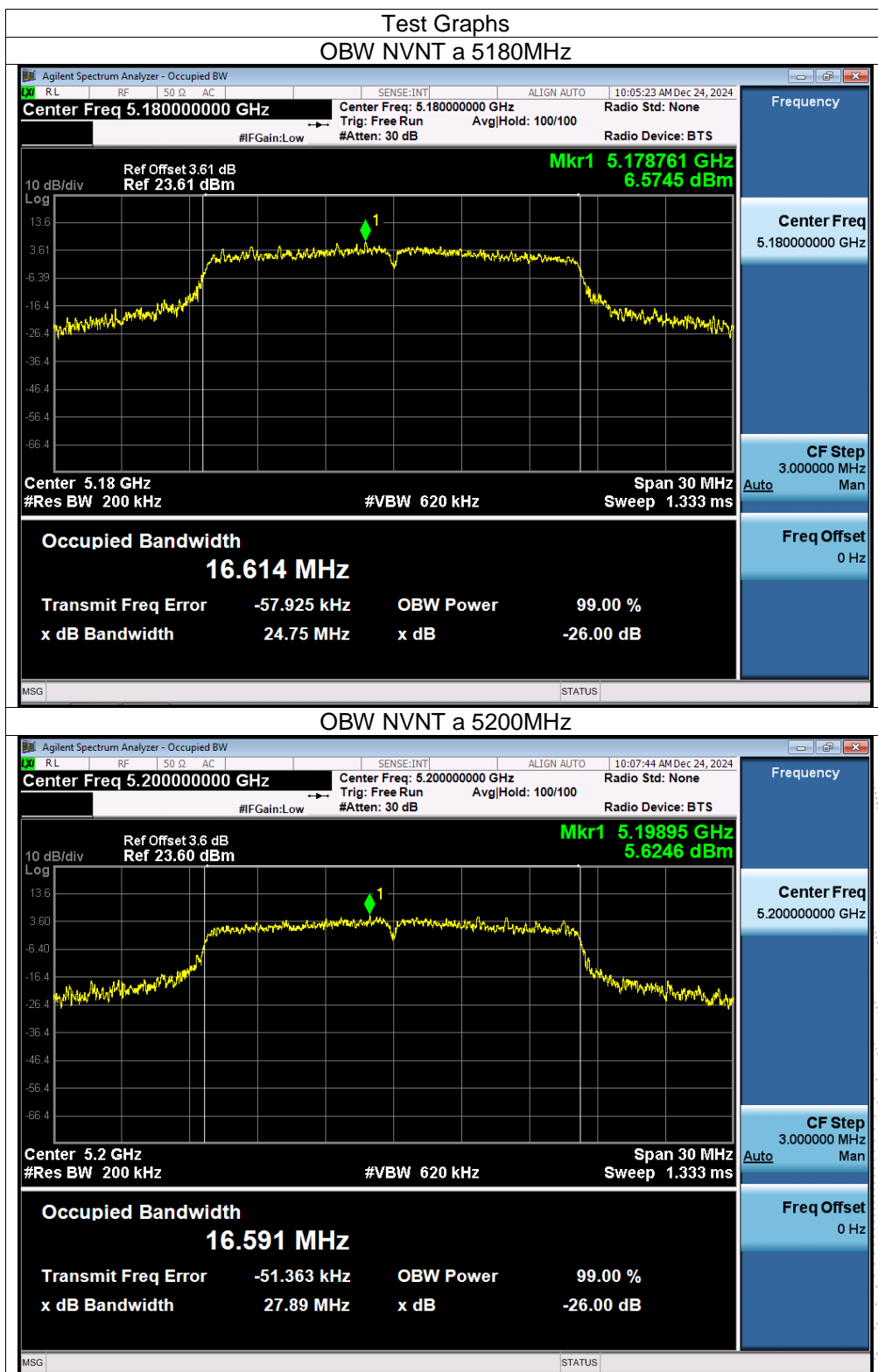


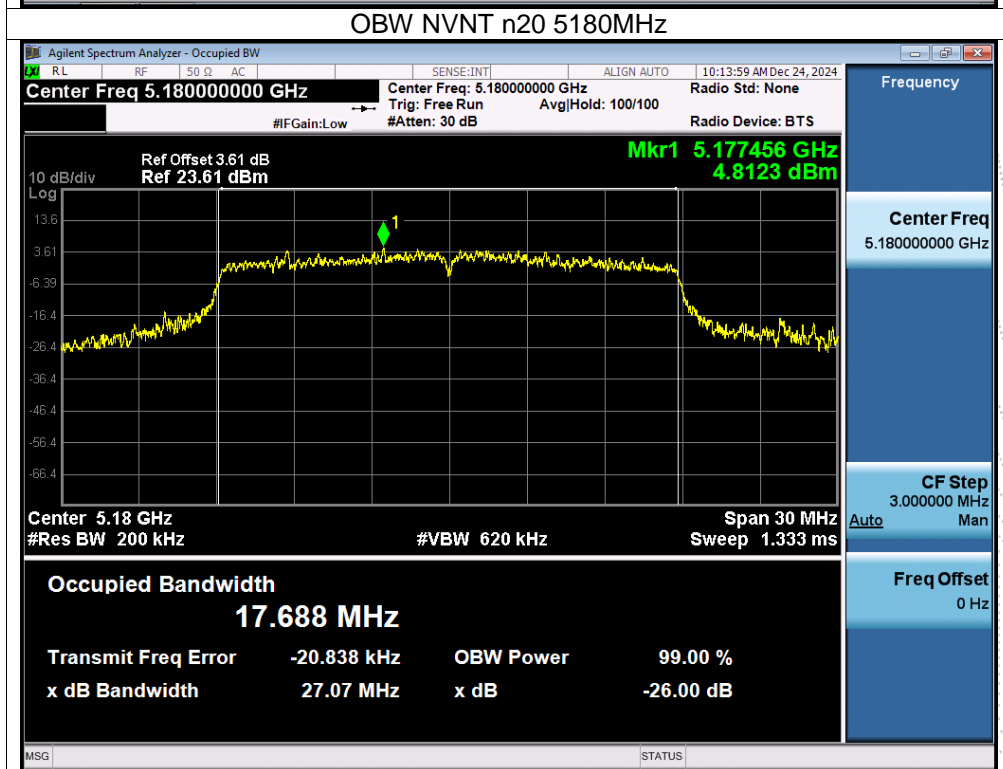
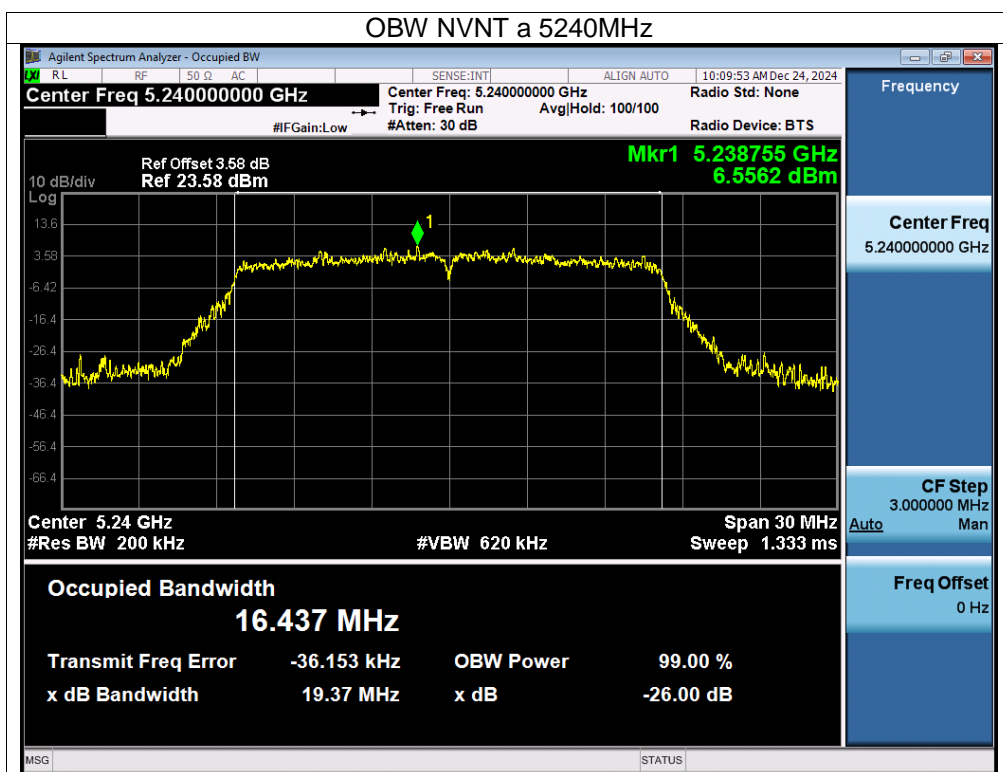


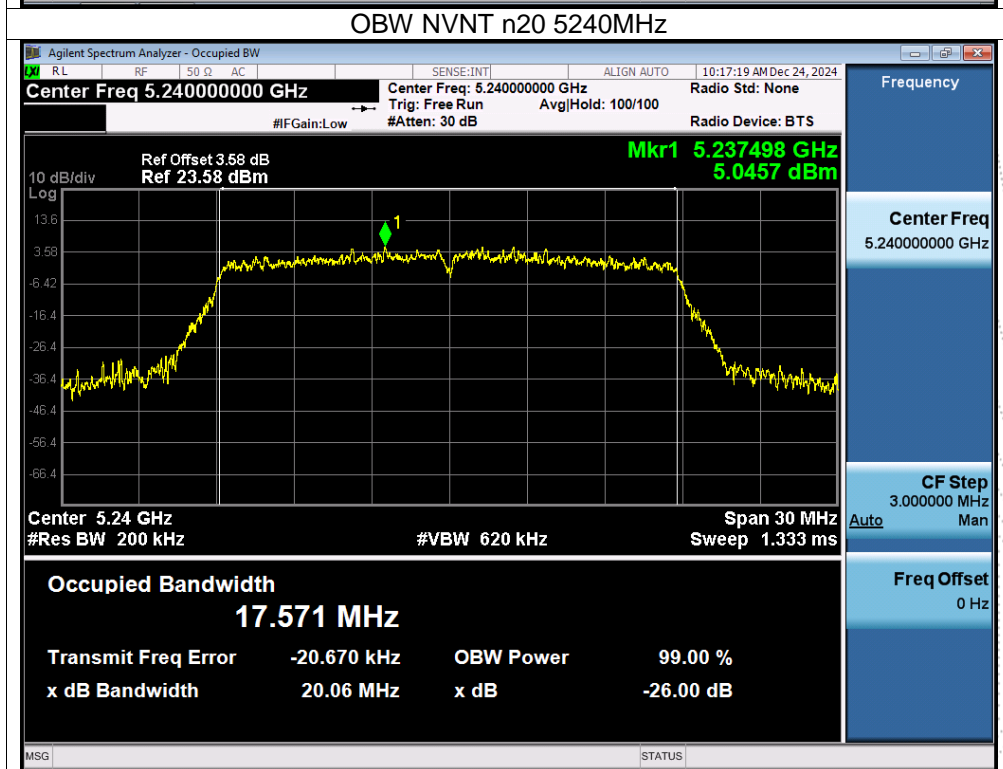
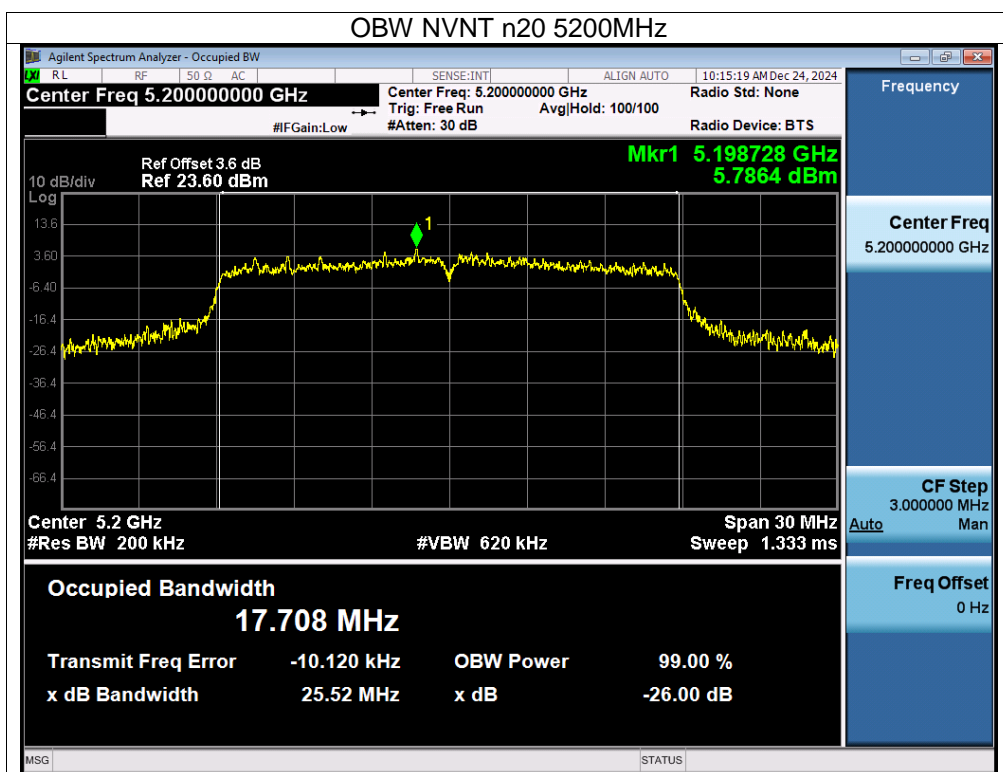


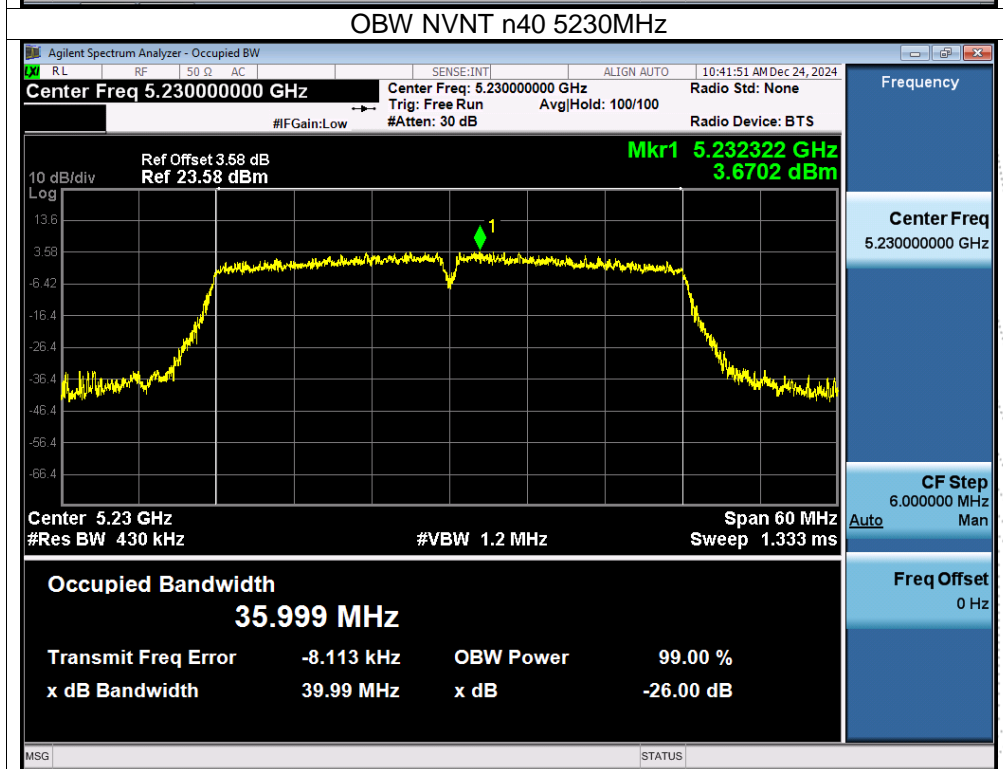
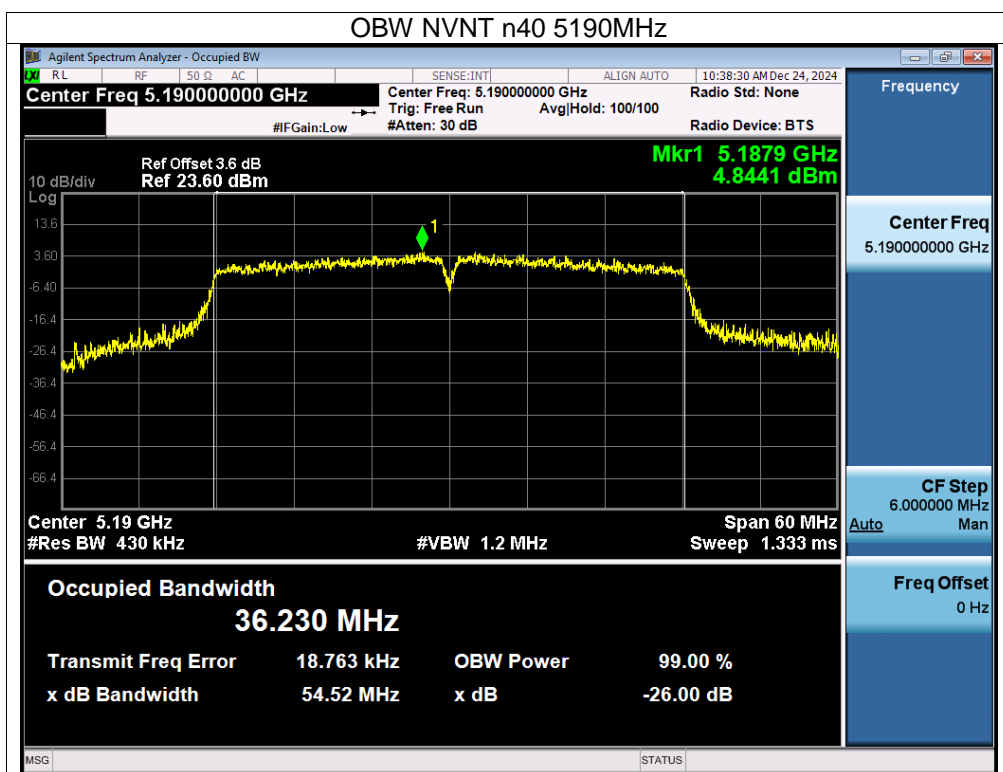




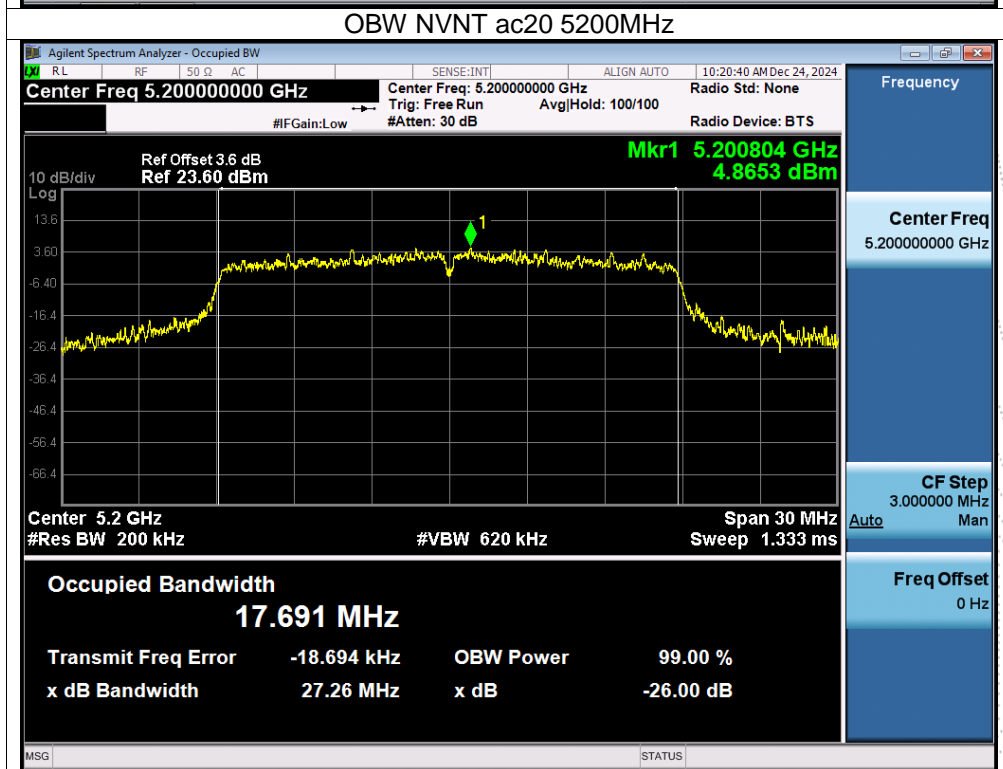
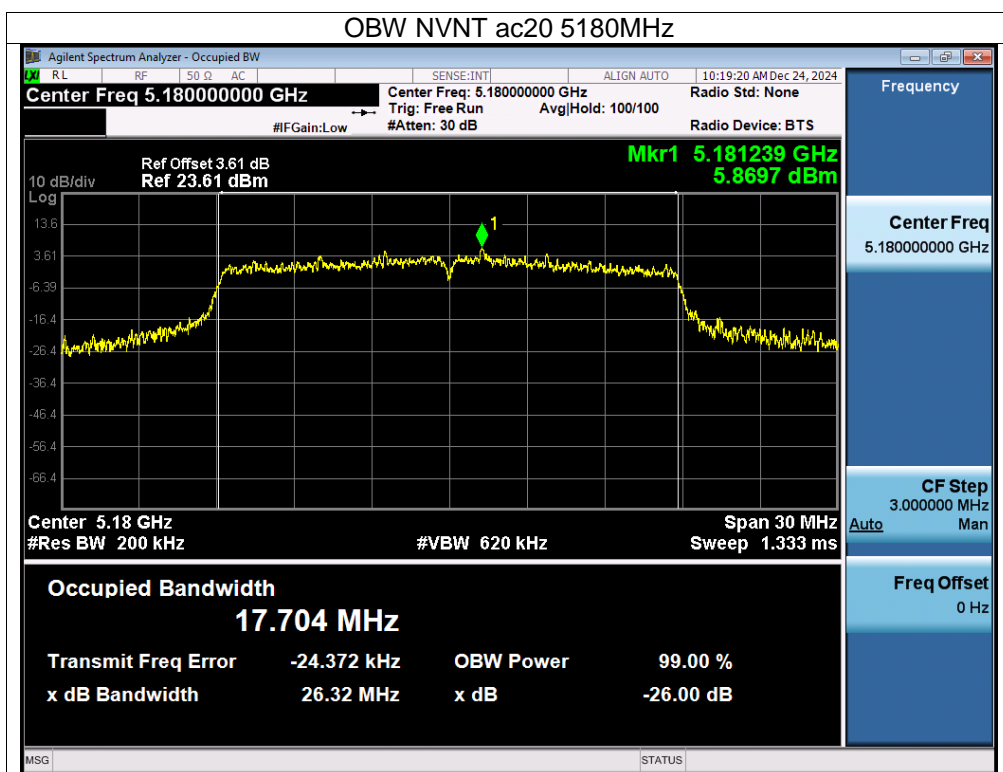


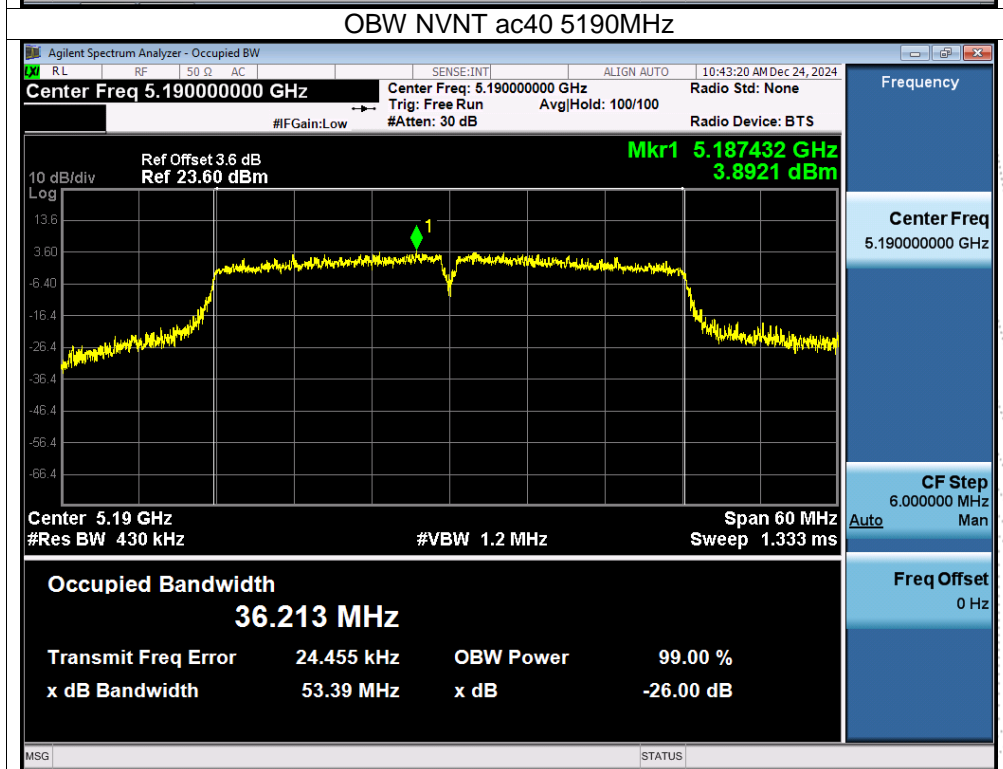
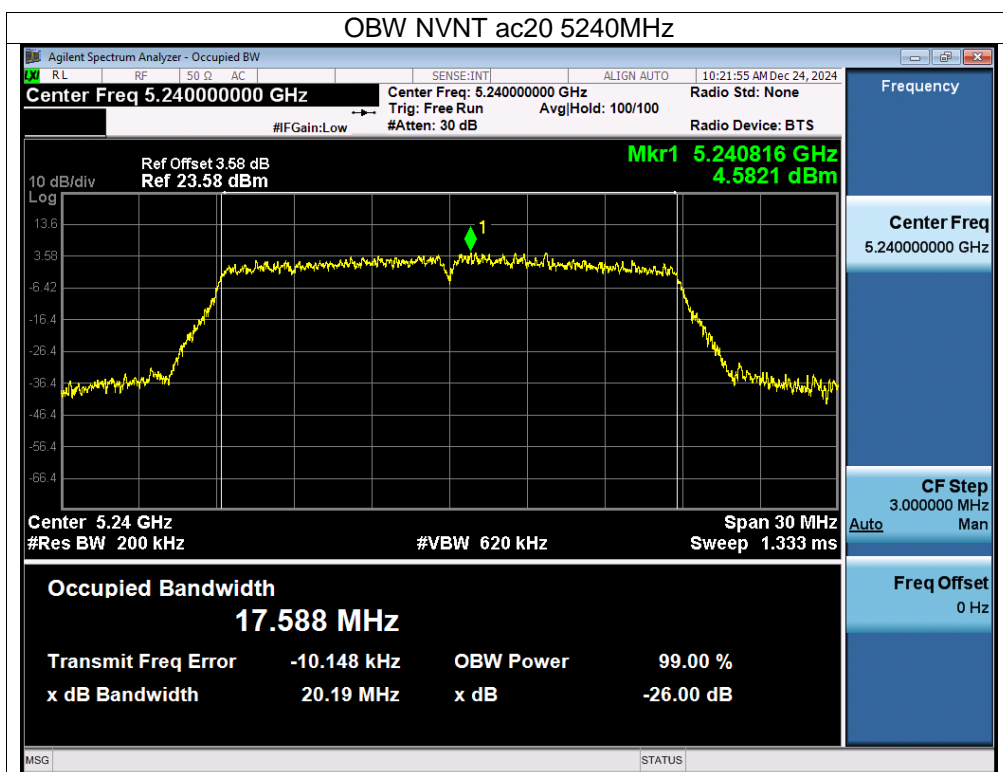


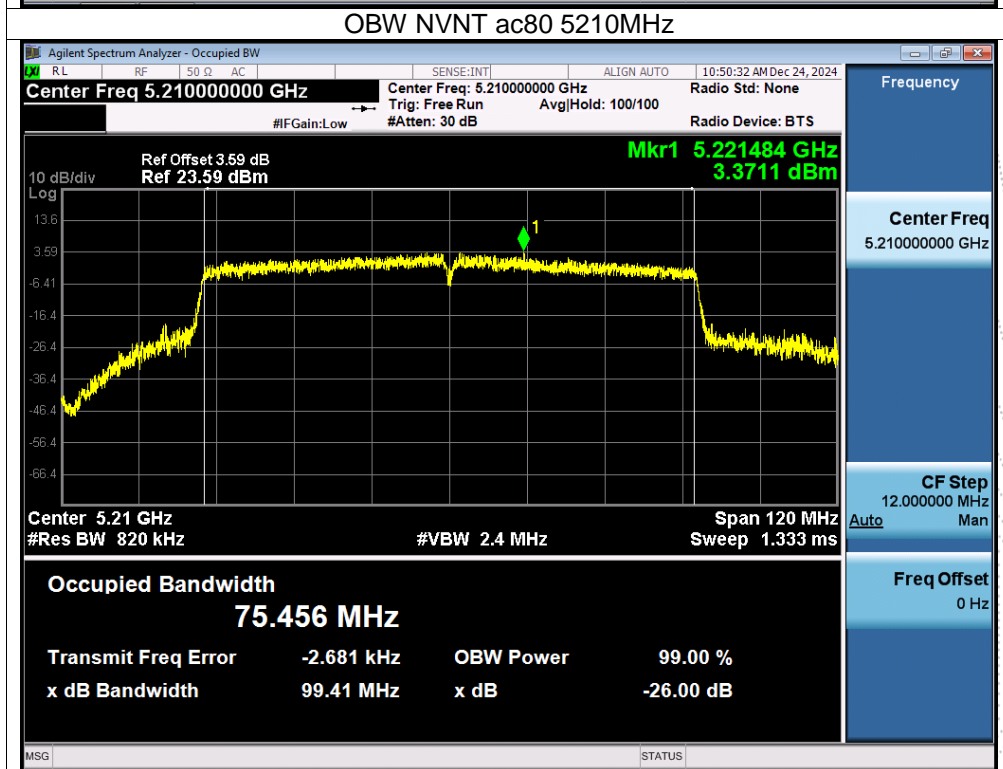
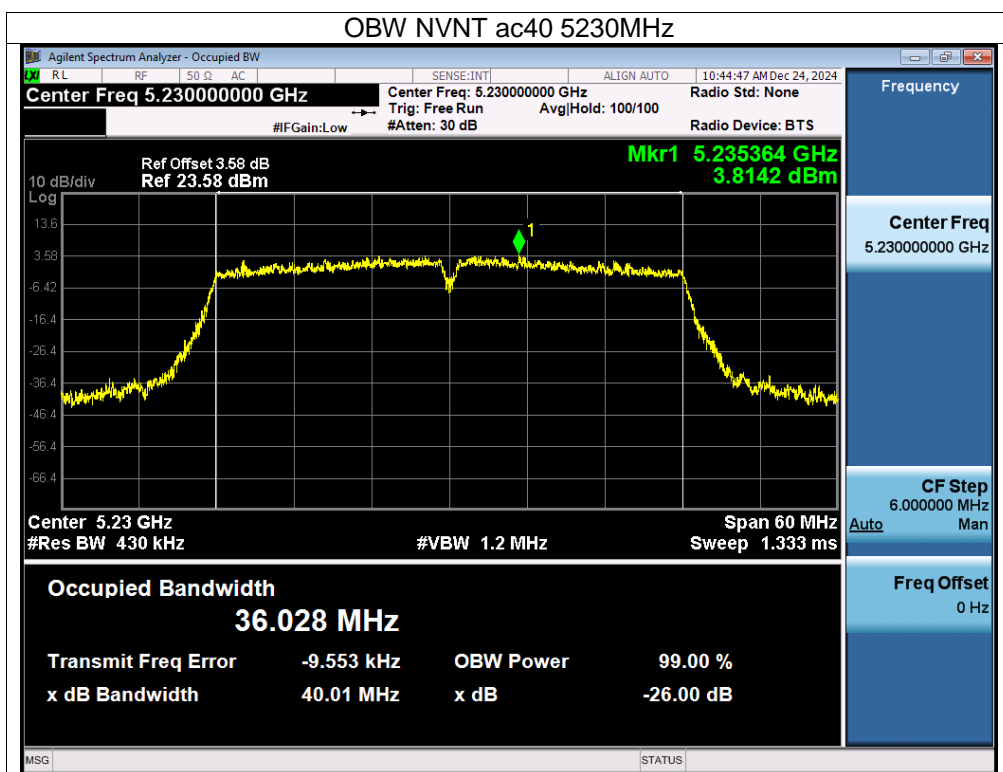


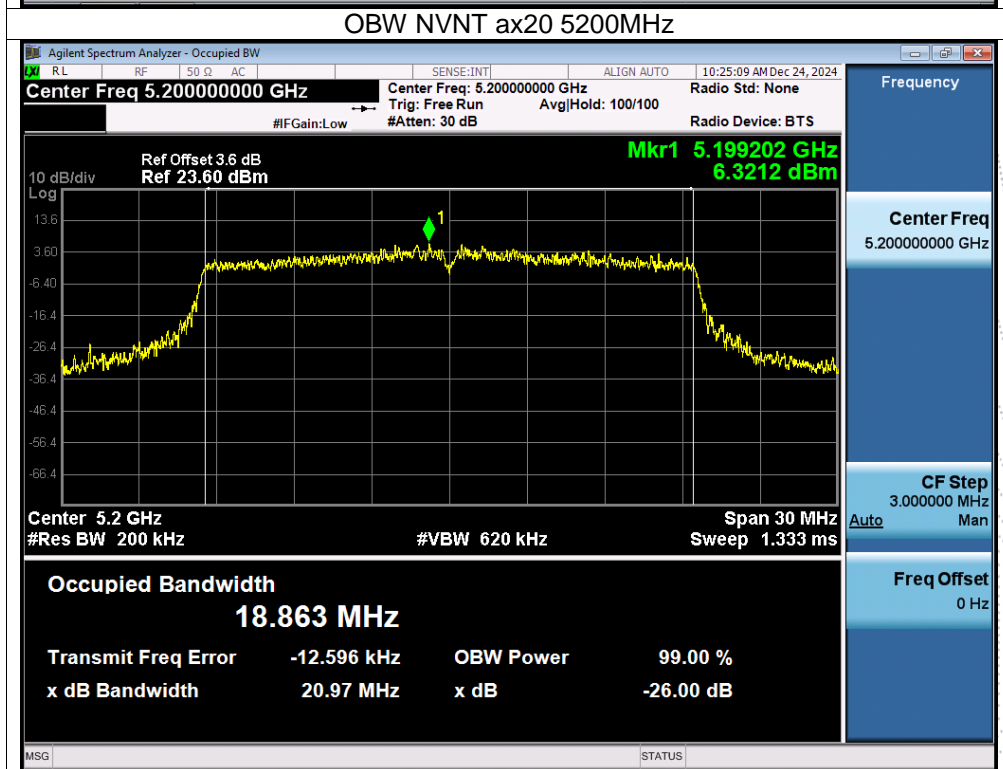
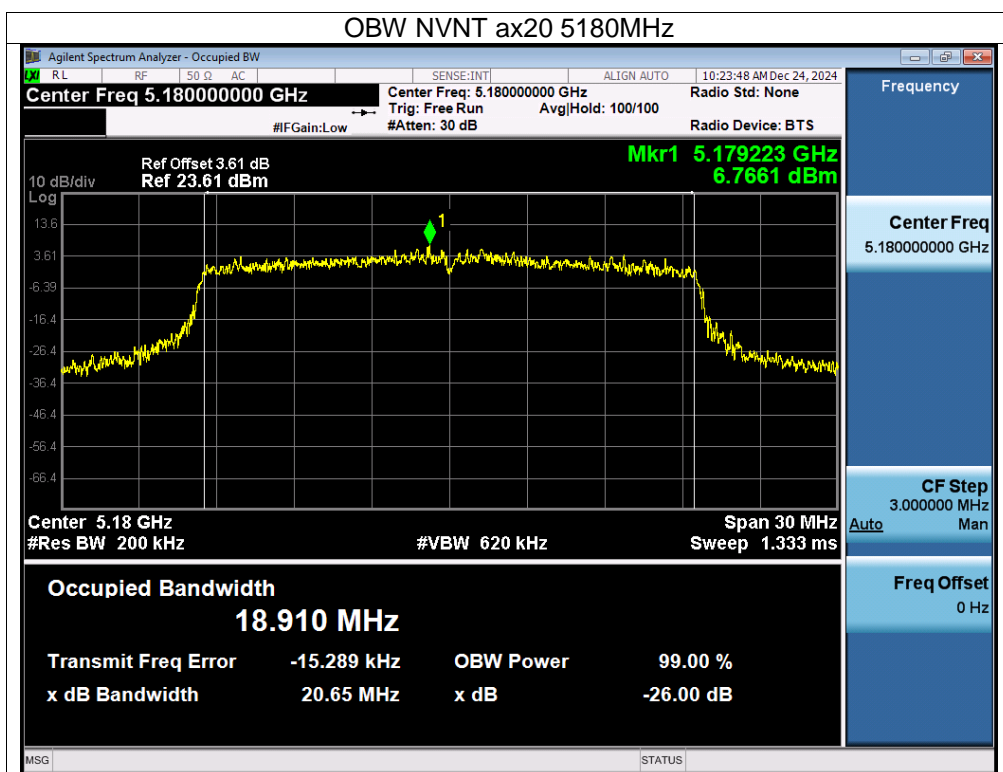


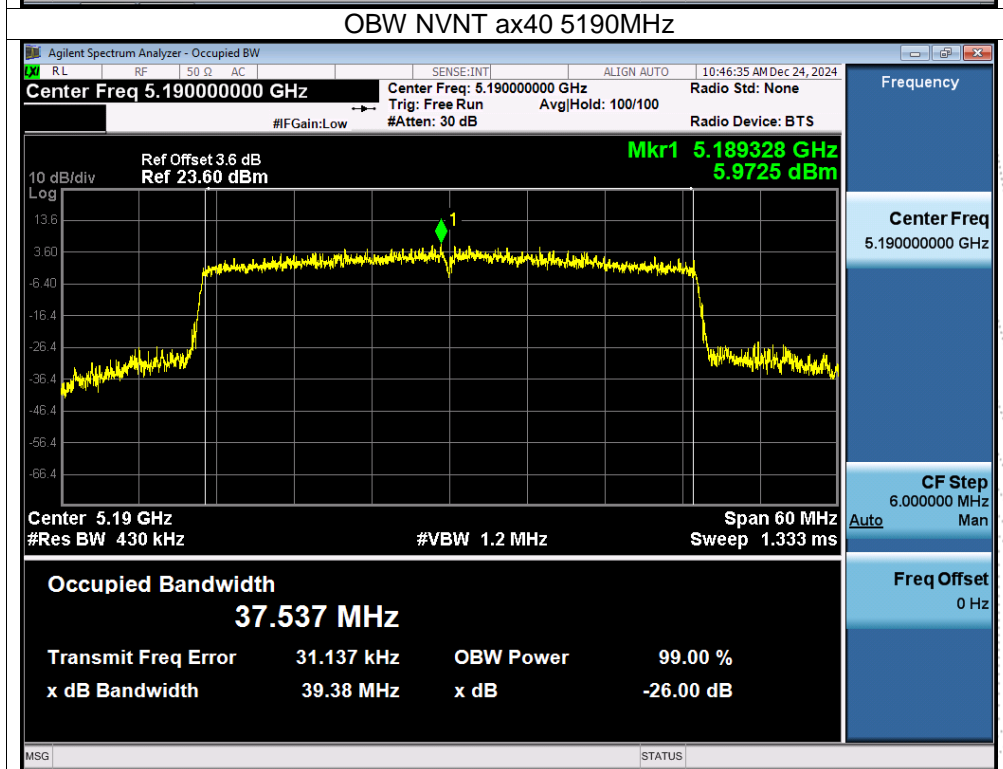
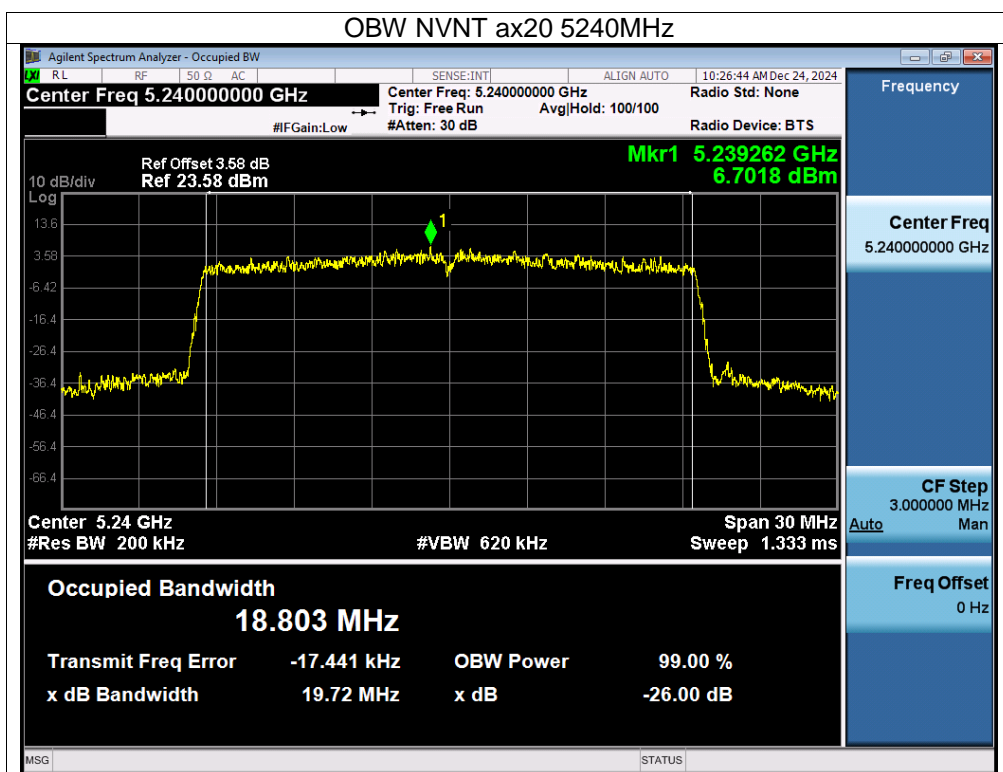




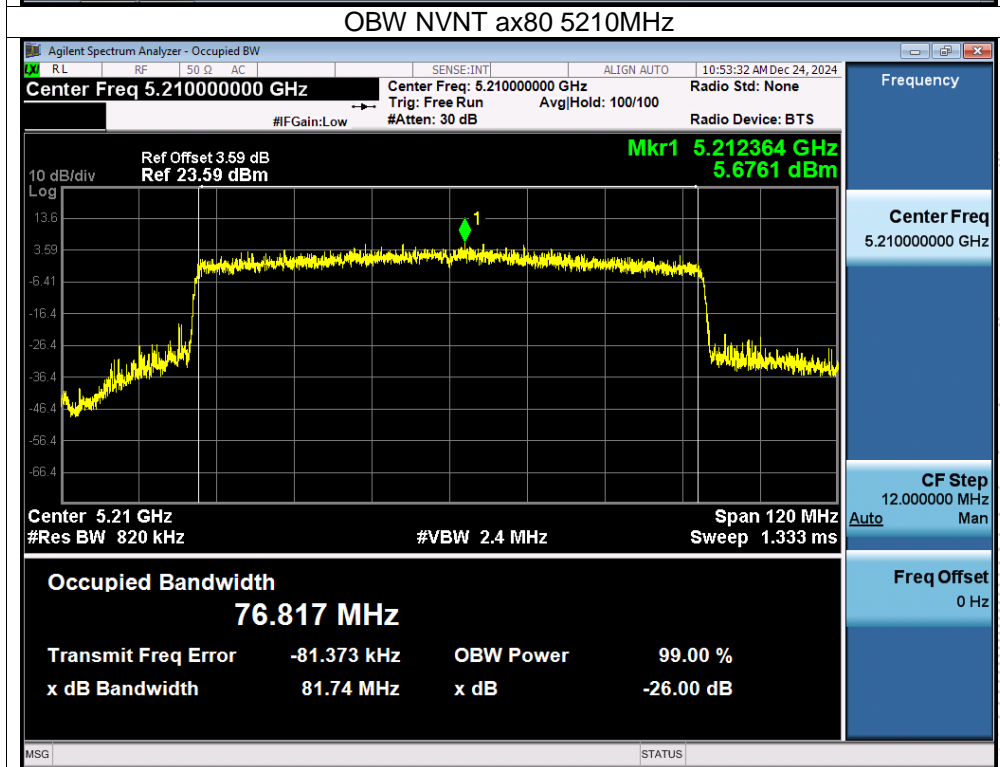
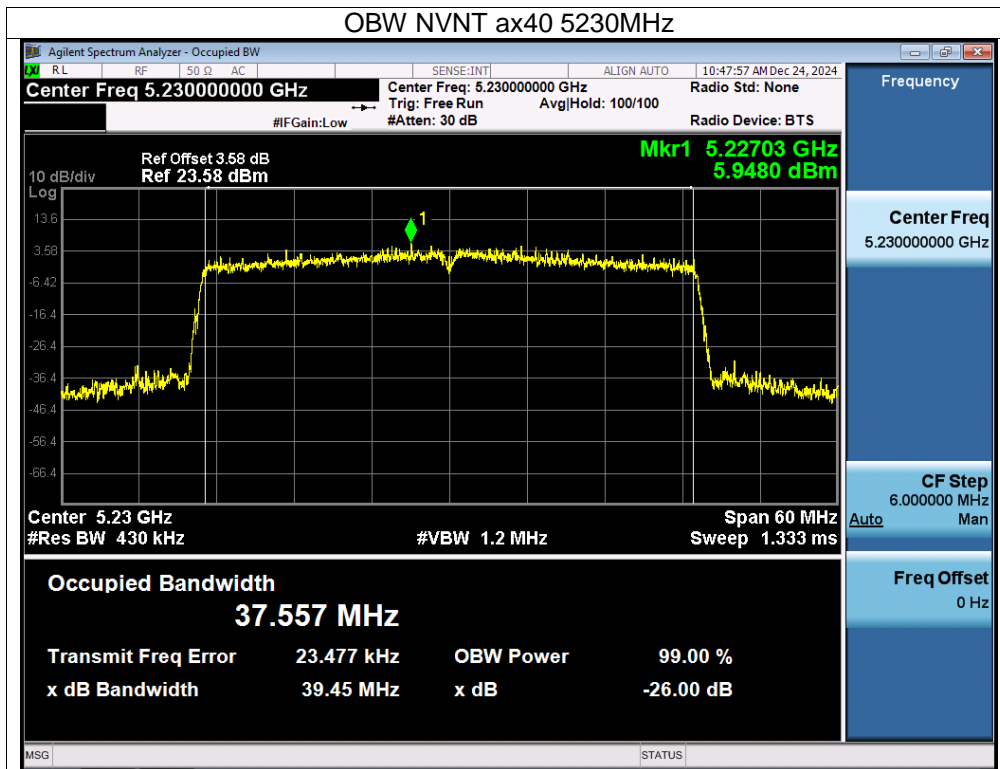












Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	(5260-5320MHz)		

Condition	Mode	Frequency (MHz)	99% bandwidth (MHz)	26dB bandwidth (MHz)	Result
NVNT	a	5260	16.422	19.863	Pass
NVNT	a	5280	16.447	20.242	Pass
NVNT	a	5320	16.586	25.184	Pass
NVNT	n20	5260	17.57	20.87	Pass
NVNT	n20	5280	17.57	20.927	Pass
NVNT	n20	5320	17.682	23.74	Pass
NVNT	n40	5270	37.553	39.334	Pass
NVNT	n40	5310	37.467	39.366	Pass
NVNT	ac20	5260	17.548	20.717	Pass
NVNT	ac20	5280	17.587	20.725	Pass
NVNT	ac20	5320	17.681	23.609	Pass
NVNT	ac40	5270	36.037	40.568	Pass
NVNT	ac40	5310	36.199	52.355	Pass
NVNT	ac80	5290	75.445	104.662	Pass
NVNT	ax20	5260	18.823	20.94	Pass
NVNT	ax20	5280	18.858	20.823	Pass
NVNT	ax20	5320	18.757	20.85	Pass
NVNT	ax40	5270	37.546	39.234	Pass
NVNT	ax40	5310	37.517	39.326	Pass
NVNT	ax80	5290	76.755	81.453	Pass

