



Appendix D

RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: Handheld Data Terminal

Test Model: HT330

Environmental Conditions

Temperature:	23.6° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li huan



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D.1 -26dB Bandwidth

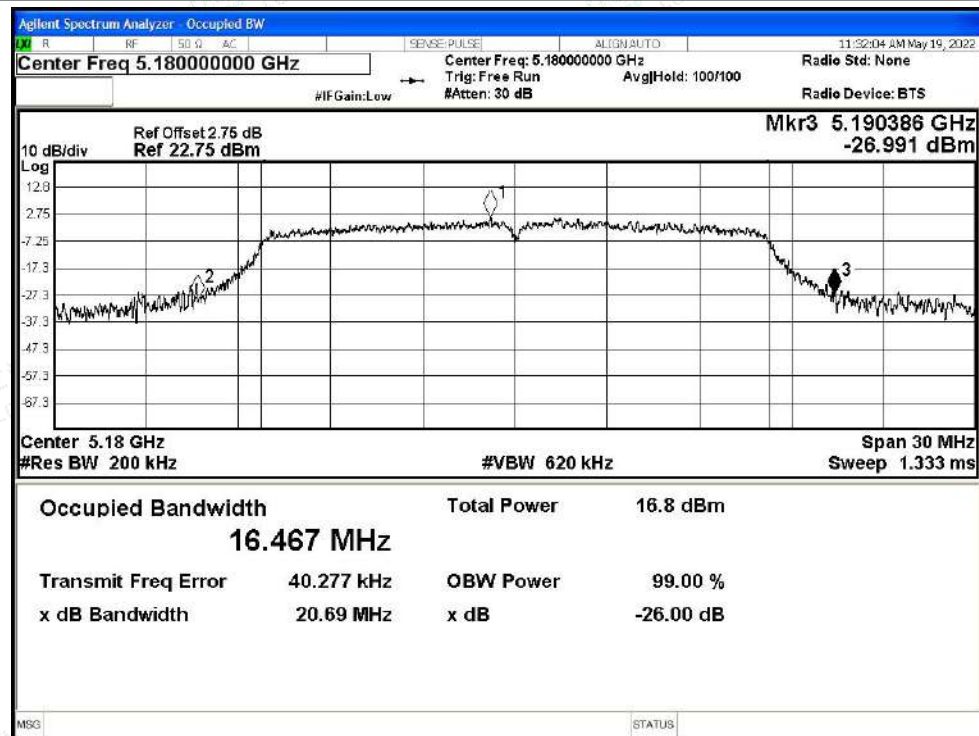
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	20.692	---	Pass
NVNT	a	5200	Ant1	20.84	---	Pass
NVNT	a	5240	Ant1	19.672	---	Pass
NVNT	n20	5180	Ant1	24.702	---	Pass
NVNT	n20	5200	Ant1	23.044	---	Pass
NVNT	n20	5240	Ant1	23.136	---	Pass
NVNT	n40	5190	Ant1	44.443	---	Pass
NVNT	n40	5230	Ant1	50.573	---	Pass
NVNT	ac20	5180	Ant1	21.63	---	Pass
NVNT	ac20	5200	Ant1	20.897	---	Pass
NVNT	ac20	5240	Ant1	20.325	---	Pass
NVNT	ac40	5190	Ant1	41.558	---	Pass
NVNT	ac40	5230	Ant1	41.674	---	Pass
NVNT	ac80	5210	Ant1	110.483	---	Pass



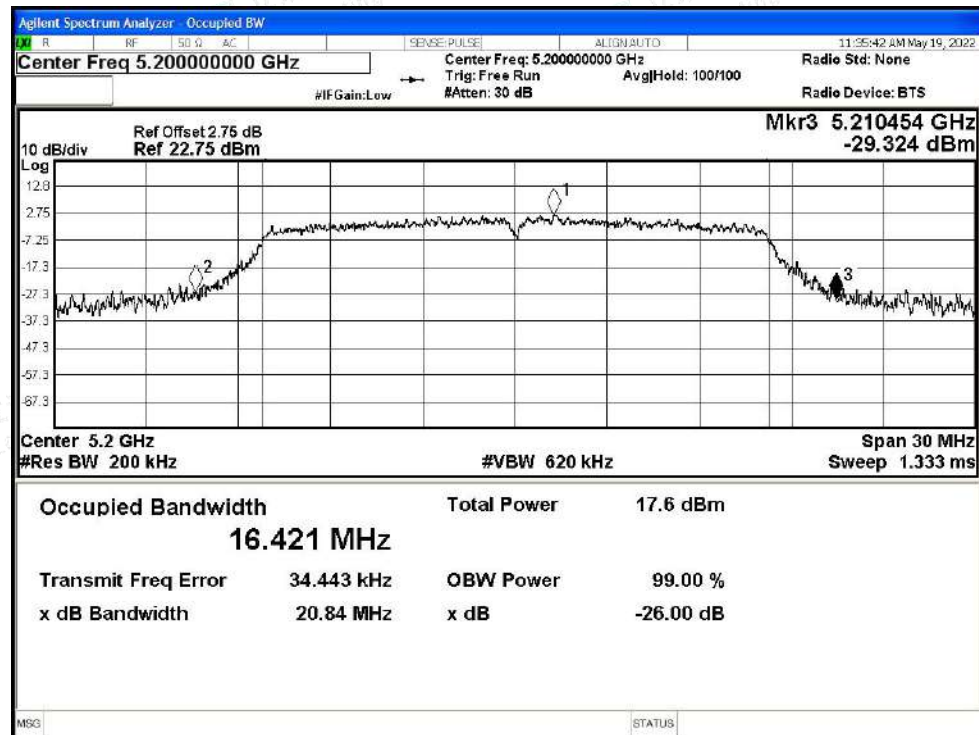


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

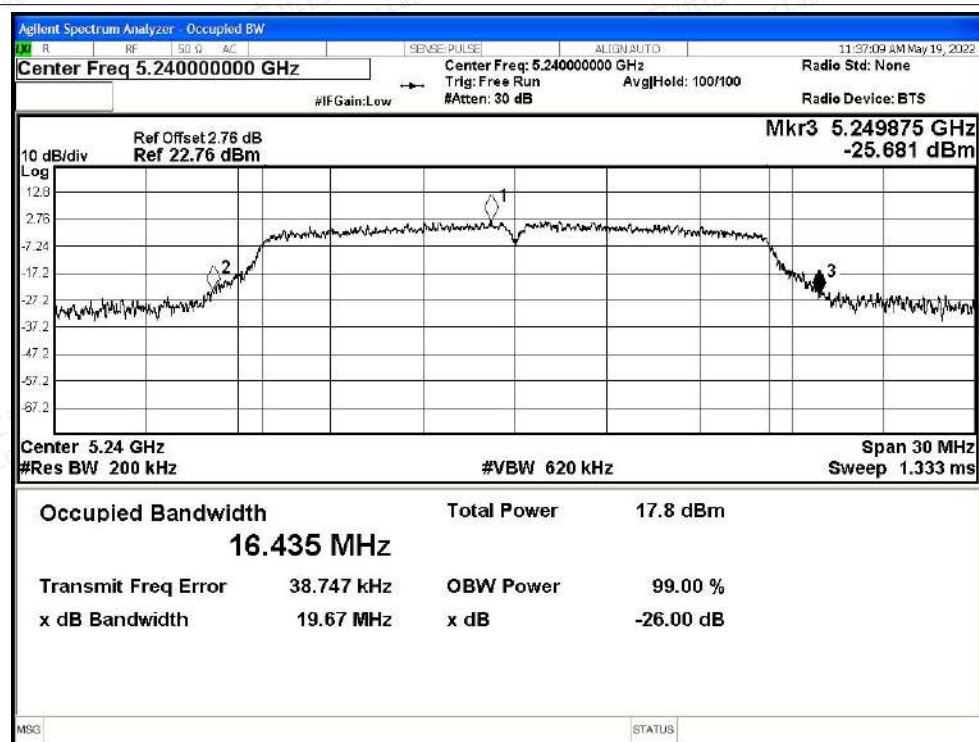


-26dB Bandwidth NVNT a 5200MHz Ant1

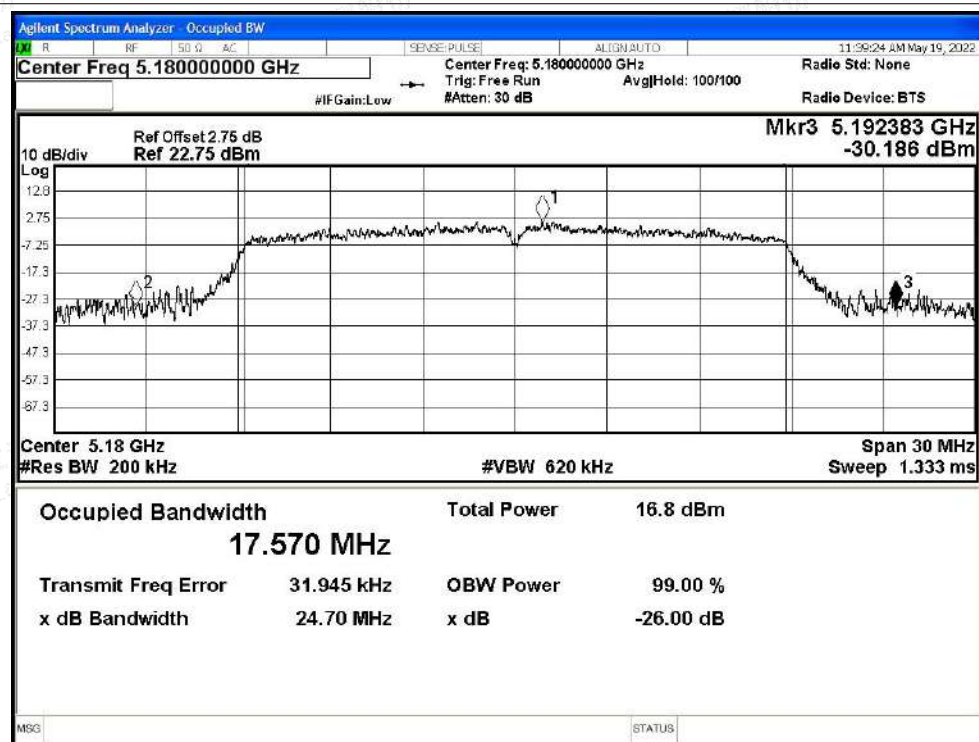




-26dB Bandwidth NVNT a 5240MHz Ant1

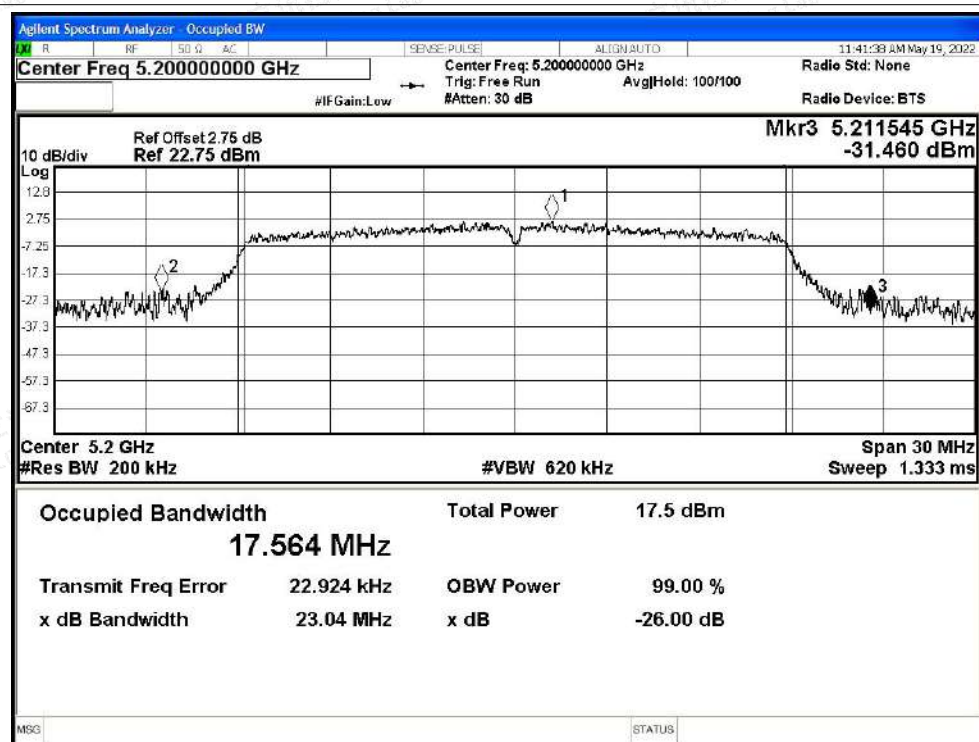


-26dB Bandwidth NVNT n20 5180MHz Ant1

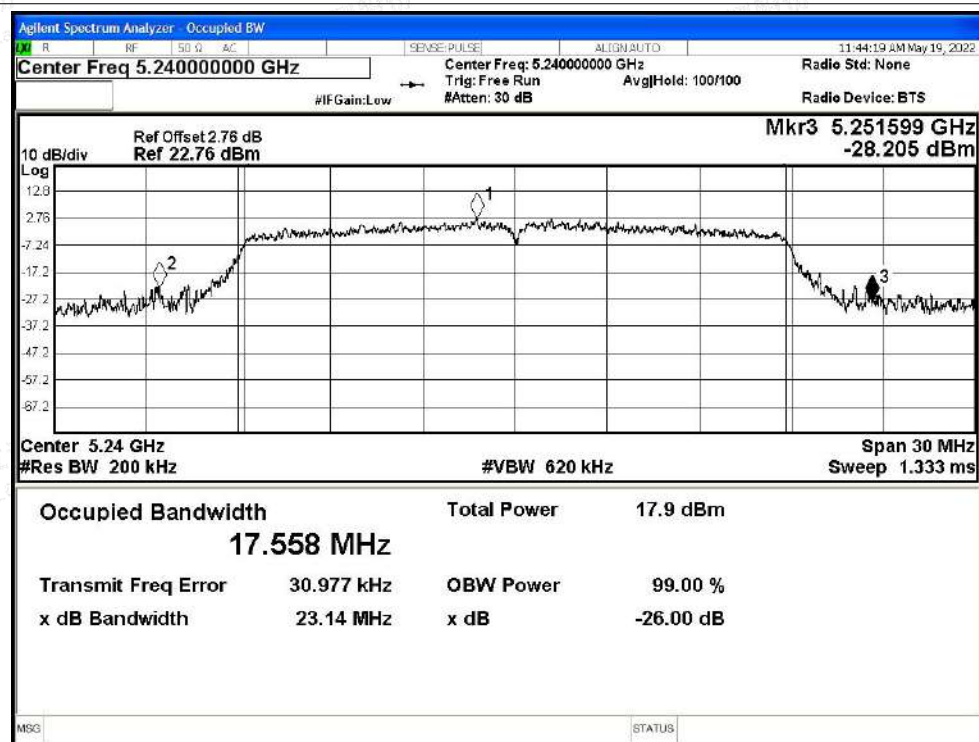




-26dB Bandwidth NVNT n20 5200MHz Ant1



-26dB Bandwidth NVNT n20 5240MHz Ant1



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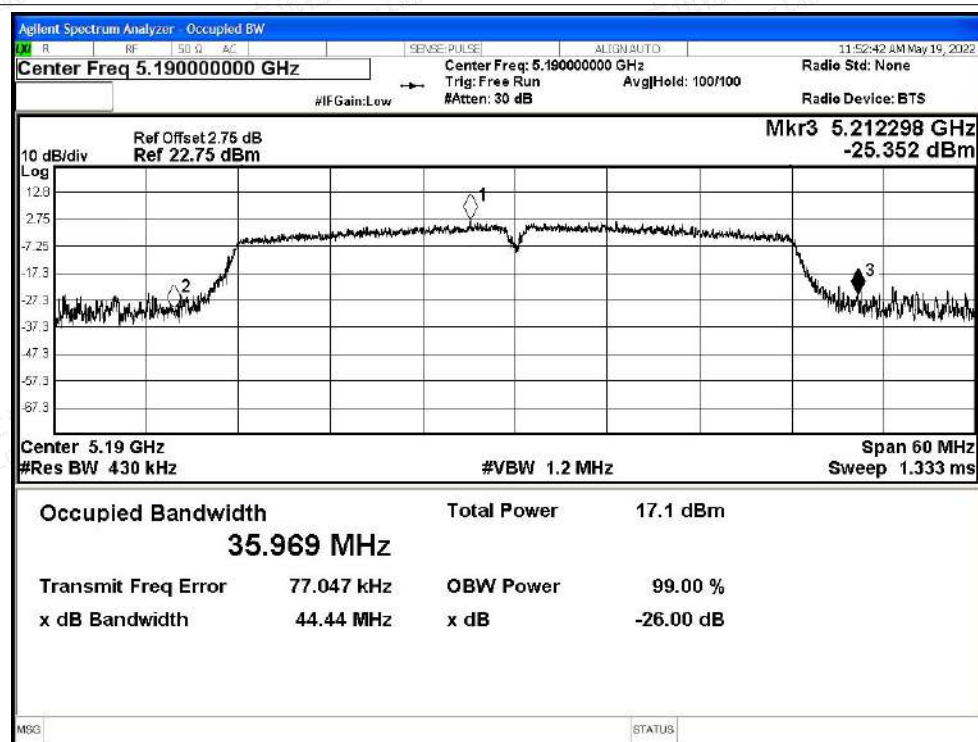
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

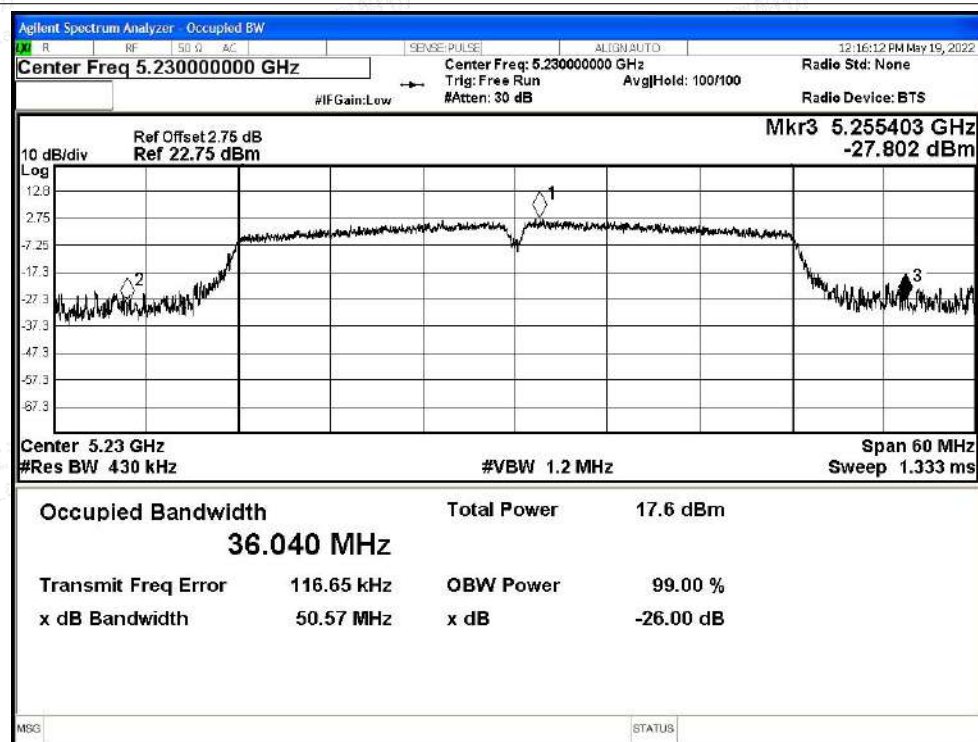
Scan code to check authenticity



-26dB Bandwidth NVNT n40 5190MHz Ant1

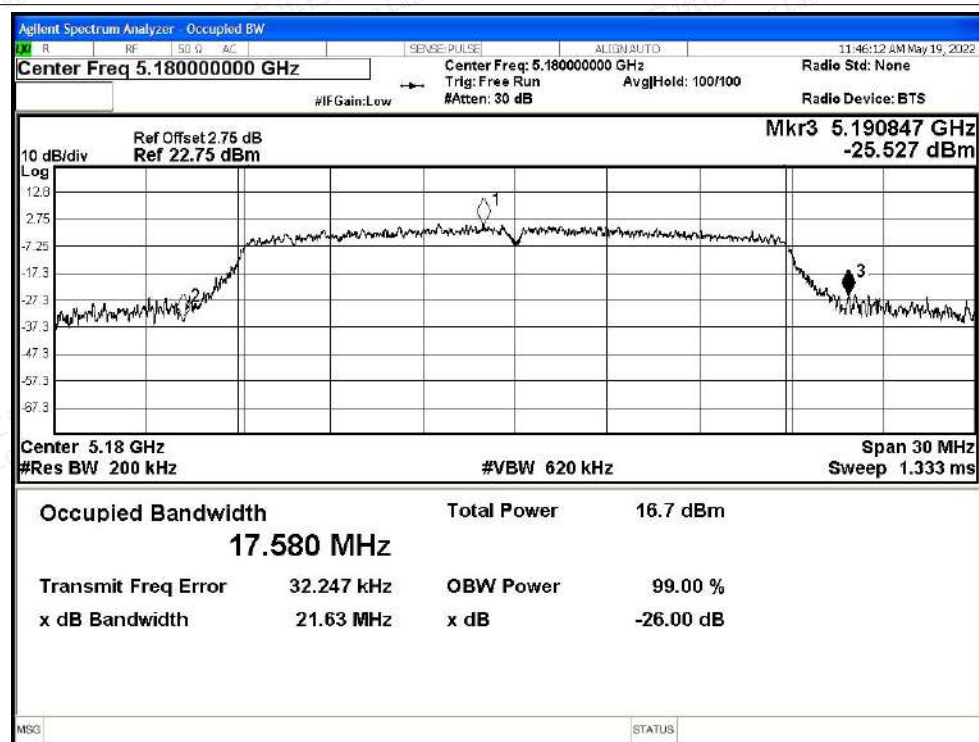


-26dB Bandwidth NVNT n40 5230MHz Ant1

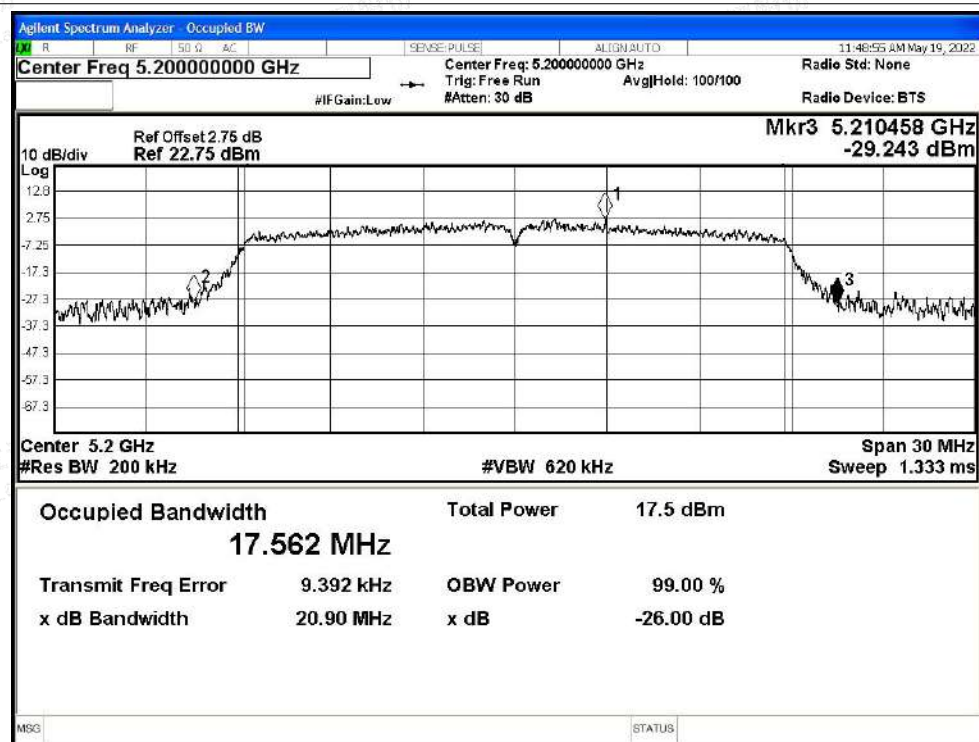




-26dB Bandwidth NVNT ac20 5180MHz Ant1



-26dB Bandwidth NVNT ac20 5200MHz Ant1



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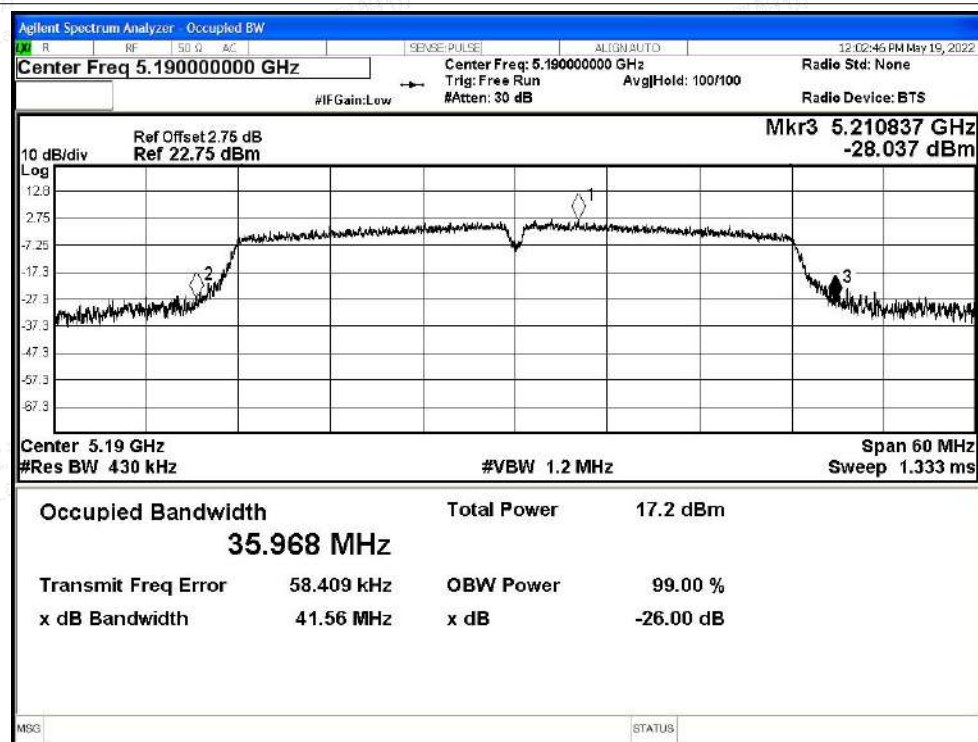
Scan code to check authenticity



-26dB Bandwidth NVNT ac20 5240MHz Ant1

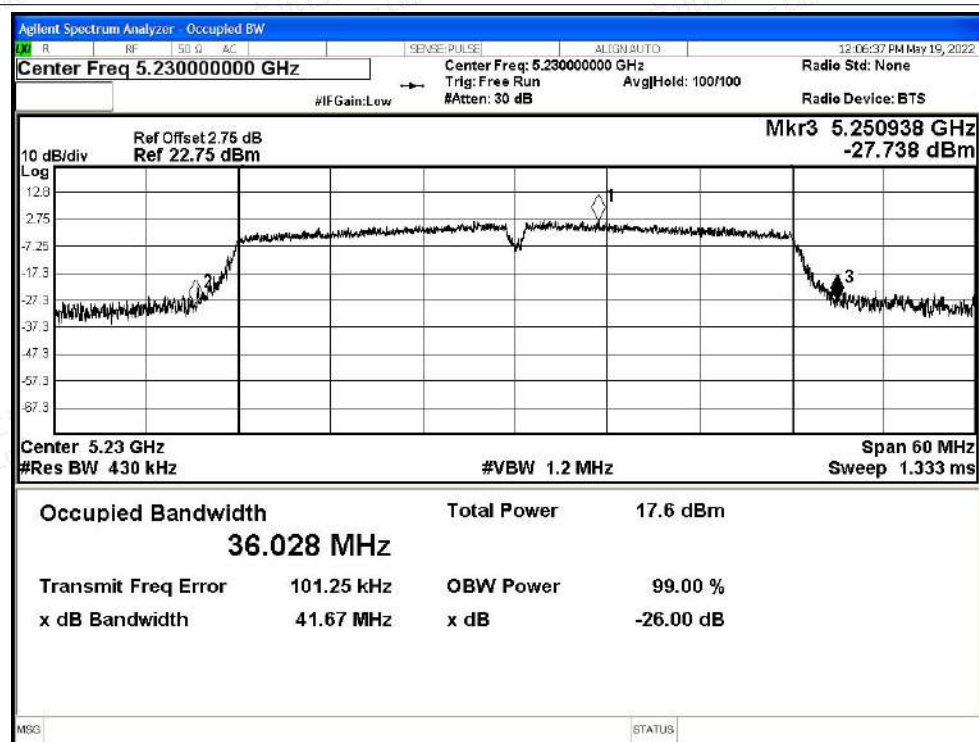


-26dB Bandwidth NVNT ac40 5190MHz Ant1

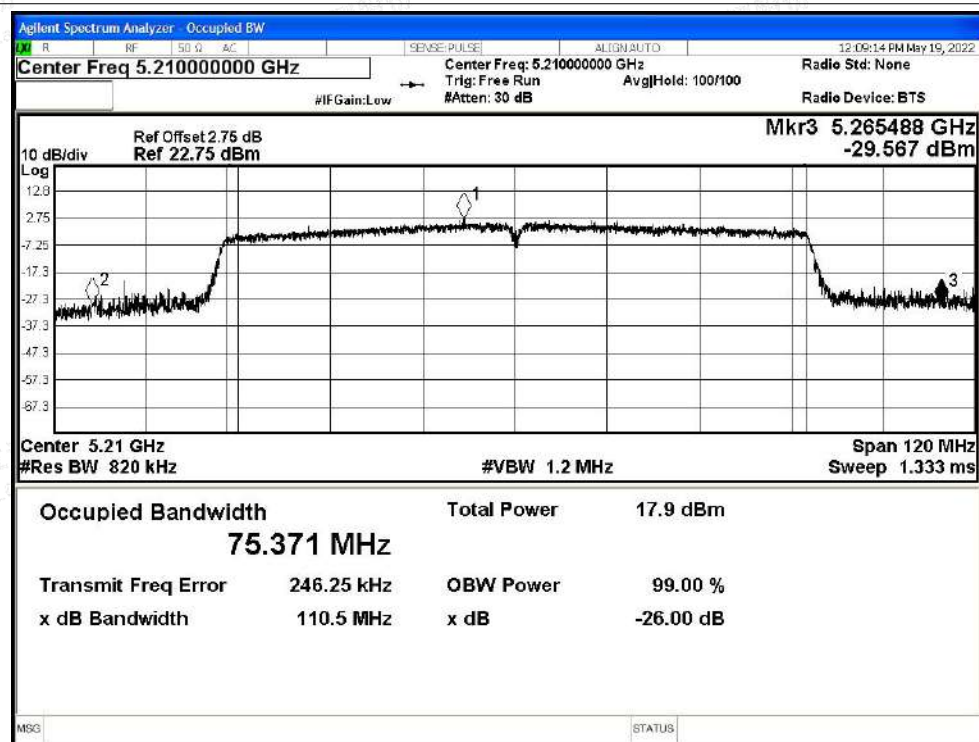




-26dB Bandwidth NVNT ac40 5230MHz Ant1



-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	11.27	0.13	11.40	24	Pass
NVNT	a	5200	Ant1	11.88	0.13	12.01	24	Pass
NVNT	a	5240	Ant1	12.11	0.13	12.24	24	Pass
NVNT	n20	5180	Ant1	11	0.12	11.12	24	Pass
NVNT	n20	5200	Ant1	11.81	0.12	11.93	24	Pass
NVNT	n20	5240	Ant1	12.28	0.12	12.40	24	Pass
NVNT	n40	5190	Ant1	11.37	0.22	11.59	24	Pass
NVNT	n40	5230	Ant1	11.77	0.27	12.04	24	Pass
NVNT	ac20	5180	Ant1	11.12	0.11	11.23	24	Pass
NVNT	ac20	5200	Ant1	11.85	0.14	11.99	24	Pass
NVNT	ac20	5240	Ant1	12.21	0.14	12.35	24	Pass
NVNT	ac40	5190	Ant1	11.29	0.27	11.56	24	Pass
NVNT	ac40	5230	Ant1	11.73	0.27	12.00	24	Pass
NVNT	ac80	5210	Ant1	10.94	0.53	11.47	24	Pass





D.3 Maximum Power Spectral Density Level

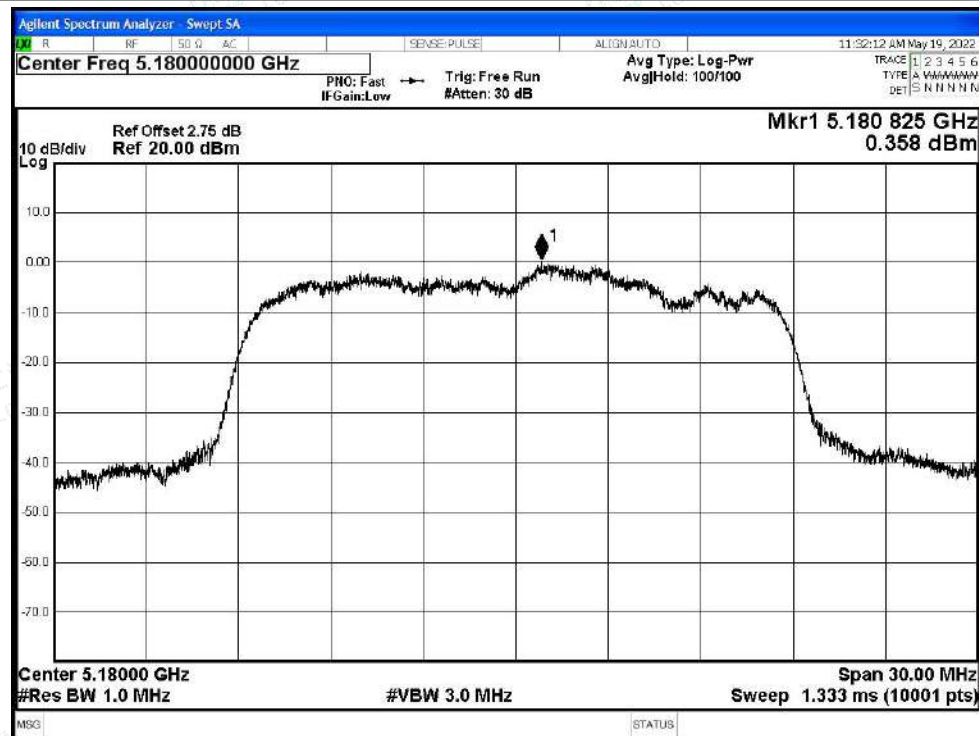
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/MHz)	Duty Factor (dB)	Total PSD (dBm/MHz)	Limit (dBm/MHz)	Verdict
NVNT	a	5180	Ant1	0.36	0.13	0.49	11	Pass
NVNT	a	5200	Ant1	-0.87	0.13	-0.74	11	Pass
NVNT	a	5240	Ant1	0.01	0.13	0.14	11	Pass
NVNT	n20	5180	Ant1	-1.55	0.14	-1.41	11	Pass
NVNT	n20	5200	Ant1	-0.48	0.14	-0.34	11	Pass
NVNT	n20	5240	Ant1	-0.01	0.14	0.13	11	Pass
NVNT	n40	5190	Ant1	-4.85	0.28	-4.57	11	Pass
NVNT	n40	5230	Ant1	-4.23	0.27	-3.96	11	Pass
NVNT	ac20	5180	Ant1	-1.76	0.14	-1.62	11	Pass
NVNT	ac20	5200	Ant1	0.18	0.14	0.32	11	Pass
NVNT	ac20	5240	Ant1	-0.74	0.14	-0.6	11	Pass
NVNT	ac40	5190	Ant1	-3.39	0.27	-3.12	11	Pass
NVNT	ac40	5230	Ant1	-5.44	0.27	-5.17	11	Pass
NVNT	ac80	5210	Ant1	-10.25	0.53	-9.72	11	Pass



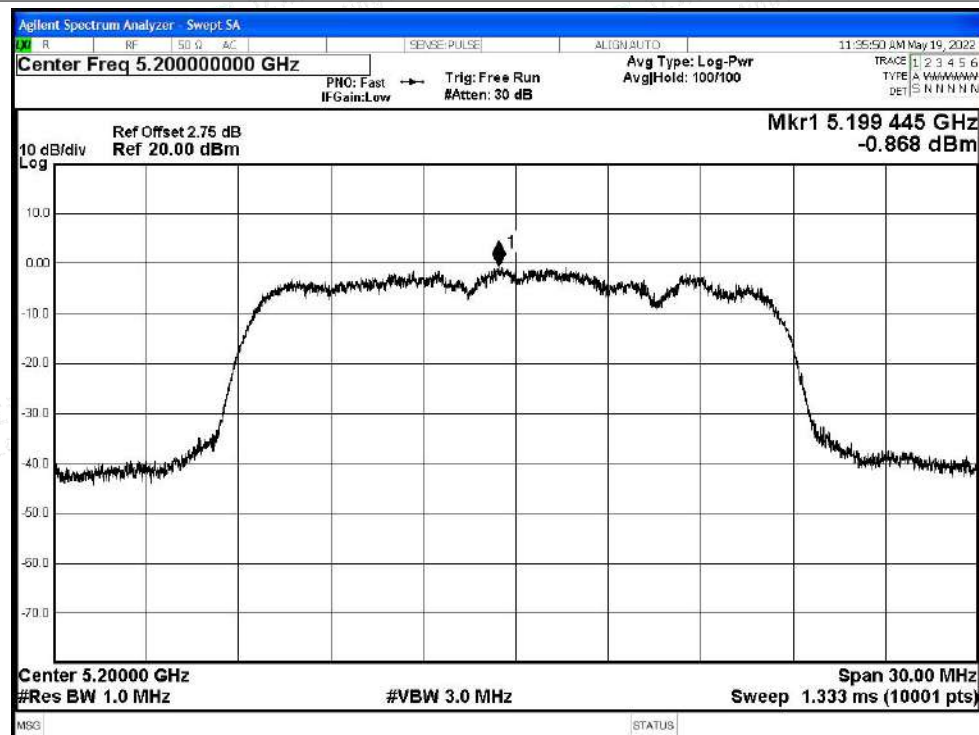


Test Graphs

PSD NVNT a 5180MHz Ant1

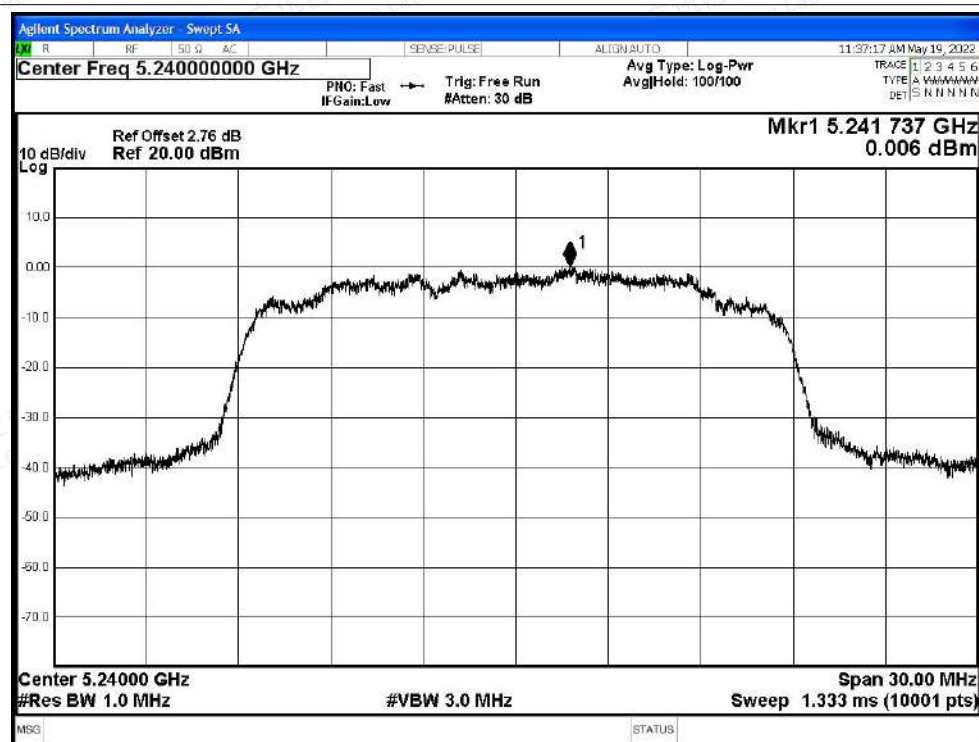


PSD NVNT a 5200MHz Ant1

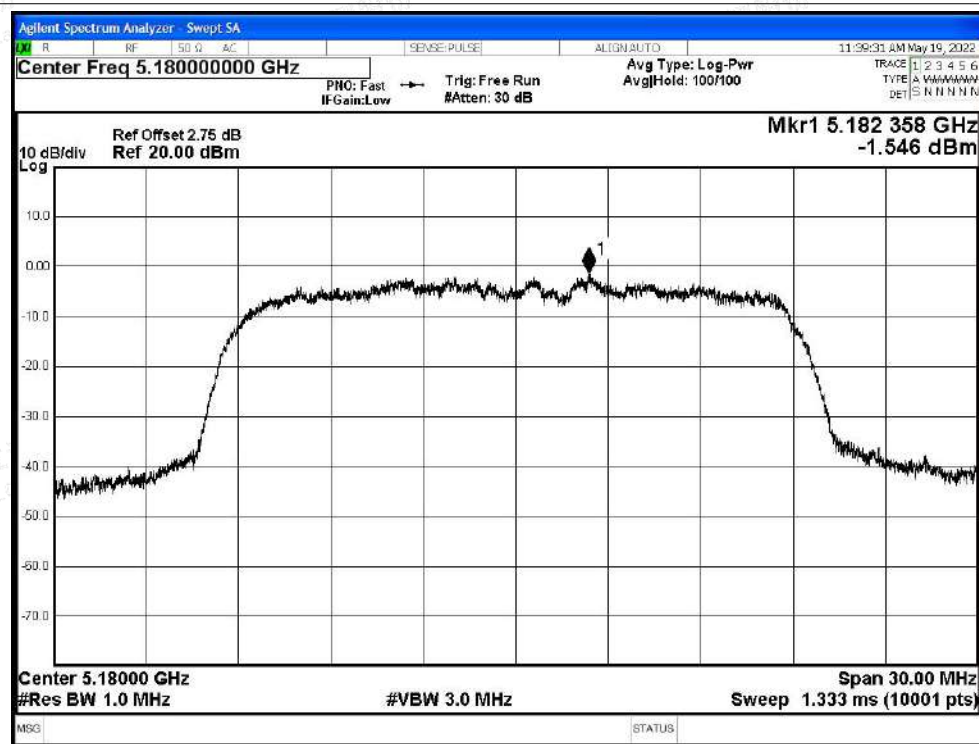


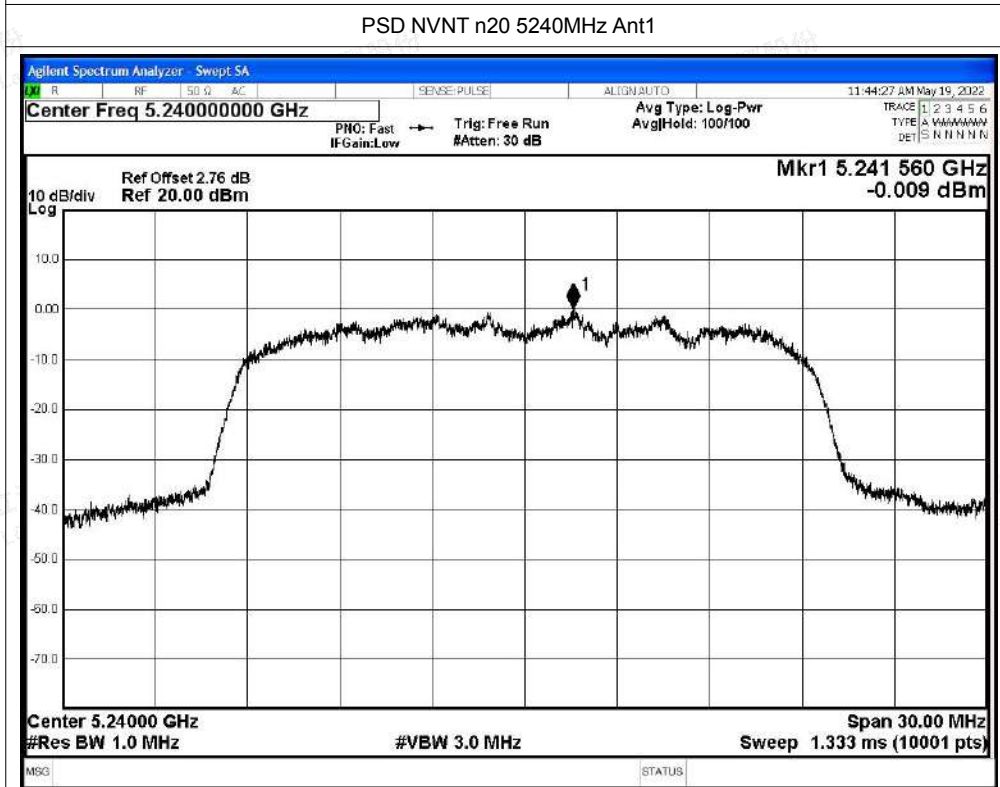
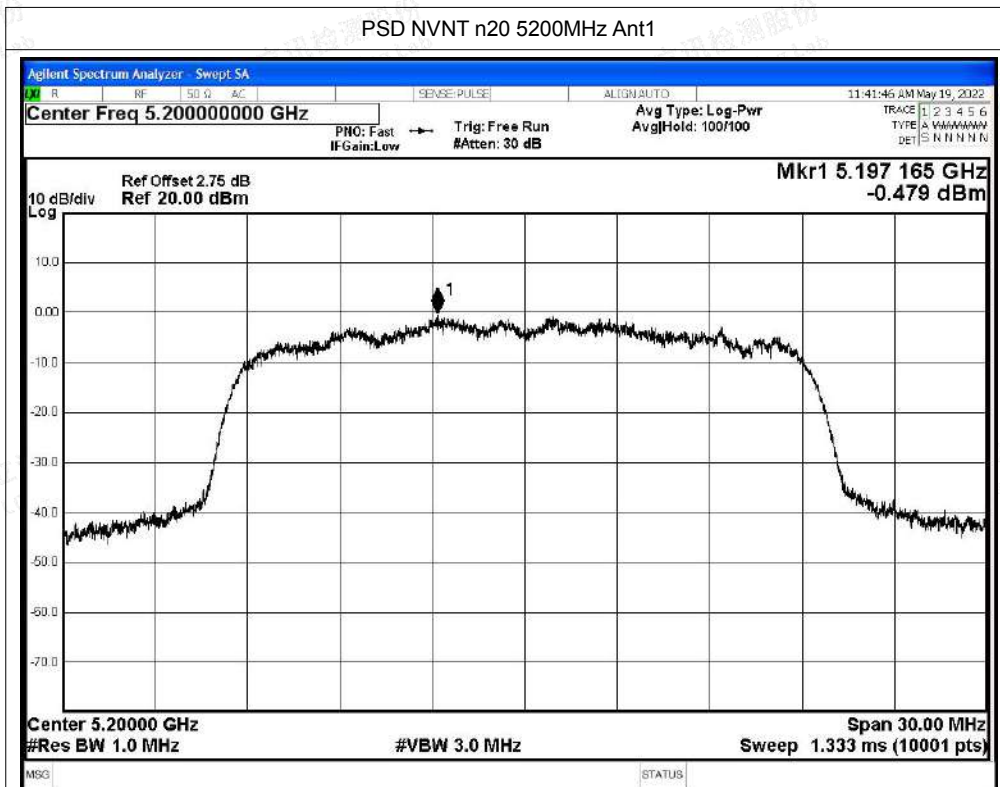


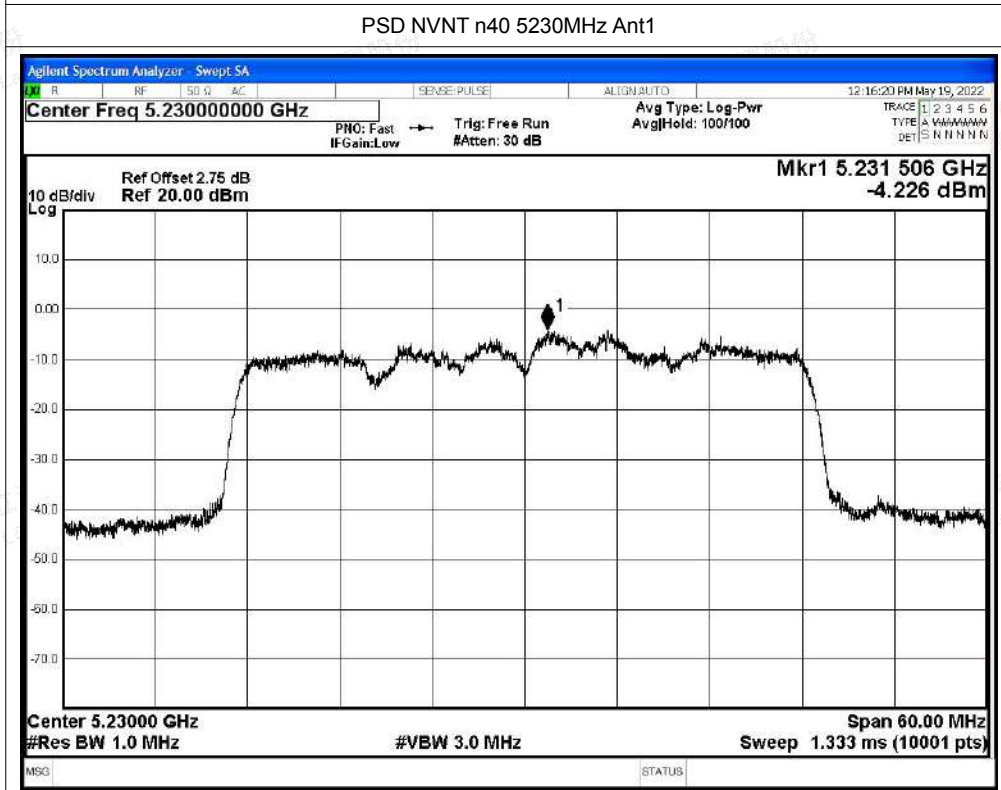
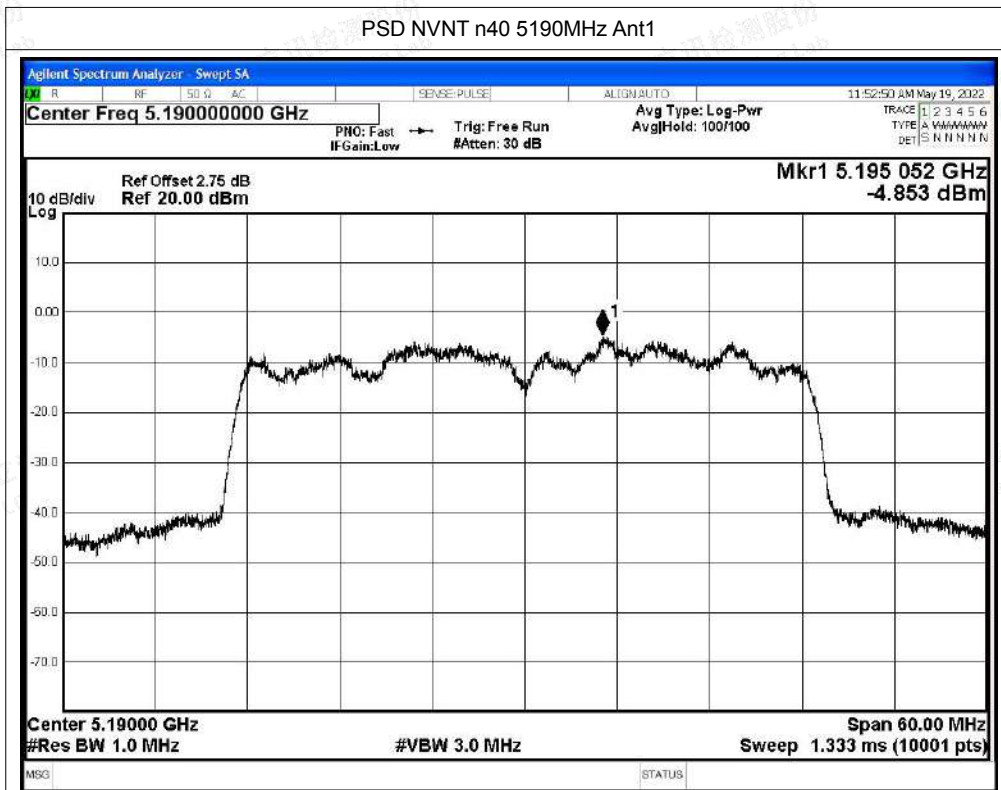
PSD NVNT a 5240MHz Ant1



PSD NVNT n20 5180MHz Ant1

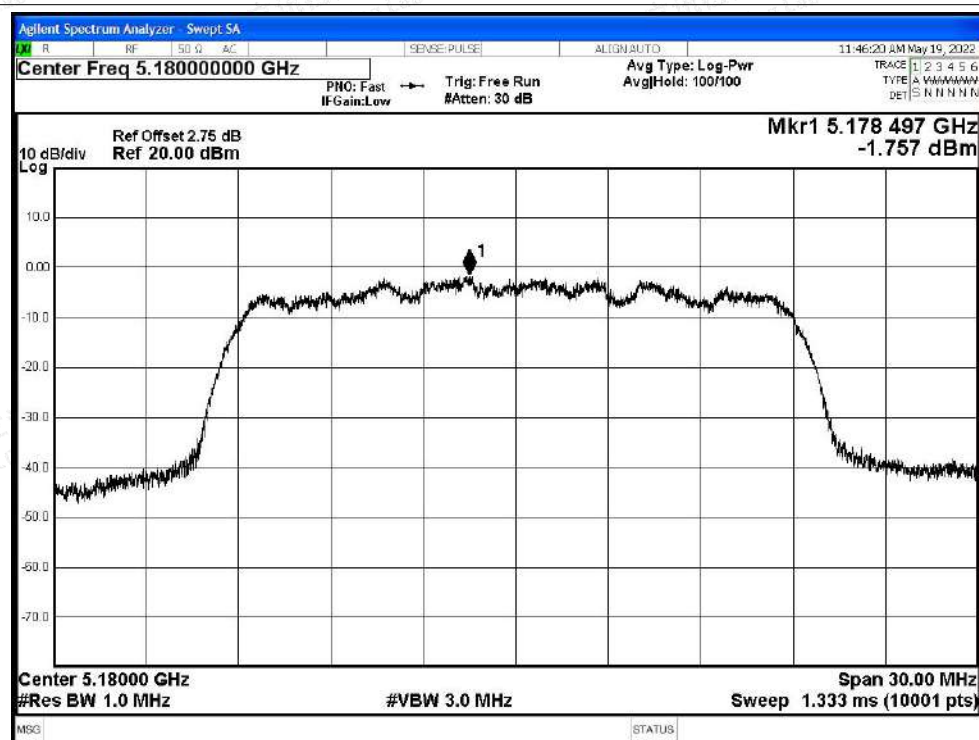




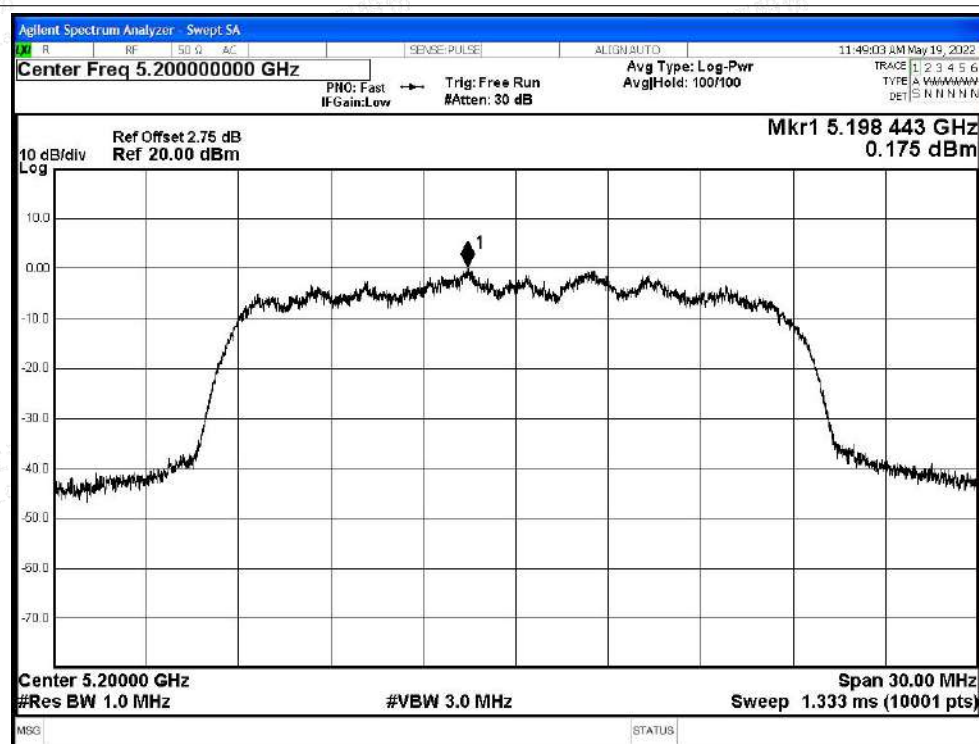




PSD NVNT ac20 5180MHz Ant1

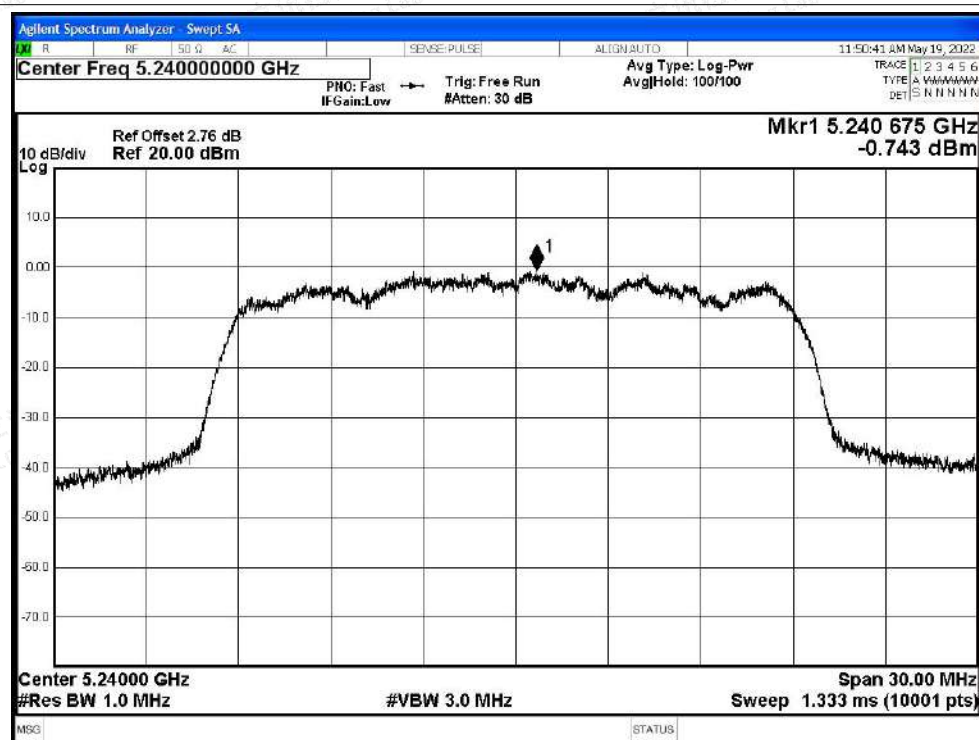


PSD NVNT ac20 5200MHz Ant1

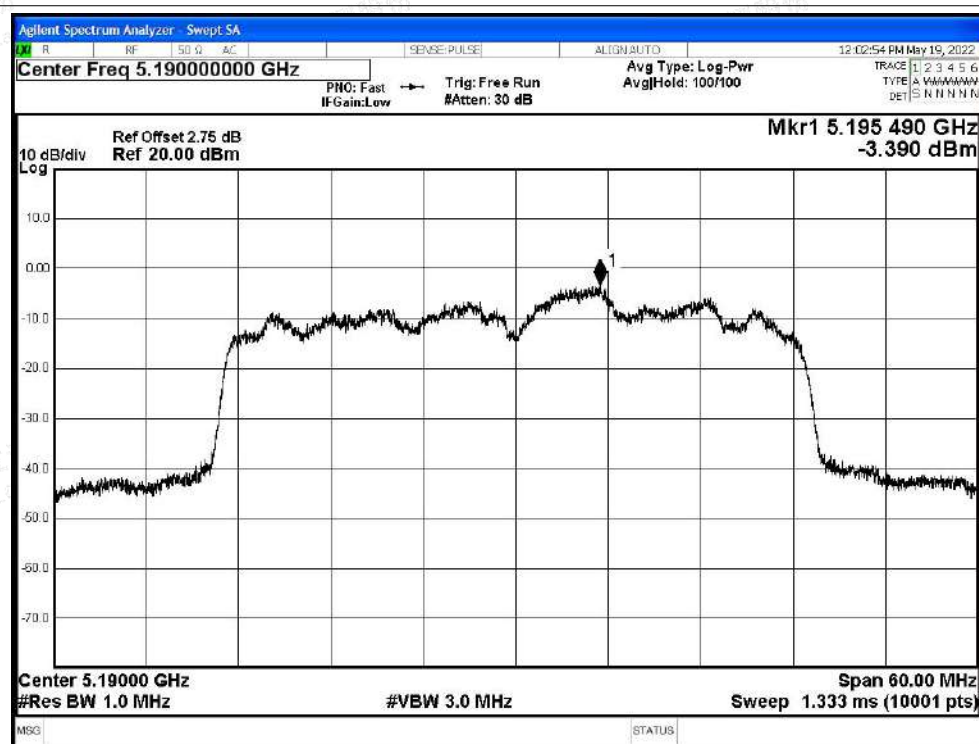




PSD NVNT ac20 5240MHz Ant1

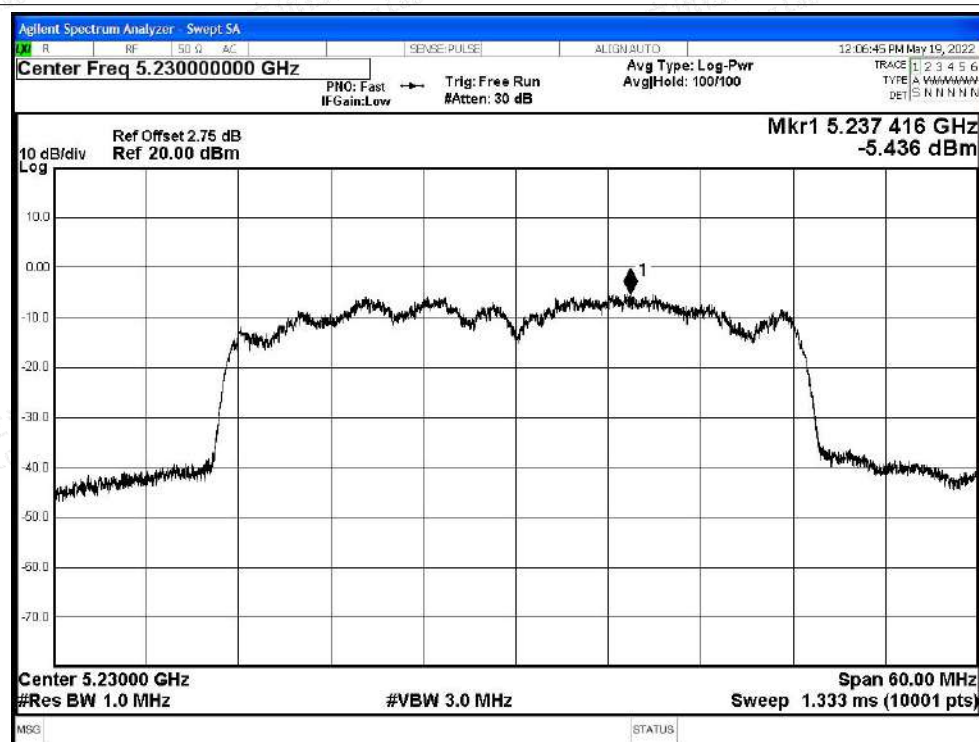


PSD NVNT ac40 5190MHz Ant1

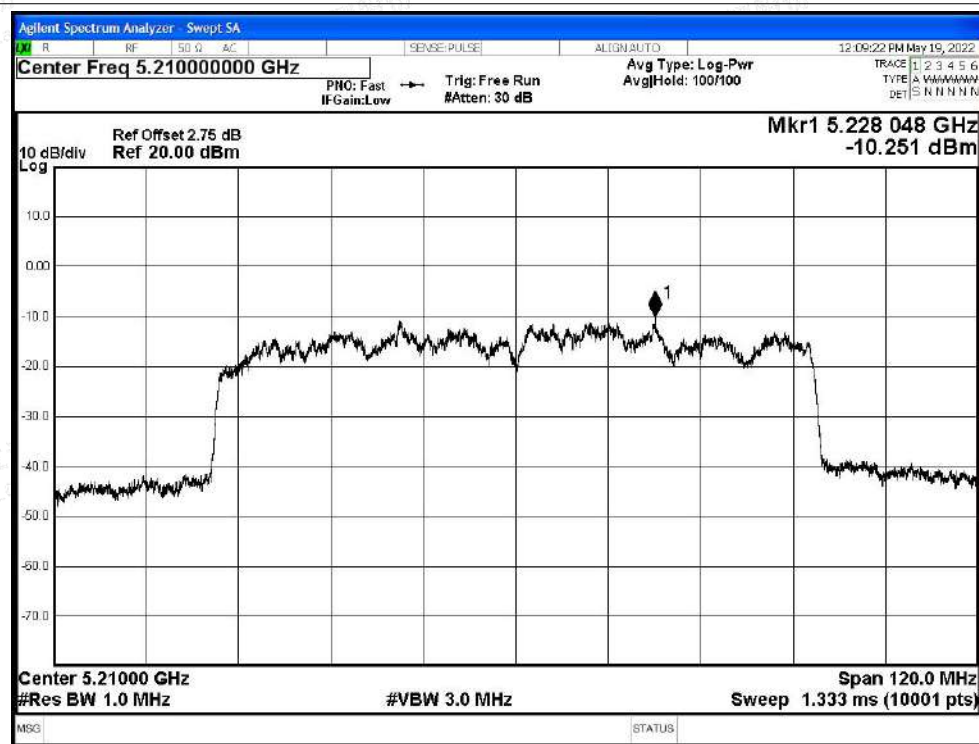




PSD NVNT ac40 5230MHz Ant1



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	-51.04	2	46.19	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-60.64	2	36.59	Average	54	Pass
NVNT	a	5180	Ant1	5147.5	-38.22	2	59.01	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-54	2	43.23	Average	54	Pass
NVNT	a	5180	Ant1	5150	-39.8	2	57.43	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-53.6	2	43.63	Average	54	Pass
NVNT	a	5240	Ant1	5350	-50.29	2	46.94	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-58.31	2	38.92	Average	54	Pass
NVNT	a	5240	Ant1	5372.88	-46.82	2	50.41	Peak	68.2	Pass
NVNT	a	5240	Ant1	5351.28	-58.24	2	38.99	Average	54	Pass
NVNT	a	5240	Ant1	5460	-51.4	2	45.83	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-59.72	2	37.51	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-51.86	2	45.37	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-60.72	2	36.51	Average	54	Pass
NVNT	n20	5180	Ant1	5148.9	-35.26	2	61.97	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5149.6	-53.54	2	43.69	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-39.72	2	57.51	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-53.12	2	44.11	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-47.99	2	49.24	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-58.43	2	38.8	Average	54	Pass
NVNT	n20	5240	Ant1	5360.4	-46.15	2	51.08	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5351.04	-58	2	39.23	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-50.68	2	46.55	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-59.64	2	37.59	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-52.06	2	45.17	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-60.54	2	36.69	Average	54	Pass
NVNT	n40	5190	Ant1	5148.24	-31.5	2	65.73	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5148.97	-46.12	2	51.11	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-31.58	2	65.65	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-45.71	2	51.52	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-47.34	2	49.89	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-57.9	2	39.33	Average	54	Pass
NVNT	n40	5230	Ant1	5363.07	-44.95	2	52.28	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350.38	-57.78	2	39.45	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-47.85	2	49.38	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-59.55	2	37.68	Average	54	Pass
NVNT	ac20	5180	Ant1	4500	-51.89	2	45.34	Peak	68.2	Pass



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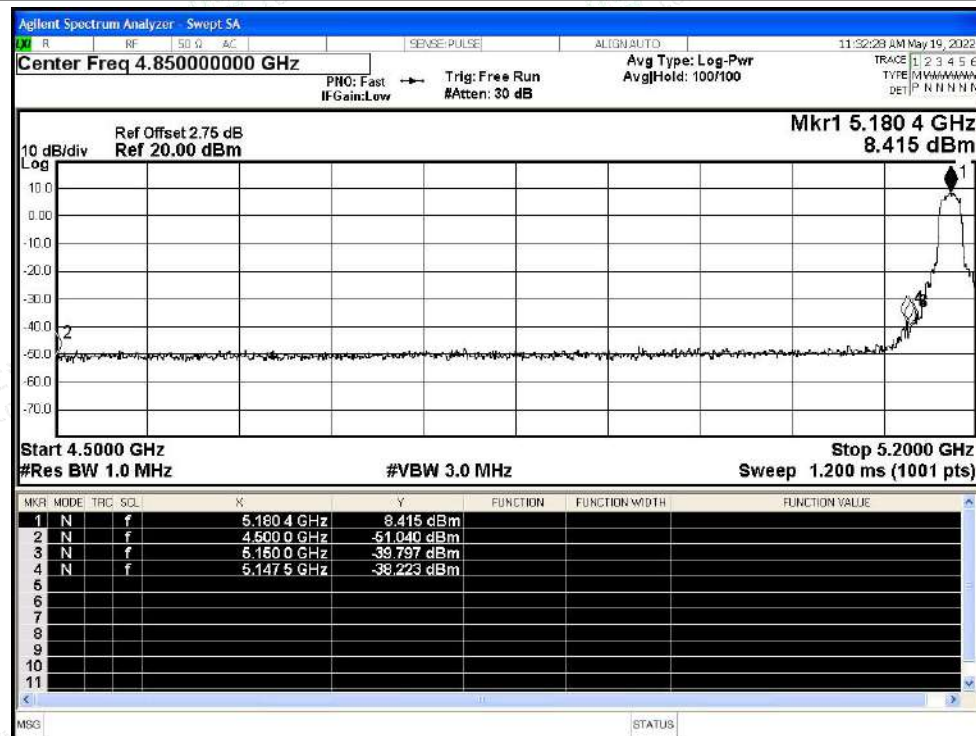
NVNT	ac20	5180	Ant1	4500	-60.75	2	36.48	Average	54	Pass
NVNT	ac20	5180	Ant1	5147.5	-40.44	2	56.79	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5149.6	-53.67	2	43.56	Average	54	Pass
NVNT	ac20	5180	Ant1	5150	-43.36	2	53.87	Peak	68.2	Pass
NVNT	ac20	5180	Ant1	5150	-53.44	2	43.79	Average	54	Pass
NVNT	ac20	5240	Ant1	5350	-48.78	2	48.45	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5350	-58.34	2	38.89	Average	54	Pass
NVNT	ac20	5240	Ant1	5350.56	-46.47	2	50.76	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5352	-58.15	2	39.08	Average	54	Pass
NVNT	ac20	5240	Ant1	5460	-51.66	2	45.57	Peak	68.2	Pass
NVNT	ac20	5240	Ant1	5460	-59.74	2	37.49	Average	54	Pass
NVNT	ac40	5190	Ant1	4500	-51.55	2	45.68	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	4500	-60.45	2	36.78	Average	54	Pass
NVNT	ac40	5190	Ant1	5148.24	-30.92	2	66.31	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5149.7	-46.06	2	51.17	Average	54	Pass
NVNT	ac40	5190	Ant1	5150	-32.3	2	64.93	Peak	68.2	Pass
NVNT	ac40	5190	Ant1	5150	-45.94	2	51.29	Average	54	Pass
NVNT	ac40	5230	Ant1	5350	-47.94	2	49.29	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350	-57.6	2	39.63	Average	54	Pass
NVNT	ac40	5230	Ant1	5356.86	-46.92	2	50.31	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5350.11	-57.6	2	39.63	Average	54	Pass
NVNT	ac40	5230	Ant1	5460	-51.11	2	46.12	Peak	68.2	Pass
NVNT	ac40	5230	Ant1	5460	-59.54	2	37.69	Average	54	Pass
NVNT	ac80	5210	Ant1	5350	-48.21	2	49.02	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5350	-58	2	39.23	Average	54	Pass
NVNT	ac80	5210	Ant1	5351.76	-45.12	2	52.11	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5352.42	-57.46	2	39.77	Average	54	Pass
NVNT	ac80	5210	Ant1	5460	-48.63	2	48.6	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5460	-58.93	2	38.3	Average	54	Pass
NVNT	ac80	5210	Ant1	4500	-50.41	2	46.82	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	4500	-60.1	2	37.13	Average	54	Pass
NVNT	ac80	5210	Ant1	5143.85	-38.34	2	58.89	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5149.38	-51.01	2	46.22	Average	54	Pass
NVNT	ac80	5210	Ant1	5150	-40.6	2	56.63	Peak	68.2	Pass
NVNT	ac80	5210	Ant1	5150	-50.75	2	46.48	Average	54	Pass



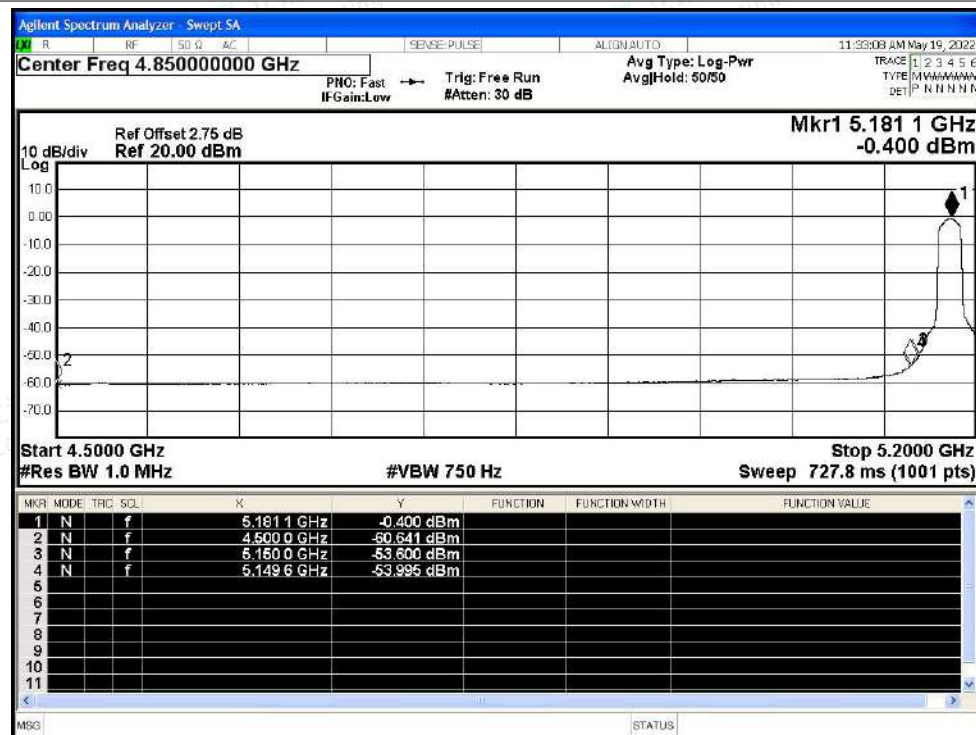


Test Graphs

Restrict Band NVNT a 5180MHz Ant1 Peak

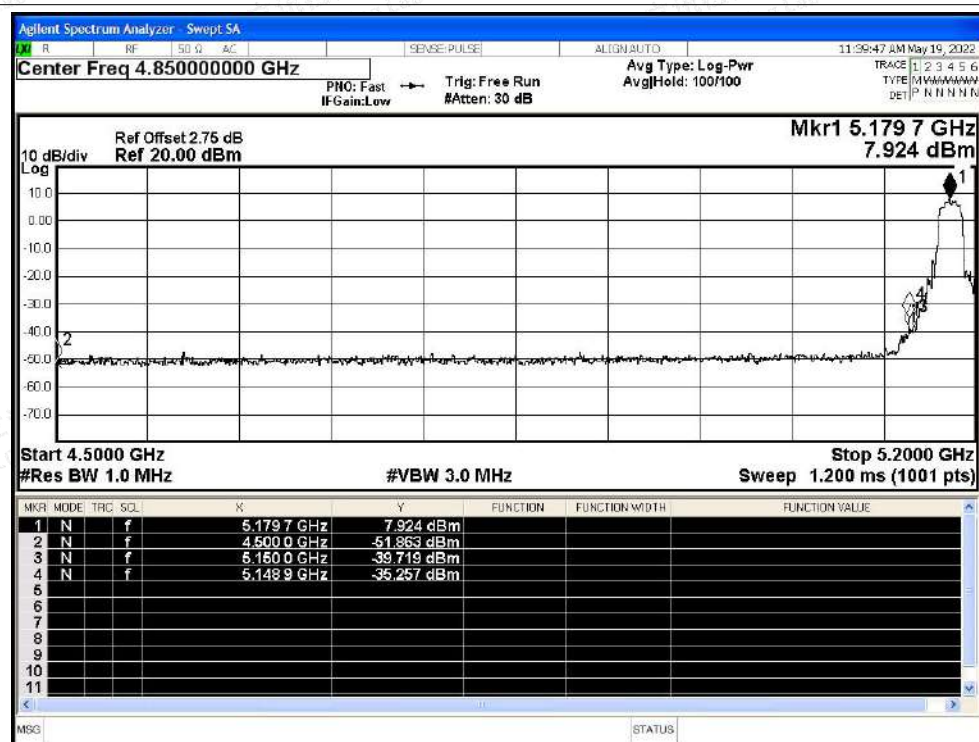


Restrict Band NVNT a 5180MHz Ant1 Average

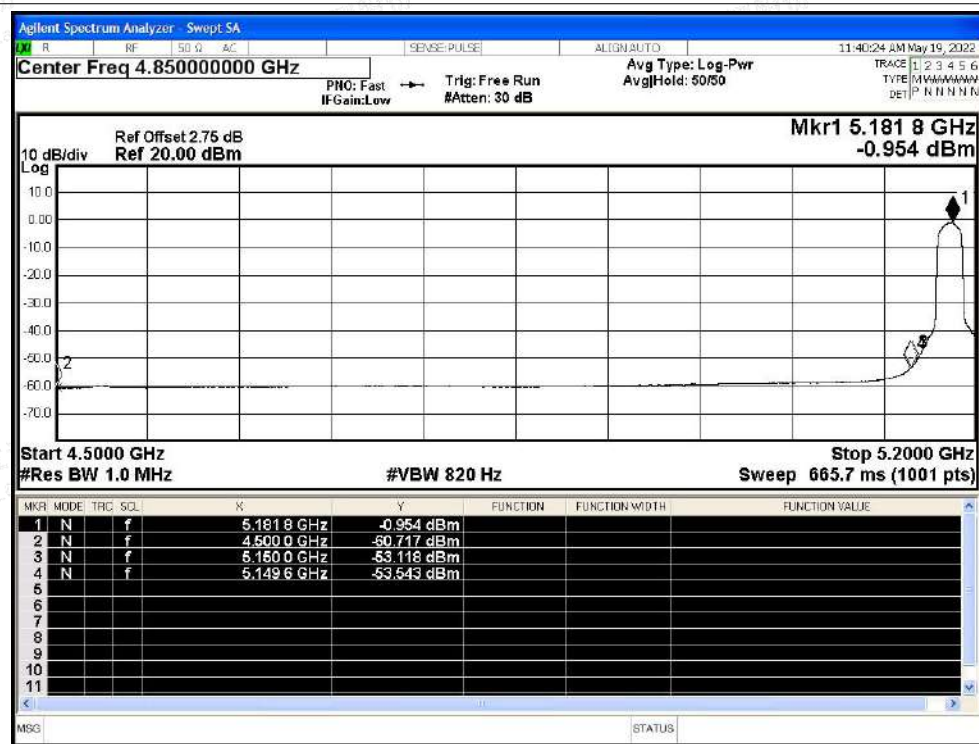


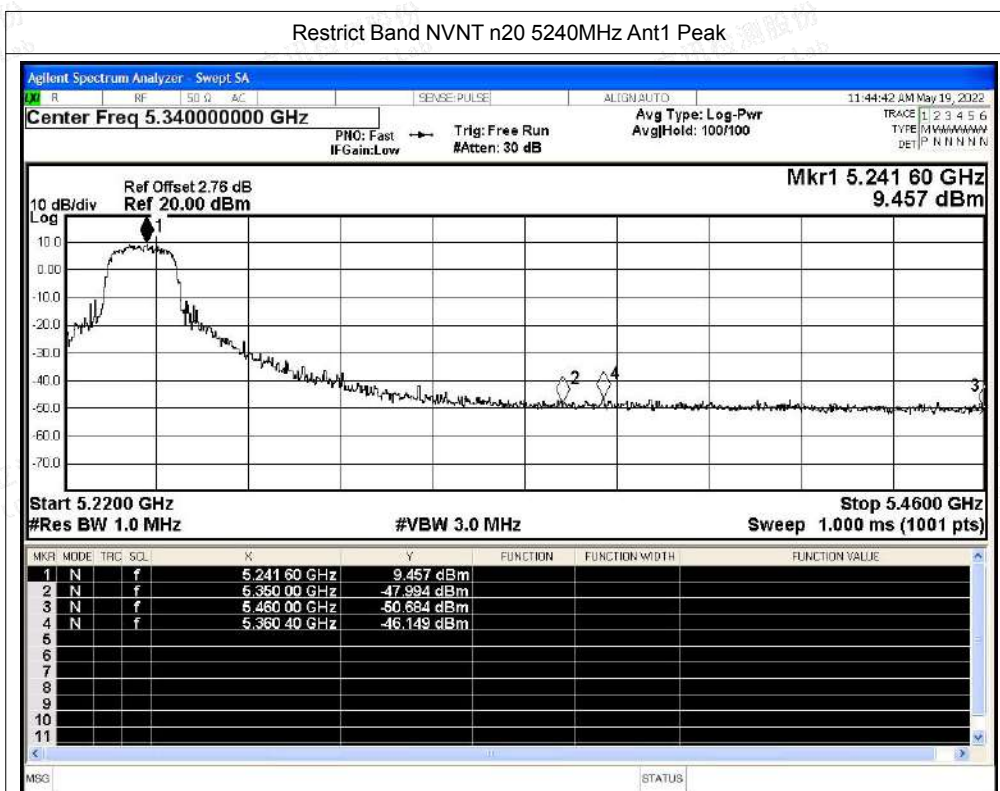


Restrict Band NVNT n20 5180MHz Ant1 Peak

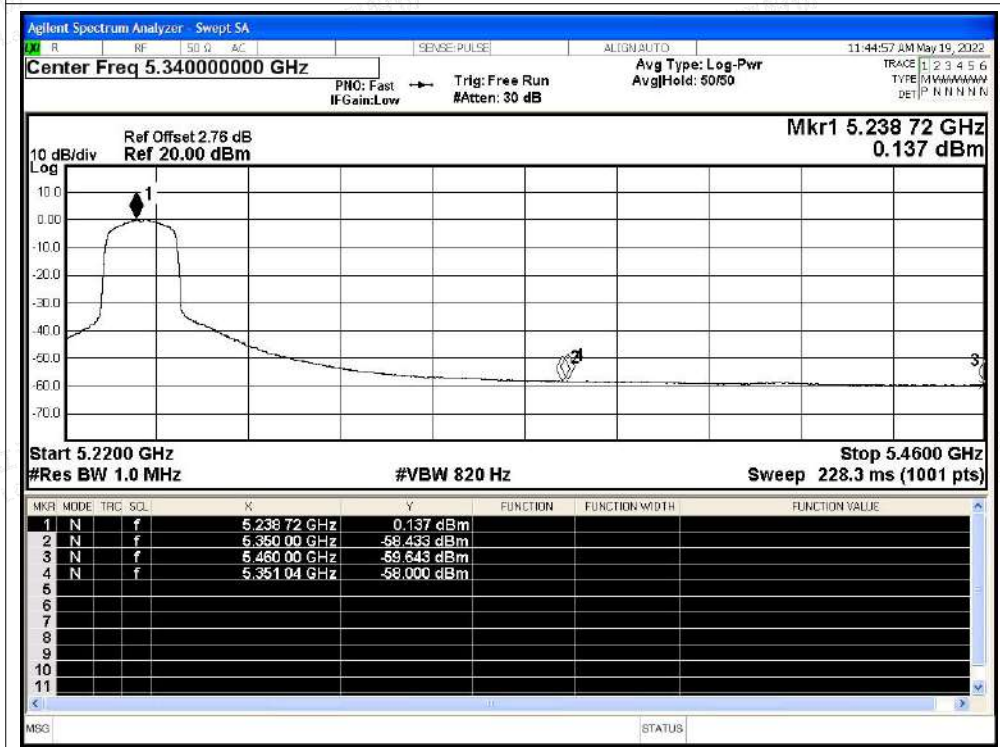


Restrict Band NVNT n20 5180MHz Ant1 Average





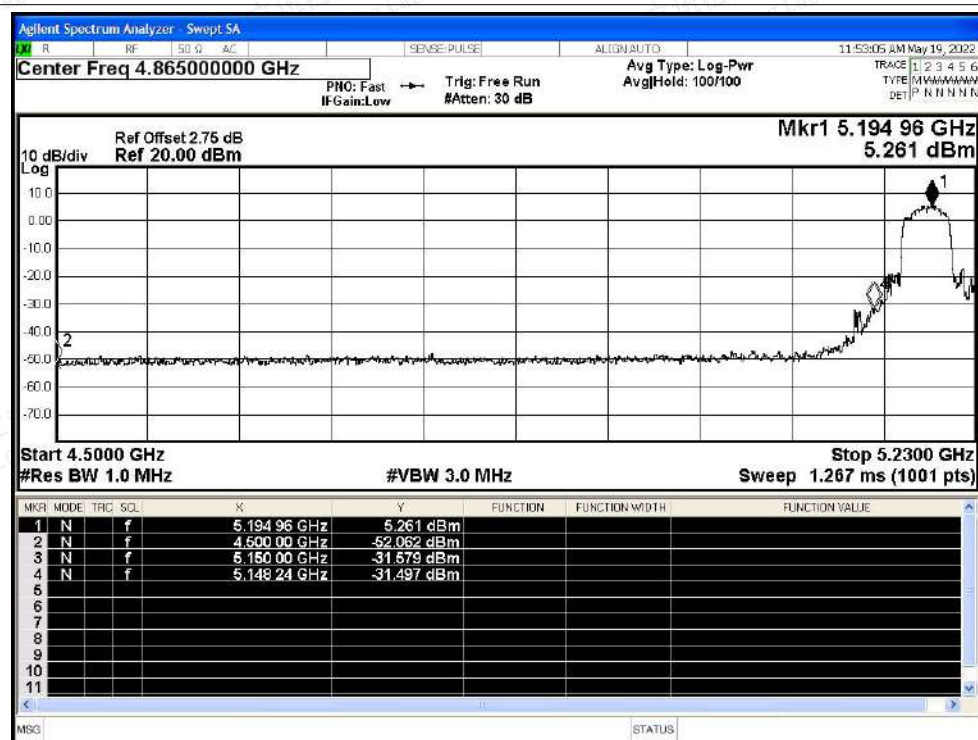
Restrict Band NVNT n20 5240MHz Ant1 Average



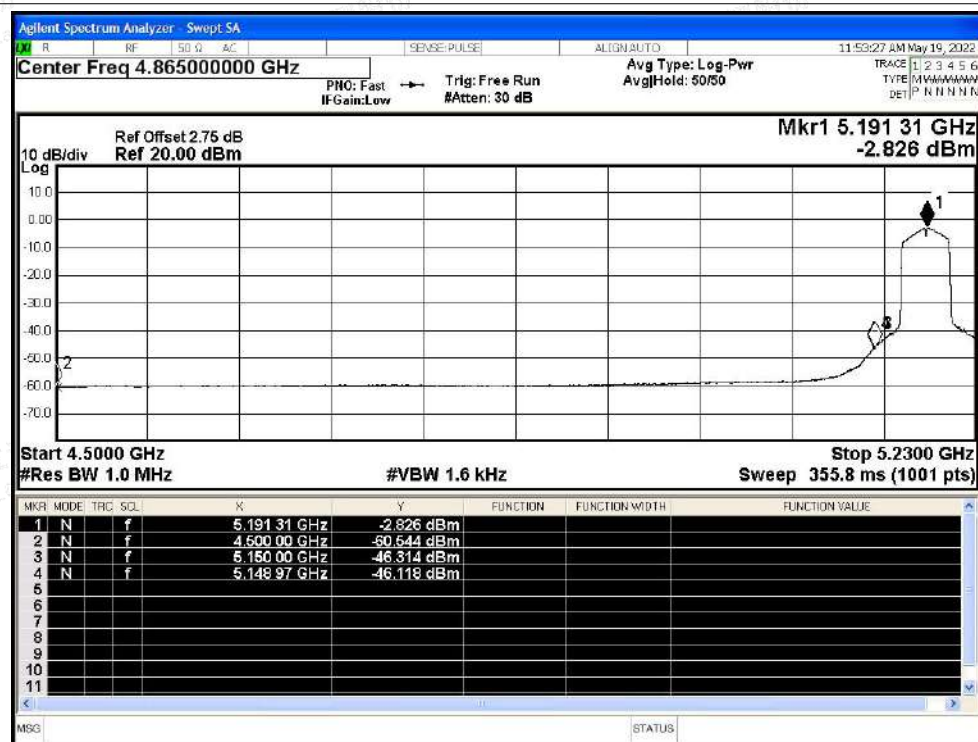
Shenzhen LCS Compliance Testing Laboratory Ltd.
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Restrict Band NVNT n40 5190MHz Ant1 Peak

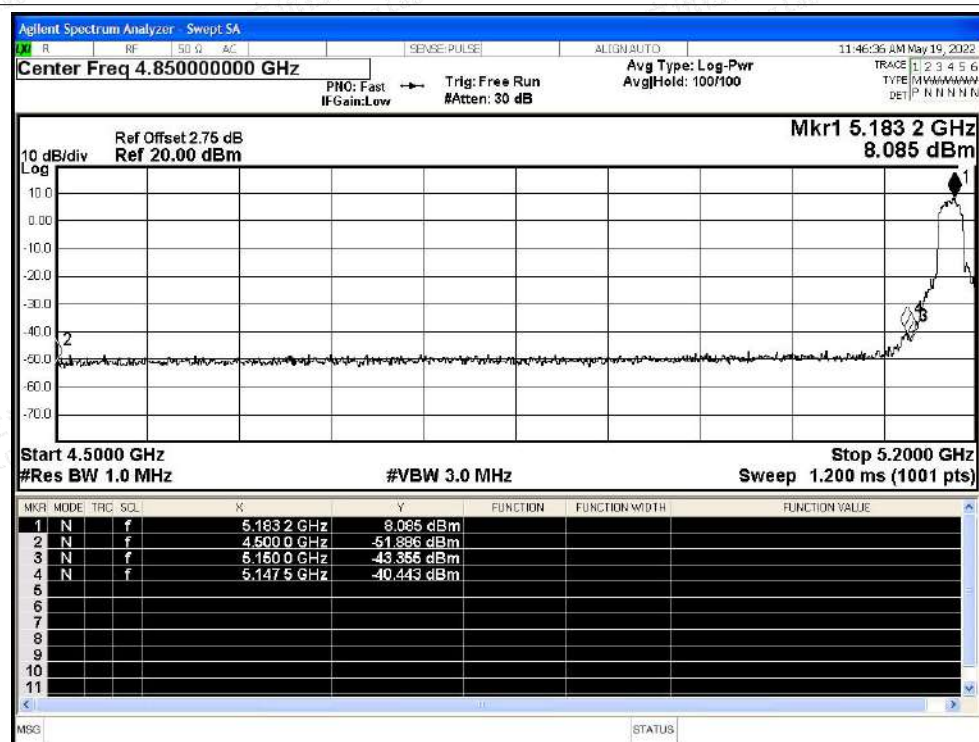


Restrict Band NVNT n40 5190MHz Ant1 Average

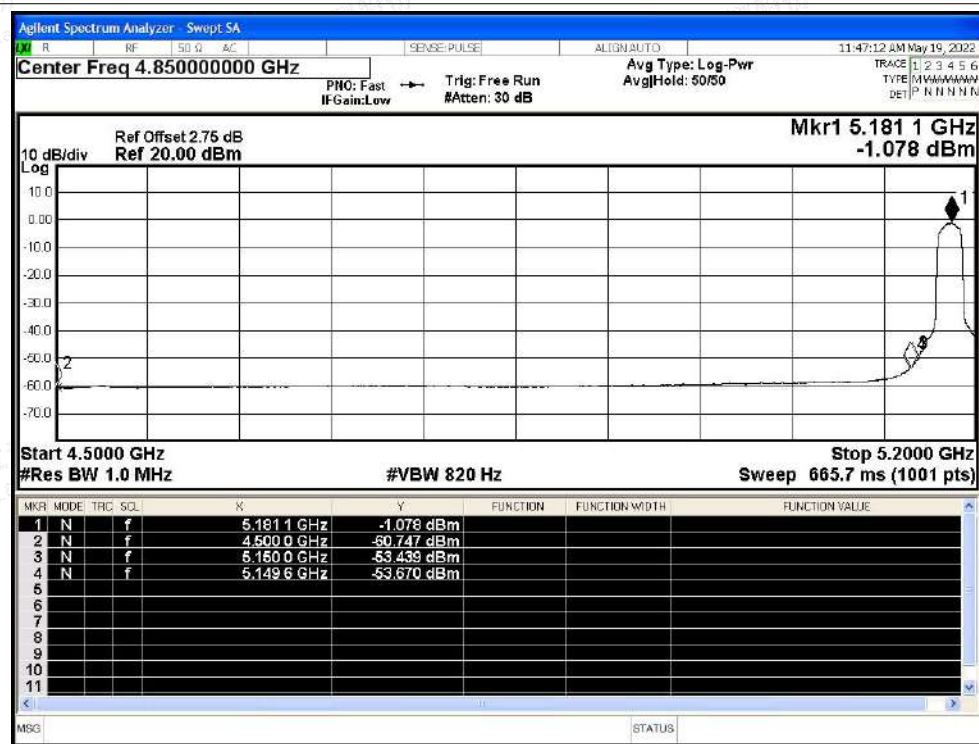




Restrict Band NVNT ac20 5180MHz Ant1 Peak

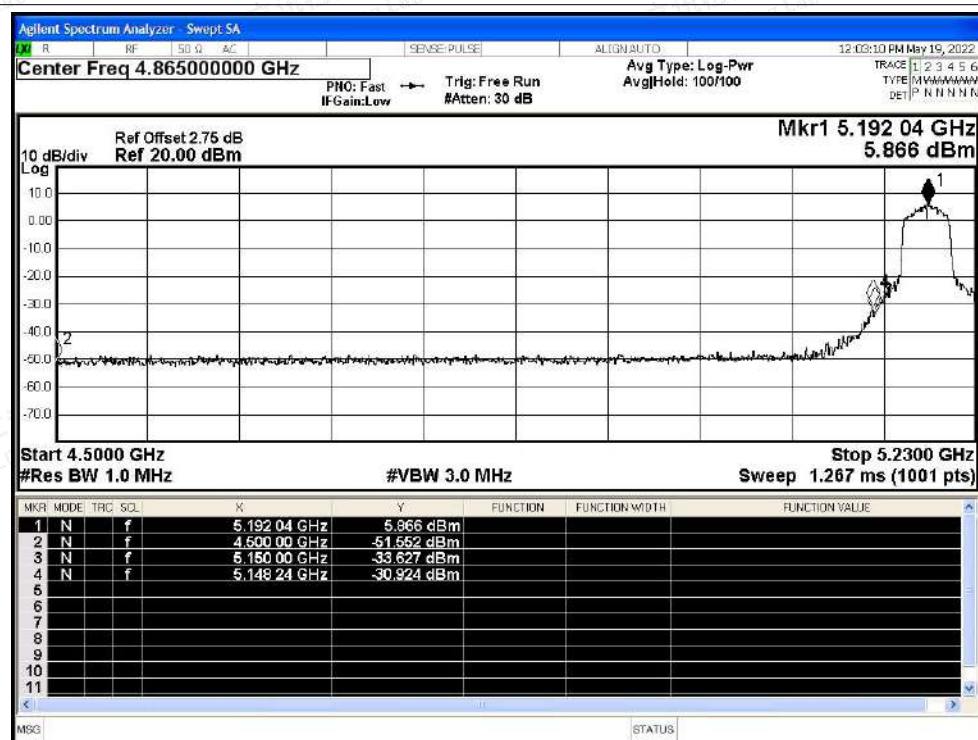


Restrict Band NVNT ac20 5180MHz Ant1 Average

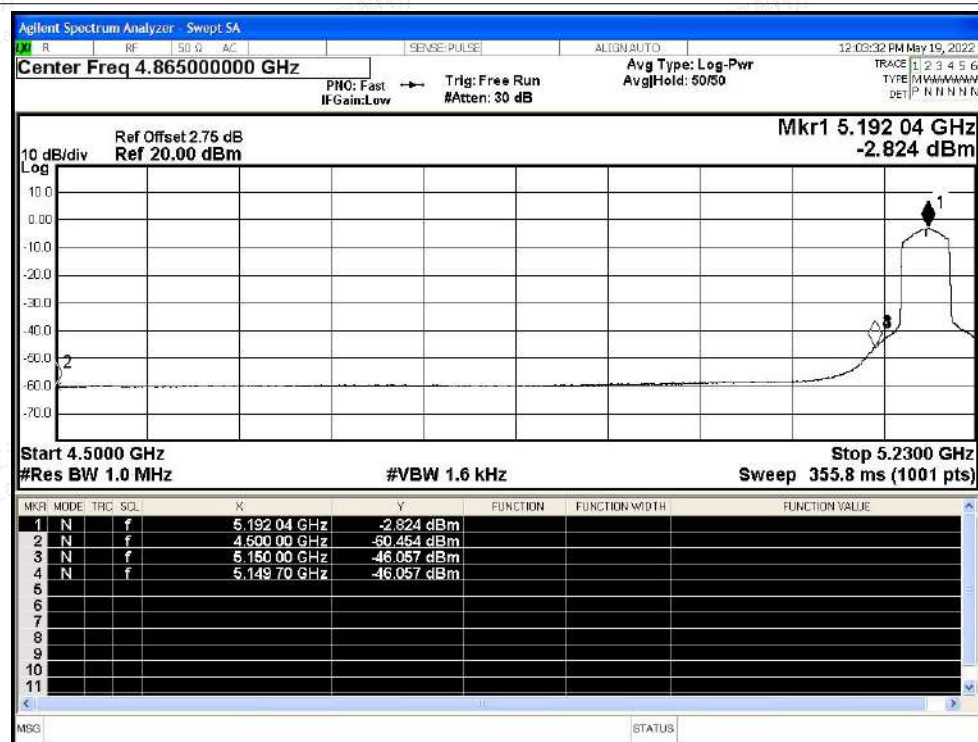


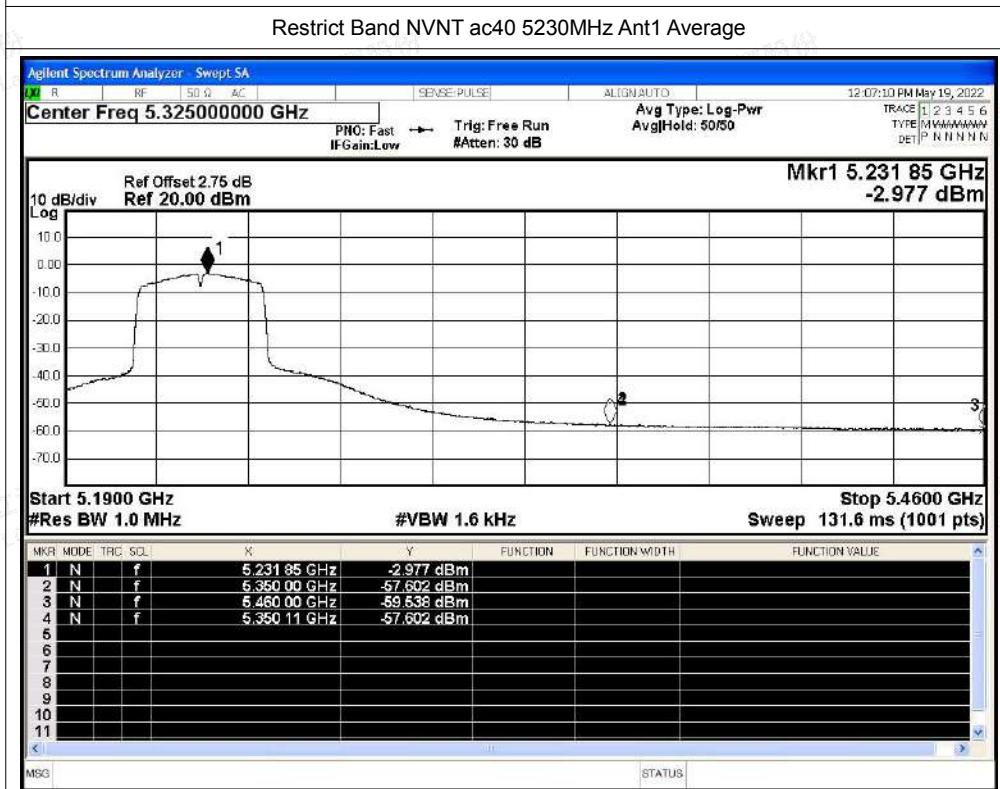
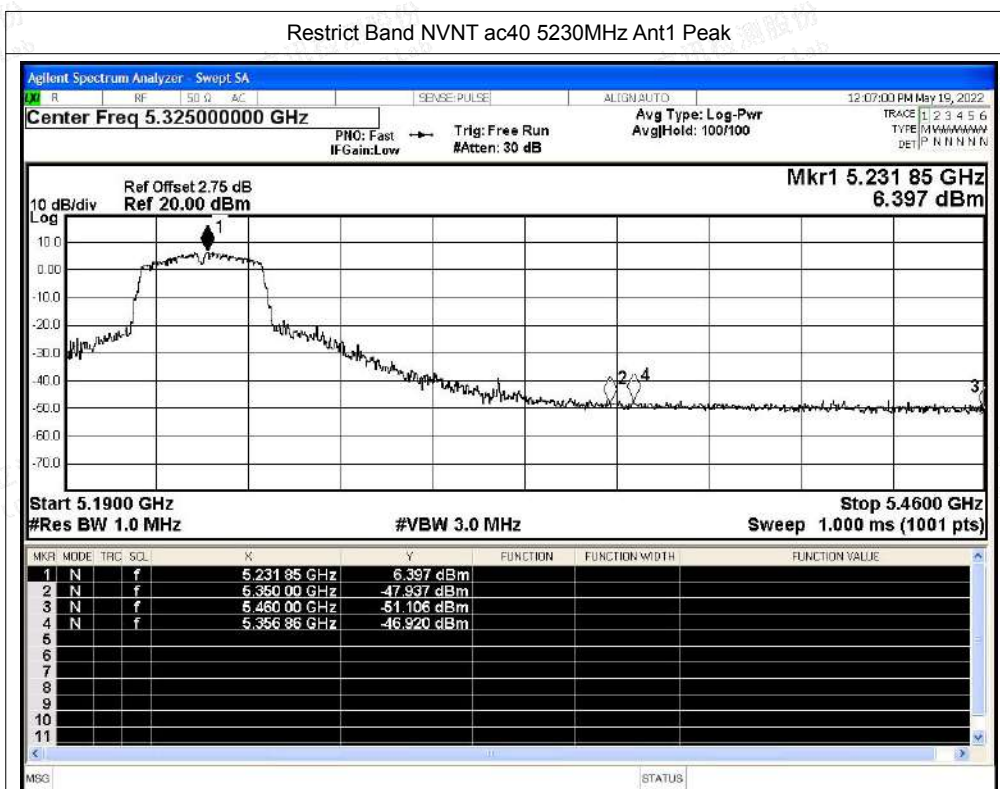


Restrict Band NVNT ac40 5190MHz Ant1 Peak



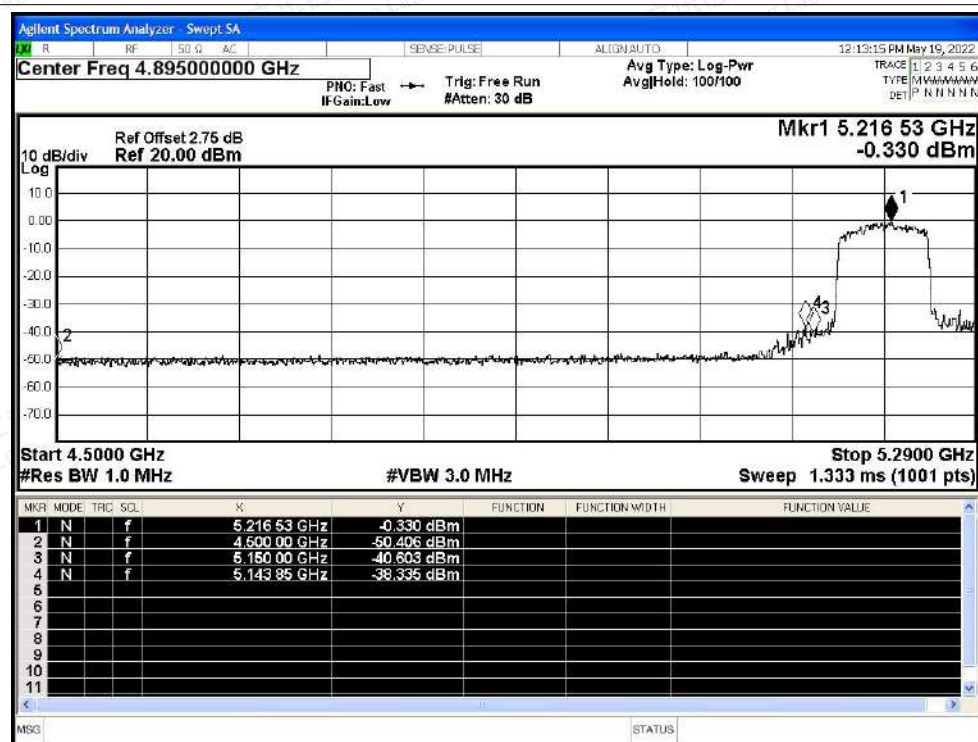
Restrict Band NVNT ac40 5190MHz Ant1 Average



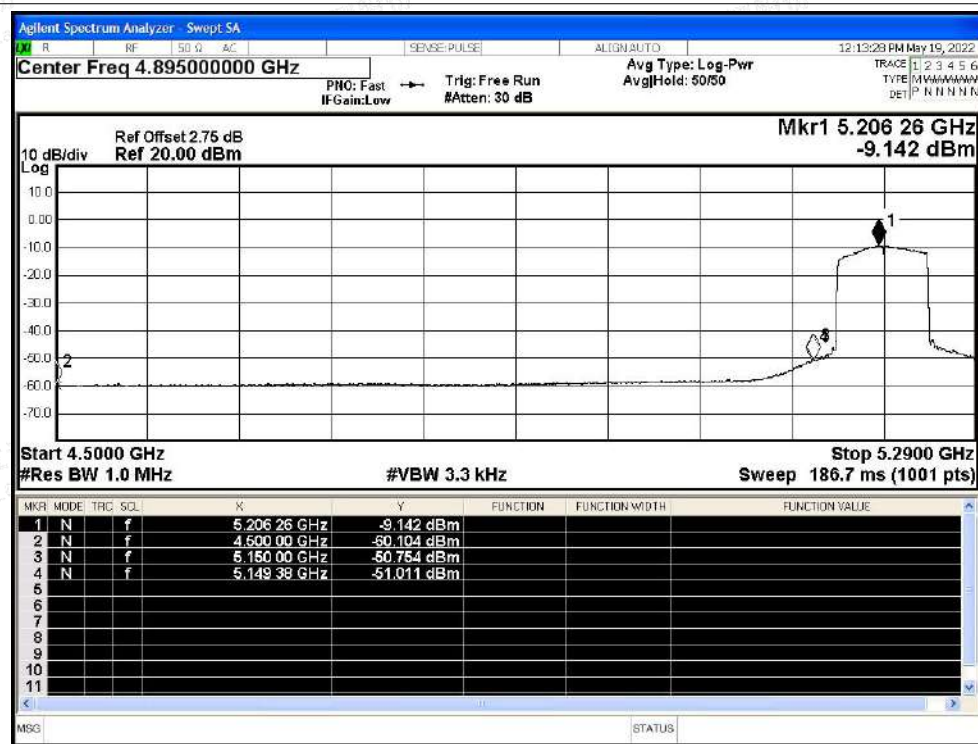




Restrict Band NVNT ac80 5210MHz Ant1 Peak



Restrict Band NVNT ac80 5210MHz Ant1 Average





D.5 Frequency Stability

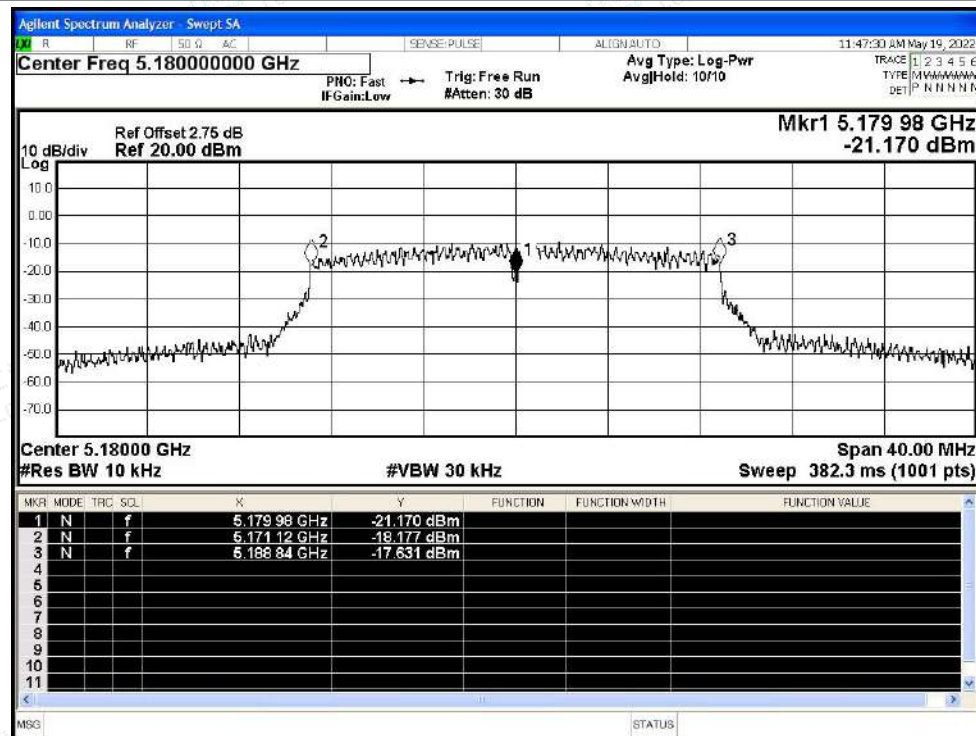
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	ac20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant1	5200	0	0	25	Pass
NVNT	ac20	5240	Ant1	5240	0	0	25	Pass
NVNT	ac40	5190	Ant1	5190	0	0	25	Pass
NVNT	ac40	5230	Ant1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



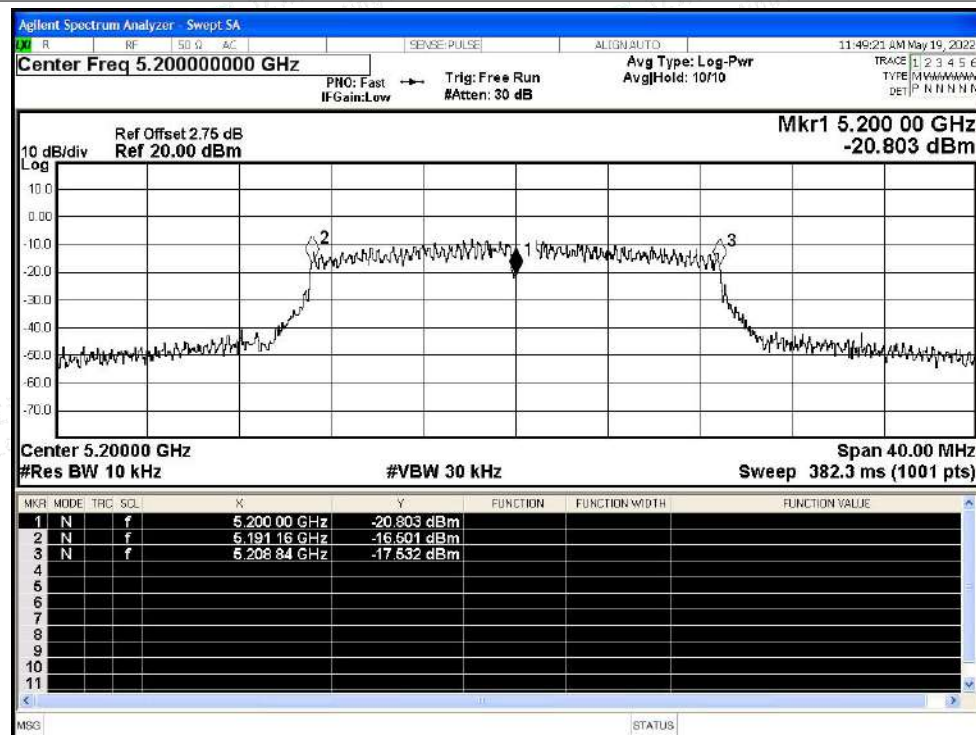


Test Graphs

Freq. Stability NVNT ac20 5180MHz Ant1



Freq. Stability NVNT ac20 5200MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

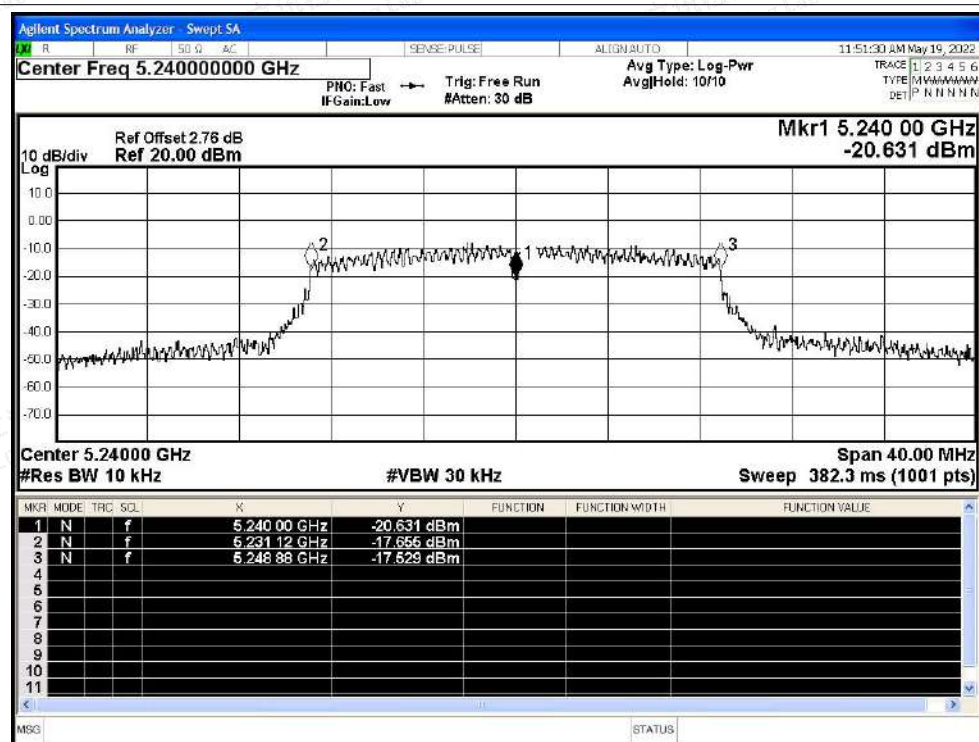
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

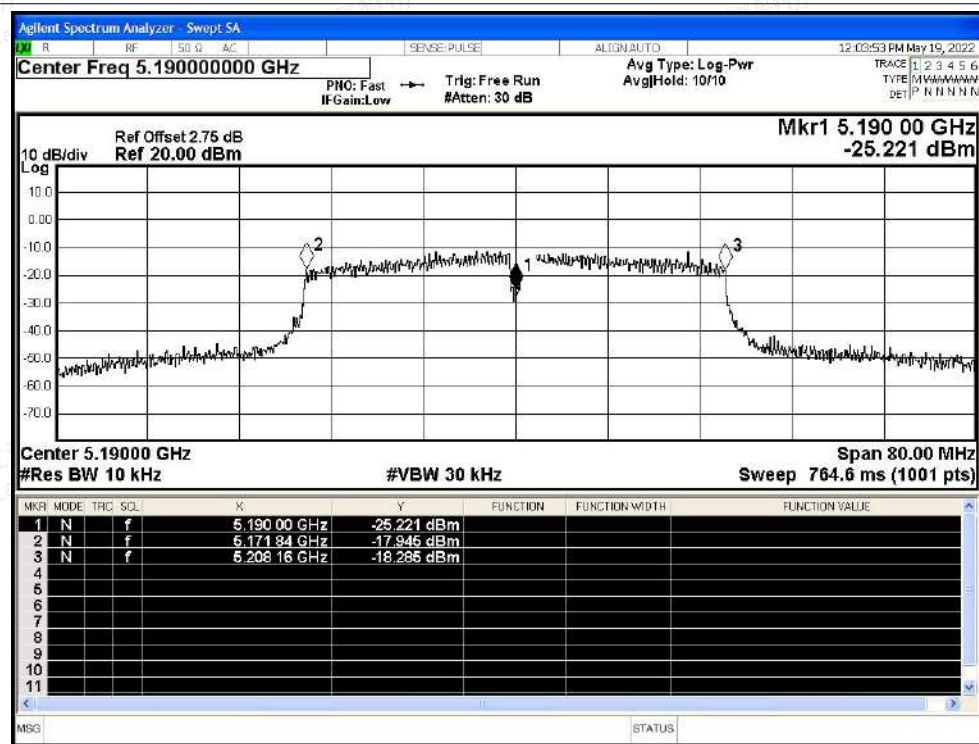
Scan code to check authenticity



Freq. Stability NVNT ac20 5240MHz Ant1

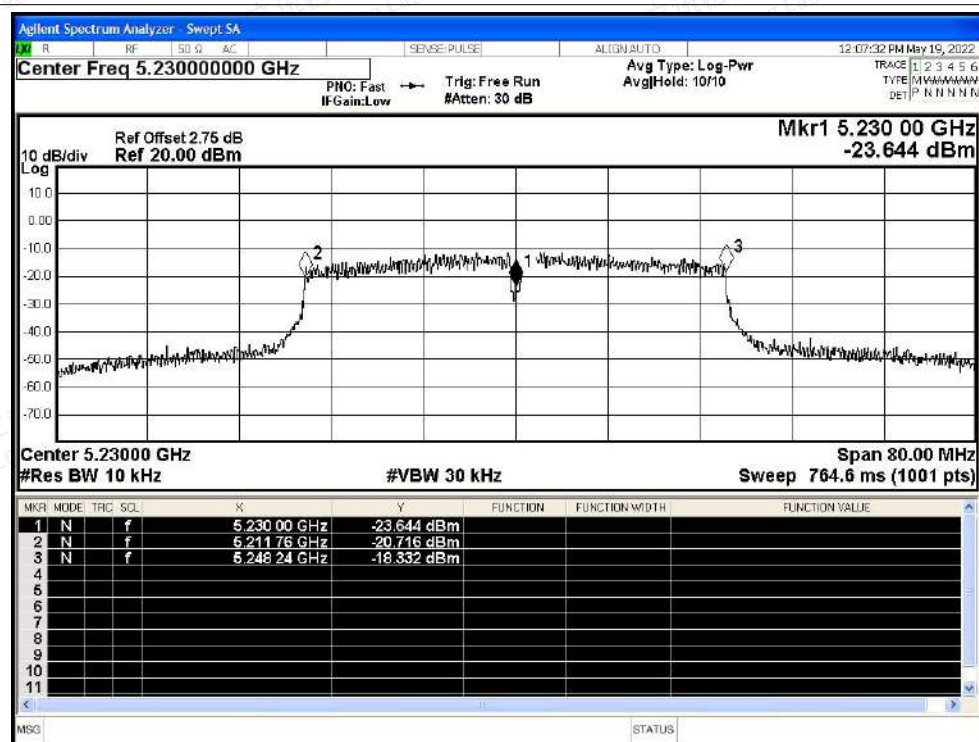


Freq. Stability NVNT ac40 5190MHz Ant1

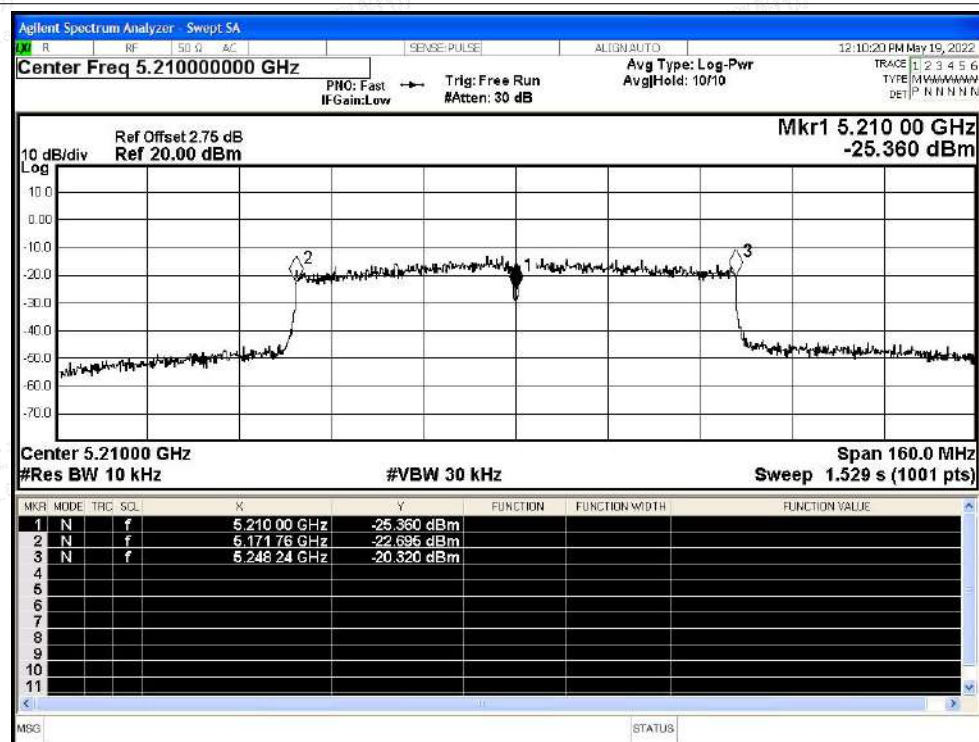




Freq. Stability NVNT ac40 5230MHz Ant1



Freq. Stability NVNT ac80 5210MHz Ant1





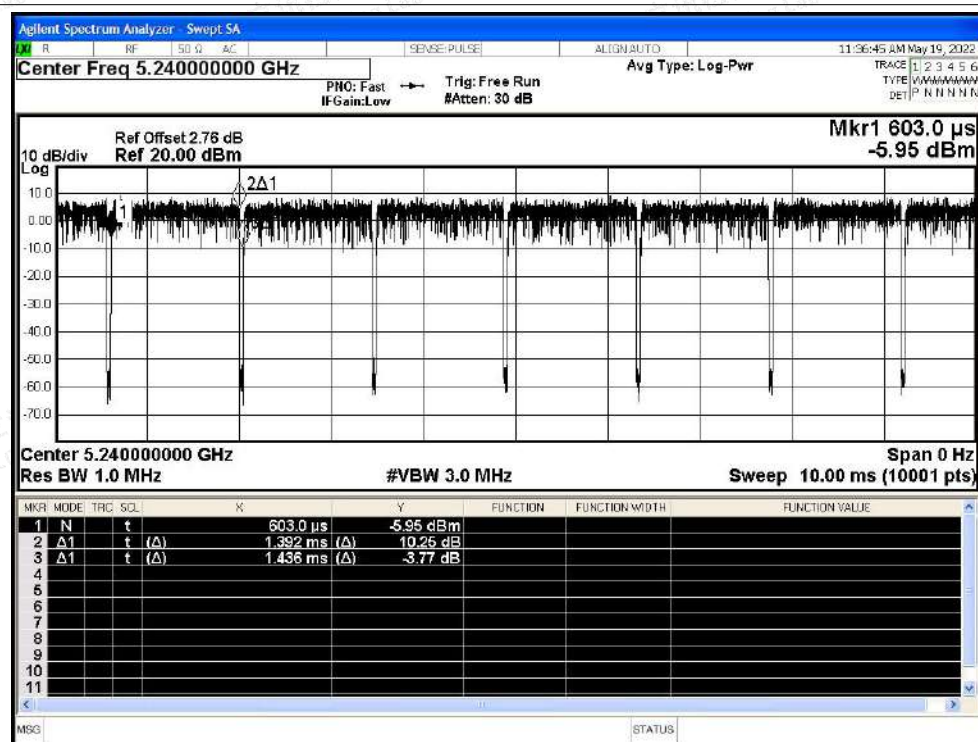
D.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	96.94	0.13	0.72
NVNT	a	5200	Ant1	97.01	0.13	0.72
NVNT	a	5240	Ant1	96.94	0.13	0.72
NVNT	n20	5180	Ant1	96.73	0.14	0.77
NVNT	n20	5200	Ant1	96.73	0.14	0.77
NVNT	n20	5240	Ant1	96.73	0.14	0.77
NVNT	n40	5190	Ant1	93.79	0.28	1.54
NVNT	n40	5230	Ant1	93.93	0.27	1.54
NVNT	ac20	5180	Ant1	96.76	0.14	0.76
NVNT	ac20	5200	Ant1	96.76	0.14	0.76
NVNT	ac20	5240	Ant1	96.83	0.14	0.76
NVNT	ac40	5190	Ant1	93.97	0.27	1.53
NVNT	ac40	5230	Ant1	93.97	0.27	1.53
NVNT	ac80	5210	Ant1	88.59	0.53	3.07

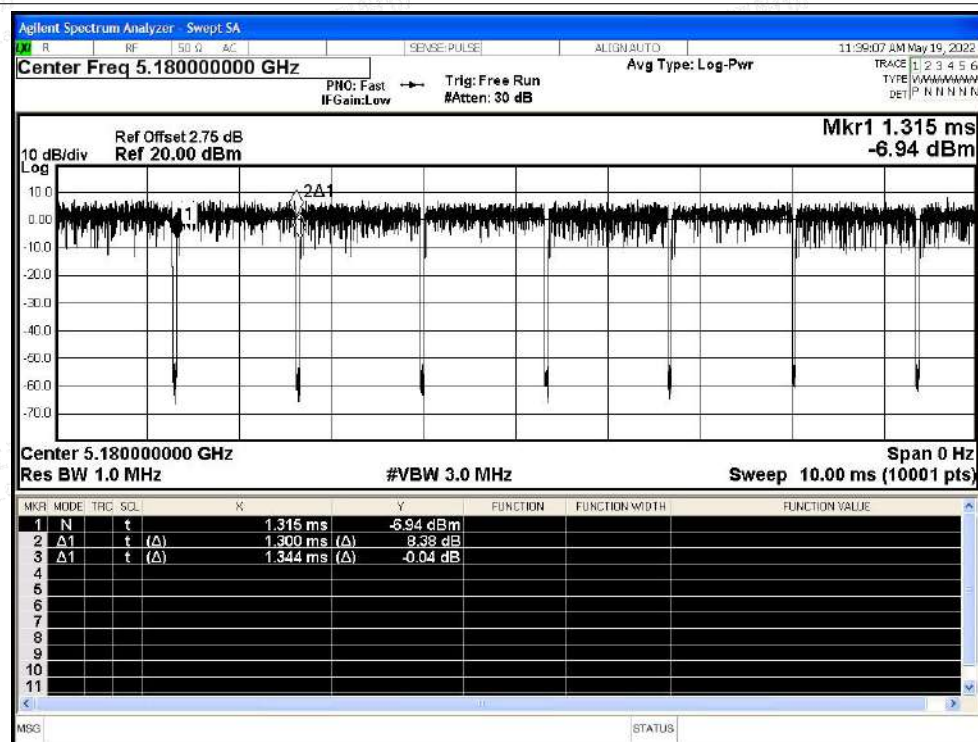




Duty Cycle NVNT a 5240MHz Ant1

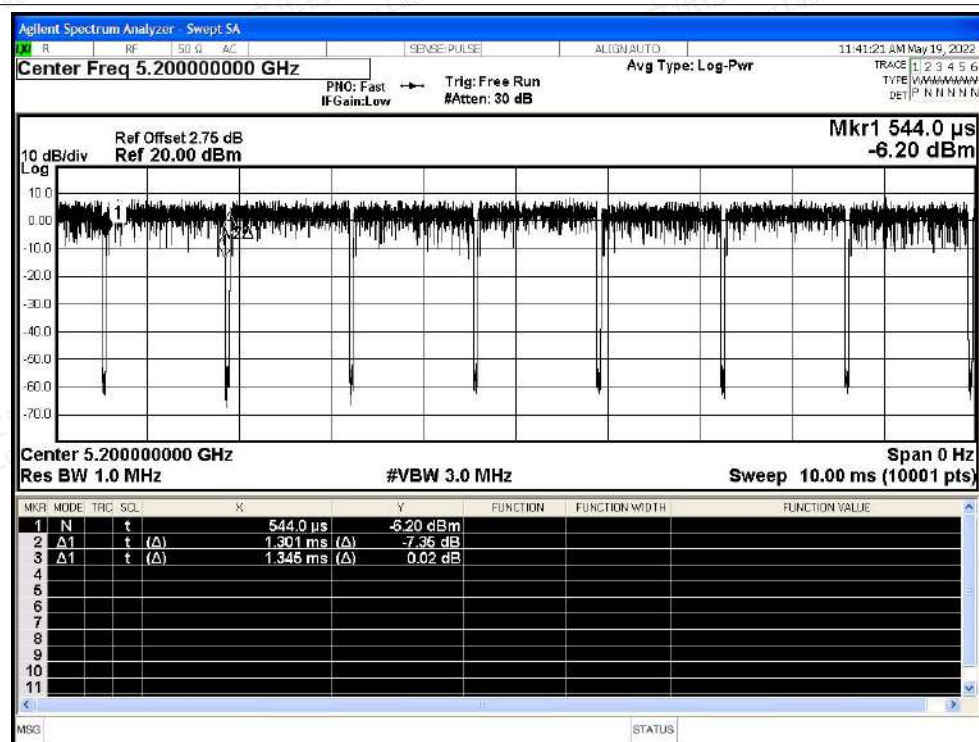


Duty Cycle NVNT n20 5180MHz Ant1

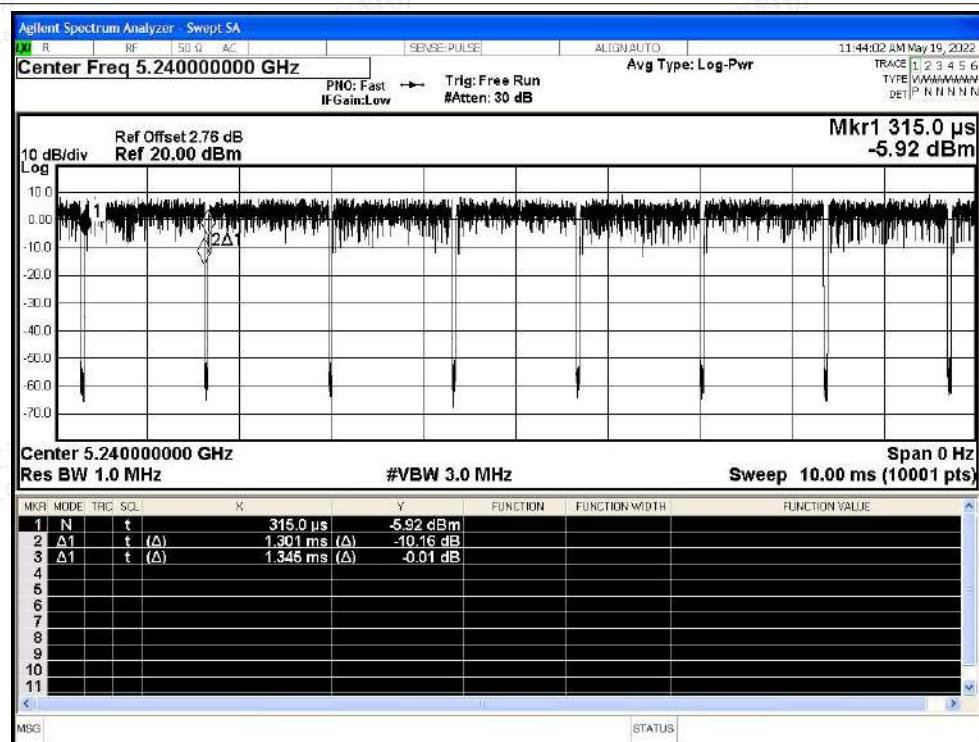




Duty Cycle NVNT n20 5200MHz Ant1

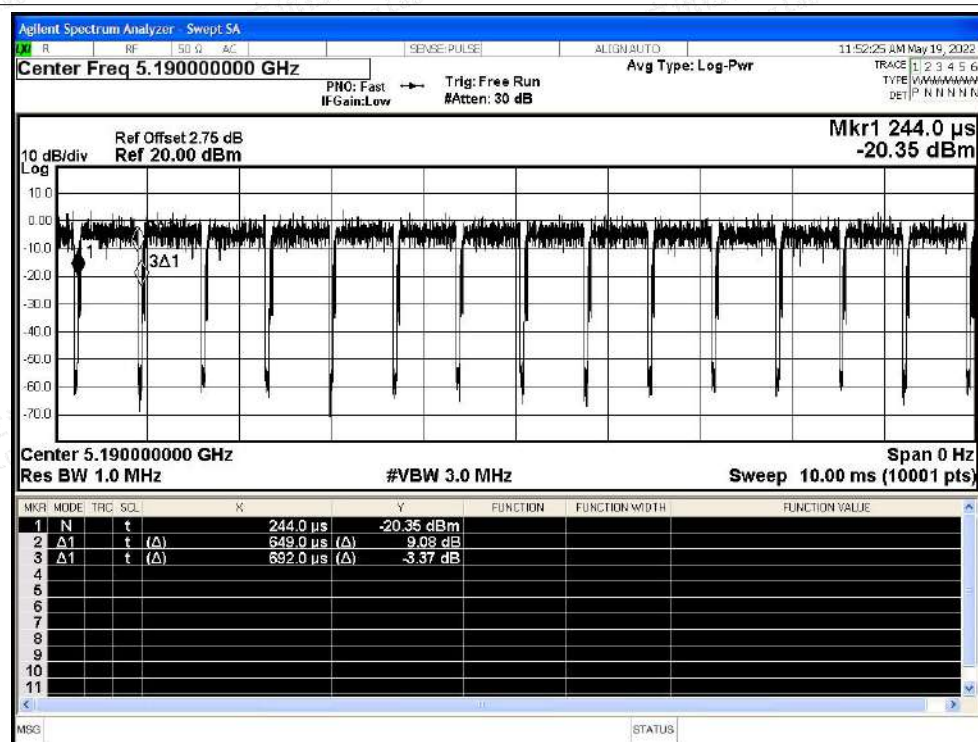


Duty Cycle NVNT n20 5240MHz Ant1

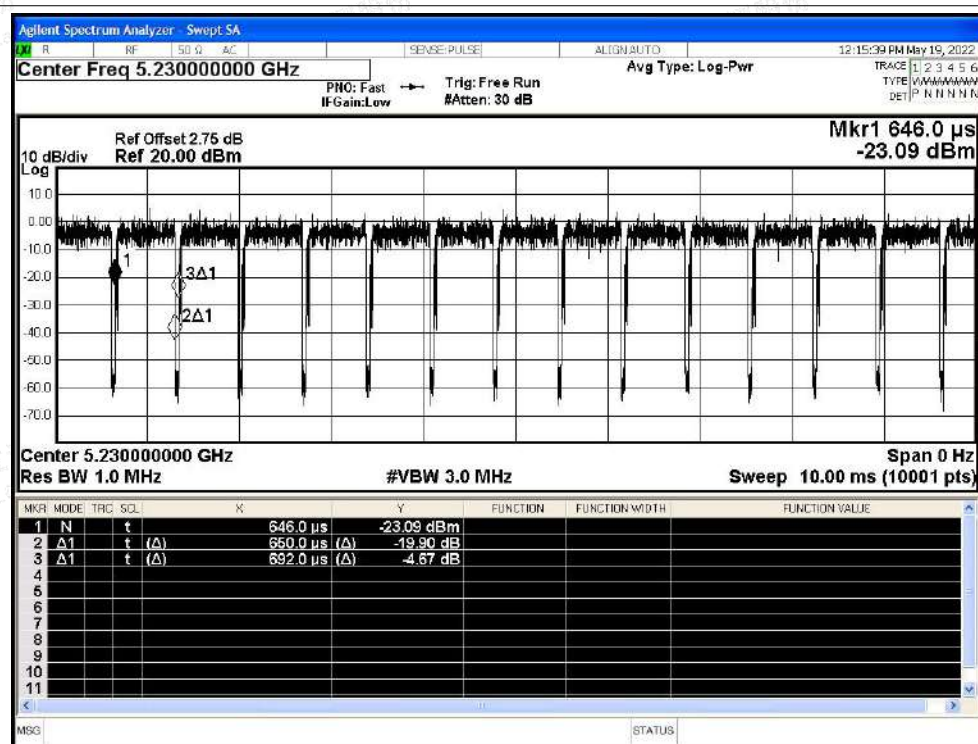




Duty Cycle NVNT n40 5190MHz Ant1

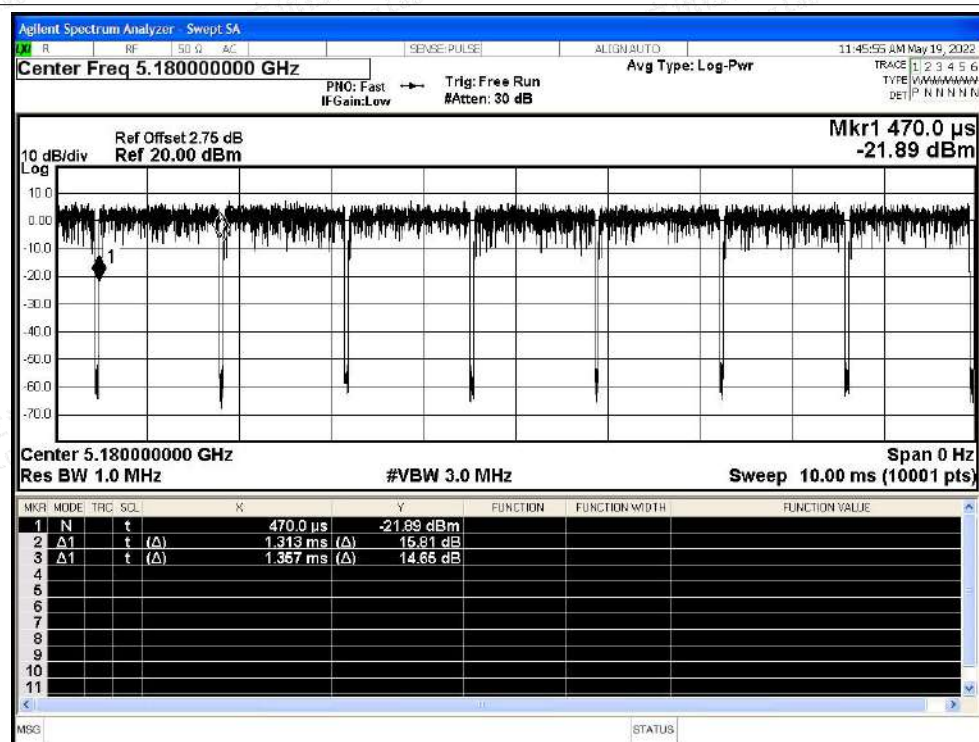


Duty Cycle NVNT n40 5230MHz Ant1

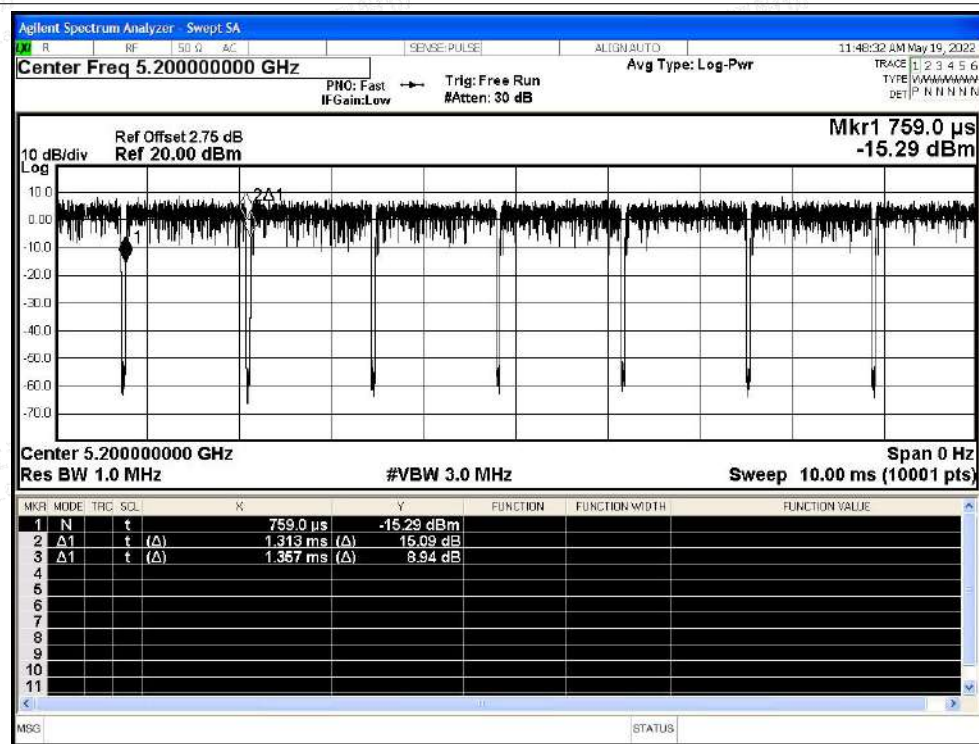




Duty Cycle NVNT ac20 5180MHz Ant1

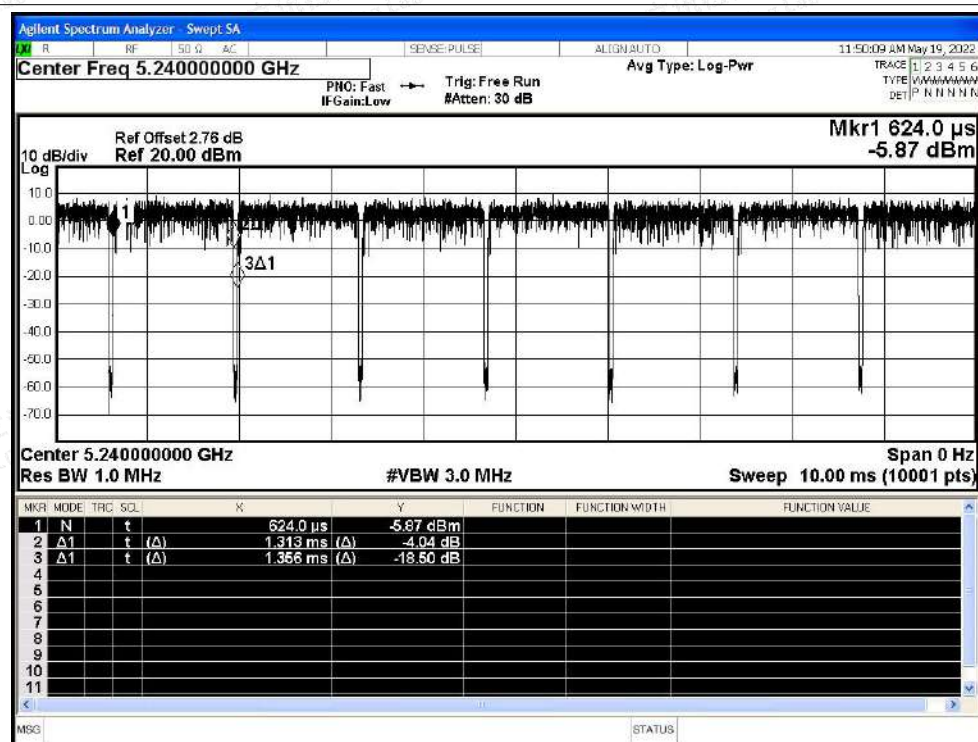


Duty Cycle NVNT ac20 5200MHz Ant1

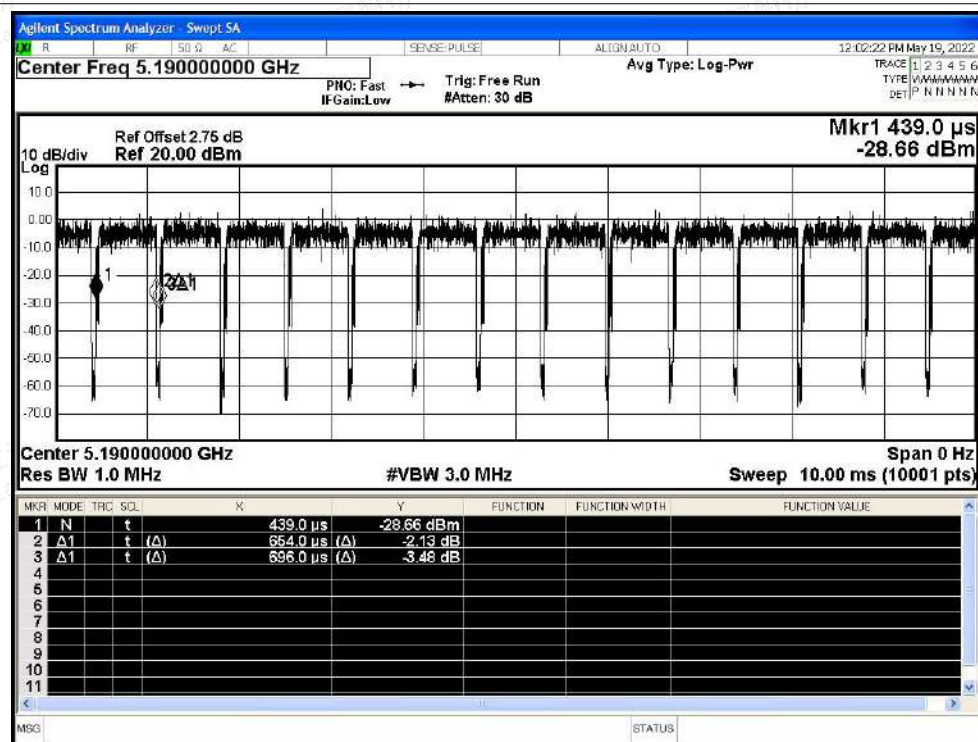




Duty Cycle NVNT ac20 5240MHz Ant1

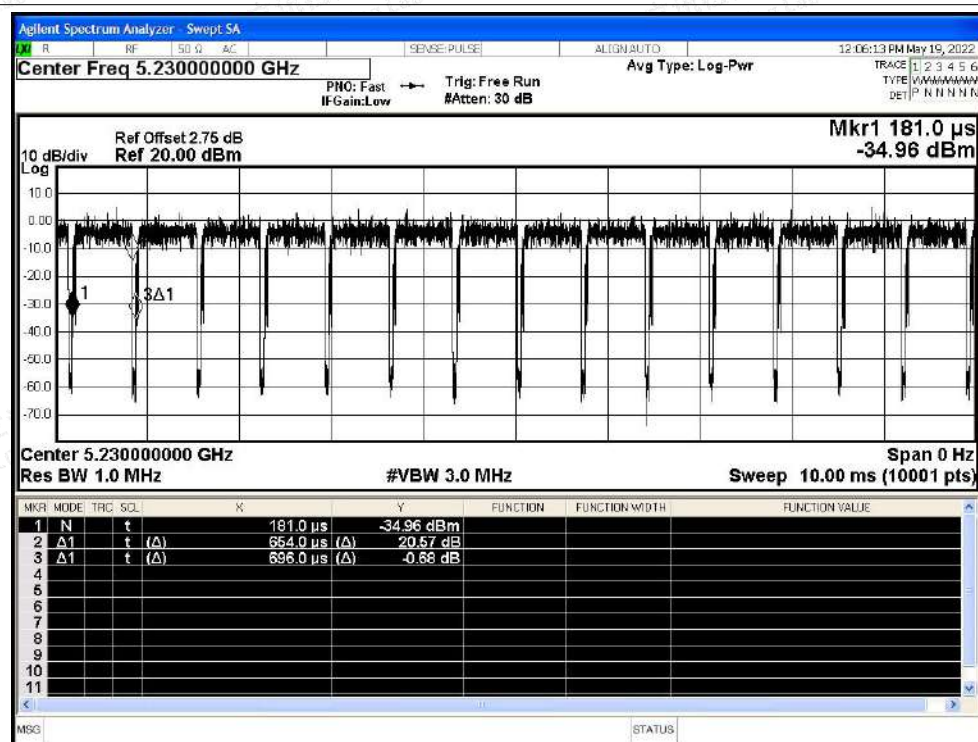


Duty Cycle NVNT ac40 5190MHz Ant1





Duty Cycle NVNT ac40 5230MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1

