



Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: 7-inch Rugged Embedded Computer

Test Model: agroNave7

Environmental Conditions

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





D.1 -26dB Bandwidth

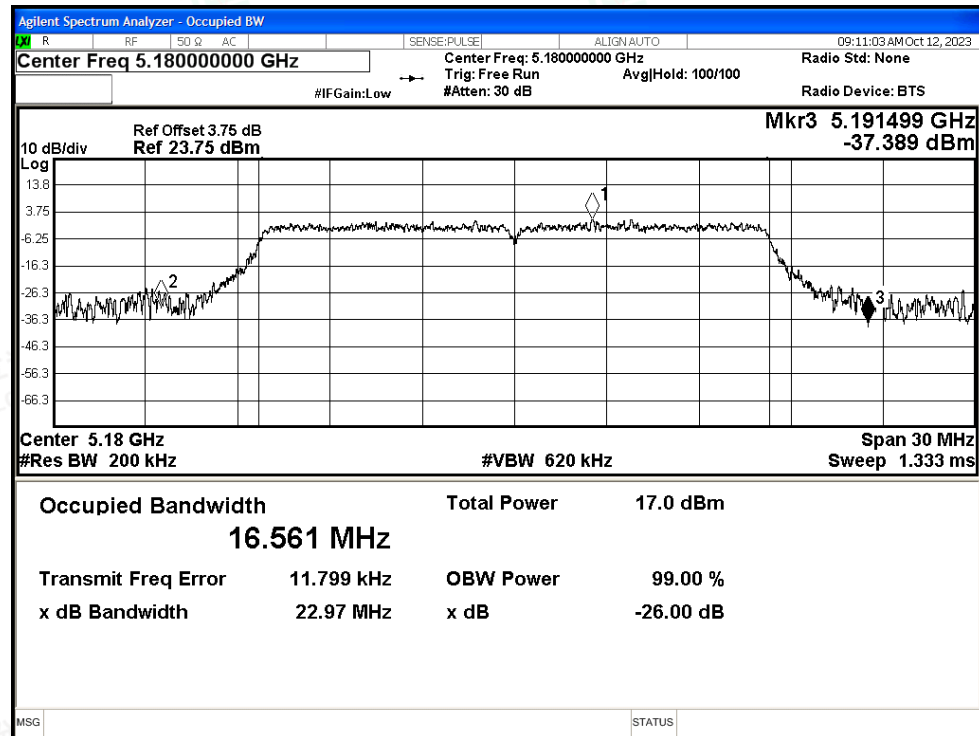
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	22.974	≥ 0.5	Pass
NVNT	a	5200	Ant1	24.971	≥ 0.5	Pass
NVNT	a	5240	Ant1	23.803	≥ 0.5	Pass
NVNT	n20	5180	Ant1	26.807	≥ 0.5	Pass
NVNT	n20	5200	Ant1	27.957	≥ 0.5	Pass
NVNT	n20	5240	Ant1	28.268	≥ 0.5	Pass
NVNT	n40	5190	Ant1	59.129	≥ 0.5	Pass
NVNT	n40	5230	Ant1	58.635	≥ 0.5	Pass
NVNT	ac20	5180	Ant1	27.278	≥ 0.5	Pass
NVNT	ac20	5200	Ant1	26.168	≥ 0.5	Pass
NVNT	ac20	5240	Ant1	27.416	≥ 0.5	Pass
NVNT	ac40	5190	Ant1	54.418	≥ 0.5	Pass
NVNT	ac40	5230	Ant1	54.465	≥ 0.5	Pass
NVNT	ac80	5210	Ant1	81.976	≥ 0.5	Pass



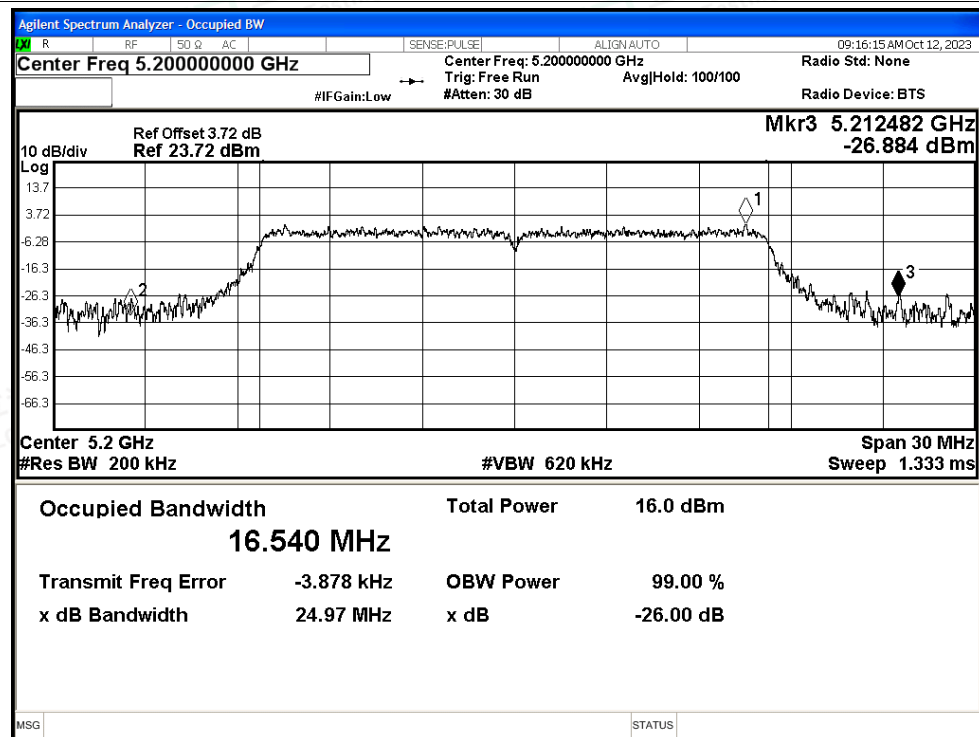


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

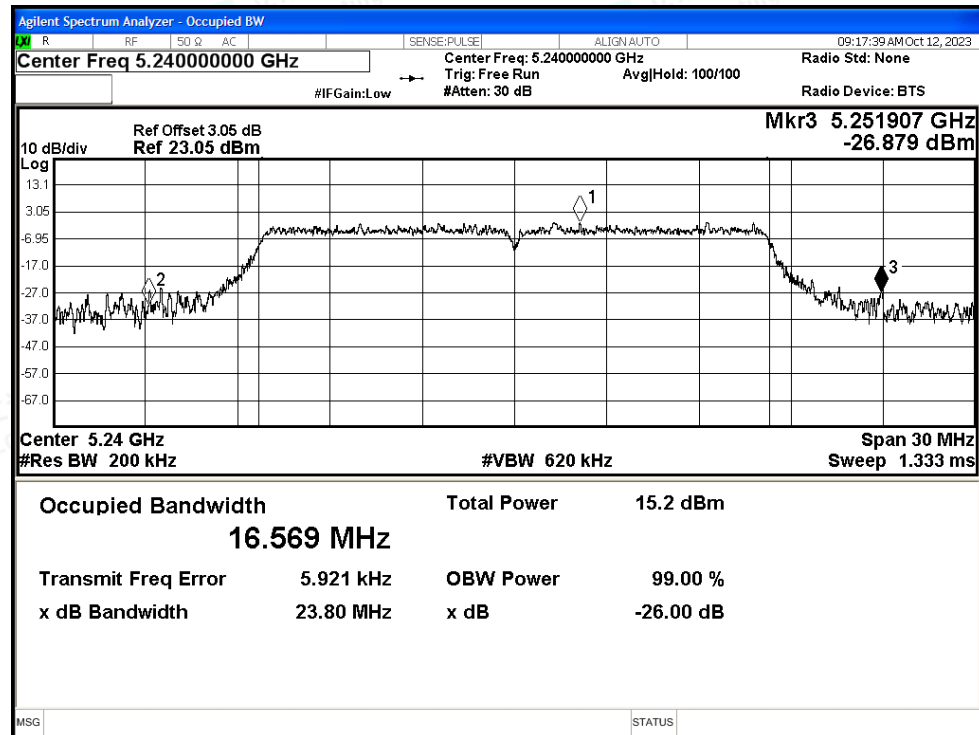


-26dB Bandwidth NVNT a 5200MHz Ant1

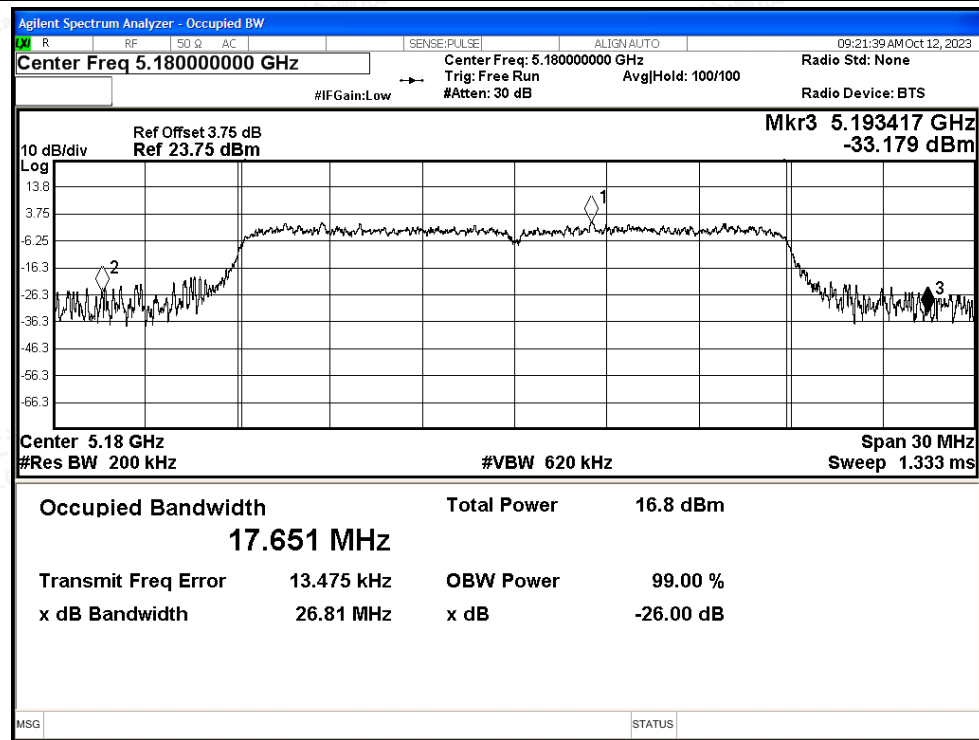




-26dB Bandwidth NVNT a 5240MHz Ant1

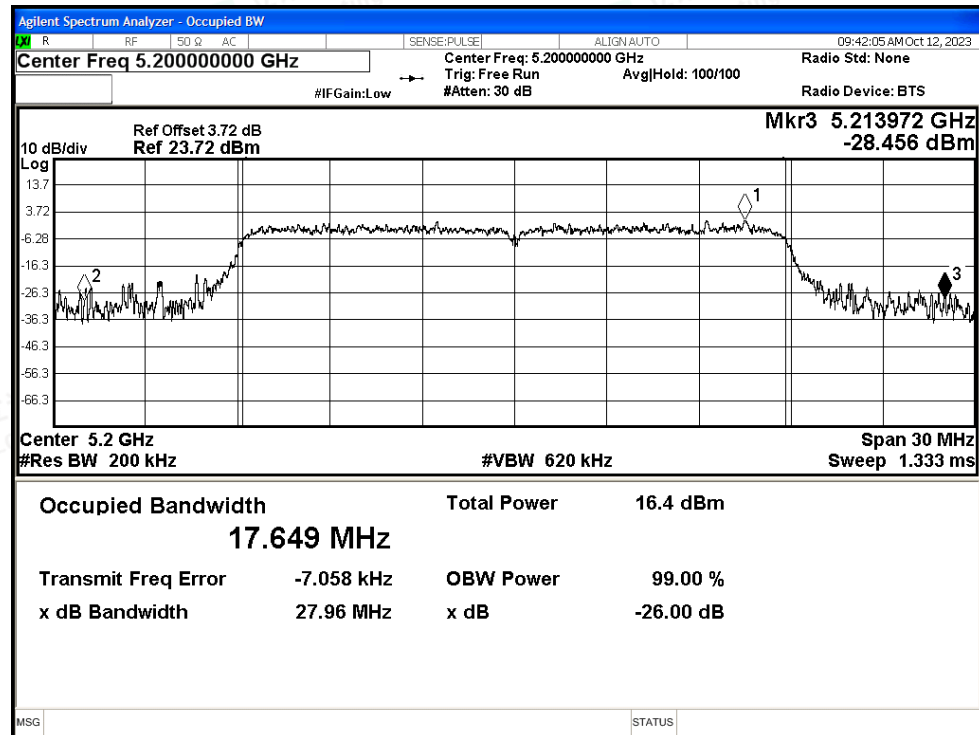


-26dB Bandwidth NVNT n20 5180MHz Ant1

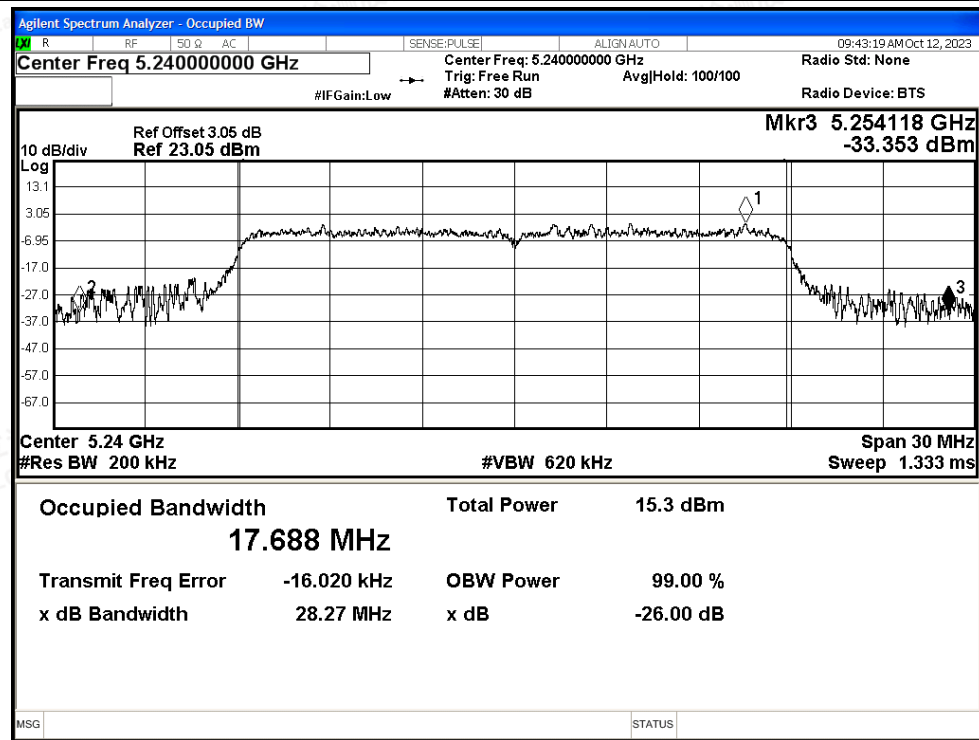




-26dB Bandwidth NVNT n20 5200MHz Ant1

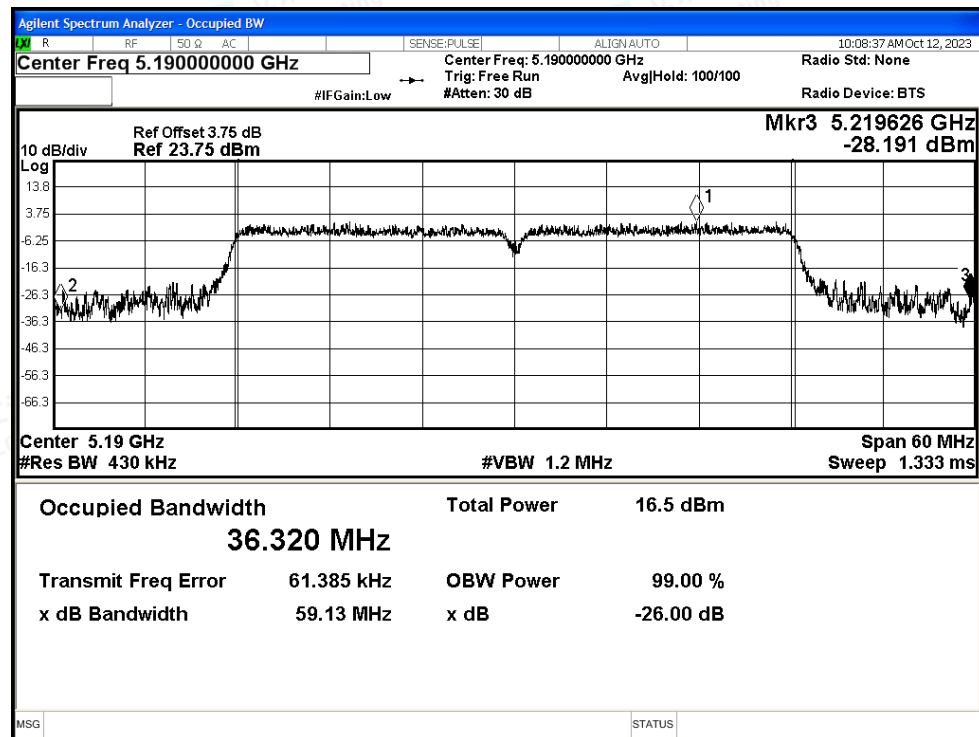


-26dB Bandwidth NVNT n20 5240MHz Ant1

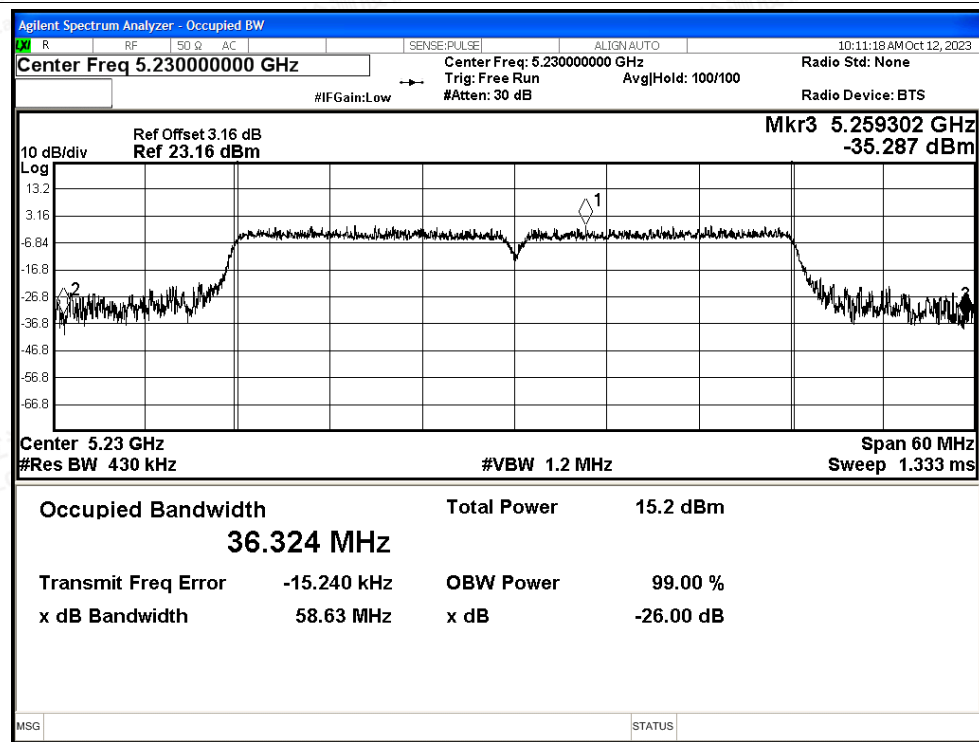




-26dB Bandwidth NVNT n40 5190MHz Ant1

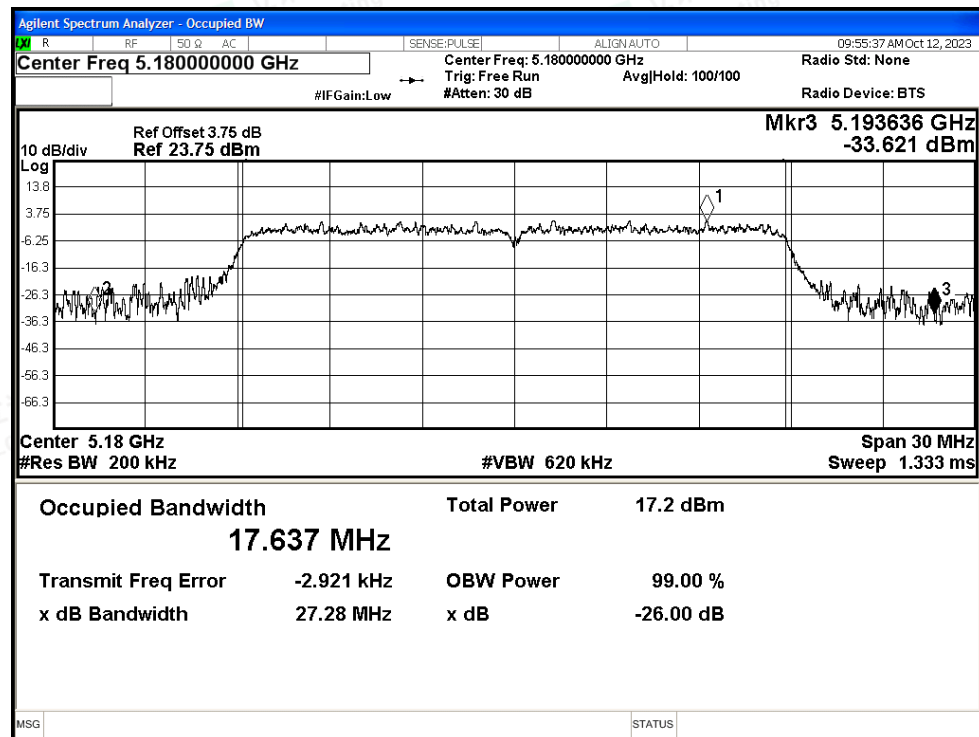


-26dB Bandwidth NVNT n40 5230MHz Ant1

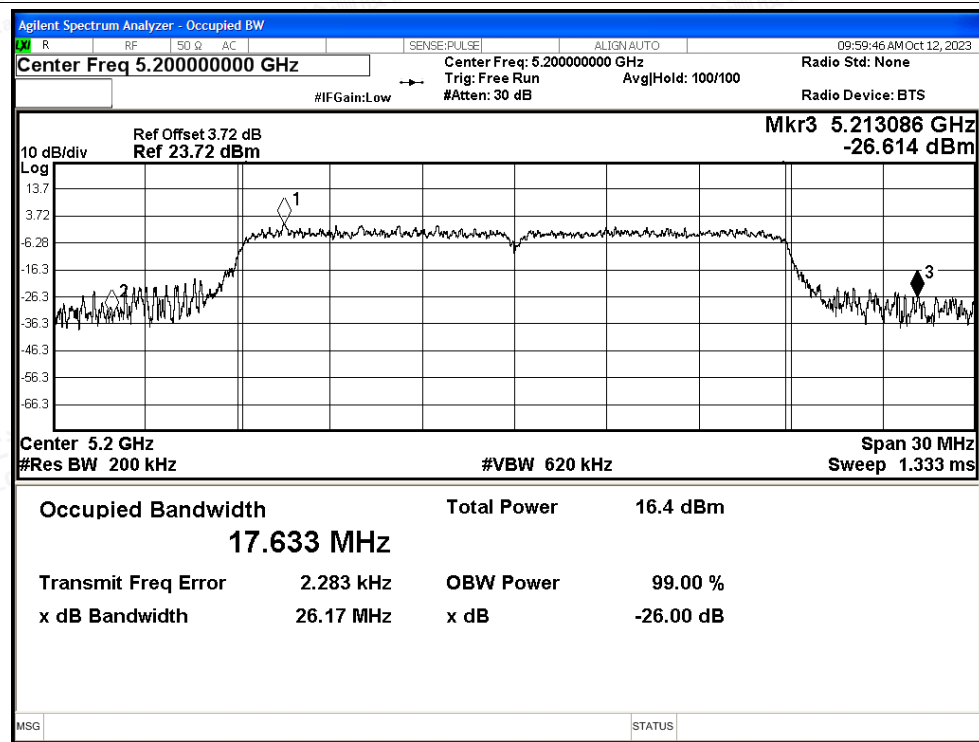




-26dB Bandwidth NVNT ac20 5180MHz Ant1

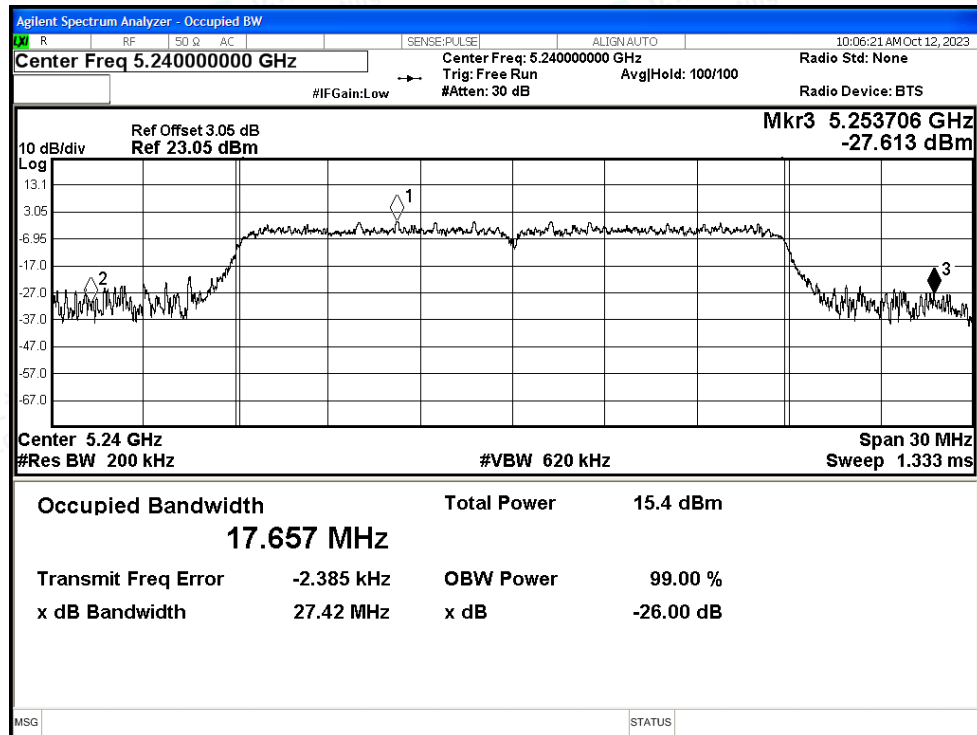


-26dB Bandwidth NVNT ac20 5200MHz Ant1

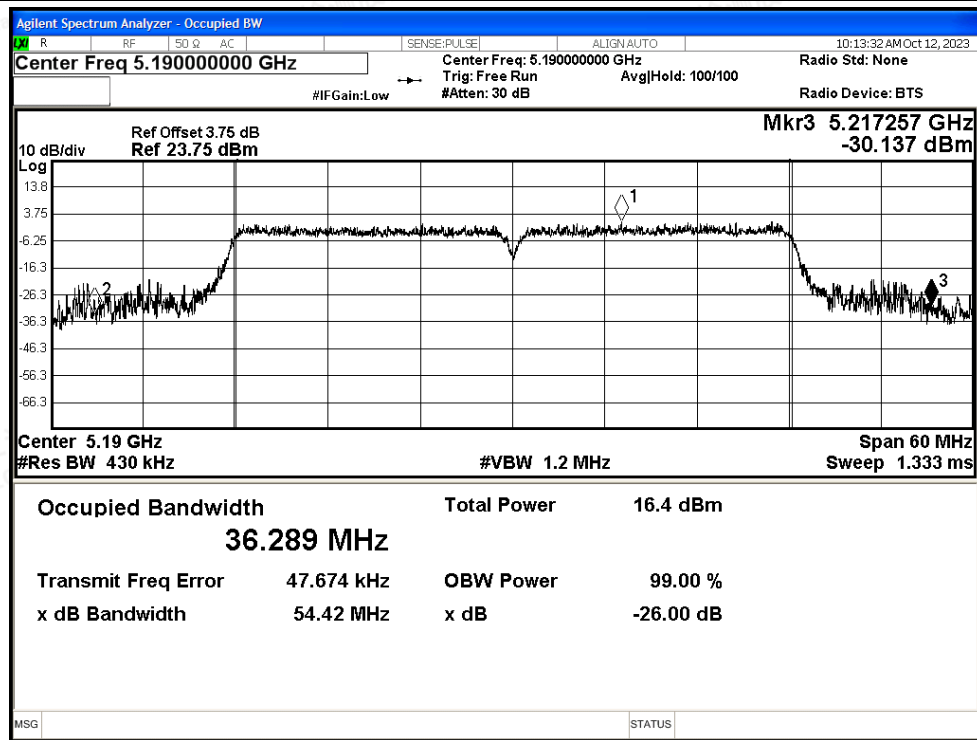




-26dB Bandwidth NVNT ac20 5240MHz Ant1

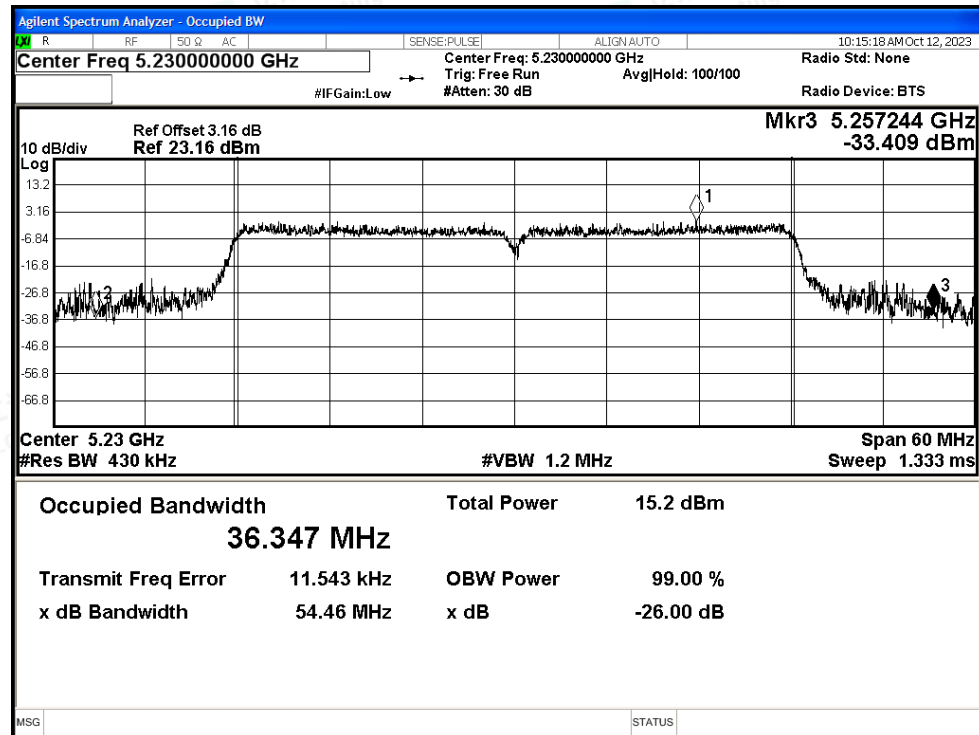


-26dB Bandwidth NVNT ac40 5190MHz Ant1

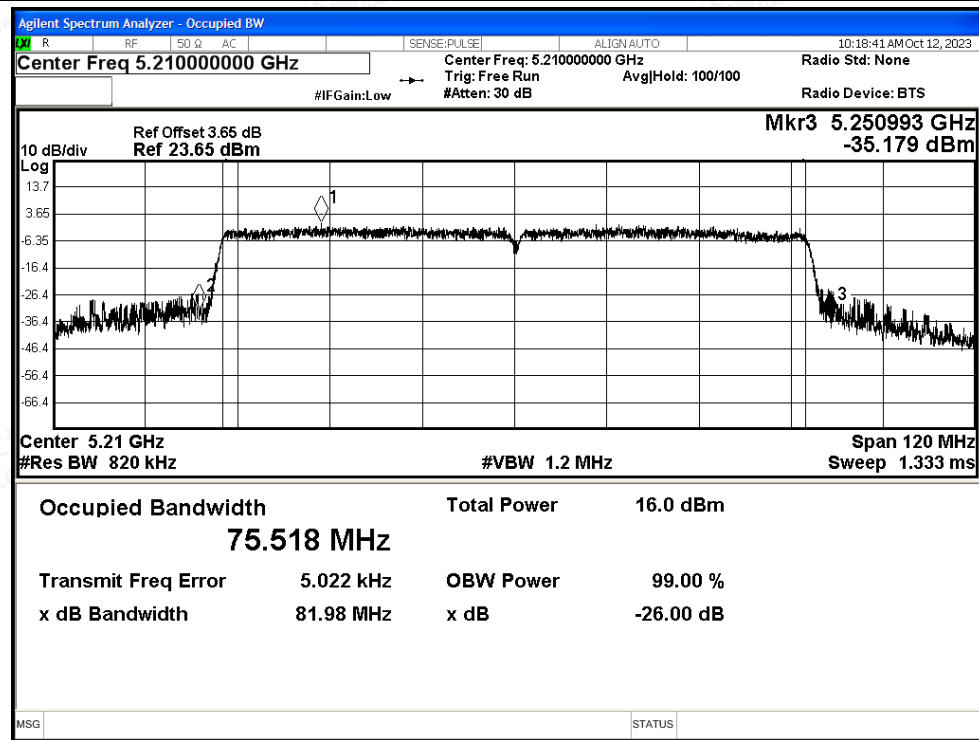




-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1





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	Ant1	11.28	0.5	11.78	24	Pass
NVNT	a	5200	Ant1	10.01	0.5	10.51	24	Pass
NVNT	a	5240	Ant1	9.27	0.53	9.80	24	Pass
NVNT	n20	5180	Ant1	10.67	0.59	11.26	24	Pass
NVNT	n20	5200	Ant1	10.27	0.59	10.86	24	Pass
NVNT	n20	5240	Ant1	9.14	0.59	9.73	24	Pass
NVNT	n40	5190	Ant1	9.64	1.61	11.25	24	Pass
NVNT	n40	5230	Ant1	8.57	1.26	9.83	24	Pass
NVNT	ac20	5180	Ant1	10.94	0.62	11.56	24	Pass
NVNT	ac20	5200	Ant1	10.43	0.59	11.02	24	Pass
NVNT	ac20	5240	Ant1	9.39	0.59	9.98	24	Pass
NVNT	ac40	5190	Ant1	9.6	1.15	10.75	24	Pass
NVNT	ac40	5230	Ant1	8.31	1.24	9.55	24	Pass
NVNT	ac80	5210	Ant1	8.09	1.97	10.06	24	Pass





D.3 Maximum Power Spectral Density Level

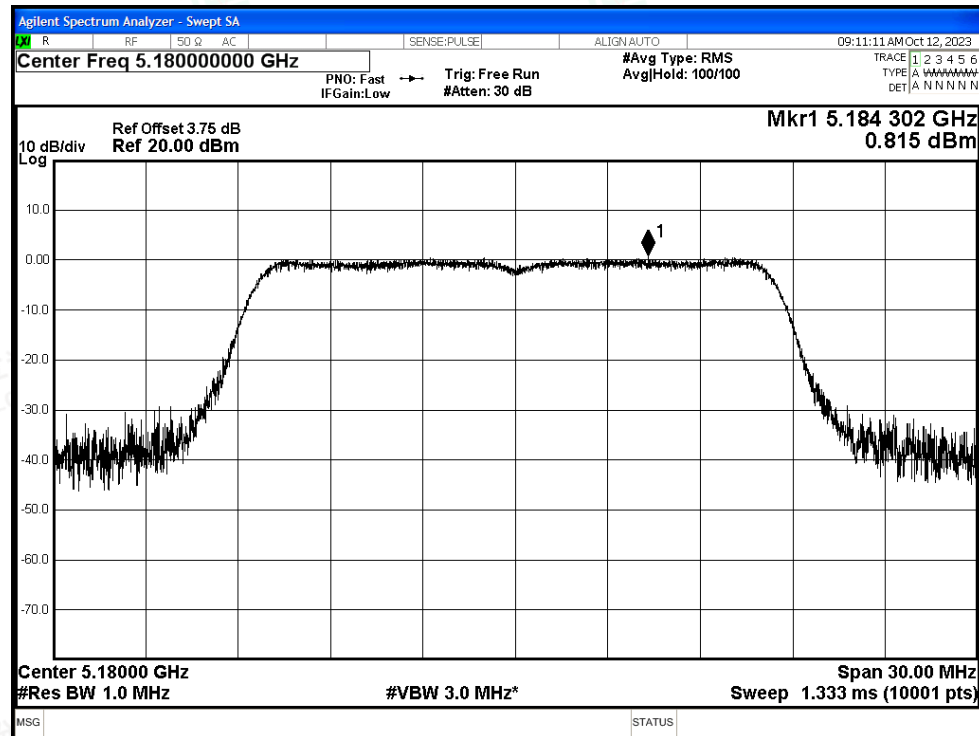
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	0.82	0.5	1.32	11	Pass
NVNT	a	5200	Ant1	-0.62	0.5	-0.12	11	Pass
NVNT	a	5240	Ant1	-1.25	0.53	-0.72	11	Pass
NVNT	n20	5180	Ant1	0.03	0.62	0.65	11	Pass
NVNT	n20	5200	Ant1	-0.26	0.59	0.33	11	Pass
NVNT	n20	5240	Ant1	-1.38	0.59	-0.79	11	Pass
NVNT	n40	5190	Ant1	-3.57	1.61	-1.96	11	Pass
NVNT	n40	5230	Ant1	-5.12	1.26	-3.86	11	Pass
NVNT	ac20	5180	Ant1	0.4	0.62	1.02	11	Pass
NVNT	ac20	5200	Ant1	-0.48	0.59	0.11	11	Pass
NVNT	ac20	5240	Ant1	-1.43	0.59	-0.84	11	Pass
NVNT	ac40	5190	Ant1	-4.07	1.15	-2.92	11	Pass
NVNT	ac40	5230	Ant1	-4.94	1.24	-3.7	11	Pass
NVNT	ac80	5210	Ant1	-7.97	1.97	-6	11	Pass



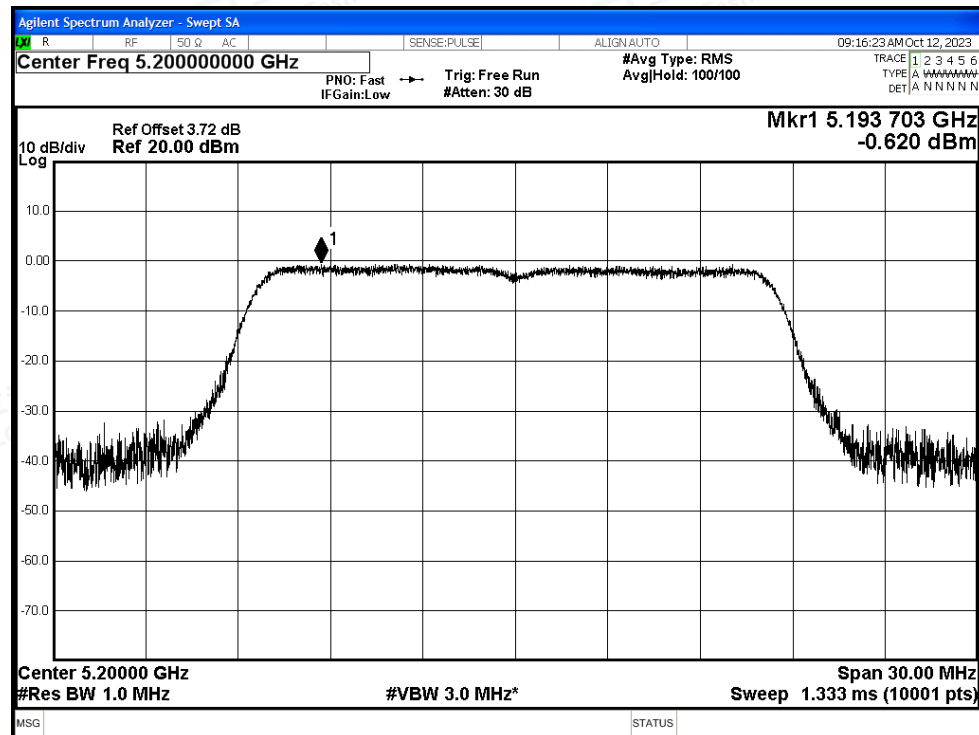


Test Graphs

PSD NVNT a 5180MHz Ant1

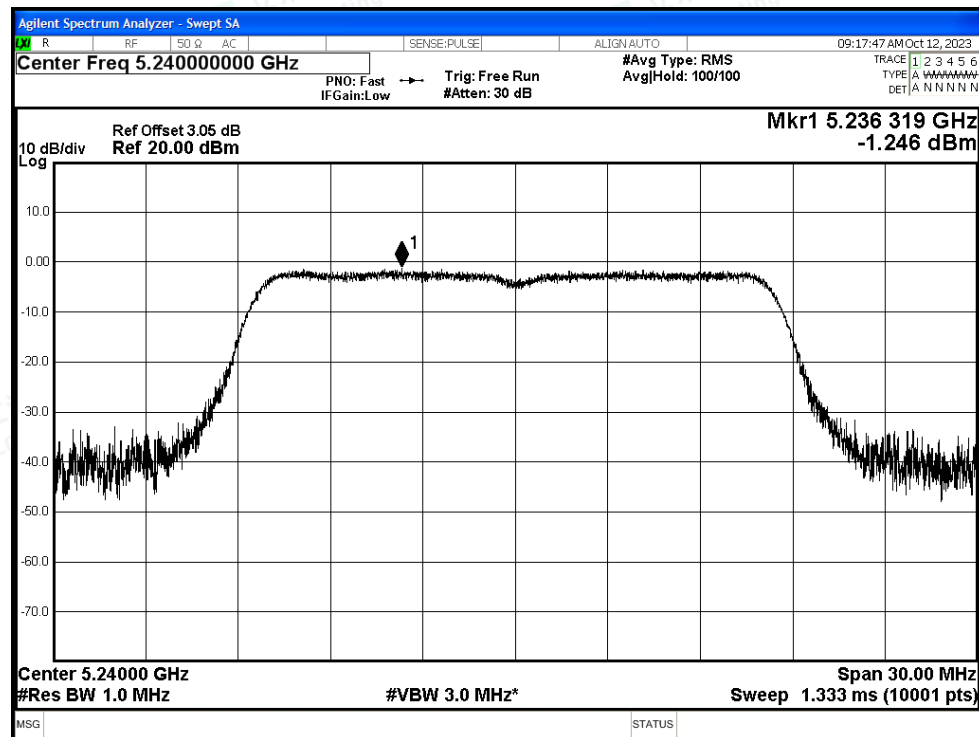


PSD NVNT a 5200MHz Ant1

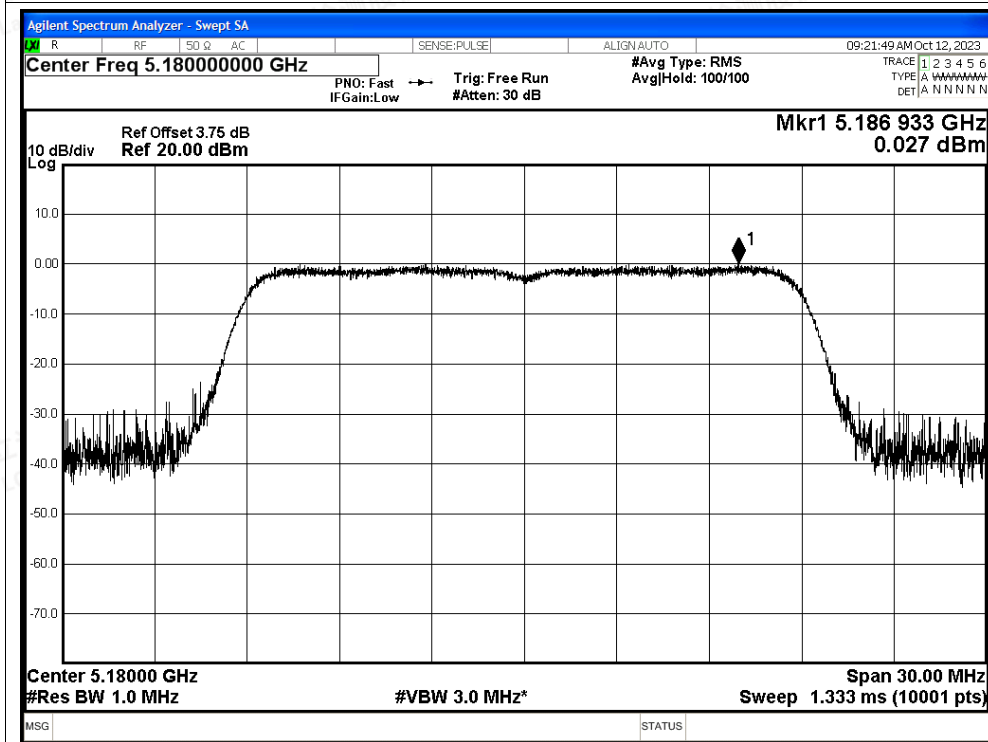


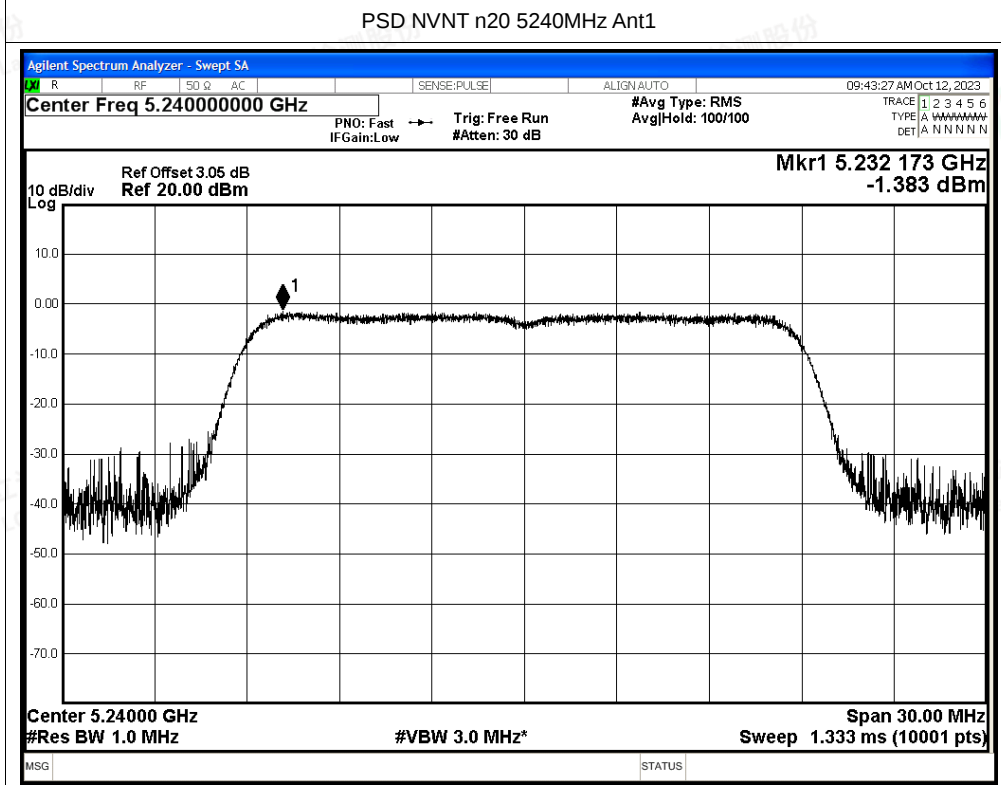
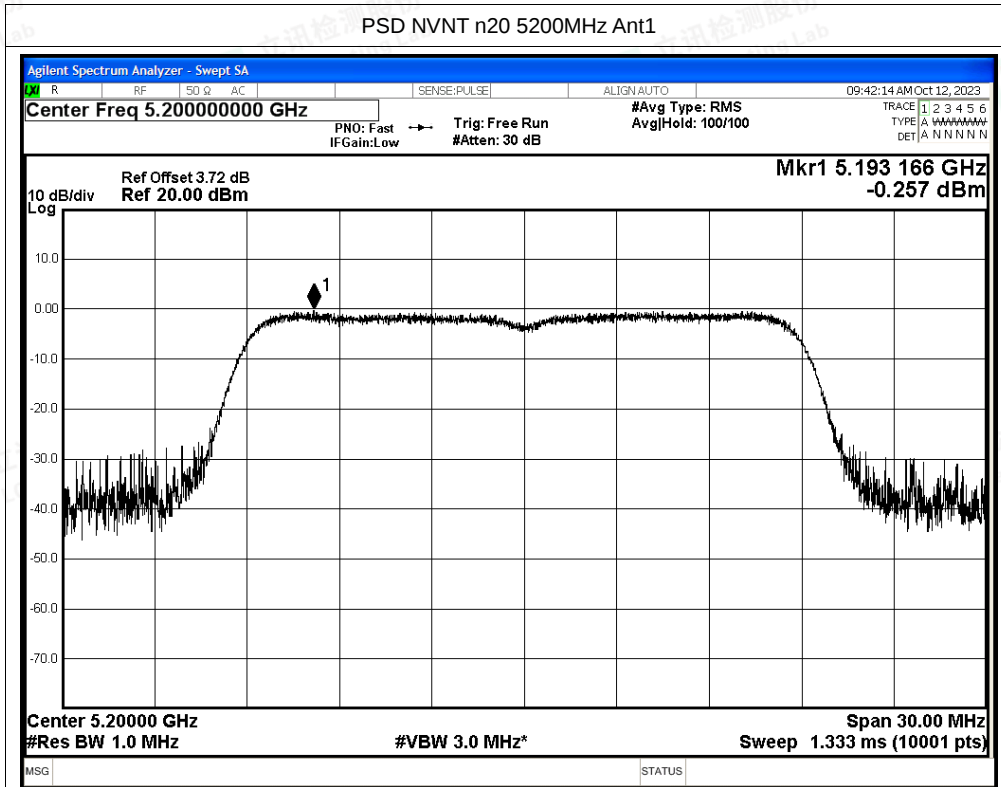


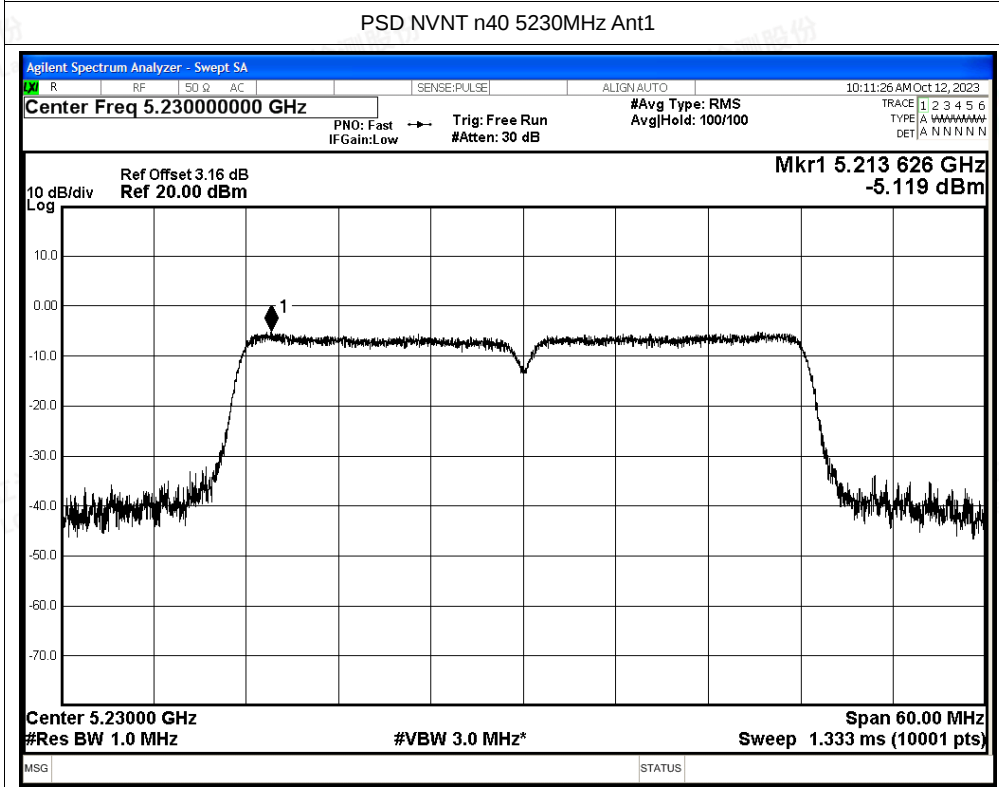
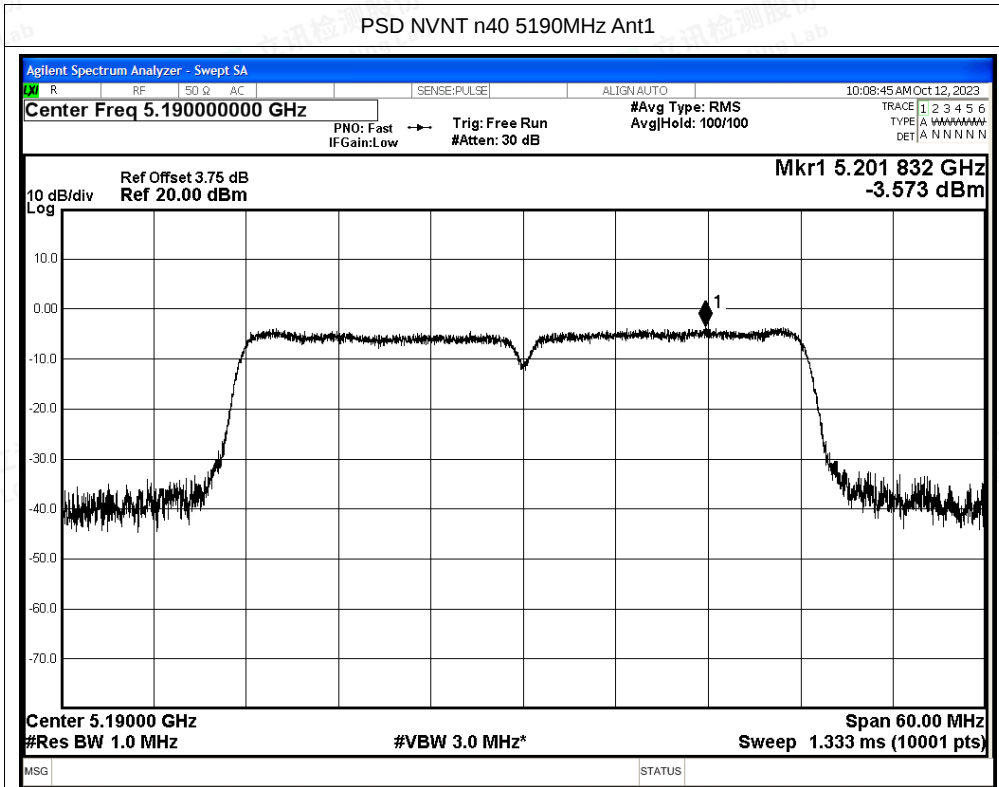
PSD NVNT a 5240MHz Ant1



PSD NVNT n20 5180MHz Ant1

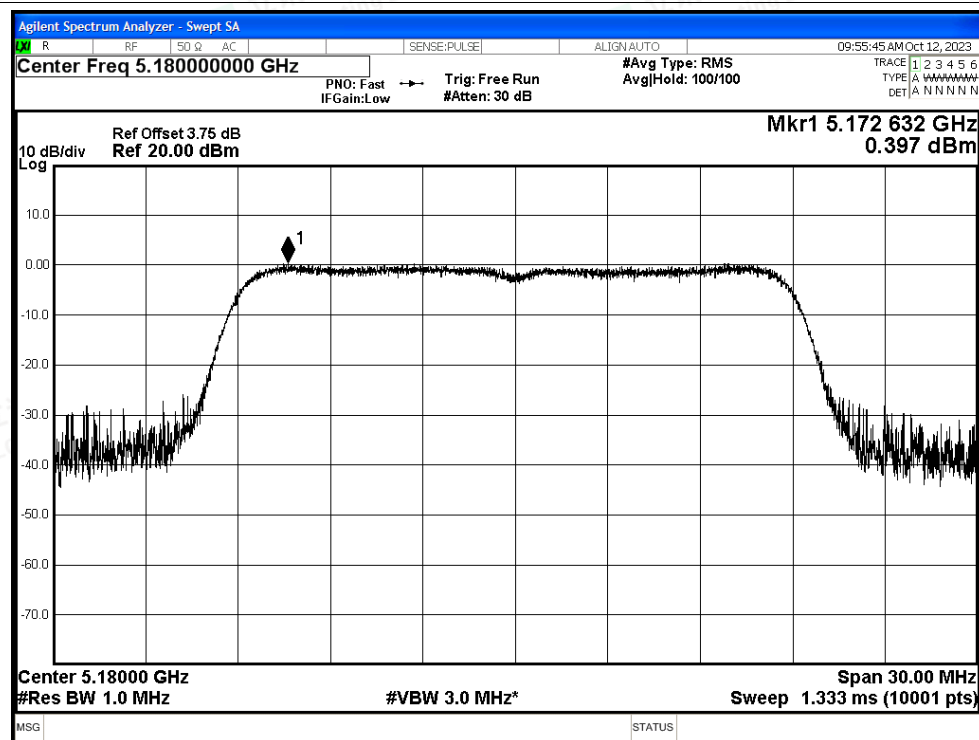




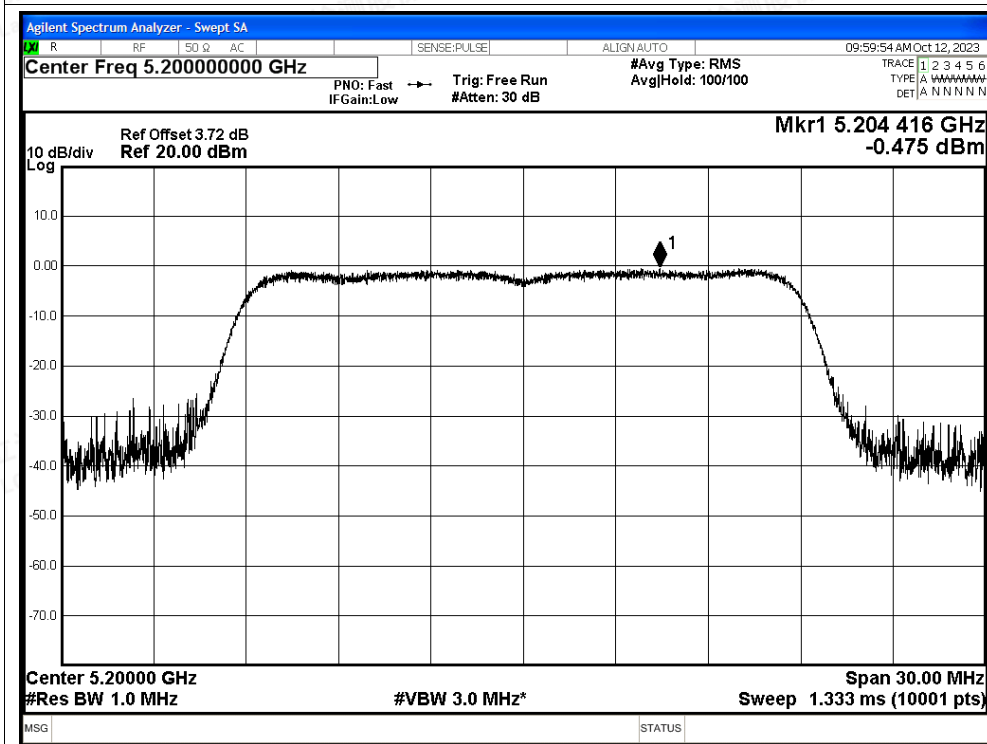




PSD NVNT ac20 5180MHz Ant1

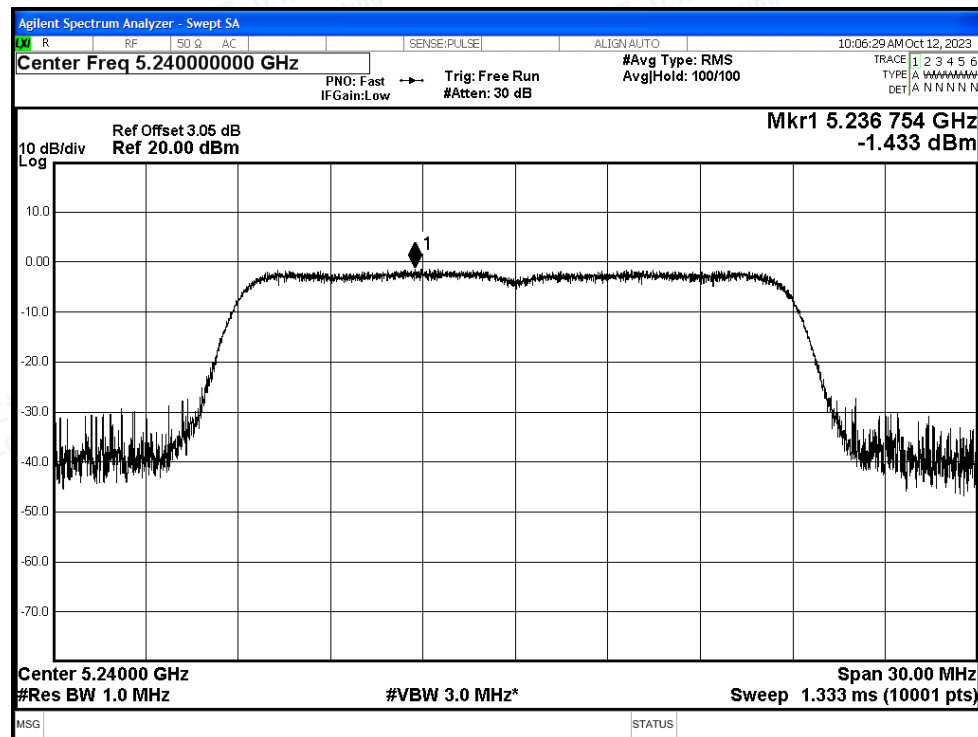


PSD NVNT ac20 5200MHz Ant1

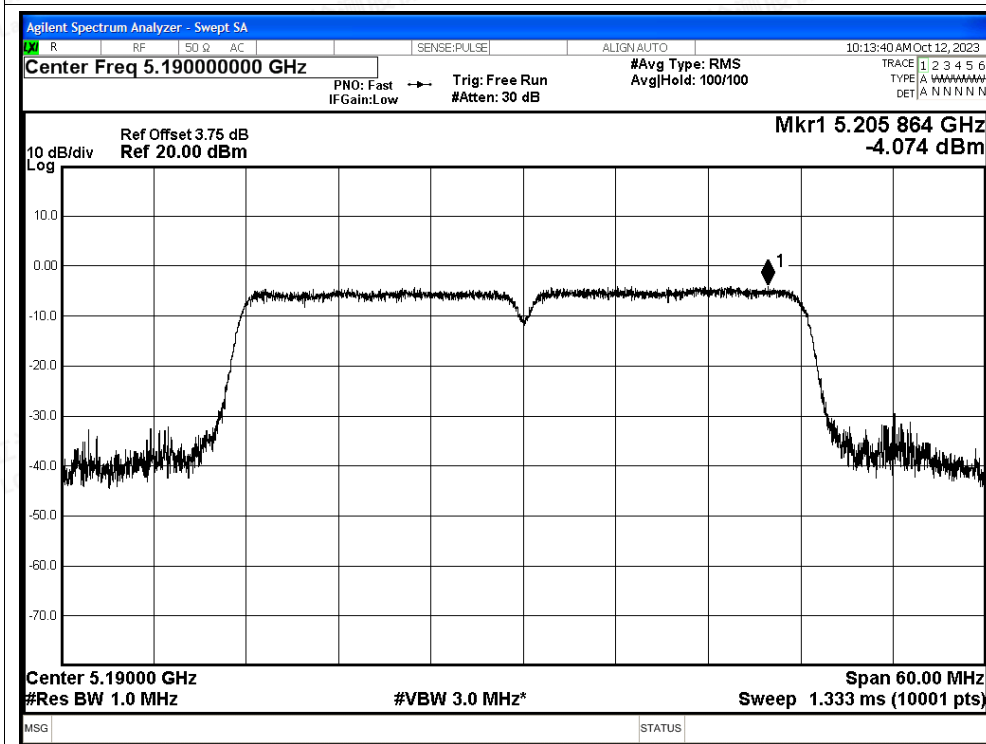




PSD NVNT ac20 5240MHz Ant1

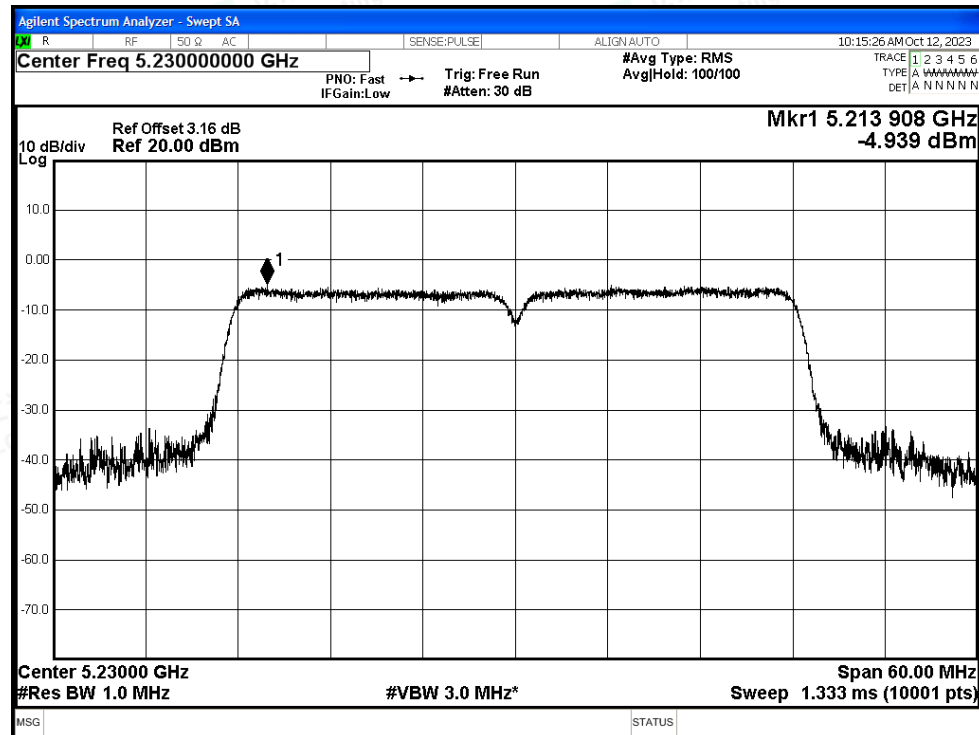


PSD NVNT ac40 5190MHz Ant1

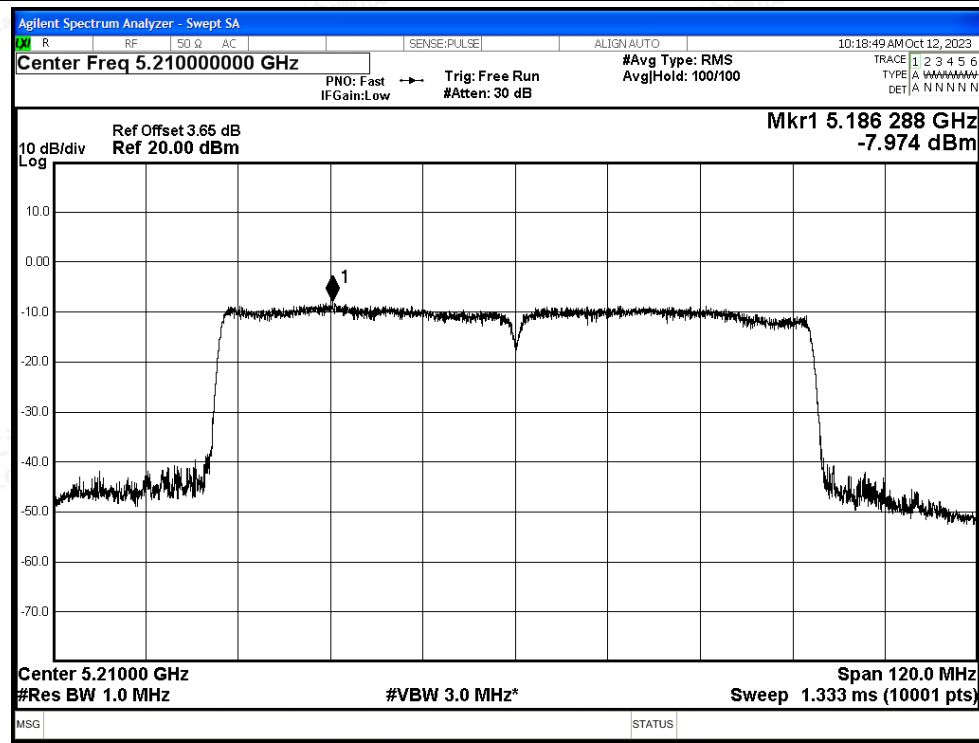




PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1





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	Ant1	4500	-49.57	4.6828	50.34	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-57.2	4.6828	42.71	Average	54	Pass
NVNT	a	5180	Ant1	5148.2	-38.48	4.6828	61.43	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-48.06	4.6828	51.85	Average	54	Pass
NVNT	a	5180	Ant1	5150	-38.42	4.6828	61.49	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-47.77	4.6828	52.14	Average	54	Pass
NVNT	a	5240	Ant1	5350	-49.69	4.6828	50.22	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-57.15	4.6828	42.76	Average	54	Pass
NVNT	a	5240	Ant1	5440.08	-47.25	4.6828	52.66	Peak	68.2	Pass
NVNT	a	5240	Ant1	5386.32	-56.83	4.6828	43.08	Average	54	Pass
NVNT	a	5240	Ant1	5460	-49.62	4.6828	50.29	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-57.13	4.6828	42.78	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-50.03	4.6828	49.88	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-57.15	4.6828	42.76	Average	54	Pass
NVNT	n20	5180	Ant1	5149.6	-37.21	4.6828	62.70	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5149.6	-46.44	4.6828	53.47	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-32.32	4.6828	67.59	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-46.41	4.6828	53.50	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-48.77	4.6828	51.14	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-56.99	4.6828	42.92	Average	54	Pass
NVNT	n20	5240	Ant1	5419.44	-47.45	4.6828	52.46	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5452.32	-56.72	4.6828	43.19	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-50.29	4.6828	49.62	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-56.95	4.6828	42.96	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-50.64	4.6828	49.27	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-57.03	4.6828	42.88	Average	54	Pass
NVNT	n40	5190	Ant1	5148.24	-44.42	4.6828	55.49	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5148.24	-53.51	4.6828	46.40	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-47.03	4.6828	52.88	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-53.51	4.6828	46.40	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-50.82	4.6828	49.09	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-56.67	4.6828	43.24	Average	54	Pass
NVNT	n40	5230	Ant1	5396.55	-46.63	4.6828	53.28	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5454.6	-56.23	4.6828	43.68	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-50.52	4.6828	49.39	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-56.82	4.6828	43.09	Average	54	Pass
NVNT	ac20	5180	Ant1	4500	-48.73	4.6828	51.18	Peak	68.2	Pass



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



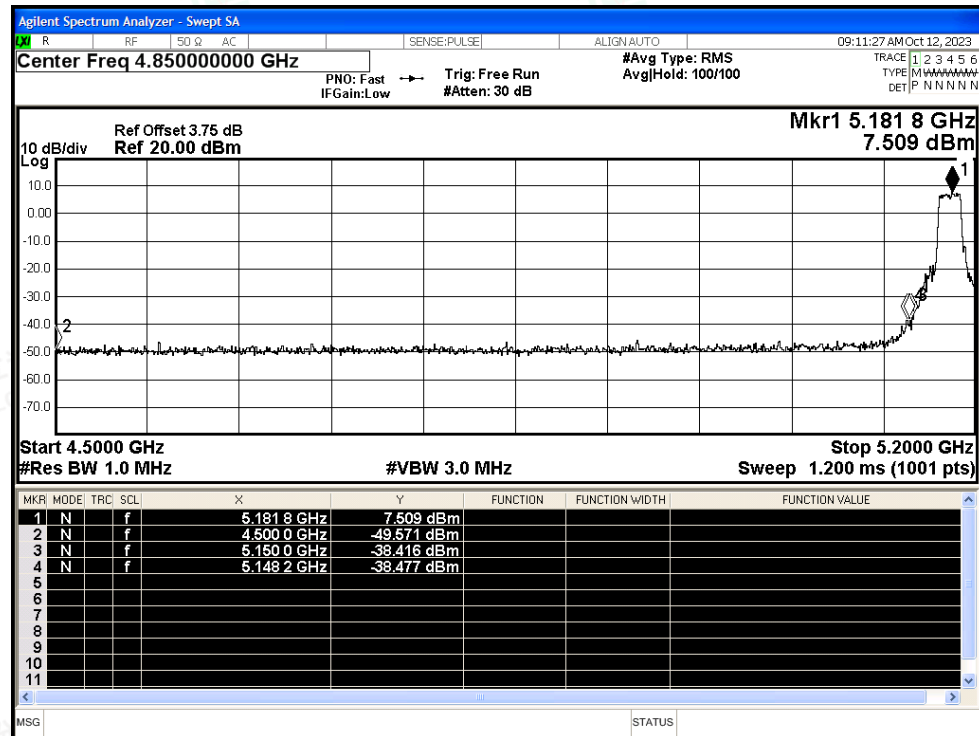
NVNT	ac20	5180	Ant1	4500	-57.01	4.6828	42.90	Average	54	Pass
NVNT	ac20	5180	Ant1	5147.5	-34.69	4.6828	65.22	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5149.6	-45.98	4.6828	53.93	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-35.49	4.6828	64.42	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-46.02	4.6828	53.89	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-50.21	4.6828	49.70	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-57.05	4.6828	42.86	Average	54	Pass
NVNT	ac20	5240	Ant1	5380.56	-47.34	4.6828	52.57	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5384.64	-56.66	4.6828	43.25	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-49.77	4.6828	50.14	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-57.14	4.6828	42.77	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-49.28	4.6828	50.63	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-57.02	4.6828	42.89	Average	54	Pass
NVNT	ac40	5190	Ant1	5149.7	-44.29	4.6828	55.62	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5149.7	-53.48	4.6828	46.43	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-44.29	4.6828	55.62	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-53.48	4.6828	46.43	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-50.55	4.6828	49.36	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-56.8	4.6828	43.11	Average	54	Pass
NVNT	ac40	5230	Ant1	5424.9	-46.76	4.6828	53.15	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5383.05	-56.25	4.6828	43.66	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-49.15	4.6828	50.76	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-56.52	4.6828	43.39	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-47.16	4.6828	52.75	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-56.17	4.6828	43.74	Average	54	Pass
NVNT	ac80	5210	Ant1	5396.64	-46.72	4.6828	53.19	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5388.72	-55.18	4.6828	44.73	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-50.4	4.6828	49.51	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-56.44	4.6828	43.47	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-48.07	4.6828	51.84	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-56.81	4.6828	43.10	Average	54	Pass
NVNT	ac80	5210	Ant1	5068.01	-45.48	4.6828	54.43	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5147.8	-53.11	4.6828	46.80	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-44.98	4.6828	54.93	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-52.87	4.6828	47.04	Average	54	Pass



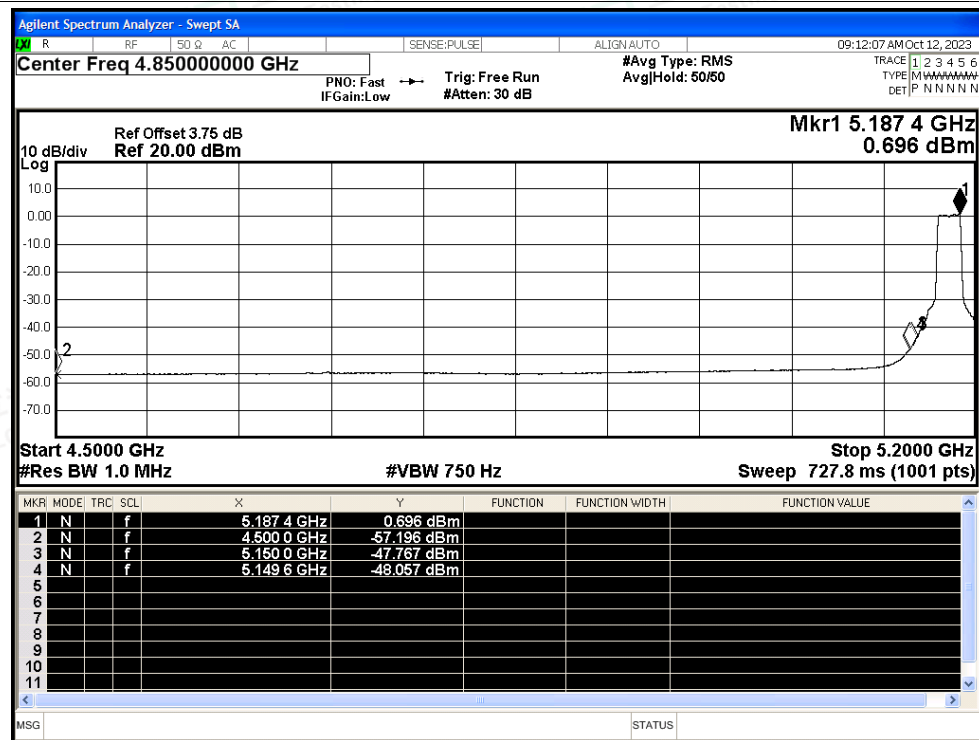


Test Graphs

Restrict Band NVNT a 5180MHz Ant1 Peak

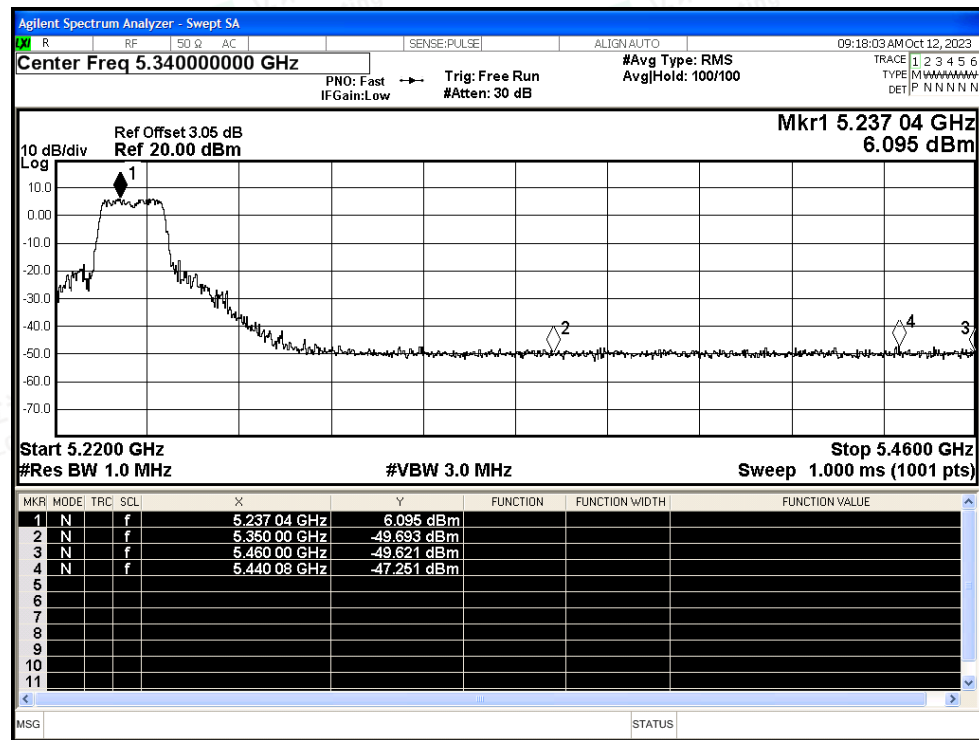


Restrict Band NVNT a 5180MHz Ant1 Average

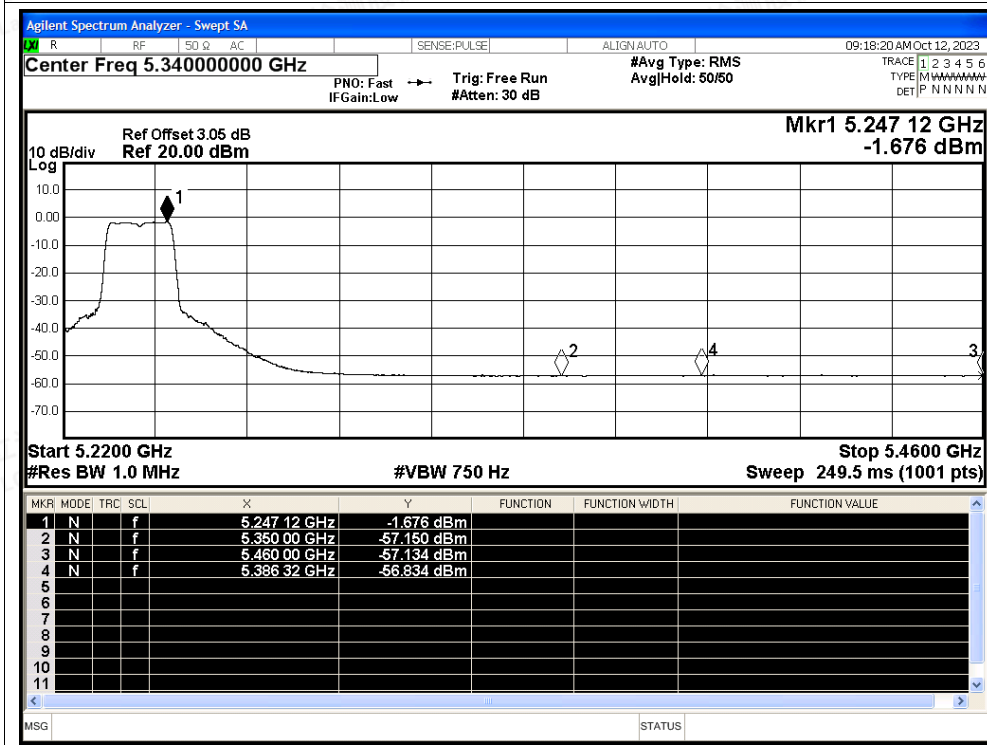




Restrict Band NVNT a 5240MHz Ant1 Peak

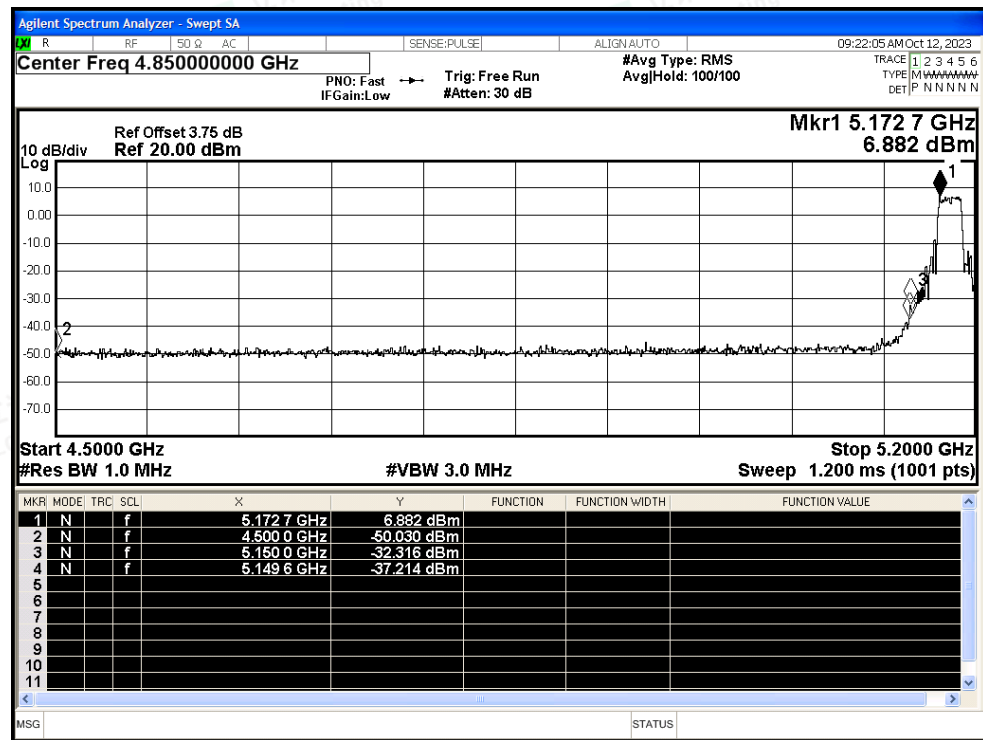


Restrict Band NVNT a 5240MHz Ant1 Average

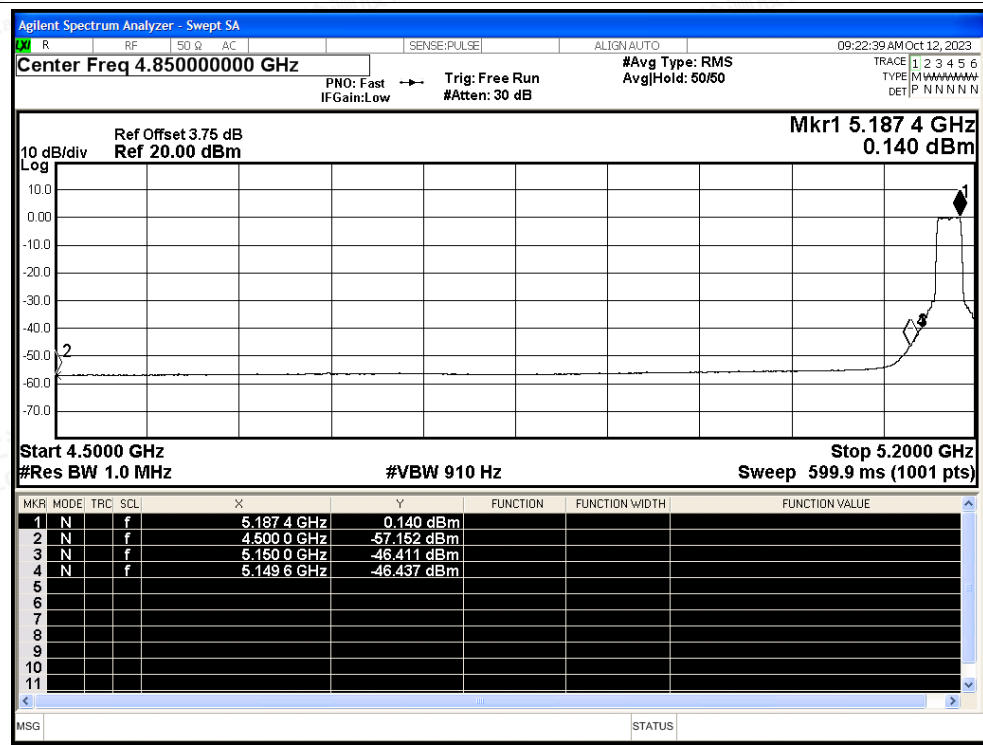




Restrict Band NVNT n20 5180MHz Ant1 Peak

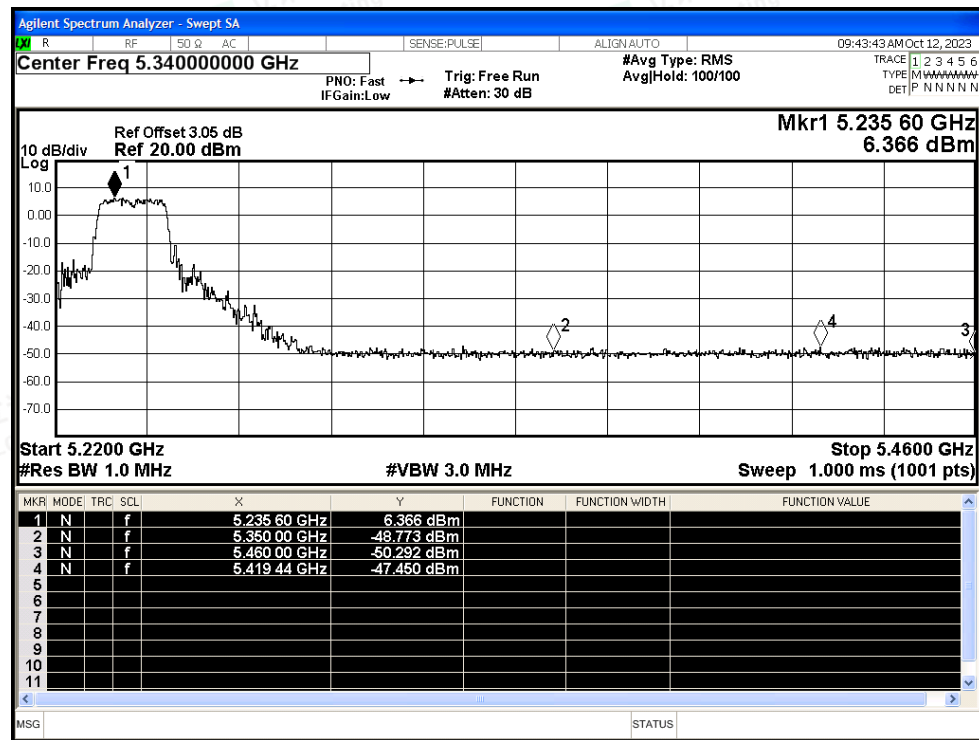


Restrict Band NVNT n20 5180MHz Ant1 Average

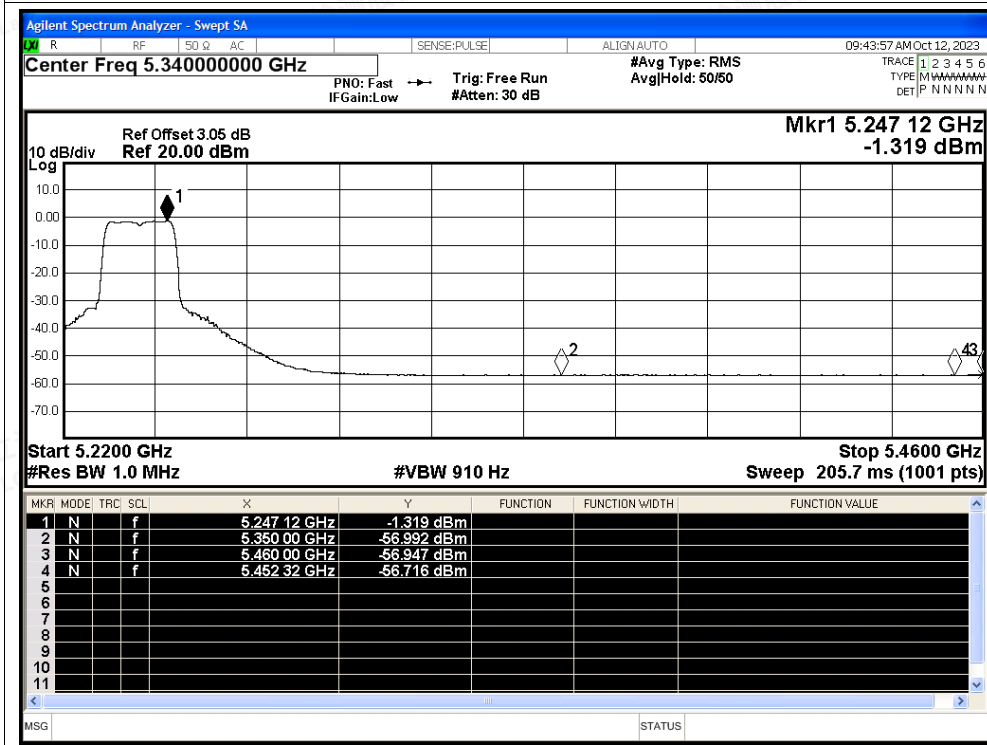




Restrict Band NVNT n20 5240MHz Ant1 Peak

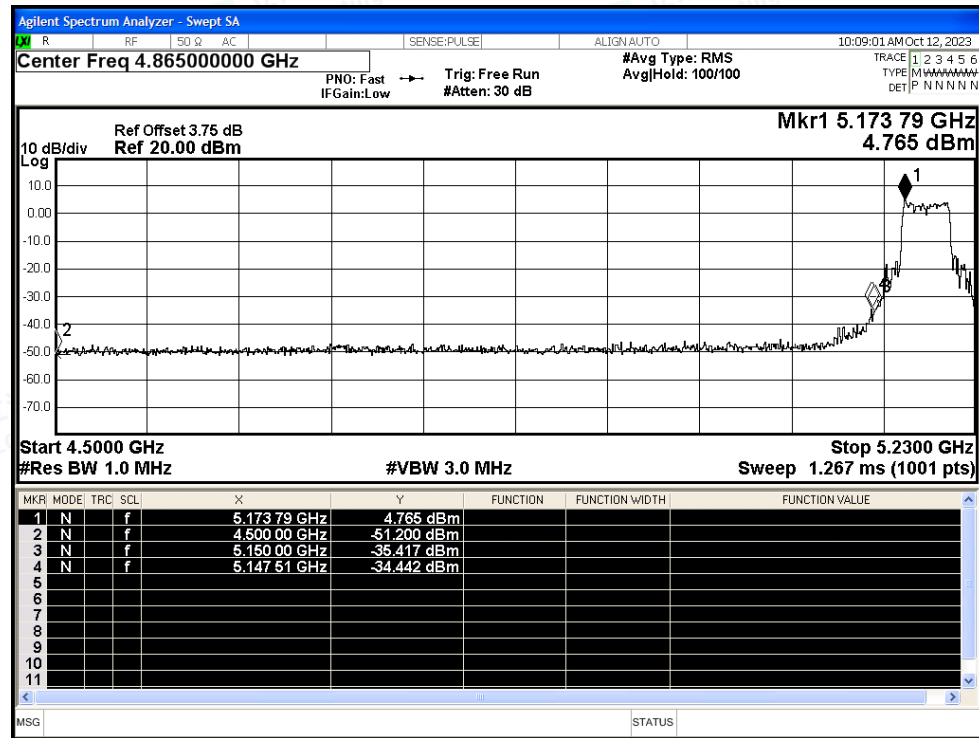


Restrict Band NVNT n20 5240MHz Ant1 Average

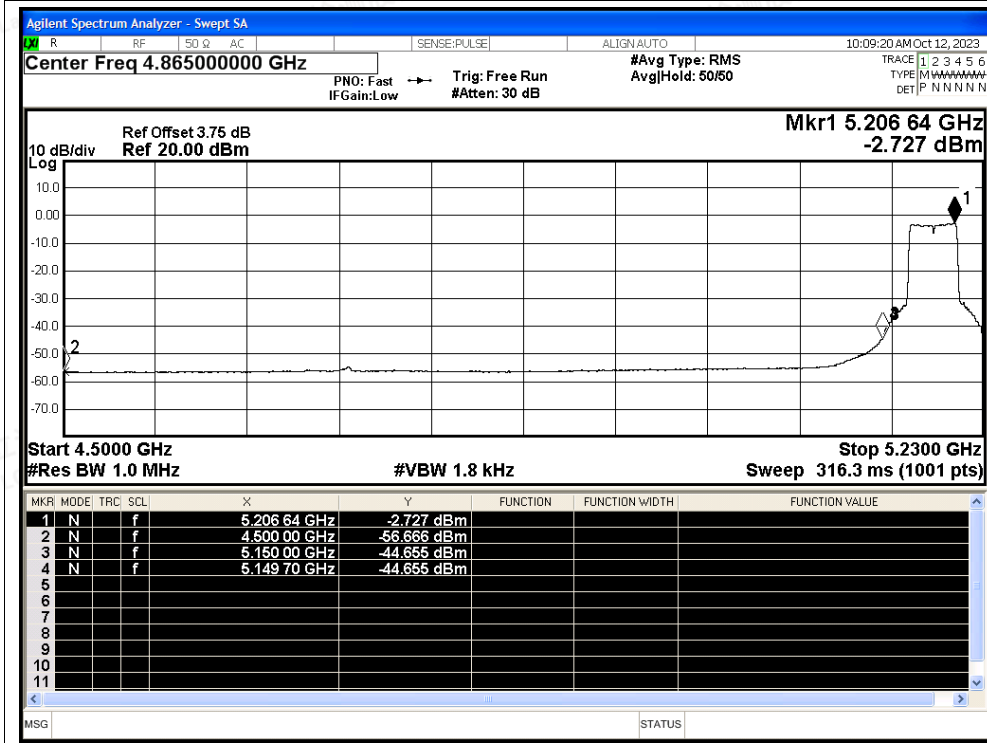




Restrict Band NVNT n40 5190MHz Ant1 Peak

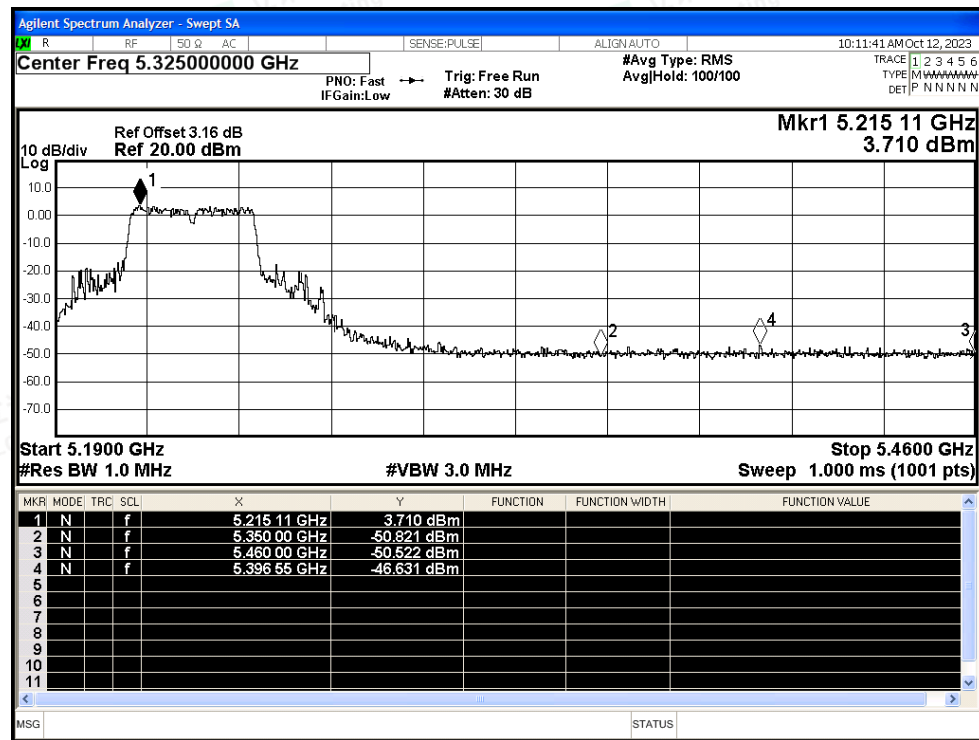


Restrict Band NVNT n40 5190MHz Ant1 Average

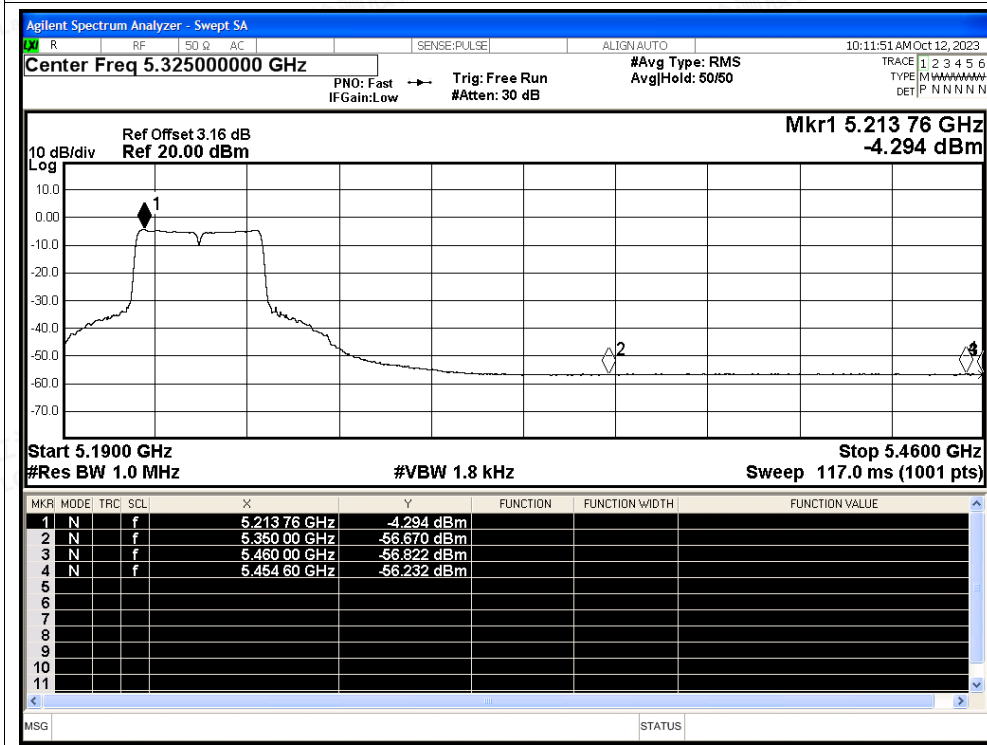




Restrict Band NVNT n40 5230MHz Ant1 Peak

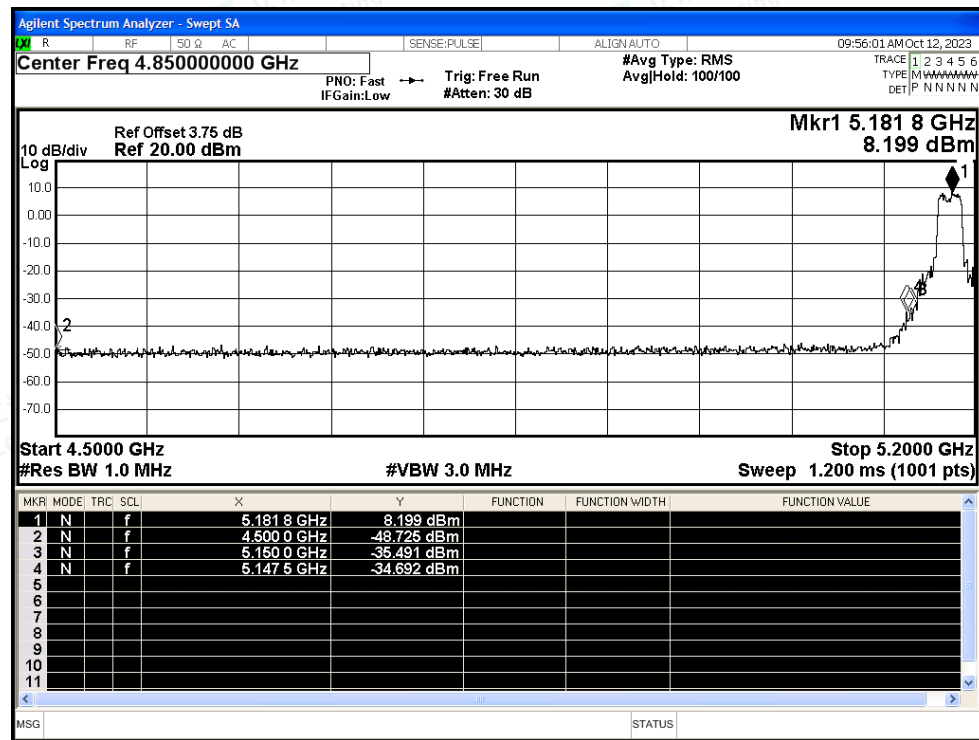


Restrict Band NVNT n40 5230MHz Ant1 Average

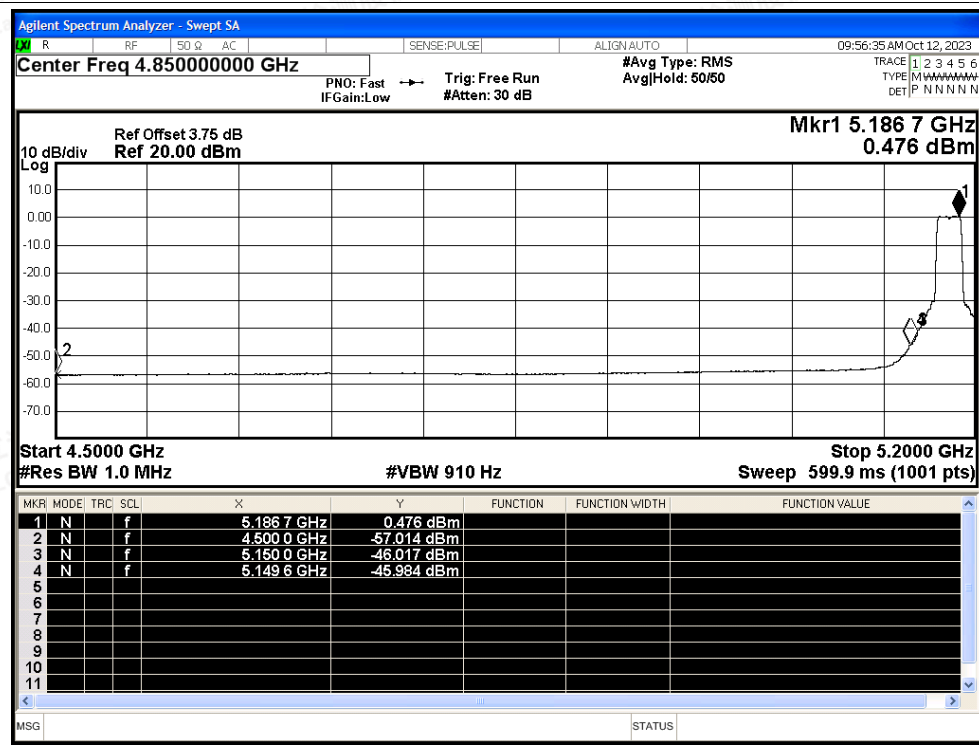




Restrict Band NVNT ac20 5180MHz Ant1 Peak

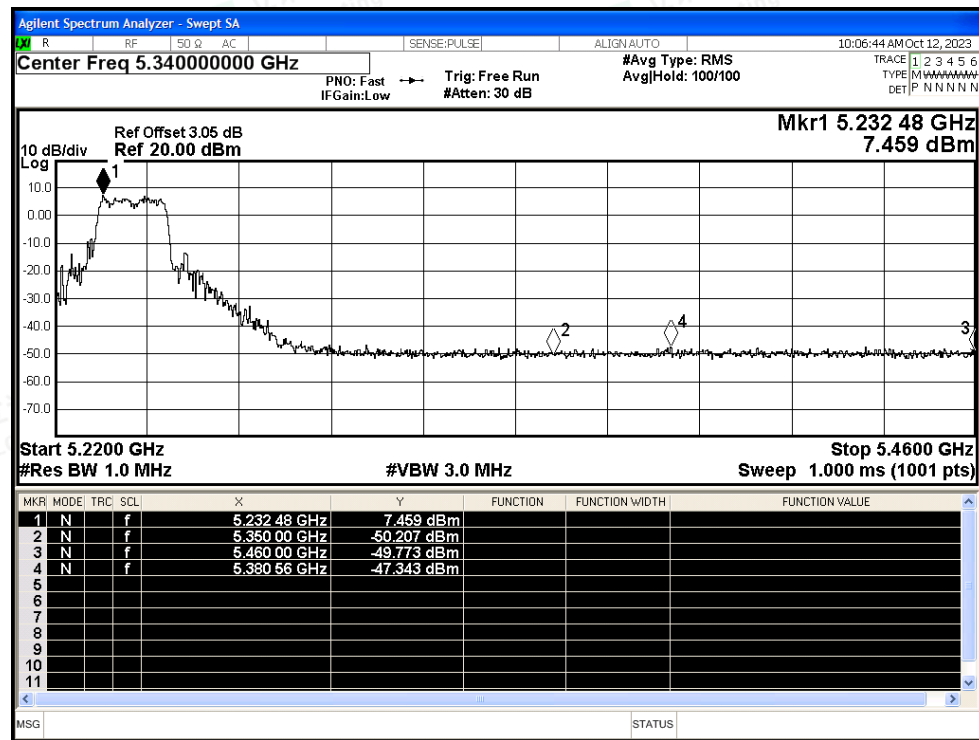


Restrict Band NVNT ac20 5180MHz Ant1 Average

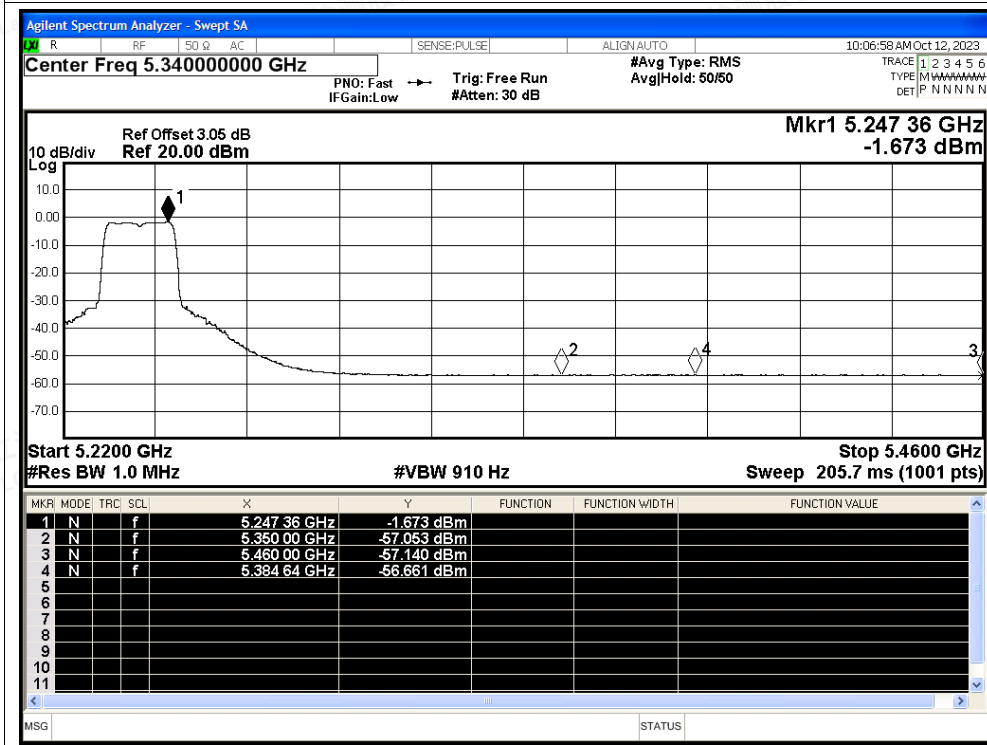




Restrict Band NVNT ac20 5240MHz Ant1 Peak

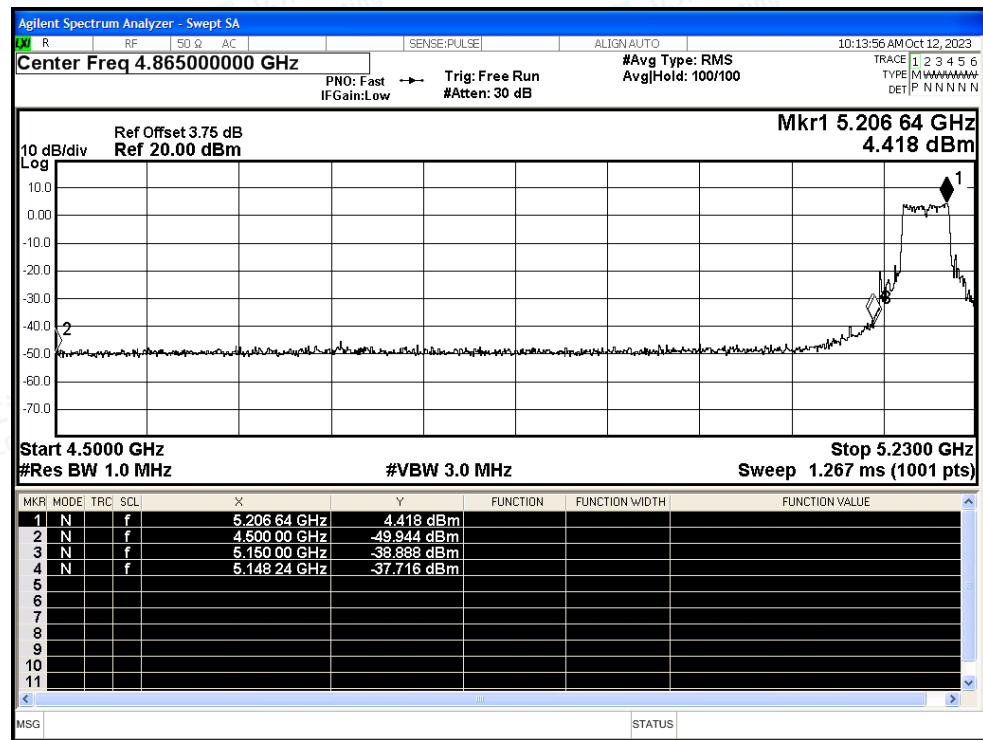


Restrict Band NVNT ac20 5240MHz Ant1 Average

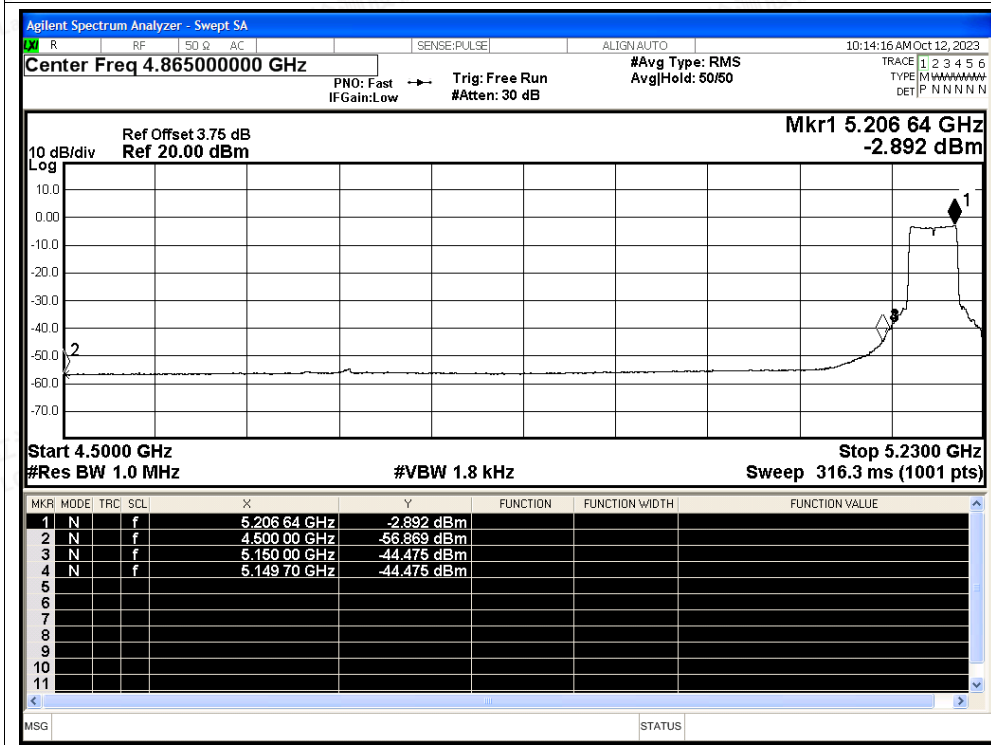




Restrict Band NVNT ac40 5190MHz Ant1 Peak

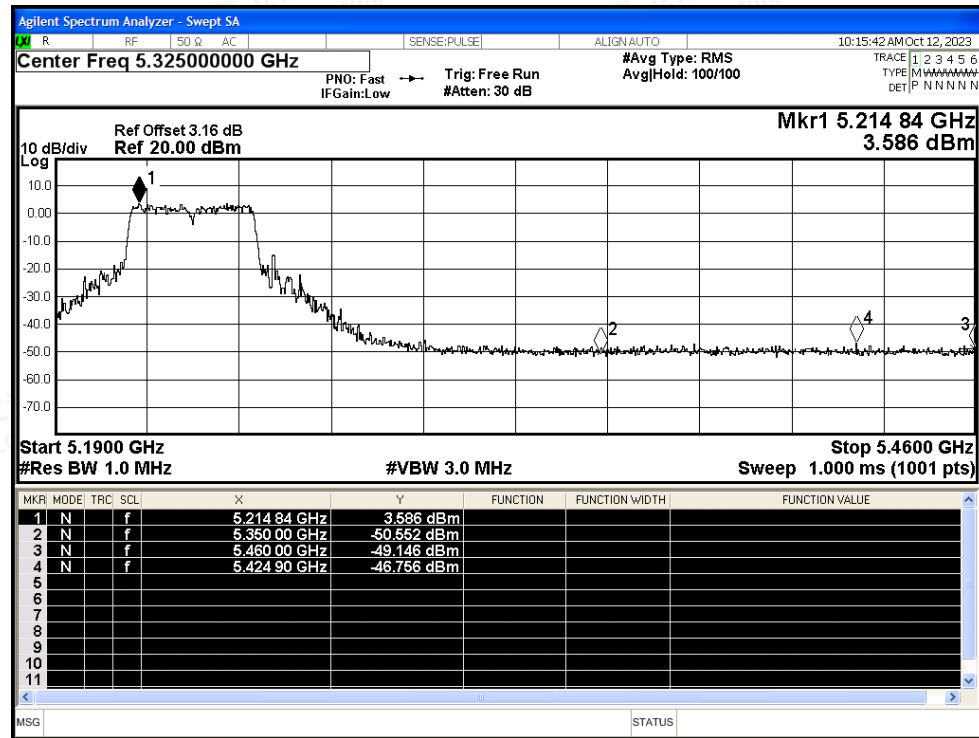


Restrict Band NVNT ac40 5190MHz Ant1 Average

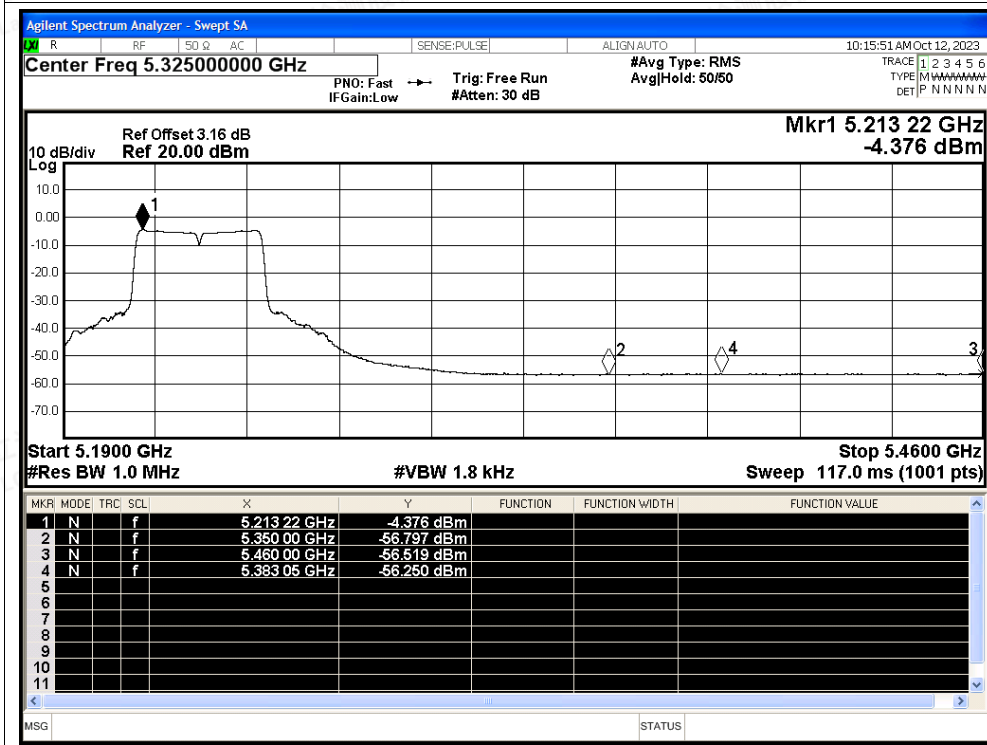




Restrict Band NVNT ac40 5230MHz Ant1 Peak



Restrict Band NVNT ac40 5230MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

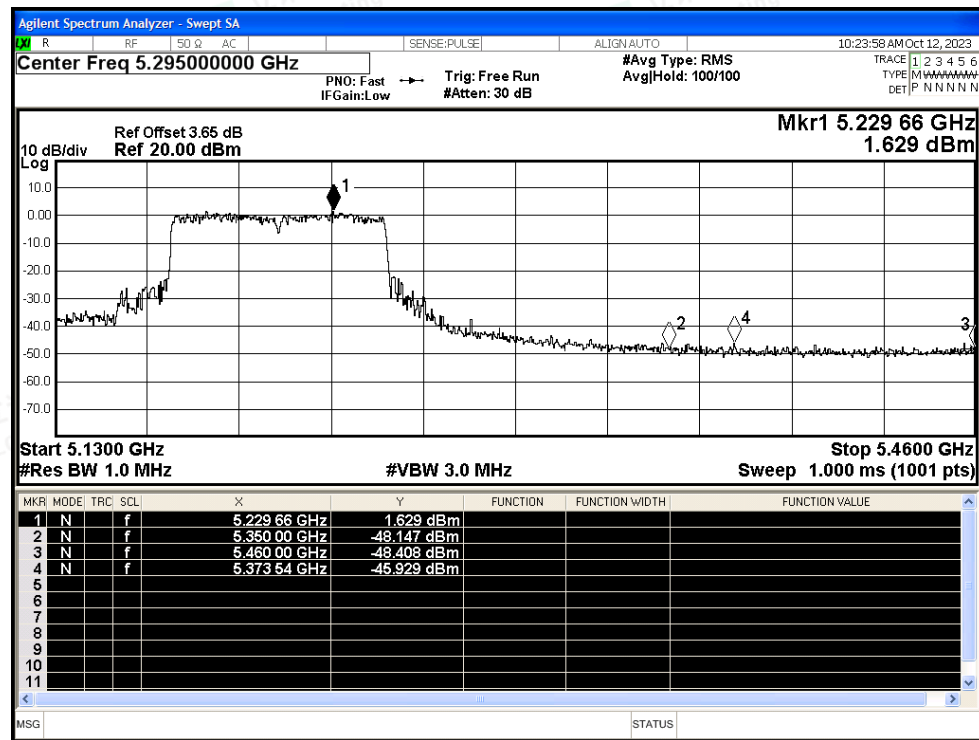
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

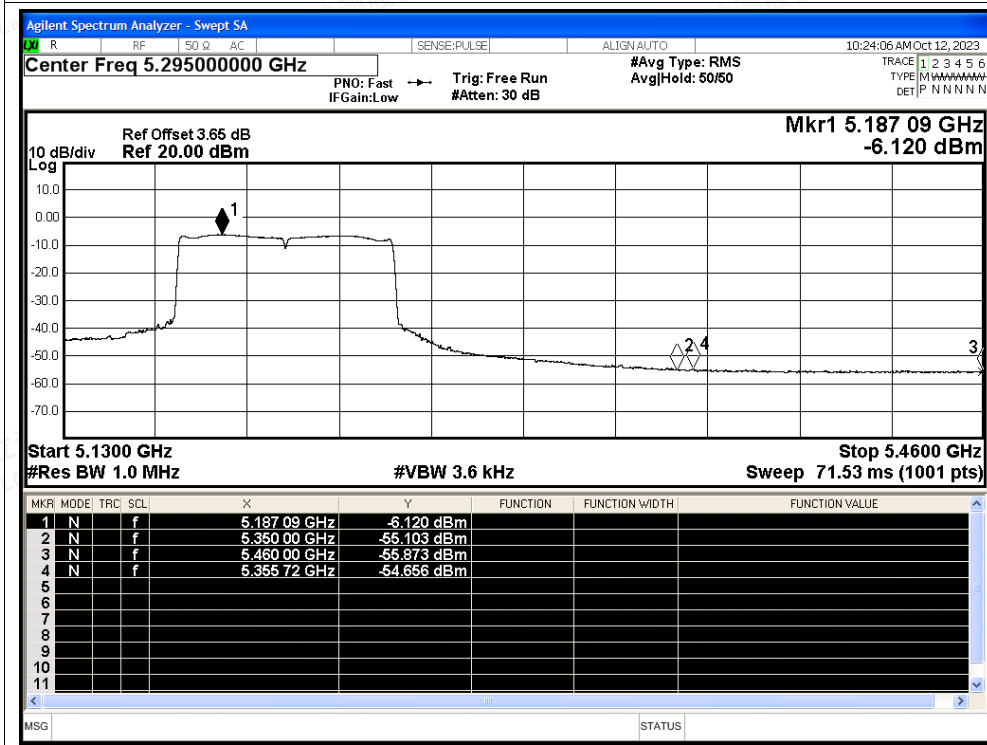
Scan code to check authenticity



Restrict Band NVNT ac80 5210MHz Ant1 Peak

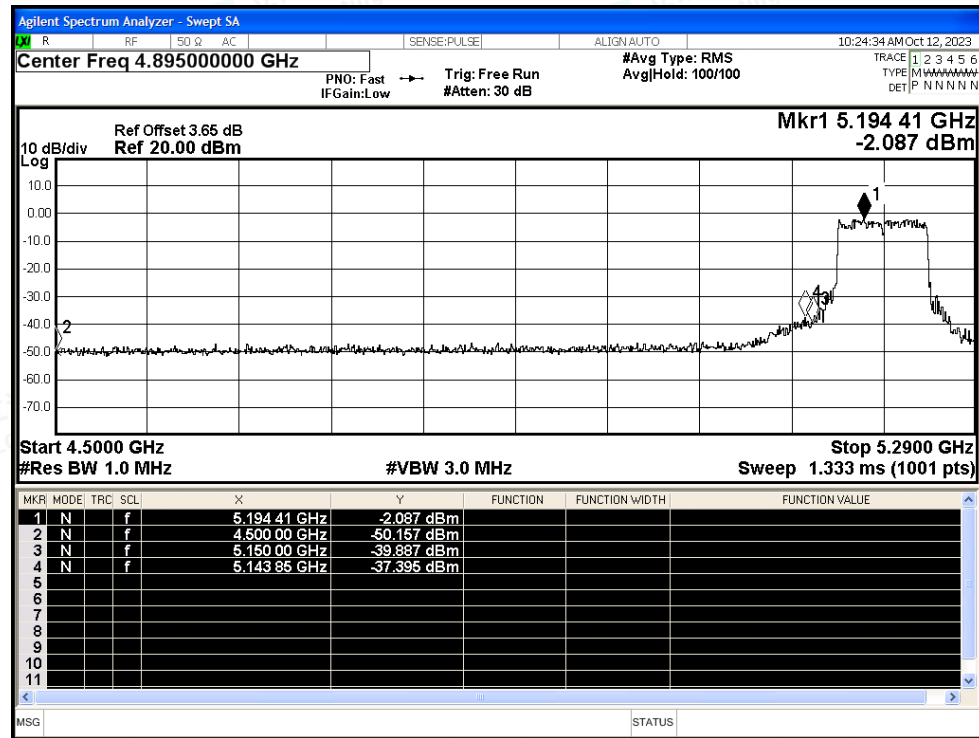


Restrict Band NVNT ac80 5210MHz Ant1 Average

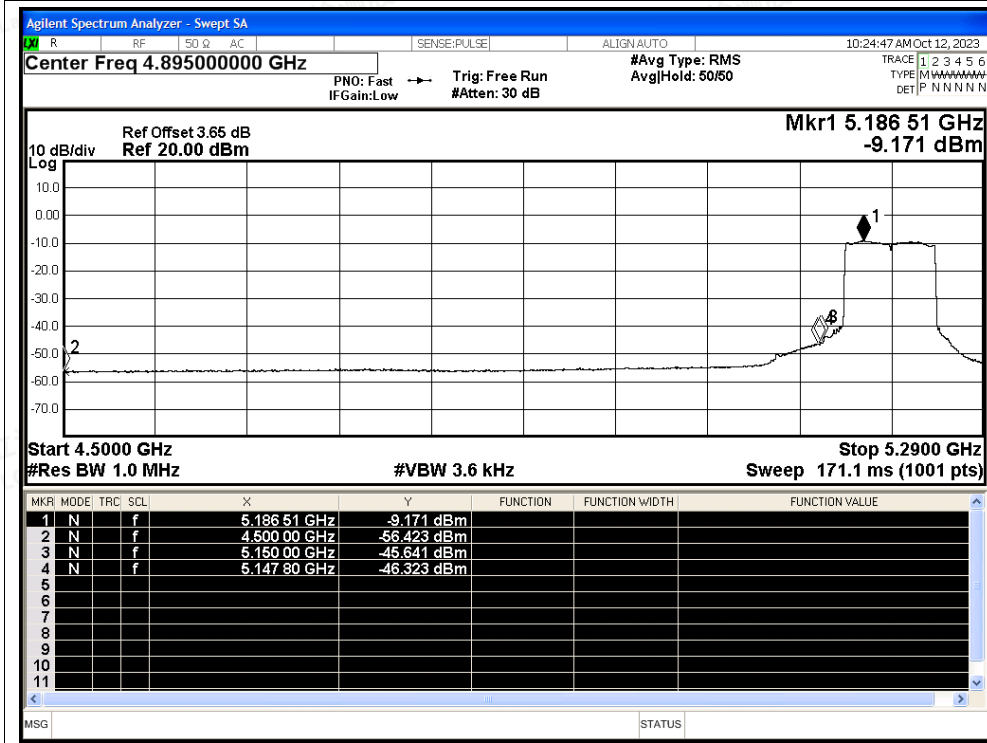




Restrict Band NVNT ac80 5210MHz Ant1 Peak



Restrict Band NVNT ac80 5210MHz Ant1 Average





D.5 Frequency Stability

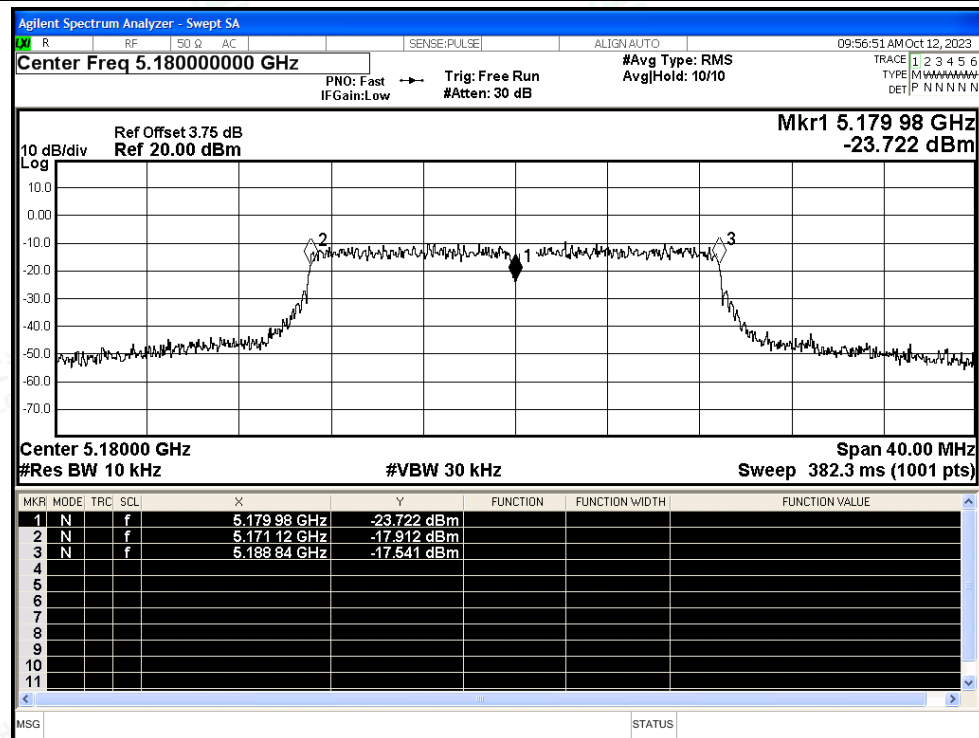
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant1	5199.98	-20000	-3.85	25	Pass
NVNT	ac20	5240	Ant1	5239.98	-20000	-3.82	25	Pass
NVNT	ac40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	ac40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac80	5210	Ant1	5210	0	0	25	Pass



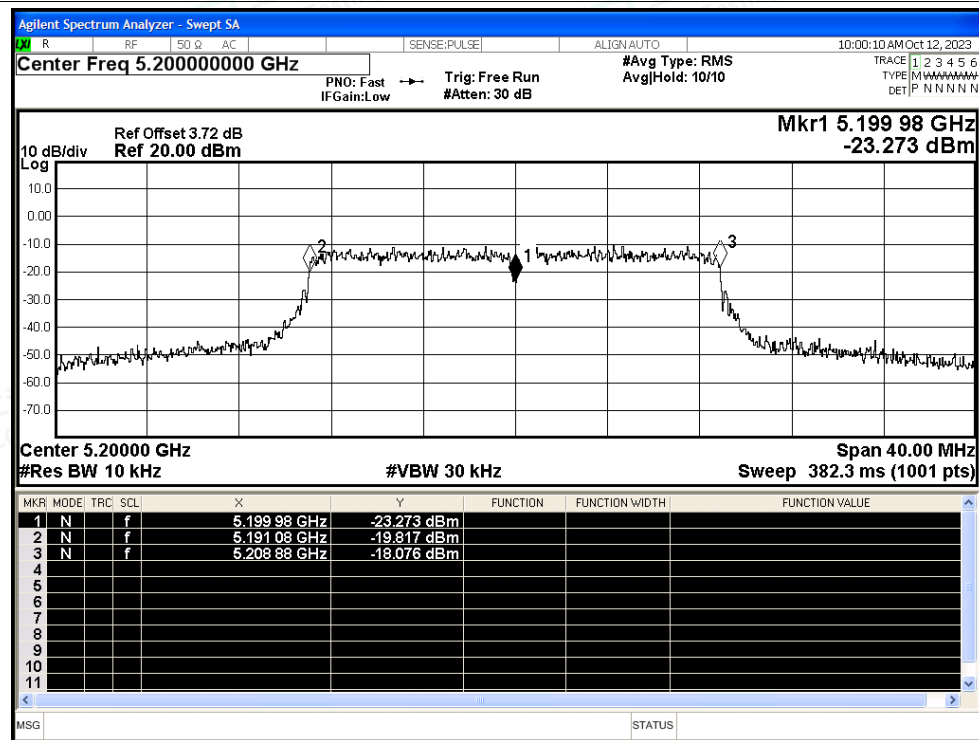


Test Graphs

Freq. Stability NVNT ac20 5180MHz Ant1

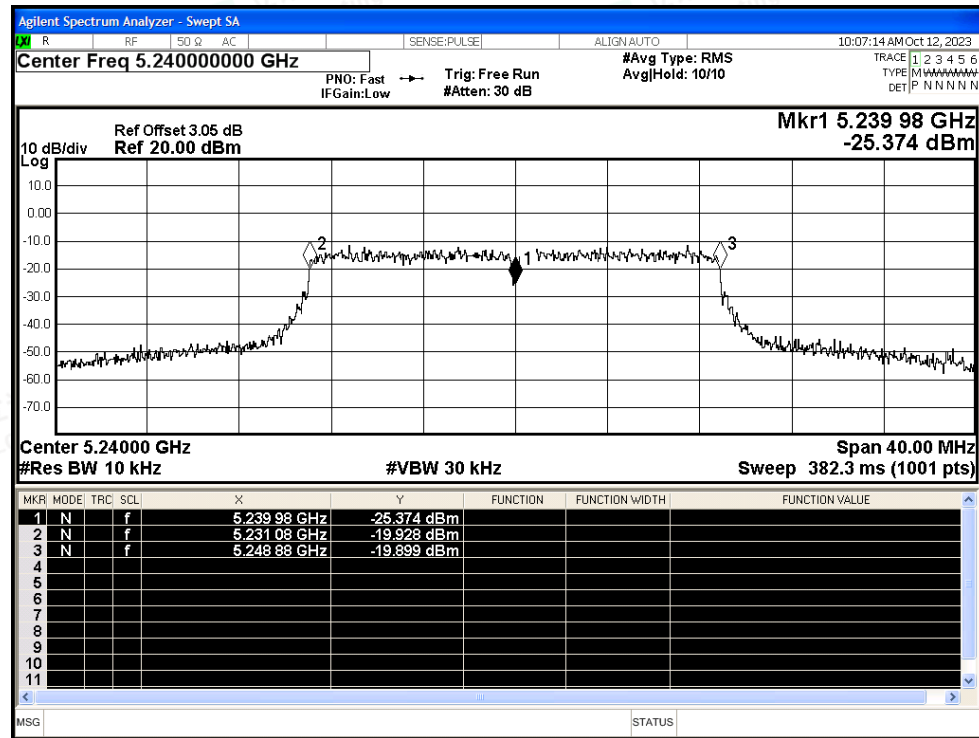


Freq. Stability NVNT ac20 5200MHz Ant1

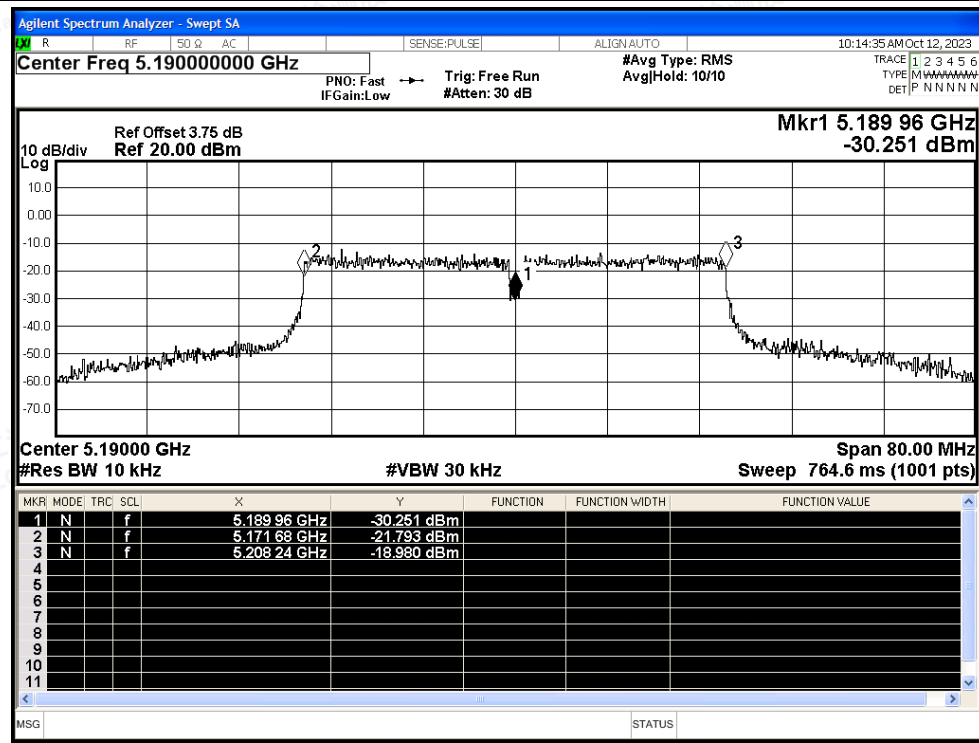




Freq. Stability NVNT ac20 5240MHz Ant1

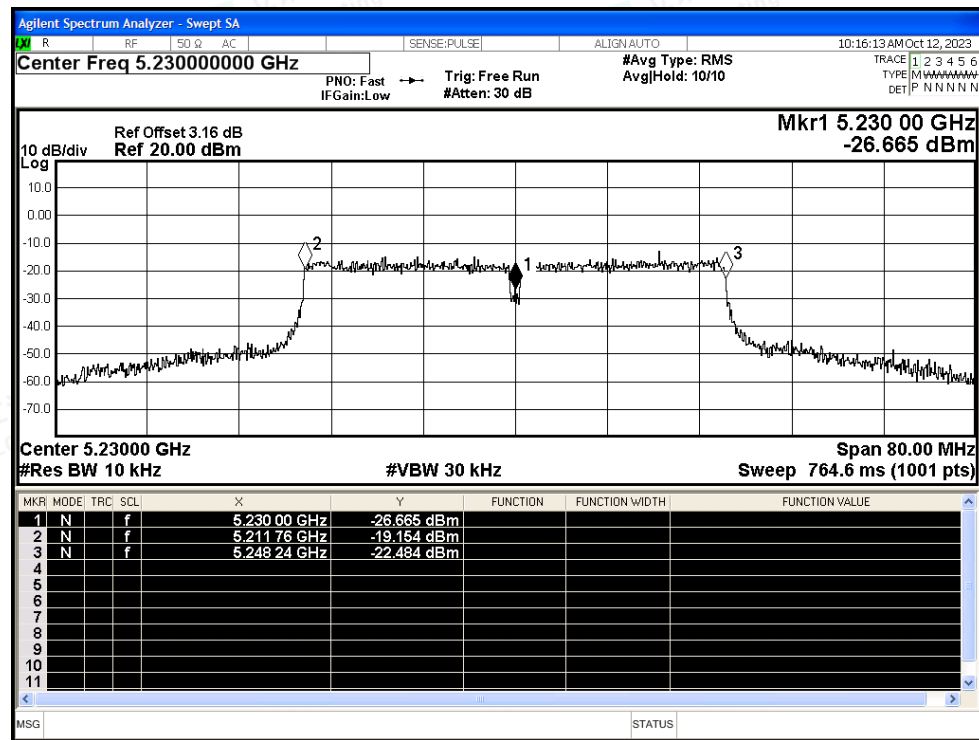


Freq. Stability NVNT ac40 5190MHz Ant1

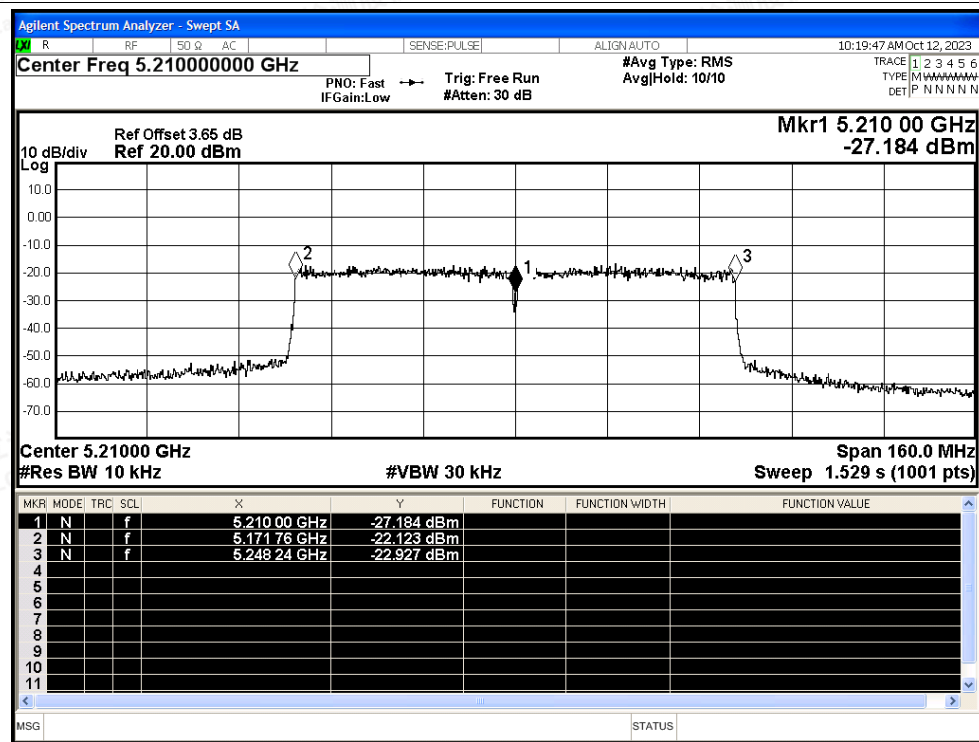




Freq. Stability NVNT ac40 5230MHz Ant1



Freq. Stability NVNT ac80 5210MHz Ant1





D.6 Duty Cycle

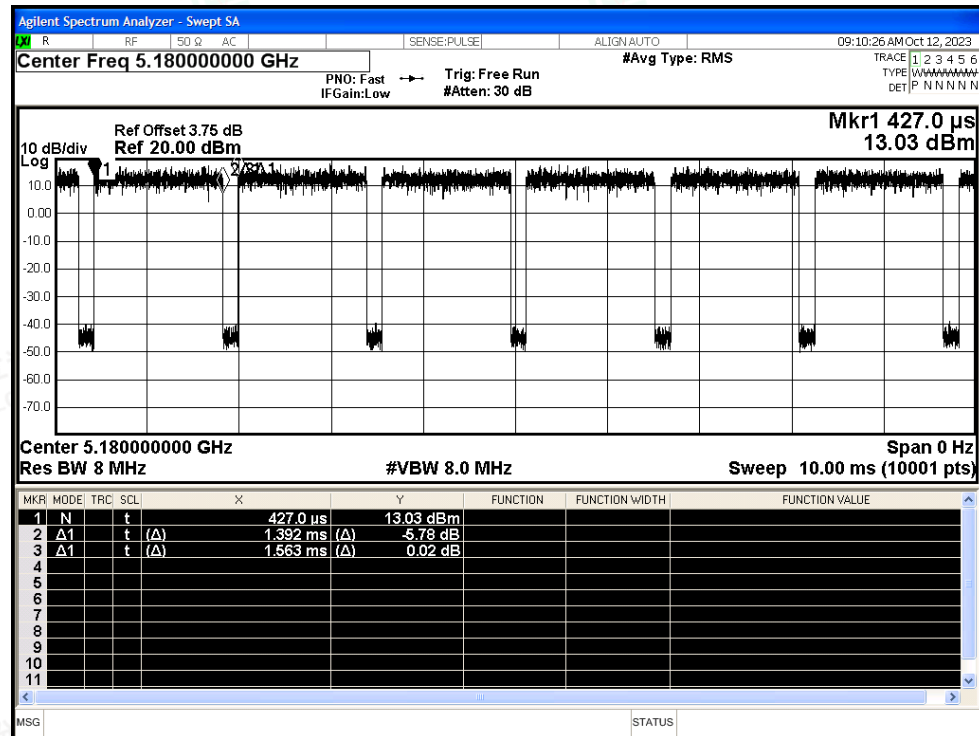
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	89.06	0.5	0.72
NVNT	a	5200	Ant1	89.06	0.5	0.72
NVNT	a	5240	Ant1	88.55	0.53	0.72
NVNT	n20	5180	Ant1	87.29	0.59	0.85
NVNT	n20	5200	Ant1	87.29	0.59	0.85
NVNT	n20	5240	Ant1	87.29	0.59	0.85
NVNT	n40	5190	Ant1	69.1	1.61	1.7
NVNT	n40	5230	Ant1	74.87	1.26	1.7
NVNT	ac20	5180	Ant1	86.68	0.62	0.85
NVNT	ac20	5200	Ant1	87.29	0.59	0.85
NVNT	ac20	5240	Ant1	87.29	0.59	0.85
NVNT	ac40	5190	Ant1	76.75	1.15	1.69
NVNT	ac40	5230	Ant1	75.13	1.24	1.69
NVNT	ac80	5210	Ant1	63.52	1.97	3.38



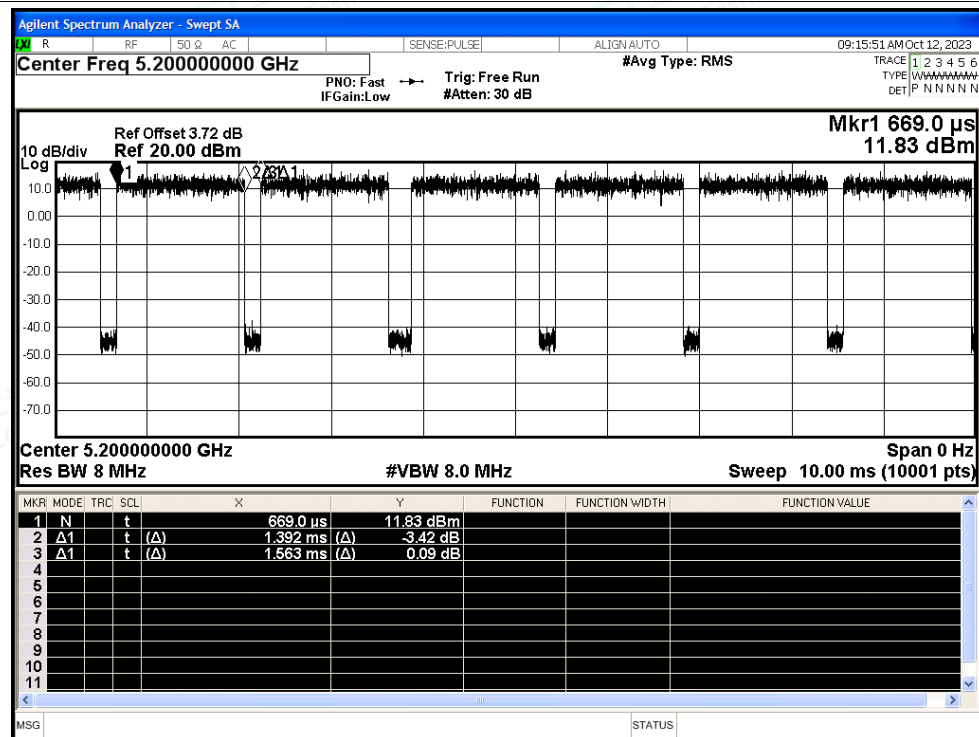


Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

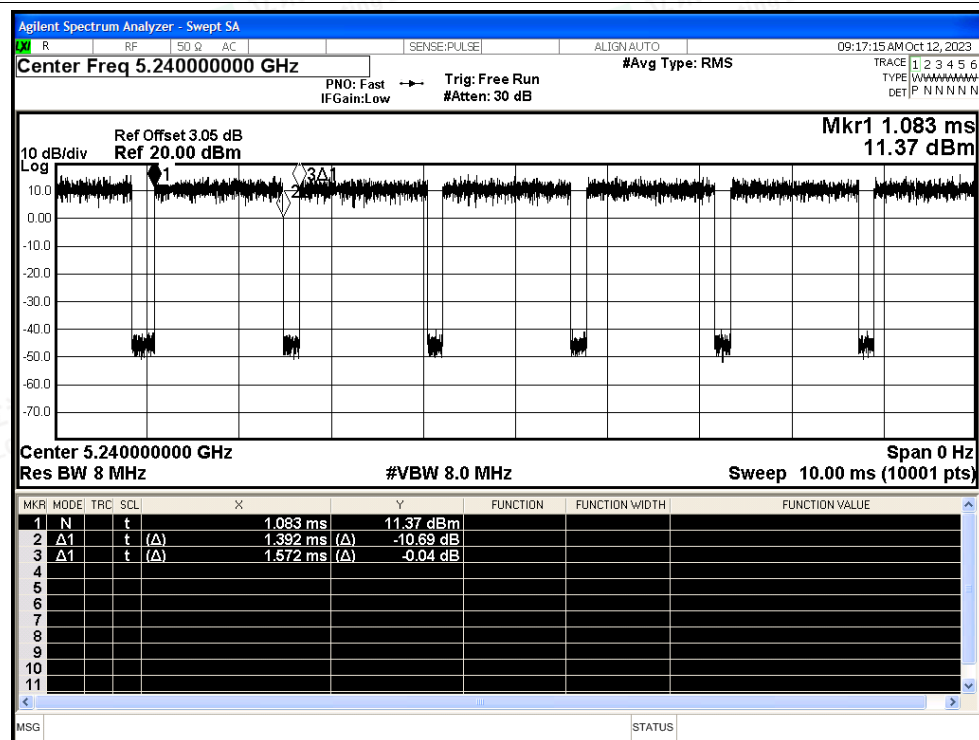


Duty Cycle NVNT a 5200MHz Ant1

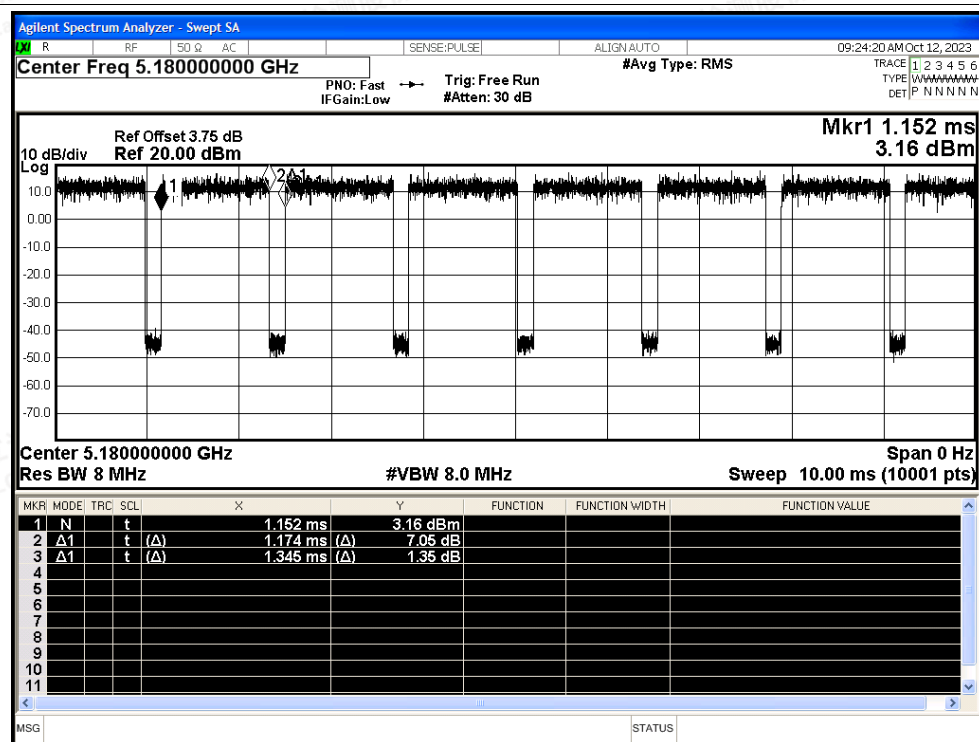




Duty Cycle NVNT a 5240MHz Ant1

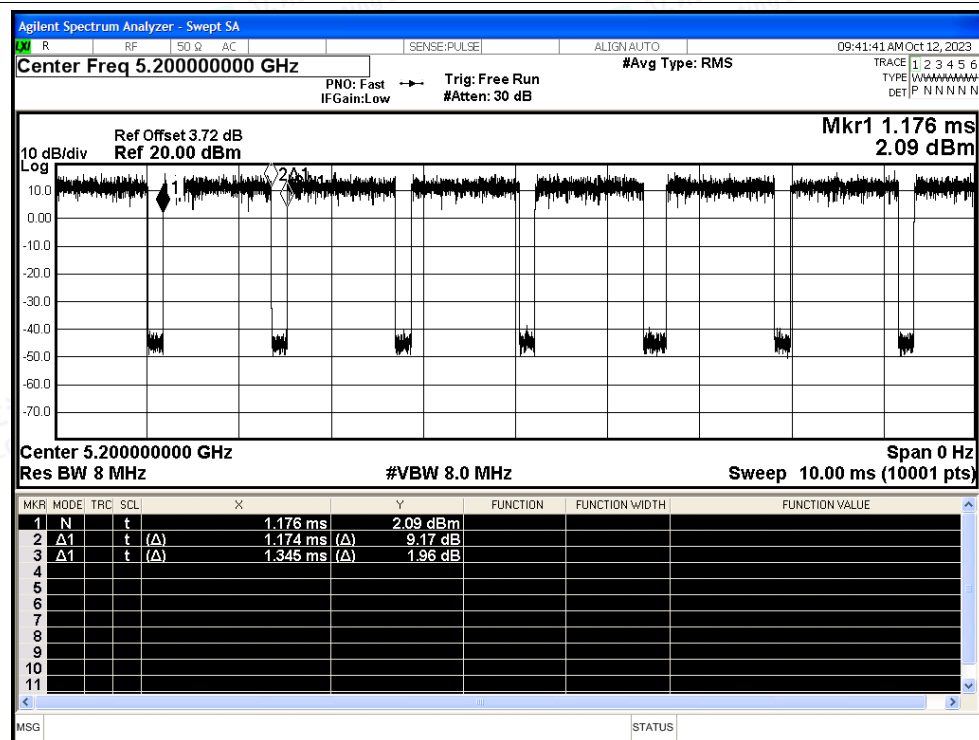


Duty Cycle NVNT n20 5180MHz Ant1

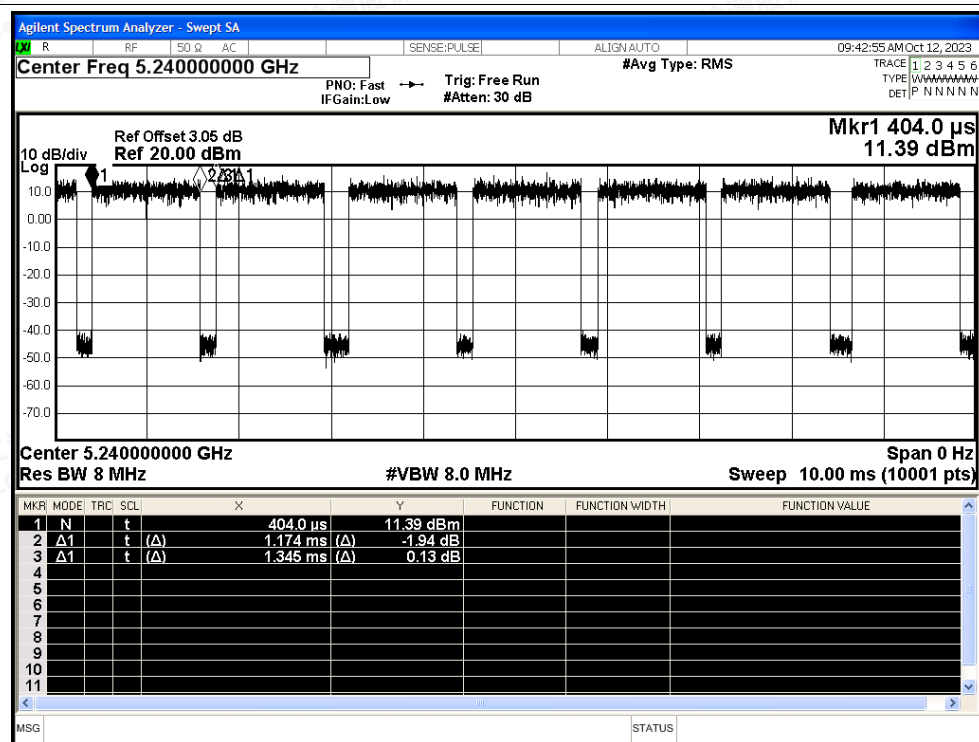




Duty Cycle NVNT n20 5200MHz Ant1

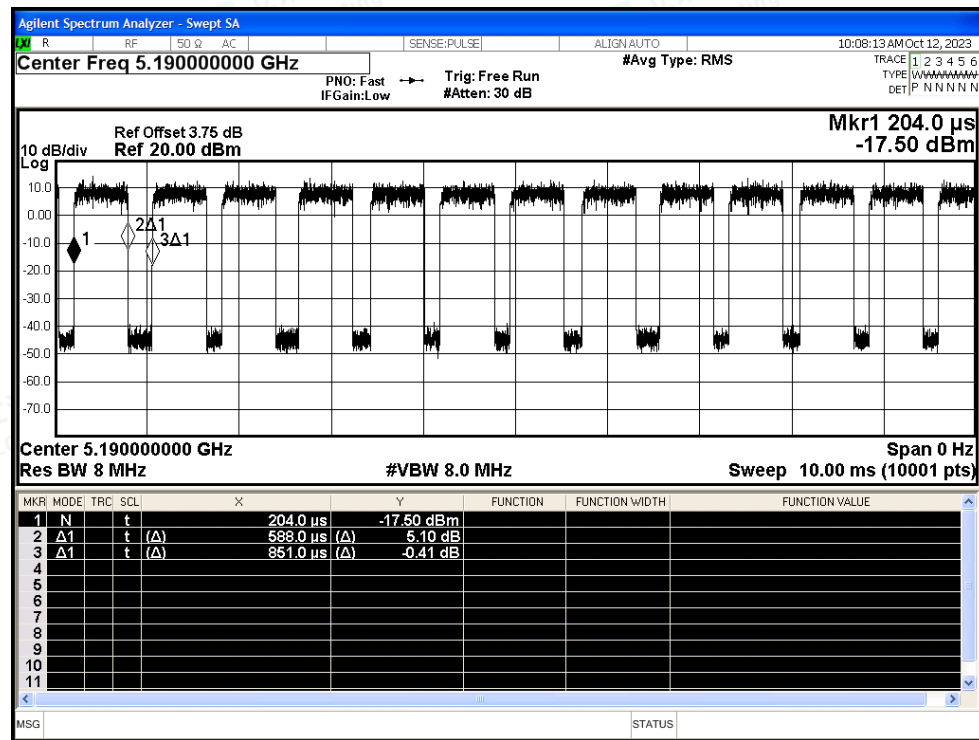


Duty Cycle NVNT n20 5240MHz Ant1

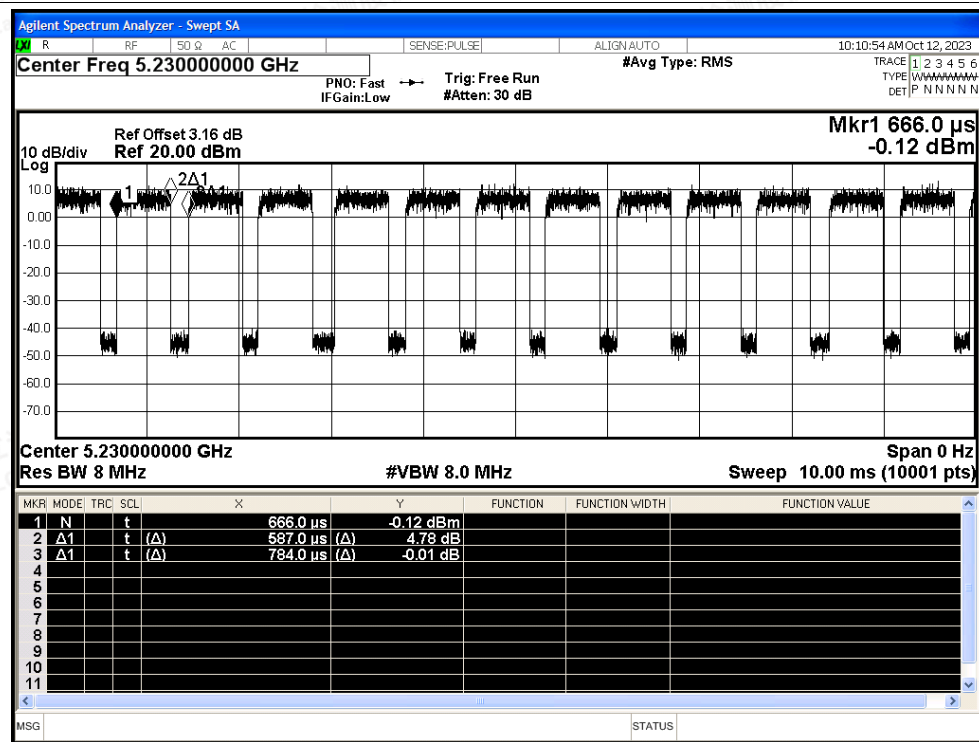




Duty Cycle NVNT n40 5190MHz Ant1



Duty Cycle NVNT n40 5230MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

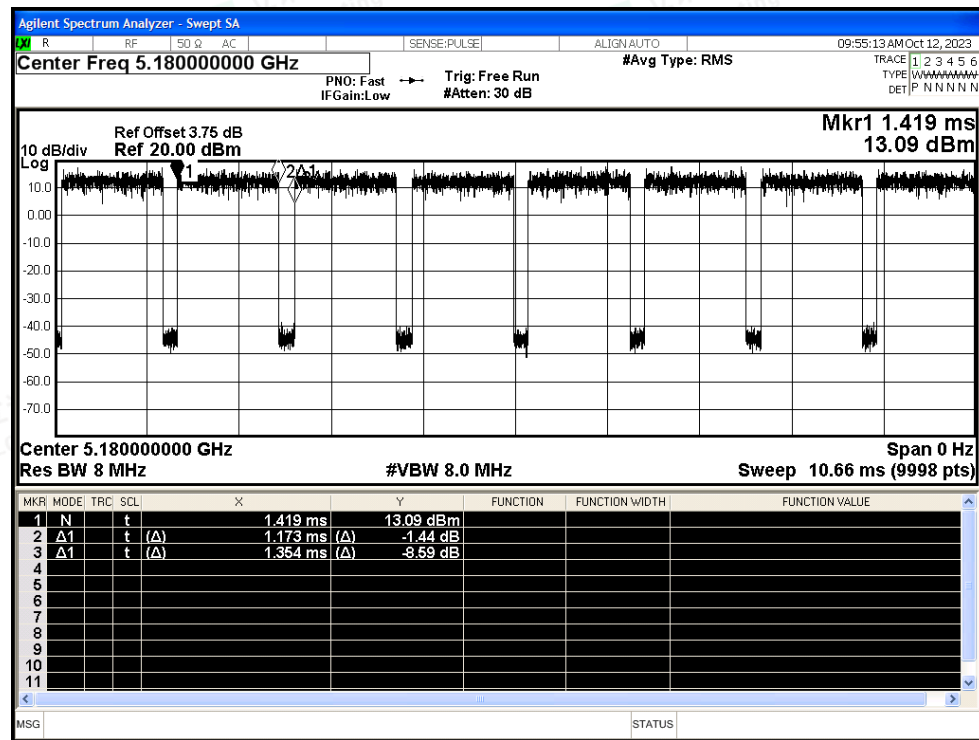
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

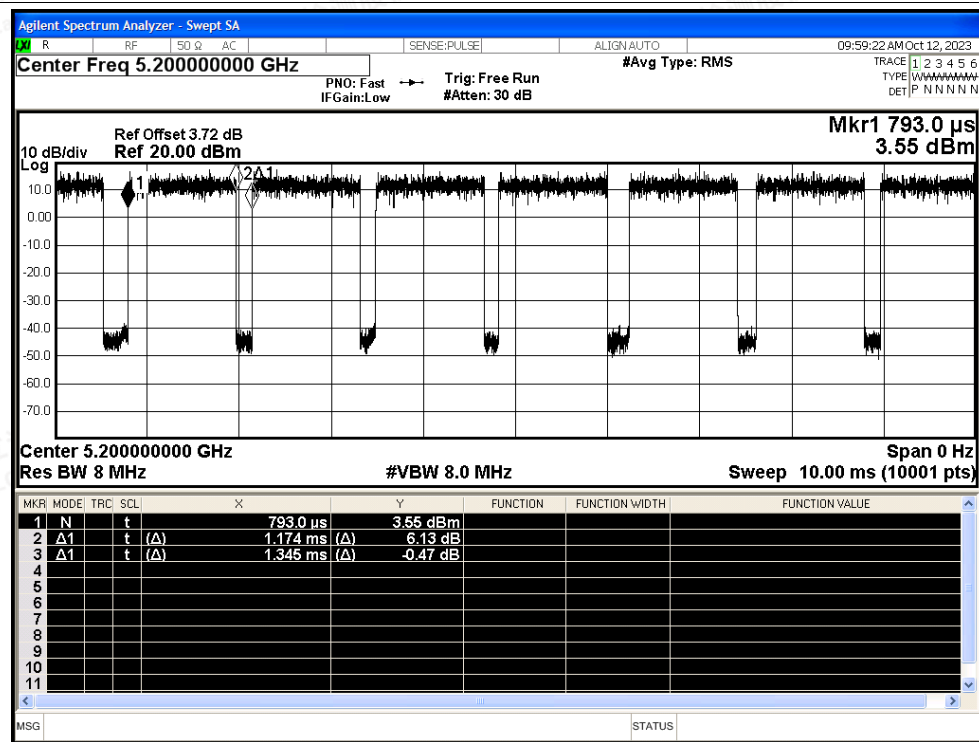
Scan code to check authenticity



Duty Cycle NVNT ac20 5180MHz Ant1



Duty Cycle NVNT ac20 5200MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

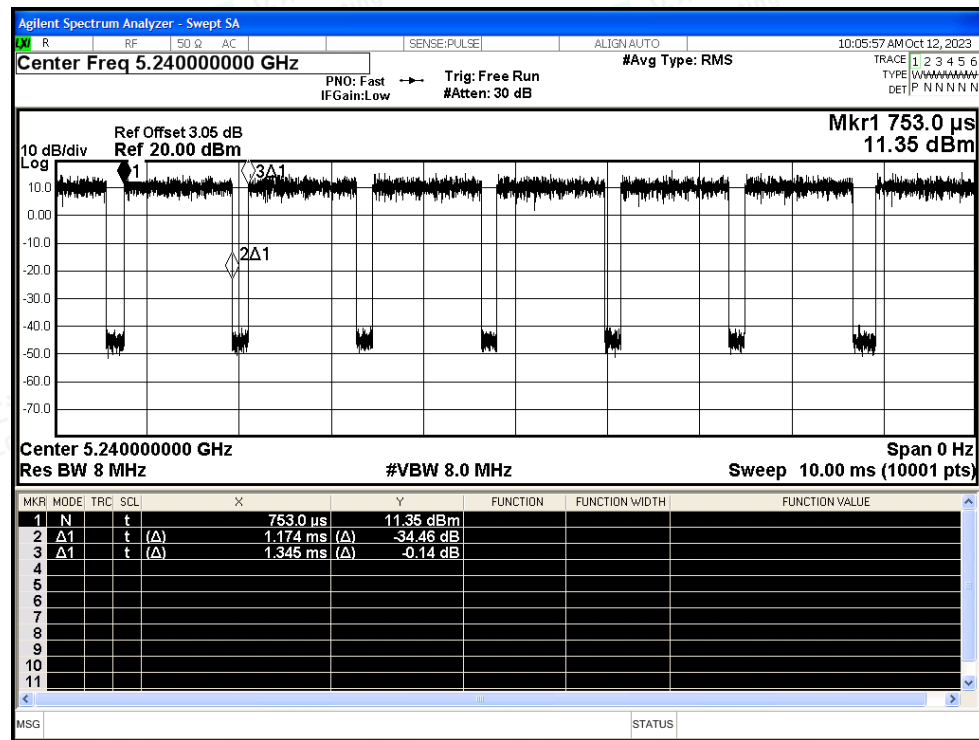
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

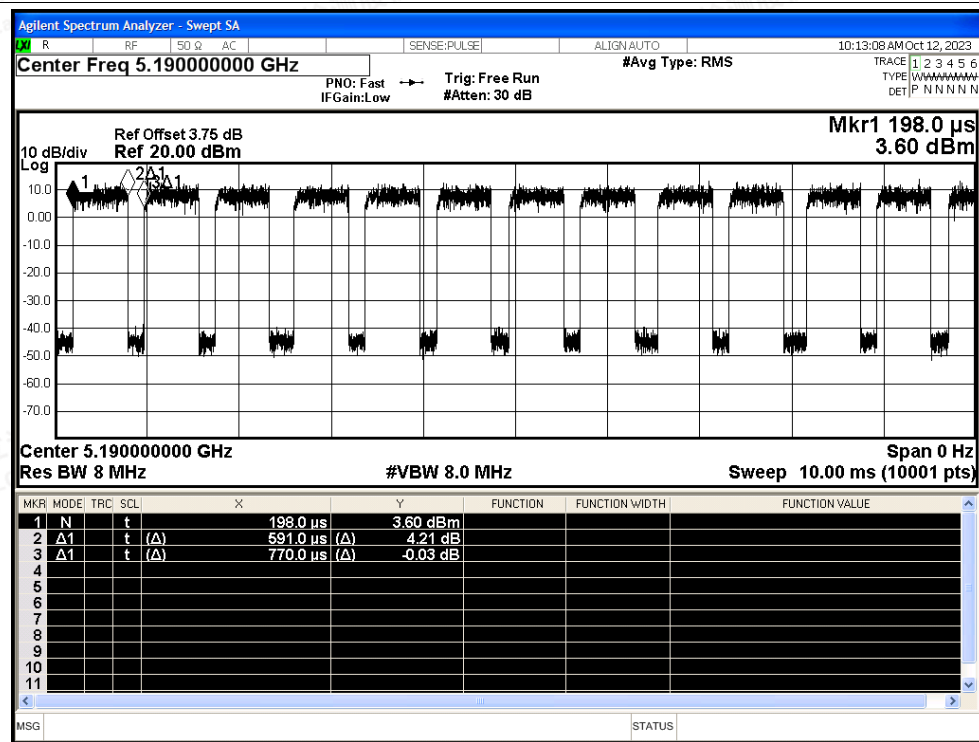
Scan code to check authenticity



Duty Cycle NVNT ac20 5240MHz Ant1

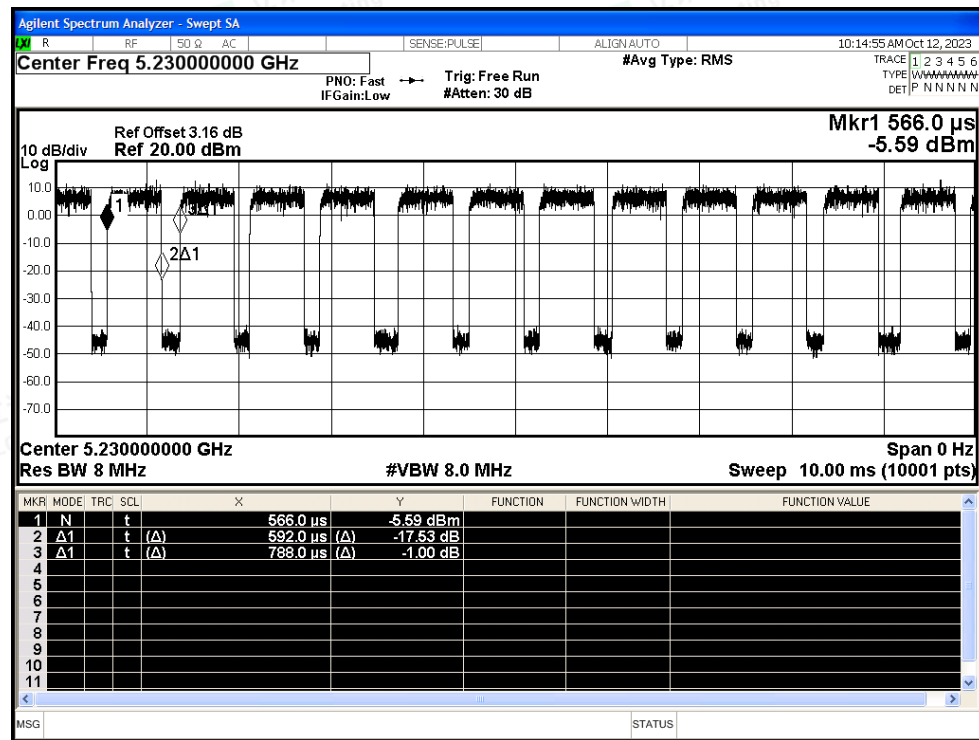


Duty Cycle NVNT ac40 5190MHz Ant1





Duty Cycle NVNT ac40 5230MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1

