Appendix E

RF Test Data for 5.3GWIFI(Conducted Measurement)

Product Name: In-Car Intelligent Navigation System

Test Model: Quattroporte DH-8870

Environmental Conditions

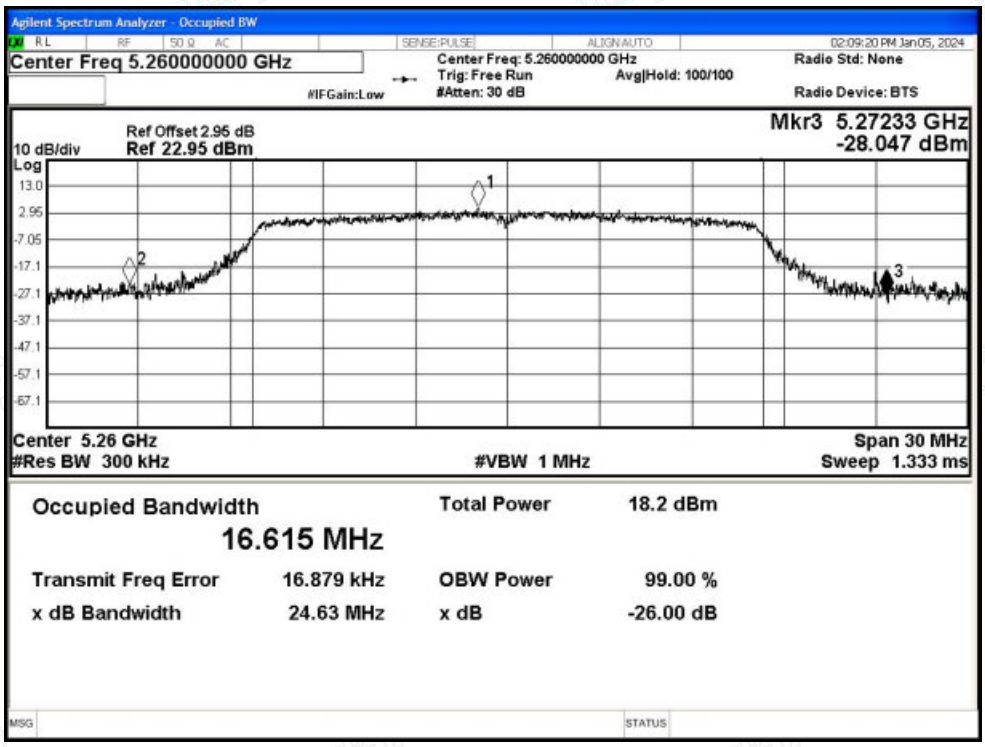
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

E.1 -26dB Bandwidth

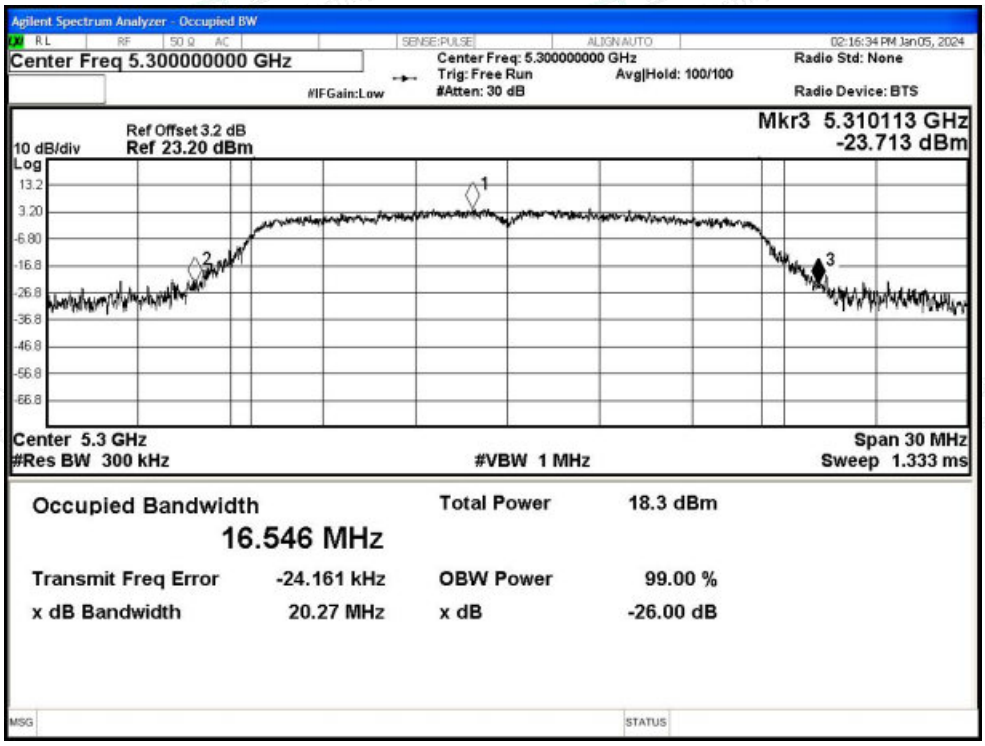
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5260	Ant1	24.627	---	Pass
NVNT	a	5300	Ant1	20.274	---	Pass
NVNT	a	5320	Ant1	23.877	---	Pass
NVNT	n20	5260	Ant1	25.034	---	Pass
NVNT	n20	5300	Ant1	23.12	---	Pass
NVNT	n20	5320	Ant1	24.911	---	Pass
NVNT	n40	5270	Ant1	42.198	---	Pass
NVNT	n40	5310	Ant1	39.985	---	Pass
NVNT	ac20	5260	Ant1	27.615	---	Pass
NVNT	ac20	5300	Ant1	24.161	---	Pass
NVNT	ac20	5320	Ant1	20.895	---	Pass
NVNT	ac40	5270	Ant1	40.174	---	Pass
NVNT	ac40	5310	Ant1	39.742	---	Pass
NVNT	ac80	5290	Ant1	79.114	---	Pass

Test Graphs

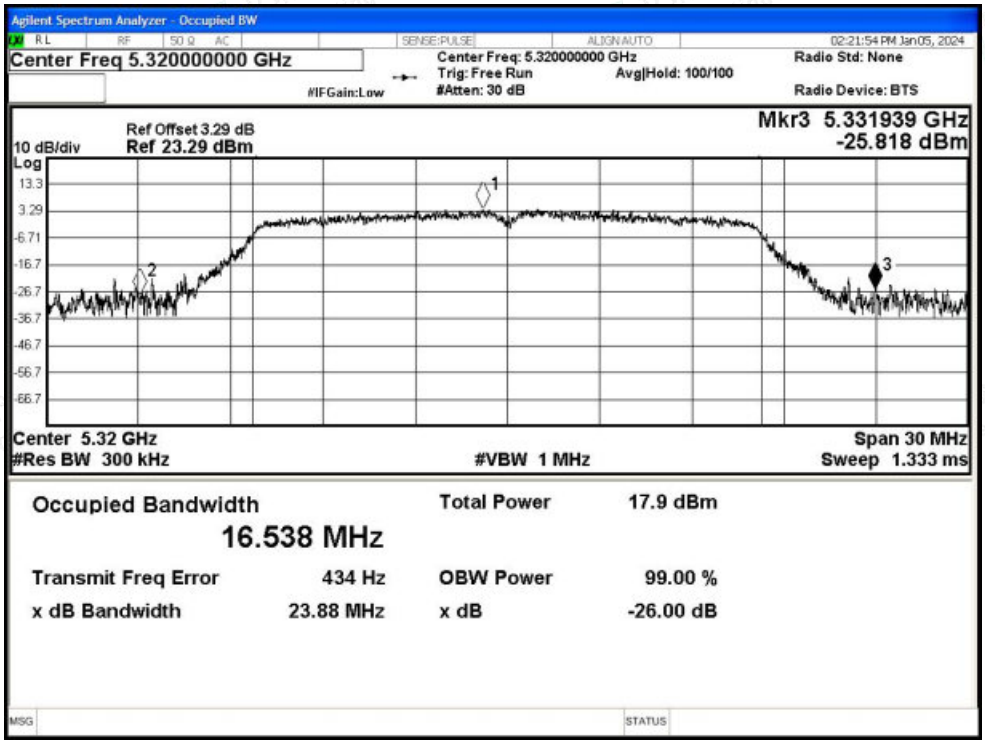
-26dB Bandwidth NVNT a 5260MHz Ant1



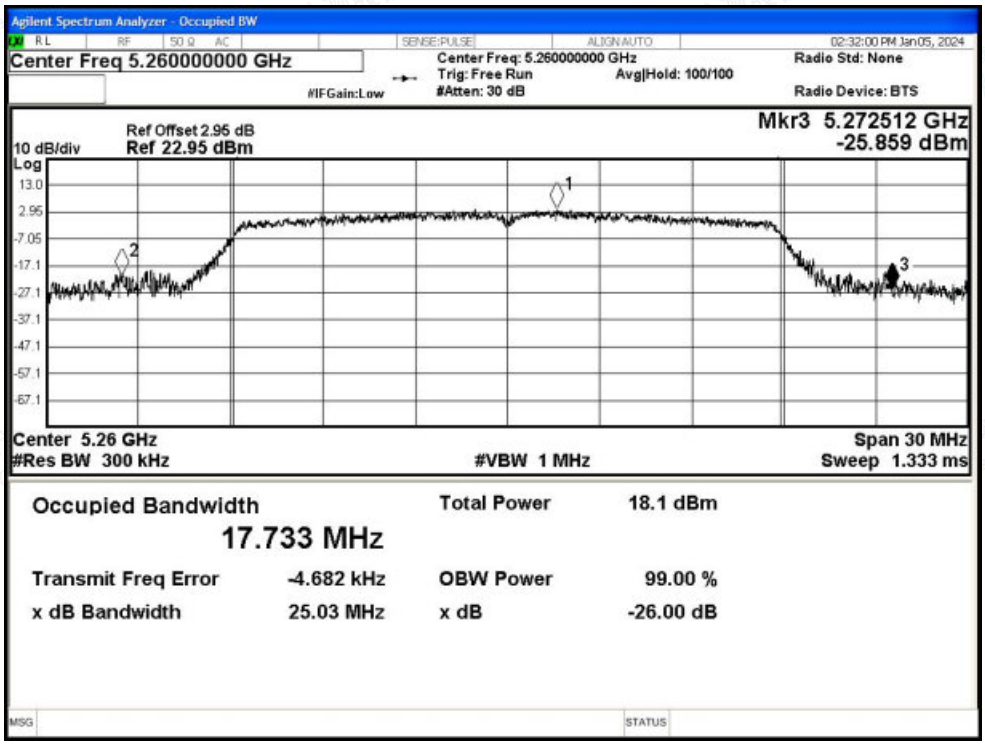
-26dB Bandwidth NVNT a 5300MHz Ant1



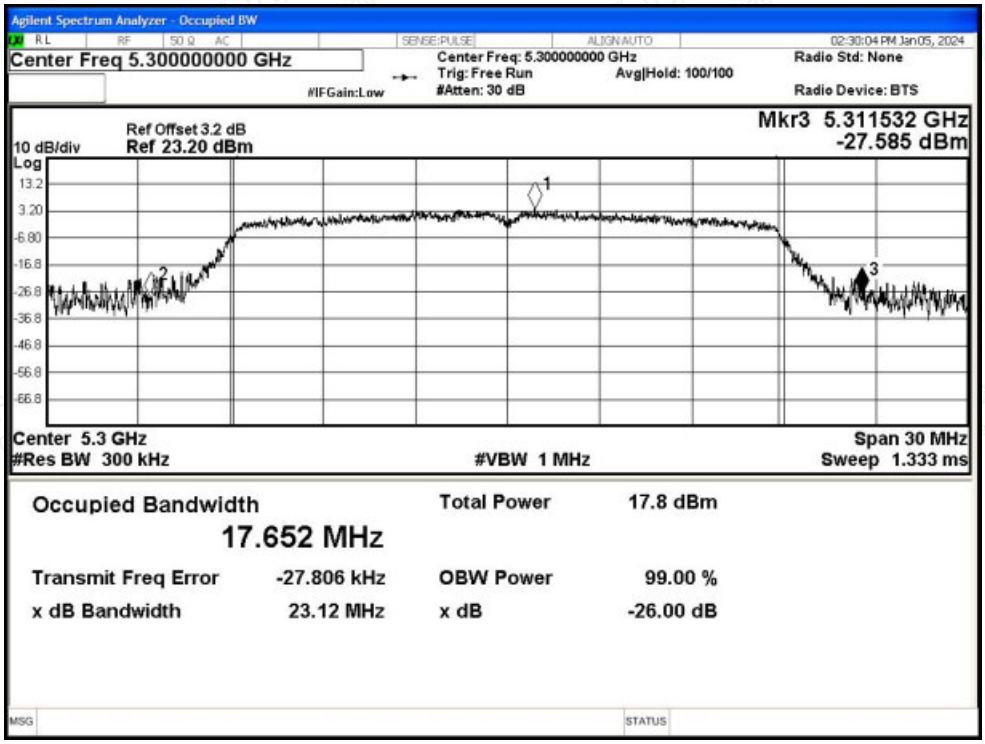
-26dB Bandwidth NVNT a 5320MHz Ant1



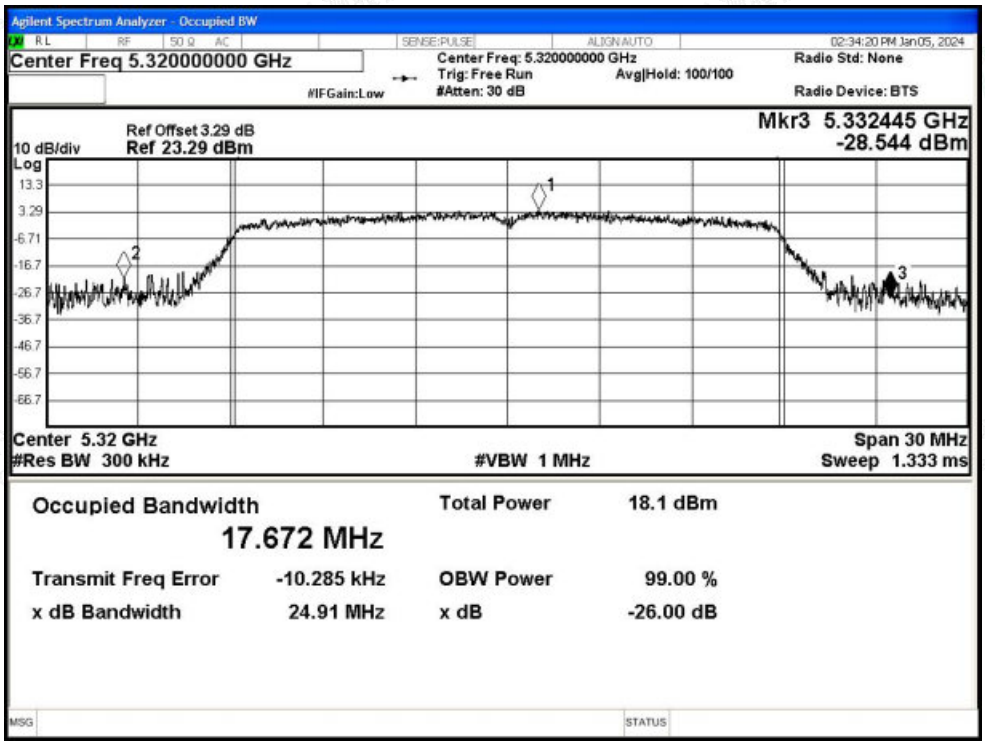
-26dB Bandwidth NVNT n20 5260MHz Ant1



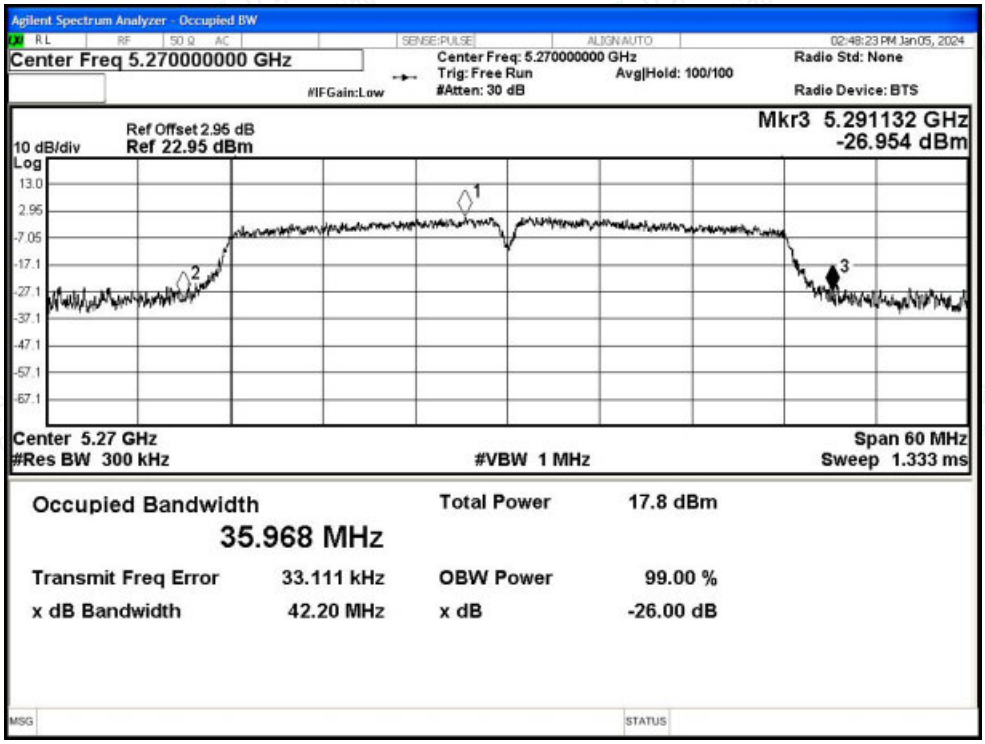
-26dB Bandwidth NVNT n20 5300MHz Ant1



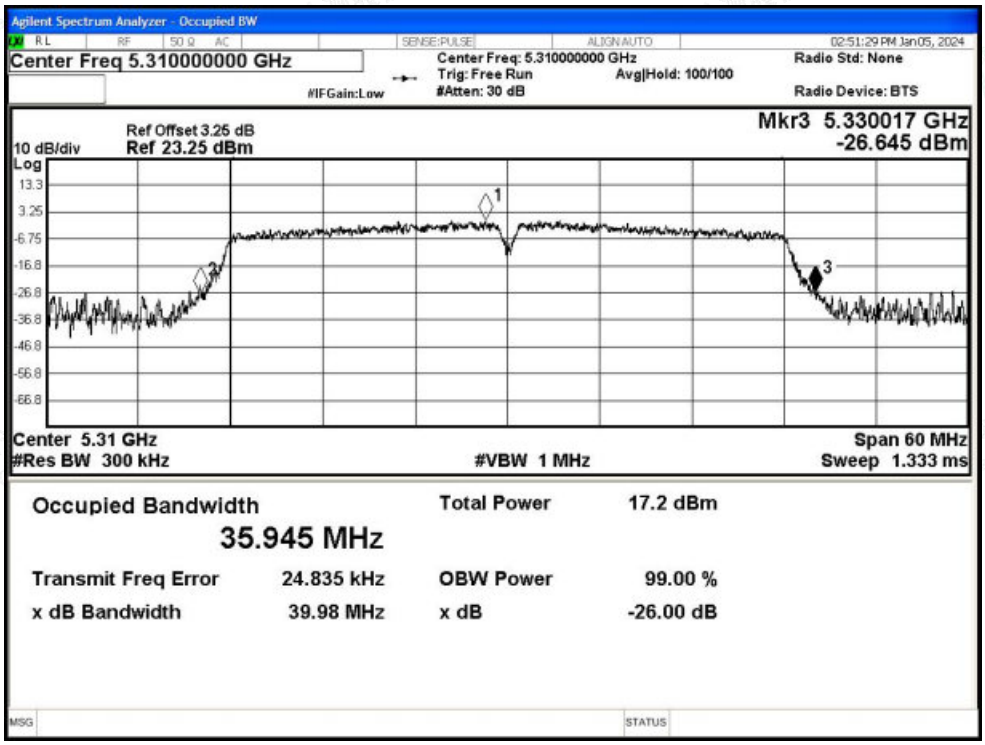
-26dB Bandwidth NVNT n20 5320MHz Ant1



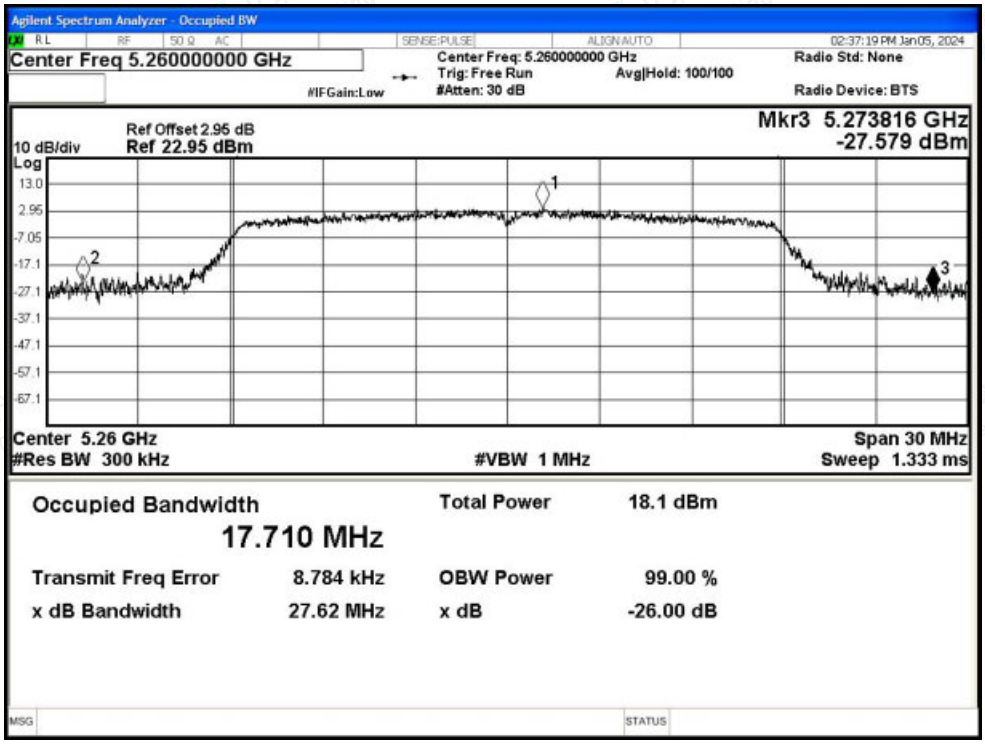
-26dB Bandwidth NVNT n40 5270MHz Ant1



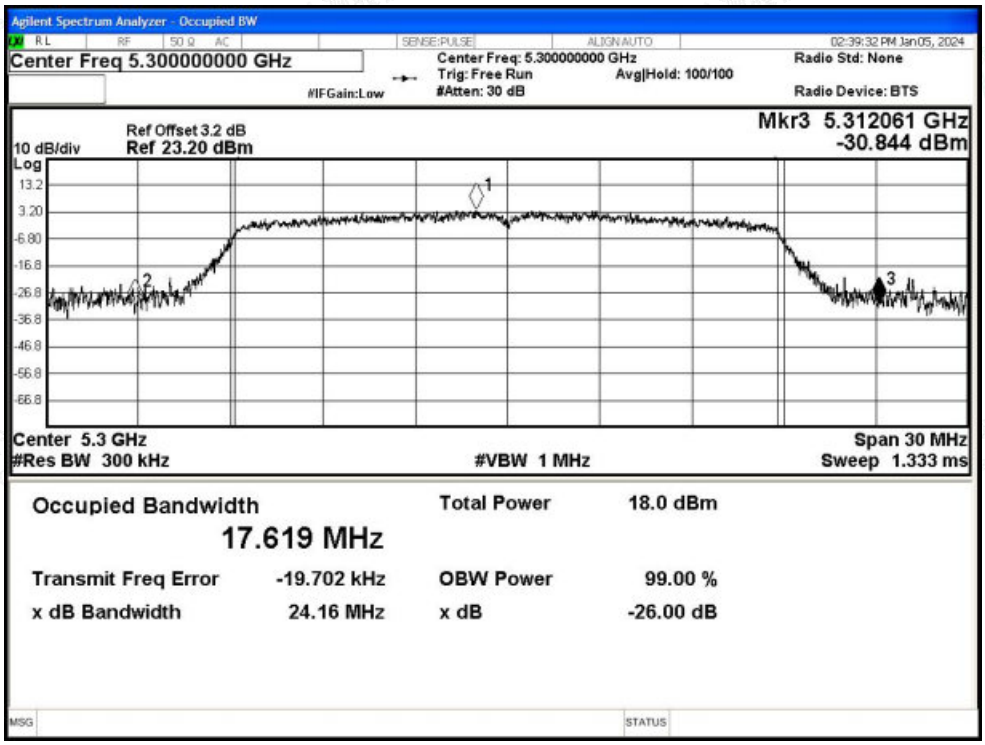
-26dB Bandwidth NVNT n40 5310MHz Ant1



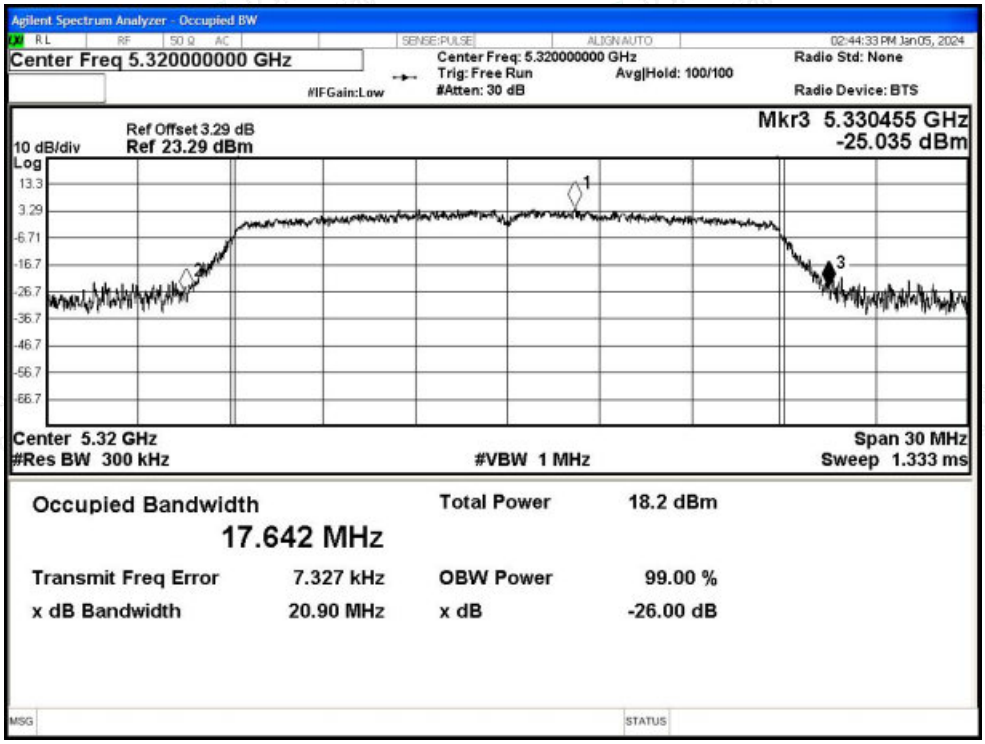
-26dB Bandwidth NVNT ac20 5260MHz Ant1



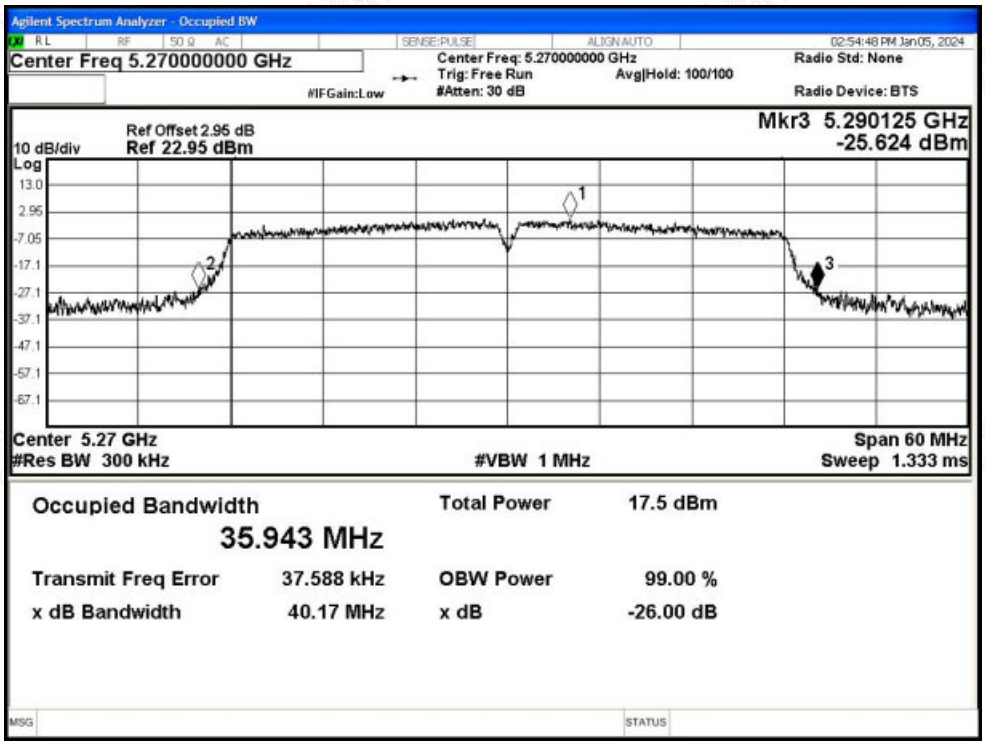
-26dB Bandwidth NVNT ac20 5300MHz Ant1



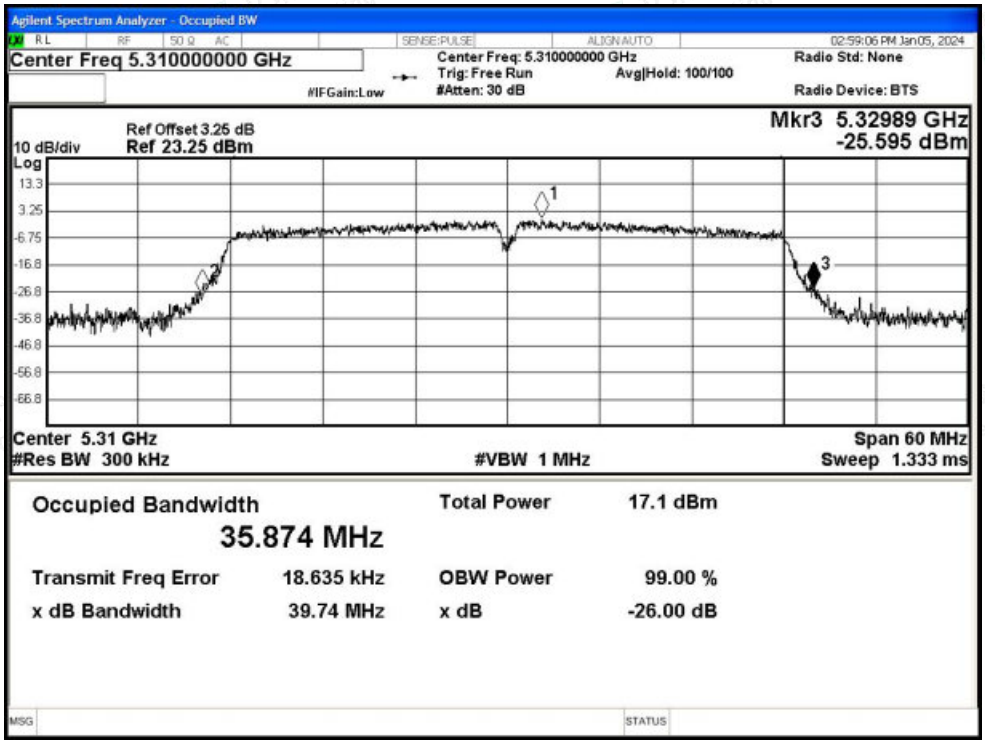
-26dB Bandwidth NVNT ac20 5320MHz Ant1



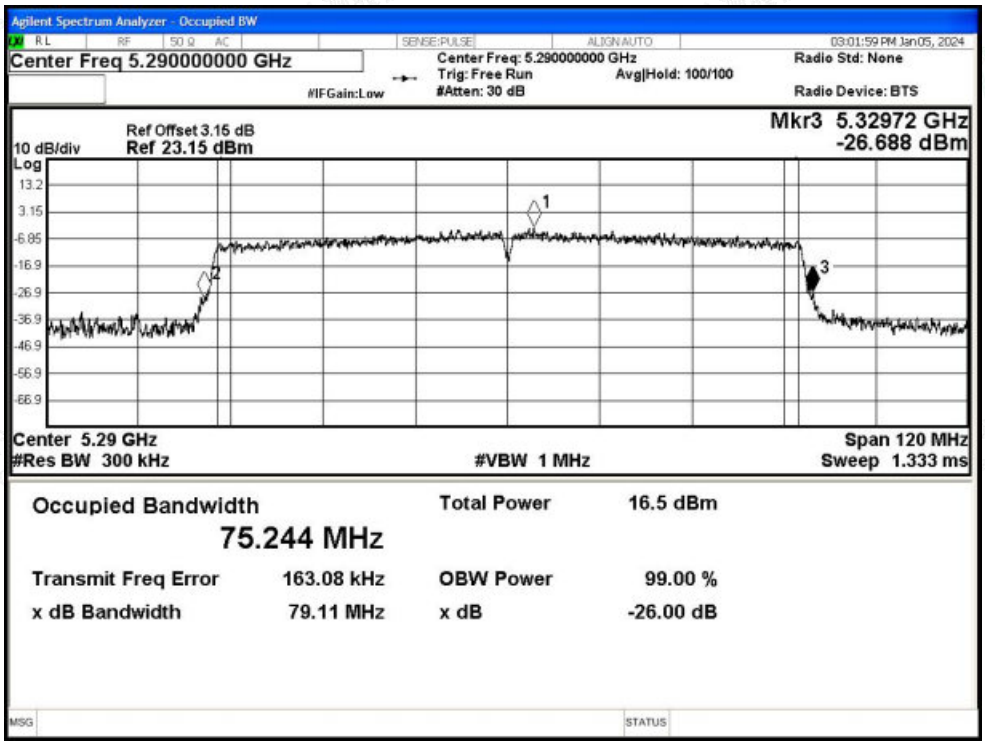
-26dB Bandwidth NVNT ac40 5270MHz Ant1



-26dB Bandwidth NVNT ac40 5310MHz Ant1



-26dB Bandwidth NVNT ac80 5290MHz Ant1



E.2 Maximum Conducted Output Power

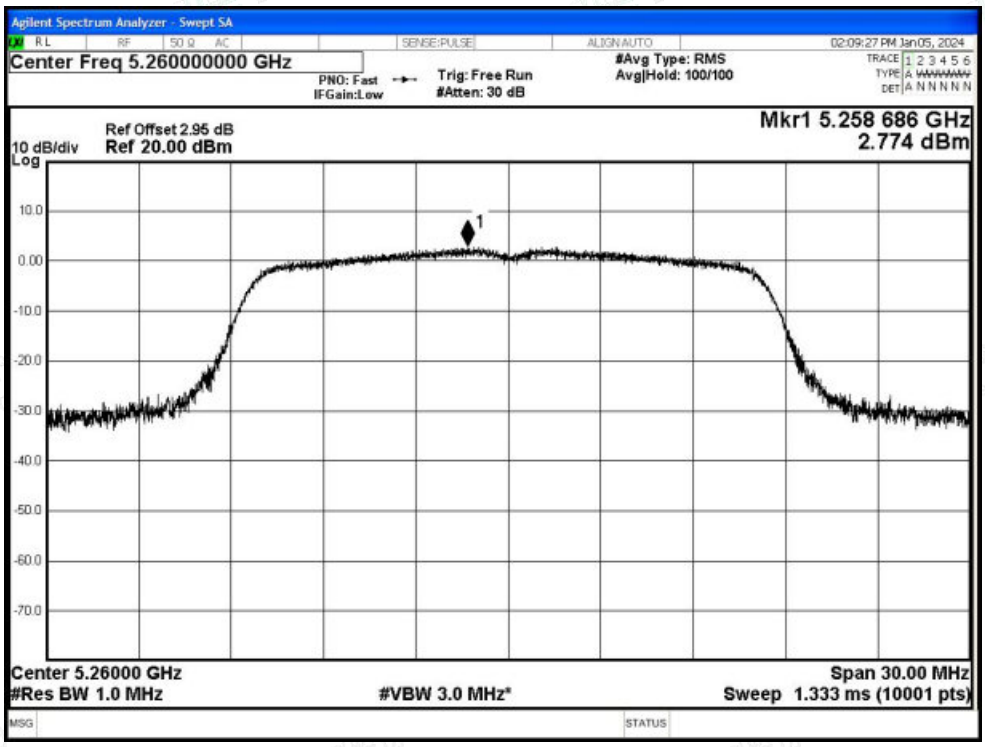
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5260	Ant1	12.49	0.13	12.62	24	Pass
NVNT	a	5300	Ant1	12.56	0.13	12.69	24	Pass
NVNT	a	5320	Ant1	12.18	0.13	12.31	24	Pass
NVNT	n20	5260	Ant1	12.35	0.15	12.5	24	Pass
NVNT	n20	5300	Ant1	12.05	0.15	12.2	24	Pass
NVNT	n20	5320	Ant1	12.59	0.15	12.74	24	Pass
NVNT	n40	5270	Ant1	11.56	0.28	11.84	24	Pass
NVNT	n40	5310	Ant1	11.46	0.29	11.75	24	Pass
NVNT	ac20	5260	Ant1	12.45	0.14	12.59	24	Pass
NVNT	ac20	5300	Ant1	12.14	0.14	12.28	24	Pass
NVNT	ac20	5320	Ant1	12.56	0.14	12.7	24	Pass
NVNT	ac40	5270	Ant1	11.2	0.28	11.48	24	Pass
NVNT	ac40	5310	Ant1	11.47	0.28	11.75	24	Pass
NVNT	ac80	5290	Ant1	10.25	0.55	10.8	24	Pass

E.3 Maximum Power Spectral Density Level

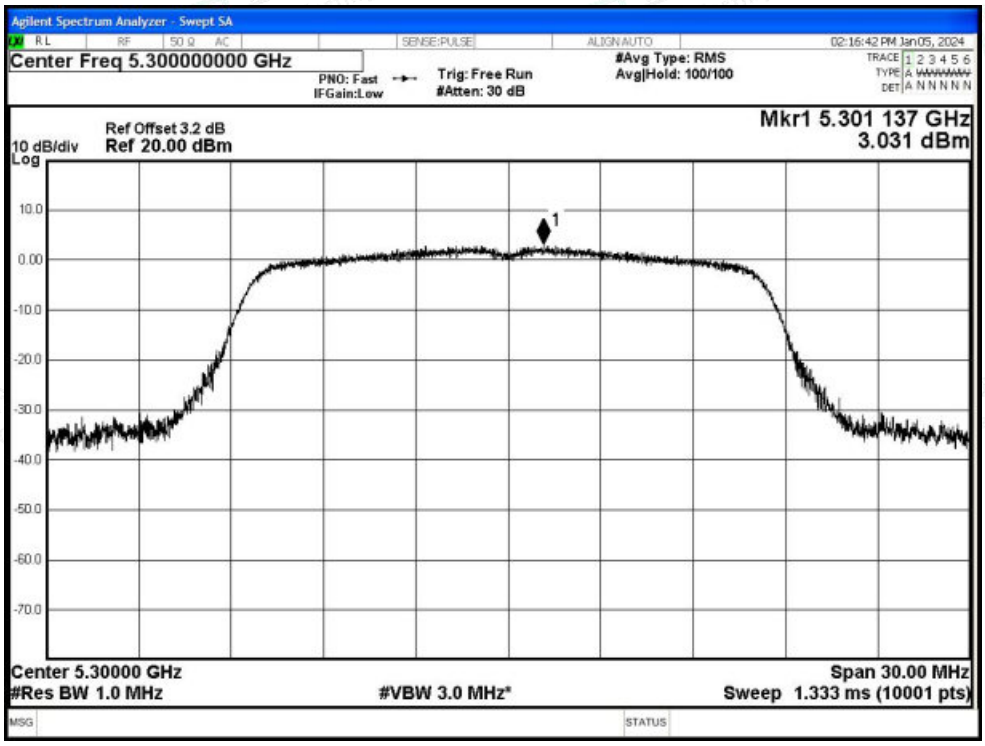
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5260	Ant1	2.77	0.13	2.9	11	Pass
NVNT	a	5300	Ant1	3.03	0.13	3.16	11	Pass
NVNT	a	5320	Ant1	2.76	0.13	2.89	11	Pass
NVNT	n20	5260	Ant1	2.61	0.15	2.76	11	Pass
NVNT	n20	5300	Ant1	2.25	0.15	2.4	11	Pass
NVNT	n20	5320	Ant1	2.99	0.15	3.14	11	Pass
NVNT	n40	5270	Ant1	-1.07	0.28	-0.79	11	Pass
NVNT	n40	5310	Ant1	-1.36	0.29	-1.07	11	Pass
NVNT	ac20	5260	Ant1	2.48	0.14	2.62	11	Pass
NVNT	ac20	5300	Ant1	2.58	0.14	2.72	11	Pass
NVNT	ac20	5320	Ant1	2.34	0.14	2.48	11	Pass
NVNT	ac40	5270	Ant1	-1.13	0.28	-0.85	11	Pass
NVNT	ac40	5310	Ant1	-1.52	0.28	-1.24	11	Pass
NVNT	ac80	5290	Ant1	-6.02	0.55	-5.47	11	Pass

Test Graphs

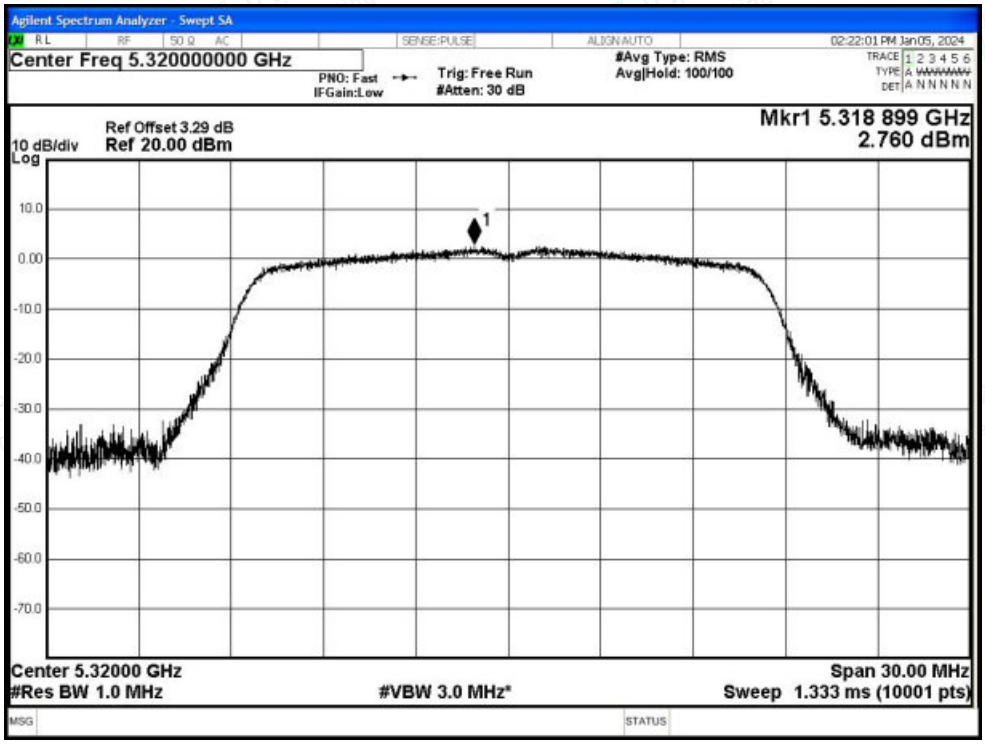
PSD NVNT a 5260MHz Ant1



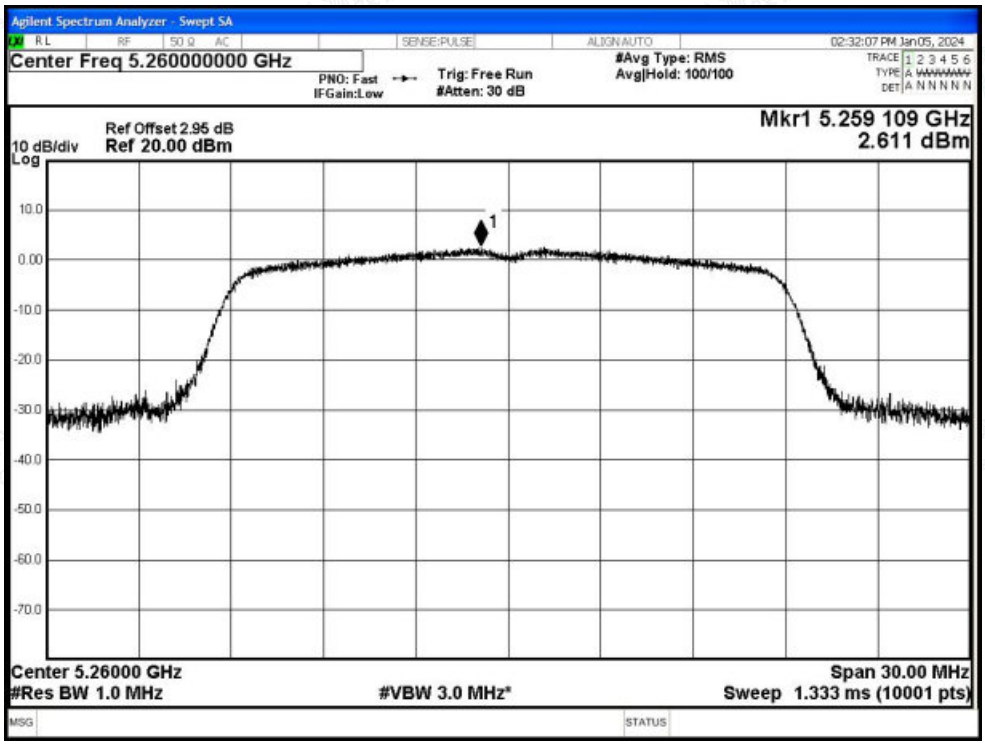
PSD NVNT a 5300MHz Ant1



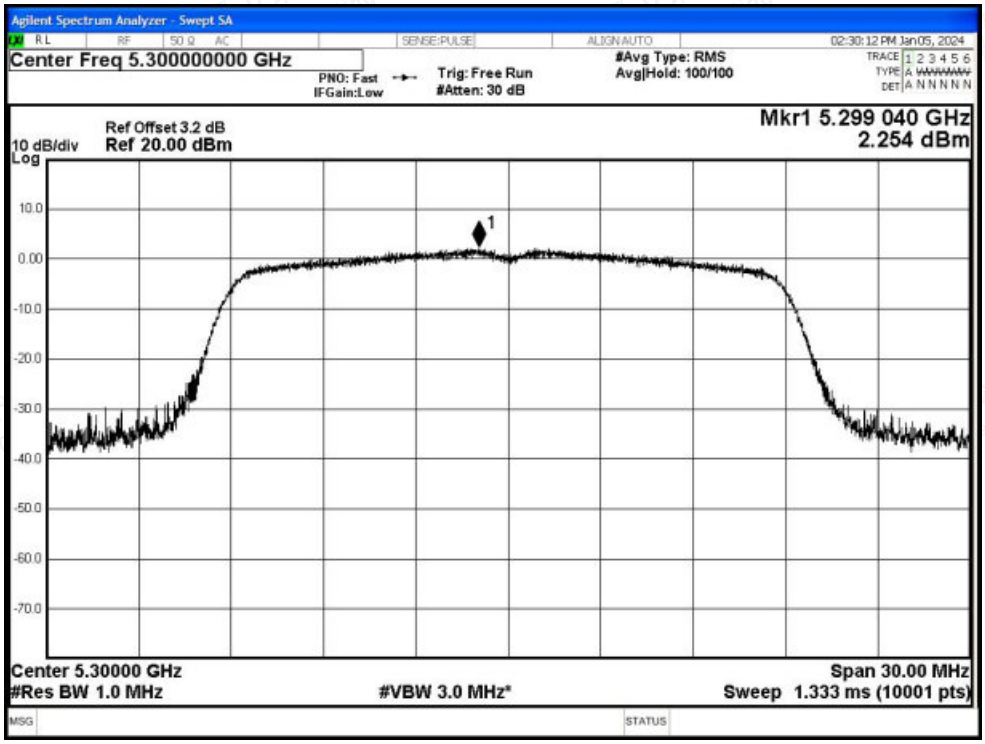
PSD NVNT a 5320MHz Ant1



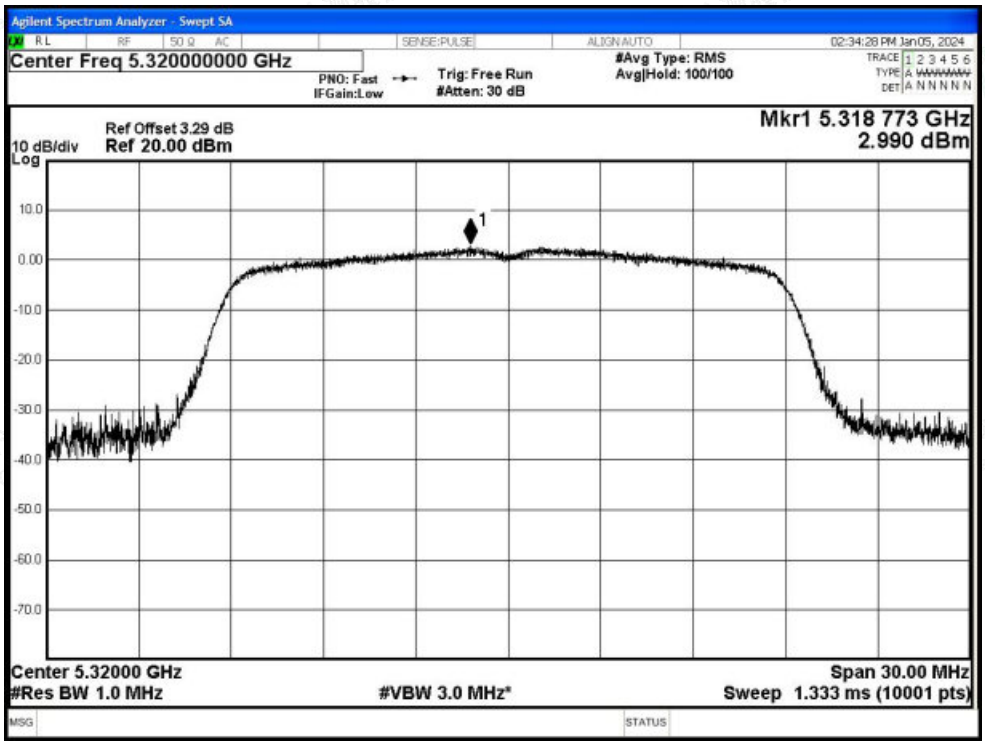
PSD NVNT n20 5260MHz Ant1



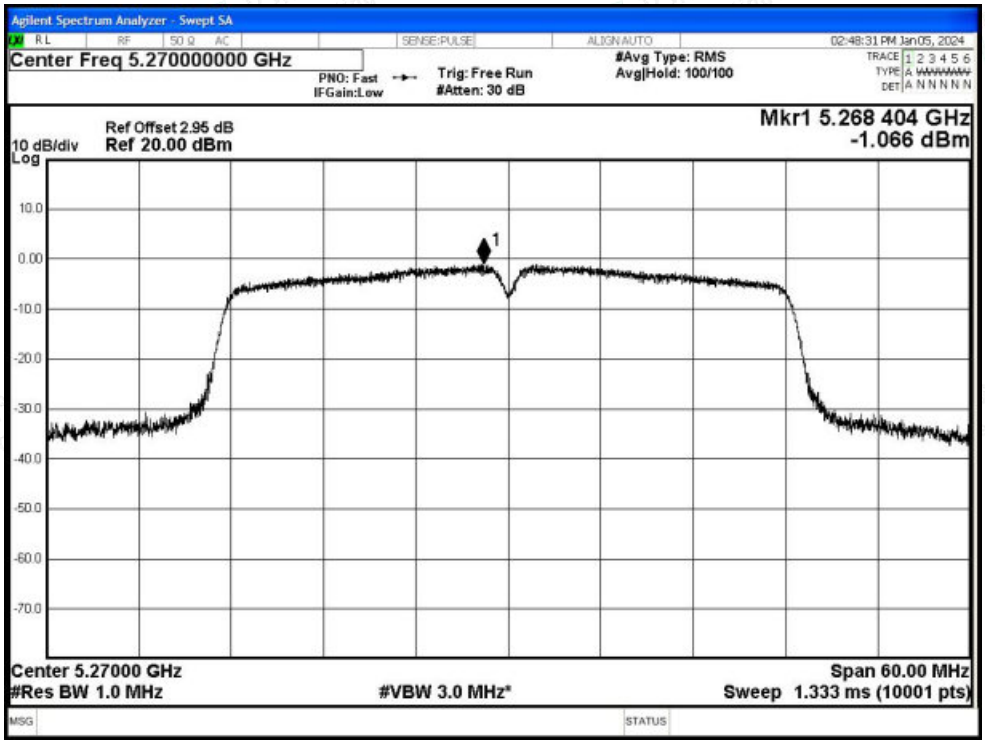
PSD NVNT n20 5300MHz Ant1



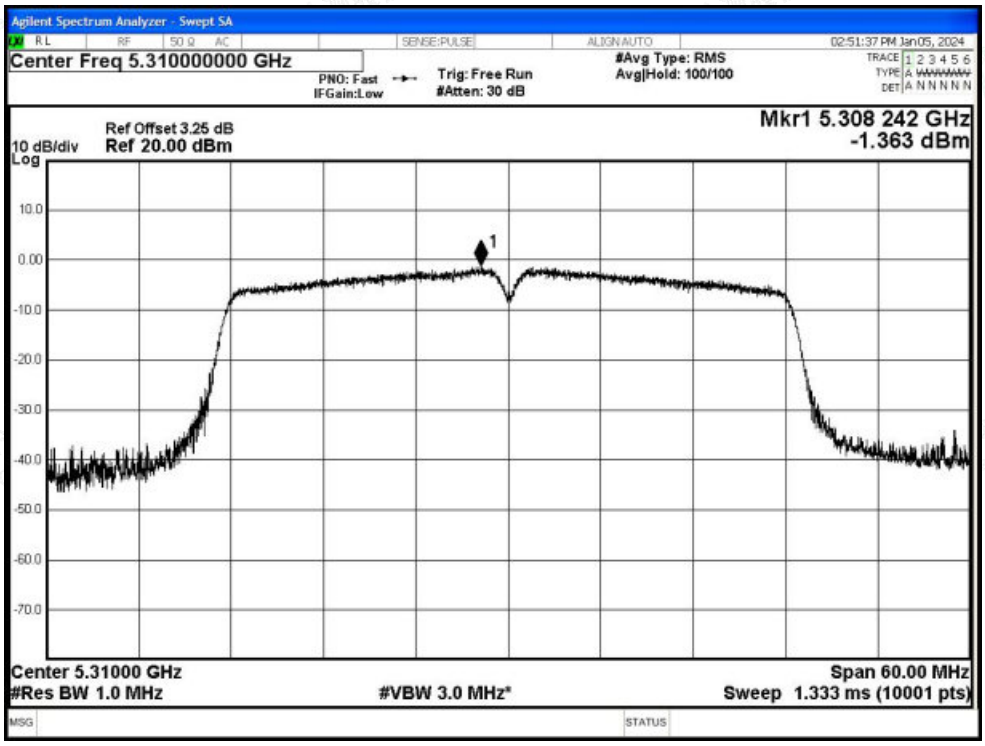
PSD NVNT n20 5320MHz Ant1



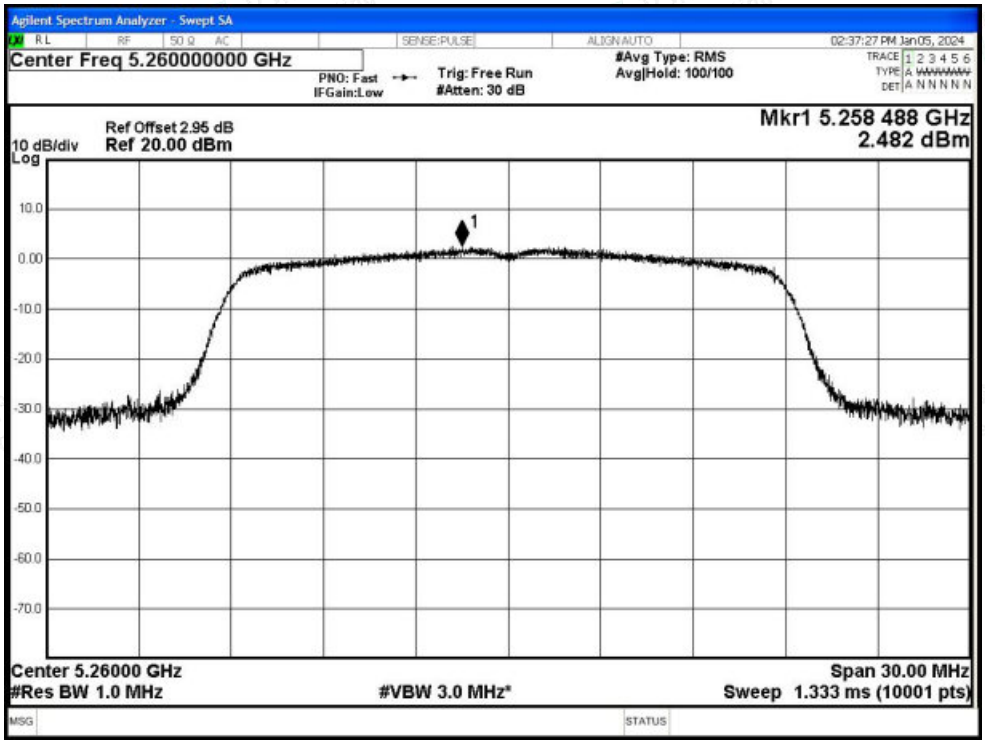
PSD NVNT n40 5270MHz Ant1



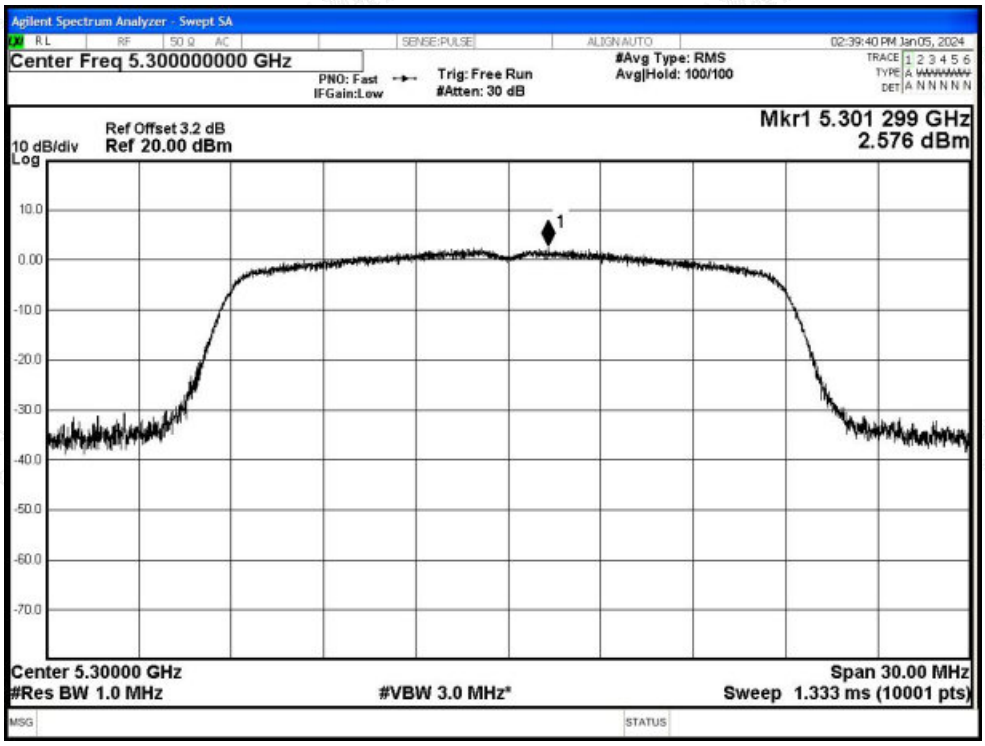
PSD NVNT n40 5310MHz Ant1



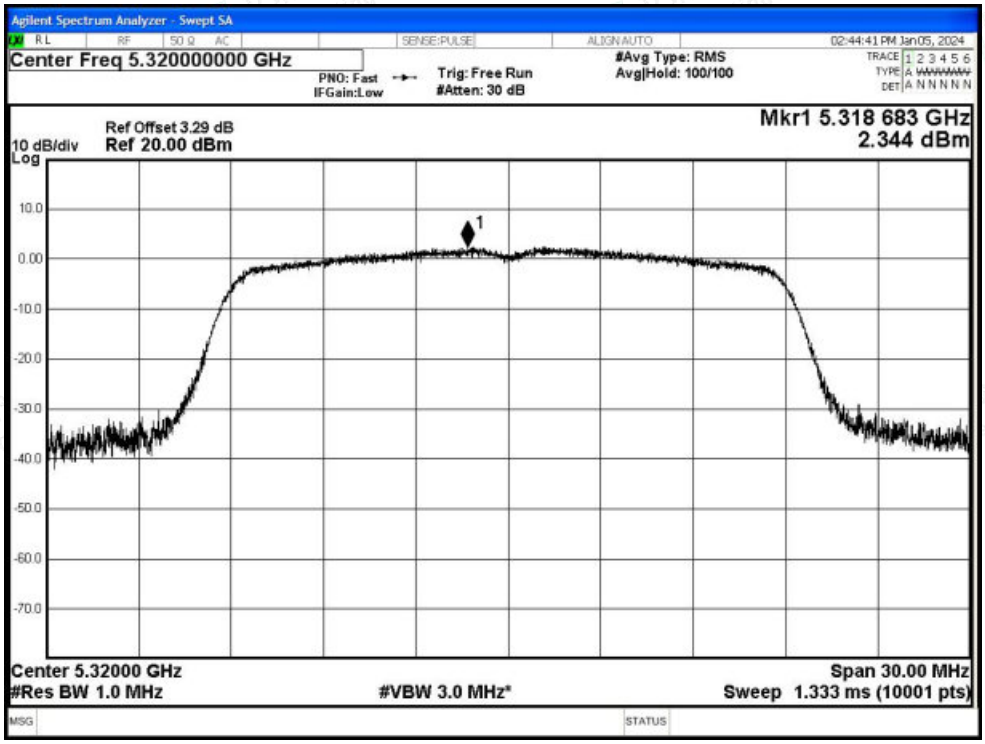
PSD NVNT ac20 5260MHz Ant1



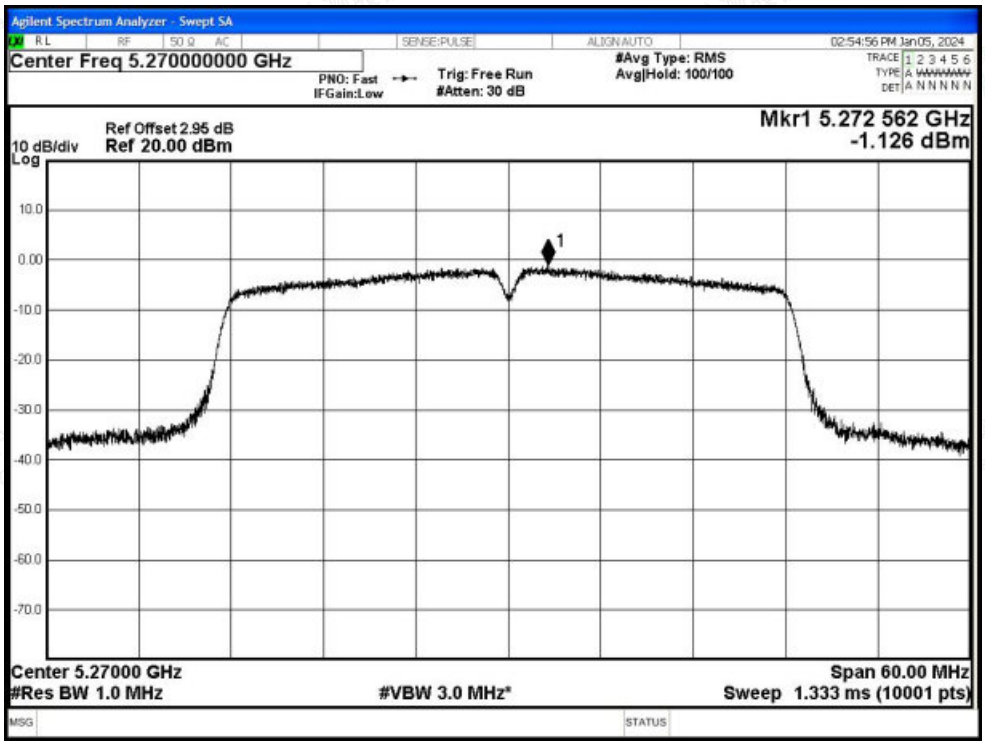
PSD NVNT ac20 5300MHz Ant1



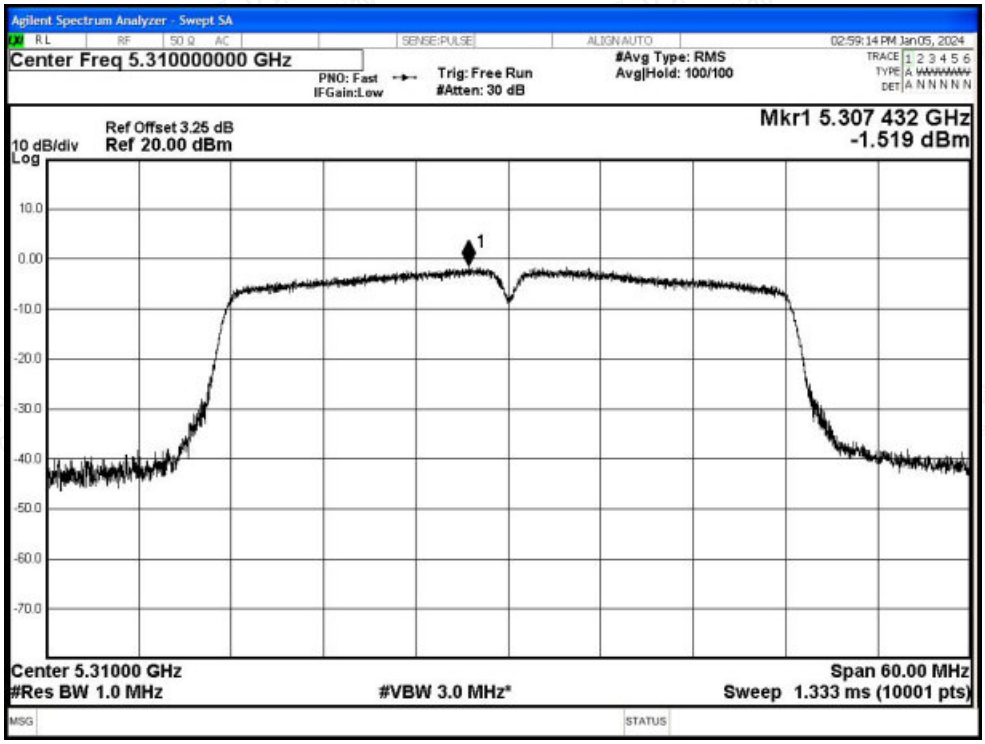
PSD NVNT ac20 5320MHz Ant1



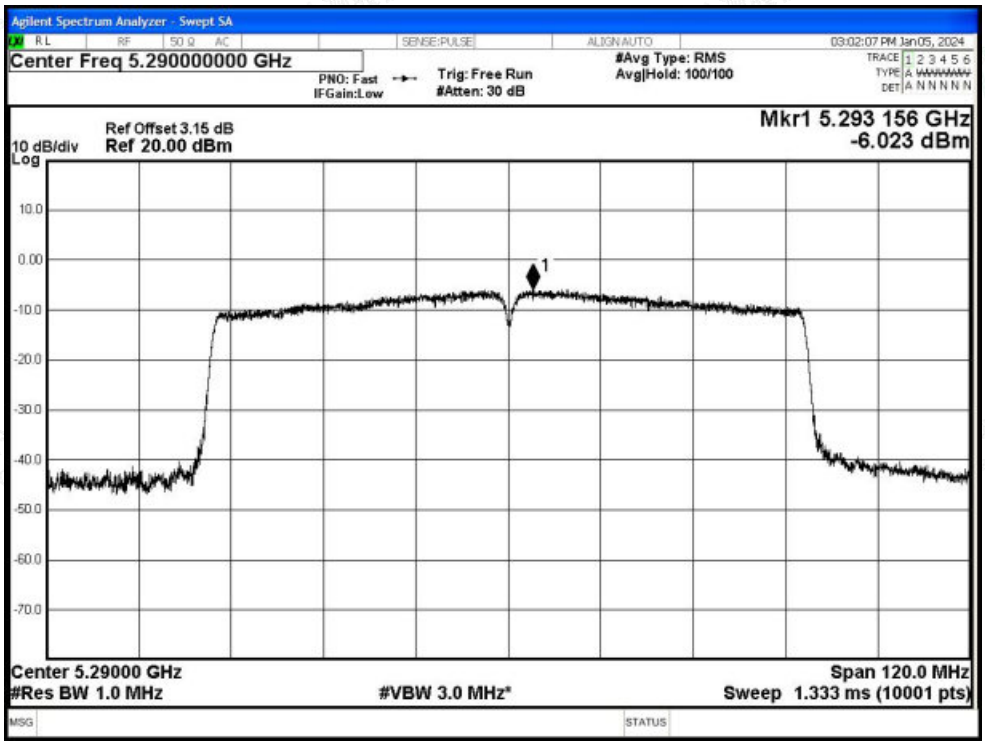
PSD NVNT ac40 5270MHz Ant1



PSD NVNT ac40 5310MHz Ant1



PSD NVNT ac80 5290MHz Ant1



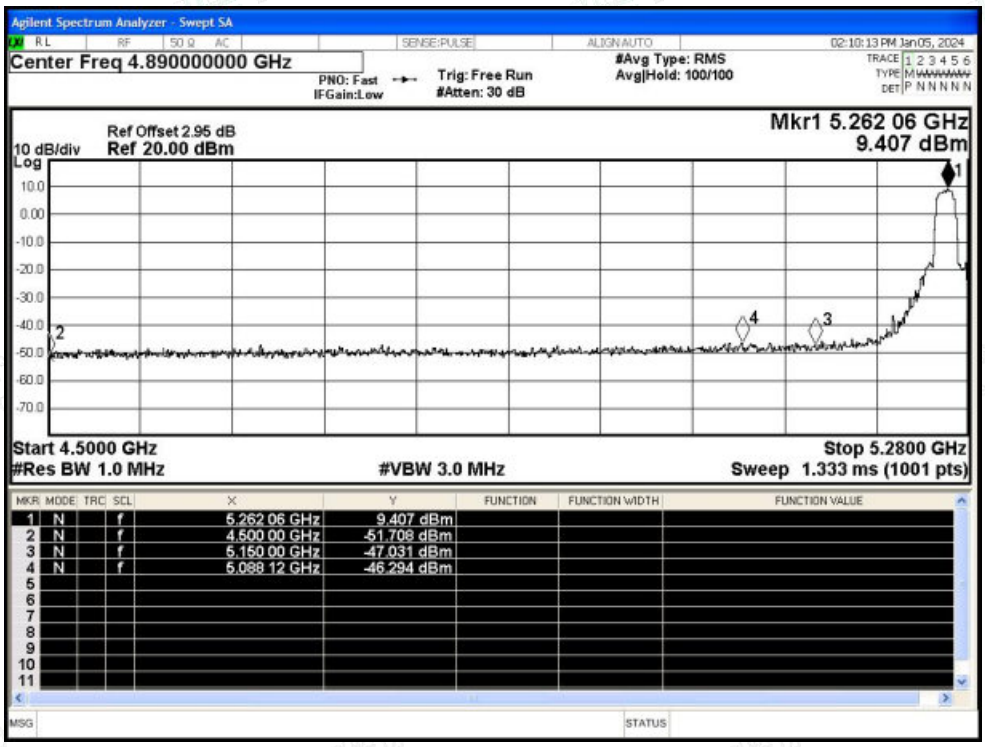
E.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5260	Ant1	4500	-51.71	2.7	-	46.22	Peak	68.2	Pass
NVNT	a	5260	Ant1	4500	-59.13	2.7	0.13	38.93	Average	54	Pass
NVNT	a	5260	Ant1	5088.12	-46.29	2.7	-	51.64	Peak	68.2	Pass
NVNT	a	5260	Ant1	5087.34	-55.65	2.7	0.13	42.41	Average	54	Pass
NVNT	a	5260	Ant1	5150	-47.03	2.7	-	50.90	Peak	68.2	Pass
NVNT	a	5260	Ant1	5150	-56.23	2.7	0.13	41.83	Average	54	Pass
NVNT	a	5320	Ant1	5350	-34.56	2.7	-	63.37	Peak	68.2	Pass
NVNT	a	5320	Ant1	5350	-51.18	2.7	0.13	46.88	Average	54	Pass
NVNT	a	5320	Ant1	5350.4	-33.06	2.7	-	64.87	Peak	68.2	Pass
NVNT	a	5320	Ant1	5351.4	-50.66	2.7	0.13	47.40	Average	54	Pass
NVNT	a	5320	Ant1	5460	-51.09	2.7	-	46.84	Peak	68.2	Pass
NVNT	a	5320	Ant1	5460	-57.51	2.7	0.13	40.55	Average	54	Pass
NVNT	n20	5260	Ant1	4500	-48.66	2.7	-	49.27	Peak	68.2	Pass
NVNT	n20	5260	Ant1	4500	-59.04	2.7	0.15	39.04	Average	54	Pass
NVNT	n20	5260	Ant1	5145.06	-45.67	2.7	-	52.26	Peak	68.2	Pass
NVNT	n20	5260	Ant1	5092.8	-55.89	2.7	0.15	42.19	Average	54	Pass
NVNT	n20	5260	Ant1	5150	-47.64	2.7	-	50.29	Peak	68.2	Pass
NVNT	n20	5260	Ant1	5150	-56.34	2.7	0.15	41.74	Average	54	Pass
NVNT	n20	5320	Ant1	5350	-36.45	2.7	-	61.48	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5350	-51.42	2.7	0.15	46.66	Average	54	Pass
NVNT	n20	5320	Ant1	5351.6	-32.38	2.7	-	65.55	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5351.4	-50.26	2.7	0.15	47.82	Average	54	Pass
NVNT	n20	5320	Ant1	5460	-50.07	2.7	-	47.86	Peak	68.2	Pass
NVNT	n20	5320	Ant1	5460	-57.42	2.7	0.15	40.66	Average	54	Pass
NVNT	n40	5270	Ant1	4500	-48.48	2.7	-	49.45	Peak	68.2	Pass
NVNT	n40	5270	Ant1	4500	-59.07	2.7	0.28	39.14	Average	54	Pass
NVNT	n40	5270	Ant1	5093.73	-45.54	2.7	-	52.39	Peak	68.2	Pass
NVNT	n40	5270	Ant1	5143.14	-55.56	2.7	0.28	42.65	Average	54	Pass
NVNT	n40	5270	Ant1	5150	-48.41	2.7	-	49.52	Peak	68.2	Pass
NVNT	n40	5270	Ant1	5150	-55.74	2.7	0.28	42.47	Average	54	Pass
NVNT	n40	5310	Ant1	5350	-40.62	2.7	-	57.31	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5350	-50.71	2.7	0.29	47.51	Average	54	Pass
NVNT	n40	5310	Ant1	5353	-32.09	2.7	-	65.84	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5350.4	-49.91	2.7	0.29	48.31	Average	54	Pass
NVNT	n40	5310	Ant1	5460	-49.48	2.7	-	48.45	Peak	68.2	Pass
NVNT	n40	5310	Ant1	5460	-57.33	2.7	0.29	40.89	Average	54	Pass

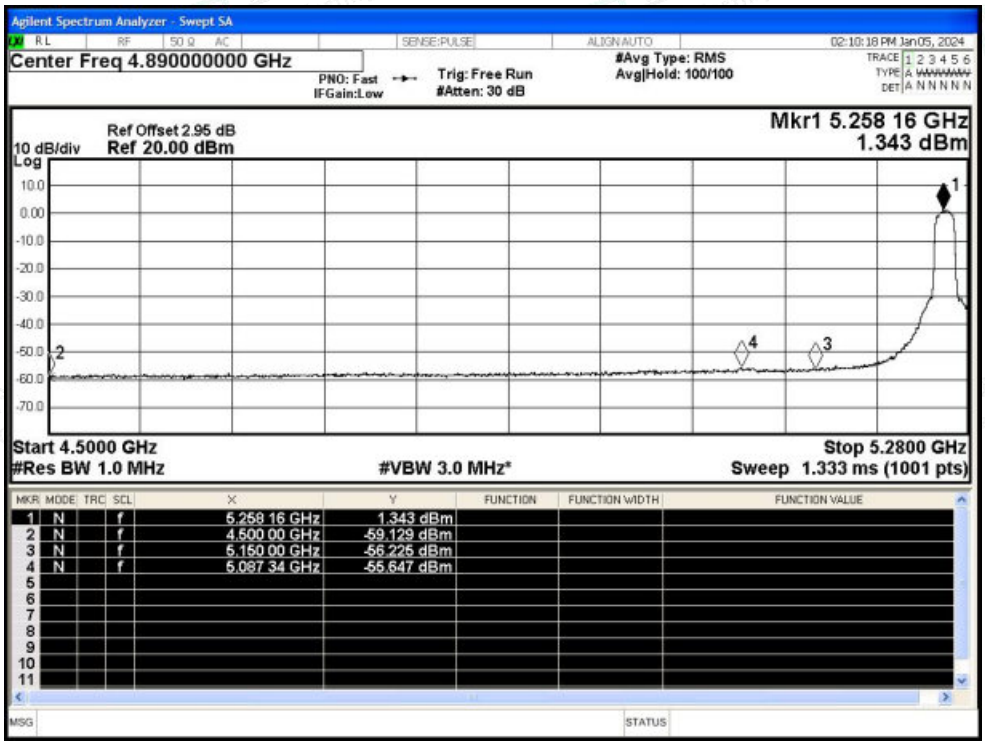
NVNT	ac20	5260	Ant1	4500	-49.62	2.7	-	48.31	Peak	68.2	Pass
NVNT	ac20	5260	Ant1	4500	-59.19	2.7	0.14	38.88	Average	54	Pass
NVNT	ac20	5260	Ant1	5091.24	-45.74	2.7	-	52.19	Peak	68.2	Pass
NVNT	ac20	5260	Ant1	5093.58	-55.73	2.7	0.14	42.34	Average	54	Pass
NVNT	ac20	5260	Ant1	5150	-47.99	2.7	-	49.94	Peak	68.2	Pass
NVNT	ac20	5260	Ant1	5150	-56.97	2.7	0.14	41.10	Average	54	Pass
NVNT	ac20	5320	Ant1	5350	-38.22	2.7	-	59.71	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5350	-49.67	2.7	0.14	48.40	Average	54	Pass
NVNT	ac20	5320	Ant1	5351.2	-31.26	2.7	-	66.67	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5350.6	-49.15	2.7	0.14	48.92	Average	54	Pass
NVNT	ac20	5320	Ant1	5460	-49.33	2.7	-	48.60	Peak	68.2	Pass
NVNT	ac20	5320	Ant1	5460	-57.13	2.7	0.14	40.94	Average	54	Pass
NVNT	ac40	5270	Ant1	4500	-50.71	2.7	-	47.22	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	4500	-59.03	2.7	0.28	39.18	Average	54	Pass
NVNT	ac40	5270	Ant1	5035.41	-45.81	2.7	-	52.12	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	5145.57	-55.52	2.7	0.28	42.69	Average	54	Pass
NVNT	ac40	5270	Ant1	5150	-48.44	2.7	-	49.49	Peak	68.2	Pass
NVNT	ac40	5270	Ant1	5150	-56.05	2.7	0.28	42.16	Average	54	Pass
NVNT	ac40	5310	Ant1	5350	-30.92	2.7	-	67.01	Peak	68.2	Pass
NVNT	ac40	5310	Ant1	5350	-45.41	2.7	0.28	53.09	Average	54	Pass
NVNT	ac40	5310	Ant1	5460	-47.73	2.7	-	50.20	Peak	68.2	Pass
NVNT	ac40	5310	Ant1	5460	-57.57	2.7	0.28	40.64	Average	54	Pass
NVNT	ac80	5290	Ant1	4500	-49.09	2.7	-	48.84	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	4500	-58.71	2.7	0.55	39.77	Average	54	Pass
NVNT	ac80	5290	Ant1	5141.19	-45.61	2.7	-	52.32	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5139.45	-55.25	2.7	0.55	43.23	Average	54	Pass
NVNT	ac80	5290	Ant1	5150	-48.08	2.7	-	49.85	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5150	-55.52	2.7	0.55	42.96	Average	54	Pass
NVNT	ac80	5290	Ant1	5350	-38.07	2.7	-	59.86	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5350	-46.22	2.7	0.55	52.26	Average	54	Pass
NVNT	ac80	5290	Ant1	5351	-34.22	2.7	-	63.71	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5350.75	-46.06	2.7	0.55	52.42	Average	54	Pass
NVNT	ac80	5290	Ant1	5460	-47.99	2.7	-	49.94	Peak	68.2	Pass
NVNT	ac80	5290	Ant1	5460	-57.51	2.7	0.55	40.97	Average	54	Pass

Test Graphs

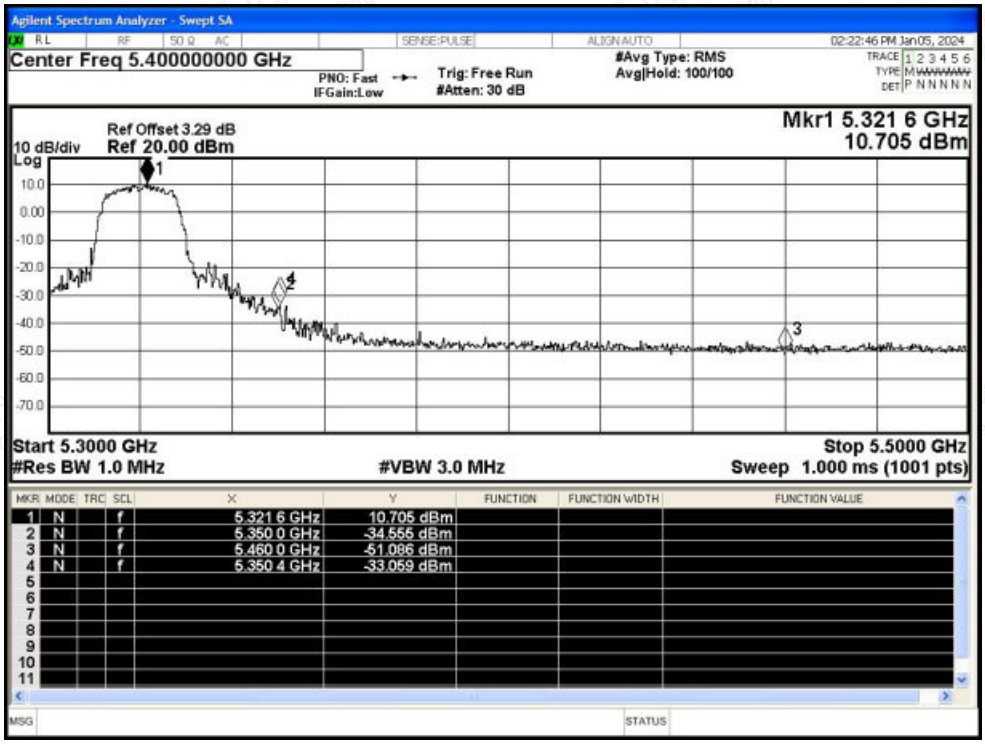
Restrict Band NVNT a 5260MHz Ant1 Peak



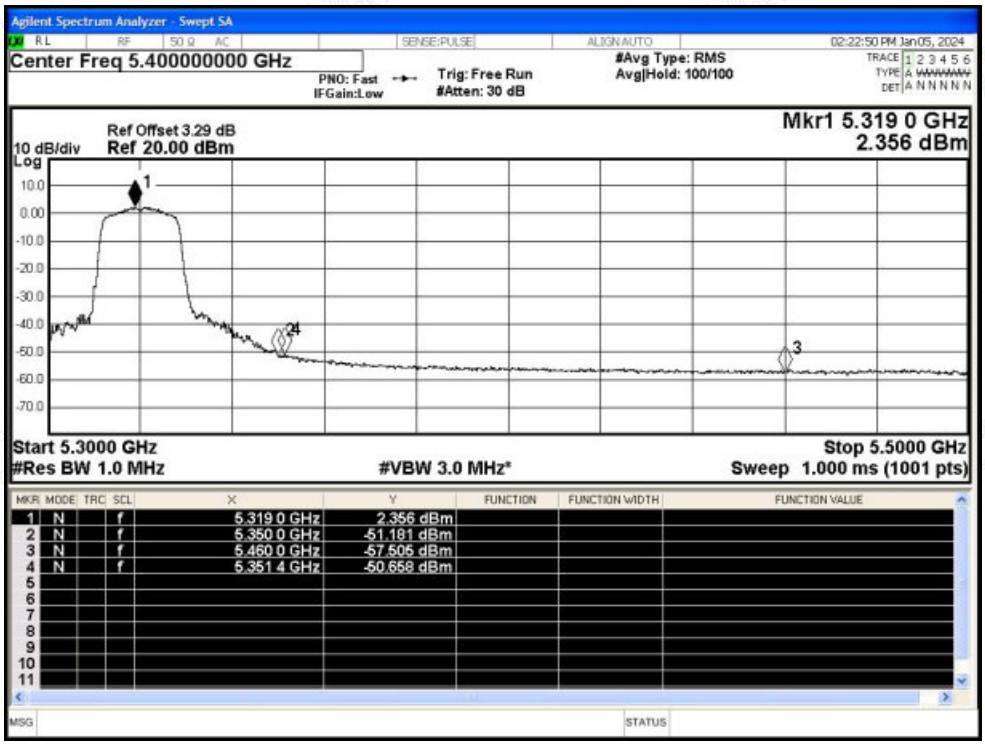
Restrict Band NVNT a 5260MHz Ant1 Average



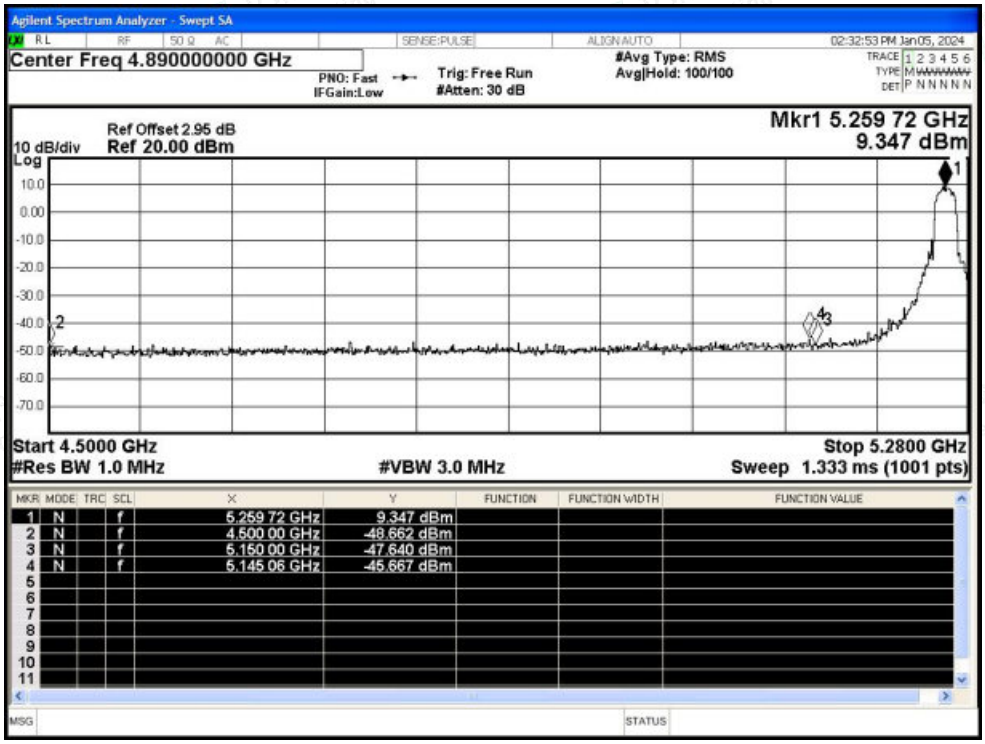
Restrict Band NVNT a 5320MHz Ant1 Peak



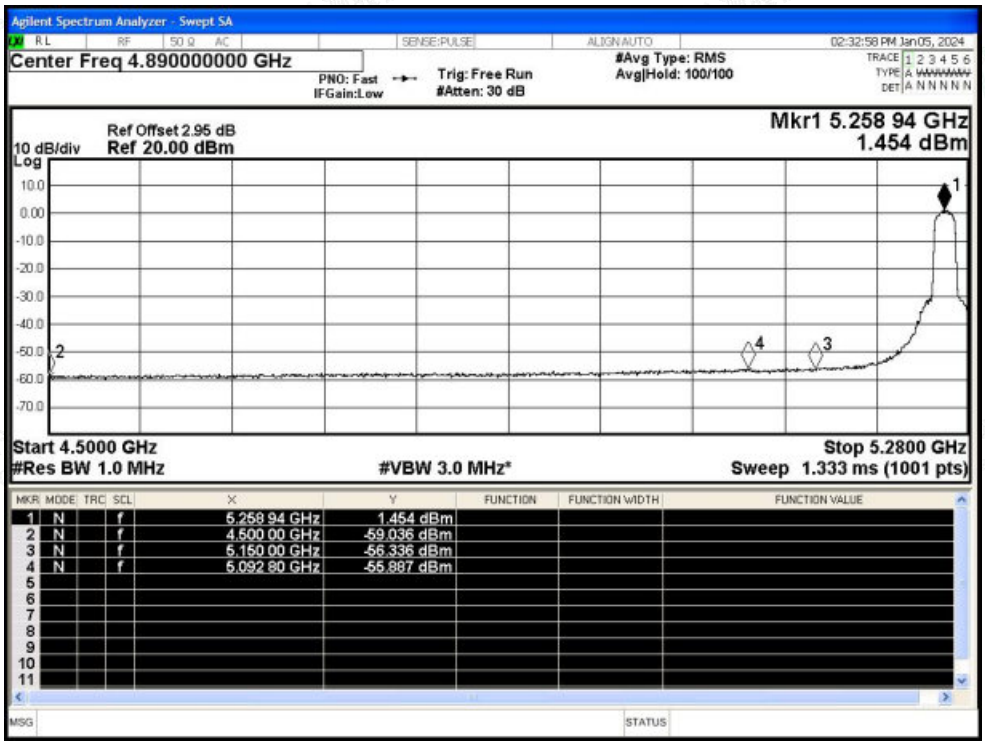
Restrict Band NVNT a 5320MHz Ant1 Average



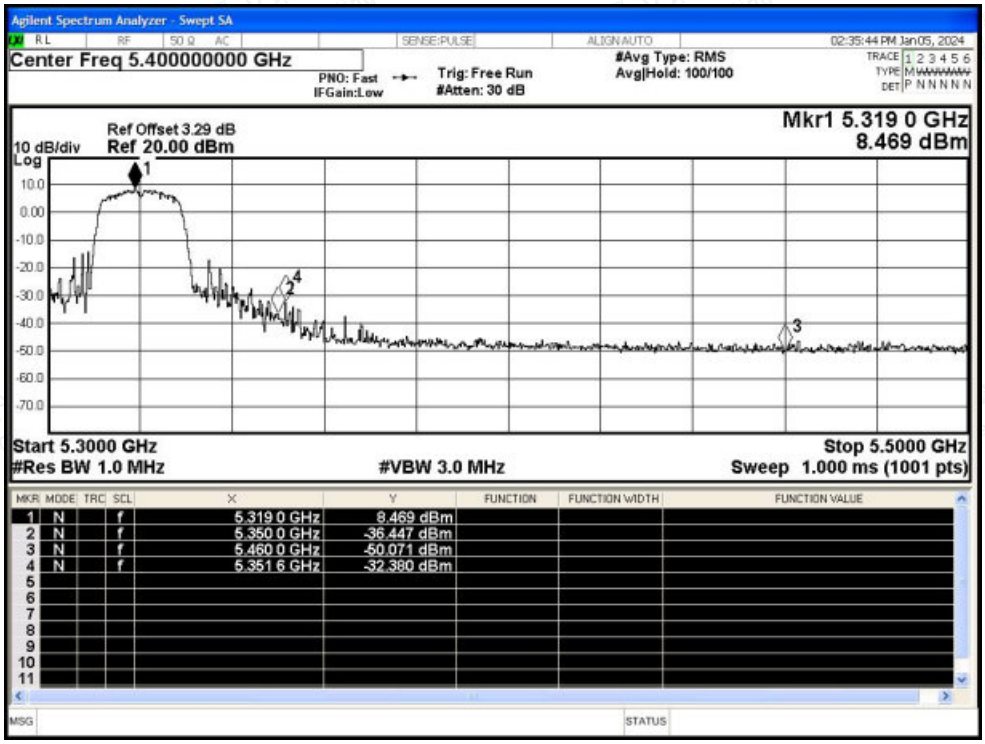
Restrict Band NVNT n20 5260MHz Ant1 Peak



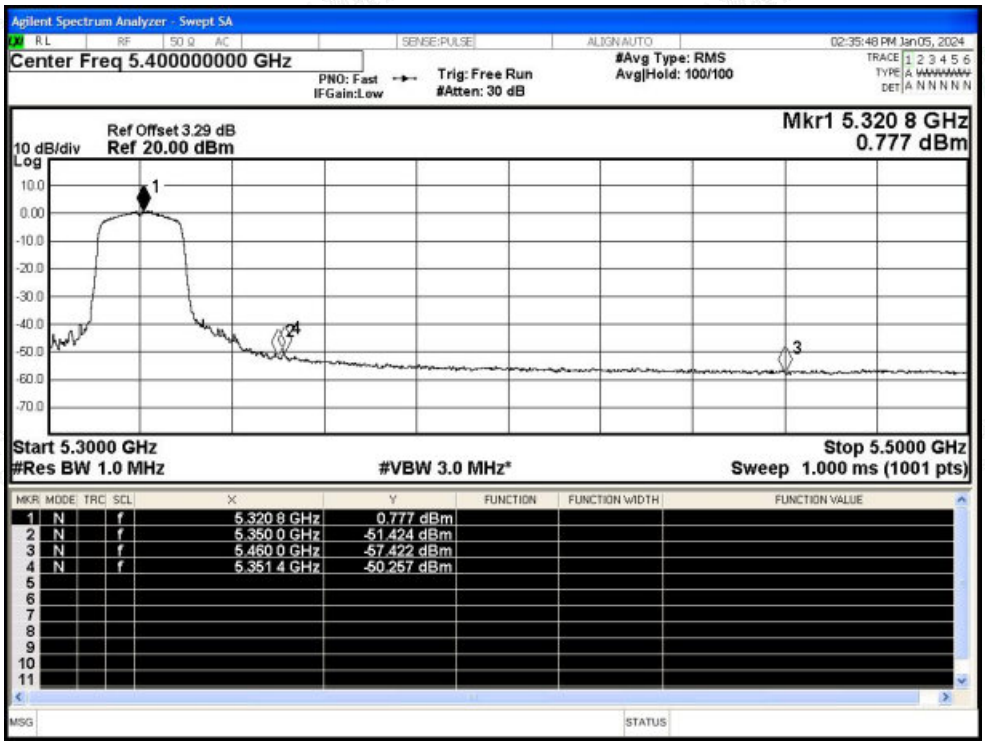
Restrict Band NVNT n20 5260MHz Ant1 Average



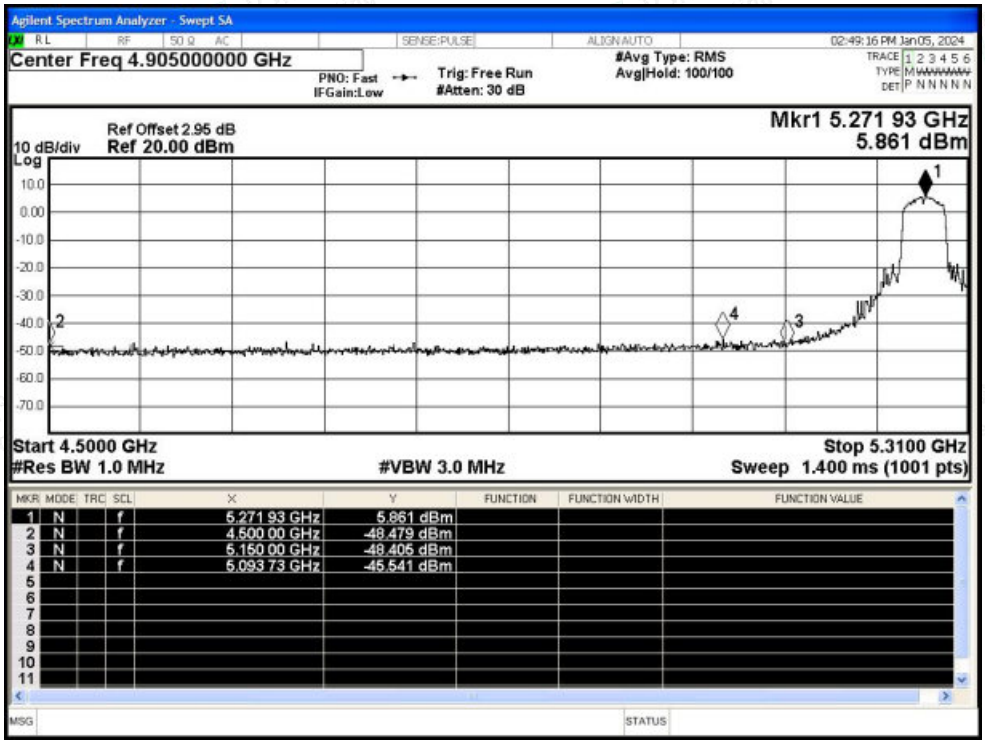
Restrict Band NVNT n20 5320MHz Ant1 Peak



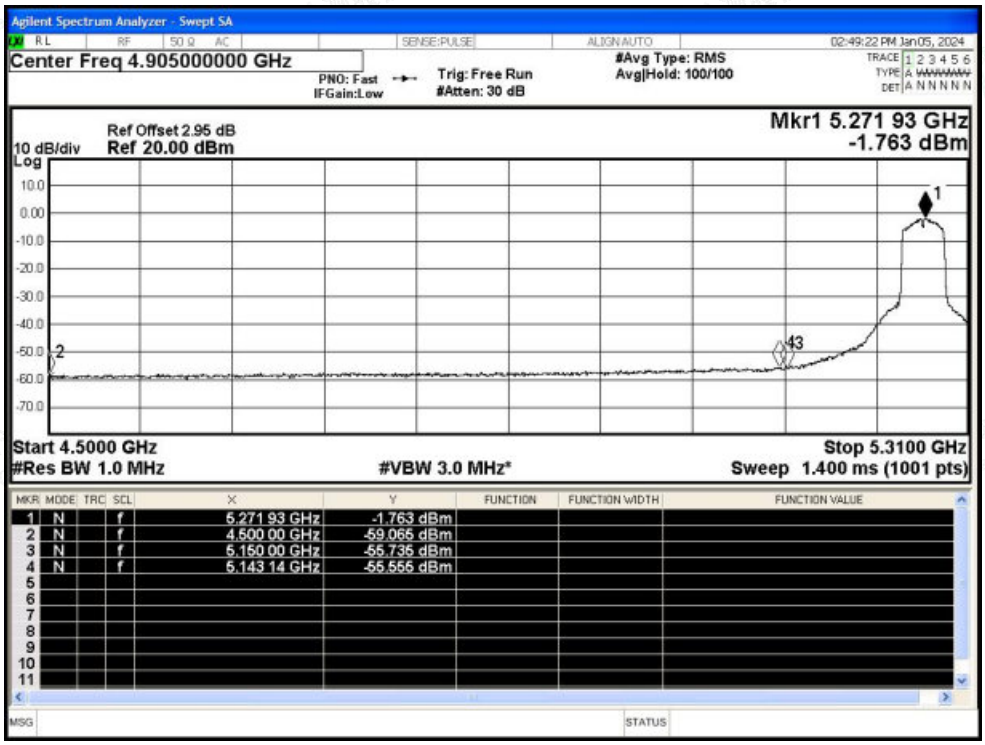
Restrict Band NVNT n20 5320MHz Ant1 Average



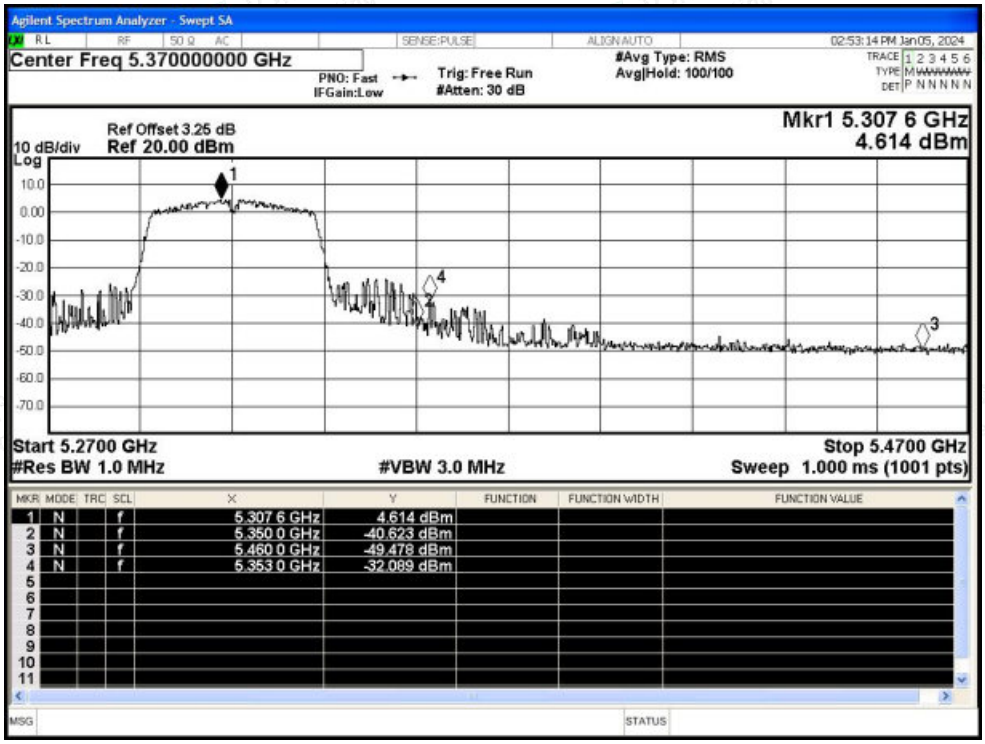
Restrict Band NVNT n40 5270MHz Ant1 Peak



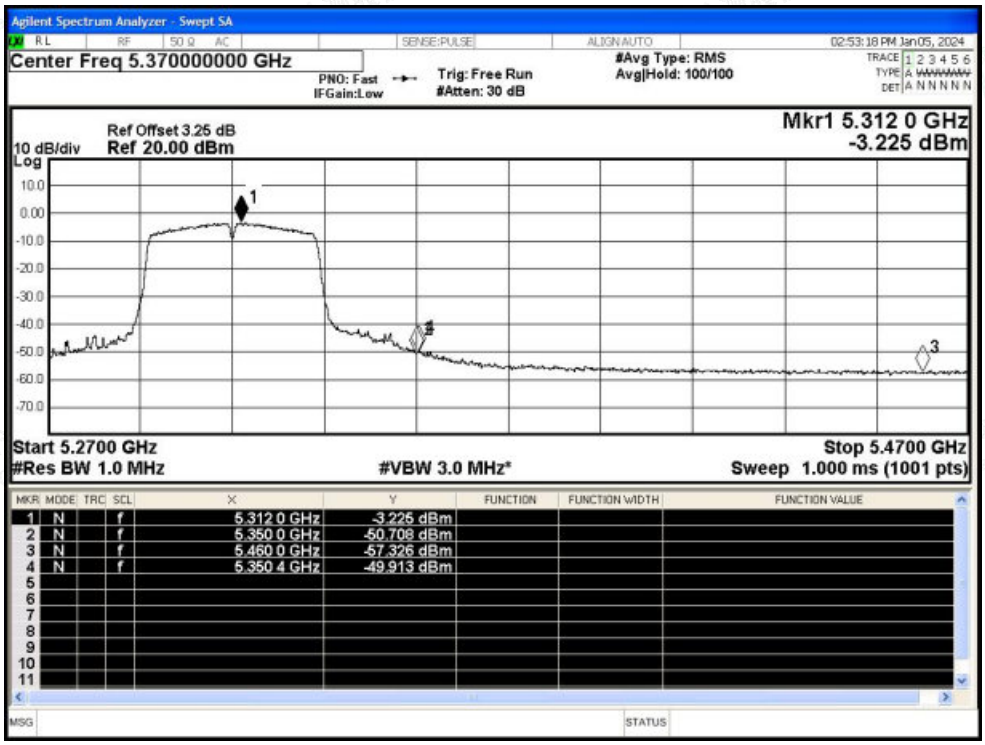
Restrict Band NVNT n40 5270MHz Ant1 Average



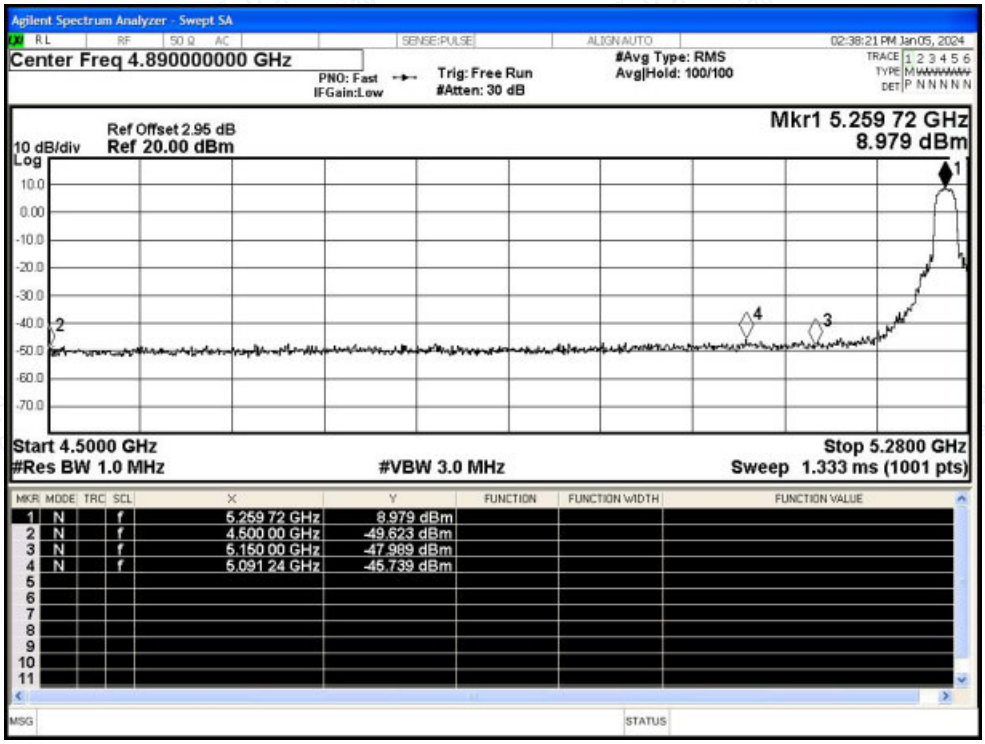
Restrict Band NVNT n40 5310MHz Ant1 Peak



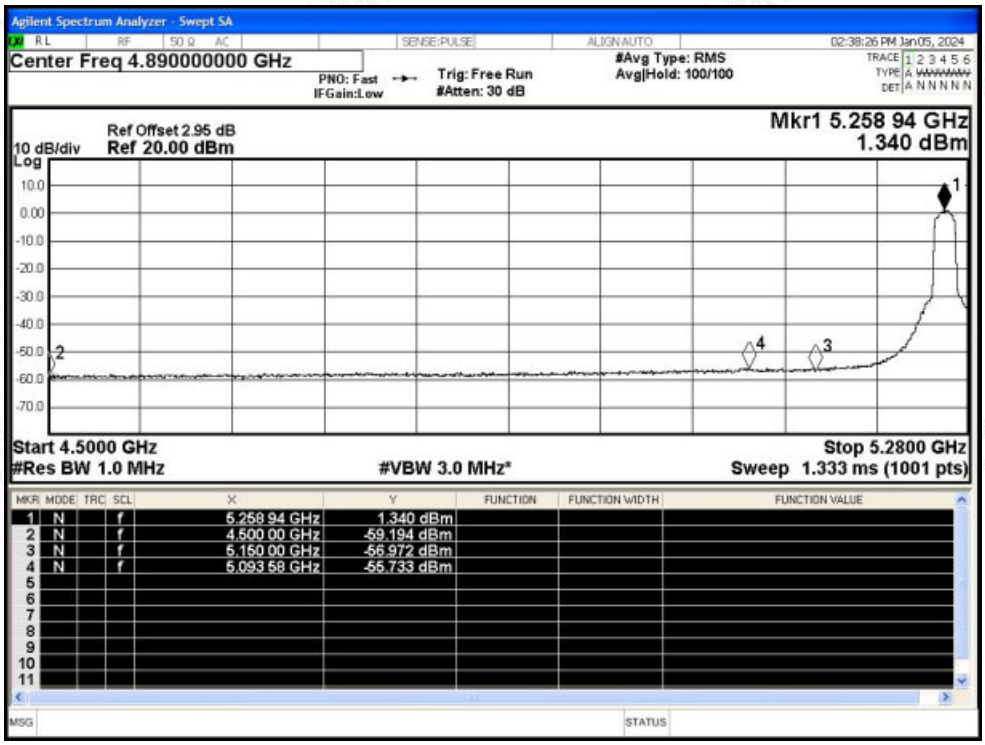
Restrict Band NVNT n40 5310MHz Ant1 Average



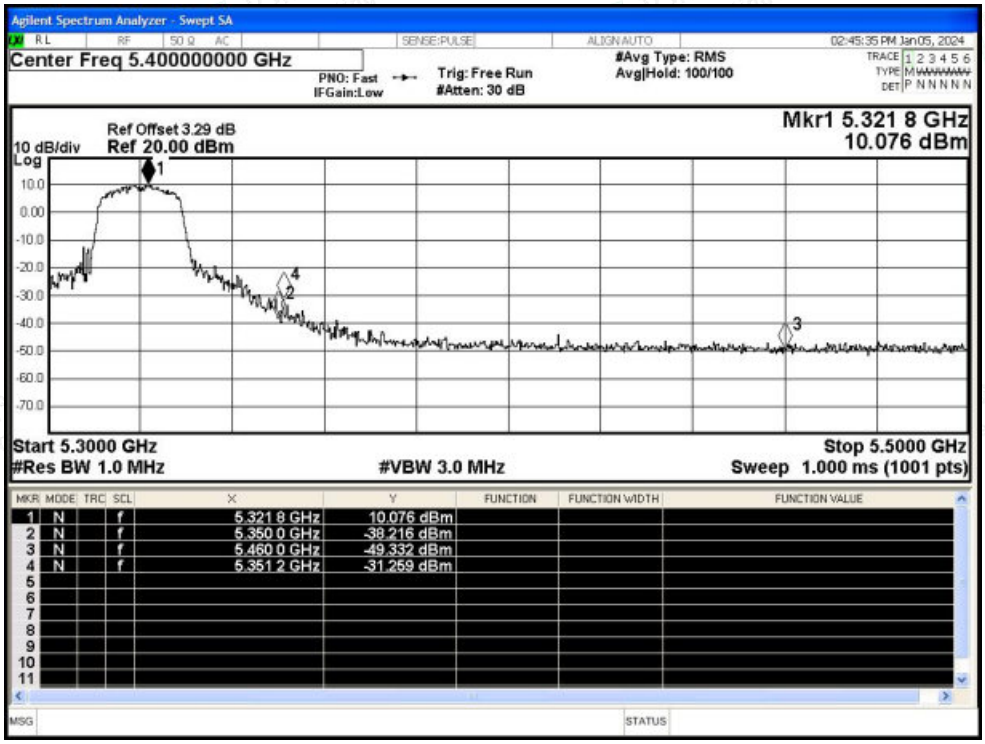
Restrict Band NVNT ac20 5260MHz Ant1 Peak



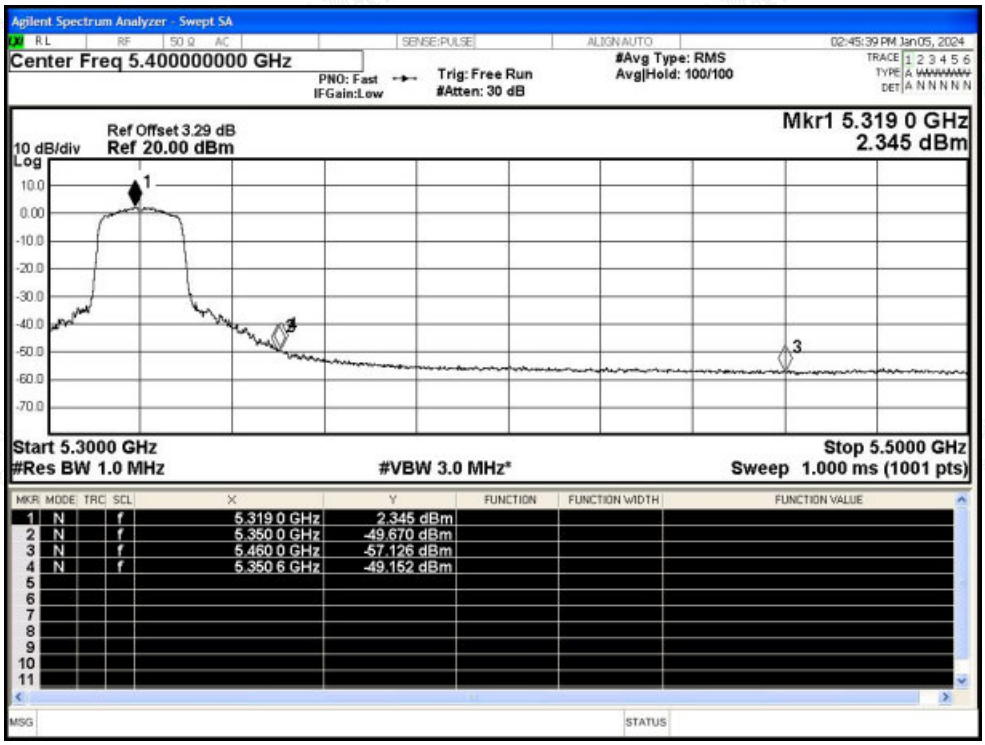
Restrict Band NVNT ac20 5260MHz Ant1 Average



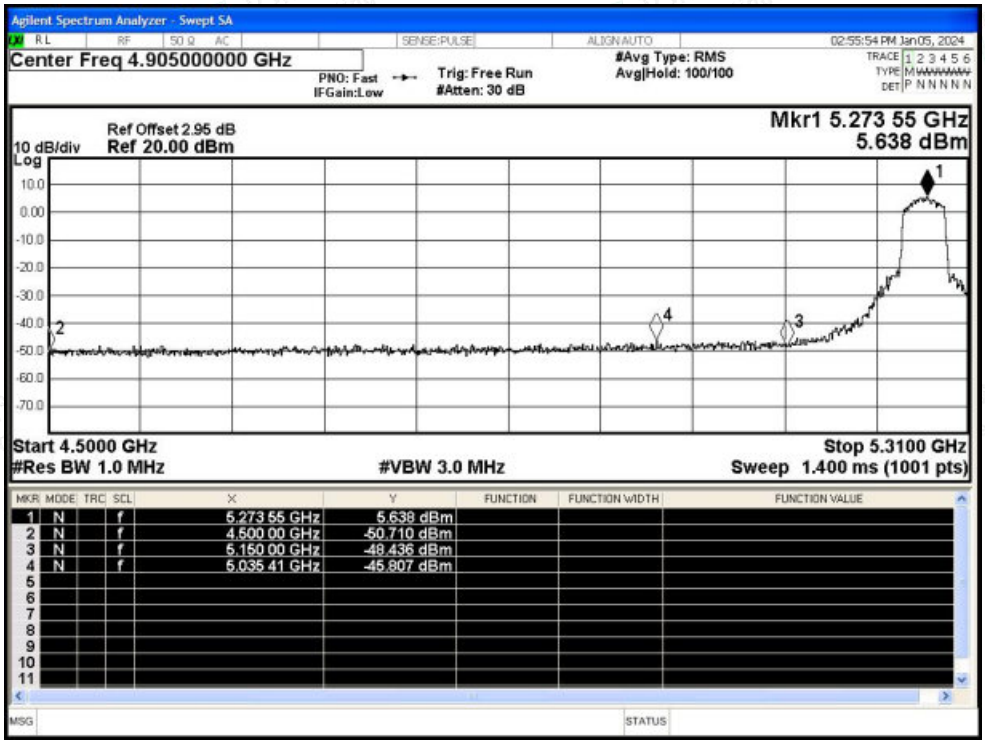
Restrict Band NVNT ac20 5320MHz Ant1 Peak



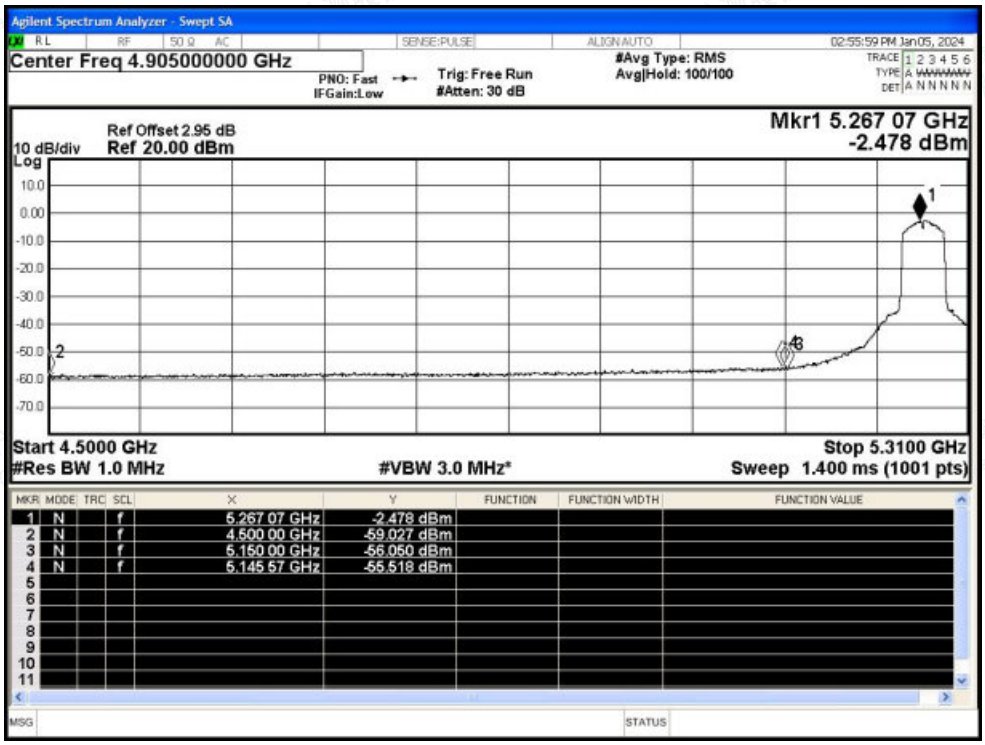
Restrict Band NVNT ac20 5320MHz Ant1 Average



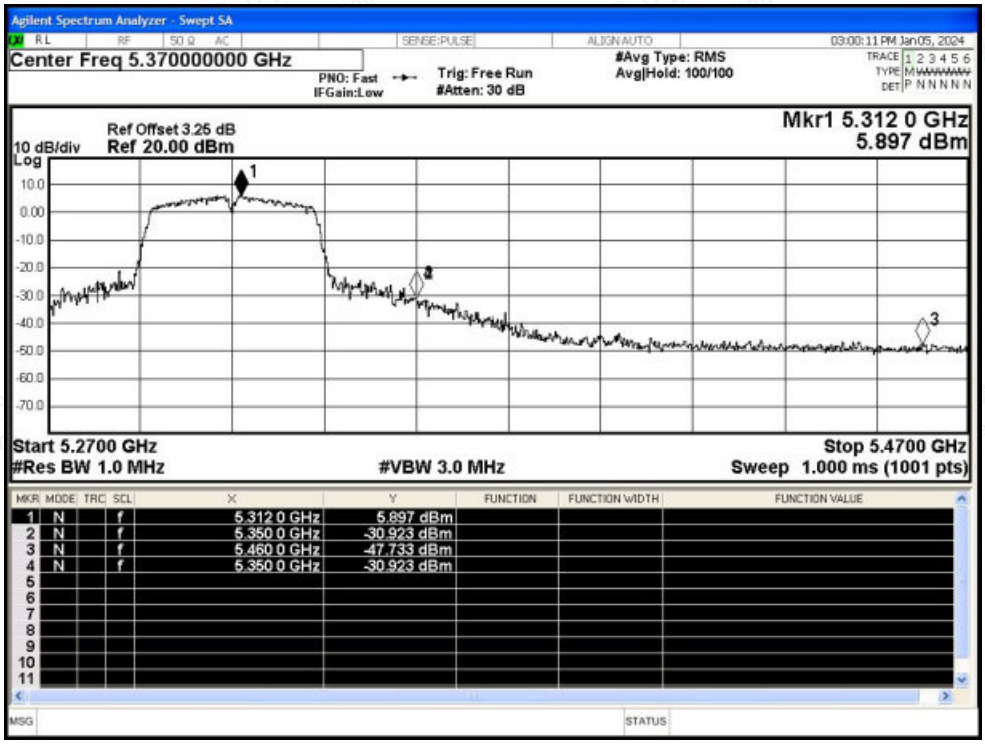
Restrict Band NVNT ac40 5270MHz Ant1 Peak



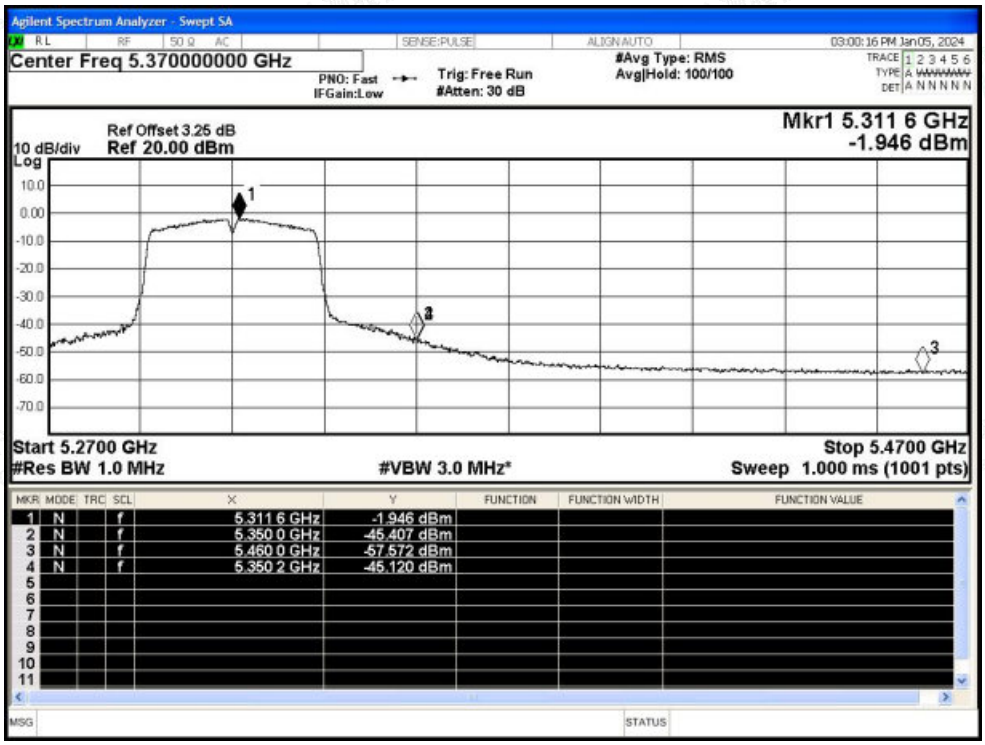
Restrict Band NVNT ac40 5270MHz Ant1 Average



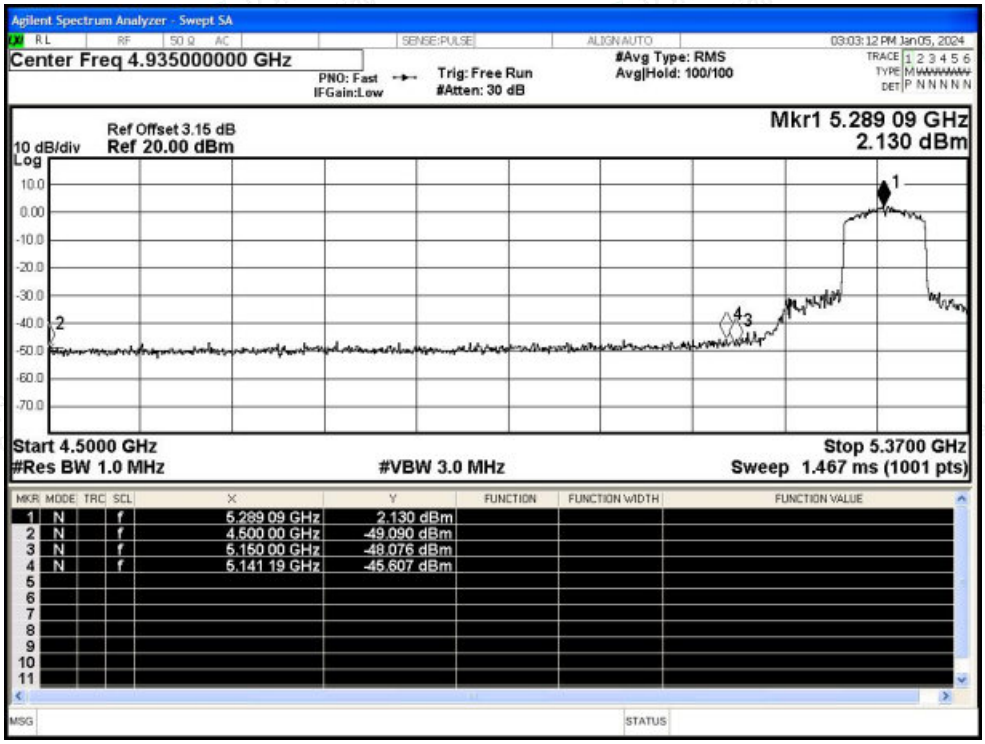
Restrict Band NVNT ac40 5310MHz Ant1 Peak



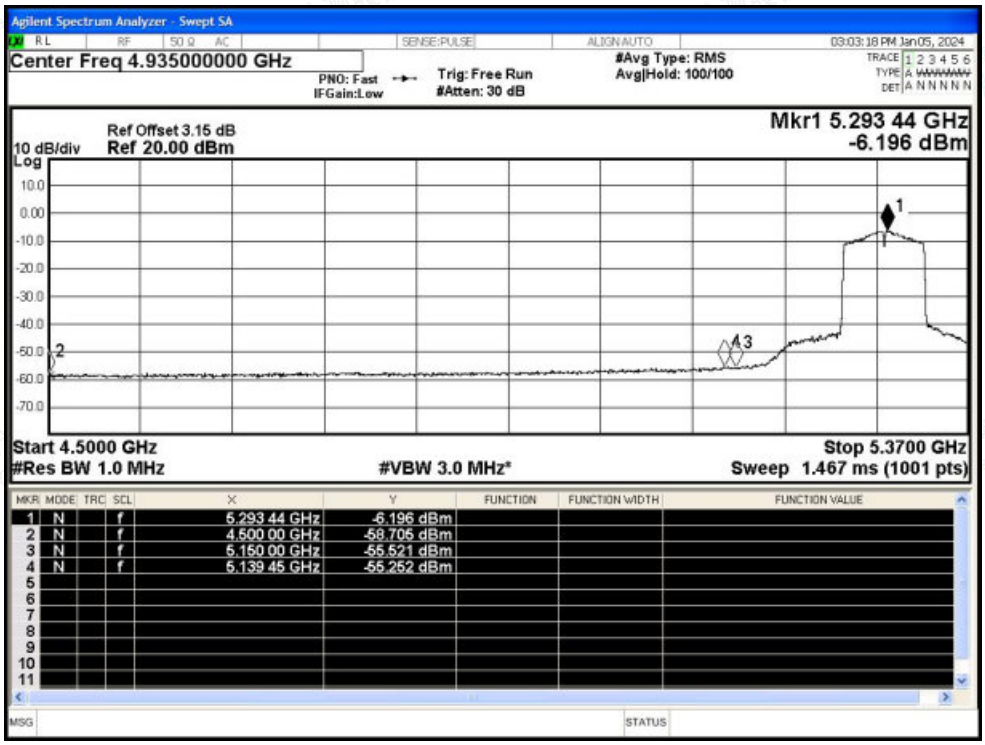
Restrict Band NVNT ac40 5310MHz Ant1 Average



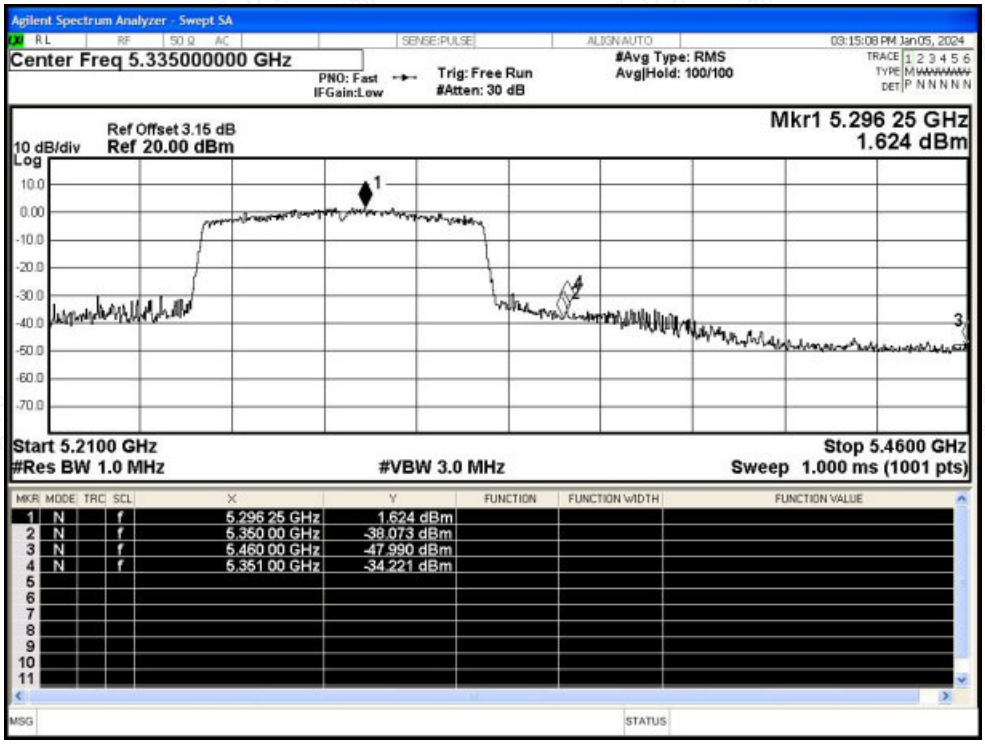
Restrict Band NVNT ac80 5290MHz Ant1 Peak



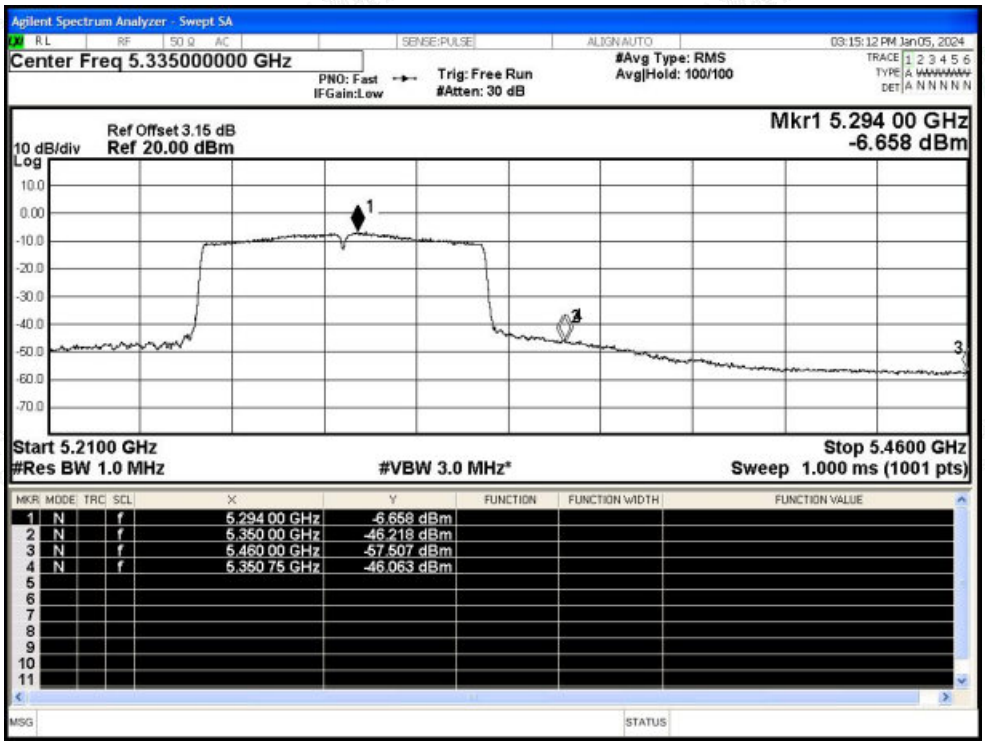
Restrict Band NVNT ac80 5290MHz Ant1 Average



Restrict Band NVNT ac80 5290MHz Ant1 Peak



Restrict Band NVNT ac80 5290MHz Ant1 Average

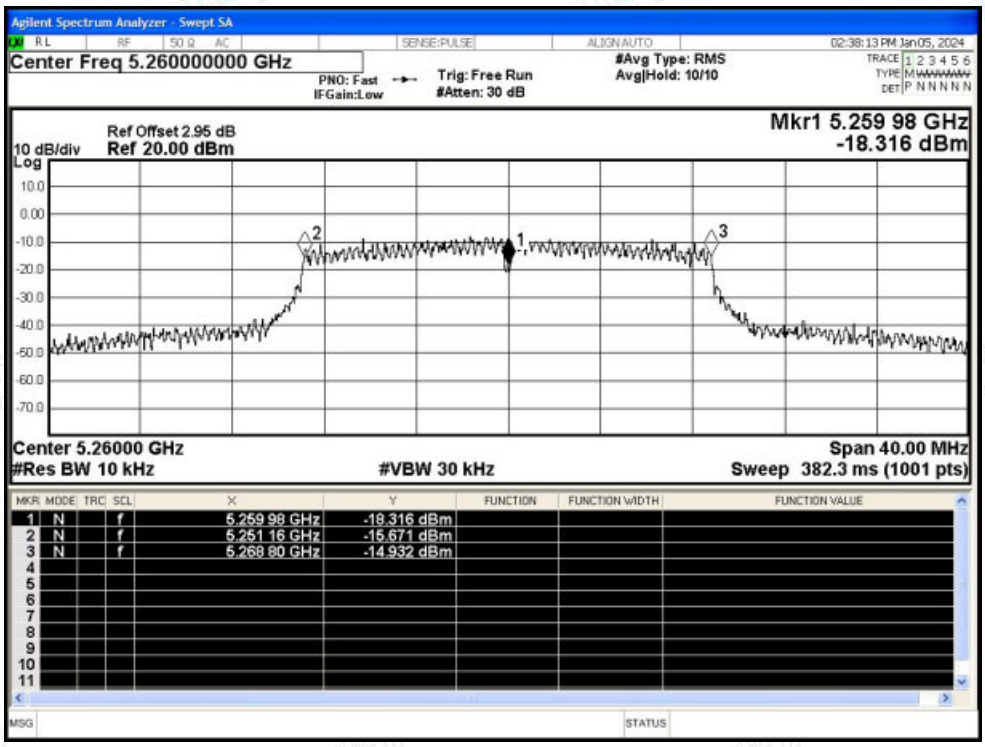


E.5 Frequency Stability

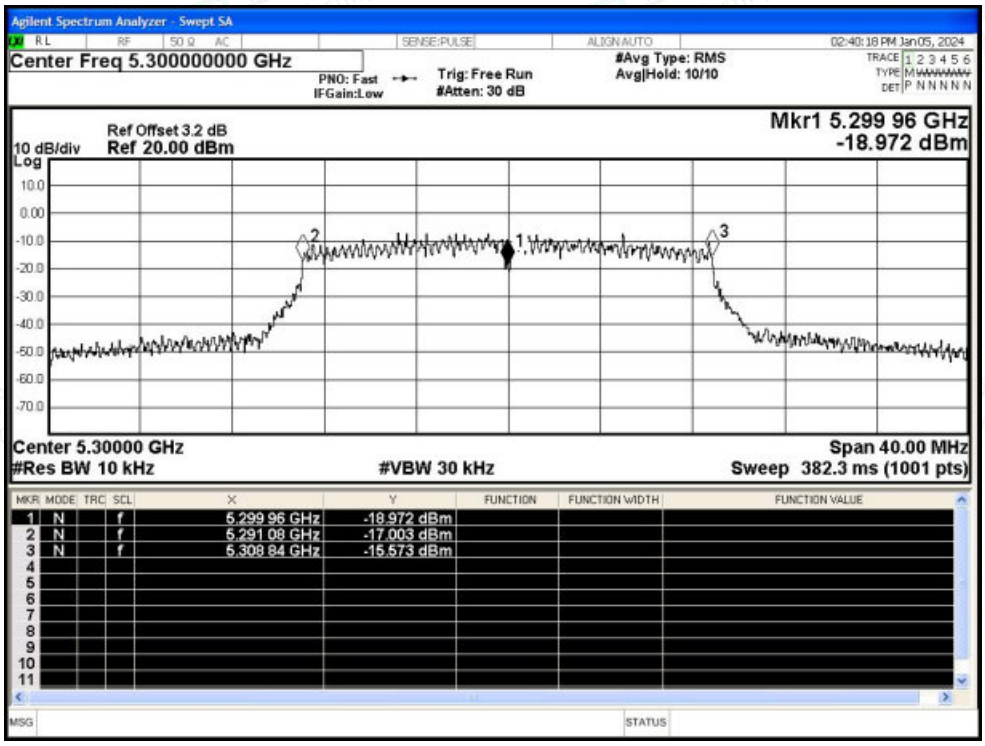
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5260	Ant1	5259.98	-20000	-3.8	25	Pass
NVNT	ac20	5300	Ant1	5299.96	-40000	-7.55	25	Pass
NVNT	ac20	5320	Ant1	5320	0	0	25	Pass
NVNT	ac40	5270	Ant1	5269.96	-40000	-7.59	25	Pass
NVNT	ac40	5310	Ant1	5309.96	-40000	-7.53	25	Pass
NVNT	ac80	5290	Ant1	5290	0	0	25	Pass

Test Graphs

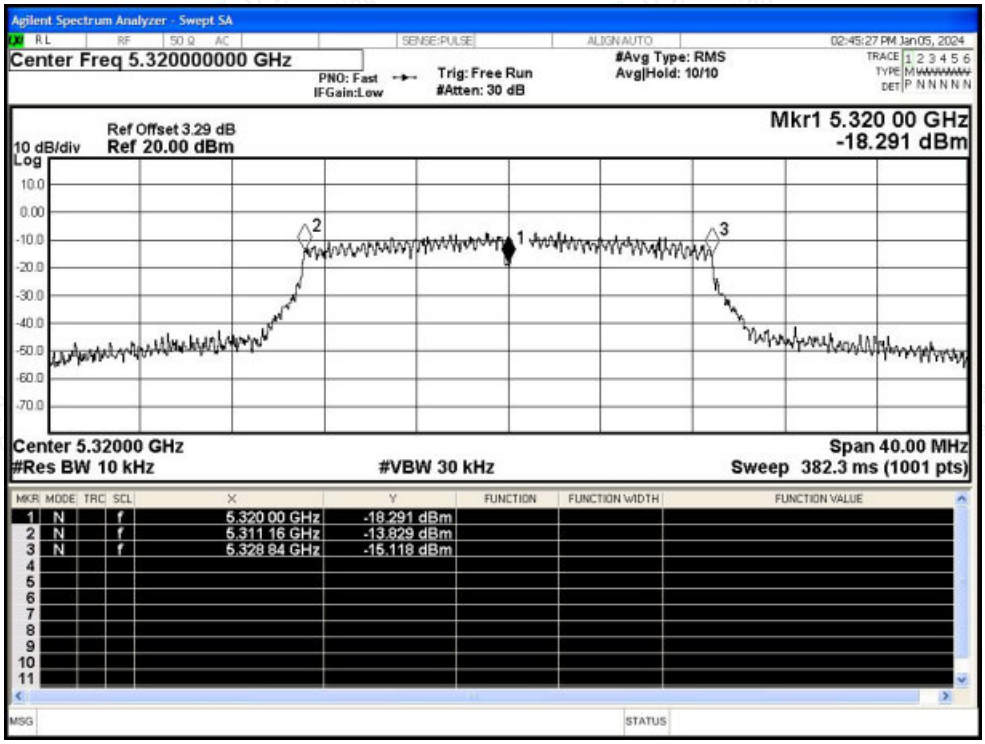
Freq. Stability NVNT ac20 5260MHz Ant1



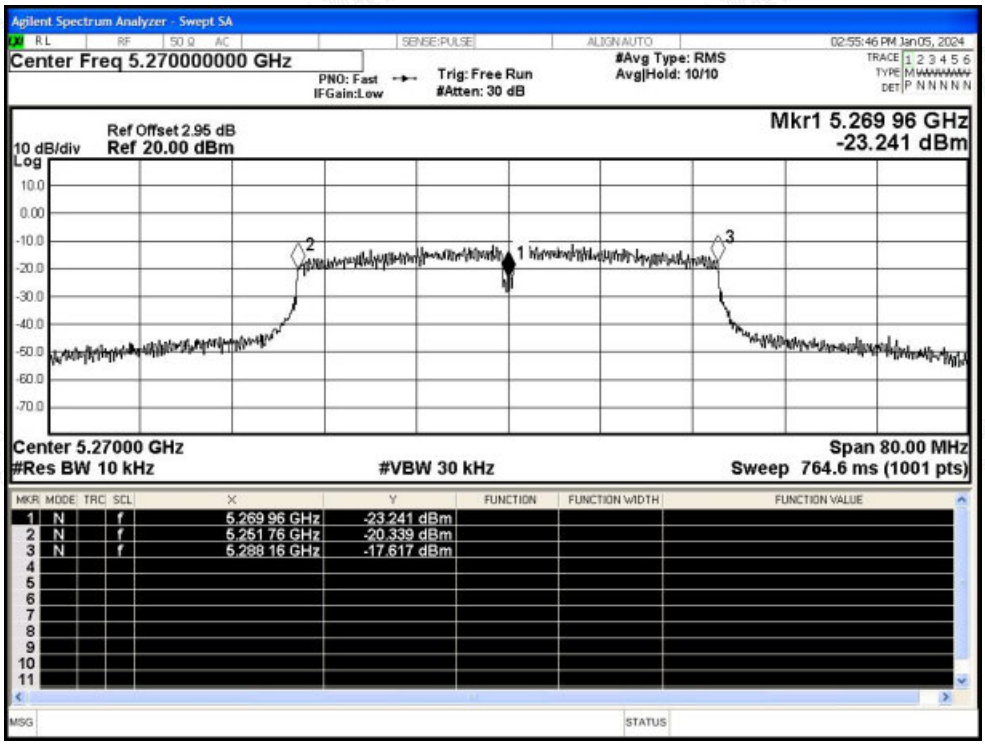
Freq. Stability NVNT ac20 5300MHz Ant1



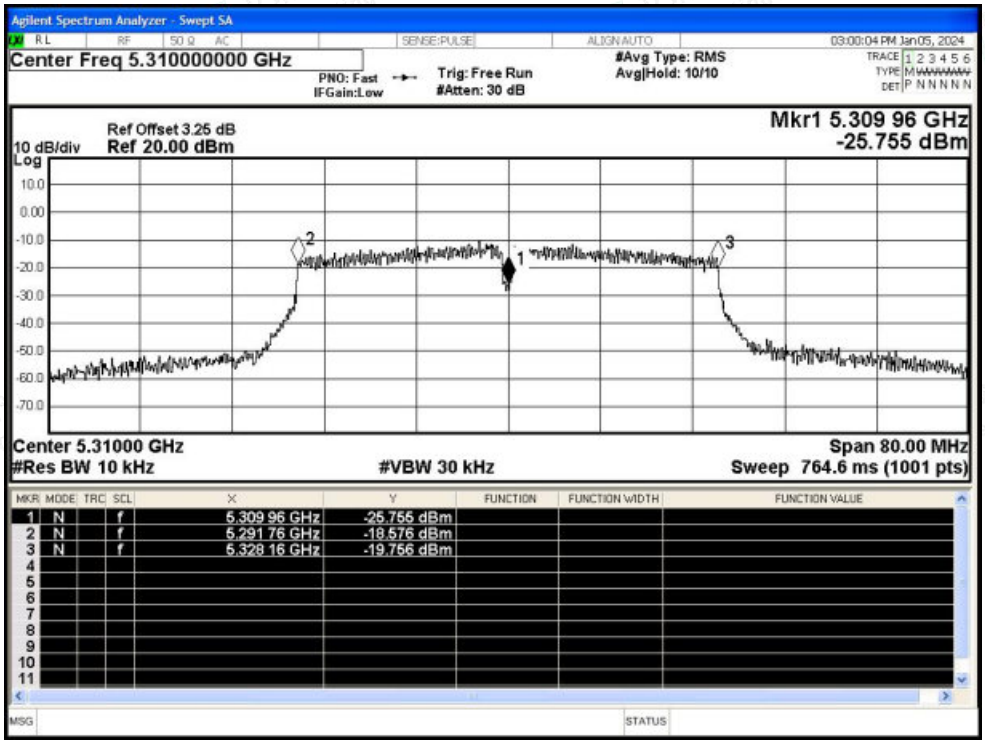
Freq. Stability NVNT ac20 5320MHz Ant1



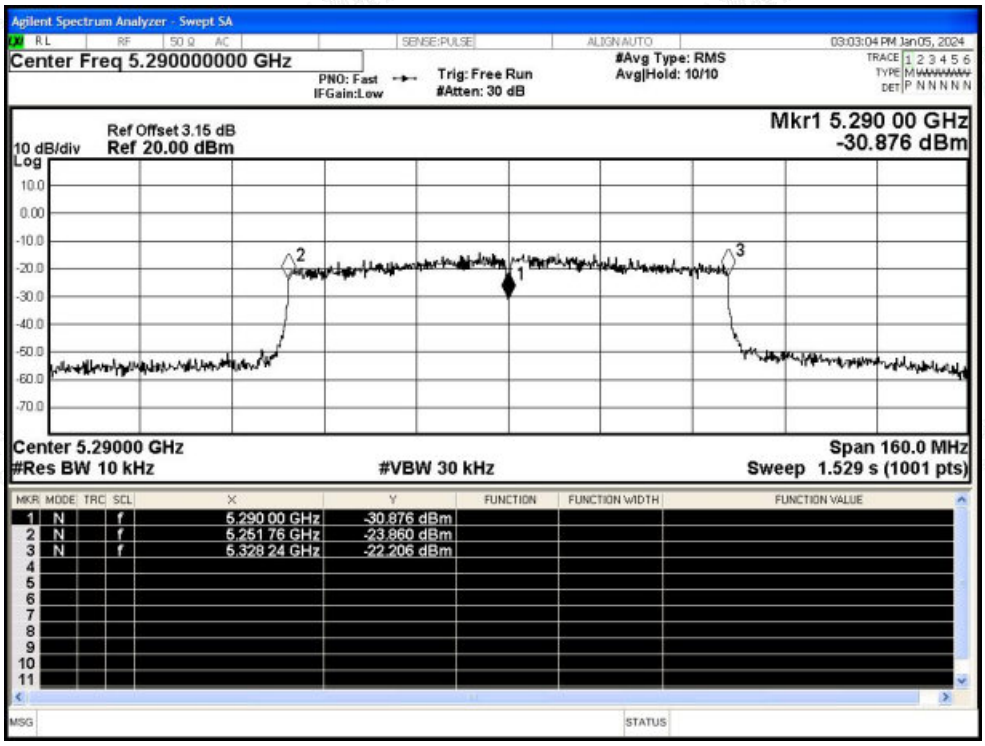
Freq. Stability NVNT ac40 5270MHz Ant1



Freq. Stability NVNT ac40 5310MHz Ant1



Freq. Stability NVNT ac80 5290MHz Ant1

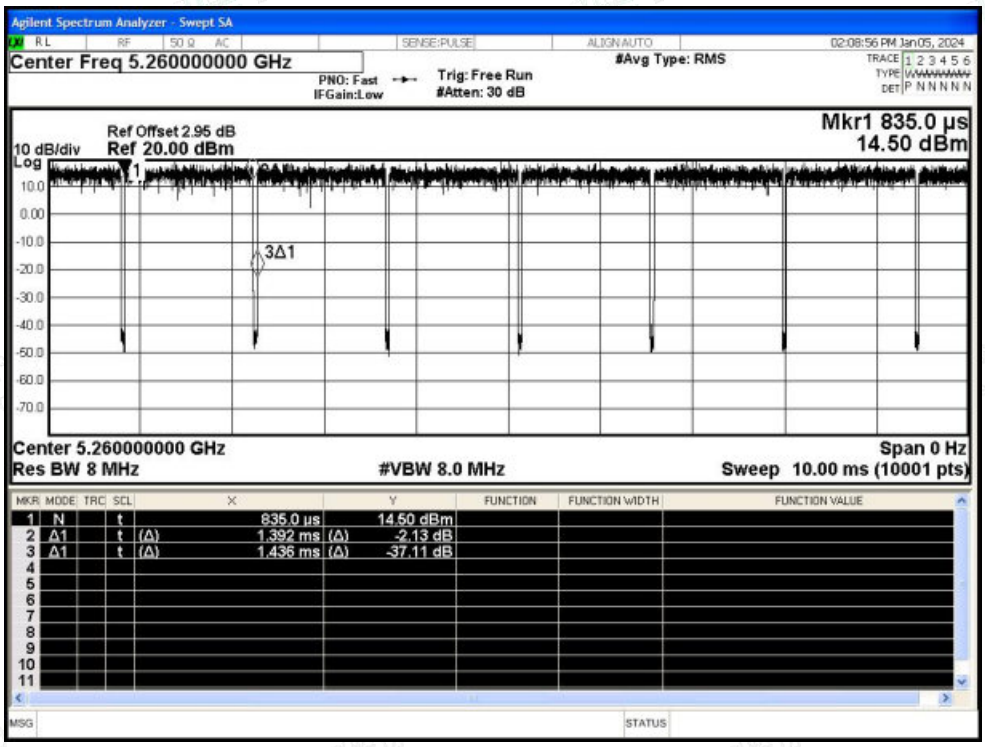


E.6 Duty Cycle

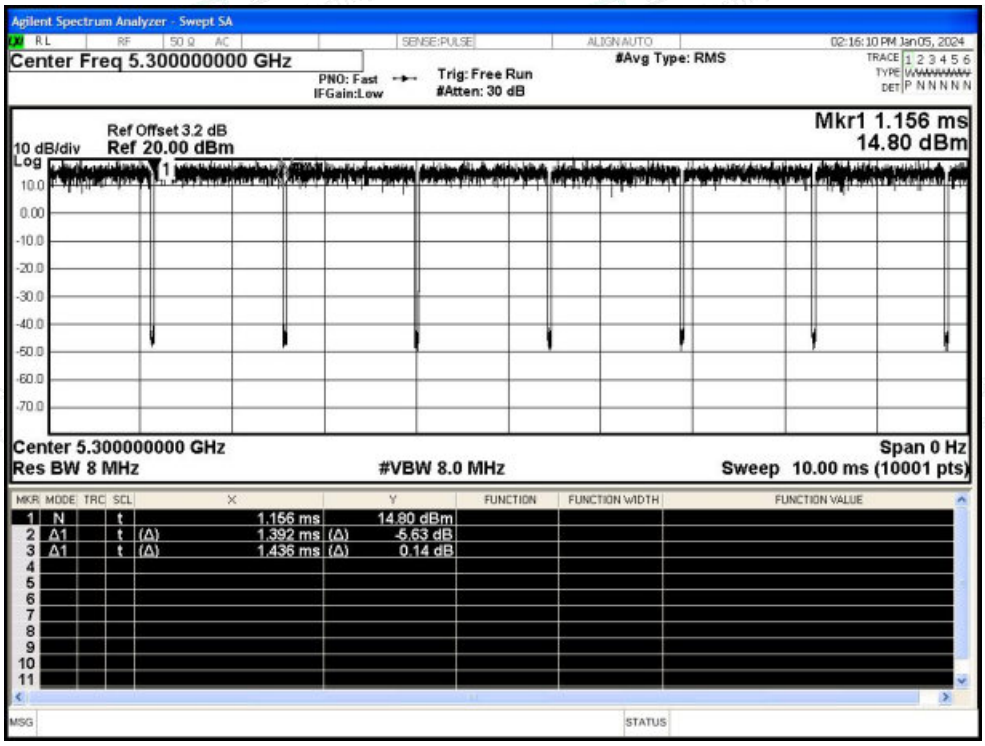
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	Ant1	96.94	0.13	0.72
NVNT	a	5300	Ant1	96.94	0.13	0.72
NVNT	a	5320	Ant1	96.94	0.13	0.72
NVNT	n20	5260	Ant1	96.7	0.15	0.78
NVNT	n20	5300	Ant1	96.7	0.15	0.78
NVNT	n20	5320	Ant1	96.7	0.15	0.78
NVNT	n40	5270	Ant1	93.68	0.28	1.57
NVNT	n40	5310	Ant1	93.53	0.29	1.57
NVNT	ac20	5260	Ant1	96.76	0.14	0.76
NVNT	ac20	5300	Ant1	96.76	0.14	0.76
NVNT	ac20	5320	Ant1	96.76	0.14	0.76
NVNT	ac40	5270	Ant1	93.68	0.28	1.53
NVNT	ac40	5310	Ant1	93.68	0.28	1.53
NVNT	ac80	5290	Ant1	88.08	0.55	3.08

Test Graphs

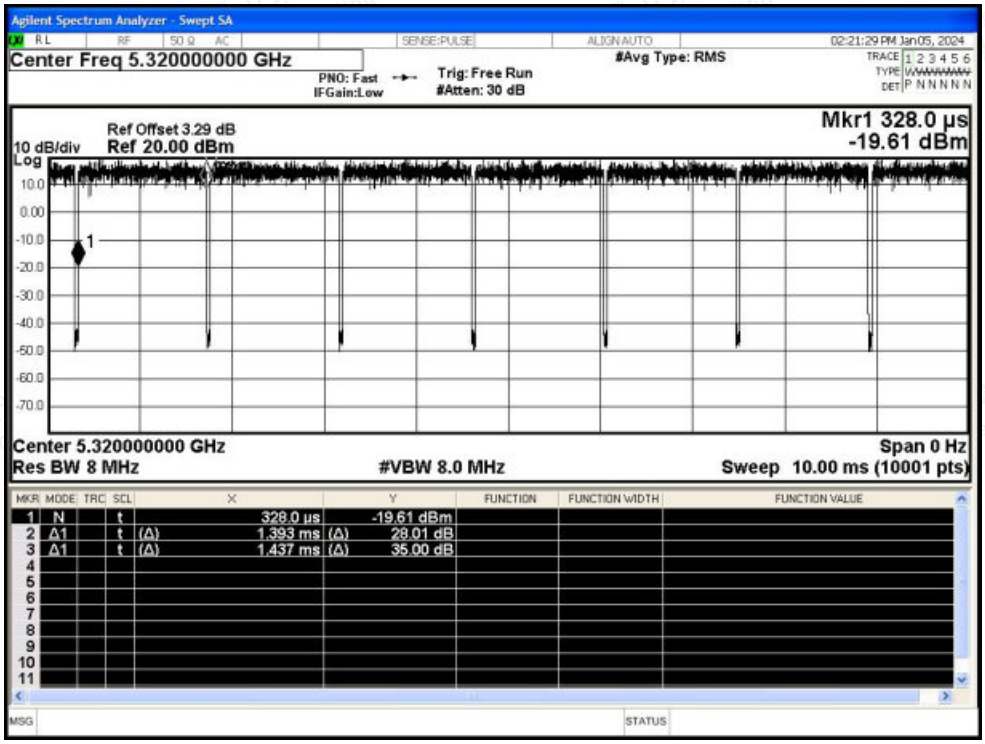
Duty Cycle NVNT a 5260MHz Ant1



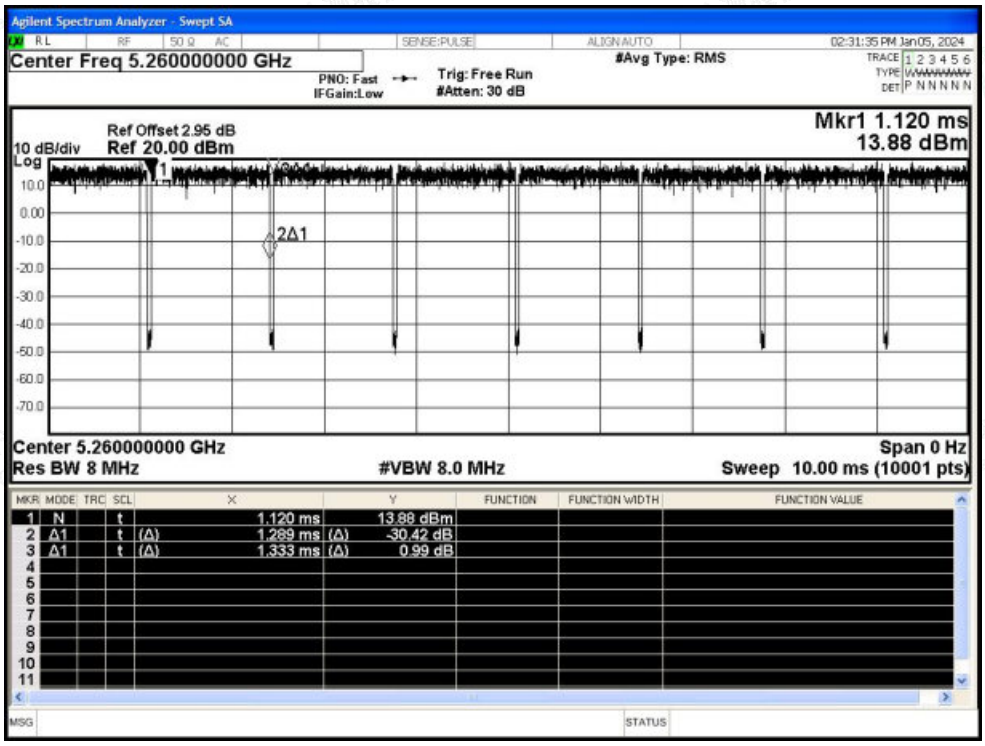
Duty Cycle NVNT a 5300MHz Ant1



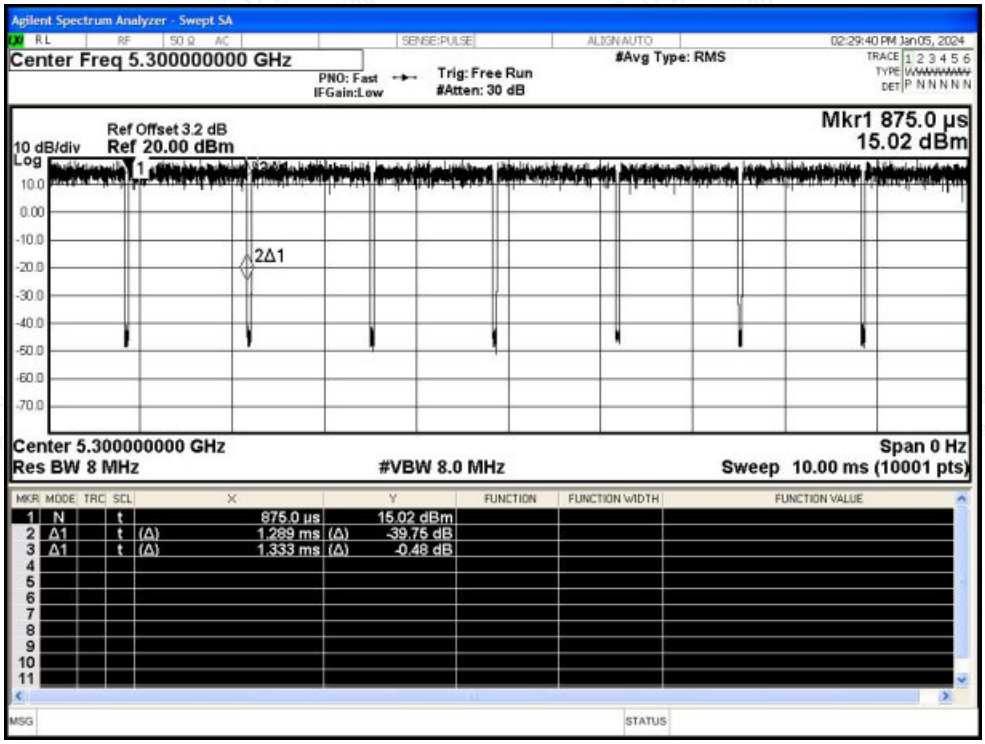
Duty Cycle NVNT a 5320MHz Ant1



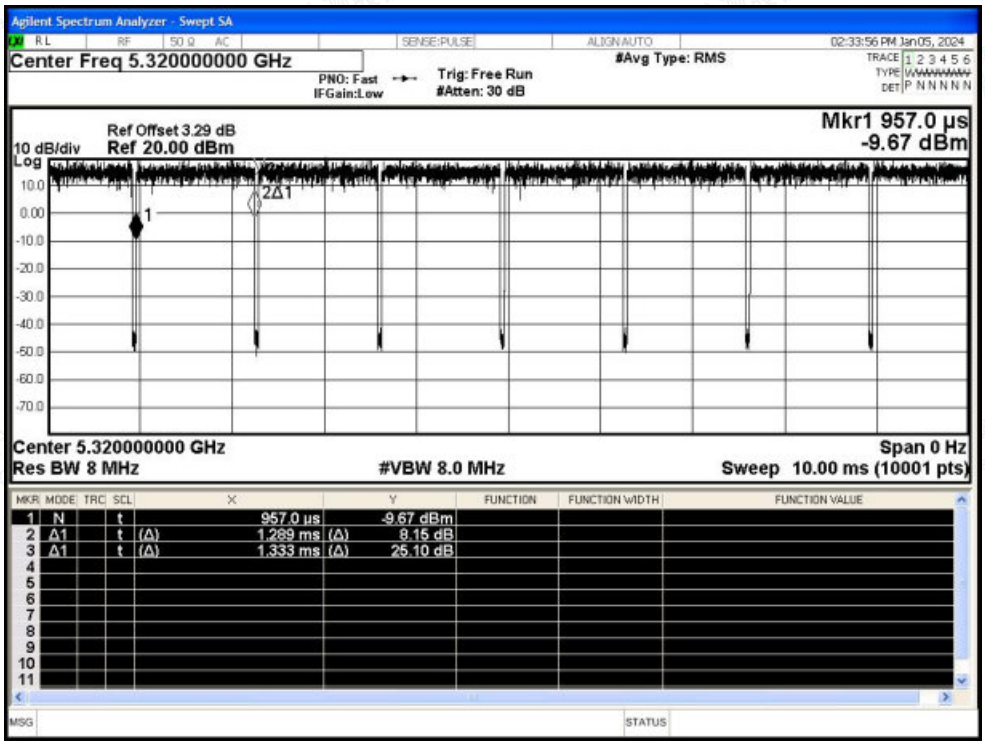
Duty Cycle NVNT n20 5260MHz Ant1



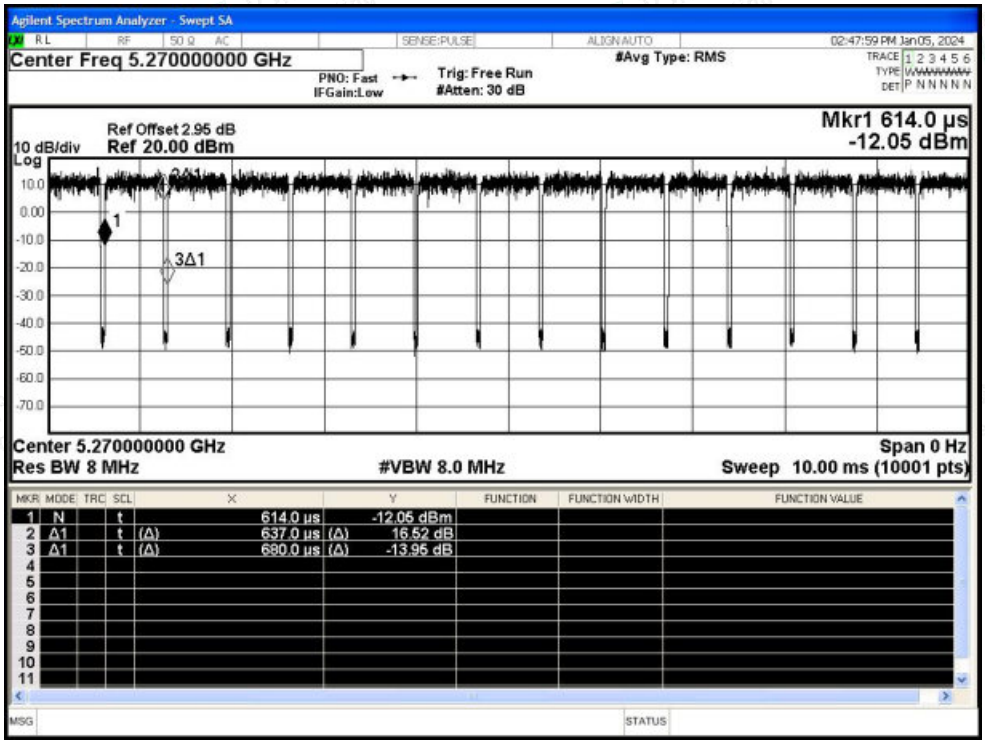
Duty Cycle NVNT n20 5300MHz Ant1



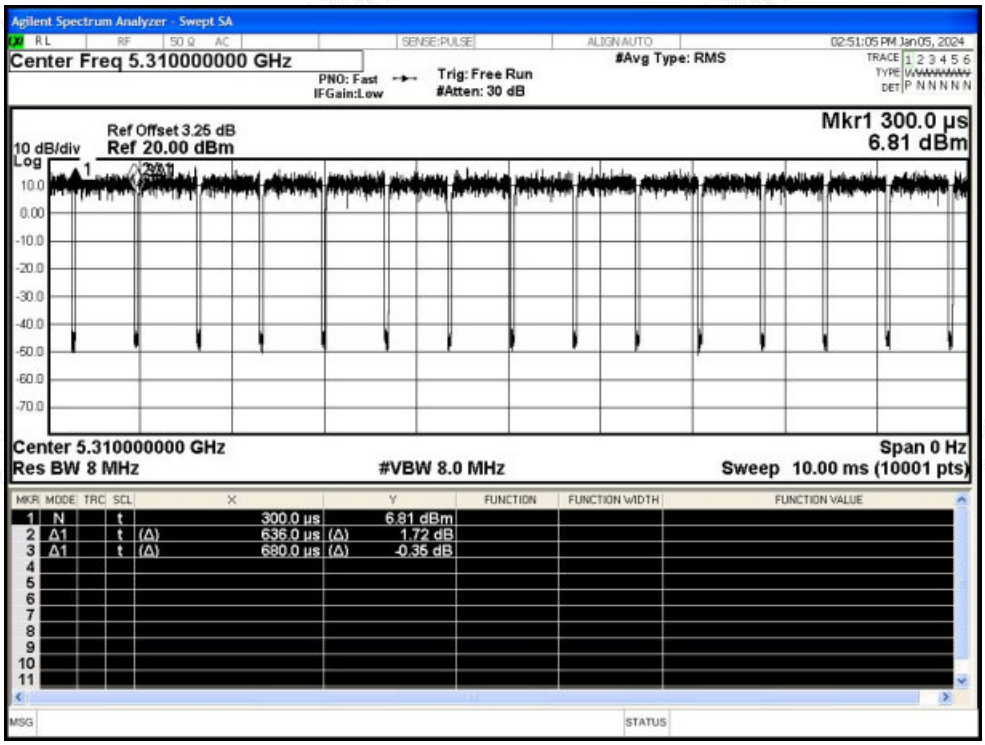
Duty Cycle NVNT n20 5320MHz Ant1



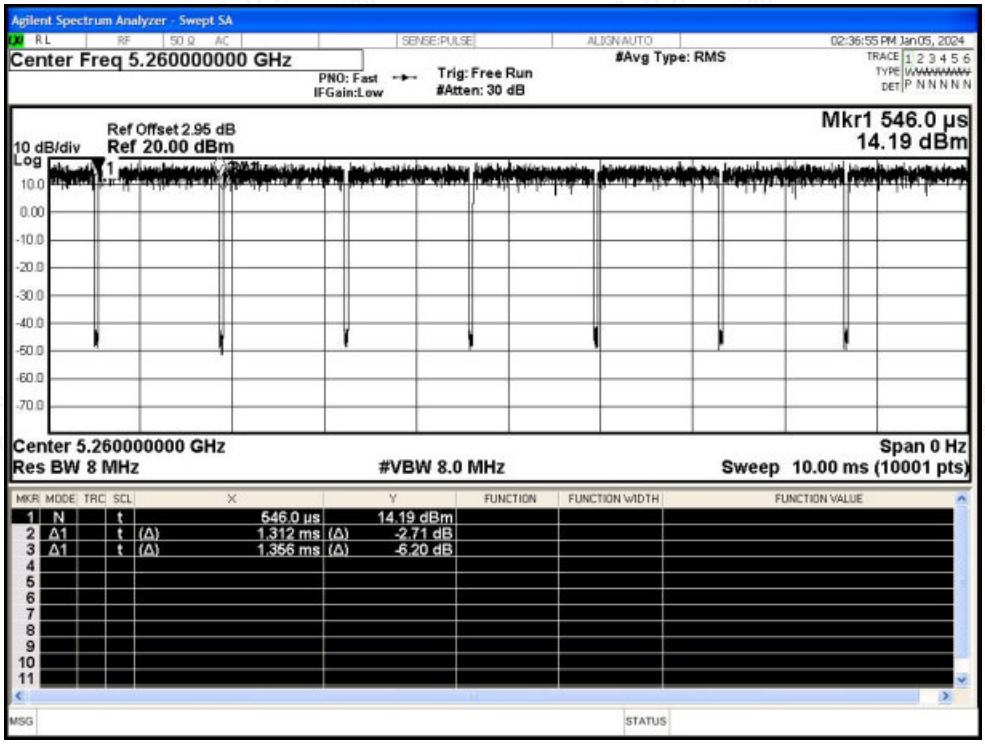
Duty Cycle NVNT n40 5270MHz Ant1



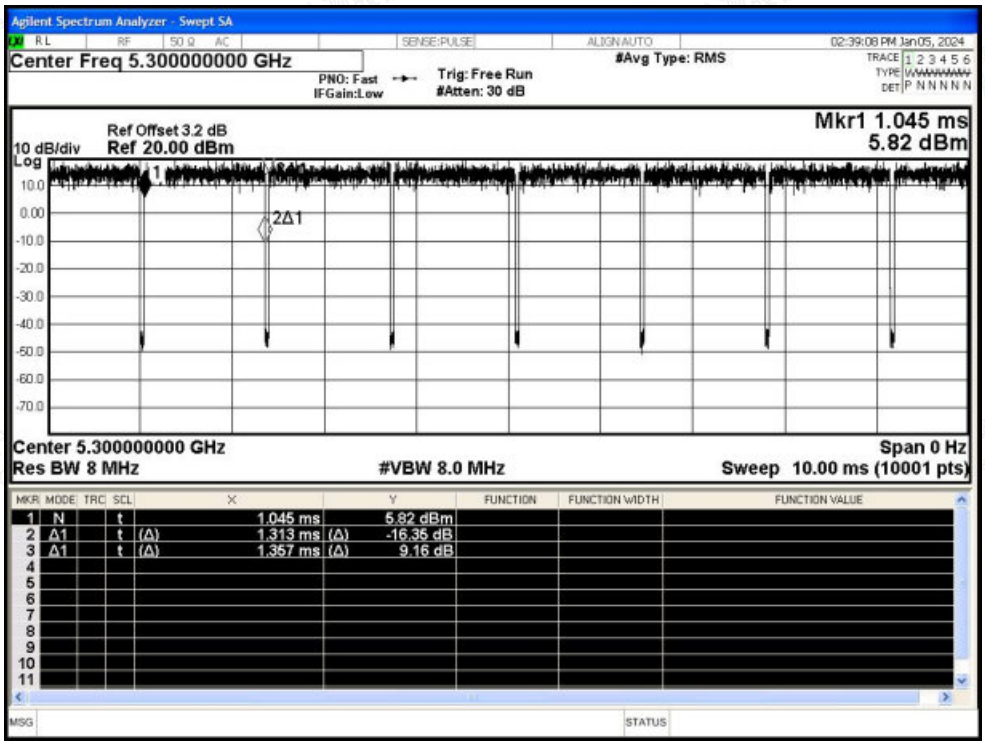
Duty Cycle NVNT n40 5310MHz Ant1



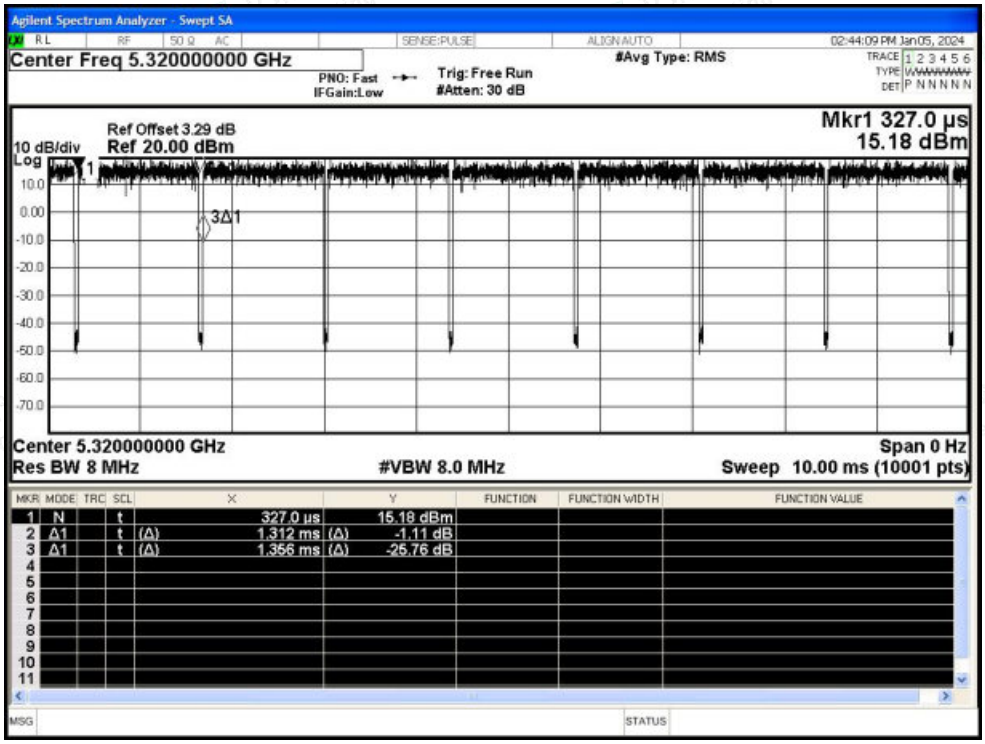
Duty Cycle NVNT ac20 5260MHz Ant1



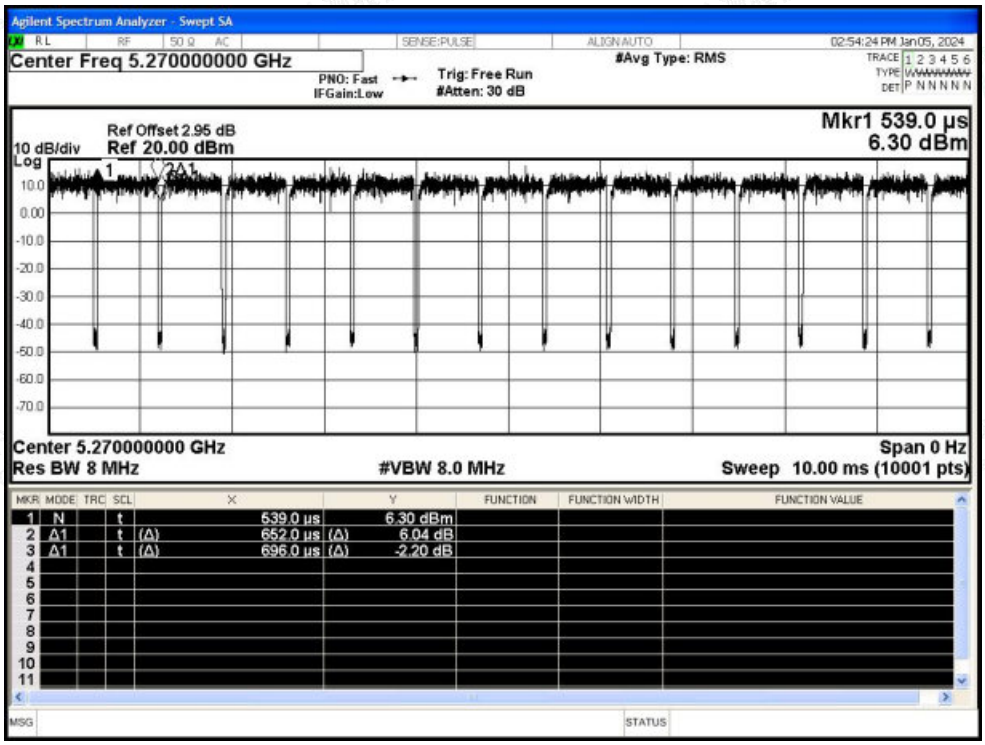
Duty Cycle NVNT ac20 5300MHz Ant1



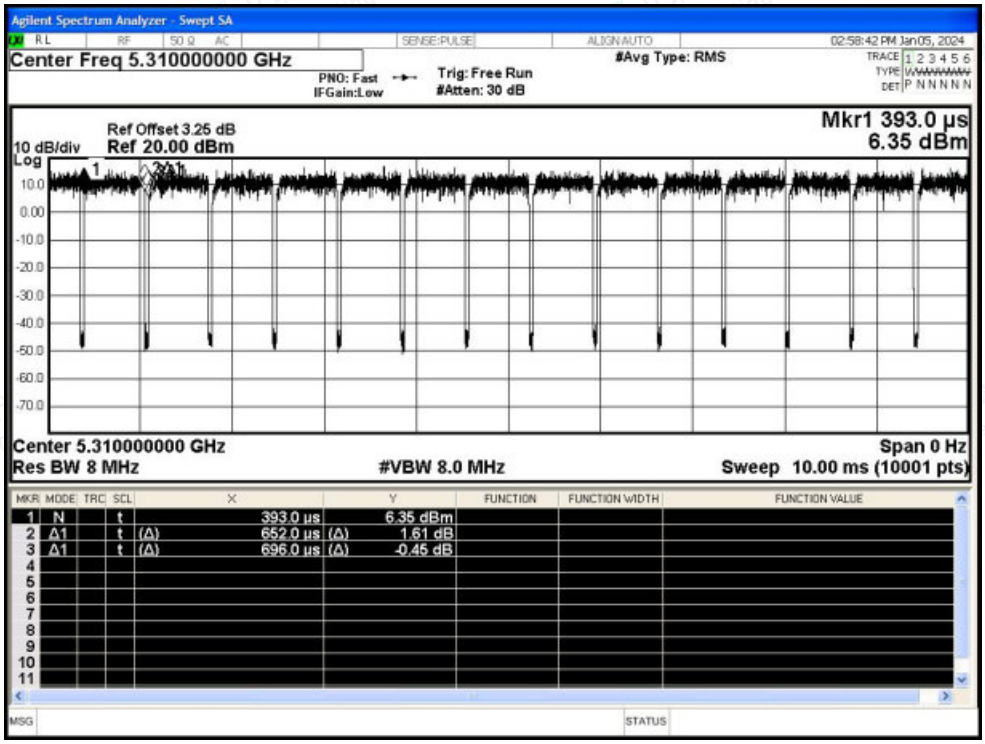
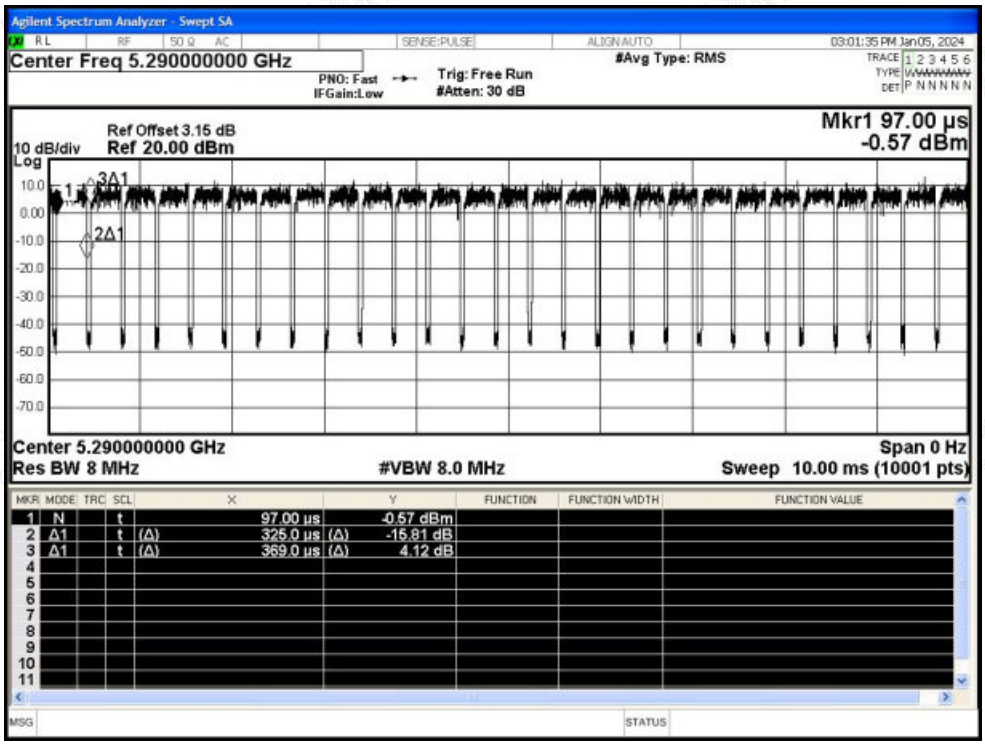
Duty Cycle NVNT ac20 5320MHz Ant1



Duty Cycle NVNT ac40 5270MHz Ant1



Duty Cycle NVNT ac40 5310MHz Ant1



Duty Cycle NVNT ac80 5290MHz Ant1