

RF Test Data for Bluetooth LE

(Conducted Measurements)

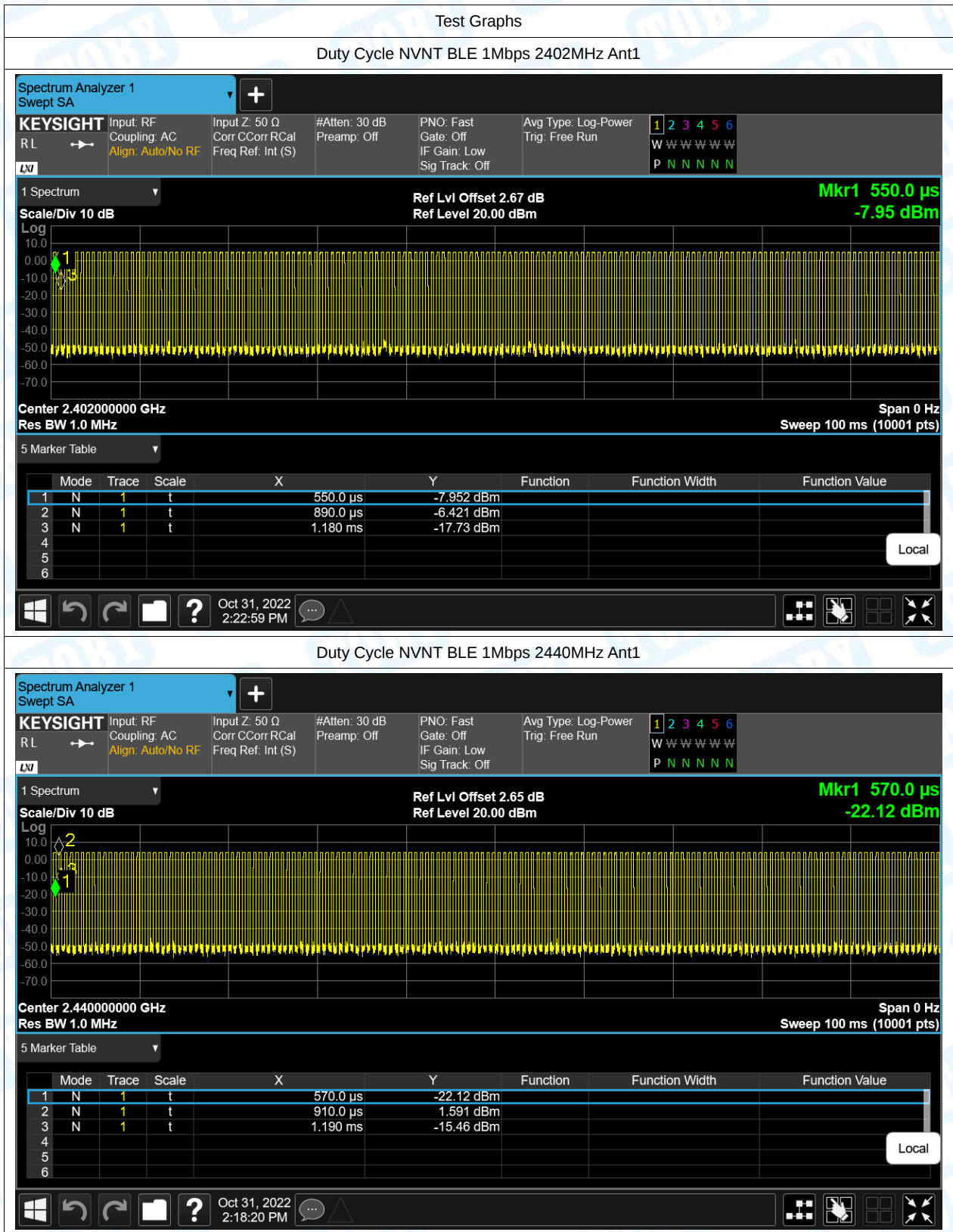
General Description of EUT	
Product Name:	Smart Watch
Test Model:	K21
Sample ID:	202210-0031-1-2#
Environmental Conditions	
Temperature:	25℃
Relative Humidity:	55%
Test Voltage:	DC 3.7V
Test Engineer:	Huang jian ping
Note: For a more detailed features description, please refer to the report TBR-C-202210-0031-1	

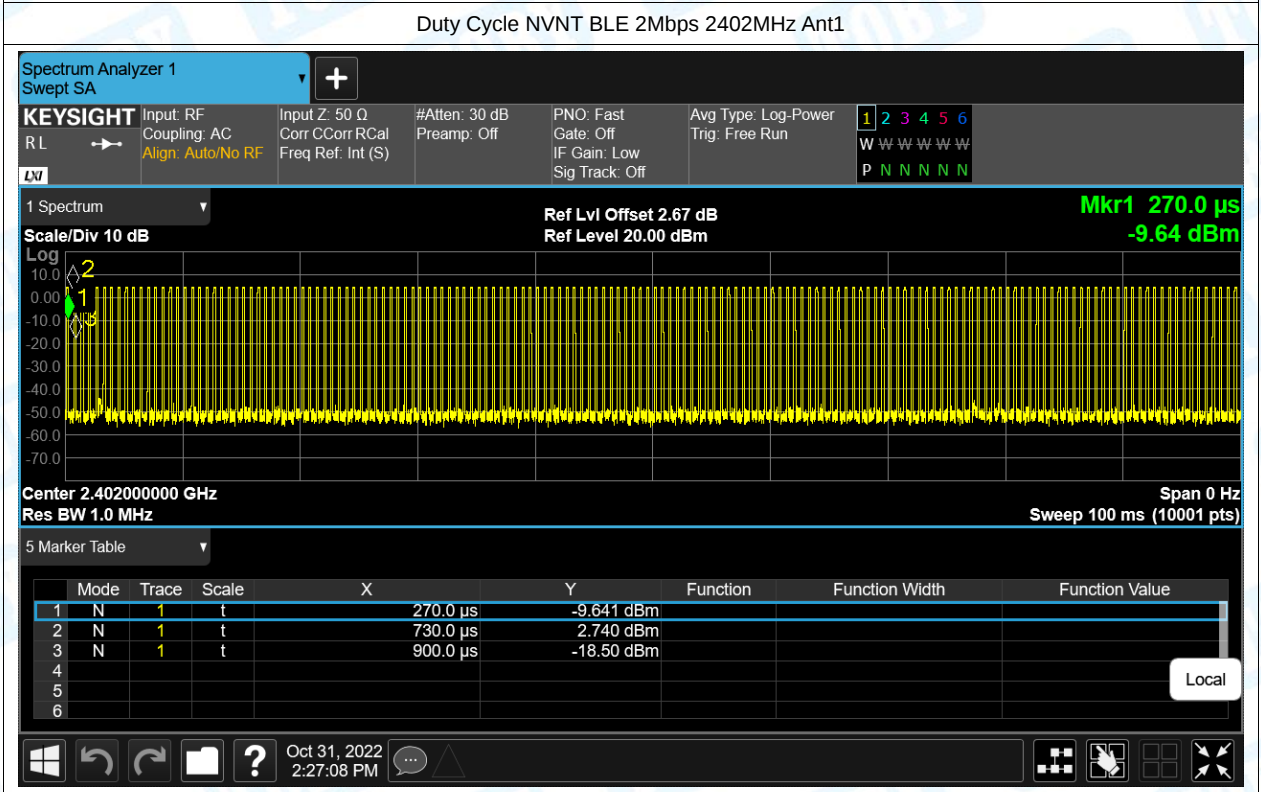
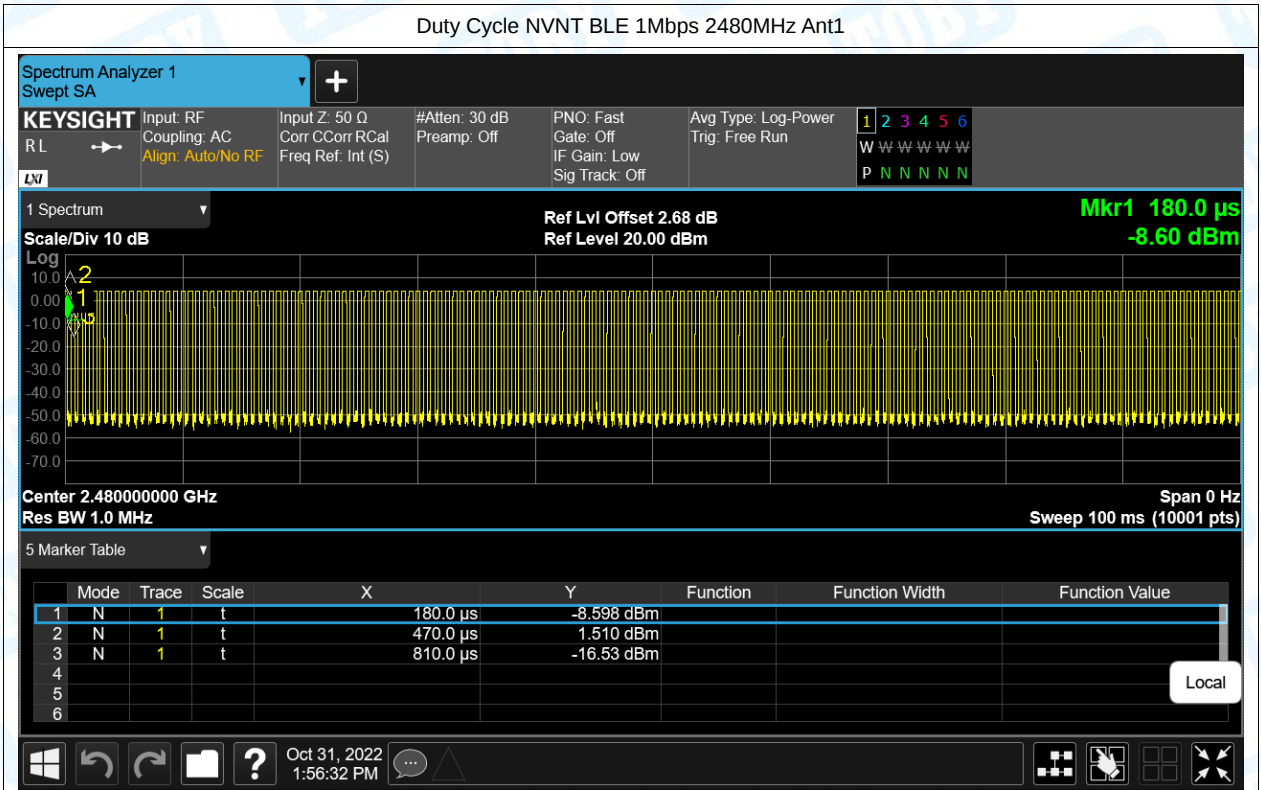
Contents

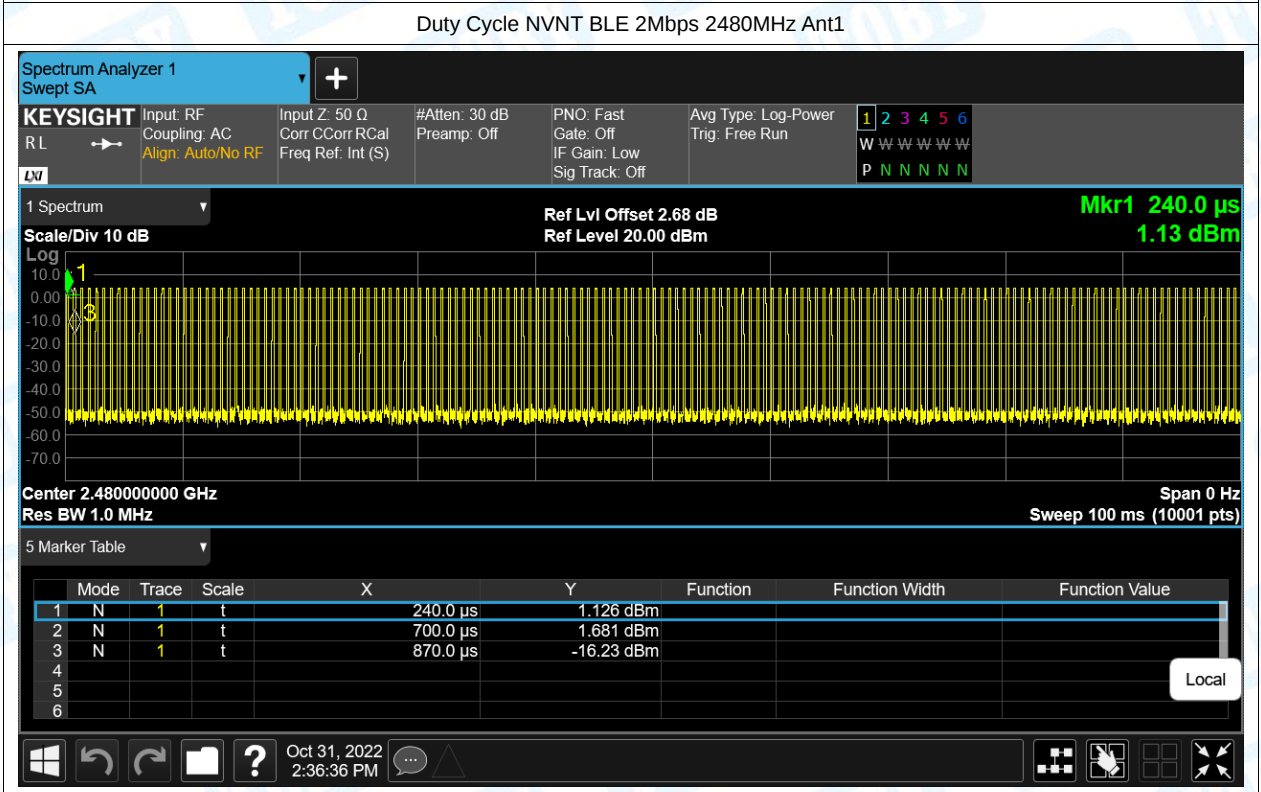
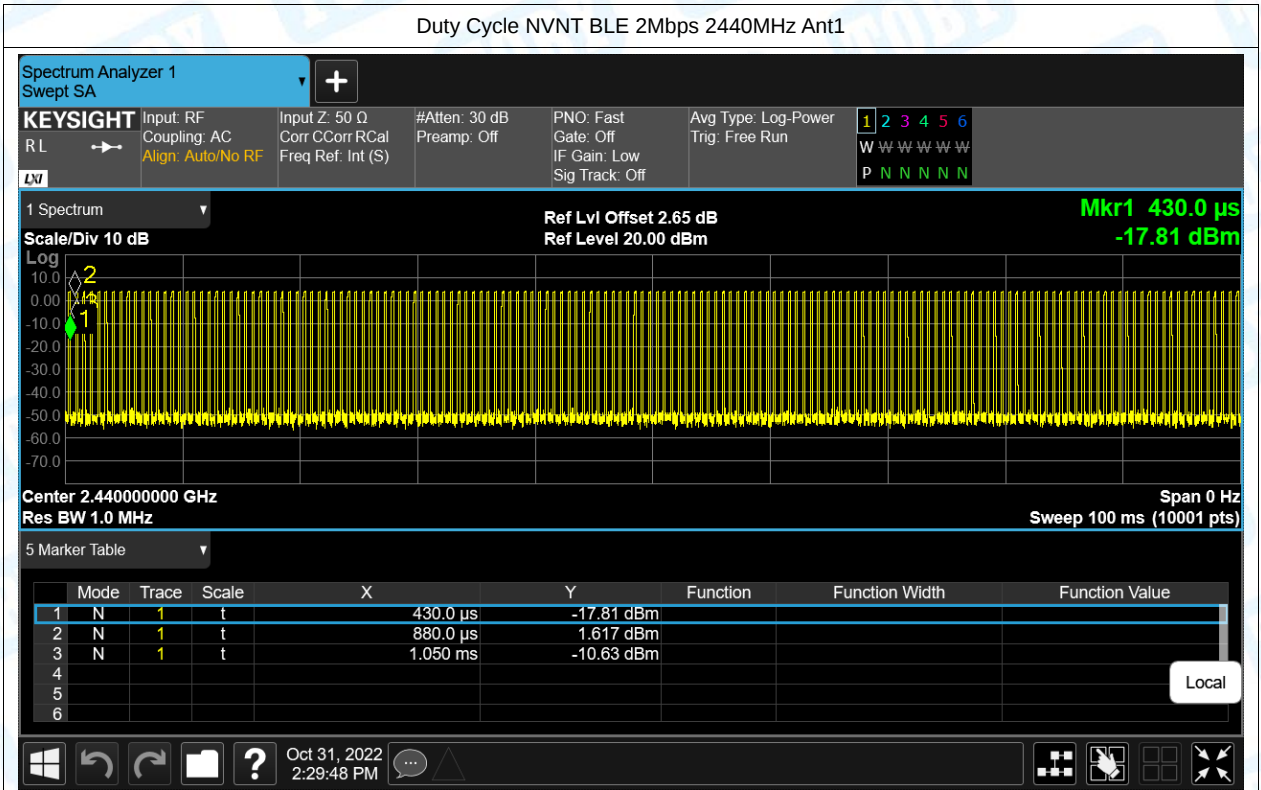
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1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	46.03	3.37	3.45
NVNT	BLE 1Mbps	2440	Ant1	45.16	3.45	3.57
NVNT	BLE 1Mbps	2480	Ant1	53.97	2.68	2.94
NVNT	BLE 2Mbps	2402	Ant1	26.98	5.69	5.88
NVNT	BLE 2Mbps	2440	Ant1	27.42	5.62	5.88
NVNT	BLE 2Mbps	2480	Ant1	26.98	5.69	5.88





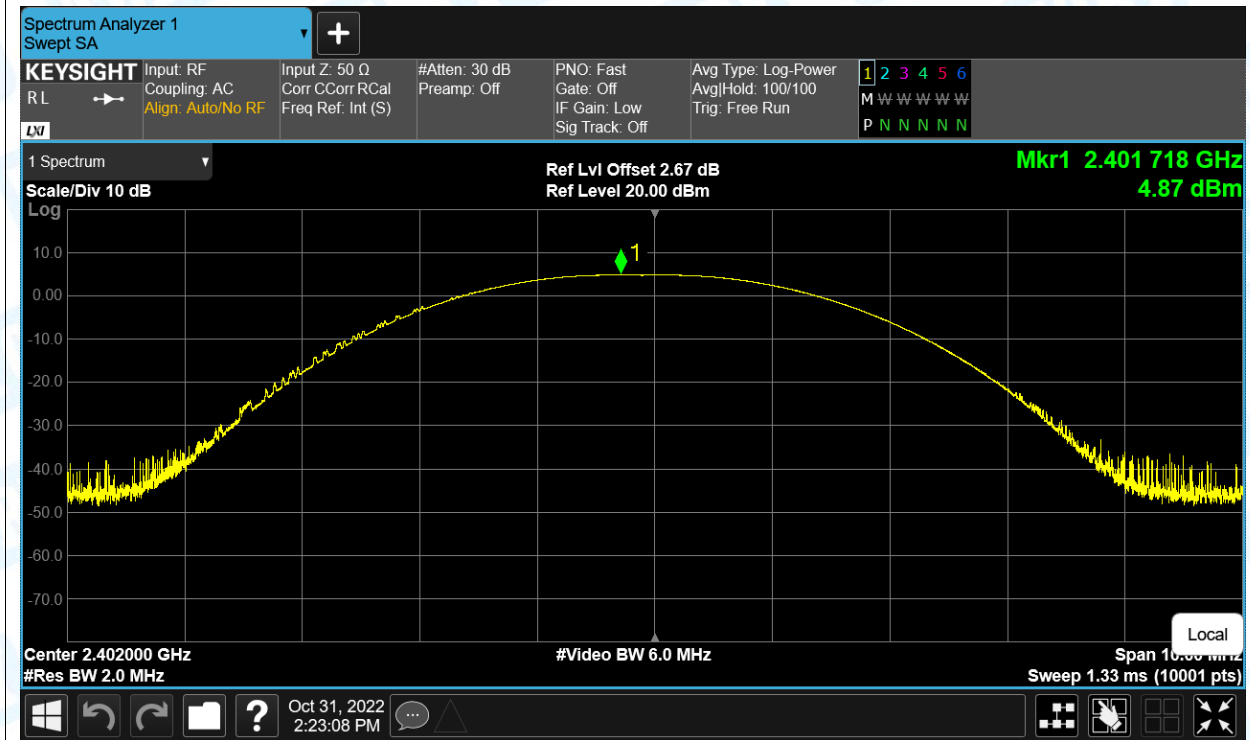


2. Maximum Conducted Output Power

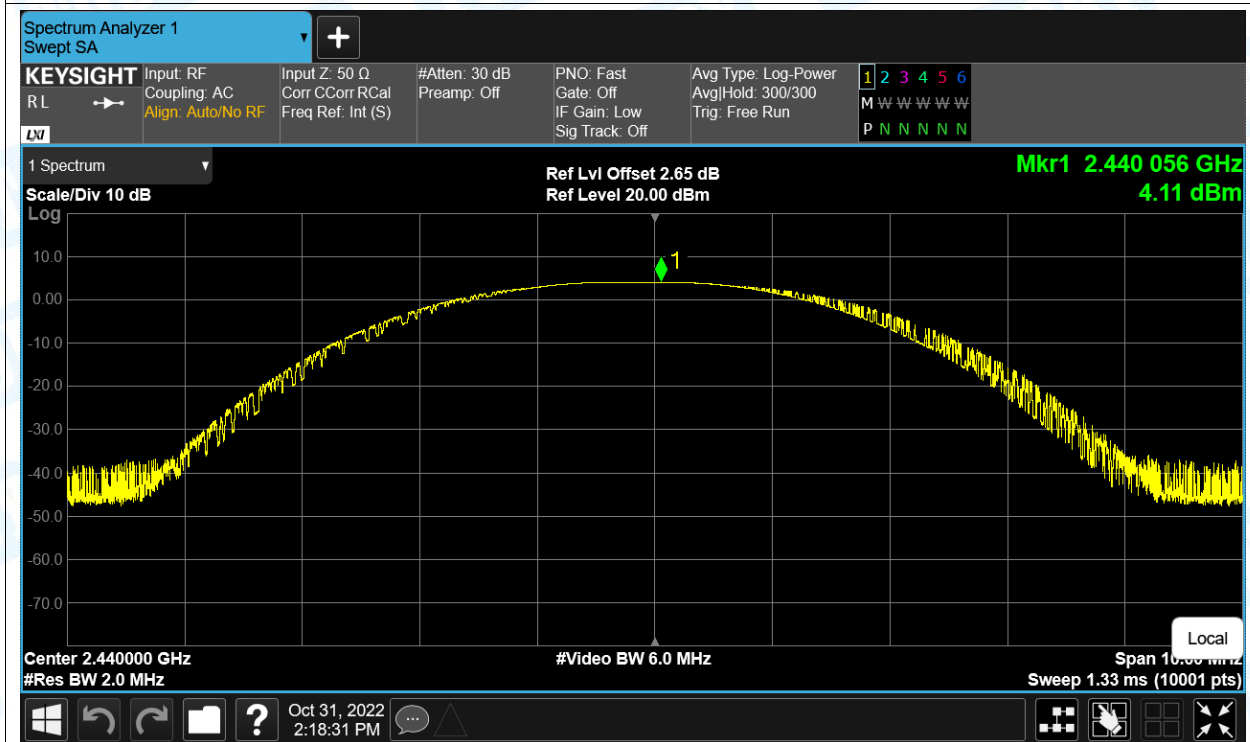
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	4.873	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	4.11	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	4.292	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	4.871	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	4.102	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	4.393	30	Pass

Test Graphs

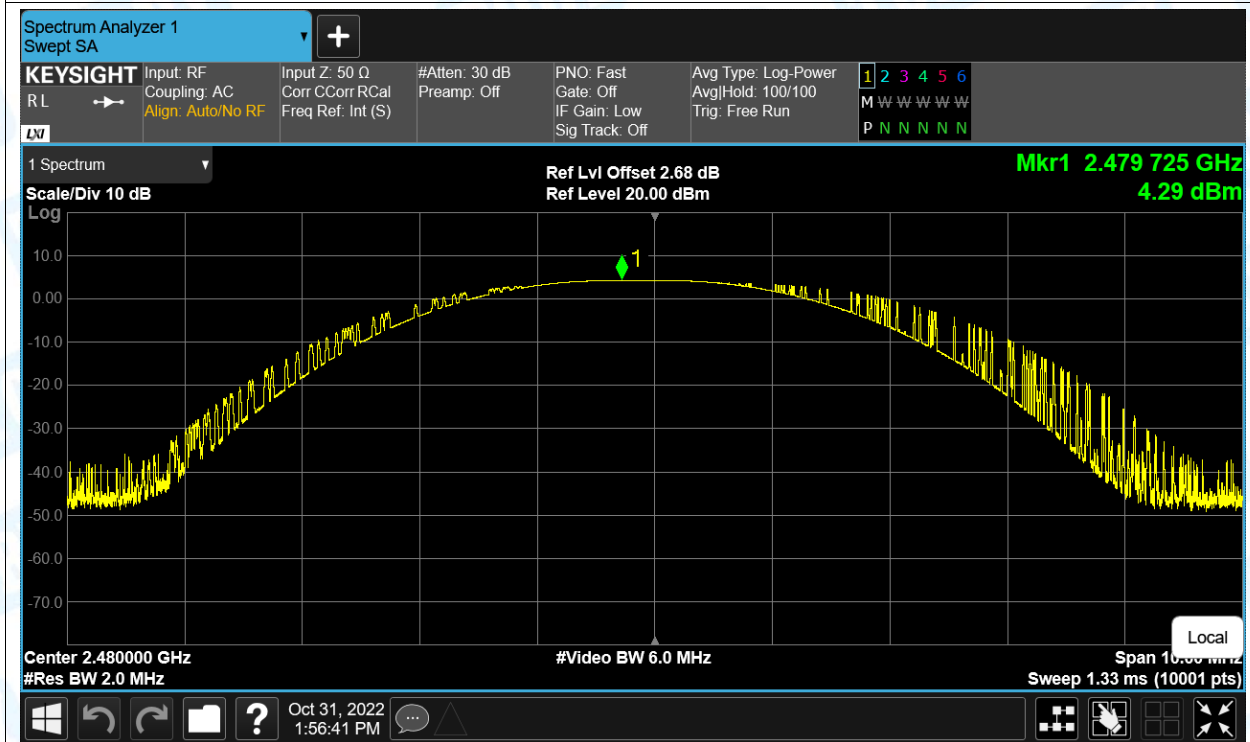
Power NVNT BLE 1Mbps 2402MHz Ant1



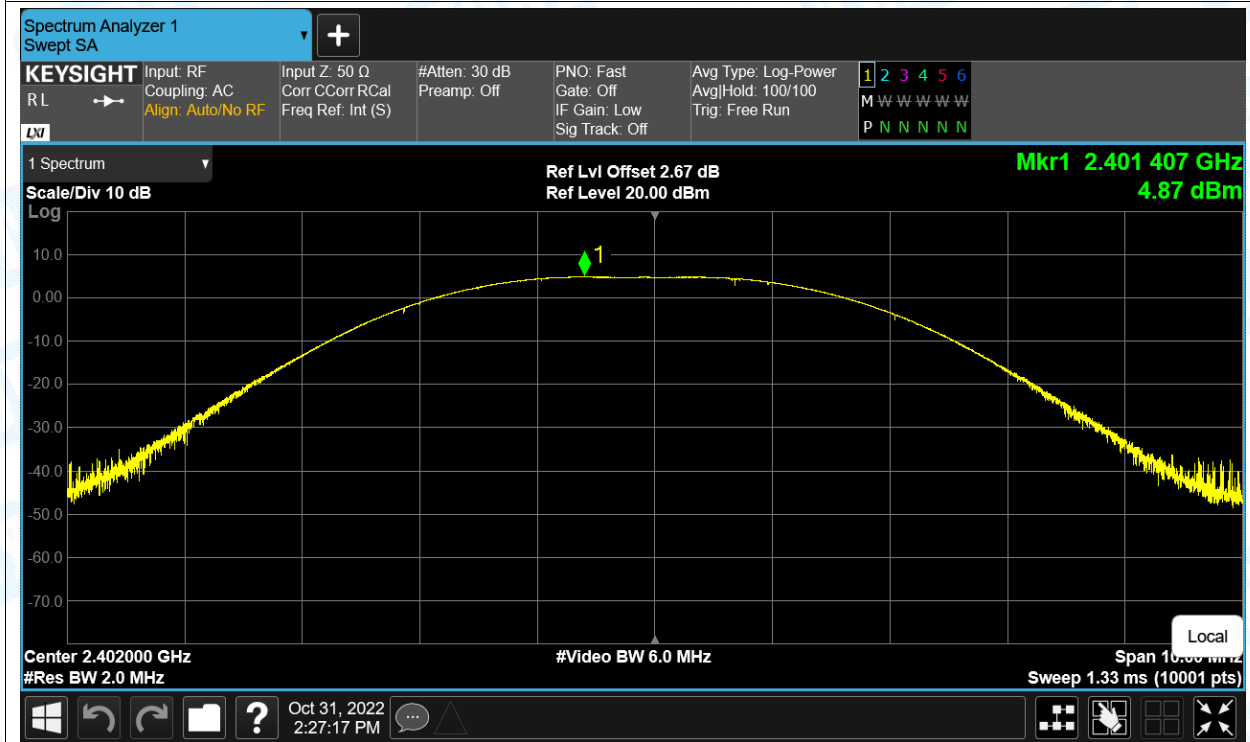
Power NVNT BLE 1Mbps 2440MHz Ant1



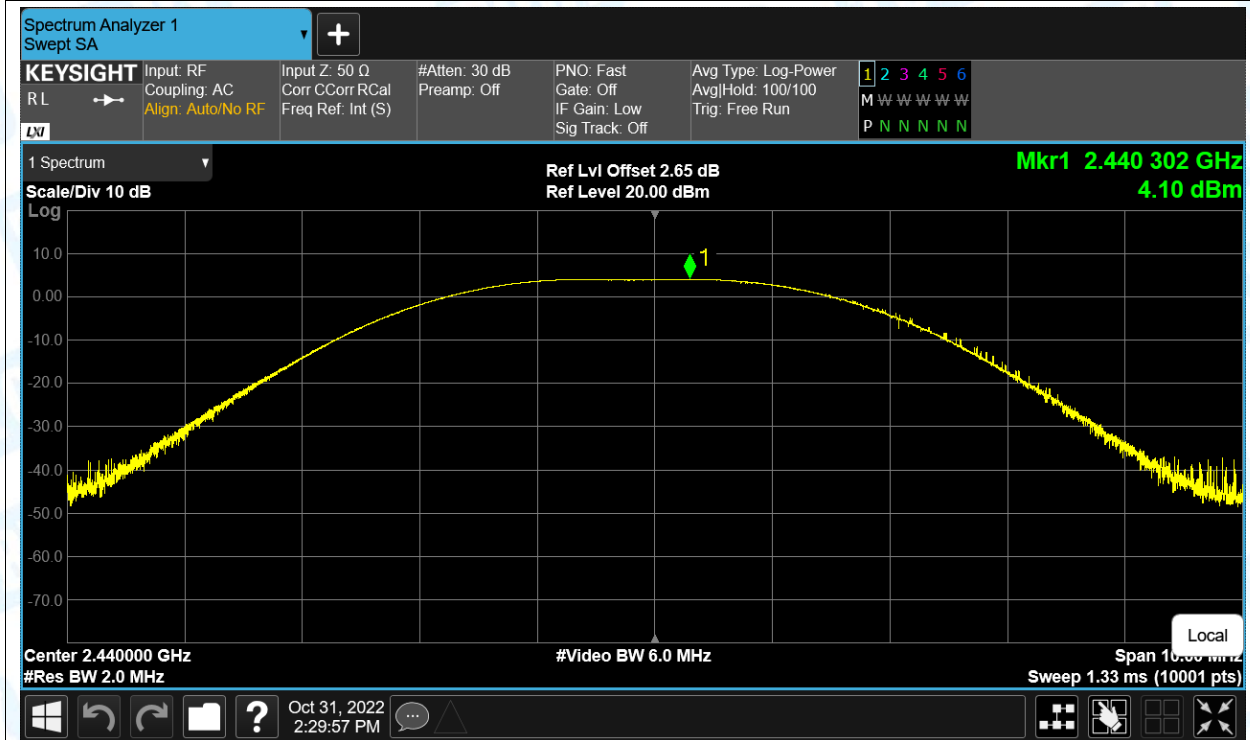
Power NVNT BLE 1Mbps 2480MHz Ant1



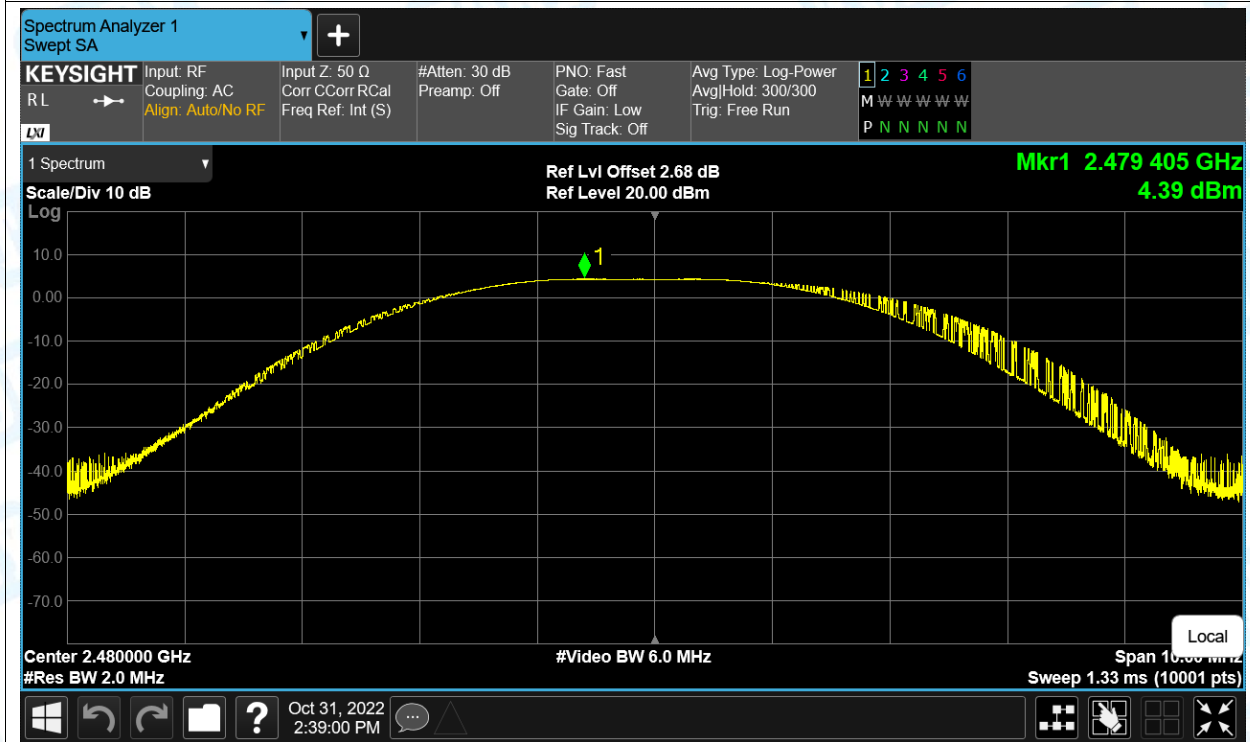
Power NVNT BLE 2Mbps 2402MHz Ant1



Power NVNT BLE 2Mbps 2440MHz Ant1



Power NVNT BLE 2Mbps 2480MHz Ant1

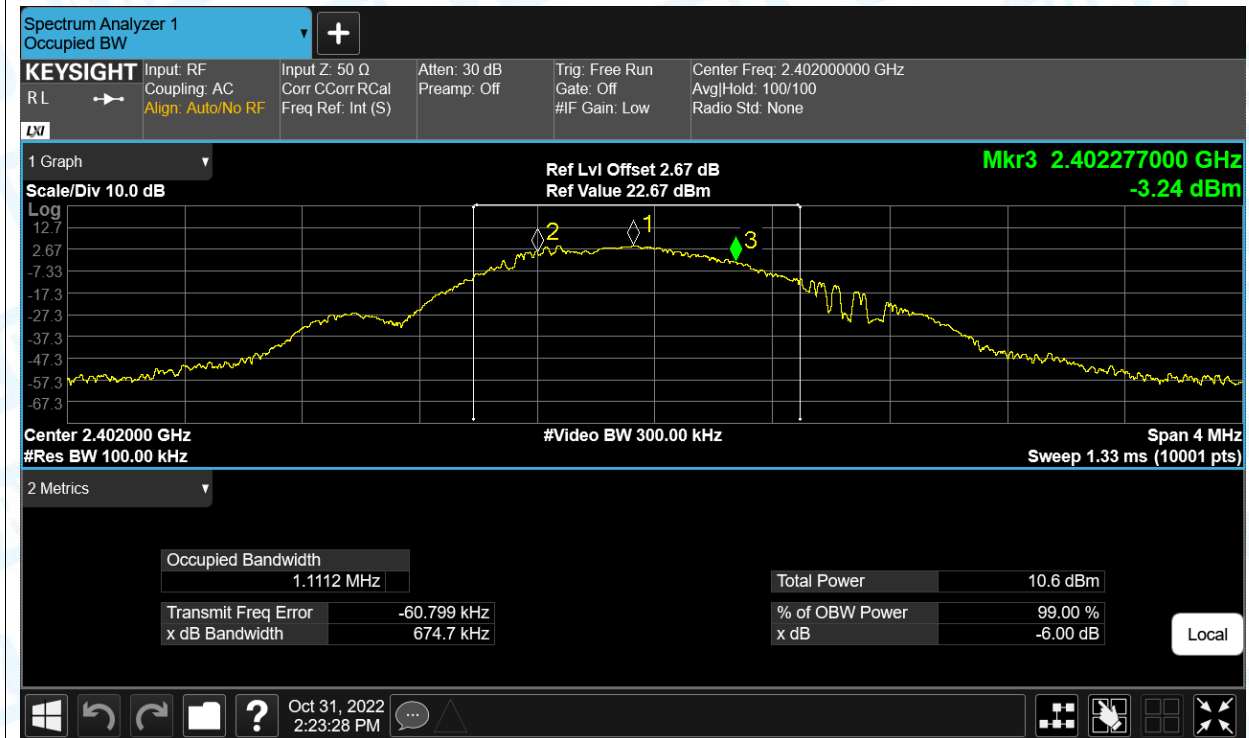


3. -6dB Bandwidth

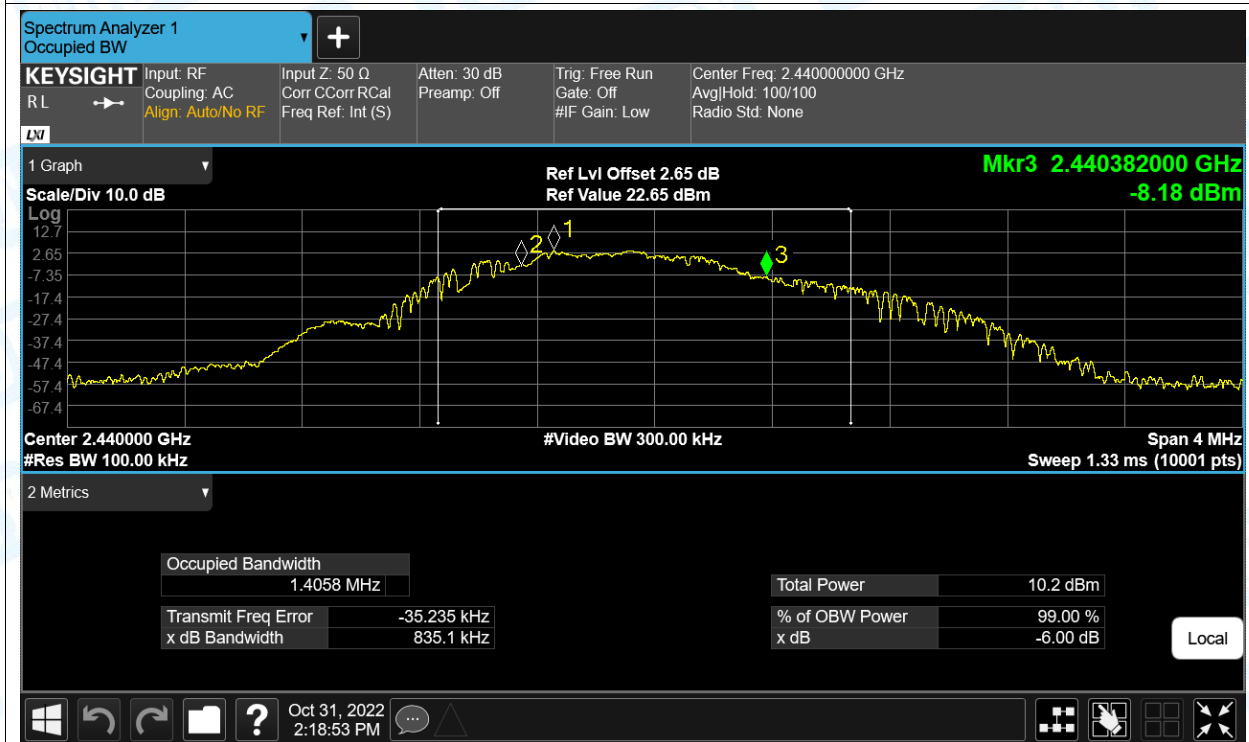
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.67	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.84	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.91	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	1.12	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	0.95	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	1.08	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



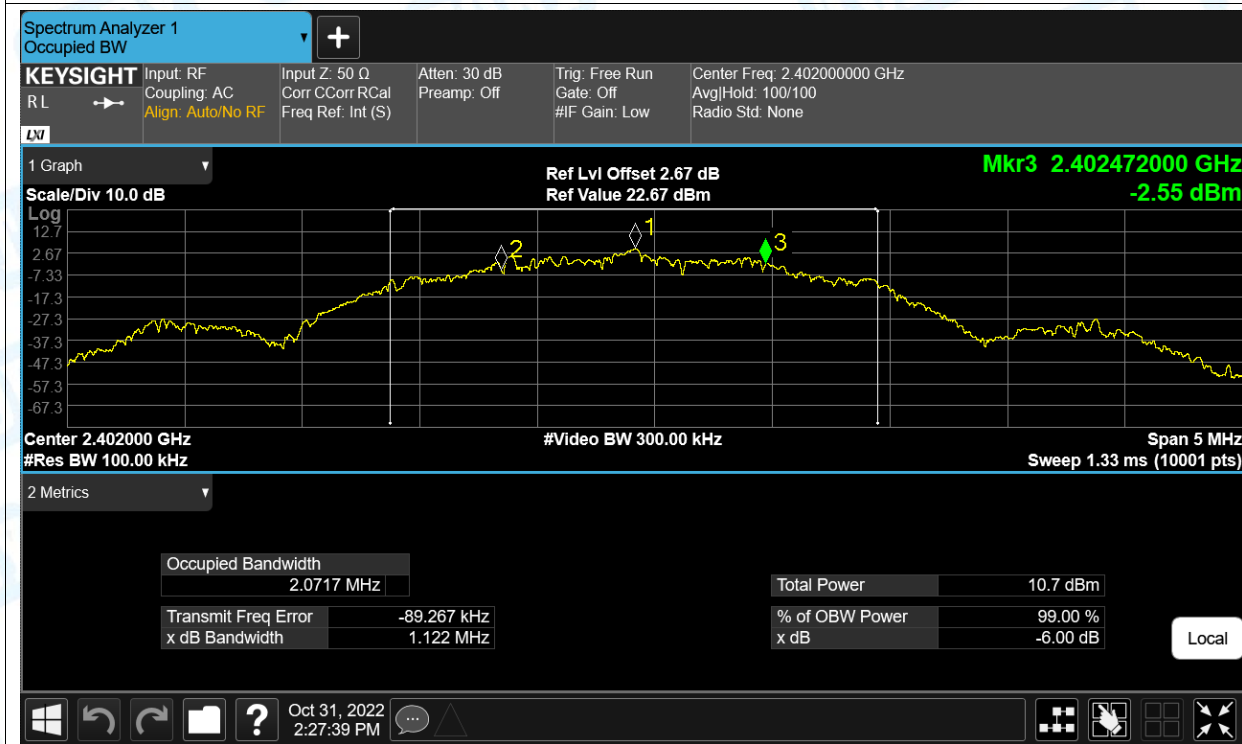
-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1

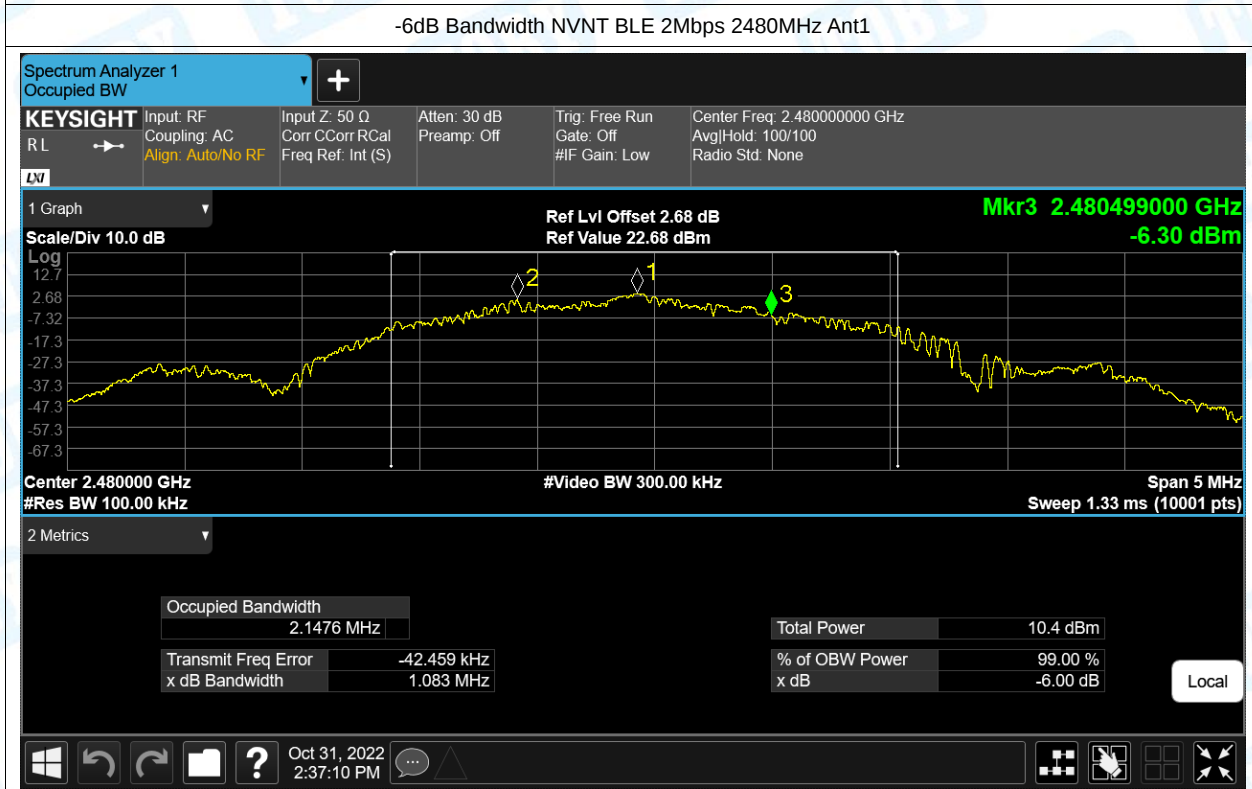
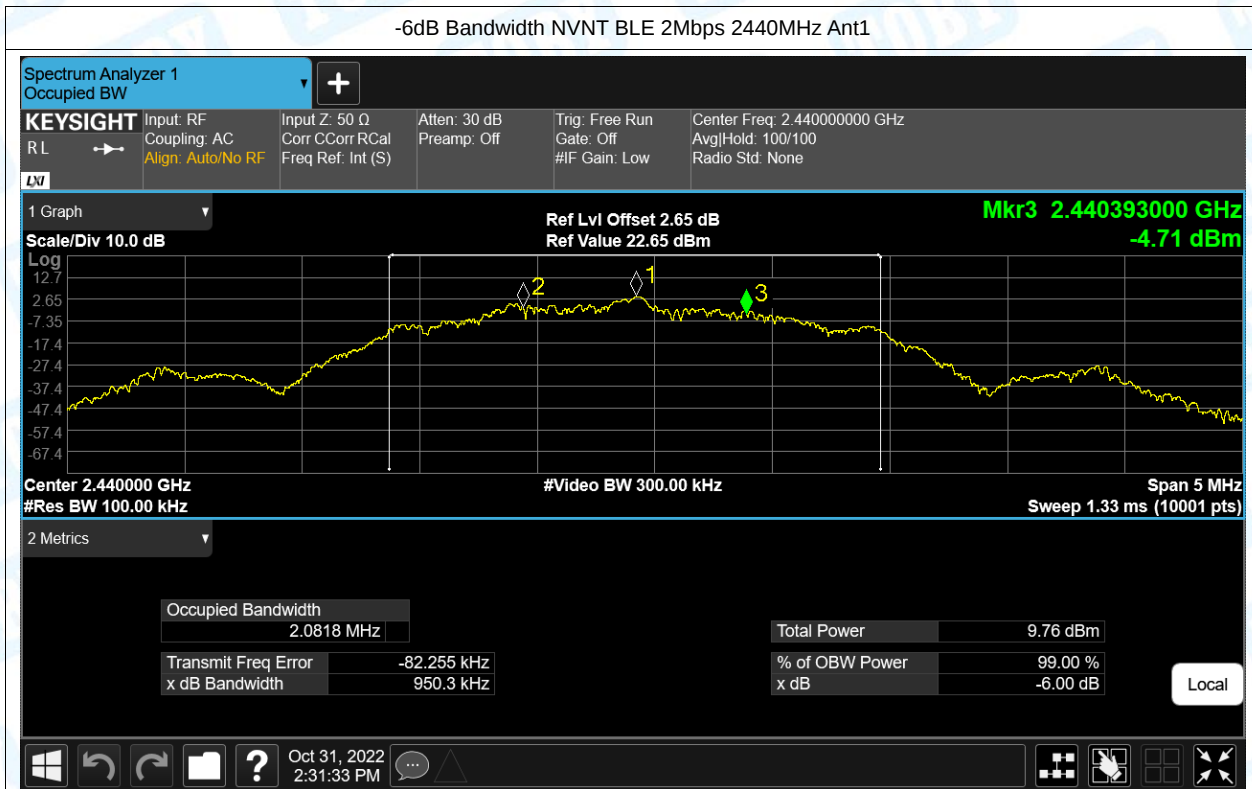


-6dB Bandwidth NVNT BLE 1Mbps 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2402MHz Ant1





4. Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1Mbps	2402	Ant1	1.05
NVNT	BLE 1Mbps	2440	Ant1	1.283
NVNT	BLE 1Mbps	2480	Ant1	1.797
NVNT	BLE 2Mbps	2402	Ant1	2.039
NVNT	BLE 2Mbps	2440	Ant1	2.041
NVNT	BLE 2Mbps	2480	Ant1	2.155

Test Graphs

OBW NVNT BLE 1Mbps 2402MHz Ant1



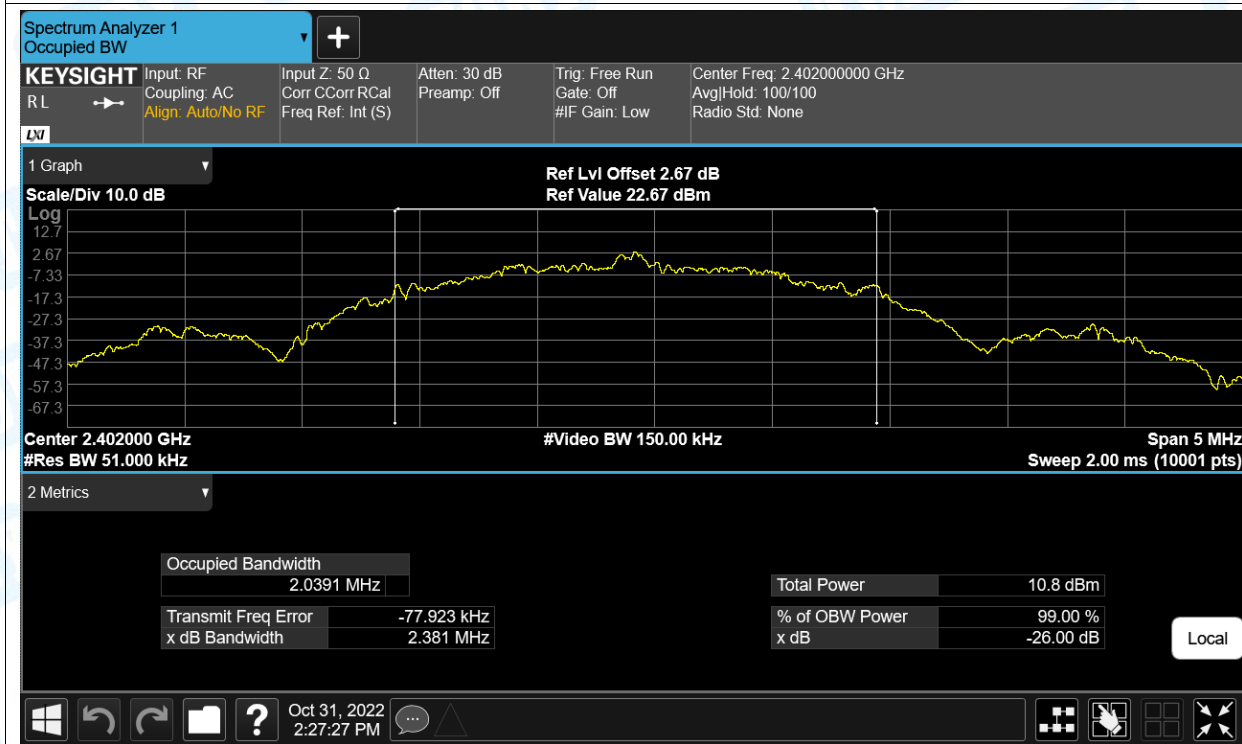
OBW NVNT BLE 1Mbps 2440MHz Ant1



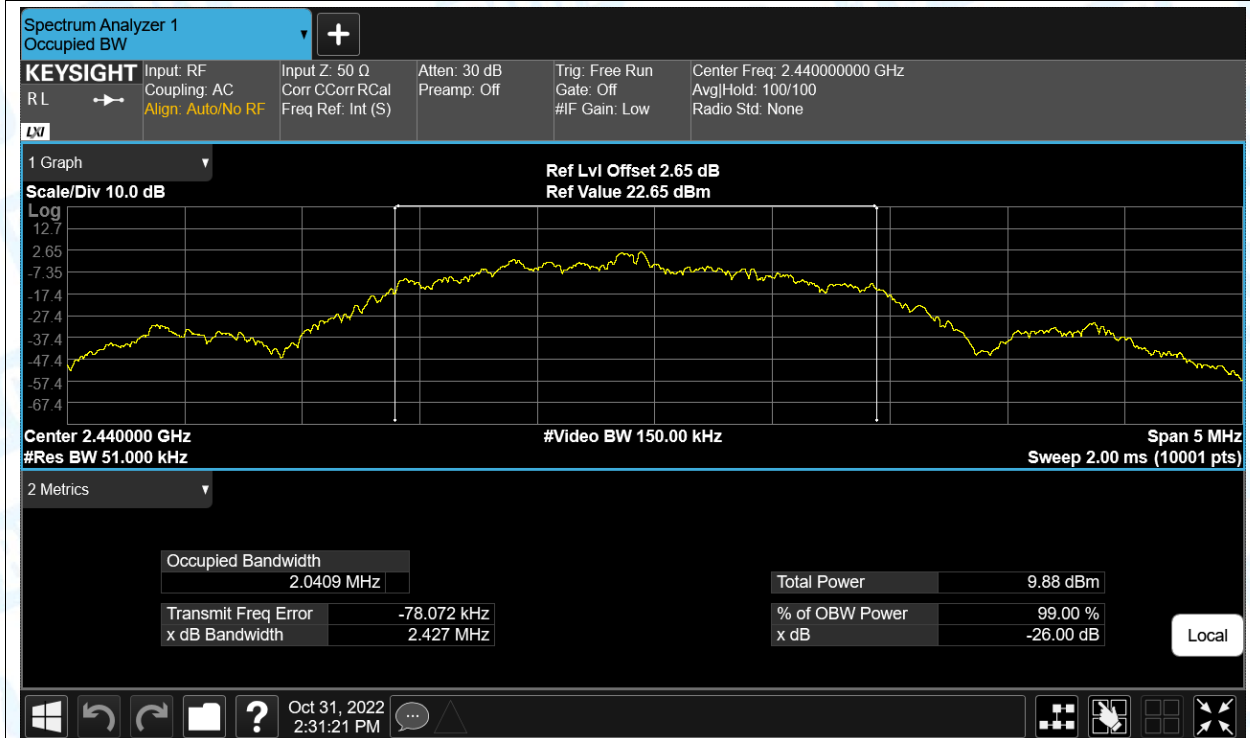
OBW NVNT BLE 1Mbps 2480MHz Ant1



OBW NVNT BLE 2Mbps 2402MHz Ant1



OBW NVNT BLE 2Mbps 2440MHz Ant1



OBW NVNT BLE 2Mbps 2480MHz Ant1

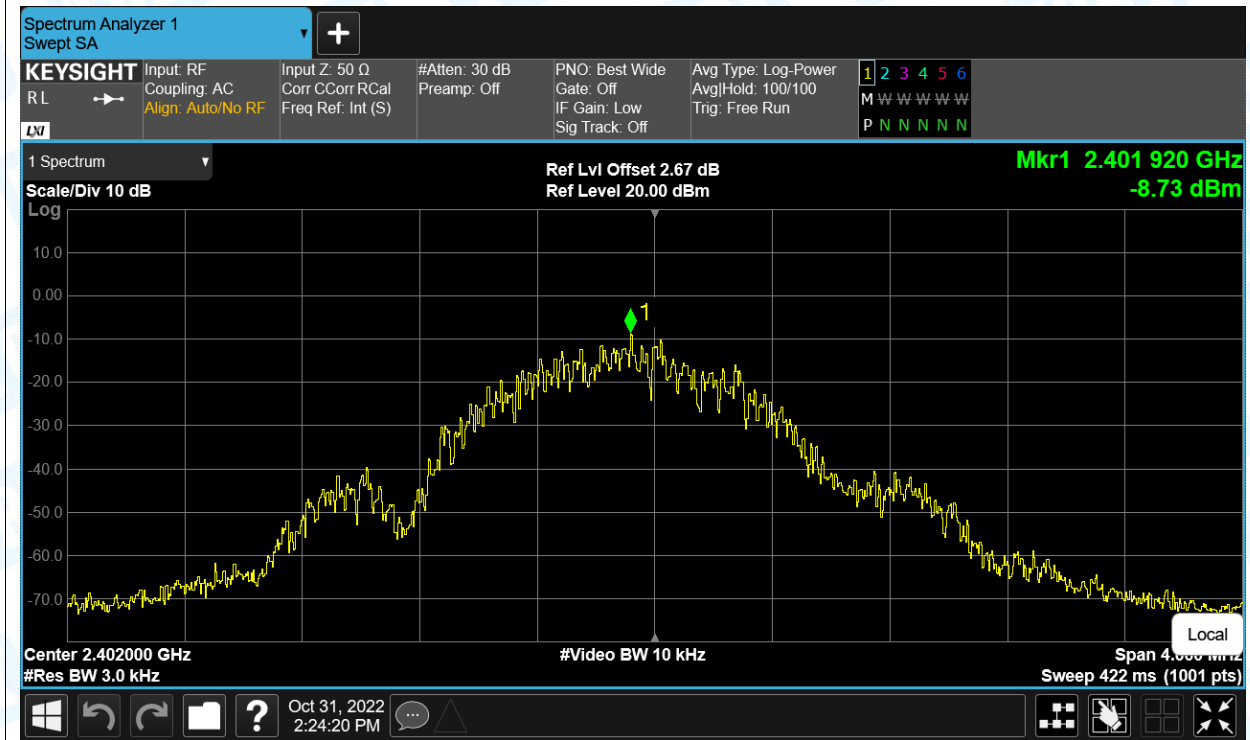


5. Maximum Power Spectral Density Level

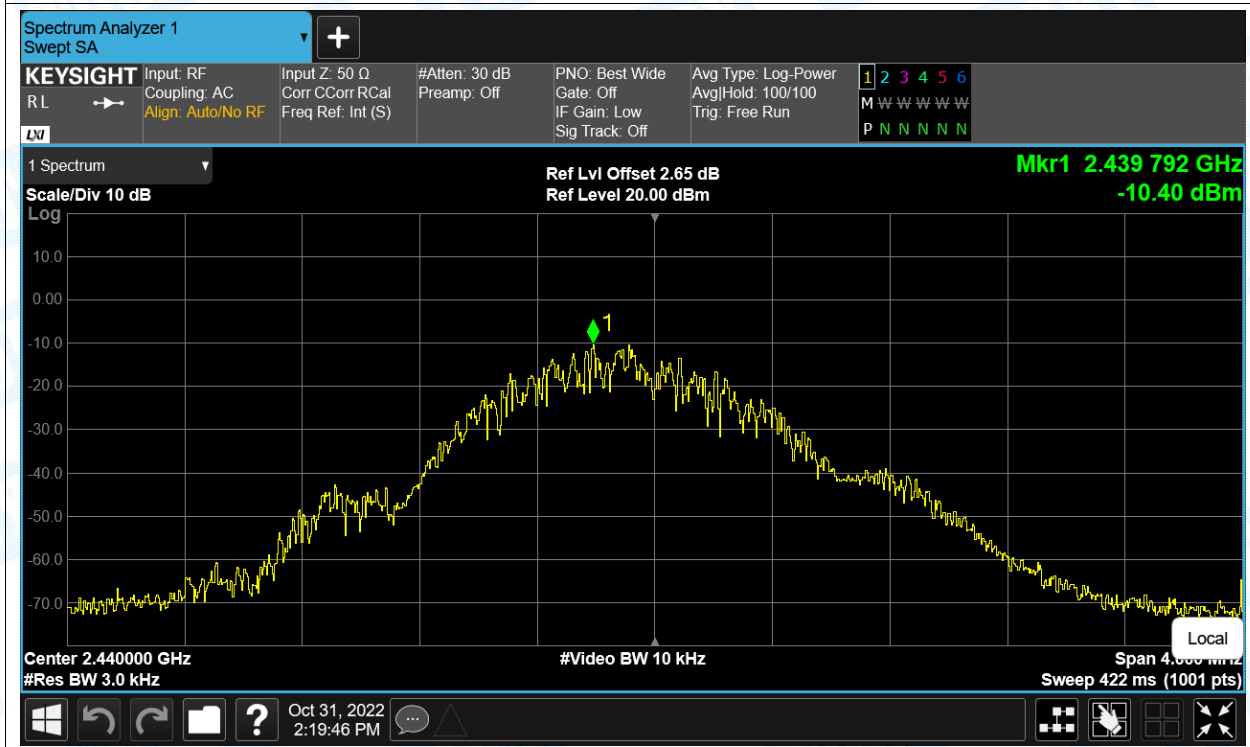
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-8.726	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-10.405	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-10.924	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-11.889	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-13.189	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-12.887	8	Pass

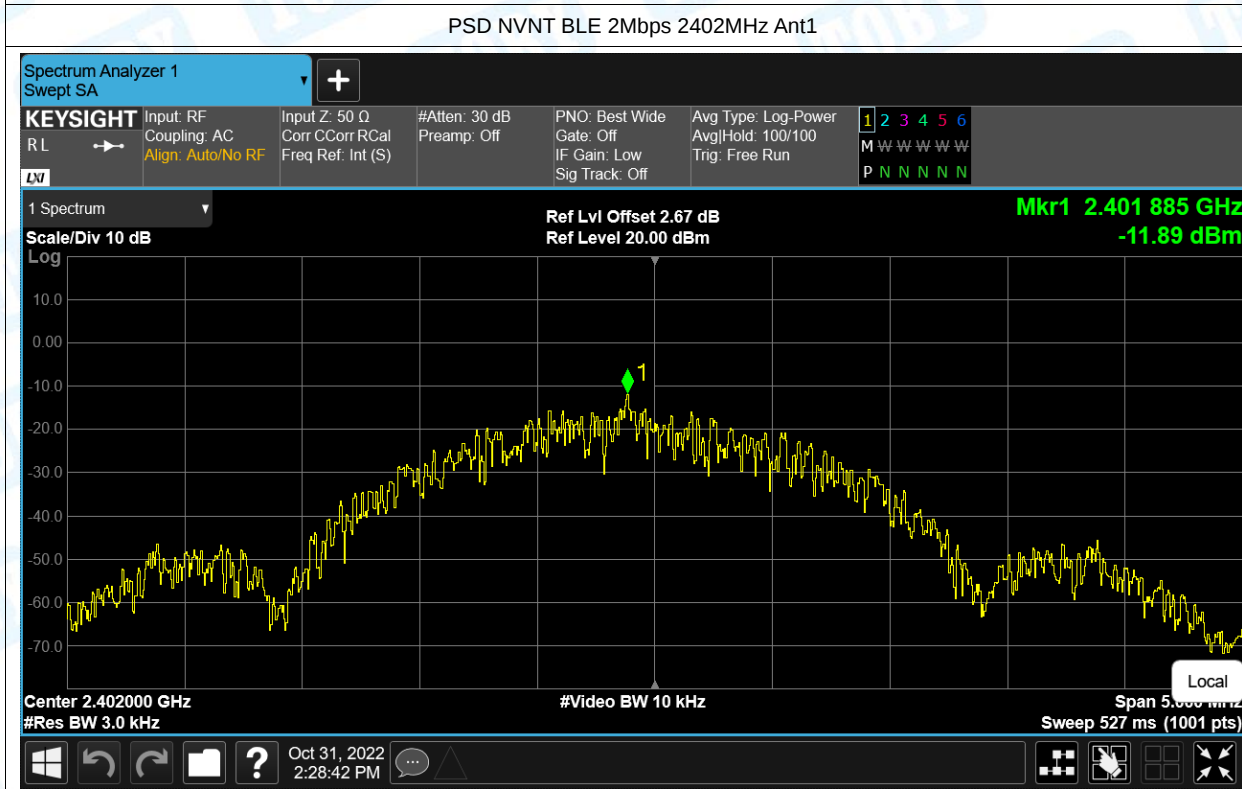
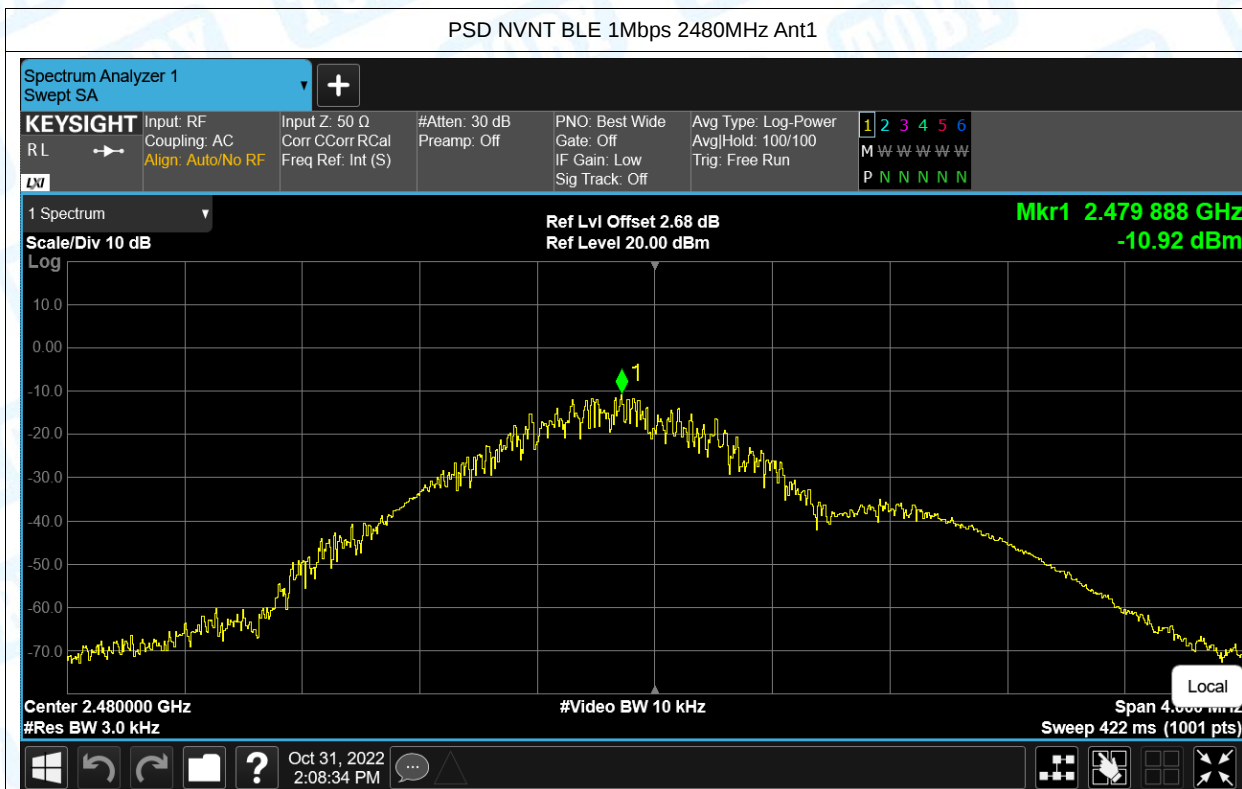
Test Graphs

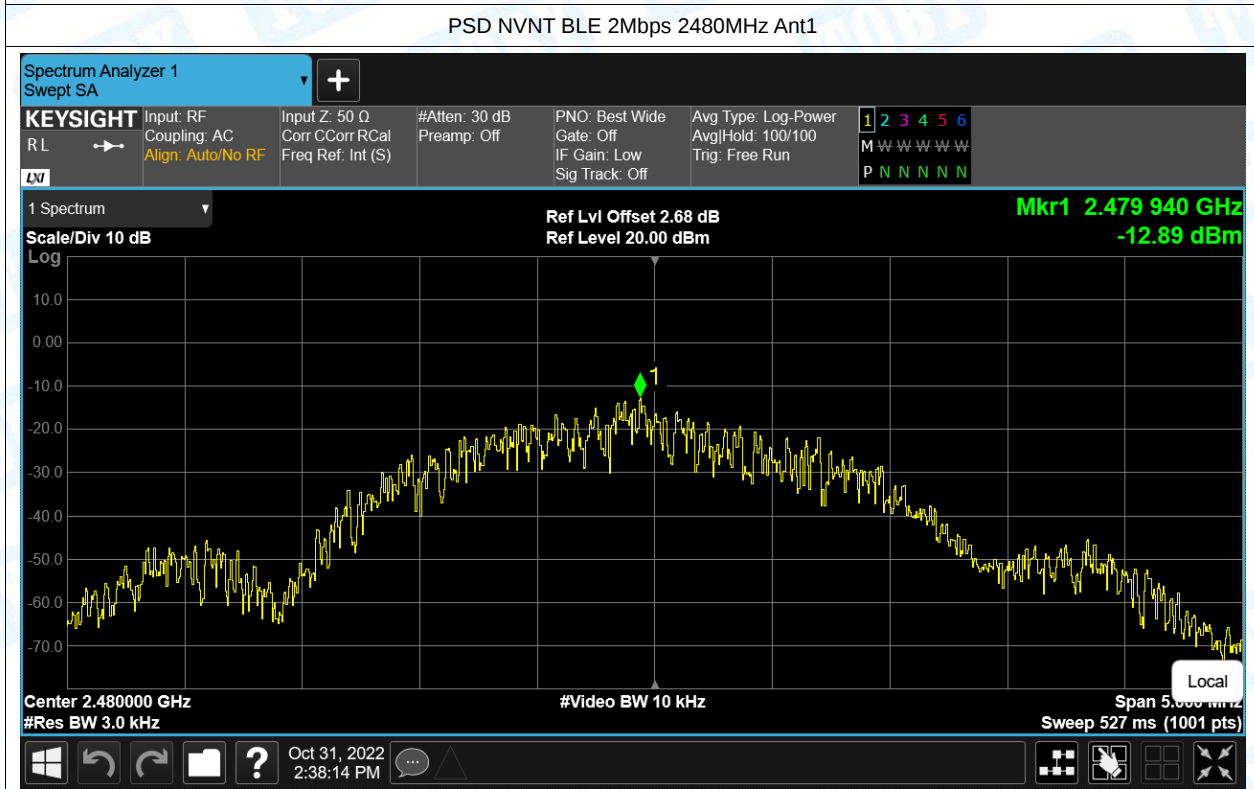
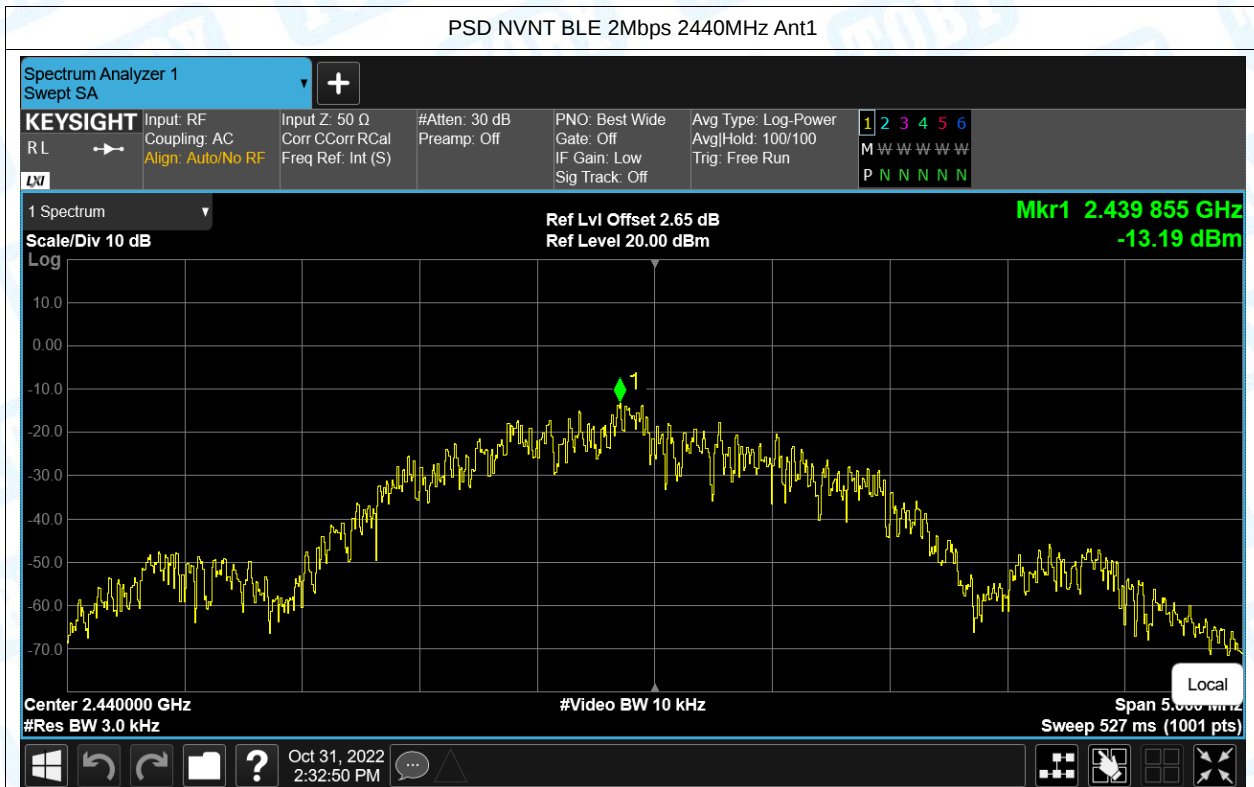
PSD NVNT BLE 1Mbps 2402MHz Ant1



PSD NVNT BLE 1Mbps 2440MHz Ant1

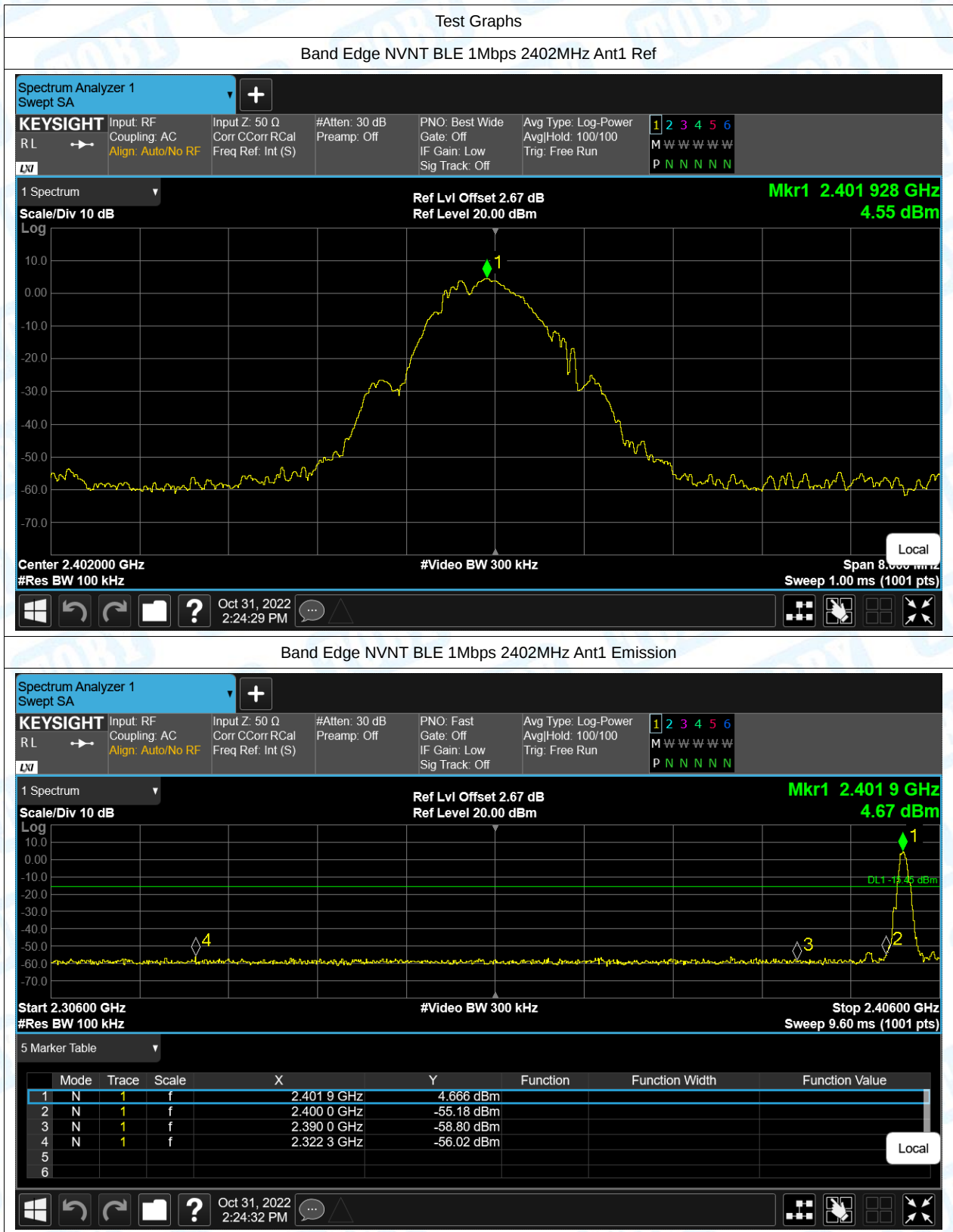


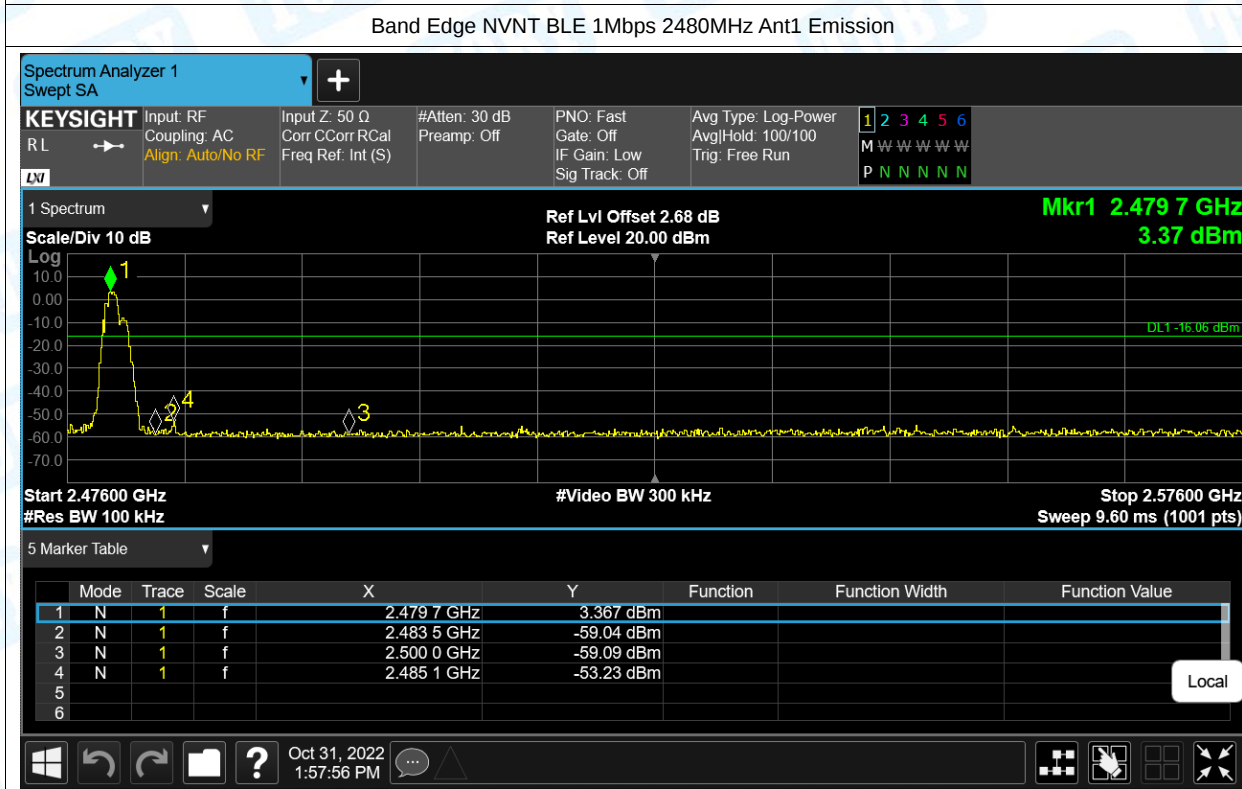
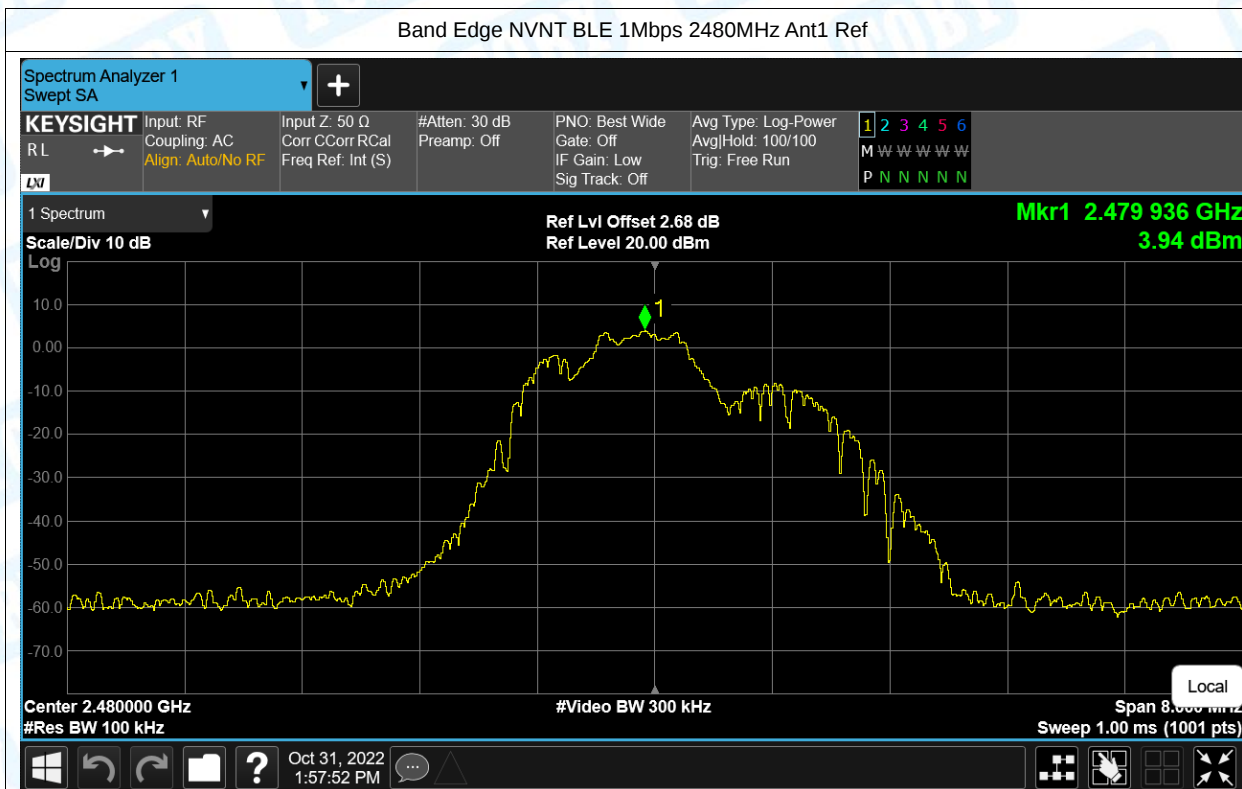


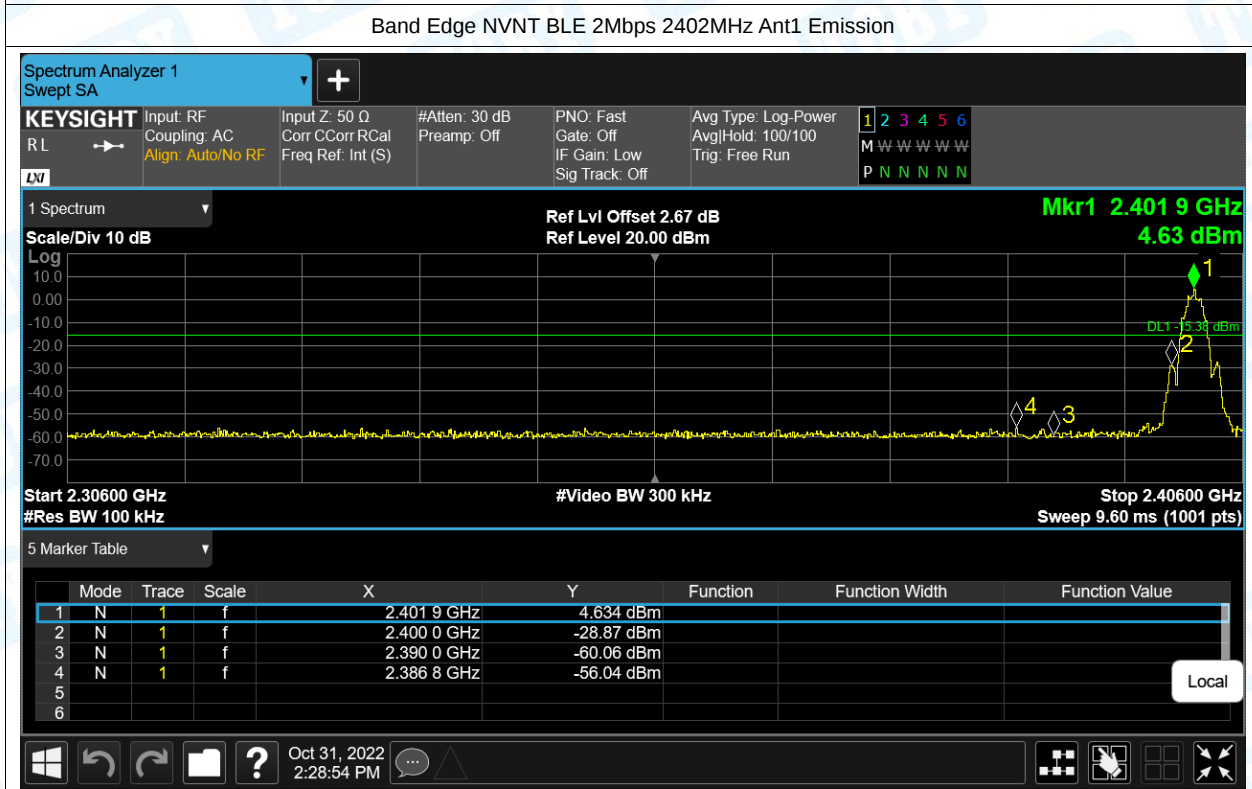
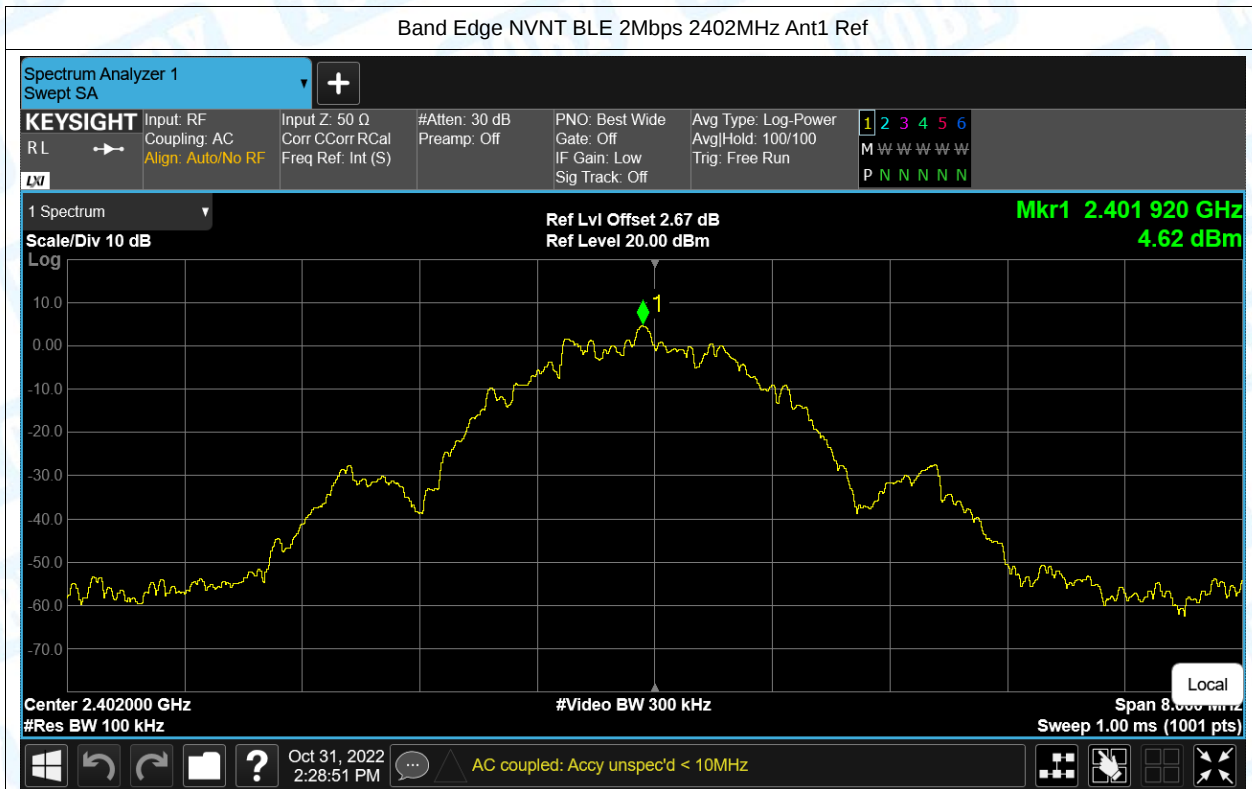


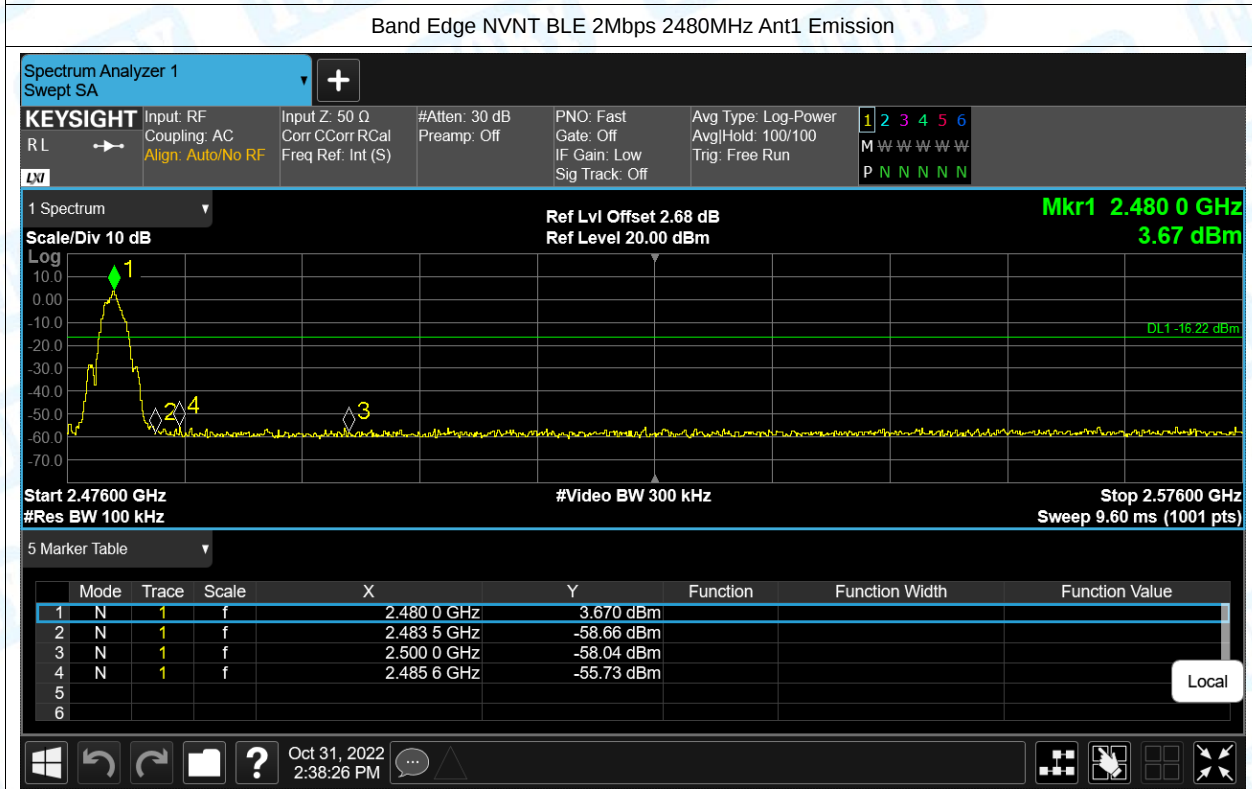
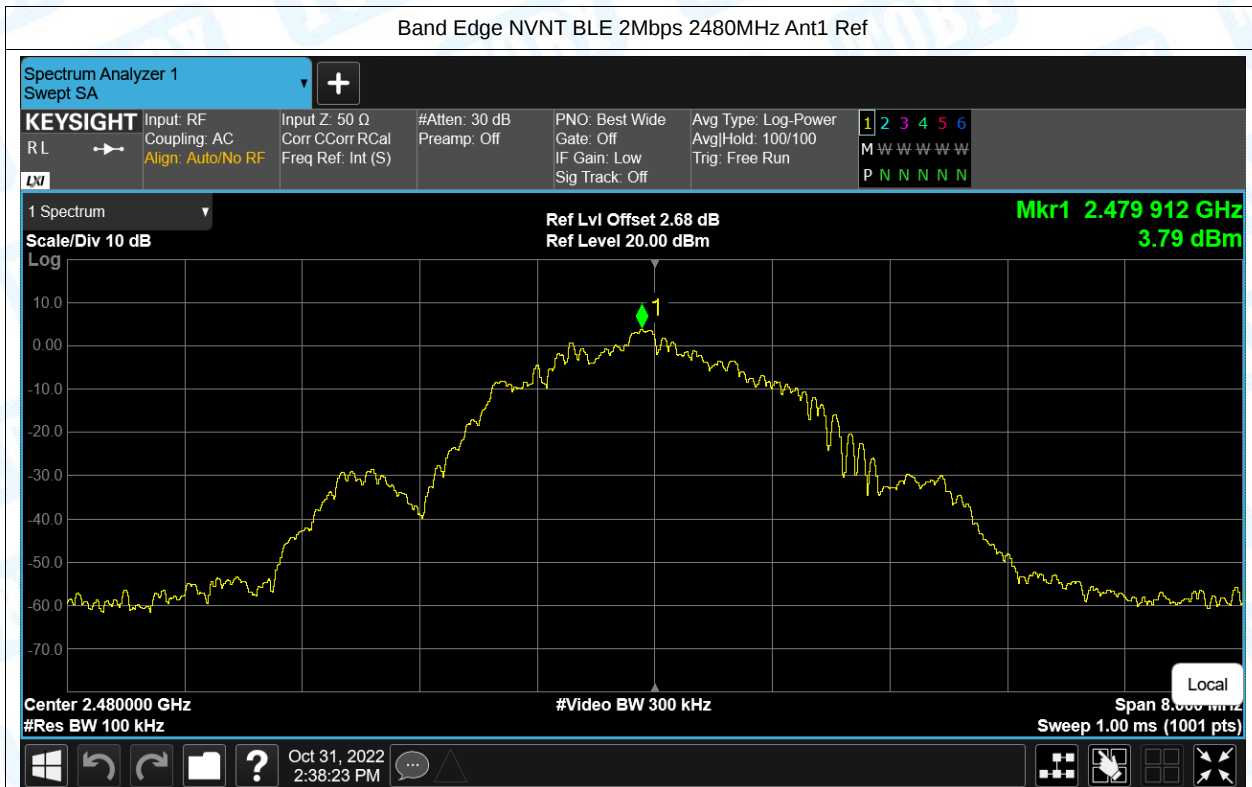
6. Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-60.57	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-57.17	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-60.66	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-59.52	-20	Pass



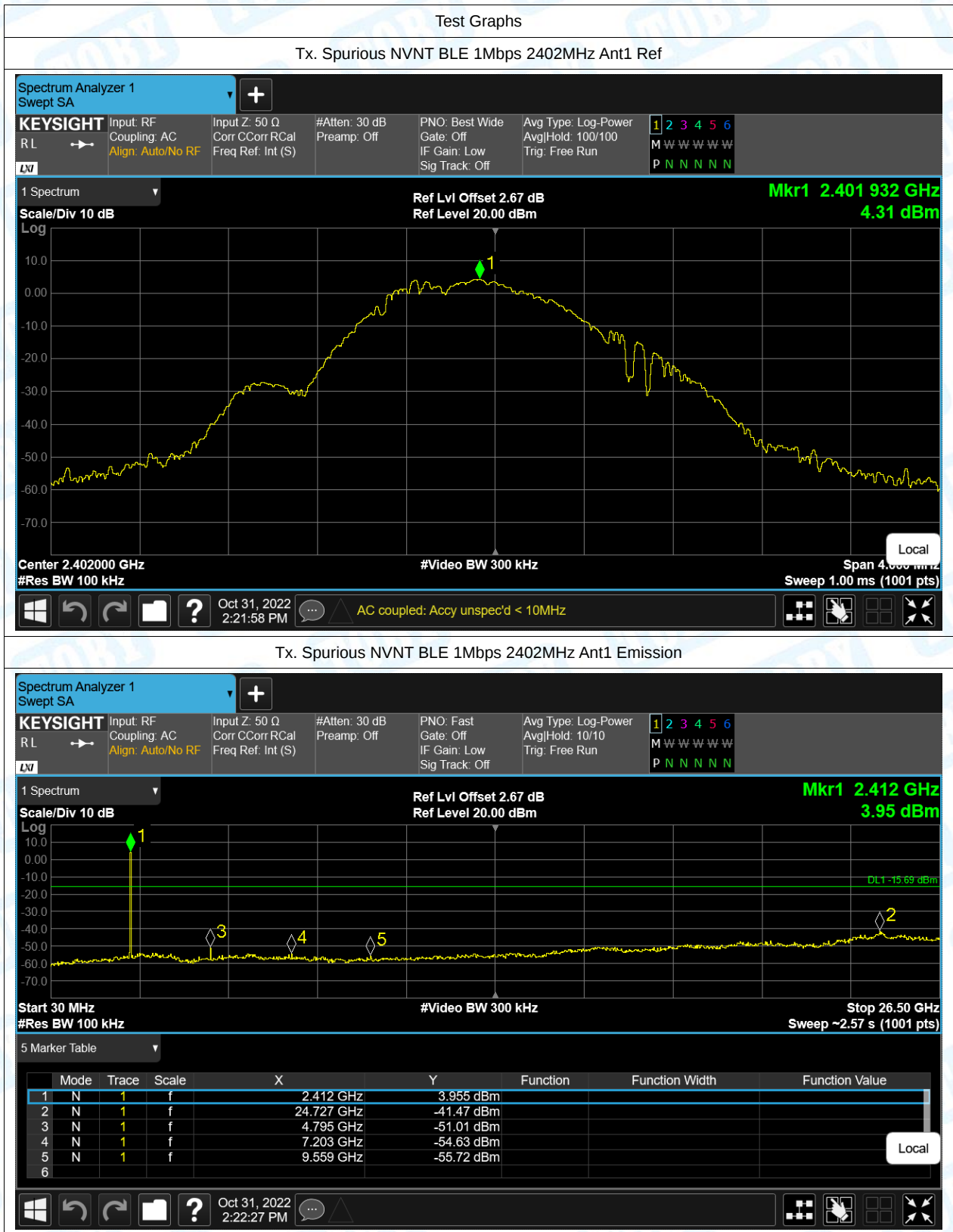


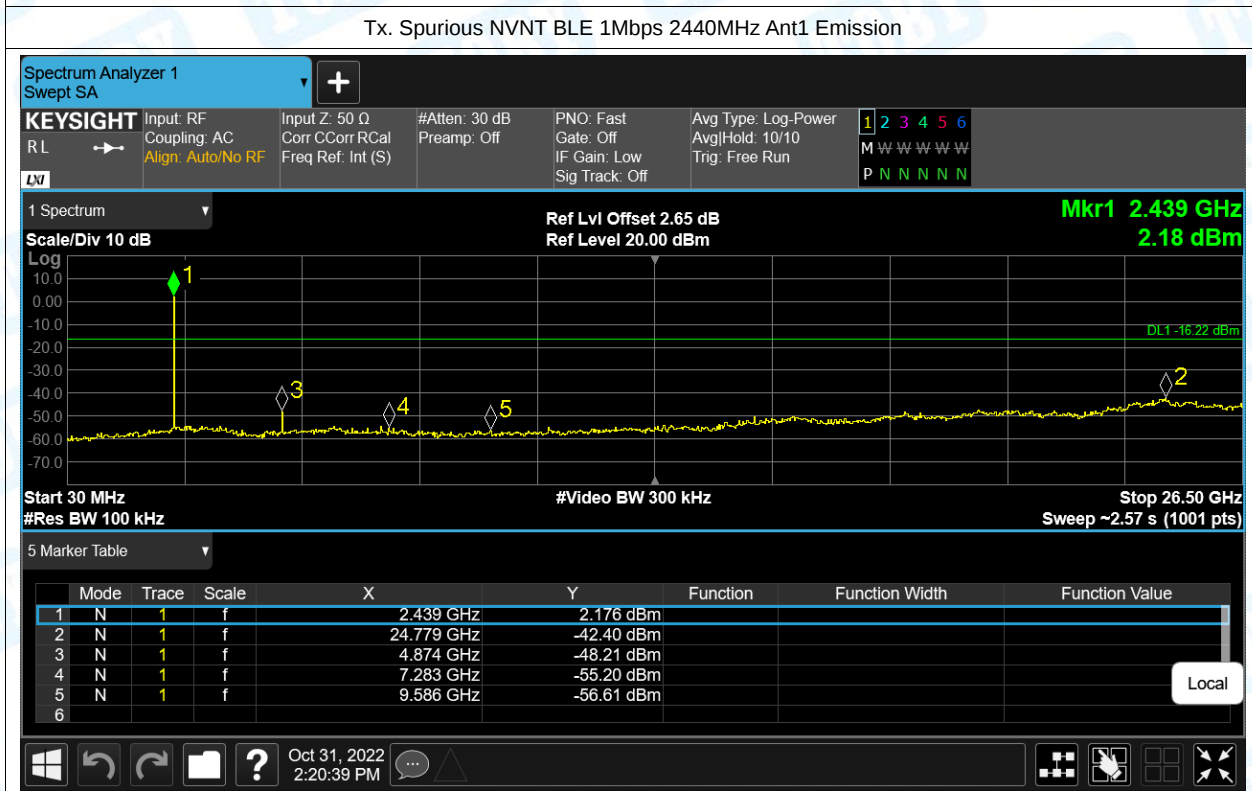
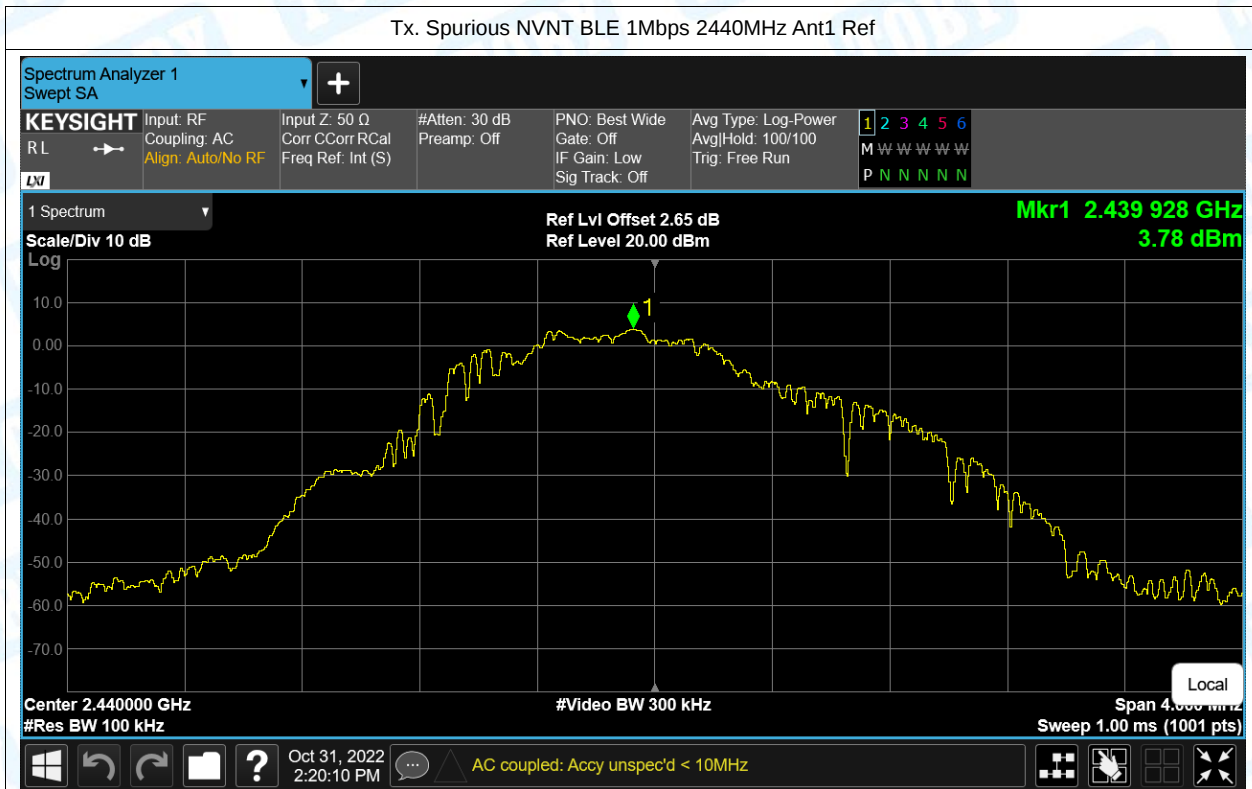


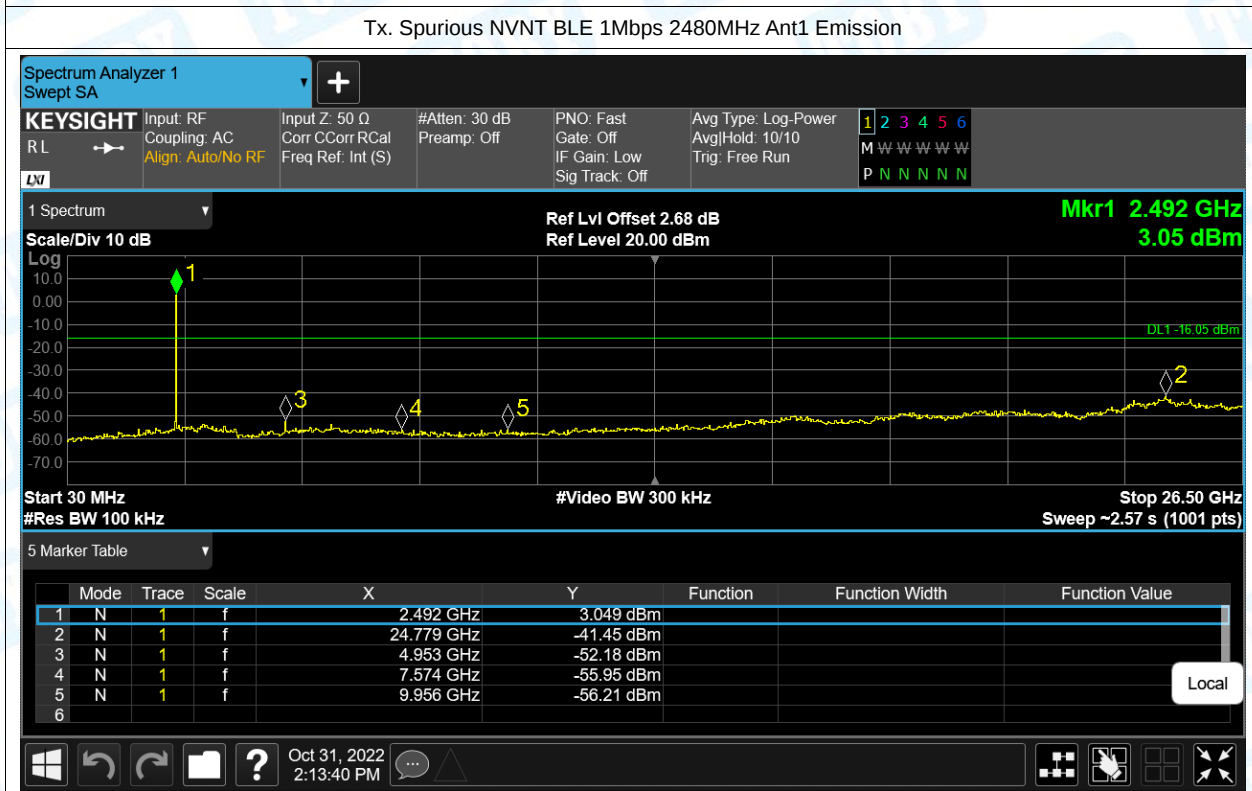
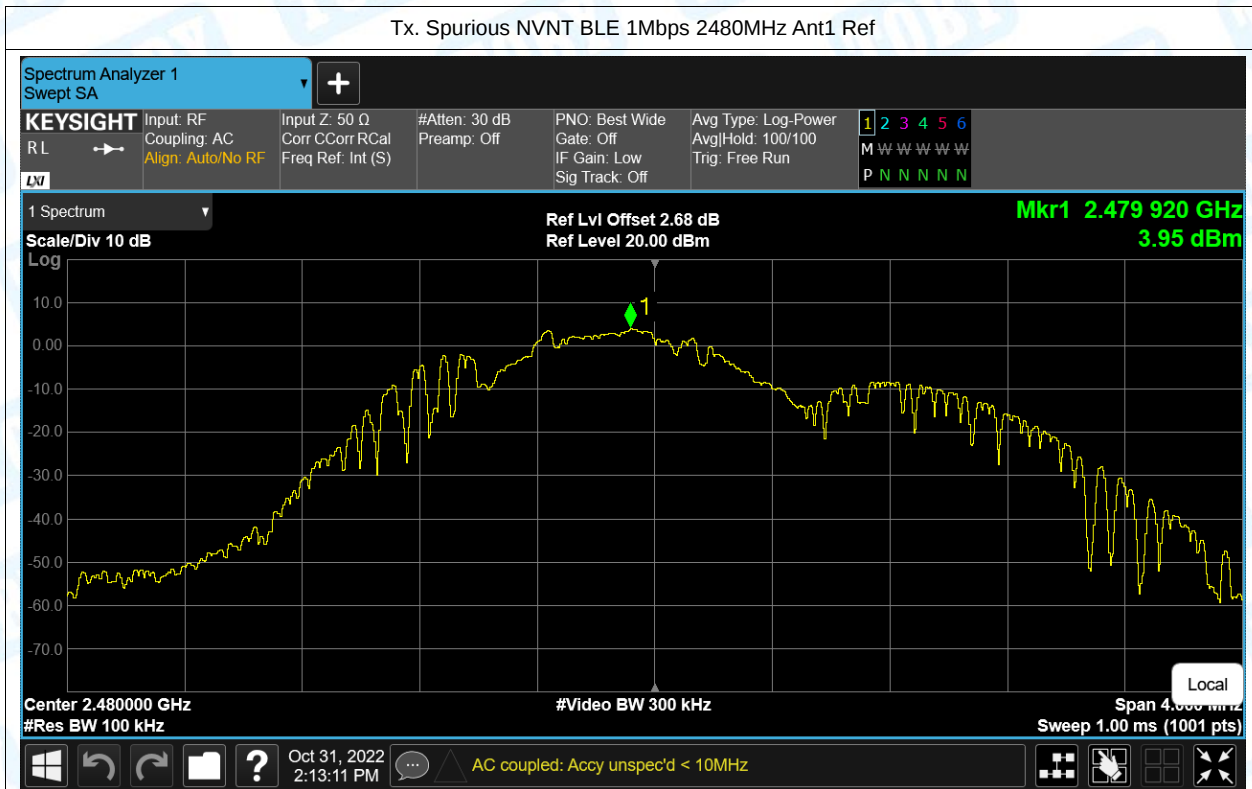


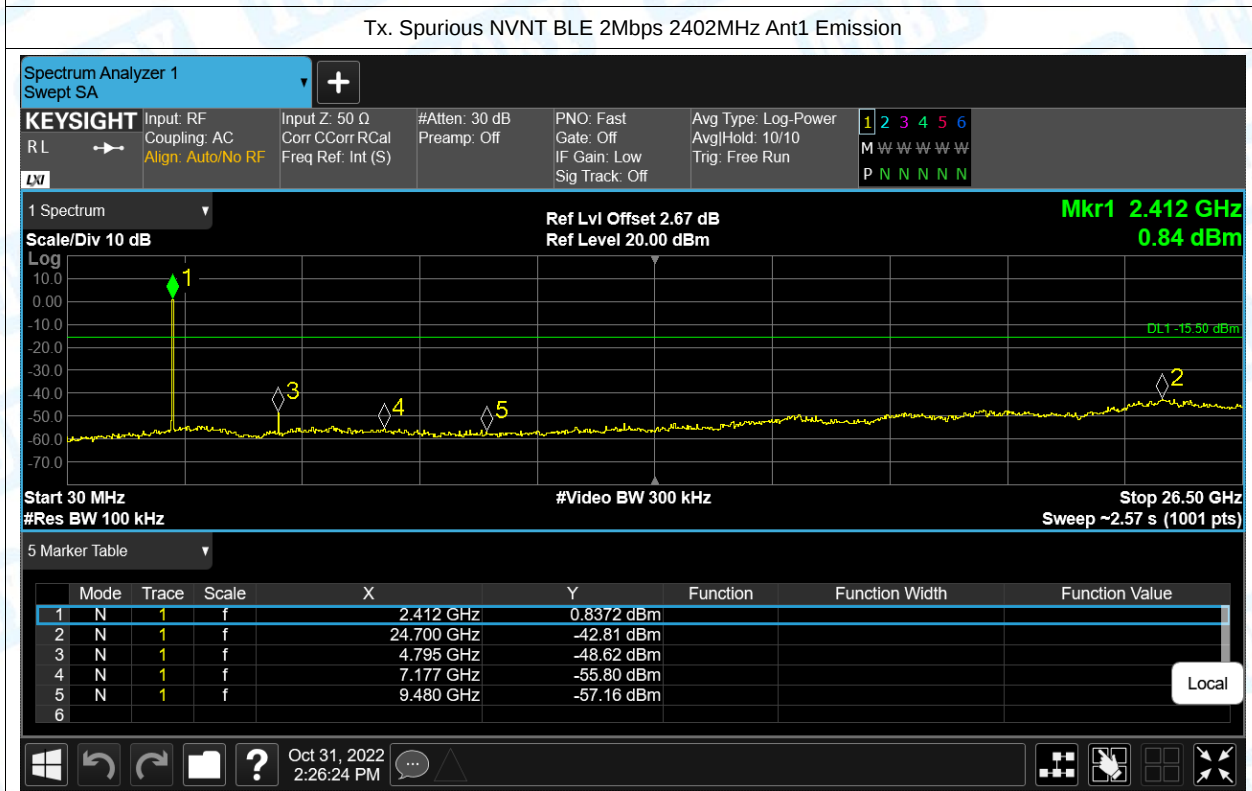
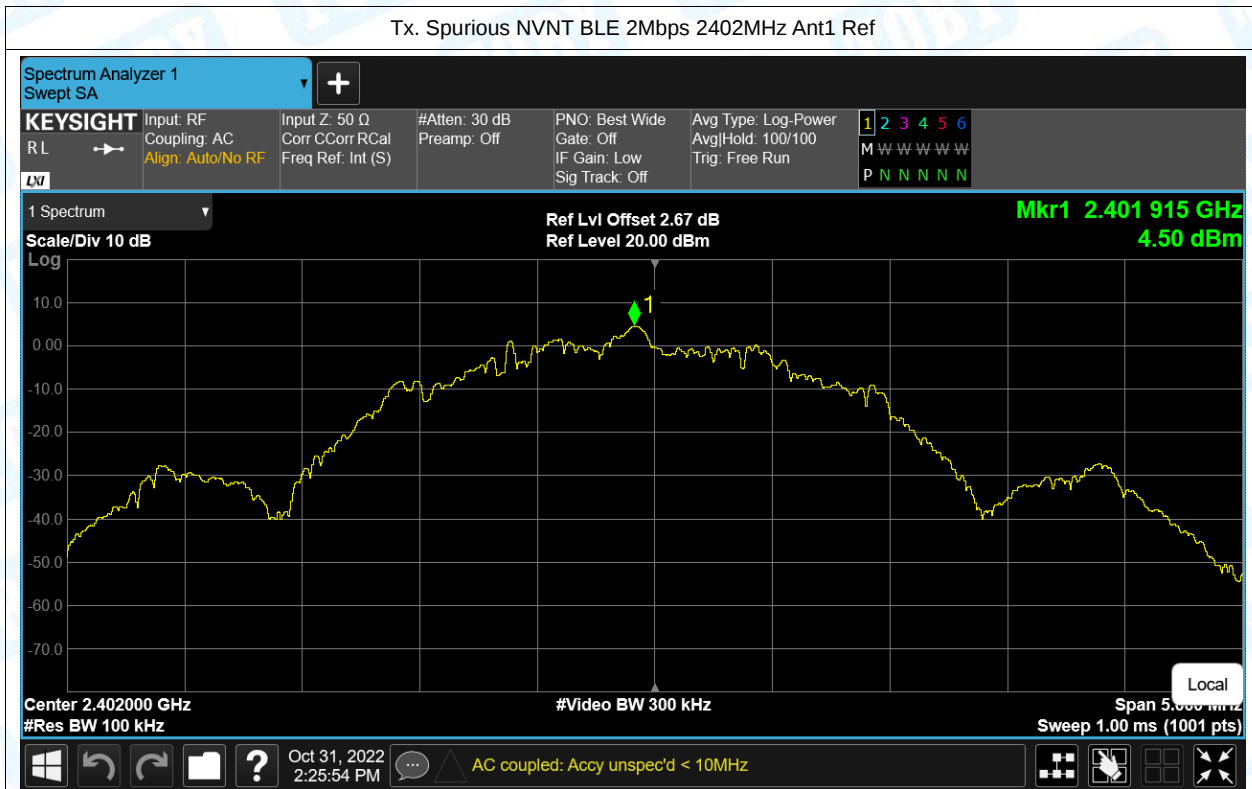
7. Conducted RF Spurious Emission

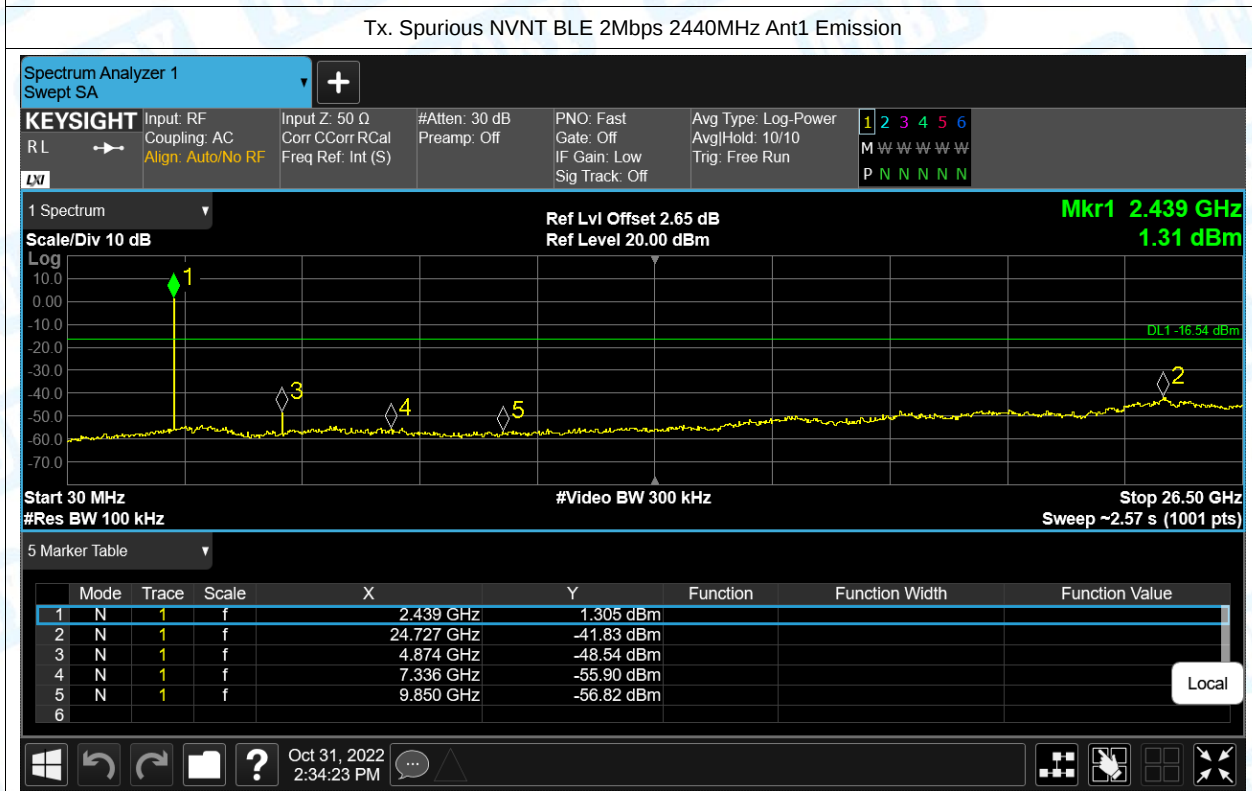
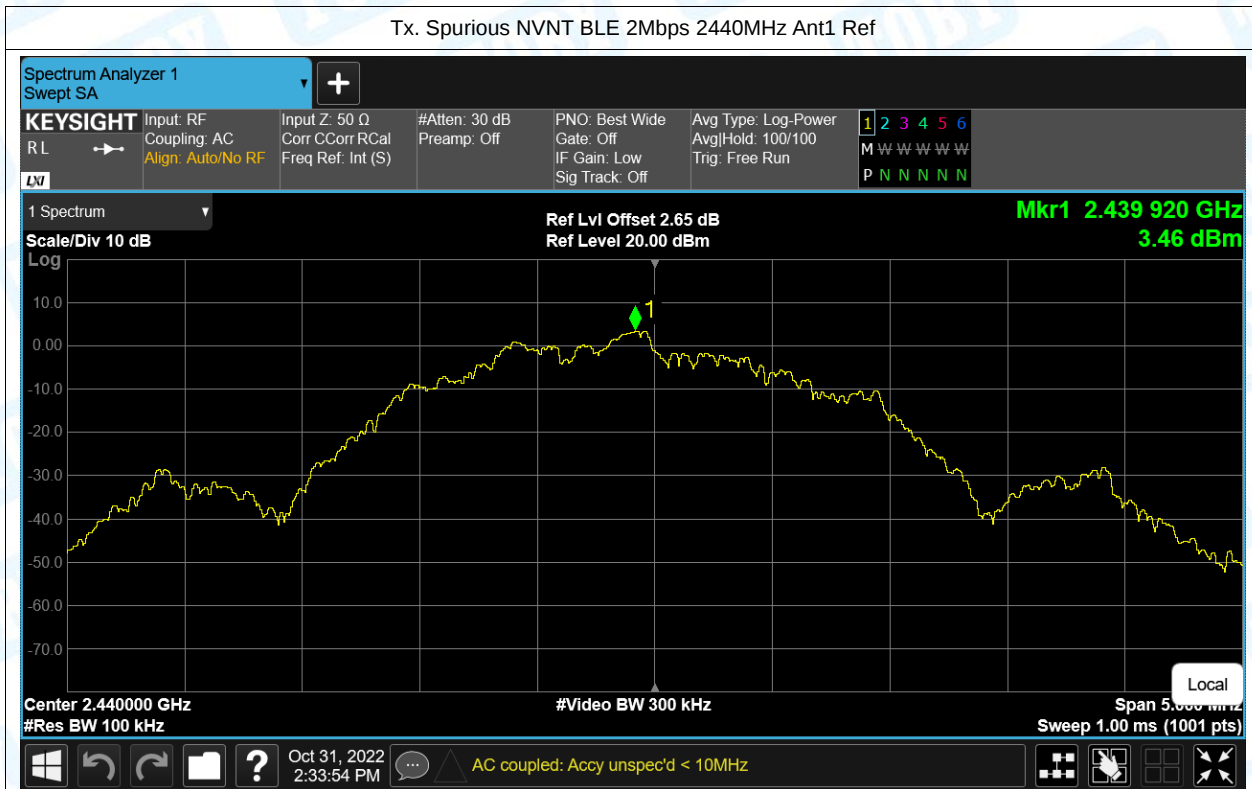
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-45.78	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-46.18	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-45.4	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-47.31	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-45.29	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-45.97	-20	Pass

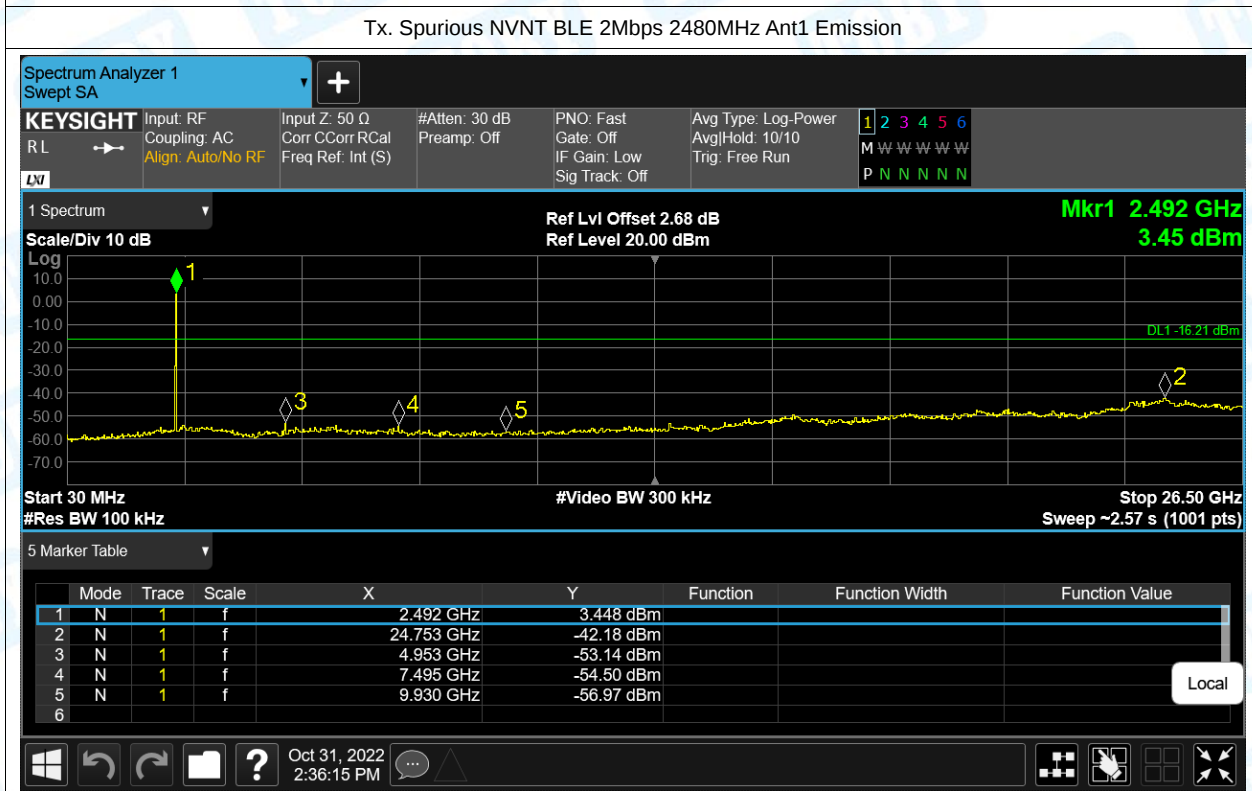
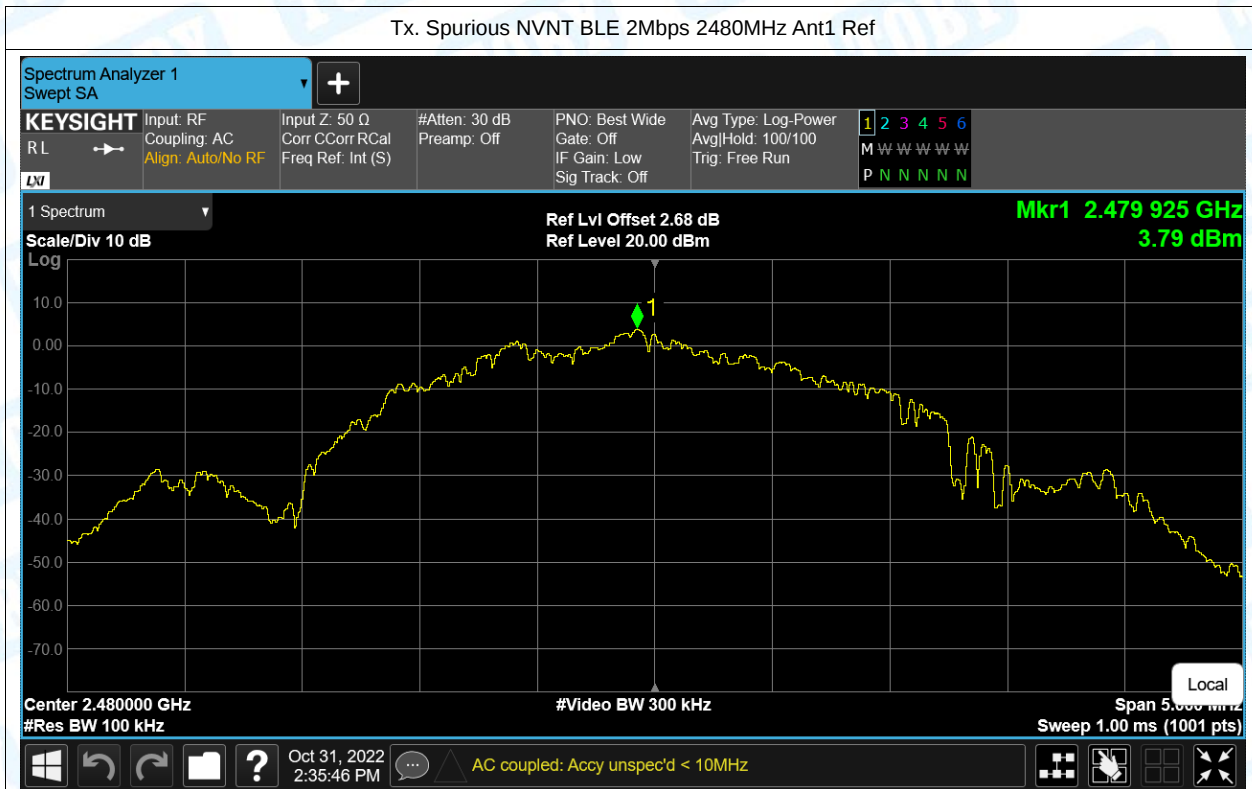






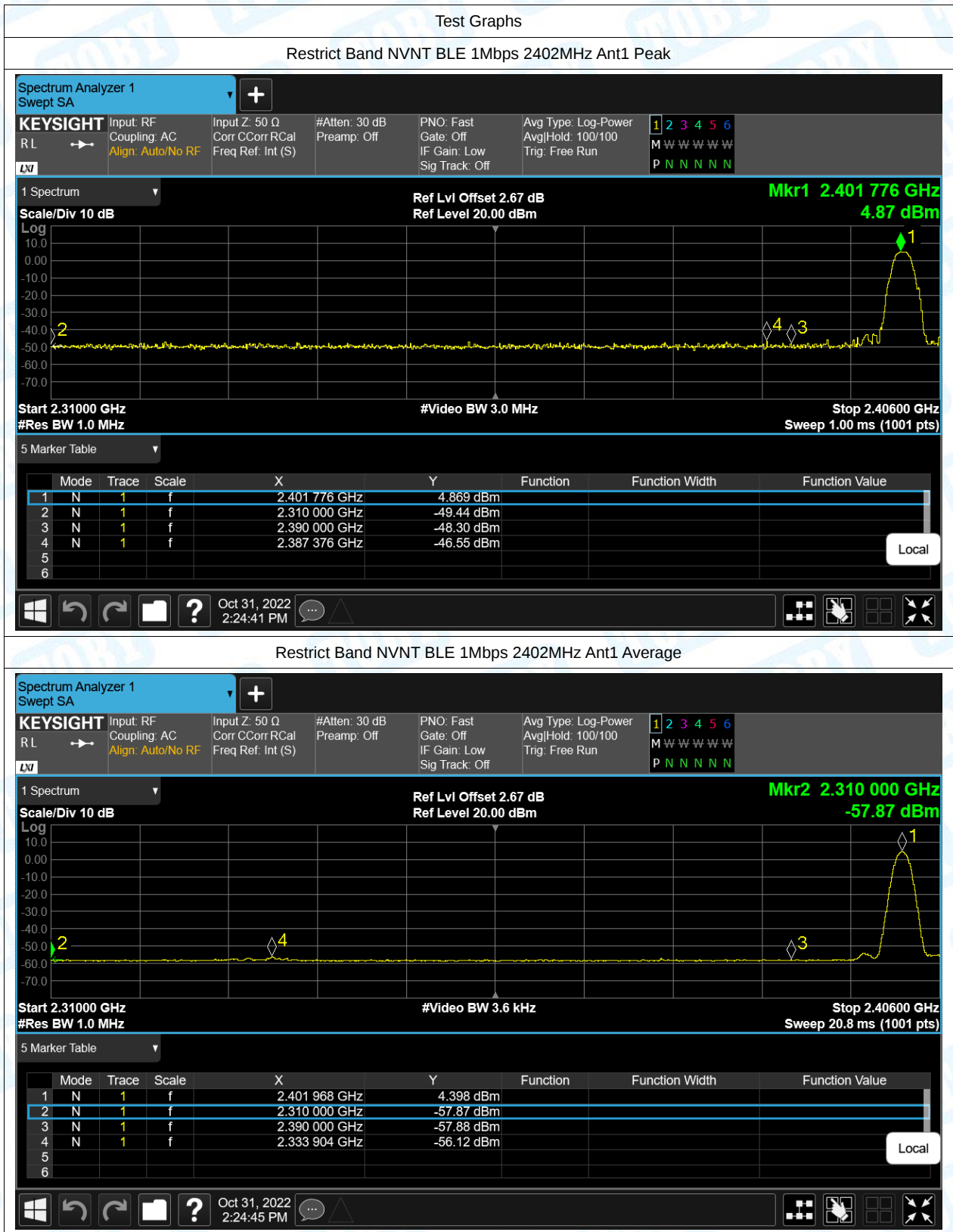




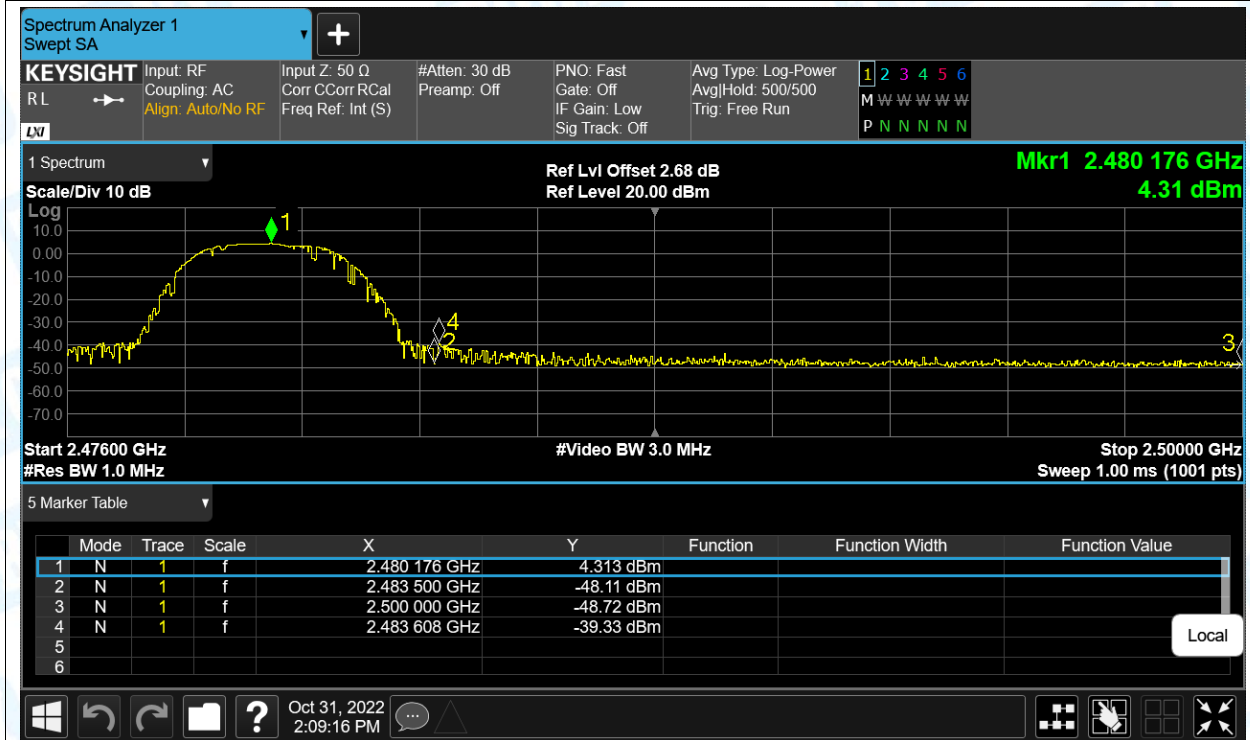


8. Restrict Band

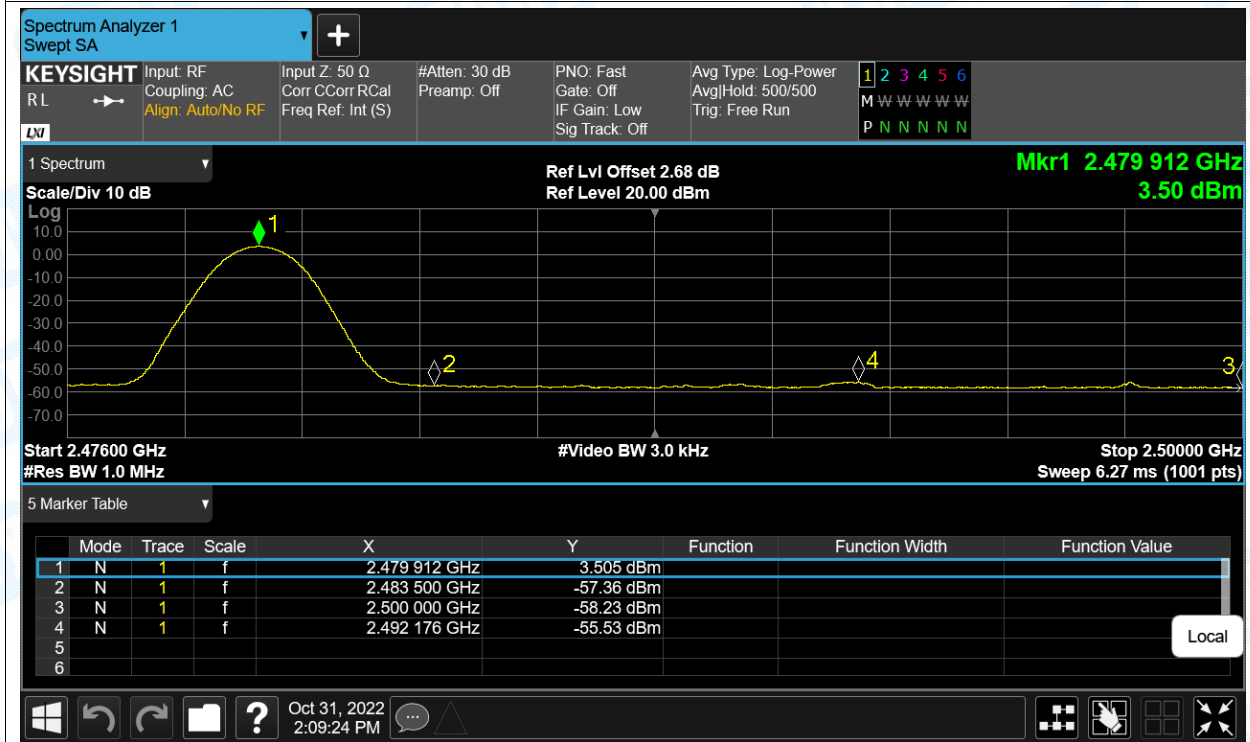
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-49.44	2	47.82	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-57.87	2	39.39	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2387.376	-46.55	2	50.71	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2333.904	-56.12	2	41.14	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-50.24	2	47.02	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-58.19	2	39.07	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-48.11	2	49.15	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-57.36	2	39.9	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.608	-39.33	2	57.93	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2492.176	-55.53	2	41.73	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-48.72	2	48.54	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-58.23	2	39.03	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-50.02	2	47.24	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-58.24	2	39.02	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2353.776	-47.09	2	50.17	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2347.152	-57.06	2	40.2	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-47.9	2	49.36	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-57.59	2	39.67	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-48.27	2	48.99	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-54.28	2	42.98	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.752	-40.53	2	56.73	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.512	-54.28	2	42.98	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-49.52	2	47.74	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-57.58	2	39.68	Average	54	Pass



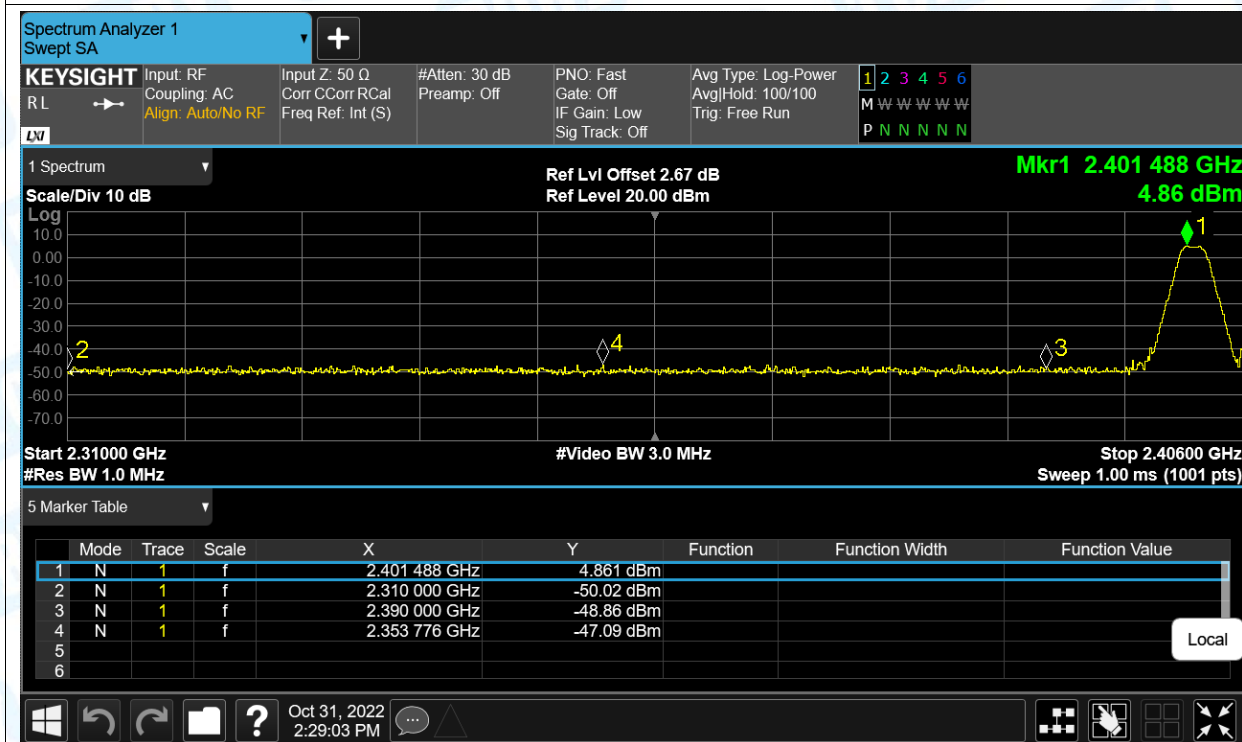
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Peak



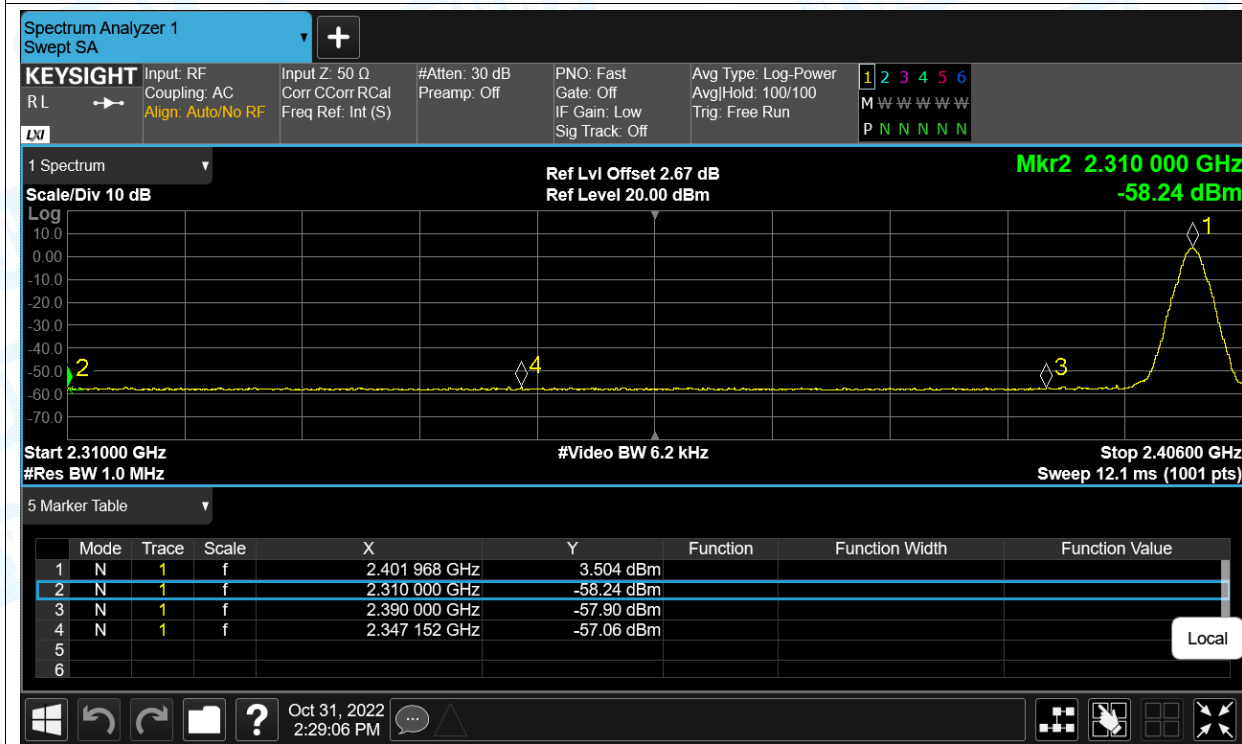
Restrict Band NVNT BLE 1Mbps 2480MHz Ant1 Average



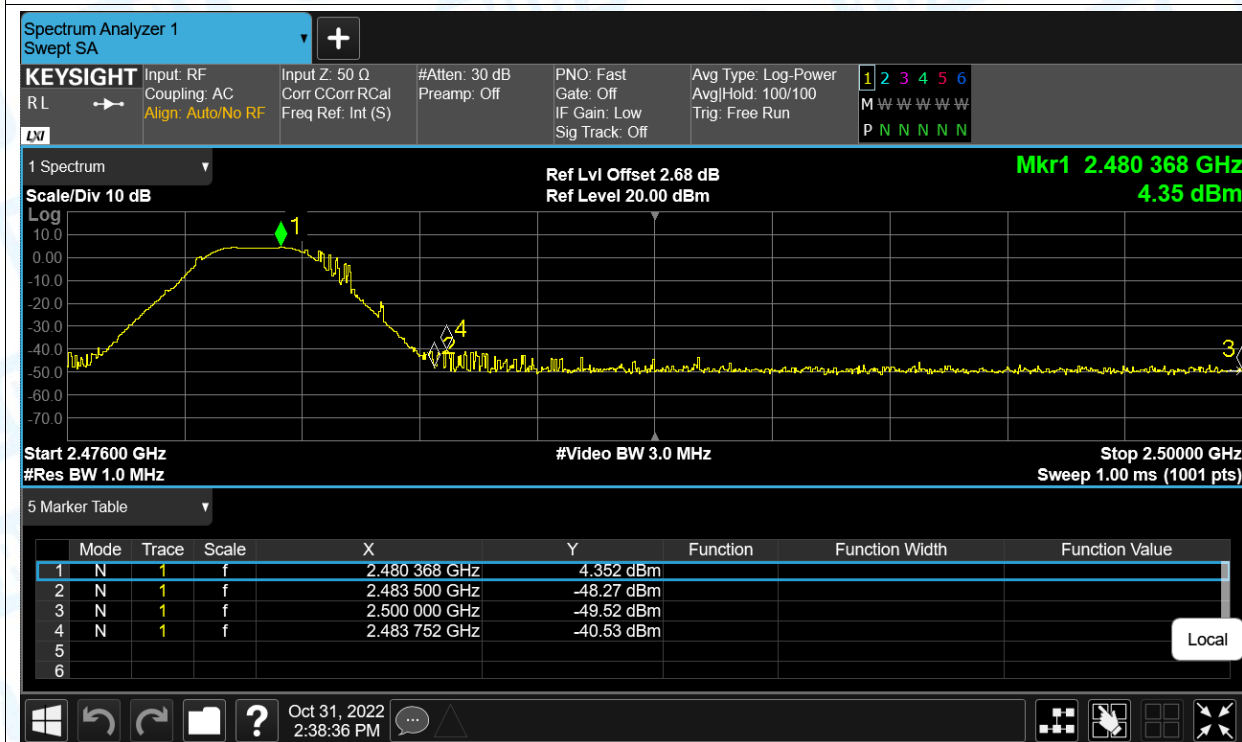
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



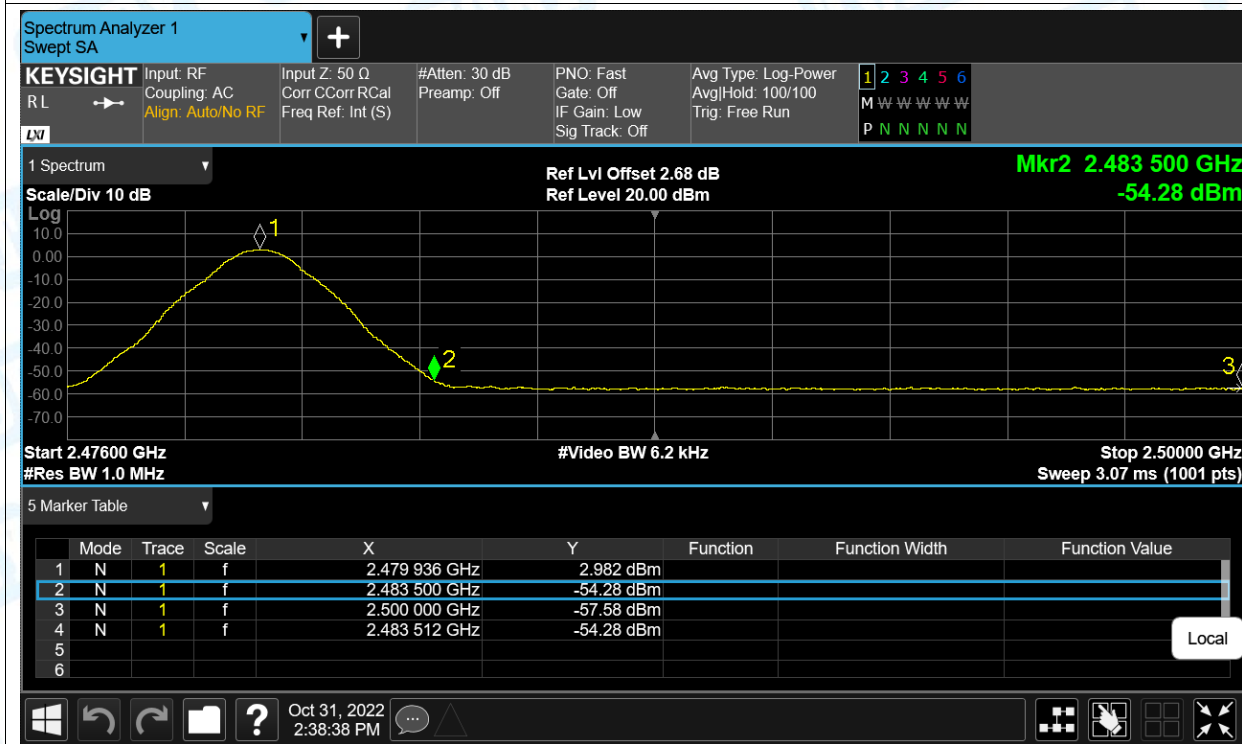
Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2480MHz Ant1 Average



-----END OF THE REPORT-----