Appendix E

RF Test Data for 5.3G WIFI (Conducted Measurement)

Product Name: Communicator

Test Model: Communicator 3-A

Environmental Conditions

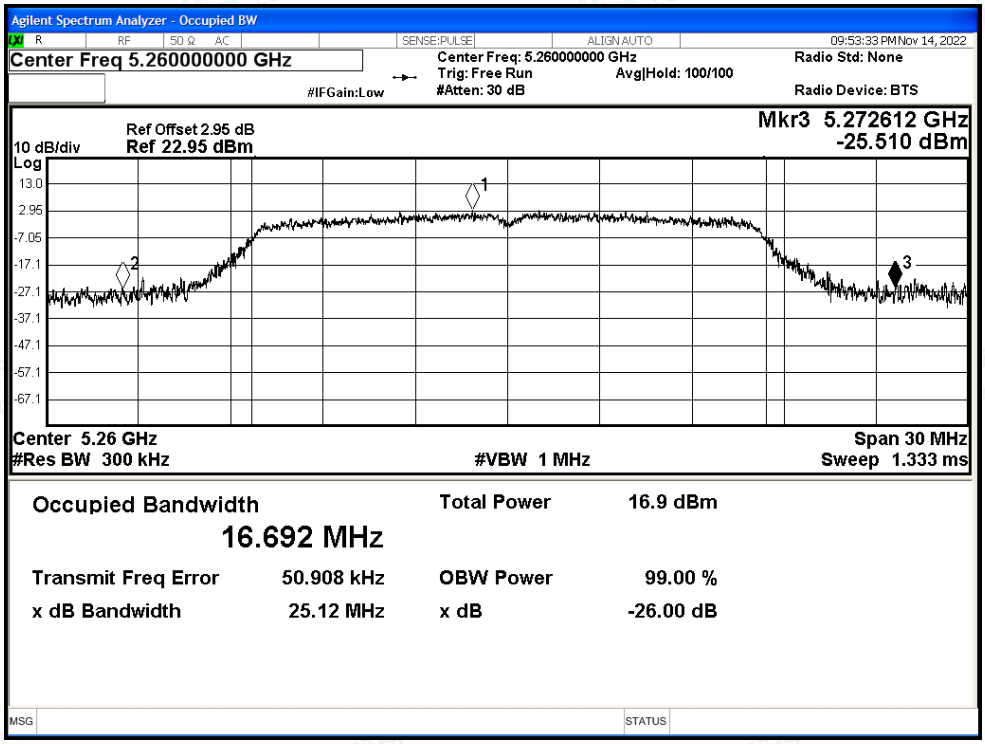
Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan

E.1 -26dB Bandwidth

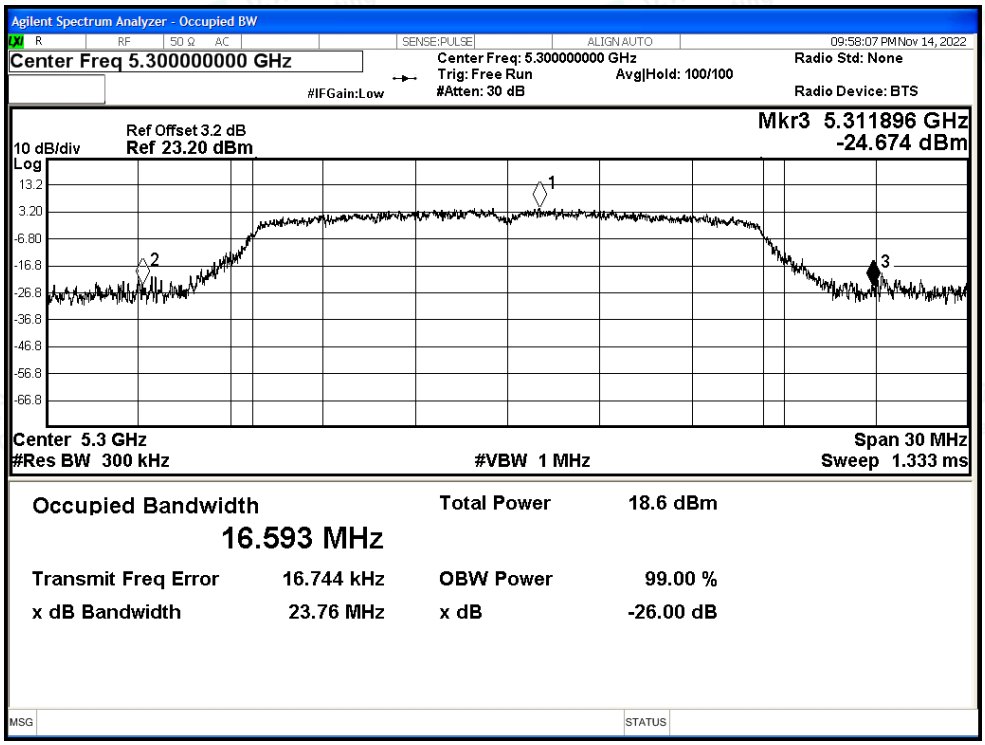
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5260	Ant	25.121	---	Pass
NVNT	a	5300	Ant	23.758	---	Pass
NVNT	a	5320	Ant	24.625	---	Pass
NVNT	n20	5260	Ant	26.425	---	Pass
NVNT	n20	5300	Ant	24.544	---	Pass
NVNT	n20	5320	Ant	25.982	---	Pass
NVNT	n40	5270	Ant	48.676	---	Pass
NVNT	n40	5310	Ant	39.83	---	Pass
NVNT	ac20	5260	Ant	20.221	---	Pass
NVNT	ac20	5300	Ant	23.767	---	Pass
NVNT	ac20	5320	Ant	23.622	---	Pass
NVNT	ac40	5270	Ant	44.501	---	Pass
NVNT	ac40	5310	Ant	39.538	---	Pass
NVNT	ac80	5290	Ant	86.283	---	Pass

Test Graphs

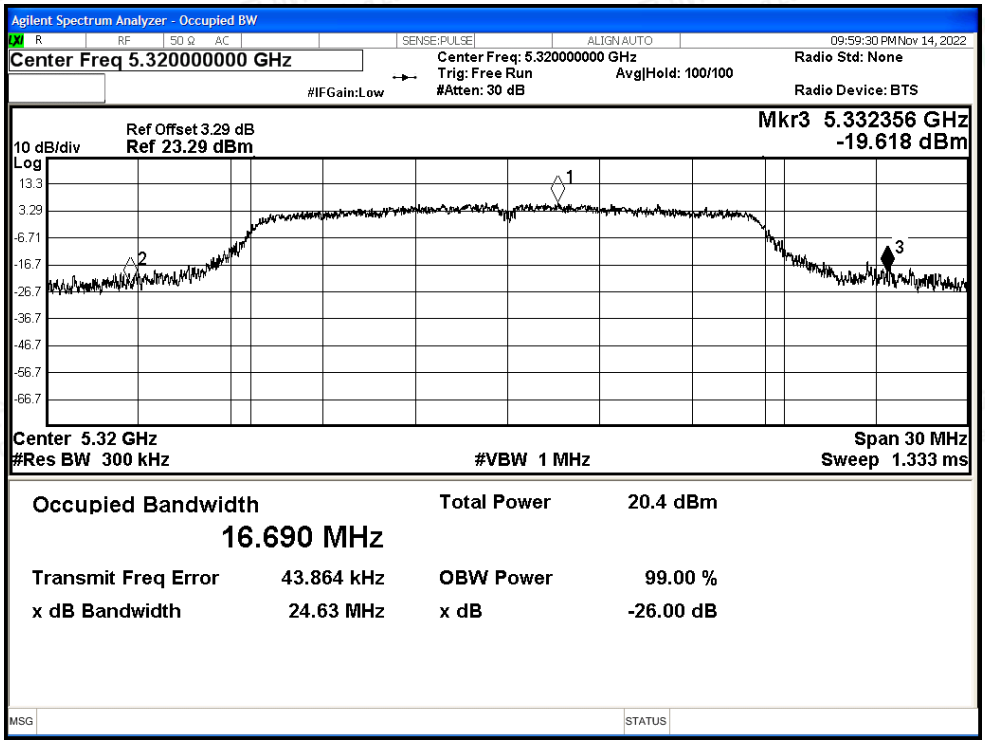
-26dB Bandwidth NVNT a 5260MHz Ant



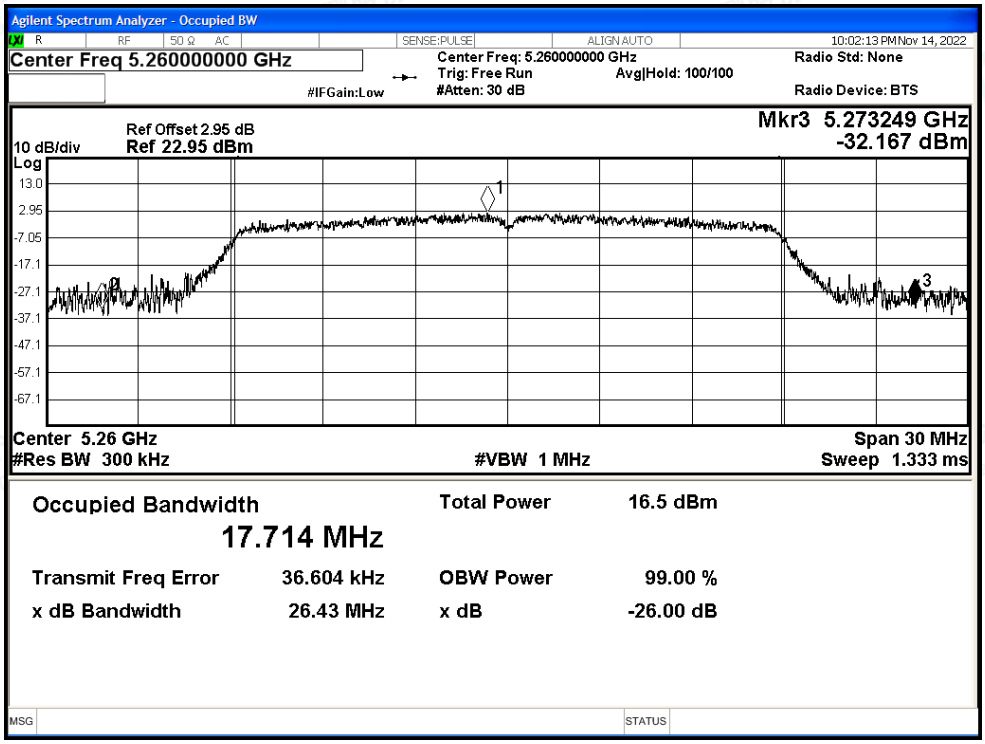
-26dB Bandwidth NVNT a 5300MHz Ant



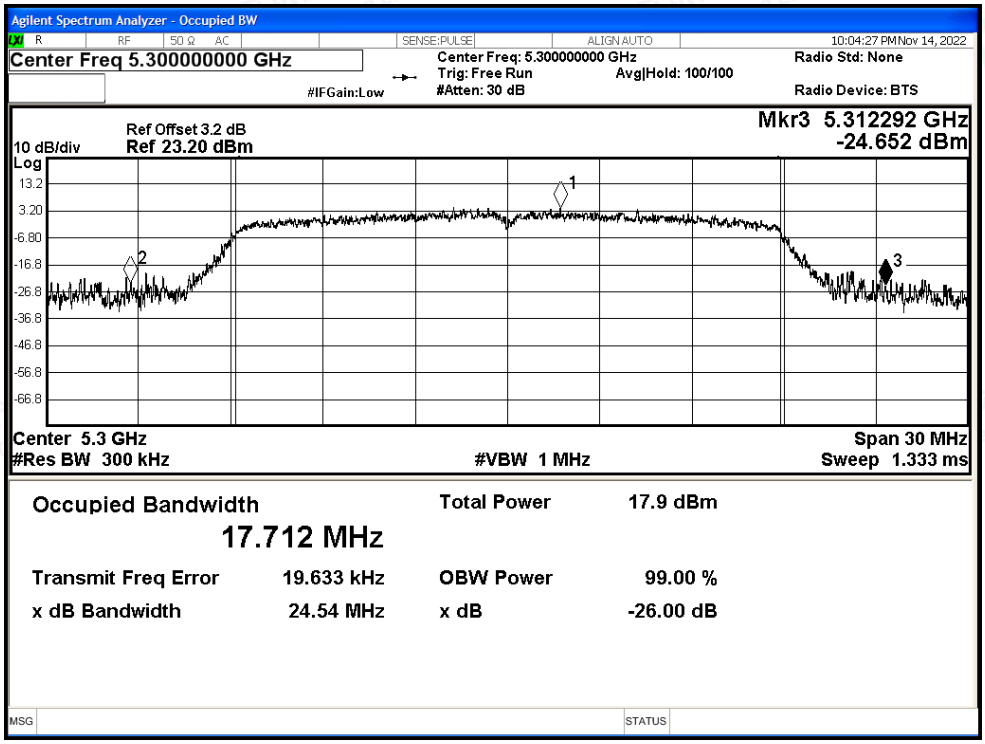
-26dB Bandwidth NVNT a 5320MHz Ant



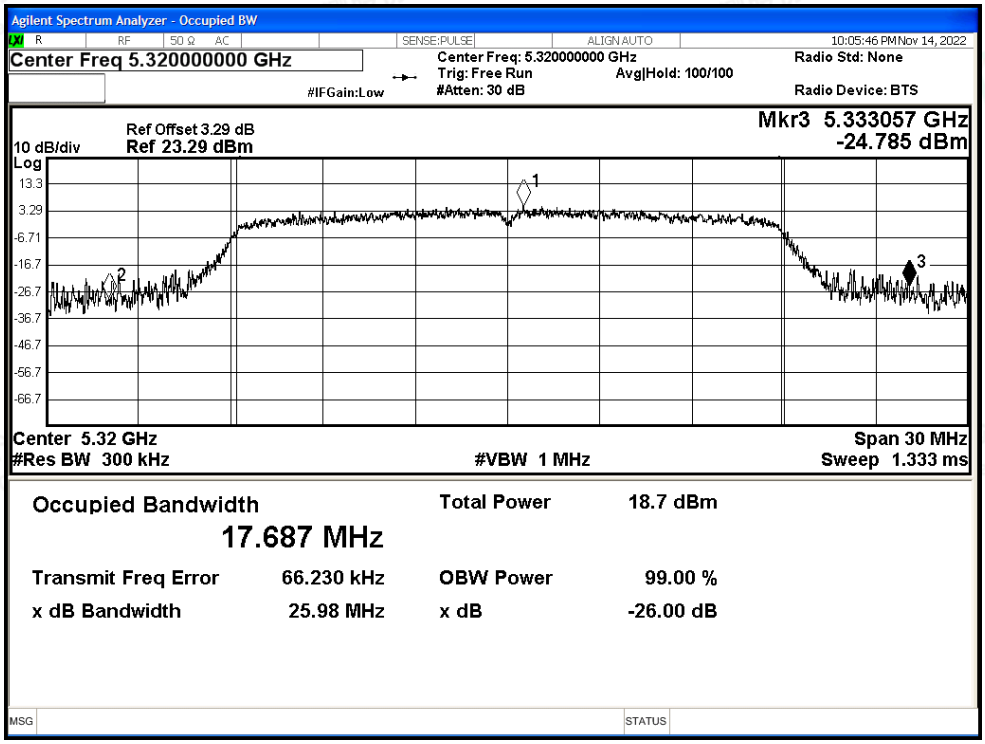
-26dB Bandwidth NVNT n20 5260MHz Ant



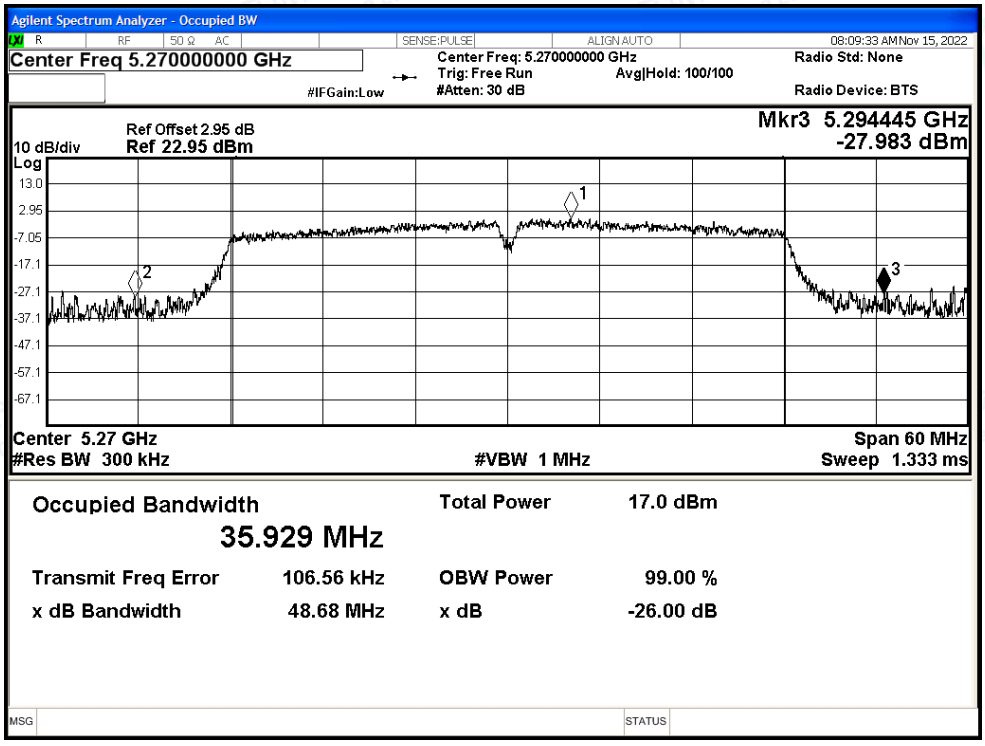
-26dB Bandwidth NVNT n20 5300MHz Ant



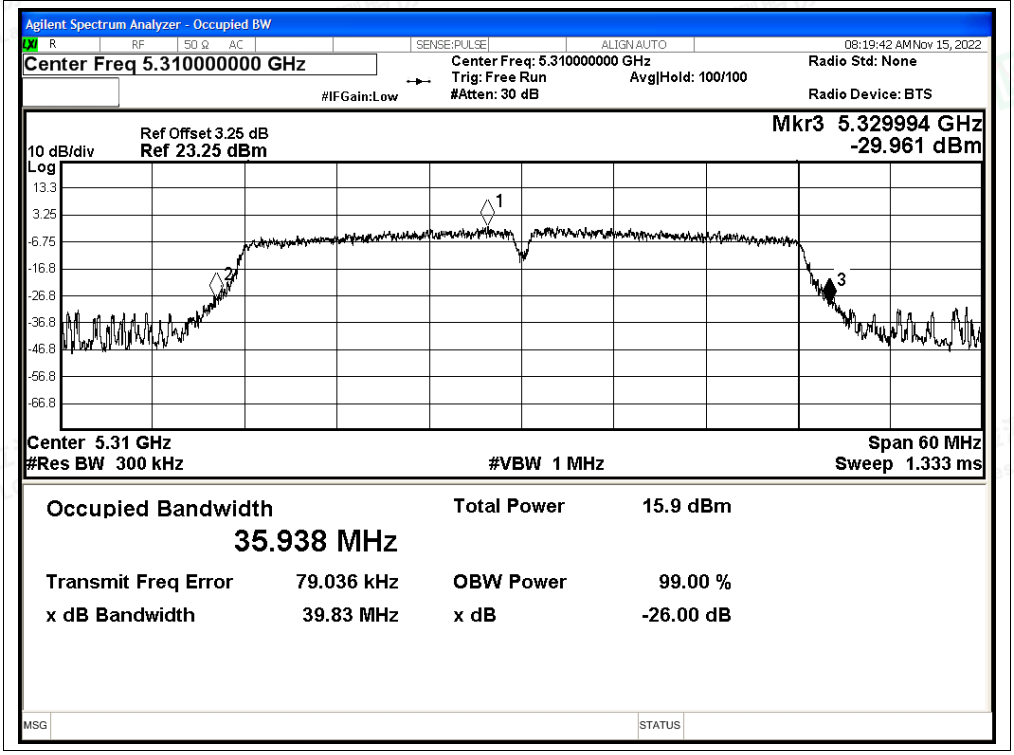
-26dB Bandwidth NVNT n20 5320MHz Ant



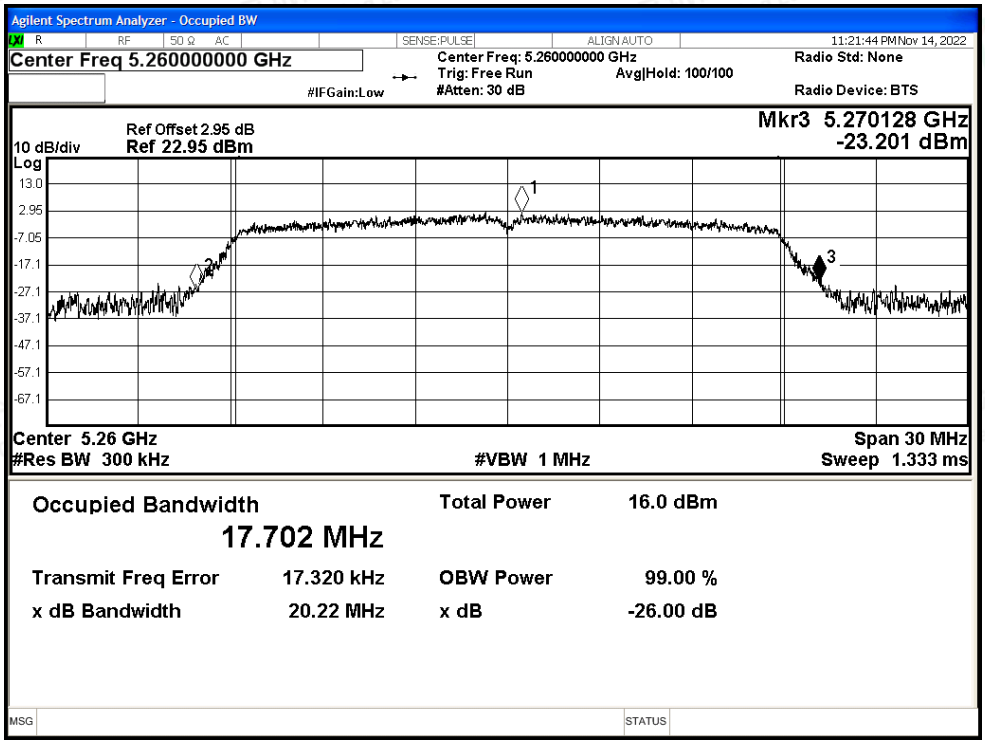
-26dB Bandwidth NVNT n40 5270MHz Ant



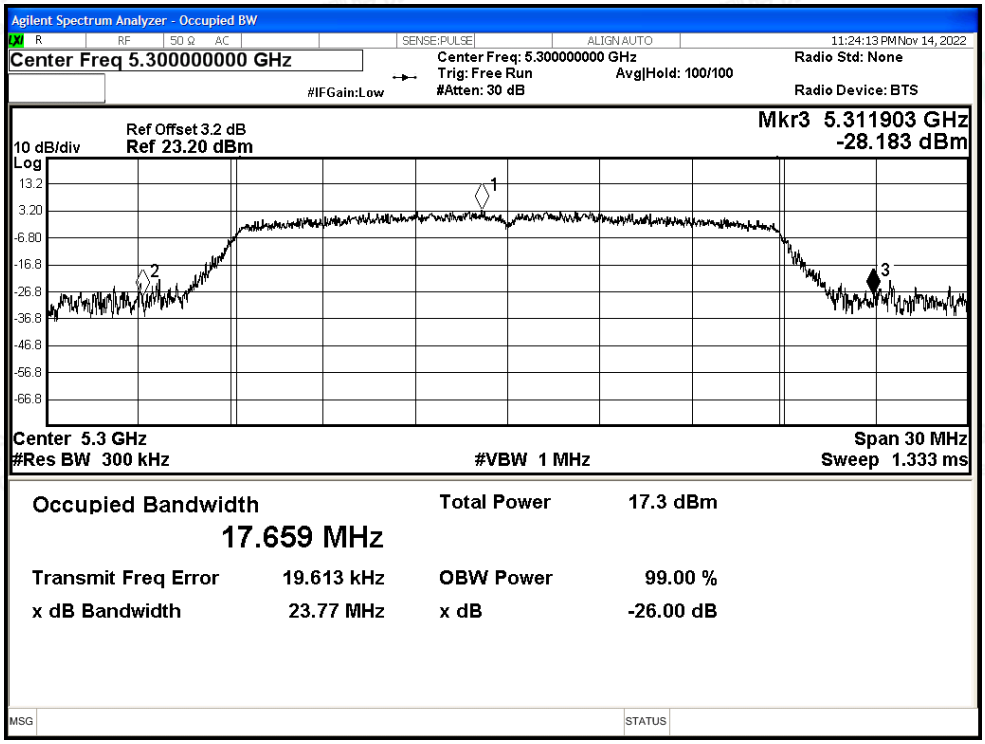
-26dB Bandwidth NVNT n40 5310MHz Ant



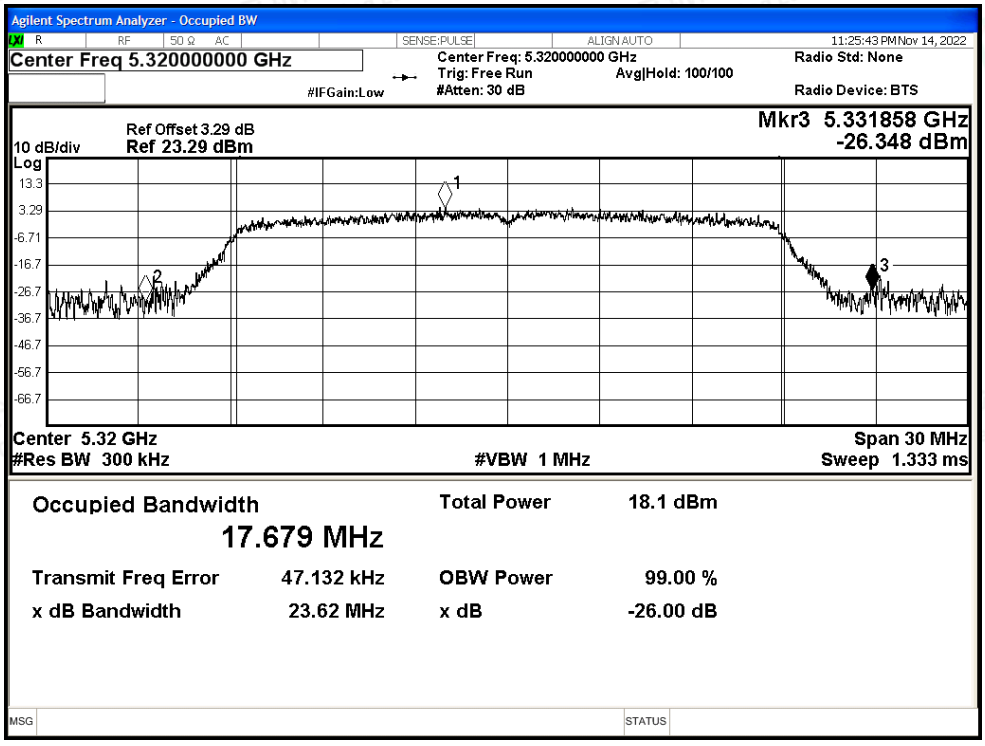
-26dB Bandwidth NVNT ac20 5260MHz Ant



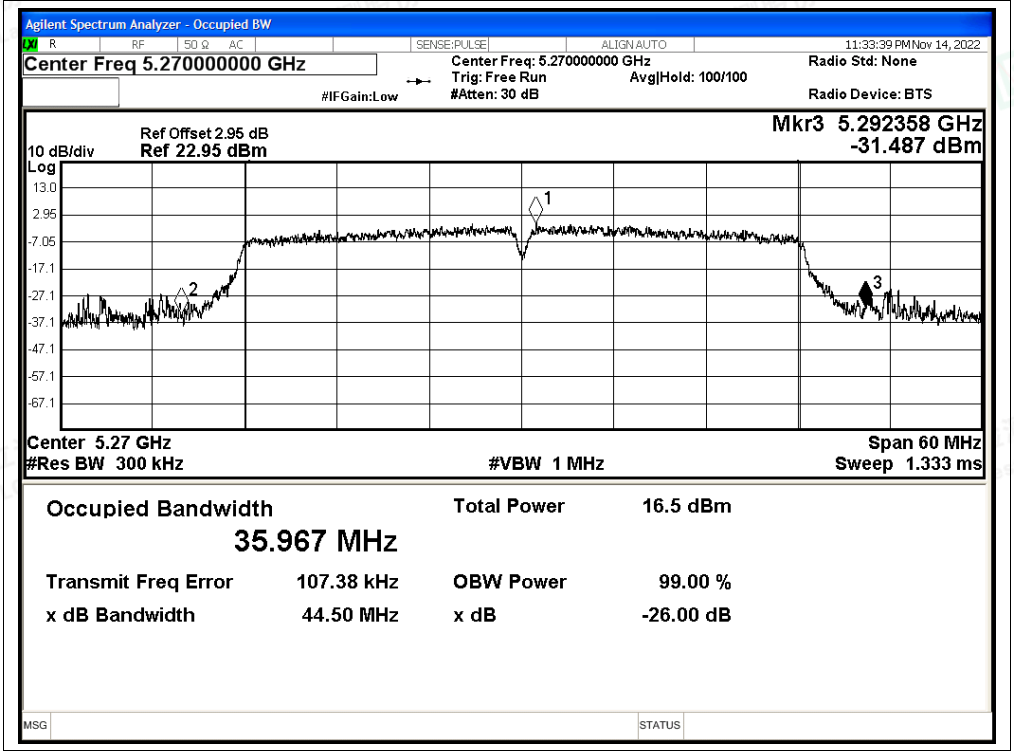
-26dB Bandwidth NVNT ac20 5300MHz Ant



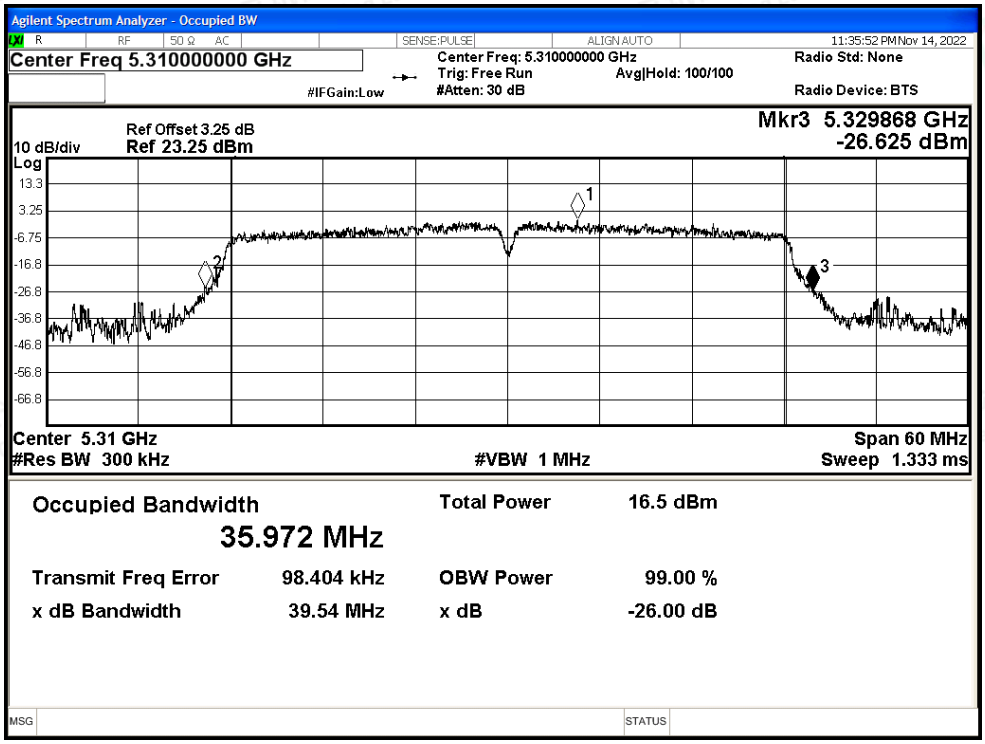
-26dB Bandwidth NVNT ac20 5320MHz Ant



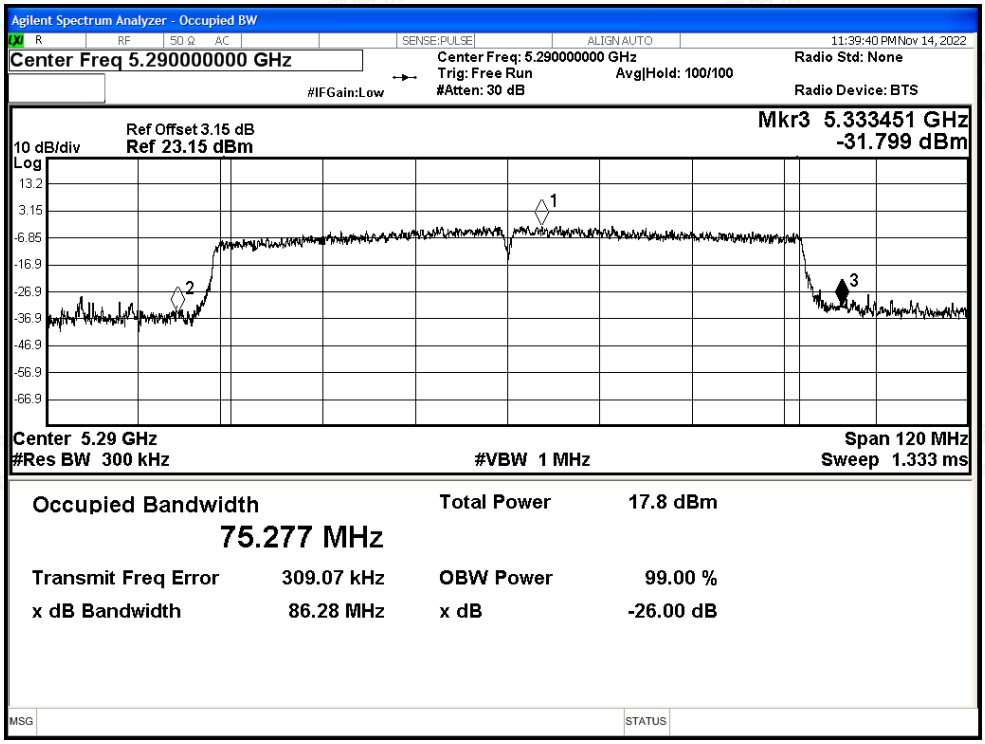
-26dB Bandwidth NVNT ac40 5270MHz Ant



-26dB Bandwidth NVNT ac40 5310MHz Ant



-26dB Bandwidth NVNT ac80 5290MHz Ant

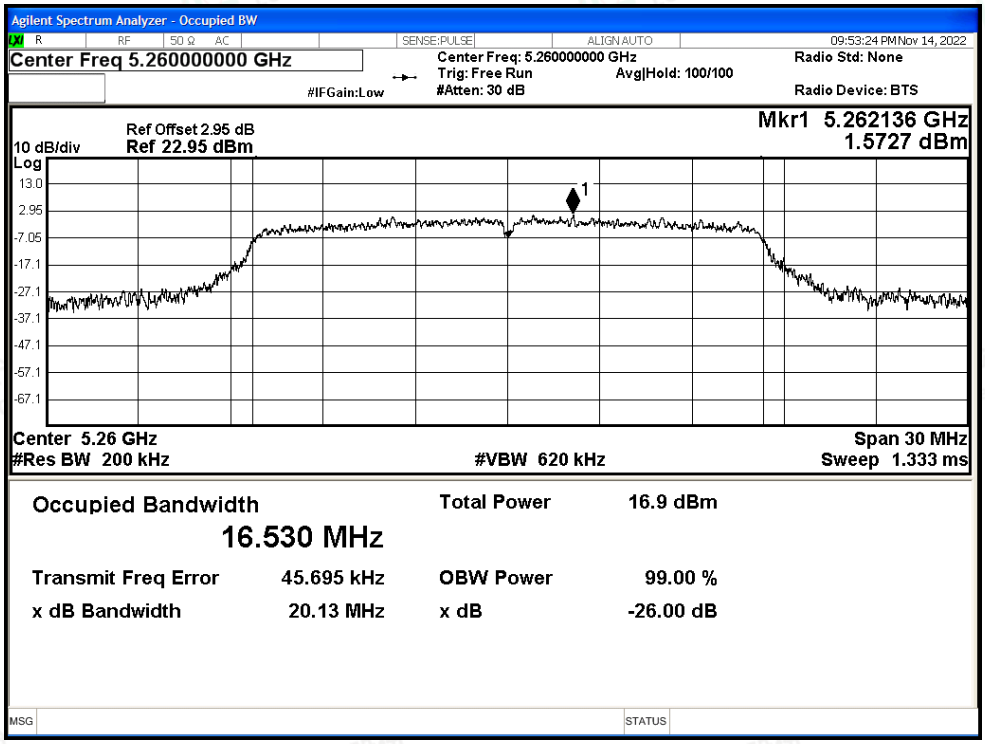


E.2 Occupied Channel Bandwidth

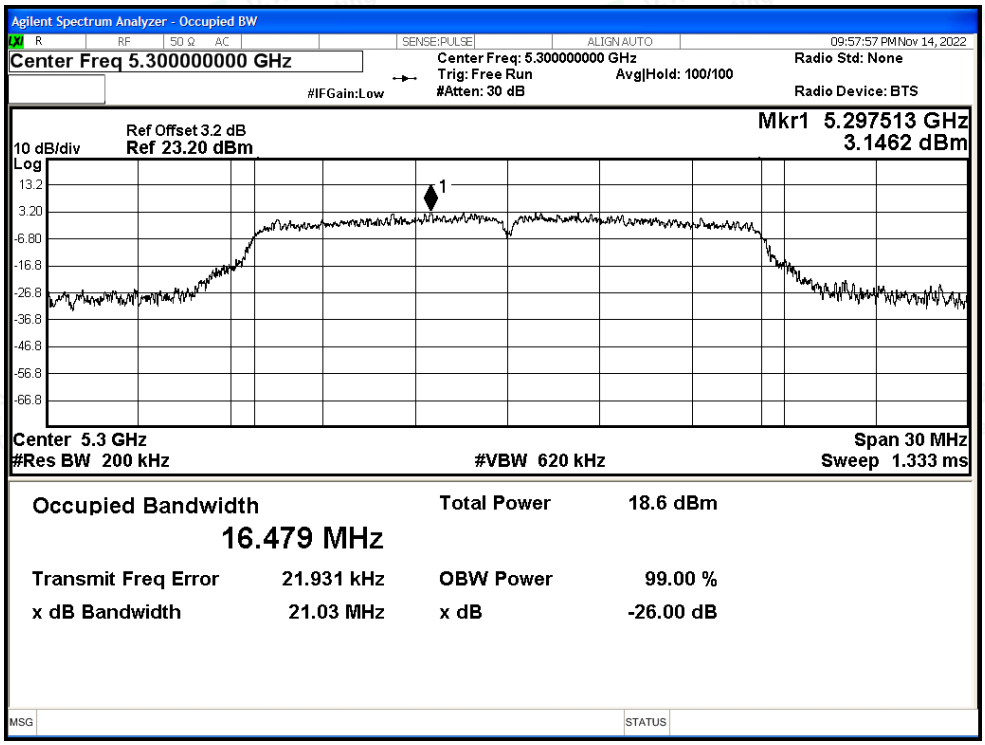
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5260	Ant	16.53
NVNT	a	5300	Ant	16.479
NVNT	a	5320	Ant	16.483
NVNT	n20	5260	Ant	17.617
NVNT	n20	5300	Ant	17.568
NVNT	n20	5320	Ant	17.574
NVNT	n40	5270	Ant	36.038
NVNT	n40	5310	Ant	36.09
NVNT	ac20	5260	Ant	17.601
NVNT	ac20	5300	Ant	17.591
NVNT	ac20	5320	Ant	17.571
NVNT	ac40	5270	Ant	36.02
NVNT	ac40	5310	Ant	36.027
NVNT	ac80	5290	Ant	75.297

Test Graphs

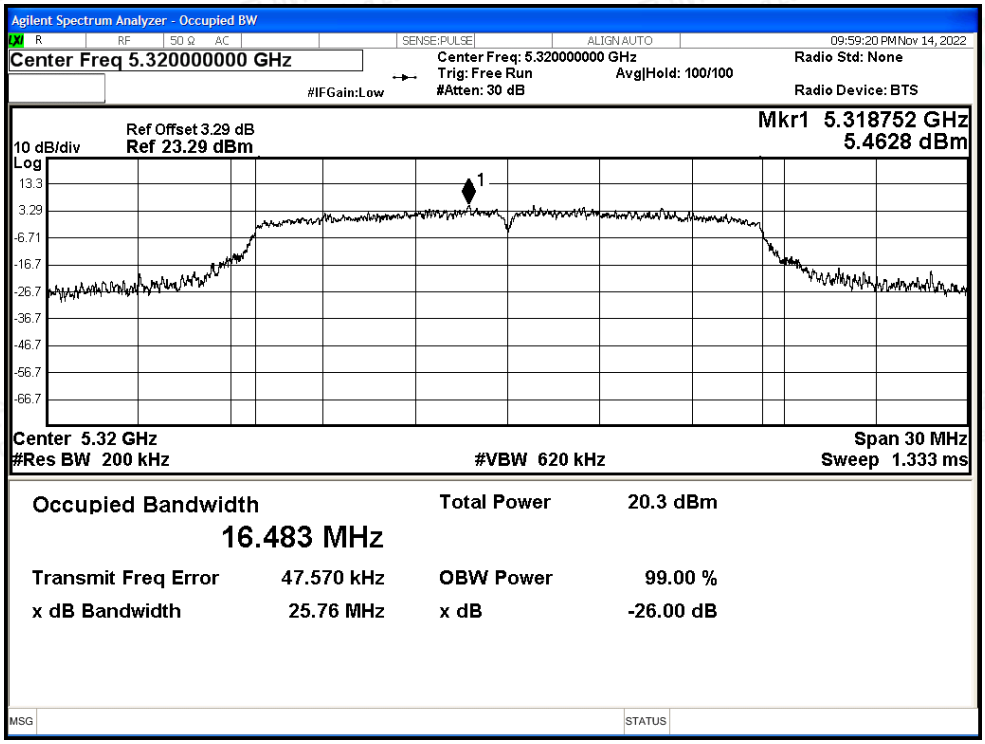
OBW NVNT a 5260MHz Ant



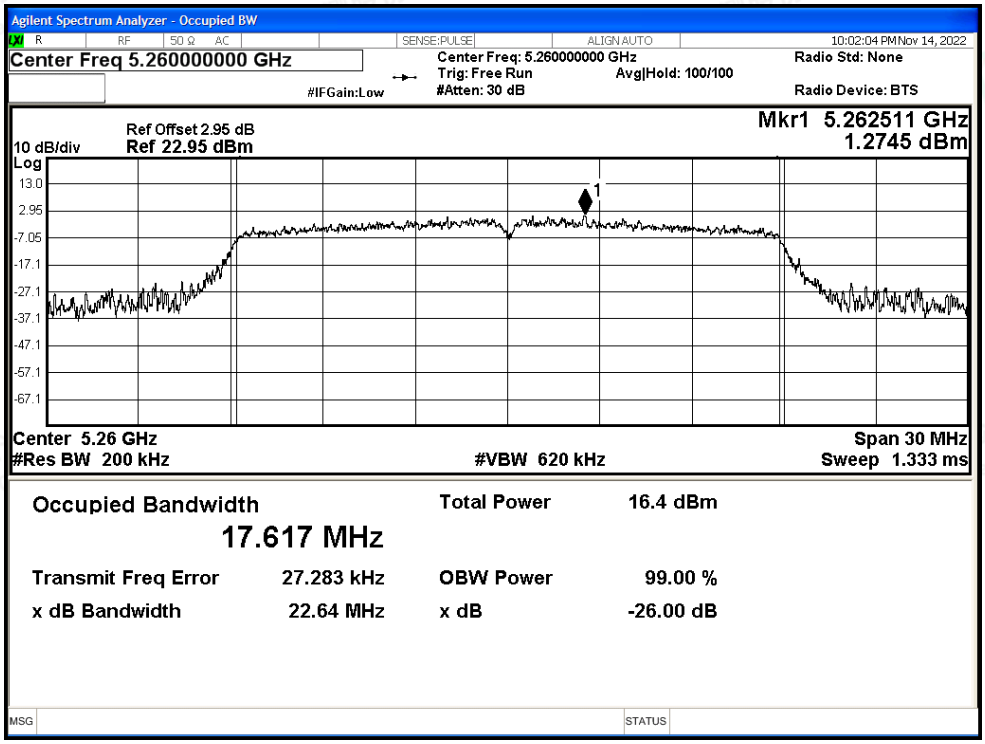
OBW NVNT a 5300MHz Ant



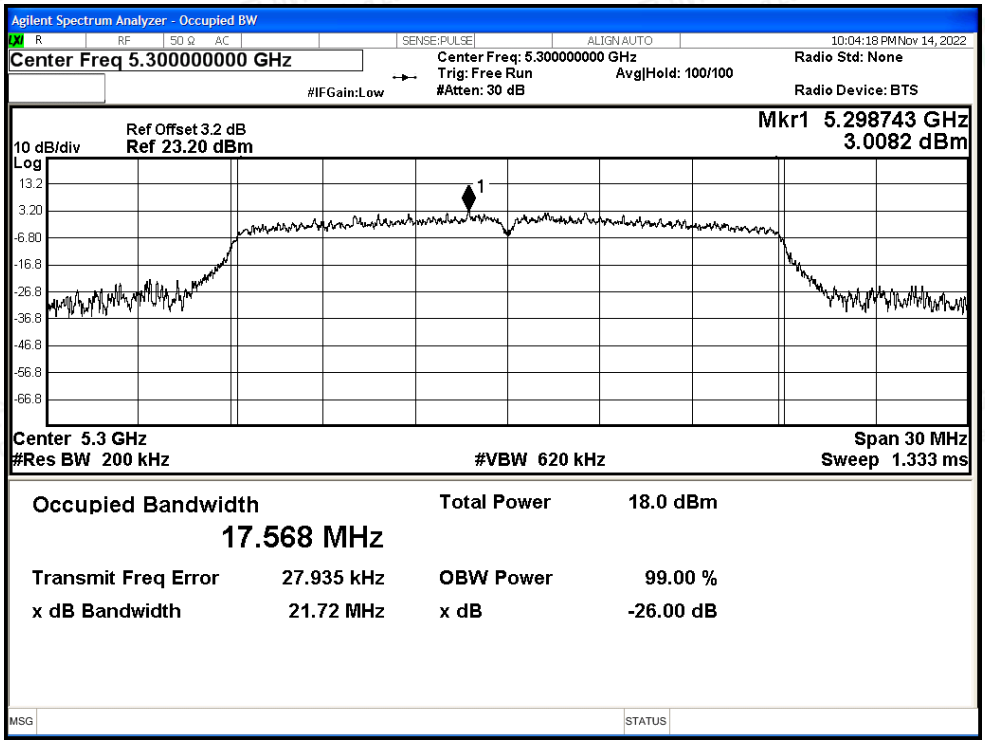
OBW NVNT a 5320MHz Ant



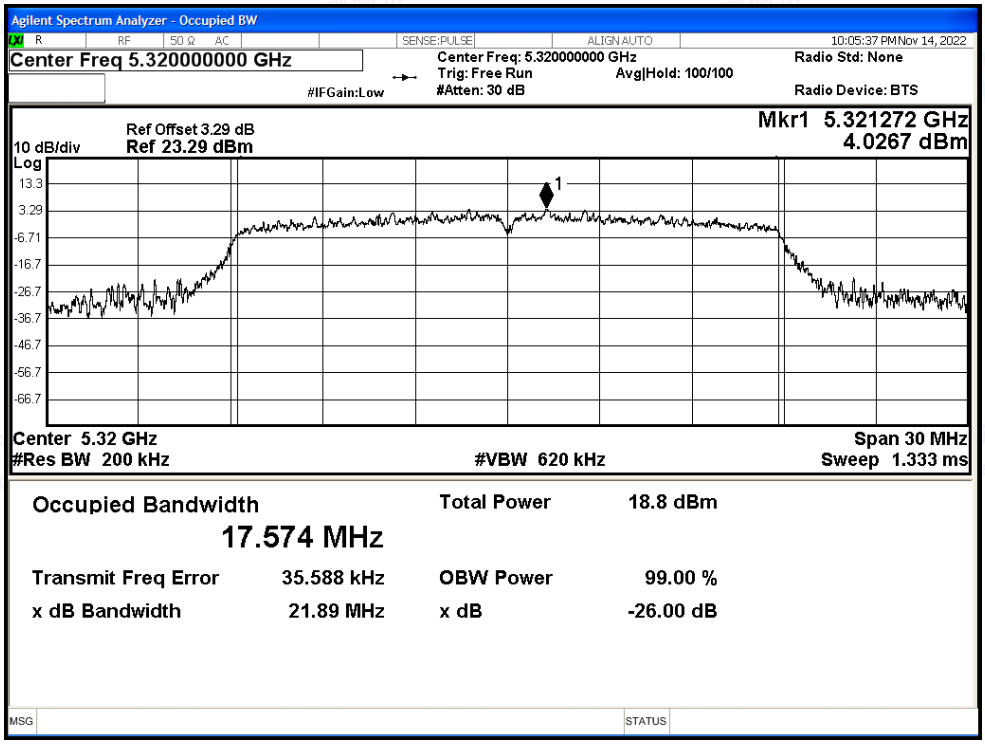
OBW NVNT n20 5260MHz Ant



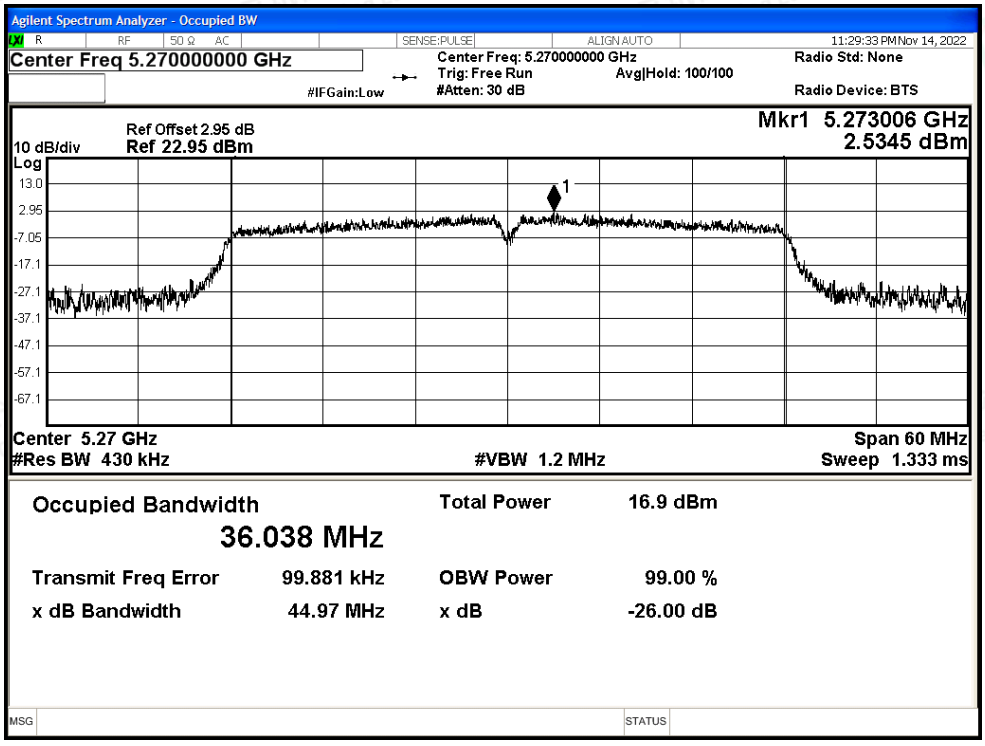
OBW NVNT n20 5300MHz Ant



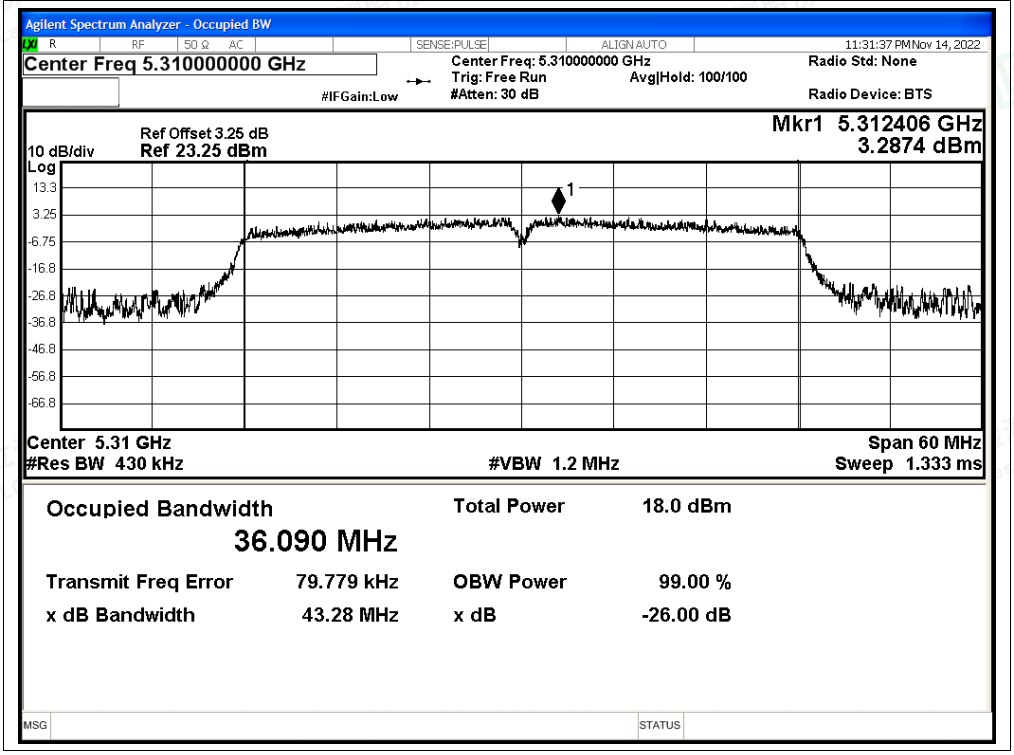
OBW NVNT n20 5320MHz Ant



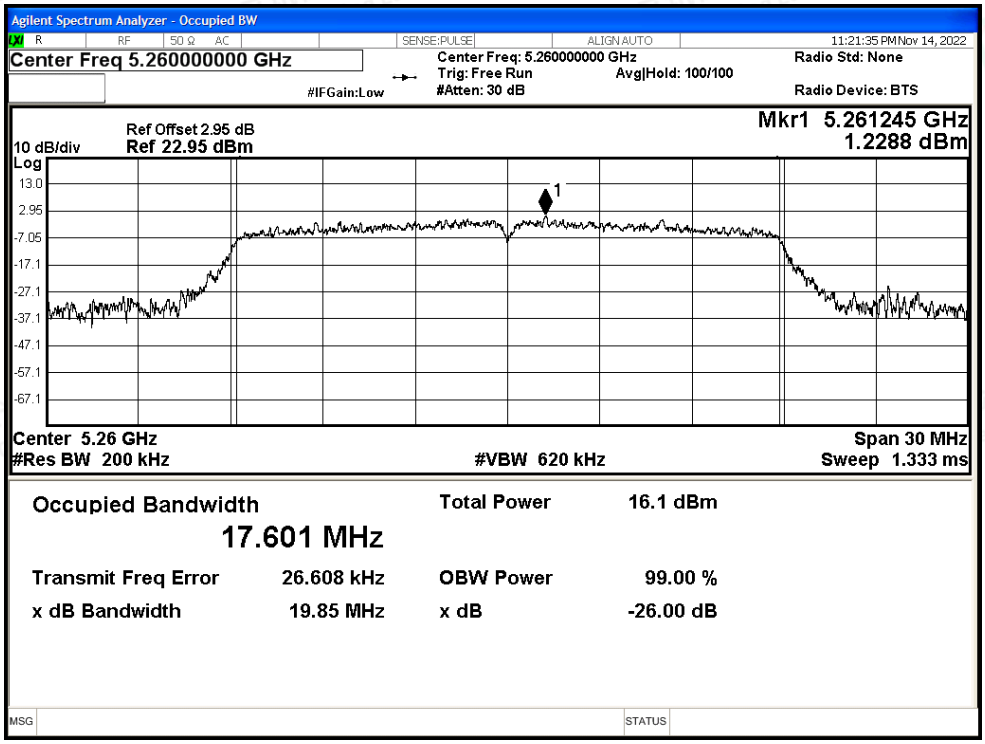
OBW NVNT n40 5270MHz Ant



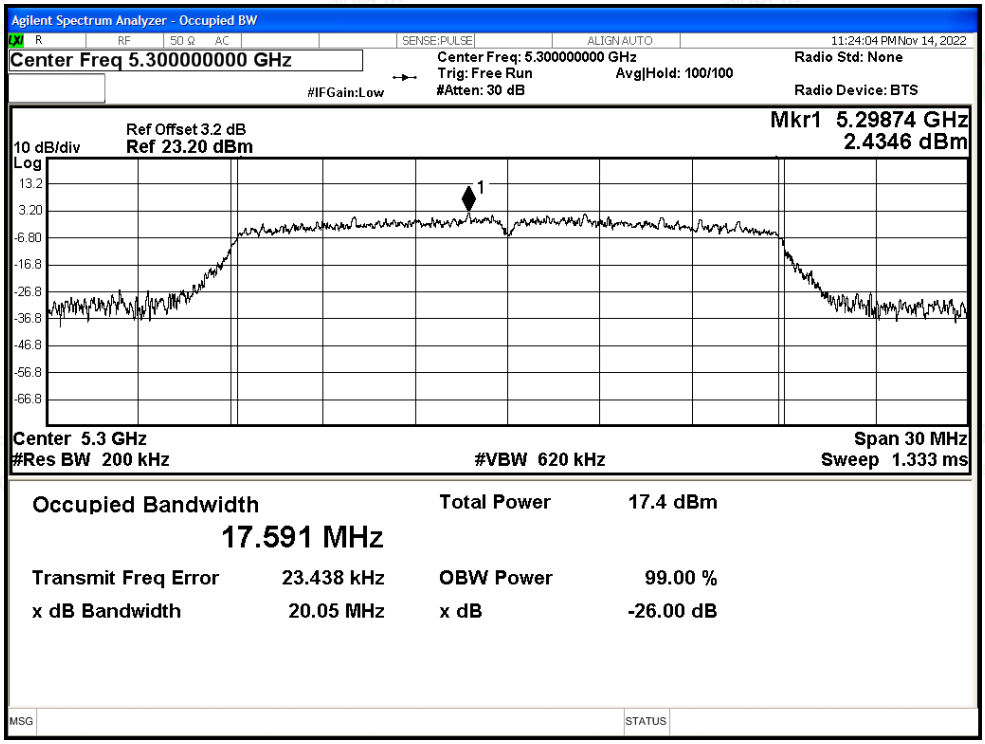
OBW NVNT n40 5310MHz Ant



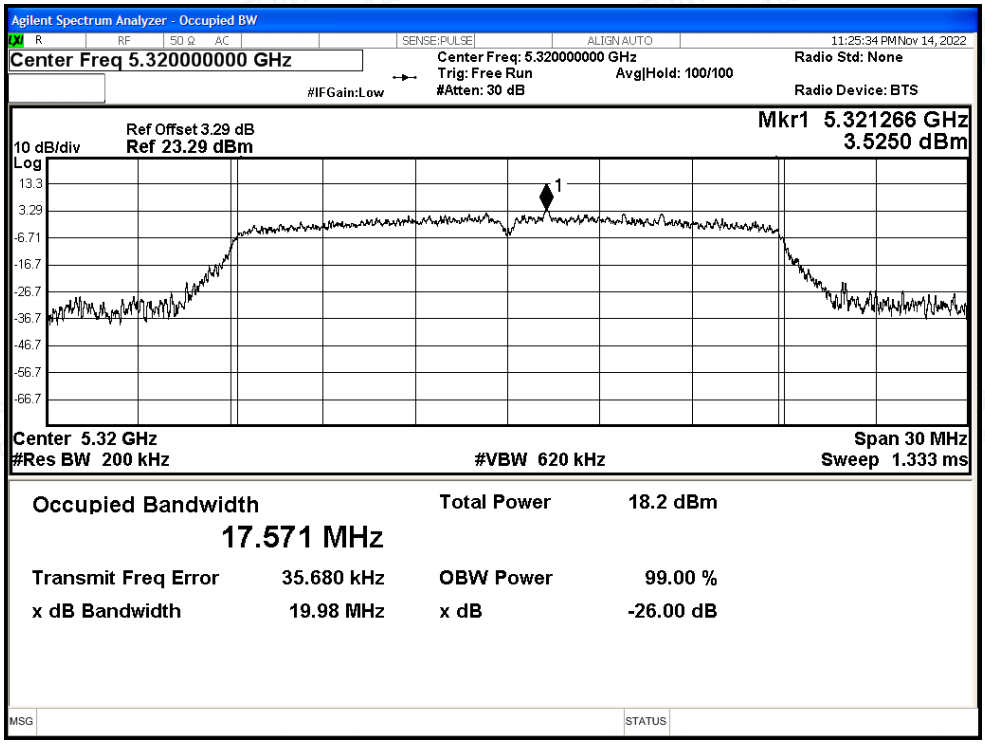
OBW NVNT ac20 5260MHz Ant



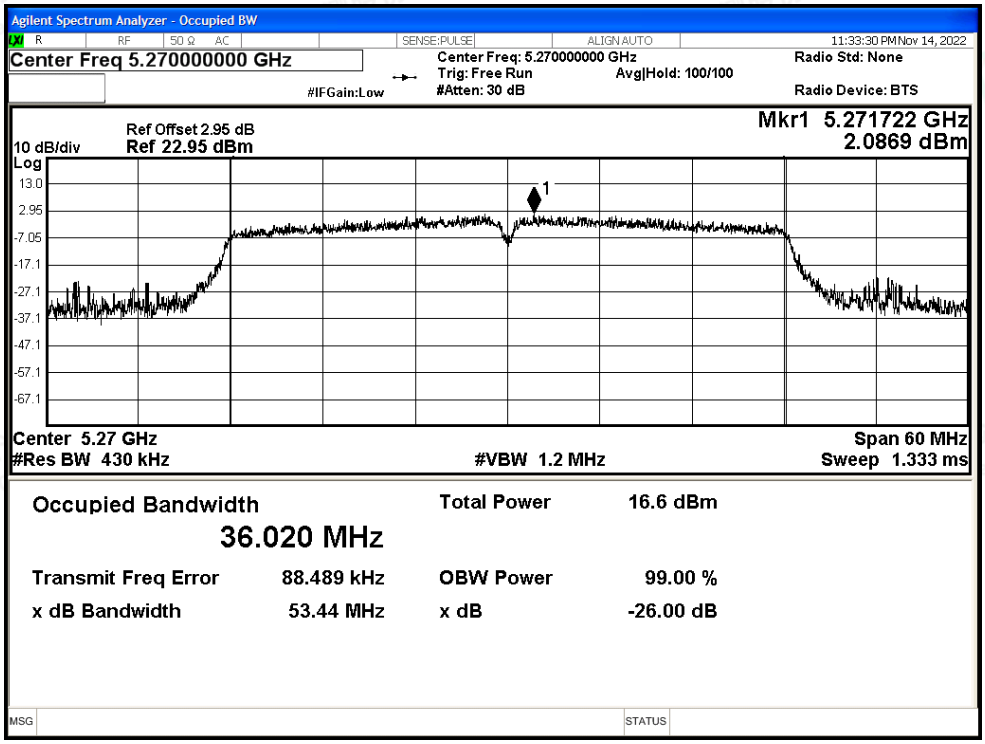
OBW NVNT ac20 5300MHz Ant



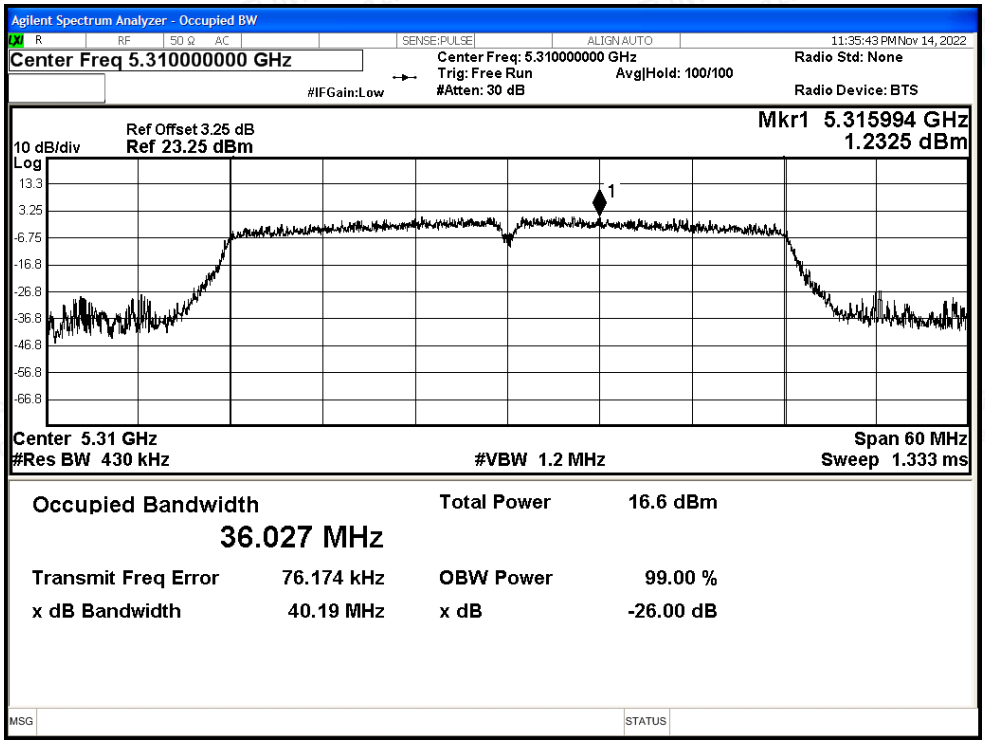
OBW NVNT ac20 5320MHz Ant



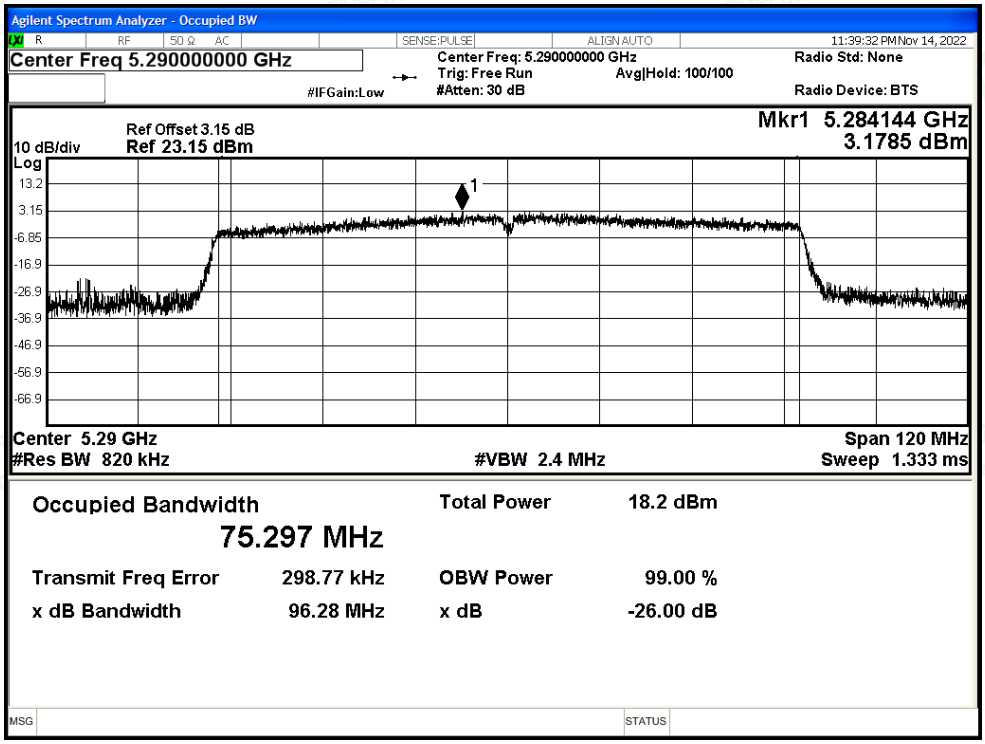
OBW NVNT ac40 5270MHz Ant



OBW NVNT ac40 5310MHz Ant



OBW NVNT ac80 5290MHz Ant



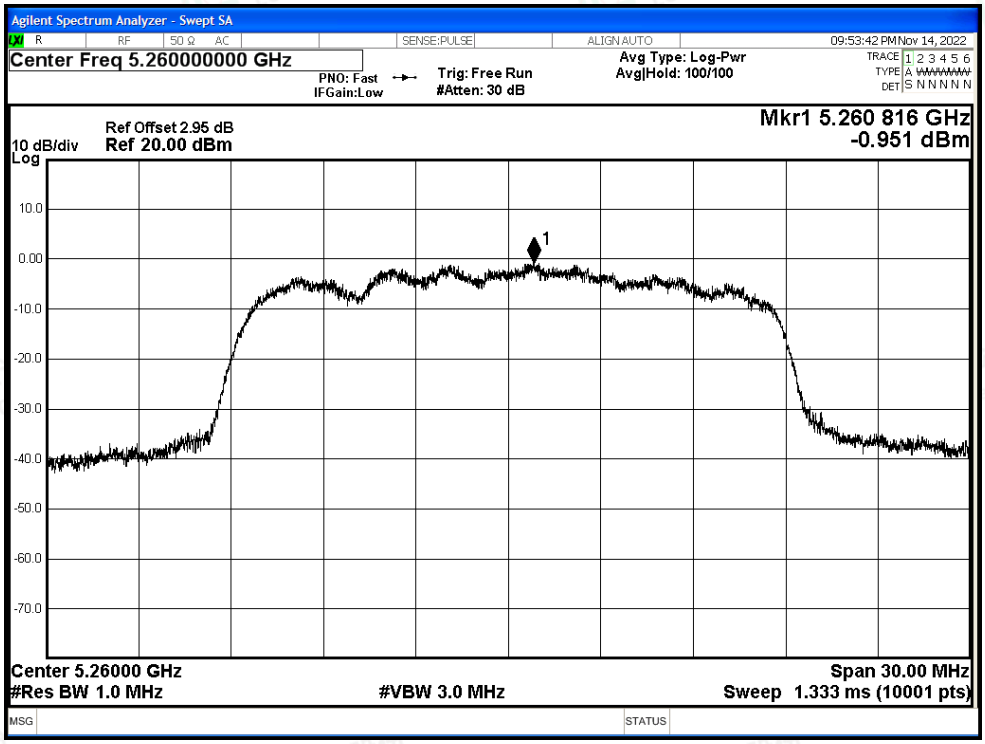
E.3 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm/MHz)	Duty Factor (dB)	Total Power (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5260	Ant	11.31	0.13	11.44	24	Pass
NVNT	a	5300	Ant	11.75	0.13	11.88	24	Pass
NVNT	a	5320	Ant	11.54	0.13	11.67	24	Pass
NVNT	n20	5260	Ant	11.6	0.17	11.77	24	Pass
NVNT	n20	5300	Ant	12.33	0.17	12.5	24	Pass
NVNT	n20	5320	Ant	11.33	0.17	11.5	24	Pass
NVNT	n40	5270	Ant	11.05	0.32	11.37	24	Pass
NVNT	n40	5310	Ant	11.57	0.31	11.88	24	Pass
NVNT	ac20	5260	Ant	11.43	0.17	11.6	24	Pass
NVNT	ac20	5300	Ant	11.74	0.17	11.91	24	Pass
NVNT	ac20	5320	Ant	11.05	0.17	11.22	24	Pass
NVNT	ac40	5270	Ant	11.1	0.31	11.41	24	Pass
NVNT	ac40	5310	Ant	11.78	0.32	12.1	24	Pass
NVNT	ac80	5290	Ant	11.35	0.61	11.96	24	Pass

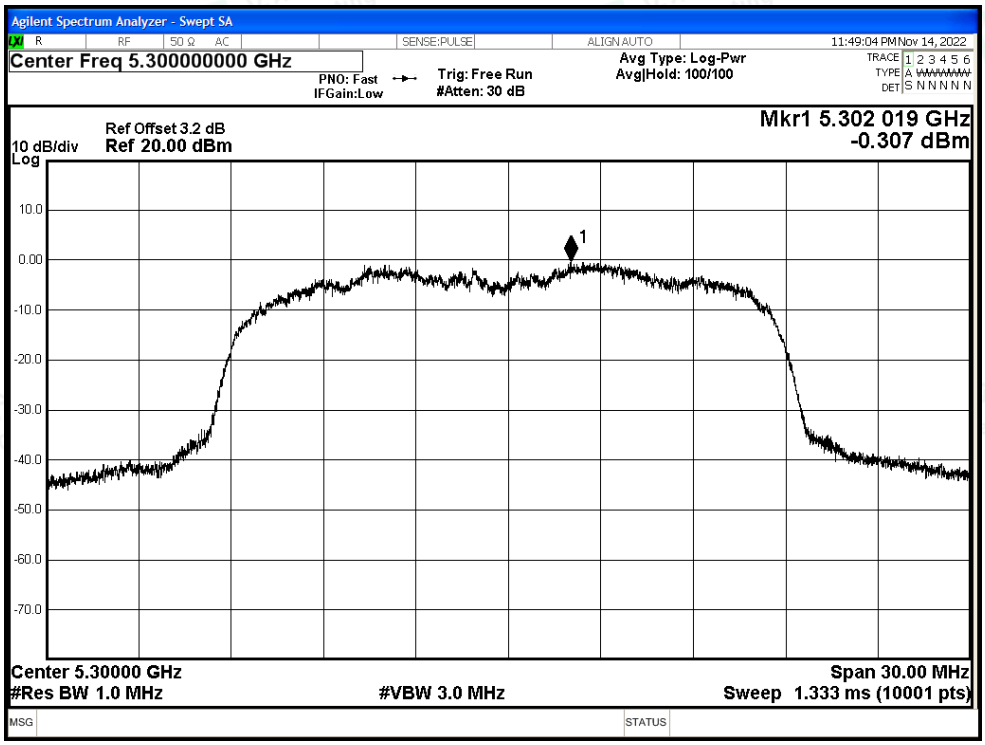
E.4 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5260	Ant	-0.95	0.13	-0.82	11	Pass
NVNT	a	5300	Ant	-0.31	0.13	-0.18	11	Pass
NVNT	a	5320	Ant	2.67	0.13	2.8	11	Pass
NVNT	n20	5260	Ant	-1.36	0.17	-1.19	11	Pass
NVNT	n20	5300	Ant	-0.9	0.17	-0.73	11	Pass
NVNT	n20	5320	Ant	-1.49	0.17	-1.32	11	Pass
NVNT	n40	5270	Ant	-4.8	0.32	-4.48	11	Pass
NVNT	n40	5310	Ant	-4.99	0.31	-4.68	11	Pass
NVNT	ac20	5260	Ant	-1.39	0.17	-1.22	11	Pass
NVNT	ac20	5300	Ant	-1.11	0.17	-0.94	11	Pass
NVNT	ac20	5320	Ant	-0.37	0.17	-0.2	11	Pass
NVNT	ac40	5270	Ant	-4.72	0.31	-4.41	11	Pass
NVNT	ac40	5310	Ant	-4.78	0.32	-4.46	11	Pass
NVNT	ac80	5290	Ant	-9.59	0.61	-8.98	11	Pass

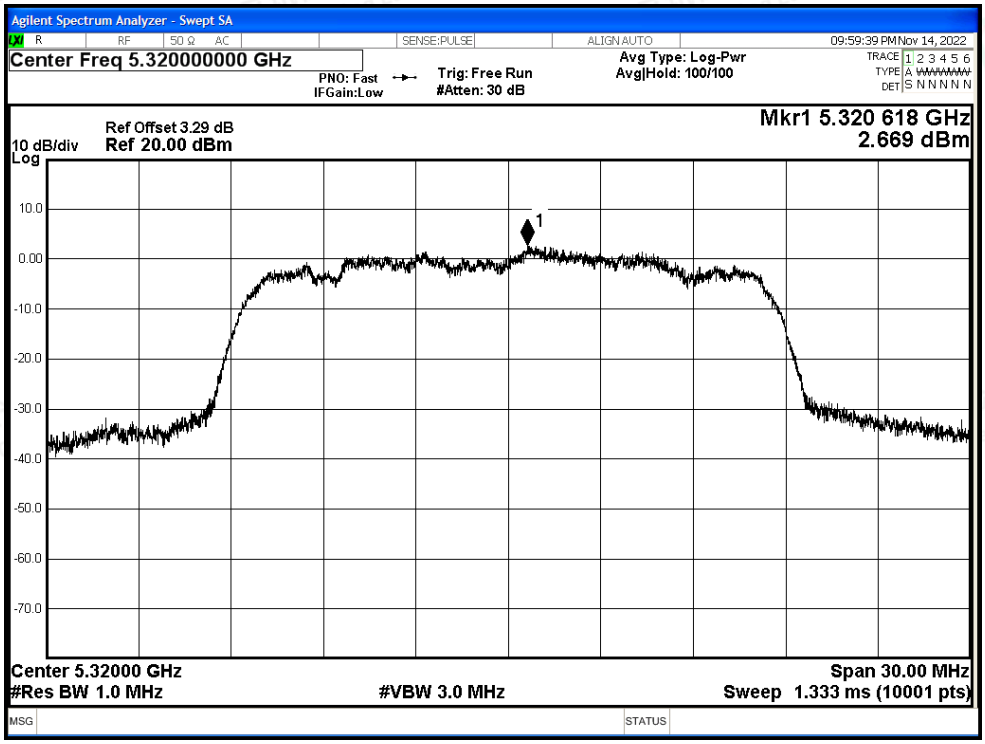
Test Graphs
PSD NVNT a 5260MHz Ant



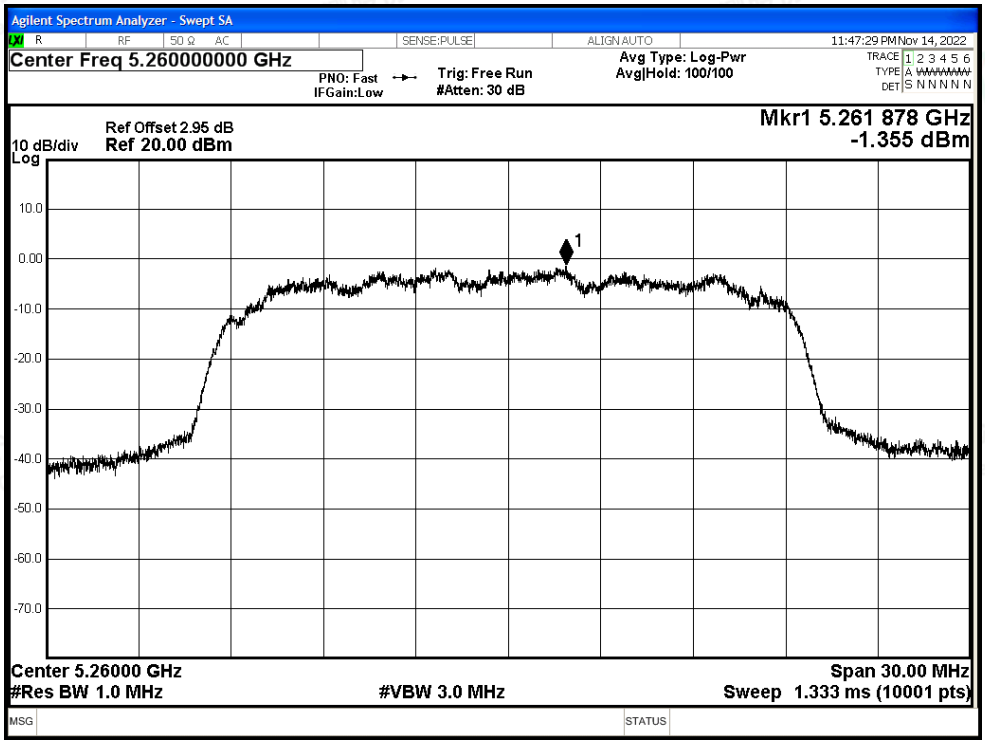
PSD NVNT a 5300MHz Ant



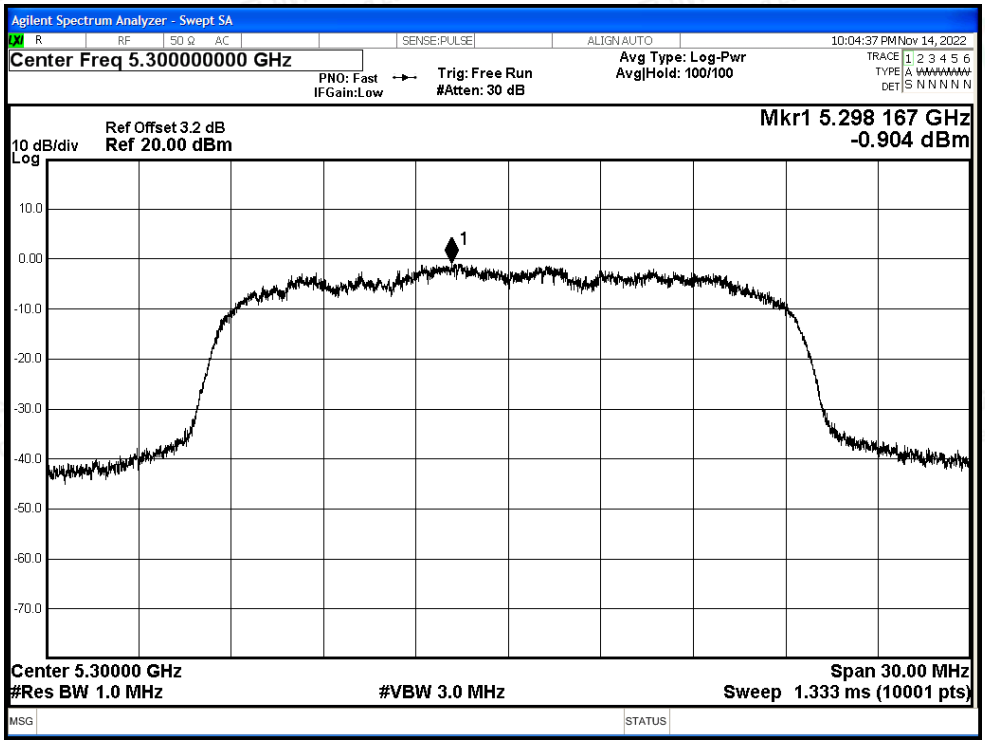
PSD NVNT a 5320MHz Ant



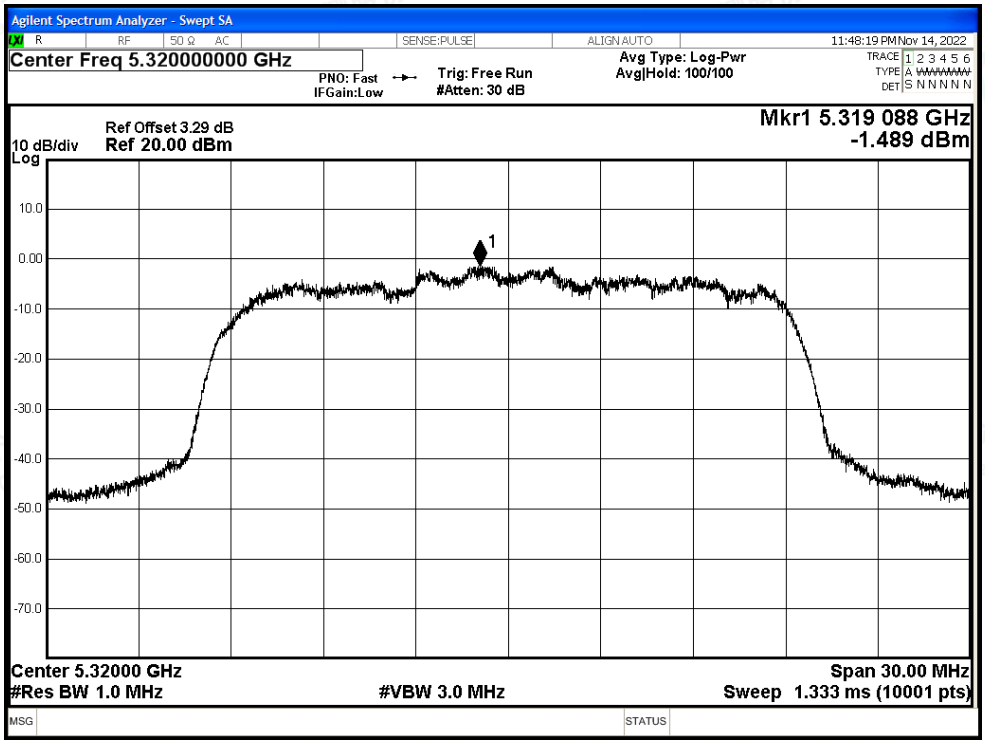
PSD NVNT n20 5260MHz Ant



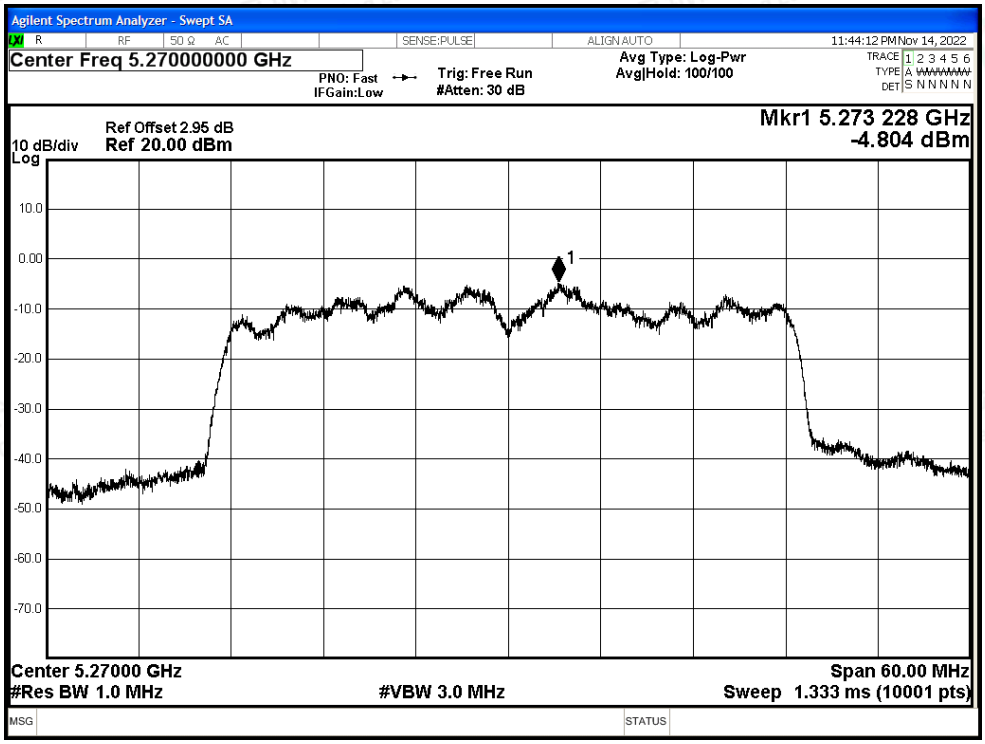
PSD NVNT n20 5300MHz Ant



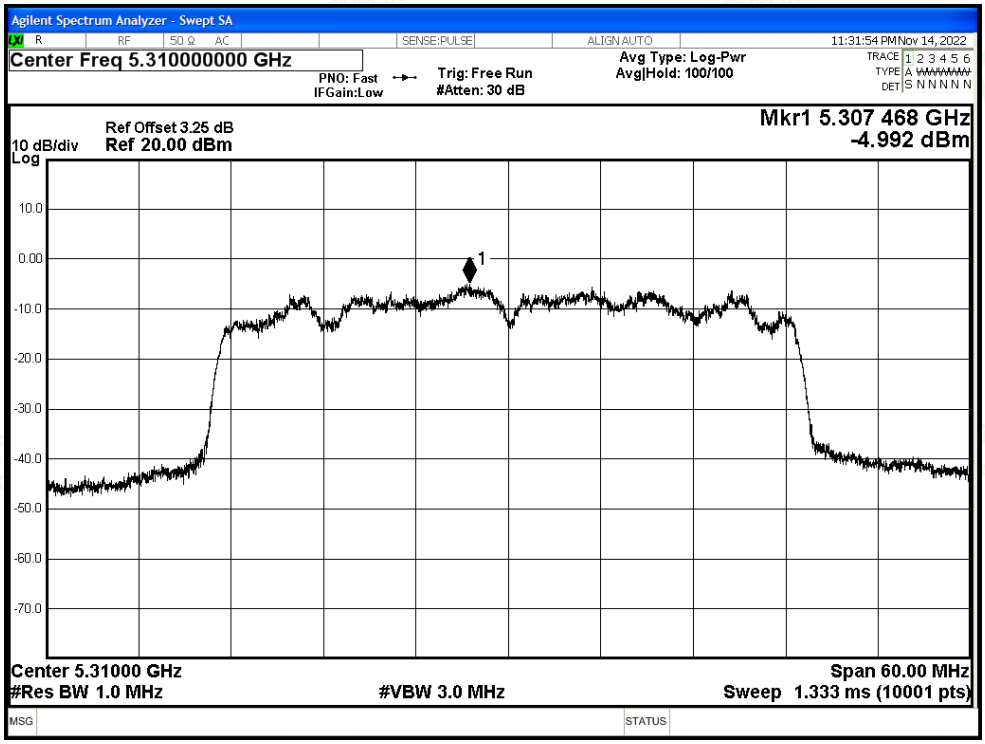
PSD NVNT n20 5320MHz Ant



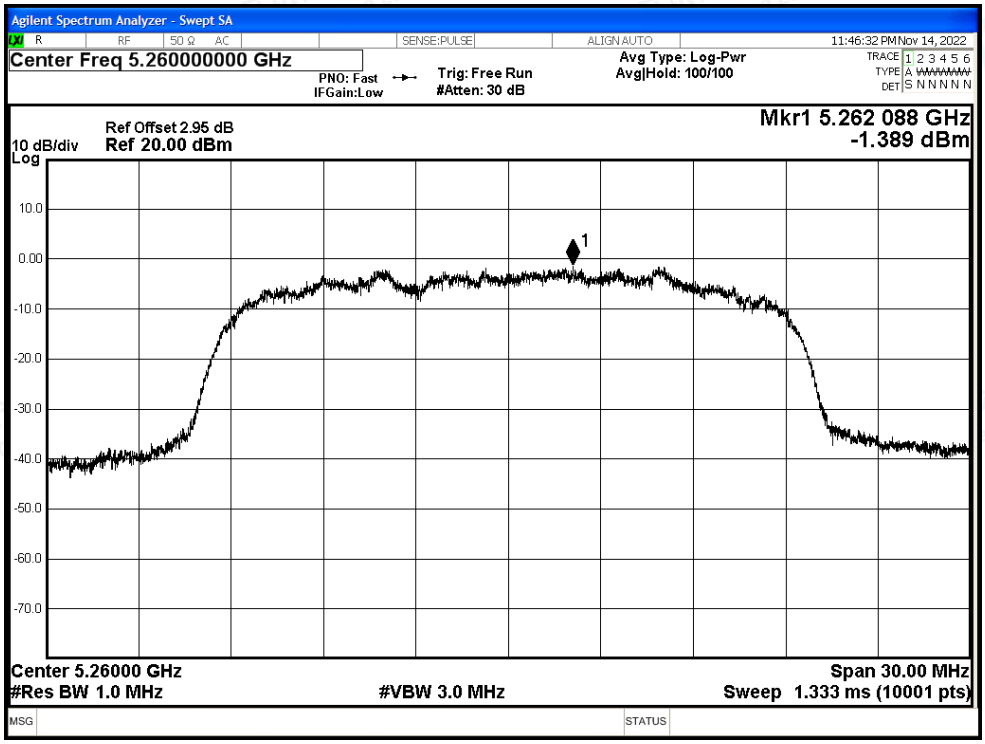
PSD NVNT n40 5270MHz Ant



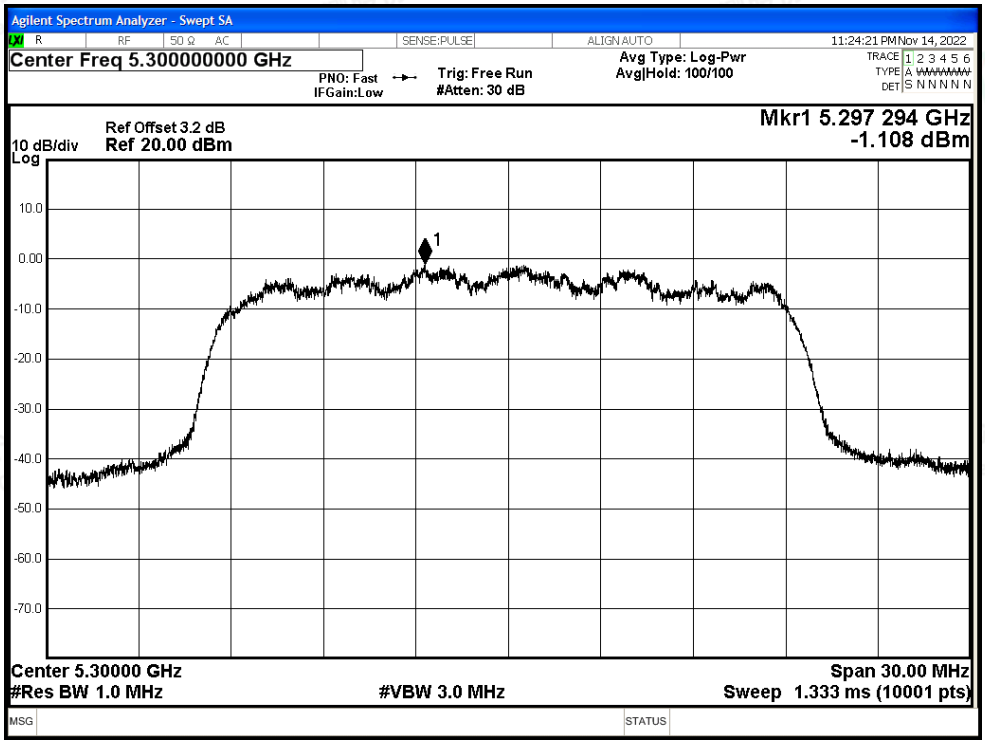
PSD NVNT n40 5310MHz Ant



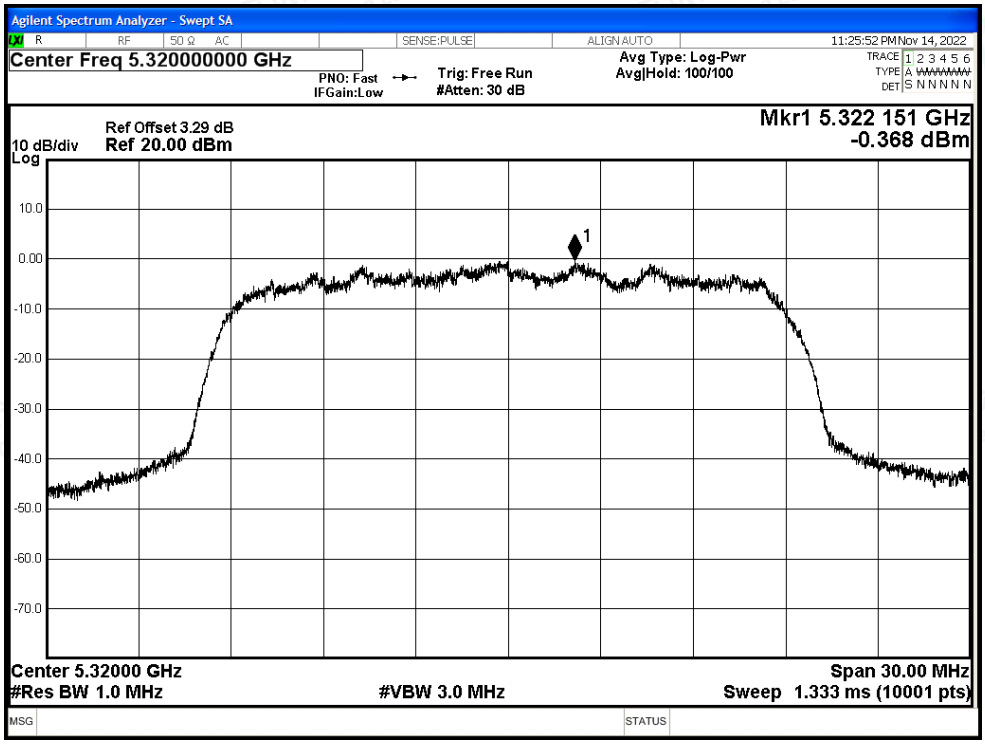
PSD NVNT ac20 5260MHz Ant



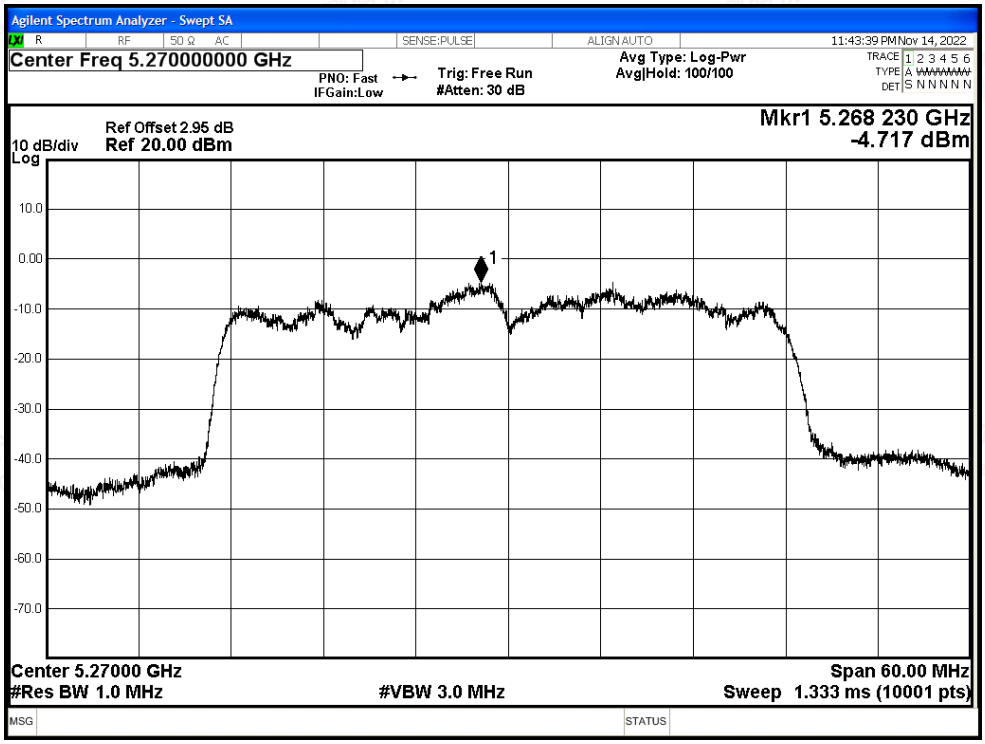
PSD NVNT ac20 5300MHz Ant



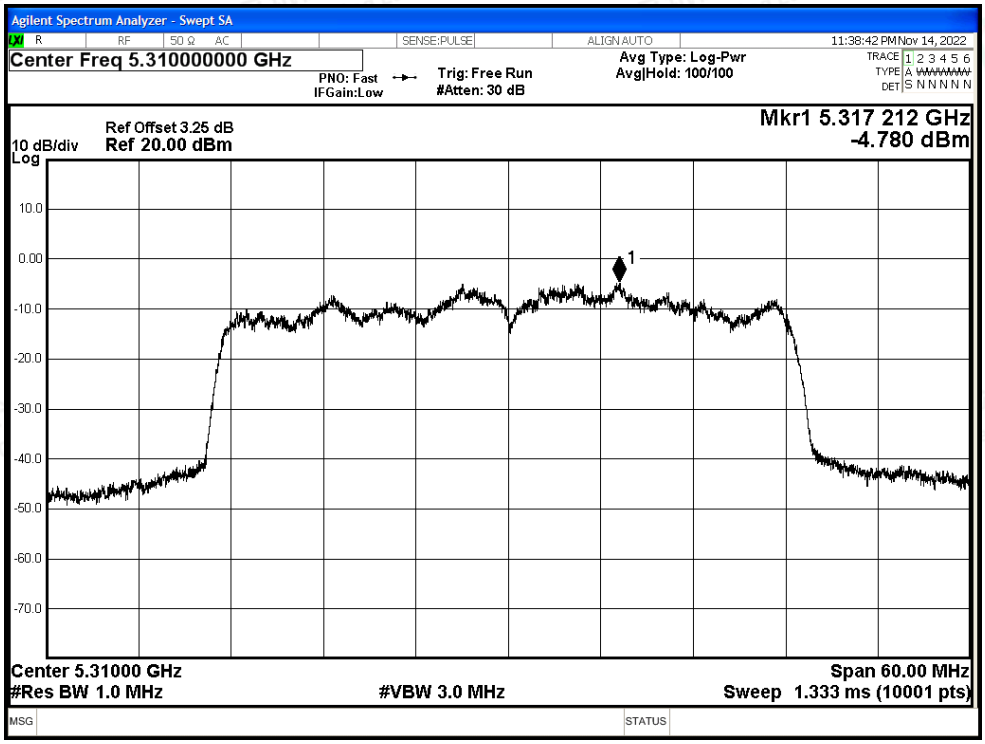
PSD NVNT ac20 5320MHz Ant



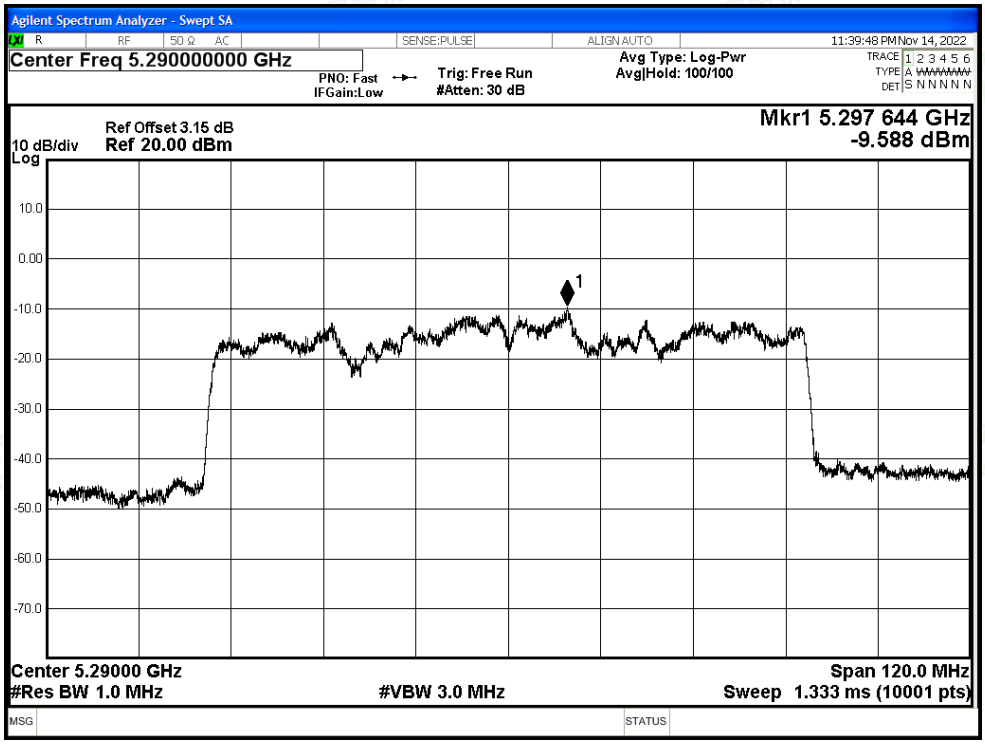
PSD NVNT ac40 5270MHz Ant



PSD NVNT ac40 5310MHz Ant



PSD NVNT ac80 5290MHz Ant



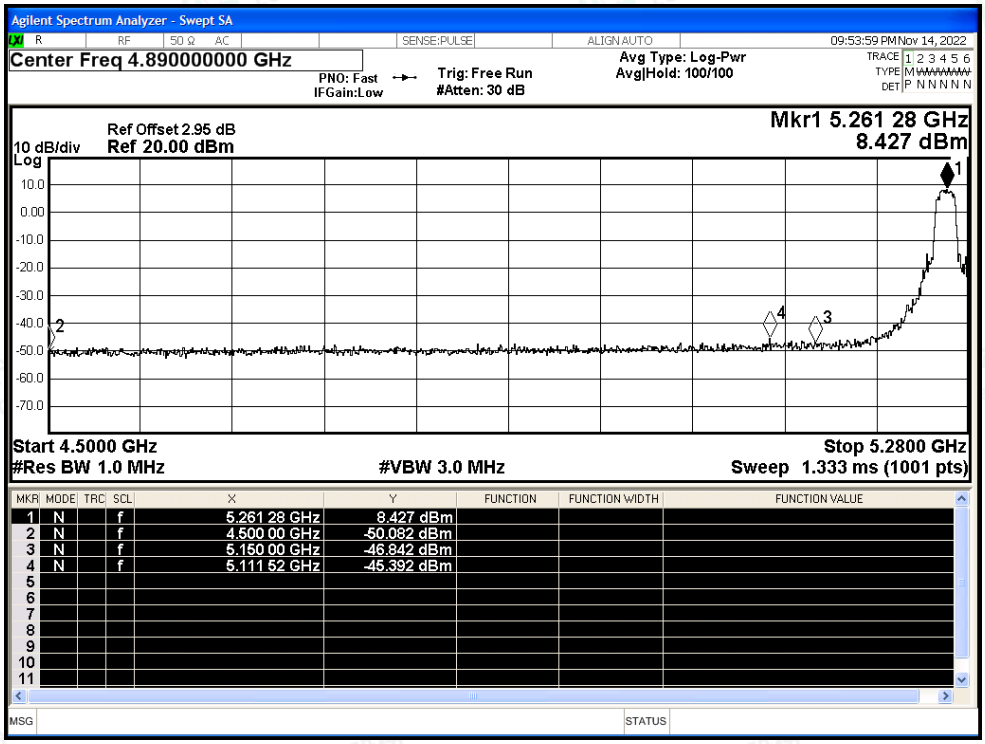
E.5 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5260	Ant	4500	-50.08	4.2	49.35	Peak	74	Pass
NVNT	a	5260	Ant	4500	-60.34	4.2	39.09	Average	54	Pass
NVNT	a	5260	Ant	5111.52	-45.39	4.2	54.04	Peak	74	Pass
NVNT	a	5260	Ant	5143.5	-57.62	4.2	41.81	Average	54	Pass
NVNT	a	5260	Ant	5150	-46.84	4.2	52.59	Peak	74	Pass
NVNT	a	5260	Ant	5150	-57.74	4.2	41.69	Average	54	Pass
NVNT	a	5320	Ant	5350	-42.79	4.2	56.64	Peak	74	Pass
NVNT	a	5320	Ant	5350	-53.11	4.2	46.32	Average	54	Pass
NVNT	a	5320	Ant	5350.6	-36.39	4.2	63.04	Peak	74	Pass
NVNT	a	5320	Ant	5460	-47.55	4.2	51.88	Peak	74	Pass
NVNT	a	5320	Ant	5460	-58.21	4.2	41.22	Average	54	Pass
NVNT	n20	5260	Ant	4500	-50.22	4.2	49.21	Peak	74	Pass
NVNT	n20	5260	Ant	4500	-60.48	4.2	38.95	Average	54	Pass
NVNT	n20	5260	Ant	5087.34	-45.67	4.2	53.76	Peak	74	Pass
NVNT	n20	5260	Ant	5148.18	-57.62	4.2	41.81	Average	54	Pass
NVNT	n20	5260	Ant	5150	-46.65	4.2	52.78	Peak	74	Pass
NVNT	n20	5260	Ant	5150	-57.7	4.2	41.73	Average	54	Pass
NVNT	n20	5320	Ant	5350	-33.66	4.2	65.77	Peak	74	Pass
NVNT	n20	5320	Ant	5350	-49.39	4.2	50.04	Average	54	Pass
NVNT	n20	5320	Ant	5350.6	-29.4	4.2	70.03	Peak	74	Pass
NVNT	n20	5320	Ant	5460	-46.86	4.2	52.57	Peak	74	Pass
NVNT	n20	5320	Ant	5460	-58.21	4.2	41.22	Average	54	Pass
NVNT	n40	5270	Ant	4500	-49.55	4.2	49.88	Peak	74	Pass
NVNT	n40	5270	Ant	4500	-60.28	4.2	39.15	Average	54	Pass
NVNT	n40	5270	Ant	5135.85	-46.2	4.2	53.23	Peak	74	Pass
NVNT	n40	5270	Ant	5144.76	-57.25	4.2	42.18	Average	54	Pass
NVNT	n40	5270	Ant	5150	-47.77	4.2	51.66	Peak	74	Pass
NVNT	n40	5270	Ant	5150	-57.31	4.2	42.12	Average	54	Pass
NVNT	n40	5310	Ant	5350	-50.25	4.2	49.18	Peak	74	Pass
NVNT	n40	5310	Ant	5350	-58.88	4.2	40.55	Average	54	Pass
NVNT	n40	5310	Ant	5356	-46.59	4.2	52.84	Peak	74	Pass
NVNT	n40	5310	Ant	5400.8	-58.2	4.2	41.23	Average	54	Pass
NVNT	n40	5310	Ant	5460	-51.86	4.2	47.57	Peak	74	Pass
NVNT	n40	5310	Ant	5460	-58.9	4.2	40.53	Average	54	Pass
NVNT	ac20	5260	Ant	4500	-51.29	4.2	48.14	Peak	74	Pass
NVNT	ac20	5260	Ant	4500	-60.32	4.2	39.11	Average	54	Pass
NVNT	ac20	5260	Ant	5116.2	-46.21	4.2	53.22	Peak	74	Pass

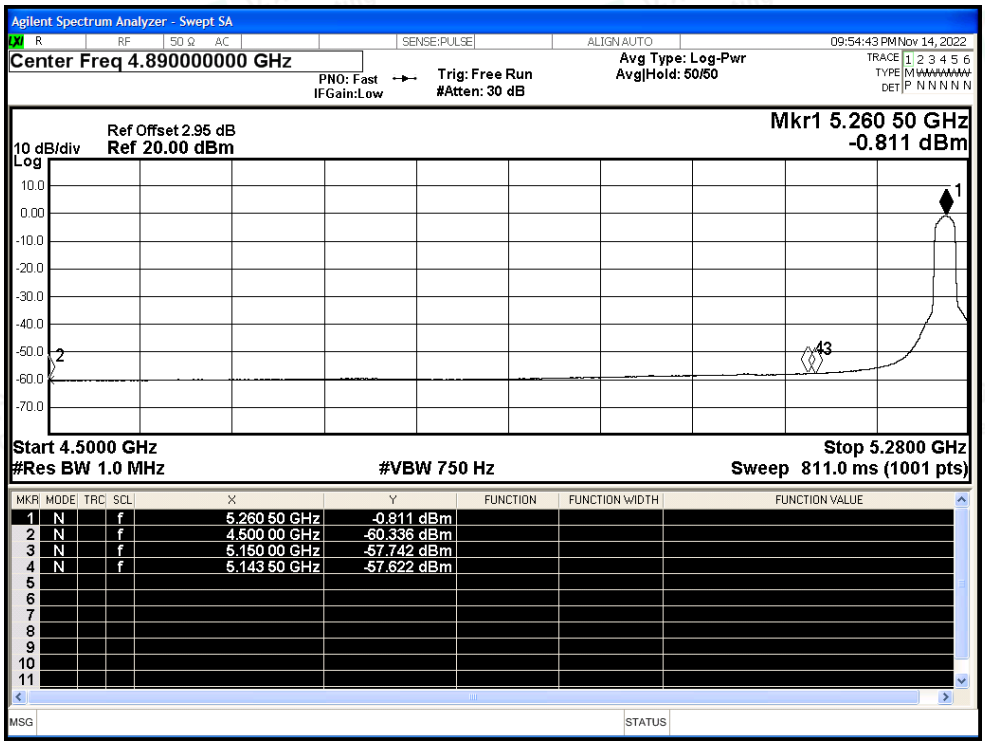
NVNT	ac20	5260	Ant	5147.4	-57.54	4.2	41.89	Average	54	Pass
NVNT	ac20	5260	Ant	5150	-47.17	4.2	52.26	Peak	74	Pass
NVNT	ac20	5260	Ant	5150	-57.89	4.2	41.54	Average	54	Pass
NVNT	ac20	5320	Ant	5350	-34.98	4.2	64.45	Peak	74	Pass
NVNT	ac20	5320	Ant	5350	-54.29	4.2	45.14	Average	54	Pass
NVNT	ac20	5320	Ant	5460	-48.62	4.2	50.81	Peak	74	Pass
NVNT	ac20	5320	Ant	5460	-58.58	4.2	40.85	Average	54	Pass
NVNT	ac40	5270	Ant	4500	-50.17	4.2	49.26	Peak	74	Pass
NVNT	ac40	5270	Ant	4500	-60.24	4.2	39.19	Average	54	Pass
NVNT	ac40	5270	Ant	5065.38	-45.76	4.2	53.67	Peak	74	Pass
NVNT	ac40	5270	Ant	5147.19	-57.21	4.2	42.22	Average	54	Pass
NVNT	ac40	5270	Ant	5150	-47.97	4.2	51.46	Peak	74	Pass
NVNT	ac40	5270	Ant	5150	-57.43	4.2	42.00	Average	54	Pass
NVNT	ac40	5310	Ant	5350	-48.9	4.2	50.53	Peak	74	Pass
NVNT	ac40	5310	Ant	5350	-58.78	4.2	40.65	Average	54	Pass
NVNT	ac40	5310	Ant	5374.2	-47.3	4.2	52.13	Peak	74	Pass
NVNT	ac40	5310	Ant	5396.4	-58.42	4.2	41.01	Average	54	Pass
NVNT	ac40	5310	Ant	5460	-50.74	4.2	48.69	Peak	74	Pass
NVNT	ac40	5310	Ant	5460	-58.94	4.2	40.49	Average	54	Pass
NVNT	ac80	5290	Ant	4500	-51.19	4.2	48.24	Peak	74	Pass
NVNT	ac80	5290	Ant	4500	-59.65	4.2	39.78	Average	54	Pass
NVNT	ac80	5290	Ant	5149.89	-43.95	4.2	55.48	Peak	74	Pass
NVNT	ac80	5290	Ant	5149.89	-54.71	4.2	44.72	Average	54	Pass
NVNT	ac80	5290	Ant	5150	-43.95	4.2	55.48	Peak	74	Pass
NVNT	ac80	5290	Ant	5150	-54.71	4.2	44.72	Average	54	Pass
NVNT	ac80	5290	Ant	5350	-49.47	4.2	49.96	Peak	74	Pass
NVNT	ac80	5290	Ant	5350	-58.2	4.2	41.23	Average	54	Pass
NVNT	ac80	5290	Ant	5376.75	-46.72	4.2	52.71	Peak	74	Pass
NVNT	ac80	5290	Ant	5350.75	-57.83	4.2	41.60	Average	54	Pass
NVNT	ac80	5290	Ant	5460	-50.38	4.2	49.05	Peak	74	Pass
NVNT	ac80	5290	Ant	5460	-58.72	4.2	40.71	Average	54	Pass

Test Graphs

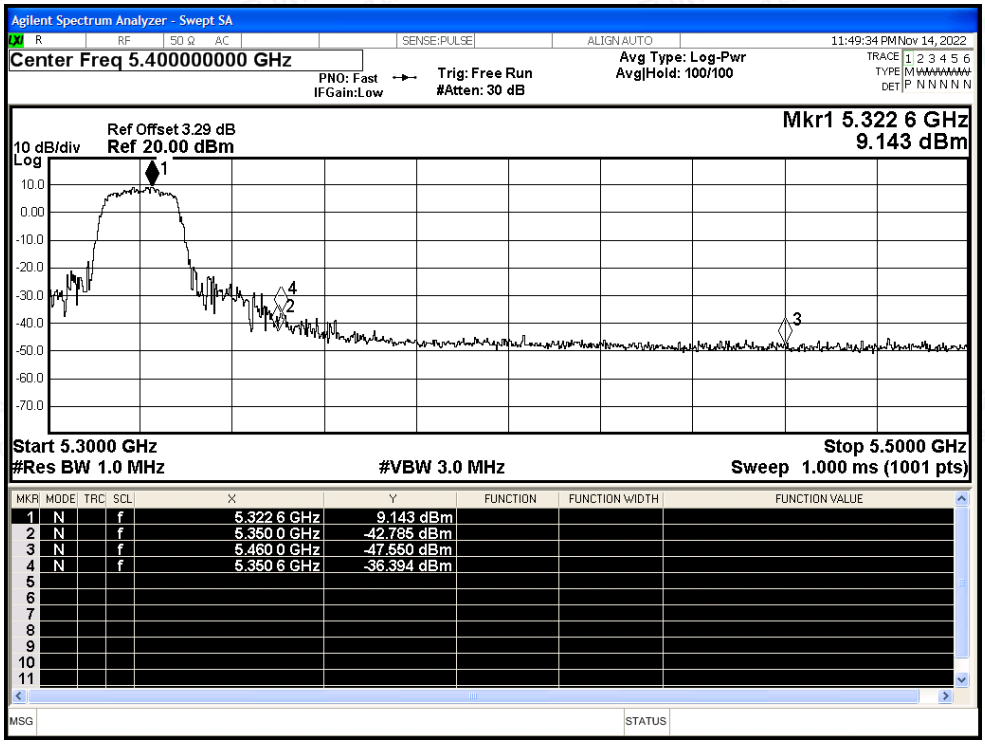
Restrict Band NVNT a 5260MHz Ant Peak



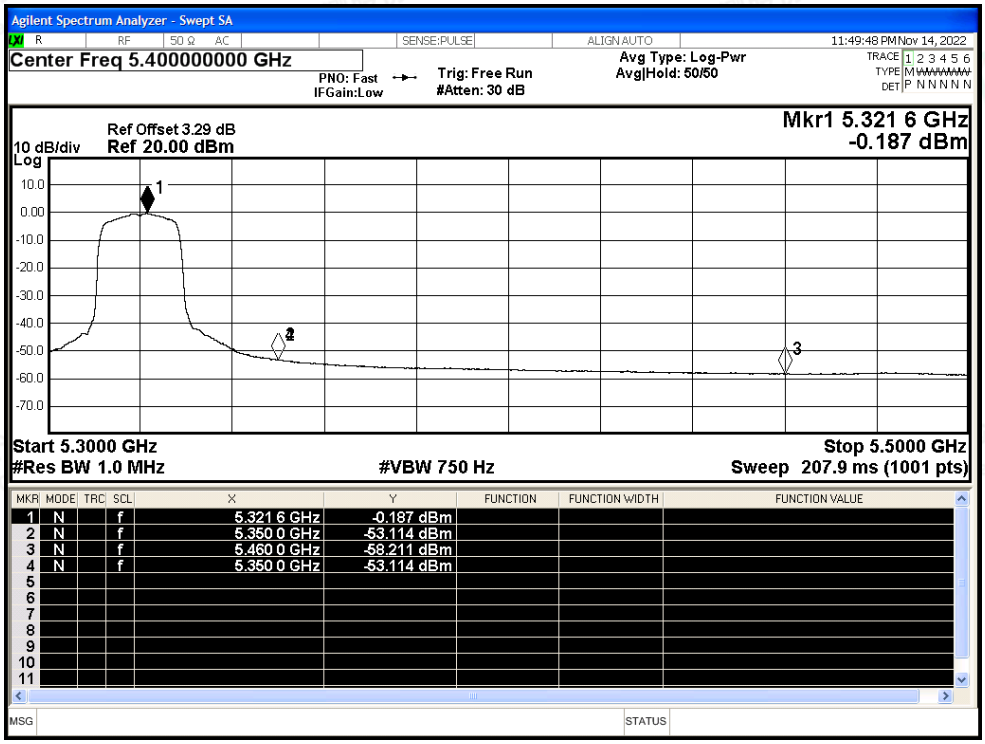
Restrict Band NVNT a 5260MHz Ant Average



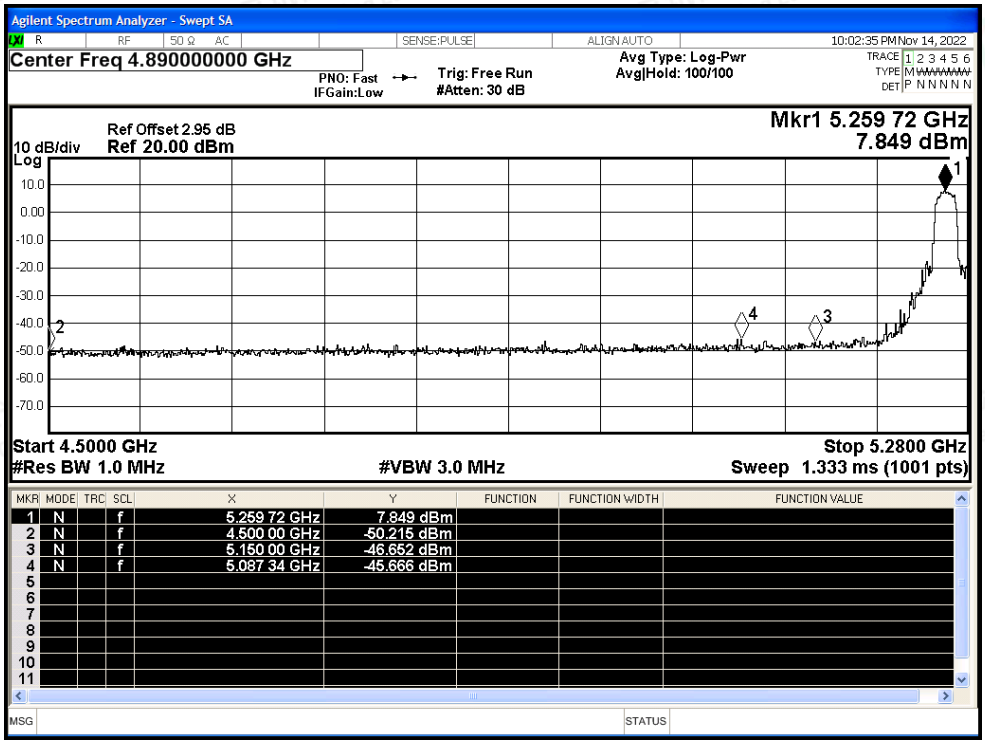
Restrict Band NVNT a 5320MHz Ant Peak



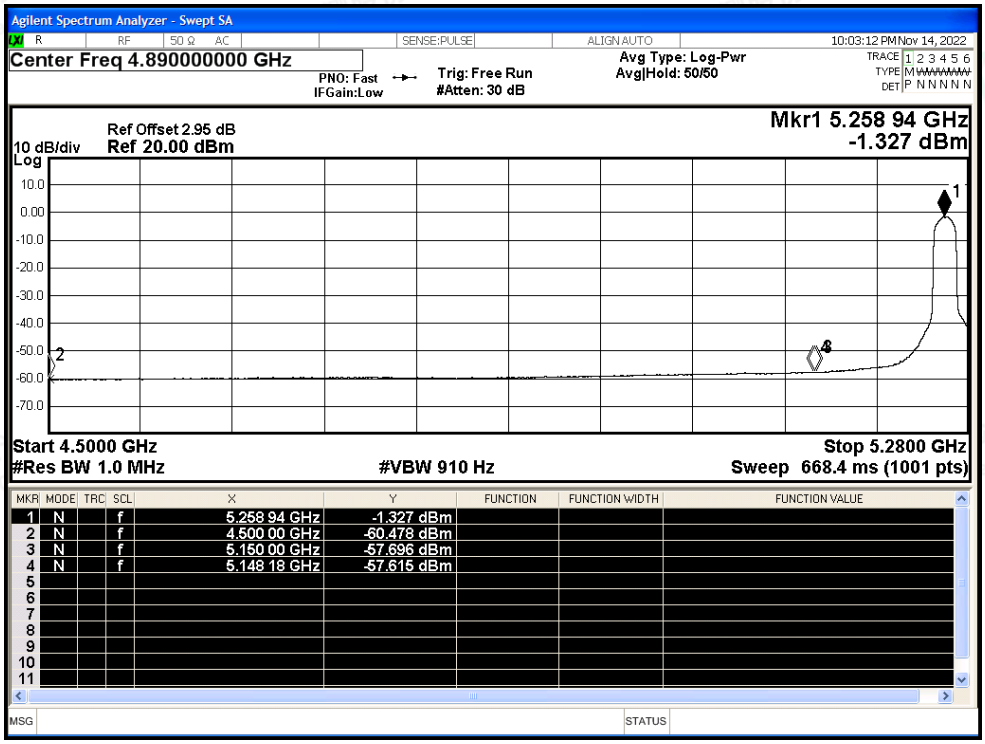
Restrict Band NVNT a 5320MHz Ant Average



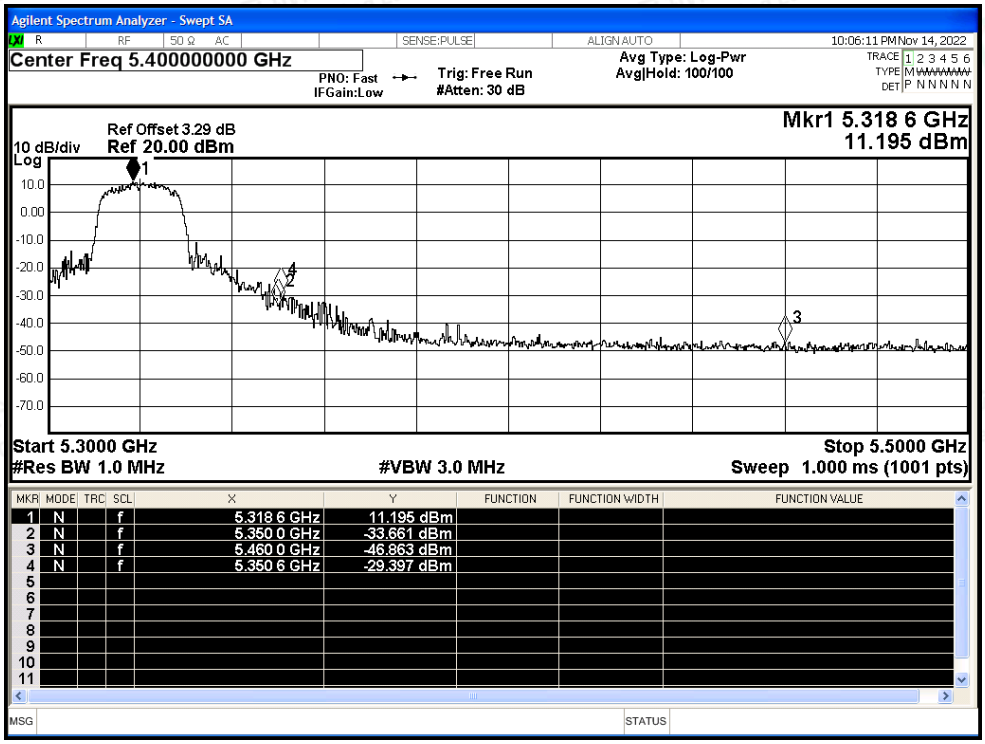
Restrict Band NVNT n20 5260MHz Ant Peak



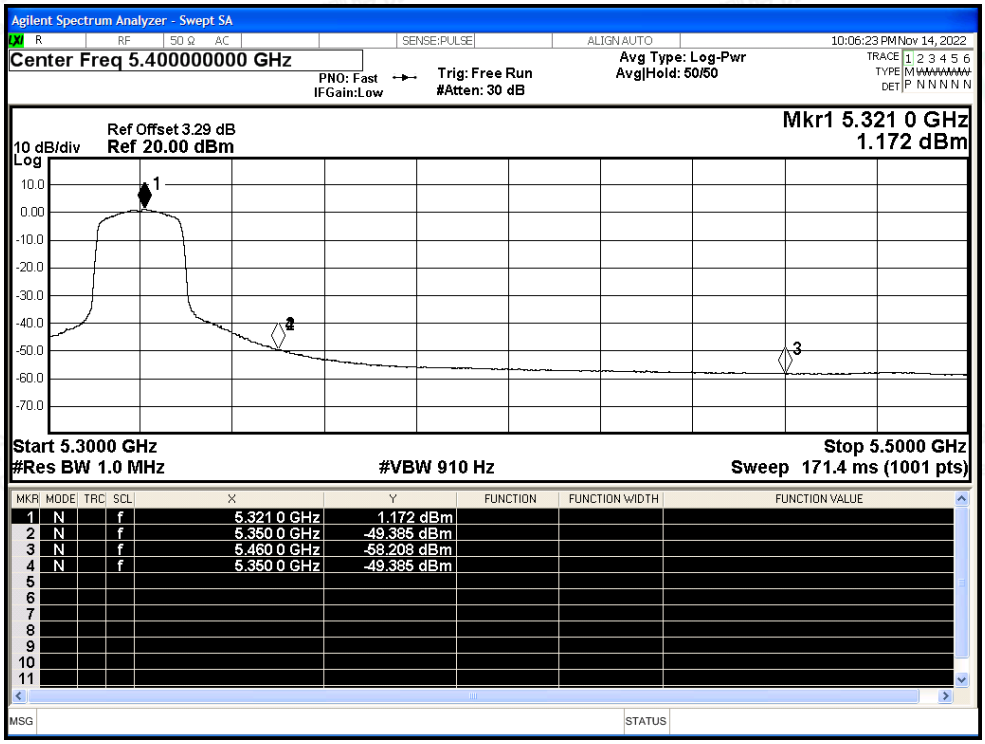
Restrict Band NVNT n20 5260MHz Ant Average



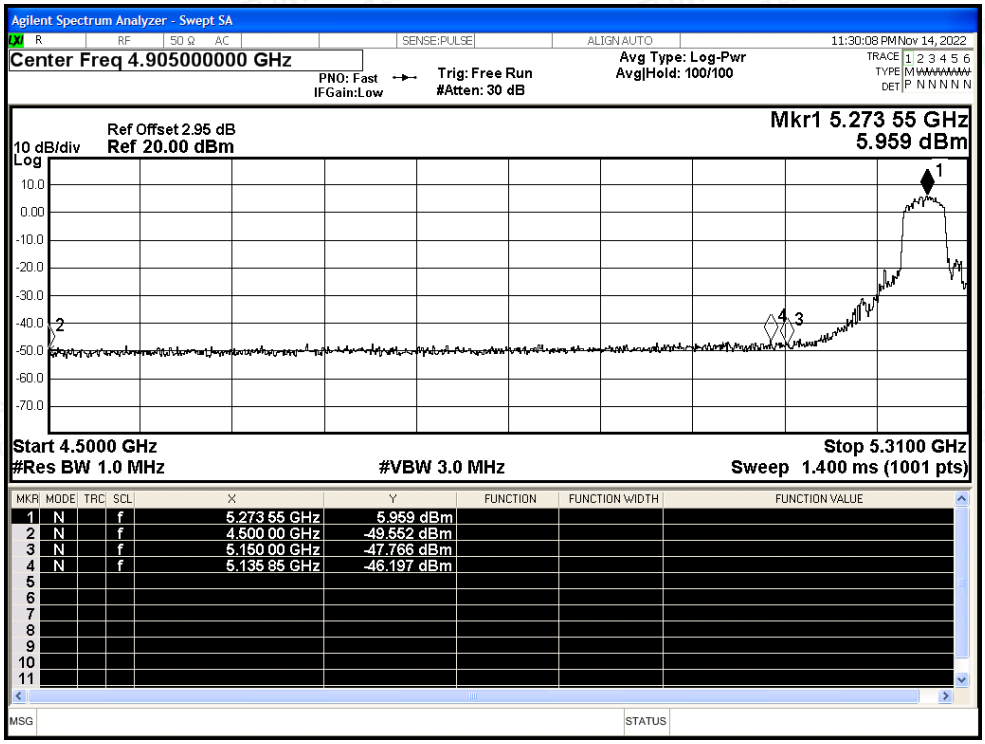
Restrict Band NVNT n20 5320MHz Ant Peak



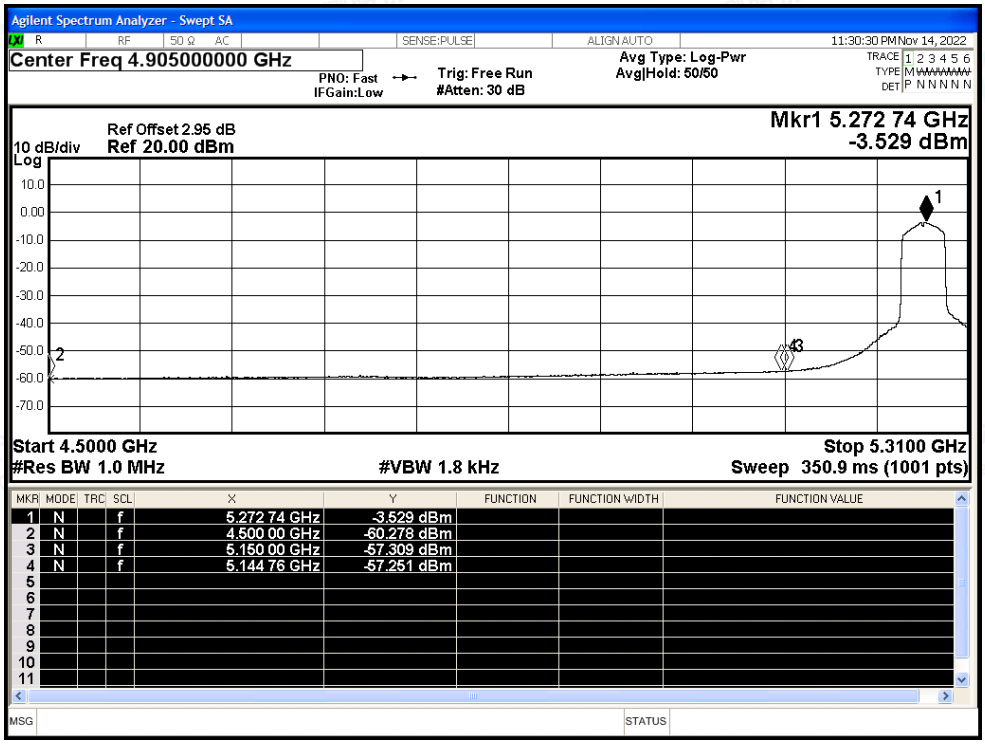
Restrict Band NVNT n20 5320MHz Ant Average



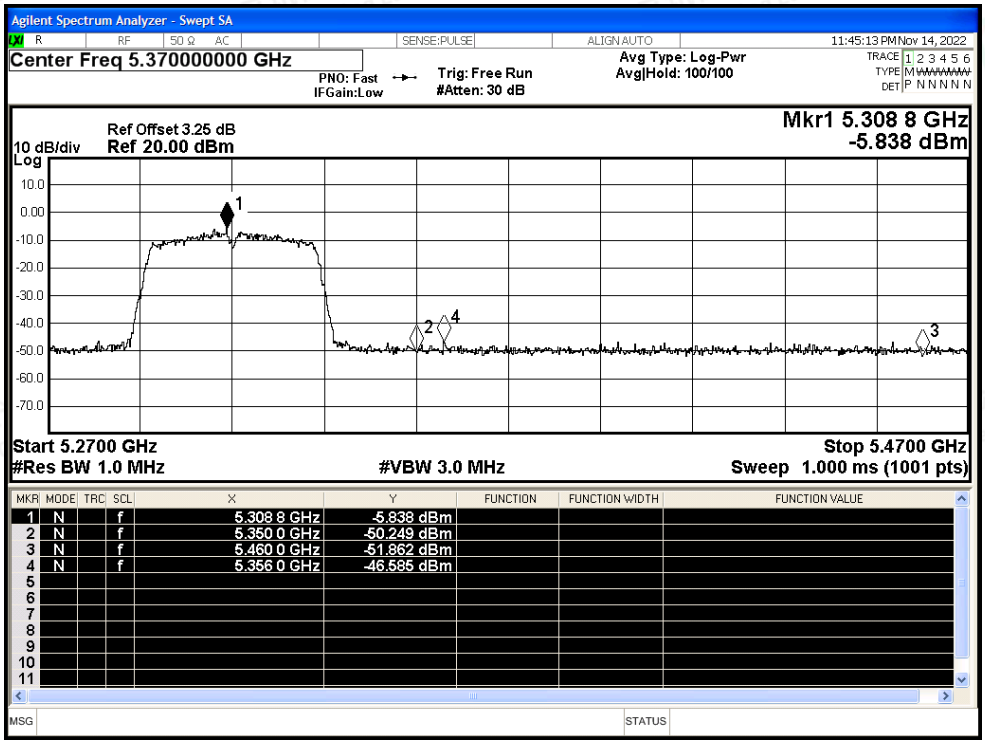
Restrict Band NVNT n40 5270MHz Ant Peak



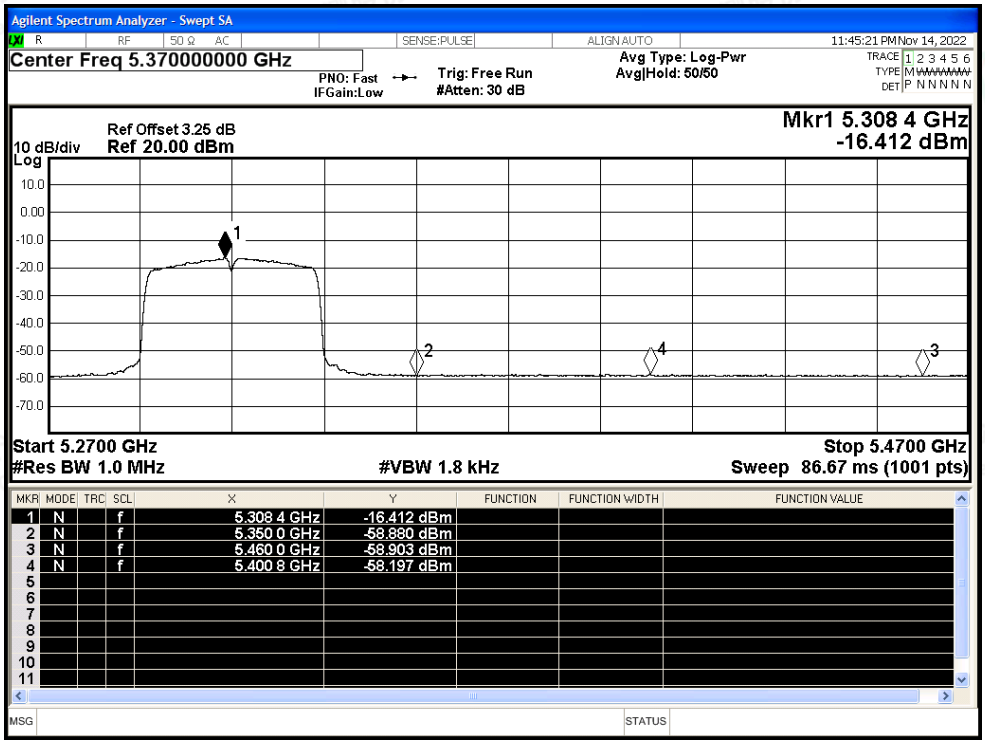
Restrict Band NVNT n40 5270MHz Ant Average



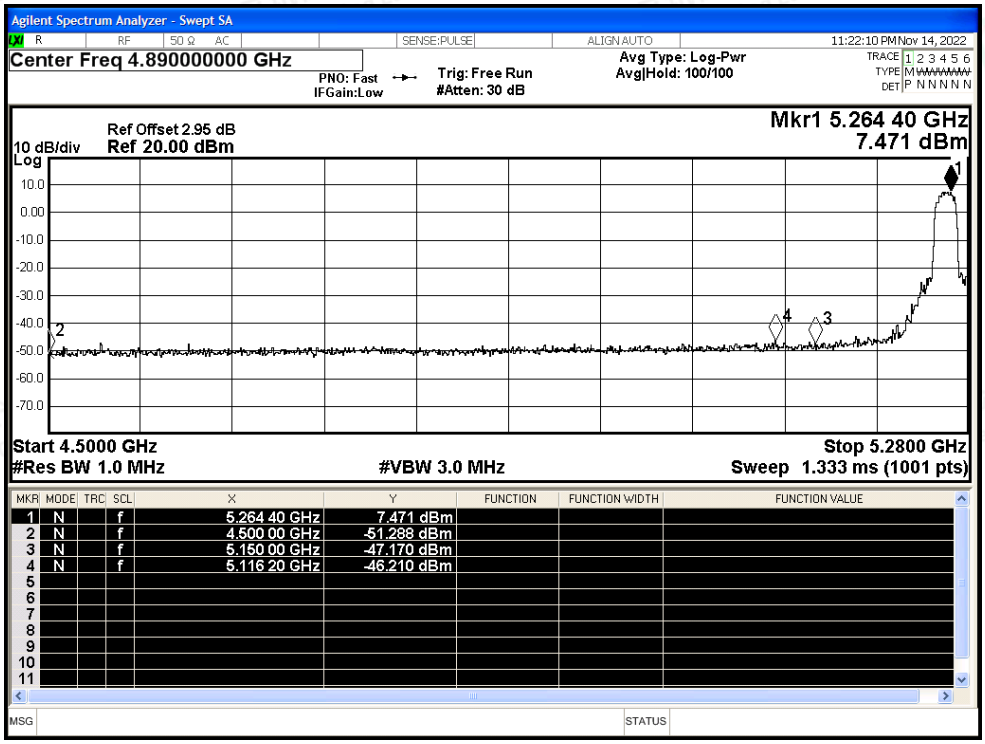
Restrict Band NVNT n40 5310MHz Ant Peak



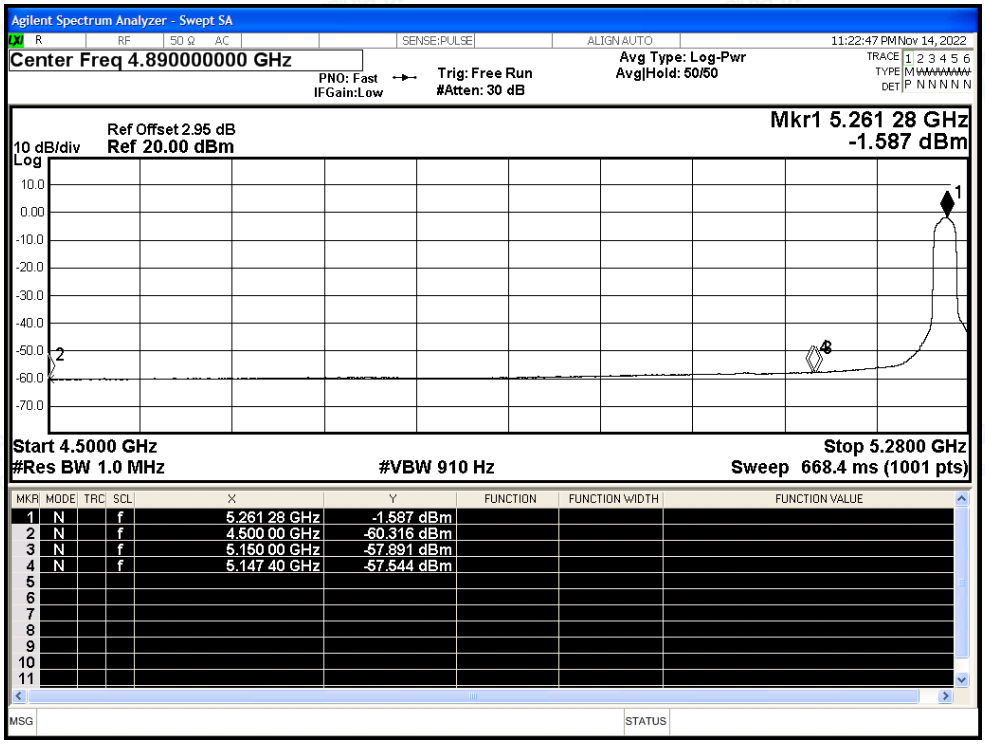
Restrict Band NVNT n40 5310MHz Ant Average



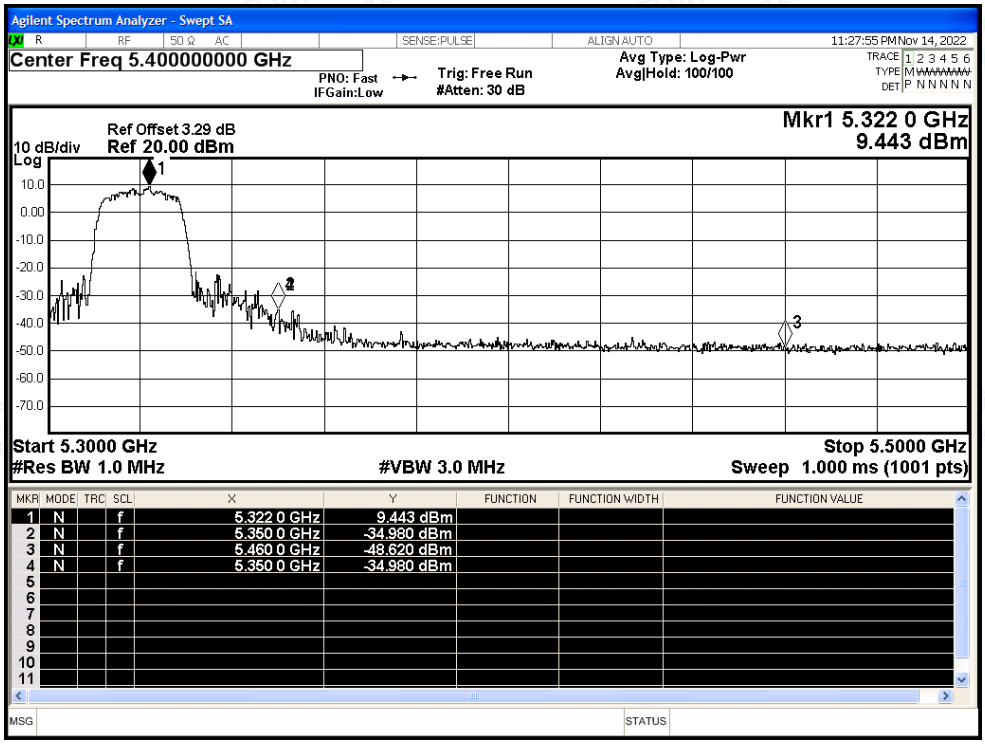
Restrict Band NVNT ac20 5260MHz Ant Peak



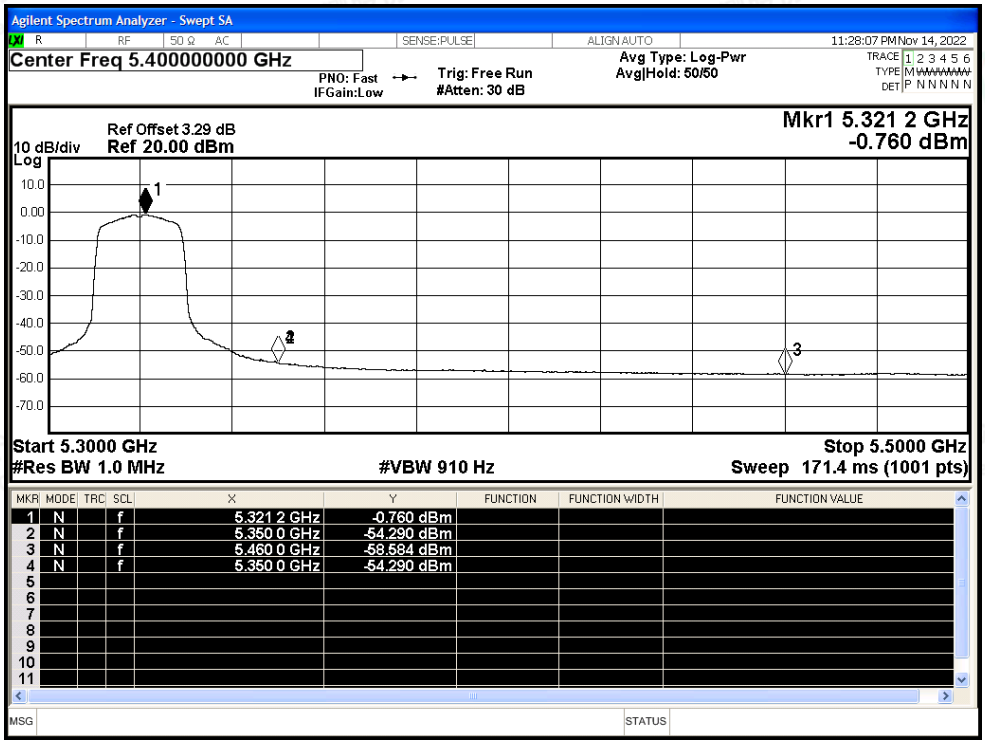
Restrict Band NVNT ac20 5260MHz Ant Average



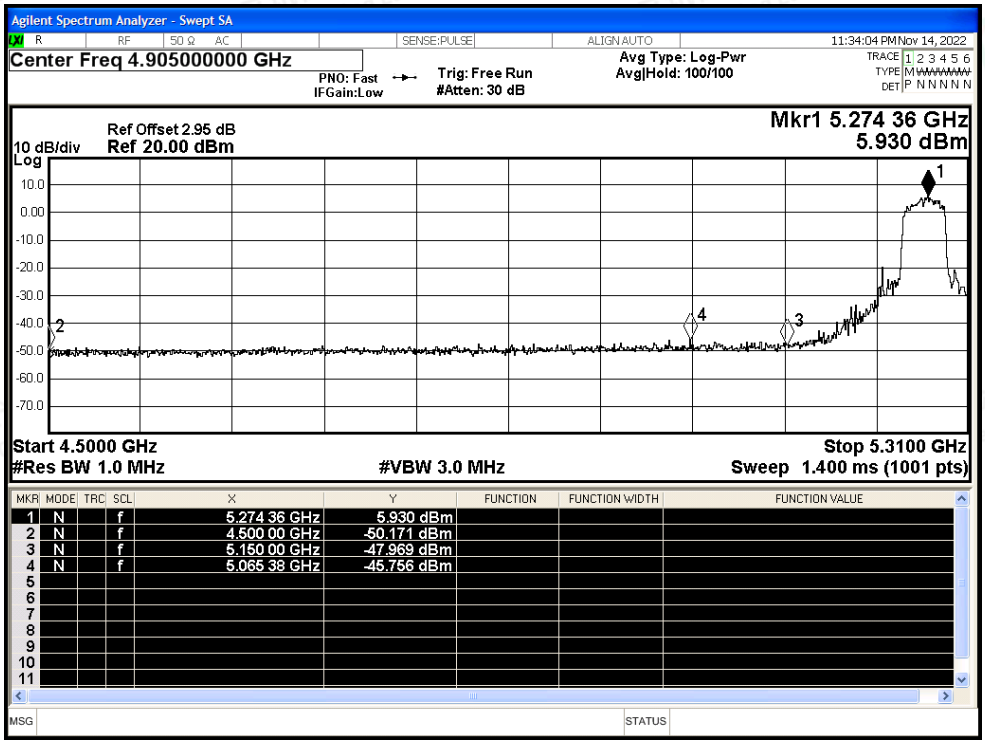
Restrict Band NVNT ac20 5320MHz Ant Peak



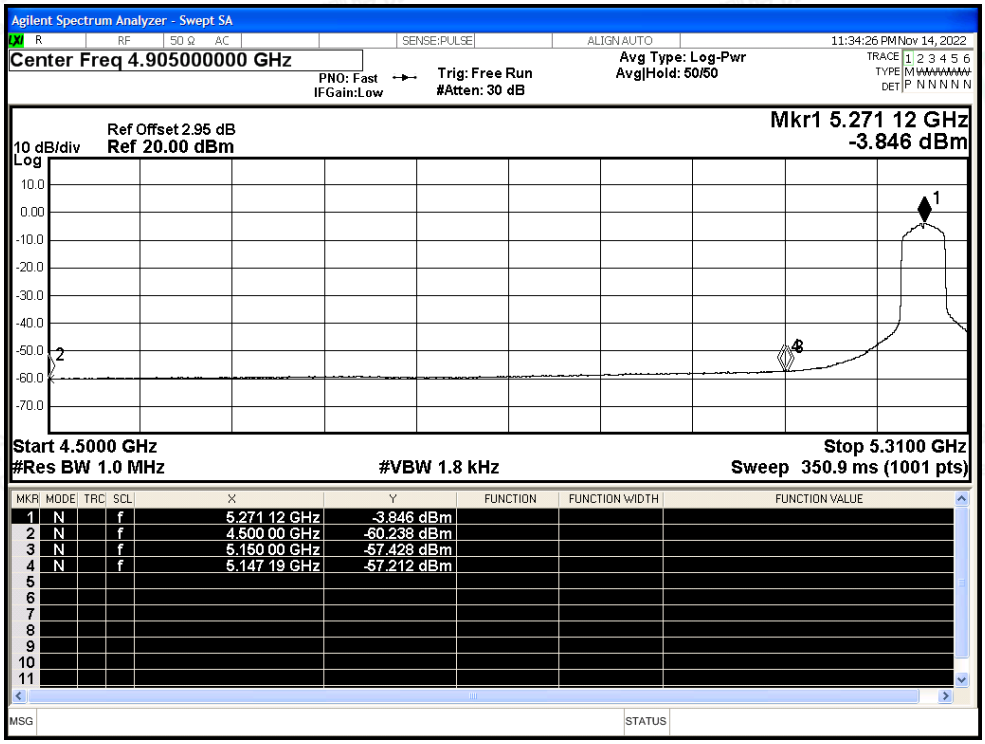
Restrict Band NVNT ac20 5320MHz Ant Average



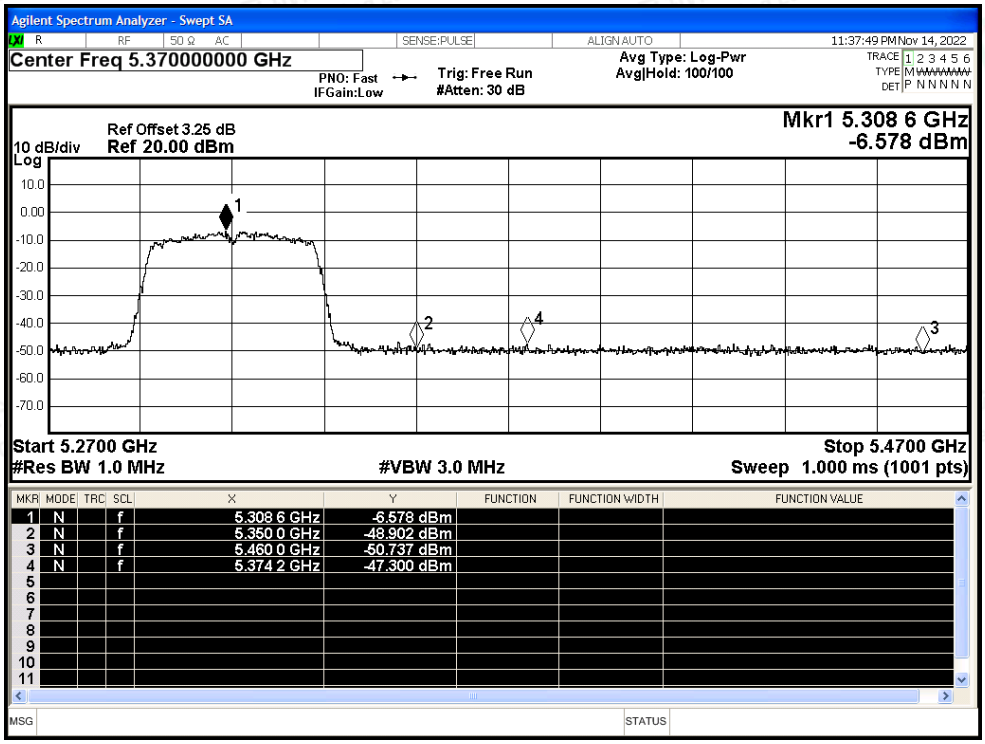
Restrict Band NVNT ac40 5270MHz Ant Peak



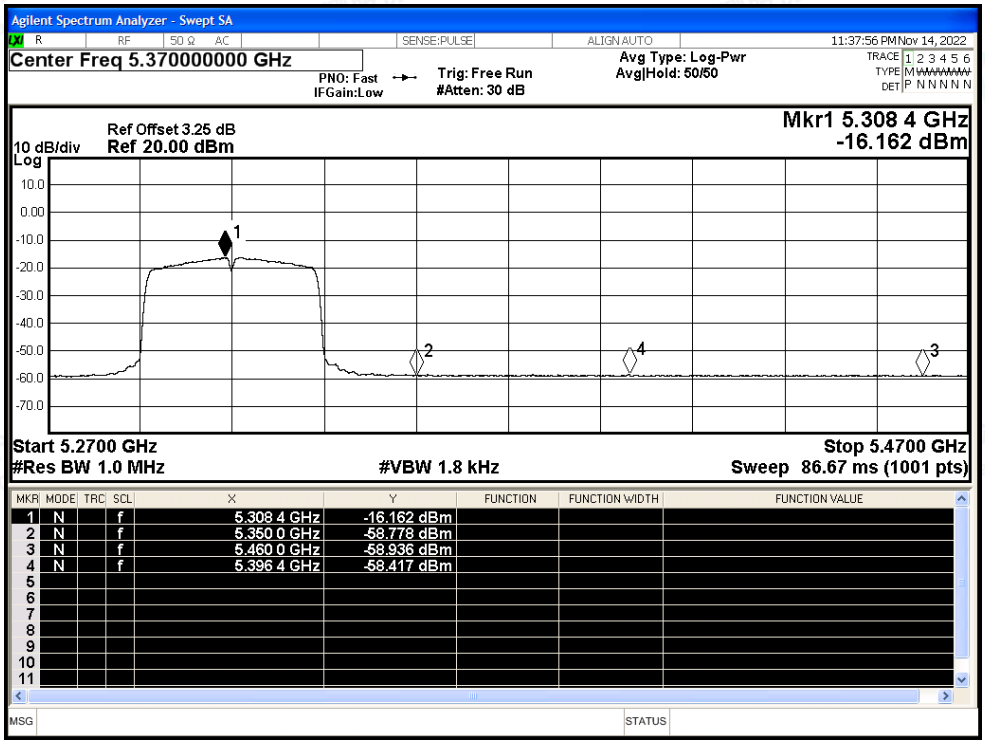
Restrict Band NVNT ac40 5270MHz Ant Average



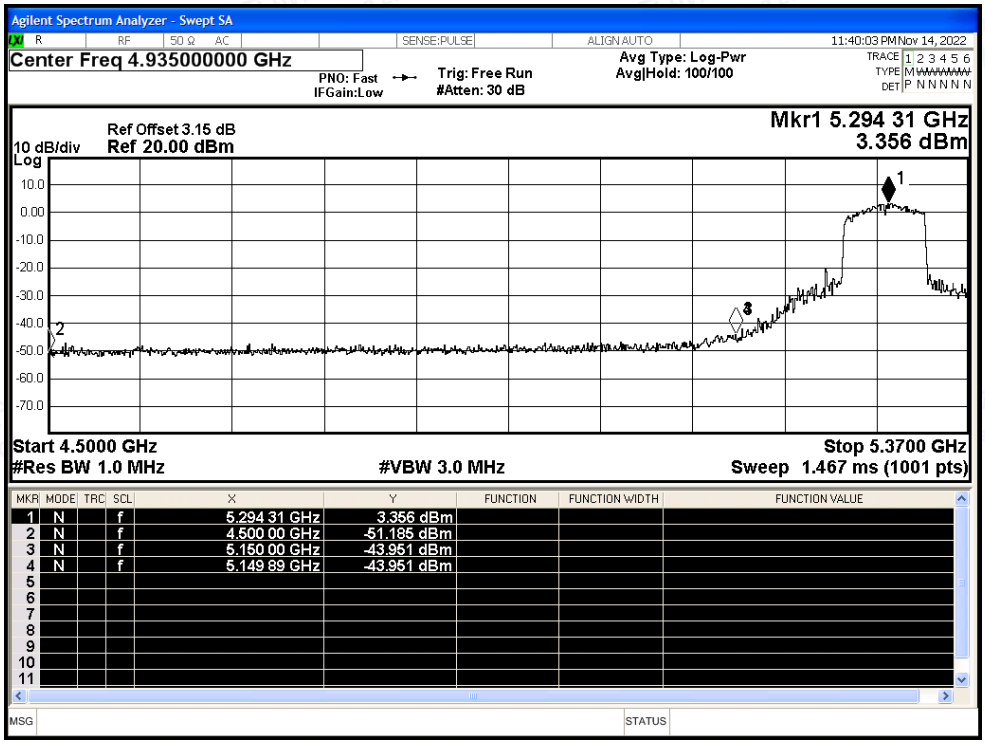
Restrict Band NVNT ac40 5310MHz Ant Peak



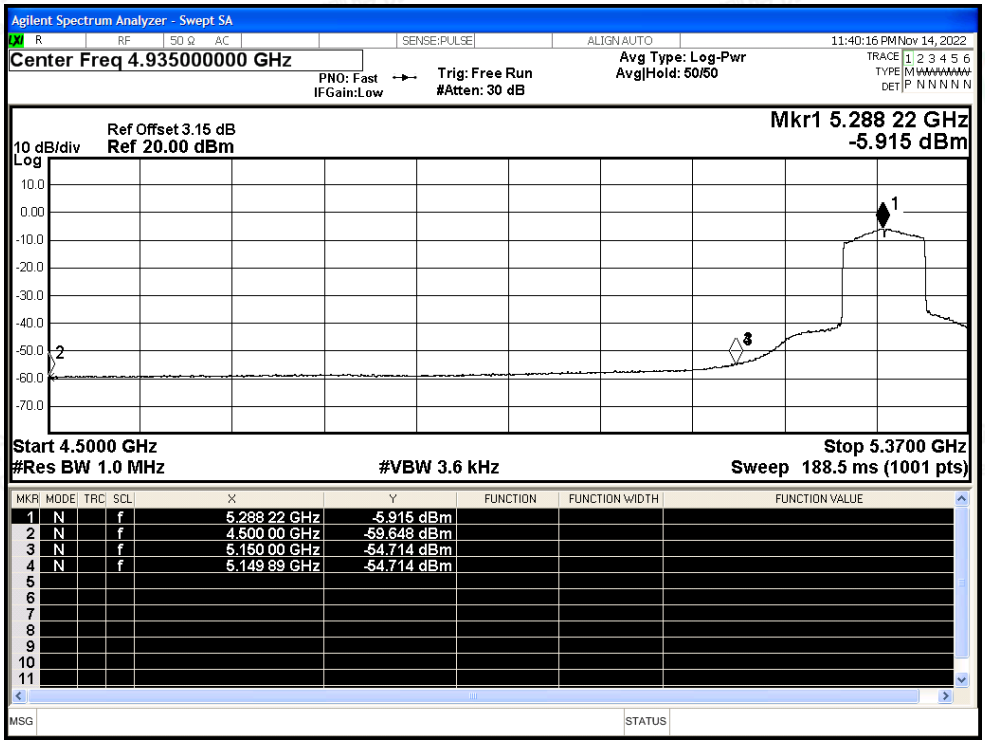
Restrict Band NVNT ac40 5310MHz Ant Average



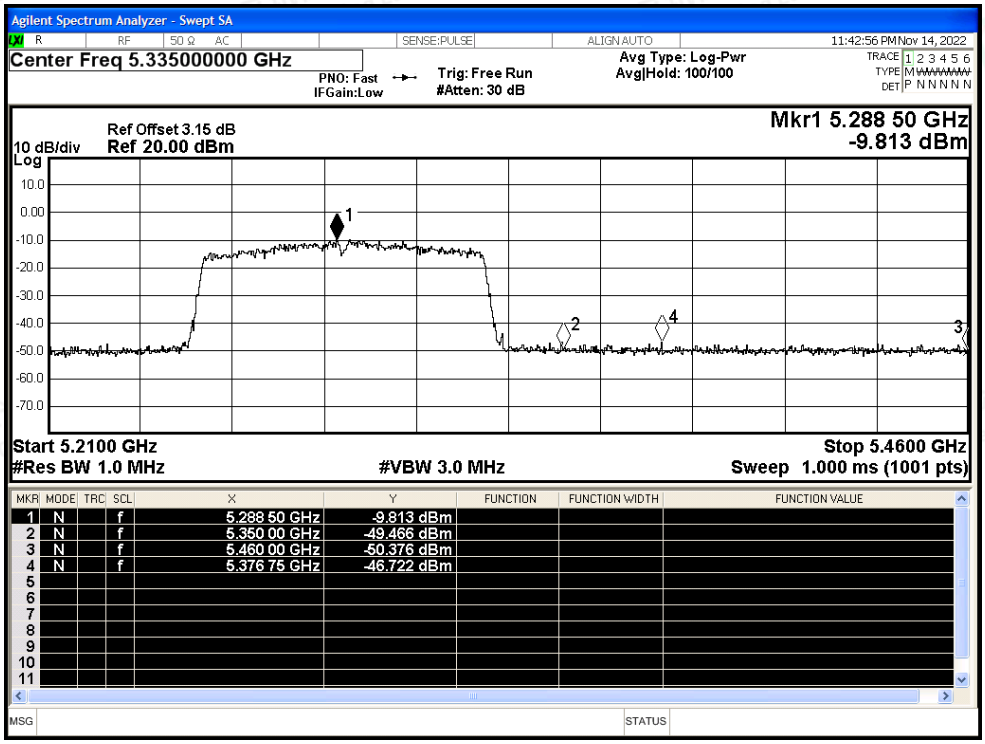
Restrict Band NVNT ac80 5290MHz Ant Peak



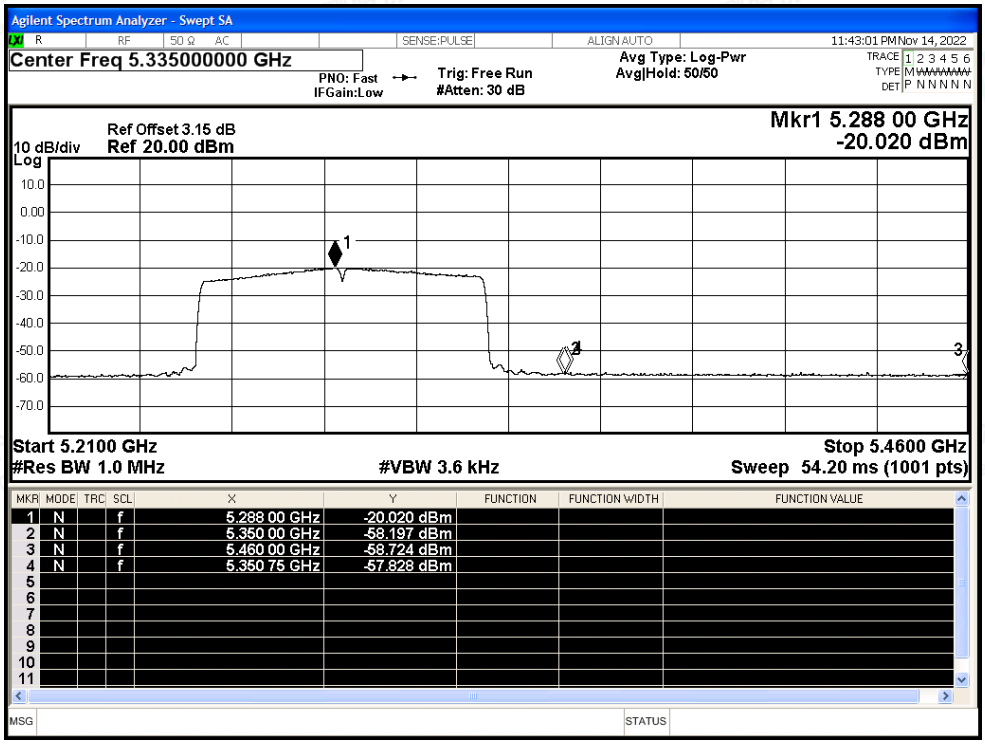
Restrict Band NVNT ac80 5290MHz Ant Average



Restrict Band NVNT ac80 5290MHz Ant Peak



Restrict Band NVNT ac80 5290MHz Ant Average

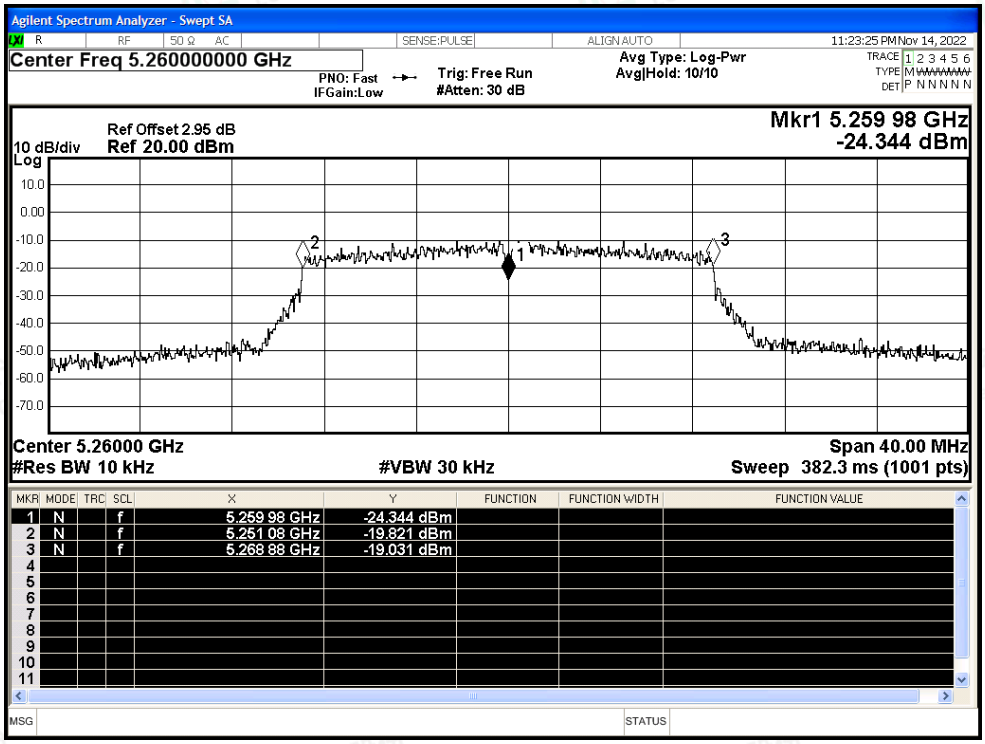


E.6 Frequency Stability

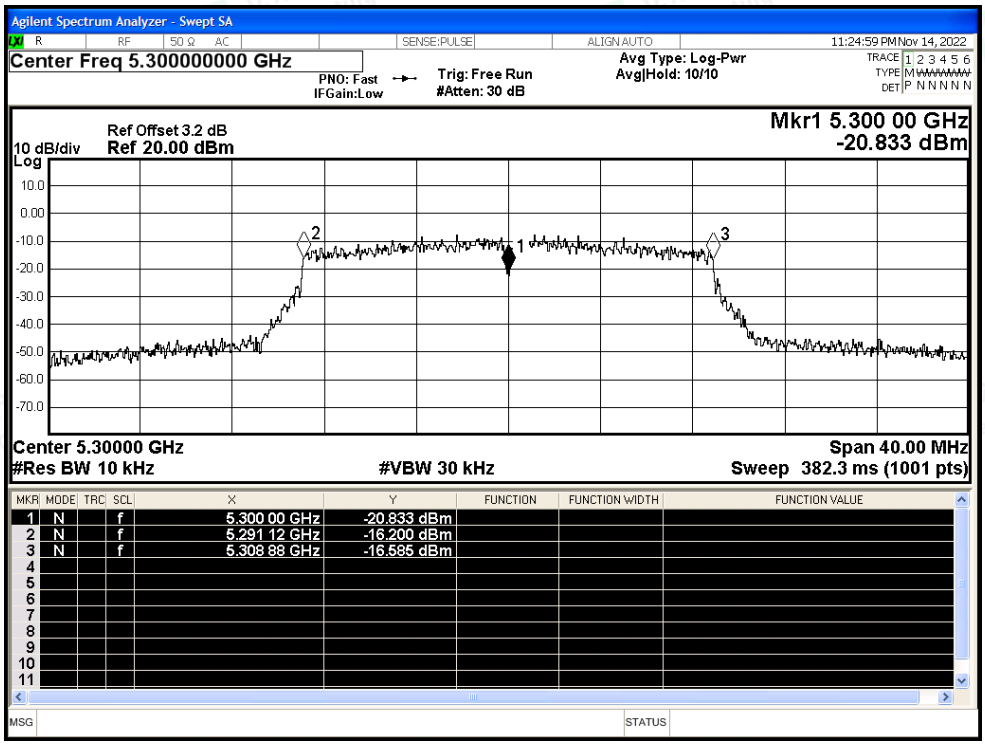
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5260	Ant	5259.98	-20000	-3.8	25	Pass
NVNT	ac20	5300	Ant	5300	0	0	25	Pass
NVNT	ac20	5320	Ant	5320	0	0	25	Pass
NVNT	ac40	5270	Ant	5270	0	0	25	Pass
NVNT	ac40	5310	Ant	5310	0	0	25	Pass
NVNT	ac80	5290	Ant	5290	0	0	25	Pass

Test Graphs

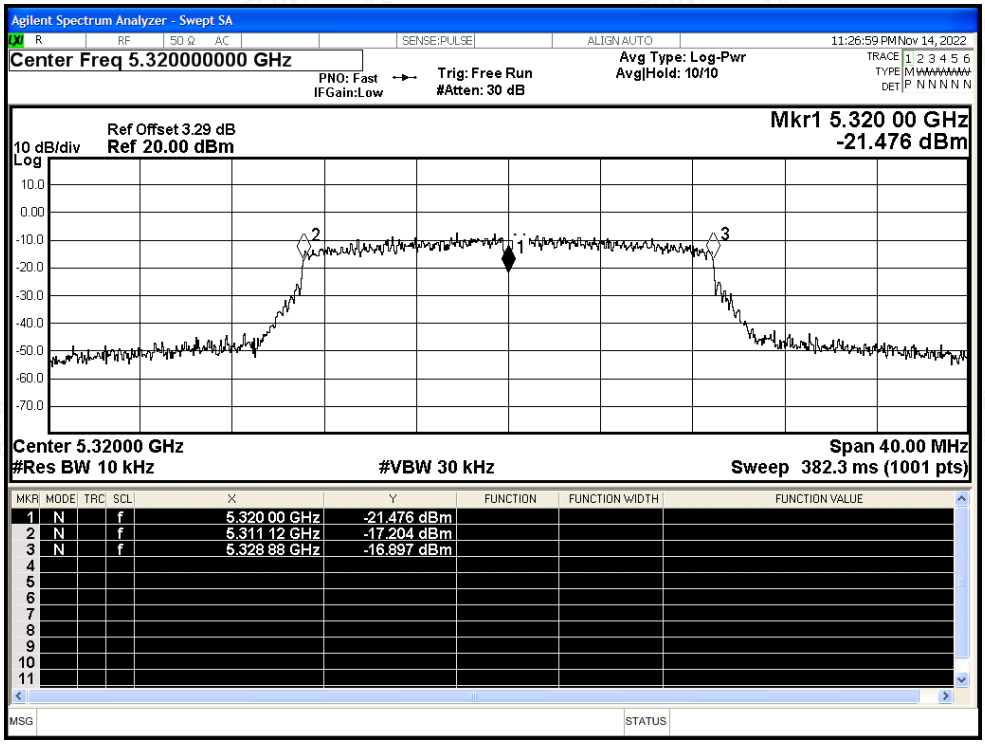
Freq. Stability NVNT ac20 5260MHz Ant



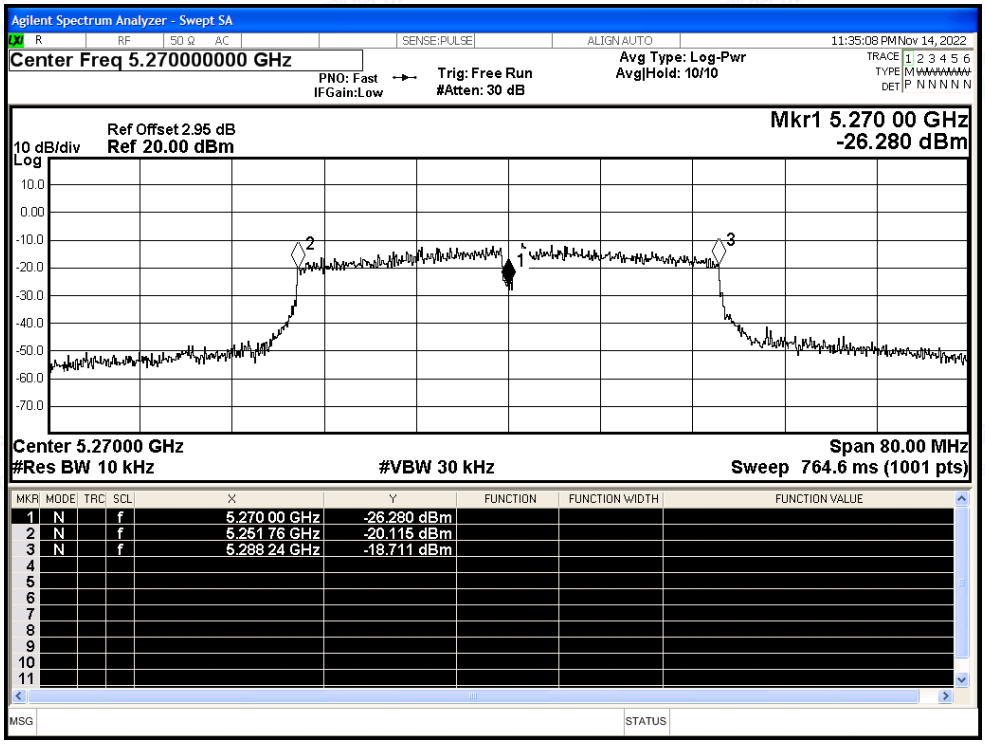
Freq. Stability NVNT ac20 5300MHz Ant



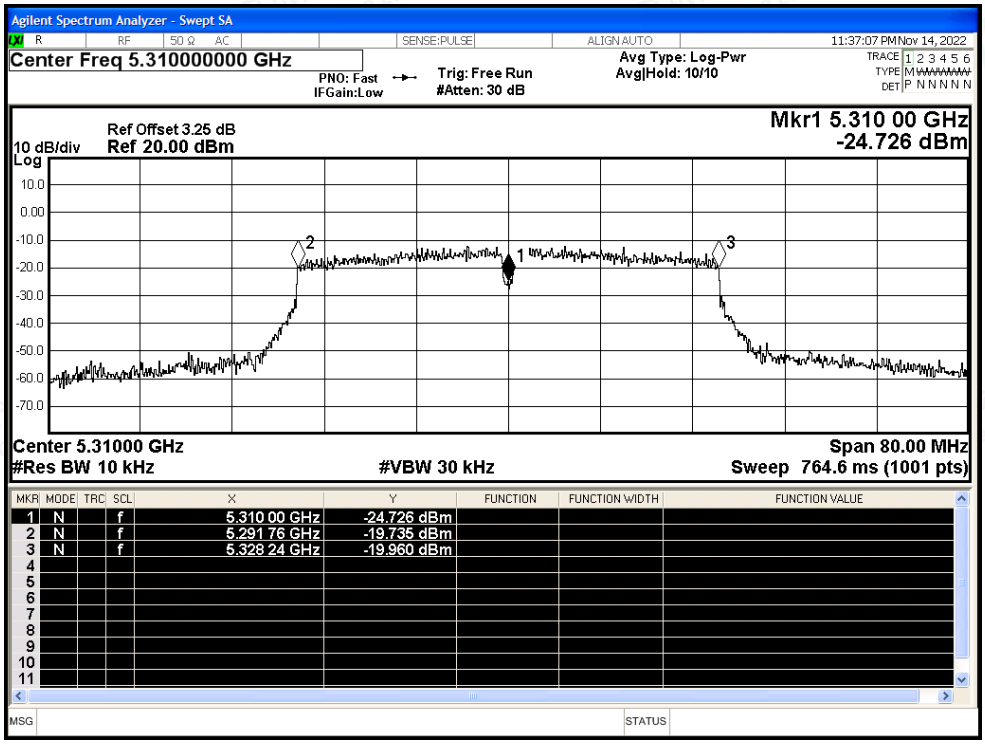
Freq. Stability NVNT ac20 5320MHz Ant



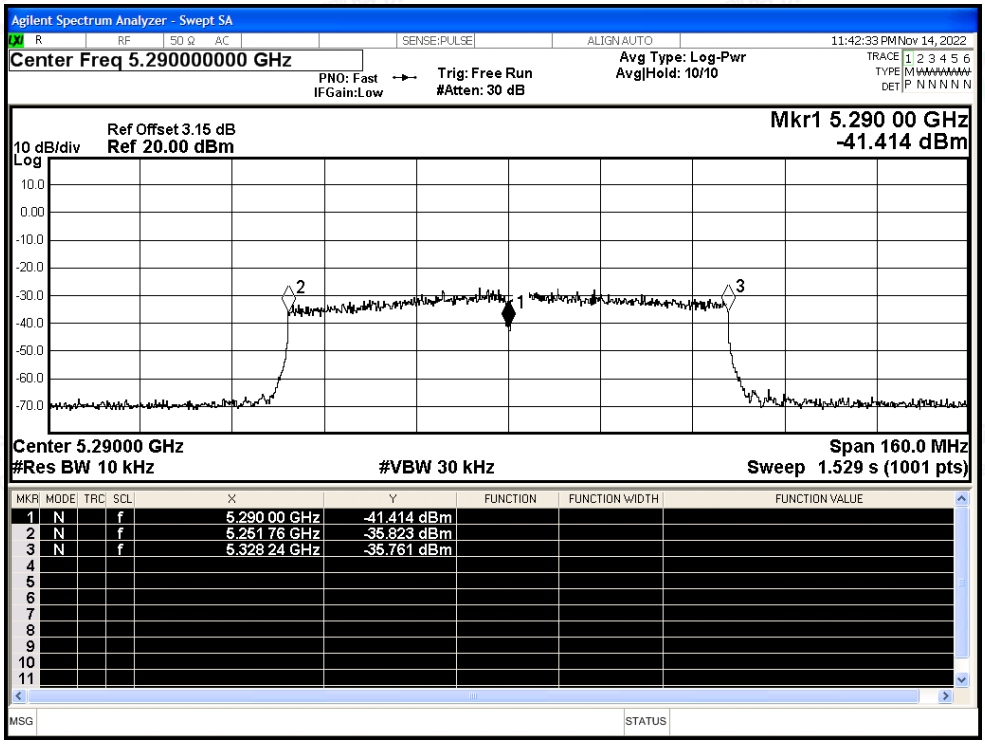
Freq. Stability NVNT ac40 5270MHz Ant



Freq. Stability NVNT ac40 5310MHz Ant



Freq. Stability NVNT ac80 5290MHz Ant

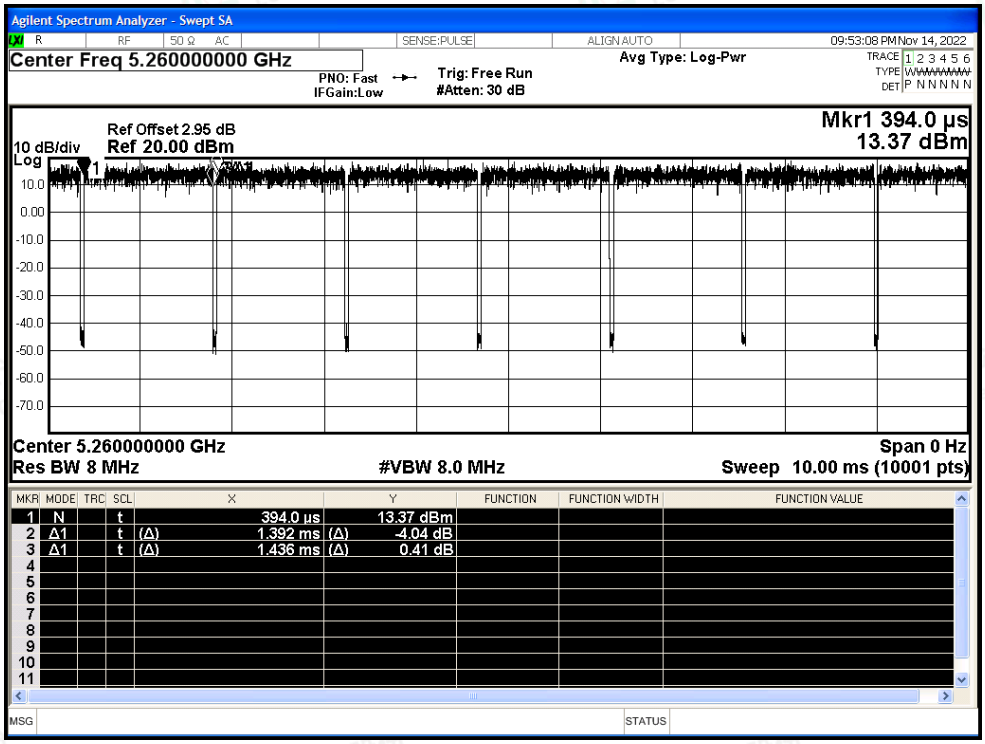


E.7 Duty Cycle

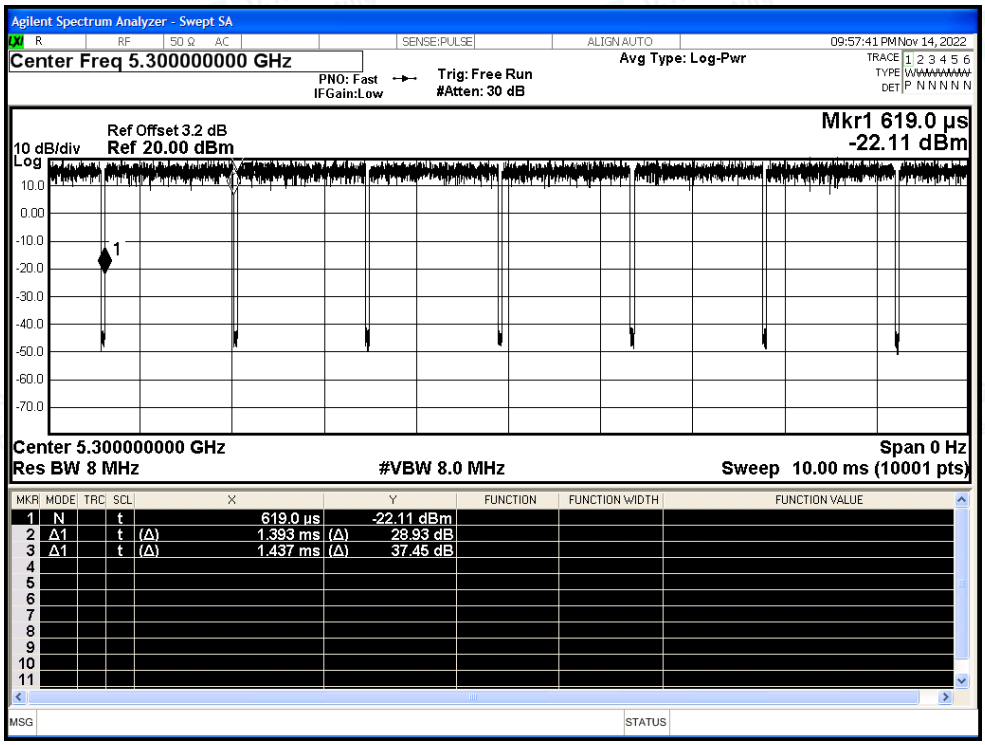
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	Ant	96.94	0.13	0.72
NVNT	a	5300	Ant	96.94	0.13	0.72
NVNT	a	5320	Ant	96.94	0.13	0.72
NVNT	n20	5260	Ant	96.15	0.17	0.85
NVNT	n20	5300	Ant	96.15	0.17	0.85
NVNT	n20	5320	Ant	96.15	0.17	0.85
NVNT	n40	5270	Ant	92.88	0.32	1.7
NVNT	n40	5310	Ant	93.04	0.31	1.7
NVNT	ac20	5260	Ant	96.19	0.17	0.84
NVNT	ac20	5300	Ant	96.19	0.17	0.84
NVNT	ac20	5320	Ant	96.11	0.17	0.84
NVNT	ac40	5270	Ant	93.08	0.31	1.69
NVNT	ac40	5310	Ant	92.94	0.32	1.69
NVNT	ac80	5290	Ant	86.8	0.61	3.38

Test Graphs

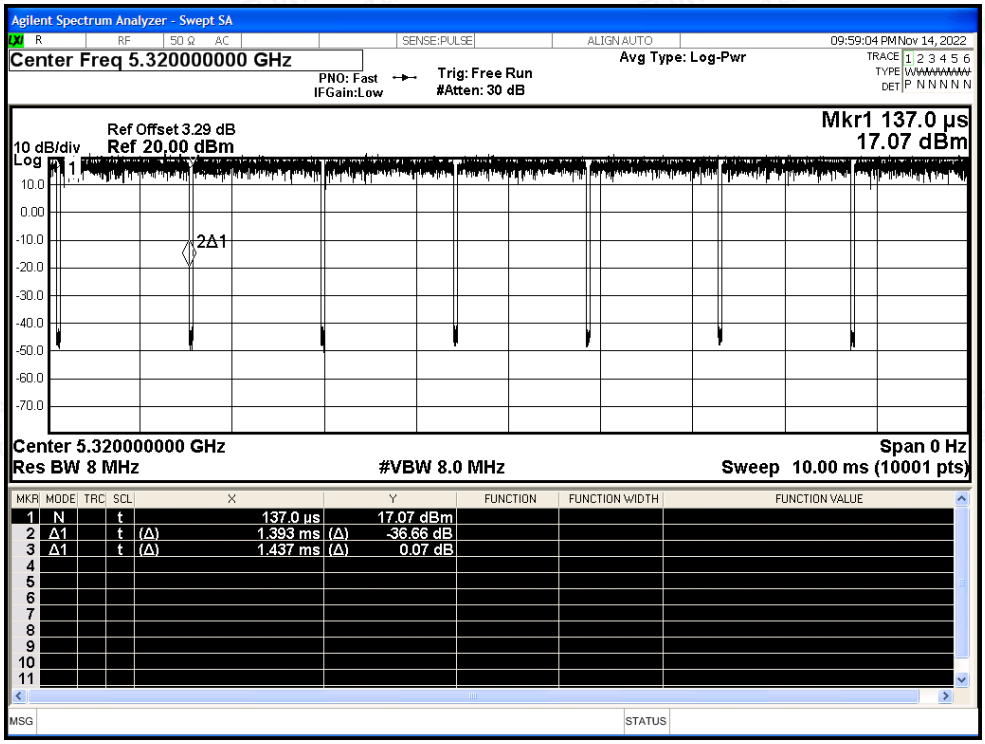
Duty Cycle NVNT a 5260MHz Ant



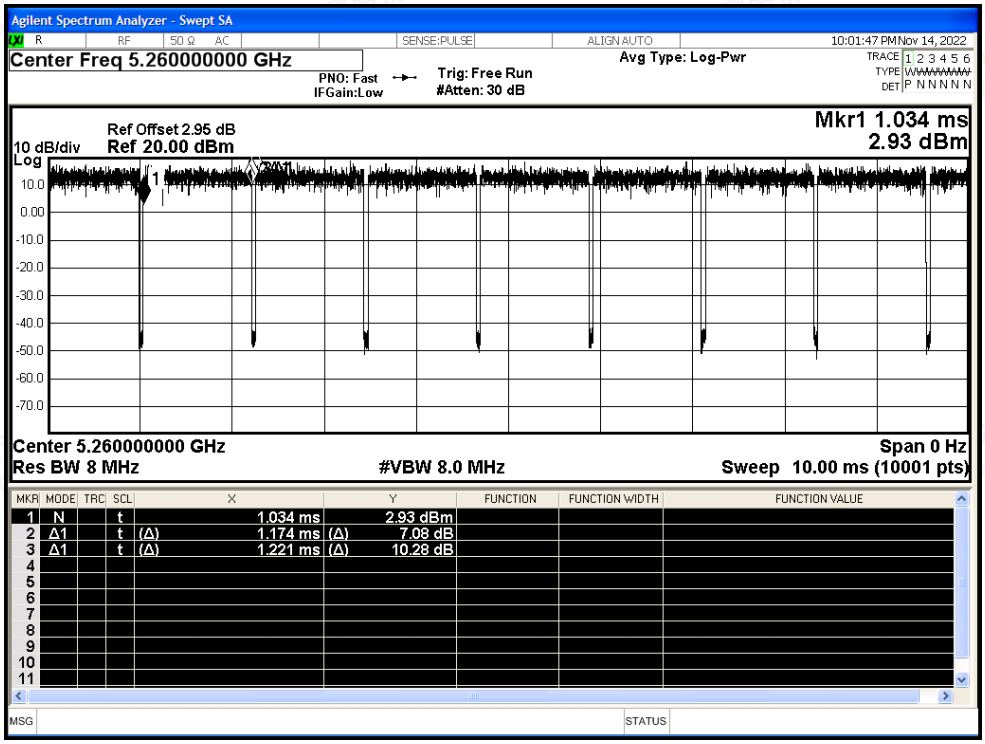
Duty Cycle NVNT a 5300MHz Ant



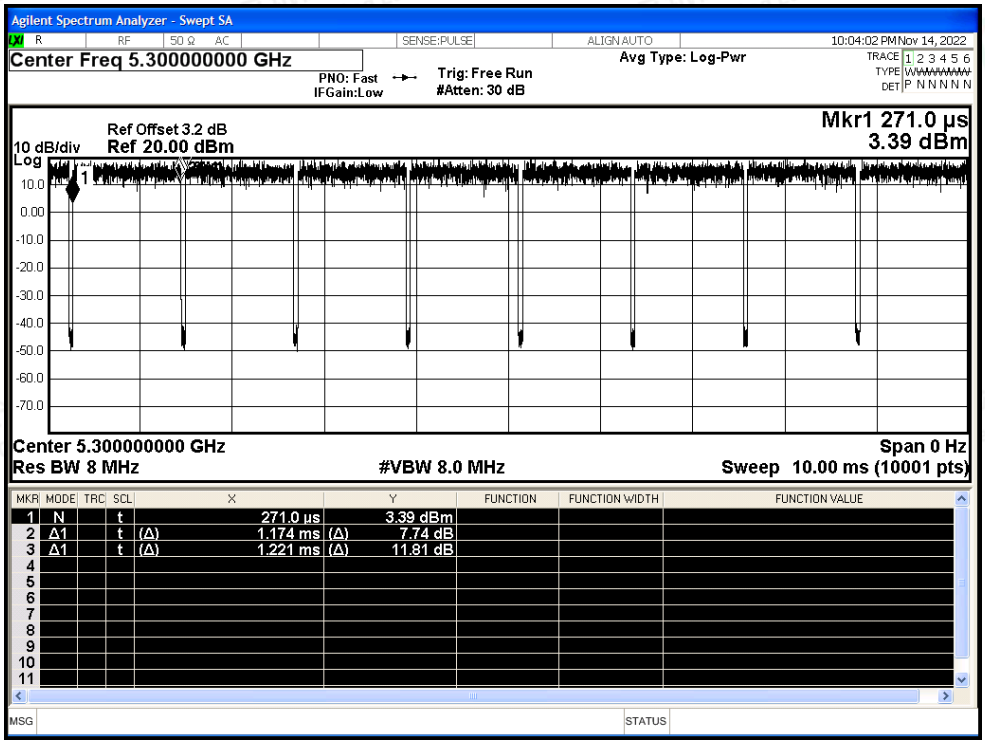
Duty Cycle NVNT a 5320MHz Ant



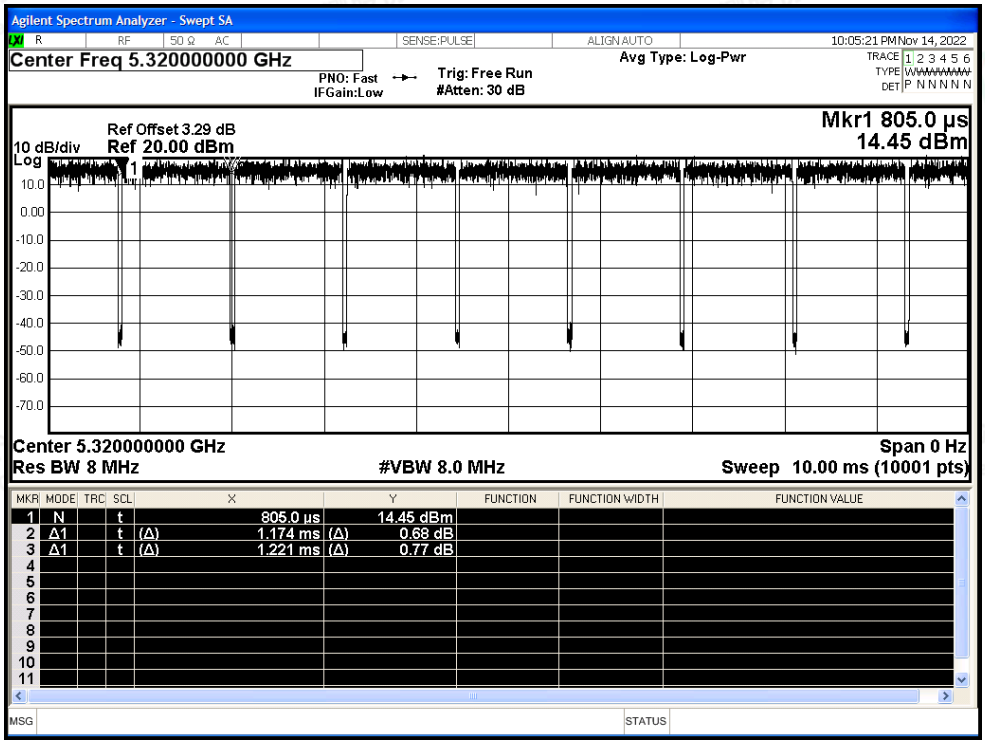
Duty Cycle NVNT n20 5260MHz Ant



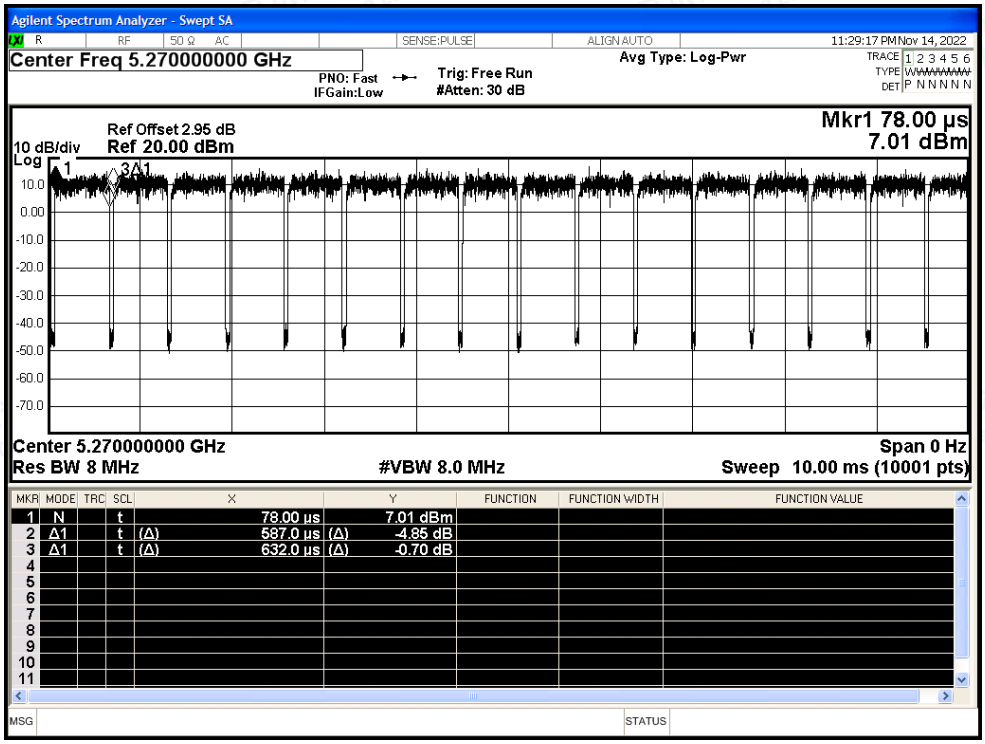
Duty Cycle NVNT n20 5300MHz Ant



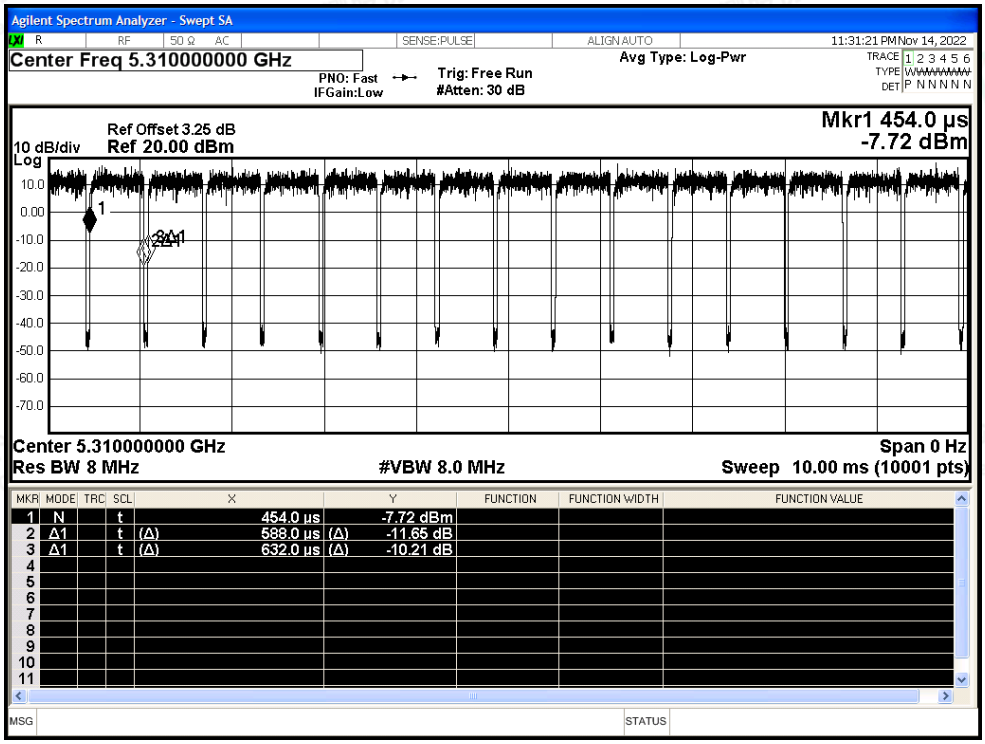
Duty Cycle NVNT n20 5320MHz Ant



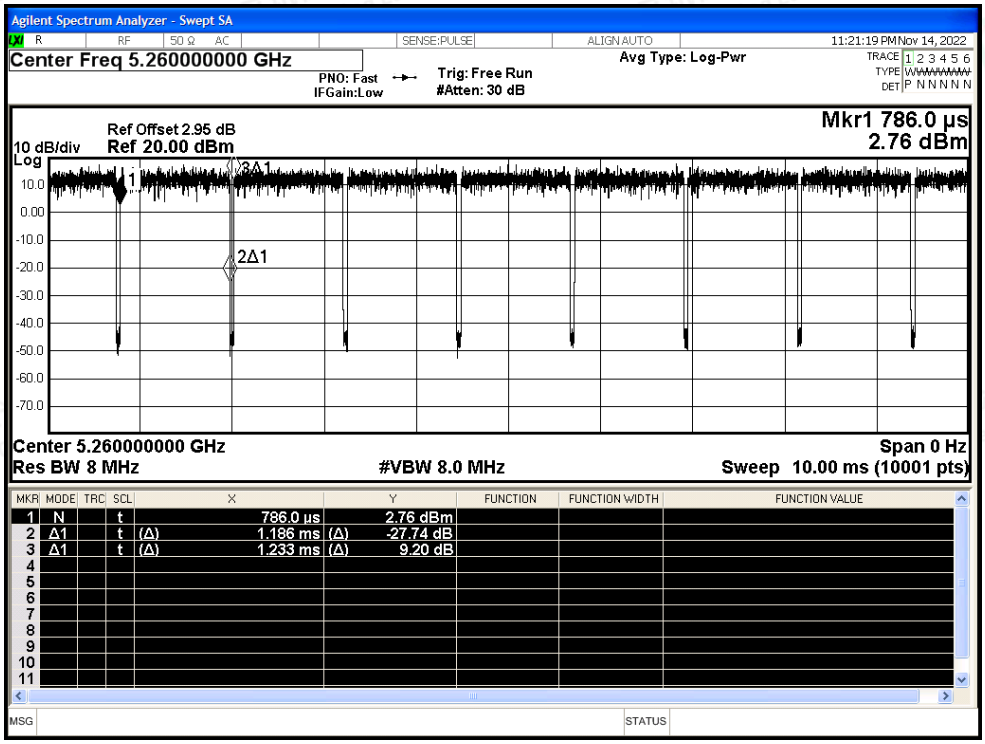
Duty Cycle NVNT n40 5270MHz Ant



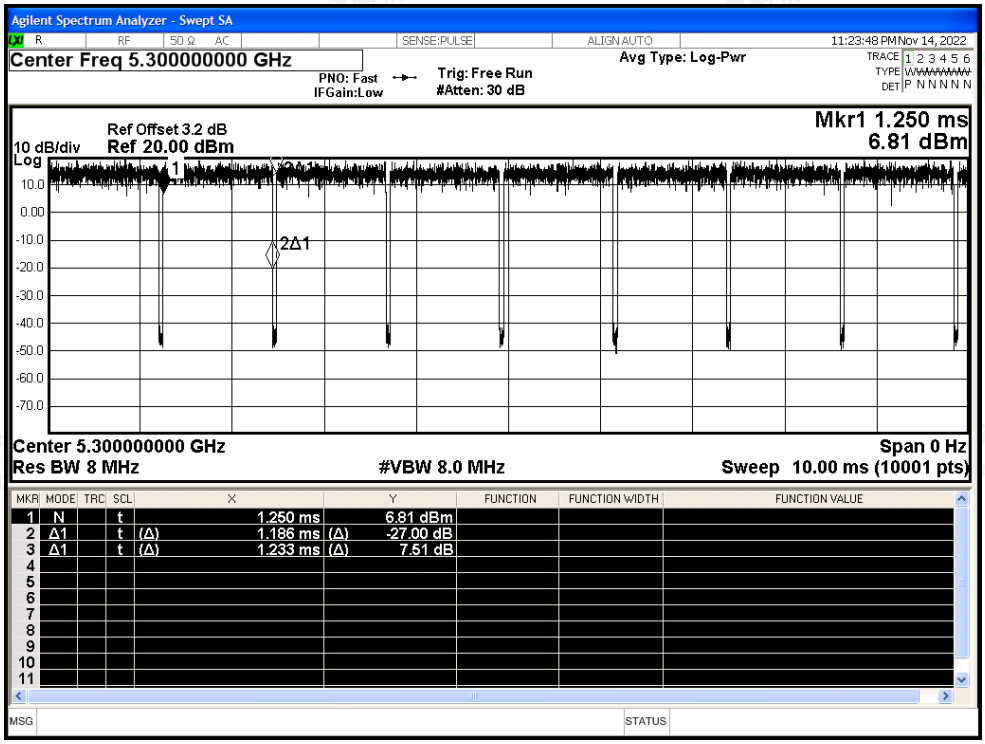
Duty Cycle NVNT n40 5310MHz Ant



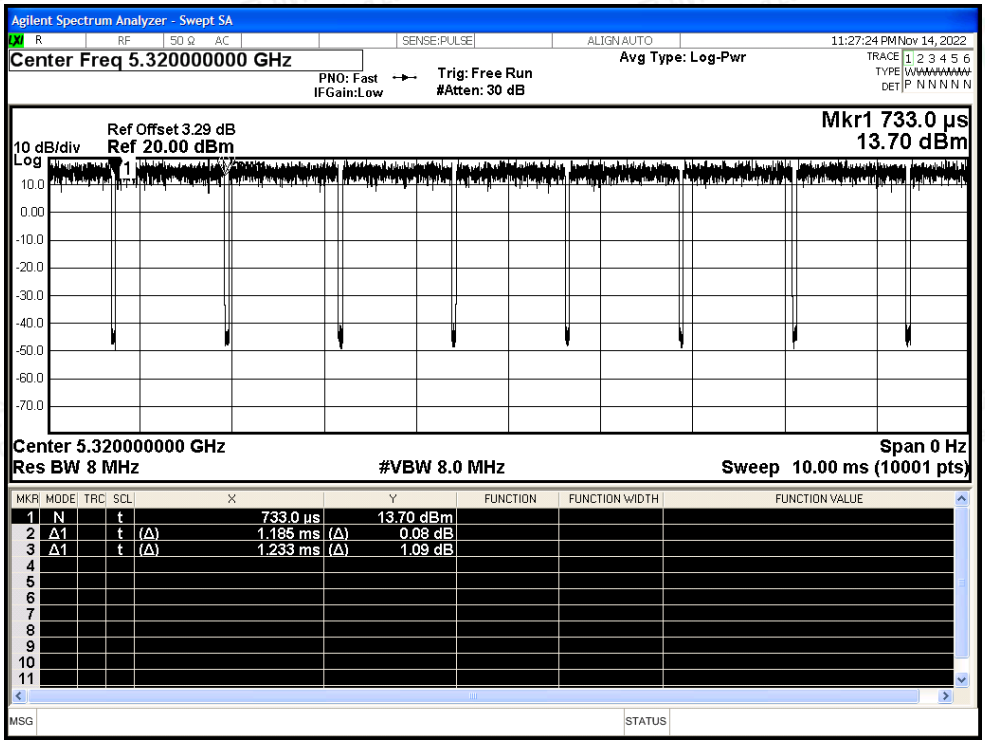
Duty Cycle NVNT ac20 5260MHz Ant



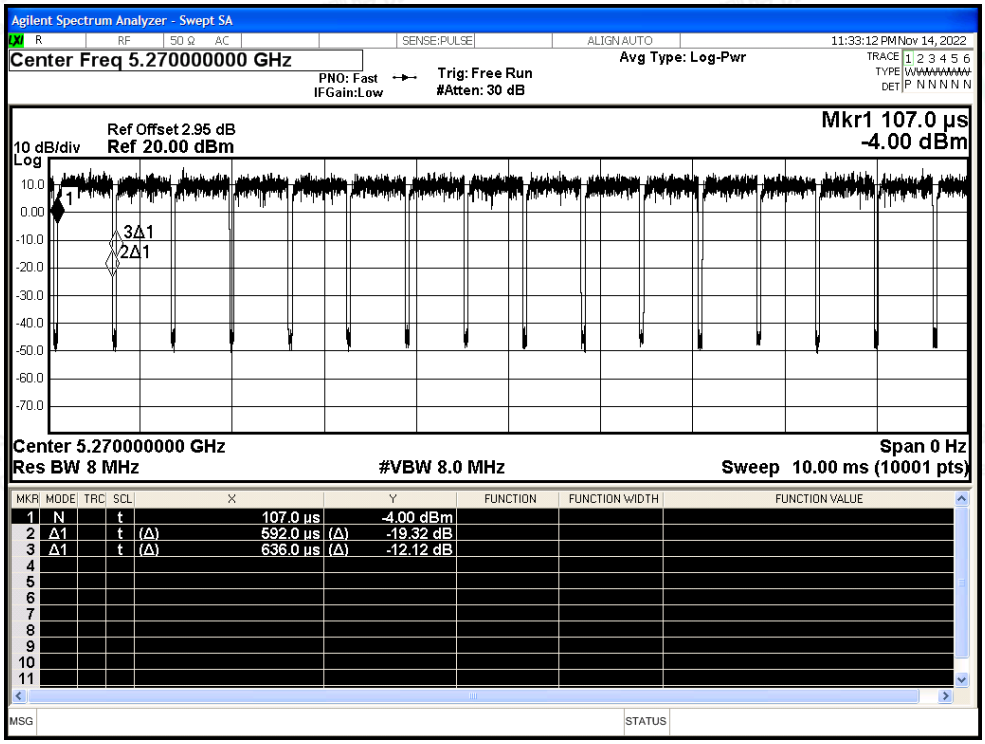
Duty Cycle NVNT ac20 5300MHz Ant



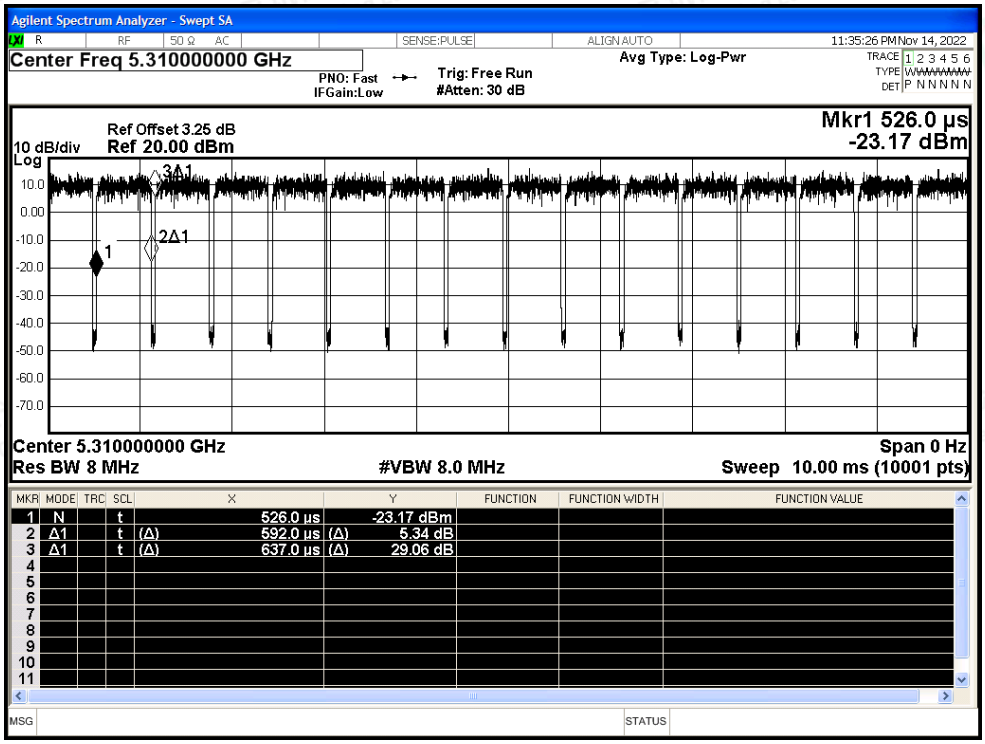
Duty Cycle NVNT ac20 5320MHz Ant



Duty Cycle NVNT ac40 5270MHz Ant



Duty Cycle NVNT ac40 5310MHz Ant



Duty Cycle NVNT ac80 5290MHz Ant