Appendix E

RF Test Data for 5.8GWIFI (Conducted Measurement)

Product Name: Mstick4

Test Model: MG-S04

Environmental Conditions

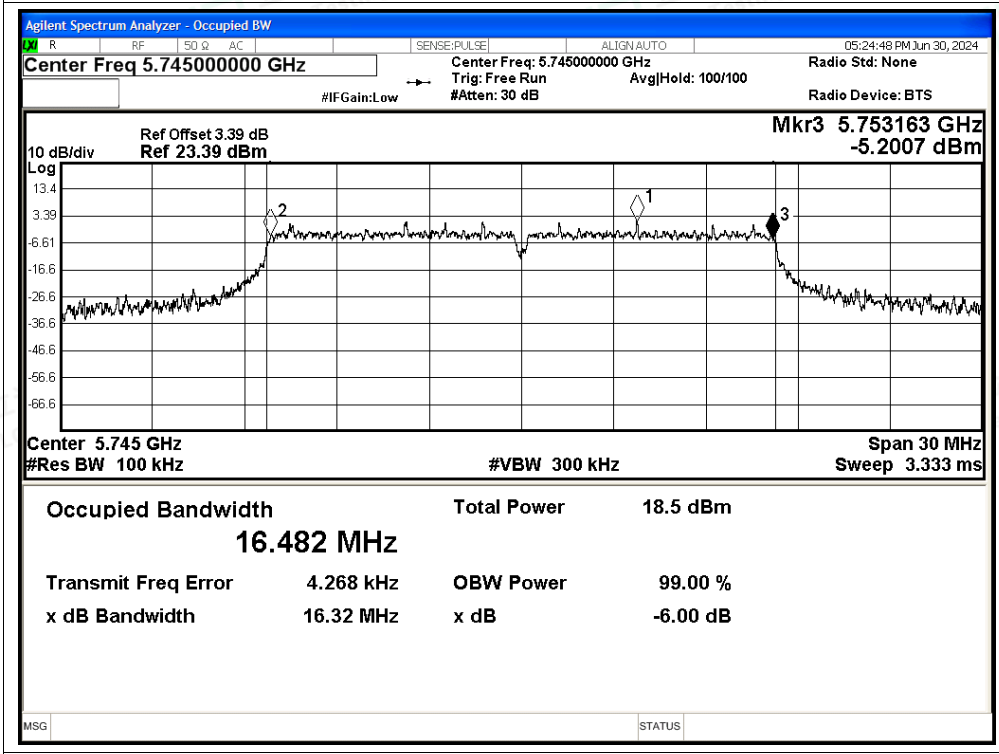
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

E.1 -6dB Bandwidth

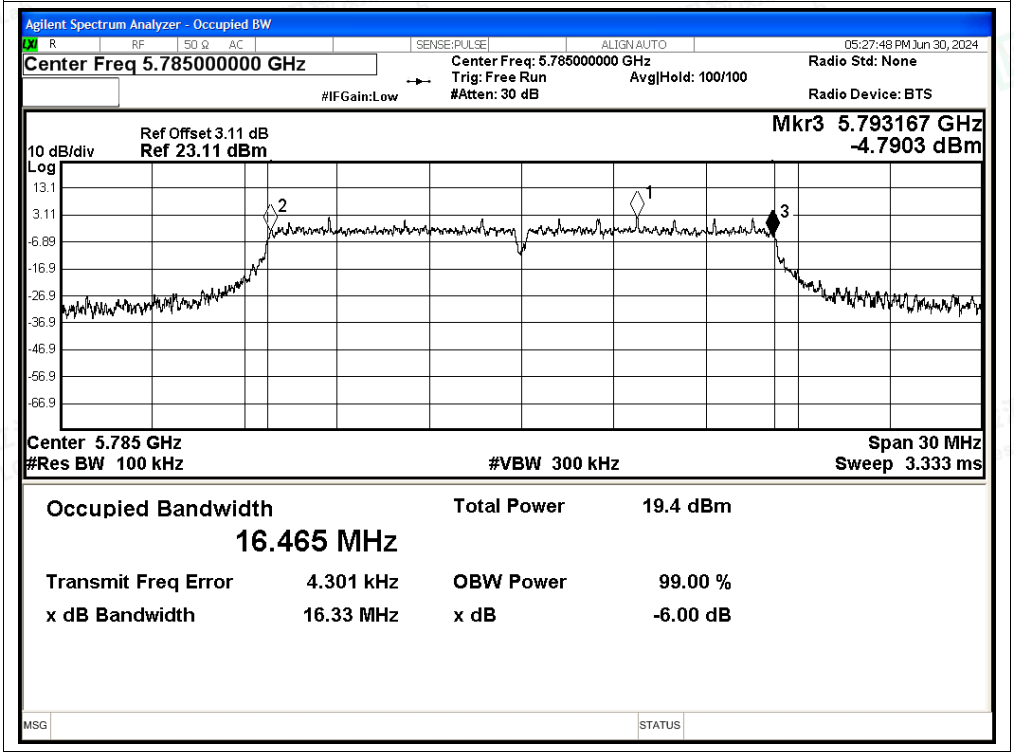
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	a	5745	Ant1	16.318	>=0.5	Pass
NVNT	a	5785	Ant1	16.325	>=0.5	Pass
NVNT	a	5825	Ant1	16.34	>=0.5	Pass
NVNT	n20	5745	Ant1	17.262	>=0.5	Pass
NVNT	n20	5785	Ant1	17.099	>=0.5	Pass
NVNT	n20	5825	Ant1	17.386	>=0.5	Pass
NVNT	n40	5755	Ant1	35.277	>=0.5	Pass
NVNT	n40	5795	Ant1	35.897	>=0.5	Pass
NVNT	ac20	5745	Ant1	17.22	>=0.5	Pass
NVNT	ac20	5785	Ant1	17.315	>=0.5	Pass
NVNT	ac20	5825	Ant1	17.217	>=0.5	Pass
NVNT	ac40	5755	Ant1	36.186	>=0.5	Pass
NVNT	ac40	5795	Ant1	36.024	>=0.5	Pass
NVNT	ac80	5775	Ant1	75.585	>=0.5	Pass

Test Graphs

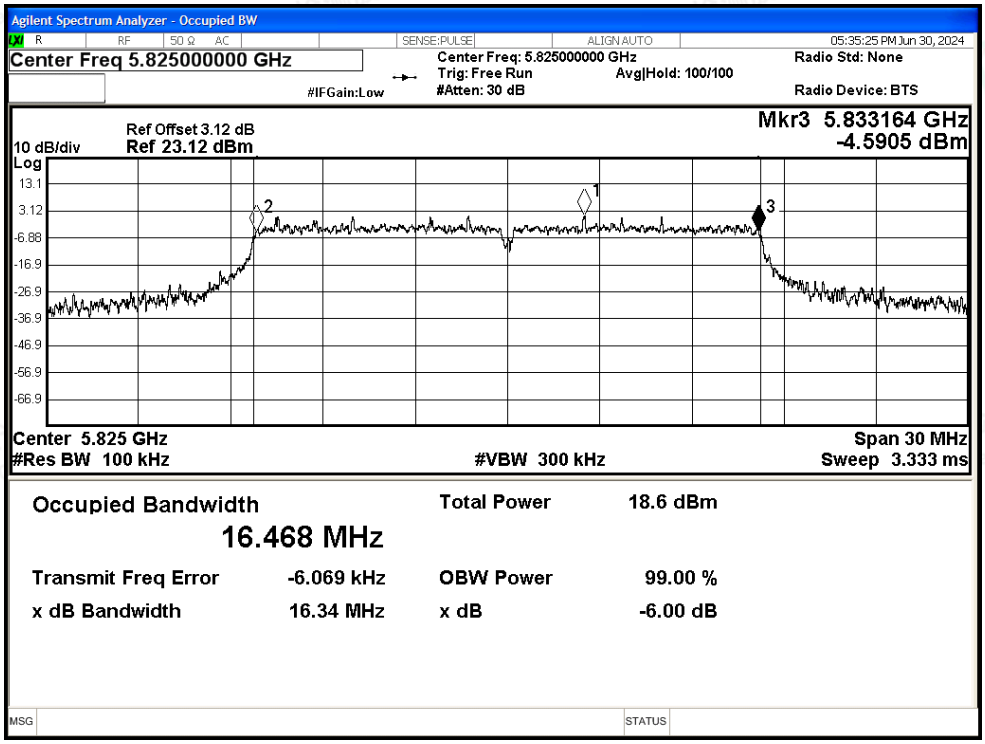
-6dB Bandwidth NVNT a 5745MHz Ant1



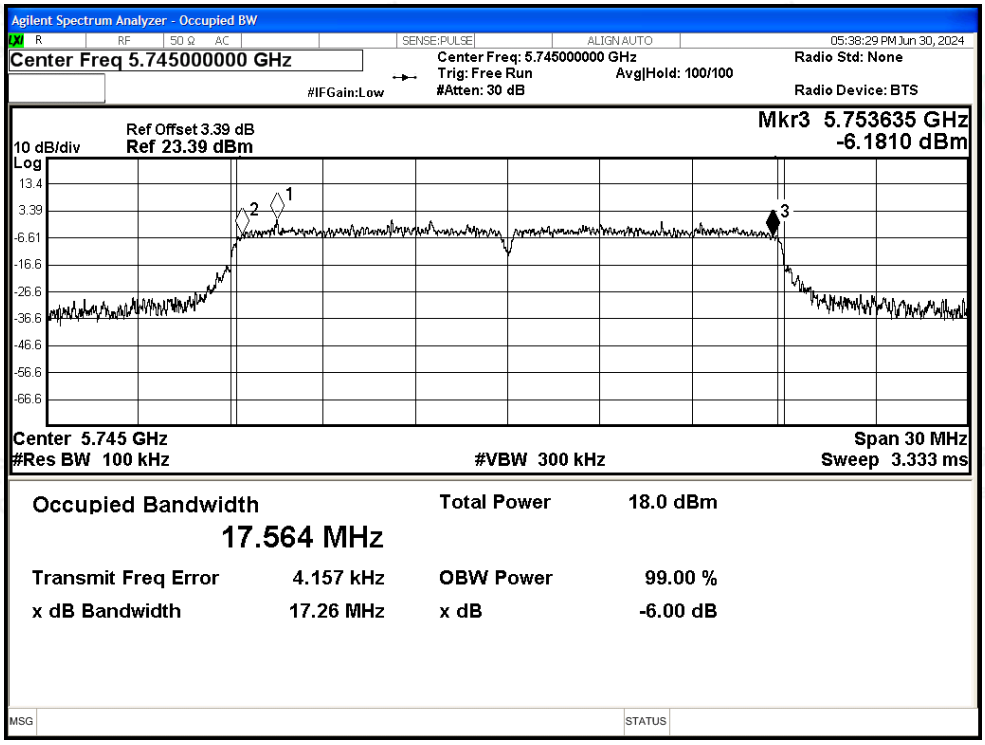
-6dB Bandwidth NVNT a 5785MHz Ant1



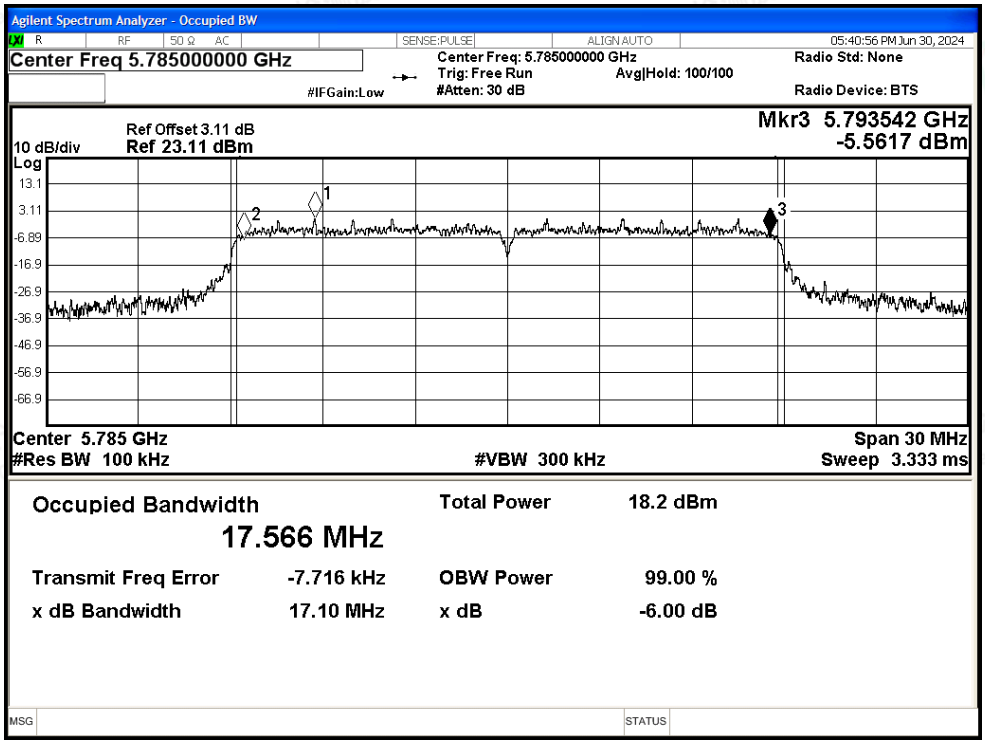
-6dB Bandwidth NVNT a 5825MHz Ant1



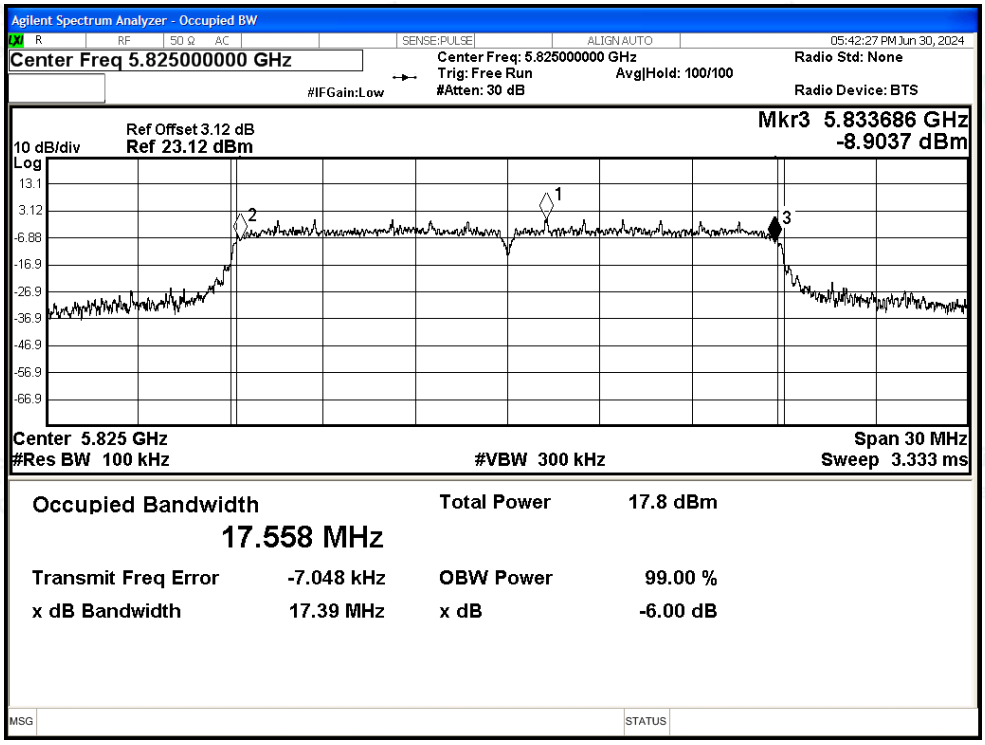
-6dB Bandwidth NVNT n20 5745MHz Ant1



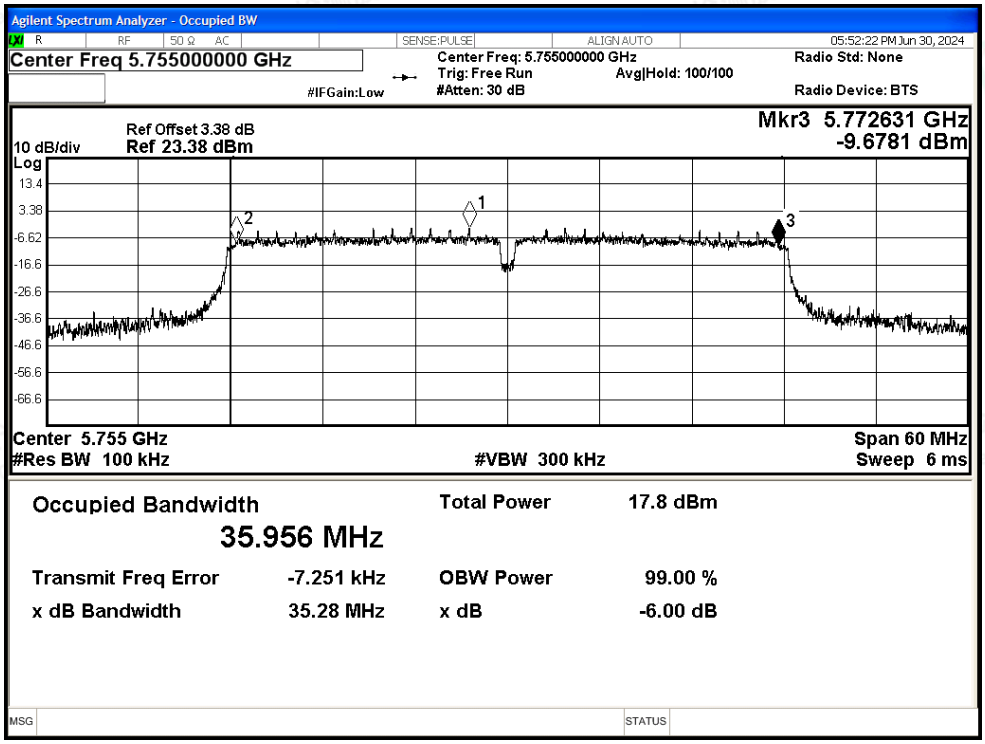
-6dB Bandwidth NVNT n20 5785MHz Ant1



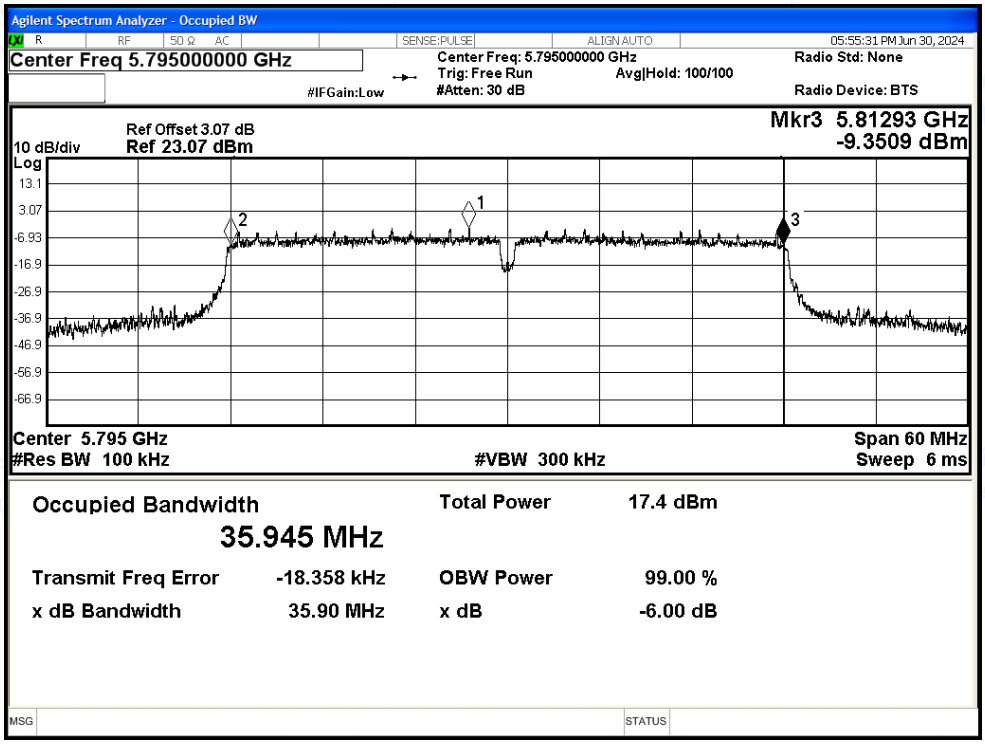
-6dB Bandwidth NVNT n20 5825MHz Ant1



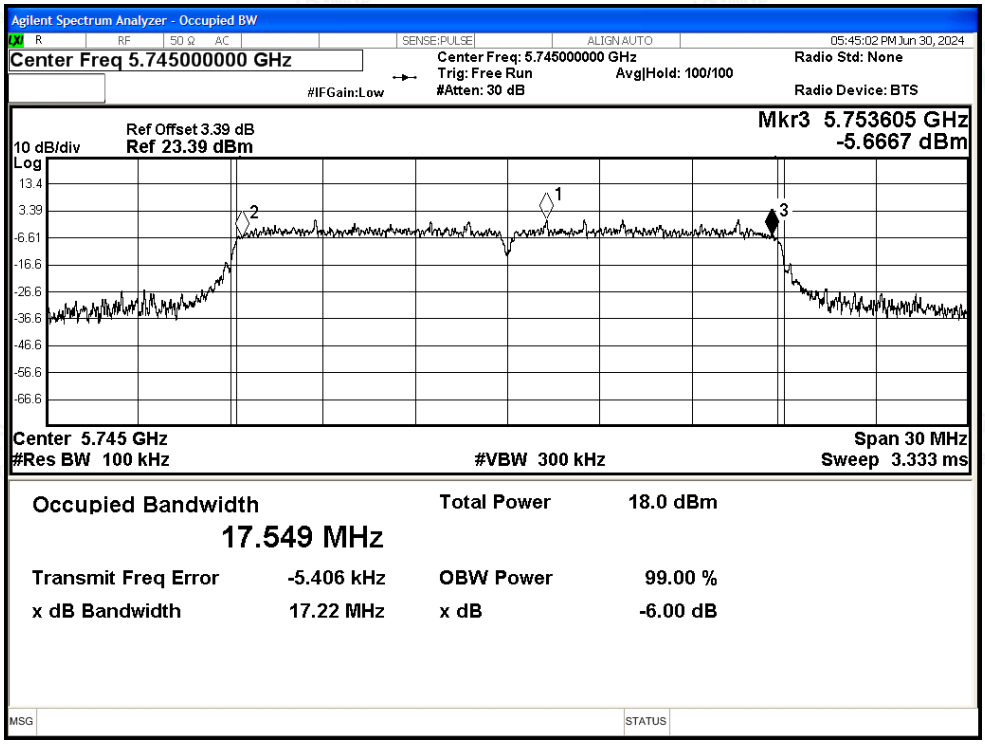
-6dB Bandwidth NVNT n40 5755MHz Ant1



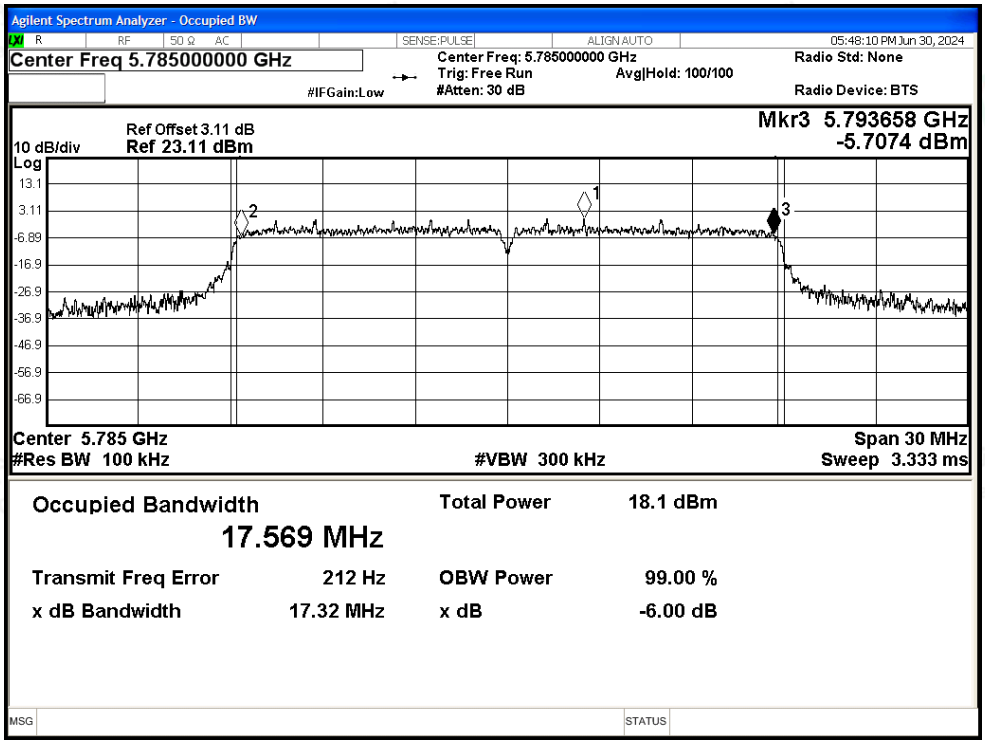
-6dB Bandwidth NVNT n40 5795MHz Ant1



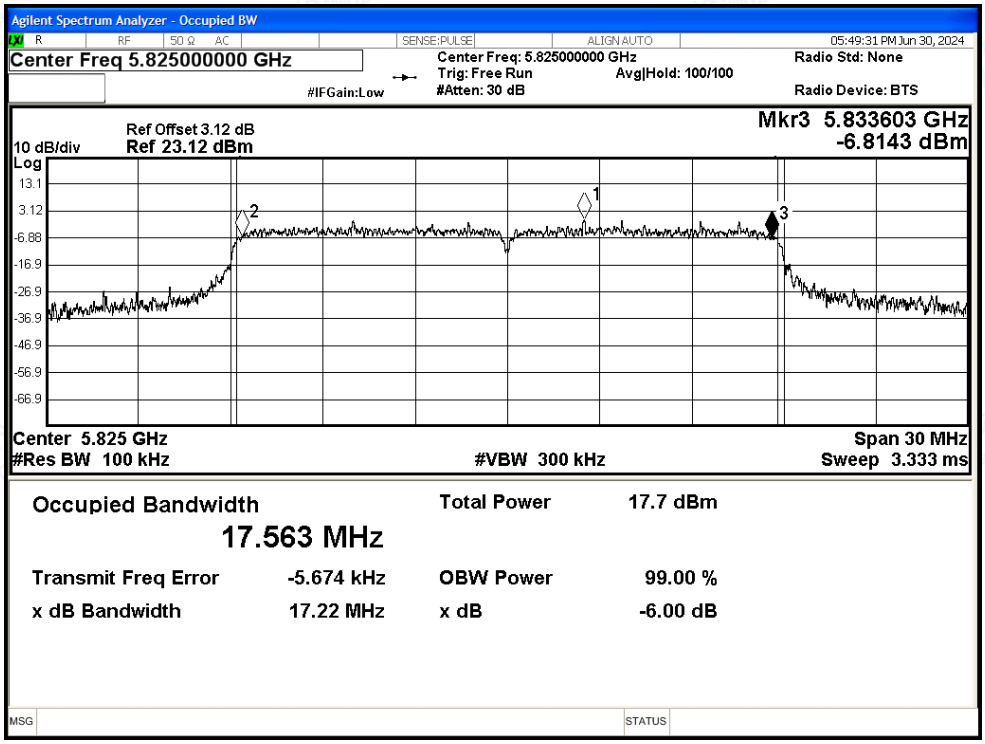
-6dB Bandwidth NVNT ac20 5745MHz Ant1



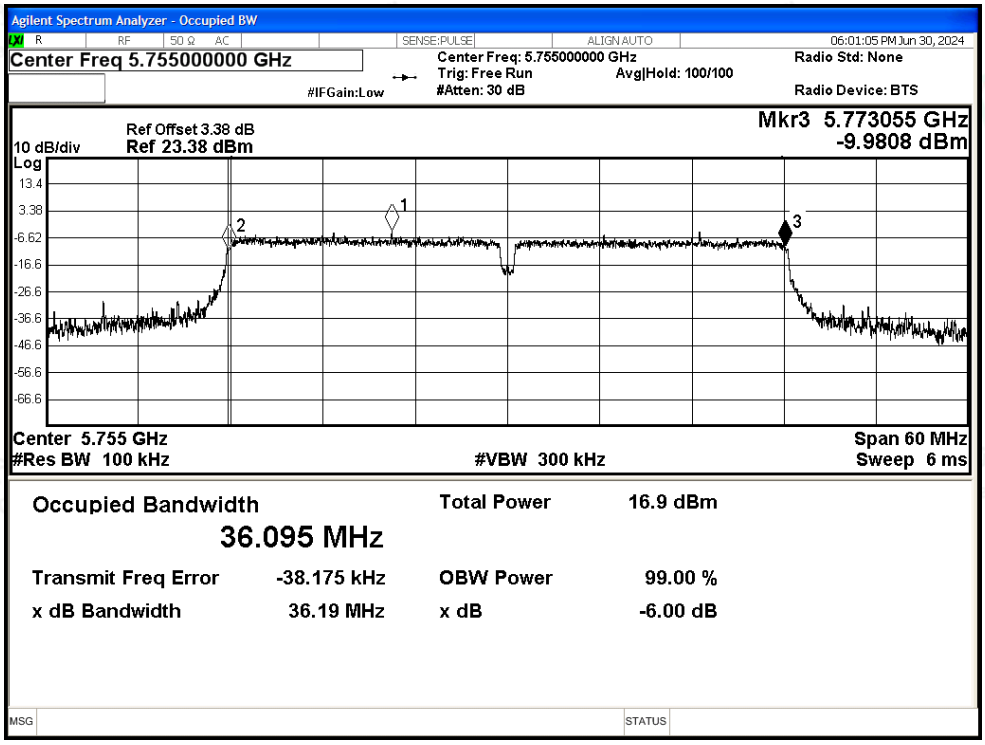
-6dB Bandwidth NVNT ac20 5785MHz Ant1



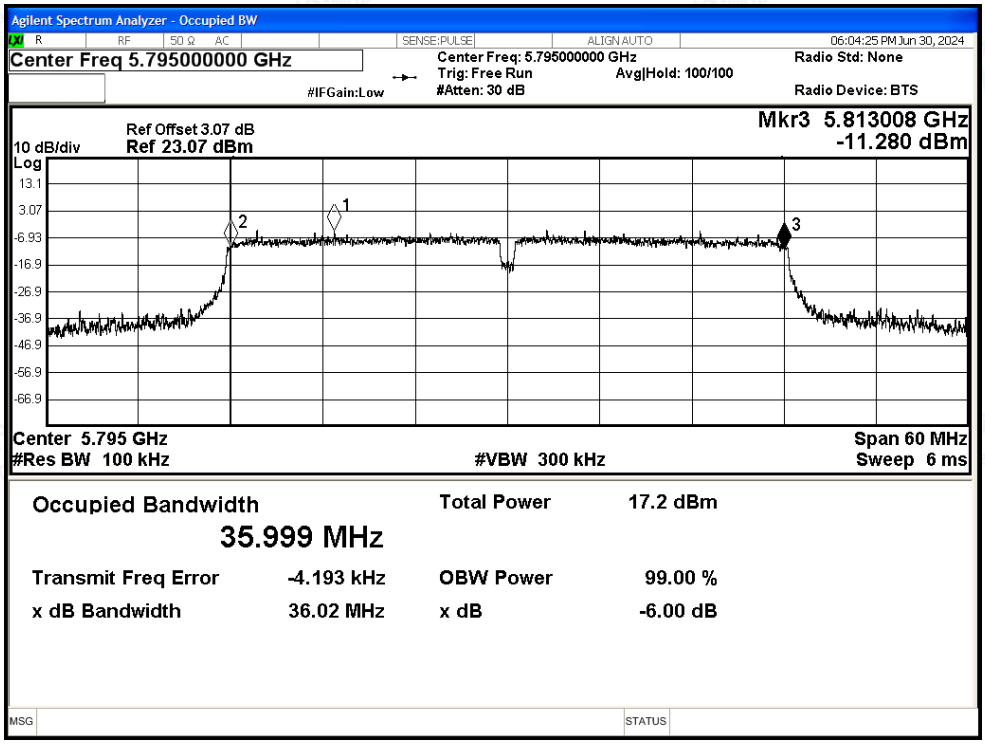
-6dB Bandwidth NVNT ac20 5825MHz Ant1



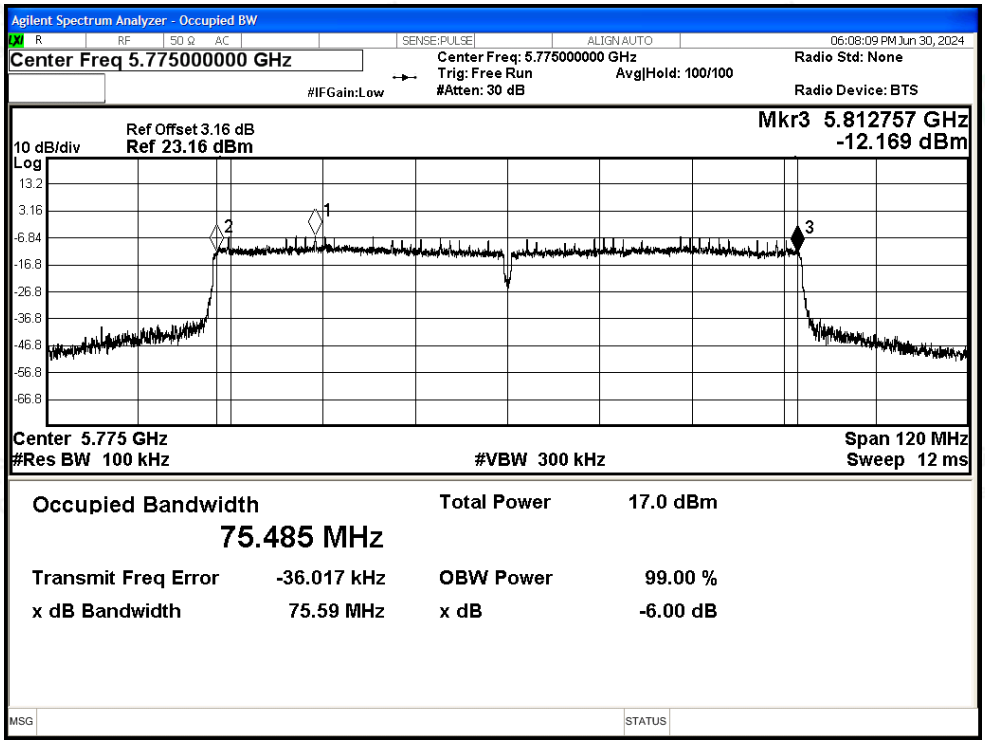
-6dB Bandwidth NVNT ac40 5755MHz Ant1



-6dB Bandwidth NVNT ac40 5795MHz Ant1



-6dB Bandwidth NVNT ac80 5775MHz Ant1



E.2 Maximum Conducted Output Power

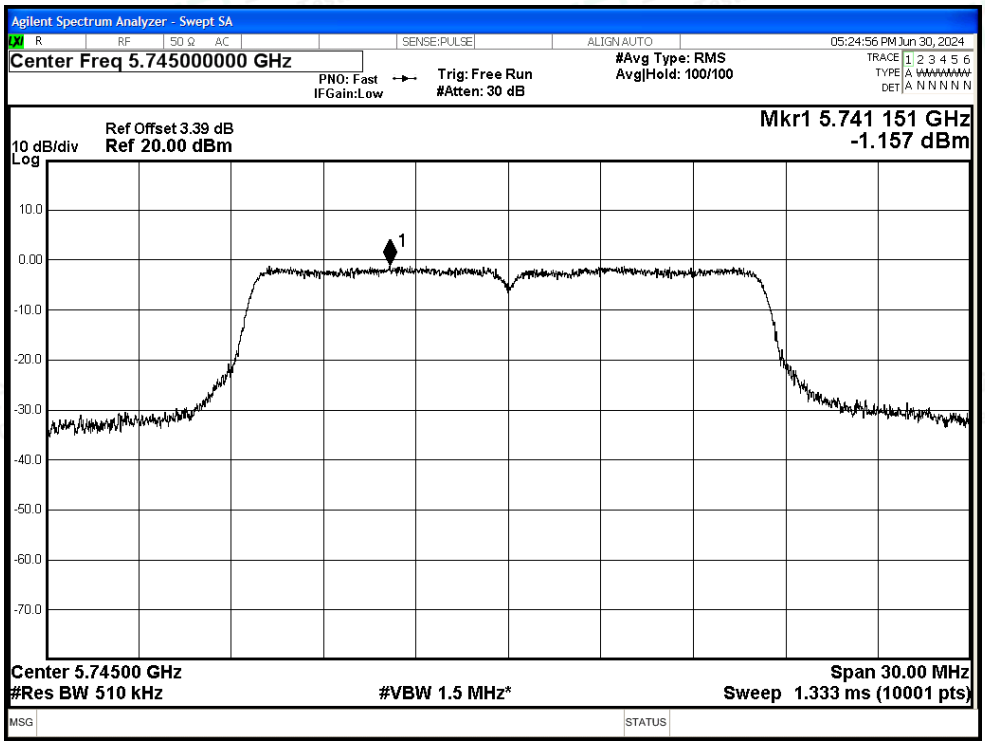
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	12.48	0.24	12.72	30	Pass
NVNT	a	5785	Ant1	12.85	0.24	13.09	30	Pass
NVNT	a	5825	Ant1	12.54	0.24	12.78	30	Pass
NVNT	n20	5745	Ant1	11.57	0.28	11.85	30	Pass
NVNT	n20	5785	Ant1	11.67	0.28	11.95	30	Pass
NVNT	n20	5825	Ant1	11.34	0.28	11.62	30	Pass
NVNT	n40	5755	Ant1	10.67	0.12	10.79	30	Pass
NVNT	n40	5795	Ant1	10.74	0.12	10.86	30	Pass
NVNT	ac20	5745	Ant1	11.47	0.28	11.75	30	Pass
NVNT	ac20	5785	Ant1	11.71	0.28	11.99	30	Pass
NVNT	ac20	5825	Ant1	11.27	0.28	11.55	30	Pass
NVNT	ac40	5755	Ant1	10.58	0.12	10.7	30	Pass
NVNT	ac40	5795	Ant1	10.86	0.12	10.98	30	Pass
NVNT	ac80	5775	Ant1	10.09	0.25	10.34	30	Pass

E.3 Maximum Power Spectral Density Level

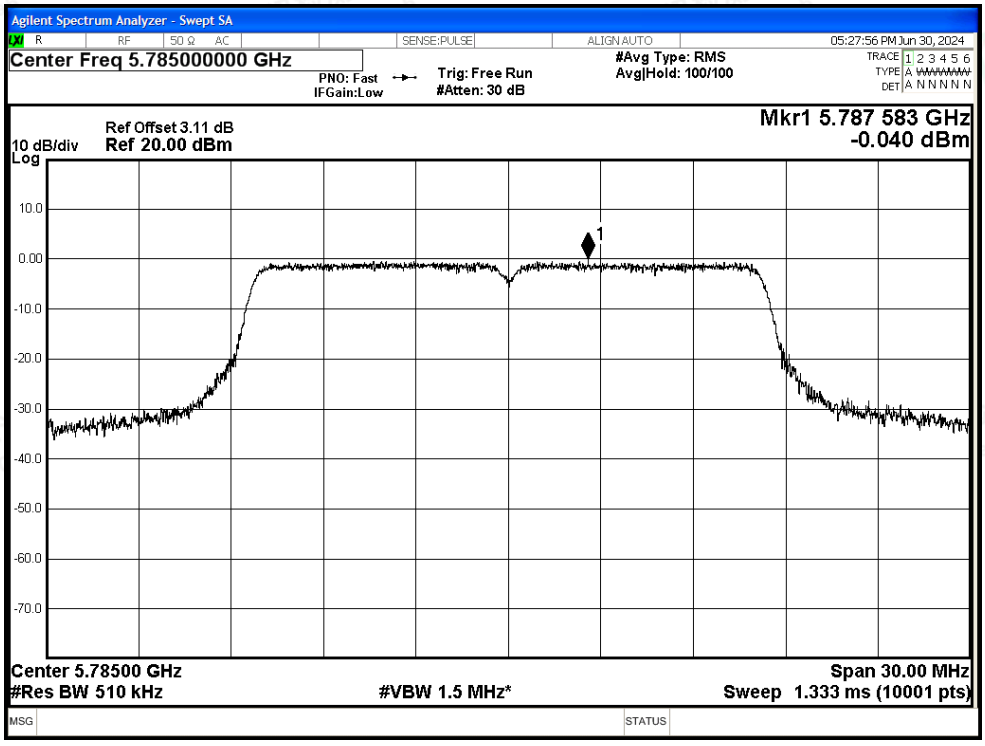
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/500KHz)	Duty Factor (dB)	Total PSD (dBm/500KHz)	Limit (dBm/500KHz)	Verdict
NVNT	a	5745	Ant1	-1.16	0.24	-0.92	30	Pass
NVNT	a	5785	Ant1	-0.04	0.24	0.2	30	Pass
NVNT	a	5825	Ant1	-0.96	0.24	-0.72	30	Pass
NVNT	n20	5745	Ant1	-1.83	0.28	-1.55	30	Pass
NVNT	n20	5785	Ant1	-2.08	0.28	-1.8	30	Pass
NVNT	n20	5825	Ant1	-2.49	0.28	-2.21	30	Pass
NVNT	n40	5755	Ant1	-6.03	0.12	-5.91	30	Pass
NVNT	n40	5795	Ant1	-5.78	0.12	-5.66	30	Pass
NVNT	ac20	5745	Ant1	-2.28	0.28	-2	30	Pass
NVNT	ac20	5785	Ant1	-2.03	0.28	-1.75	30	Pass
NVNT	ac20	5825	Ant1	-2.6	0.28	-2.32	30	Pass
NVNT	ac40	5755	Ant1	-5.73	0.12	-5.61	30	Pass
NVNT	ac40	5795	Ant1	-5.95	0.12	-5.83	30	Pass
NVNT	ac80	5775	Ant1	-9.55	0.25	-9.3	30	Pass

Test Graphs

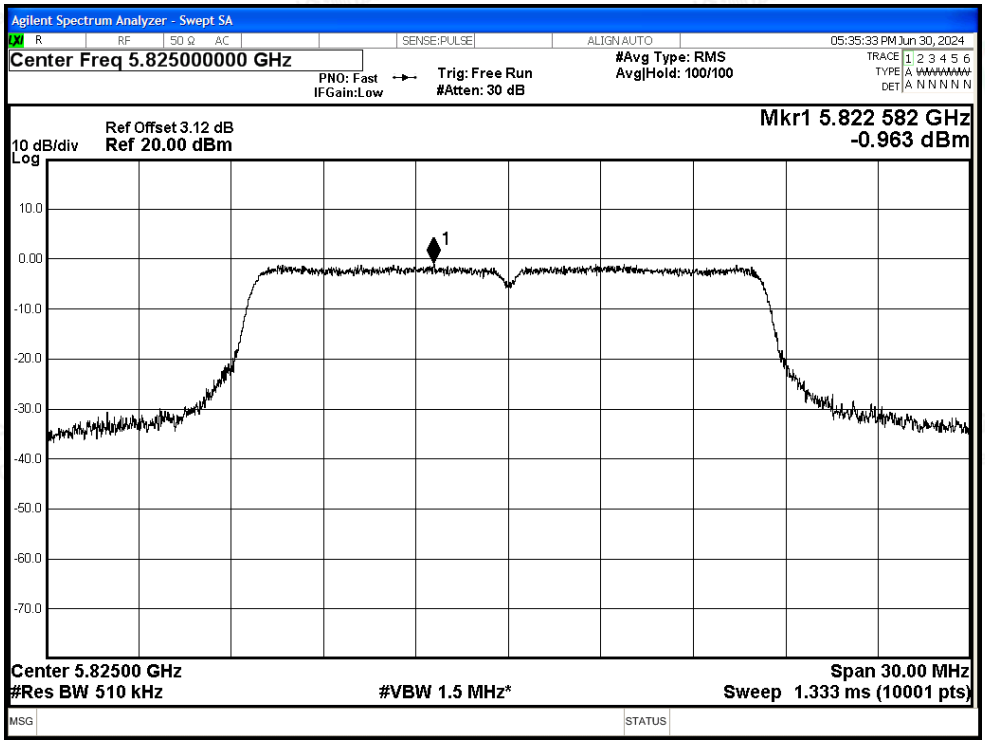
PSD NVNT a 5745MHz Ant1



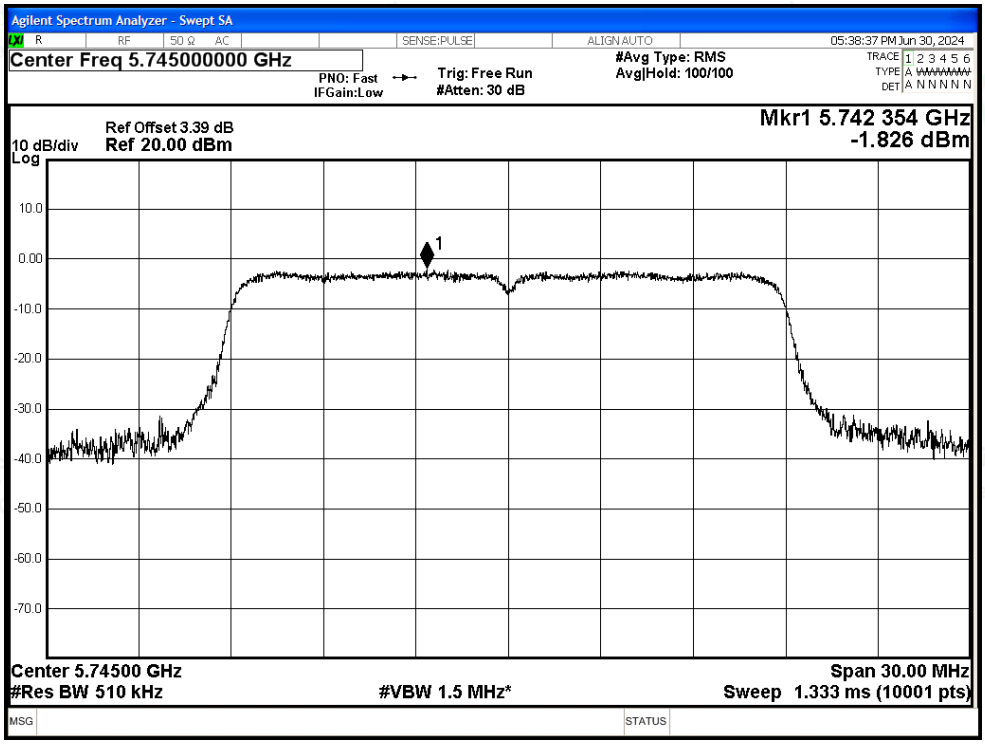
PSD NVNT a 5785MHz Ant1



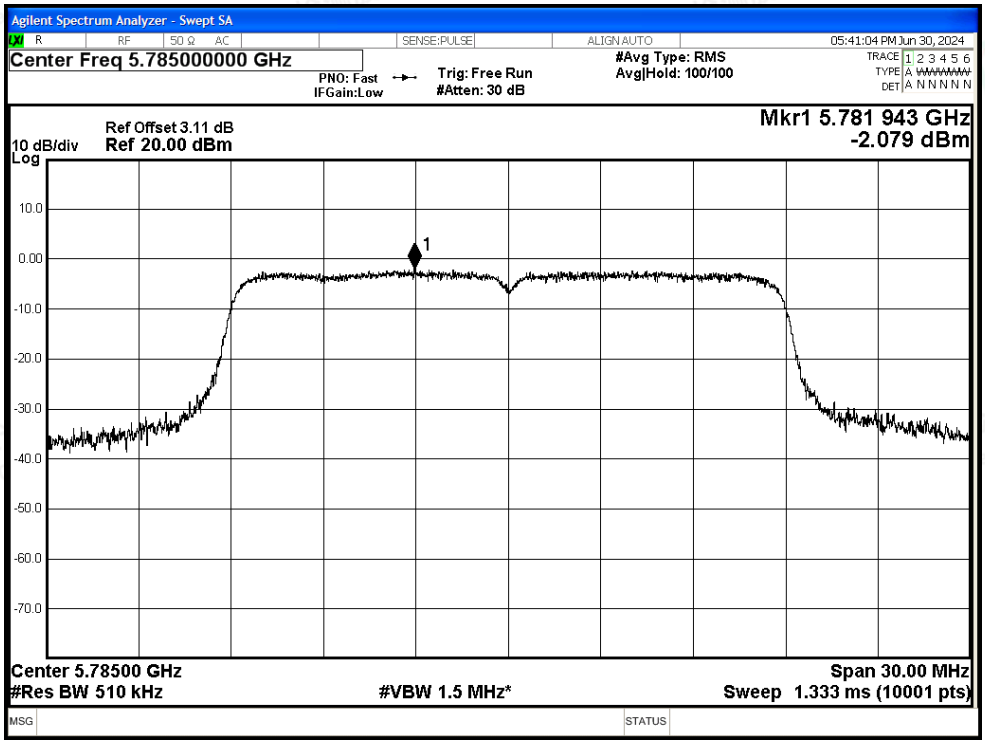
PSD NVNT a 5825MHz Ant1



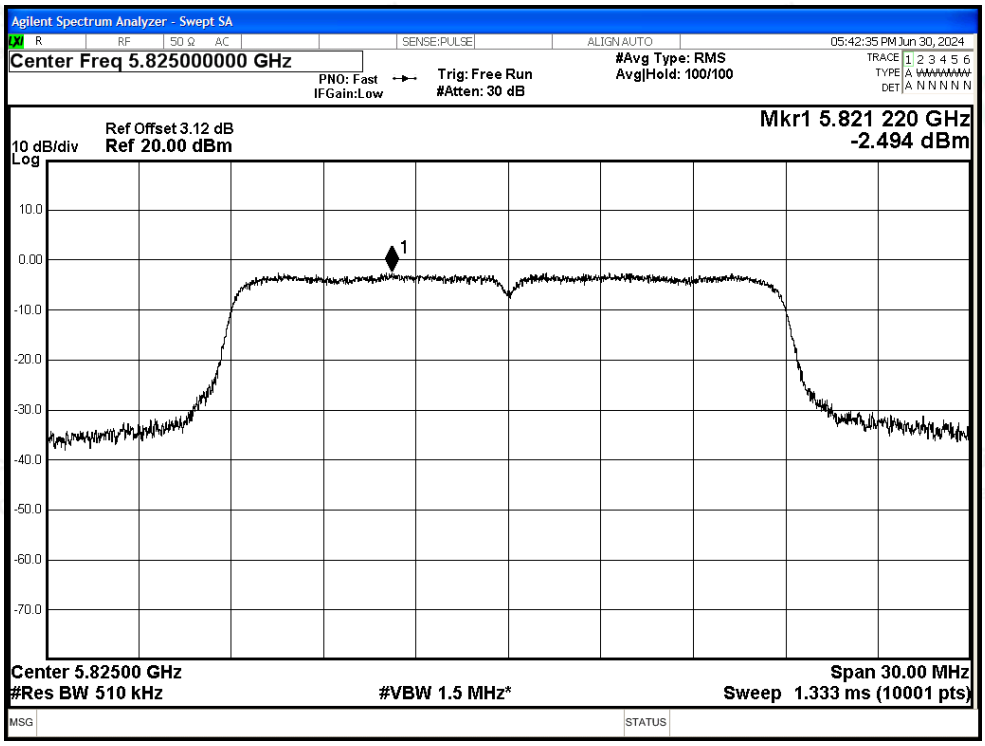
PSD NVNT n20 5745MHz Ant1



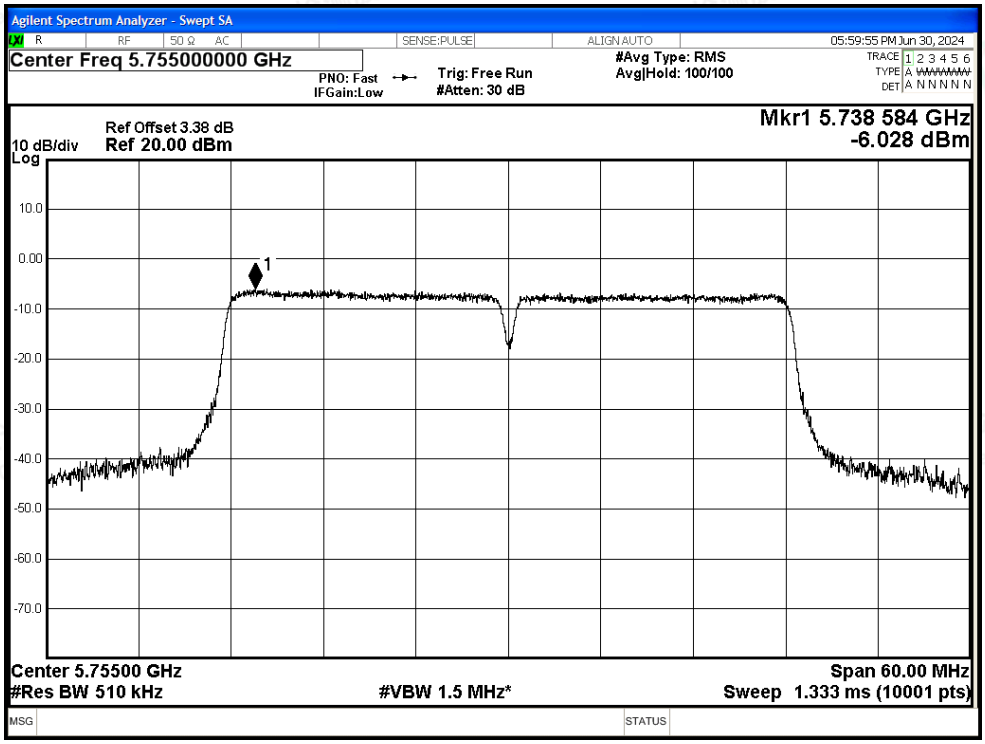
PSD NVNT n20 5785MHz Ant1



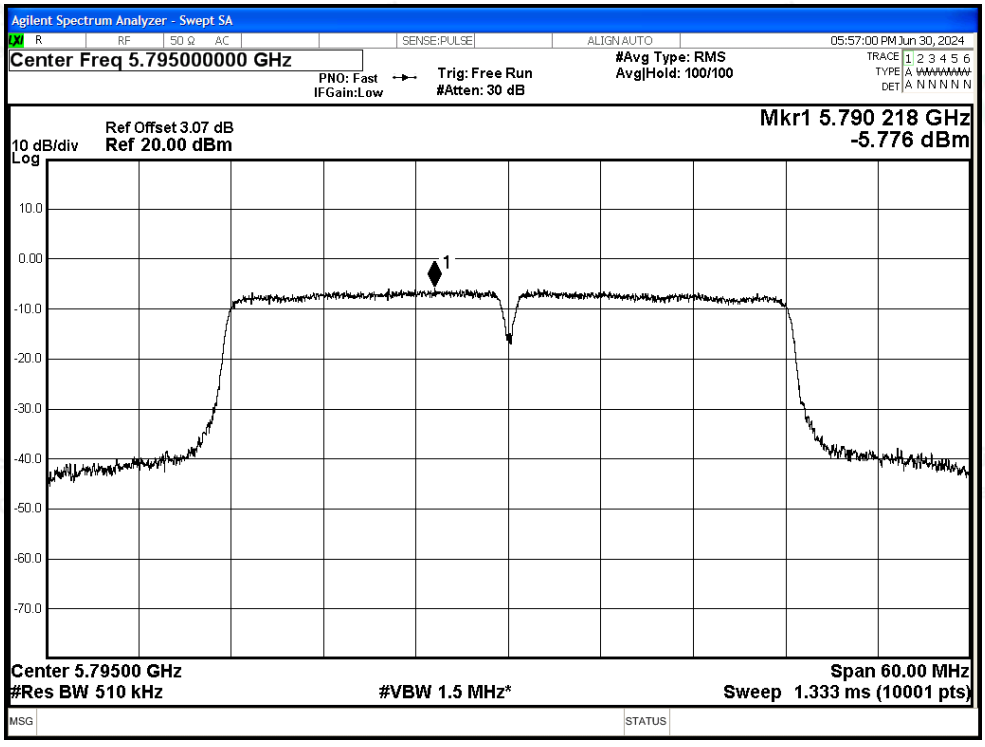
PSD NVNT n20 5825MHz Ant1



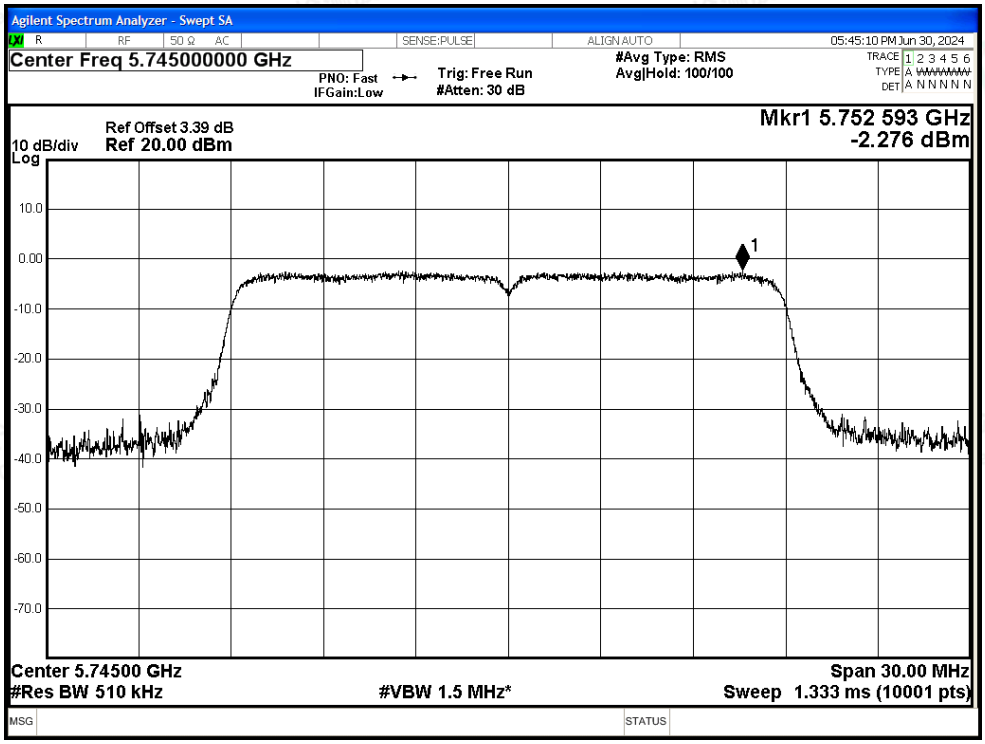
PSD NVNT n40 5755MHz Ant1



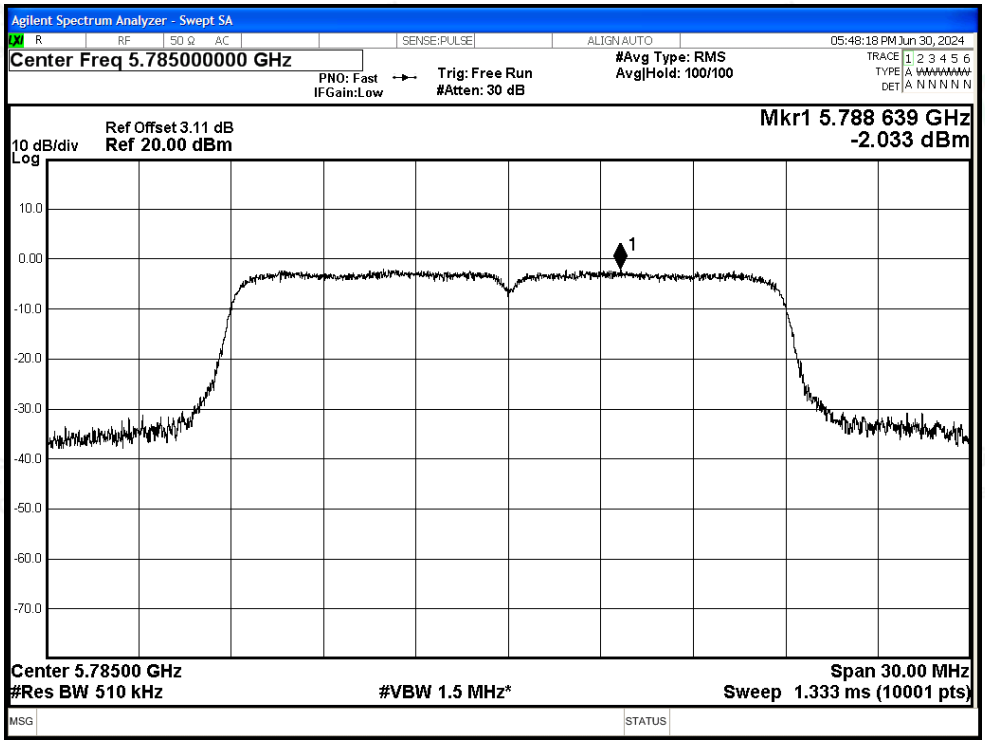
PSD NVNT n40 5795MHz Ant1



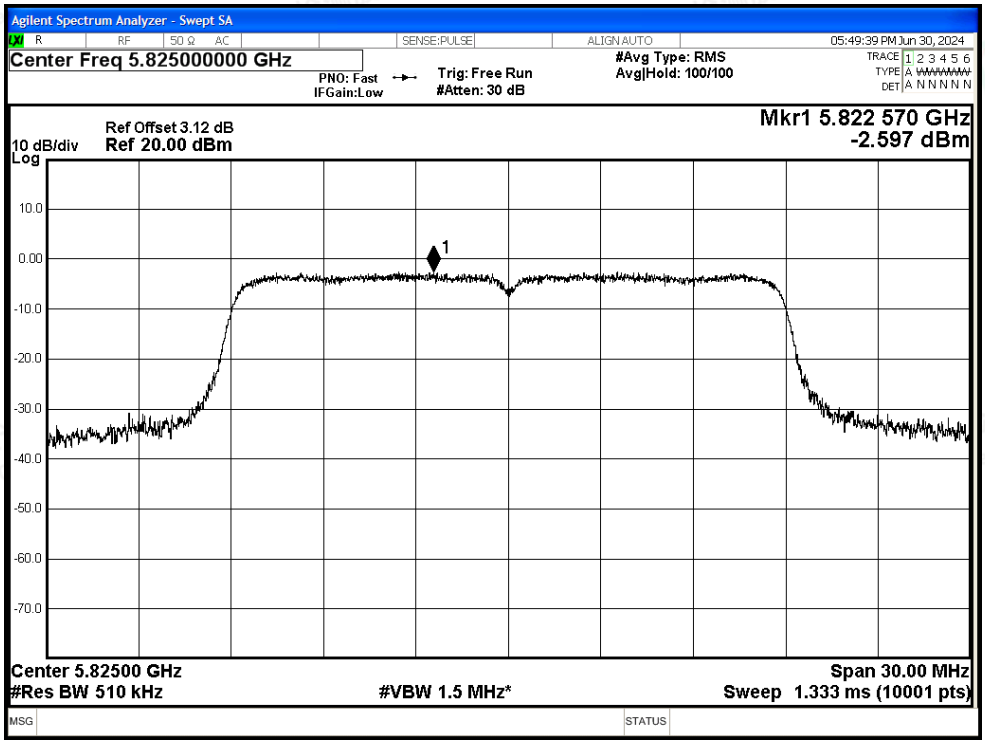
PSD NVNT ac20 5745MHz Ant1



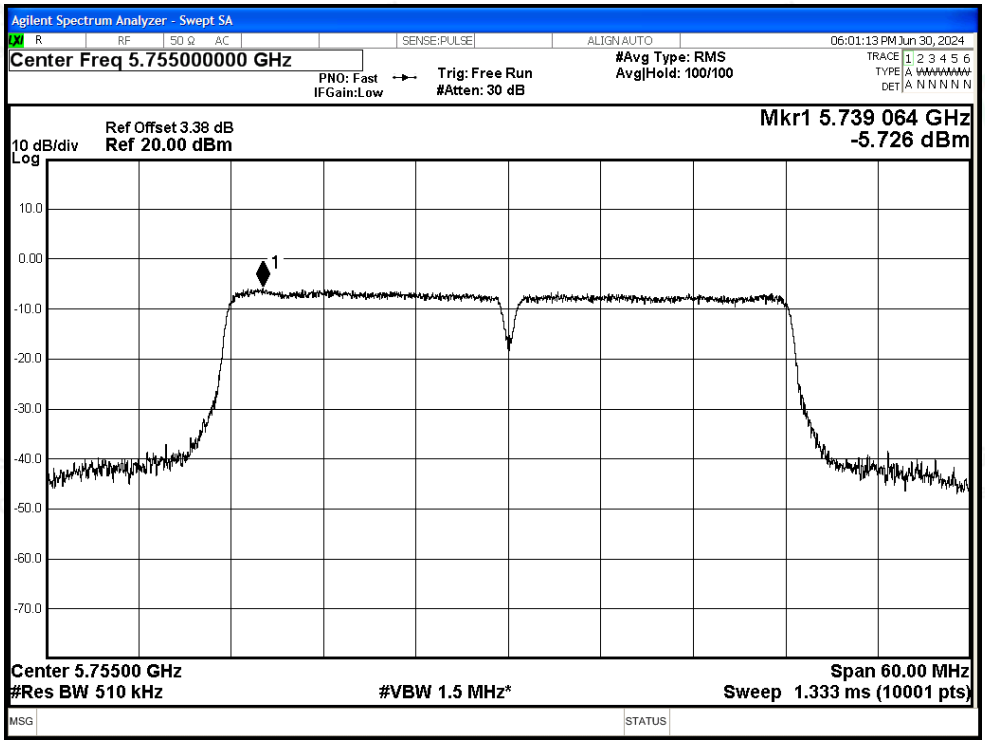
PSD NVNT ac20 5785MHz Ant1



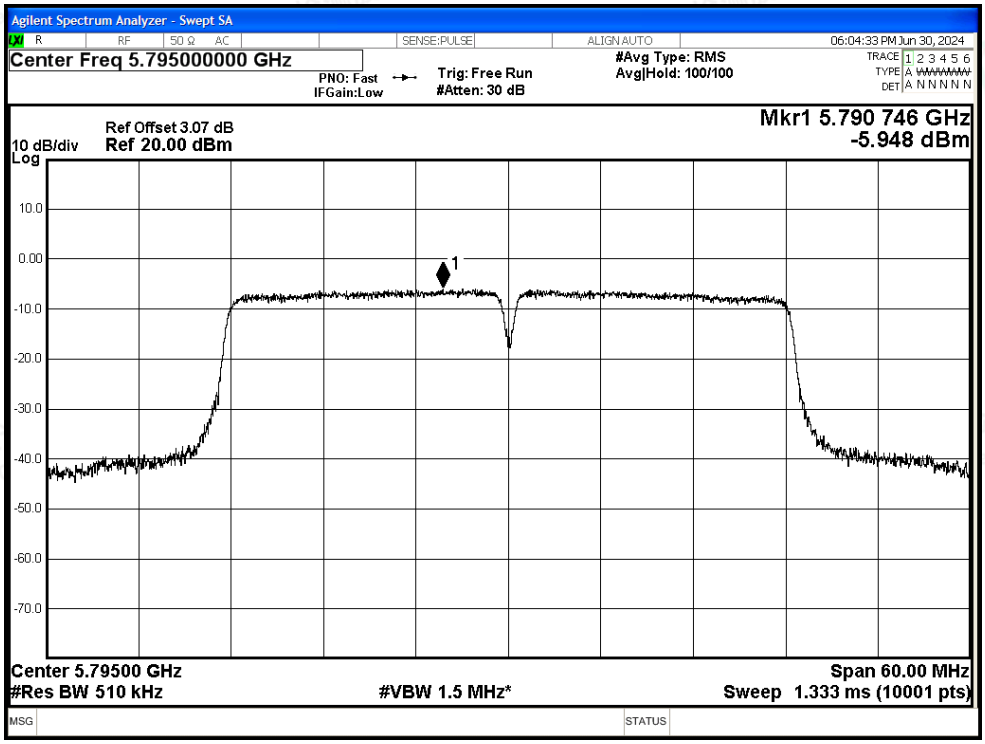
PSD NVNT ac20 5825MHz Ant1



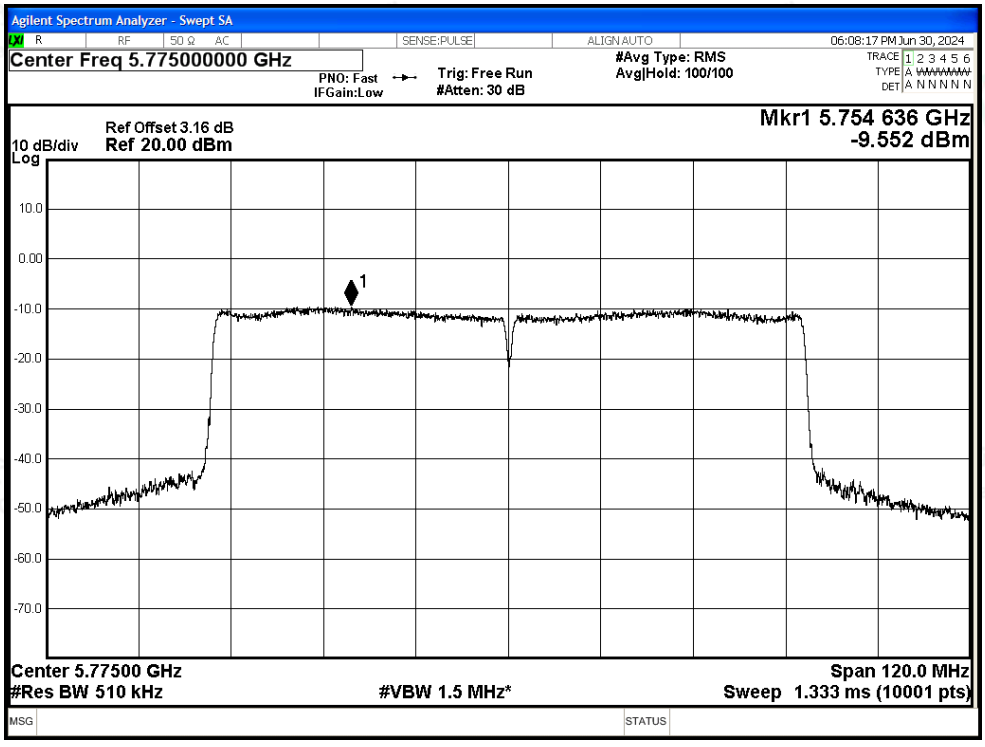
PSD NVNT ac40 5755MHz Ant1



PSD NVNT ac40 5795MHz Ant1



PSD NVNT ac80 5775MHz Ant1



E.4 Restrict Band

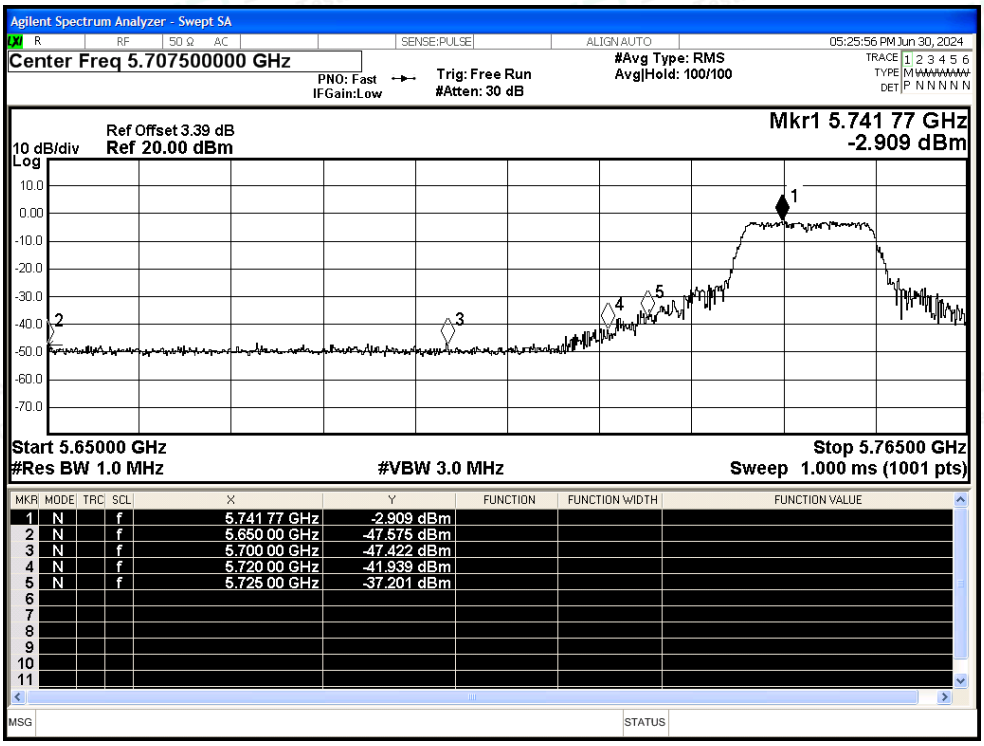
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	EIRP Power (dBm)	Detector	Limit (dBm)	Verdict
NVNT	a	5745	Ant1	5650	-47.58	2	-	-45.58	Peak	-27	Pass
NVNT	a	5745	Ant1	5650	-57.4	2	0.24	-55.16	Average	-27	Pass
NVNT	a	5745	Ant1	5700	-47.42	2	-	-45.42	Peak	10	Pass
NVNT	a	5745	Ant1	5700	-57.54	2	0.24	-55.3	Average	10	Pass
NVNT	a	5745	Ant1	5720	-41.94	2	-	-39.94	Peak	15.6	Pass
NVNT	a	5745	Ant1	5720	-55.79	2	0.24	-53.55	Average	15.6	Pass
NVNT	a	5745	Ant1	5725	-37.2	2	-	-35.2	Peak	27	Pass
NVNT	a	5745	Ant1	5725	-54.11	2	0.24	-51.87	Average	27	Pass
NVNT	a	5825	Ant1	5850	-44.56	2	-	-42.56	Peak	27	Pass
NVNT	a	5825	Ant1	5850	-55.77	2	0.24	-53.53	Average	27	Pass
NVNT	a	5825	Ant1	5855	-48.55	2	-	-46.55	Peak	15.6	Pass
NVNT	a	5825	Ant1	5855	-57.88	2	0.24	-55.64	Average	15.6	Pass
NVNT	a	5825	Ant1	5875	-48.76	2	-	-46.76	Peak	10	Pass
NVNT	a	5825	Ant1	5875	-57.89	2	0.24	-55.65	Average	10	Pass
NVNT	a	5825	Ant1	5925	-49.36	2	-	-47.36	Peak	-27	Pass
NVNT	a	5825	Ant1	5925	-57.75	2	0.24	-55.51	Average	-27	Pass
NVNT	n20	5745	Ant1	5650	-48.82	2	-	-46.82	Peak	-27	Pass
NVNT	n20	5745	Ant1	5650	-58.19	2	0.28	-55.91	Average	-27	Pass
NVNT	n20	5745	Ant1	5700	-49.24	2	-	-47.24	Peak	10	Pass
NVNT	n20	5745	Ant1	5700	-57.75	2	0.28	-55.47	Average	10	Pass
NVNT	n20	5745	Ant1	5720	-42.98	2	-	-40.98	Peak	15.6	Pass
NVNT	n20	5745	Ant1	5720	-55.58	2	0.28	-53.3	Average	15.6	Pass
NVNT	n20	5745	Ant1	5725	-38.03	2	-	-36.03	Peak	27	Pass
NVNT	n20	5745	Ant1	5725	-51.44	2	0.28	-49.16	Average	27	Pass
NVNT	n20	5825	Ant1	5850	-42.67	2	-	-40.67	Peak	27	Pass
NVNT	n20	5825	Ant1	5850	-56.43	2	0.28	-54.15	Average	27	Pass
NVNT	n20	5825	Ant1	5855	-45.16	2	-	-43.16	Peak	15.6	Pass
NVNT	n20	5825	Ant1	5855	-57.5	2	0.28	-55.22	Average	15.6	Pass
NVNT	n20	5825	Ant1	5875	-50.82	2	-	-48.82	Peak	10	Pass
NVNT	n20	5825	Ant1	5875	-58.06	2	0.28	-55.78	Average	10	Pass
NVNT	n20	5825	Ant1	5925	-49.8	2	-	-47.8	Peak	-27	Pass
NVNT	n20	5825	Ant1	5925	-57.55	2	0.28	-55.27	Average	-27	Pass
NVNT	n40	5755	Ant1	5650	-49.48	2	-	-47.48	Peak	-27	Pass
NVNT	n40	5755	Ant1	5650	-57.75	2	0.54	-55.21	Average	-27	Pass
NVNT	n40	5755	Ant1	5700	-51.24	2	-	-49.24	Peak	10	Pass
NVNT	n40	5755	Ant1	5700	-57.78	2	0.54	-55.24	Average	10	Pass
NVNT	n40	5755	Ant1	5720	-39.68	2	-	-37.68	Peak	15.6	Pass

NVNT	n40	5755	Ant1	5720	-54.73	2	0.54	-52.19	Average	15.6	Pass
NVNT	n40	5755	Ant1	5725	-36.99	2	-	-34.99	Peak	27	Pass
NVNT	n40	5755	Ant1	5725	-51.3	2	0.54	-48.76	Average	27	Pass
NVNT	n40	5795	Ant1	5850	-50.06	2	-	-48.06	Peak	27	Pass
NVNT	n40	5795	Ant1	5850	-58.9	2	0.12	-56.78	Average	27	Pass
NVNT	n40	5795	Ant1	5855	-50.67	2	-	-48.67	Peak	15.6	Pass
NVNT	n40	5795	Ant1	5855	-58.78	2	0.12	-56.66	Average	15.6	Pass
NVNT	n40	5795	Ant1	5875	-49.39	2	-	-47.39	Peak	10	Pass
NVNT	n40	5795	Ant1	5875	-57.99	2	0.12	-55.87	Average	10	Pass
NVNT	n40	5795	Ant1	5925	-49.11	2	-	-47.11	Peak	-27	Pass
NVNT	n40	5795	Ant1	5925	-57.89	2	0.12	-55.77	Average	-27	Pass
NVNT	ac20	5745	Ant1	5650	-48.71	2	-	-46.71	Peak	-27	Pass
NVNT	ac20	5745	Ant1	5650	-57.8	2	0.28	-55.52	Average	-27	Pass
NVNT	ac20	5745	Ant1	5700	-49.83	2	-	-47.83	Peak	10	Pass
NVNT	ac20	5745	Ant1	5700	-57.84	2	0.28	-55.56	Average	10	Pass
NVNT	ac20	5745	Ant1	5720	-42.2	2	-	-40.2	Peak	15.6	Pass
NVNT	ac20	5745	Ant1	5720	-54.5	2	0.28	-52.22	Average	15.6	Pass
NVNT	ac20	5745	Ant1	5725	-36.17	2	-	-34.17	Peak	27	Pass
NVNT	ac20	5745	Ant1	5725	-50.82	2	0.28	-48.54	Average	27	Pass
NVNT	ac20	5825	Ant1	5850	-39.62	2	-	-37.62	Peak	27	Pass
NVNT	ac20	5825	Ant1	5850	-56.84	2	0.28	-54.56	Average	27	Pass
NVNT	ac20	5825	Ant1	5855	-47.75	2	-	-45.75	Peak	15.6	Pass
NVNT	ac20	5825	Ant1	5855	-57.03	2	0.28	-54.75	Average	15.6	Pass
NVNT	ac20	5825	Ant1	5875	-49.22	2	-	-47.22	Peak	10	Pass
NVNT	ac20	5825	Ant1	5875	-58	2	0.28	-55.72	Average	10	Pass
NVNT	ac20	5825	Ant1	5925	-49.83	2	-	-47.83	Peak	-27	Pass
NVNT	ac20	5825	Ant1	5925	-57.38	2	0.28	-55.1	Average	-27	Pass
NVNT	ac40	5755	Ant1	5650	-49.17	2	-	-47.17	Peak	-27	Pass
NVNT	ac40	5755	Ant1	5650	-57.36	2	0.12	-55.24	Average	-27	Pass
NVNT	ac40	5755	Ant1	5700	-48.94	2	-	-46.94	Peak	10	Pass
NVNT	ac40	5755	Ant1	5700	-57.68	2	0.12	-55.56	Average	10	Pass
NVNT	ac40	5755	Ant1	5720	-39.99	2	-	-37.99	Peak	15.6	Pass
NVNT	ac40	5755	Ant1	5720	-53.92	2	0.12	-51.8	Average	15.6	Pass
NVNT	ac40	5755	Ant1	5725	-36.03	2	-	-34.03	Peak	27	Pass
NVNT	ac40	5755	Ant1	5725	-51.67	2	0.12	-49.55	Average	27	Pass
NVNT	ac40	5795	Ant1	5850	-50.41	2	-	-48.41	Peak	27	Pass
NVNT	ac40	5795	Ant1	5850	-58.47	2	0.12	-56.35	Average	27	Pass
NVNT	ac40	5795	Ant1	5855	-50.19	2	-	-48.19	Peak	15.6	Pass
NVNT	ac40	5795	Ant1	5855	-58.3	2	0.12	-56.18	Average	15.6	Pass
NVNT	ac40	5795	Ant1	5875	-50.17	2	-	-48.17	Peak	10	Pass
NVNT	ac40	5795	Ant1	5875	-58.42	2	0.12	-56.3	Average	10	Pass
NVNT	ac40	5795	Ant1	5925	-48.91	2	-	-46.91	Peak	-27	Pass

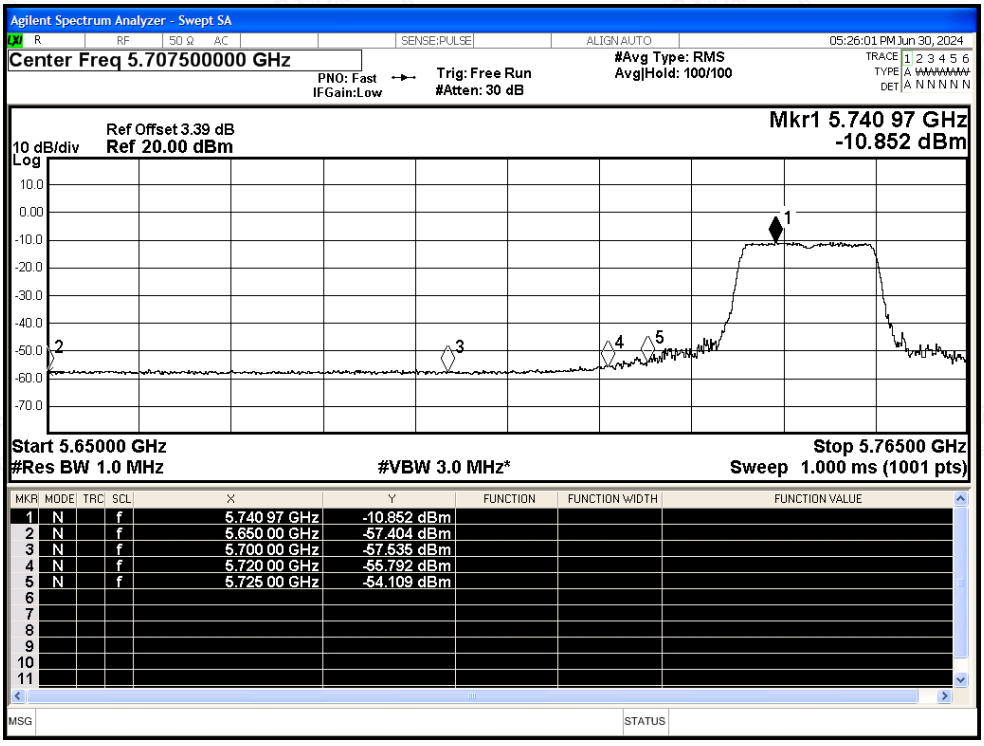
NVNT	ac40	5795	Ant1	5925	-57.29	2	0.12	-55.17	Average	-27	Pass
NVNT	ac80	5775	Ant1	5650	-48.32	2	-	-46.32	Peak	-27	Pass
NVNT	ac80	5775	Ant1	5650	-57.98	2	0.25	-55.73	Average	-27	Pass
NVNT	ac80	5775	Ant1	5700	-49.76	2	-	-47.76	Peak	10	Pass
NVNT	ac80	5775	Ant1	5700	-57.28	2	0.25	-55.03	Average	10	Pass
NVNT	ac80	5775	Ant1	5720	-42.28	2	-	-40.28	Peak	15.6	Pass
NVNT	ac80	5775	Ant1	5720	-54.74	2	0.25	-52.49	Average	15.6	Pass
NVNT	ac80	5775	Ant1	5725	-40.85	2	-	-38.85	Peak	27	Pass
NVNT	ac80	5775	Ant1	5725	-52.72	2	0.25	-50.47	Average	27	Pass
NVNT	ac80	5775	Ant1	5850	-50.55	2	-	-48.55	Peak	27	Pass
NVNT	ac80	5775	Ant1	5850	-58.48	2	0.25	-56.23	Average	27	Pass
NVNT	ac80	5775	Ant1	5855	-48.95	2	-	-46.95	Peak	15.6	Pass
NVNT	ac80	5775	Ant1	5855	-58.26	2	0.25	-56.01	Average	15.6	Pass
NVNT	ac80	5775	Ant1	5875	-49.76	2	-	-47.76	Peak	10	Pass
NVNT	ac80	5775	Ant1	5875	-58.32	2	0.25	-56.07	Average	10	Pass
NVNT	ac80	5775	Ant1	5925	-49.26	2	-	-47.26	Peak	-27	Pass
NVNT	ac80	5775	Ant1	5925	-57.82	2	0.25	-55.57	Average	-27	Pass

Test Graphs

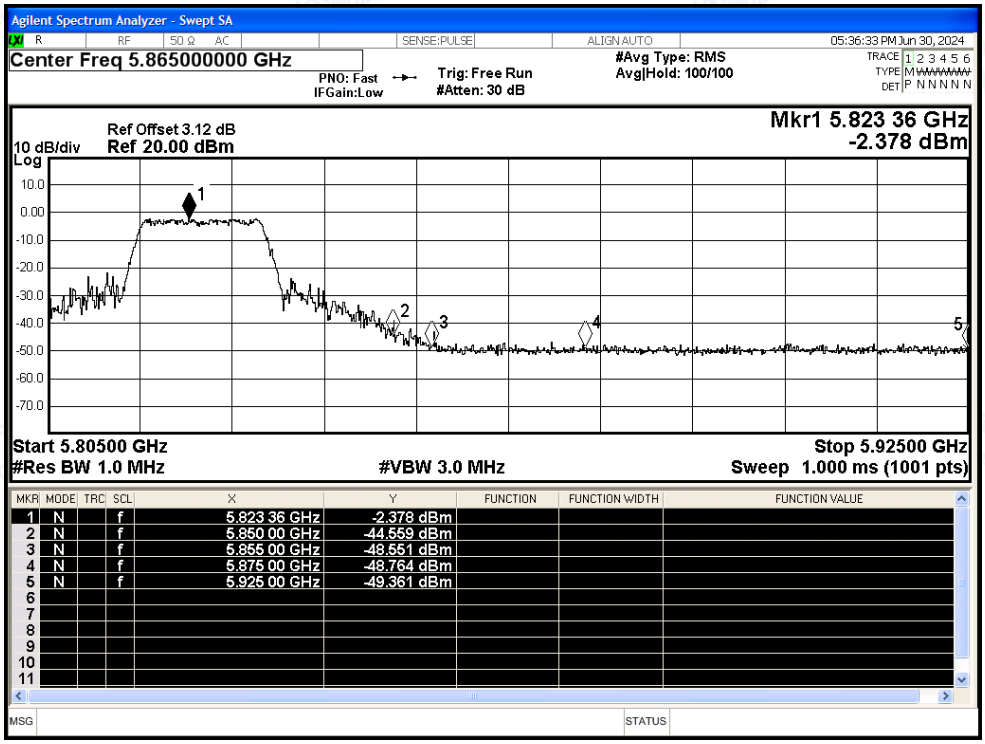
Restrict Band NVNT a 5745MHz Ant1 Peak



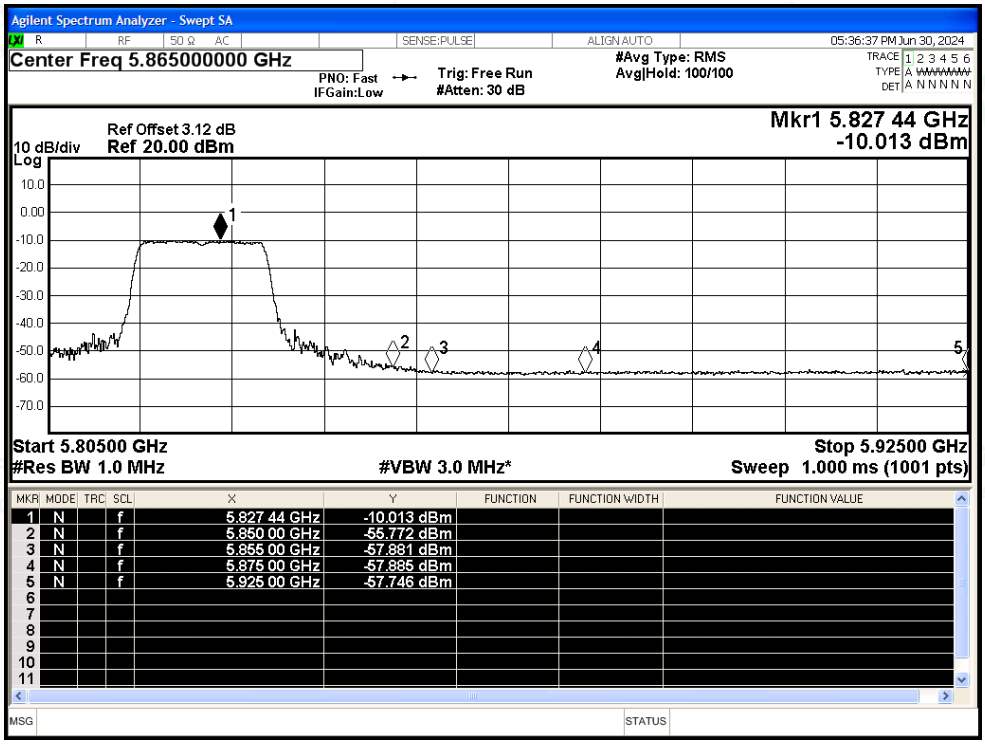
Restrict Band NVNT a 5745MHz Ant1 Average



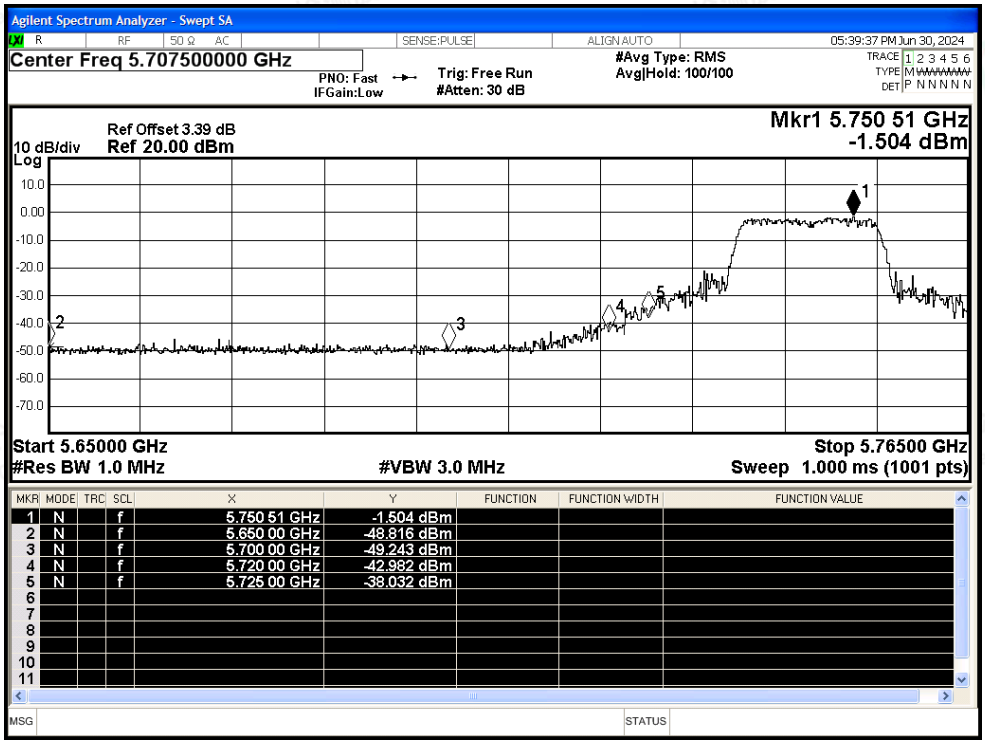
Restrict Band NVNT a 5825MHz Ant1 Peak



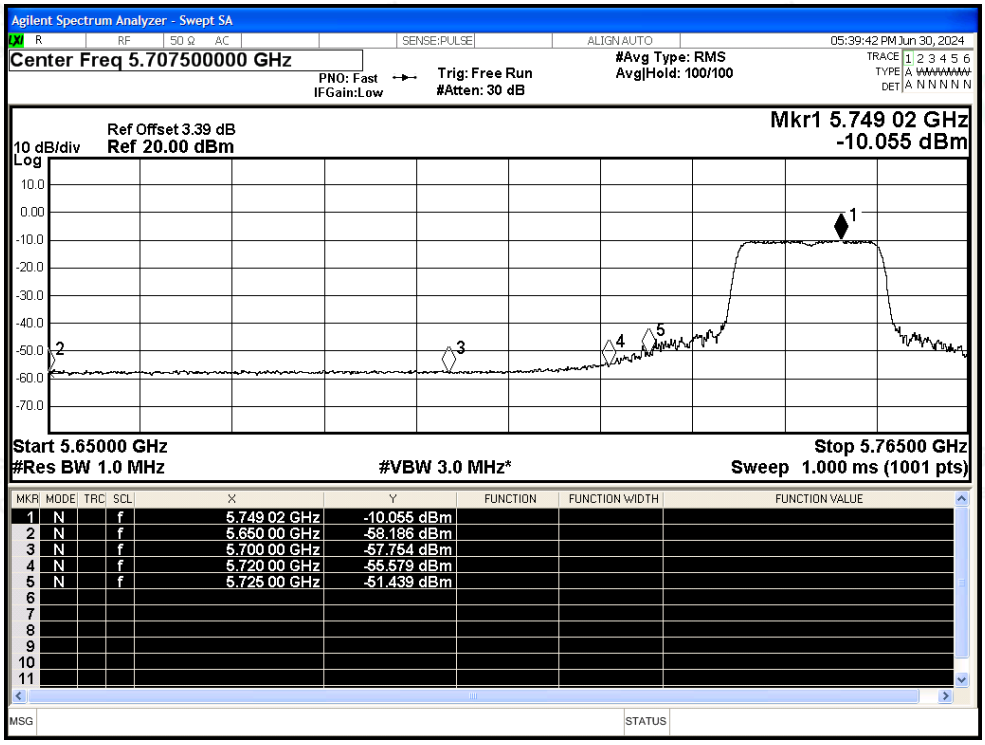
Restrict Band NVNT a 5825MHz Ant1 Average



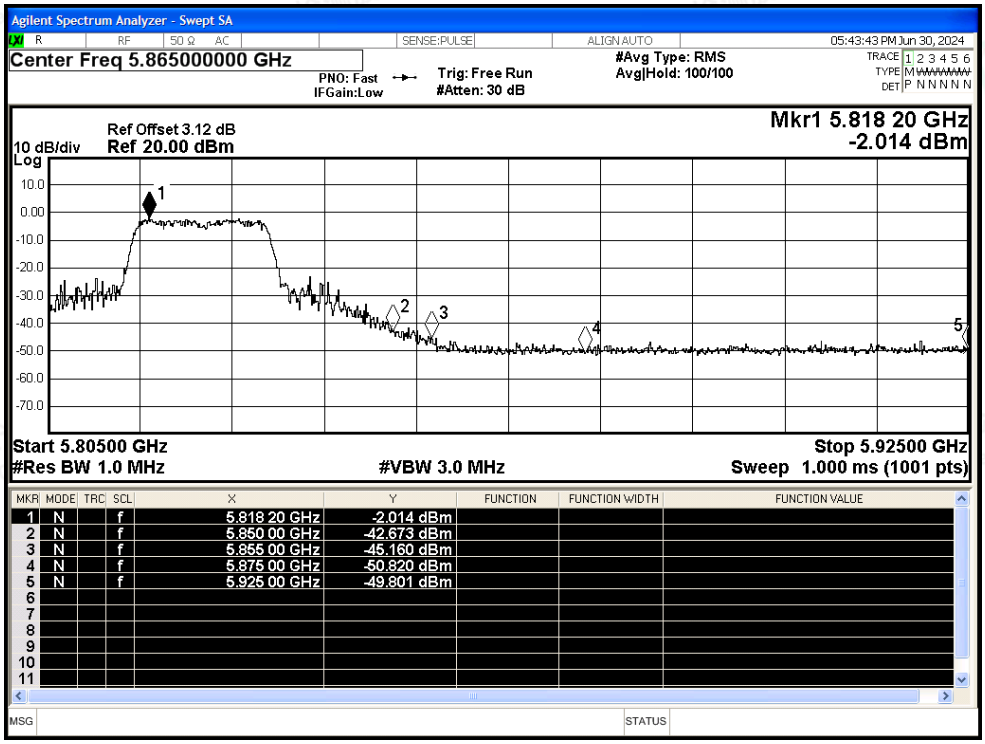
Restrict Band NVNT n20 5745MHz Ant1 Peak



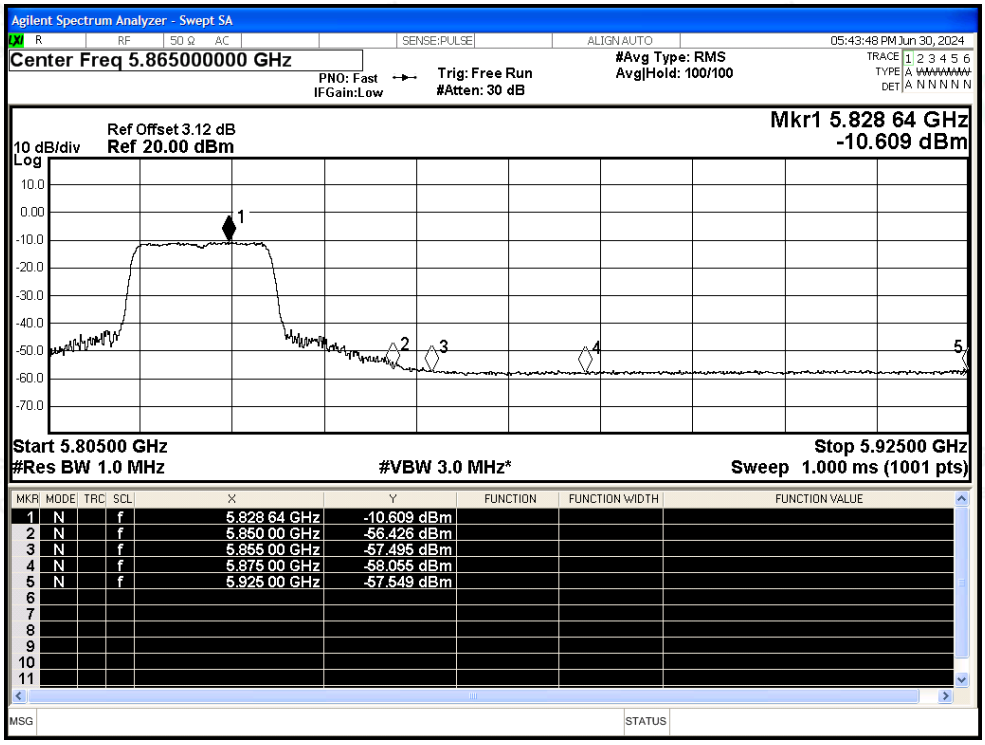
Restrict Band NVNT n20 5745MHz Ant1 Average



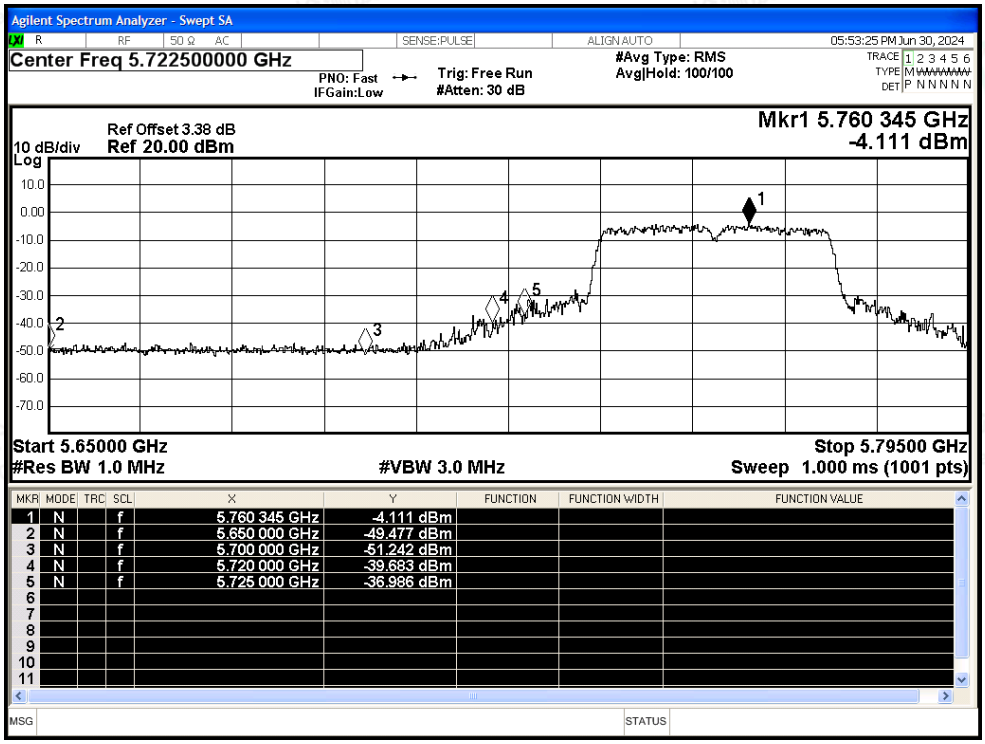
Restrict Band NVNT n20 5825MHz Ant1 Peak



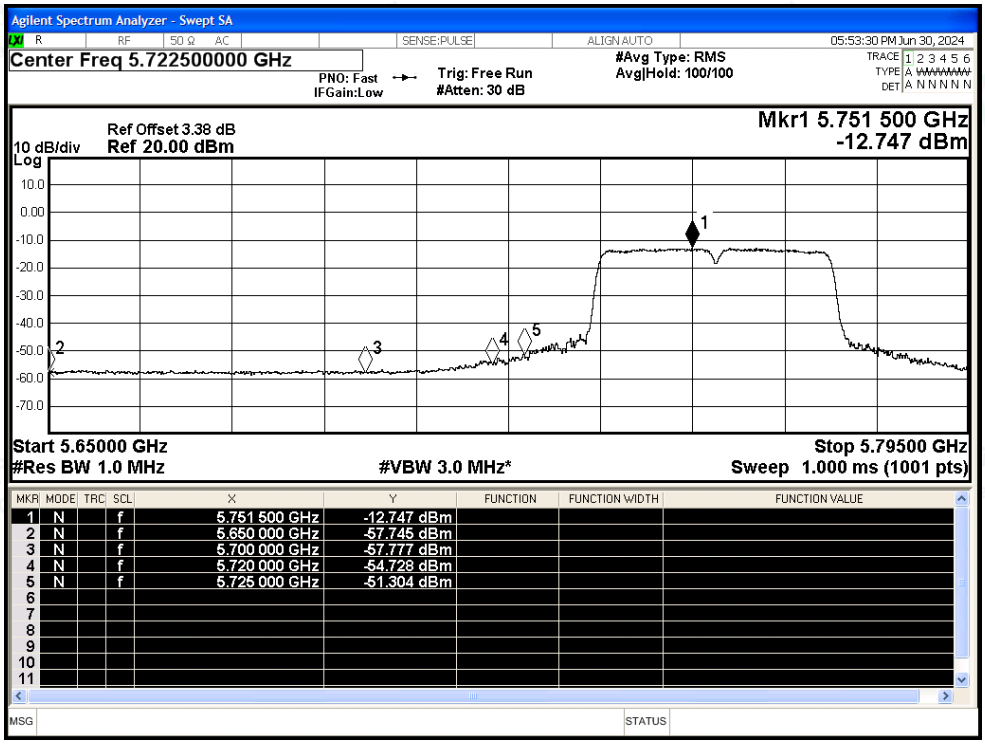
Restrict Band NVNT n20 5825MHz Ant1 Average



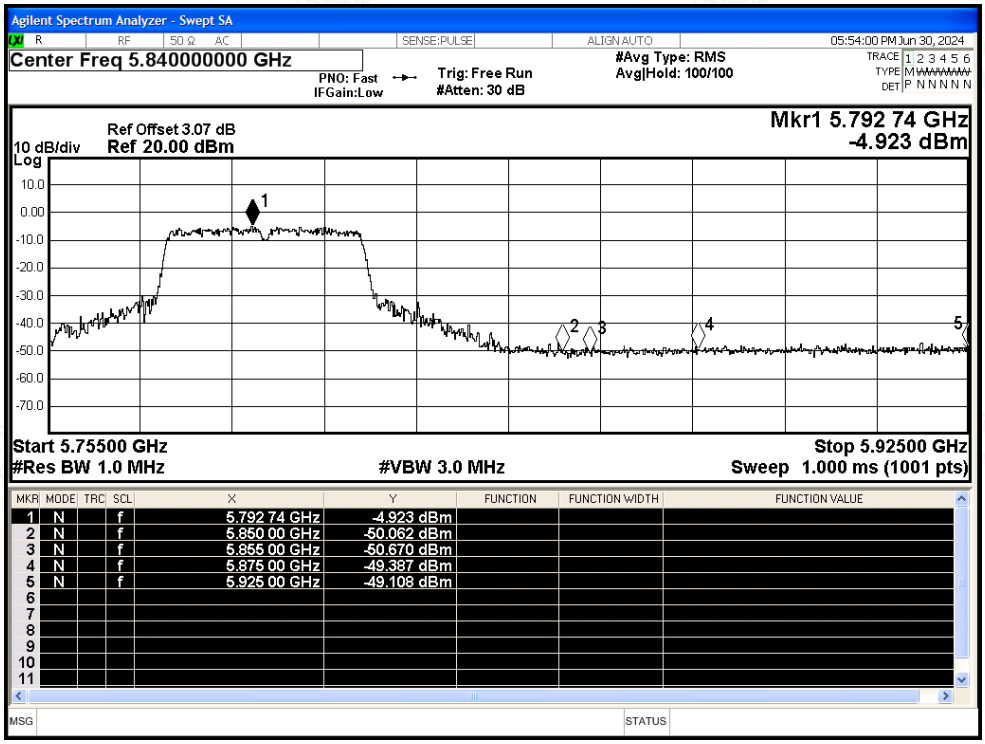
Restrict Band NVNT n40 5755MHz Ant1 Peak



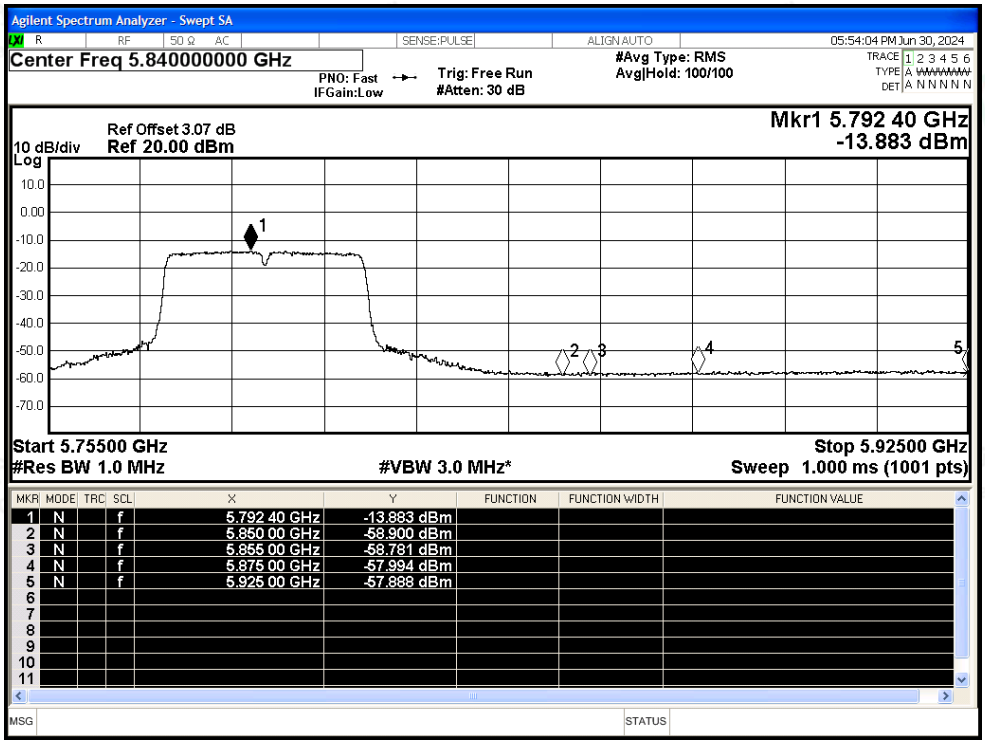
Restrict Band NVNT n40 5755MHz Ant1 Average



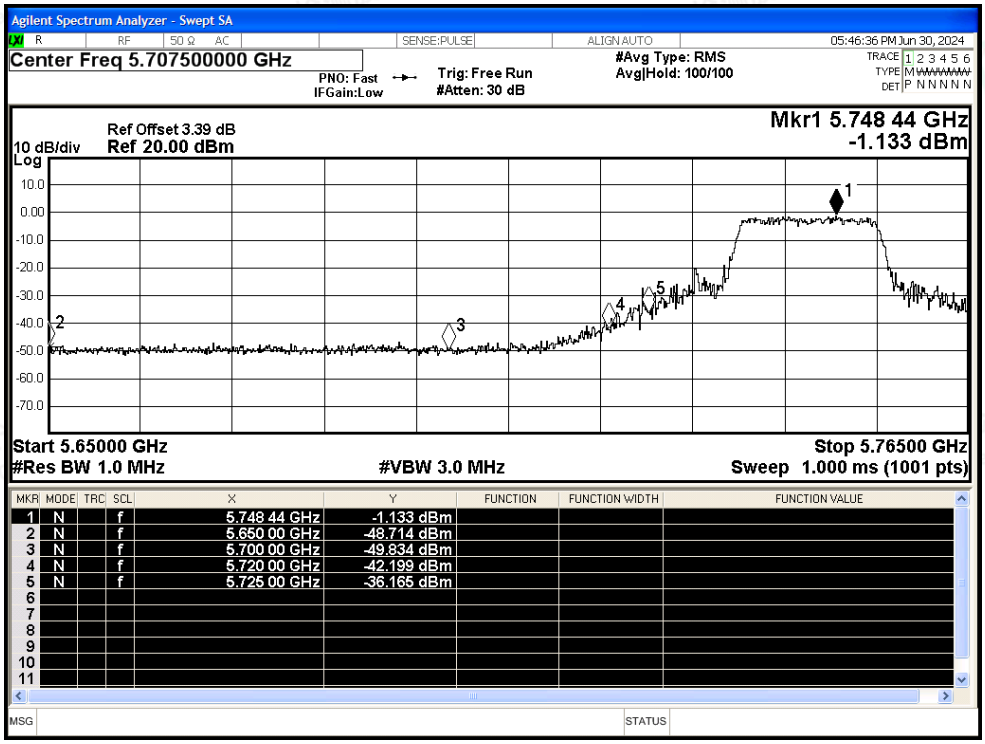
Restrict Band NVNT n40 5795MHz Ant1 Peak



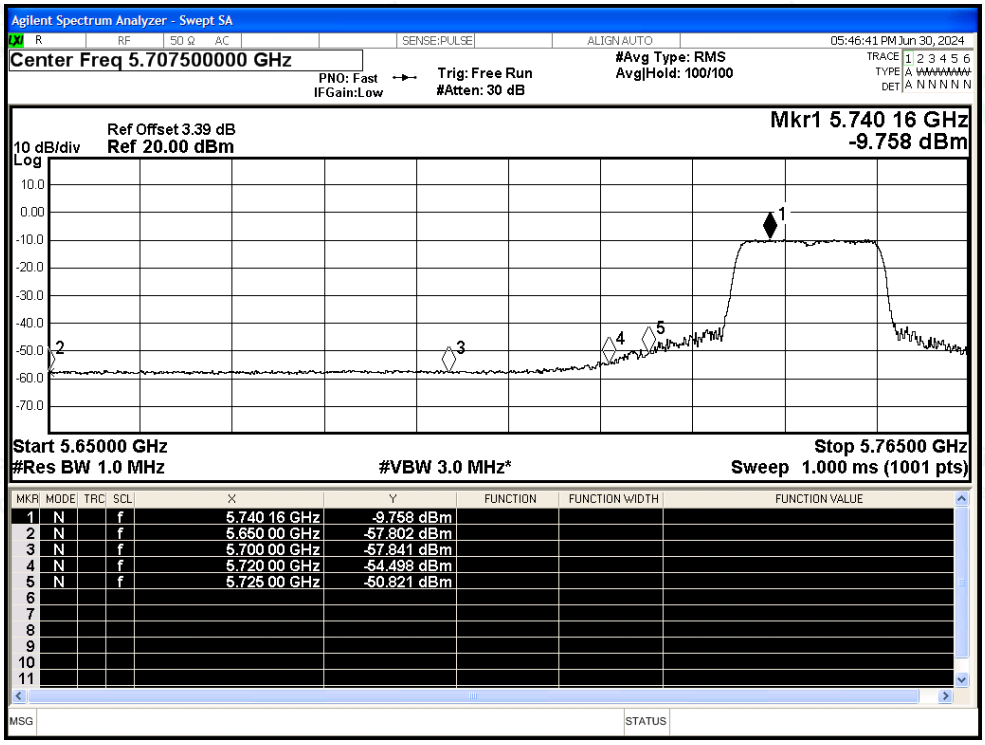
Restrict Band NVNT n40 5795MHz Ant1 Average



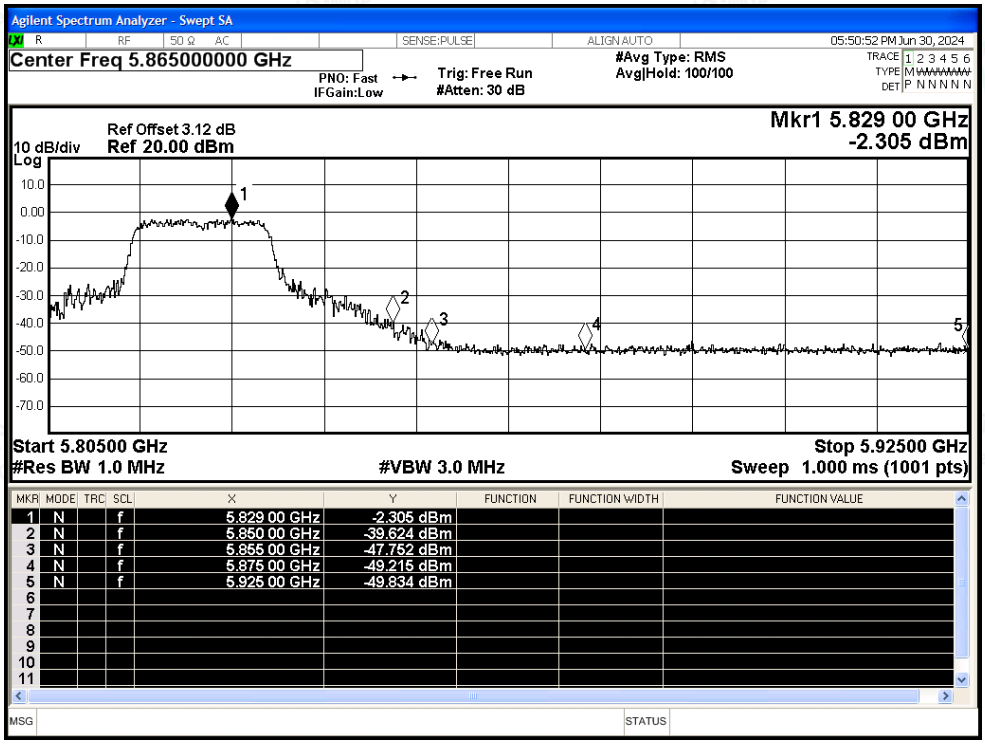
Restrict Band NVNT ac20 5745MHz Ant1 Peak



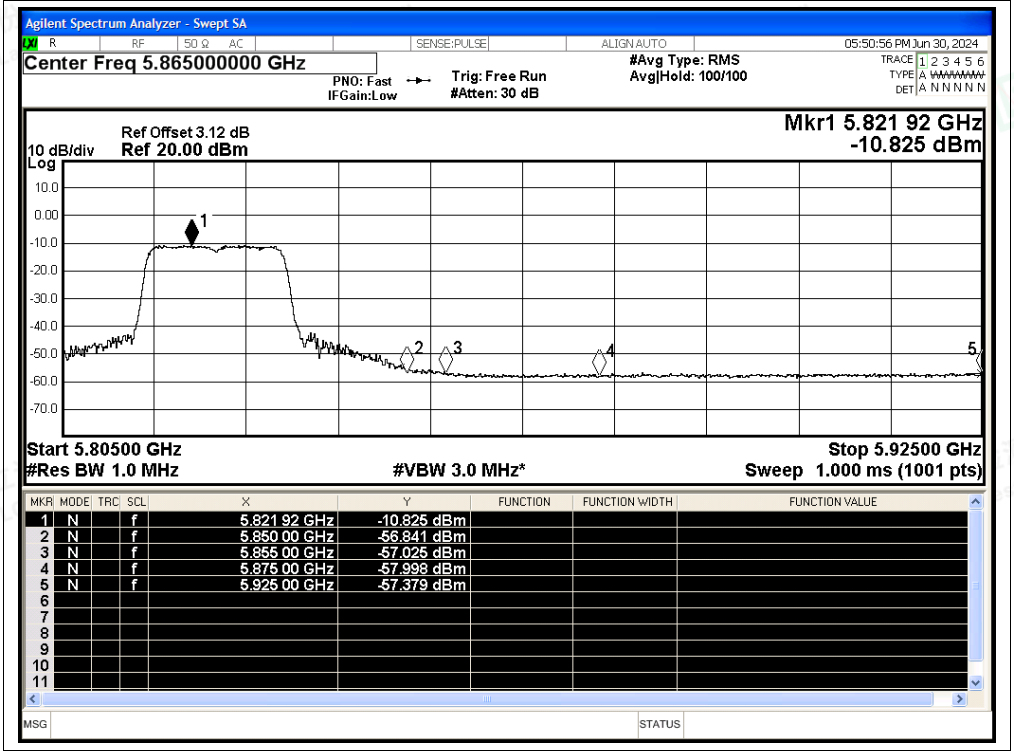
Restrict Band NVNT ac20 5745MHz Ant1 Average



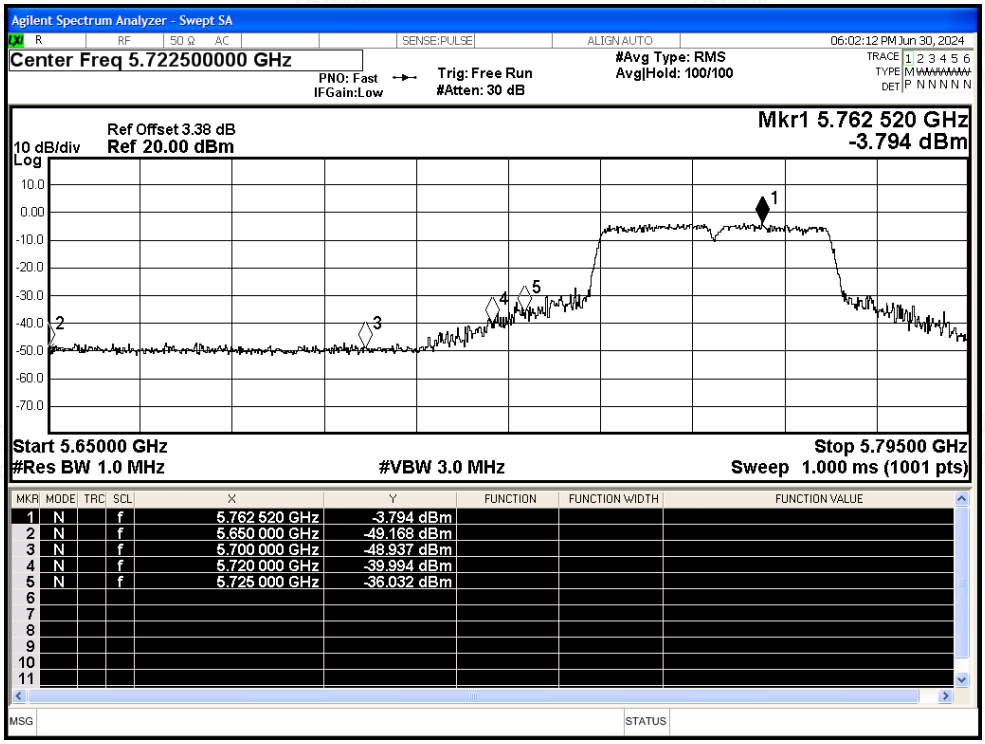
Restrict Band NVNT ac20 5825MHz Ant1 Peak



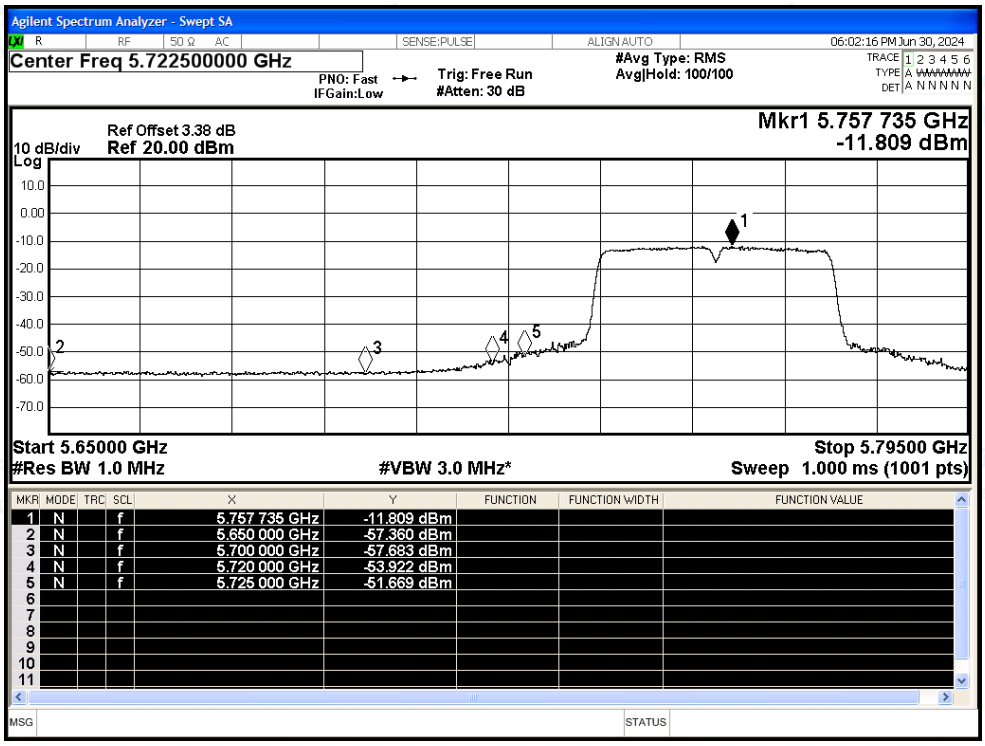
Restrict Band NVNT ac20 5825MHz Ant1 Average



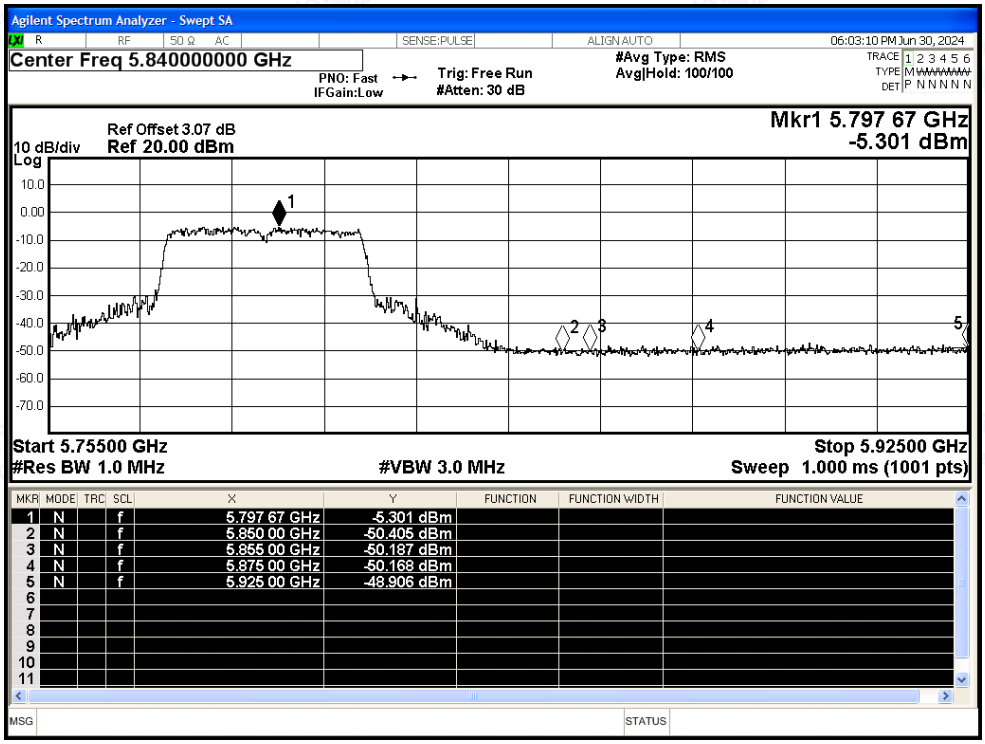
Restrict Band NVNT ac40 5755MHz Ant1 Peak



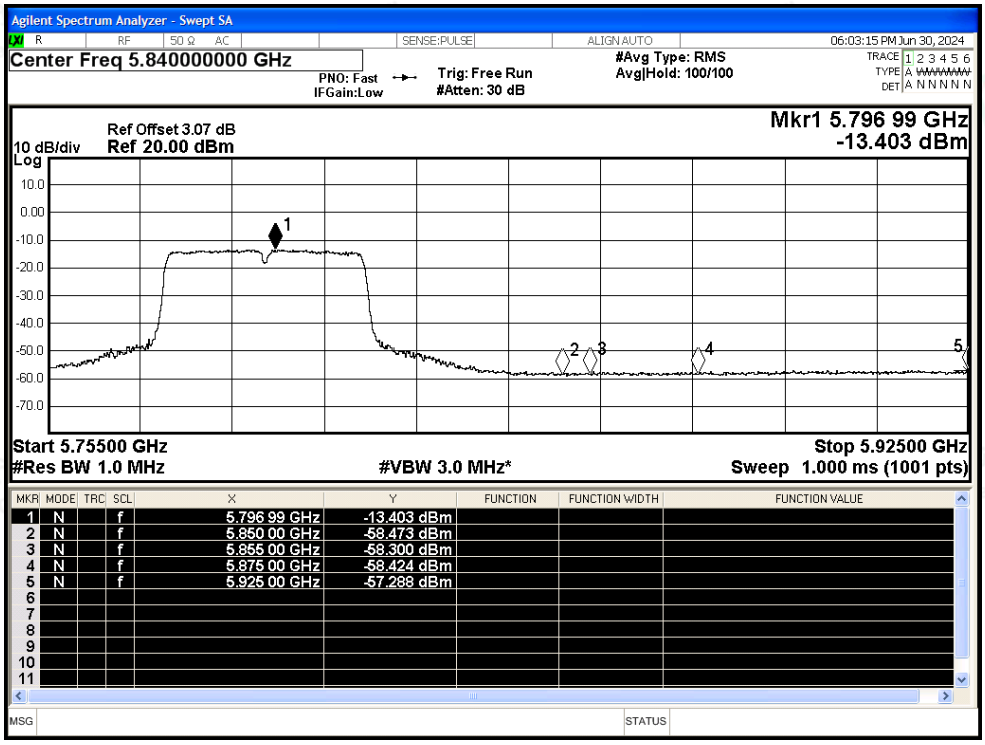
Restrict Band NVNT ac40 5755MHz Ant1 Average



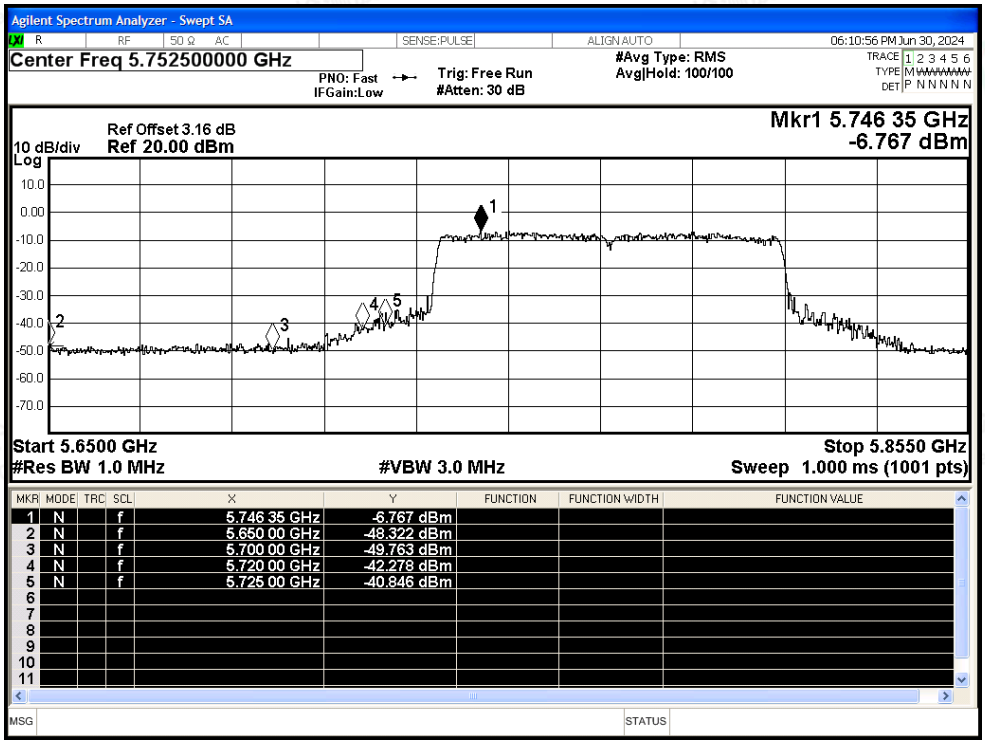
Restrict Band NVNT ac40 5795MHz Ant1 Peak



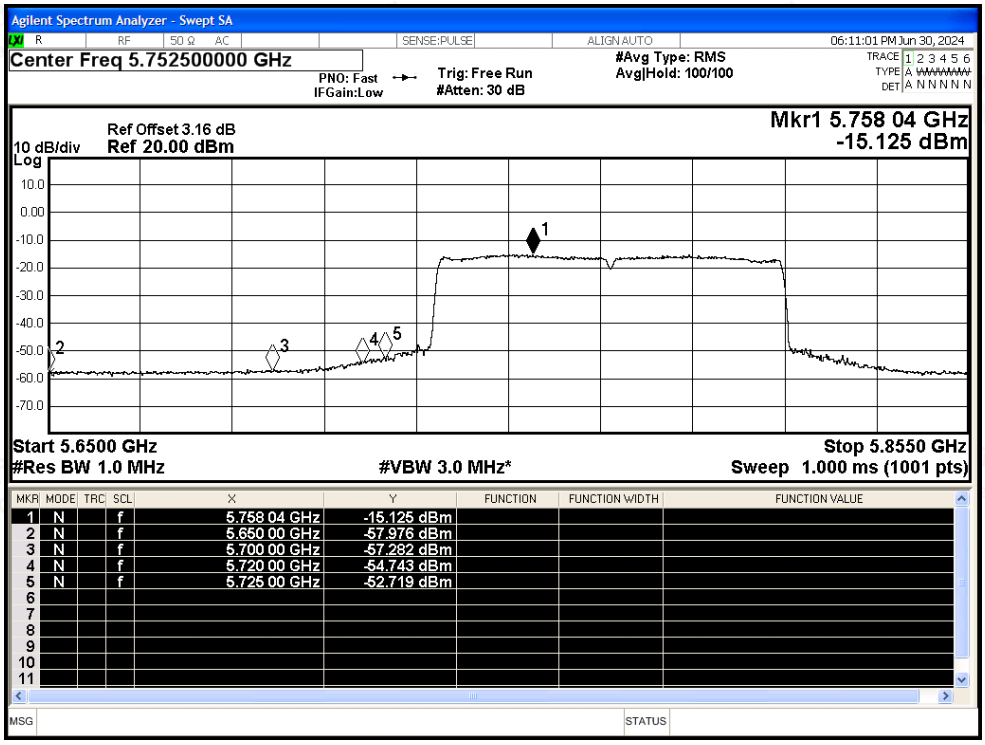
Restrict Band NVNT ac40 5795MHz Ant1 Average



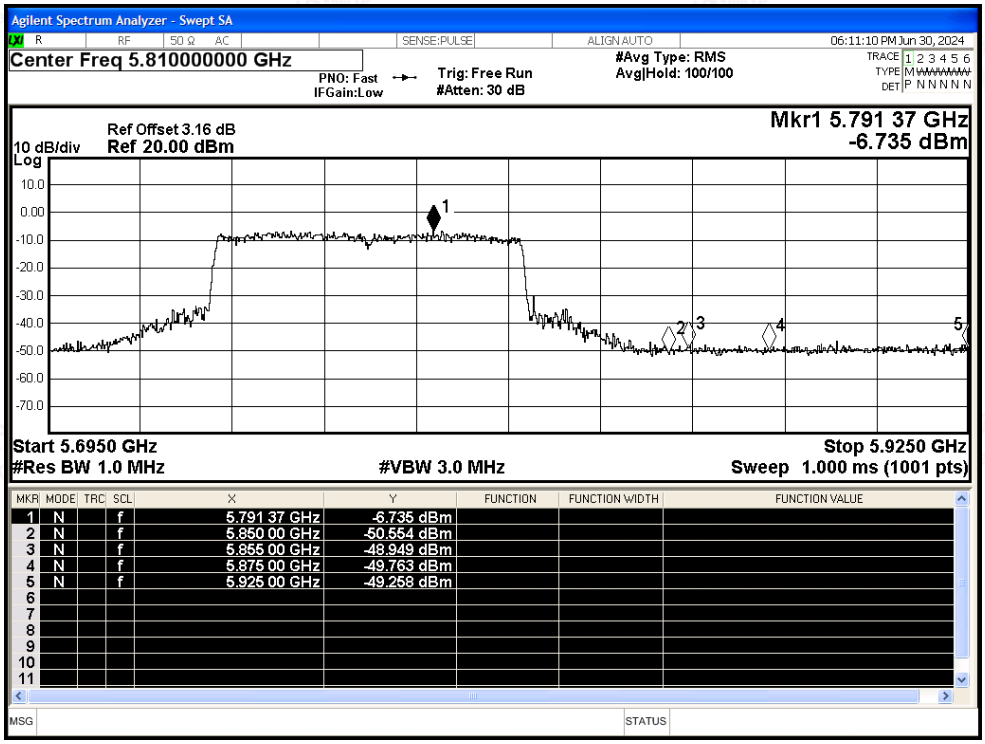
Restrict Band NVNT ac80 5775MHz Ant1 Peak



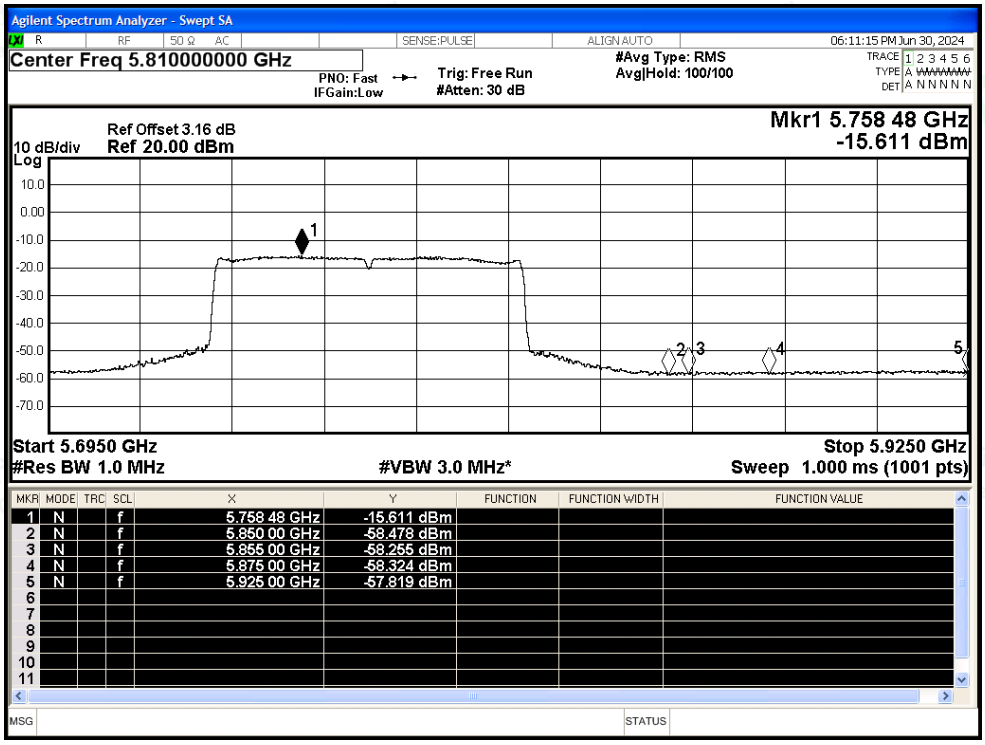
Restrict Band NVNT ac80 5775MHz Ant1 Average



Restrict Band NVNT ac80 5775MHz Ant1 Peak



Restrict Band NVNT ac80 5775MHz Ant1 Average

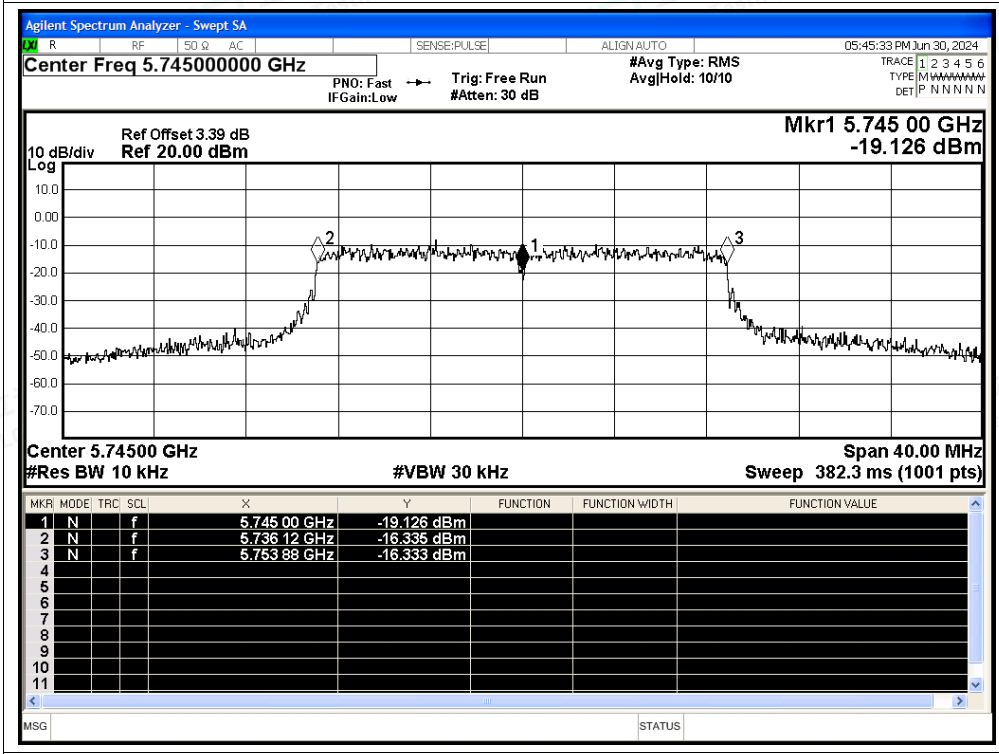


E.5 Frequency Stability

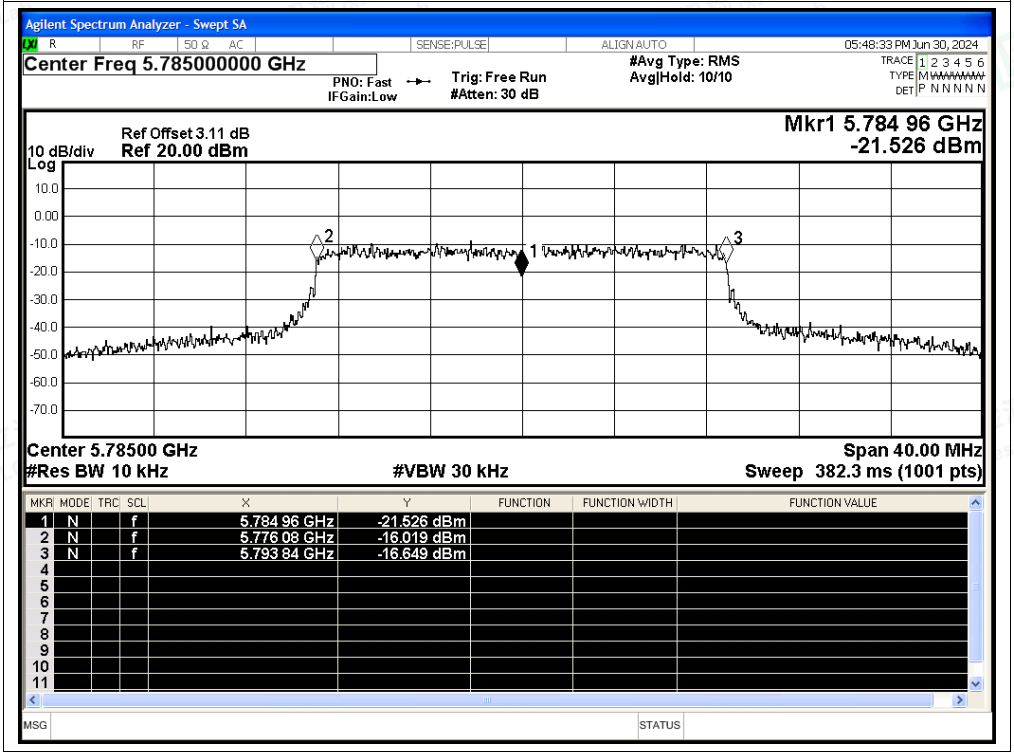
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5745	Ant1	5745	0	0	25	Pass
NVNT	ac20	5785	Ant1	5784.96	-40000	-6.91	25	Pass
NVNT	ac20	5825	Ant1	5824.96	-40000	-6.87	25	Pass
NVNT	ac40	5755	Ant1	5755	0	0	25	Pass
NVNT	ac40	5795	Ant1	5795	0	0	25	Pass
NVNT	ac80	5775	Ant1	5775	0	0	25	Pass

Test Graphs

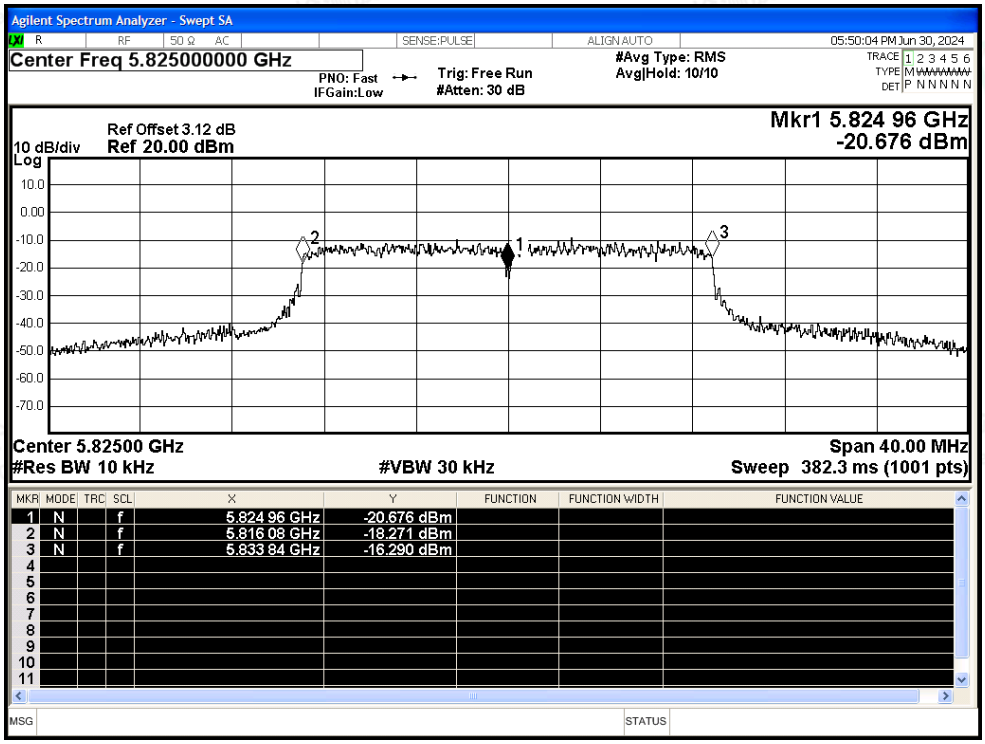
Freq. Stability NVNT ac20 5745MHz Ant1



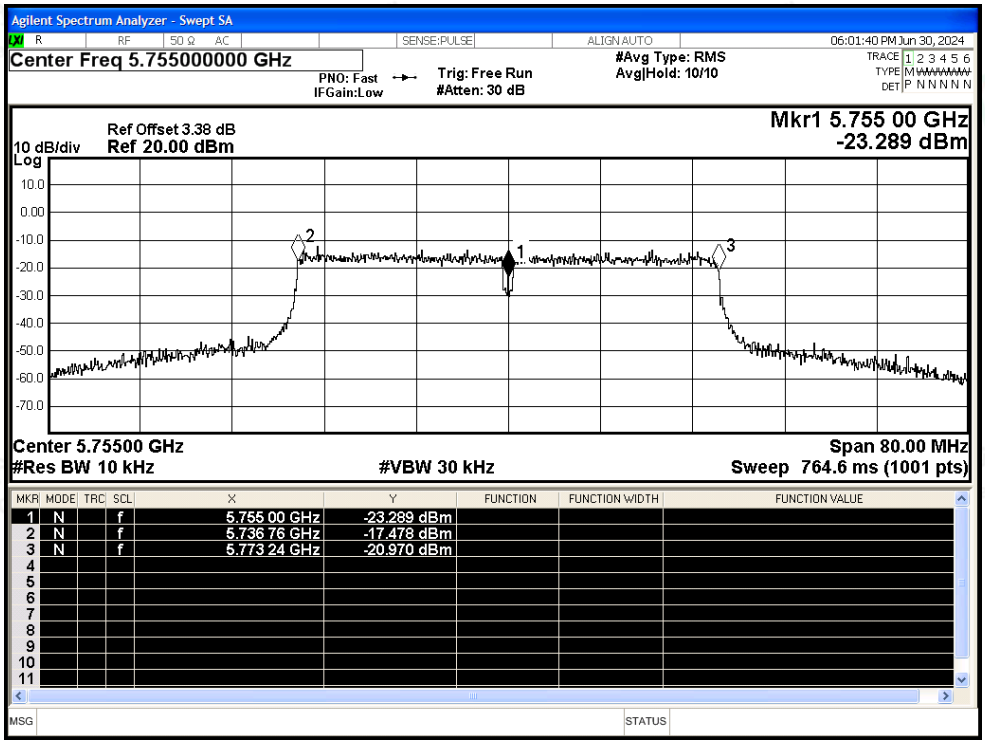
Freq. Stability NVNT ac20 5785MHz Ant1



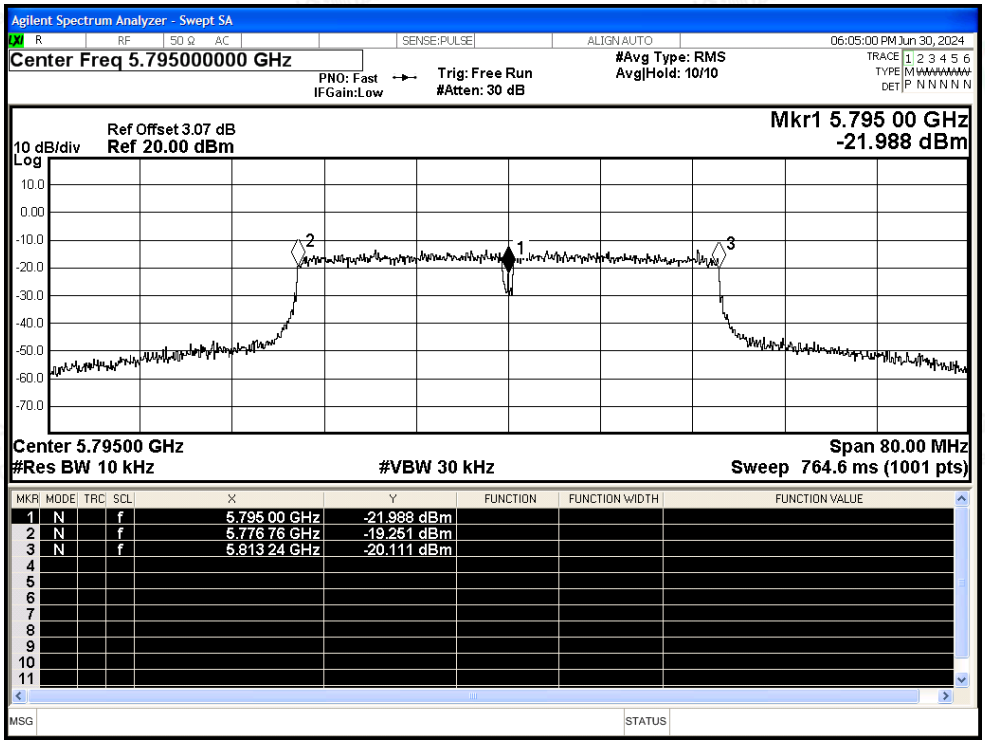
Freq. Stability NVNT ac20 5825MHz Ant1



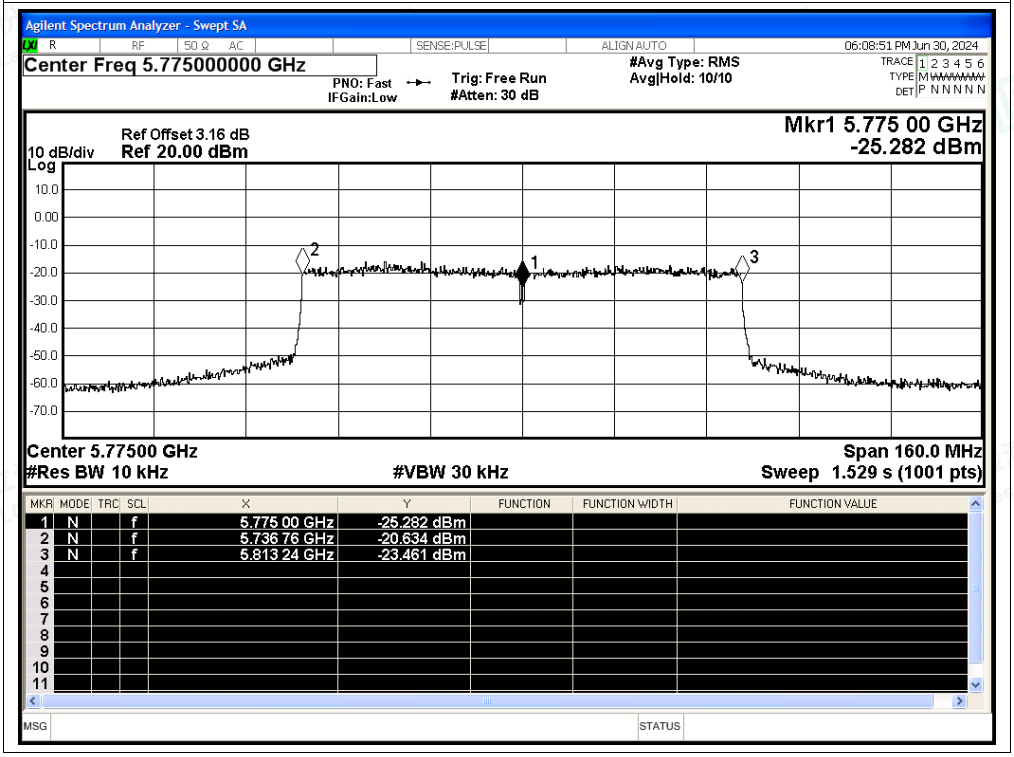
Freq. Stability NVNT ac40 5755MHz Ant1



Freq. Stability NVNT ac40 5795MHz Ant1



Freq. Stability NVNT ac80 5775MHz Ant1

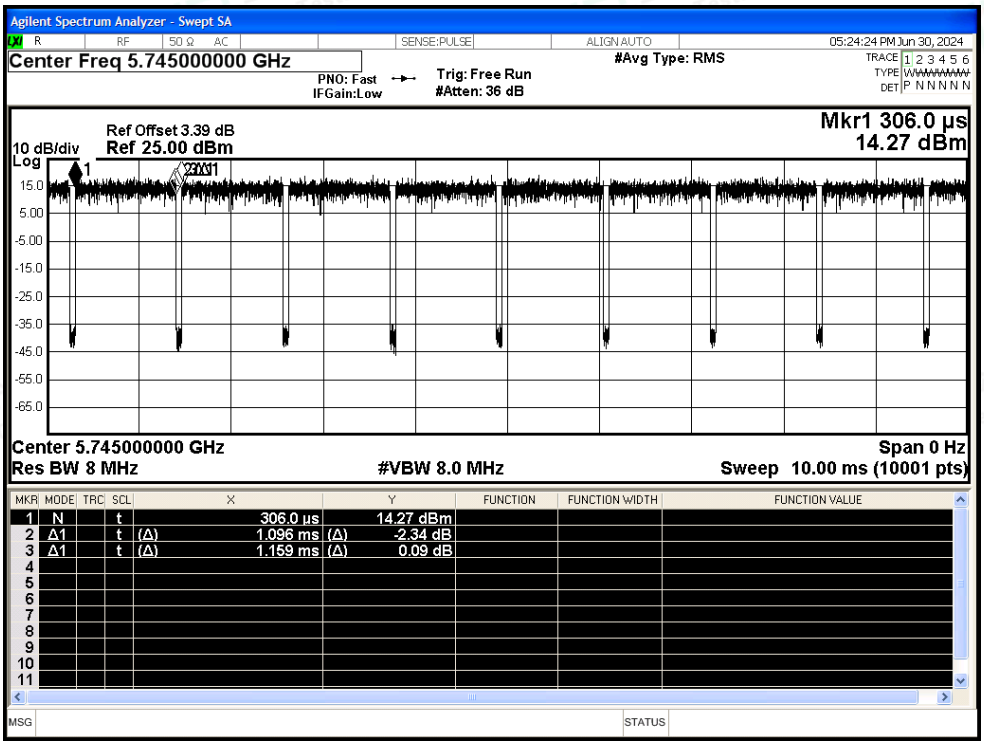


E.6 Duty Cycle

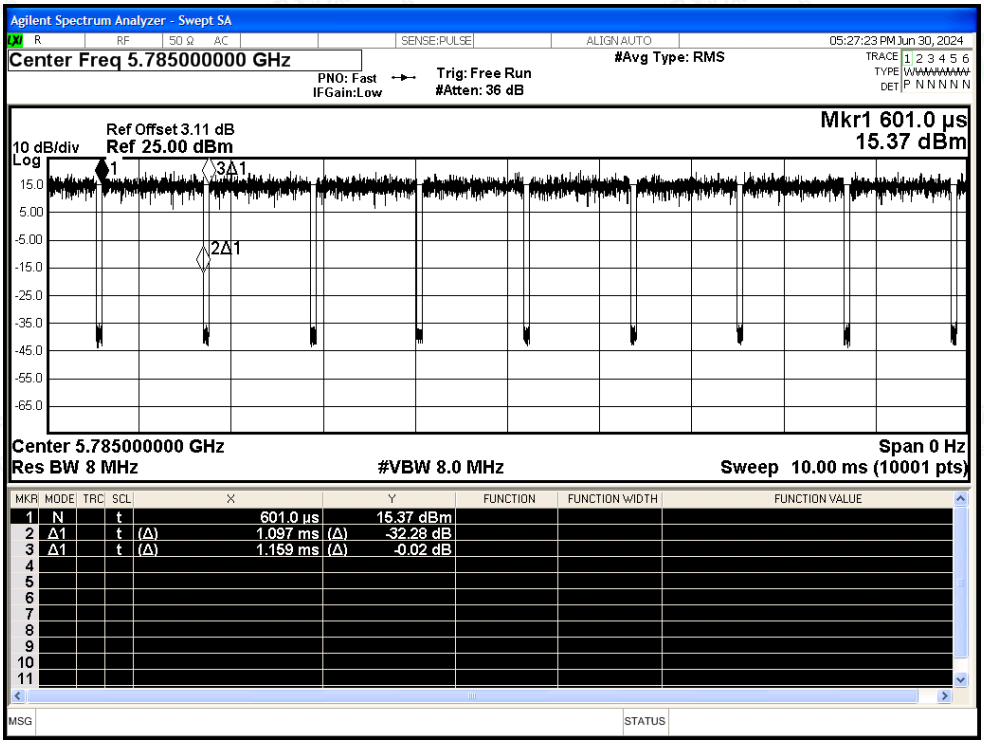
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	Ant1	94.56	0.24	0.91
NVNT	a	5785	Ant1	94.65	0.24	0.91
NVNT	a	5825	Ant1	94.65	0.24	0.91
NVNT	n20	5745	Ant1	93.77	0.28	1.07
NVNT	n20	5785	Ant1	93.77	0.28	1.07
NVNT	n20	5825	Ant1	93.67	0.28	1.07
NVNT	n40	5755	Ant1	97.23	0.12	0.46
NVNT	n40	5795	Ant1	97.18	0.12	0.46
NVNT	ac20	5745	Ant1	93.72	0.28	1.06
NVNT	ac20	5785	Ant1	93.72	0.28	1.06
NVNT	ac20	5825	Ant1	93.72	0.28	1.06
NVNT	ac40	5755	Ant1	97.19	0.12	0.46
NVNT	ac40	5795	Ant1	97.24	0.12	0.46
NVNT	ac80	5775	Ant1	94.32	0.25	0.97

Test Graphs

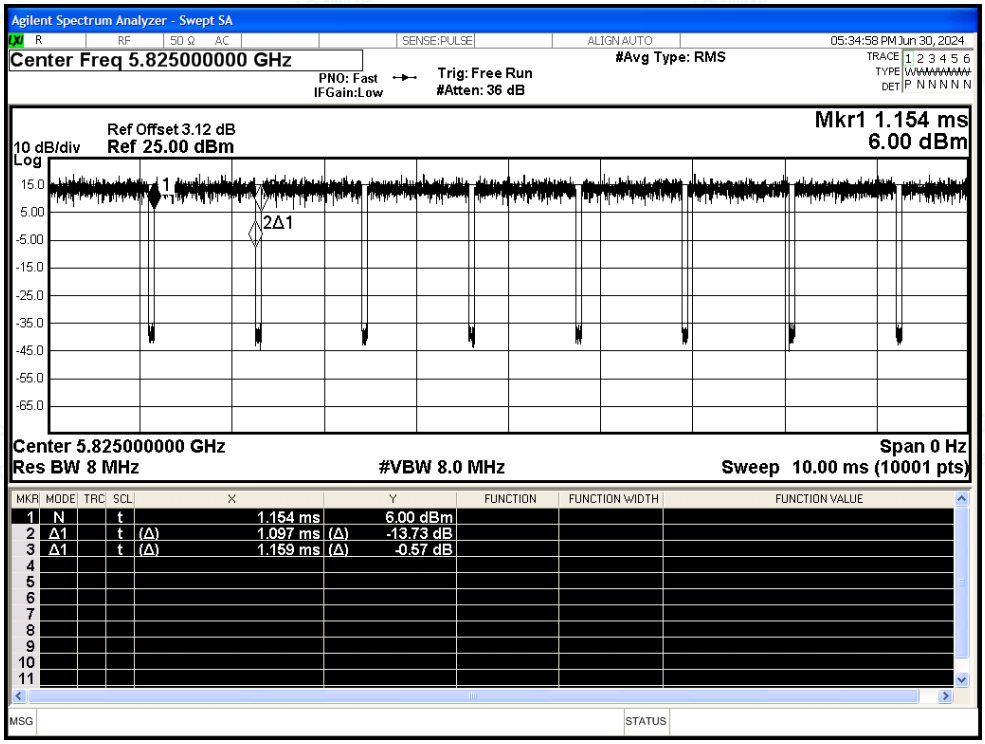
Duty Cycle NVNT a 5745MHz Ant1



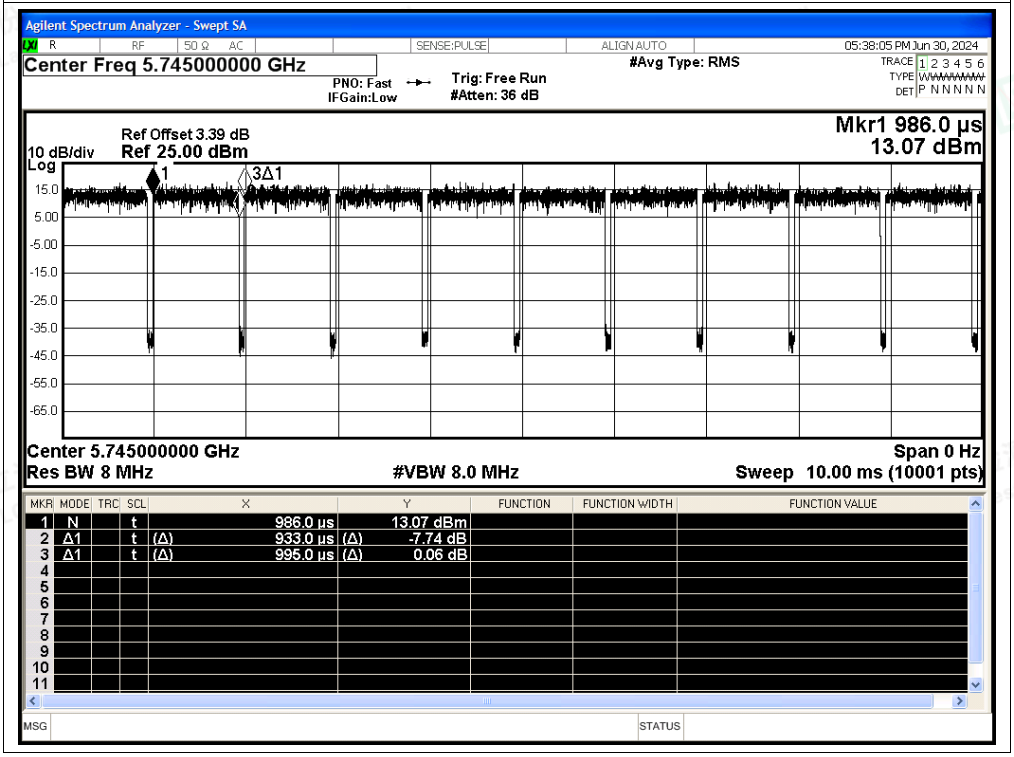
Duty Cycle NVNT a 5785MHz Ant1



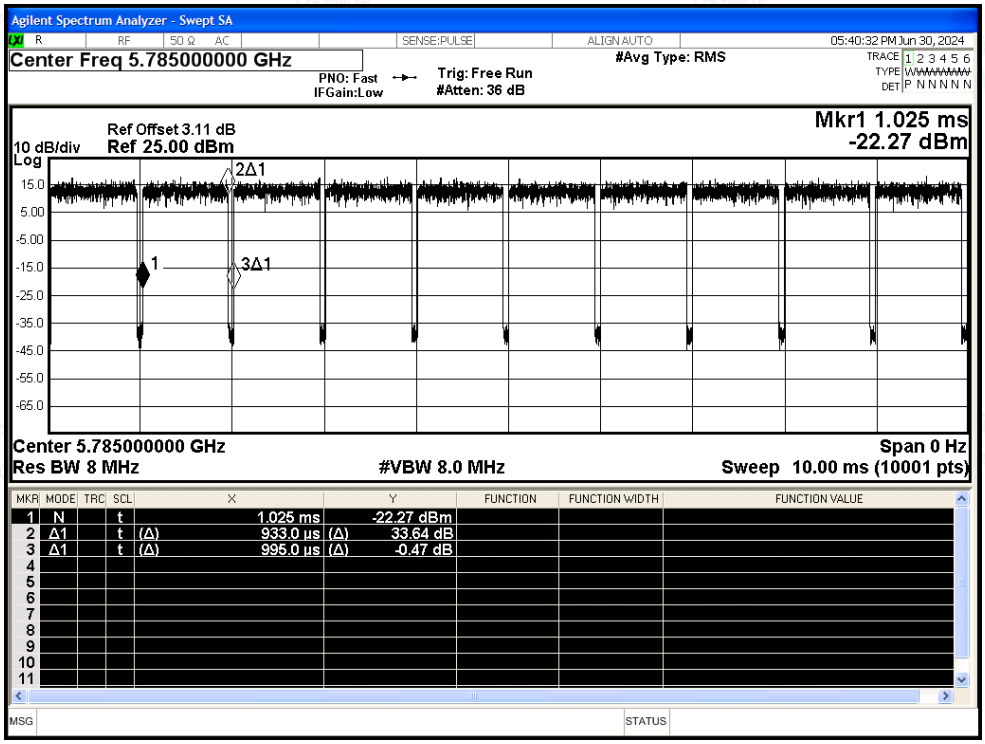
Duty Cycle NVNT a 5825MHz Ant1



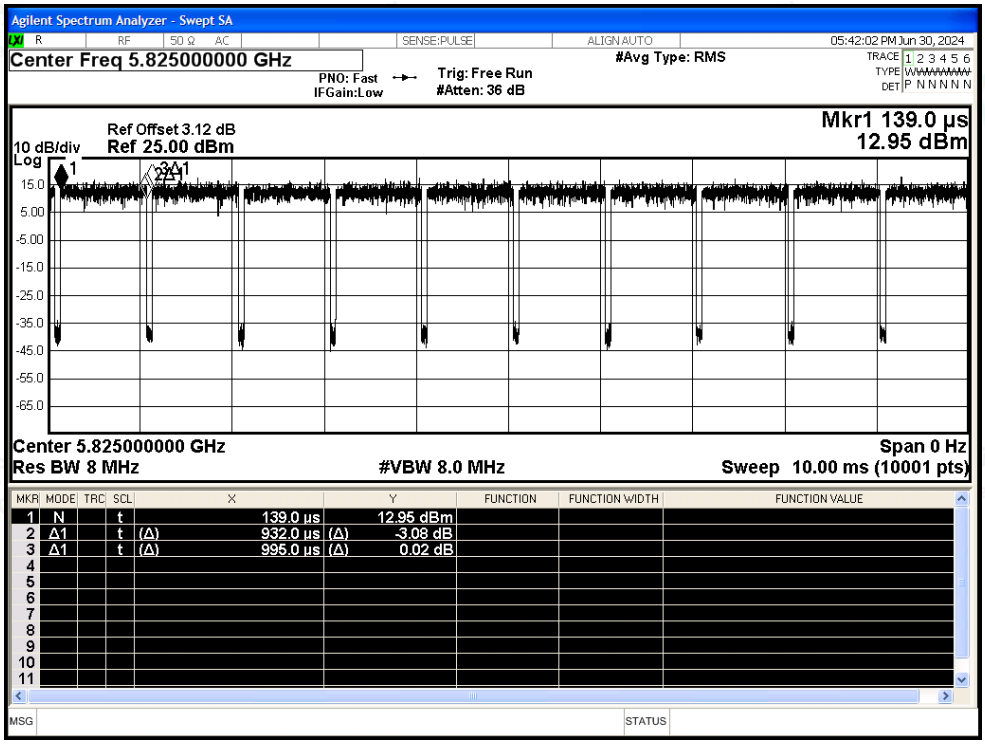
Duty Cycle NVNT n20 5745MHz Ant1



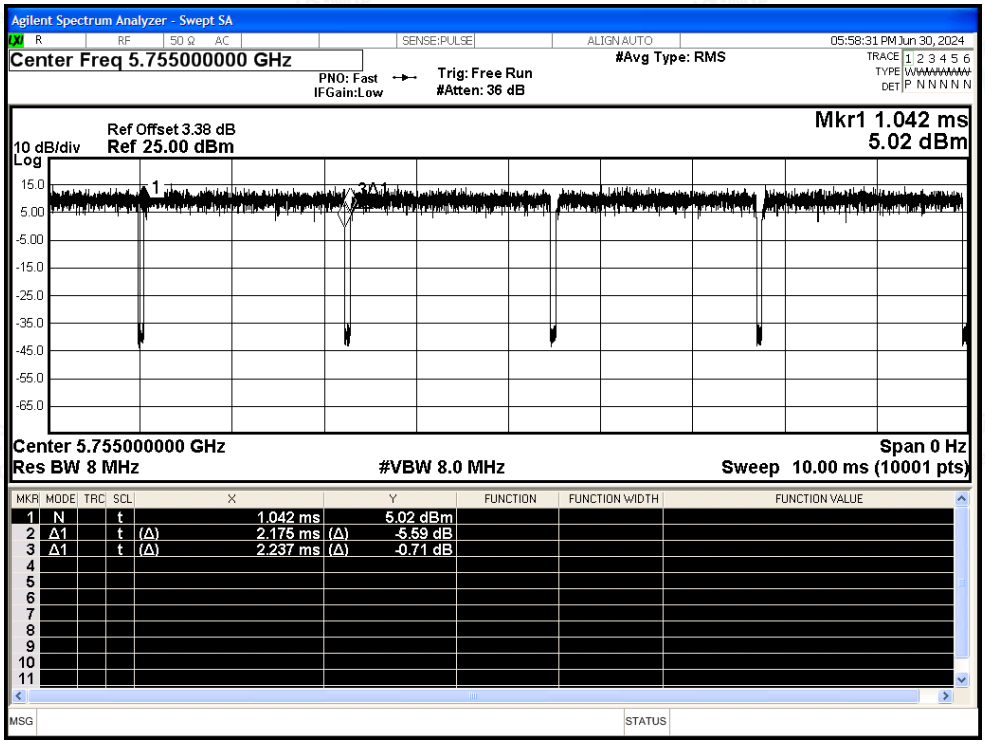
Duty Cycle NVNT n20 5785MHz Ant1



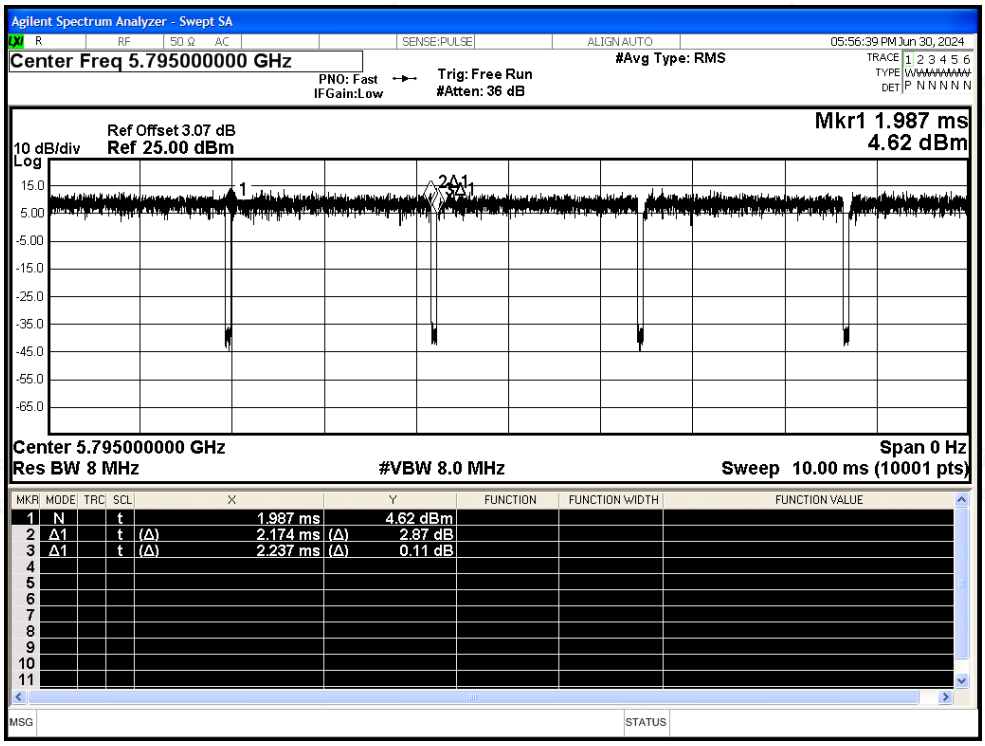
Duty Cycle NVNT n20 5825MHz Ant1



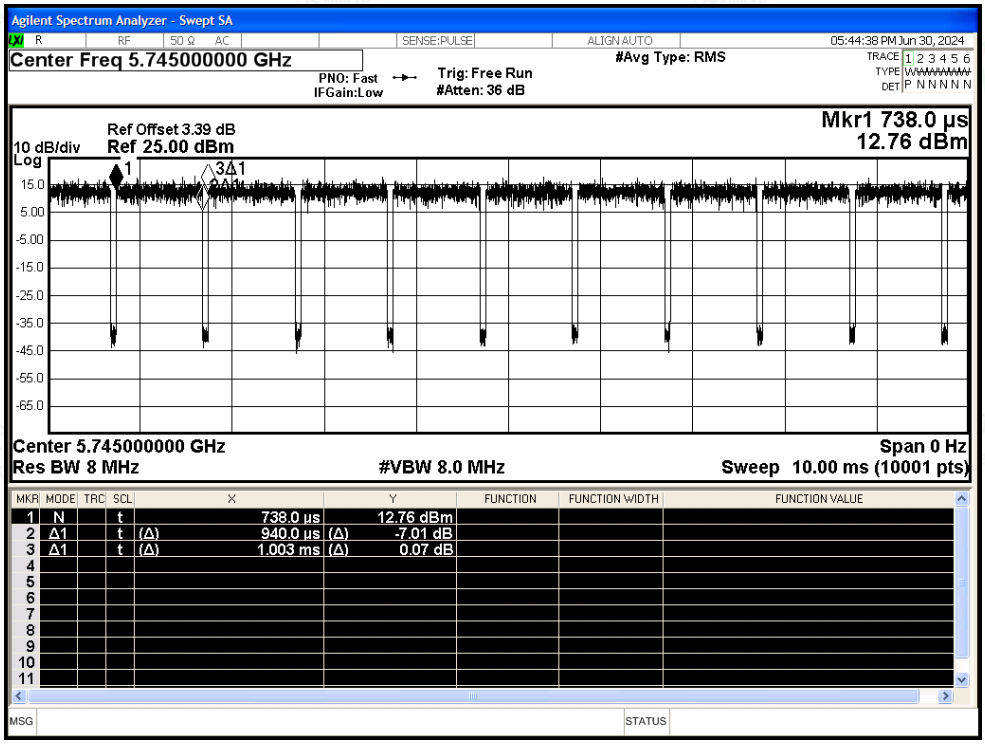
Duty Cycle NVNT n40 5755MHz Ant1



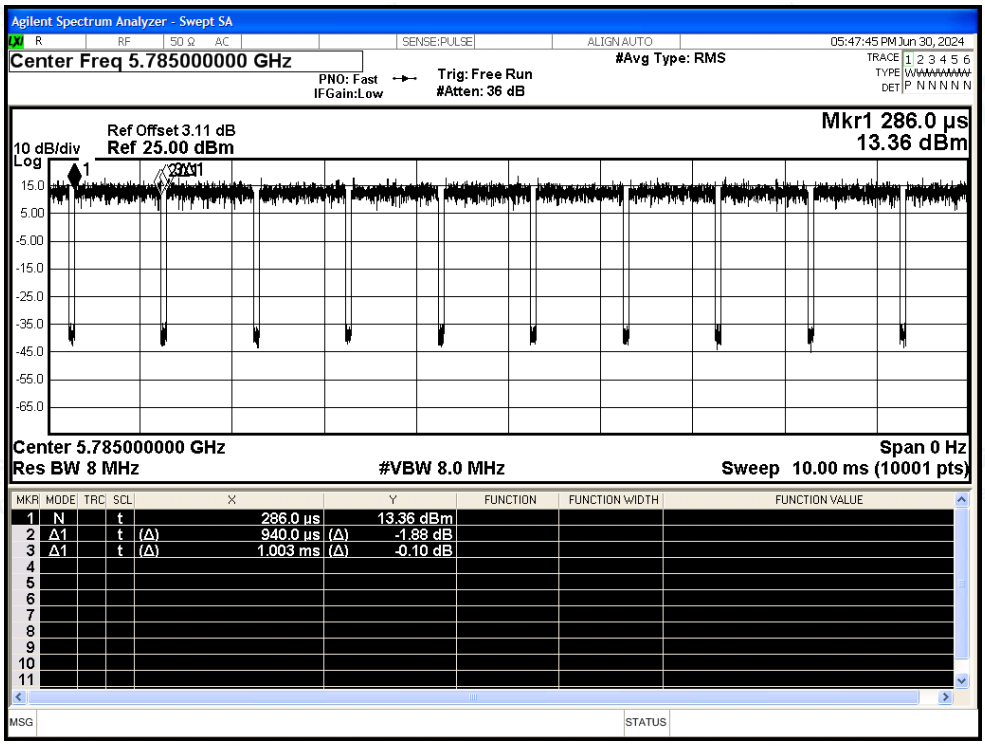
Duty Cycle NVNT n40 5795MHz Ant1



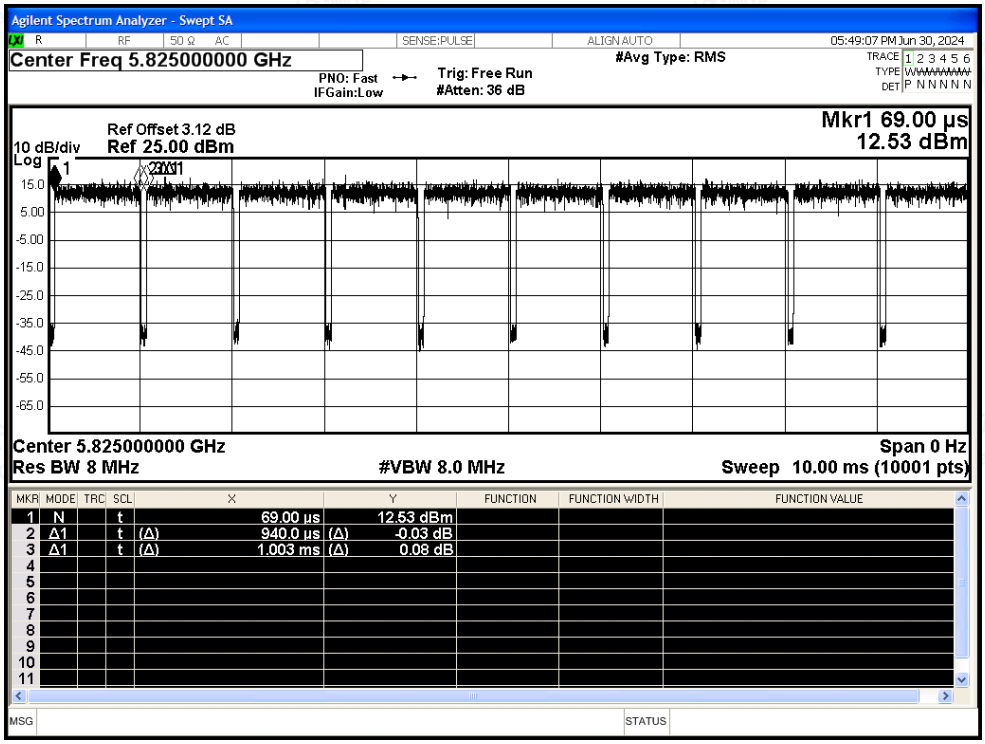
Duty Cycle NVNT ac20 5745MHz Ant1



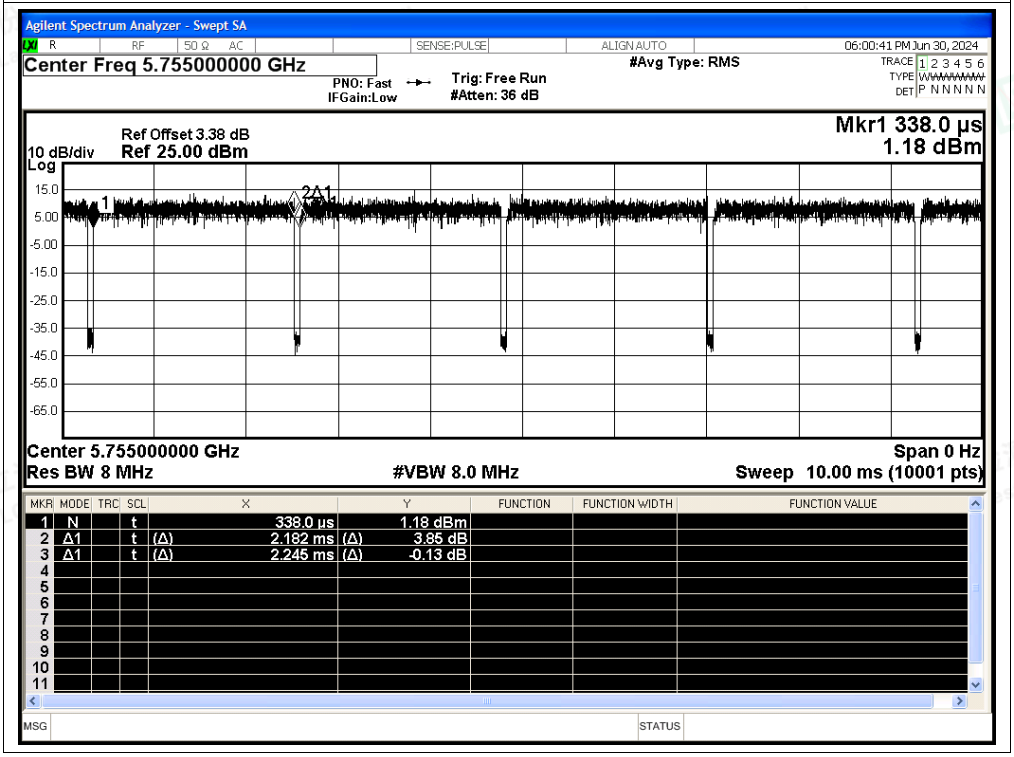
Duty Cycle NVNT ac20 5785MHz Ant1



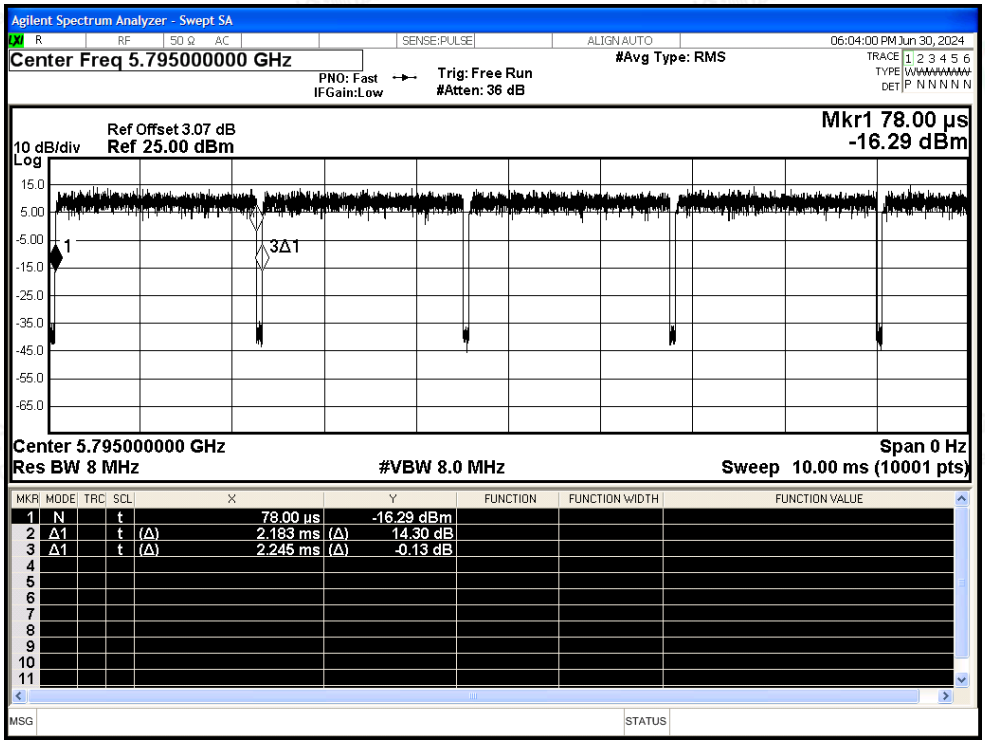
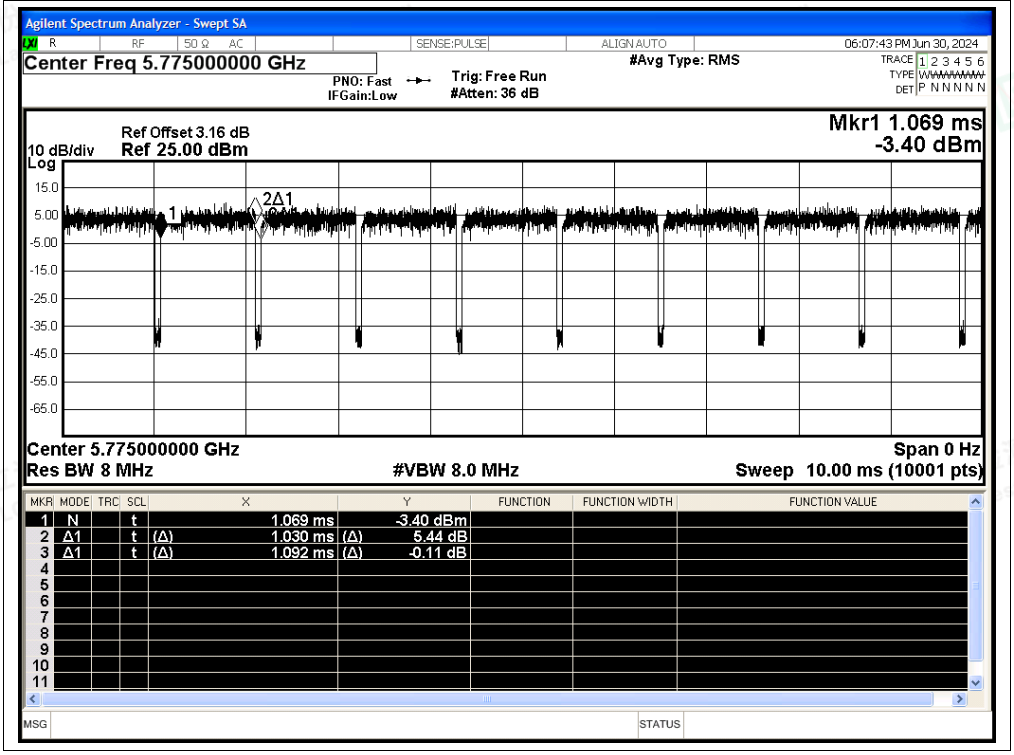
Duty Cycle NVNT ac20 5825MHz Ant1



Duty Cycle NVNT ac40 5755MHz Ant1



Duty Cycle NVNT ac40 5795MHz Ant1



Duty Cycle NVNT ac80 5775MHz Ant1