

Appendix B for 5GWIFI Test Data

Product Name: WIRELESS ANDROID AUTO CARPLAY ADATER

Test Model: CA-03

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52%
ATM Pressure:	101.0 kPa
Test Engineer:	Leon Li
Supervised by:	Baret Wu

B1. Duty Cycle

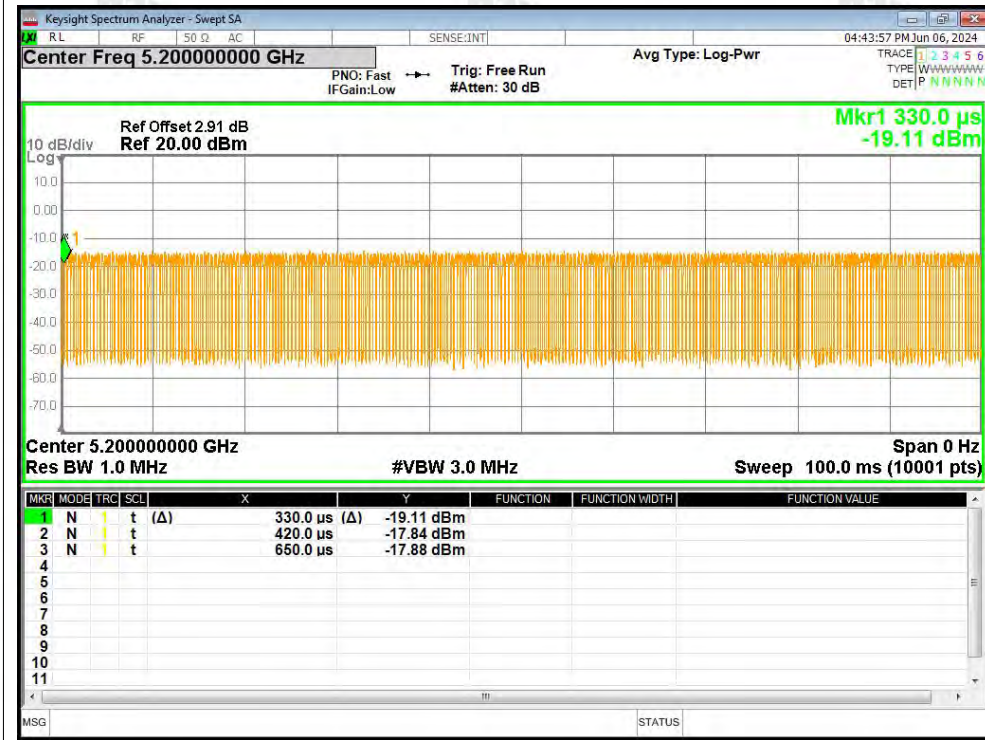
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	56.1	2.51	4.35
NVNT	a	5200	Ant1	71.87	1.43	4.35
NVNT	a	5240	Ant1	55.81	2.53	4.17
NVNT	n20	5180	Ant1	92.2	0.35	0.53
NVNT	n20	5200	Ant1	92.65	0.33	0.53
NVNT	n20	5240	Ant1	96.41	0.16	0.53
NVNT	n40	5190	Ant1	97.02	6.02	0.50
NVNT	n40	5230	Ant1	96.54	6.02	0.51
NVNT	ac20	5180	Ant1	93.56	0.29	0.53
NVNT	ac20	5200	Ant1	97.42	0.11	0.53
NVNT	ac20	5240	Ant1	93.56	0.29	0.53
NVNT	ac40	5190	Ant1	82.15	0	10.87
NVNT	ac40	5230	Ant1	81.82	0.87	11.11

Test Graphs

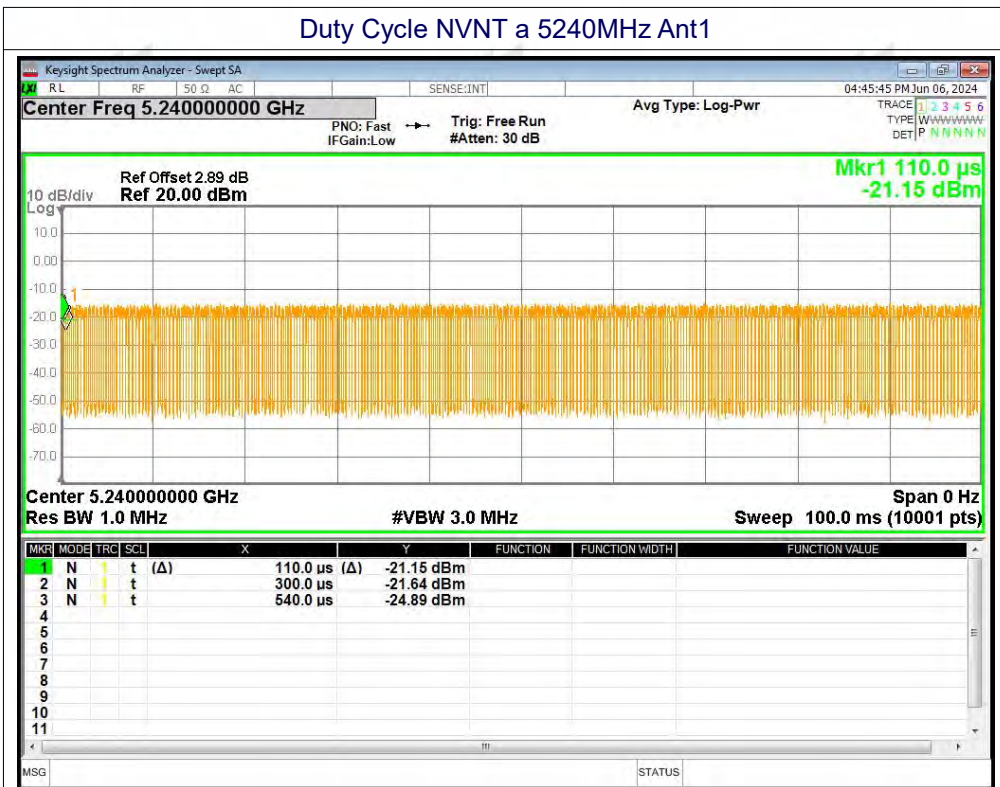
Duty Cycle NVNT a 5180MHz Ant1



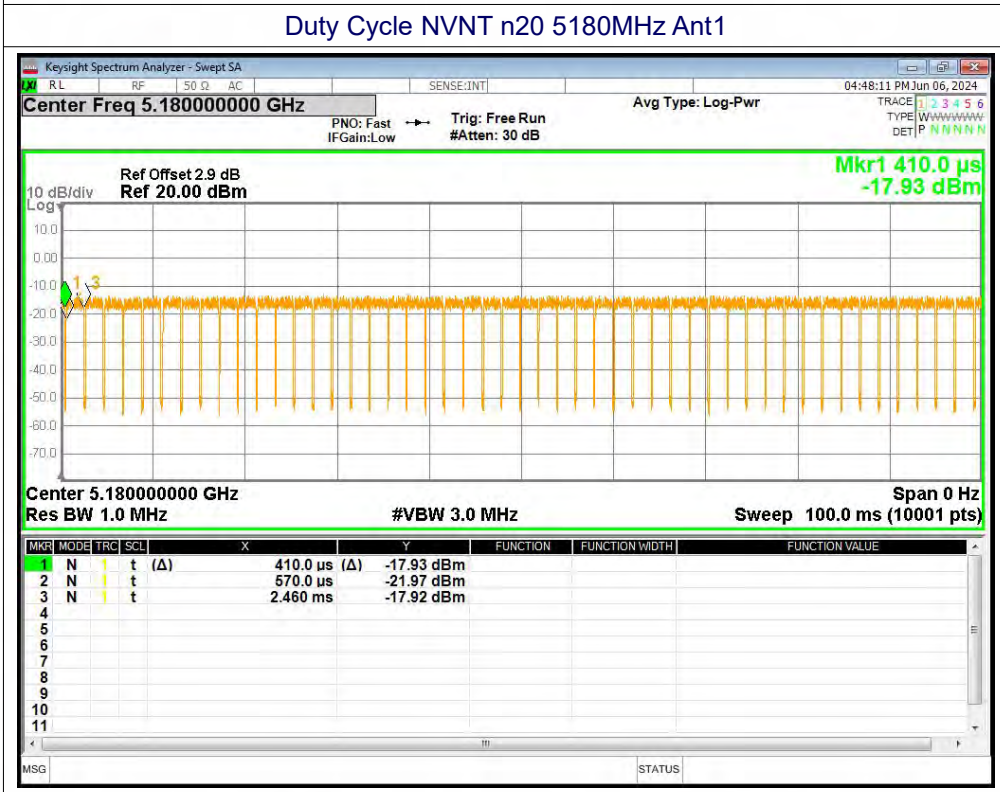
Duty Cycle NVNT a 5200MHz Ant1



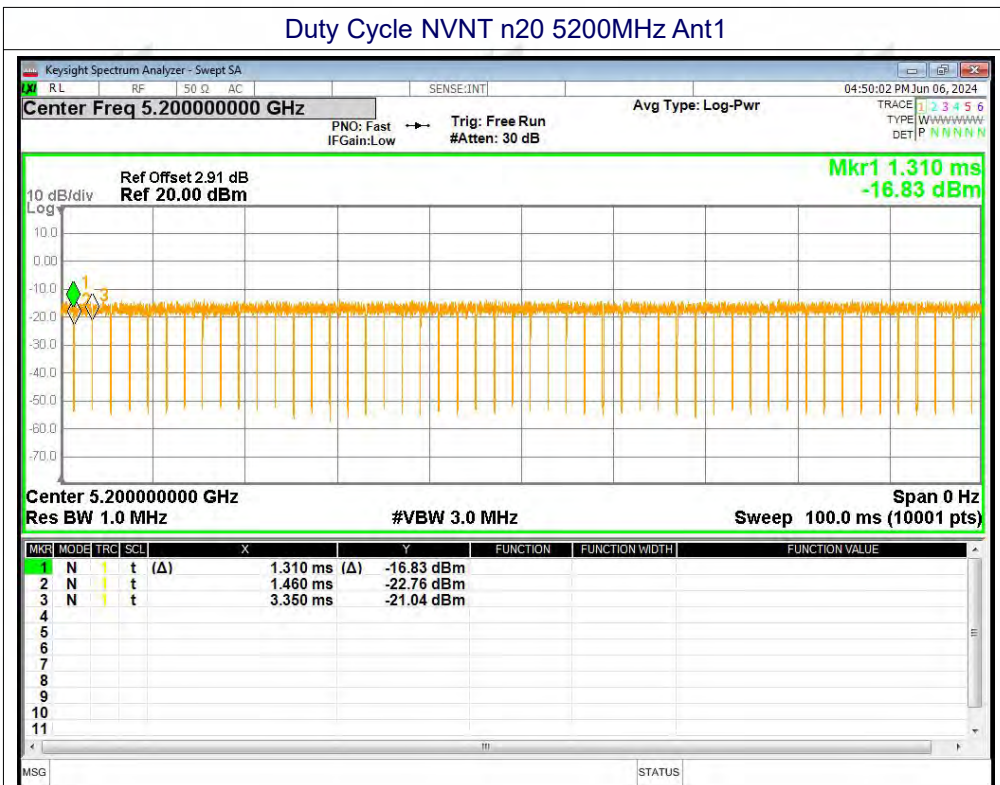
Duty Cycle NVNT a 5240MHz Ant1



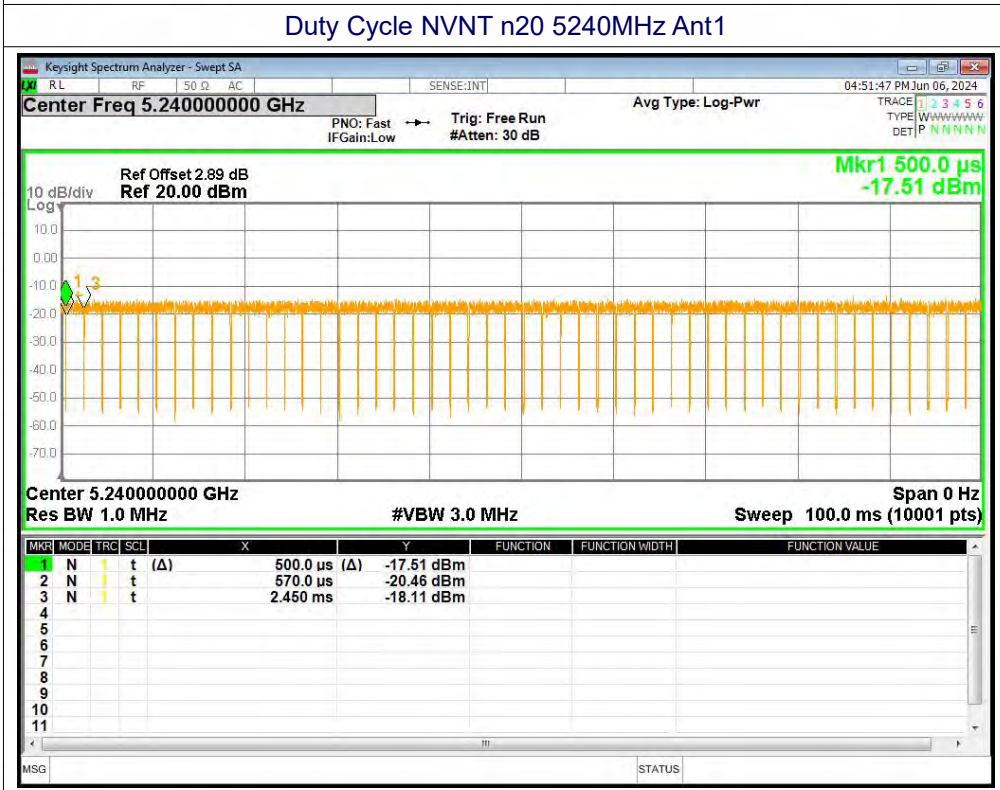
Duty Cycle NVNT n20 5180MHz Ant1



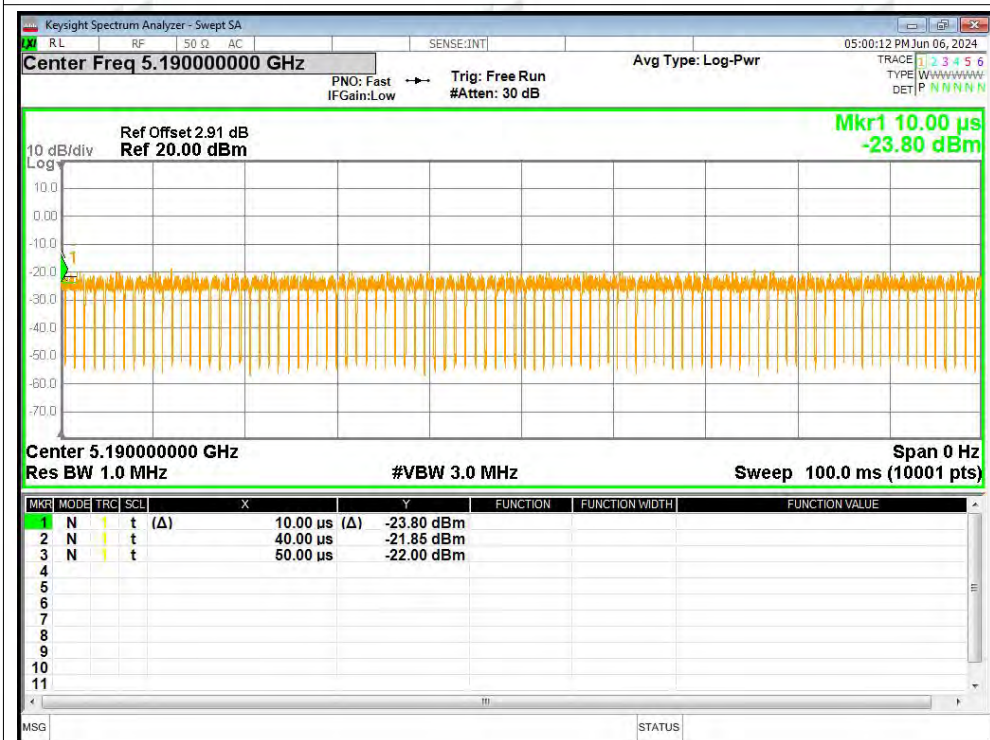
Duty Cycle NVNT n20 5200MHz Ant1



Duty Cycle NVNT n20 5240MHz Ant1

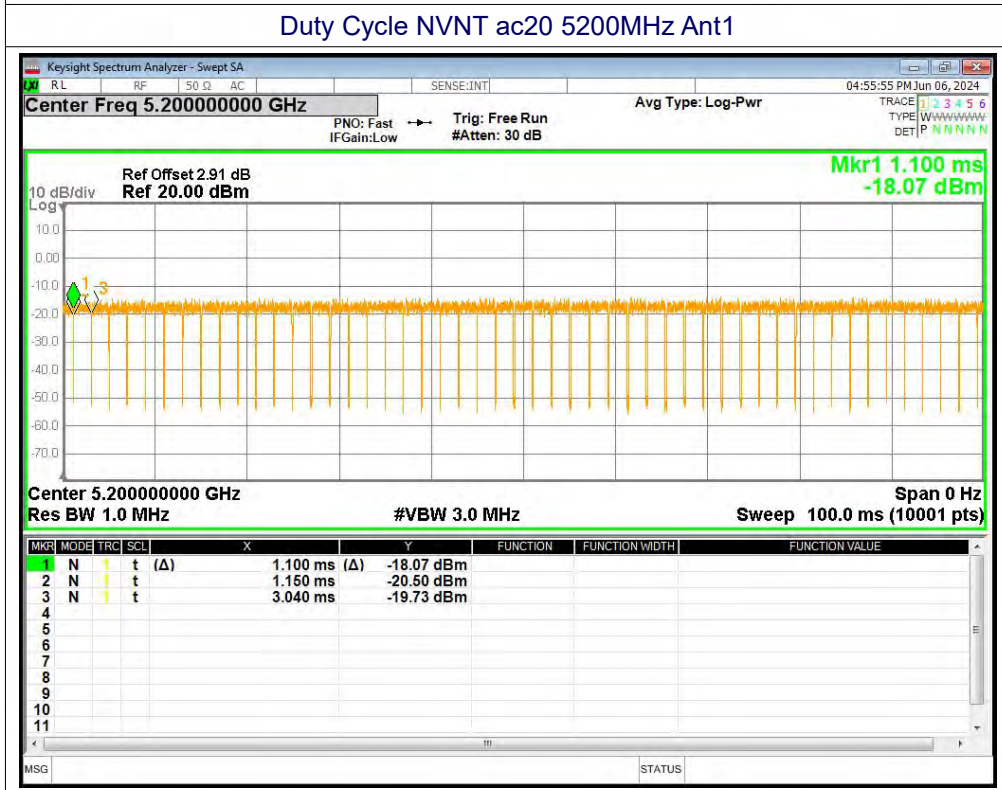
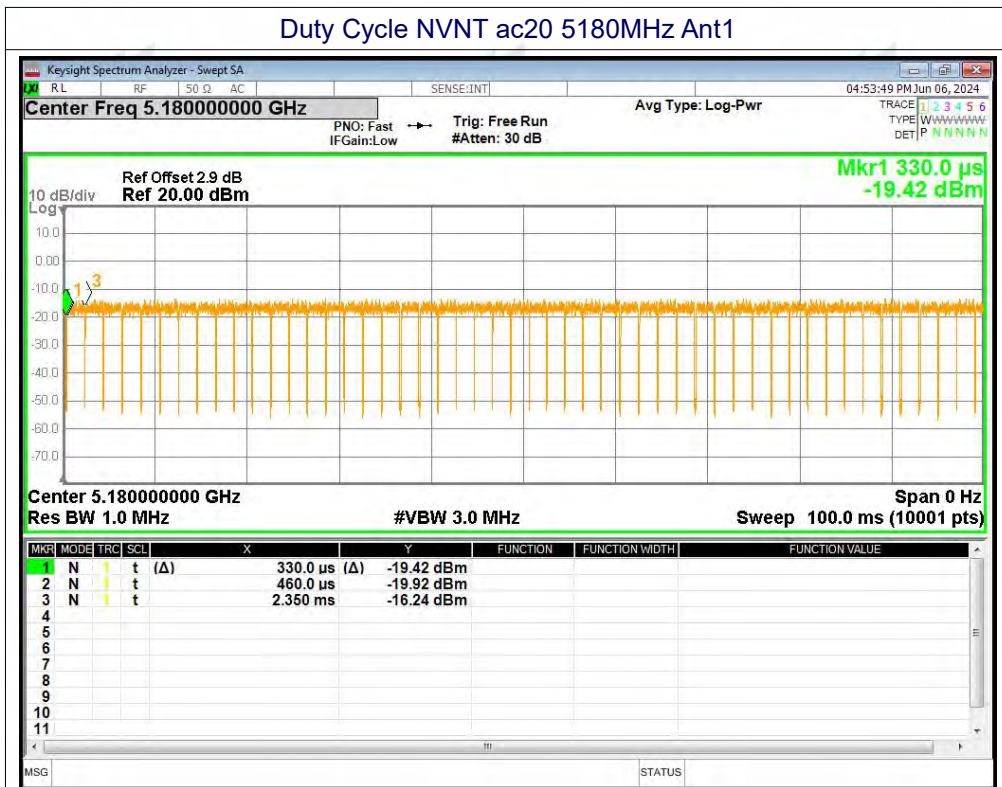


Duty Cycle NVNT n40 5190MHz Ant1

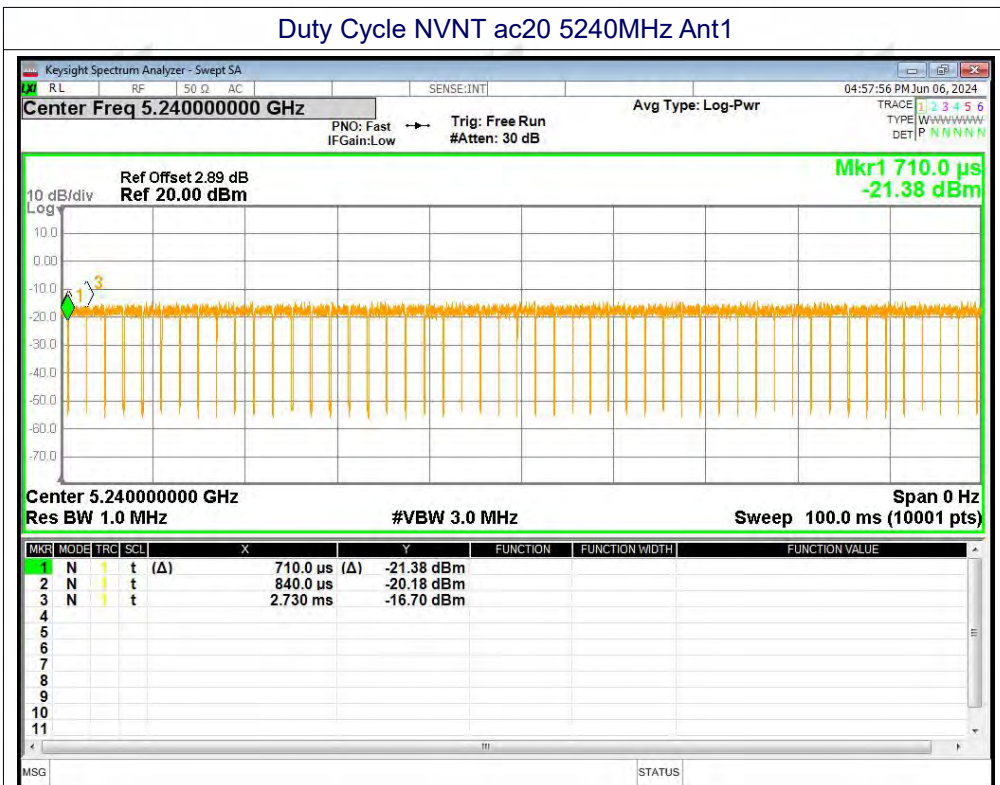


Duty Cycle NVNT n40 5230MHz Ant1

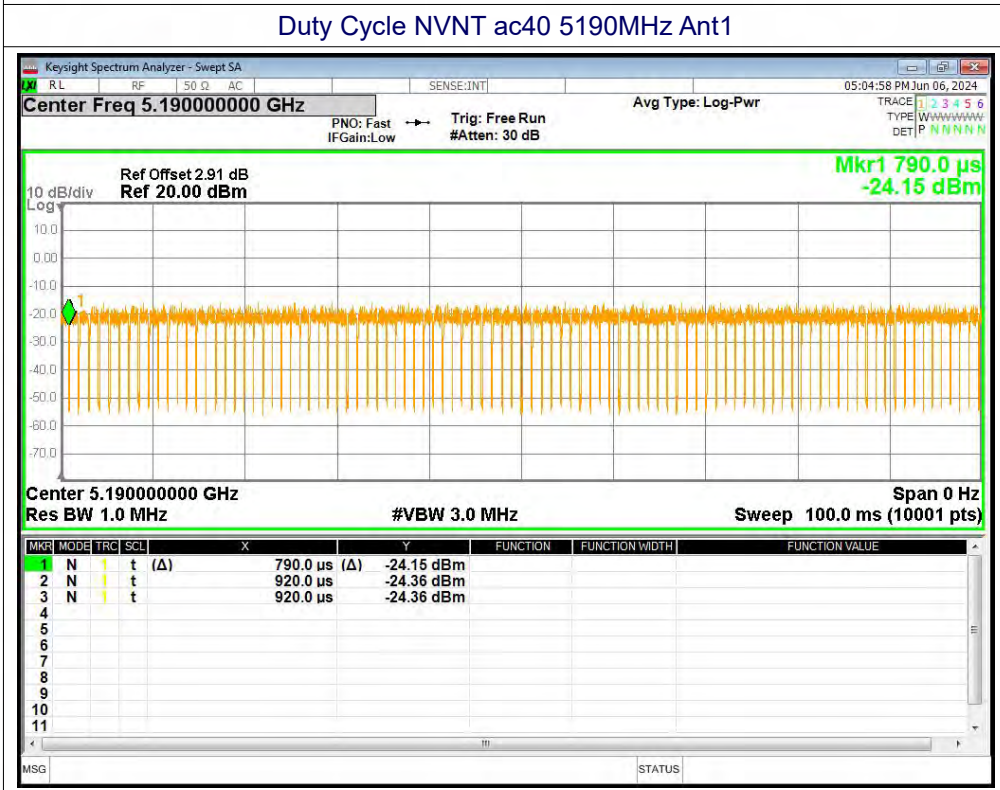


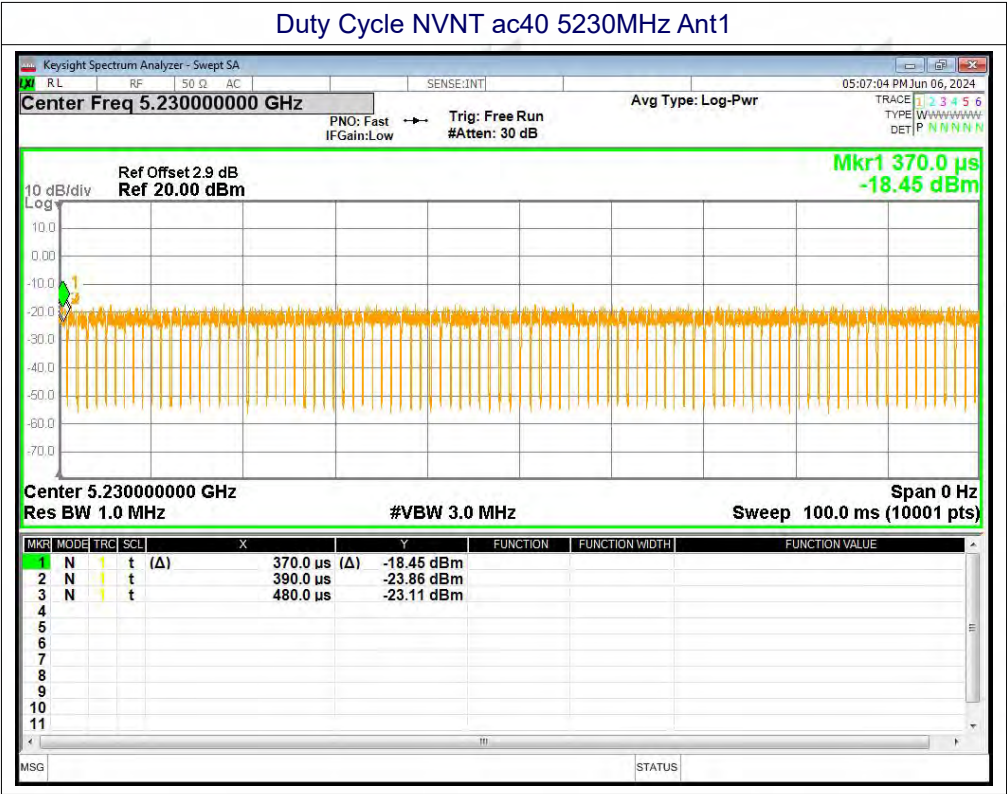


Duty Cycle NVNT ac20 5240MHz Ant1



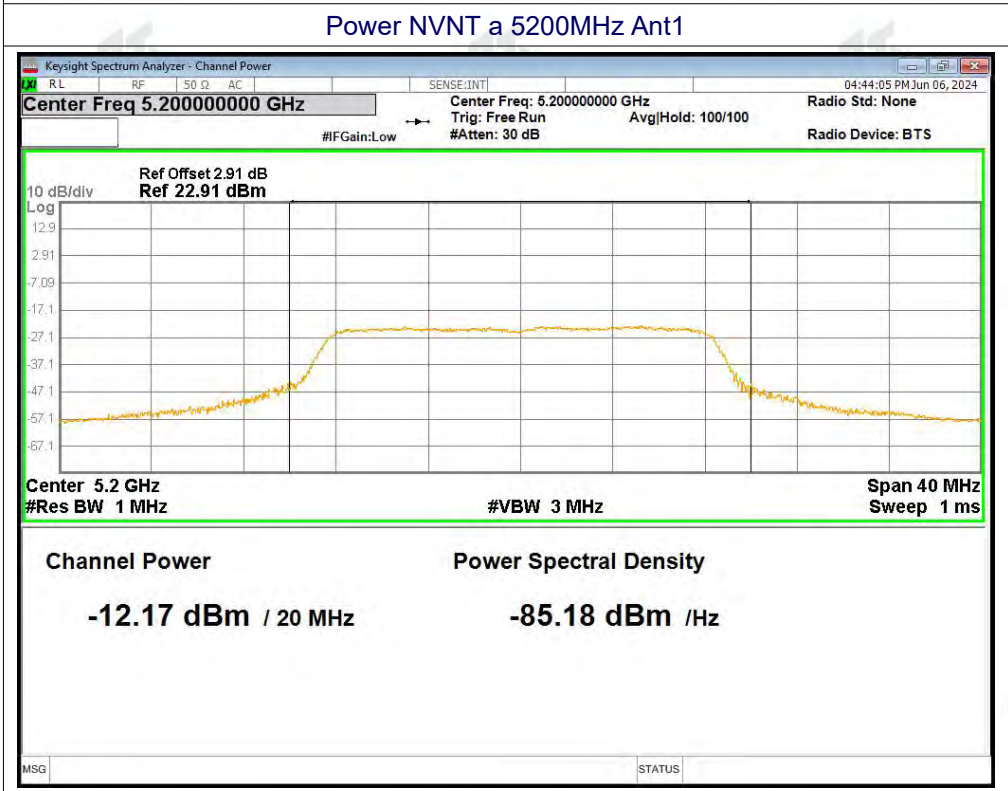
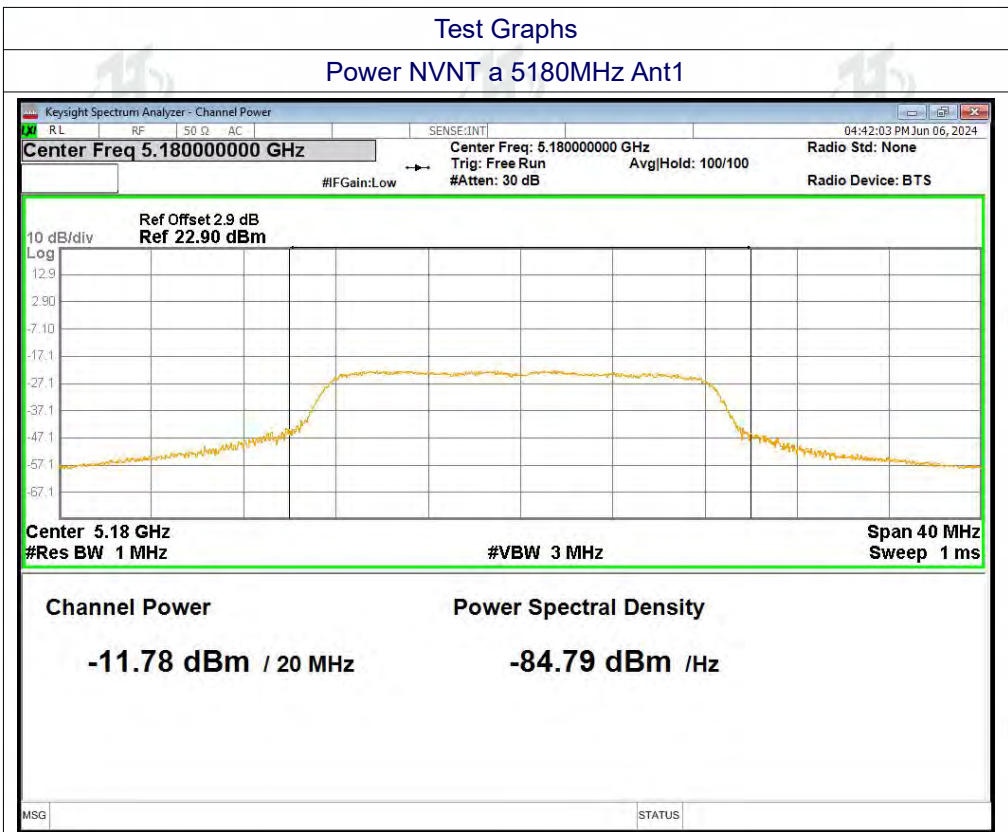
Duty Cycle NVNT ac40 5190MHz Ant1





B2. Maximum Conducted Output Power

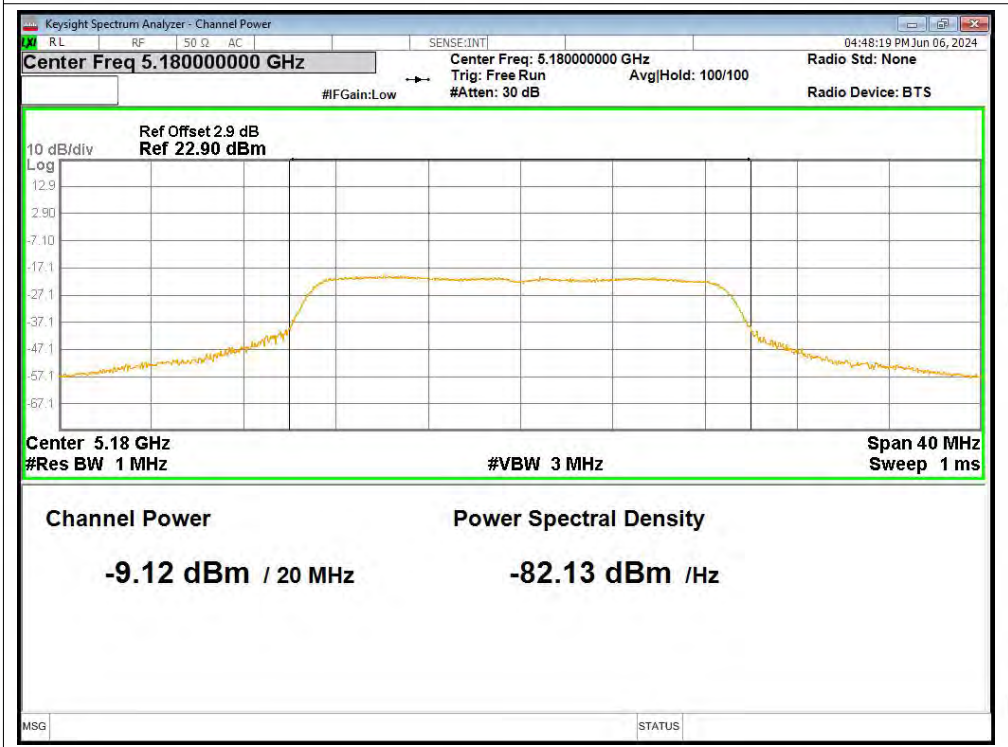
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-11.78	2.51	-9.27	24	Pass
NVNT	a	5200	Ant1	-12.17	1.43	-10.74	24	Pass
NVNT	a	5240	Ant1	-13.14	2.53	-10.61	24	Pass
NVNT	n20	5180	Ant1	-9.12	0.35	-8.77	24	Pass
NVNT	n20	5200	Ant1	-9.95	0.33	-9.62	24	Pass
NVNT	n20	5240	Ant1	-10.41	0.16	-10.25	24	Pass
NVNT	n40	5190	Ant1	-10.64	6.02	-4.62	24	Pass
NVNT	n40	5230	Ant1	-11.11	6.02	-5.09	24	Pass
NVNT	ac20	5180	Ant1	-9.69	0.29	-9.4	24	Pass
NVNT	ac20	5200	Ant1	-10.54	0.11	-10.43	24	Pass
NVNT	ac20	5240	Ant1	-10.81	0.29	-10.52	24	Pass
NVNT	ac40	5190	Ant1	-7.56	0	-7.56	24	Pass
NVNT	ac40	5230	Ant1	-9.09	0.87	-8.22	24	Pass



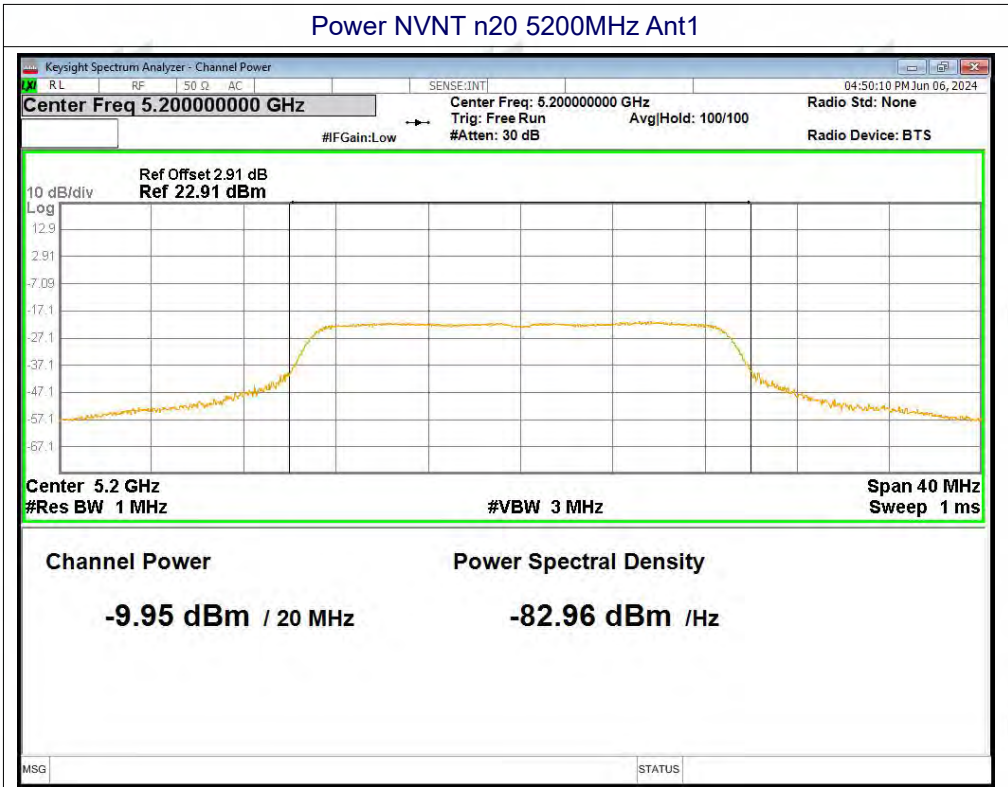
Power NVNT a 5240MHz Ant1



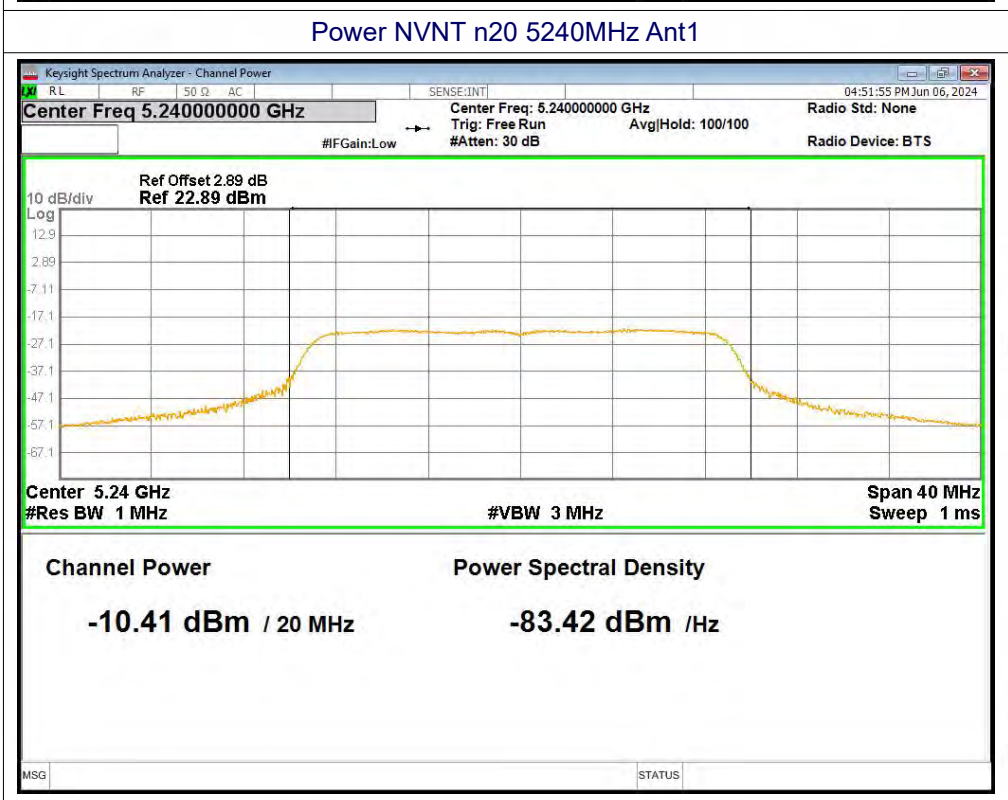
Power NVNT n20 5180MHz Ant1



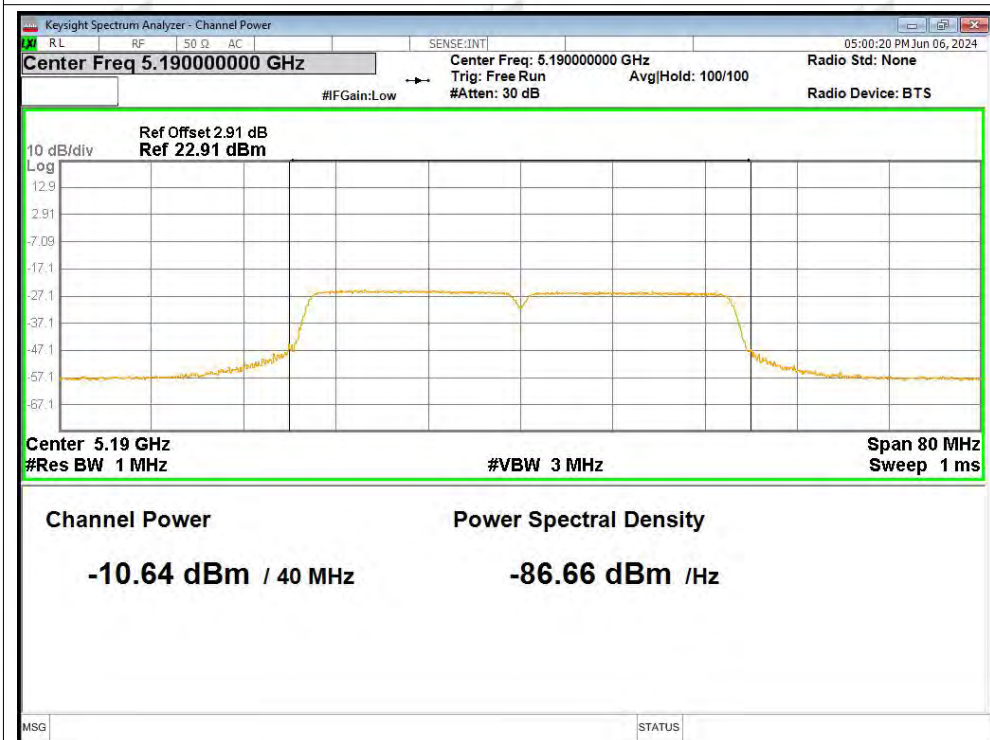
Power NVNT n20 5200MHz Ant1



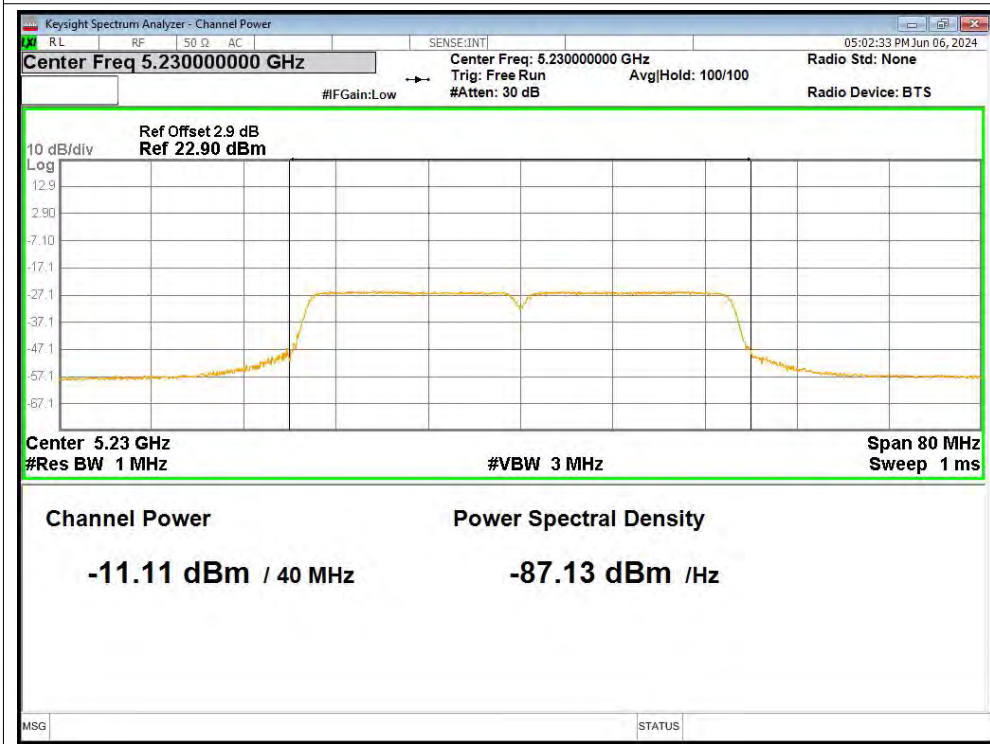
Power NVNT n20 5240MHz Ant1

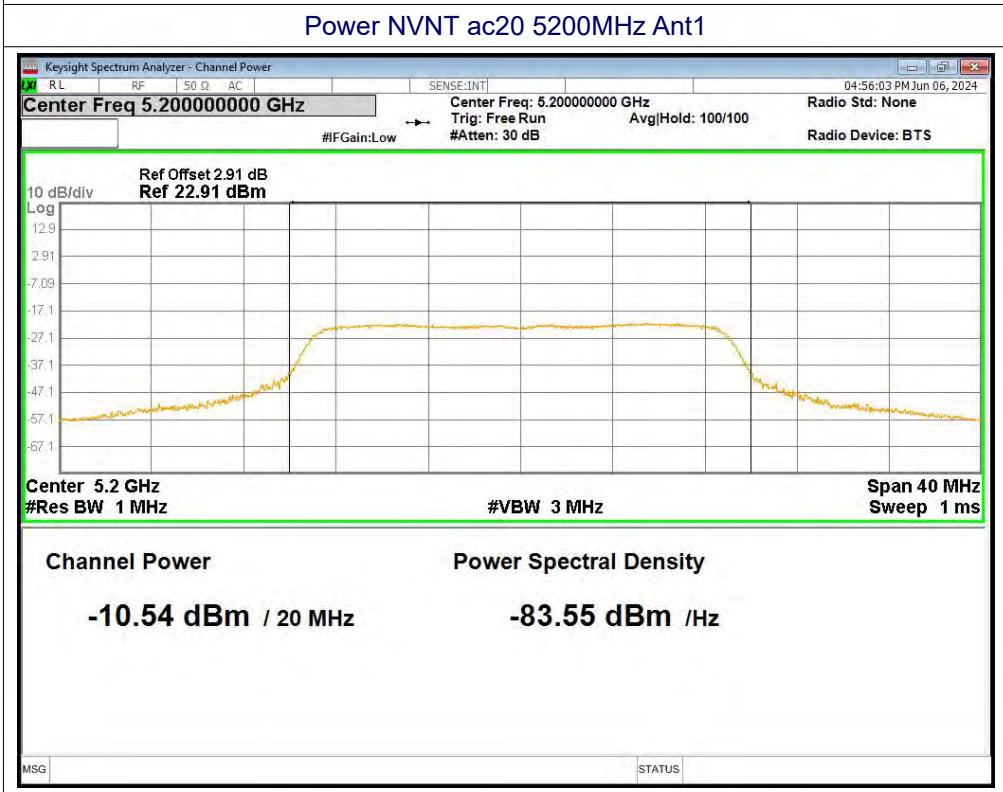
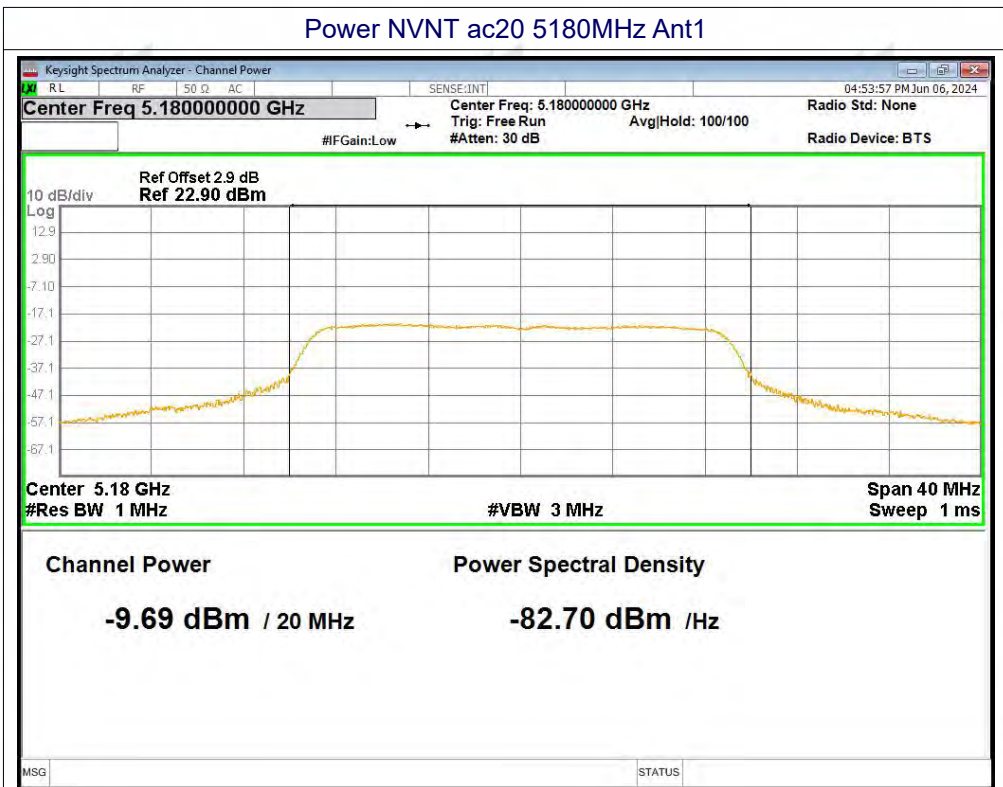


Power NVNT n40 5190MHz Ant1

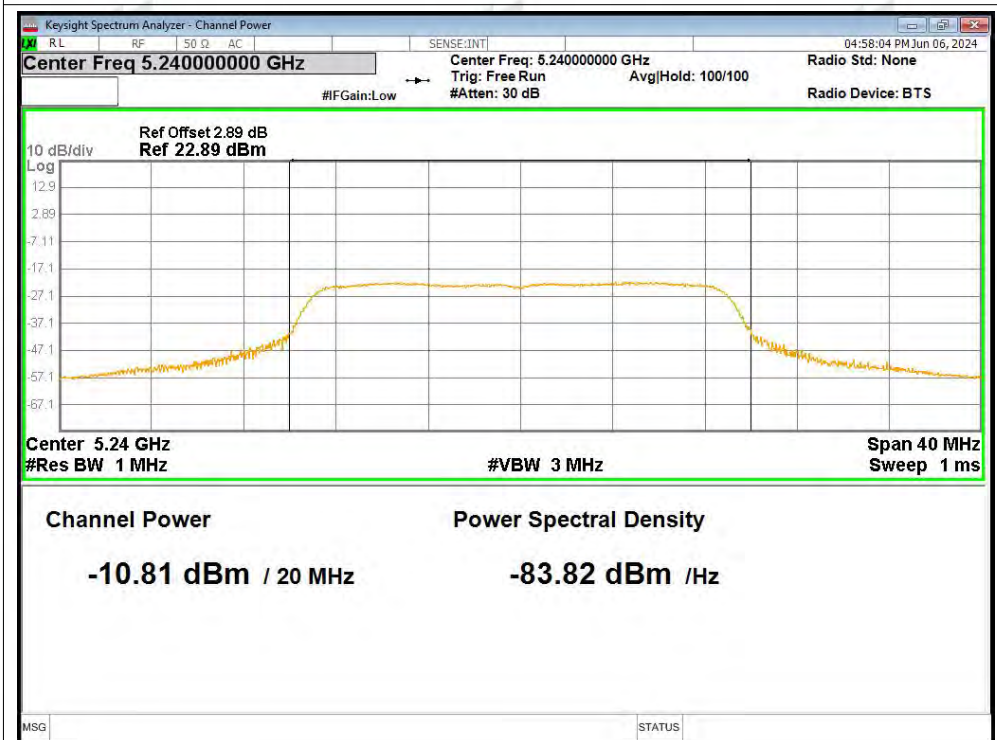


Power NVNT n40 5230MHz Ant1

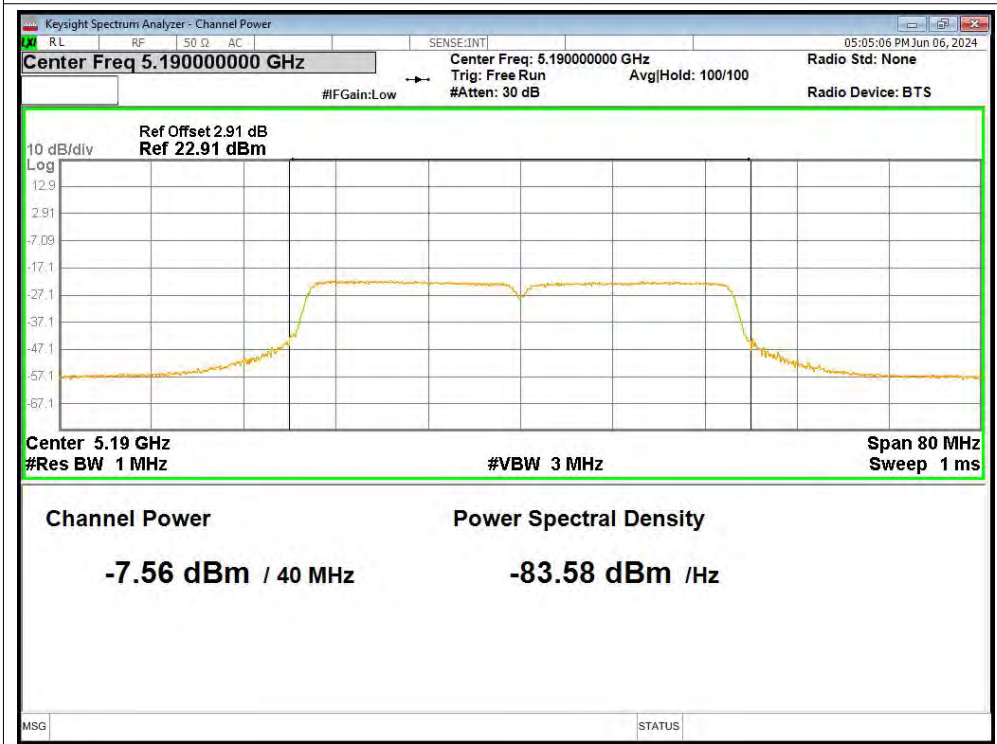


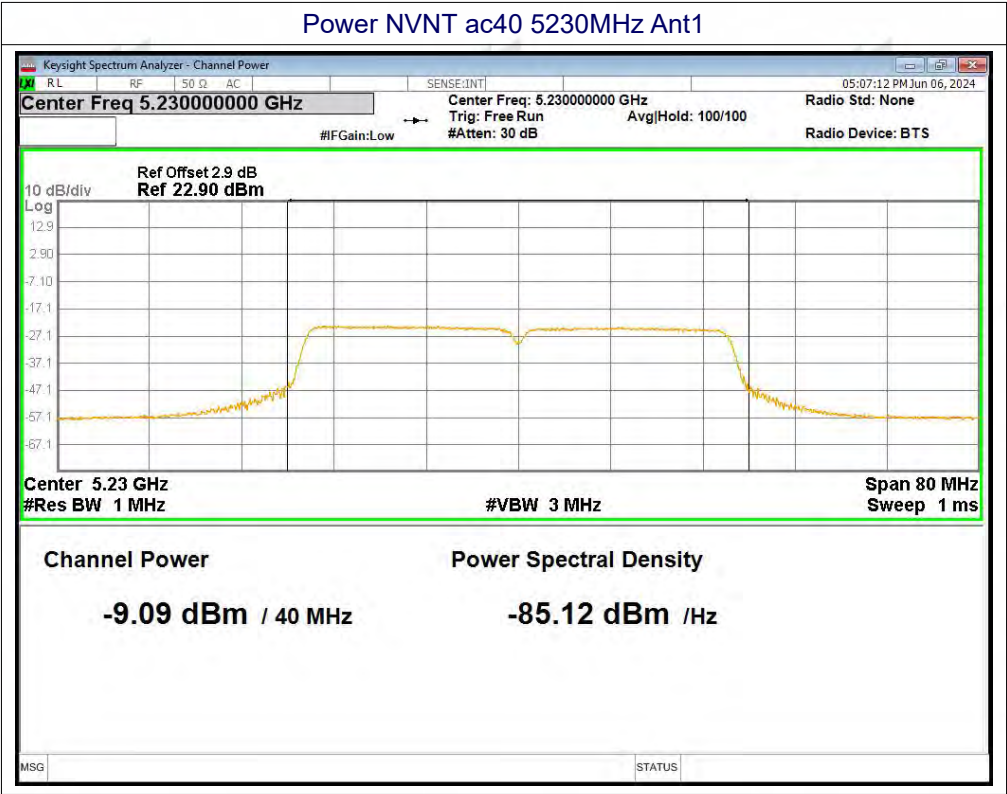


Power NVNT ac20 5240MHz Ant1



Power NVNT ac40 5190MHz Ant1



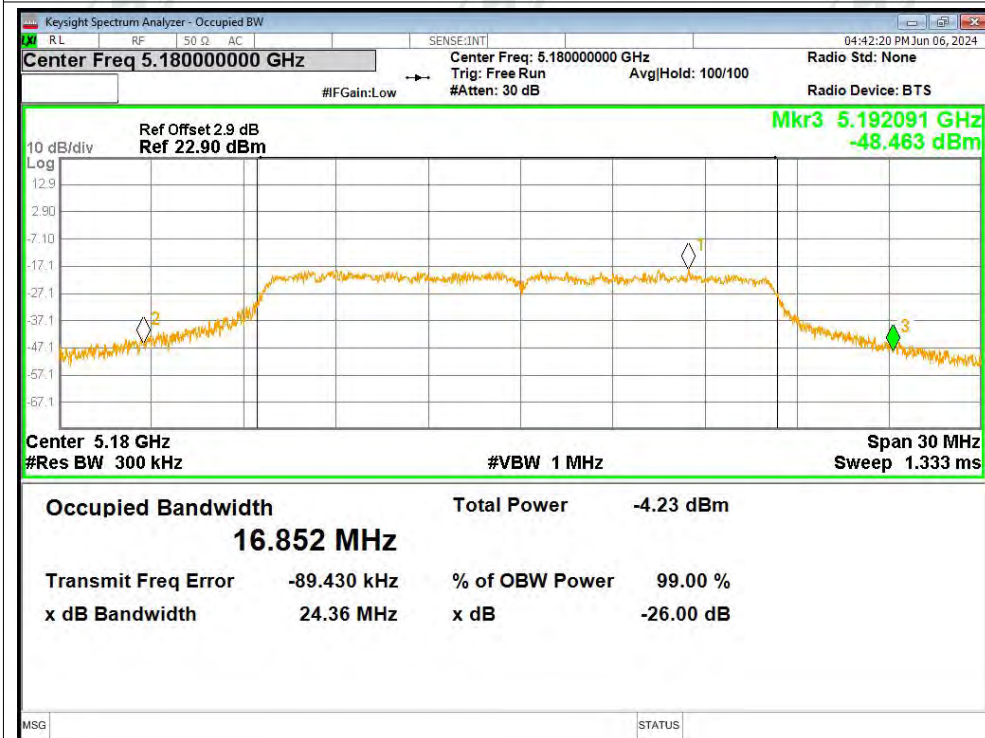


**B3. -26dB Bandwidth**

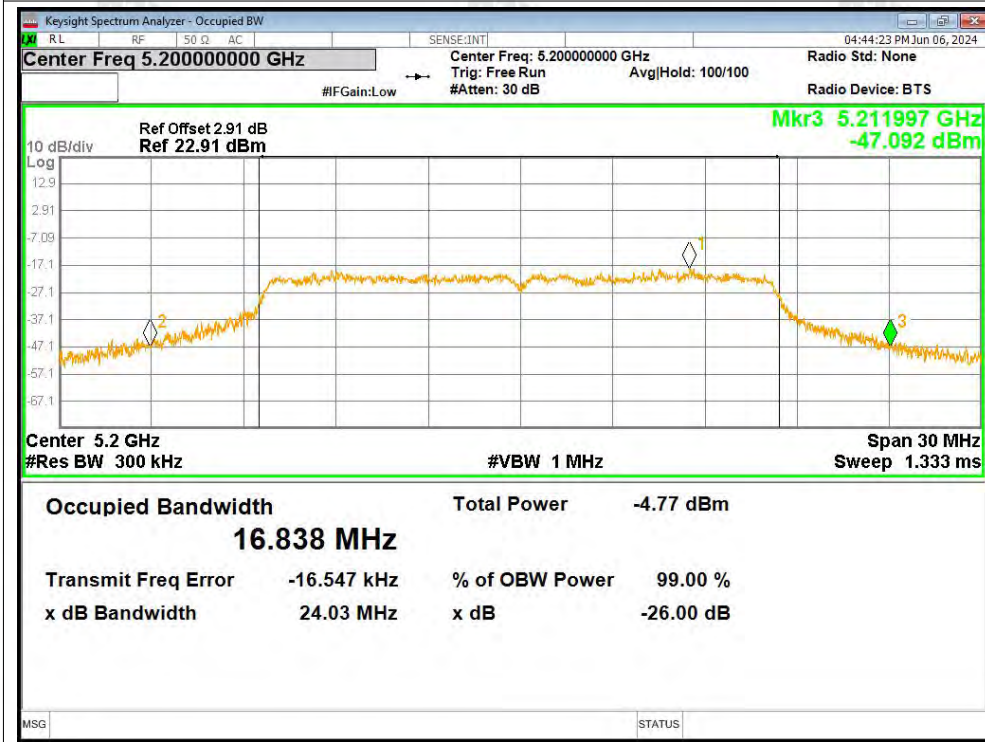
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	24.36	0.5	Pass
NVNT	a	5200	Ant1	24.028	0.5	Pass
NVNT	a	5240	Ant1	23.539	0.5	Pass
NVNT	n20	5180	Ant1	27.47	0.5	Pass
NVNT	n20	5200	Ant1	28.56	0.5	Pass
NVNT	n20	5240	Ant1	28.99	0.5	Pass
NVNT	n40	5190	Ant1	46.579	0.5	Pass
NVNT	n40	5230	Ant1	47.489	0.5	Pass
NVNT	ac20	5180	Ant1	27.182	0.5	Pass
NVNT	ac20	5200	Ant1	27.38	0.5	Pass
NVNT	ac20	5240	Ant1	27.917	0.5	Pass
NVNT	ac40	5190	Ant1	47.571	0.5	Pass
NVNT	ac40	5230	Ant1	47.1	0.5	Pass

Test Graphs

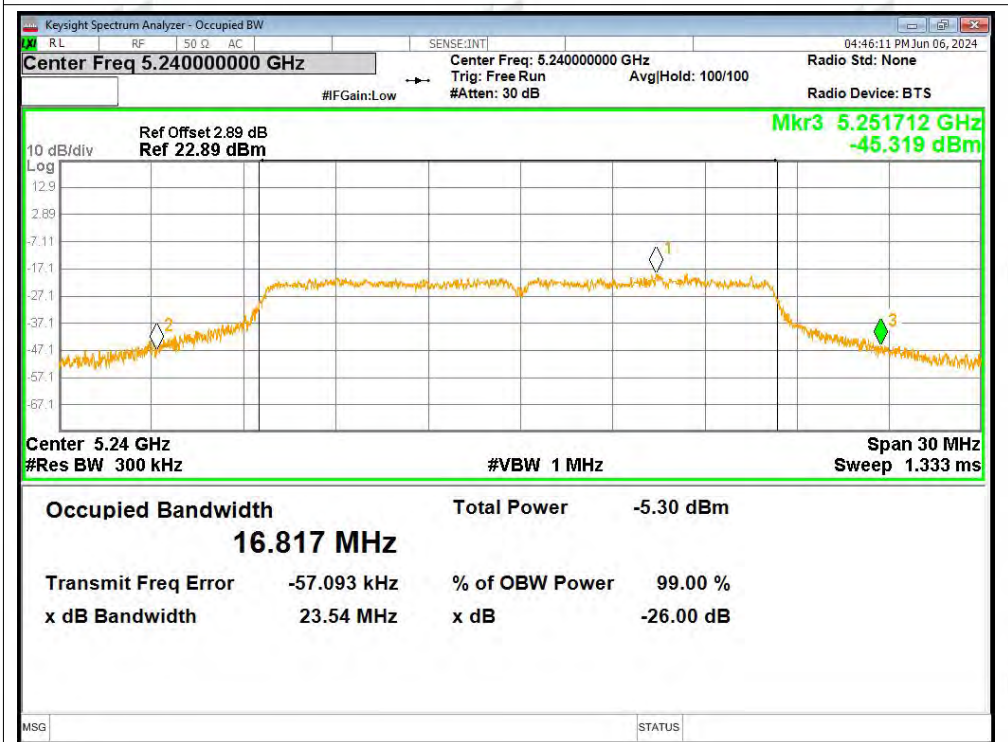
-26dB Bandwidth NVNT a 5180MHz Ant1



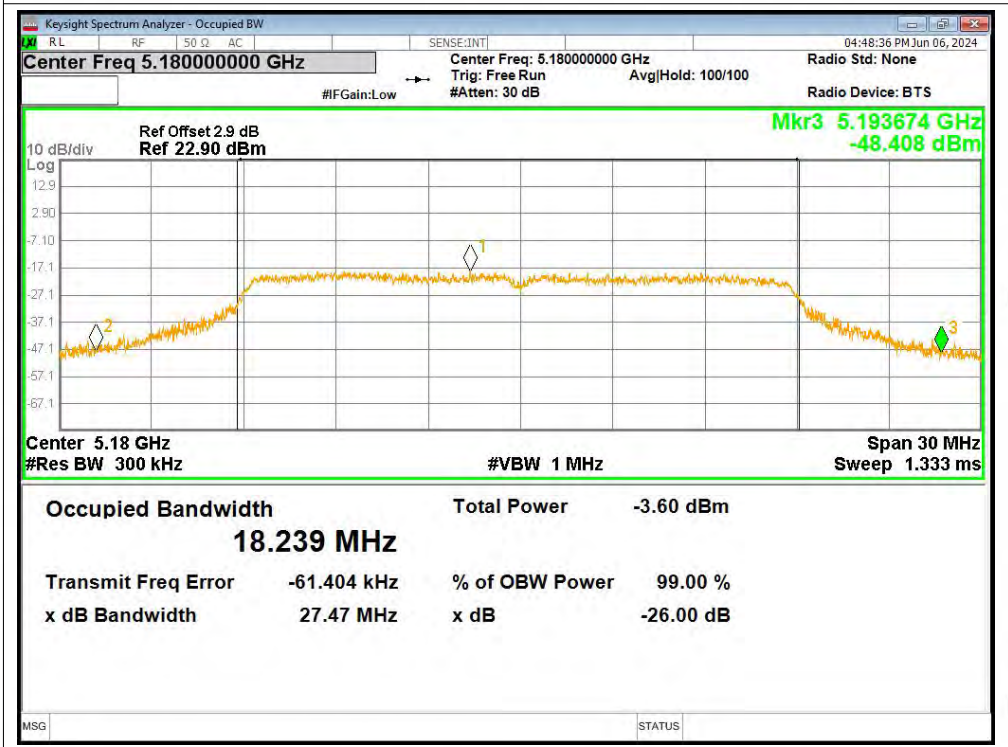
-26dB Bandwidth NVNT a 5200MHz Ant1



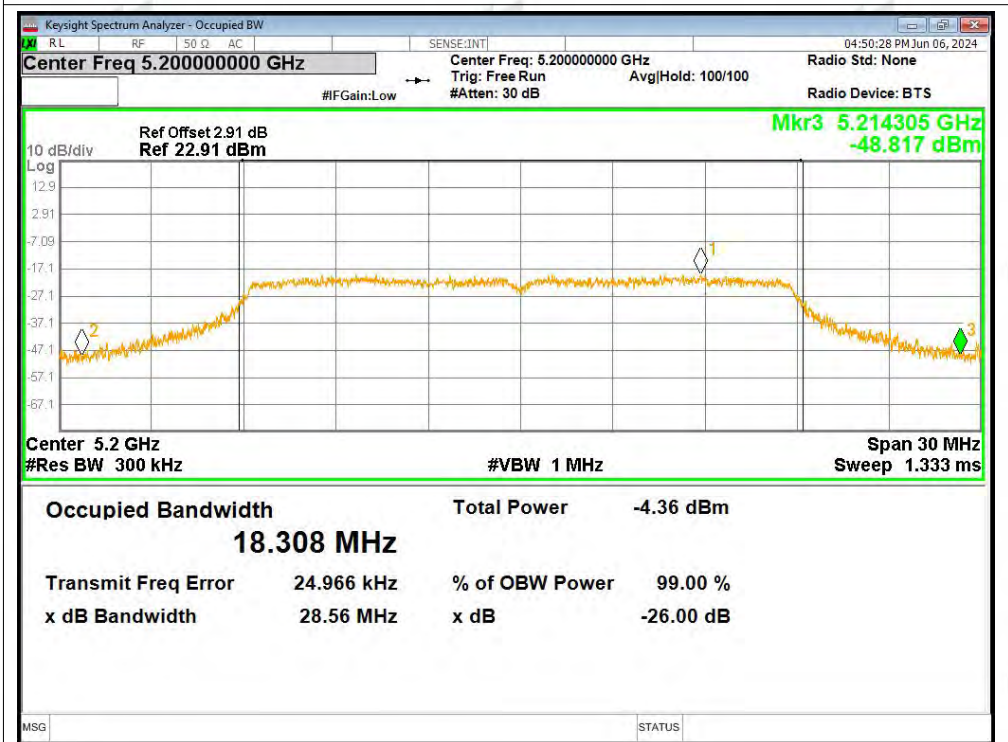
-26dB Bandwidth NVNT a 5240MHz Ant1



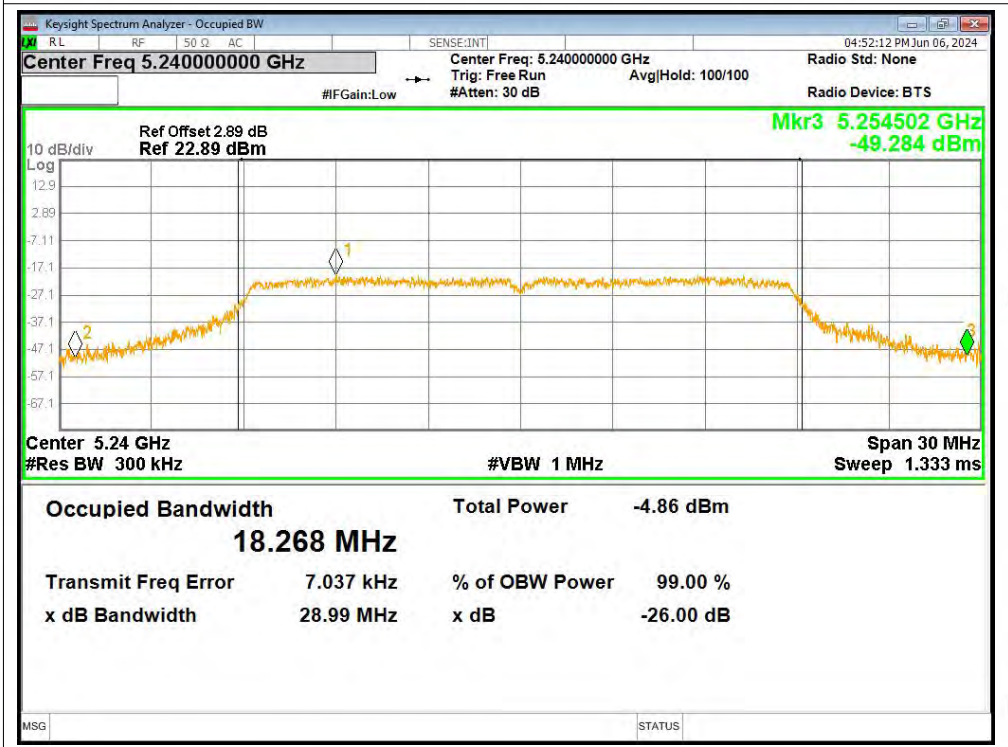
-26dB Bandwidth NVNT n20 5180MHz Ant1



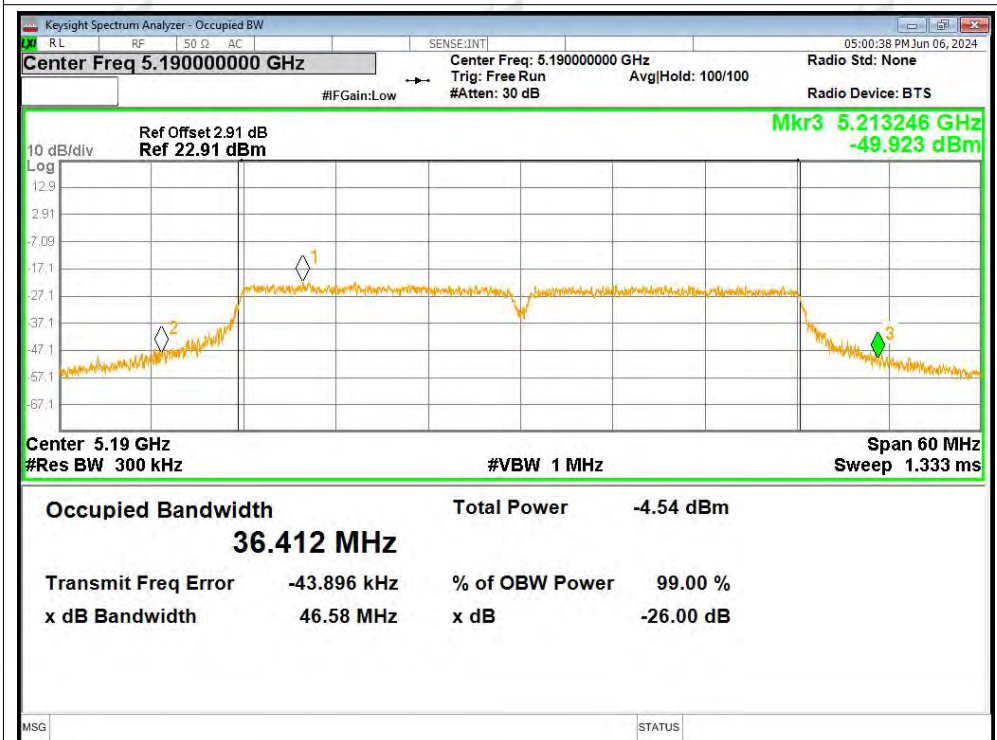
-26dB Bandwidth NVNT n20 5200MHz Ant1



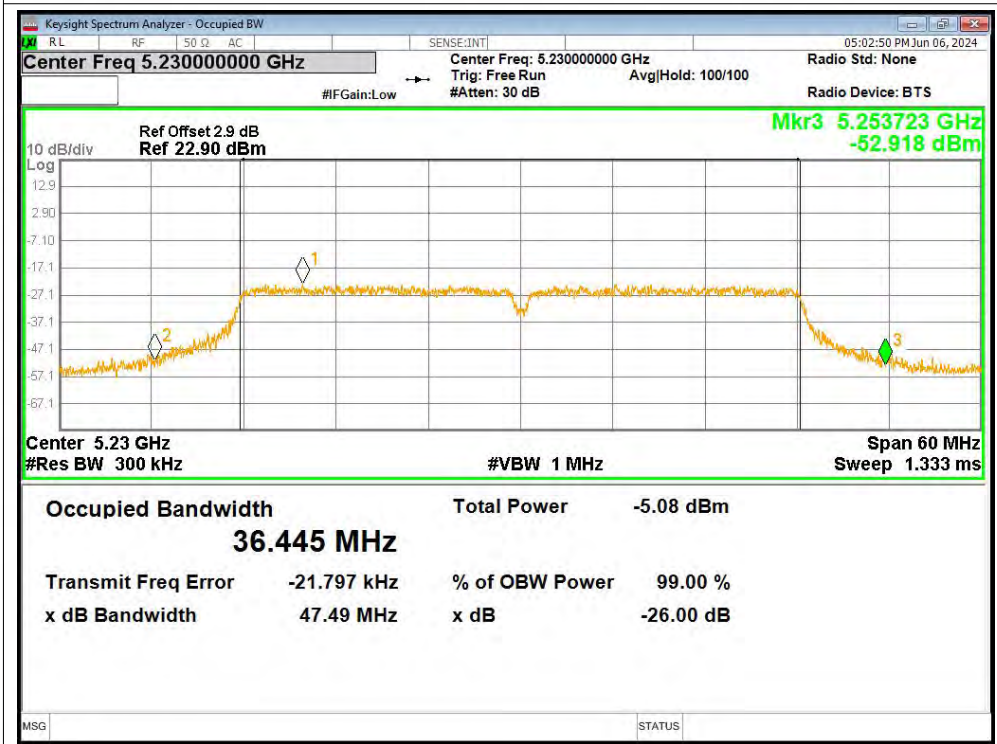
-26dB Bandwidth NVNT n20 5240MHz Ant1



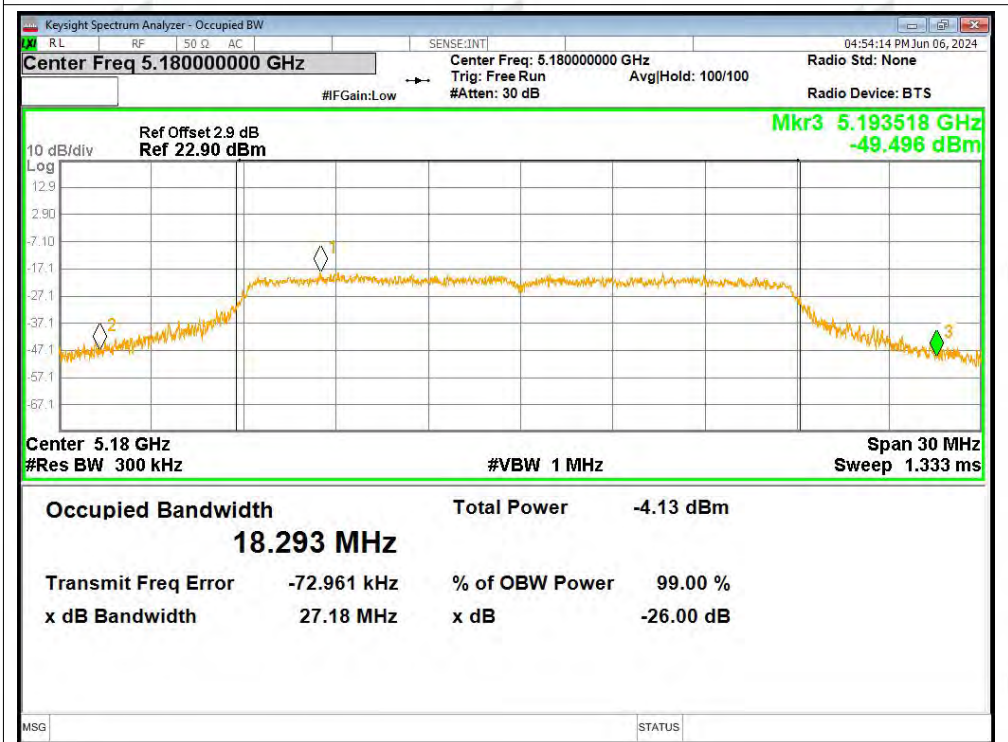
-26dB Bandwidth NVNT n40 5190MHz Ant1



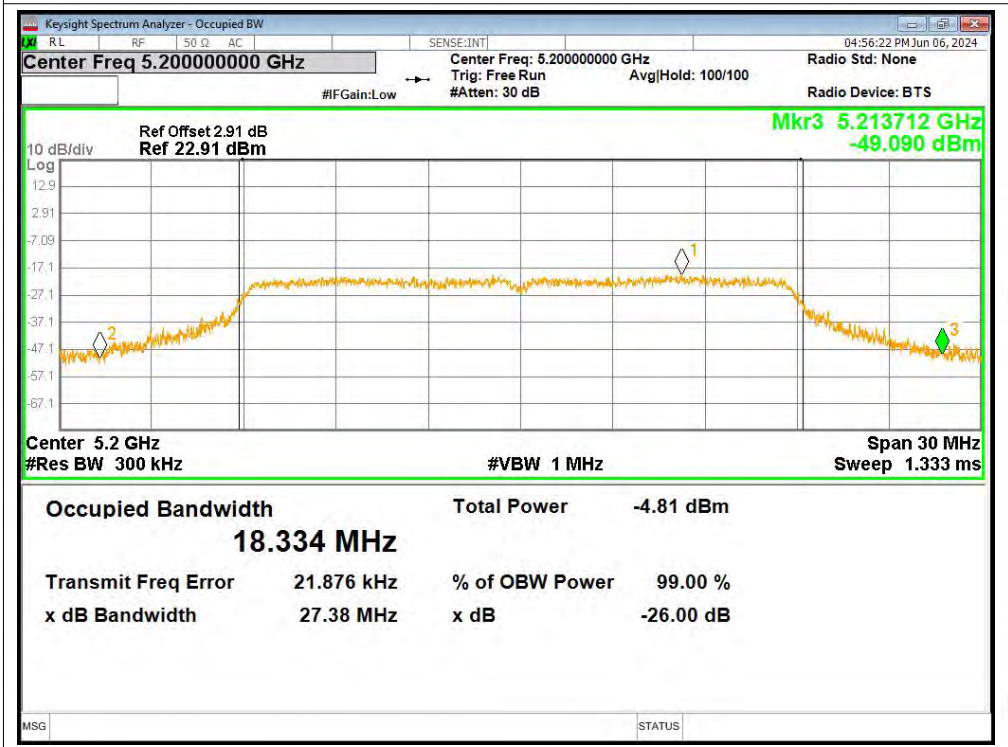
-26dB Bandwidth NVNT n40 5230MHz Ant1

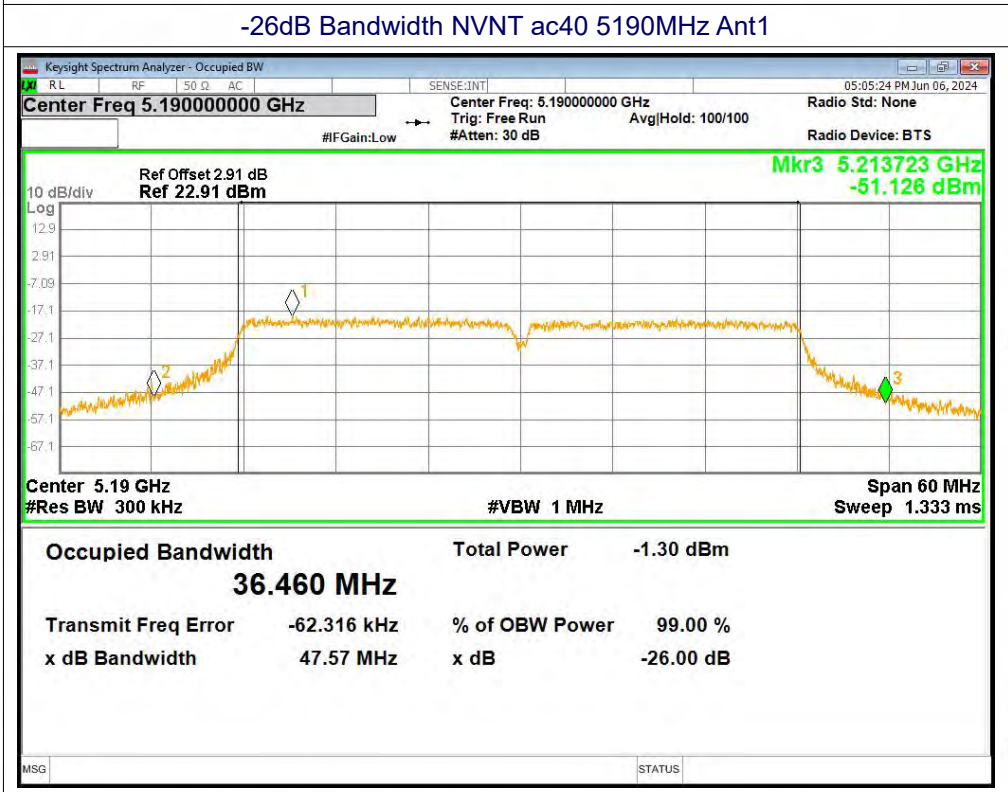
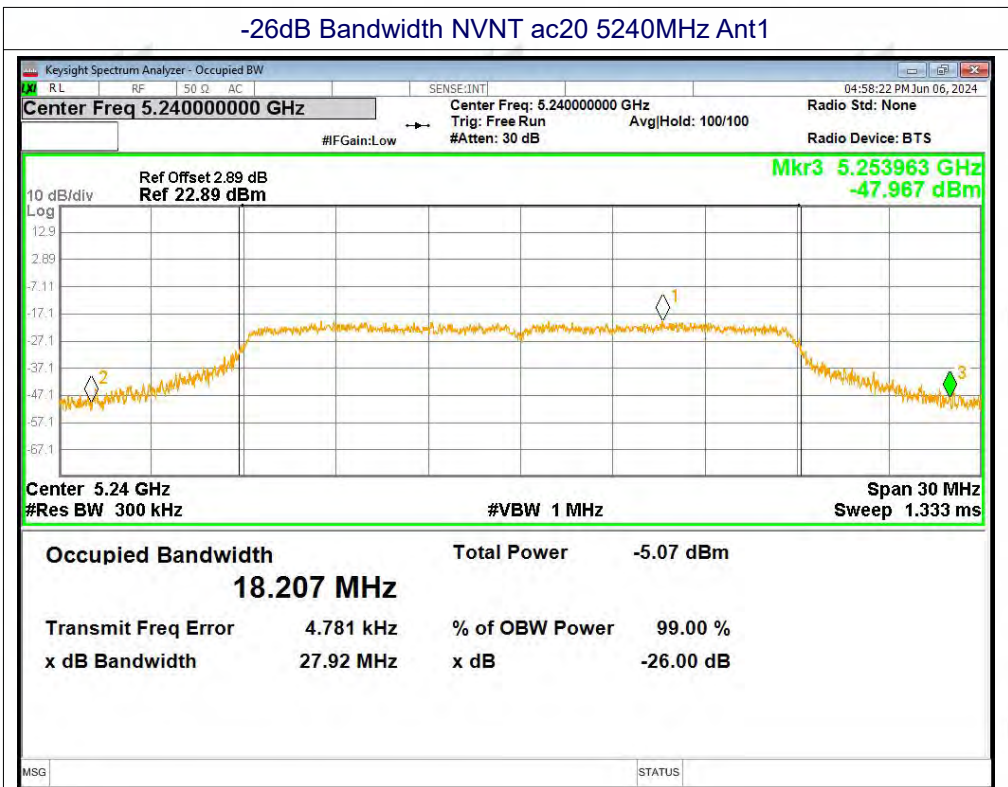


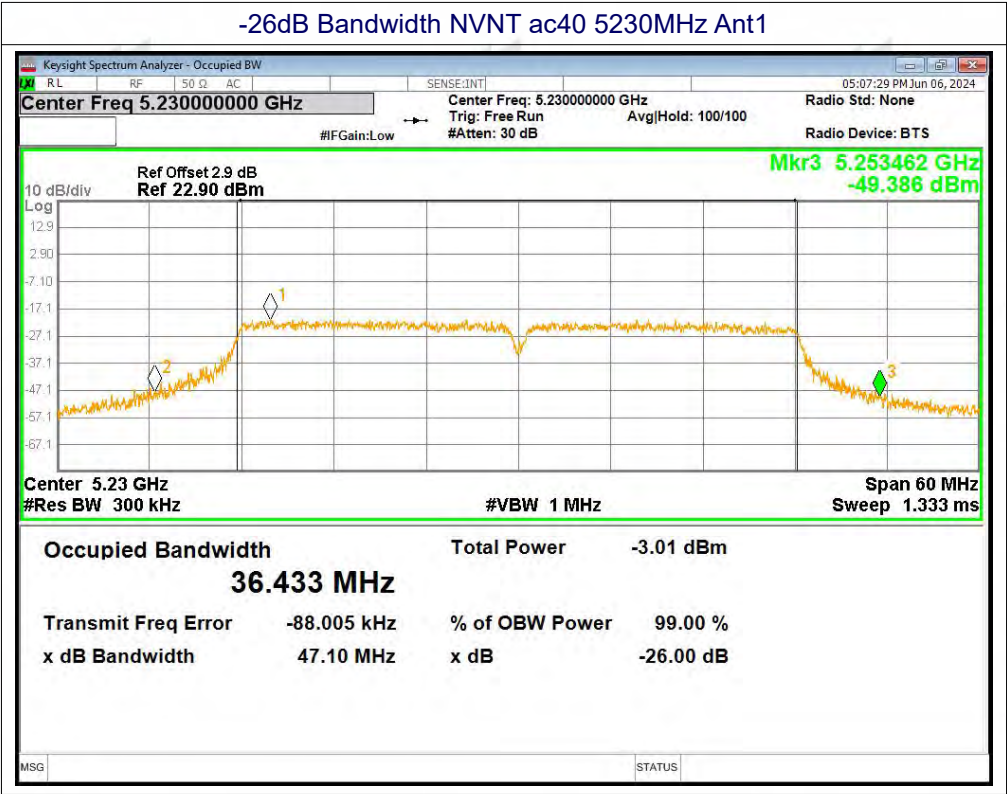
-26dB Bandwidth NVNT ac20 5180MHz Ant1



-26dB Bandwidth NVNT ac20 5200MHz Ant1

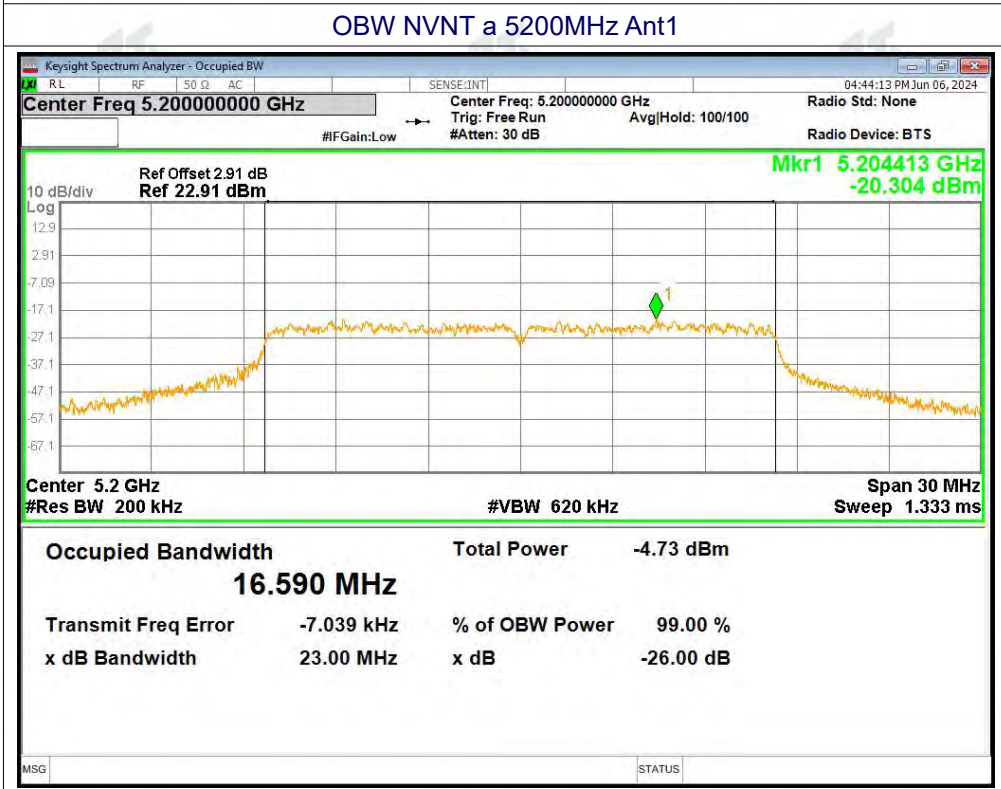
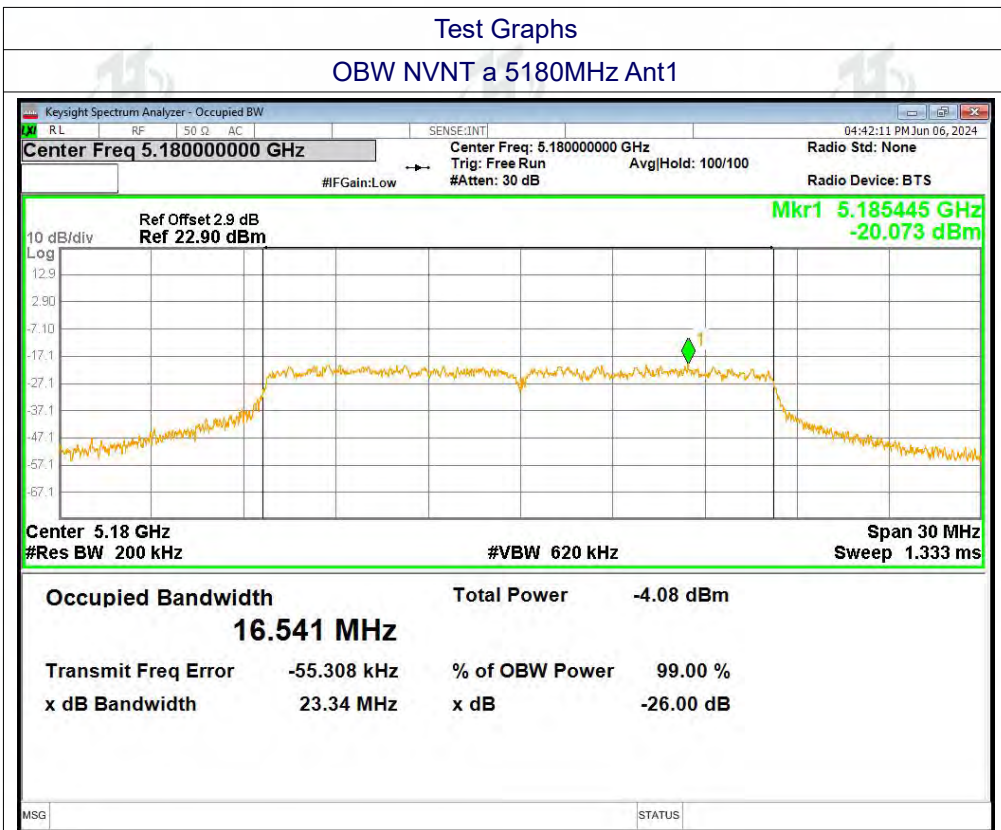




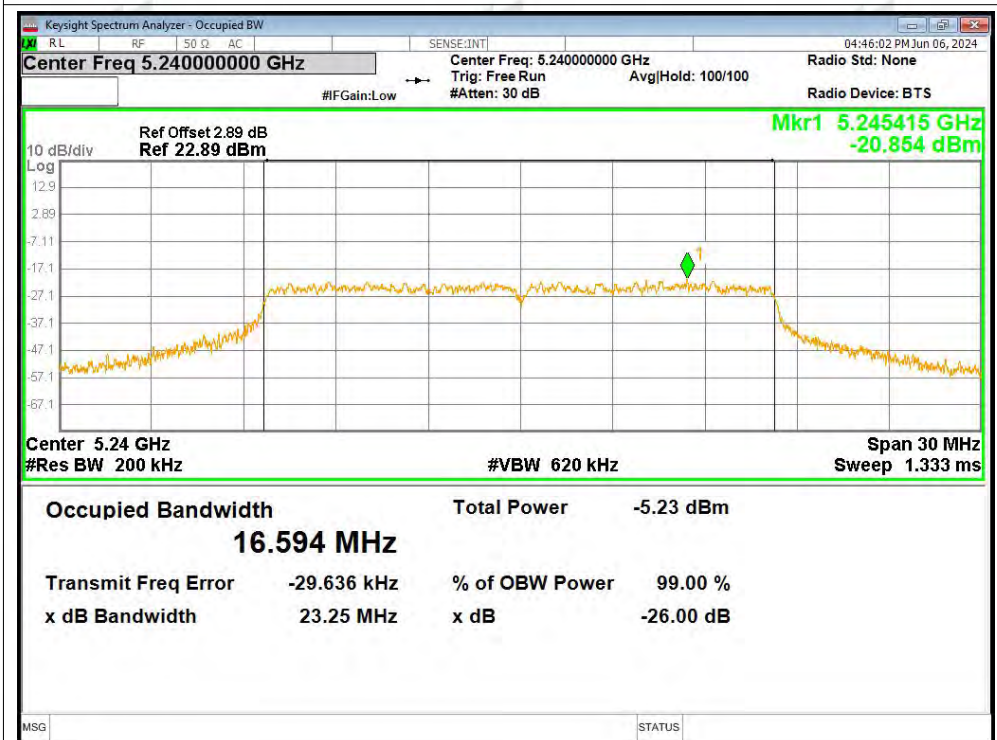


B4. Occupied Channel Bandwidth

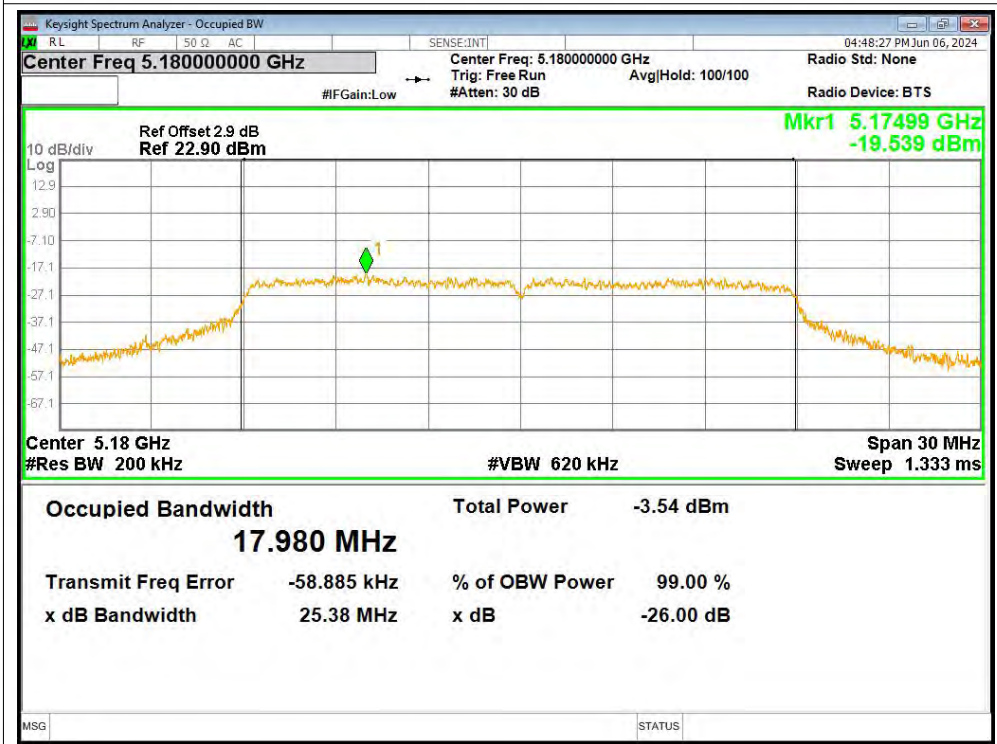
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.541
NVNT	a	5200	Ant1	16.59
NVNT	a	5240	Ant1	16.594
NVNT	n20	5180	Ant1	17.98
NVNT	n20	5200	Ant1	17.982
NVNT	n20	5240	Ant1	17.979
NVNT	n40	5190	Ant1	36.718
NVNT	n40	5230	Ant1	36.646
NVNT	ac20	5180	Ant1	17.974
NVNT	ac20	5200	Ant1	17.991
NVNT	ac20	5240	Ant1	17.957
NVNT	ac40	5190	Ant1	36.611
NVNT	ac40	5230	Ant1	36.591



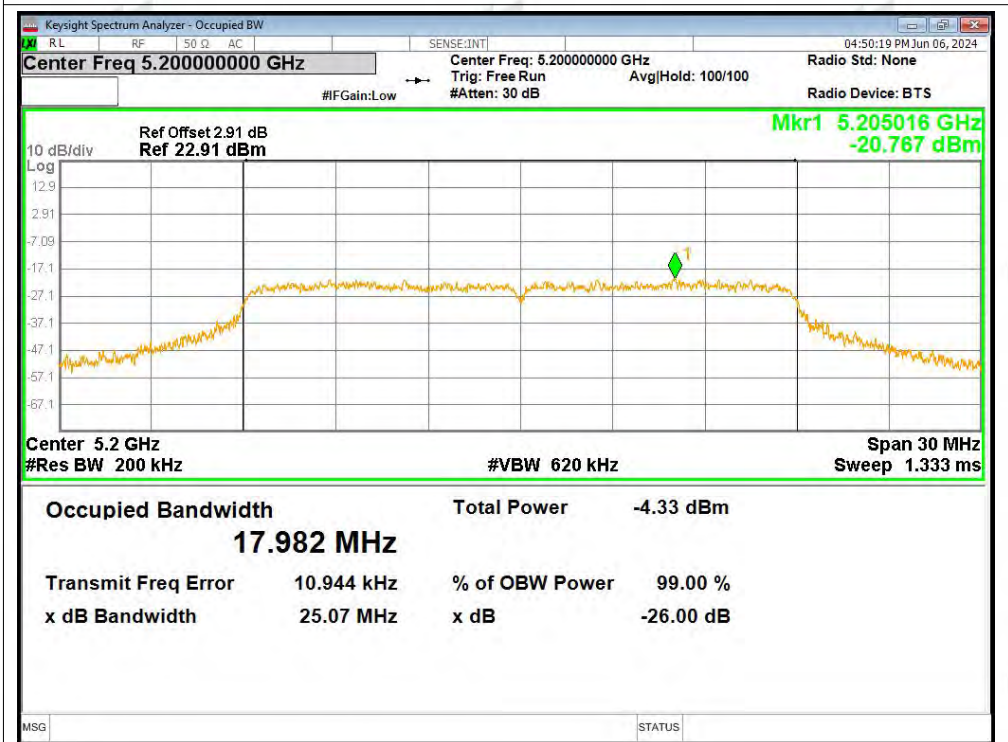
OBW NVNT a 5240MHz Ant1



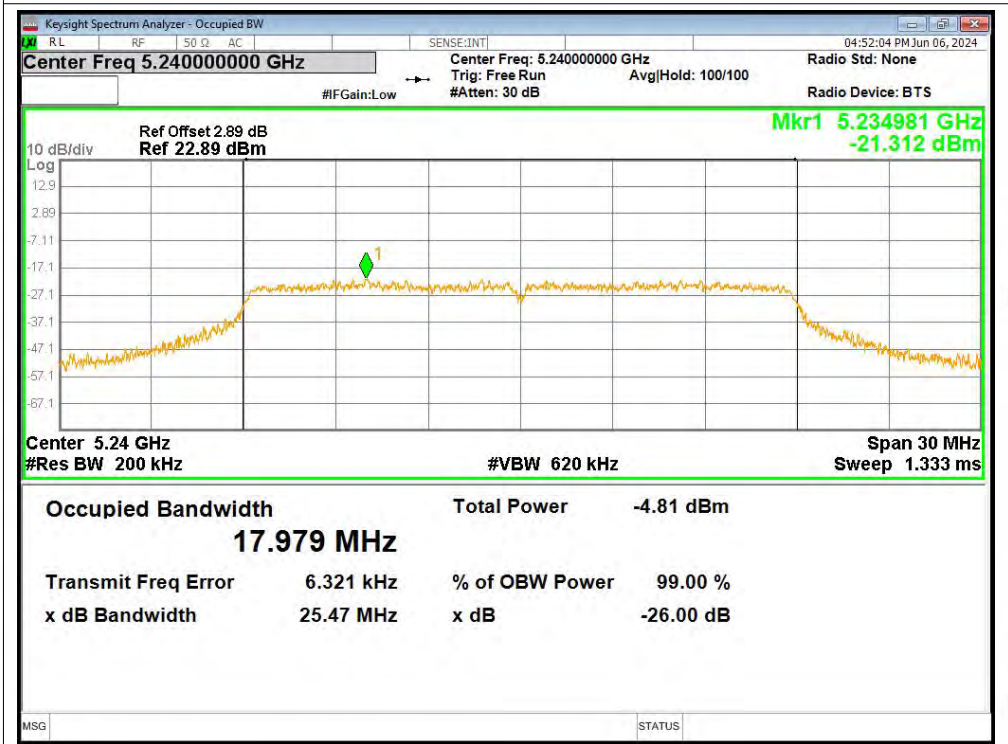
OBW NVNT n20 5180MHz Ant1



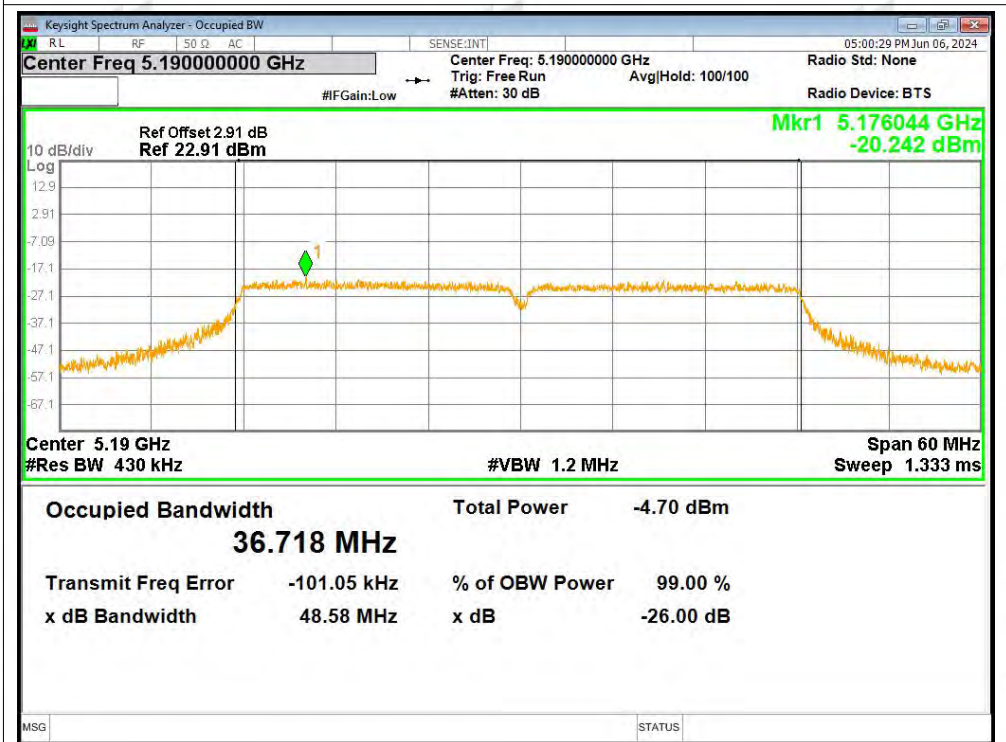
OBW NVNT n20 5200MHz Ant1



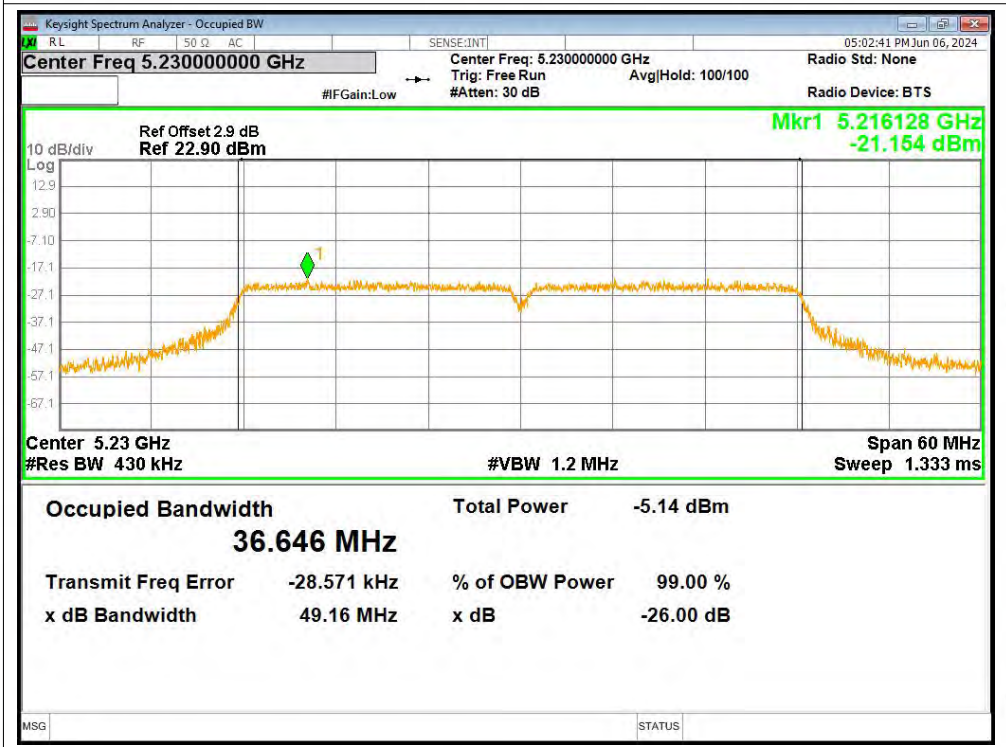
OBW NVNT n20 5240MHz Ant1



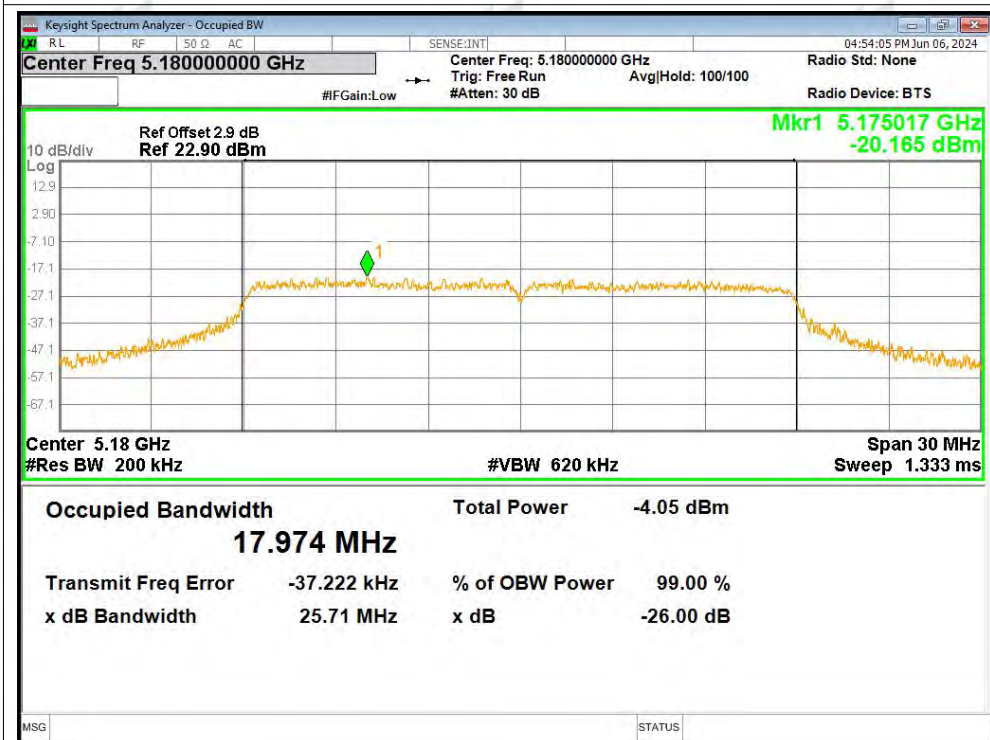
OBW NVNT n40 5190MHz Ant1



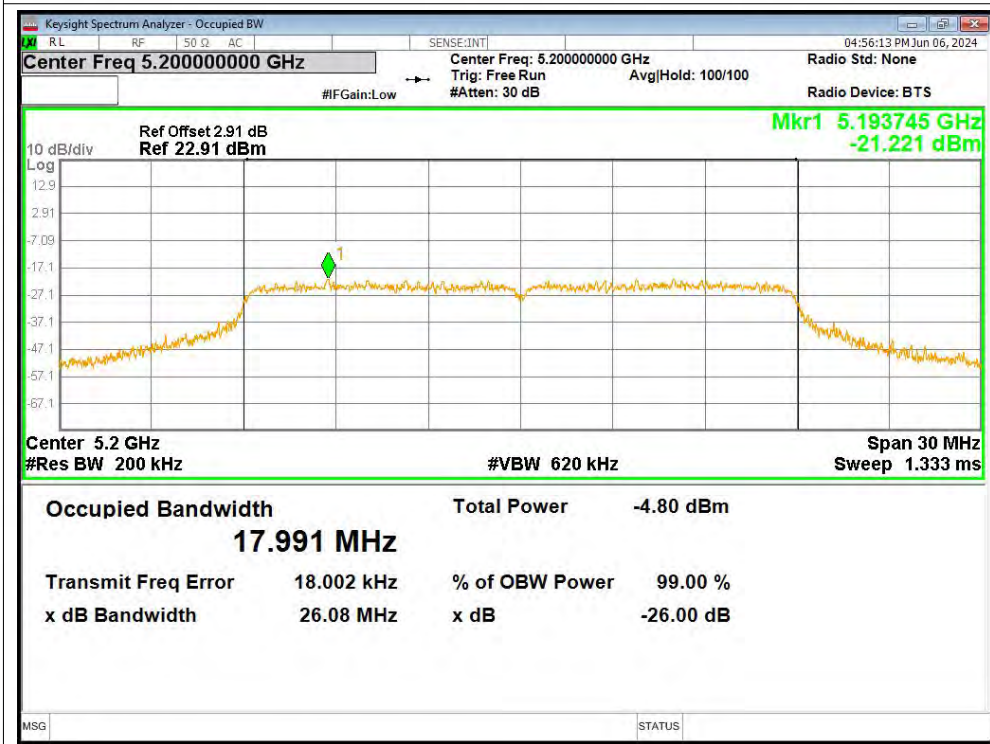
OBW NVNT n40 5230MHz Ant1



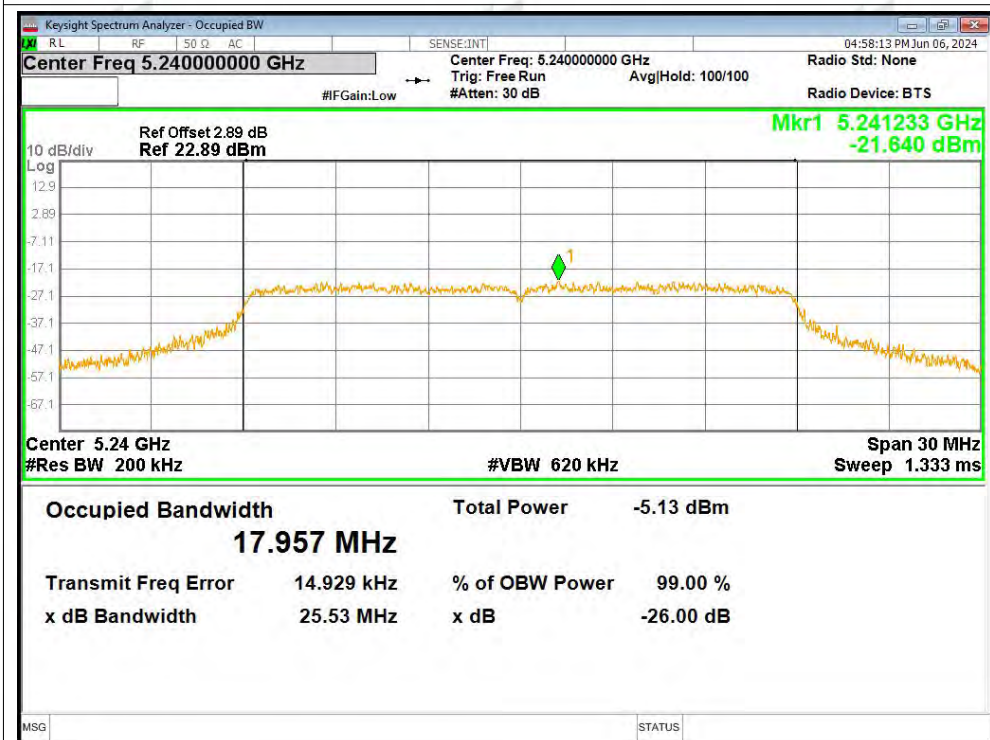
OBW NVNT ac20 5180MHz Ant1



OBW NVNT ac20 5200MHz Ant1

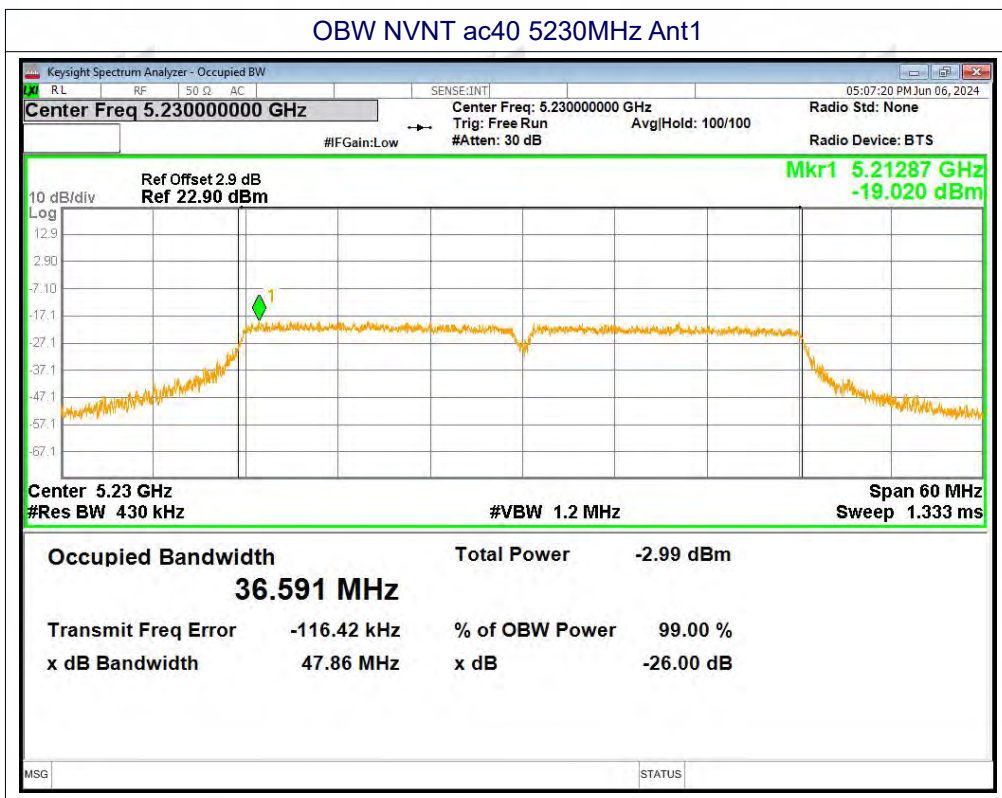


OBW NVNT ac20 5240MHz Ant1



OBW NVNT ac40 5190MHz Ant1





B5. Maximum Power Spectral Density Level

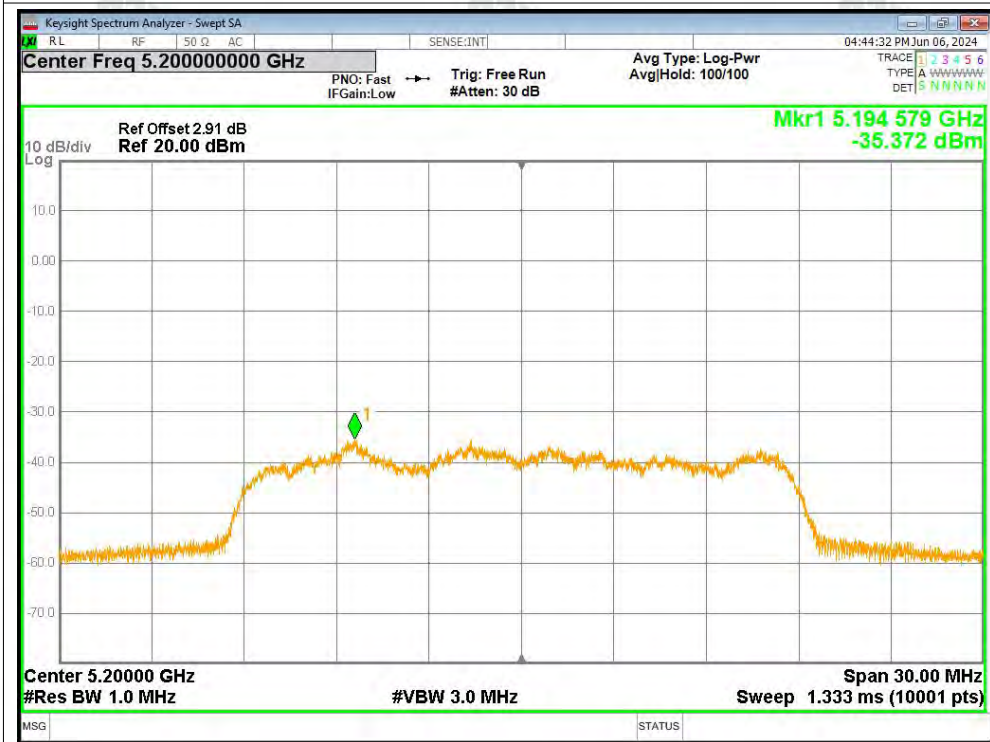
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-30.87	2.51	-28.36	11	Pass
NVNT	a	5200	Ant1	-35.37	1.43	-33.94	11	Pass
NVNT	a	5240	Ant1	-31.4	2.53	-28.87	11	Pass
NVNT	n20	5180	Ant1	-23.62	0.35	-23.27	11	Pass
NVNT	n20	5200	Ant1	-23.42	0.33	-23.09	11	Pass
NVNT	n20	5240	Ant1	-23.23	0.16	-23.07	11	Pass
NVNT	n40	5190	Ant1	-28.08	6.02	-22.06	11	Pass
NVNT	n40	5230	Ant1	-28.31	6.02	-22.29	11	Pass
NVNT	ac20	5180	Ant1	-23.21	0.29	-22.92	11	Pass
NVNT	ac20	5200	Ant1	-24.09	0.11	-23.98	11	Pass
NVNT	ac20	5240	Ant1	-23.51	0.29	-23.22	11	Pass
NVNT	ac40	5190	Ant1	-25.1	0	-25.1	11	Pass
NVNT	ac40	5230	Ant1	-25.71	0.87	-24.84	11	Pass

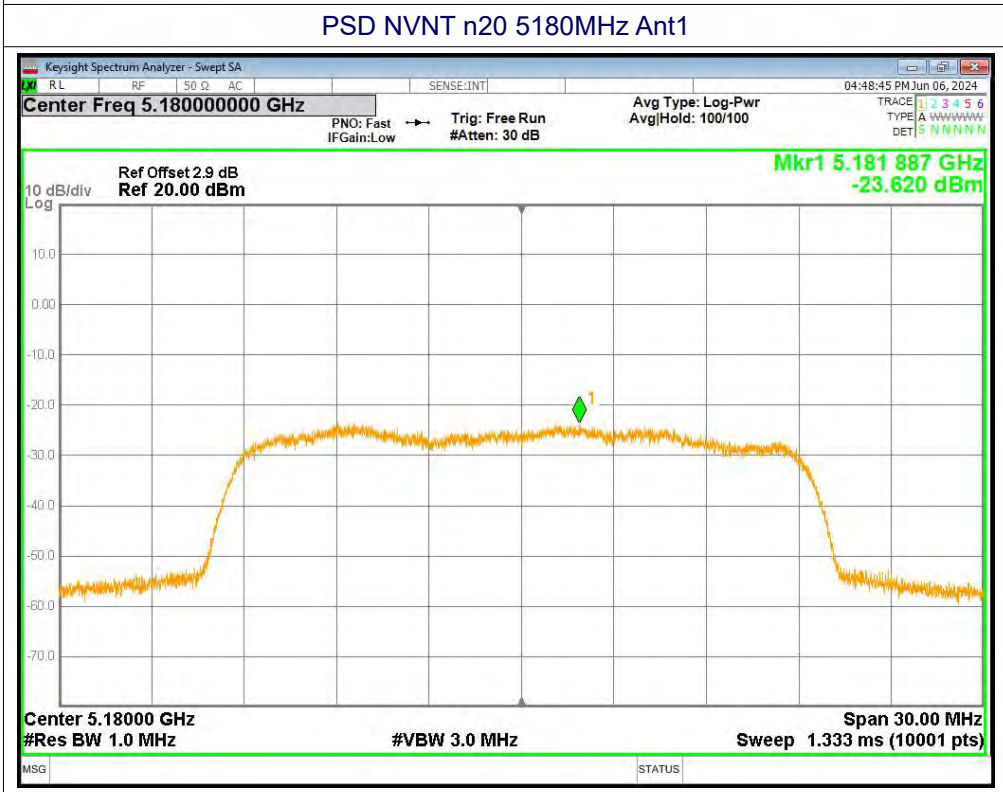
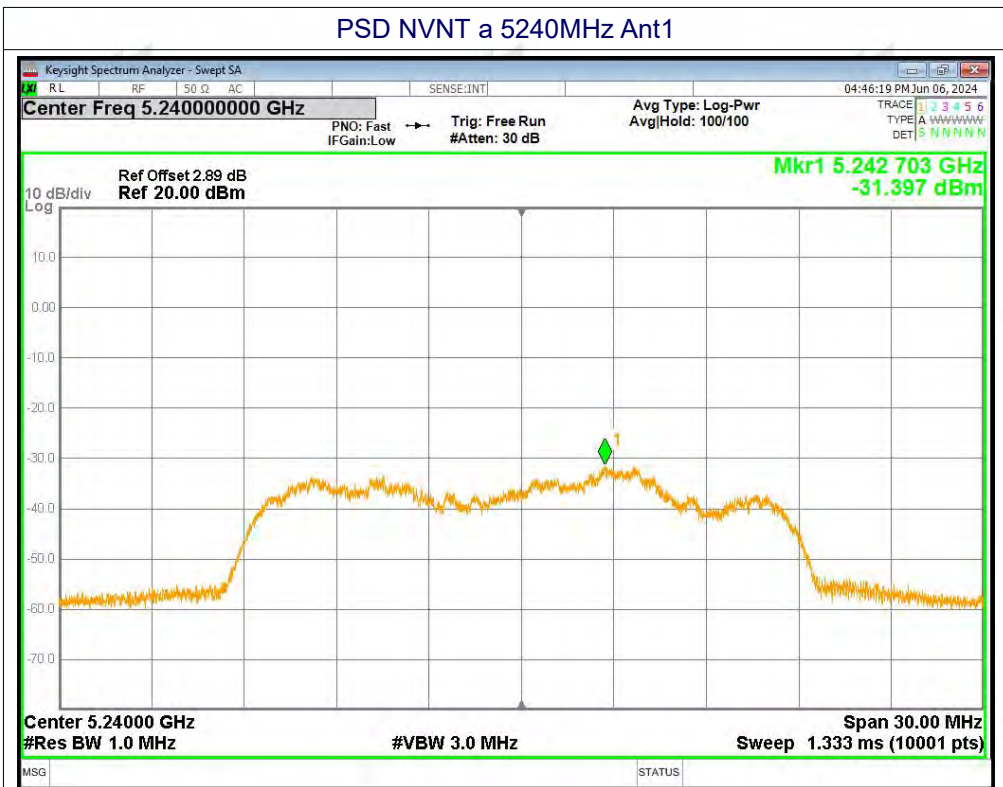
Test Graphs

PSD NVNT a 5180MHz Ant1

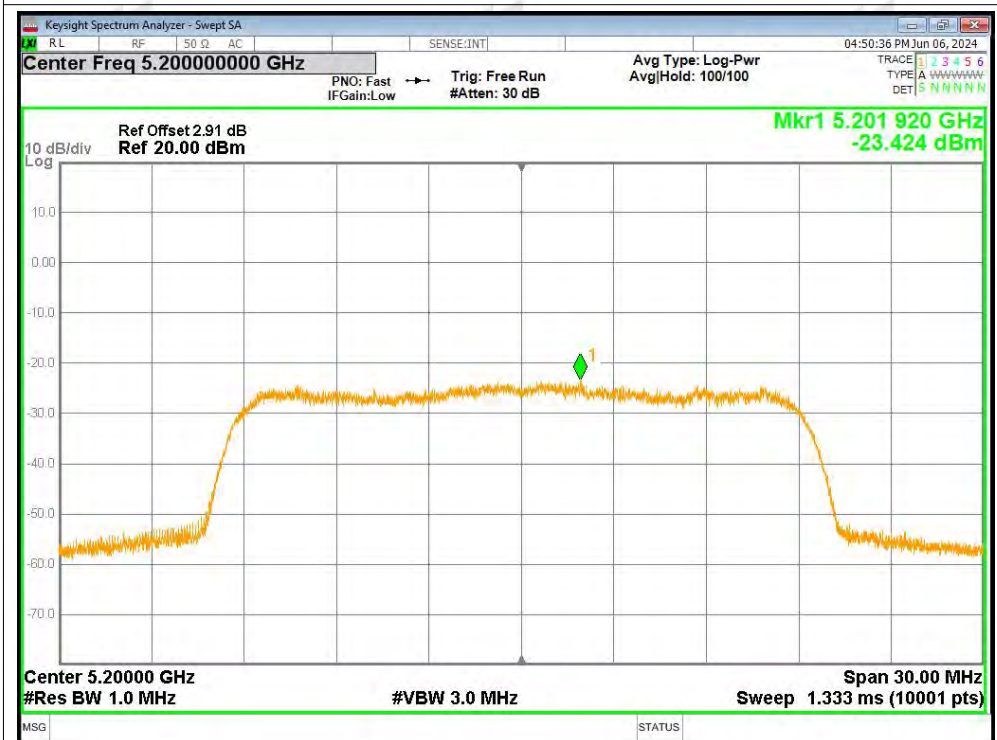


PSD NVNT a 5200MHz Ant1

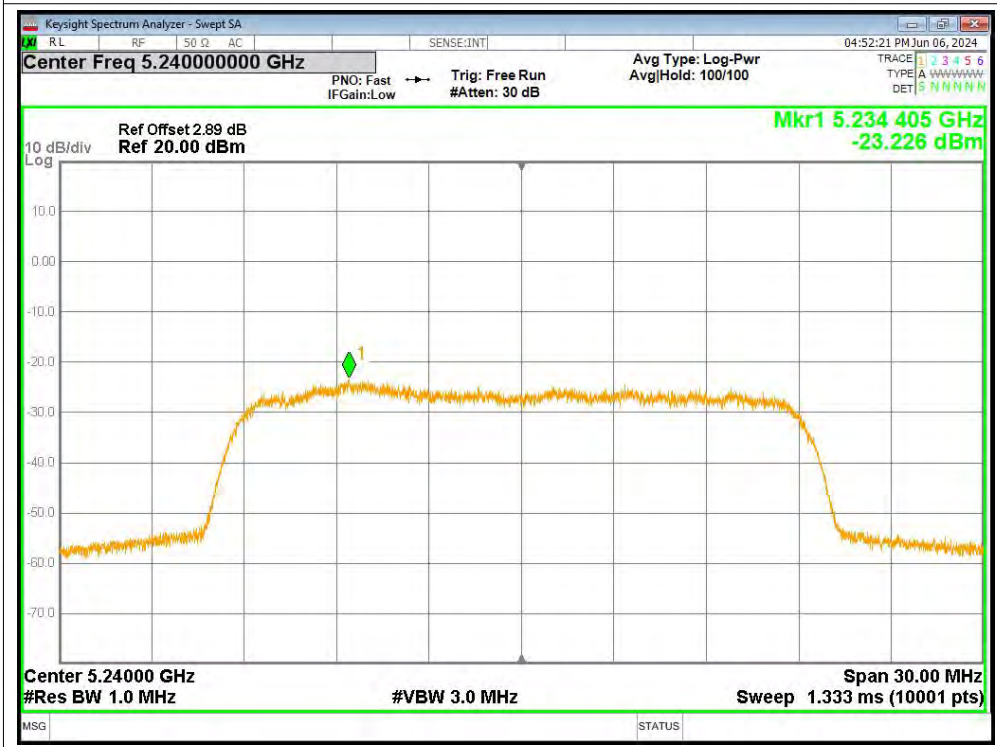




PSD NVNT n20 5200MHz Ant1



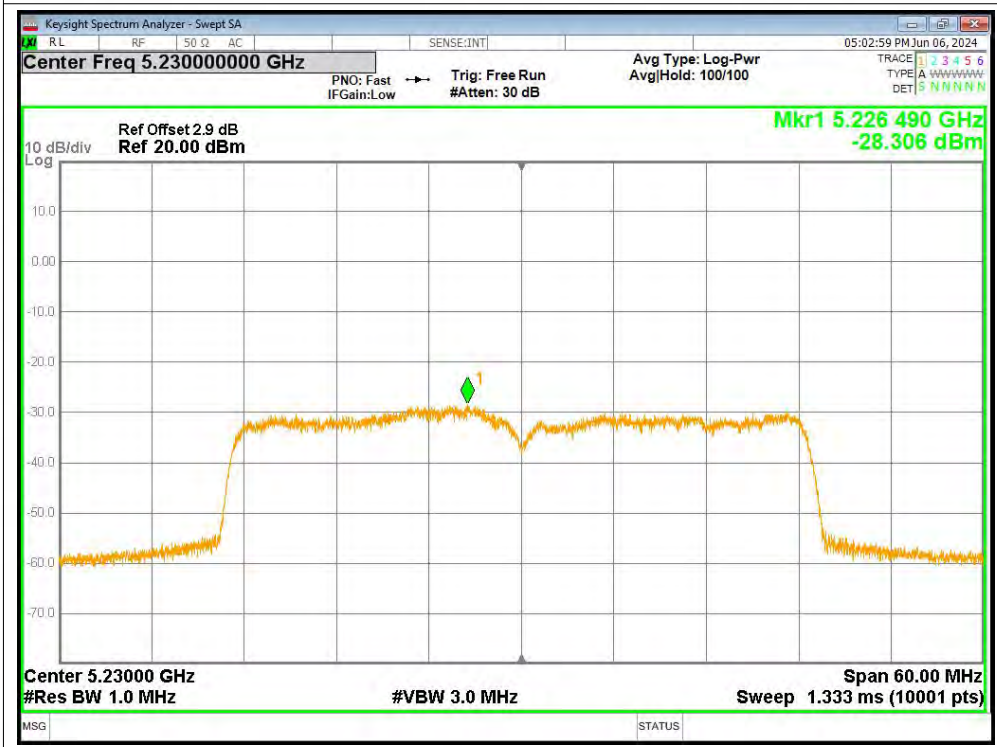
PSD NVNT n20 5240MHz Ant1



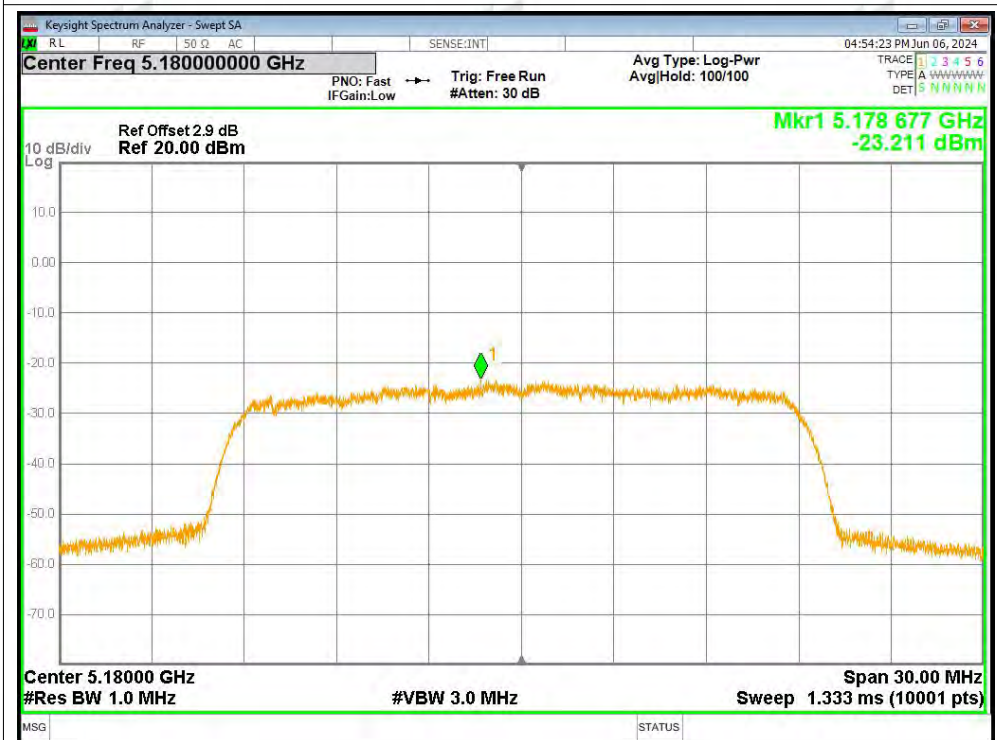
PSD NVNT n40 5190MHz Ant1



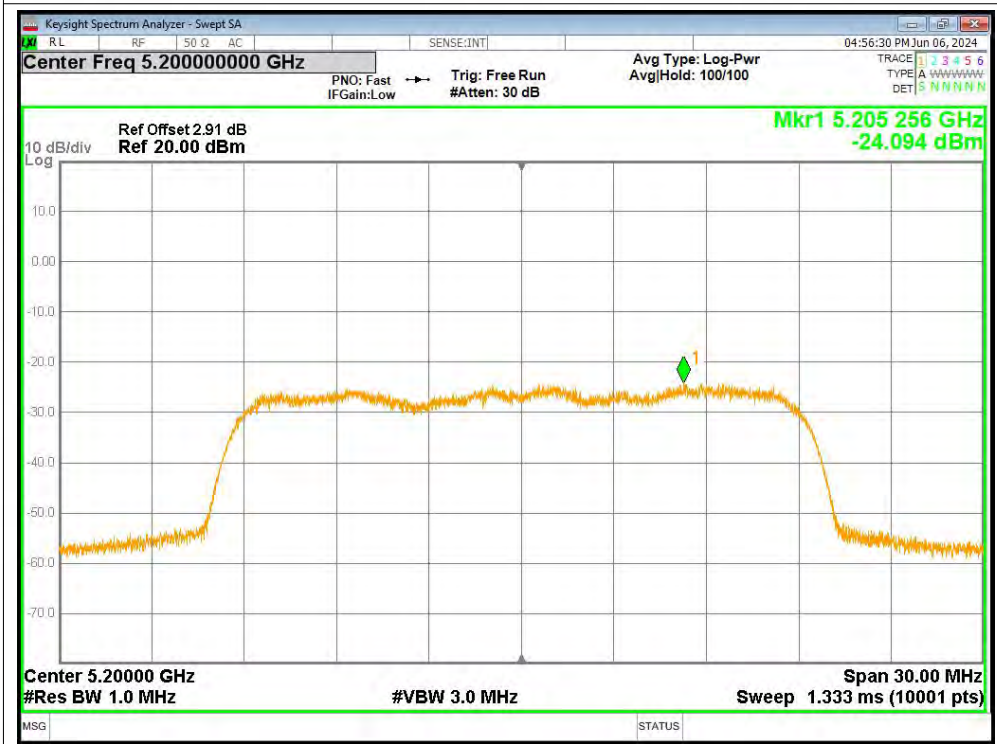
PSD NVNT n40 5230MHz Ant1



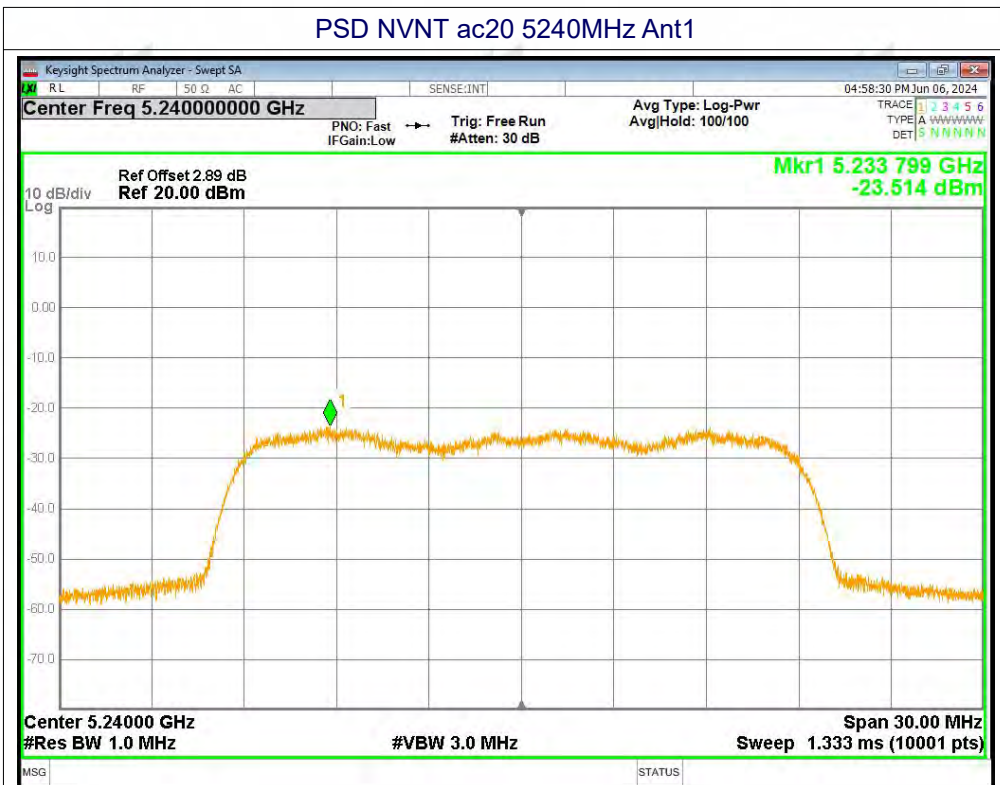
PSD NVNT ac20 5180MHz Ant1



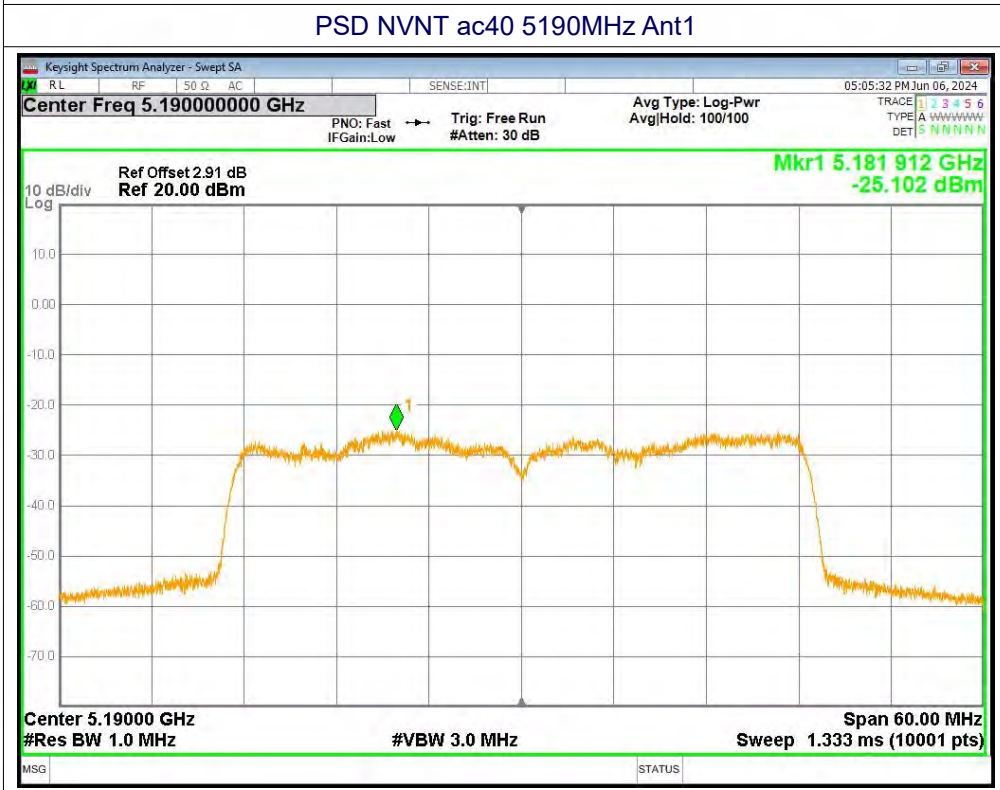
PSD NVNT ac20 5200MHz Ant1

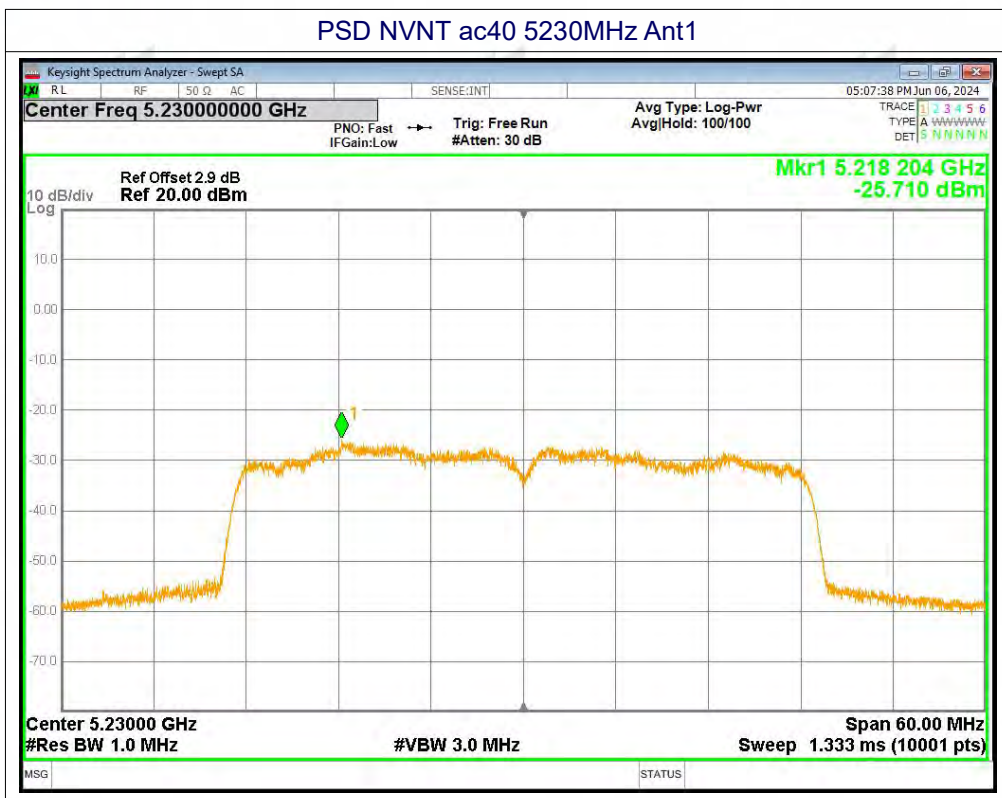


PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1



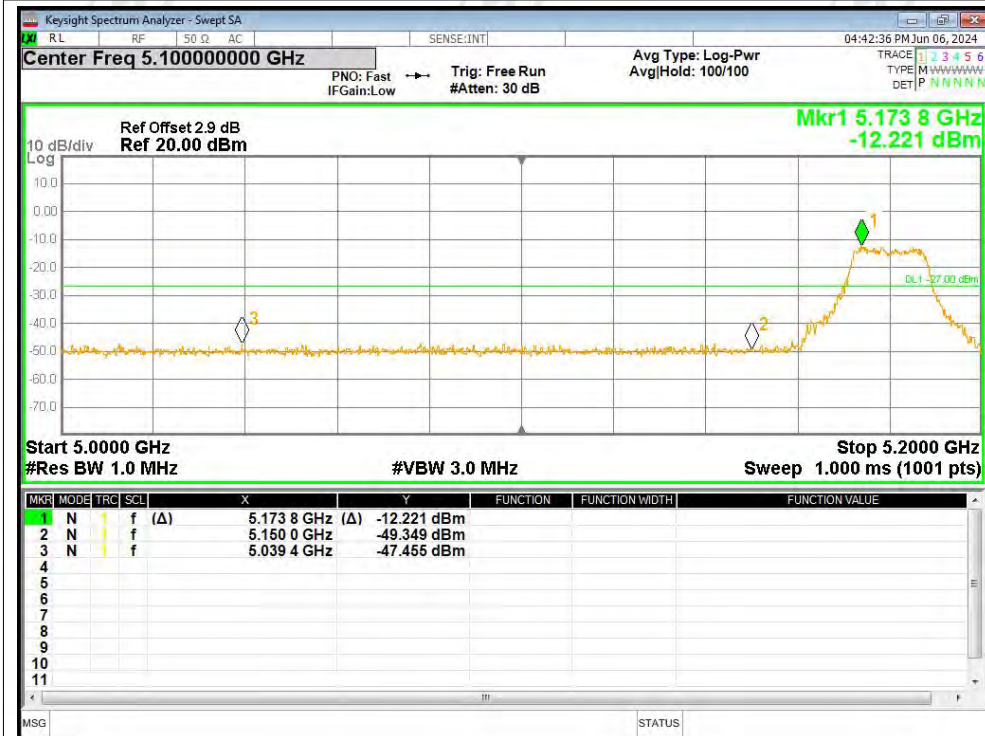


**B6. Band Edge**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-47.45	-27	Pass
NVNT	a	5240	Ant1	-46.64	-27	Pass
NVNT	n20	5180	Ant1	-47.33	-27	Pass
NVNT	n20	5240	Ant1	-45.48	-27	Pass
NVNT	n40	5190	Ant1	-46.16	-27	Pass
NVNT	n40	5230	Ant1	-46.79	-27	Pass
NVNT	ac20	5180	Ant1	-46.97	-27	Pass
NVNT	ac20	5240	Ant1	-45.51	-27	Pass
NVNT	ac40	5190	Ant1	-46.23	-27	Pass
NVNT	ac40	5230	Ant1	-45.96	-27	Pass

Test Graphs

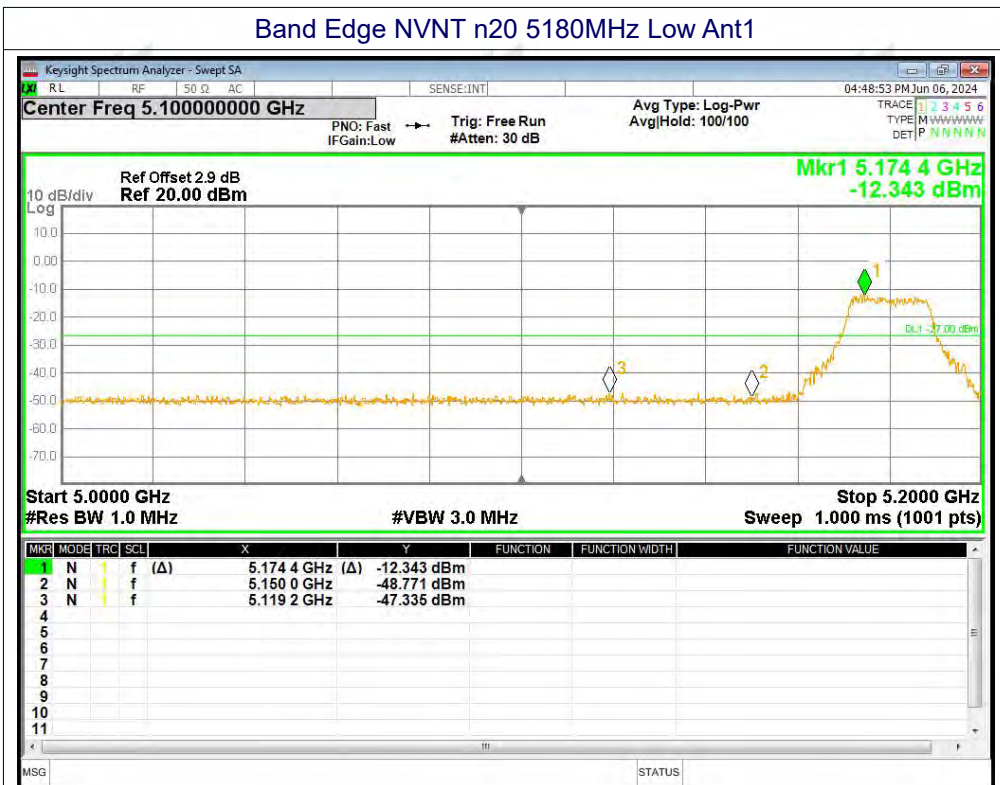
Band Edge NVNT a 5180MHz Low Ant1



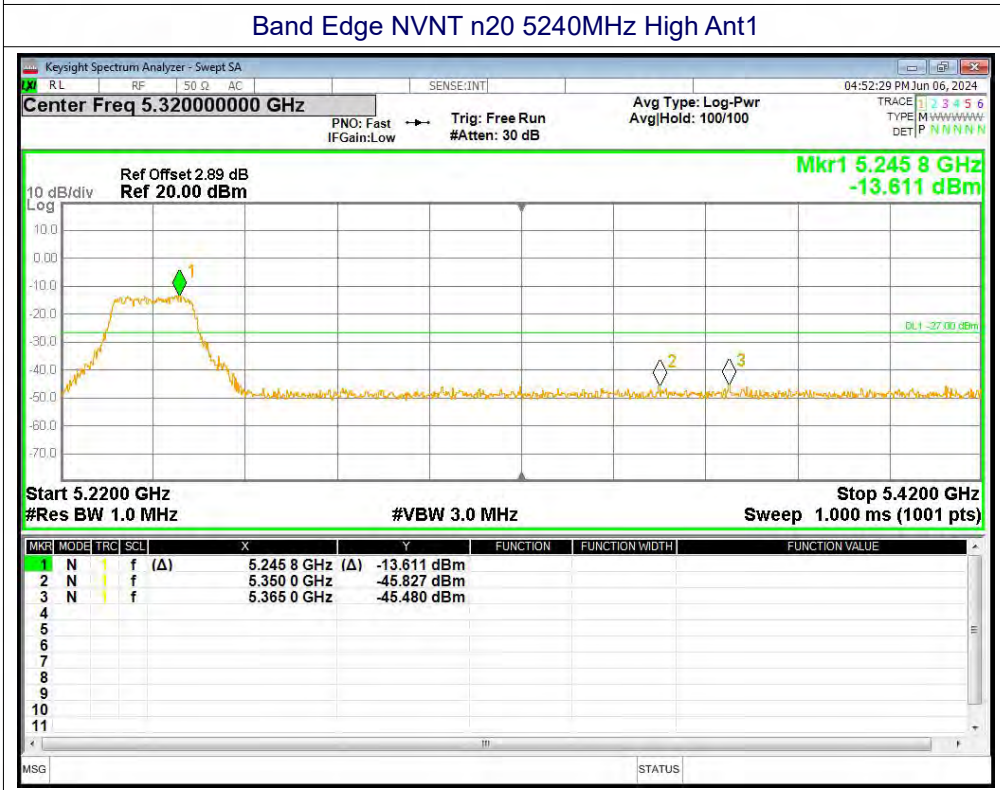
Band Edge NVNT a 5240MHz High Ant1



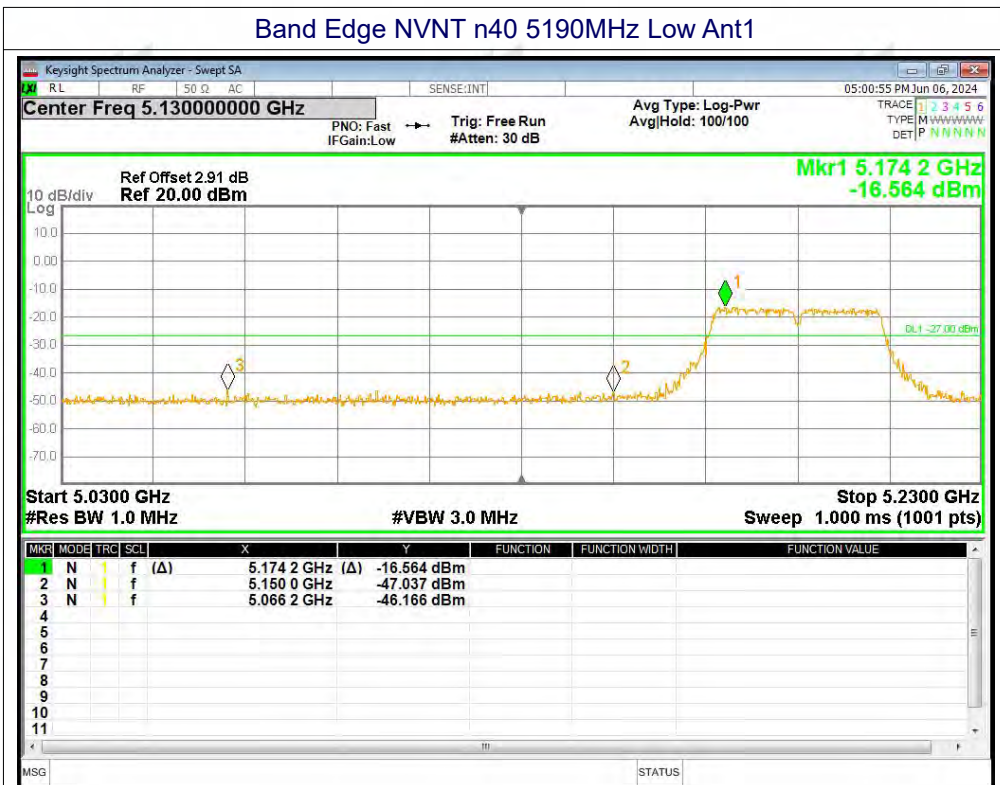
Band Edge NVNT n20 5180MHz Low Ant1



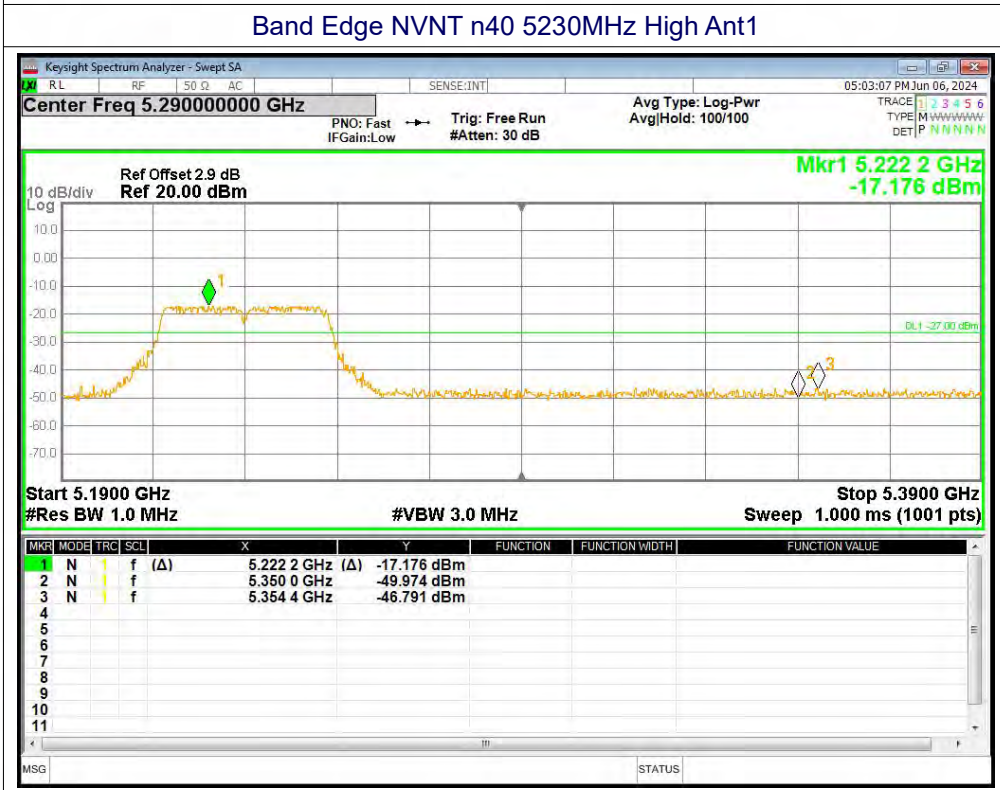
Band Edge NVNT n20 5240MHz High Ant1



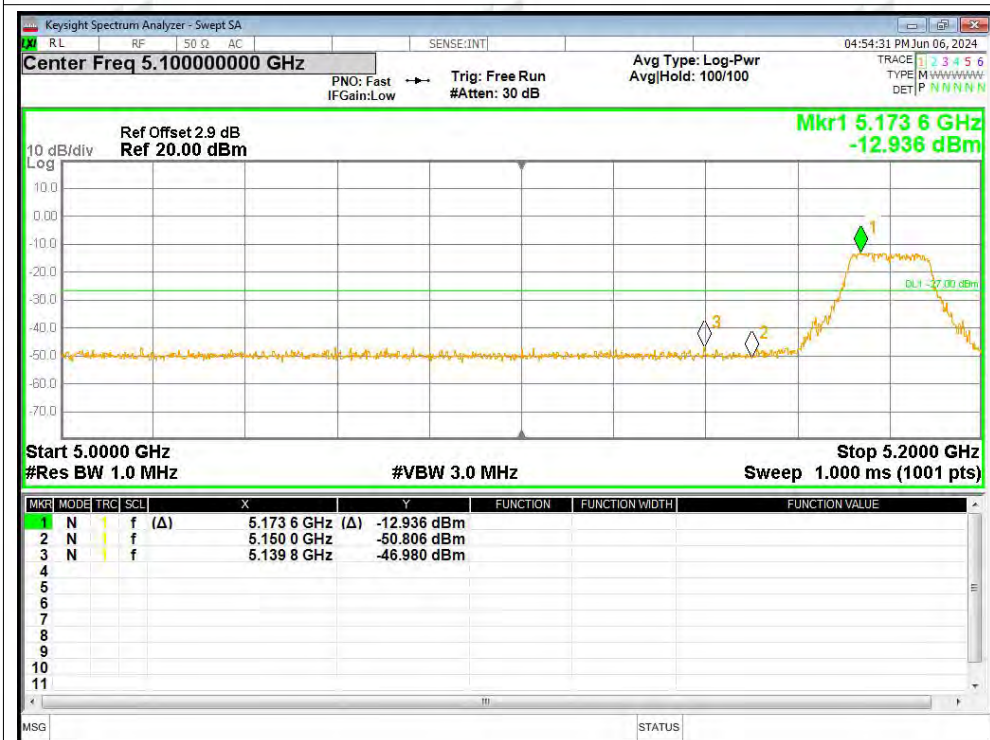
Band Edge NVNT n40 5190MHz Low Ant1



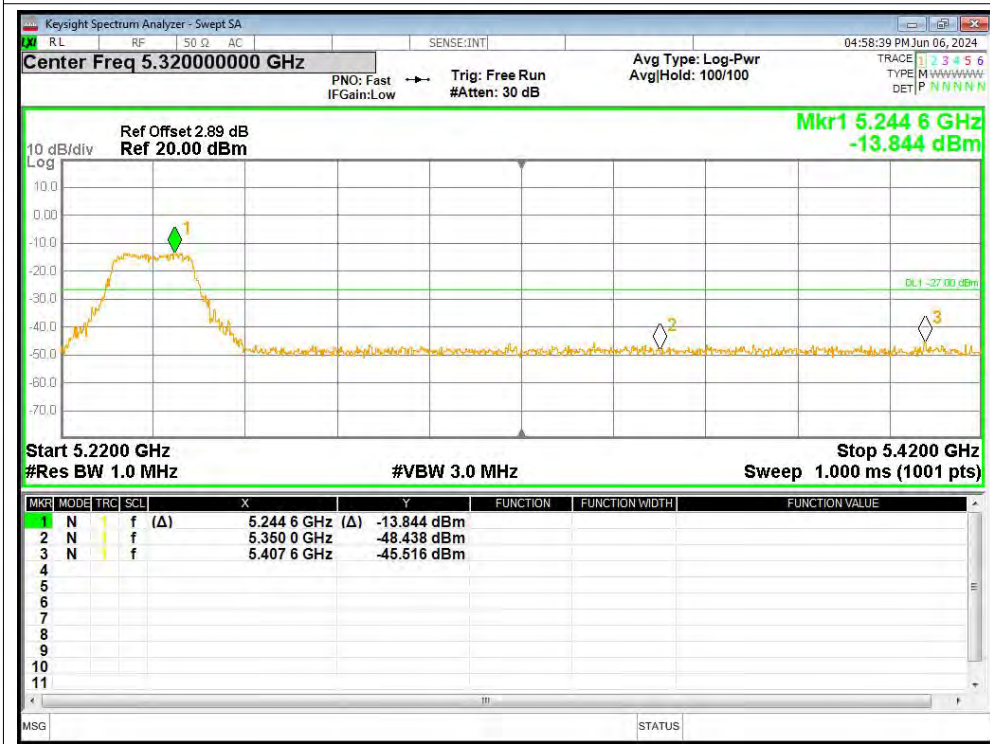
Band Edge NVNT n40 5230MHz High Ant1



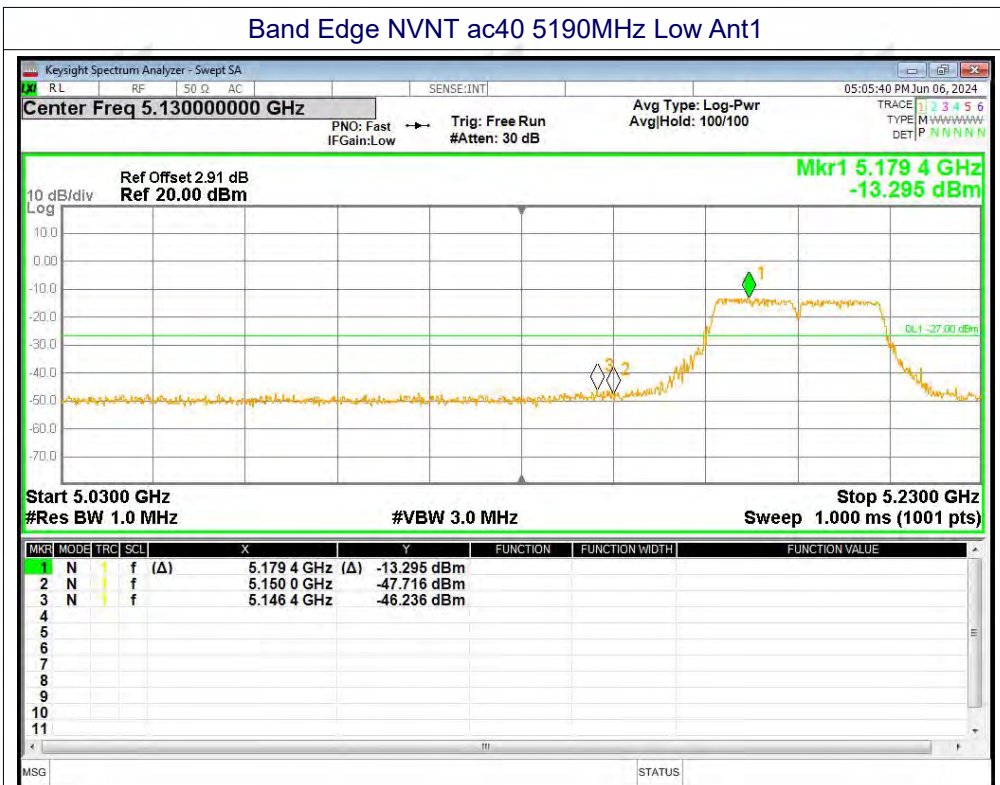
Band Edge NVNT ac20 5180MHz Low Ant1



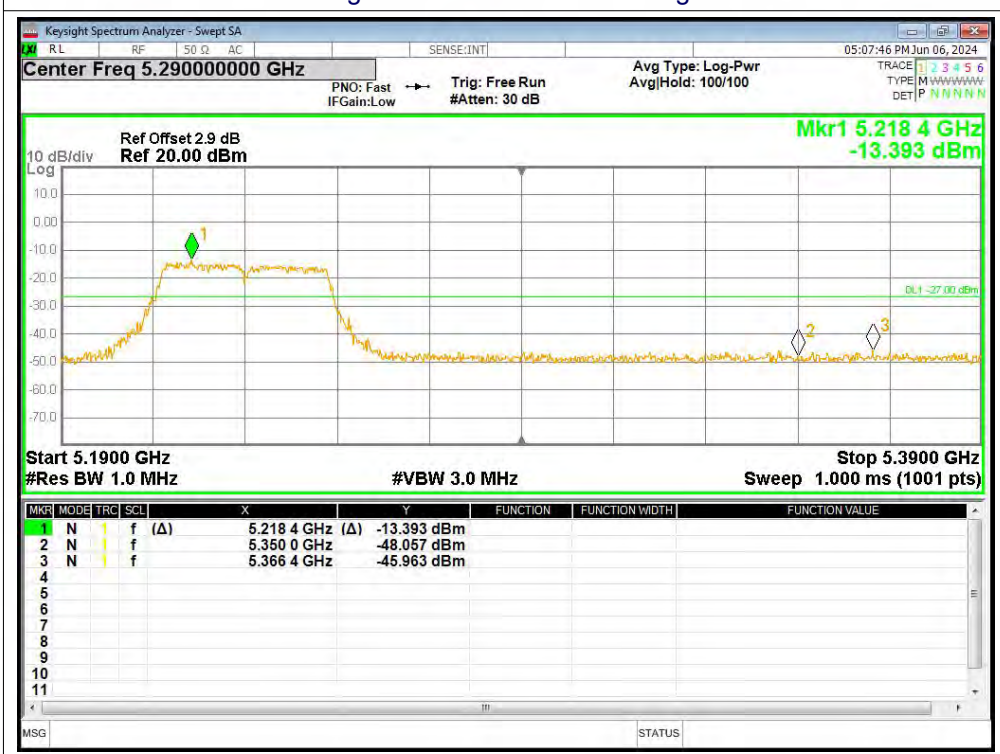
Band Edge NVNT ac20 5240MHz High Ant1



Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1

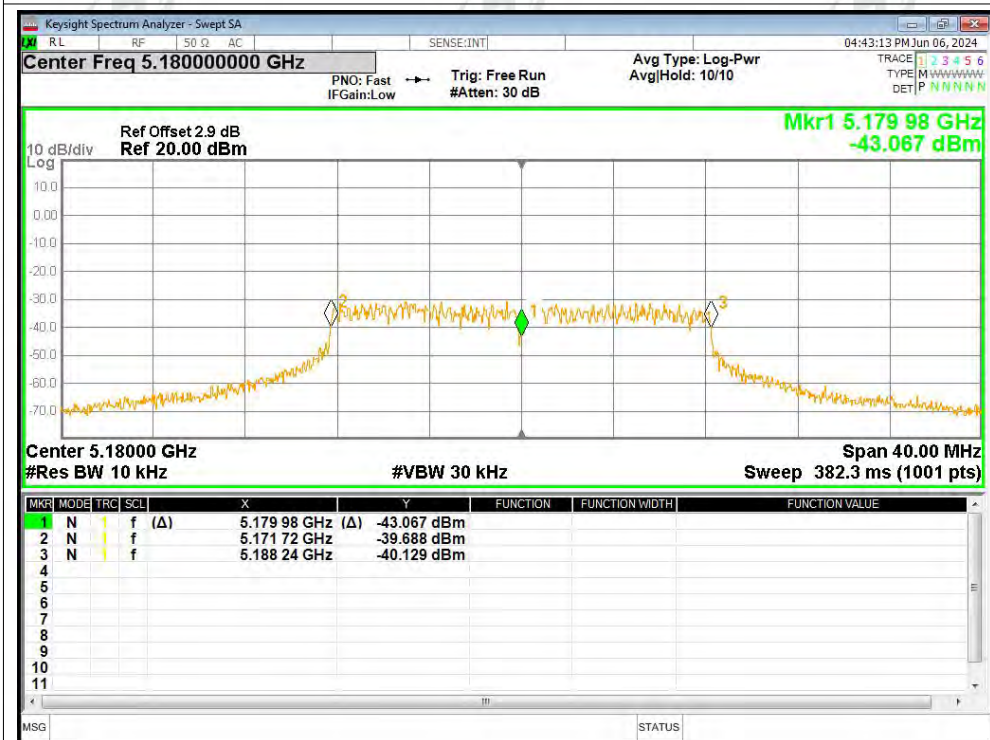


B7. Frequency Stability

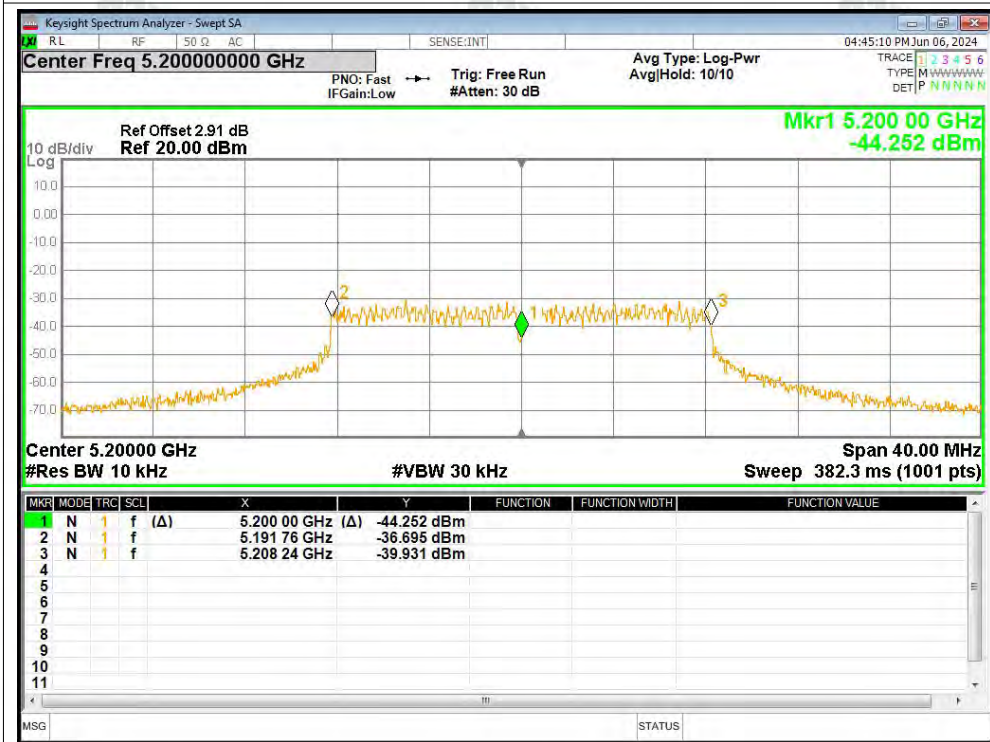
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	a	5200	Ant1	5200	0	0	25	Pass
NVNT	a	5240	Ant1	5240	0	0	25	Pass
NVNT	n20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	n20	5200	Ant1	5199.98	-20000	-3.85	25	Pass
NVNT	n20	5240	Ant1	5240	0	0	25	Pass
NVNT	n40	5190	Ant1	5189.96	-40000	-7.71	25	Pass
NVNT	n40	5230	Ant1	5230	0	0	25	Pass
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	5229.96	-40000	-7.65	25	Pass

Test Graphs

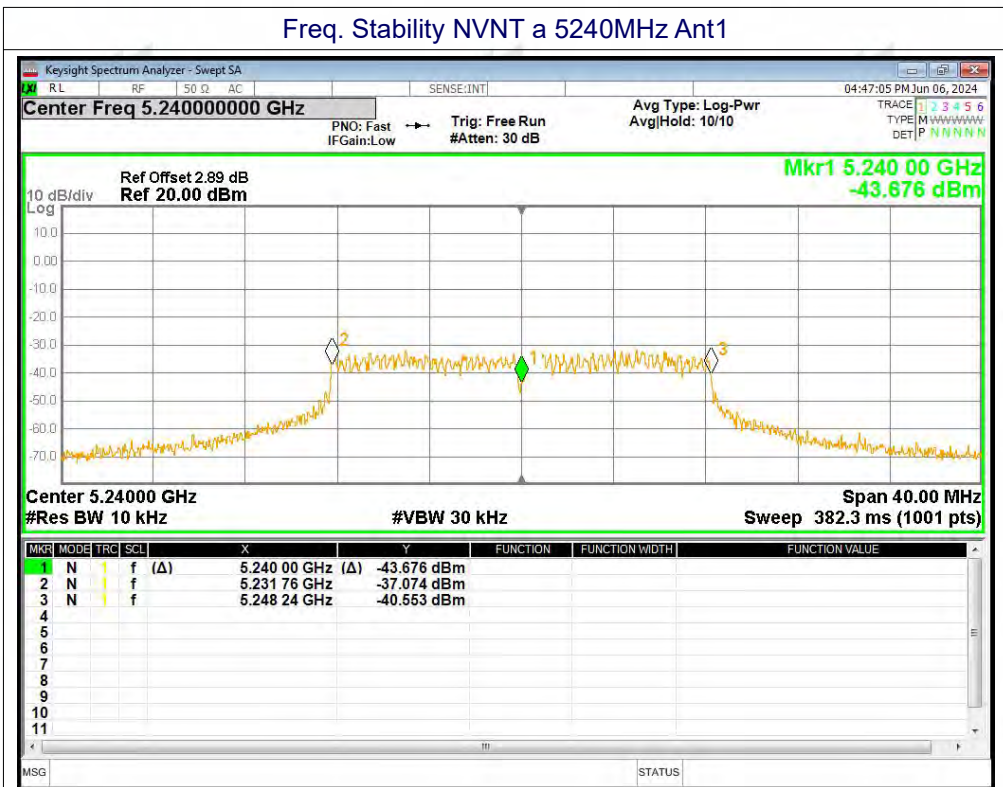
Freq. Stability NVNT a 5180MHz Ant1



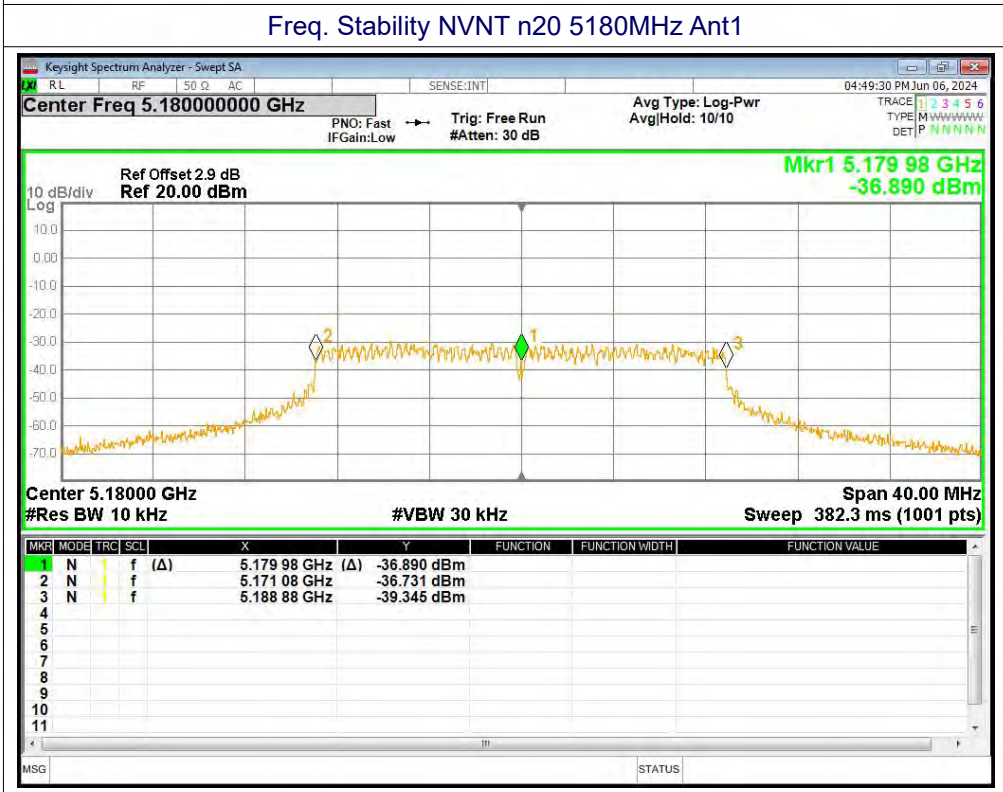
Freq. Stability NVNT a 5200MHz Ant1



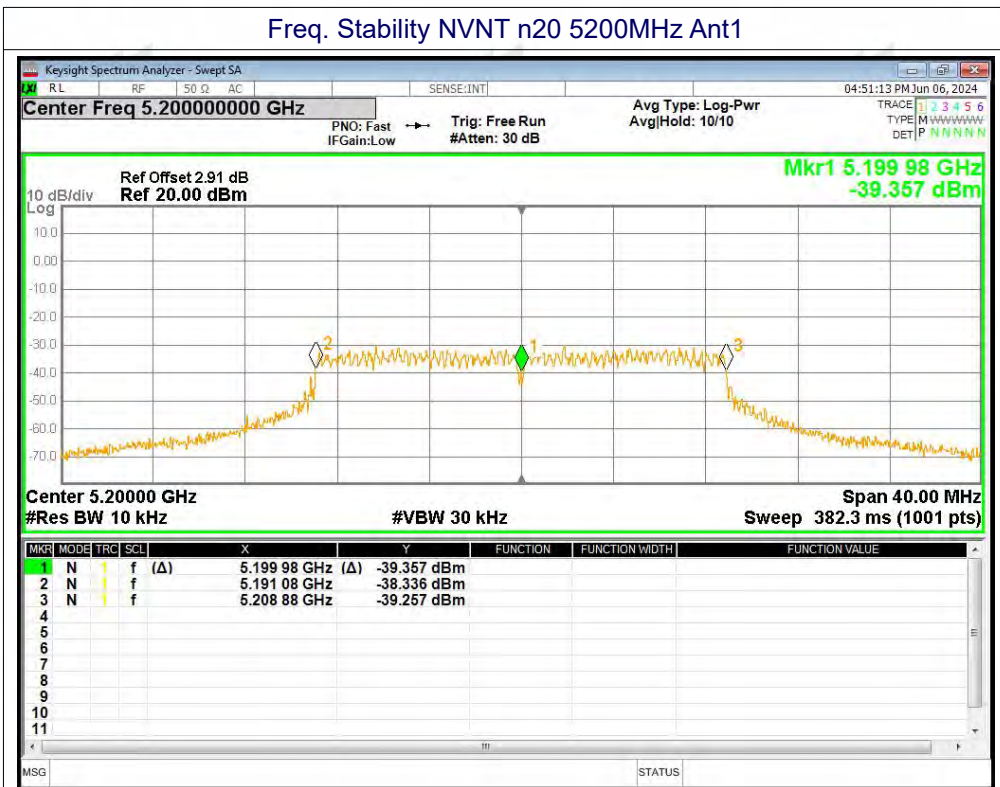
Freq. Stability NVNT a 5240MHz Ant1



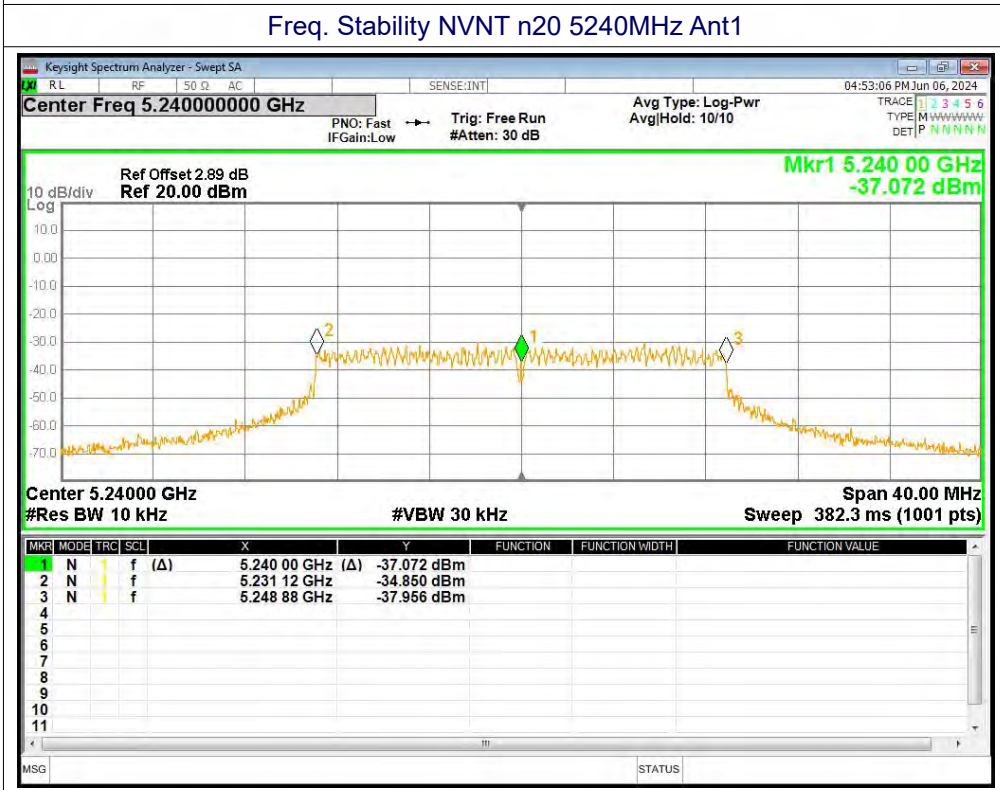
Freq. Stability NVNT n20 5180MHz Ant1



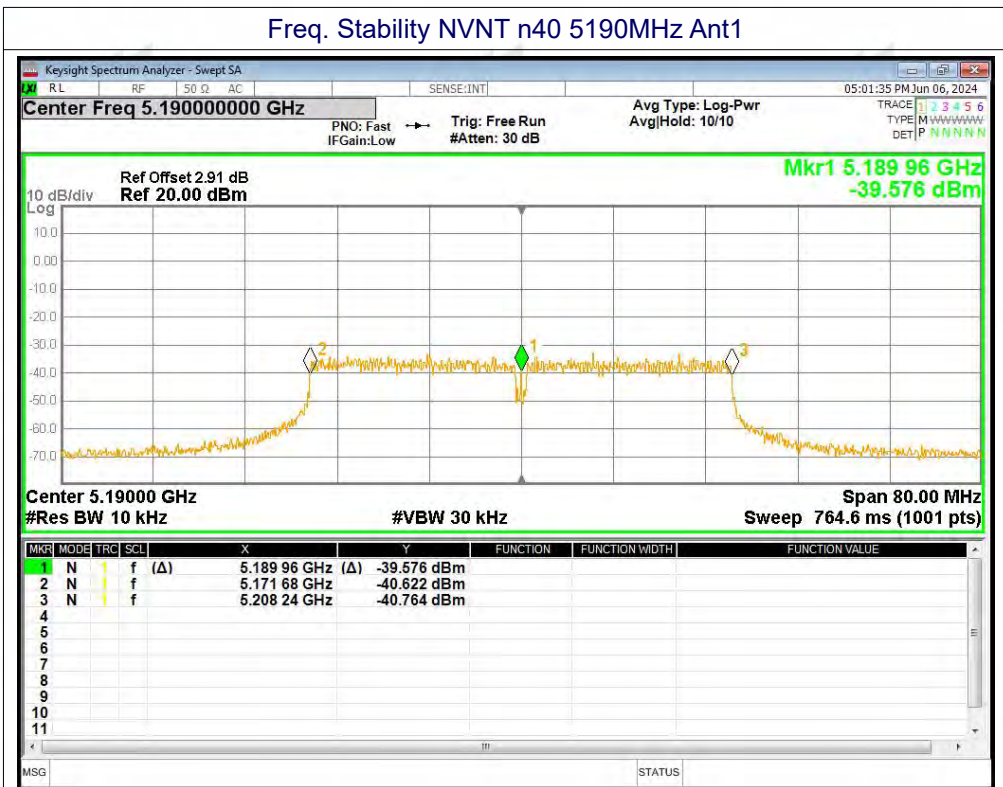
Freq. Stability NVNT n20 5200MHz Ant1



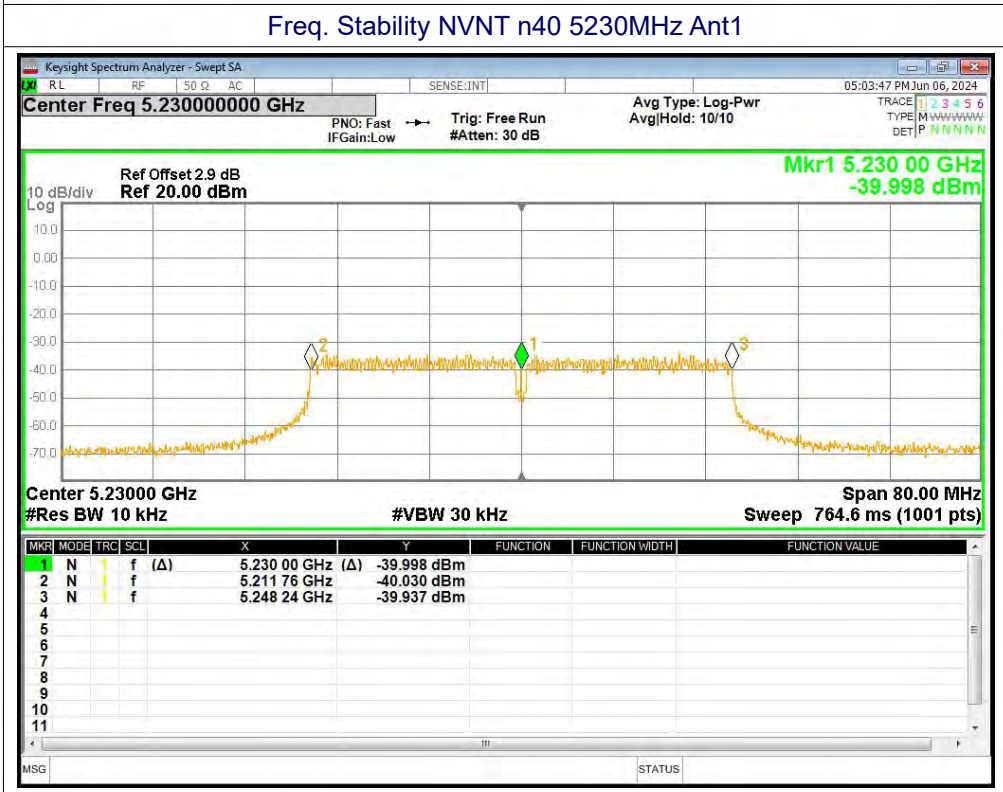
Freq. Stability NVNT n20 5240MHz Ant1



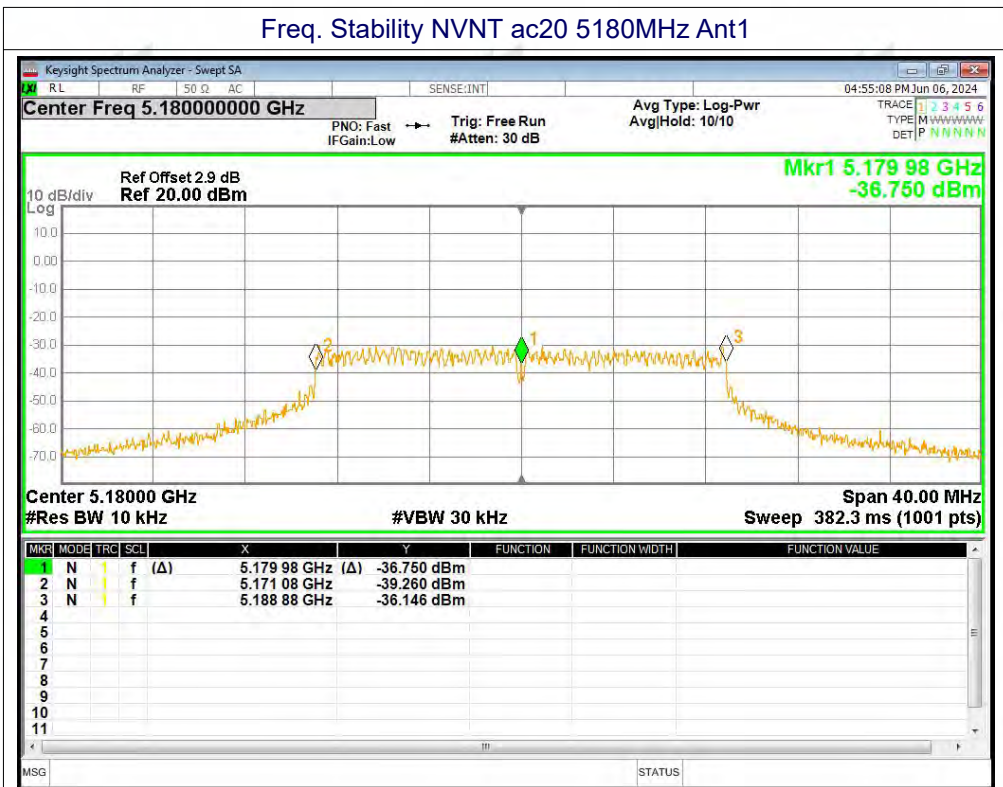
Freq. Stability NVNT n40 5190MHz Ant1



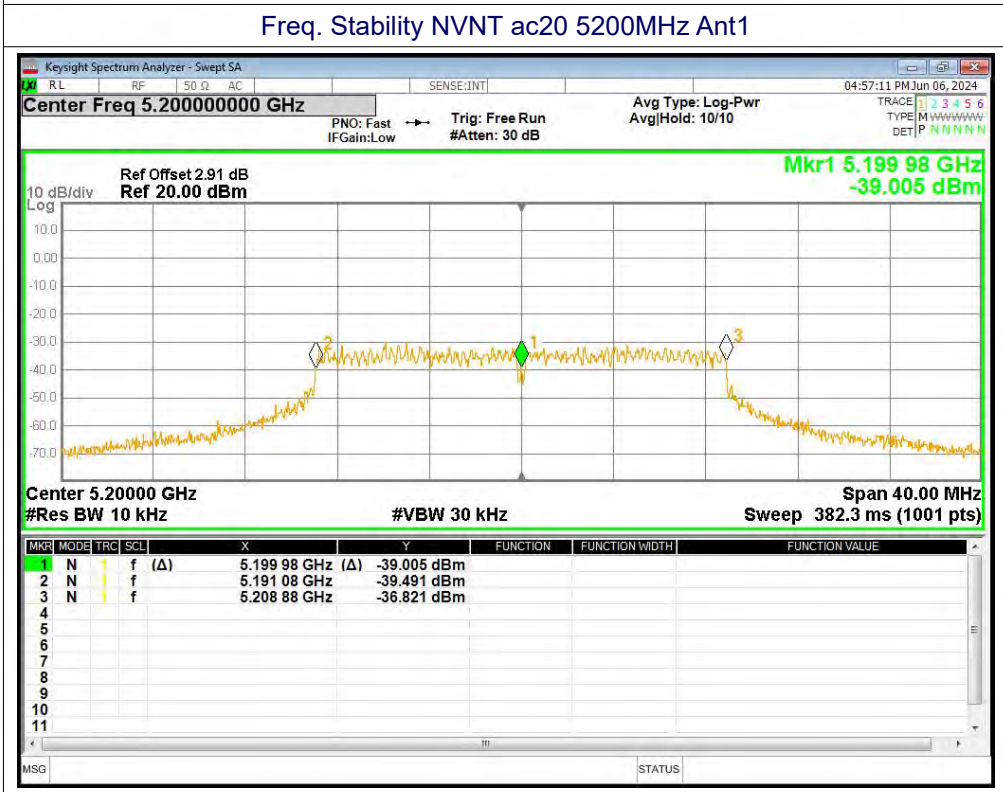
Freq. Stability NVNT n40 5230MHz Ant1



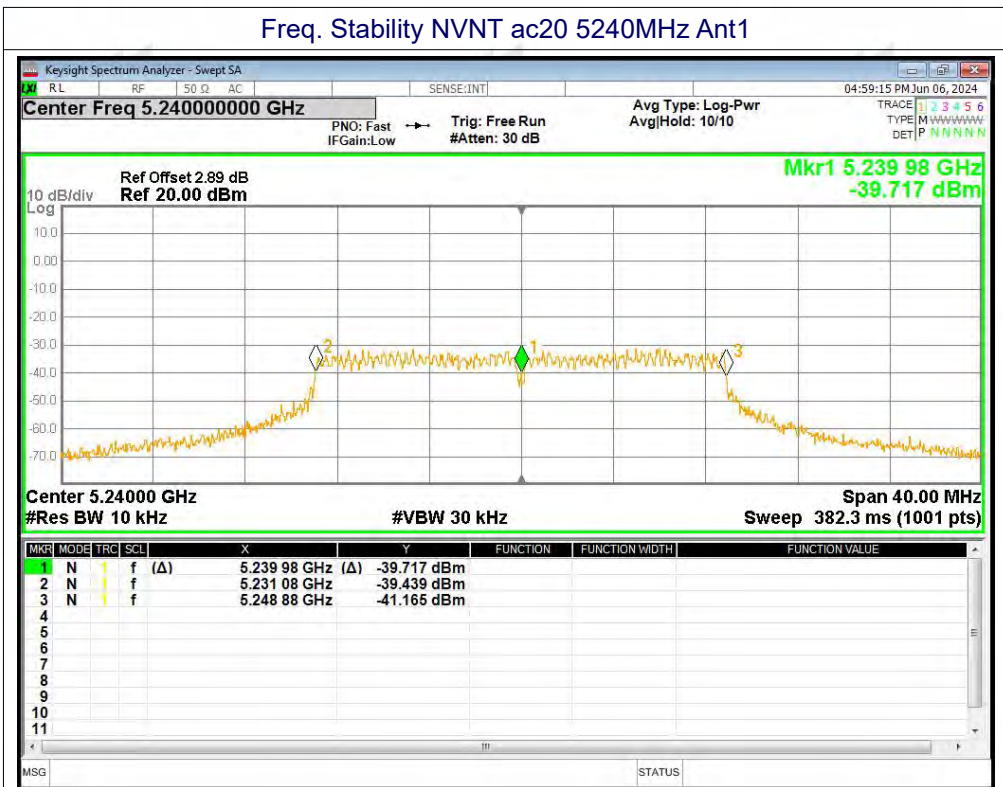
Freq. Stability NVNT ac20 5180MHz Ant1



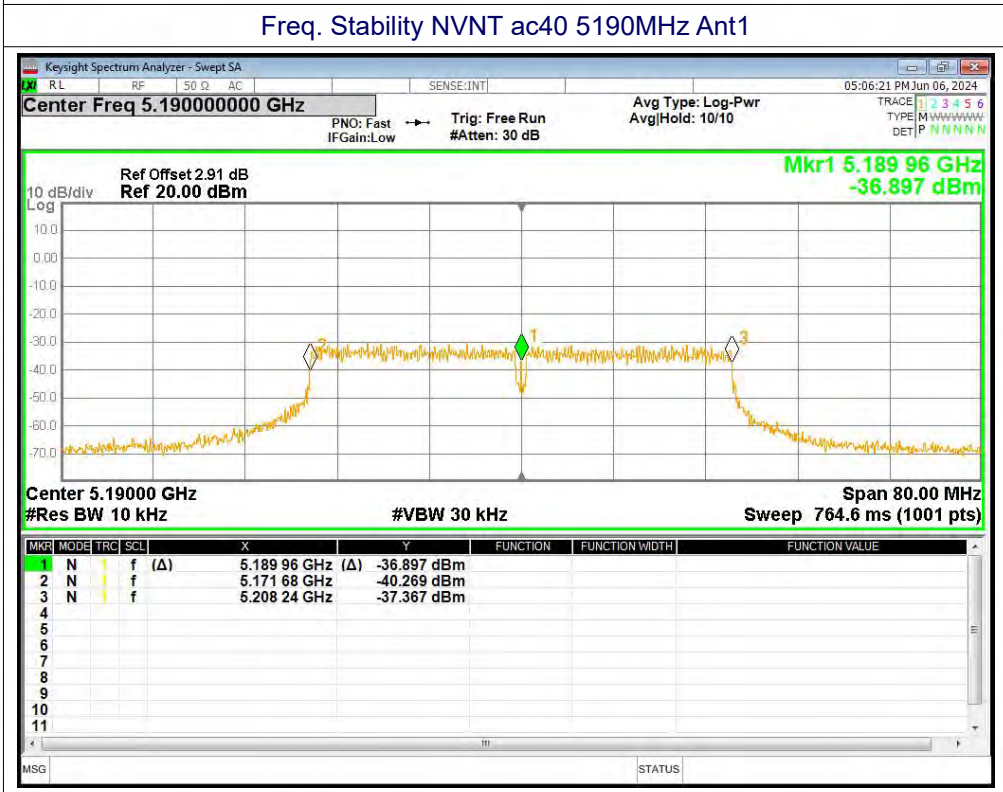
Freq. Stability NVNT ac20 5200MHz Ant1

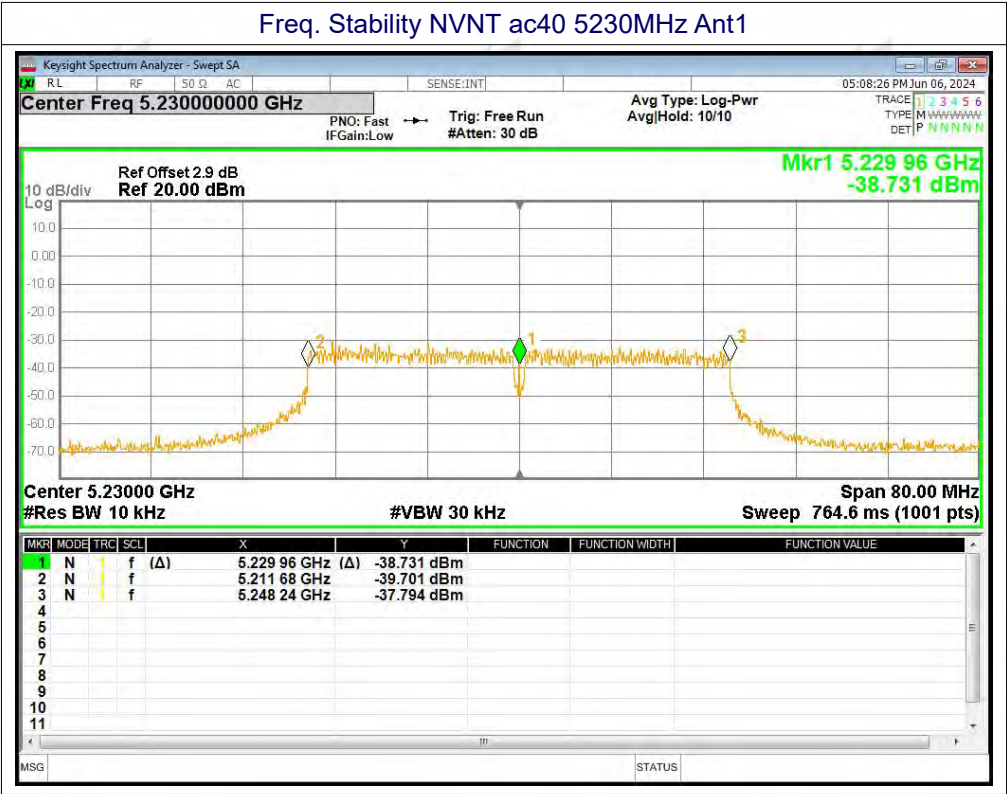


Freq. Stability NVNT ac20 5240MHz Ant1



Freq. Stability NVNT ac40 5190MHz Ant1



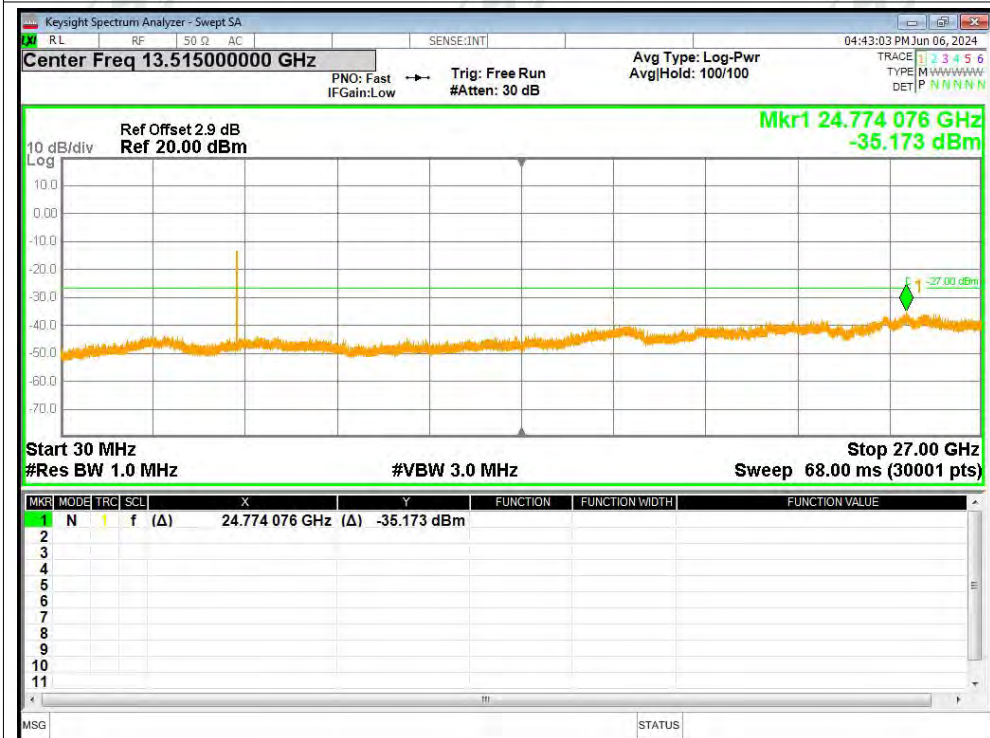


**B8. Conducted RF Spurious Emission**

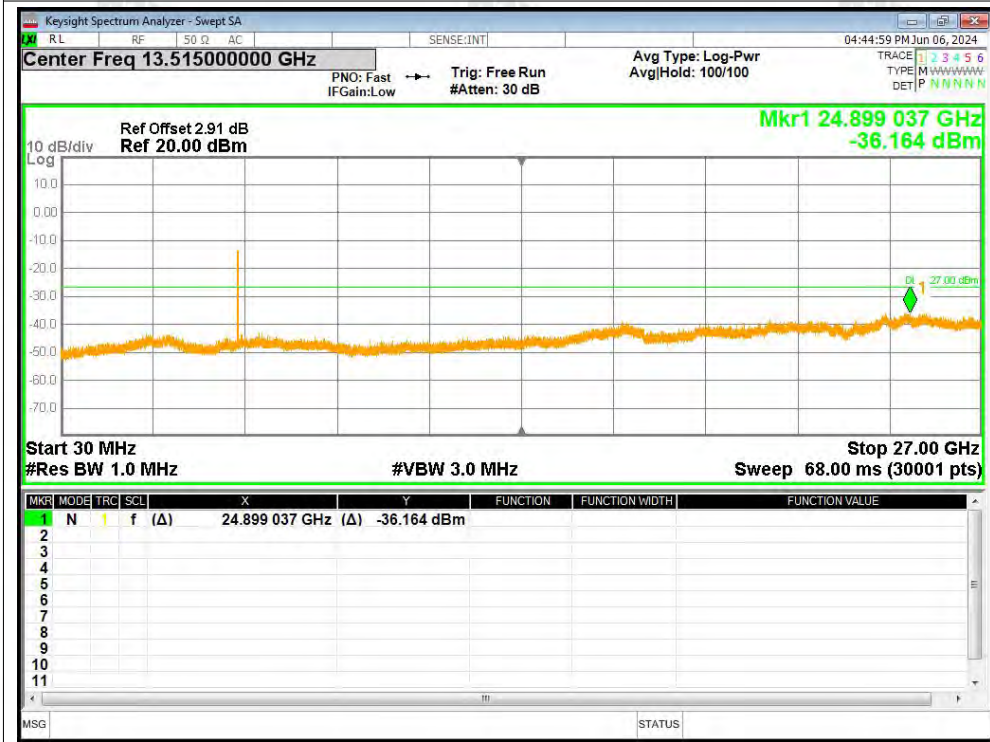
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-35.17	-27	Pass
NVNT	a	5200	Ant1	-36.16	-27	Pass
NVNT	a	5240	Ant1	-35.17	-27	Pass
NVNT	n20	5180	Ant1	-35.19	-27	Pass
NVNT	n20	5200	Ant1	-35.36	-27	Pass
NVNT	n20	5240	Ant1	-35.49	-27	Pass
NVNT	n40	5190	Ant1	-35.9	-27	Pass
NVNT	n40	5230	Ant1	-35.81	-27	Pass
NVNT	ac20	5180	Ant1	-35.03	-27	Pass
NVNT	ac20	5200	Ant1	-35.58	-27	Pass
NVNT	ac20	5240	Ant1	-35.71	-27	Pass
NVNT	ac40	5190	Ant1	-35.79	-27	Pass
NVNT	ac40	5230	Ant1	-35.55	-27	Pass

Test Graphs

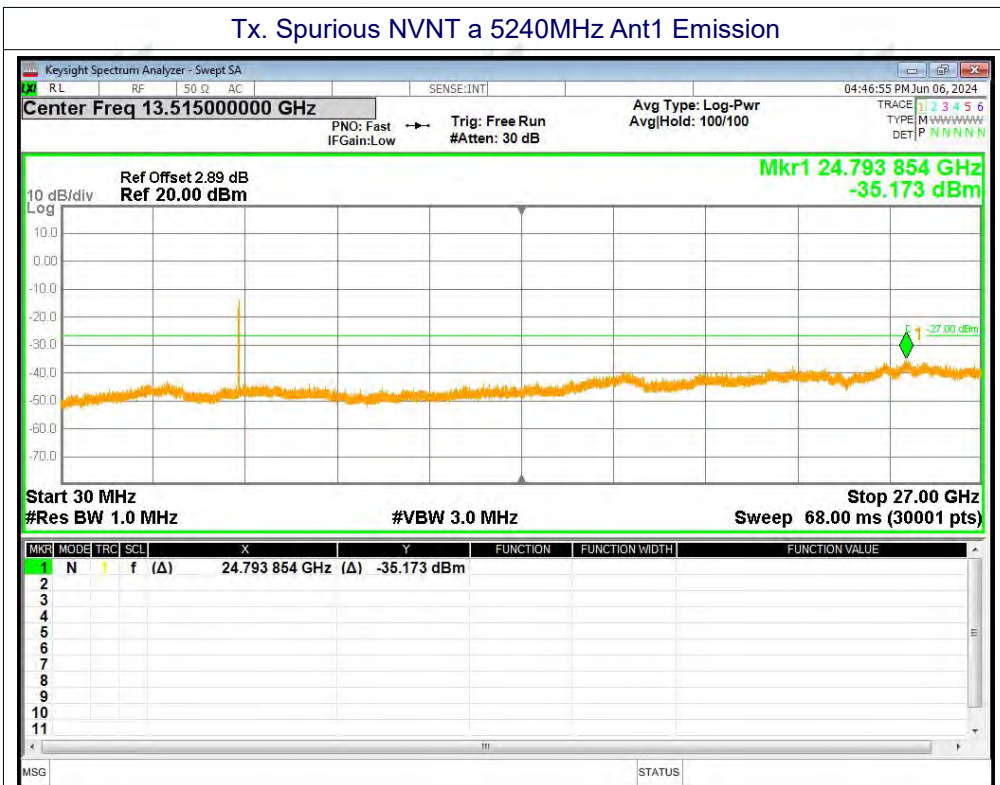
Tx. Spurious NVNT a 5180MHz Ant1 Emission



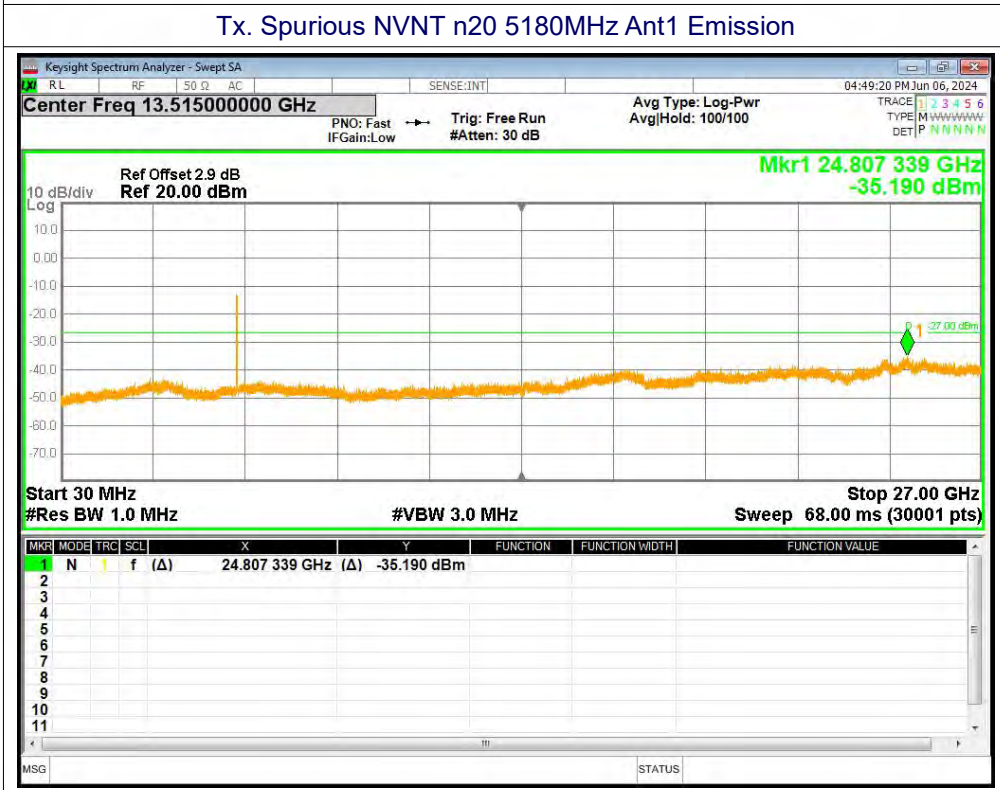
Tx. Spurious NVNT a 5200MHz Ant1 Emission



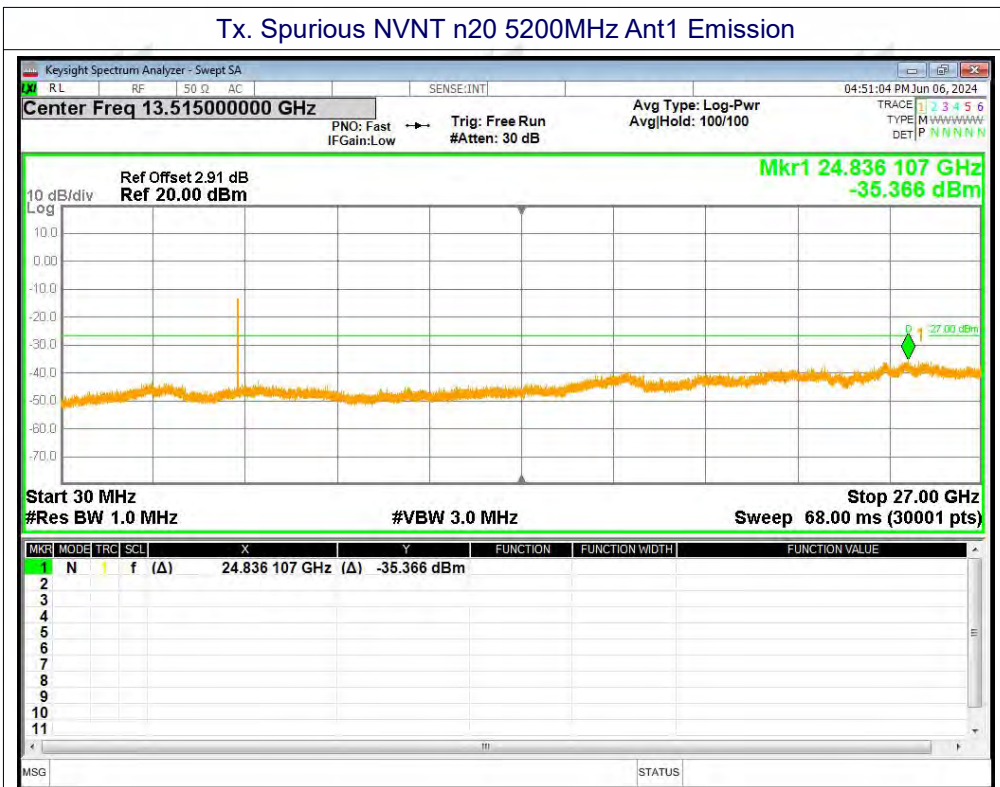
Tx. Spurious NVNT a 5240MHz Ant1 Emission



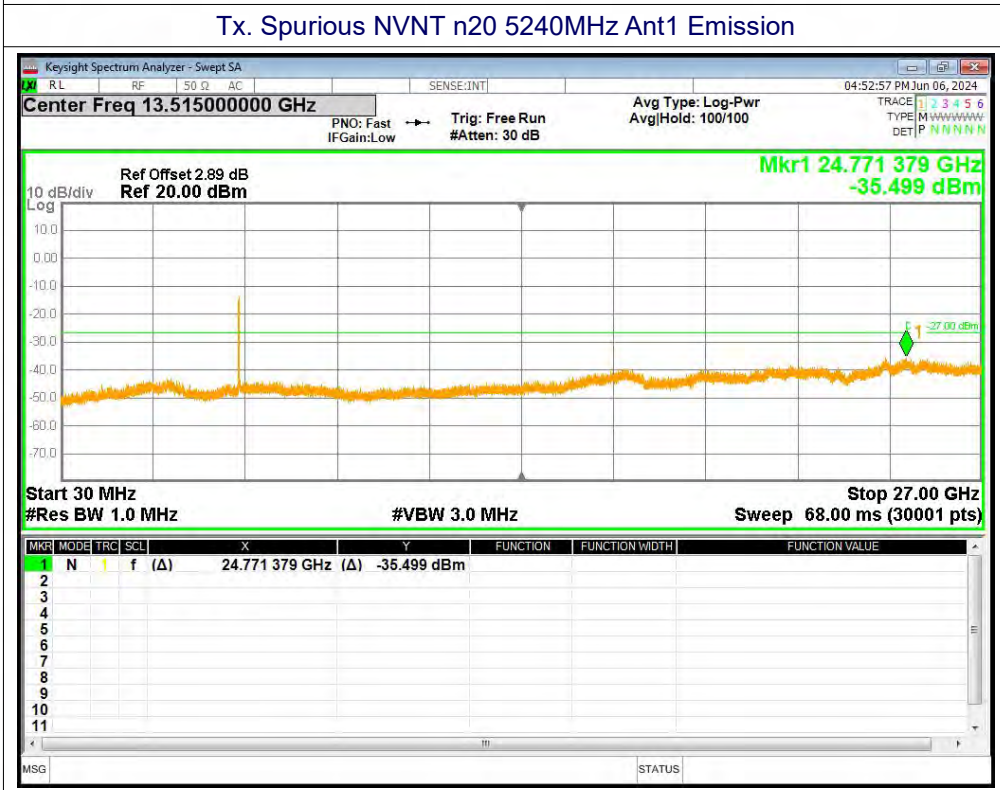
Tx. Spurious NVNT n20 5180MHz Ant1 Emission



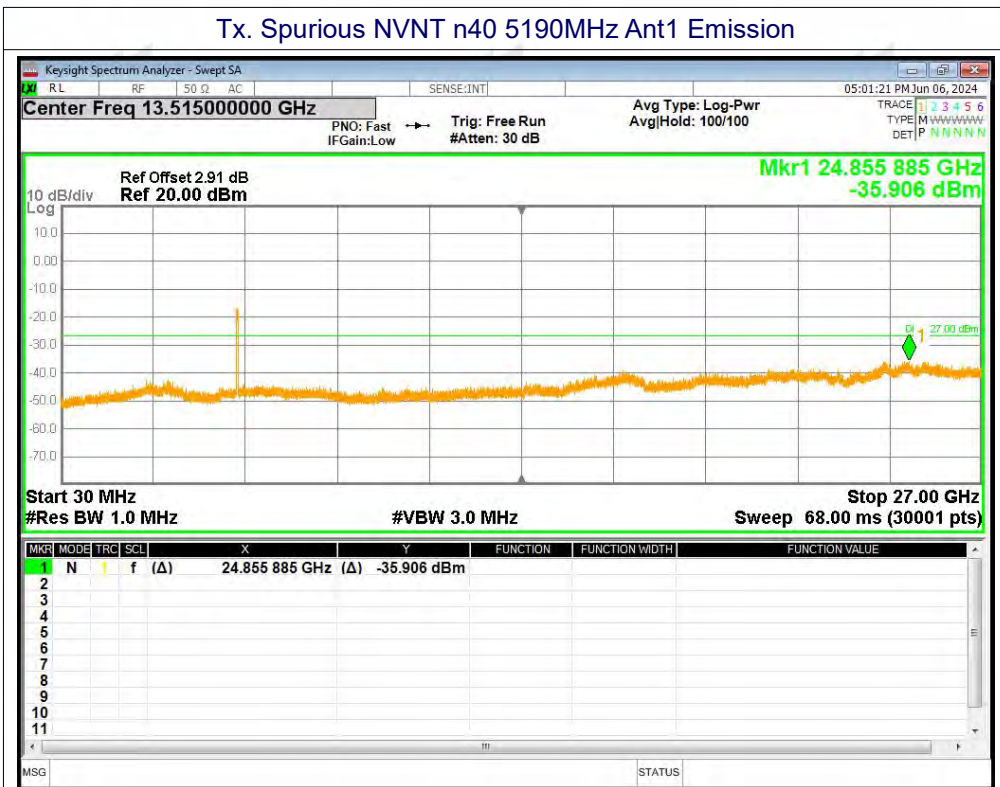
Tx. Spurious NVNT n20 5200MHz Ant1 Emission



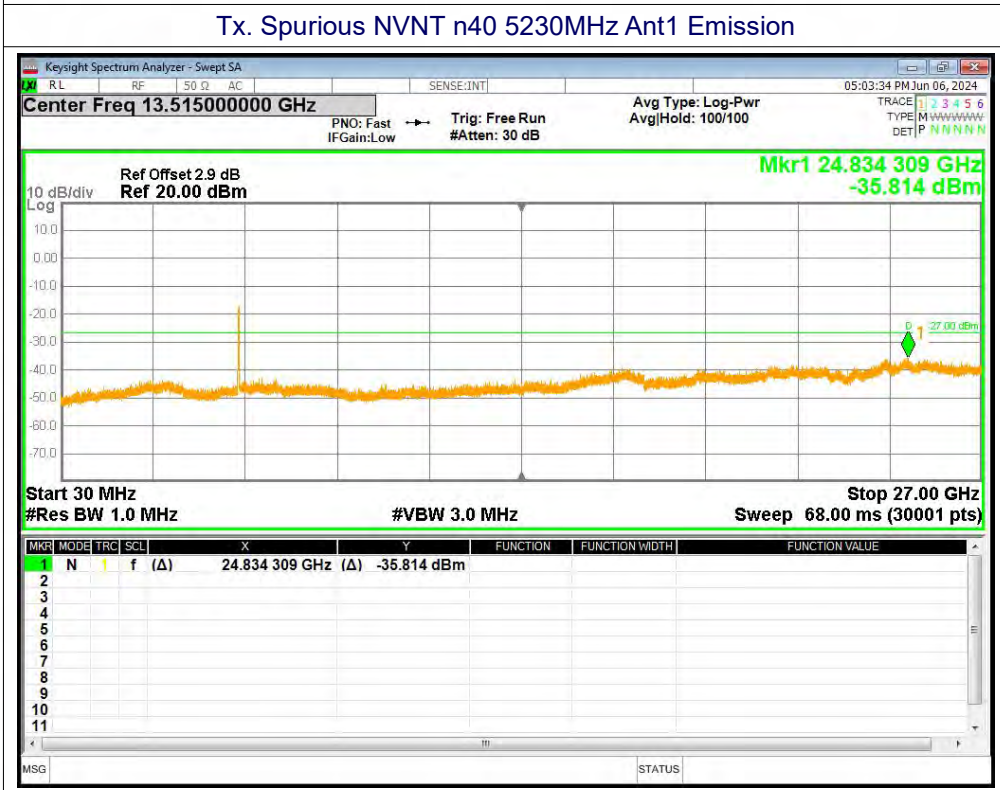
Tx. Spurious NVNT n20 5240MHz Ant1 Emission



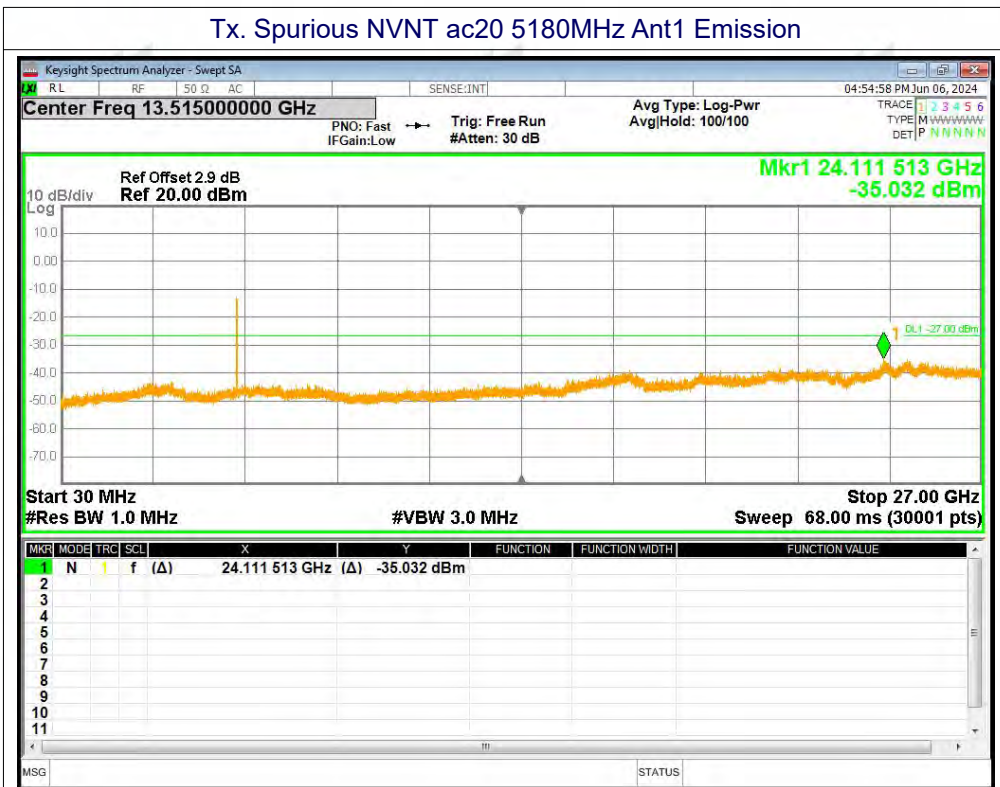
Tx. Spurious NVNT n40 5190MHz Ant1 Emission



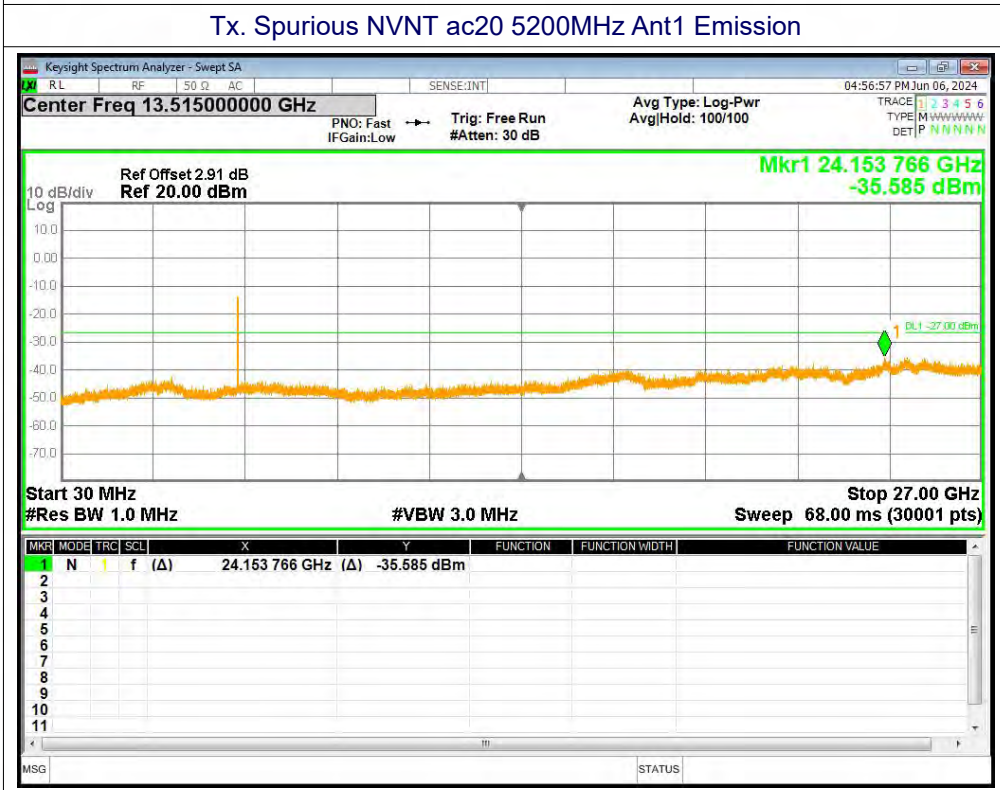
Tx. Spurious NVNT n40 5230MHz Ant1 Emission



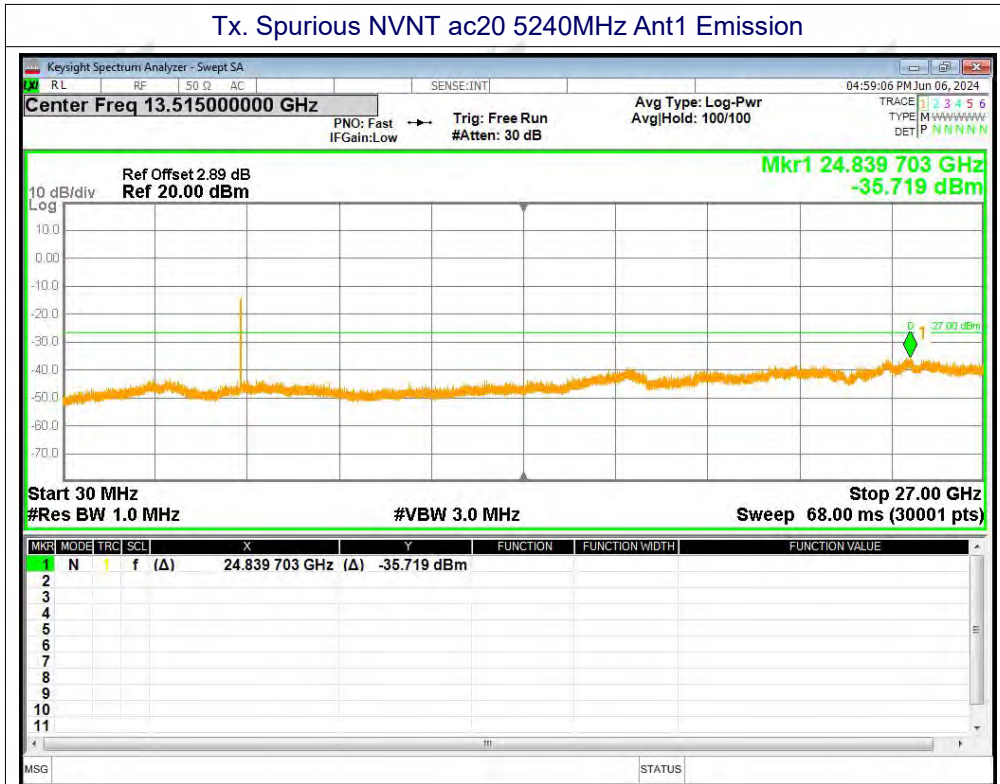
Tx. Spurious NVNT ac20 5180MHz Ant1 Emission



Tx. Spurious NVNT ac20 5200MHz Ant1 Emission



Tx. Spurious NVNT ac20 5240MHz Ant1 Emission



Tx. Spurious NVNT ac40 5190MHz Ant1 Emission

