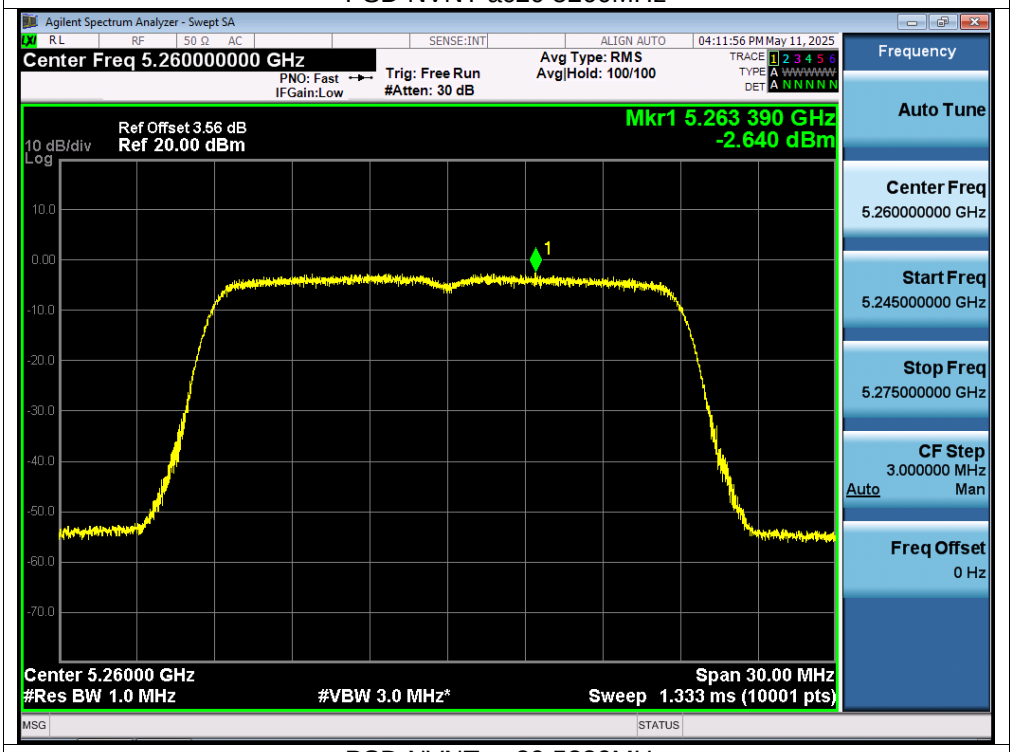
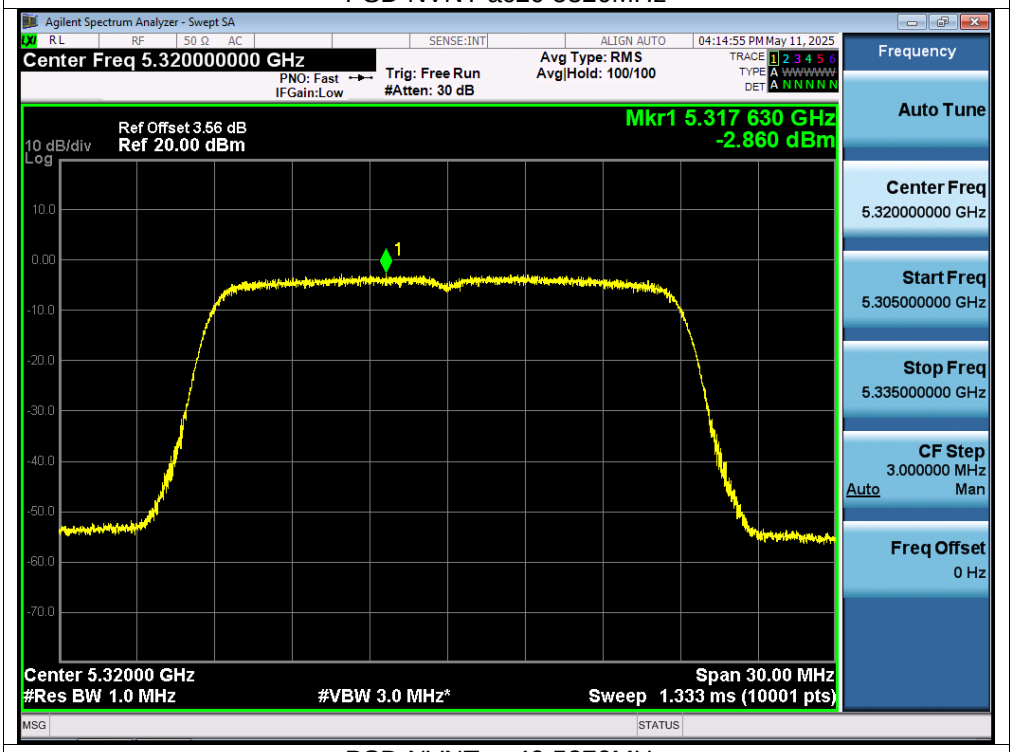
PSD NVNT ac20 5260MHz



PSD NVNT ac20 5280MHz

PSD NVNT ac20 5320MHz



PSD NVNT ac40 5270MHz

PSD NVNT ac40 5310MHz

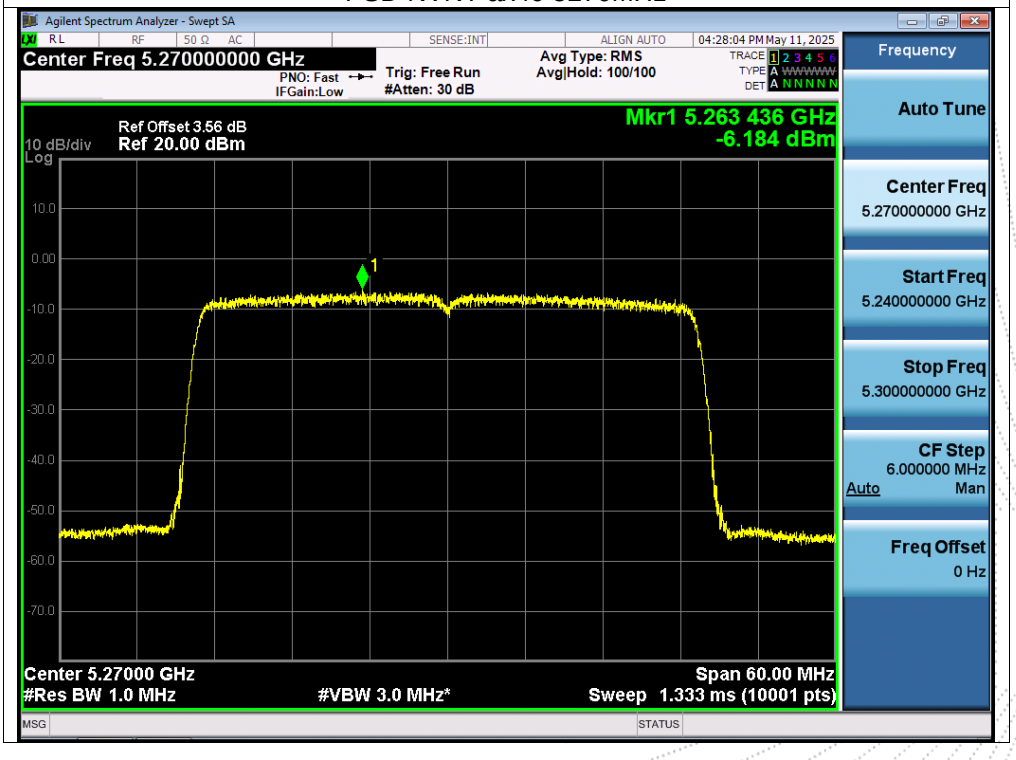
PSD NVNT ac80 5290MHz

PSD NVNT ax20 5260MHz

PSD NVNT ax20 5280MHz

PSD NVNT ax20 5320MHz

PSD NVNT ax40 5270MHz



PSD NVNT ax40 5310MHz

PSD NVNT ax80 5290MHz

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	(U-NII-2C) 5500MHz-5700MHz		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz)			Limit (dBm/MHz)	Verdict
			Ant A	Ant B	Total		
NVNT	a	5500	-3.12	-3.49	/	11	Pass
NVNT	a	5580	-1.6	-3.31	/	11	Pass
NVNT	a	5700	**-1.23**	-2.35	/	11	Pass
NVNT	n20	5500	-4.83	-4.24	-1.51	7.01	Pass
NVNT	n20	5580	-4.09	-2.74	-0.35	7.01	Pass
NVNT	n20	5700	-2.92	-3.09	0.01	7.01	Pass
NVNT	n40	5510	-7.39	-7.64	-4.50	7.01	Pass
NVNT	n40	5550	-7.93	-8.07	-4.99	7.01	Pass
NVNT	n40	5670	-6.68	-6.88	-3.77	7.01	Pass
NVNT	ac20	5500	-4.68	-3.59	-1.09	7.01	Pass
NVNT	ac20	5580	-4.52	-3.13	-0.76	7.01	Pass
NVNT	ac20	5700	-3.84	-2.42	0.39	7.01	Pass
NVNT	ac40	5510	-7.28	-8.7	-4.92	7.01	Pass
NVNT	ac40	5550	-7.73	-7.44	-4.57	7.01	Pass
NVNT	ac40	5670	-6.91	-6.94	-3.91	7.01	Pass
NVNT	ac80	5530	-12.9	-12.55	-9.71	7.01	Pass
NVNT	ax20	5500	-4.94	-3.81	-1.33	7.01	Pass
NVNT	ax20	5580	-5.08	-3.62	-1.28	7.01	Pass
NVNT	ax20	5700	-3.44	-3.26	-0.34	7.01	Pass
NVNT	ax40	5510	-8.37	-8.44	-5.39	7.01	Pass
NVNT	ax40	5550	-8.18	-8.28	-5.22	7.01	Pass
NVNT	ax40	5670	-6.89	-7.37	-4.11	7.01	Pass
NVNT	ax80	5530	-12.91	-12.65	-9.77	7.01	Pass

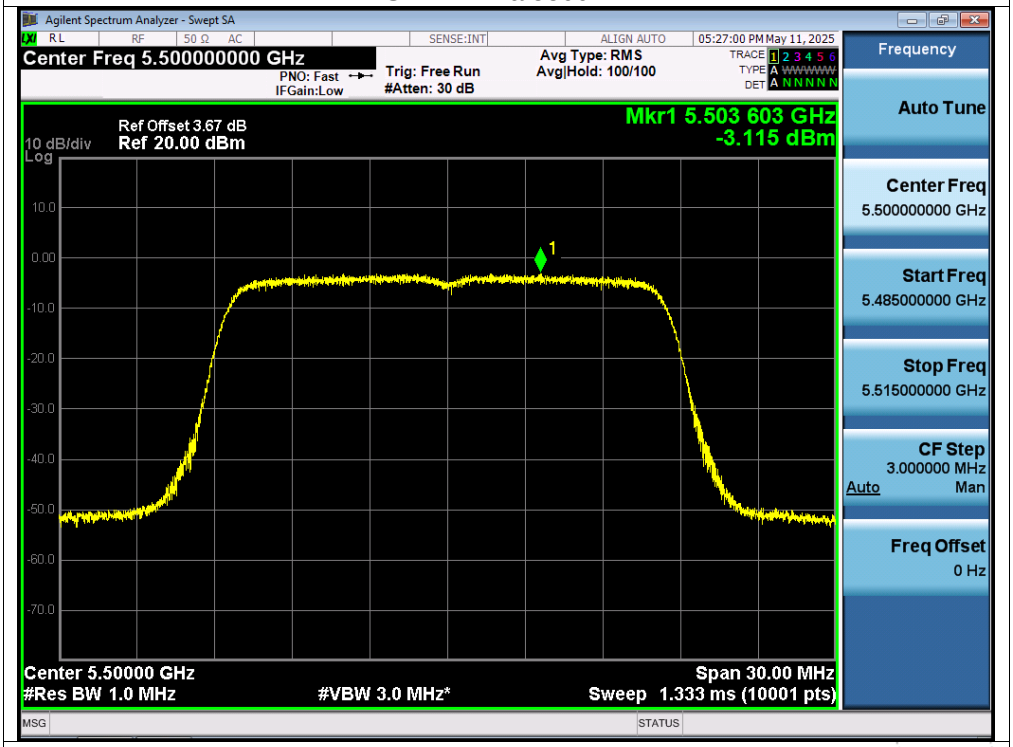
Note:
Antenna 1 gain: 6.98 dBi, Antenna 2 gain: 5.05 dBi, Directional gain=[GainANT + 10 log(NANT) dBi] =9.99 dbi>6dbi
Limit=11-(9.99-6)=7.01 dbi

The worst case is Antenna 1, Antenna Gain=6.98 dBi

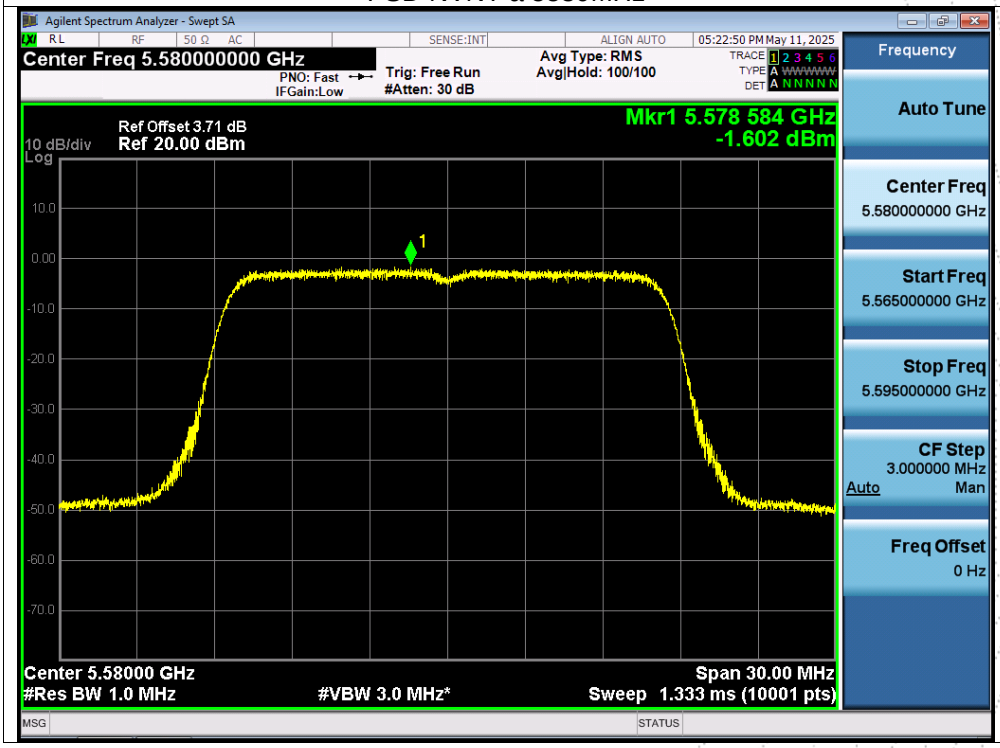
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

Test Graphs

PSD NVNT a 5500MHz

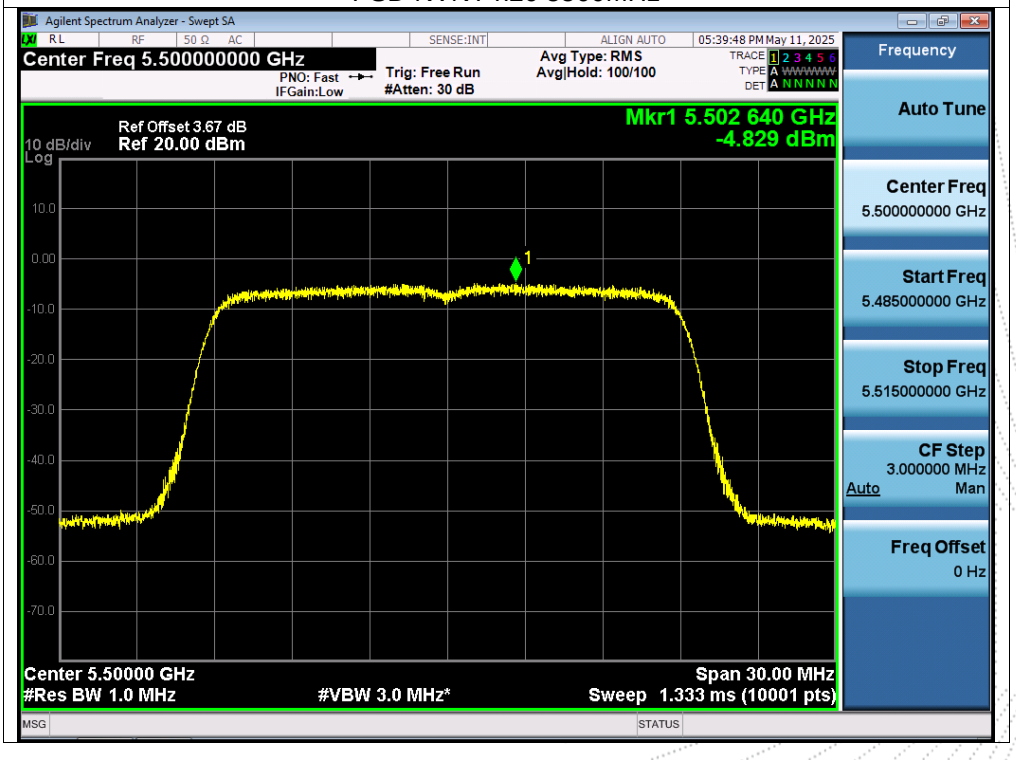


PSD NVNT a 5580MHz

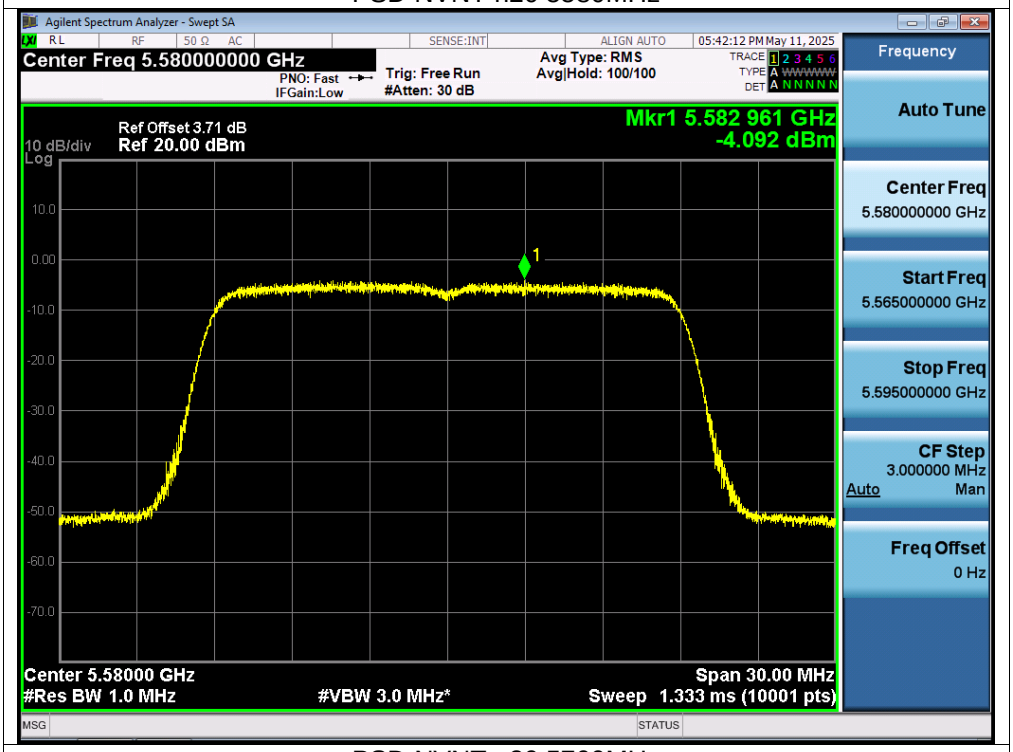


PSD NVNT a 5700MHz

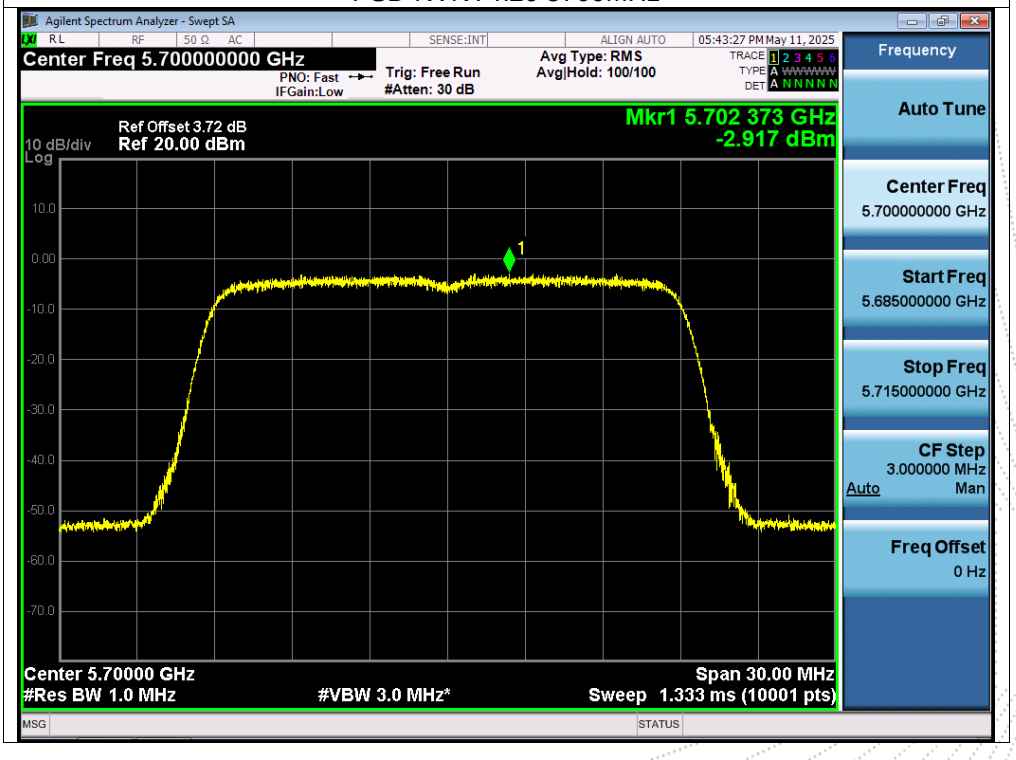
PSD NVNT n20 5500MHz



PSD NVNT n20 5580MHz

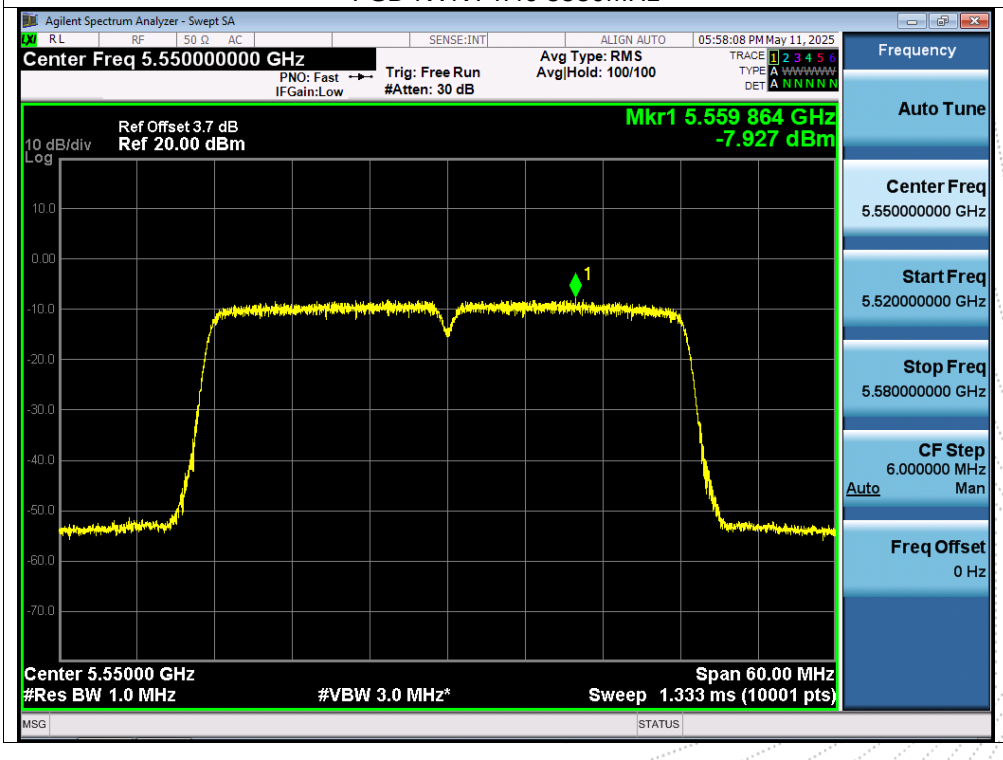


PSD NVNT n20 5700MHz

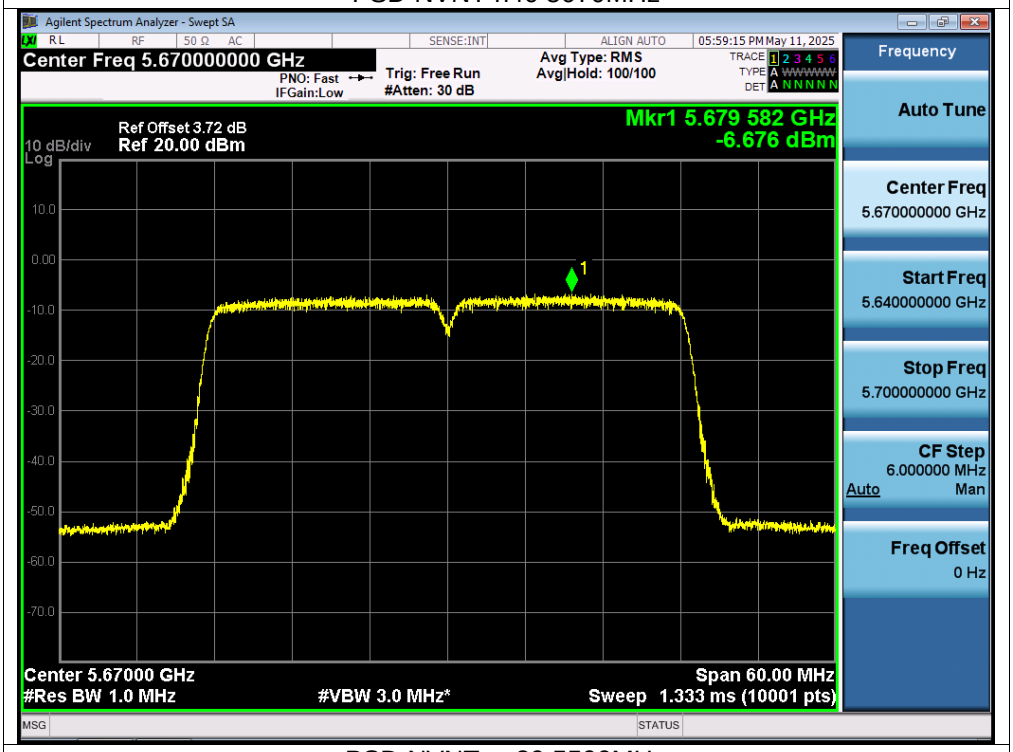


PSD NVNT n40 5510MHz

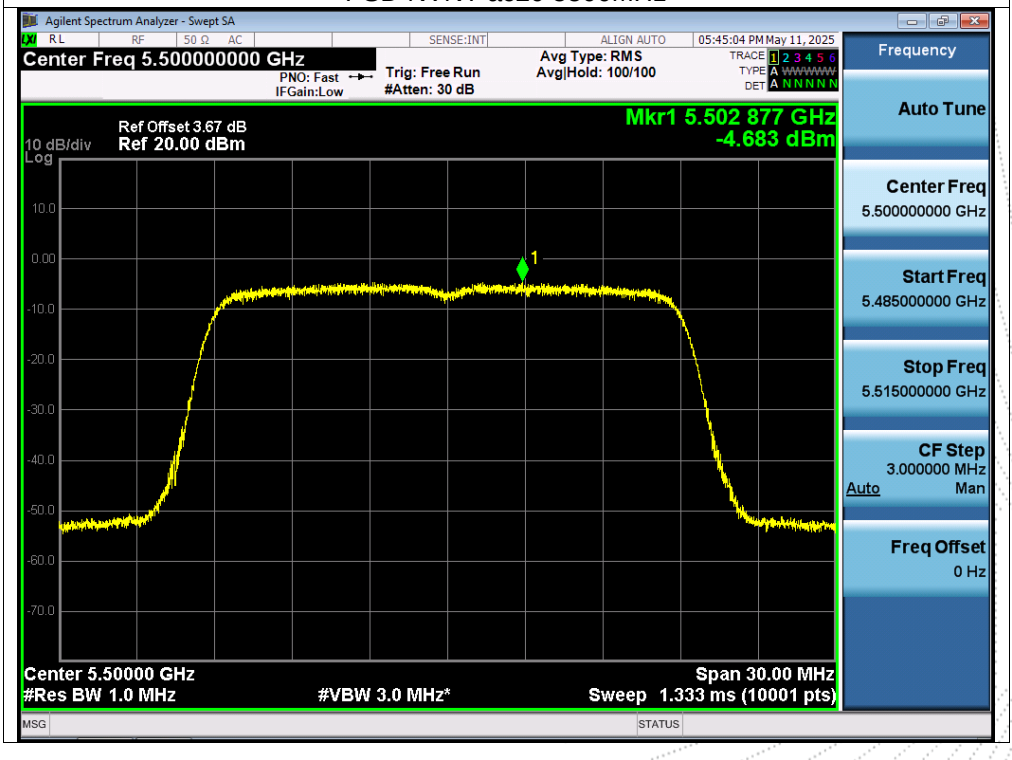
PSD NVNT n40 5550MHz



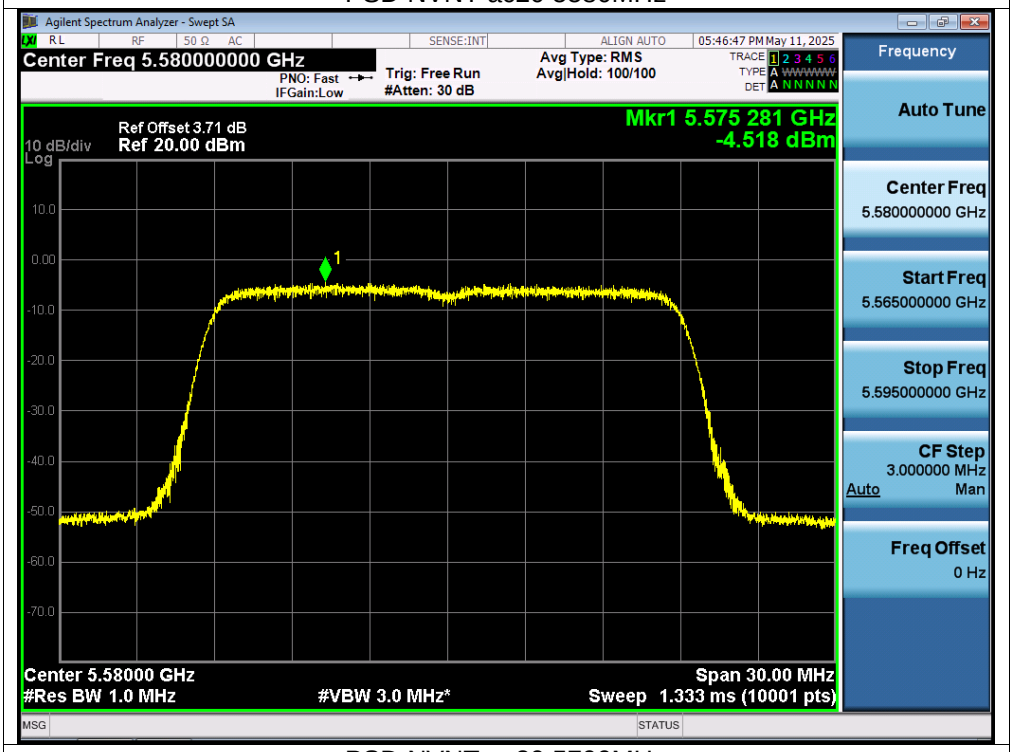
PSD NVNT n40 5670MHz



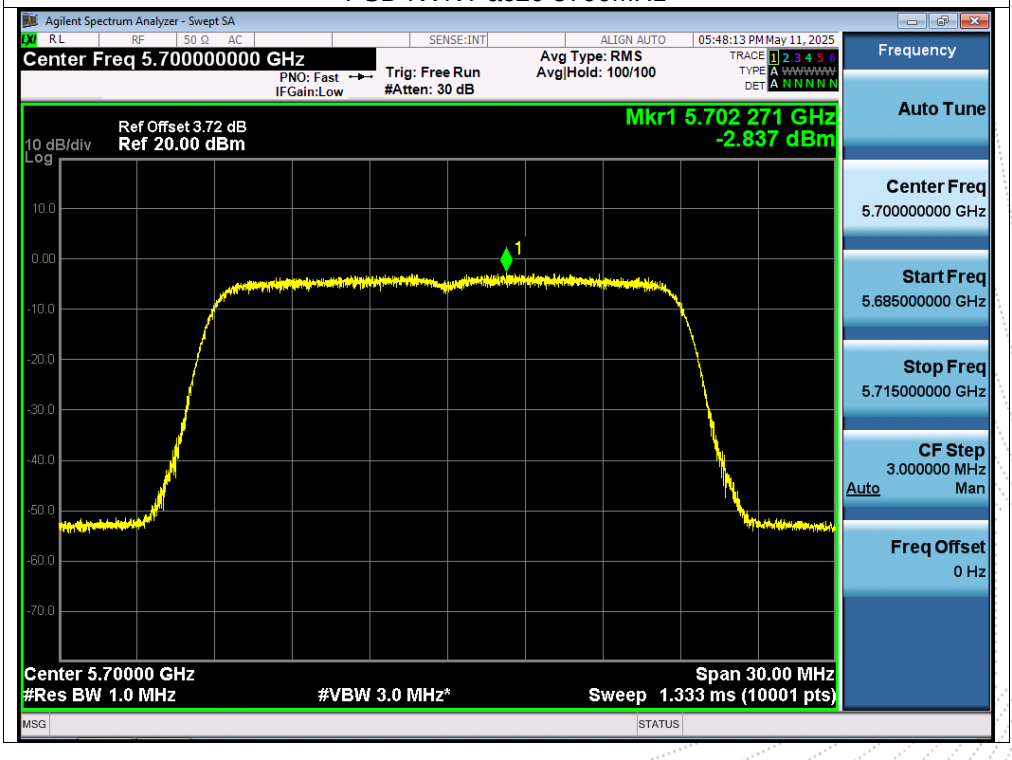
PSD NVNT ac20 5500MHz



PSD NVNT ac20 5580MHz

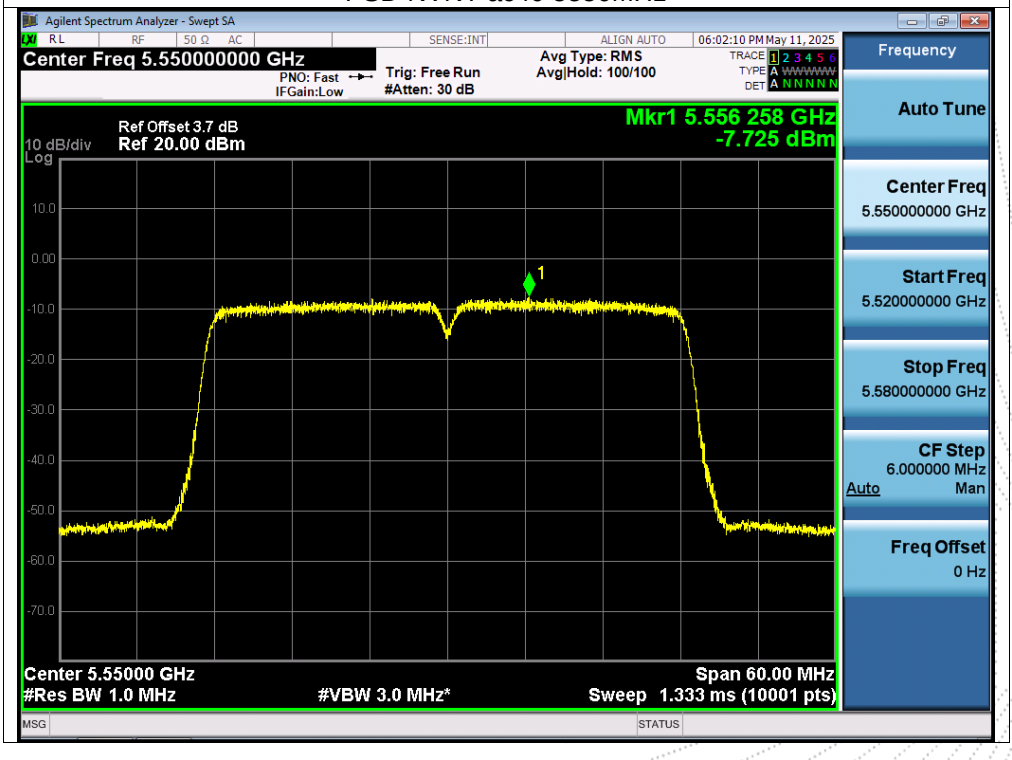


PSD NVNT ac20 5700MHz

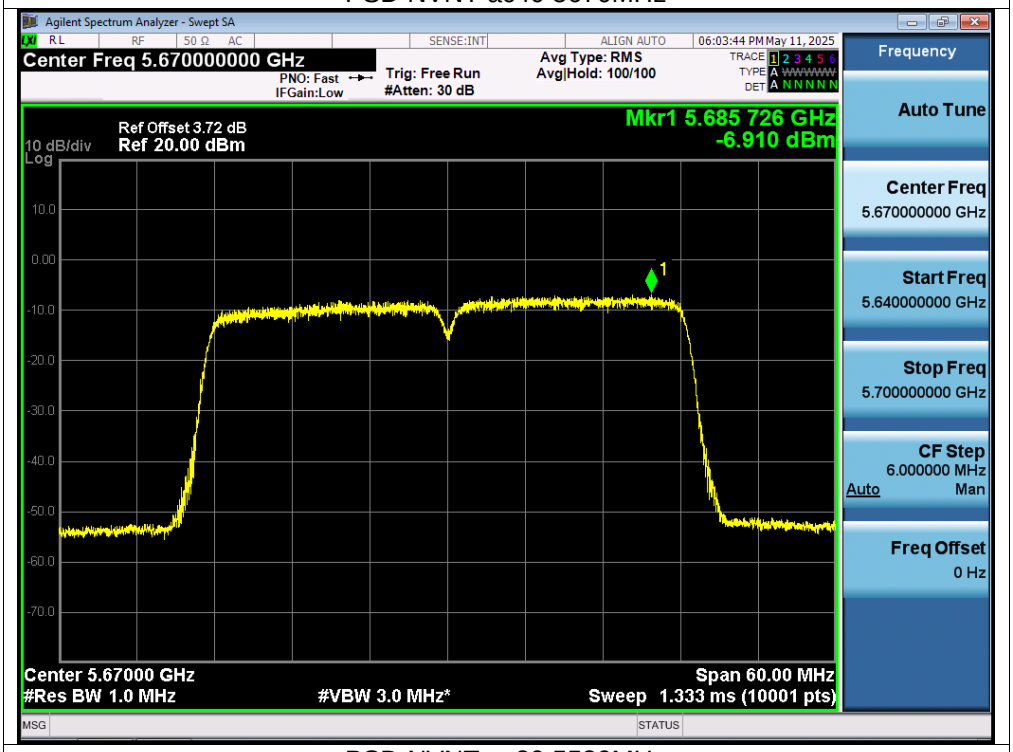


PSD NVNT ac40 5510MHz

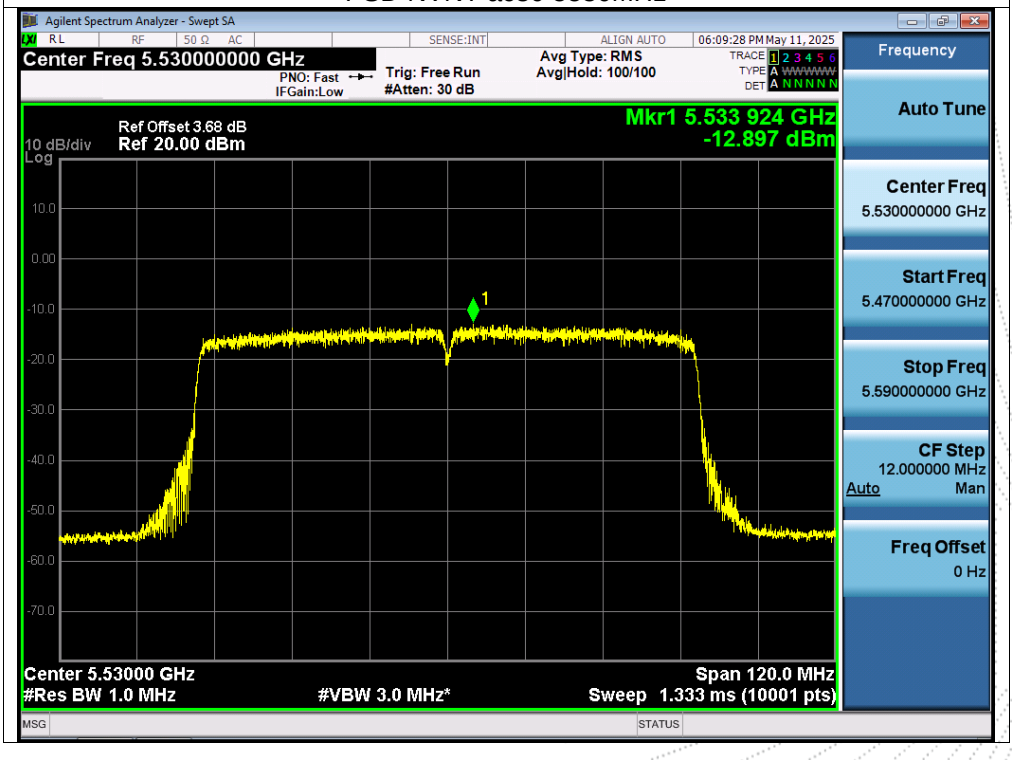
PSD NVNT ac40 5550MHz



PSD NVNT ac40 5670MHz

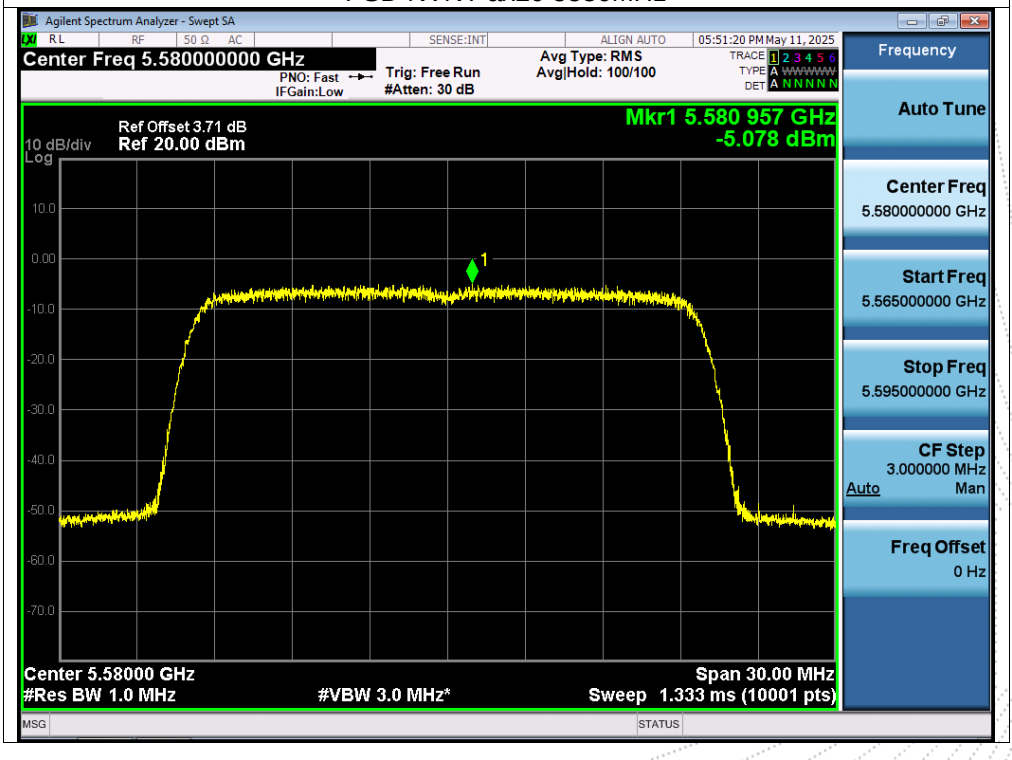


PSD NVNT ac80 5530MHz



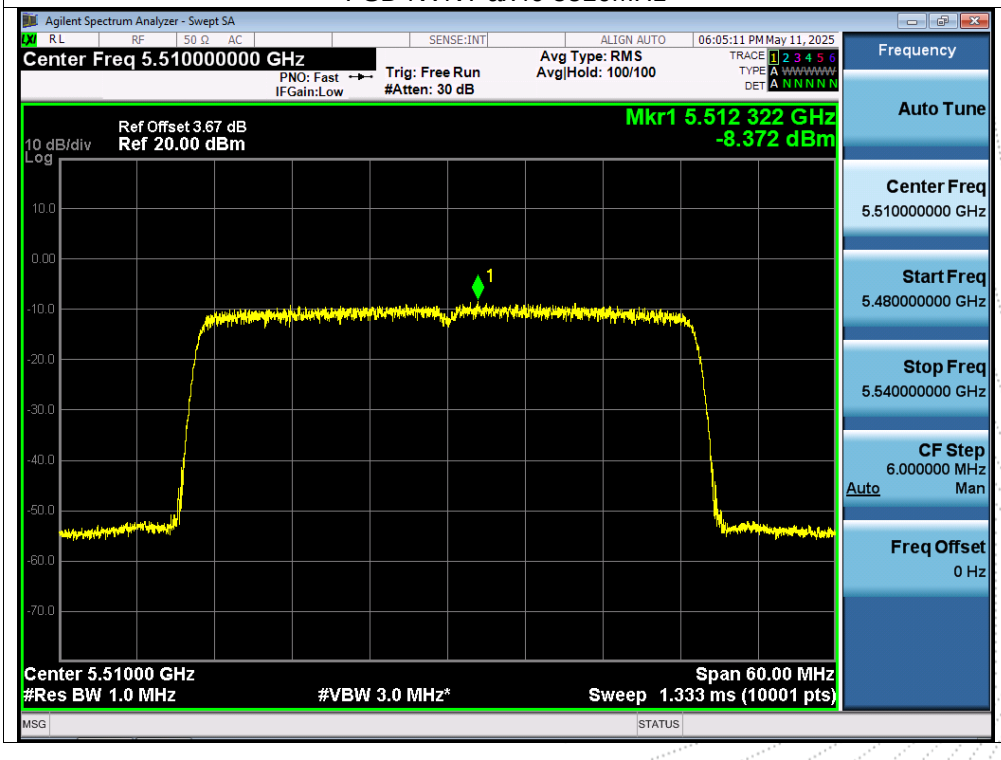
PSD NVNT ax20 5500MHz

PSD NVNT ax20 5580MHz



PSD NVNT ax20 5700MHz

PSD NVNT ax40 5510MHz



PSD NVNT ax40 5550MHz

PSD NVNT ax40 5670MHz

PSD NVNT ax80 5530MHz

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	(U-NII-3) 5745MHz-5825MHz		

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/510KHz)		Conducted PSD (dBm/500KHz)				Verdict
			ANT A	ANT B	ANT A	ANT B	Total	Limit	
NVNT	a	5745	**-3.98**	-4.76	-4.066	-4.846	/	30	Pass
NVNT	a	5785	-4.52	-5.63	-4.606	-5.716	/	30	Pass
NVNT	a	5825	-5.32	-6.45	-5.406	-6.536	/	30	Pass
NVNT	n20	5745	-6.03	-6.15	-6.116	-6.236	-3.17	26.01	Pass
NVNT	n20	5785	-6.28	-7.11	-6.366	-7.196	-3.75	26.01	Pass
NVNT	n20	5825	-7.47	-8.24	-7.556	-8.326	-4.91	26.01	Pass
NVNT	n40	5755	-9.29	-10.93	-9.376	-11.016	-7.11	26.01	Pass
NVNT	n40	5795	-8.84	-11.69	-8.926	-11.776	-7.11	26.01	Pass
NVNT	ac20	5745	-5.75	-6.17	-5.836	-6.256	-3.03	26.01	Pass
NVNT	ac20	5785	-5.2	-7.69	-5.286	-7.776	-3.34	26.01	Pass
NVNT	ac20	5825	-6.46	-7.38	-6.546	-7.466	-3.97	26.01	Pass
NVNT	ac40	5755	-10.22	-10.94	-10.306	-11.026	-7.64	26.01	Pass
NVNT	ac40	5795	-8.82	-11.85	-8.906	-11.936	-7.15	26.01	Pass
NVNT	ac80	5775	-14.48	-15.34	-14.566	-15.426	-11.96	26.01	Pass
NVNT	ax20	5745	-5.28	-5.93	-5.366	-6.016	-2.67	26.01	Pass
NVNT	ax20	5785	-6.64	-7.03	-6.726	-7.116	-3.91	26.01	Pass
NVNT	ax20	5825	-7.13	-7.59	-7.216	-7.676	-4.43	26.01	Pass
NVNT	ax40	5755	-9.86	-10.95	-9.946	-11.036	-7.45	26.01	Pass
NVNT	ax40	5795	-10.53	-11.26	-10.616	-11.346	-7.96	26.01	Pass
NVNT	ax80	5775	-13.86	-15.21	-13.946	-15.296	-11.56	26.01	Pass
Note: Correction Factor = 10log(500KHz/RBW in measurement) =-0.086									

Note:
Antenna 1 gain: 6.98 dBi, Antenna 2 gain: 5.05 dBi, Directional gain=[GainANT + 10 log(NANT) dBi] =9.99 dbi>6dbi
Limit=30-(9.99-6)=26.01 dbi

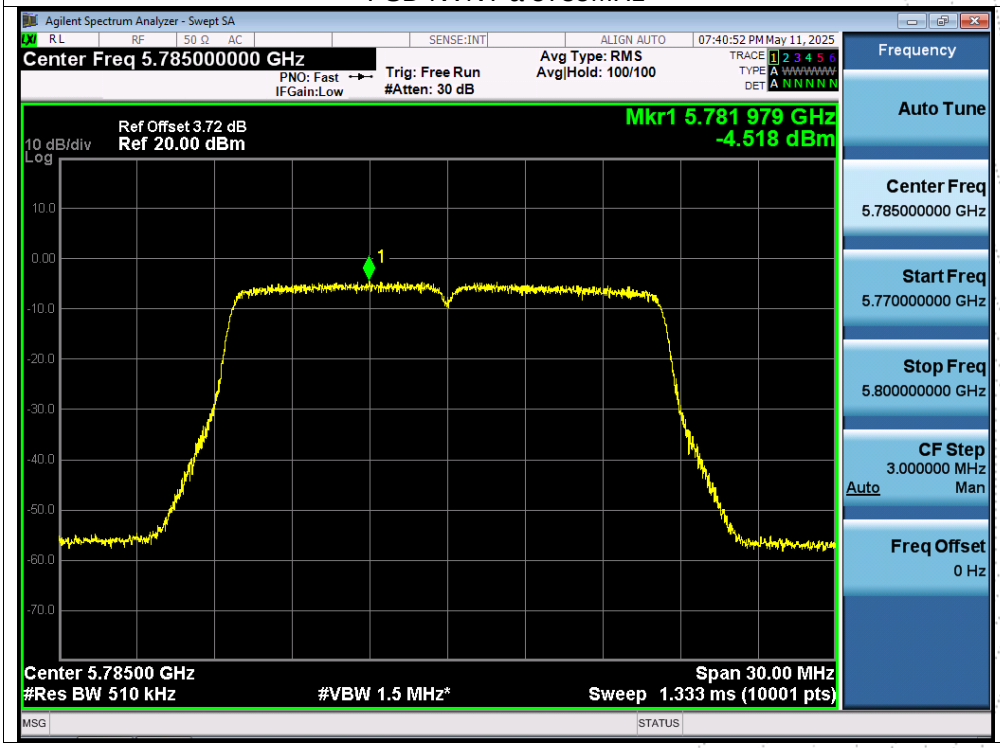
The worst case is Antenna 1, Antenna Gain=6.98 dBi

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

Test Graphs

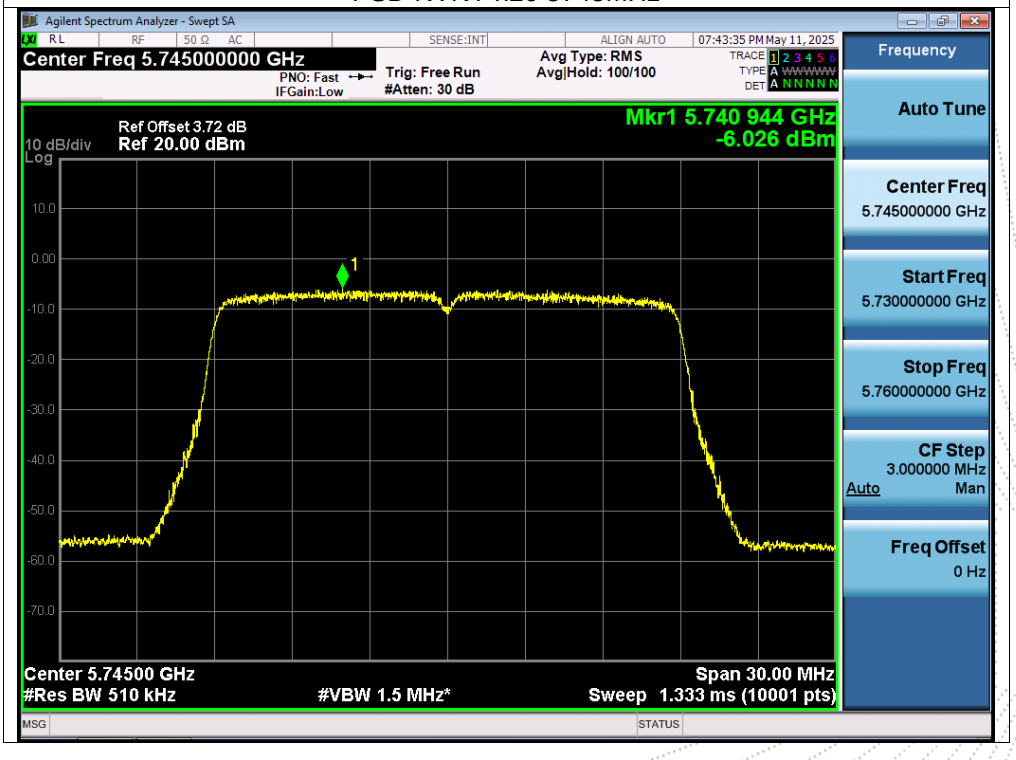
PSD NVNT a 5745MHz

PSD NVNT a 5785MHz

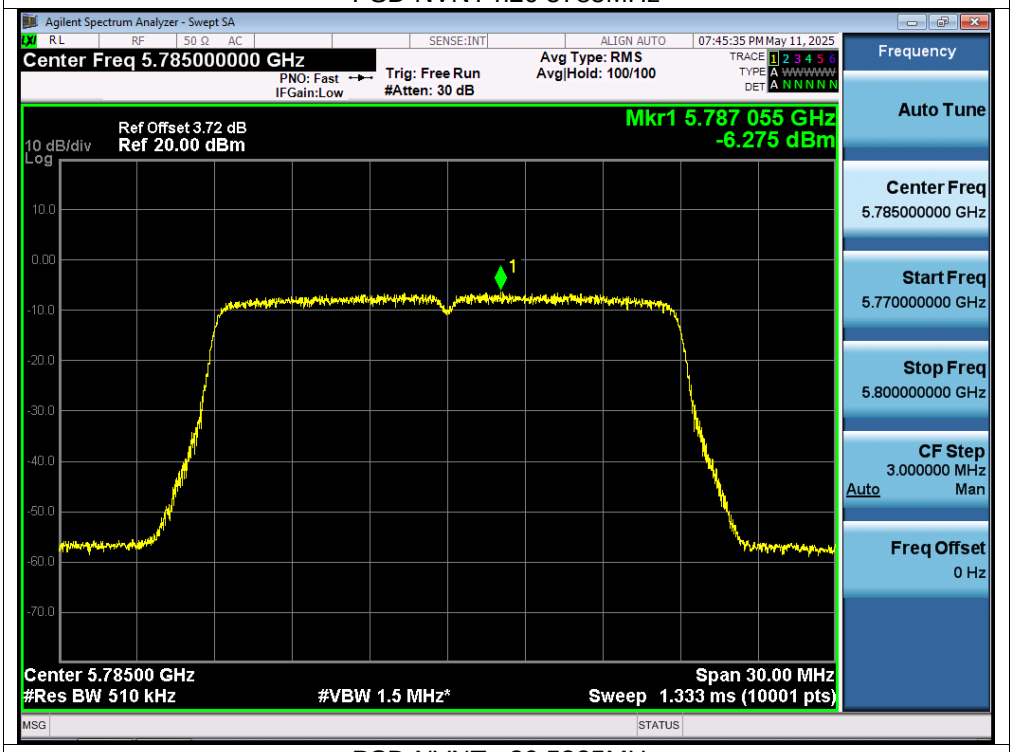


PSD NVNT a 5825MHz

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

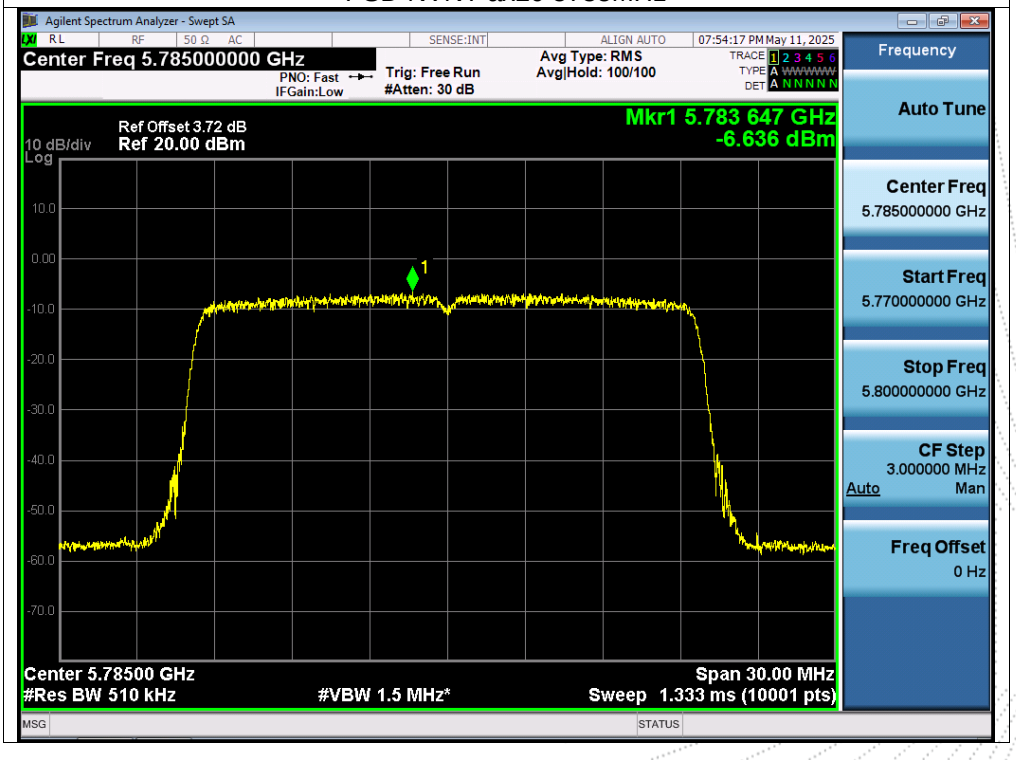
PSD NVNT ac40 5755MHz

PSD NVNT ac40 5795MHz

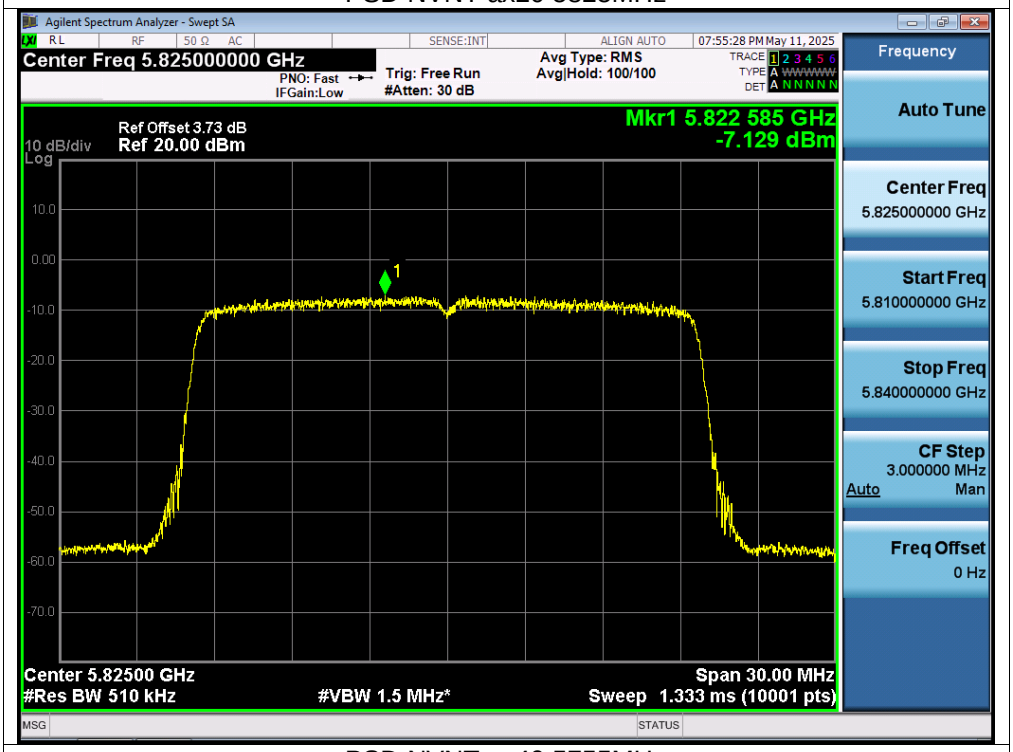
PSD NVNT ac80 5775MHz

PSD NVNT ax20 5745MHz

PSD NVNT ax20 5785MHz



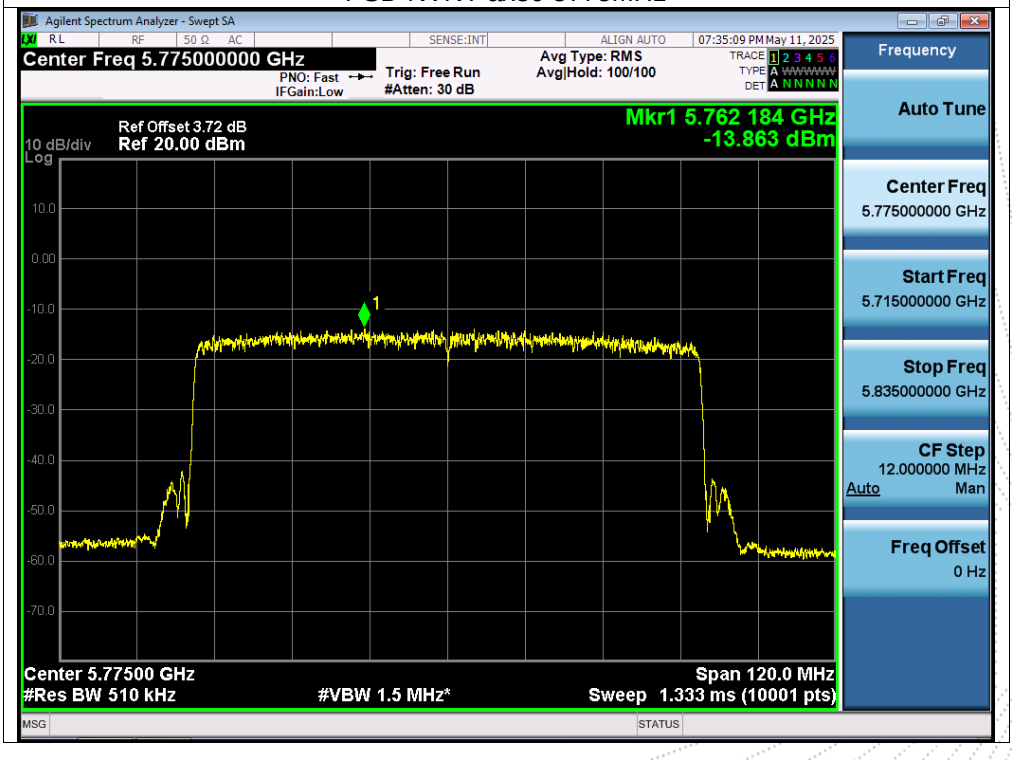
PSD NVNT ax20 5825MHz



PSD NVNT ax40 5755MHz

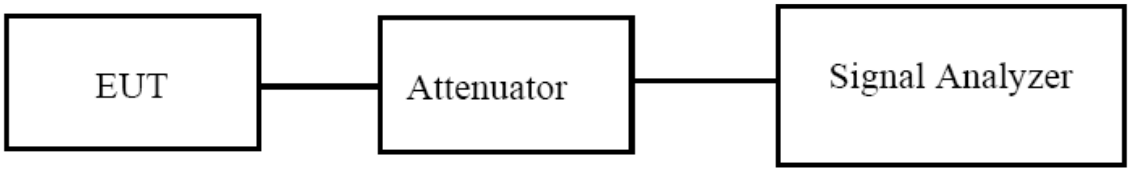
PSD NVNT ax40 5795MHz

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.

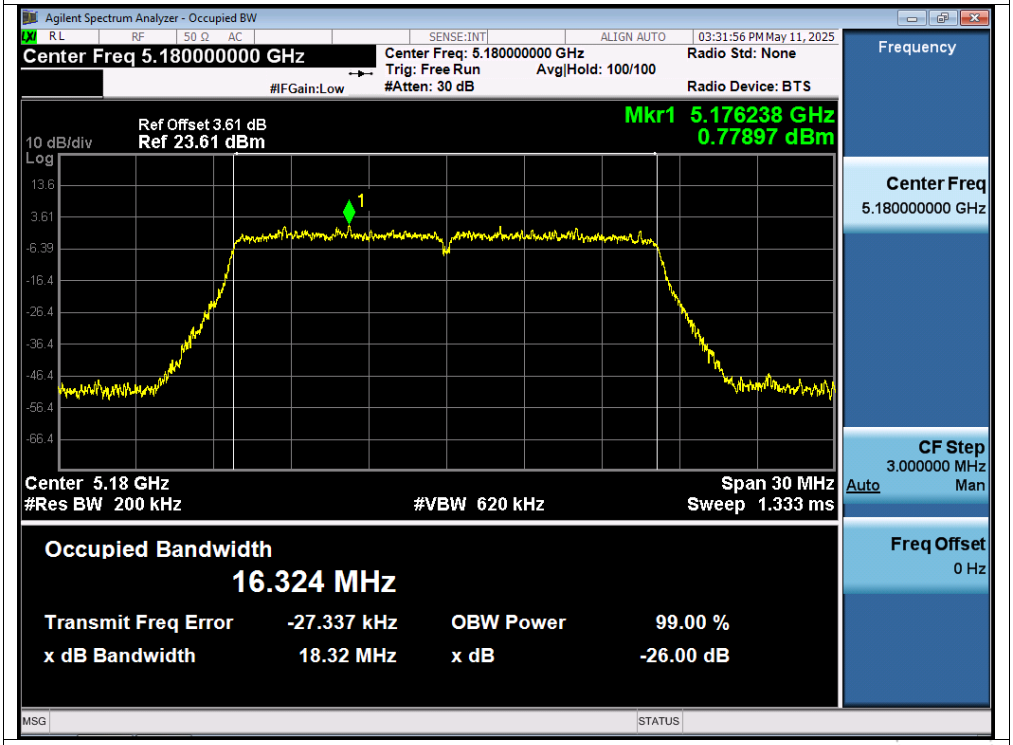
9.5 Test Result

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

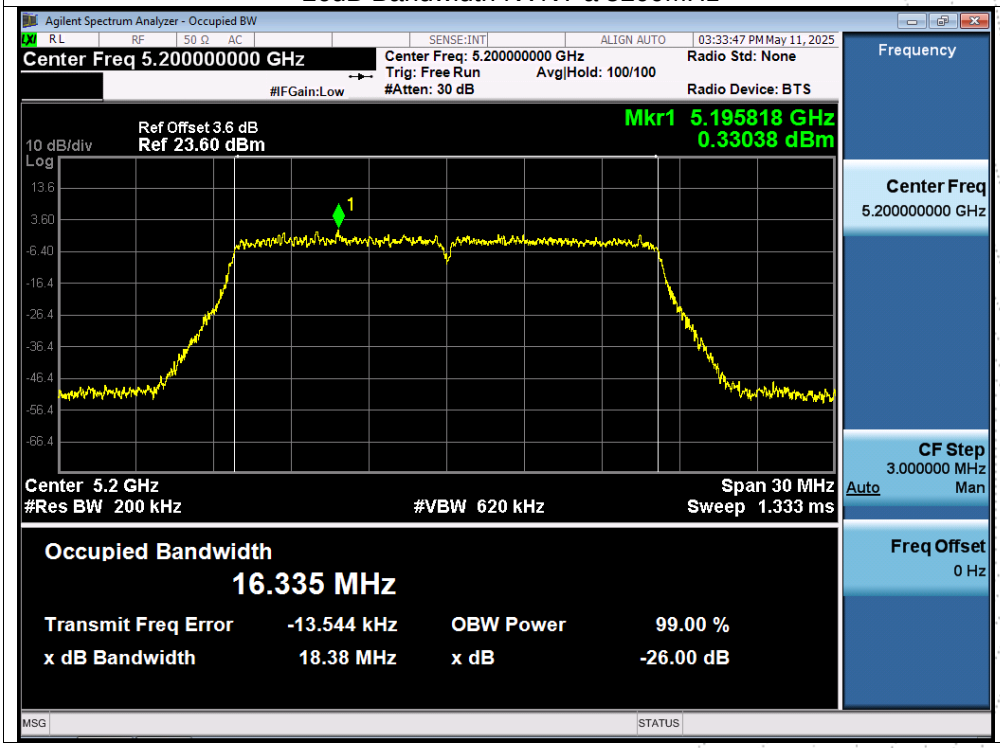
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5180	18.24	18.317	16.335	16.34	Pass
NVNT	a	5200	18.203	18.376	16.341	16.373	Pass
NVNT	a	5240	18.352	18.263	16.336	16.334	Pass
NVNT	n20	5180	19.26	19.219	17.521	17.511	Pass
NVNT	n20	5200	19.462	19.294	17.524	17.53	Pass
NVNT	n20	5240	19.284	19.259	17.511	17.517	Pass
NVNT	n40	5190	38.675	38.65	36.003	36.158	Pass
NVNT	n40	5230	38.667	38.653	36.026	36.07	Pass
NVNT	ac20	5180	19.332	19.32	17.502	17.517	Pass
NVNT	ac20	5200	19.315	19.386	17.522	17.52	Pass
NVNT	ac20	5240	19.307	19.187	17.503	17.514	Pass
NVNT	ac40	5190	38.64	38.758	35.954	36.145	Pass
NVNT	ac40	5230	38.549	38.847	35.993	36.072	Pass
NVNT	ac80	5210	84.399	**84.494**	75.562	75.69	Pass
NVNT	ax20	5180	20.007	20.237	18.832	18.869	Pass
NVNT	ax20	5200	19.961	20.099	18.869	18.87	Pass
NVNT	ax20	5240	20.159	20.164	18.835	18.872	Pass
NVNT	ax40	5190	39.76	39.802	37.715	37.7	Pass
NVNT	ax40	5230	39.702	39.701	37.693	37.659	Pass
NVNT	ax80	5210	79.9	80.058	**76.796**	76.733	Pass

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

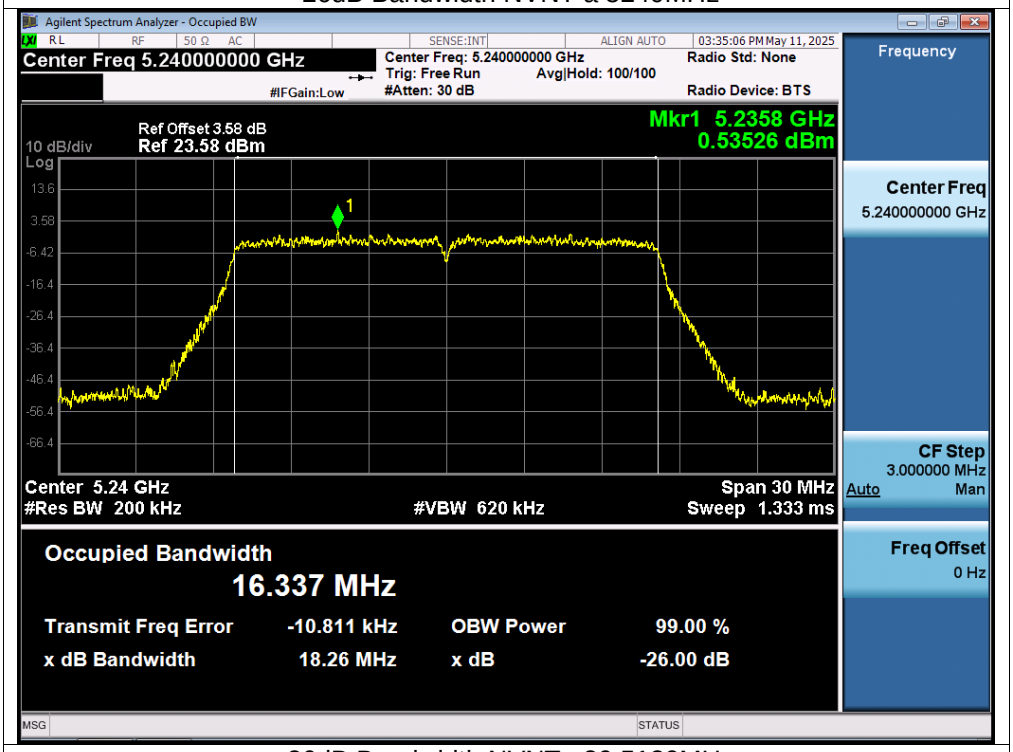
Test Graphs
-26dB Bandwidth NVNT a 5180MHz



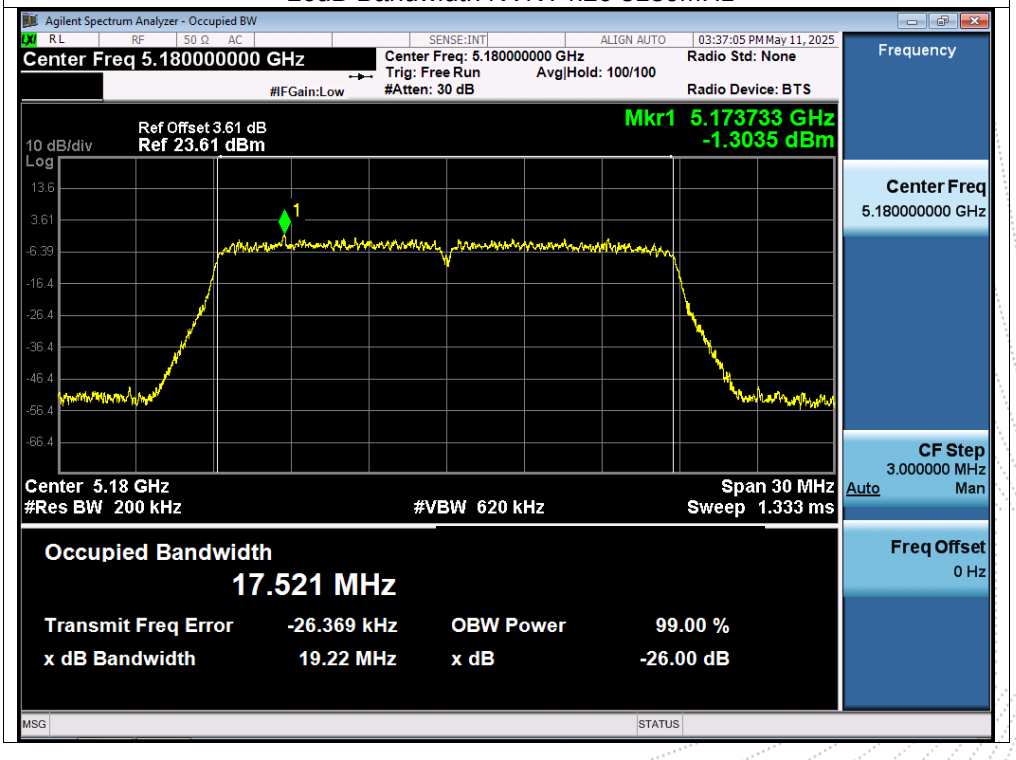
-26dB Bandwidth NVNT a 5200MHz



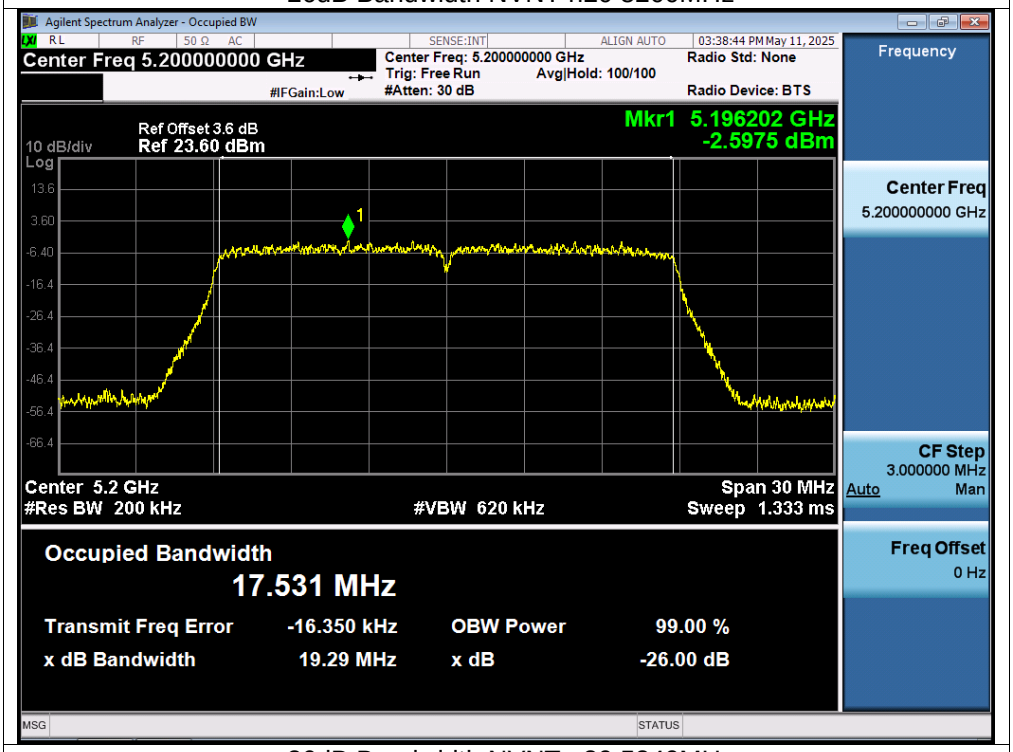
-26dB Bandwidth NVNT a 5240MHz



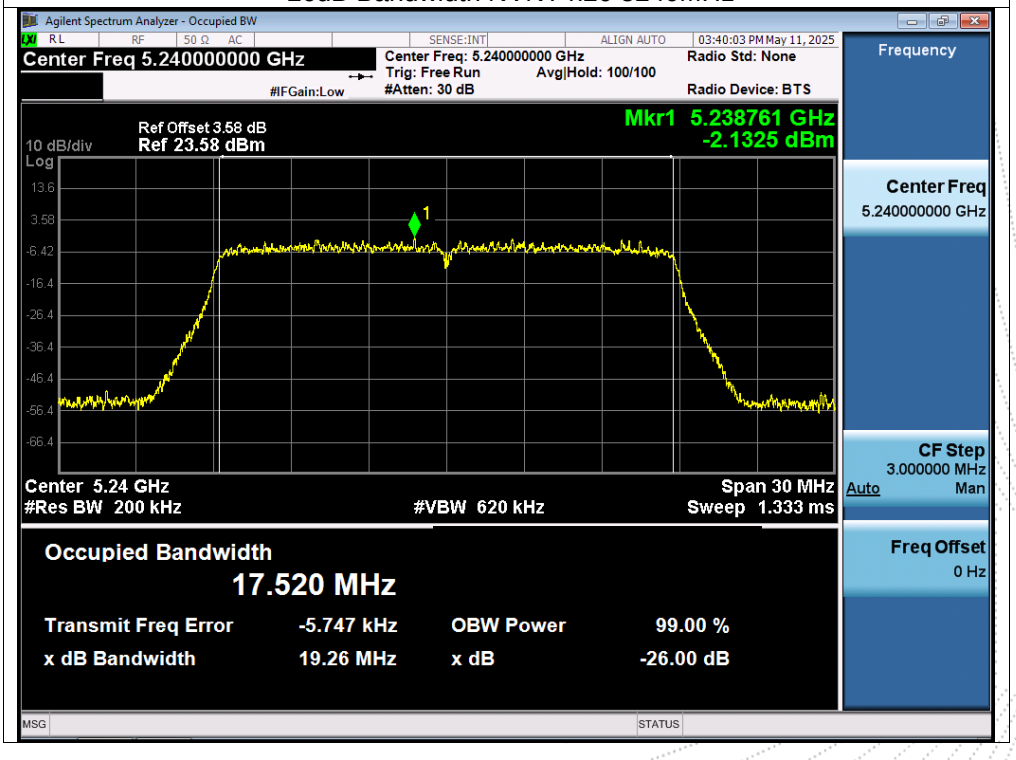
-26dB Bandwidth NVNT n20 5180MHz



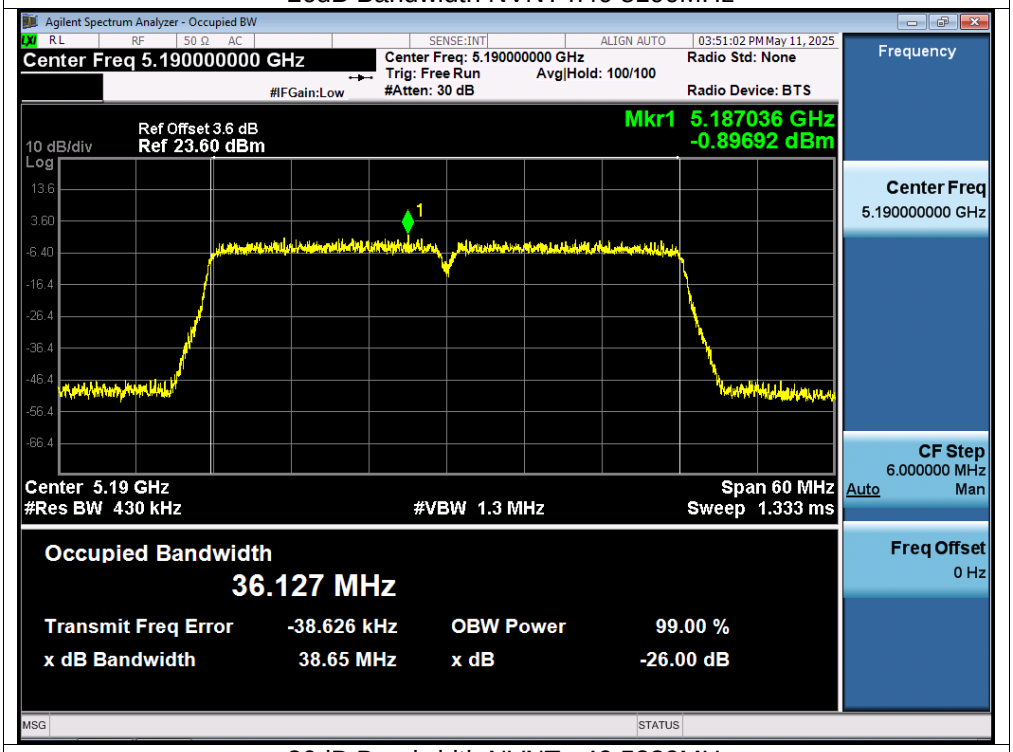
-26dB Bandwidth NVNT n20 5200MHz



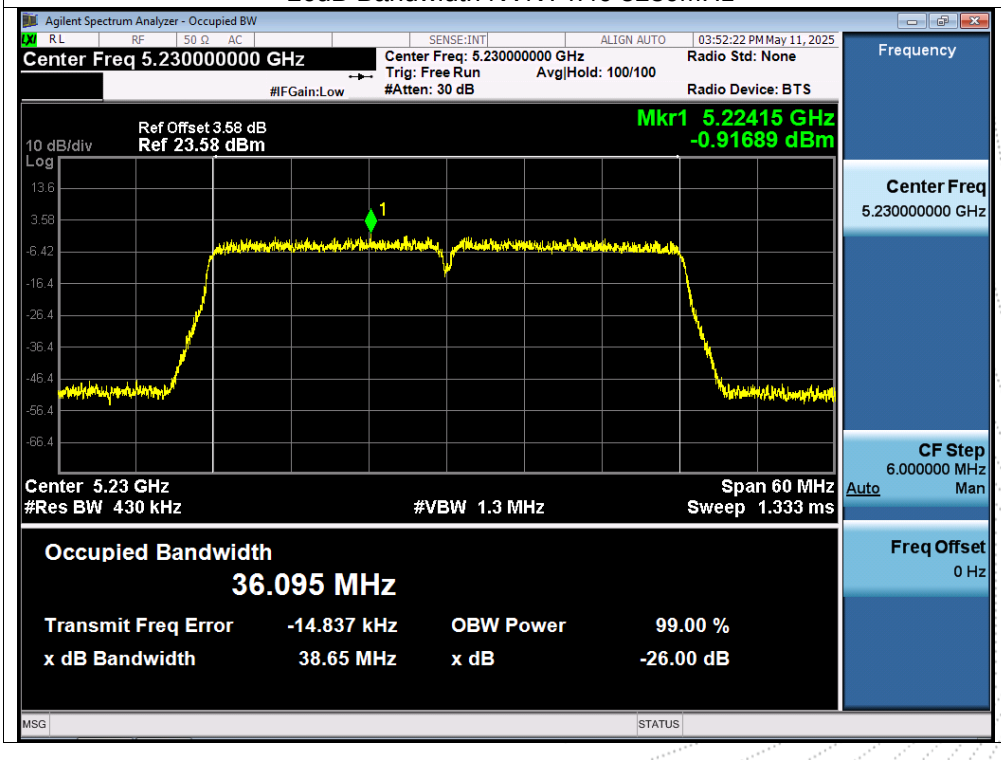
-26dB Bandwidth NVNT n20 5240MHz



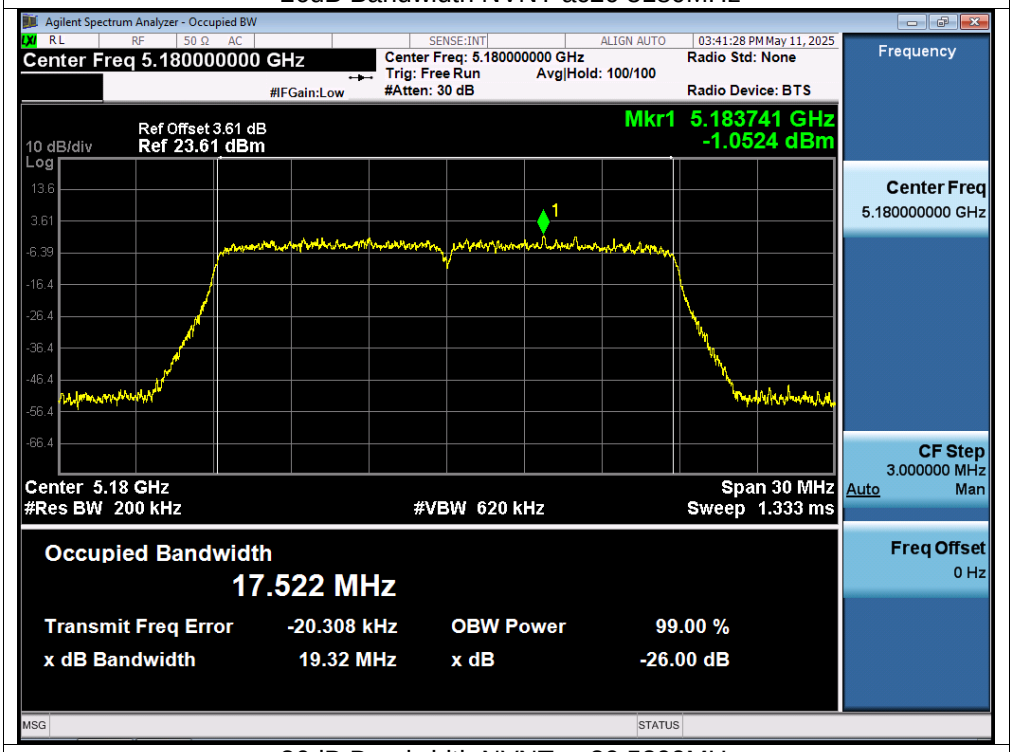
-26dB Bandwidth NVNT n40 5190MHz



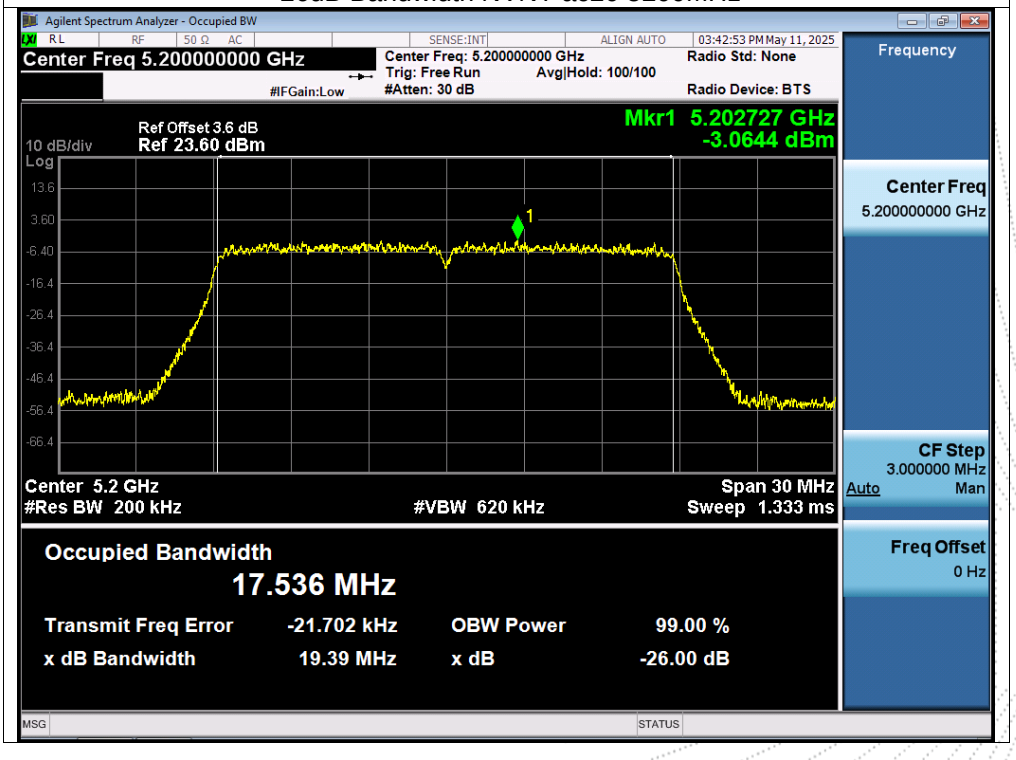
-26dB Bandwidth NVNT n40 5230MHz



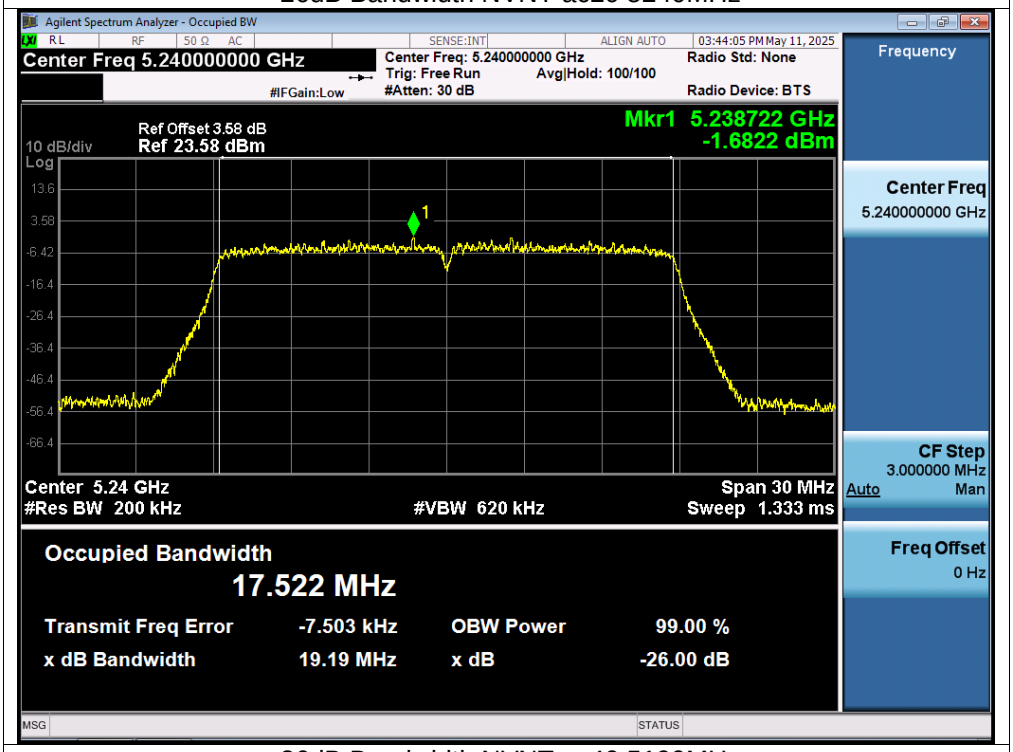
-26dB Bandwidth NVNT ac20 5180MHz



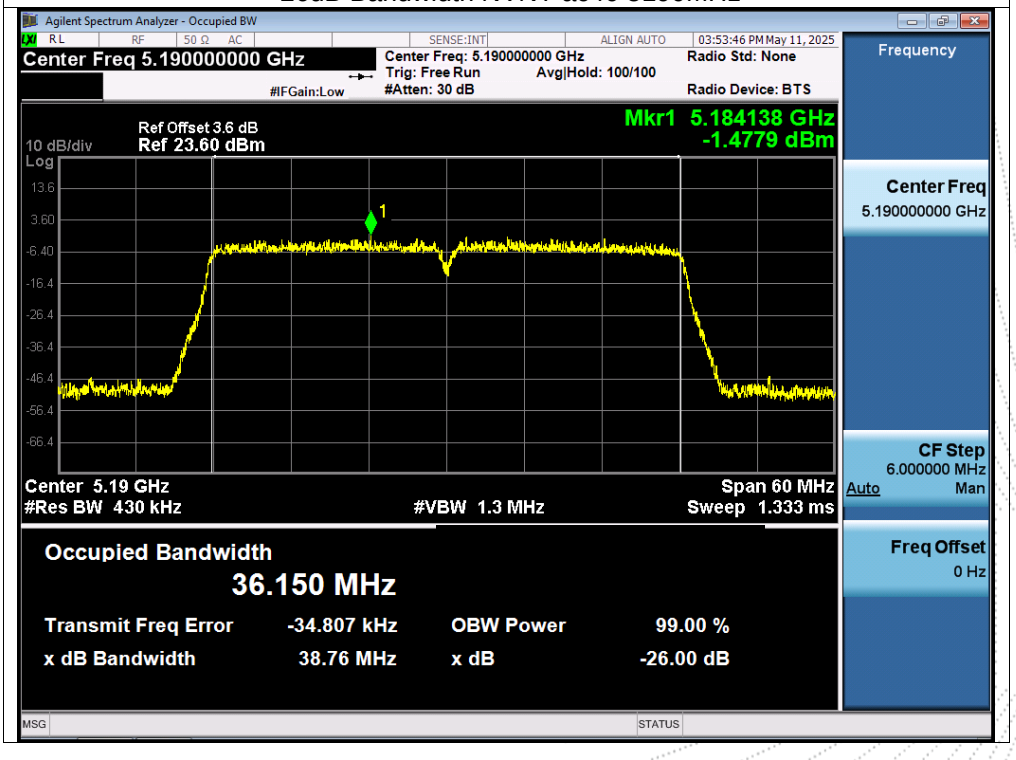
-26dB Bandwidth NVNT ac20 5200MHz



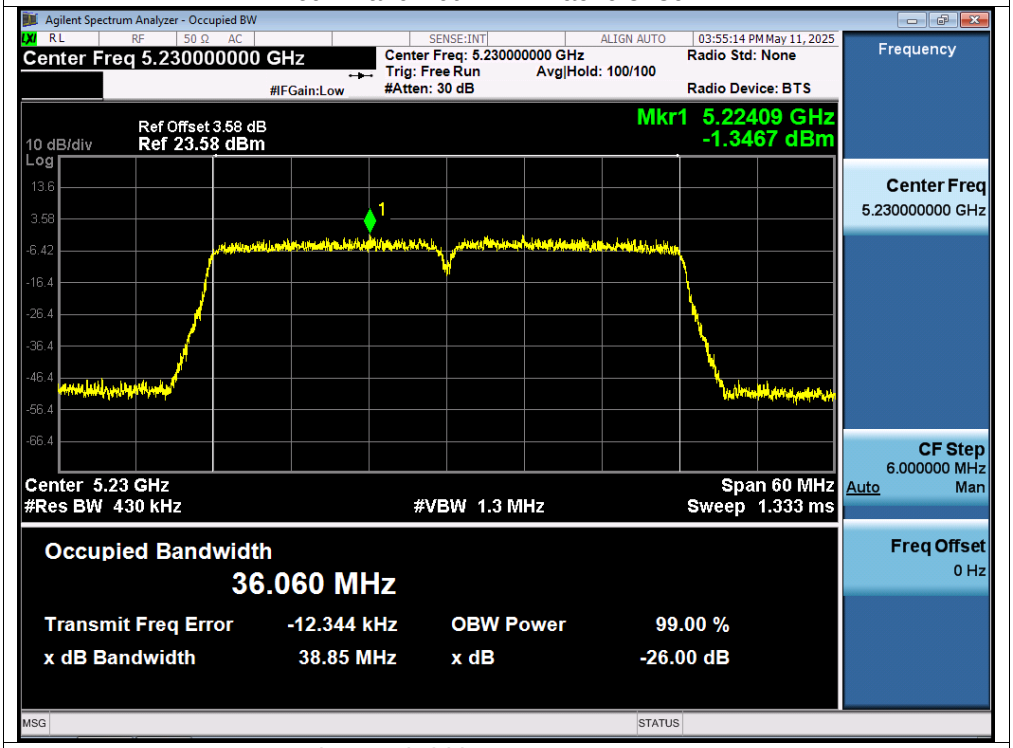
-26dB Bandwidth NVNT ac20 5240MHz



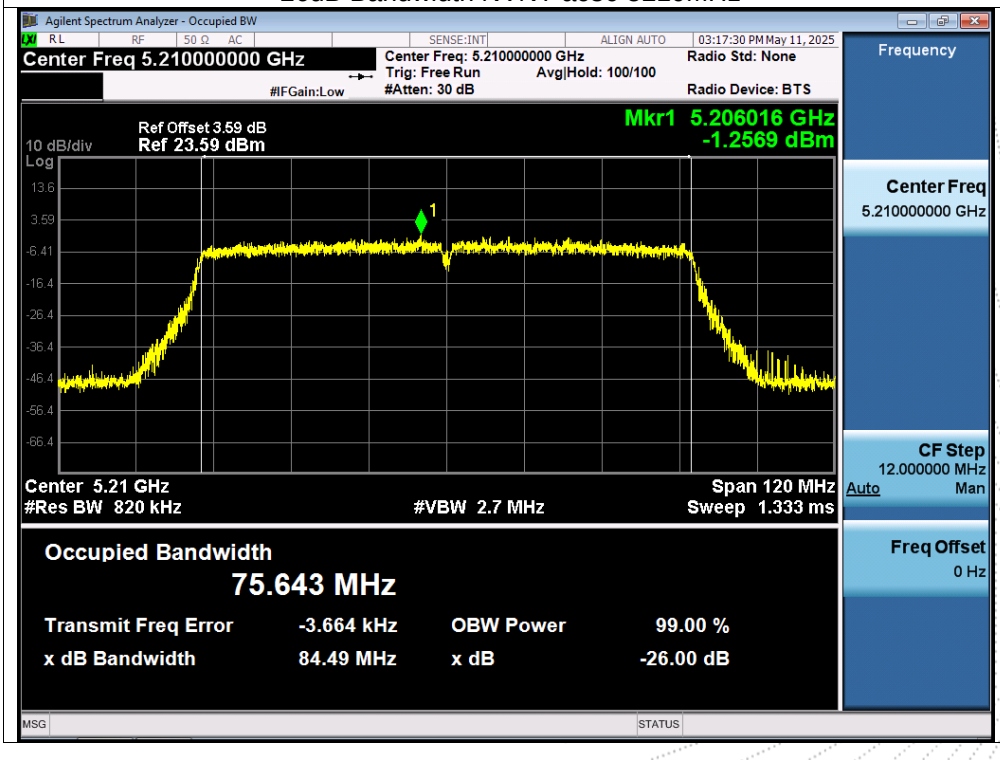
-26dB Bandwidth NVNT ac40 5190MHz



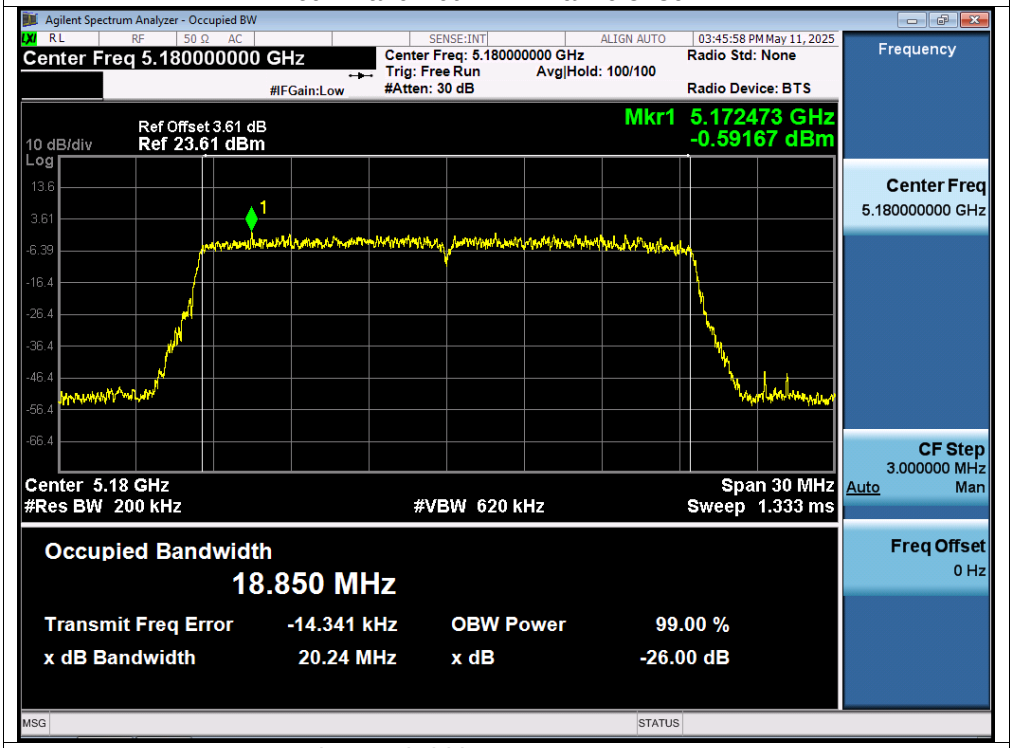
-26dB Bandwidth NVNT ac40 5230MHz



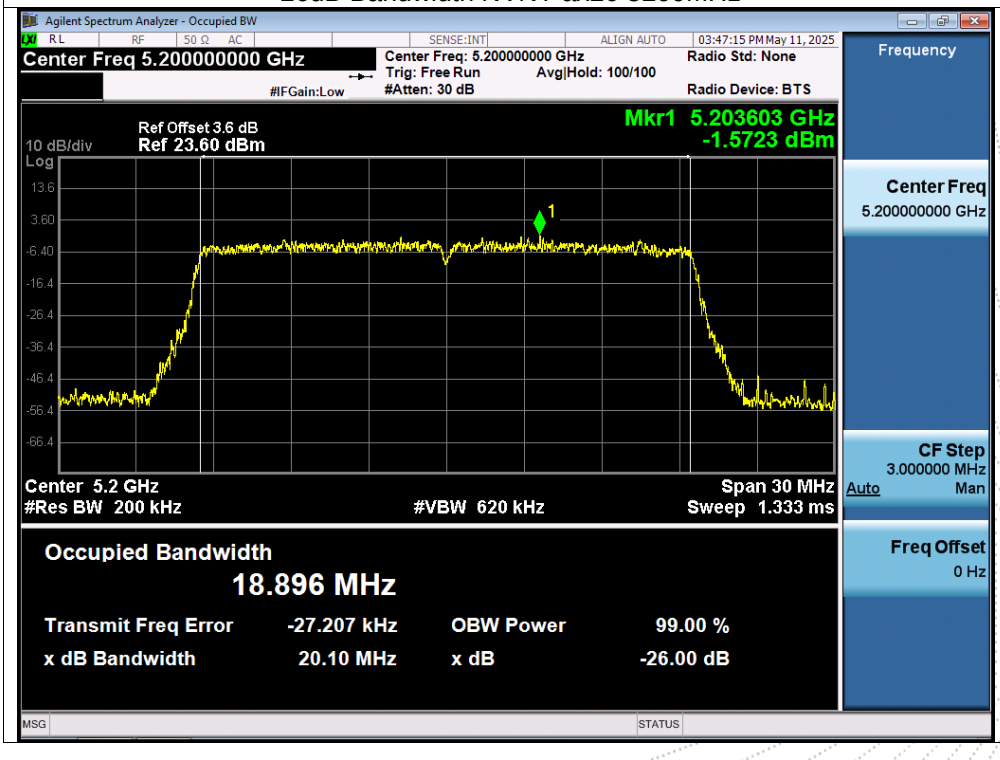
-26dB Bandwidth NVNT ac80 5210MHz



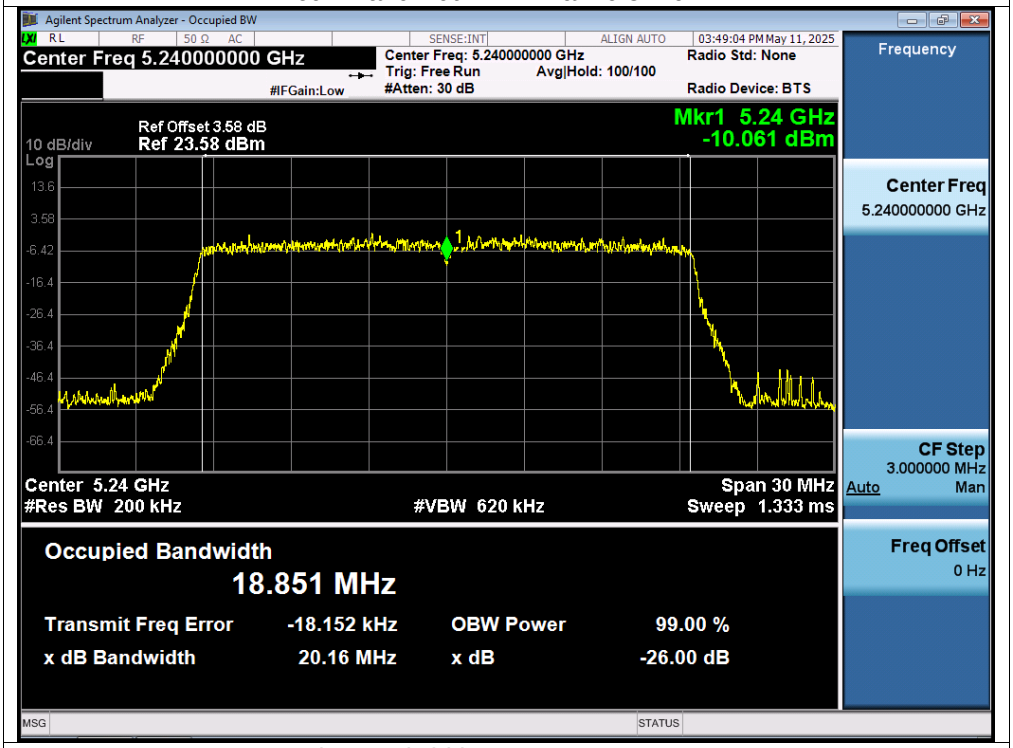
-26dB Bandwidth NVNT ax20 5180MHz



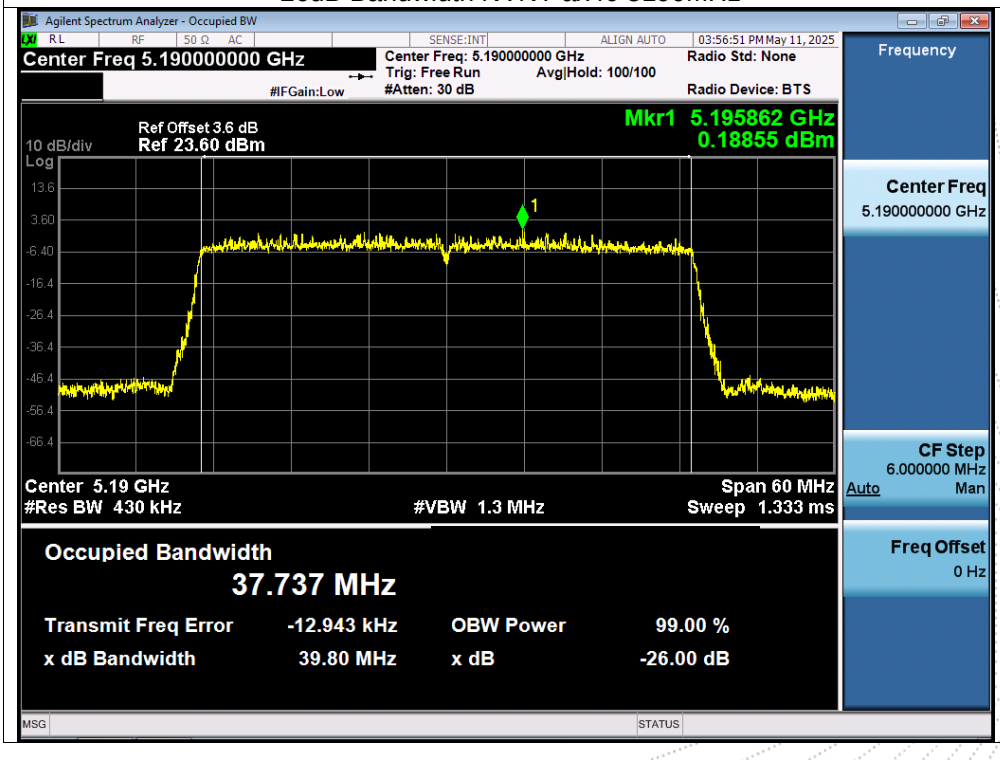
-26dB Bandwidth NVNT ax20 5200MHz



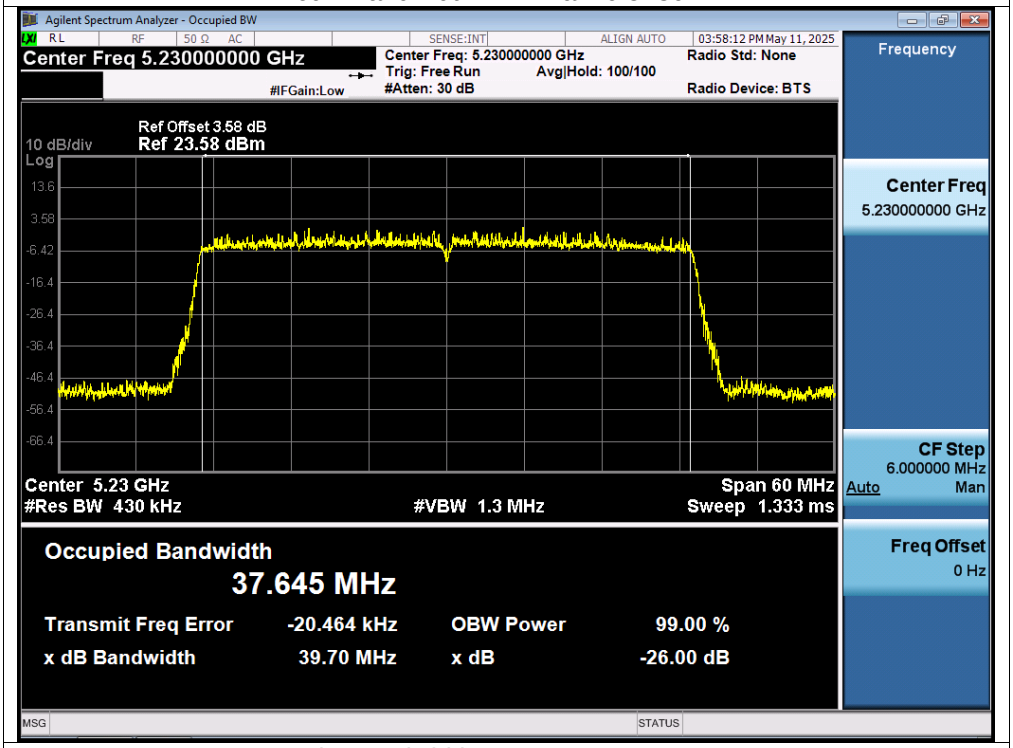
-26dB Bandwidth NVNT ax20 5240MHz



-26dB Bandwidth NVNT ax40 5190MHz



-26dB Bandwidth NVNT ax40 5230MHz



-26dB Bandwidth NVNT ax80 5210MHz