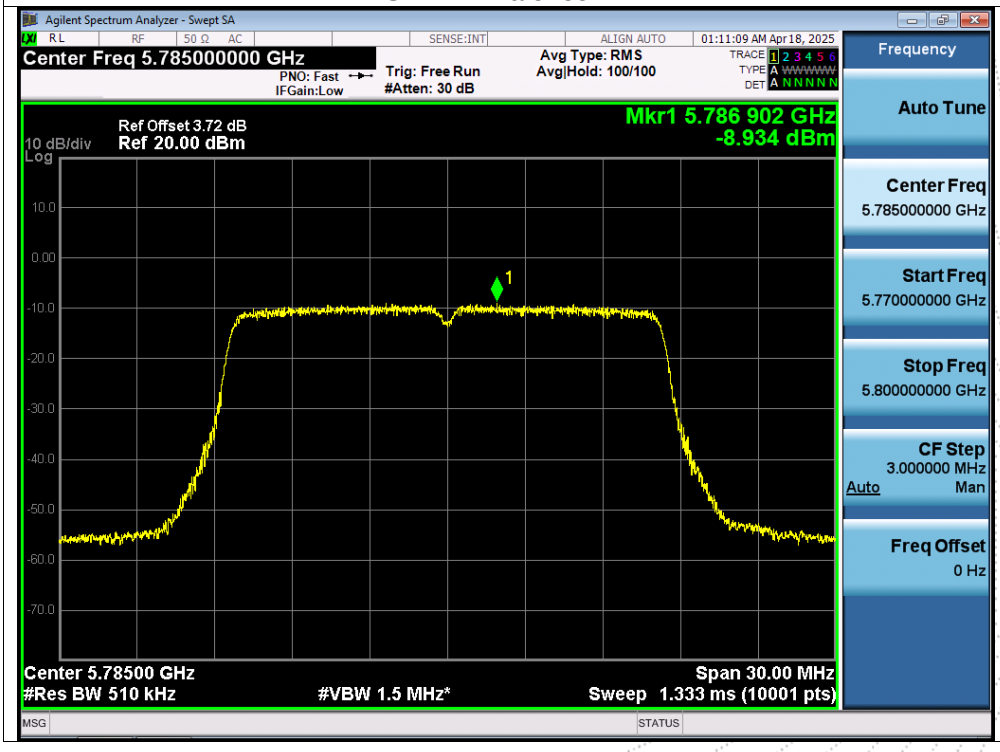
Test Graphs

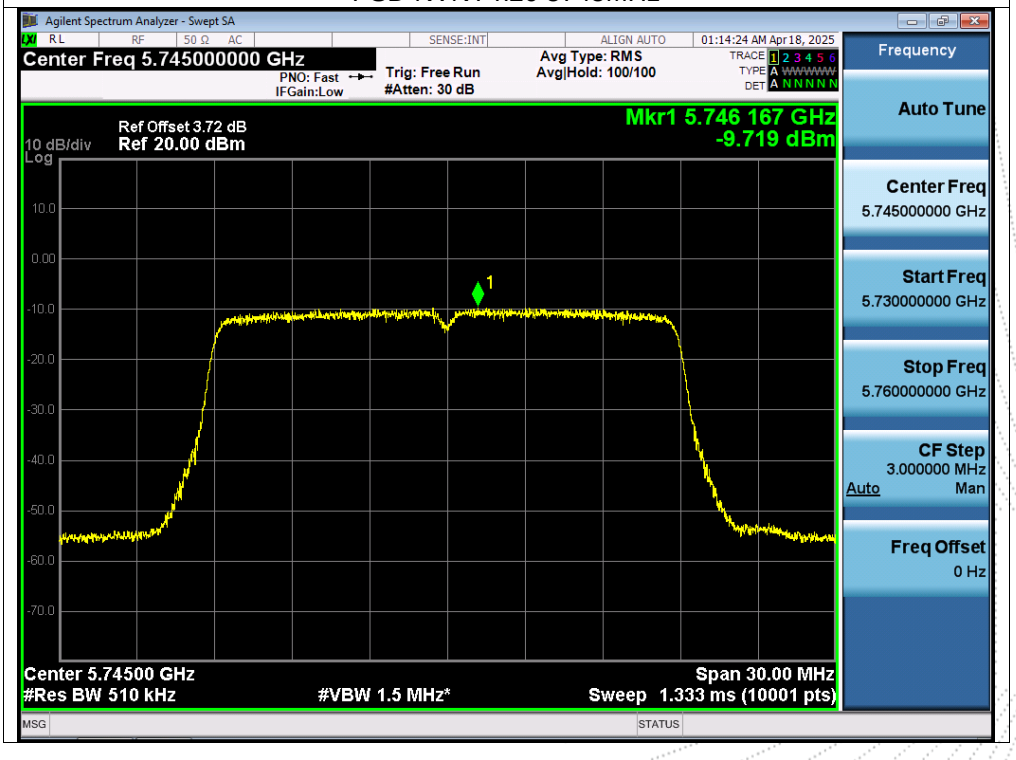
PSD NVNT a 5745MHz

PSD NVNT a 5785MHz



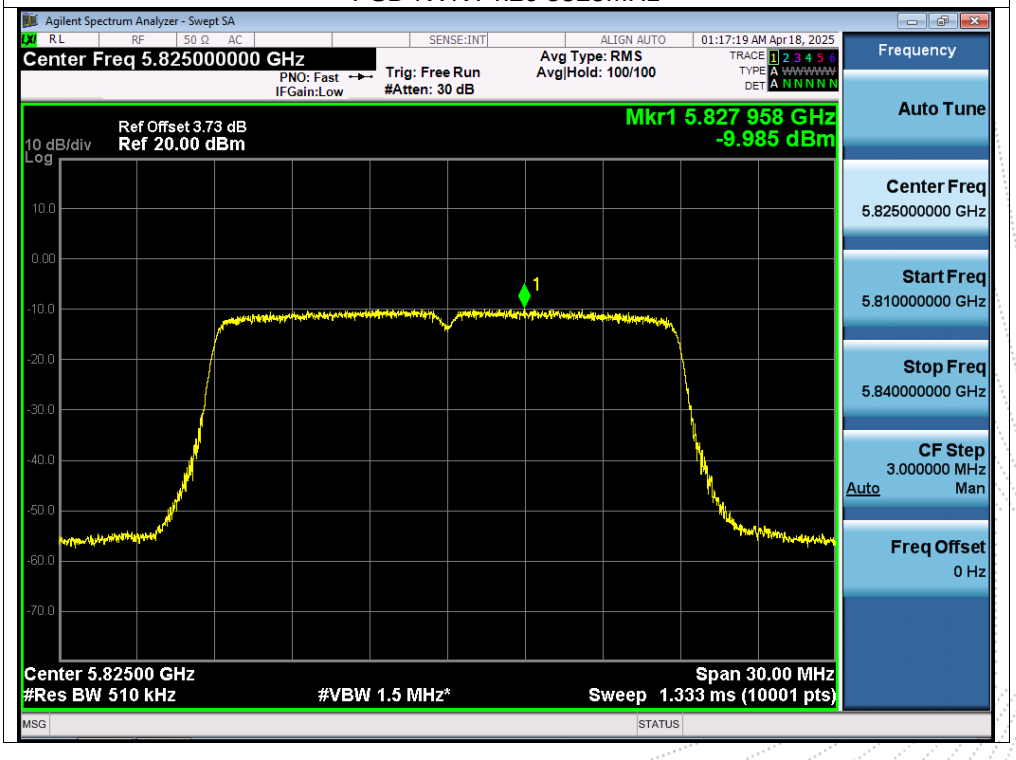
PSD NVNT a 5825MHz

PSD NVNT n20 5745MHz



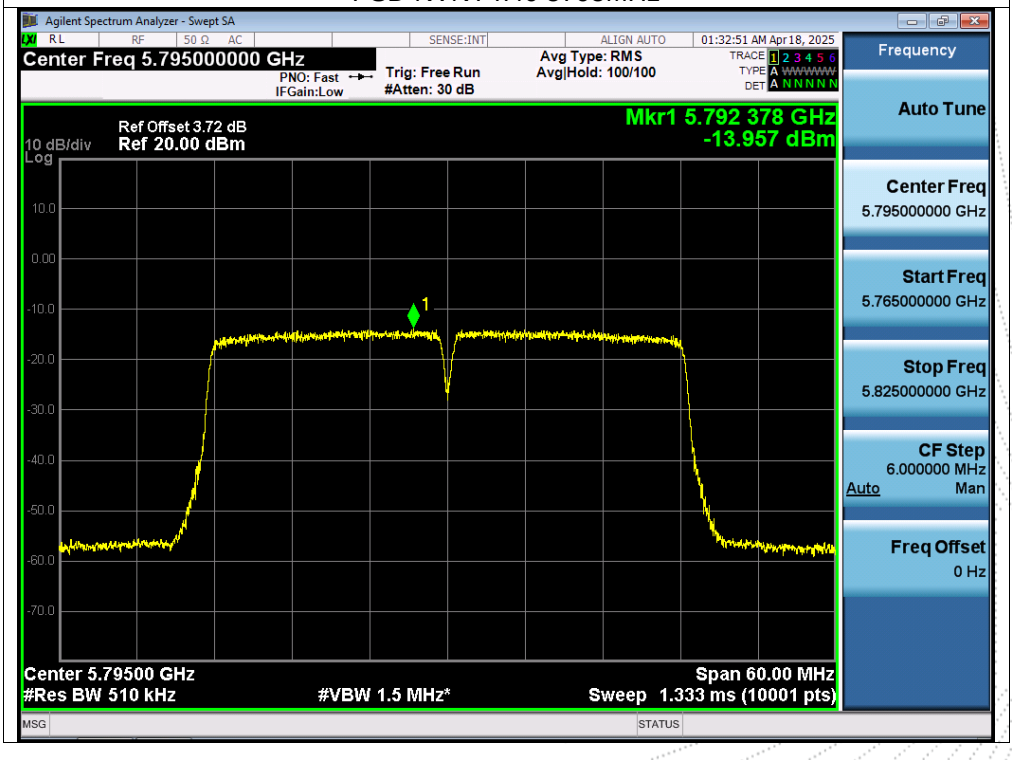
PSD NVNT n20 5785MHz

PSD NVNT n20 5825MHz



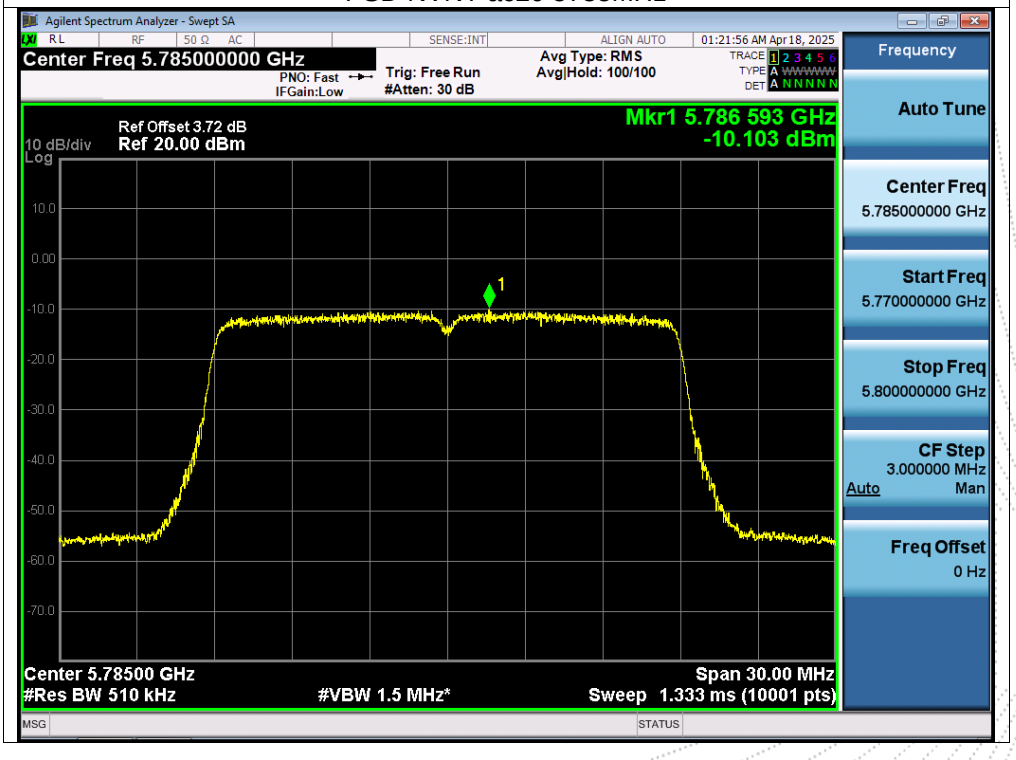
PSD NVNT n40 5755MHz

PSD NVNT n40 5795MHz



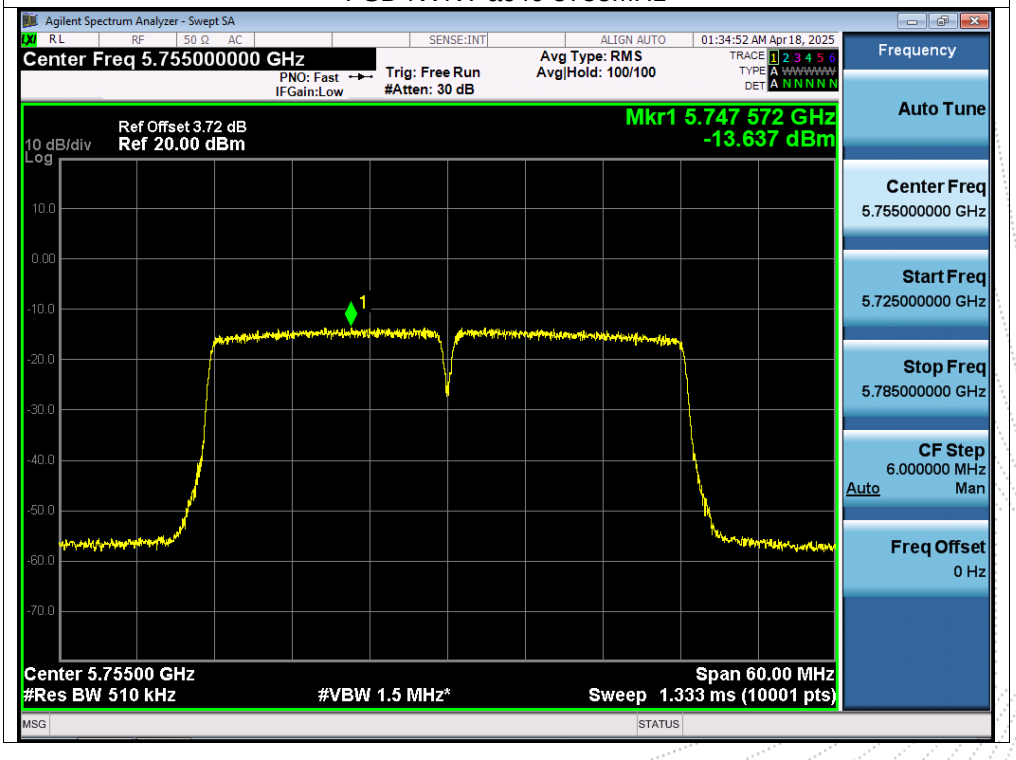
PSD NVNT ac20 5745MHz

PSD NVNT ac20 5785MHz



PSD NVNT ac20 5825MHz

PSD NVNT ac40 5755MHz



PSD NVNT ac40 5795MHz

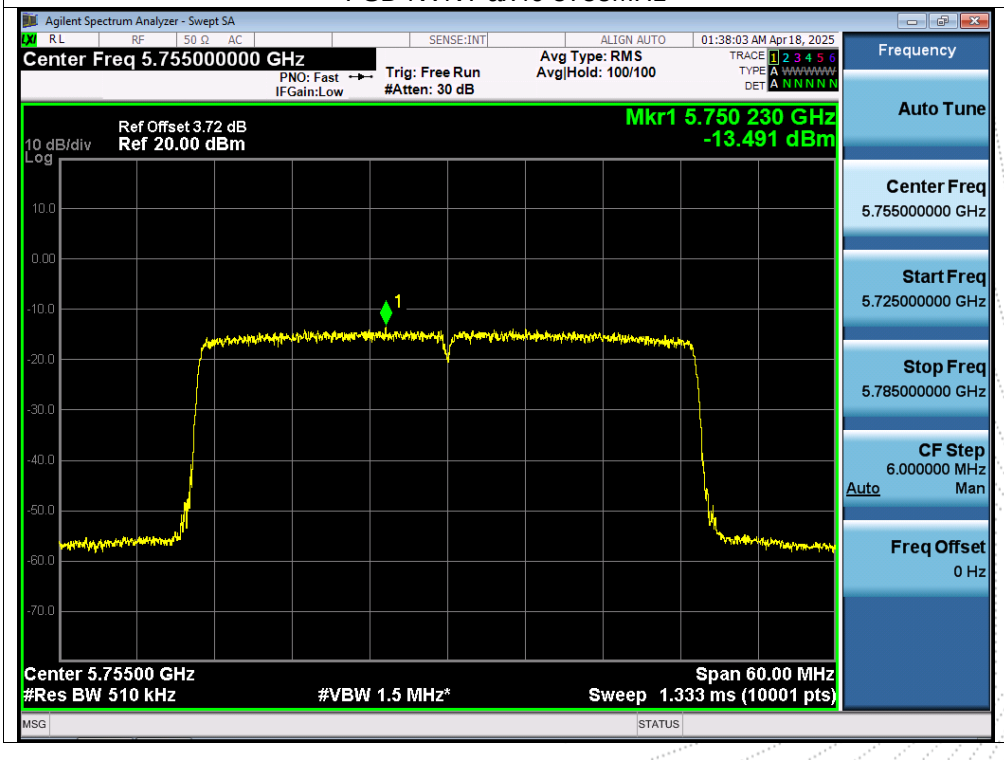
PSD NVNT ac80 5775MHz

PSD NVNT ax20 5745MHz

PSD NVNT ax20 5785MHz

PSD NVNT ax20 5825MHz

PSD NVNT ax40 5755MHz

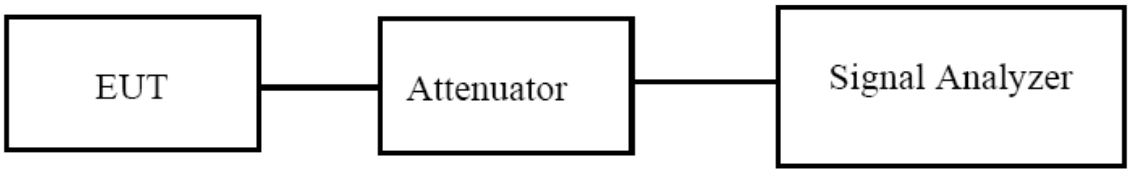


PSD NVNT ax40 5795MHz

PSD NVNT ax80 5775MHz

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 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 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:
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 ≥ 3 · 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.

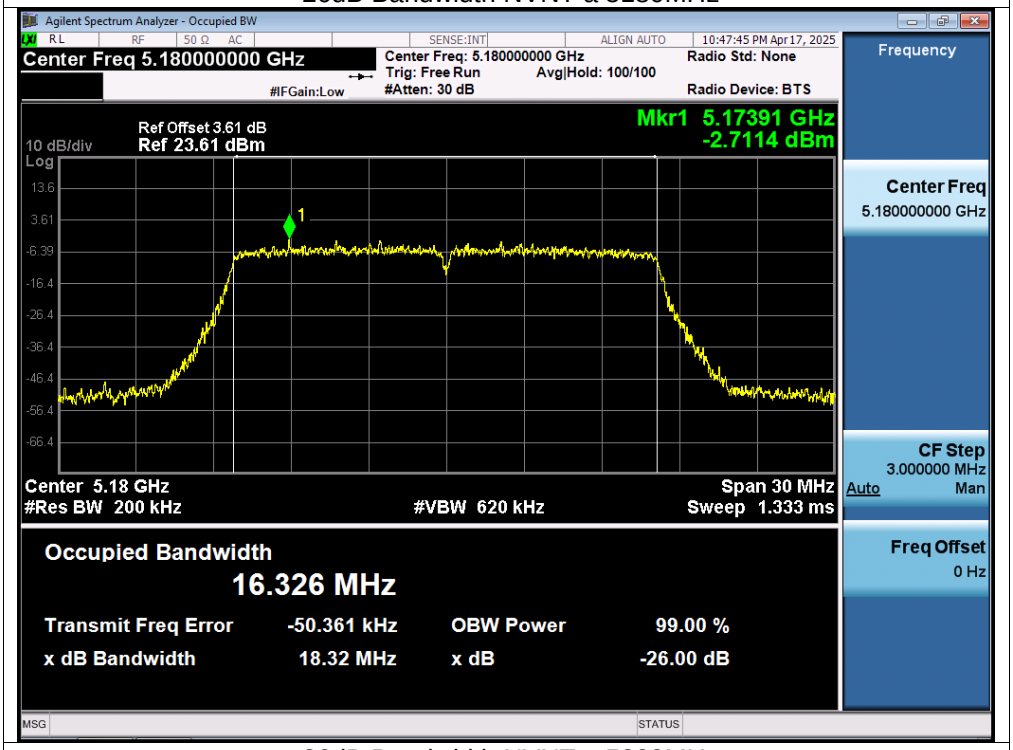
9.5 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	(U-NII-1) 5180MHz-5240MHz		

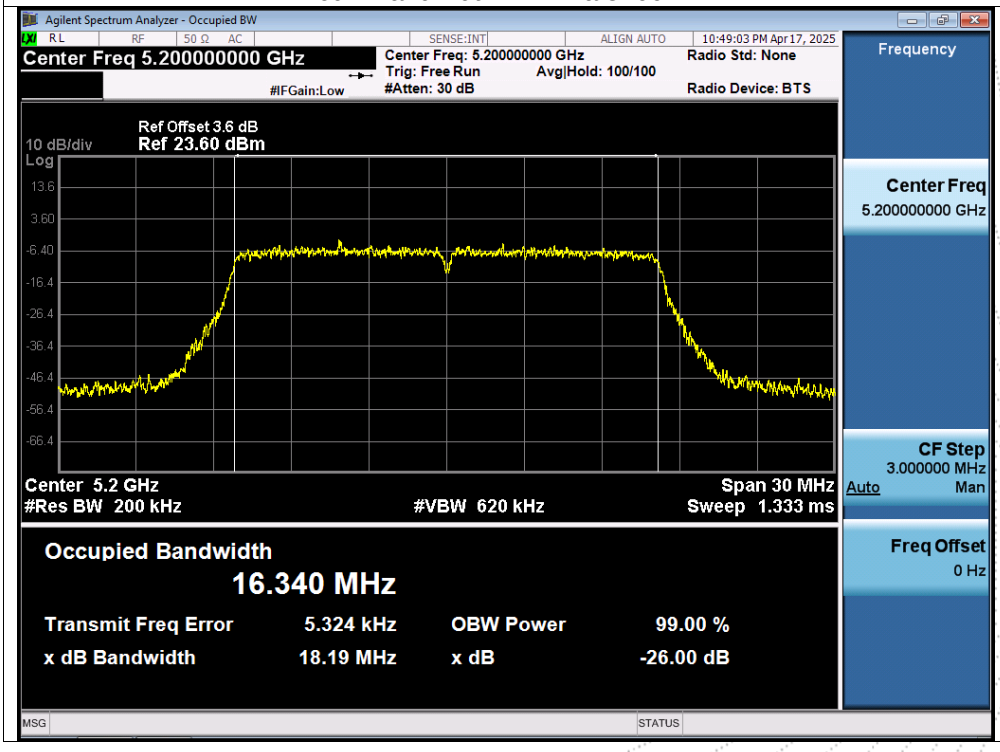
Condition	Mode	Frequency (MHz)	99% Bandwidth (MHz)	-26dB Bandwidth (MHz)	Result
NVNT	a	5180	16.33	18.317	Pass
NVNT	a	5200	16.323	18.191	Pass
NVNT	a	5240	16.332	18.237	Pass
NVNT	n20	5180	17.519	19.225	Pass
NVNT	n20	5200	17.526	19.224	Pass
NVNT	n20	5240	17.52	19.437	Pass
NVNT	n40	5190	36.08	39.025	Pass
NVNT	n40	5230	36.053	38.948	Pass
NVNT	ac20	5180	17.522	19.374	Pass
NVNT	ac20	5200	17.515	19.322	Pass
NVNT	ac20	5240	17.52	19.338	Pass
NVNT	ac40	5190	36.102	39.014	Pass
NVNT	ac40	5230	36.051	38.948	Pass
NVNT	ac80	5210	75.367	79.063	Pass
NVNT	ax20	5180	18.836	20.089	Pass
NVNT	ax20	5200	18.845	20.061	Pass
NVNT	ax20	5240	18.866	20.23	Pass
NVNT	ax40	5190	37.731	39.704	Pass
NVNT	ax40	5230	37.7	39.813	Pass
NVNT	ax80	5210	76.911	80.22	Pass

Test Graphs

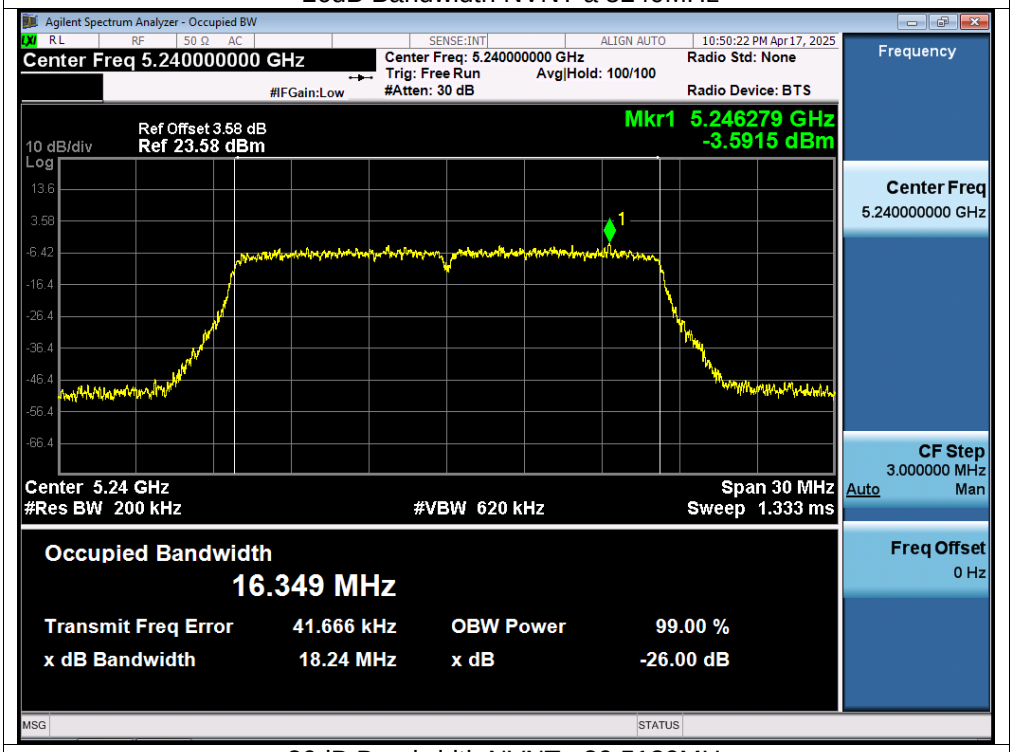
-26dB Bandwidth NVNT a 5180MHz



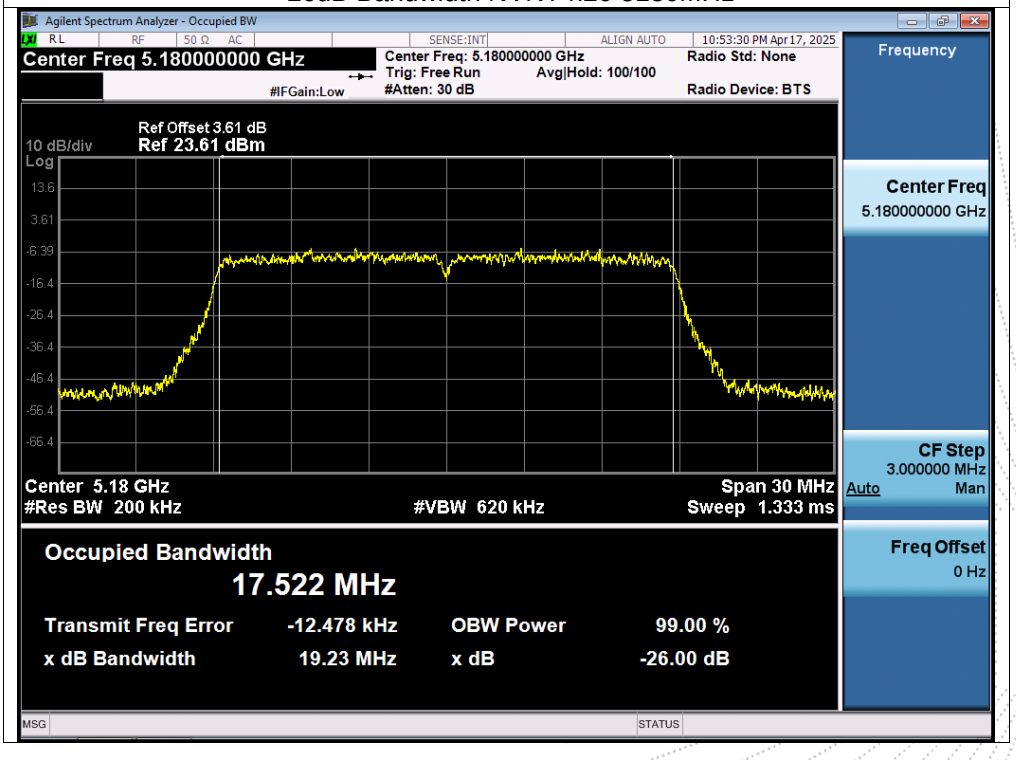
-26dB Bandwidth NVNT a 5200MHz



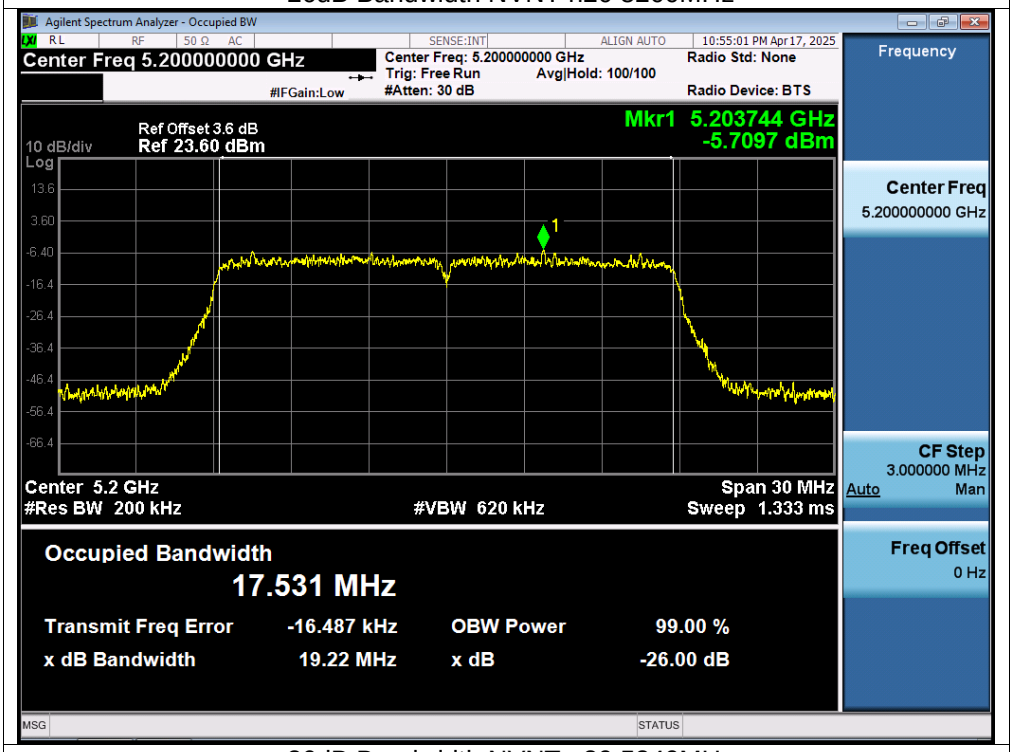
-26dB Bandwidth NVNT a 5240MHz



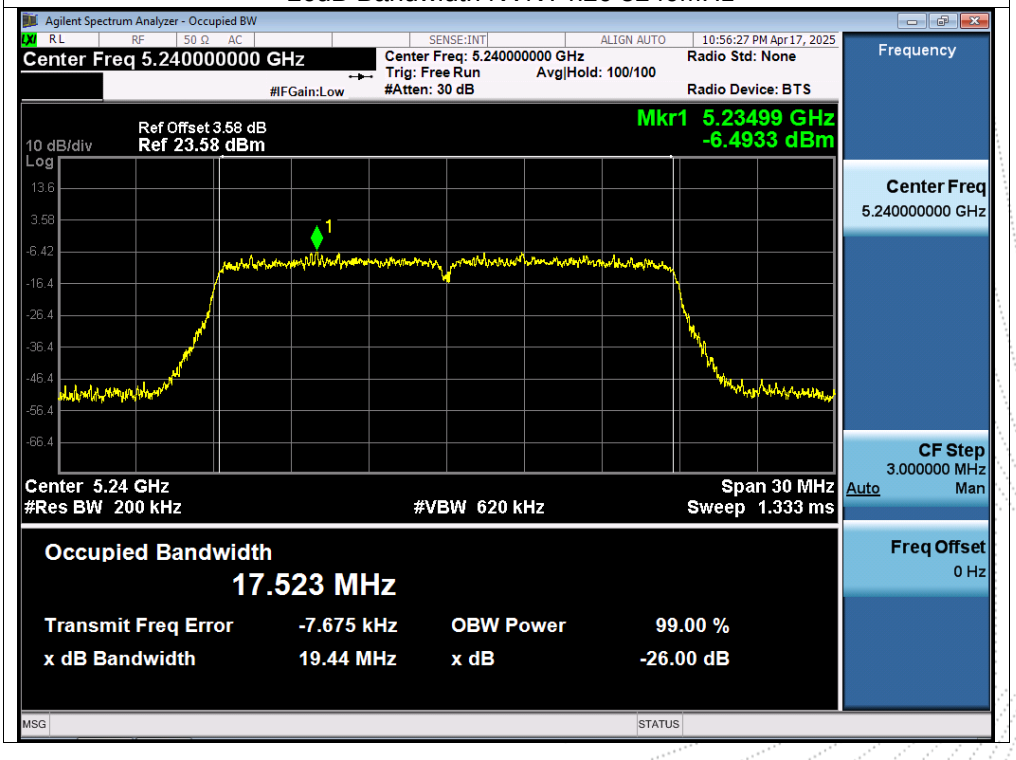
-26dB Bandwidth NVNT n20 5180MHz



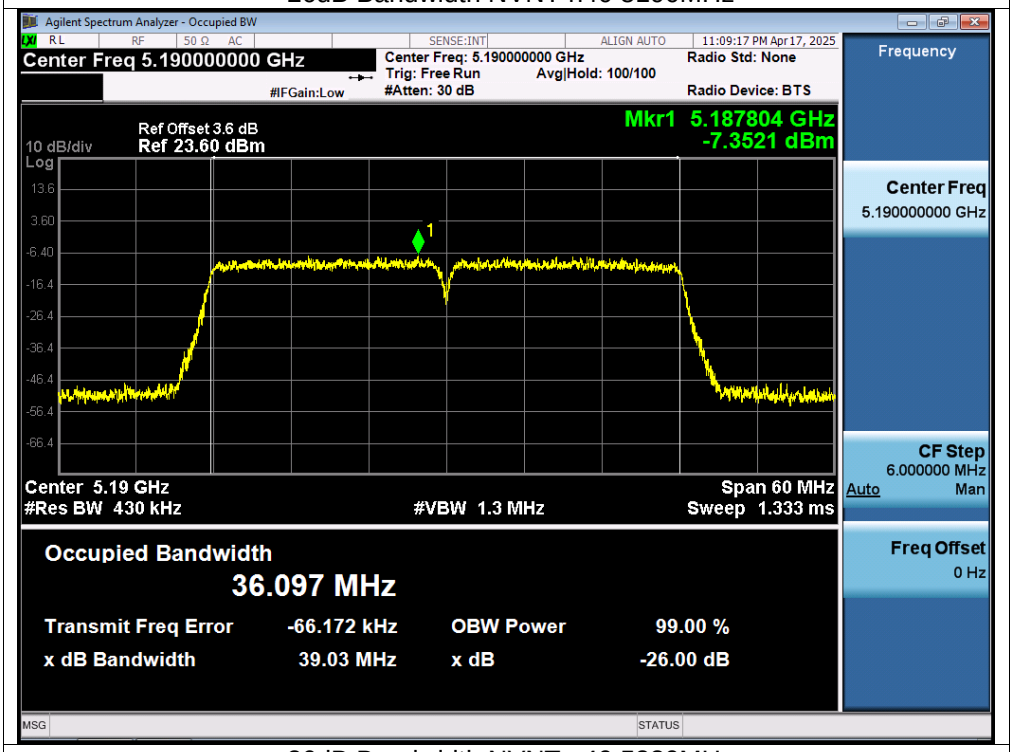
-26dB Bandwidth NVNT n20 5200MHz



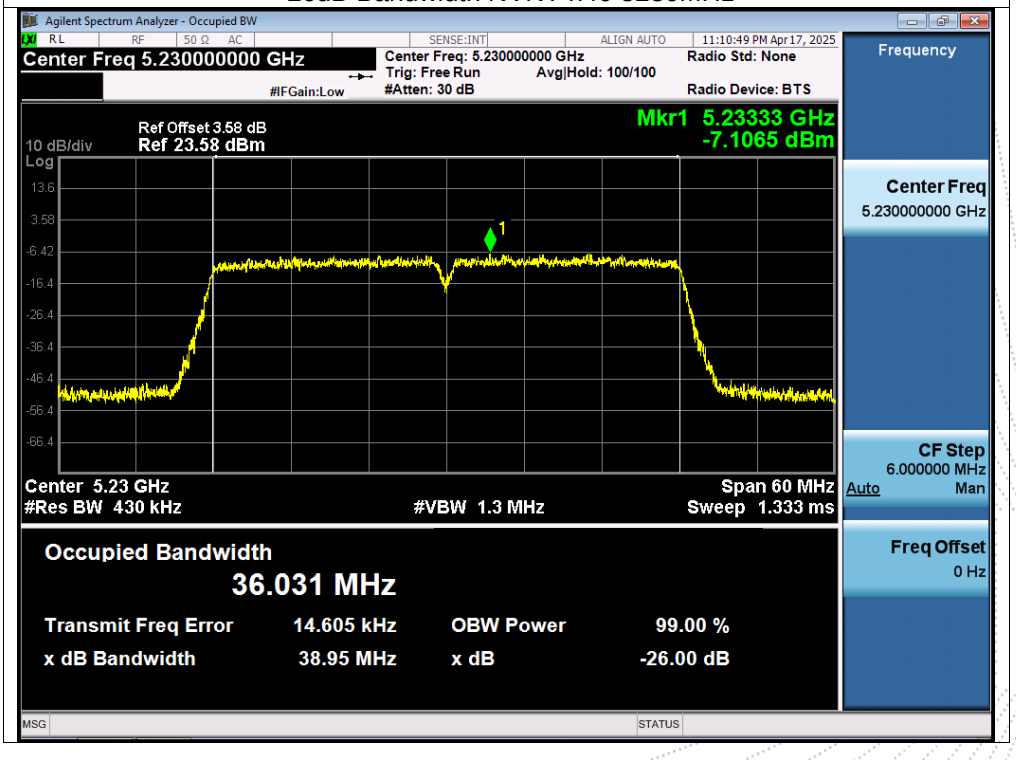
-26dB Bandwidth NVNT n20 5240MHz



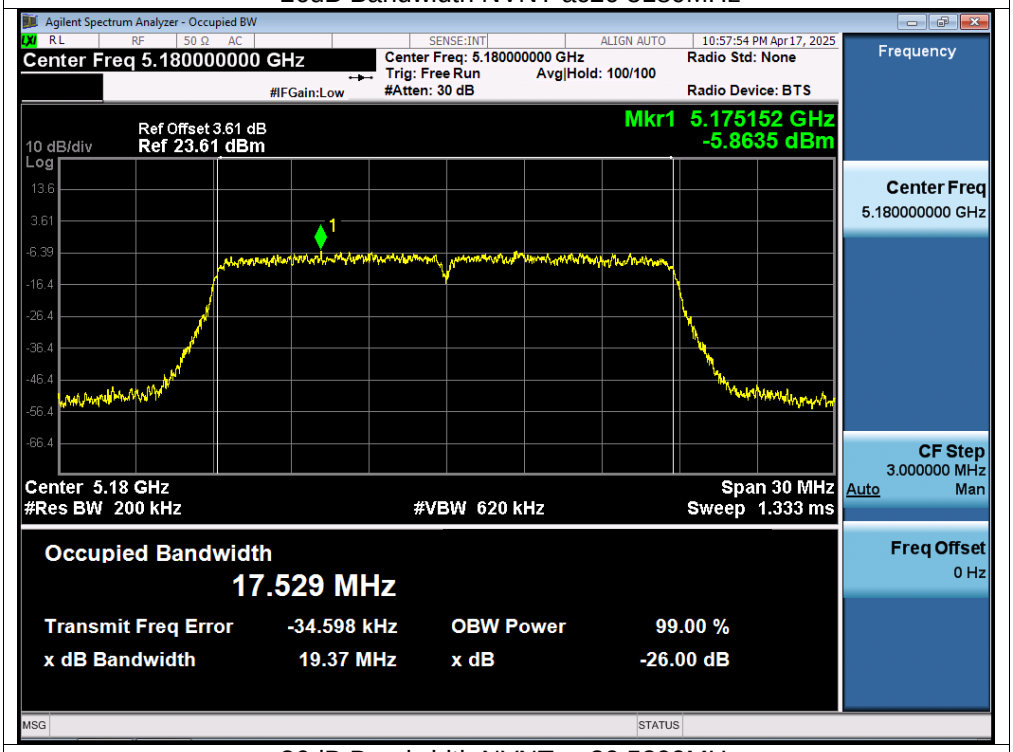
-26dB Bandwidth NVNT n40 5190MHz



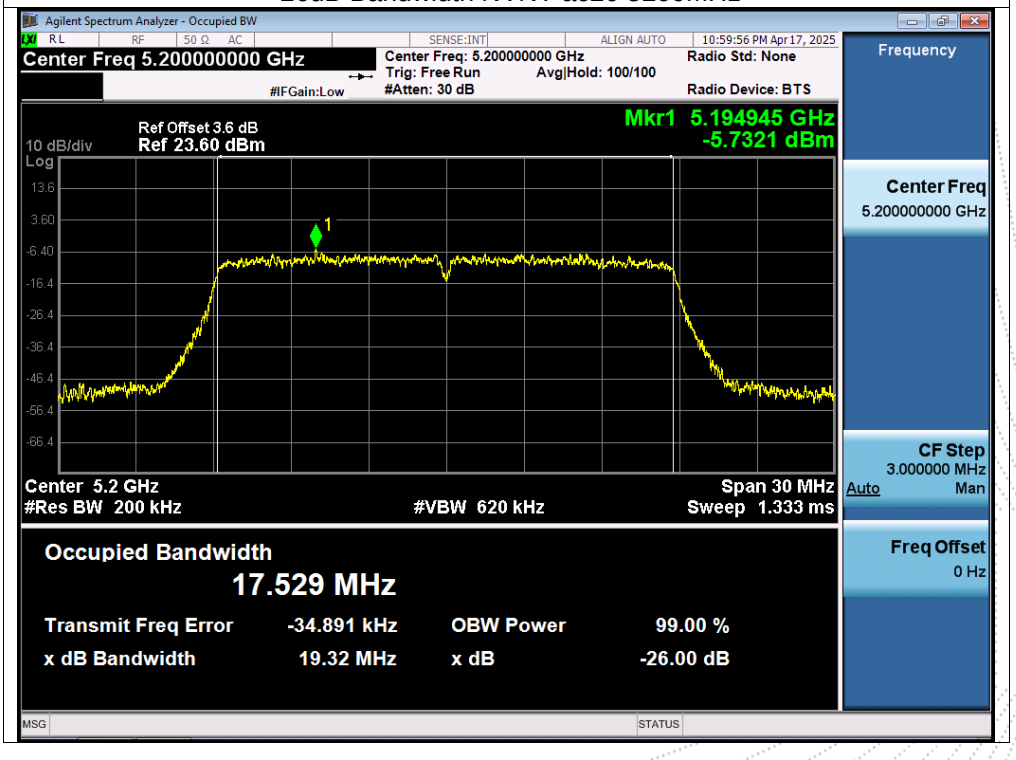
-26dB Bandwidth NVNT n40 5230MHz



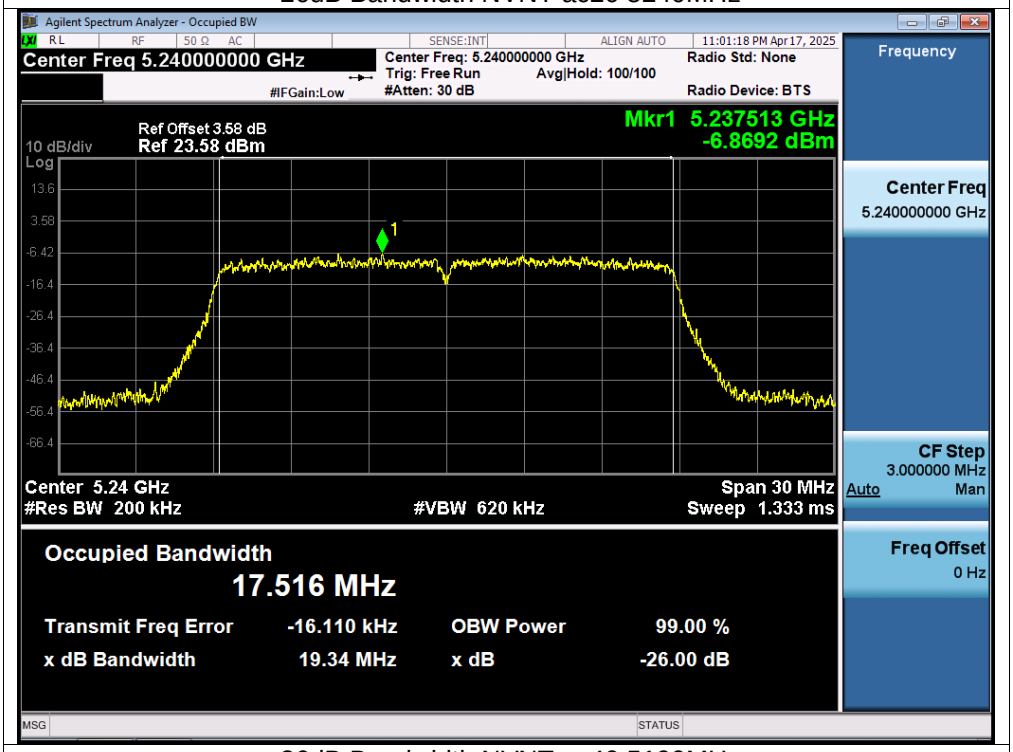
-26dB Bandwidth NVNT ac20 5180MHz



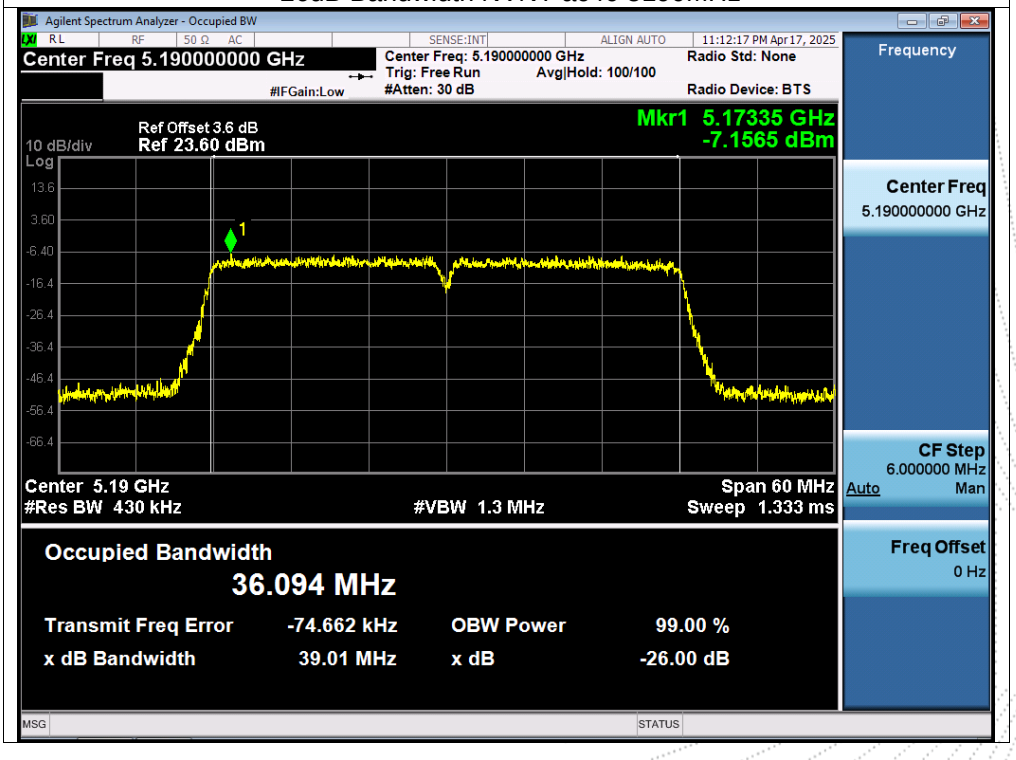
-26dB Bandwidth NVNT ac20 5200MHz



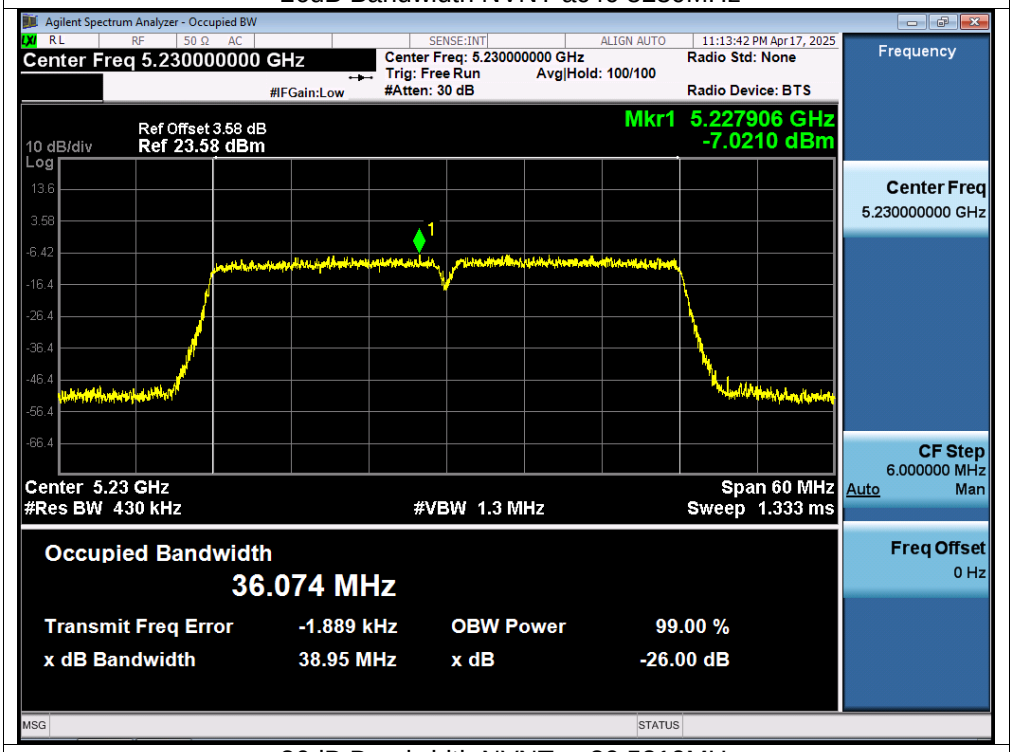
-26dB Bandwidth NVNT ac20 5240MHz



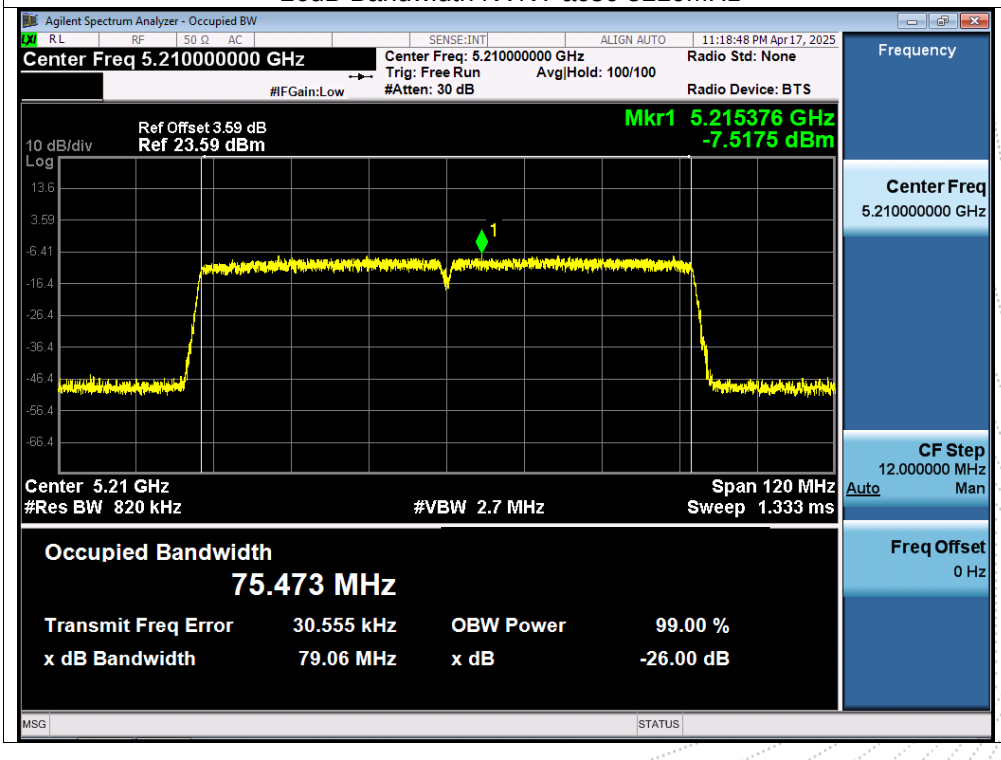
-26dB Bandwidth NVNT ac40 5190MHz



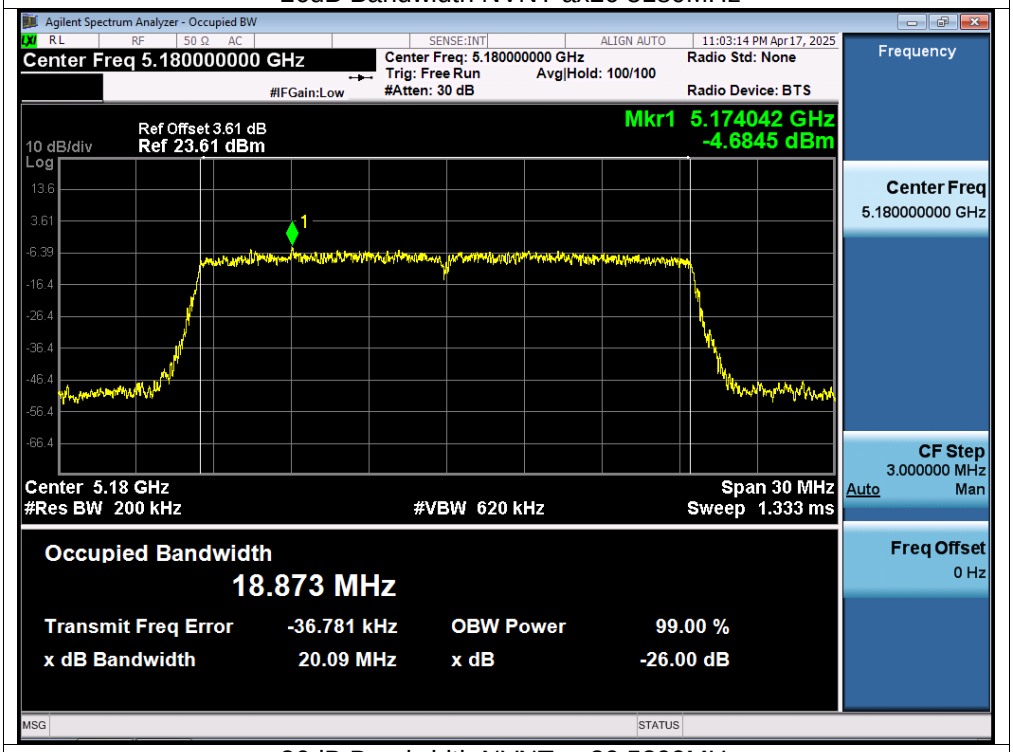
-26dB Bandwidth NVNT ac40 5230MHz



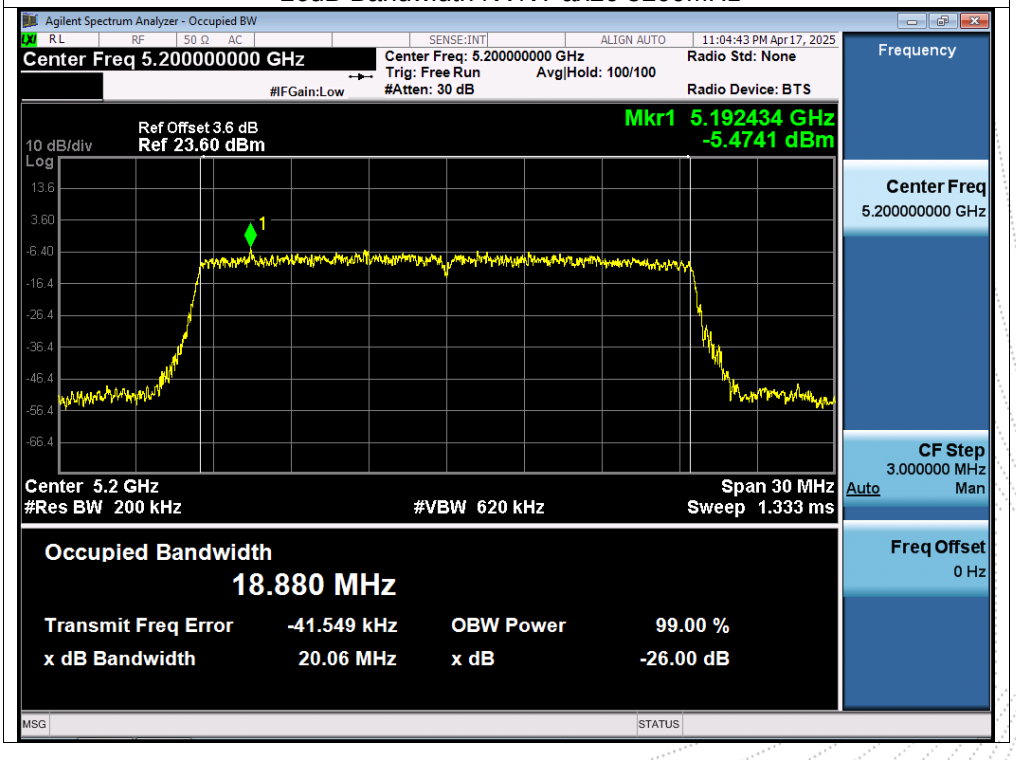
-26dB Bandwidth NVNT ac80 5210MHz



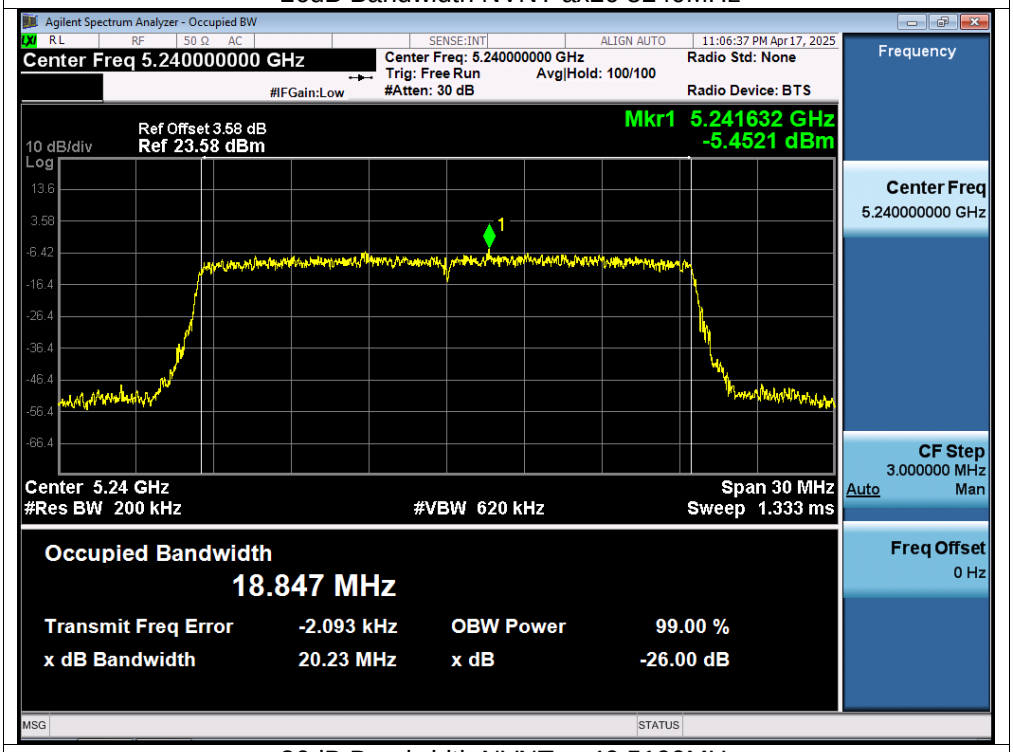
-26dB Bandwidth NVNT ax20 5180MHz



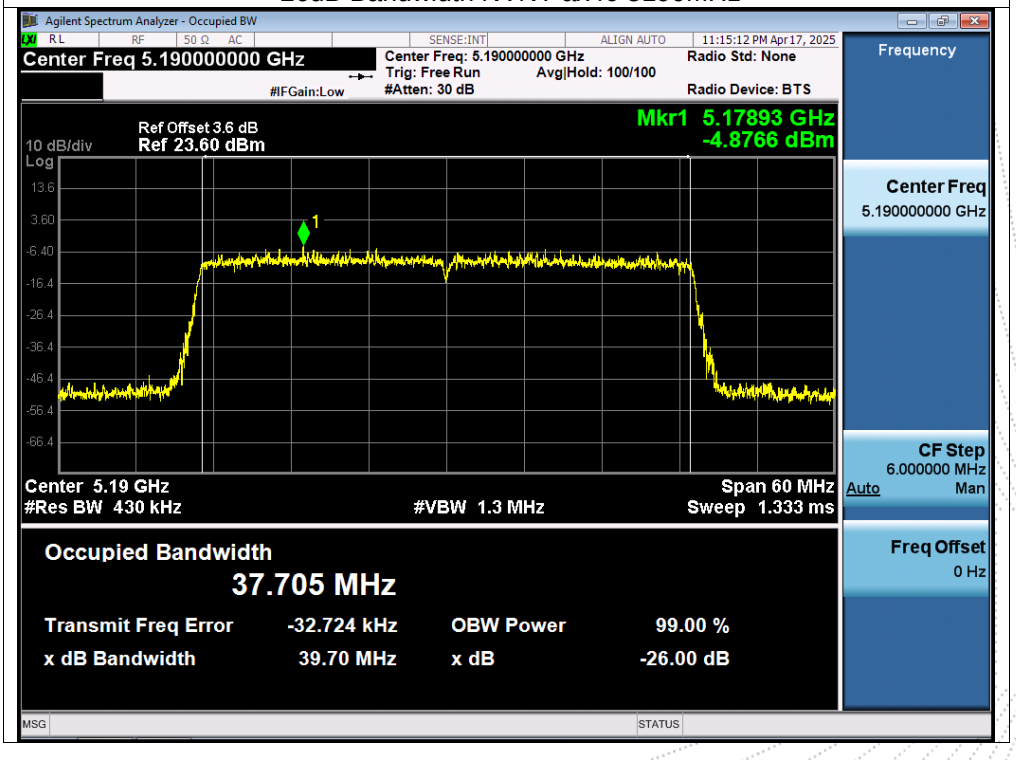
-26dB Bandwidth NVNT ax20 5200MHz



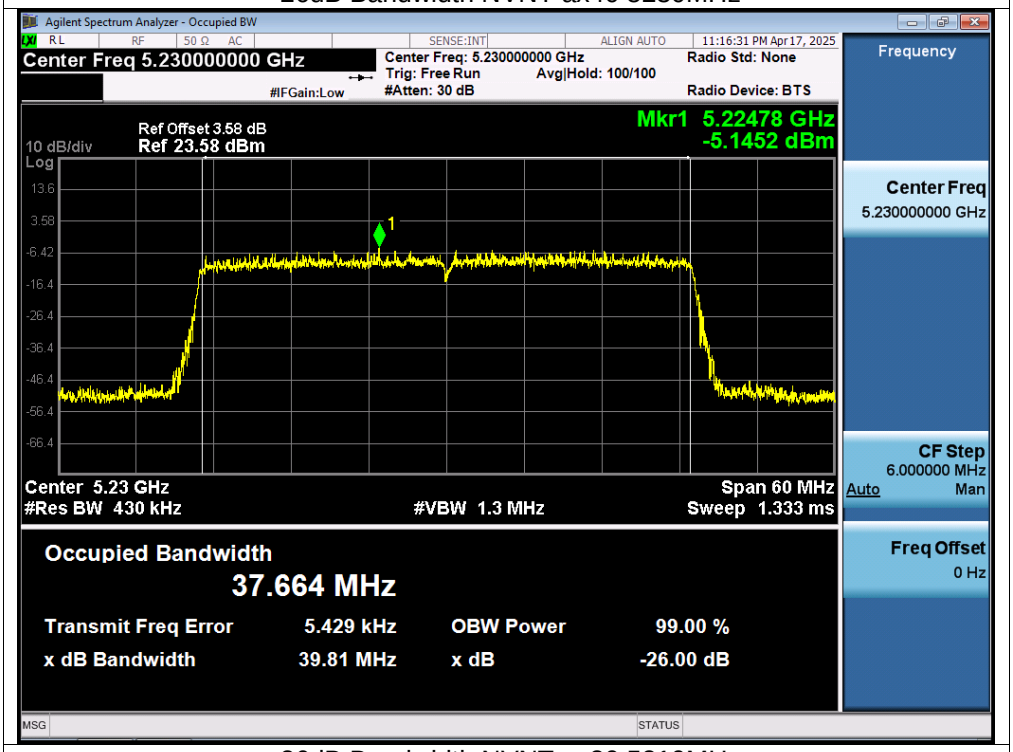
-26dB Bandwidth NVNT ax20 5240MHz



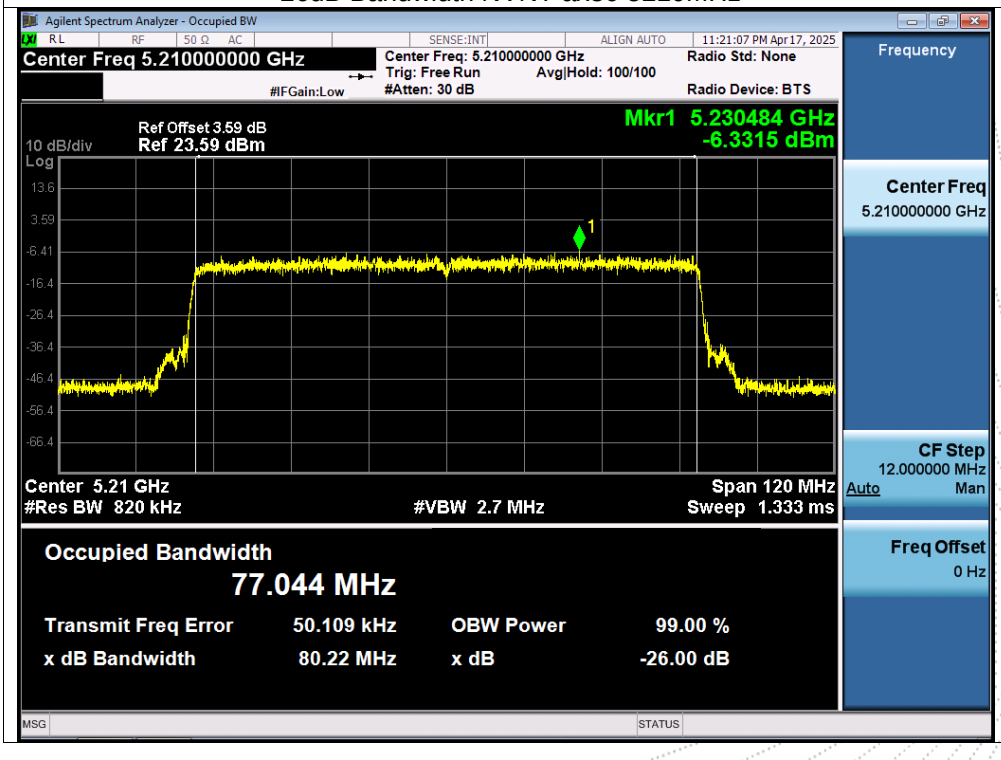
-26dB Bandwidth NVNT ax40 5190MHz



-26dB Bandwidth NVNT ax40 5230MHz

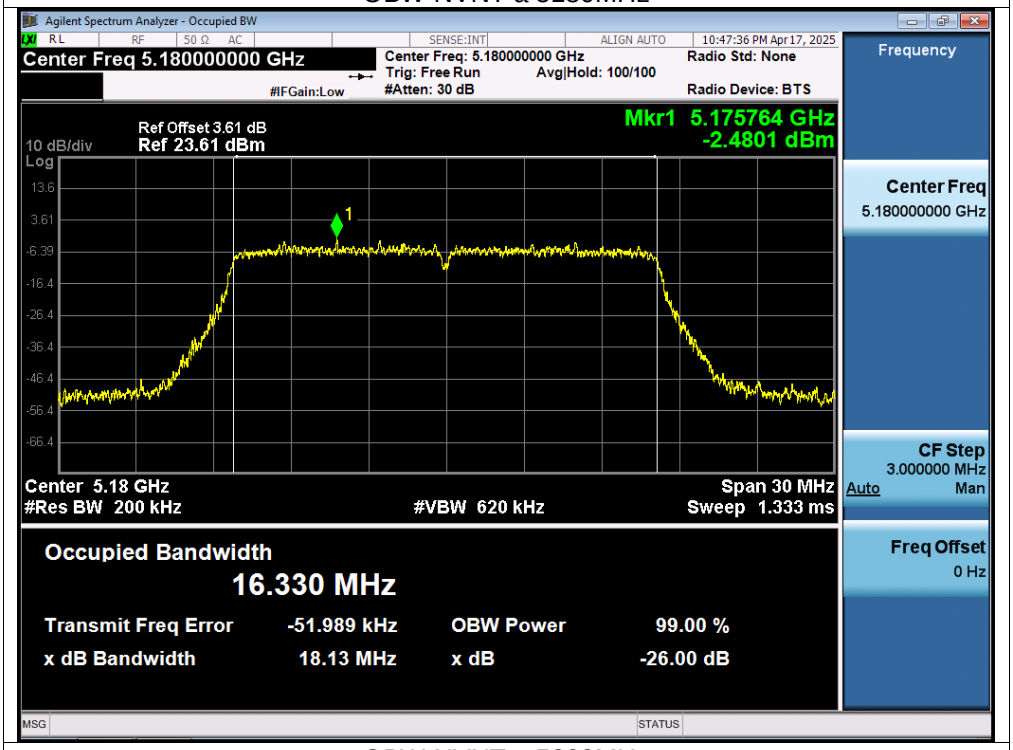


-26dB Bandwidth NVNT ax80 5210MHz

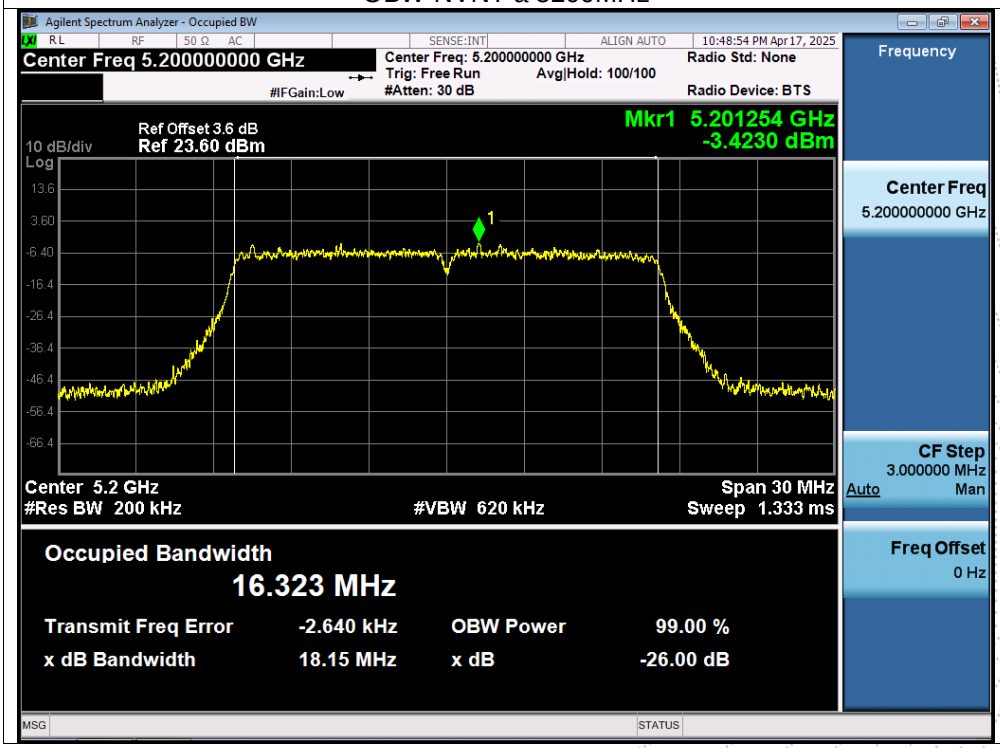


Test Graphs

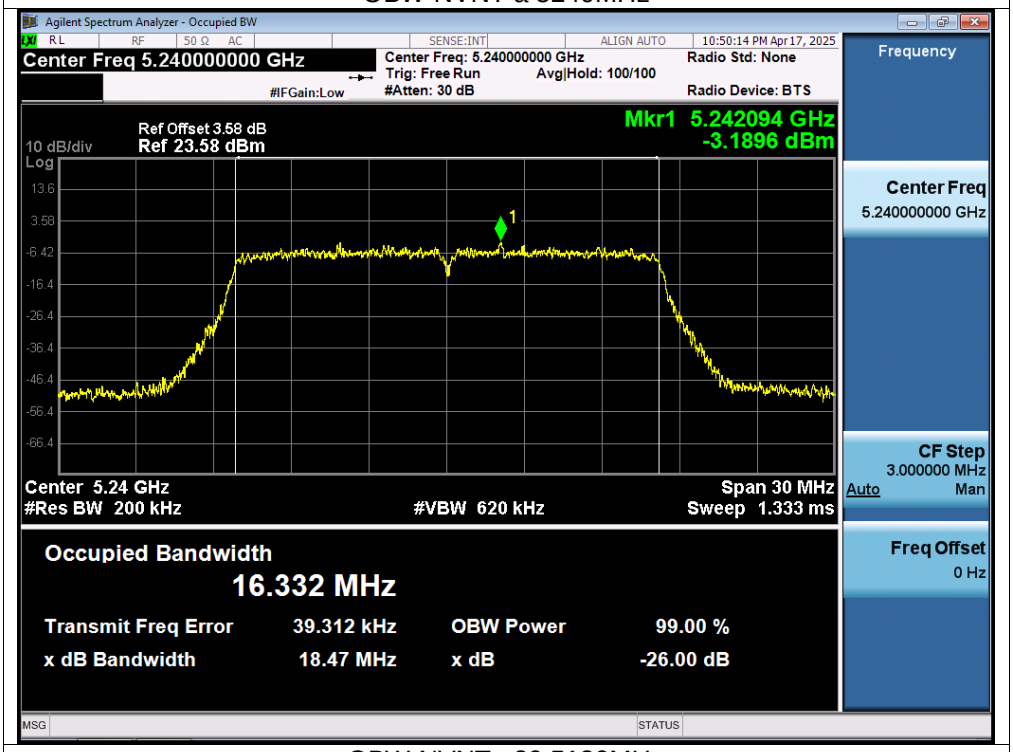
OBW NVNT a 5180MHz



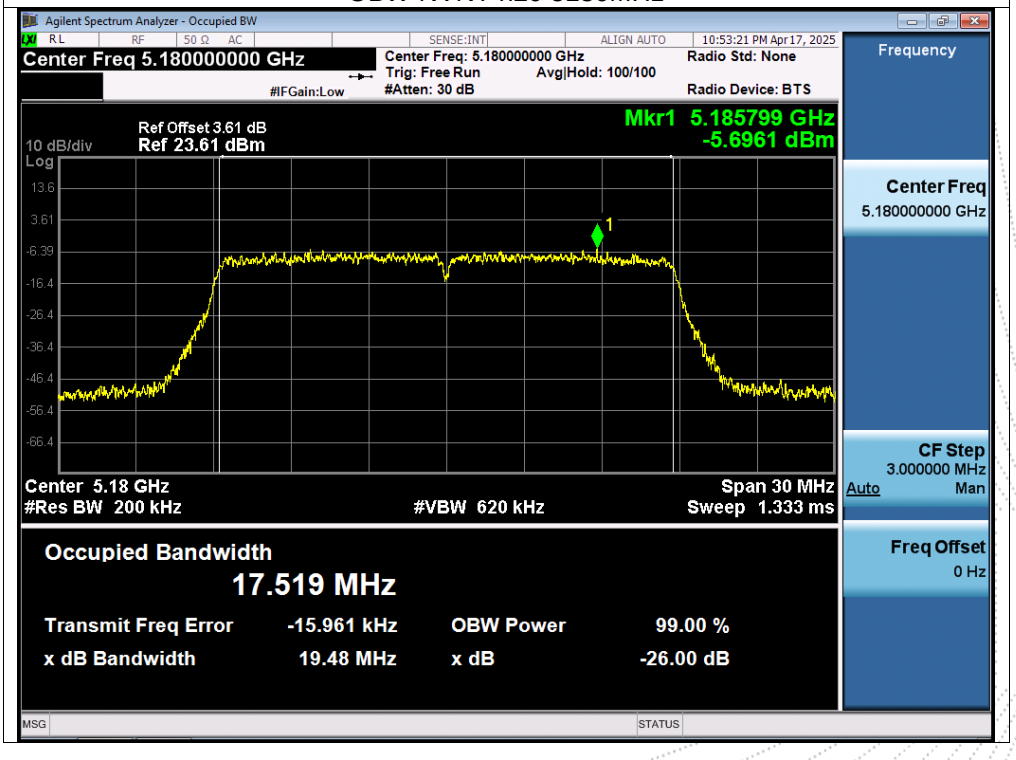
OBW NVNT a 5200MHz



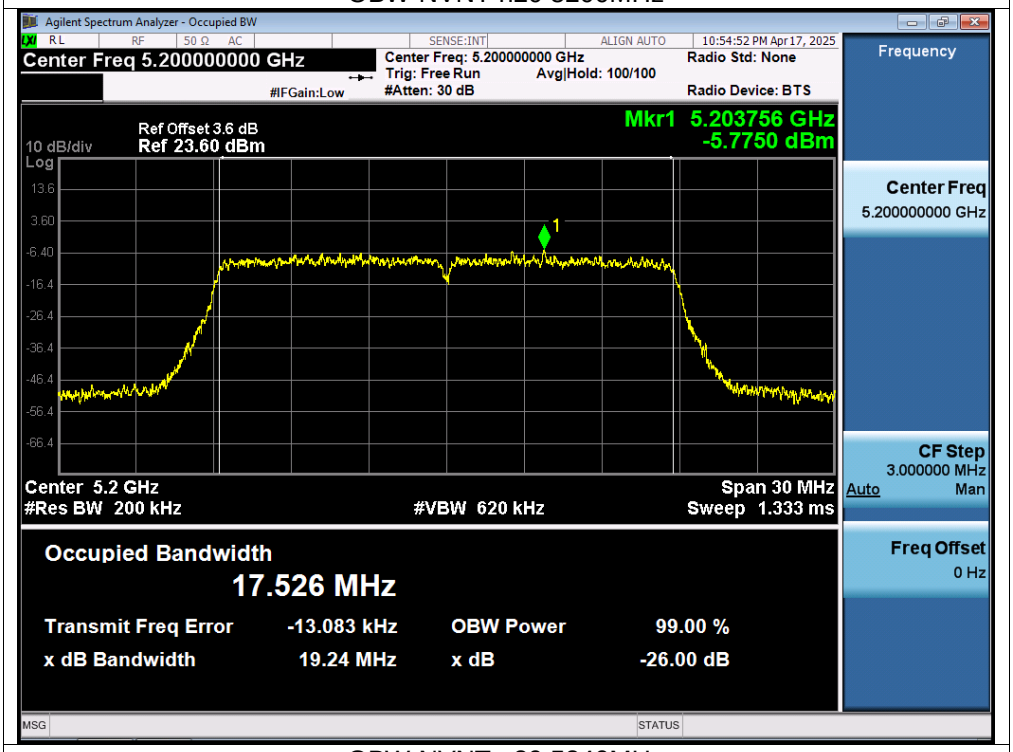
OBW NVNT a 5240MHz



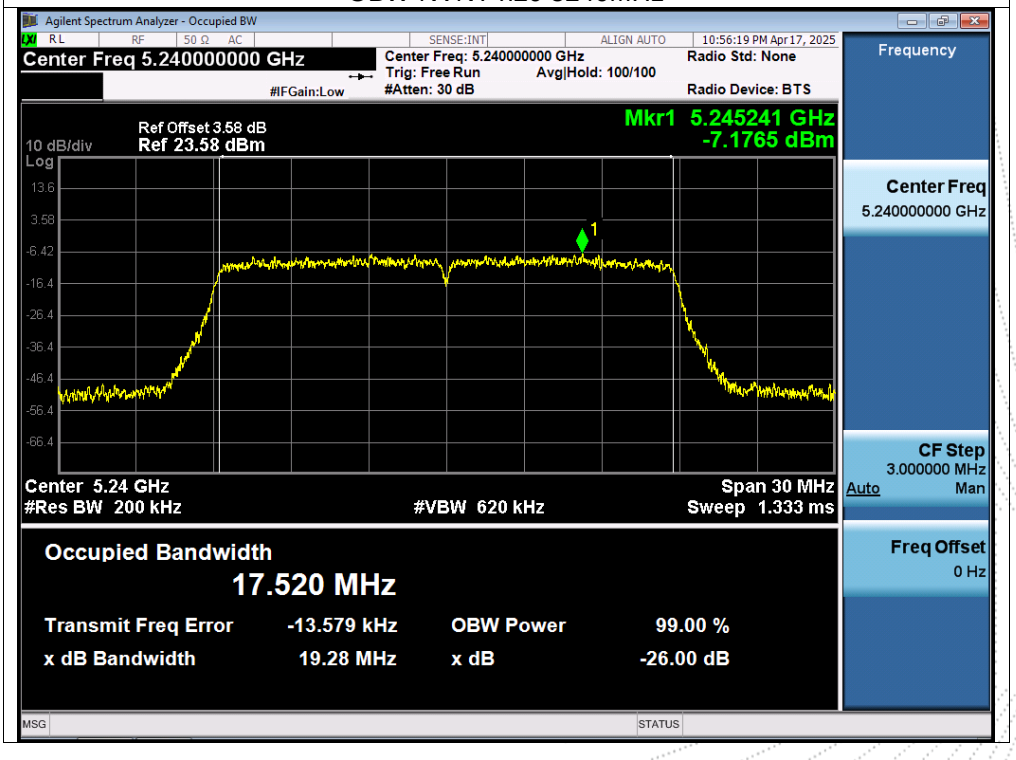
OBW NVNT n20 5180MHz



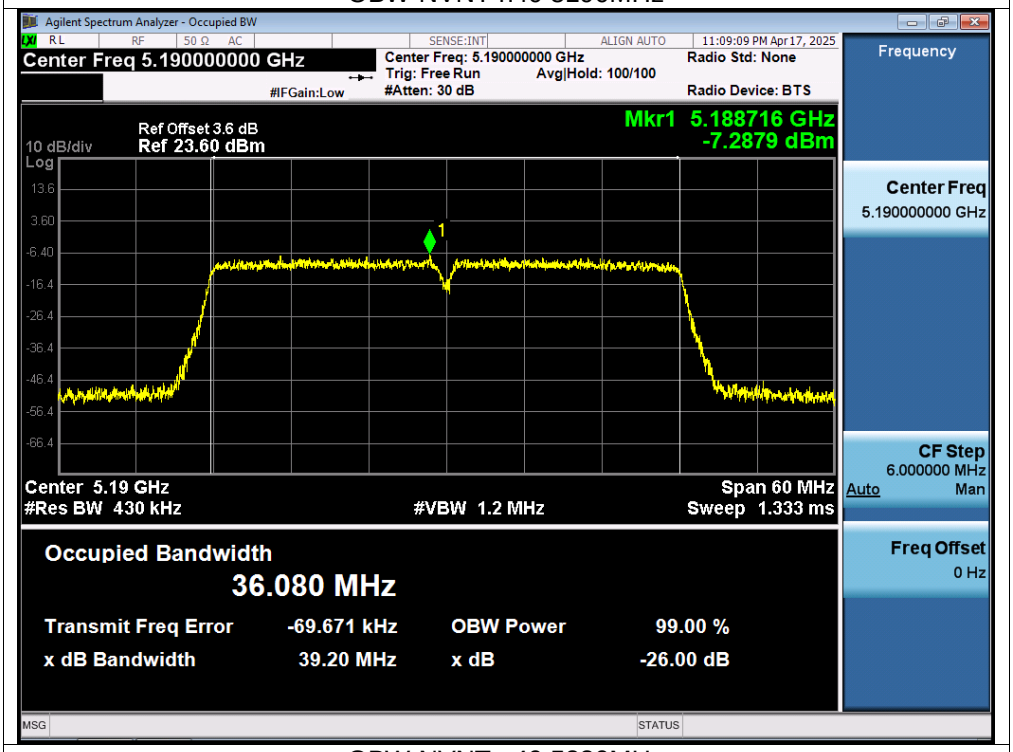
OBW NVNT n20 5200MHz



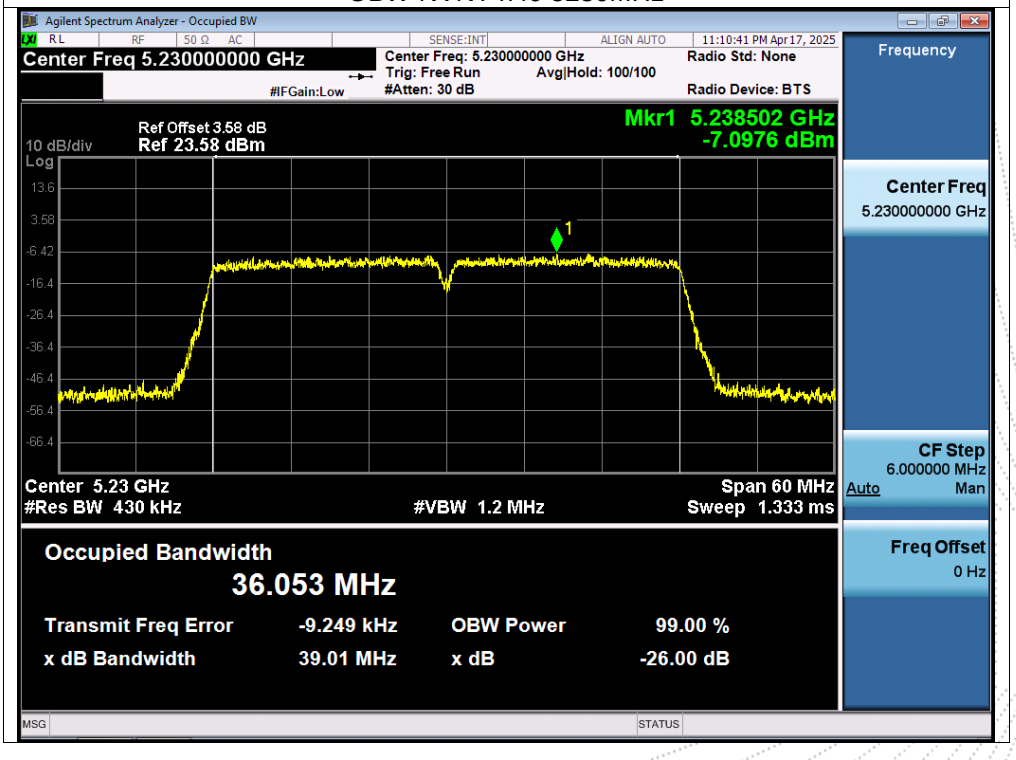
OBW NVNT n20 5240MHz



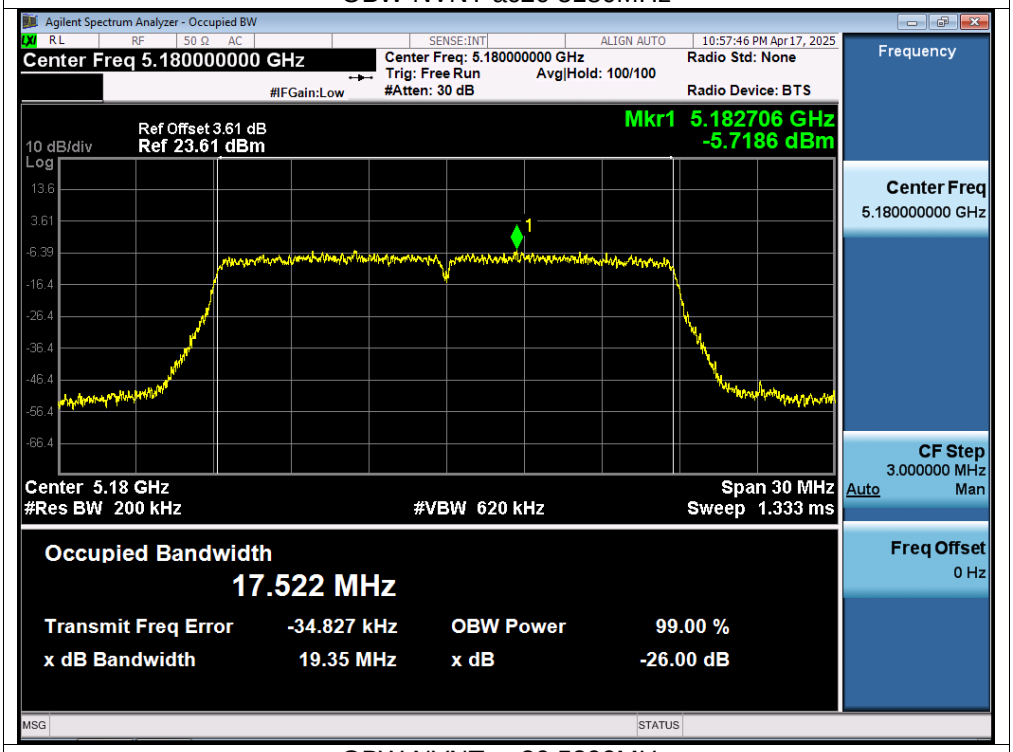
OBW NVNT n40 5190MHz



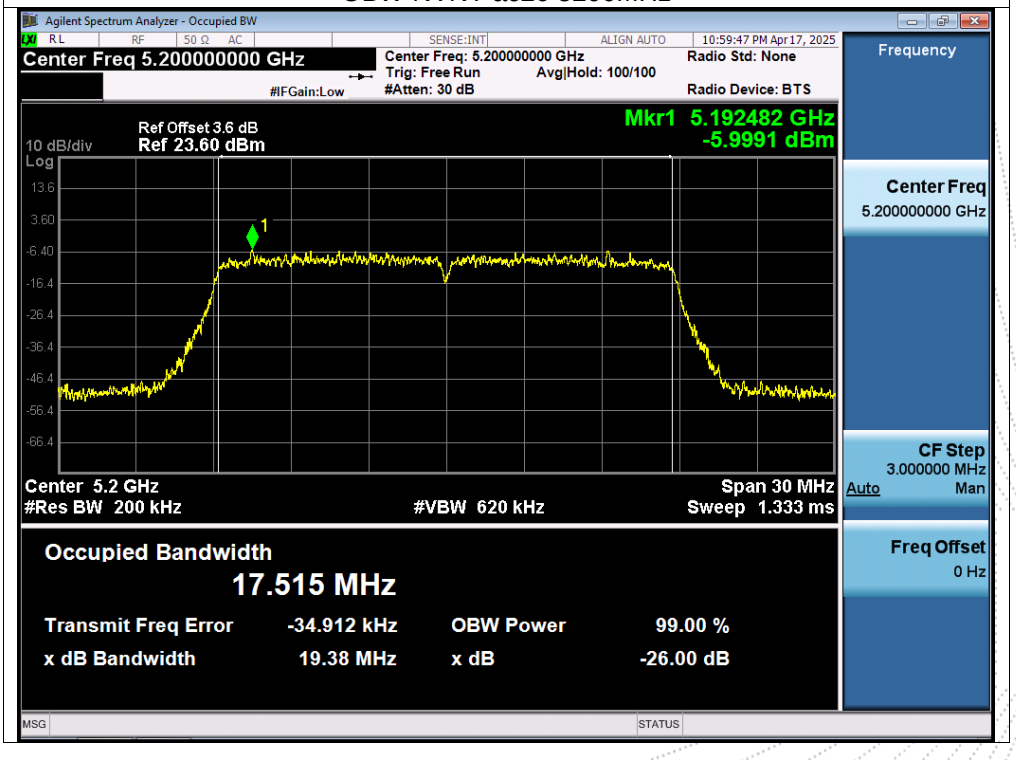
OBW NVNT n40 5230MHz



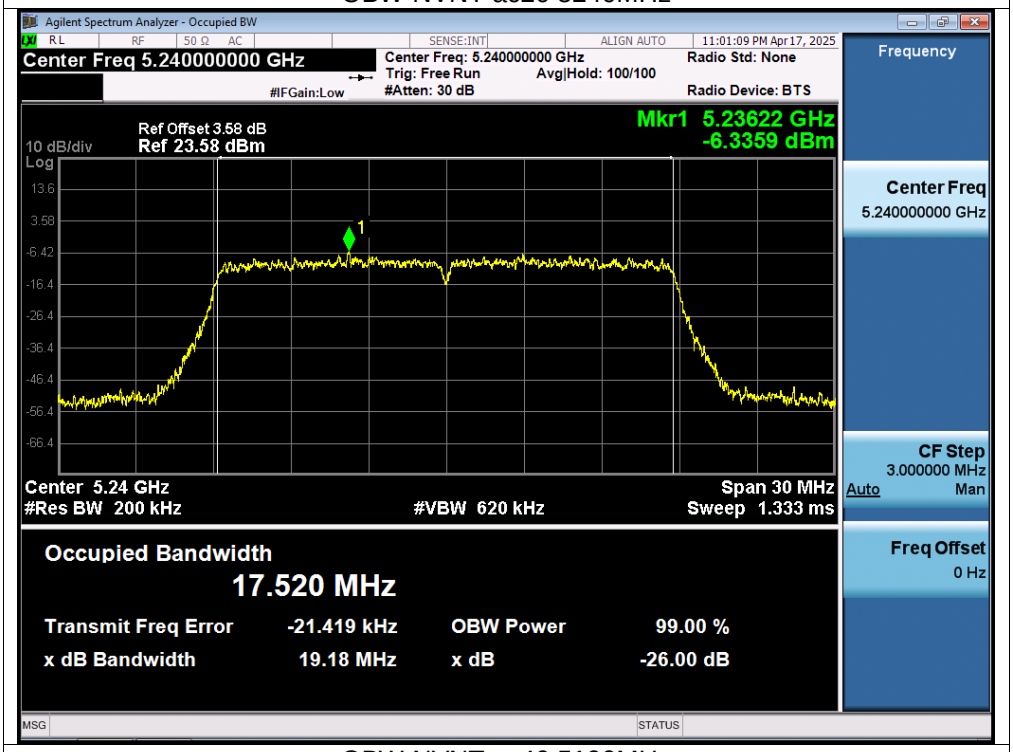
OBW NVNT ac20 5180MHz



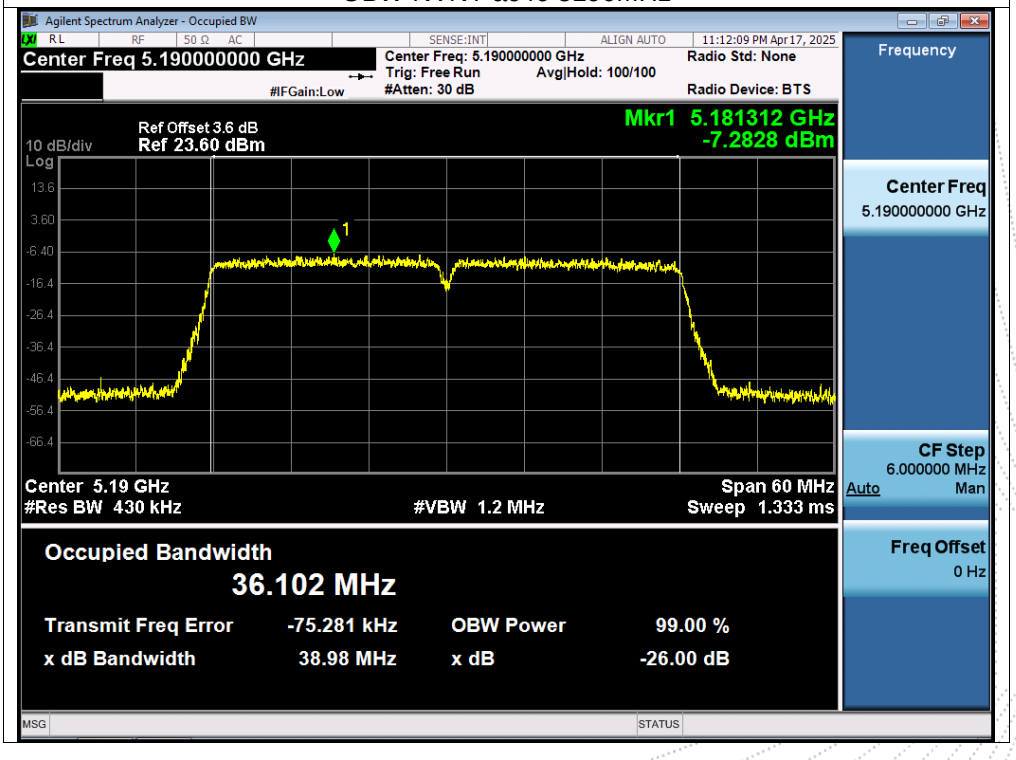
OBW NVNT ac20 5200MHz



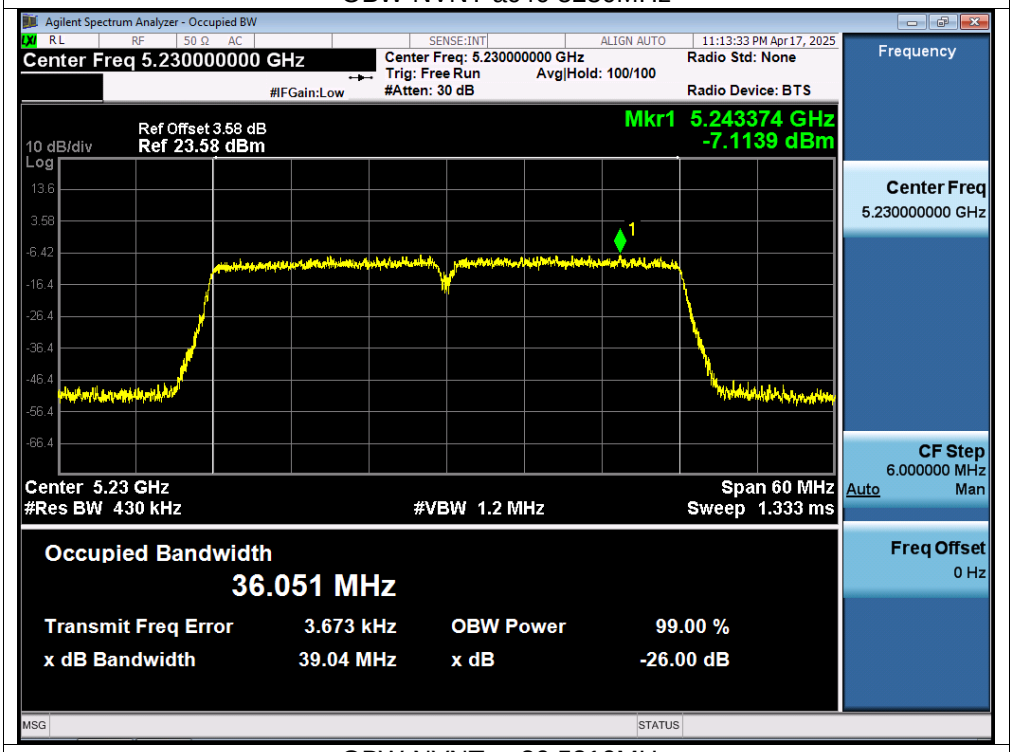
OBW NVNT ac20 5240MHz



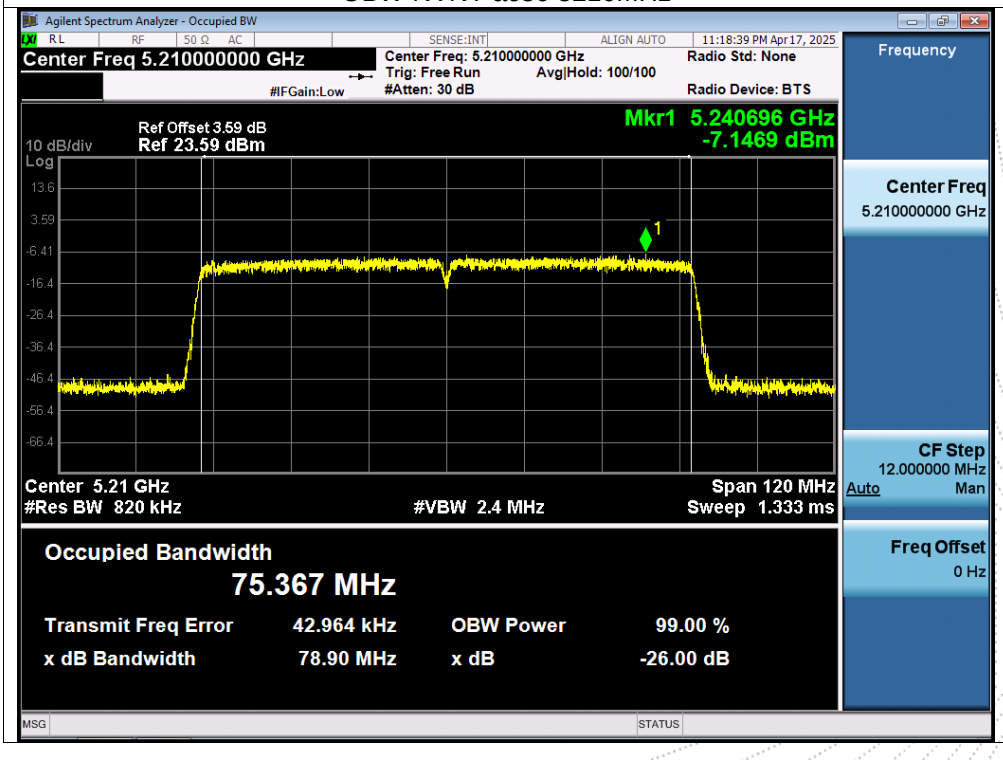
OBW NVNT ac40 5190MHz



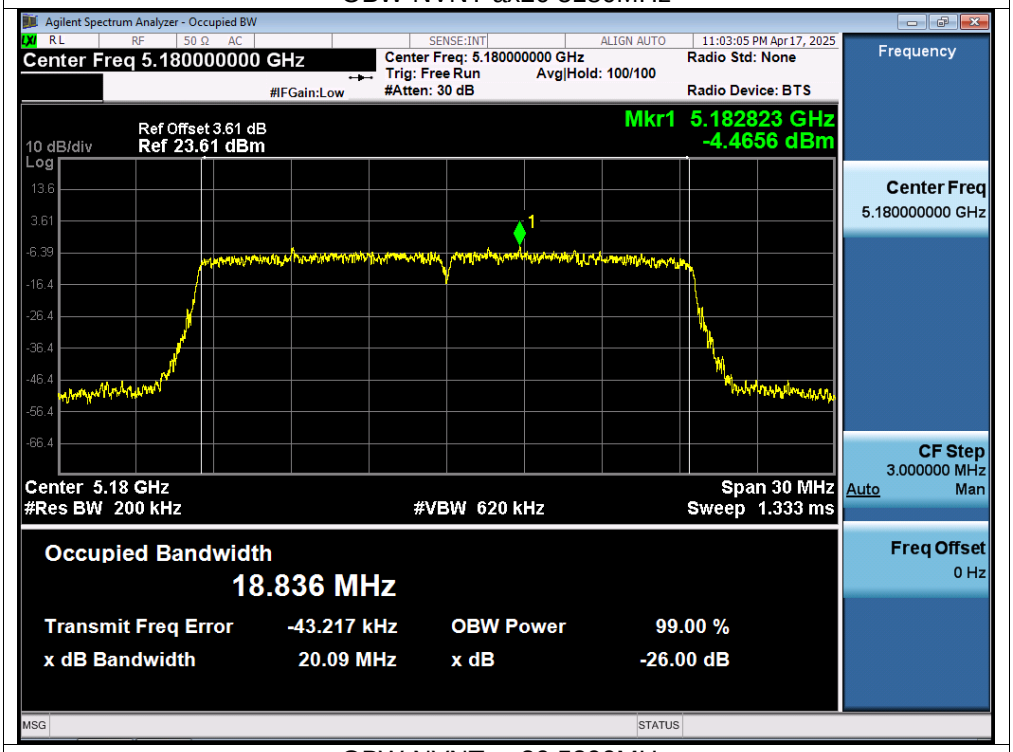
OBW NVNT ac40 5230MHz



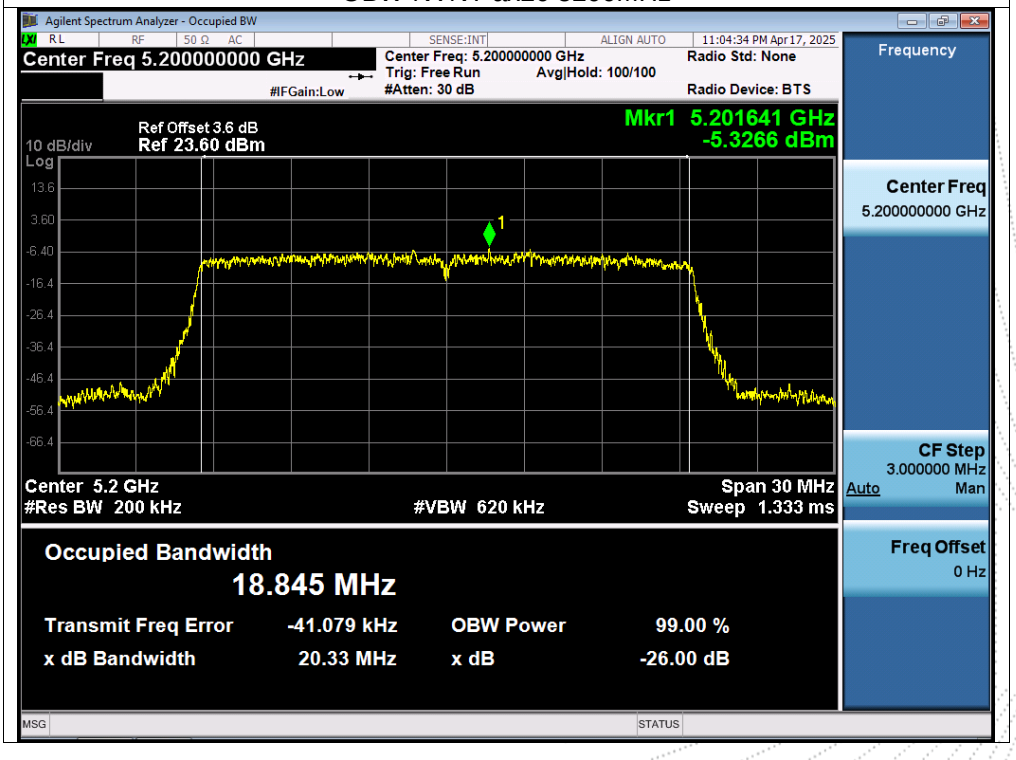
OBW NVNT ac80 5210MHz



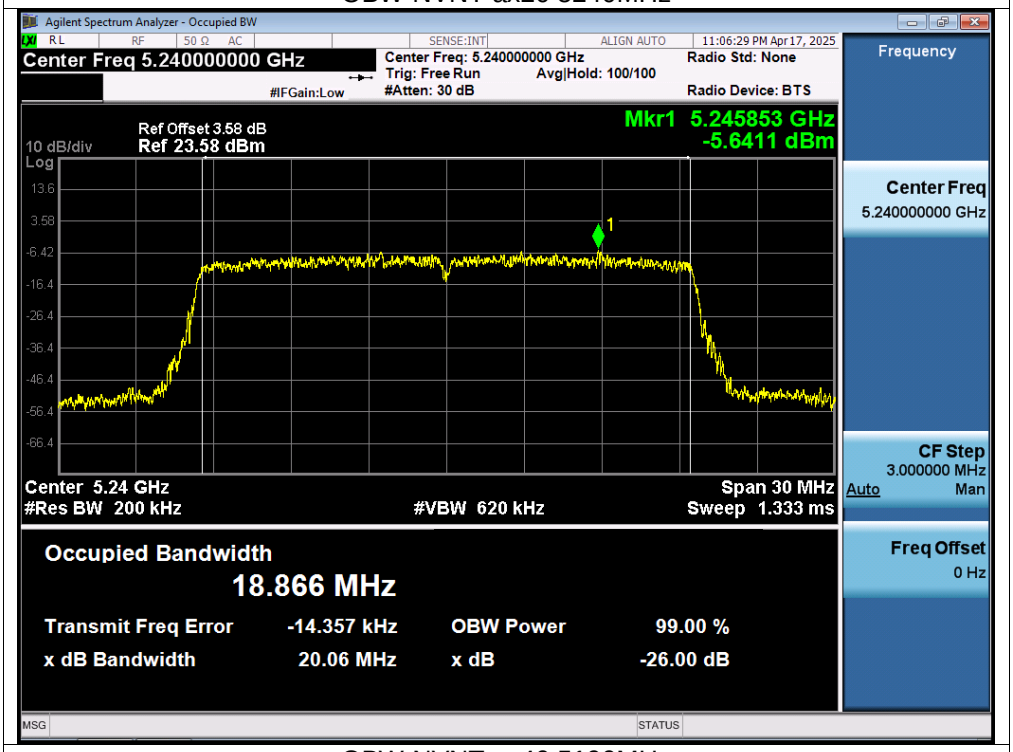
OBW NVNT ax20 5180MHz



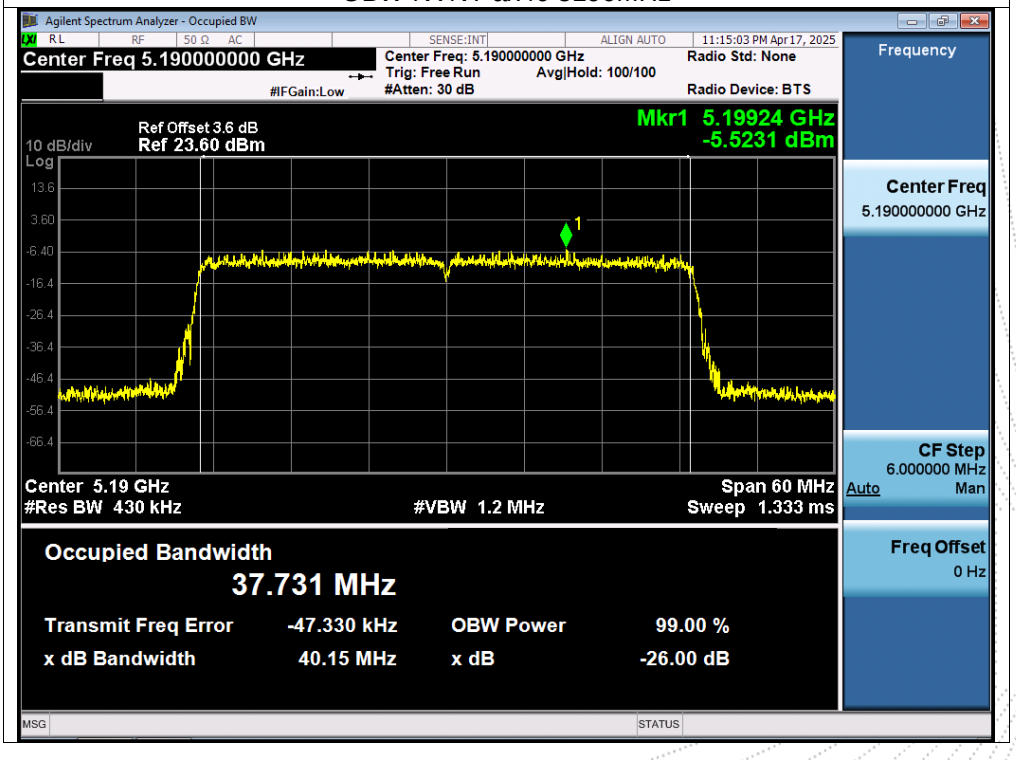
OBW NVNT ax20 5200MHz



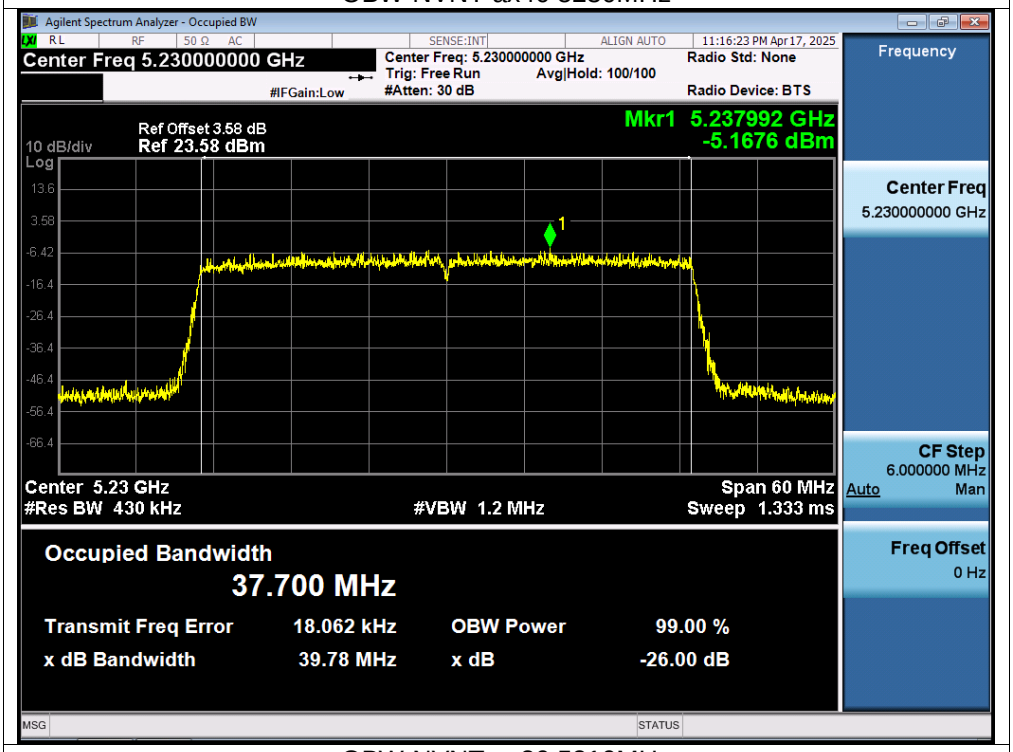
OBW NVNT ax20 5240MHz



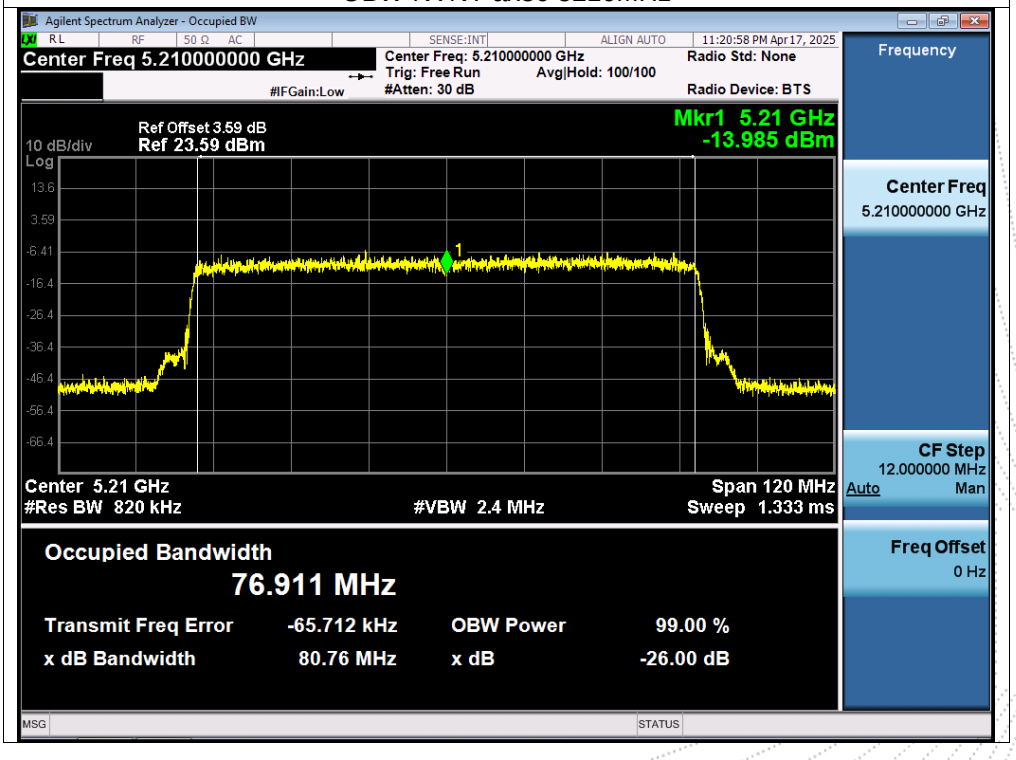
OBW NVNT ax40 5190MHz



OBW NVNT ax40 5230MHz



OBW NVNT ax80 5210MHz

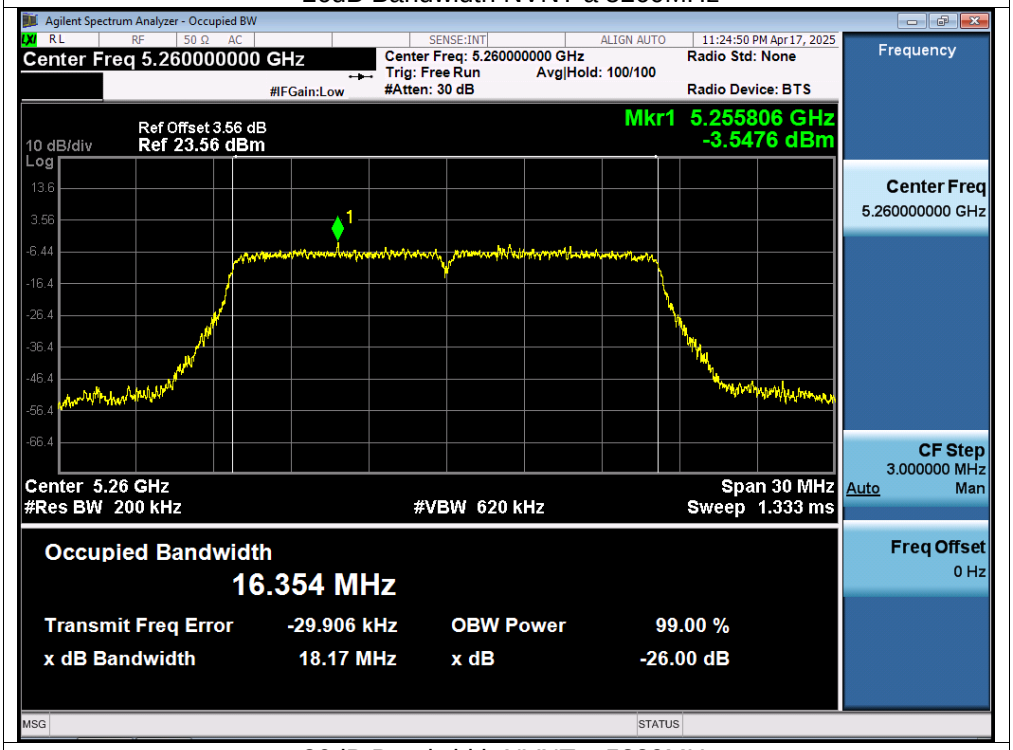


Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	(U-NII-2A) 5260MHz-5320MHz		

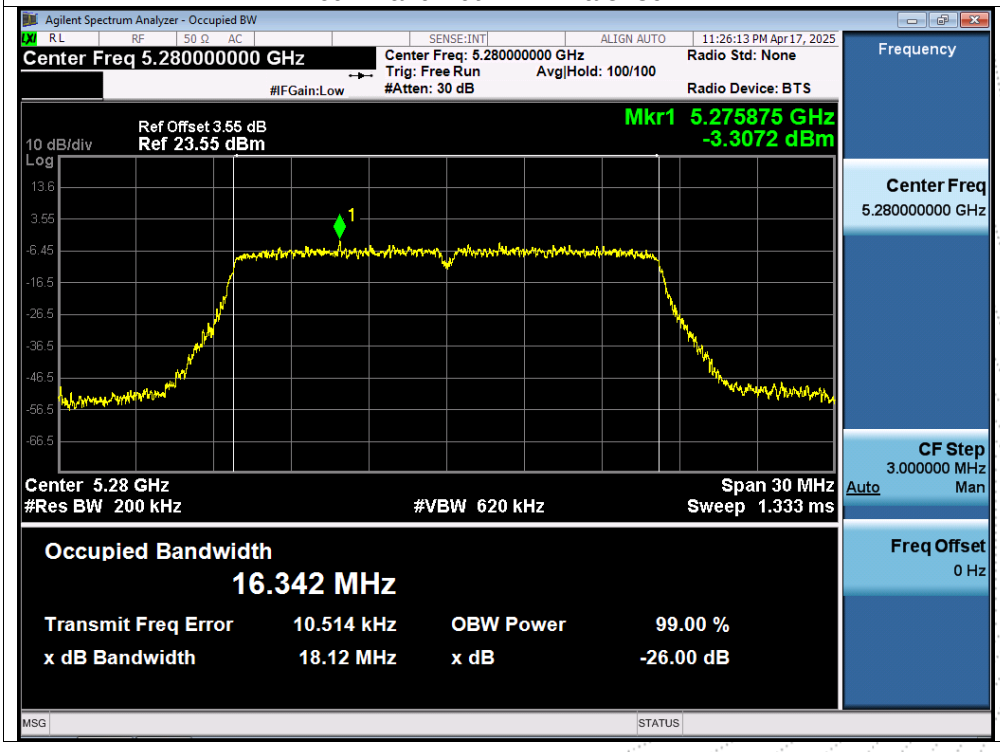
Condition	Mode	Frequency (MHz)	99% Bandwidth (MHz)	26dB Bandwidth (MHz)	Result
NVNT	a	5260	16.358	18.173	Pass
NVNT	a	5280	16.327	18.122	Pass
NVNT	a	5320	16.324	18.191	Pass
NVNT	n20	5260	17.504	19.444	Pass
NVNT	n20	5280	17.51	19.21	Pass
NVNT	n20	5320	17.512	19.233	Pass
NVNT	n40	5270	36.048	38.901	Pass
NVNT	n40	5310	36.005	38.737	Pass
NVNT	ac20	5260	17.521	19.255	Pass
NVNT	ac20	5280	17.506	19.288	Pass
NVNT	ac20	5320	17.516	19.265	Pass
NVNT	ac40	5270	36.071	38.882	Pass
NVNT	ac40	5310	36.032	39.092	Pass
NVNT	ac80	5290	75.354	79.243	Pass
NVNT	ax20	5260	18.859	20.152	Pass
NVNT	ax20	5280	18.857	20.285	Pass
NVNT	ax20	5320	18.865	20.088	Pass
NVNT	ax40	5270	37.752	39.884	Pass
NVNT	ax40	5310	37.688	40.118	Pass
NVNT	ax80	5290	76.741	79.931	Pass

Test Graphs

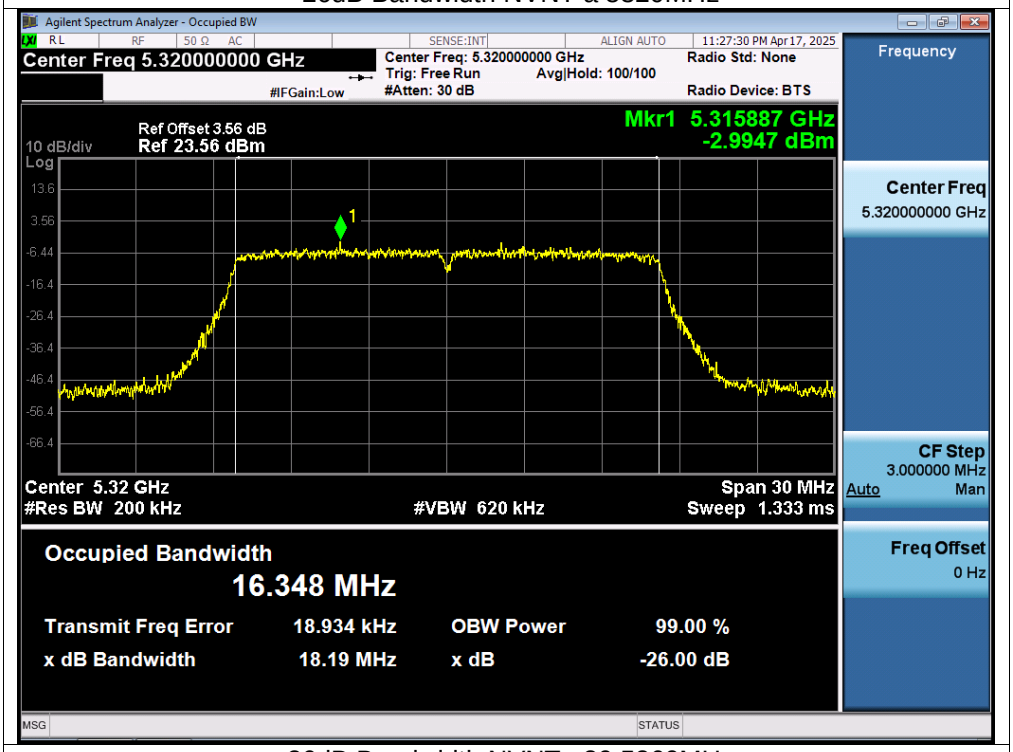
-26dB Bandwidth NVNT a 5260MHz



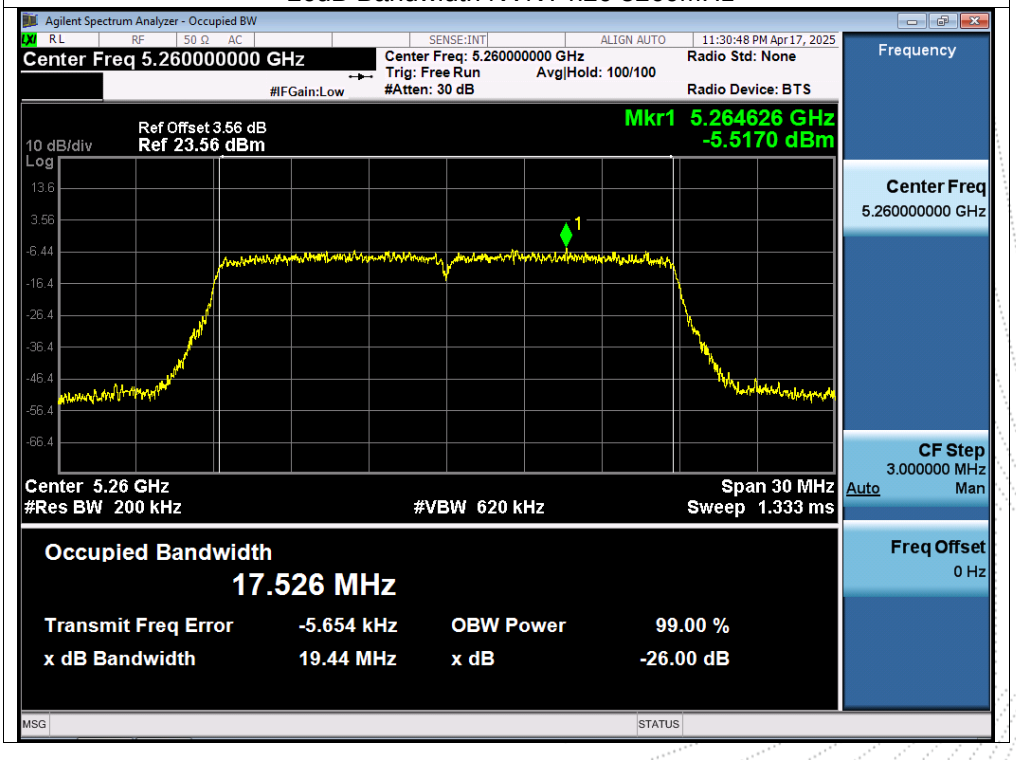
-26dB Bandwidth NVNT a 5280MHz



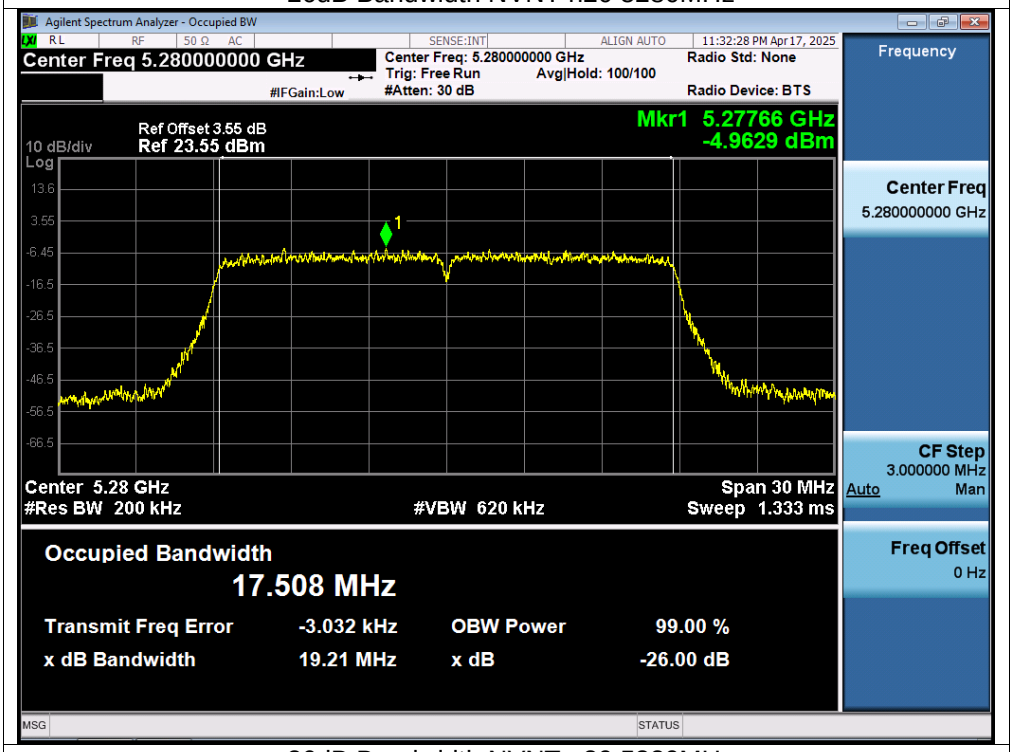
-26dB Bandwidth NVNT a 5320MHz



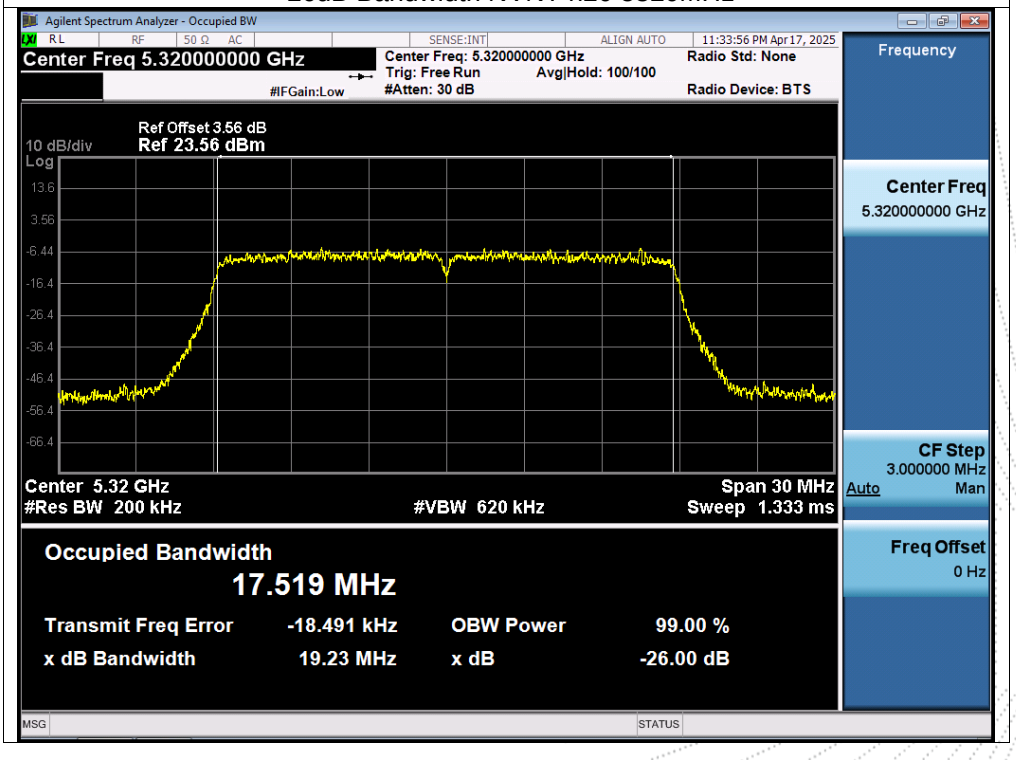
-26dB Bandwidth NVNT n20 5260MHz



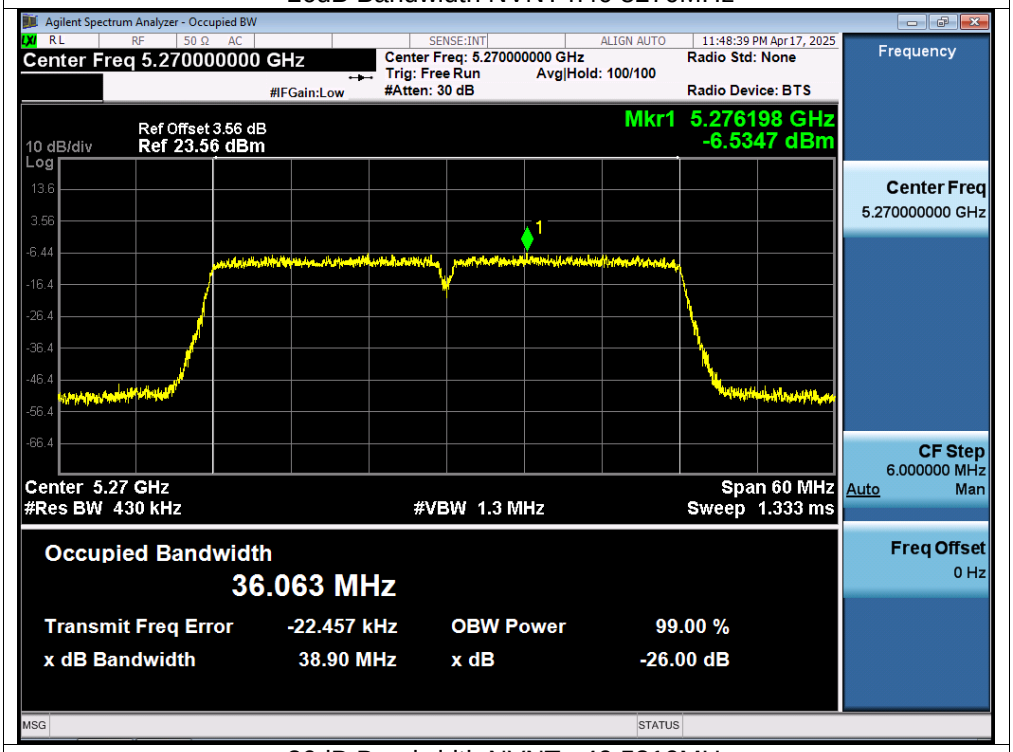
-26dB Bandwidth NVNT n20 5280MHz



-26dB Bandwidth NVNT n20 5320MHz



-26dB Bandwidth NVNT n40 5270MHz



-26dB Bandwidth NVNT n40 5310MHz