

Appendix – 5.2G Wi-Fi

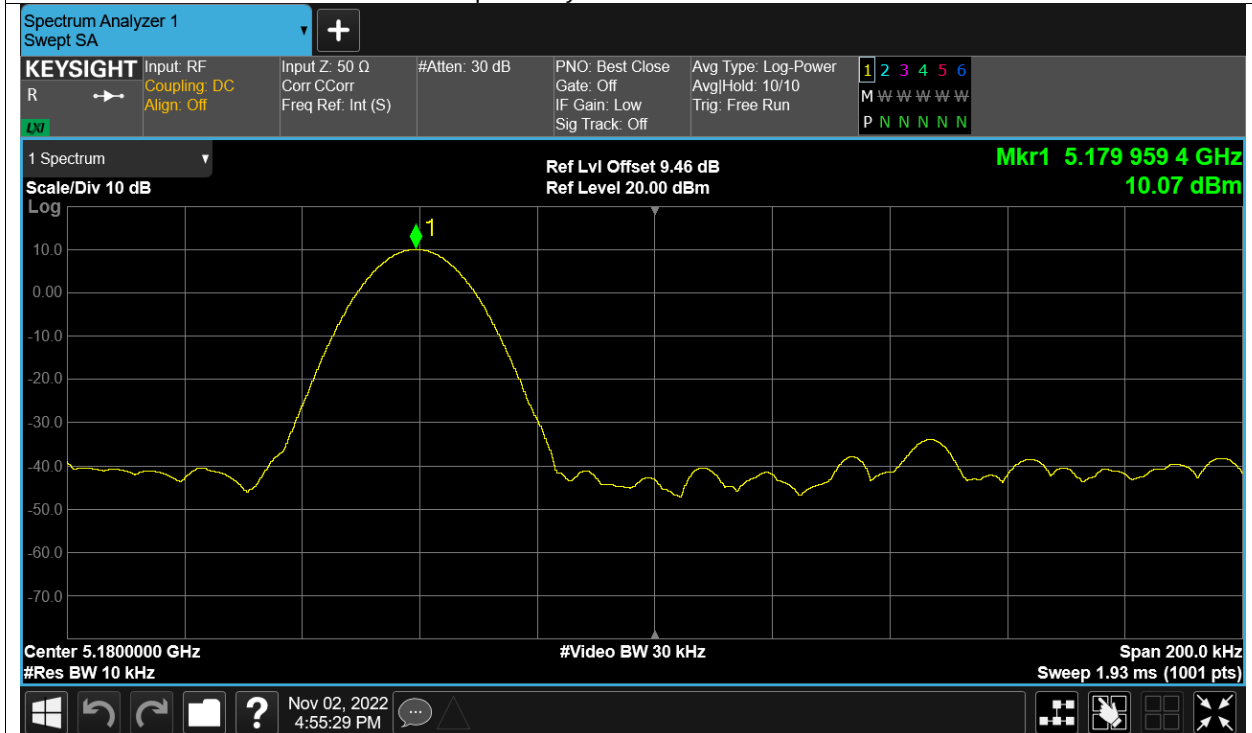
Test Data

Frequency Stability

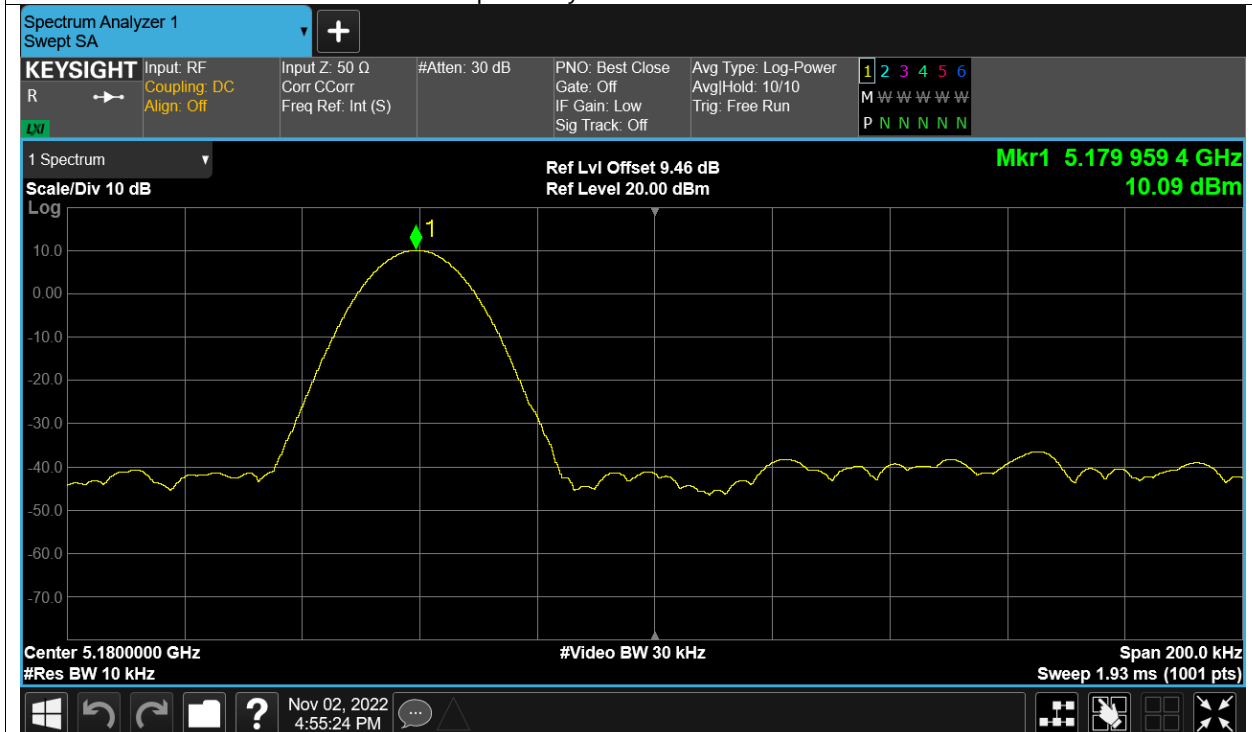
Frequency Stability							
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Verdict
HVNT	a	5180	Ant1	5179.9594	-7.84	Within authorized band	Pass
LVNT	a	5180	Ant1	5179.9594	-7.84		Pass
NVHT	a	5180	Ant1	5179.9594	-7.84		Pass
NVLT	a	5180	Ant1	5179.9596	-7.8		Pass
NVNT	a	5180	Ant1	5179.9596	-7.8		Pass
HVNT	ac80	5210	Ant1	5209.9562	-8.41		Pass
LVNT	ac80	5210	Ant1	5209.9562	-8.41		Pass
NVHT	ac80	5210	Ant1	5209.956	-8.45		Pass
NVLT	ac80	5210	Ant1	5209.956	-8.45		Pass
NVNT	ac80	5210	Ant1	5209.956829511	-8.29		Pass
HVNT	n40	5190	Ant1	5189.959	-7.9		Pass
LVNT	n40	5190	Ant1	5189.9588	-7.94		Pass
NVHT	n40	5190	Ant1	5189.9588	-7.94		Pass
NVLT	n40	5190	Ant1	5189.9588	-7.94		Pass
NVNT	n40	5190	Ant1	5189.9588	-7.94		Pass
Remark: “NTNV” means Normal Temperature Normal Voltage, “NVHT” means Normal Voltage High Temperature, “NVLT” means Normal Voltage Low Temperature, “LVNT” means Low Voltage Normal Temperature, “HVNT” means High Voltage Normal Temperature.							

Test Graphs

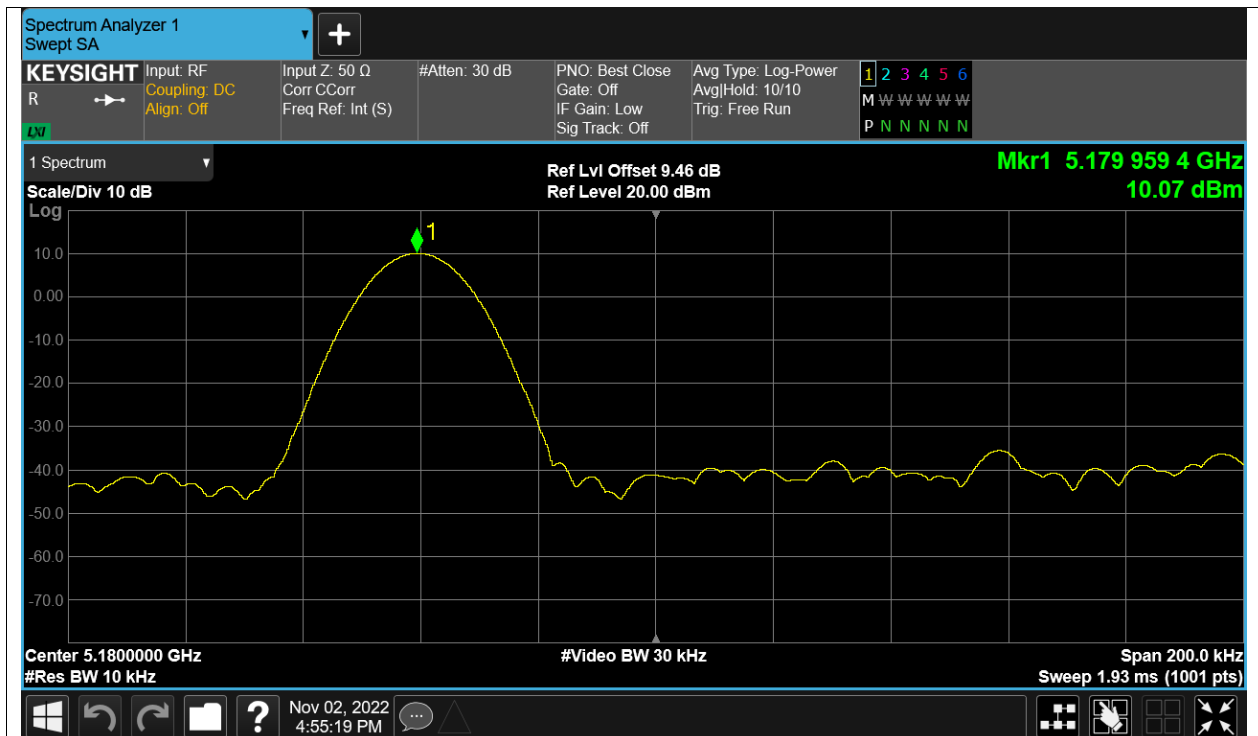
Freq. Stability HVNT a 5180MHz Ant1



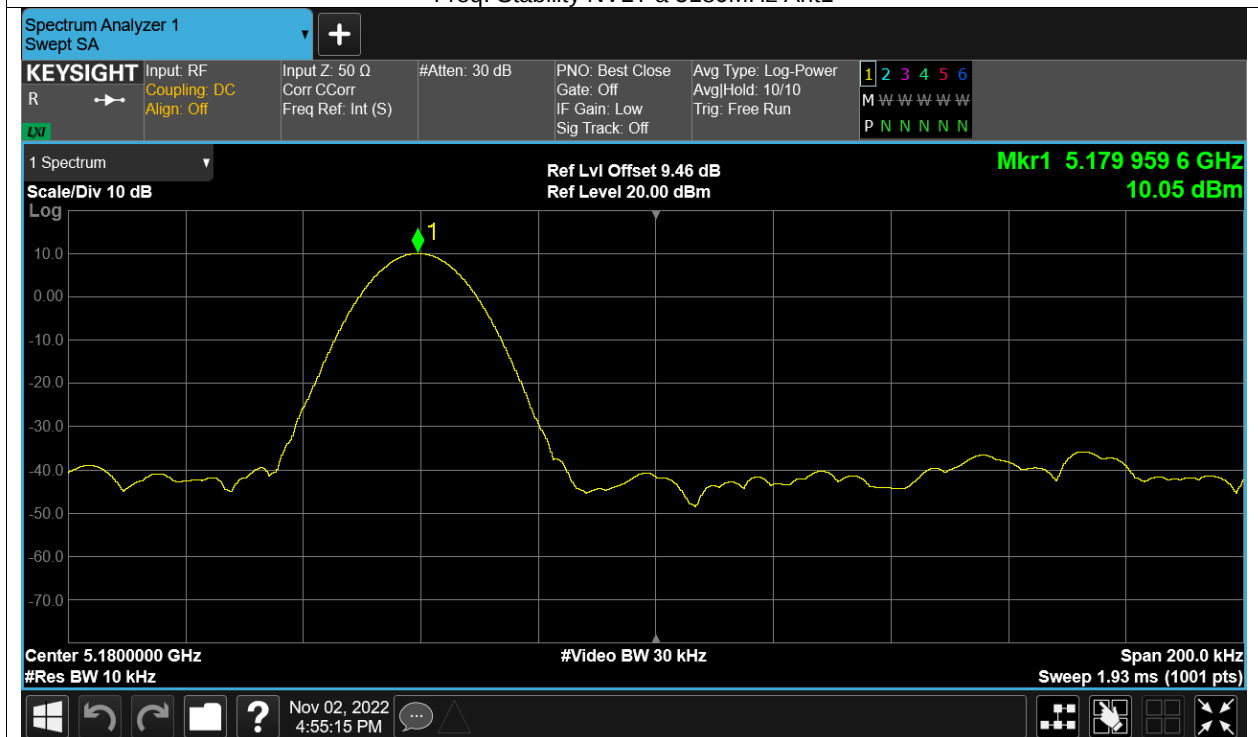
Freq. Stability LVNT a 5180MHz Ant1



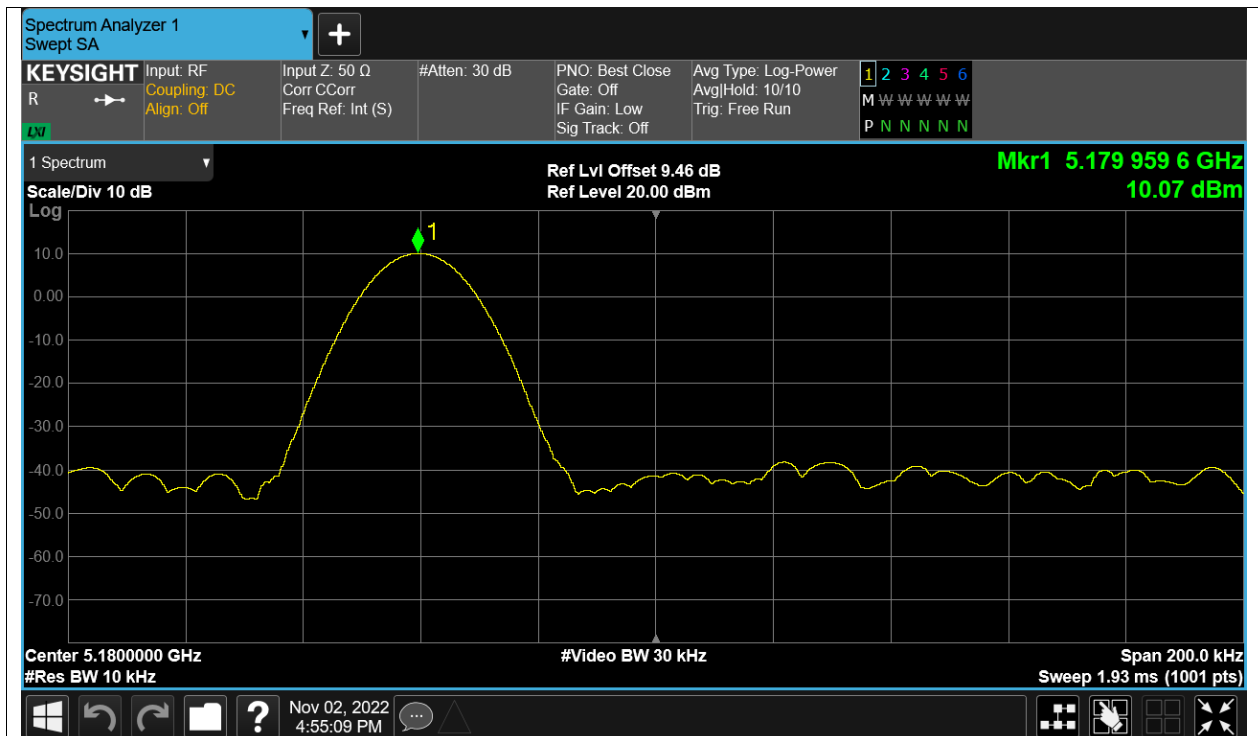
Freq. Stability NVHT a 5180MHz Ant1



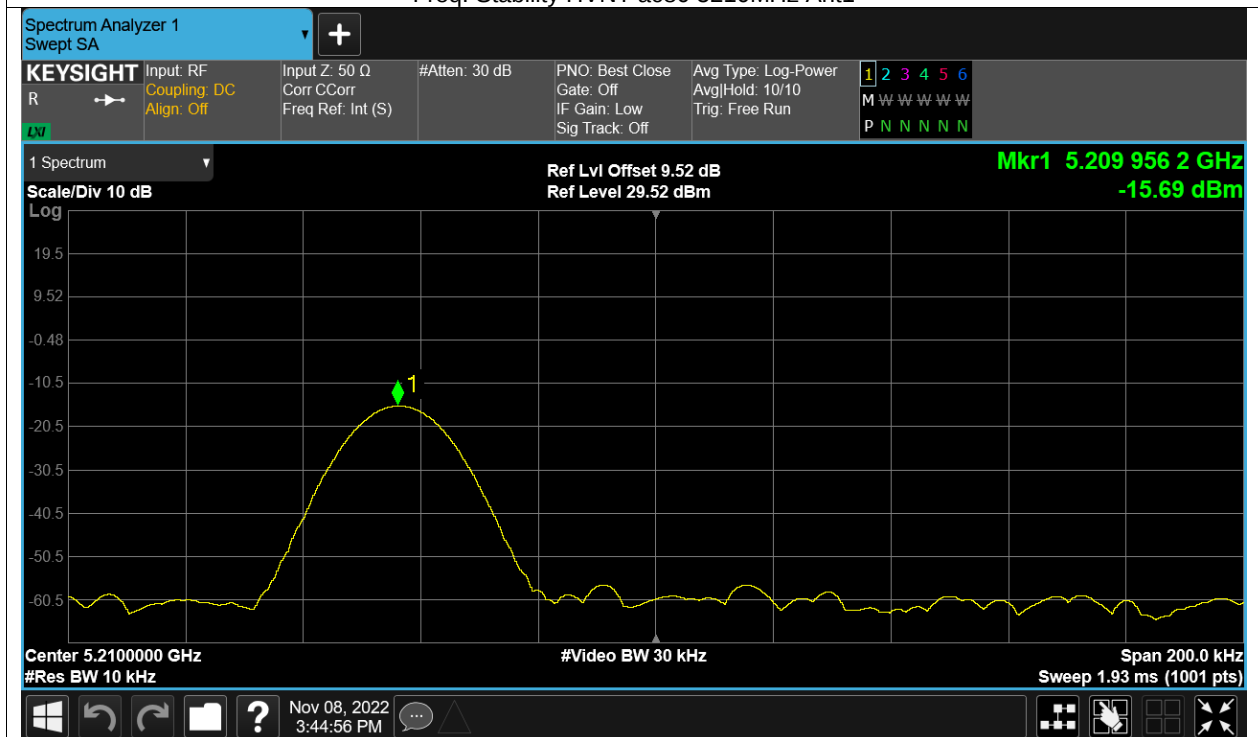
Freq. Stability NVLT a 5180MHz Ant1



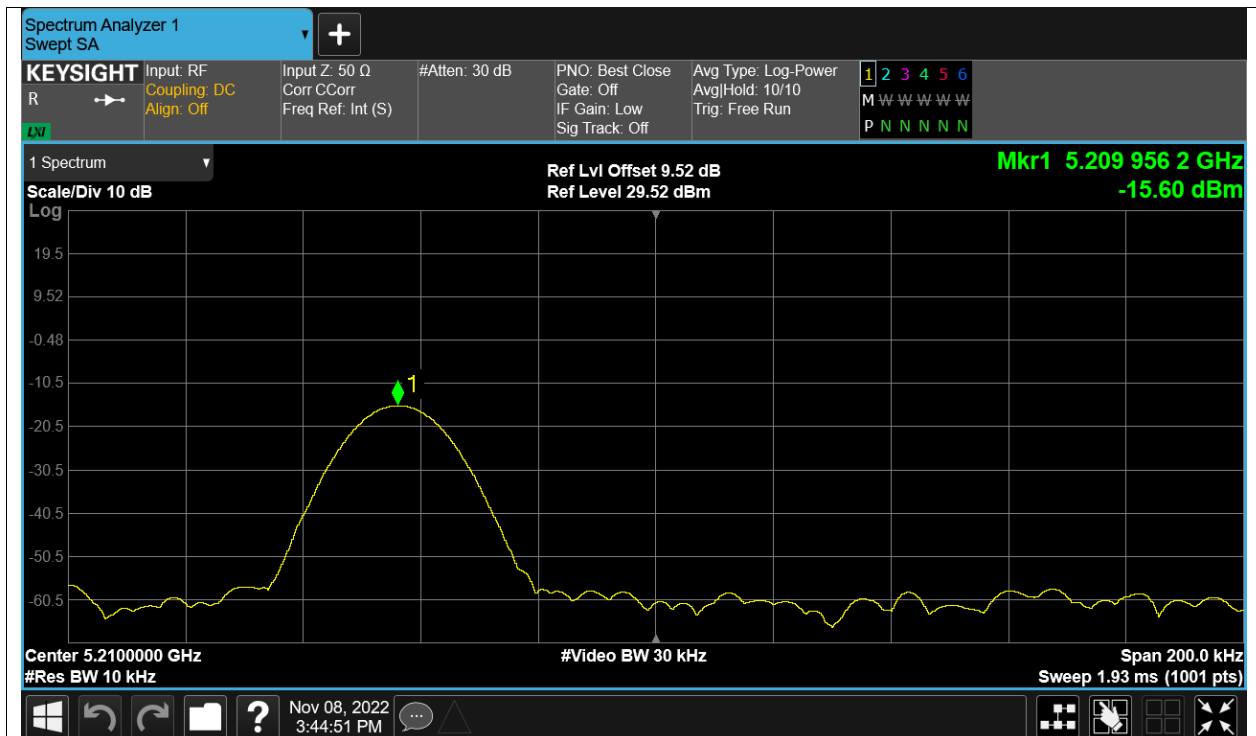
Freq. Stability NVNT a 5180MHz Ant1



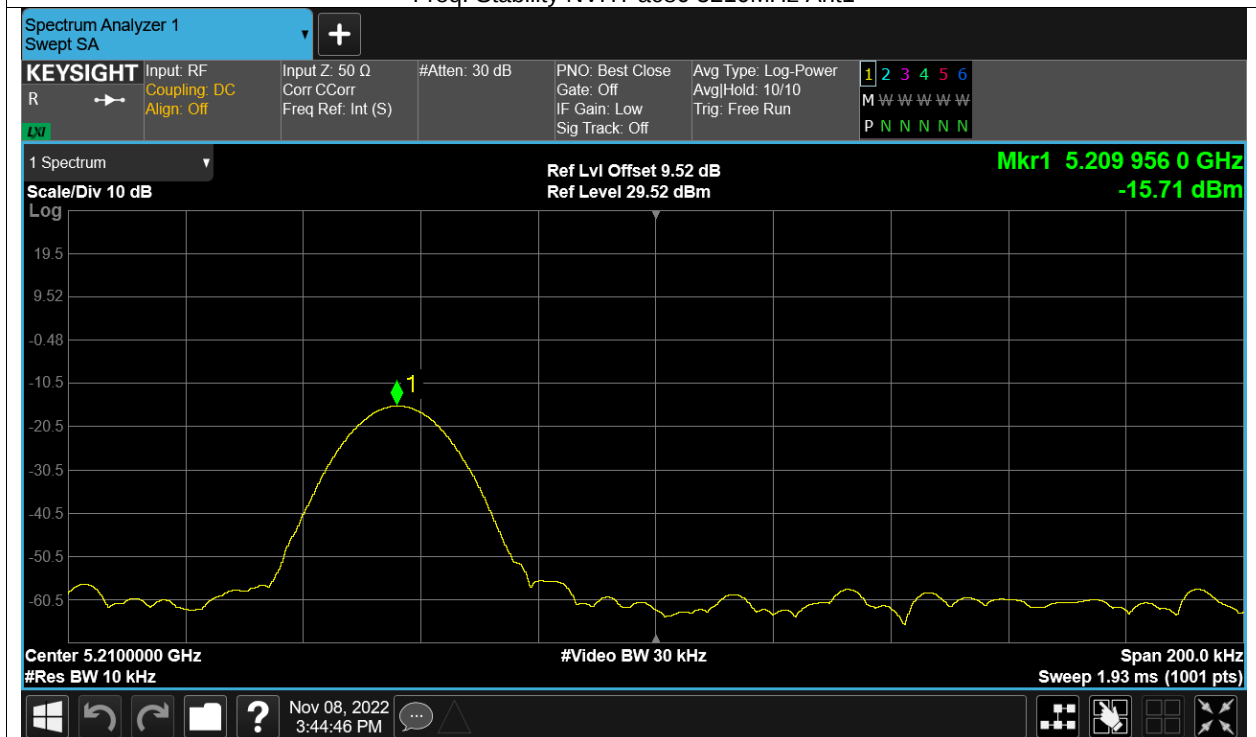
Freq. Stability HVNT ac80 5210MHz Ant1



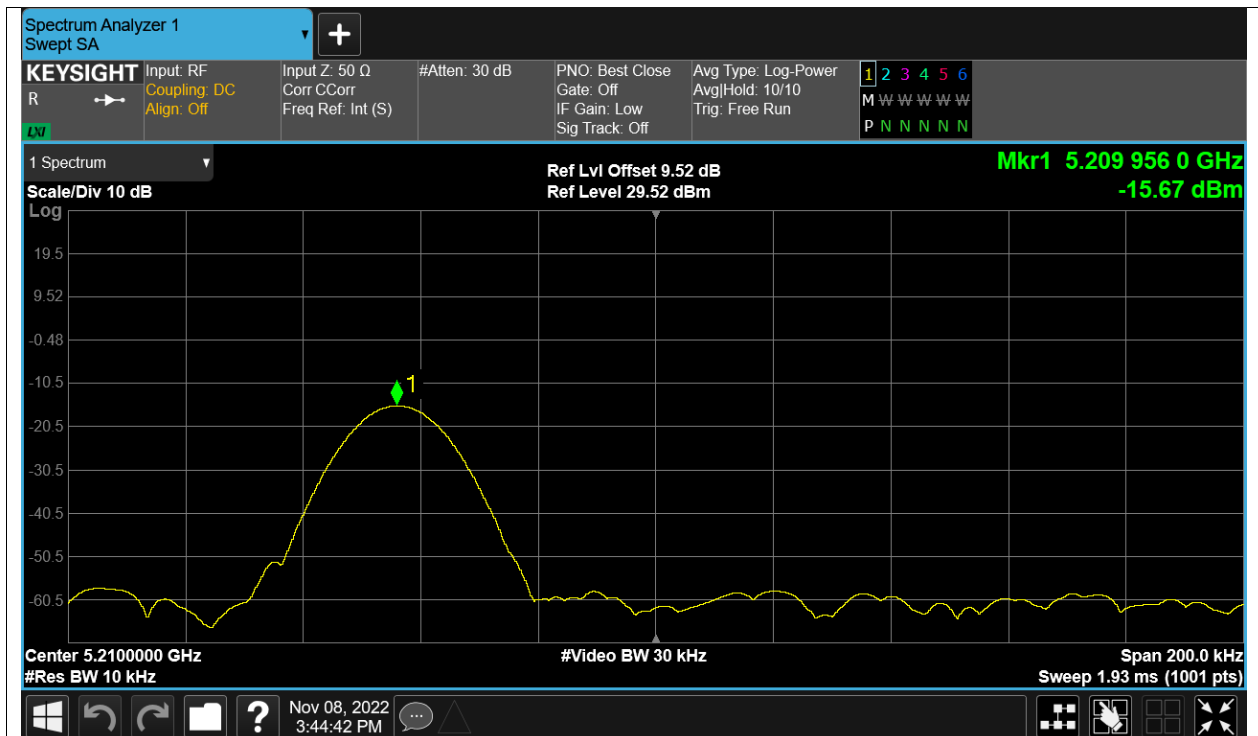
Freq. Stability LVNT ac80 5210MHz Ant1



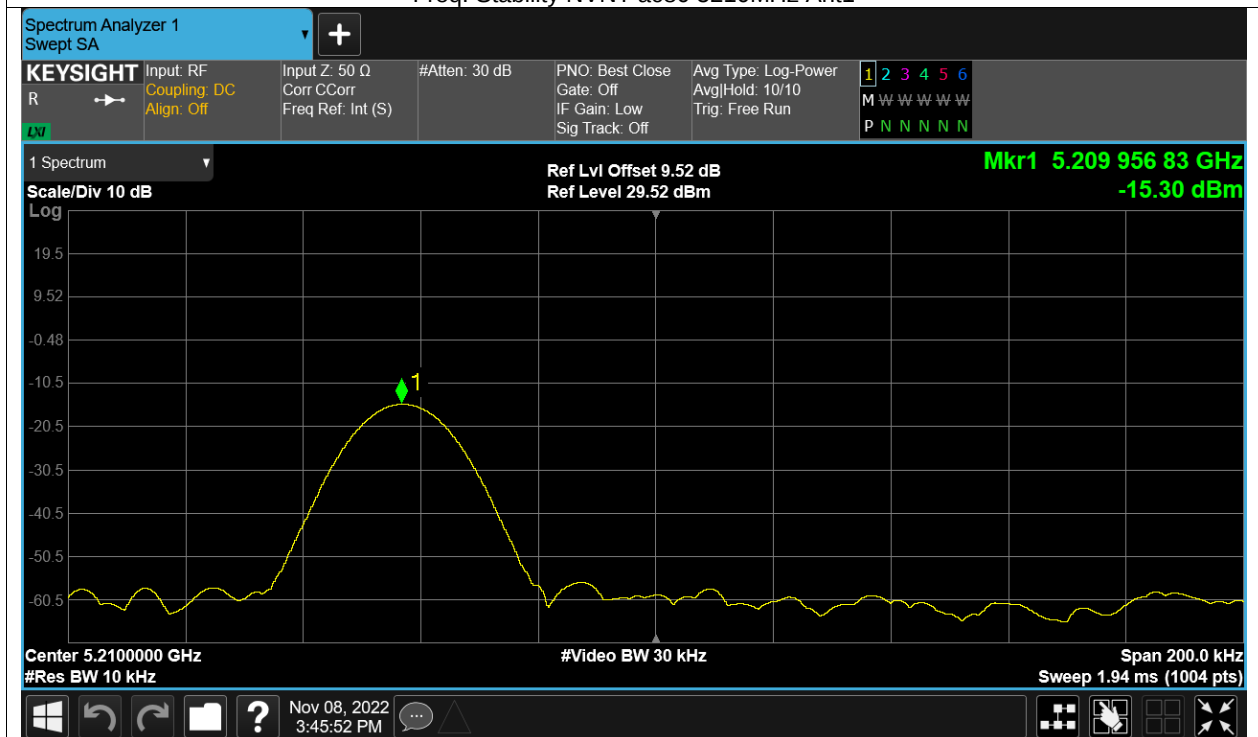
Freq. Stability NVHT ac80 5210MHz Ant1



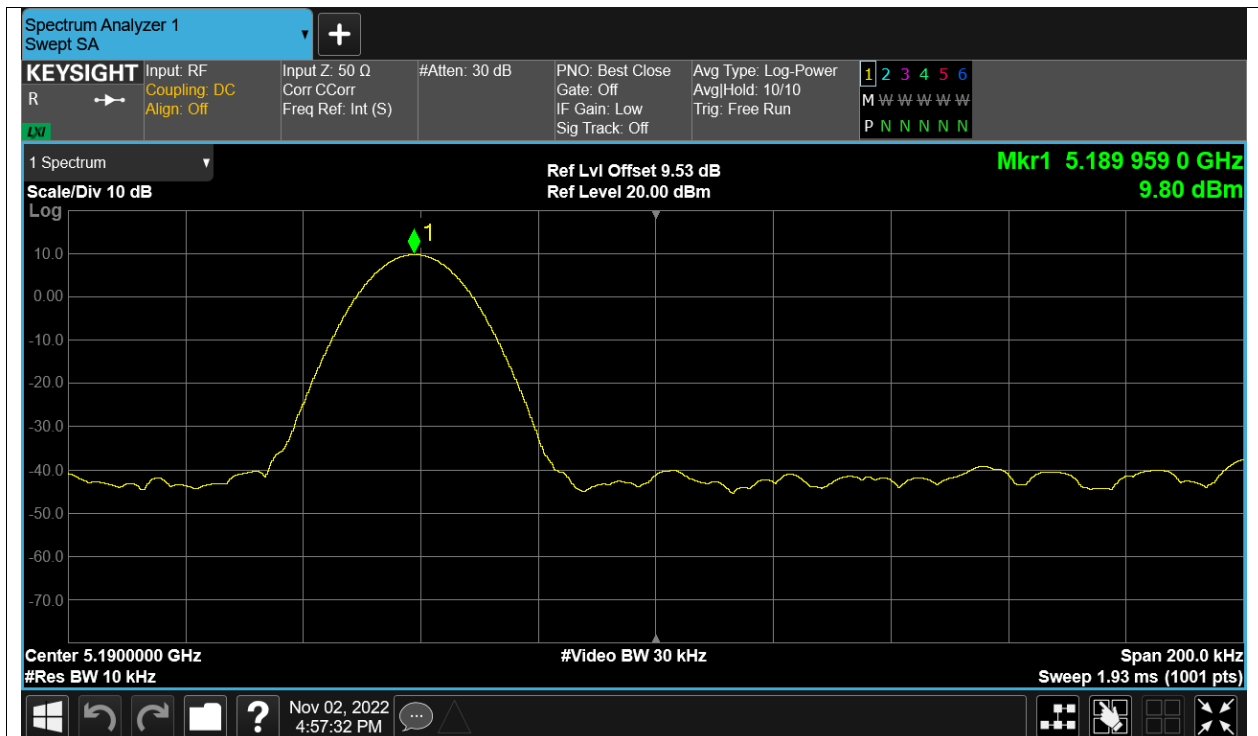
Freq. Stability NVLT ac80 5210MHz Ant1



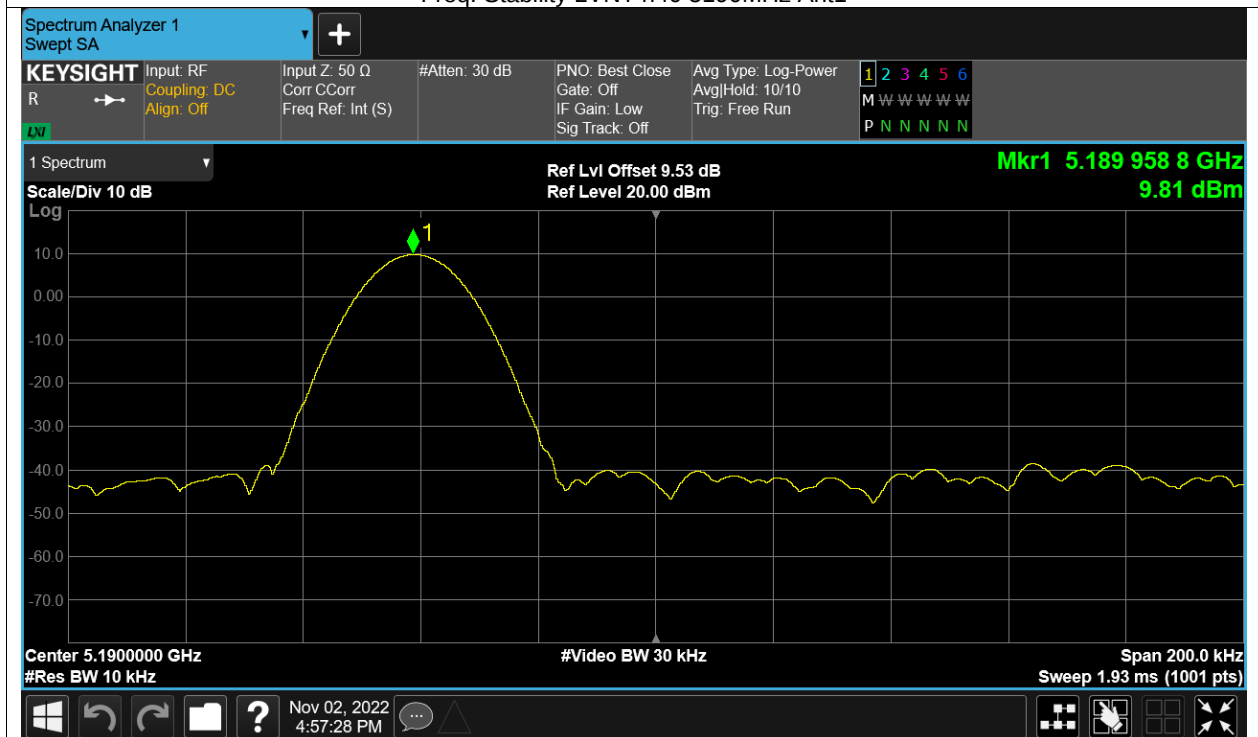
Freq. Stability NVNT ac80 5210MHz Ant1



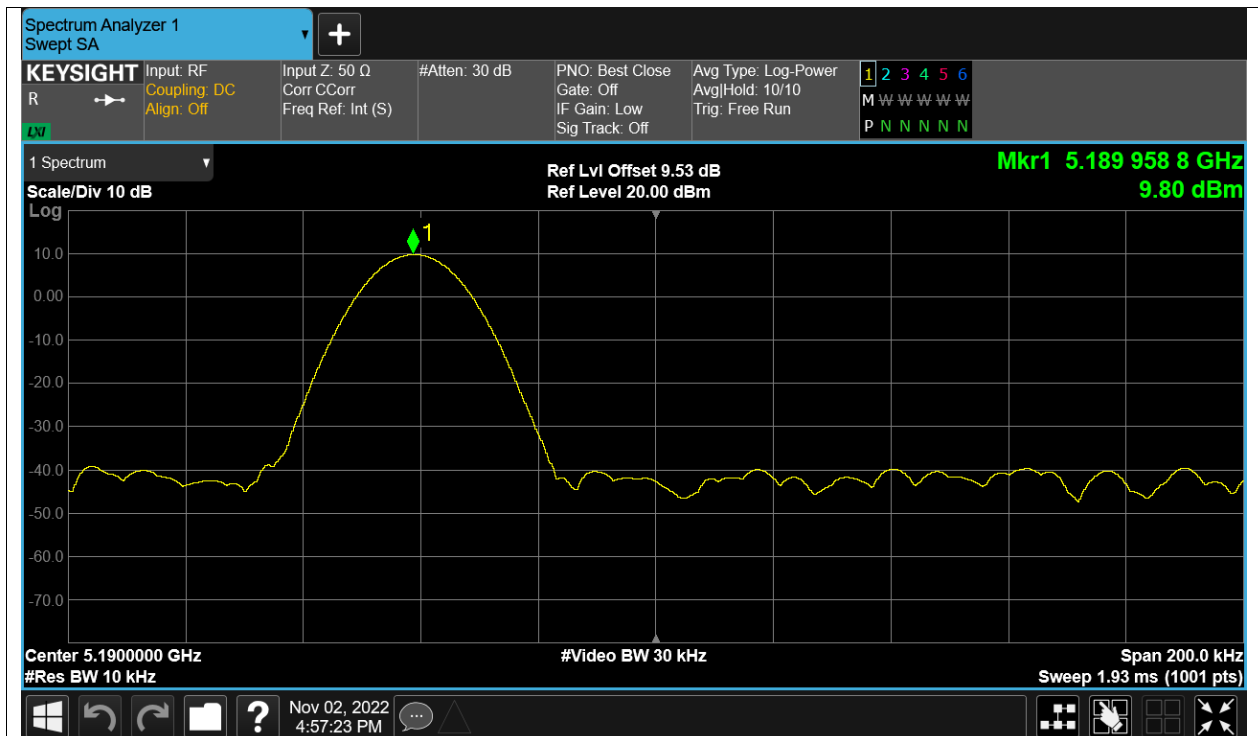
Freq. Stability HVNT n40 5190MHz Ant1



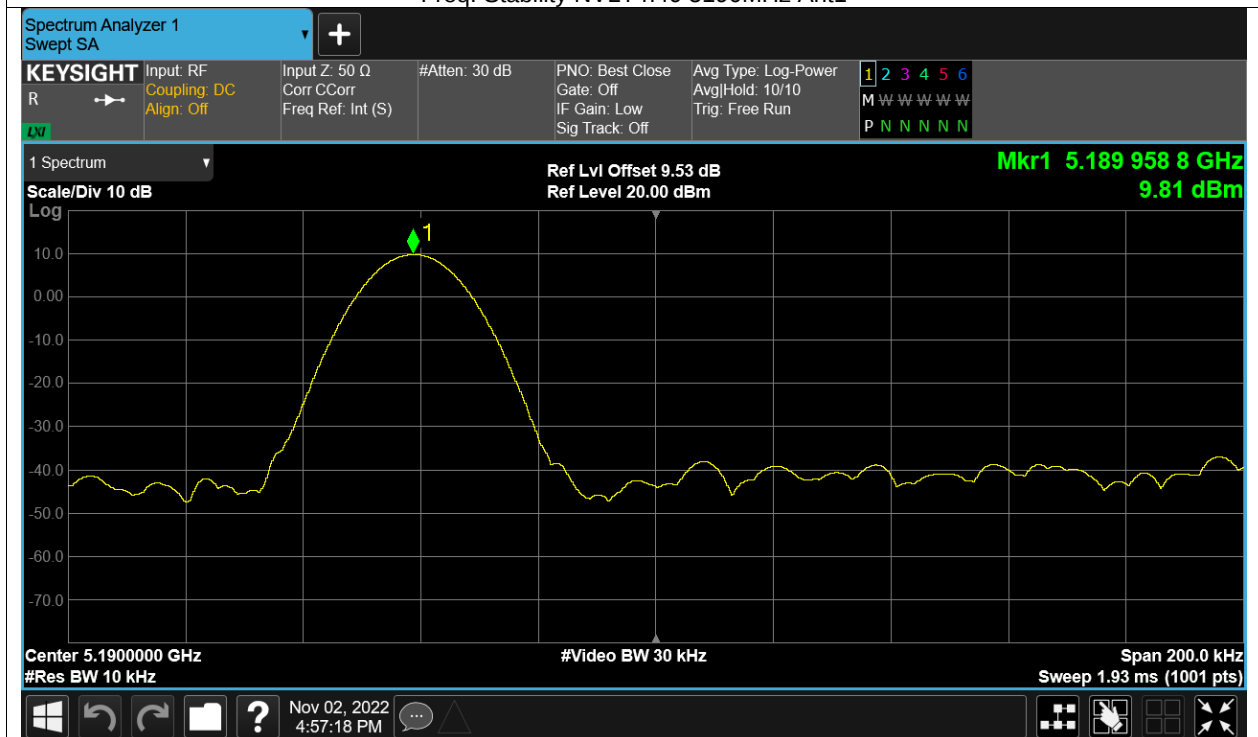
Freq. Stability LVNT n40 5190MHz Ant1



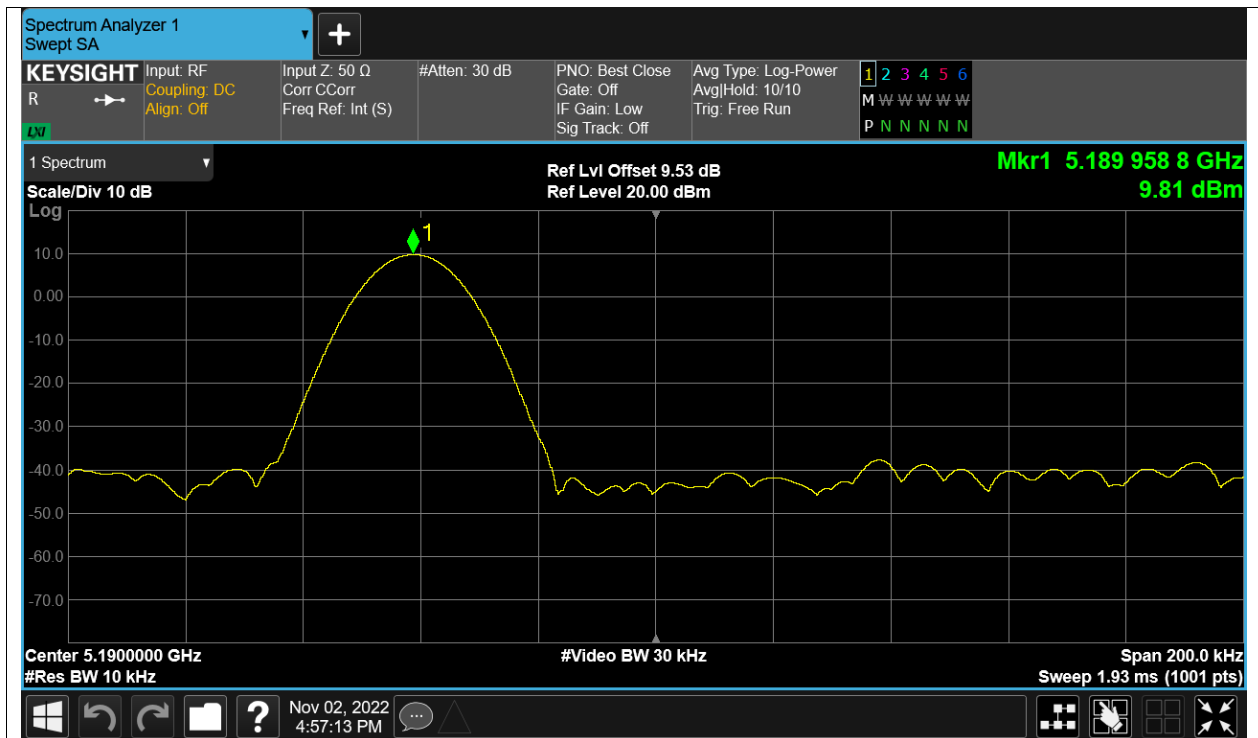
Freq. Stability NVHT n40 5190MHz Ant1



Freq. Stability NVLT n40 5190MHz Ant1



Freq. Stability NVNT n40 5190MHz Ant1

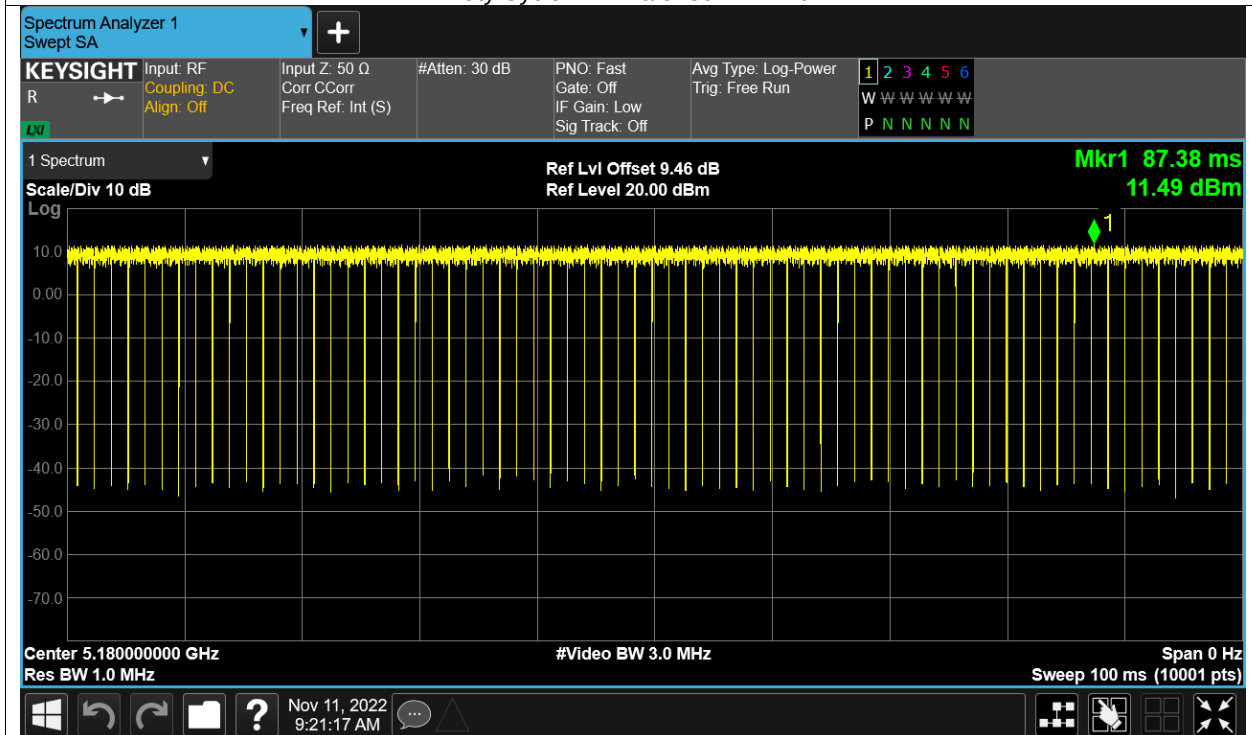


Duty Cycle

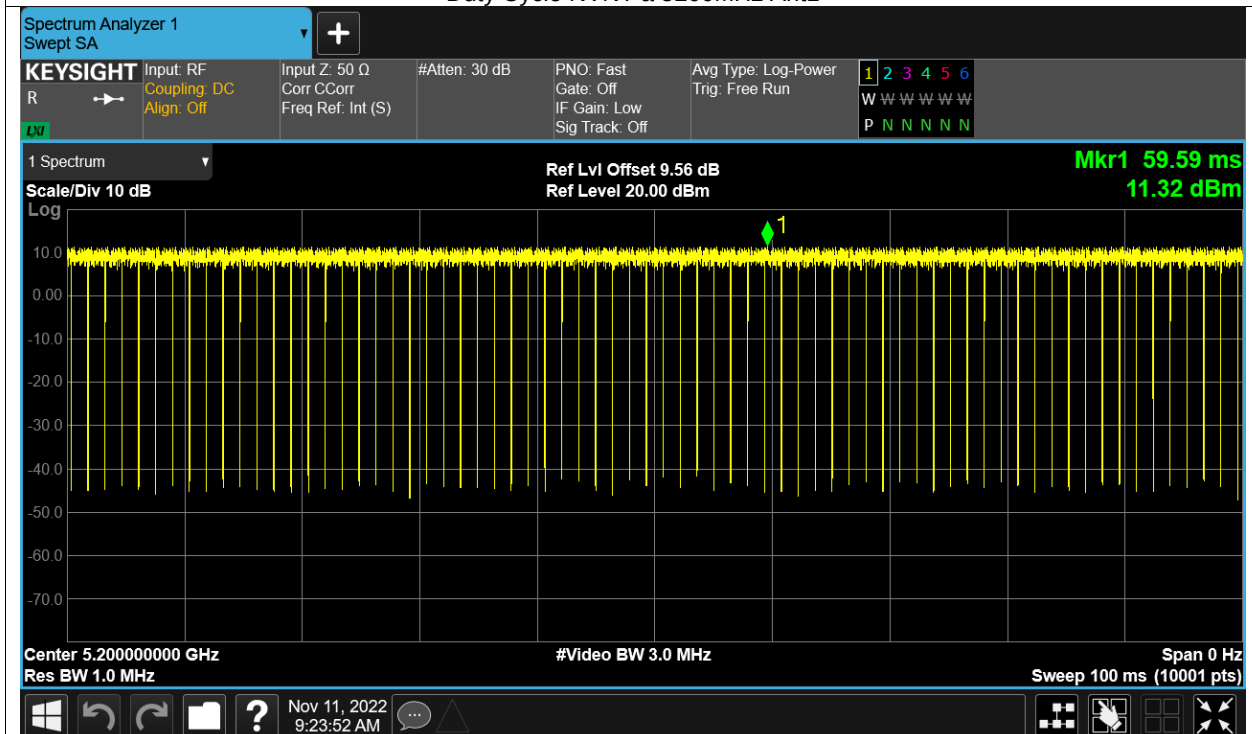
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5180	Ant1	97.99	0.09
NVNT	a	5200	Ant1	97.88	0.09
NVNT	a	5240	Ant1	97.91	0.09
NVNT	ac20	5180	Ant1	97.88	0.09
NVNT	ac20	5200	Ant1	97.89	0.09
NVNT	ac20	5240	Ant1	97.84	0.09
NVNT	ac40	5190	Ant1	96.11	0.17
NVNT	ac40	5230	Ant1	95.87	0.18
NVNT	ac80	5210	Ant1	73.24	1.35
NVNT	n20	5180	Ant1	97.84	0.09
NVNT	n20	5200	Ant1	97.86	0.09
NVNT	n20	5240	Ant1	97.76	0.1
NVNT	n40	5190	Ant1	95.95	0.18
NVNT	n40	5230	Ant1	95.87	0.18

Test Graphs

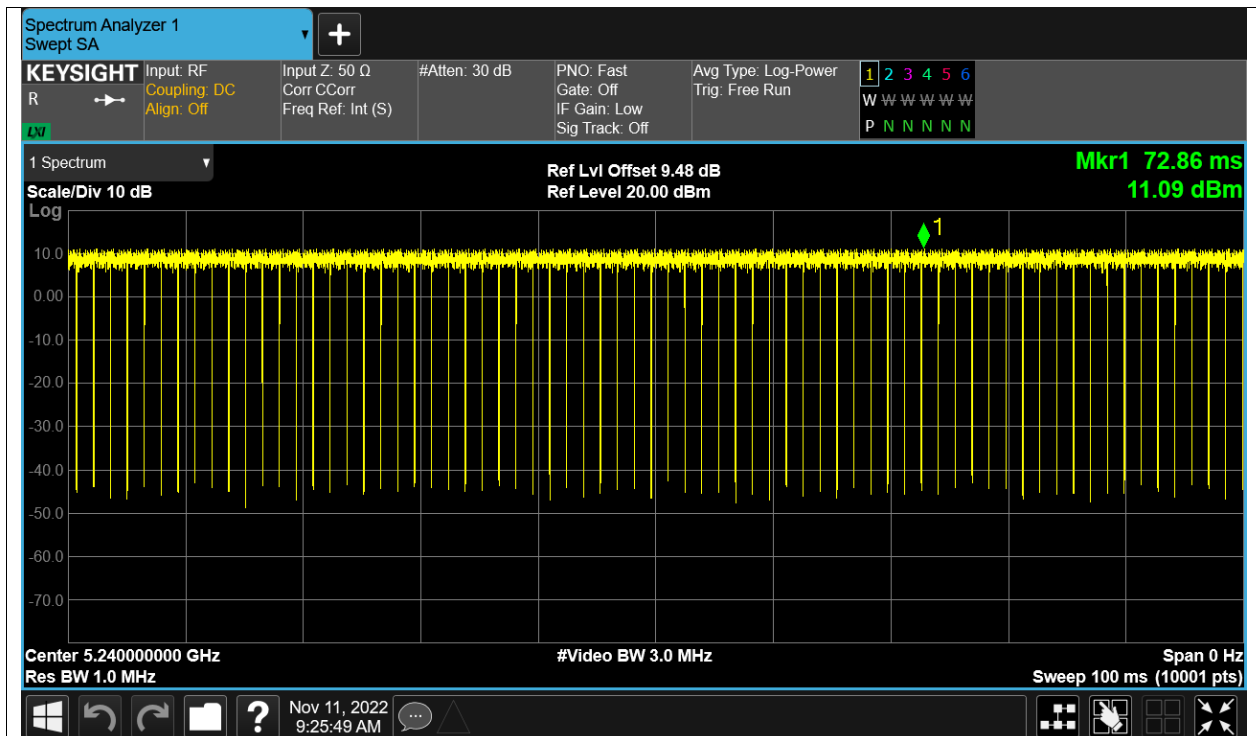
Duty Cycle NVNT a 5180MHz Ant1



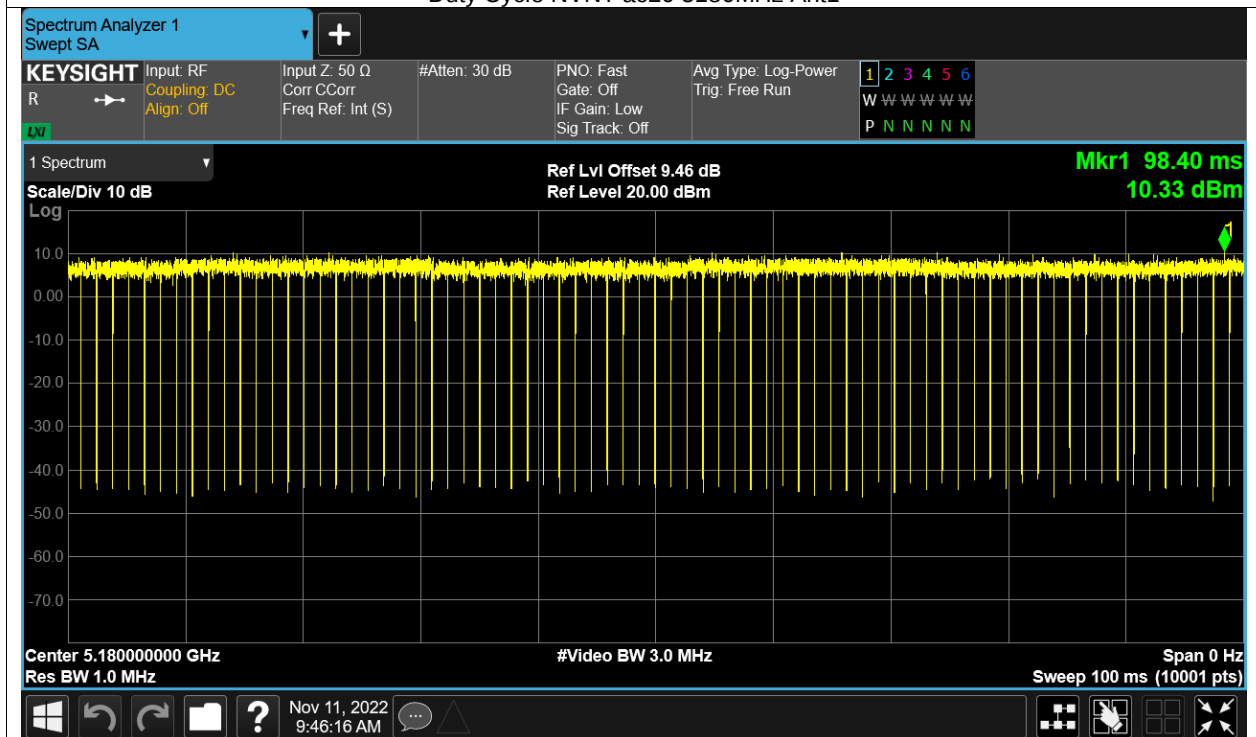
Duty Cycle NVNT a 5200MHz Ant1



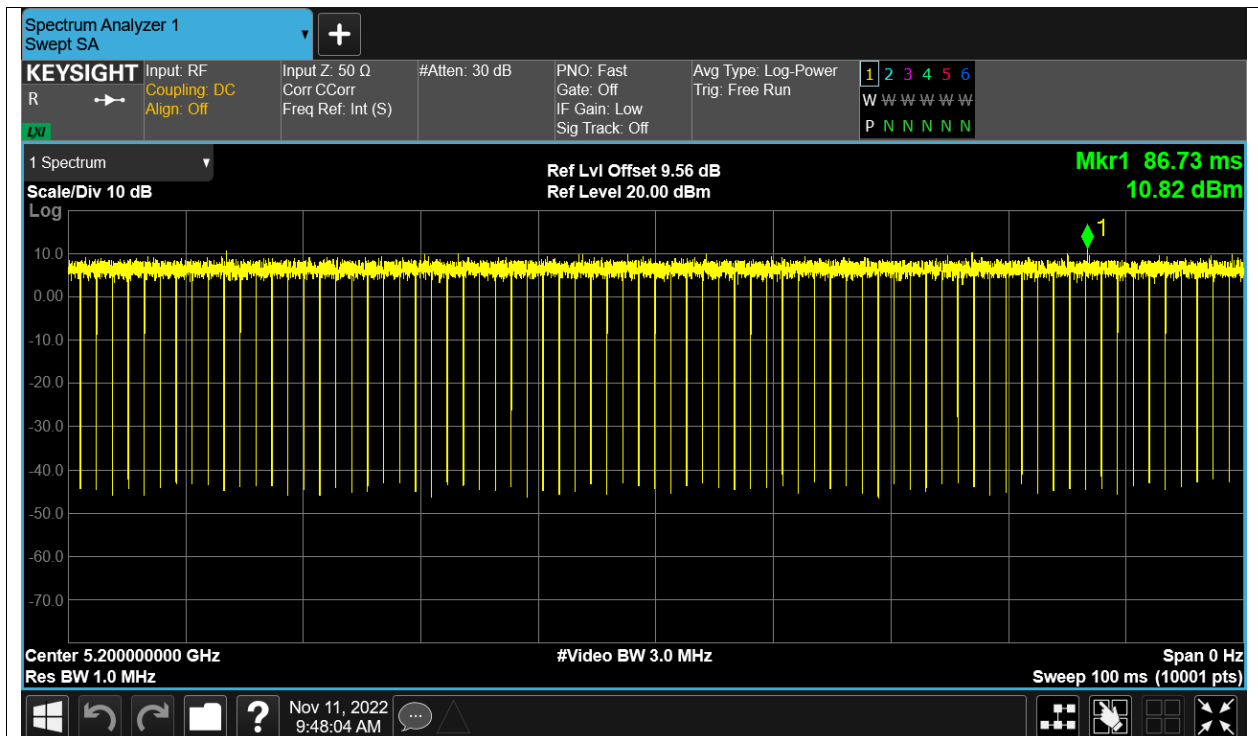
Duty Cycle NVNT a 5240MHz Ant1



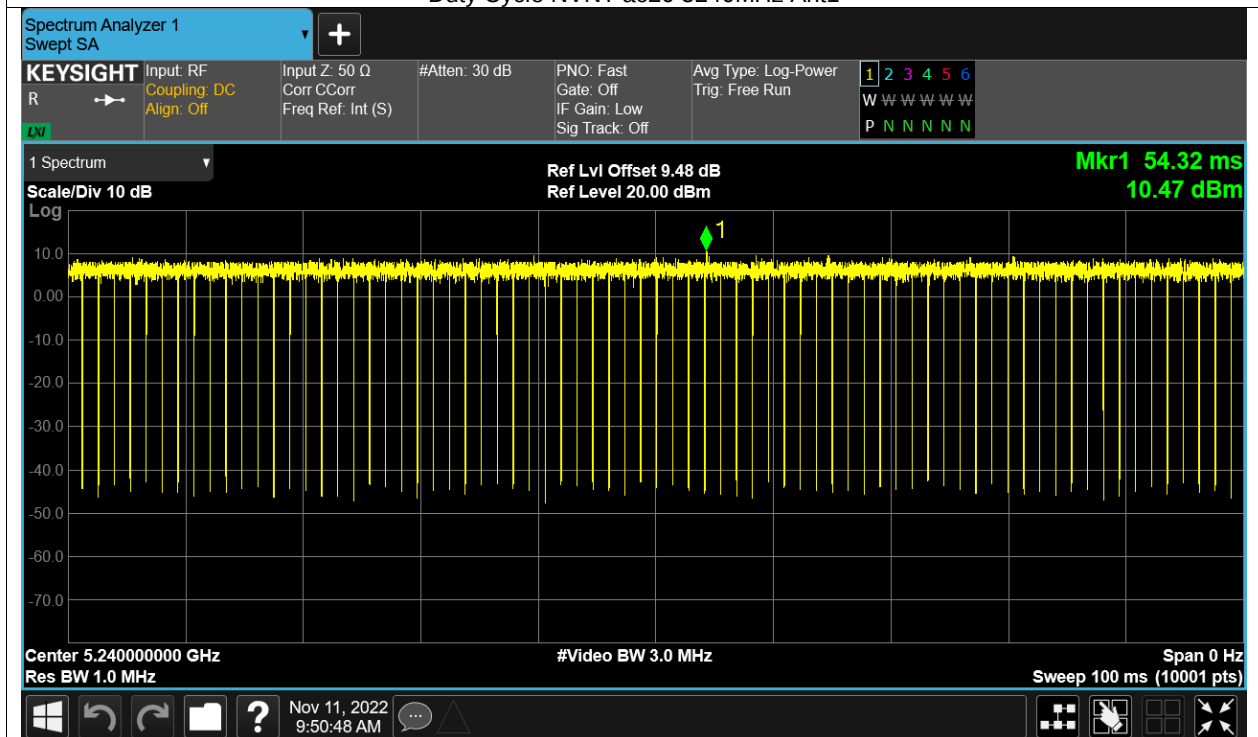
Duty Cycle NVNT ac20 5180MHz Ant1



Duty Cycle NVNT ac20 5200MHz Ant1



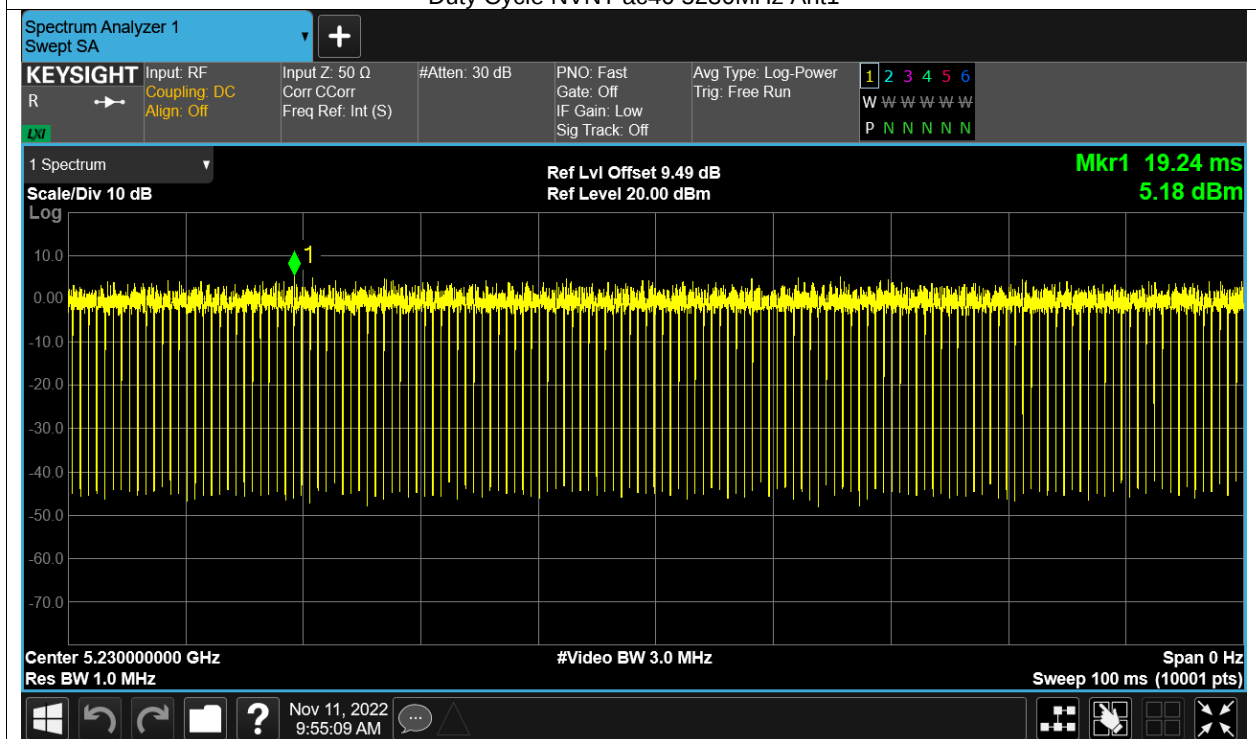
Duty Cycle NVNT ac20 5240MHz Ant1



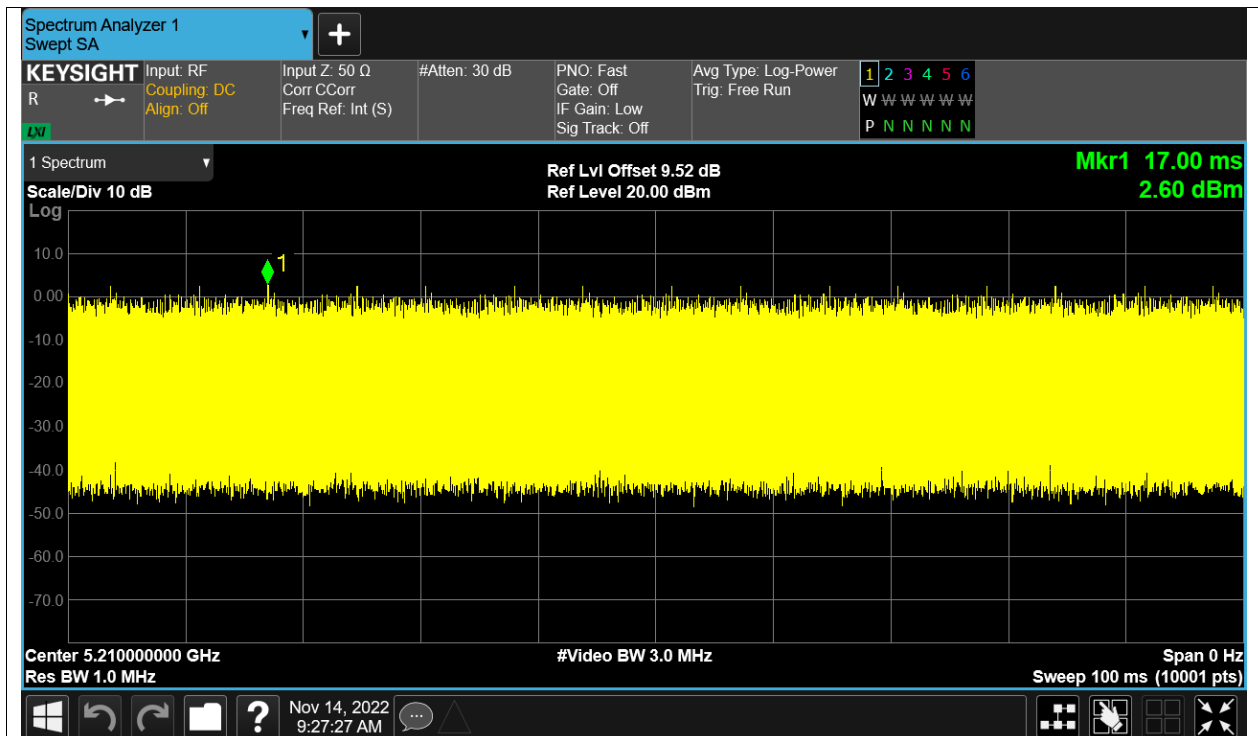
Duty Cycle NVNT ac40 5190MHz Ant1



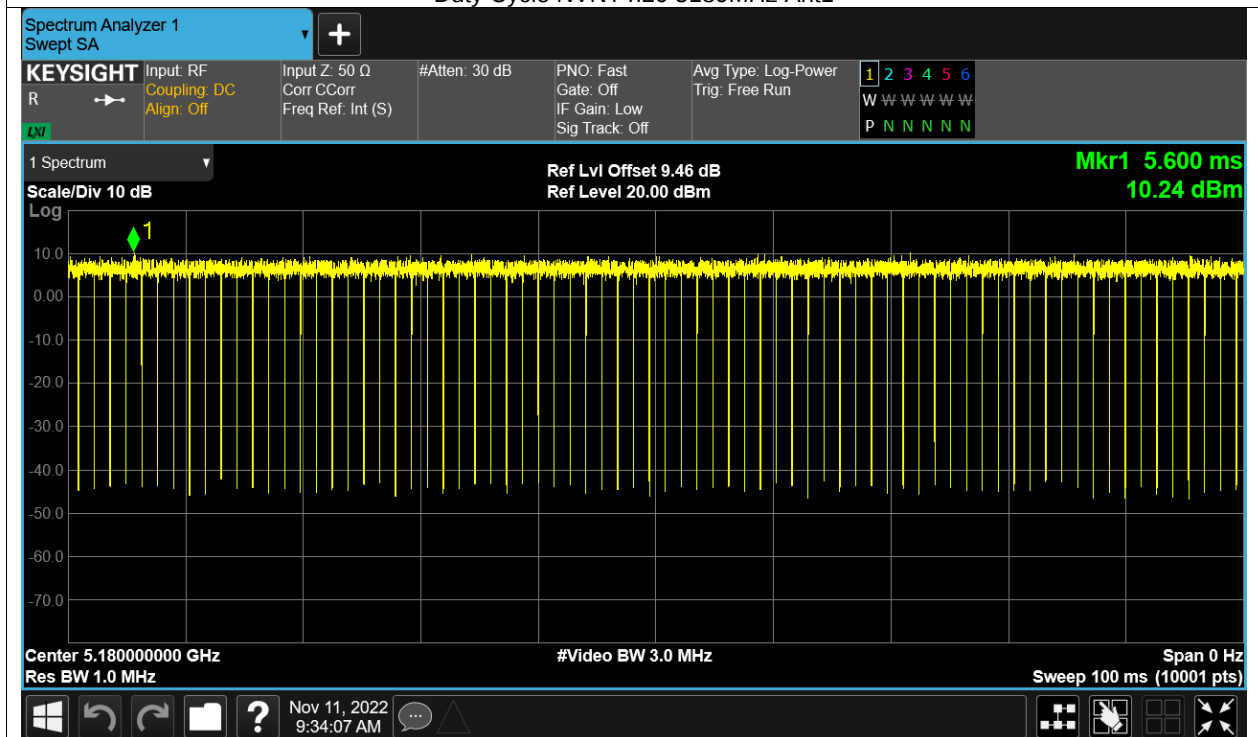
Duty Cycle NVNT ac40 5230MHz Ant1



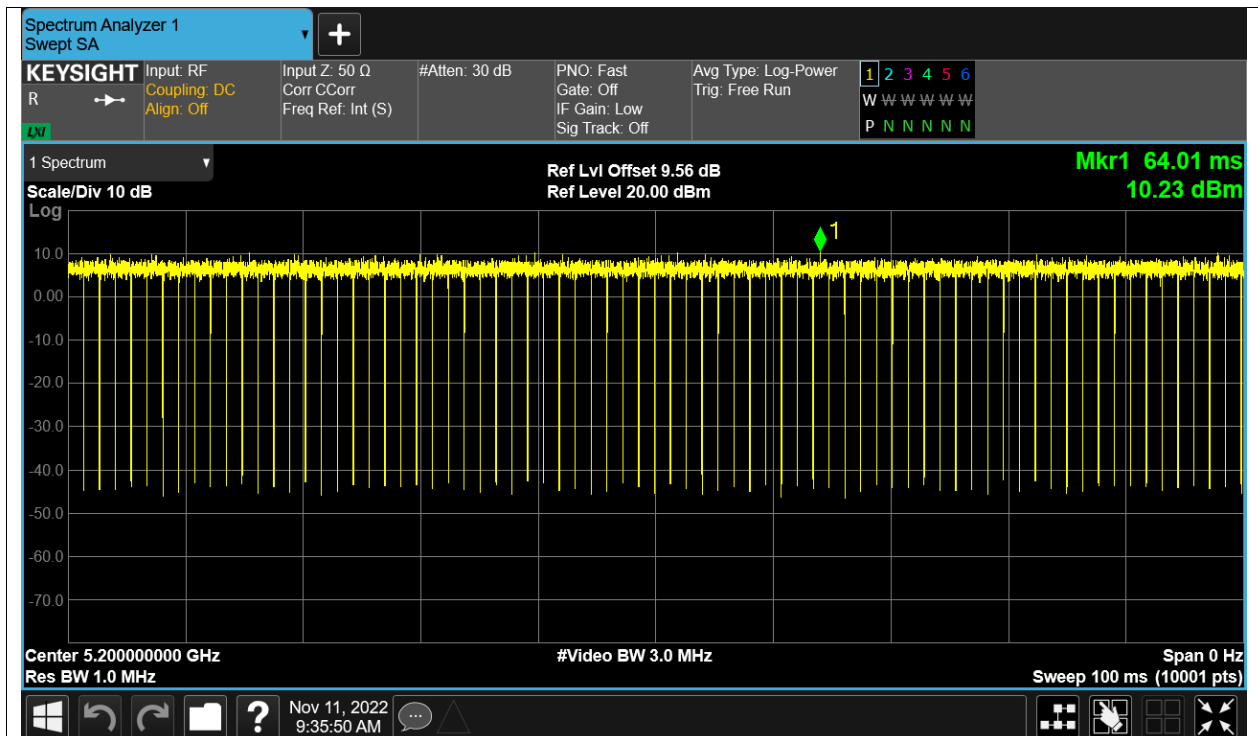
Duty Cycle NVNT ac80 5210MHz Ant1



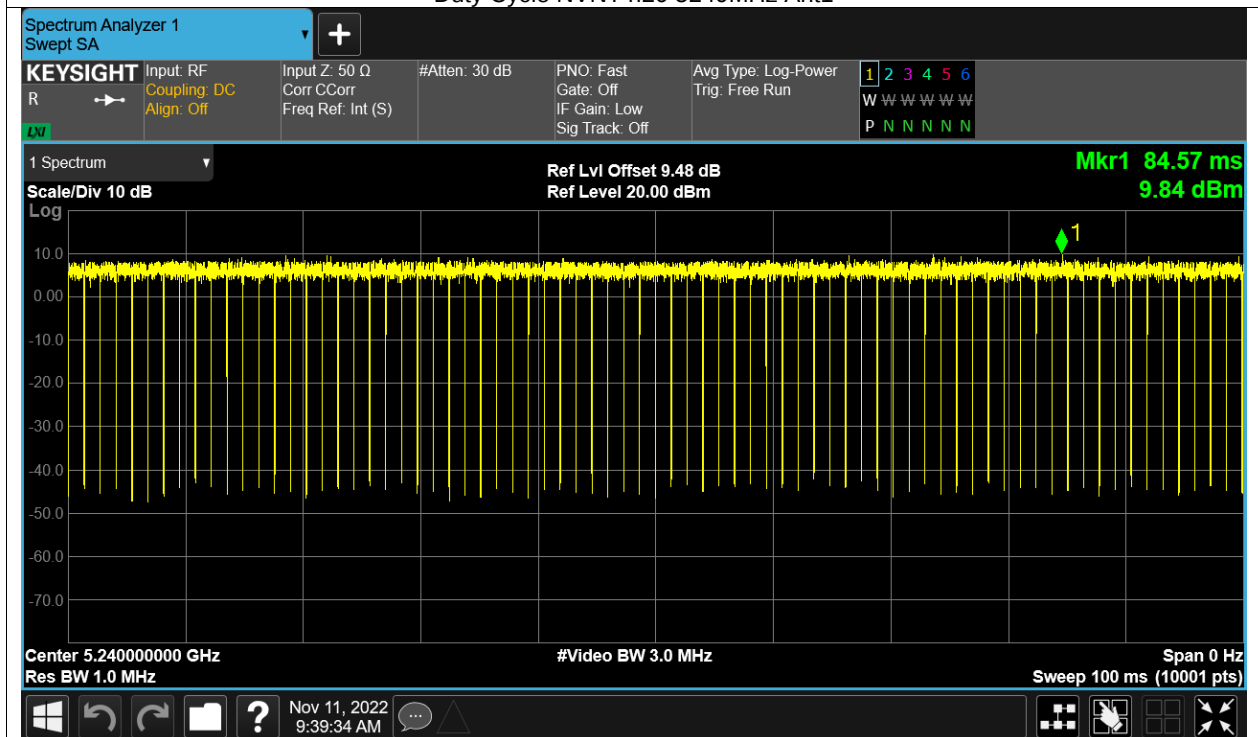
Duty Cycle NVNT n20 5180MHz Ant1



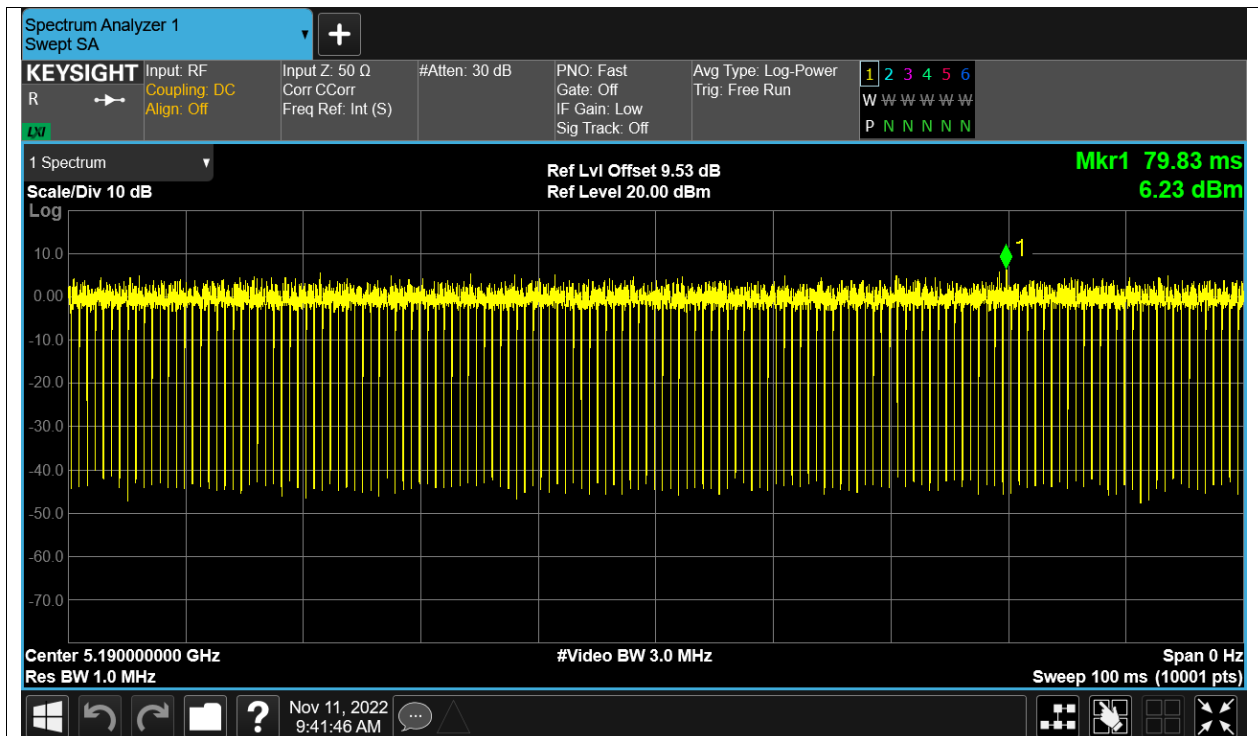
Duty Cycle NVNT n20 5200MHz Ant1



Duty Cycle NVNT n20 5240MHz Ant1



Duty Cycle NVNT n40 5190MHz Ant1



Duty Cycle NVNT n40 5230MHz Ant1



Maximum Conducted Output Power

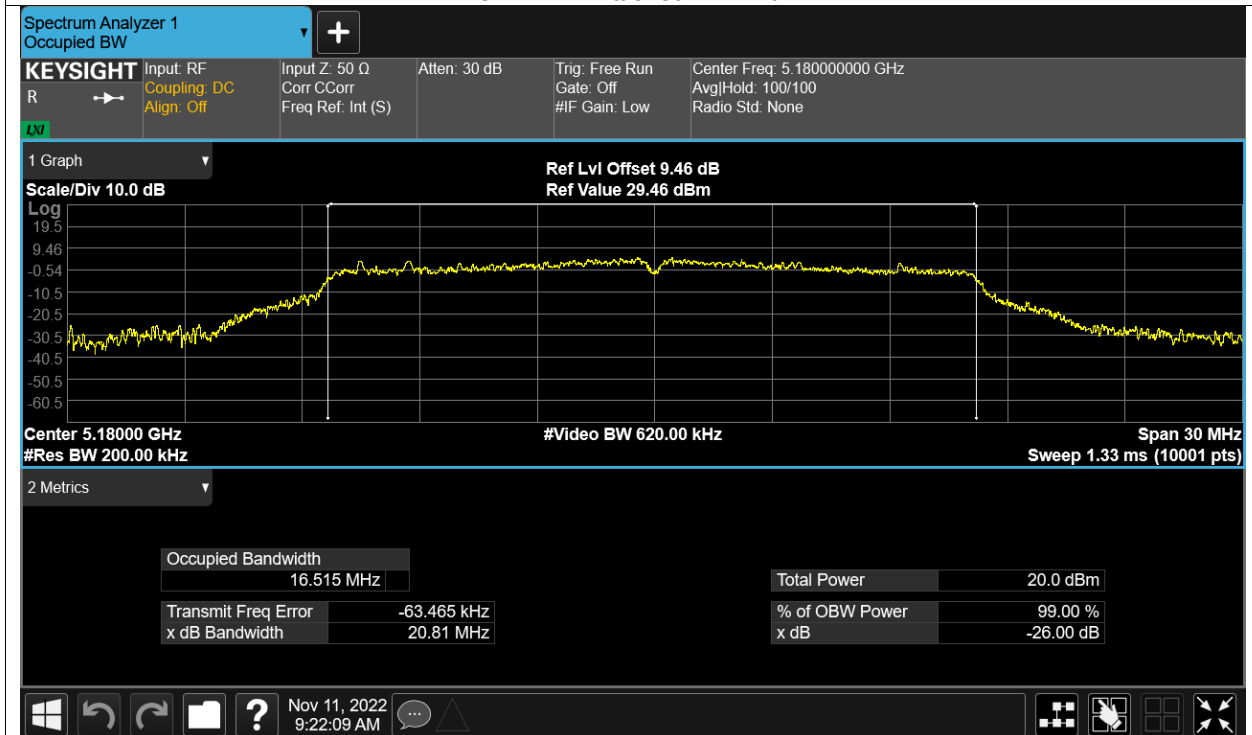
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	14.99	0.09	15.08	24	Pass
NVNT	a	5200	Ant1	14.64	0.09	14.73	24	Pass
NVNT	a	5240	Ant1	14.49	0.09	14.58	24	Pass
NVNT	ac20	5180	Ant1	12.68	0.09	12.77	24	Pass
NVNT	ac20	5200	Ant1	12.37	0.09	12.46	24	Pass
NVNT	ac20	5240	Ant1	12.14	0.09	12.23	24	Pass
NVNT	ac40	5190	Ant1	12.2	0.17	12.37	24	Pass
NVNT	ac40	5230	Ant1	11.74	0.18	11.92	24	Pass
NVNT	ac80	5210	Ant1	11.54	1.35	12.89	24	Pass
NVNT	n20	5180	Ant1	12.69	0.09	12.78	24	Pass
NVNT	n20	5200	Ant1	12.39	0.09	12.48	24	Pass
NVNT	n20	5240	Ant1	12.19	0.1	12.29	24	Pass
NVNT	n40	5190	Ant1	12.21	0.18	12.39	24	Pass
NVNT	n40	5230	Ant1	11.76	0.18	11.94	24	Pass

Occupied Channel Bandwidth

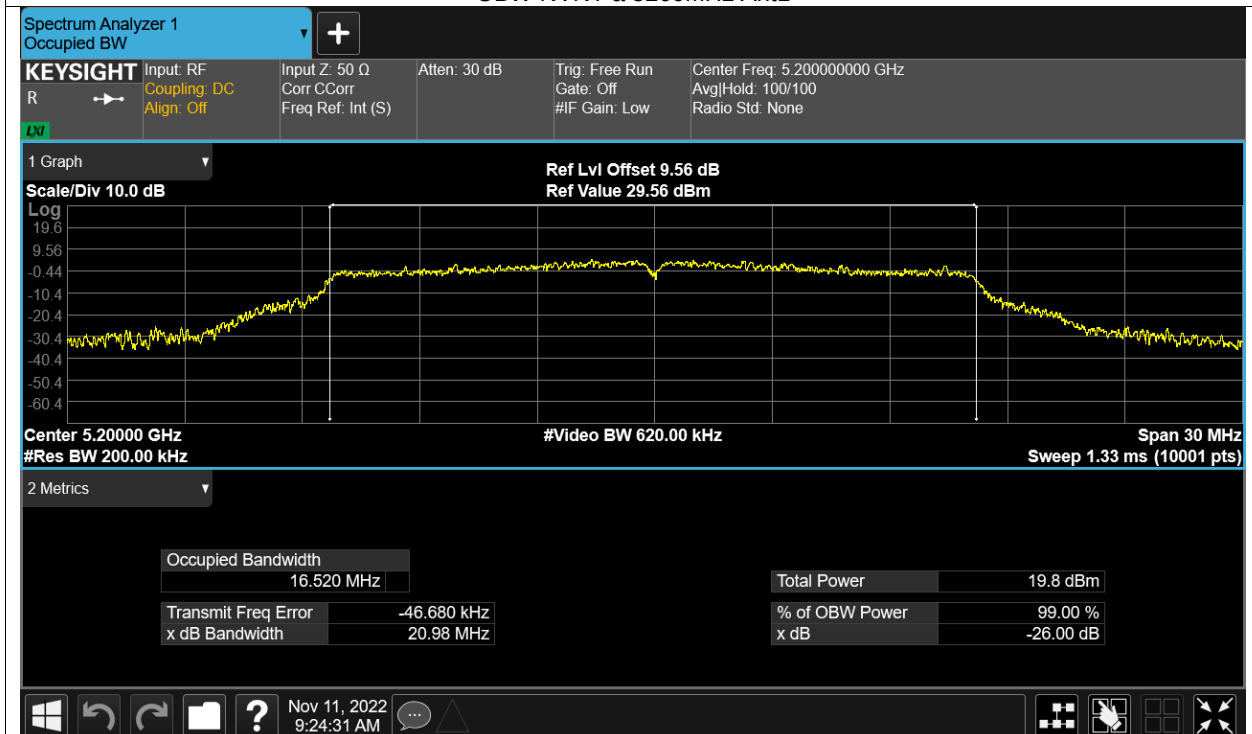
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.515
NVNT	a	5200	Ant1	16.52
NVNT	a	5240	Ant1	16.493
NVNT	ac20	5180	Ant1	17.633
NVNT	ac20	5200	Ant1	17.628
NVNT	ac20	5240	Ant1	17.654
NVNT	ac40	5190	Ant1	36.086
NVNT	ac40	5230	Ant1	36.052
NVNT	ac80	5210	Ant1	75.321
NVNT	n20	5180	Ant1	17.633
NVNT	n20	5200	Ant1	17.633
NVNT	n20	5240	Ant1	17.642
NVNT	n40	5190	Ant1	36.022
NVNT	n40	5230	Ant1	36.074

Test Graphs

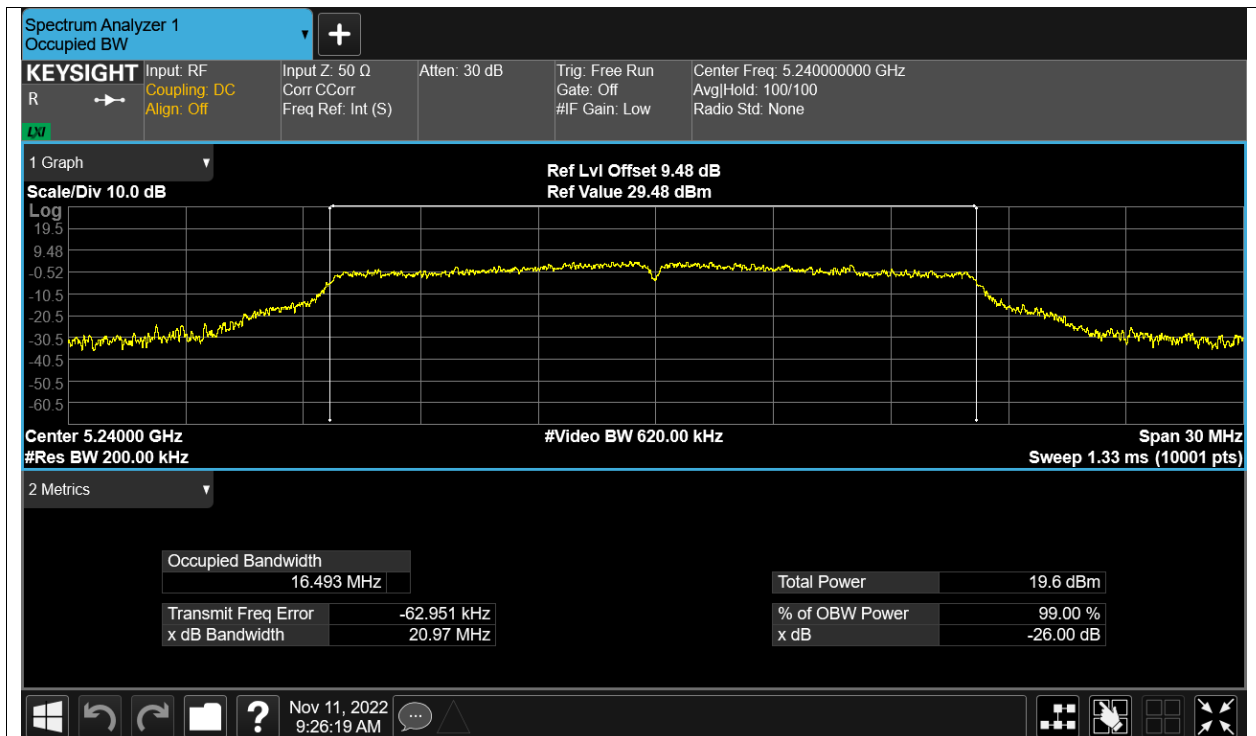
OBW NVNT a 5180MHz Ant1



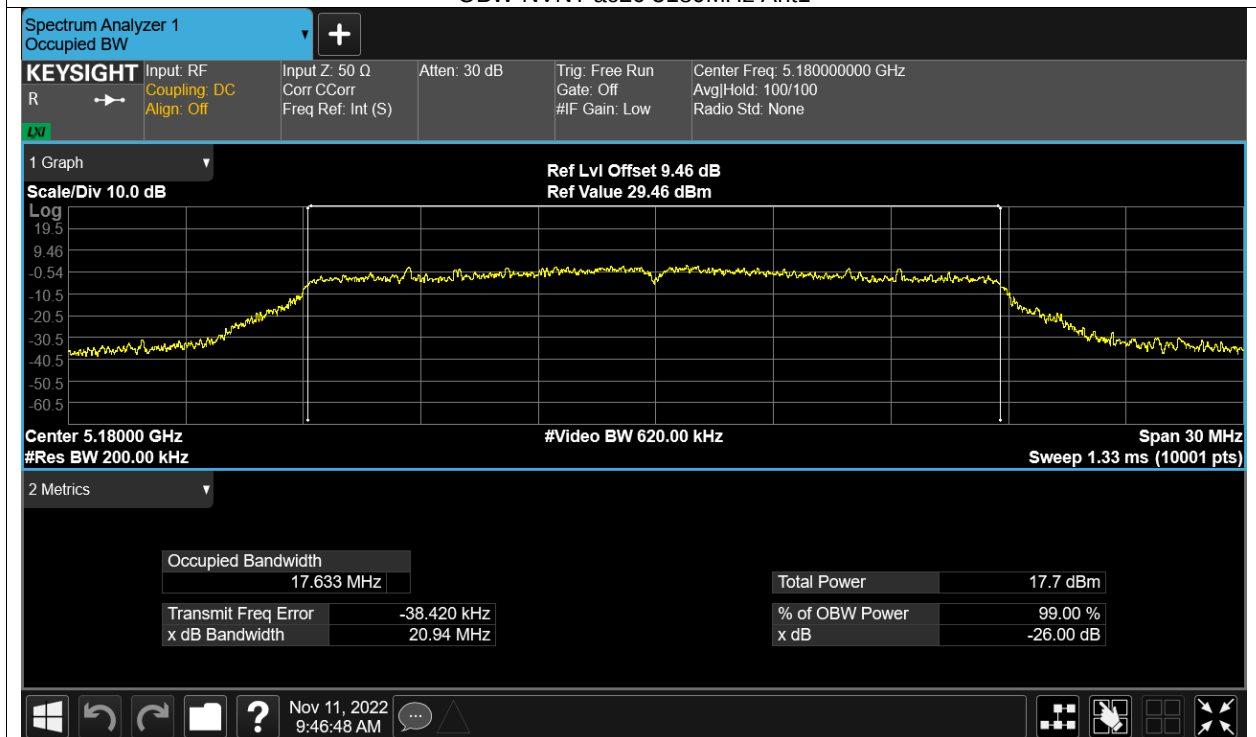
OBW NVNT a 5200MHz Ant1



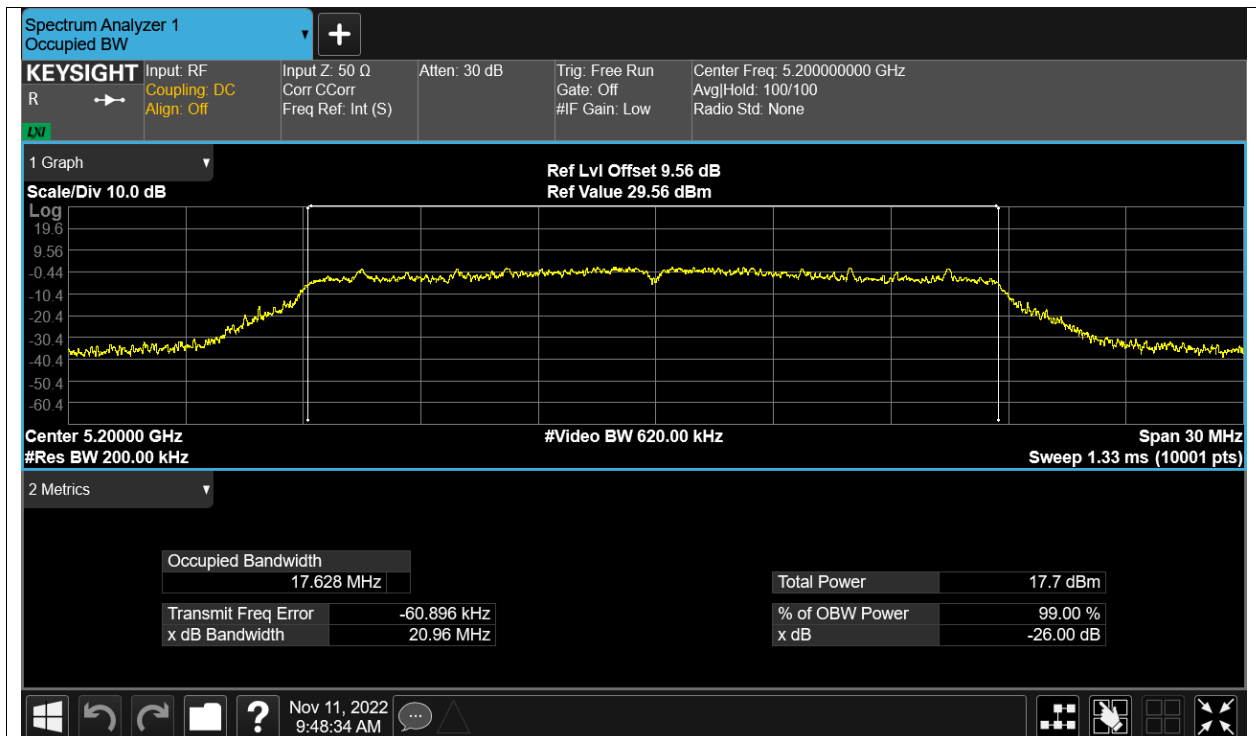
OBW NVNT a 5240MHz Ant1



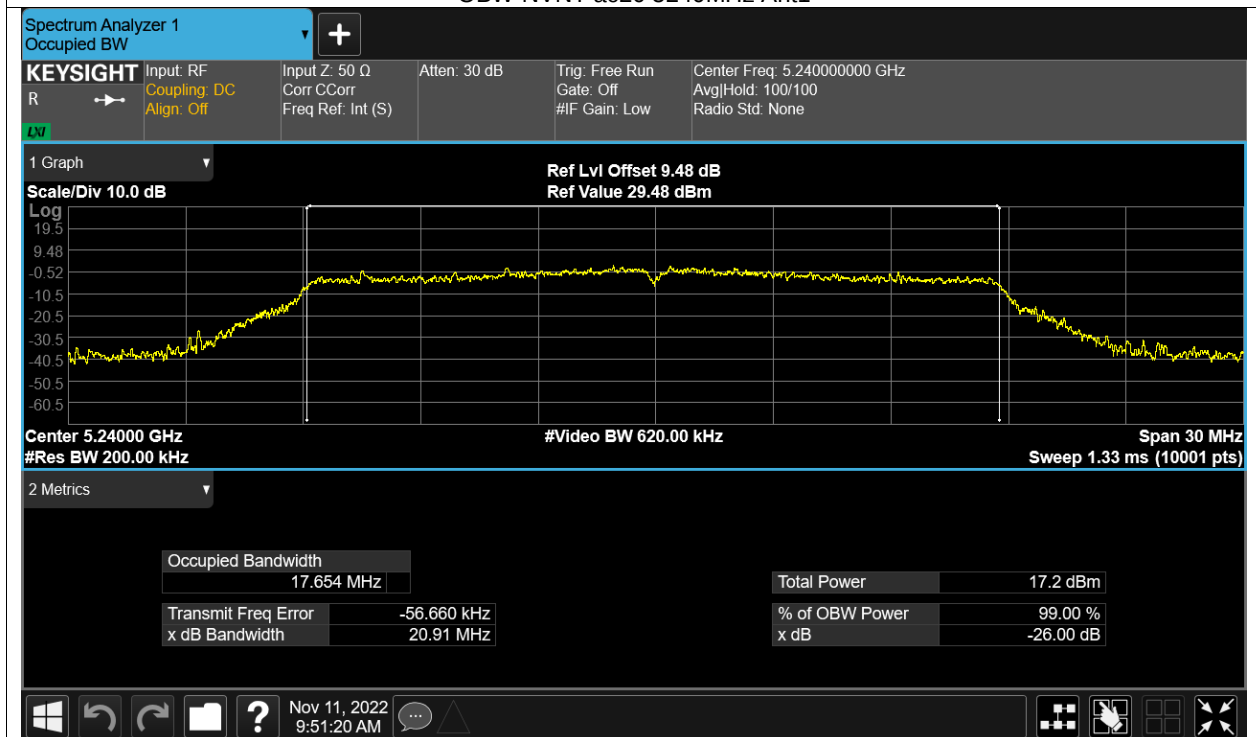
OBW NVNT ac20 5180MHz Ant1



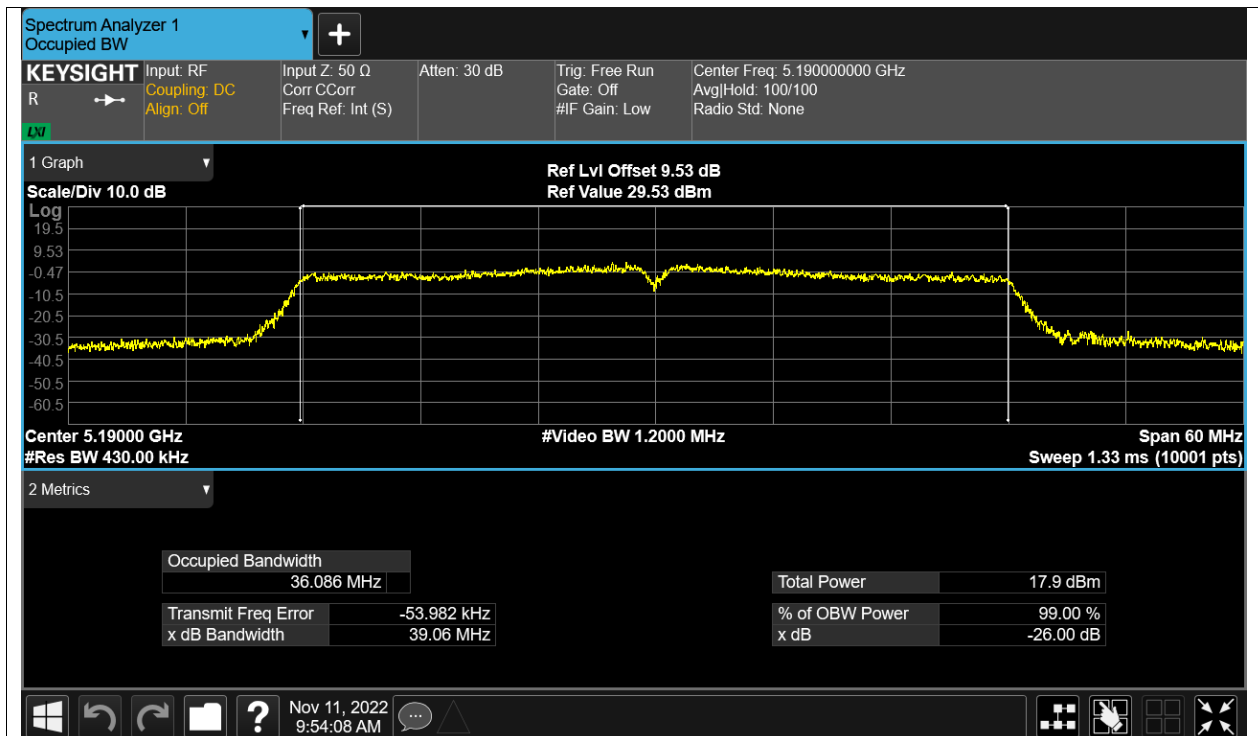
OBW NVNT ac20 5200MHz Ant1



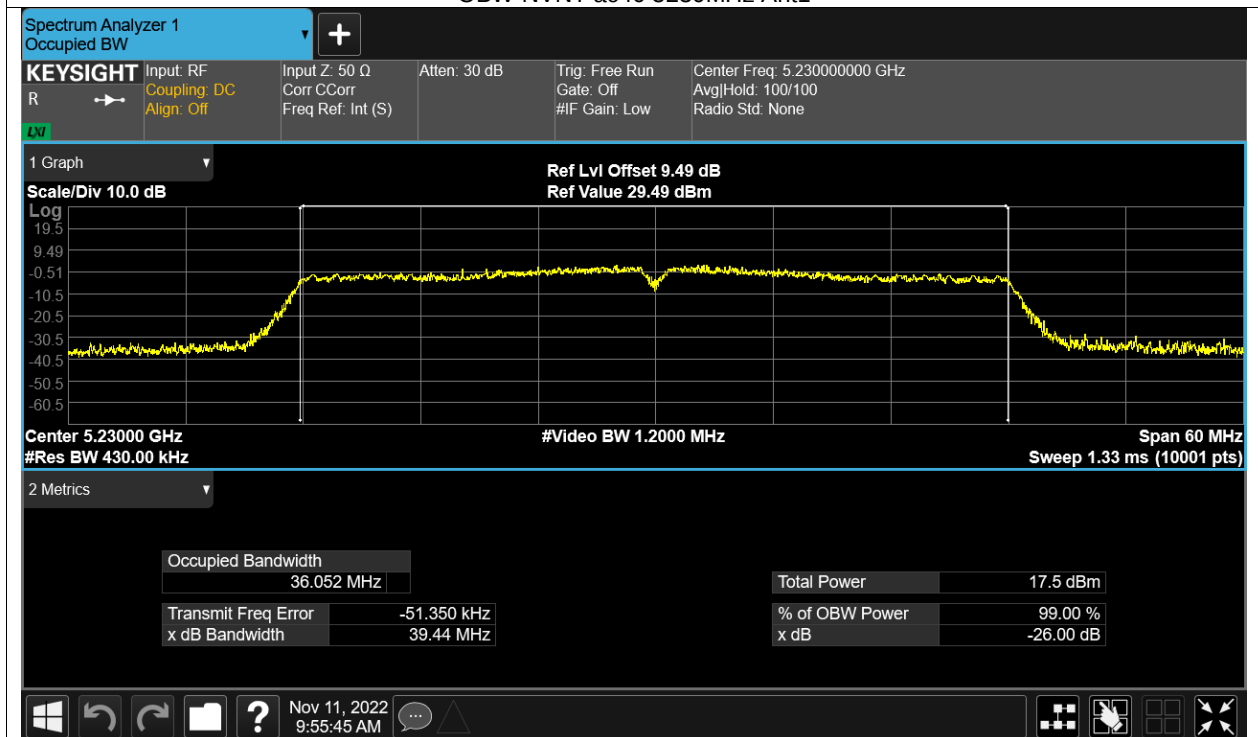
OBW NVNT ac20 5240MHz Ant1



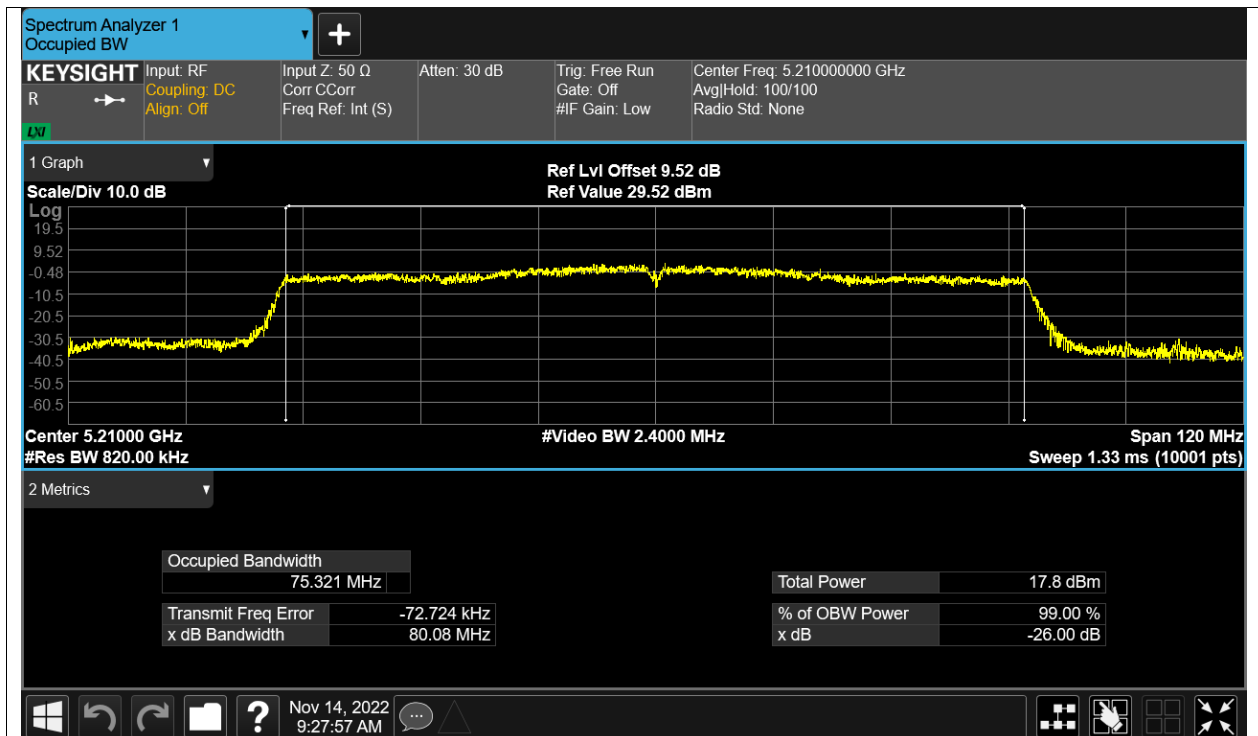
OBW NVNT ac40 5190MHz Ant1



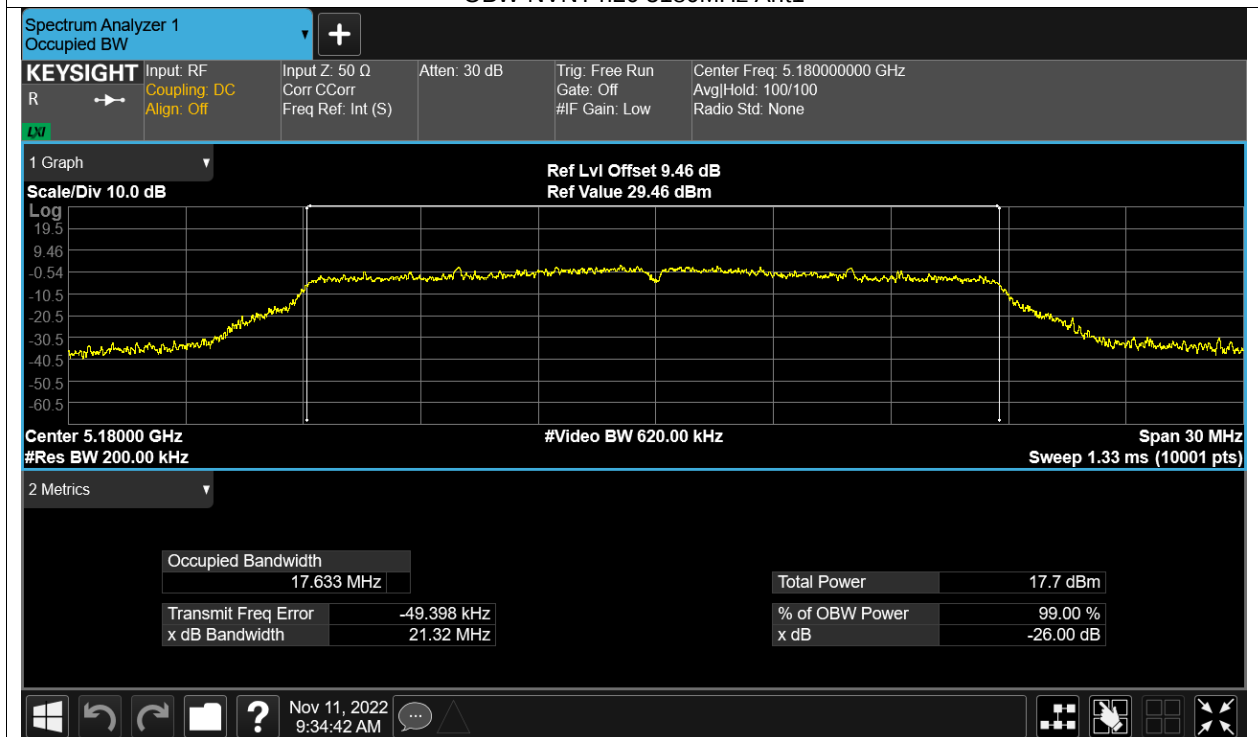
OBW NVNT ac40 5230MHz Ant1



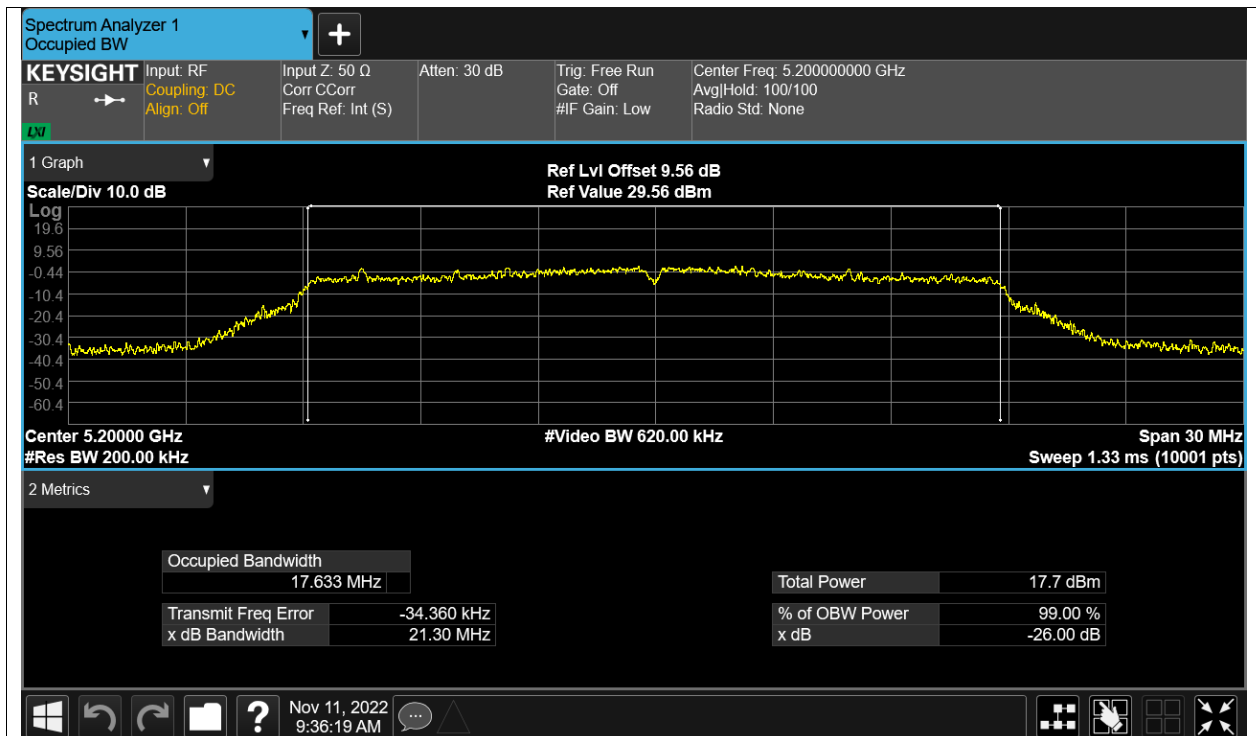
OBW NVNT ac80 5210MHz Ant1



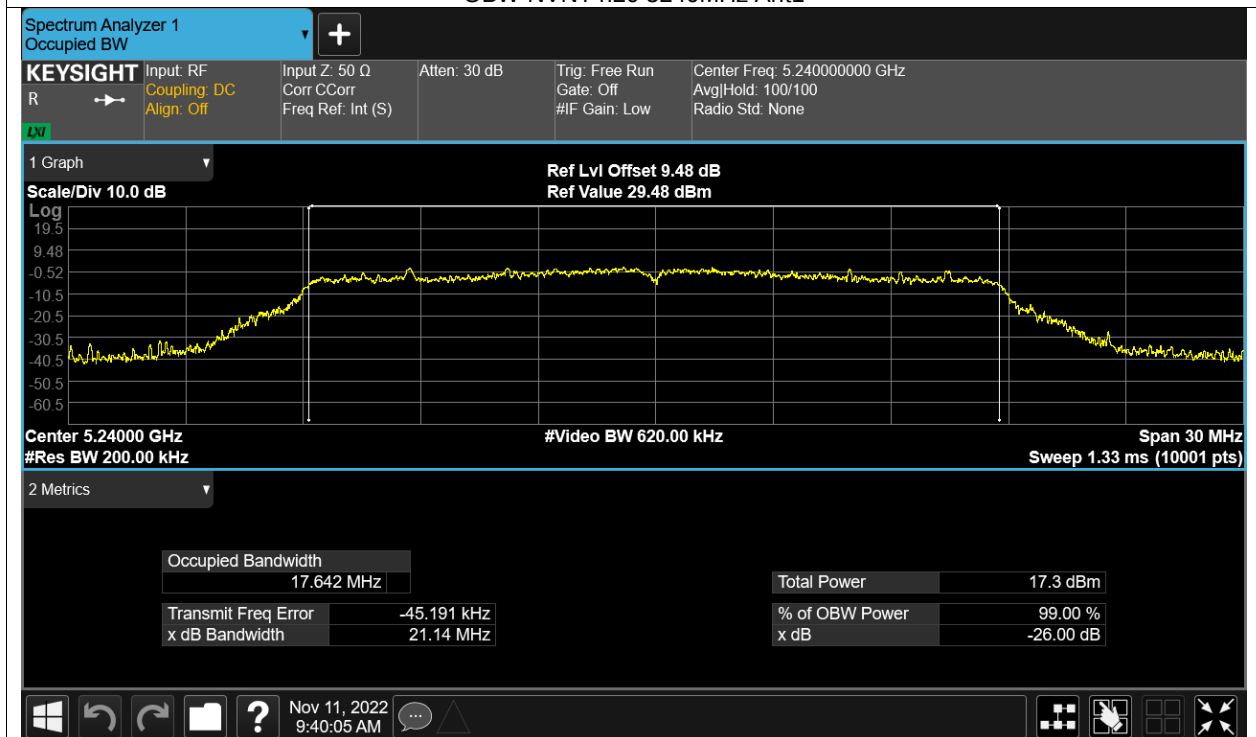
OBW NVNT n20 5180MHz Ant1



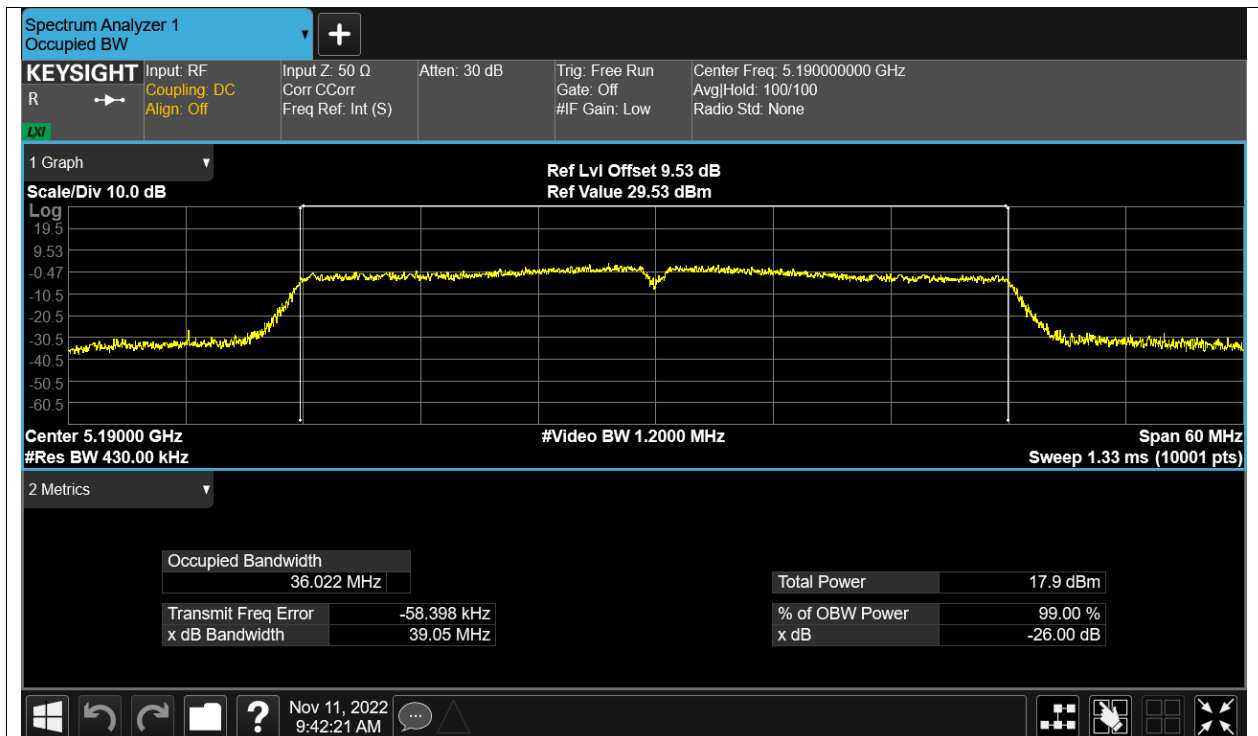
OBW NVNT n20 5200MHz Ant1



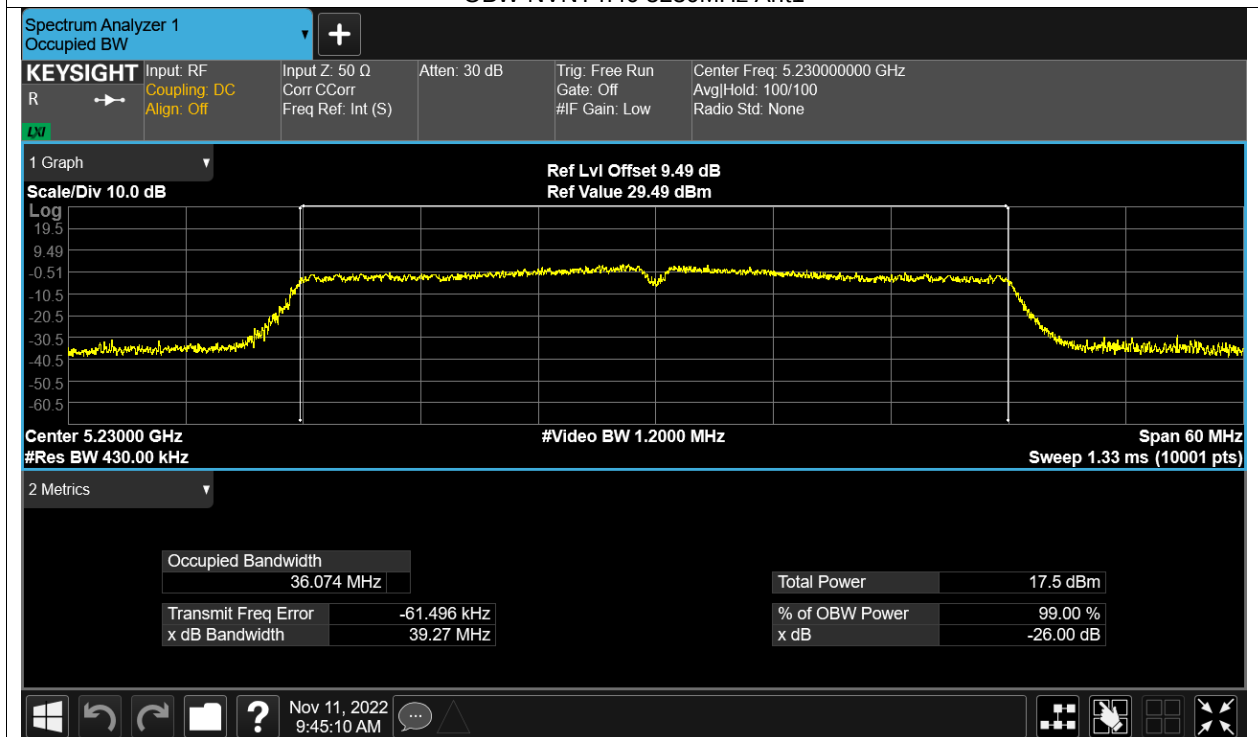
OBW NVNT n20 5240MHz Ant1



OBW NVNT n40 5190MHz Ant1



OBW NVNT n40 5230MHz Ant1



Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	5.572	11	Pass
NVNT	a	5200	Ant1	5.123	11	Pass
NVNT	a	5240	Ant1	5.061	11	Pass
NVNT	ac20	5180	Ant1	2.966	11	Pass
NVNT	ac20	5200	Ant1	2.618	11	Pass
NVNT	ac20	5240	Ant1	2.594	11	Pass
NVNT	ac40	5190	Ant1	0.087	11	Pass
NVNT	ac40	5230	Ant1	-0.224	11	Pass
NVNT	ac80	5210	Ant1	-4.553	11	Pass
NVNT	n20	5180	Ant1	2.692	11	Pass
NVNT	n20	5200	Ant1	3.259	11	Pass
NVNT	n20	5240	Ant1	2.683	11	Pass
NVNT	n40	5190	Ant1	0.216	11	Pass
NVNT	n40	5230	Ant1	-0.469	11	Pass

Appendix – 5.3G Wi-Fi

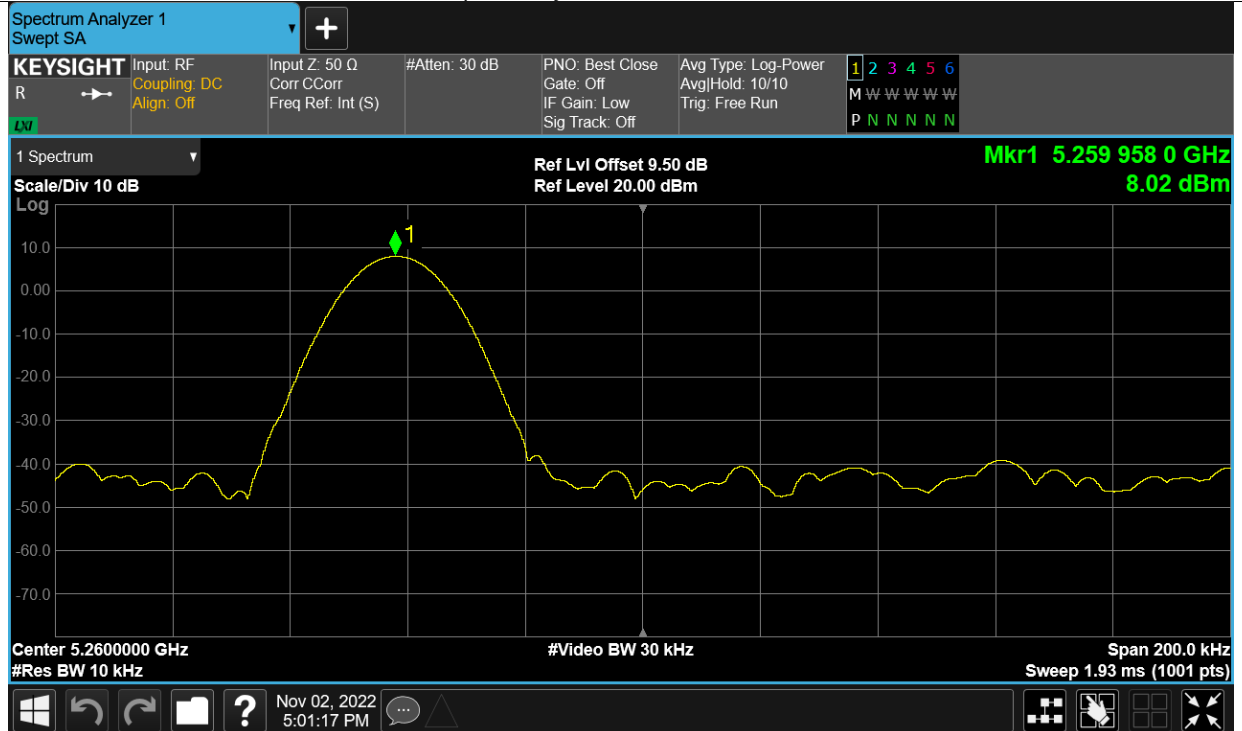
Test Data

Frequency Stability

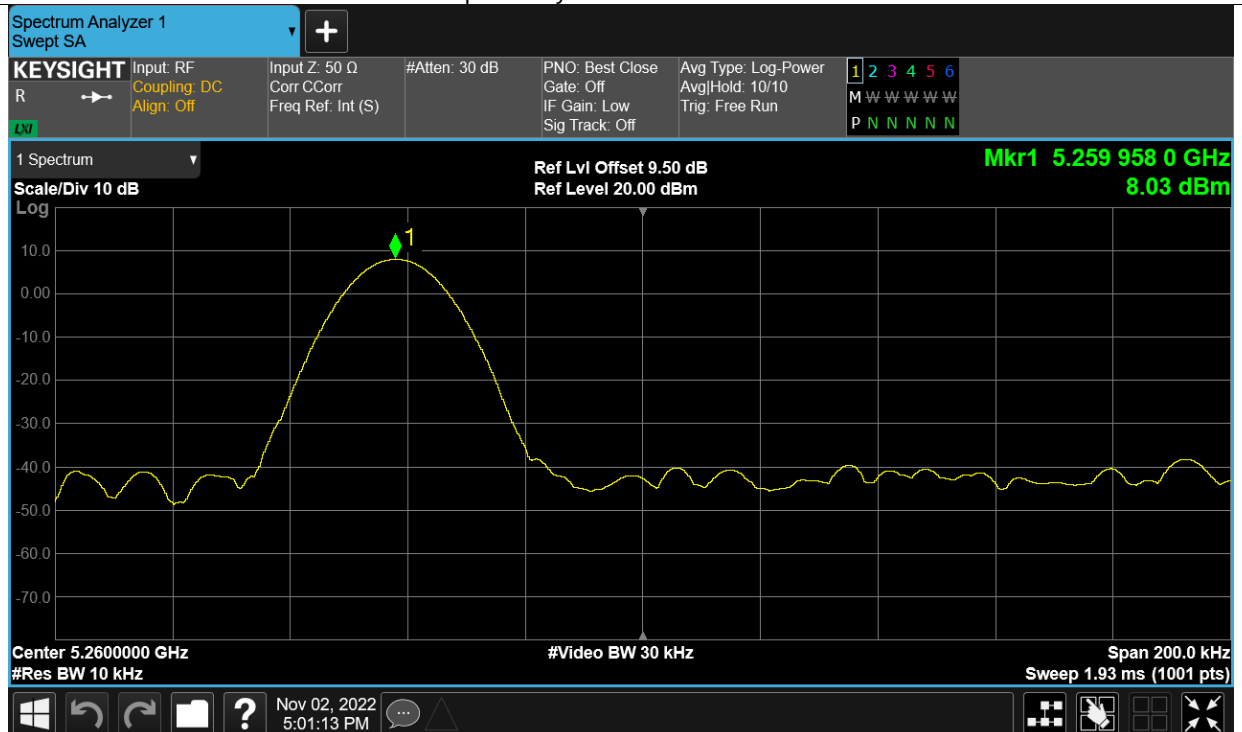
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Verdict
HVNT	a	5260	Ant1	5259.958	-7.98	Within authorized band	Pass
LVNT	a	5260	Ant1	5259.958	-7.98		Pass
NVHT	a	5260	Ant1	5259.958	-7.98		Pass
NVLT	a	5260	Ant1	5259.958	-7.98		Pass
NVNT	a	5260	Ant1	5259.958	-7.98		Pass
HVNT	ac80	5290	Ant1	5289.9594	-7.67		Pass
LVNT	ac80	5290	Ant1	5289.9592	-7.71		Pass
NVHT	ac80	5290	Ant1	5289.9594	-7.67		Pass
NVLT	ac80	5290	Ant1	5289.9592	-7.71		Pass
NVNT	ac80	5290	Ant1	5289.9592	-7.71		Pass
HVNT	n40	5270	Ant1	5269.9578	-8.01		Pass
LVNT	n40	5270	Ant1	5269.9578	-8.01		Pass
NVHT	n40	5270	Ant1	5269.9578	-8.01		Pass
NVLT	n40	5270	Ant1	5269.9578	-8.01		Pass
NVNT	n40	5270	Ant1	5269.9578	-8.01		Pass
Remark: “NTNV” means Normal Temperature Normal Voltage, “NVHT” means Normal Voltage High Temperature, “NVLT” means Normal Voltage Low Temperature. “LVNT” means Low Voltage Normal Temperature. “HVNT” means High Voltage Normal Temperature.							

Test Graphs

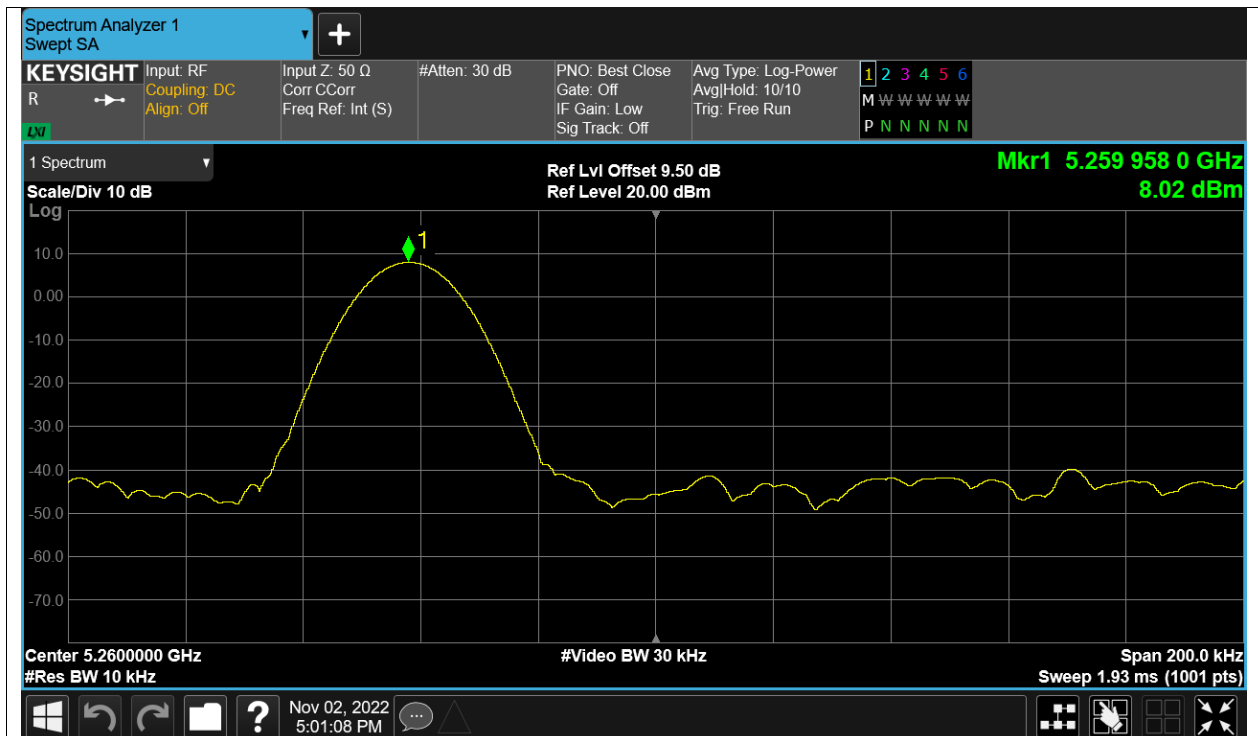
Freq. Stability HVNT a 5260MHz Ant1



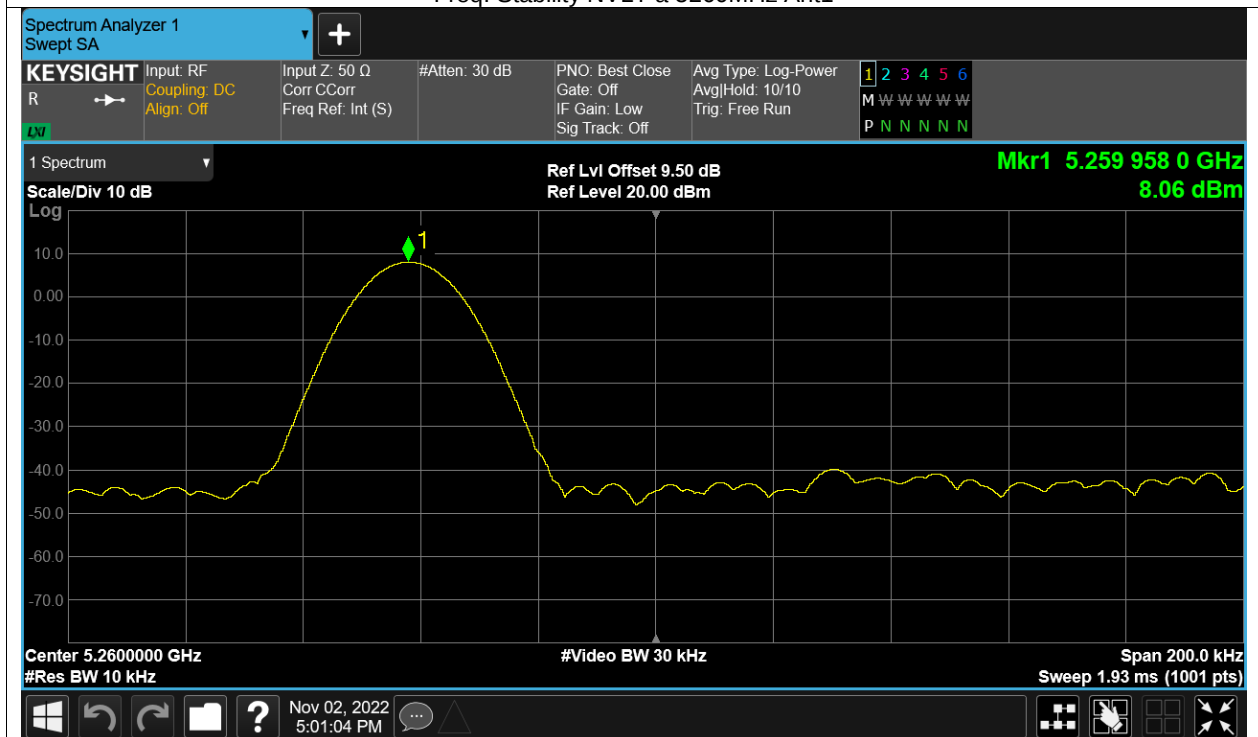
Freq. Stability LVNT a 5260MHz Ant1



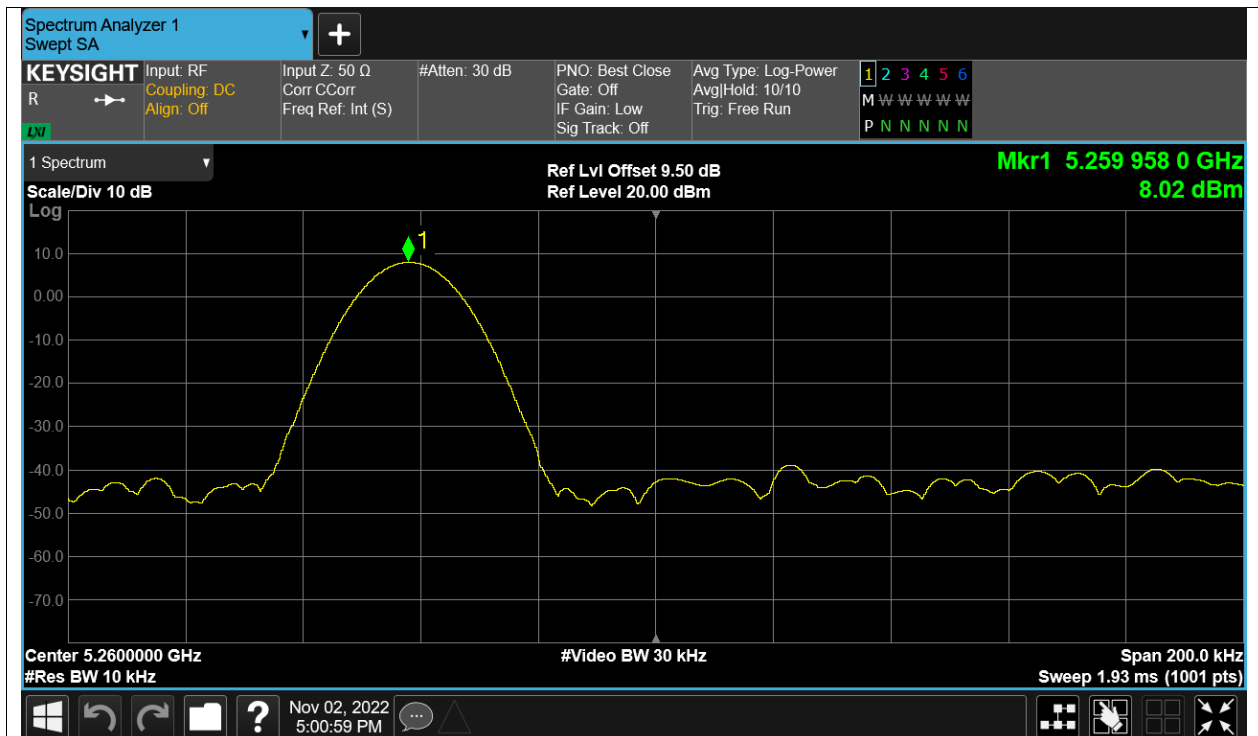
Freq. Stability NVHT a 5260MHz Ant1



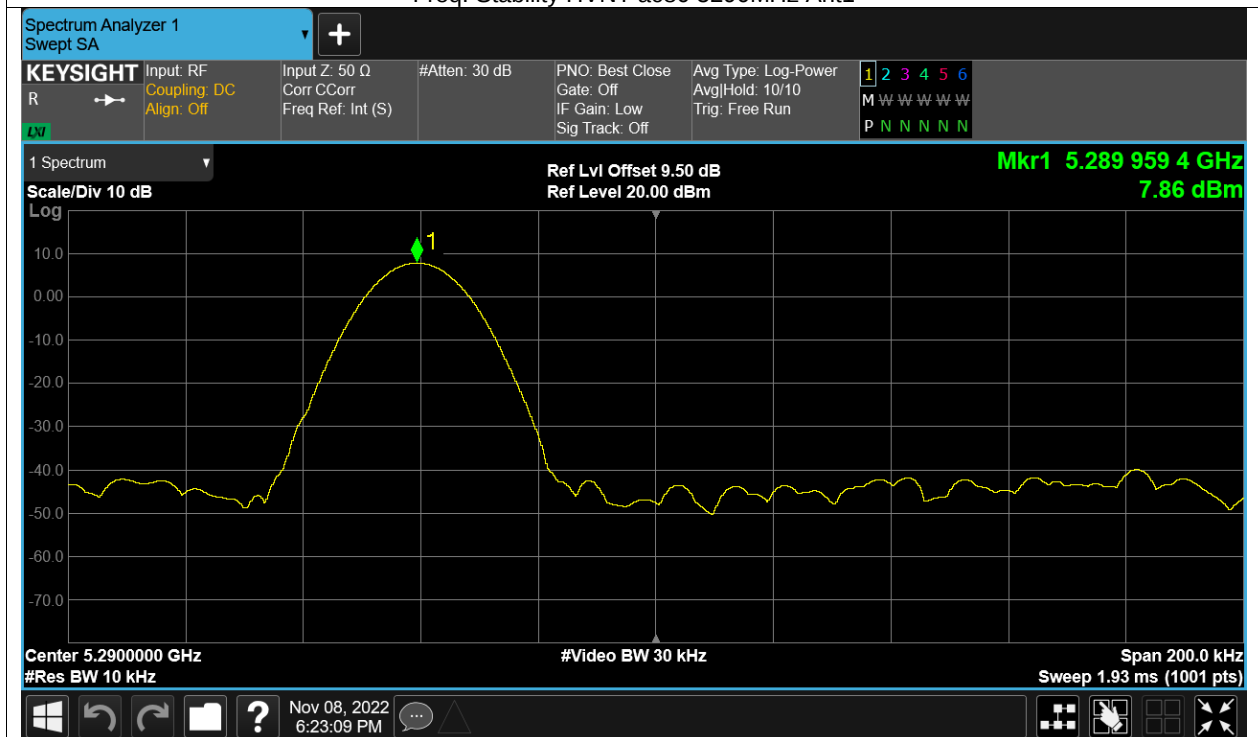
Freq. Stability NVLT a 5260MHz Ant1



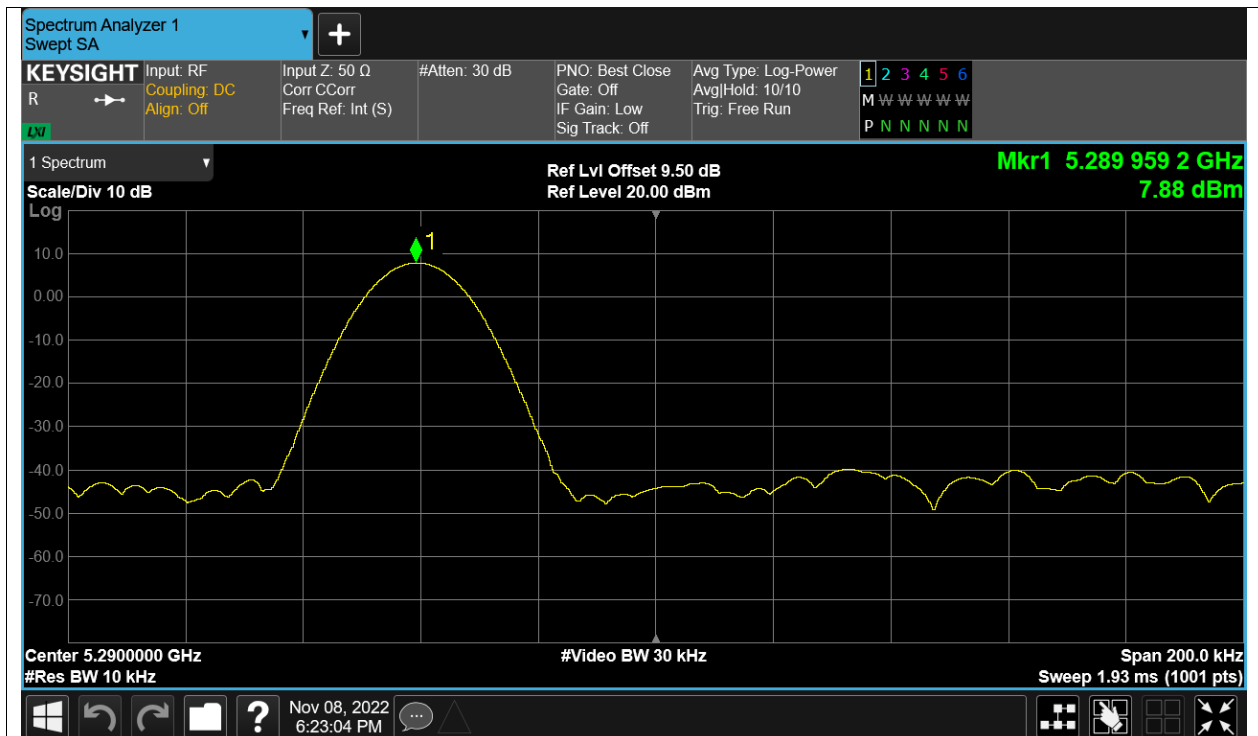
Freq. Stability NVNT a 5260MHz Ant1



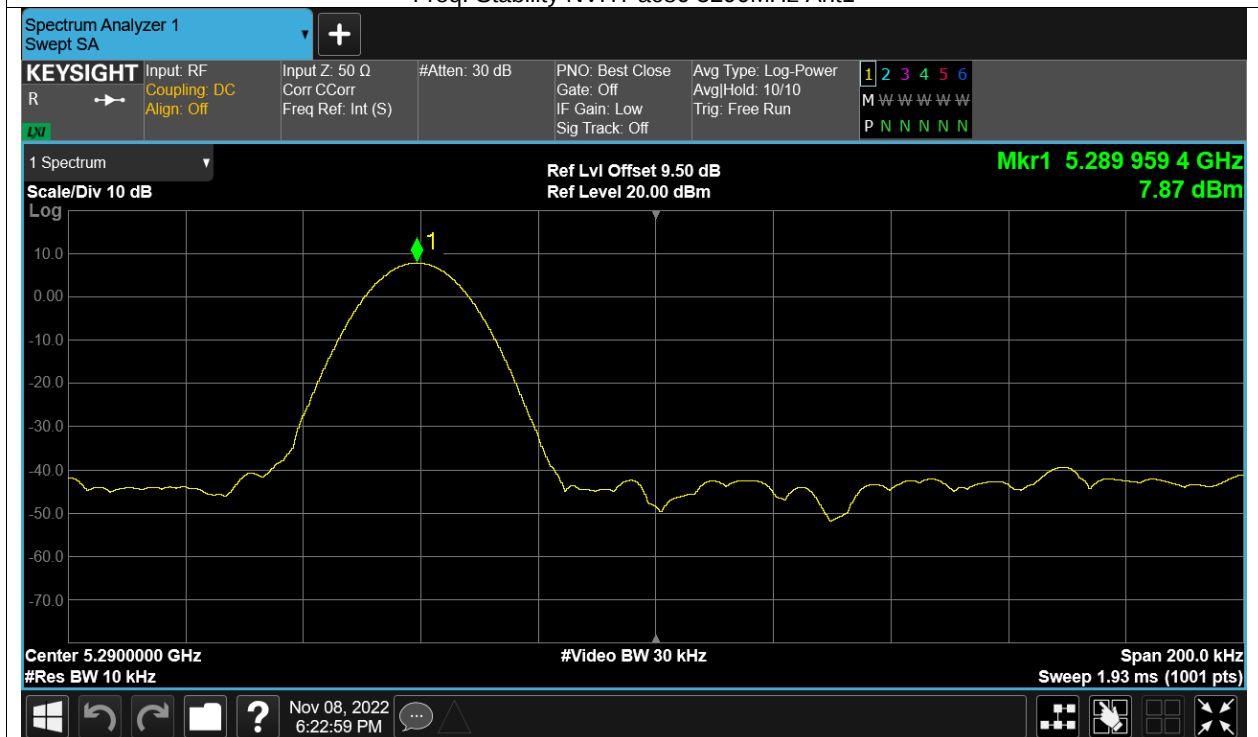
Freq. Stability HVNT ac80 5290MHz Ant1



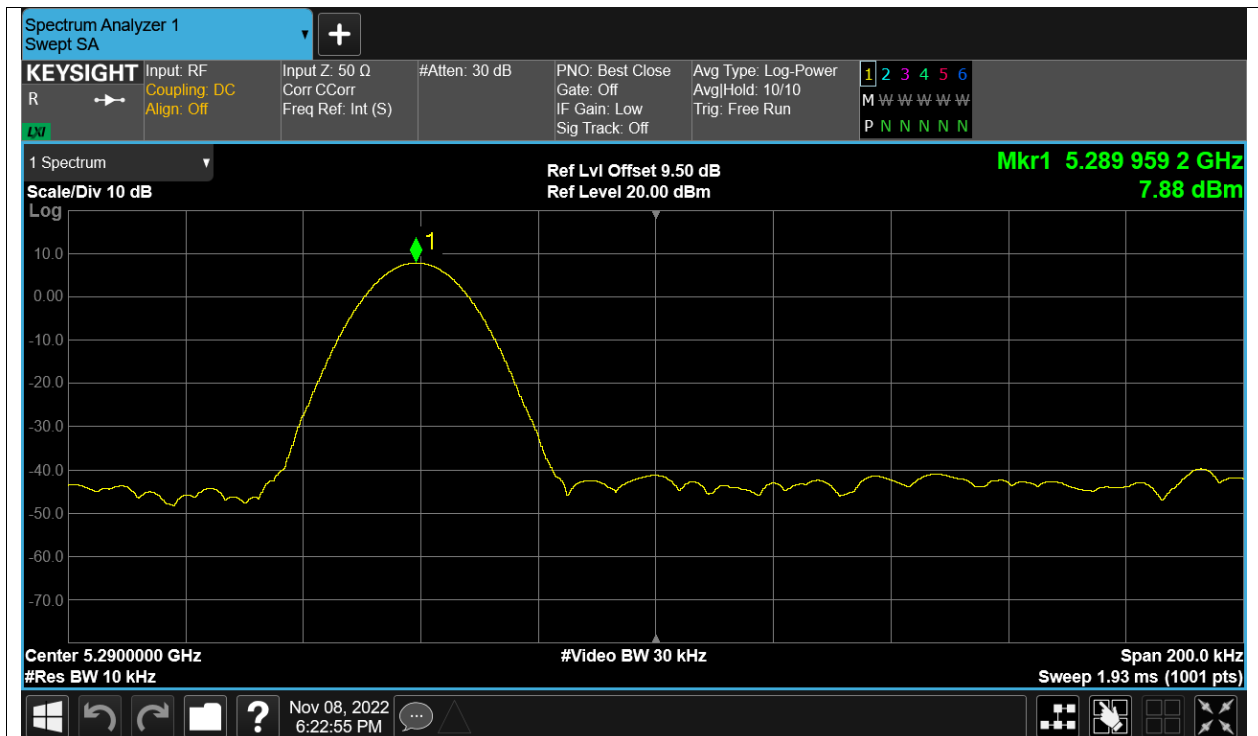
Freq. Stability LVNT ac80 5290MHz Ant1



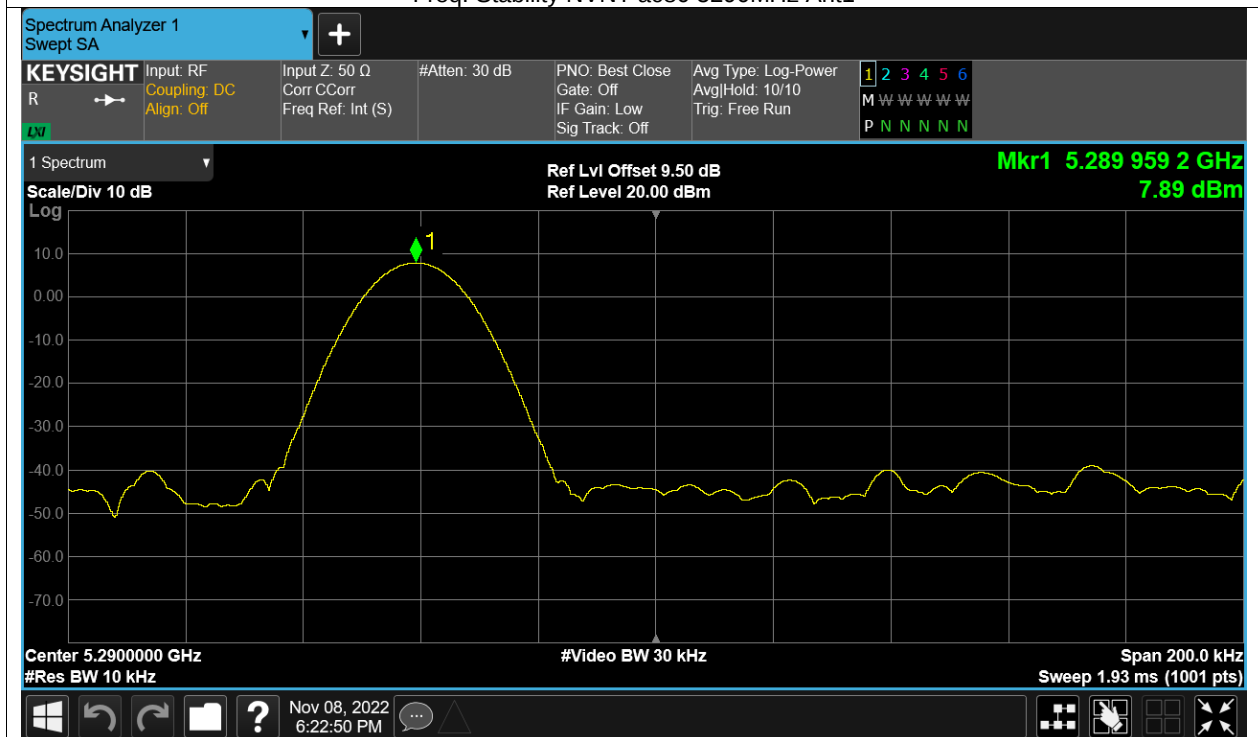
Freq. Stability NVHT ac80 5290MHz Ant1



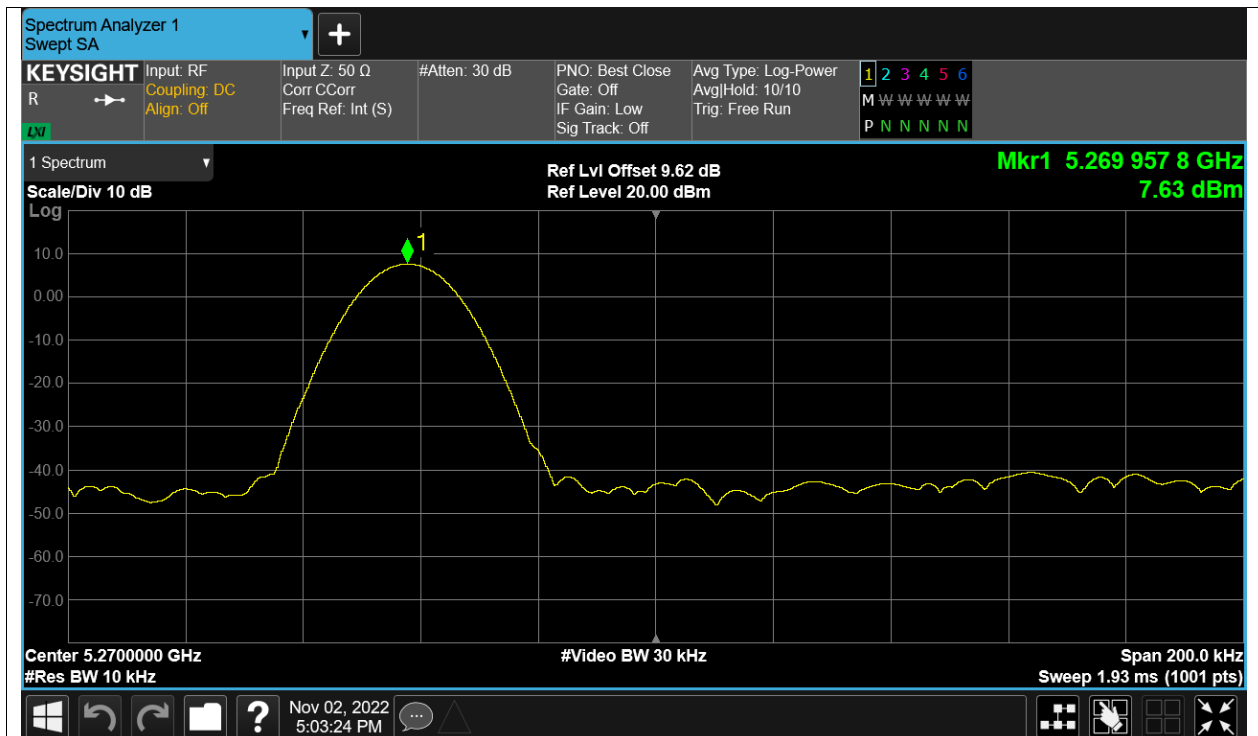
Freq. Stability NVLT ac80 5290MHz Ant1



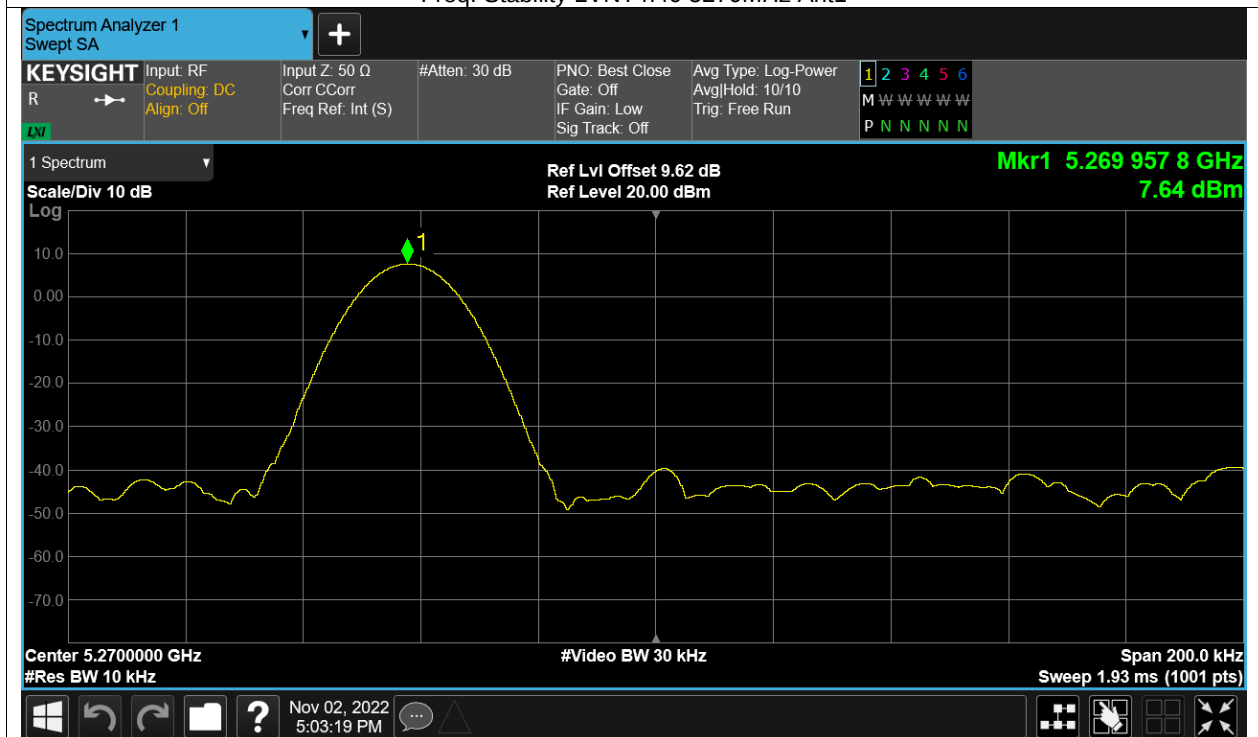
Freq. Stability NVNT ac80 5290MHz Ant1



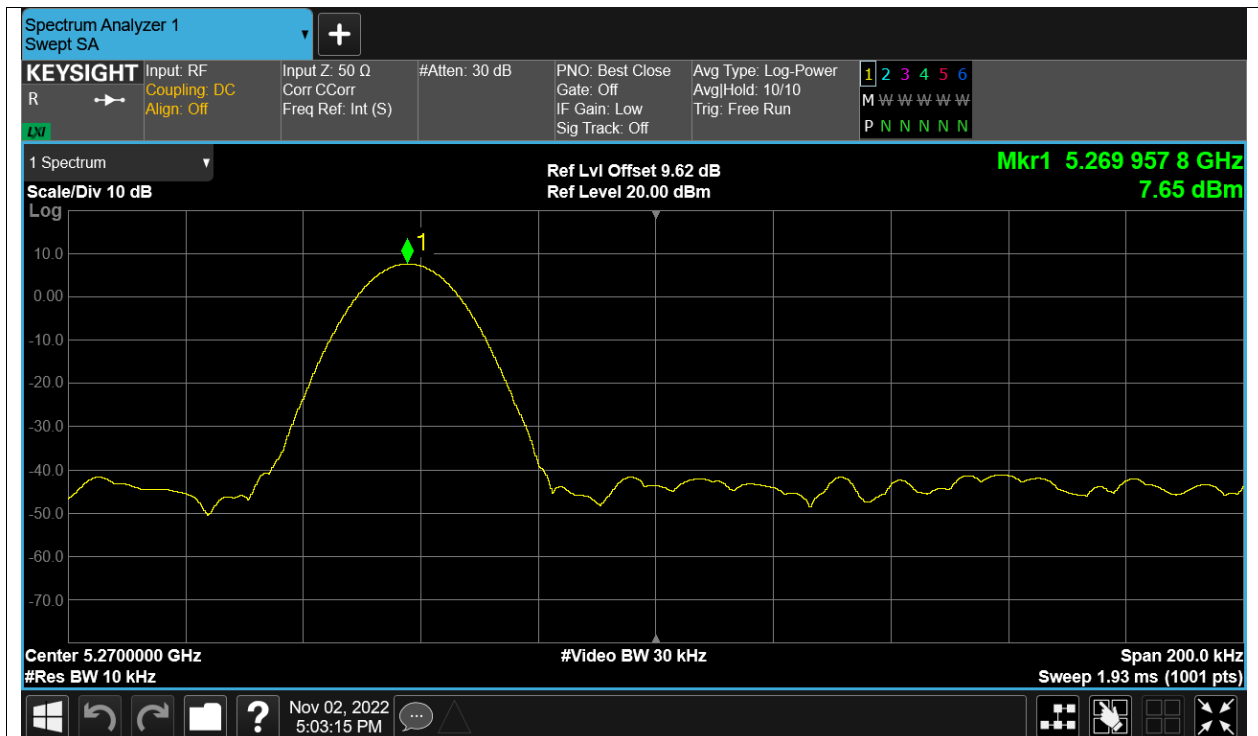
Freq. Stability HVNT n40 5270MHz Ant1



Freq. Stability LVNT n40 5270MHz Ant1



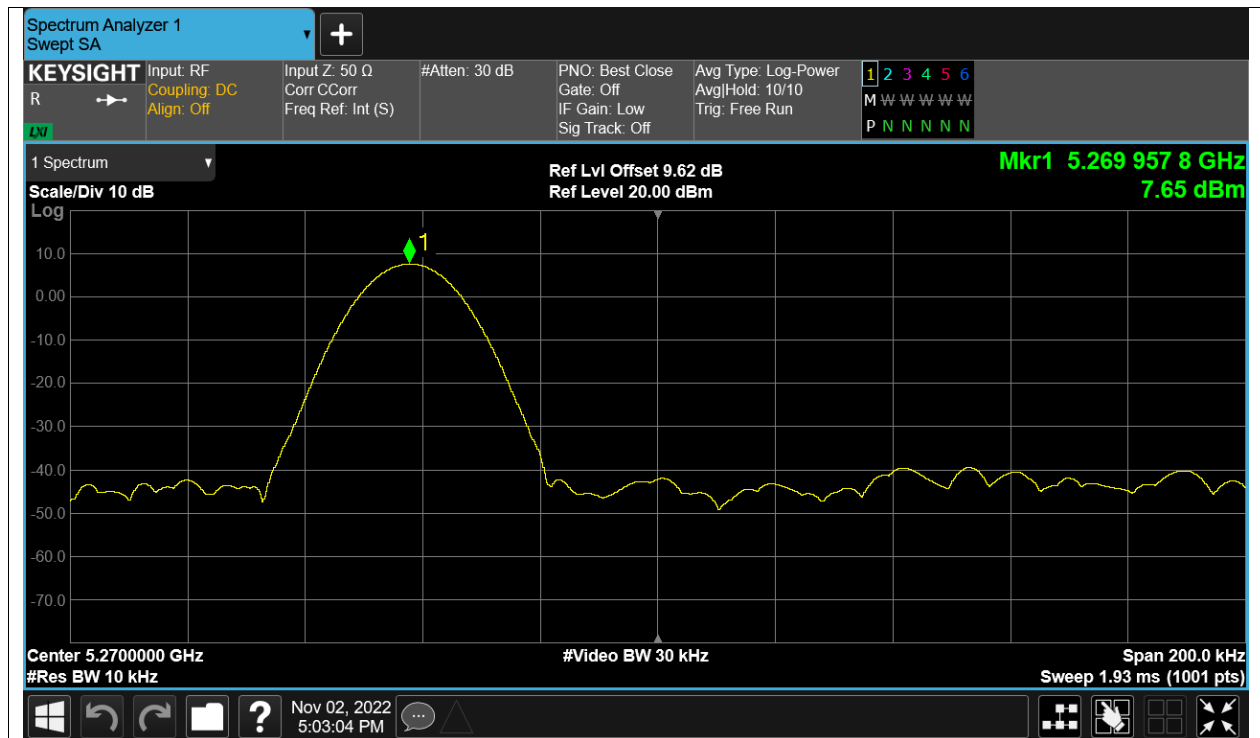
Freq. Stability NVHT n40 5270MHz Ant1



Freq. Stability NVLT n40 5270MHz Ant1



Freq. Stability NVNT n40 5270MHz Ant1

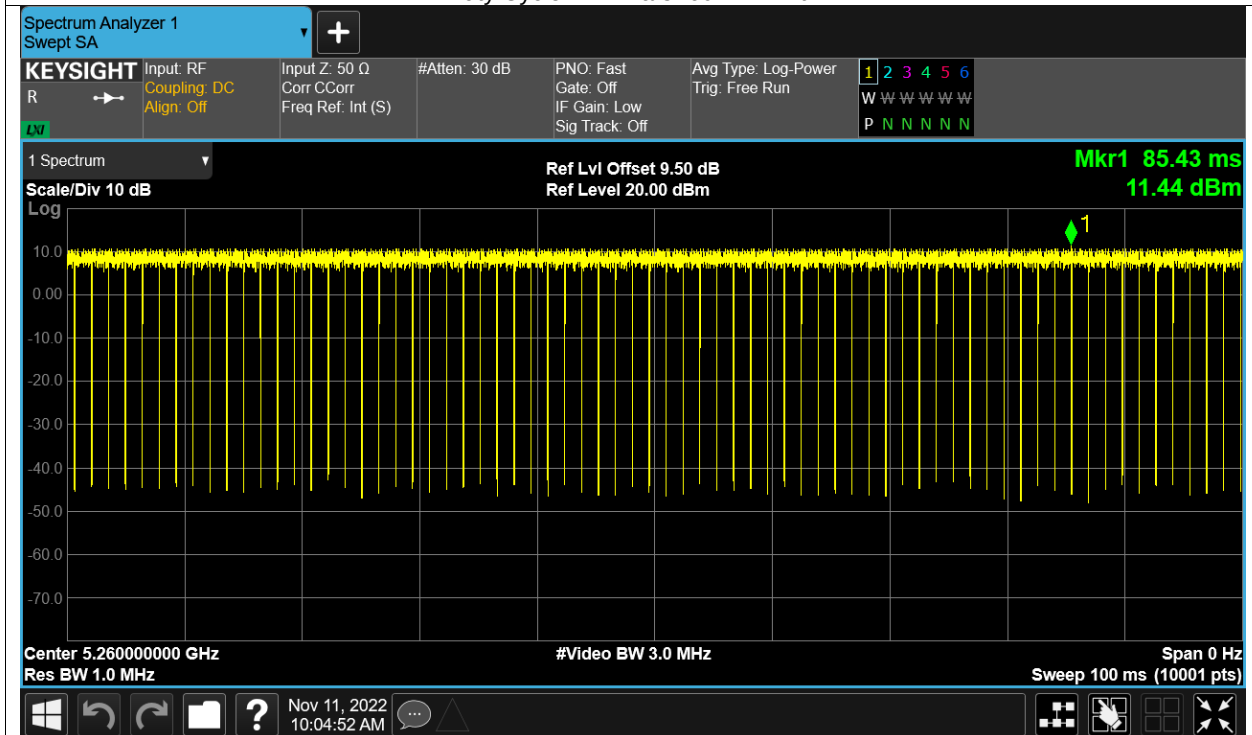


Duty Cycle

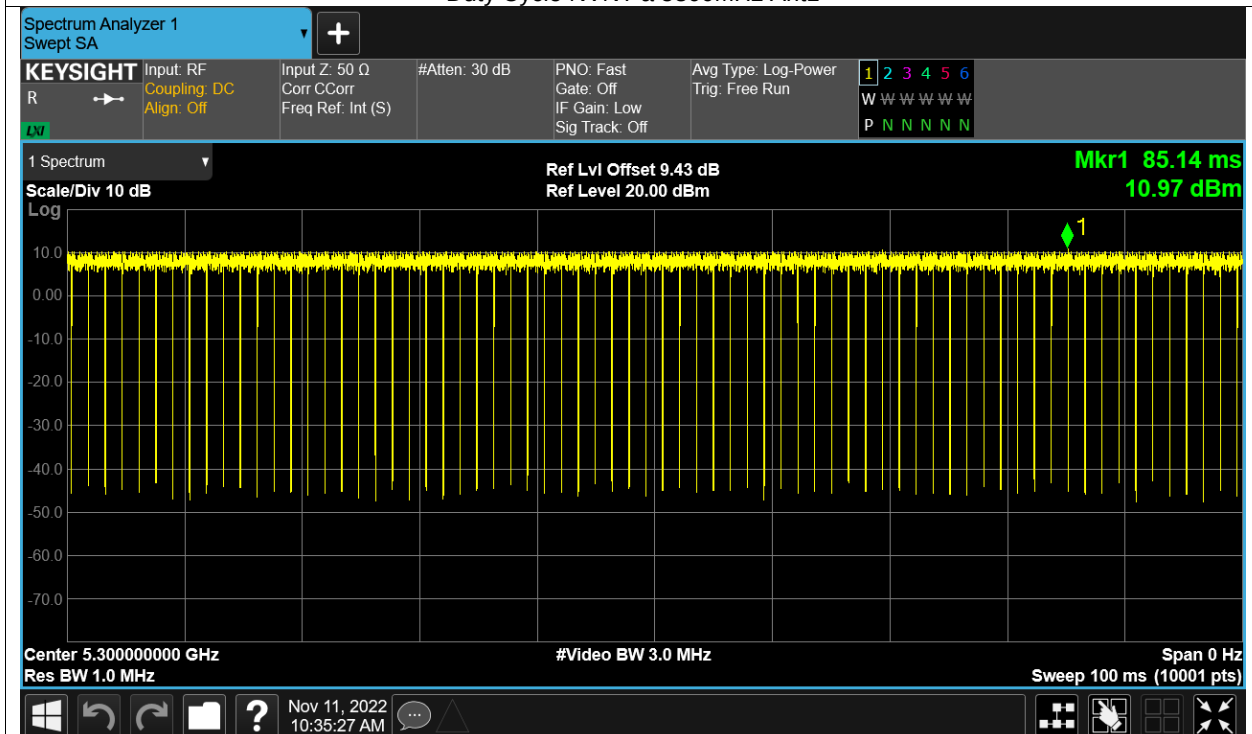
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5260	Ant1	97.92	0.09
NVNT	a	5300	Ant1	97.91	0.09
NVNT	a	5320	Ant1	97.91	0.09
NVNT	ac20	5260	Ant1	97.8	0.1
NVNT	ac20	5300	Ant1	97.8	0.1
NVNT	ac20	5320	Ant1	97.78	0.1
NVNT	ac40	5270	Ant1	96	0.18
NVNT	ac40	5310	Ant1	95.81	0.19
NVNT	ac80	5290	Ant1	72.92	1.37
NVNT	n20	5260	Ant1	97.82	0.1
NVNT	n20	5300	Ant1	97.81	0.1
NVNT	n20	5320	Ant1	97.81	0.1
NVNT	n40	5270	Ant1	95.93	0.18
NVNT	n40	5310	Ant1	95.89	0.18

Test Graphs

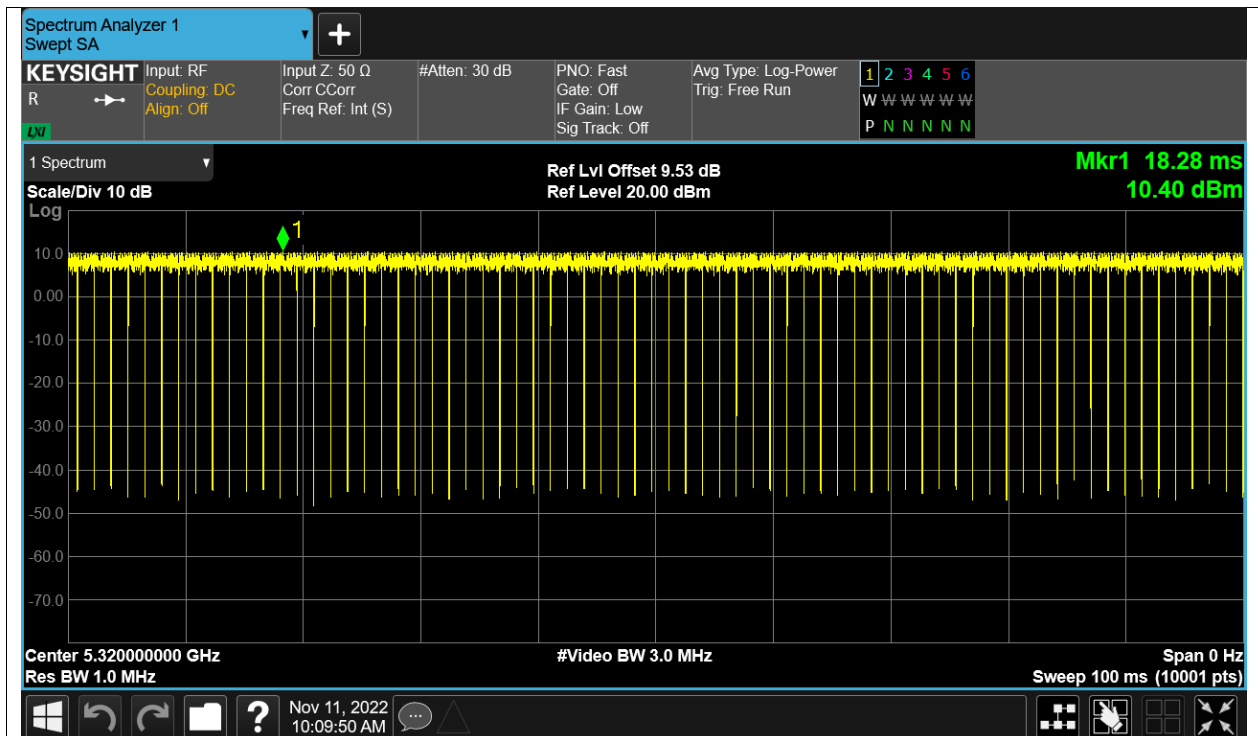
Duty Cycle NVNT a 5260MHz Ant1



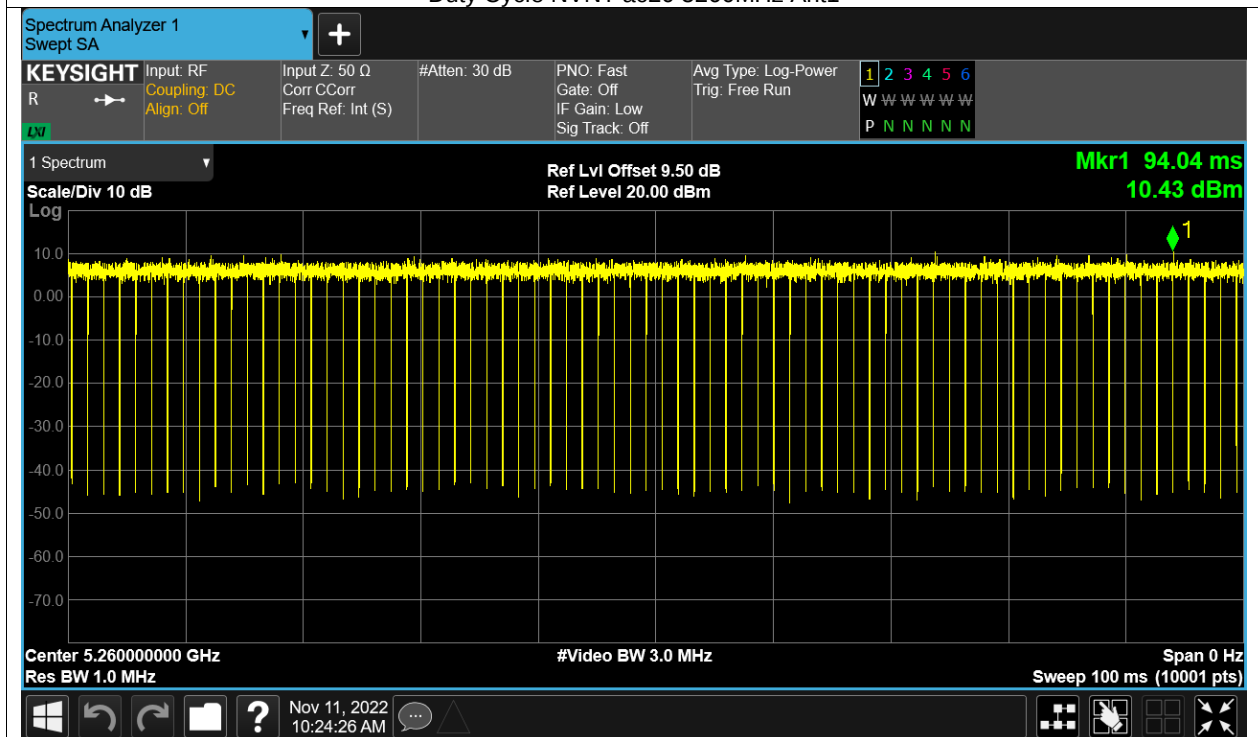
Duty Cycle NVNT a 5300MHz Ant1



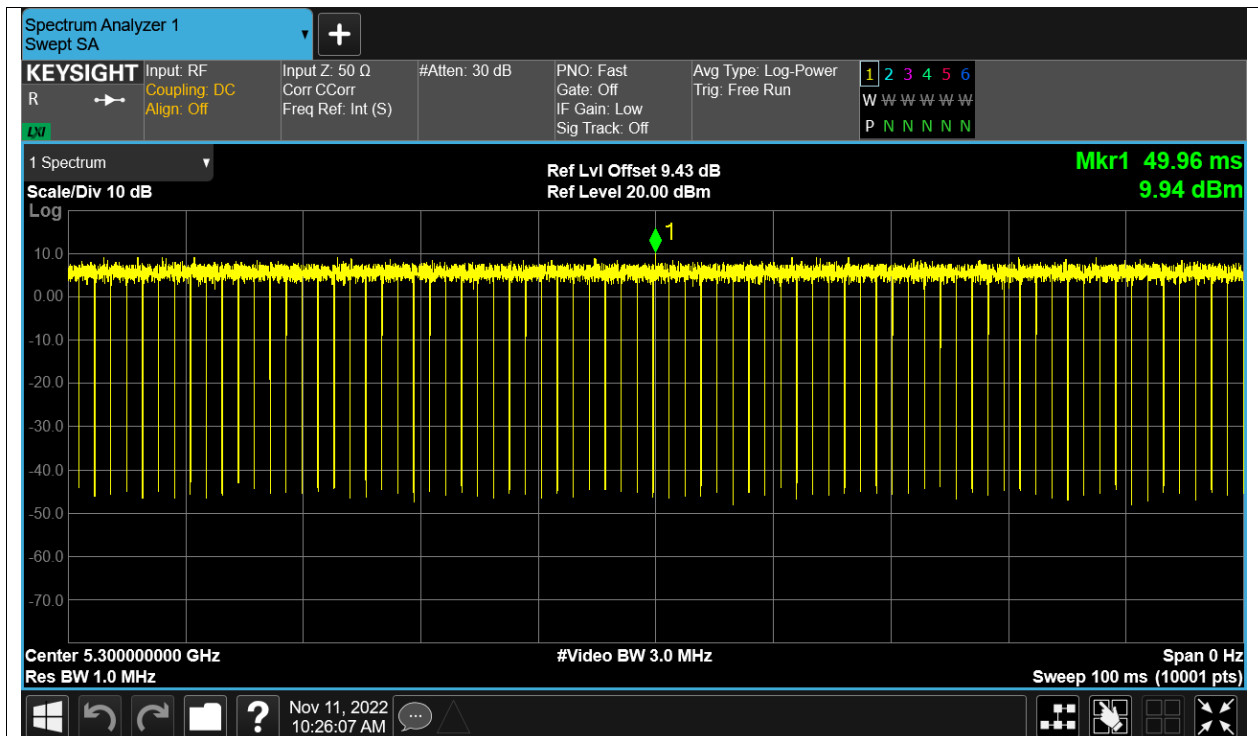
Duty Cycle NVNT a 5320MHz Ant1



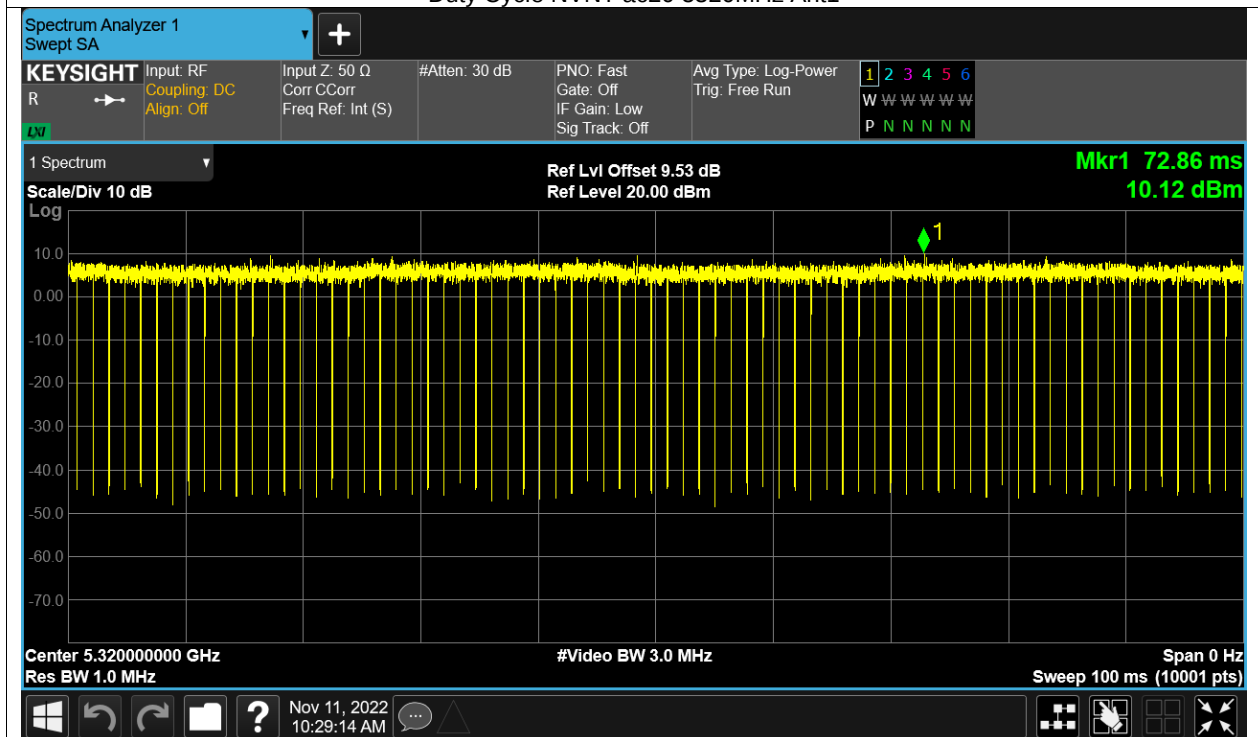
Duty Cycle NVNT ac20 5260MHz Ant1



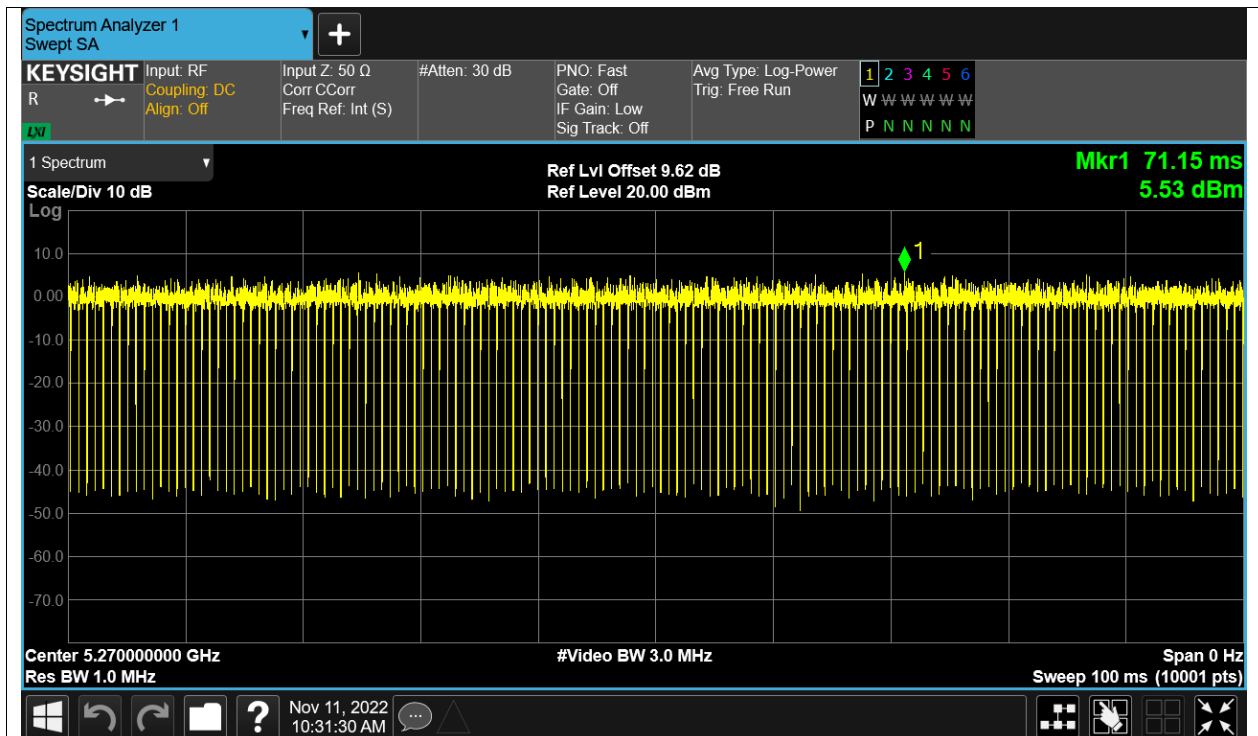
Duty Cycle NVNT ac20 5300MHz Ant1



Duty Cycle NVNT ac20 5320MHz Ant1



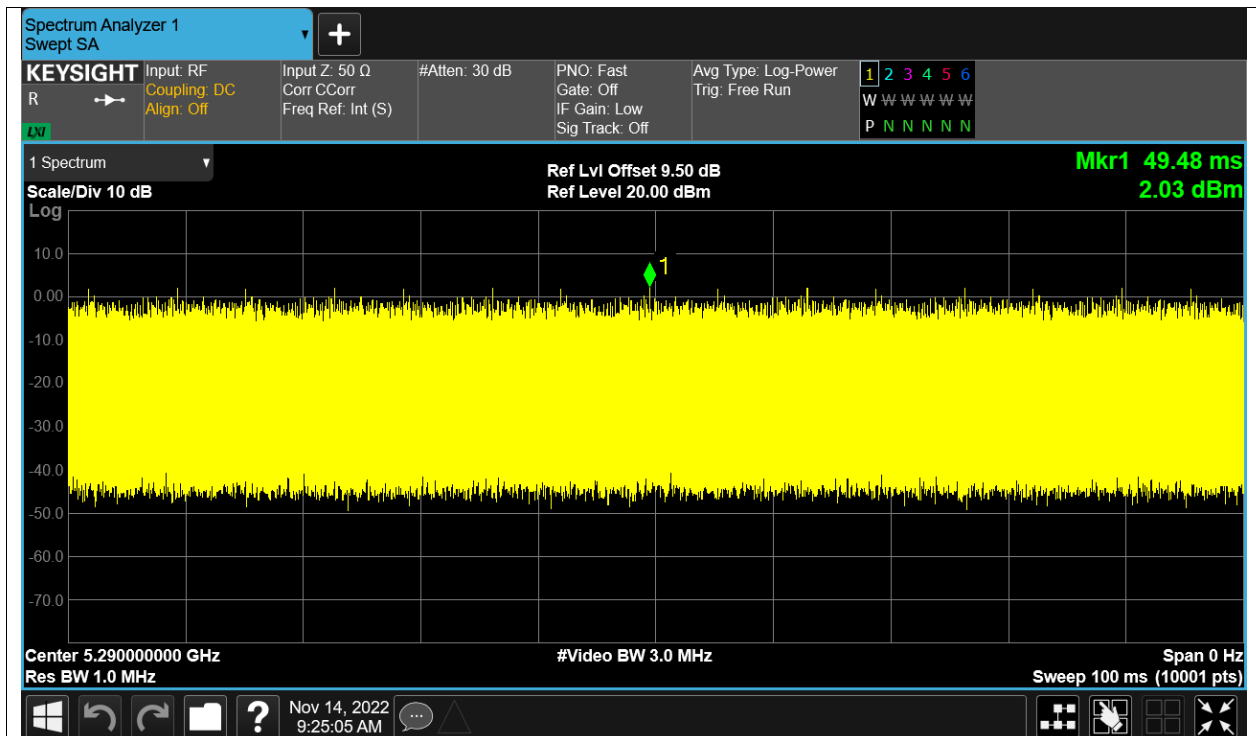
Duty Cycle NVNT ac40 5270MHz Ant1



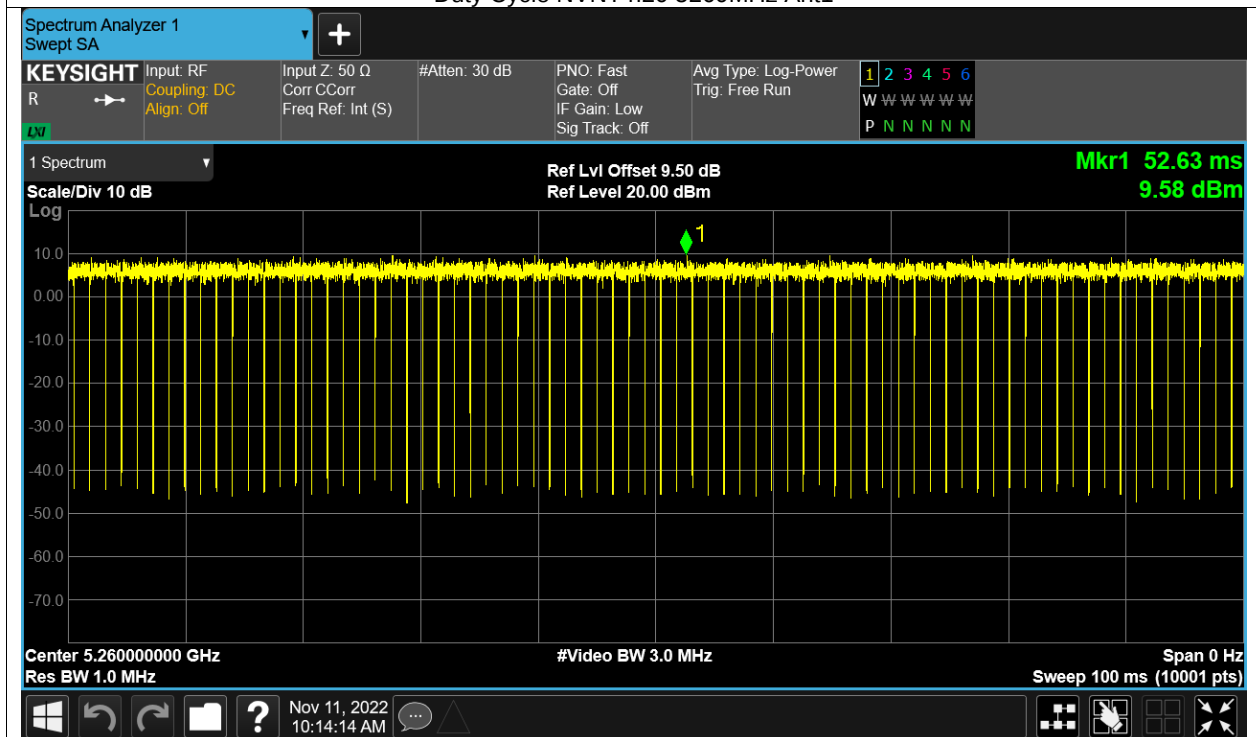
Duty Cycle NVNT ac40 5310MHz Ant1



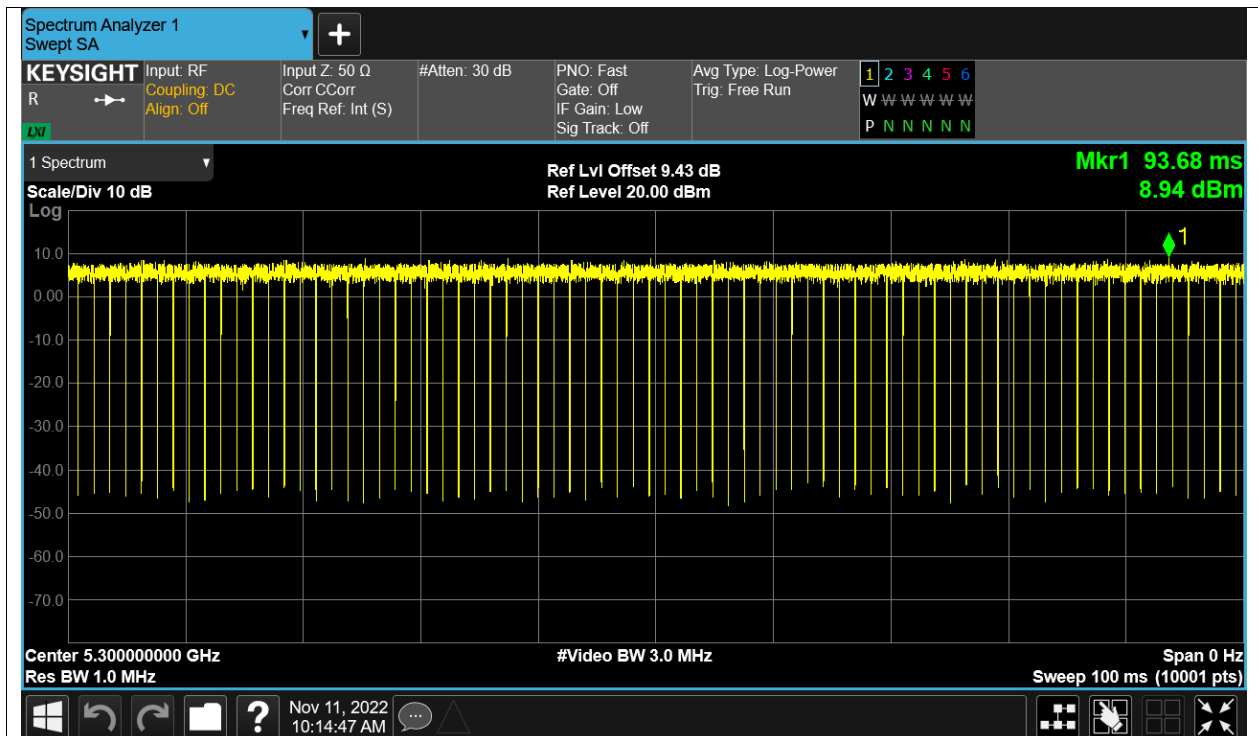
Duty Cycle NVNT ac80 5290MHz Ant1



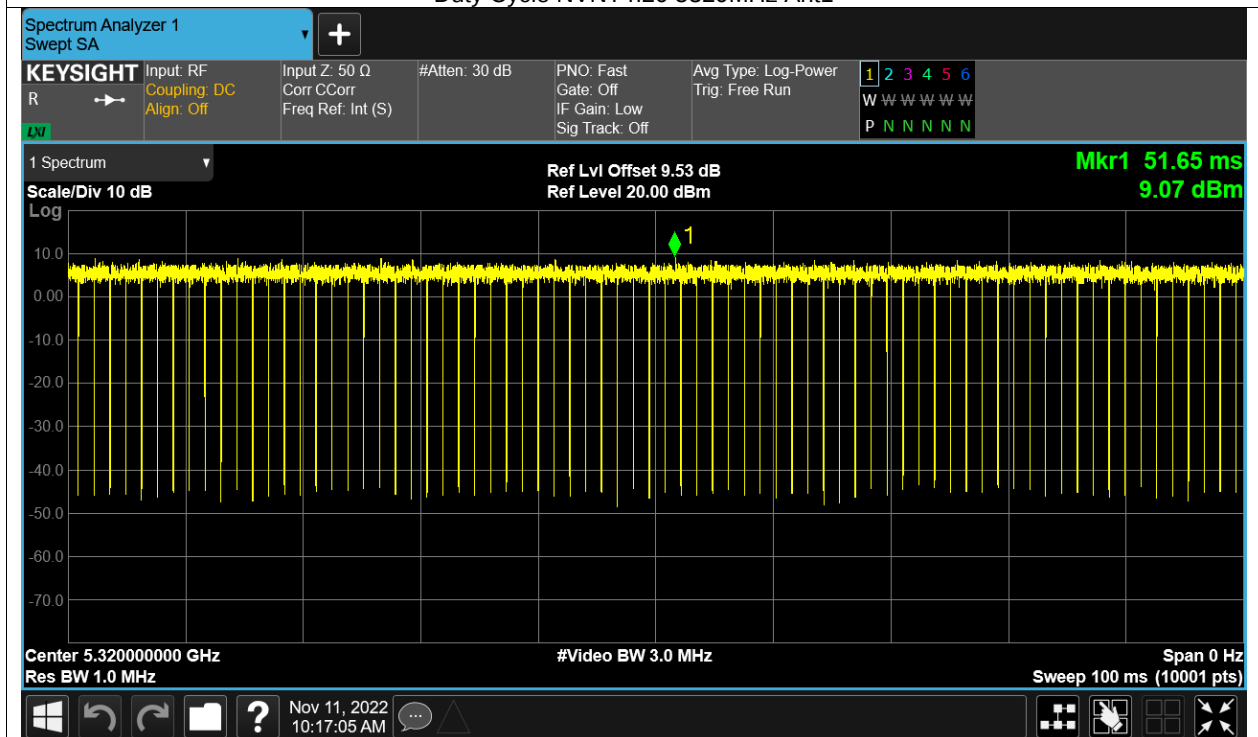
Duty Cycle NVNT n20 5260MHz Ant1



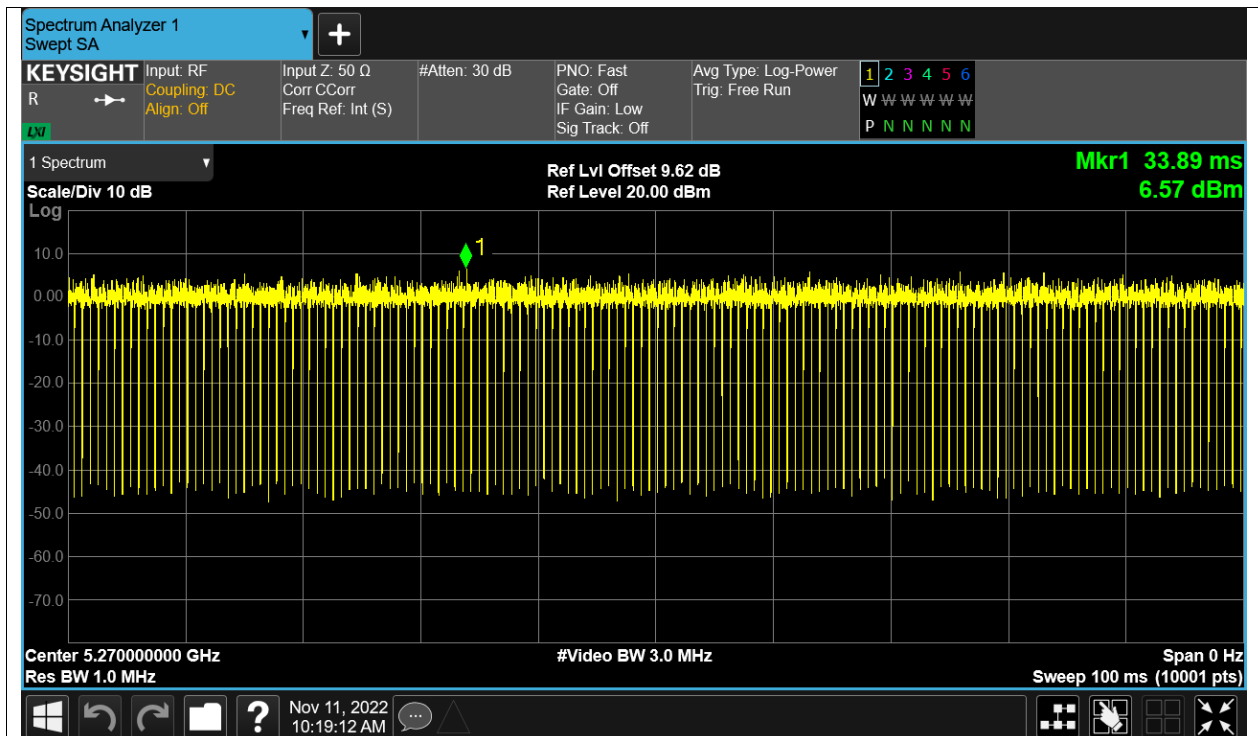
Duty Cycle NVNT n20 5300MHz Ant1



Duty Cycle NVNT n20 5320MHz Ant1



Duty Cycle NVNT n40 5270MHz Ant1



Duty Cycle NVNT n40 5310MHz Ant1



Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	E.I.R.P (dBm)	Verdict
NVNT	a	5260	Ant1	14.09	0.09	14.18	17.83	Pass
NVNT	a	5300	Ant1	14	0.09	14.09	17.74	Pass
NVNT	a	5320	Ant1	14.23	0.09	14.32	17.97	Pass
NVNT	ac20	5260	Ant1	12.02	0.1	12.12	15.77	Pass
NVNT	ac20	5300	Ant1	11.74	0.1	11.84	15.49	Pass
NVNT	ac20	5320	Ant1	11.86	0.1	11.96	15.61	Pass
NVNT	ac40	5270	Ant1	12.24	0.18	12.42	16.07	Pass
NVNT	ac40	5310	Ant1	12.38	0.19	12.57	16.22	Pass
NVNT	ac80	5290	Ant1	11.12	1.37	12.49	16.14	Pass
NVNT	n20	5260	Ant1	11.98	0.1	12.08	15.73	Pass
NVNT	n20	5300	Ant1	11.77	0.1	11.87	15.52	Pass
NVNT	n20	5320	Ant1	11.81	0.1	11.91	15.56	Pass
NVNT	n40	5270	Ant1	12.43	0.18	12.61	16.26	Pass
NVNT	n40	5310	Ant1	12.46	0.18	12.64	16.29	Pass

Remark:

- For 802.11a mode, the 99% occupied bandwidth Minimum value is 16.475 MHz, so Conducted Power limit is 23.17 dBm, EIRP limit is 29.17 dBm.
- For 802.11ac-HT20 mode, the 99% occupied bandwidth Minimum value is 17.628 MHz, so Conducted Power limit is 23.46 dBm, EIRP limit is 29.46 dBm.
- For 802.11ac-HT40 mode, the 99% occupied bandwidth Minimum value is 36.051 MHz, so Conducted Power limit is 24dBm, EIRP limit is 30dBm.
- For 802.11ac-HT80 mode, the 99% occupied bandwidth Minimum value is 75.346 MHz, so Conducted Power limit is 24dBm, EIRP limit is 30dBm
- For 802.11n-HT20 mode, the 99% occupied bandwidth Minimum value is 17.603 MHz, so Conducted Power limit is 23.46dBm, EIRP limit is 29.46dBm.
- For 802.11n-HT40 mode, the 99% occupied bandwidth Minimum value is 36.056 MHz, so Conducted Power limit is 24dBm, EIRP limit is 30dBm.
- EIRP= Antenna gain + Total power, Antenna gain= 3.65 dBi

Occupied Channel Bandwidth

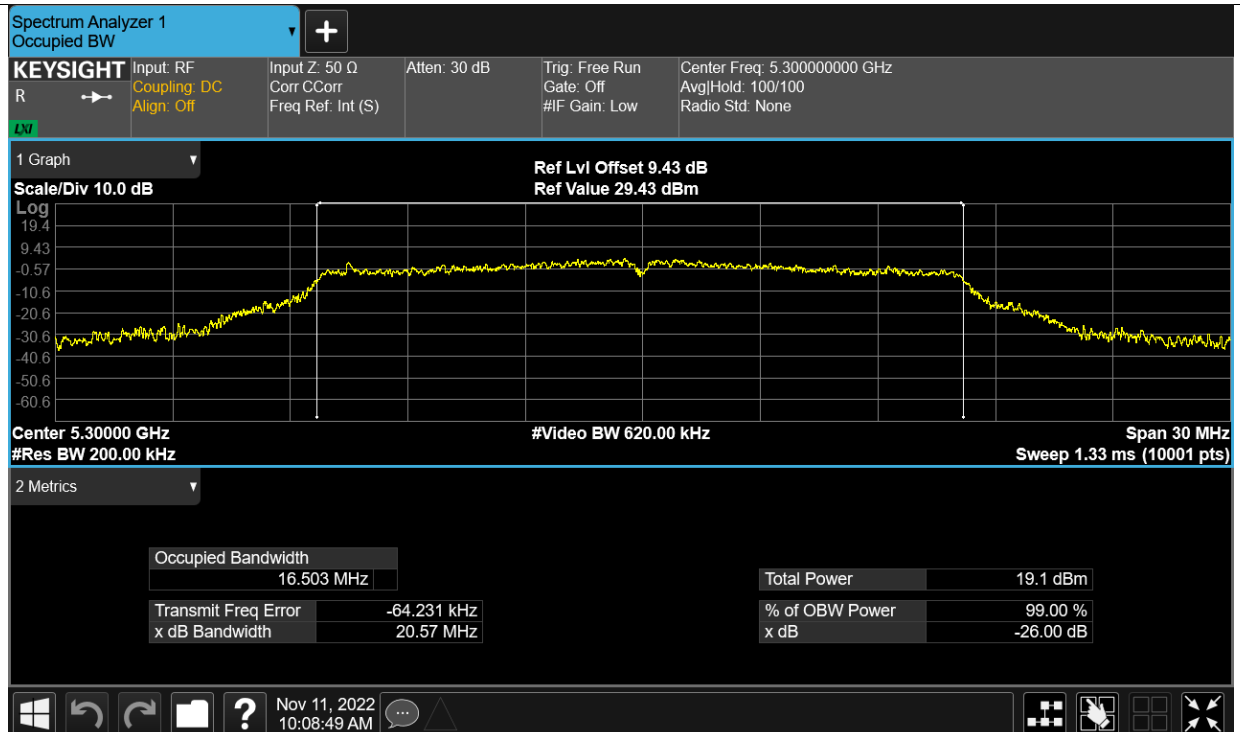
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5260	Ant1	16.486
NVNT	a	5300	Ant1	16.503
NVNT	a	5320	Ant1	16.475
NVNT	ac20	5260	Ant1	17.643
NVNT	ac20	5300	Ant1	17.628
NVNT	ac20	5320	Ant1	17.651
NVNT	ac40	5270	Ant1	36.051
NVNT	ac40	5310	Ant1	36.108
NVNT	ac80	5290	Ant1	75.346
NVNT	n20	5260	Ant1	17.646
NVNT	n20	5300	Ant1	17.649
NVNT	n20	5320	Ant1	17.603
NVNT	n40	5270	Ant1	36.056
NVNT	n40	5310	Ant1	36.092

Test Graphs

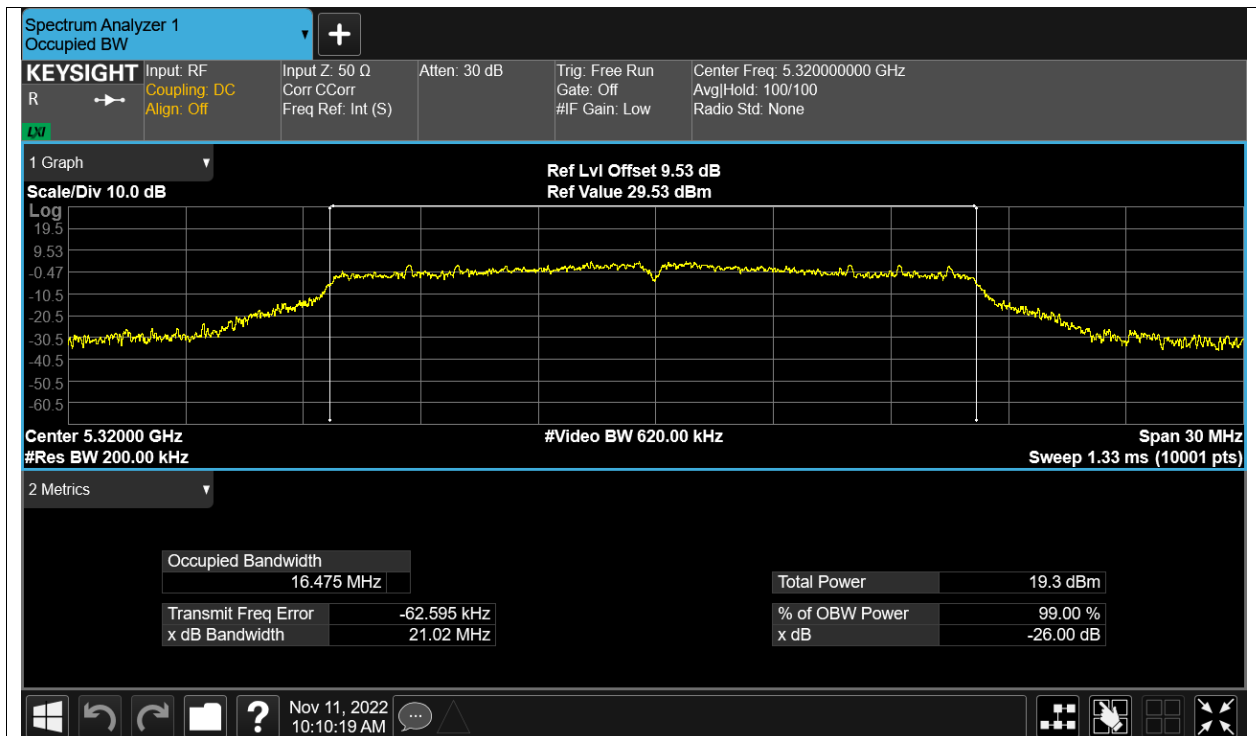
OBW NVNT a 5260MHz Ant1



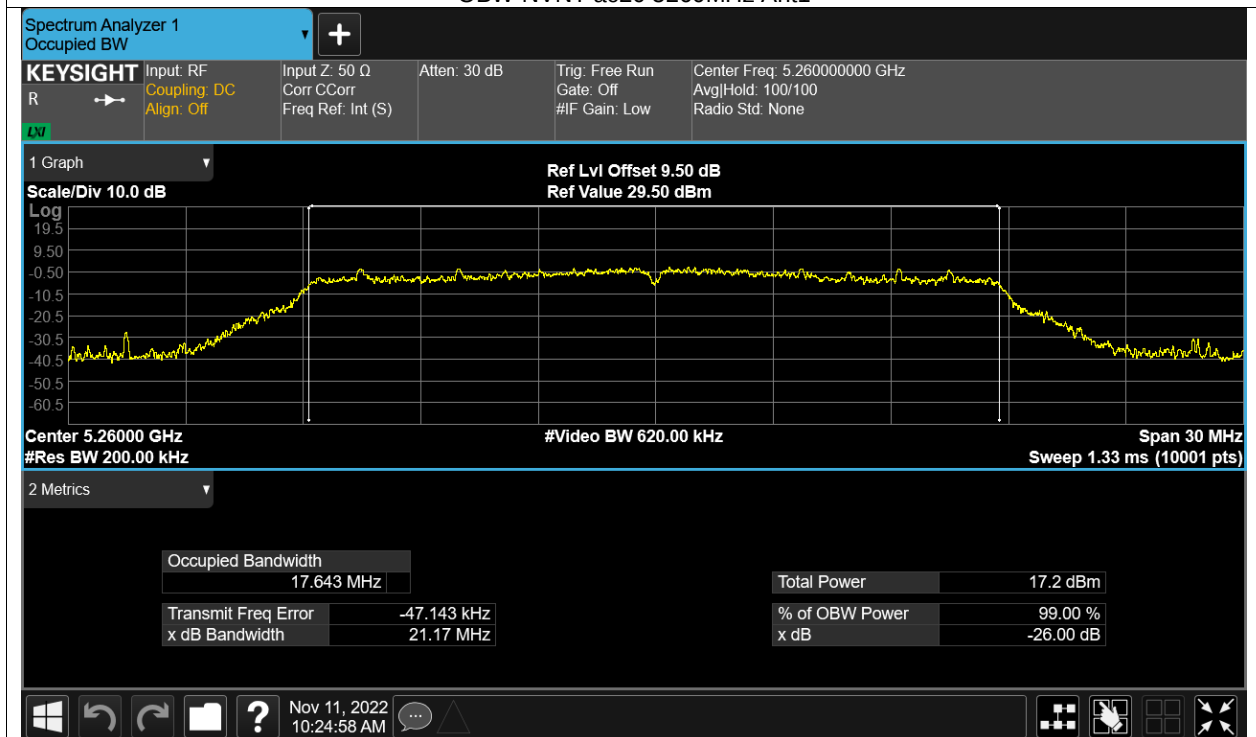
OBW NVNT a 5300MHz Ant1



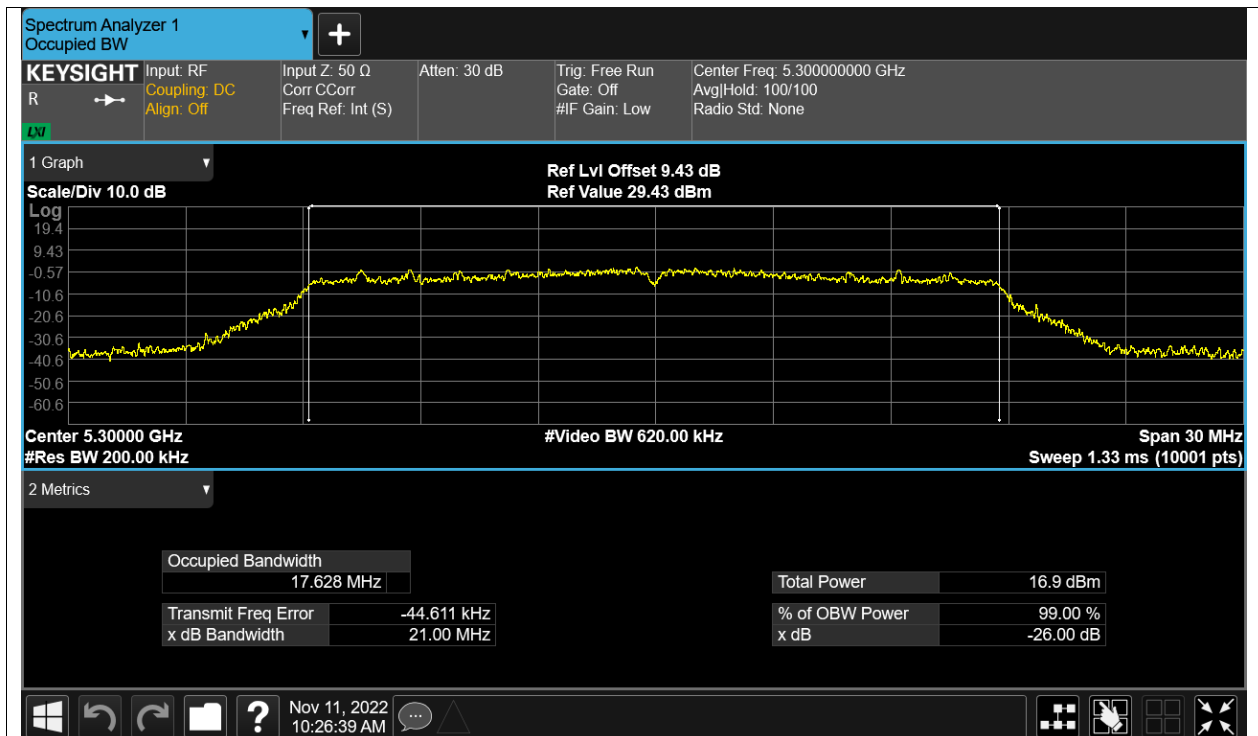
OBW NVNT a 5320MHz Ant1



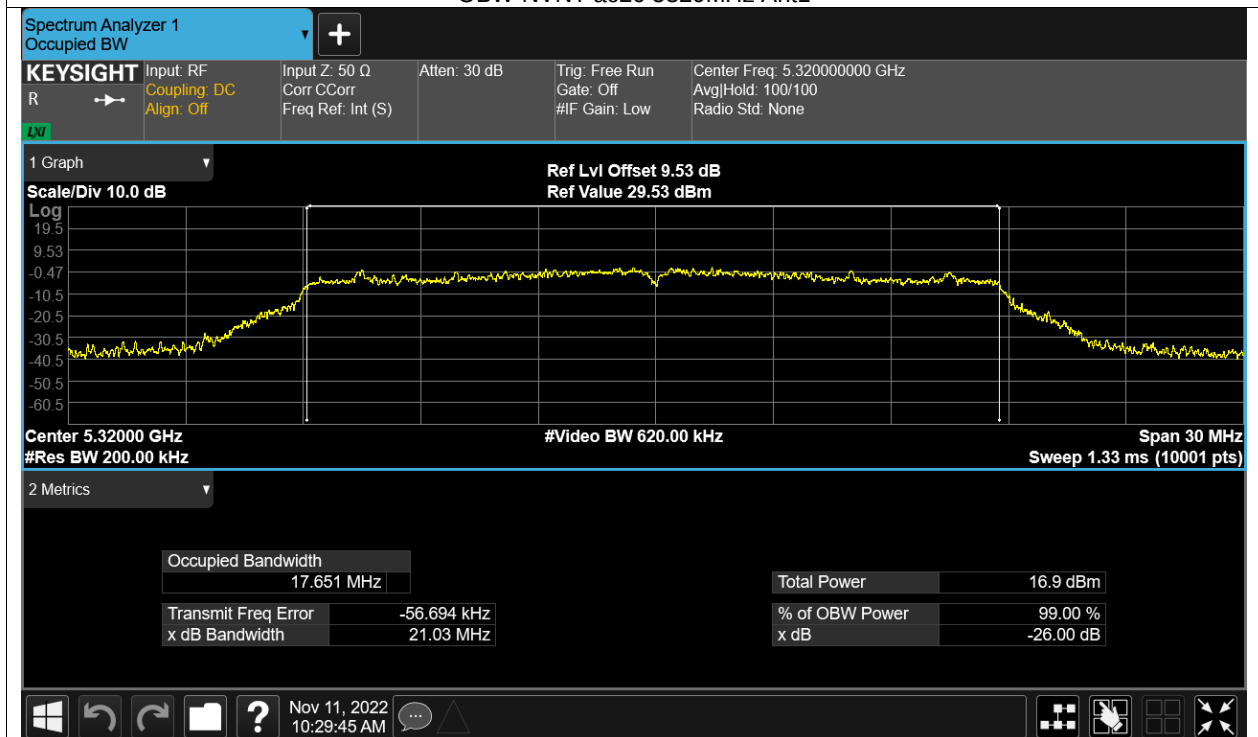
OBW NVNT ac20 5260MHz Ant1



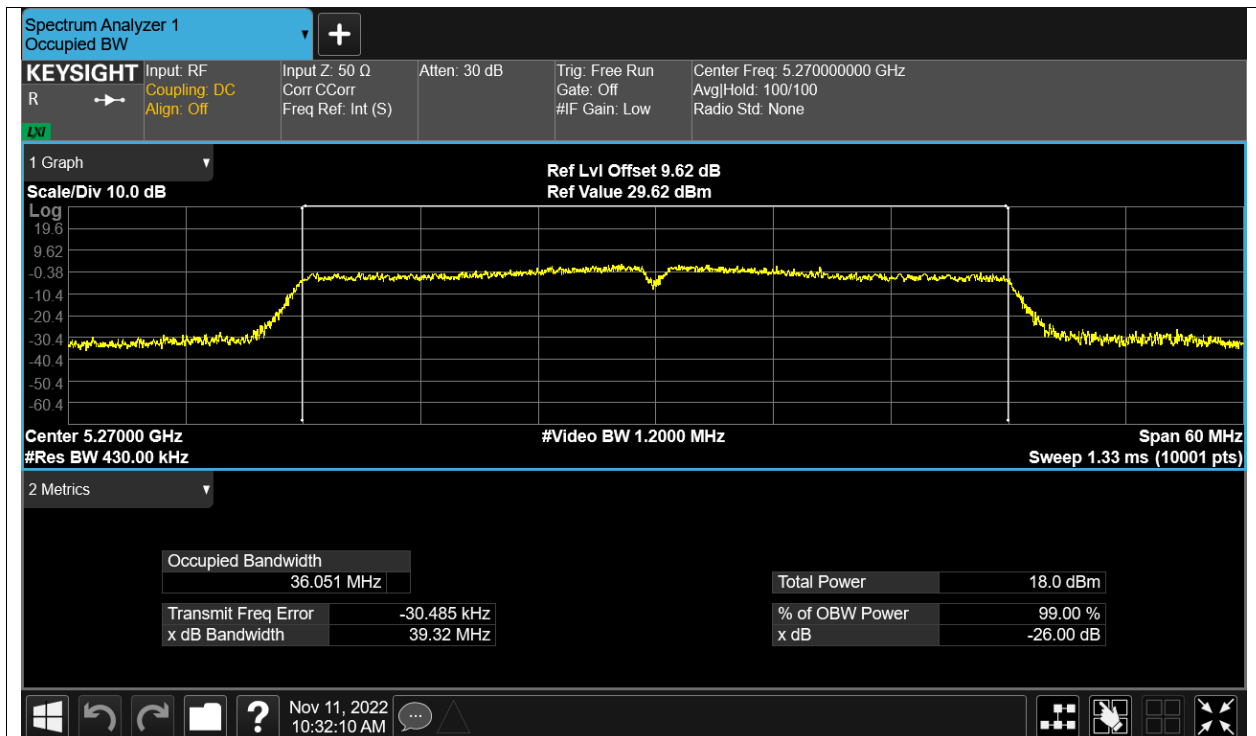
OBW NVNT ac20 5300MHz Ant1



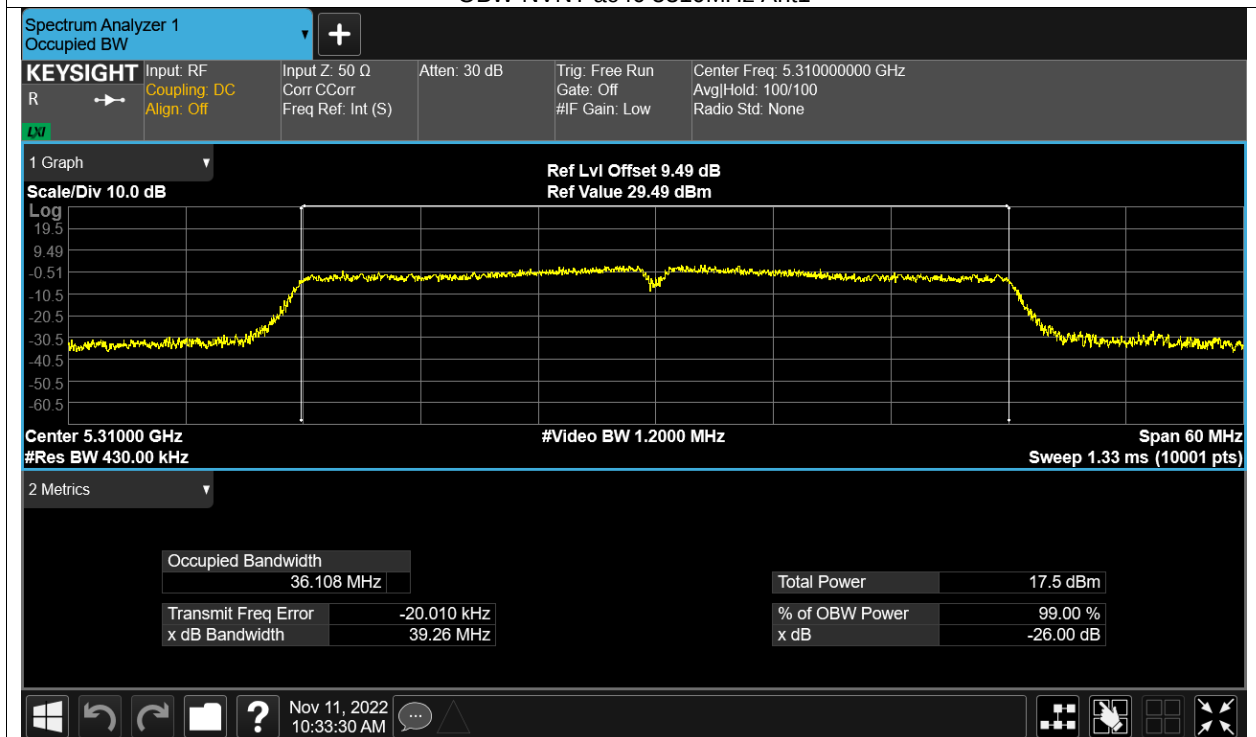
OBW NVNT ac20 5320MHz Ant1



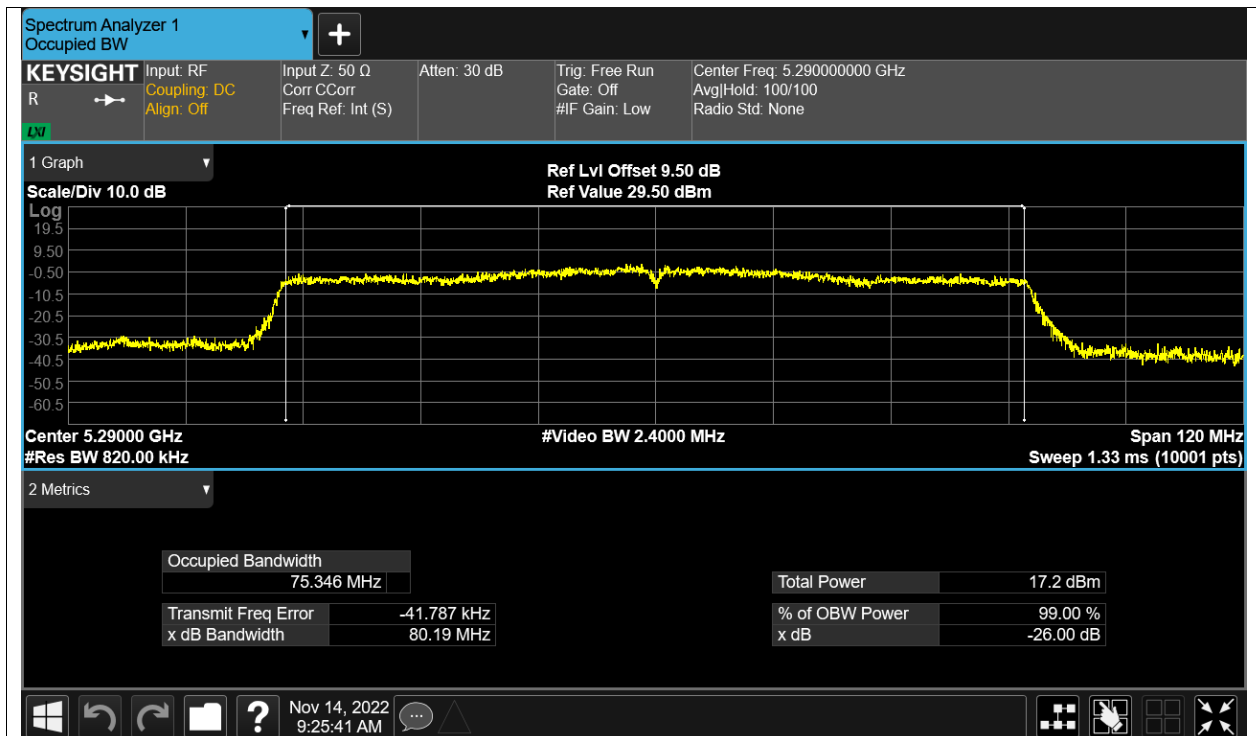
OBW NVNT ac40 5270MHz Ant1



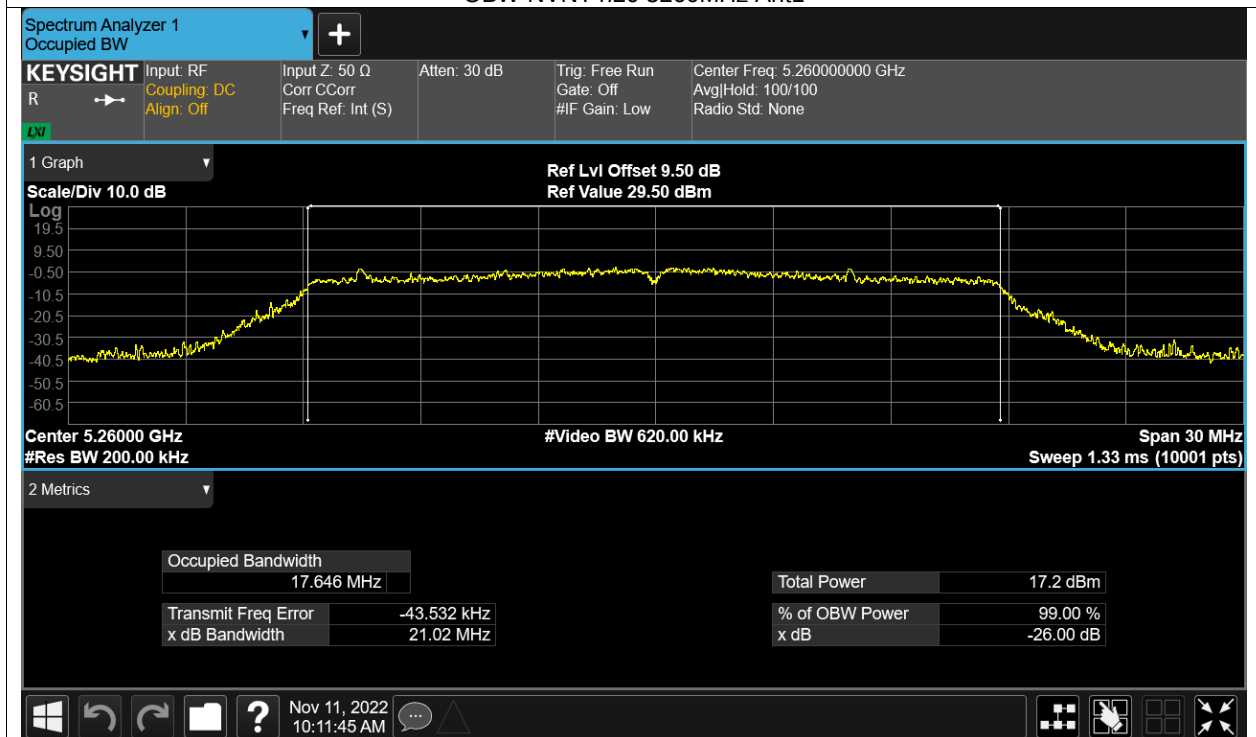
OBW NVNT ac40 5310MHz Ant1



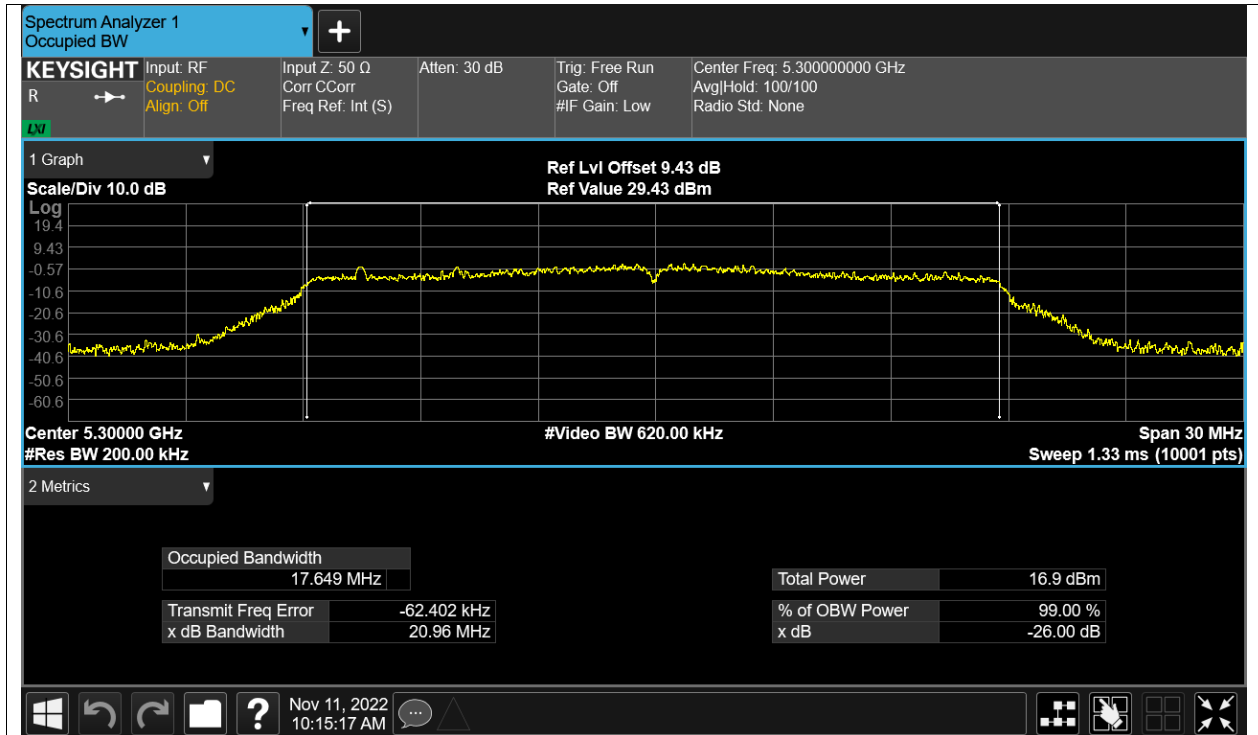
OBW NVNT ac80 5290MHz Ant1



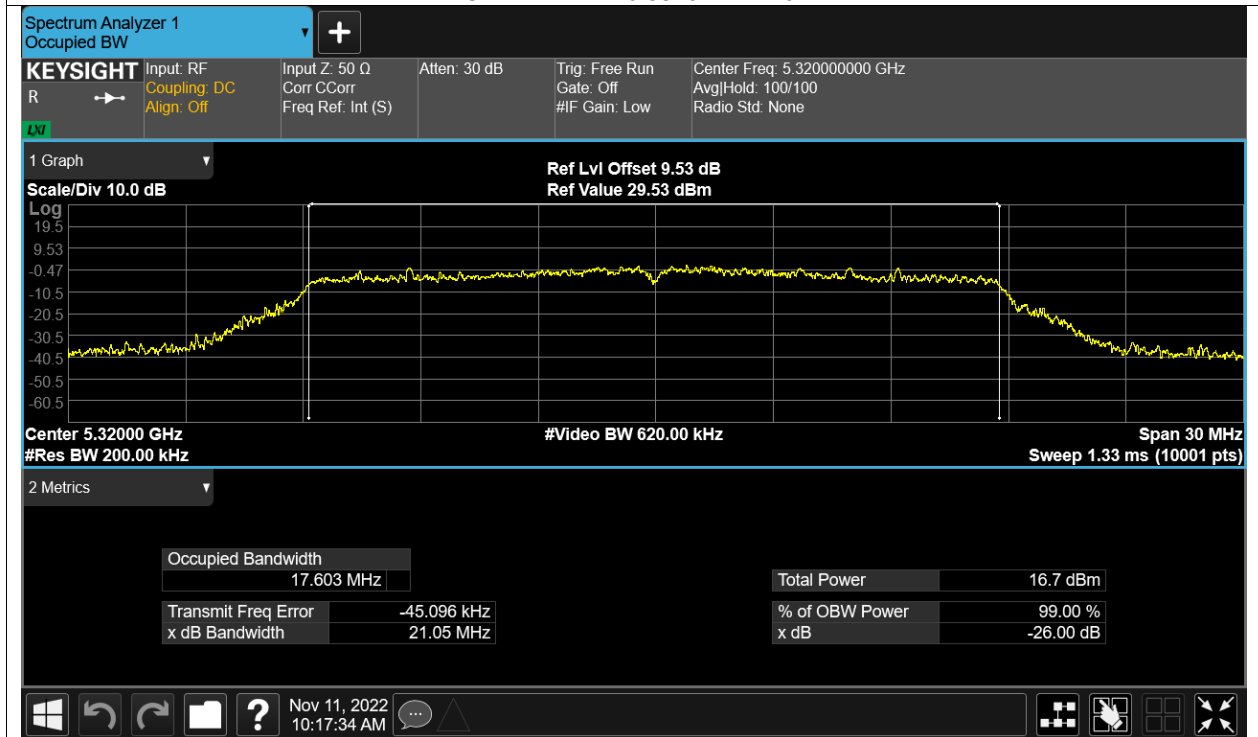
OBW NVNT n20 5260MHz Ant1



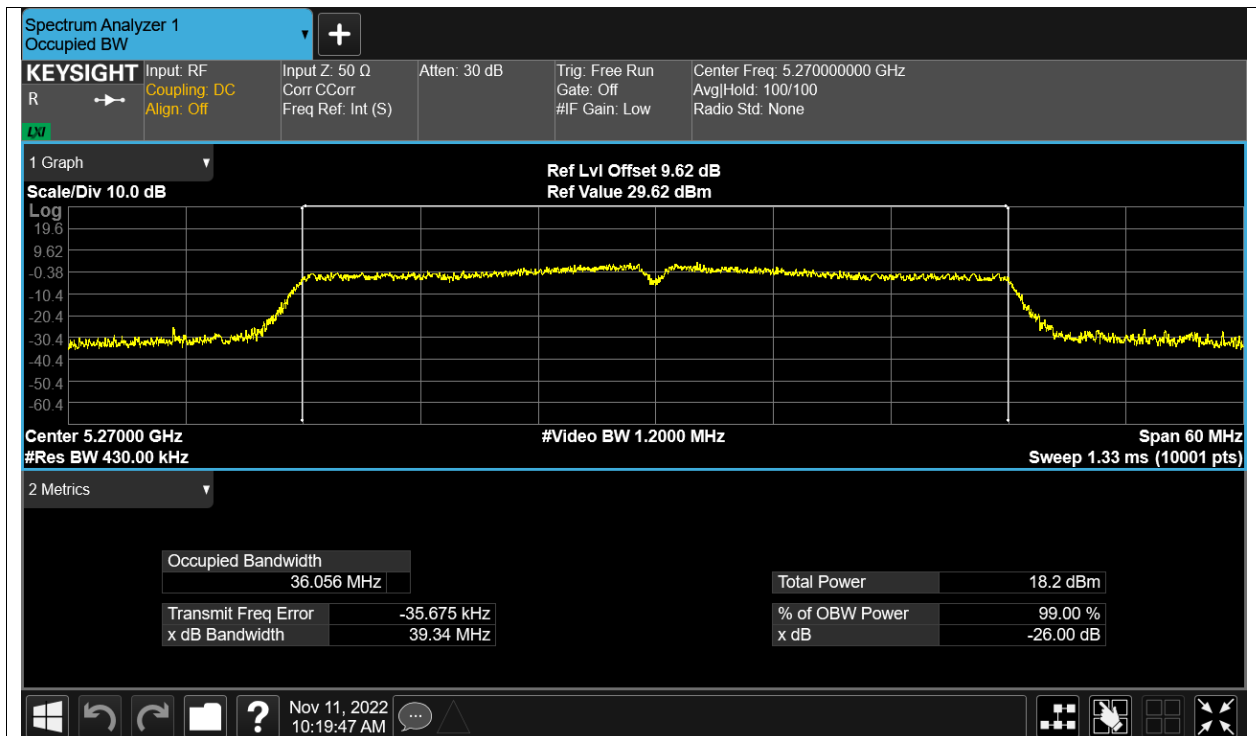
OBW NVNT n20 5300MHz Ant1



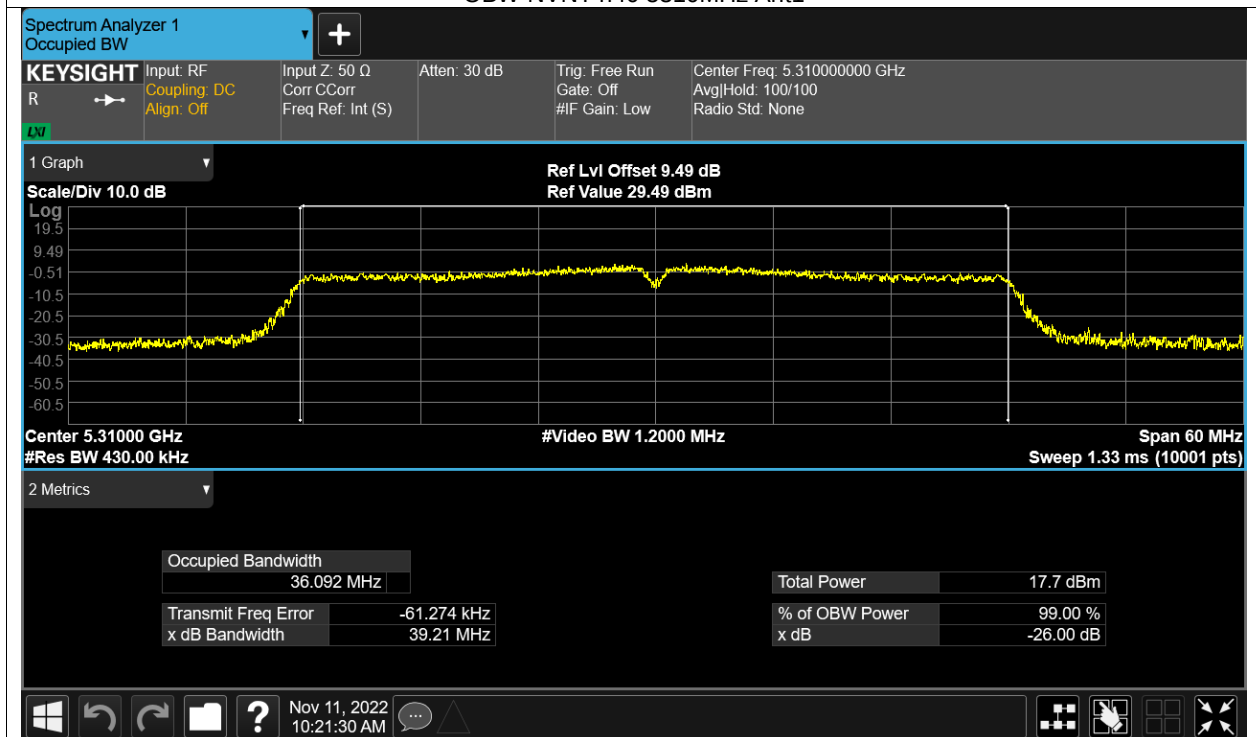
OBW NVNT n20 5320MHz Ant1



OBW NVNT n40 5270MHz Ant1



OBW NVNT n40 5310MHz Ant1



Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5260	Ant1	4.776	11	Pass
NVNT	a	5300	Ant1	4.649	11	Pass
NVNT	a	5320	Ant1	4.459	11	Pass
NVNT	ac20	5260	Ant1	2.372	11	Pass
NVNT	ac20	5300	Ant1	1.936	11	Pass
NVNT	ac20	5320	Ant1	1.894	11	Pass
NVNT	ac40	5270	Ant1	0.175	11	Pass
NVNT	ac40	5310	Ant1	-0.333	11	Pass
NVNT	ac80	5290	Ant1	-4.778	11	Pass
NVNT	n20	5260	Ant1	2.236	11	Pass
NVNT	n20	5300	Ant1	2.118	11	Pass
NVNT	n20	5320	Ant1	1.839	11	Pass
NVNT	n40	5270	Ant1	0.499	11	Pass
NVNT	n40	5310	Ant1	-0.292	11	Pass

Appendix – 5.6G Wi-Fi

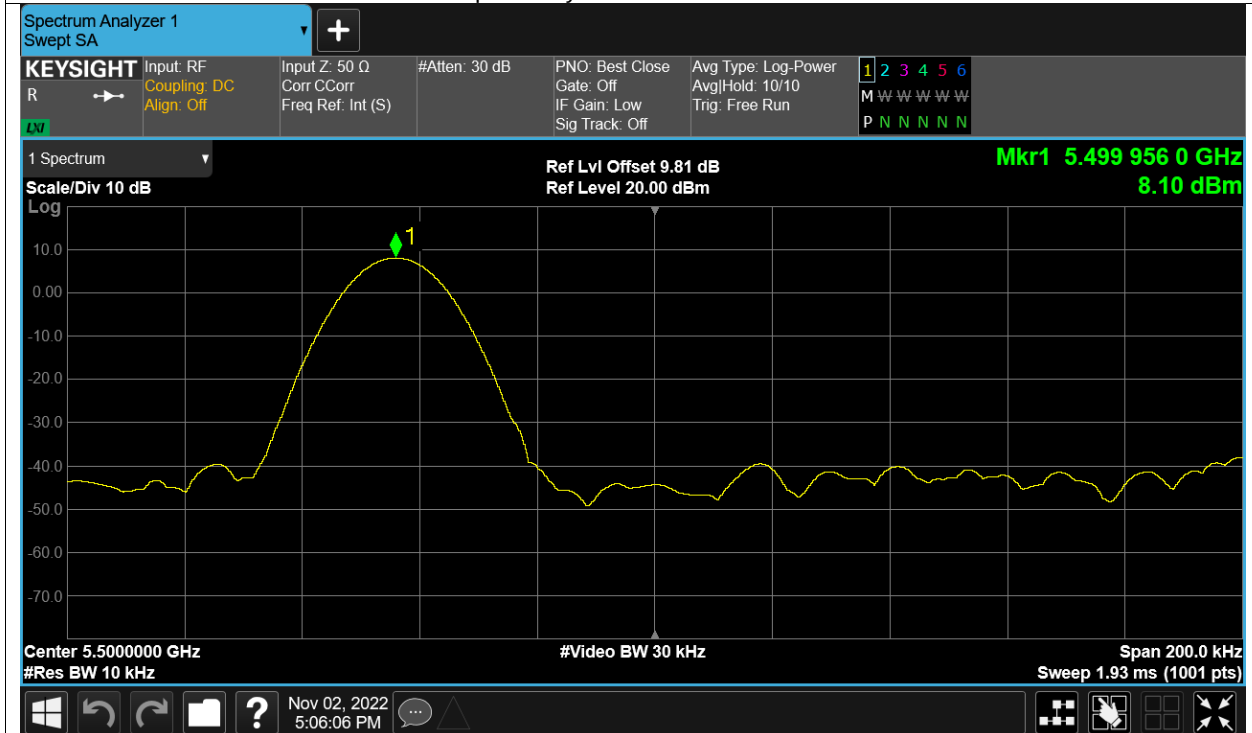
Test Data

Frequency Stability

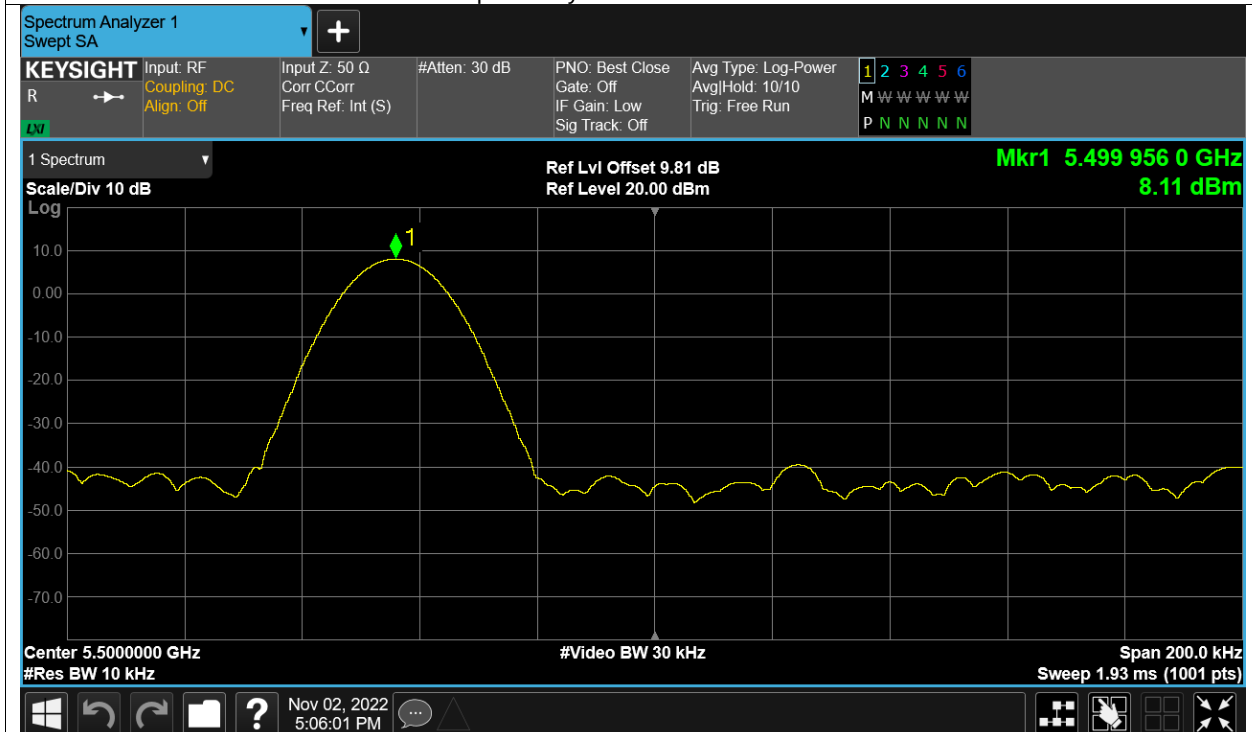
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Deviation (ppm)	Limit (ppm)	Verdict
HVNT	a	5500	Ant1	5499.956	-8	Within authorized band	Pass
LVNT	a	5500	Ant1	5499.956	-8		Pass
NVHT	a	5500	Ant1	5499.956	-8		Pass
NVLT	a	5500	Ant1	5499.956	-8		Pass
NVNT	a	5500	Ant1	5499.9558	-8.04		Pass
HVNT	ac80	5530	Ant1	5529.9576	-7.67		Pass
LVNT	ac80	5530	Ant1	5529.9576	-7.67		Pass
NVHT	ac80	5530	Ant1	5529.9574	-7.7		Pass
NVLT	ac80	5530	Ant1	5529.9574	-7.7		Pass
NVNT	ac80	5530	Ant1	5529.9574	-7.7		Pass
HVNT	n40	5510	Ant1	5509.9558	-8.02		Pass
LVNT	n40	5510	Ant1	5509.9558	-8.02		Pass
NVHT	n40	5510	Ant1	5509.9556	-8.06		Pass
NVLT	n40	5510	Ant1	5509.9556	-8.06		Pass
NVNT	n40	5510	Ant1	5509.9556	-8.06		Pass
Remark: “NTNV” means Normal Temperature Normal Voltage, “NVHT” means Normal Voltage High Temperature, “NVLT” means Normal Voltage Low Temperature. “LVNT” means Low Voltage Normal Temperature. “HVNT” means High Voltage Normal Temperature.							

Test Graphs

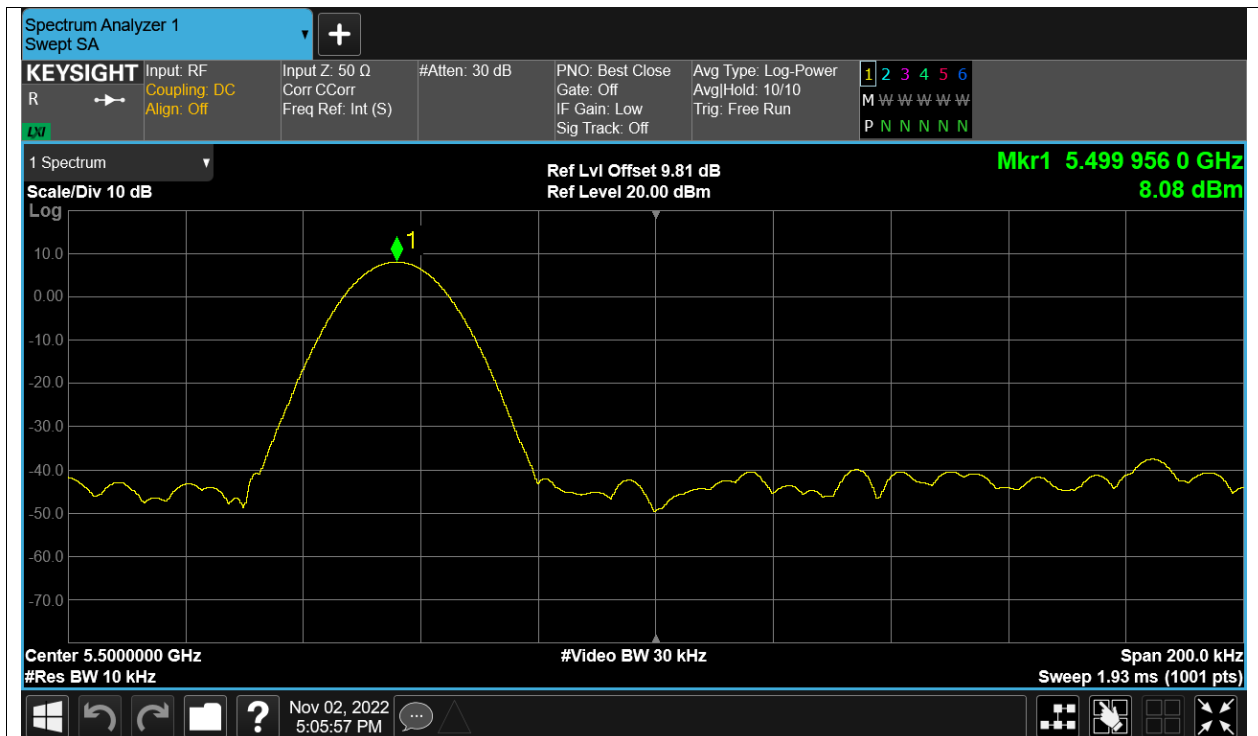
Freq. Stability HVNT a 5500MHz Ant1



Freq. Stability LVNT a 5500MHz Ant1



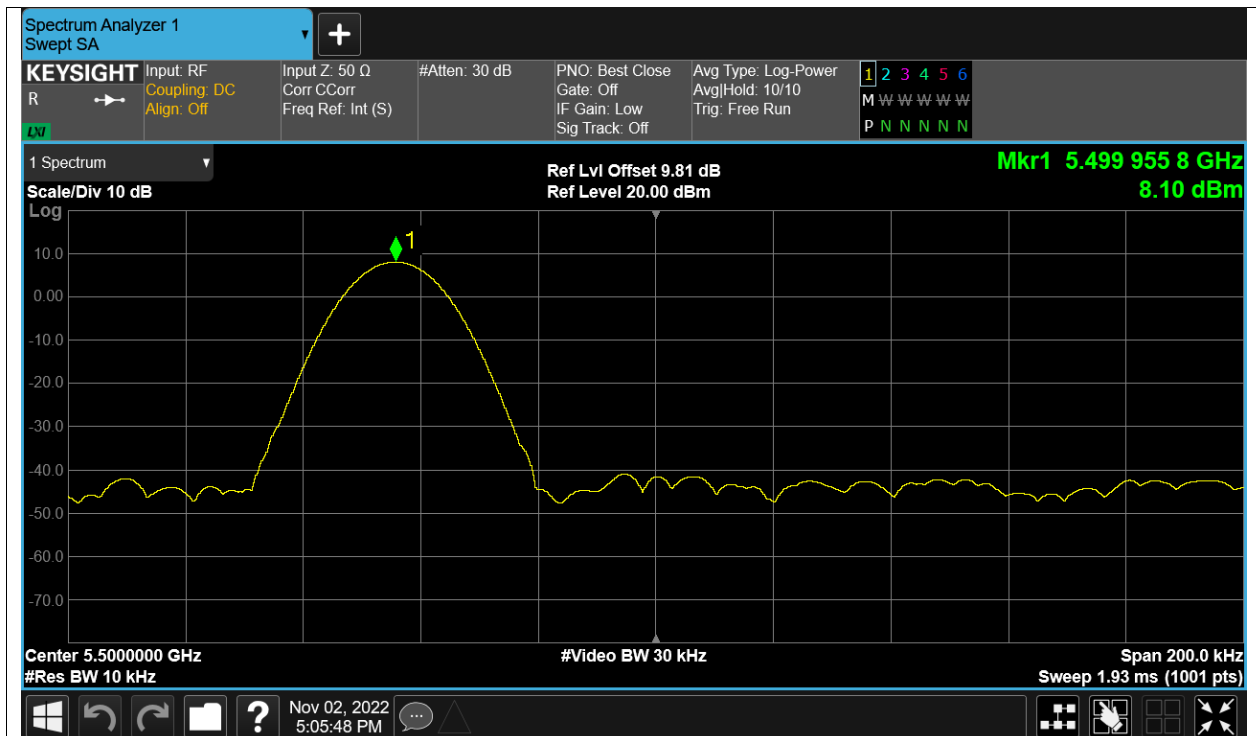
Freq. Stability NVHT a 5500MHz Ant1



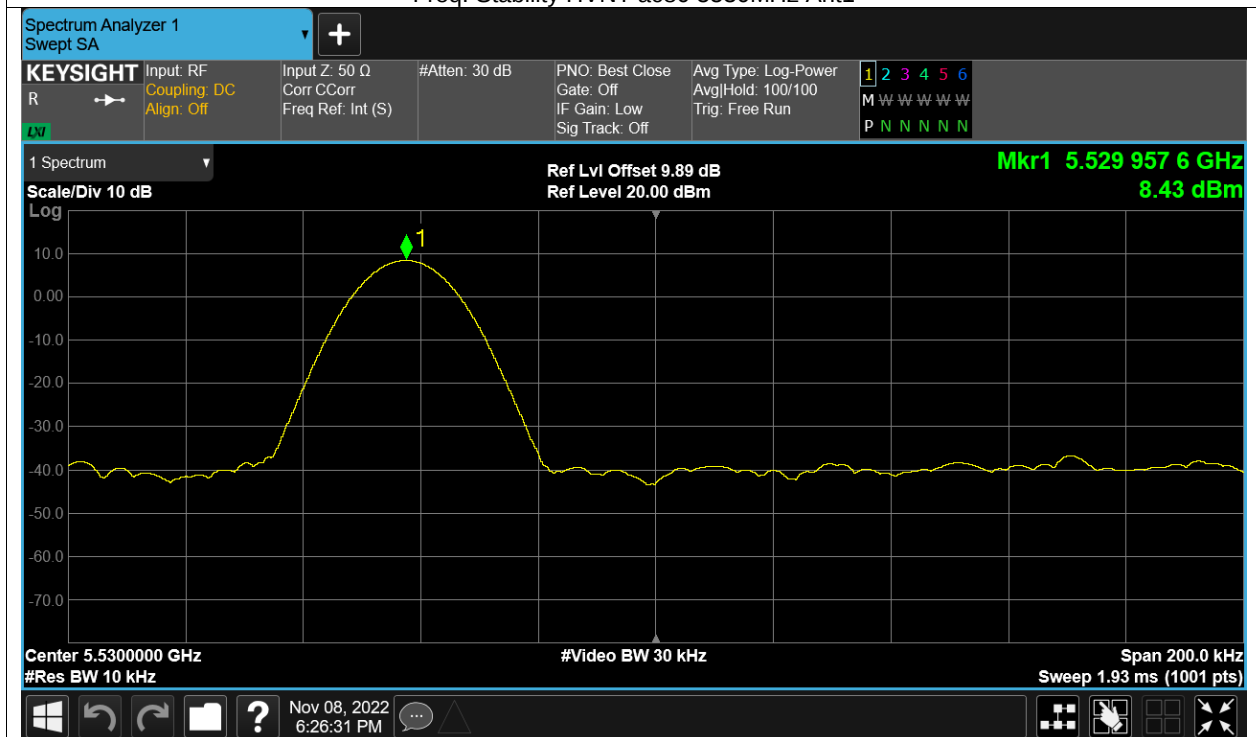
Freq. Stability NVLT a 5500MHz Ant1



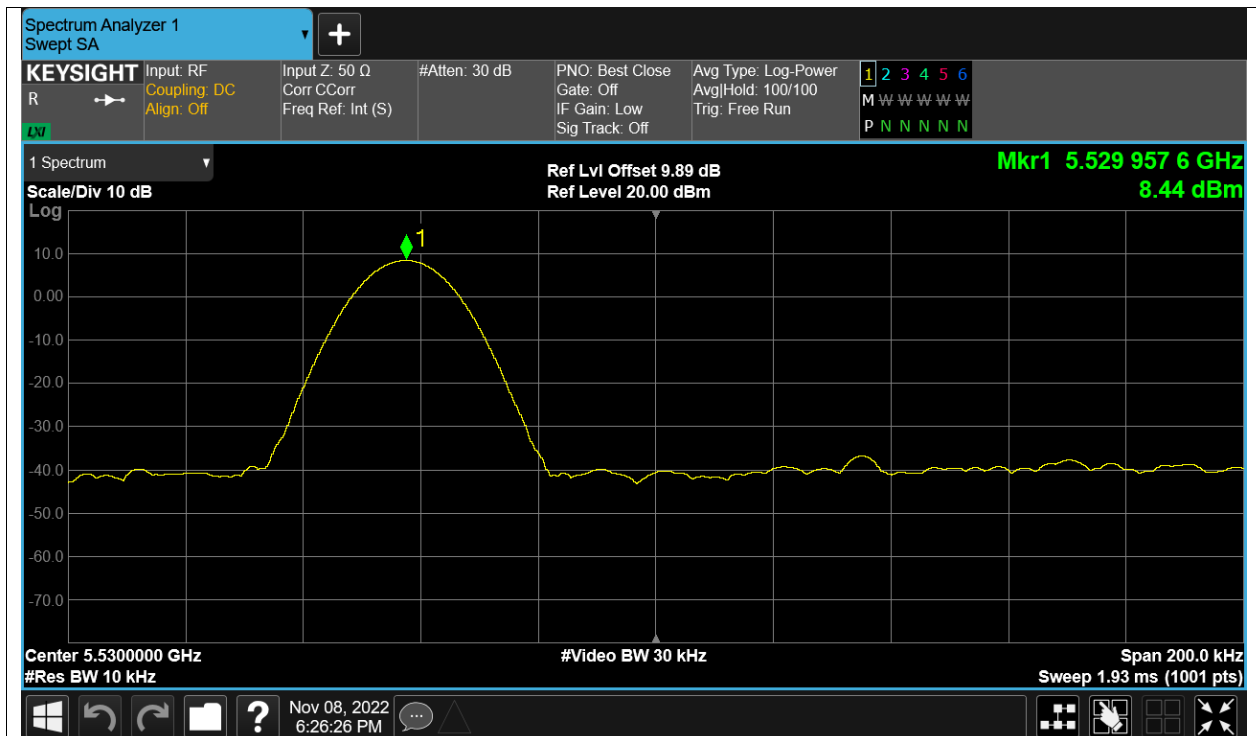
Freq. Stability NVNT a 5500MHz Ant1



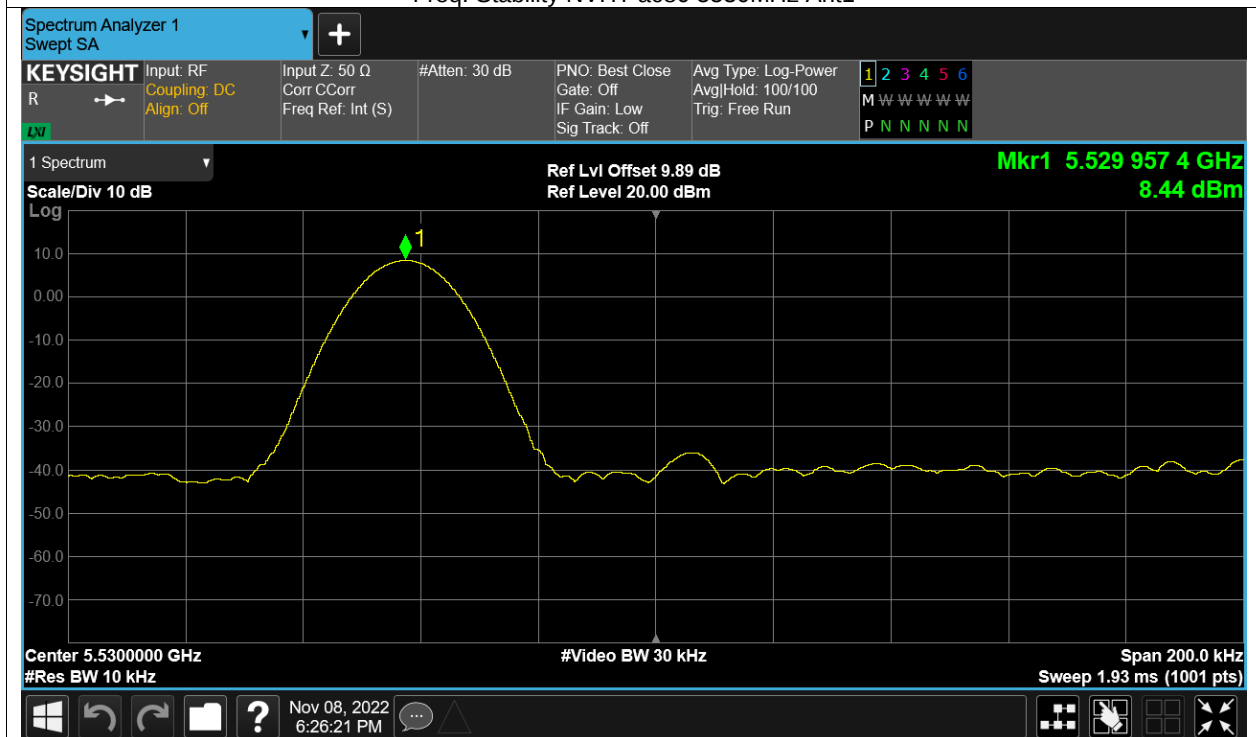
Freq. Stability HVNT ac80 5530MHz Ant1



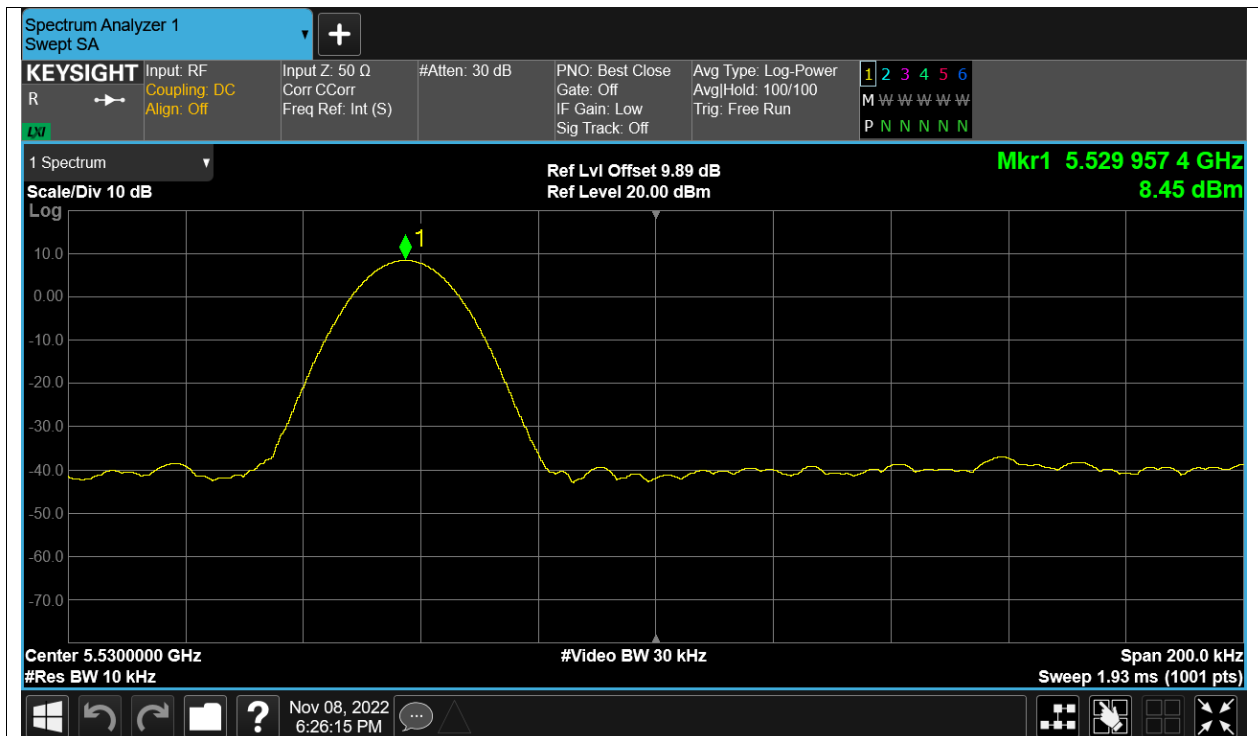
Freq. Stability LVNT ac80 5530MHz Ant1



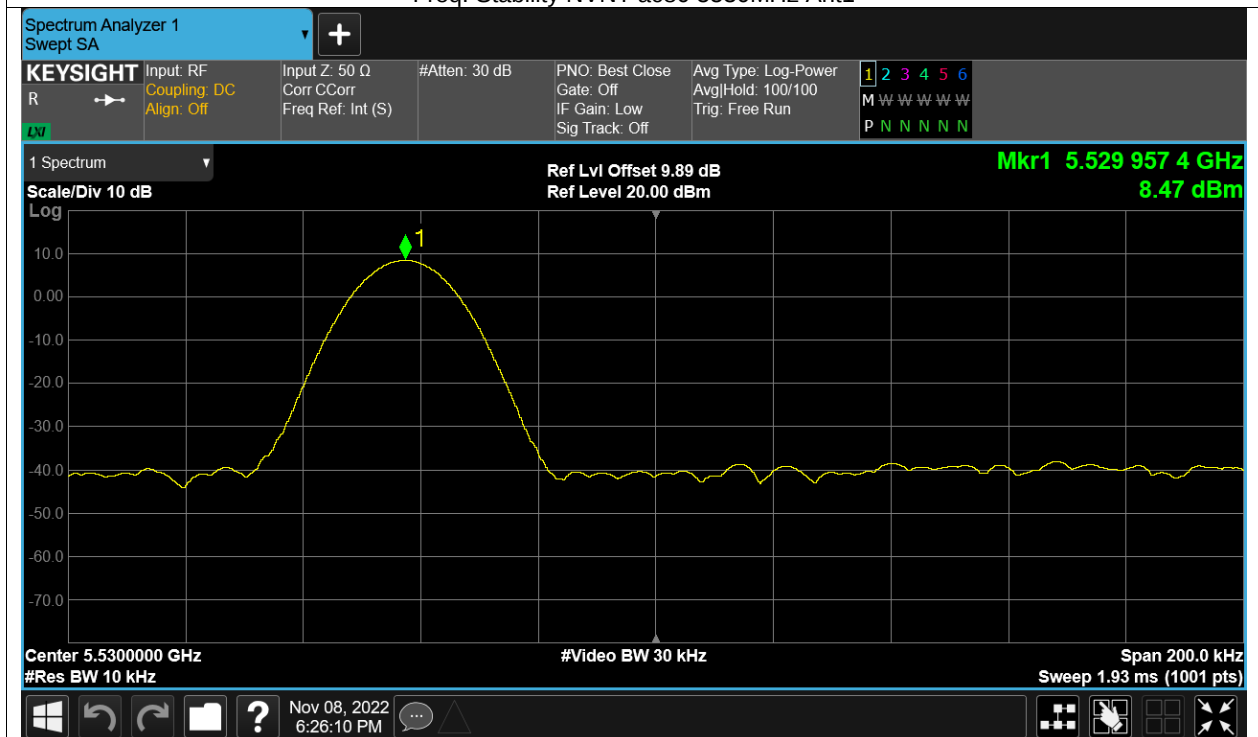
Freq. Stability NVHT ac80 5530MHz Ant1



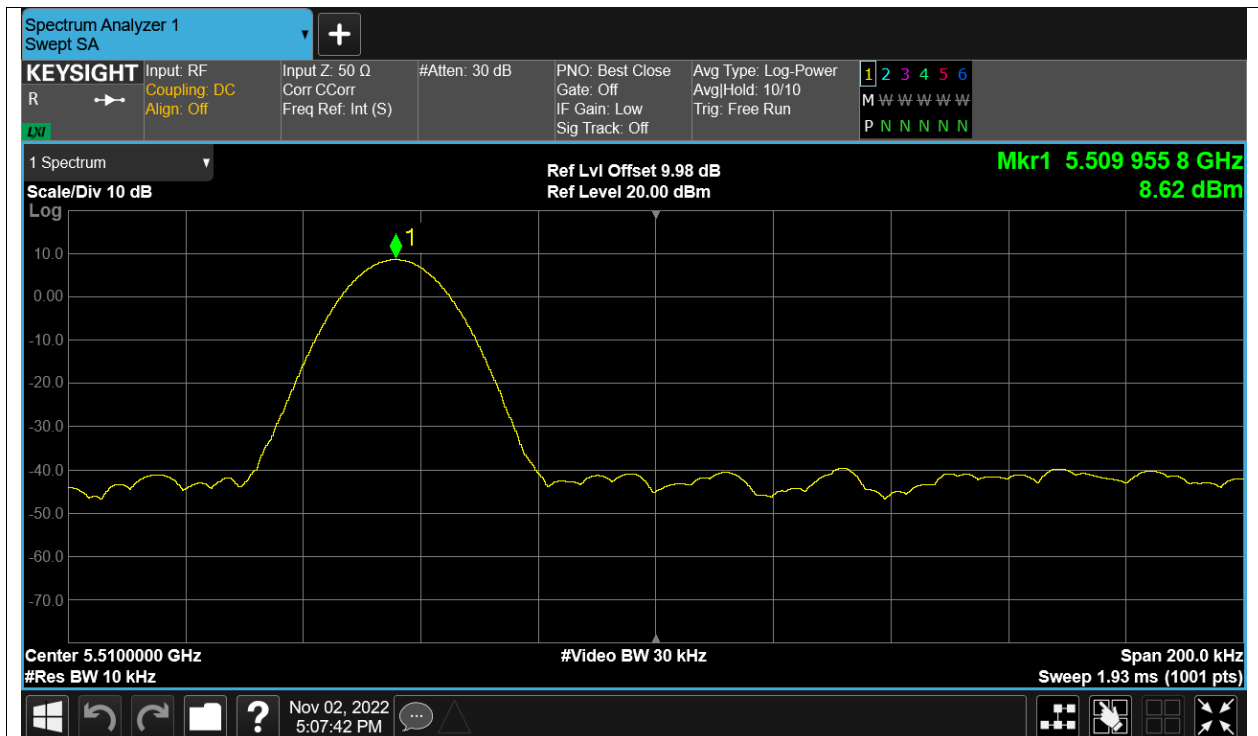
Freq. Stability NVLT ac80 5530MHz Ant1



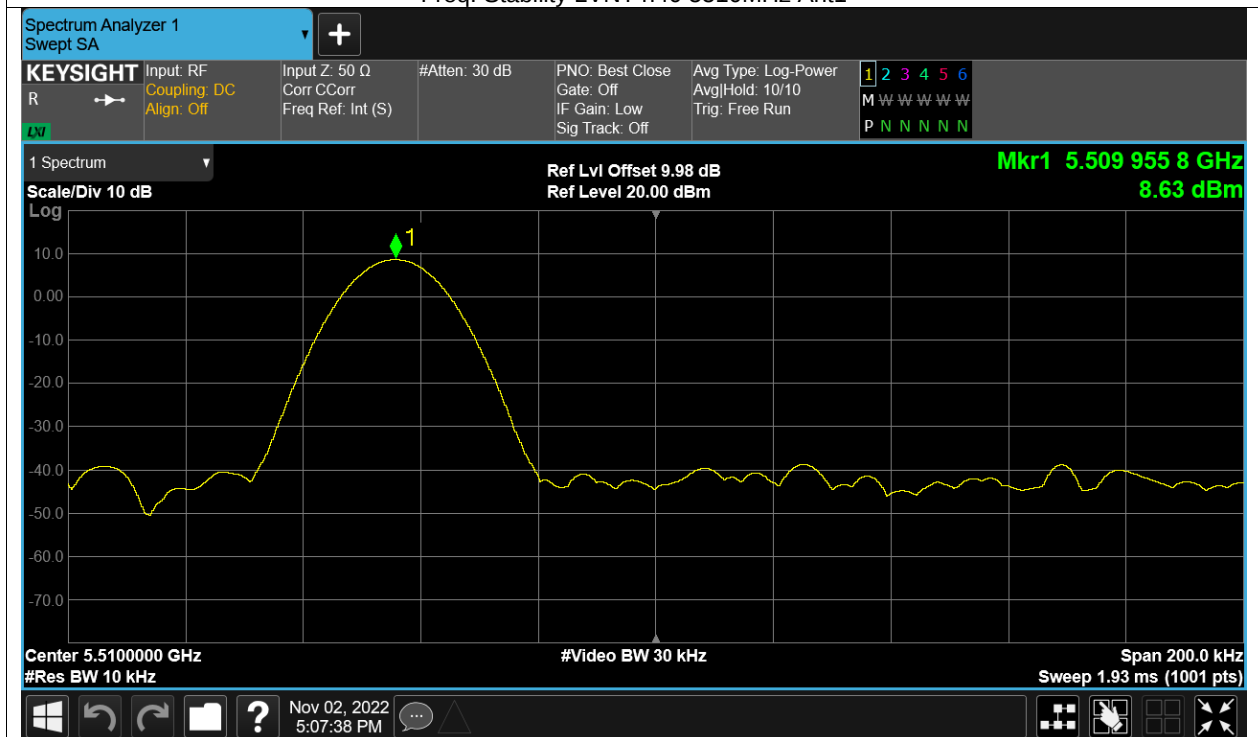
Freq. Stability NVNT ac80 5530MHz Ant1



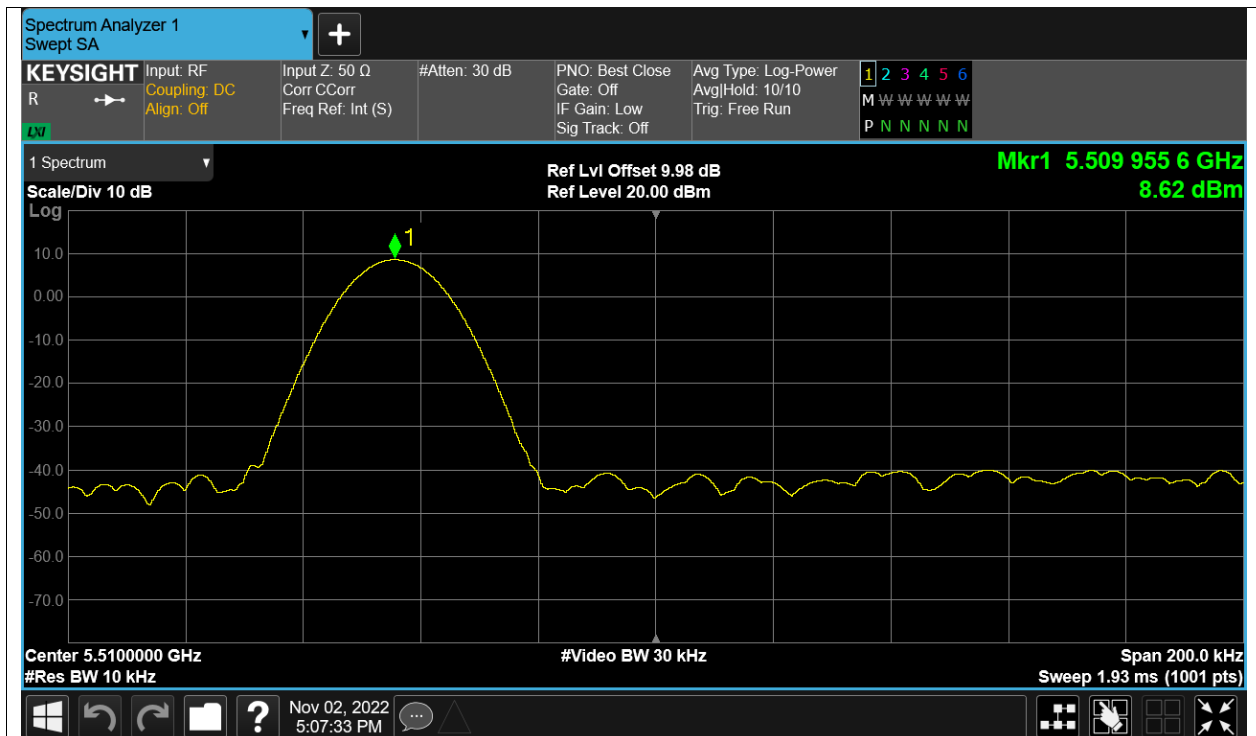
Freq. Stability HVNT n40 5510MHz Ant1



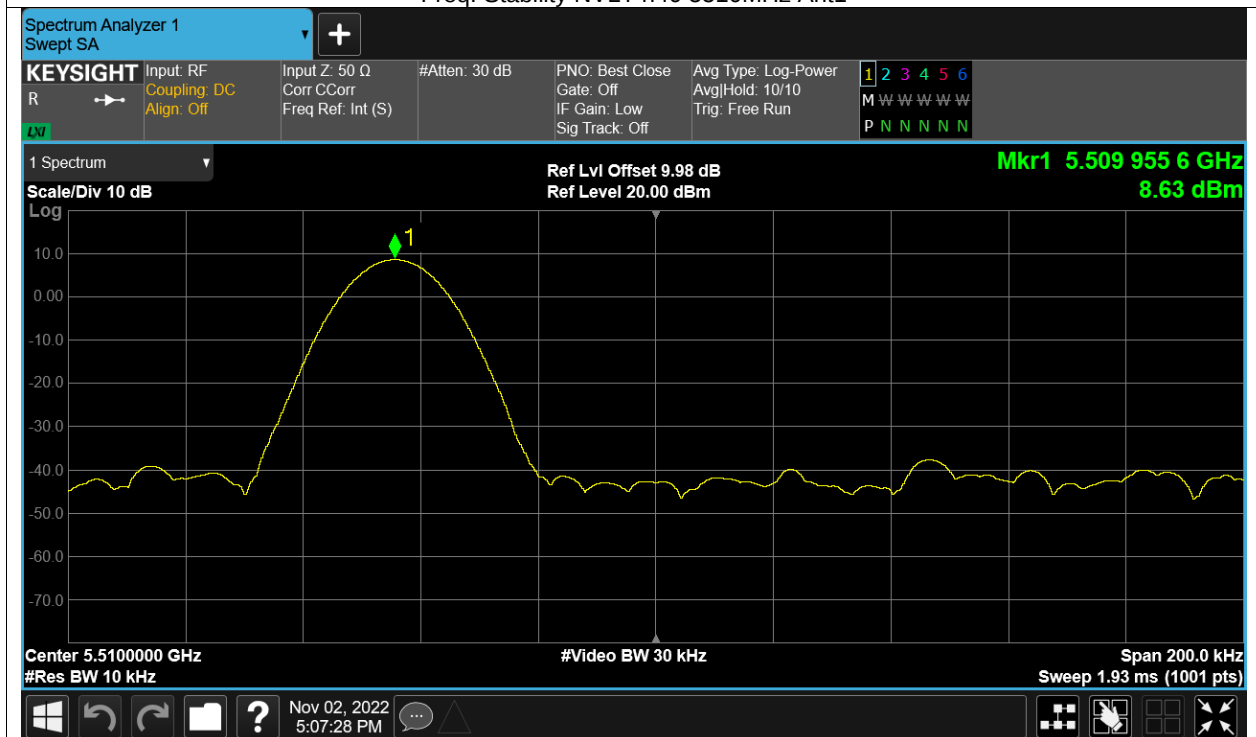
Freq. Stability LVNT n40 5510MHz Ant1



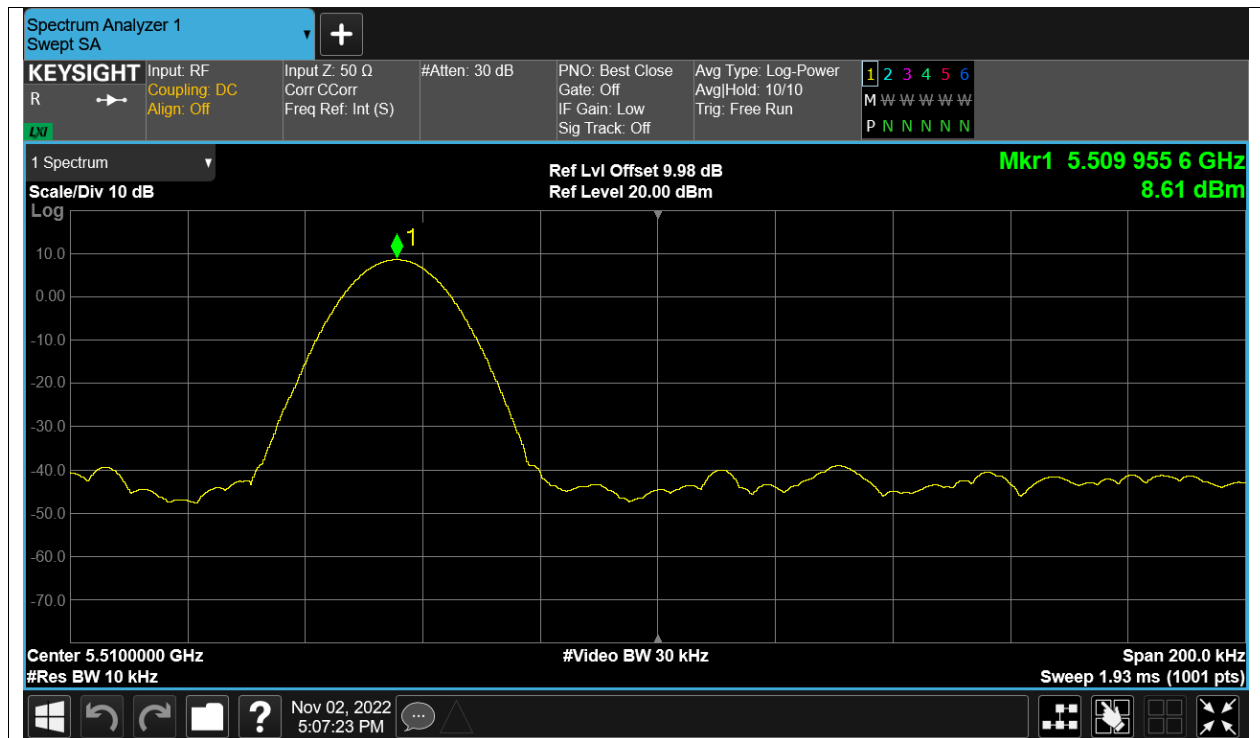
Freq. Stability NVHT n40 5510MHz Ant1



Freq. Stability NVLT n40 5510MHz Ant1



Freq. Stability NVNT n40 5510MHz Ant1



Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	a	5500	Ant1	98.01	0.09
NVNT	a	5600	Ant1	98.07	0.08
NVNT	a	5700	Ant1	97.98	0.09
NVNT	ac20	5500	Ant1	97.84	0.09
NVNT	ac20	5600	Ant1	97.9	0.09
NVNT	ac20	5700	Ant1	97.89	0.09
NVNT	ac40	5510	Ant1	96.34	0.16
NVNT	ac40	5590	Ant1	96.21	0.17
NVNT	ac40	5670	Ant1	96.01	0.18
NVNT	ac80	5530	Ant1	74.73	1.26
NVNT	ac80	5610	Ant1	75.04	1.25
NVNT	n20	5500	Ant1	98	0.09
NVNT	n20	5600	Ant1	97.93	0.09
NVNT	n20	5700	Ant1	97.89	0.09
NVNT	n40	5510	Ant1	96.32	0.16
NVNT	n40	5590	Ant1	96.34	0.16
NVNT	n40	5670	Ant1	96.06	0.17