



Appendix B

RF Test Data for 5.2G WIFI (Conducted Measurement)

Product Name: Industrial 5G/4G/3G Router

Test Model: QUARTZ-GOLD-5G

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Ling Zhu





B.1 -26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	19.913	≥ 0.5	Pass
NVNT	a	5200	Ant1	19.495	≥ 0.5	Pass
NVNT	a	5240	Ant1	19.477	≥ 0.5	Pass
NVNT	n20	5180	Ant1	20.237	≥ 0.5	Pass
NVNT	n20	5200	Ant1	19.934	≥ 0.5	Pass
NVNT	n20	5240	Ant1	19.688	≥ 0.5	Pass
NVNT	n40	5190	Ant1	40.28	≥ 0.5	Pass
NVNT	n40	5230	Ant1	40.052	≥ 0.5	Pass
NVNT	ac20	5180	Ant1	19.881	≥ 0.5	Pass
NVNT	ac20	5200	Ant1	19.926	≥ 0.5	Pass
NVNT	ac20	5240	Ant1	19.925	≥ 0.5	Pass
NVNT	ac40	5190	Ant1	40.218	≥ 0.5	Pass
NVNT	ac40	5230	Ant1	40.268	≥ 0.5	Pass
NVNT	ac80	5210	Ant1	80.165	≥ 0.5	Pass

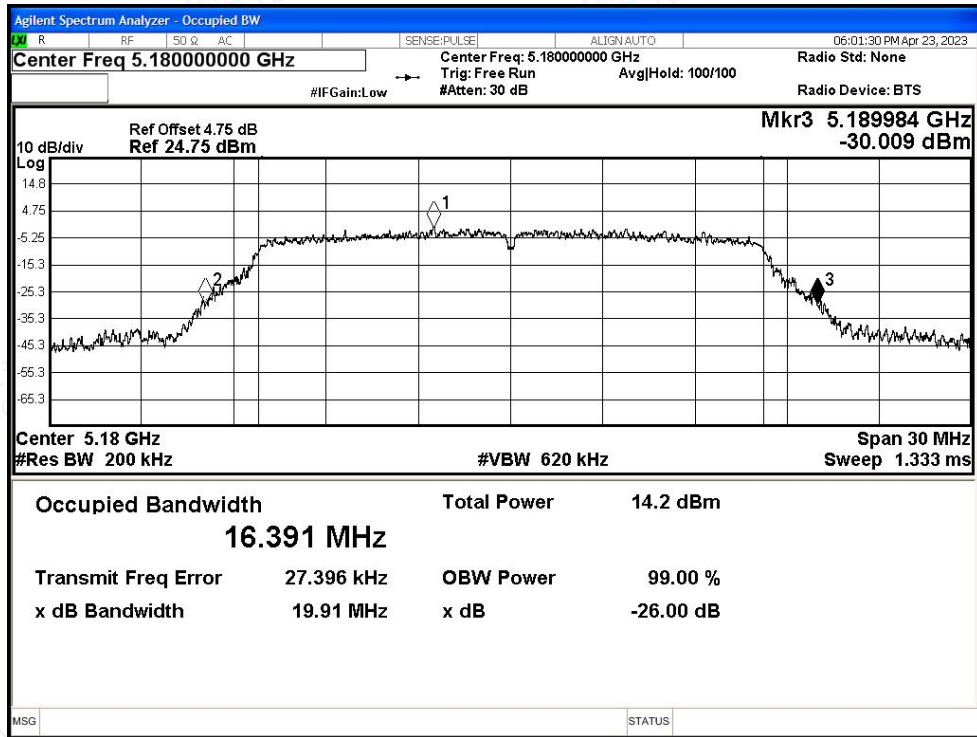


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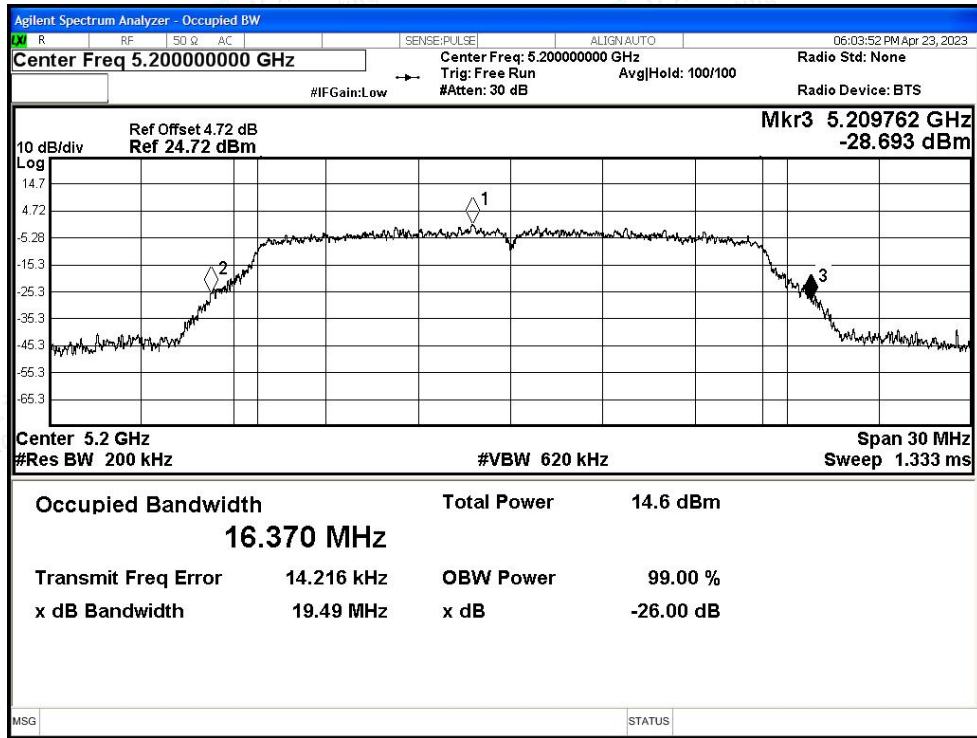


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

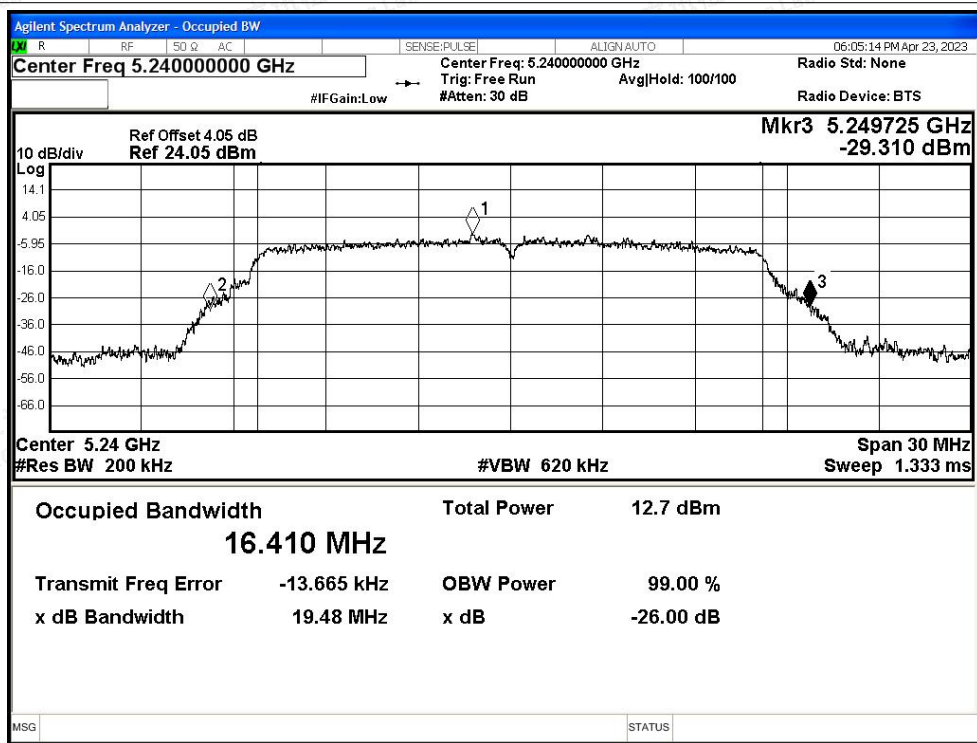


-26dB Bandwidth NVNT a 5200MHz Ant1





-26dB Bandwidth NVNT a 5240MHz Ant1

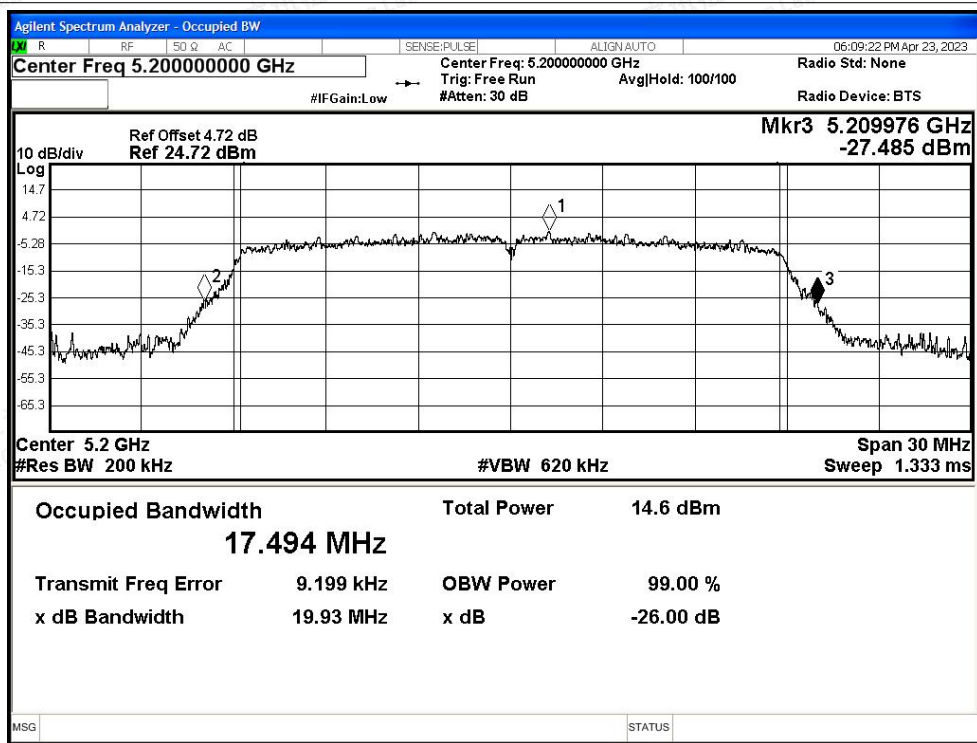


-26dB Bandwidth NVNT n20 5180MHz Ant1





-26dB Bandwidth NVNT n20 5200MHz Ant1

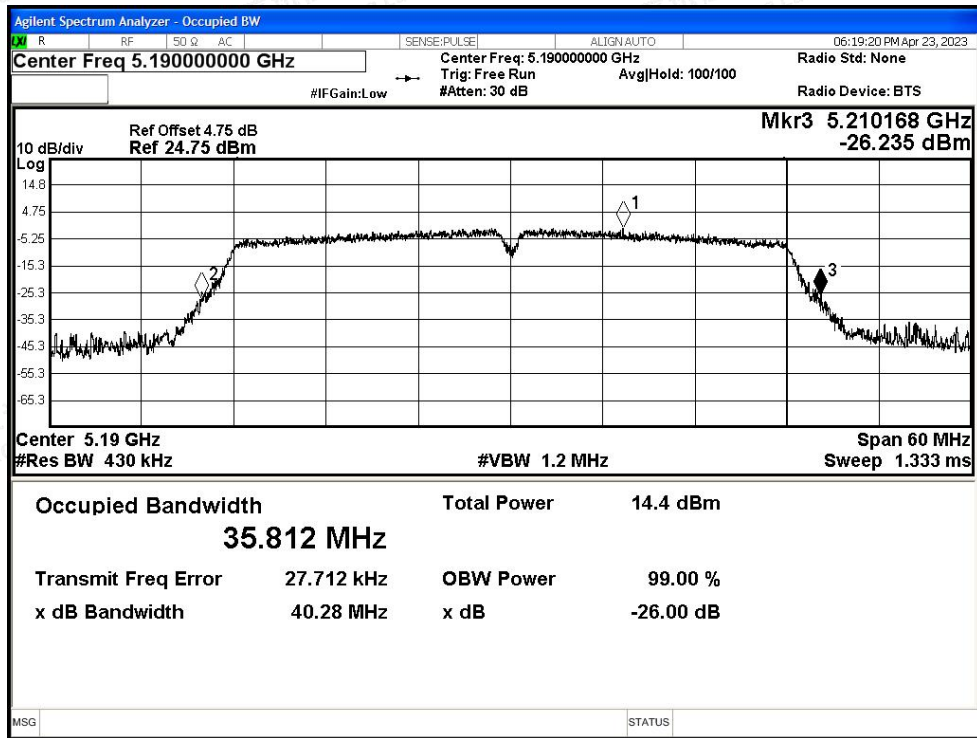


-26dB Bandwidth NVNT n20 5240MHz Ant1

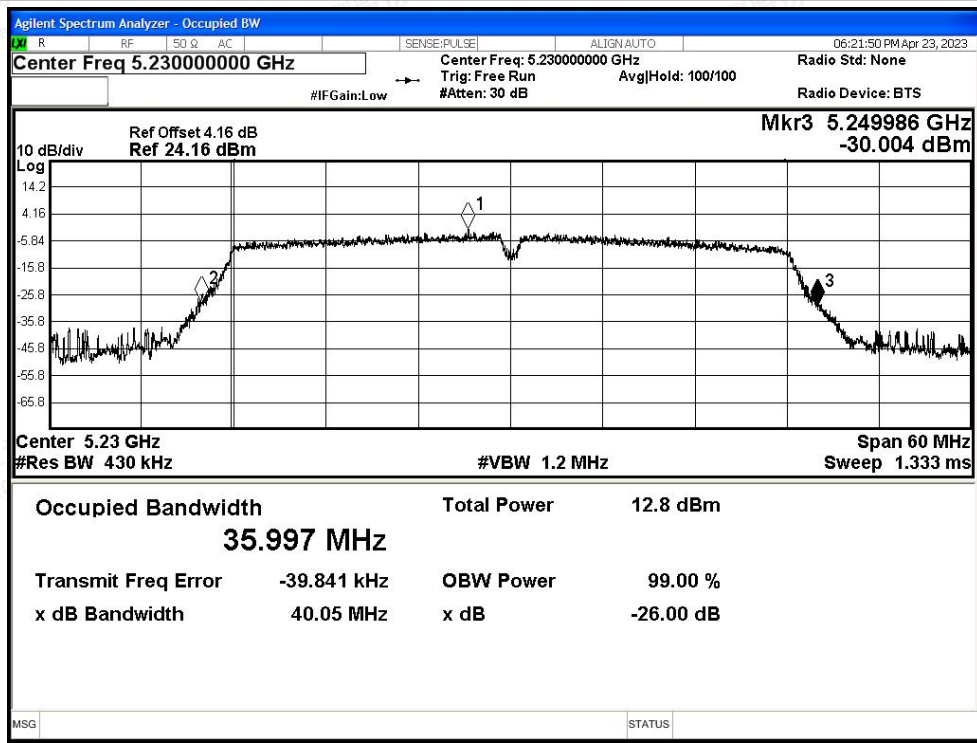


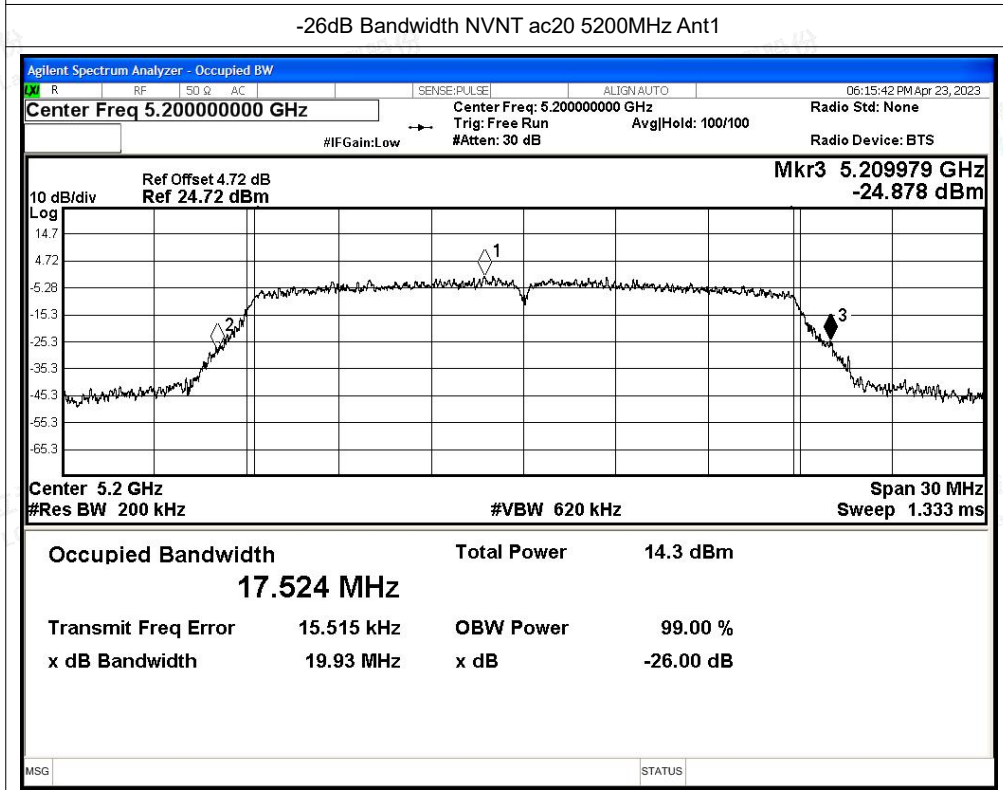
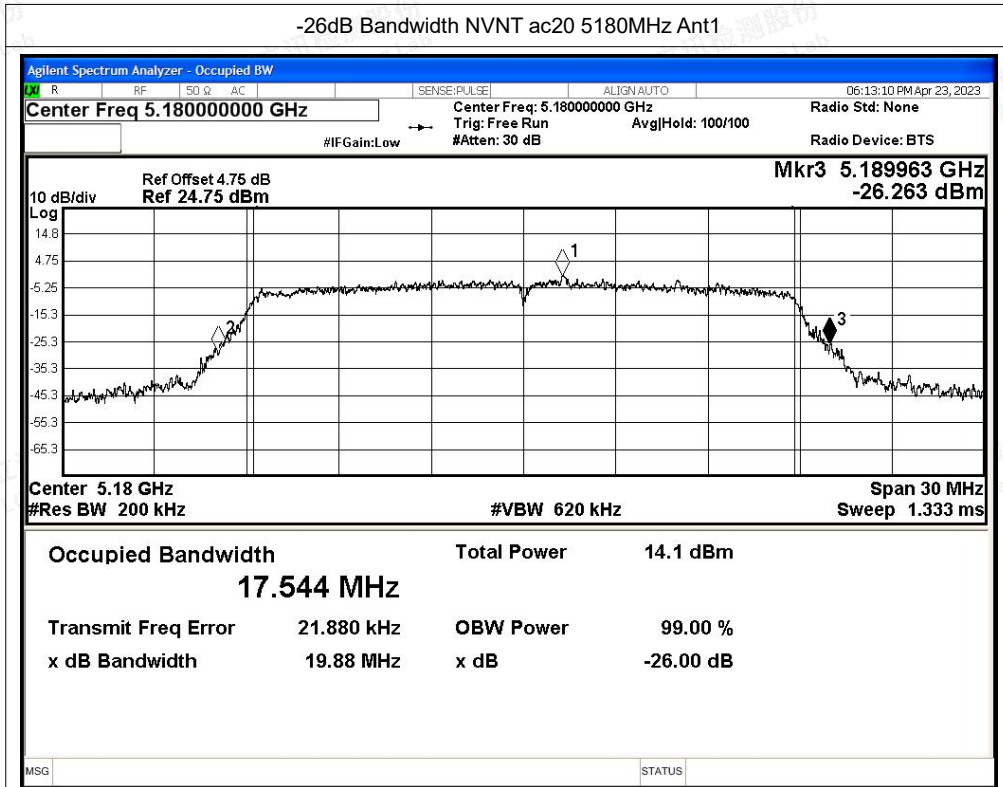


-26dB Bandwidth NVNT n40 5190MHz Ant1



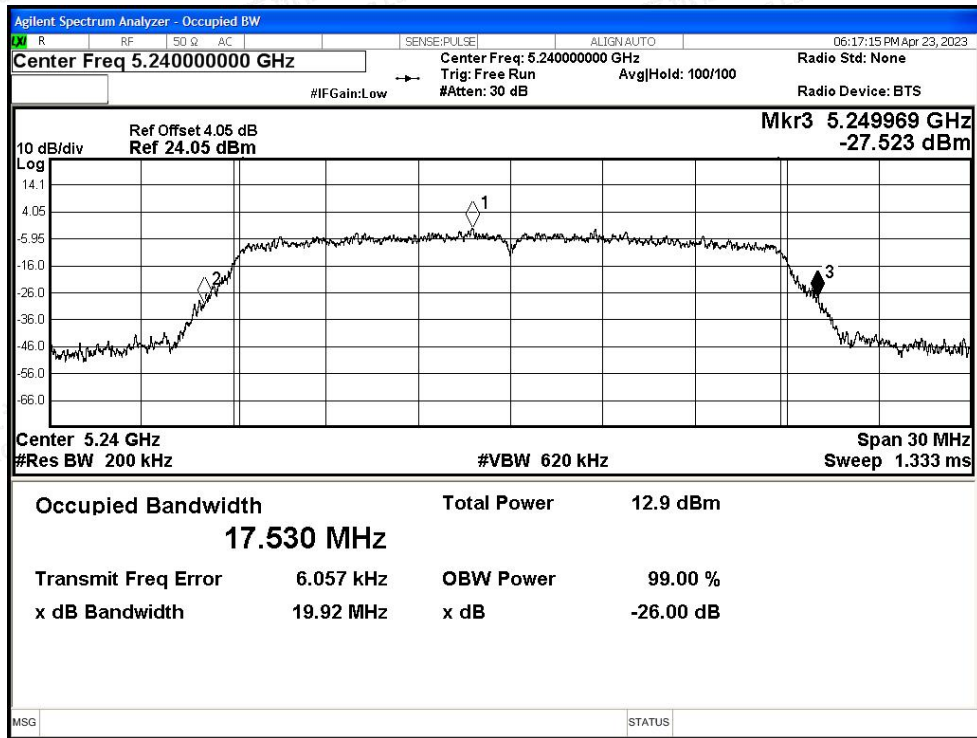
-26dB Bandwidth NVNT n40 5230MHz Ant1



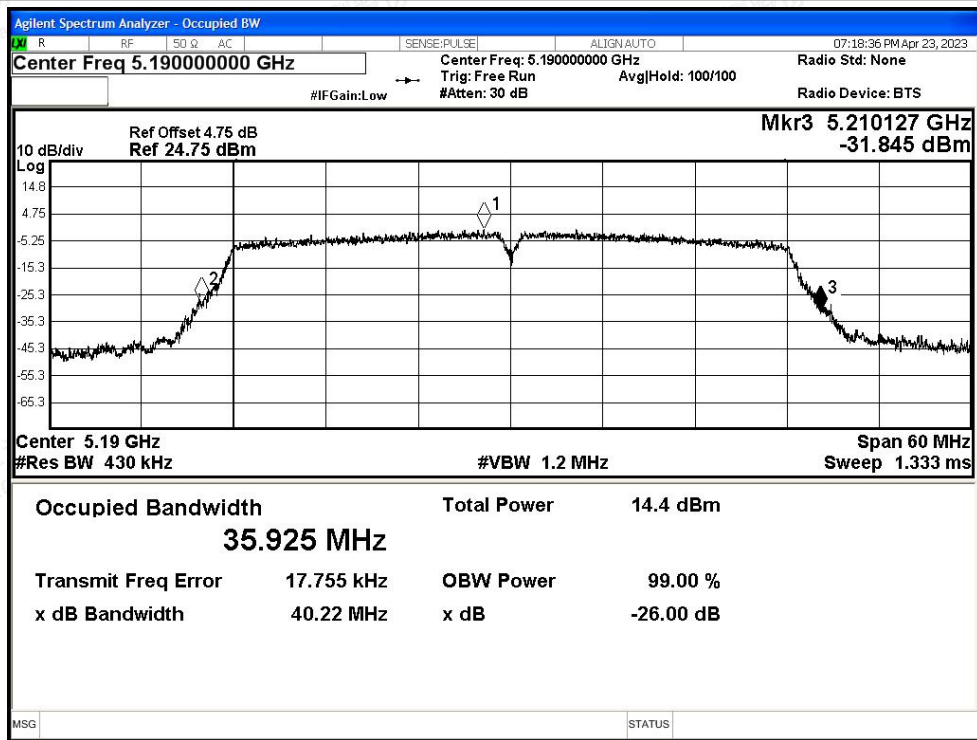




-26dB Bandwidth NVNT ac20 5240MHz Ant1

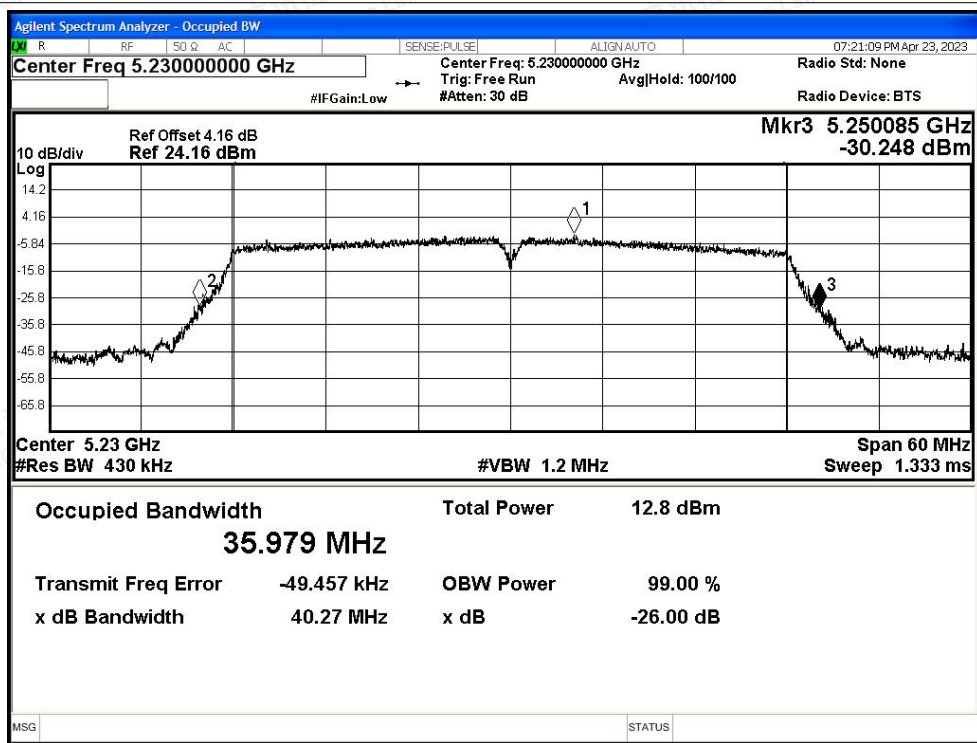


-26dB Bandwidth NVNT ac40 5190MHz Ant1

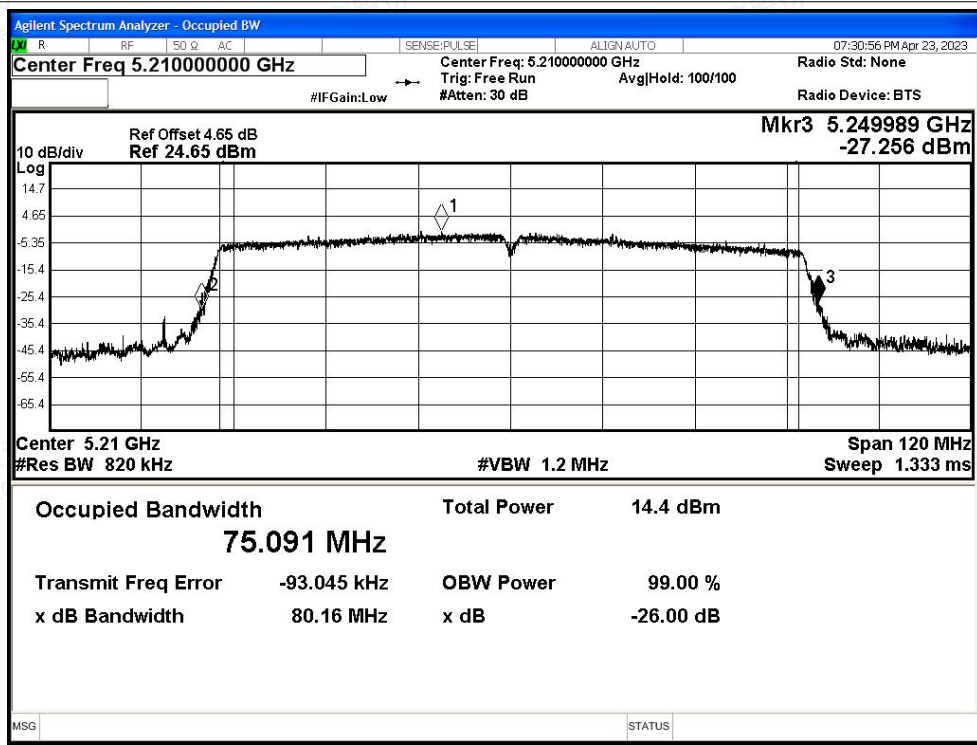




-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1





B.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	Ant1	10.71	0.13	10.84	24	Pass
NVNT	a	5200	Ant1	10.82	0.14	10.96	24	Pass
NVNT	a	5240	Ant1	11.17	0.13	11.30	24	Pass
NVNT	n20	5180	Ant1	10.42	0.14	10.56	24	Pass
NVNT	n20	5200	Ant1	10.79	0.14	10.93	24	Pass
NVNT	n20	5240	Ant1	10.95	0.14	11.09	24	Pass
NVNT	n40	5190	Ant1	10.55	0.29	10.84	24	Pass
NVNT	n40	5230	Ant1	10.98	0.28	11.26	24	Pass
NVNT	ac20	5180	Ant1	10.58	0.14	10.72	24	Pass
NVNT	ac20	5200	Ant1	10.69	0.14	10.83	24	Pass
NVNT	ac20	5240	Ant1	11.07	0.15	11.22	24	Pass
NVNT	ac40	5190	Ant1	10.61	0.28	10.89	24	Pass
NVNT	ac40	5230	Ant1	11.00	0.28	11.28	24	Pass
NVNT	ac80	5210	Ant1	10.67	0.55	11.22	24	Pass



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B.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	Ant1	-1.03	0.13	-0.9	11	Pass
NVNT	a	5200	Ant1	-0.4	0.14	-0.26	11	Pass
NVNT	a	5240	Ant1	-2.71	0.13	-2.58	11	Pass
NVNT	n20	5180	Ant1	-1.09	0.14	-0.95	11	Pass
NVNT	n20	5200	Ant1	-1.06	0.14	-0.92	11	Pass
NVNT	n20	5240	Ant1	-2.83	0.14	-2.69	11	Pass
NVNT	n40	5190	Ant1	-4.09	0.29	-3.8	11	Pass
NVNT	n40	5230	Ant1	-5.89	0.28	-5.61	11	Pass
NVNT	ac20	5180	Ant1	-1.32	0.14	-1.18	11	Pass
NVNT	ac20	5200	Ant1	-1	0.14	-0.86	11	Pass
NVNT	ac20	5240	Ant1	-2.38	0.15	-2.23	11	Pass
NVNT	ac40	5190	Ant1	-4.13	0.28	-3.85	11	Pass
NVNT	ac40	5230	Ant1	-5.65	0.28	-5.37	11	Pass
NVNT	ac80	5210	Ant1	-7.51	0.55	-6.96	11	Pass

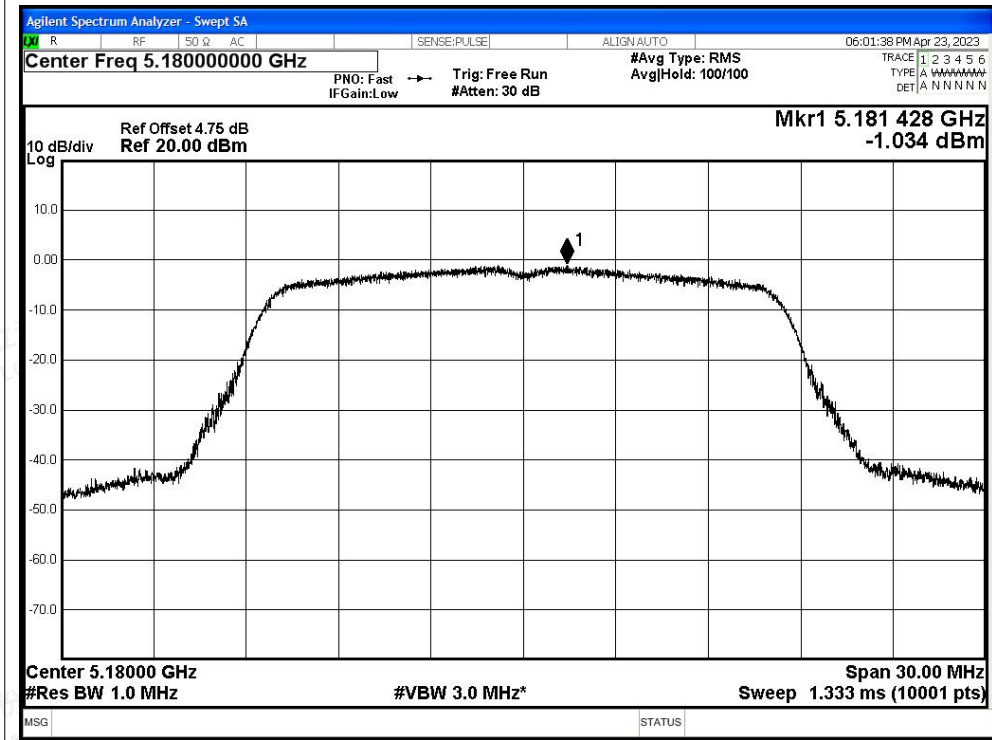


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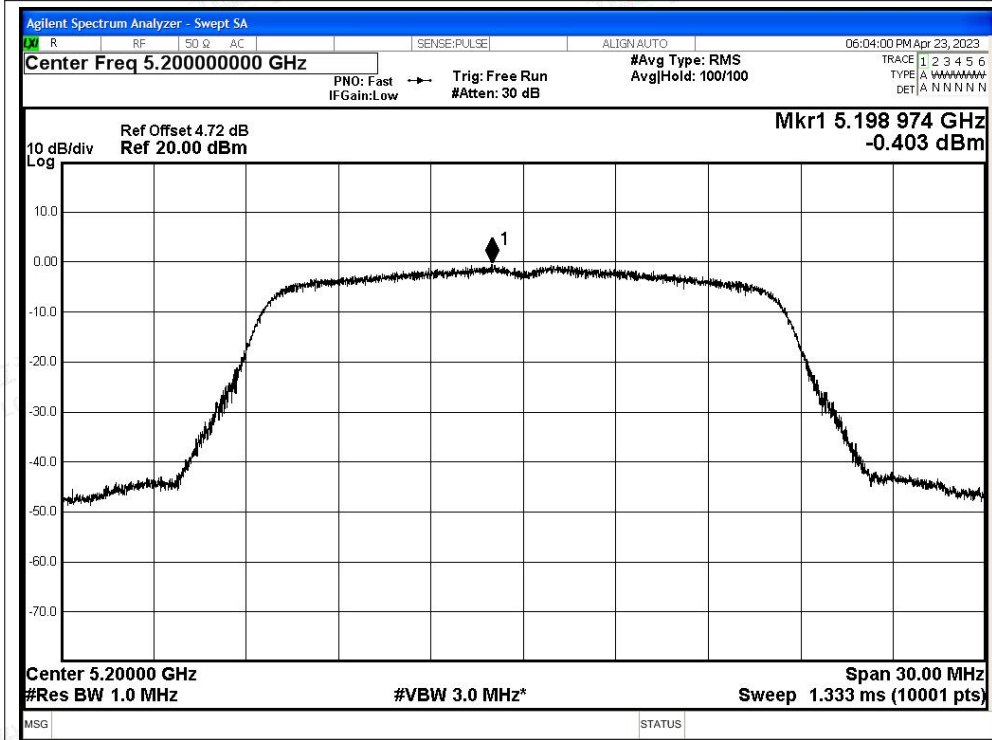


Test Graphs

PSD NVNT a 5180MHz Ant1

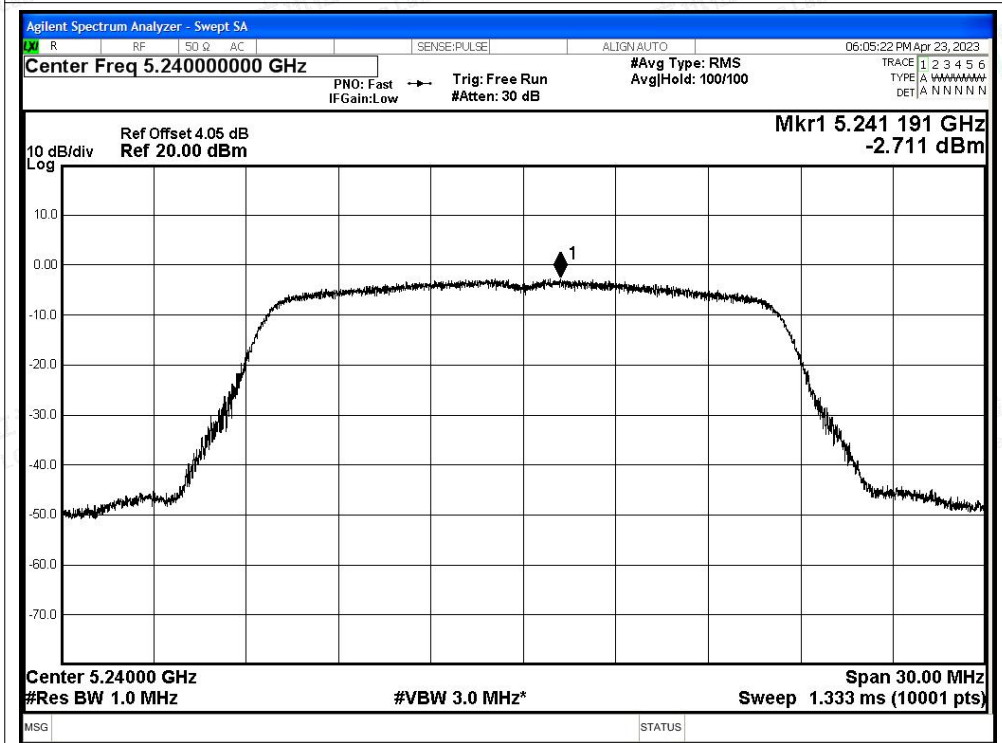


PSD NVNT a 5200MHz Ant1

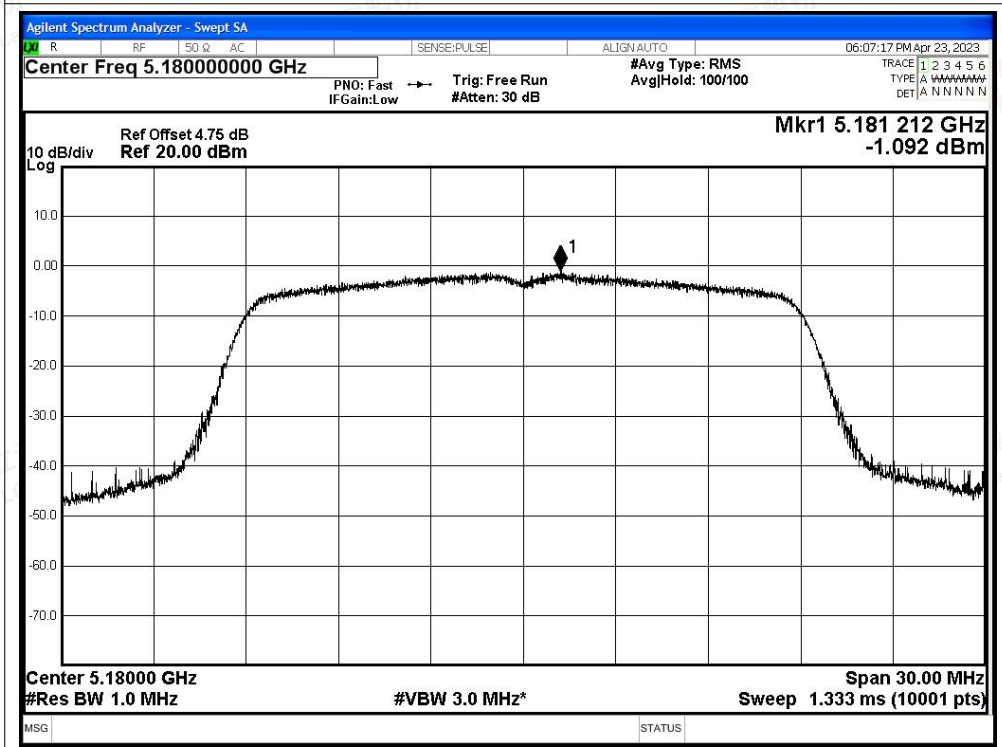


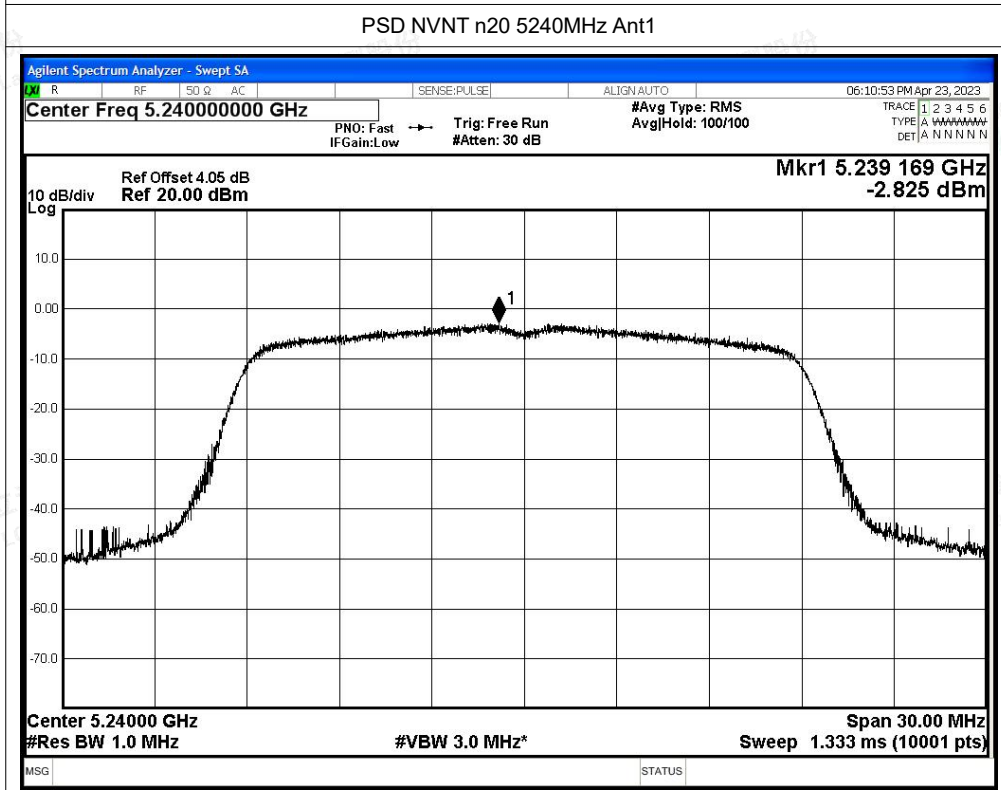
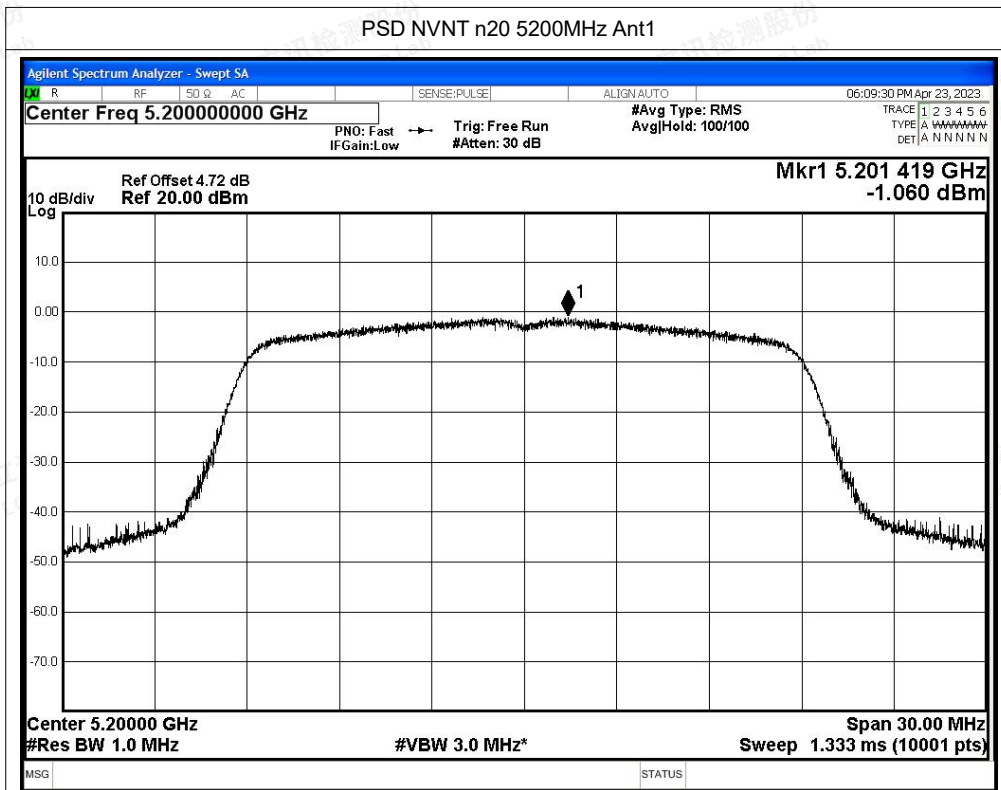


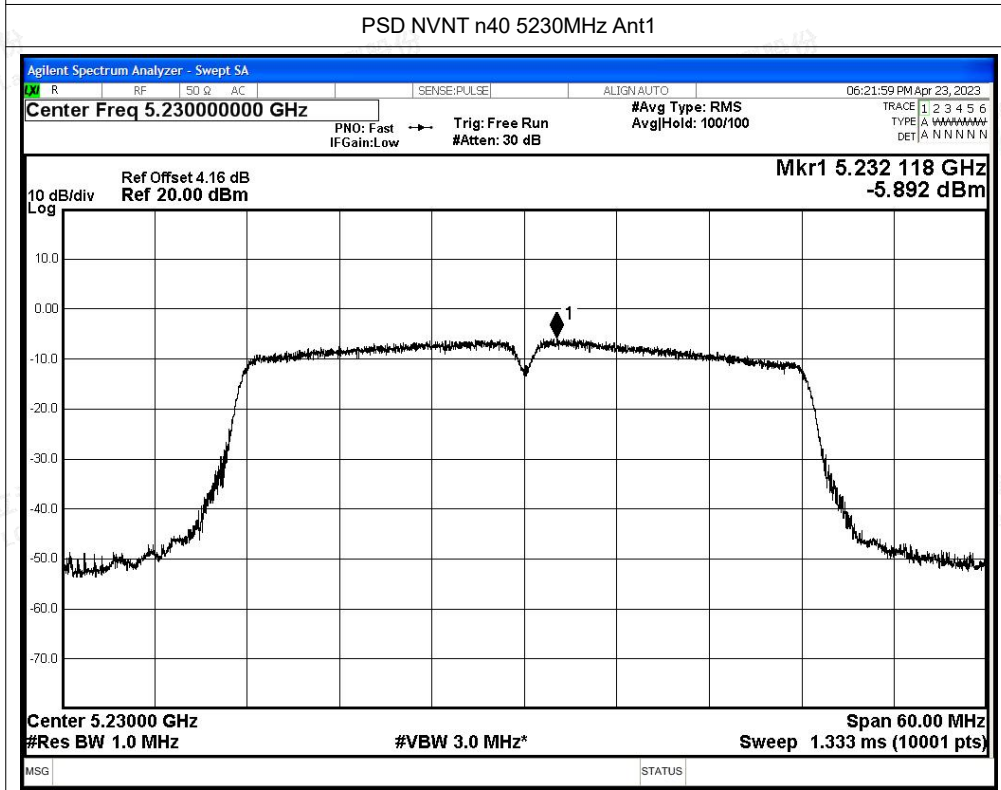
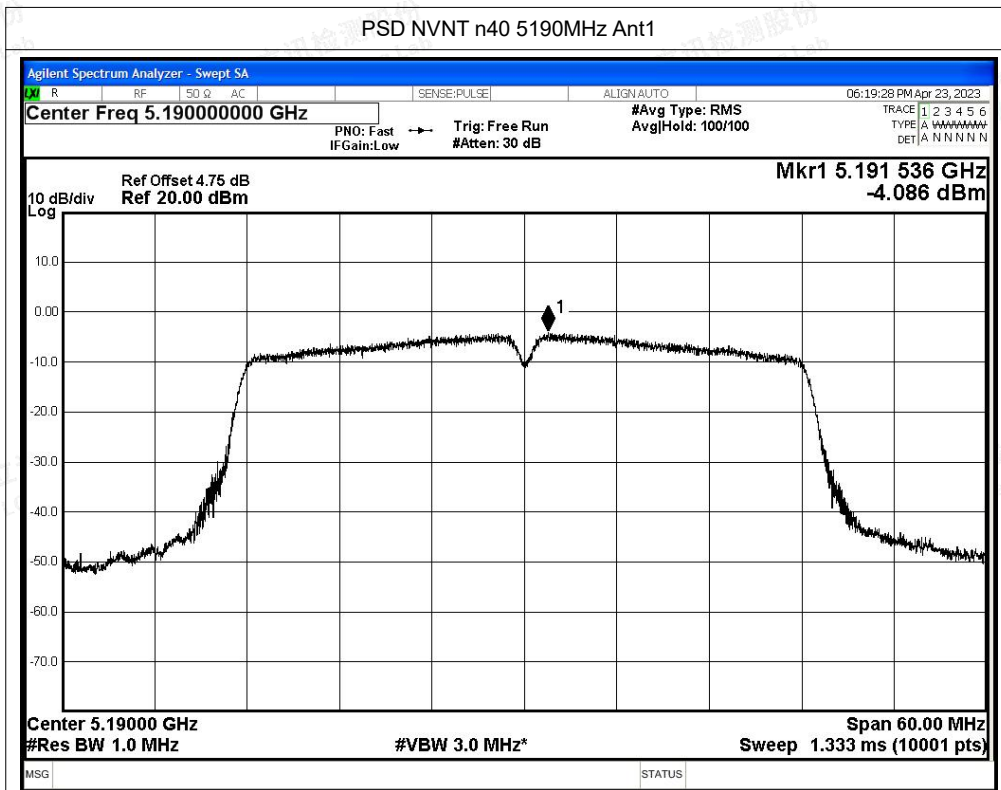
PSD NVNT a 5240MHz Ant1

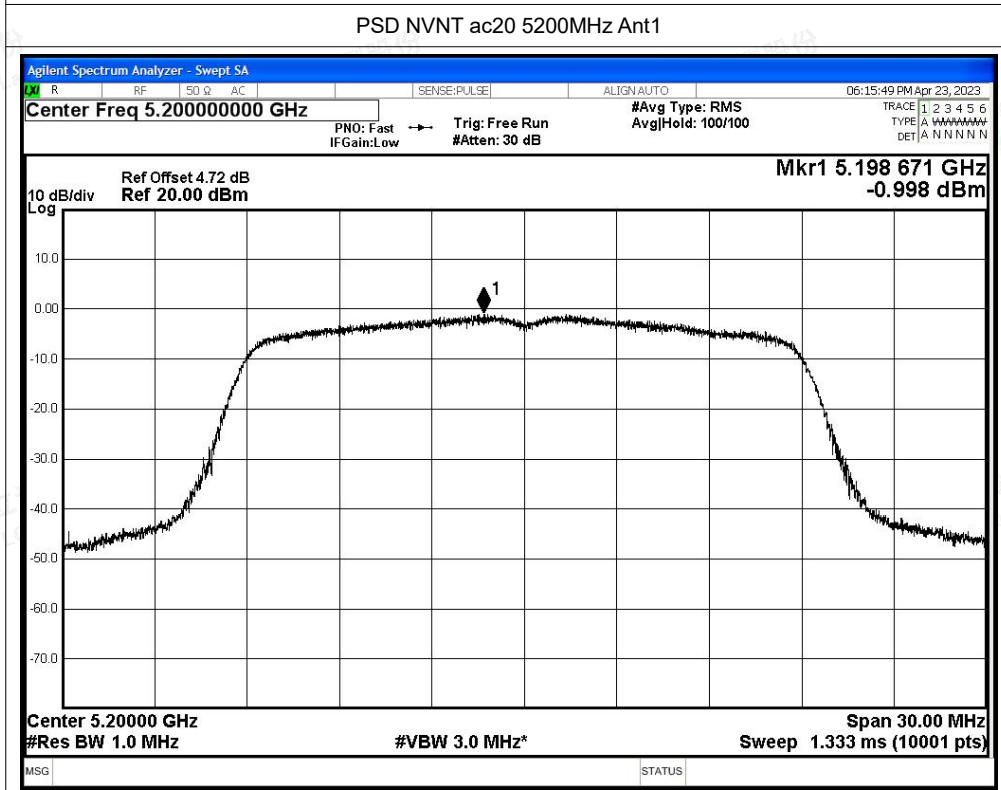
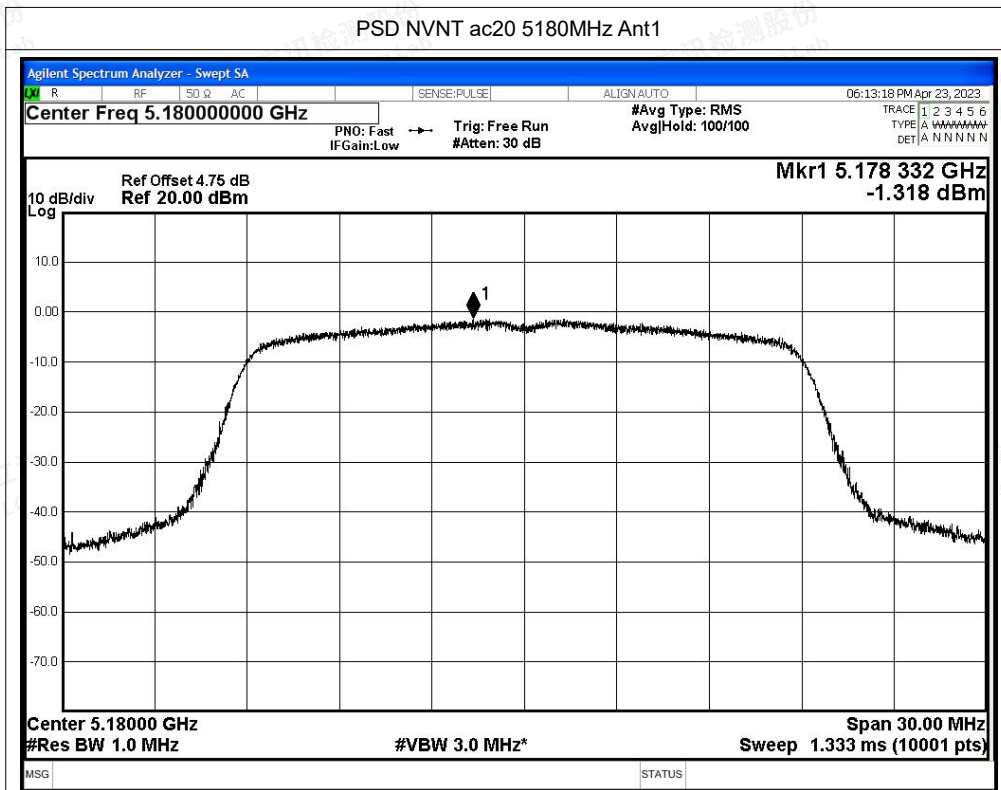


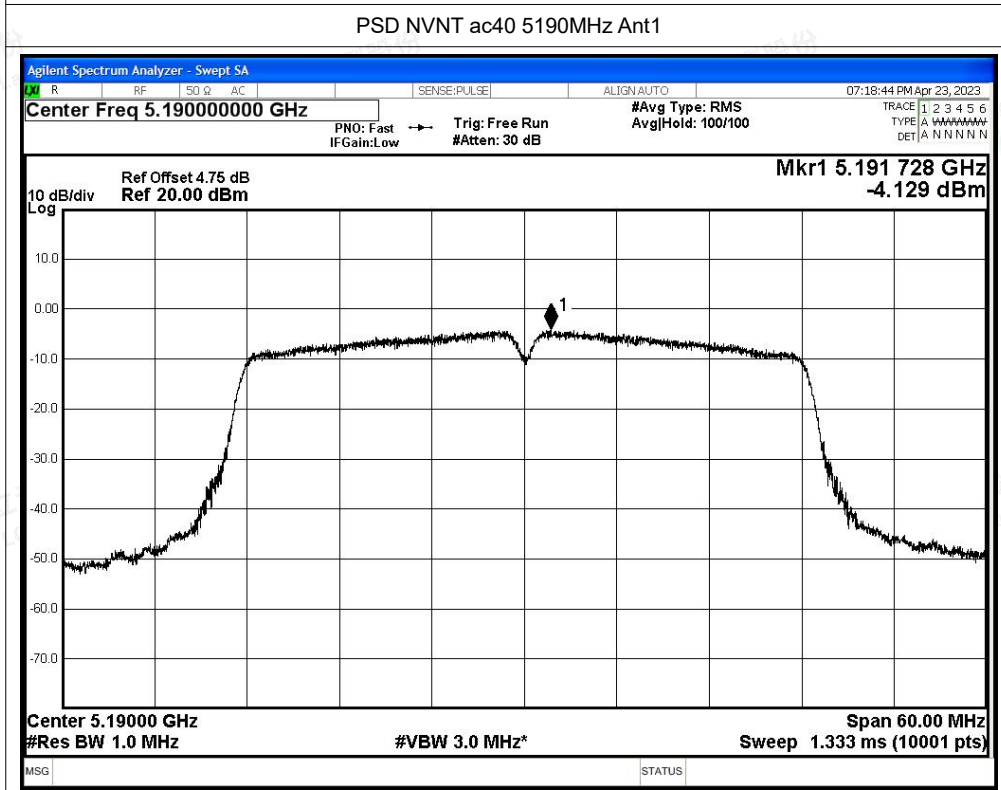
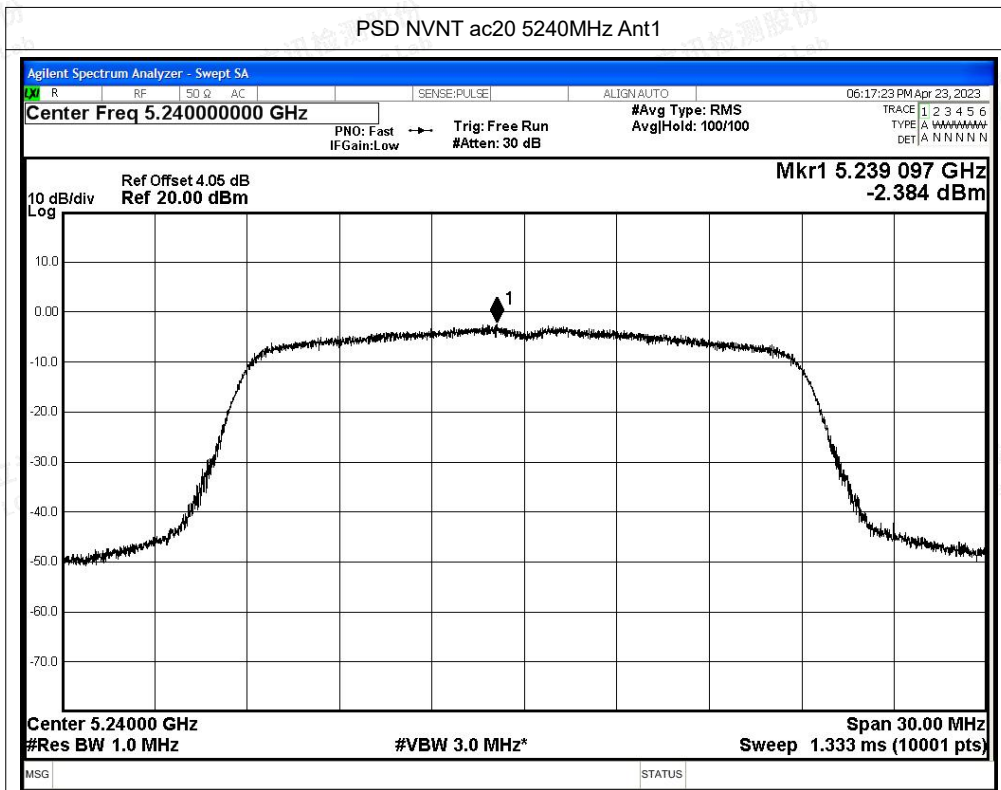
PSD NVNT n20 5180MHz Ant1

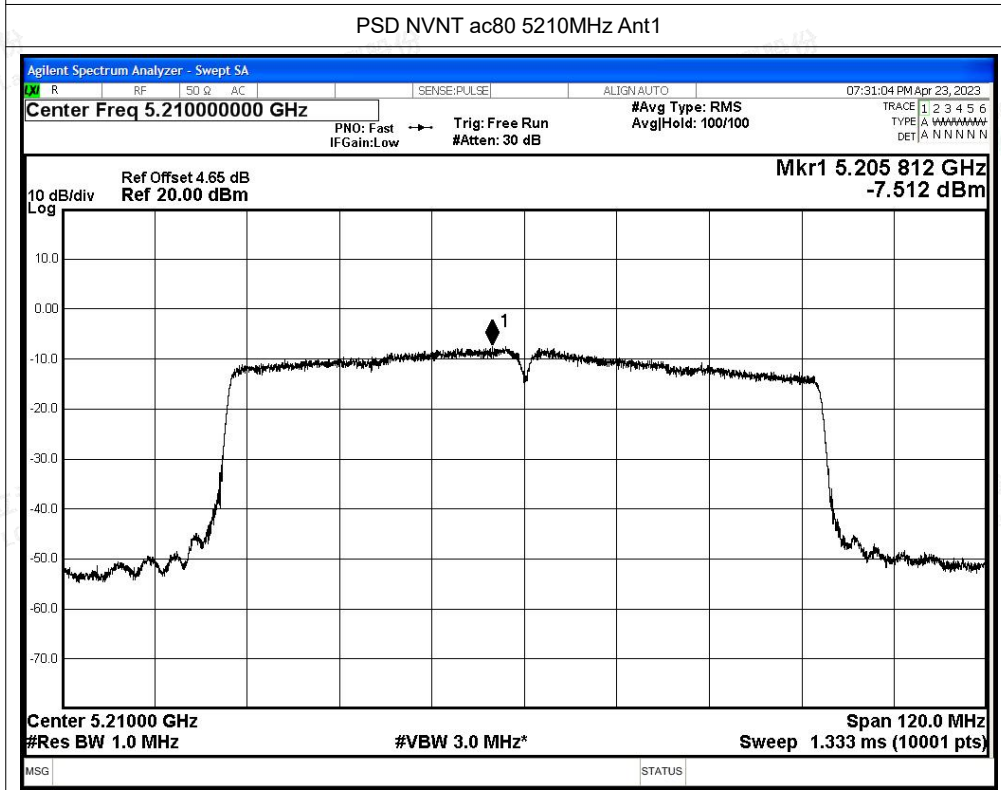
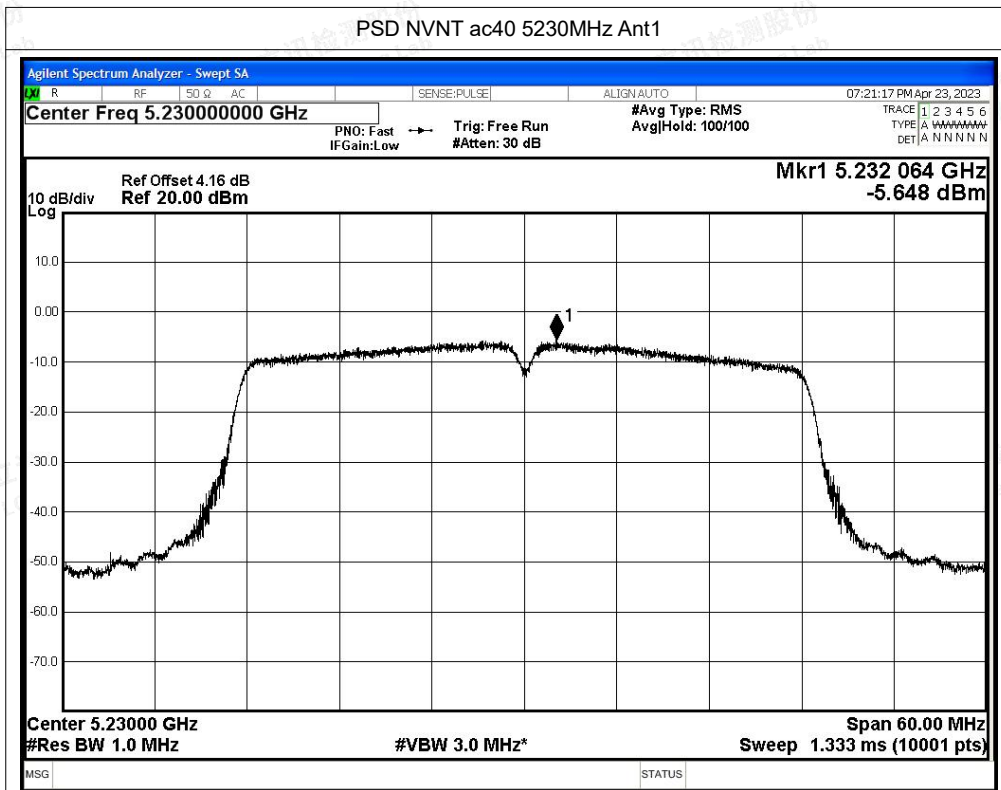














B.4 Restrict Band

Condition	Mode	Frequency (MHz)	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	4500	-47.66	4.0	51.6	Peak	68.2	Pass
NVNT	a	5180	4500	-56.25	4.0	43.01	Average	54	Pass
NVNT	a	5180	5145.4	-37.25	4.0	62.01	Peak	68.2	Pass
NVNT	a	5180	5147.5	-51.93	4.0	47.33	Average	54	Pass
NVNT	a	5180	5150	-42.35	4.0	56.91	Peak	68.2	Pass
NVNT	a	5180	5150	-51.89	4.0	47.37	Average	54	Pass
NVNT	a	5240	5350	-48.27	4.0	50.99	Peak	68.2	Pass
NVNT	a	5240	5350	-55.15	4.0	44.11	Average	54	Pass
NVNT	a	5240	5353.92	-45.37	4.0	53.89	Peak	68.2	Pass
NVNT	a	5240	5350.56	-54.95	4.0	44.31	Average	54	Pass
NVNT	a	5240	5460	-48.87	4.0	50.39	Peak	68.2	Pass
NVNT	a	5240	5460	-55.91	4.0	43.35	Average	54	Pass
NVNT	n20	5180	4500	-48.76	4.0	50.5	Peak	68.2	Pass
NVNT	n20	5180	4500	-56.16	4.0	43.1	Average	54	Pass
NVNT	n20	5180	5141.2	-42.65	4.0	56.61	Peak	68.2	Pass
NVNT	n20	5180	5148.9	-51.58	4.0	47.68	Average	54	Pass
NVNT	n20	5180	5150	-46.4	4.0	52.86	Peak	68.2	Pass
NVNT	n20	5180	5150	-51.85	4.0	47.41	Average	54	Pass
NVNT	n20	5240	5350	-48.44	4.0	50.82	Peak	68.2	Pass
NVNT	n20	5240	5350	-55.14	4.0	44.12	Average	54	Pass
NVNT	n20	5240	5448.24	-44.4	4.0	54.86	Peak	68.2	Pass
NVNT	n20	5240	5355.36	-54.87	4.0	44.39	Average	54	Pass
NVNT	n20	5240	5460	-48.88	4.0	50.38	Peak	68.2	Pass
NVNT	n20	5240	5460	-55.84	4.0	43.42	Average	54	Pass
NVNT	n40	5190	4500	-48.7	4.0	50.56	Peak	68.2	Pass
NVNT	n40	5190	4500	-55.71	4.0	43.55	Average	54	Pass
NVNT	n40	5190	5148.24	-35.55	4.0	63.71	Peak	68.2	Pass
NVNT	n40	5190	5149.7	-49.31	4.0	49.95	Average	54	Pass
NVNT	n40	5190	5150	-44.58	4.0	54.68	Peak	68.2	Pass
NVNT	n40	5190	5150	-49.31	4.0	49.95	Average	54	Pass
NVNT	n40	5230	5350	-47.13	4.0	52.13	Peak	68.2	Pass
NVNT	n40	5230	5350	-54.91	4.0	44.35	Average	54	Pass
NVNT	n40	5230	5374.68	-45.67	4.0	53.59	Peak	68.2	Pass
NVNT	n40	5230	5351.19	-54.78	4.0	44.48	Average	54	Pass
NVNT	n40	5230	5460	-48.17	4.0	51.09	Peak	68.2	Pass
NVNT	n40	5230	5460	-55.53	4.0	43.73	Average	54	Pass
NVNT	ac20	5180	4500	-49.44	4.0	49.82	Peak	68.2	Pass





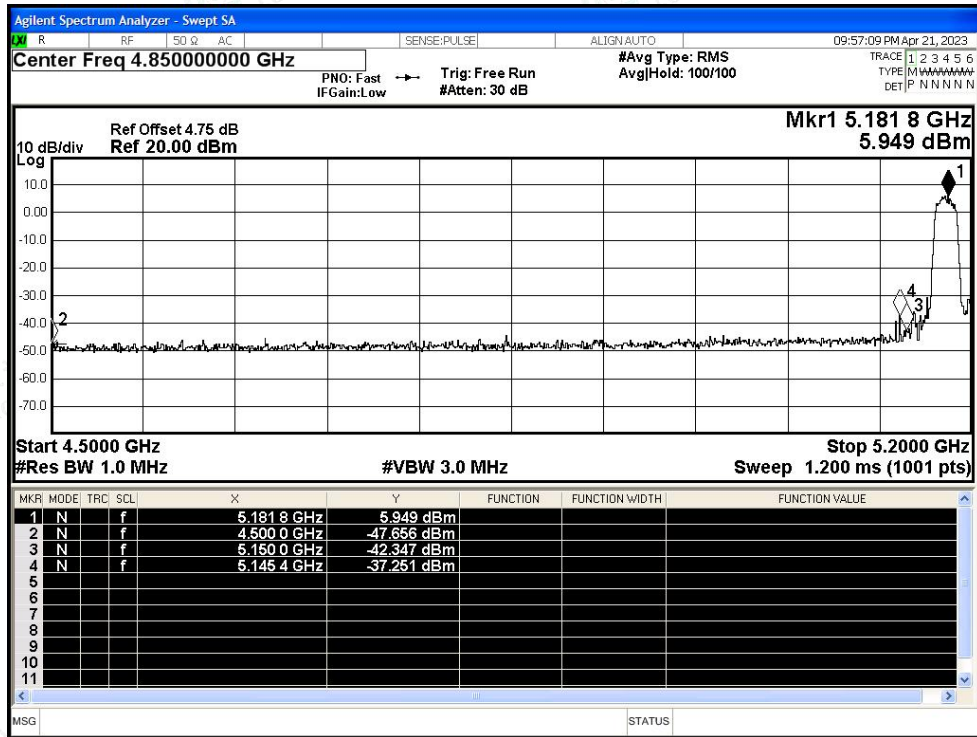
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NVNT	ac20	5180	5146.8	-51.77	4.0	47.49	Average	54	Pass
NVNT	ac20	5180	5150	-44.54	4.0	54.72	Peak	68.2	Pass
NVNT	ac20	5180	5150	-51.65	4.0	47.61	Average	54	Pass
NVNT	ac20	5240	5350	-47.98	4.0	51.28	Peak	68.2	Pass
NVNT	ac20	5240	5350	-55.13	4.0	44.13	Average	54	Pass
NVNT	ac20	5240	5430	-45.11	4.0	54.15	Peak	68.2	Pass
NVNT	ac20	5240	5353.44	-54.92	4.0	44.34	Average	54	Pass
NVNT	ac20	5240	5460	-48.64	4.0	50.62	Peak	68.2	Pass
NVNT	ac20	5240	5460	-55.73	4.0	43.53	Average	54	Pass
NVNT	ac40	5190	4500	-50.13	4.0	49.13	Peak	68.2	Pass
NVNT	ac40	5190	4500	-55.96	4.0	43.3	Average	54	Pass
NVNT	ac40	5190	5147.51	-39.45	4.0	59.81	Peak	68.2	Pass
NVNT	ac40	5190	5148.97	-50.87	4.0	48.39	Average	54	Pass
NVNT	ac40	5190	5150	-42.56	4.0	56.7	Peak	68.2	Pass
NVNT	ac40	5190	5150	-51.18	4.0	48.08	Average	54	Pass
NVNT	ac40	5230	5350	-48.08	4.0	51.18	Peak	68.2	Pass
NVNT	ac40	5230	5350	-55.03	4.0	44.23	Average	54	Pass
NVNT	ac40	5230	5377.11	-45.52	4.0	53.74	Peak	68.2	Pass
NVNT	ac40	5230	5350.38	-54.71	4.0	44.55	Average	54	Pass
NVNT	ac40	5230	5460	-48.68	4.0	50.58	Peak	68.2	Pass
NVNT	ac40	5230	5460	-55.53	4.0	43.73	Average	54	Pass
NVNT	ac80	5210	5350	-48.25	4.0	51.01	Peak	68.2	Pass
NVNT	ac80	5210	5350	-54.27	4.0	44.99	Average	54	Pass
NVNT	ac80	5210	5378.49	-45.38	4.0	53.88	Peak	68.2	Pass
NVNT	ac80	5210	5363.64	-53.75	4.0	45.51	Average	54	Pass
NVNT	ac80	5210	5460	-47.09	4.0	52.17	Peak	68.2	Pass
NVNT	ac80	5210	5460	-54.79	4.0	44.47	Average	54	Pass
NVNT	ac80	5210	4500	-49.4	4.0	49.86	Peak	68.2	Pass
NVNT	ac80	5210	4500	-55.91	4.0	43.35	Average	54	Pass
NVNT	ac80	5210	5147.8	-38.87	4.0	60.39	Peak	68.2	Pass
NVNT	ac80	5210	5149.38	-52.82	4.0	46.44	Average	54	Pass
NVNT	ac80	5210	5150	-43.06	4.0	56.2	Peak	68.2	Pass
NVNT	ac80	5210	5150	-52.88	4.0	46.38	Average	54	Pass



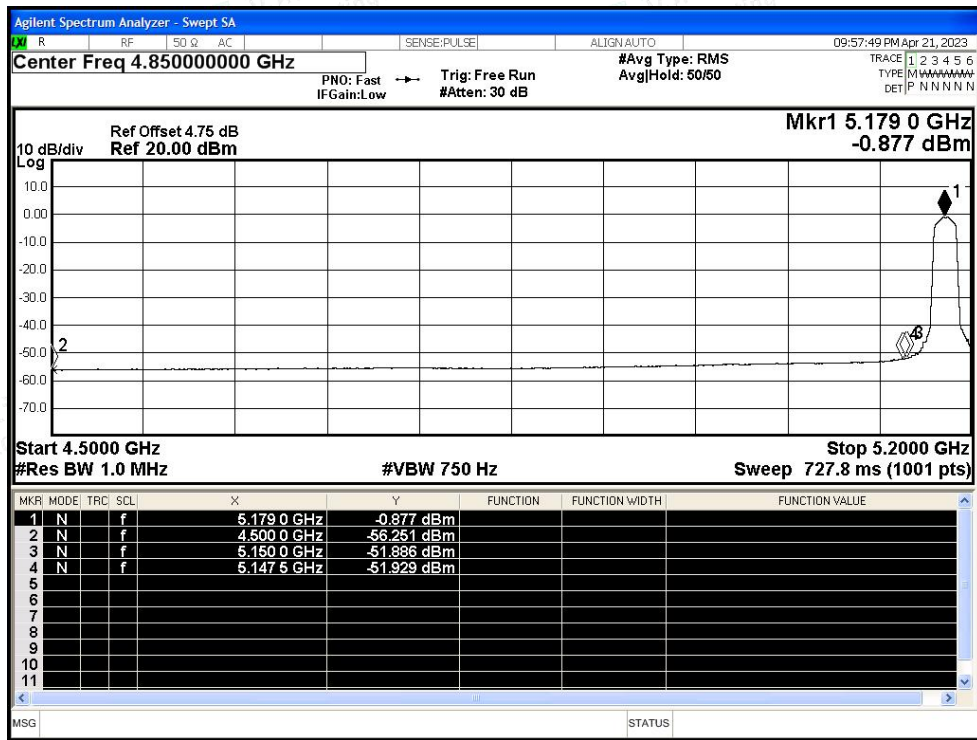


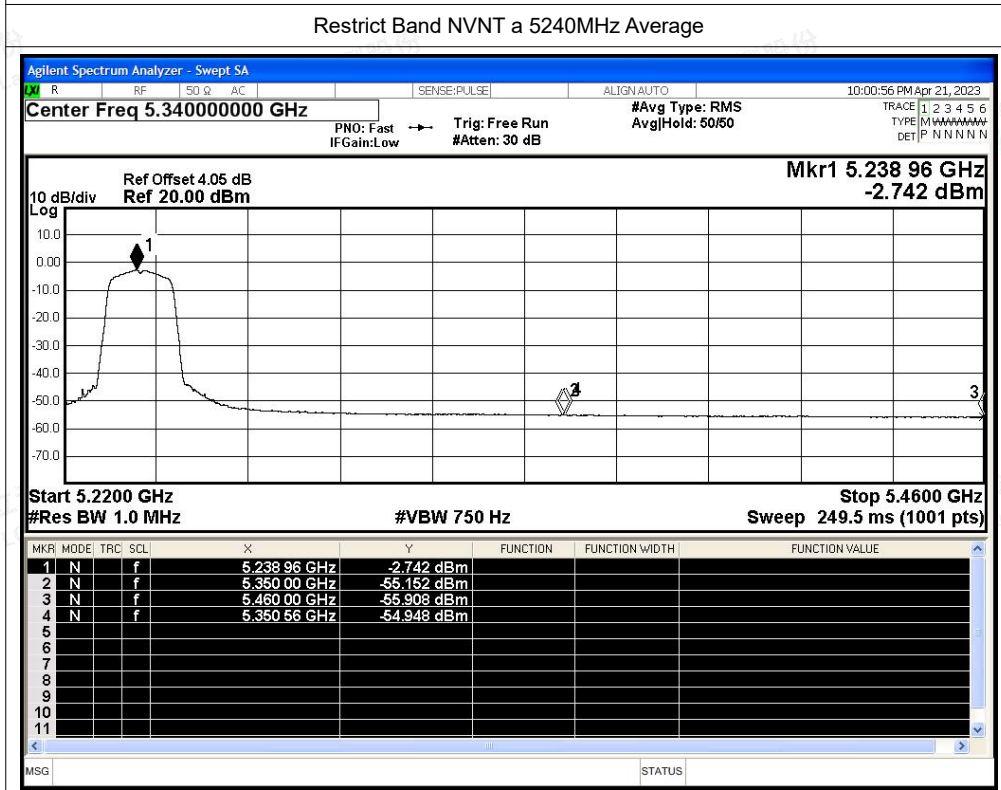
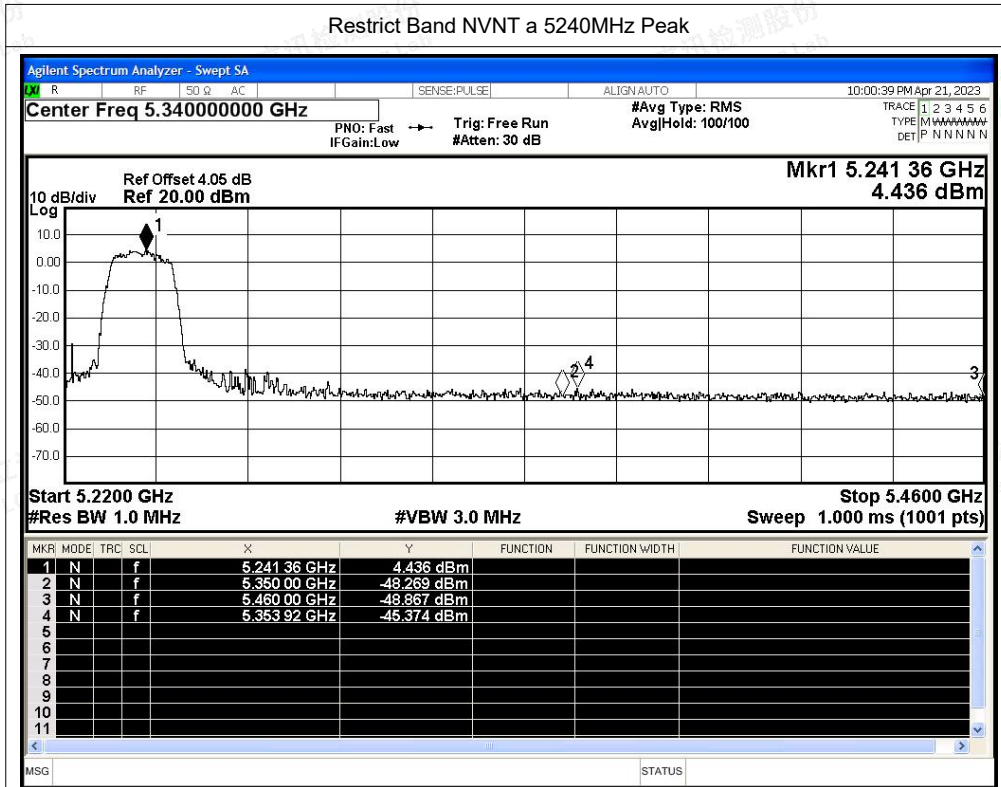
Test Graphs

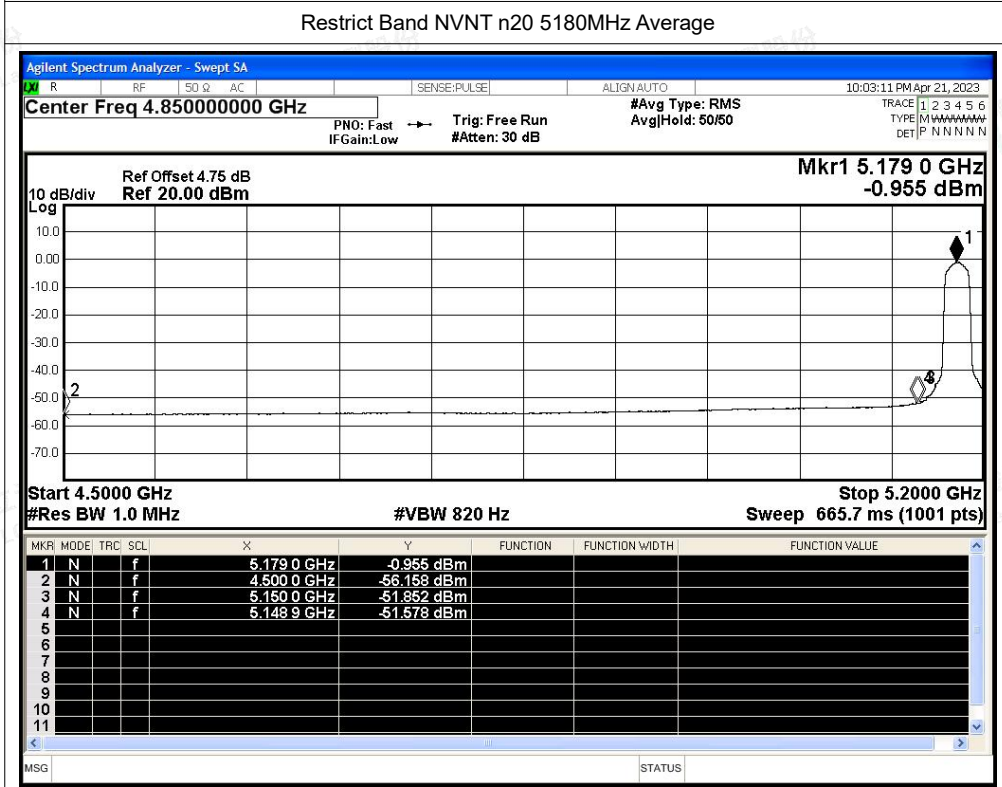
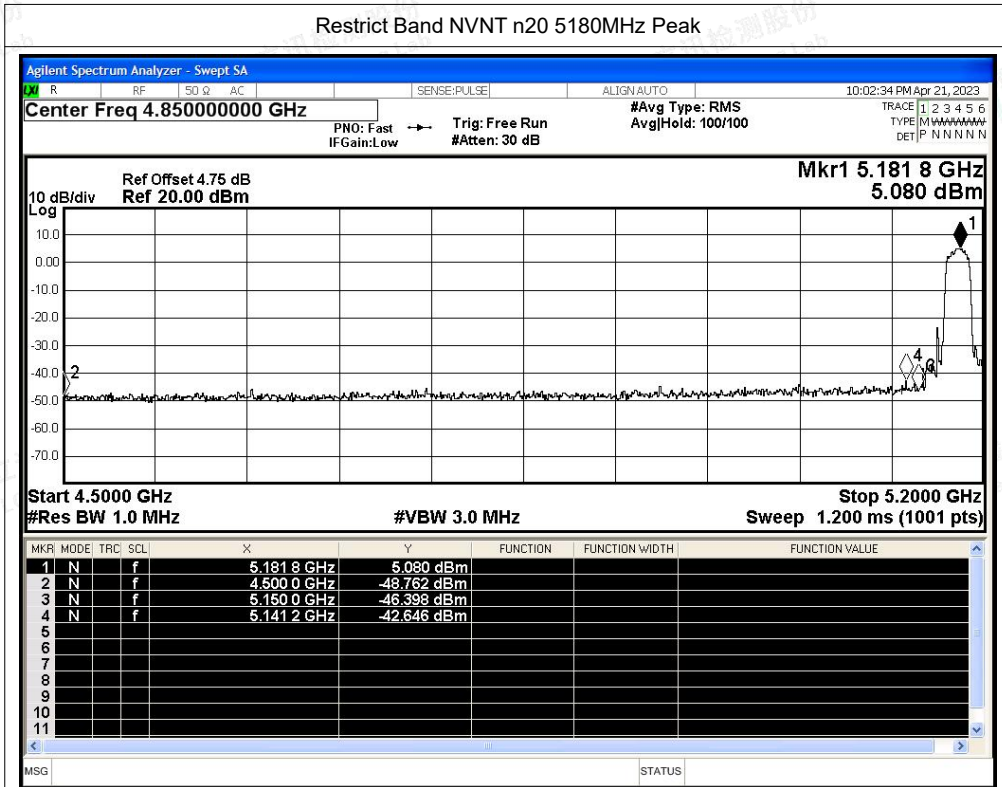
Restrict Band NVNT a 5180MHz Peak



Restrict Band NVNT a 5180MHz Average

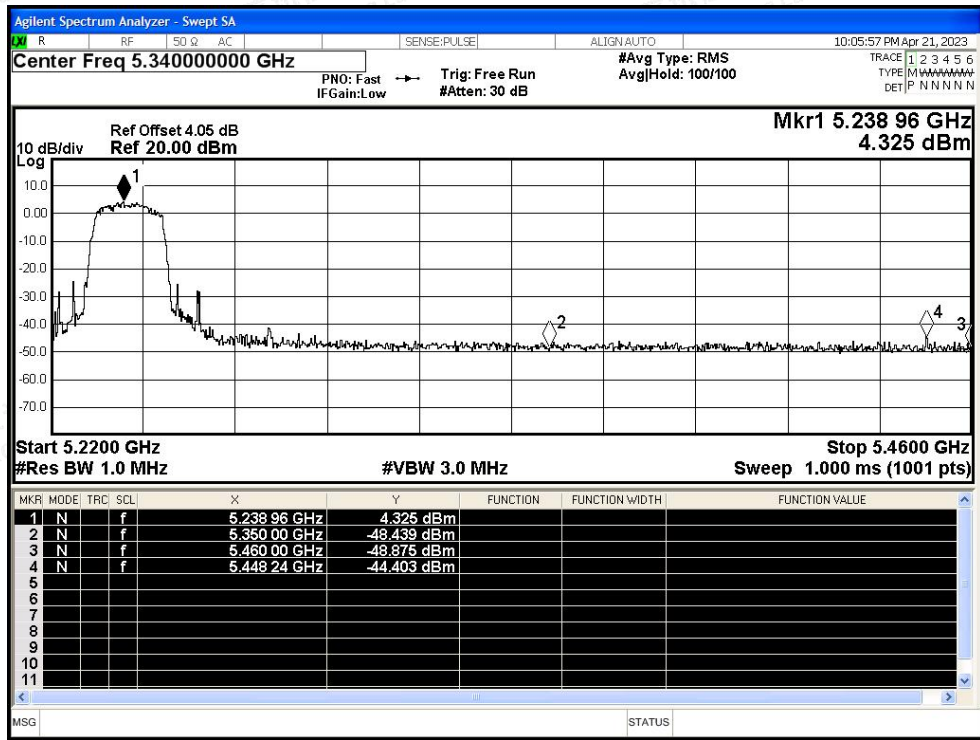




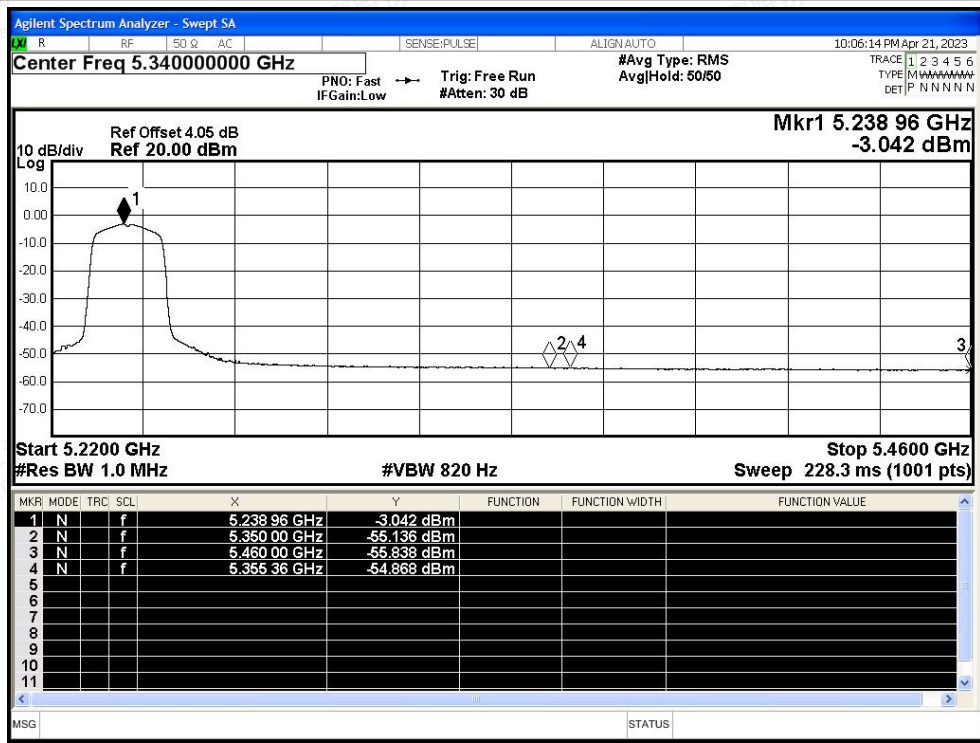




Restrict Band NVNT n20 5240MHz Peak

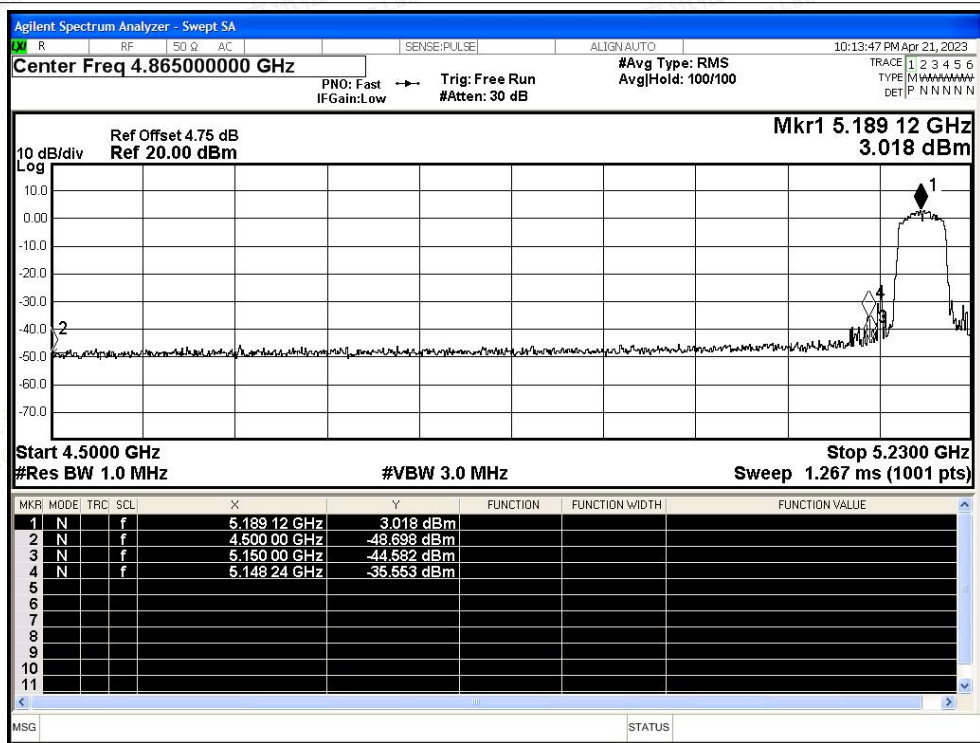


Restrict Band NVNT n20 5240MHz Average

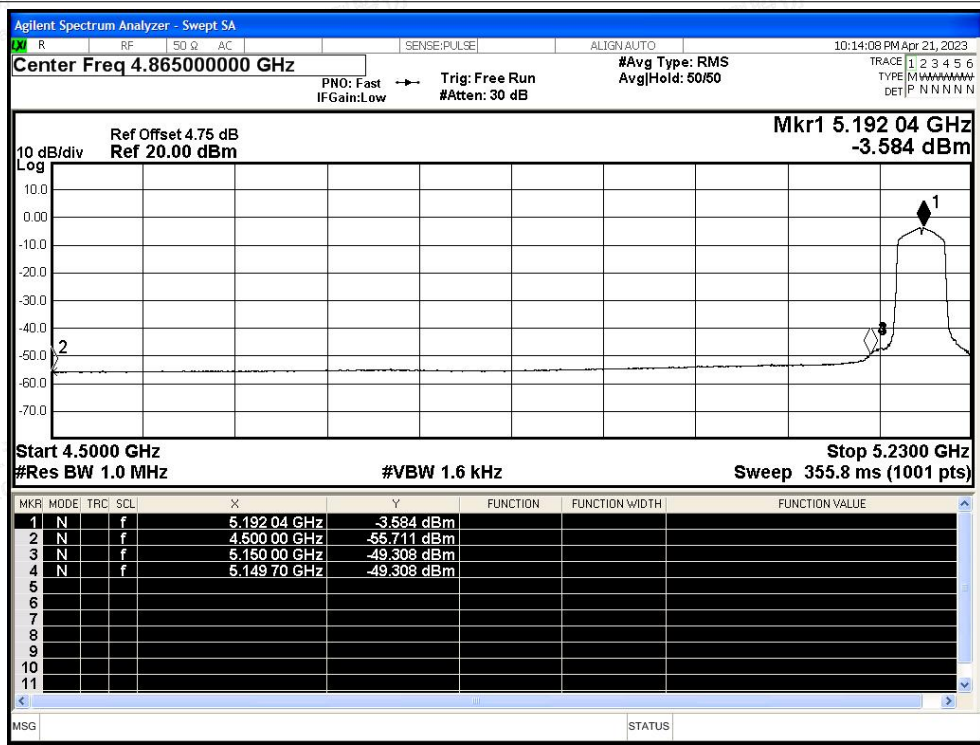




Restrict Band NVNT n40 5190MHz Peak

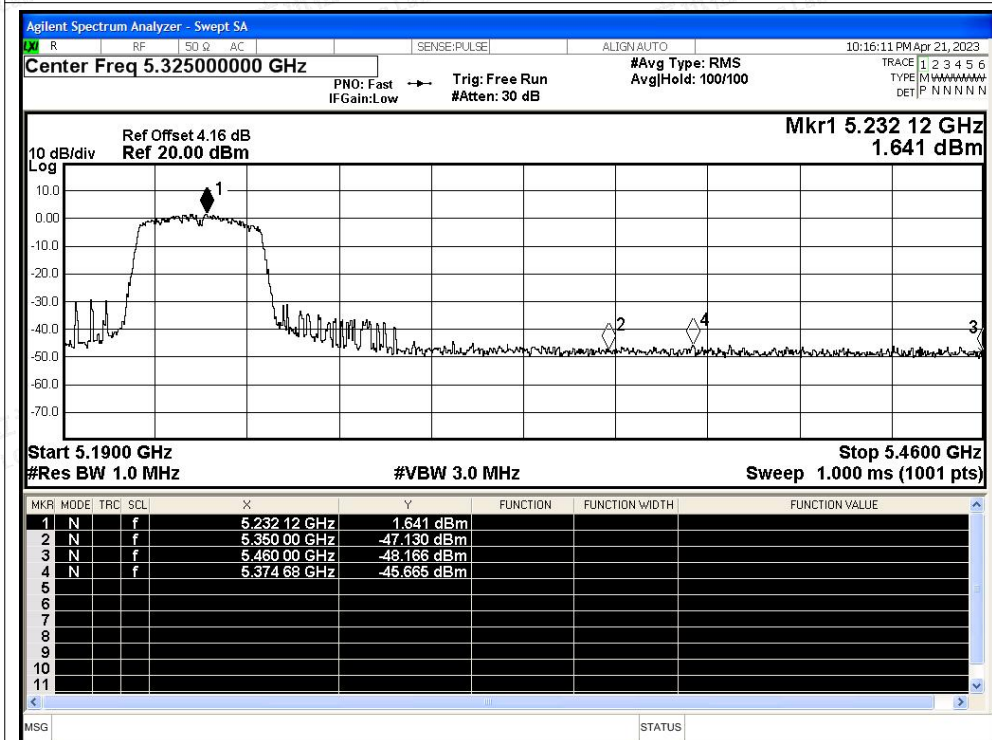


Restrict Band NVNT n40 5190MHz Average





Restrict Band NVNT n40 5230MHz Peak



Restrict Band NVNT n40 5230MHz Average

