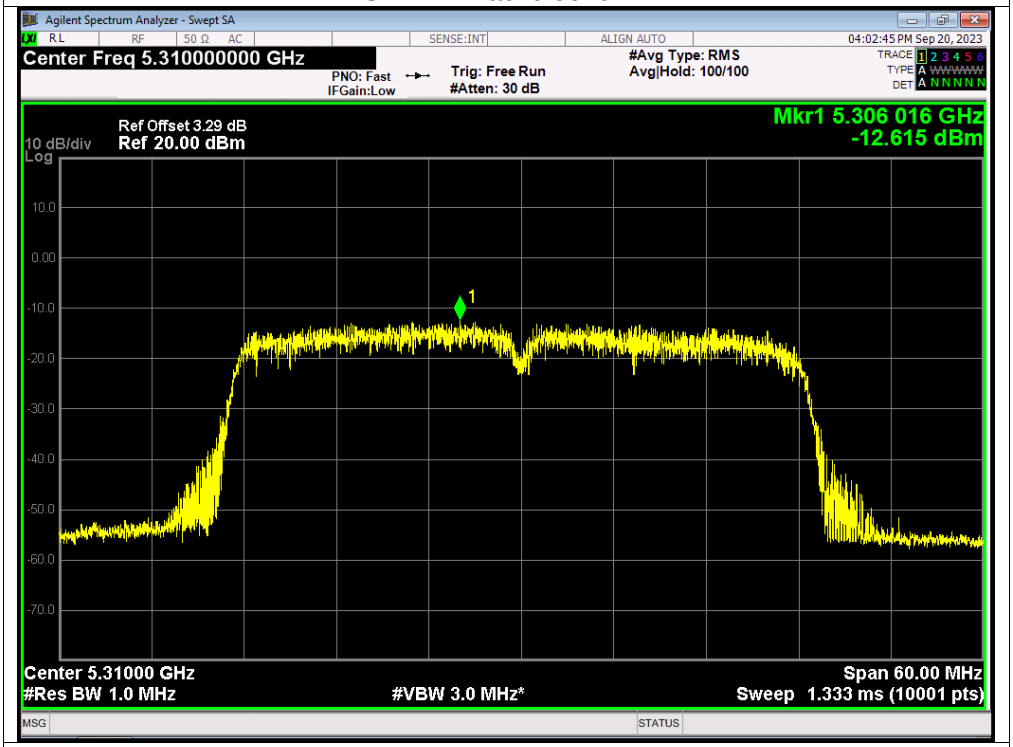
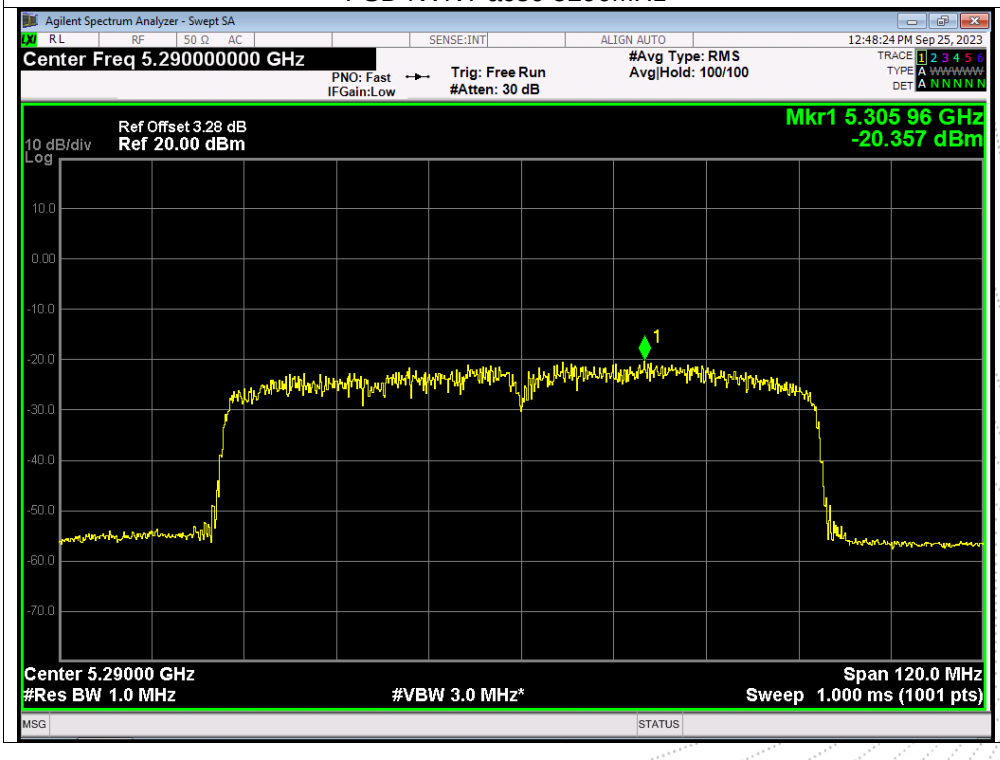
PSD NVNT ac40 5310MHz



PSD NVNT ac80 5290MHz



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5500-5700MHz)		

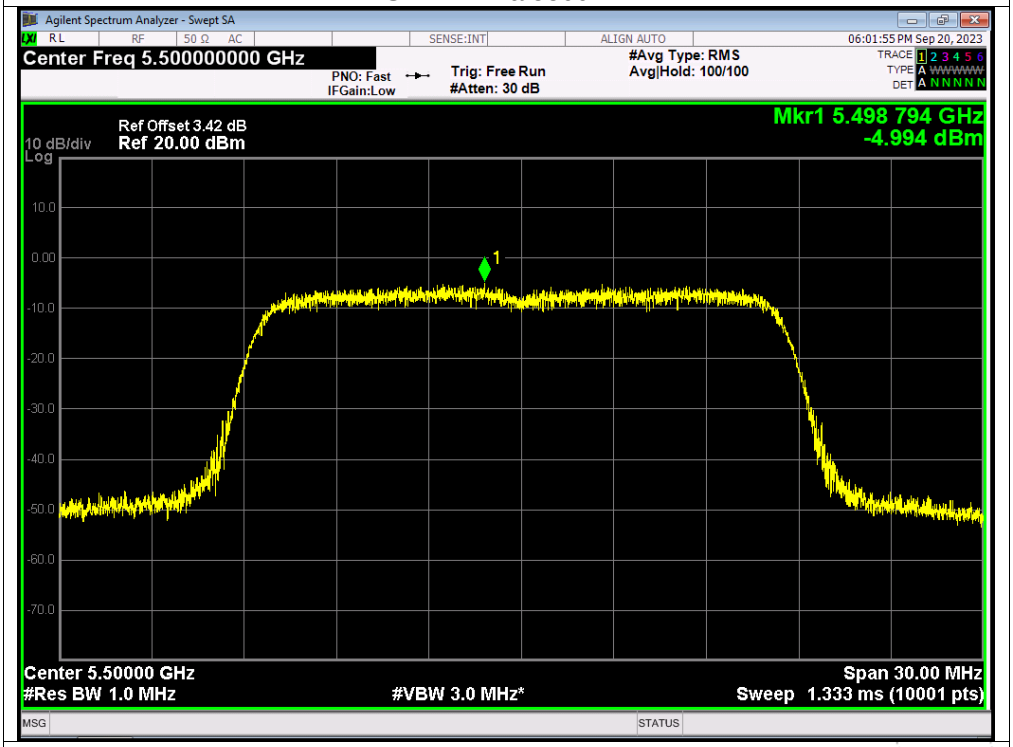
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/MHz)		Total (dBm/MHz)	Limit (dBm/MHz)	Verdict
			Ant A	Ant B			
NVNT	a	5500	-4.99	-8.49	/	11	Pass
NVNT	a	5580	-4.88	-6.53	/	11	Pass
NVNT	a	5700	**-4.15**	-6.15	/	11	Pass
NVNT	n20	5500	-6.78	-8.75	-4.64	9.61	Pass
NVNT	n20	5580	-4.99	-7.41	-3.02	9.61	Pass
NVNT	n20	5700	-5.19	-5.37	-2.27	9.61	Pass
NVNT	n40	5510	-13.72	-14.91	-11.26	9.61	Pass
NVNT	n40	5550	-9.73	-13.16	-8.10	9.61	Pass
NVNT	n40	5670	-9.19	-11.56	-7.20	9.61	Pass
NVNT	ac20	5500	-6.55	-9.2	-4.67	9.61	Pass
NVNT	ac20	5580	-4.86	-6.81	-2.72	9.61	Pass
NVNT	ac20	5700	-4.18	-6	-1.99	9.61	Pass
NVNT	ac40	5510	-10.62	-14.09	-9.01	9.61	Pass
NVNT	ac40	5550	-10.43	-13.08	-8.55	9.61	Pass
NVNT	ac40	5670	-10.57	-12.17	-8.29	9.61	Pass
NVNT	ac80	5530	-15.64	-17.58	-13.49	9.61	Pass

Note:
Antenna A gain: 4.38 dBi, Antenna B gain: 4.38 dBi, Directional gain=[GainANT + 10 log(NANT/NSS) dBi] =7.39 dbi>6dbi
Limit=11-(7.39-6)=9.61 dbi

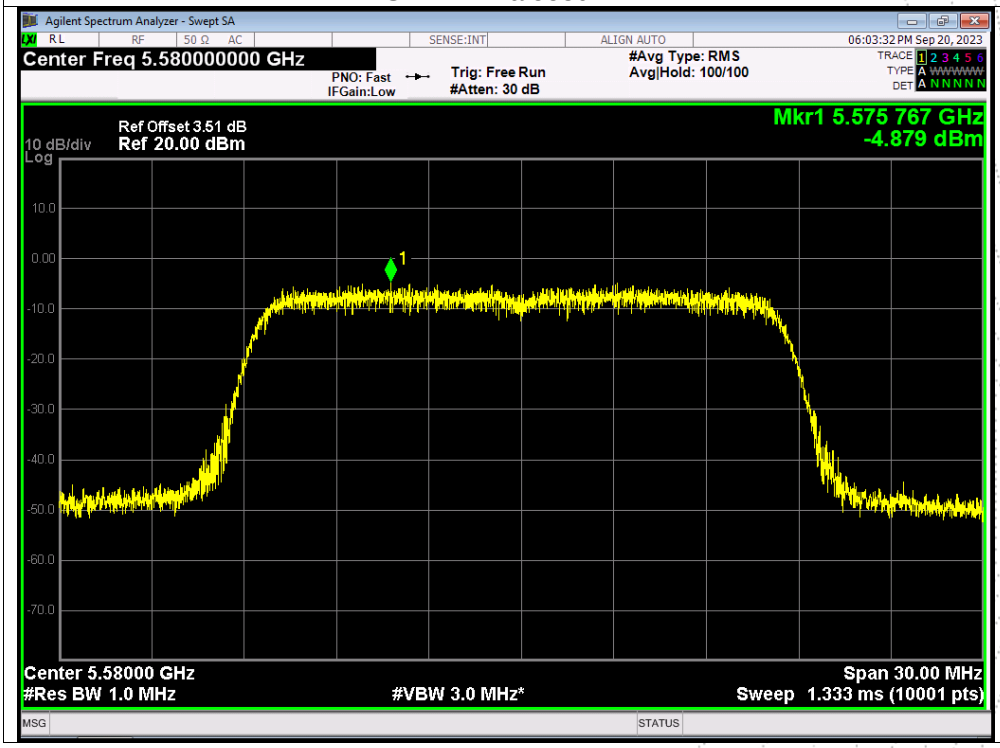
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot. Note:

Test Graphs

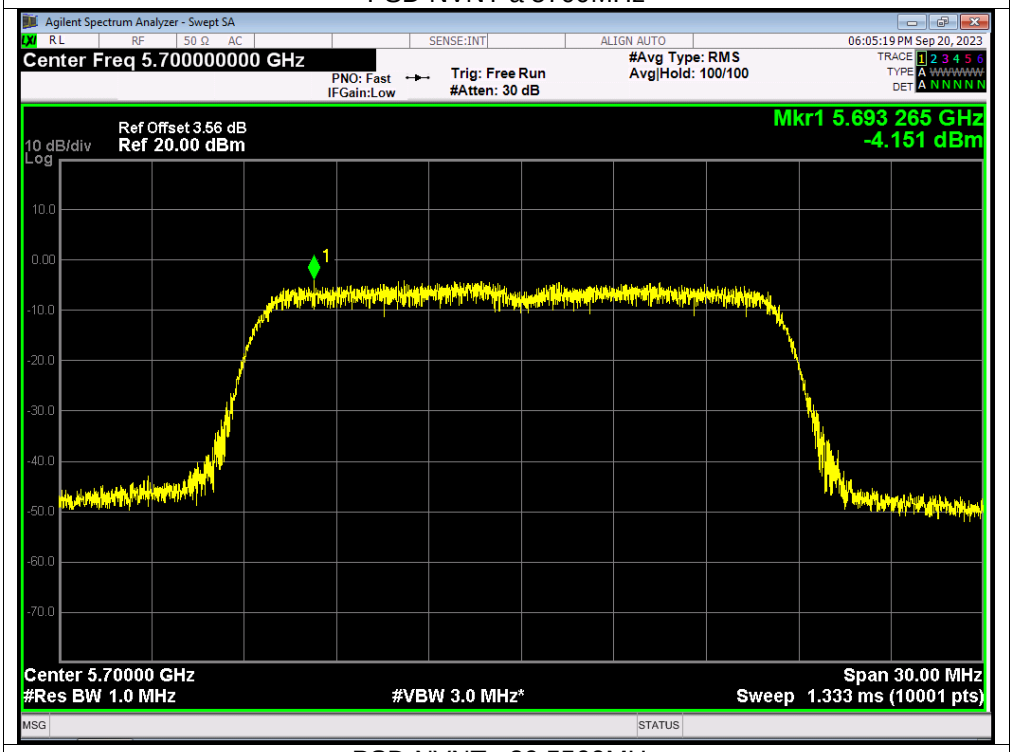
PSD NVNT a 5500MHz



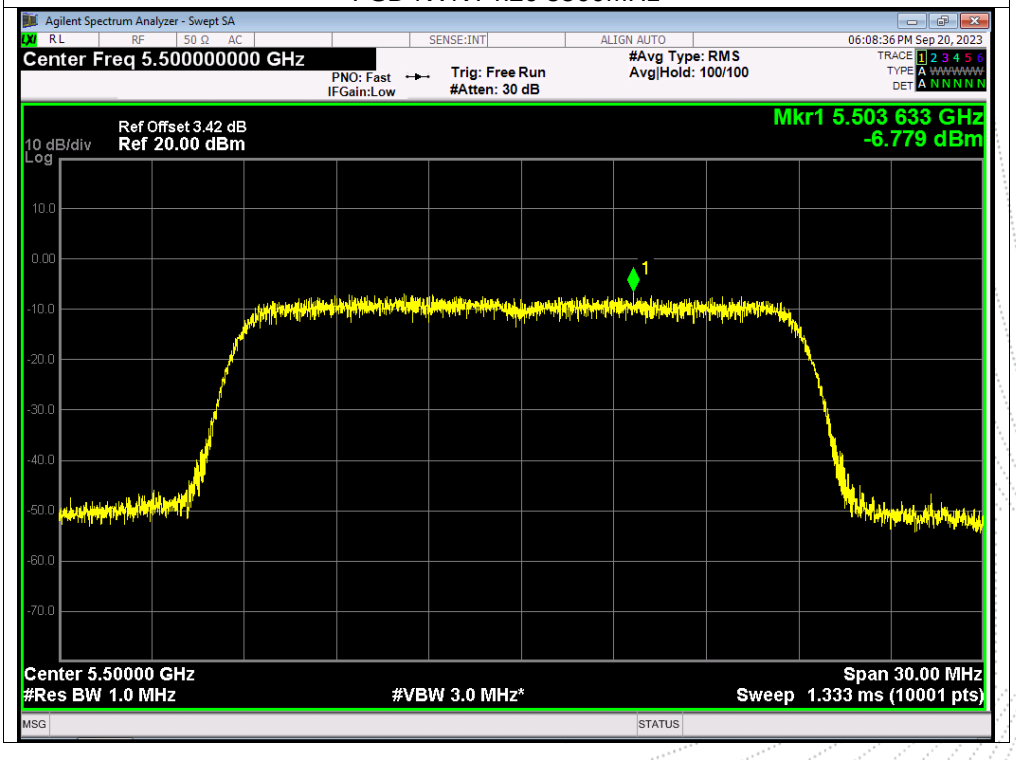
PSD NVNT a 5580MHz



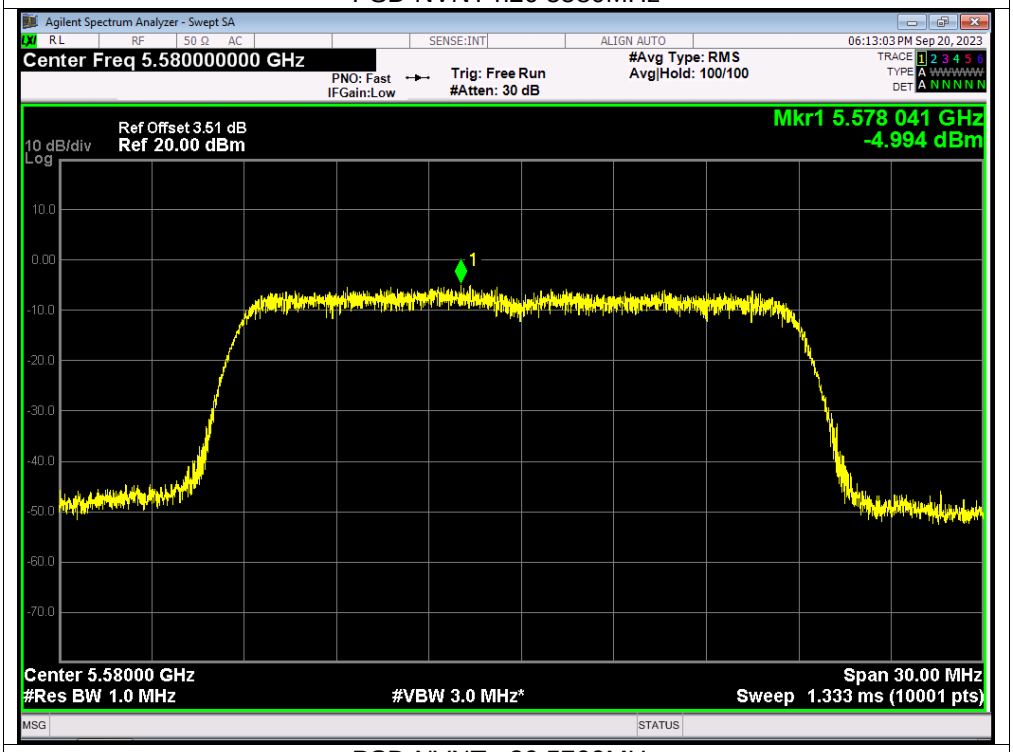
PSD NVNT a 5700MHz



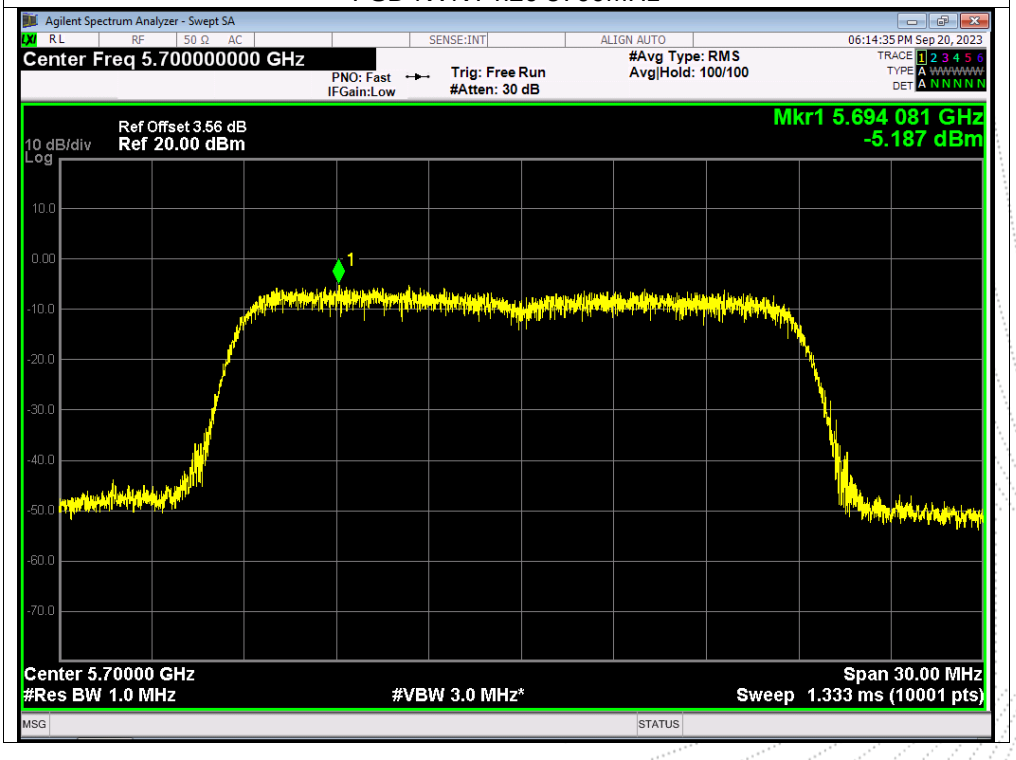
PSD NVNT n20 5500MHz



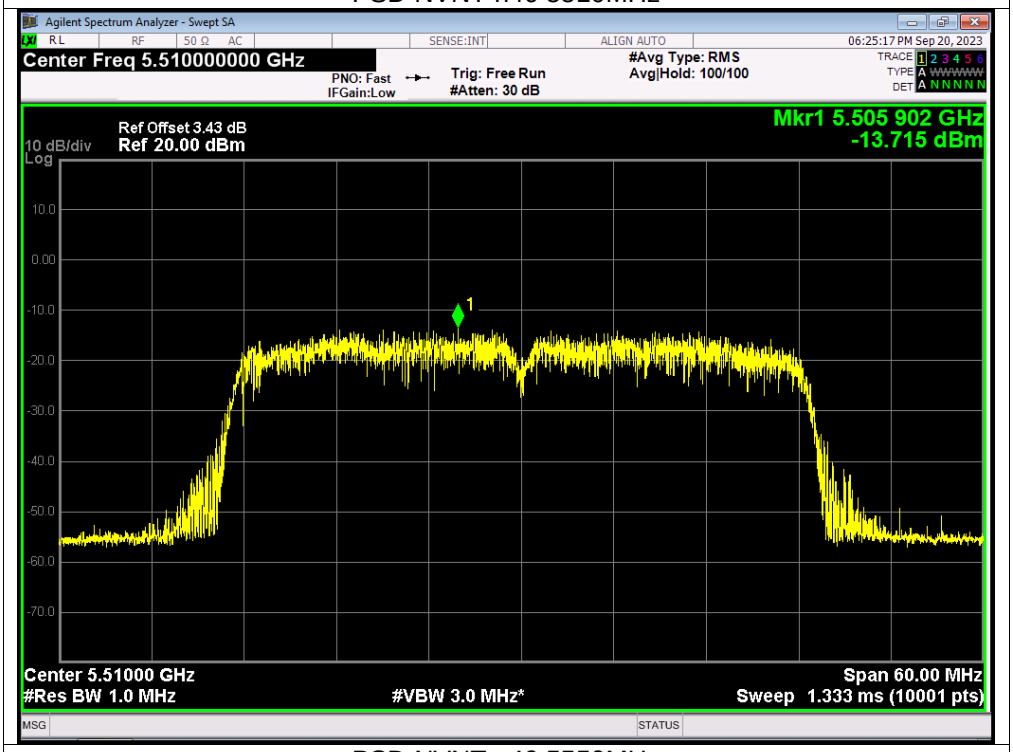
PSD NVNT n20 5580MHz



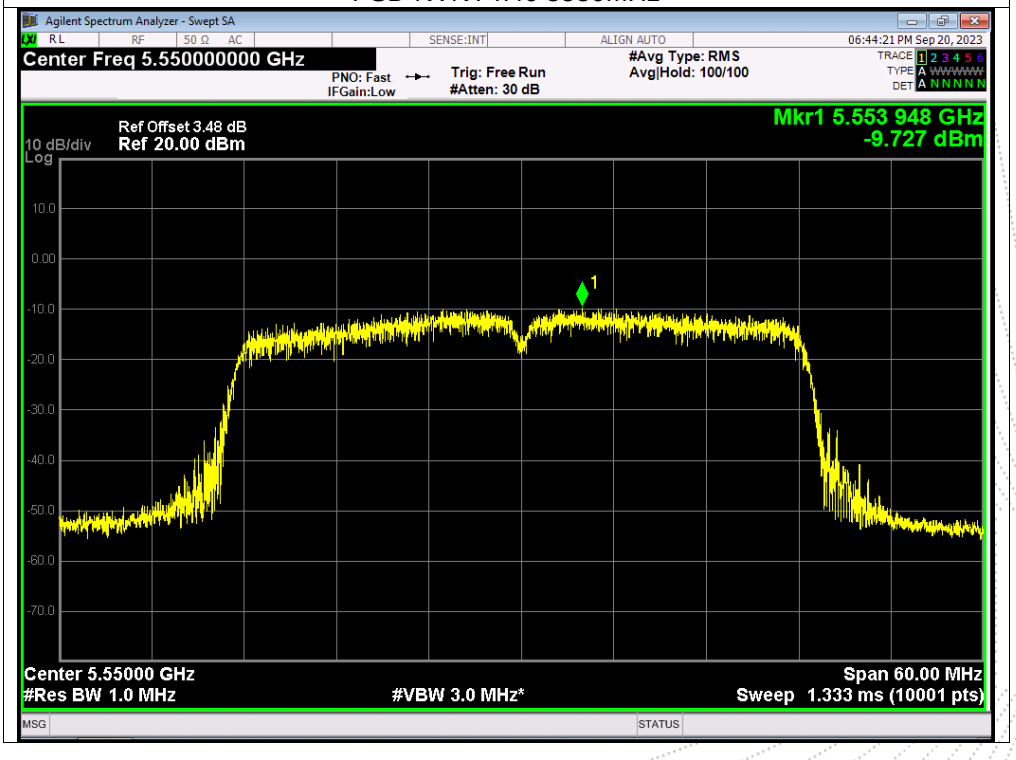
PSD NVNT n20 5700MHz



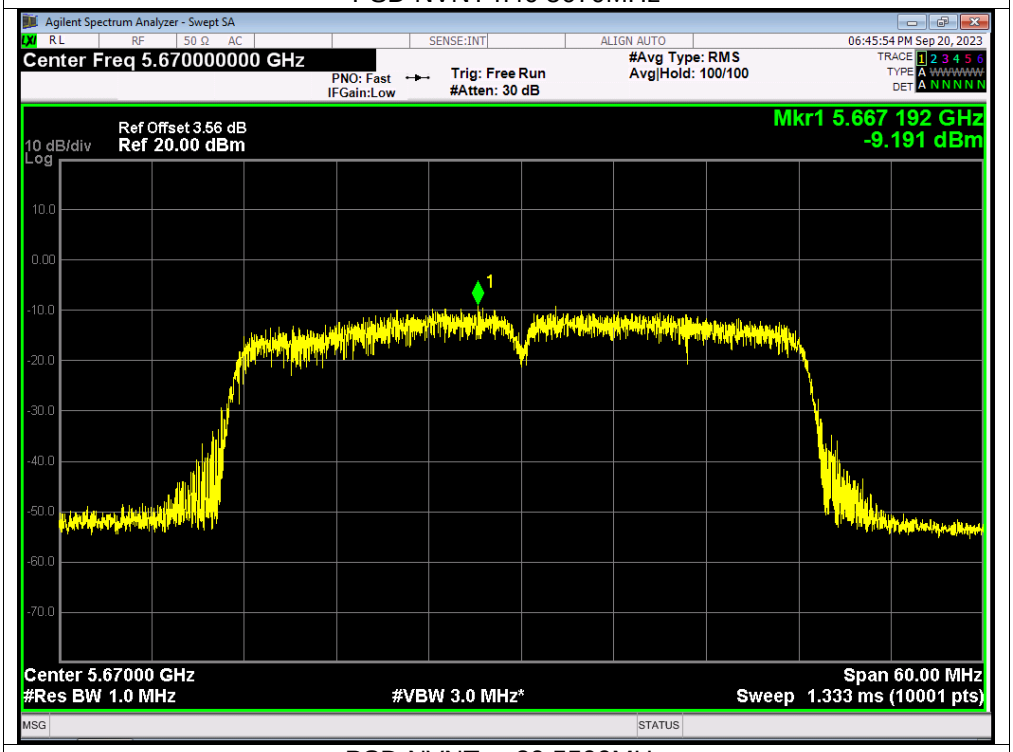
PSD NVNT n40 5510MHz



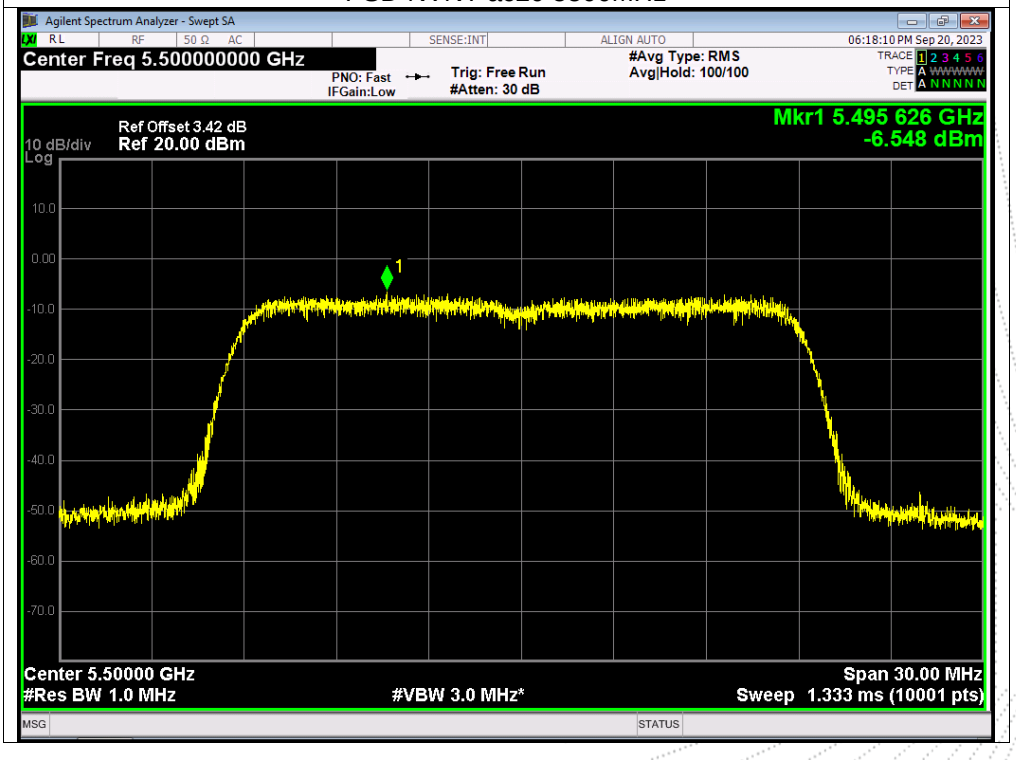
PSD NVNT n40 5550MHz



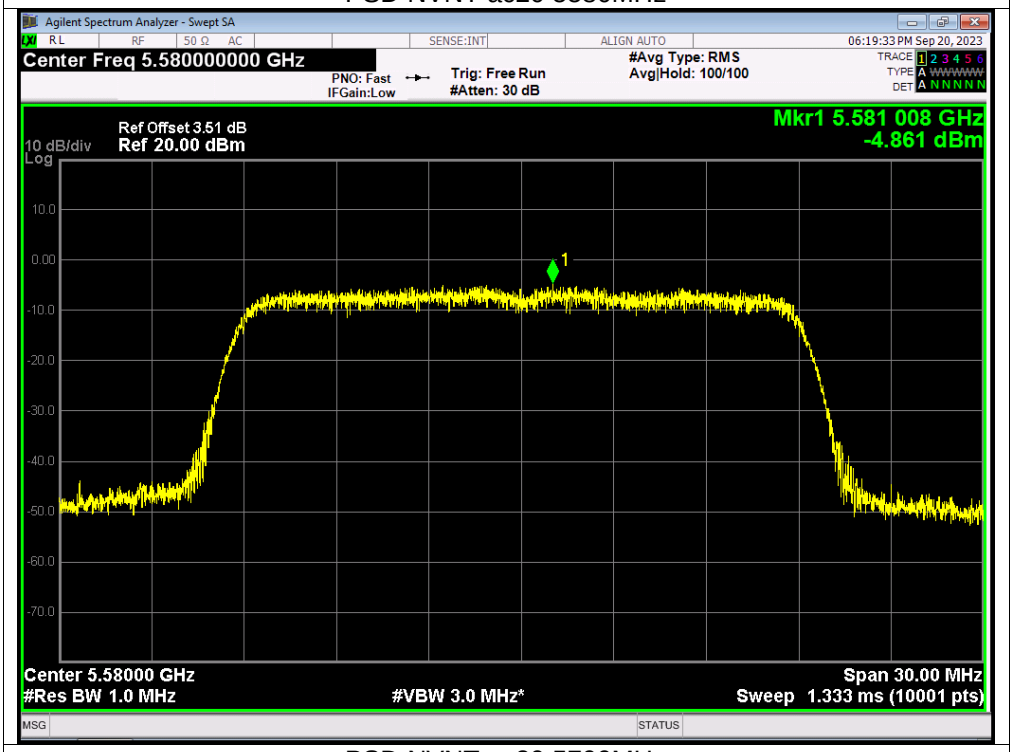
PSD NVNT n40 5670MHz



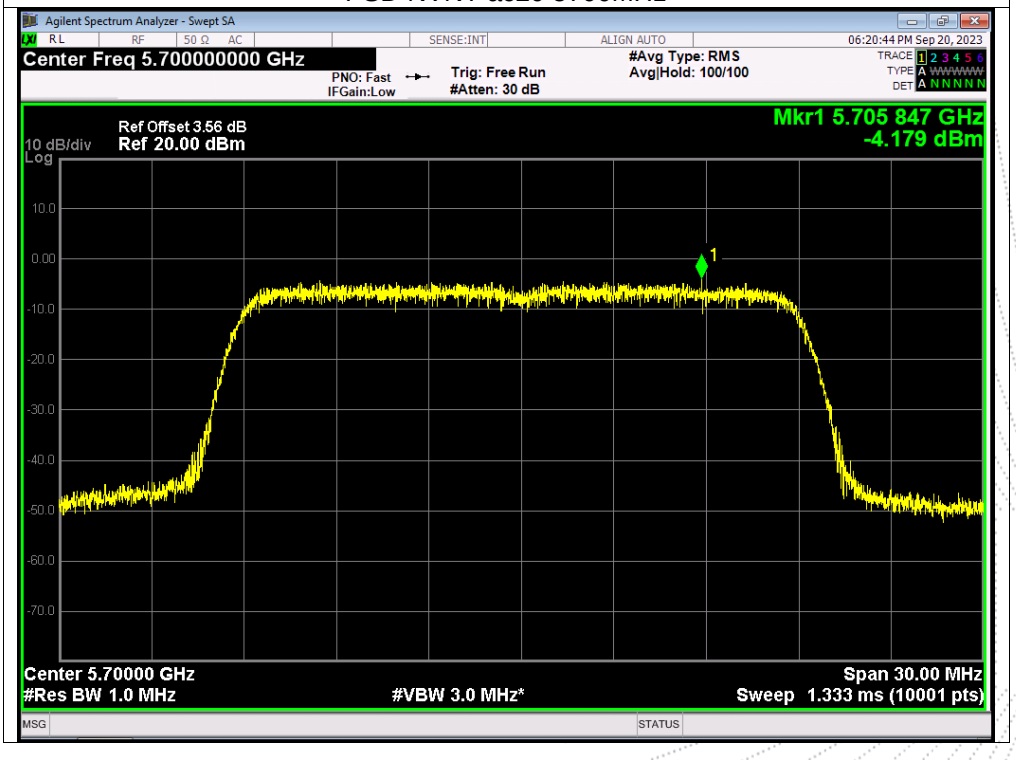
PSD NVNT ac20 5500MHz



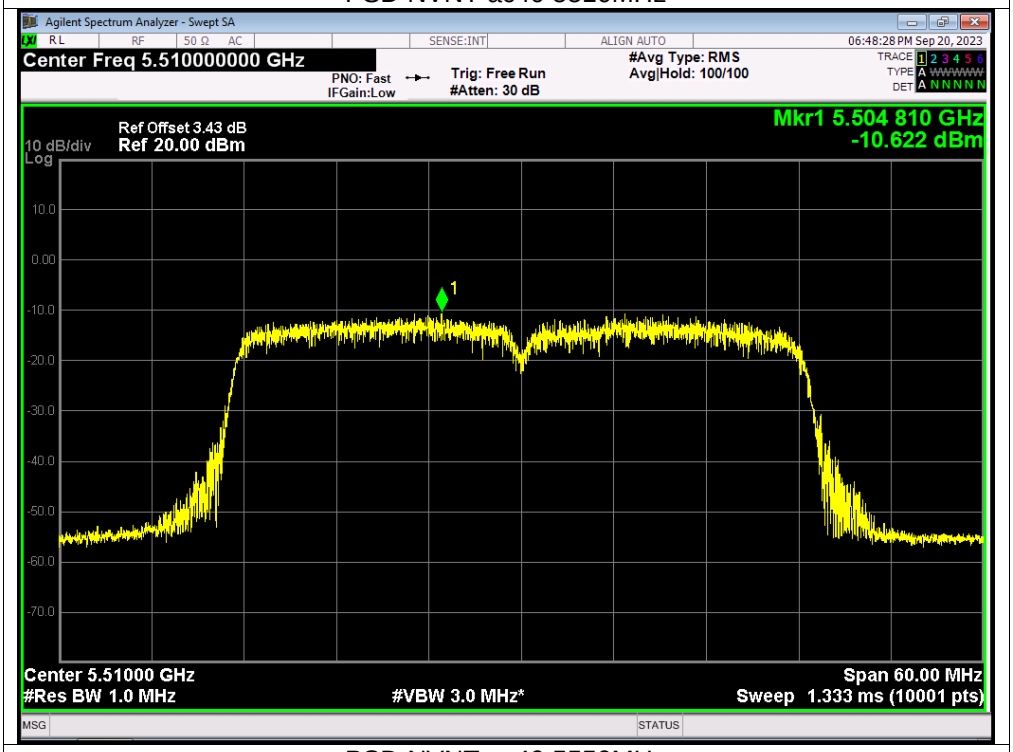
PSD NVNT ac20 5580MHz



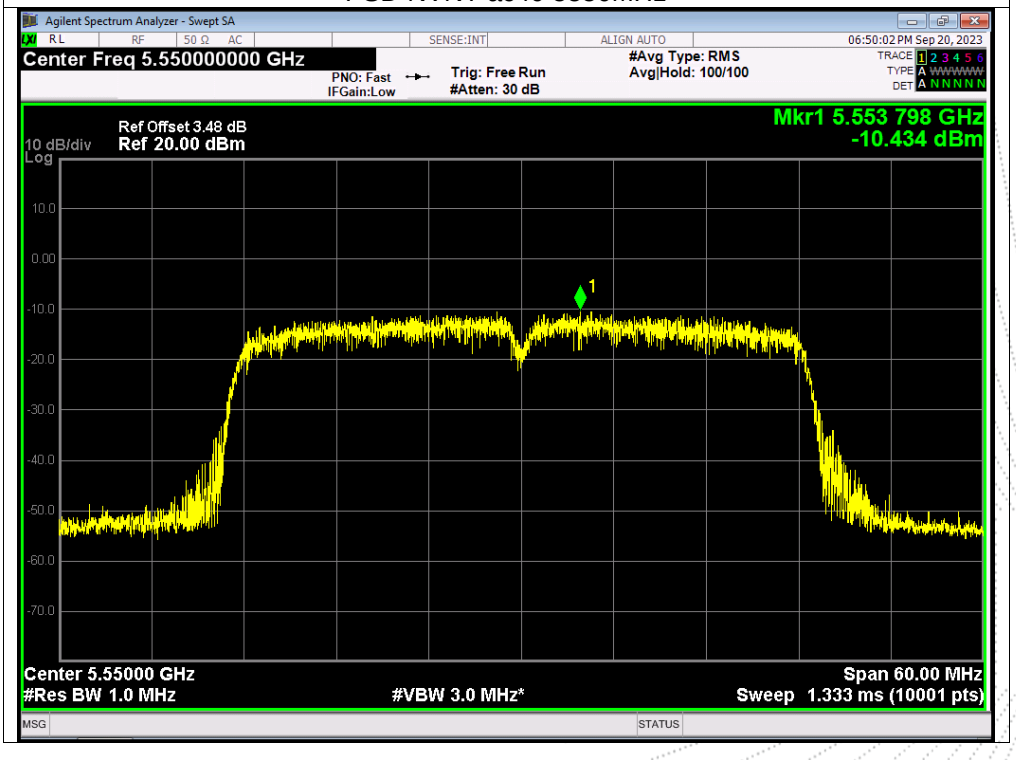
PSD NVNT ac20 5700MHz



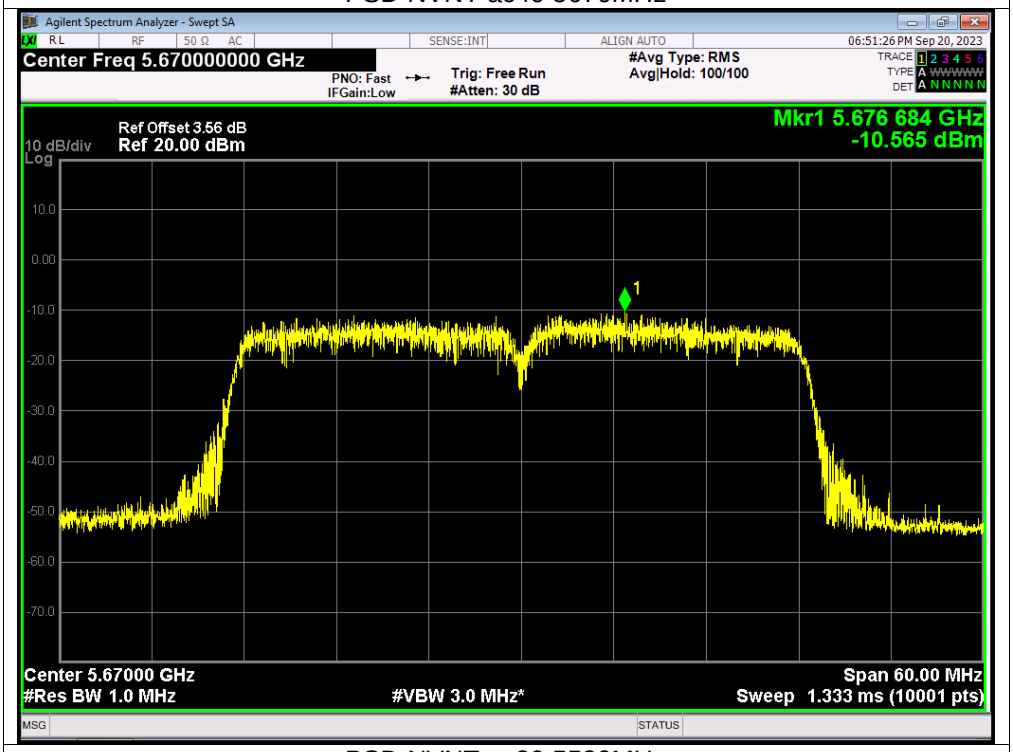
PSD NVNT ac40 5510MHz



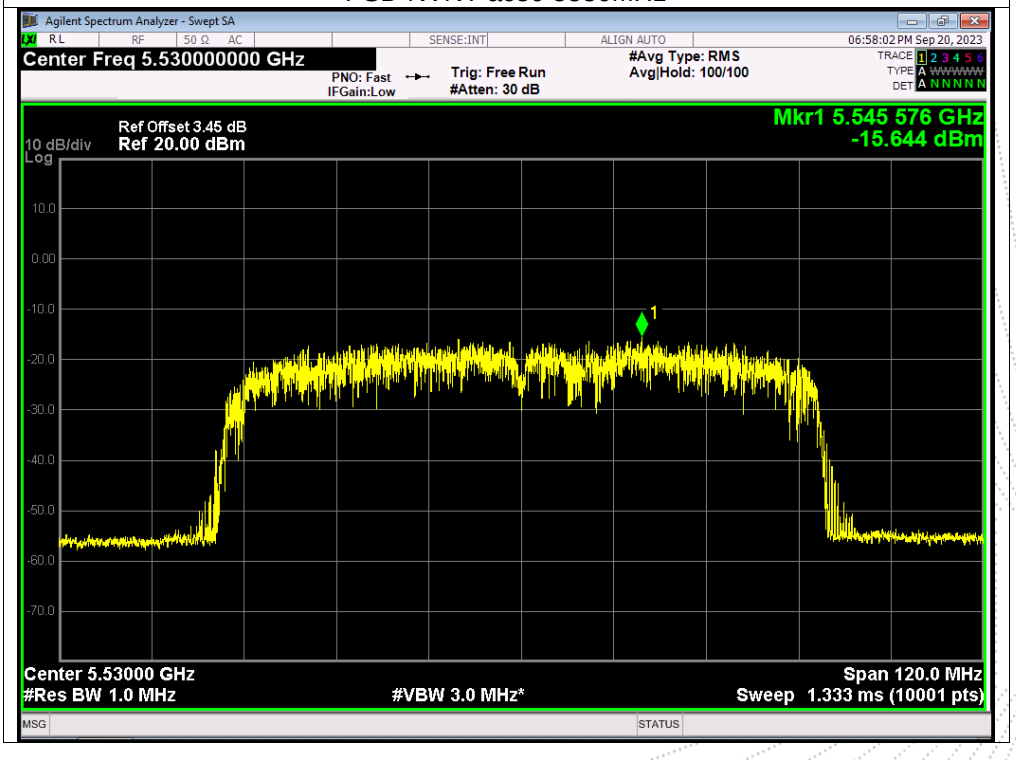
PSD NVNT ac40 5550MHz



PSD NVNT ac40 5670MHz



PSD NVNT ac80 5530MHz



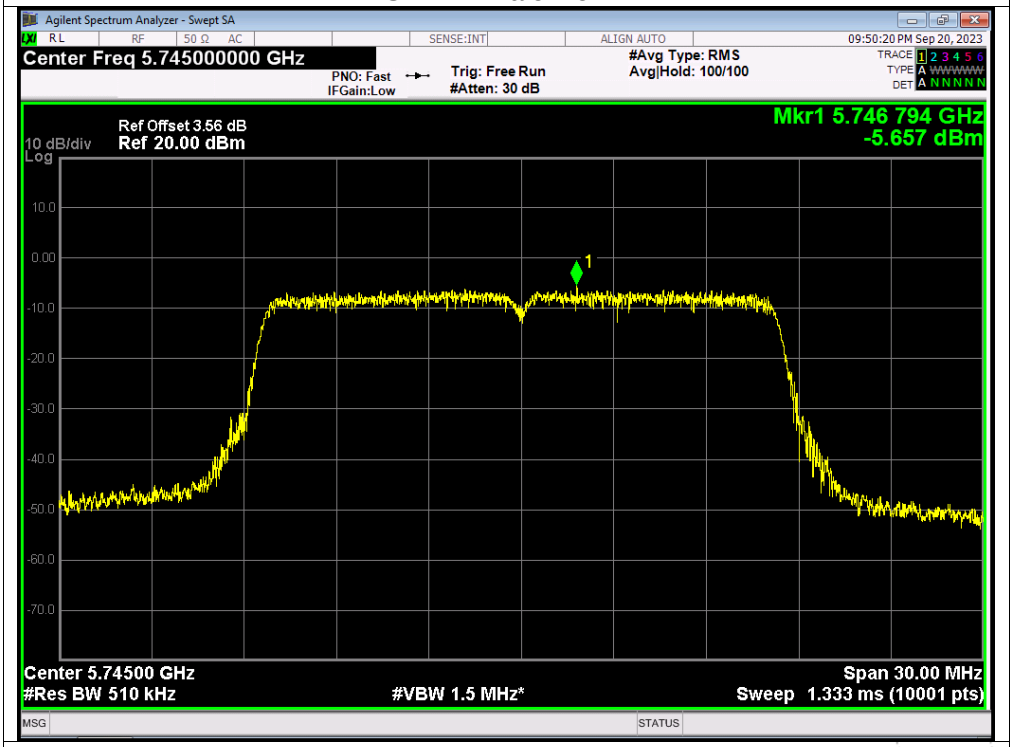
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5745-5825MHz)		

Condition	Mode	Fre-quency (MHz)	Conducted PSD (dBm/510KHz)		Conducted PSD (dBm/500KHz)		Total (dBm/ 500KHz)	Limit (dBm/ 500KHz)	Verdict
			Ant A	Ant B	Ant A	Ant B			
NVNT	a	5745	**-5.66**	-8.51	-5.746	-8.596	/	30	Pass
NVNT	a	5785	-7	-8.78	-7.086	-8.866	/	30	Pass
NVNT	a	5825	-7.47	-8.99	-7.556	-9.076	/	30	Pass
NVNT	n20	5745	-7.09	-8.92	-7.176	-9.006	-4.99	28.61	Pass
NVNT	n20	5785	-7.75	-9.39	-7.836	-9.476	-5.57	28.61	Pass
NVNT	n20	5825	-8.72	-9.22	-8.806	-9.306	-6.04	28.61	Pass
NVNT	n40	5755	-12.66	-13.83	-12.746	-13.916	-10.28	28.61	Pass
NVNT	n40	5795	-12.79	-14.07	-12.876	-14.156	-10.46	28.61	Pass
NVNT	ac20	5745	-7.07	-9.01	-7.156	-9.096	-5.01	28.61	Pass
NVNT	ac20	5785	-7.34	-9.96	-7.426	-10.046	-5.53	28.61	Pass
NVNT	ac20	5825	-8.23	-9.91	-8.316	-9.996	-6.06	28.61	Pass
NVNT	ac40	5755	-12.93	-14.31	-13.016	-14.396	-10.64	28.61	Pass
NVNT	ac40	5795	-14.74	-13.34	-14.826	-13.426	-11.06	28.61	Pass
NVNT	ac80	5775	-16.34	-18.09	-16.426	-18.176	-14.20	28.61	Pass
Note: Correction Factor = 10log(500KHz/RBW in measurement) =-0.086									

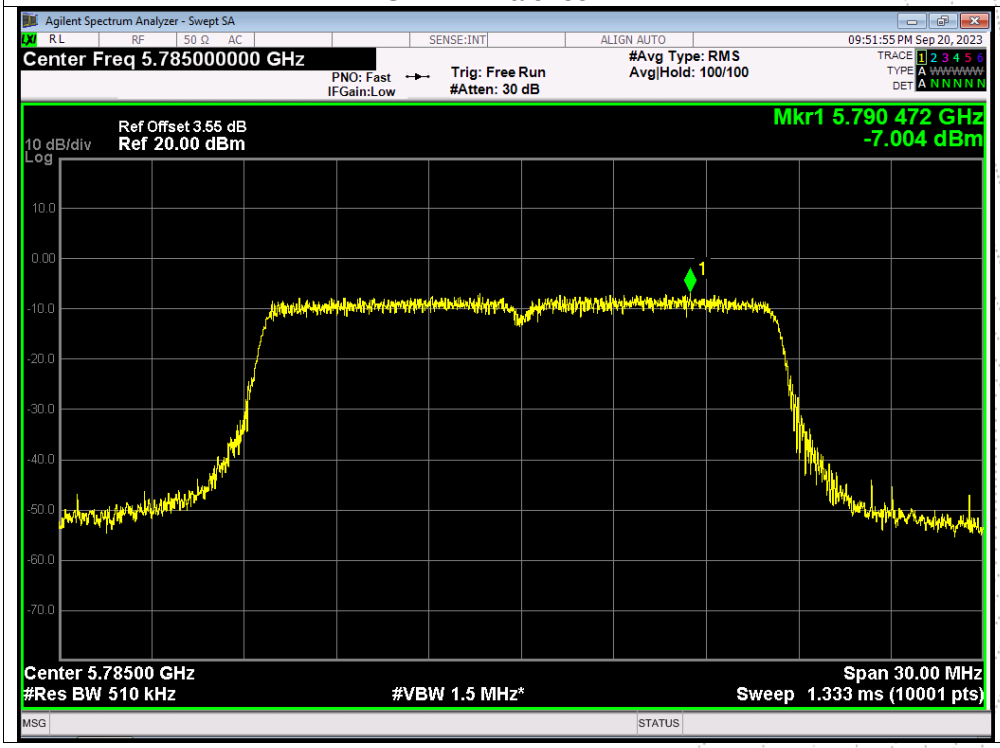
Note:
Antenna A gain:4.38 dBi, Antenna B gain: 4.38 dBi, Directional gain=[GainANT + 10 log(NANT/NSS) dBi] =7.39 dbi>6dbi
EIRP Limit=30-(7.39-6)=28.61 dbi

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

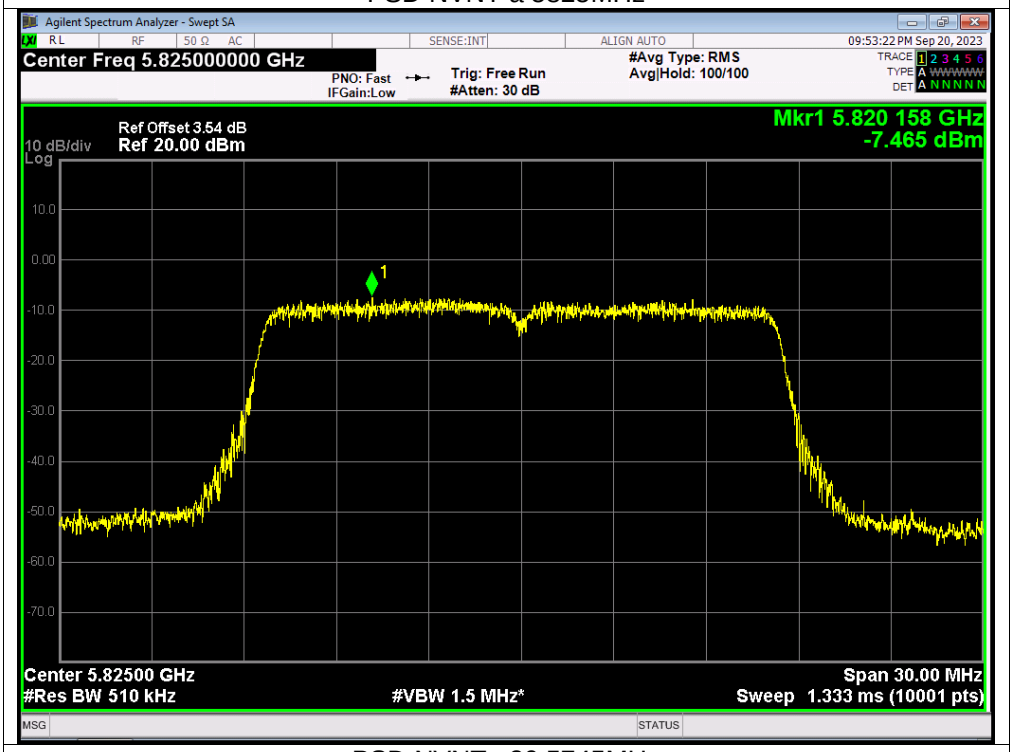
Test Graphs
PSD NVNT a 5745MHz



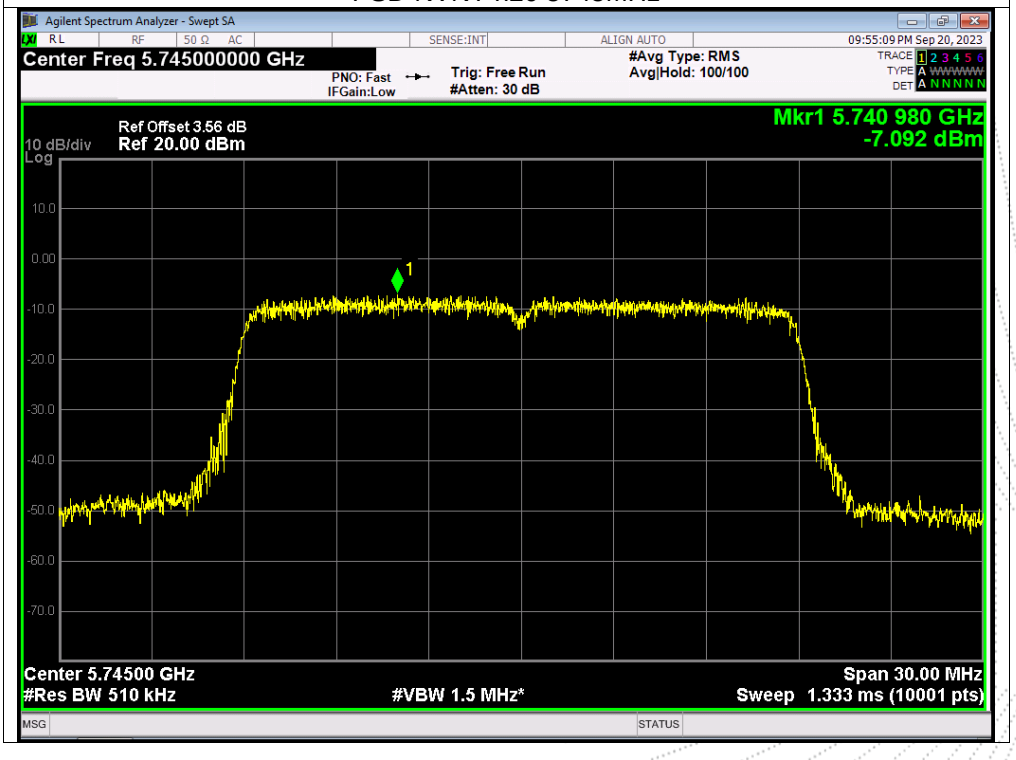
PSD NVNT a 5785MHz



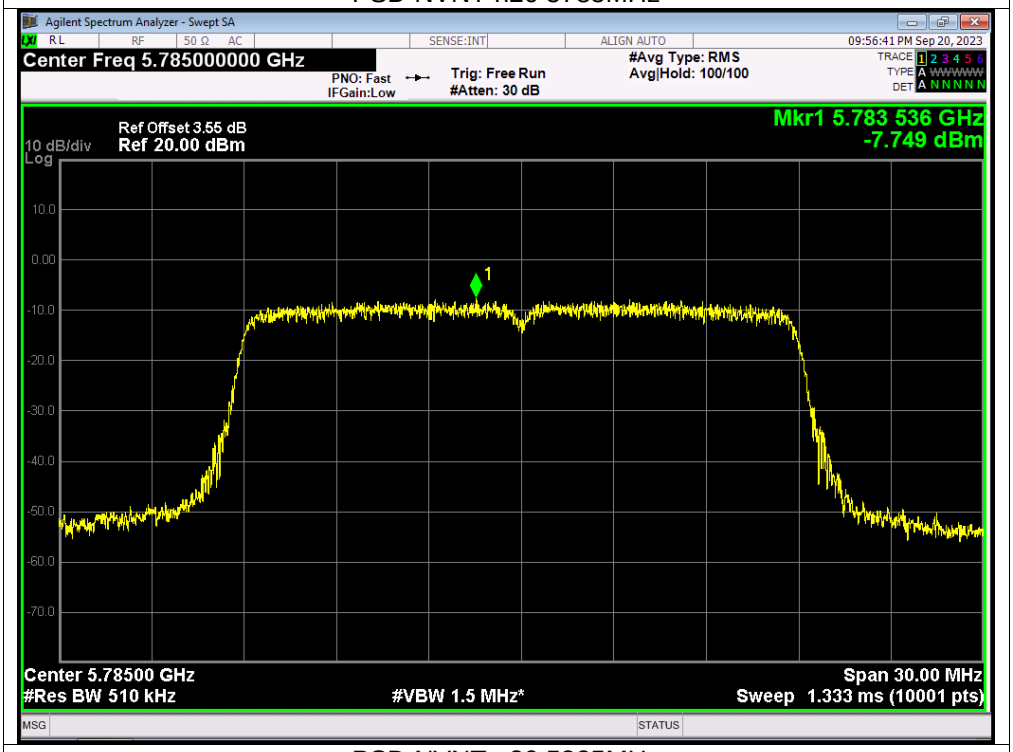
PSD NVNT a 5825MHz



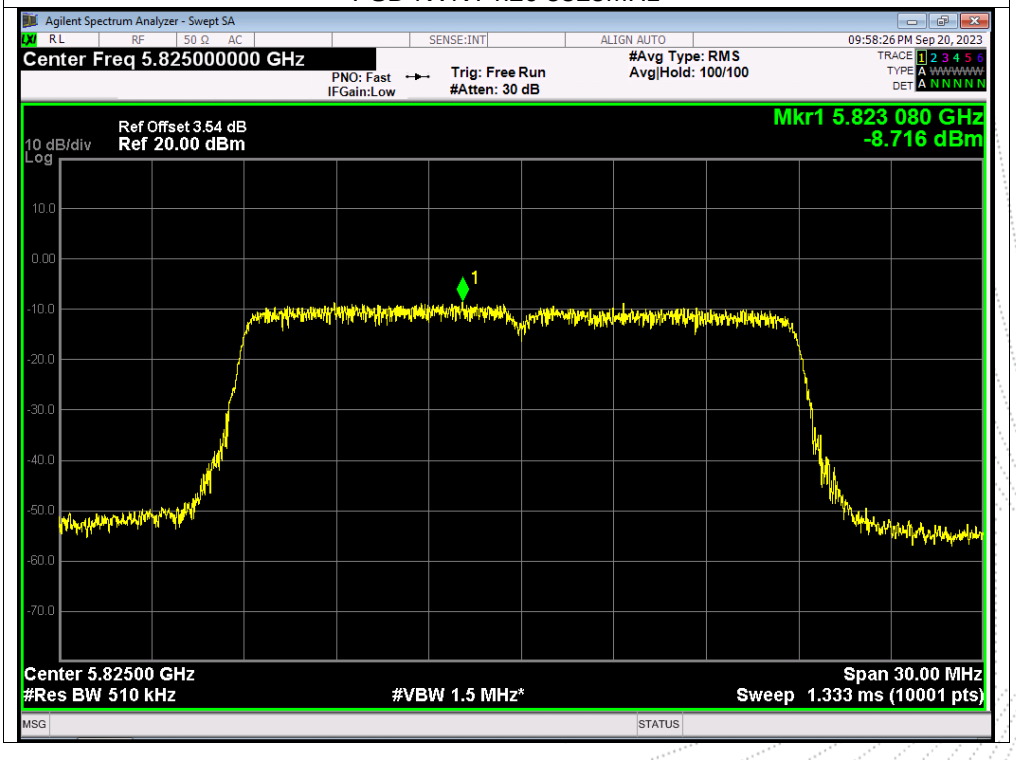
PSD NVNT n20 5745MHz



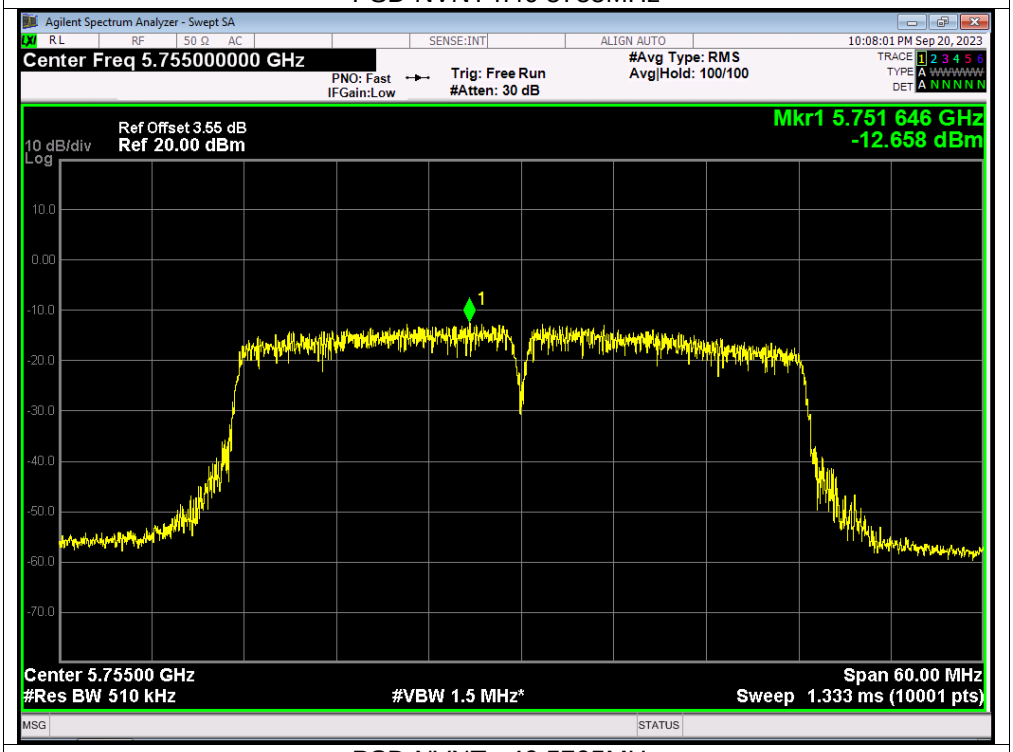
PSD NVNT n20 5785MHz



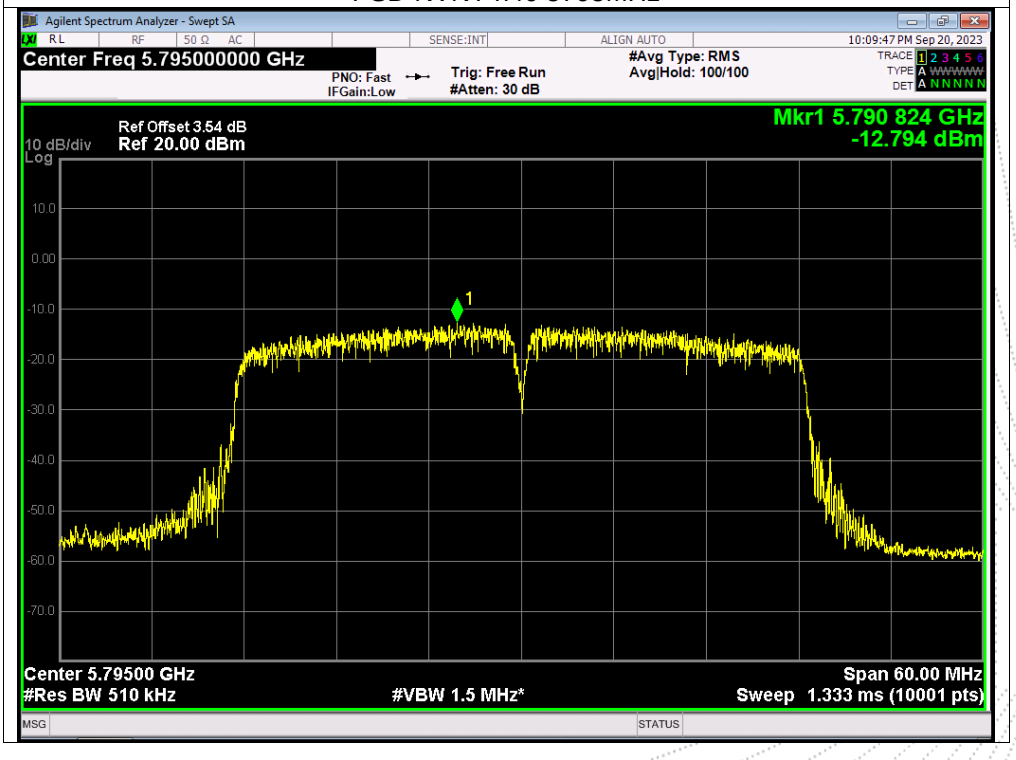
PSD NVNT n20 5825MHz



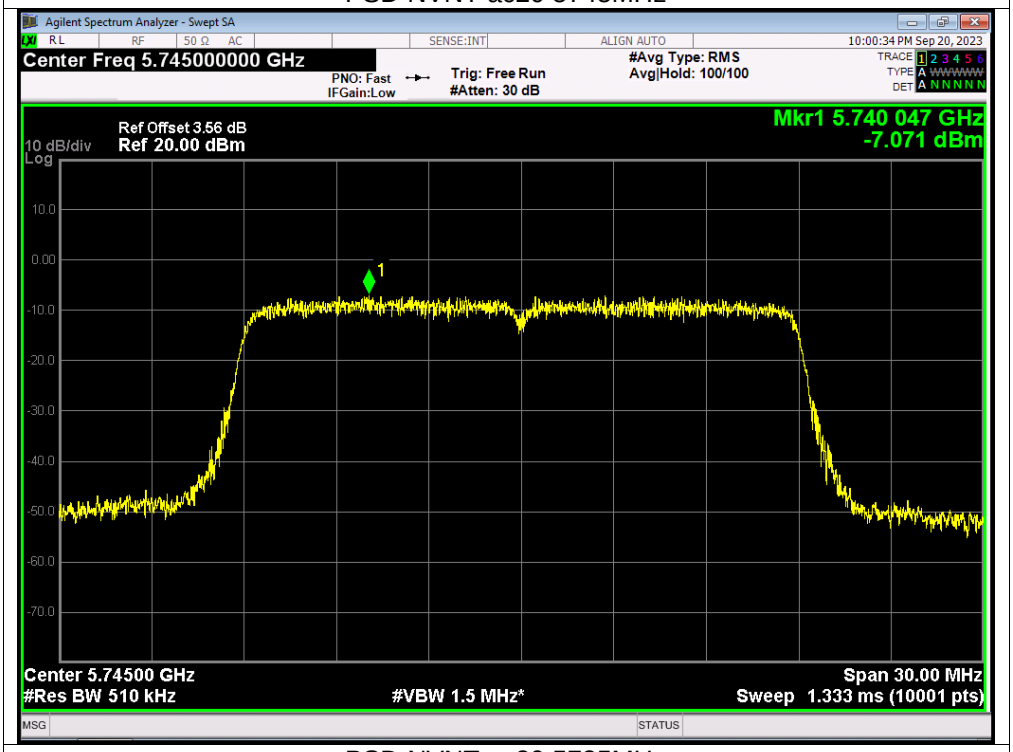
PSD NVNT n40 5755MHz



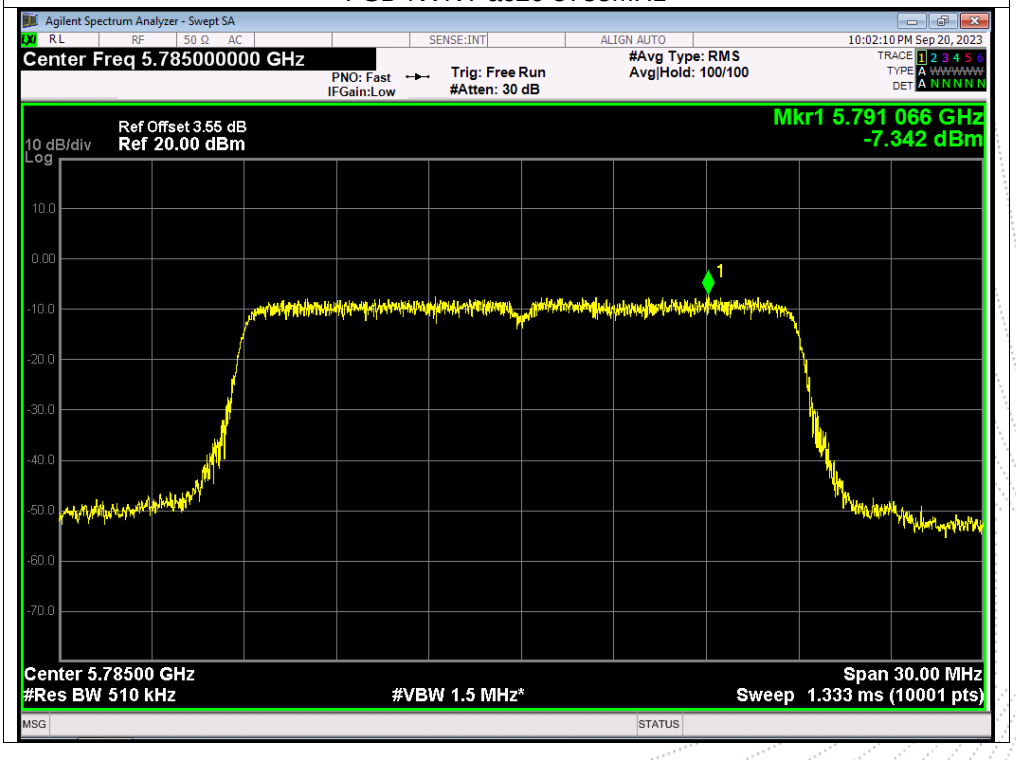
PSD NVNT n40 5795MHz



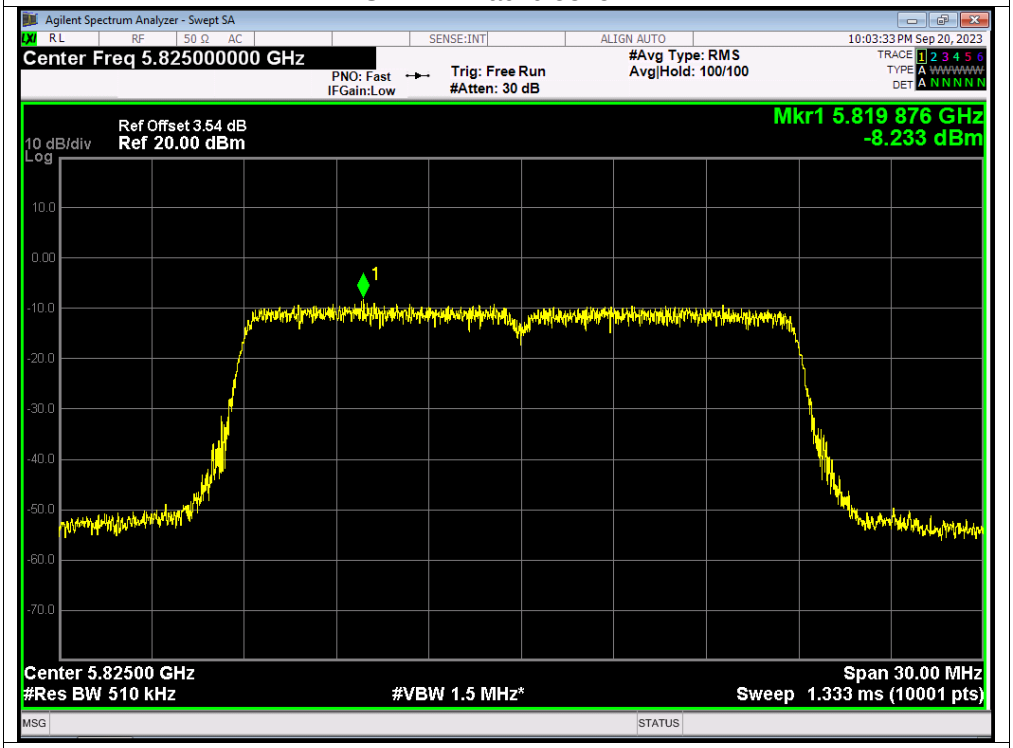
PSD NVNT ac20 5745MHz



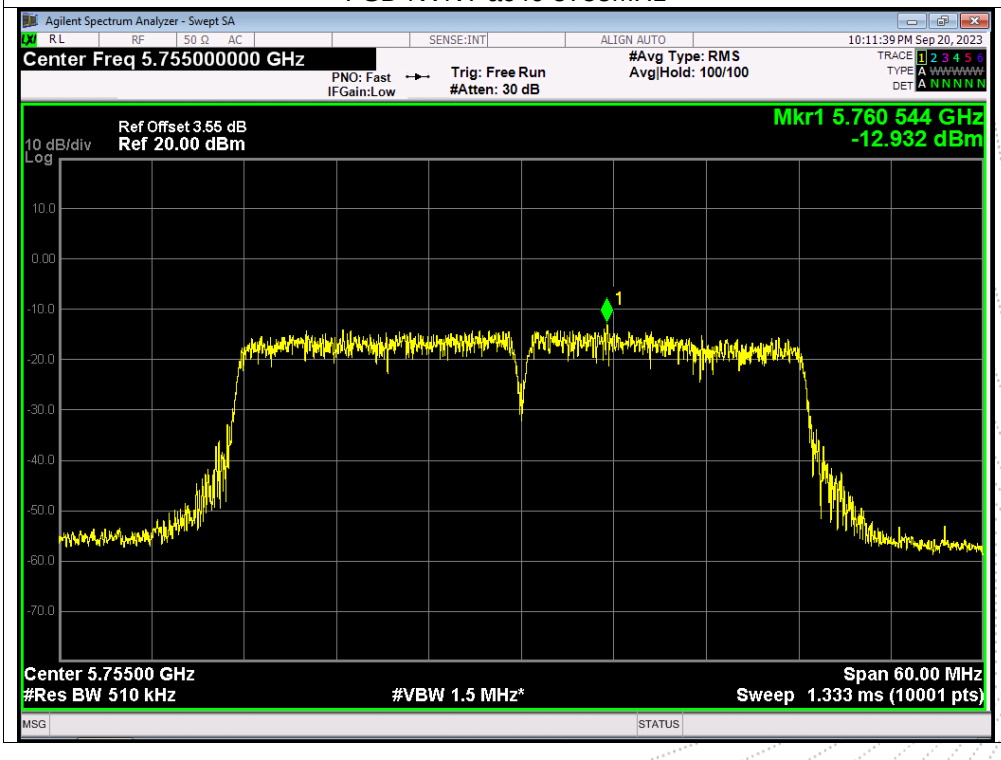
PSD NVNT ac20 5785MHz



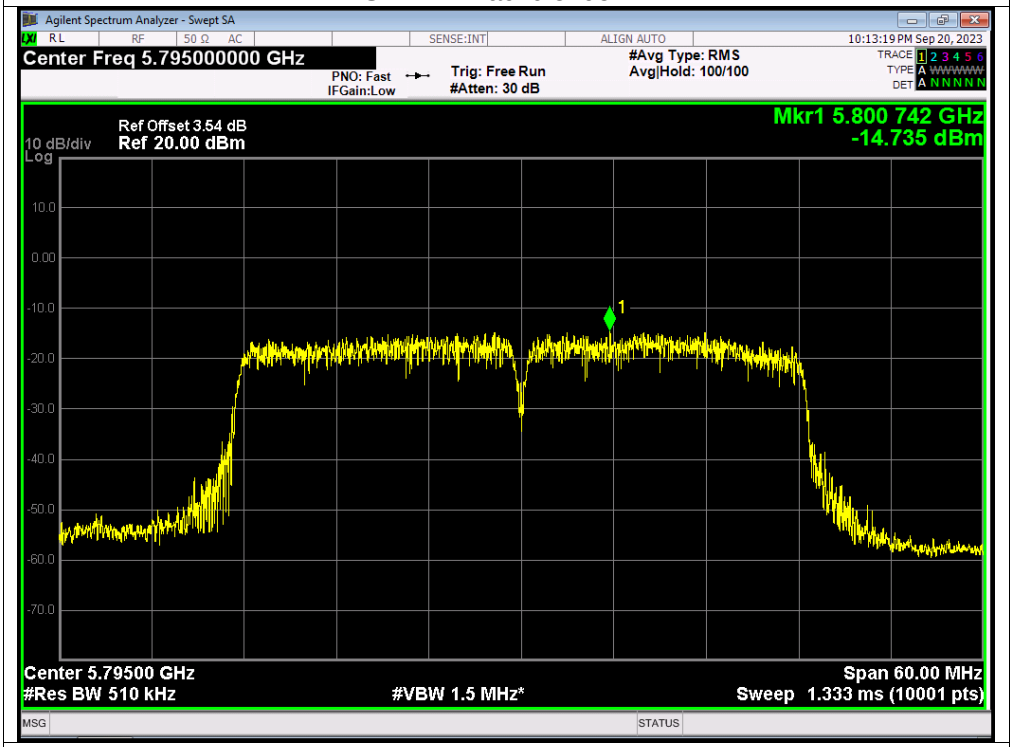
PSD NVNT ac20 5825MHz



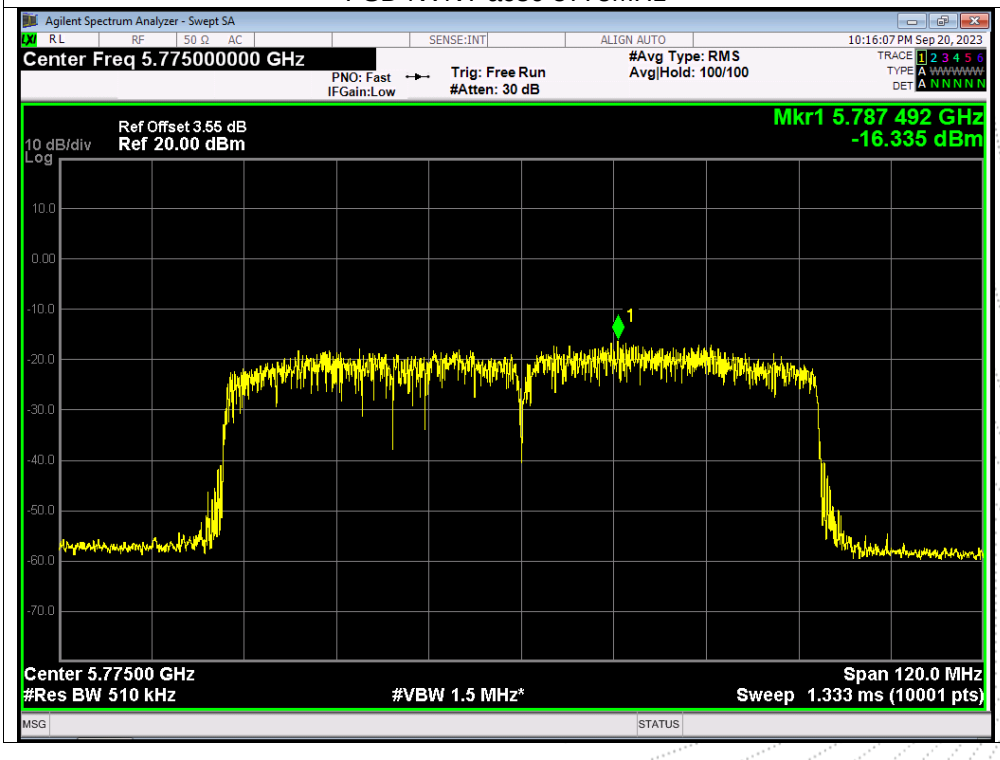
PSD NVNT ac40 5755MHz



PSD NVNT ac40 5795MHz

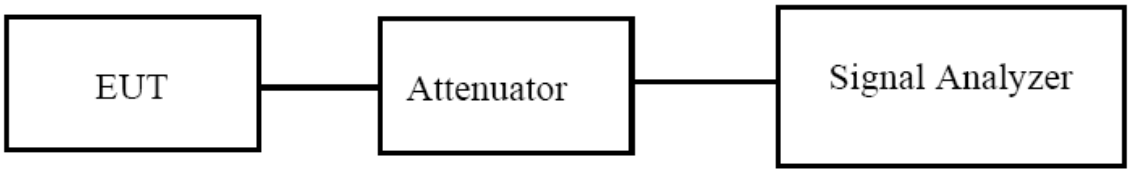


PSD NVNT ac80 5775MHz



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

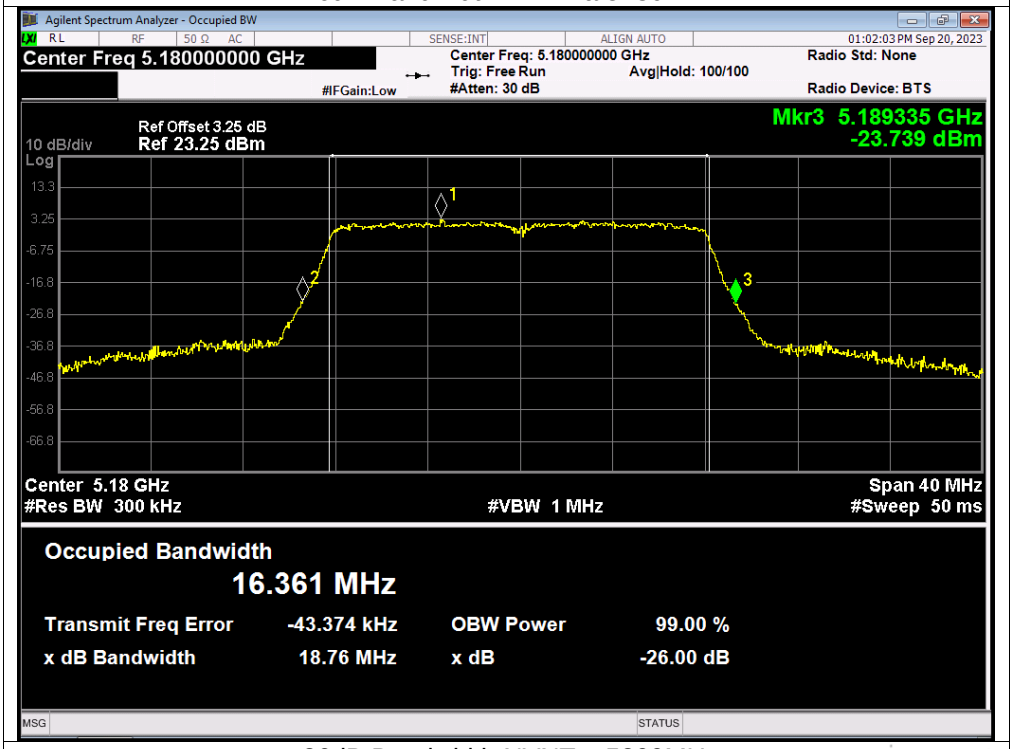
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5180-5240MHz)		

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5180	18.574	18.757	16.368	16.328	Pass
NVNT	a	5200	18.537	18.768	16.389	16.34	Pass
NVNT	a	5240	18.571	18.286	16.366	16.336	Pass
NVNT	n20	5180	19.327	19.55	17.559	17.523	Pass
NVNT	n20	5200	19.375	19.729	17.562	17.53	Pass
NVNT	n20	5240	19.577	19.515	17.557	17.5	Pass
NVNT	n40	5190	42.449	42.346	36.21	36.068	Pass
NVNT	n40	5230	42.848	42.382	36.163	36.166	Pass
NVNT	ac20	5180	19.642	19.62	17.573	17.52	Pass
NVNT	ac20	5200	19.467	19.693	17.576	17.528	Pass
NVNT	ac20	5240	19.27	19.504	17.586	17.502	Pass
NVNT	ac40	5190	42.825	42.223	36.09	36.086	Pass
NVNT	ac40	5230	43.343	42.531	36.235	36.08	Pass
NVNT	ac80	5210	81.492	**81.681**	**74.828**	74.717	Pass

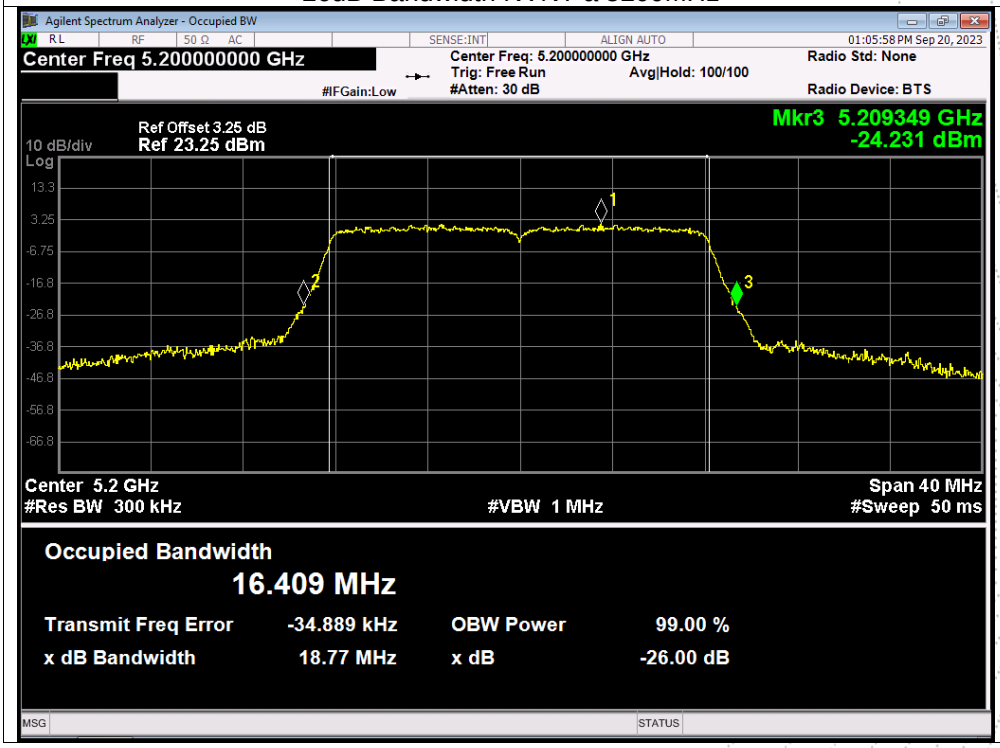
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

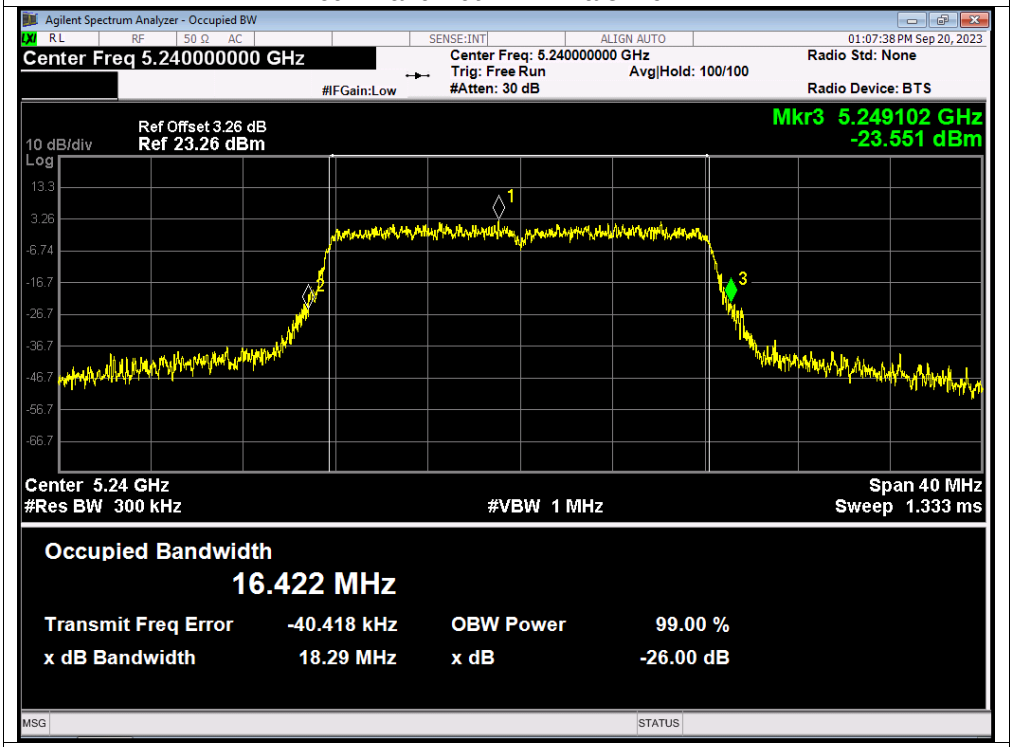
-26dB Bandwidth NVNT a 5180MHz



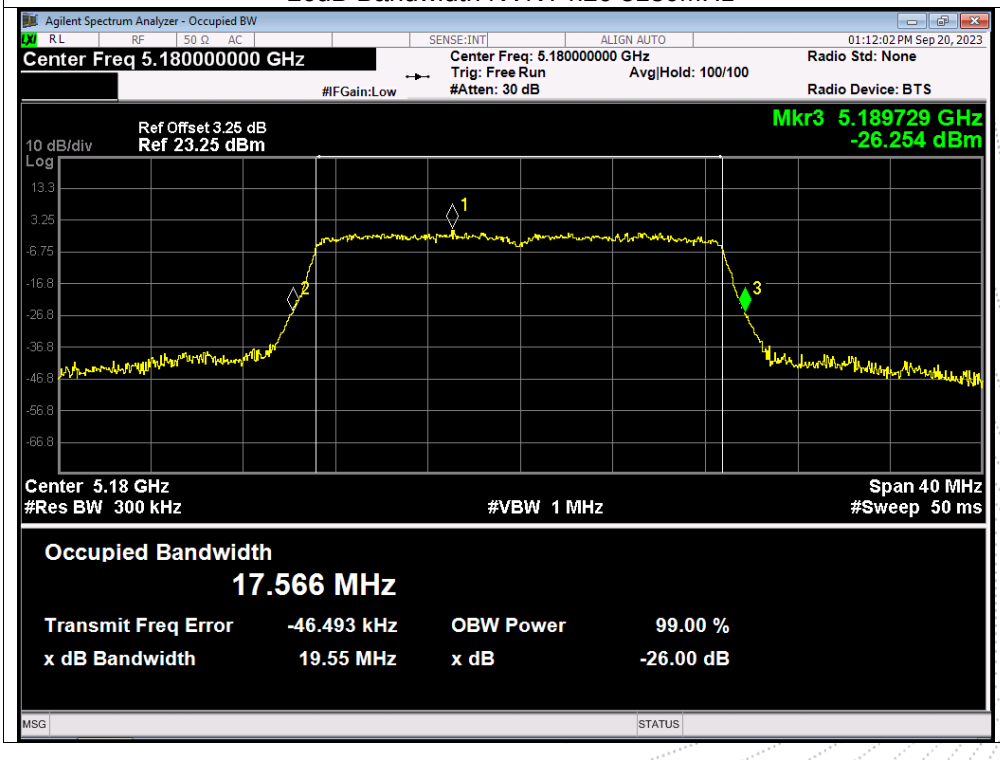
-26dB Bandwidth NVNT a 5200MHz



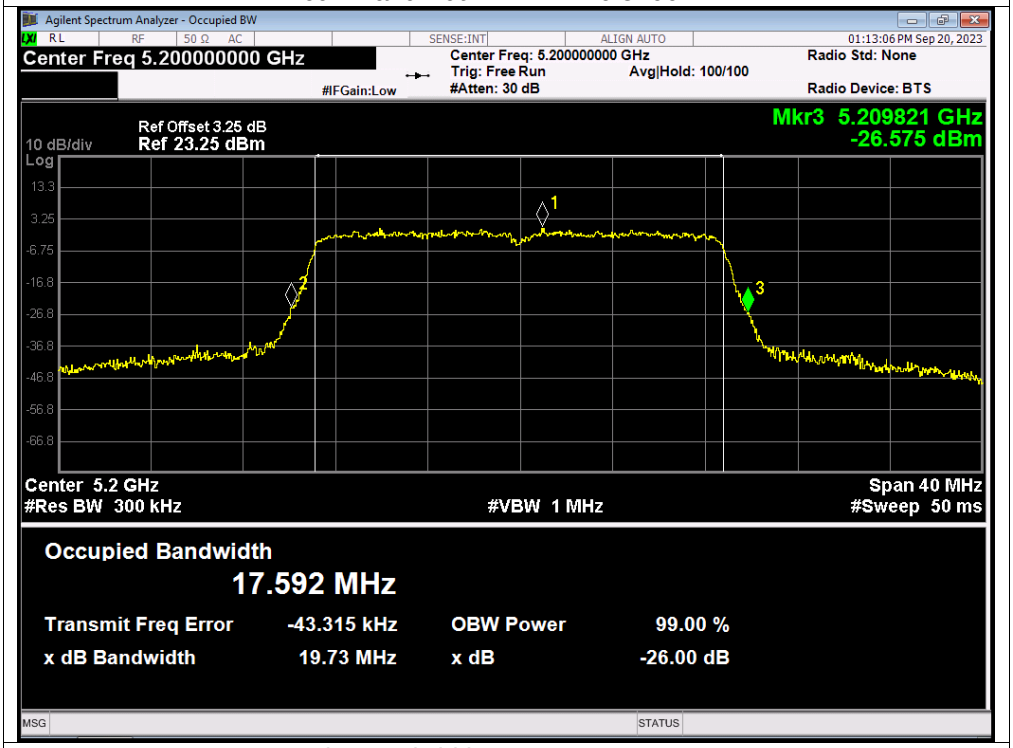
-26dB Bandwidth NVNT a 5240MHz



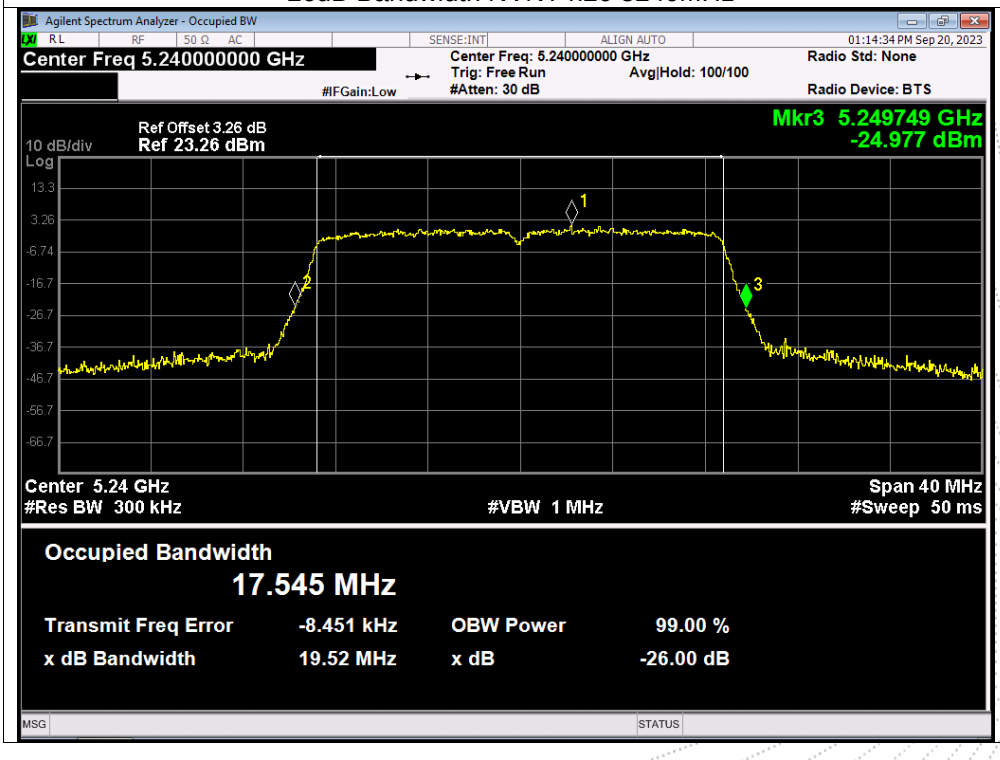
-26dB Bandwidth NVNT n20 5180MHz



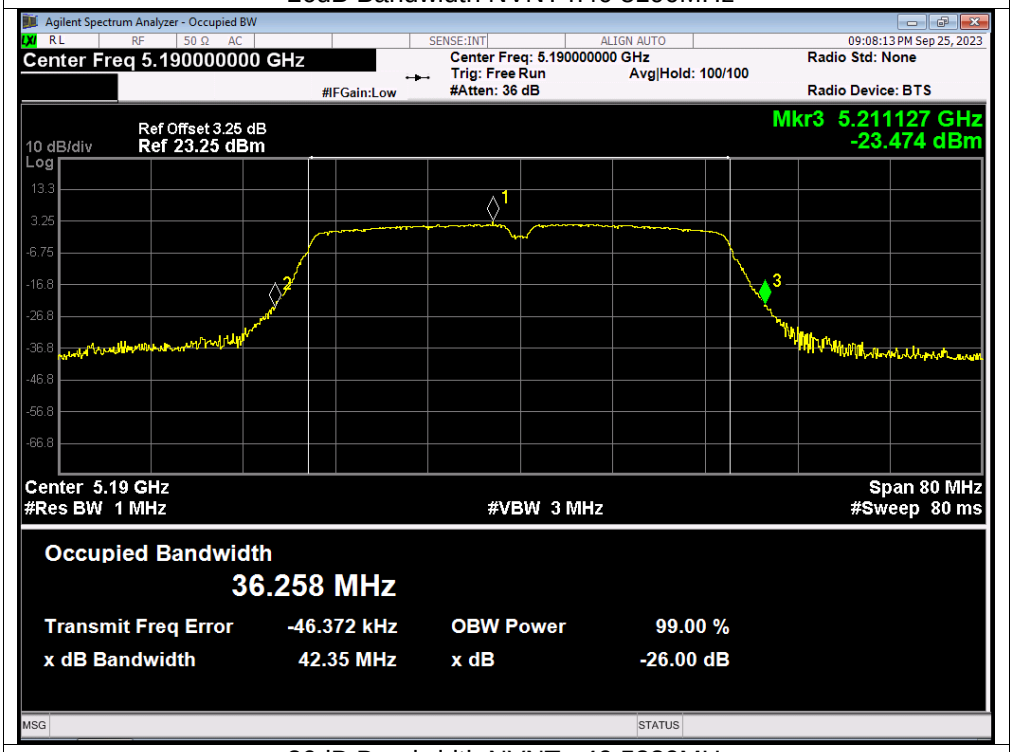
-26dB Bandwidth NVNT n20 5200MHz



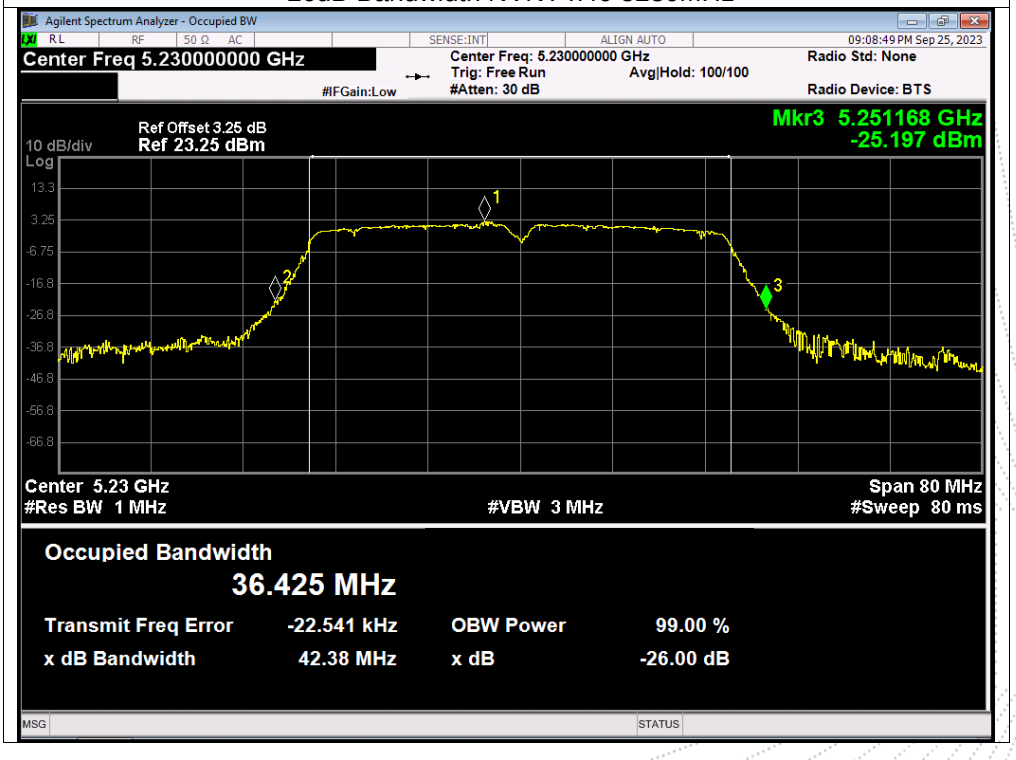
-26dB Bandwidth NVNT n20 5240MHz



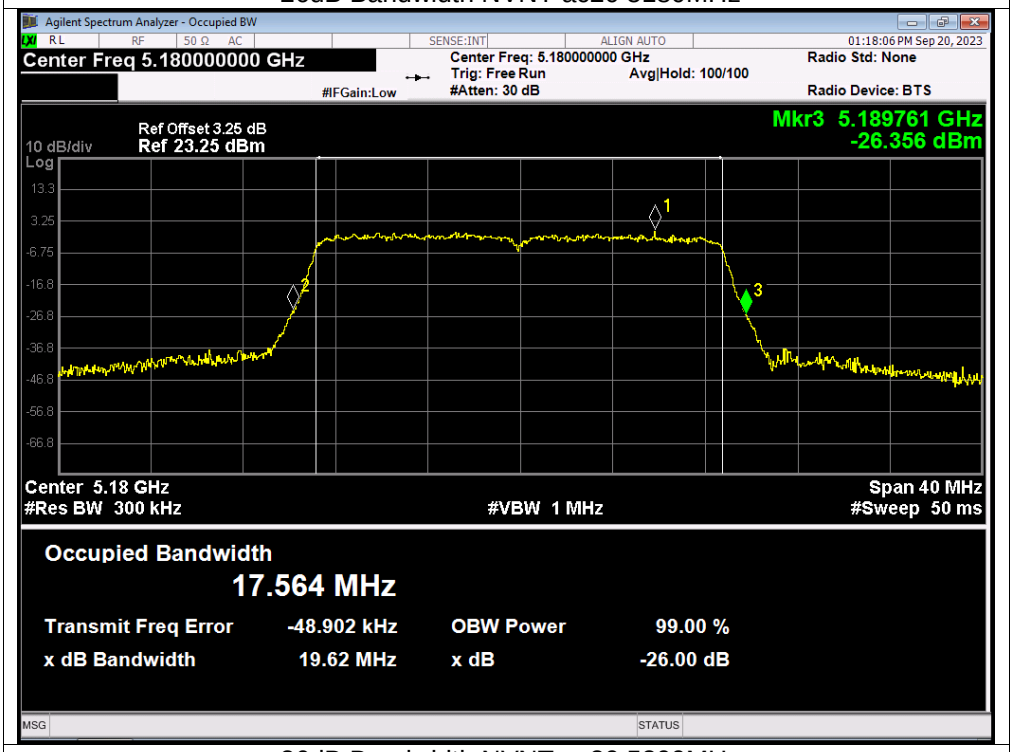
-26dB Bandwidth NVNT n40 5190MHz



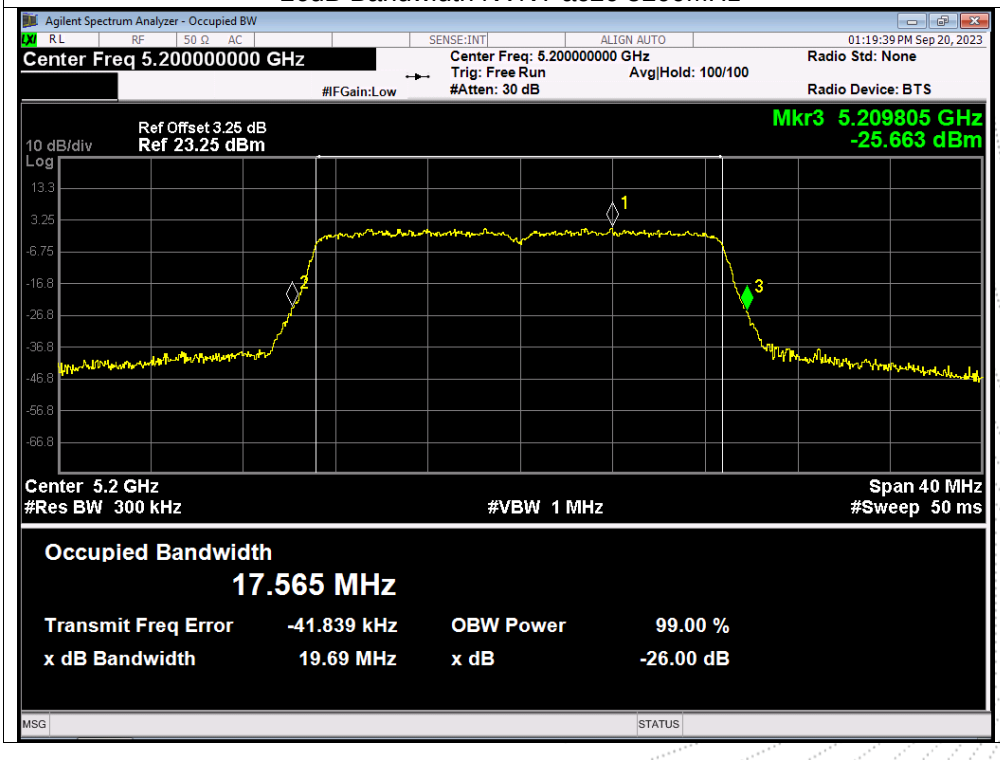
-26dB Bandwidth NVNT n40 5230MHz



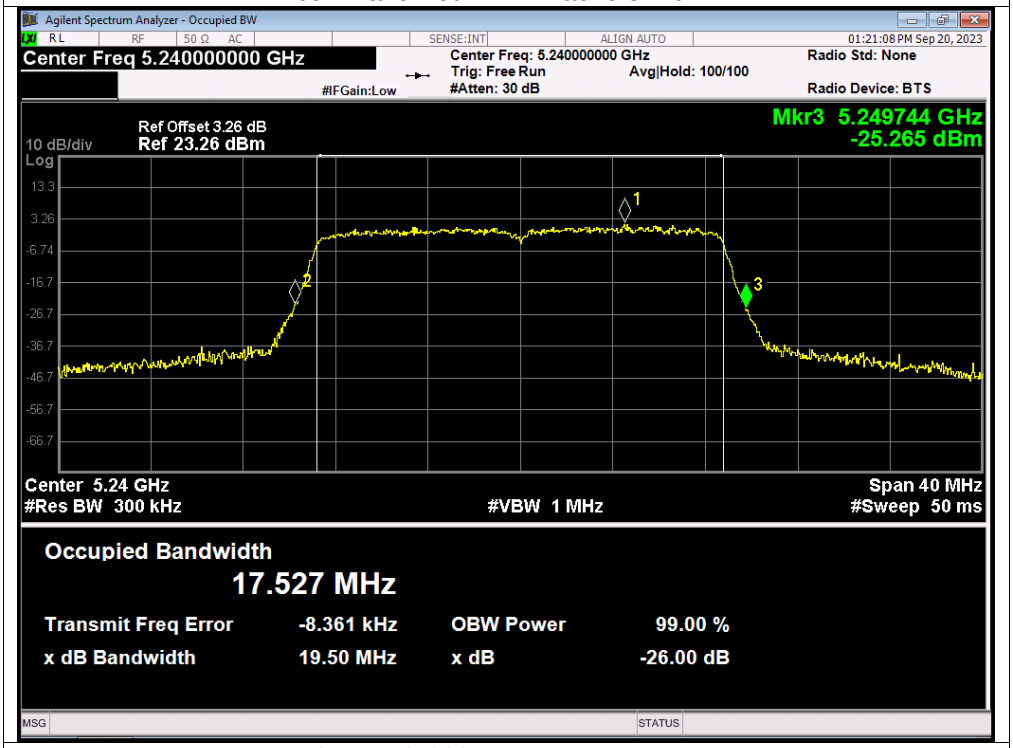
-26dB Bandwidth NVNT ac20 5180MHz



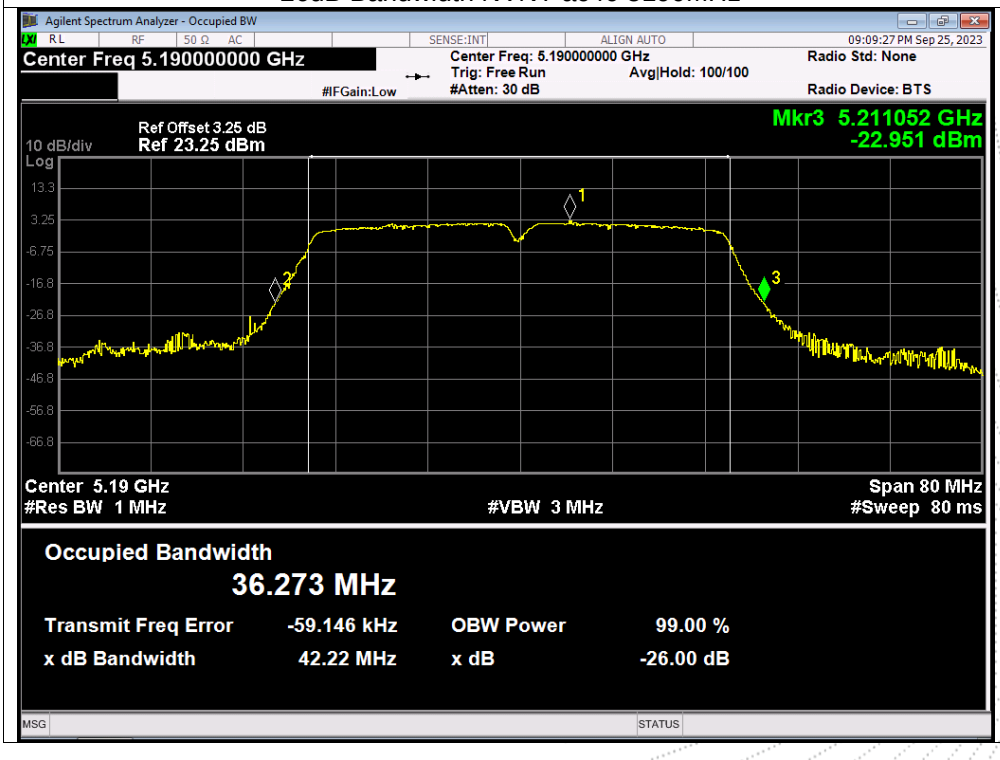
-26dB Bandwidth NVNT ac20 5200MHz



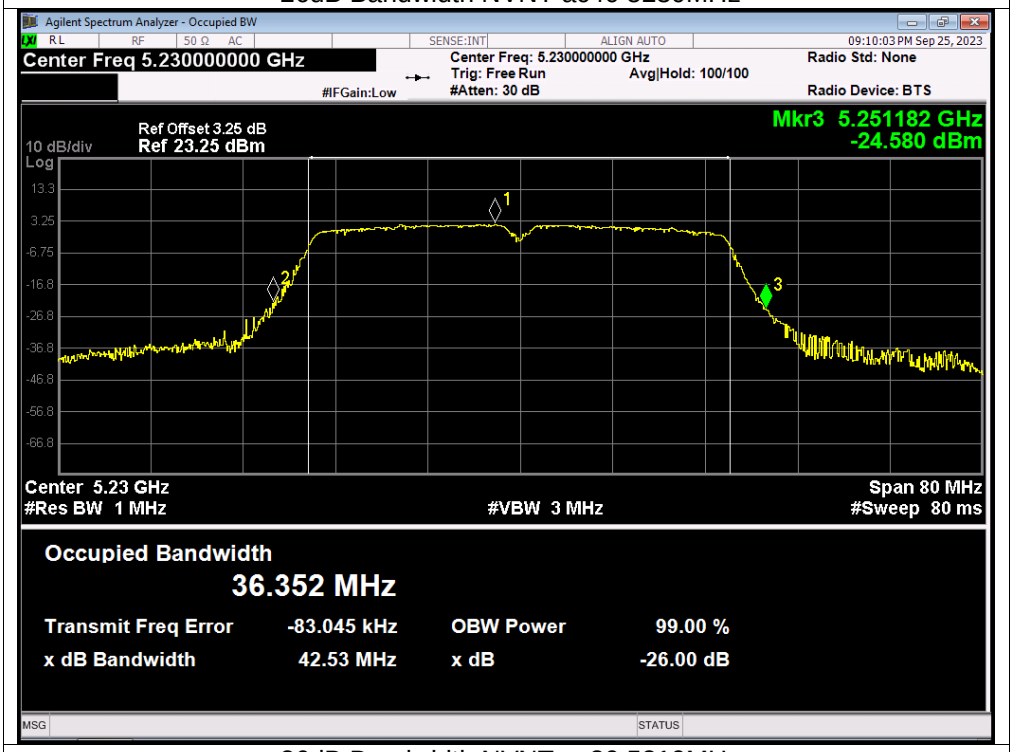
-26dB Bandwidth NVNT ac20 5240MHz



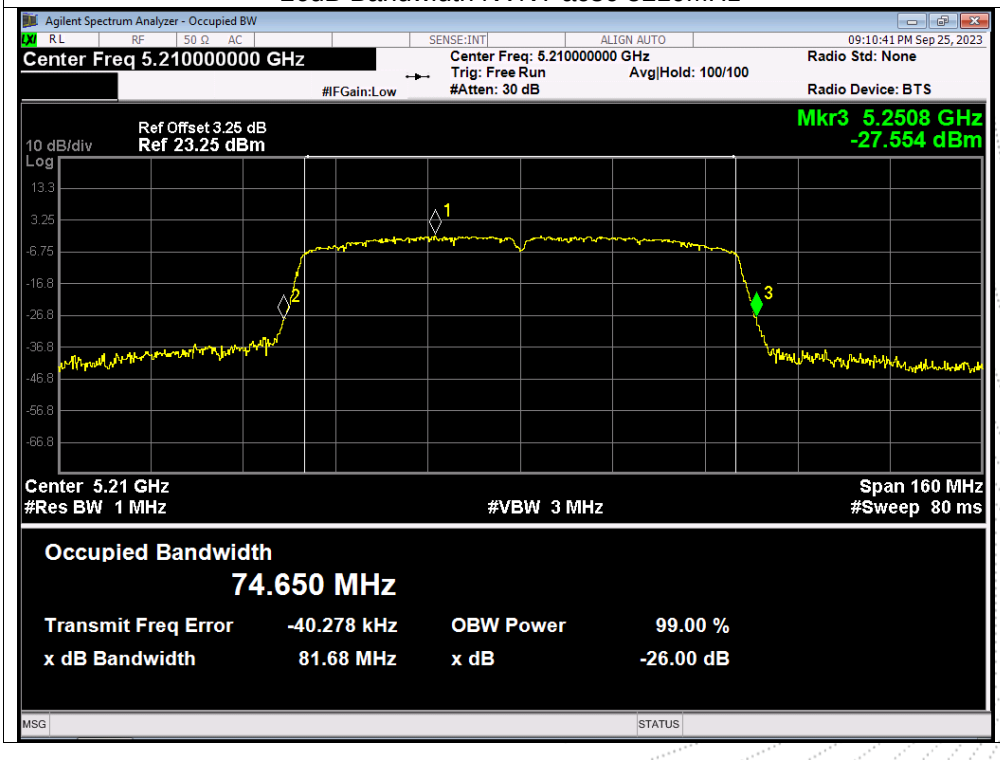
-26dB Bandwidth NVNT ac40 5190MHz



-26dB Bandwidth NVNT ac40 5230MHz

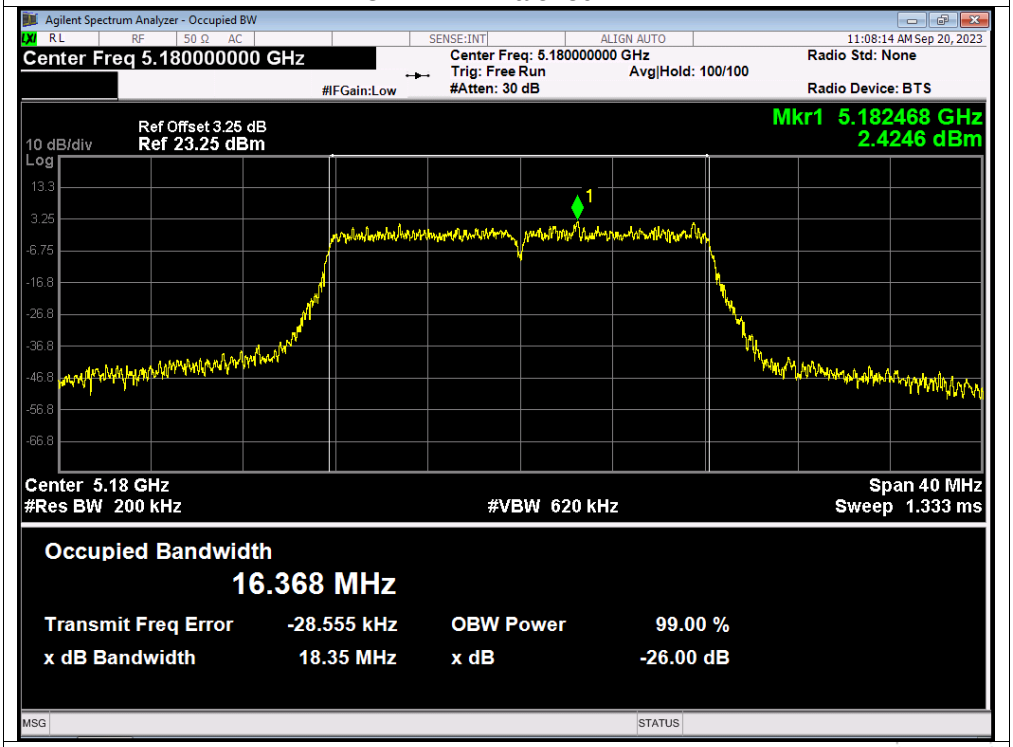


-26dB Bandwidth NVNT ac80 5210MHz

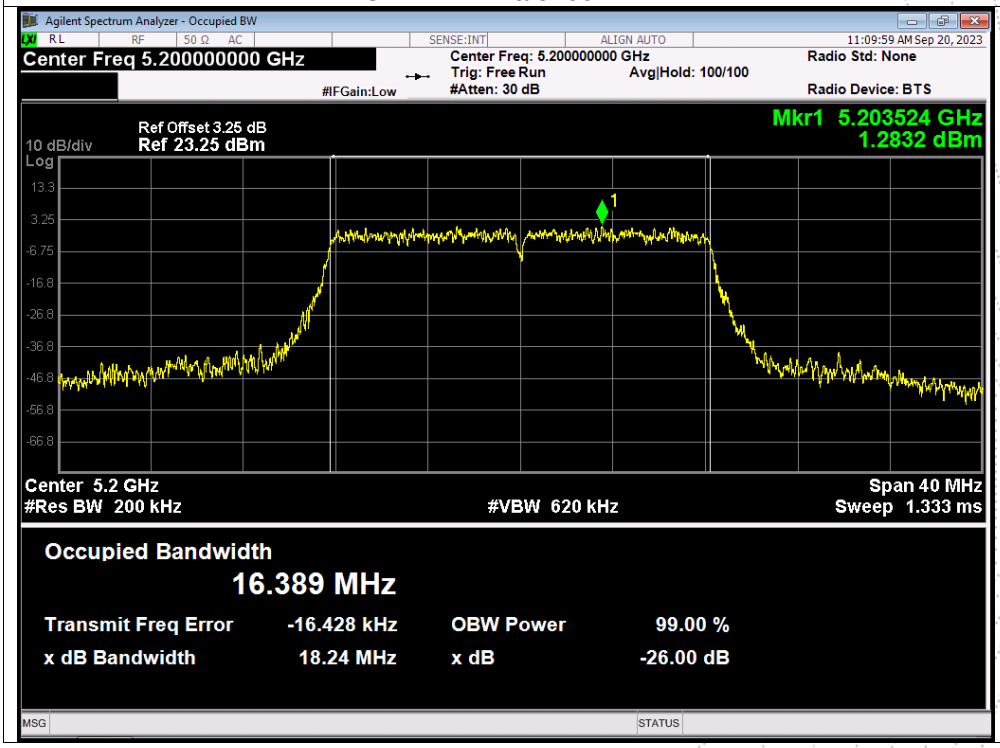


Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

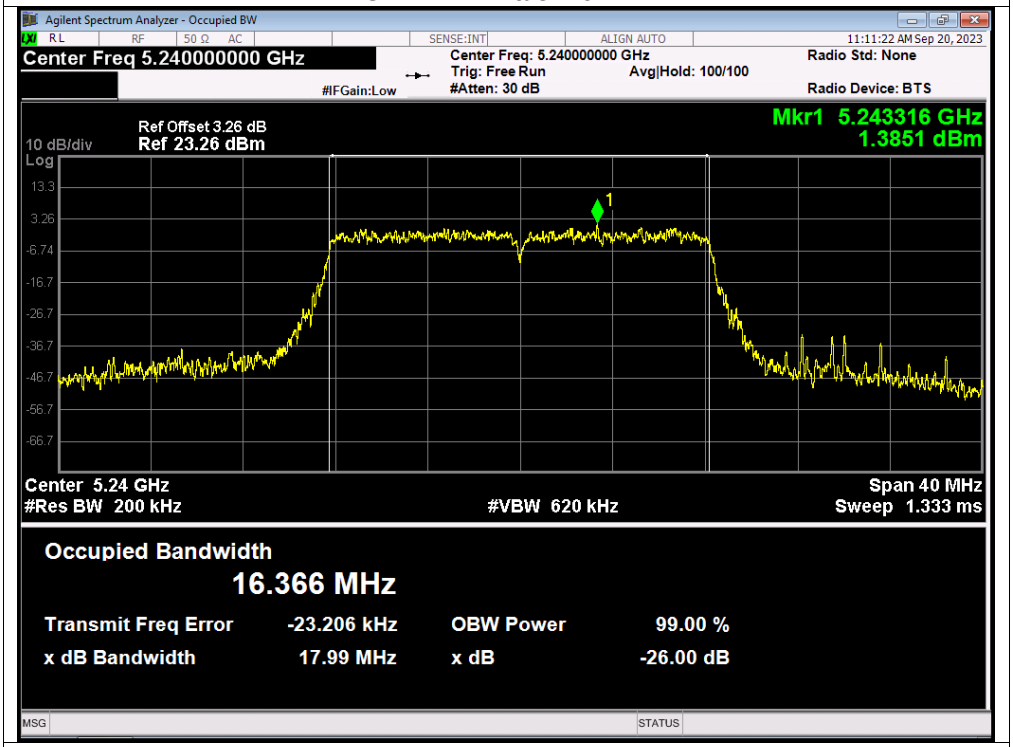
Test Graphs
OBW NVNT a 5180MHz



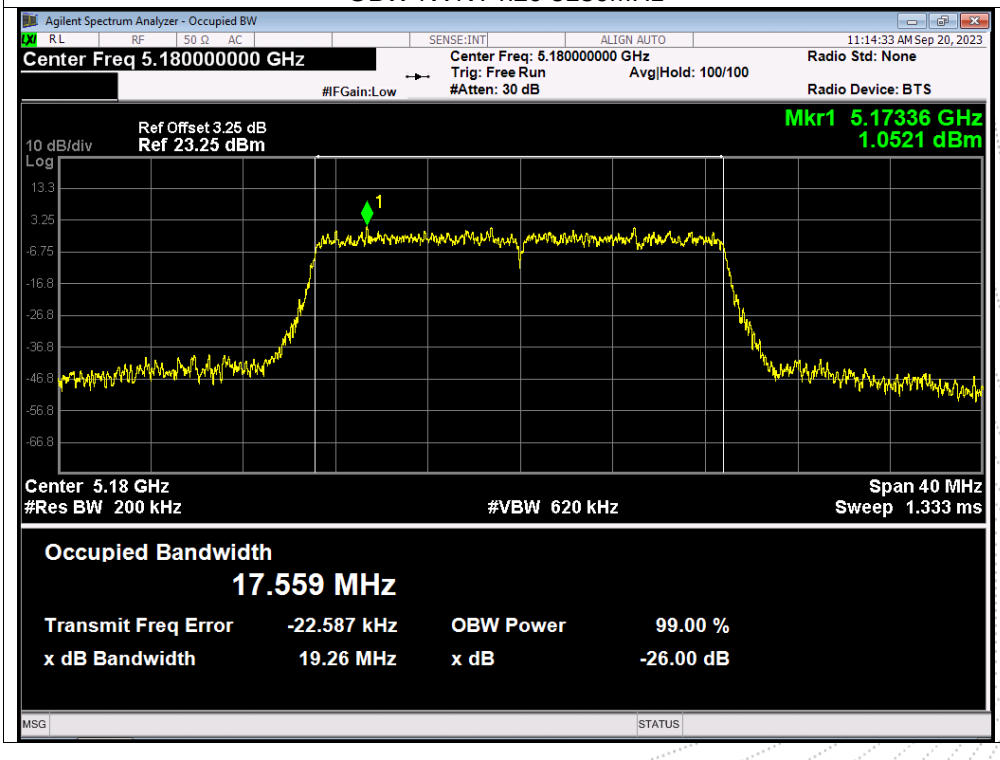
OBW NVNT a 5200MHz



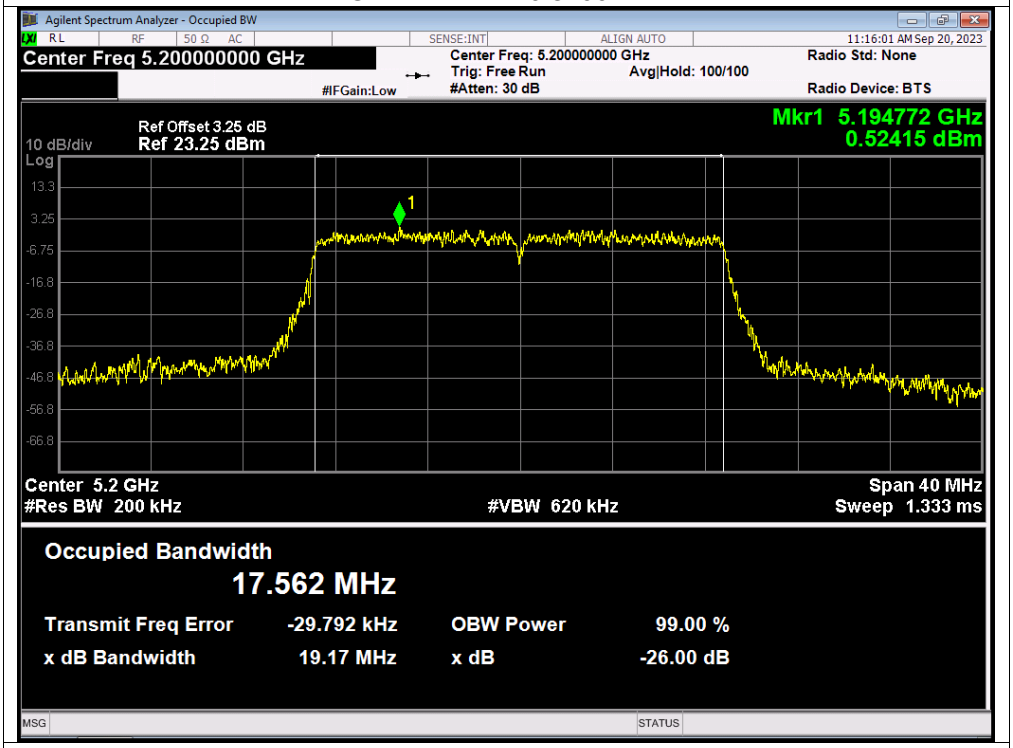
OBW NVNT a 5240MHz



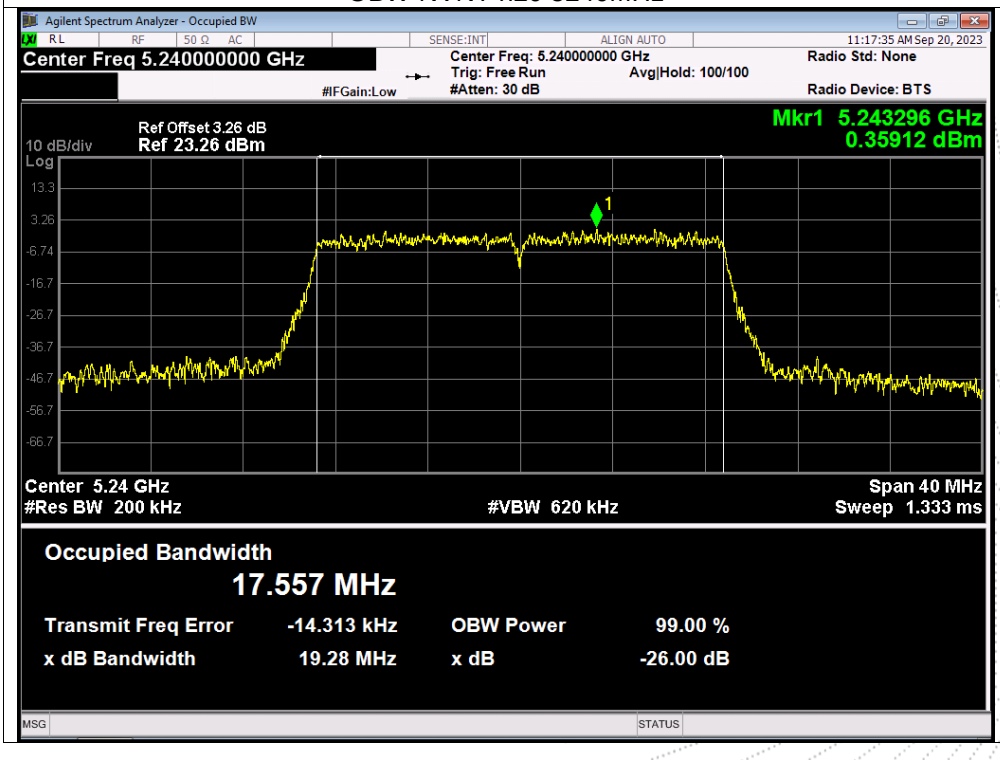
OBW NVNT n20 5180MHz



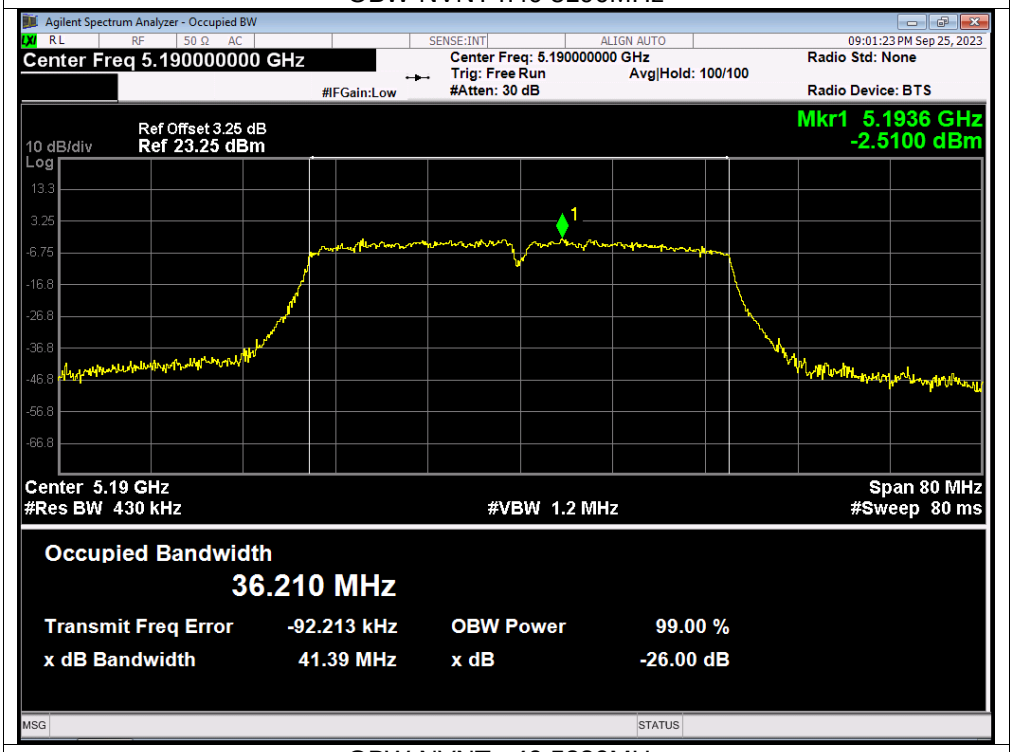
OBW NVNT n20 5200MHz



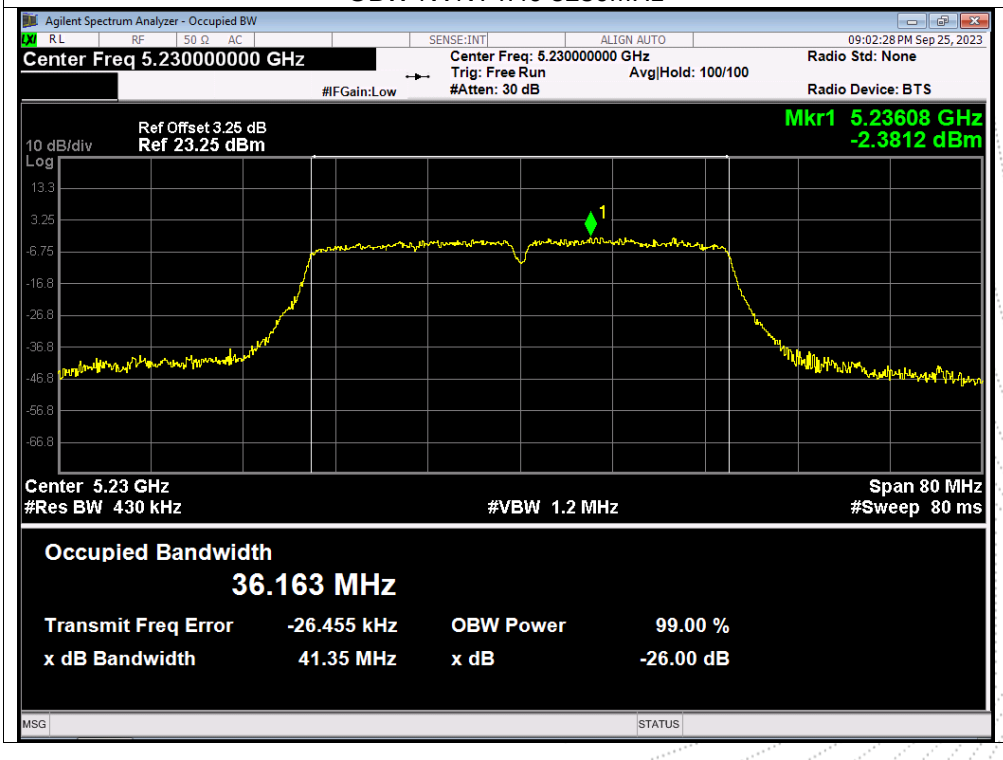
OBW NVNT n20 5240MHz



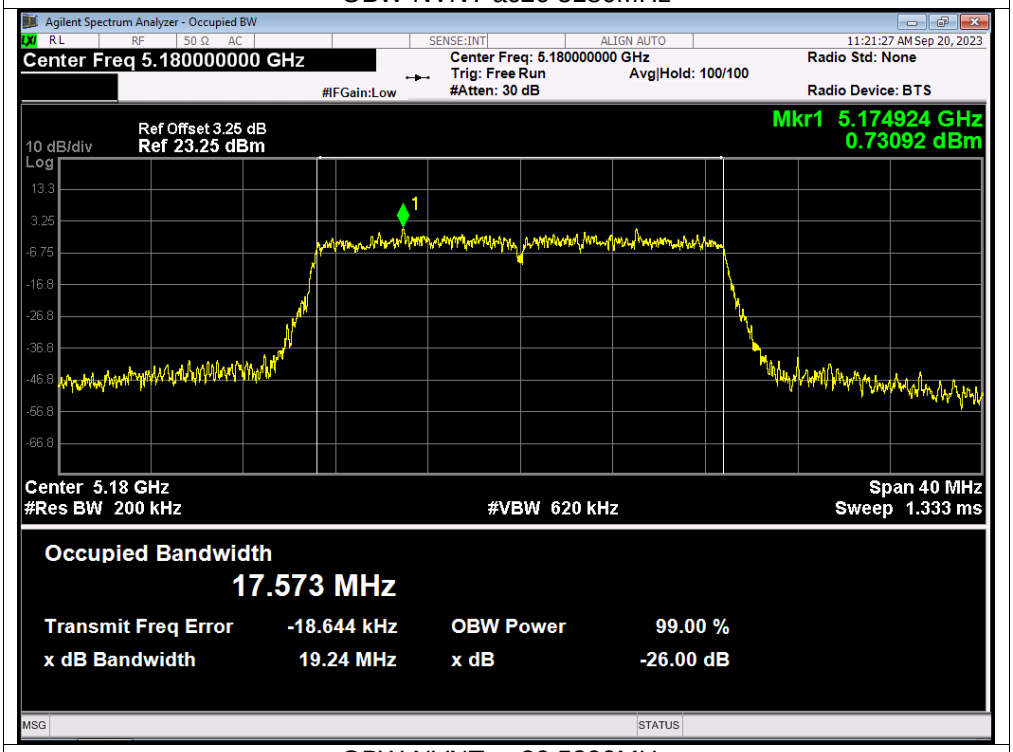
OBW NVNT n40 5190MHz



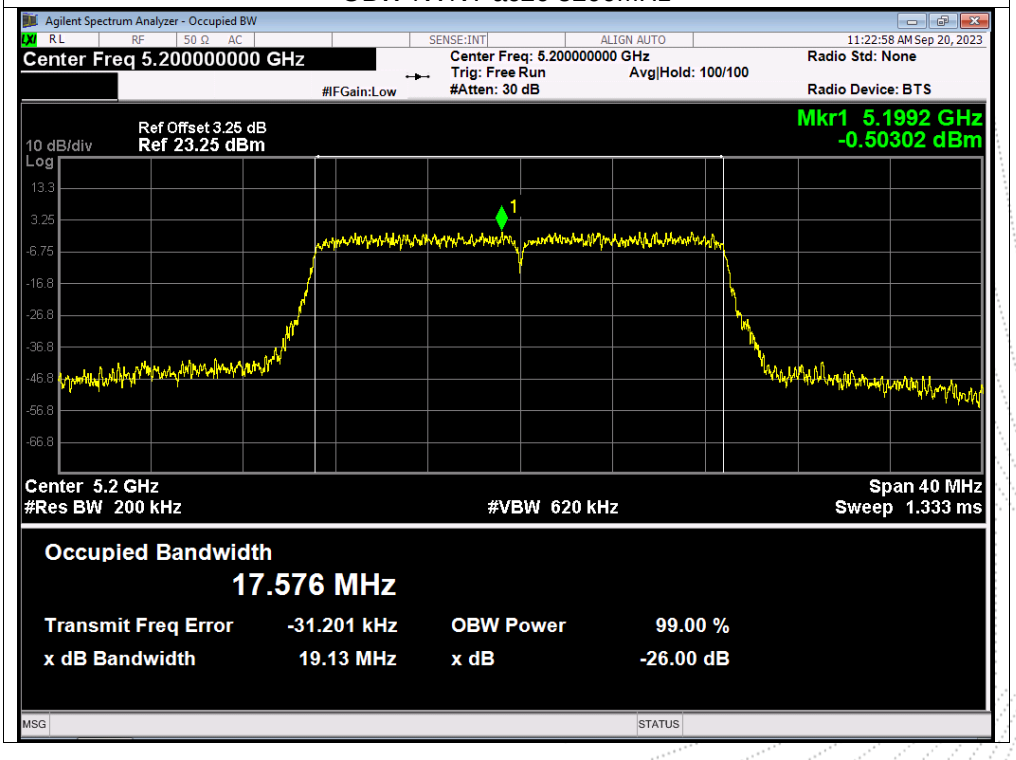
OBW NVNT n40 5230MHz



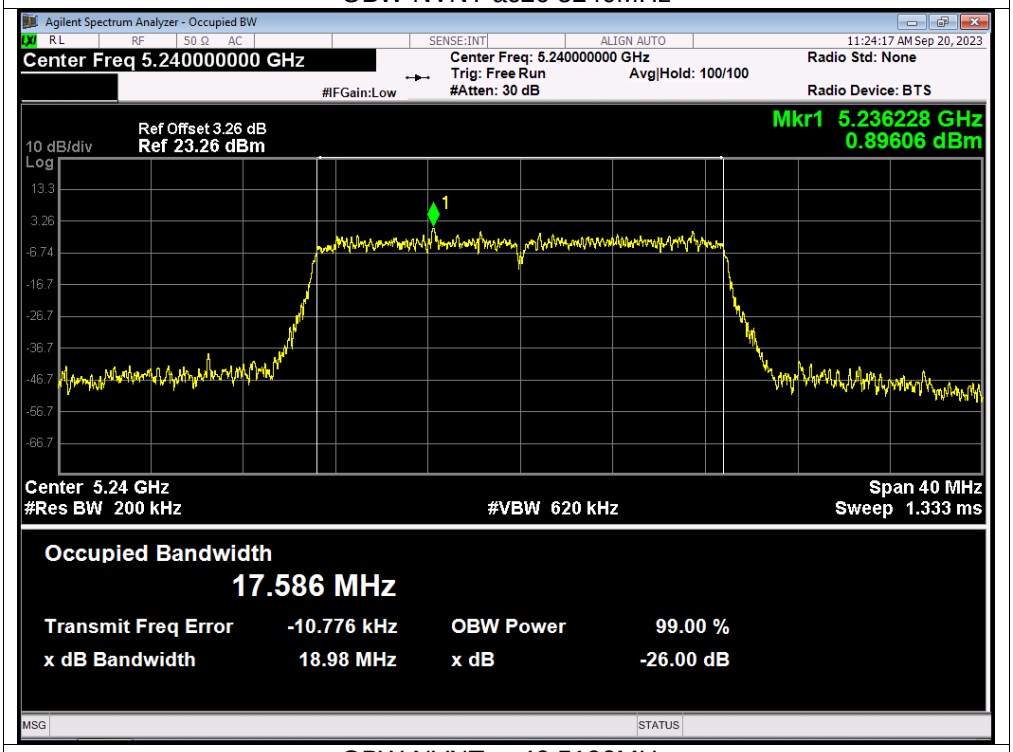
OBW NVNT ac20 5180MHz



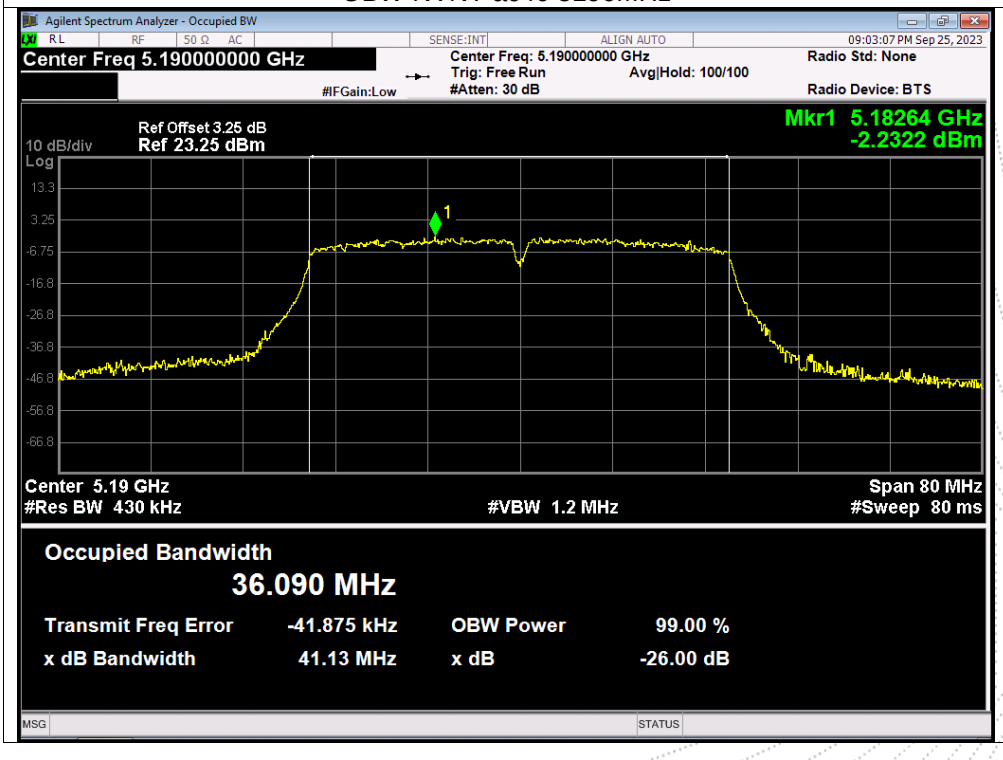
OBW NVNT ac20 5200MHz



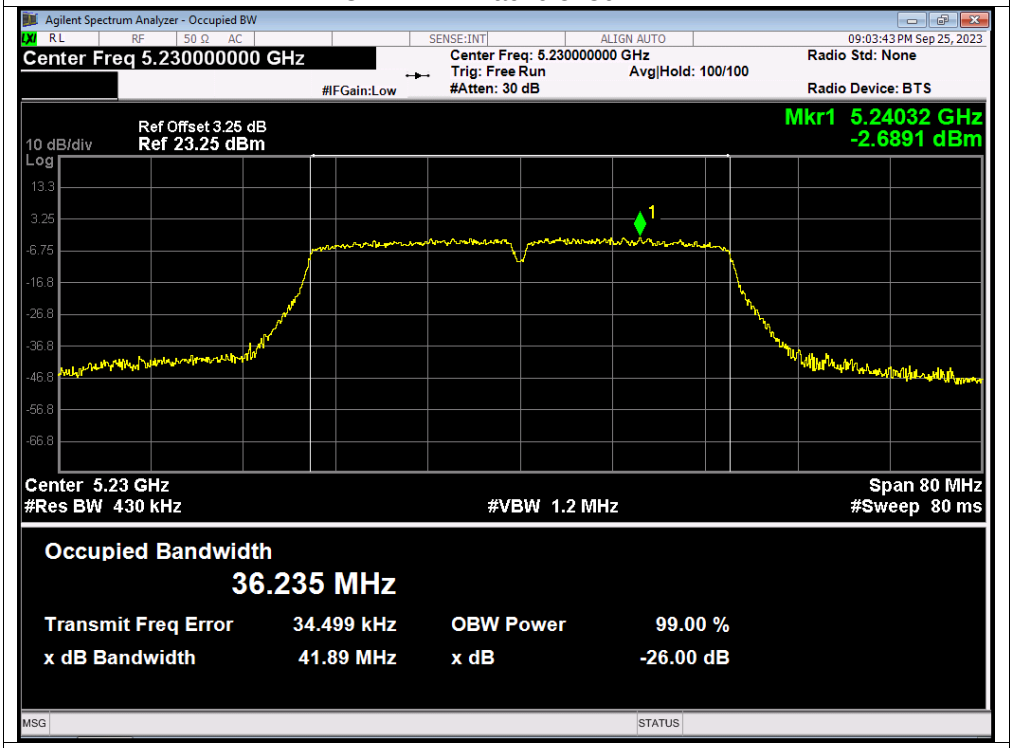
OBW NVNT ac20 5240MHz



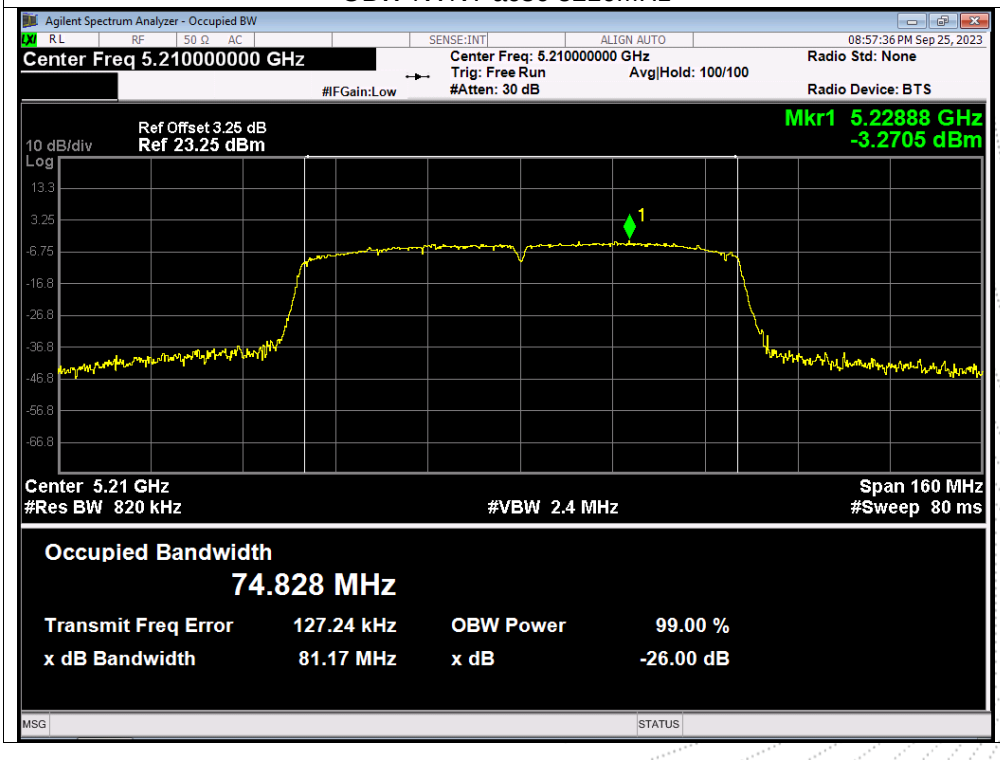
OBW NVNT ac40 5190MHz



OBW NVNT ac40 5230MHz



OBW NVNT ac80 5210MHz



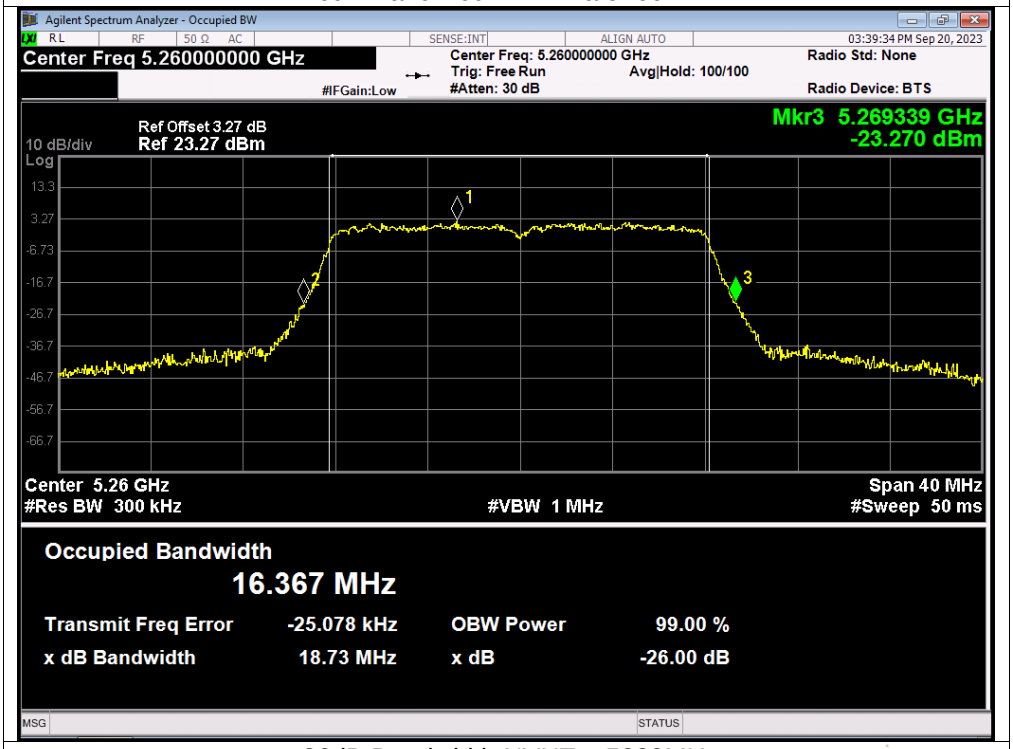
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5260-5320MHz)		

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5260	18.732	18.728	16.324	16.332	Pass
NVNT	a	5280	18.725	18.629	16.332	16.319	Pass
NVNT	a	5320	18.709	18.642	16.329	16.322	Pass
NVNT	n20	5260	19.583	19.727	17.486	17.515	Pass
NVNT	n20	5280	19.621	19.531	17.518	17.508	Pass
NVNT	n20	5320	19.709	19.649	17.502	17.508	Pass
NVNT	n40	5270	42.728	42.07	36.171	36.056	Pass
NVNT	n40	5310	42.366	42.219	36.122	36.103	Pass
NVNT	ac20	5260	19.531	19.574	17.494	17.507	Pass
NVNT	ac20	5280	19.62	19.561	17.51	17.511	Pass
NVNT	ac20	5320	19.733	19.58	17.508	17.496	Pass
NVNT	ac40	5270	42.067	42.5	36.119	36.071	Pass
NVNT	ac40	5310	42.524	41.944	36.086	36.08	Pass
NVNT	ac80	5290	81.145	**81.443**	74.656	**74.83**	Pass

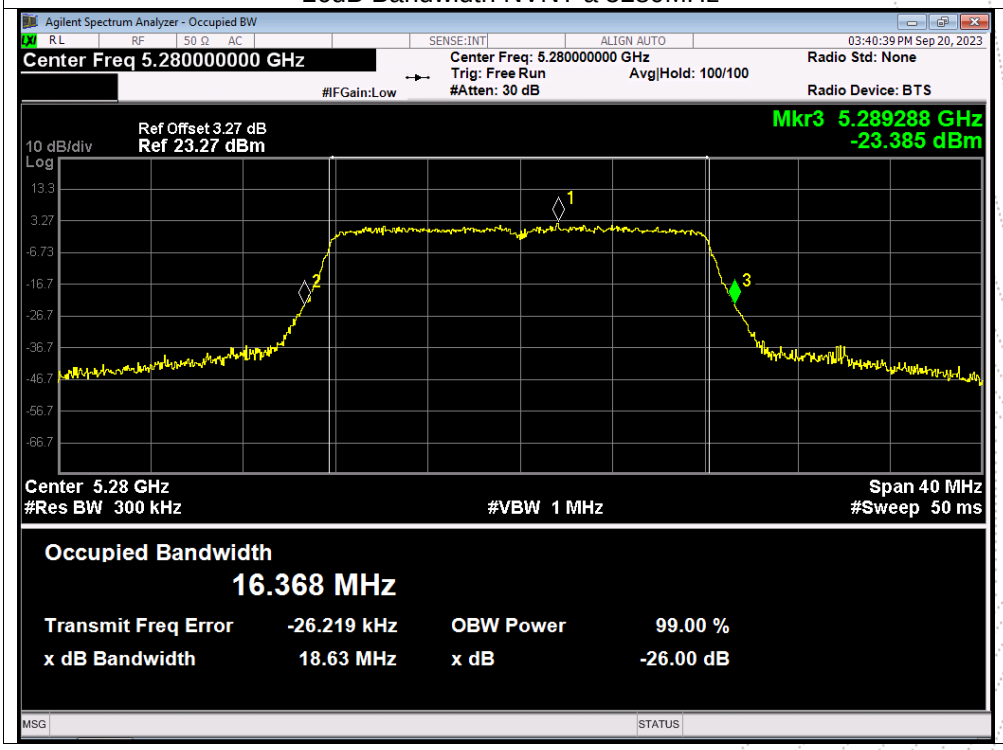
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

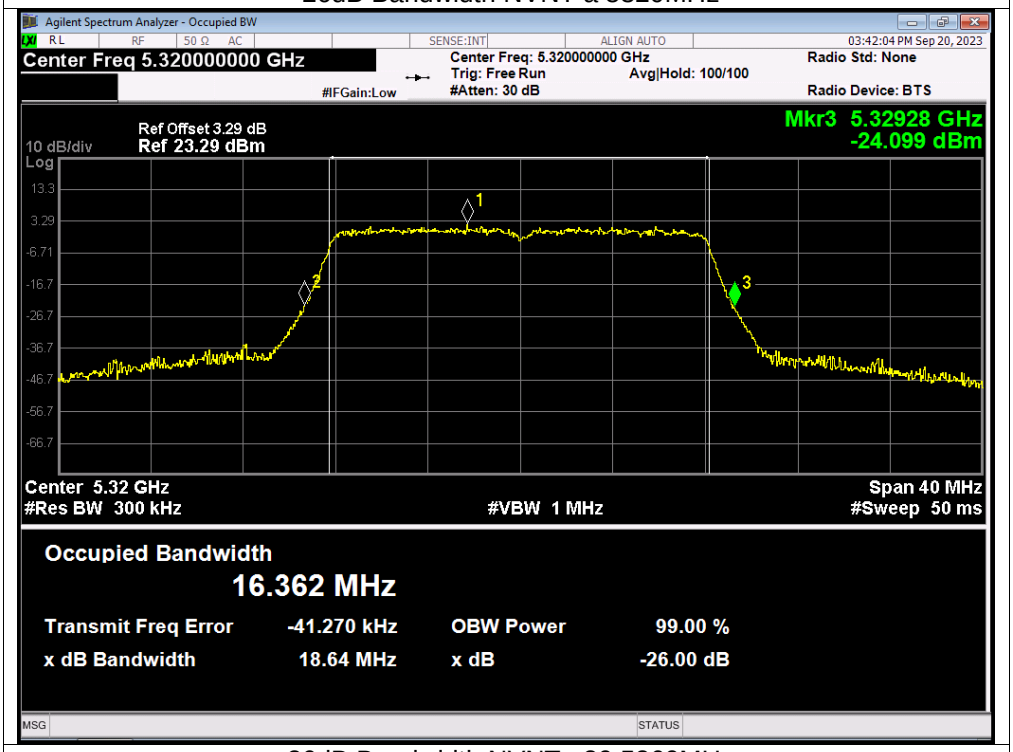
-26dB Bandwidth NVNT a 5260MHz



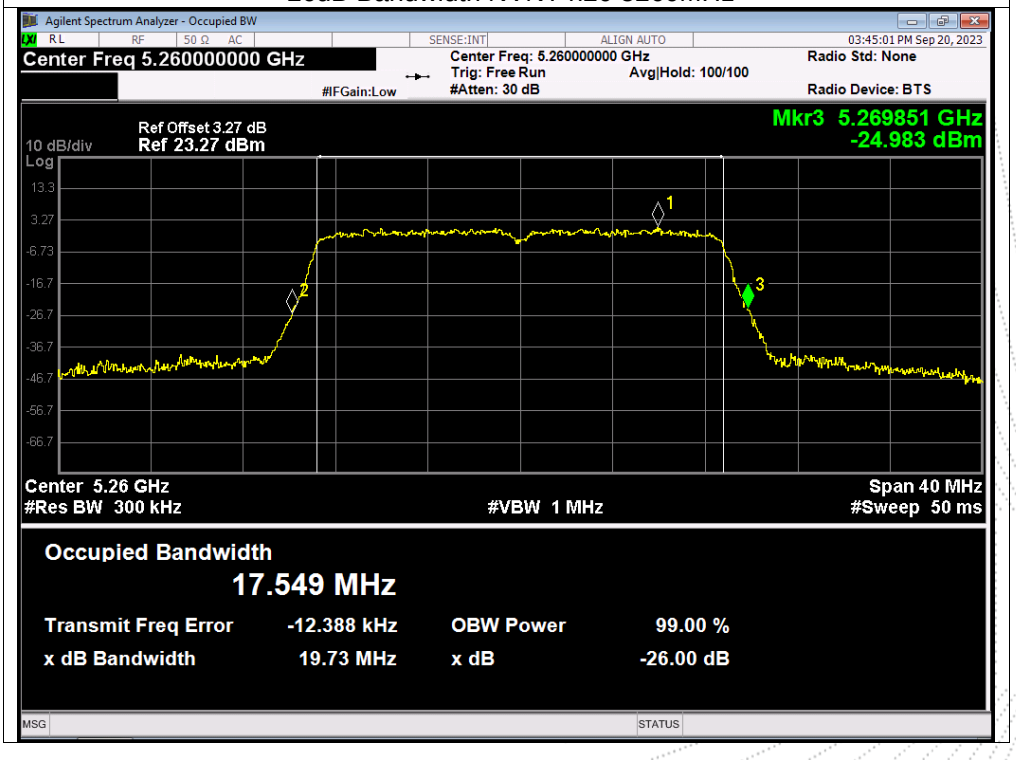
-26dB Bandwidth NVNT a 5280MHz



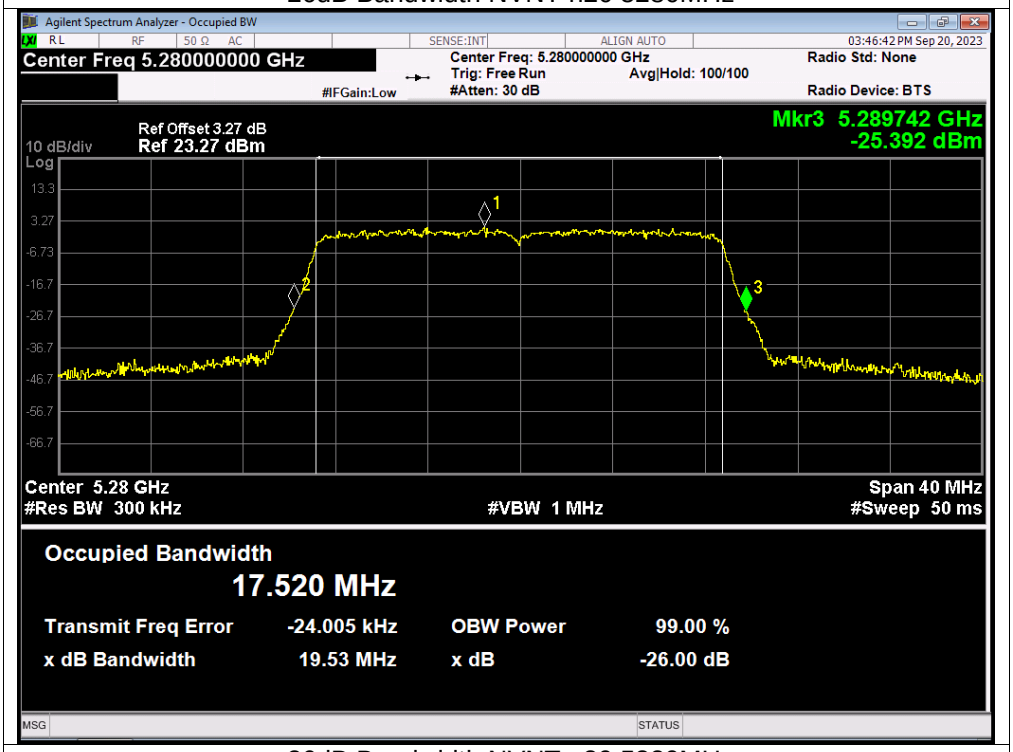
-26dB Bandwidth NVNT a 5320MHz



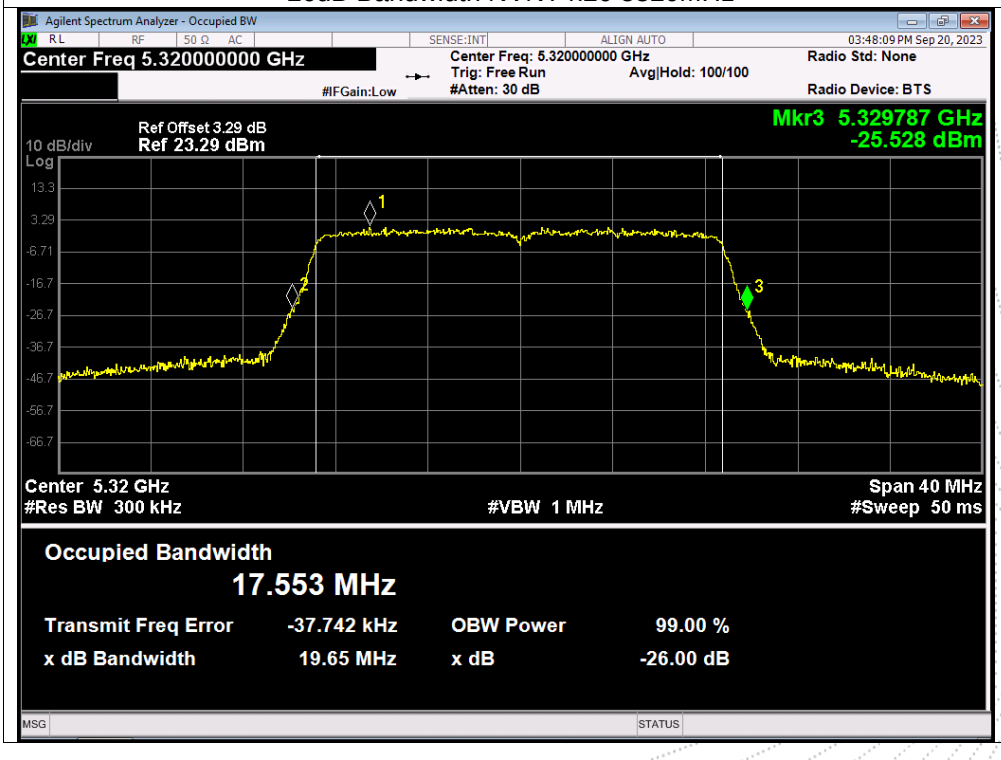
-26dB Bandwidth NVNT n20 5260MHz



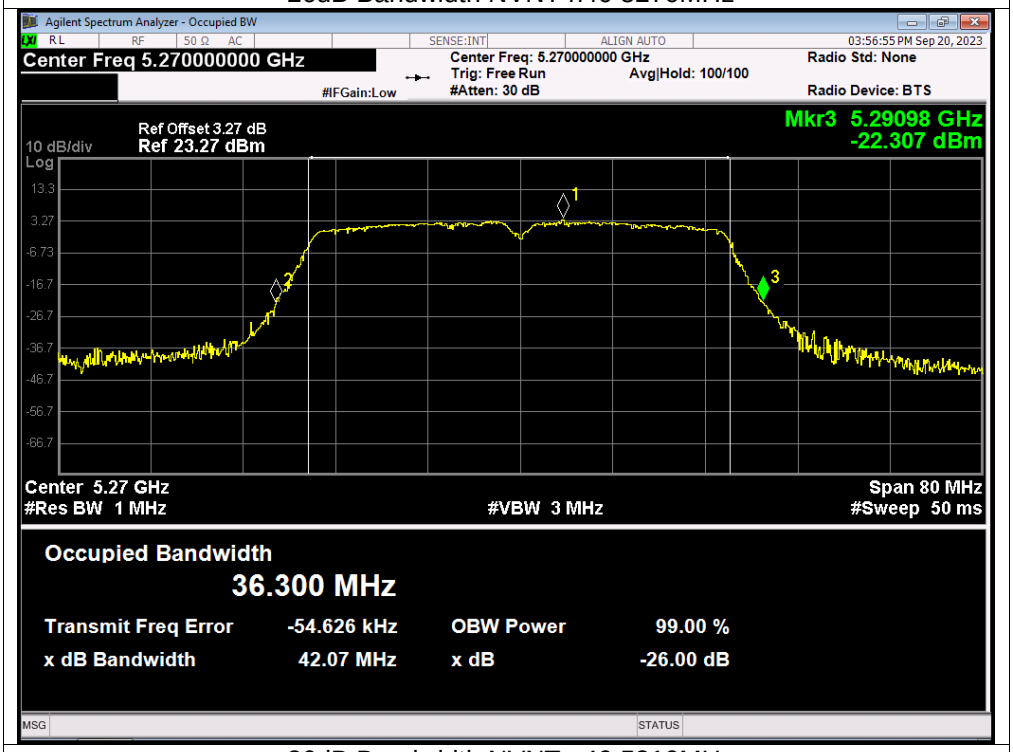
-26dB Bandwidth NVNT n20 5280MHz



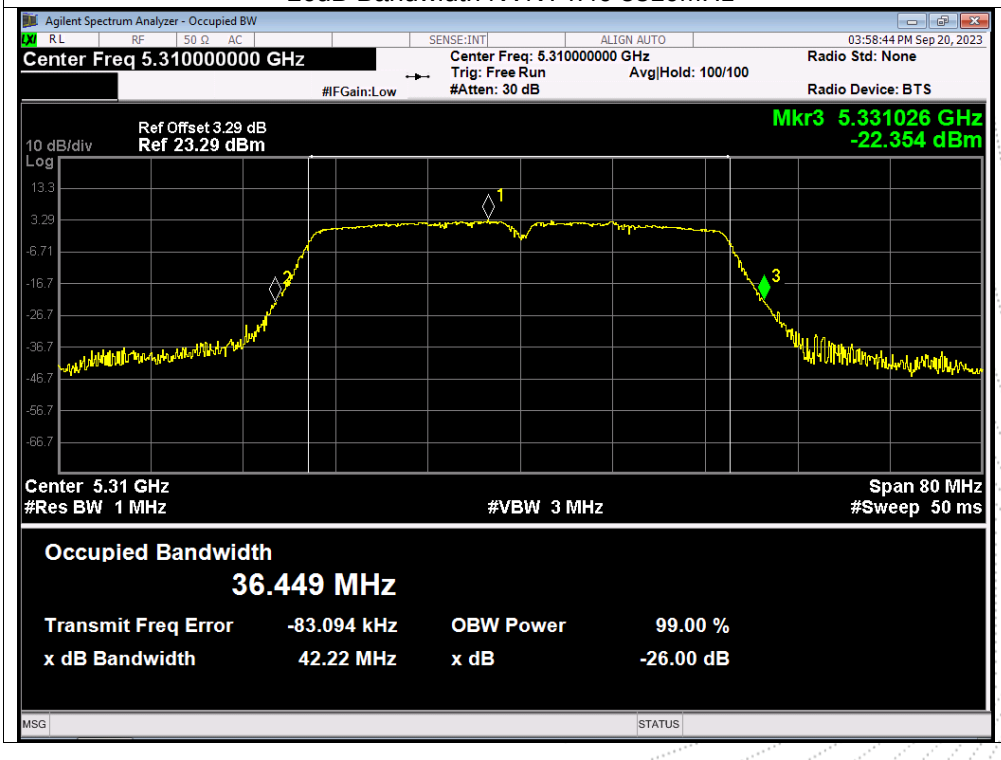
-26dB Bandwidth NVNT n20 5320MHz



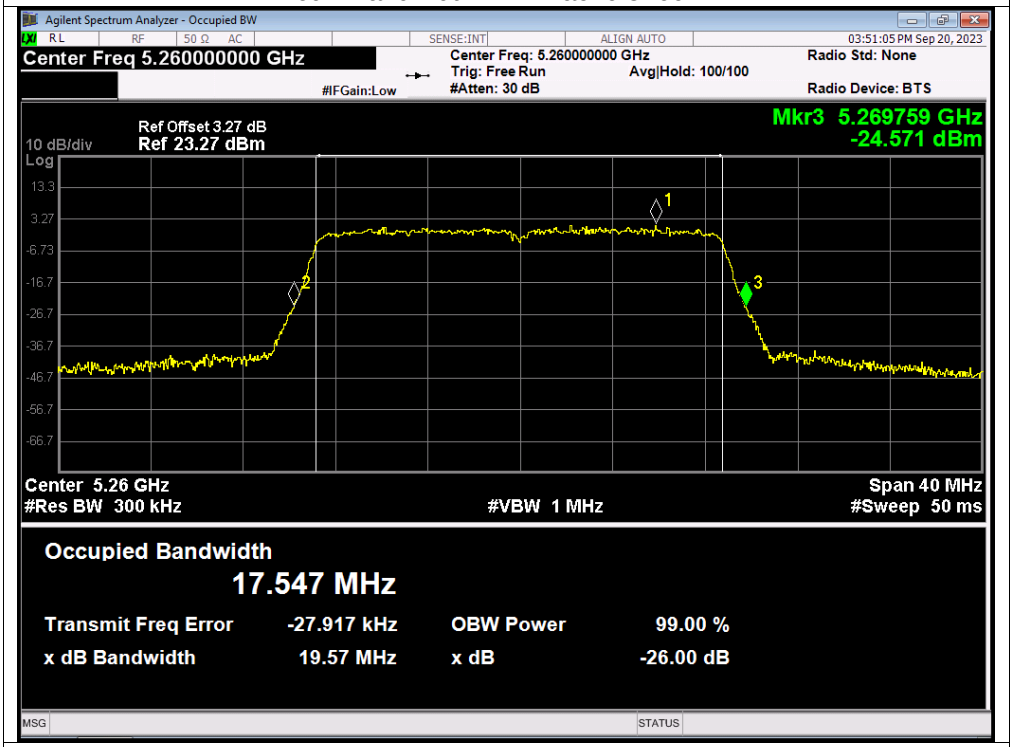
-26dB Bandwidth NVNT n40 5270MHz



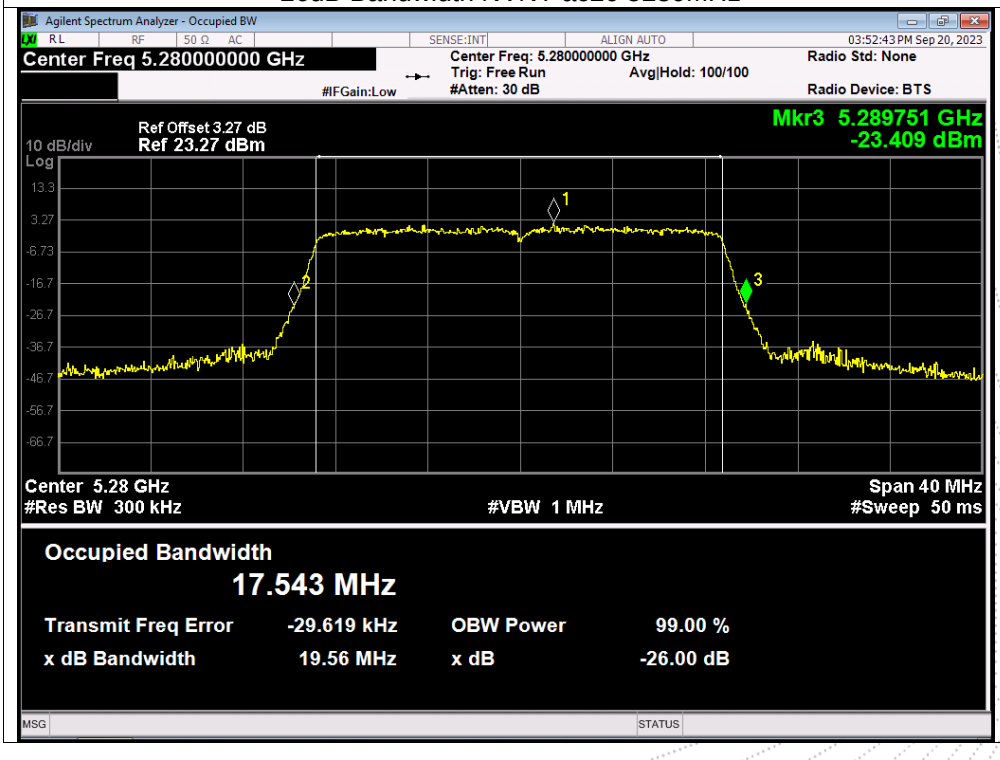
-26dB Bandwidth NVNT n40 5310MHz



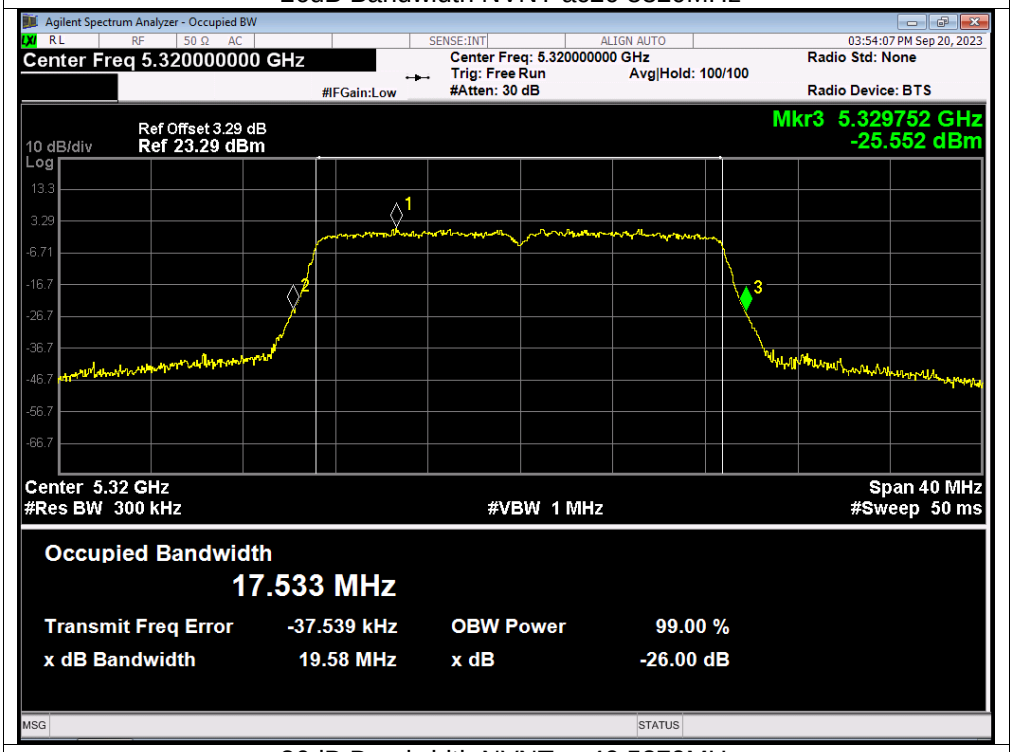
-26dB Bandwidth NVNT ac20 5260MHz



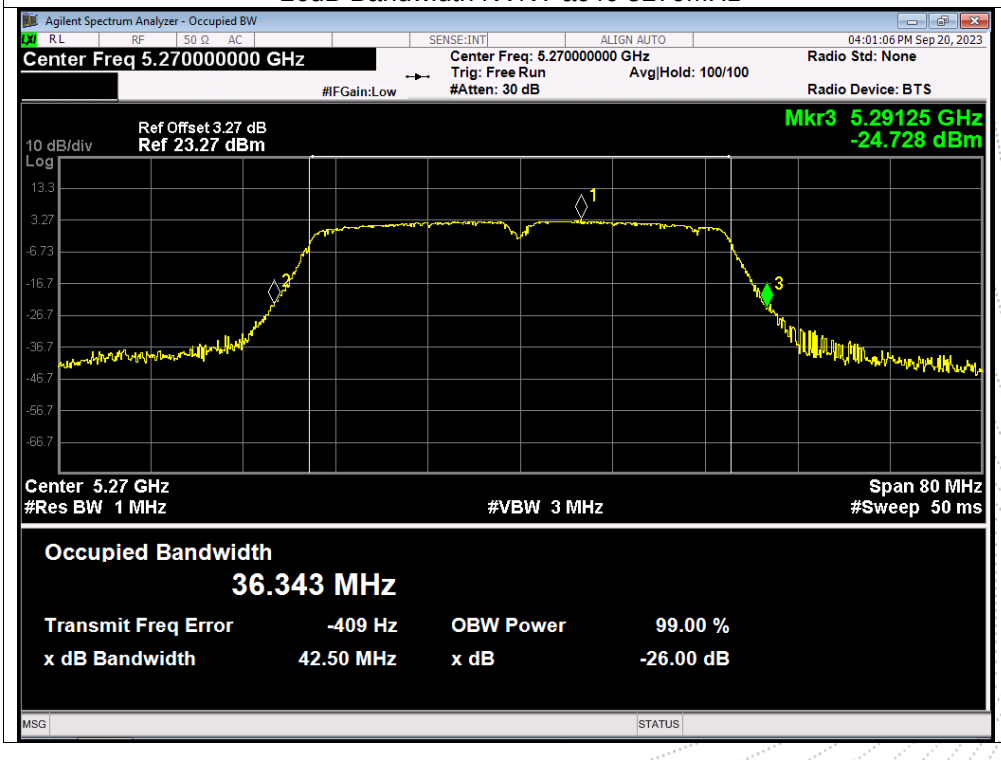
-26dB Bandwidth NVNT ac20 5280MHz



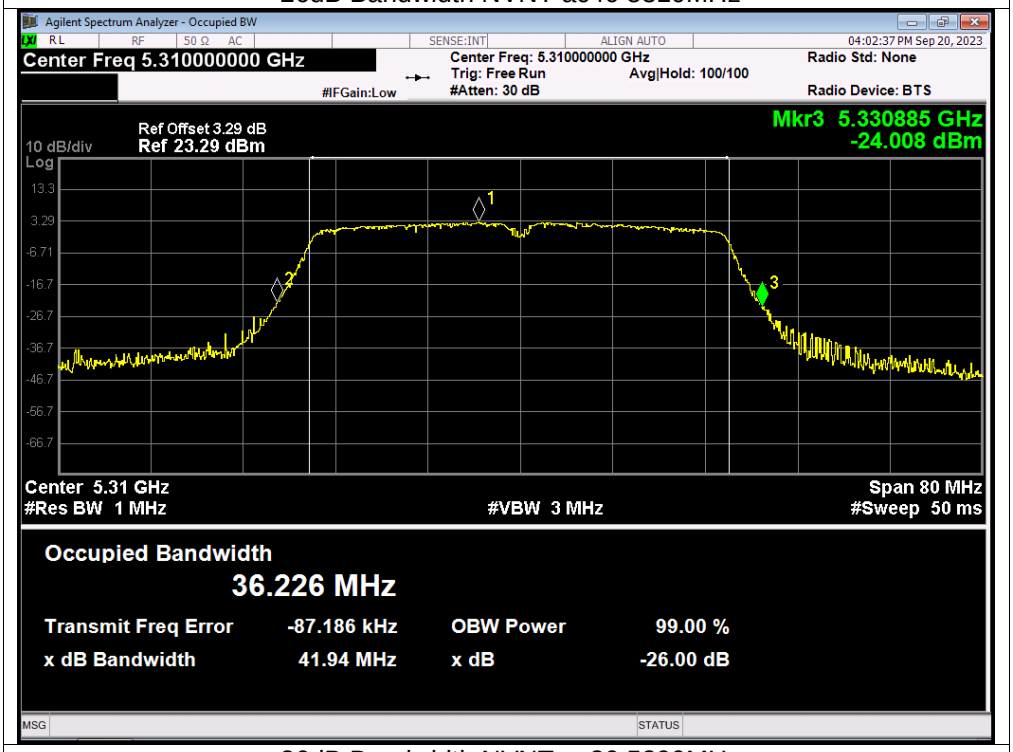
-26dB Bandwidth NVNT ac20 5320MHz



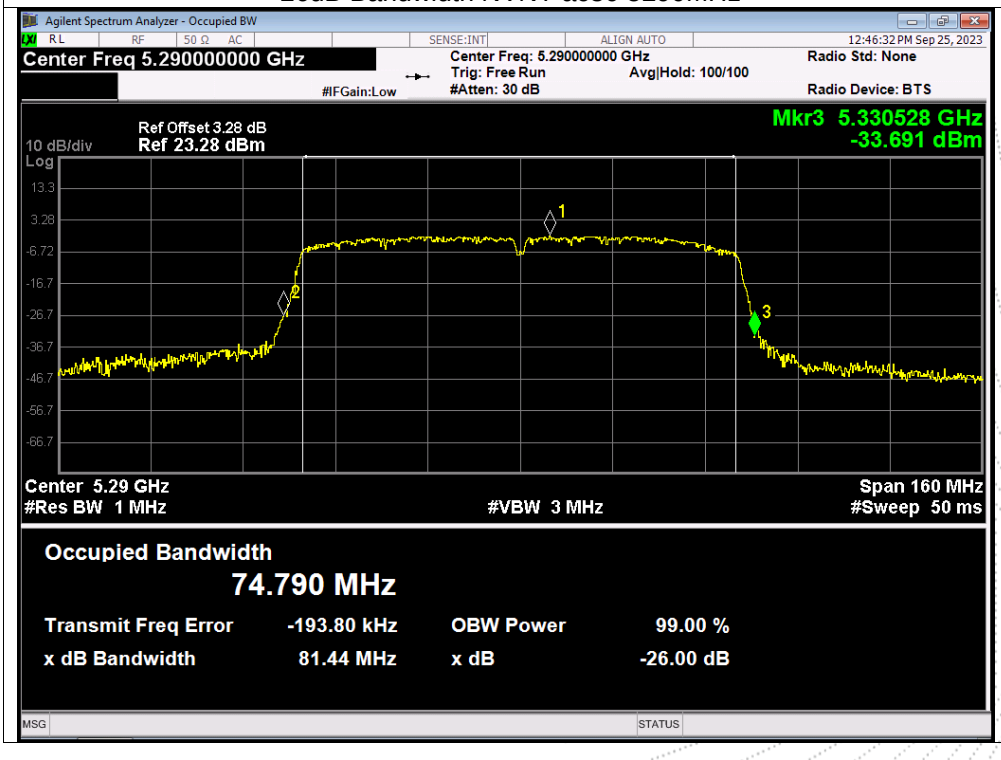
-26dB Bandwidth NVNT ac40 5270MHz



-26dB Bandwidth NVNT ac40 5310MHz



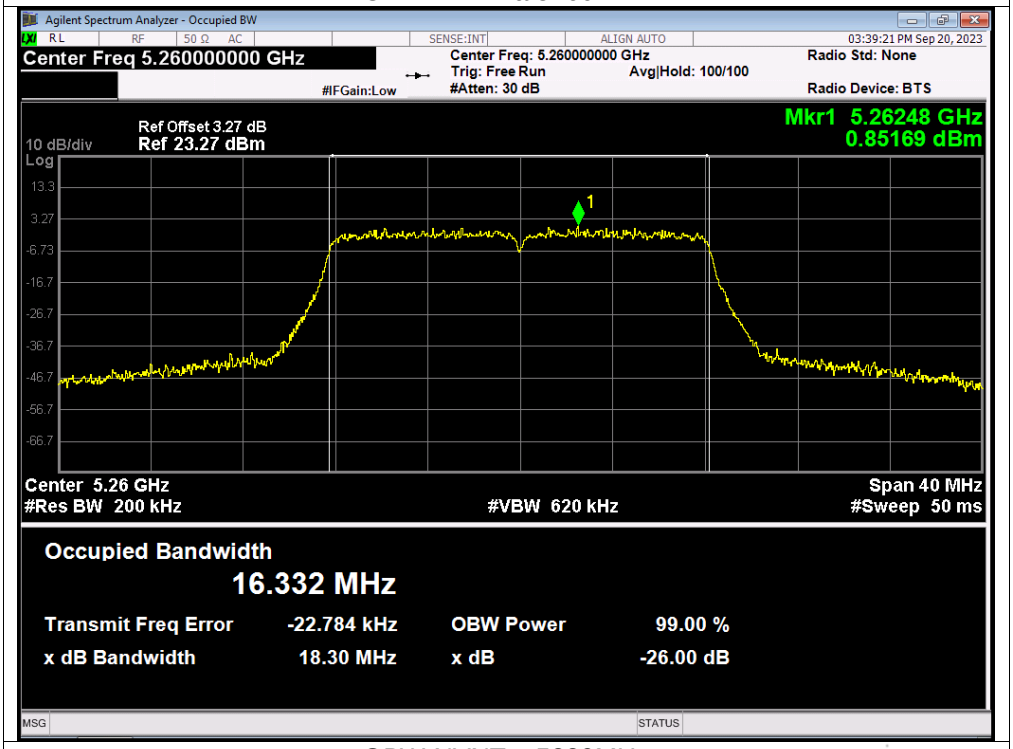
-26dB Bandwidth NVNT ac80 5290MHz



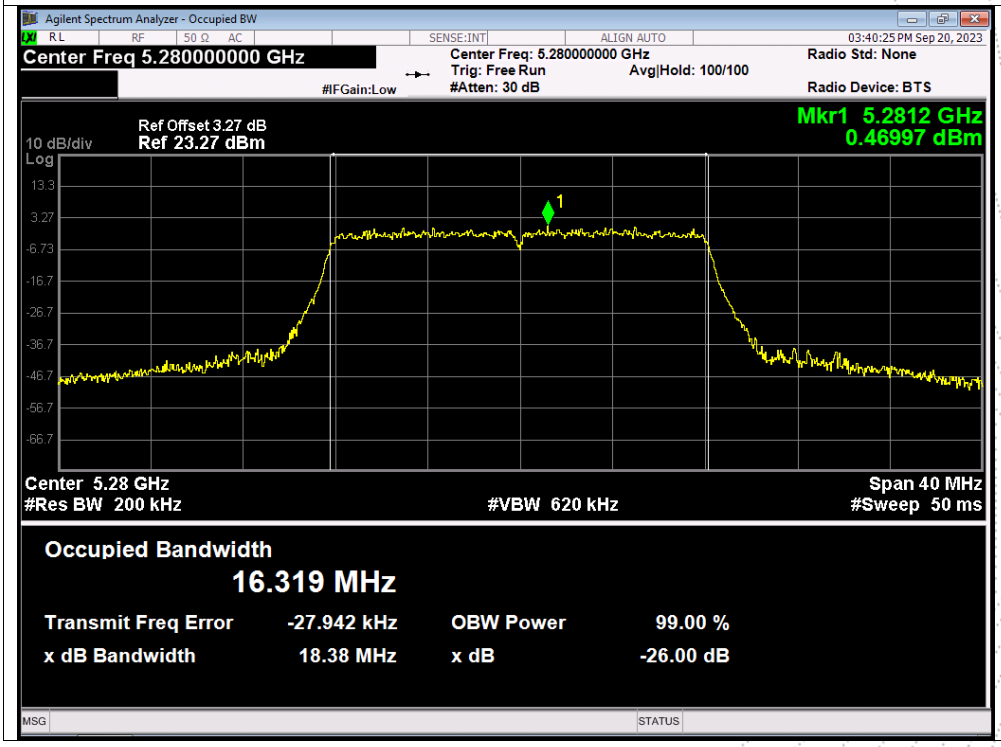
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B, only shown Antenna B Plot.

Test Graphs

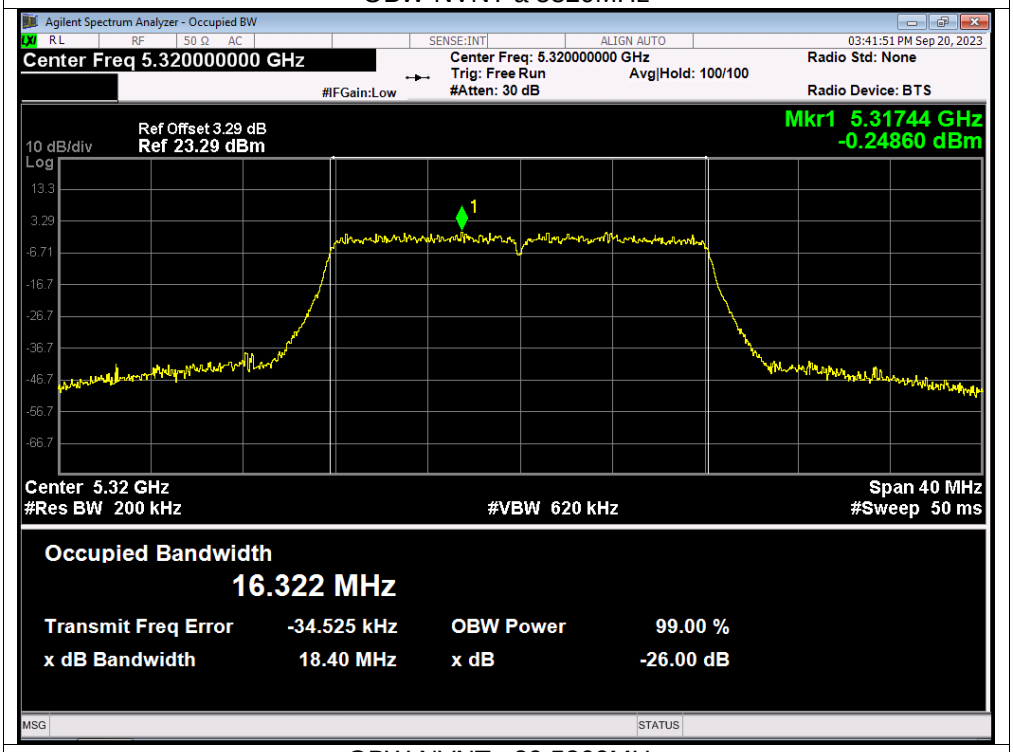
OBW NVNT a 5260MHz



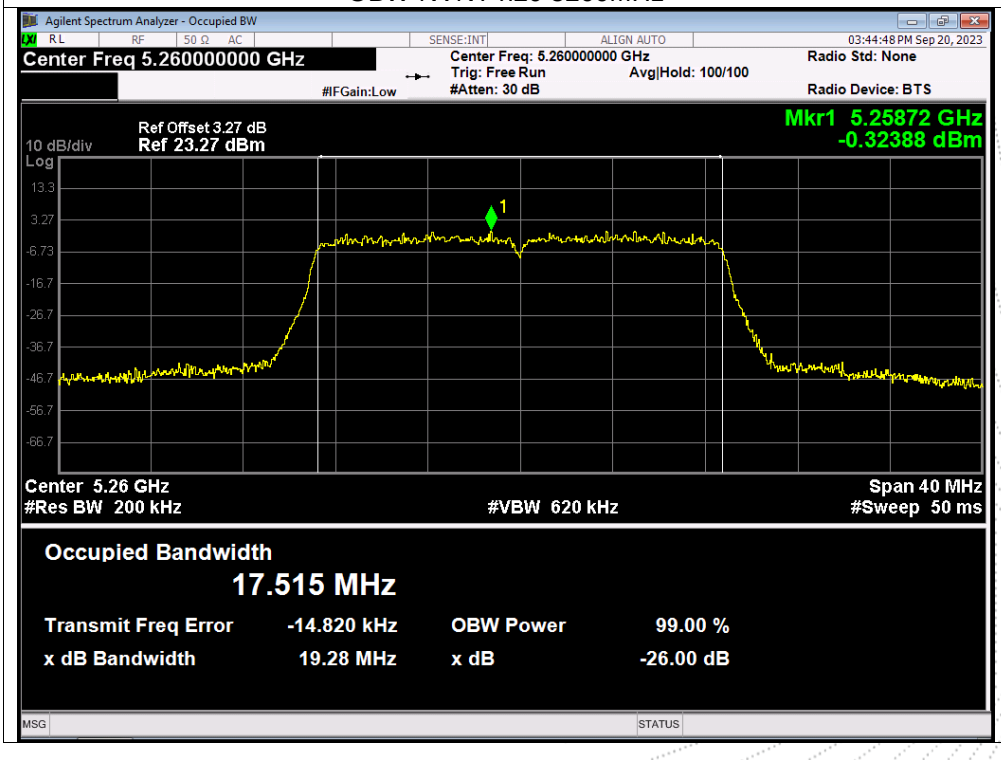
OBW NVNT a 5280MHz



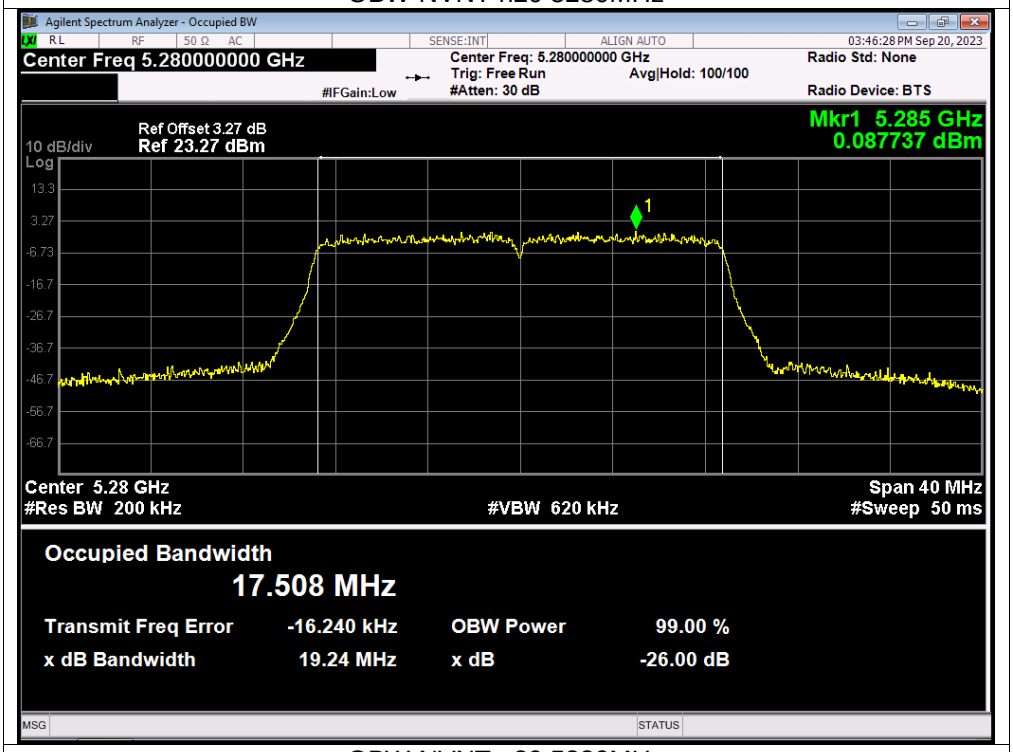
OBW NVNT a 5320MHz



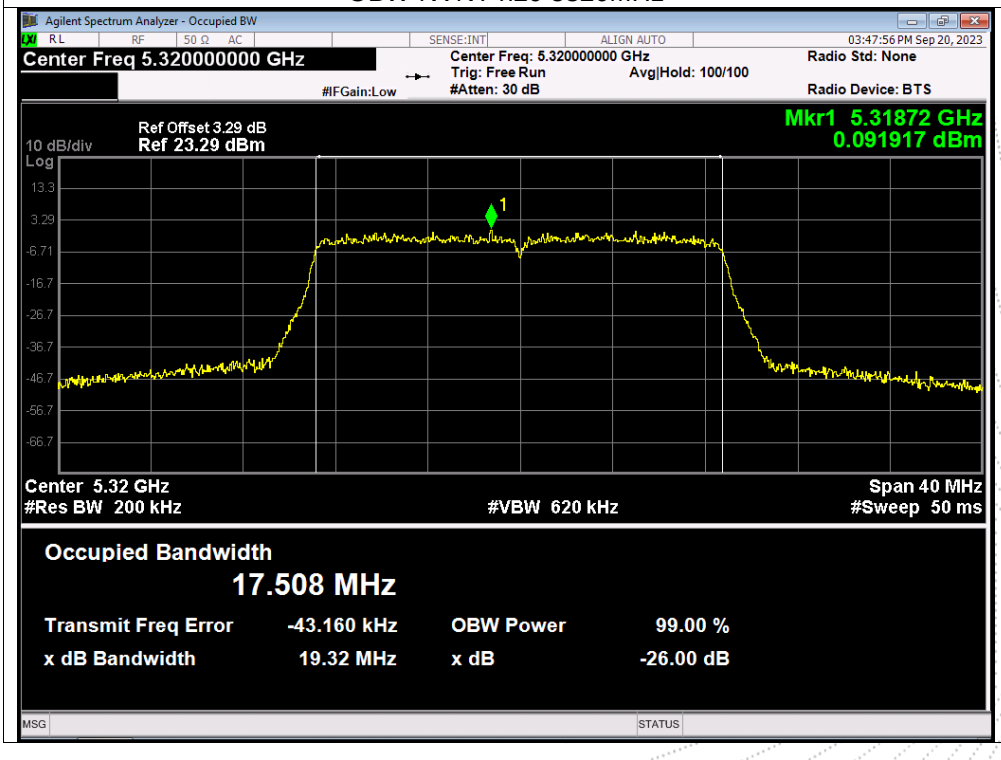
OBW NVNT n20 5260MHz



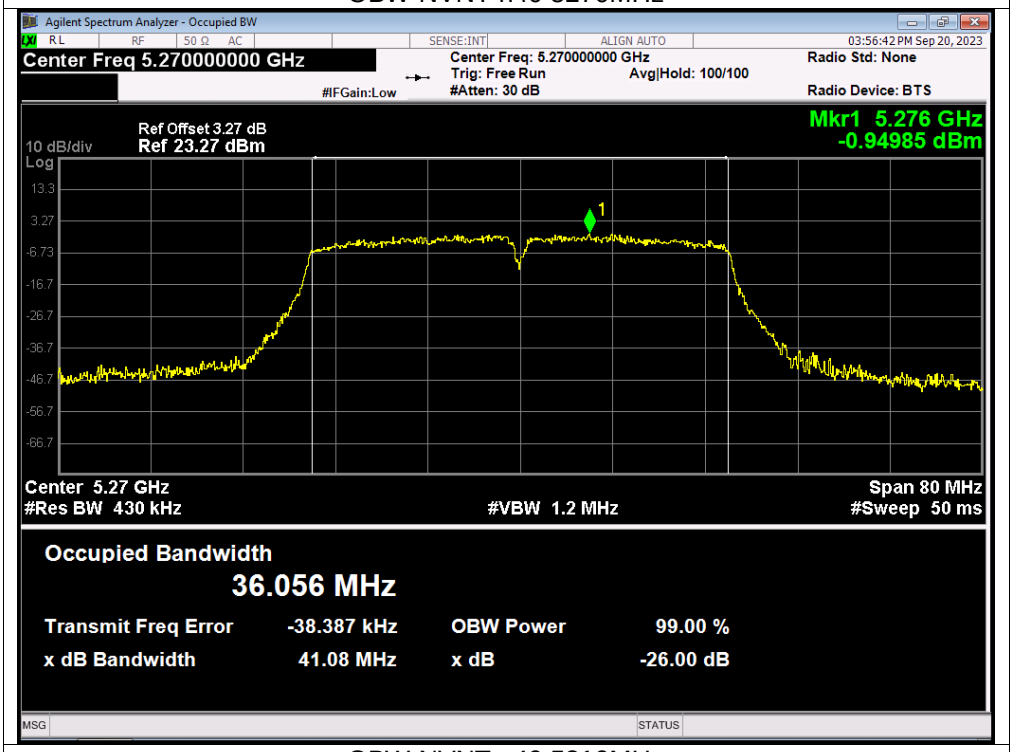
OBW NVNT n20 5280MHz



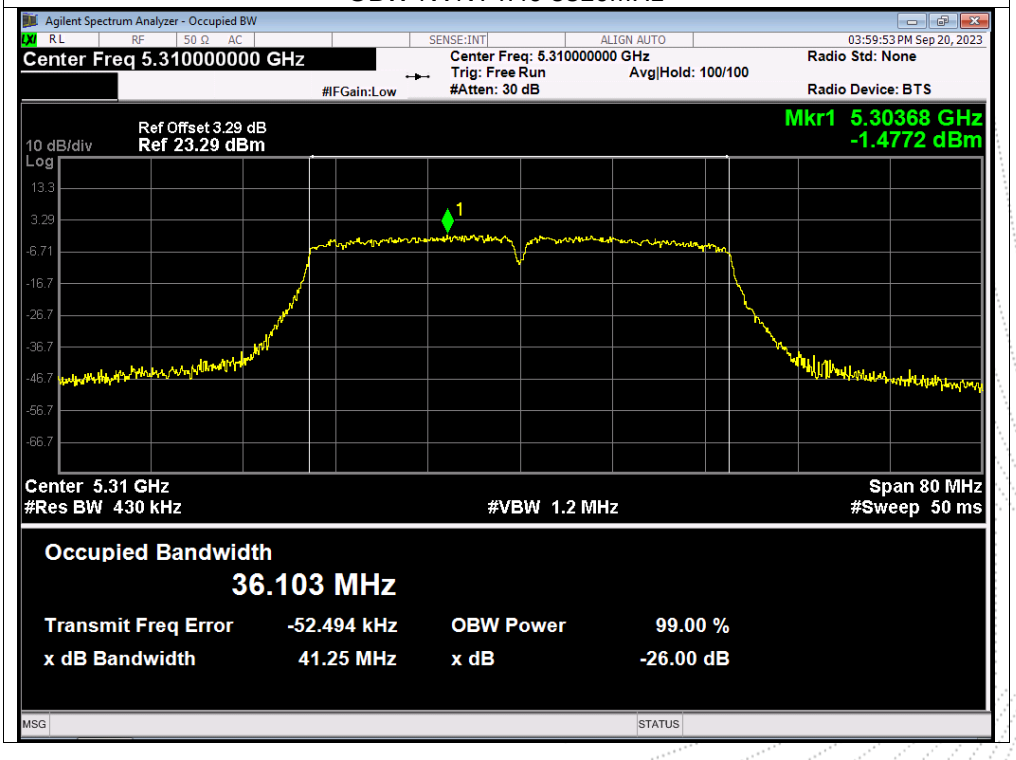
OBW NVNT n20 5320MHz



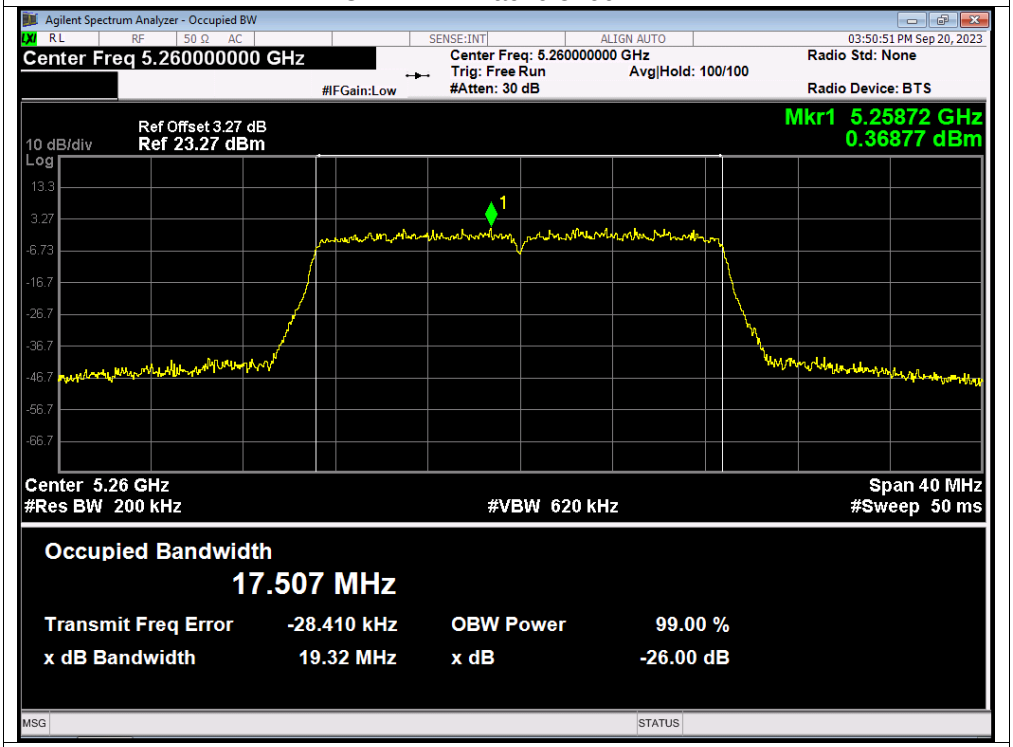
OBW NVNT n40 5270MHz



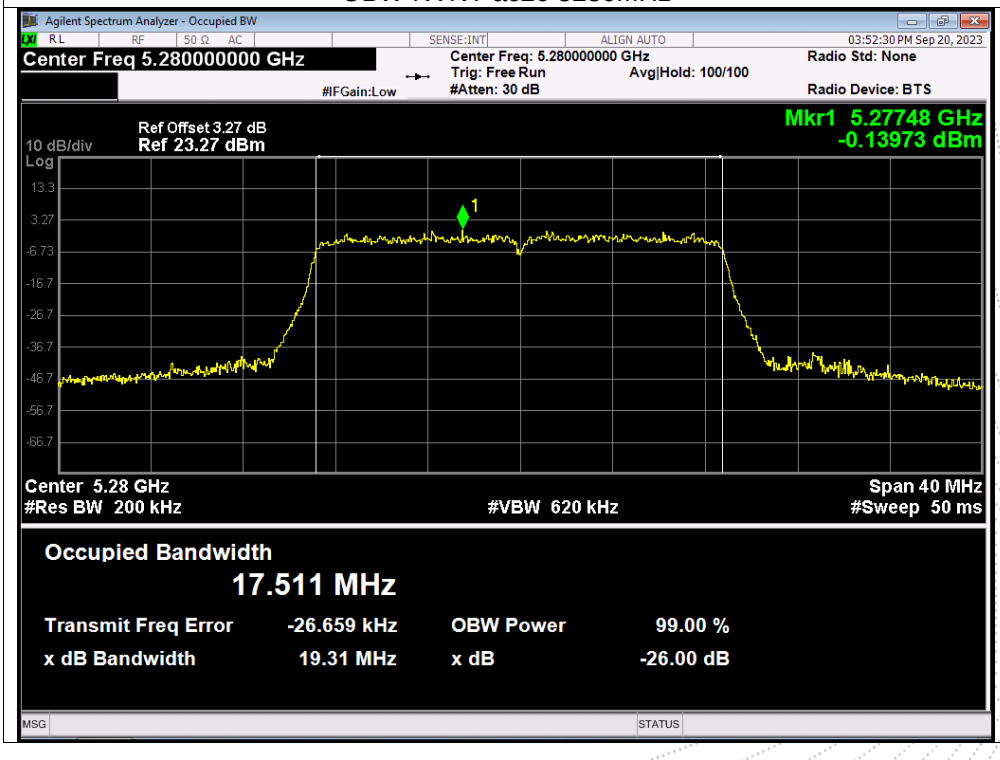
OBW NVNT n40 5310MHz



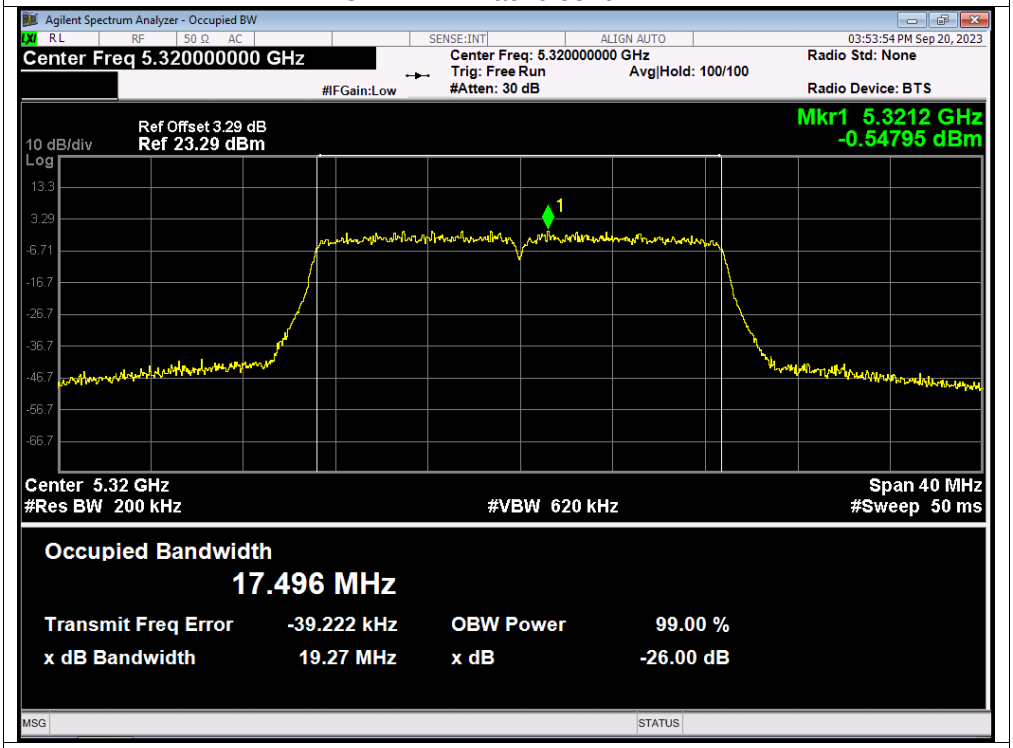
OBW NVNT ac20 5260MHz



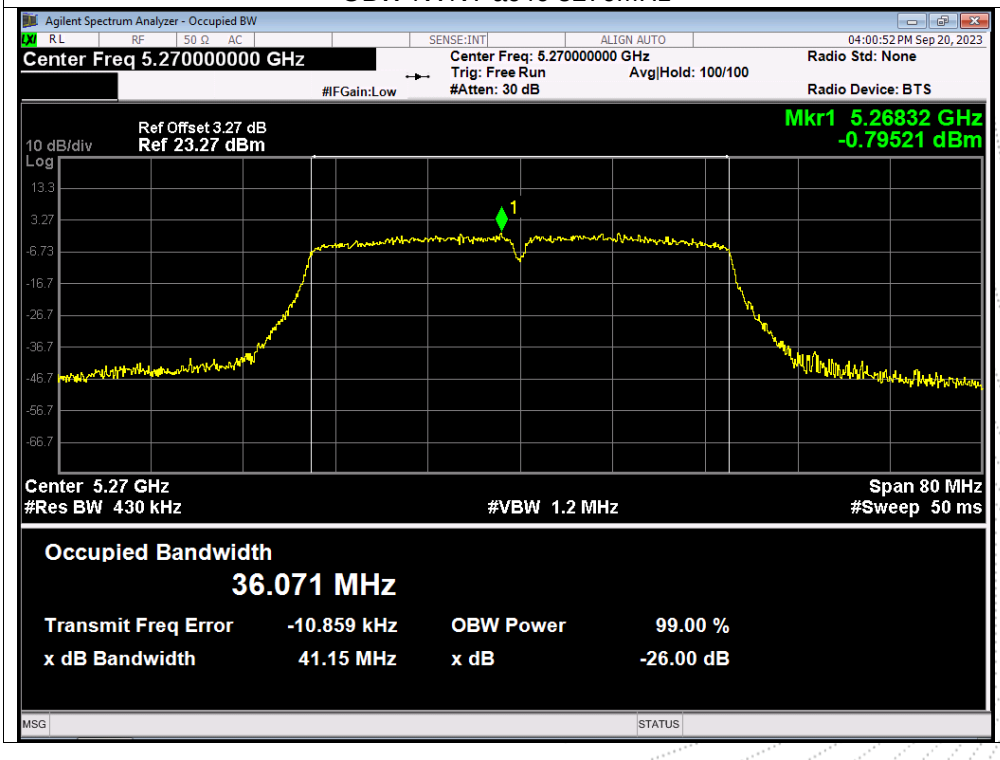
OBW NVNT ac20 5280MHz



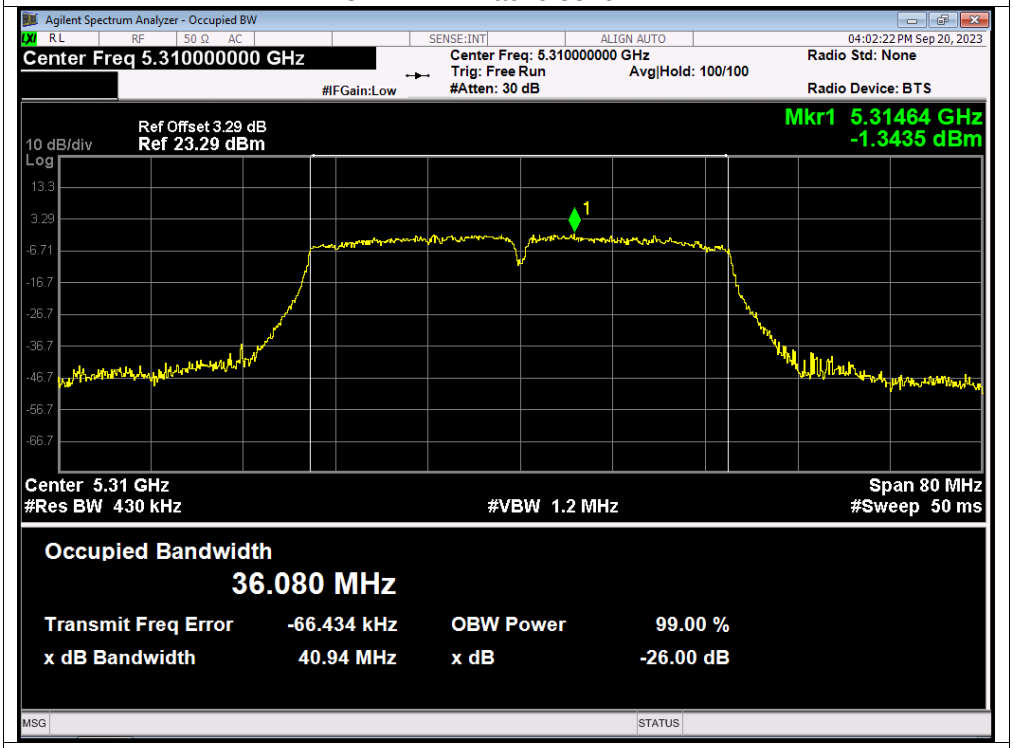
OBW NVNT ac20 5320MHz



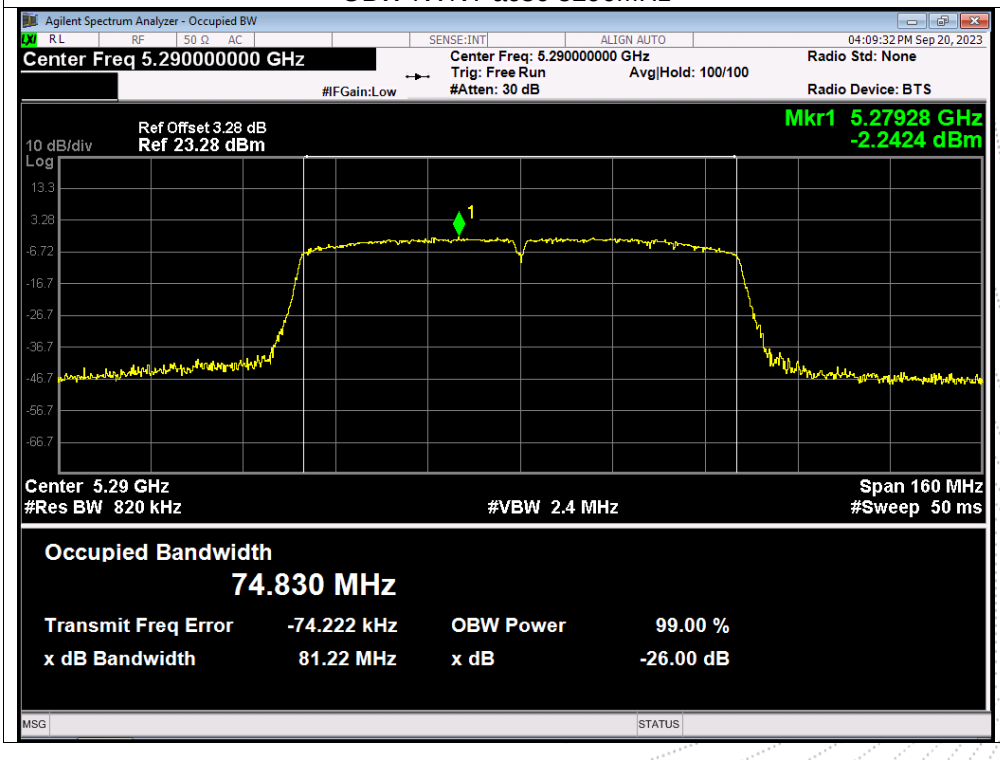
OBW NVNT ac40 5270MHz



OBW NVNT ac40 5310MHz



OBW NVNT ac80 5290MHz



Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V/60Hz
Test Mode:	(5500-5700MHz)		

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)		99% OBW (MHz)		Verdict
			Ant A	Ant B	Ant A	Ant B	
NVNT	a	5500	18.904	18.767	16.347	16.338	Pass
NVNT	a	5580	18.841	18.763	16.312	16.323	Pass
NVNT	a	5700	18.735	18.833	16.318	16.319	Pass
NVNT	n20	5500	19.683	19.698	17.51	17.516	Pass
NVNT	n20	5580	19.522	19.496	17.501	17.495	Pass
NVNT	n20	5700	19.57	19.462	17.505	17.488	Pass
NVNT	n40	5510	42.409	42.561	36.155	36.12	Pass
NVNT	n40	5550	42.151	42.43	36.087	36.095	Pass
NVNT	n40	5670	42.39	42.245	36.136	36.107	Pass
NVNT	ac20	5500	19.676	19.583	17.51	17.515	Pass
NVNT	ac20	5580	19.684	19.615	17.513	17.502	Pass
NVNT	ac20	5700	19.631	19.528	17.511	17.505	Pass
NVNT	ac40	5510	42.29	42.568	36.102	36.072	Pass
NVNT	ac40	5550	42.166	42.566	36.076	36.163	Pass
NVNT	ac40	5670	42.198	42.173	36.069	36.116	Pass
NVNT	ac80	5530	78.947	**79.472**	**74.753**	74.68	Pass