



Appendix E

RF Test Data for 5.3GWIFI (Conducted Measurement)

Product Name: Smart Phone

Test Model: HLTE241E

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
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	Ant1	20.033	0.5	Pass
NVNT	a	5300	Ant1	19.933	0.5	Pass
NVNT	a	5320	Ant1	19.868	0.5	Pass
NVNT	n20	5260	Ant1	20.25	0.5	Pass
NVNT	n20	5300	Ant1	20.382	0.5	Pass
NVNT	n20	5320	Ant1	20.348	0.5	Pass
NVNT	n40	5270	Ant1	40.079	0.5	Pass
NVNT	n40	5310	Ant1	39.667	0.5	Pass
NVNT	ac20	5260	Ant1	20.385	0.5	Pass
NVNT	ac20	5300	Ant1	20.295	0.5	Pass
NVNT	ac20	5320	Ant1	20.416	0.5	Pass
NVNT	ac40	5270	Ant1	39.799	0.5	Pass
NVNT	ac40	5310	Ant1	39.768	0.5	Pass
NVNT	ac80	5290	Ant1	79.012	0.5	Pass

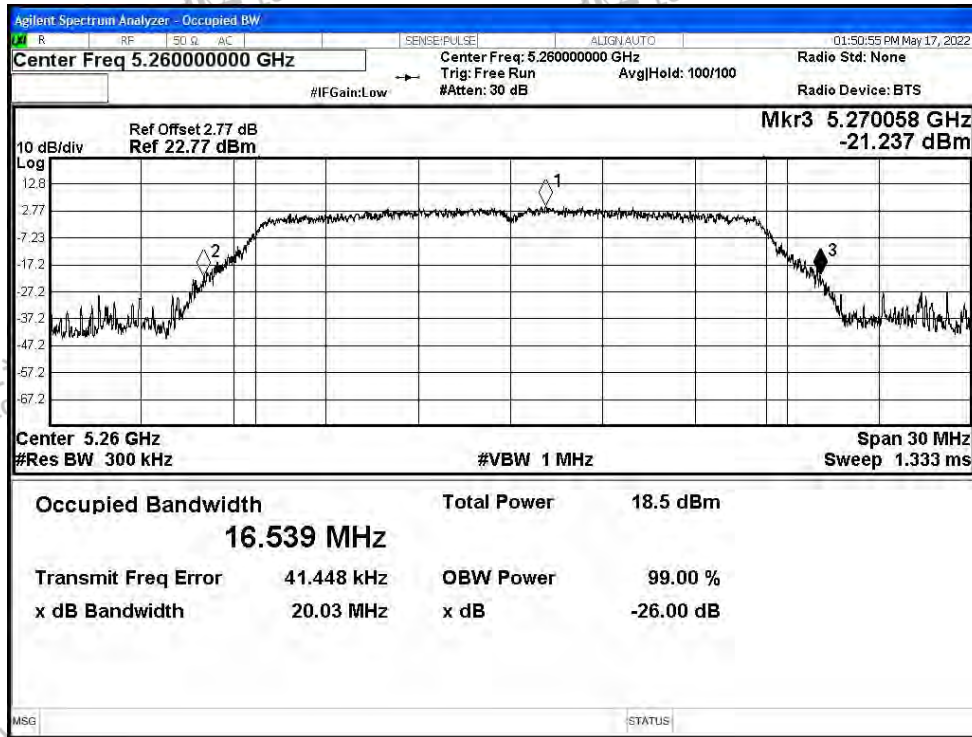


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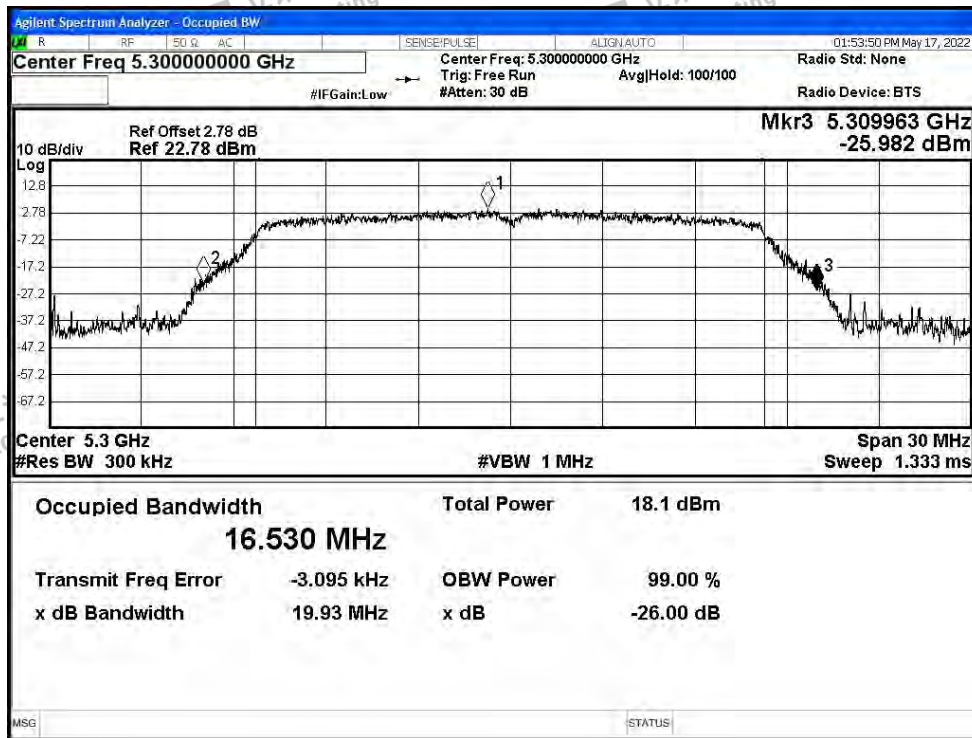


Test Graphs

-26dB Bandwidth NVNT a 5260MHz Ant1

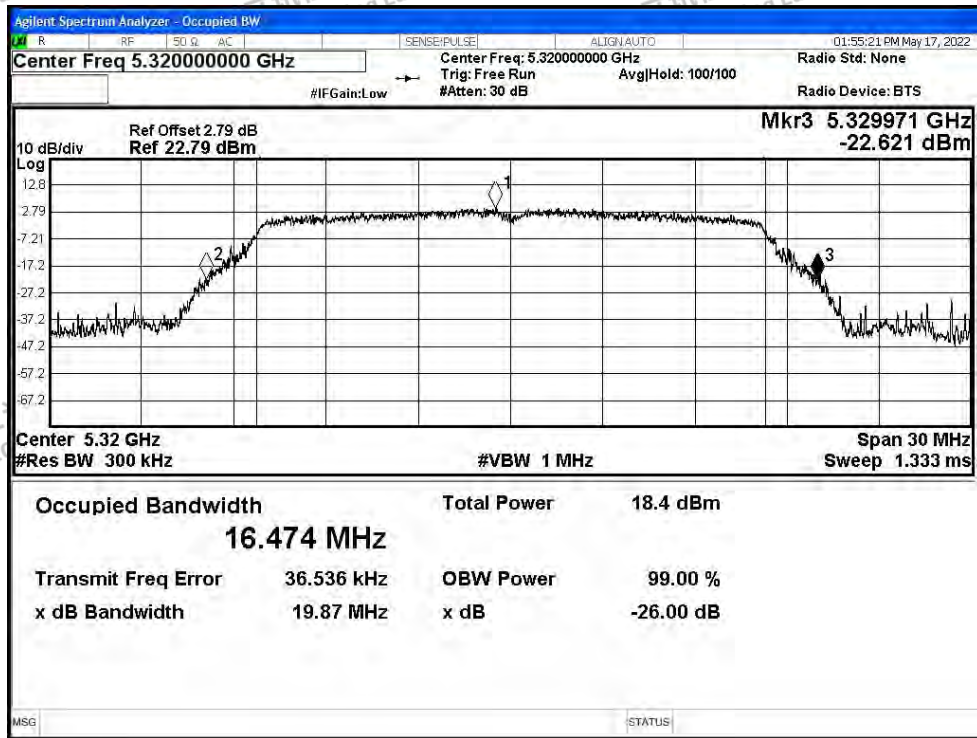


-26dB Bandwidth NVNT a 5300MHz Ant1

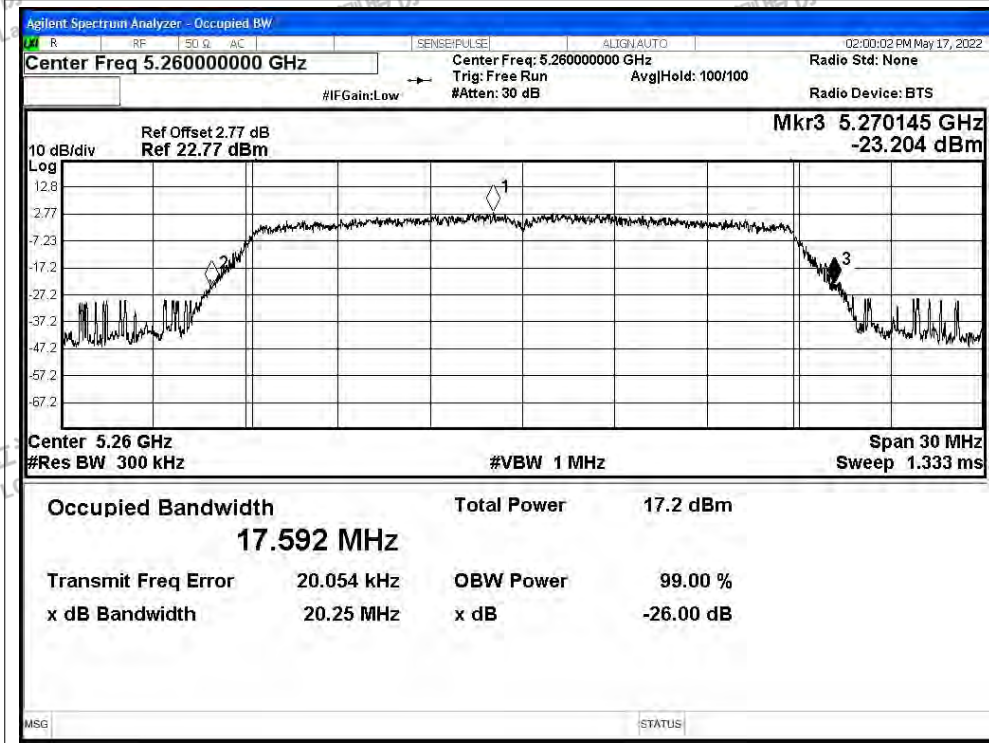




-26dB Bandwidth NVNT a 5320MHz Ant1

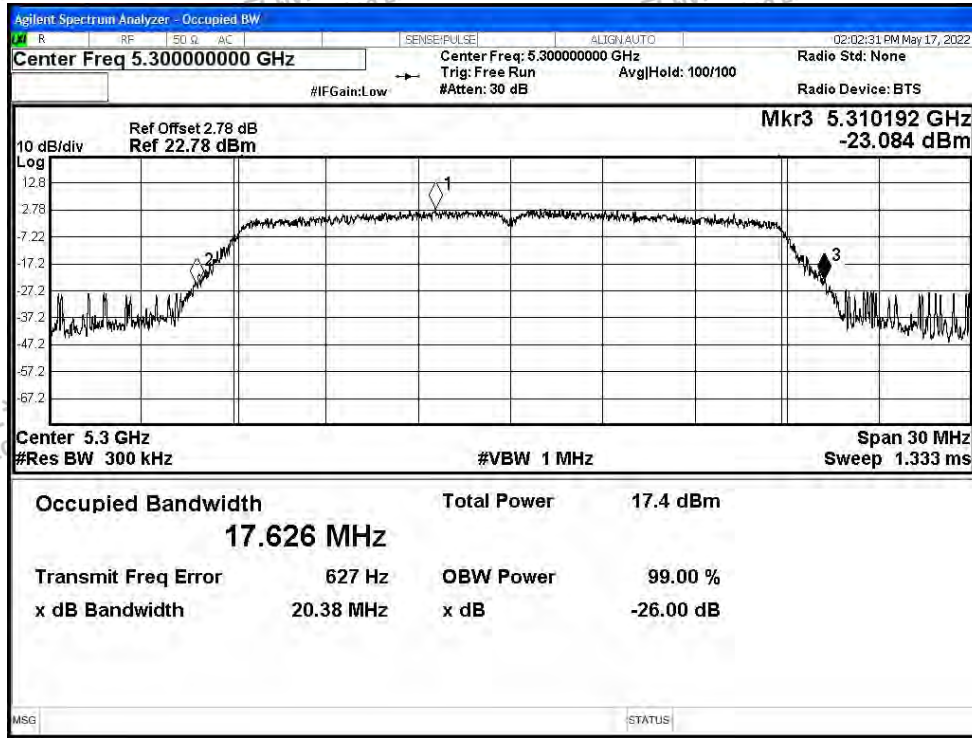


-26dB Bandwidth NVNT n20 5260MHz Ant1

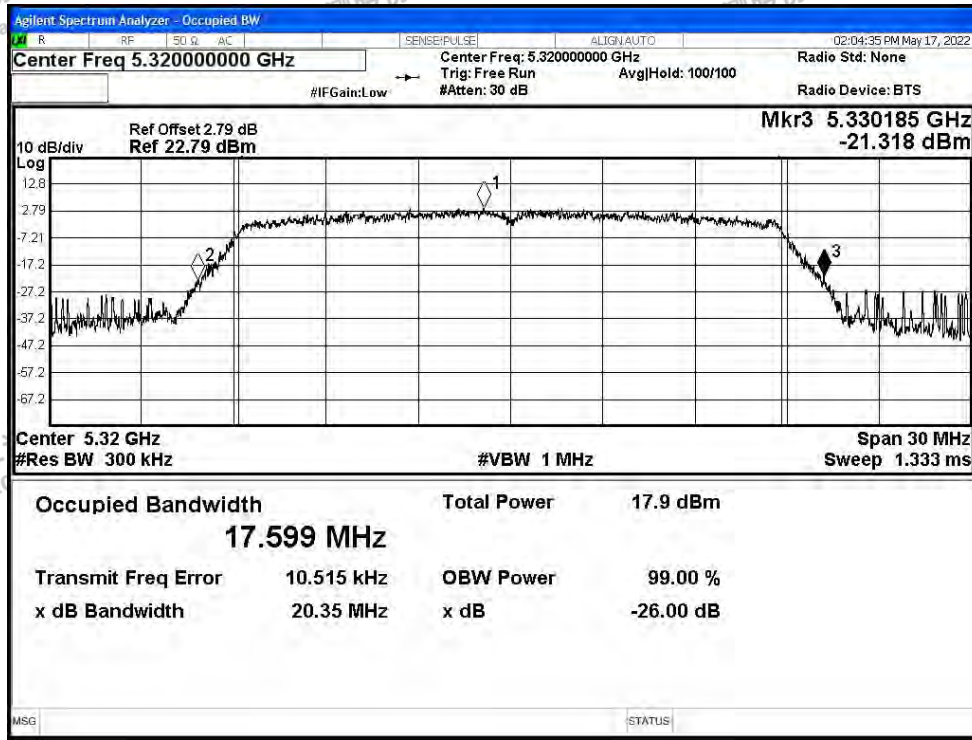




-26dB Bandwidth NVNT n20 5300MHz Ant1

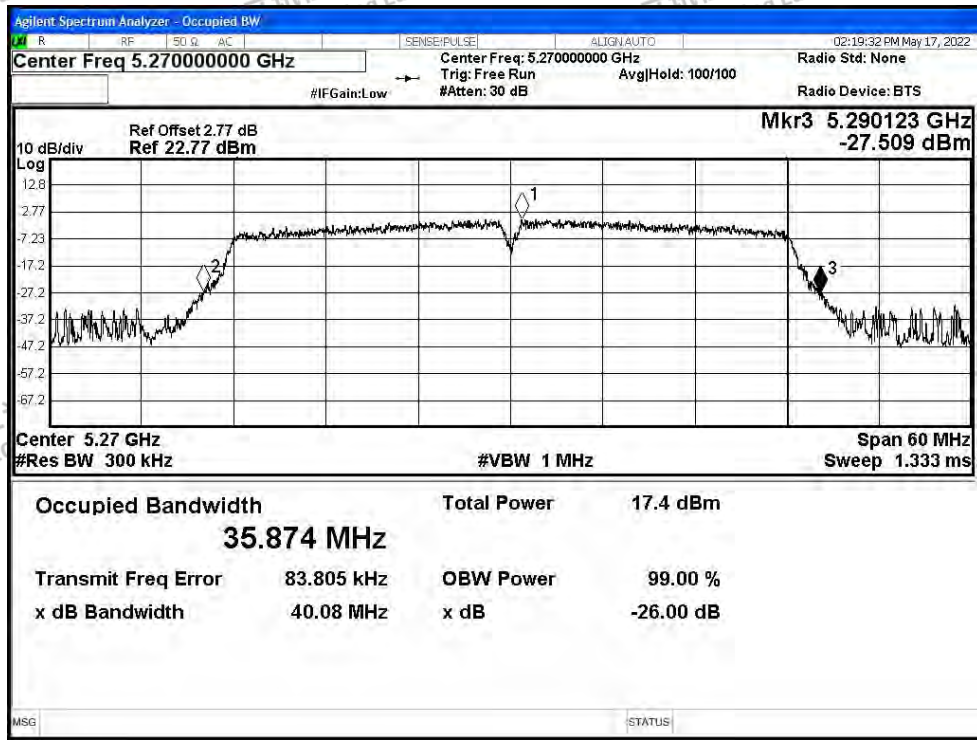


-26dB Bandwidth NVNT n20 5320MHz Ant1

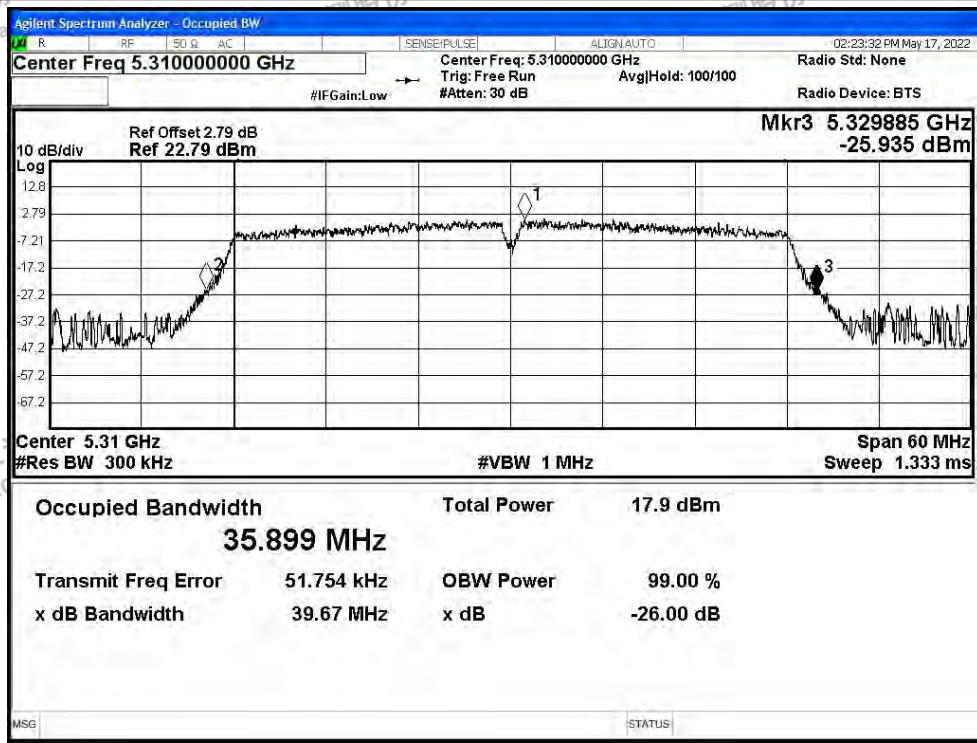




-26dB Bandwidth NVNT n40 5270MHz Ant1

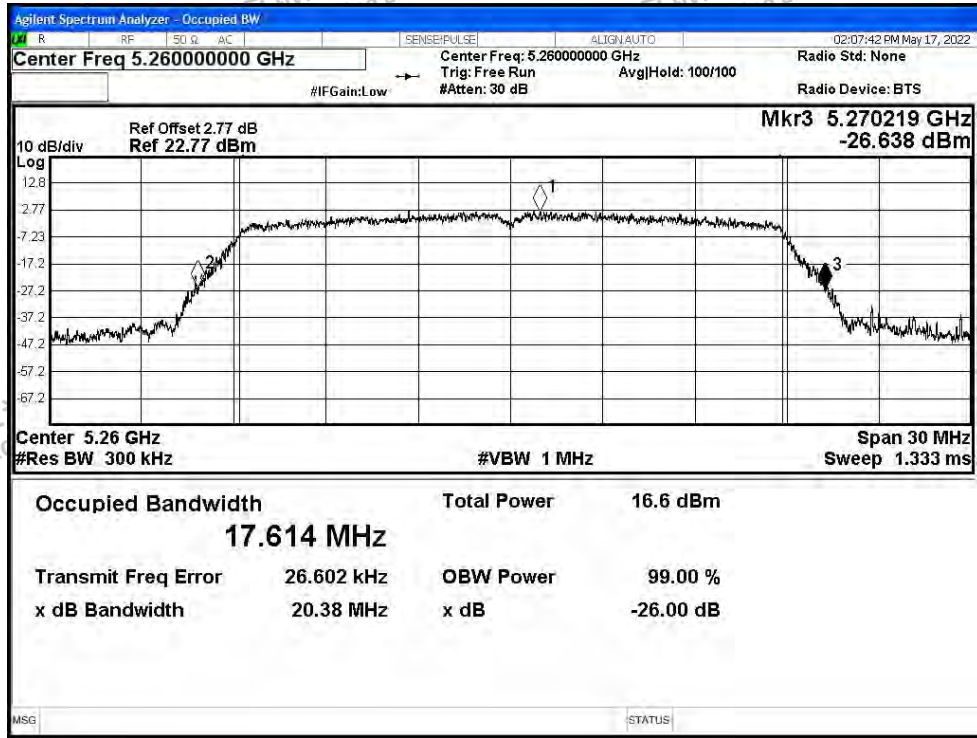


-26dB Bandwidth NVNT n40 5310MHz Ant1

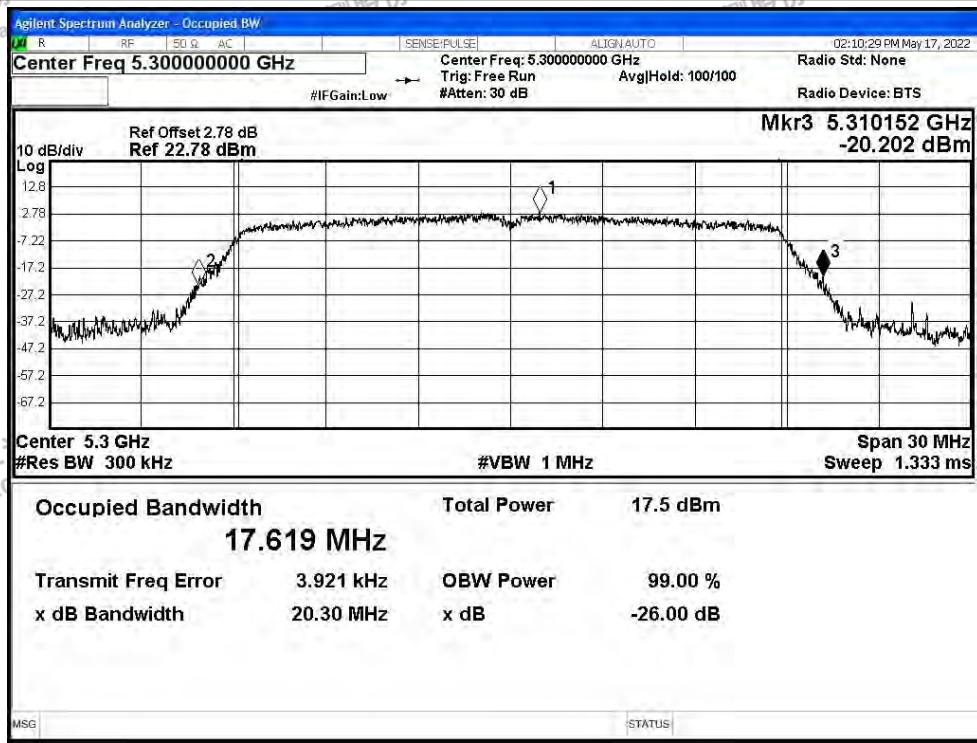




-26dB Bandwidth NVNT ac20 5260MHz Ant1

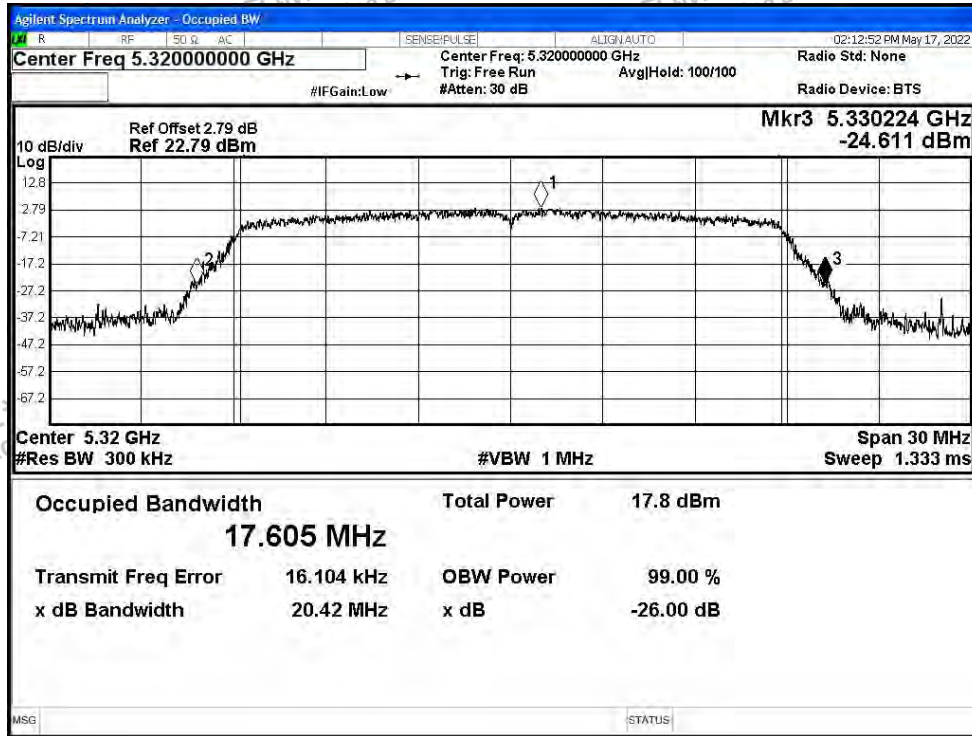


-26dB Bandwidth NVNT ac20 5300MHz Ant1

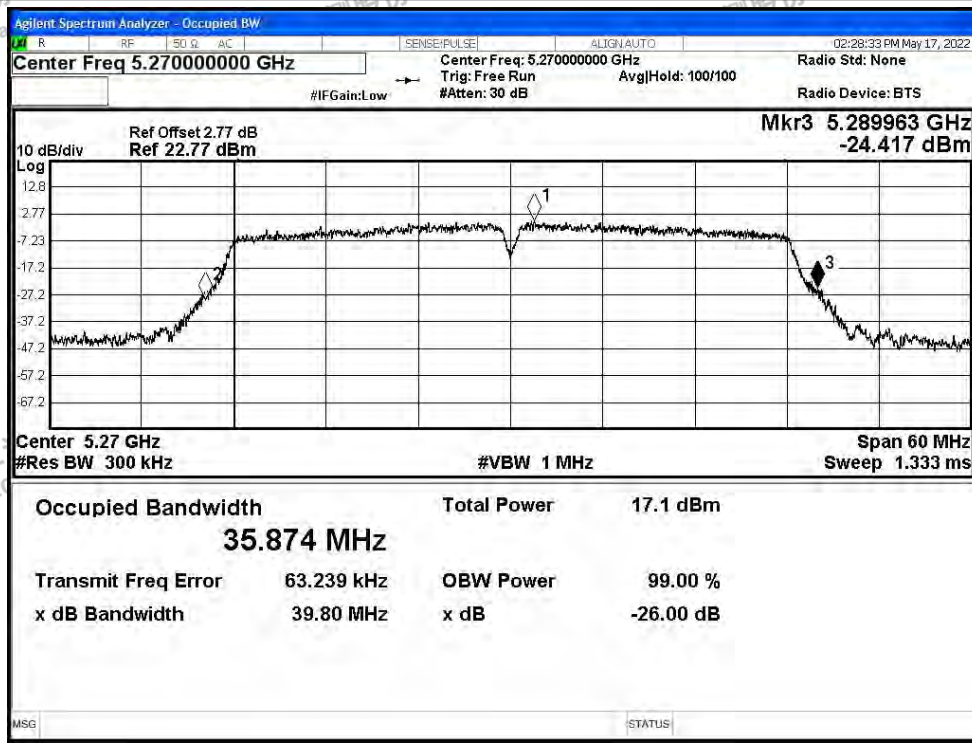




-26dB Bandwidth NVNT ac20 5320MHz Ant1

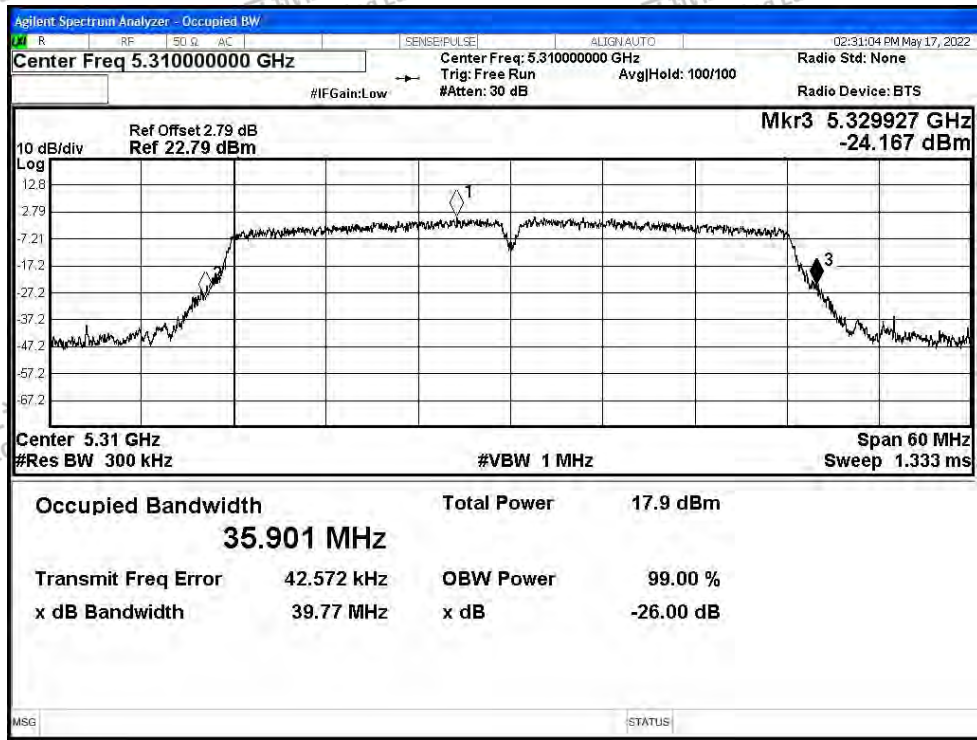


-26dB Bandwidth NVNT ac40 5270MHz Ant1

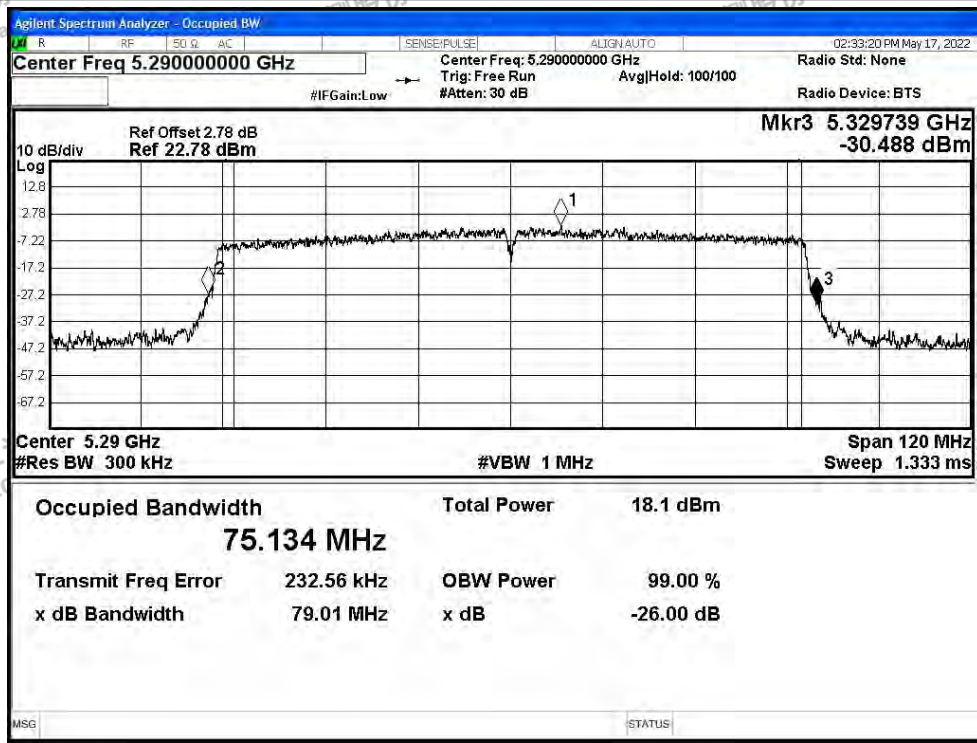




-26dB Bandwidth NVNT ac40 5310MHz Ant1



-26dB Bandwidth NVNT ac80 5290MHz 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	5260	Ant1	12.88	0.13	13.01	24	Pass
NVNT	a	5300	Ant1	12.44	0.13	12.57	24	Pass
NVNT	a	5320	Ant1	12.65	0.13	12.78	24	Pass
NVNT	n20	5260	Ant1	11.65	0.14	11.79	24	Pass
NVNT	n20	5300	Ant1	11.94	0.14	12.08	24	Pass
NVNT	n20	5320	Ant1	12.11	0.14	12.25	24	Pass
NVNT	n40	5270	Ant1	11.52	0.28	11.80	24	Pass
NVNT	n40	5310	Ant1	11.8	0.27	12.07	24	Pass
NVNT	ac20	5260	Ant1	11.11	0.14	11.25	24	Pass
NVNT	ac20	5300	Ant1	11.8	0.14	11.94	24	Pass
NVNT	ac20	5320	Ant1	11.93	0.14	12.07	24	Pass
NVNT	ac40	5270	Ant1	11.38	0.27	11.65	24	Pass
NVNT	ac40	5310	Ant1	12.08	0.27	12.35	24	Pass
NVNT	ac80	5290	Ant1	11.66	0.53	12.19	24	Pass



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E.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5260	Ant1	1.53	0.13	1.66	11	Pass
NVNT	a	5300	Ant1	-0.02	0.13	0.11	11	Pass
NVNT	a	5320	Ant1	0.95	0.13	1.08	11	Pass
NVNT	n20	5260	Ant1	-0.77	0.14	-0.63	11	Pass
NVNT	n20	5300	Ant1	-0.12	0.14	0.02	11	Pass
NVNT	n20	5320	Ant1	-0.28	0.14	-0.14	11	Pass
NVNT	n40	5270	Ant1	-4.82	0.28	-4.54	11	Pass
NVNT	n40	5310	Ant1	-3.81	0.27	-3.54	11	Pass
NVNT	ac20	5260	Ant1	-1.19	0.14	-1.05	11	Pass
NVNT	ac20	5300	Ant1	-0.29	0.14	-0.15	11	Pass
NVNT	ac20	5320	Ant1	-0.65	0.14	-0.51	11	Pass
NVNT	ac40	5270	Ant1	-3.64	0.27	-3.37	11	Pass
NVNT	ac40	5310	Ant1	-4.69	0.27	-4.42	11	Pass
NVNT	ac80	5290	Ant1	-9.75	0.53	-9.22	11	Pass

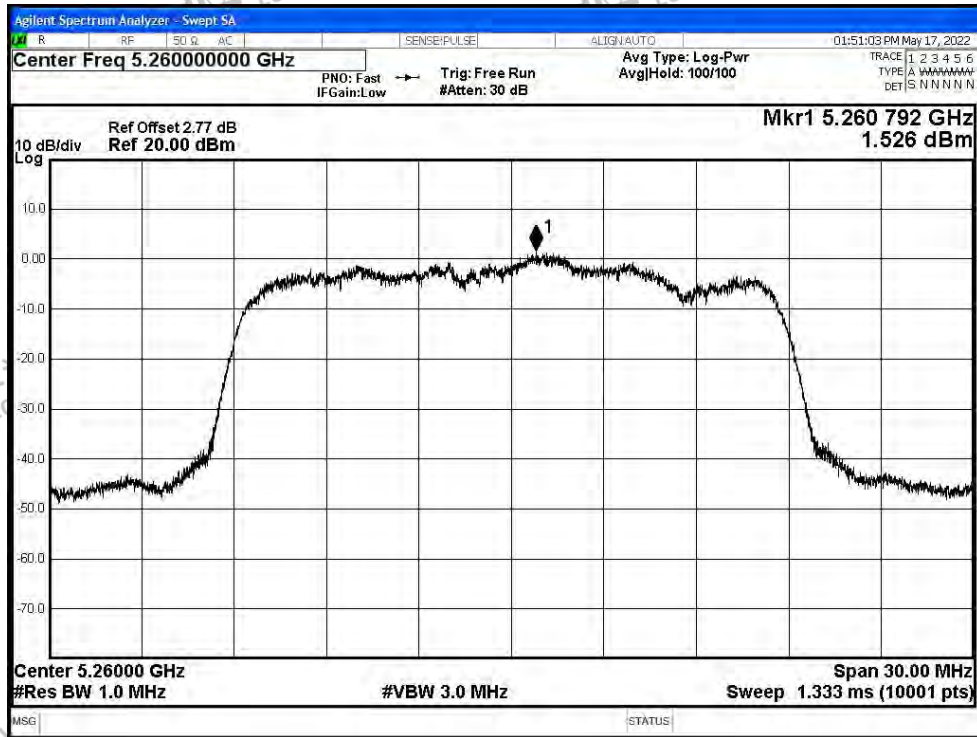


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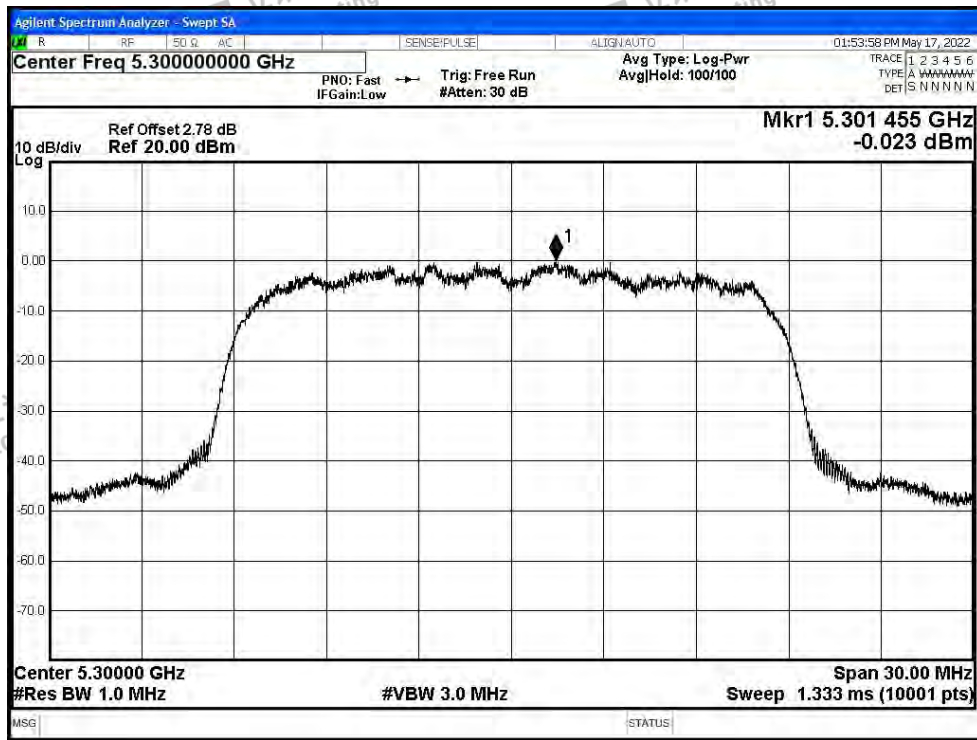


Test Graphs

PSD NVNT a 5260MHz Ant1

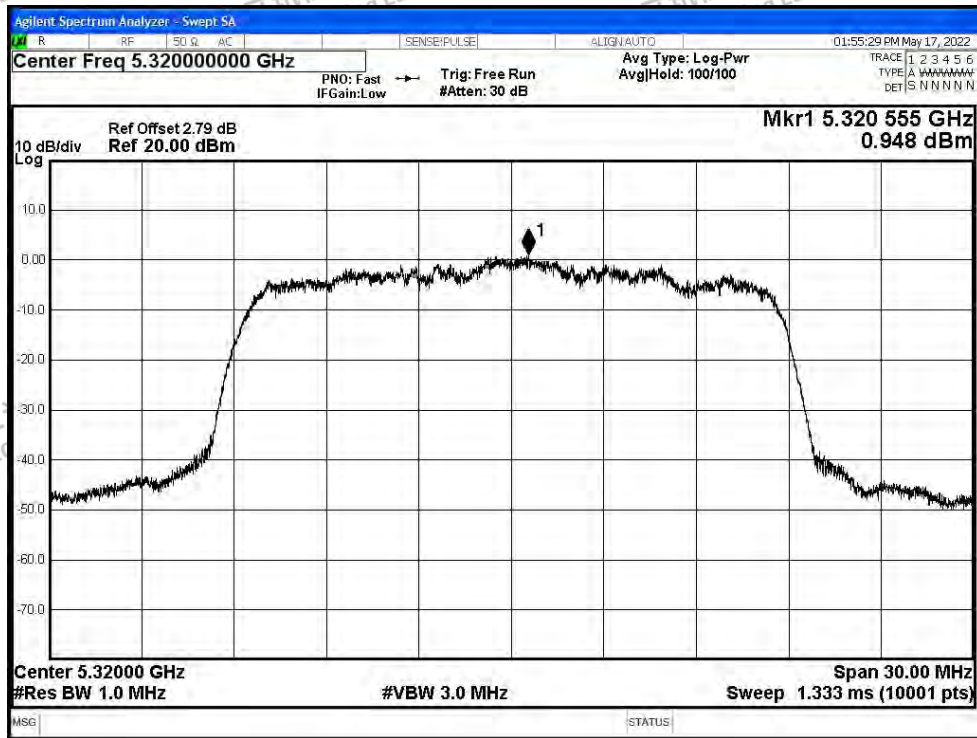


PSD NVNT a 5300MHz Ant1

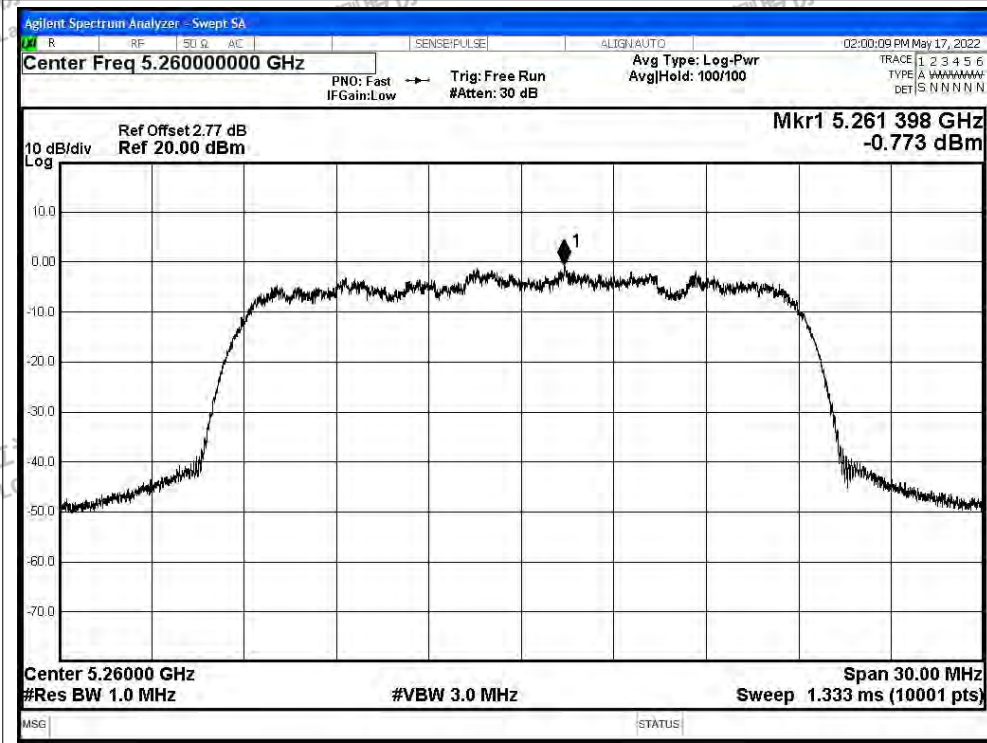




PSD NVNT a 5320MHz Ant1

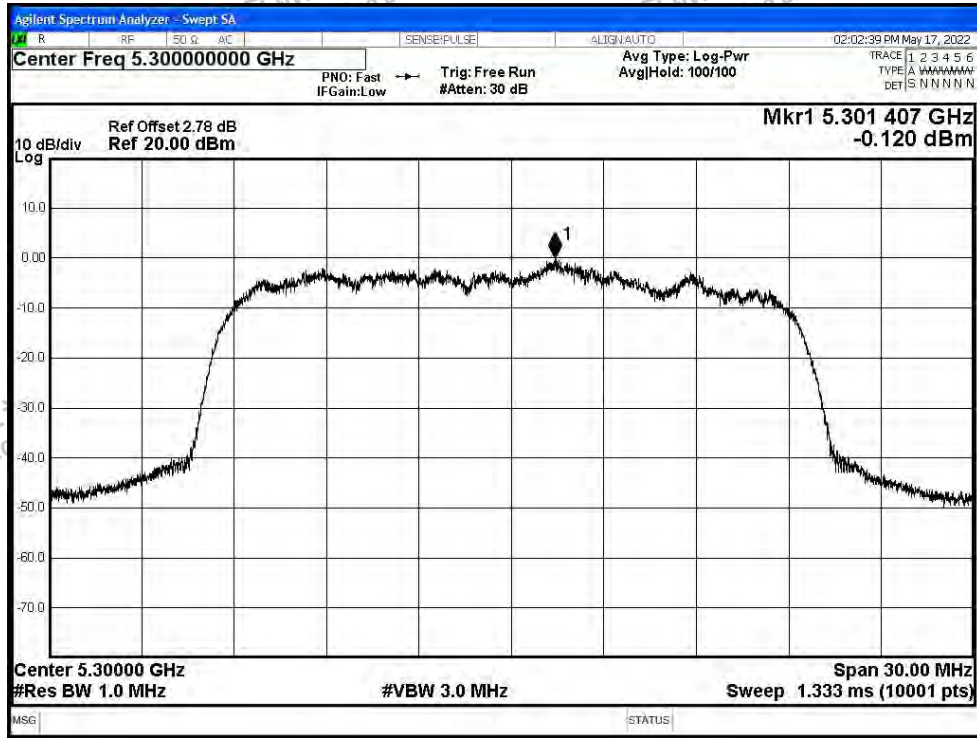


PSD NVNT n20 5260MHz Ant1

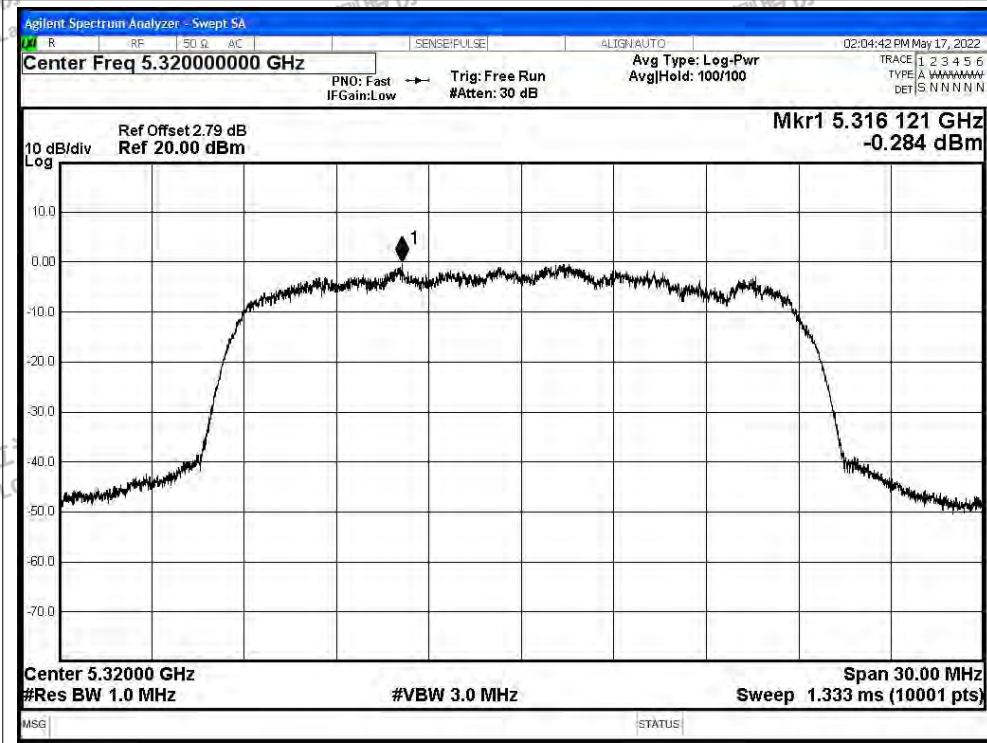




PSD NVNT n20 5300MHz Ant1

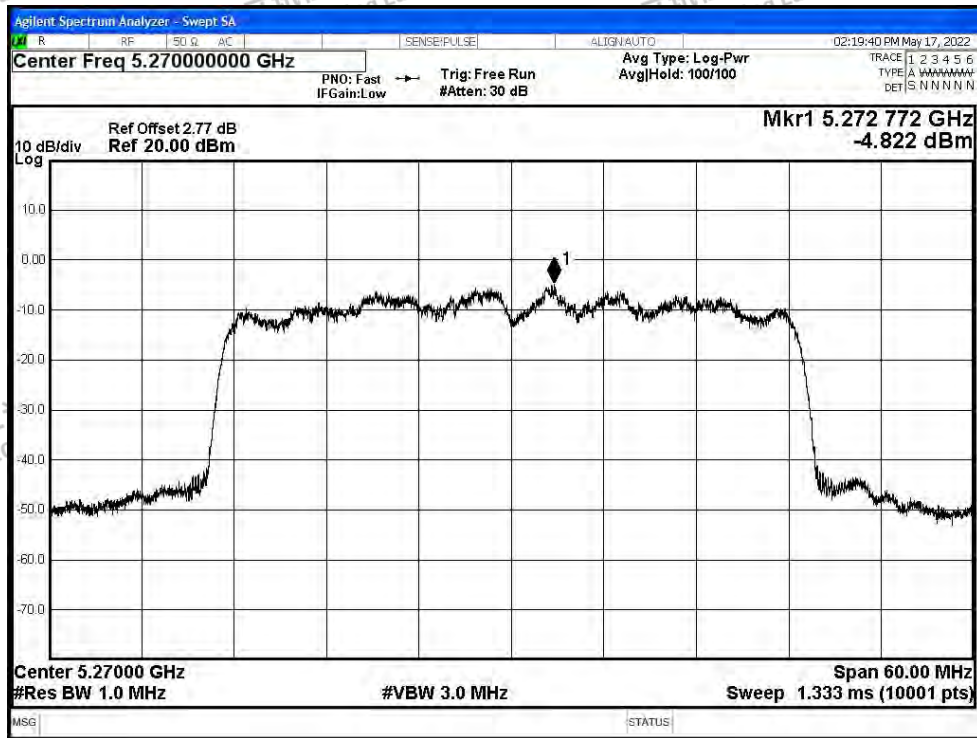


PSD NVNT n20 5320MHz Ant1

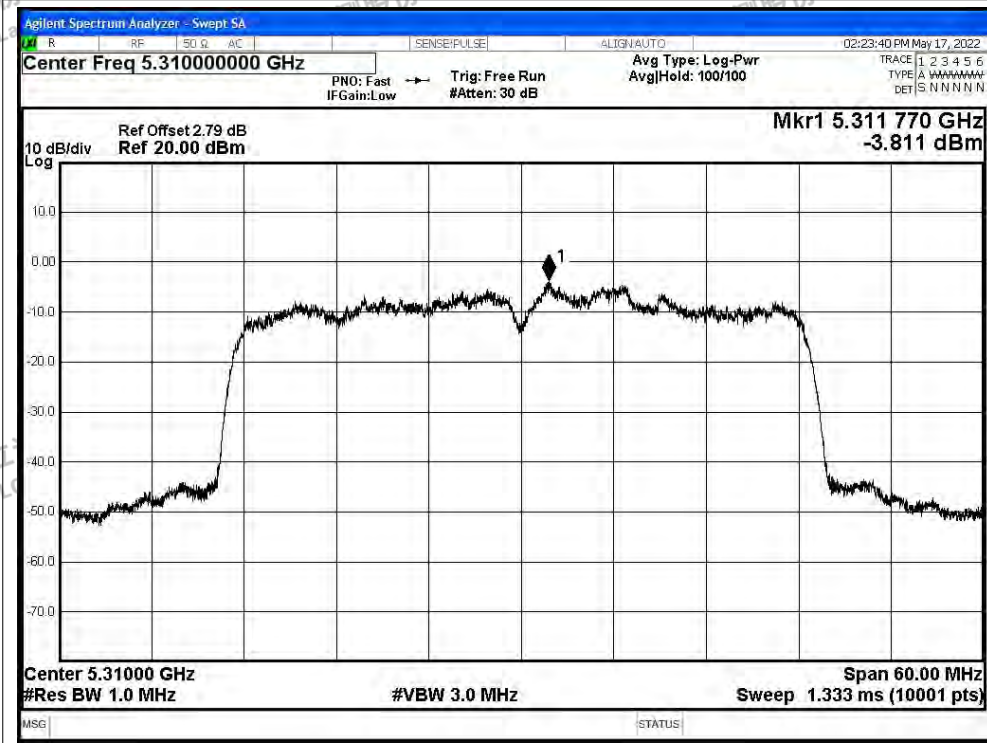




PSD NVNT n40 5270MHz Ant1

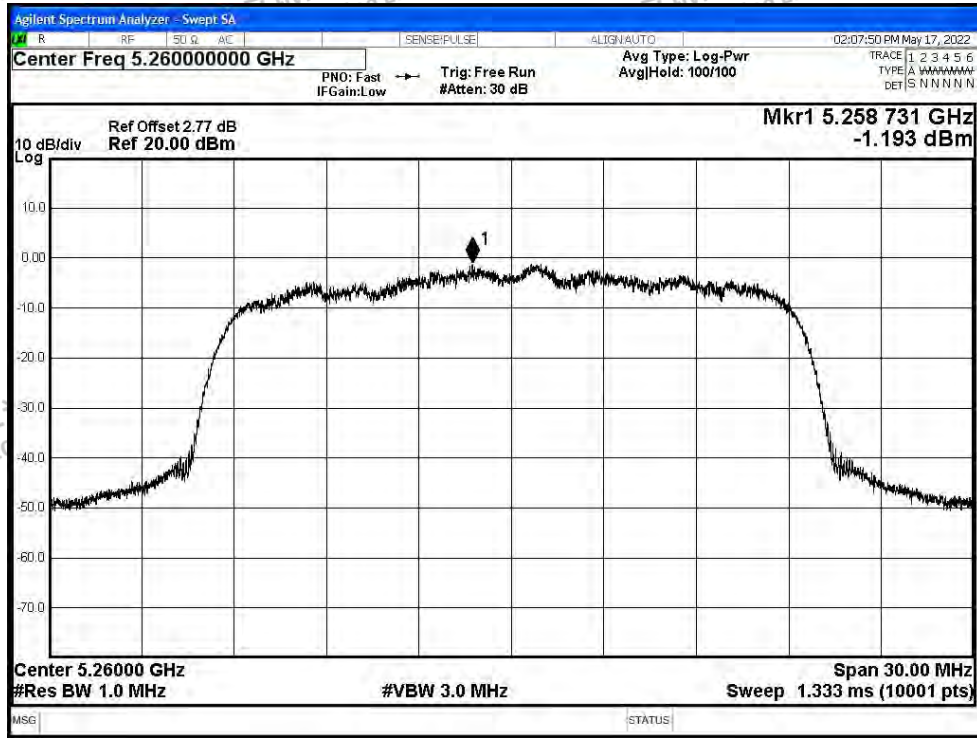


PSD NVNT n40 5310MHz Ant1

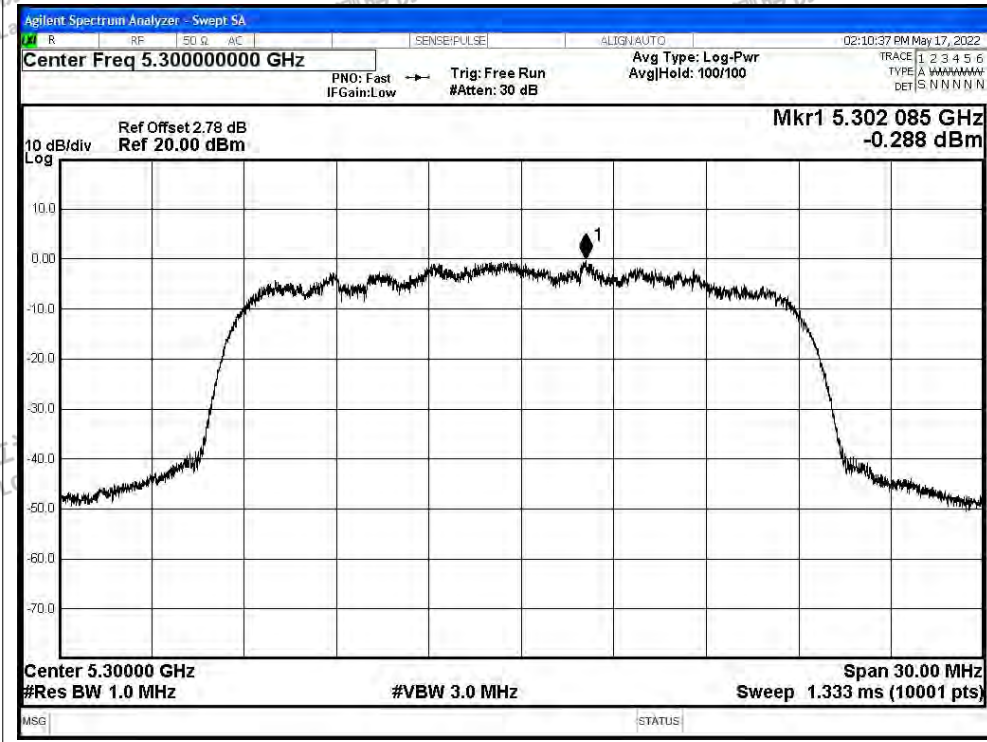




PSD NVNT ac20 5260MHz Ant1

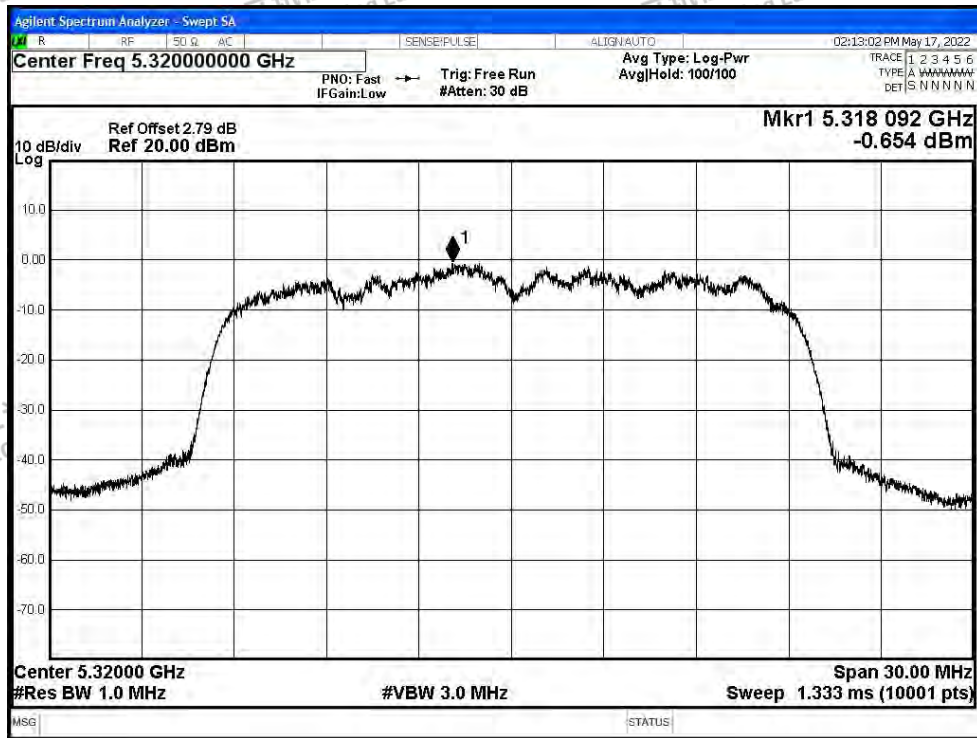


PSD NVNT ac20 5300MHz Ant1

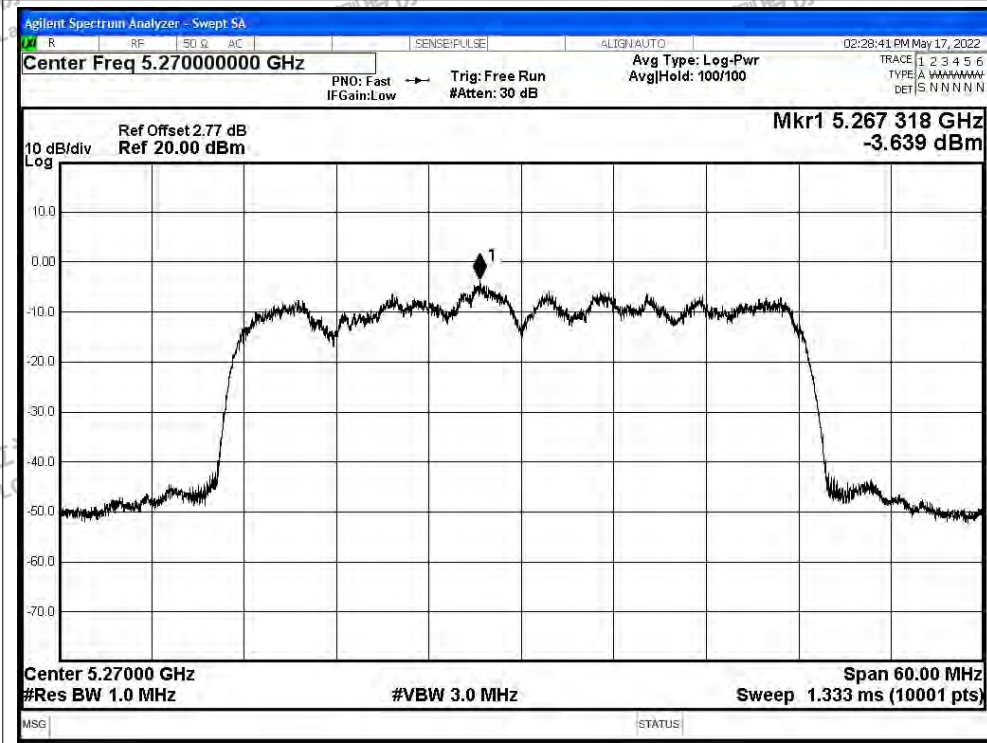




PSD NVNT ac20 5320MHz Ant1

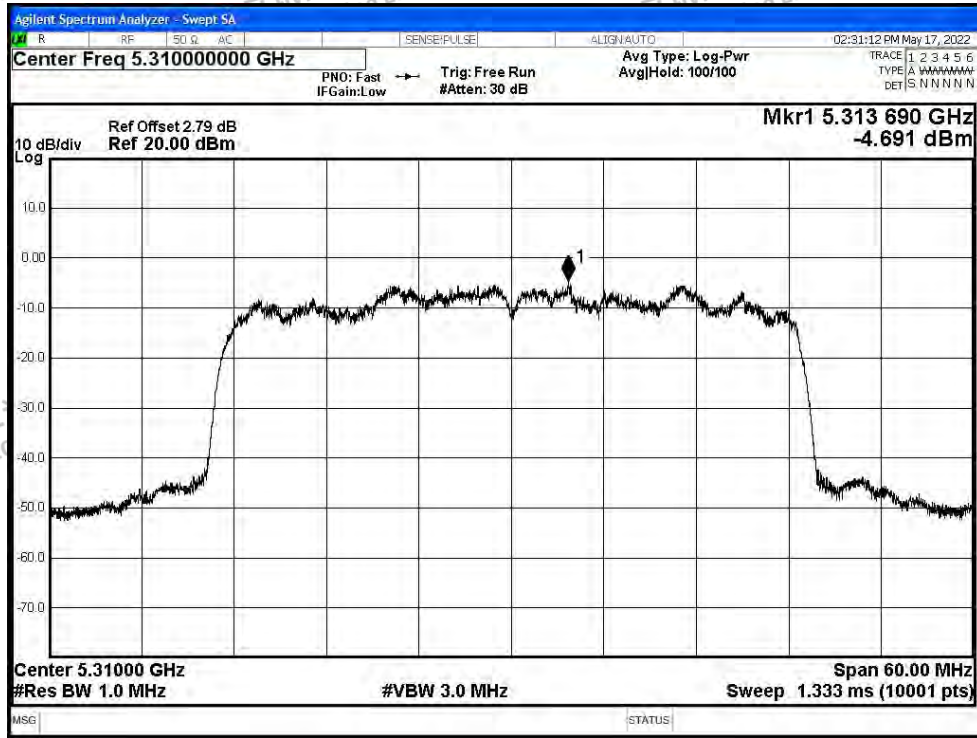


PSD NVNT ac40 5270MHz Ant1

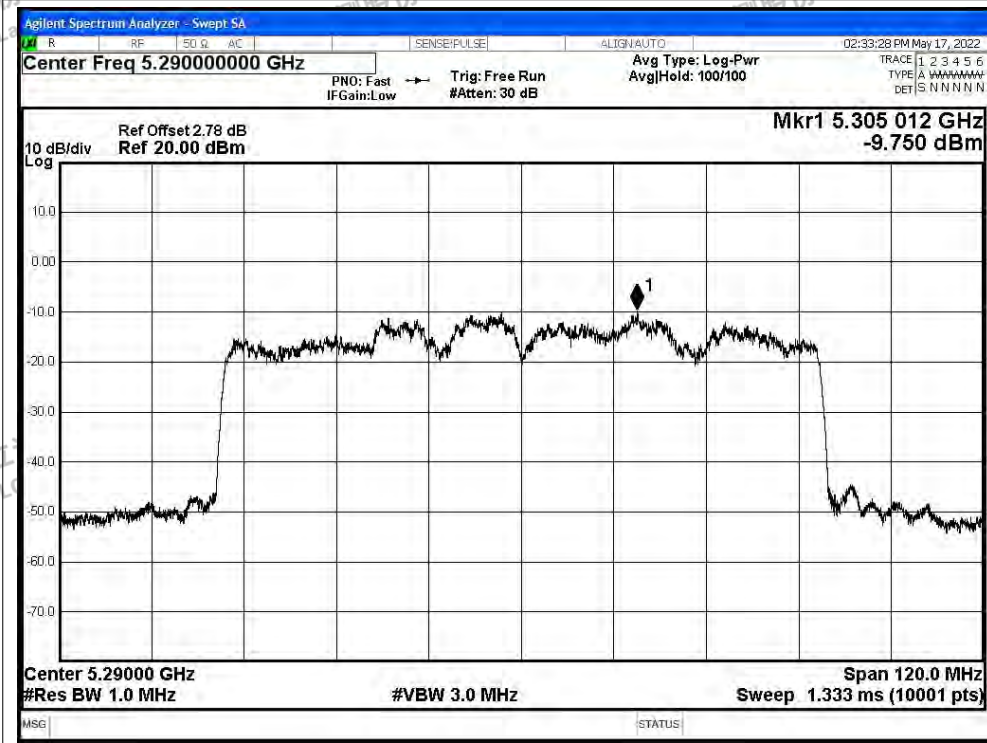




PSD NVNT ac40 5310MHz Ant1



PSD NVNT ac80 5290MHz Ant1





E.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	5260	Ant1	4500	-51.47	2	45.76	Peak	68.2	Pass
NVNT	a	5260	Ant1	4500	-60.59	2	36.64	Average	54	Pass
NVNT	a	5260	Ant1	5121.66	-45.75	2	51.48	Peak	68.2	Pass
NVNT	a	5260	Ant1	5145.84	-57.06	2	40.17	Average	54	Pass
NVNT	a	5260	Ant1	5150	-46.18	2	51.05	Peak	68.2	Pass
NVNT	a	5260	Ant1	5150	-57.11	2	40.12	Average	54	Pass
NVNT	a	5320	Ant1	5350	-43.23	2	54	Peak	68.2	Pass
NVNT	a	5320	Ant1	5350	-53.46	2	43.77	Average	54	Pass
NVNT	a	5320	Ant1	5352	-41.84	2	55.39	Peak	68.2	Pass
NVNT	a	5320	Ant1	5350.6	-53.38	2	43.85	Average	54	Pass
NVNT	a	5320	Ant1	5460	-49.81	2	47.42	Peak	68.2	Pass
NVNT	a	5320	Ant1	5460	-58.79	2	38.44	Average	54	Pass
NVNT	n20	5260	Ant1	4500	-52.47	2	44.76	Peak	68.2	Pass
NVNT	n20	5260	Ant1	4500	-60.66	2	36.57	Average	54	Pass
NVNT	n20	5260	Ant1	5088.12	-45.33	2	51.9	Peak	68.2	Pass
NVNT	n20	5260	Ant1	5148.18	-57	2	40.23	Average	54	Pass
NVNT	n20	5260	Ant1	5150	-46.23	2	51	Peak	68.2	Pass
NVNT	n20	5260	Ant1	5150	-57.21	2	40.02	Average	54	Pass
NVNT	n20	5320	Ant1	5350	-35.82	2	61.41	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5350	-52.47	2	44.76	Average	54	Pass
NVNT	n20	5320	Ant1	5355.6	-32.38	2	64.85	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5350.4	-52.43	2	44.8	Average	54	Pass
NVNT	n20	5320	Ant1	5460	-48.42	2	48.81	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5460	-58.63	2	38.6	Average	54	Pass
NVNT	n40	5270	Ant1	4500	-51.75	2	45.48	Peak	68.2	Pass
NVNT	n40	5270	Ant1	4500	-60.21	2	37.02	Average	54	Pass
NVNT	n40	5270	Ant1	5063.76	-46.24	2	50.99	Peak	68.2	Pass
NVNT	n40	5270	Ant1	5146.38	-56.4	2	40.83	Average	54	Pass
NVNT	n40	5270	Ant1	5150	-46.48	2	50.75	Peak	68.2	Pass
NVNT	n40	5270	Ant1	5150	-57.01	2	40.22	Average	54	Pass
NVNT	n40	5310	Ant1	5350	-45.82	2	51.41	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5350	-53.08	2	44.15	Average	54	Pass
NVNT	n40	5310	Ant1	5354.6	-33.26	2	63.97	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5350.8	-52.96	2	44.27	Average	54	Pass
NVNT	n40	5310	Ant1	5460	-50.14	2	47.09	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5460	-58.32	2	38.91	Average	54	Pass
NVNT	ac20	5260	Ant1	4500	-50.4	2	46.83	Peak	68.2	Pass



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NVNT	ac20	5260	Ant1	4500	-60.57	2	36.66	Average	54	Pass
NVNT	ac20	5260	Ant1	5093.58	-45.71	2	51.52	Peak	68.2	Pass
NVNT	ac20	5260	Ant1	5147.4	-57.14	2	40.09	Average	54	Pass
NVNT	ac20	5260	Ant1	5150	-48.61	2	48.62	Peak	68.2	Pass
NVNT	ac20	5260	Ant1	5150	-57.13	2	40.1	Average	54	Pass
NVNT	ac20	5320	Ant1	5350	-36.9	2	60.33	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5350	-52.56	2	44.67	Average	54	Pass
NVNT	ac20	5320	Ant1	5350.2	-36.81	2	60.42	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5350.2	-52.33	2	44.9	Average	54	Pass
NVNT	ac20	5320	Ant1	5460	-50.39	2	46.84	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5460	-58.58	2	38.65	Average	54	Pass
NVNT	ac40	5270	Ant1	4500	-51.61	2	45.62	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	4500	-60.51	2	36.72	Average	54	Pass
NVNT	ac40	5270	Ant1	5084.01	-46.13	2	51.1	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	5147.19	-56.82	2	40.41	Average	54	Pass
NVNT	ac40	5270	Ant1	5150	-47.01	2	50.22	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	5150	-56.87	2	40.36	Average	54	Pass
NVNT	ac40	5310	Ant1	5350	-42.45	2	54.78	Peak	68.2	Pass
NVNT	ac40	5310	Ant1	5350	-51.95	2	45.28	Average	54	Pass
NVNT	ac40	5310	Ant1	5354.6	-30.6	2	66.63	Peak	68.2	Pass
NVNT	ac40	5310	Ant1	5350.4	-51.73	2	45.5	Average	54	Pass
NVNT	ac40	5310	Ant1	5460	-49.83	2	47.4	Peak	68.2	Pass
NVNT	ac40	5310	Ant1	5460	-57.78	2	39.45	Average	54	Pass
NVNT	ac80	5290	Ant1	4500	-50.28	2	46.95	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	4500	-59.67	2	37.56	Average	54	Pass
NVNT	ac80	5290	Ant1	5082.9	-45.6	2	51.63	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5147.28	-56.18	2	41.05	Average	54	Pass
NVNT	ac80	5290	Ant1	5150	-47.7	2	49.53	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5150	-56.45	2	40.78	Average	54	Pass
NVNT	ac80	5290	Ant1	5350	-39.89	2	57.34	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5350	-48.43	2	48.8	Average	54	Pass
NVNT	ac80	5290	Ant1	5378	-32.38	2	64.85	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5350.25	-48.02	2	49.21	Average	54	Pass
NVNT	ac80	5290	Ant1	5460	-48.38	2	48.85	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5460	-58.18	2	39.05	Average	54	Pass

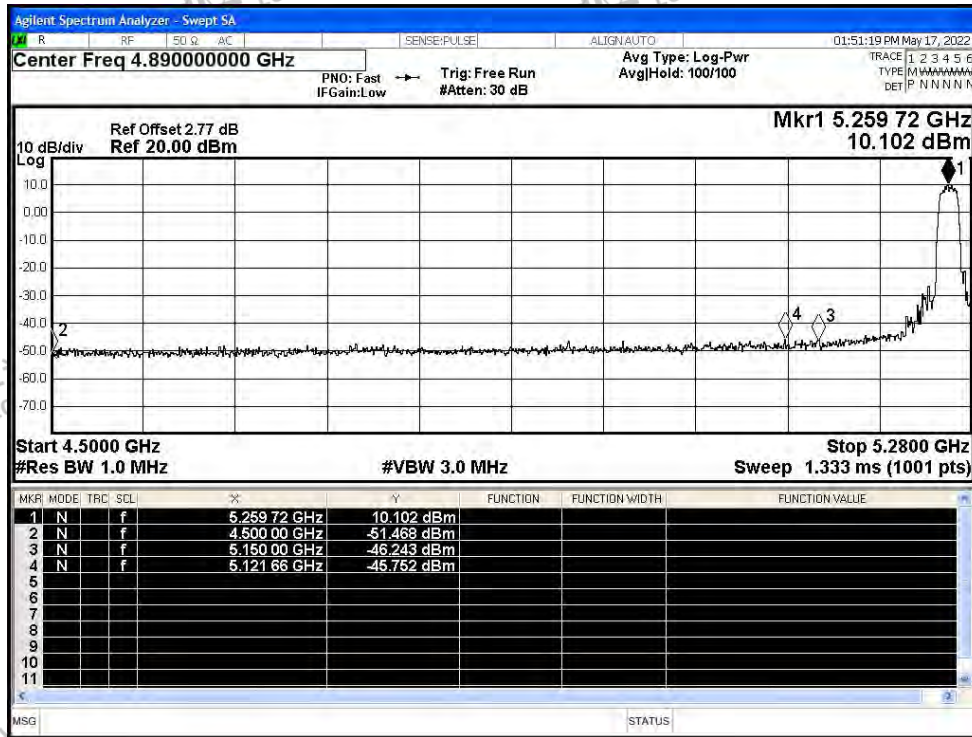


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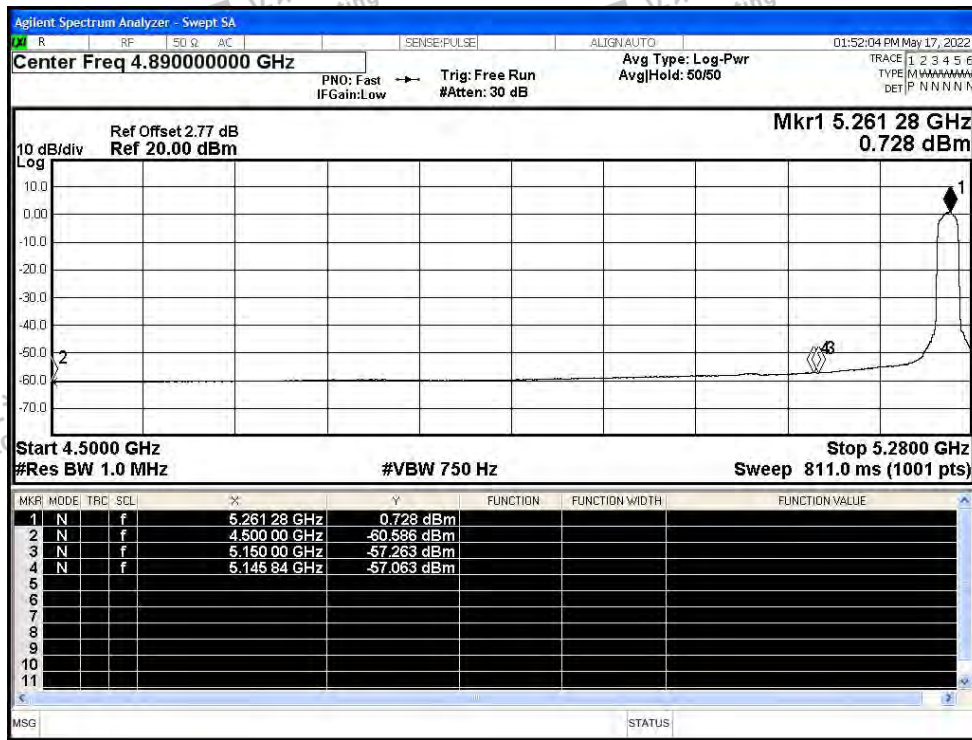


Test Graphs

Restrict Band NVNT a 5260MHz Ant1 Peak

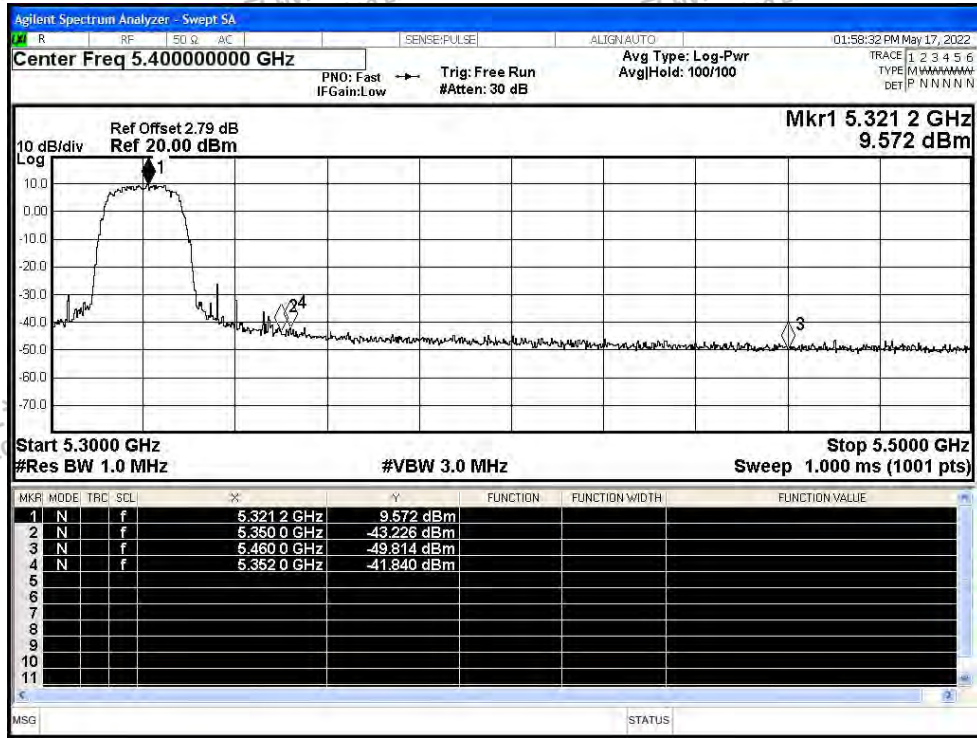


Restrict Band NVNT a 5260MHz Ant1 Average

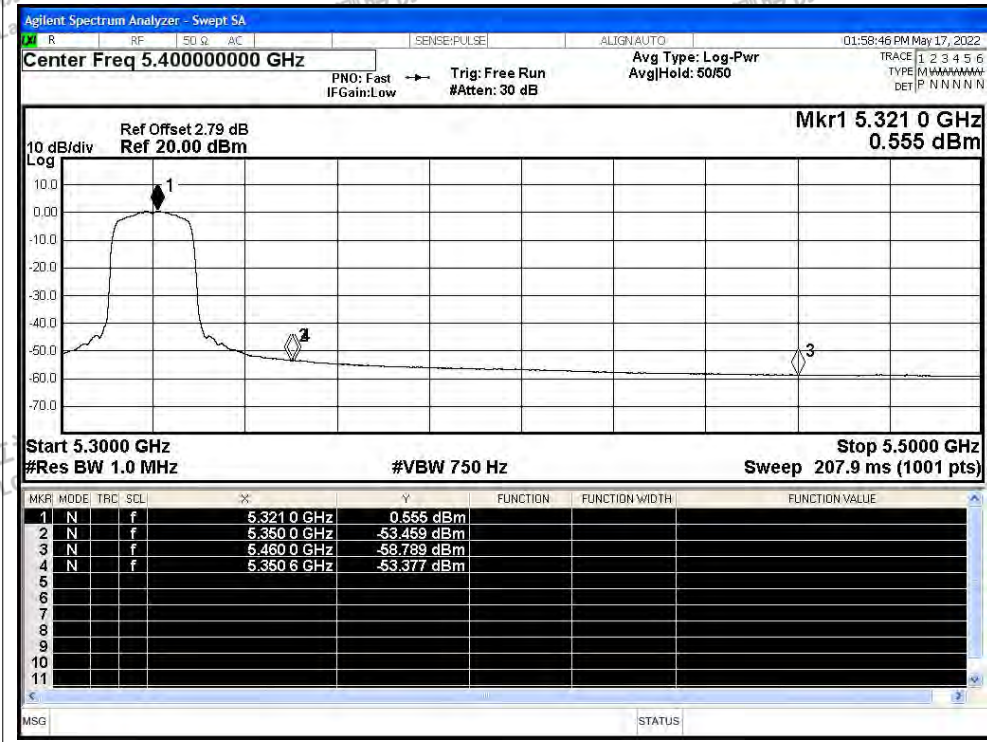




Restrict Band NVNT a 5320MHz Ant1 Peak

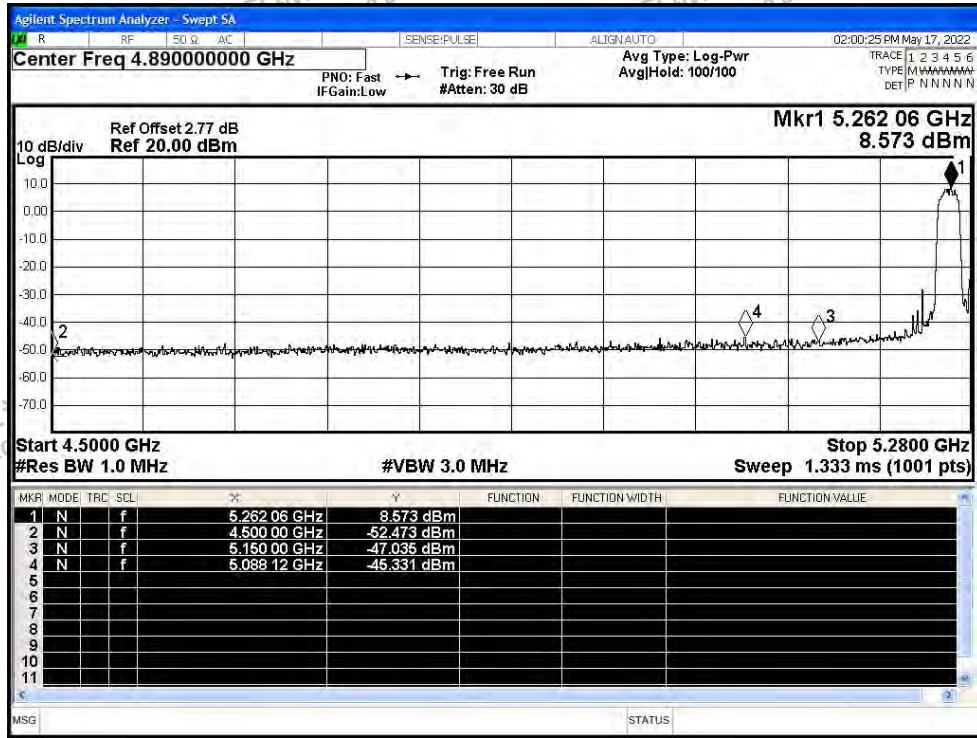


Restrict Band NVNT a 5320MHz Ant1 Average

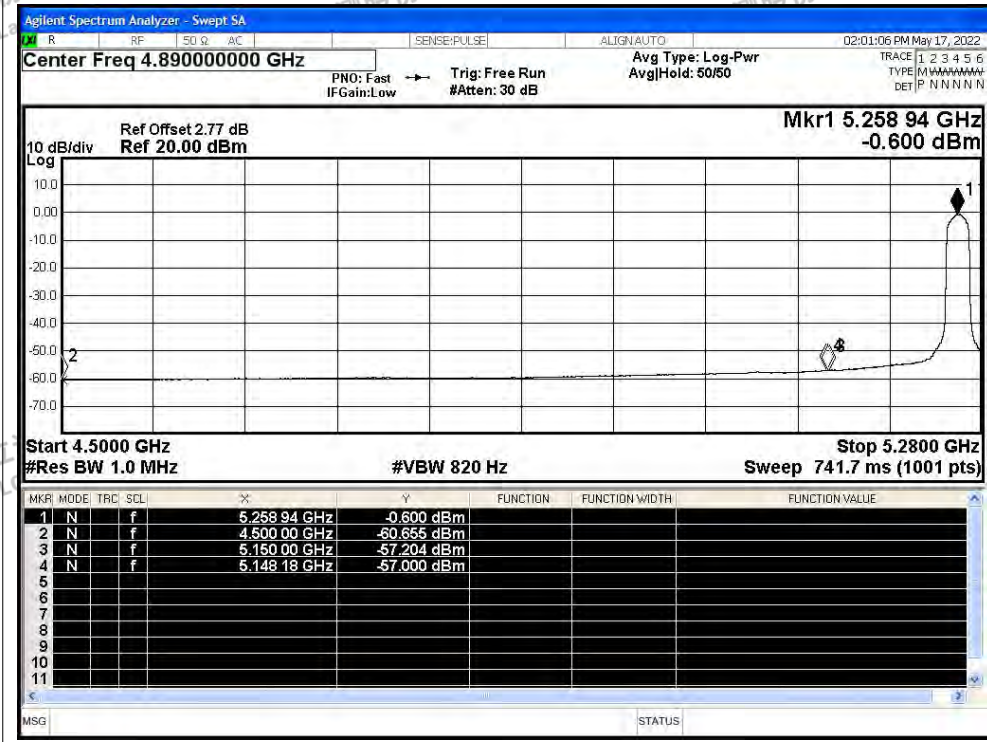




Restrict Band NVNT n20 5260MHz Ant1 Peak

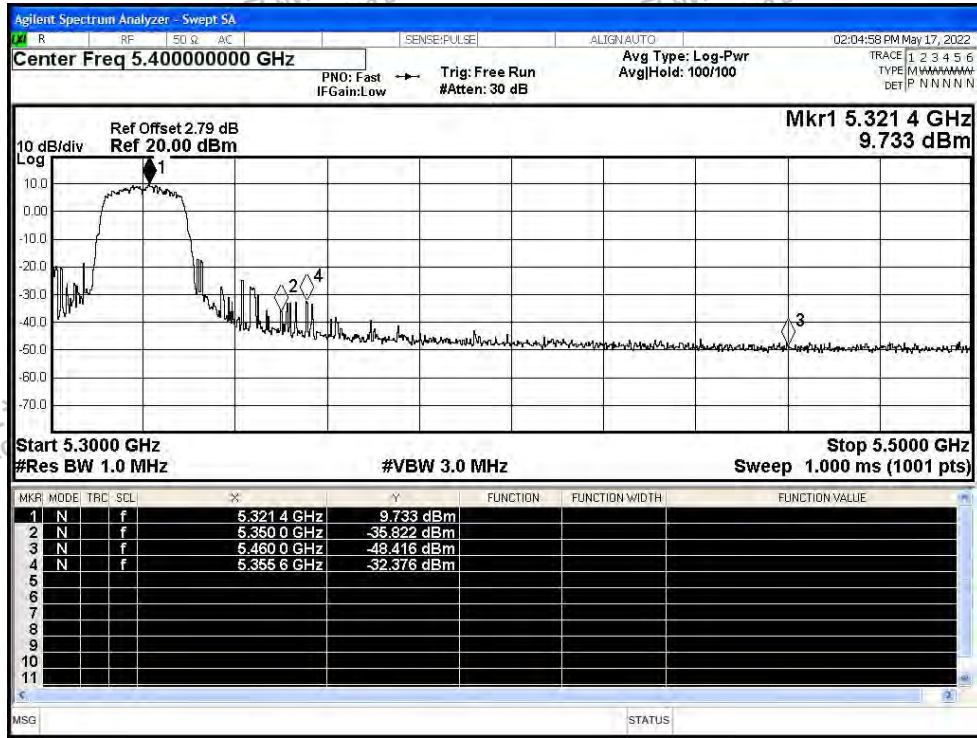


Restrict Band NVNT n20 5260MHz Ant1 Average

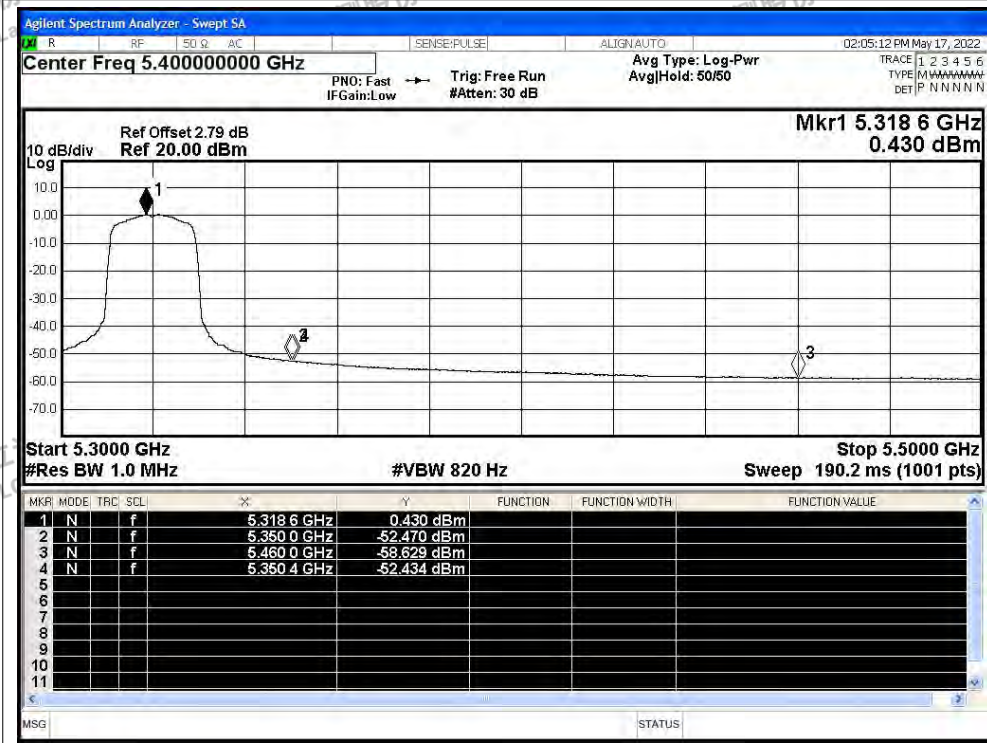




Restrict Band NVNT n20 5320MHz Ant1 Peak

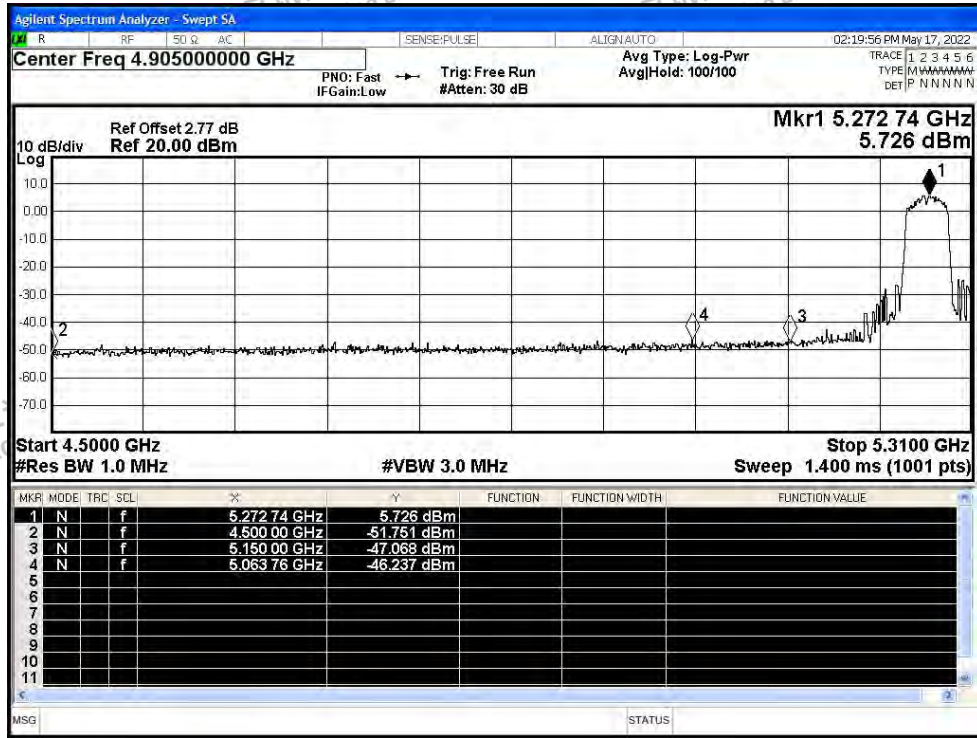


Restrict Band NVNT n20 5320MHz Ant1 Average

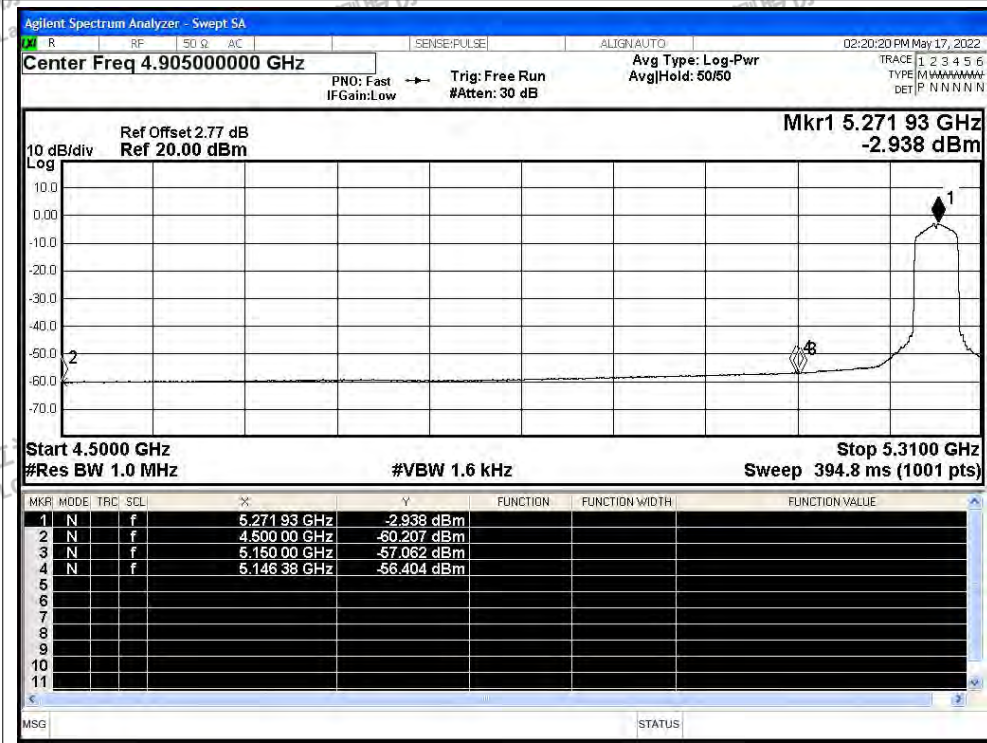




Restrict Band NVNT n40 5270MHz Ant1 Peak

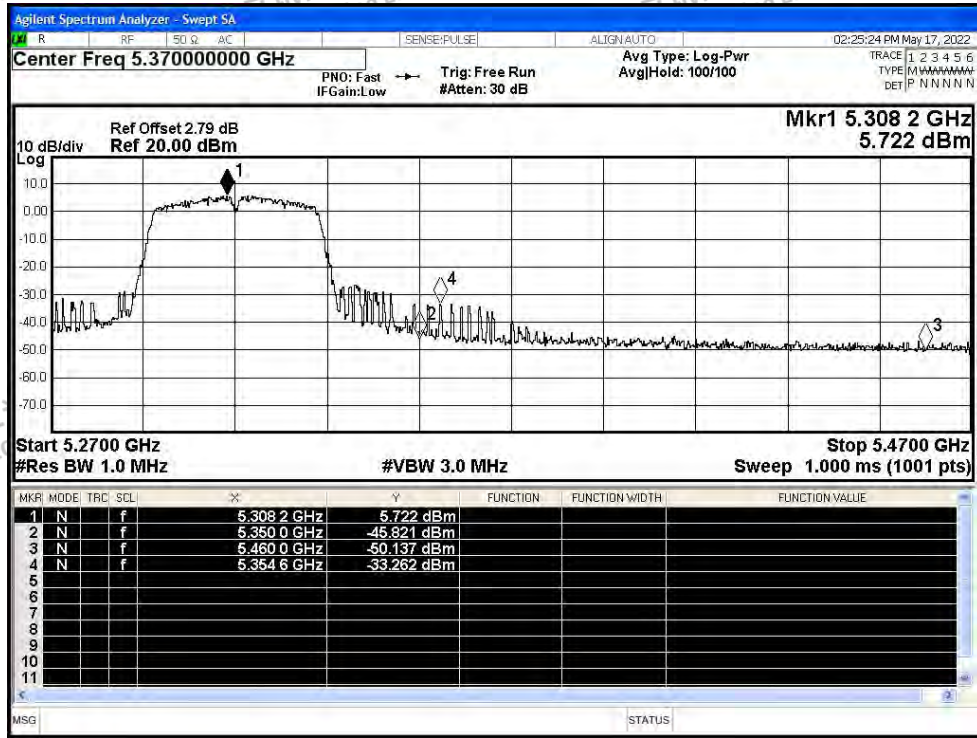


Restrict Band NVNT n40 5270MHz Ant1 Average

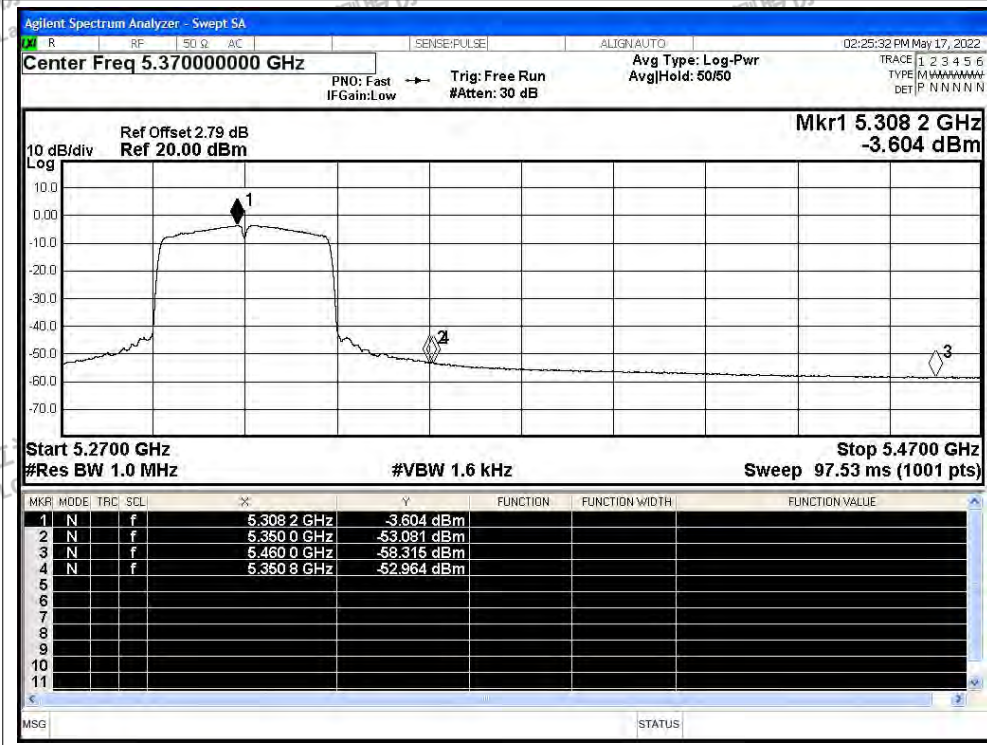




Restrict Band NVNT n40 5310MHz Ant1 Peak

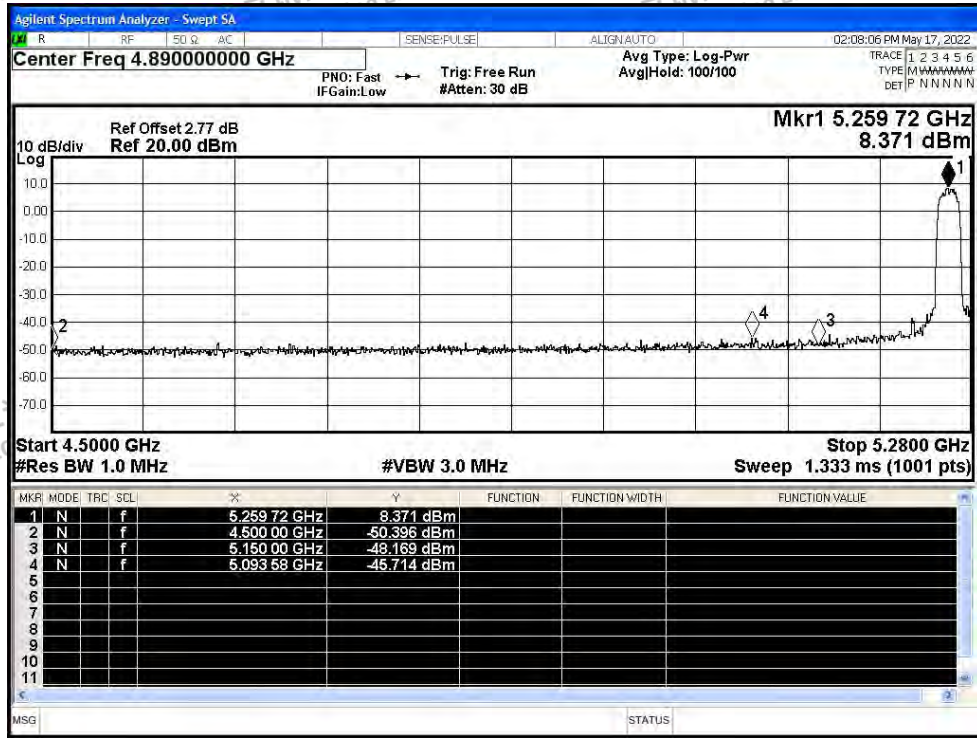


Restrict Band NVNT n40 5310MHz Ant1 Average

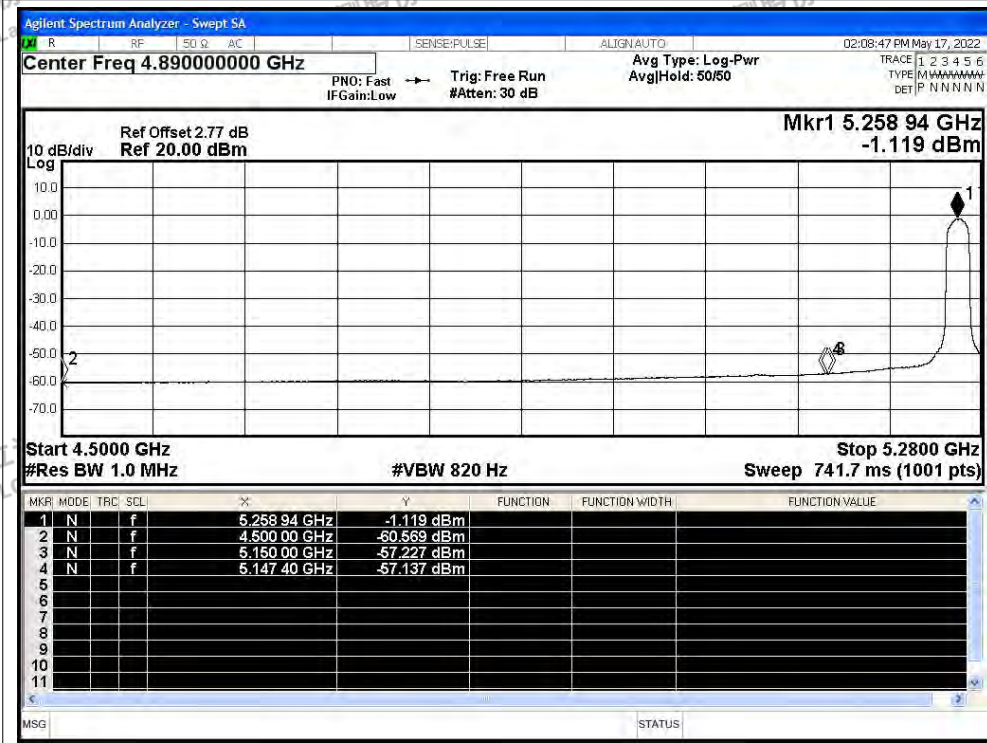




Restrict Band NVNT ac20 5260MHz Ant1 Peak

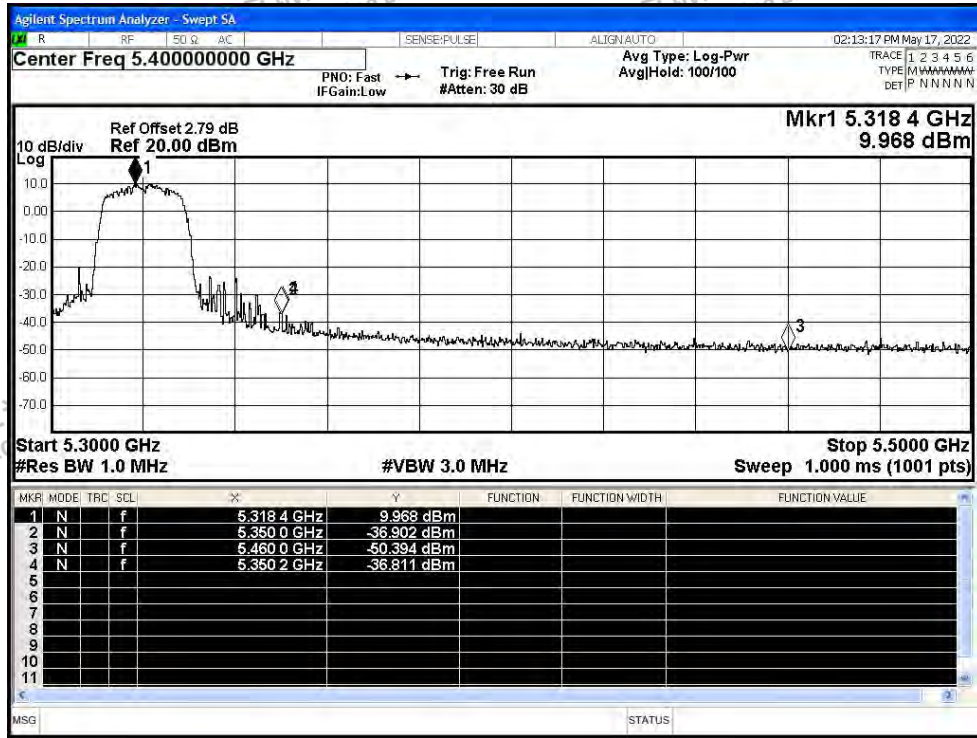


Restrict Band NVNT ac20 5260MHz Ant1 Average

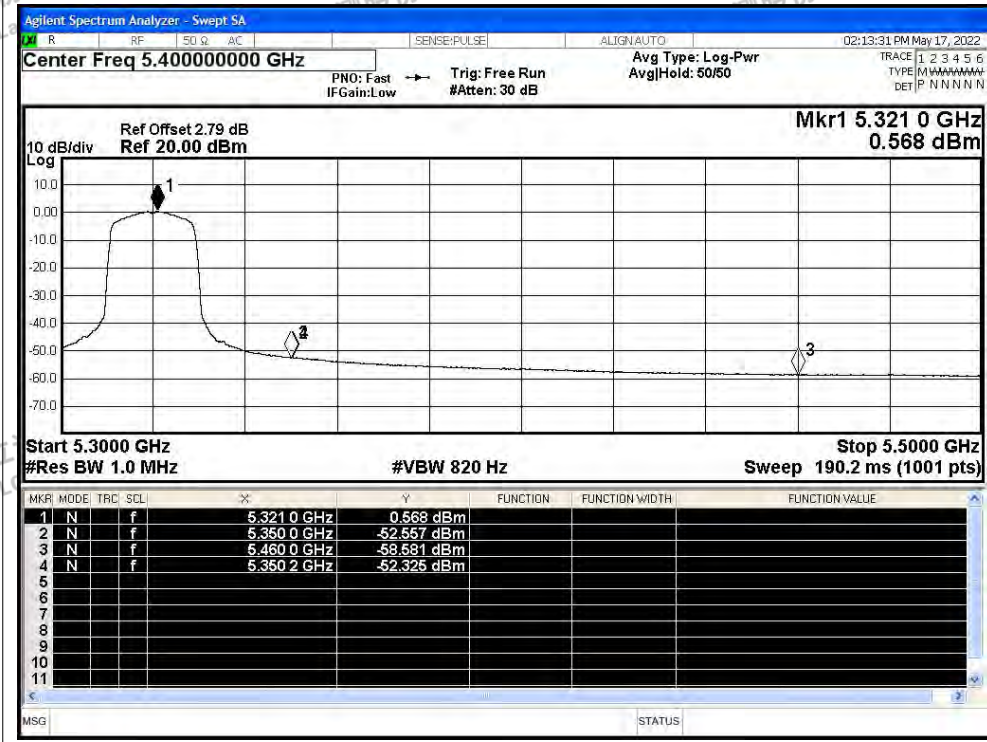




Restrict Band NVNT ac20 5320MHz Ant1 Peak

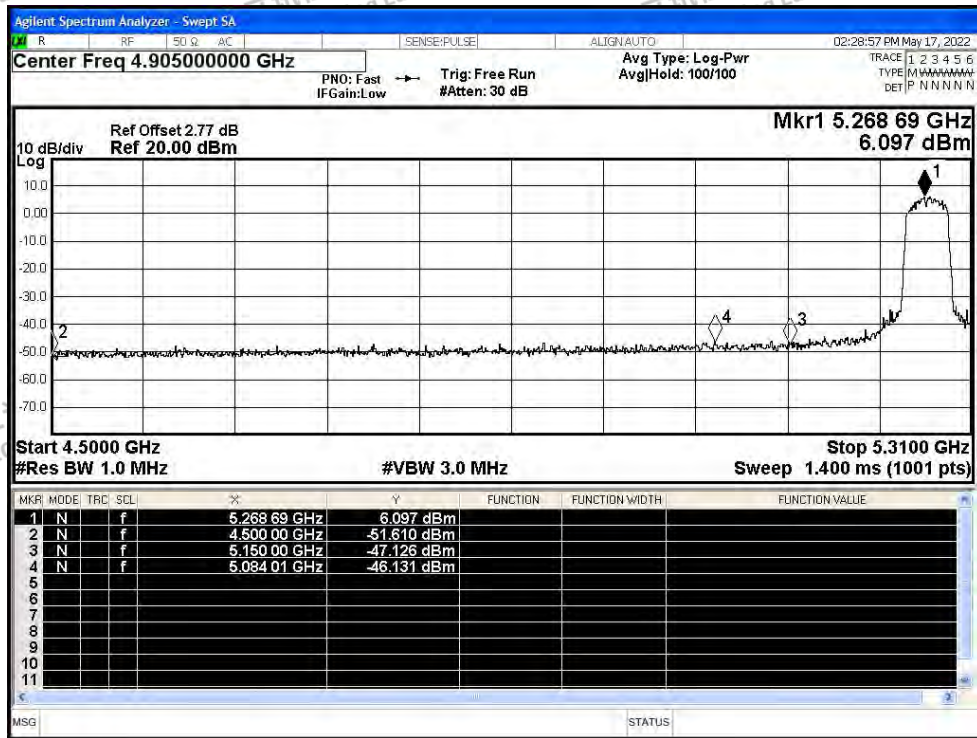


Restrict Band NVNT ac20 5320MHz Ant1 Average

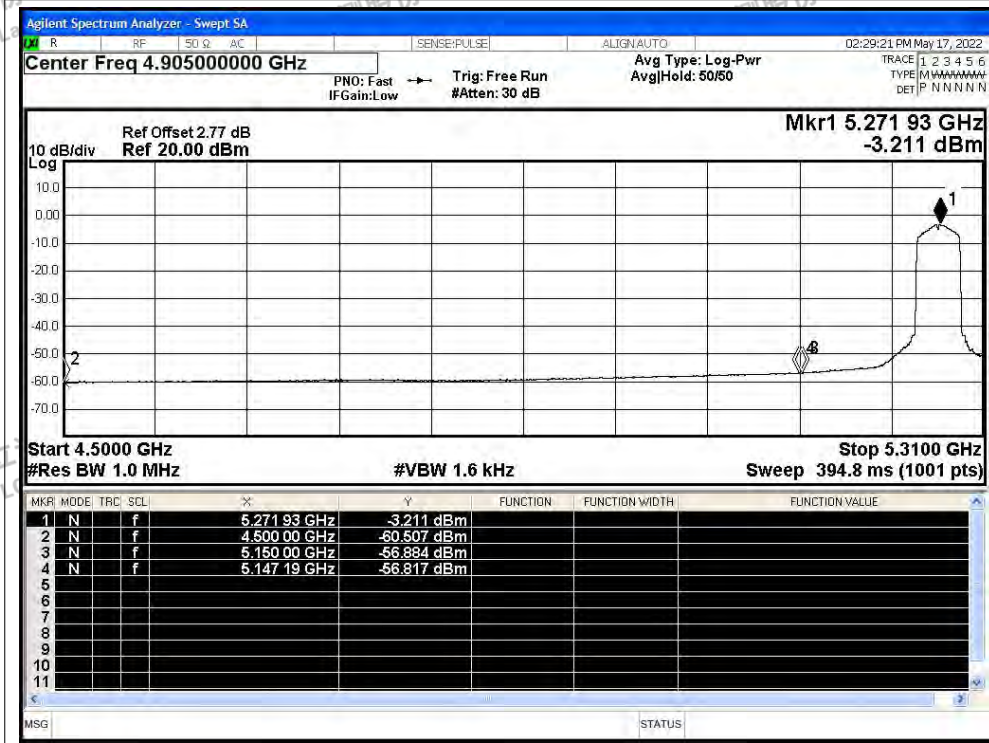




Restrict Band NVNT ac40 5270MHz Ant1 Peak

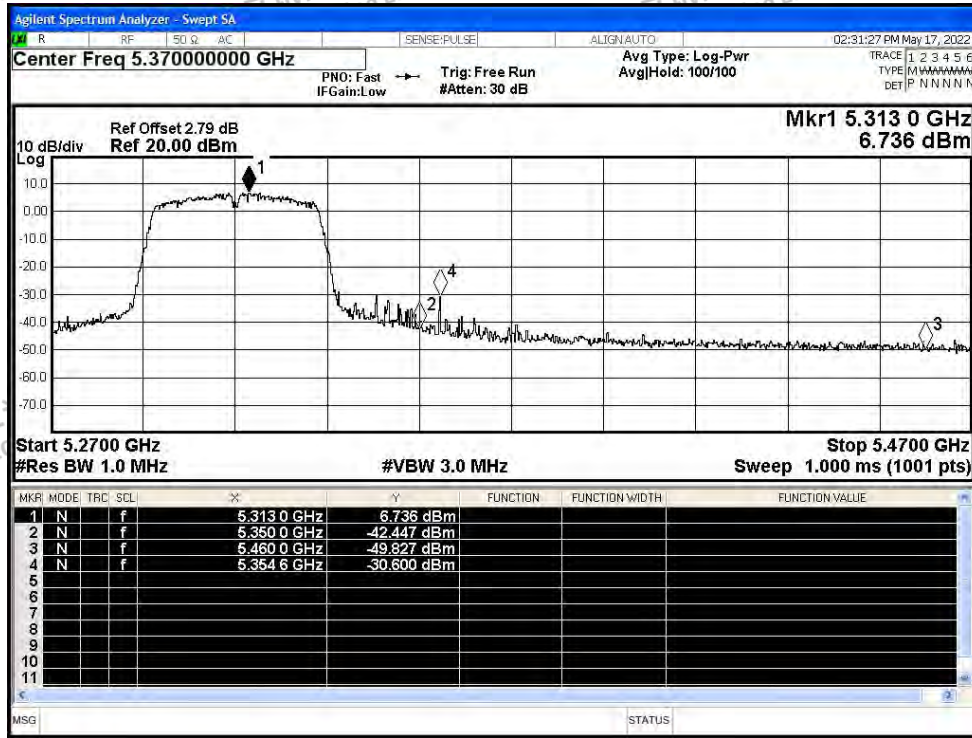


Restrict Band NVNT ac40 5270MHz Ant1 Average

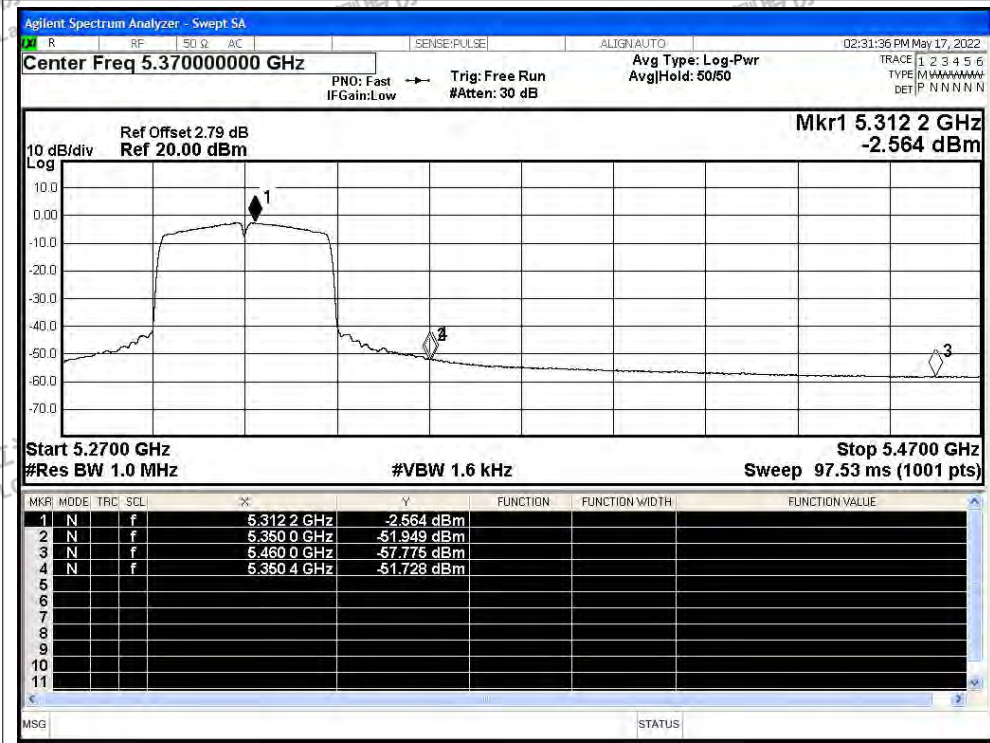




Restrict Band NVNT ac40 5310MHz Ant1 Peak

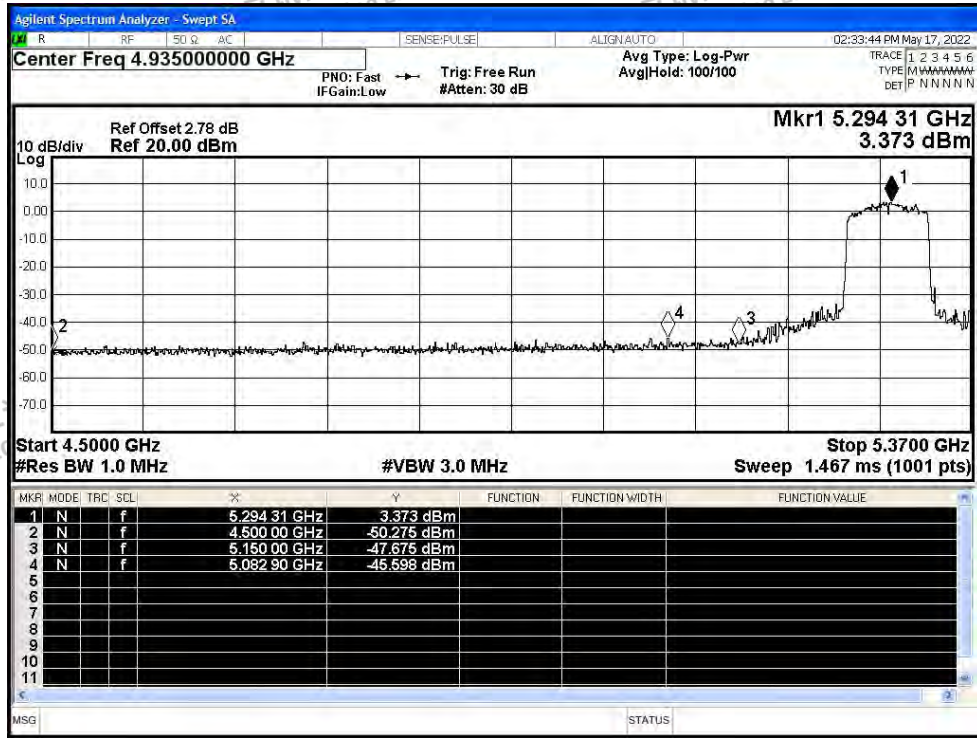


Restrict Band NVNT ac40 5310MHz Ant1 Average

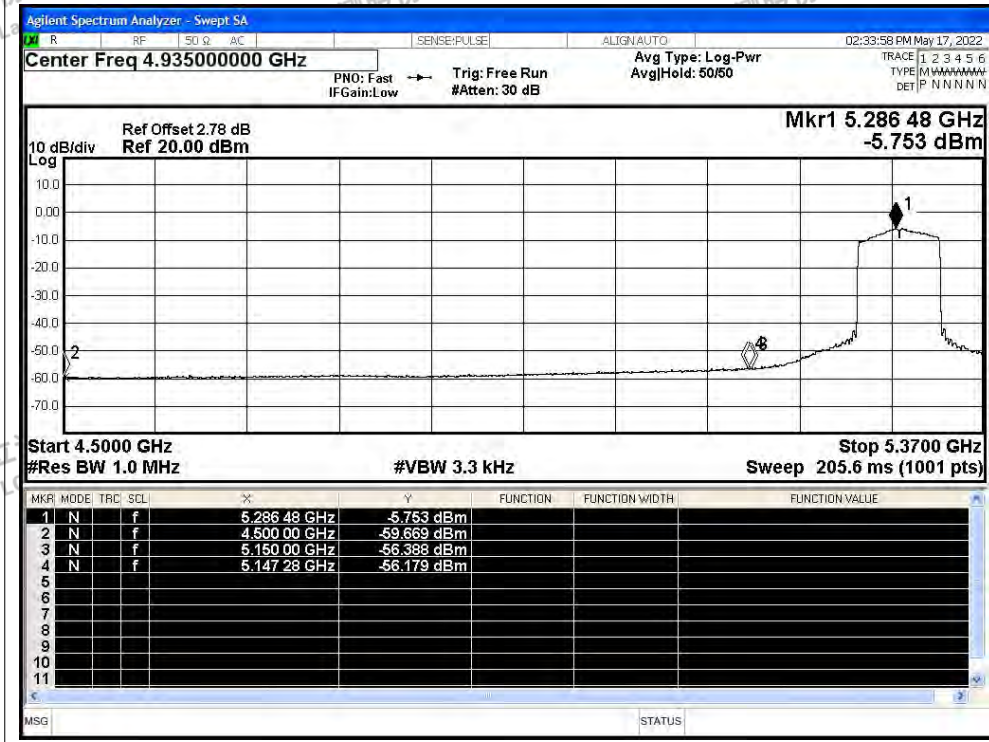




Restrict Band NVNT ac80 5290MHz Ant1 Peak

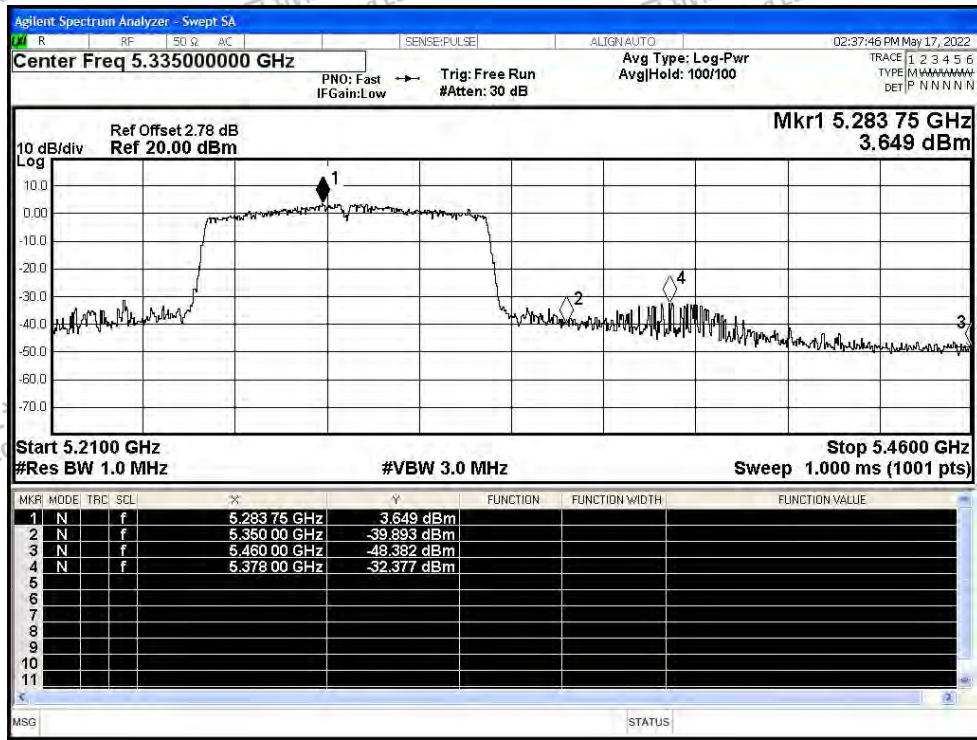


Restrict Band NVNT ac80 5290MHz Ant1 Average

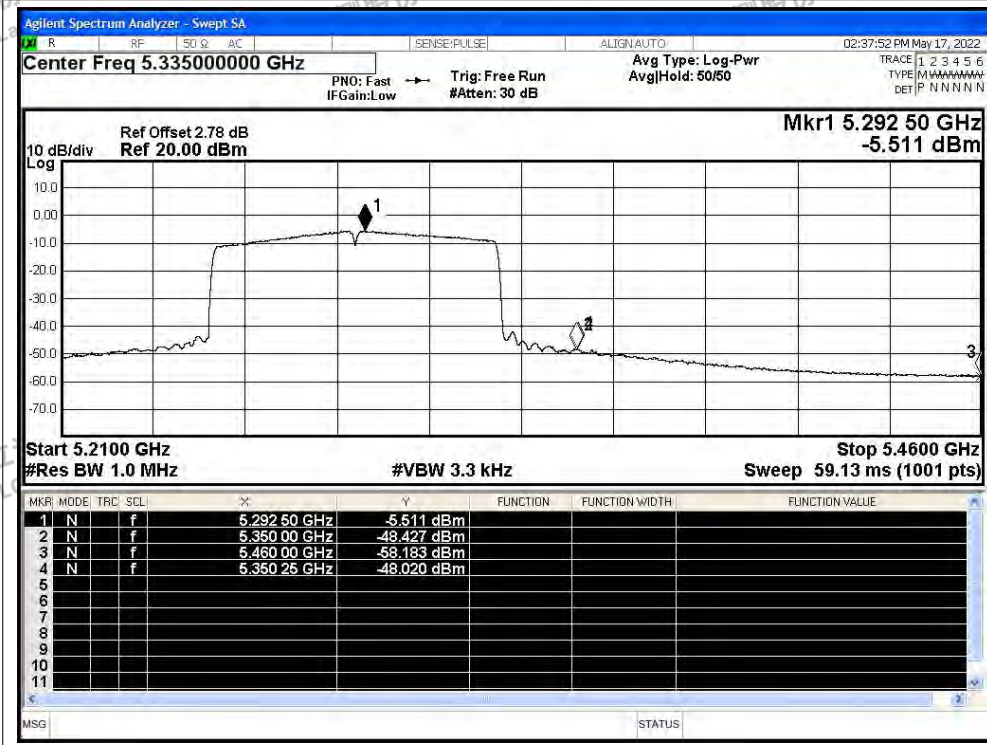




Restrict Band NVNT ac80 5290MHz Ant1 Peak



Restrict Band NVNT ac80 5290MHz Ant1 Average





E.5 Frequency Stability

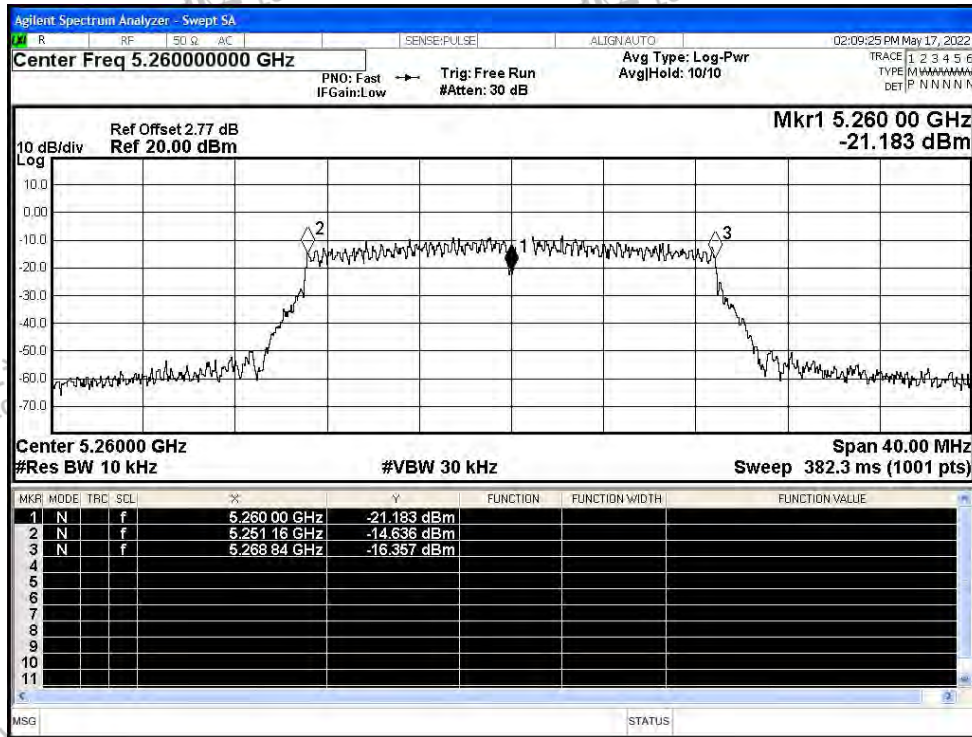
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5260	Ant1	5260	0	0	25	Pass
NVNT	ac20	5300	Ant1	5300	0	0	25	Pass
NVNT	ac20	5320	Ant1	5319.98	-20000	-3.76	25	Pass
NVNT	ac40	5270	Ant1	5270	0	0	25	Pass
NVNT	ac40	5310	Ant1	5310	0	0	25	Pass
NVNT	ac80	5290	Ant1	5290	0	0	25	Pass



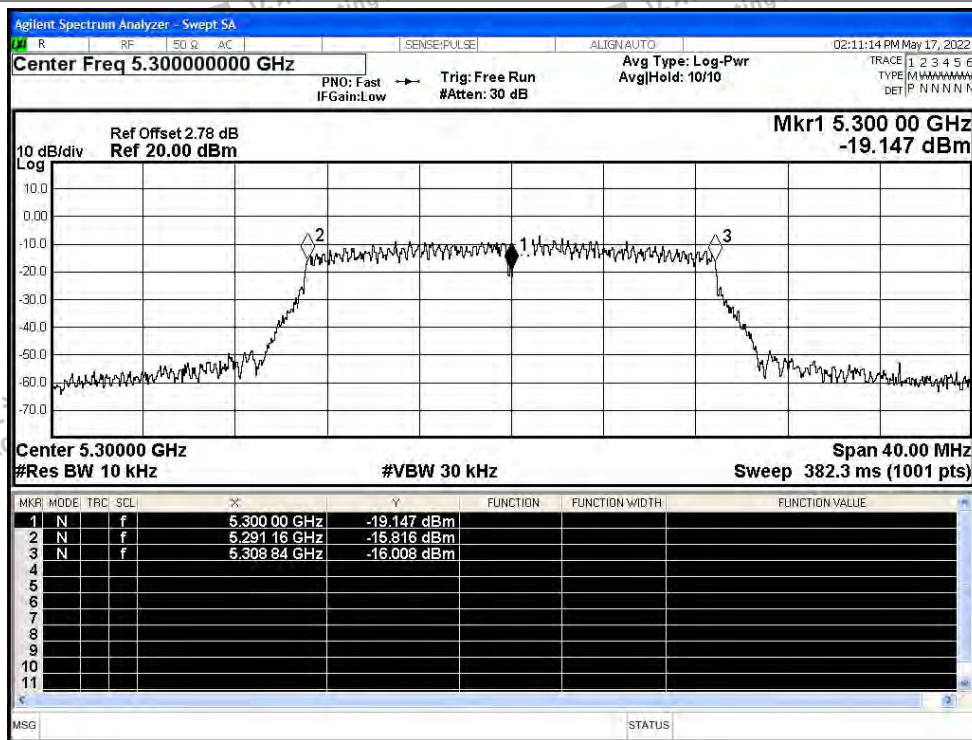


Test Graphs

Freq. Stability NVNT ac20 5260MHz Ant1

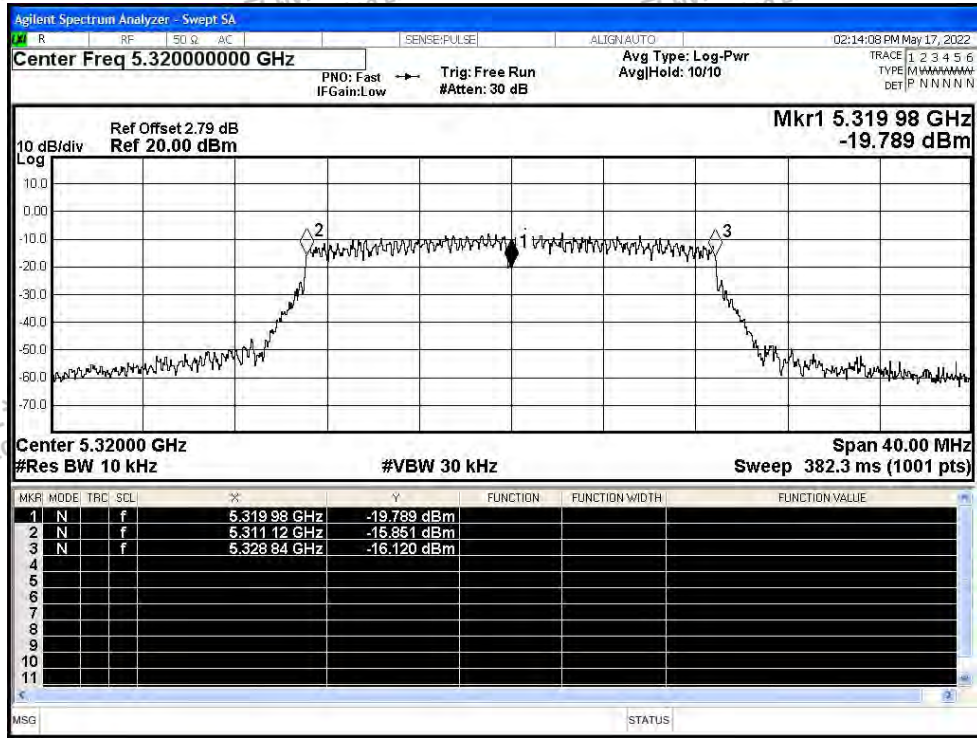


Freq. Stability NVNT ac20 5300MHz Ant1

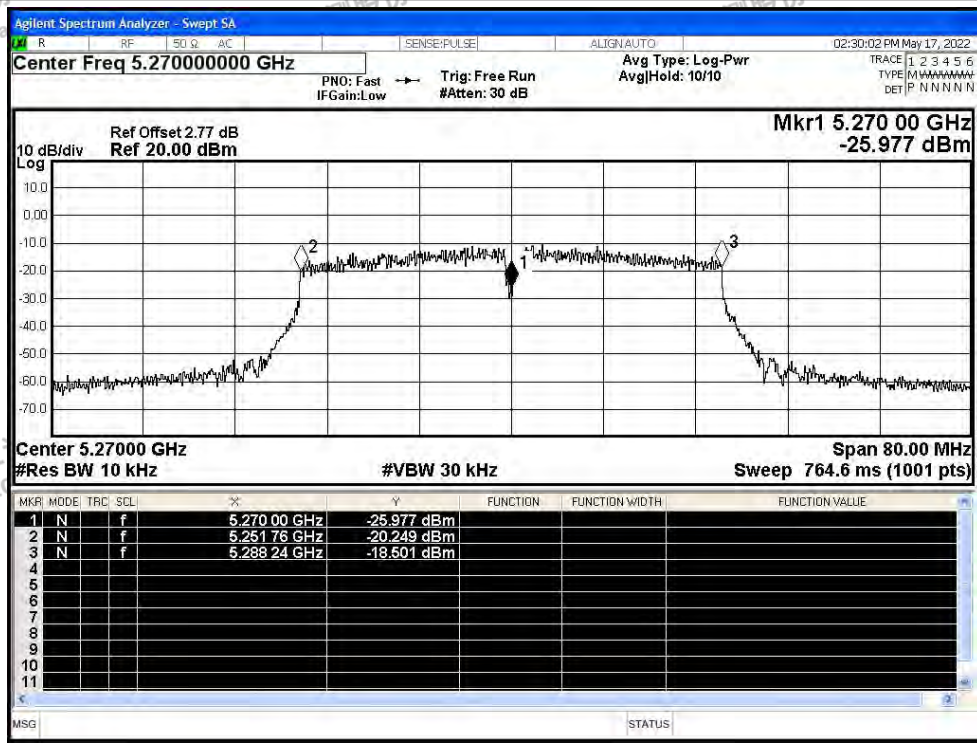




Freq. Stability NVNT ac20 5320MHz Ant1

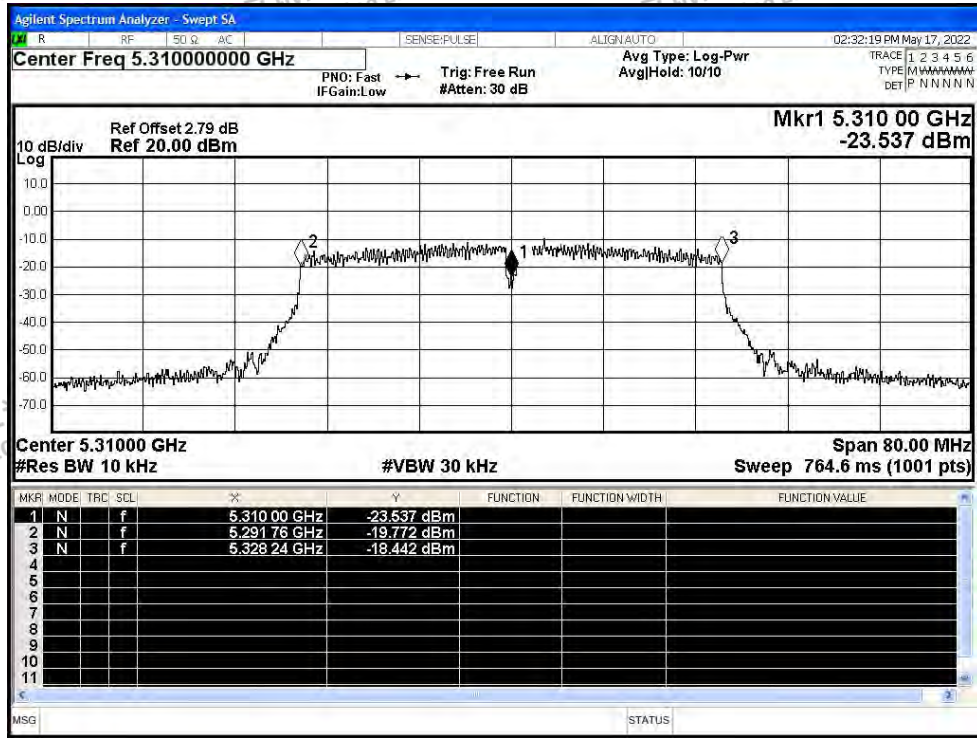


Freq. Stability NVNT ac40 5270MHz Ant1

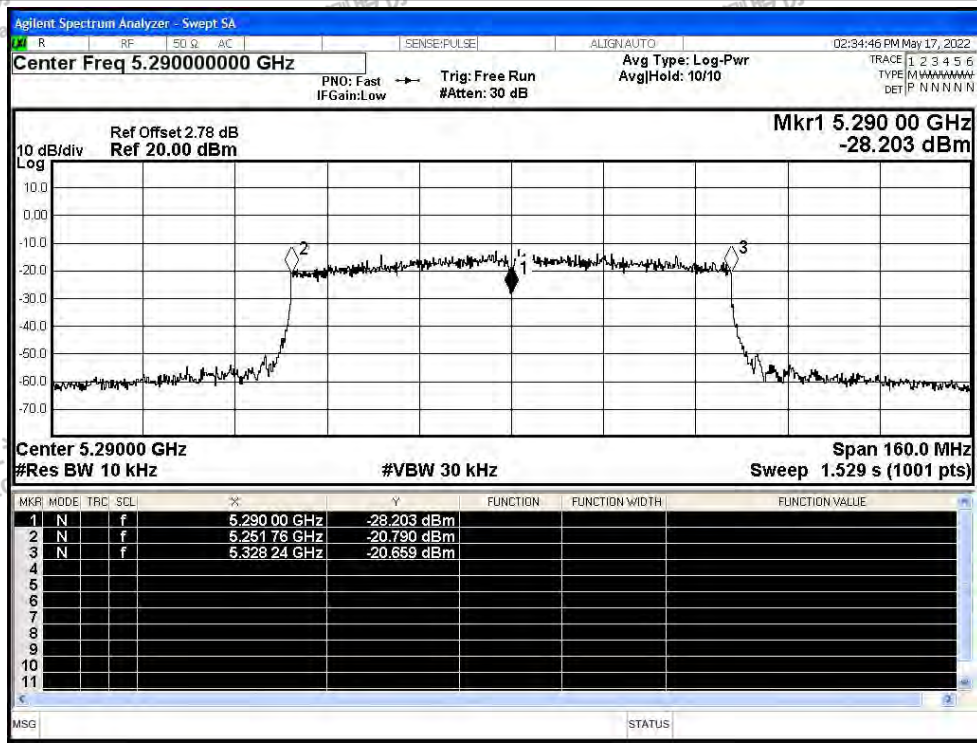




Freq. Stability NVNT ac40 5310MHz Ant1



Freq. Stability NVNT ac80 5290MHz Ant1





E.6 Duty Cycle

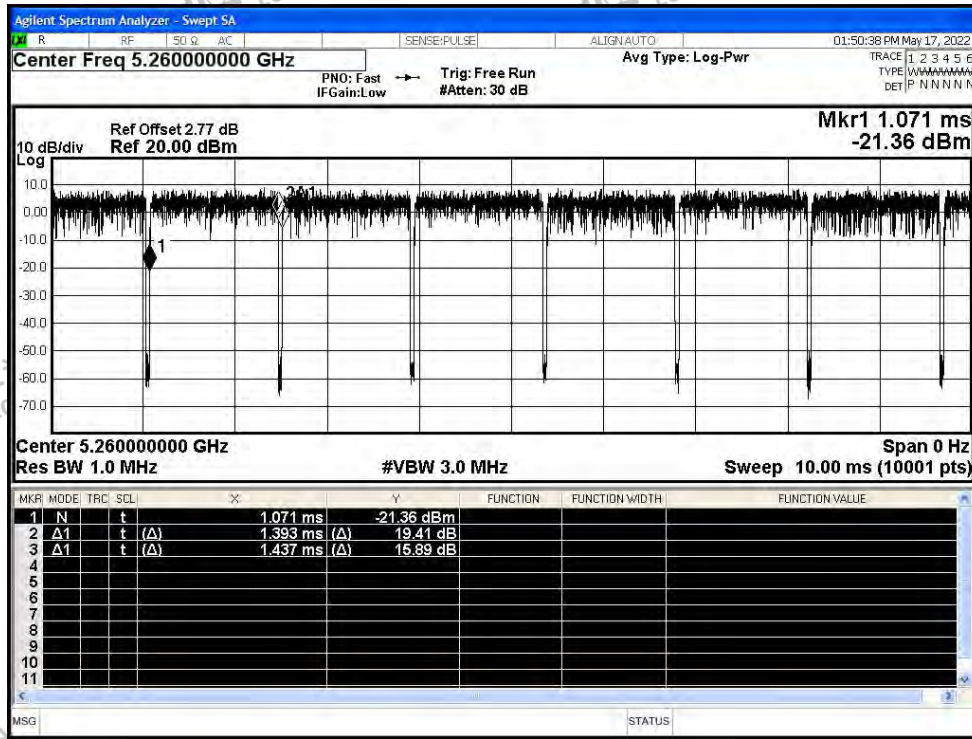
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	Ant1	96.94	0.13	0.72
NVNT	a	5300	Ant1	96.94	0.13	0.72
NVNT	a	5320	Ant1	96.94	0.13	0.72
NVNT	n20	5260	Ant1	96.73	0.14	0.77
NVNT	n20	5300	Ant1	96.73	0.14	0.77
NVNT	n20	5320	Ant1	96.8	0.14	0.77
NVNT	n40	5270	Ant1	93.79	0.28	1.54
NVNT	n40	5310	Ant1	93.93	0.27	1.54
NVNT	ac20	5260	Ant1	96.83	0.14	0.76
NVNT	ac20	5300	Ant1	96.76	0.14	0.76
NVNT	ac20	5320	Ant1	96.83	0.14	0.76
NVNT	ac40	5270	Ant1	93.97	0.27	1.53
NVNT	ac40	5310	Ant1	93.97	0.27	1.53
NVNT	ac80	5290	Ant1	88.59	0.53	3.07



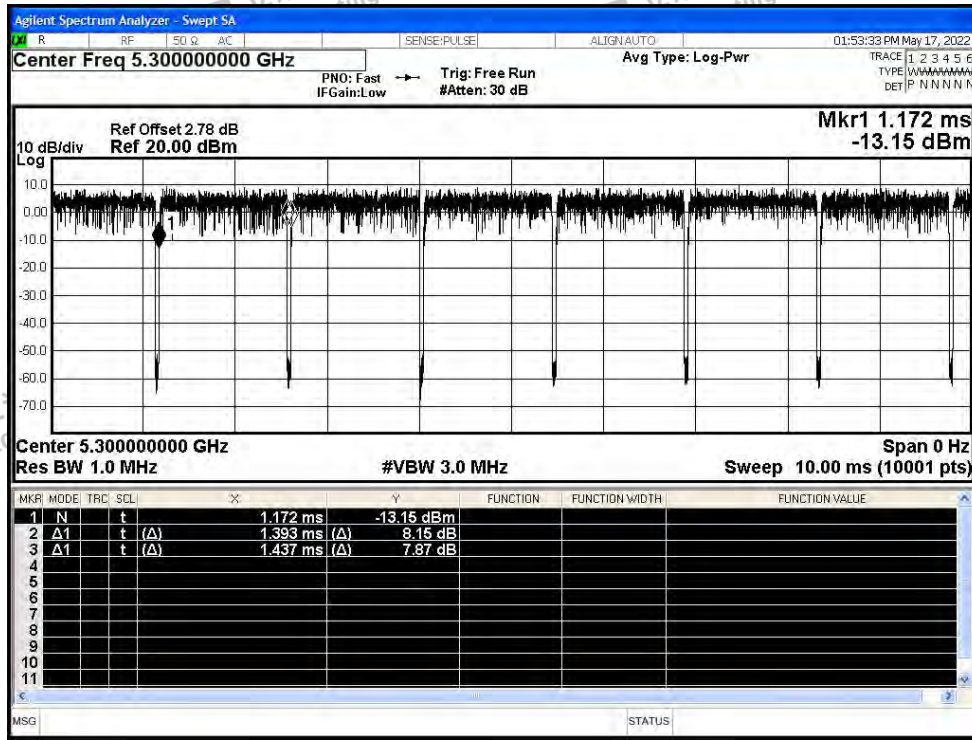


Test Graphs

Duty Cycle NVNT a 5260MHz Ant1

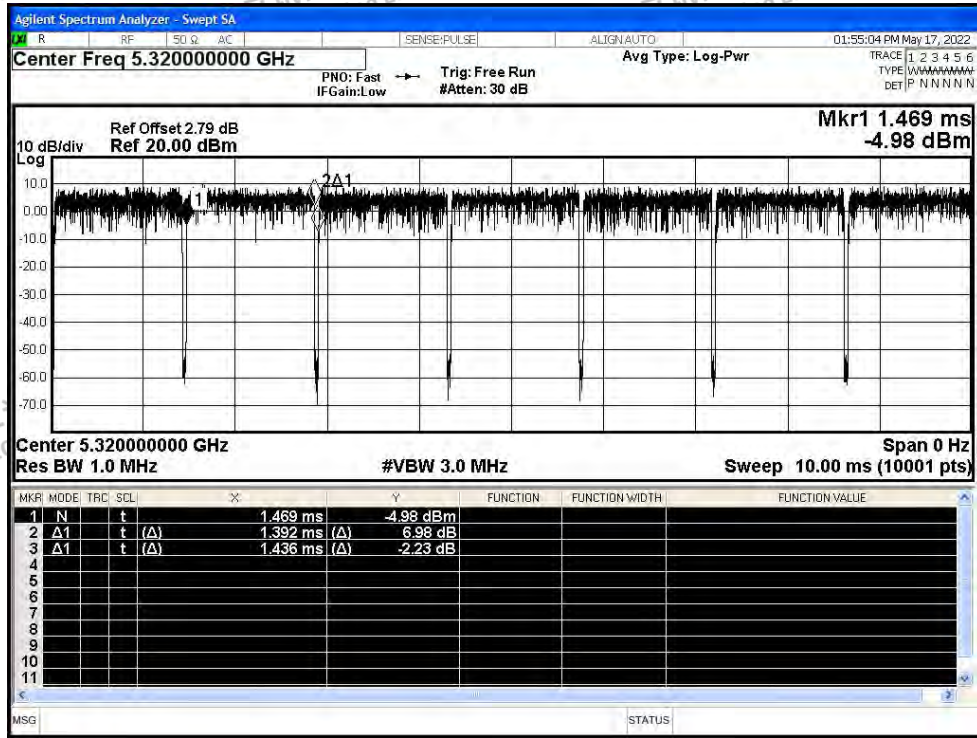


Duty Cycle NVNT a 5300MHz Ant1

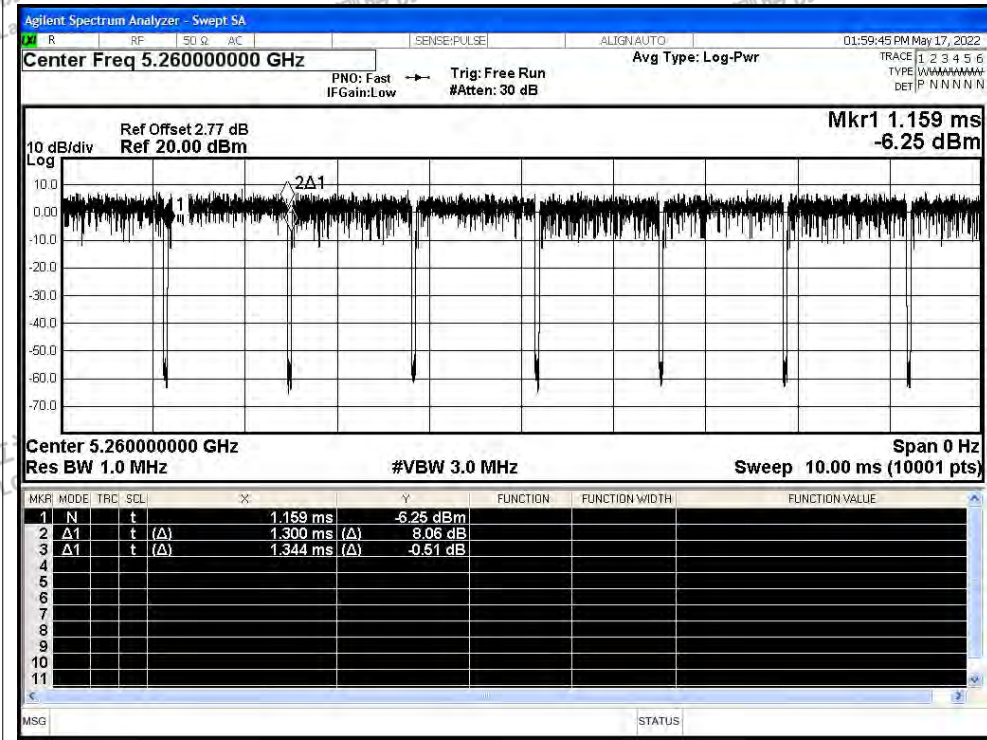




Duty Cycle NVNT a 5320MHz Ant1

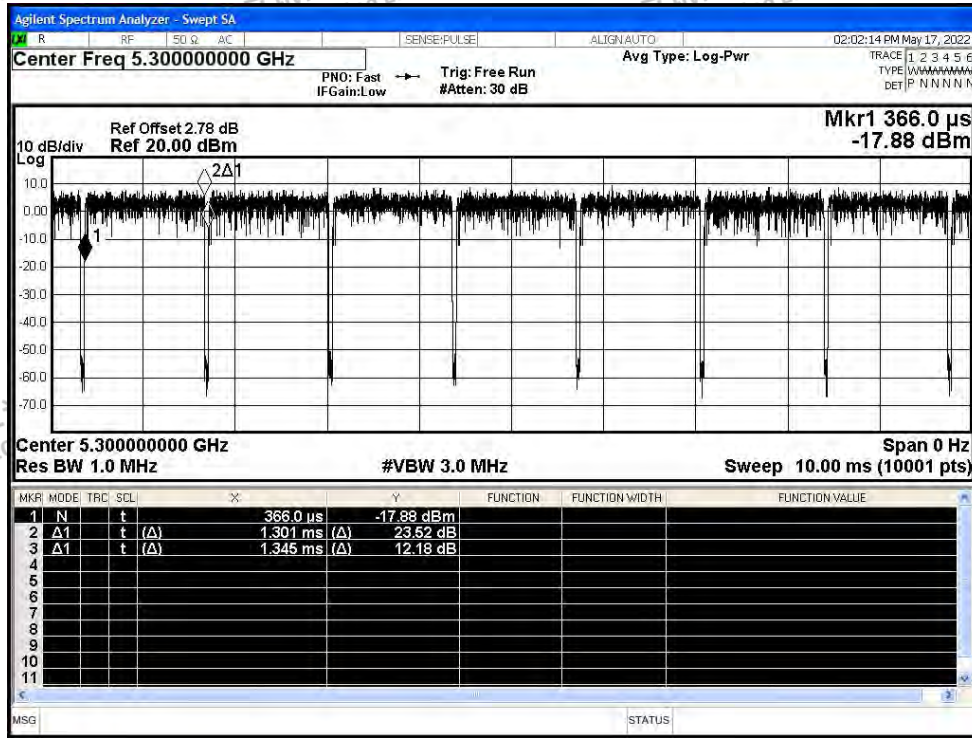


Duty Cycle NVNT n20 5260MHz Ant1

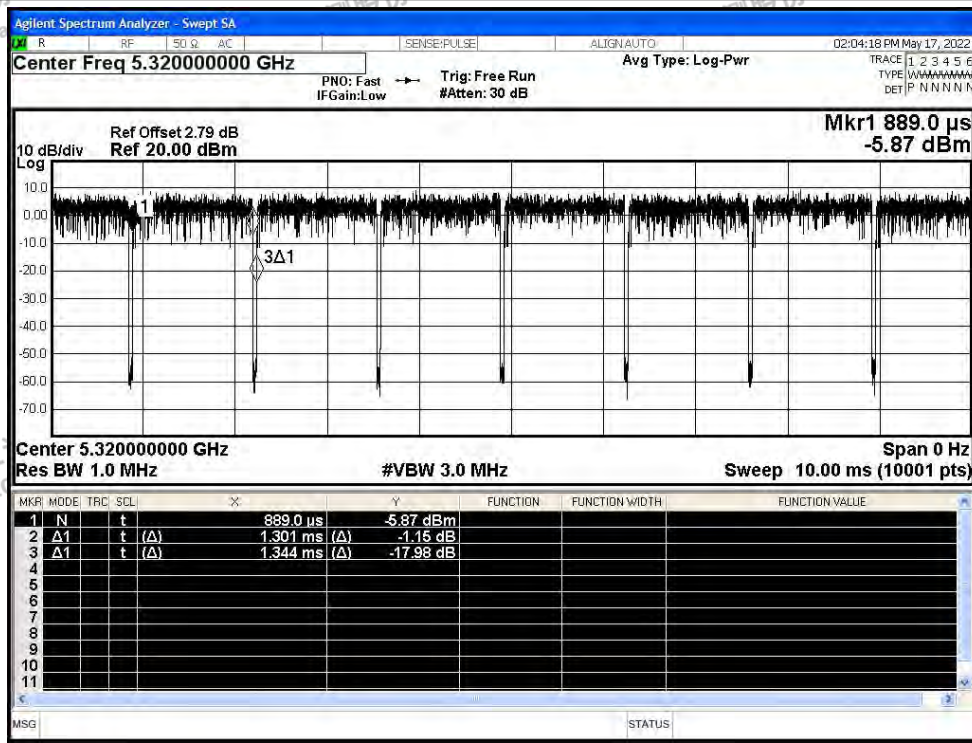




Duty Cycle NVNT n20 5300MHz Ant1

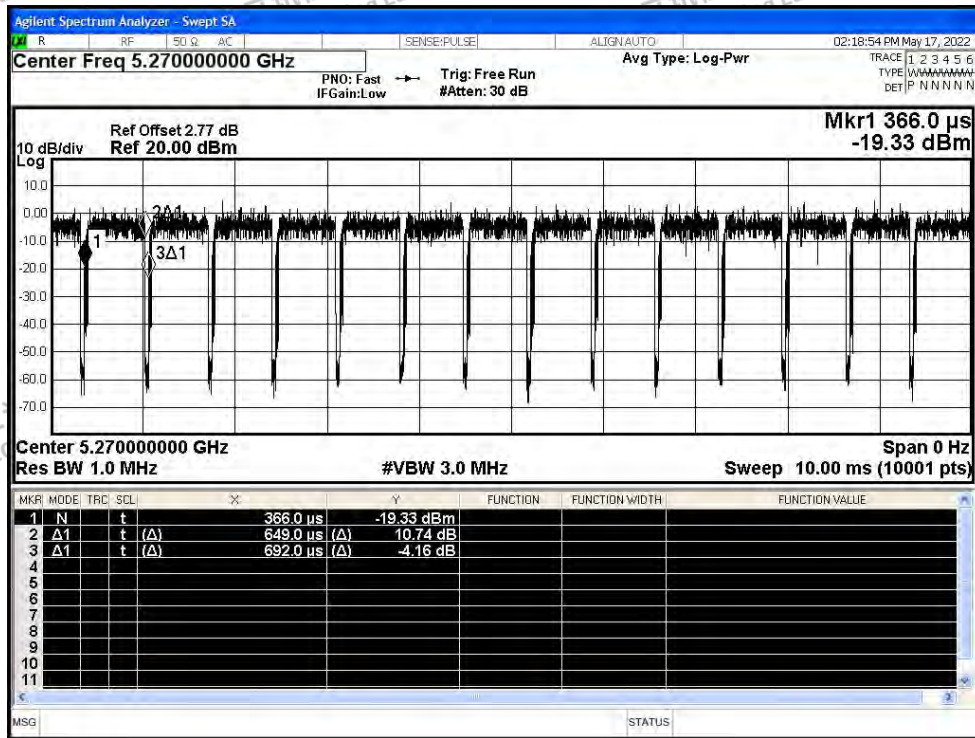


Duty Cycle NVNT n20 5320MHz Ant1

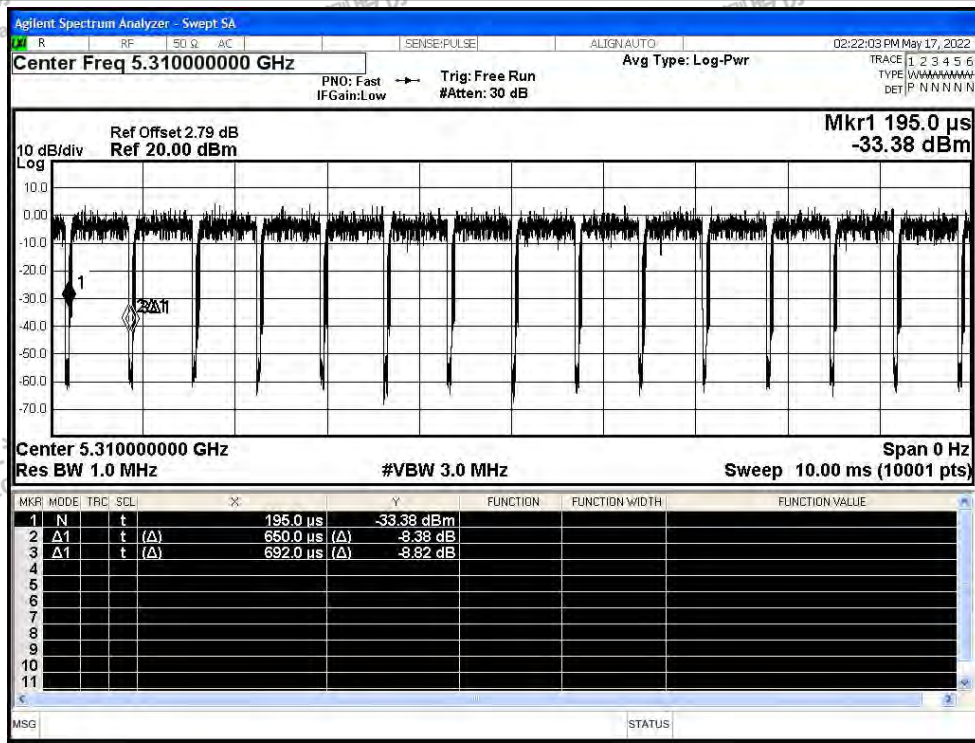




Duty Cycle NVNT n40 5270MHz Ant1

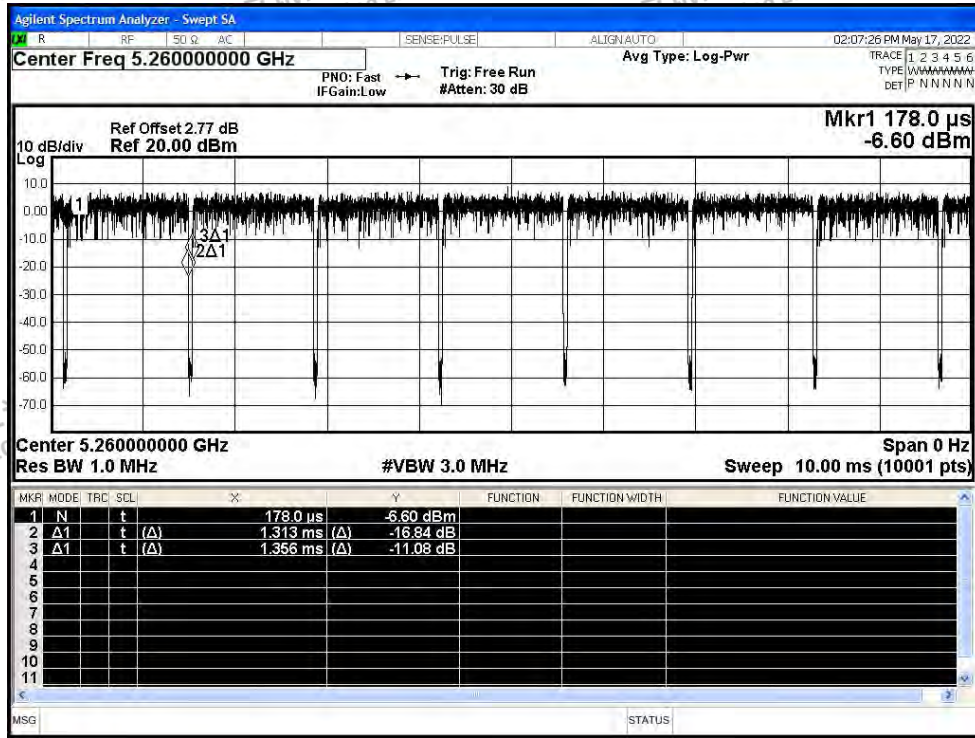


Duty Cycle NVNT n40 5310MHz Ant1

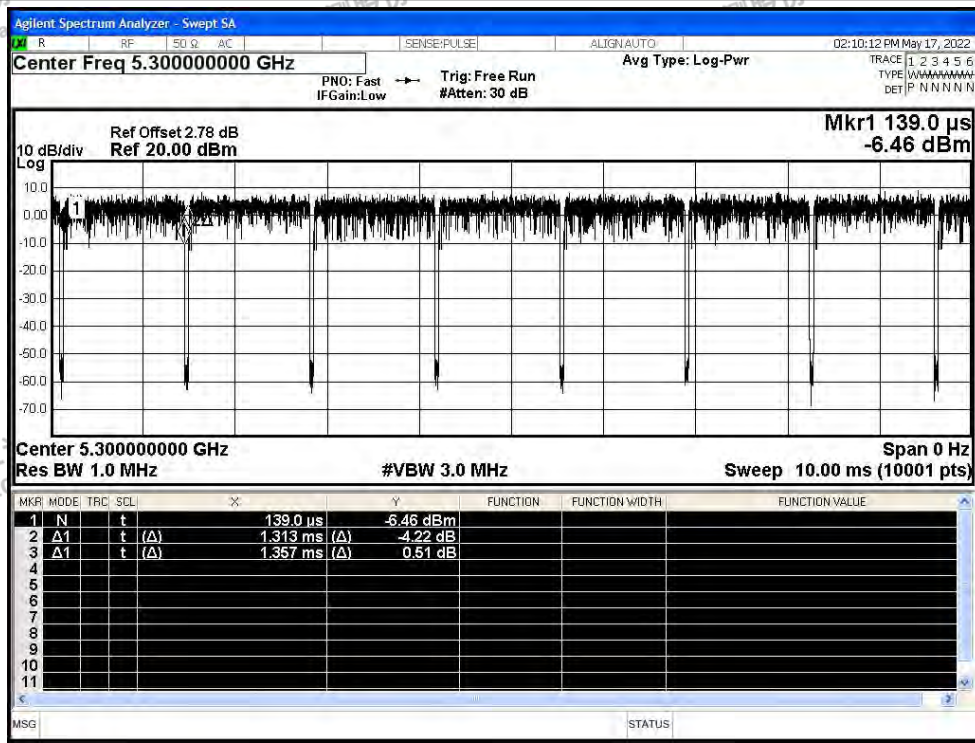




Duty Cycle NVNT ac20 5260MHz Ant1

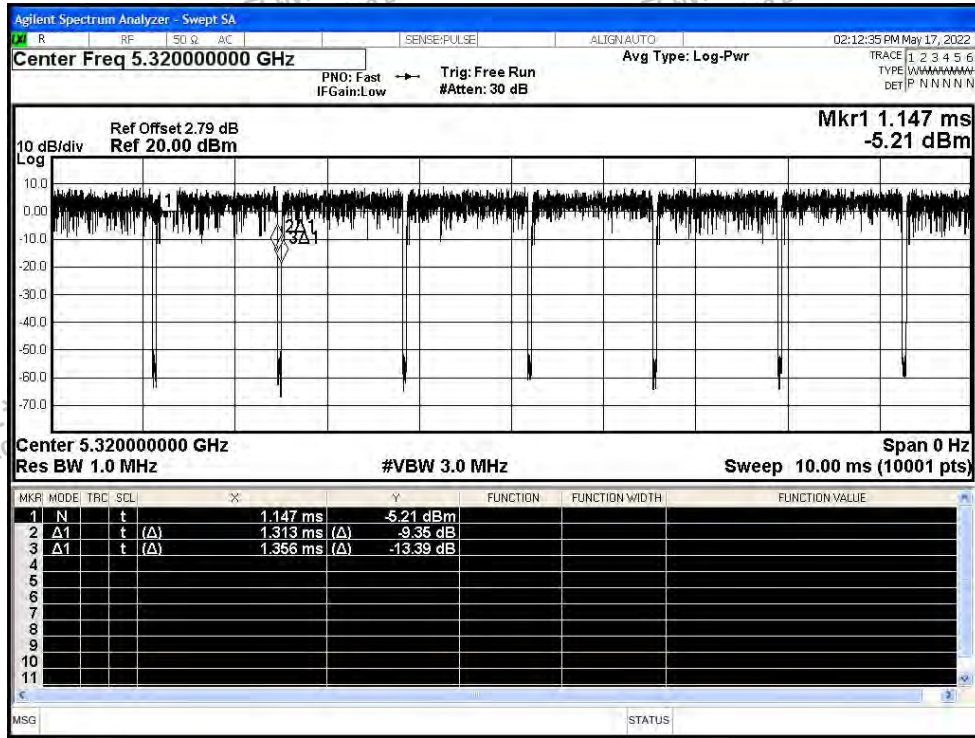


Duty Cycle NVNT ac20 5300MHz Ant1

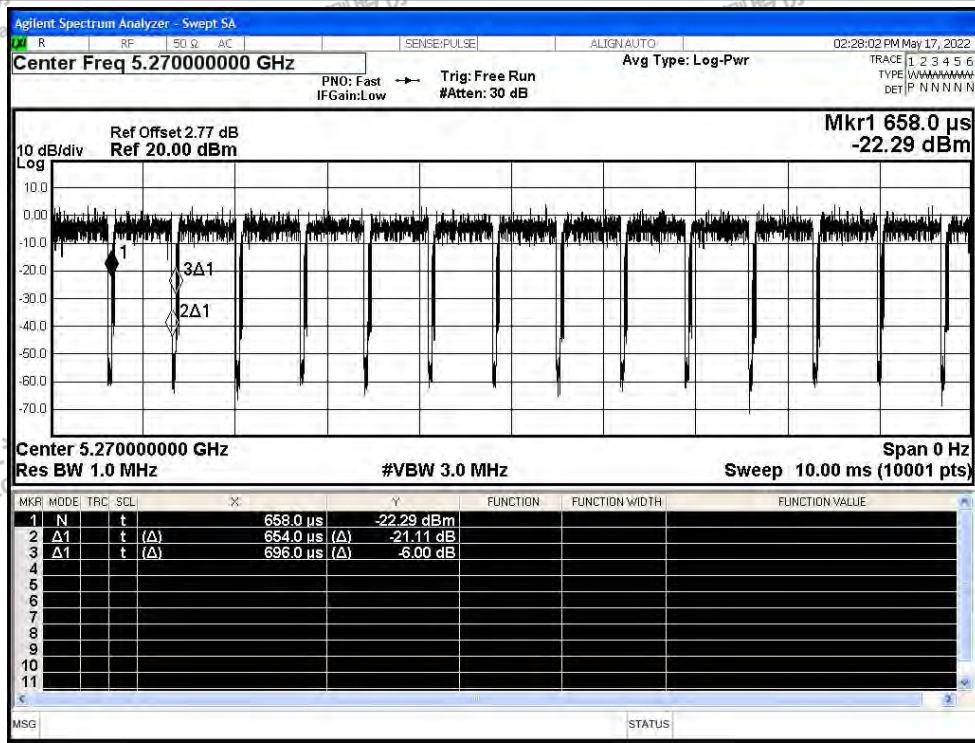




Duty Cycle NVNT ac20 5320MHz Ant1

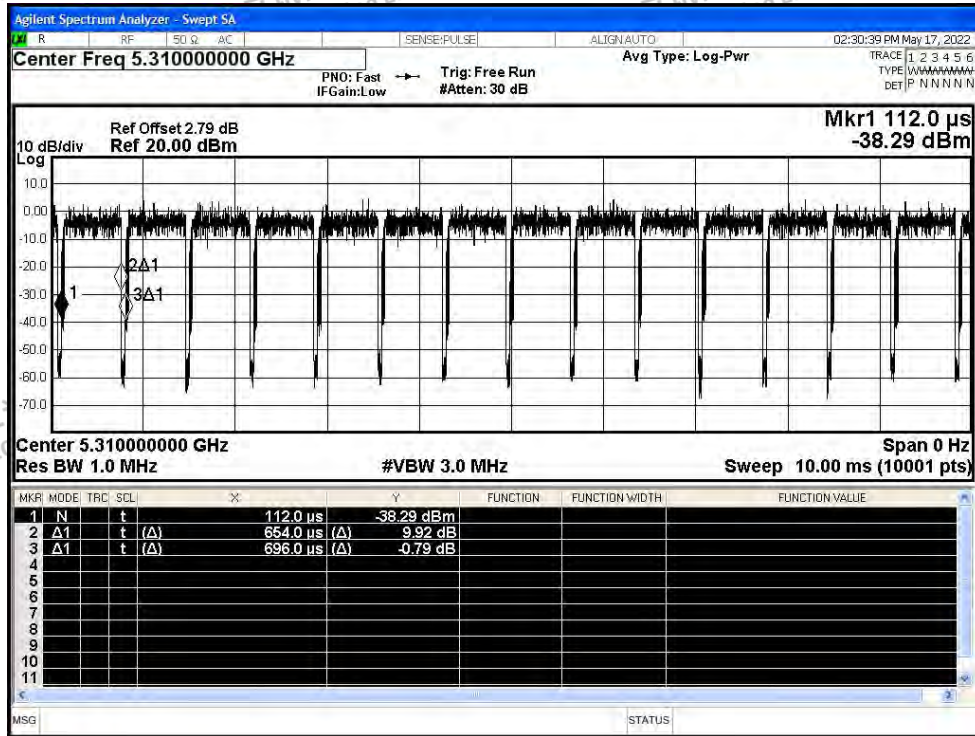


Duty Cycle NVNT ac40 5270MHz Ant1





Duty Cycle NVNT ac40 5310MHz Ant1



Duty Cycle NVNT ac80 5290MHz Ant1

