Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: Smart Gym

Test Model: MA001

Environmental Conditions

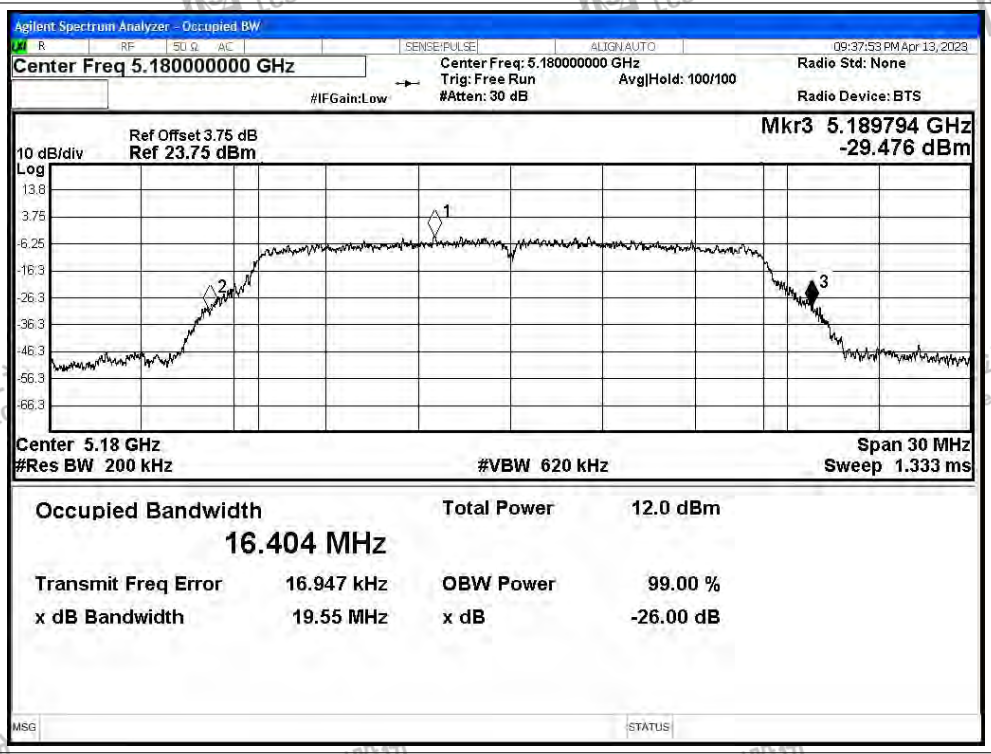
Temperature:	23.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu

D.1 -26dB Bandwidth

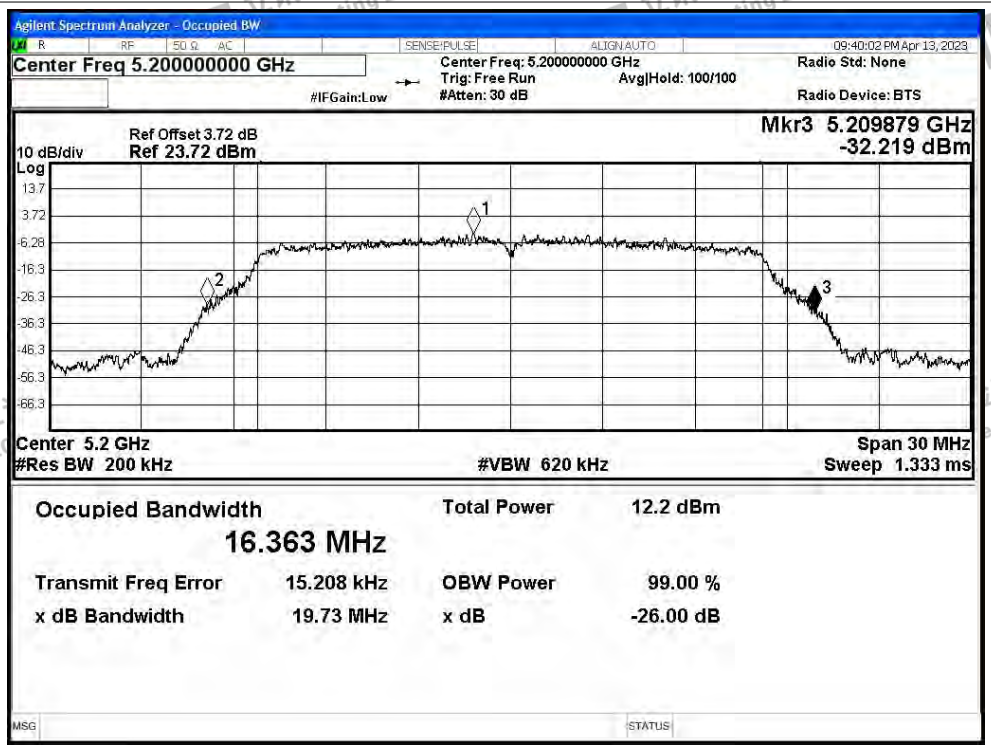
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	19.554	>=0.5	Pass
NVNT	a	5200	Ant1	19.728	>=0.5	Pass
NVNT	a	5240	Ant1	19.599	>=0.5	Pass
NVNT	n20	5180	Ant1	19.963	>=0.5	Pass
NVNT	n20	5200	Ant1	19.939	>=0.5	Pass
NVNT	n20	5240	Ant1	20.039	>=0.5	Pass
NVNT	n40	5190	Ant1	40.616	>=0.5	Pass
NVNT	n40	5230	Ant1	39.748	>=0.5	Pass
NVNT	ac20	5180	Ant1	20.073	>=0.5	Pass
NVNT	ac20	5200	Ant1	19.775	>=0.5	Pass
NVNT	ac20	5240	Ant1	20.12	>=0.5	Pass
NVNT	ac40	5190	Ant1	40.32	>=0.5	Pass
NVNT	ac40	5230	Ant1	40.026	>=0.5	Pass
NVNT	ac80	5210	Ant1	80.048	>=0.5	Pass

Test Graphs

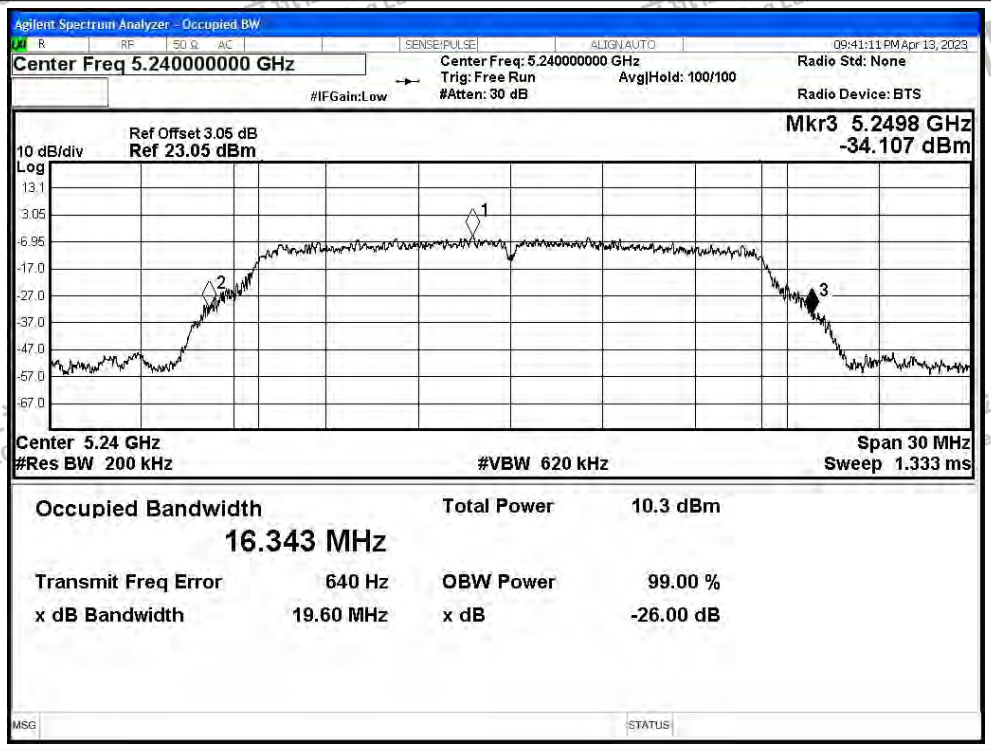
-26dB Bandwidth NVNT a 5180MHz Ant1



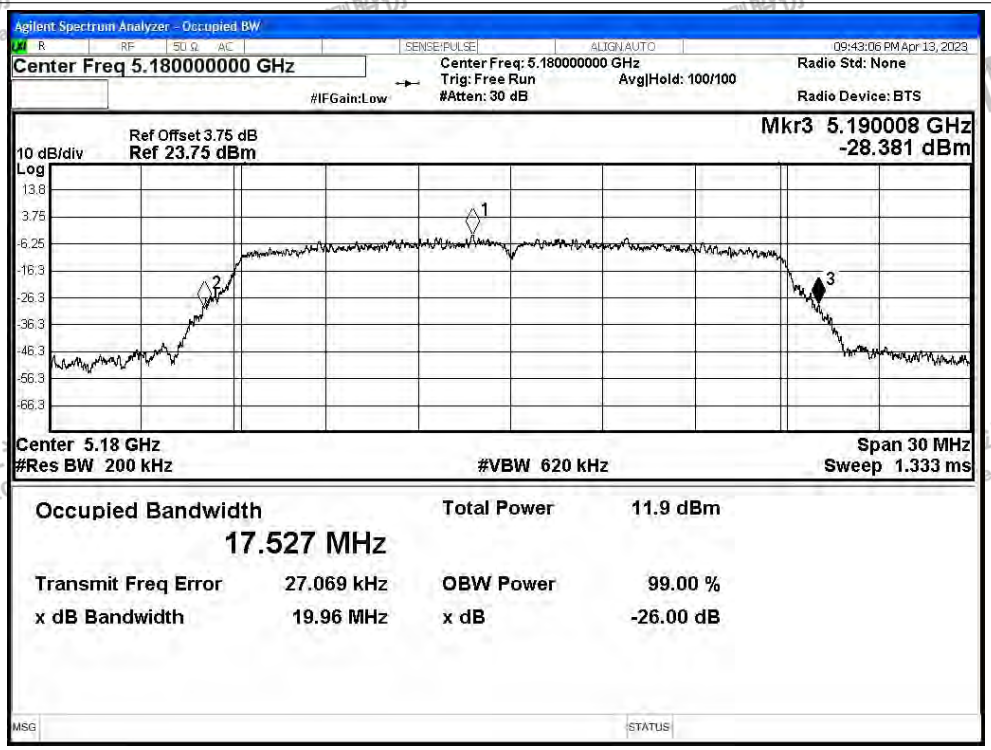
-26dB Bandwidth NVNT a 5200MHz Ant1



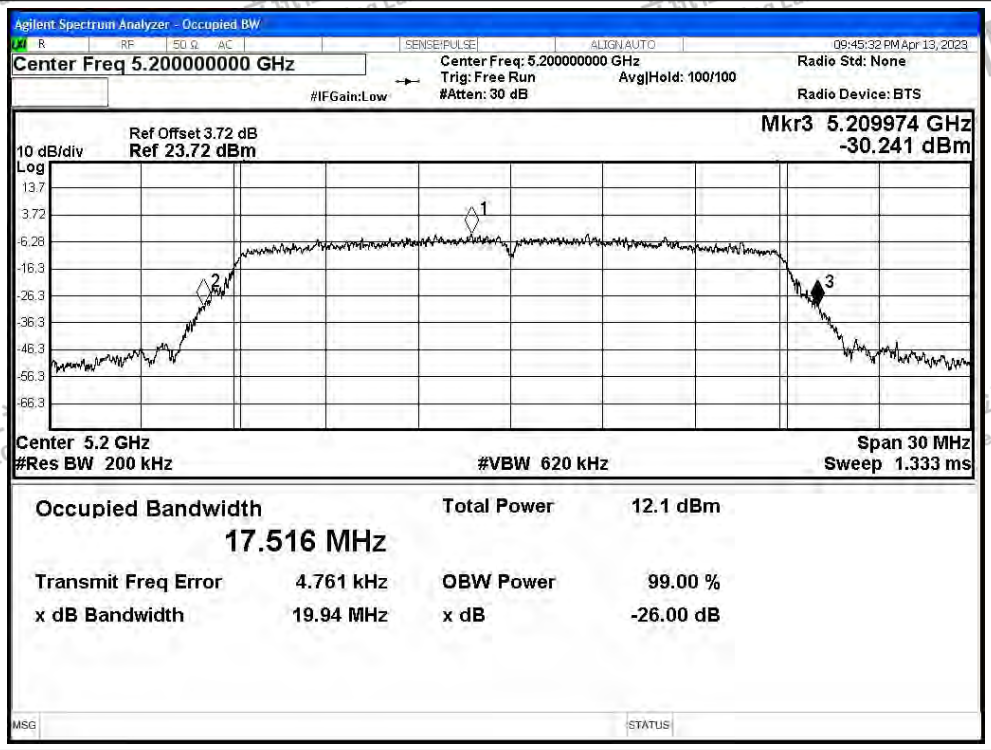
-26dB Bandwidth NVNT a 5240MHz Ant1



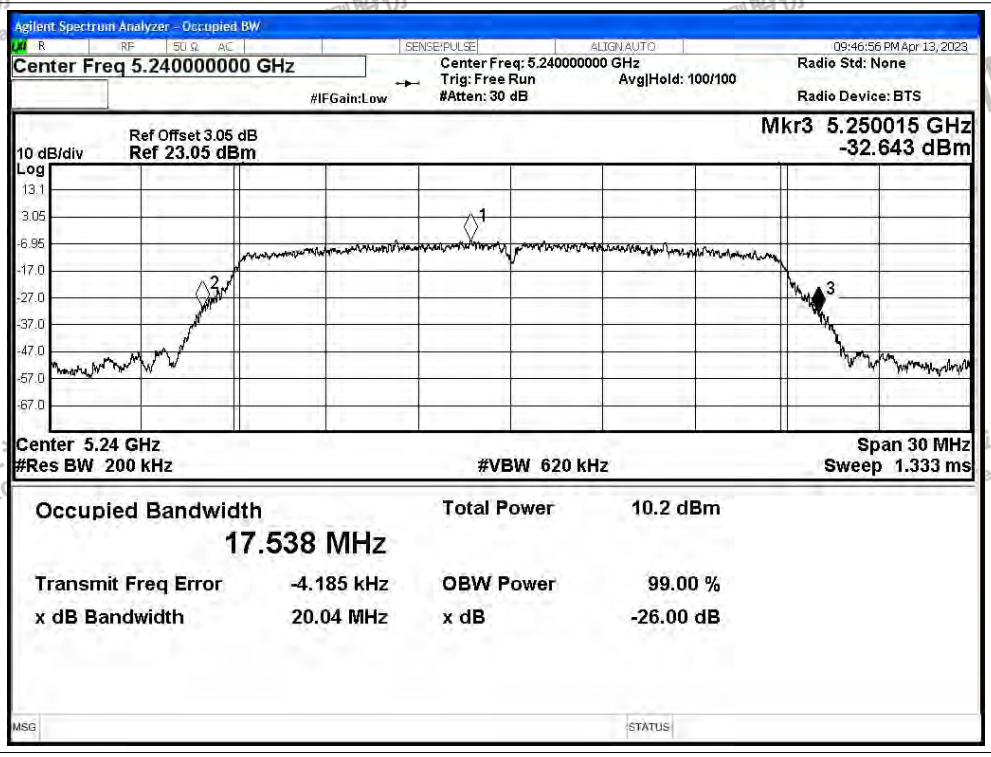
-26dB Bandwidth NVNT n20 5180MHz Ant1



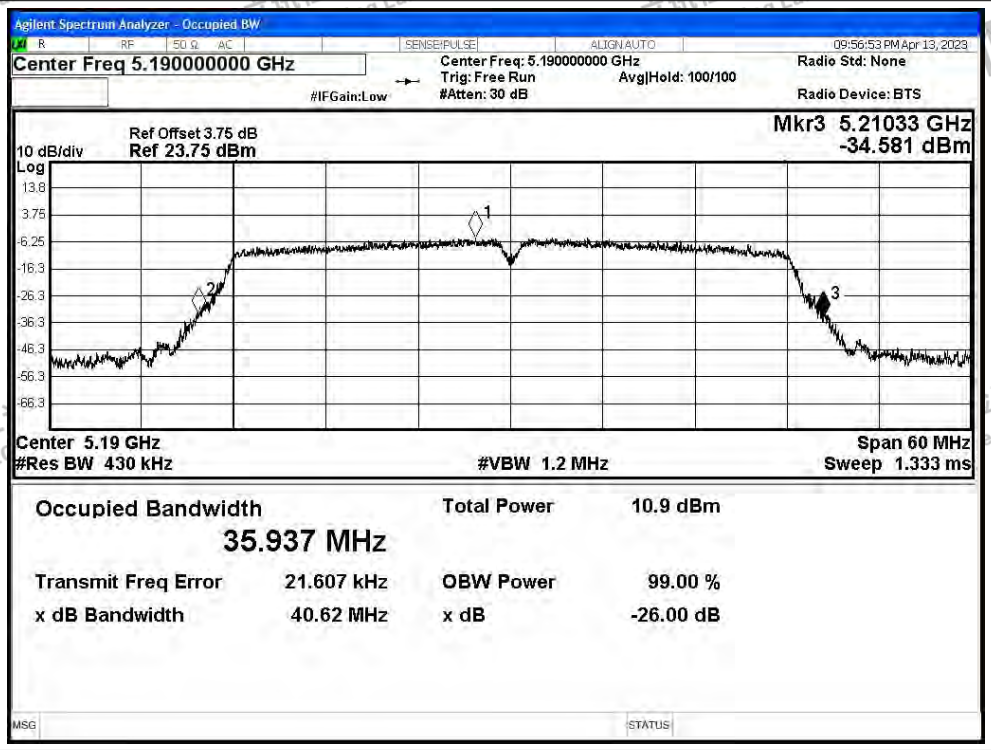
-26dB Bandwidth NVNT n20 5200MHz Ant1



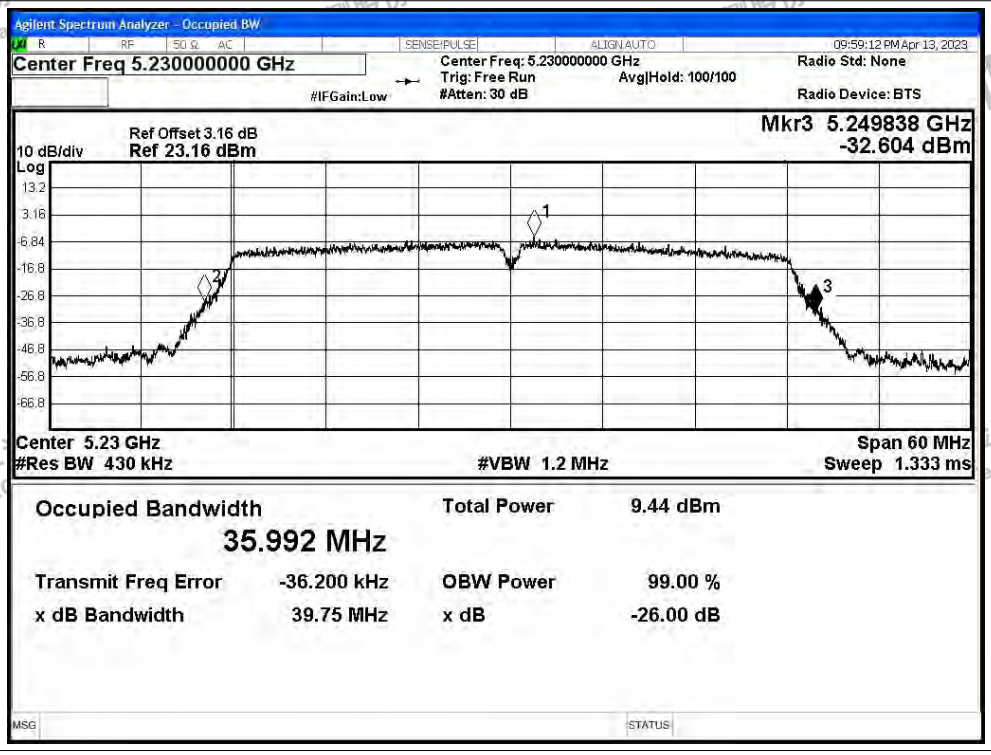
-26dB Bandwidth NVNT n20 5240MHz Ant1



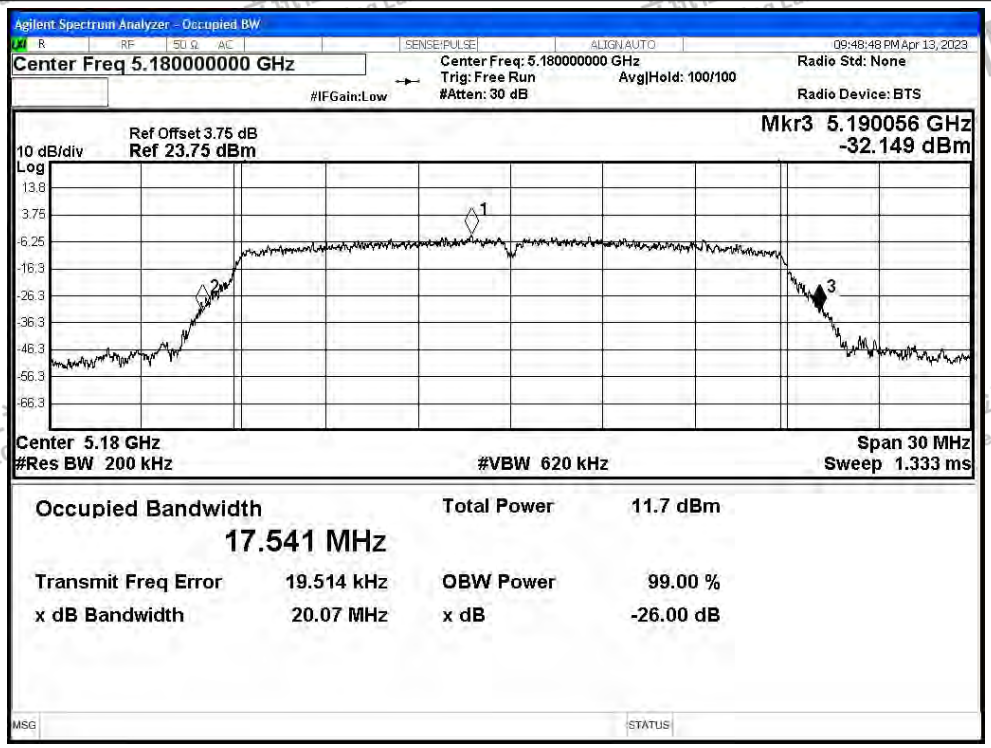
-26dB Bandwidth NVNT n40 5190MHz Ant1



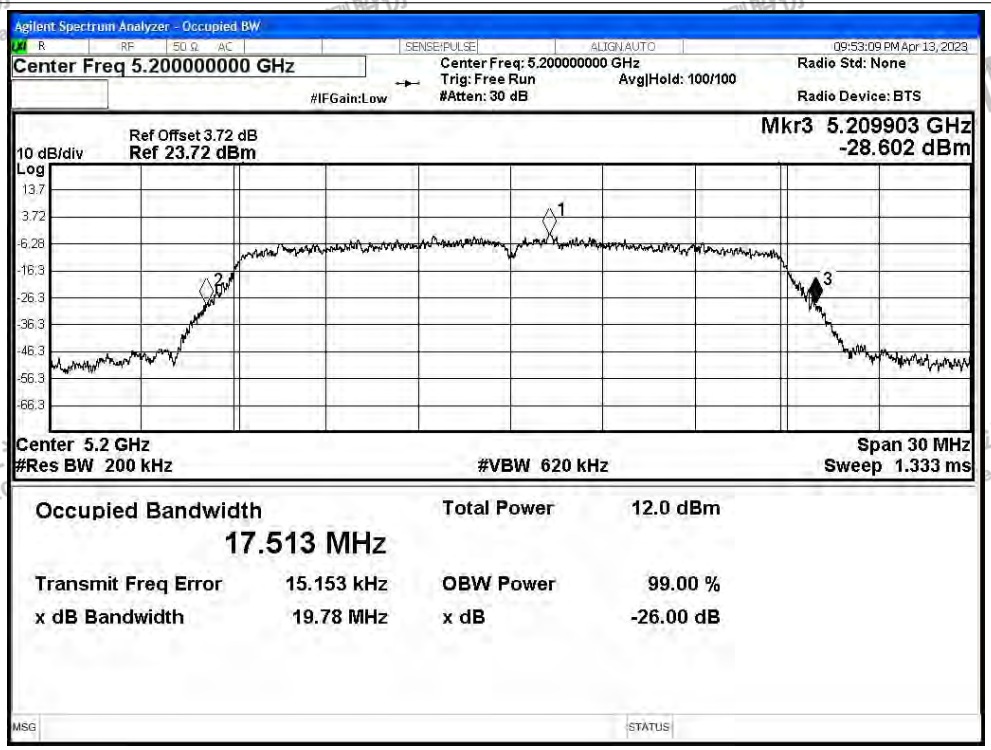
-26dB Bandwidth NVNT n40 5230MHz Ant1



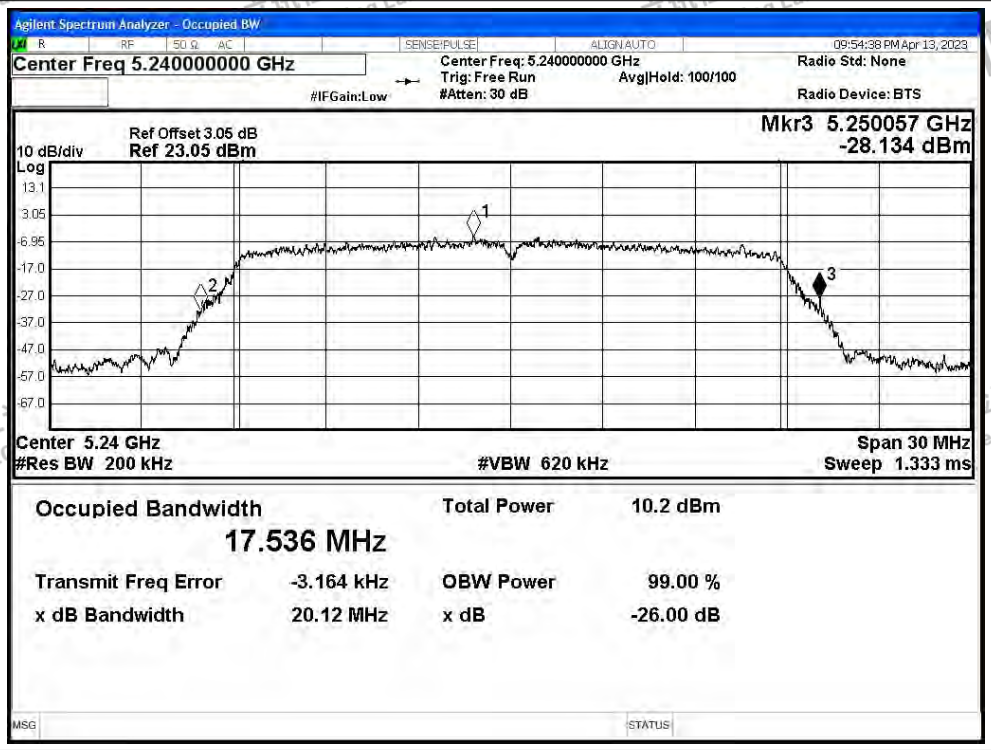
-26dB Bandwidth NVNT ac20 5180MHz Ant1



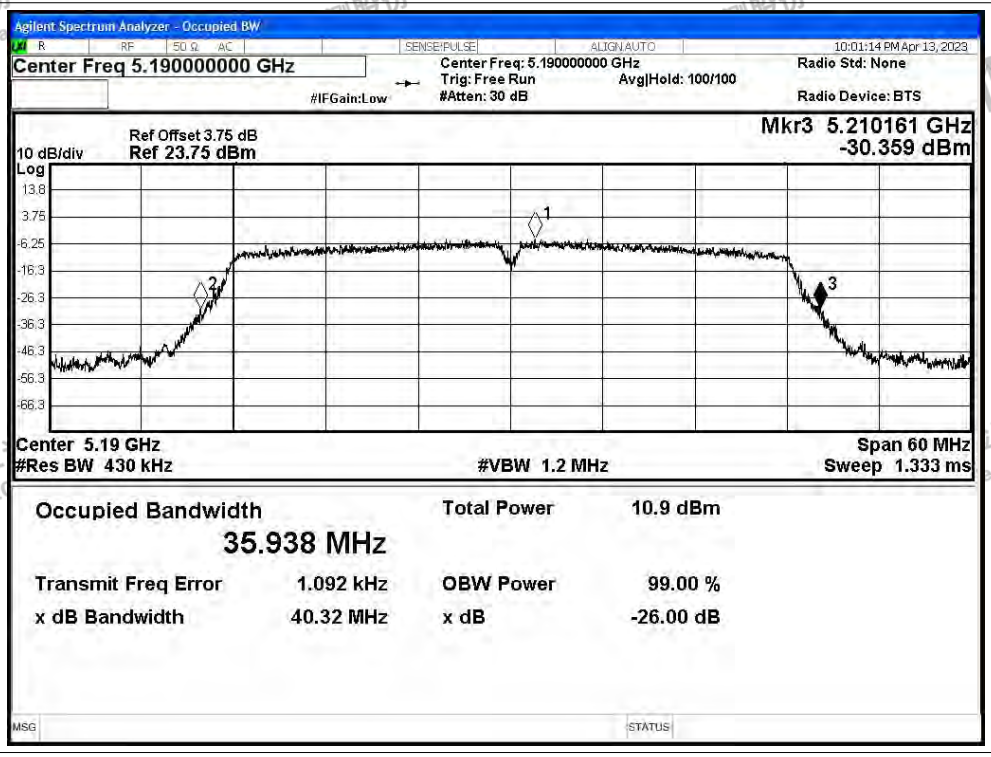
-26dB Bandwidth NVNT ac20 5200MHz Ant1



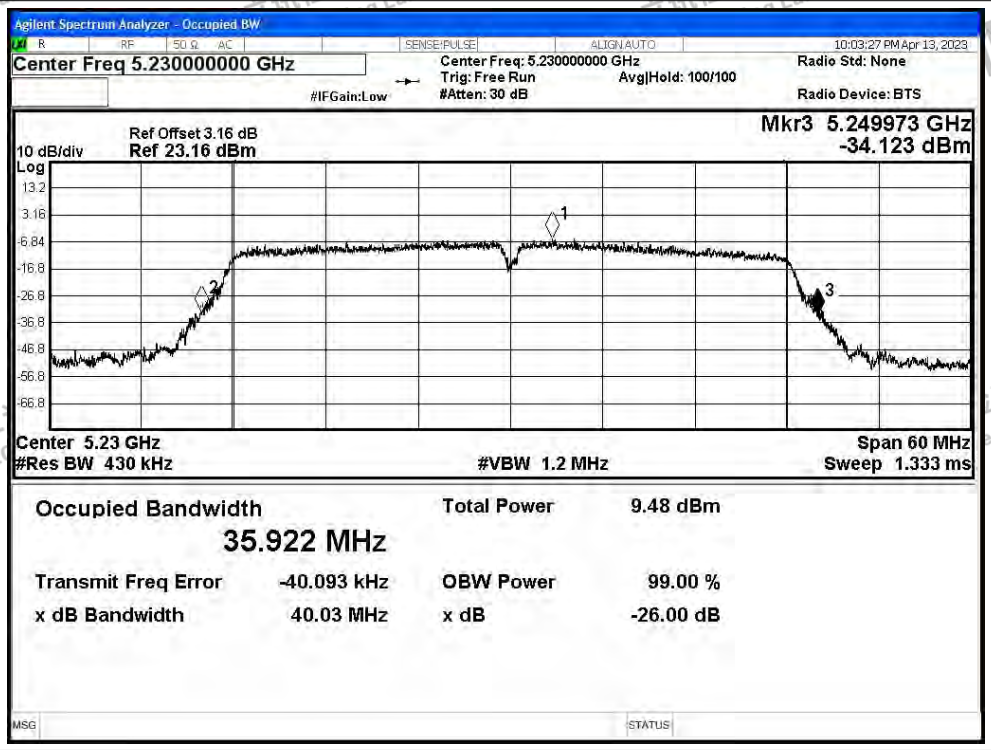
-26dB Bandwidth NVNT ac20 5240MHz Ant1



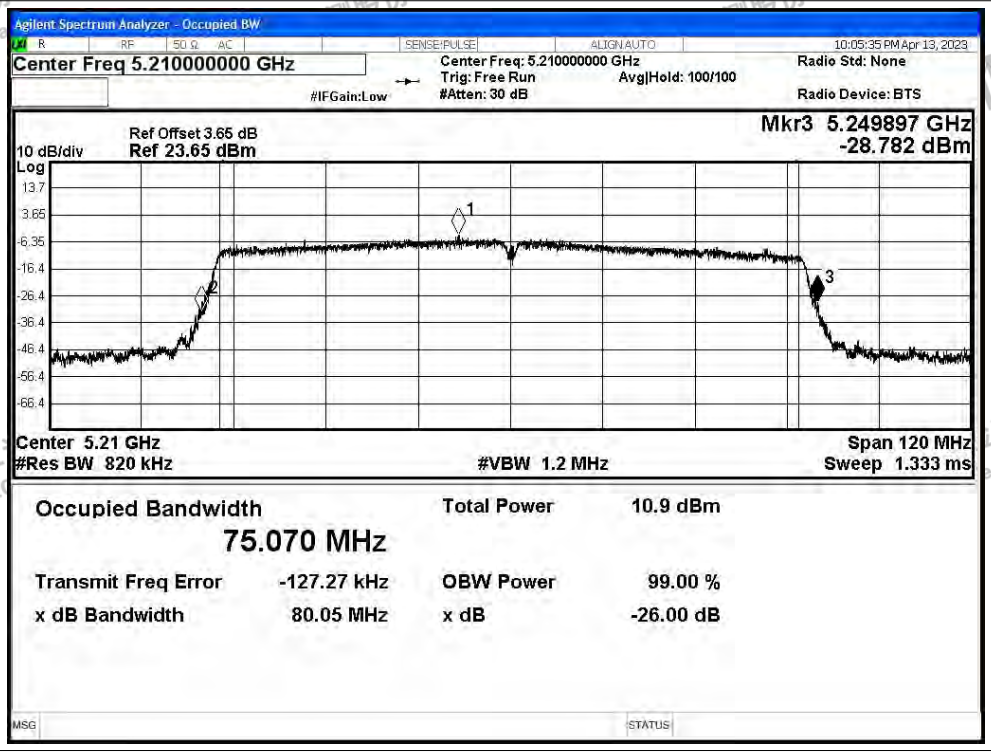
-26dB Bandwidth NVNT ac40 5190MHz Ant1



-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1



D.2 Maximum Conducted Output Power

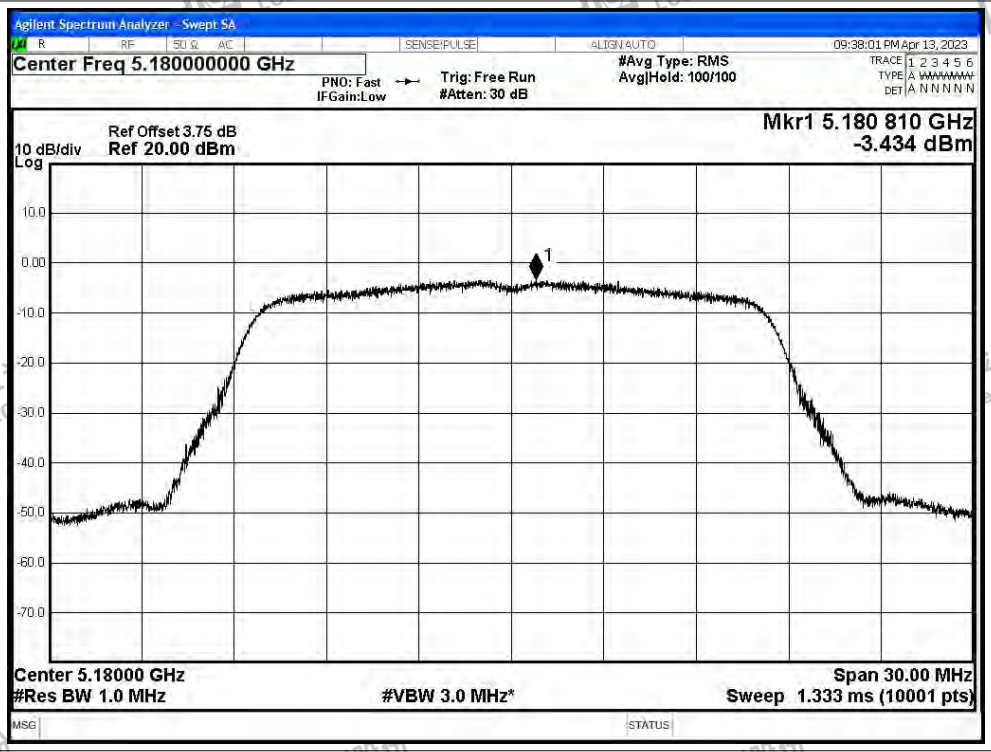
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	6.19	0.14	6.33	24	Pass
NVNT	a	5200	Ant1	6.62	0.14	6.76	24	Pass
NVNT	a	5240	Ant1	4.52	0.13	4.65	24	Pass
NVNT	n20	5180	Ant1	6.2	0.15	6.35	24	Pass
NVNT	n20	5200	Ant1	6.4	0.14	6.54	24	Pass
NVNT	n20	5240	Ant1	4.61	0.15	4.76	24	Pass
NVNT	n40	5190	Ant1	5.17	0.29	5.46	24	Pass
NVNT	n40	5230	Ant1	3.57	0.29	3.86	24	Pass
NVNT	ac20	5180	Ant1	6.15	0.15	6.3	24	Pass
NVNT	ac20	5200	Ant1	6.37	0.15	6.52	24	Pass
NVNT	ac20	5240	Ant1	4.59	0.14	4.73	24	Pass
NVNT	ac40	5190	Ant1	5.06	0.28	5.34	24	Pass
NVNT	ac40	5230	Ant1	3.5	0.28	3.78	24	Pass
NVNT	ac80	5210	Ant1	3.96	0.55	4.51	24	Pass

D.3 Maximum Power Spectral Density Level

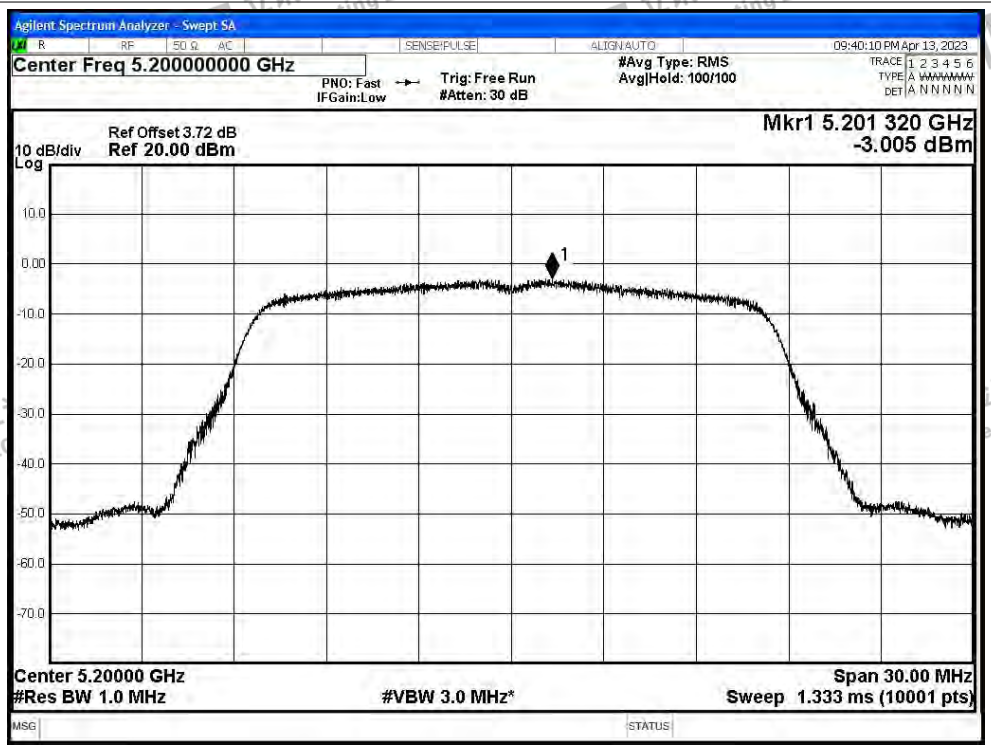
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm dBm/MHz)	Duty Factor (dB)	Total PSD (dBm dBm/MHz)	Limit (dBm dBm/MHz)	Verdict
NVNT	a	5180	Ant1	-3.43	0.14	-3.29	11	Pass
NVNT	a	5200	Ant1	-3.01	0.14	-2.87	11	Pass
NVNT	a	5240	Ant1	-4.94	0.13	-4.81	11	Pass
NVNT	n20	5180	Ant1	-3.53	0.15	-3.38	11	Pass
NVNT	n20	5200	Ant1	-3.49	0.14	-3.35	11	Pass
NVNT	n20	5240	Ant1	-5.01	0.15	-4.86	11	Pass
NVNT	n40	5190	Ant1	-7.7	0.29	-7.41	11	Pass
NVNT	n40	5230	Ant1	-9.28	0.29	-8.99	11	Pass
NVNT	ac20	5180	Ant1	-3.58	0.15	-3.43	11	Pass
NVNT	ac20	5200	Ant1	-3.33	0.15	-3.18	11	Pass
NVNT	ac20	5240	Ant1	-5.01	0.14	-4.87	11	Pass
NVNT	ac40	5190	Ant1	-7.52	0.28	-7.24	11	Pass
NVNT	ac40	5230	Ant1	-8.95	0.28	-8.67	11	Pass
NVNT	ac80	5210	Ant1	-11.15	0.55	-10.6	11	Pass

Test Graphs

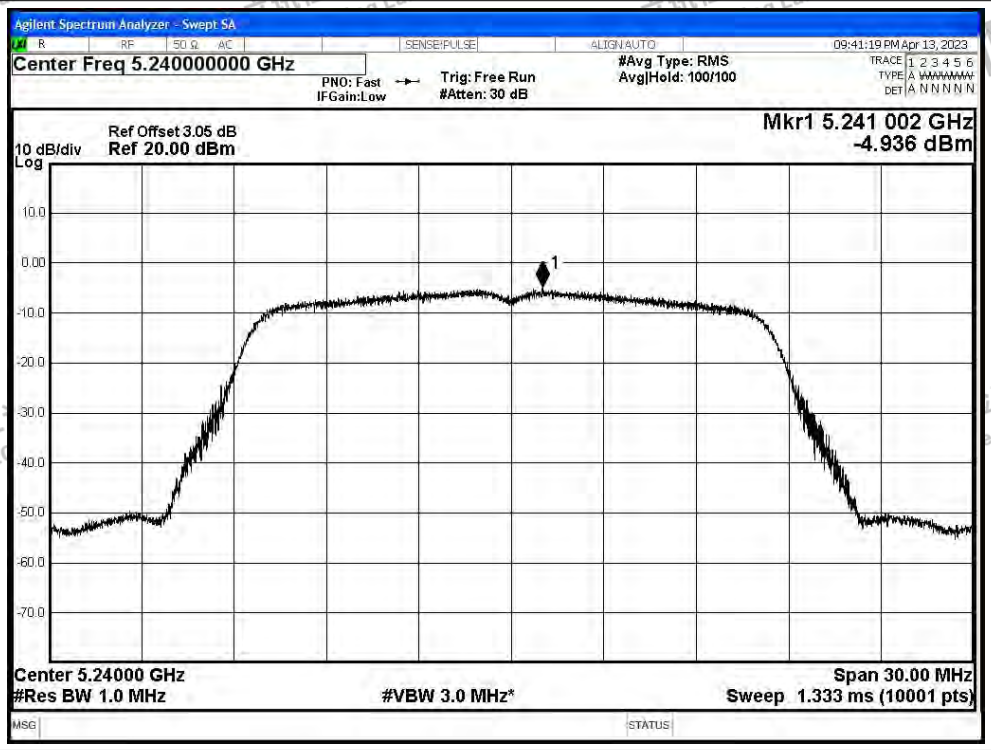
PSD NVNT a 5180MHz Ant1



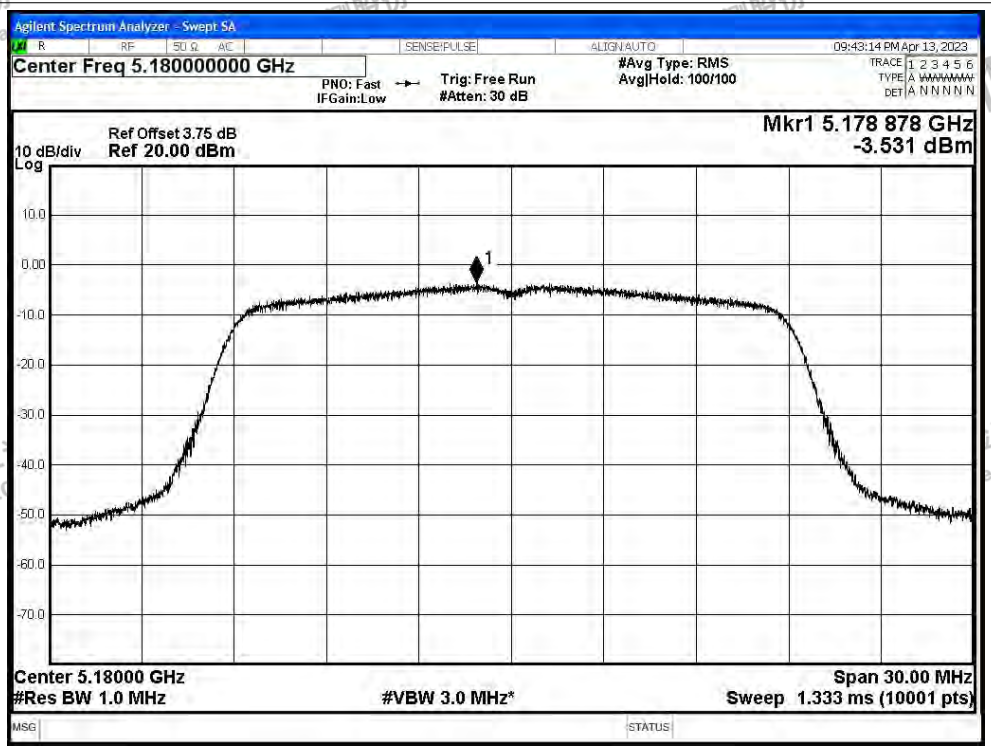
PSD NVNT a 5200MHz Ant1



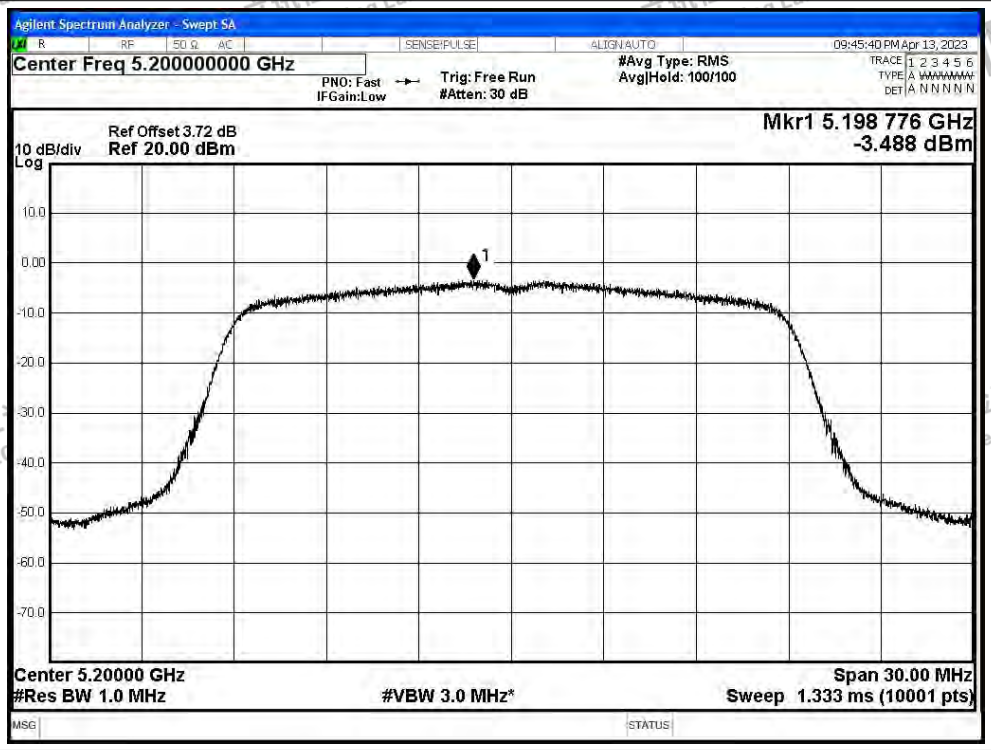
PSD NVNT a 5240MHz Ant1



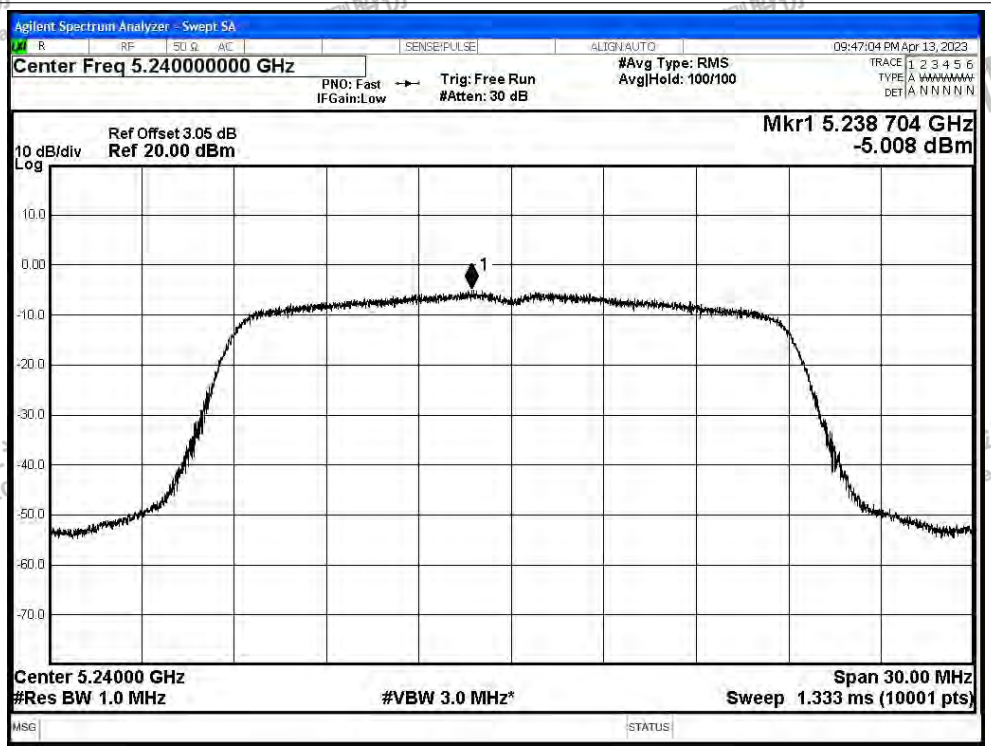
PSD NVNT n20 5180MHz Ant1



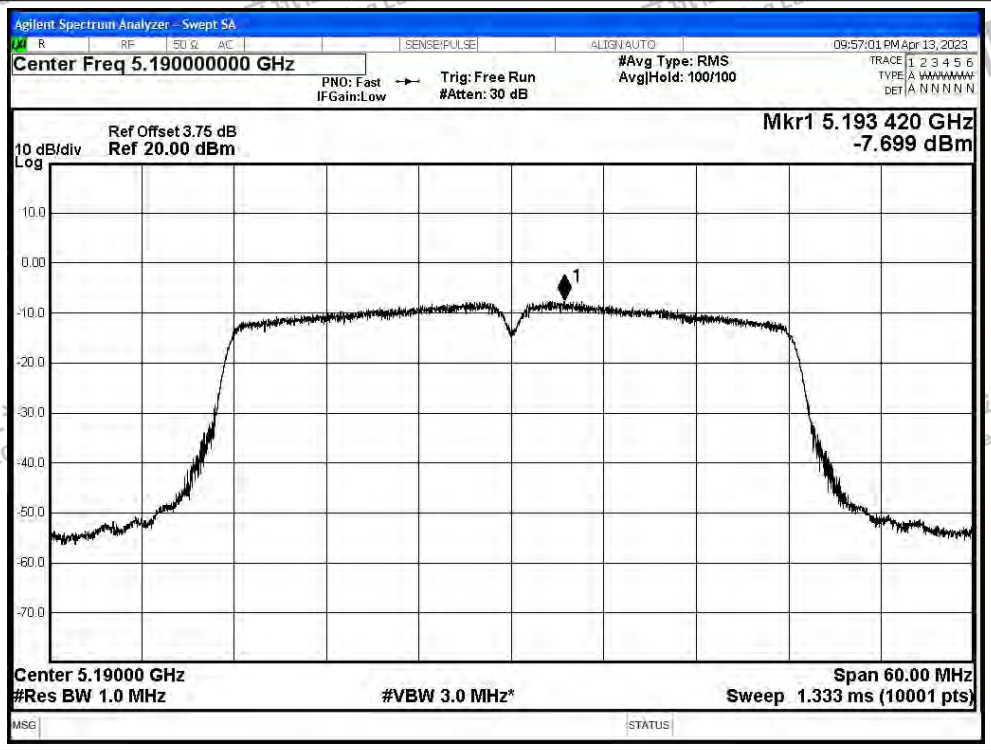
PSD NVNT n20 5200MHz Ant1



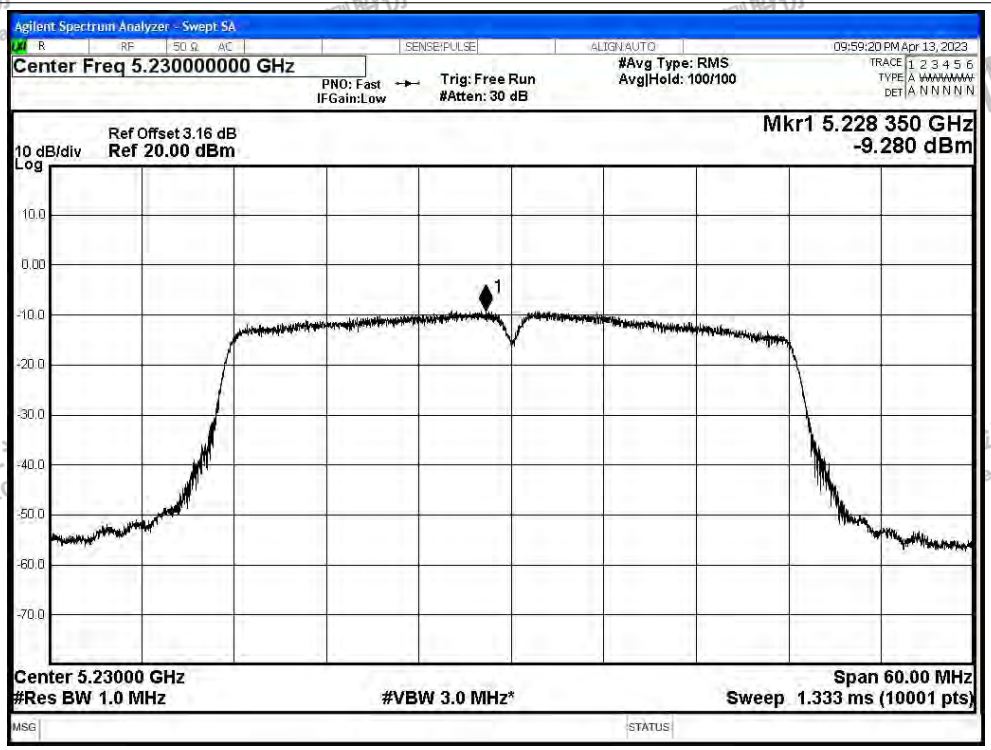
PSD NVNT n20 5240MHz Ant1



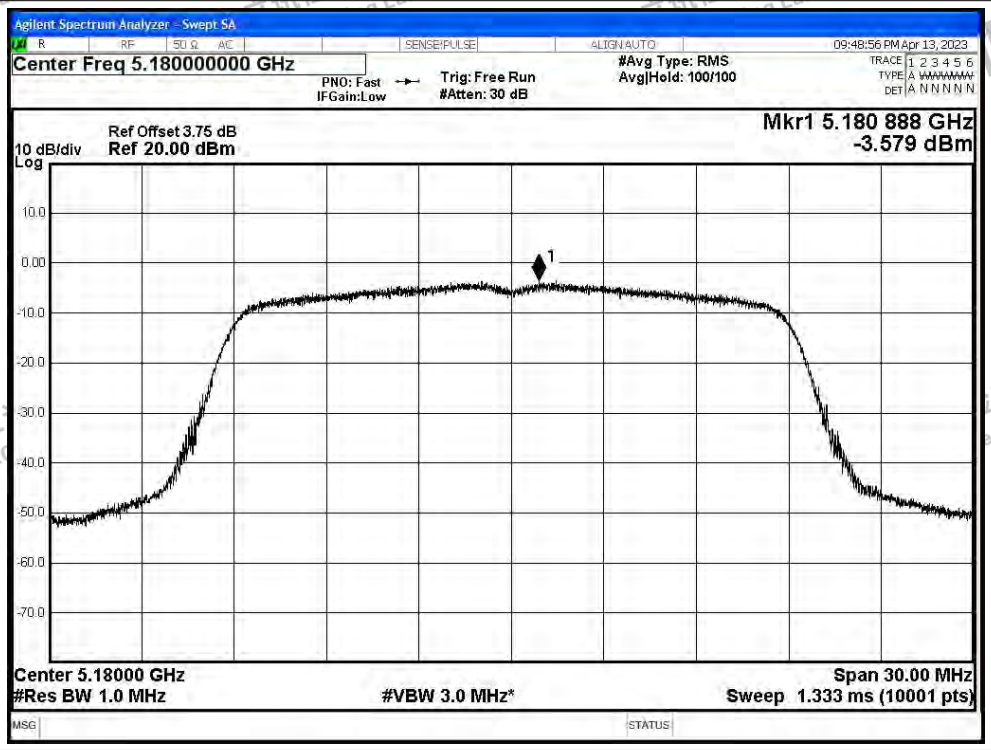
PSD NVNT n40 5190MHz Ant1



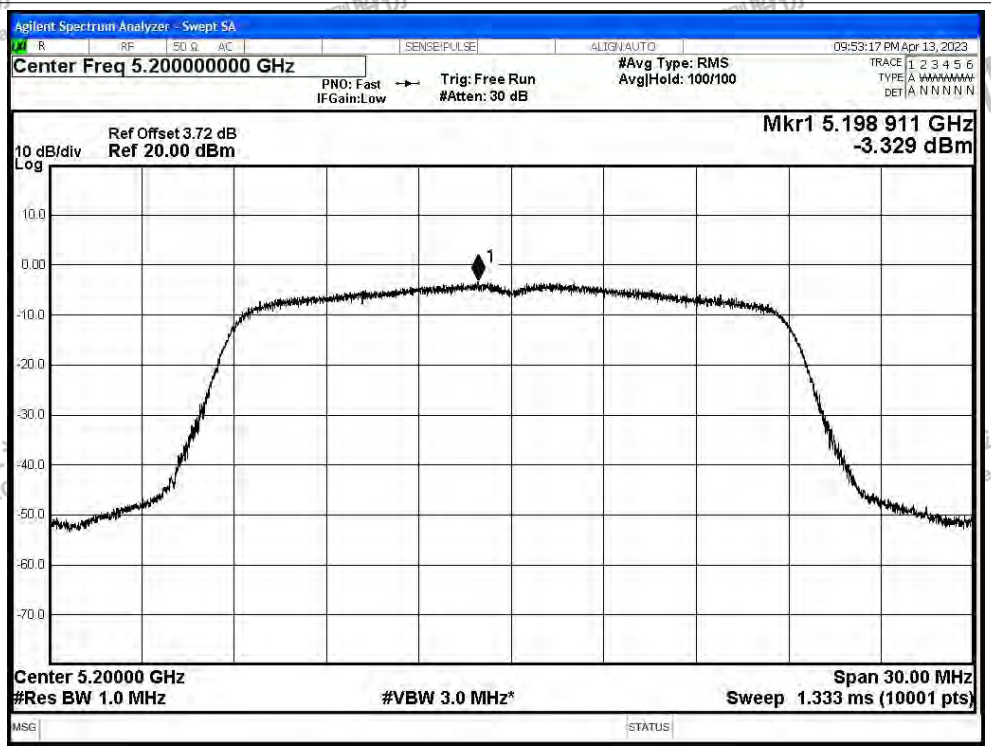
PSD NVNT n40 5230MHz Ant1



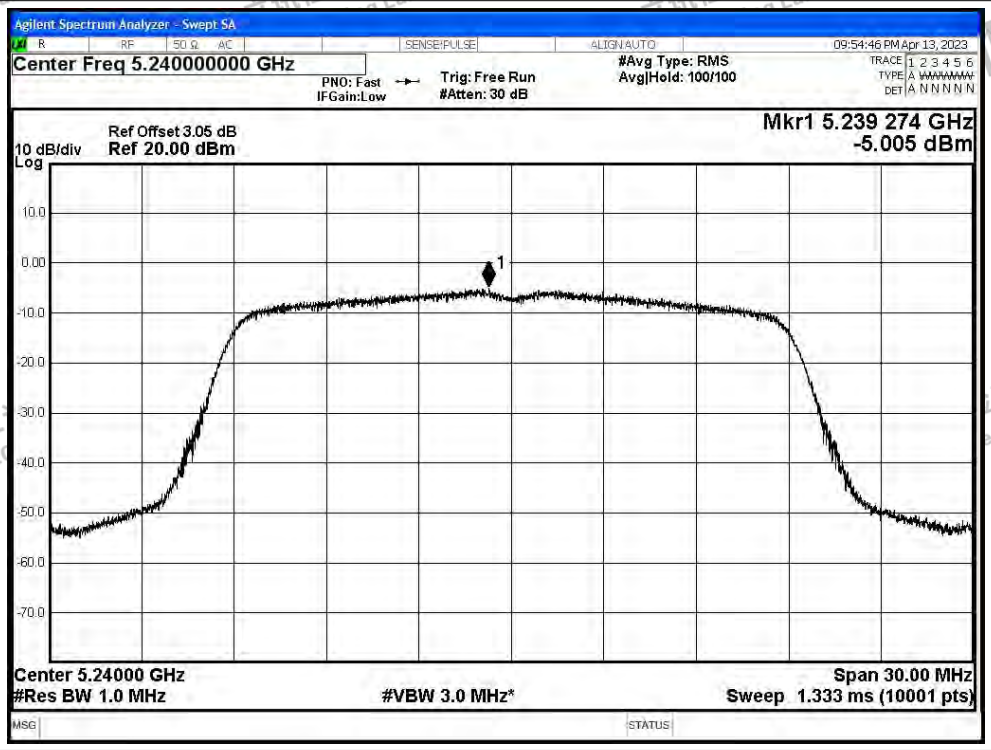
PSD NVNT ac20 5180MHz Ant1



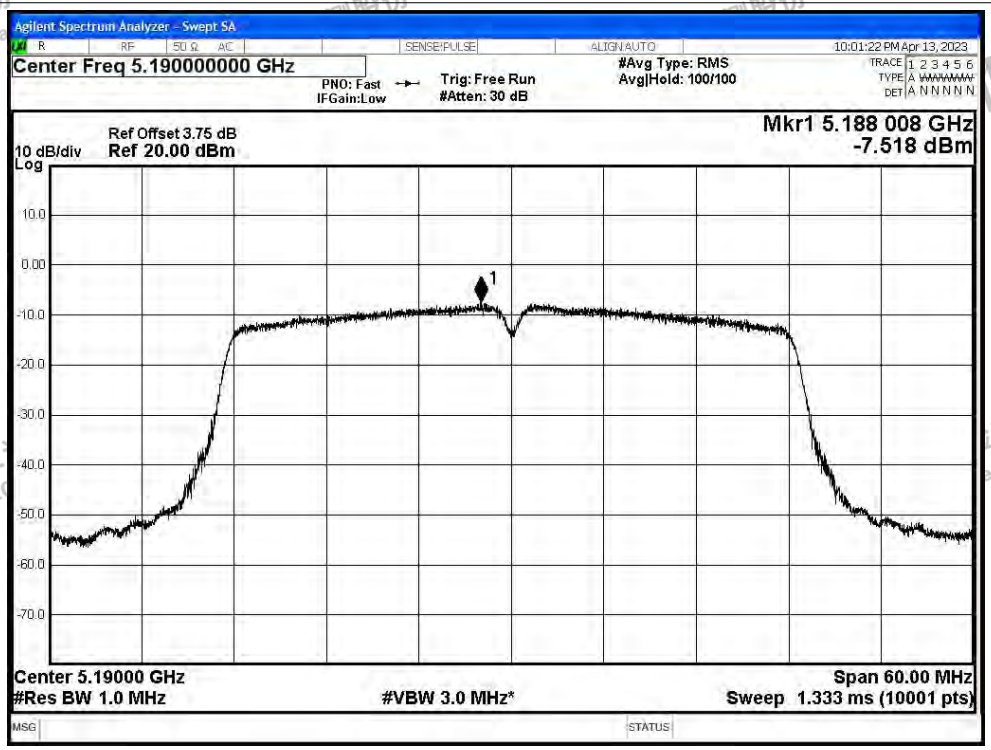
PSD NVNT ac20 5200MHz Ant1



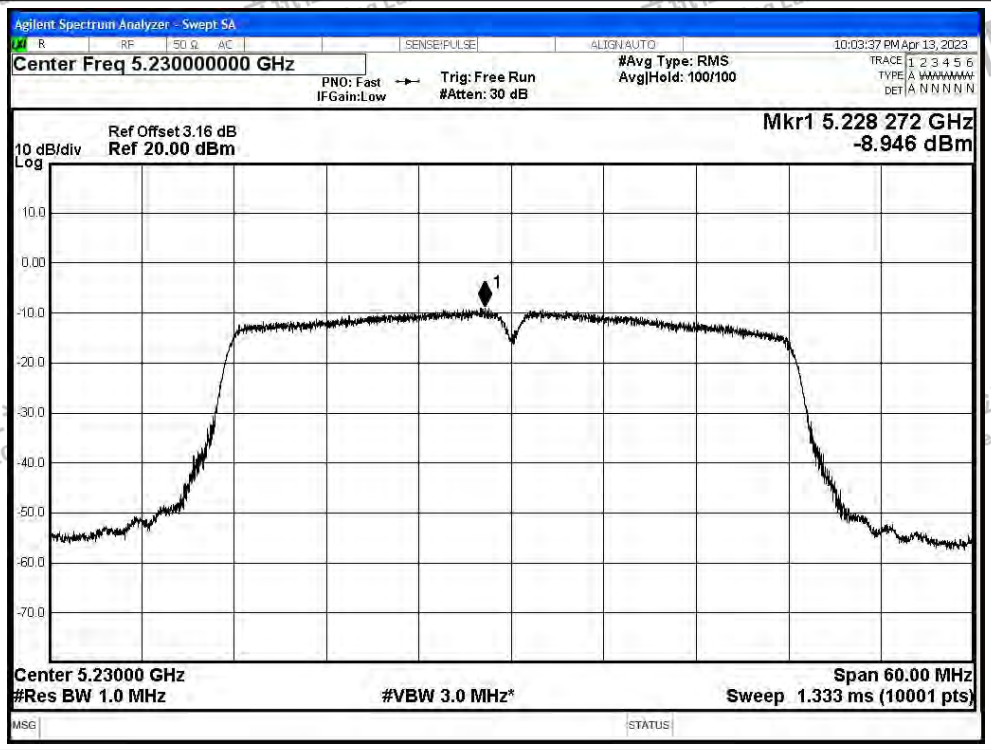
PSD NVNT ac20 5240MHz Ant1



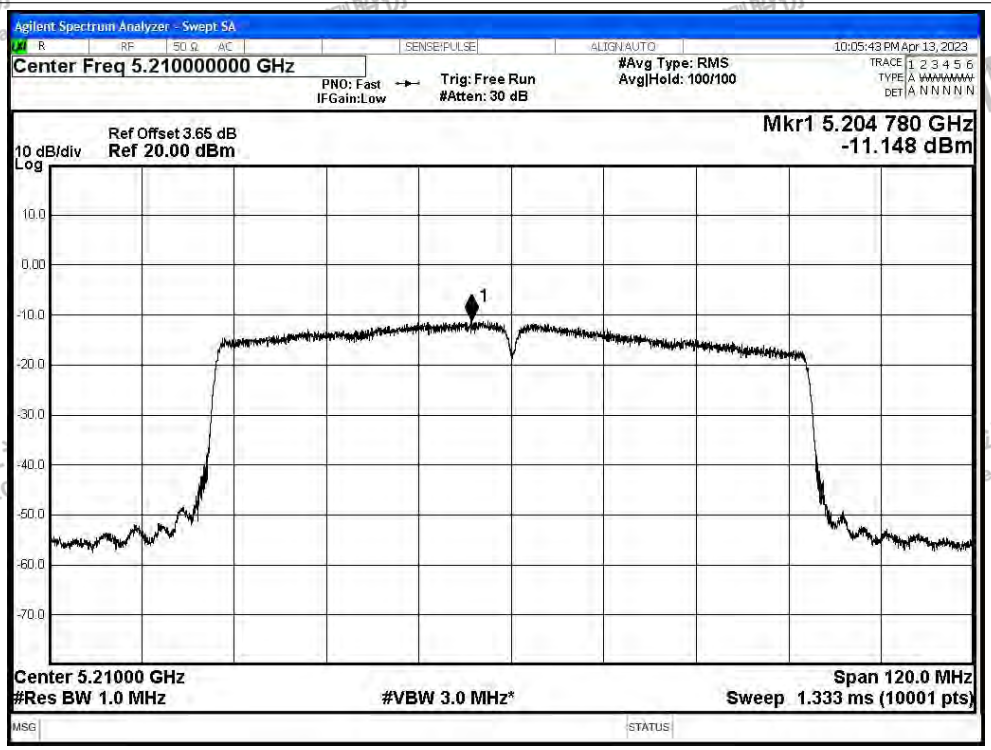
PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1



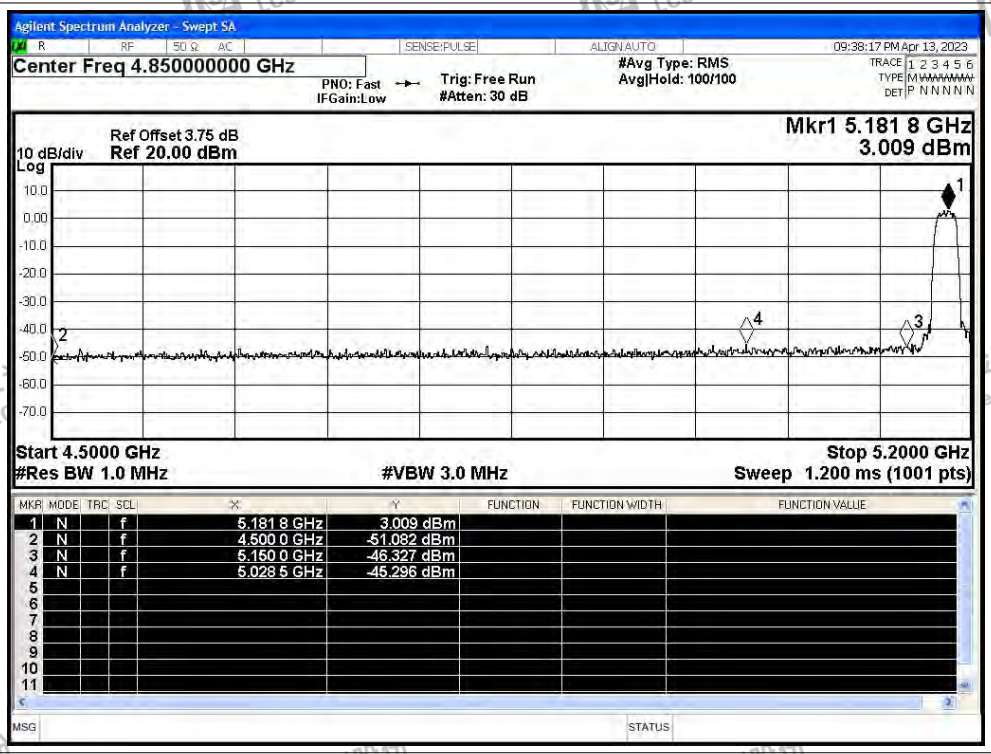
D.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant1	4500	-51.08	2	46.15	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-57.13	2	40.1	Average	54	Pass
NVNT	a	5180	Ant1	5028.5	-45.3	2	51.93	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-54.21	2	43.02	Average	54	Pass
NVNT	a	5180	Ant1	5150	-46.33	2	50.9	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-54.24	2	42.99	Average	54	Pass
NVNT	a	5240	Ant1	5350	-49.33	2	47.9	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-56.2	2	41.03	Average	54	Pass
NVNT	a	5240	Ant1	5447.52	-47.4	2	49.83	Peak	68.2	Pass
NVNT	a	5240	Ant1	5352	-56.01	2	41.22	Average	54	Pass
NVNT	a	5240	Ant1	5460	-49.46	2	47.77	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-56.84	2	40.39	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-50.89	2	46.34	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-57.3	2	39.93	Average	54	Pass
NVNT	n20	5180	Ant1	4754.8	-45.44	2	51.79	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5149.6	-54.15	2	43.08	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-46.2	2	51.03	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-54.25	2	42.98	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-50.73	2	46.5	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-56.21	2	41.02	Average	54	Pass
NVNT	n20	5240	Ant1	5411.52	-46.75	2	50.48	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5353.92	-56.2	2	41.03	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-50.2	2	47.03	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-56.85	2	40.38	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-50.88	2	46.35	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-57.03	2	40.2	Average	54	Pass
NVNT	n40	5190	Ant1	5068.67	-44.91	2	52.32	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5149.7	-53.67	2	43.56	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-45.95	2	51.28	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-53.67	2	43.56	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-50.44	2	46.79	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-56.19	2	41.04	Average	54	Pass
NVNT	n40	5230	Ant1	5386.02	-46.97	2	50.26	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5352	-56.04	2	41.19	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-49.49	2	47.74	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-56.27	2	40.96	Average	54	Pass
NVNT	ac20	5180	Ant1	4500	-49.77	2	47.46	Peak	68.2	Pass

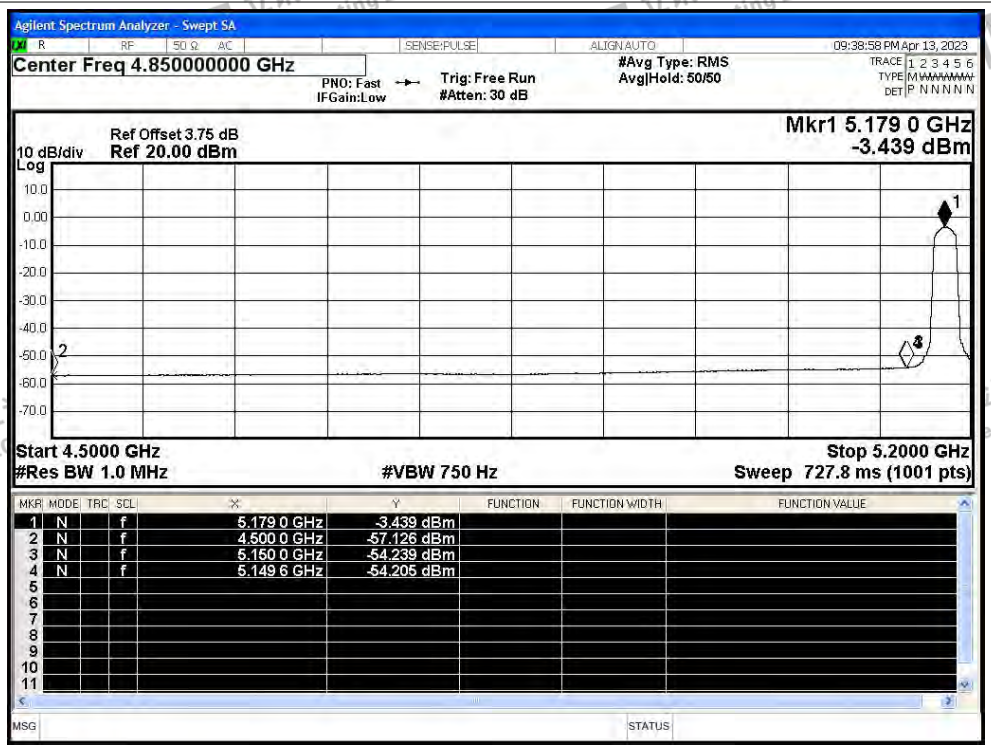
NVNT	ac20	5180	Ant1	4500	-57.31	2	39.92	Average	54	Pass
NVNT	ac20	5180	Ant1	5064.2	-44.73	2	52.5	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5148.2	-54.23	2	43	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-47.73	2	49.5	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-54.22	2	43.01	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-49.28	2	47.95	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-56.24	2	40.99	Average	54	Pass
NVNT	ac20	5240	Ant1	5396.88	-46.49	2	50.74	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5355.36	-56.18	2	41.05	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-51.2	2	46.03	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-56.94	2	40.29	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-50.01	2	47.22	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-56.93	2	40.3	Average	54	Pass
NVNT	ac40	5190	Ant1	4996.4	-44.85	2	52.38	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5143.86	-53.98	2	43.25	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-47.13	2	50.1	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-54.02	2	43.21	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-49.91	2	47.32	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-56.29	2	40.94	Average	54	Pass
NVNT	ac40	5230	Ant1	5399.79	-46.96	2	50.27	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5352	-55.94	2	41.29	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-49.57	2	47.66	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-56.65	2	40.58	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-49.28	2	47.95	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-55.57	2	41.66	Average	54	Pass
NVNT	ac80	5210	Ant1	5400.6	-46.06	2	51.17	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5369.91	-55.12	2	42.11	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-50.16	2	47.07	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-55.74	2	41.49	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-49.53	2	47.7	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-56.92	2	40.31	Average	54	Pass
NVNT	ac80	5210	Ant1	5121.73	-45.09	2	52.14	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5149.38	-52.54	2	44.69	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-45.65	2	51.58	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-52.4	2	44.83	Average	54	Pass

Test Graphs

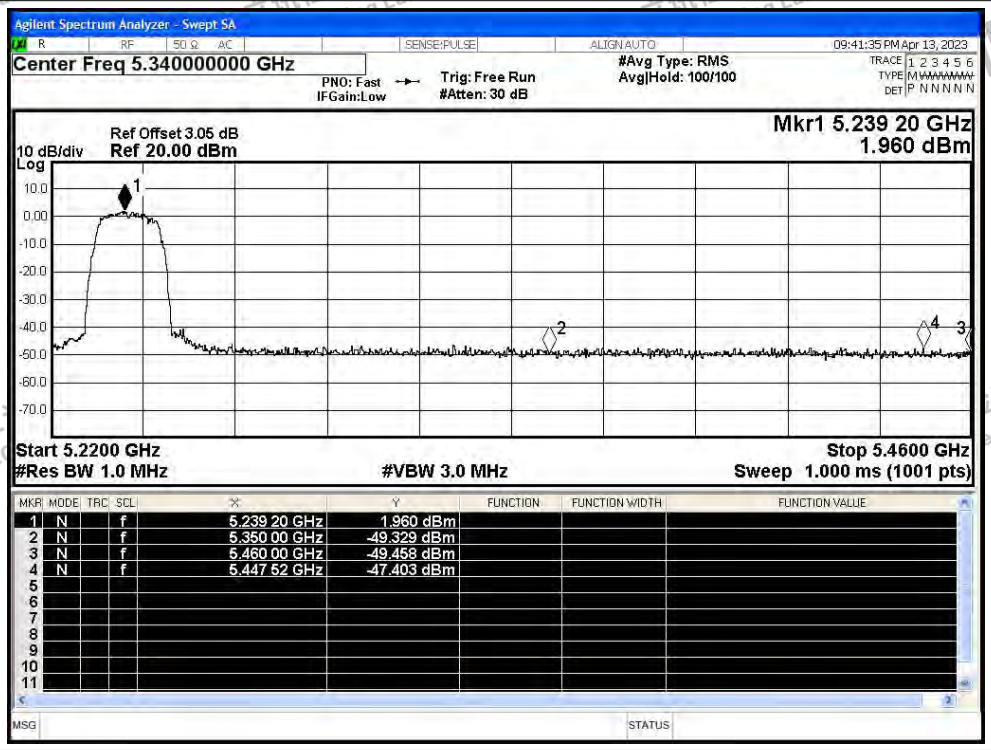
Restrict Band NVNT a 5180MHz Ant1 Peak



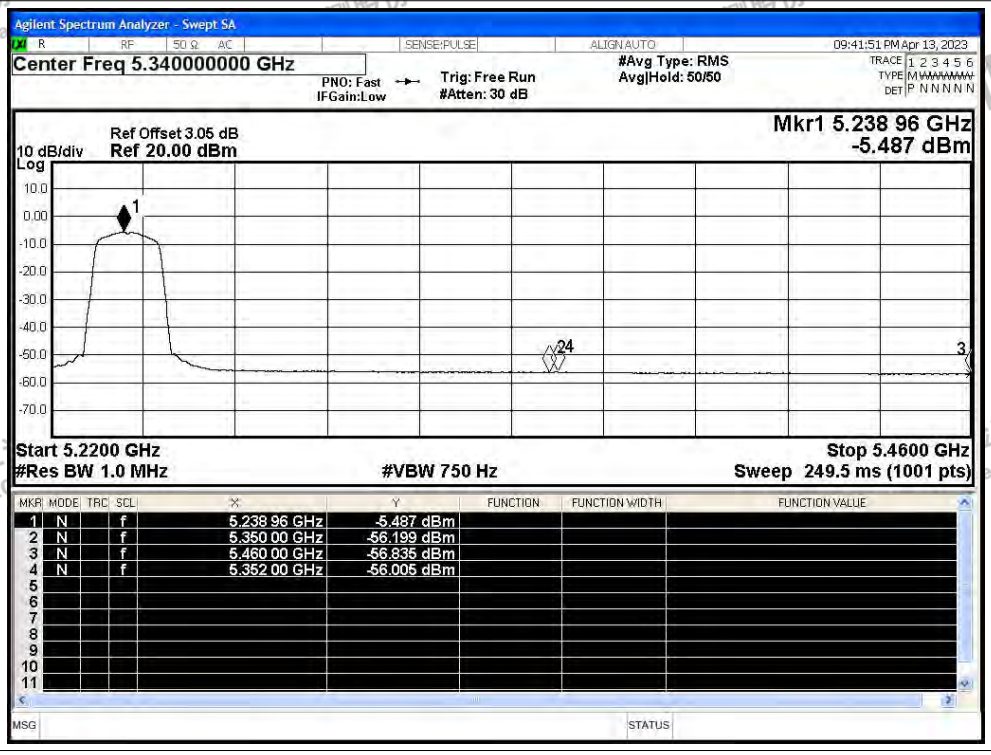
Restrict Band NVNT a 5180MHz Ant1 Average



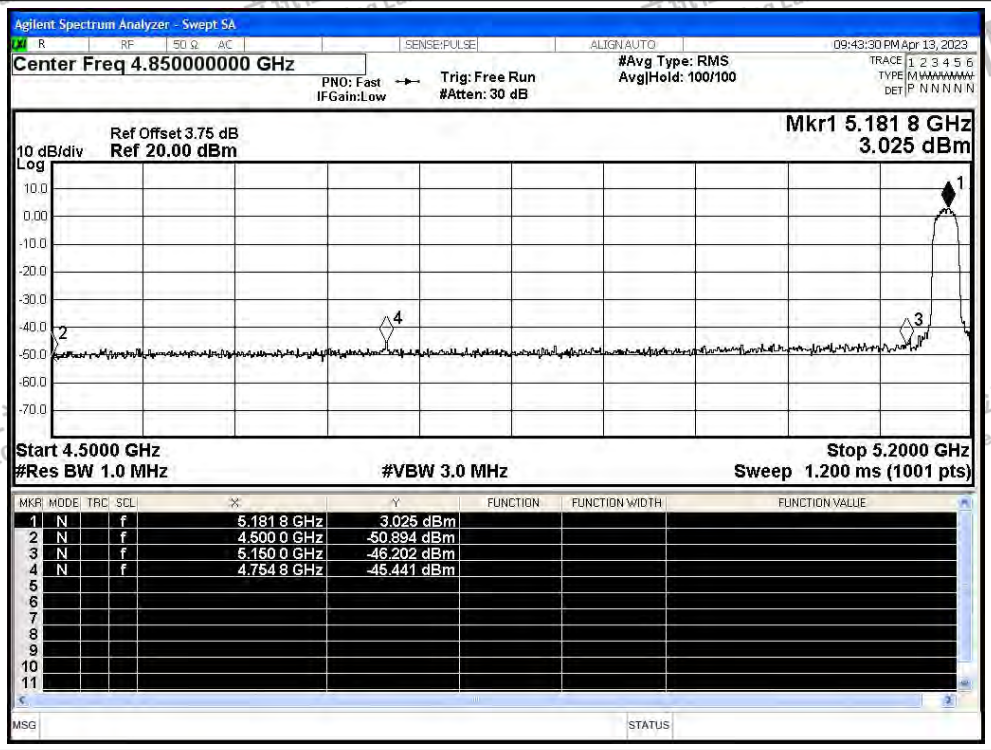
Restrict Band NVNT a 5240MHz Ant1 Peak



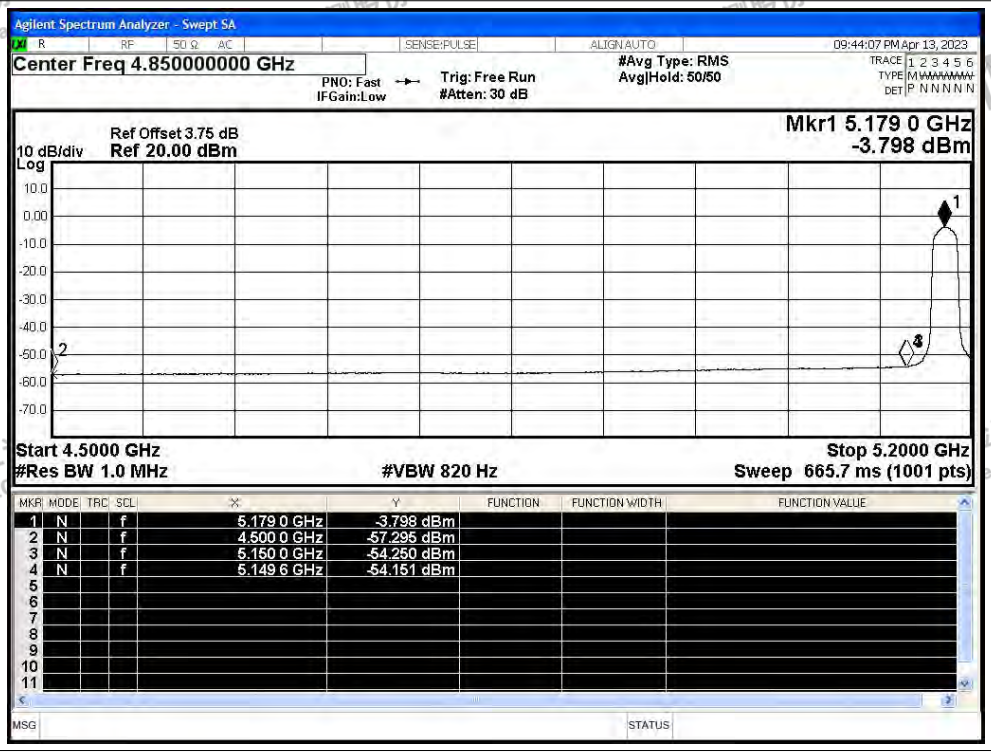
Restrict Band NVNT a 5240MHz Ant1 Average



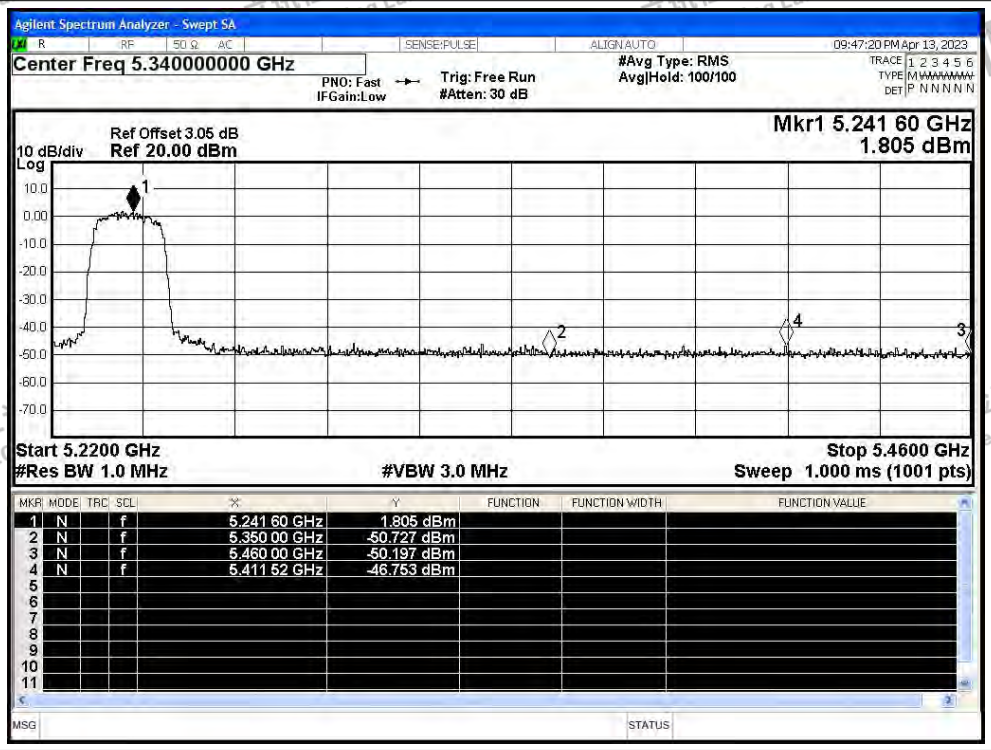
Restrict Band NVNT n20 5180MHz Ant1 Peak



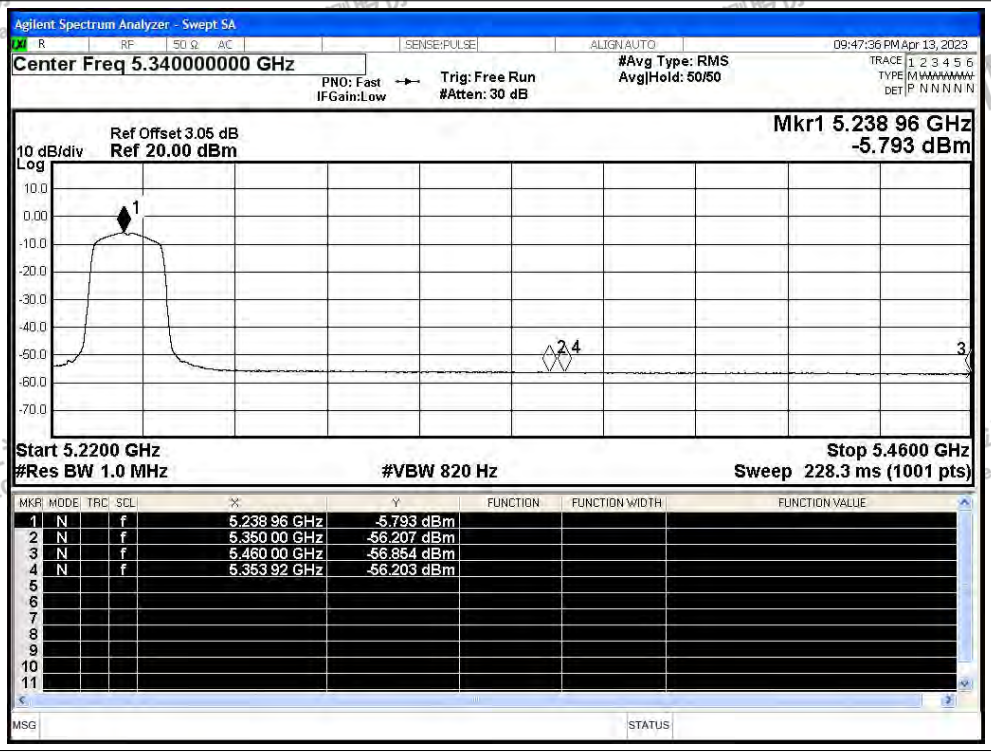
Restrict Band NVNT n20 5180MHz Ant1 Average



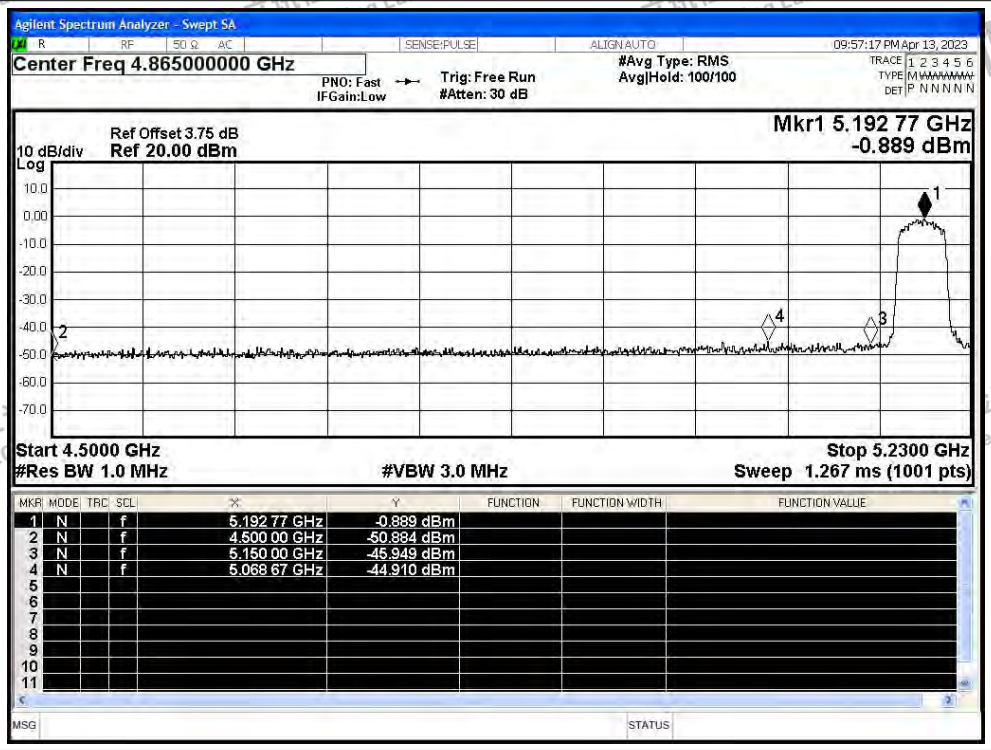
Restrict Band NVNT n20 5240MHz Ant1 Peak



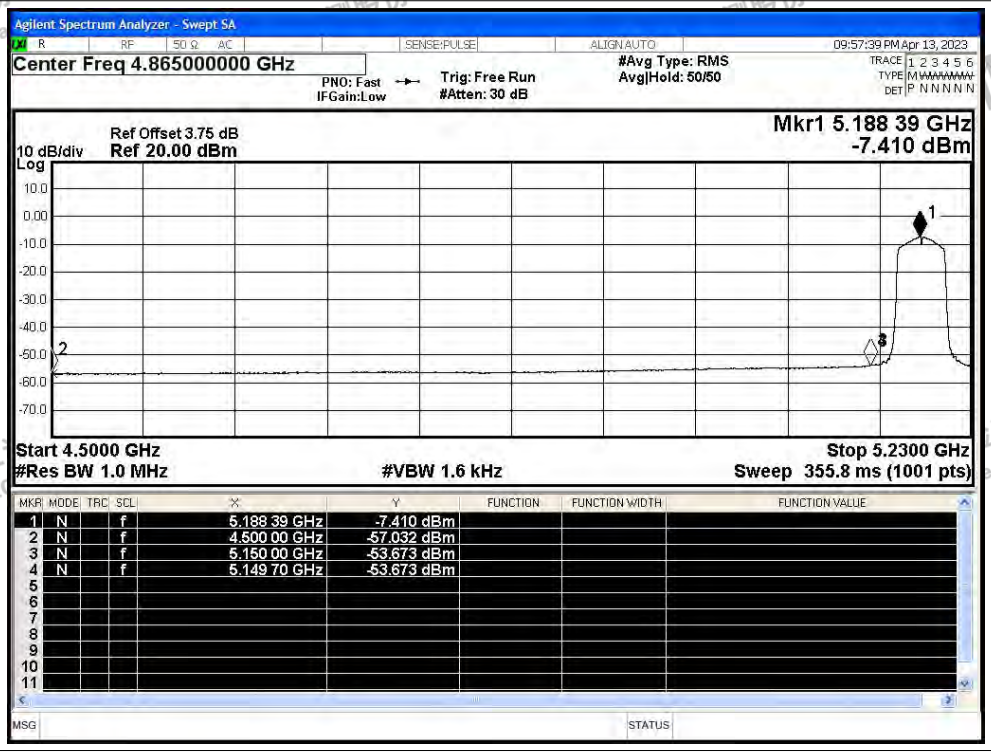
Restrict Band NVNT n20 5240MHz Ant1 Average



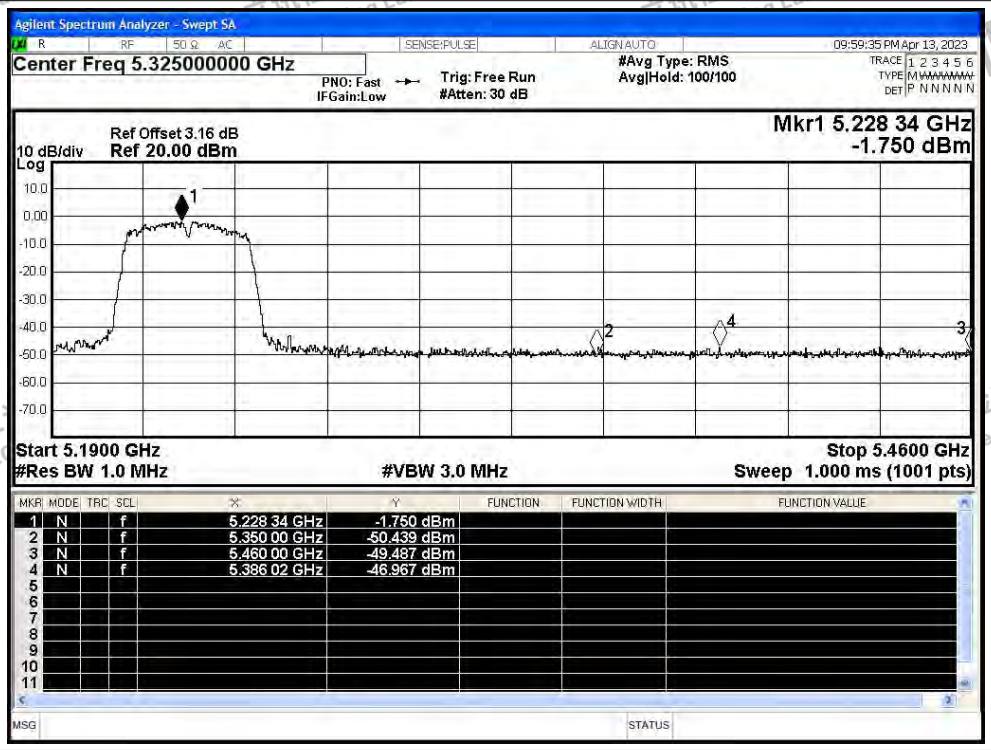
Restrict Band NVNT n40 5190MHz Ant1 Peak



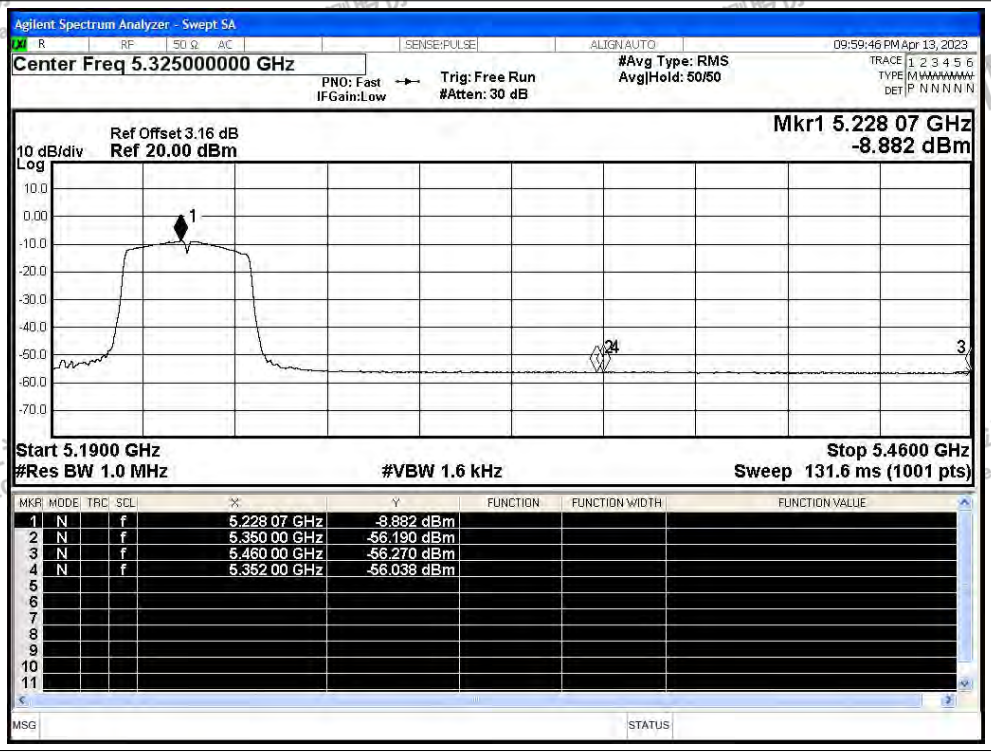
Restrict Band NVNT n40 5190MHz Ant1 Average



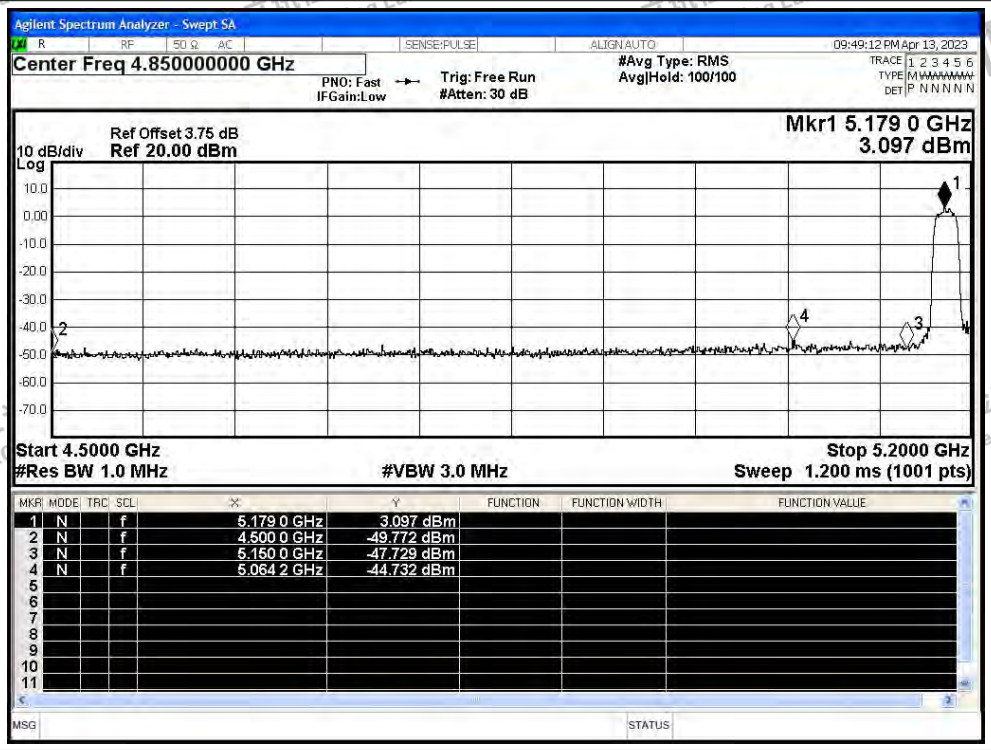
Restrict Band NVNT n40 5230MHz Ant1 Peak



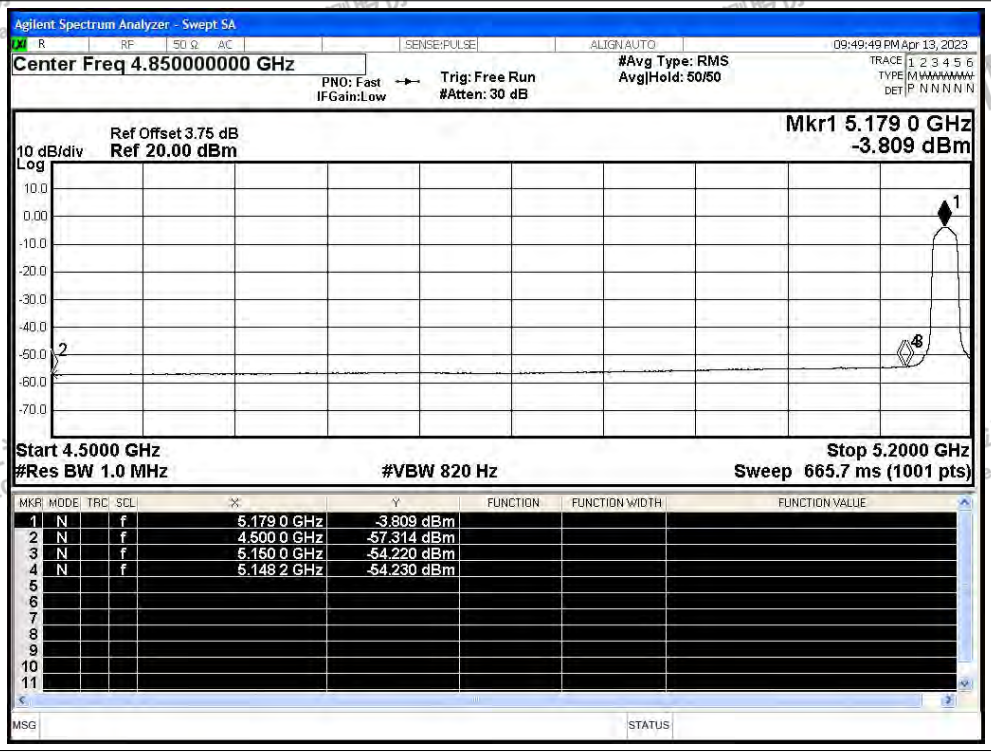
Restrict Band NVNT n40 5230MHz Ant1 Average



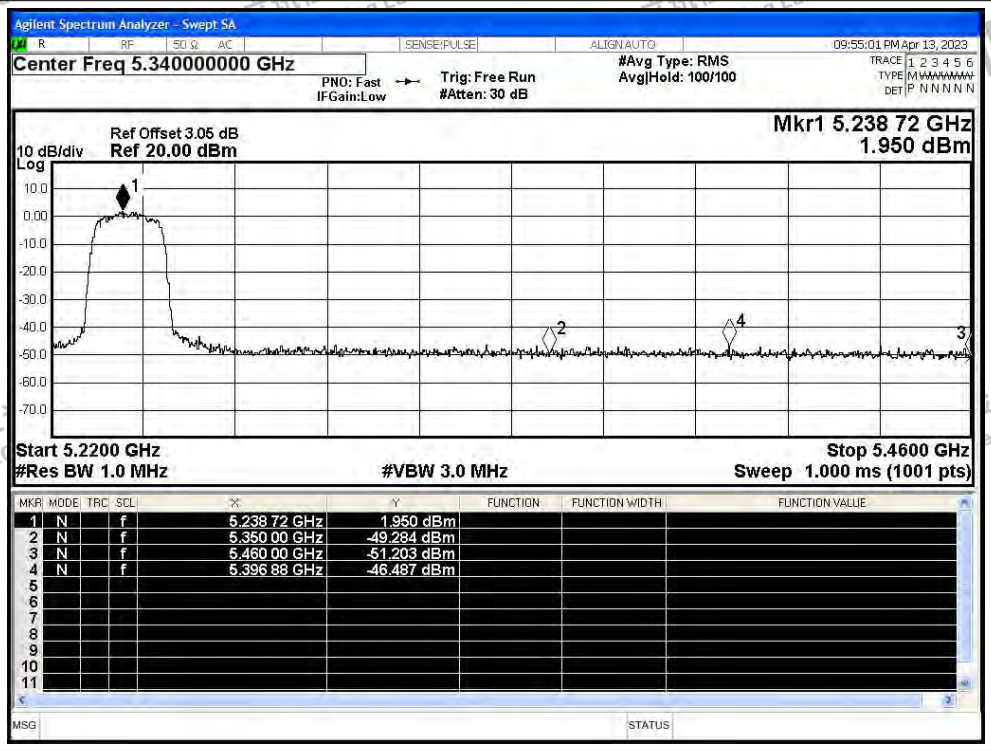
Restrict Band NVNT ac20 5180MHz Ant1 Peak



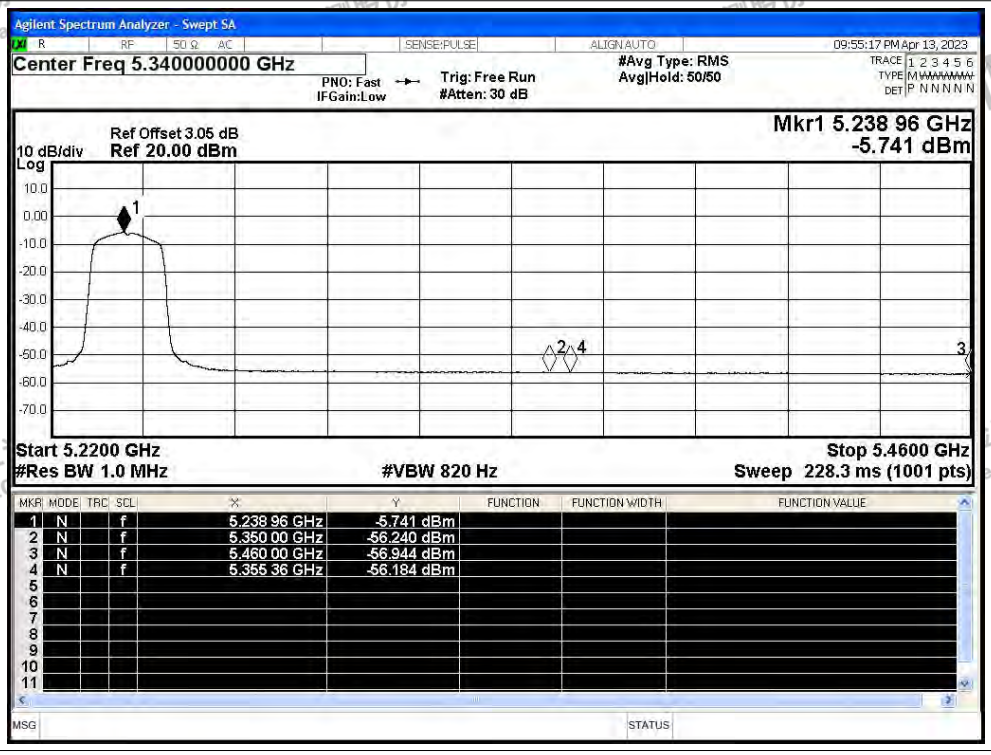
Restrict Band NVNT ac20 5180MHz Ant1 Average



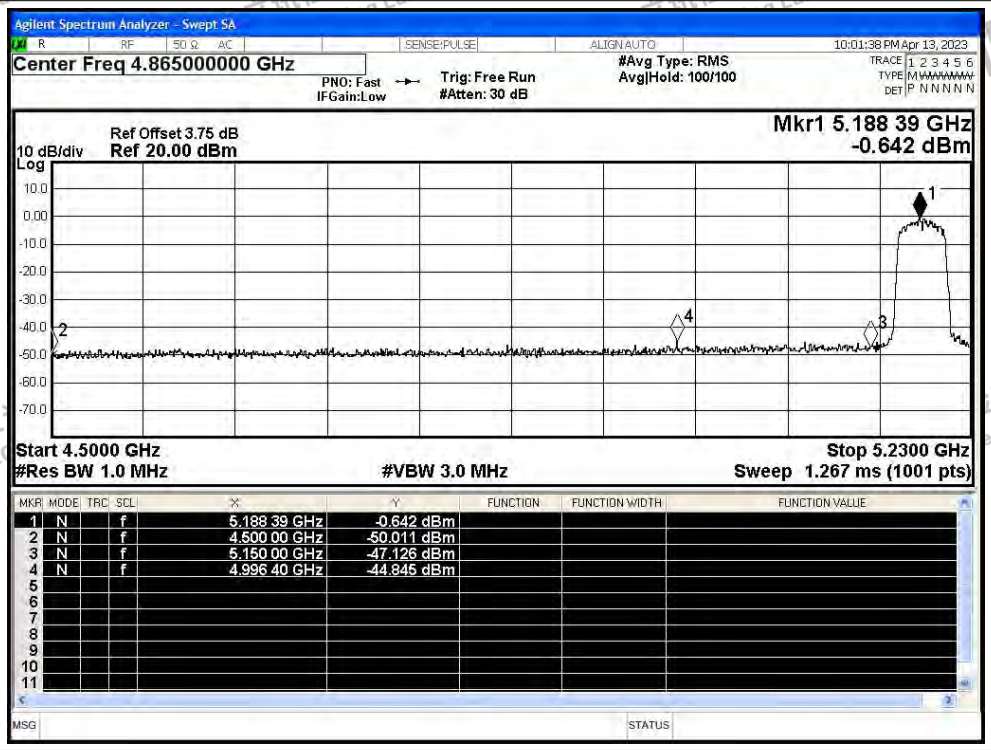
Restrict Band NVNT ac20 5240MHz Ant1 Peak



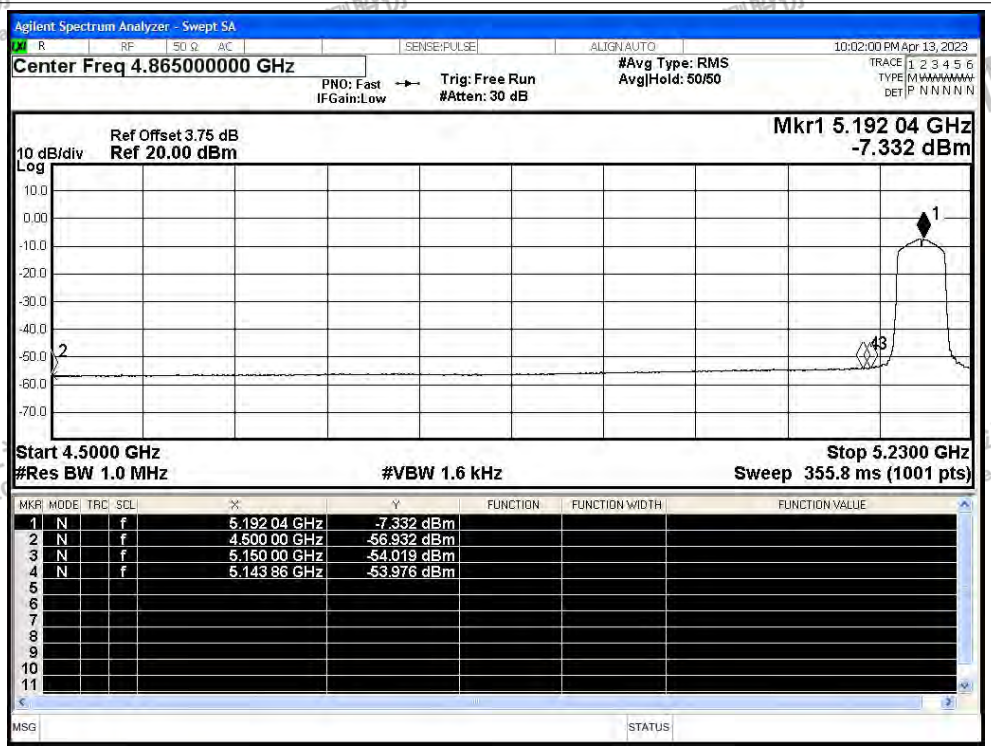
Restrict Band NVNT ac20 5240MHz Ant1 Average



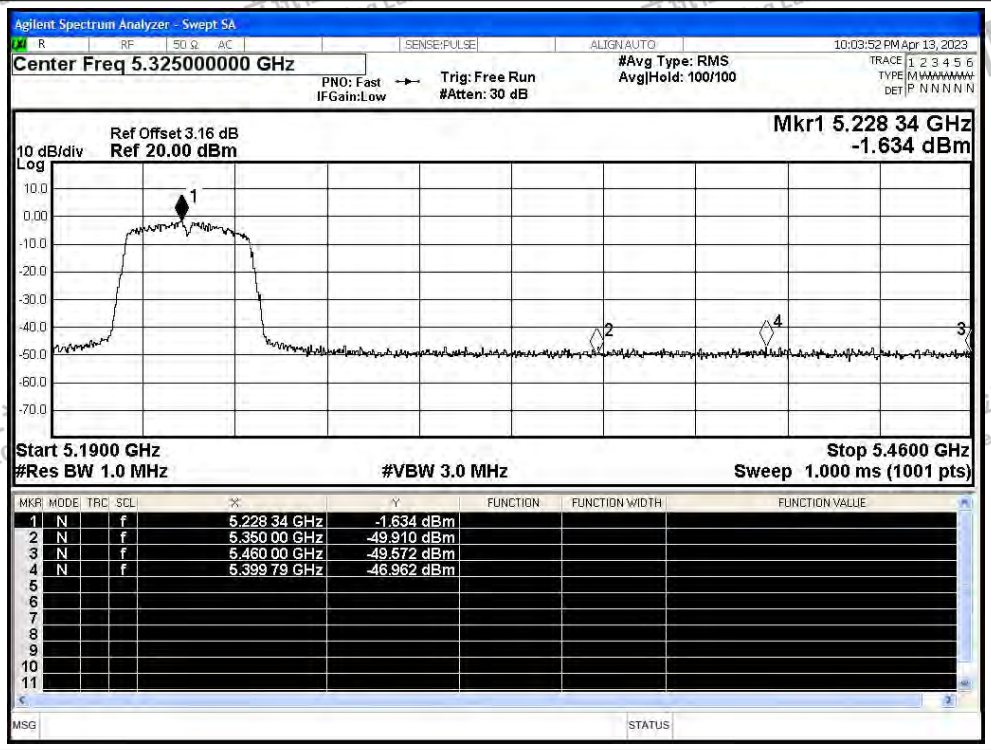
Restrict Band NVNT ac40 5190MHz Ant1 Peak



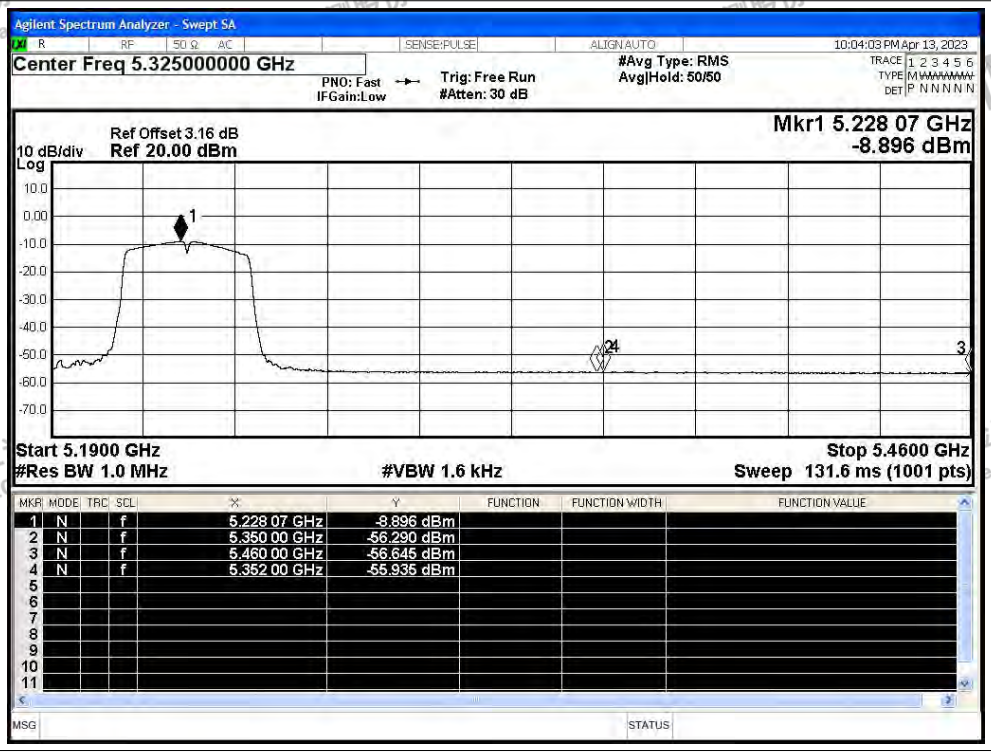
Restrict Band NVNT ac40 5190MHz Ant1 Average



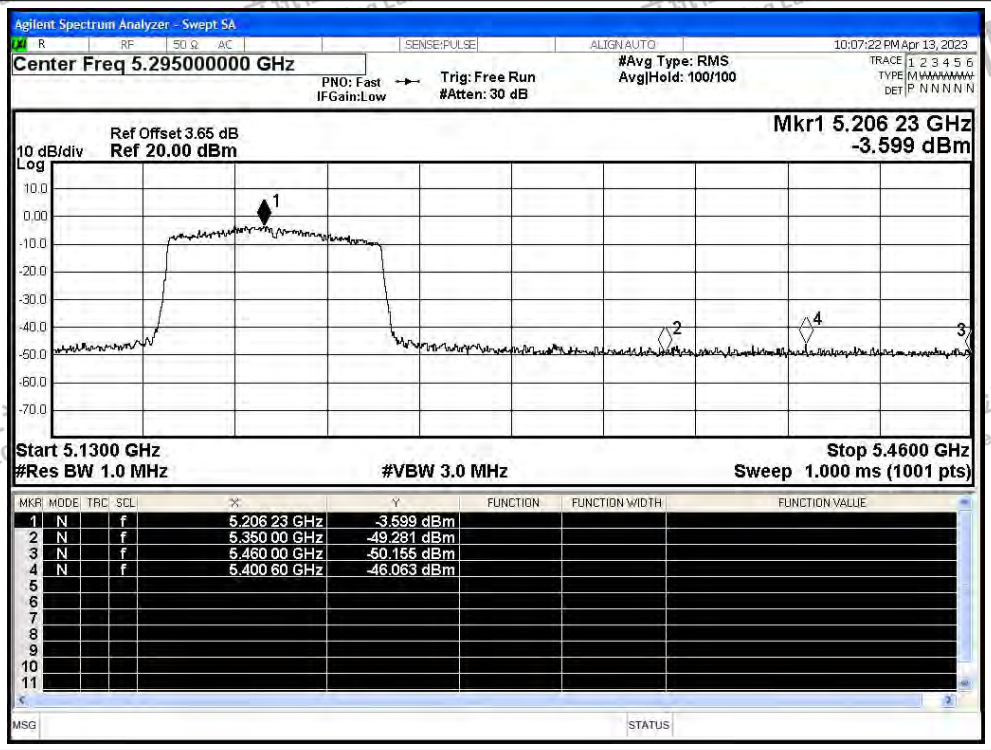
Restrict Band NVNT ac40 5230MHz Ant1 Peak



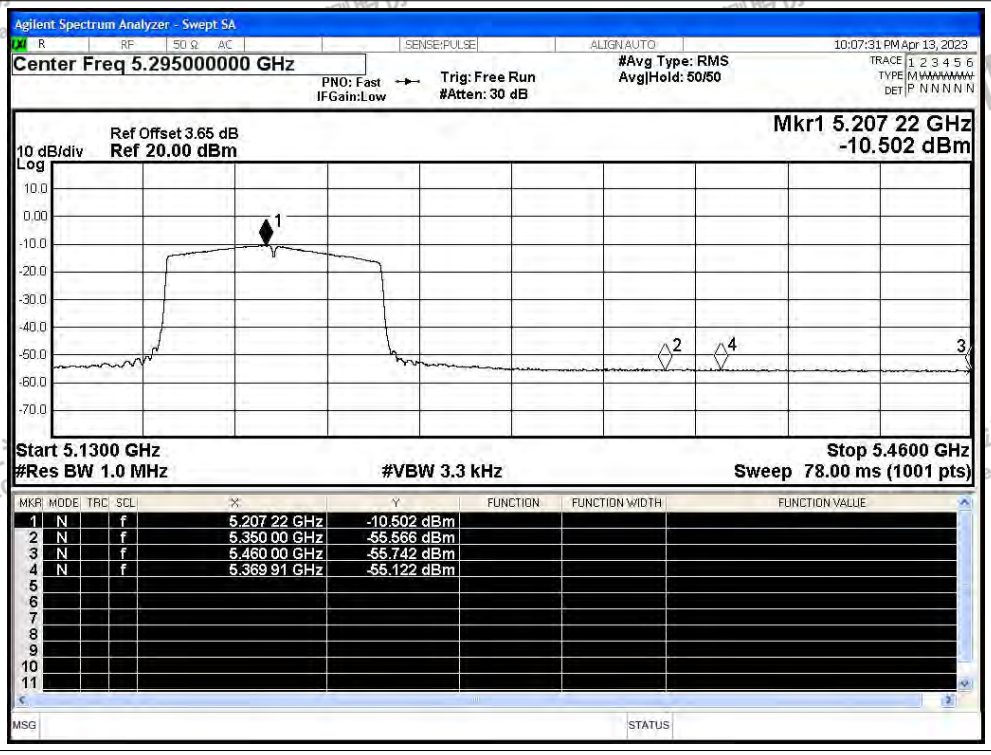
Restrict Band NVNT ac40 5230MHz Ant1 Average



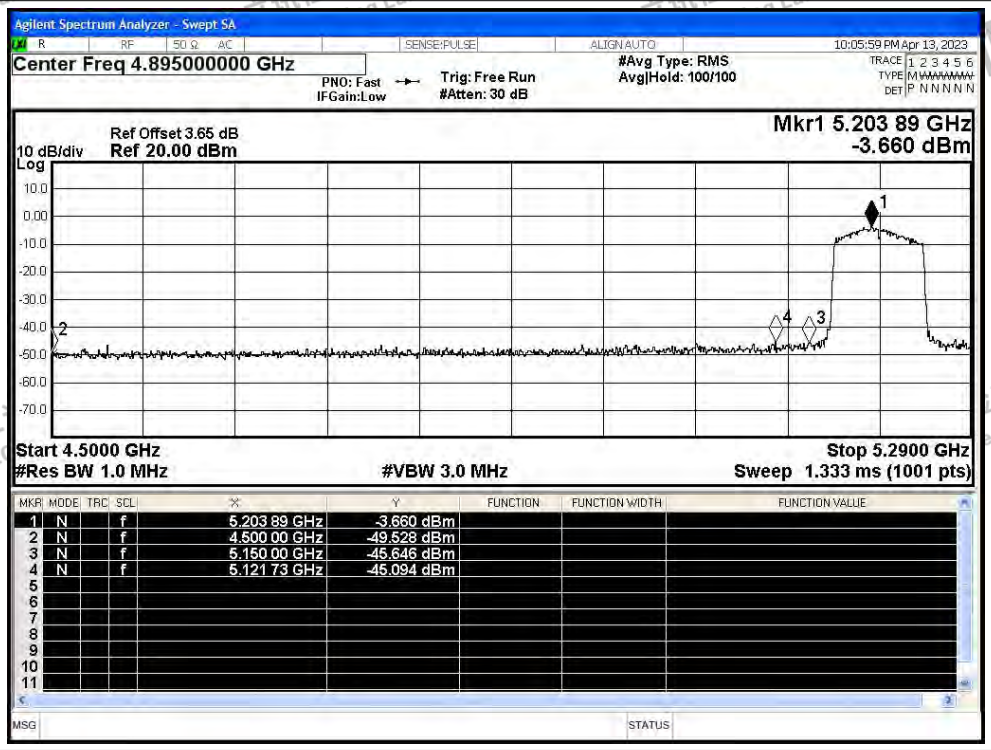
Restrict Band NVNT ac80 5210MHz Ant1 Peak



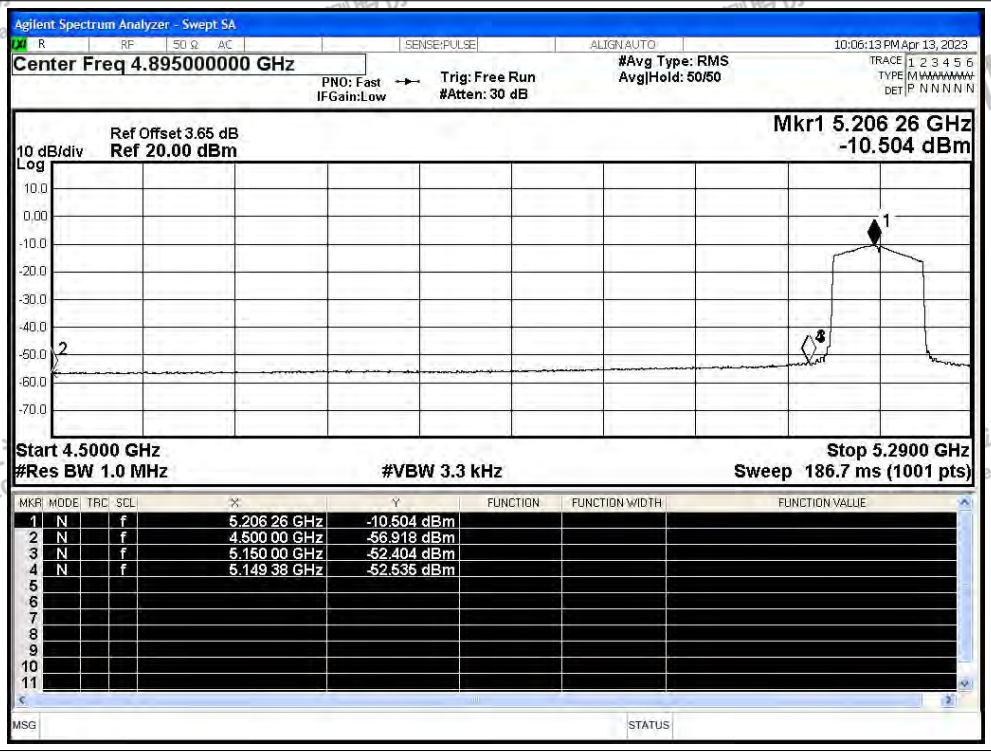
Restrict Band NVNT ac80 5210MHz Ant1 Average



Restrict Band NVNT ac80 5210MHz Ant1 Peak



Restrict Band NVNT ac80 5210MHz Ant1 Average

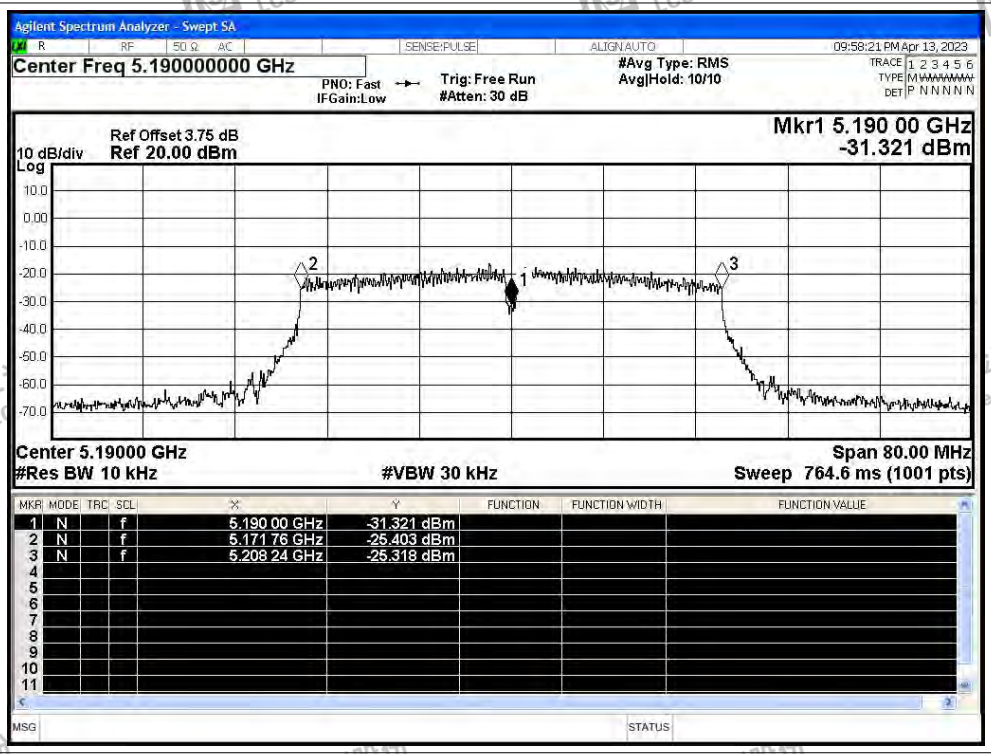


D.5 Frequency Stability

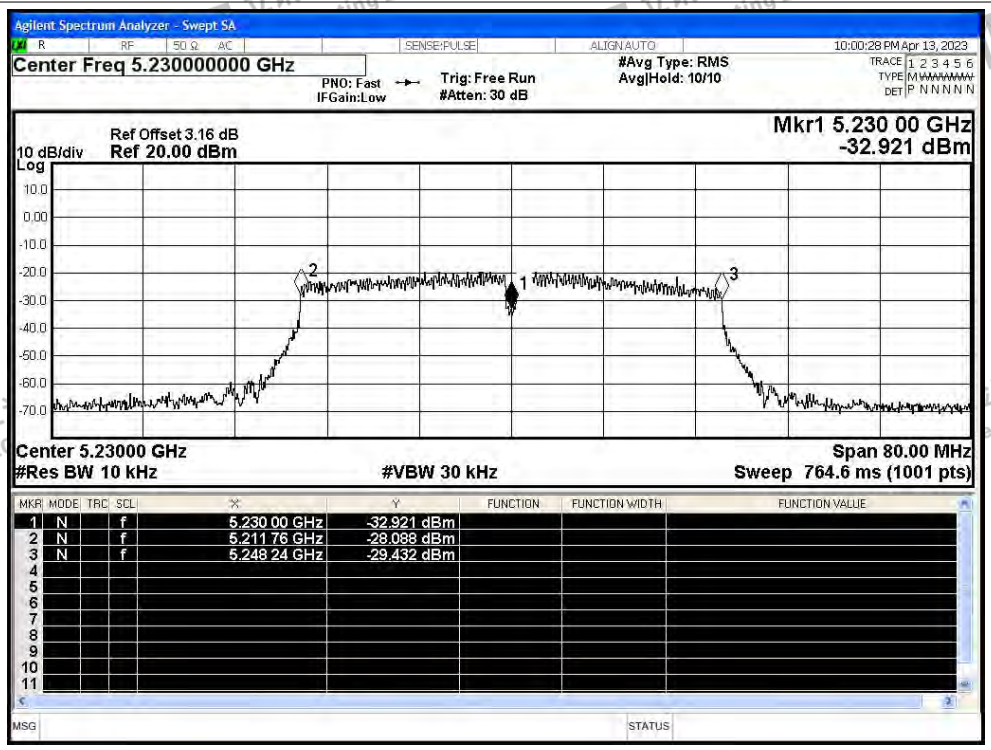
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	n40	5190	Ant1	5190	0	0	25	Pass
NVNT	n40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac20	5180	Ant1	5180	0	0	25	Pass
NVNT	ac20	5200	Ant1	5200	0	0	25	Pass
NVNT	ac20	5240	Ant1	5240	0	0	25	Pass
NVNT	ac40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	ac40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac80	5210	Ant1	5209.92	-80000	-15.36	25	Pass

Test Graphs

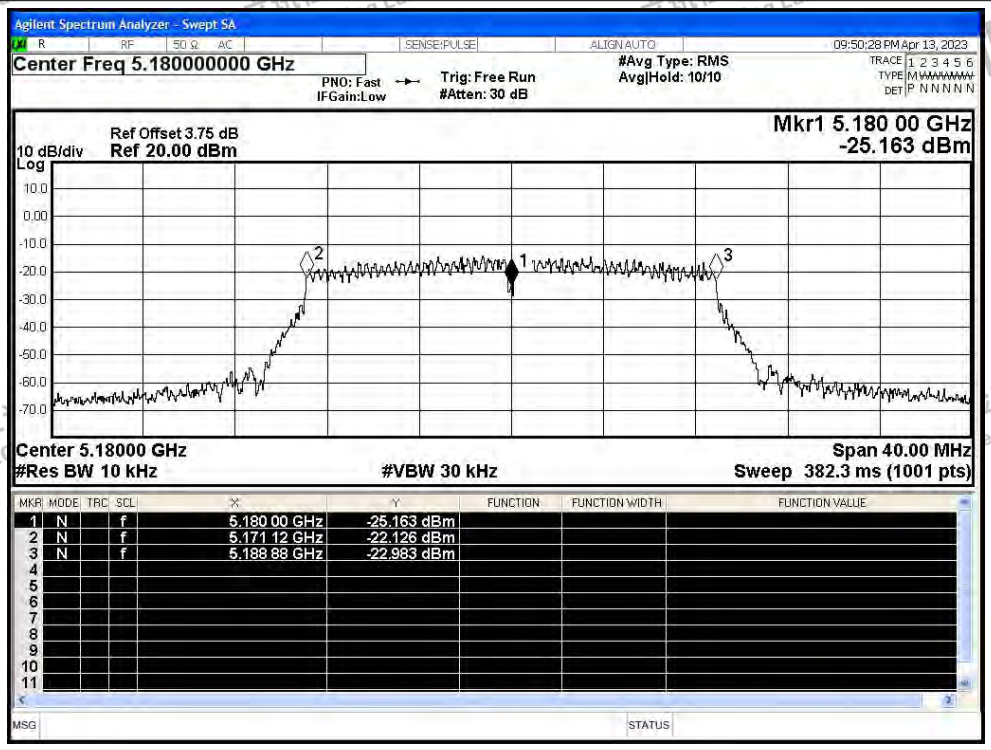
Freq. Stability NVNT n40 5190MHz Ant1



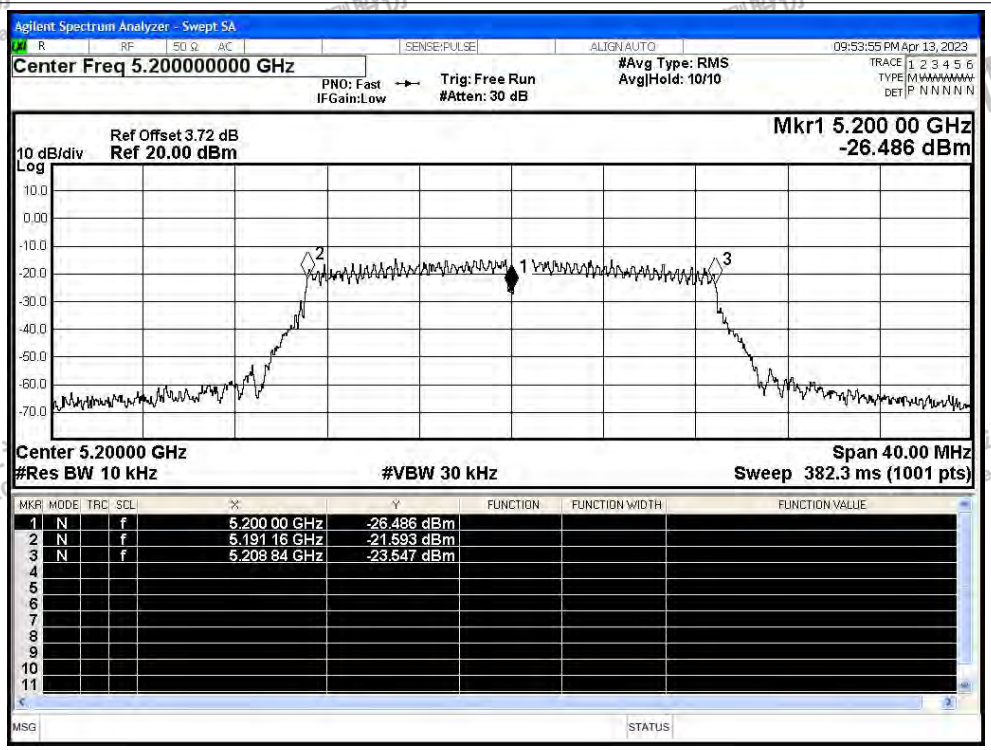
Freq. Stability NVNT n40 5230MHz Ant1



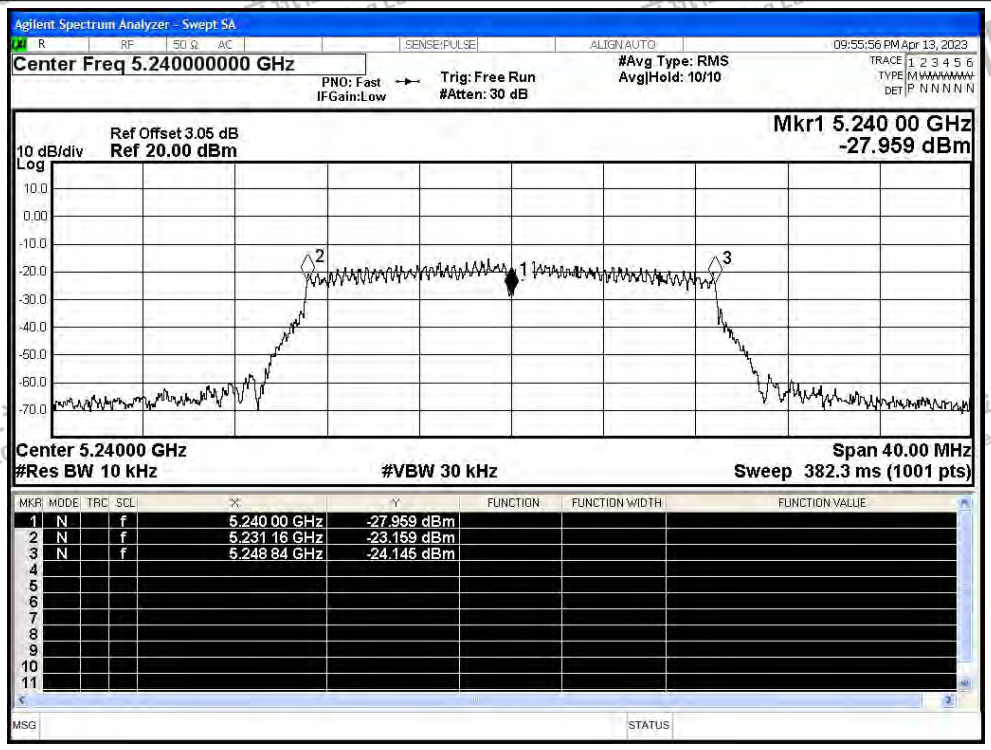
Freq. Stability NVNT ac20 5180MHz Ant1



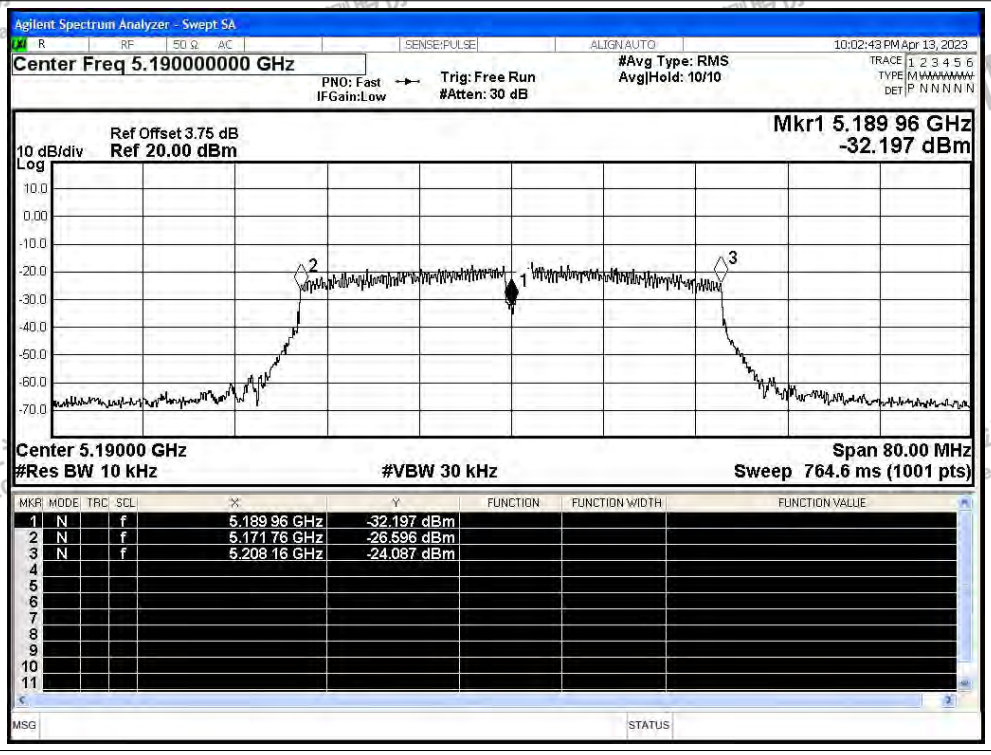
Freq. Stability NVNT ac20 5200MHz Ant1



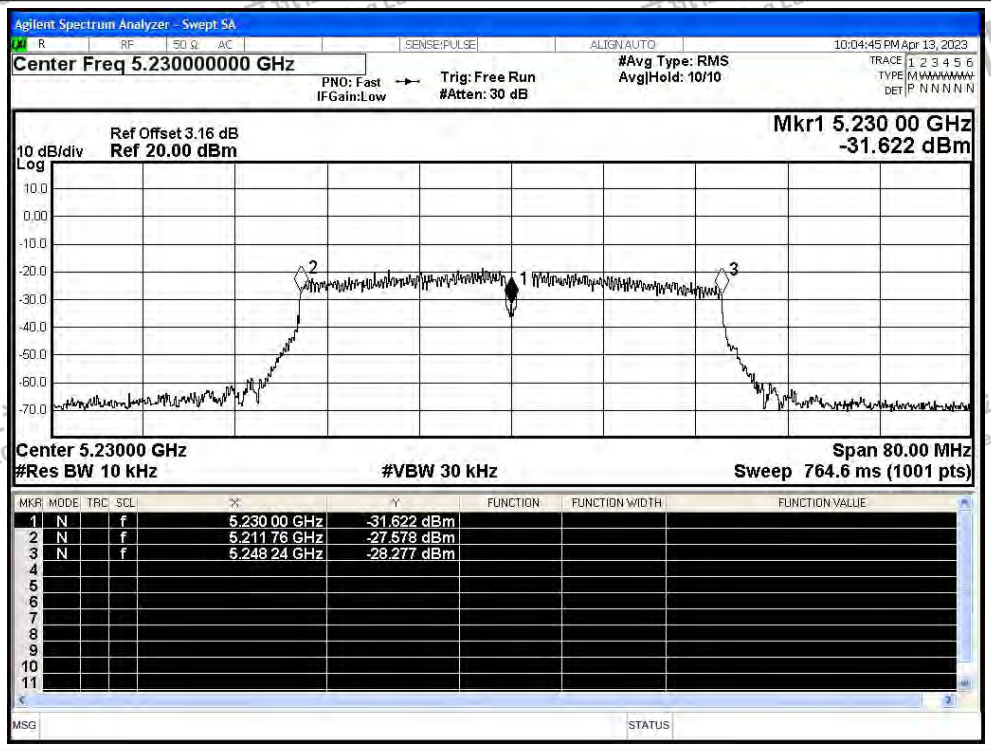
Freq. Stability NVNT ac20 5240MHz Ant1



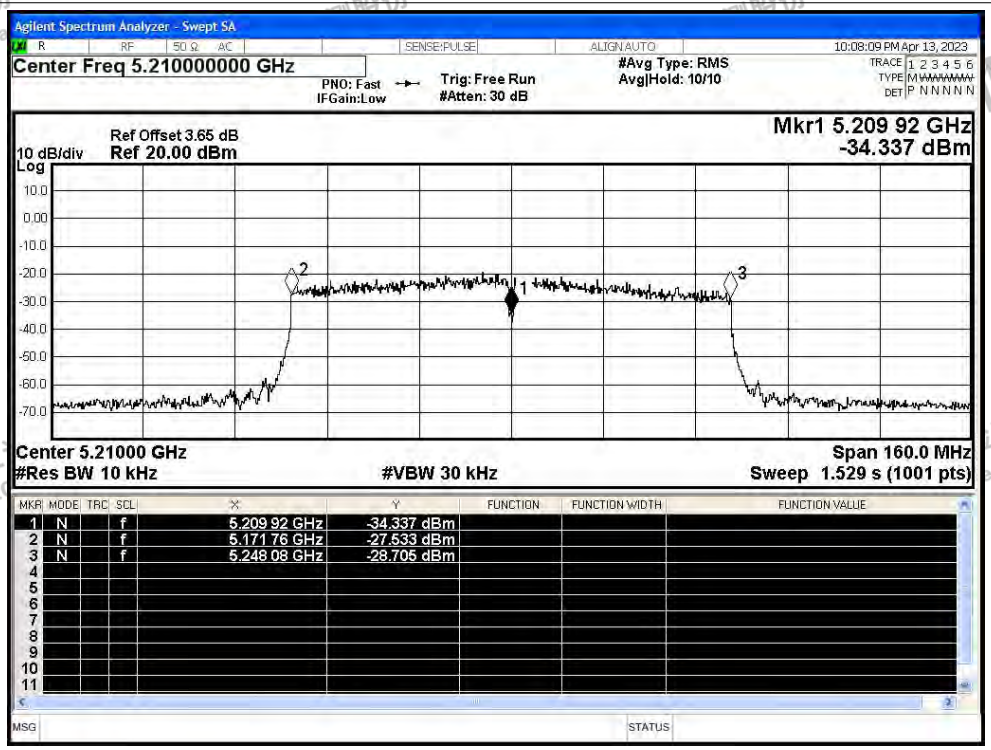
Freq. Stability NVNT ac40 5190MHz Ant1



Freq. Stability NVNT ac40 5230MHz Ant1



Freq. Stability NVNT ac80 5210MHz Ant1

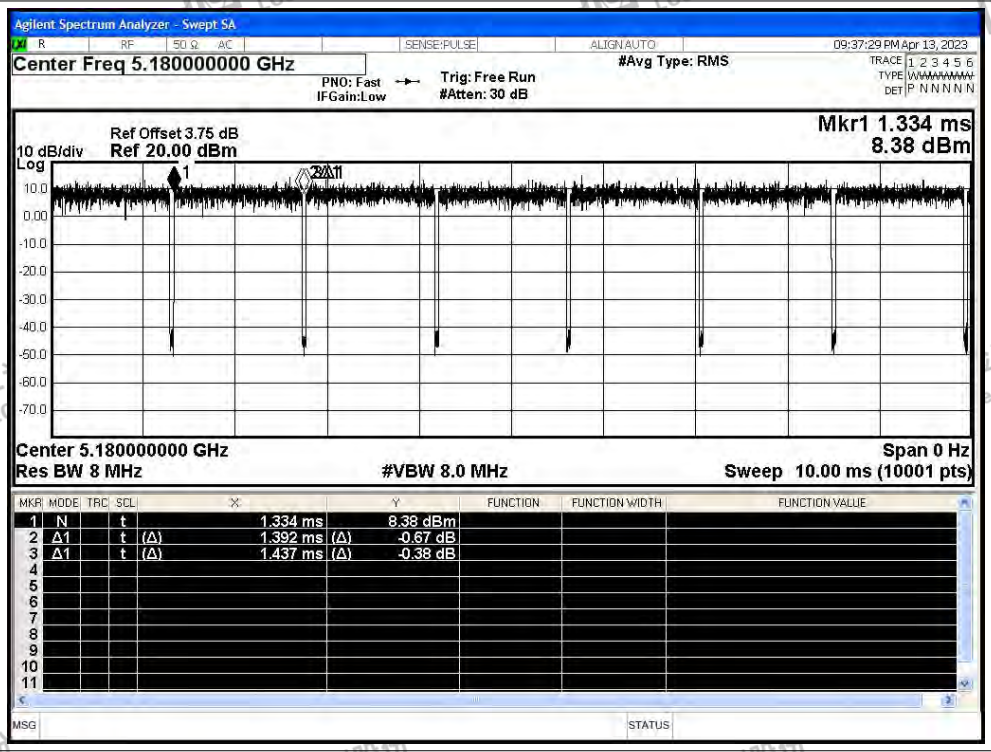


D.6 Duty Cycle

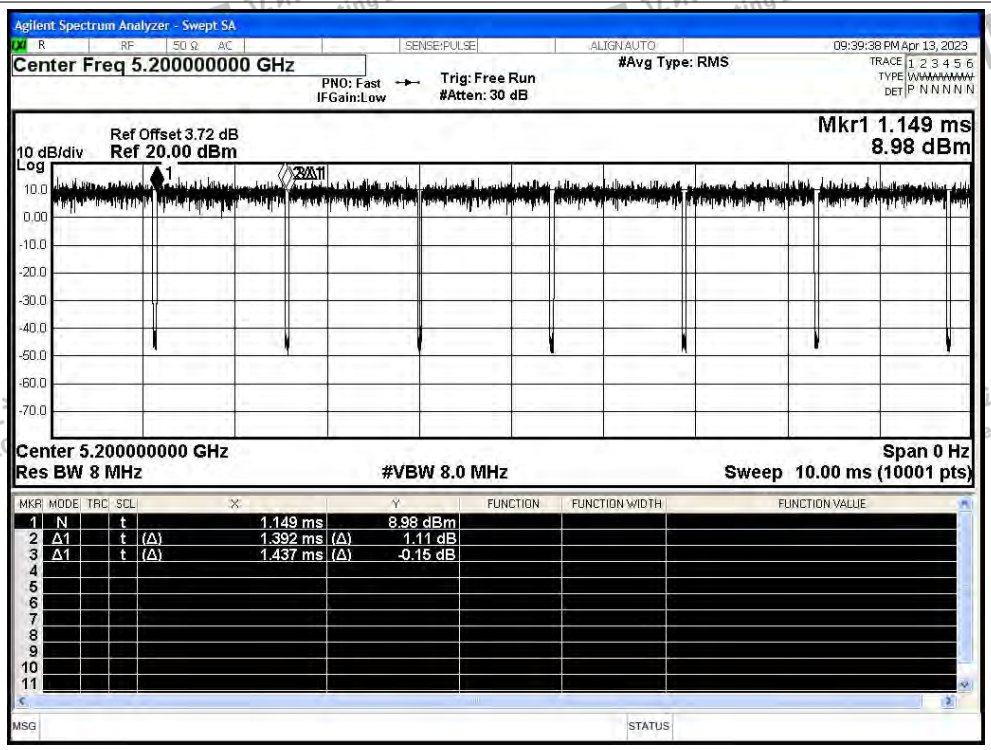
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	96.87	0.14	0.72
NVNT	a	5200	Ant1	96.87	0.14	0.72
NVNT	a	5240	Ant1	96.94	0.13	0.72
NVNT	n20	5180	Ant1	96.65	0.15	0.77
NVNT	n20	5200	Ant1	96.73	0.14	0.77
NVNT	n20	5240	Ant1	96.65	0.15	0.77
NVNT	n40	5190	Ant1	93.64	0.29	1.54
NVNT	n40	5230	Ant1	93.64	0.29	1.54
NVNT	ac20	5180	Ant1	96.7	0.15	0.76
NVNT	ac20	5200	Ant1	96.68	0.15	0.76
NVNT	ac20	5240	Ant1	96.76	0.14	0.76
NVNT	ac40	5190	Ant1	93.68	0.28	1.53
NVNT	ac40	5230	Ant1	93.68	0.28	1.53
NVNT	ac80	5210	Ant1	88.04	0.55	3.09

Test Graphs

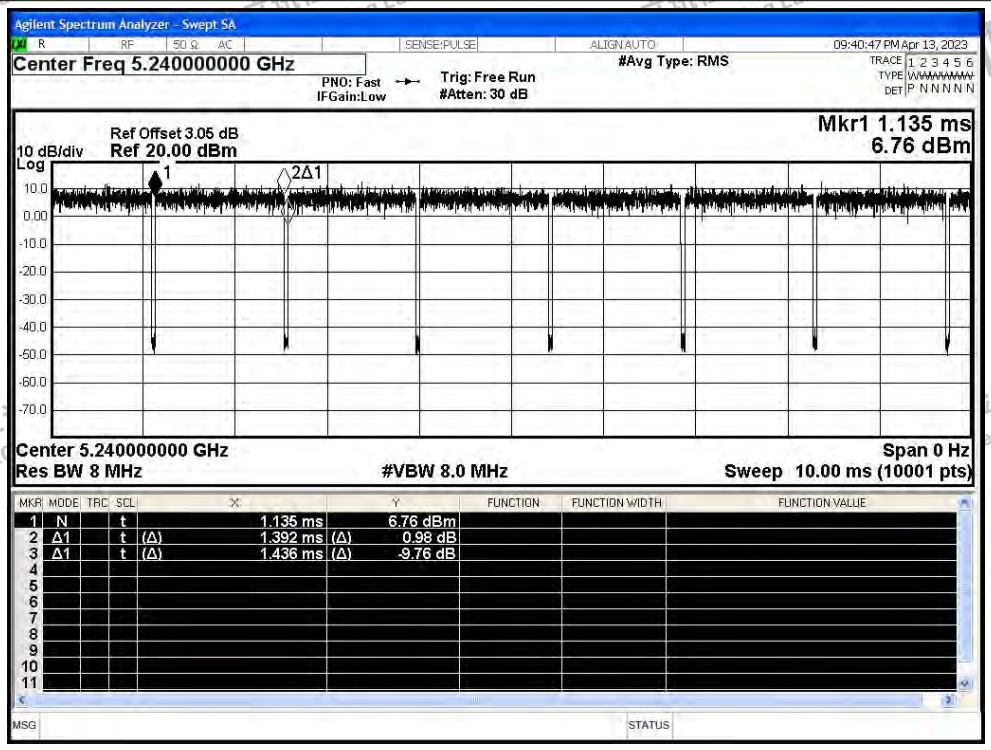
Duty Cycle NVNT a 5180MHz Ant1



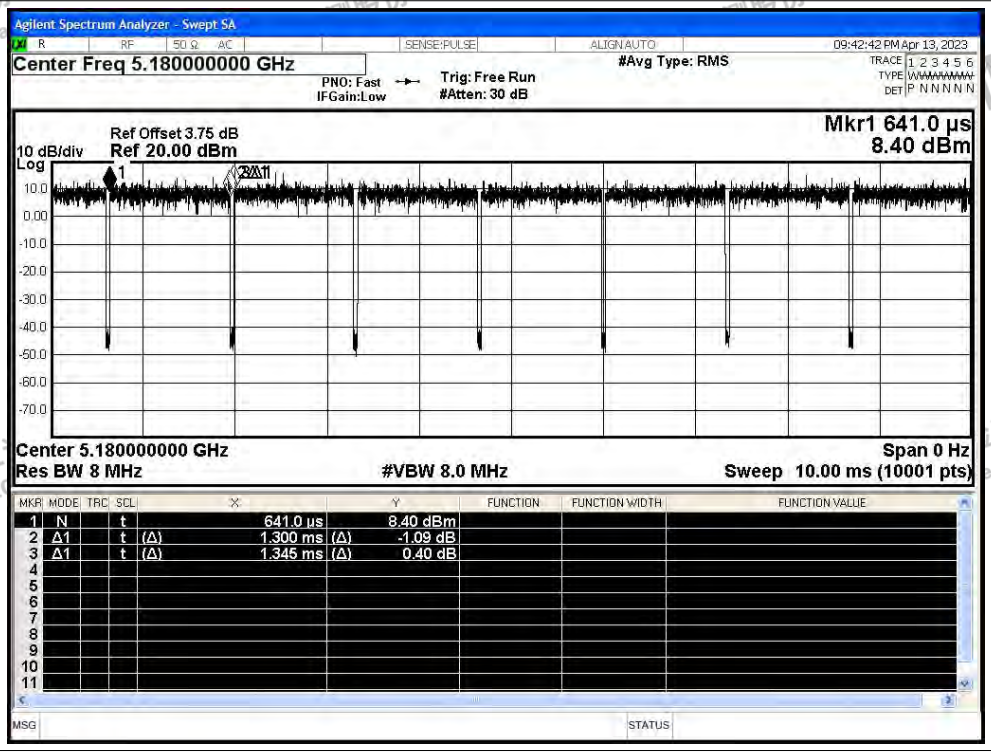
Duty Cycle NVNT a 5200MHz Ant1



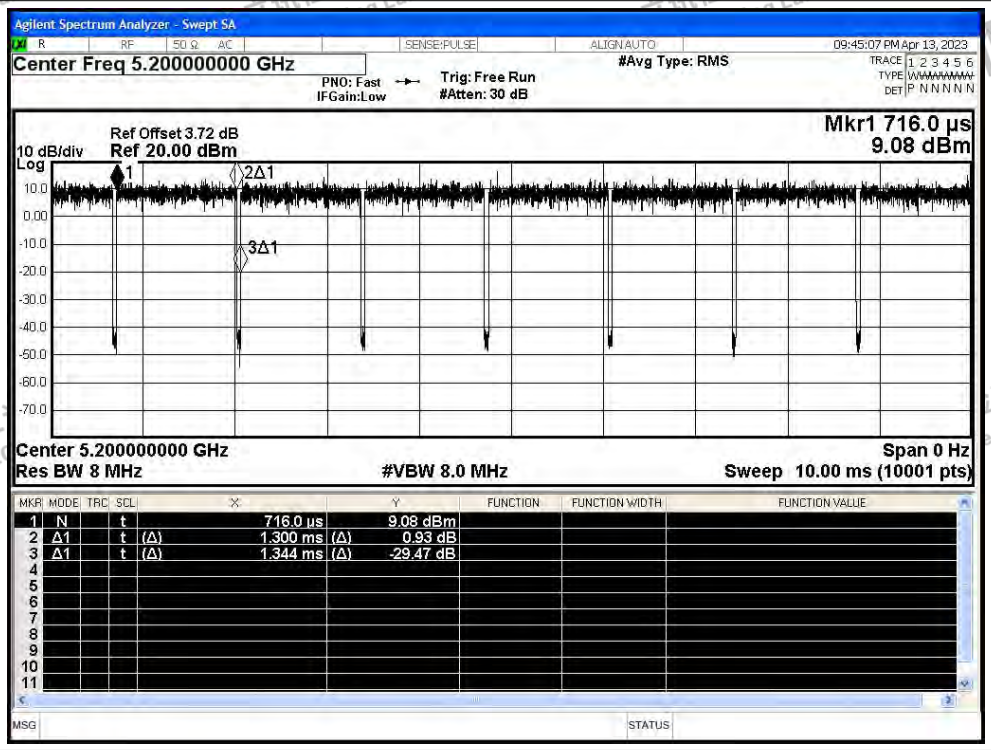
Duty Cycle NVNT a 5240MHz Ant1



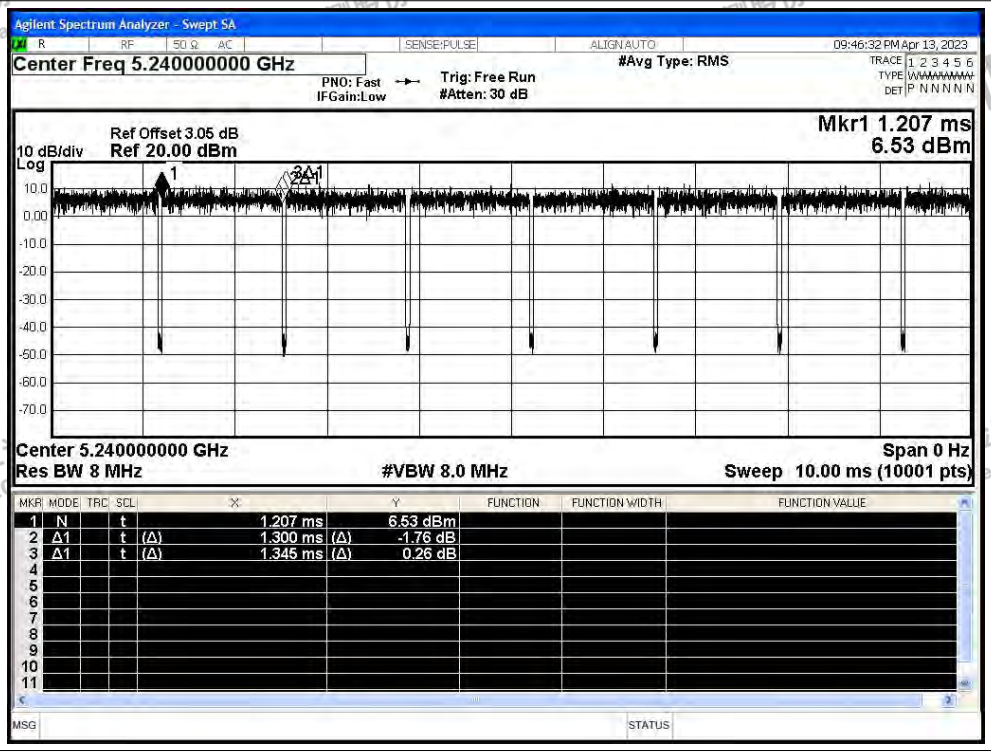
Duty Cycle NVNT n20 5180MHz Ant1



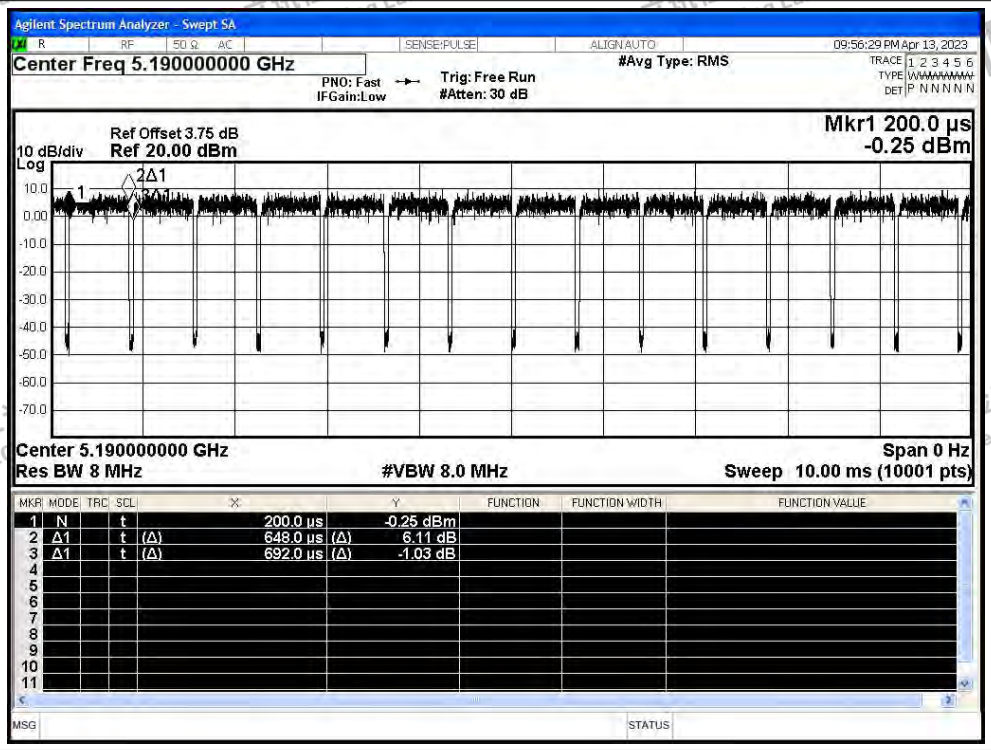
Duty Cycle NVNT n20 5200MHz Ant1



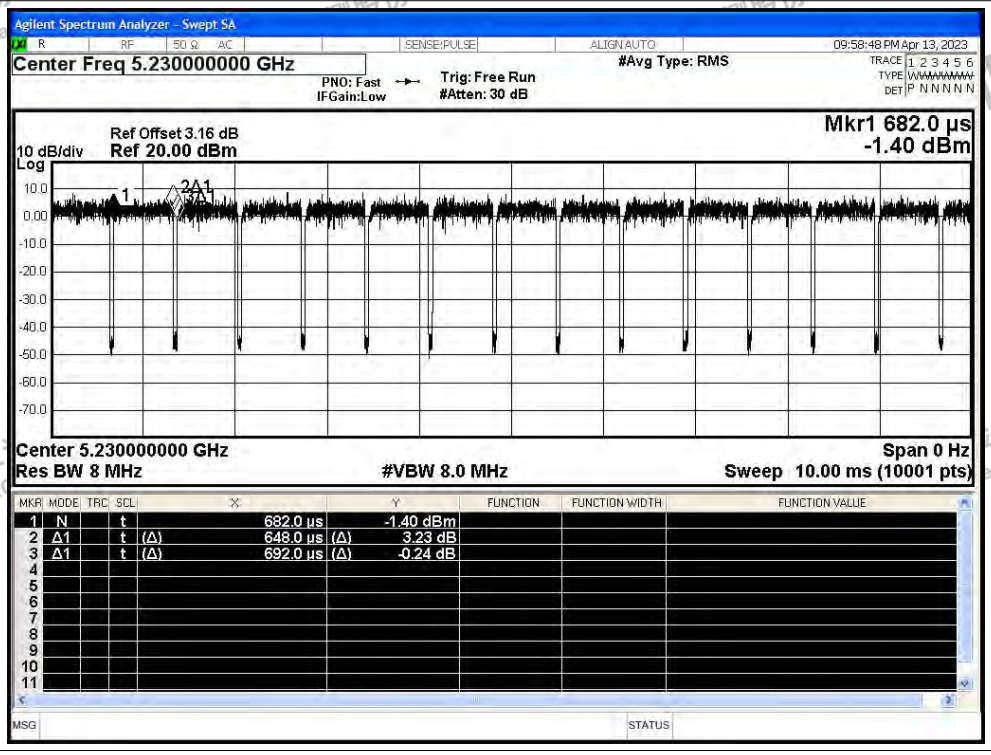
Duty Cycle NVNT n20 5240MHz Ant1



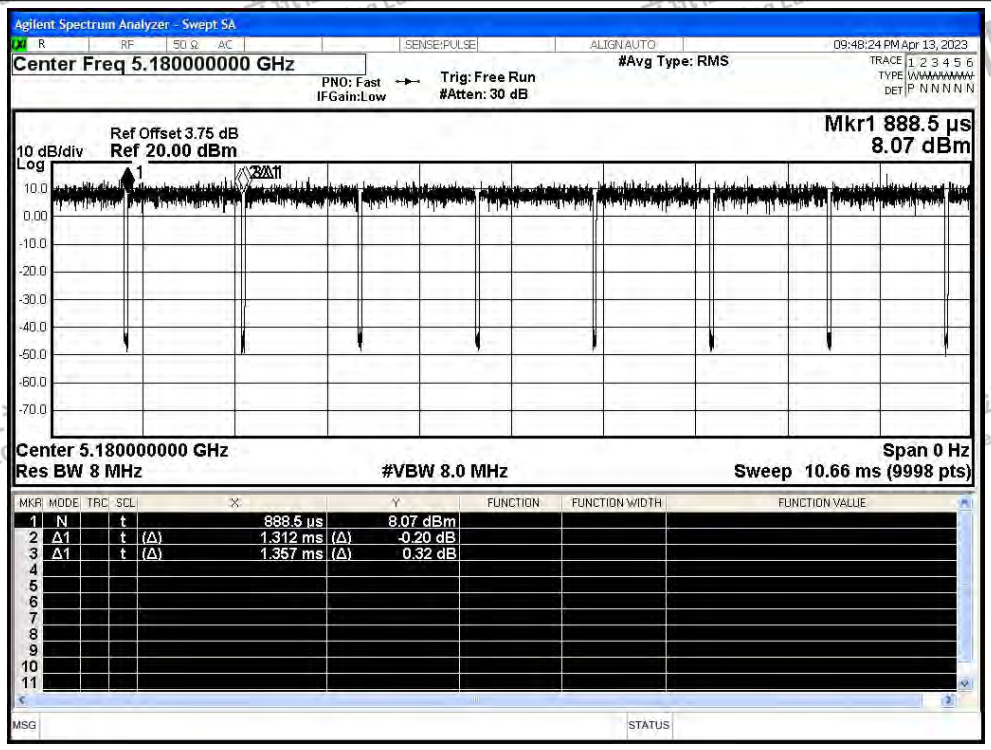
Duty Cycle NVNT n40 5190MHz Ant1



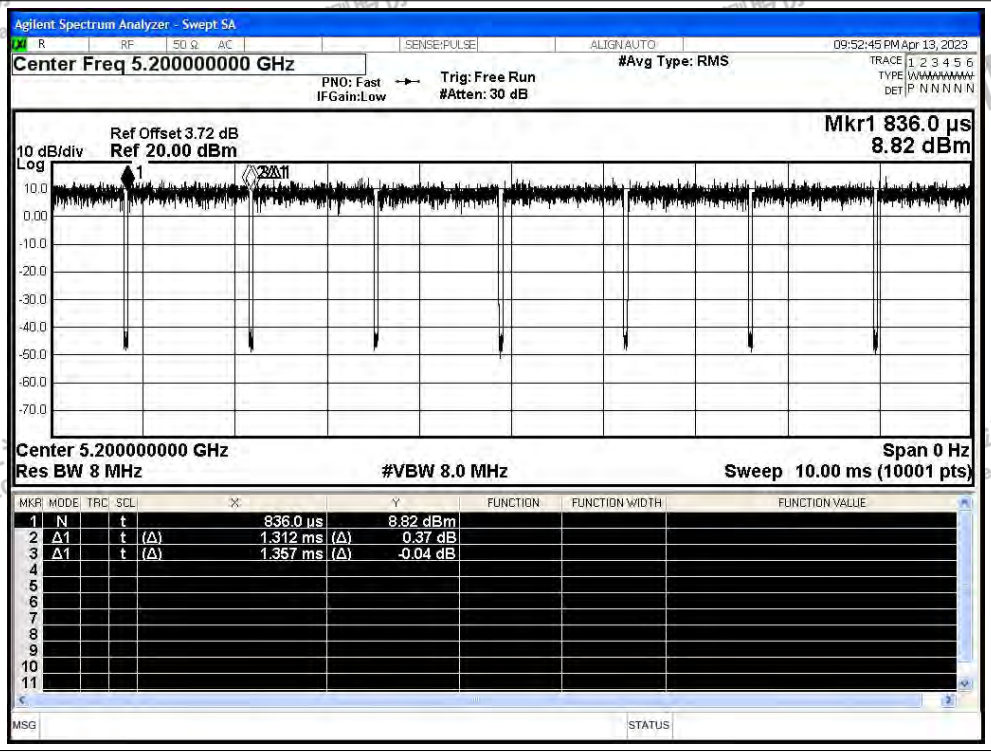
Duty Cycle NVNT n40 5230MHz Ant1



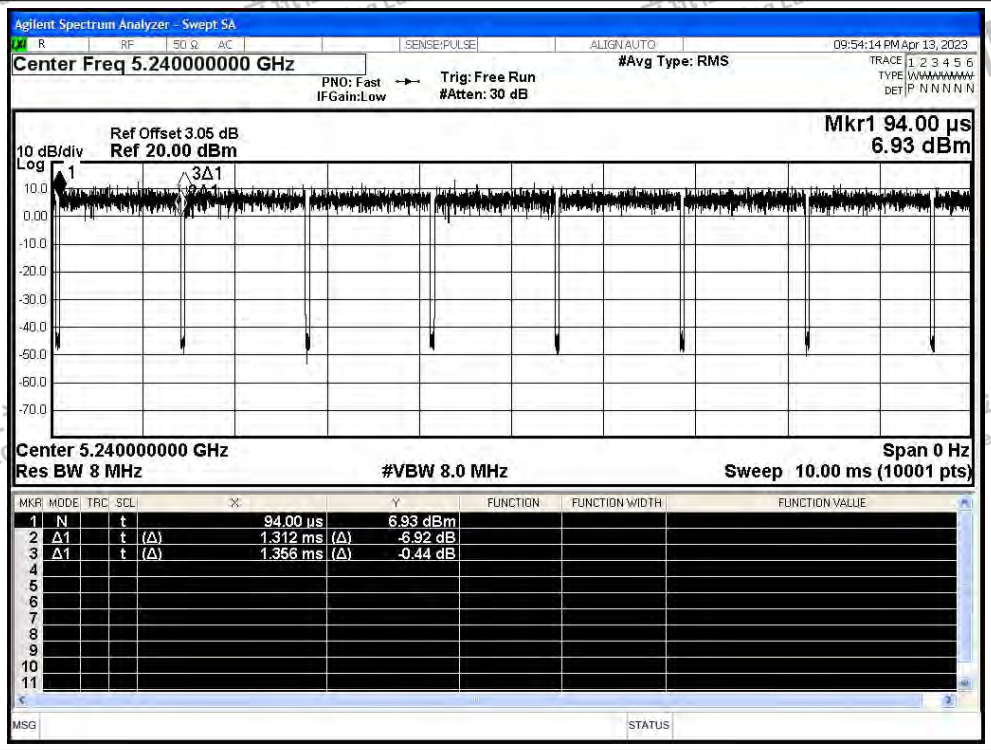
Duty Cycle NVNT ac20 5180MHz Ant1



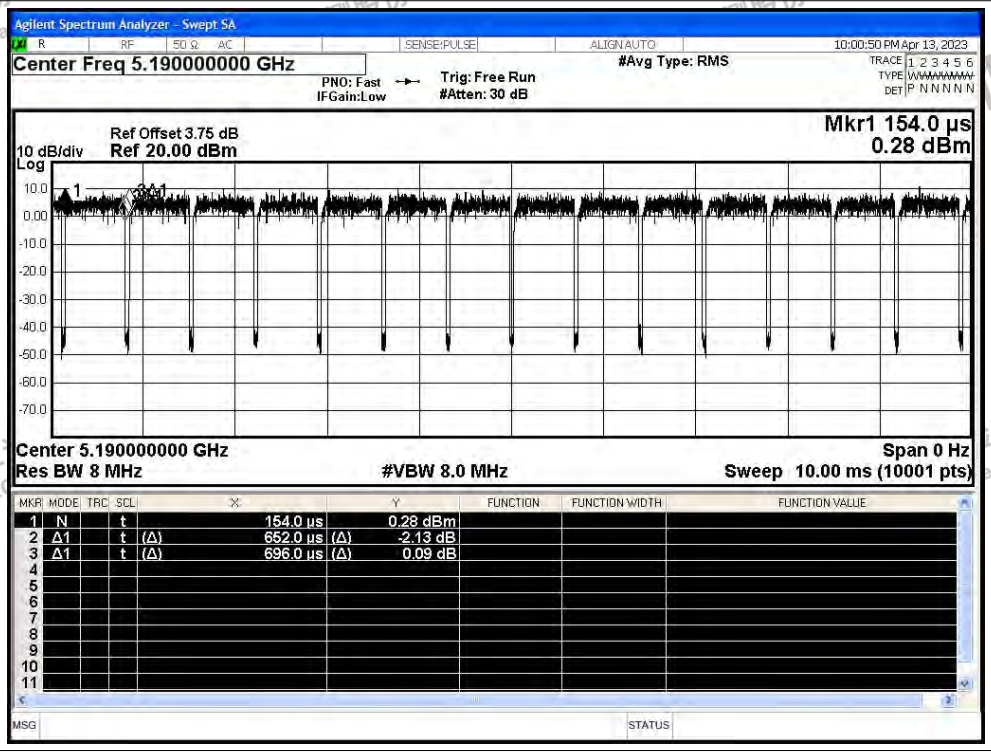
Duty Cycle NVNT ac20 5200MHz Ant1



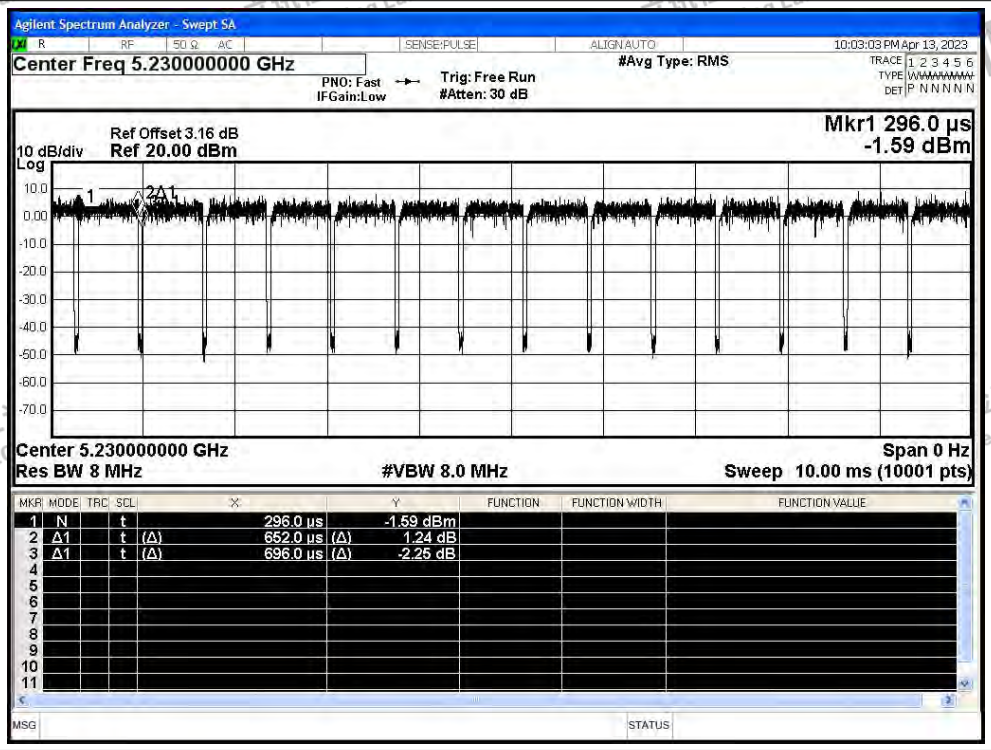
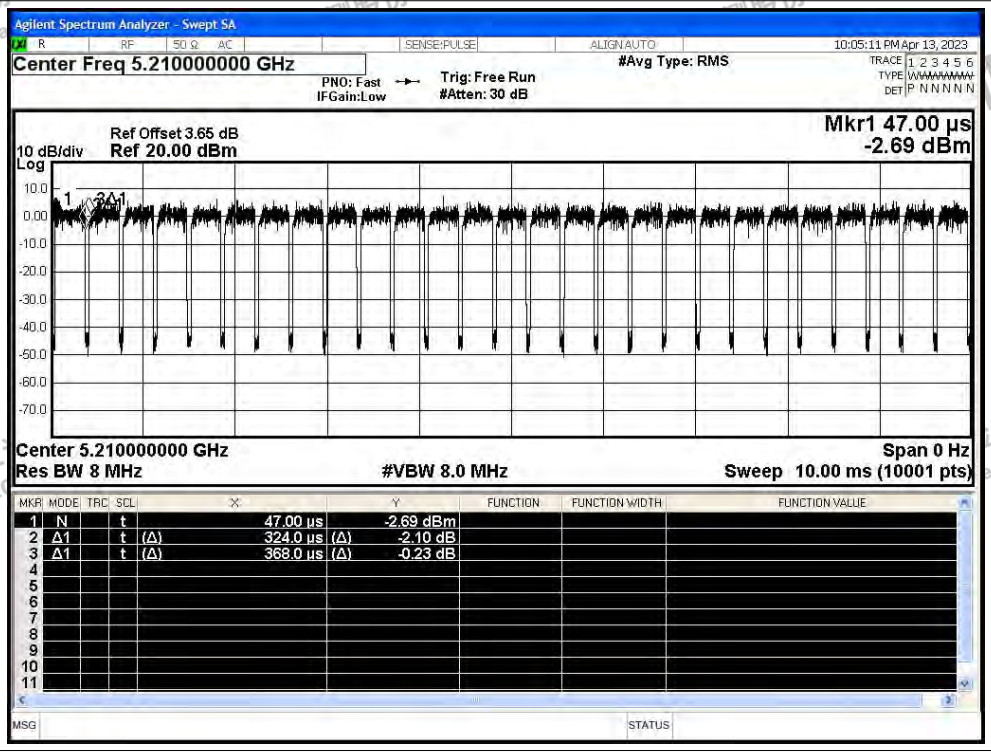
Duty Cycle NVNT ac20 5240MHz Ant1



Duty Cycle NVNT ac40 5190MHz Ant1



Duty Cycle NVNT ac40 5230MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1