



Appendix E

RF Test Data for 5.3GWIFI (Conducted Measurement)

Product Name: Smart Diagnostic System

Test Model: P102

Environmental Conditions

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





E.1 -26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5260	Ant0	27.653	---	Pass
NVNT	a	5300	Ant0	27.854	---	Pass
NVNT	a	5320	Ant0	25.673	---	Pass
NVNT	n20	5260	Ant0	29.877	---	Pass
NVNT	n20	5300	Ant0	28.516	---	Pass
NVNT	n20	5320	Ant0	29.624	---	Pass
NVNT	n40	5270	Ant0	52.378	---	Pass
NVNT	n40	5310	Ant0	58.581	---	Pass
NVNT	ac20	5260	Ant0	28.49	---	Pass
NVNT	ac20	5300	Ant0	28.743	---	Pass
NVNT	ac20	5320	Ant0	26.486	---	Pass
NVNT	ac40	5270	Ant0	57.638	---	Pass
NVNT	ac40	5310	Ant0	57.868	---	Pass
NVNT	ac80	5290	Ant0	80.169	---	Pass

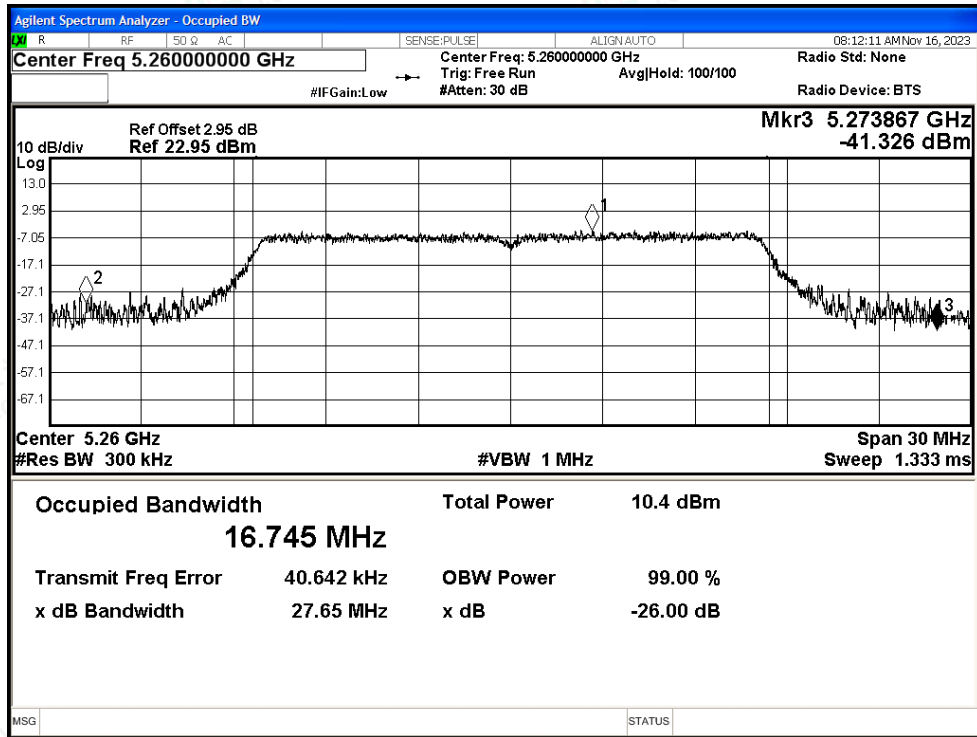


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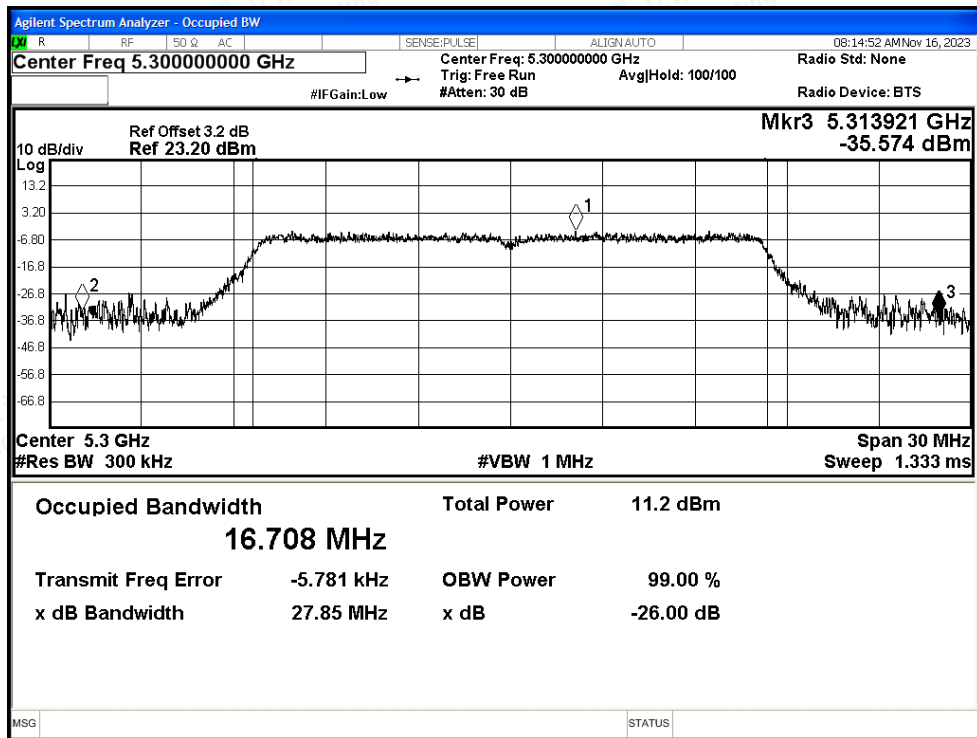


Test Graphs

-26dB Bandwidth NVNT a 5260MHz Ant0

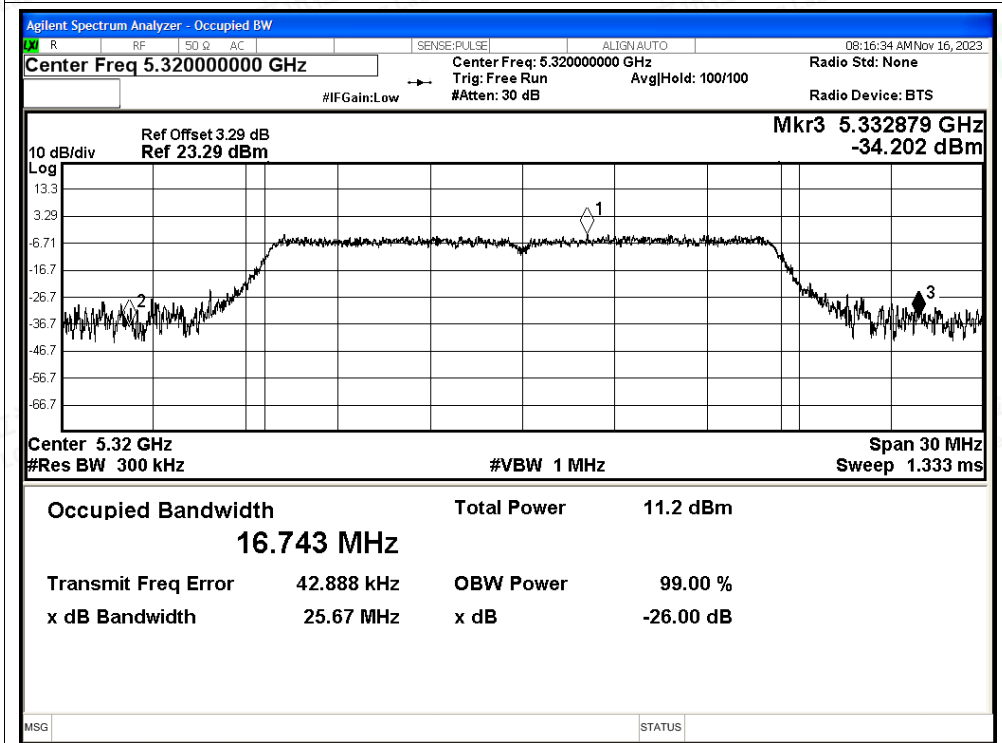


-26dB Bandwidth NVNT a 5300MHz Ant0

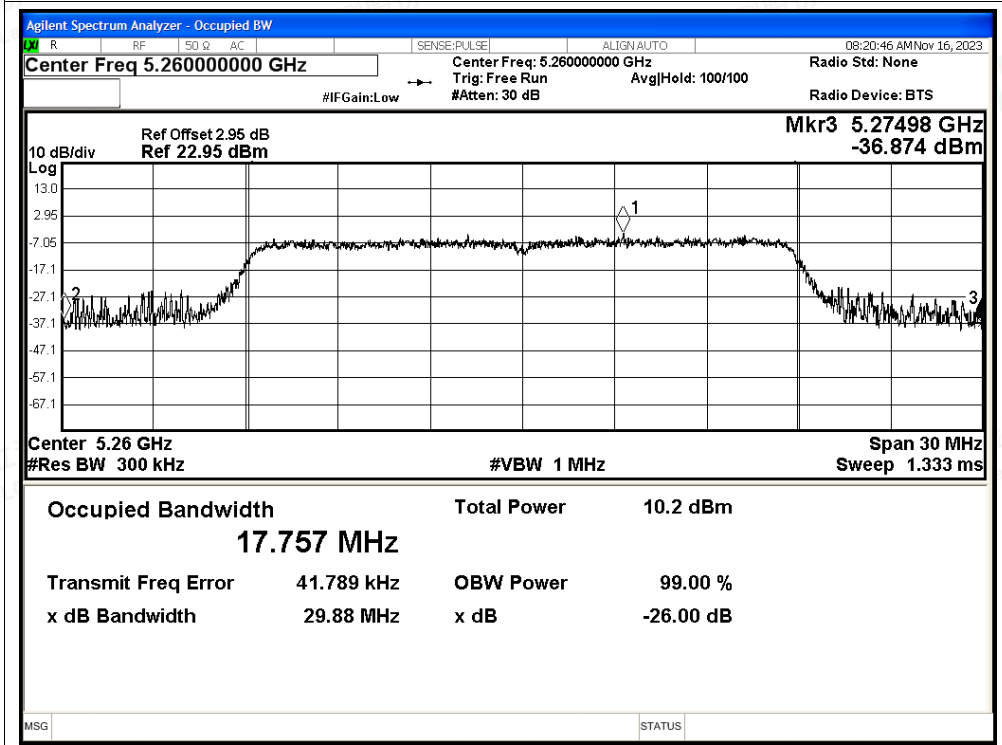




-26dB Bandwidth NVNT a 5320MHz Ant0

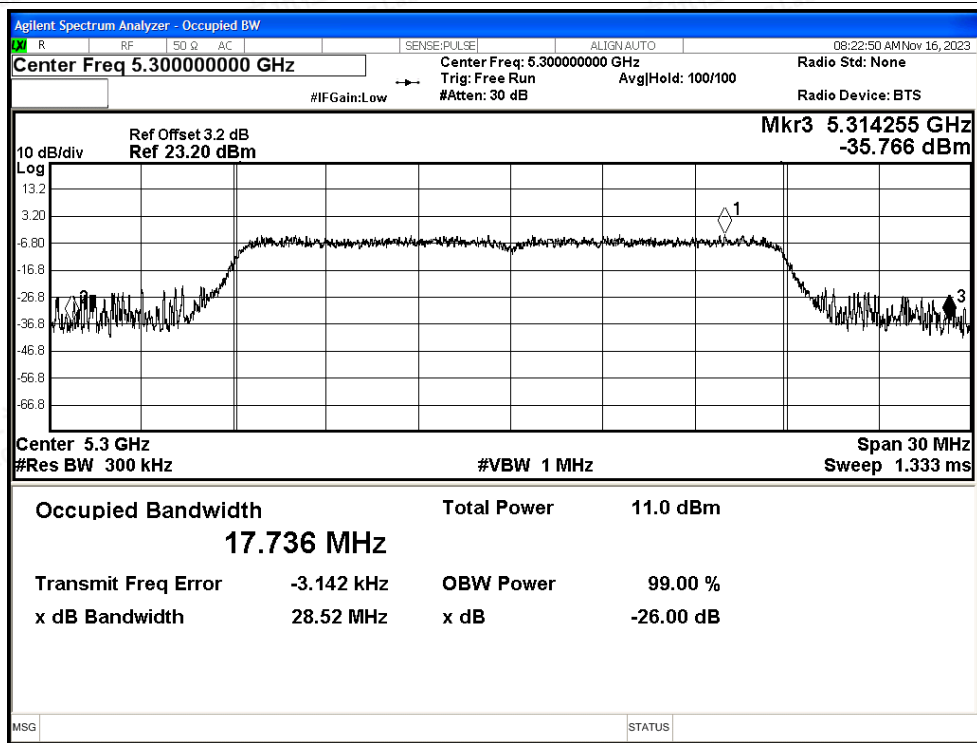


-26dB Bandwidth NVNT n20 5260MHz Ant0

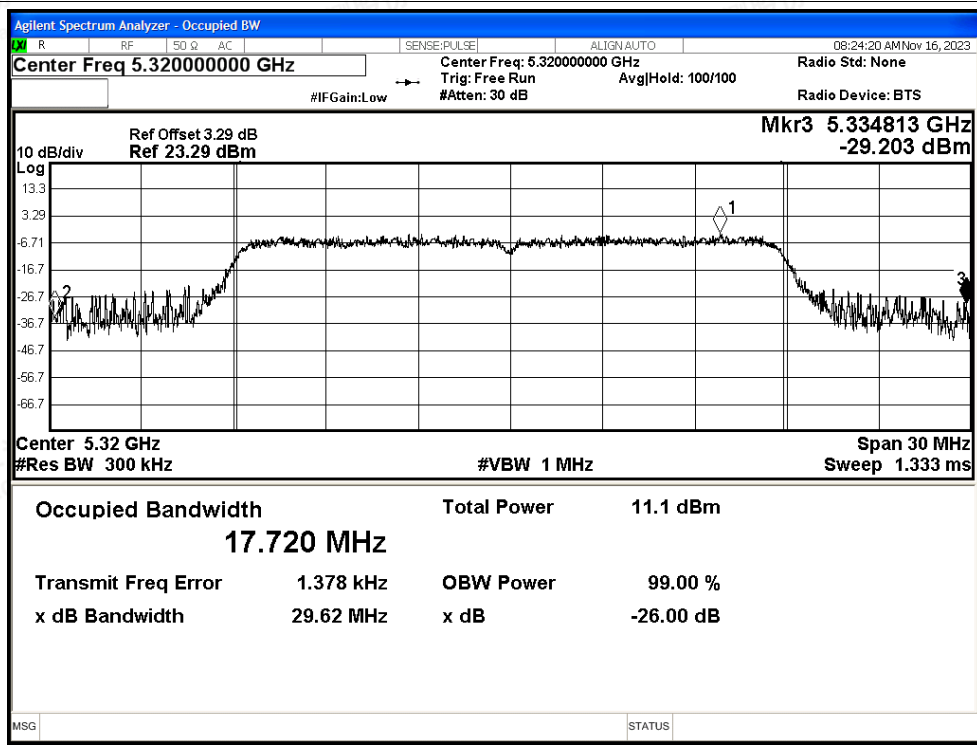




-26dB Bandwidth NVNT n20 5300MHz Ant0

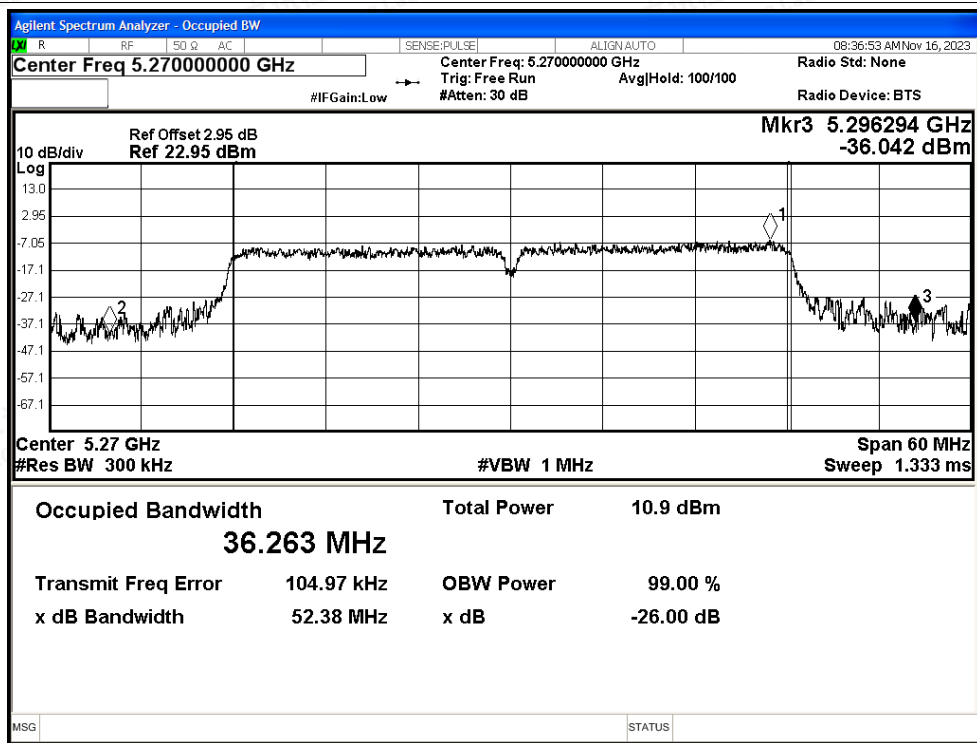


-26dB Bandwidth NVNT n20 5320MHz Ant0

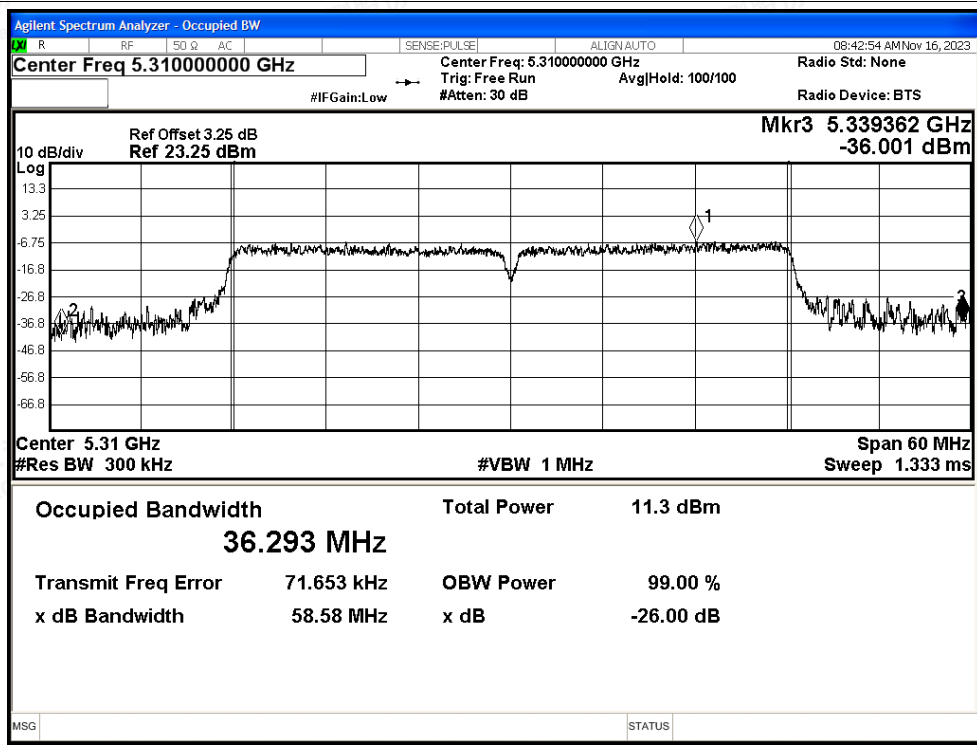




-26dB Bandwidth NVNT n40 5270MHz Ant0

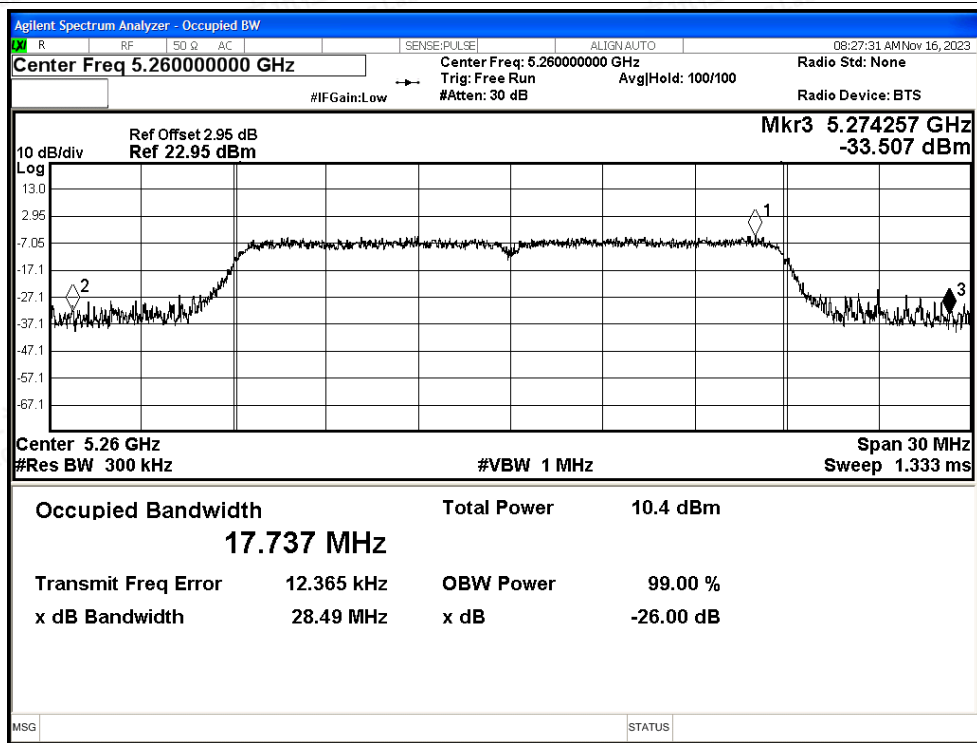


-26dB Bandwidth NVNT n40 5310MHz Ant0

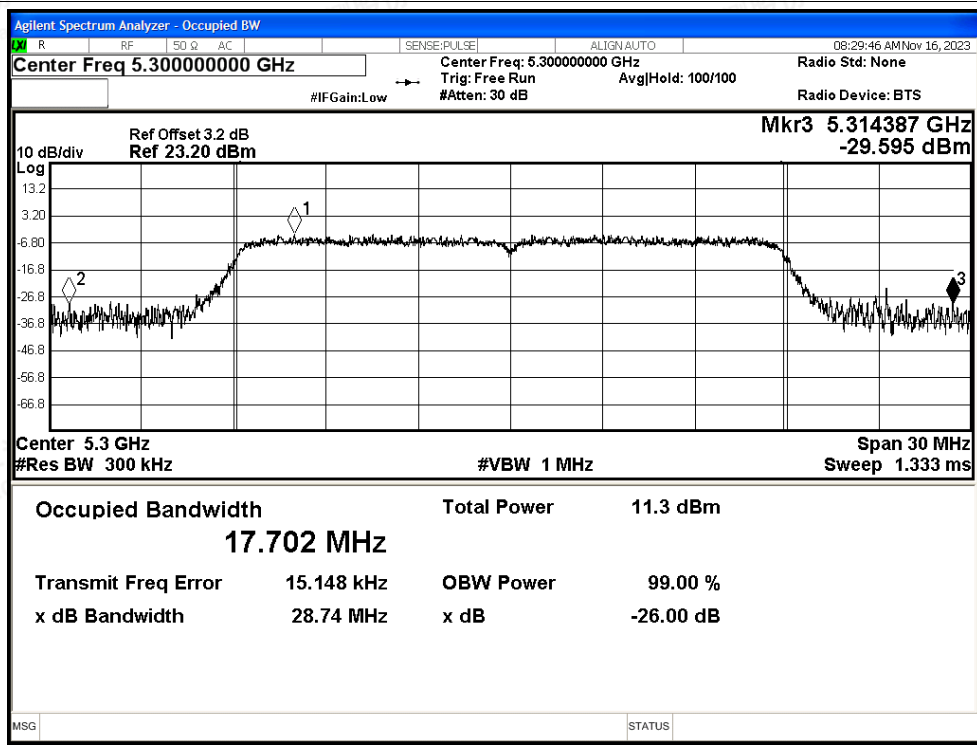


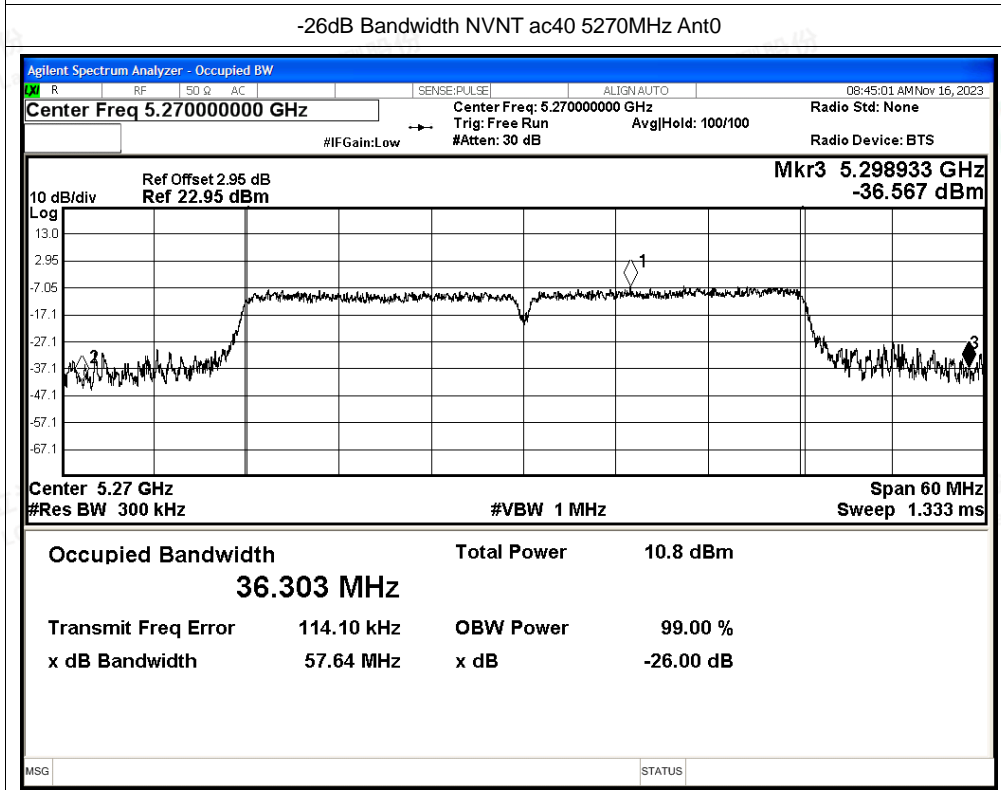
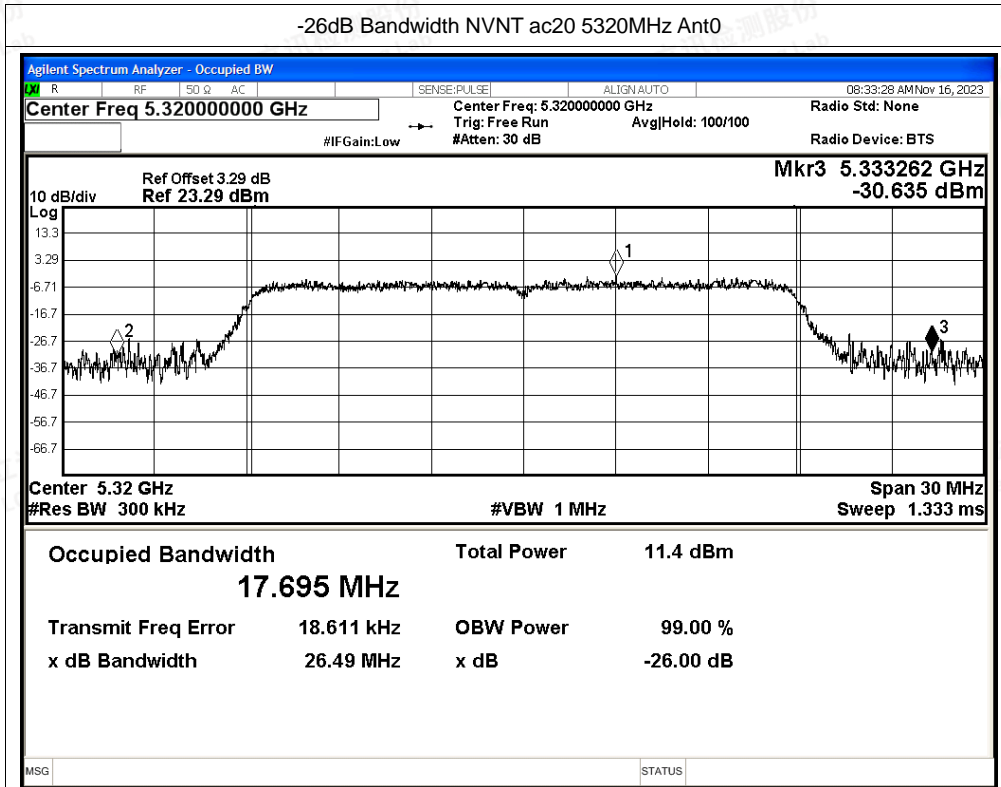


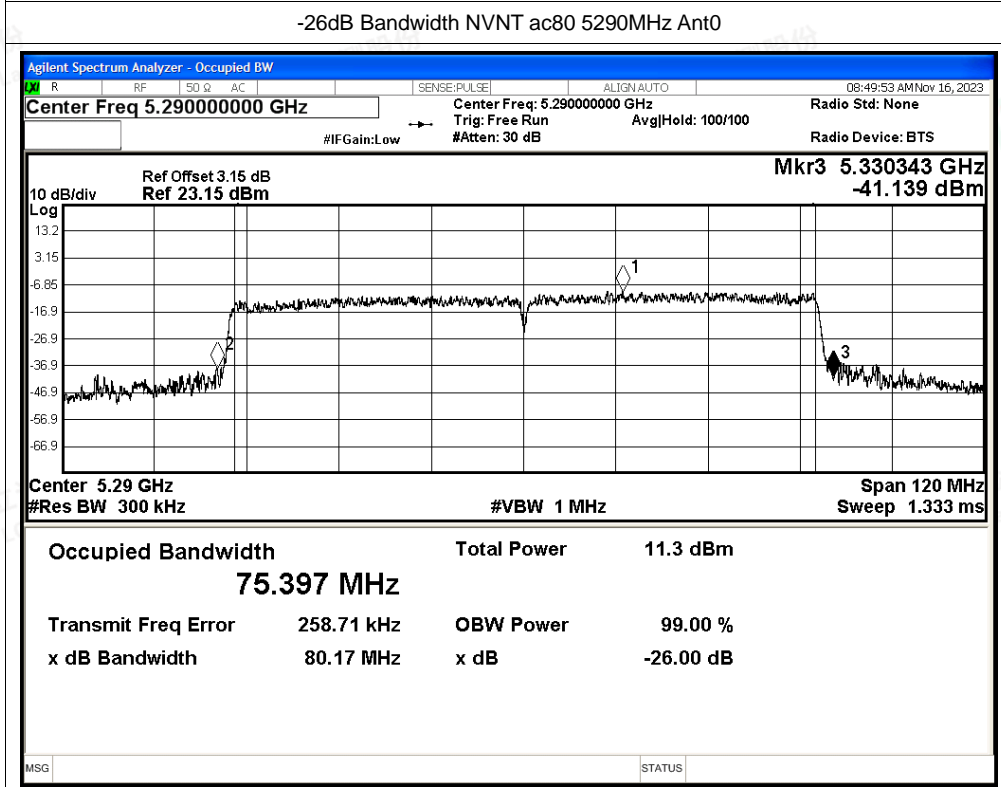
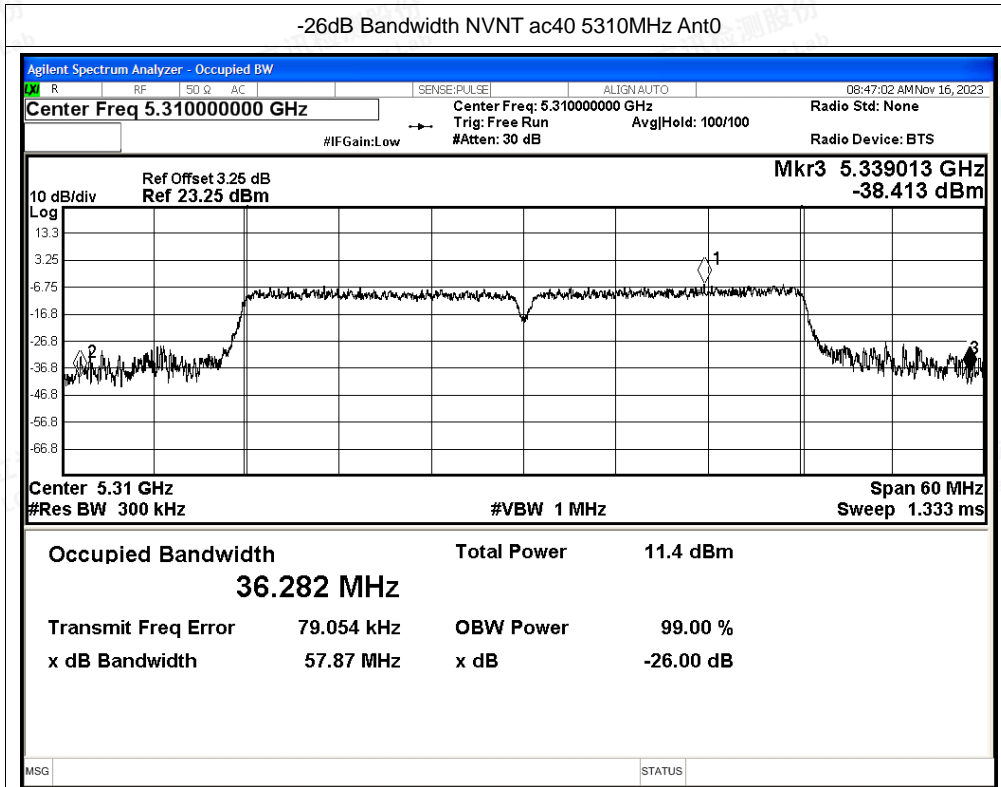
-26dB Bandwidth NVNT ac20 5260MHz Ant0



-26dB Bandwidth NVNT ac20 5300MHz Ant0









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	Ant0	10.79	0.45	11.24	24	Pass
NVNT	a	5300	Ant0	11.62	0.5	12.12	24	Pass
NVNT	a	5320	Ant0	12.3	0.45	12.75	24	Pass
NVNT	n20	5260	Ant0	10.94	0.5	11.44	24	Pass
NVNT	n20	5300	Ant0	11.97	0.62	12.59	24	Pass
NVNT	n20	5320	Ant0	12.07	0.5	12.57	24	Pass
NVNT	n40	5270	Ant0	10.89	0.99	11.88	24	Pass
NVNT	n40	5310	Ant0	11.83	1	12.83	24	Pass
NVNT	ac20	5260	Ant0	10.98	0.59	11.57	24	Pass
NVNT	ac20	5300	Ant0	12.03	0.53	12.56	24	Pass
NVNT	ac20	5320	Ant0	12.31	0.53	12.84	24	Pass
NVNT	ac40	5270	Ant0	10.5	0.93	11.43	24	Pass
NVNT	ac40	5310	Ant0	11.57	0.94	12.51	24	Pass
NVNT	ac80	5290	Ant0	10.45	1.73	12.18	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	Ant0	0.1	0.45	0.55	11	Pass
NVNT	a	5300	Ant0	1.02	0.5	1.52	11	Pass
NVNT	a	5320	Ant0	2	0.45	2.45	11	Pass
NVNT	n20	5260	Ant0	0.09	0.5	0.59	11	Pass
NVNT	n20	5300	Ant0	1.46	0.62	2.08	11	Pass
NVNT	n20	5320	Ant0	1.58	0.5	2.08	11	Pass
NVNT	n40	5270	Ant0	-2.53	0.99	-1.54	11	Pass
NVNT	n40	5310	Ant0	-1.86	1	-0.86	11	Pass
NVNT	ac20	5260	Ant0	0.08	0.59	0.67	11	Pass
NVNT	ac20	5300	Ant0	1.14	0.53	1.67	11	Pass
NVNT	ac20	5320	Ant0	1.35	0.53	1.88	11	Pass
NVNT	ac40	5270	Ant0	-2.6	0.93	-1.67	11	Pass
NVNT	ac40	5310	Ant0	-1.67	0.94	-0.73	11	Pass
NVNT	ac80	5290	Ant0	-6.14	1.73	-4.41	11	Pass

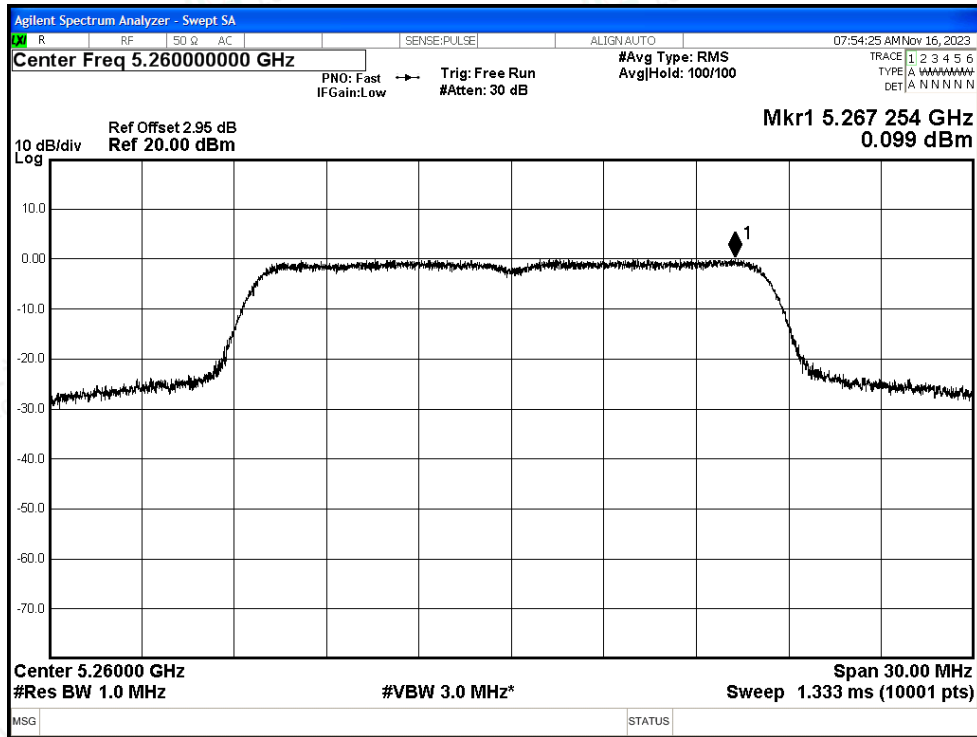


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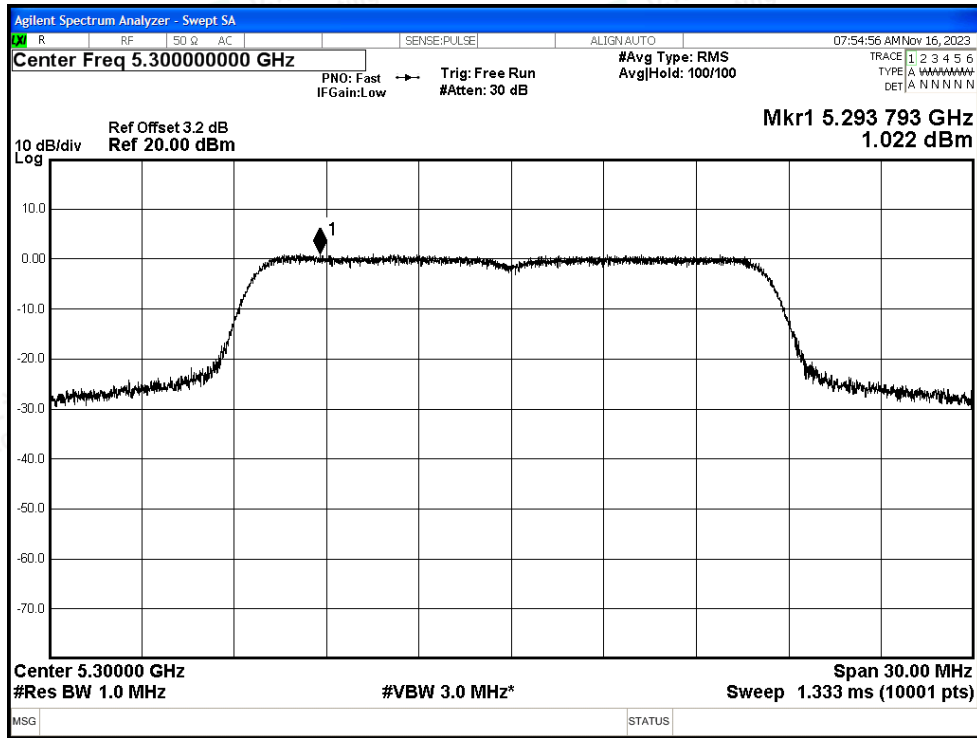


Test Graphs

PSD NVNT a 5260MHz Ant0

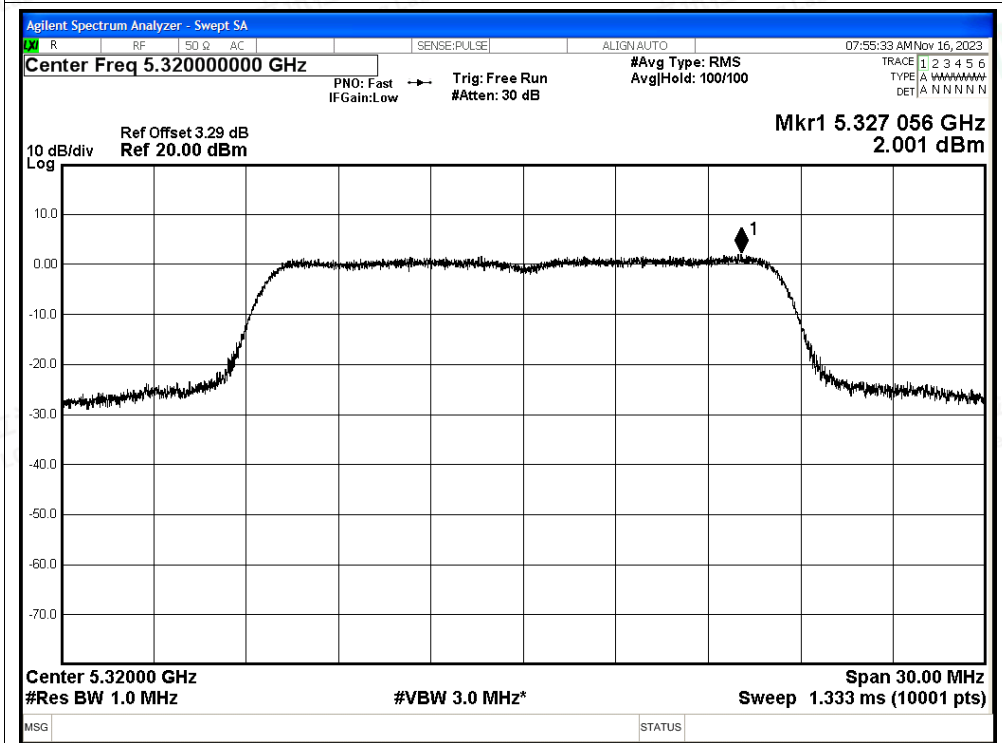


PSD NVNT a 5300MHz Ant0

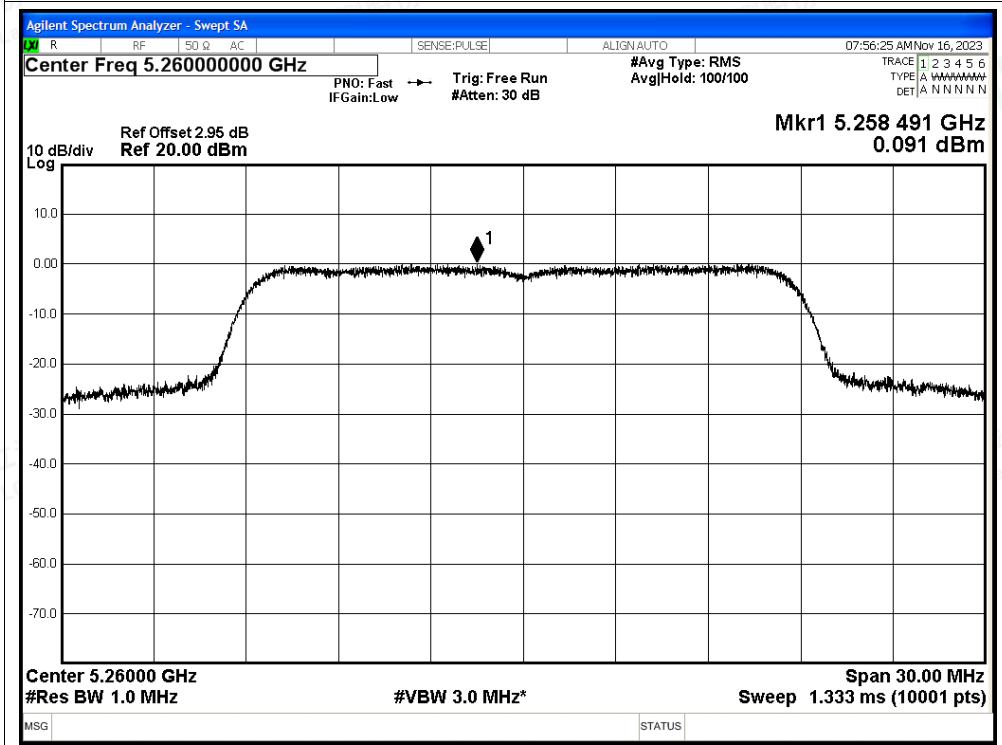


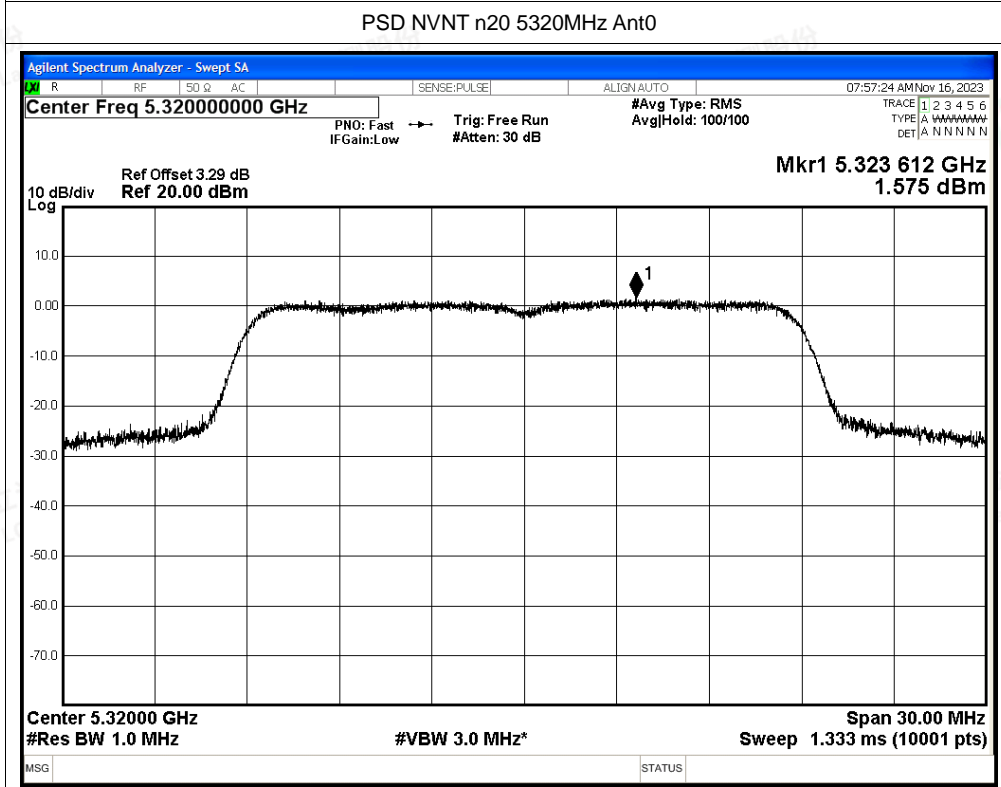
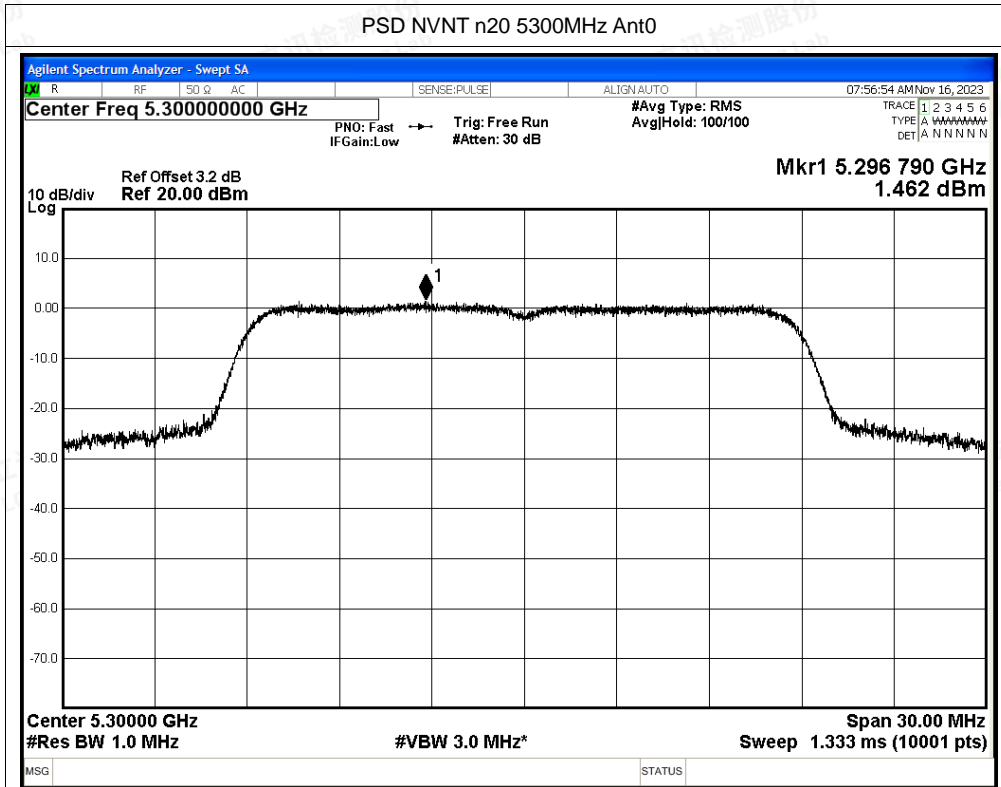


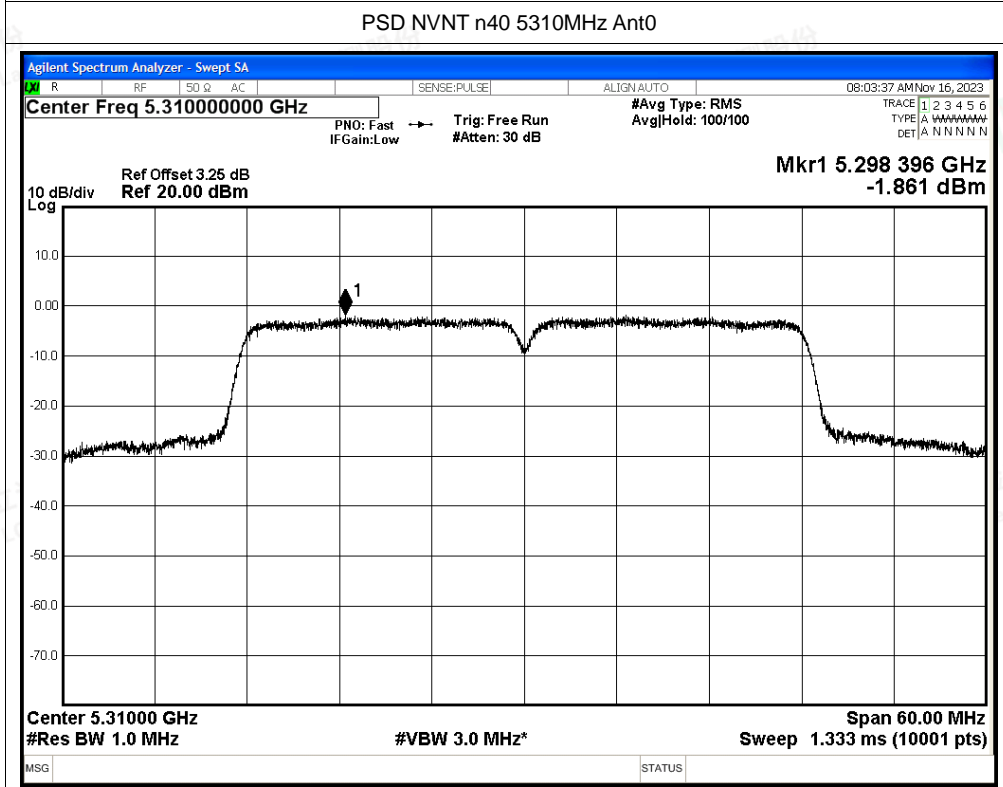
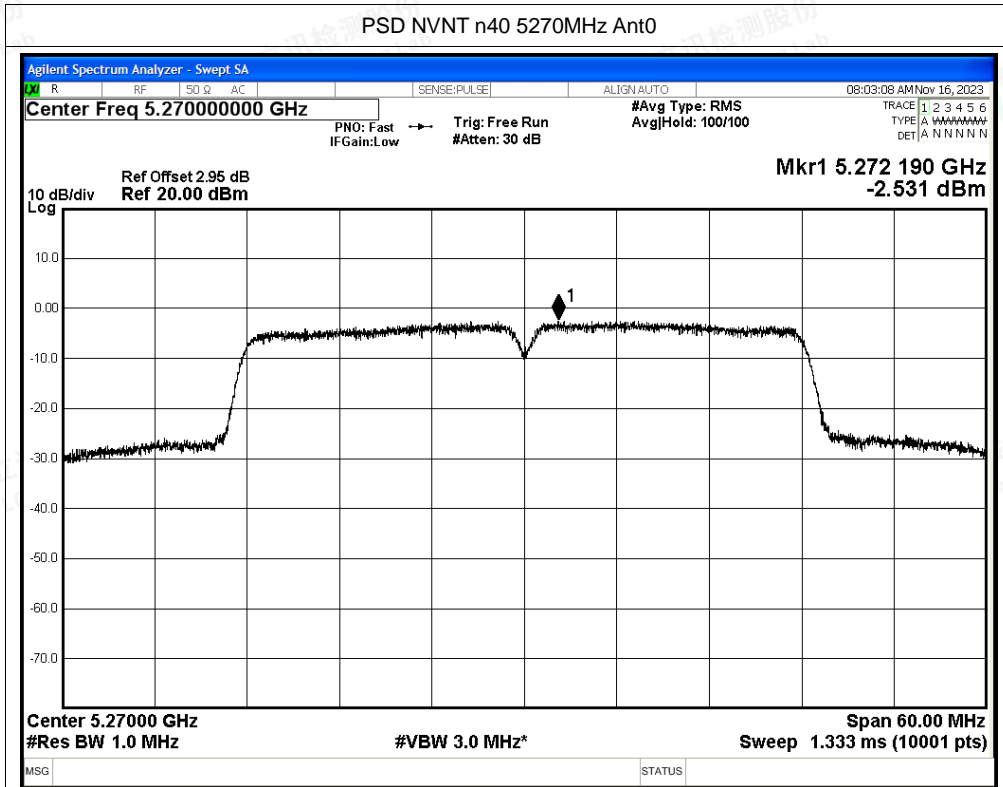
PSD NVNT a 5320MHz Ant0

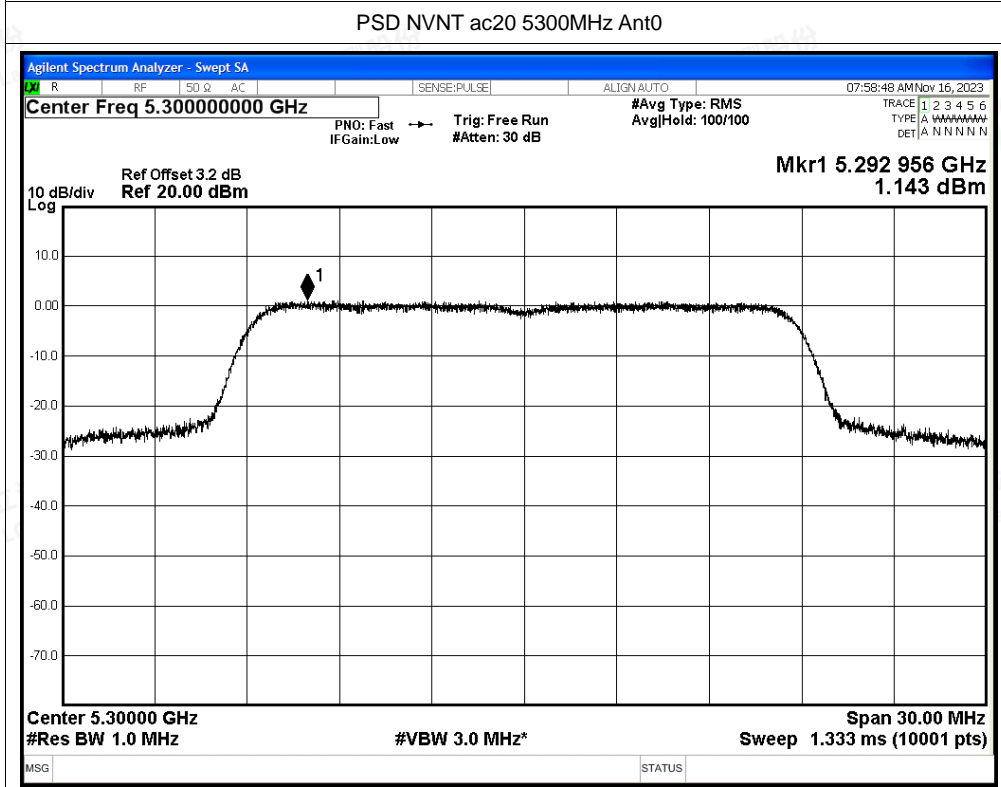
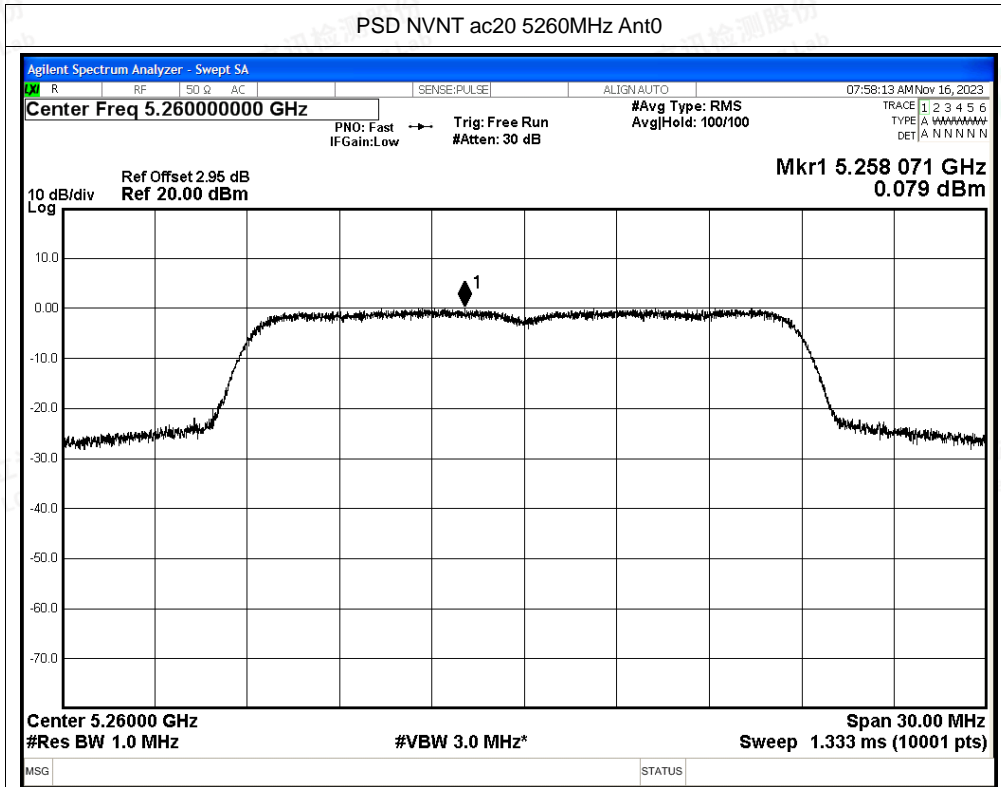


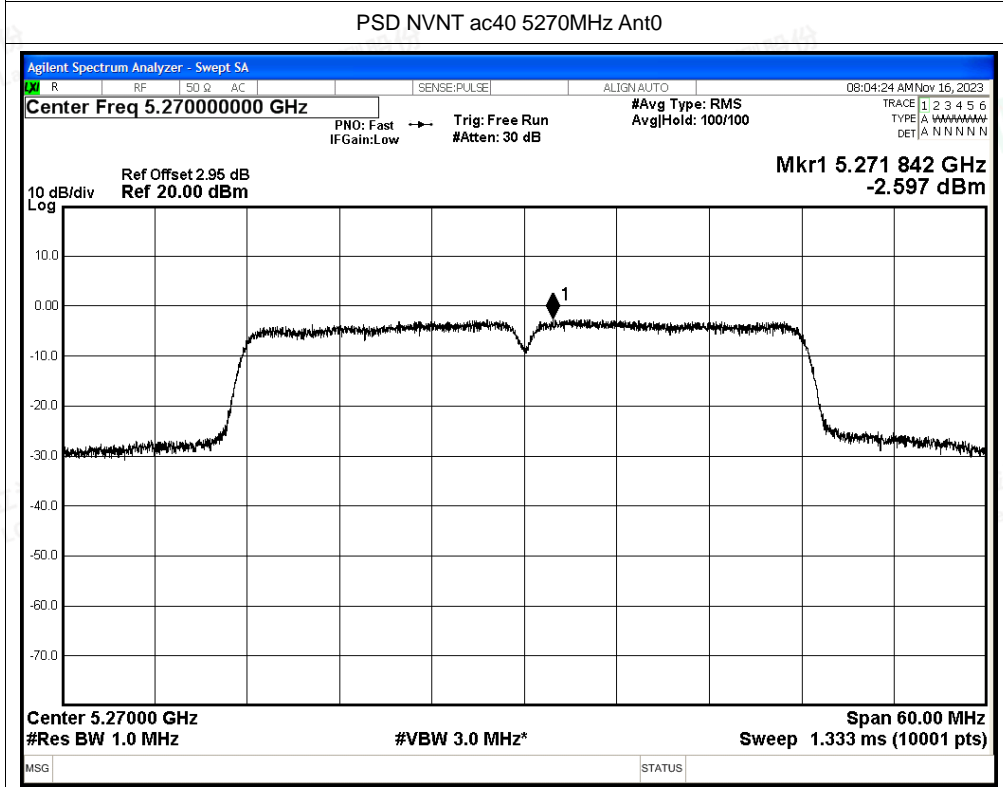
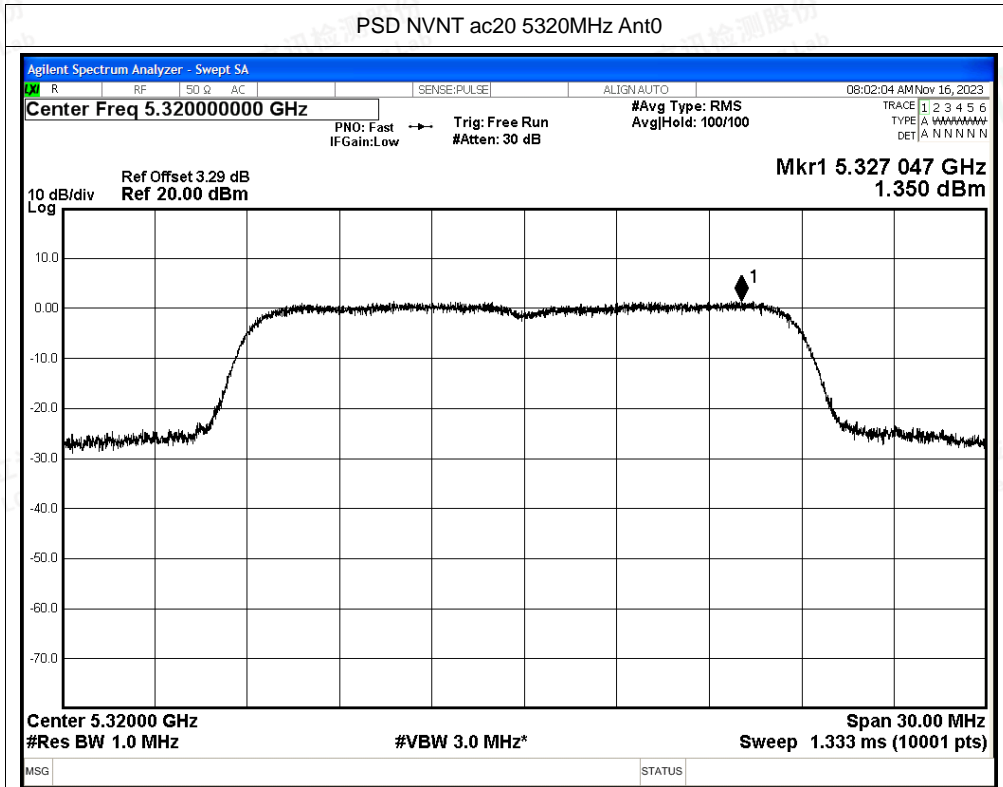
PSD NVNT n20 5260MHz Ant0

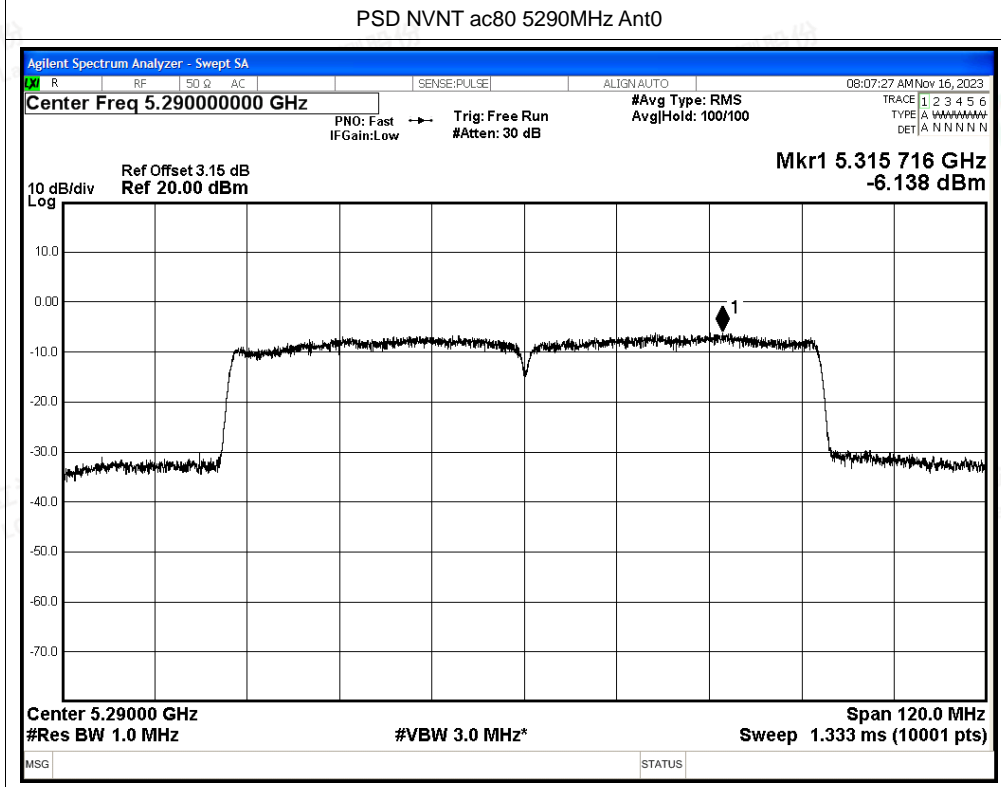
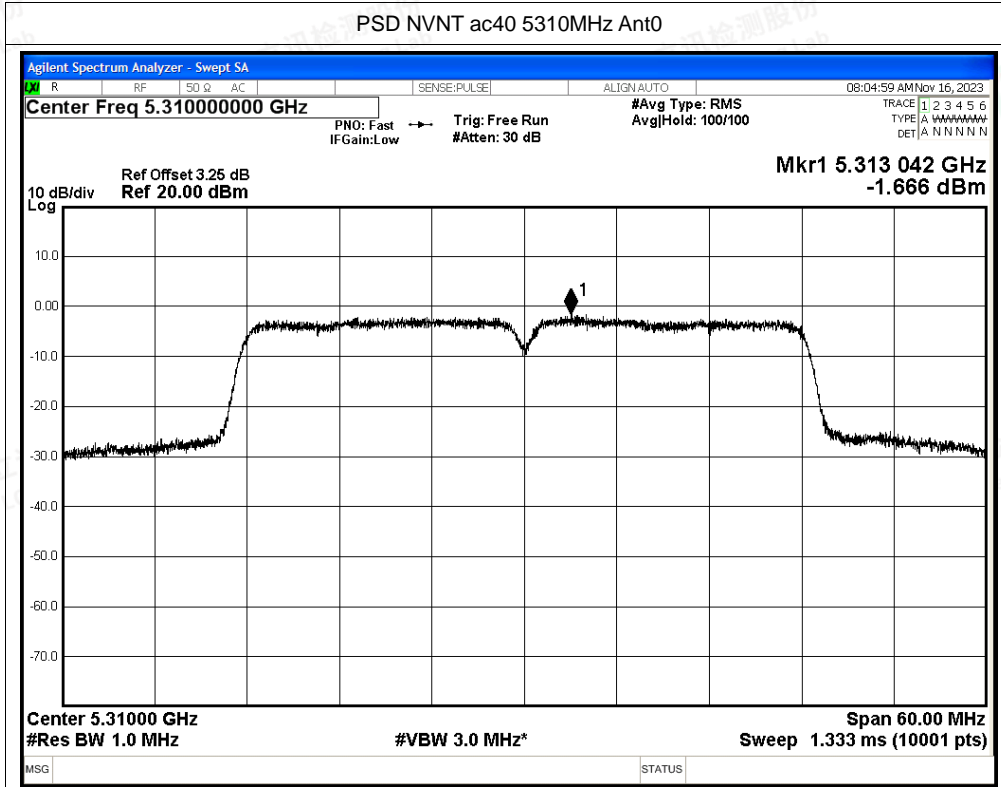














E.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5260	Ant0	4500	-50.28	2	46.95	Peak	68.2	Pass
NVNT	a	5260	Ant0	4500	-57.89	2	39.34	Average	54	Pass
NVNT	a	5260	Ant0	5119.32	-46.92	2	50.31	Peak	68.2	Pass
NVNT	a	5260	Ant0	5072.52	-56.4	2	40.83	Average	54	Pass
NVNT	a	5260	Ant0	5150	-50.97	2	46.26	Peak	68.2	Pass
NVNT	a	5260	Ant0	5150	-56.55	2	40.68	Average	54	Pass
NVNT	a	5320	Ant0	5350	-45.11	2	52.12	Peak	68.2	Pass
NVNT	a	5320	Ant0	5350	-53.44	2	43.79	Average	54	Pass
NVNT	a	5320	Ant0	5350.8	-41.09	2	56.14	Peak	68.2	Pass
NVNT	a	5320	Ant0	5460	-51.01	2	46.22	Peak	68.2	Pass
NVNT	a	5320	Ant0	5460	-57.03	2	40.2	Average	54	Pass
NVNT	n20	5260	Ant0	4500	-51.05	2	46.18	Peak	68.2	Pass
NVNT	n20	5260	Ant0	4500	-57.95	2	39.28	Average	54	Pass
NVNT	n20	5260	Ant0	5024.94	-46.15	2	51.08	Peak	68.2	Pass
NVNT	n20	5260	Ant0	5046.78	-56.22	2	41.01	Average	54	Pass
NVNT	n20	5260	Ant0	5150	-49.84	2	47.39	Peak	68.2	Pass
NVNT	n20	5260	Ant0	5150	-56.56	2	40.67	Average	54	Pass
NVNT	n20	5320	Ant0	5350	-40.3	2	56.93	Peak	68.2	Pass
NVNT	n20	5320	Ant0	5350	-52.31	2	44.92	Average	54	Pass
NVNT	n20	5320	Ant0	5352.2	-39.6	2	57.63	Peak	68.2	Pass
NVNT	n20	5320	Ant0	5350.2	-52.3	2	44.93	Average	54	Pass
NVNT	n20	5320	Ant0	5460	-50	2	47.23	Peak	68.2	Pass
NVNT	n20	5320	Ant0	5460	-56.77	2	40.46	Average	54	Pass
NVNT	n40	5270	Ant0	4500	-51.12	2	46.11	Peak	68.2	Pass
NVNT	n40	5270	Ant0	4500	-57.47	2	39.76	Average	54	Pass
NVNT	n40	5270	Ant0	5073.48	-46.26	2	50.97	Peak	68.2	Pass
NVNT	n40	5270	Ant0	5082.39	-55.88	2	41.35	Average	54	Pass
NVNT	n40	5270	Ant0	5150	-50.65	2	46.58	Peak	68.2	Pass
NVNT	n40	5270	Ant0	5150	-56.23	2	41	Average	54	Pass
NVNT	n40	5310	Ant0	5350	-37.62	2	59.61	Peak	68.2	Pass
NVNT	n40	5310	Ant0	5350	-45.52	2	51.71	Average	54	Pass
NVNT	n40	5310	Ant0	5352.6	-34.34	2	62.89	Peak	68.2	Pass
NVNT	n40	5310	Ant0	5460	-51.13	2	46.1	Peak	68.2	Pass
NVNT	n40	5310	Ant0	5460	-56.64	2	40.59	Average	54	Pass
NVNT	ac20	5260	Ant0	4500	-51	2	46.23	Peak	68.2	Pass
NVNT	ac20	5260	Ant0	4500	-57.86	2	39.37	Average	54	Pass
NVNT	ac20	5260	Ant0	5070.18	-46.86	2	50.37	Peak	68.2	Pass



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NVNT	ac20	5260	Ant0	5114.64	-56.27	2	40.96	Average	54	Pass
NVNT	ac20	5260	Ant0	5150	-50.45	2	46.78	Peak	68.2	Pass
NVNT	ac20	5260	Ant0	5150	-56.61	2	40.62	Average	54	Pass
NVNT	ac20	5320	Ant0	5350	-42.2	2	55.03	Peak	68.2	Pass
NVNT	ac20	5320	Ant0	5350	-52.72	2	44.51	Average	54	Pass
NVNT	ac20	5320	Ant0	5351	-39.48	2	57.75	Peak	68.2	Pass
NVNT	ac20	5320	Ant0	5460	-48.55	2	48.68	Peak	68.2	Pass
NVNT	ac20	5320	Ant0	5460	-56.92	2	40.31	Average	54	Pass
NVNT	ac40	5270	Ant0	4500	-49.83	2	47.4	Peak	68.2	Pass
NVNT	ac40	5270	Ant0	4500	-57.52	2	39.71	Average	54	Pass
NVNT	ac40	5270	Ant0	5036.22	-45.83	2	51.4	Peak	68.2	Pass
NVNT	ac40	5270	Ant0	5111.55	-55.85	2	41.38	Average	54	Pass
NVNT	ac40	5270	Ant0	5150	-49.48	2	47.75	Peak	68.2	Pass
NVNT	ac40	5270	Ant0	5150	-56.31	2	40.92	Average	54	Pass
NVNT	ac40	5310	Ant0	5350	-35.1	2	62.13	Peak	68.2	Pass
NVNT	ac40	5310	Ant0	5350	-45.53	2	51.7	Average	54	Pass
NVNT	ac40	5310	Ant0	5350.4	-33.39	2	63.84	Peak	68.2	Pass
NVNT	ac40	5310	Ant0	5350.4	-45.52	2	51.71	Average	54	Pass
NVNT	ac40	5310	Ant0	5460	-51.32	2	45.91	Peak	68.2	Pass
NVNT	ac40	5310	Ant0	5460	-56.61	2	40.62	Average	54	Pass
NVNT	ac80	5290	Ant0	4500	-51.21	2	46.02	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	4500	-57.11	2	40.12	Average	54	Pass
NVNT	ac80	5290	Ant0	5091.6	-45.26	2	51.97	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	5106.39	-55.14	2	42.09	Average	54	Pass
NVNT	ac80	5290	Ant0	5150	-49.67	2	47.56	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	5150	-55.54	2	41.69	Average	54	Pass
NVNT	ac80	5290	Ant0	5350	-37.92	2	59.31	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	5350	-45.76	2	51.47	Average	54	Pass
NVNT	ac80	5290	Ant0	5350.5	-36.4	2	60.83	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	5351.5	-45.34	2	51.89	Average	54	Pass
NVNT	ac80	5290	Ant0	5460	-50.19	2	47.04	Peak	68.2	Pass
NVNT	ac80	5290	Ant0	5460	-56.69	2	40.54	Average	54	Pass

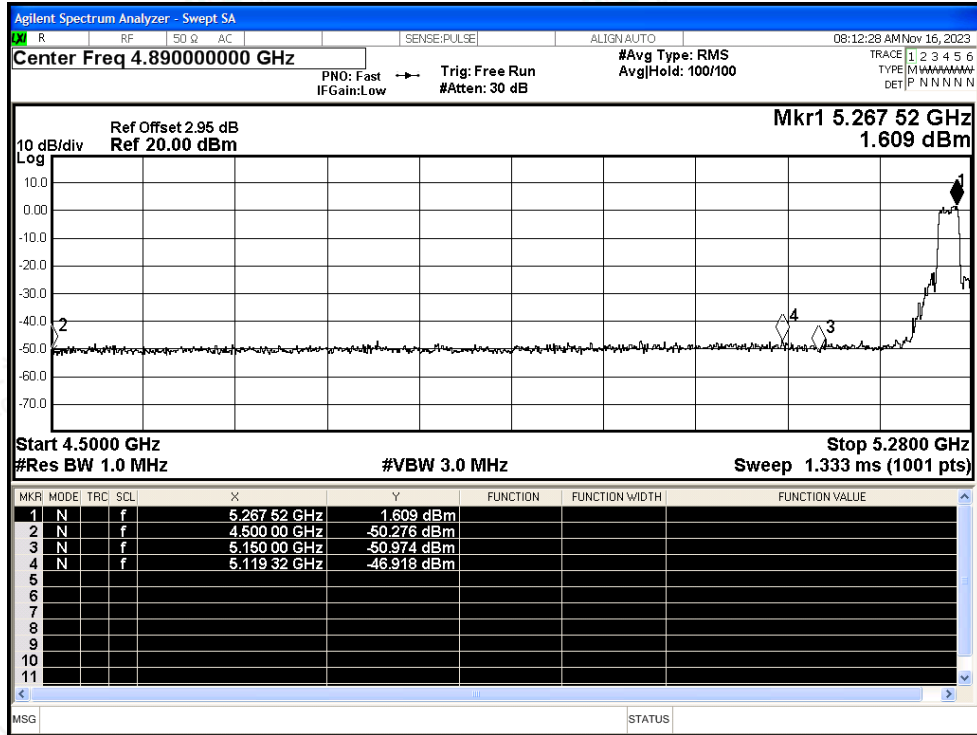


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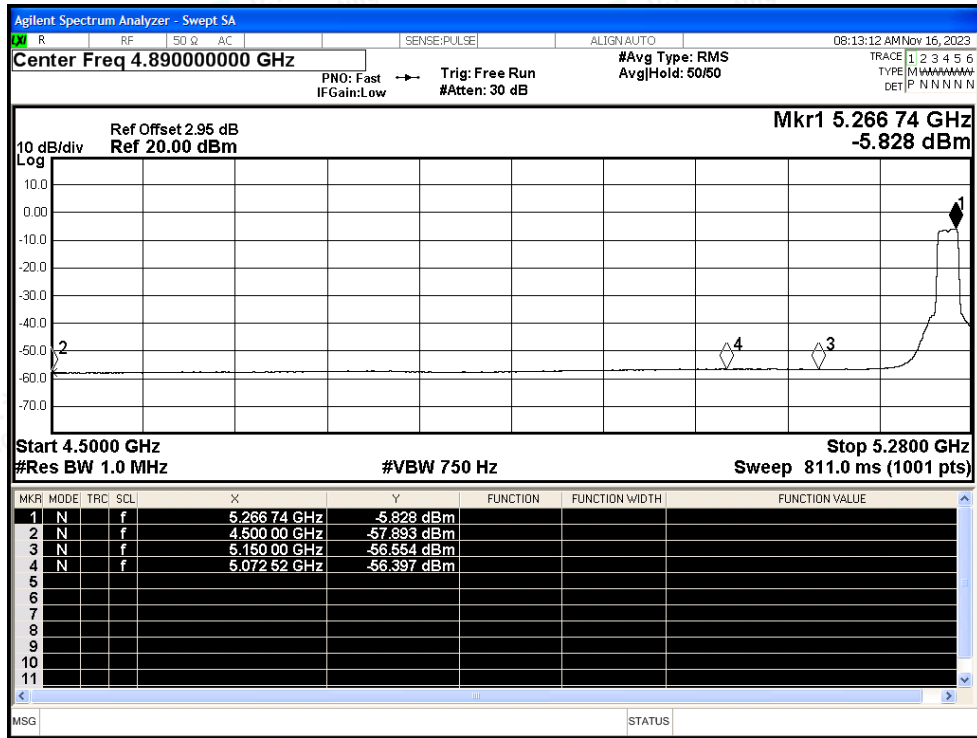


Test Graphs

Restrict Band NVNT a 5260MHz Ant0 Peak

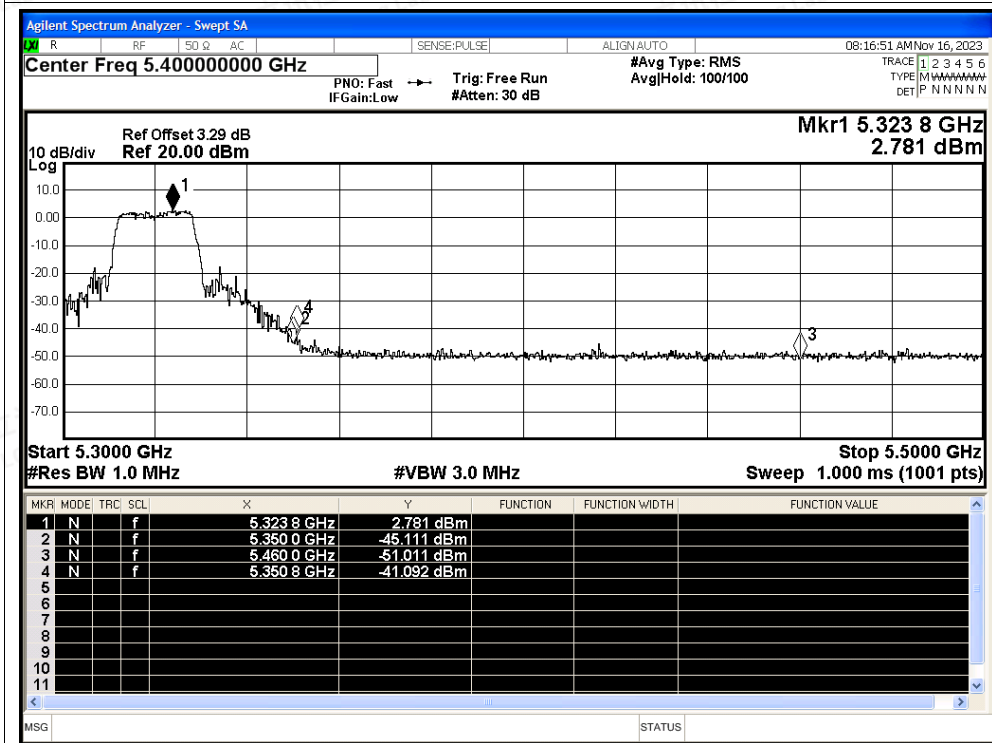


Restrict Band NVNT a 5260MHz Ant0 Average

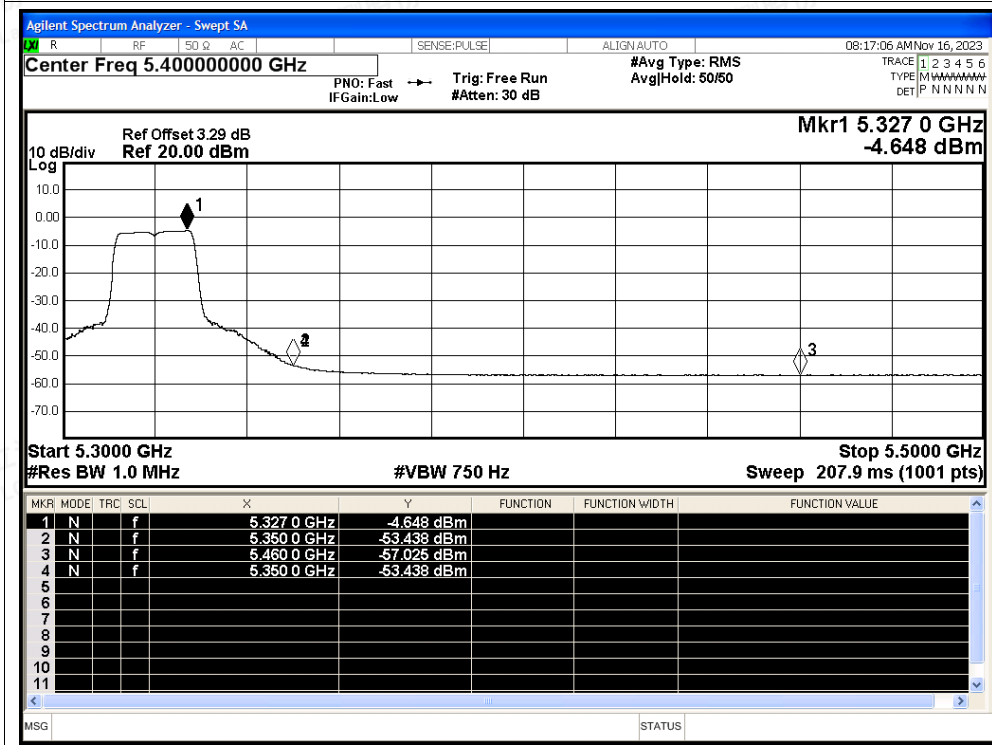




Restrict Band NVNT a 5320MHz Ant0 Peak

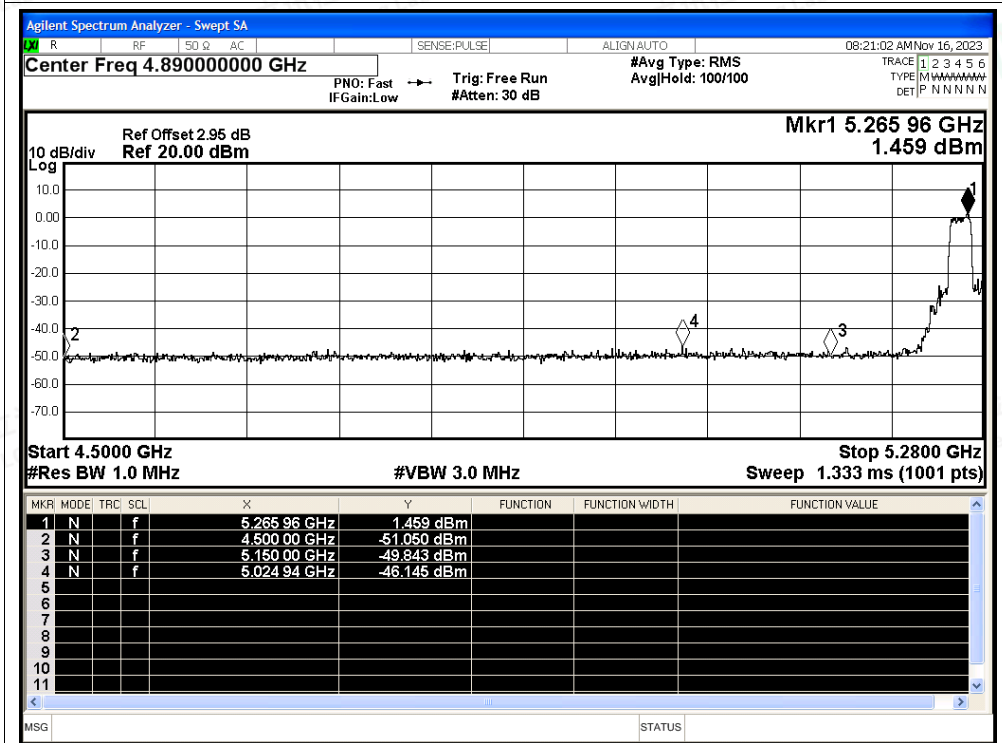


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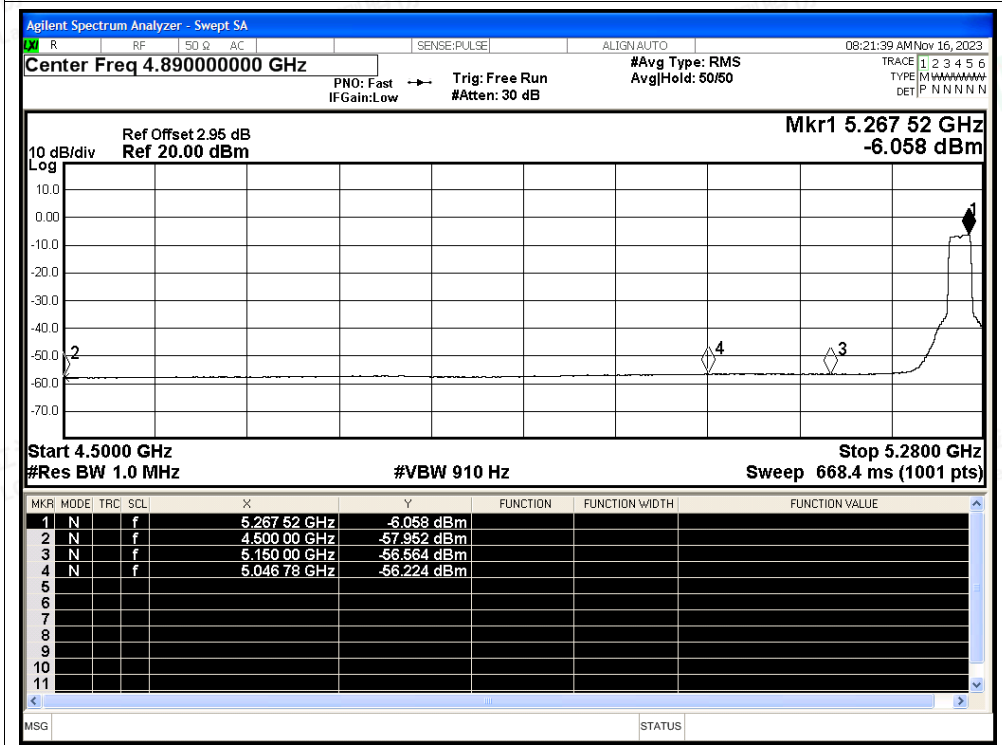




Restrict Band NVNT n20 5260MHz Ant0 Peak

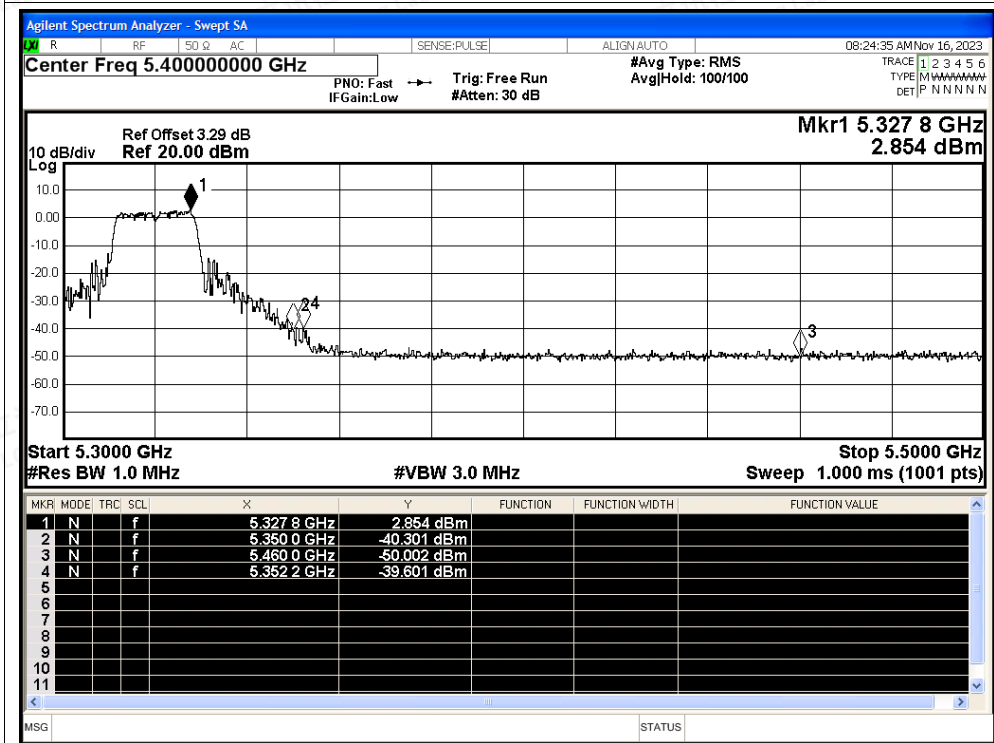


Restrict Band NVNT n20 5260MHz Ant0 Average

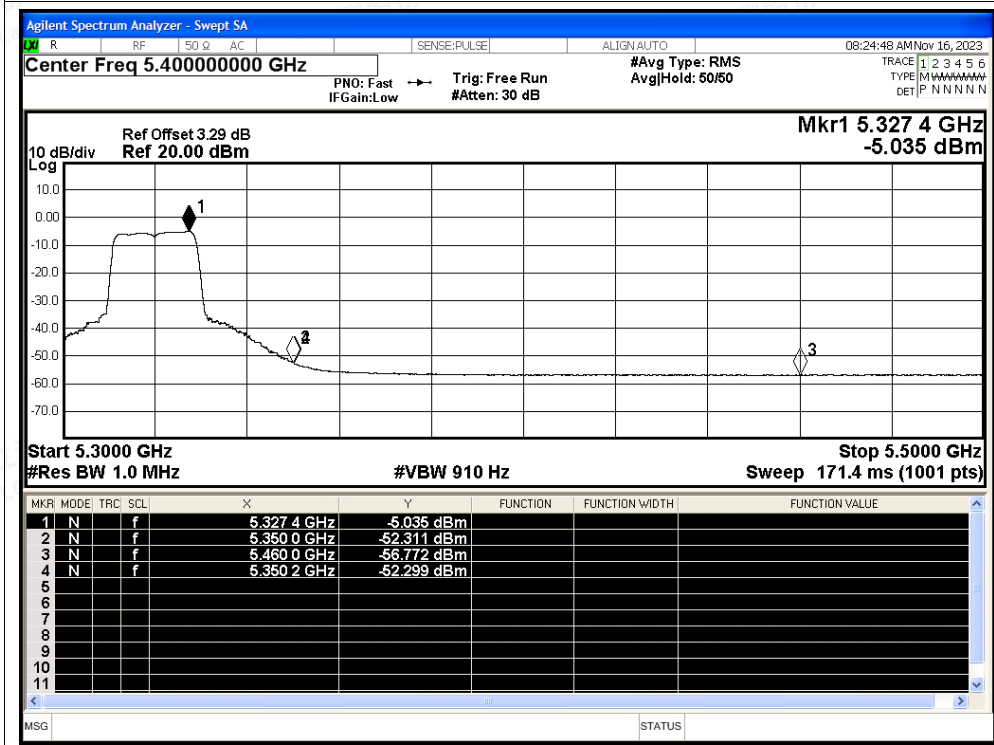




Restrict Band NVNT n20 5320MHz Ant0 Peak

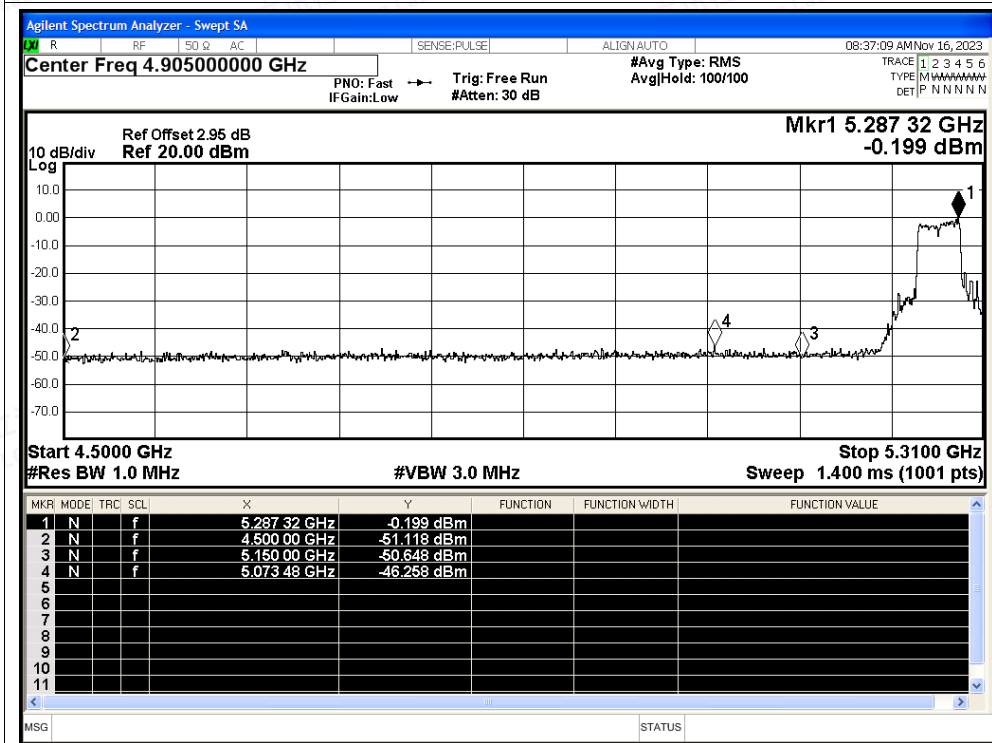


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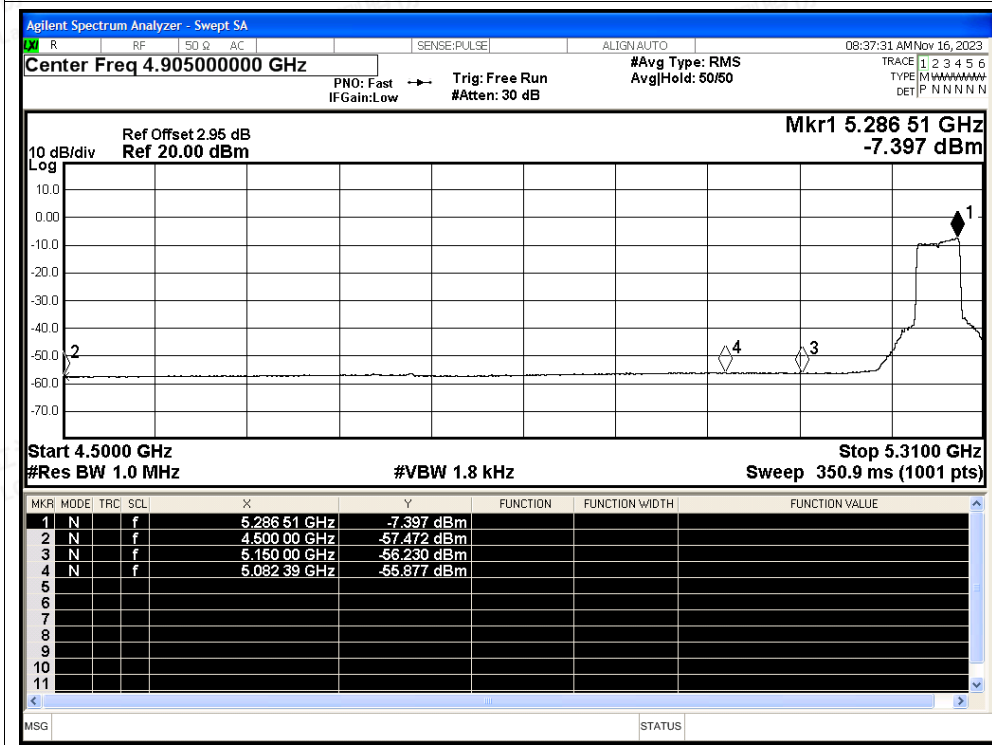




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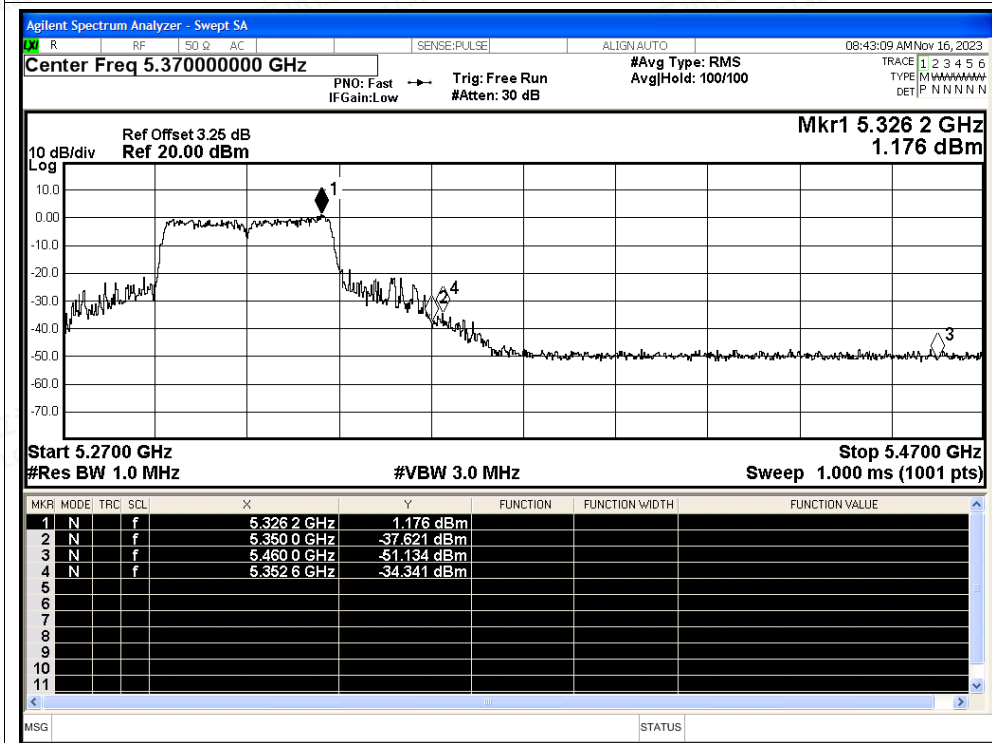


Restrict Band NVNT n40 5270MHz Ant0 Average

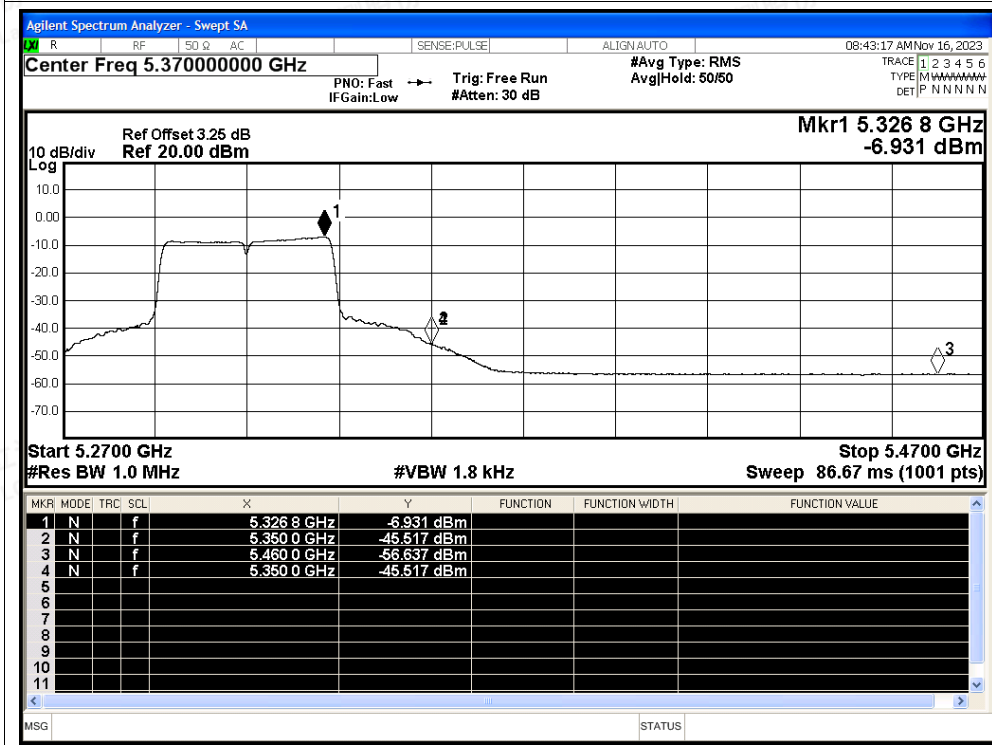




Restrict Band NVNT n40 5310MHz Ant0 Peak

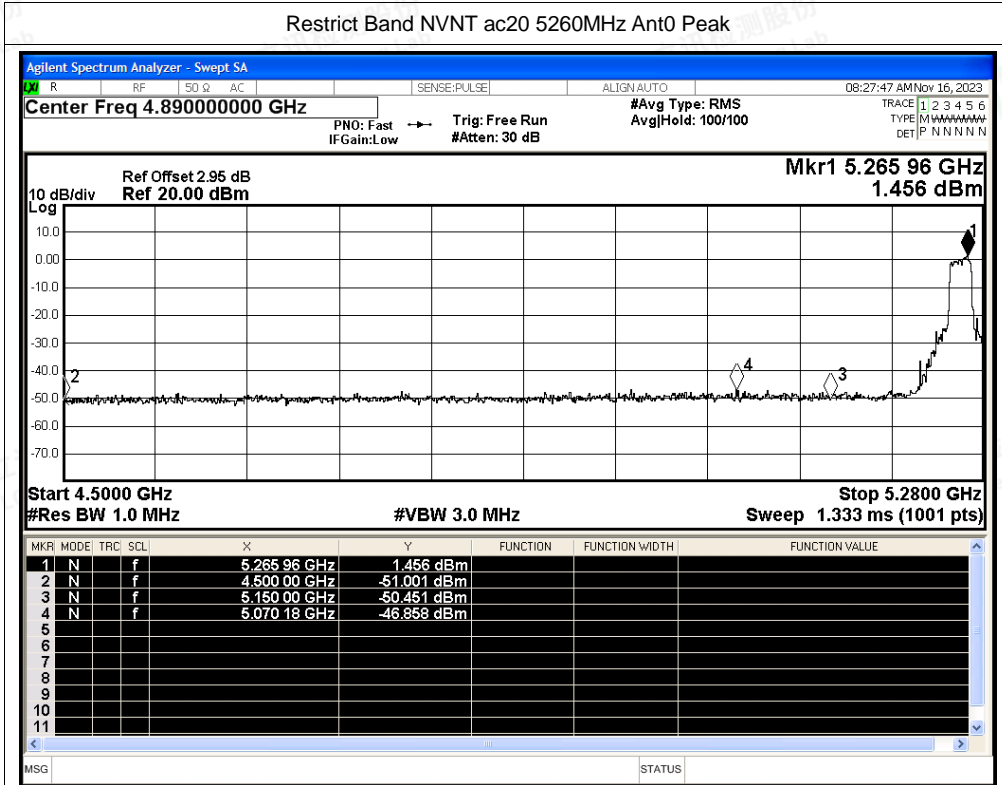


Restrict Band NVNT n40 5310MHz Ant0 Average

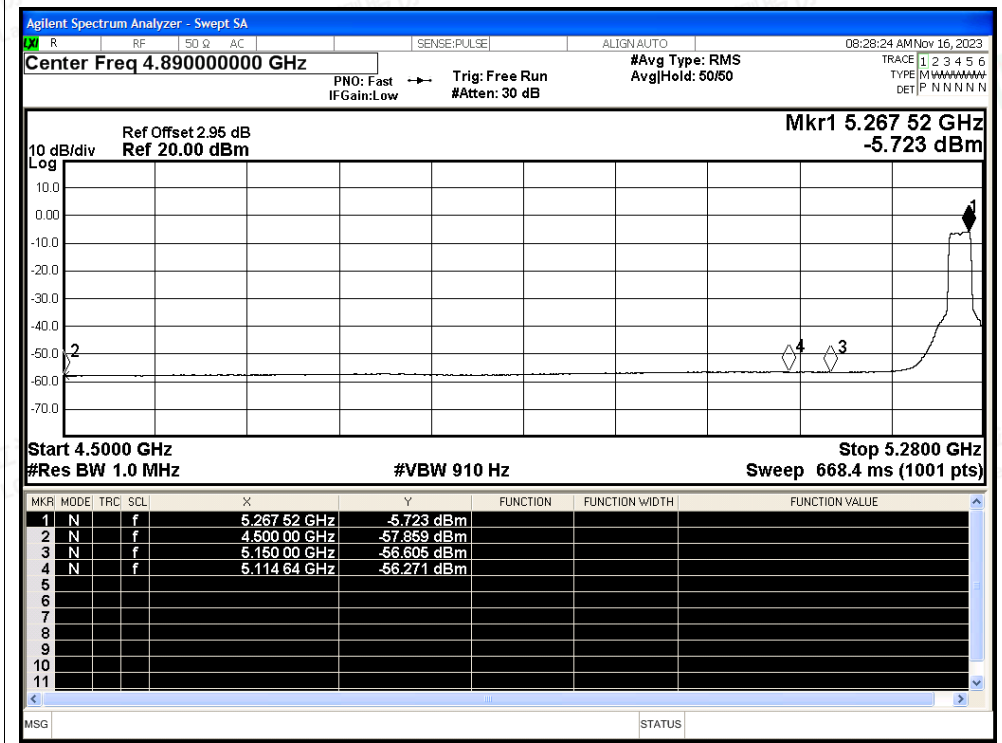




Restrict Band NVNT ac20 5260MHz Ant0 Peak

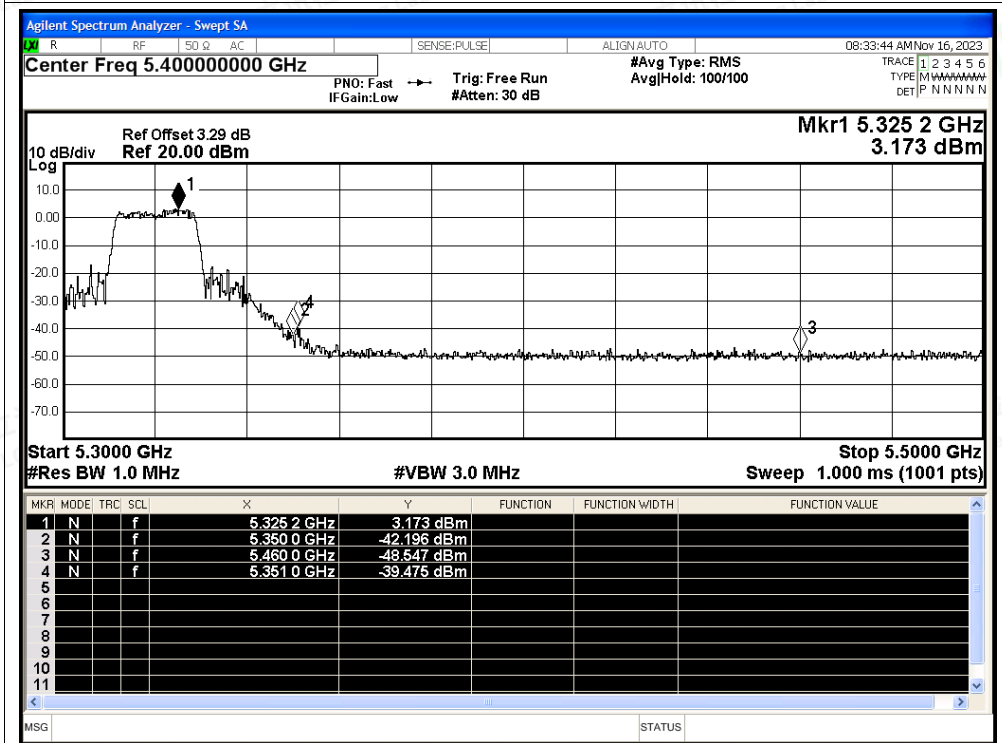


Restrict Band NVNT ac20 5260MHz Ant0 Average

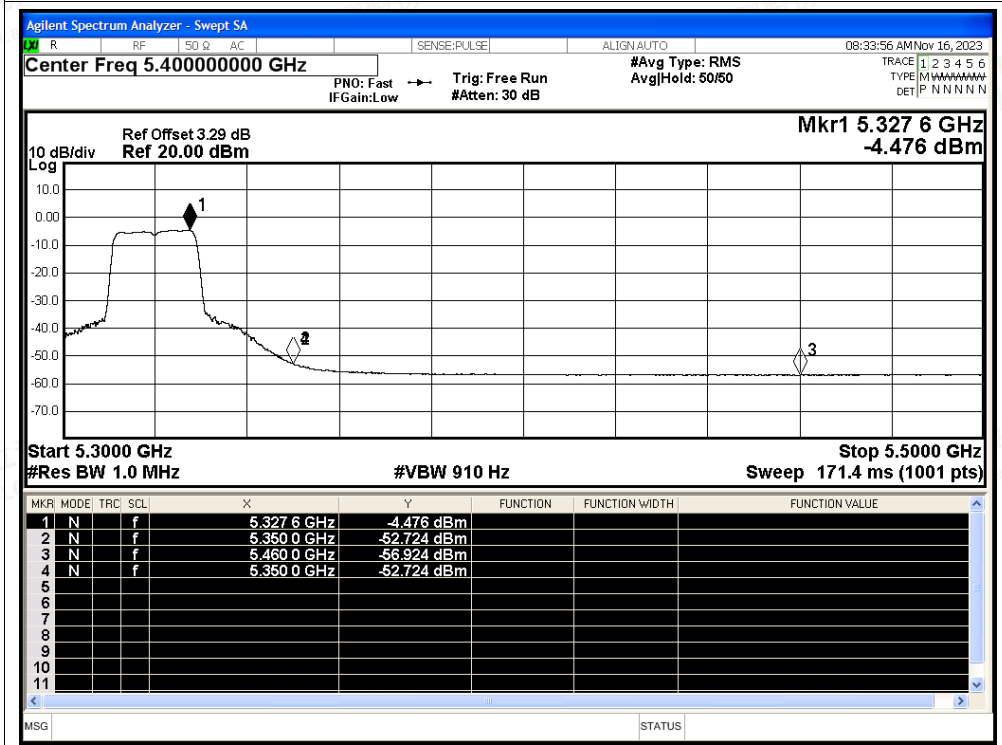




Restrict Band NVNT ac20 5320MHz Ant0 Peak

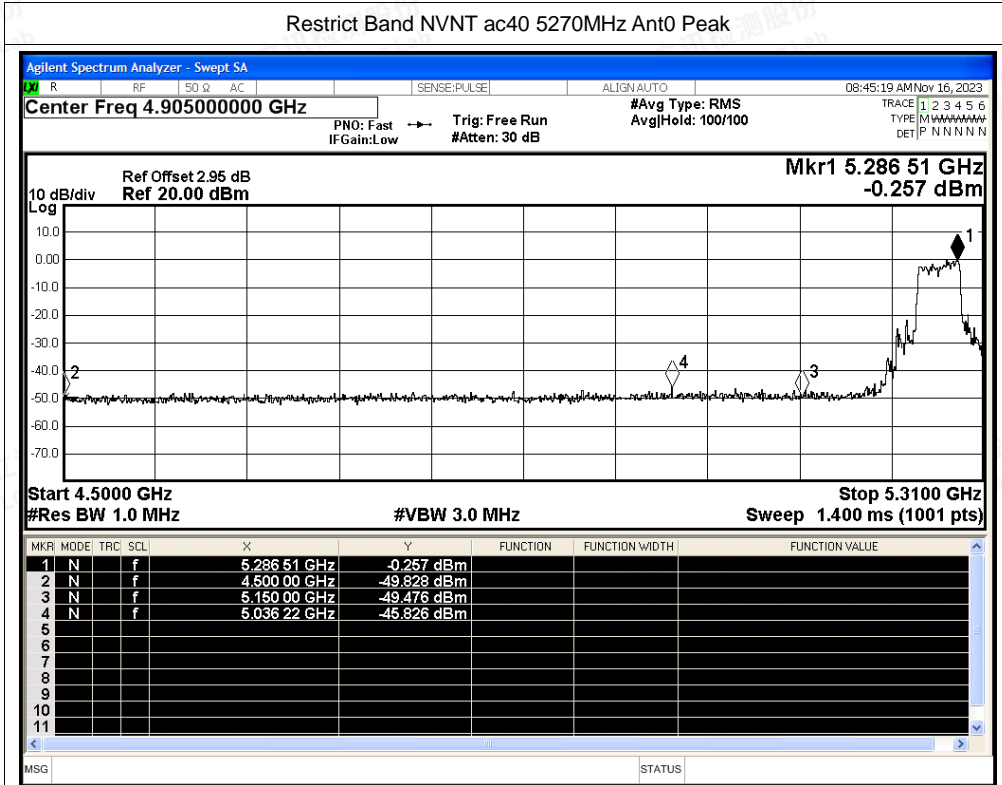


Restrict Band NVNT ac20 5320MHz Ant0 Average

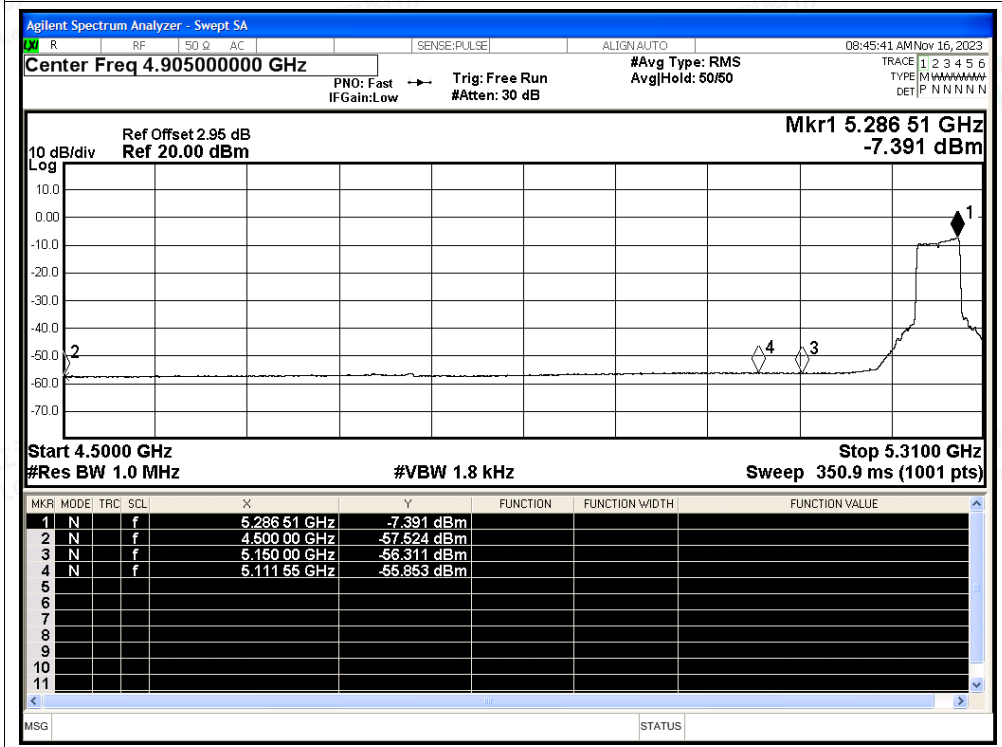




Restrict Band NVNT ac40 5270MHz Ant0 Peak

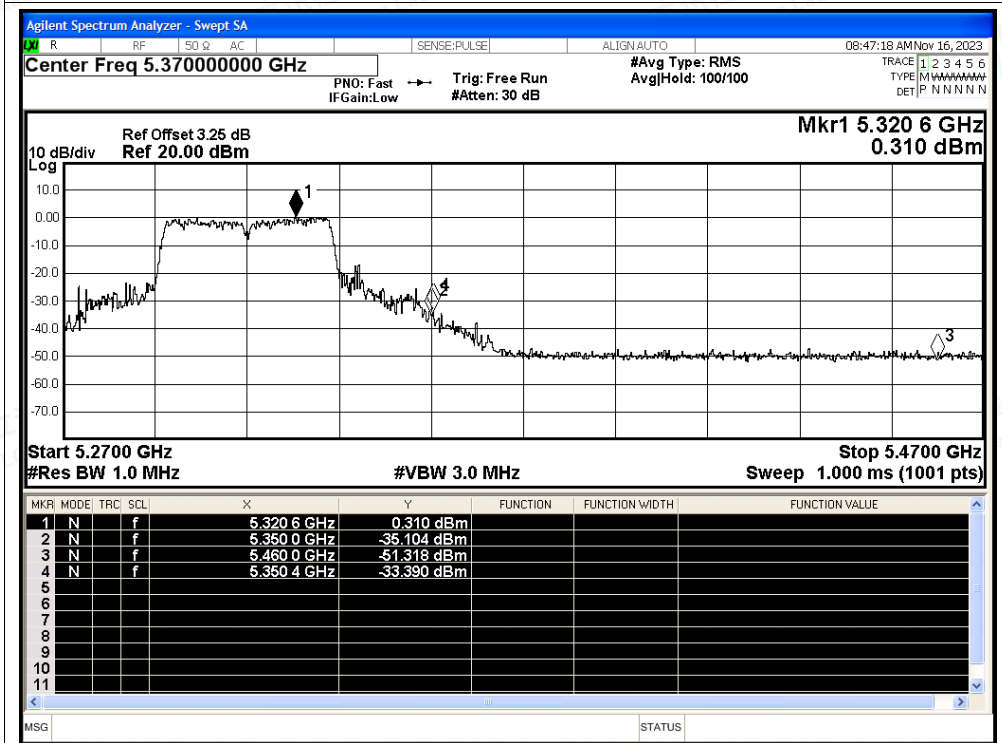


Restrict Band NVNT ac40 5270MHz Ant0 Average

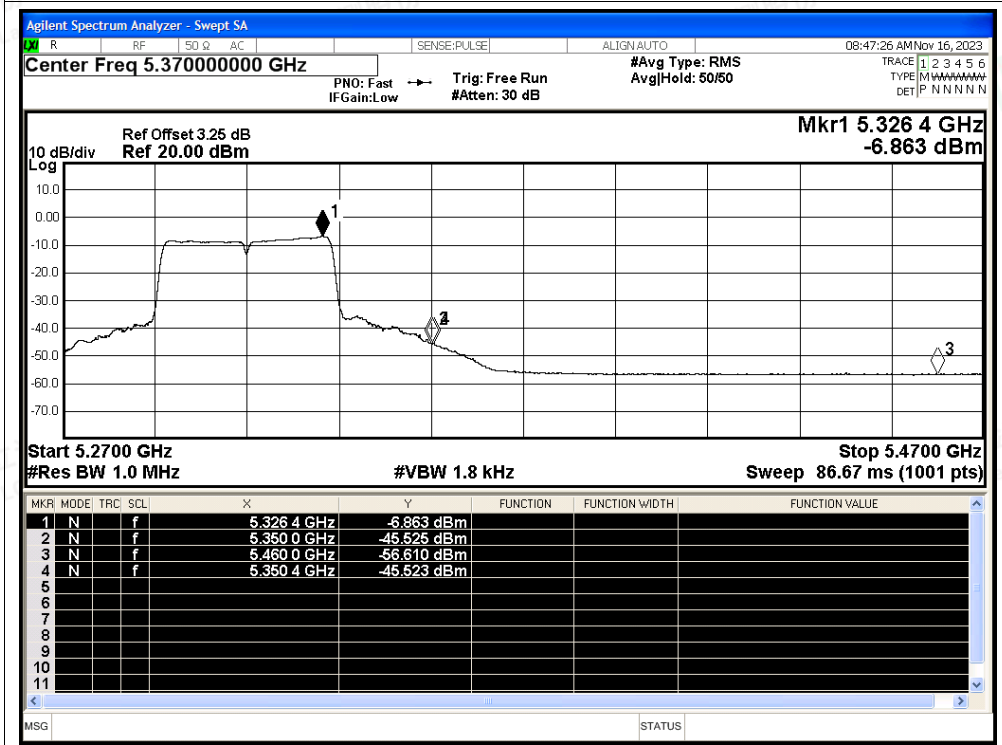




Restrict Band NVNT ac40 5310MHz Ant0 Peak

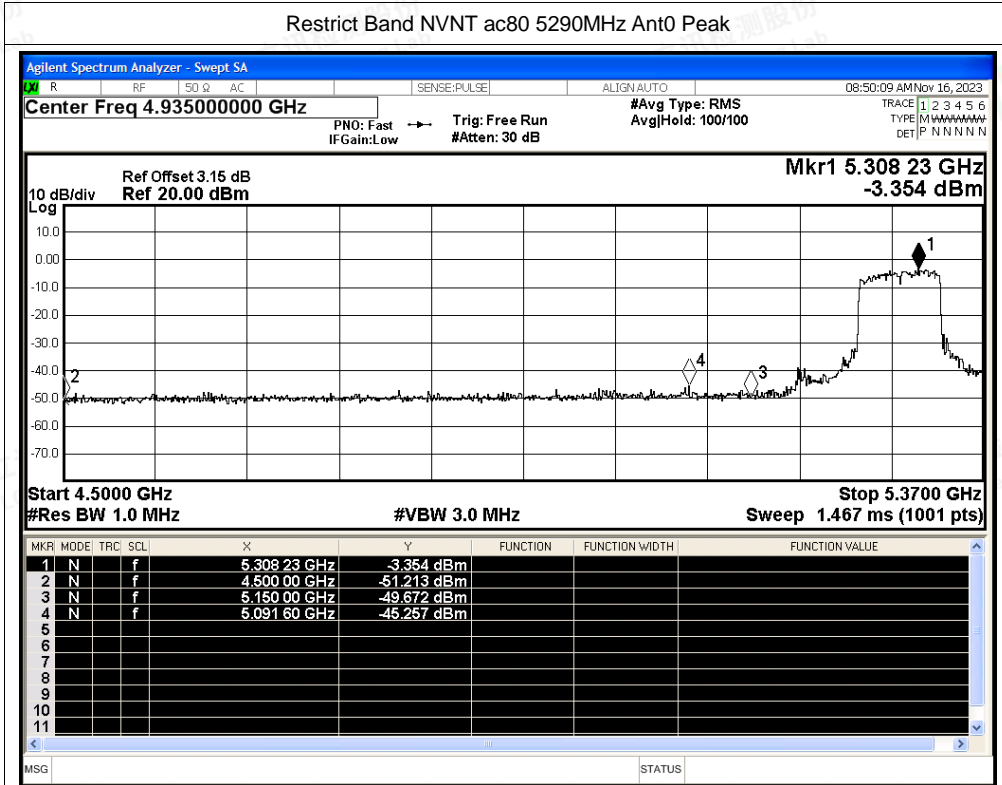


Restrict Band NVNT ac40 5310MHz Ant0 Average

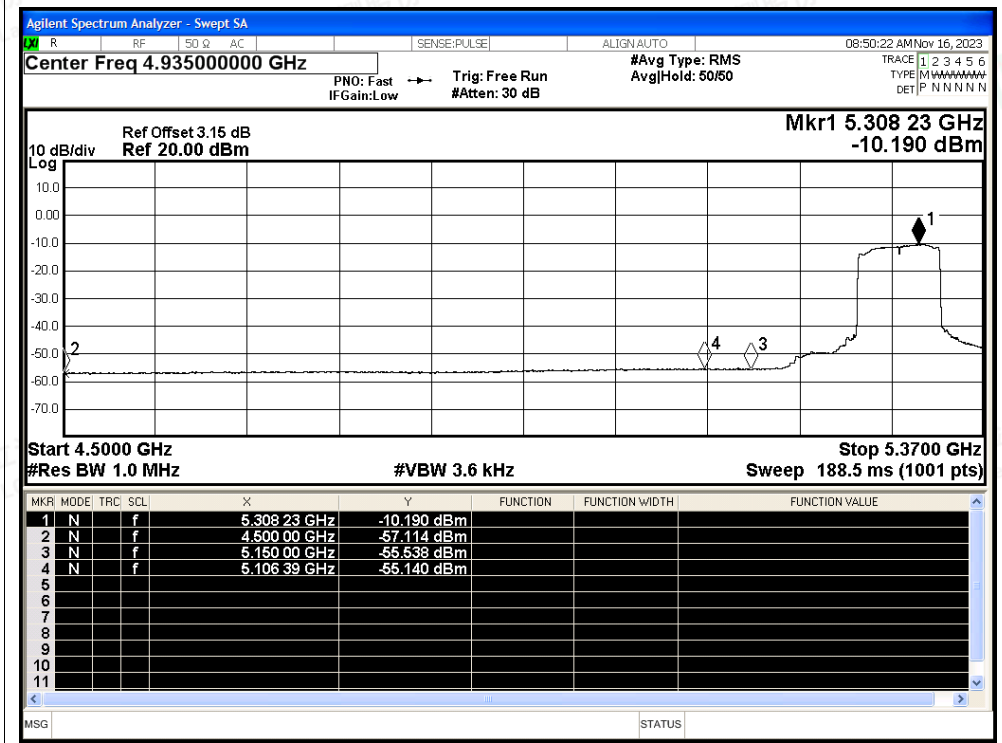




Restrict Band NVNT ac80 5290MHz Ant0 Peak

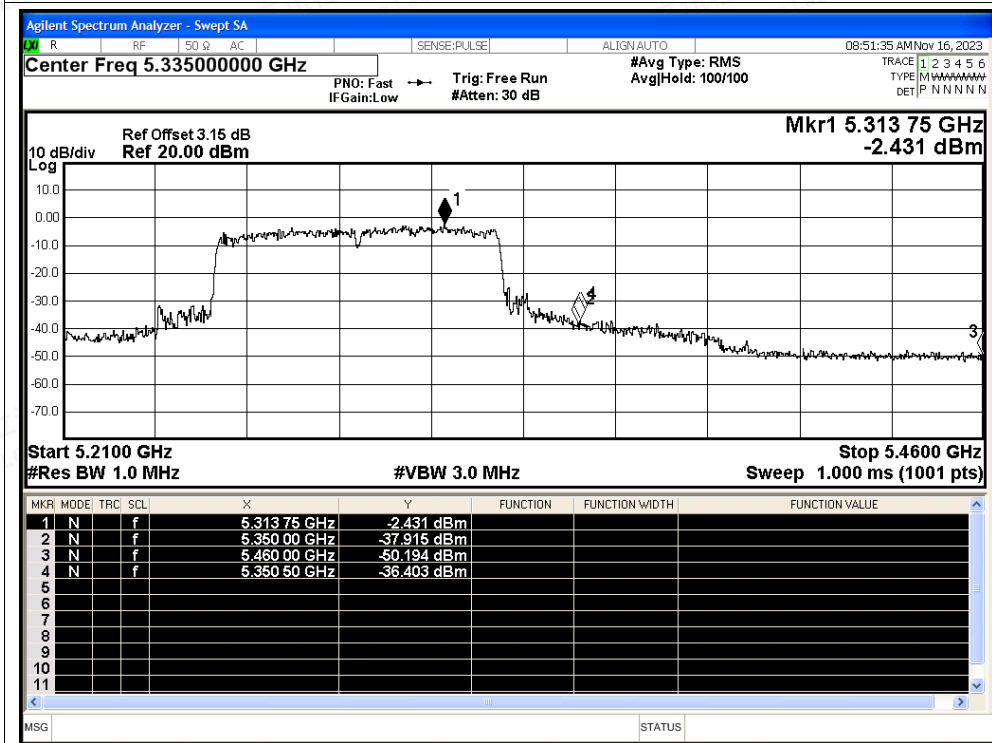


Restrict Band NVNT ac80 5290MHz Ant0 Average

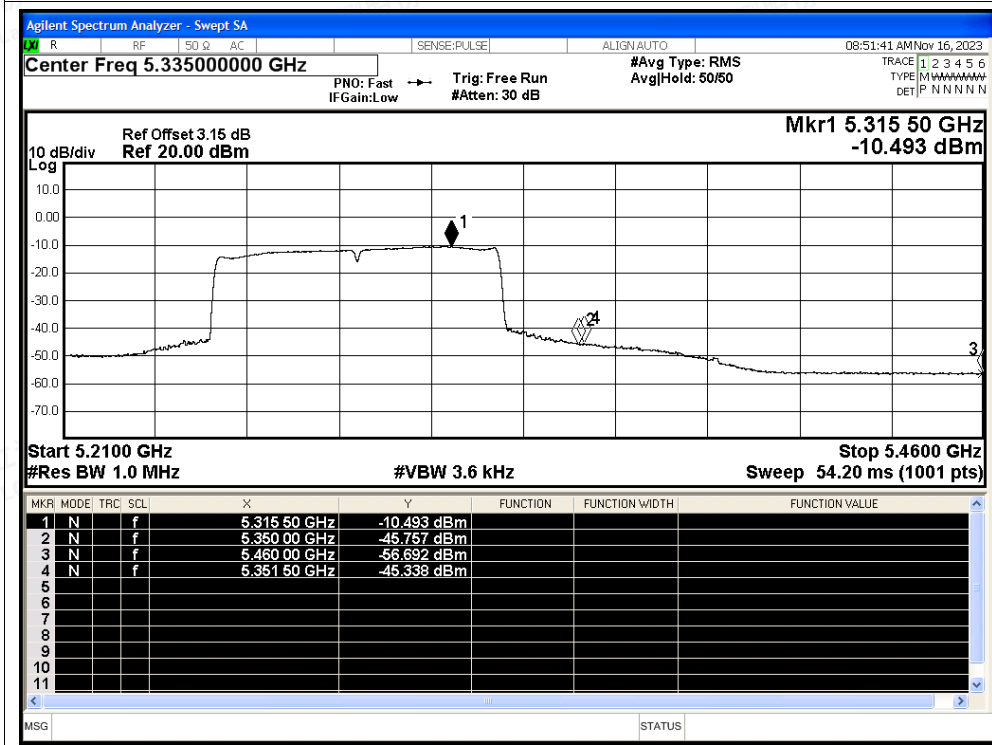




Restrict Band NVNT ac80 5290MHz Ant0 Peak



Restrict Band NVNT ac80 5290MHz Ant0 Average





E.5 Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5260	Ant0	5259.98	-20000	-3.8	25	Pass
NVNT	ac20	5300	Ant0	5299.98	-20000	-3.77	25	Pass
NVNT	ac20	5320	Ant0	5319.98	-20000	-3.76	25	Pass
NVNT	ac40	5270	Ant0	5270	0	0	25	Pass
NVNT	ac40	5310	Ant0	5309.96	-40000	-7.53	25	Pass
NVNT	ac80	5290	Ant0	5290	0	0	25	Pass

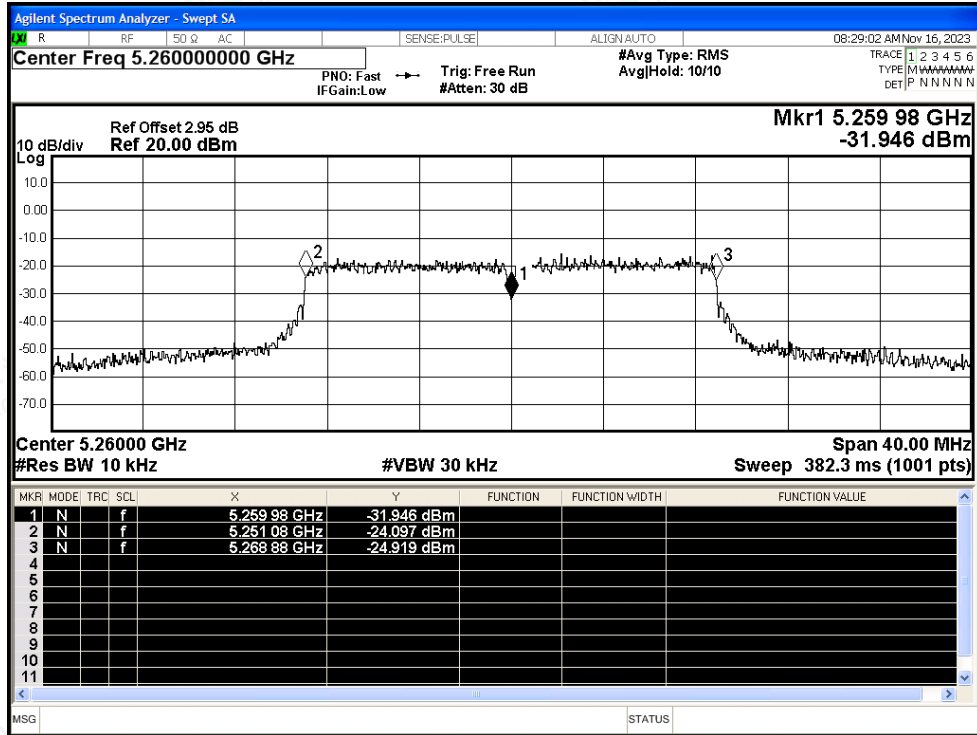


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Scan code to check authenticity

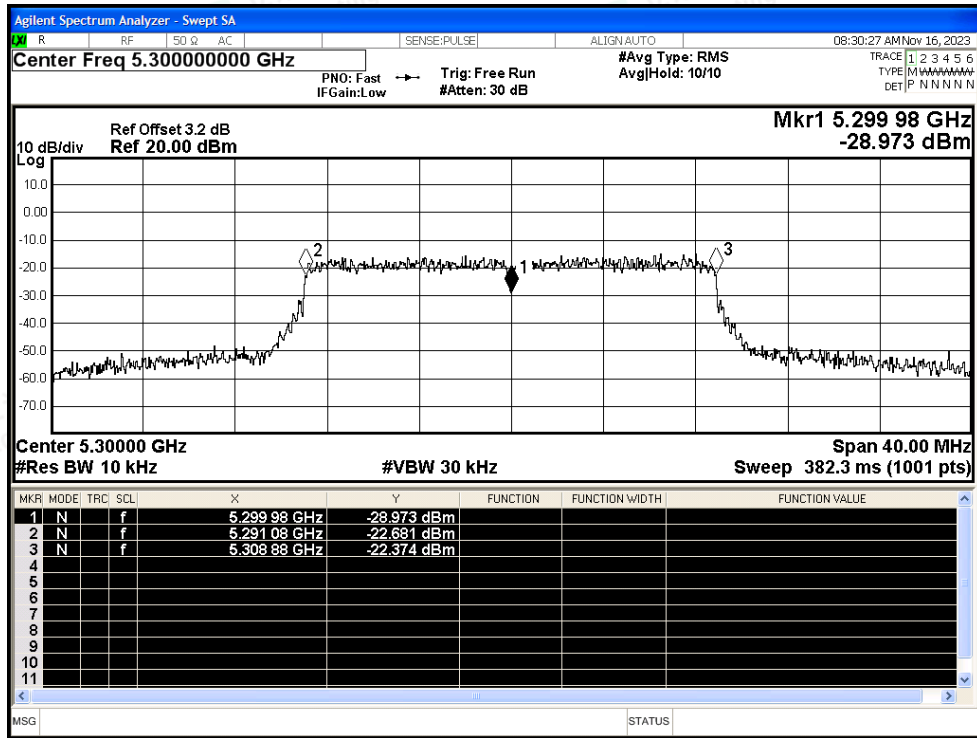


Test Graphs

Freq. Stability NVNT ac20 5260MHz Ant0

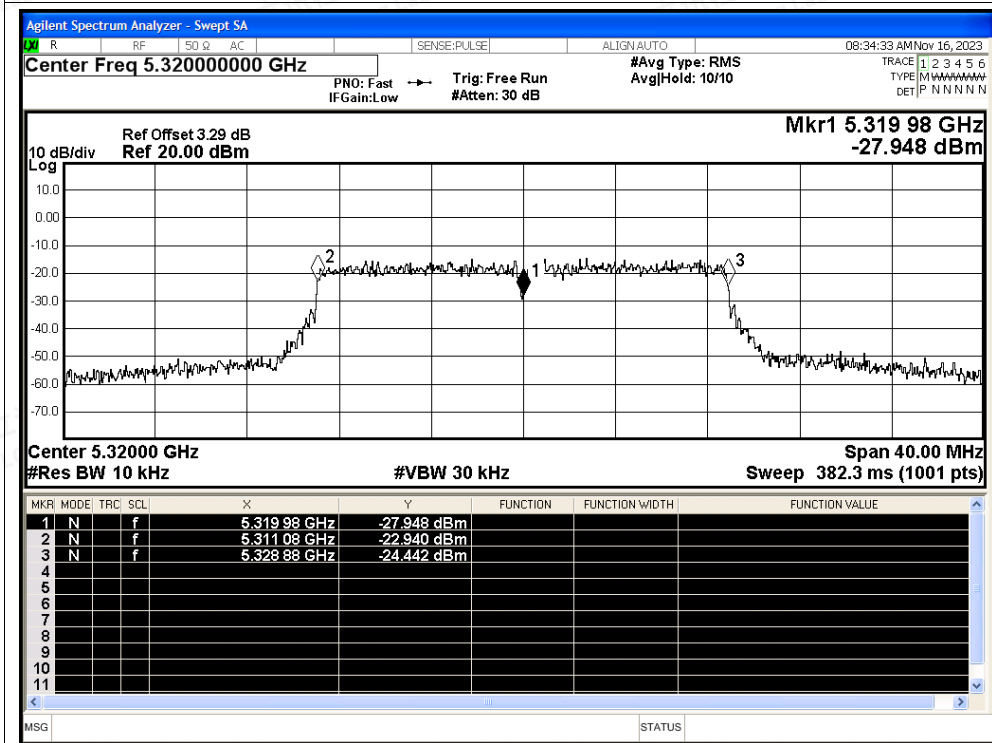


Freq. Stability NVNT ac20 5300MHz Ant0

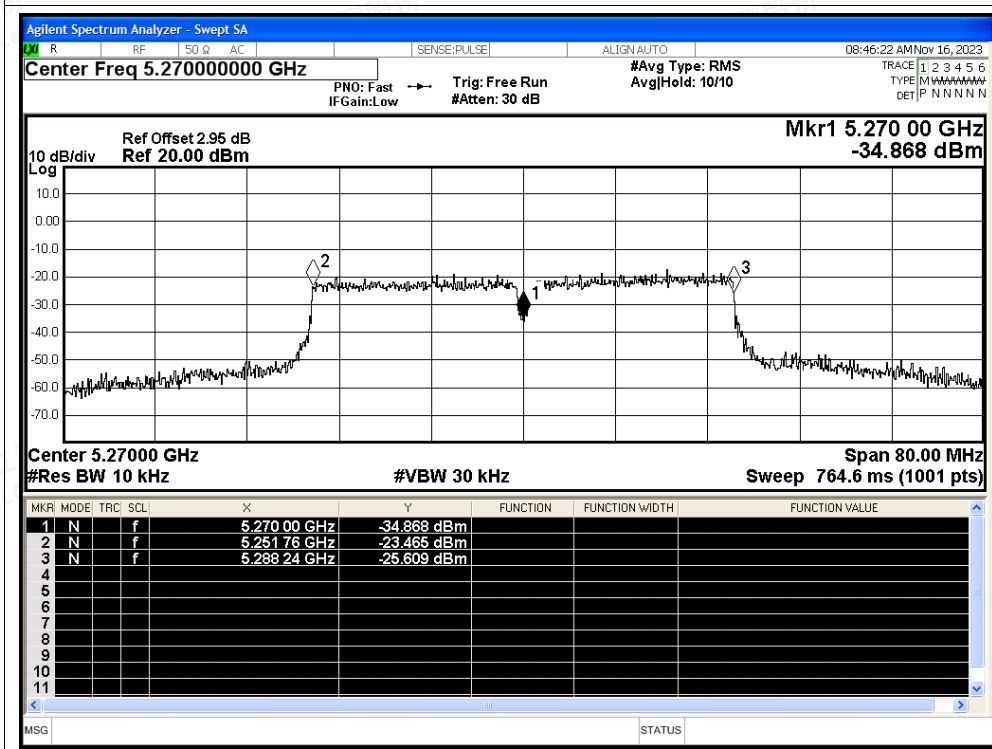




Freq. Stability NVNT ac20 5320MHz Ant0

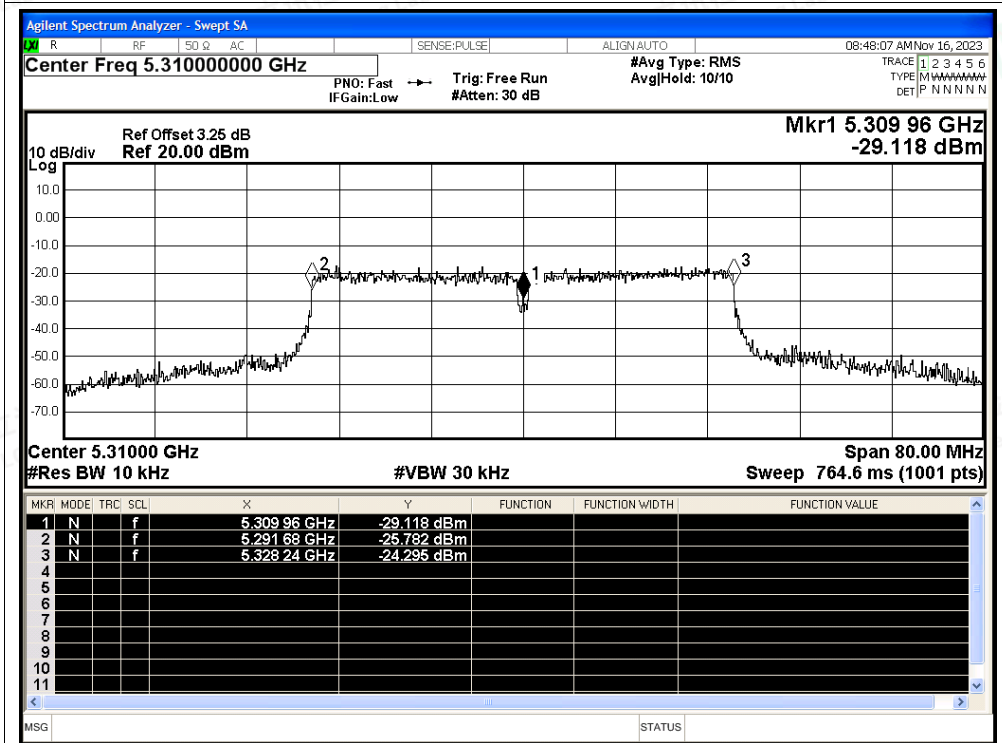


Freq. Stability NVNT ac40 5270MHz Ant0

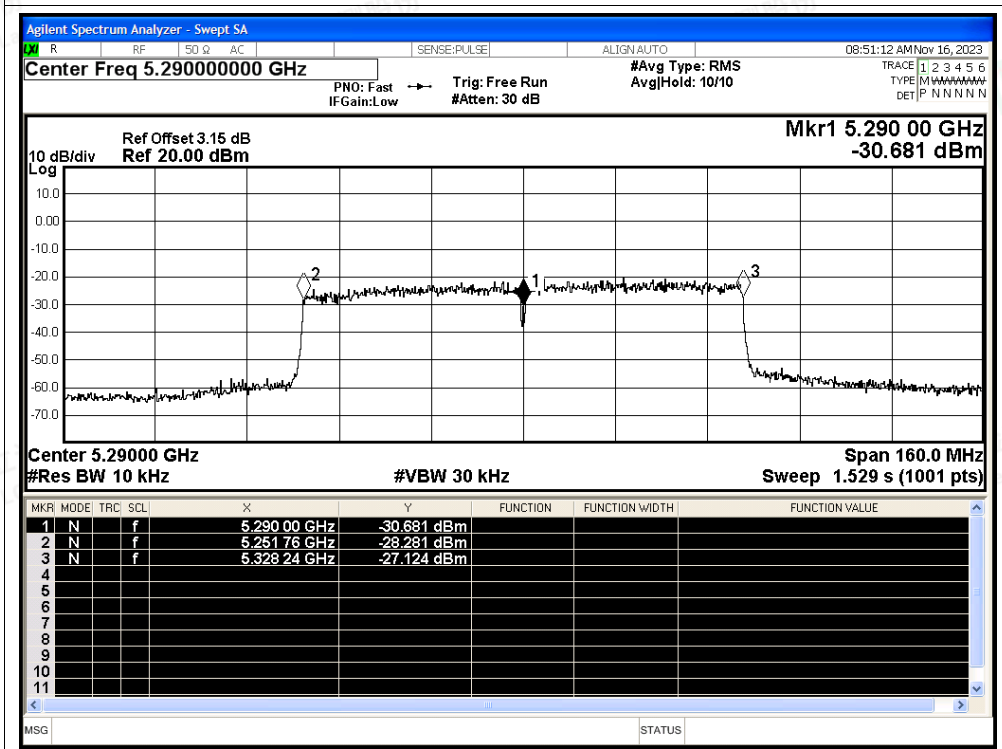




Freq. Stability NVNT ac40 5310MHz Ant0



Freq. Stability NVNT ac80 5290MHz Ant0





E.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	Ant0	90.1	0.45	0.72
NVNT	a	5300	Ant0	89.06	0.5	0.72
NVNT	a	5320	Ant0	90.1	0.45	0.72
NVNT	n20	5260	Ant0	89.07	0.5	0.85
NVNT	n20	5300	Ant0	86.71	0.62	0.85
NVNT	n20	5320	Ant0	89.07	0.5	0.85
NVNT	n40	5270	Ant0	79.57	0.99	1.7
NVNT	n40	5310	Ant0	79.43	1	1.7
NVNT	ac20	5260	Ant0	87.39	0.59	0.84
NVNT	ac20	5300	Ant0	88.57	0.53	0.84
NVNT	ac20	5320	Ant0	88.57	0.53	0.84
NVNT	ac40	5270	Ant0	80.65	0.93	1.69
NVNT	ac40	5310	Ant0	80.52	0.94	1.69
NVNT	ac80	5290	Ant0	67.2	1.73	3.39

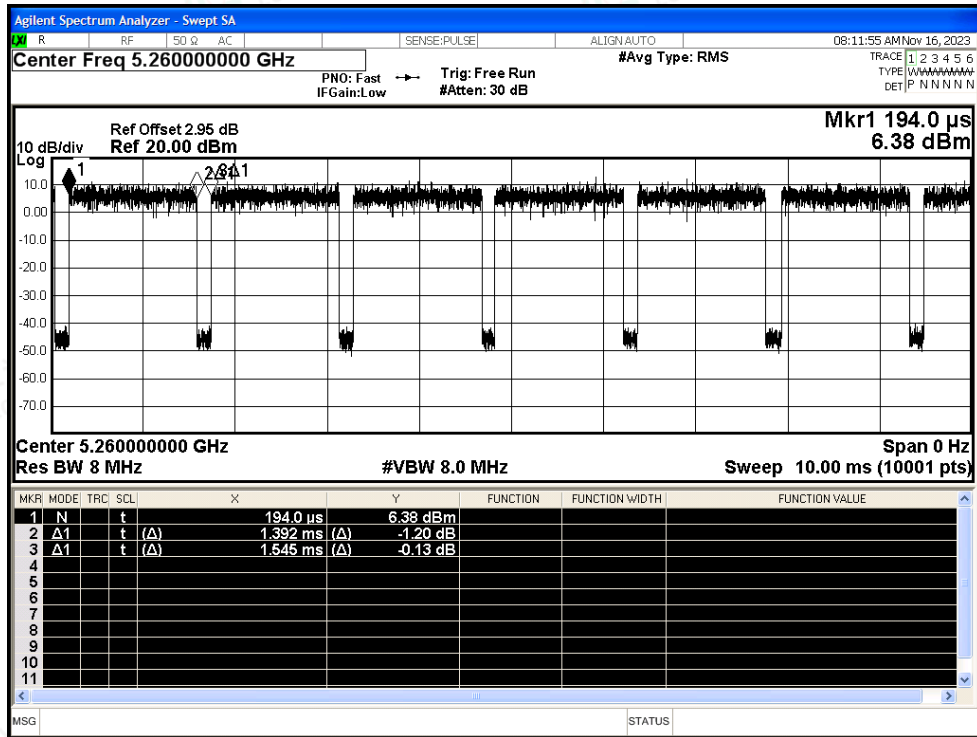


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 Scan code to check authenticity

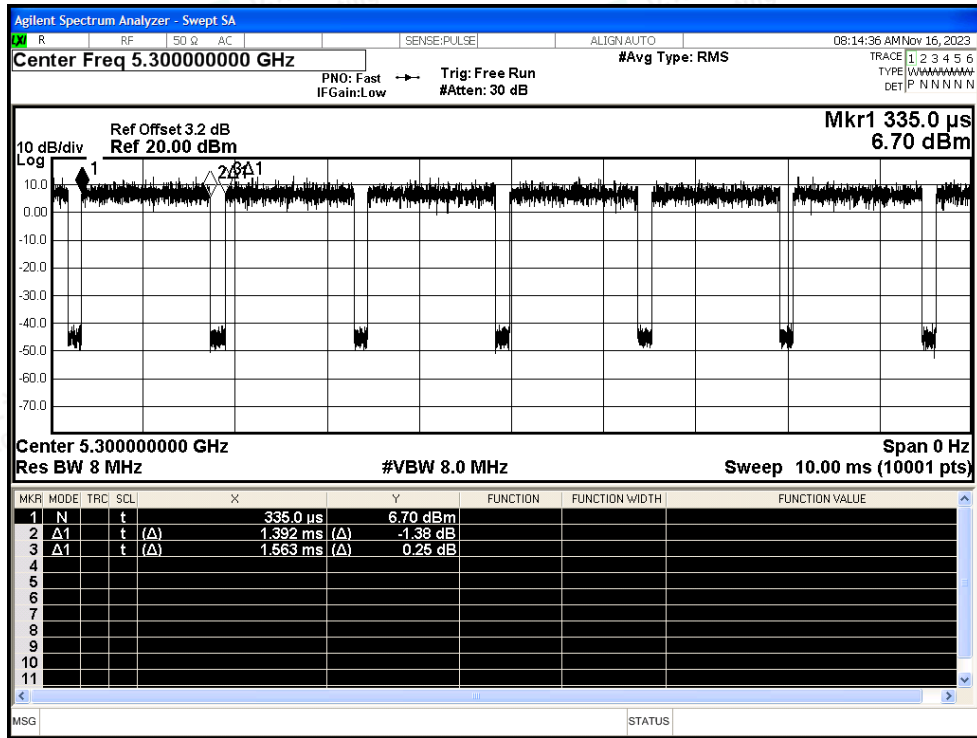


Test Graphs

Duty Cycle NVNT a 5260MHz Ant0

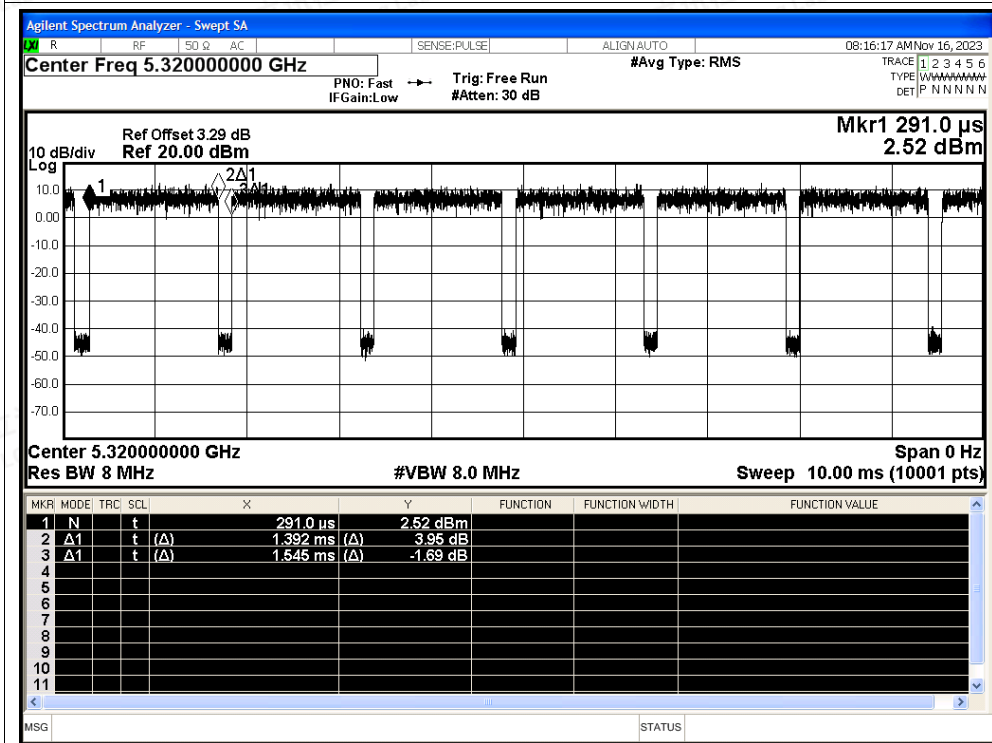


Duty Cycle NVNT a 5300MHz Ant0

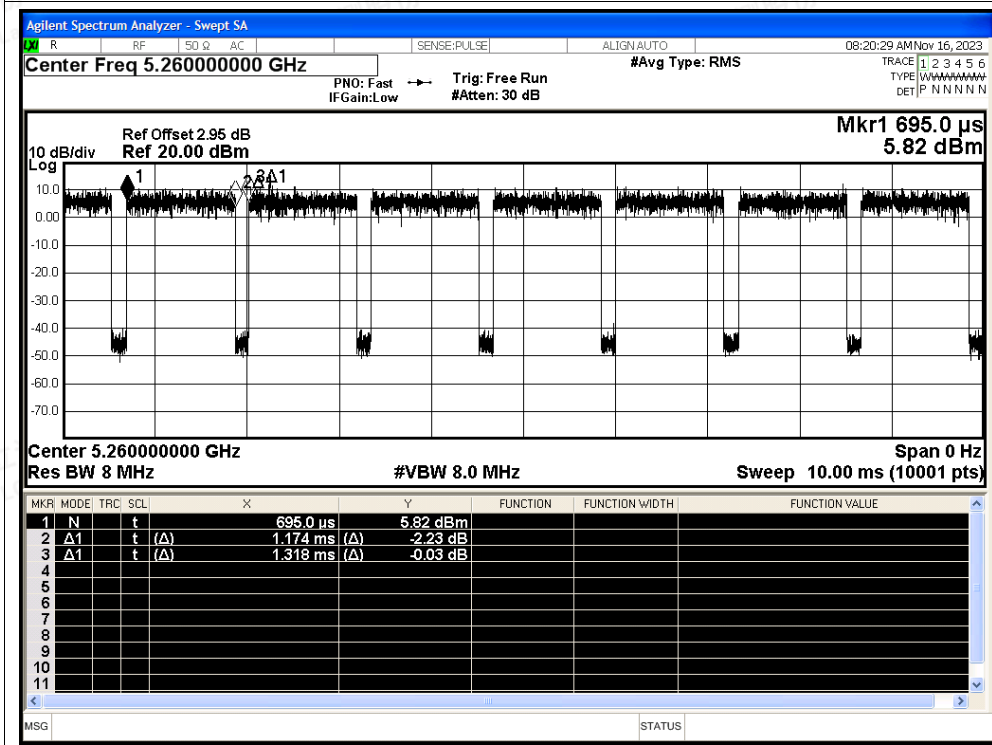




Duty Cycle NVNT a 5320MHz Ant0

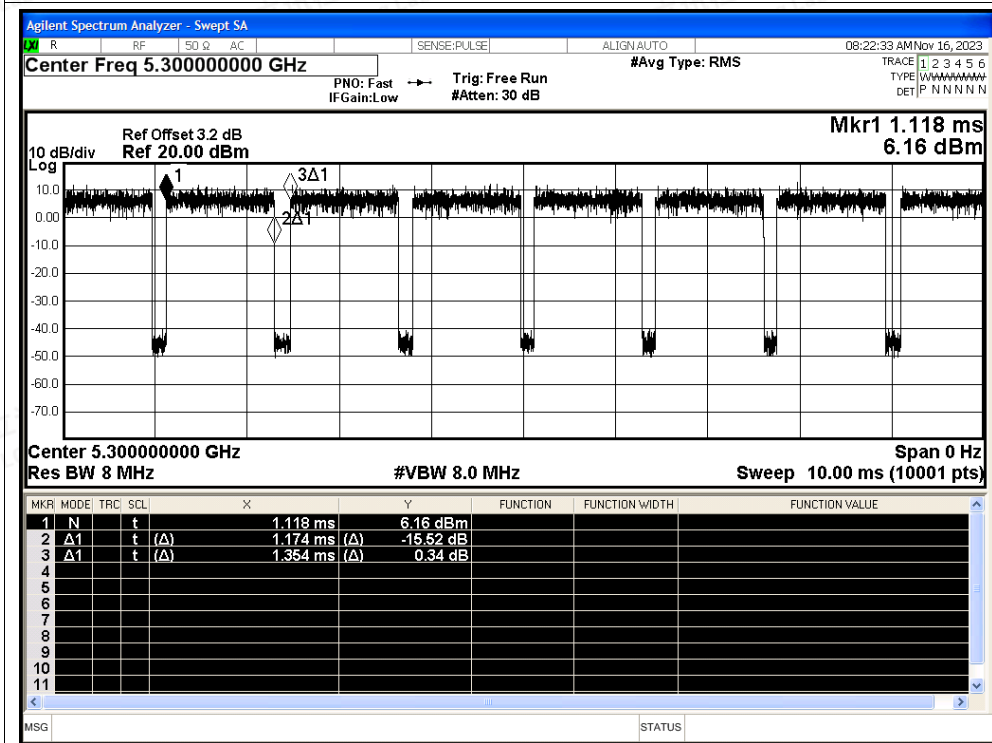


Duty Cycle NVNT n20 5260MHz Ant0

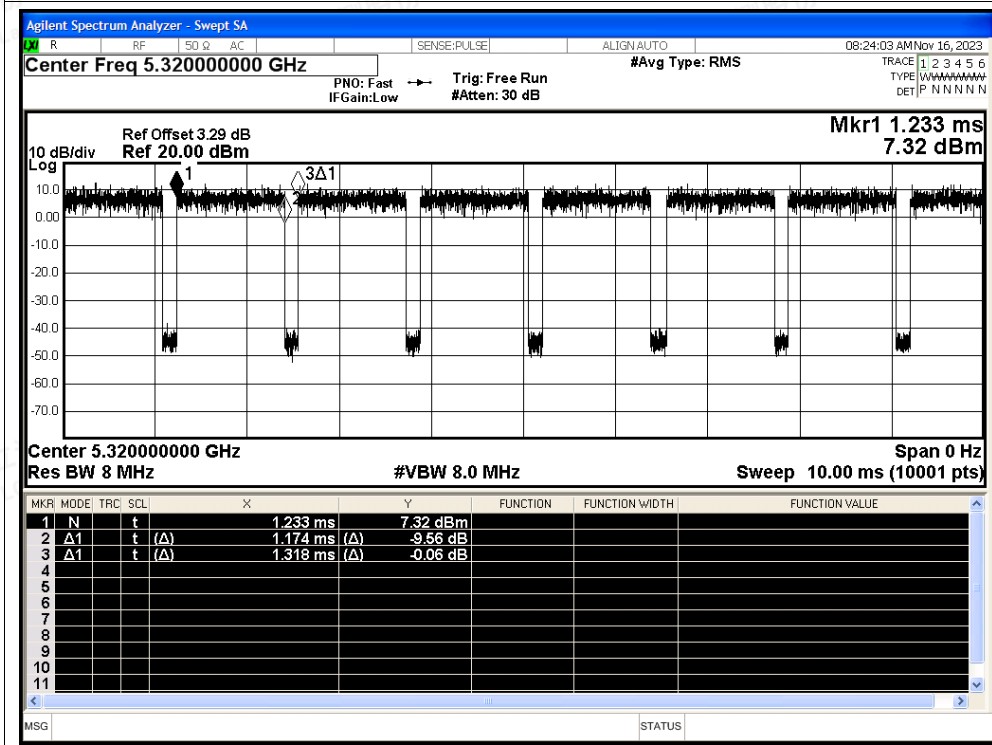




Duty Cycle NVNT n20 5300MHz Ant0

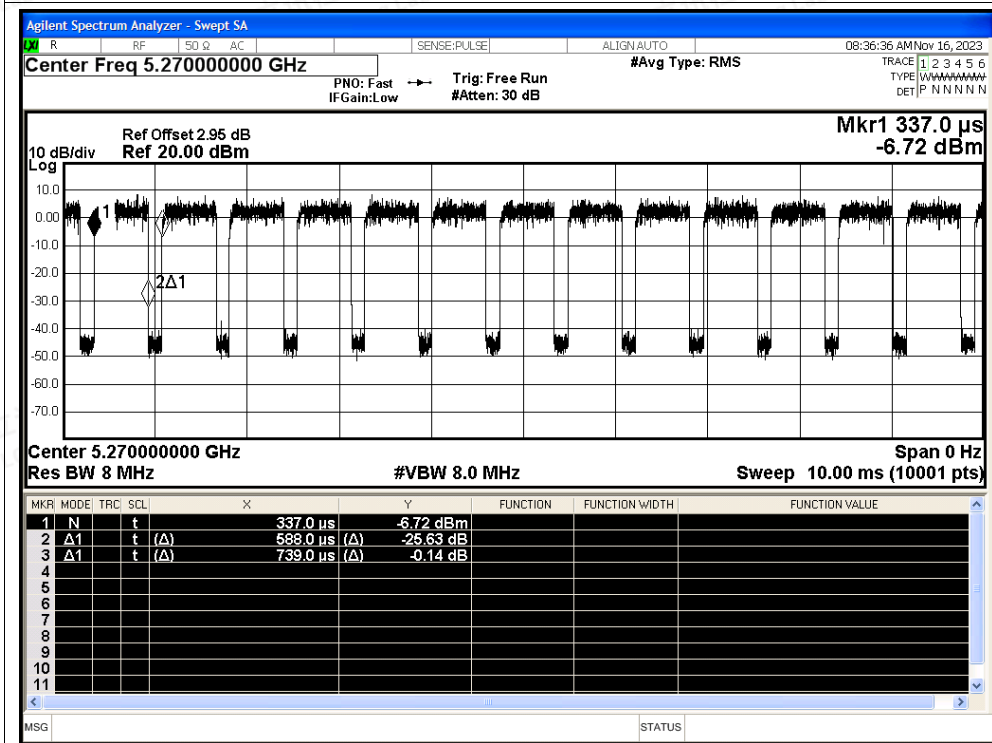


Duty Cycle NVNT n20 5320MHz Ant0

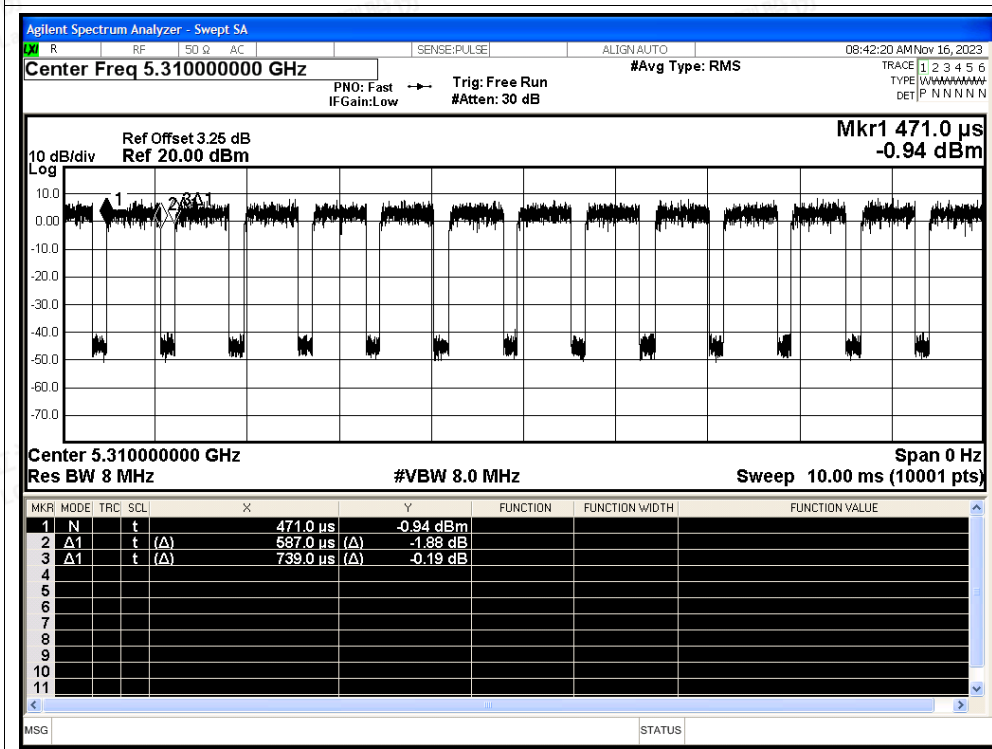




Duty Cycle NVNT n40 5270MHz Ant0

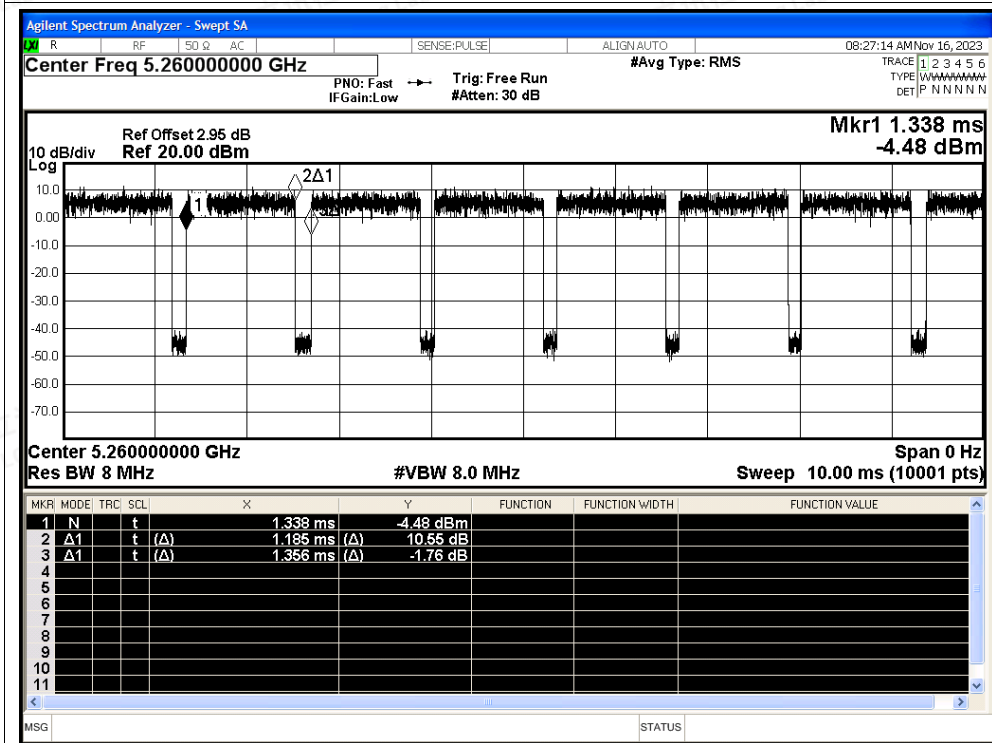


Duty Cycle NVNT n40 5310MHz Ant0

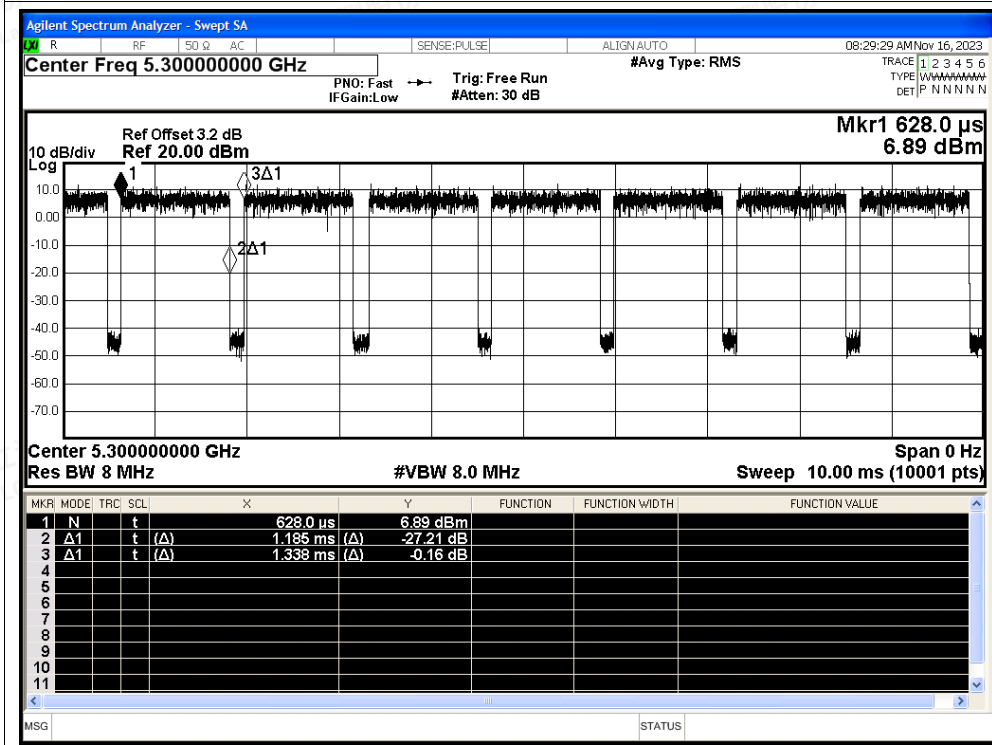




Duty Cycle NVNT ac20 5260MHz Ant0

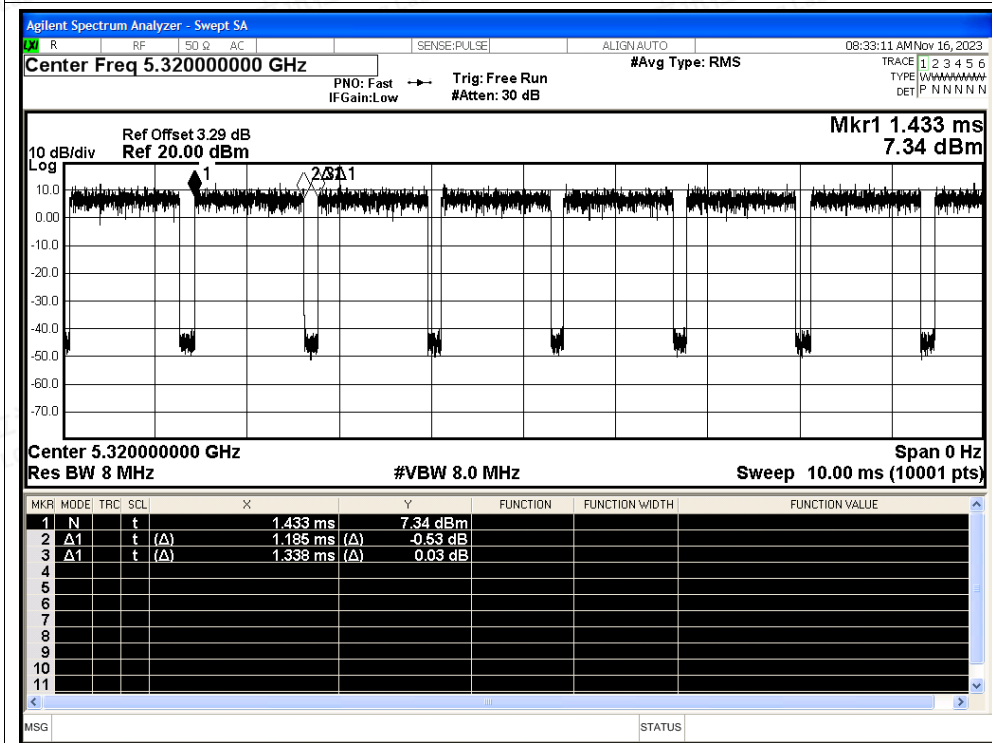


Duty Cycle NVNT ac20 5300MHz Ant0

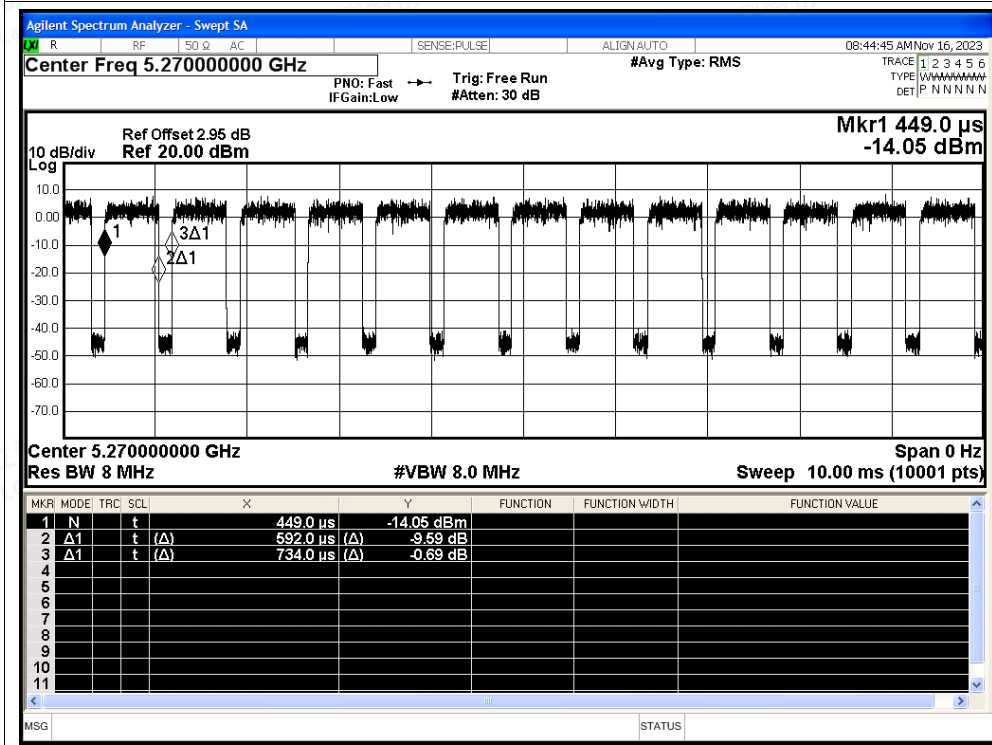




Duty Cycle NVNT ac20 5320MHz Ant0

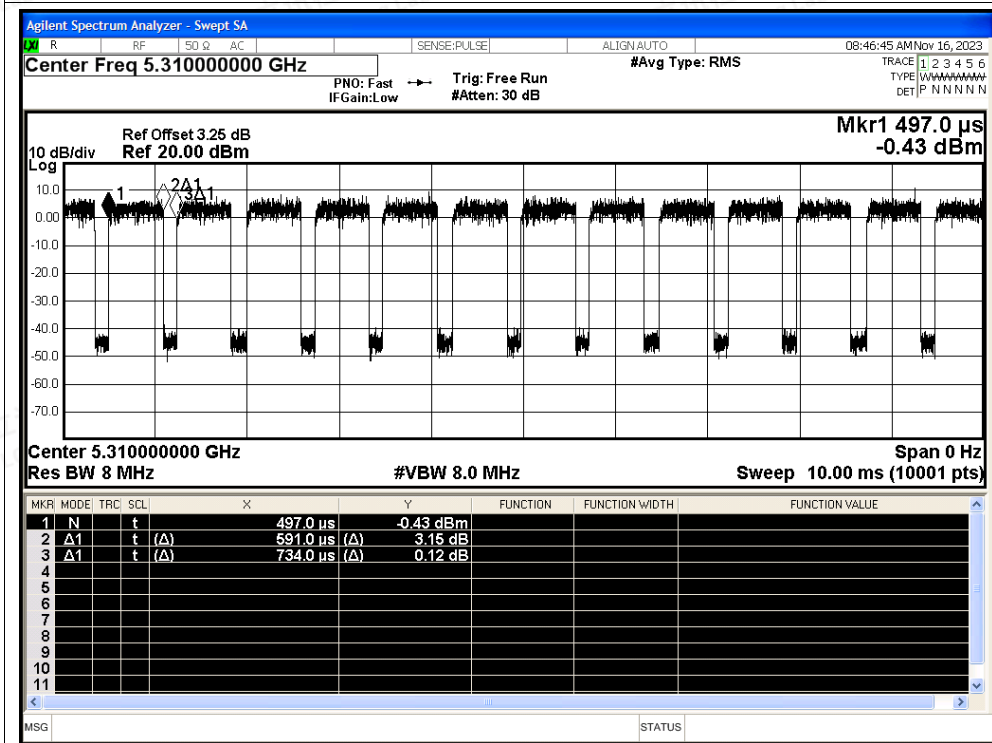


Duty Cycle NVNT ac40 5270MHz Ant0





Duty Cycle NVNT ac40 5310MHz Ant0



Duty Cycle NVNT ac80 5290MHz Ant0

