Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: All-In-One laptop

Test Model: LAPBOOK A7 N4

Environmental Conditions

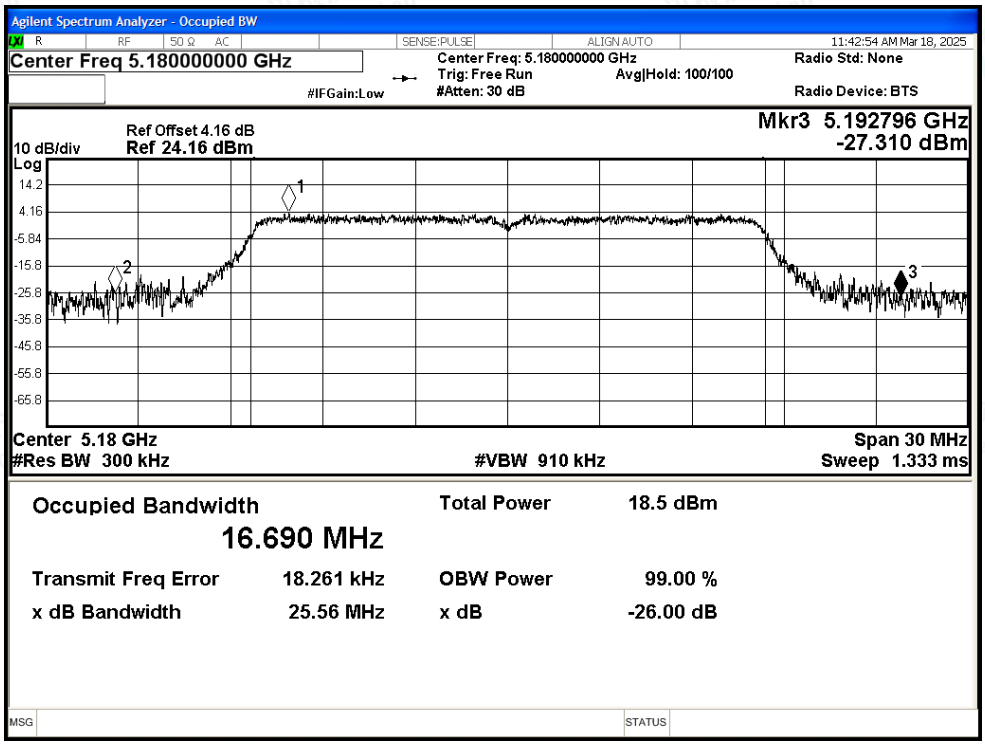
Temperature:	24.3°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng

D.1 -26dB Bandwidth

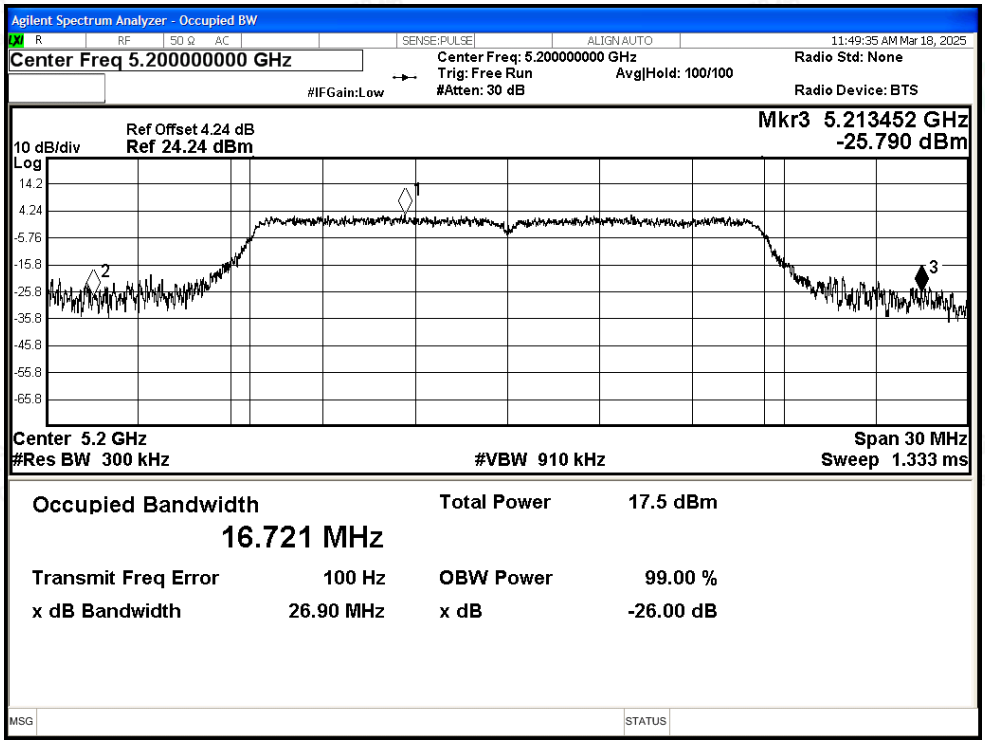
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	25.556	---	Pass
NVNT	a	5200	Ant1	26.904	---	Pass
NVNT	a	5240	Ant1	26.944	---	Pass
NVNT	n20	5180	Ant1	28.092	---	Pass
NVNT	n20	5200	Ant1	28.135	---	Pass
NVNT	n20	5240	Ant1	26.477	---	Pass
NVNT	n40	5190	Ant1	44.059	---	Pass
NVNT	n40	5230	Ant1	45.723	---	Pass
NVNT	ac20	5180	Ant1	29.585	---	Pass
NVNT	ac20	5200	Ant1	27.41	---	Pass
NVNT	ac20	5240	Ant1	27.245	---	Pass
NVNT	ac40	5190	Ant1	42.556	---	Pass
NVNT	ac40	5230	Ant1	46.663	---	Pass
NVNT	ac80	5210	Ant1	84.714	---	Pass

Test Graphs

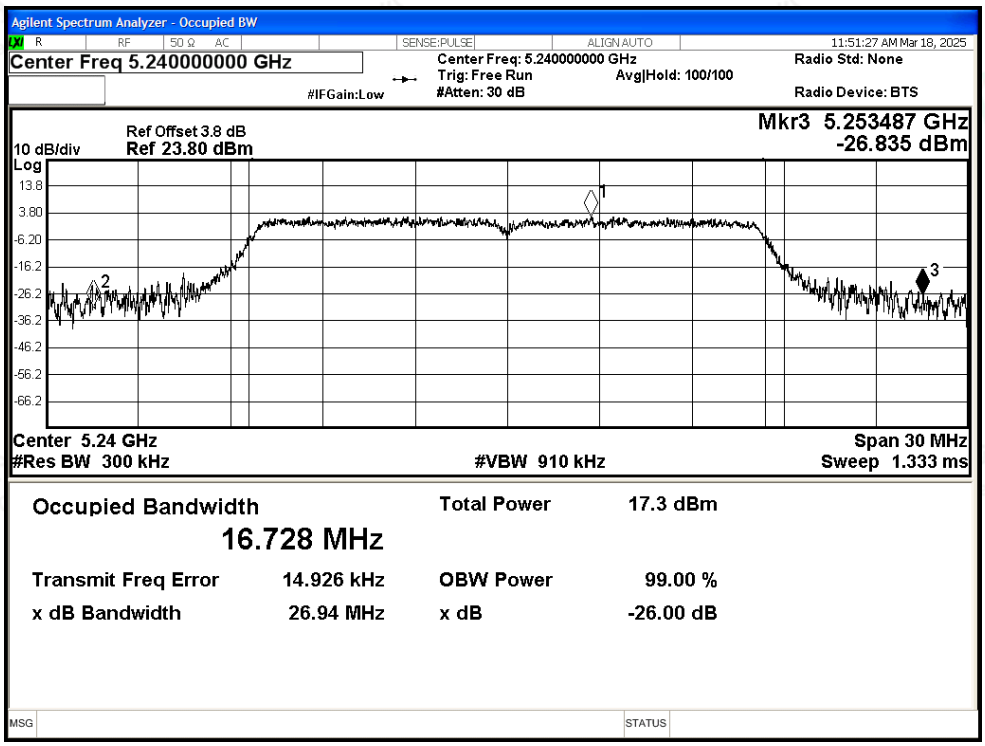
-26dB Bandwidth NVNT a 5180MHz Ant1



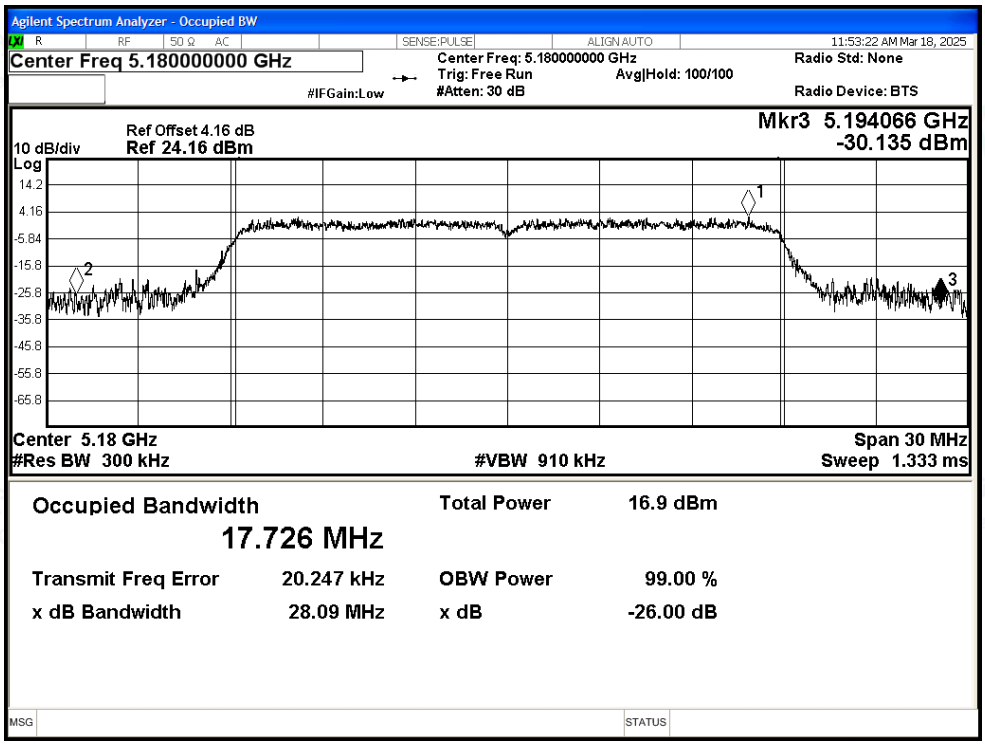
-26dB Bandwidth NVNT a 5200MHz Ant1



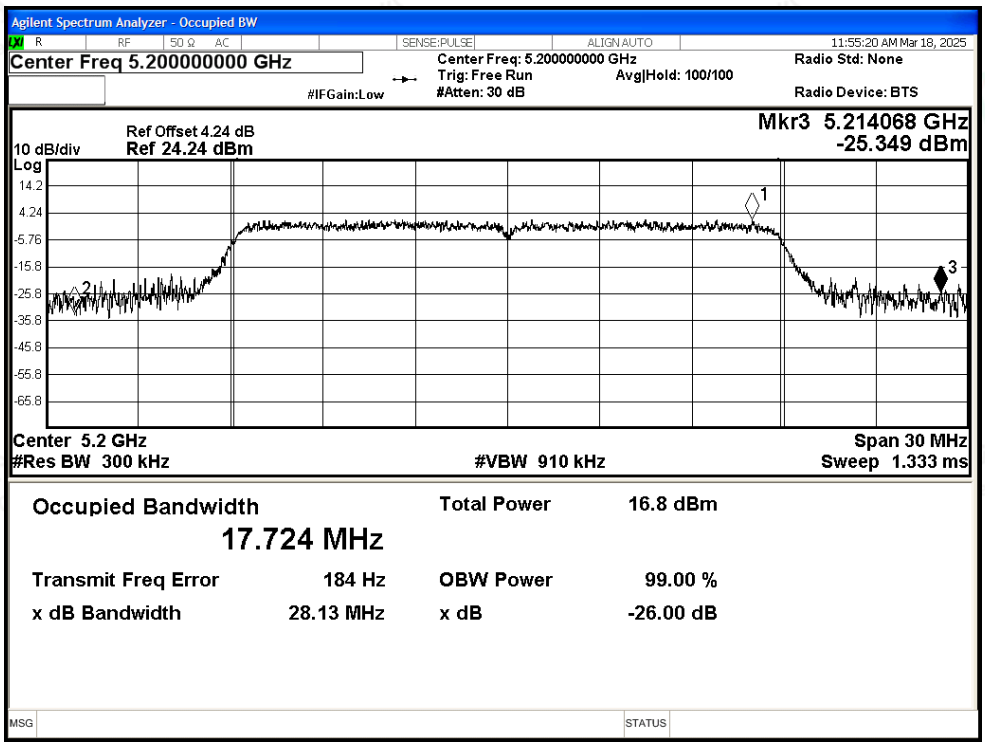
-26dB Bandwidth NVNT a 5240MHz Ant1



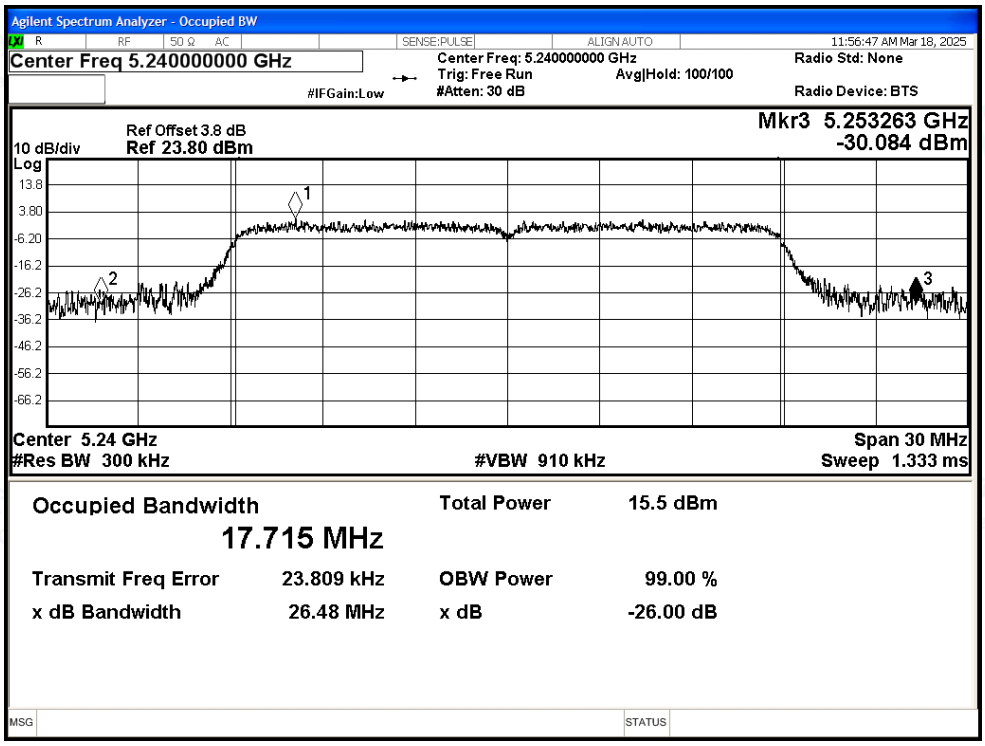
-26dB Bandwidth NVNT n20 5180MHz Ant1



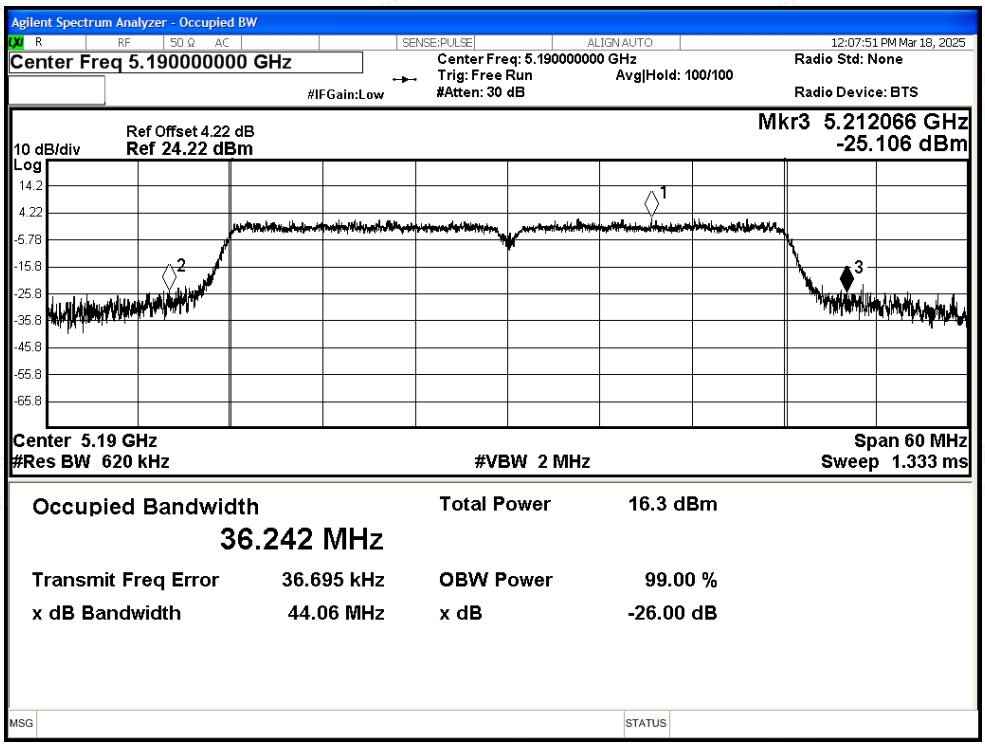
-26dB Bandwidth NVNT n20 5200MHz Ant1



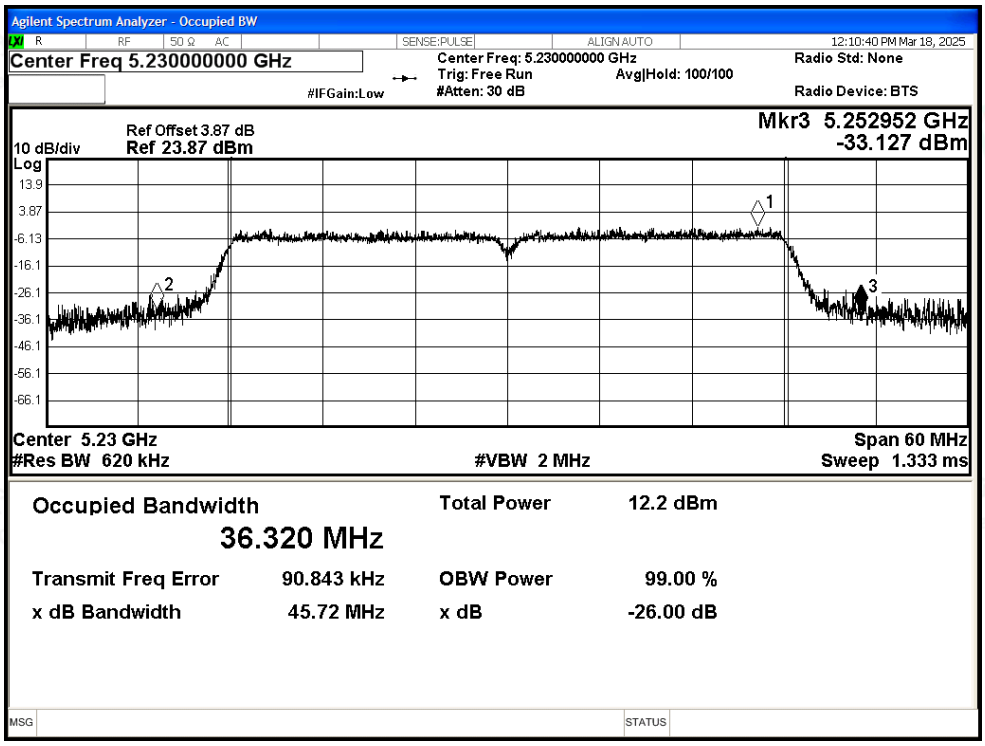
-26dB Bandwidth NVNT n20 5240MHz Ant1



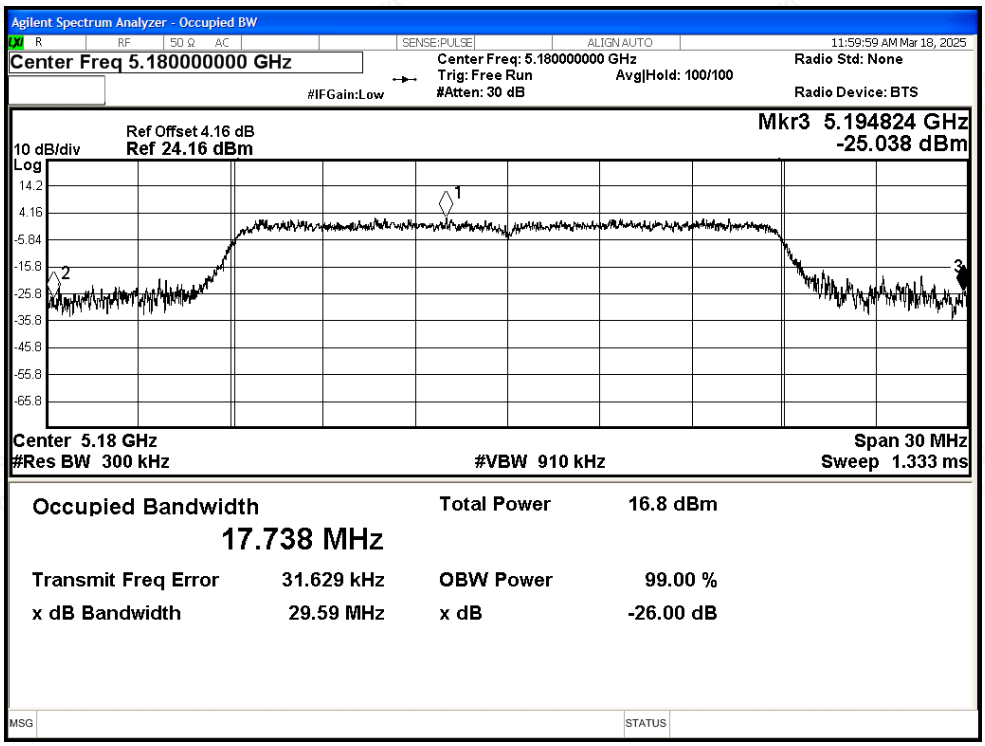
-26dB Bandwidth NVNT n40 5190MHz Ant1



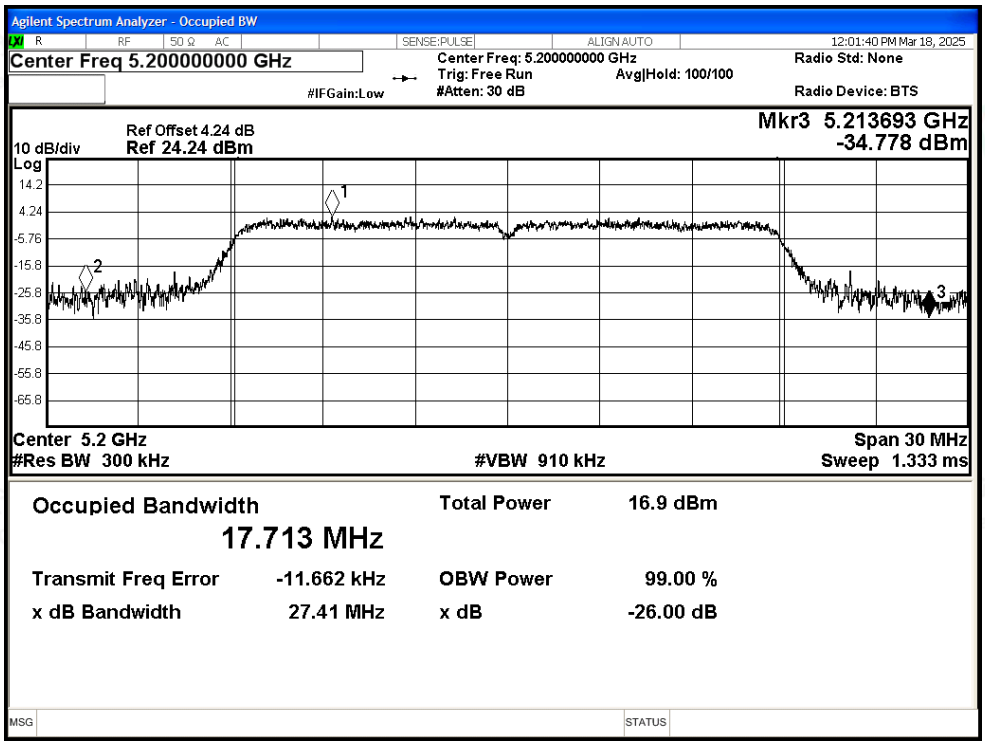
-26dB Bandwidth NVNT n40 5230MHz Ant1



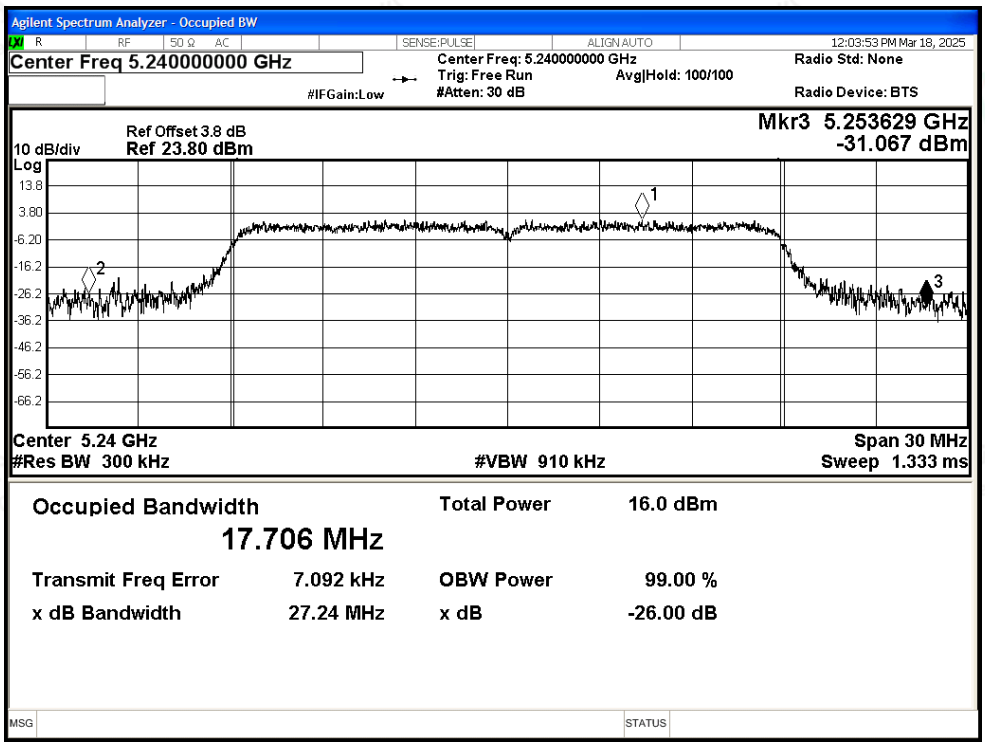
-26dB Bandwidth NVNT ac20 5180MHz Ant1



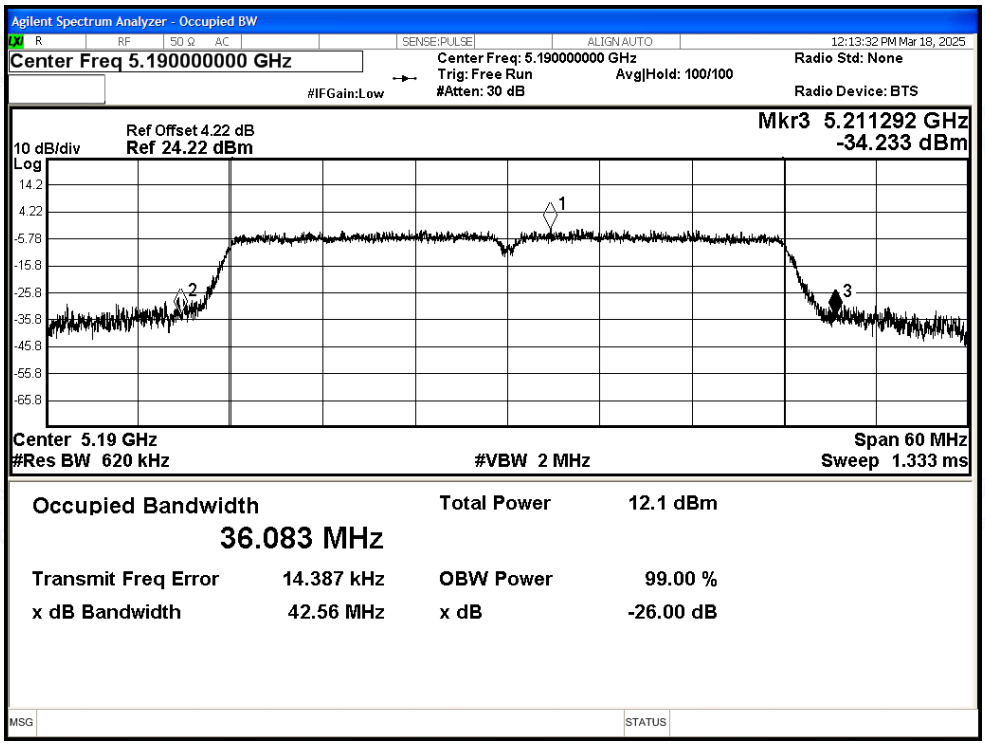
-26dB Bandwidth NVNT ac20 5200MHz Ant1



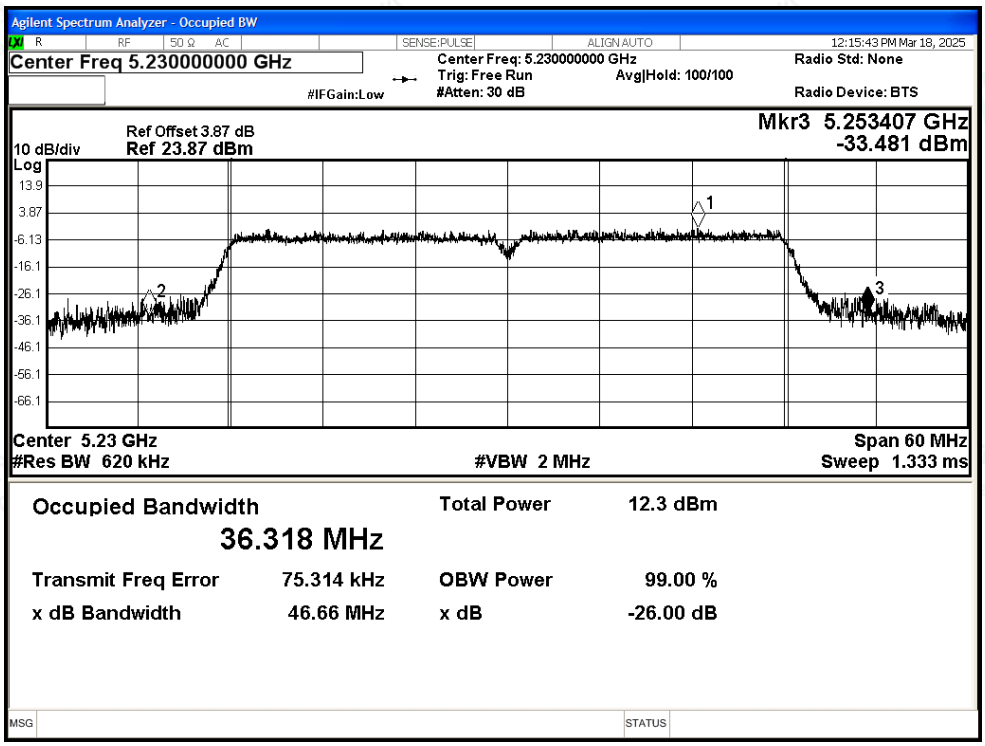
-26dB Bandwidth NVNT ac20 5240MHz Ant1



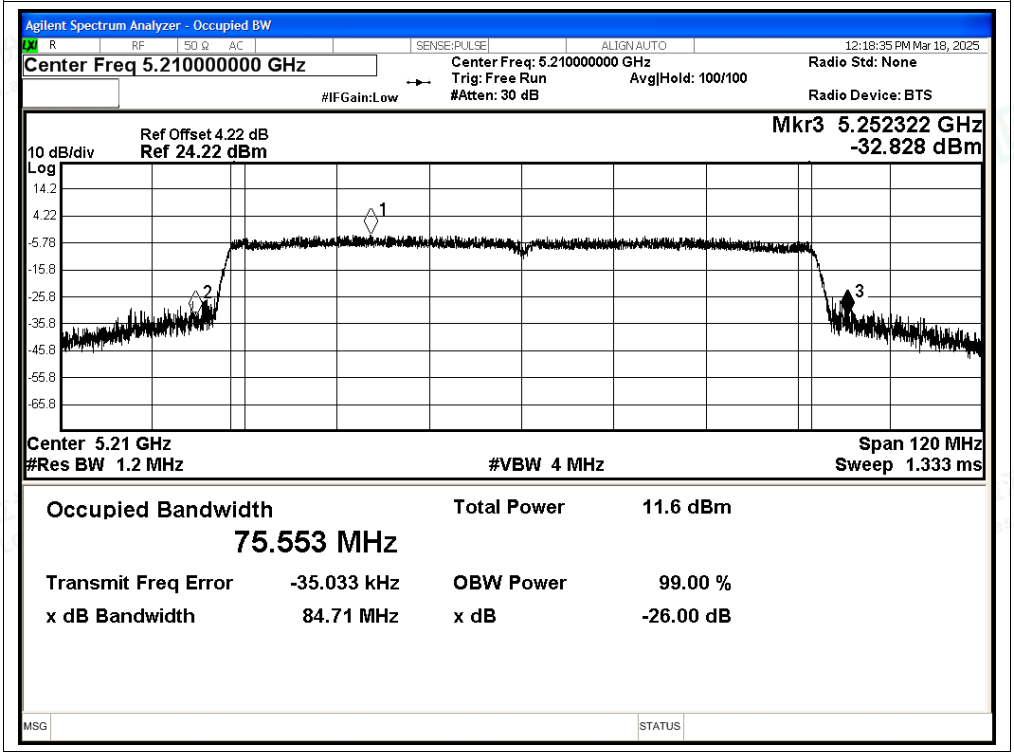
-26dB Bandwidth NVNT ac40 5190MHz Ant1



-26dB Bandwidth NVNT ac40 5230MHz Ant1



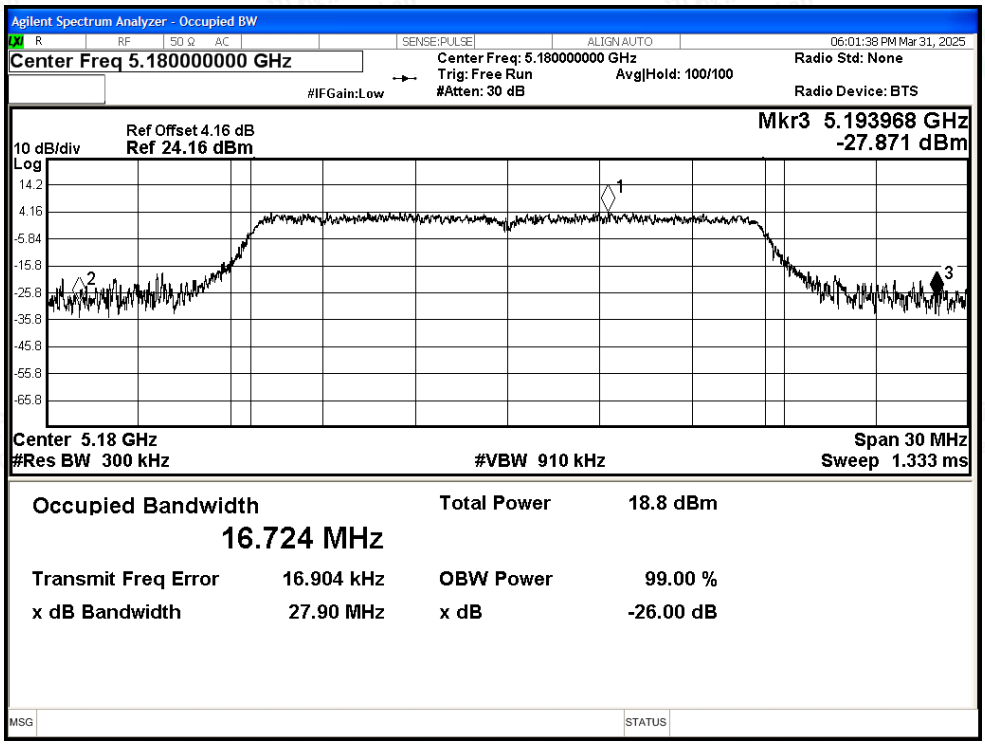
-26dB Bandwidth NVNT ac80 5210MHz Ant1



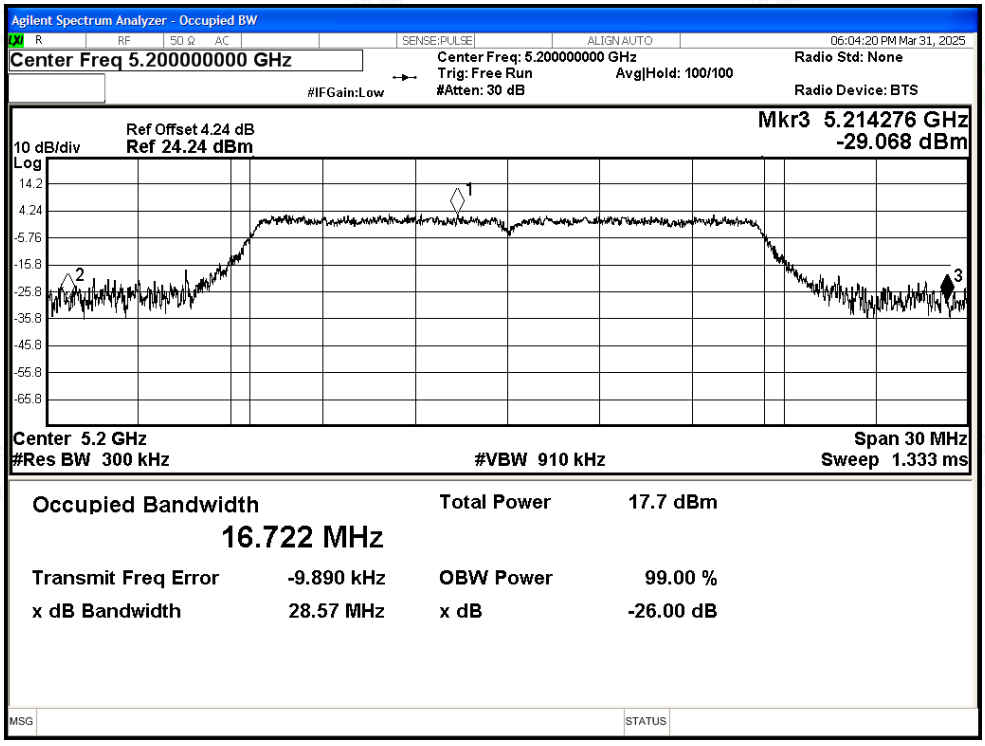
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant2	27.902	---	Pass
NVNT	a	5200	Ant2	28.571	---	Pass
NVNT	a	5240	Ant2	25.978	---	Pass
NVNT	n20	5180	Ant2	27.717	---	Pass
NVNT	n20	5200	Ant2	27.419	---	Pass
NVNT	n20	5240	Ant2	29.256	---	Pass
NVNT	n40	5190	Ant2	46.111	---	Pass
NVNT	n40	5230	Ant2	42.678	---	Pass
NVNT	ac20	5180	Ant2	27.539	---	Pass
NVNT	ac20	5200	Ant2	29.244	---	Pass
NVNT	ac20	5240	Ant2	27.619	---	Pass
NVNT	ac40	5190	Ant2	41.956	---	Pass
NVNT	ac40	5230	Ant2	46.912	---	Pass
NVNT	ac80	5210	Ant2	81.184	---	Pass

Test Graphs

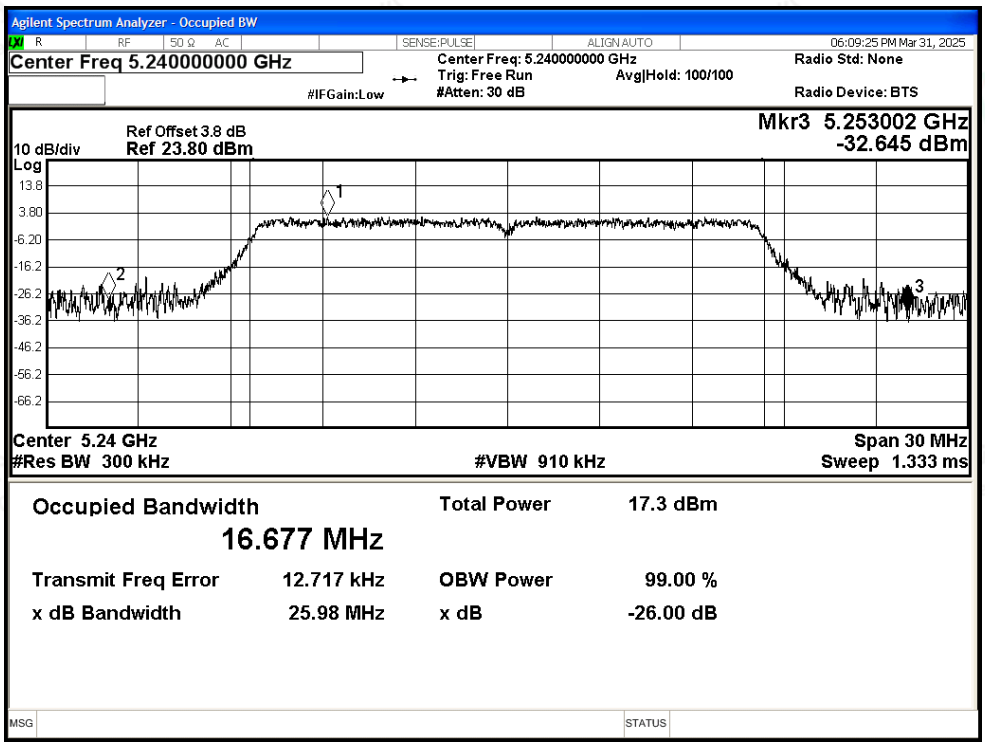
-26dB Bandwidth NVNT a 5180MHz Ant2



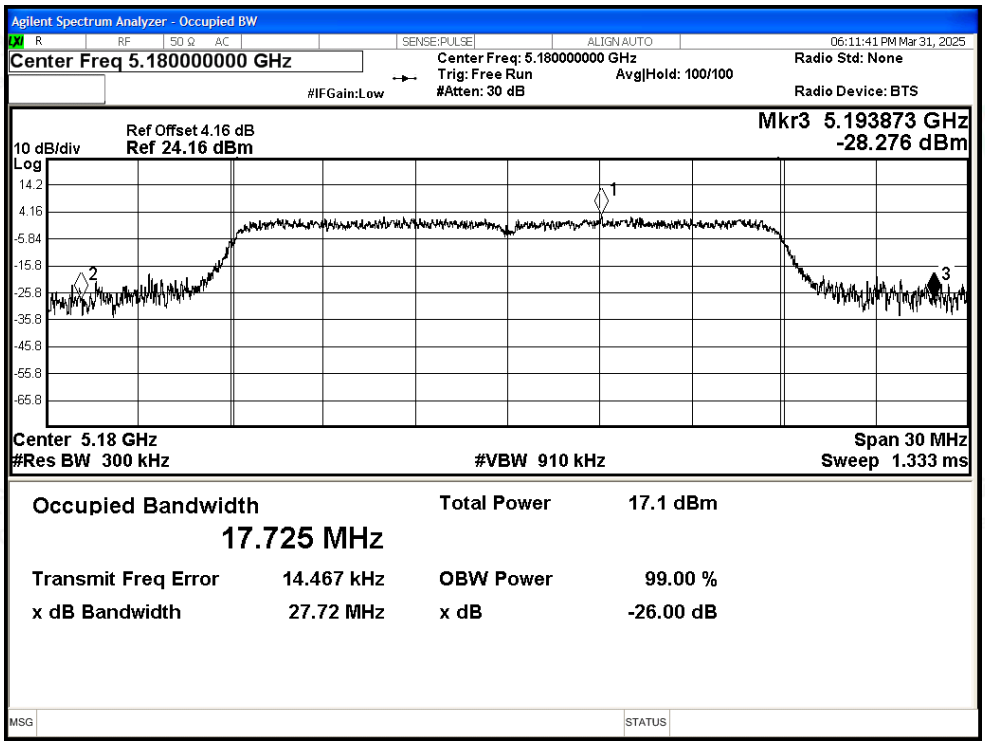
-26dB Bandwidth NVNT a 5200MHz Ant2



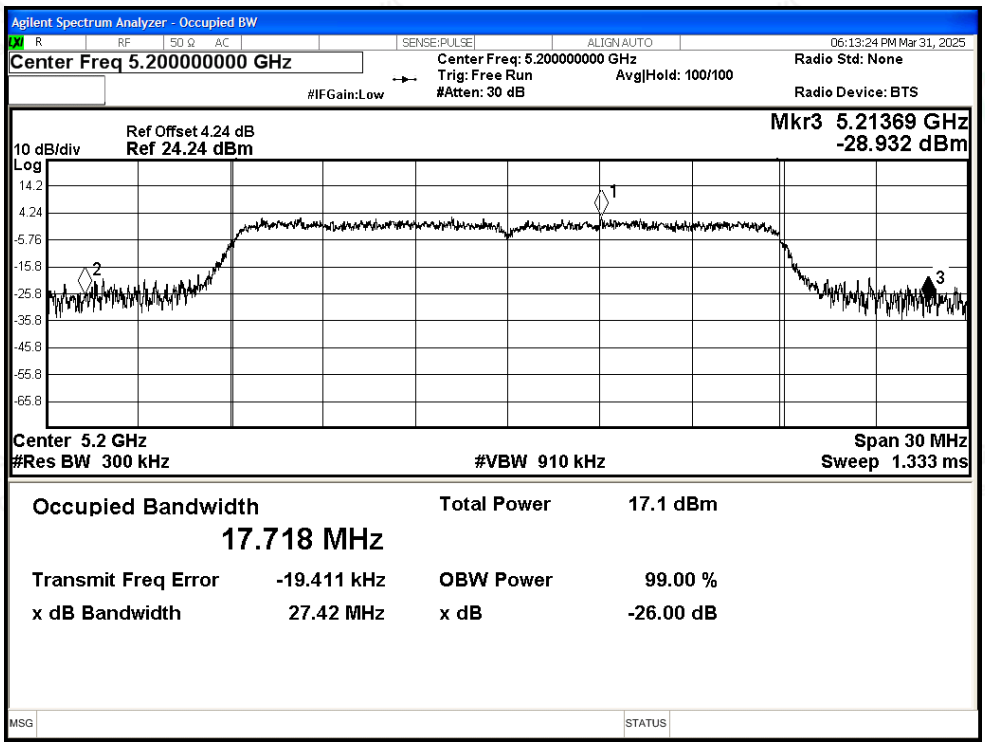
-26dB Bandwidth NVNT a 5240MHz Ant2



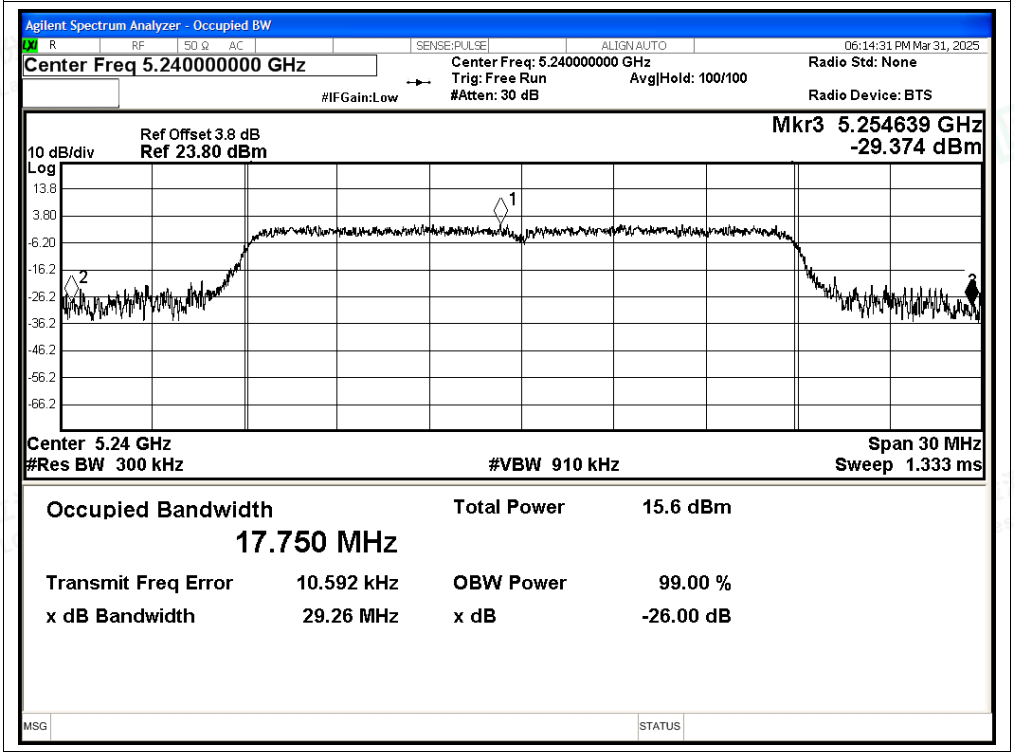
-26dB Bandwidth NVNT n20 5180MHz Ant2



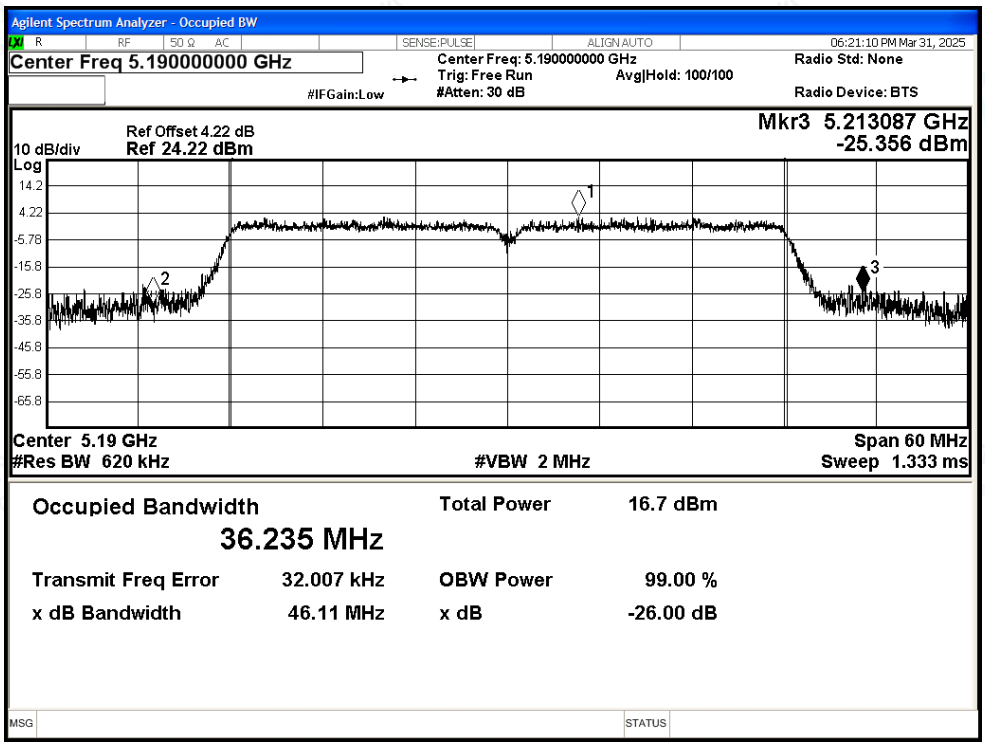
-26dB Bandwidth NVNT n20 5200MHz Ant2



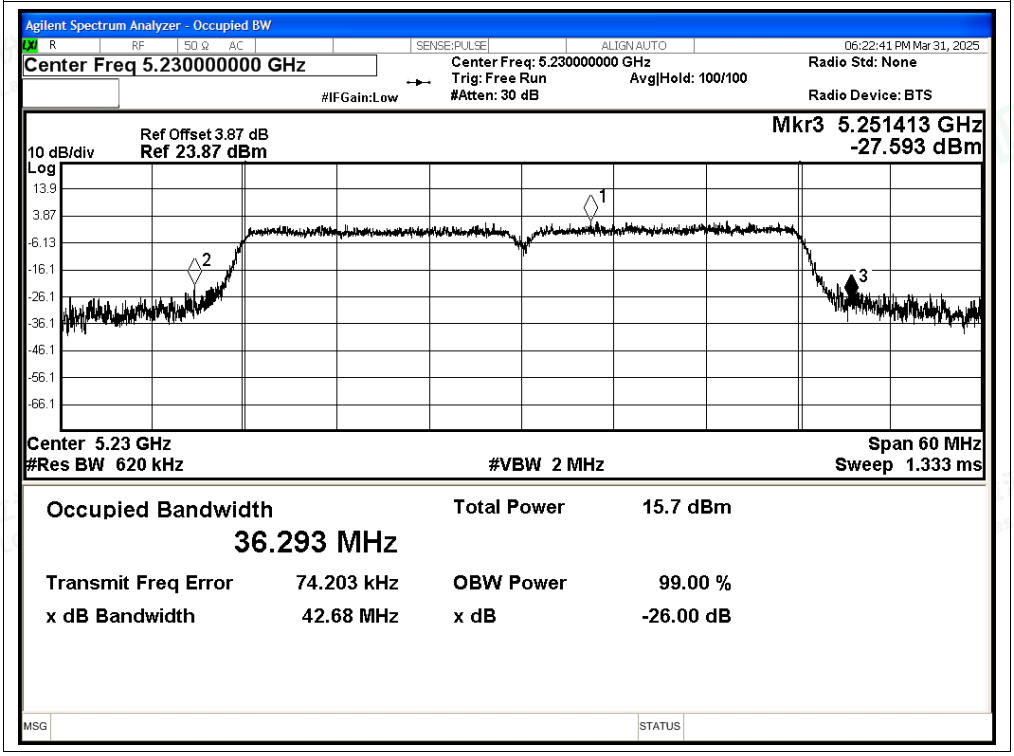
-26dB Bandwidth NVNT n20 5240MHz Ant2



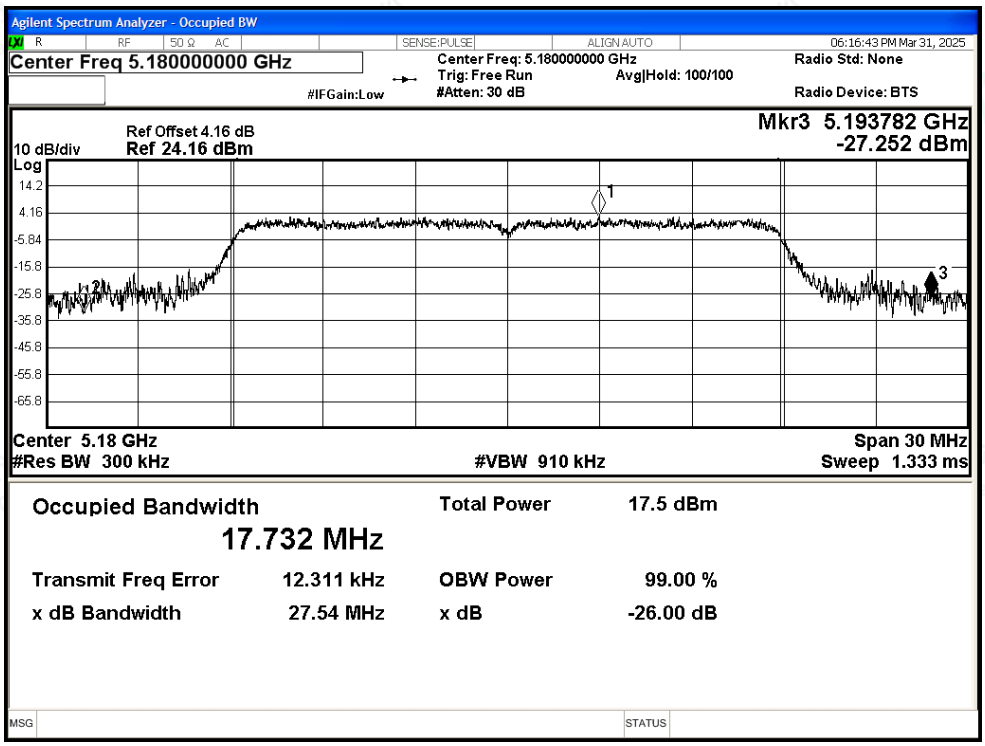
-26dB Bandwidth NVNT n40 5190MHz Ant2



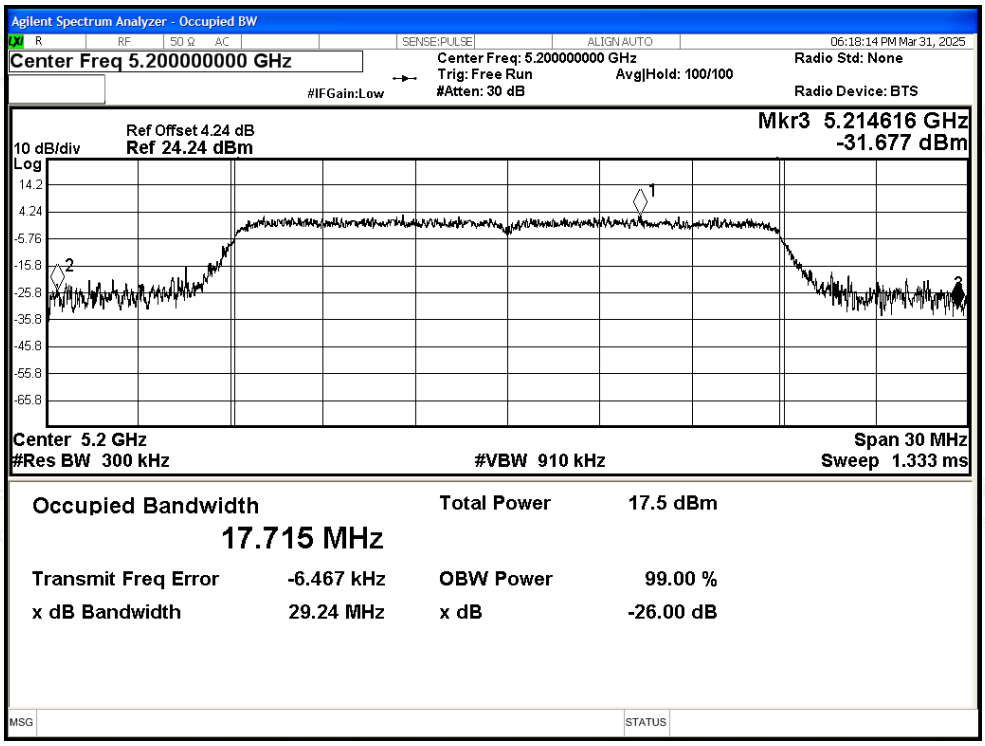
-26dB Bandwidth NVNT n40 5230MHz Ant2



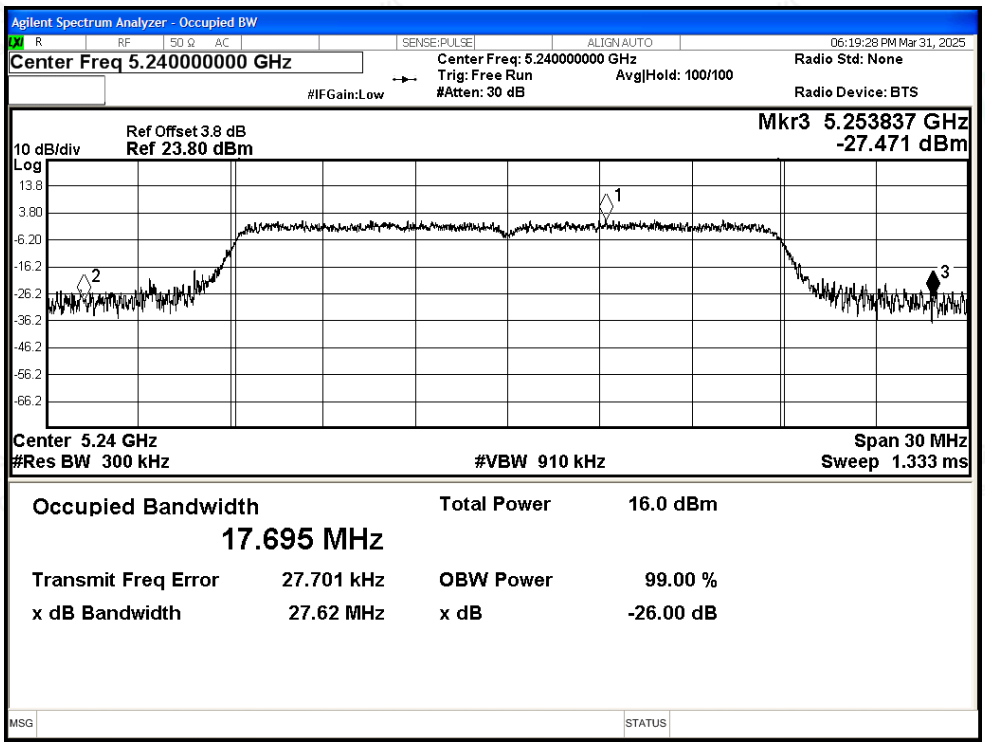
-26dB Bandwidth NVNT ac20 5180MHz Ant2



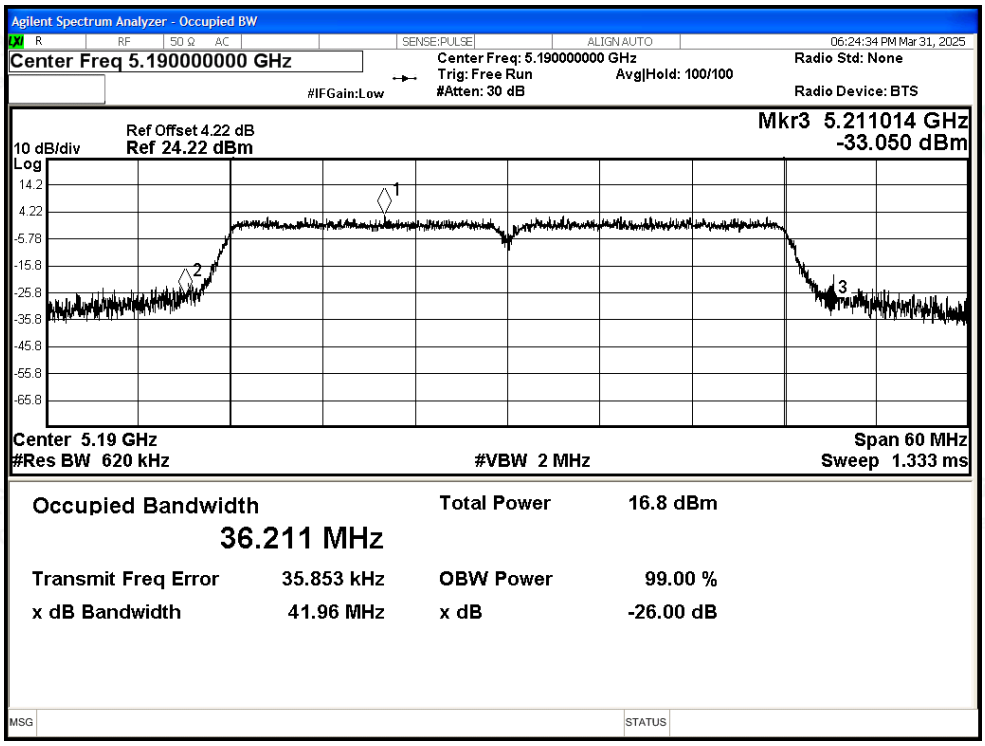
-26dB Bandwidth NVNT ac20 5200MHz Ant2



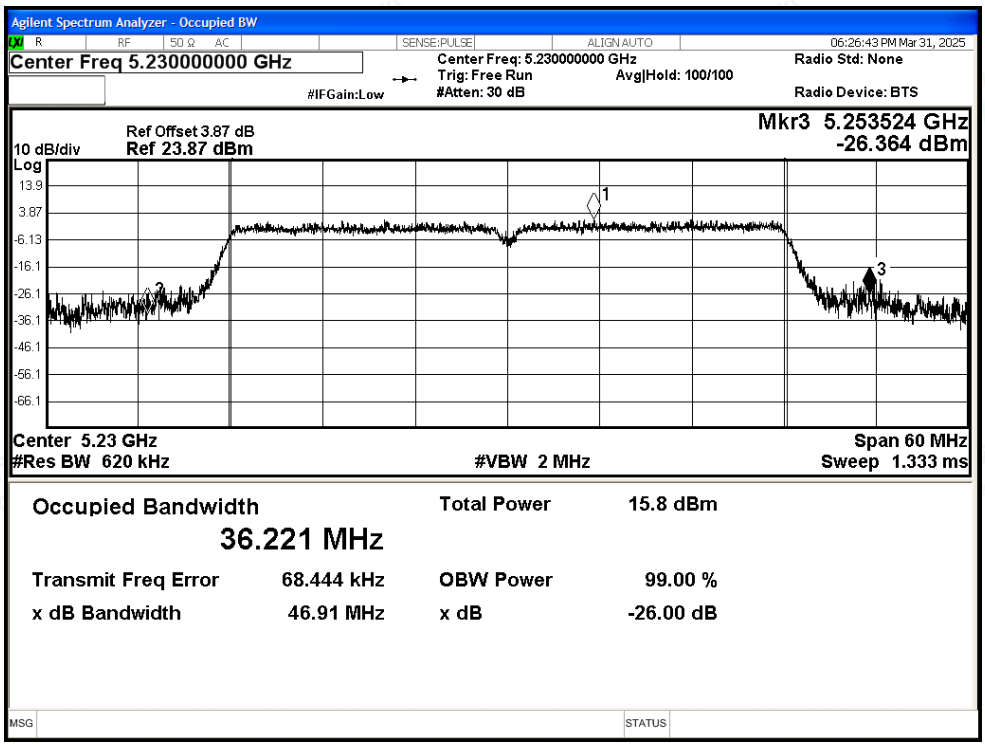
-26dB Bandwidth NVNT ac20 5240MHz Ant2



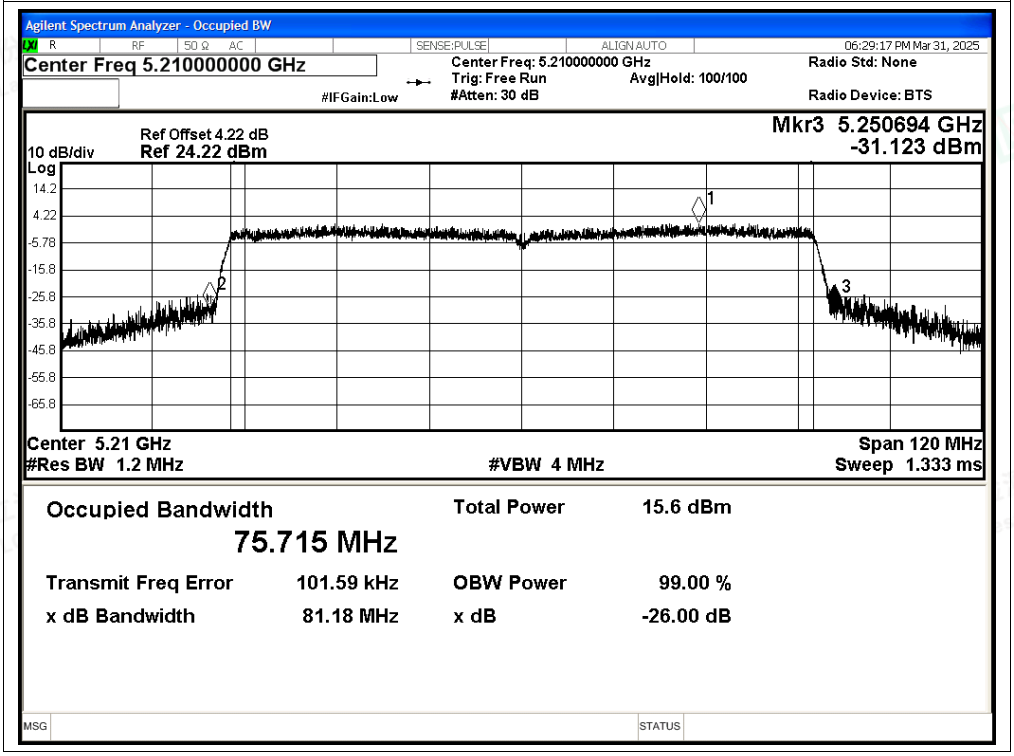
-26dB Bandwidth NVNT ac40 5190MHz Ant2



-26dB Bandwidth NVNT ac40 5230MHz Ant2



-26dB Bandwidth NVNT ac80 5210MHz Ant2



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	Ant1	12.02	0.1	12.12	24	Pass
NVNT	a	5200	Ant1	11.98	0.1	12.08	24	Pass
NVNT	a	5240	Ant1	11.63	0.1	11.73	24	Pass
NVNT	n20	5180	Ant1	11.4	0.12	11.52	24	Pass
NVNT	n20	5200	Ant1	11.32	0.12	11.44	24	Pass
NVNT	n20	5240	Ant1	10.02	0.12	10.14	24	Pass
NVNT	n40	5190	Ant1	9.77	0.12	9.89	24	Pass
NVNT	n40	5230	Ant1	6.06	0.12	6.18	24	Pass
NVNT	ac20	5180	Ant1	11.38	0.12	11.5	24	Pass
NVNT	ac20	5200	Ant1	11.35	0.12	11.47	24	Pass
NVNT	ac20	5240	Ant1	10.02	0.12	10.14	24	Pass
NVNT	ac40	5190	Ant1	5.89	0.12	6.01	24	Pass
NVNT	ac40	5230	Ant1	6	0.12	6.12	24	Pass
NVNT	ac80	5210	Ant1	4.47	0.25	4.72	24	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant2	13.18	0.24	13.42	24	Pass
NVNT	a	5200	Ant2	12.06	0.24	12.3	24	Pass
NVNT	a	5240	Ant2	11.61	0.24	11.85	24	Pass
NVNT	n20	5180	Ant2	11.43	0.28	11.71	24	Pass
NVNT	n20	5200	Ant2	11.35	0.28	11.63	24	Pass
NVNT	n20	5240	Ant2	9.92	0.28	10.2	24	Pass
NVNT	n40	5190	Ant2	10.58	0.12	10.7	24	Pass
NVNT	n40	5230	Ant2	9.46	0.12	9.58	24	Pass
NVNT	ac20	5180	Ant2	12.01	0.12	12.13	24	Pass
NVNT	ac20	5200	Ant2	11.98	0.12	12.1	24	Pass
NVNT	ac20	5240	Ant2	10.52	0.12	10.64	24	Pass
NVNT	ac40	5190	Ant2	10.56	0.12	10.68	24	Pass
NVNT	ac40	5230	Ant2	9.56	0.12	9.68	24	Pass
NVNT	ac80	5210	Ant2	8.51	0.25	8.76	24	Pass

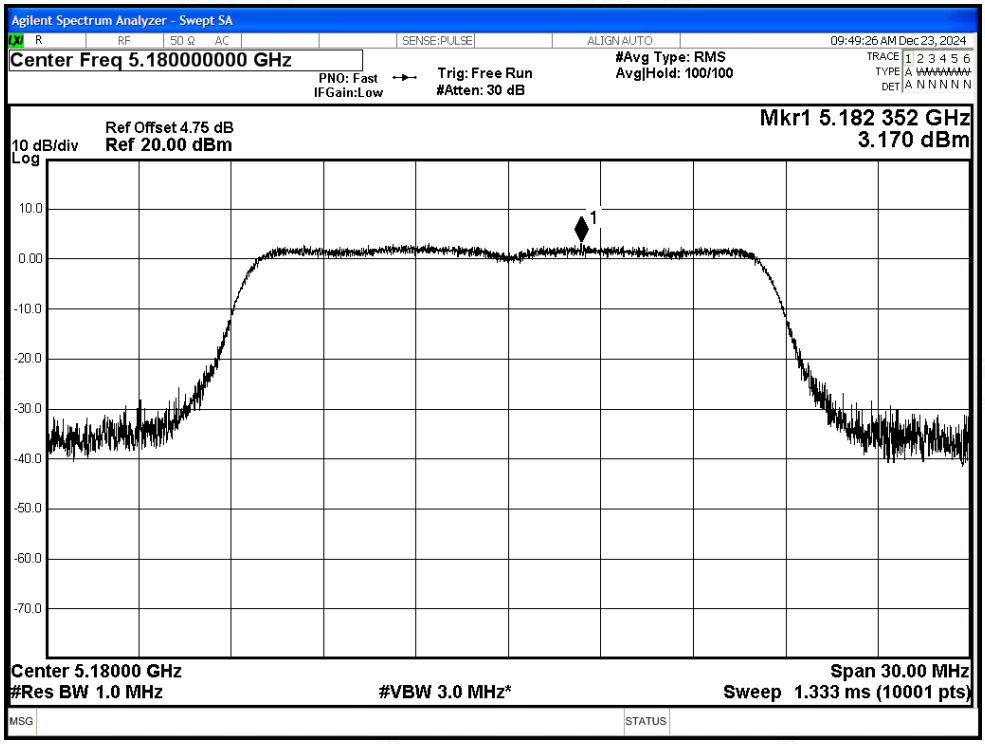
D.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	2.33	0.1	2.43	11	Pass
NVNT	a	5200	Ant1	1.44	0.1	1.54	11	Pass
NVNT	a	5240	Ant1	1.01	0.1	1.11	11	Pass
NVNT	n20	5180	Ant1	0.62	0.12	0.74	11	Pass
NVNT	n20	5200	Ant1	0.81	0.12	0.93	11	Pass
NVNT	n20	5240	Ant1	-0.74	0.12	-0.62	11	Pass
NVNT	n40	5190	Ant1	-3.98	0.12	-3.86	11	Pass
NVNT	n40	5230	Ant1	-7.59	0.12	-7.47	11	Pass
NVNT	ac20	5180	Ant1	0.52	0.12	0.64	11	Pass
NVNT	ac20	5200	Ant1	0.63	0.12	0.75	11	Pass
NVNT	ac20	5240	Ant1	-0.4	0.12	-0.28	11	Pass
NVNT	ac40	5190	Ant1	-7.98	0.12	-7.86	11	Pass
NVNT	ac40	5230	Ant1	-7.34	0.12	-7.22	11	Pass
NVNT	ac80	5210	Ant1	-12.08	0.25	-11.83	11	Pass

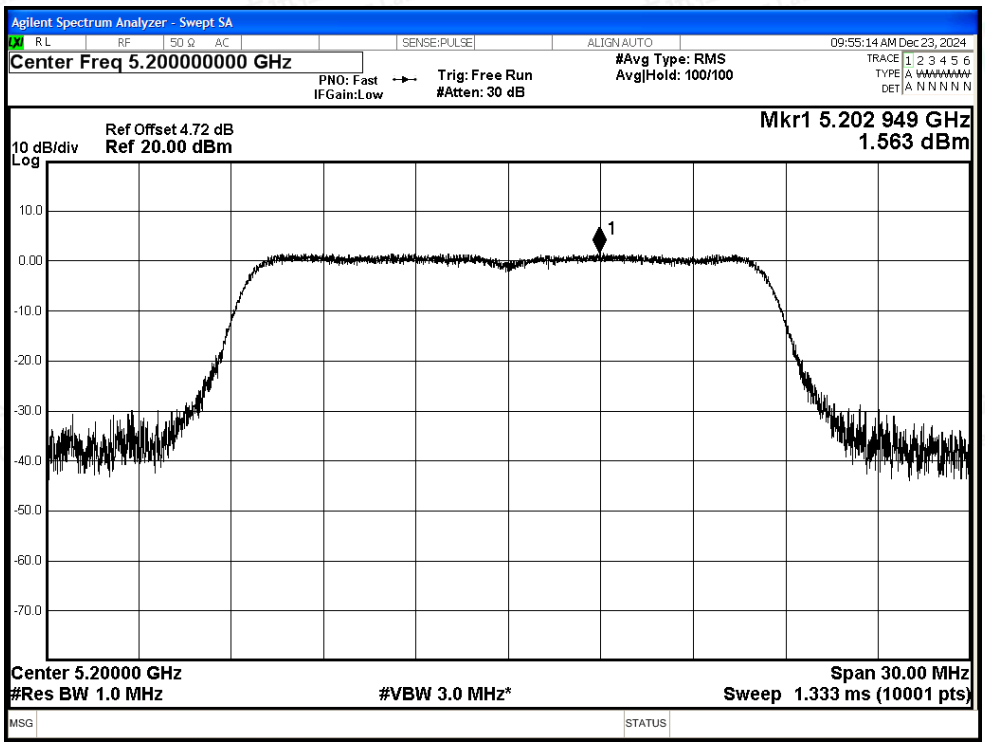
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant2	2.37	0.24	2.61	11	Pass
NVNT	a	5200	Ant2	1.46	0.24	1.7	11	Pass
NVNT	a	5240	Ant2	1.68	0.24	1.92	11	Pass
NVNT	n20	5180	Ant2	0.46	0.28	0.74	11	Pass
NVNT	n20	5200	Ant2	0.65	0.28	0.93	11	Pass
NVNT	n20	5240	Ant2	-0.68	0.28	-0.4	11	Pass
NVNT	n40	5190	Ant2	-3.25	0.12	-3.13	11	Pass
NVNT	n40	5230	Ant2	-3.88	0.12	-3.76	11	Pass
NVNT	ac20	5180	Ant2	1.08	0.12	1.2	11	Pass
NVNT	ac20	5200	Ant2	1.16	0.12	1.28	11	Pass
NVNT	ac20	5240	Ant2	-0.31	0.12	-0.19	11	Pass
NVNT	ac40	5190	Ant2	-3.42	0.12	-3.3	11	Pass
NVNT	ac40	5230	Ant2	-4.13	0.12	-4.01	11	Pass
NVNT	ac80	5210	Ant2	-8.22	0.25	-7.97	11	Pass

Test Graphs

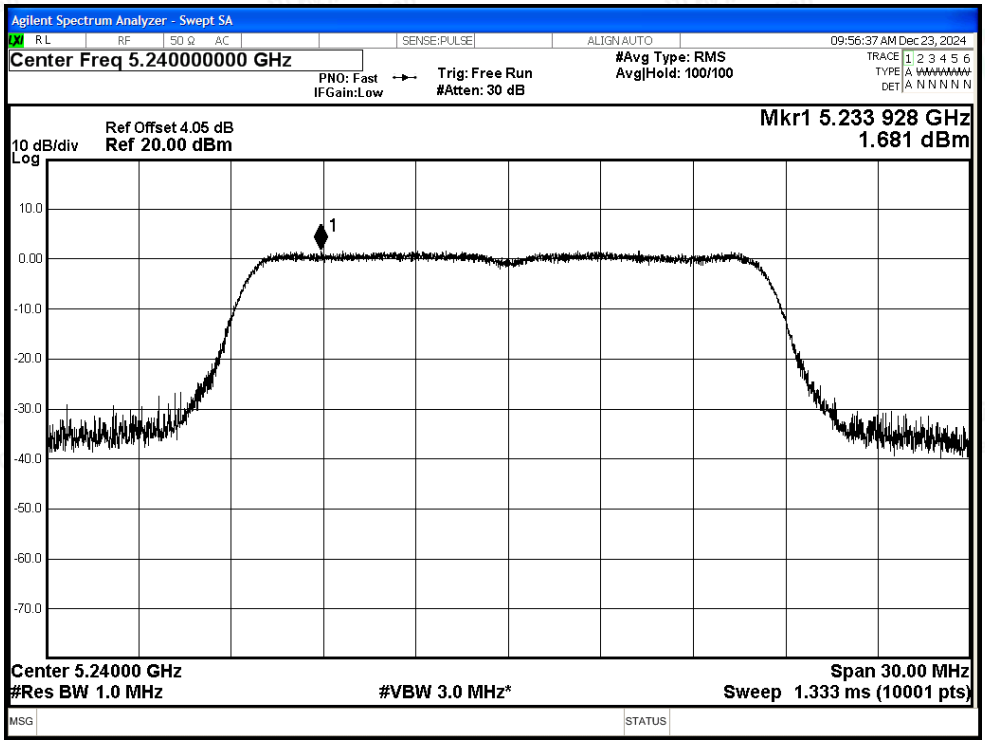
PSD NVNT a 5180MHz Ant1



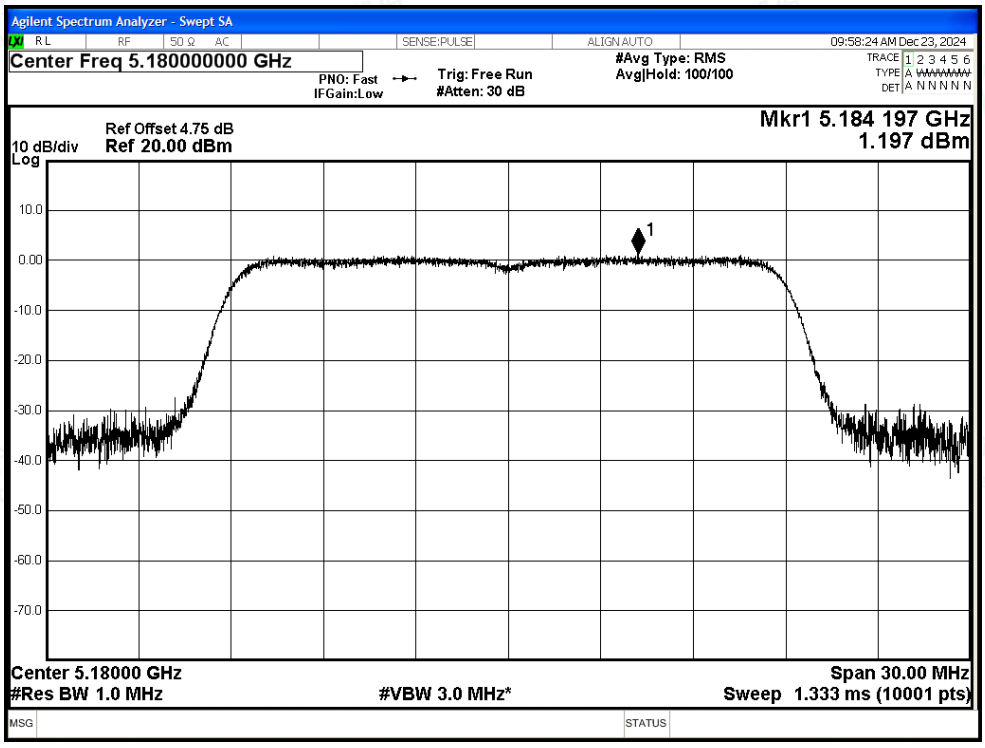
PSD NVNT a 5200MHz Ant1



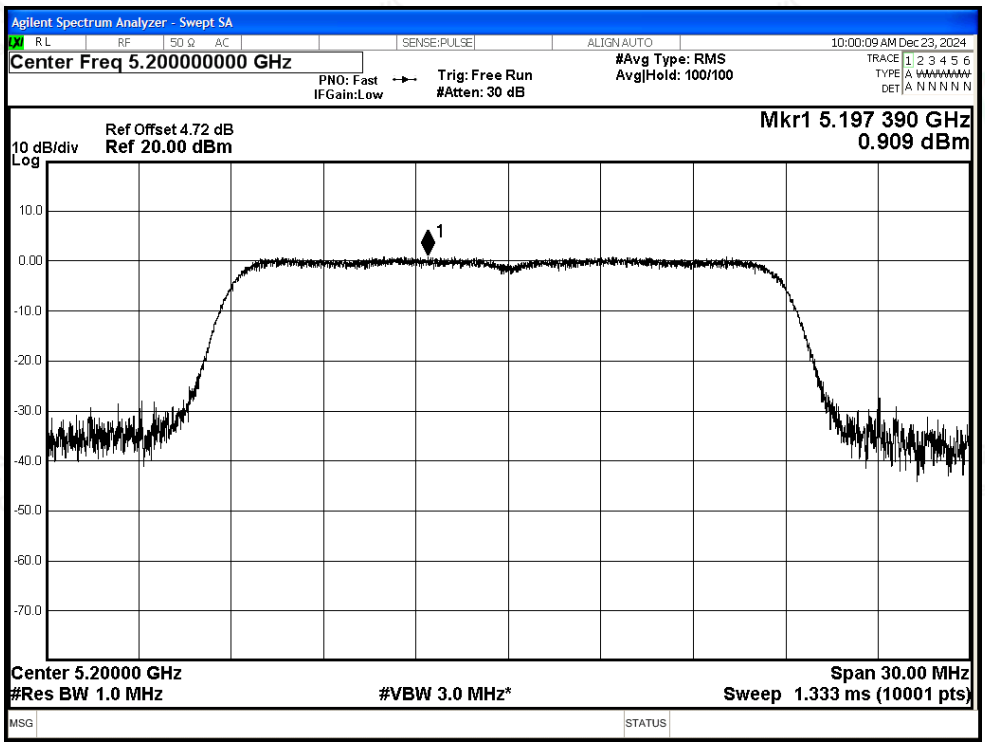
PSD NVNT a 5240MHz Ant1



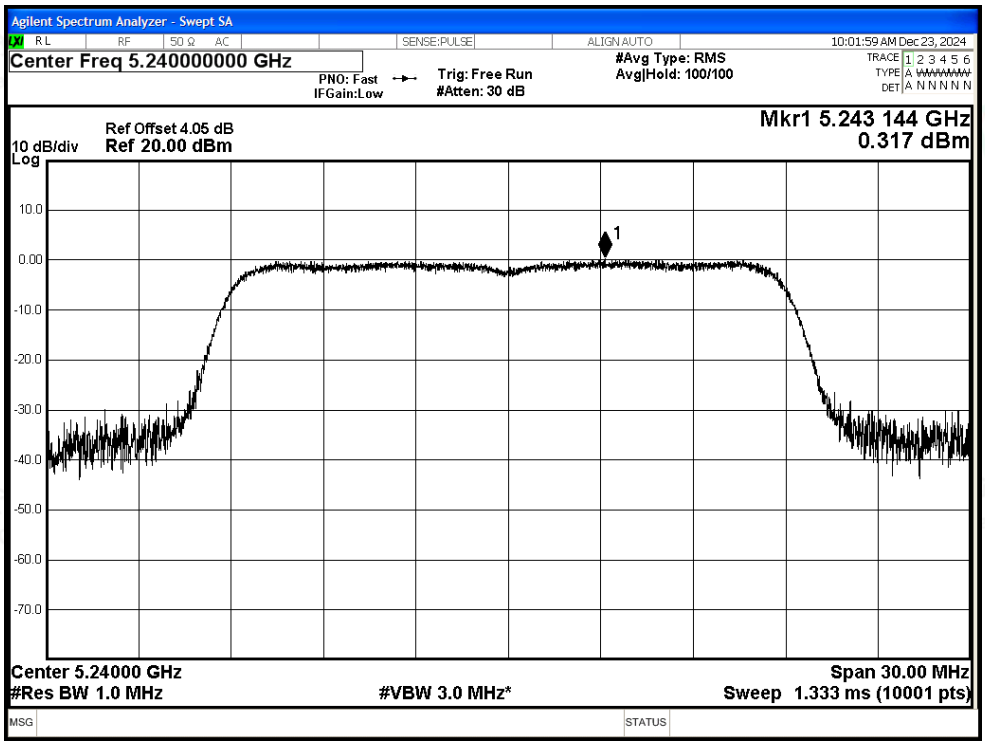
PSD NVNT n20 5180MHz Ant1



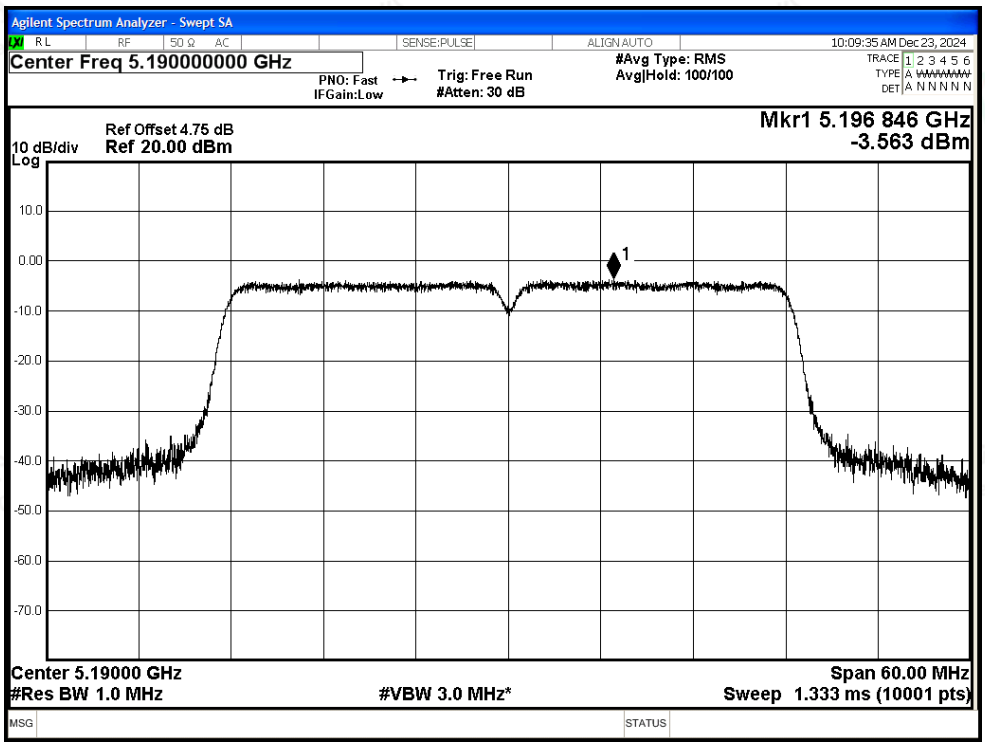
PSD NVNT n20 5200MHz Ant1



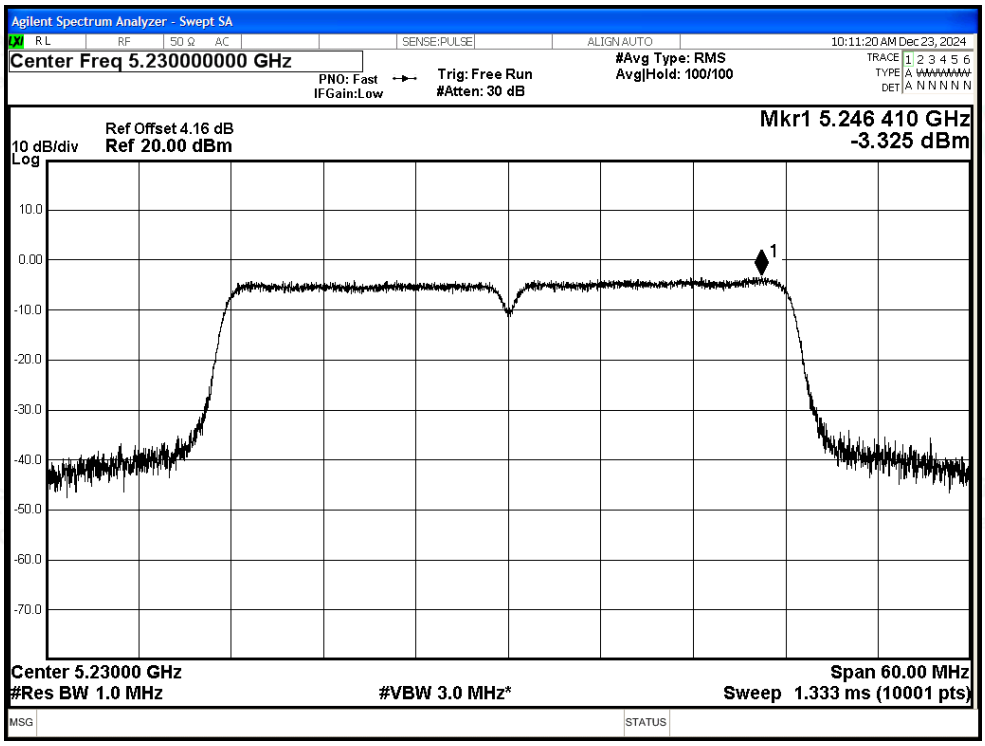
PSD NVNT n20 5240MHz Ant1



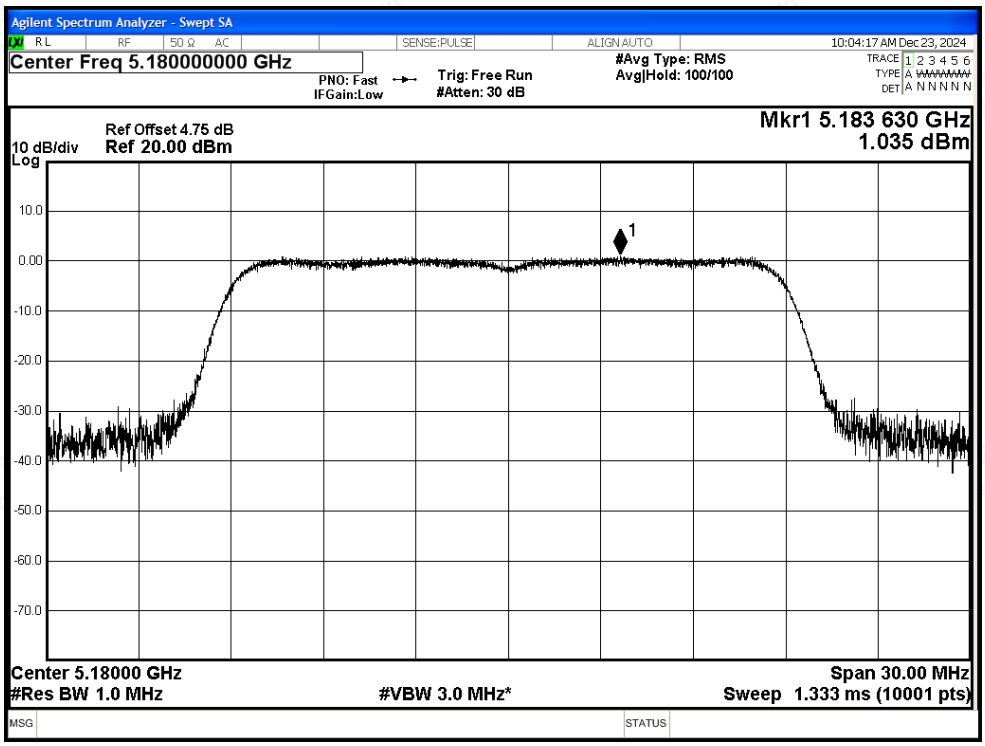
PSD NVNT n40 5190MHz Ant1



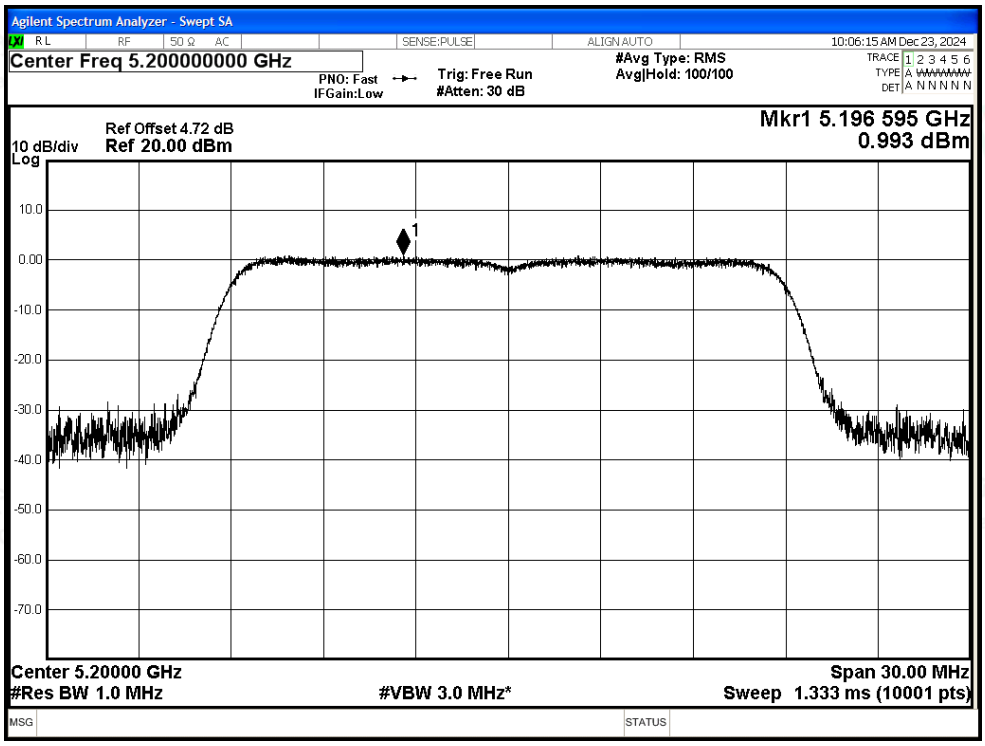
PSD NVNT n40 5230MHz Ant1



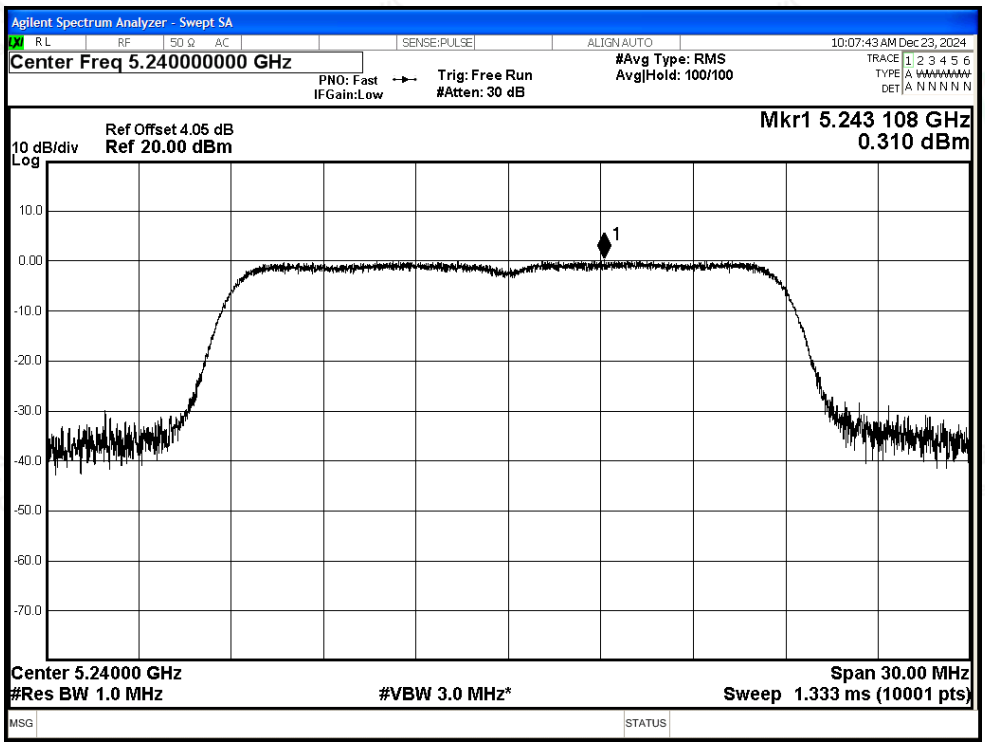
PSD NVNT ac20 5180MHz Ant1



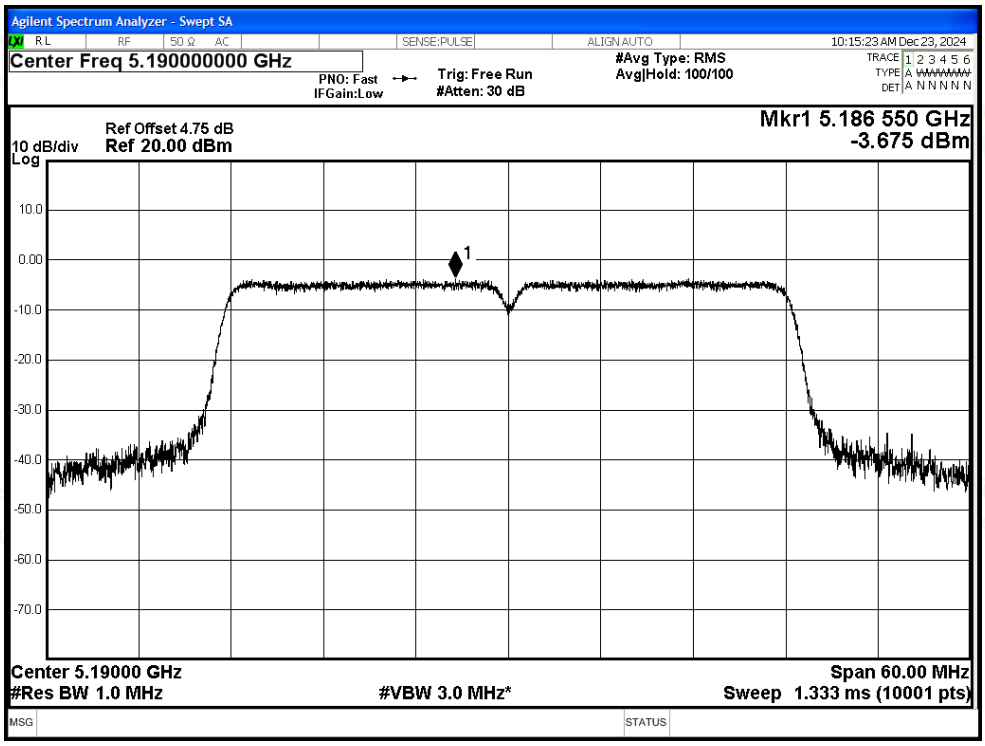
PSD NVNT ac20 5200MHz Ant1



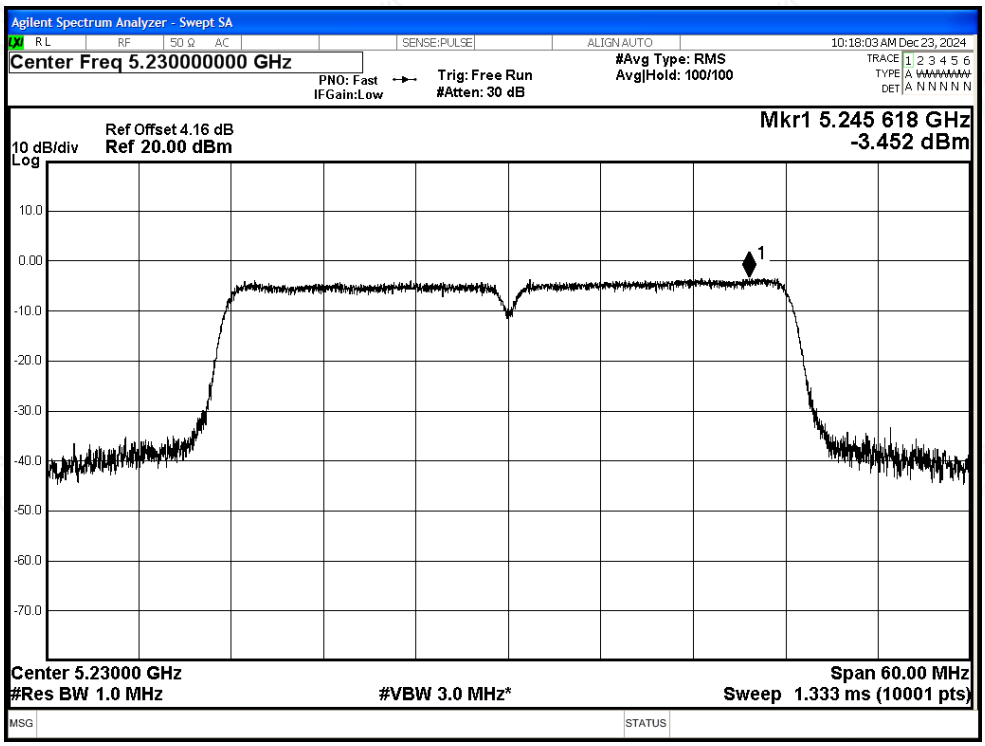
PSD NVNT ac20 5240MHz Ant1



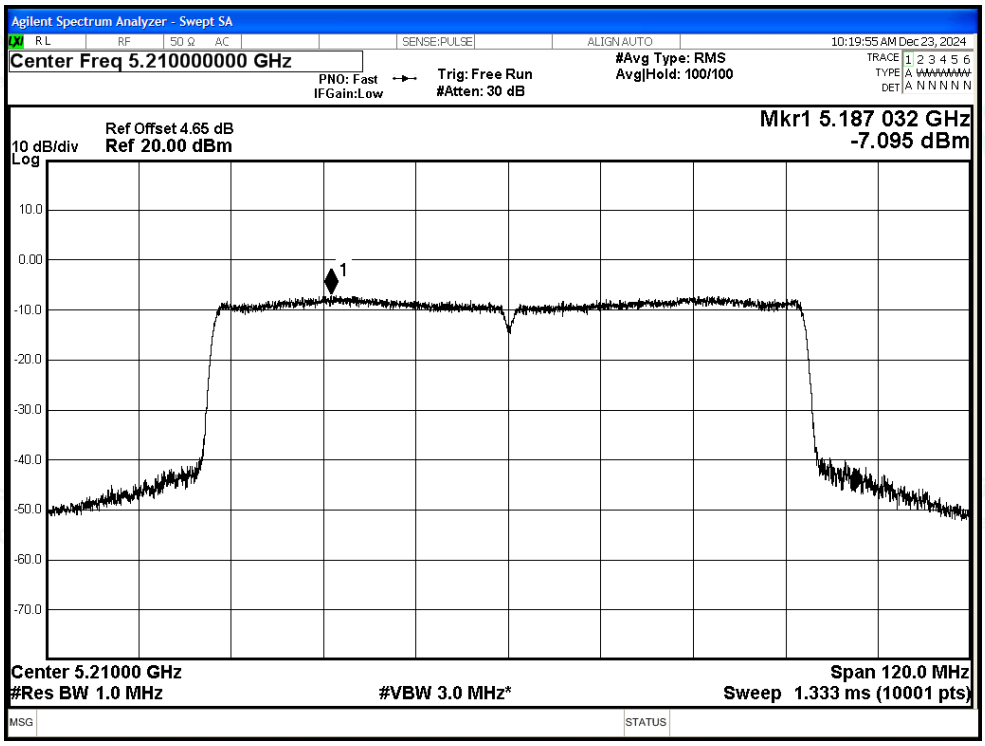
PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1

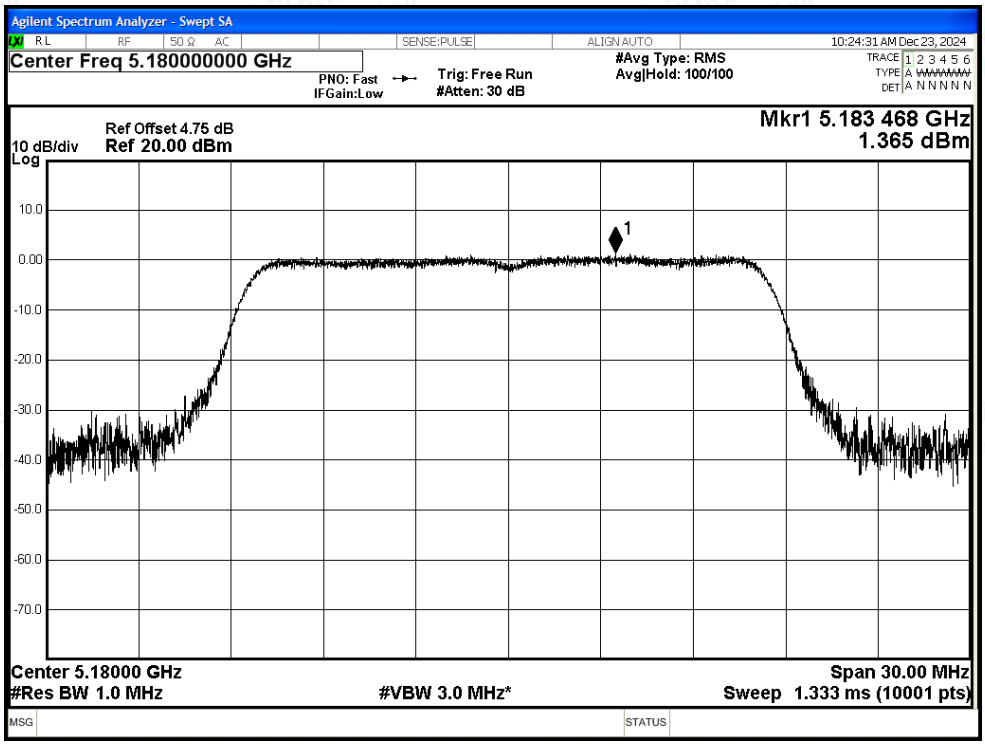


PSD NVNT ac80 5210MHz Ant1

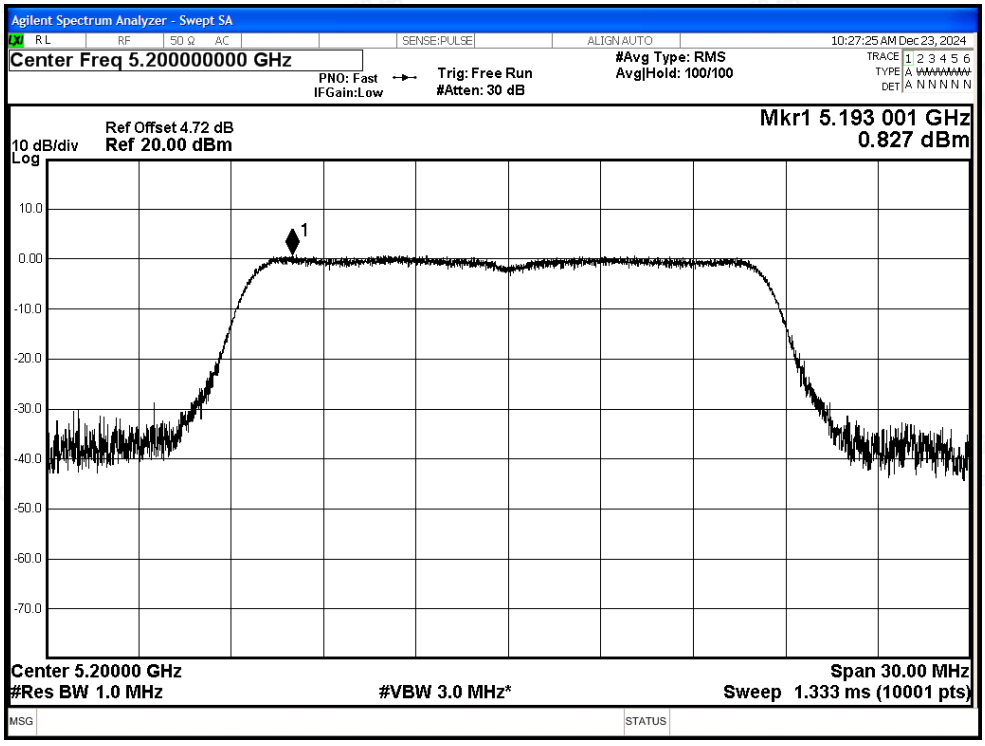


Test Graphs

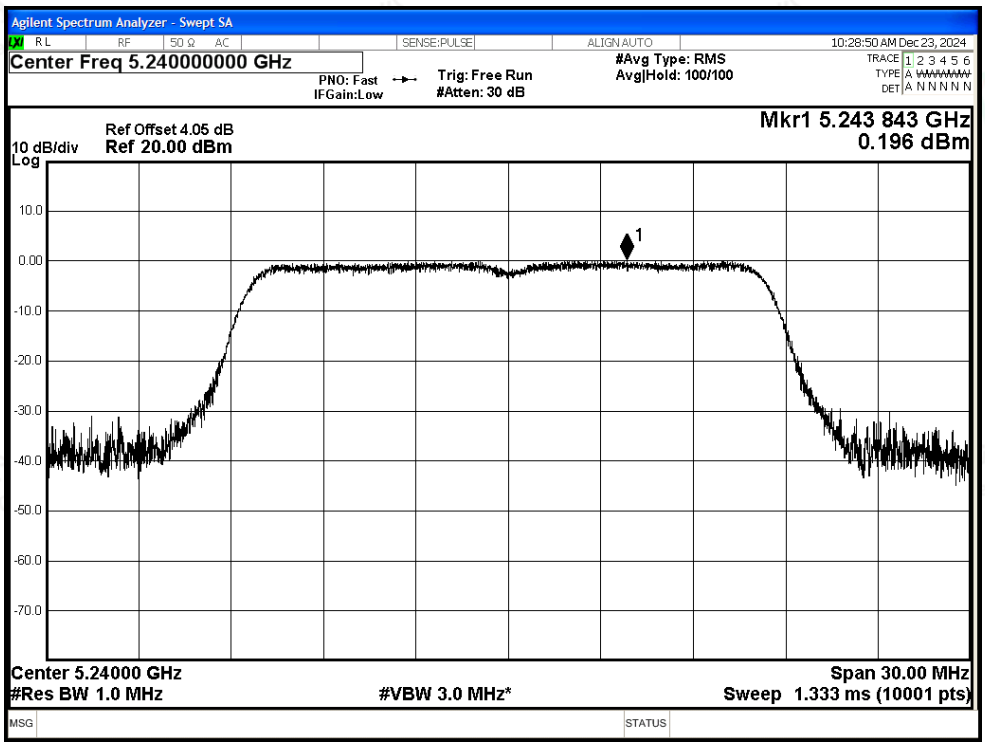
PSD NVNT a 5180MHz Ant2



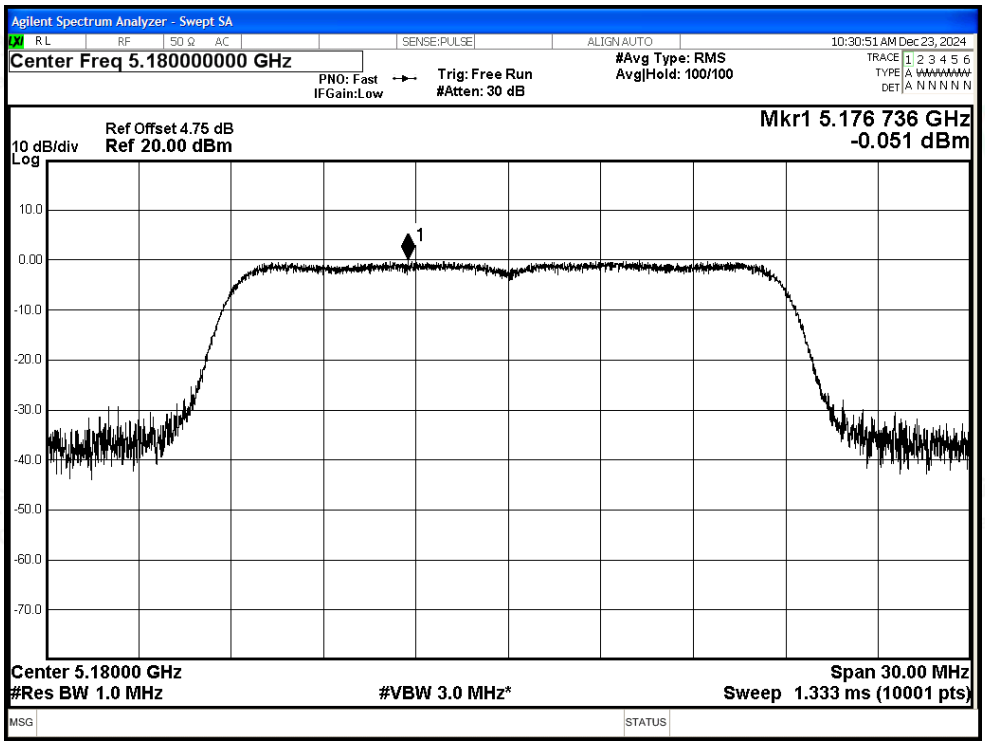
PSD NVNT a 5200MHz Ant2



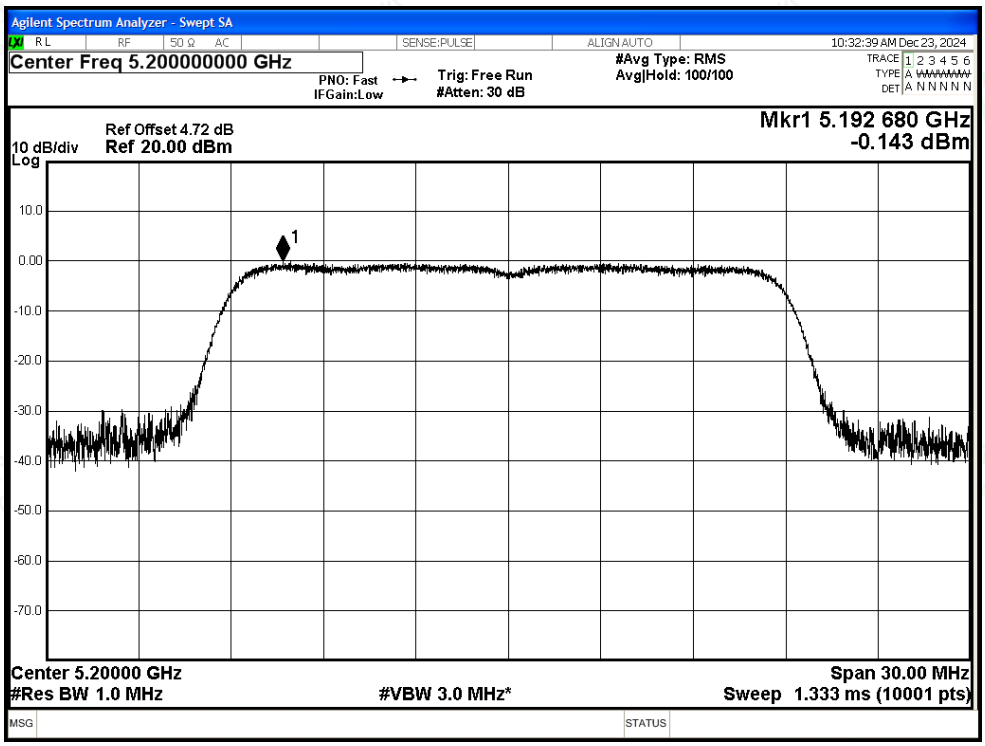
PSD NVNT a 5240MHz Ant2



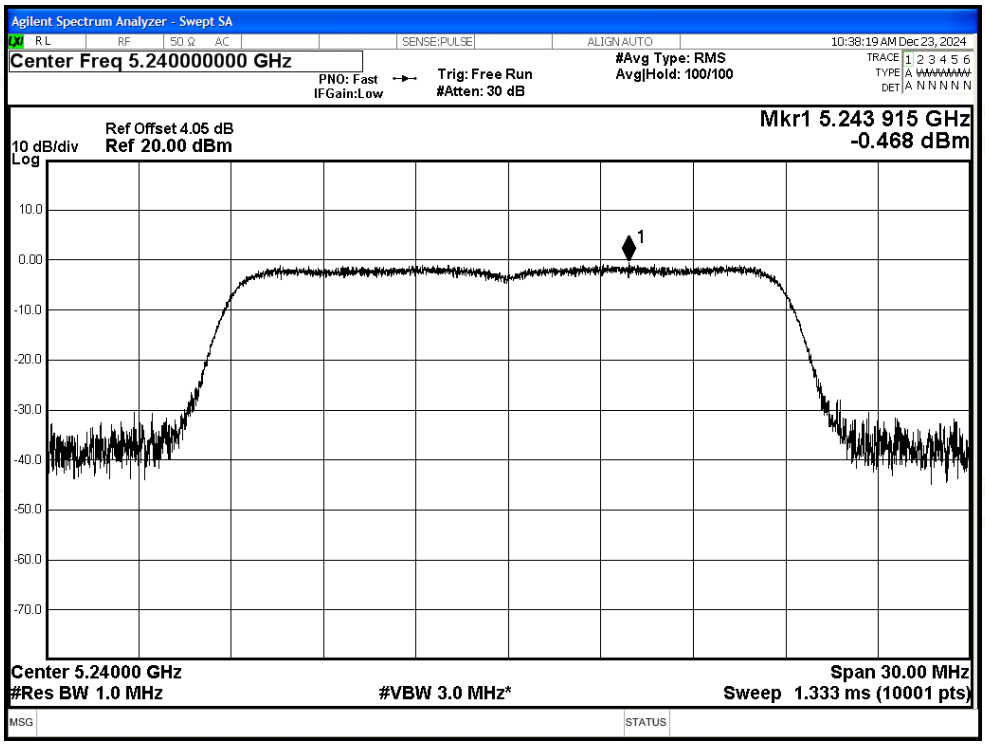
PSD NVNT n20 5180MHz Ant2



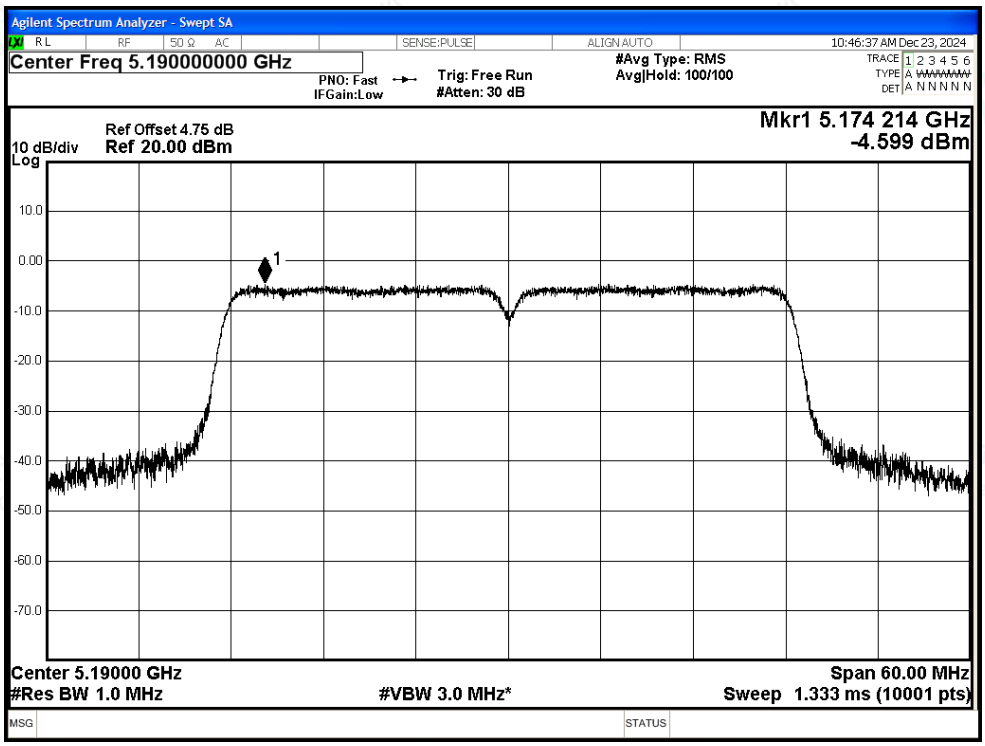
PSD NVNT n20 5200MHz Ant2



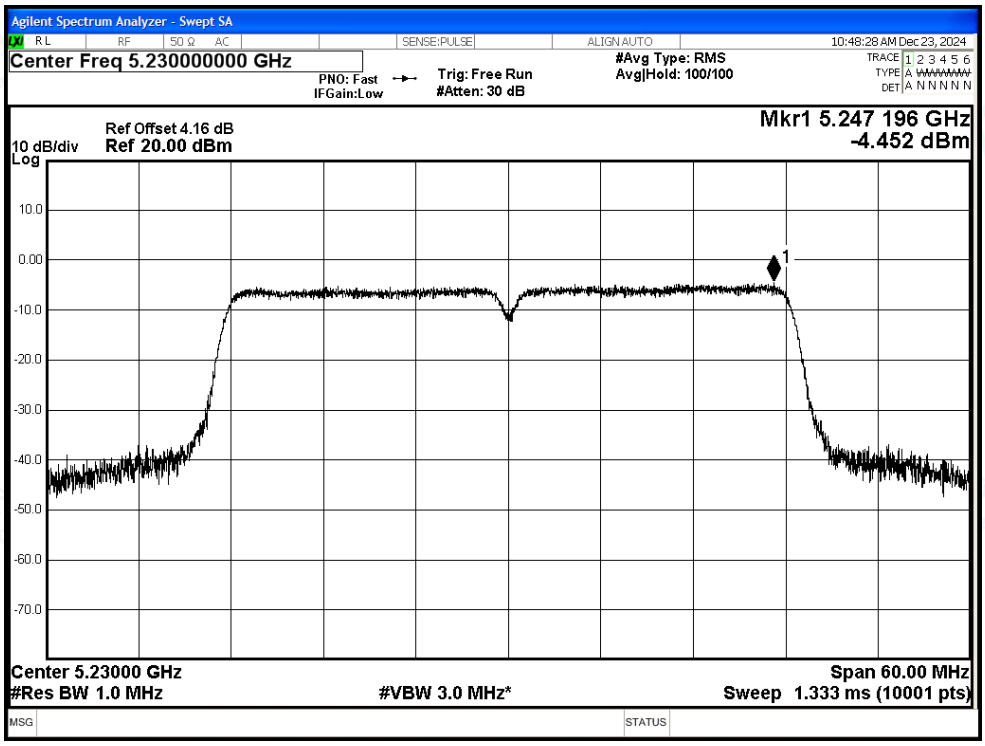
PSD NVNT n20 5240MHz Ant2



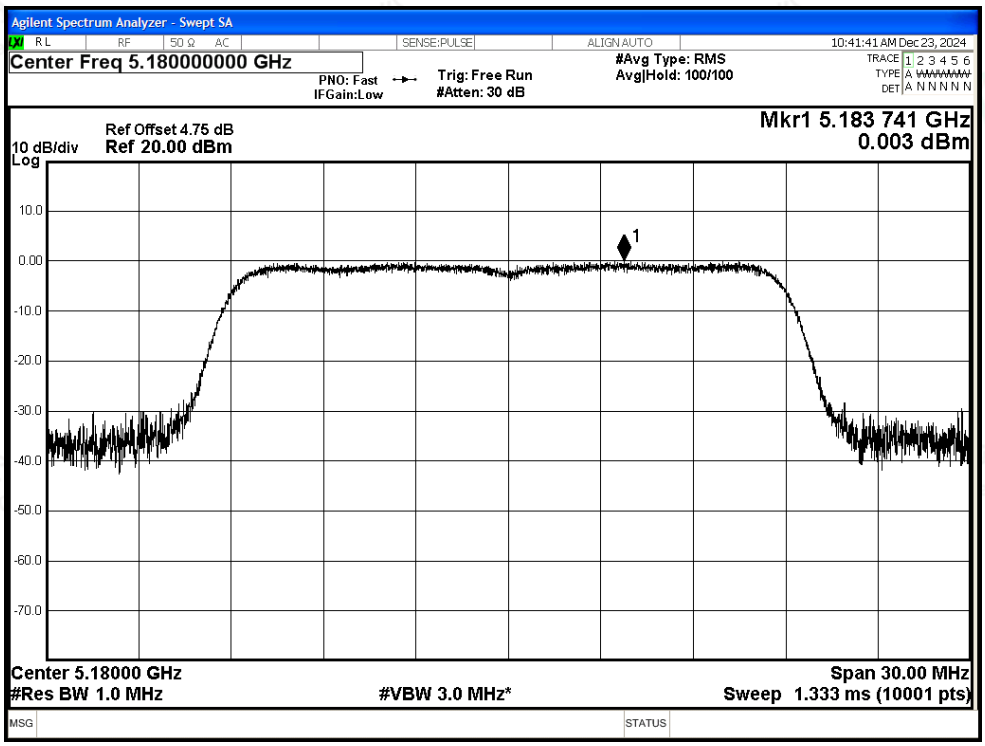
PSD NVNT n40 5190MHz Ant2



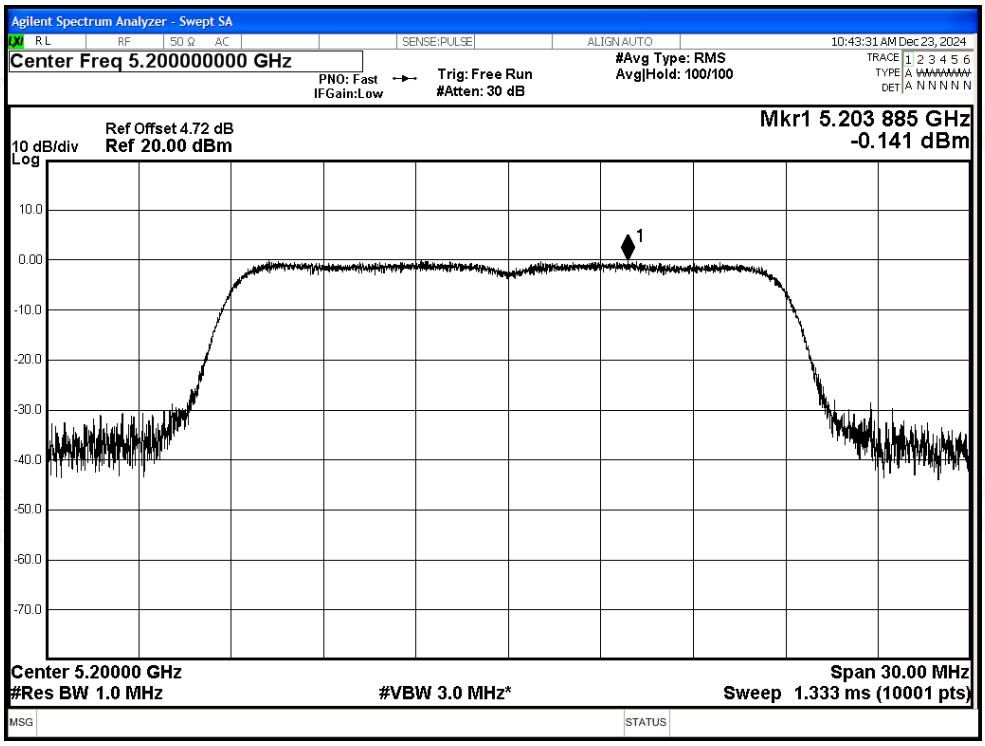
PSD NVNT n40 5230MHz Ant2



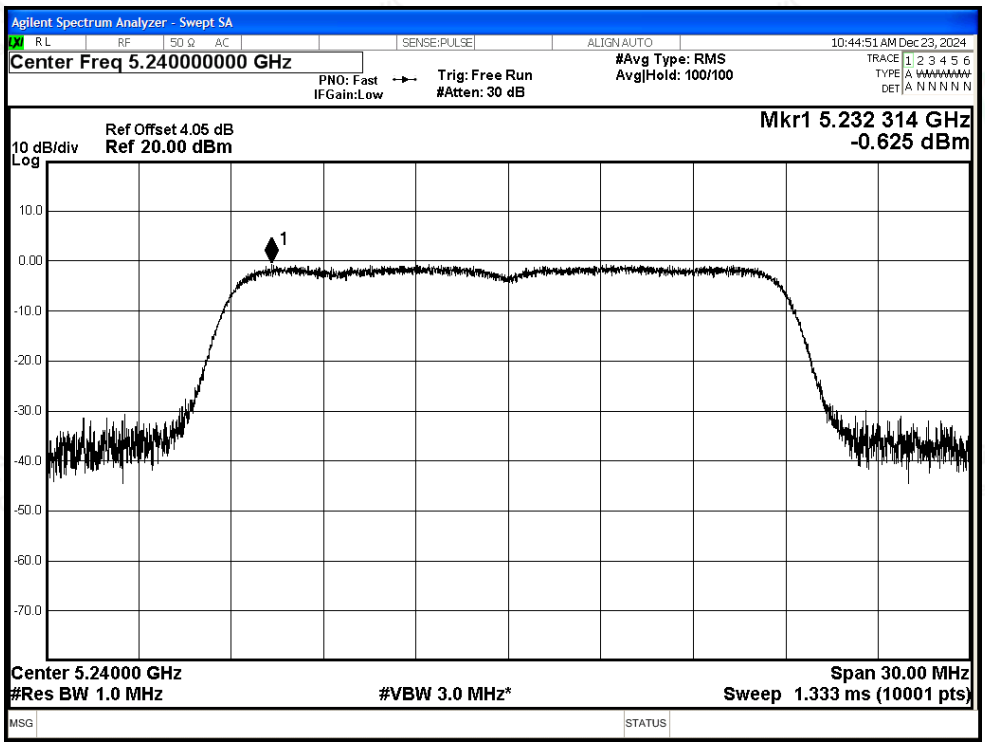
PSD NVNT ac20 5180MHz Ant2



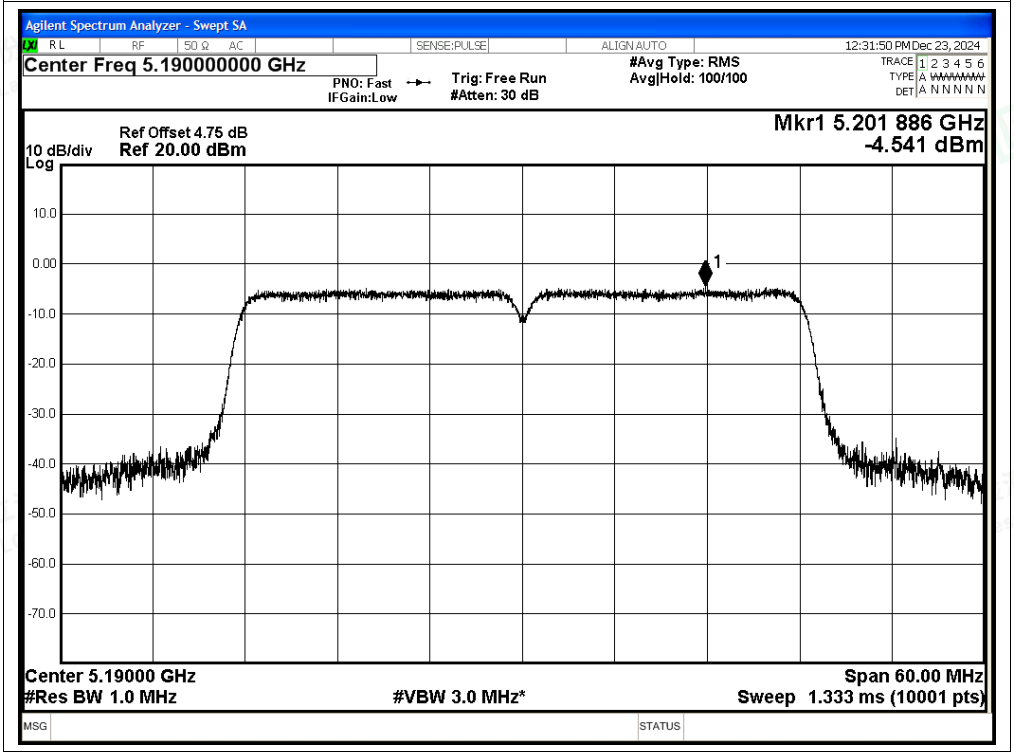
PSD NVNT ac20 5200MHz Ant2



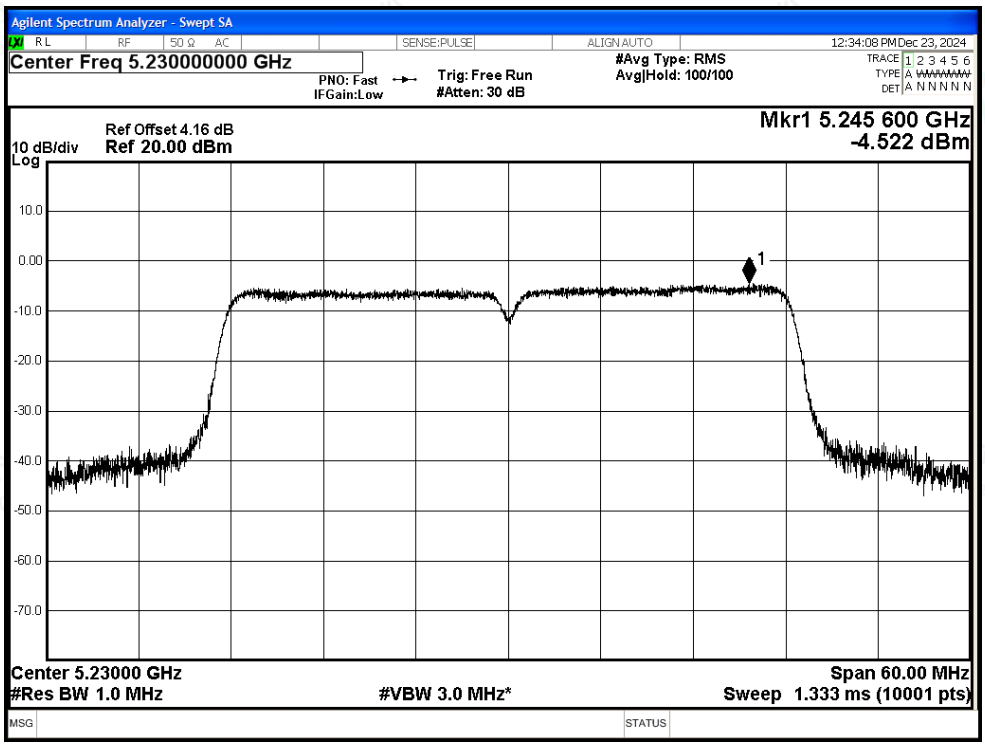
PSD NVNT ac20 5240MHz Ant2



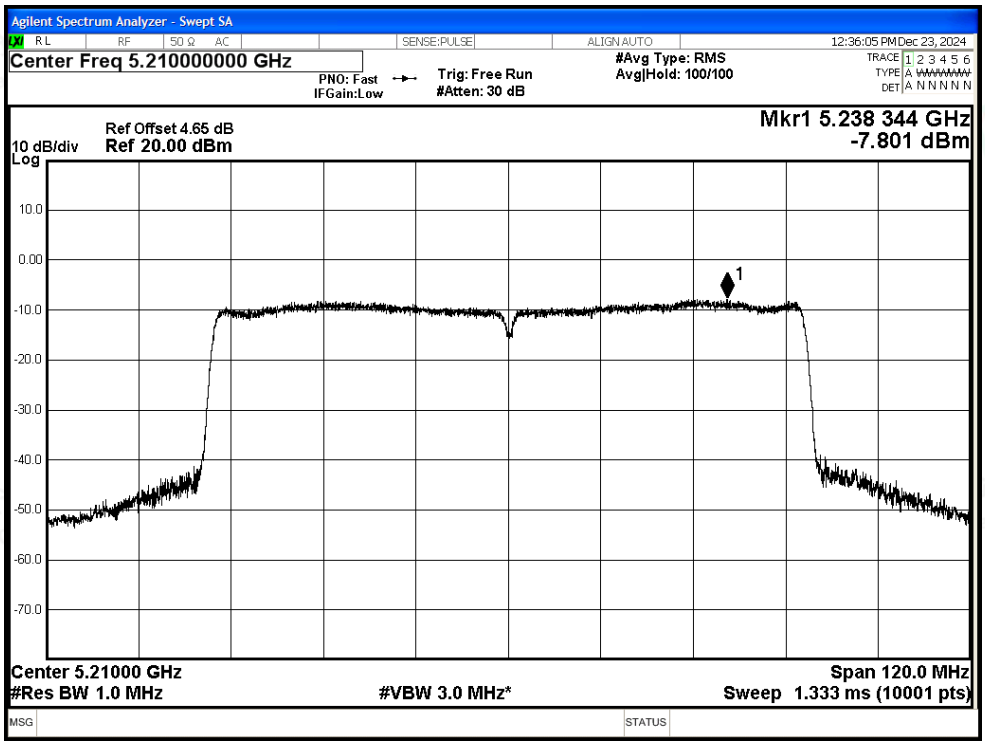
PSD NVNT ac40 5190MHz Ant2



PSD NVNT ac40 5230MHz Ant2

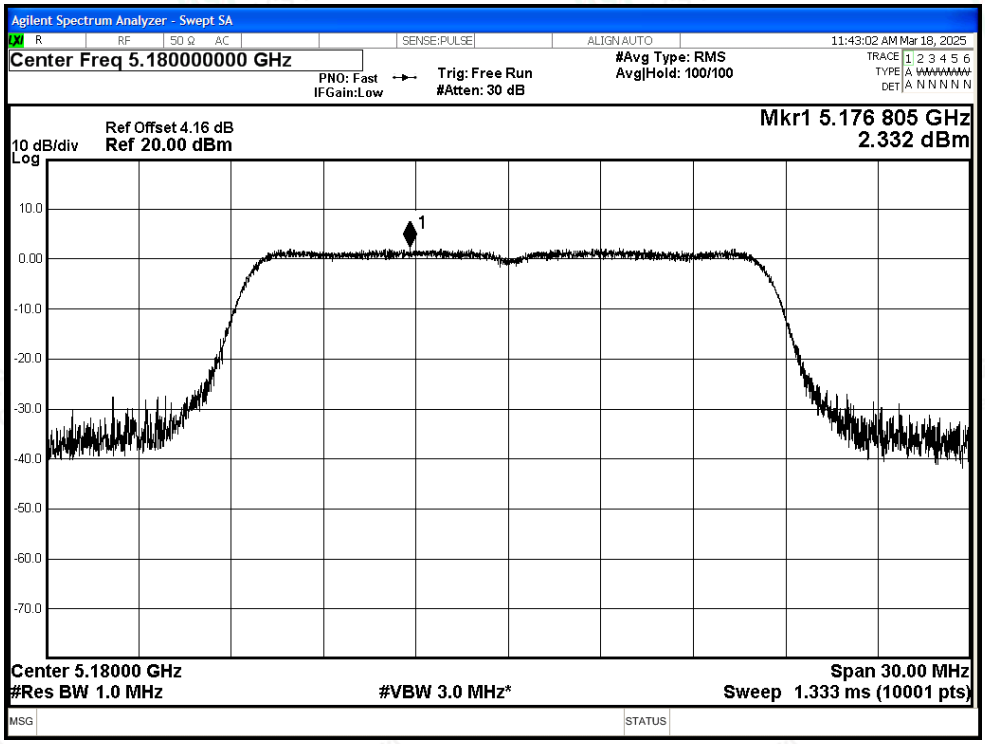


PSD NVNT ac80 5210MHz Ant2

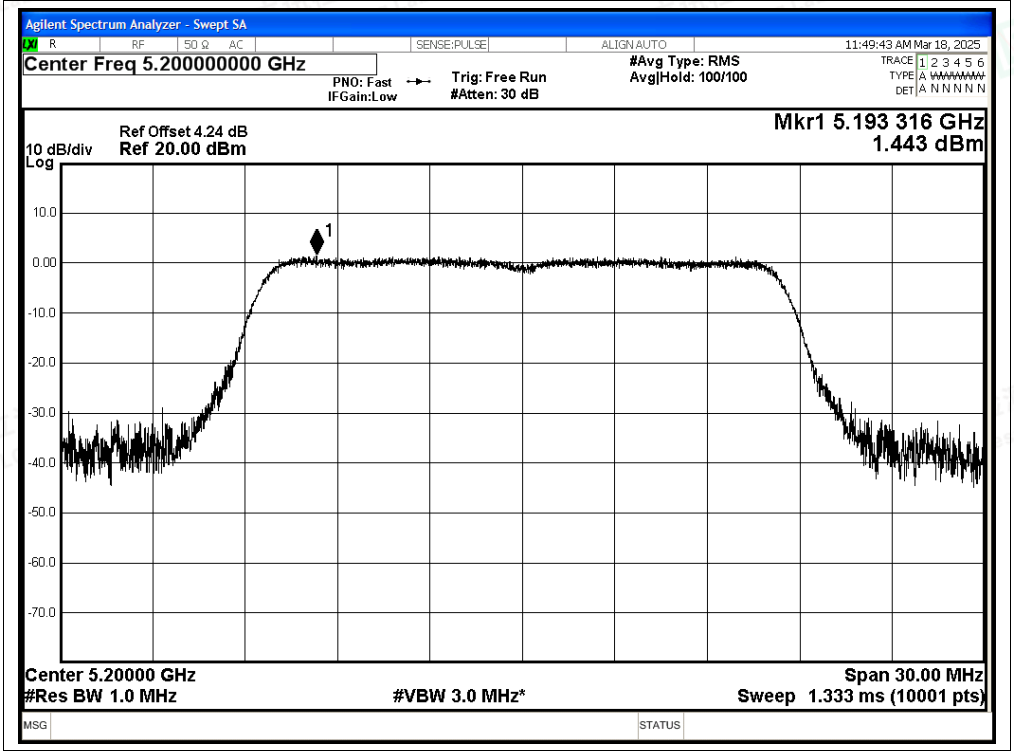


Test Graphs

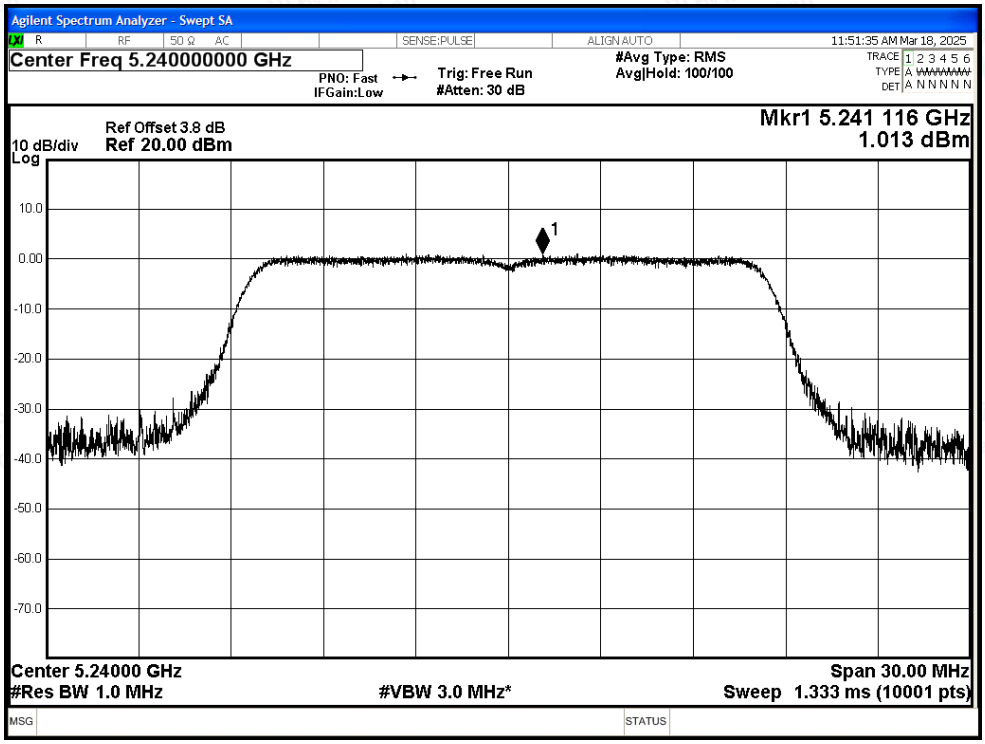
PSD NVNT a 5180MHz Ant1



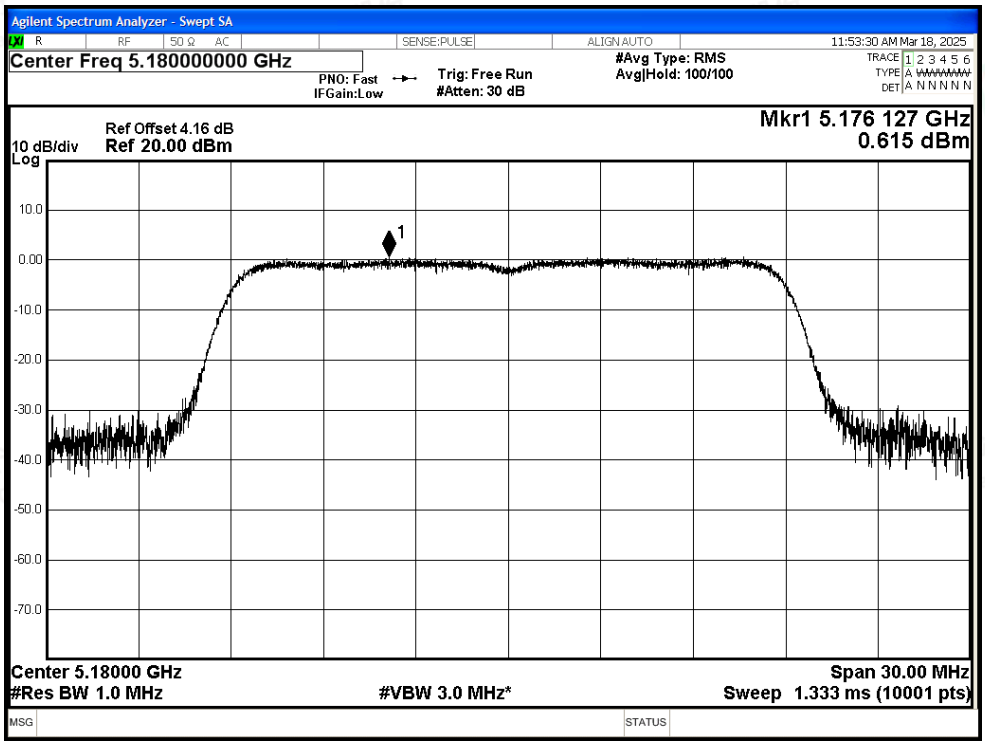
PSD NVNT a 5200MHz Ant1



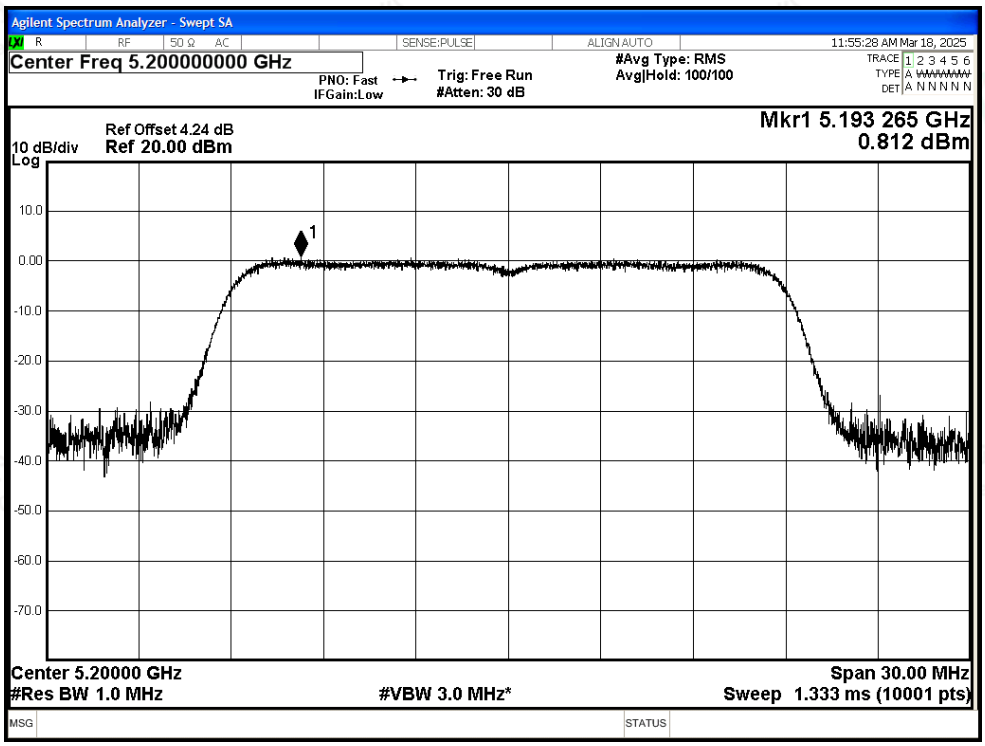
PSD NVNT a 5240MHz Ant1



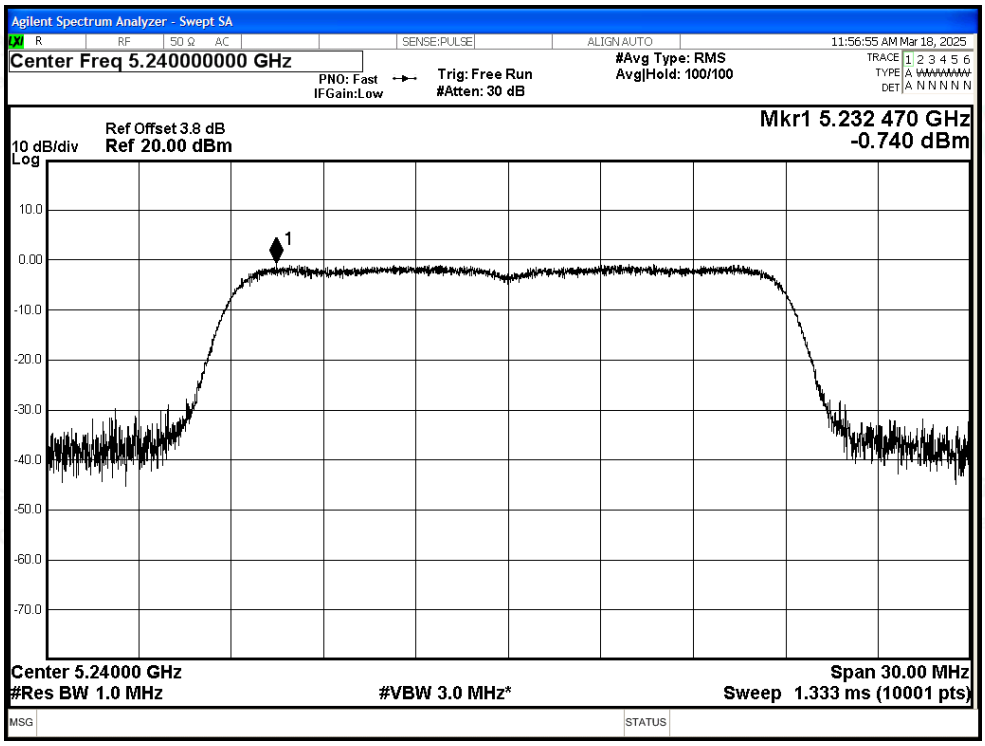
PSD NVNT n20 5180MHz Ant1



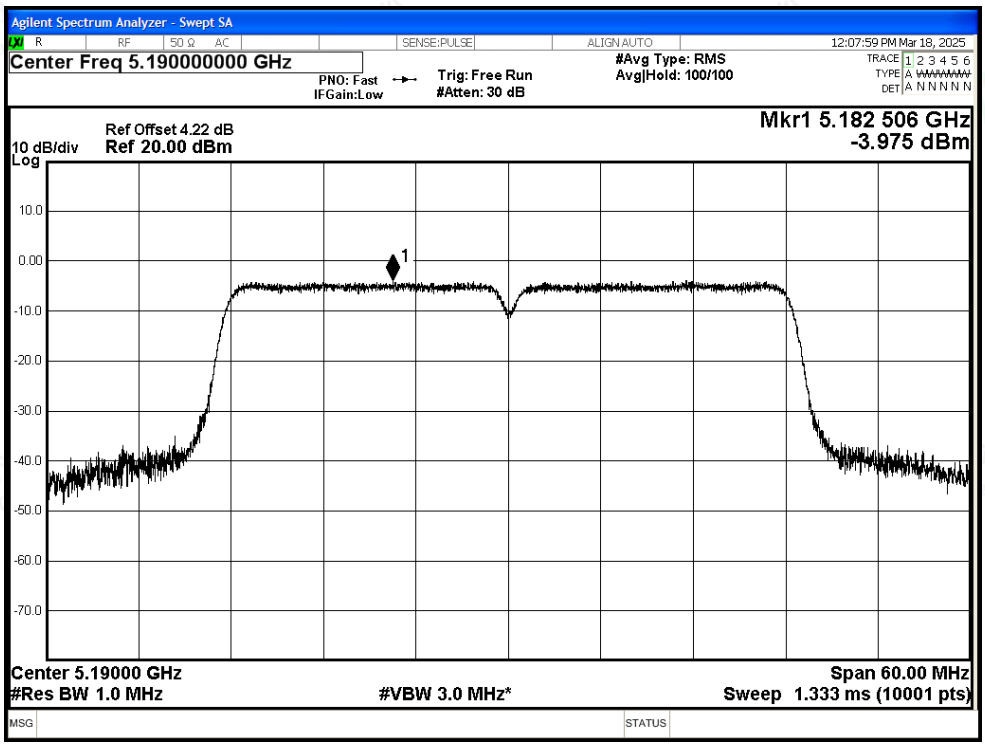
PSD NVNT n20 5200MHz Ant1



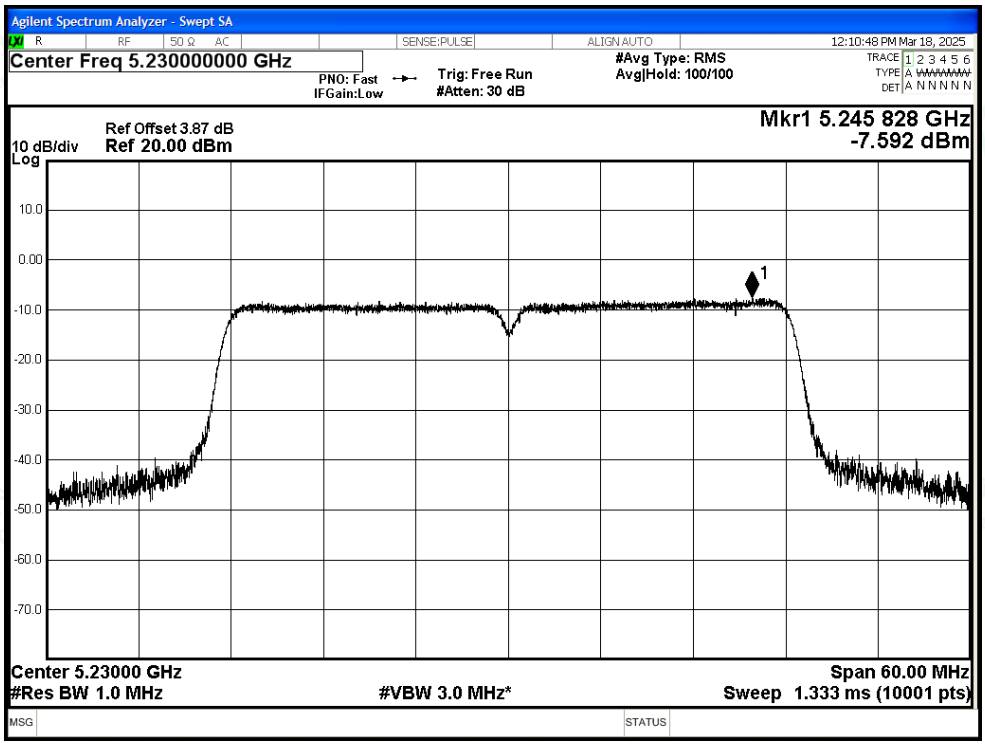
PSD NVNT n20 5240MHz Ant1



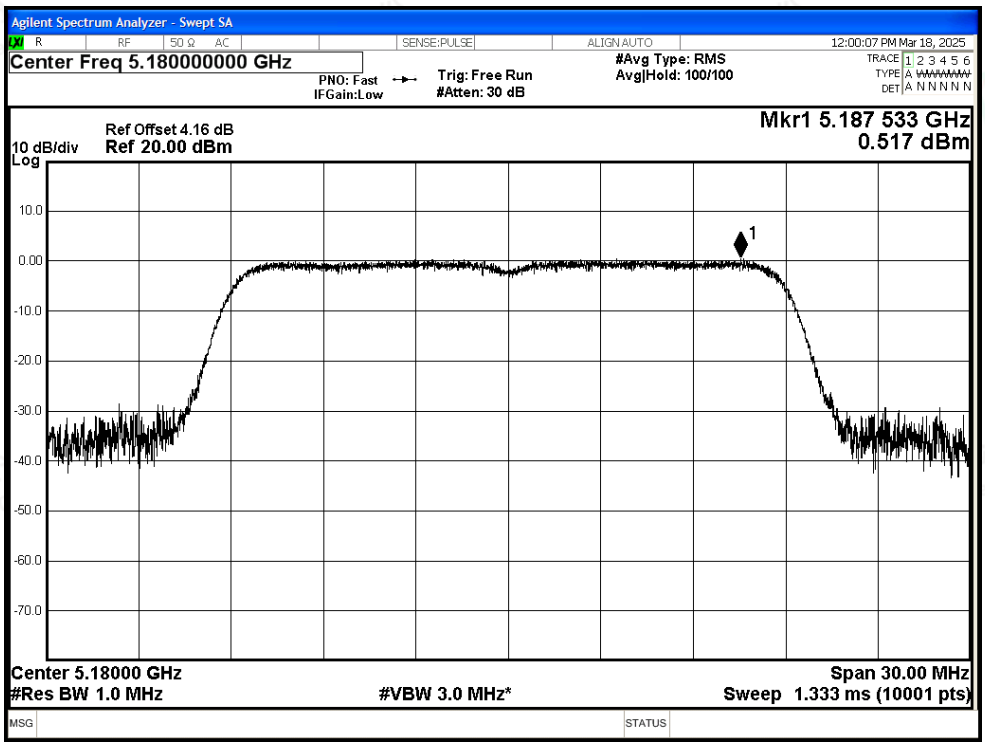
PSD NVNT n40 5190MHz Ant1



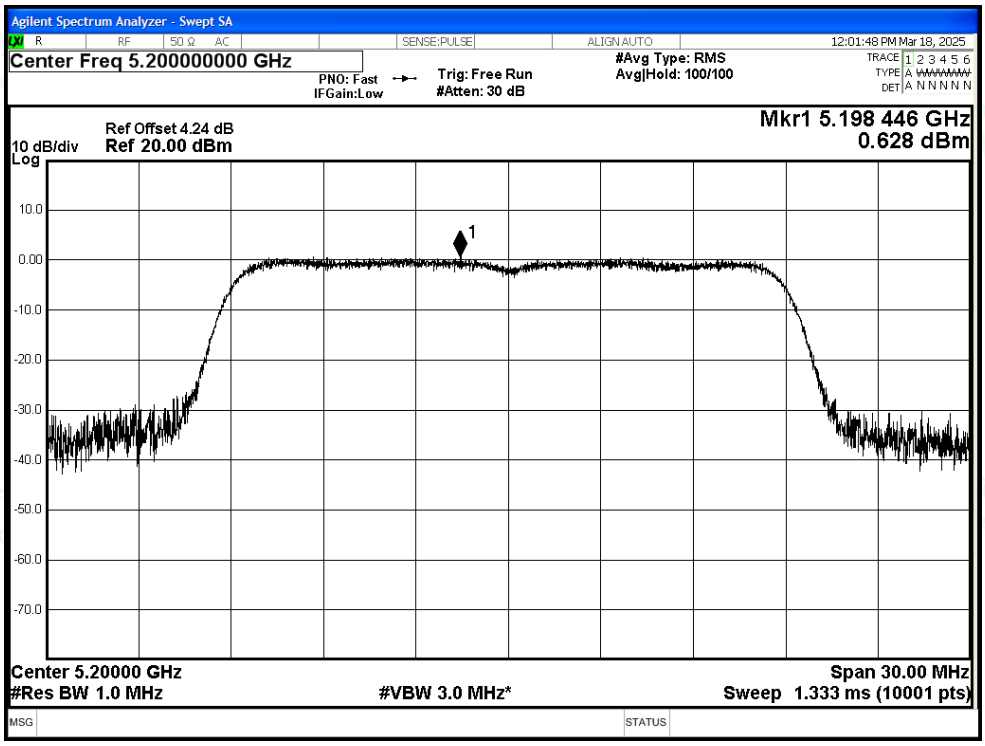
PSD NVNT n40 5230MHz Ant1



PSD NVNT ac20 5180MHz Ant1



PSD NVNT ac20 5200MHz Ant1



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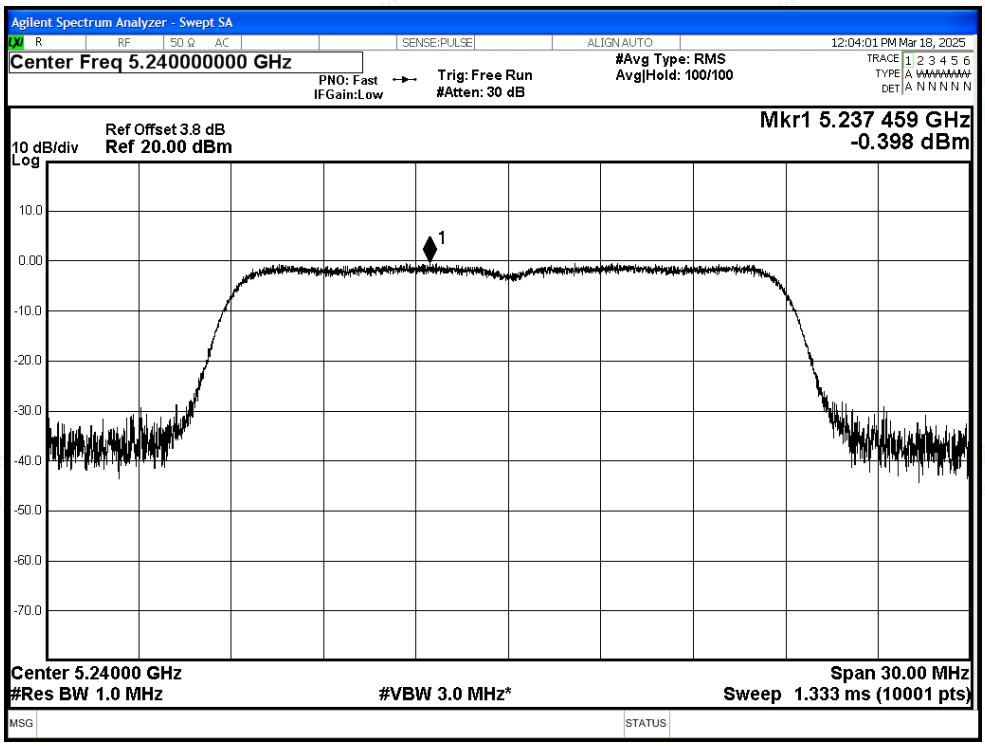
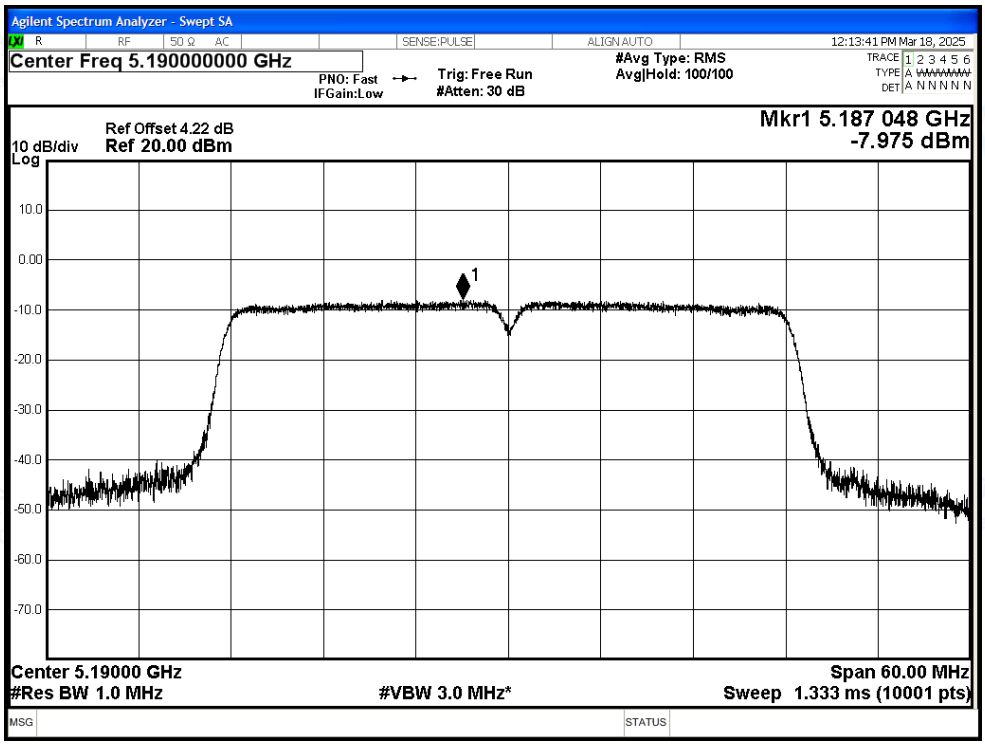
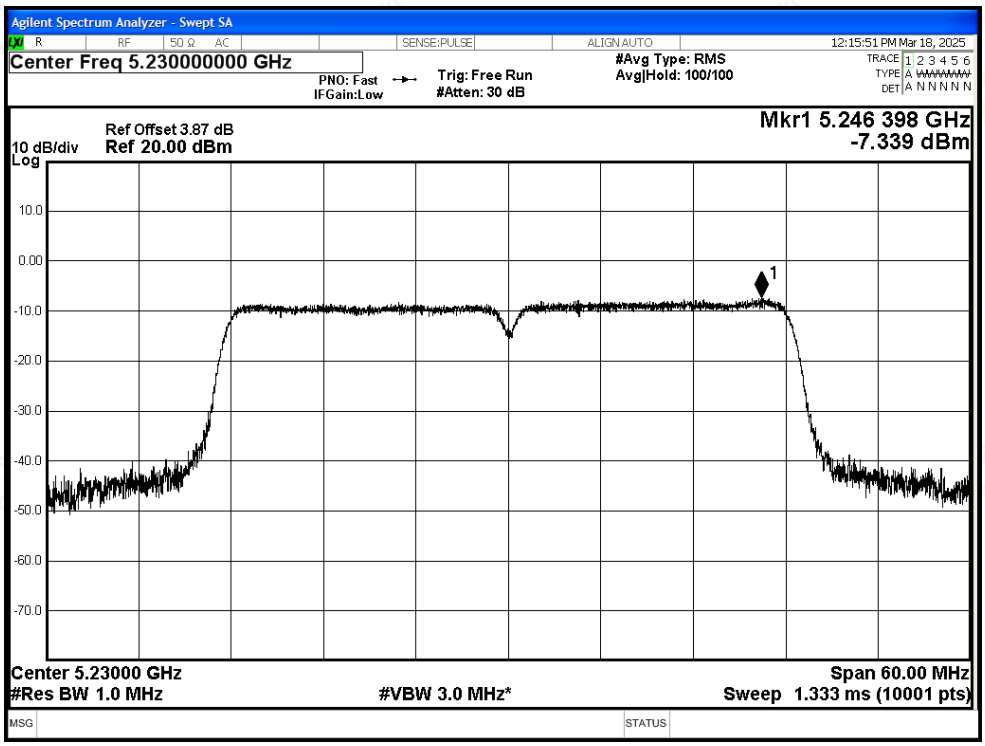


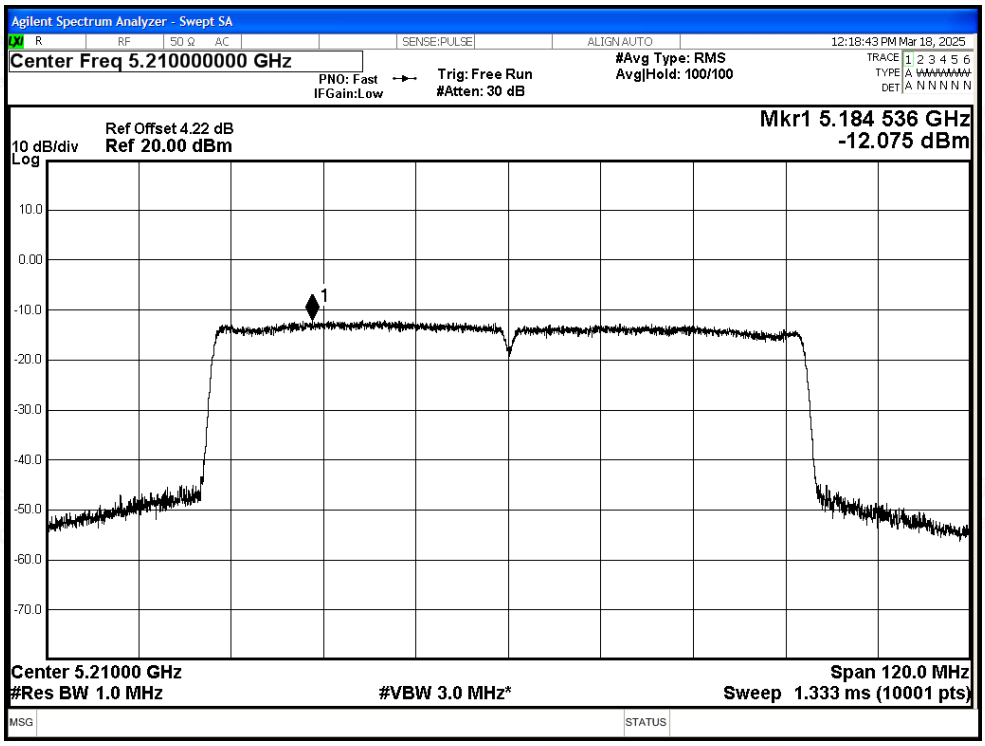
PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1

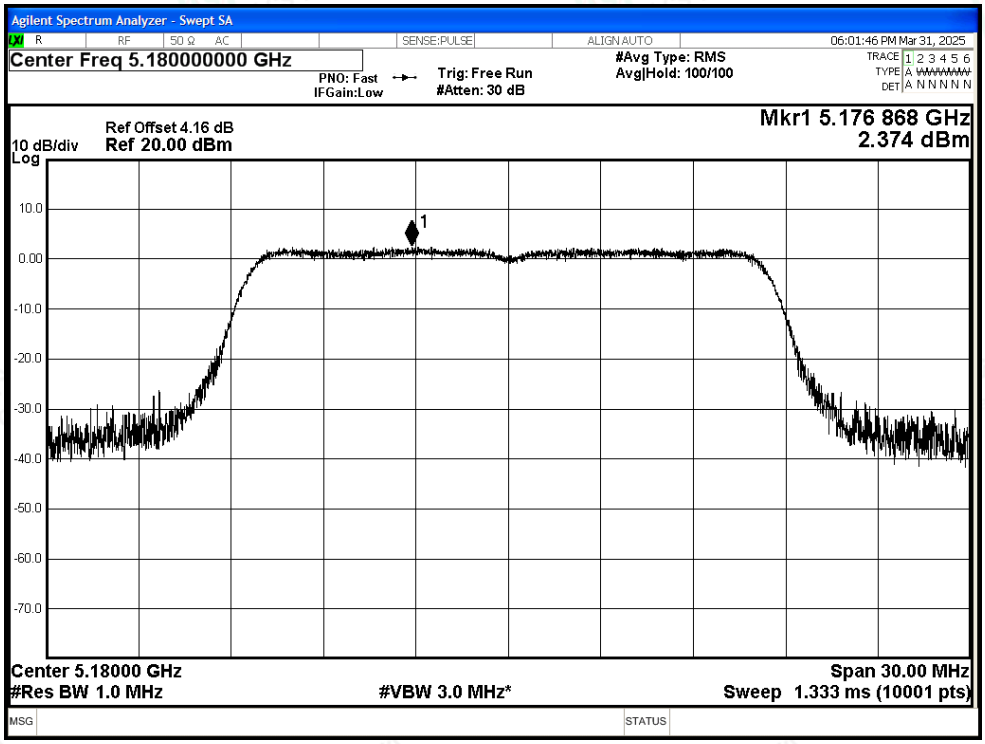


PSD NVNT ac80 5210MHz Ant1

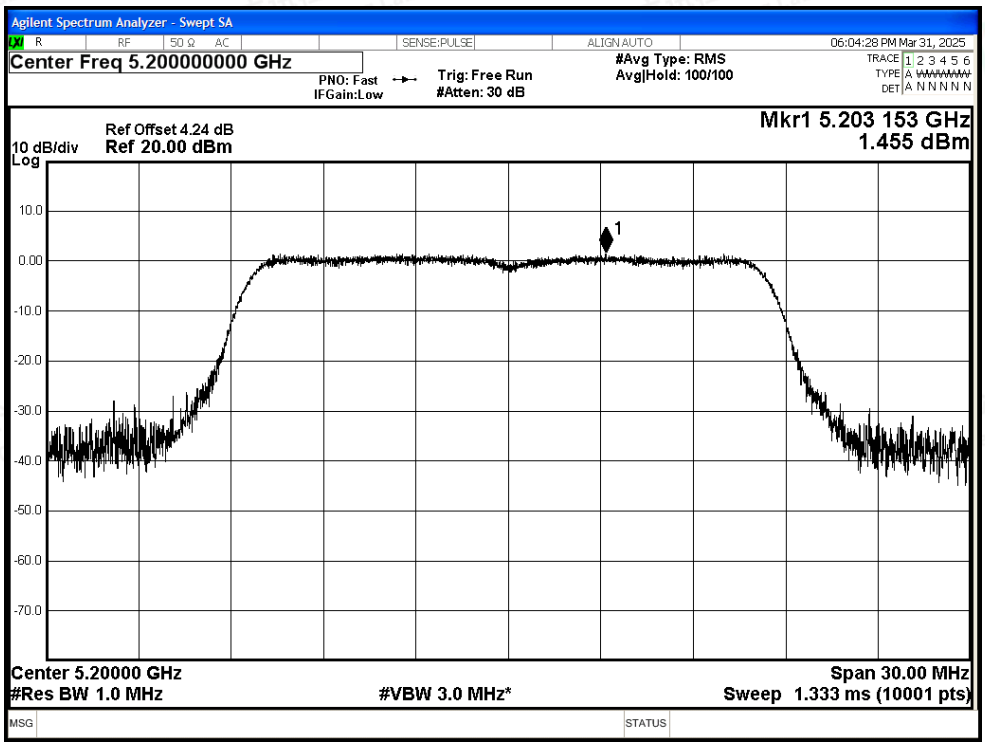


Test Graphs

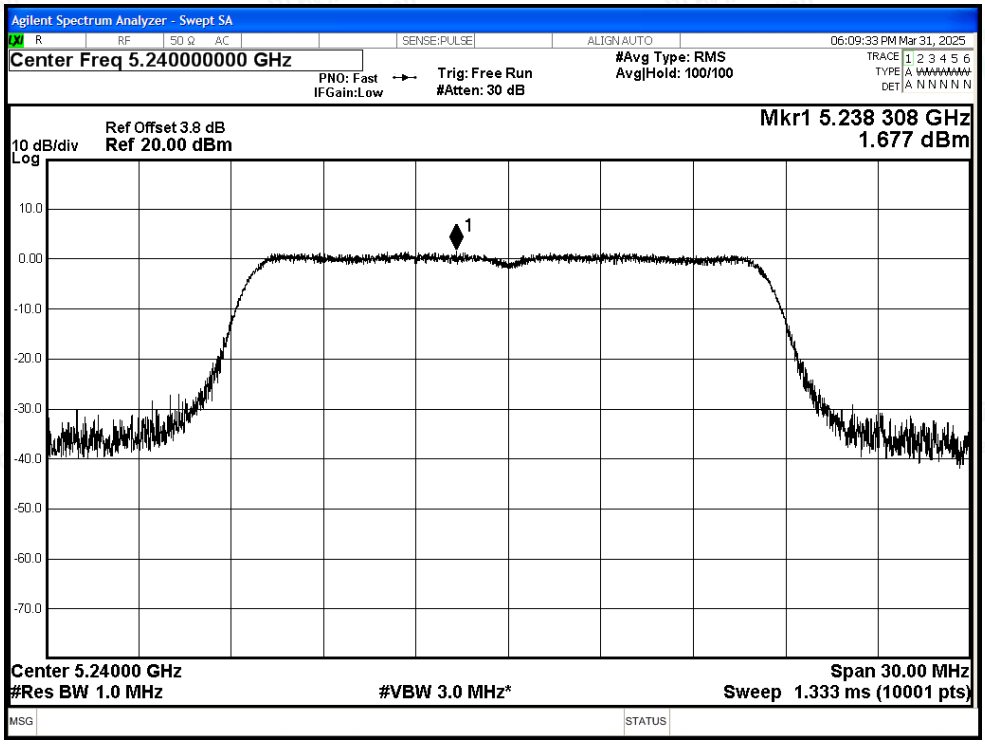
PSD NVNT a 5180MHz Ant2



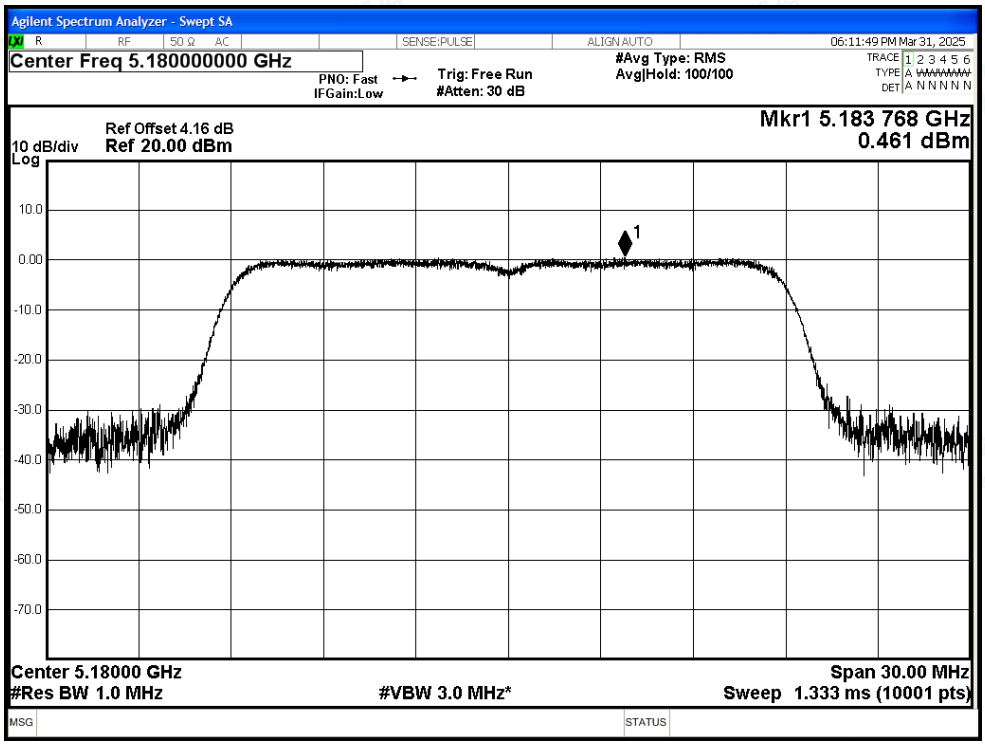
PSD NVNT a 5200MHz Ant2



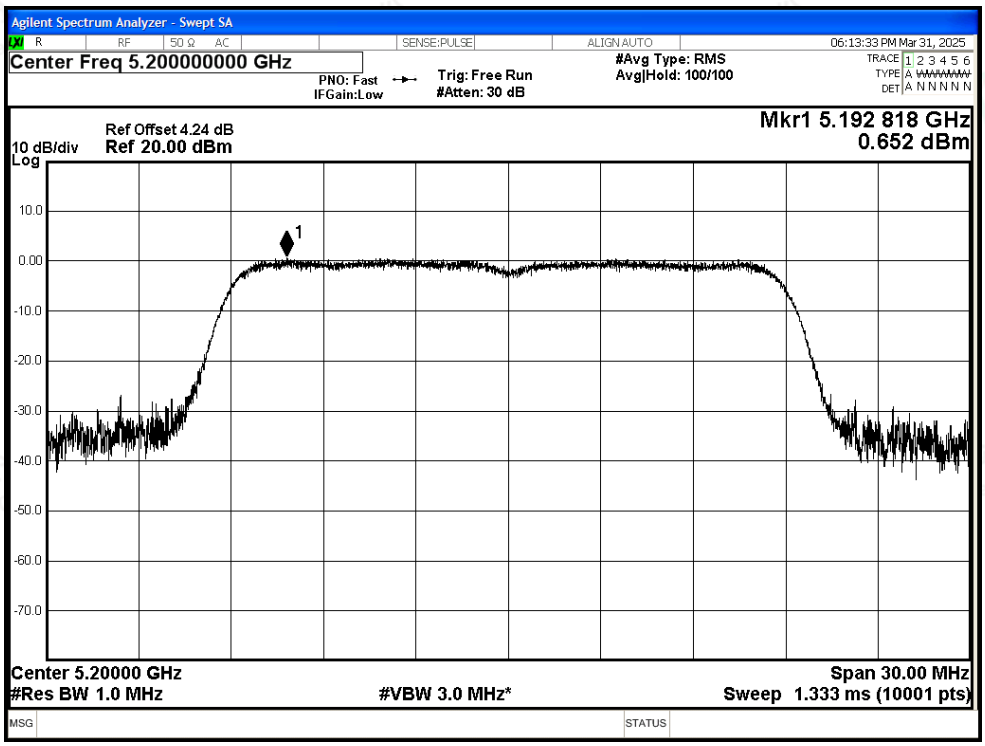
PSD NVNT a 5240MHz Ant2



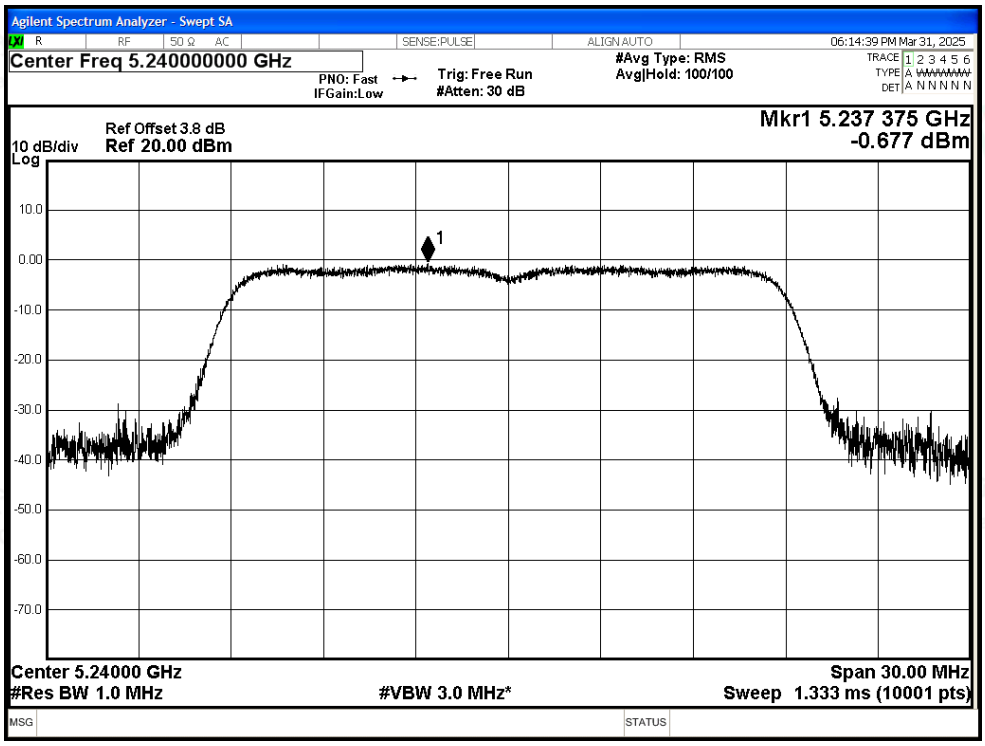
PSD NVNT n20 5180MHz Ant2



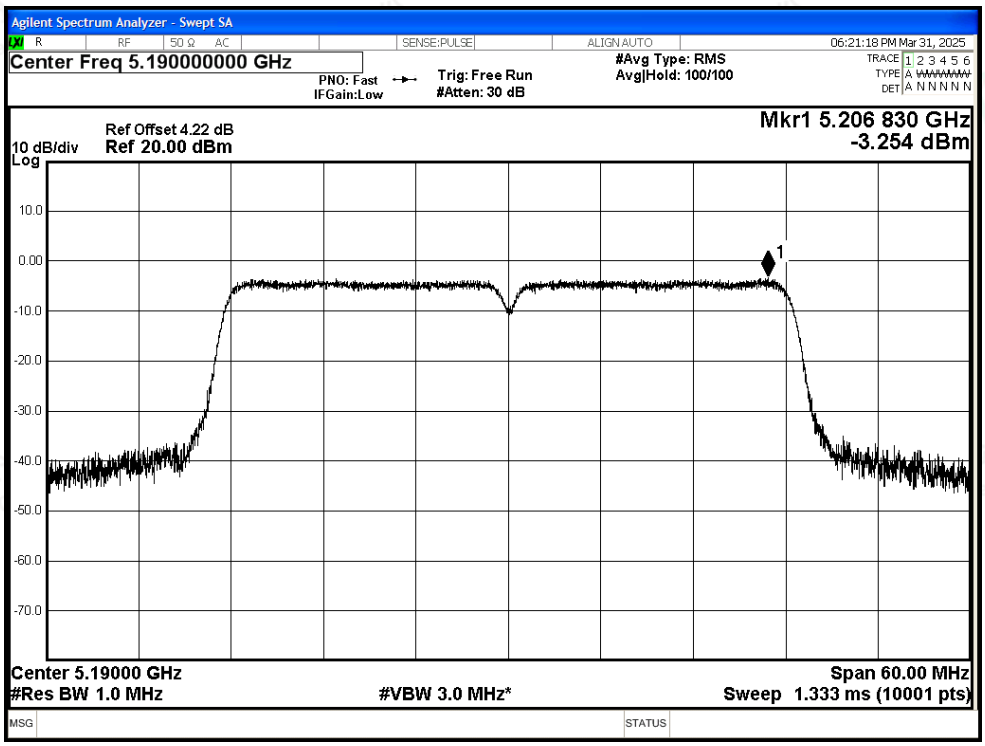
PSD NVNT n20 5200MHz Ant2



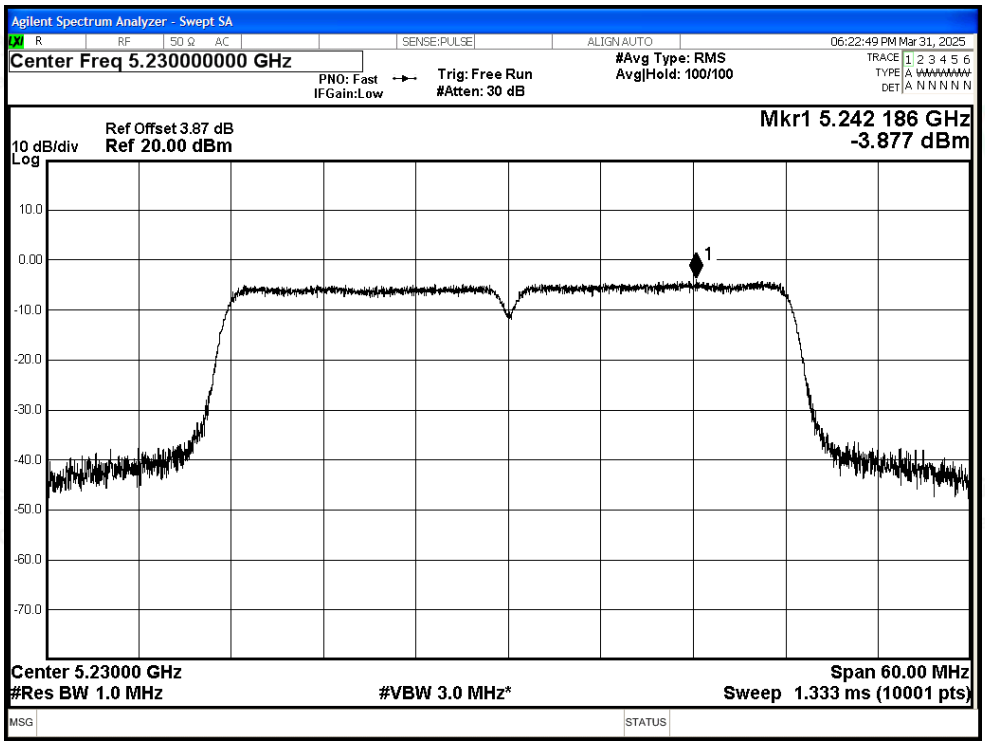
PSD NVNT n20 5240MHz Ant2



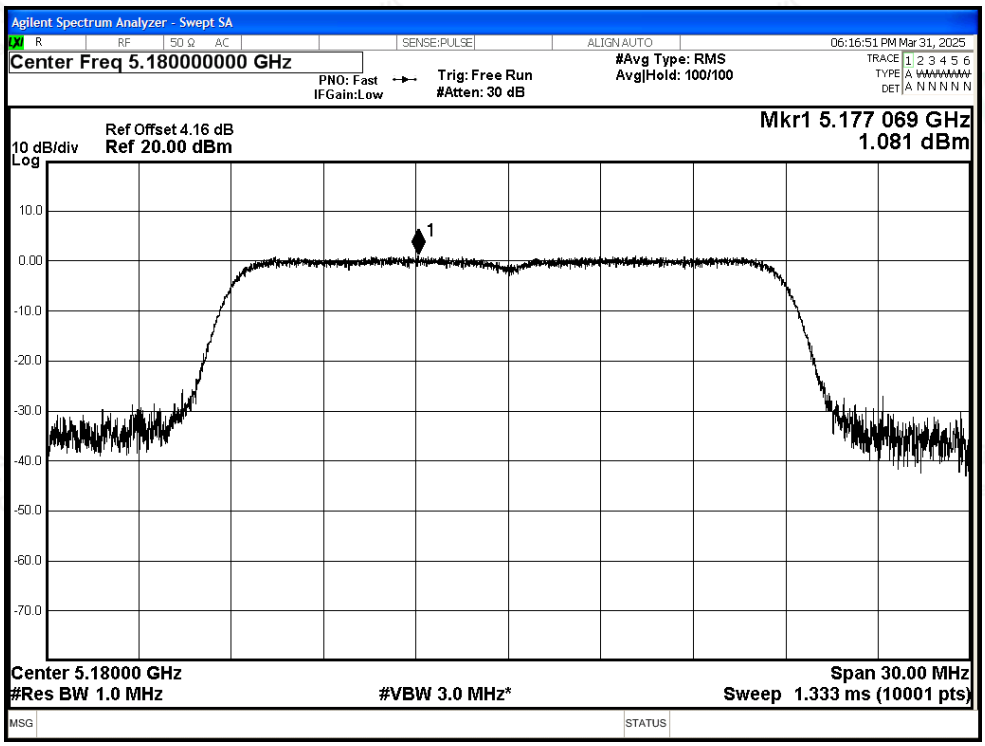
PSD NVNT n40 5190MHz Ant2



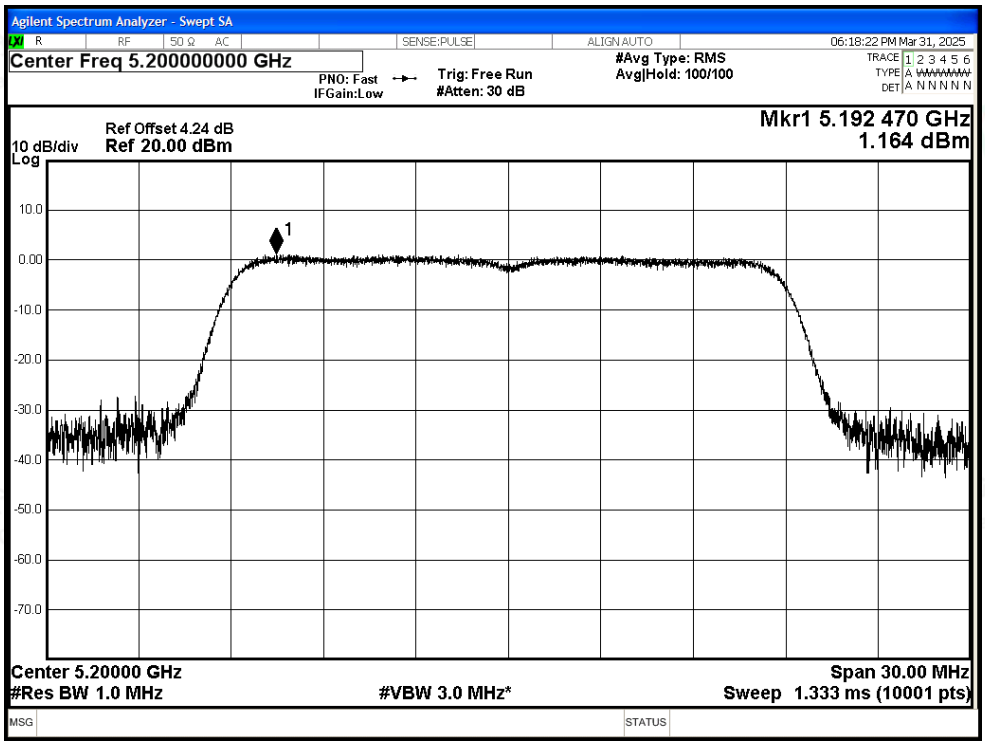
PSD NVNT n40 5230MHz Ant2



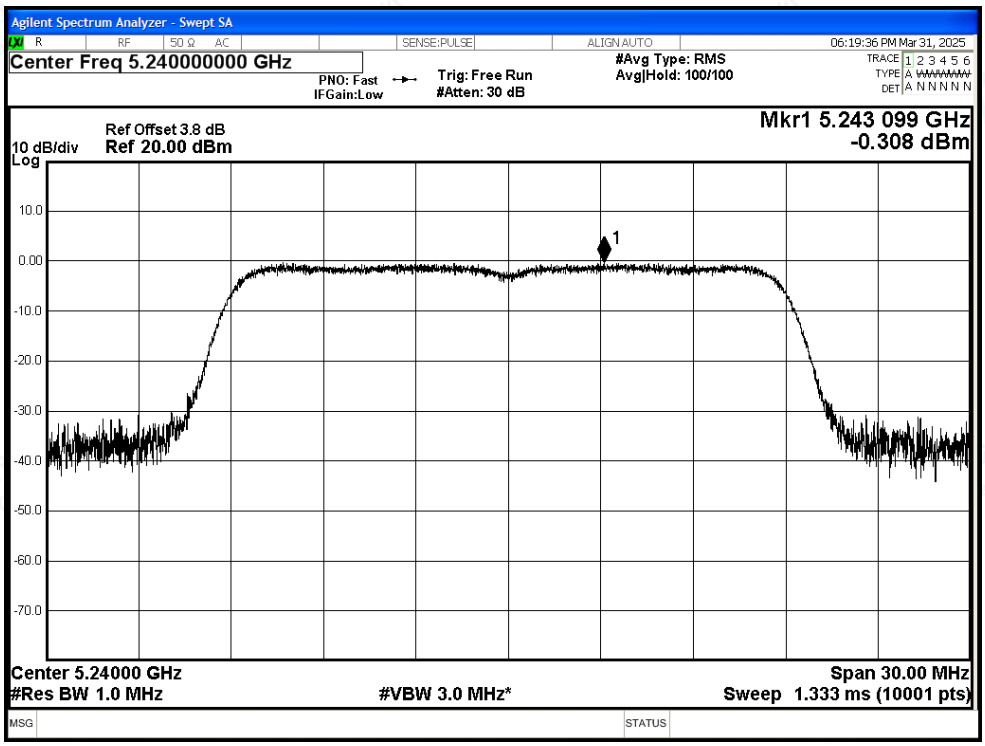
PSD NVNT ac20 5180MHz Ant2



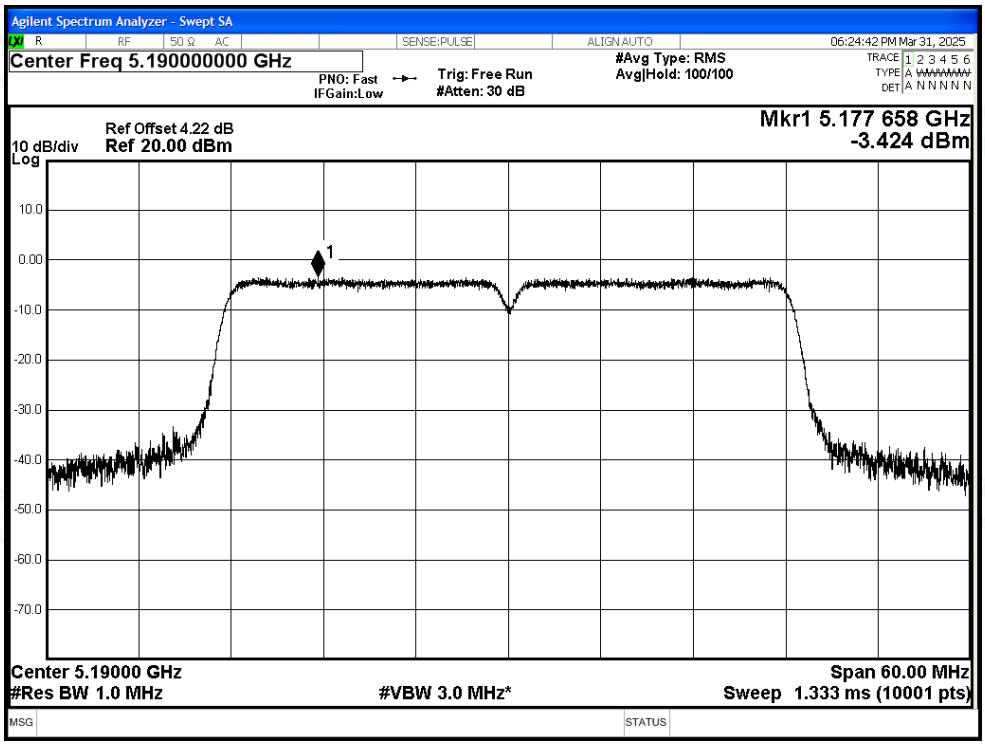
PSD NVNT ac20 5200MHz Ant2



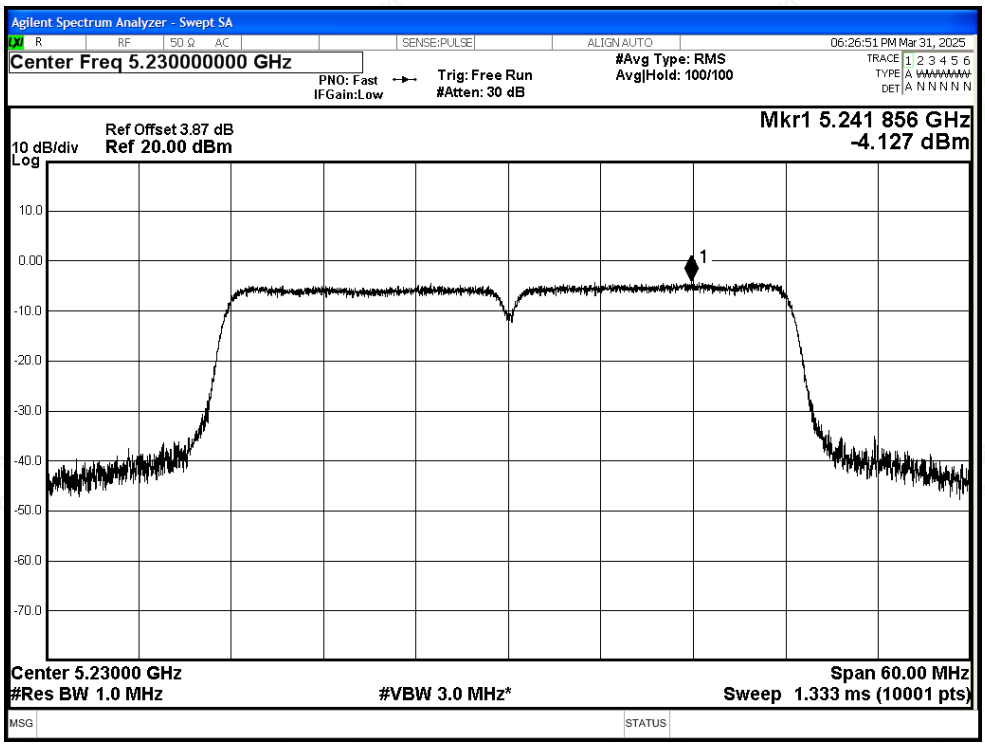
PSD NVNT ac20 5240MHz Ant2



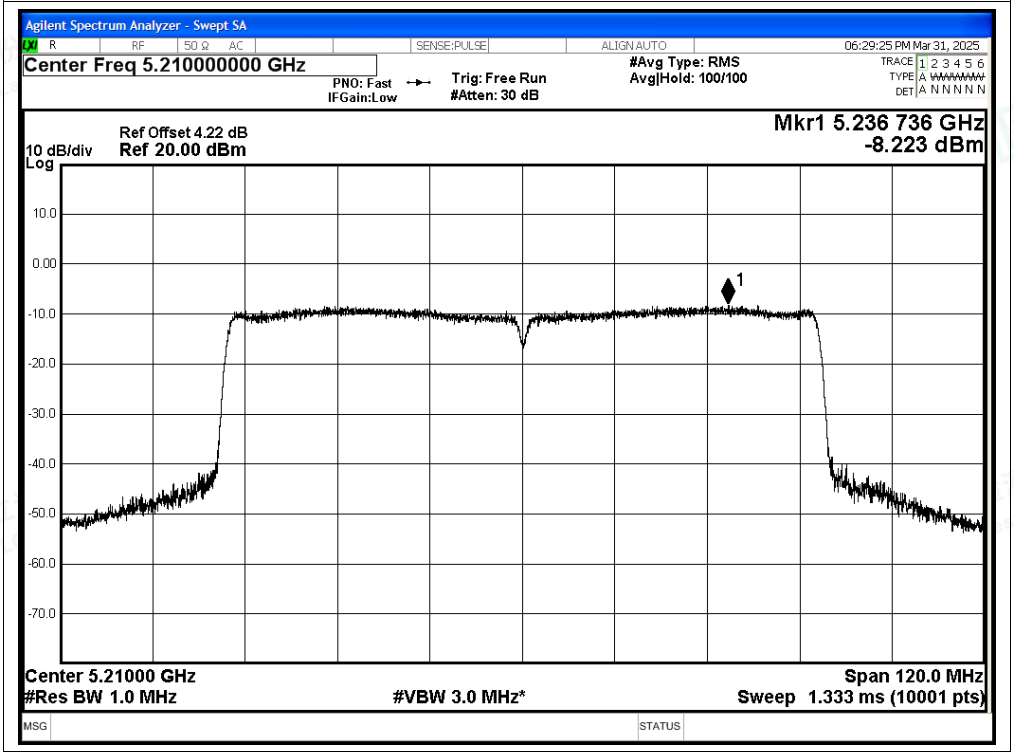
PSD NVNT ac40 5190MHz Ant2



PSD NVNT ac40 5230MHz Ant2



PSD NVNT ac80 5210MHz Ant2



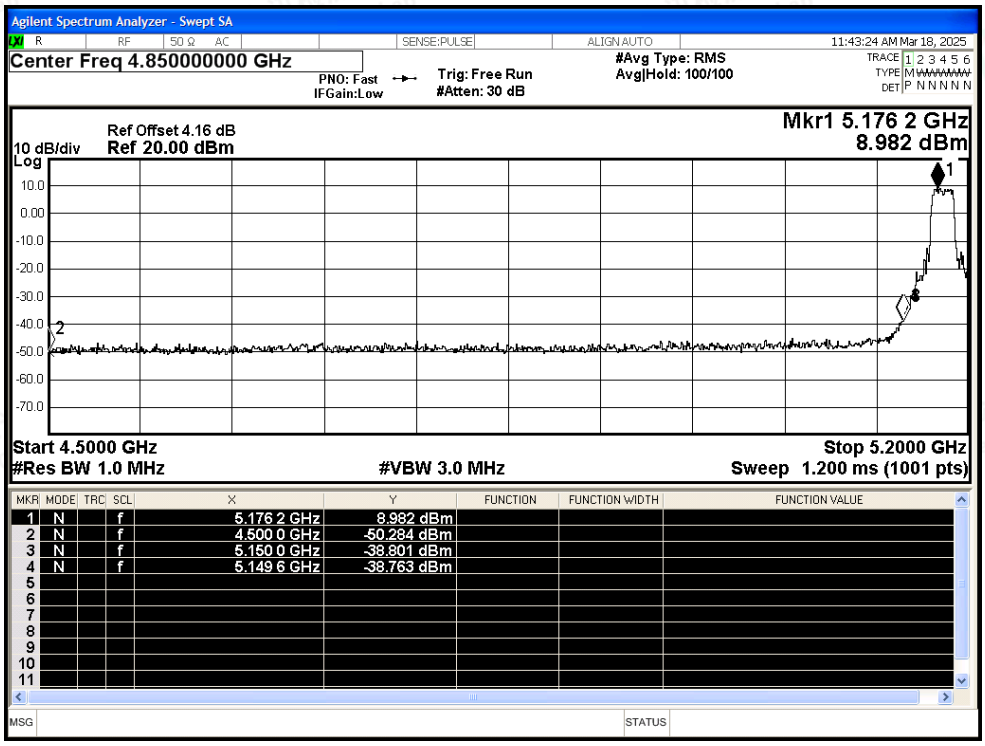
D.4 Restrict Band

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	Ant1	4500	-50.28	2	-	46.95	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-57.88	2	0.1	39.45	Average	54	Pass
NVNT	a	5180	Ant1	5149.6	-38.76	2	-	58.47	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-49.88	2	0.1	47.45	Average	54	Pass
NVNT	a	5180	Ant1	5150	-38.8	2	-	58.43	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-48.88	2	0.1	48.45	Average	54	Pass
NVNT	a	5240	Ant1	5350	-48.09	2	-	49.14	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-56.54	2	0.1	40.79	Average	54	Pass
NVNT	a	5240	Ant1	5374.56	-45.95	2	-	51.28	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350.8	-56	2	0.1	41.33	Average	54	Pass
NVNT	a	5240	Ant1	5460	-49.36	2	-	47.87	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-56.93	2	0.1	40.4	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-48.44	2	-	48.79	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-58.16	2	0.12	39.19	Average	54	Pass
NVNT	n20	5180	Ant1	5149.6	-35.94	2	-	61.29	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5149.6	-49.42	2	0.12	47.93	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-38.67	2	-	58.56	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-49.02	2	0.12	48.33	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-48.1	2	-	49.13	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-56.57	2	0.12	40.78	Average	54	Pass
NVNT	n20	5240	Ant1	5416.32	-46.39	2	-	50.84	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5371.92	-55.87	2	0.12	41.48	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-48.94	2	-	48.29	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-57.06	2	0.12	40.29	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-49.61	2	-	47.62	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-57.56	2	0.12	39.79	Average	54	Pass
NVNT	n40	5190	Ant1	5149.7	-39.42	2	-	57.81	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5149.7	-51.55	2	0.12	45.8	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-39.42	2	-	57.81	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-51.55	2	0.12	45.8	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-47.14	2	-	50.09	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-58.11	2	0.12	39.24	Average	54	Pass
NVNT	n40	5230	Ant1	5389.53	-45.64	2	-	51.59	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5370.36	-56.33	2	0.12	41.02	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-48.23	2	-	49	Peak	68.2	Pass

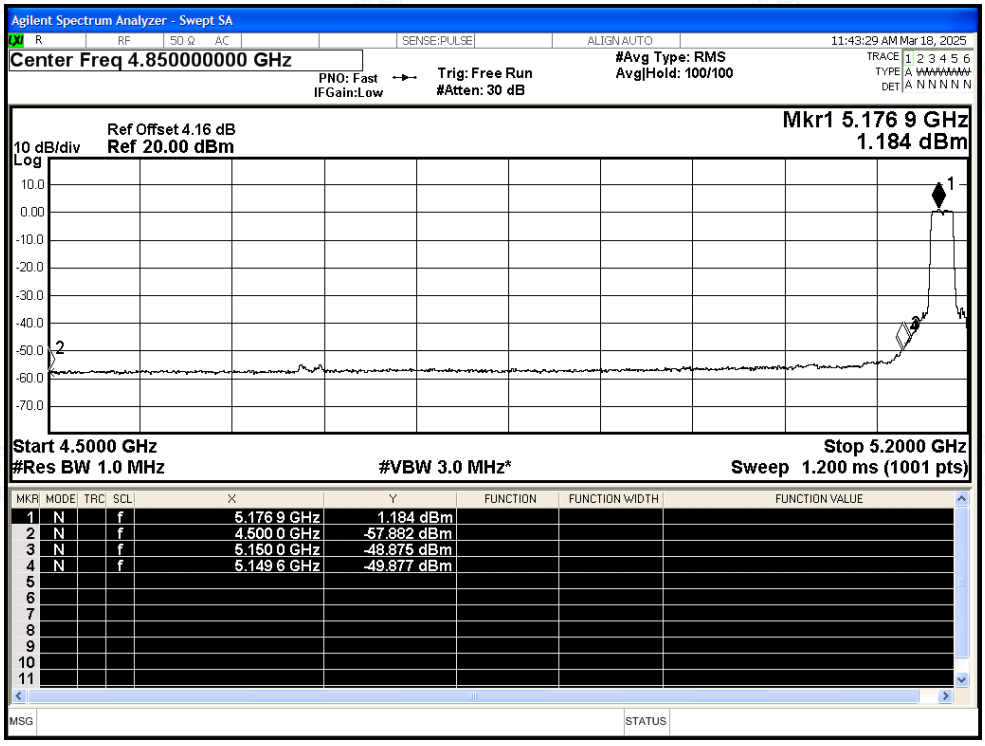
NVNT	n40	5230	Ant1	5460	-57.48	2	0.12	39.87	Average	54	Pass
NVNT	ac20	5180	Ant1	4500	-49.68	2	-	47.55	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	4500	-57.77	2	0.12	39.58	Average	54	Pass
NVNT	ac20	5180	Ant1	5148.9	-39.54	2	-	57.69	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5149.6	-51.03	2	0.12	46.32	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-40.57	2	-	56.66	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-50.39	2	0.12	46.96	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-48.25	2	-	48.98	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-56.27	2	0.12	41.08	Average	54	Pass
NVNT	ac20	5240	Ant1	5442.72	-46.14	2	-	51.09	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350.56	-56.17	2	0.12	41.18	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-50.36	2	-	46.87	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-58.15	2	0.12	39.2	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-47.75	2	-	49.48	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-58	2	0.12	39.35	Average	54	Pass
NVNT	ac40	5190	Ant1	5149.7	-41.96	2	-	55.27	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5148.97	-53.49	2	0.12	43.86	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-41.96	2	-	55.27	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-54.34	2	0.12	43.01	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-48.25	2	-	48.98	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-57.48	2	0.12	39.87	Average	54	Pass
NVNT	ac40	5230	Ant1	5413.02	-45.85	2	-	51.38	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5368.47	-56.35	2	0.12	41	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-49.91	2	-	47.32	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-57.72	2	0.12	39.63	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-49.22	2	-	48.01	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-56.71	2	0.25	40.77	Average	54	Pass
NVNT	ac80	5210	Ant1	5457.03	-46.26	2	-	50.97	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5368.59	-56.18	2	0.25	41.3	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-48.39	2	-	48.84	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-57.3	2	0.25	40.18	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-47.45	2	-	49.78	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-58.17	2	0.25	39.31	Average	54	Pass
NVNT	ac80	5210	Ant1	5148.59	-42.41	2	-	54.82	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5149.38	-52.95	2	0.25	44.53	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-42.73	2	-	54.5	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-53.03	2	0.25	44.45	Average	54	Pass

Test Graphs

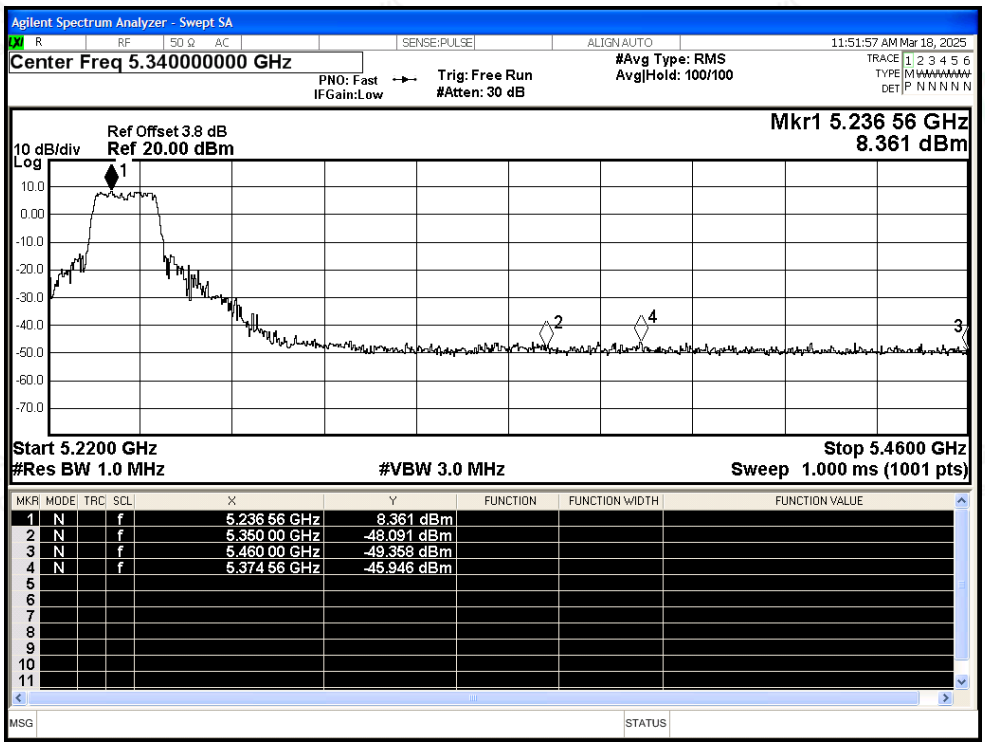
Restrict Band NVNT a 5180MHz Ant1 Peak



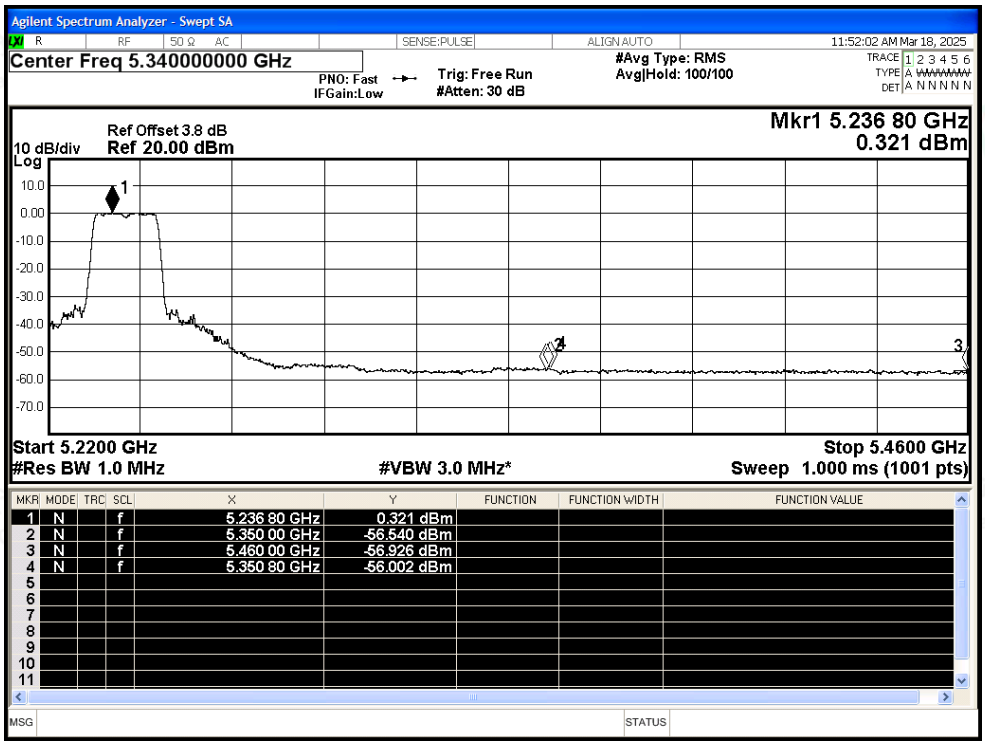
Restrict Band NVNT a 5180MHz Ant1 Average



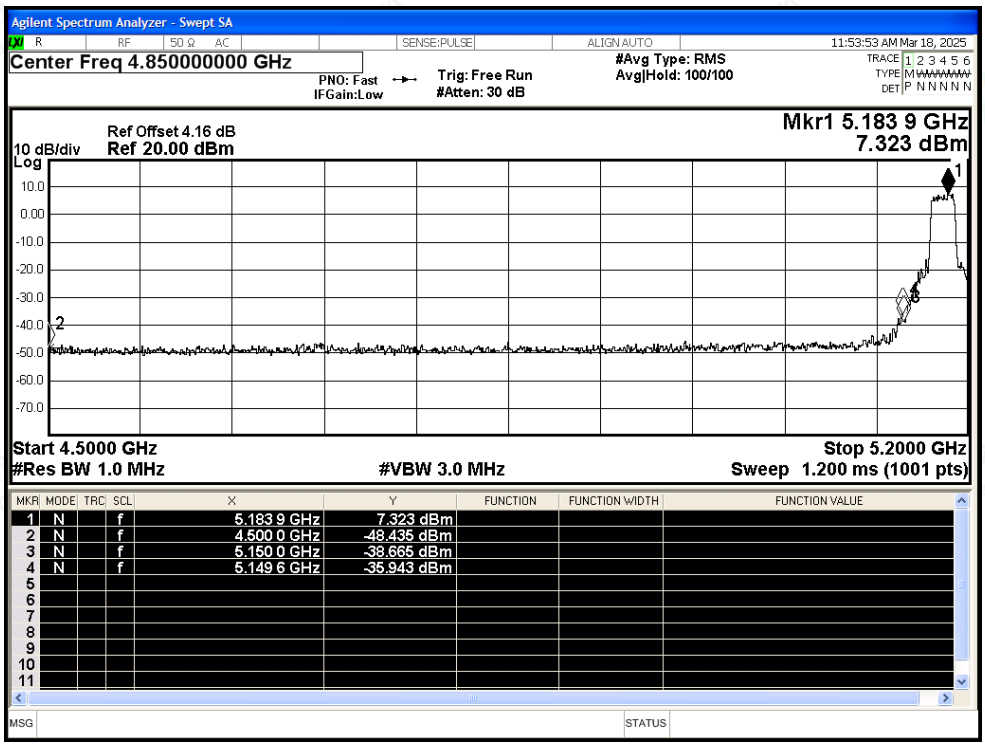
Restrict Band NVNT a 5240MHz Ant1 Peak



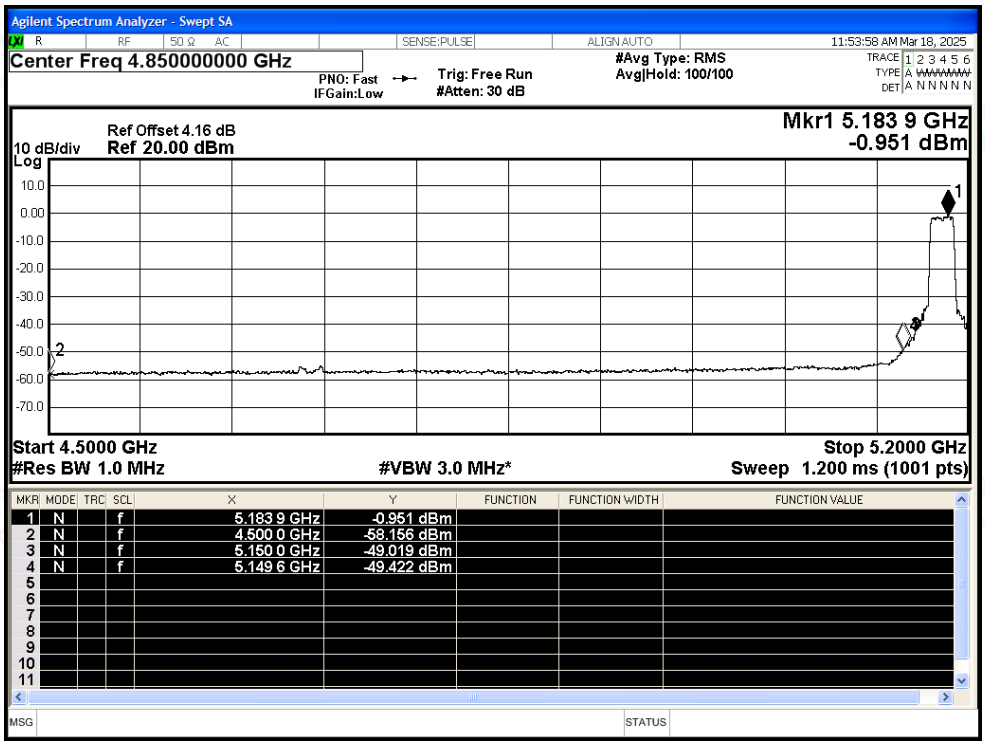
Restrict Band NVNT a 5240MHz Ant1 Average



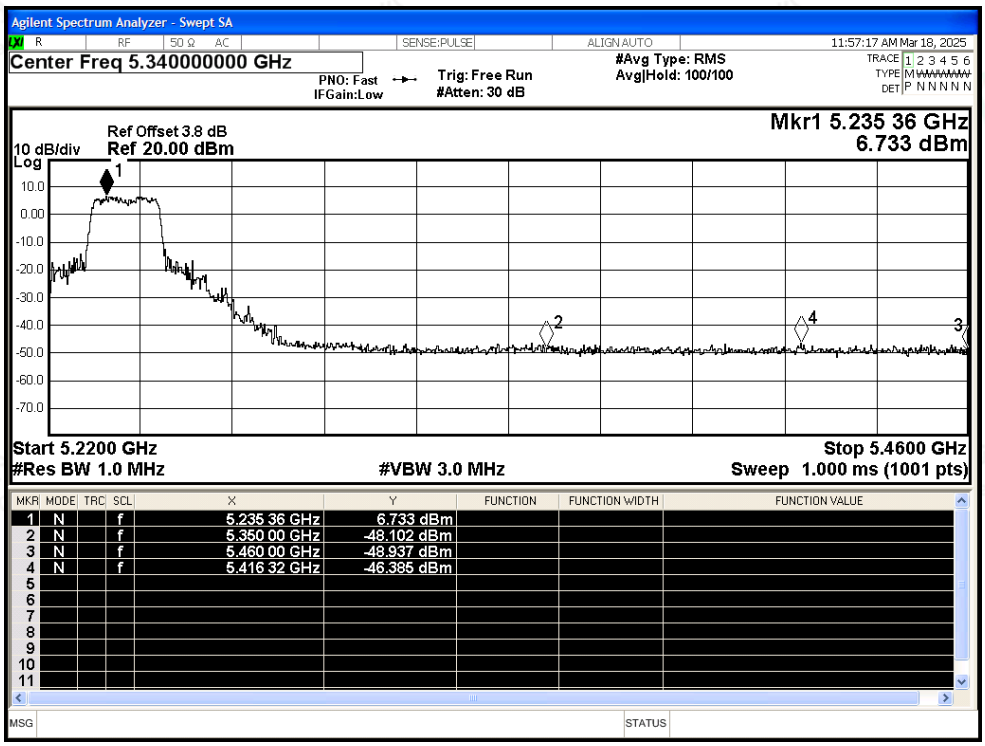
Restrict Band NVNT n20 5180MHz Ant1 Peak



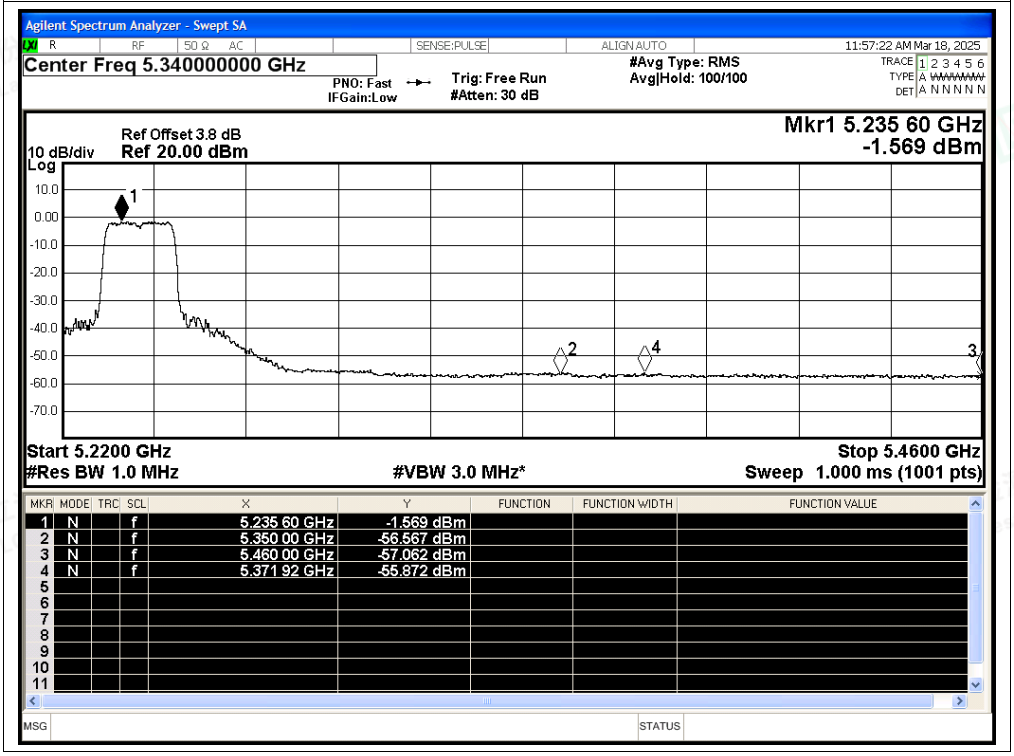
Restrict Band NVNT n20 5180MHz Ant1 Average



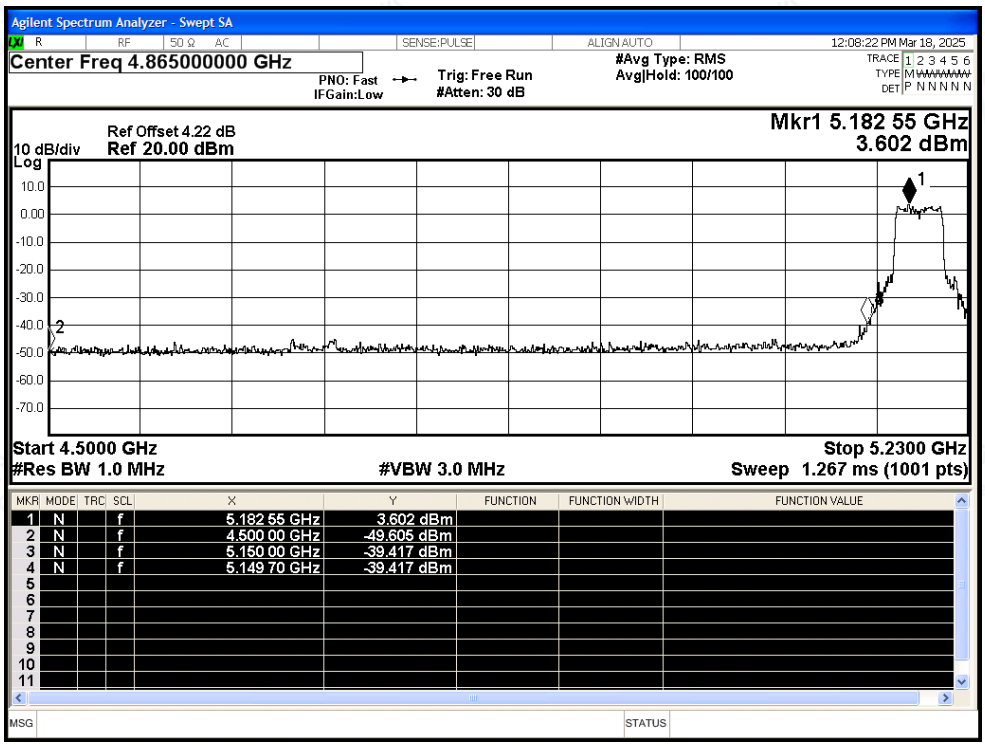
Restrict Band NVNT n20 5240MHz Ant1 Peak



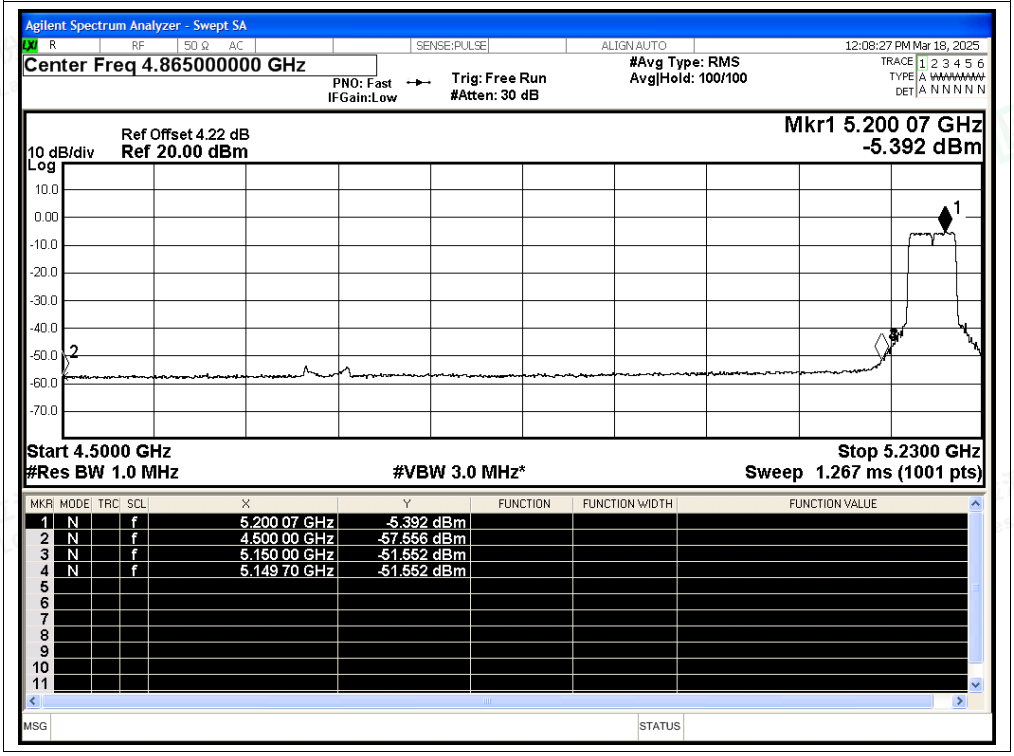
Restrict Band NVNT n20 5240MHz Ant1 Average



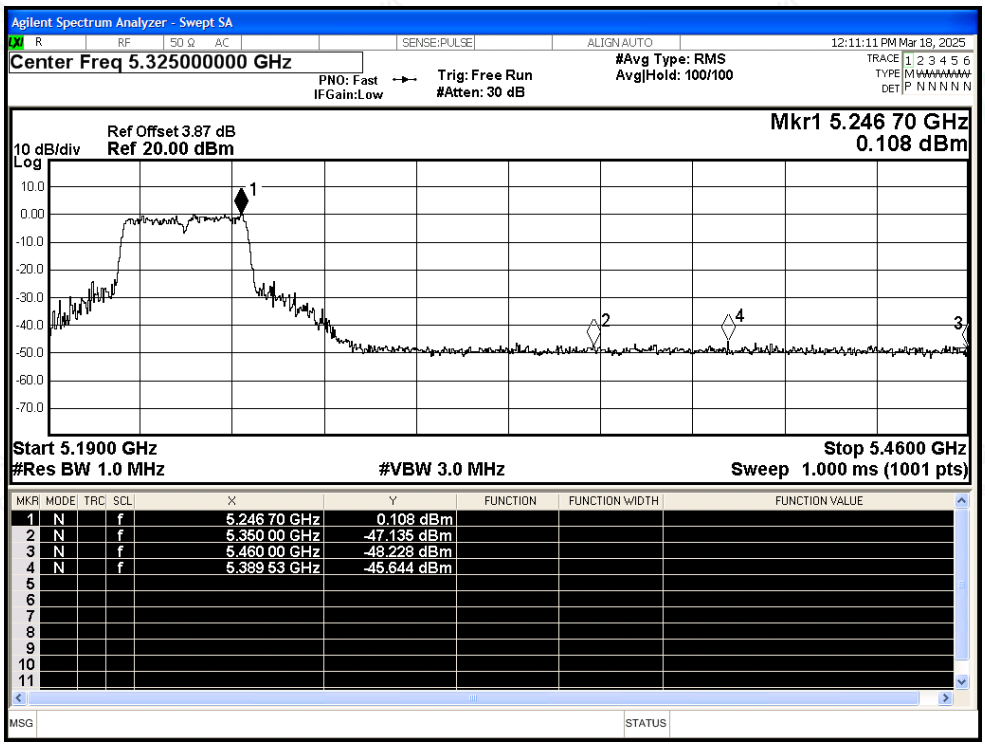
Restrict Band NVNT n40 5190MHz Ant1 Peak



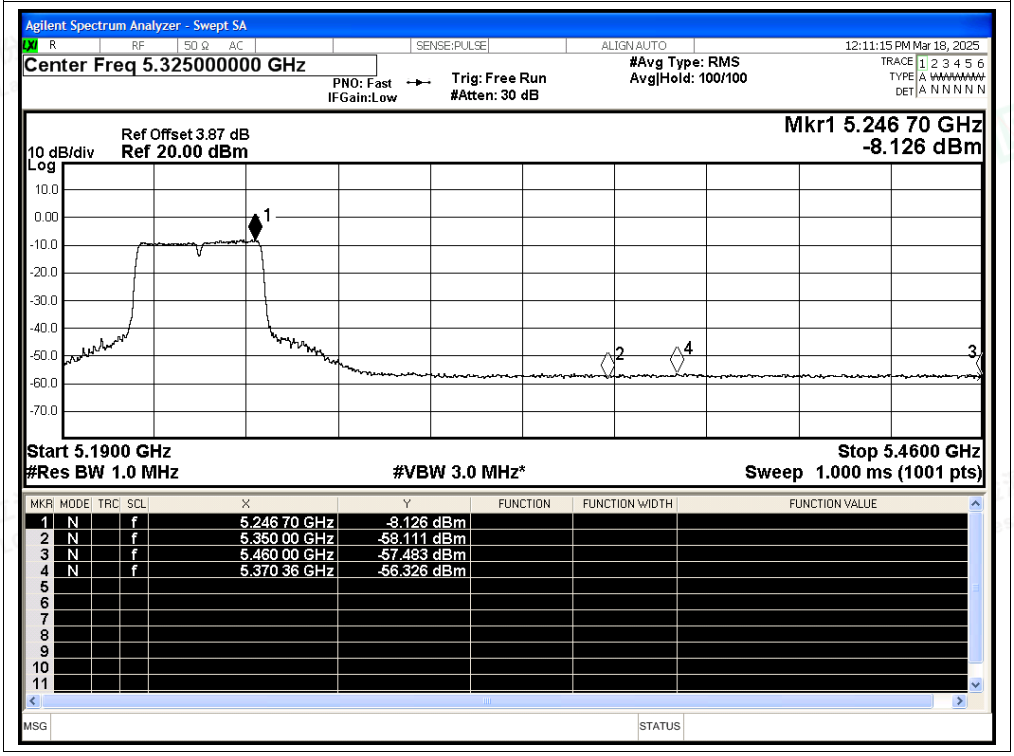
Restrict Band NVNT n40 5190MHz Ant1 Average



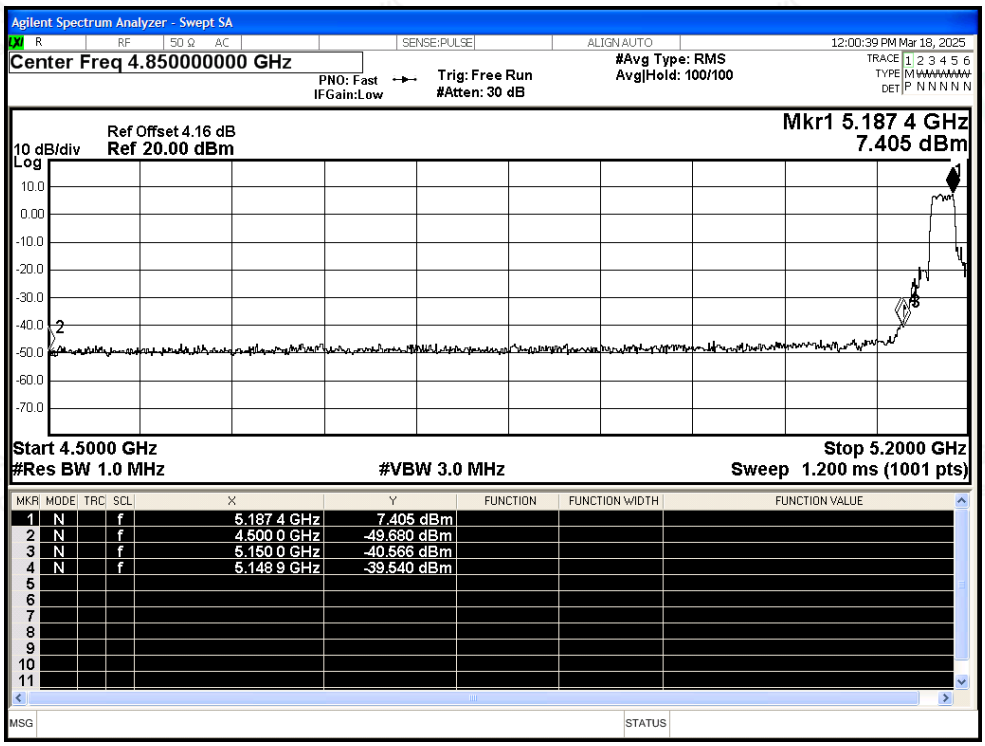
Restrict Band NVNT n40 5230MHz Ant1 Peak



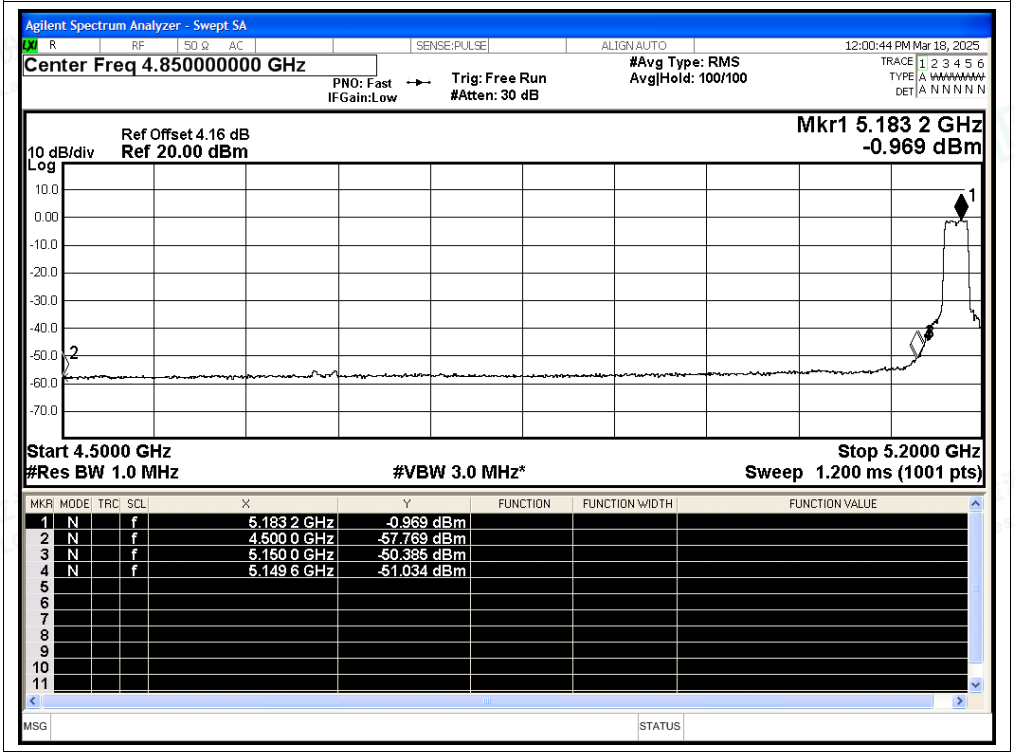
Restrict Band NVNT n40 5230MHz Ant1 Average



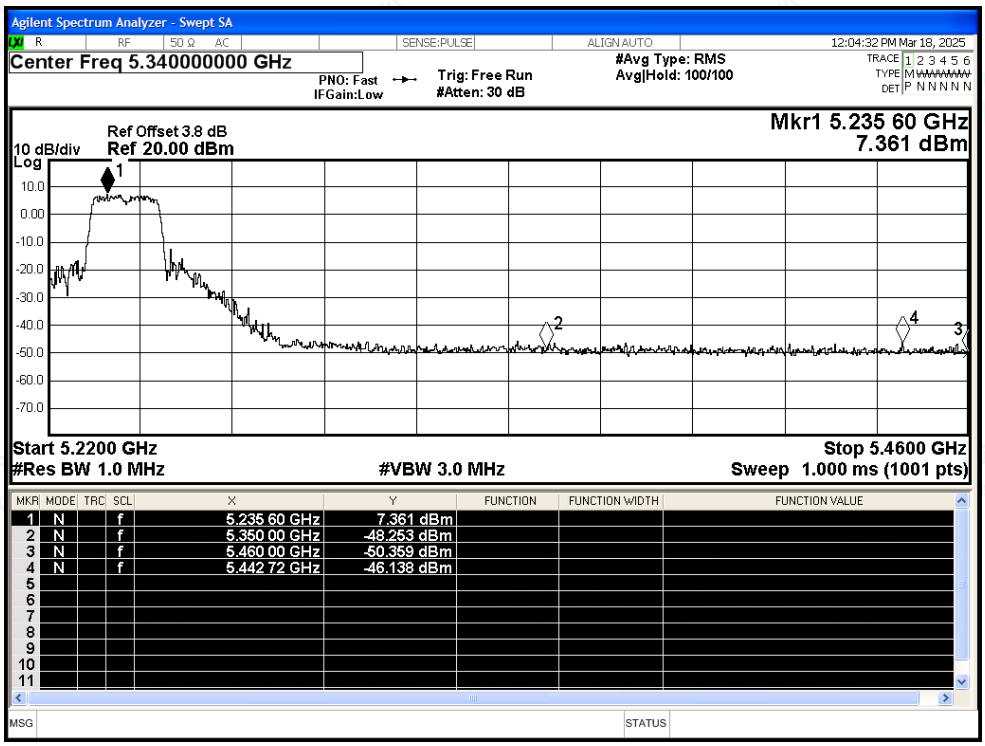
Restrict Band NVNT ac20 5180MHz Ant1 Peak



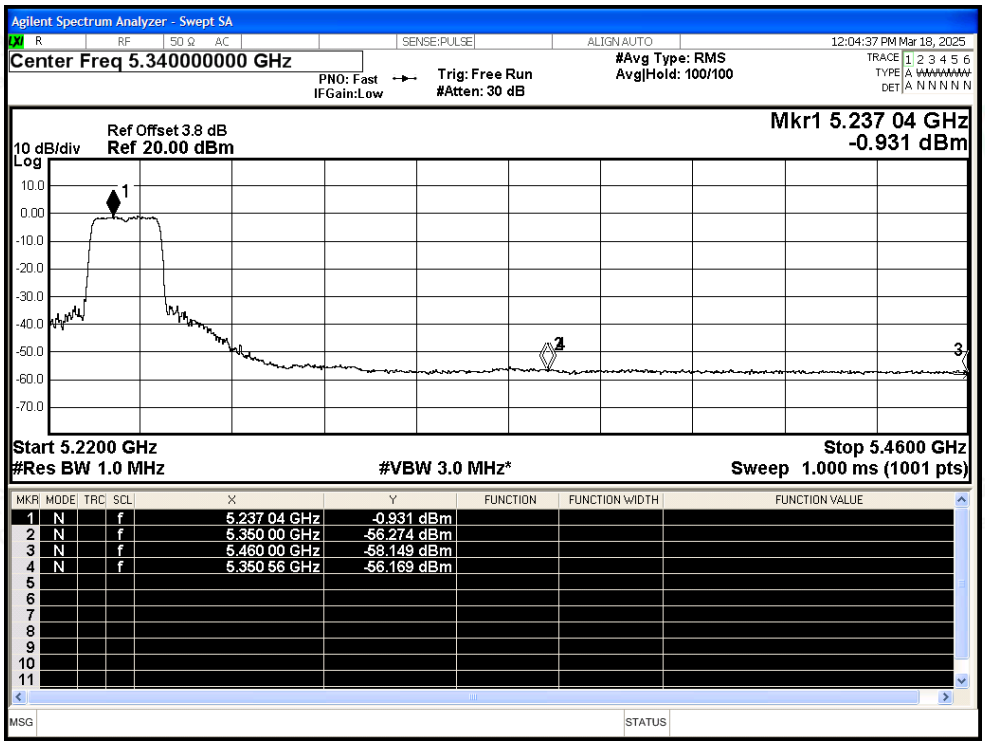
Restrict Band NVNT ac20 5180MHz Ant1 Average



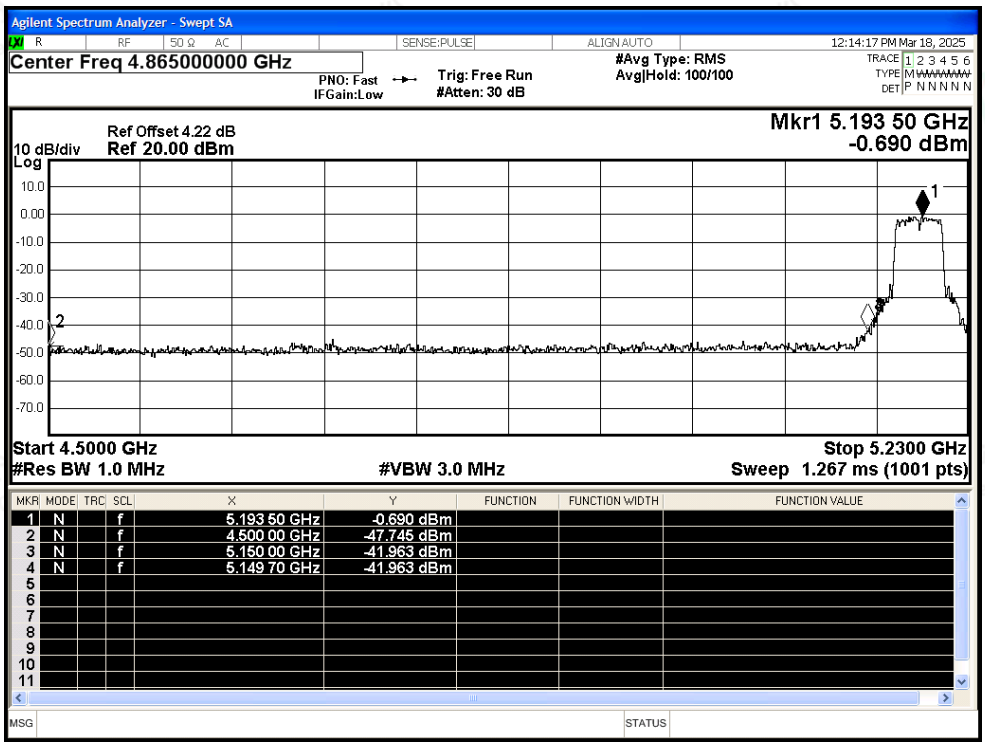
Restrict Band NVNT ac20 5240MHz Ant1 Peak



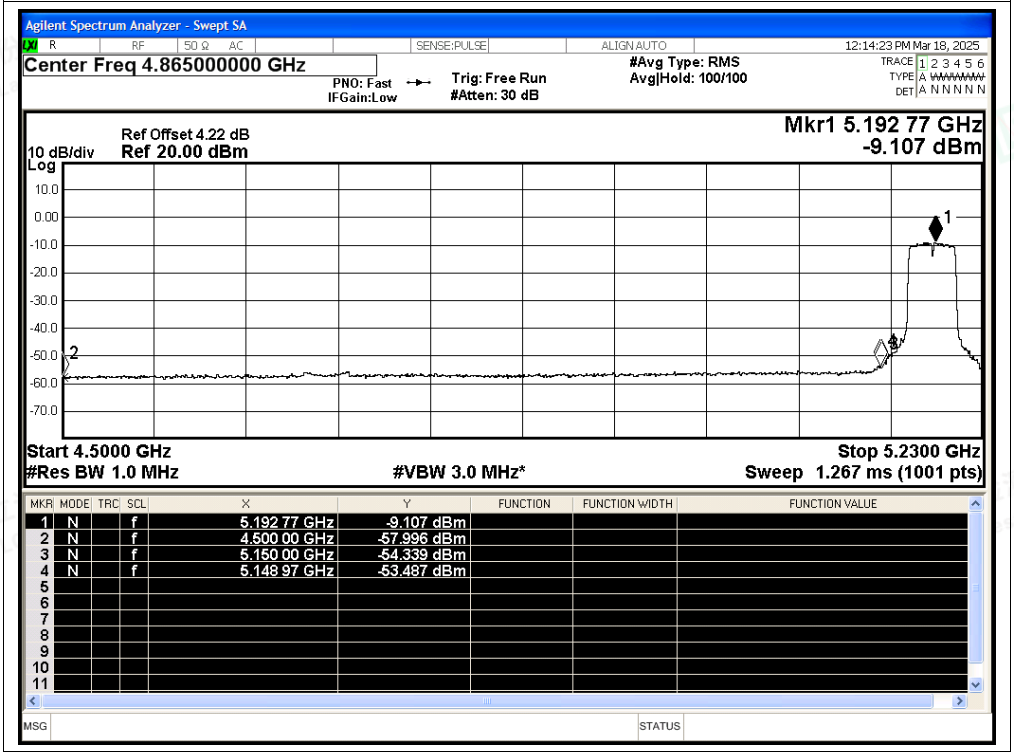
Restrict Band NVNT ac20 5240MHz Ant1 Average



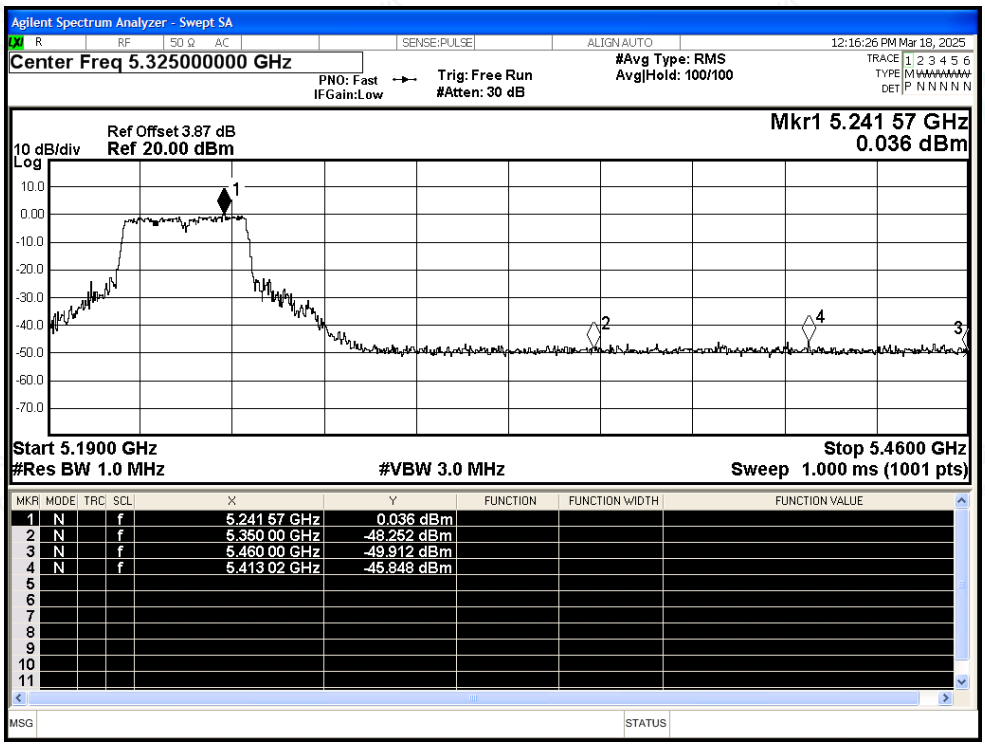
Restrict Band NVNT ac40 5190MHz Ant1 Peak



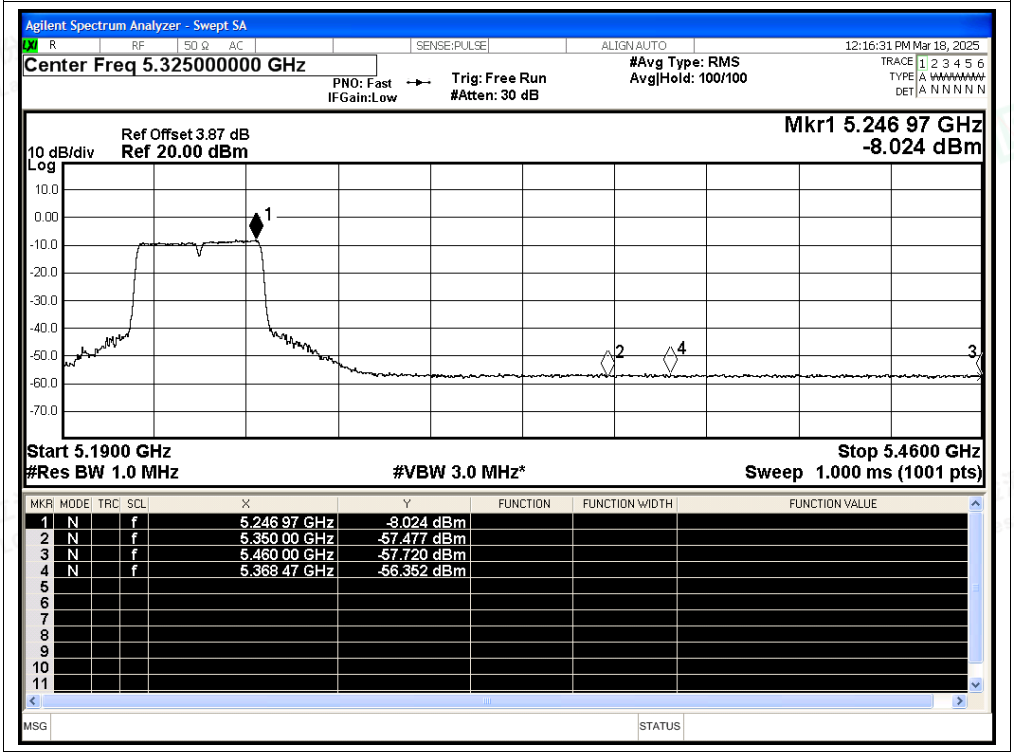
Restrict Band NVNT ac40 5190MHz Ant1 Average



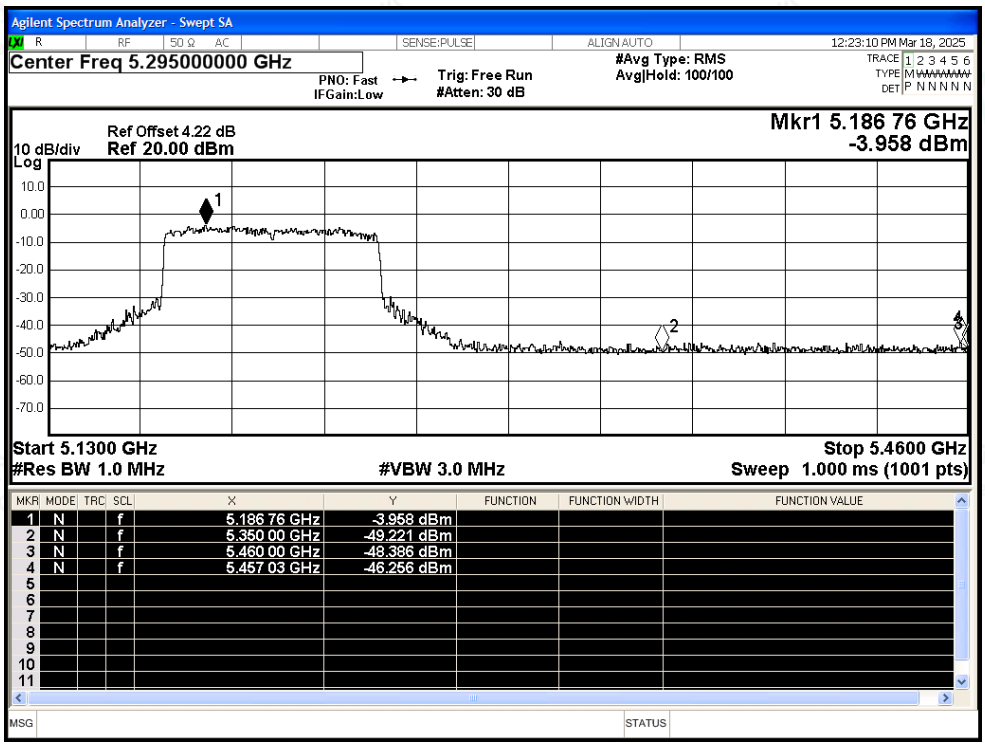
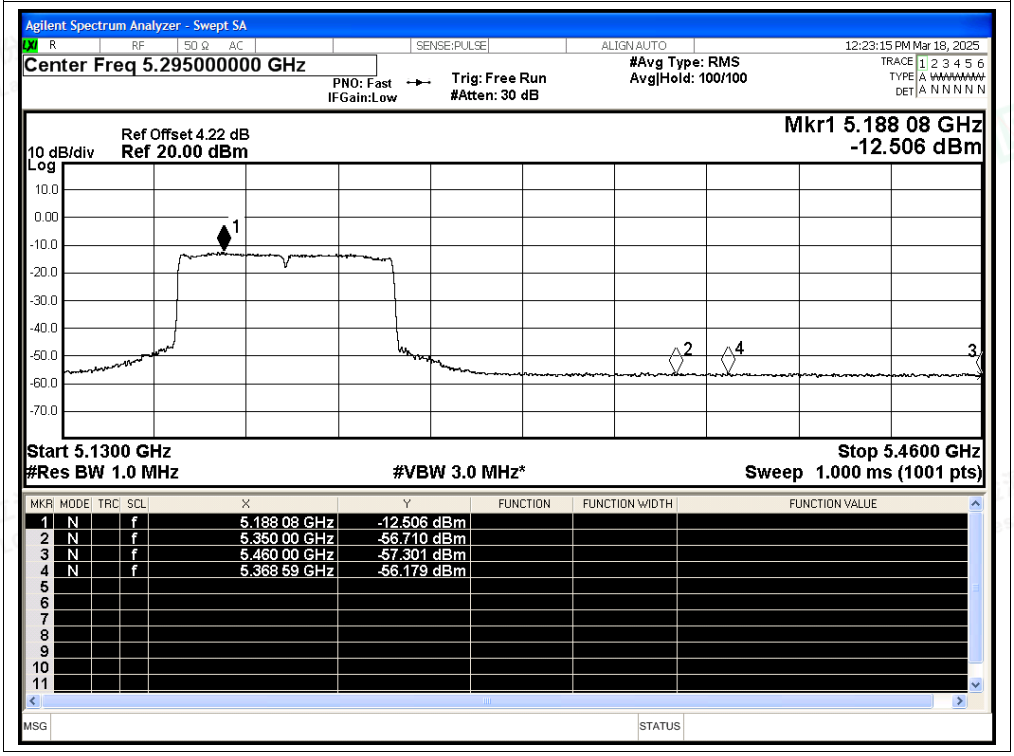
Restrict Band NVNT ac40 5230MHz Ant1 Peak



Restrict Band NVNT ac40 5230MHz Ant1 Average



Restrict Band NVNT ac80 5210MHz Ant1 Peak



Restrict Band NVNT ac80 5210MHz Ant1 Average