



Appendix D

RF Test Data for 5.2GWIFI (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



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D.1 -26dB Bandwidth

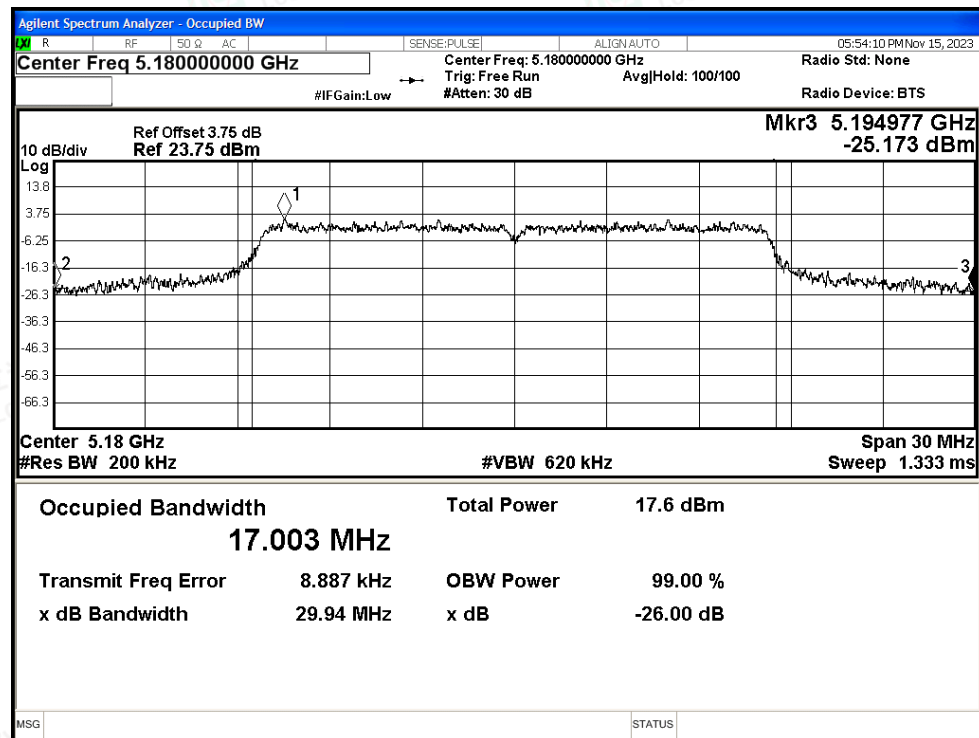
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant0	29.935	---	Pass
NVNT	a	5200	Ant0	30	---	Pass
NVNT	a	5240	Ant0	29.408	---	Pass
NVNT	n20	5180	Ant0	30	---	Pass
NVNT	n20	5200	Ant0	29.986	---	Pass
NVNT	n20	5240	Ant0	29.559	---	Pass
NVNT	n40	5190	Ant0	59.621	---	Pass
NVNT	n40	5230	Ant0	59.416	---	Pass
NVNT	ac20	5180	Ant0	29.805	---	Pass
NVNT	ac20	5200	Ant0	29.785	---	Pass
NVNT	ac20	5240	Ant0	29.726	---	Pass
NVNT	ac40	5190	Ant0	59.962	---	Pass
NVNT	ac40	5230	Ant0	59.565	---	Pass
NVNT	ac80	5210	Ant0	119.686	---	Pass



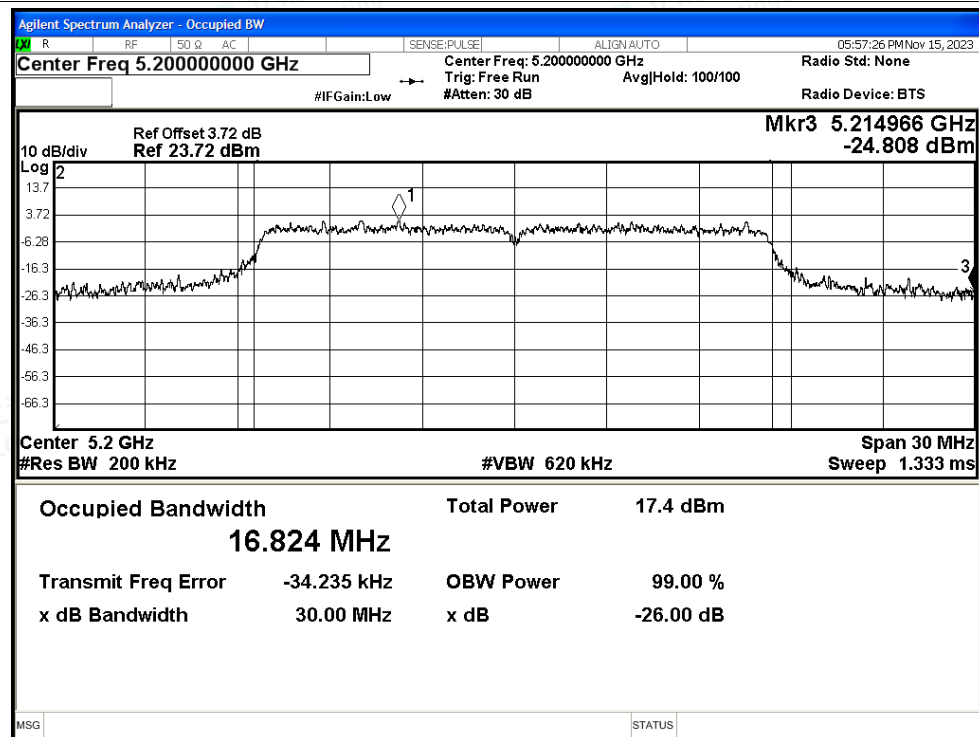


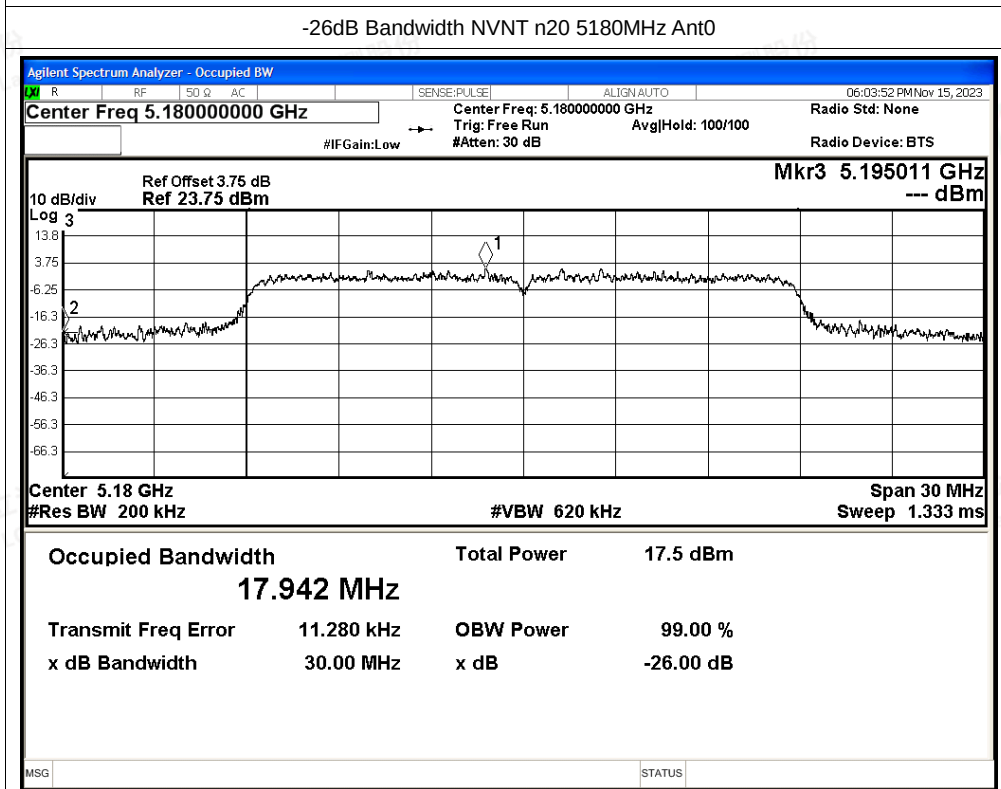
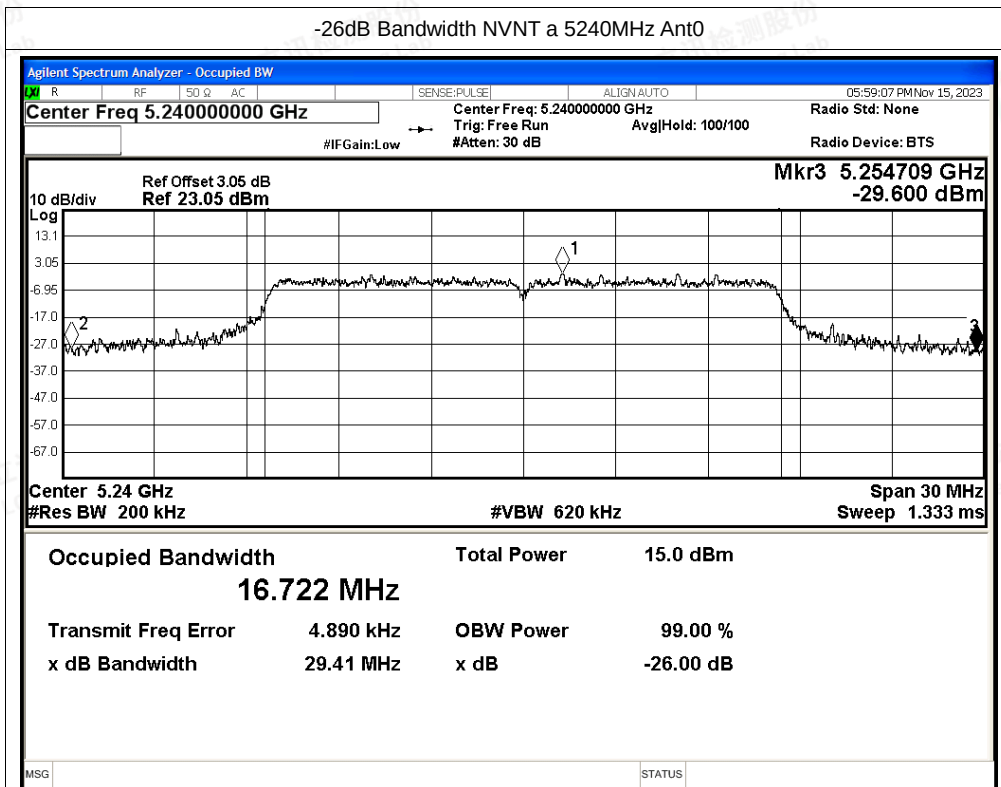
Test Graphs

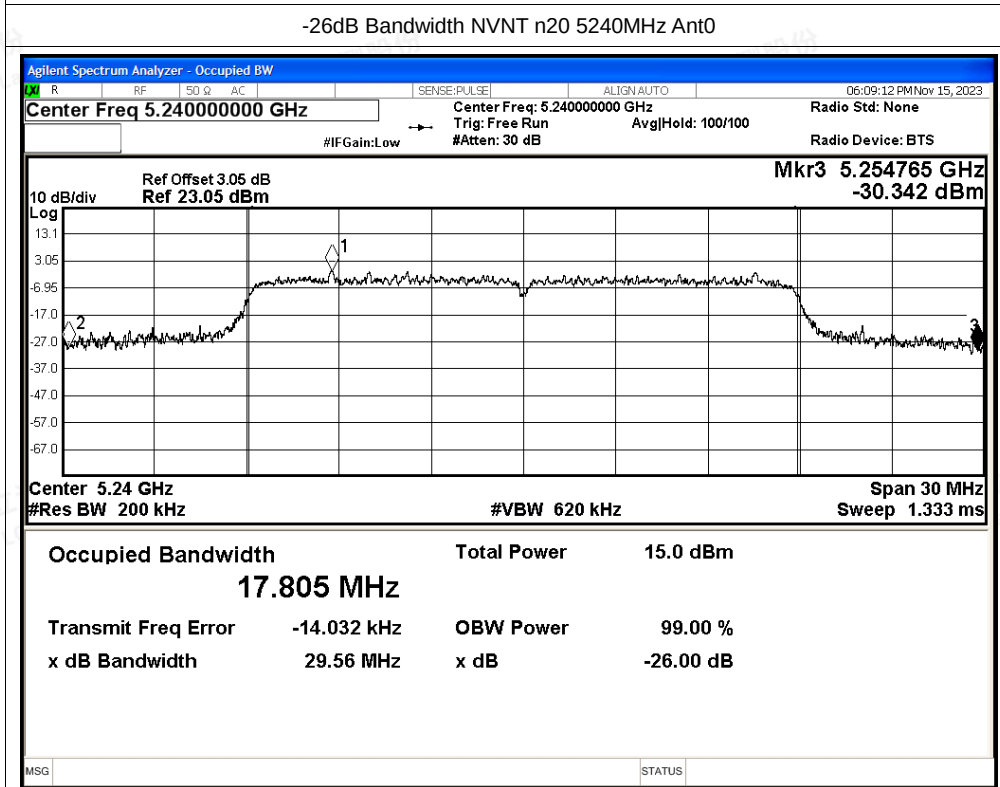
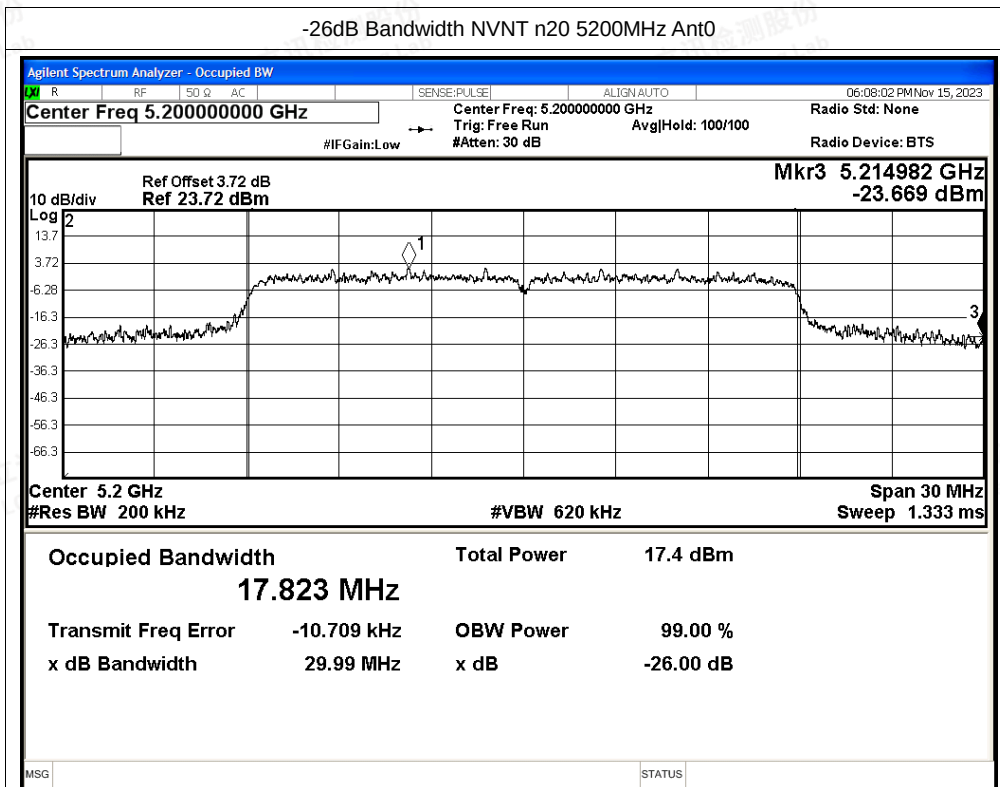
-26dB Bandwidth NVNT a 5180MHz Ant0

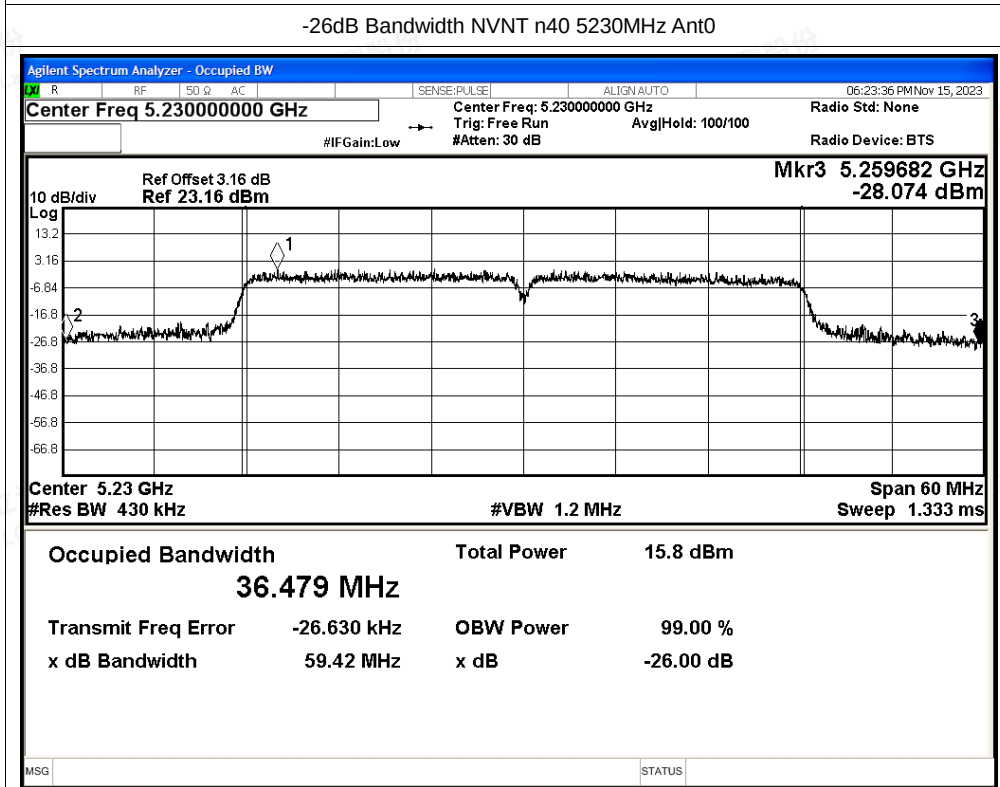
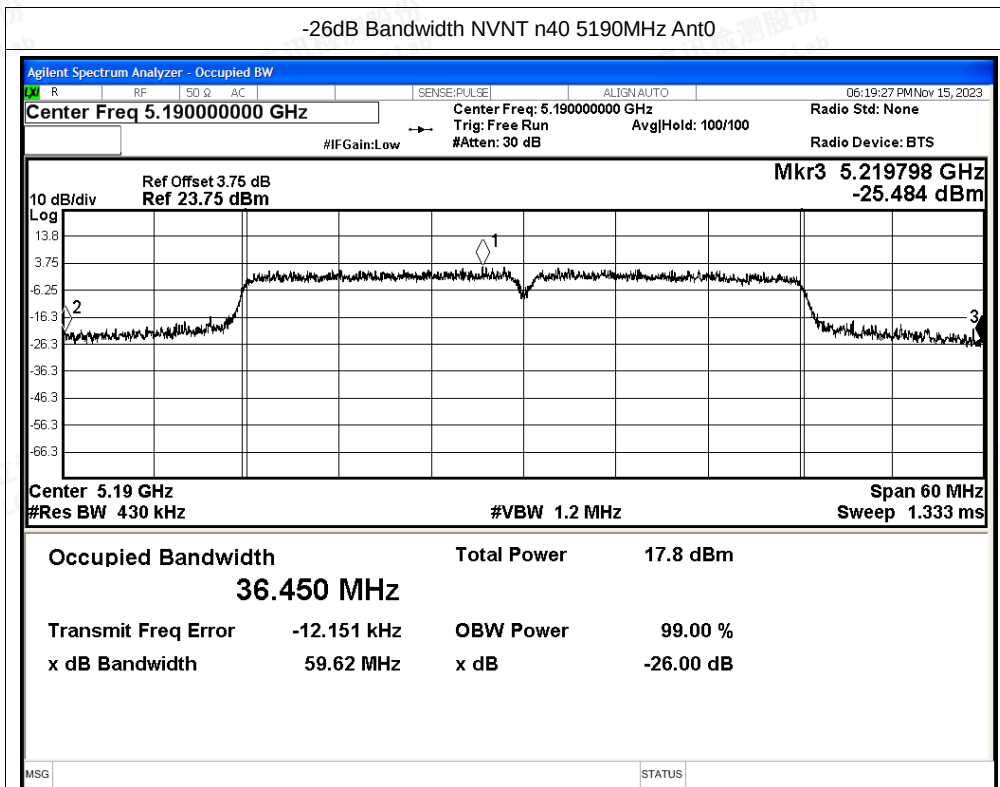


-26dB Bandwidth NVNT a 5200MHz Ant0



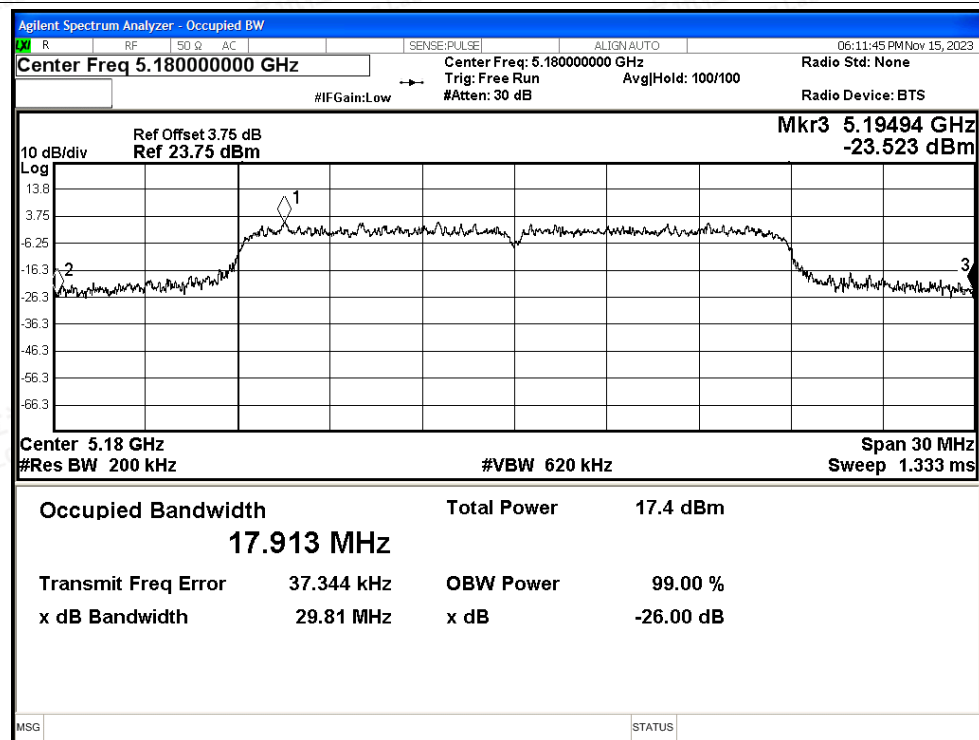




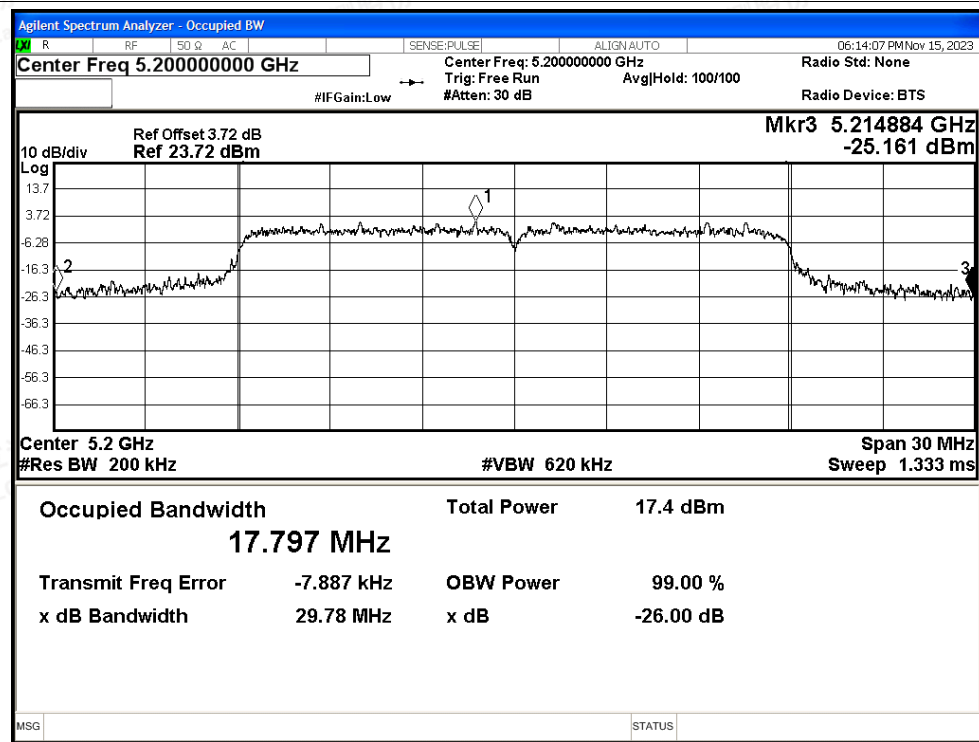




-26dB Bandwidth NVNT ac20 5180MHz Ant0

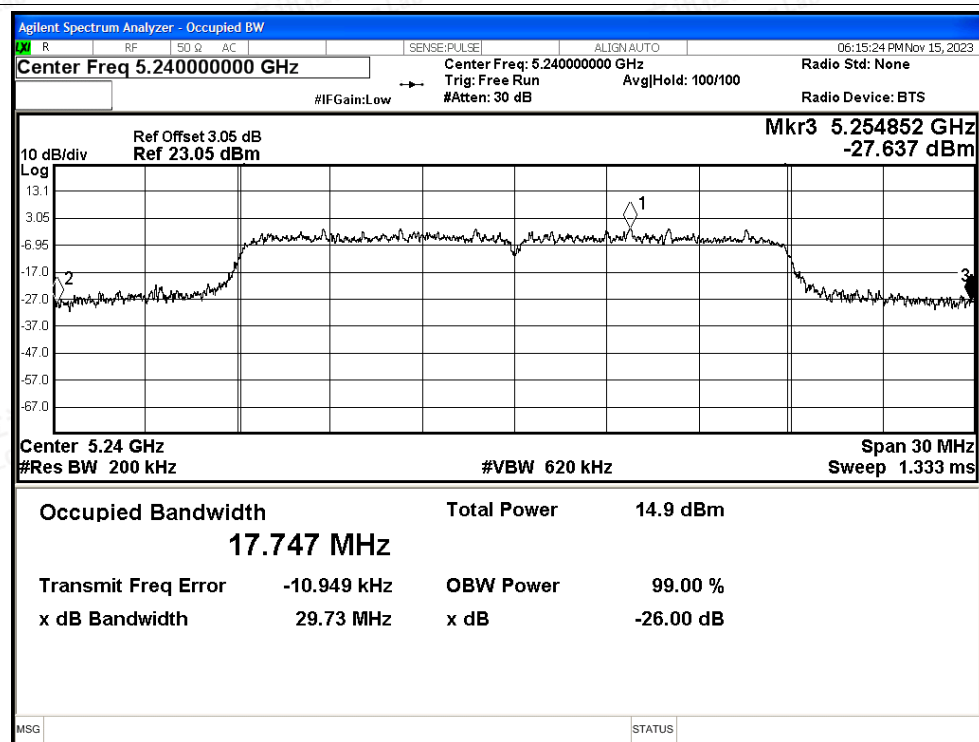


-26dB Bandwidth NVNT ac20 5200MHz Ant0

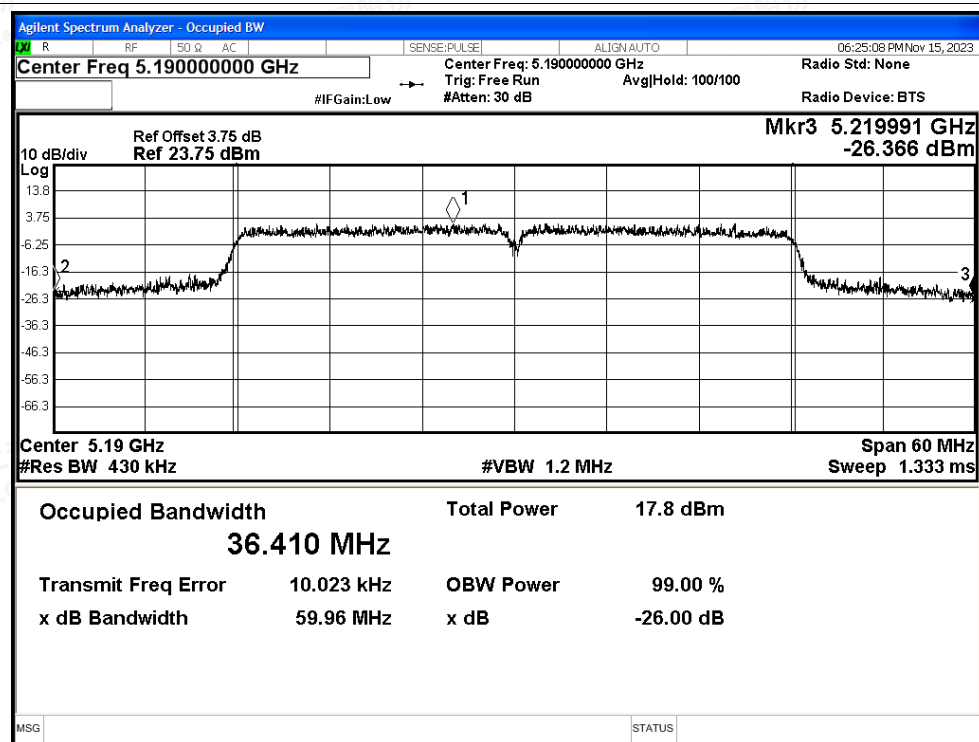




-26dB Bandwidth NVNT ac20 5240MHz Ant0

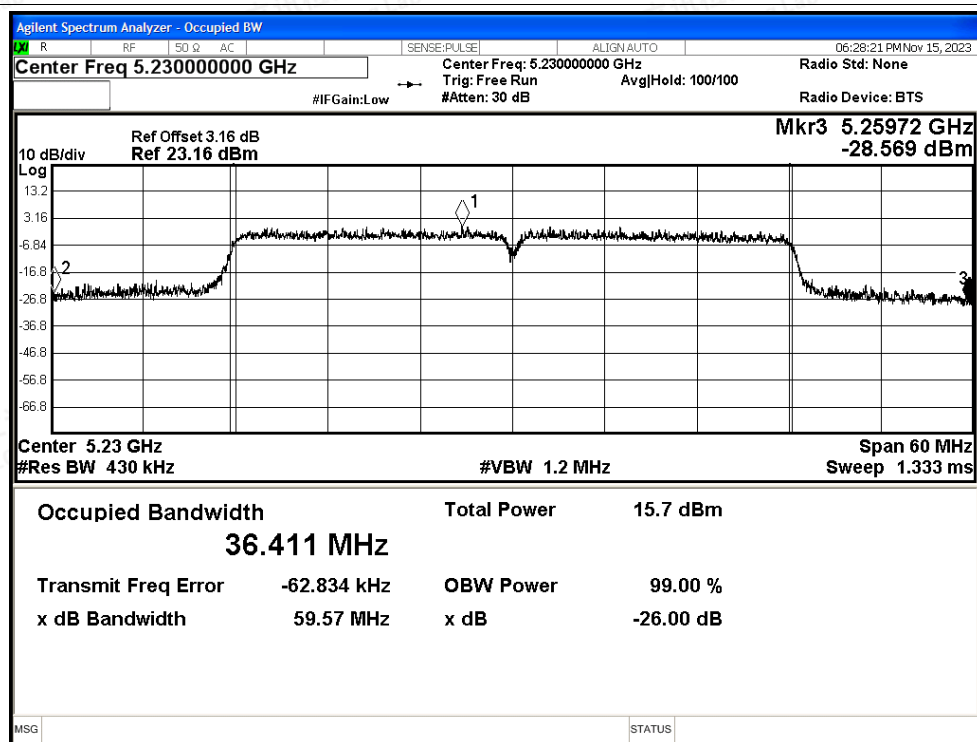


-26dB Bandwidth NVNT ac40 5190MHz Ant0

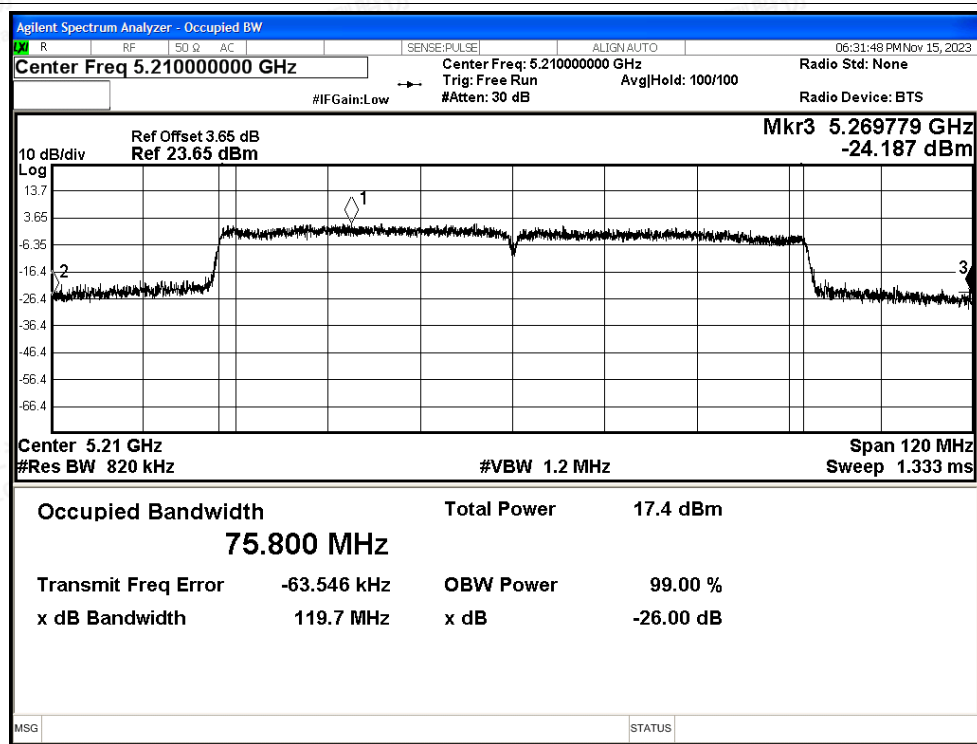




-26dB Bandwidth NVNT ac40 5230MHz Ant0



-26dB Bandwidth NVNT ac80 5210MHz Ant0





D.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant0	11.15	0.45	11.6	24	Pass
NVNT	a	5200	Ant0	11.31	0.45	11.76	24	Pass
NVNT	a	5240	Ant0	9.02	0.43	9.45	24	Pass
NVNT	n20	5180	Ant0	11.33	0.59	11.92	24	Pass
NVNT	n20	5200	Ant0	11.25	0.53	11.78	24	Pass
NVNT	n20	5240	Ant0	8.95	0.53	9.48	24	Pass
NVNT	n40	5190	Ant0	11.17	0.94	12.11	24	Pass
NVNT	n40	5230	Ant0	9.27	0.94	10.21	24	Pass
NVNT	ac20	5180	Ant0	11.39	0.5	11.89	24	Pass
NVNT	ac20	5200	Ant0	11.36	0.53	11.89	24	Pass
NVNT	ac20	5240	Ant0	8.84	0.5	9.34	24	Pass
NVNT	ac40	5190	Ant0	11.09	0.99	12.08	24	Pass
NVNT	ac40	5230	Ant0	9.12	0.99	10.11	24	Pass
NVNT	ac80	5210	Ant0	9.47	1.71	11.18	24	Pass



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D.3 Maximum Power Spectral Density Level

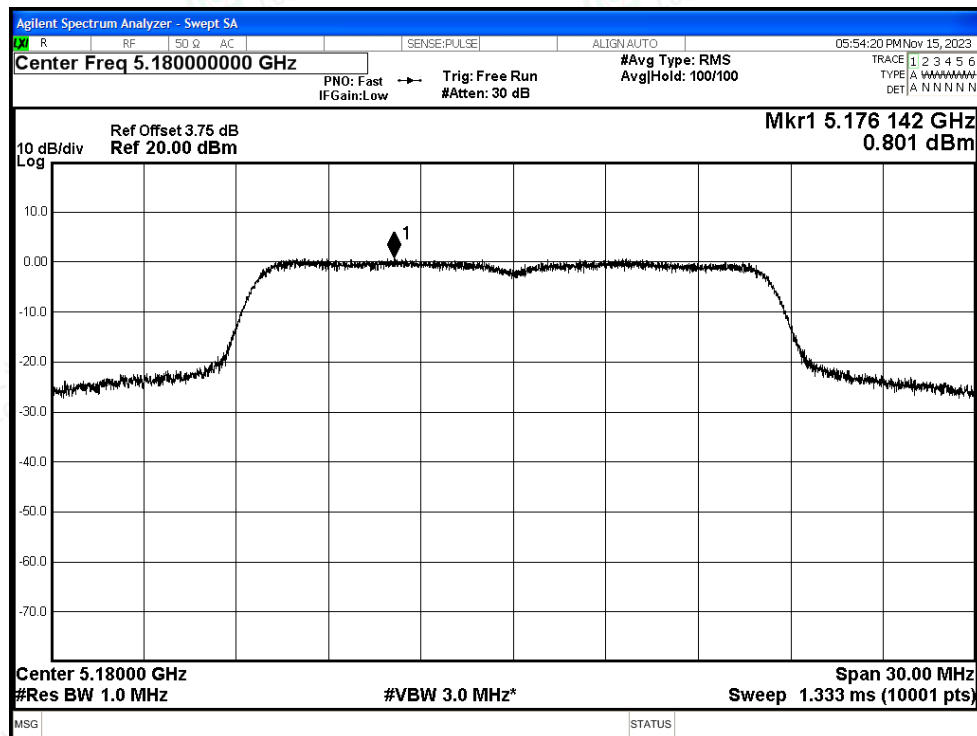
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant0	0.8	0.45	1.25	11	Pass
NVNT	a	5200	Ant0	0.81	0.45	1.26	11	Pass
NVNT	a	5240	Ant0	-1.49	0.43	-1.06	11	Pass
NVNT	n20	5180	Ant0	0.66	0.59	1.25	11	Pass
NVNT	n20	5200	Ant0	0.59	0.53	1.12	11	Pass
NVNT	n20	5240	Ant0	-1.65	0.53	-1.12	11	Pass
NVNT	n40	5190	Ant0	-2.23	0.94	-1.29	11	Pass
NVNT	n40	5230	Ant0	-4.46	0.94	-3.52	11	Pass
NVNT	ac20	5180	Ant0	0.55	0.5	1.05	11	Pass
NVNT	ac20	5200	Ant0	0.66	0.53	1.19	11	Pass
NVNT	ac20	5240	Ant0	-1.87	0.5	-1.37	11	Pass
NVNT	ac40	5190	Ant0	-2.17	0.99	-1.18	11	Pass
NVNT	ac40	5230	Ant0	-4.29	0.99	-3.3	11	Pass
NVNT	ac80	5210	Ant0	-6.63	1.71	-4.92	11	Pass



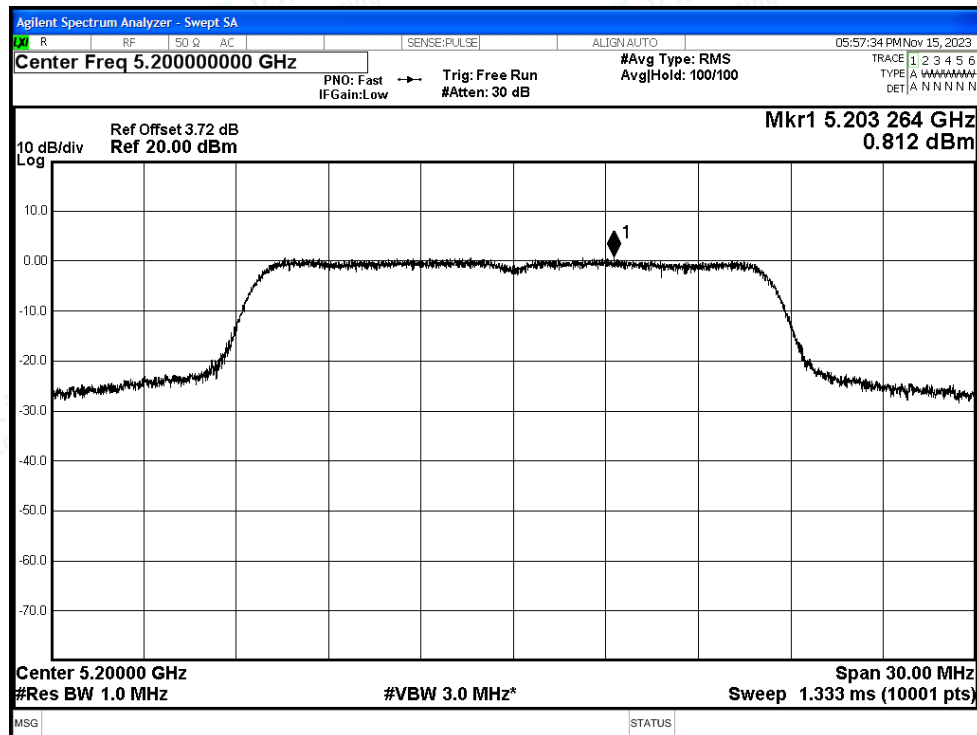


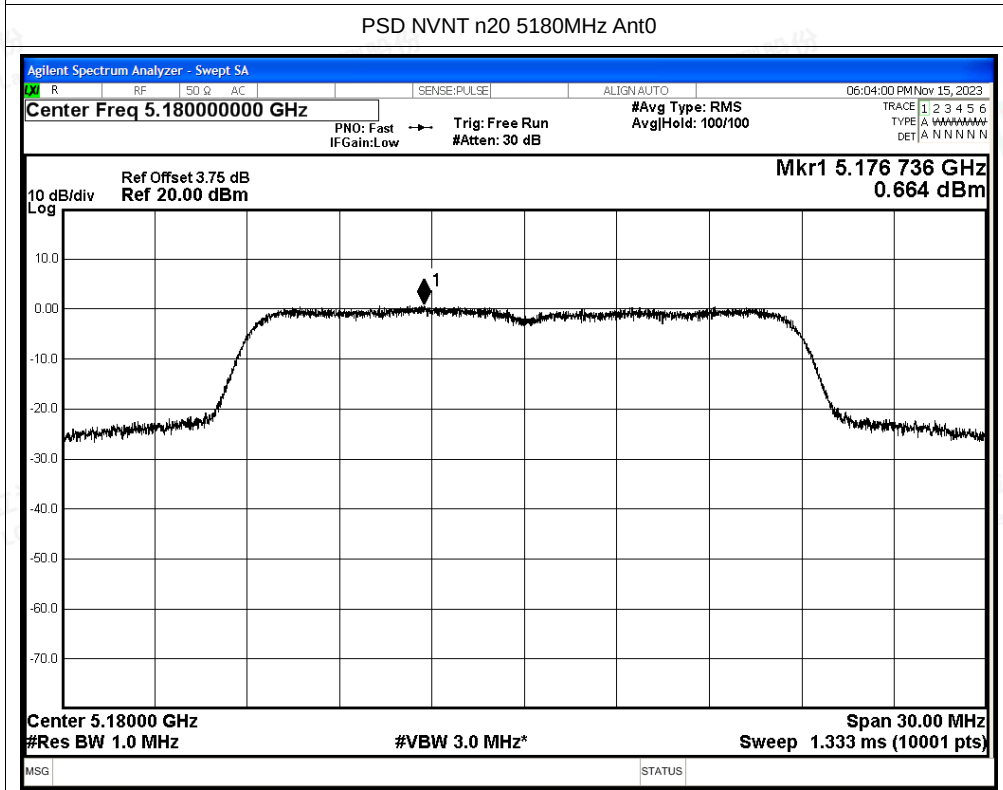
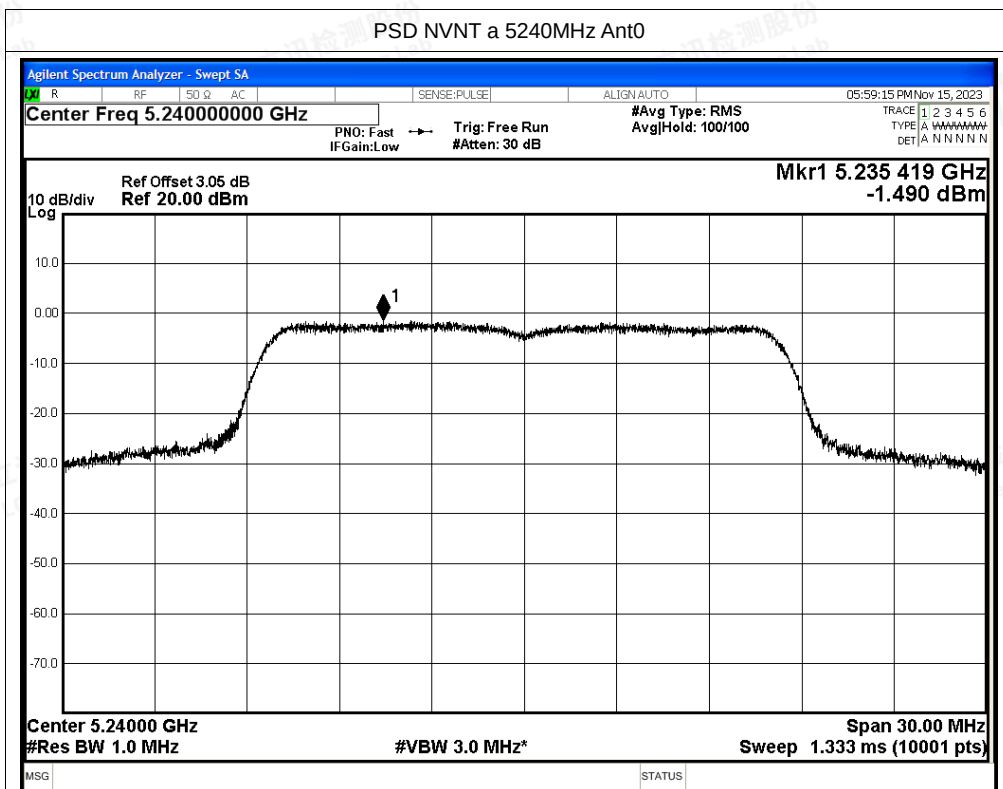
Test Graphs

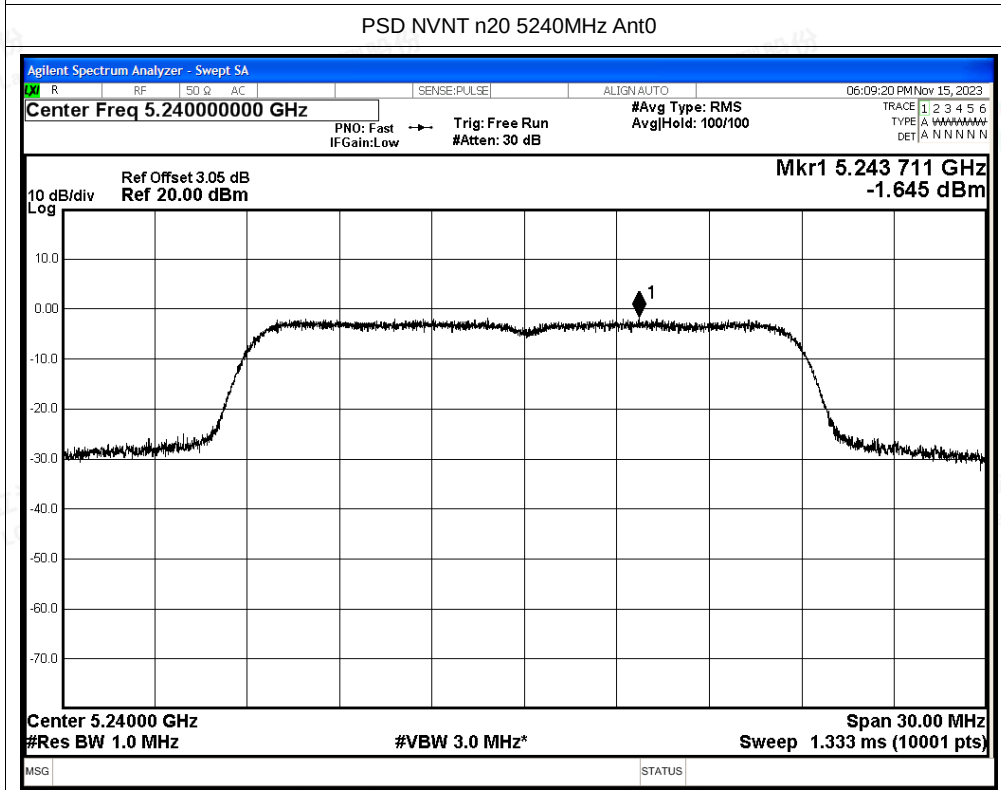
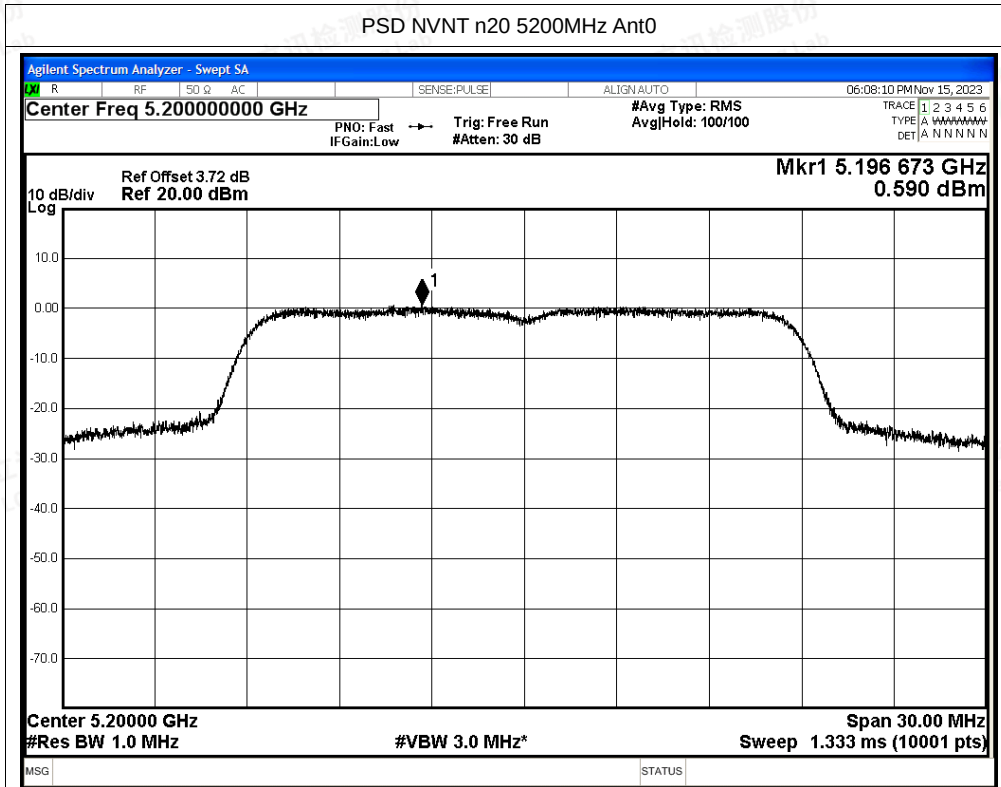
PSD NVNT a 5180MHz Ant0

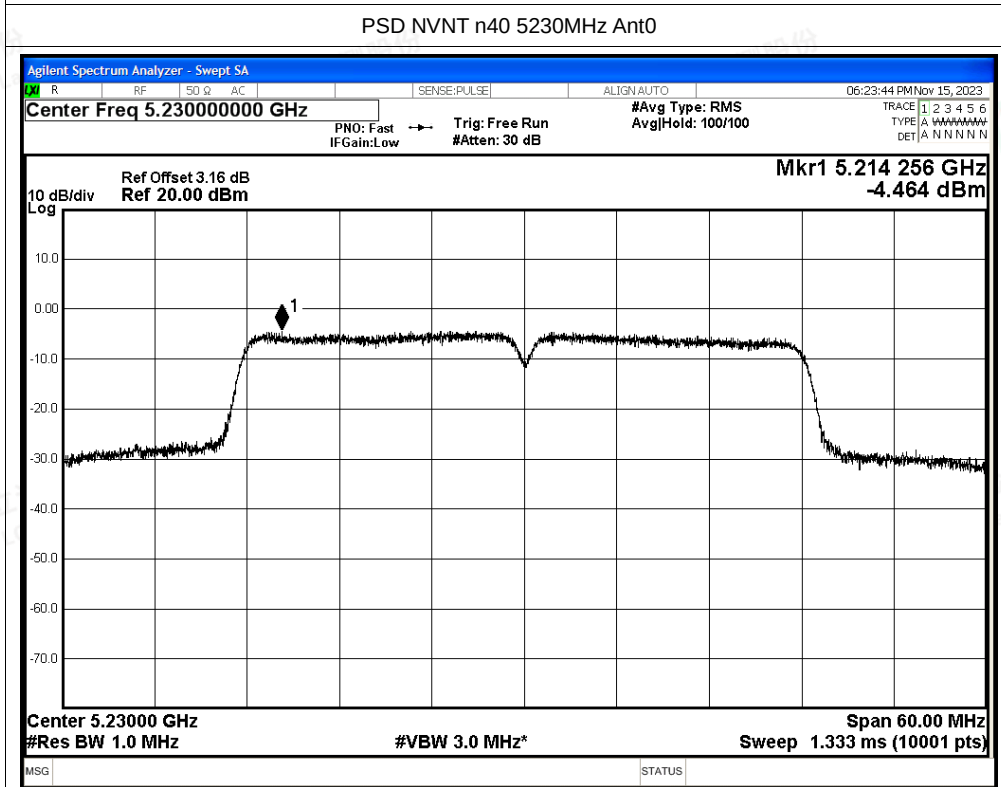
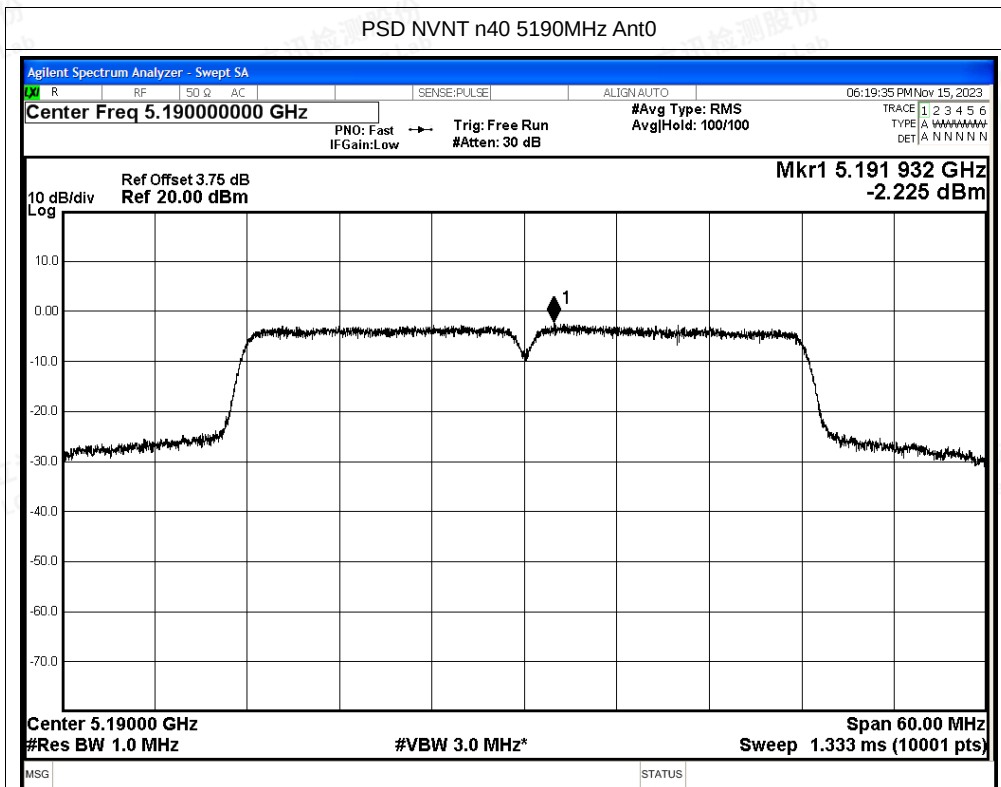


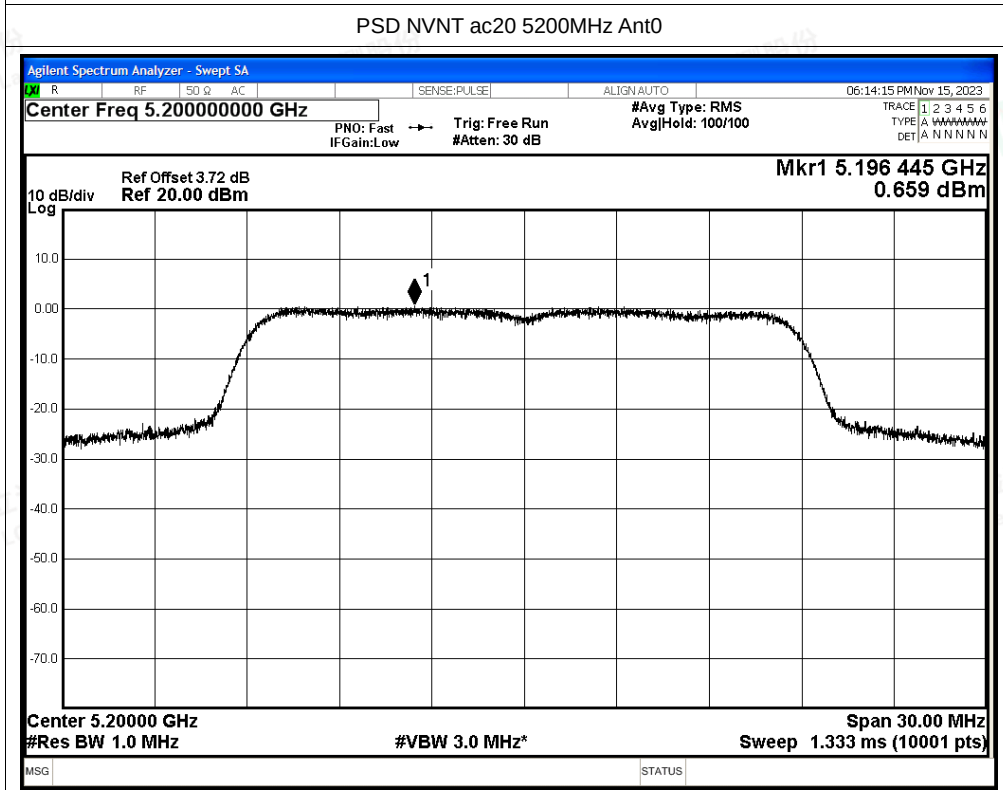
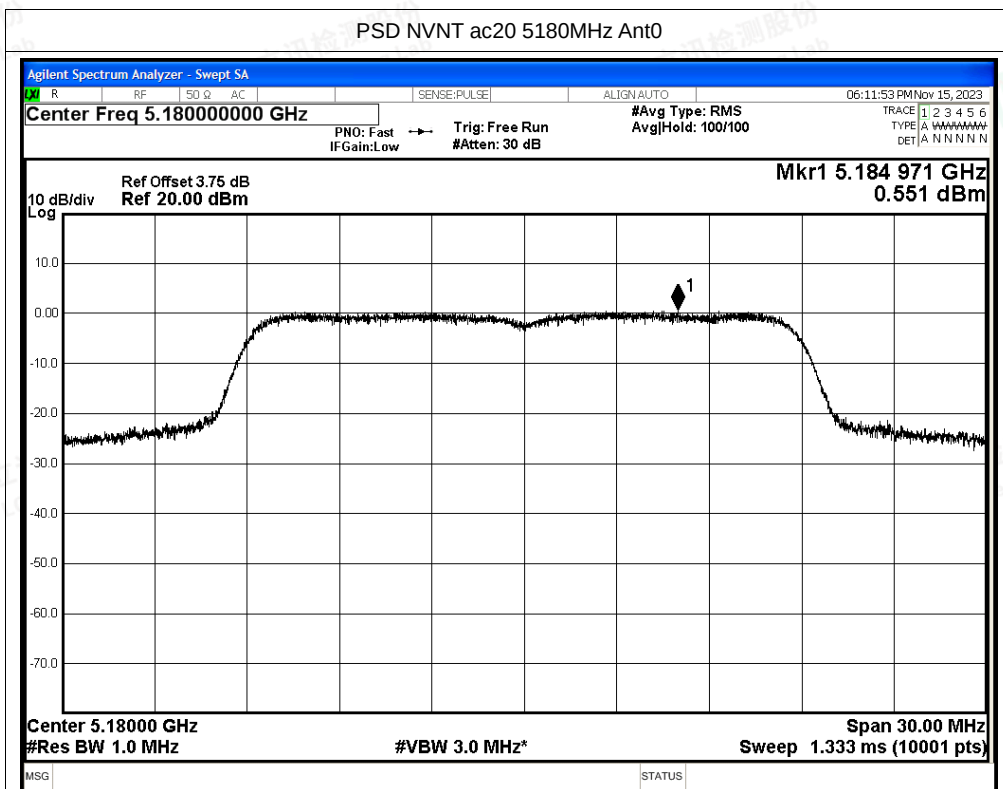
PSD NVNT a 5200MHz Ant0

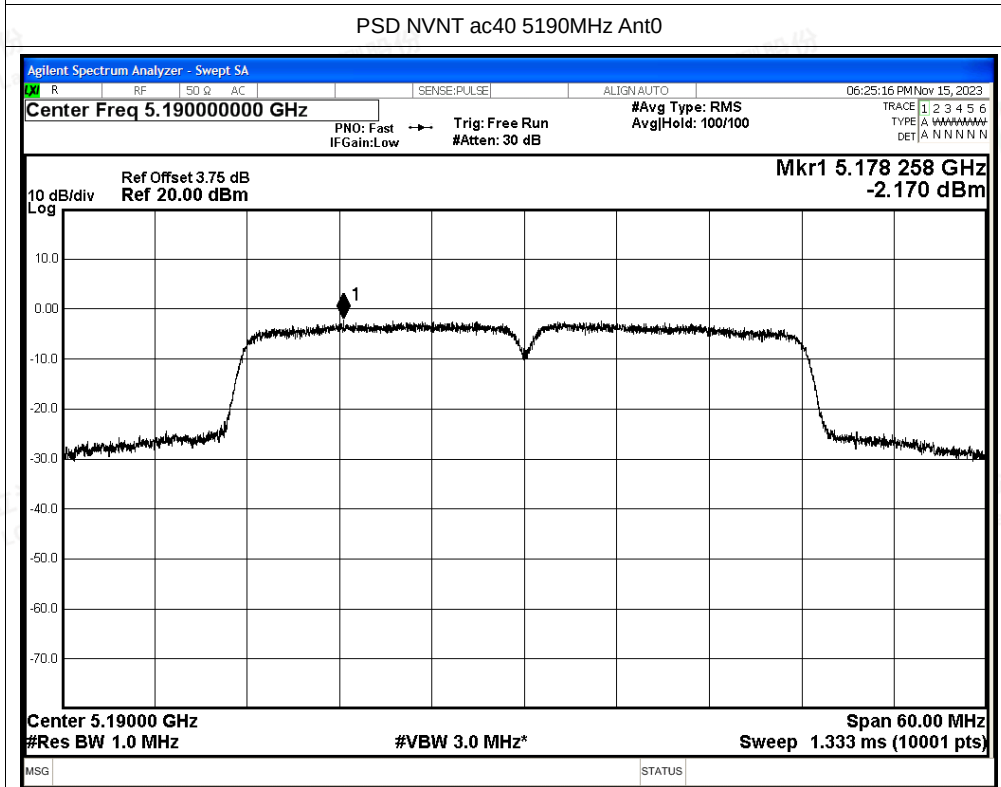
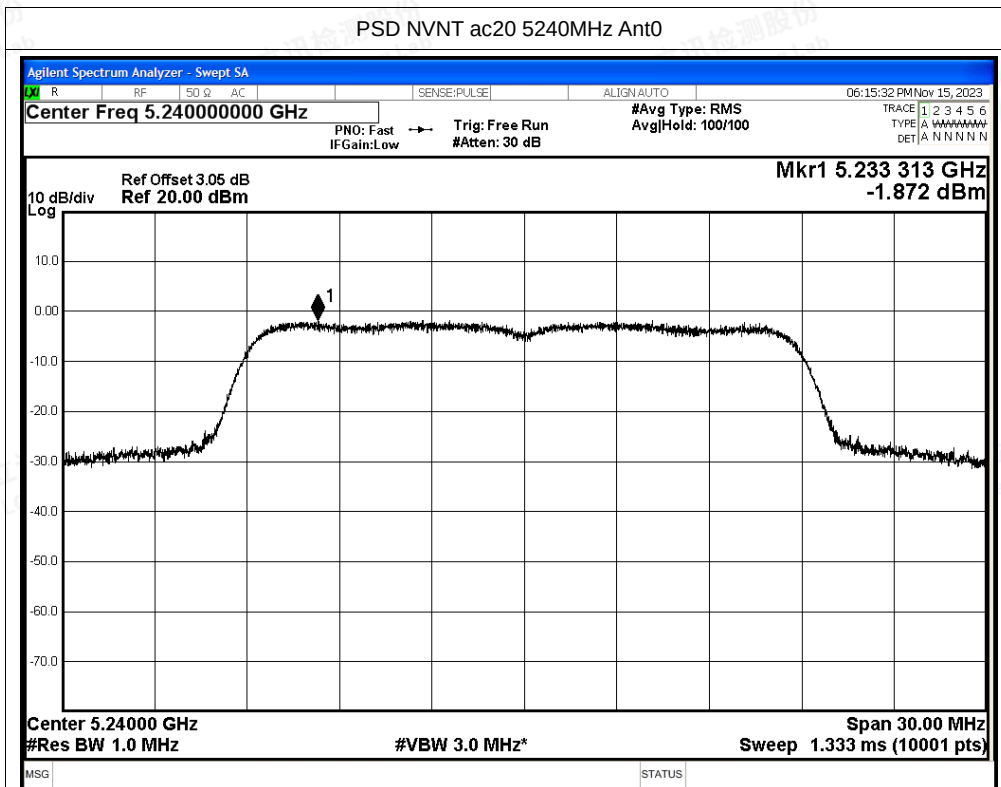


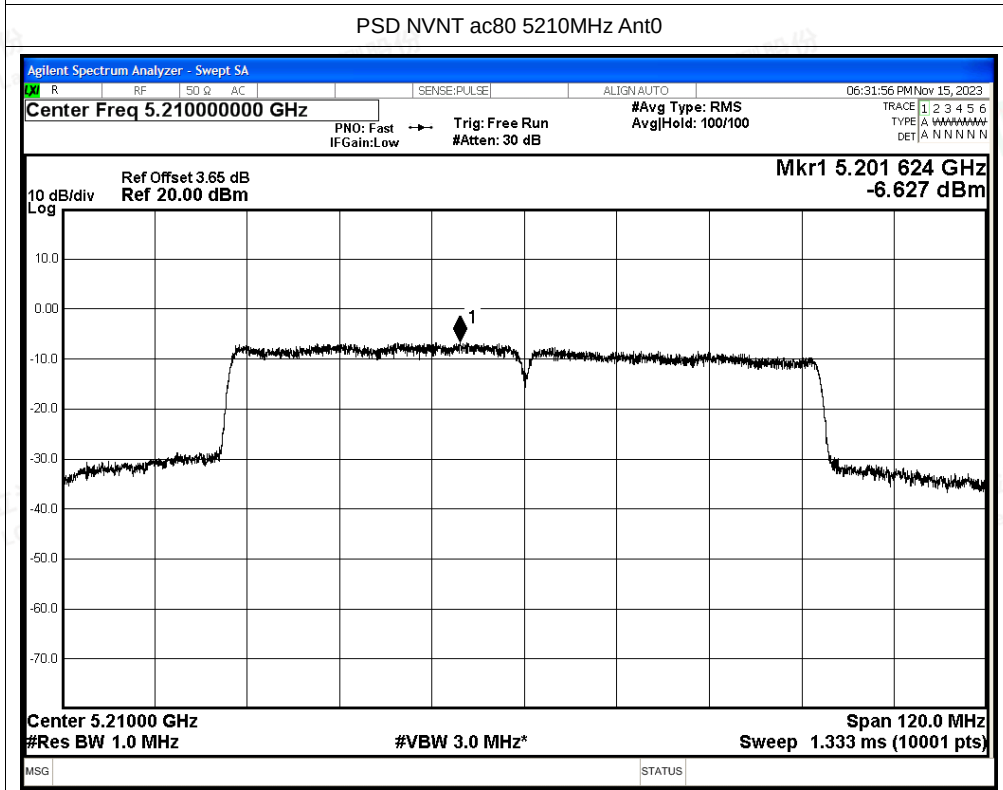
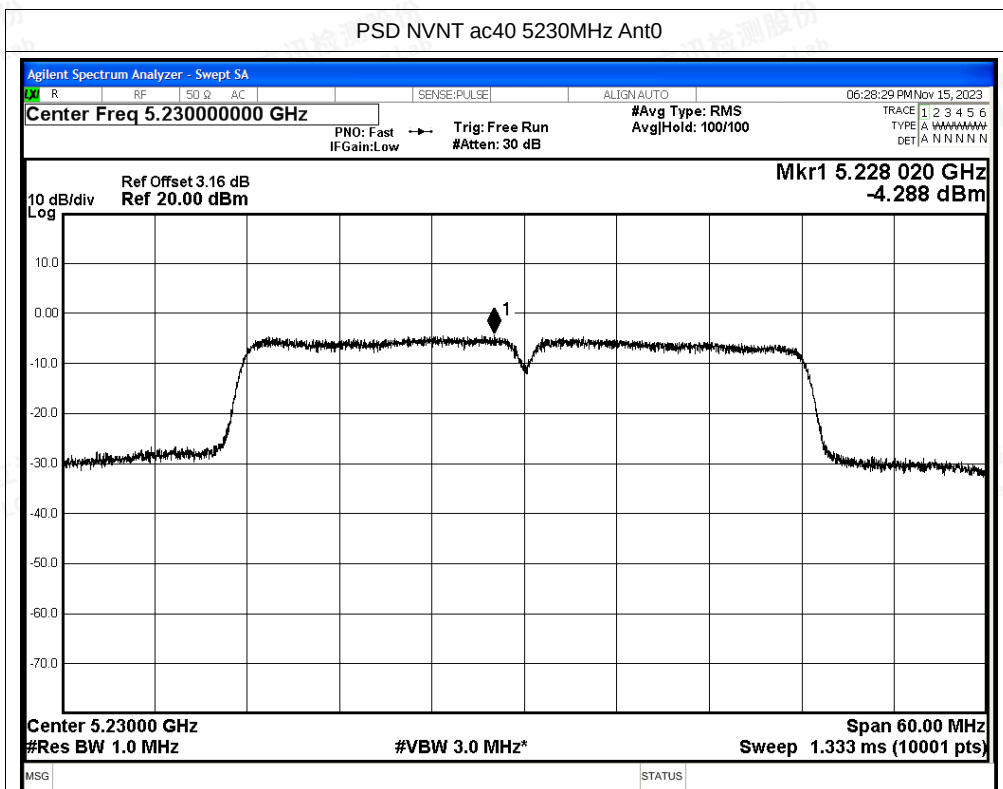














D.4 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant0	4500	-50.36	2	46.87	Peak	68.2	Pass
NVNT	a	5180	Ant0	4500	-57.28	2	39.95	Average	54	Pass
NVNT	a	5180	Ant0	4969	-45.54	2	51.69	Peak	68.2	Pass
NVNT	a	5180	Ant0	5149.6	-53.76	2	43.47	Average	54	Pass
NVNT	a	5180	Ant0	5150	-44.57	2	52.66	Peak	68.2	Pass
NVNT	a	5180	Ant0	5150	-53.54	2	43.69	Average	54	Pass
NVNT	a	5240	Ant0	5350	-50.18	2	47.05	Peak	68.2	Pass
NVNT	a	5240	Ant0	5350	-57.01	2	40.22	Average	54	Pass
NVNT	a	5240	Ant0	5354.88	-46.98	2	50.25	Peak	68.2	Pass
NVNT	a	5240	Ant0	5384.4	-56.83	2	40.4	Average	54	Pass
NVNT	a	5240	Ant0	5460	-50.87	2	46.36	Peak	68.2	Pass
NVNT	a	5240	Ant0	5460	-57.11	2	40.12	Average	54	Pass
NVNT	n20	5180	Ant0	4500	-47.84	2	49.39	Peak	68.2	Pass
NVNT	n20	5180	Ant0	4500	-57.08	2	40.15	Average	54	Pass
NVNT	n20	5180	Ant0	5149.6	-45.01	2	52.22	Peak	68.2	Pass
NVNT	n20	5180	Ant0	5149.6	-52.75	2	44.48	Average	54	Pass
NVNT	n20	5180	Ant0	5150	-40.8	2	56.43	Peak	68.2	Pass
NVNT	n20	5180	Ant0	5150	-52.63	2	44.6	Average	54	Pass
NVNT	n20	5240	Ant0	5350	-49.41	2	47.82	Peak	68.2	Pass
NVNT	n20	5240	Ant0	5350	-56.94	2	40.29	Average	54	Pass
NVNT	n20	5240	Ant0	5352.24	-46.57	2	50.66	Peak	68.2	Pass
NVNT	n20	5240	Ant0	5352.72	-56.68	2	40.55	Average	54	Pass
NVNT	n20	5240	Ant0	5460	-50.73	2	46.5	Peak	68.2	Pass
NVNT	n20	5240	Ant0	5460	-57.24	2	39.99	Average	54	Pass
NVNT	n40	5190	Ant0	4500	-49.8	2	47.43	Peak	68.2	Pass
NVNT	n40	5190	Ant0	4500	-56.88	2	40.35	Average	54	Pass
NVNT	n40	5190	Ant0	5066.48	-46.17	2	51.06	Peak	68.2	Pass
NVNT	n40	5190	Ant0	5149.7	-53	2	44.23	Average	54	Pass
NVNT	n40	5190	Ant0	5150	-46.69	2	50.54	Peak	68.2	Pass
NVNT	n40	5190	Ant0	5150	-53	2	44.23	Average	54	Pass
NVNT	n40	5230	Ant0	5350	-50.26	2	46.97	Peak	68.2	Pass
NVNT	n40	5230	Ant0	5350	-56.55	2	40.68	Average	54	Pass
NVNT	n40	5230	Ant0	5392.77	-46.68	2	50.55	Peak	68.2	Pass
NVNT	n40	5230	Ant0	5372.52	-56.29	2	40.94	Average	54	Pass
NVNT	n40	5230	Ant0	5460	-50.44	2	46.79	Peak	68.2	Pass
NVNT	n40	5230	Ant0	5460	-56.88	2	40.35	Average	54	Pass
NVNT	ac20	5180	Ant0	4500	-49.1	2	48.13	Peak	68.2	Pass





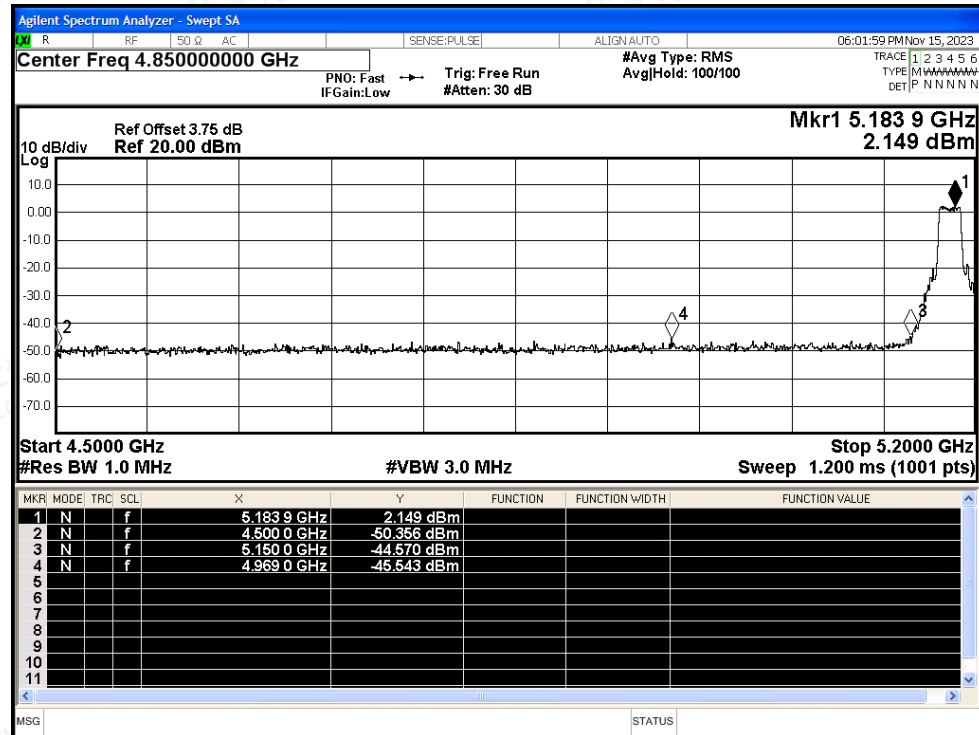
NVNT	ac20	5180	Ant0	4500	-57.22	2	40.01	Average	54	Pass
NVNT	ac20	5180	Ant0	4817.8	-46.31	2	50.92	Peak	68.2	Pass
NVNT	ac20	5180	Ant0	5149.6	-55	2	42.23	Average	54	Pass
NVNT	ac20	5180	Ant0	5150	-46.02	2	51.21	Peak	68.2	Pass
NVNT	ac20	5180	Ant0	5150	-54.83	2	42.4	Average	54	Pass
NVNT	ac20	5240	Ant0	5350	-48.87	2	48.36	Peak	68.2	Pass
NVNT	ac20	5240	Ant0	5350	-56.94	2	40.29	Average	54	Pass
NVNT	ac20	5240	Ant0	5364.96	-47.21	2	50.02	Peak	68.2	Pass
NVNT	ac20	5240	Ant0	5392.8	-56.76	2	40.47	Average	54	Pass
NVNT	ac20	5240	Ant0	5460	-49.75	2	47.48	Peak	68.2	Pass
NVNT	ac20	5240	Ant0	5460	-57.09	2	40.14	Average	54	Pass
NVNT	ac40	5190	Ant0	4500	-49.54	2	47.69	Peak	68.2	Pass
NVNT	ac40	5190	Ant0	4500	-57	2	40.23	Average	54	Pass
NVNT	ac40	5190	Ant0	5149.7	-35.09	2	62.14	Peak	68.2	Pass
NVNT	ac40	5190	Ant0	5149.7	-43.64	2	53.59	Average	54	Pass
NVNT	ac40	5190	Ant0	5150	-35.09	2	62.14	Peak	68.2	Pass
NVNT	ac40	5190	Ant0	5150	-43.64	2	53.59	Average	54	Pass
NVNT	ac40	5230	Ant0	5350	-50.89	2	46.34	Peak	68.2	Pass
NVNT	ac40	5230	Ant0	5350	-56.45	2	40.78	Average	54	Pass
NVNT	ac40	5230	Ant0	5365.23	-47.49	2	49.74	Peak	68.2	Pass
NVNT	ac40	5230	Ant0	5383.59	-56.24	2	40.99	Average	54	Pass
NVNT	ac40	5230	Ant0	5460	-49.5	2	47.73	Peak	68.2	Pass
NVNT	ac40	5230	Ant0	5460	-56.67	2	40.56	Average	54	Pass
NVNT	ac80	5210	Ant0	5350	-41.81	2	55.42	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	5350	-49.14	2	48.09	Average	54	Pass
NVNT	ac80	5210	Ant0	5351.76	-41.33	2	55.9	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	5350.11	-49.14	2	48.09	Average	54	Pass
NVNT	ac80	5210	Ant0	5460	-48.31	2	48.92	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	5460	-55.52	2	41.71	Average	54	Pass
NVNT	ac80	5210	Ant0	4500	-50.38	2	46.85	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	4500	-56.69	2	40.54	Average	54	Pass
NVNT	ac80	5210	Ant0	5149.38	-42.32	2	54.91	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	5149.38	-49.09	2	48.14	Average	54	Pass
NVNT	ac80	5210	Ant0	5150	-44.7	2	52.53	Peak	68.2	Pass
NVNT	ac80	5210	Ant0	5150	-49.24	2	47.99	Average	54	Pass



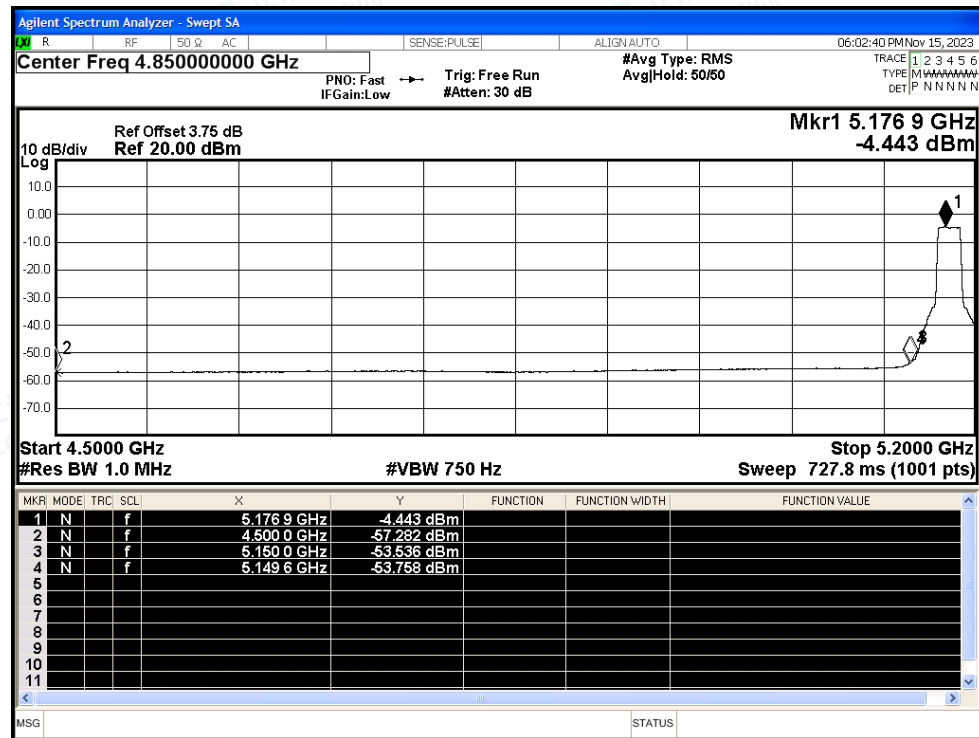


Test Graphs

Restrict Band NVNT a 5180MHz Ant0 Peak

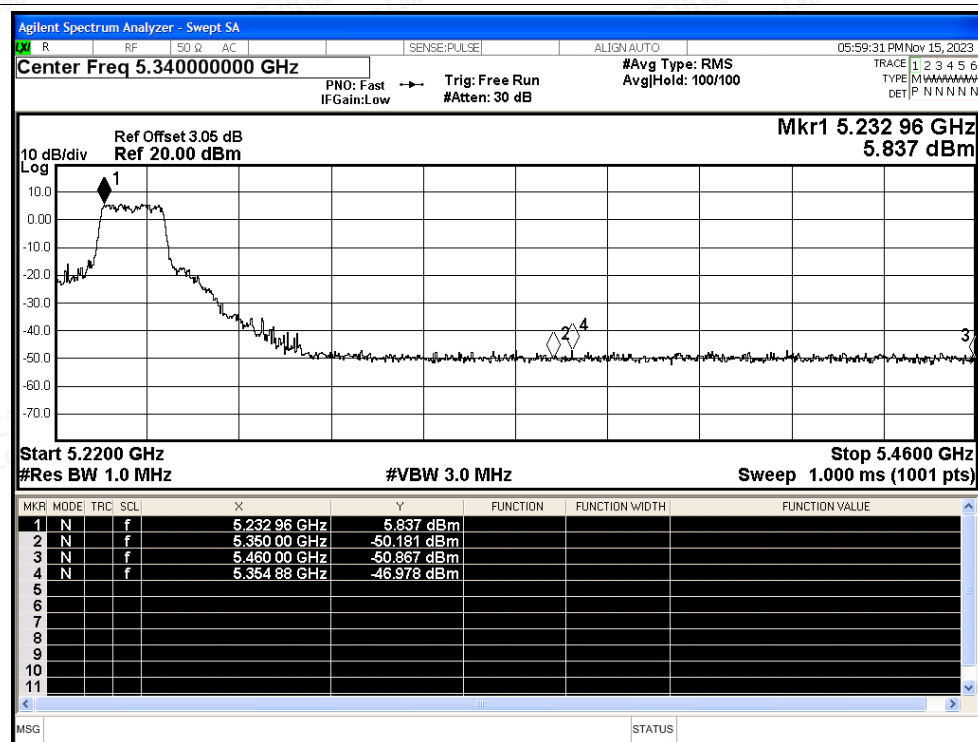


Restrict Band NVNT a 5180MHz Ant0 Average

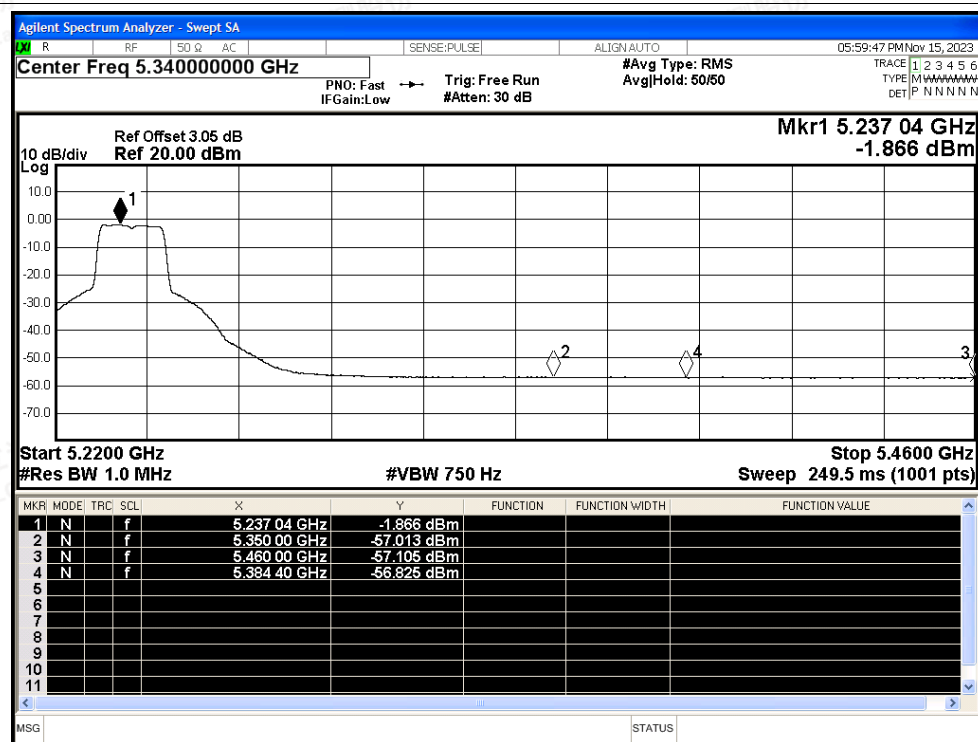




Restrict Band NVNT a 5240MHz Ant0 Peak

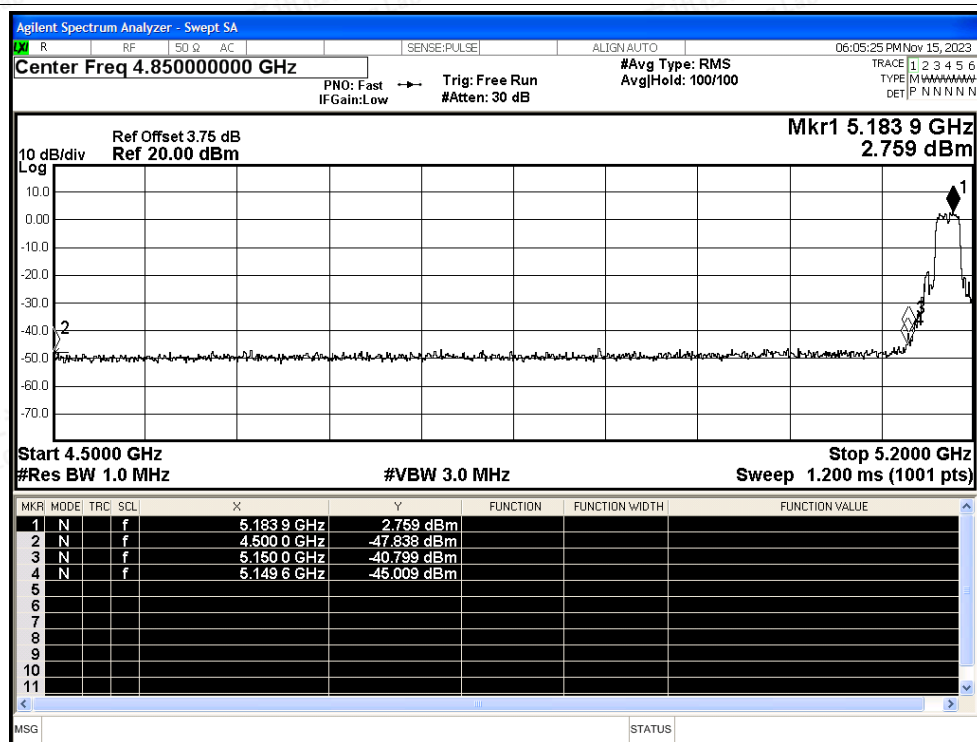


Restrict Band NVNT a 5240MHz Ant0 Average

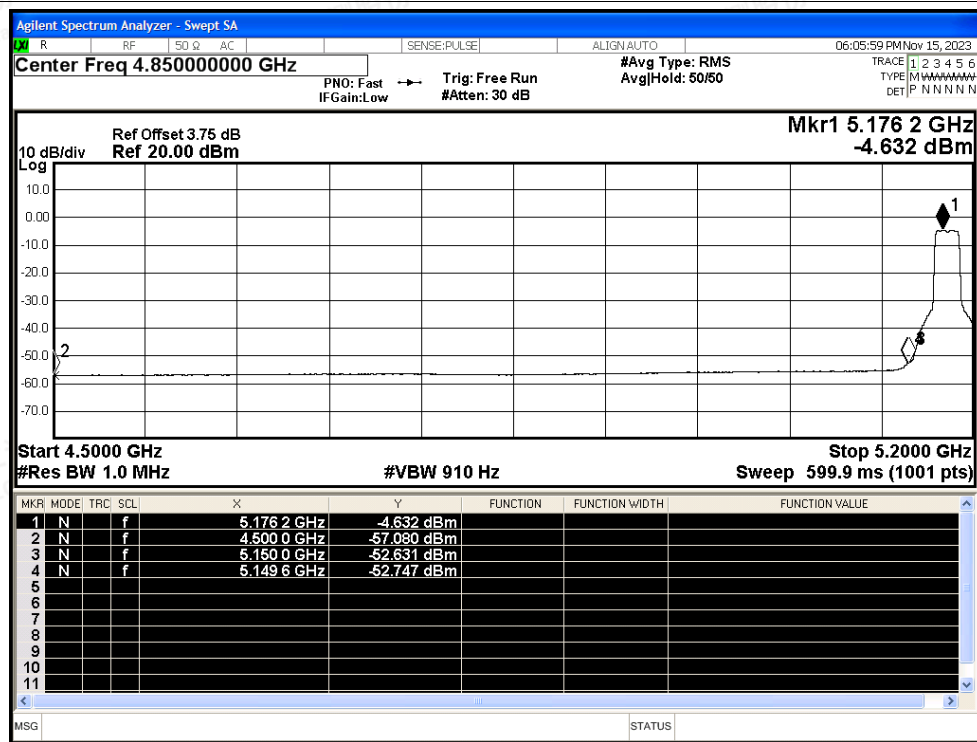




Restrict Band NVNT n20 5180MHz Ant0 Peak

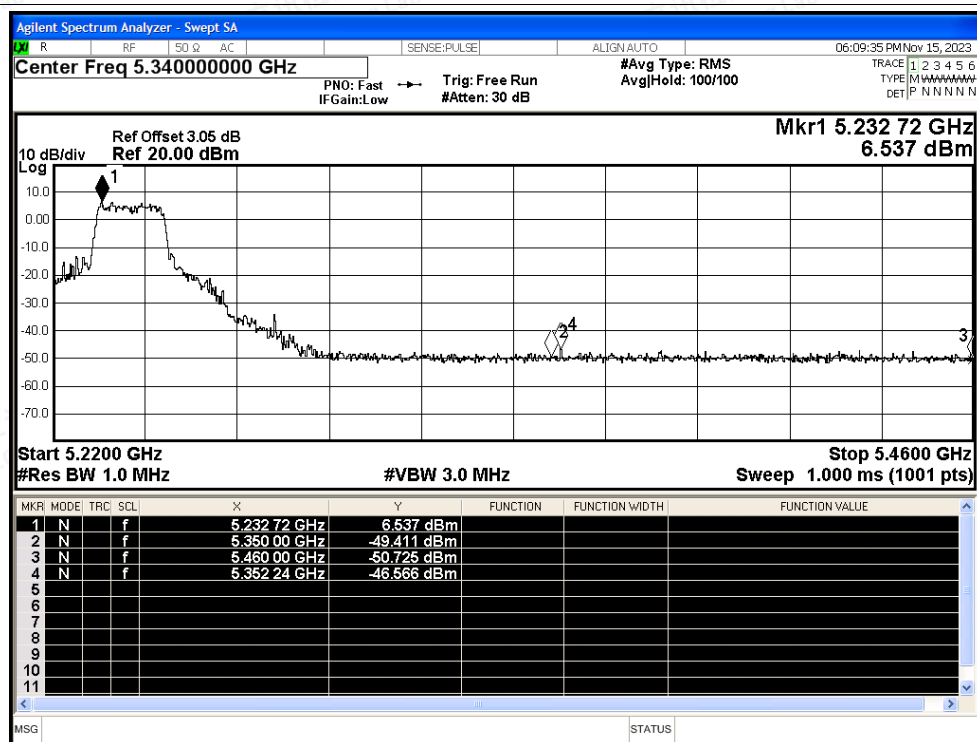


Restrict Band NVNT n20 5180MHz Ant0 Average

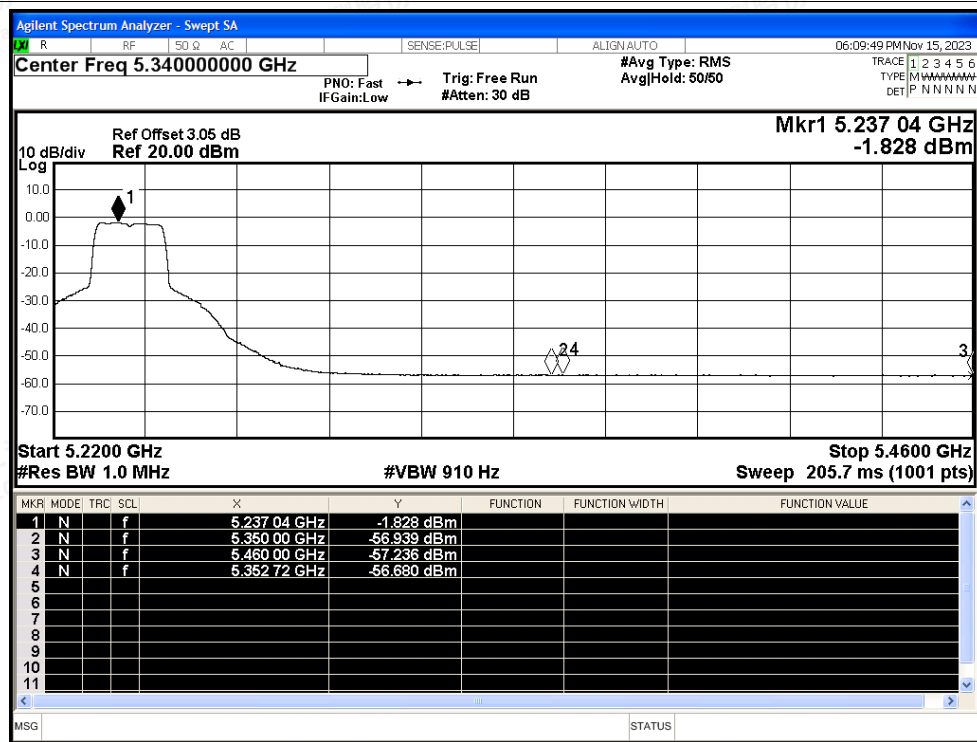




Restrict Band NVNT n20 5240MHz Ant0 Peak

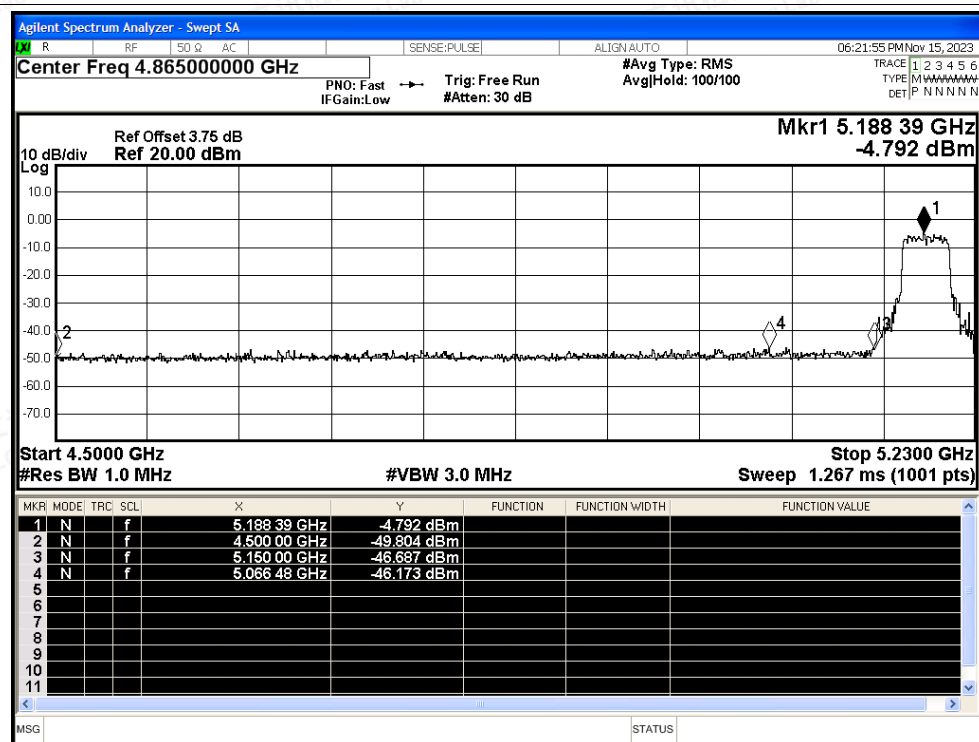


Restrict Band NVNT n20 5240MHz Ant0 Average

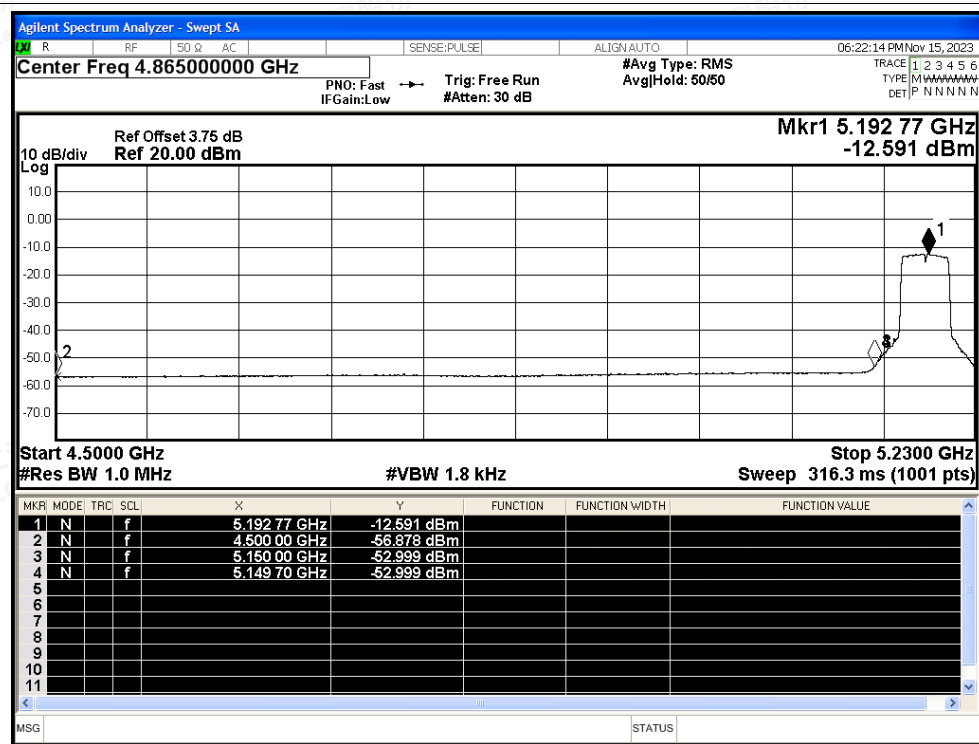




Restrict Band NVNT n40 5190MHz Ant0 Peak

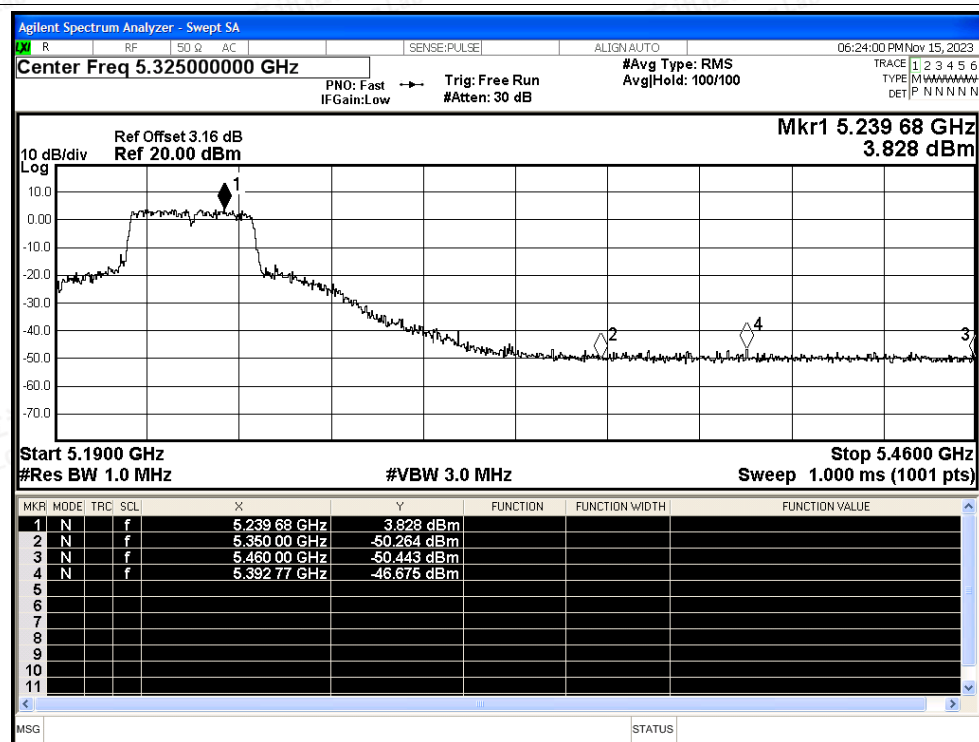


Restrict Band NVNT n40 5190MHz Ant0 Average

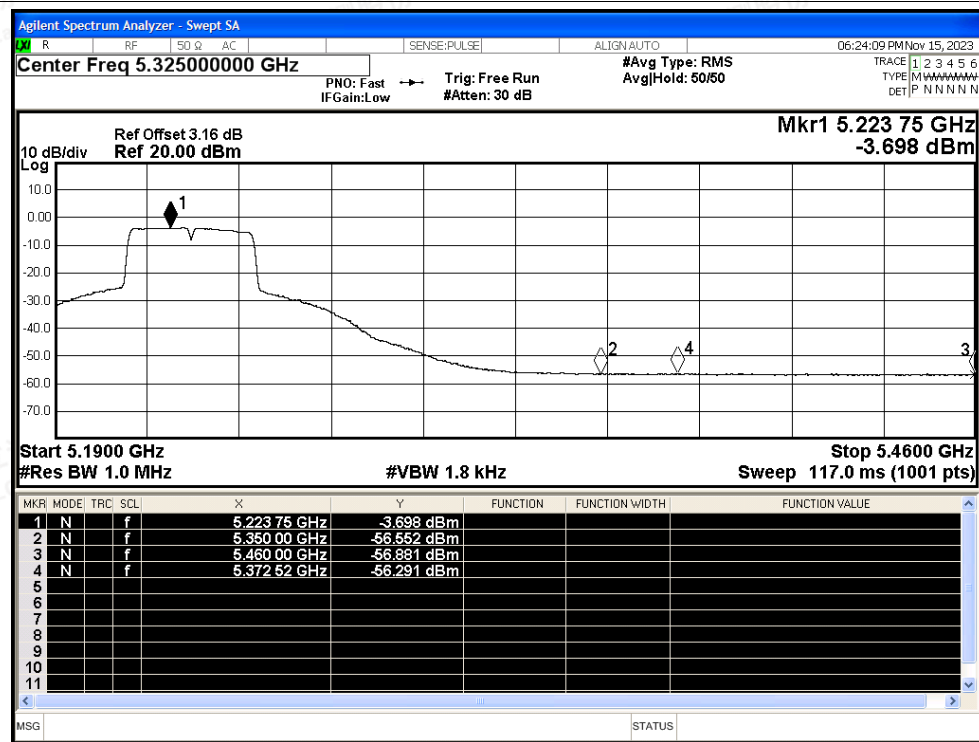




Restrict Band NVNT n40 5230MHz Ant0 Peak

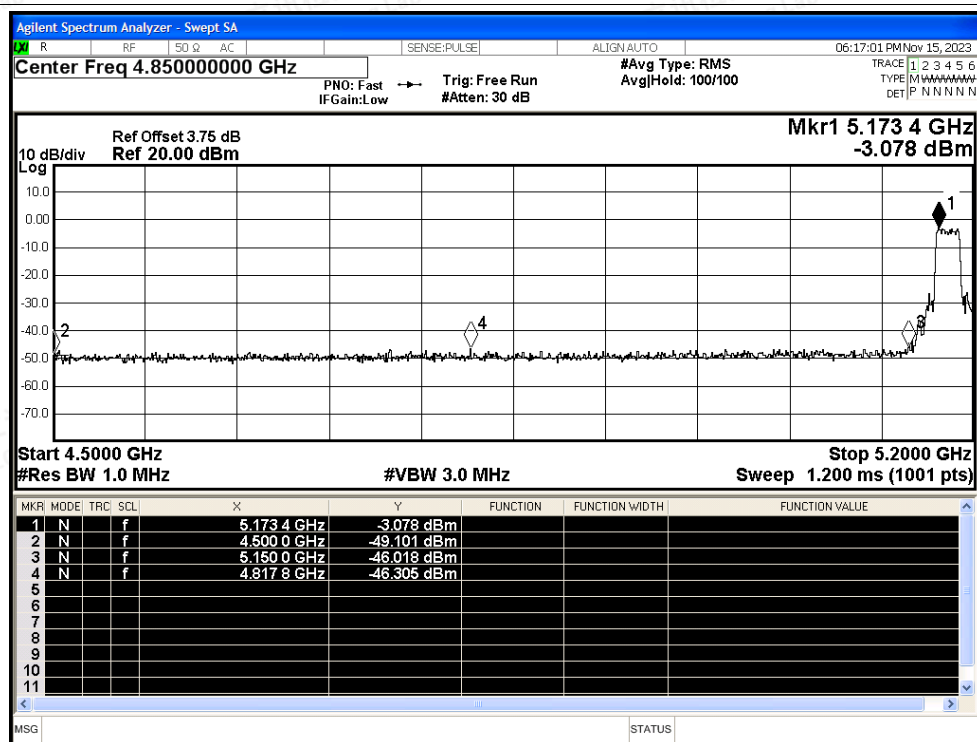


Restrict Band NVNT n40 5230MHz Ant0 Average

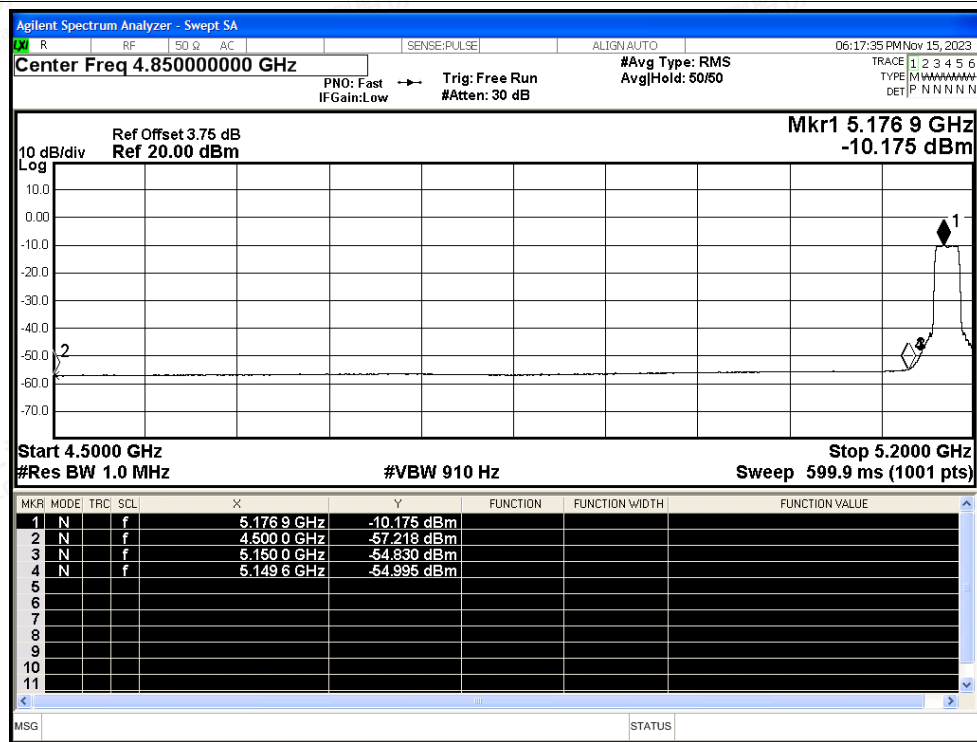




Restrict Band NVNT ac20 5180MHz Ant0 Peak

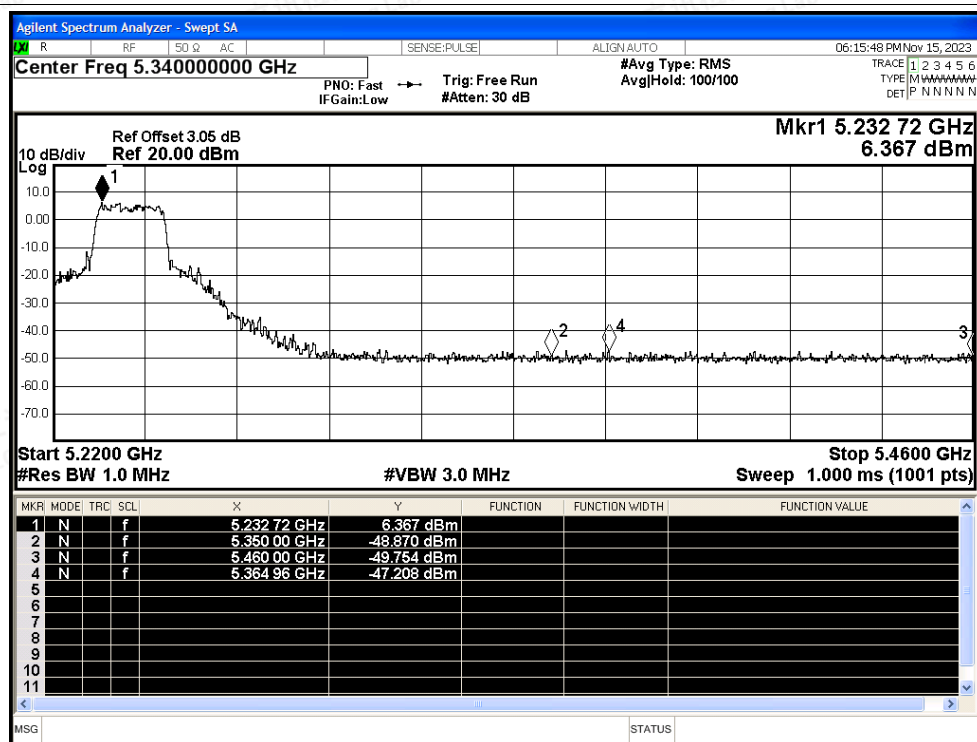


Restrict Band NVNT ac20 5180MHz Ant0 Average

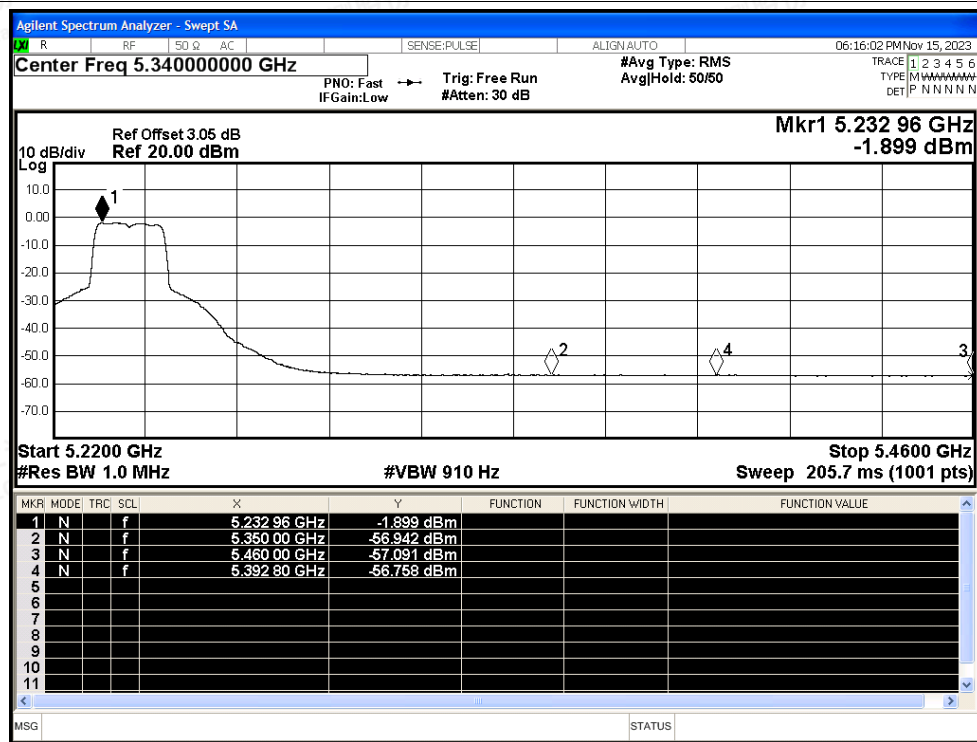




Restrict Band NVNT ac20 5240MHz Ant0 Peak

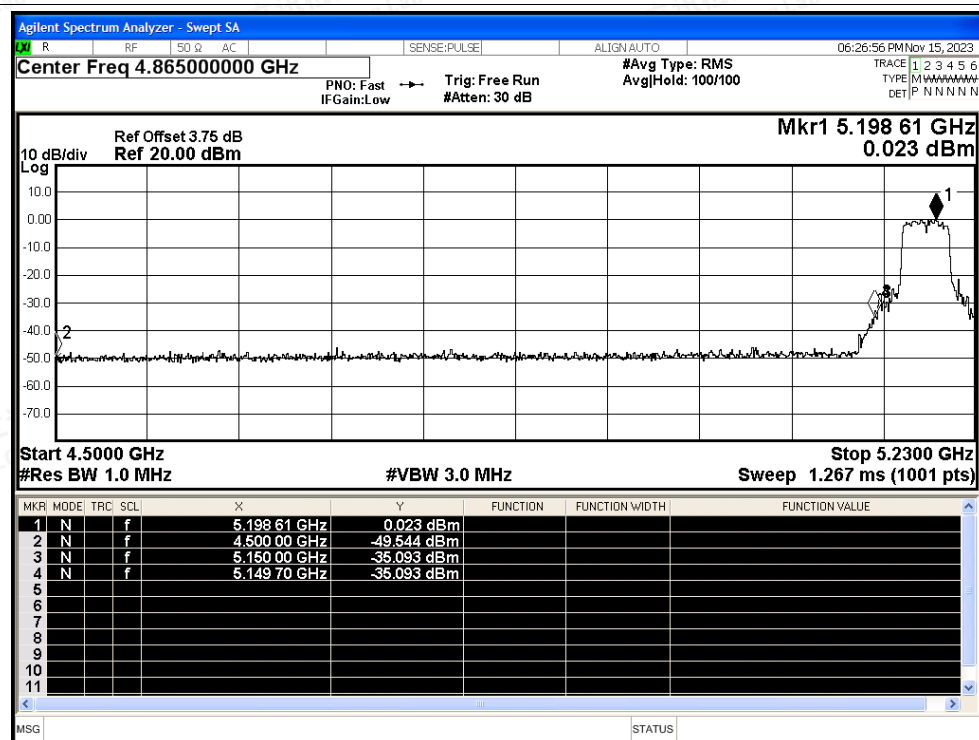


Restrict Band NVNT ac20 5240MHz Ant0 Average

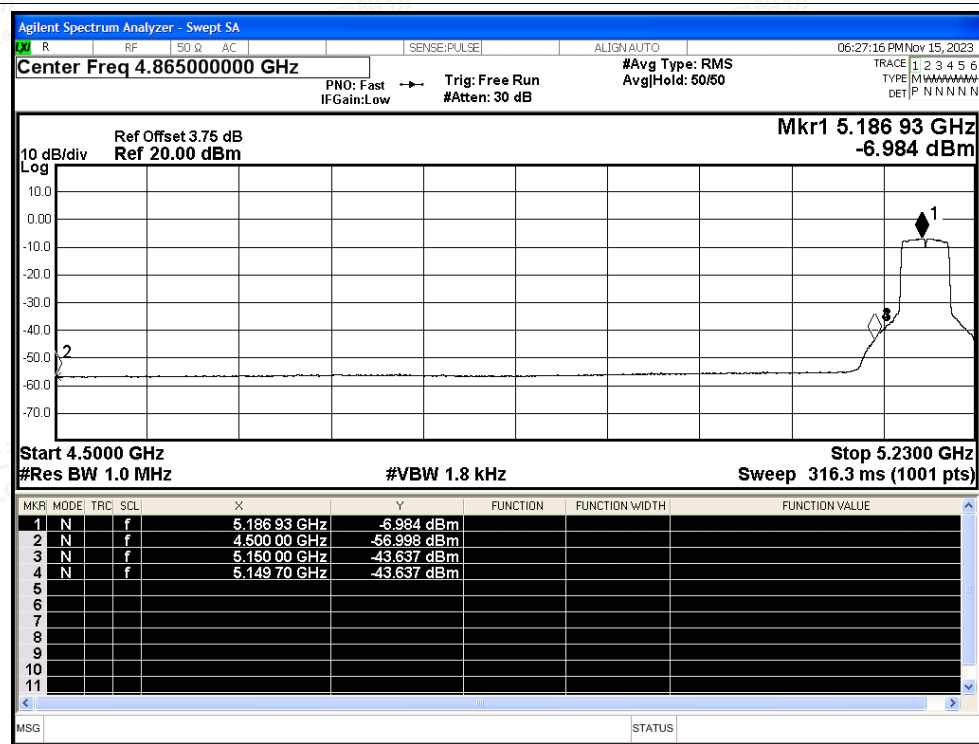




Restrict Band NVNT ac40 5190MHz Ant0 Peak



Restrict Band NVNT ac40 5190MHz Ant0 Average



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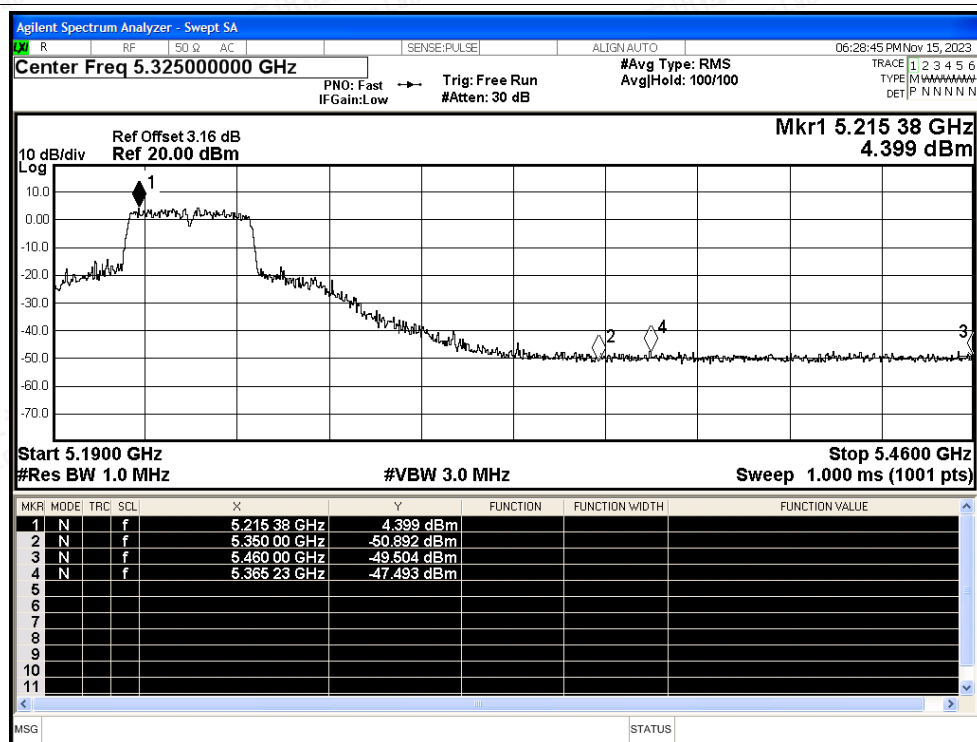
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

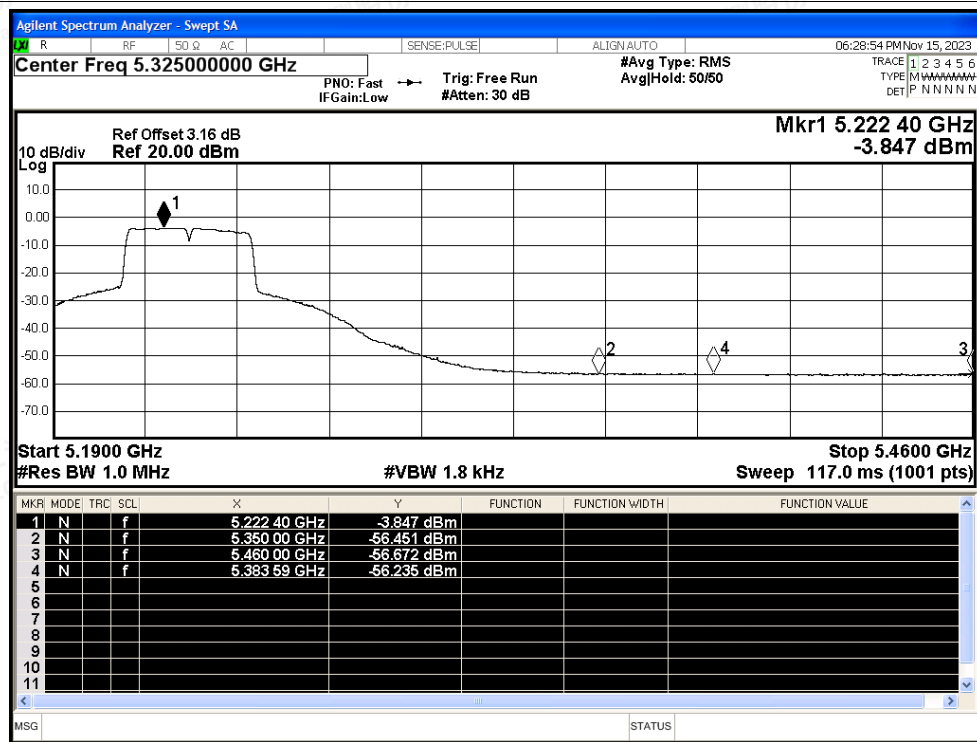
Scan code to check authenticity



Restrict Band NVNT ac40 5230MHz Ant0 Peak

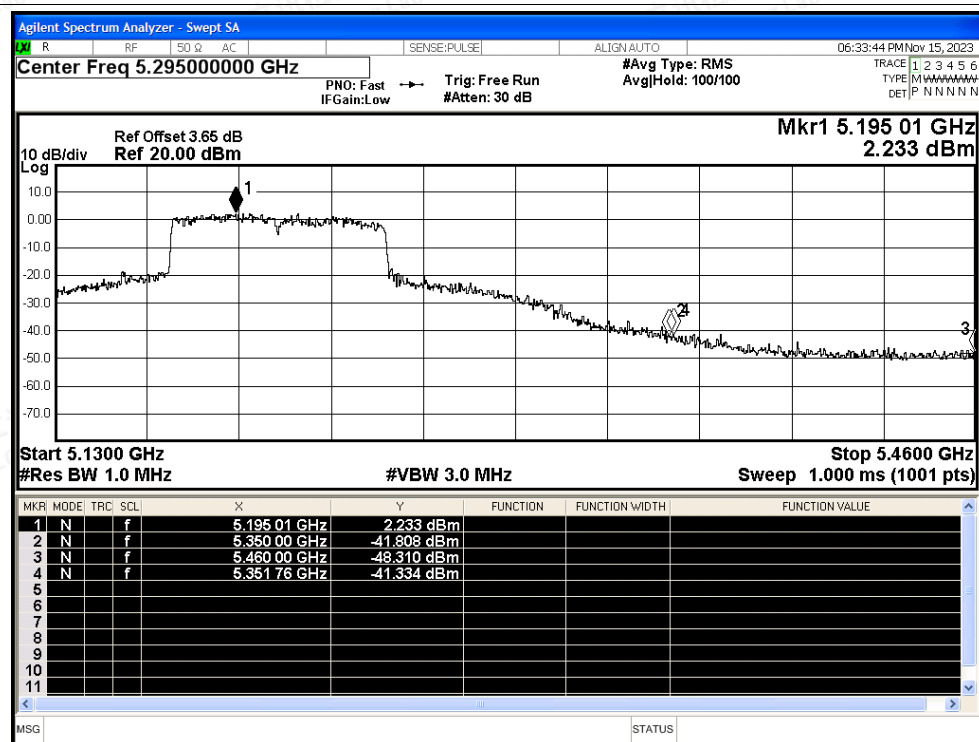


Restrict Band NVNT ac40 5230MHz Ant0 Average

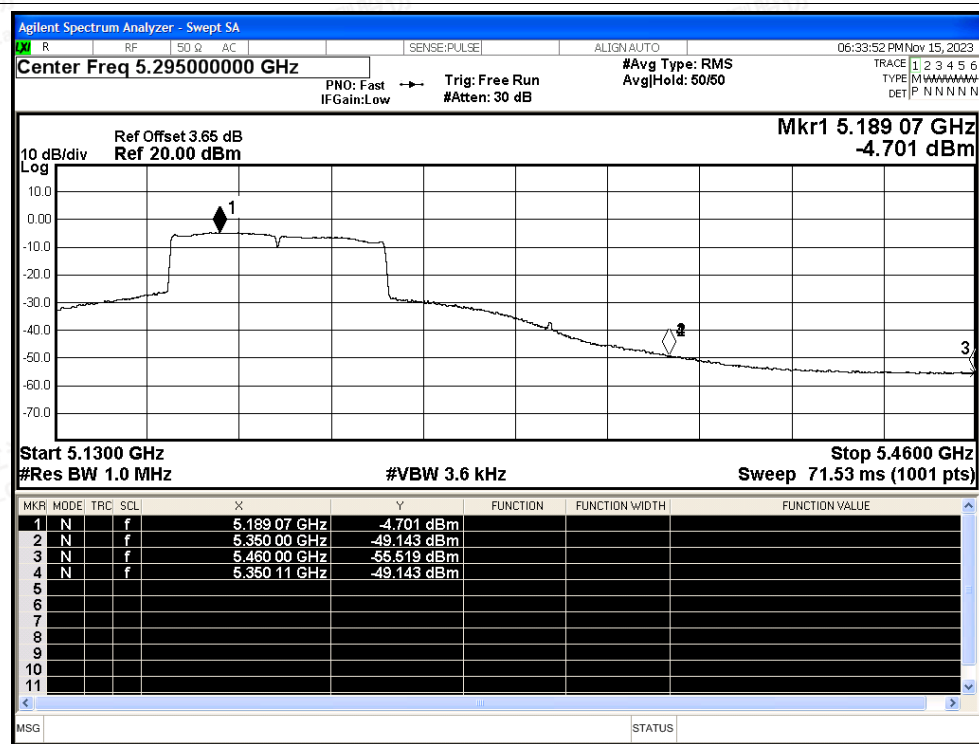




Restrict Band NVNT ac80 5210MHz Ant0 Peak

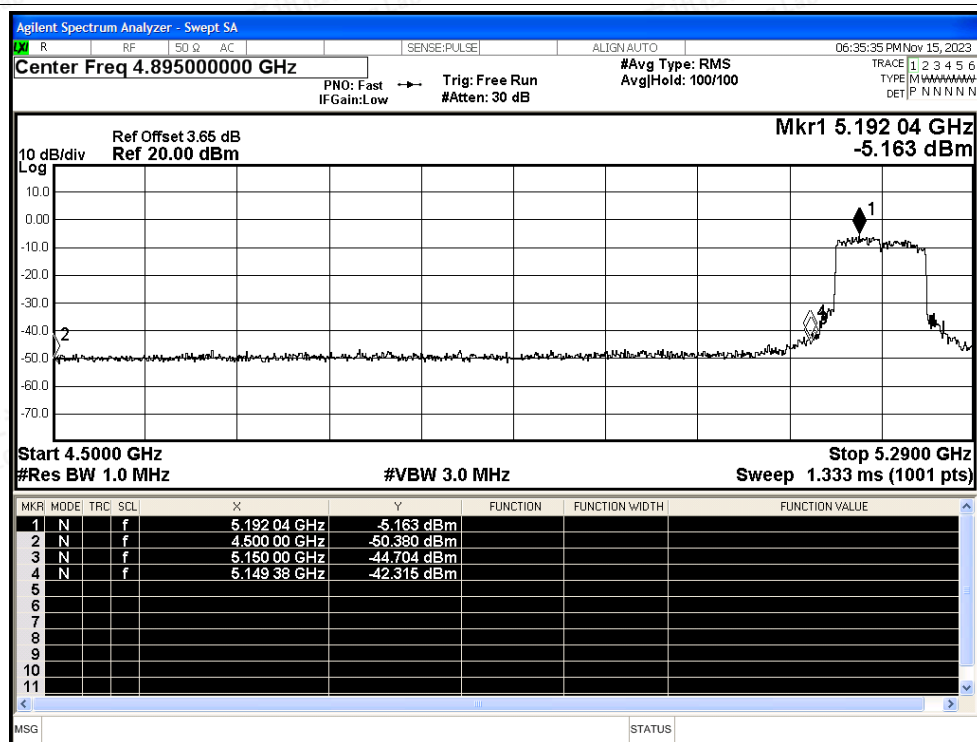


Restrict Band NVNT ac80 5210MHz Ant0 Average

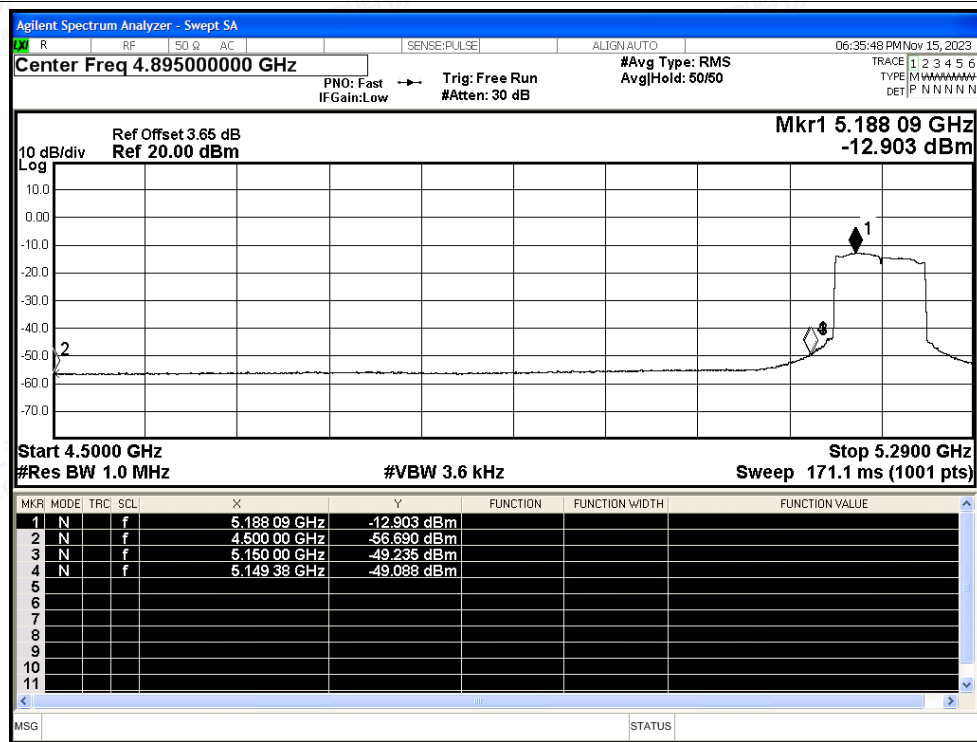




Restrict Band NVNT ac80 5210MHz Ant0 Peak



Restrict Band NVNT ac80 5210MHz Ant0 Average





D.5 Frequency Stability

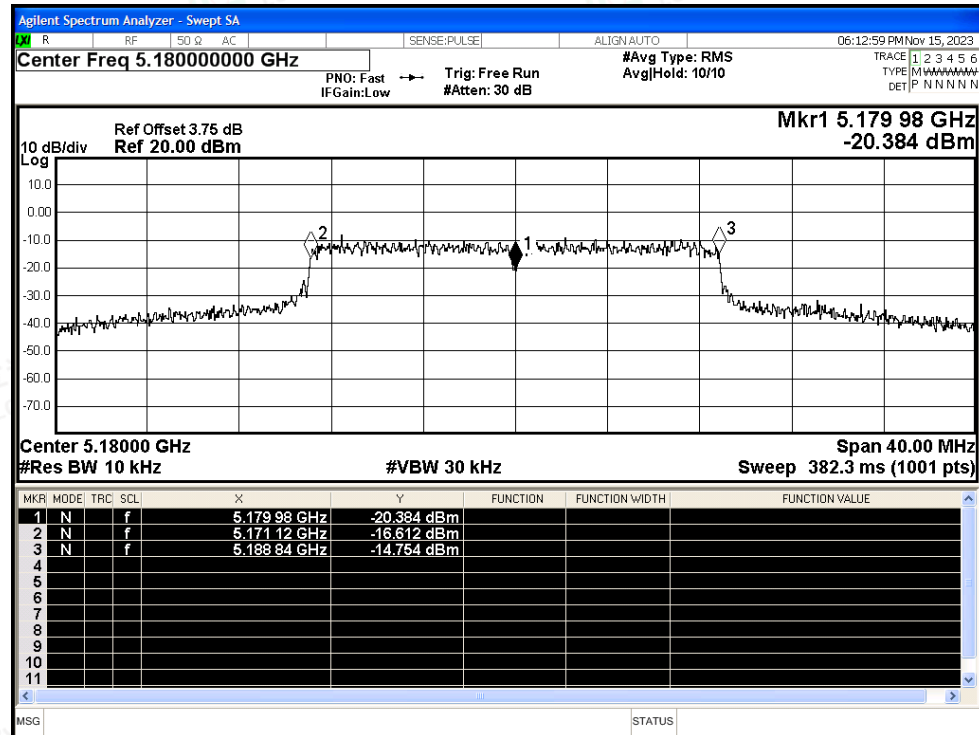
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5180	Ant0	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant0	5199.98	-20000	-3.85	25	Pass
NVNT	ac20	5240	Ant0	5239.98	-20000	-3.82	25	Pass
NVNT	ac40	5190	Ant0	5190	0	0	25	Pass
NVNT	ac40	5230	Ant0	5229.96	-40000	-7.65	25	Pass
NVNT	ac80	5210	Ant0	5210	0	0	25	Pass



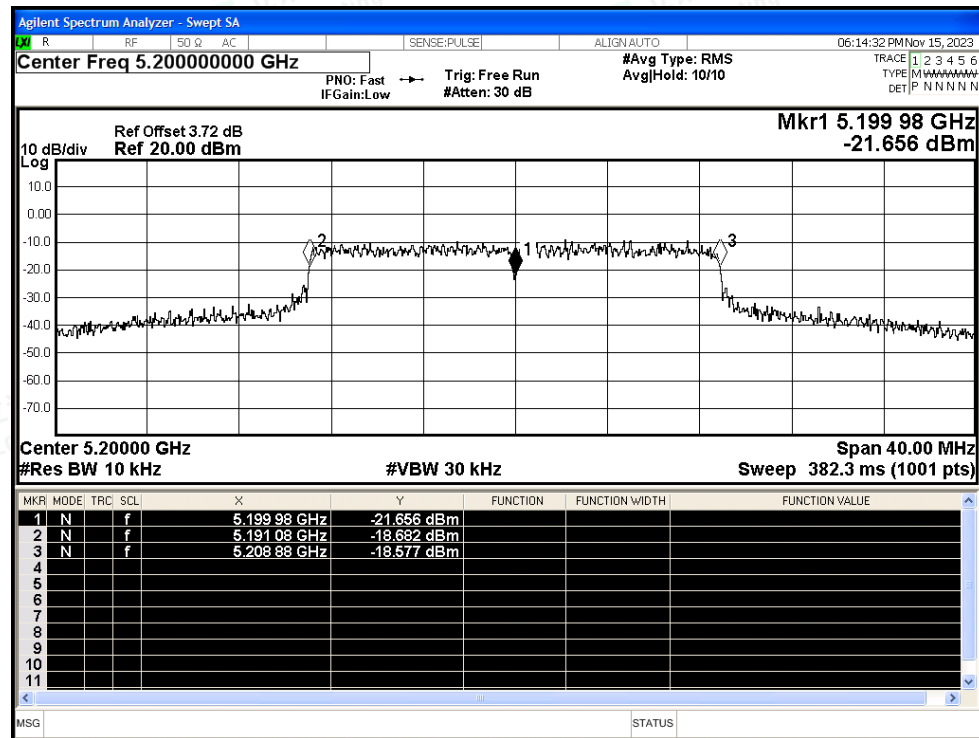


Test Graphs

Freq. Stability NVNT ac20 5180MHz Ant0

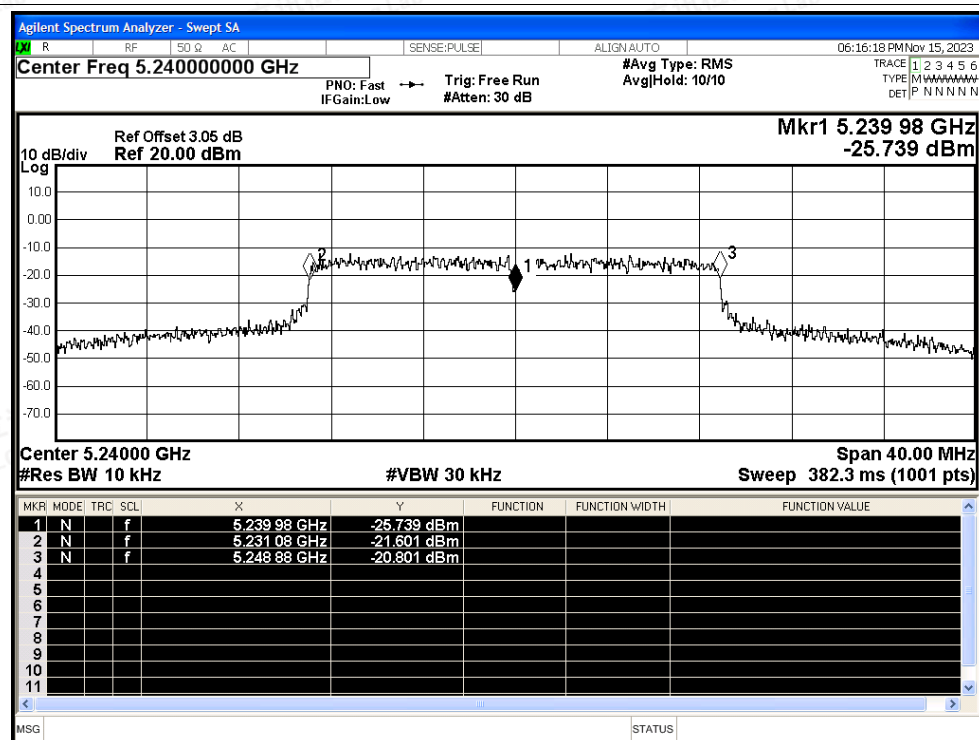


Freq. Stability NVNT ac20 5200MHz Ant0

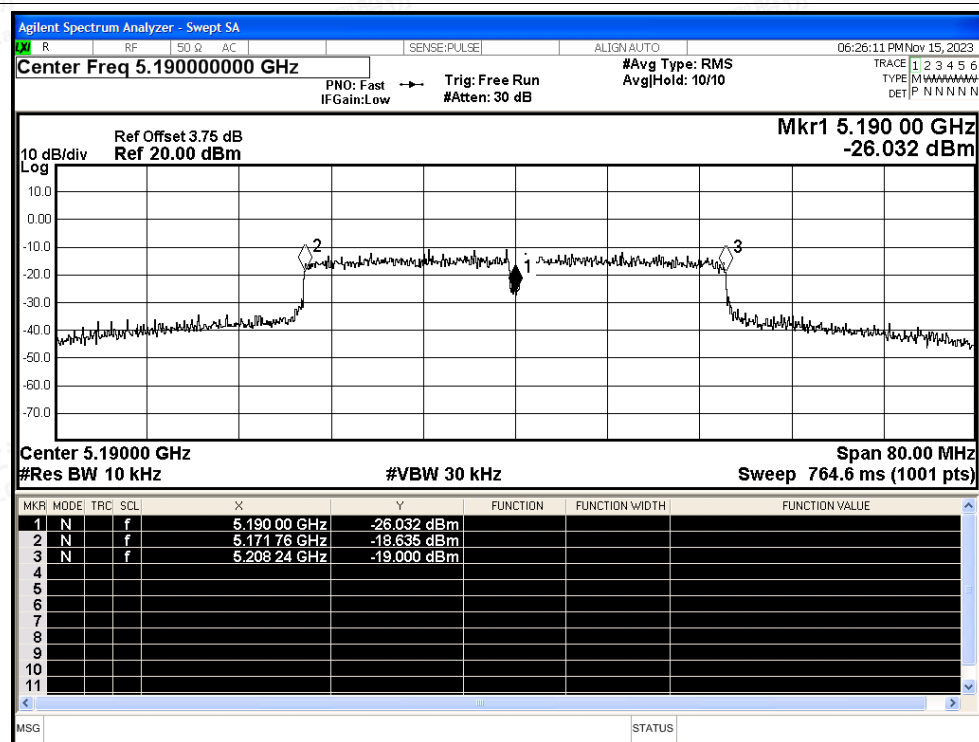




Freq. Stability NVNT ac20 5240MHz Ant0

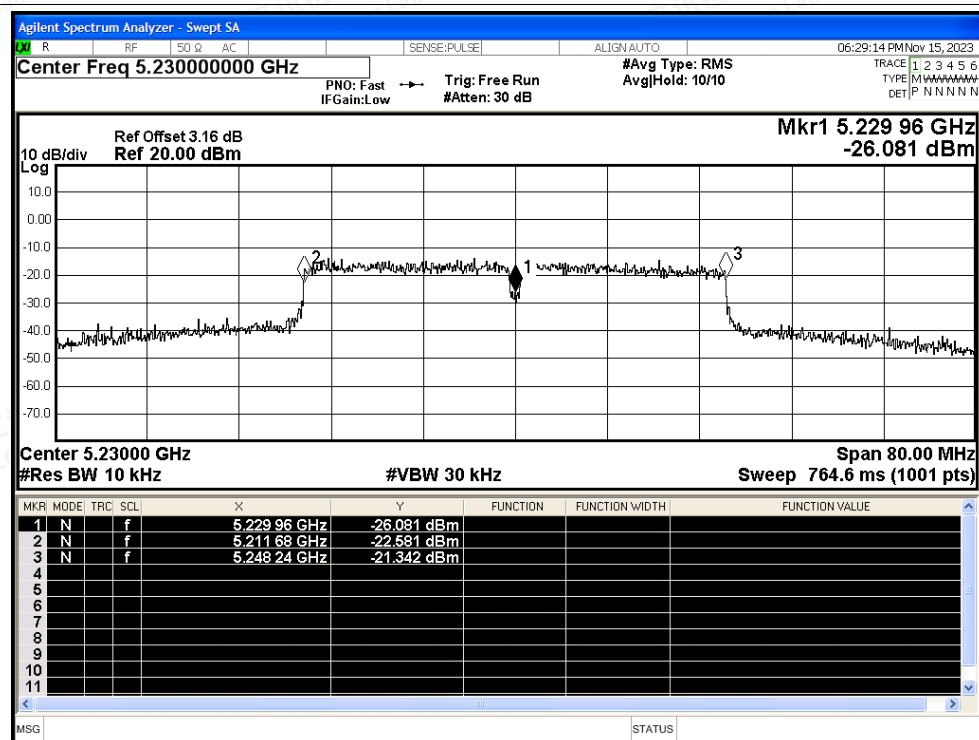


Freq. Stability NVNT ac40 5190MHz Ant0

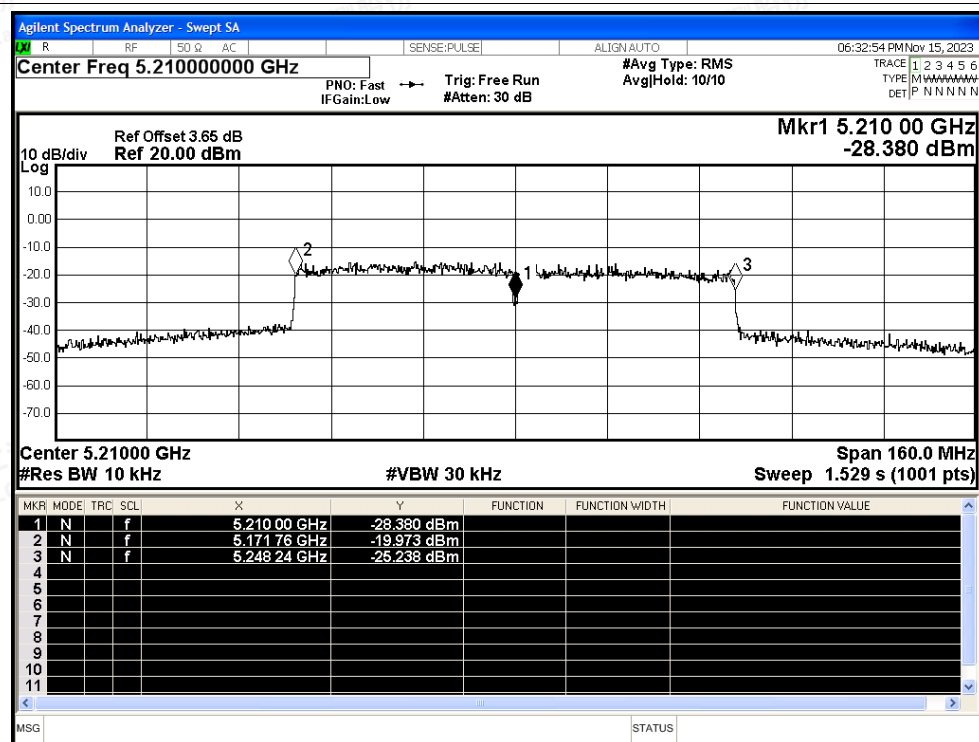




Freq. Stability NVNT ac40 5230MHz Ant0



Freq. Stability NVNT ac80 5210MHz Ant0





D.6 Duty Cycle

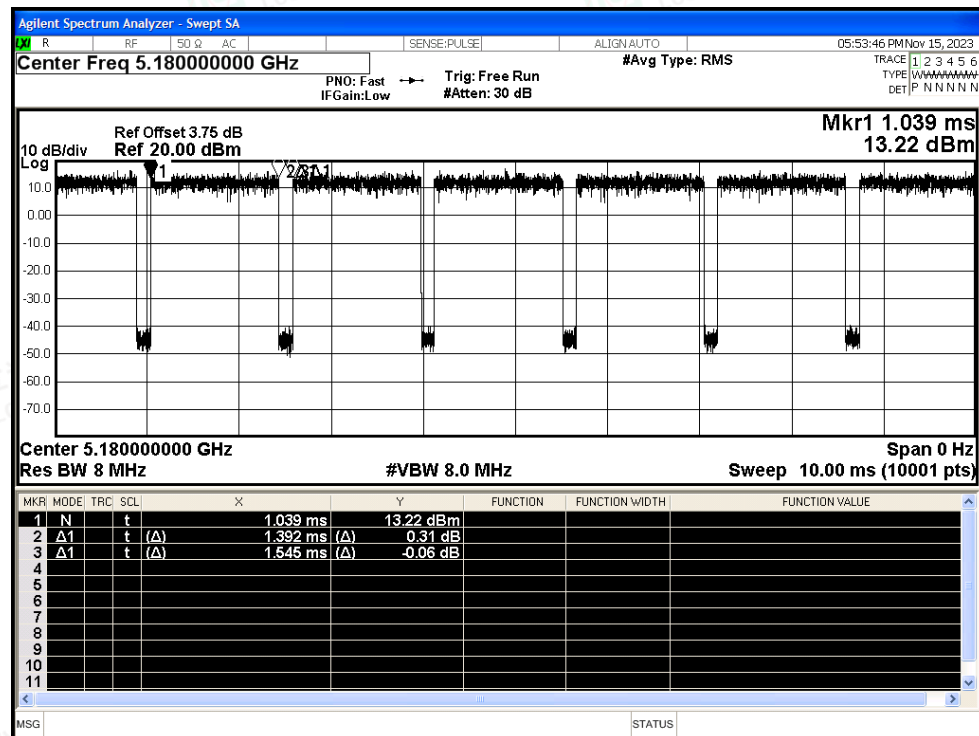
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant0	90.1	0.45	0.72
NVNT	a	5200	Ant0	90.1	0.45	0.72
NVNT	a	5240	Ant0	90.63	0.43	0.72
NVNT	n20	5180	Ant0	87.29	0.59	0.85
NVNT	n20	5200	Ant0	88.47	0.53	0.85
NVNT	n20	5240	Ant0	88.47	0.53	0.85
NVNT	n40	5190	Ant0	80.55	0.94	1.7
NVNT	n40	5230	Ant0	80.55	0.94	1.7
NVNT	ac20	5180	Ant0	89.17	0.5	0.84
NVNT	ac20	5200	Ant0	88.57	0.53	0.84
NVNT	ac20	5240	Ant0	89.16	0.5	0.84
NVNT	ac40	5190	Ant0	79.54	0.99	1.69
NVNT	ac40	5230	Ant0	79.68	0.99	1.69
NVNT	ac80	5210	Ant0	67.43	1.71	3.38



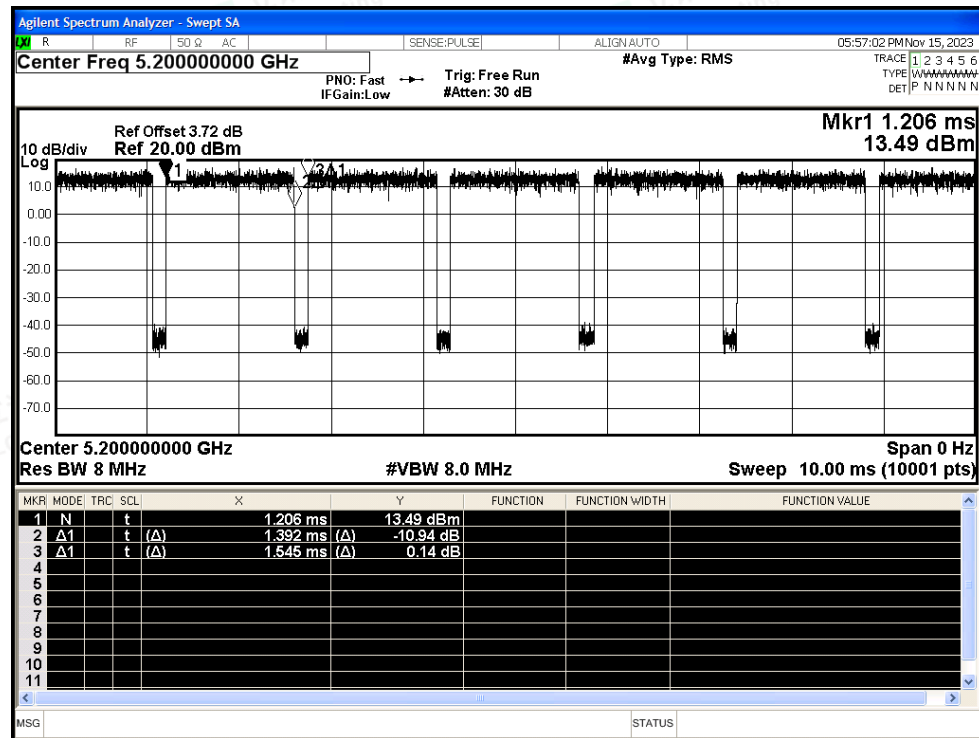


Test Graphs

Duty Cycle NVNT a 5180MHz Ant0



Duty Cycle NVNT a 5200MHz Ant0



Shenzhen LCS Compliance Testing Laboratory Ltd.

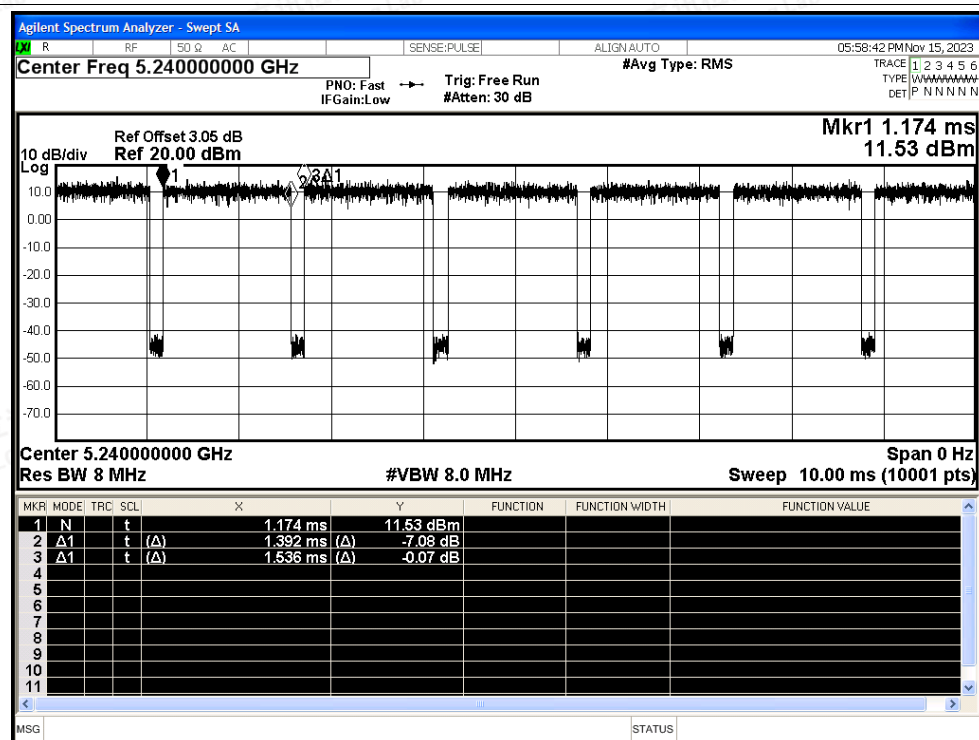
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

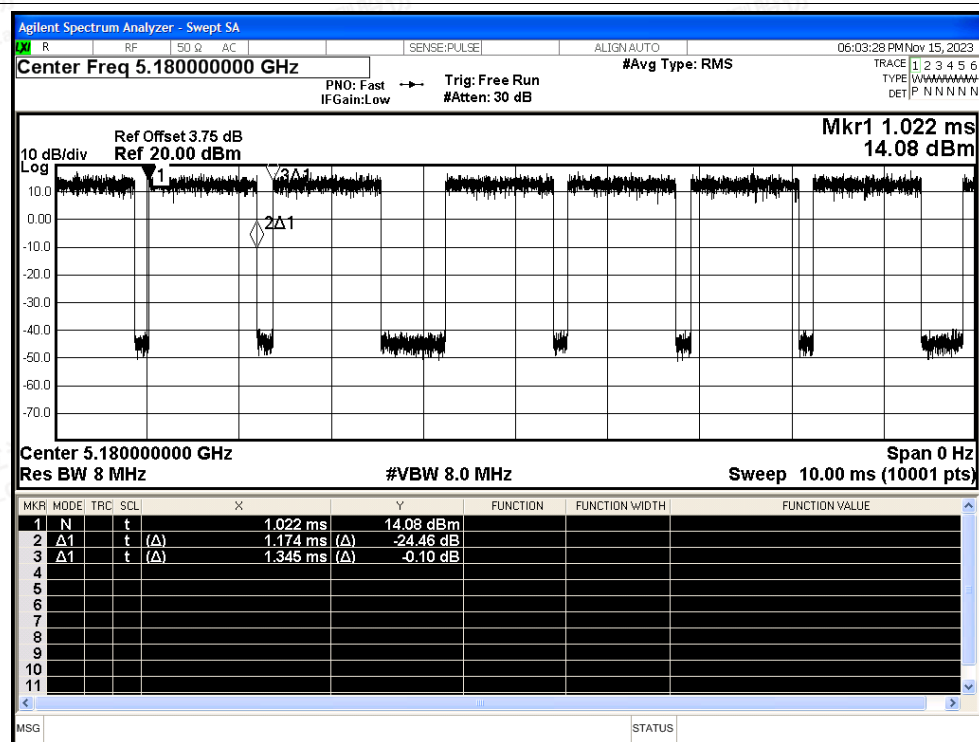
Scan code to check authenticity

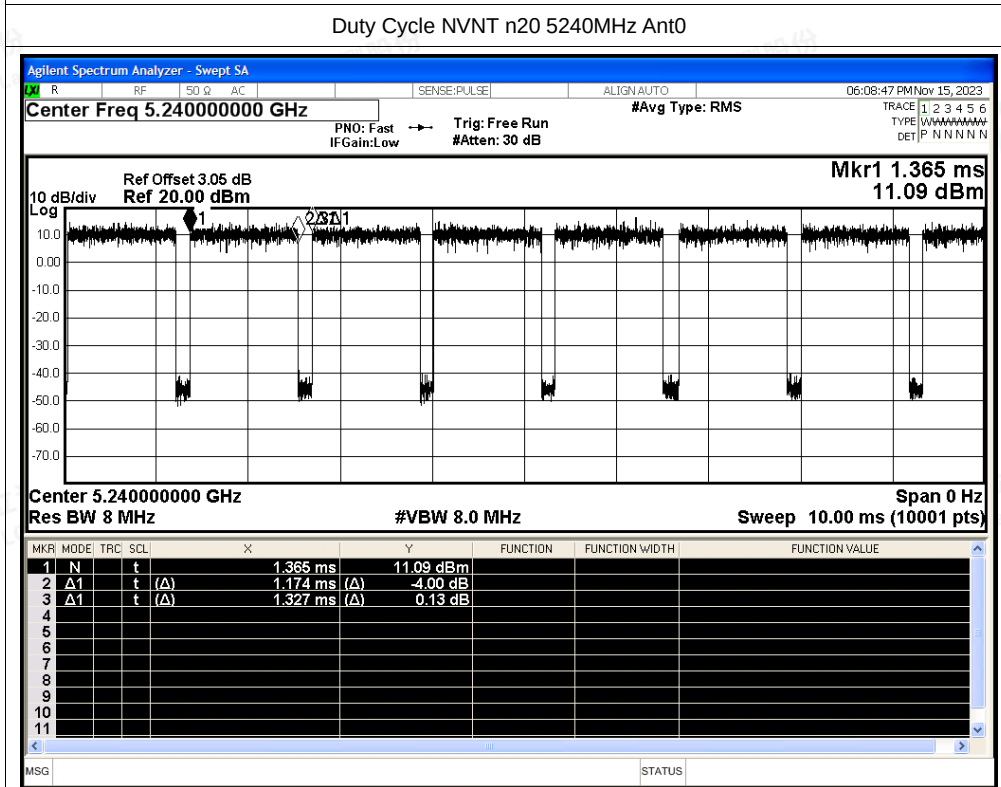
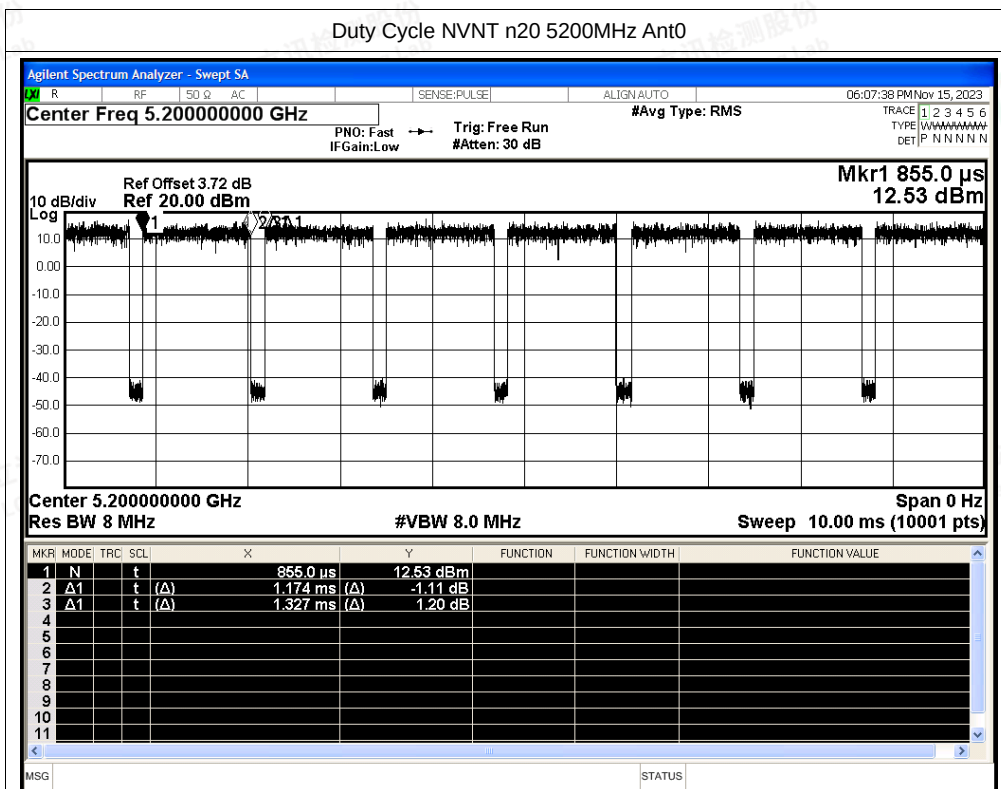


Duty Cycle NVNT a 5240MHz Ant0



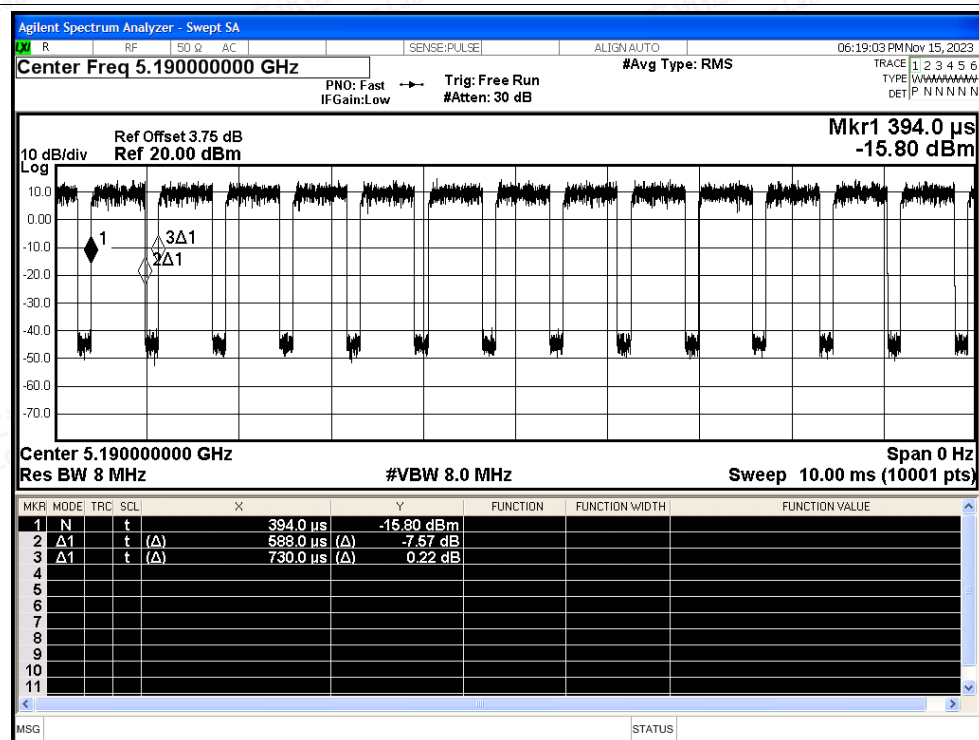
Duty Cycle NVNT n20 5180MHz Ant0



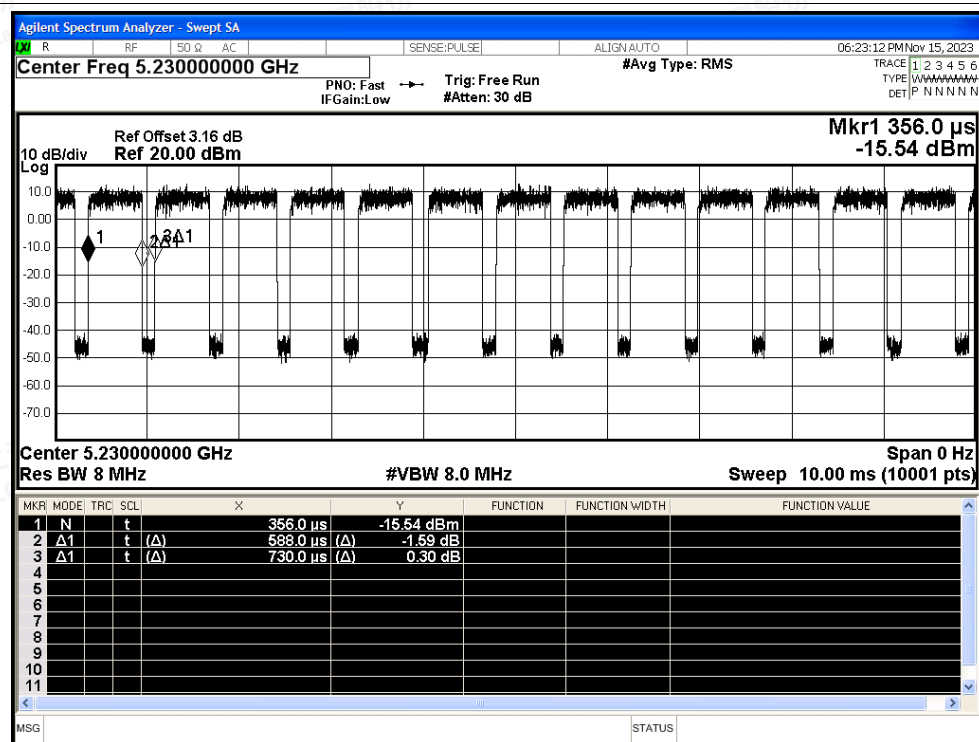




Duty Cycle NVNT n40 5190MHz Ant0

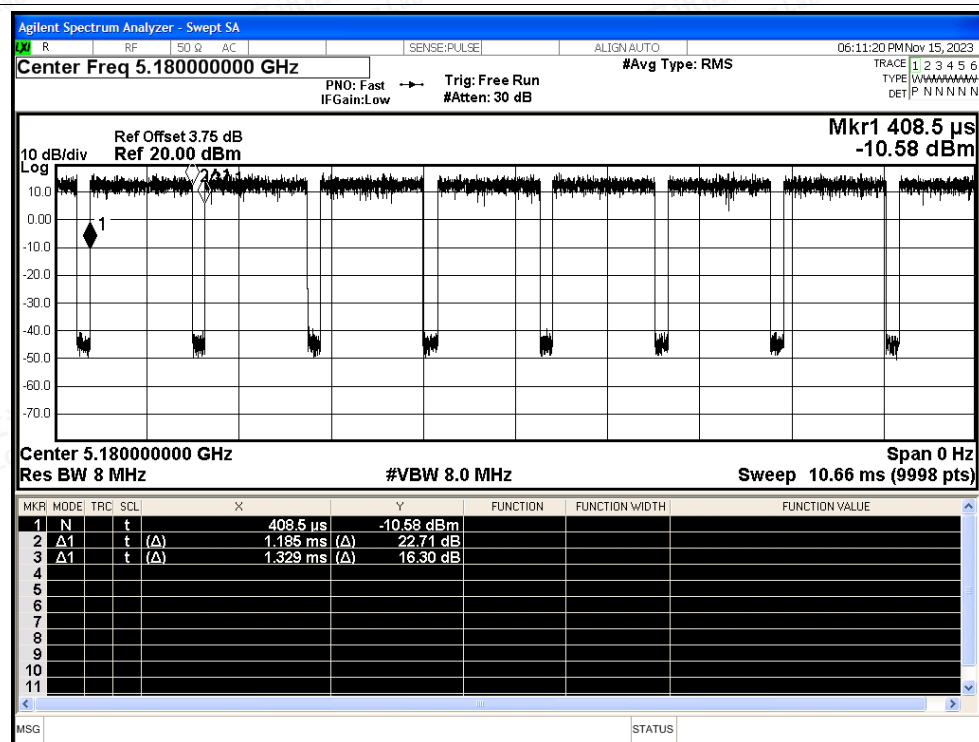


Duty Cycle NVNT n40 5230MHz Ant0

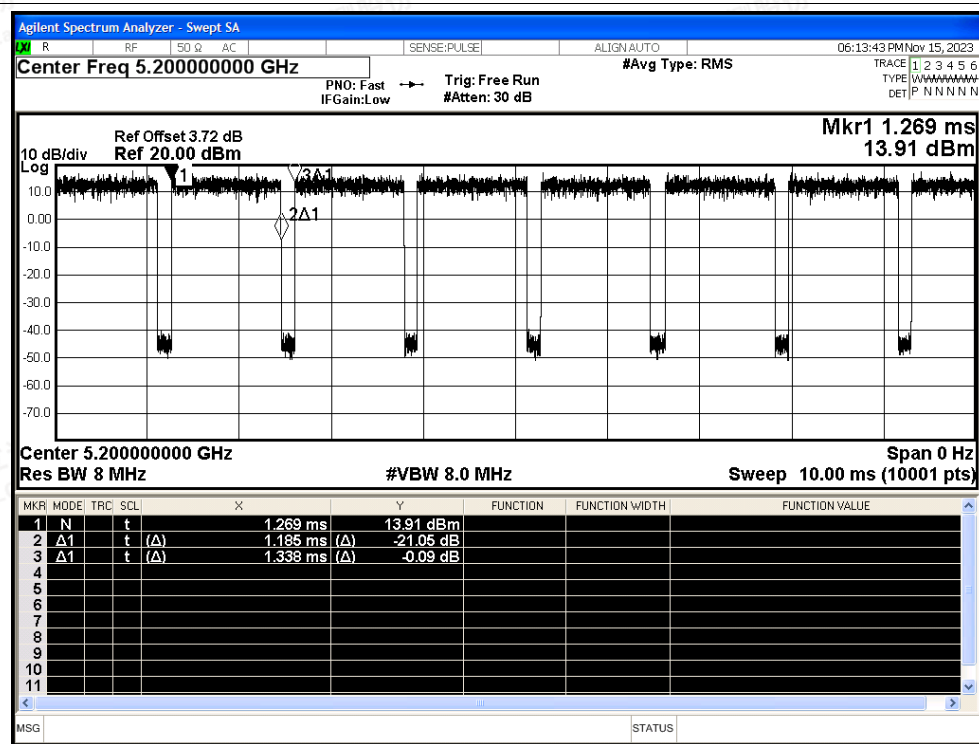




Duty Cycle NVNT ac20 5180MHz Ant0

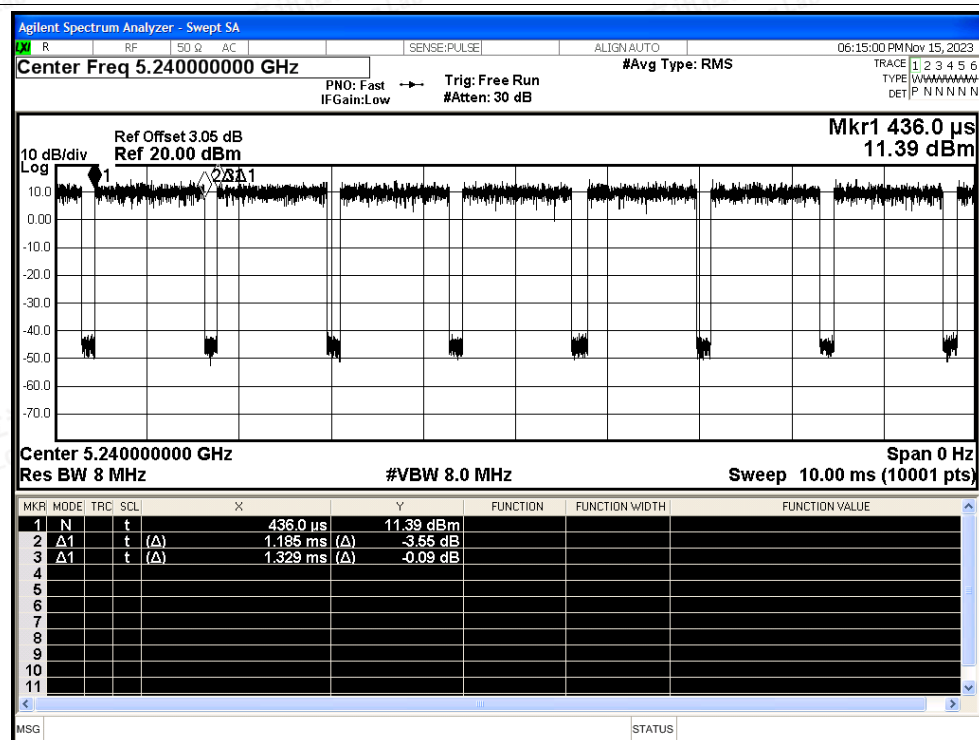


Duty Cycle NVNT ac20 5200MHz Ant0

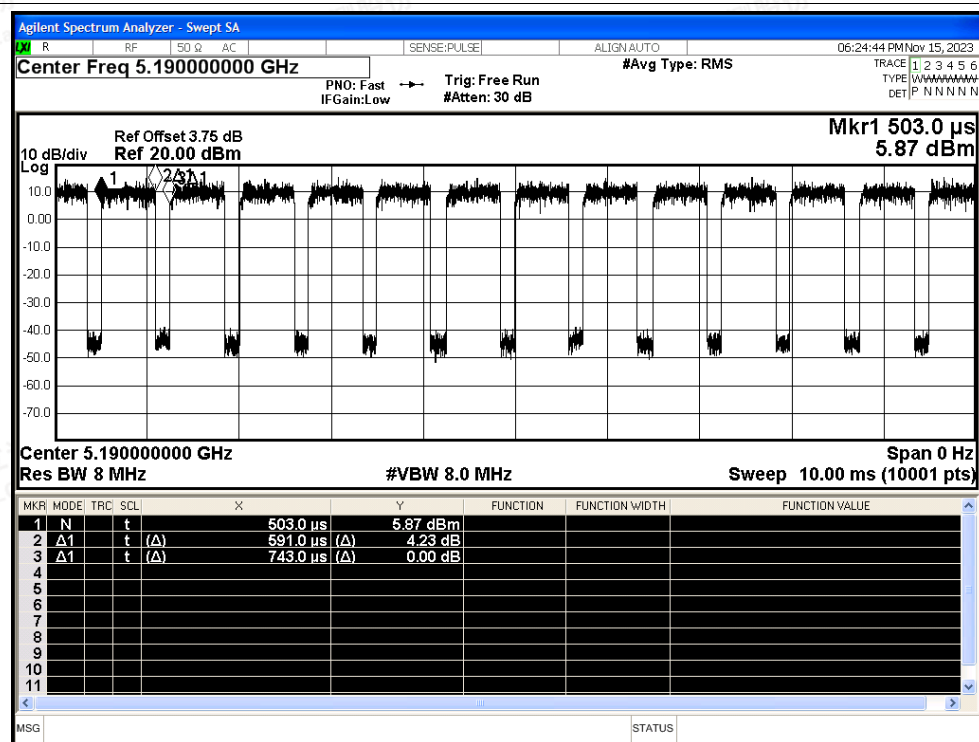




Duty Cycle NVNT ac20 5240MHz Ant0

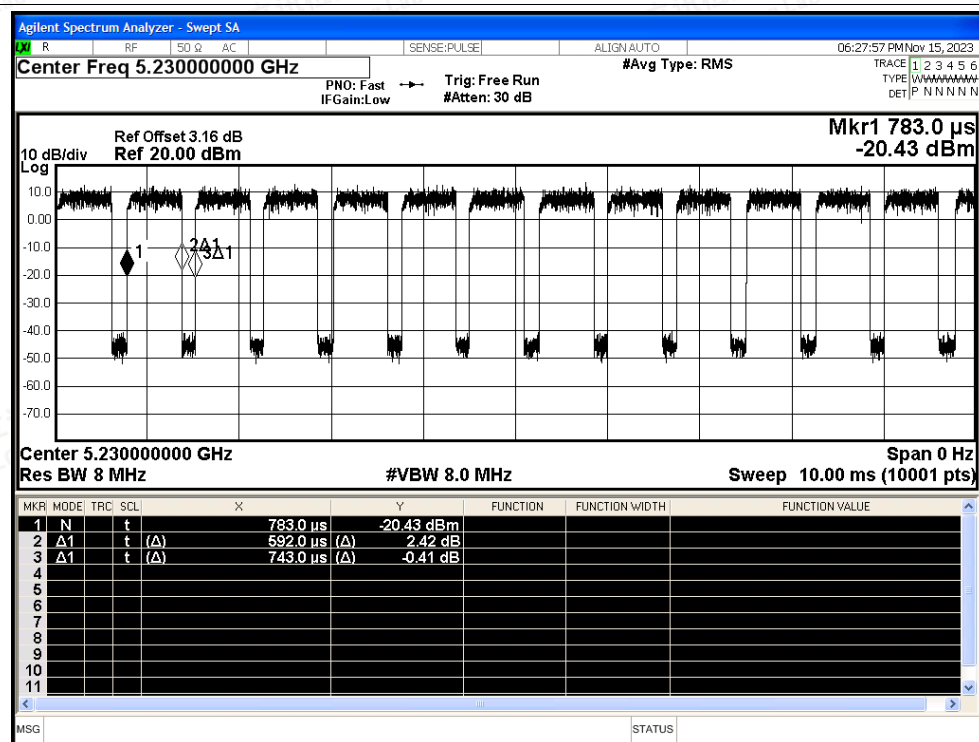


Duty Cycle NVNT ac40 5190MHz Ant0





Duty Cycle NVNT ac40 5230MHz Ant0



Duty Cycle NVNT ac80 5210MHz Ant0

