



## Appendix D

### RF Test Data for 5.2GWIFI (Conducted Measurement)

Product Name: SMART PROJECTOR

Test Model: L012H

#### Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
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	25.17	---	Pass
NVNT	a	5200	Ant1	24.144	---	Pass
NVNT	a	5240	Ant1	25.079	---	Pass
NVNT	n20	5180	Ant1	25.775	---	Pass
NVNT	n20	5200	Ant1	27.683	---	Pass
NVNT	n20	5240	Ant1	24.254	---	Pass
NVNT	n40	5190	Ant1	58.777	---	Pass
NVNT	n40	5230	Ant1	53.819	---	Pass

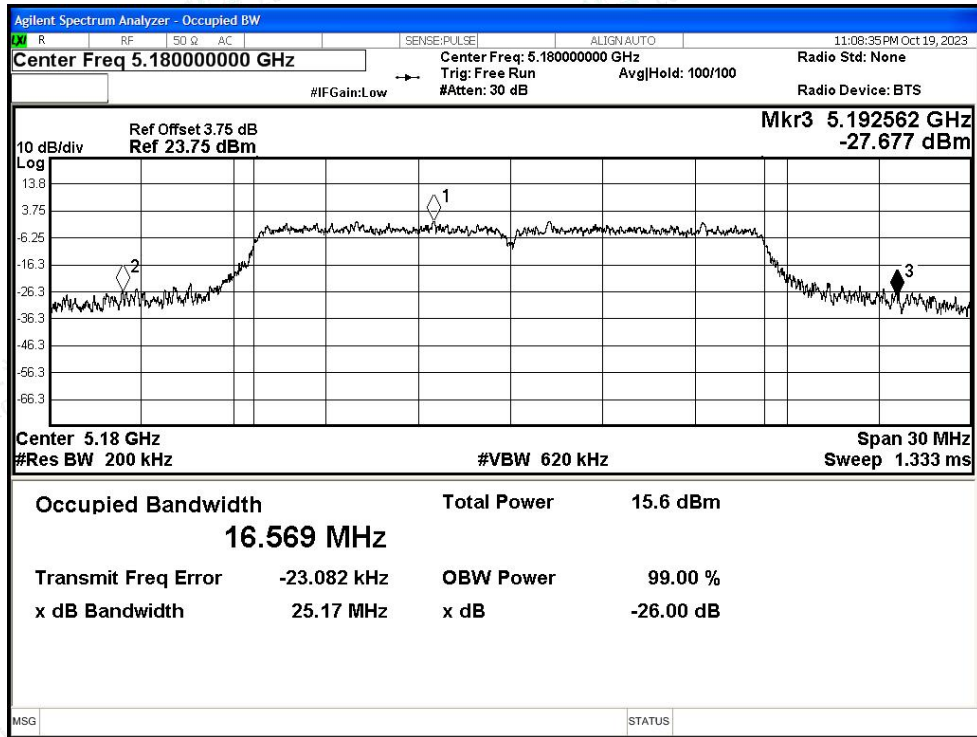


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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com  
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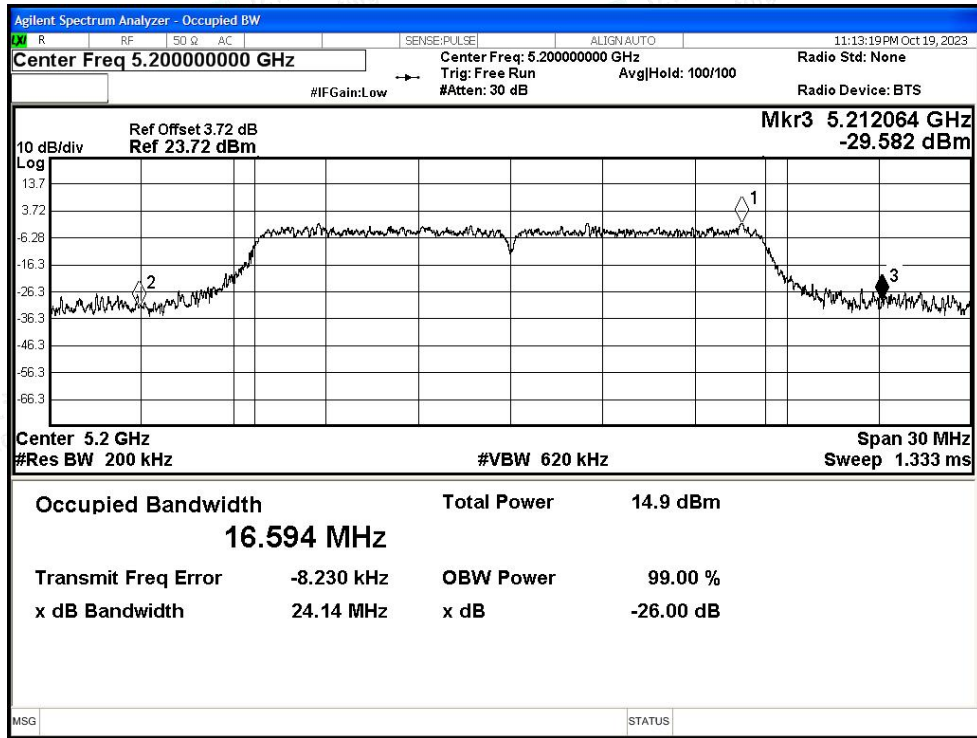


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

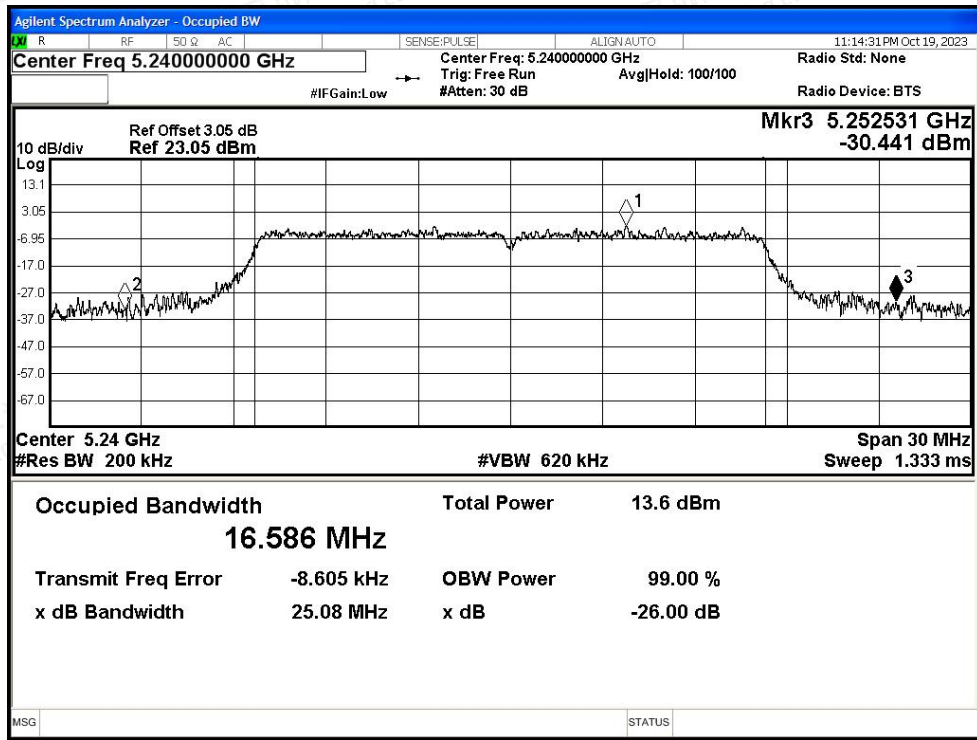


-26dB Bandwidth NVNT a 5200MHz Ant1

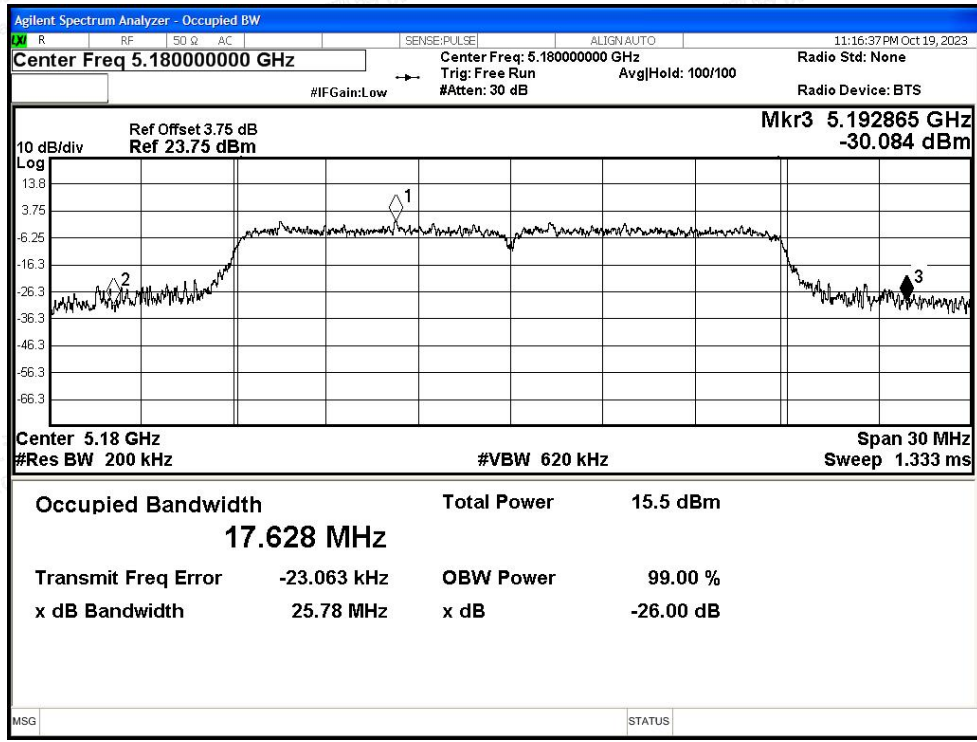




-26dB Bandwidth NVNT a 5240MHz Ant1

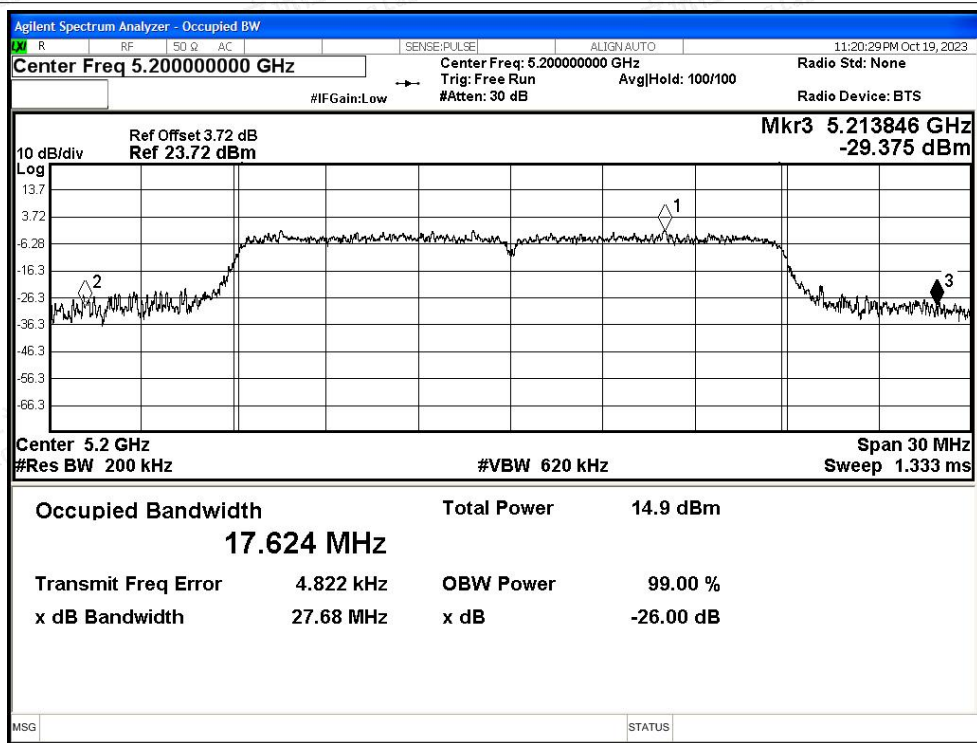


-26dB Bandwidth NVNT n20 5180MHz Ant1

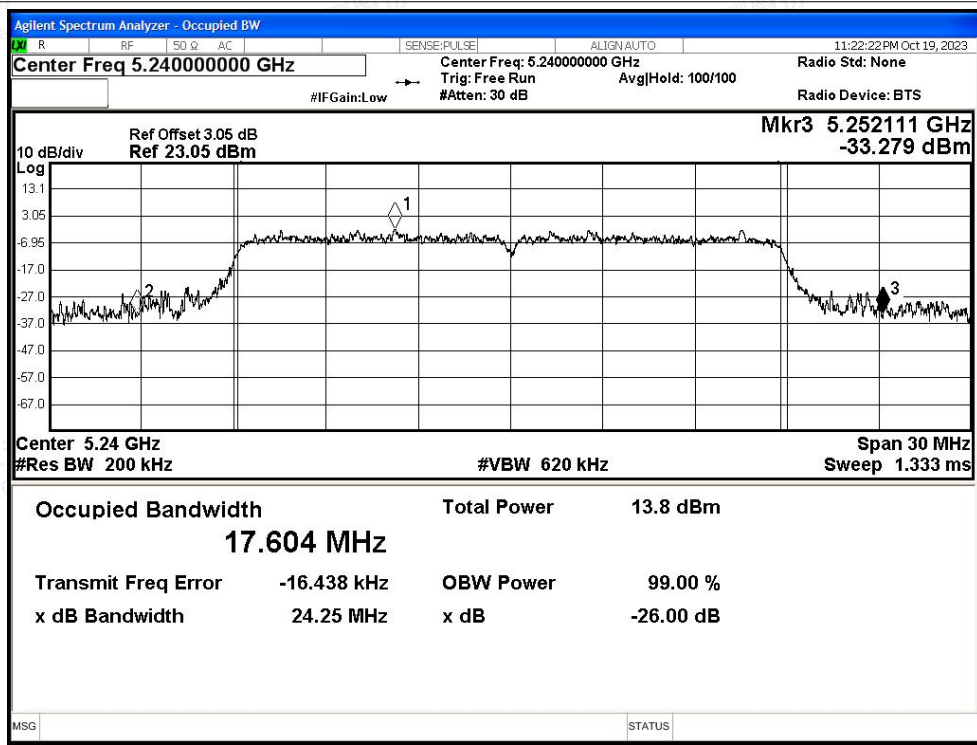




-26dB Bandwidth NVNT n20 5200MHz Ant1

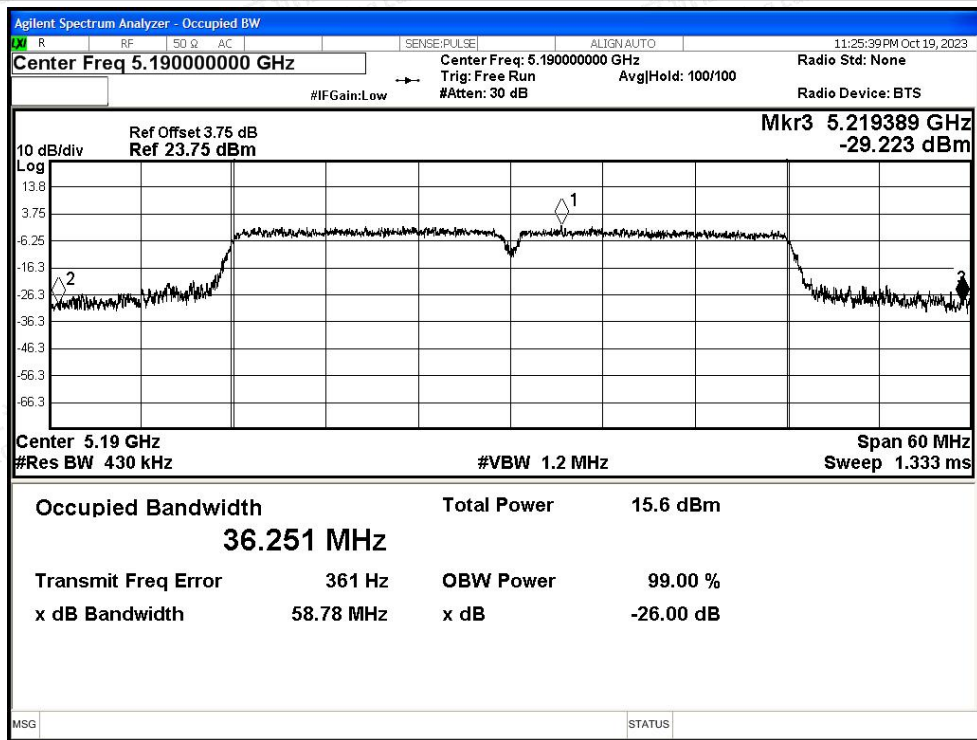


-26dB Bandwidth NVNT n20 5240MHz Ant1

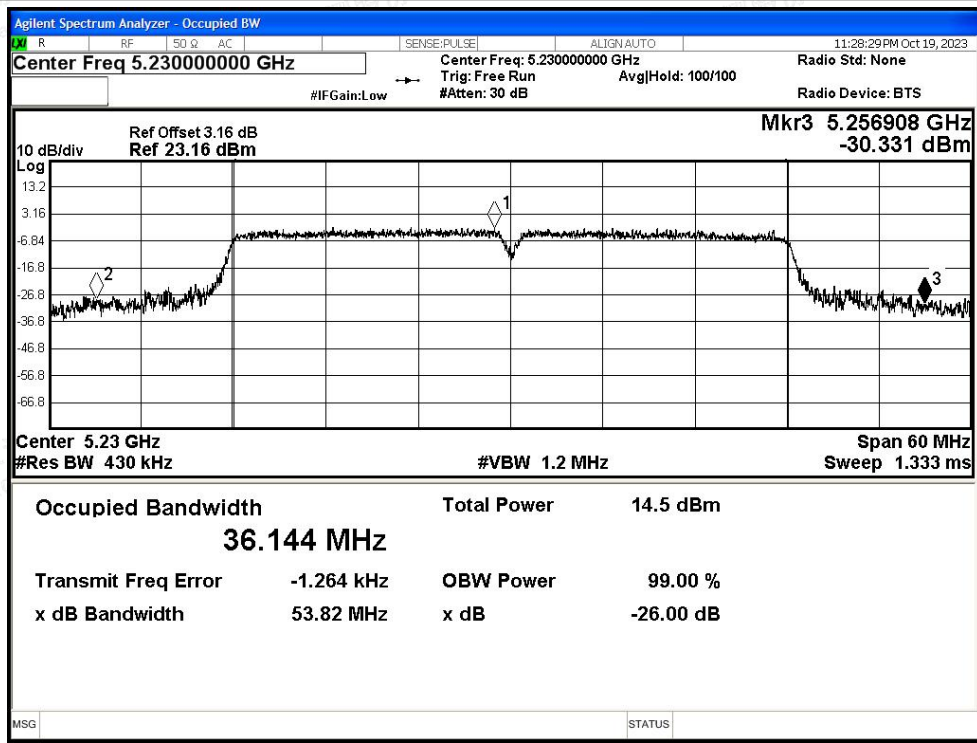




-26dB Bandwidth NVNT n40 5190MHz Ant1



-26dB Bandwidth NVNT n40 5230MHz Ant1





## 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	9.72	0.55	10.27	24	Pass
NVNT	a	5200	Ant1	8.92	0.72	9.64	24	Pass
NVNT	a	5240	Ant1	7.61	0.5	8.11	24	Pass
NVNT	n20	5180	Ant1	9.4	0.54	9.94	24	Pass
NVNT	n20	5200	Ant1	8.81	0.54	9.35	24	Pass
NVNT	n20	5240	Ant1	7.56	0.53	8.09	24	Pass
NVNT	n40	5190	Ant1	9.06	1.02	10.08	24	Pass
NVNT	n40	5230	Ant1	7.87	0.96	8.83	24	Pass



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### 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	-9.59	0.55	-9.04	11	Pass
NVNT	a	5200	Ant1	-1.8	0.72	-1.08	11	Pass
NVNT	a	5240	Ant1	-2.89	0.5	-2.39	11	Pass
NVNT	n20	5180	Ant1	-1.49	0.54	-0.95	11	Pass
NVNT	n20	5200	Ant1	-1.77	0.54	-1.23	11	Pass
NVNT	n20	5240	Ant1	-2.51	0.53	-1.98	11	Pass
NVNT	n40	5190	Ant1	-4.19	1.02	-3.17	11	Pass
NVNT	n40	5230	Ant1	-5.76	0.96	-4.8	11	Pass



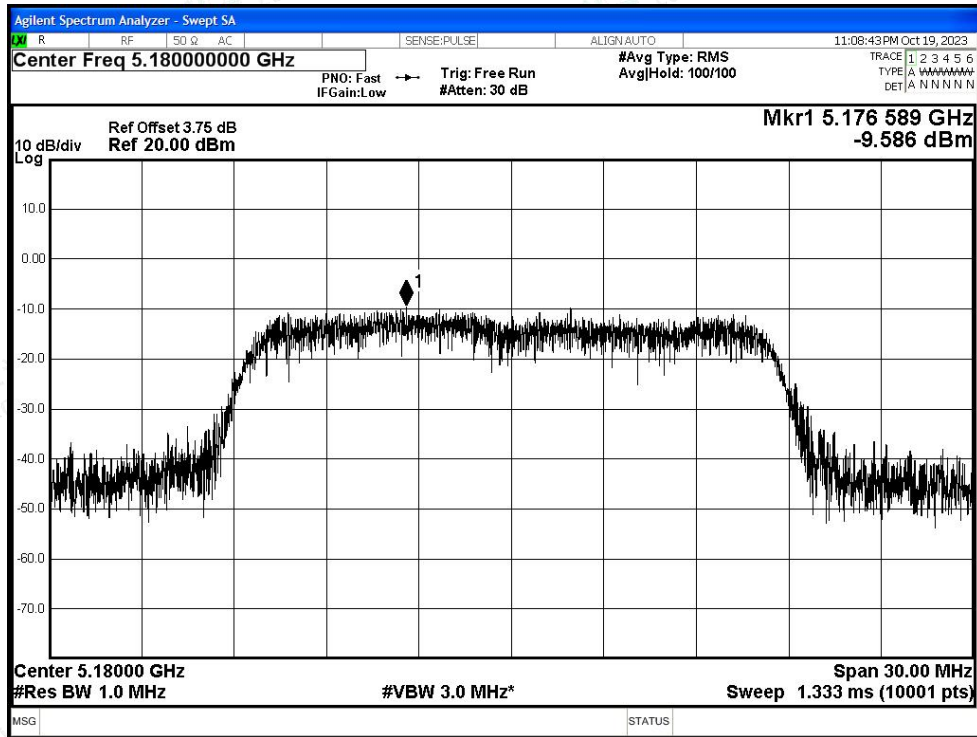
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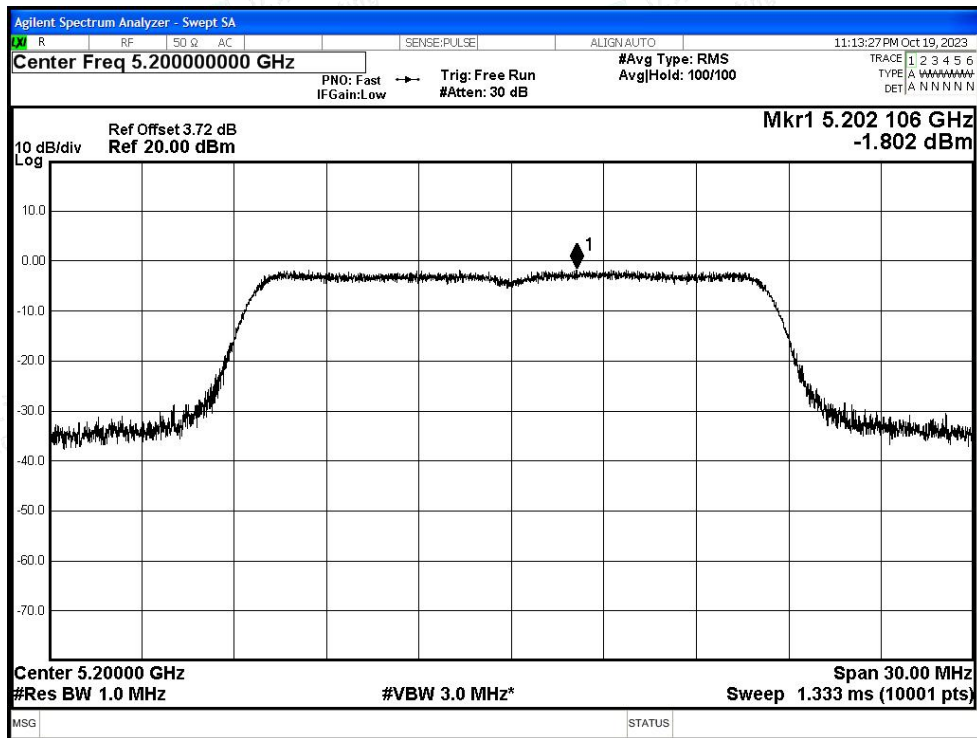


Test Graphs

PSD NVNT a 5180MHz Ant1

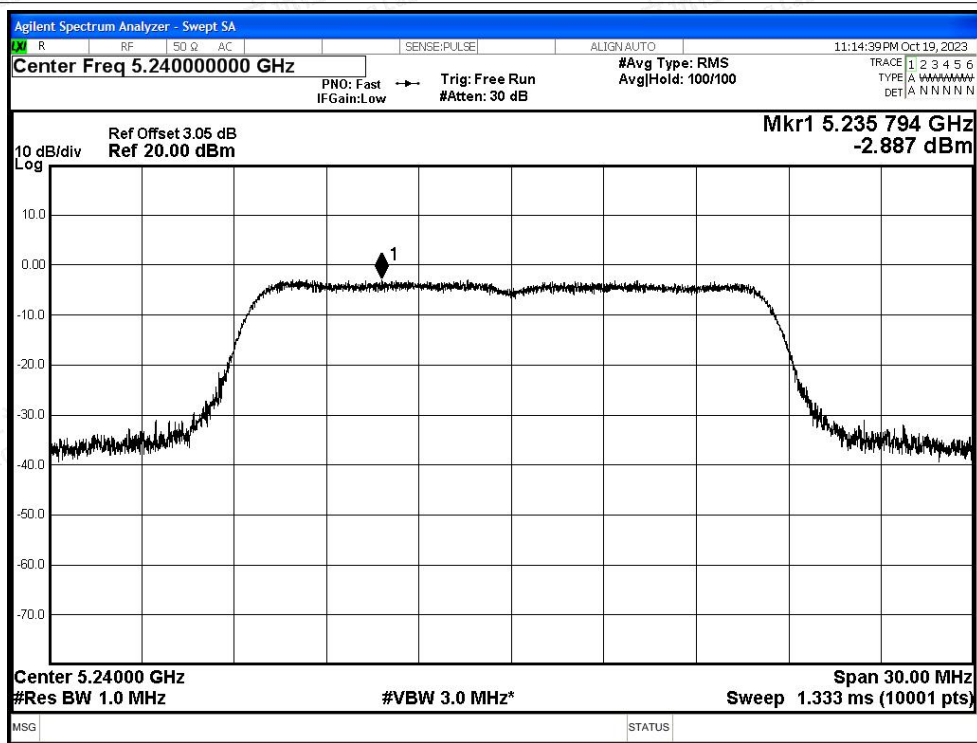


PSD NVNT a 5200MHz Ant1

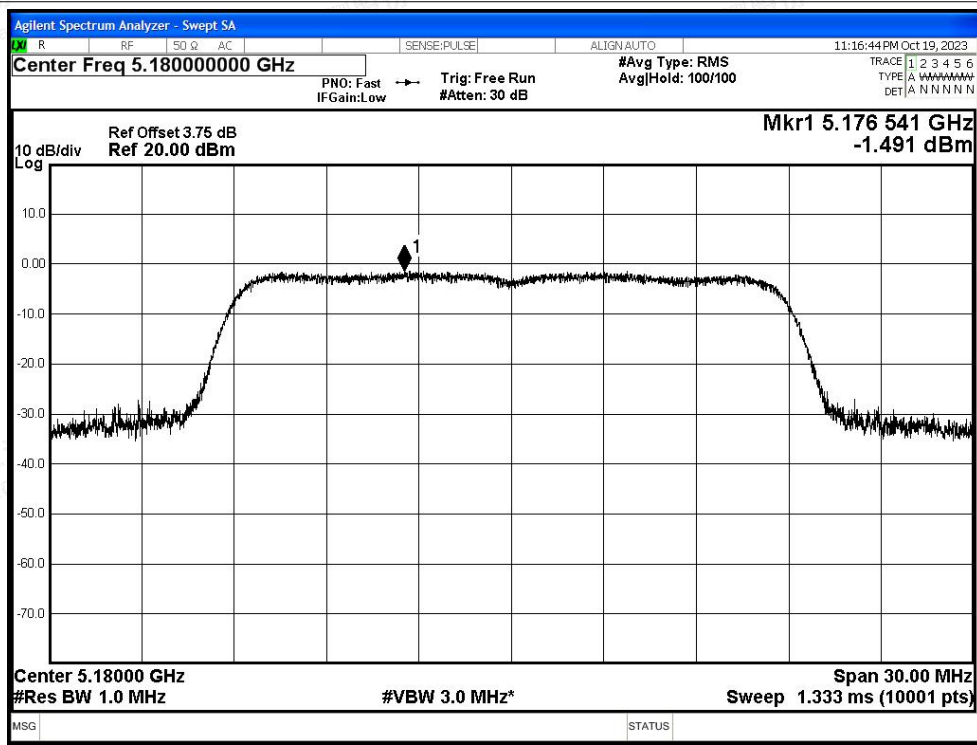




PSD NVNT a 5240MHz Ant1

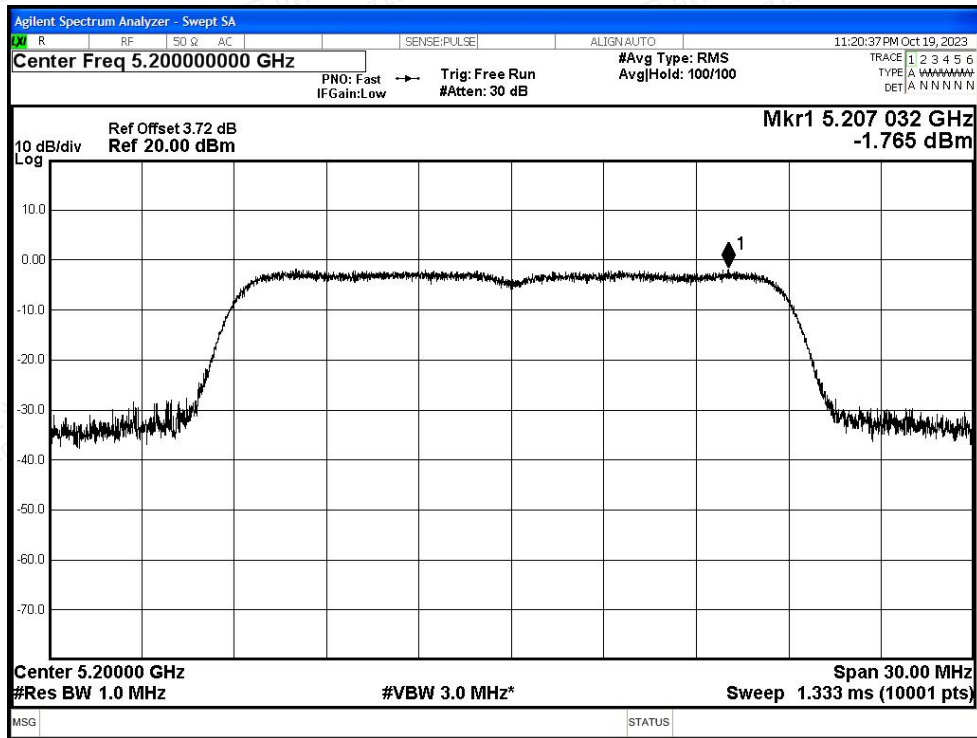


PSD NVNT n20 5180MHz Ant1

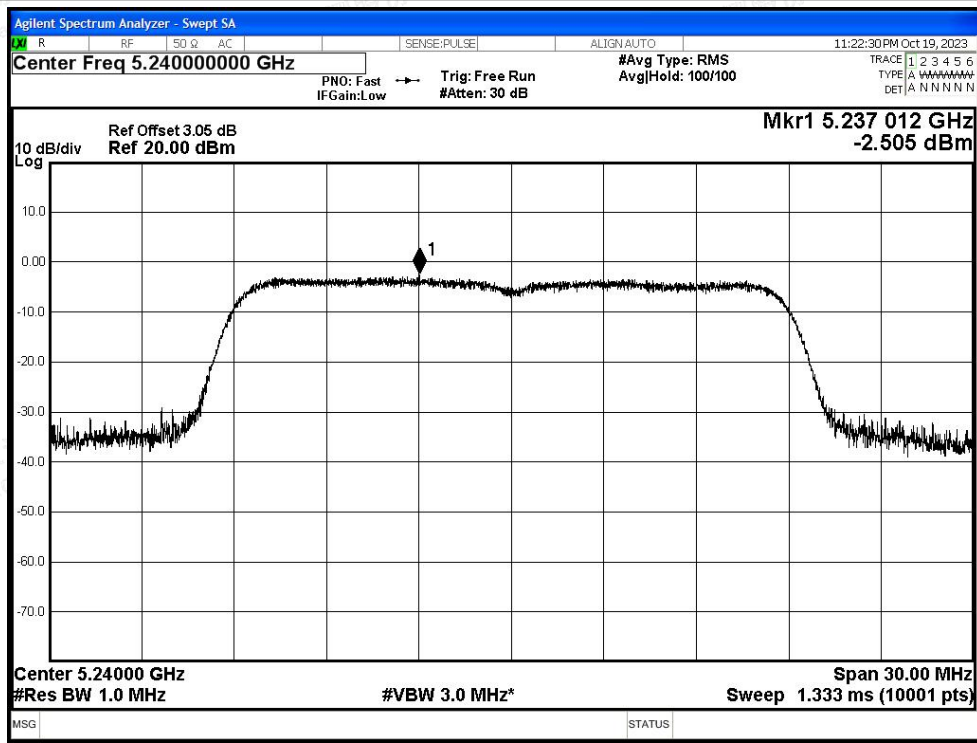




PSD NVNT n20 5200MHz Ant1

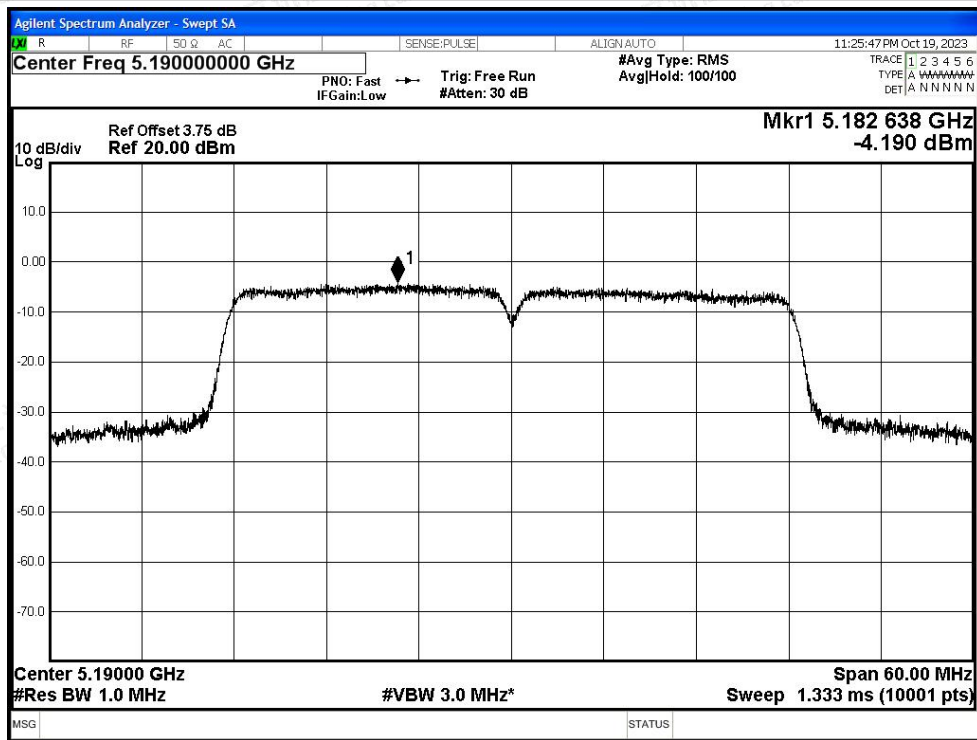


PSD NVNT n20 5240MHz Ant1

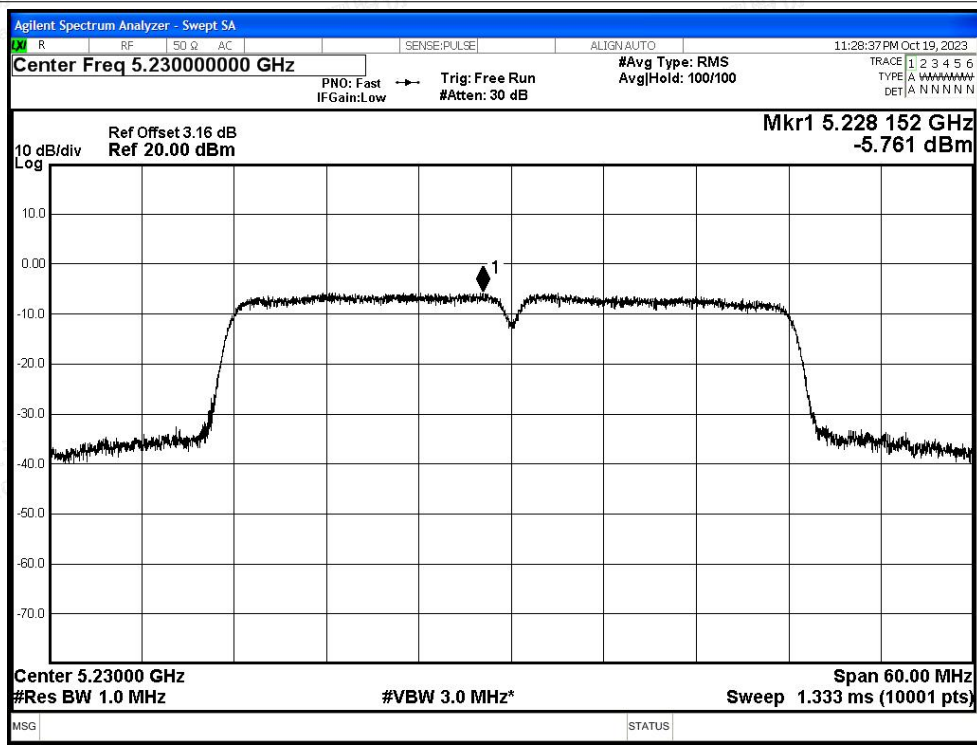




PSD NVNT n40 5190MHz Ant1



PSD NVNT n40 5230MHz Ant1





## D.4 Restrict Band

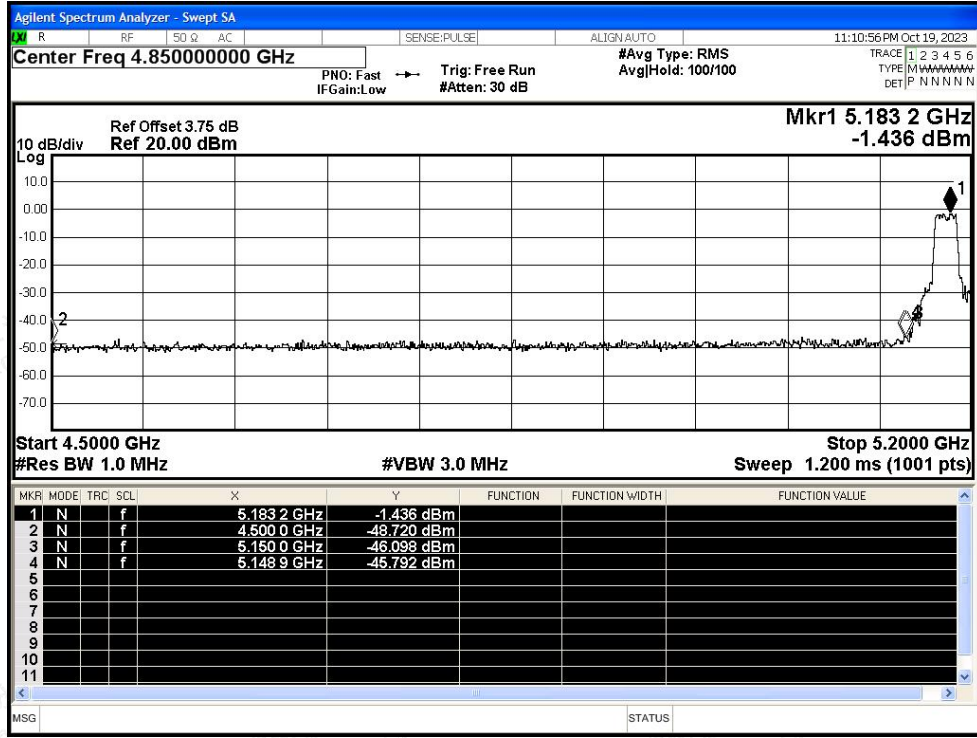
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	a	5180	Ant1	4500	-48.72	2	48.51	Peak	68.2	Pass
NVNT	a	5180	Ant1	4500	-57.14	2	40.09	Average	54	Pass
NVNT	a	5180	Ant1	5148.9	-45.79	2	51.44	Peak	68.2	Pass
NVNT	a	5180	Ant1	5149.6	-54.13	2	43.1	Average	54	Pass
NVNT	a	5180	Ant1	5150	-46.1	2	51.13	Peak	68.2	Pass
NVNT	a	5180	Ant1	5150	-53.62	2	43.61	Average	54	Pass
NVNT	a	5240	Ant1	5350	-49.7	2	47.53	Peak	68.2	Pass
NVNT	a	5240	Ant1	5350	-57.2	2	40.03	Average	54	Pass
NVNT	a	5240	Ant1	5357.76	-47.61	2	49.62	Peak	68.2	Pass
NVNT	a	5240	Ant1	5393.52	-56.92	2	40.31	Average	54	Pass
NVNT	a	5240	Ant1	5460	-50.03	2	47.2	Peak	68.2	Pass
NVNT	a	5240	Ant1	5460	-57.26	2	39.97	Average	54	Pass
NVNT	n20	5180	Ant1	4500	-50.29	2	46.94	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4500	-57.23	2	40	Average	54	Pass
NVNT	n20	5180	Ant1	5147.5	-41.81	2	55.42	Peak	68.2	Pass
NVNT	n20	5180	Ant1	4906	-52.01	2	45.22	Average	54	Pass
NVNT	n20	5180	Ant1	5150	-39.9	2	57.33	Peak	68.2	Pass
NVNT	n20	5180	Ant1	5150	-53.25	2	43.98	Average	54	Pass
NVNT	n20	5240	Ant1	5350	-49.81	2	47.42	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5350	-57.25	2	39.98	Average	54	Pass
NVNT	n20	5240	Ant1	5407.68	-47.77	2	49.46	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5373.36	-56.9	2	40.33	Average	54	Pass
NVNT	n20	5240	Ant1	5460	-50.46	2	46.77	Peak	68.2	Pass
NVNT	n20	5240	Ant1	5460	-57.09	2	40.14	Average	54	Pass
NVNT	n40	5190	Ant1	4500	-50.19	2	47.04	Peak	68.2	Pass
NVNT	n40	5190	Ant1	4500	-56.88	2	40.35	Average	54	Pass
NVNT	n40	5190	Ant1	5149.7	-42.44	2	54.79	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5149.7	-51	2	46.23	Average	54	Pass
NVNT	n40	5190	Ant1	5150	-42.44	2	54.79	Peak	68.2	Pass
NVNT	n40	5190	Ant1	5150	-51	2	46.23	Average	54	Pass
NVNT	n40	5230	Ant1	5350	-49.87	2	47.36	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5350	-56.45	2	40.78	Average	54	Pass
NVNT	n40	5230	Ant1	5395.2	-46.79	2	50.44	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5355.78	-56.24	2	40.99	Average	54	Pass
NVNT	n40	5230	Ant1	5460	-49.85	2	47.38	Peak	68.2	Pass
NVNT	n40	5230	Ant1	5460	-56.88	2	40.35	Average	54	Pass



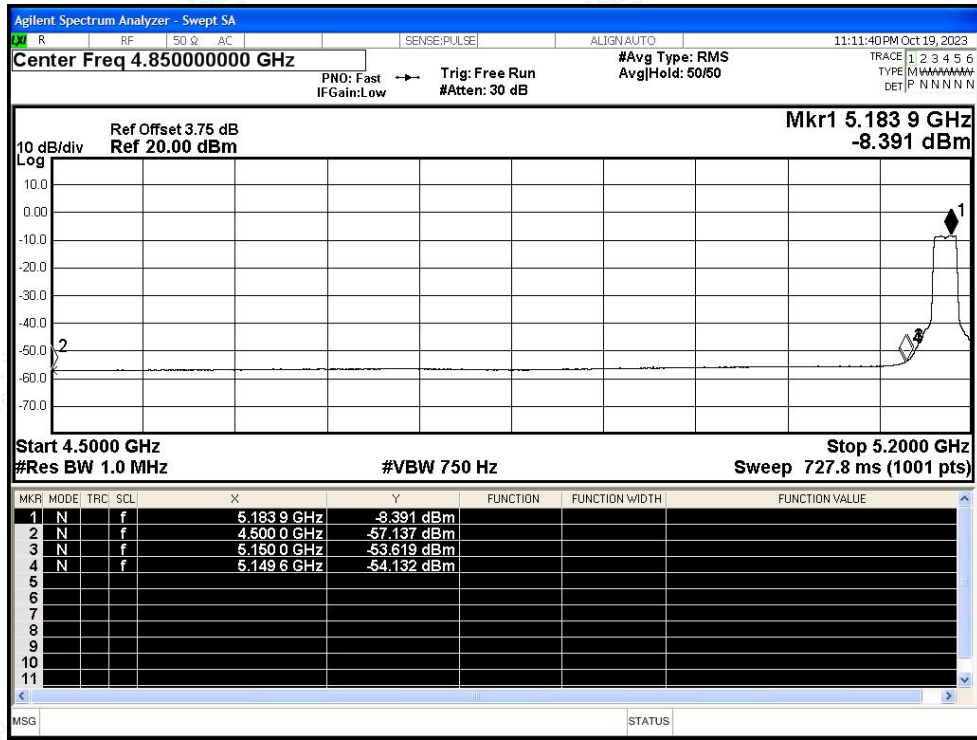


Test Graphs

Restrict Band NVNT a 5180MHz Ant1 Peak

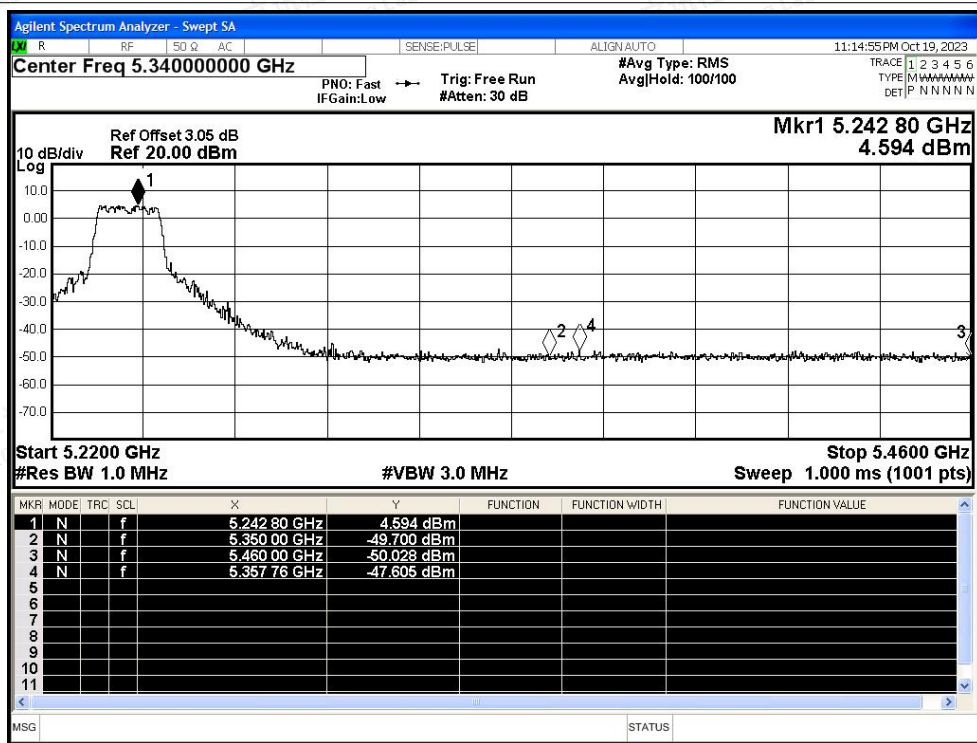


Restrict Band NVNT a 5180MHz Ant1 Average

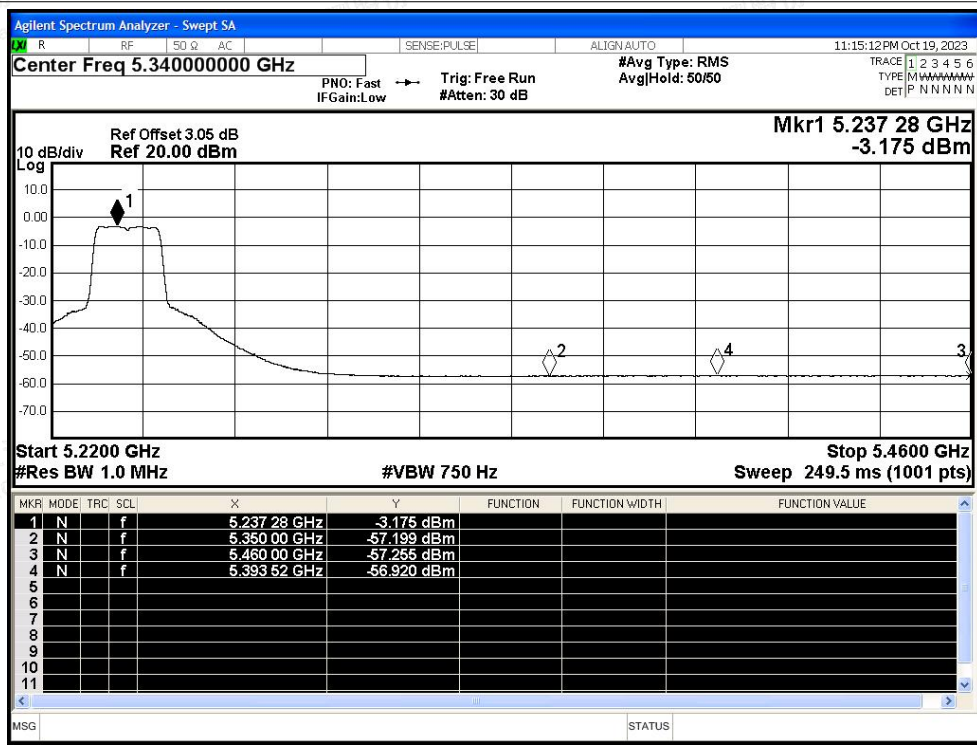




Restrict Band NVNT a 5240MHz Ant1 Peak

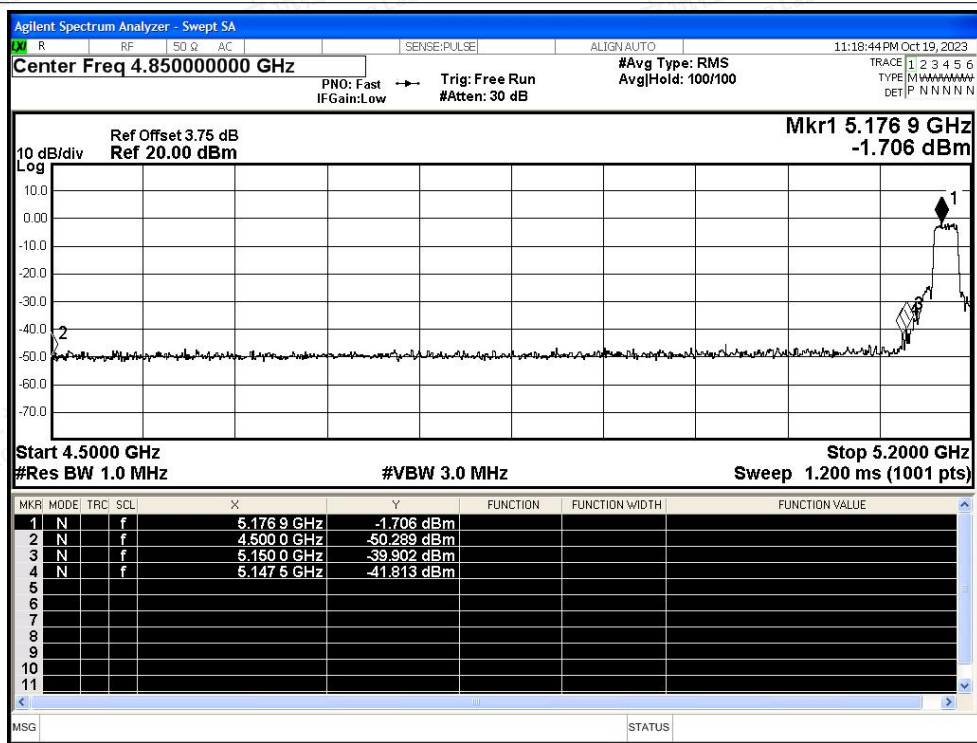


Restrict Band NVNT a 5240MHz Ant1 Average

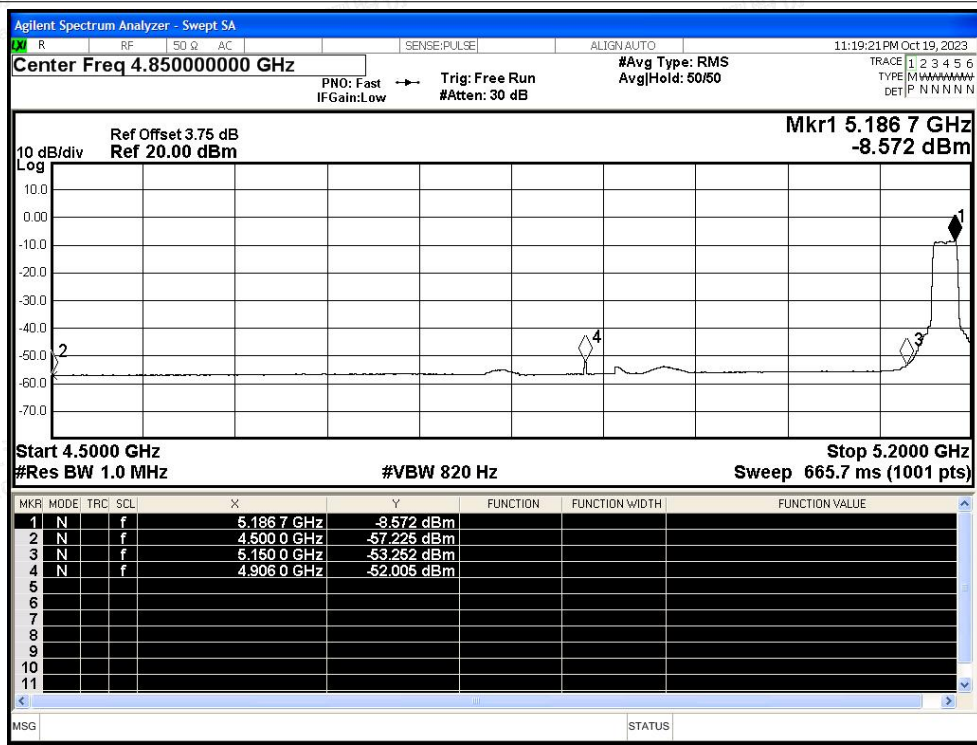




Restrict Band NVNT n20 5180MHz Ant1 Peak



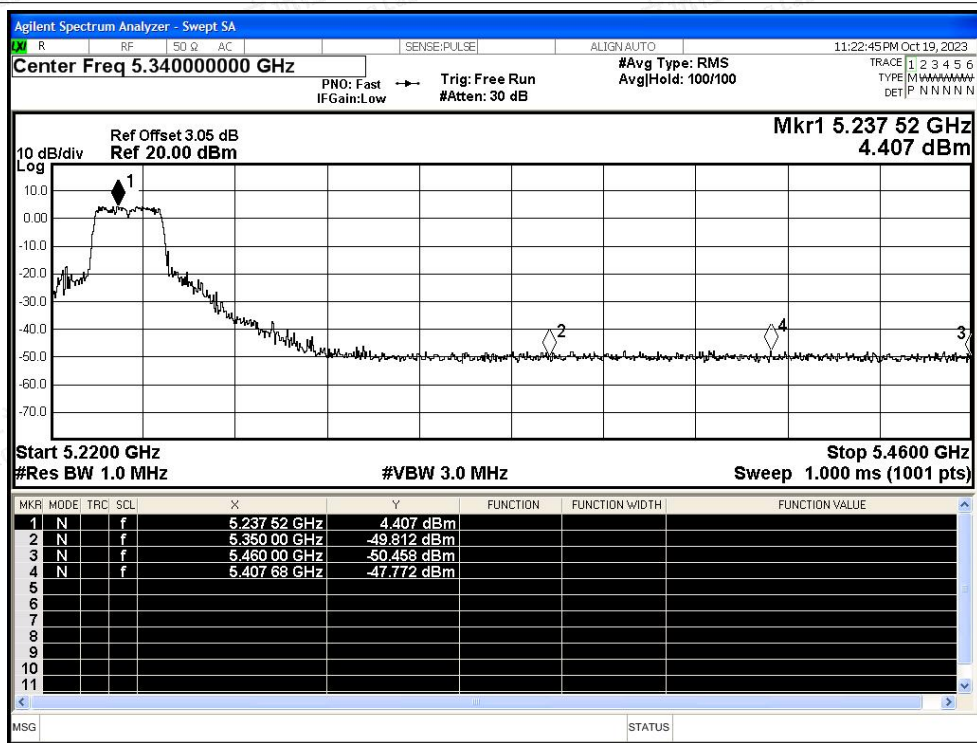
Restrict Band NVNT n20 5180MHz Ant1 Average



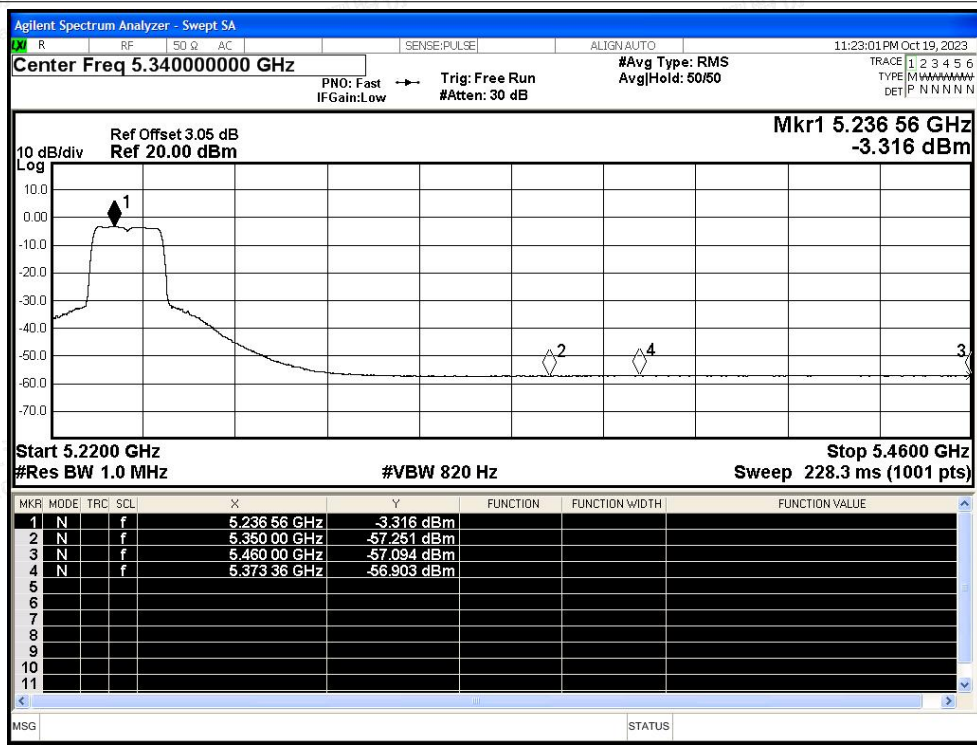




Restrict Band NVNT n20 5240MHz Ant1 Peak

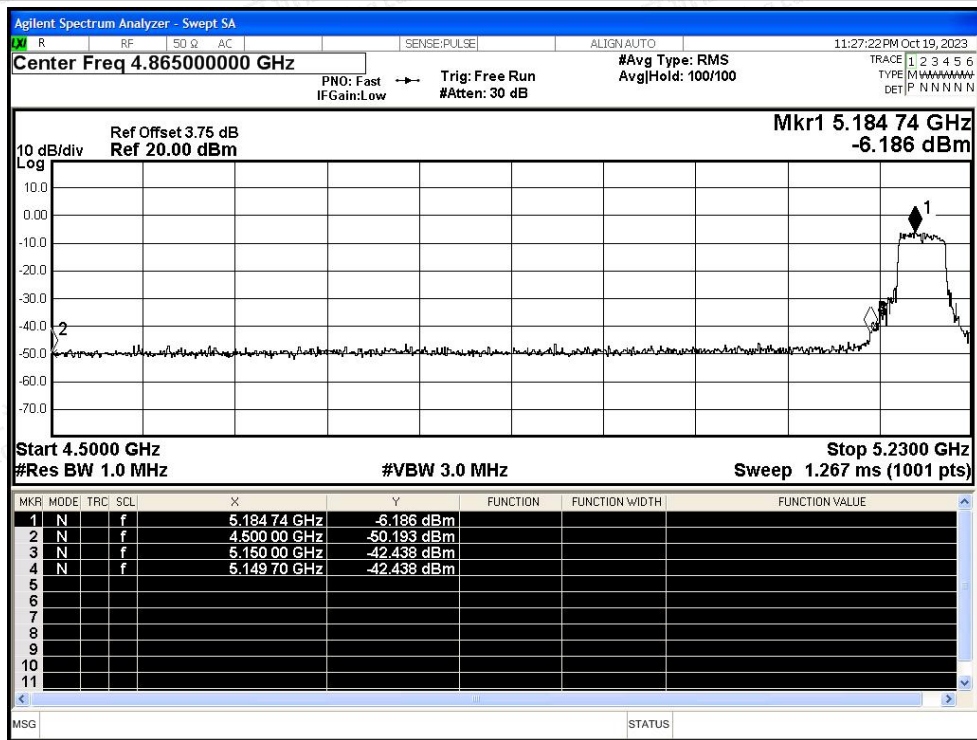


Restrict Band NVNT n20 5240MHz Ant1 Average

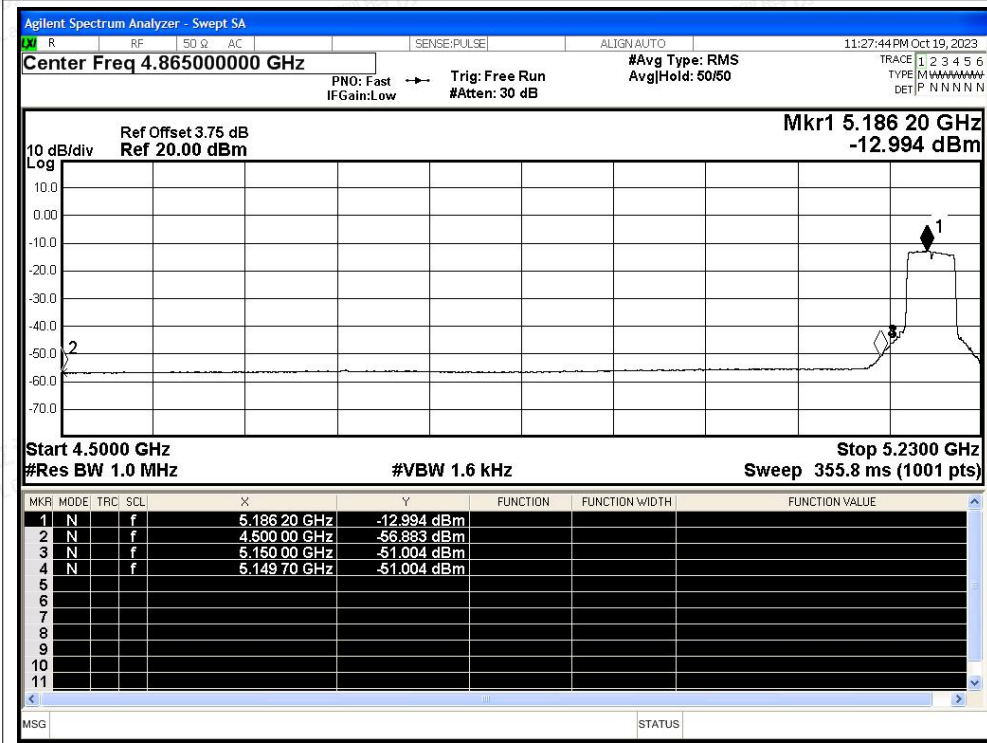




Restrict Band NVNT n40 5190MHz Ant1 Peak

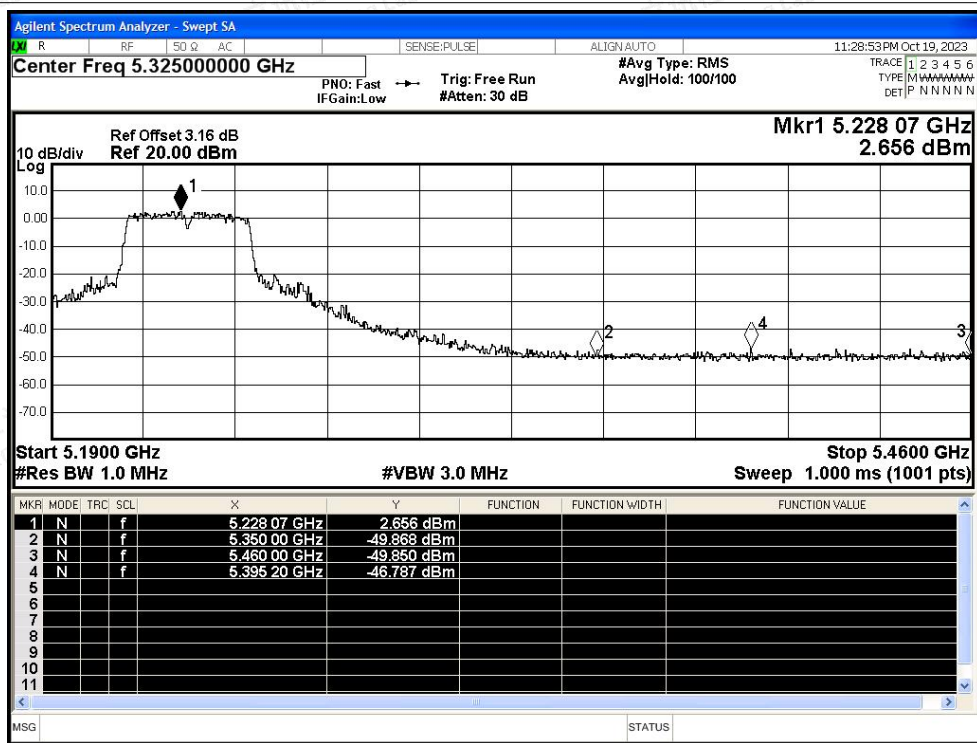


Restrict Band NVNT n40 5190MHz Ant1 Average

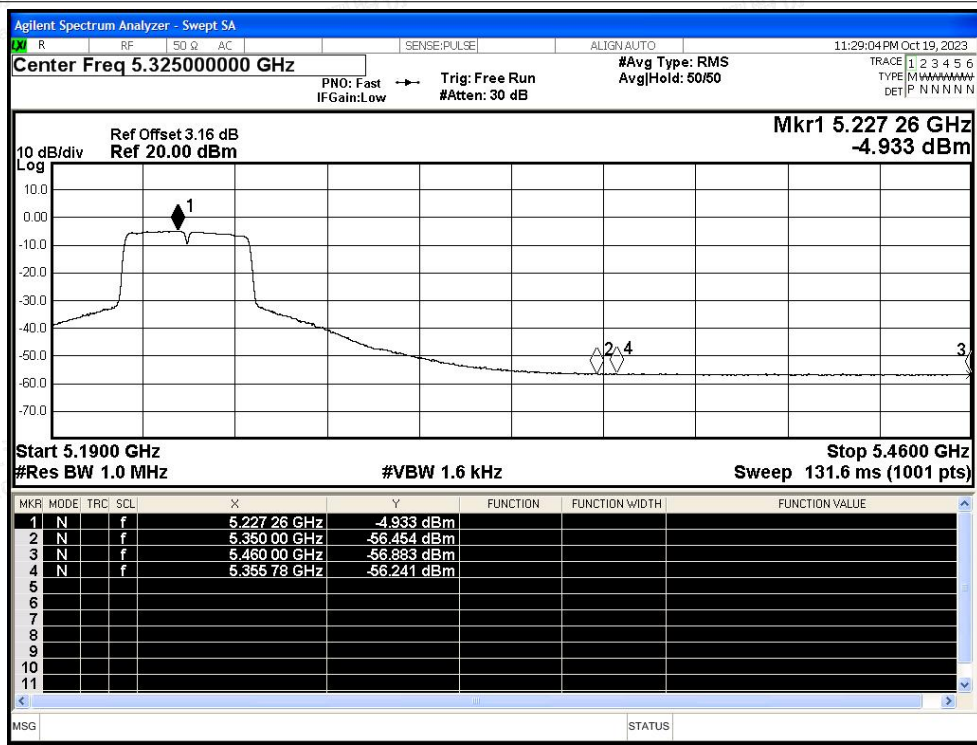




Restrict Band NVNT n40 5230MHz Ant1 Peak



Restrict Band NVNT n40 5230MHz Ant1 Average





## D.5 Frequency Stability

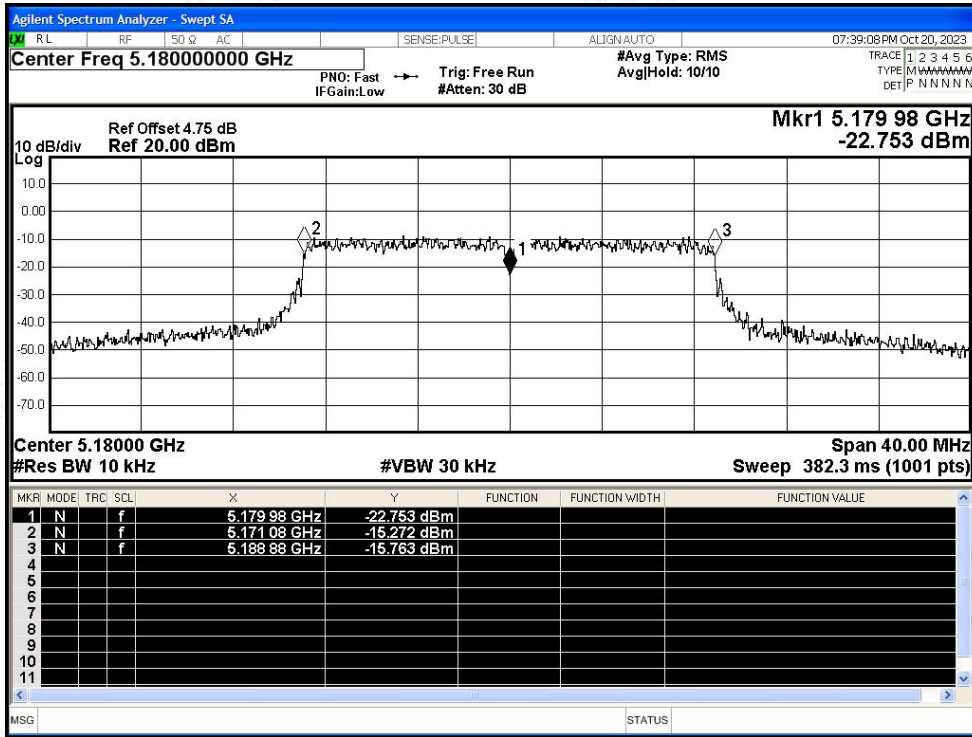
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	n20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	n20	5200	Ant1	5200	0	0	25	Pass
NVNT	n20	5240	Ant1	5240	0	0	25	Pass
NVNT	n40	5190	Ant1	5190	0	0	25	Pass
NVNT	n40	5230	Ant1	5229.96	-40000	-7.65	25	Pass



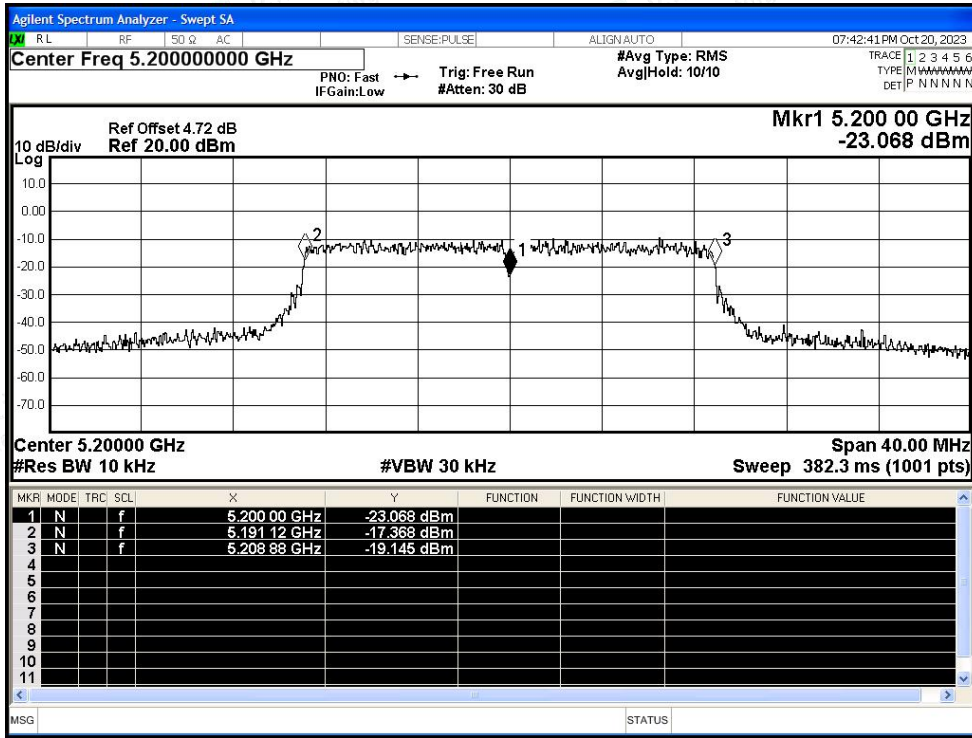


Test Graphs

Freq. Stability NVNT n20 5180MHz Ant1

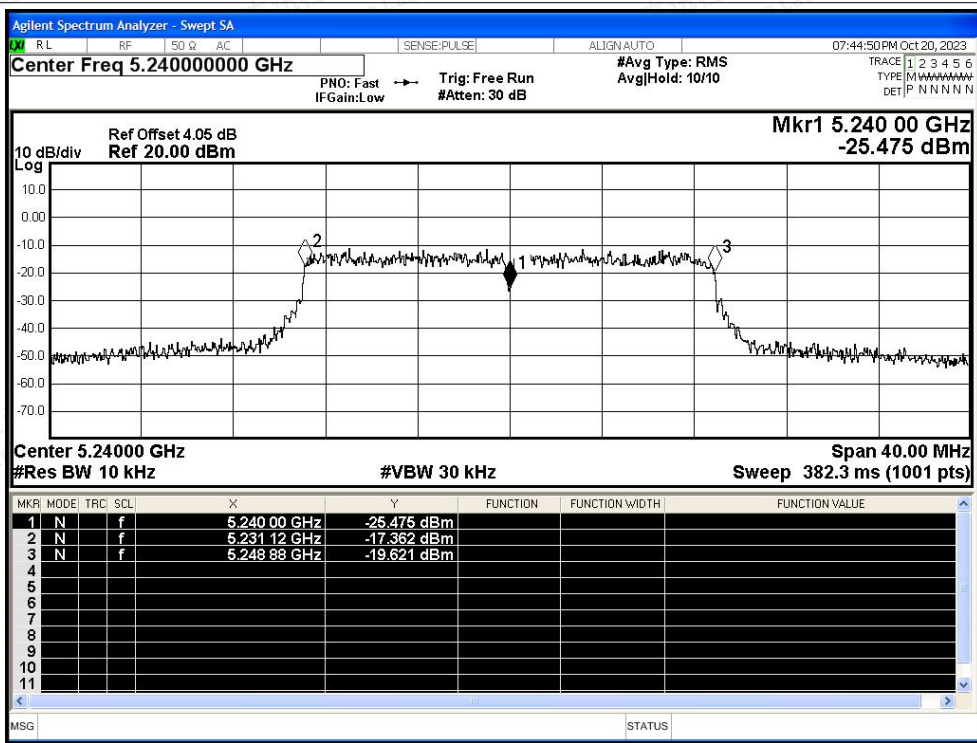


Freq. Stability NVNT n20 5200MHz Ant1

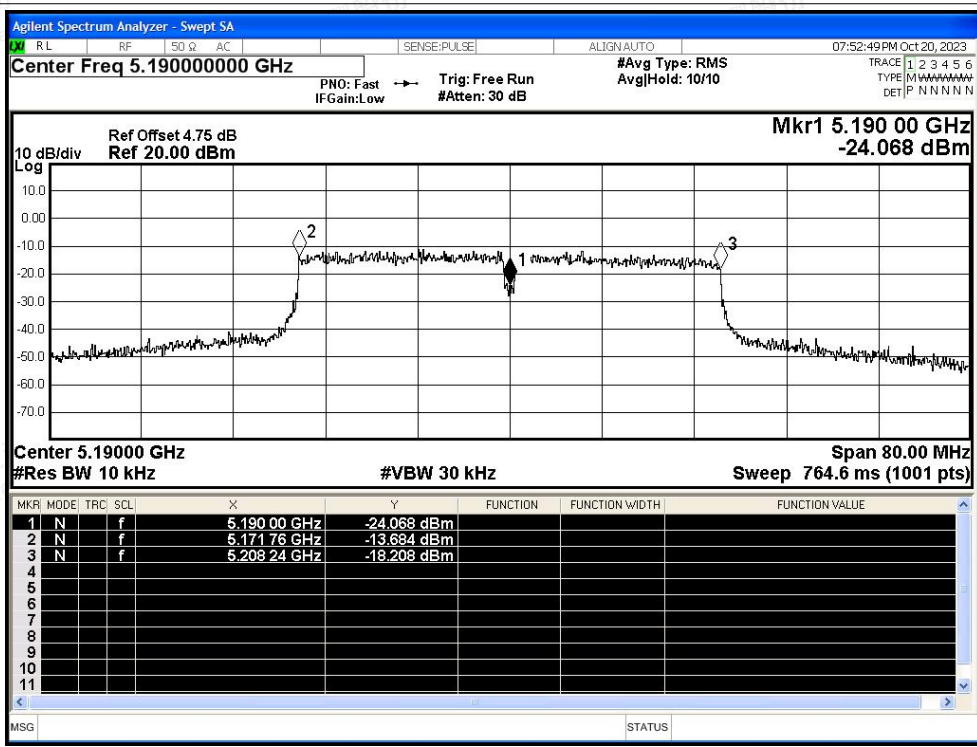




Freq. Stability NVNT n20 5240MHz Ant1

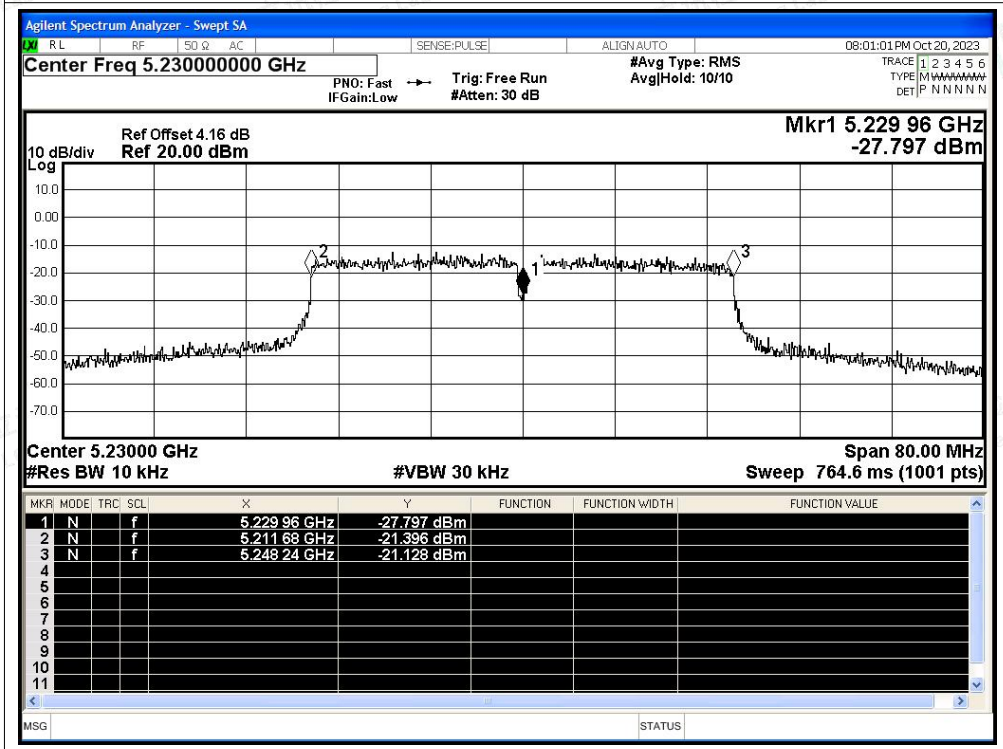


Freq. Stability NVNT n40 5190MHz Ant1





Freq. Stability NVNT n40 5230MHz Ant1





## D.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	88.11	0.55	0.72
NVNT	a	5200	Ant1	84.73	0.72	0.72
NVNT	a	5240	Ant1	89.06	0.5	0.72
NVNT	n20	5180	Ant1	88.38	0.54	0.77
NVNT	n20	5200	Ant1	88.38	0.54	0.77
NVNT	n20	5240	Ant1	88.44	0.53	0.77
NVNT	n40	5190	Ant1	79.12	1.02	1.54
NVNT	n40	5230	Ant1	80.12	0.96	1.54



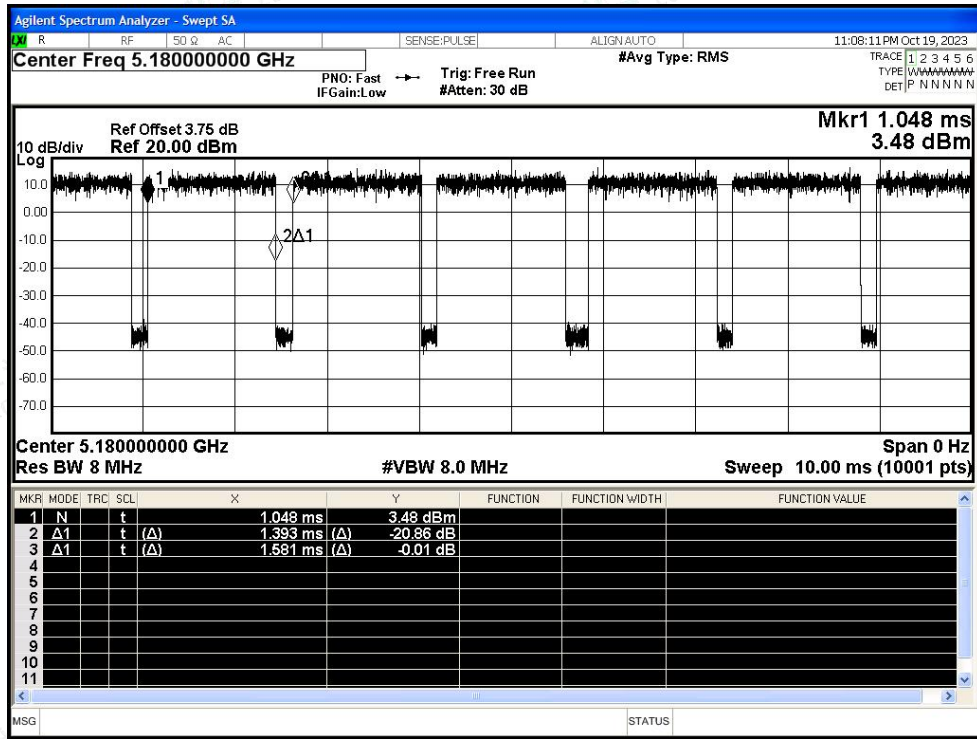
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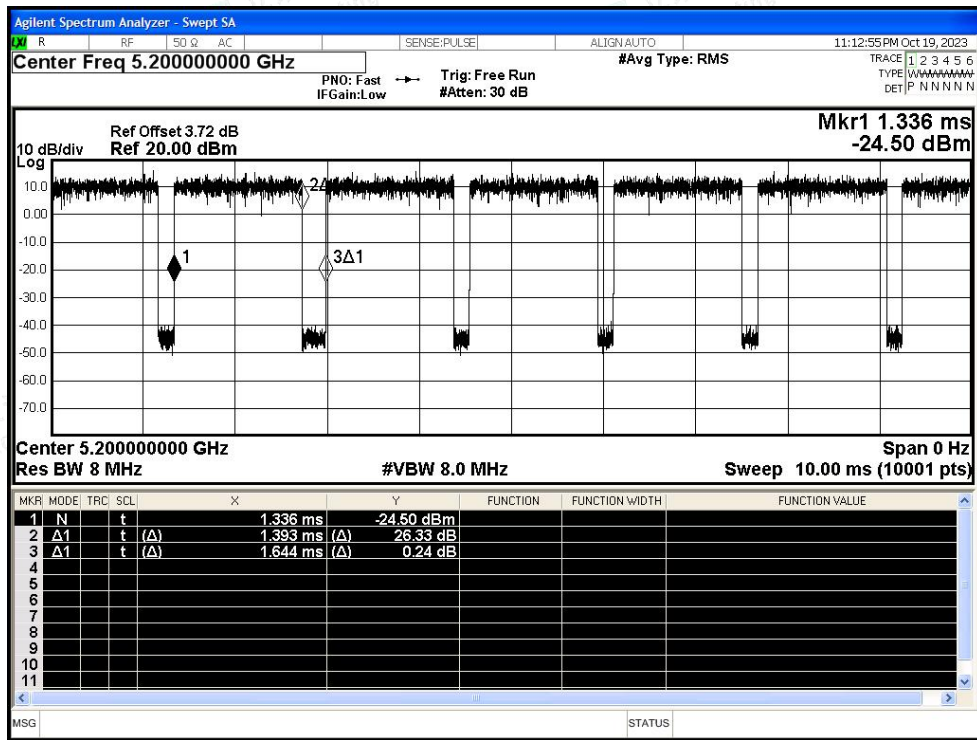


Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

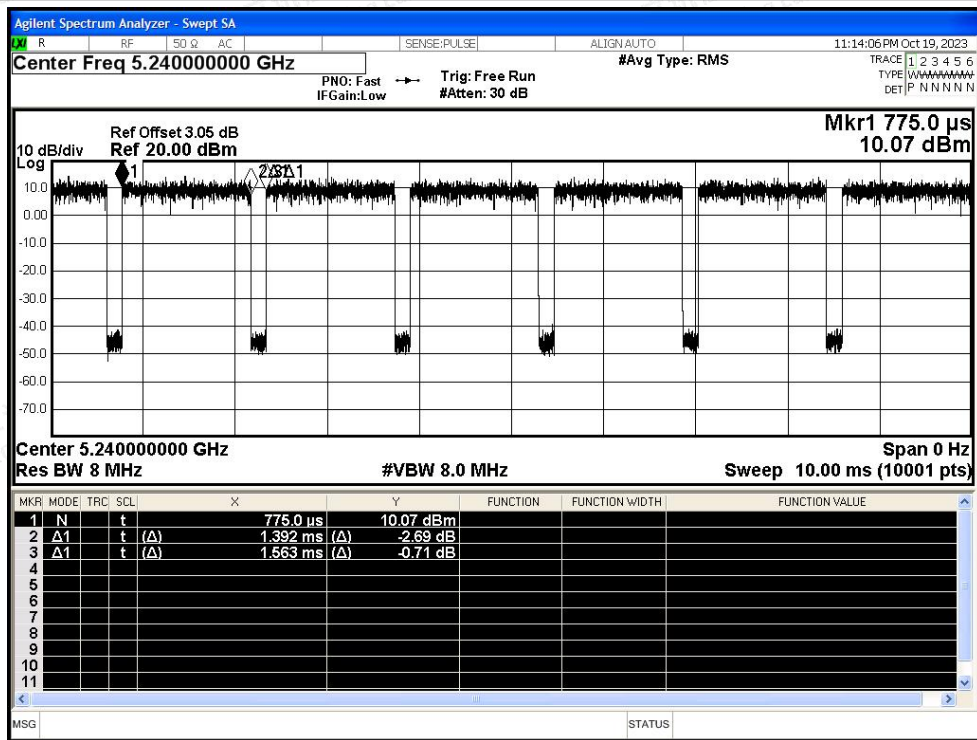


Duty Cycle NVNT a 5200MHz Ant1

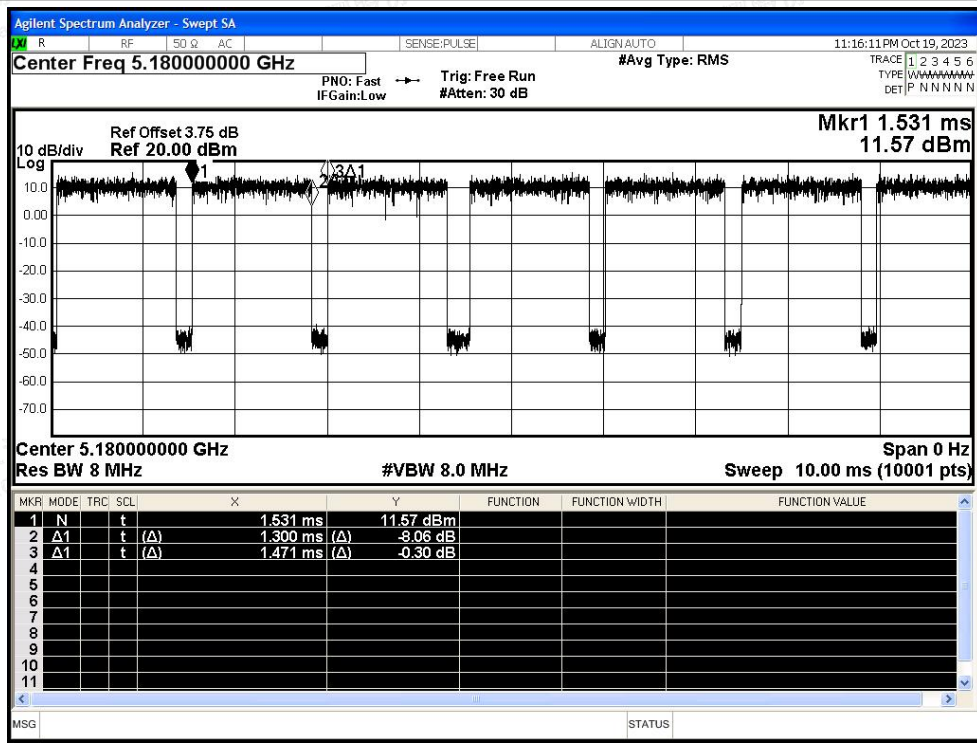




Duty Cycle NVNT a 5240MHz Ant1

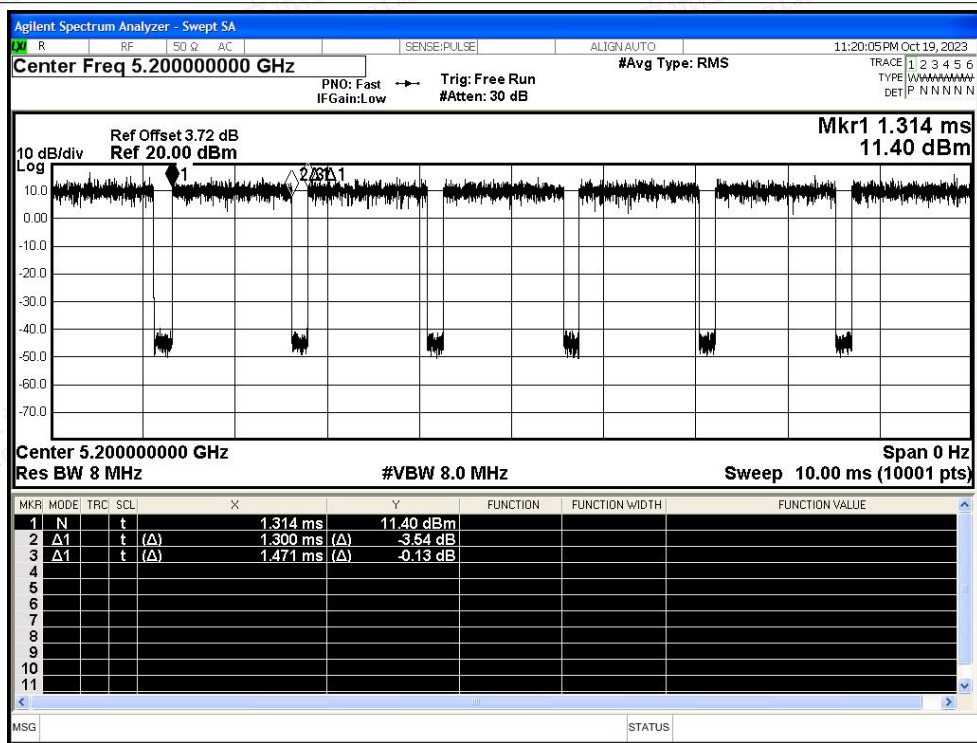


Duty Cycle NVNT n20 5180MHz Ant1

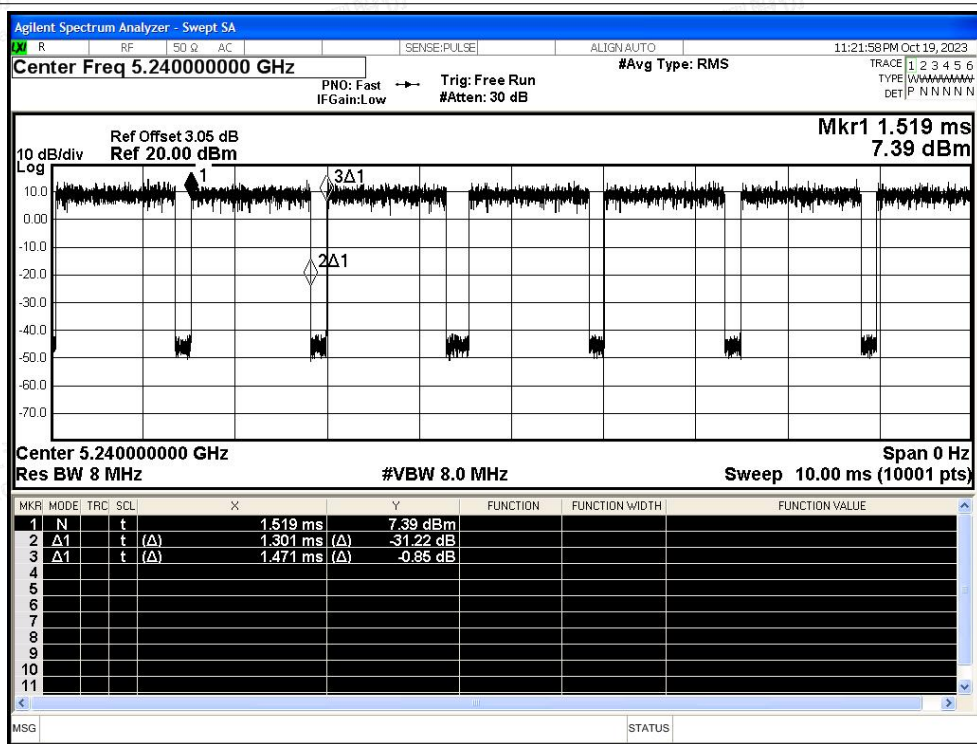




Duty Cycle NVNT n20 5200MHz Ant1

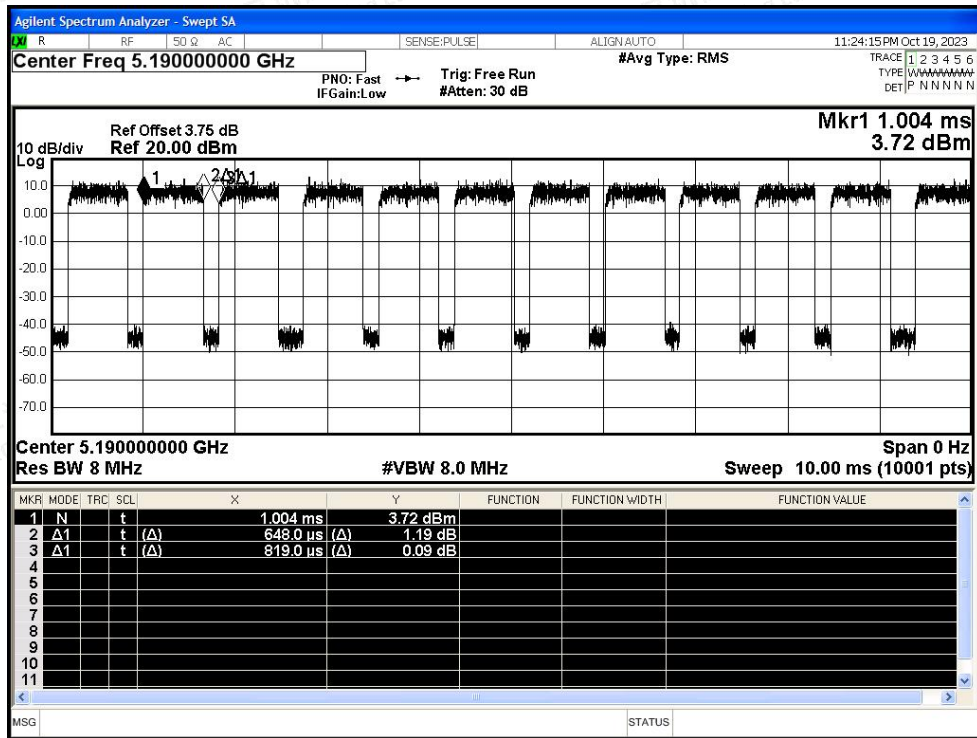


Duty Cycle NVNT n20 5240MHz Ant1





Duty Cycle NVNT n40 5190MHz Ant1



Duty Cycle NVNT n40 5230MHz Ant1

