

Appendix D

RF Test Data for 5.2GWIFI(Conducted Measurement)

Product Name: Projector

Test Model: X3AA

Environmental Conditions

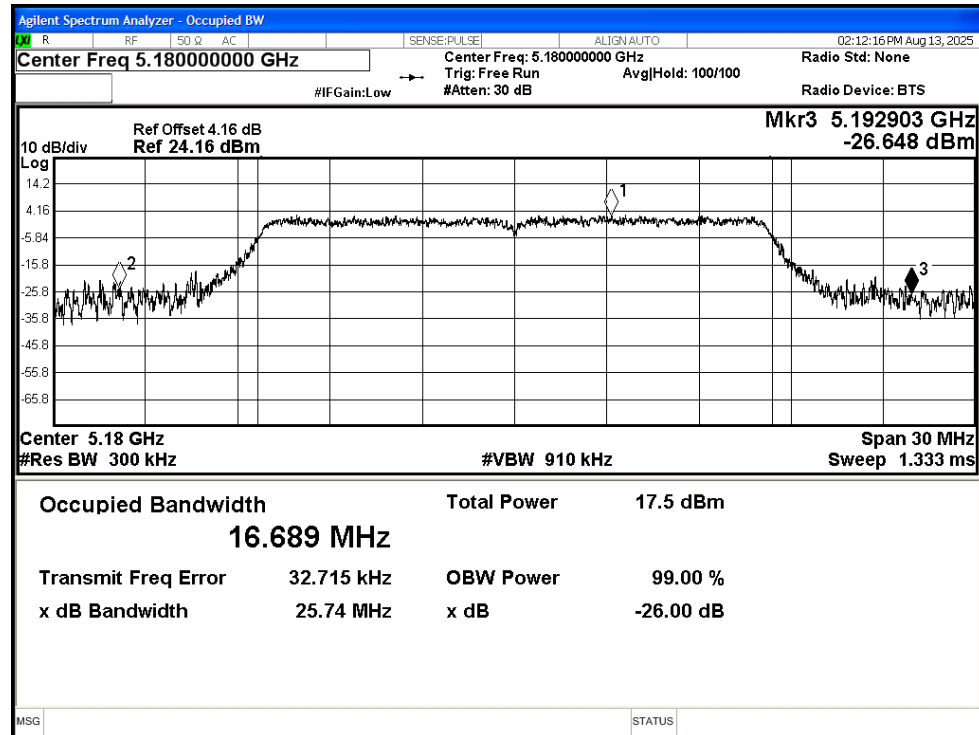
Temperature:	23.8°C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

D.1 -26dB Bandwidth

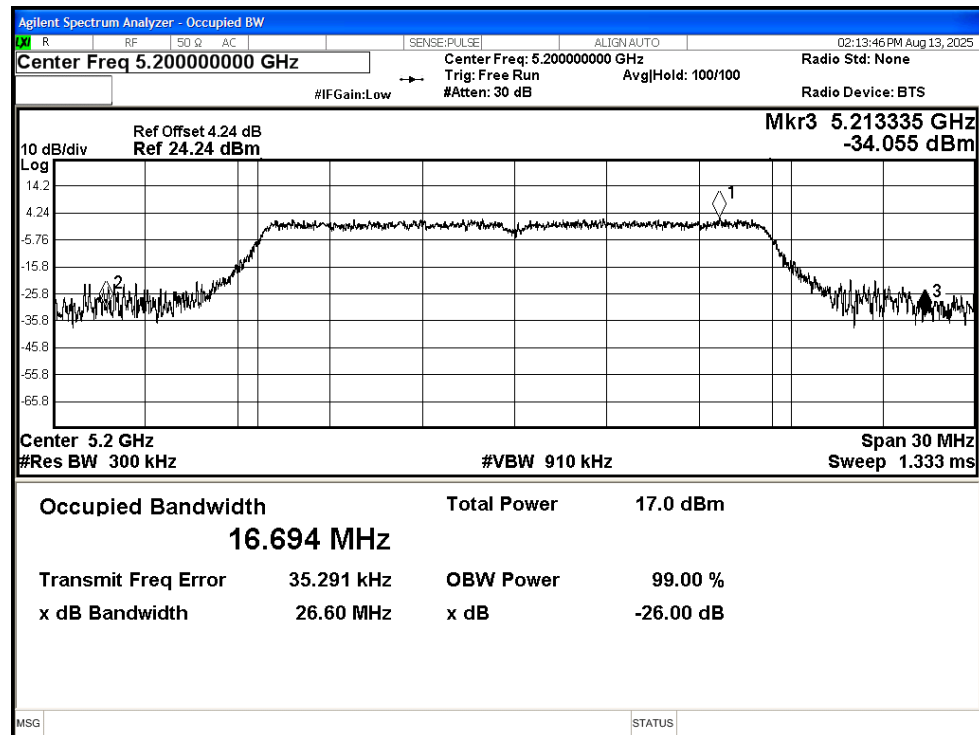
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant	25.741	----	Pass
NVNT	a	5200	Ant	26.599	----	Pass
NVNT	a	5240	Ant	27.063	----	Pass
NVNT	n20	5180	Ant	28.219	----	Pass
NVNT	n20	5200	Ant	28.754	----	Pass
NVNT	n20	5240	Ant	28.8	----	Pass
NVNT	n40	5190	Ant	47.229	----	Pass
NVNT	n40	5230	Ant	47.401	----	Pass
NVNT	ac20	5180	Ant	28.333	----	Pass
NVNT	ac20	5200	Ant	26.844	----	Pass
NVNT	ac20	5240	Ant	27.206	----	Pass
NVNT	ac40	5190	Ant	48.964	----	Pass
NVNT	ac40	5230	Ant	50.273	----	Pass

Test Graphs

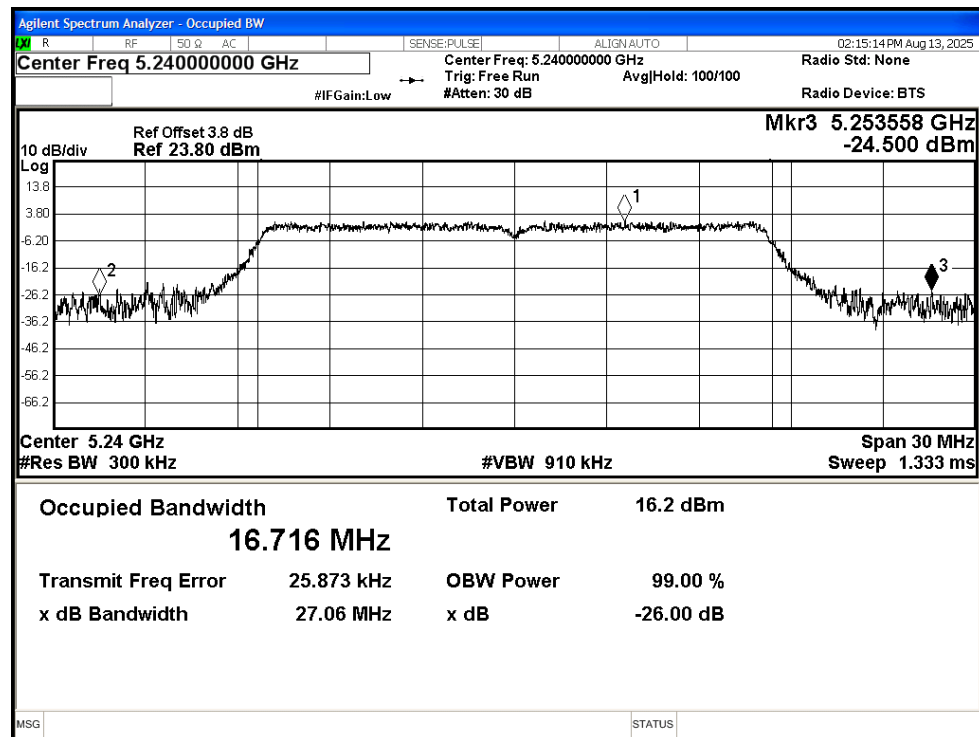
-26dB Bandwidth NVNT a 5180MHz Ant



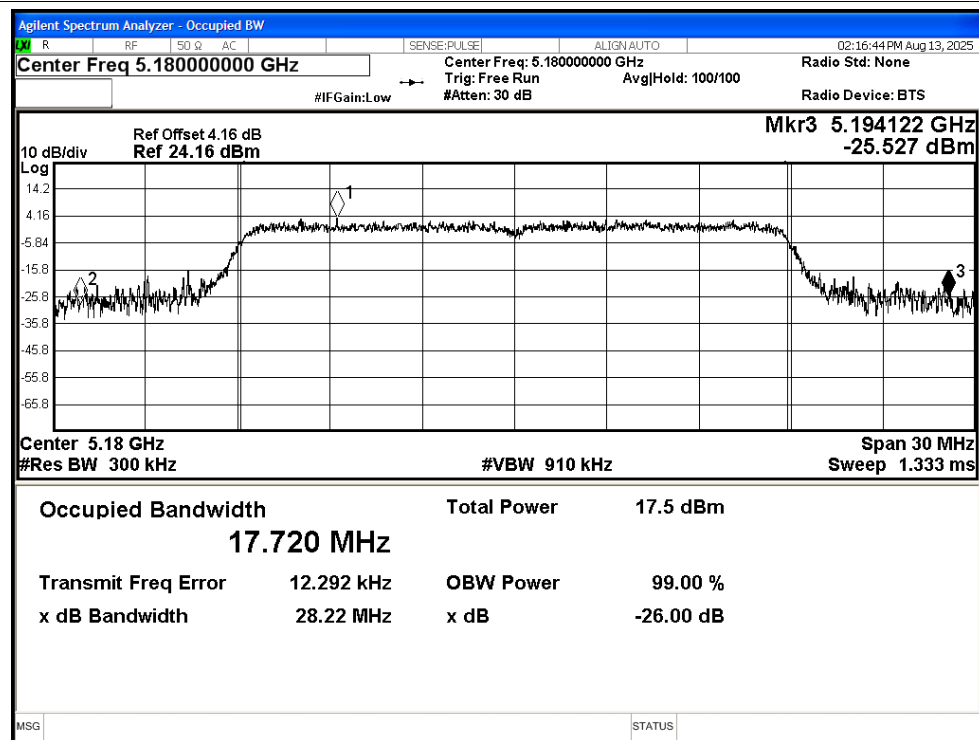
-26dB Bandwidth NVNT a 5200MHz Ant



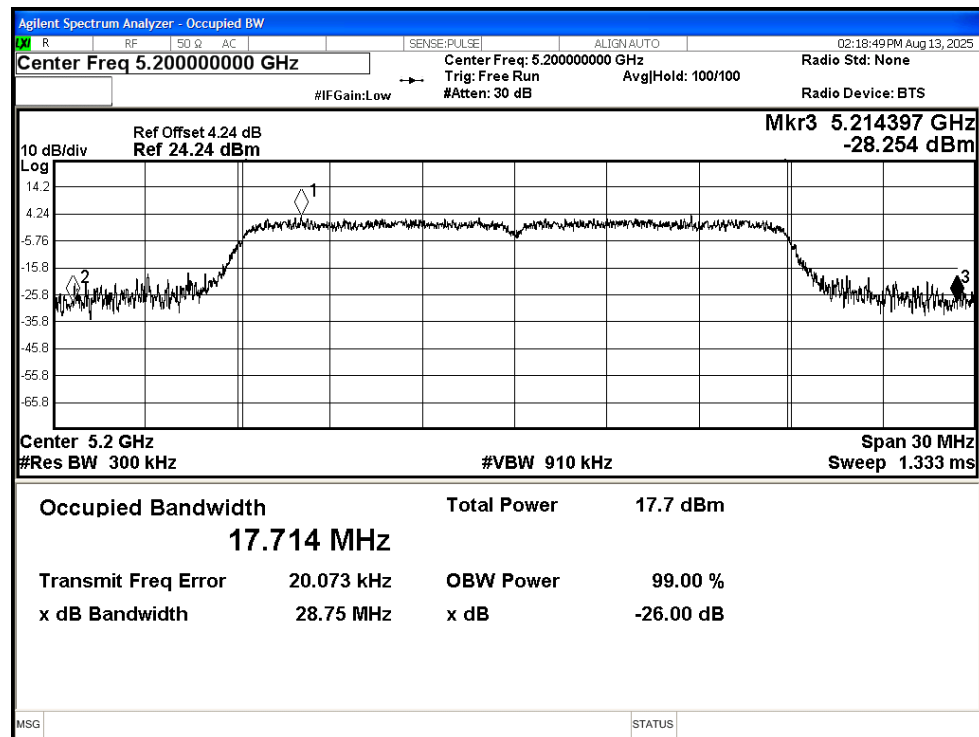
-26dB Bandwidth NVNT a 5240MHz Ant



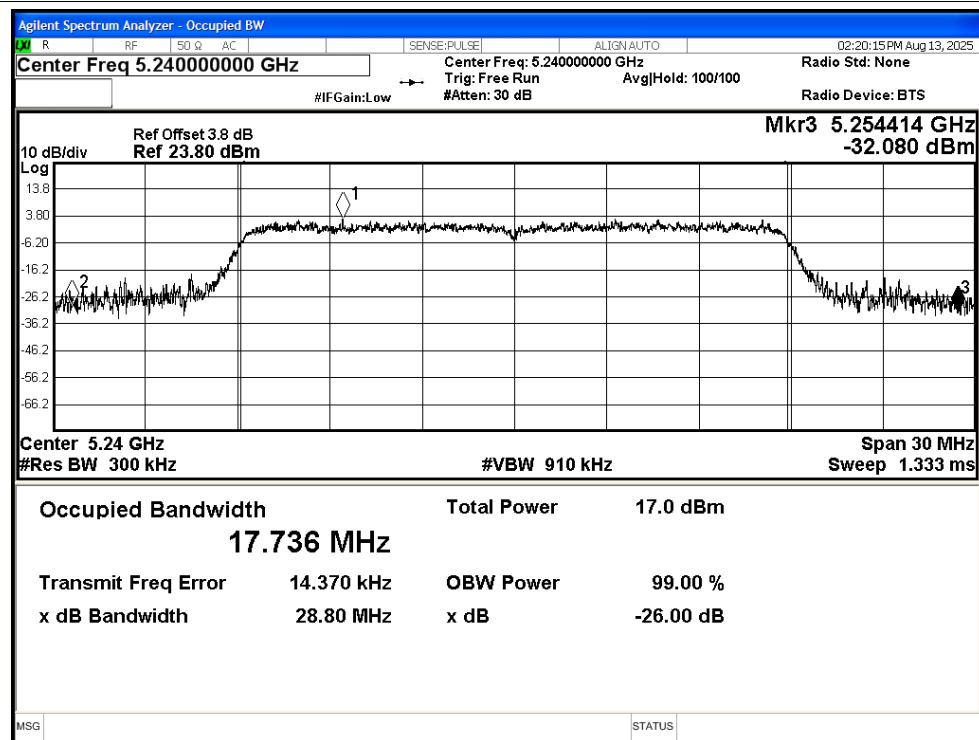
-26dB Bandwidth NVNT n20 5180MHz Ant



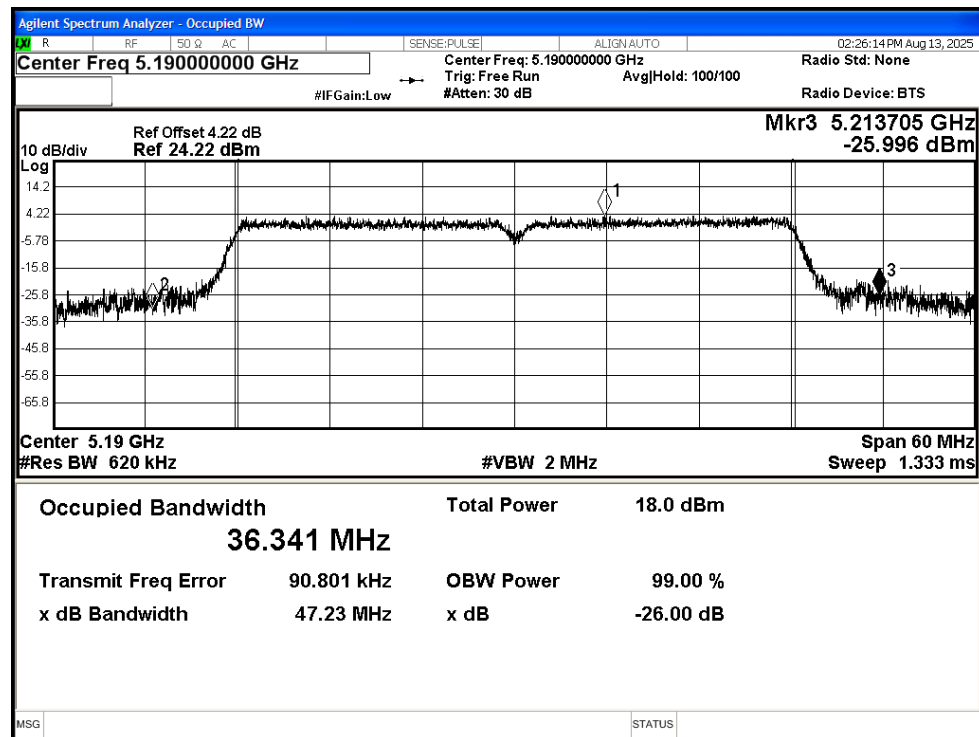
-26dB Bandwidth NVNT n20 5200MHz Ant



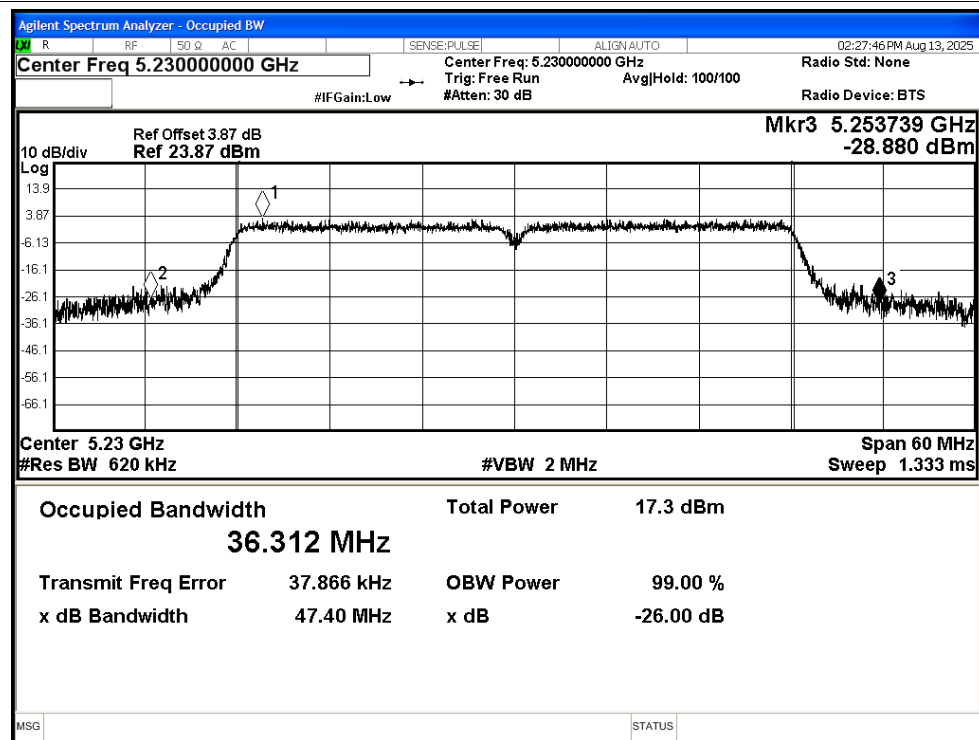
-26dB Bandwidth NVNT n20 5240MHz Ant



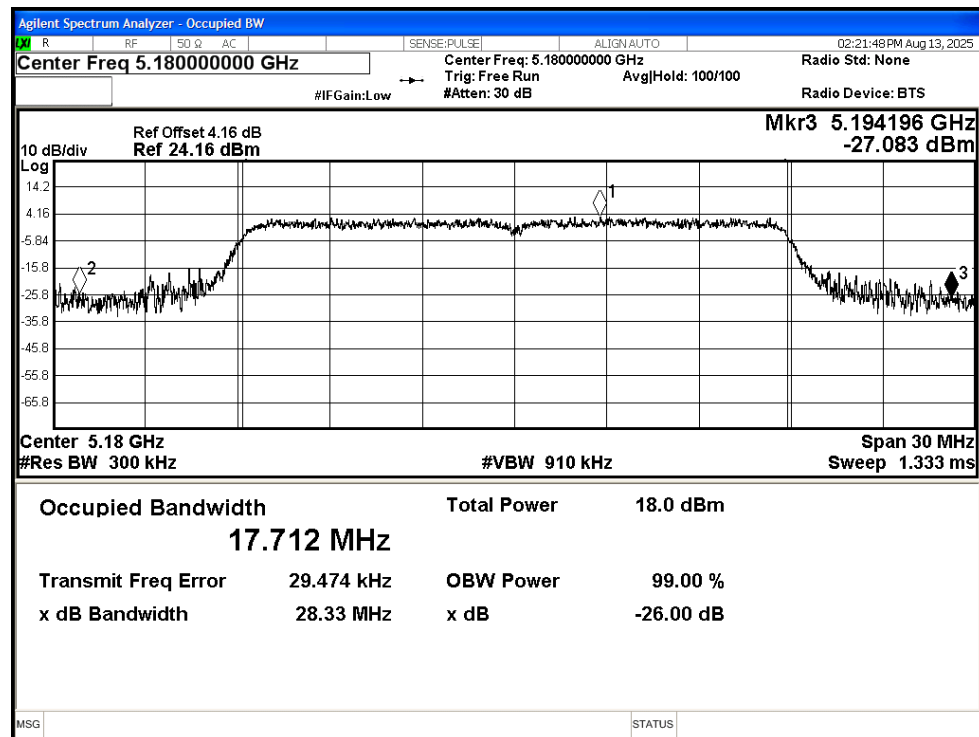
-26dB Bandwidth NVNT n40 5190MHz Ant



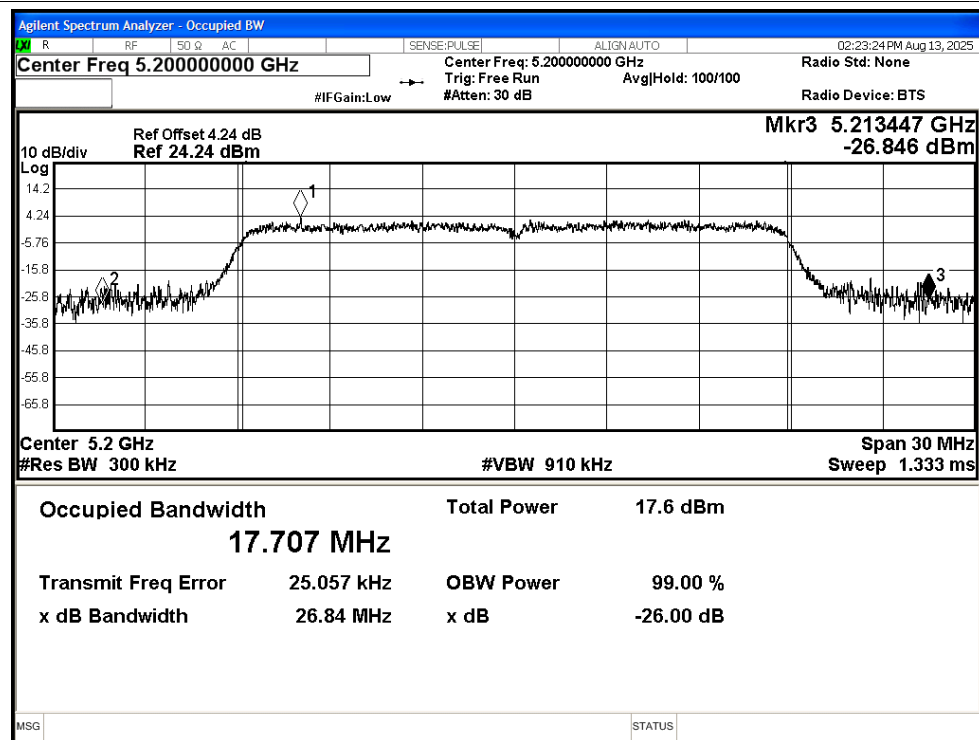
-26dB Bandwidth NVNT n40 5230MHz Ant



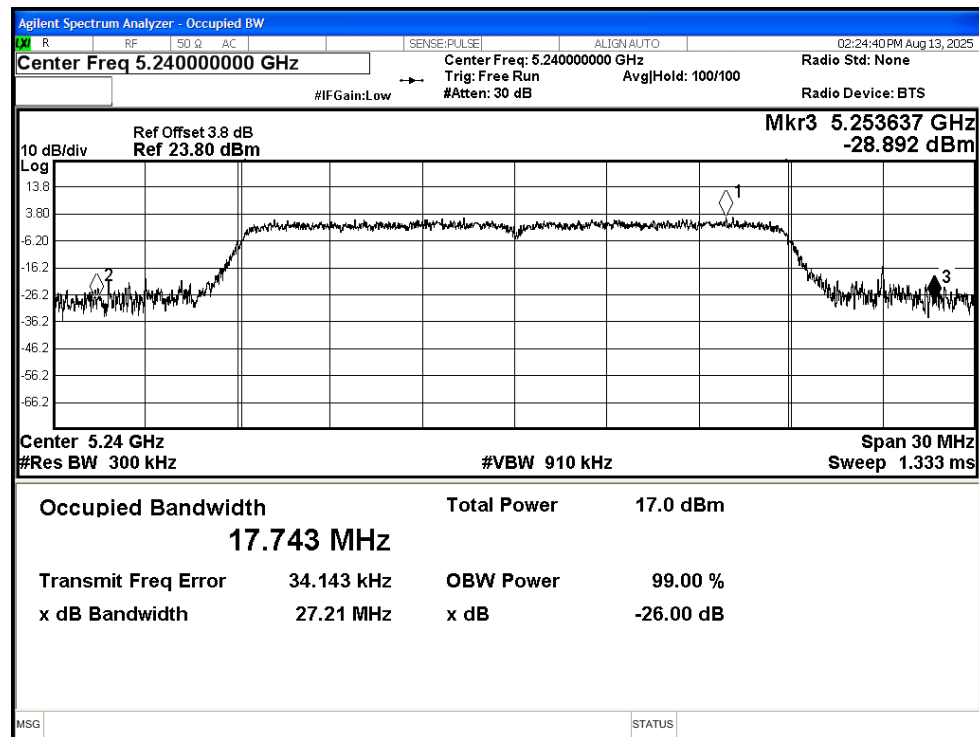
-26dB Bandwidth NVNT ac20 5180MHz Ant



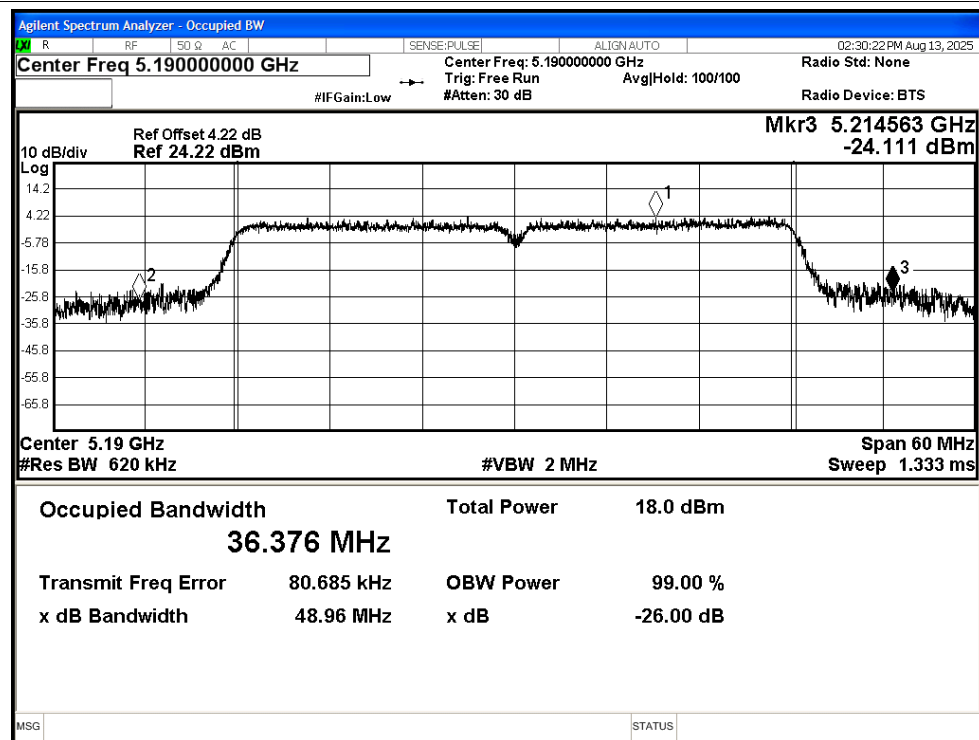
-26dB Bandwidth NVNT ac20 5200MHz Ant

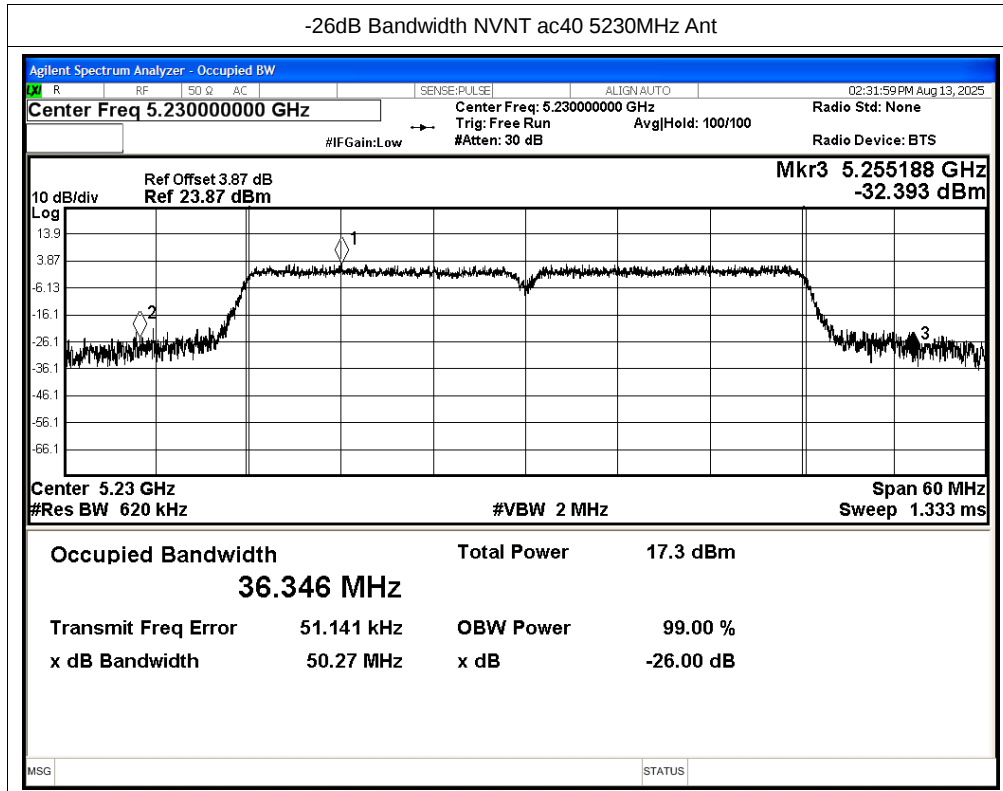


-26dB Bandwidth NVNT ac20 5240MHz Ant



-26dB Bandwidth NVNT ac40 5190MHz Ant





D.2 Maximum Conducted Output Power

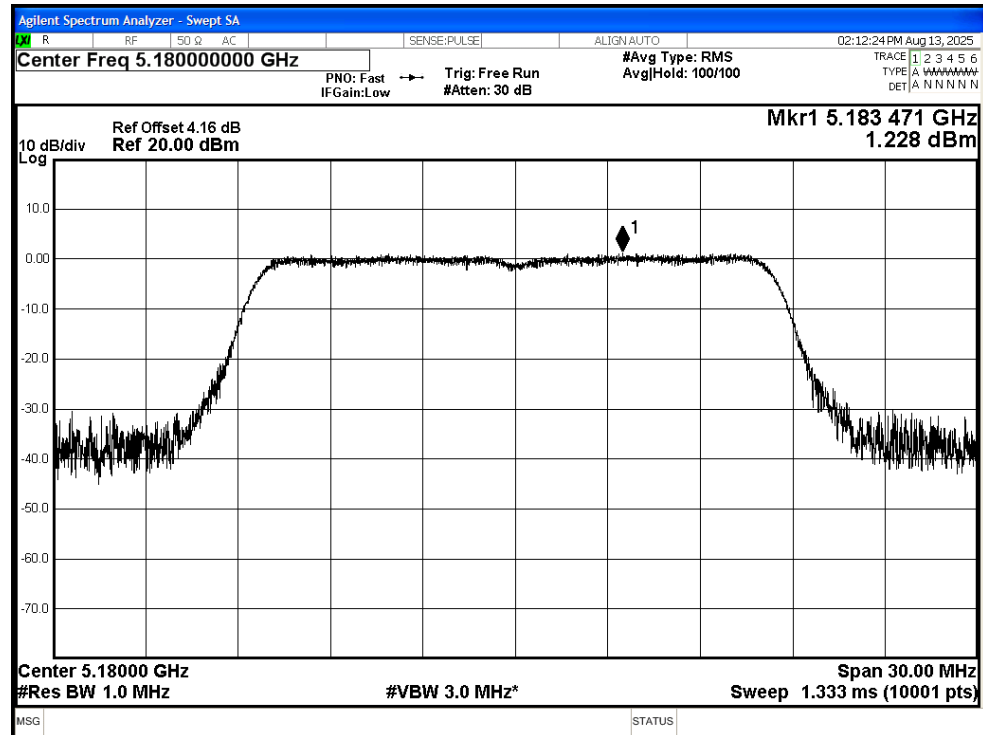
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant	11.85	0.19	12.04	24	Pass
NVNT	a	5200	Ant	11.35	0.19	11.54	24	Pass
NVNT	a	5240	Ant	10.54	0.19	10.73	24	Pass
NVNT	n20	5180	Ant	11.93	0.23	12.16	24	Pass
NVNT	n20	5200	Ant	11.66	0.23	11.89	24	Pass
NVNT	n20	5240	Ant	11.23	0.23	11.46	24	Pass
NVNT	n40	5190	Ant	11.5	0.43	11.93	24	Pass
NVNT	n40	5230	Ant	10.63	0.44	11.07	24	Pass
NVNT	ac20	5180	Ant	12.36	0.22	12.58	24	Pass
NVNT	ac20	5200	Ant	12.04	0.22	12.26	24	Pass
NVNT	ac20	5240	Ant	11.21	0.22	11.43	24	Pass
NVNT	ac40	5190	Ant	11.54	0.44	11.98	24	Pass
NVNT	ac40	5230	Ant	10.69	0.43	11.12	24	Pass

D.3 Maximum Power Spectral Density Level

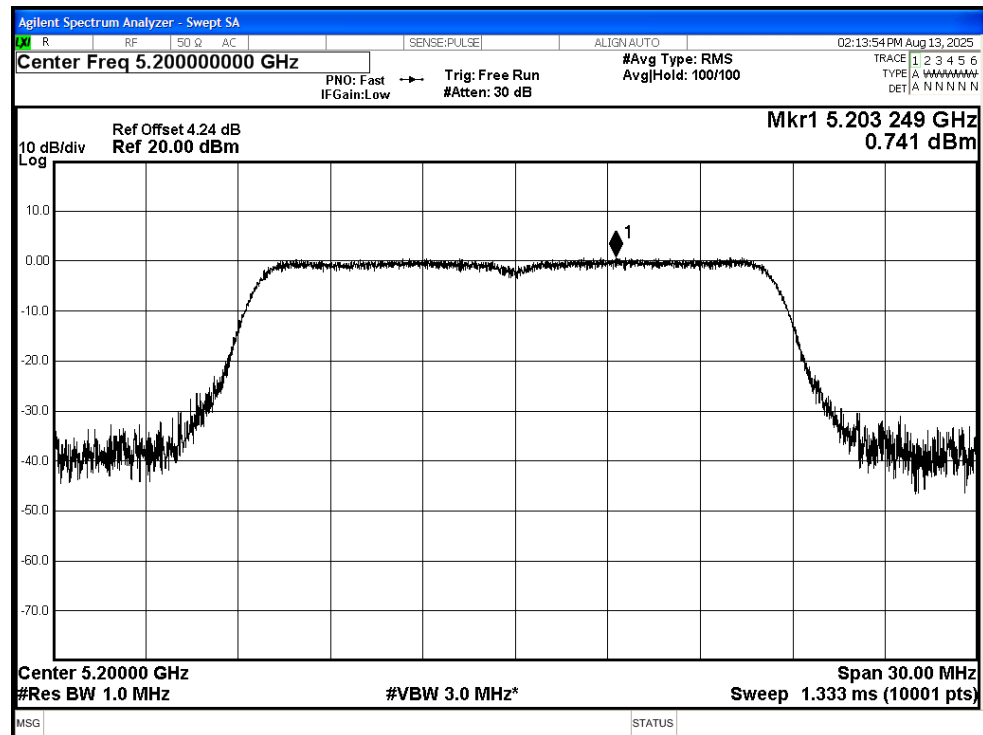
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant	1.23	0.19	1.42	11	Pass
NVNT	a	5200	Ant	0.74	0.19	0.93	11	Pass
NVNT	a	5240	Ant	0.2	0.19	0.39	11	Pass
NVNT	n20	5180	Ant	1.12	0.23	1.35	11	Pass
NVNT	n20	5200	Ant	1.33	0.23	1.56	11	Pass
NVNT	n20	5240	Ant	0.78	0.23	1.01	11	Pass
NVNT	n40	5190	Ant	-1.98	0.43	-1.55	11	Pass
NVNT	n40	5230	Ant	-2.84	0.44	-2.4	11	Pass
NVNT	ac20	5180	Ant	1.57	0.22	1.79	11	Pass
NVNT	ac20	5200	Ant	1.37	0.22	1.59	11	Pass
NVNT	ac20	5240	Ant	0.67	0.22	0.89	11	Pass
NVNT	ac40	5190	Ant	-1.97	0.44	-1.53	11	Pass
NVNT	ac40	5230	Ant	-2.97	0.43	-2.54	11	Pass

Test Graphs

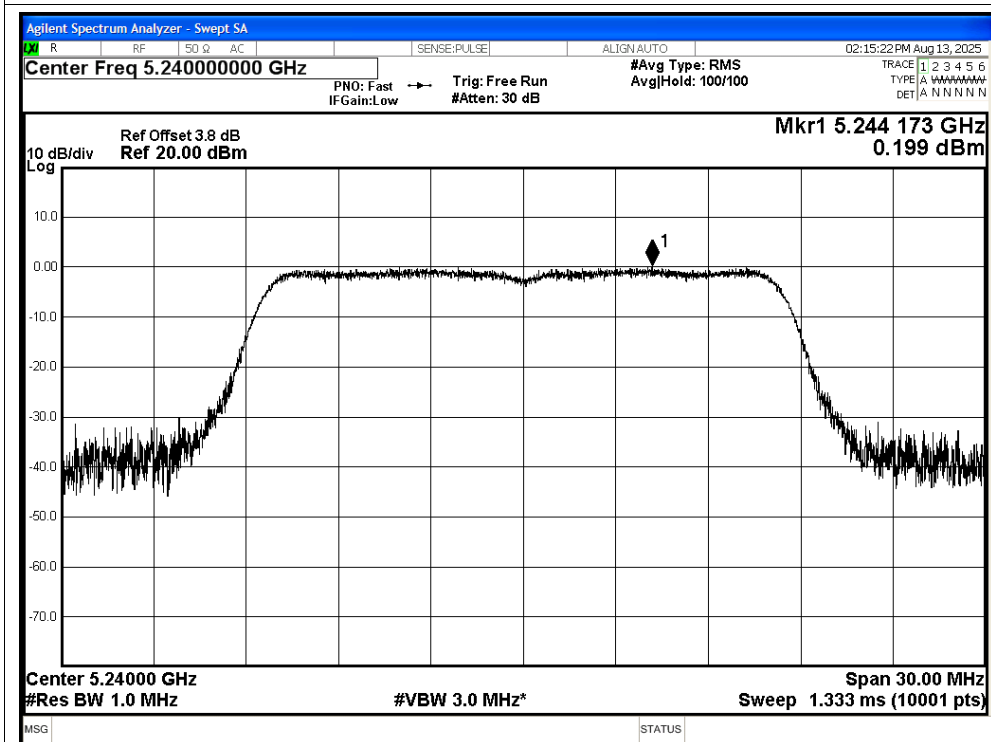
PSD NVNT a 5180MHz Ant



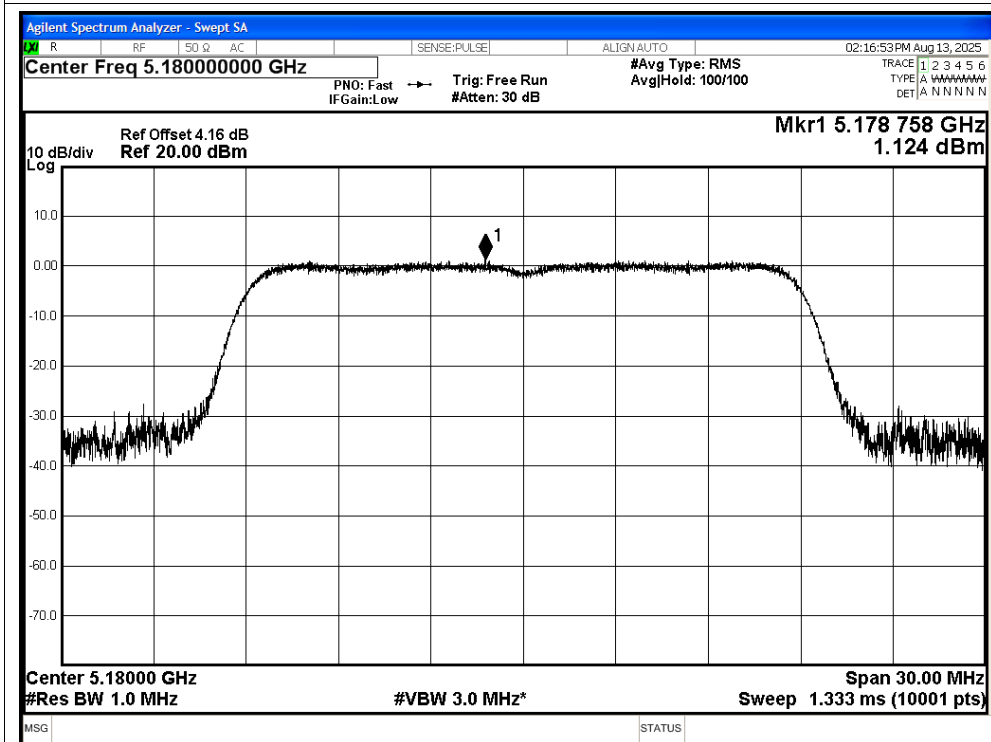
PSD NVNT a 5200MHz Ant

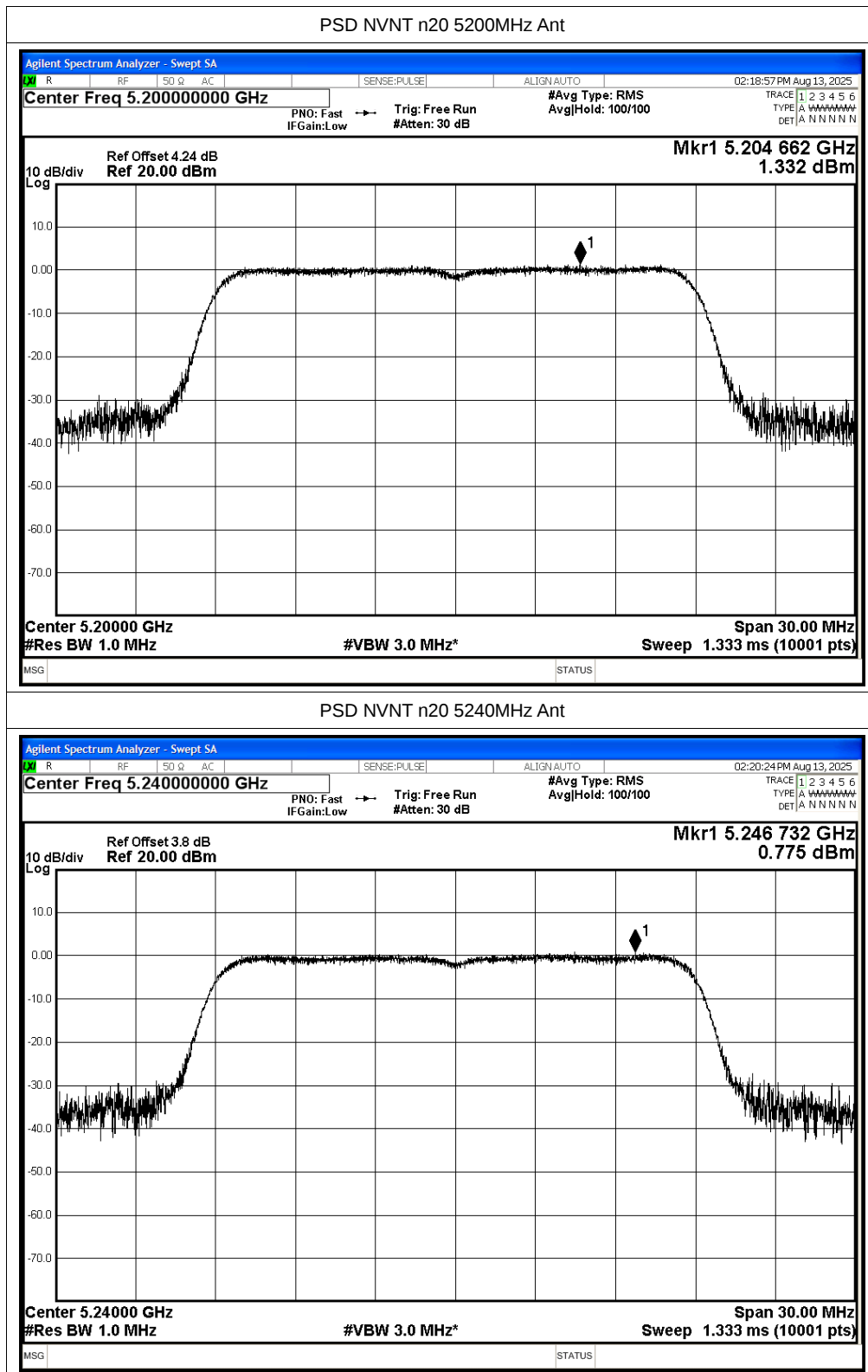


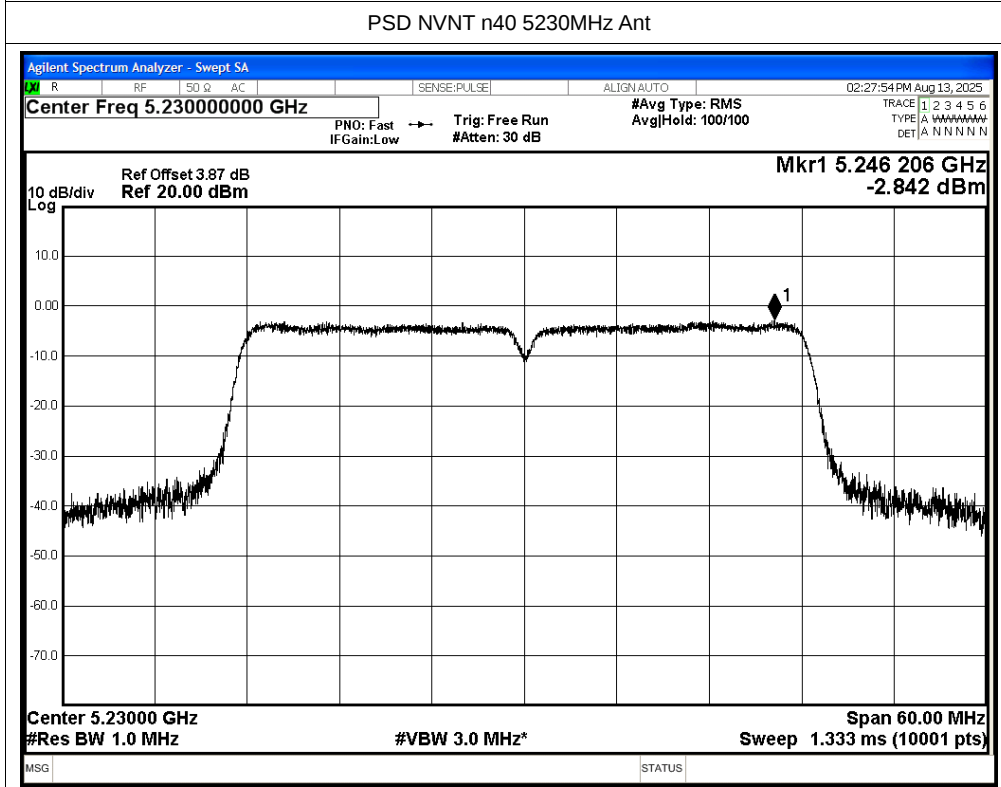
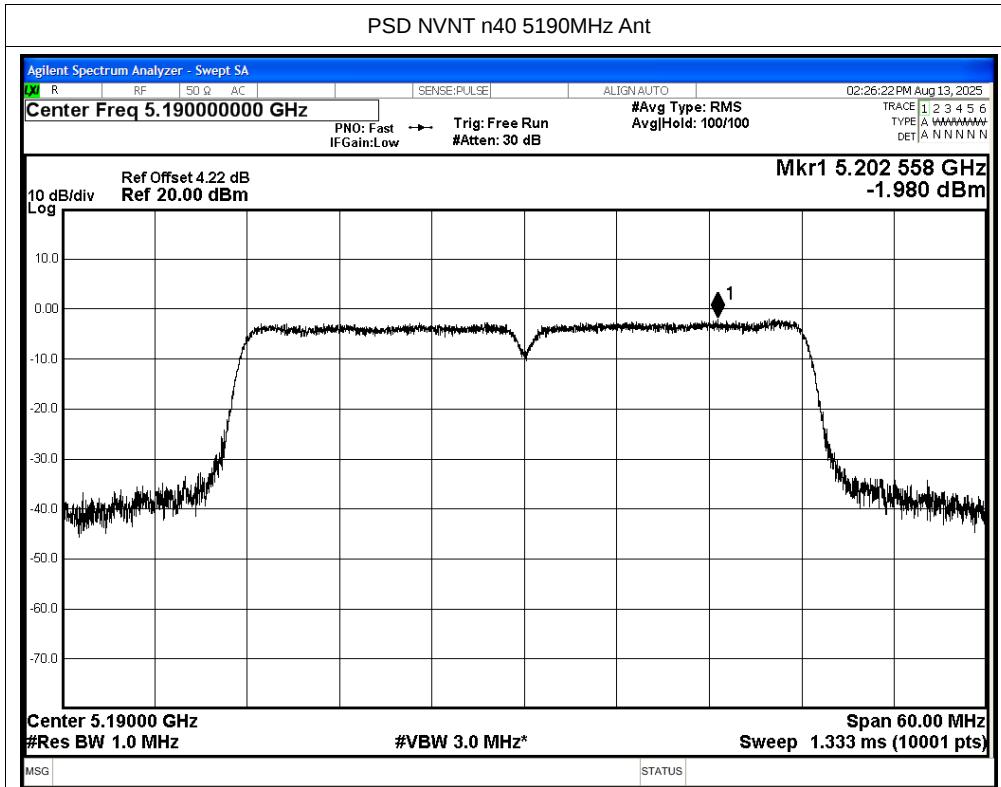
PSD NVNT a 5240MHz Ant

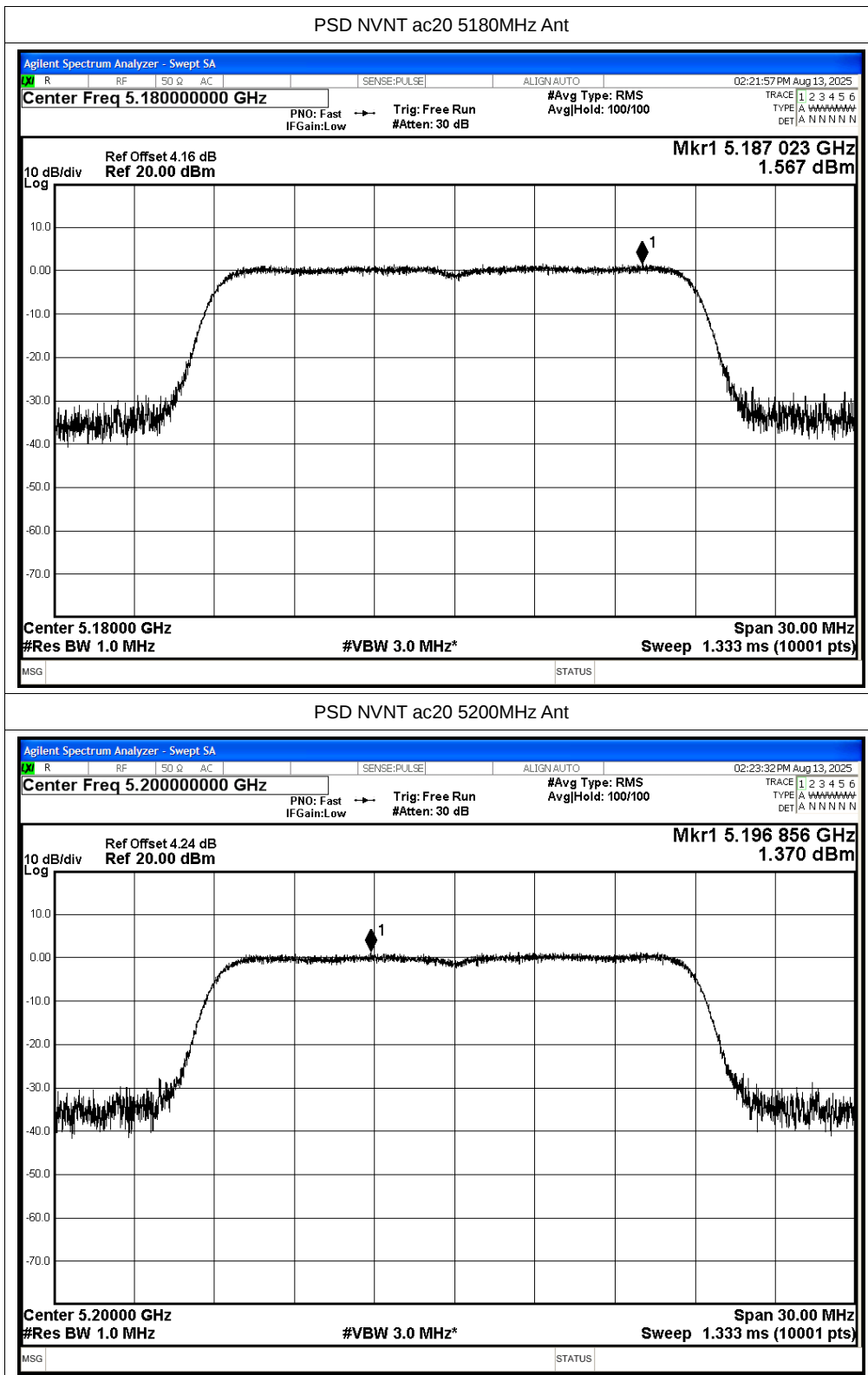


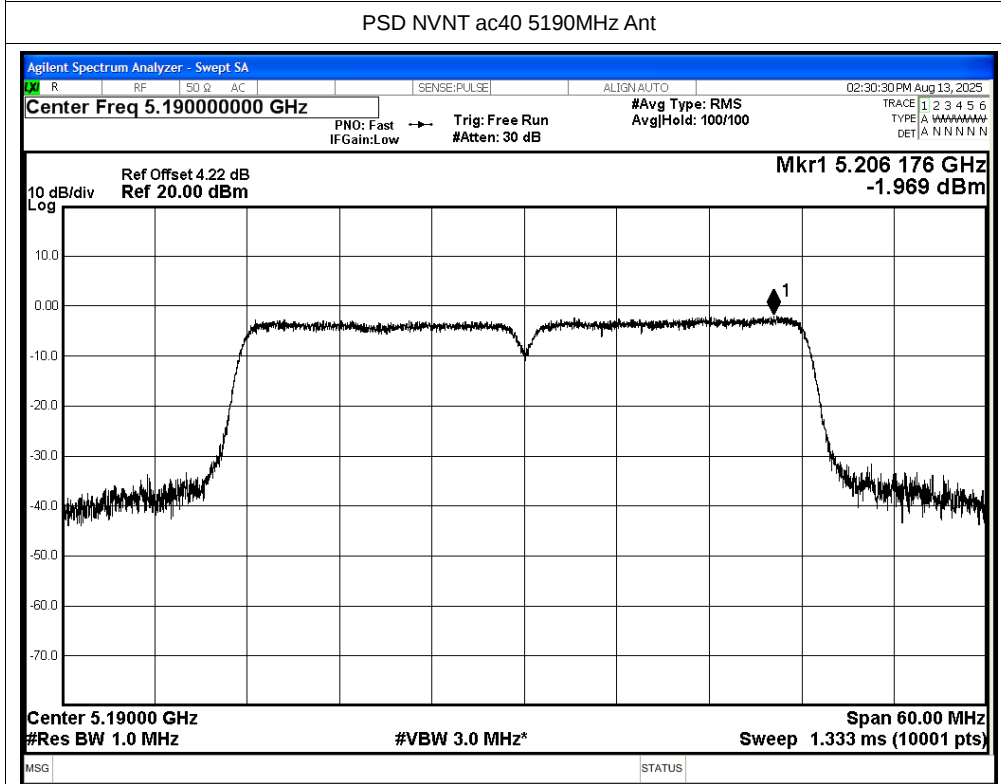
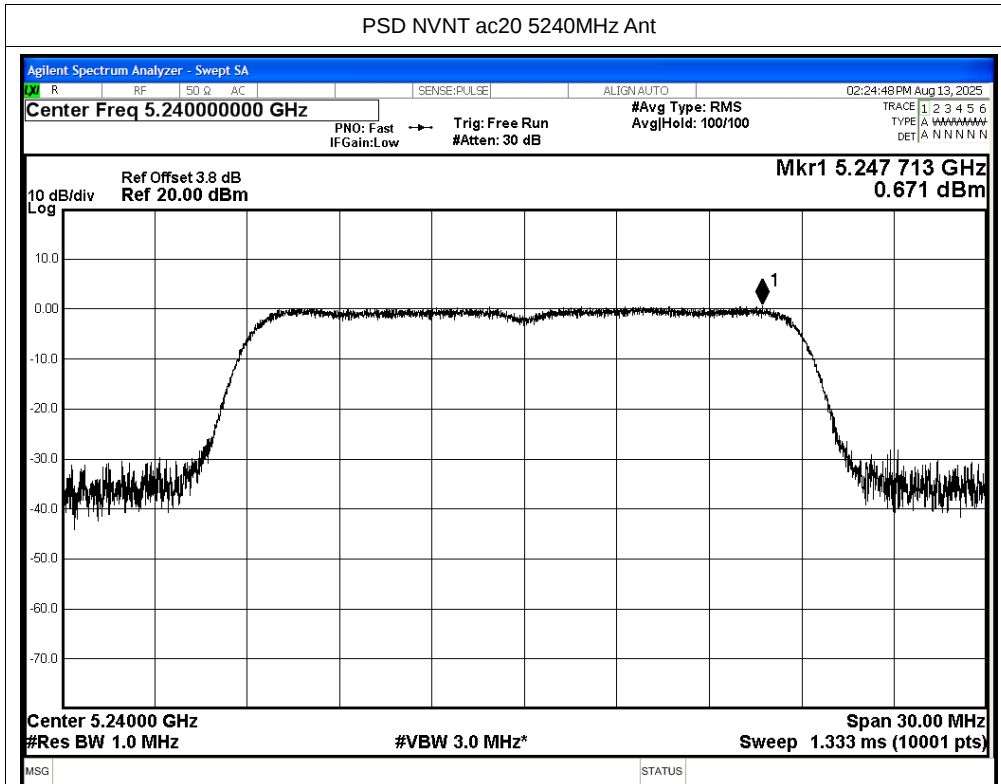
PSD NVNT n20 5180MHz Ant

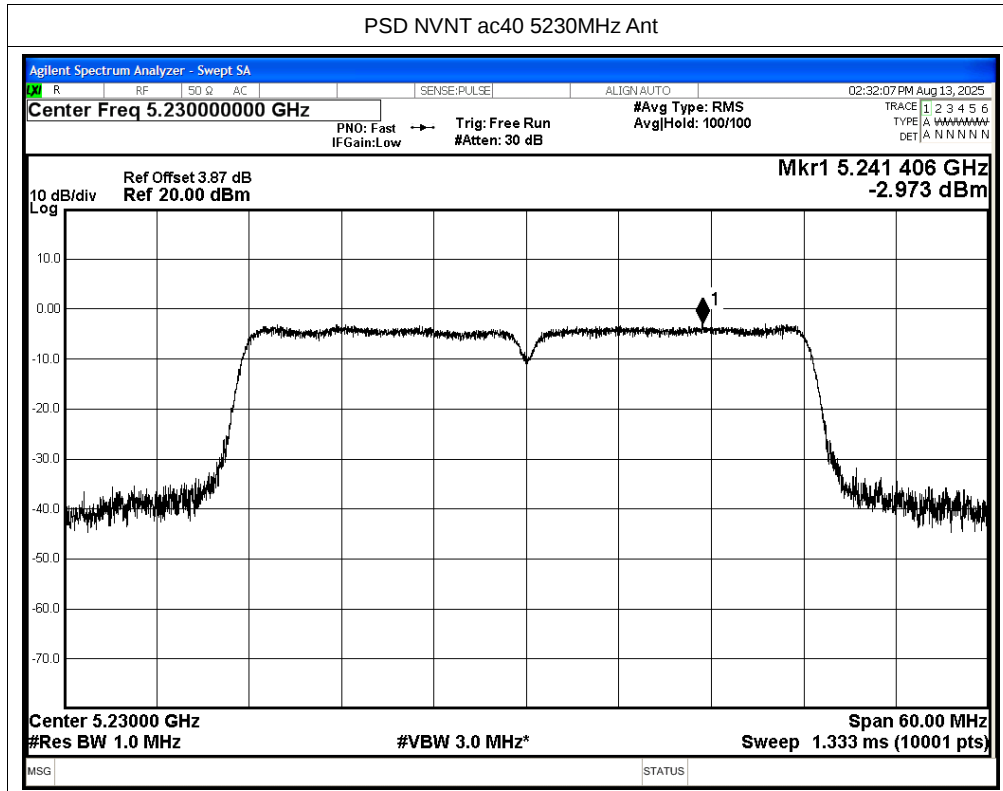












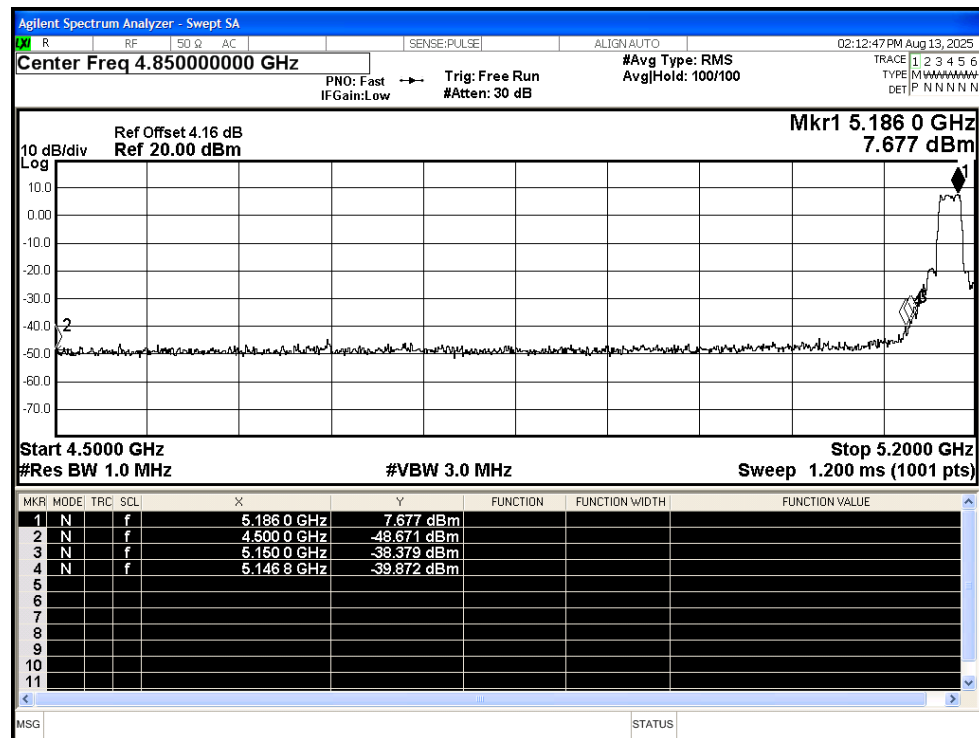
D.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant	4500	-48.67	2.14	-	48.70	Peak	68.2	Pass
NVNT	a	5180	Ant	4500	-58.2	2.14	0.19	39.36	Average	54	Pass
NVNT	a	5180	Ant	5146.8	-39.87	2.14	-	57.50	Peak	68.2	Pass
NVNT	a	5180	Ant	5148.9	-51.08	2.14	0.19	46.48	Average	54	Pass
NVNT	a	5180	Ant	5150	-38.38	2.14	-	58.99	Peak	68.2	Pass
NVNT	a	5180	Ant	5150	-51.12	2.14	0.19	46.44	Average	54	Pass
NVNT	a	5240	Ant	5350	-48.4	2.14	-	48.97	Peak	68.2	Pass
NVNT	a	5240	Ant	5350	-56.78	2.14	0.19	40.78	Average	54	Pass
NVNT	a	5240	Ant	5370.48	-45.94	2.14	-	51.43	Peak	68.2	Pass
NVNT	a	5240	Ant	5350.8	-55.67	2.14	0.19	41.89	Average	54	Pass
NVNT	a	5240	Ant	5460	-50	2.14	-	47.37	Peak	68.2	Pass
NVNT	a	5240	Ant	5460	-57.43	2.14	0.19	40.13	Average	54	Pass
NVNT	n20	5180	Ant	4500	-49.72	2.14	-	47.65	Peak	68.2	Pass
NVNT	n20	5180	Ant	4500	-58.37	2.14	0.23	39.23	Average	54	Pass
NVNT	n20	5180	Ant	5148.9	-37.6	2.14	-	59.77	Peak	68.2	Pass
NVNT	n20	5180	Ant	5148.2	-49.53	2.14	0.23	48.07	Average	54	Pass
NVNT	n20	5180	Ant	5150	-37.72	2.14	-	59.65	Peak	68.2	Pass
NVNT	n20	5180	Ant	5150	-48.8	2.14	0.23	48.80	Average	54	Pass
NVNT	n20	5240	Ant	5350	-47.86	2.14	-	49.51	Peak	68.2	Pass
NVNT	n20	5240	Ant	5350	-56.48	2.14	0.23	41.12	Average	54	Pass
NVNT	n20	5240	Ant	5377.2	-46.53	2.14	-	50.84	Peak	68.2	Pass
NVNT	n20	5240	Ant	5351.52	-55.96	2.14	0.23	41.64	Average	54	Pass
NVNT	n20	5240	Ant	5460	-48.53	2.14	-	48.84	Peak	68.2	Pass
NVNT	n20	5240	Ant	5460	-57.17	2.14	0.23	40.43	Average	54	Pass
NVNT	n40	5190	Ant	4500	-48.27	2.14	-	49.10	Peak	68.2	Pass
NVNT	n40	5190	Ant	4500	-58.19	2.14	0.43	39.61	Average	54	Pass
NVNT	n40	5190	Ant	5148.97	-32.2	2.14	-	65.17	Peak	68.2	Pass
NVNT	n40	5190	Ant	5149.7	-47.77	2.14	0.43	50.03	Average	54	Pass
NVNT	n40	5190	Ant	5150	-37.33	2.14	-	60.04	Peak	68.2	Pass
NVNT	n40	5190	Ant	5150	-47.77	2.14	0.43	50.03	Average	54	Pass
NVNT	n40	5230	Ant	5350	-48.91	2.14	-	48.46	Peak	68.2	Pass
NVNT	n40	5230	Ant	5350	-55.99	2.14	0.44	41.82	Average	54	Pass
NVNT	n40	5230	Ant	5371.98	-46.15	2.14	-	51.22	Peak	68.2	Pass
NVNT	n40	5230	Ant	5350.38	-55.81	2.14	0.44	42.00	Average	54	Pass
NVNT	n40	5230	Ant	5460	-50.1	2.14	-	47.27	Peak	68.2	Pass
NVNT	n40	5230	Ant	5460	-57.22	2.14	0.44	40.59	Average	54	Pass
NVNT	ac20	5180	Ant	4500	-47.94	2.14	-	49.43	Peak	68.2	Pass
NVNT	ac20	5180	Ant	4500	-57.21	2.14	0.22	40.38	Average	54	Pass
NVNT	ac20	5180	Ant	5148.9	-32.69	2.14	-	64.68	Peak	68.2	Pass

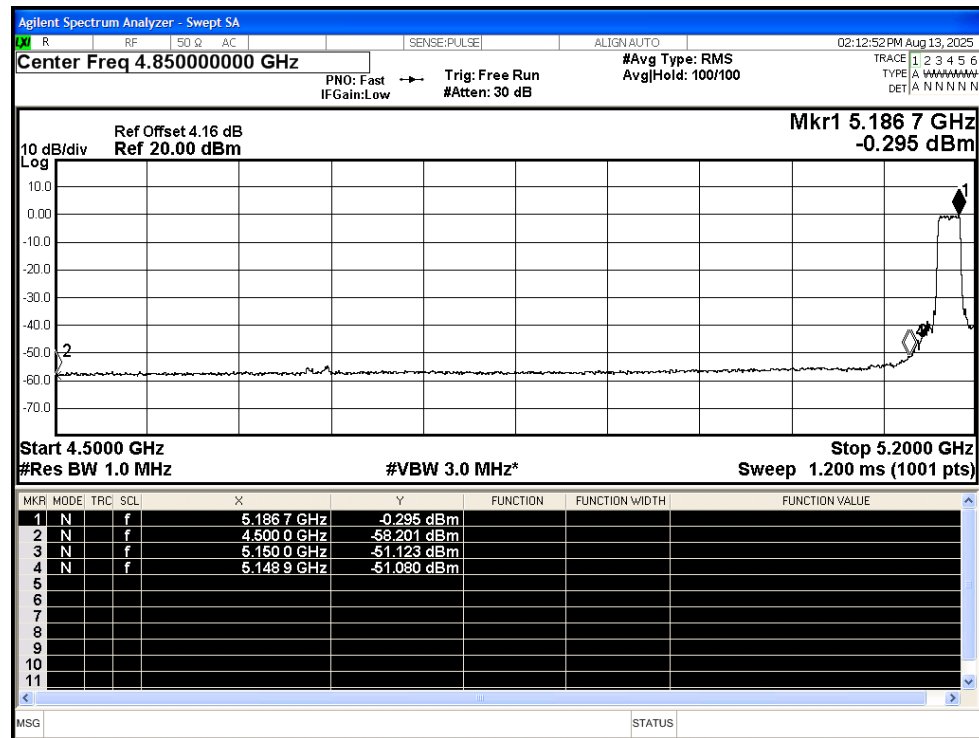
NVNT	ac20	5180	Ant	5148.9	-47.03	2.14	0.22	50.56	Average	54	Pass
NVNT	ac20	5180	Ant	5150	-32.31	2.14	-	65.06	Peak	68.2	Pass
NVNT	ac20	5180	Ant	5150	-46.83	2.14	0.22	50.76	Average	54	Pass
NVNT	ac20	5240	Ant	5350	-48.6	2.14	-	48.77	Peak	68.2	Pass
NVNT	ac20	5240	Ant	5350	-56.35	2.14	0.22	41.24	Average	54	Pass
NVNT	ac20	5240	Ant	5387.28	-46.16	2.14	-	51.21	Peak	68.2	Pass
NVNT	ac20	5240	Ant	5351.76	-55.63	2.14	0.22	41.96	Average	54	Pass
NVNT	ac20	5240	Ant	5460	-50.01	2.14	-	47.36	Peak	68.2	Pass
NVNT	ac20	5240	Ant	5460	-57.05	2.14	0.22	40.54	Average	54	Pass
NVNT	ac40	5190	Ant	4500	-49.47	2.14	-	47.90	Peak	68.2	Pass
NVNT	ac40	5190	Ant	4500	-57.83	2.14	0.44	39.98	Average	54	Pass
NVNT	ac40	5190	Ant	5148.97	-36.37	2.14	-	61.00	Peak	68.2	Pass
NVNT	ac40	5190	Ant	5149.7	-47.71	2.14	0.44	50.10	Average	54	Pass
NVNT	ac40	5190	Ant	5150	-37.24	2.14	-	60.13	Peak	68.2	Pass
NVNT	ac40	5190	Ant	5150	-47.71	2.14	0.44	50.10	Average	54	Pass
NVNT	ac40	5230	Ant	5350	-48.67	2.14	-	48.70	Peak	68.2	Pass
NVNT	ac40	5230	Ant	5350	-57.13	2.14	0.43	40.67	Average	54	Pass
NVNT	ac40	5230	Ant	5390.34	-46.3	2.14	-	51.07	Peak	68.2	Pass
NVNT	ac40	5230	Ant	5352.54	-56.25	2.14	0.43	41.55	Average	54	Pass
NVNT	ac40	5230	Ant	5460	-49.1	2.14	-	48.27	Peak	68.2	Pass
NVNT	ac40	5230	Ant	5460	-57.19	2.14	0.43	40.61	Average	54	Pass

Test Graphs

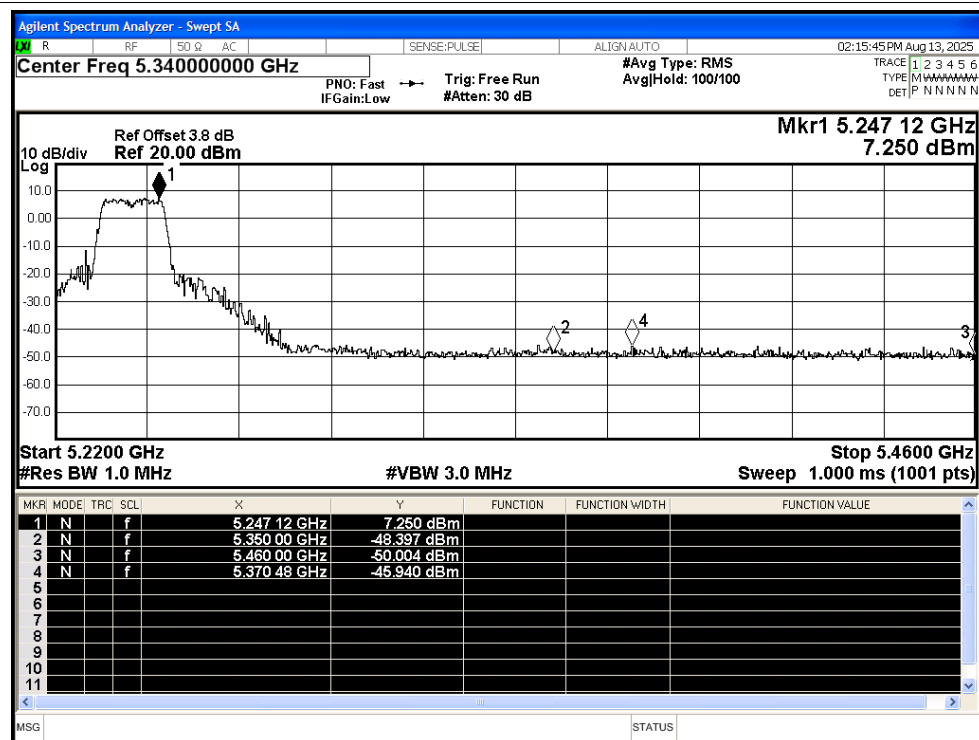
Restrict Band NVNT a 5180MHz Ant Peak



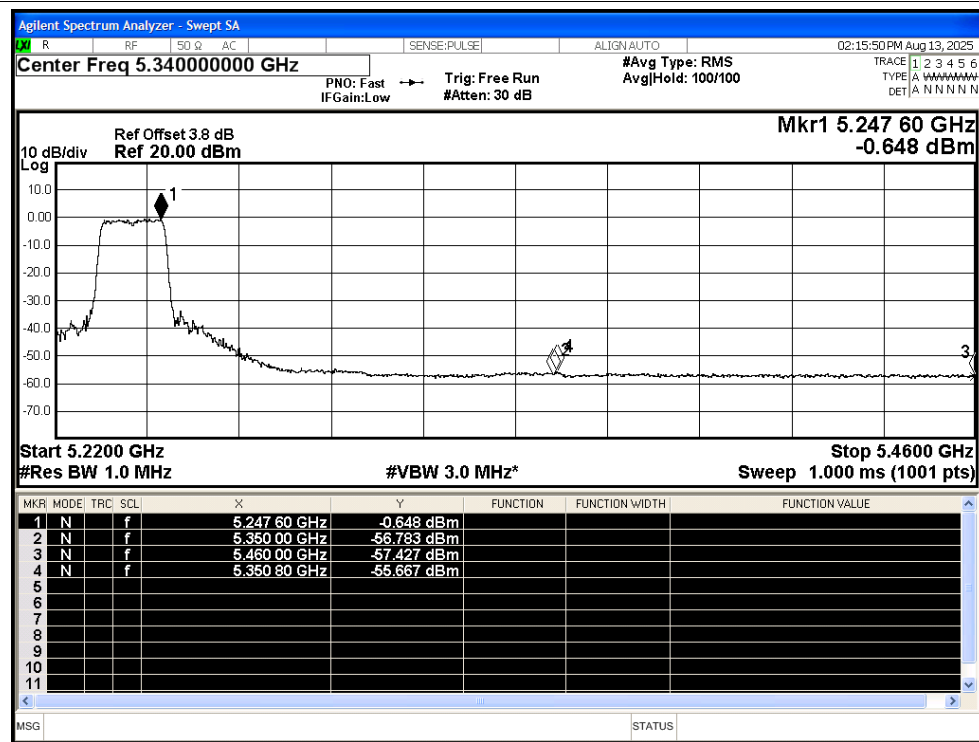
Restrict Band NVNT a 5180MHz Ant Average



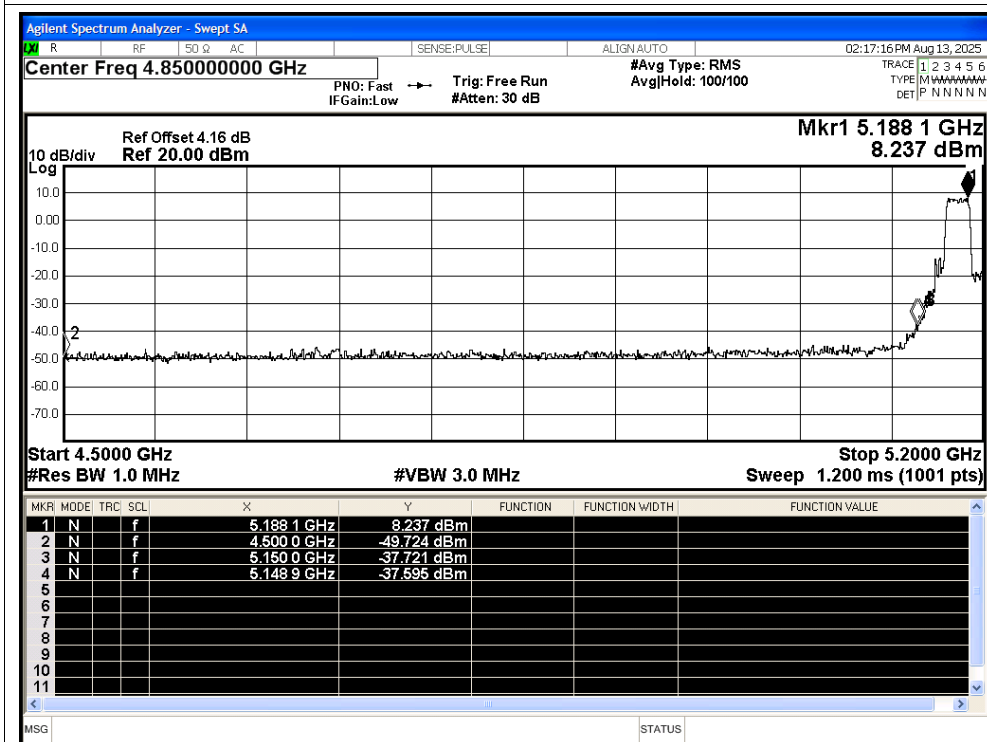
Restrict Band NVNT a 5240MHz Ant Peak



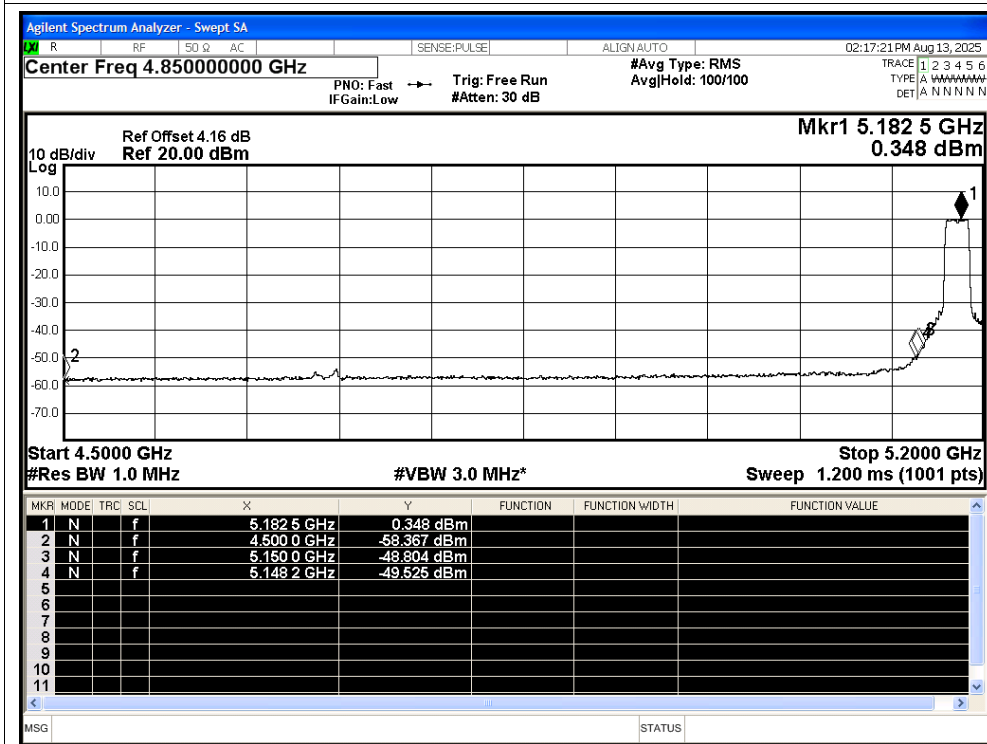
Restrict Band NVNT a 5240MHz Ant Average



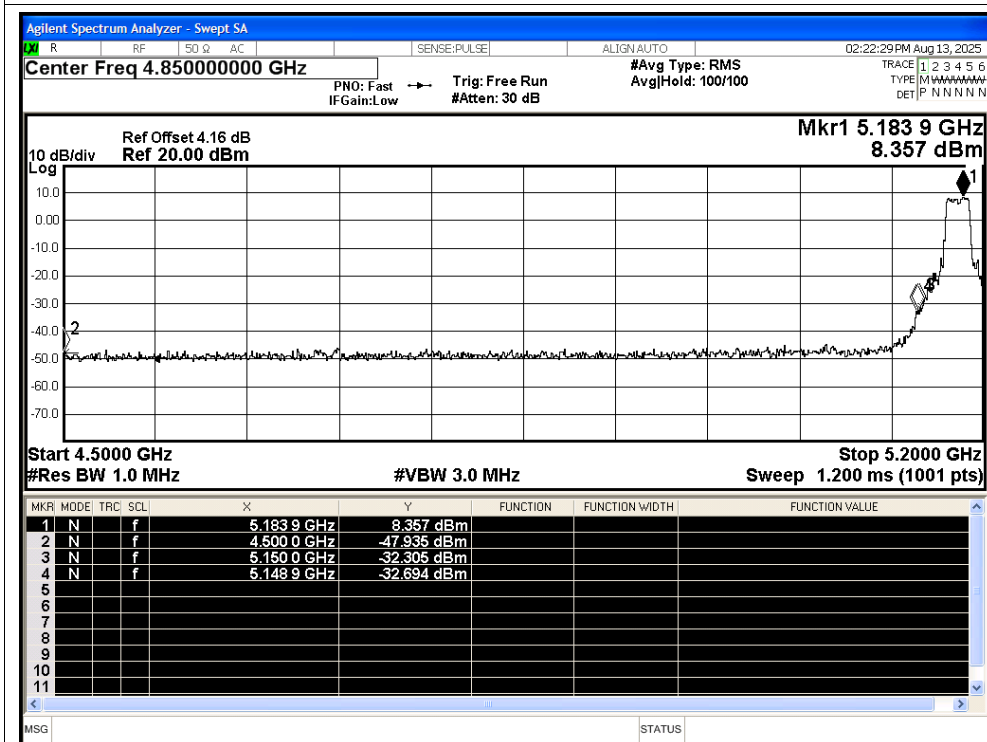
Restrict Band NVNT n20 5180MHz Ant Peak



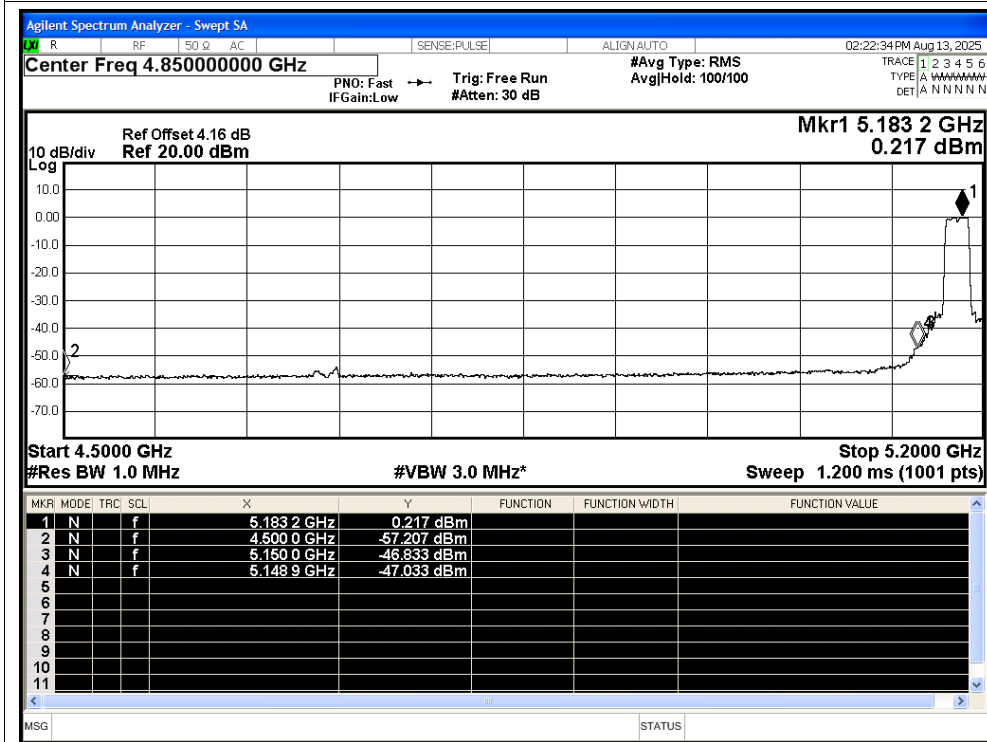
Restrict Band NVNT n20 5180MHz Ant Average



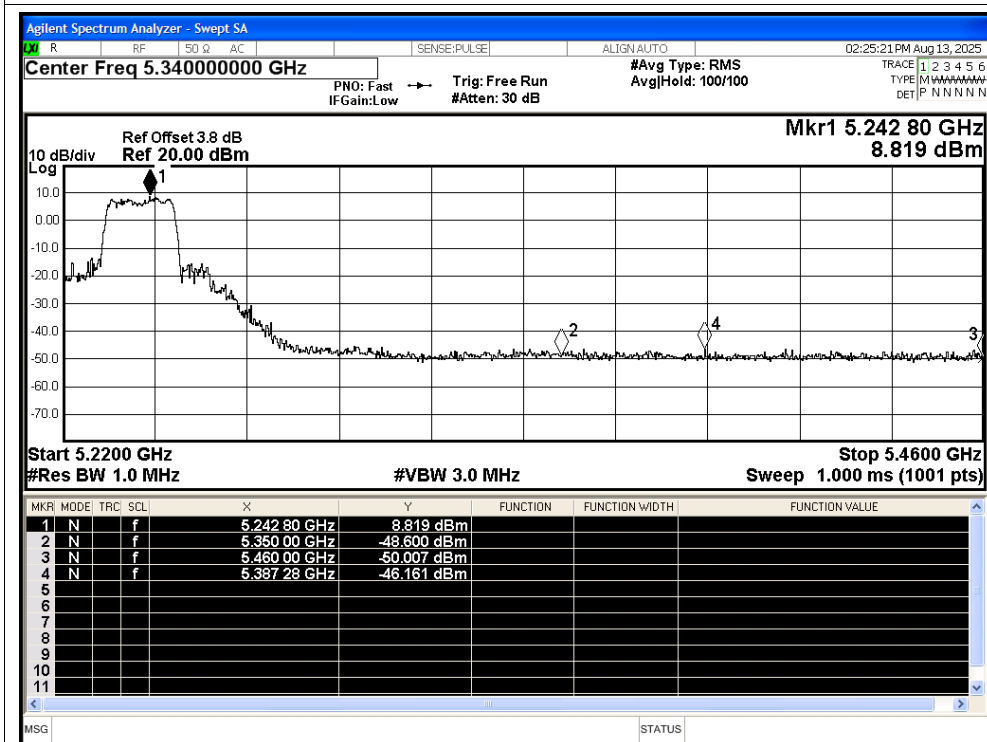
Restrict Band NVNT ac20 5180MHz Ant Peak



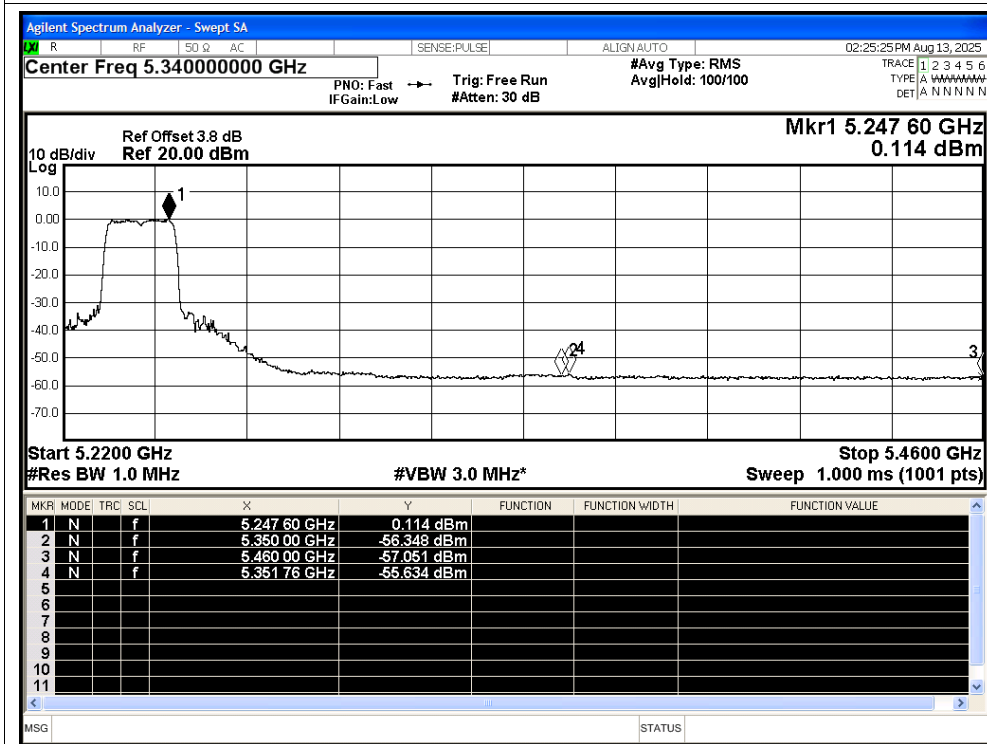
Restrict Band NVNT ac20 5180MHz Ant Average



Restrict Band NVNT ac20 5240MHz Ant Peak



Restrict Band NVNT ac20 5240MHz Ant Average

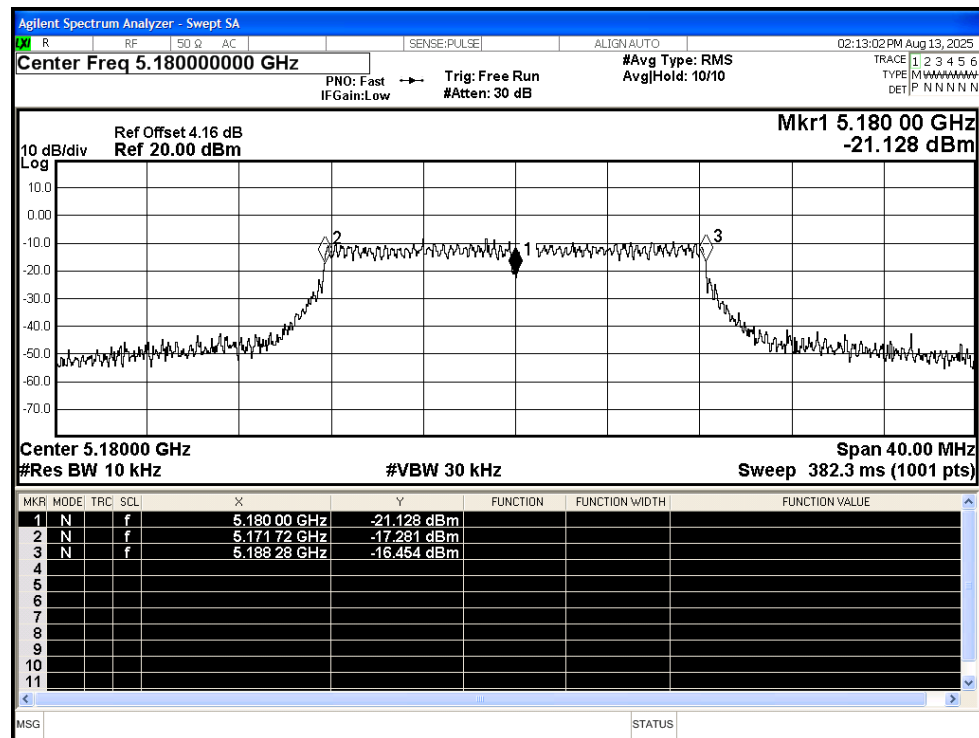


D.5 Frequency Stability

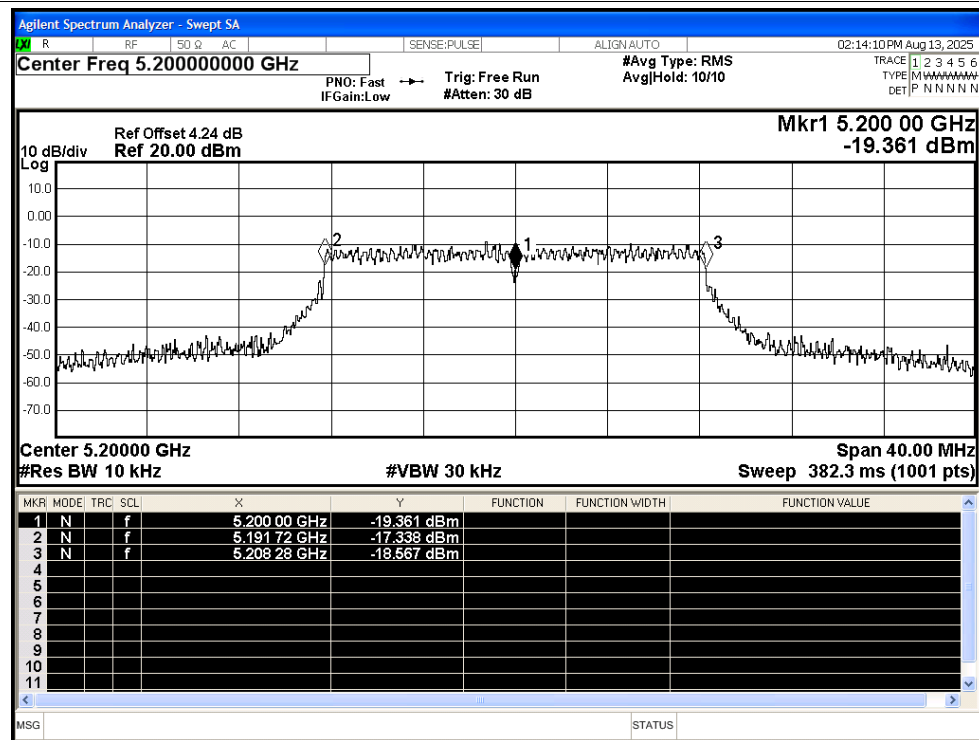
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant	5180	0	0	25	Pass
NVNT	a	5200	Ant	5200	0	0	25	Pass
NVNT	a	5240	Ant	5240	0	0	25	Pass
NVNT	n20	5180	Ant	5180	0	0	25	Pass
NVNT	n20	5200	Ant	5199.98	-20000	-3.85	25	Pass
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
NVNT	ac20	5180	Ant	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant	5199.98	-20000	-3.85	25	Pass
NVNT	ac20	5240	Ant	5239.98	-20000	-3.82	25	Pass
NVNT	ac40	5190	Ant	5190	0	0	25	Pass
NVNT	ac40	5230	Ant	5230	0	0	25	Pass

Test Graphs

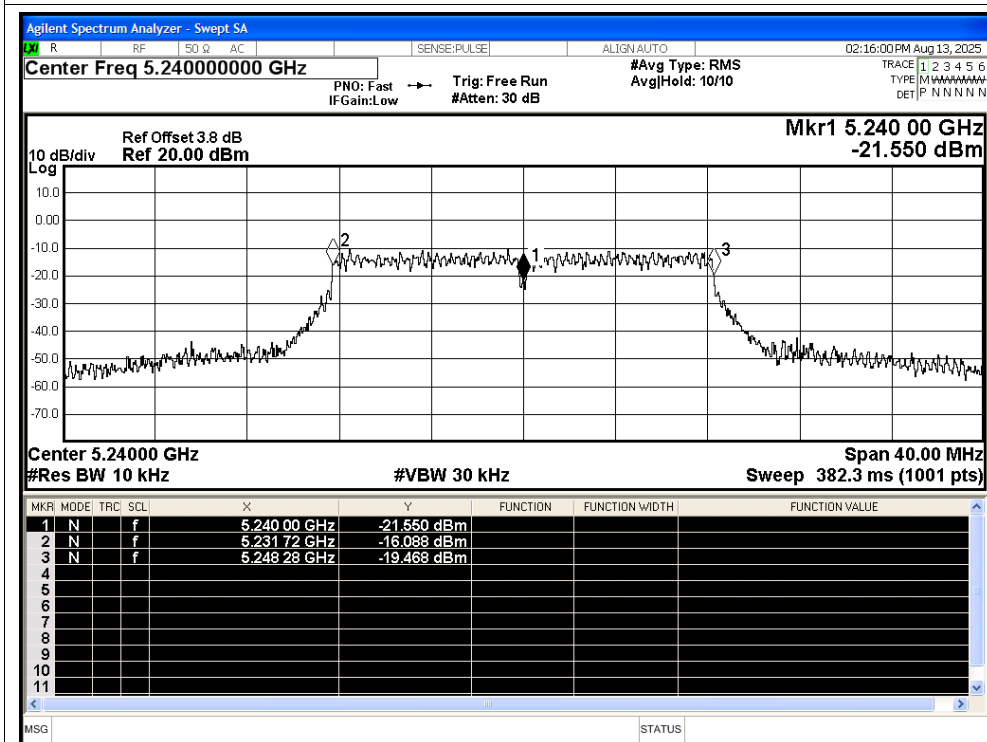
Freq. Stability NVNT a 5180MHz Ant



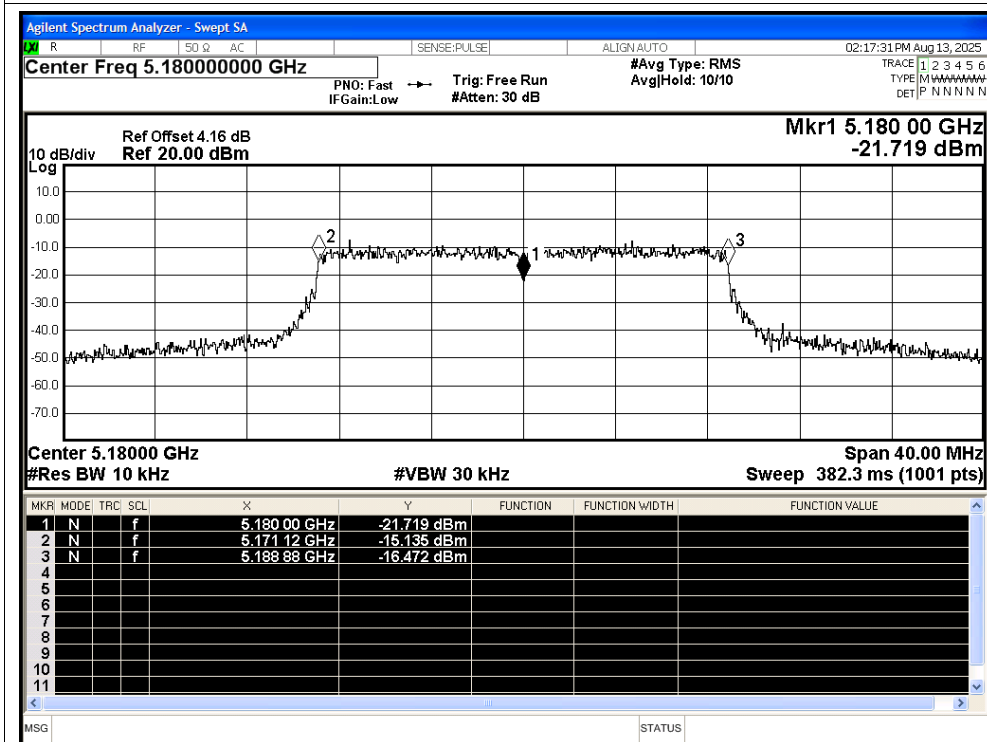
Freq. Stability NVNT a 5200MHz Ant



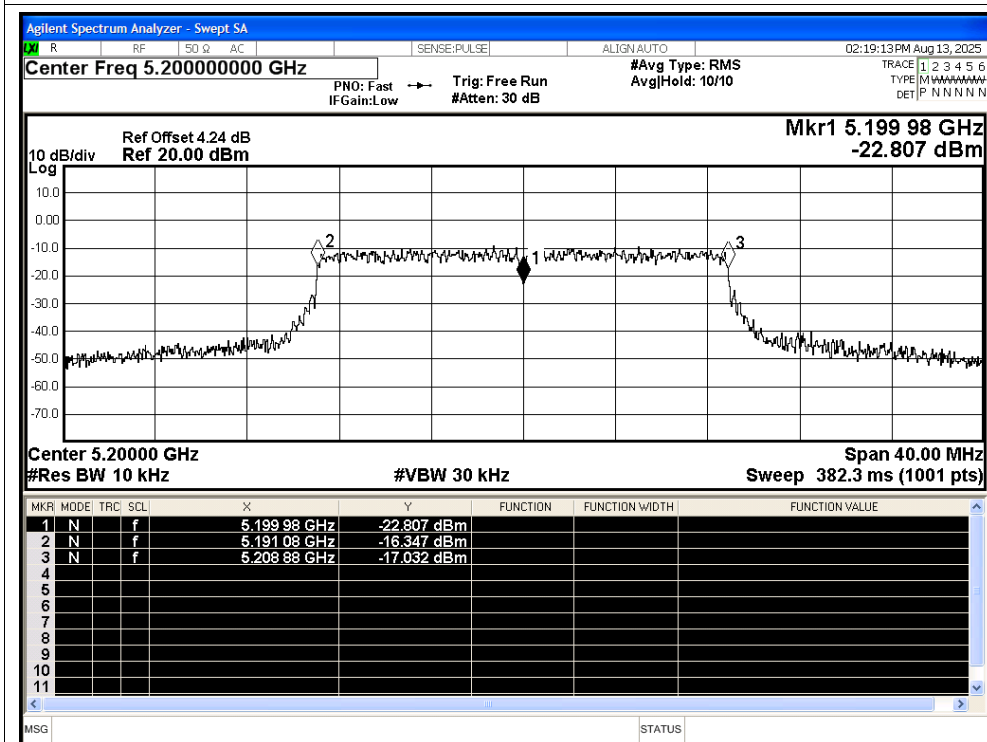
Freq. Stability NVNT a 5240MHz Ant



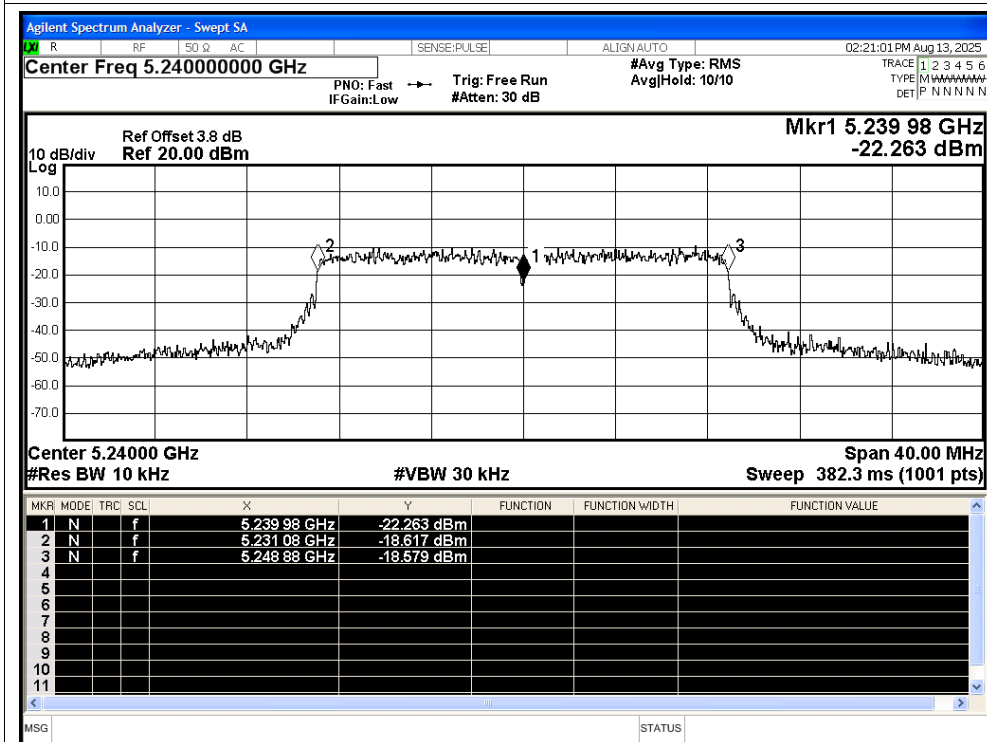
Freq. Stability NVNT n20 5180MHz Ant



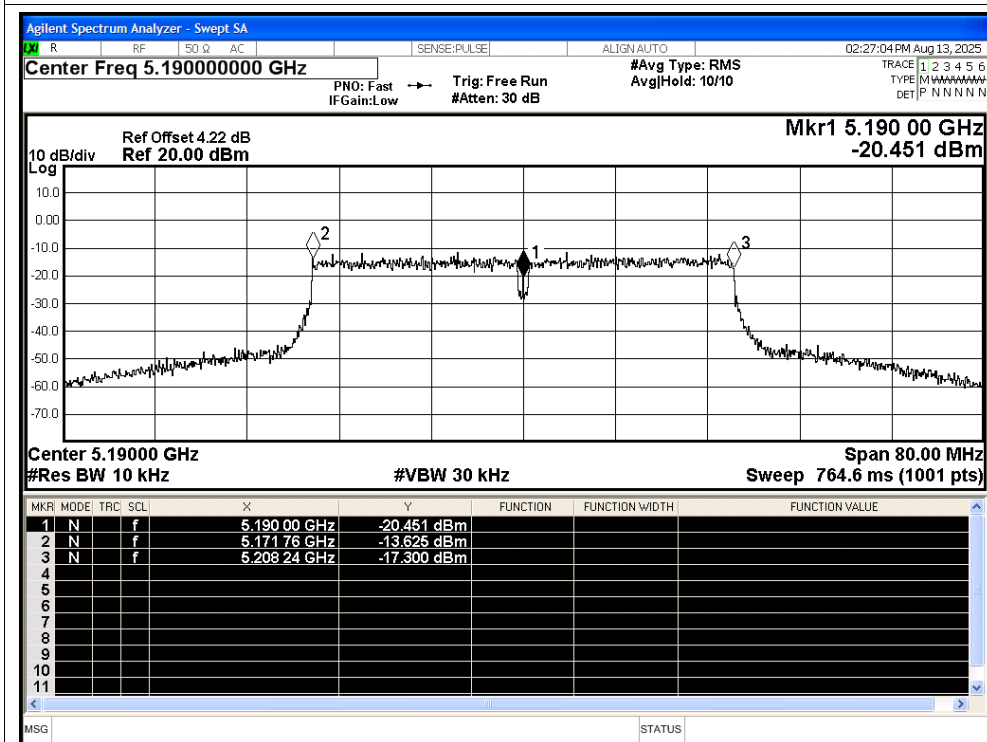
Freq. Stability NVNT n20 5200MHz Ant



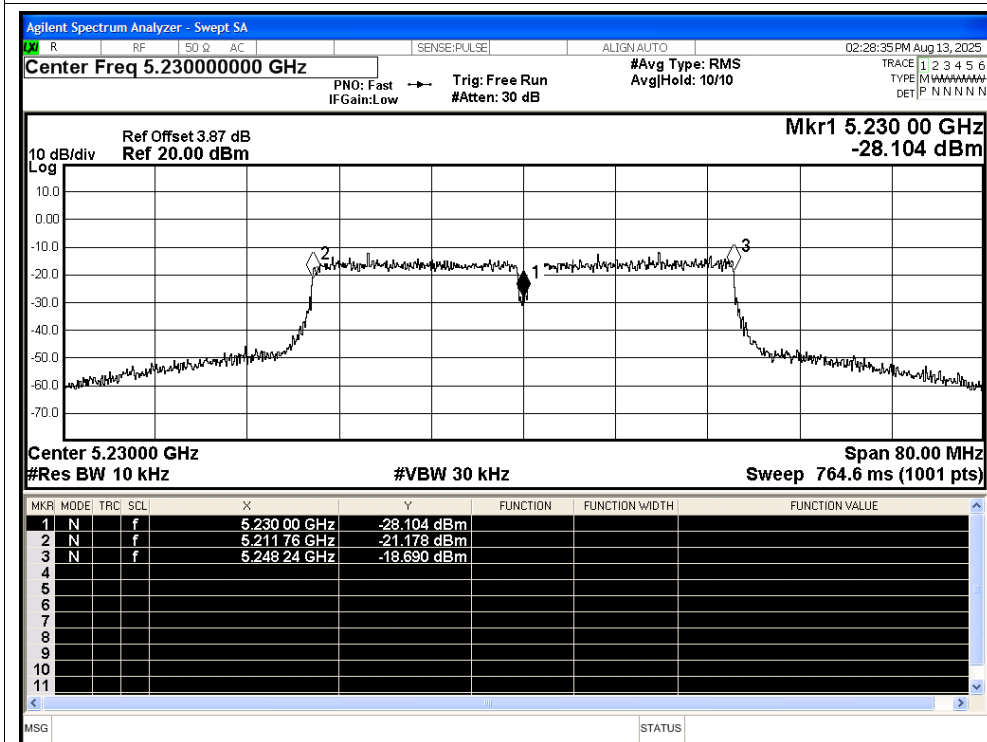
Freq. Stability NVNT n20 5240MHz Ant



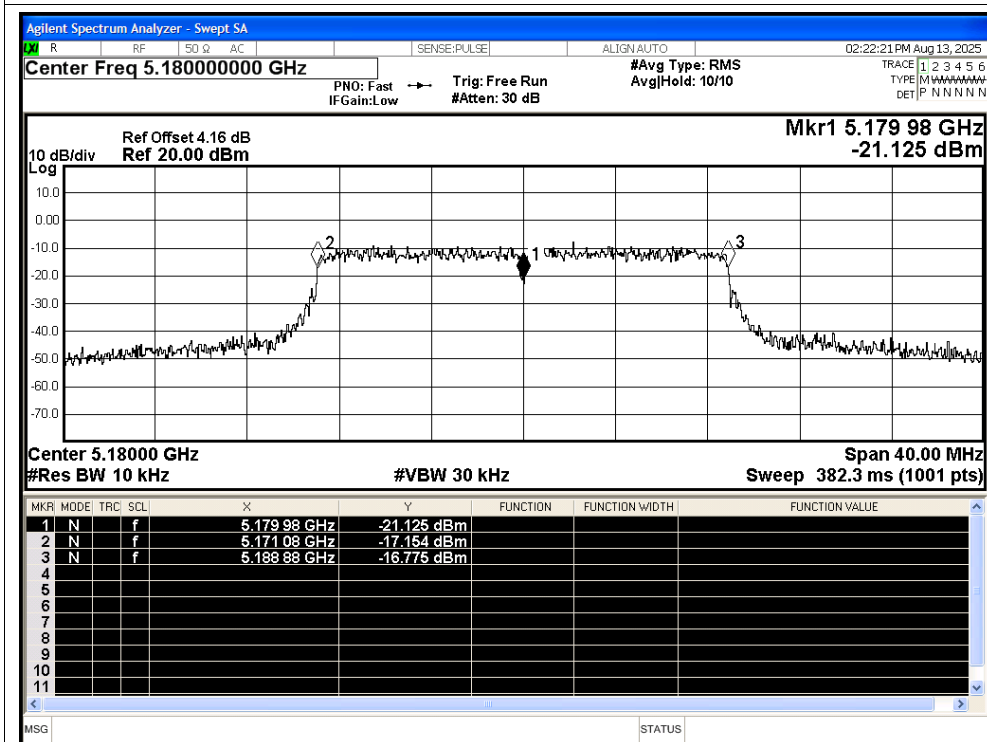
Freq. Stability NVNT n40 5190MHz Ant



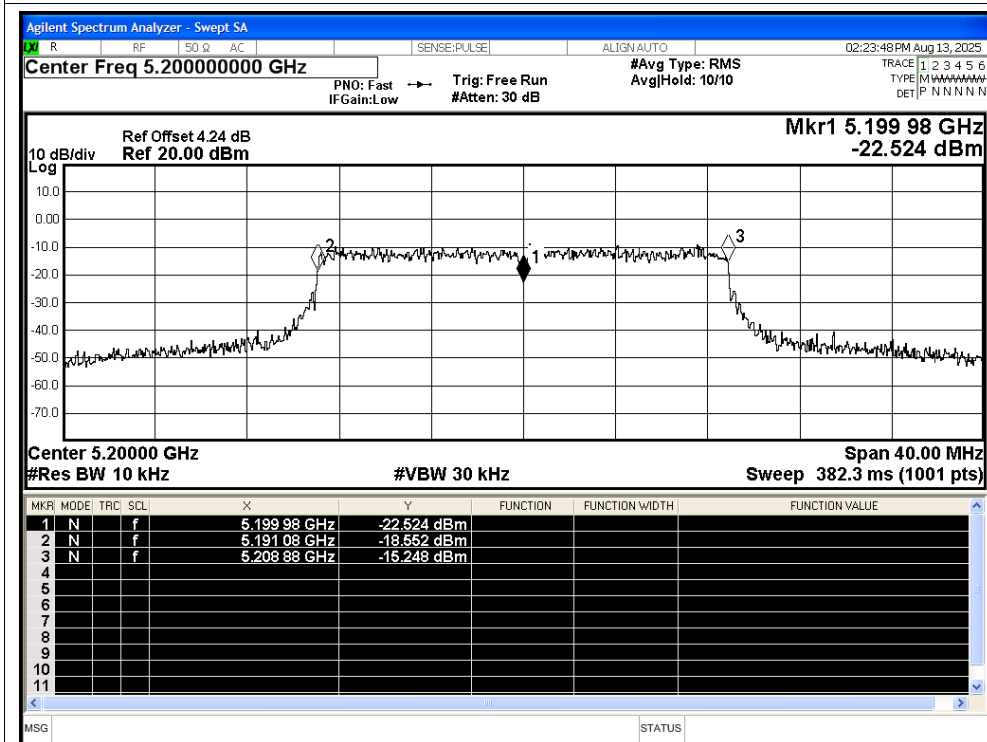
Freq. Stability NVNT n40 5230MHz Ant



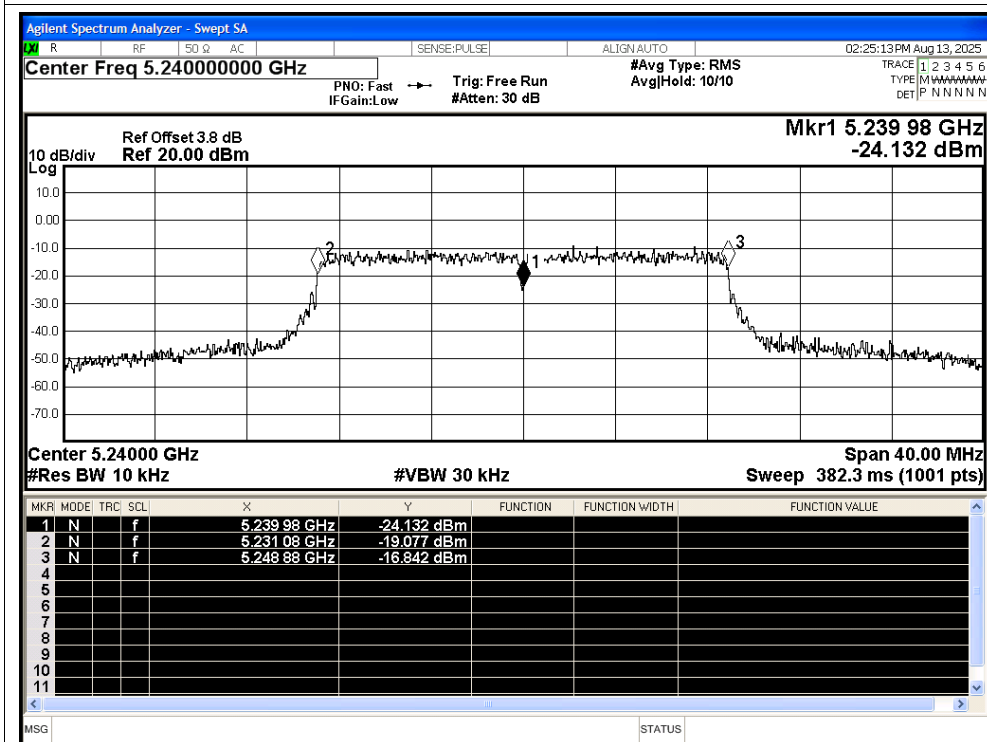
Freq. Stability NVNT ac20 5180MHz Ant



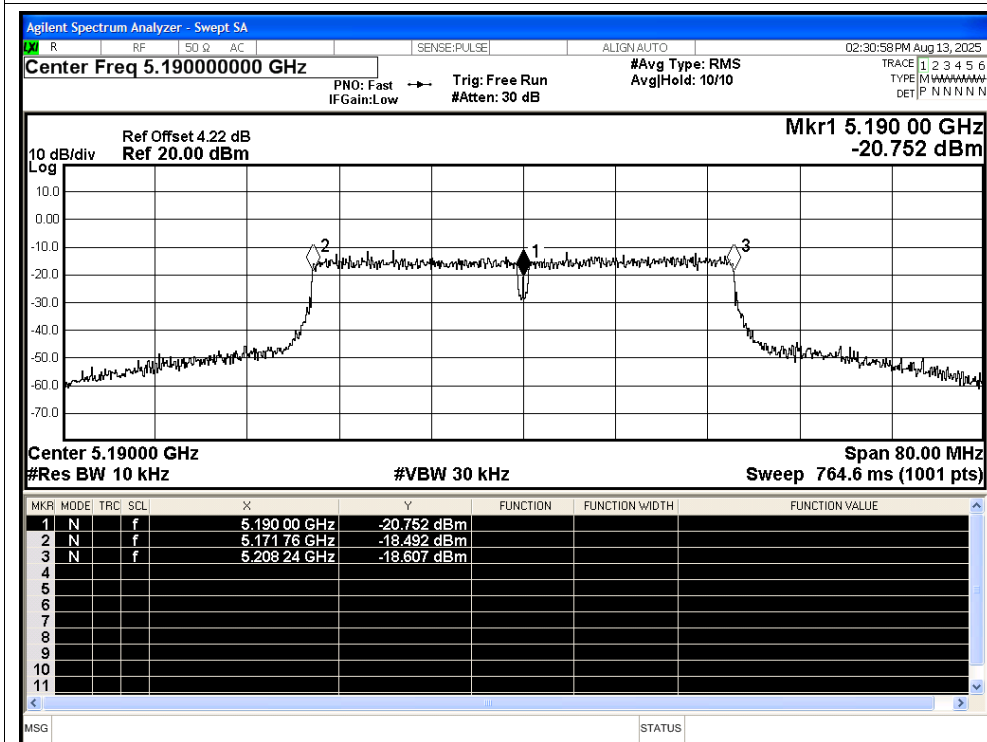
Freq. Stability NVNT ac20 5200MHz Ant

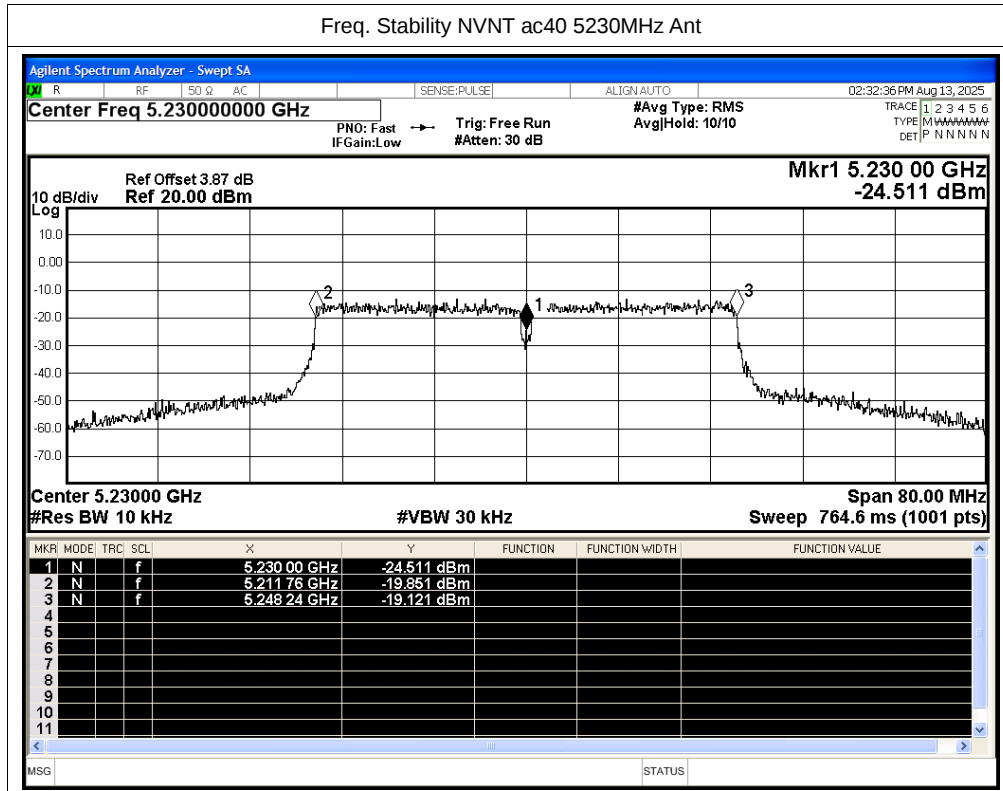


Freq. Stability NVNT ac20 5240MHz Ant



Freq. Stability NVNT ac40 5190MHz Ant



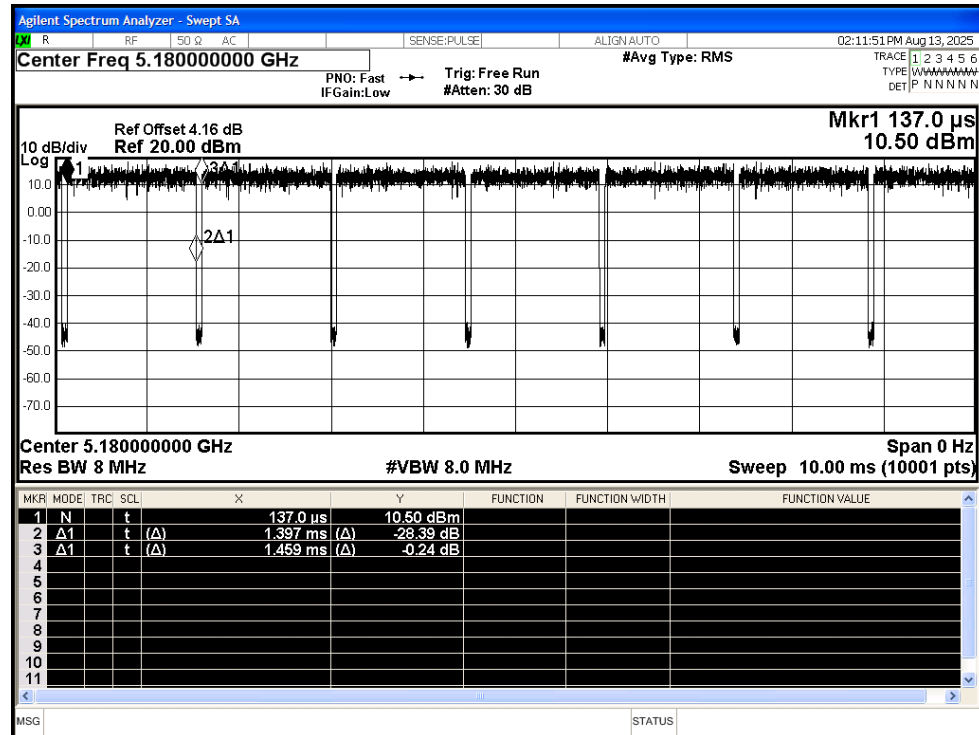


D.6 Duty Cycle

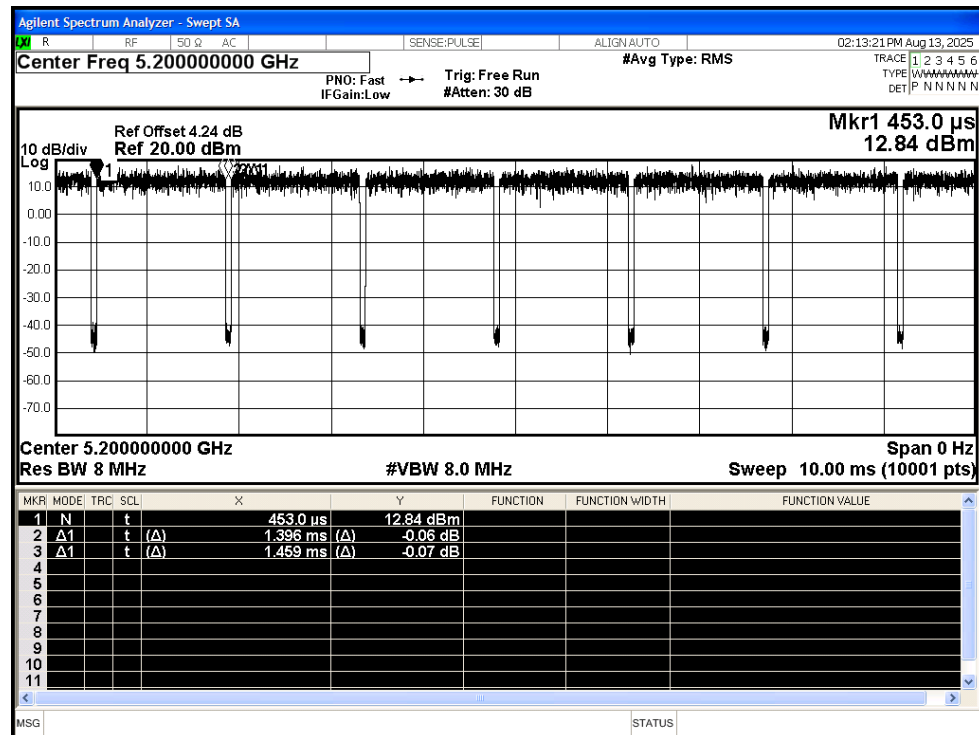
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant	95.75	0.19	0.72
NVNT	a	5200	Ant	95.68	0.19	0.72
NVNT	a	5240	Ant	95.68	0.19	0.72
NVNT	n20	5180	Ant	94.94	0.23	0.85
NVNT	n20	5200	Ant	94.94	0.23	0.85
NVNT	n20	5240	Ant	94.94	0.23	0.85
NVNT	n40	5190	Ant	90.6	0.43	1.7
NVNT	n40	5230	Ant	90.45	0.44	1.7
NVNT	ac20	5180	Ant	95.06	0.22	0.84
NVNT	ac20	5200	Ant	94.96	0.22	0.84
NVNT	ac20	5240	Ant	95.04	0.22	0.84
NVNT	ac40	5190	Ant	90.41	0.44	1.68
NVNT	ac40	5230	Ant	90.56	0.43	1.68

Test Graphs

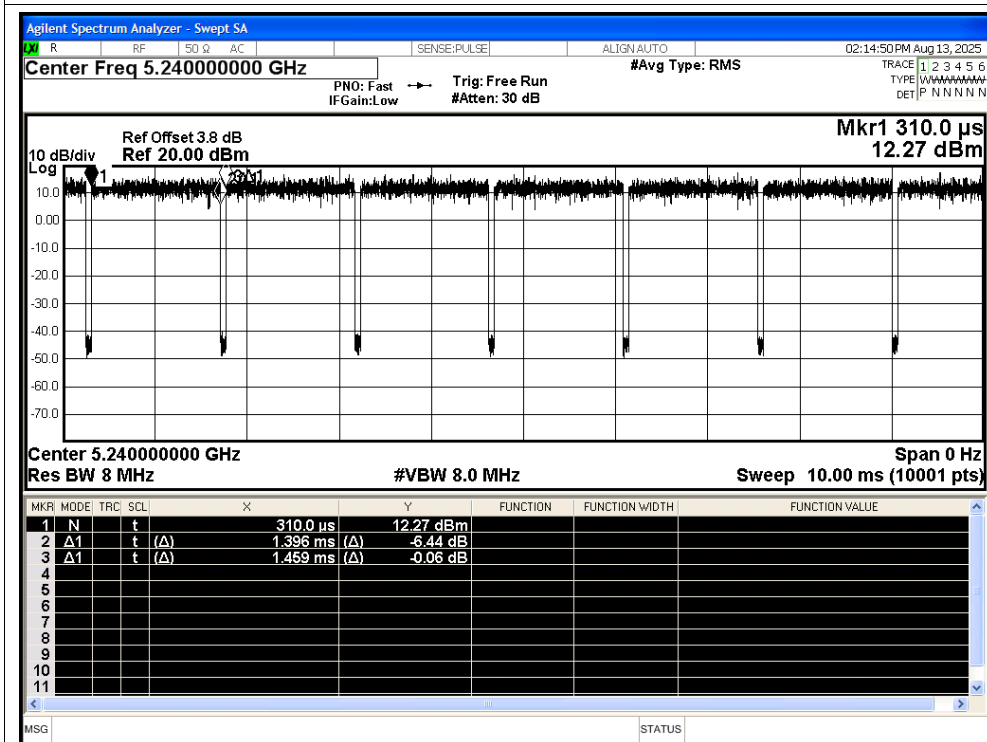
Duty Cycle NVNT a 5180MHz Ant



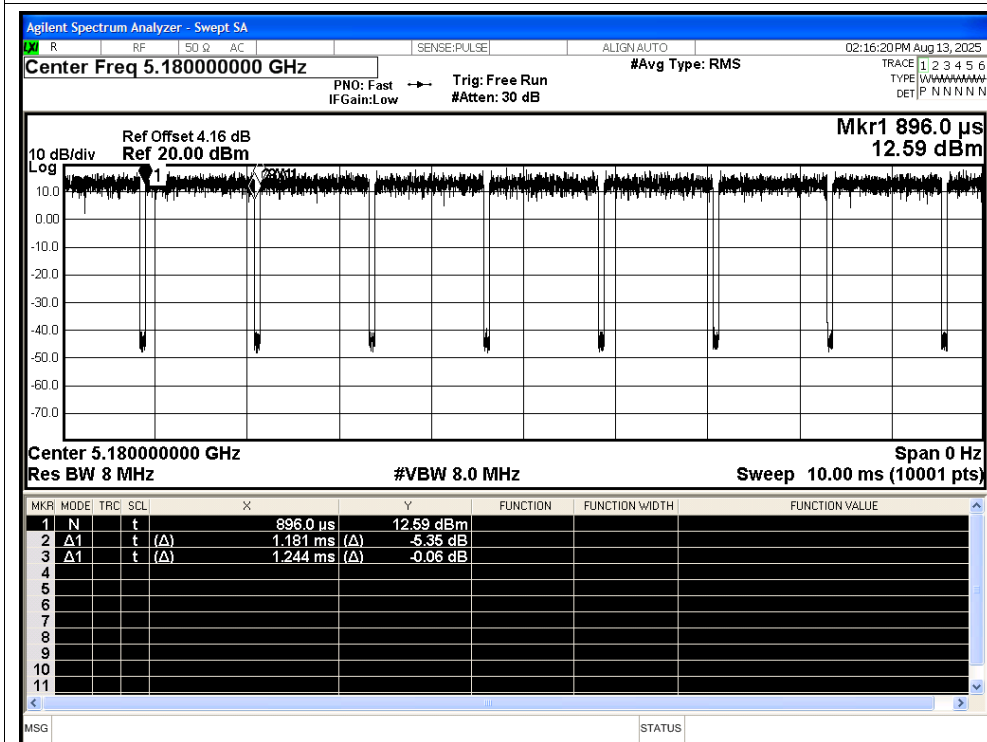
Duty Cycle NVNT a 5200MHz Ant



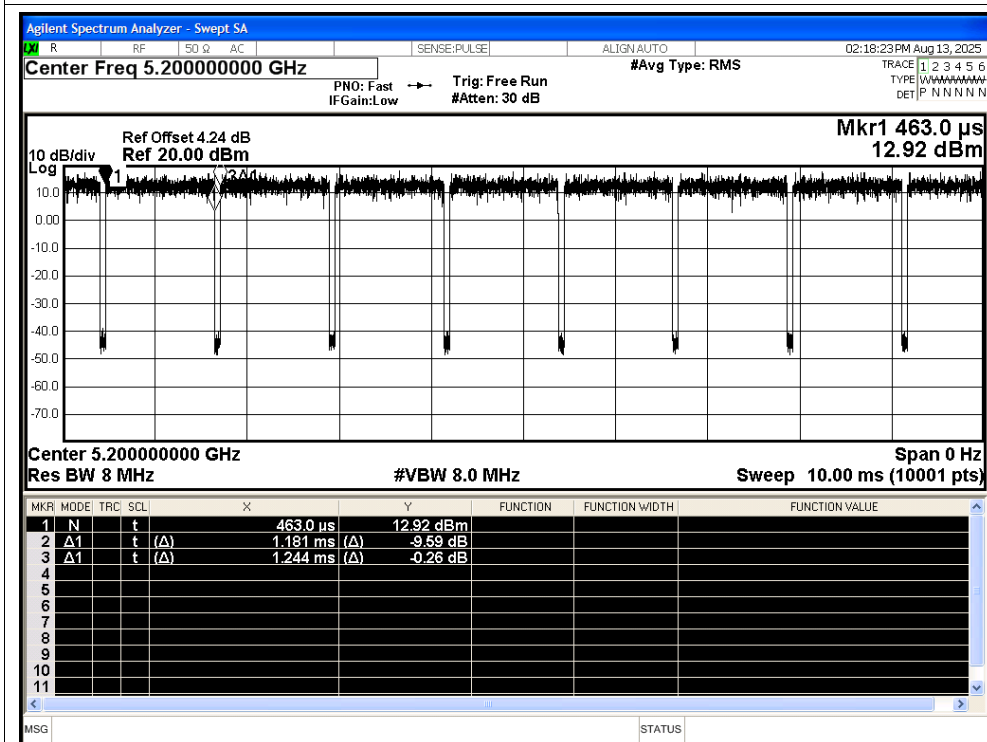
Duty Cycle NVNT a 5240MHz Ant



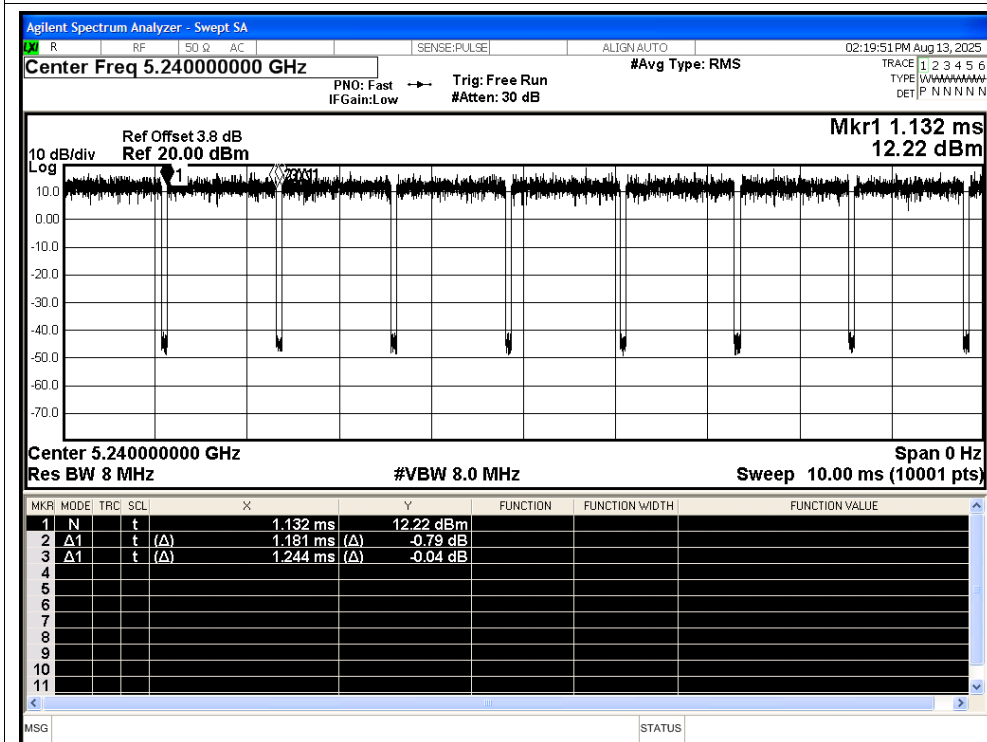
Duty Cycle NVNT n20 5180MHz Ant



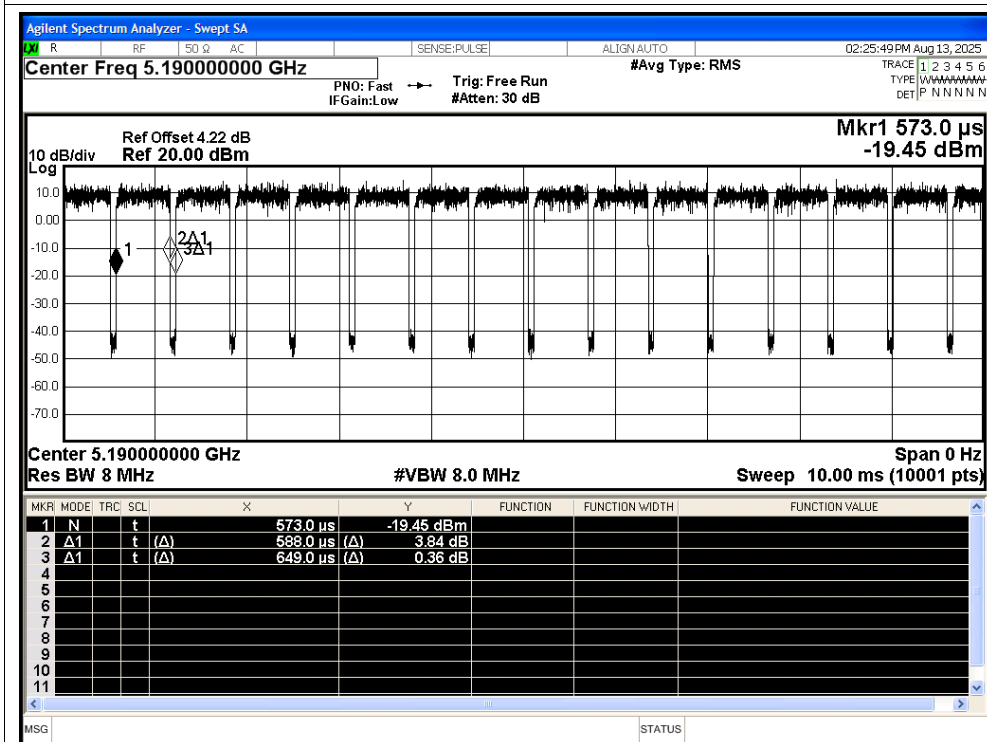
Duty Cycle NVNT n20 5200MHz Ant



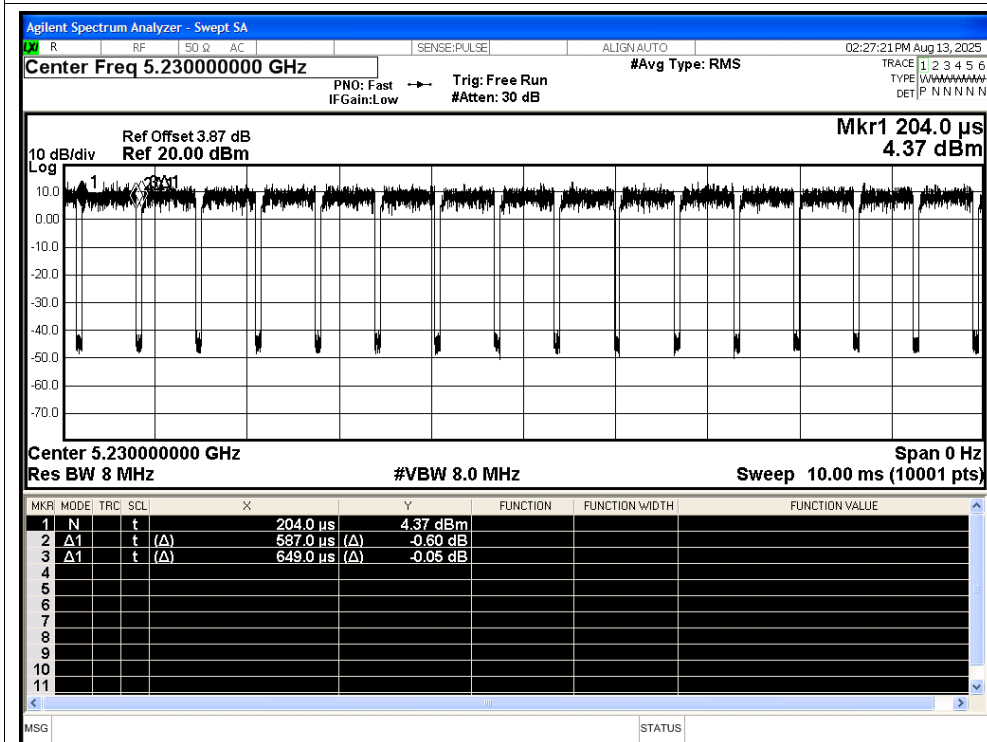
Duty Cycle NVNT n20 5240MHz Ant



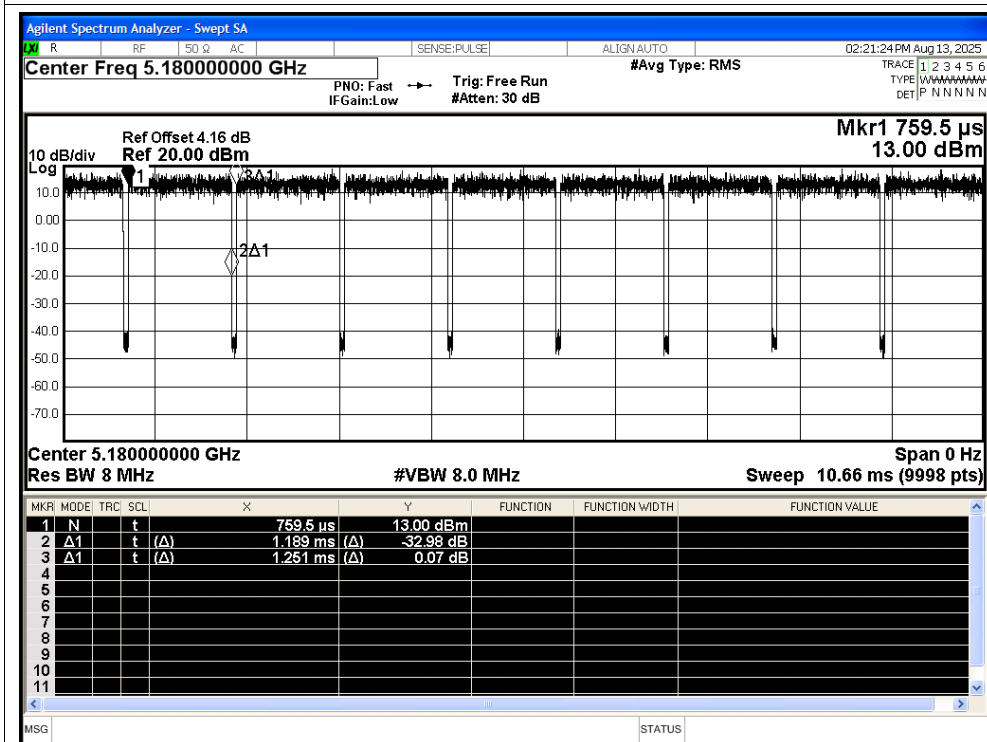
Duty Cycle NVNT n40 5190MHz Ant



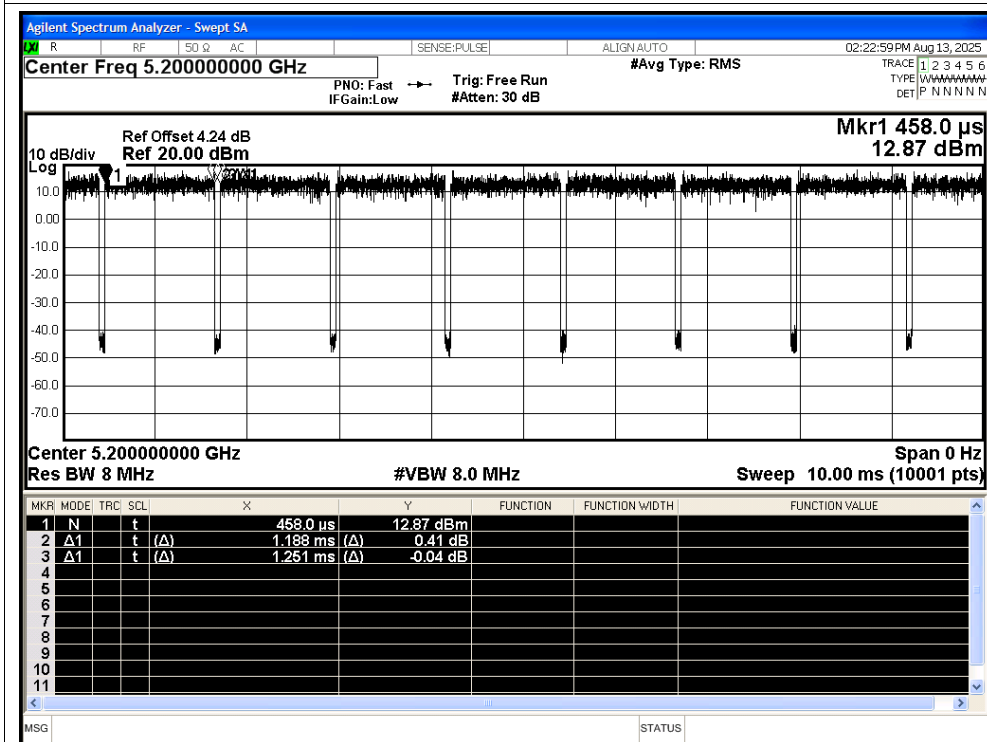
Duty Cycle NVNT n40 5230MHz Ant



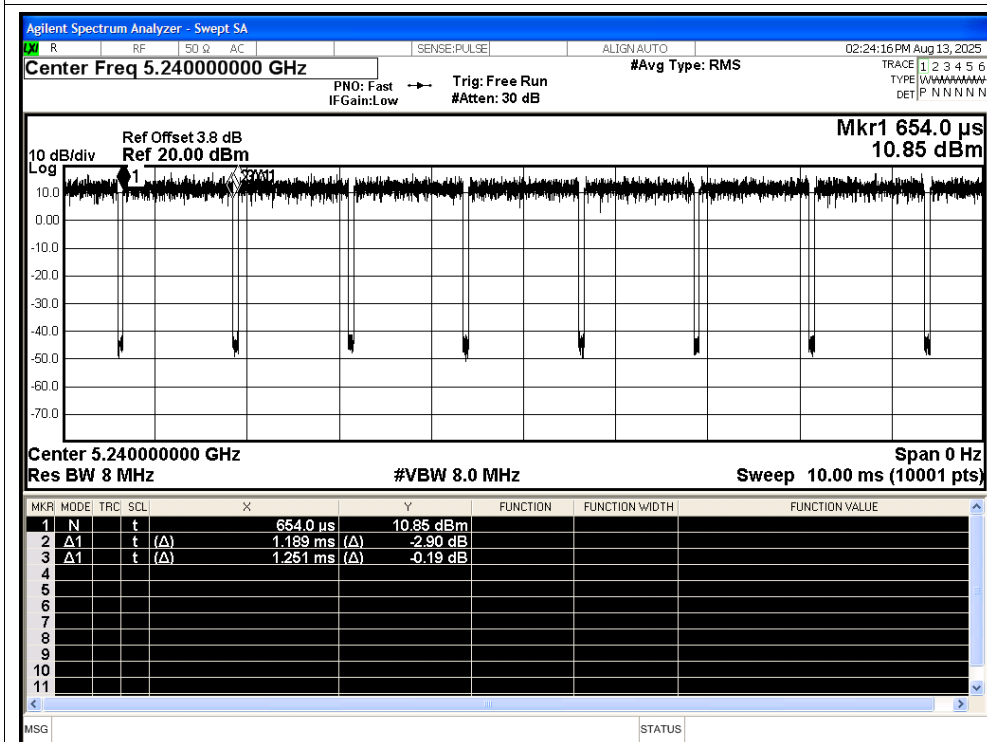
Duty Cycle NVNT ac20 5180MHz Ant



Duty Cycle NVNT ac20 5200MHz Ant



Duty Cycle NVNT ac20 5240MHz Ant



Duty Cycle NVNT ac40 5190MHz Ant

