



Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: Smart TV Box

Test Model: Q1

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
	<i>Nick Peng</i>
Supervised by:	Jack Cheng
	<i>Jack cheng</i>





D.1 -26dB Bandwidth

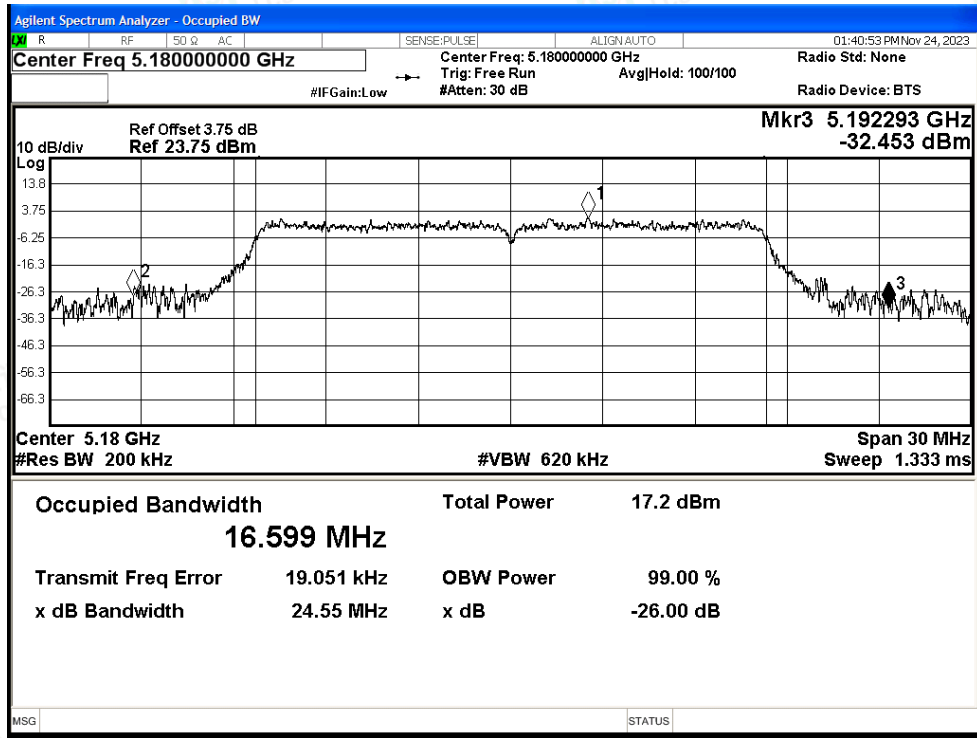
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant	24.548	≥ 0.5	Pass
NVNT	a	5200	Ant	24.505	≥ 0.5	Pass
NVNT	a	5240	Ant	27.077	≥ 0.5	Pass
NVNT	n20	5180	Ant	23.971	≥ 0.5	Pass
NVNT	n20	5200	Ant	24.779	≥ 0.5	Pass
NVNT	n20	5240	Ant	27.125	≥ 0.5	Pass
NVNT	n40	5190	Ant	43.43	≥ 0.5	Pass
NVNT	n40	5230	Ant	45.992	≥ 0.5	Pass



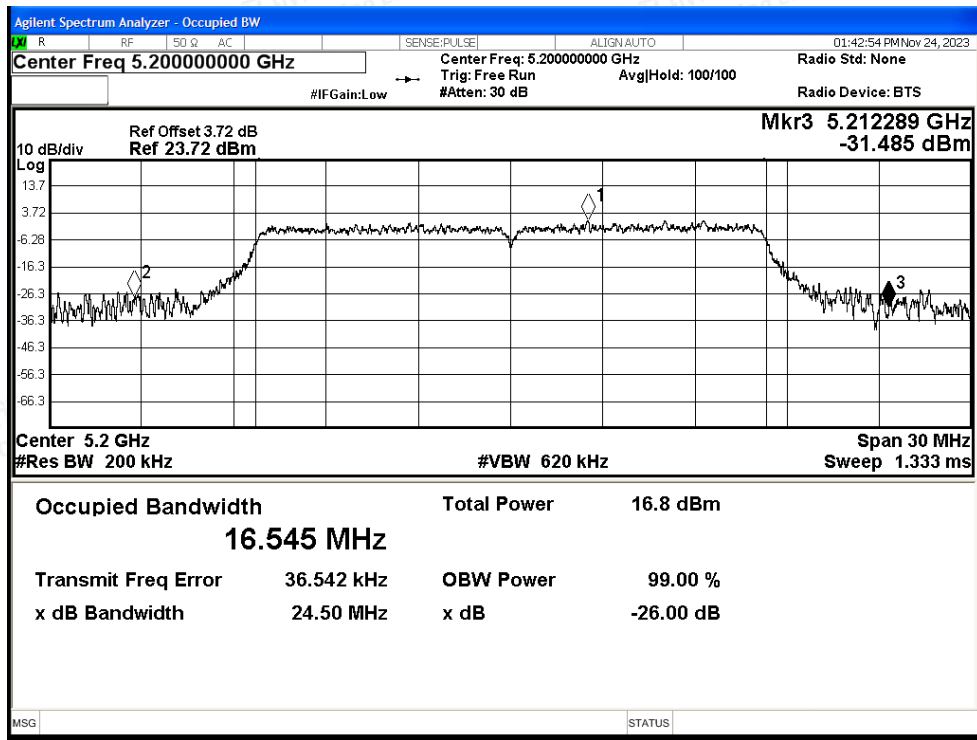


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant

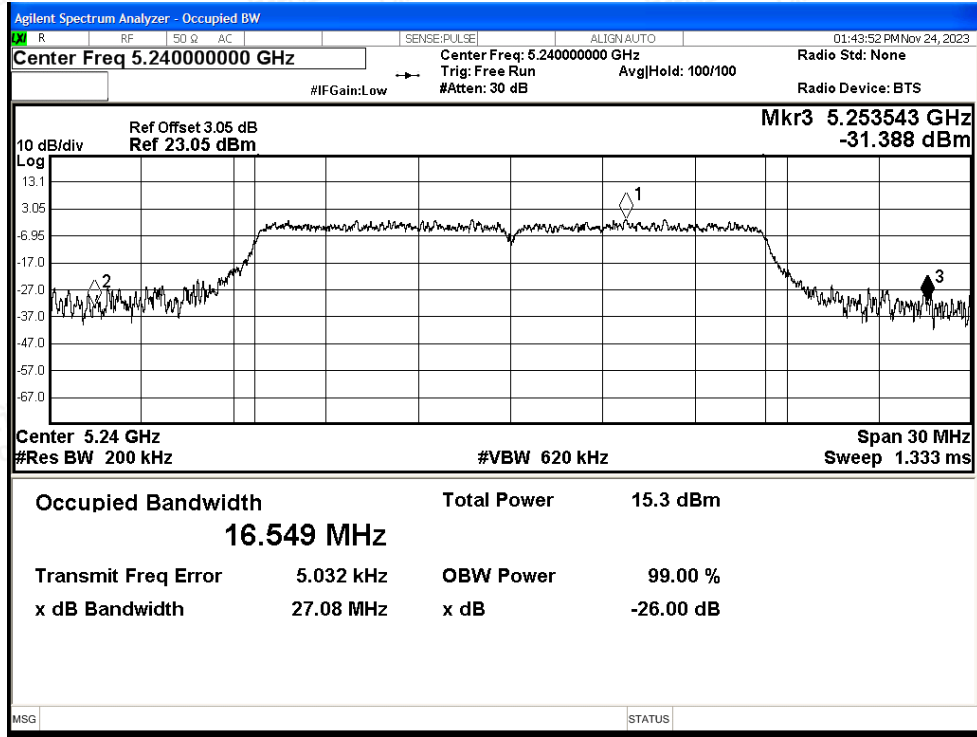


-26dB Bandwidth NVNT a 5200MHz Ant

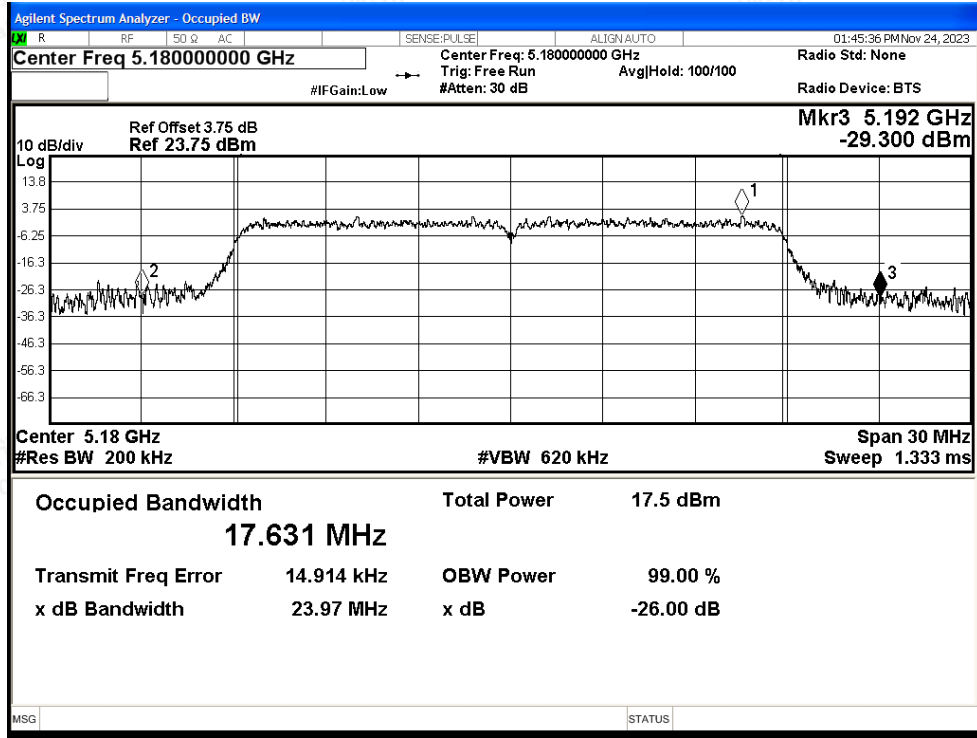




-26dB Bandwidth NVNT a 5240MHz Ant



-26dB Bandwidth NVNT n20 5180MHz Ant

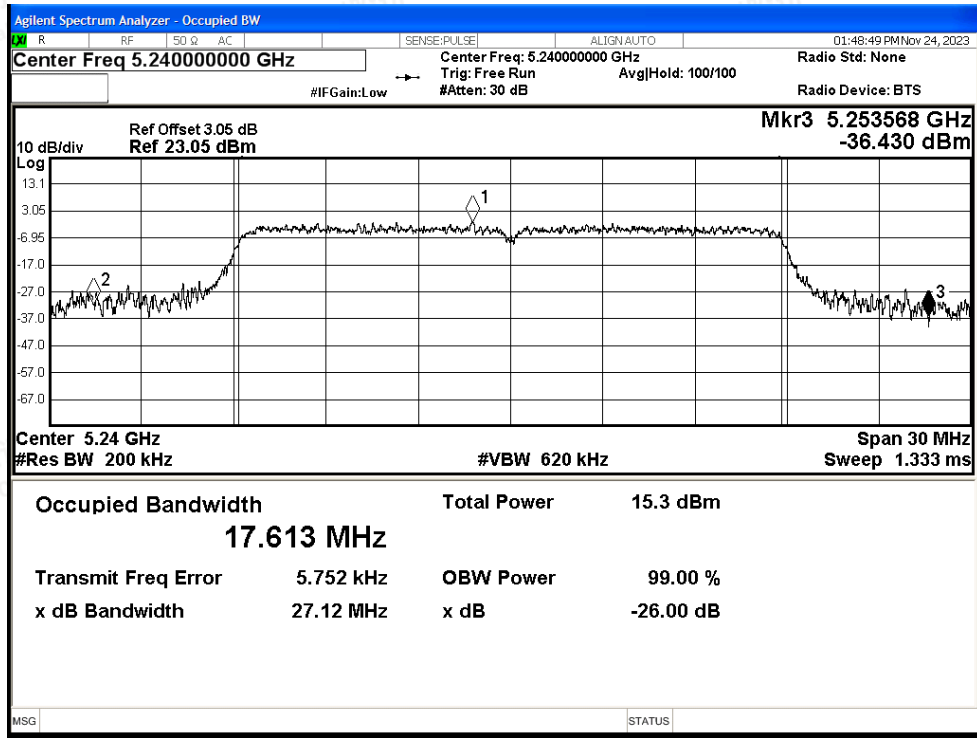




-26dB Bandwidth NVNT n20 5200MHz Ant

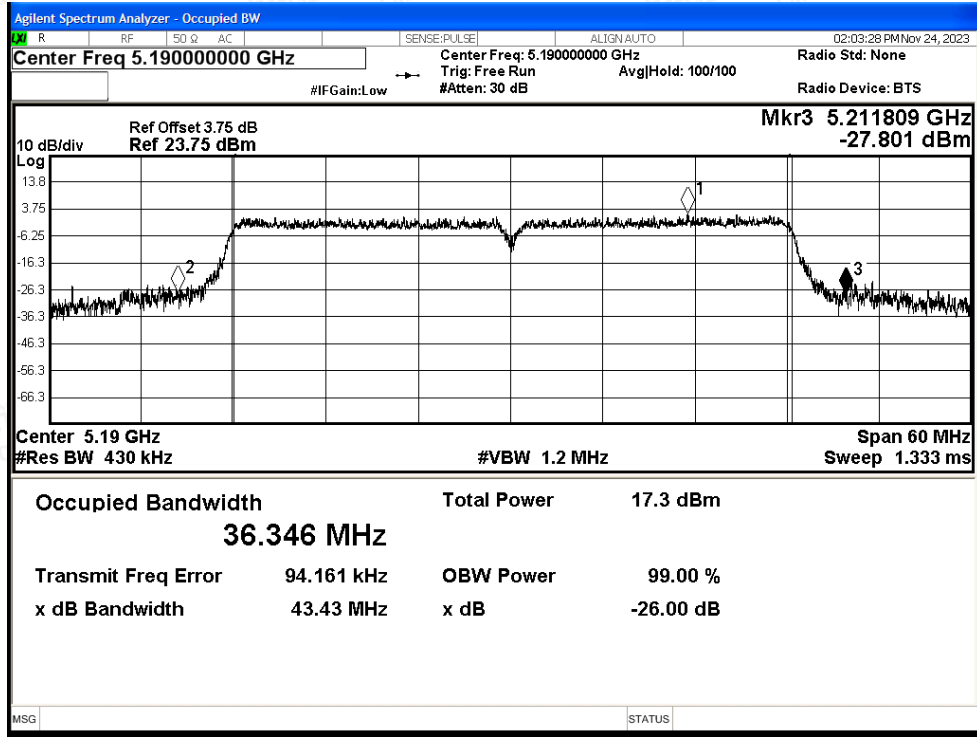


-26dB Bandwidth NVNT n20 5240MHz Ant

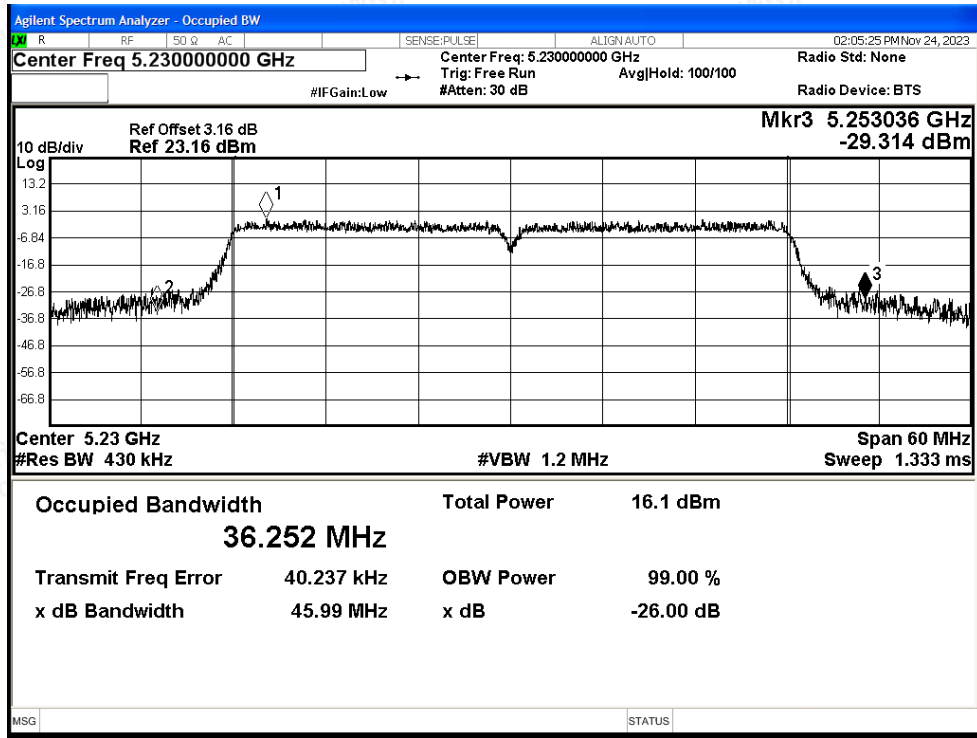




-26dB Bandwidth NVNT n40 5190MHz Ant



-26dB Bandwidth NVNT n40 5230MHz Ant





D.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant	11.47	0.19	11.66	24	Pass
NVNT	a	5200	Ant	11.13	0.19	11.32	24	Pass
NVNT	a	5240	Ant	9.6	0.19	9.79	24	Pass
NVNT	n20	5180	Ant	11.81	0.23	12.04	24	Pass
NVNT	n20	5200	Ant	11.37	0.23	11.6	24	Pass
NVNT	n20	5240	Ant	9.7	0.22	9.92	24	Pass
NVNT	n40	5190	Ant	11.32	0.44	11.76	24	Pass
NVNT	n40	5230	Ant	10.05	0.44	10.49	24	Pass





D.3 Maximum Power Spectral Density Level

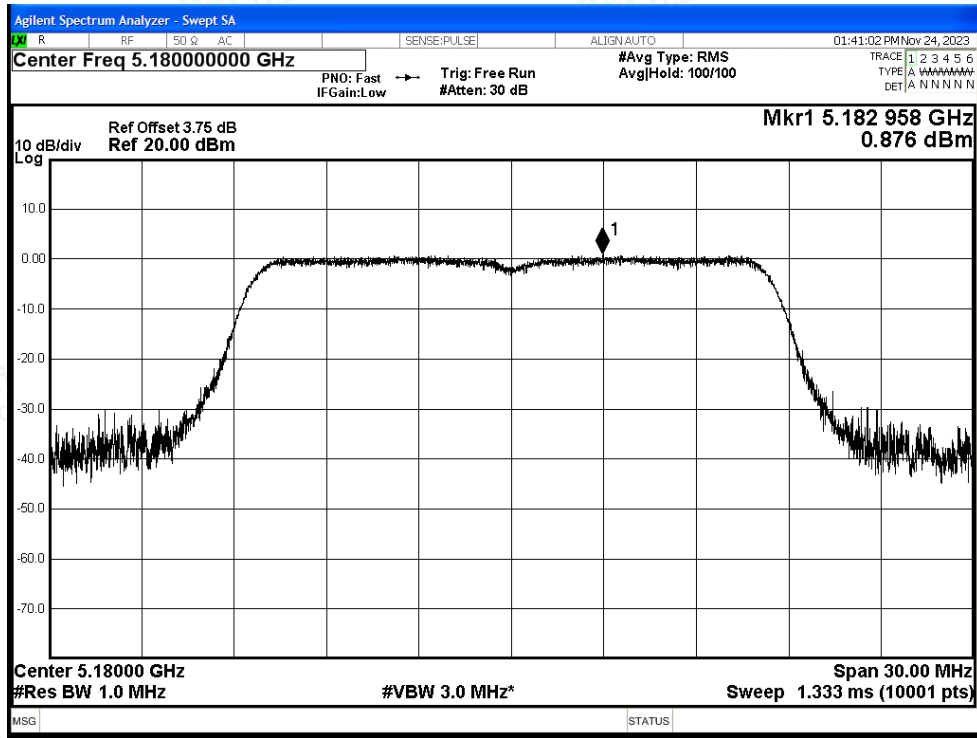
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant	0.88	0.19	1.07	11	Pass
NVNT	a	5200	Ant	0.89	0.19	1.08	11	Pass
NVNT	a	5240	Ant	-1.1	0.19	-0.91	11	Pass
NVNT	n20	5180	Ant	0.97	0.23	1.2	11	Pass
NVNT	n20	5200	Ant	0.72	0.23	0.95	11	Pass
NVNT	n20	5240	Ant	-1.09	0.22	-0.87	11	Pass
NVNT	n40	5190	Ant	-1.82	0.44	-1.38	11	Pass
NVNT	n40	5230	Ant	-3.29	0.44	-2.85	11	Pass



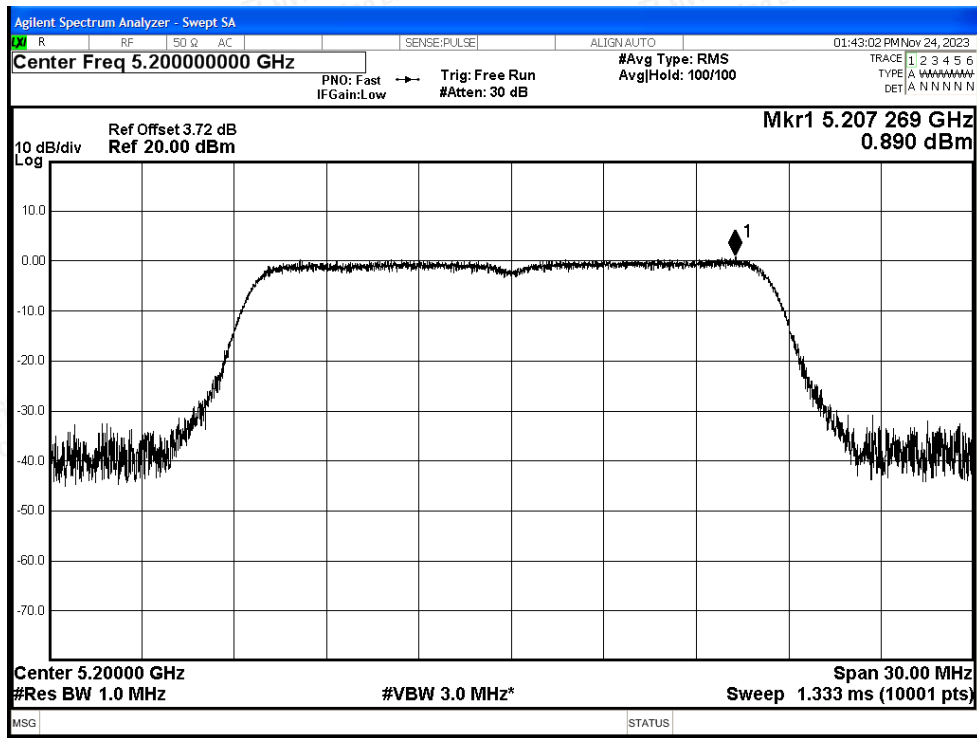


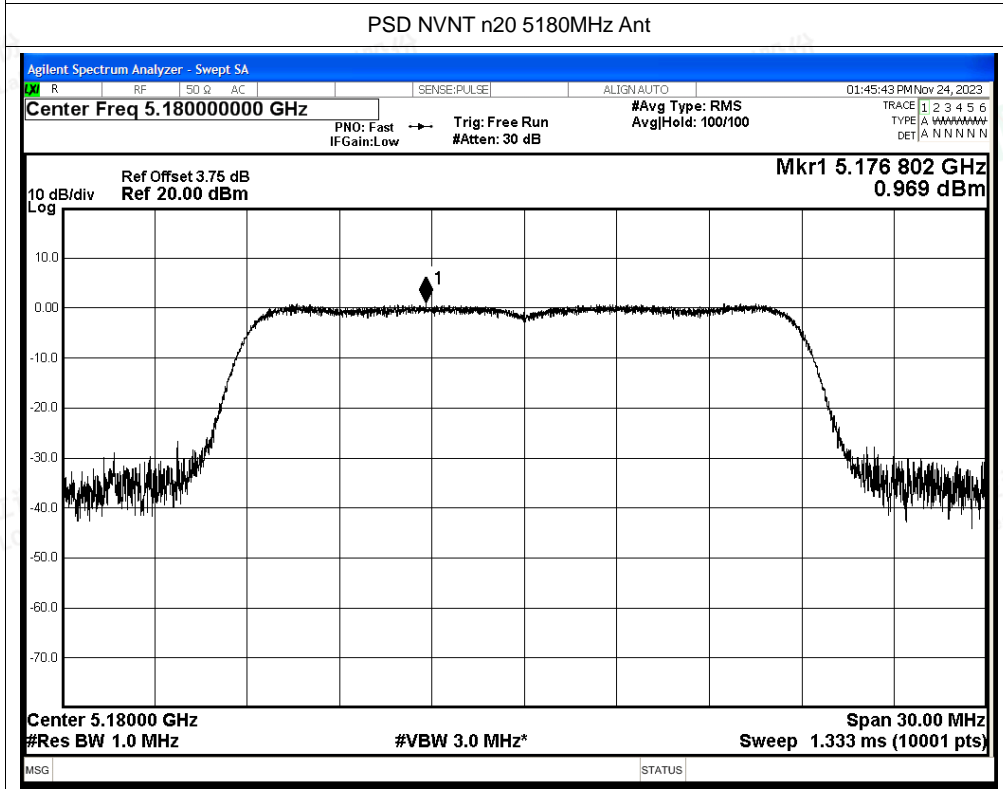
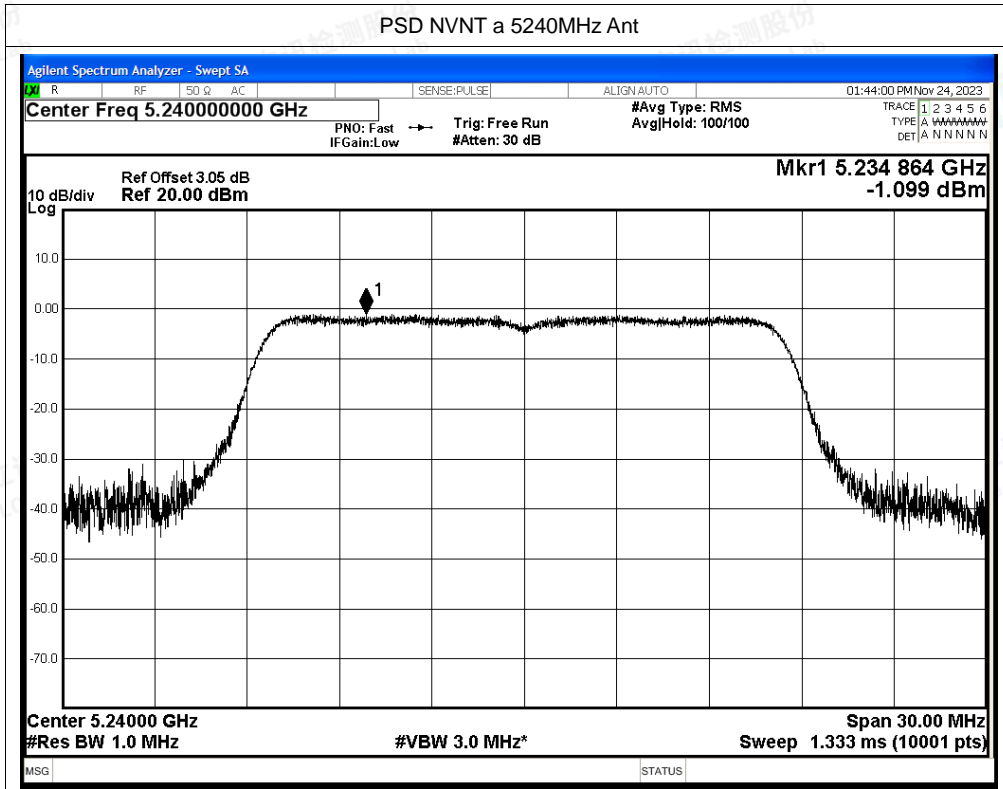
Test Graphs

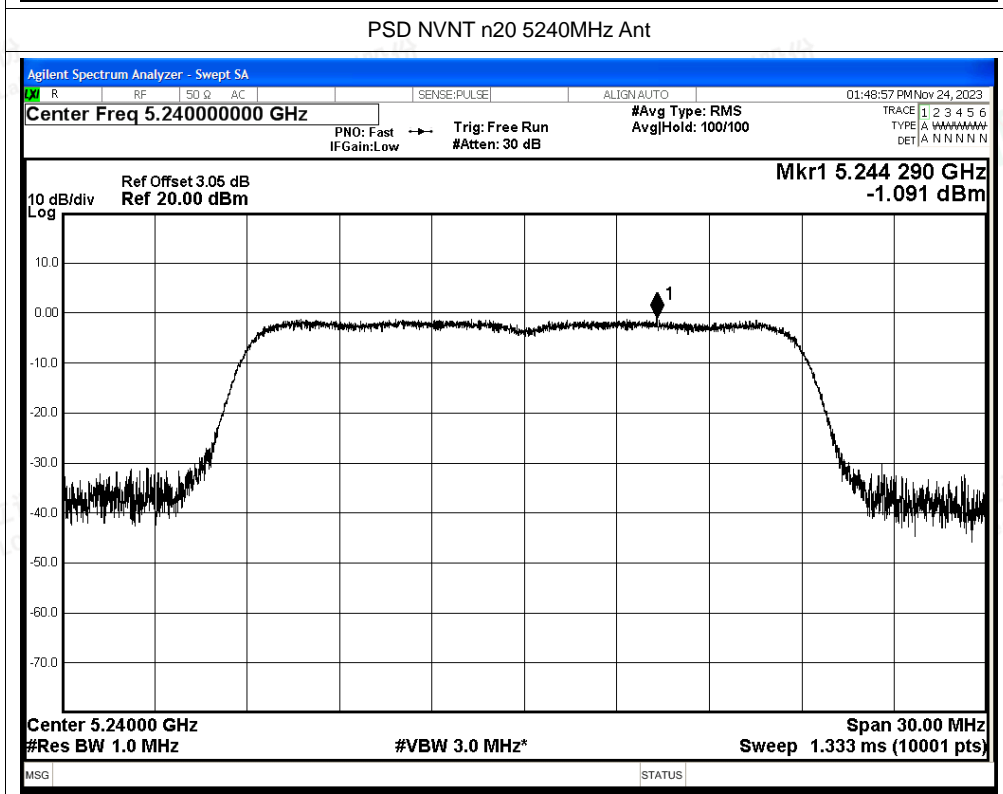
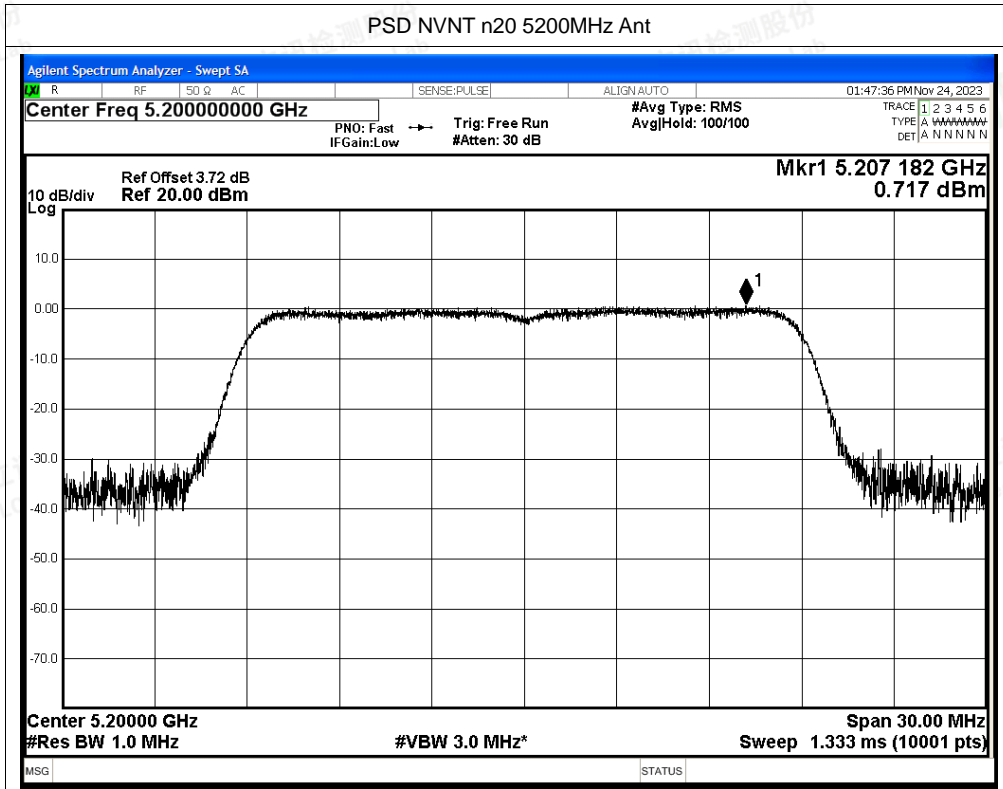
PSD NVNT a 5180MHz Ant

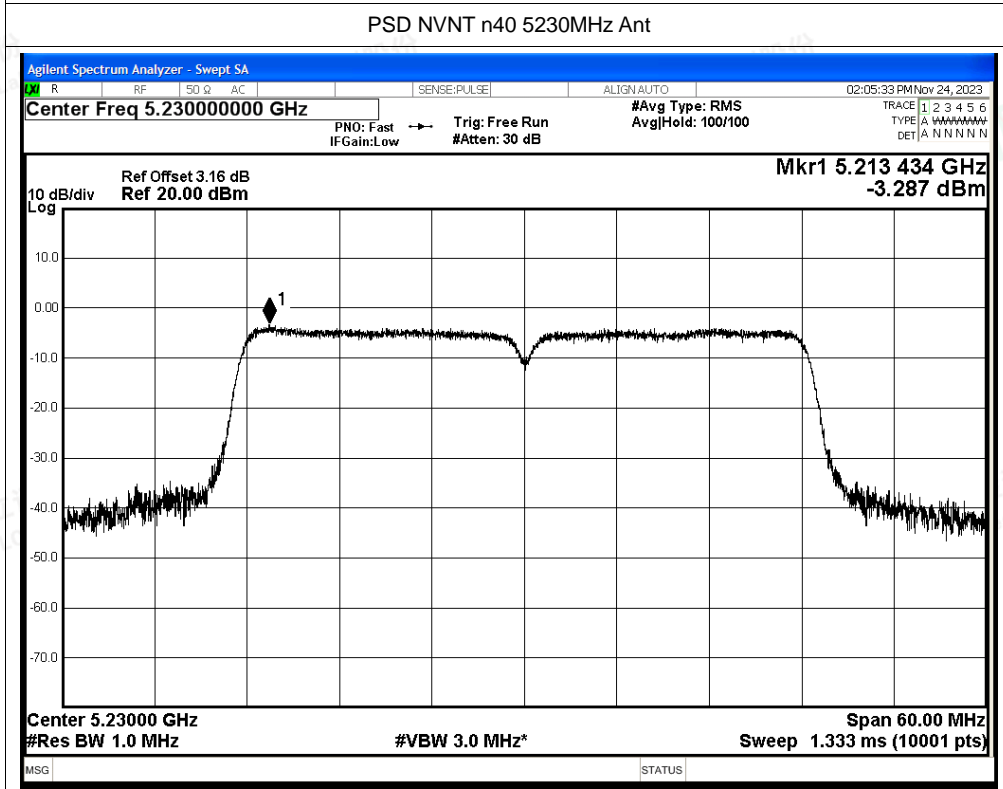
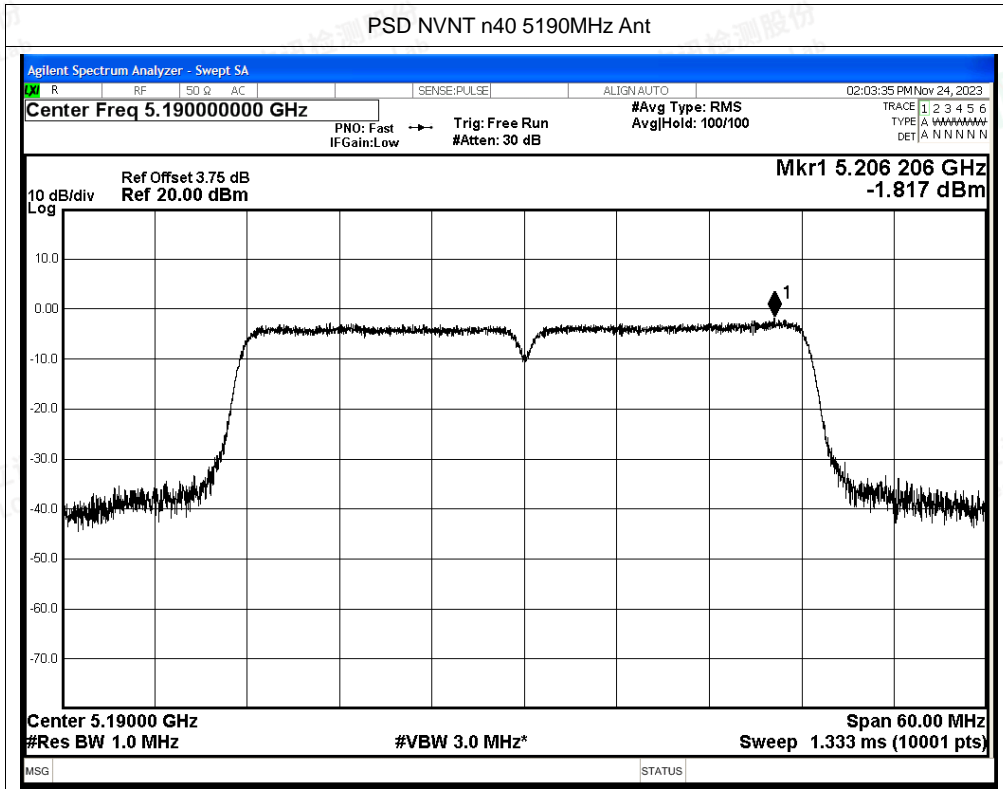


PSD NVNT a 5200MHz Ant











D.4 Restrict Band

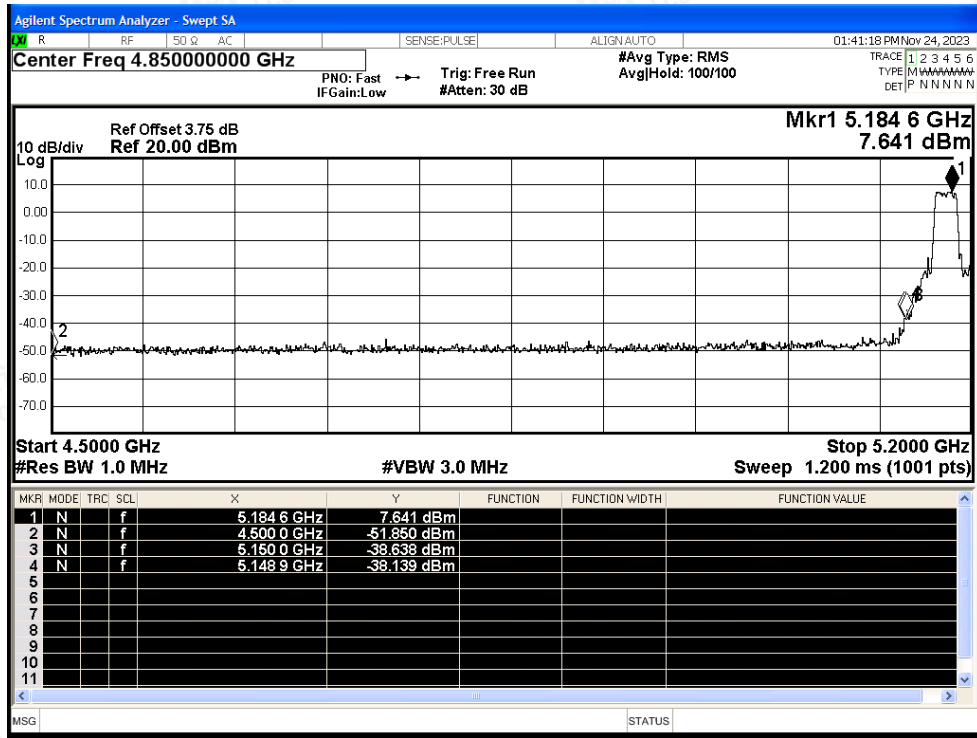
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant	4500	-51.85	2	45.38	Peak	68.2	Pass
NVNT	a	5180	Ant	4500	-57.13	2	40.1	Average	54	Pass
NVNT	a	5180	Ant	5148.9	-38.14	2	59.09	Peak	68.2	Pass
NVNT	a	5180	Ant	5149.6	-49.73	2	47.5	Average	54	Pass
NVNT	a	5180	Ant	5150	-38.64	2	58.59	Peak	68.2	Pass
NVNT	a	5180	Ant	5150	-49.07	2	48.16	Average	54	Pass
NVNT	a	5240	Ant	5350	-48.62	2	48.61	Peak	68.2	Pass
NVNT	a	5240	Ant	5350	-56.73	2	40.5	Average	54	Pass
NVNT	a	5240	Ant	5368.8	-47.24	2	49.99	Peak	68.2	Pass
NVNT	a	5240	Ant	5351.28	-56.59	2	40.64	Average	54	Pass
NVNT	a	5240	Ant	5460	-50.51	2	46.72	Peak	68.2	Pass
NVNT	a	5240	Ant	5460	-57.18	2	40.05	Average	54	Pass
NVNT	n20	5180	Ant	4500	-49.64	2	47.59	Peak	68.2	Pass
NVNT	n20	5180	Ant	4500	-57	2	40.23	Average	54	Pass
NVNT	n20	5180	Ant	5148.9	-34.37	2	62.86	Peak	68.2	Pass
NVNT	n20	5180	Ant	5149.6	-44.74	2	52.49	Average	54	Pass
NVNT	n20	5180	Ant	5150	-35.98	2	61.25	Peak	68.2	Pass
NVNT	n20	5180	Ant	5150	-44.63	2	52.6	Average	54	Pass
NVNT	n20	5240	Ant	5350	-47.85	2	49.38	Peak	68.2	Pass
NVNT	n20	5240	Ant	5350	-56.69	2	40.54	Average	54	Pass
NVNT	n20	5240	Ant	5383.92	-47.18	2	50.05	Peak	68.2	Pass
NVNT	n20	5240	Ant	5374.8	-56.56	2	40.67	Average	54	Pass
NVNT	n20	5240	Ant	5460	-49.09	2	48.14	Peak	68.2	Pass
NVNT	n20	5240	Ant	5460	-57.04	2	40.19	Average	54	Pass
NVNT	n40	5190	Ant	4500	-50.7	2	46.53	Peak	68.2	Pass
NVNT	n40	5190	Ant	4500	-56.96	2	40.27	Average	54	Pass
NVNT	n40	5190	Ant	5149.7	-34.57	2	62.66	Peak	68.2	Pass
NVNT	n40	5190	Ant	5149.7	-45.17	2	52.06	Average	54	Pass
NVNT	n40	5190	Ant	5150	-34.57	2	62.66	Peak	68.2	Pass
NVNT	n40	5190	Ant	5150	-45.17	2	52.06	Average	54	Pass
NVNT	n40	5230	Ant	5350	-49.51	2	47.72	Peak	68.2	Pass
NVNT	n40	5230	Ant	5350	-56.34	2	40.89	Average	54	Pass
NVNT	n40	5230	Ant	5394.93	-46.31	2	50.92	Peak	68.2	Pass
NVNT	n40	5230	Ant	5369.01	-56.21	2	41.02	Average	54	Pass
NVNT	n40	5230	Ant	5460	-49.79	2	47.44	Peak	68.2	Pass
NVNT	n40	5230	Ant	5460	-56.92	2	40.31	Average	54	Pass



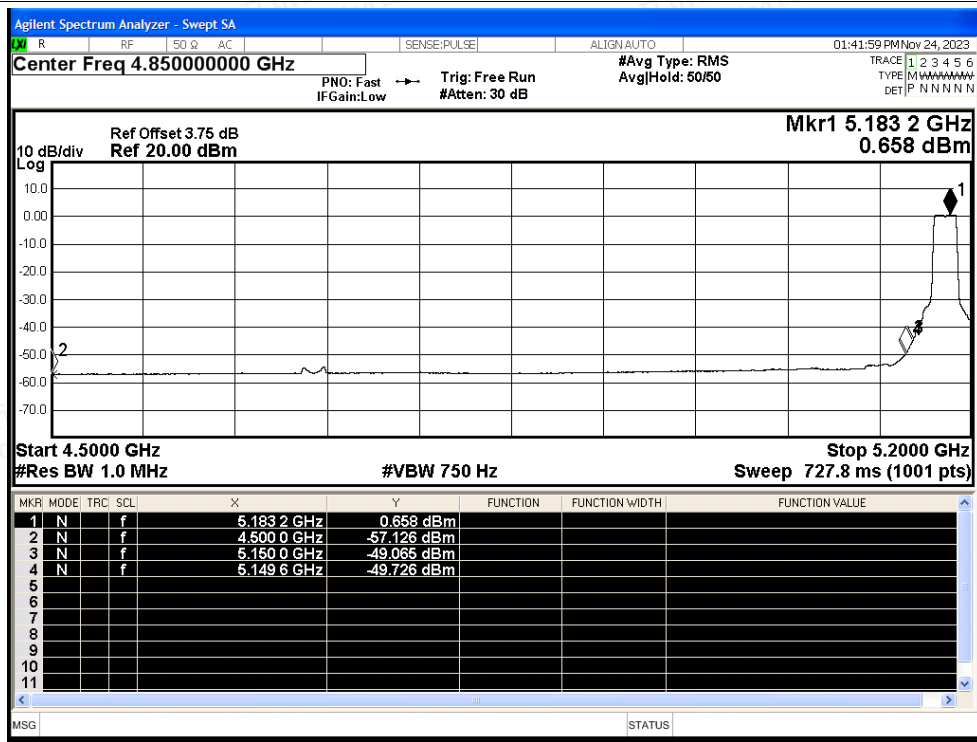


Test Graphs

Restrict Band NVNT a 5180MHz Ant Peak

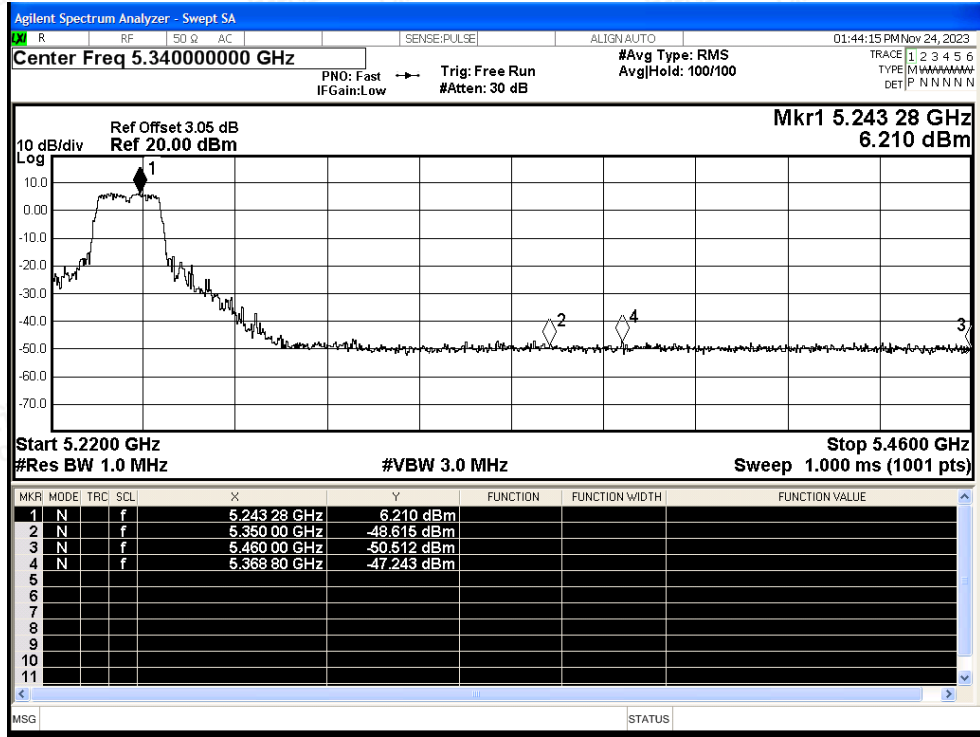


Restrict Band NVNT a 5180MHz Ant Average

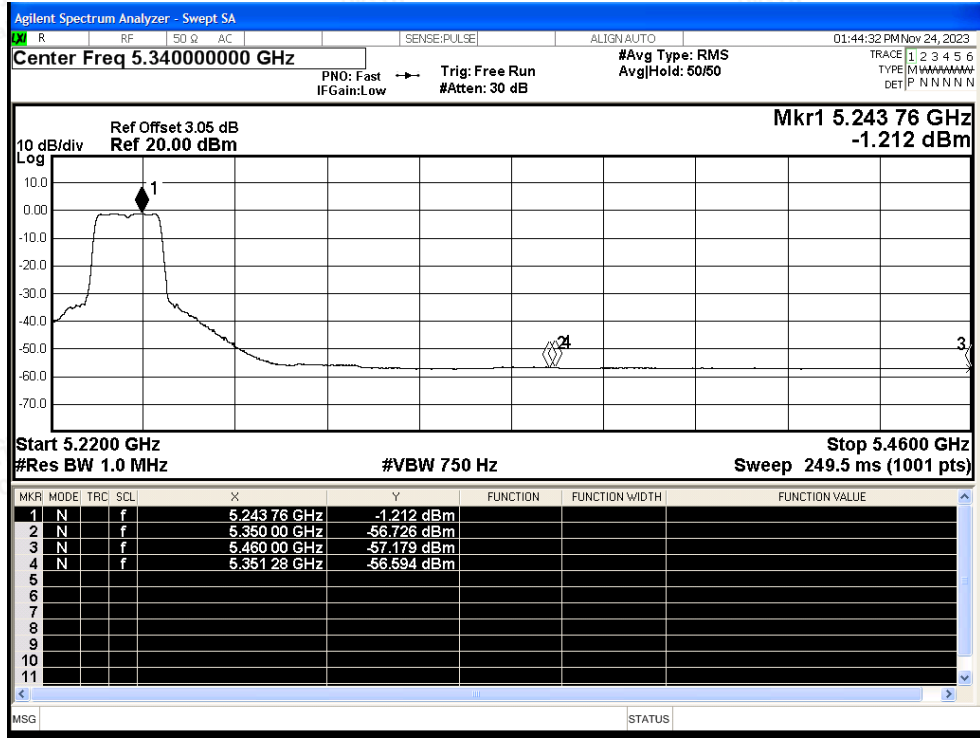




Restrict Band NVNT a 5240MHz Ant Peak

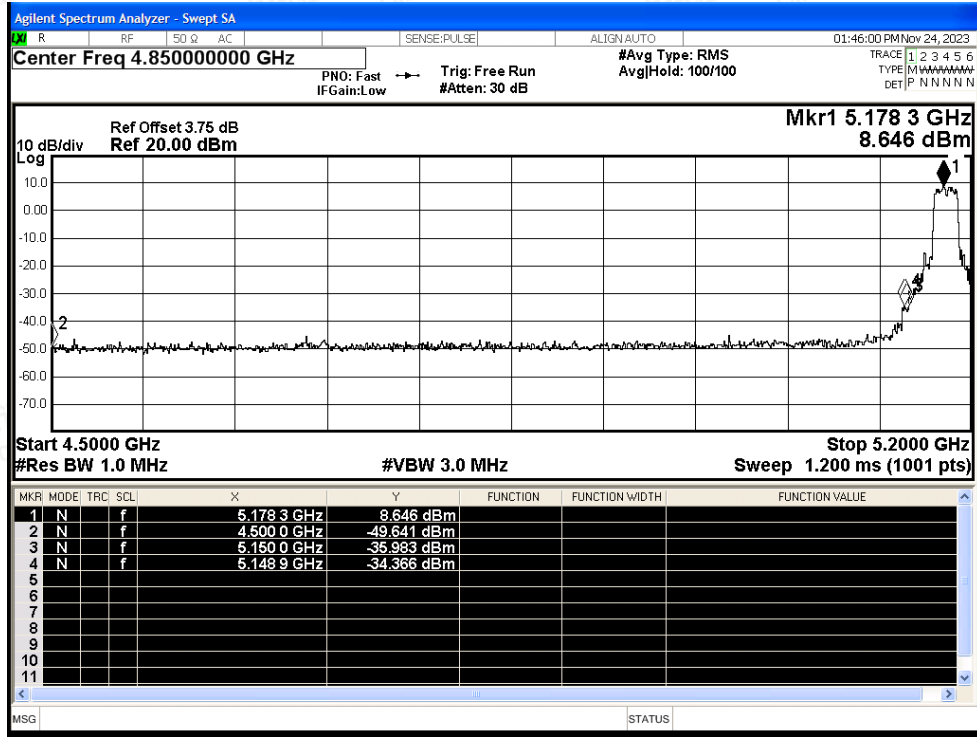


Restrict Band NVNT a 5240MHz Ant Average

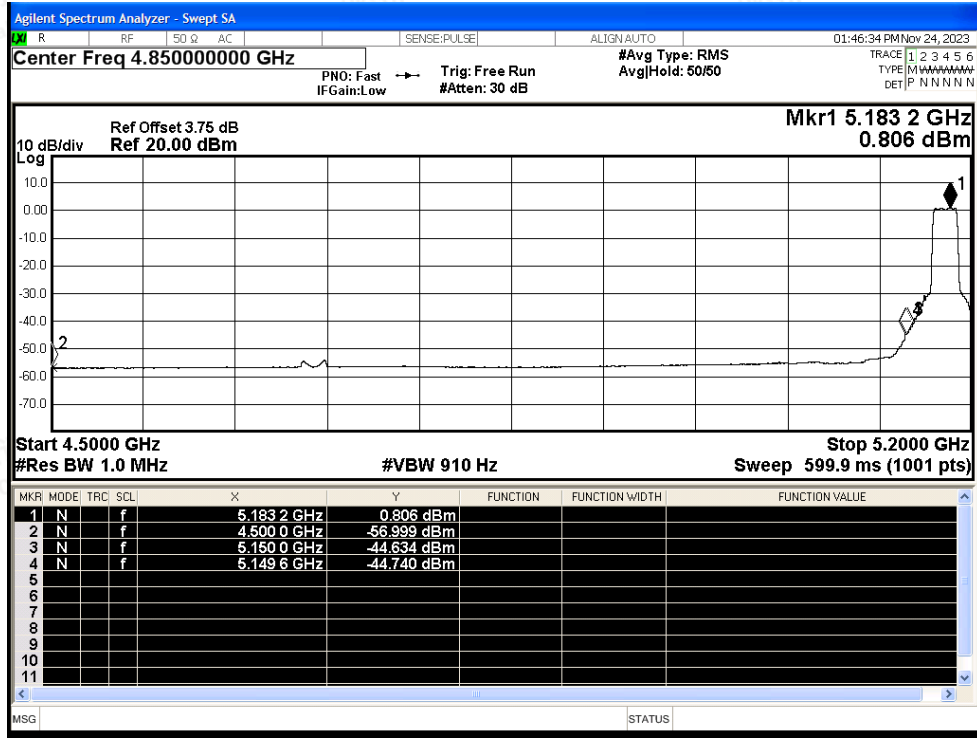




Restrict Band NVNT n20 5180MHz Ant Peak

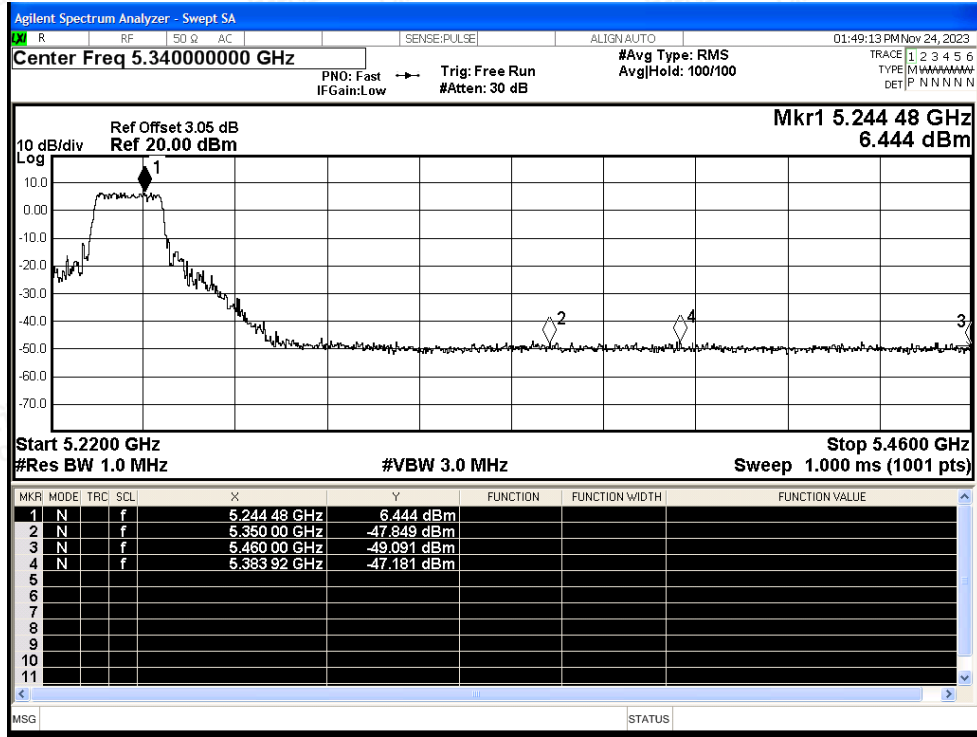


Restrict Band NVNT n20 5180MHz Ant Average

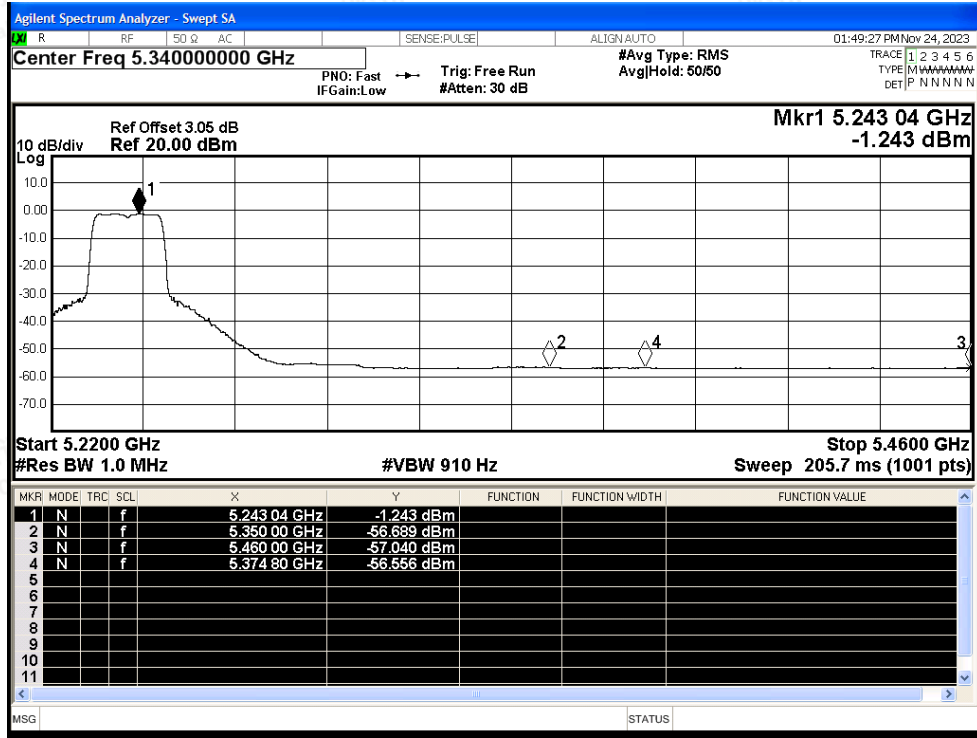




Restrict Band NVNT n20 5240MHz Ant Peak

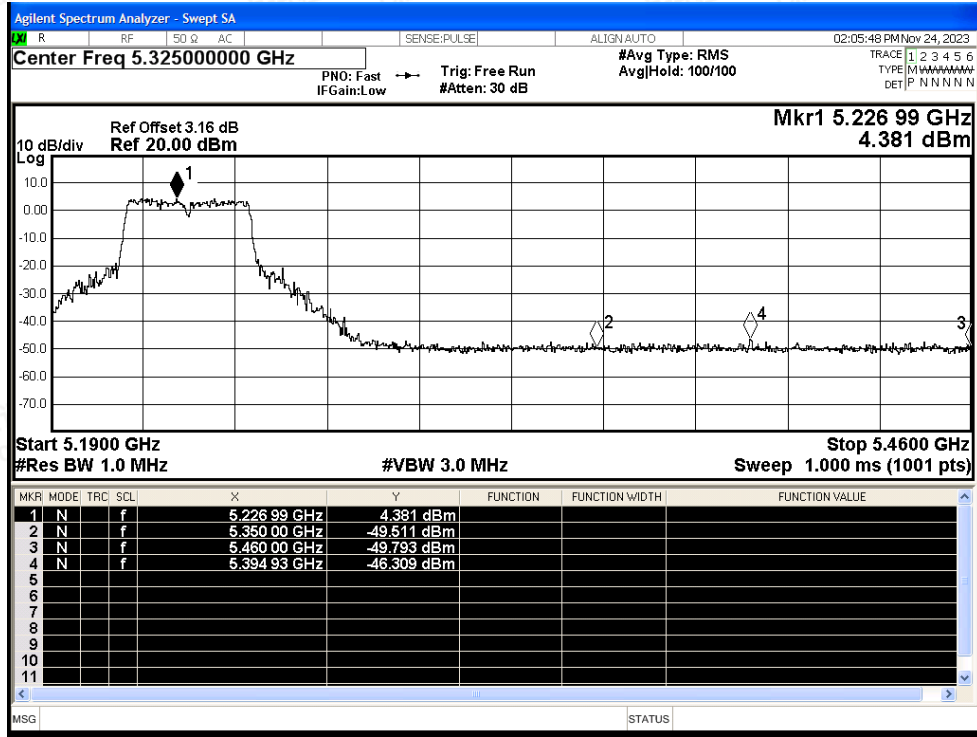


Restrict Band NVNT n20 5240MHz Ant Average

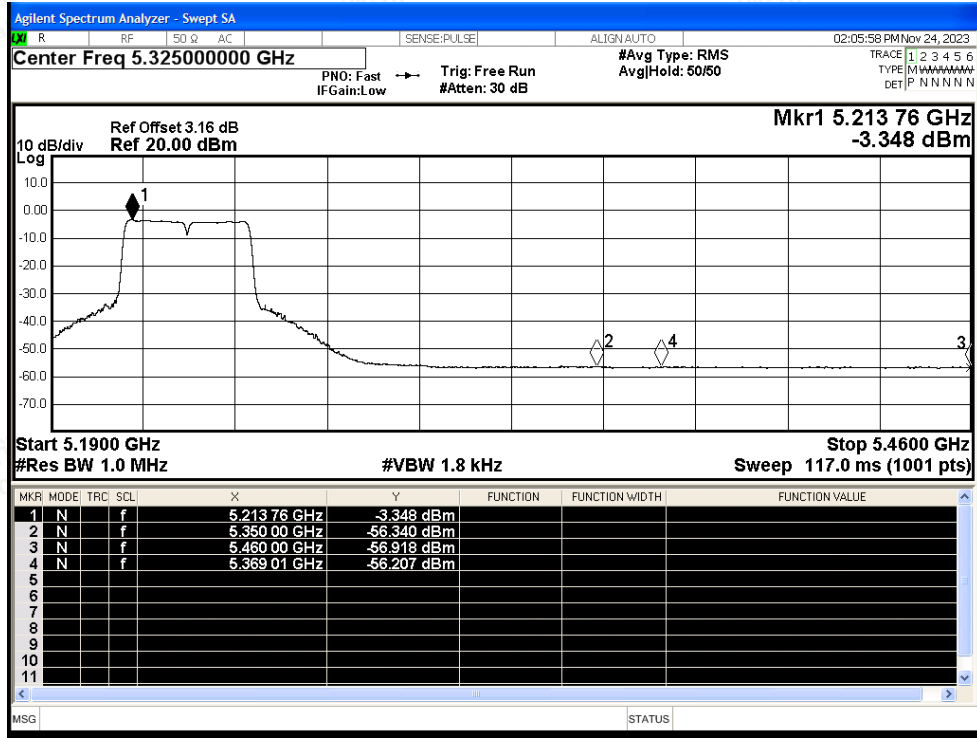




Restrict Band NVNT n40 5230MHz Ant Peak



Restrict Band NVNT n40 5230MHz Ant Average





D.5 Frequency Stability

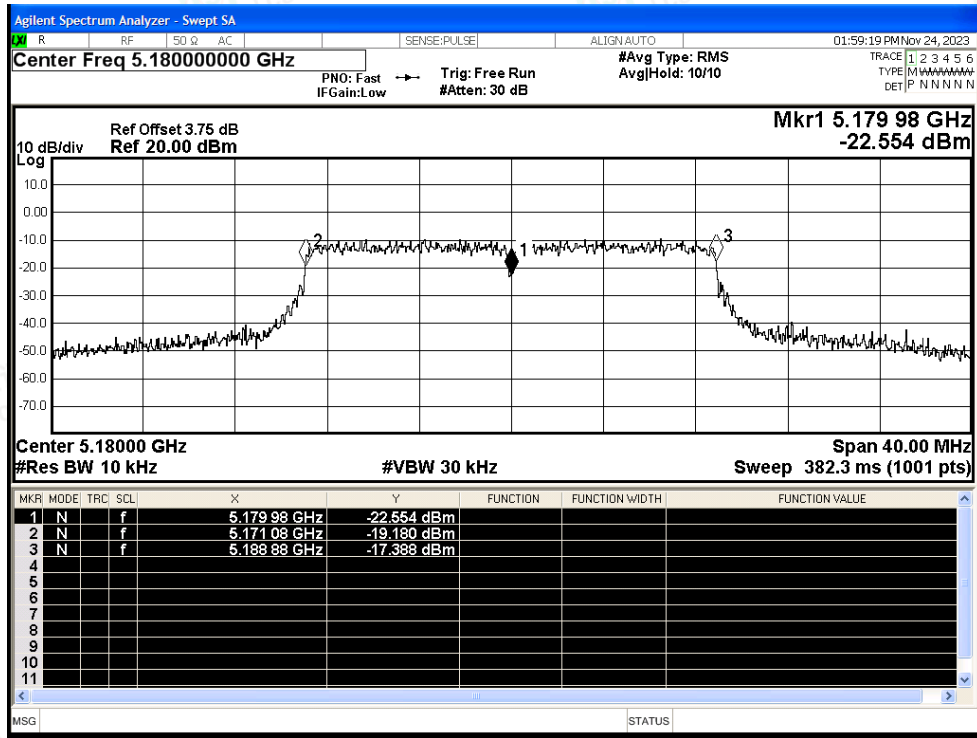
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	n20	5180	Ant	5179.98	-20000	-3.86	25	Pass
NVNT	n20	5200	Ant	5199.98	-20000	-3.85	25	Pass
NVNT	n20	5240	Ant	5239.98	-20000	-3.82	25	Pass
NVNT	n40	5190	Ant	5190	0	0	25	Pass
NVNT	n40	5230	Ant	5230	0	0	25	Pass



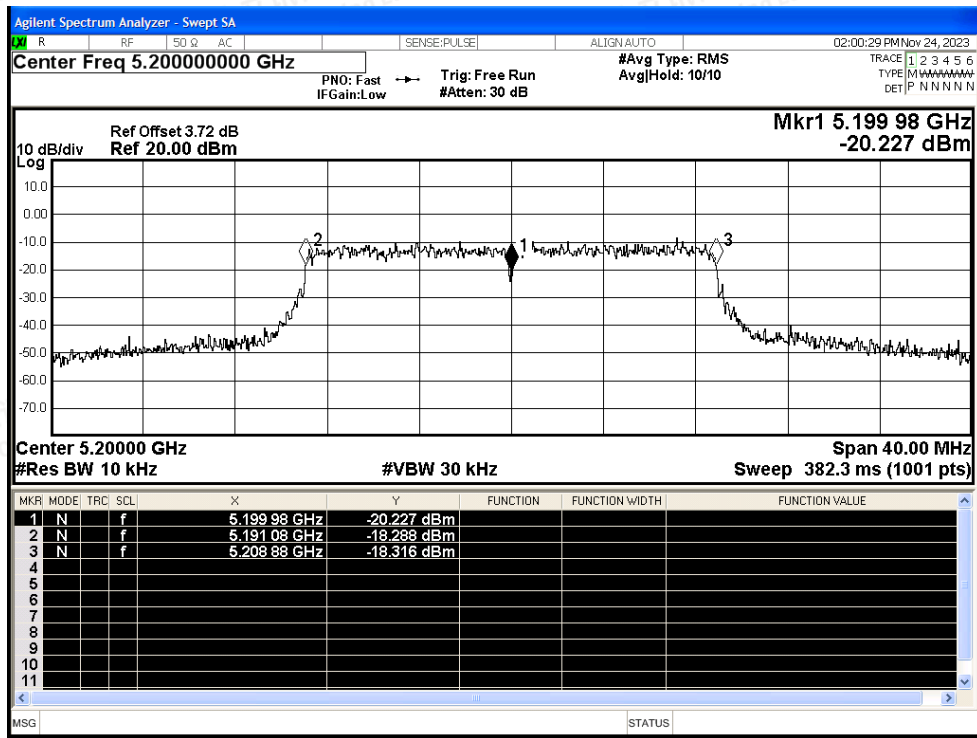


Test Graphs

Freq. Stability NVNT n20 5180MHz Ant

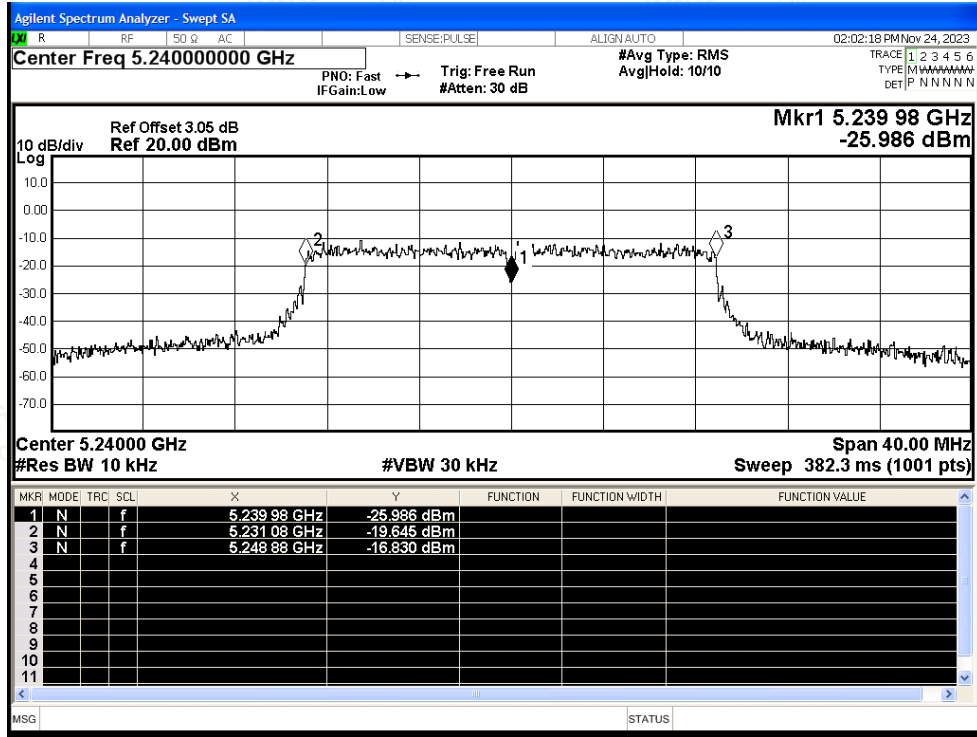


Freq. Stability NVNT n20 5200MHz Ant

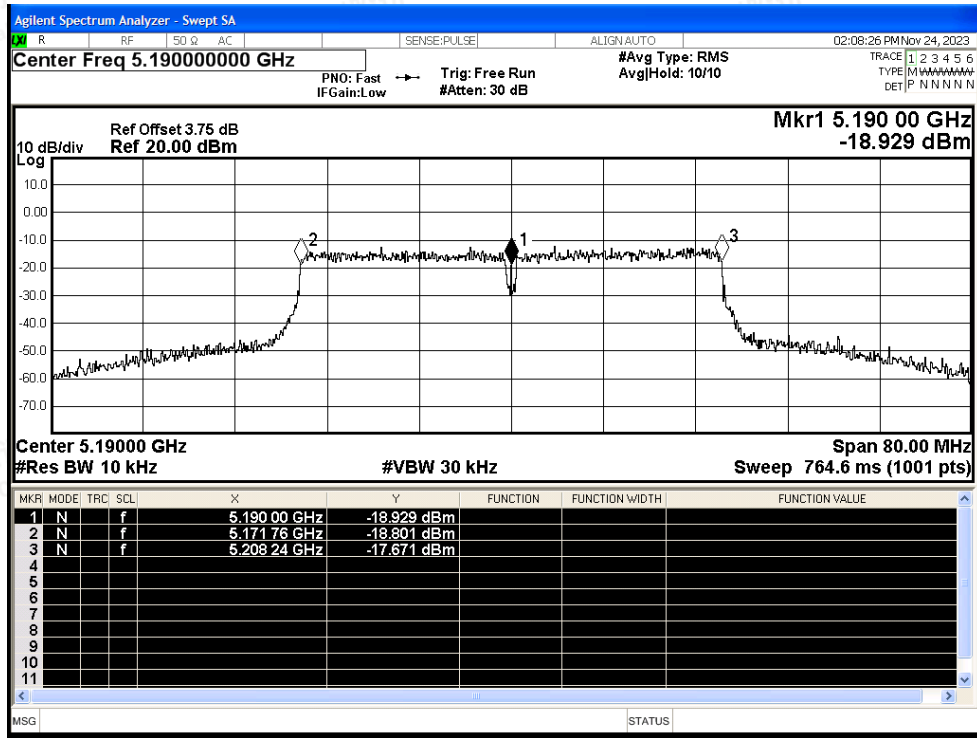


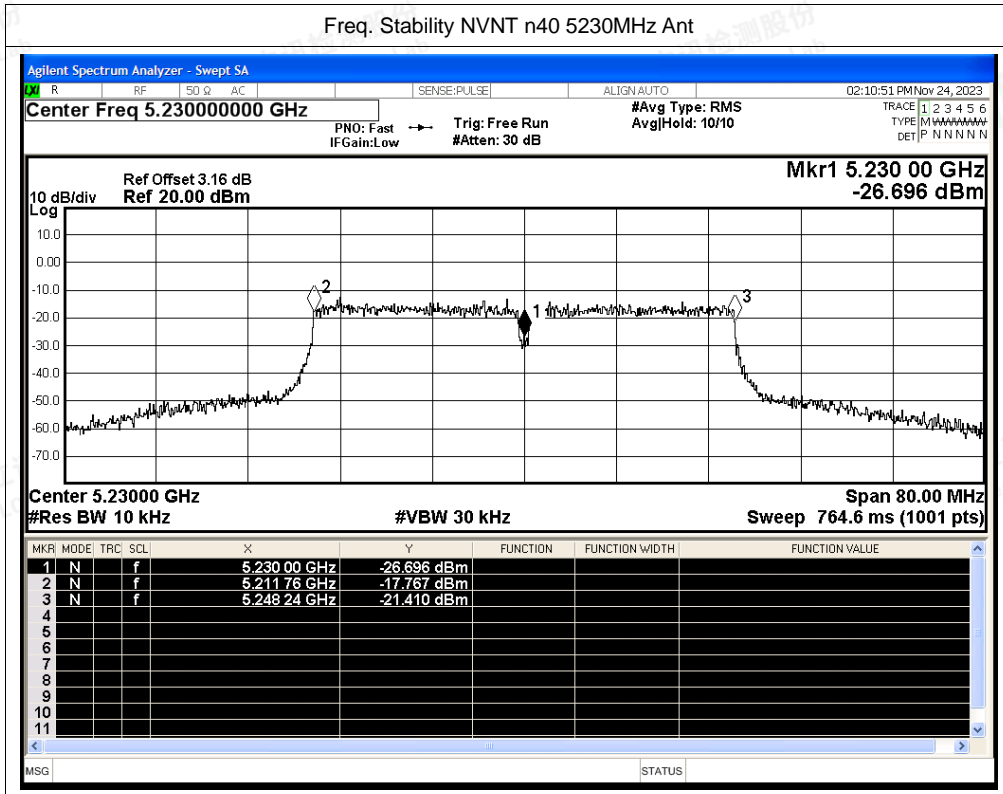


Freq. Stability NVNT n20 5240MHz Ant



Freq. Stability NVNT n40 5190MHz Ant







D.6 Duty Cycle

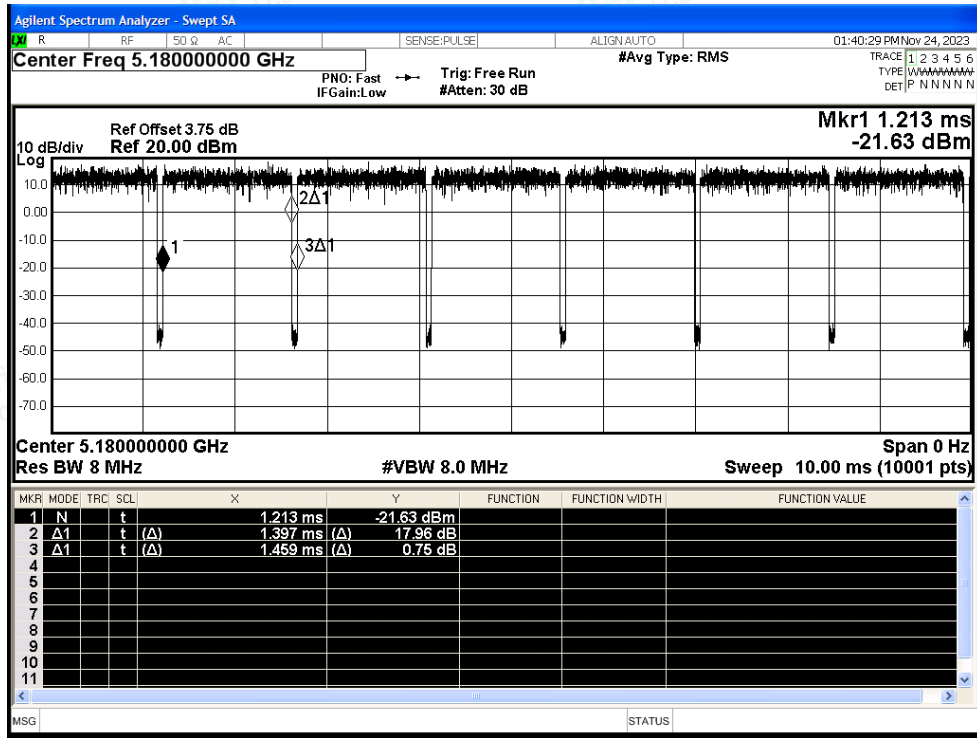
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant	95.75	0.19	0.72
NVNT	a	5200	Ant	95.75	0.19	0.72
NVNT	a	5240	Ant	95.68	0.19	0.72
NVNT	n20	5180	Ant	94.94	0.23	0.85
NVNT	n20	5200	Ant	94.94	0.23	0.85
NVNT	n20	5240	Ant	95.02	0.22	0.85
NVNT	n40	5190	Ant	90.45	0.44	1.7
NVNT	n40	5230	Ant	90.45	0.44	1.7



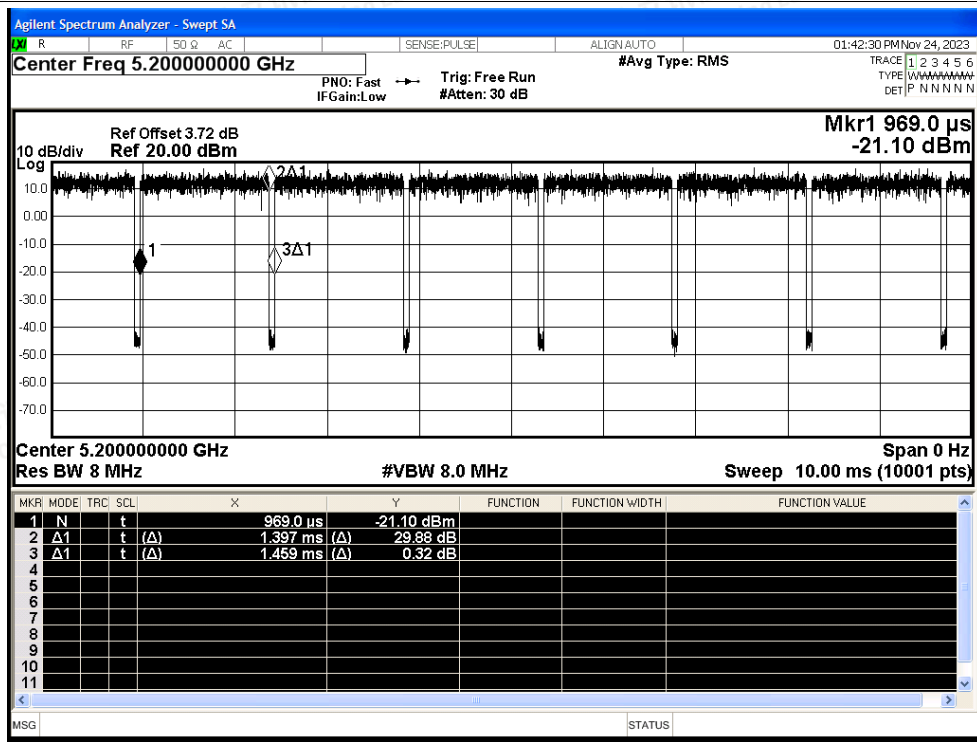


Test Graphs

Duty Cycle NVNT a 5180MHz Ant

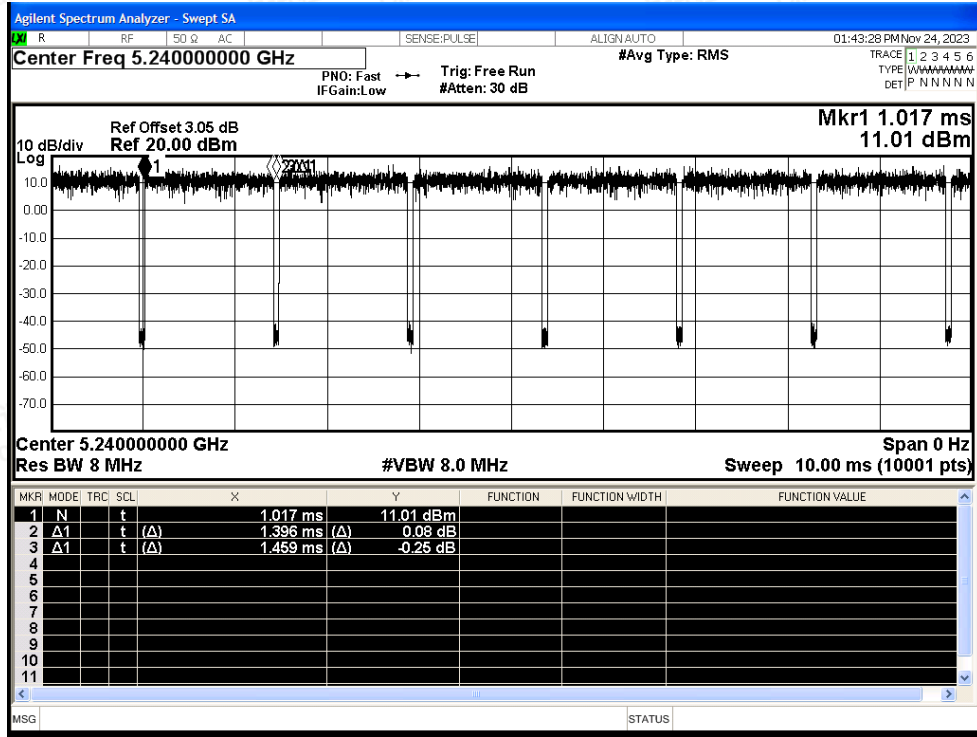


Duty Cycle NVNT a 5200MHz Ant

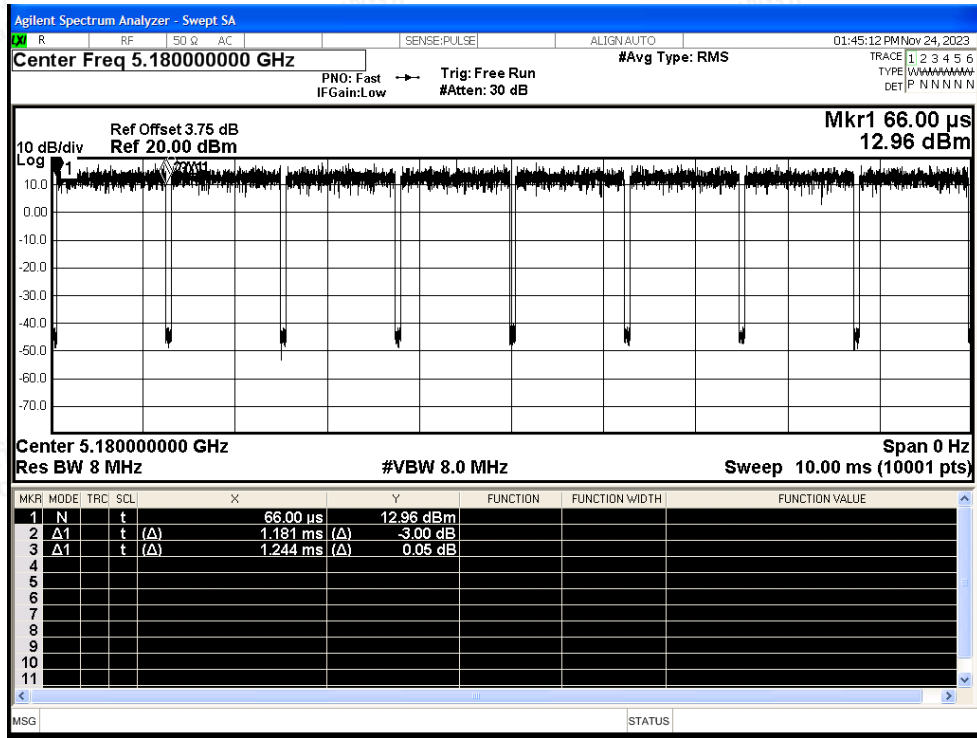




Duty Cycle NVNT a 5240MHz Ant

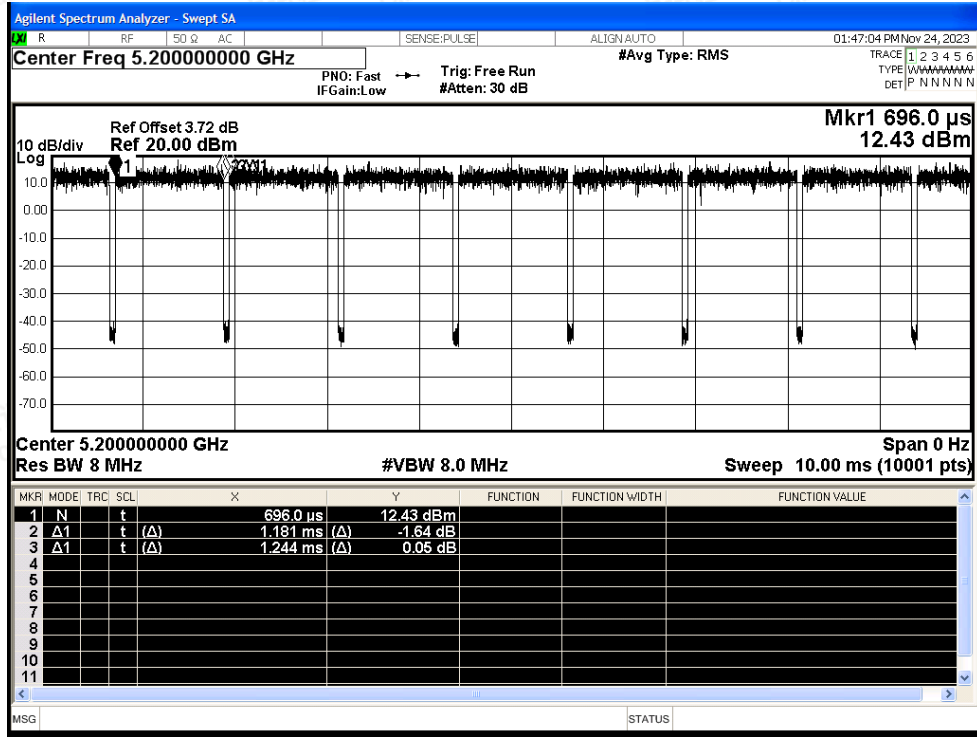


Duty Cycle NVNT n20 5180MHz Ant

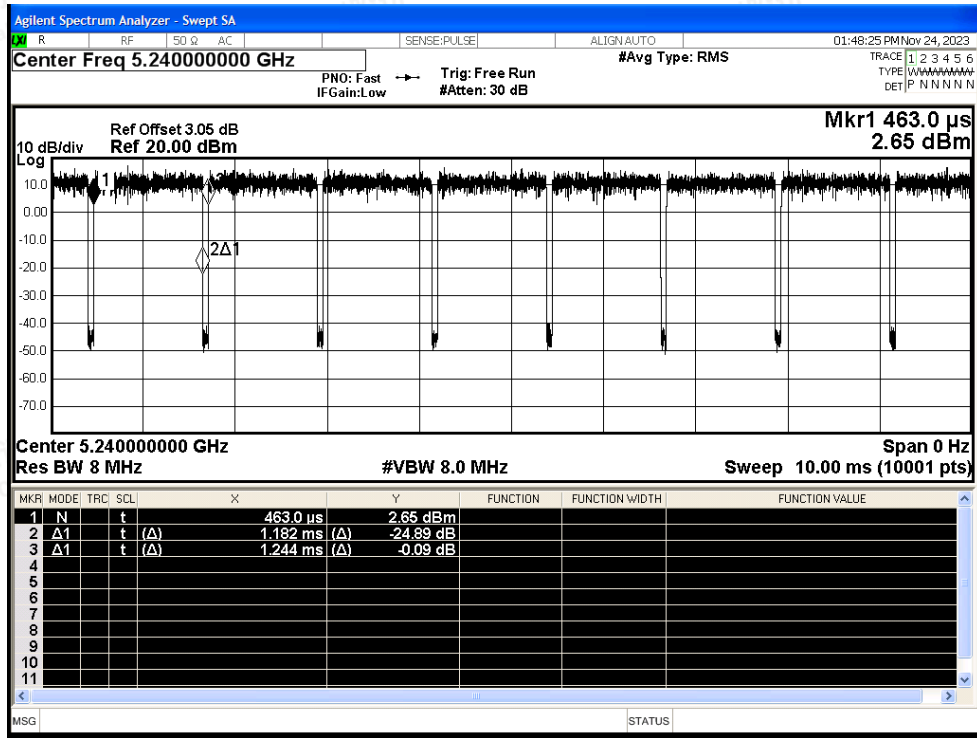




Duty Cycle NVNT n20 5200MHz Ant

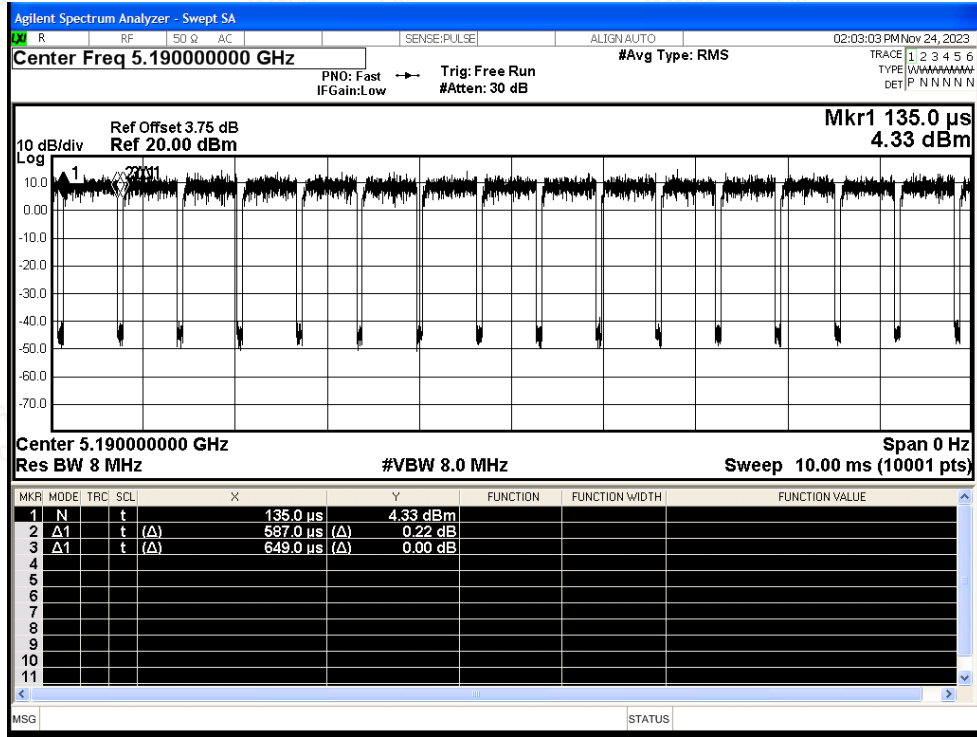


Duty Cycle NVNT n20 5240MHz Ant





Duty Cycle NVNT n40 5190MHz Ant



Duty Cycle NVNT n40 5230MHz Ant

