

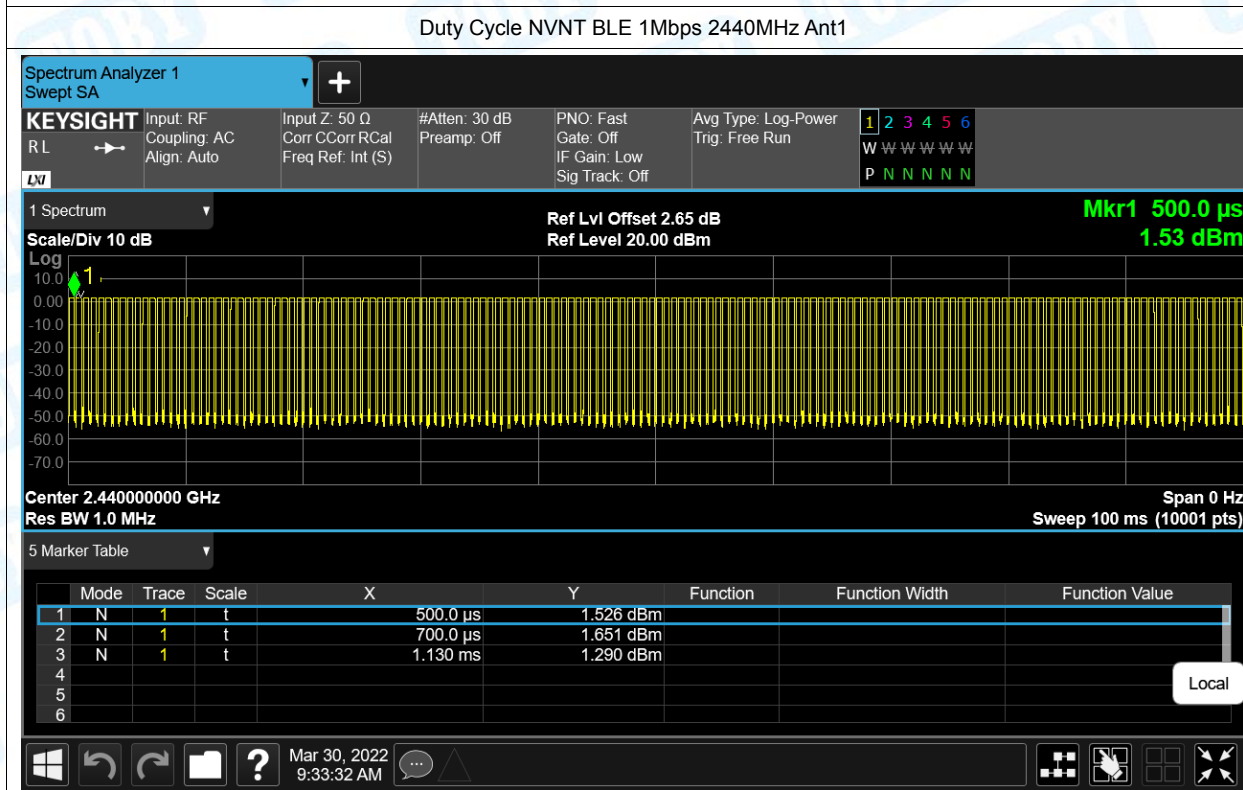
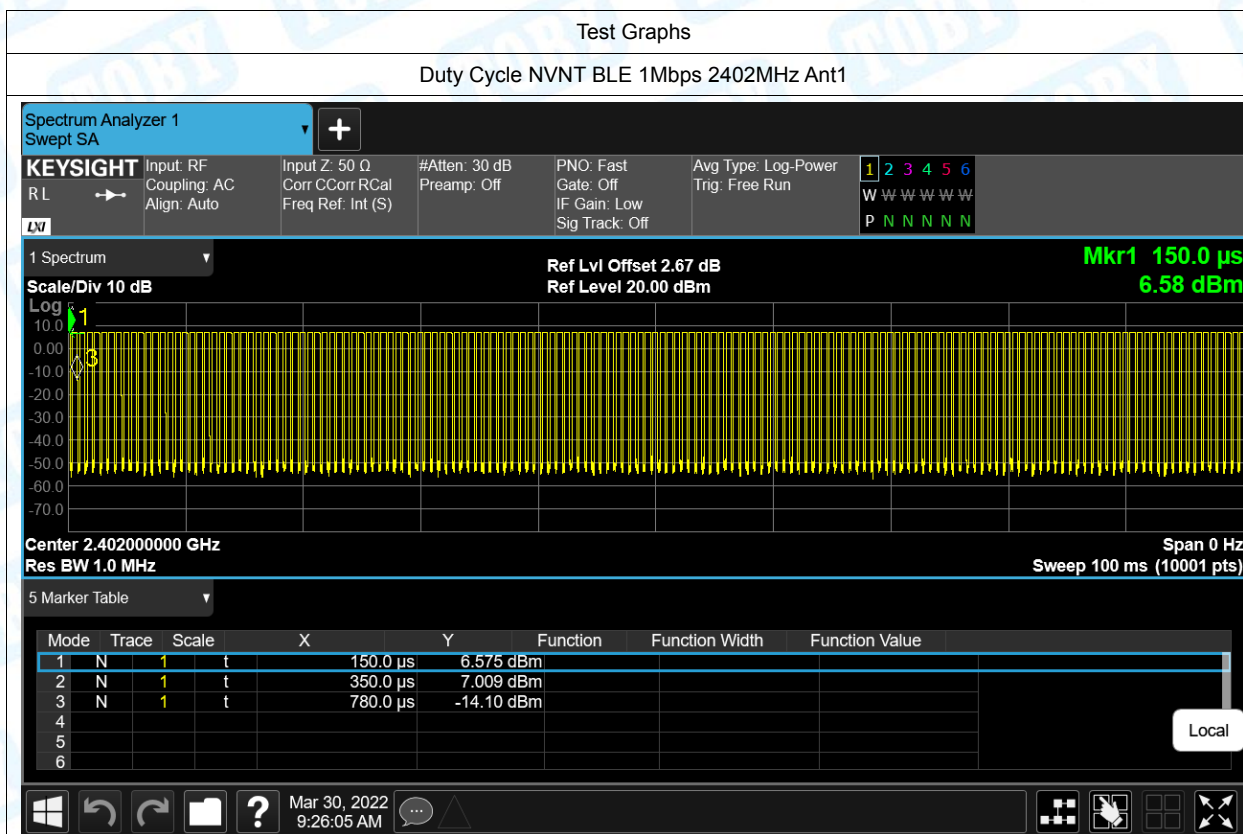
RF Test Data for Bluetooth LE

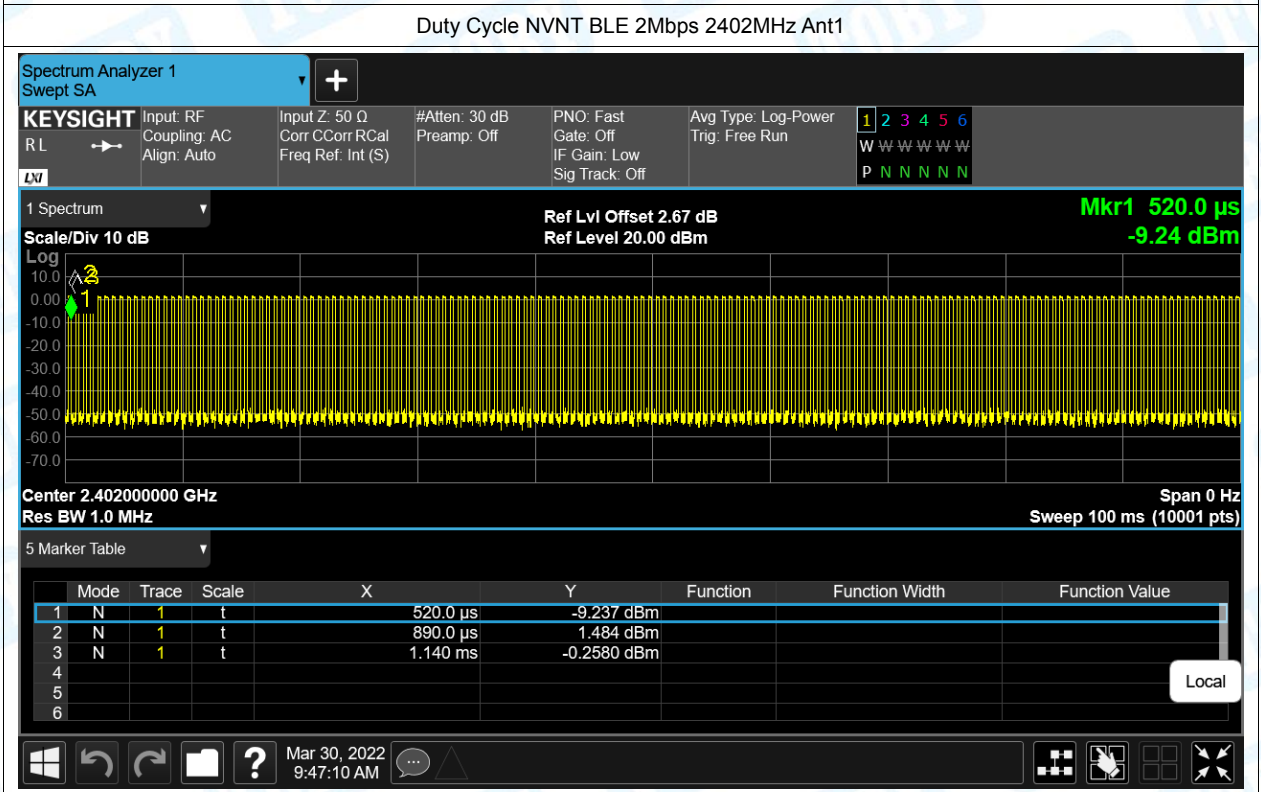
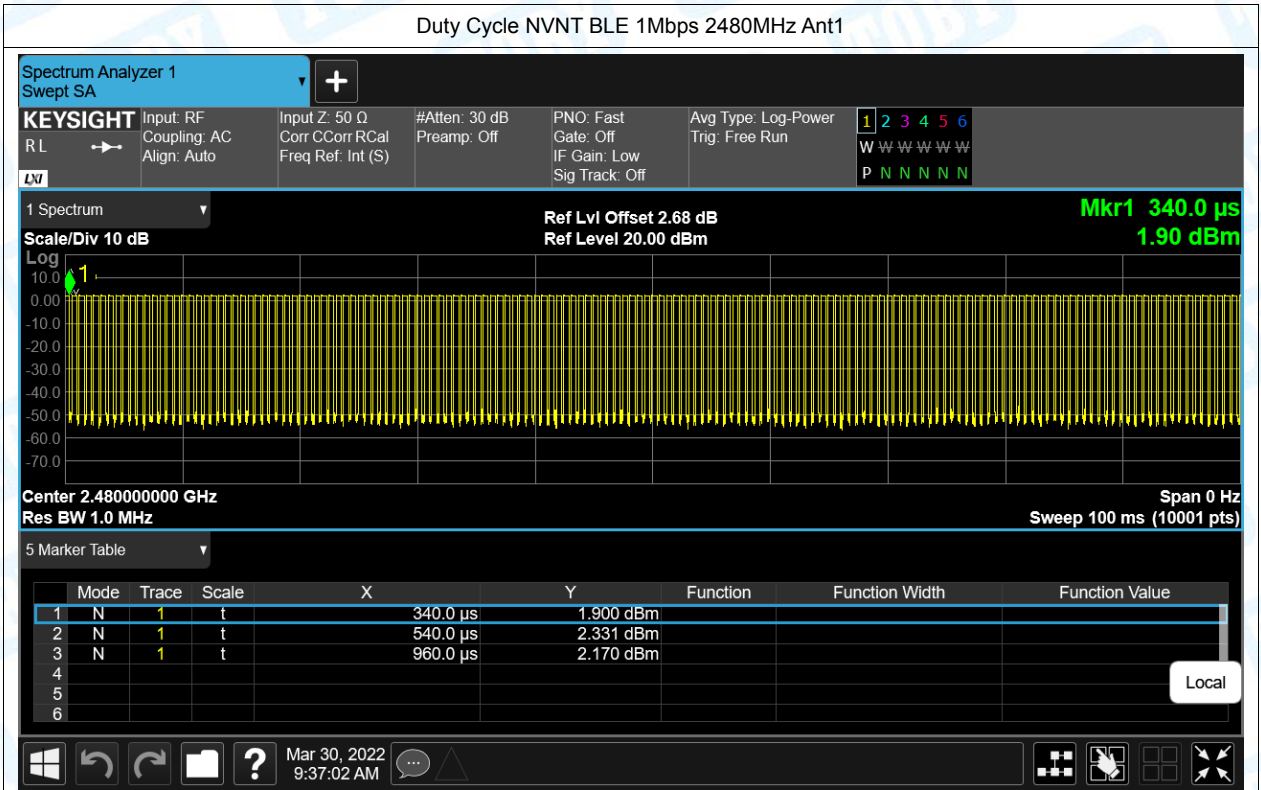
(Conducted Measurements)

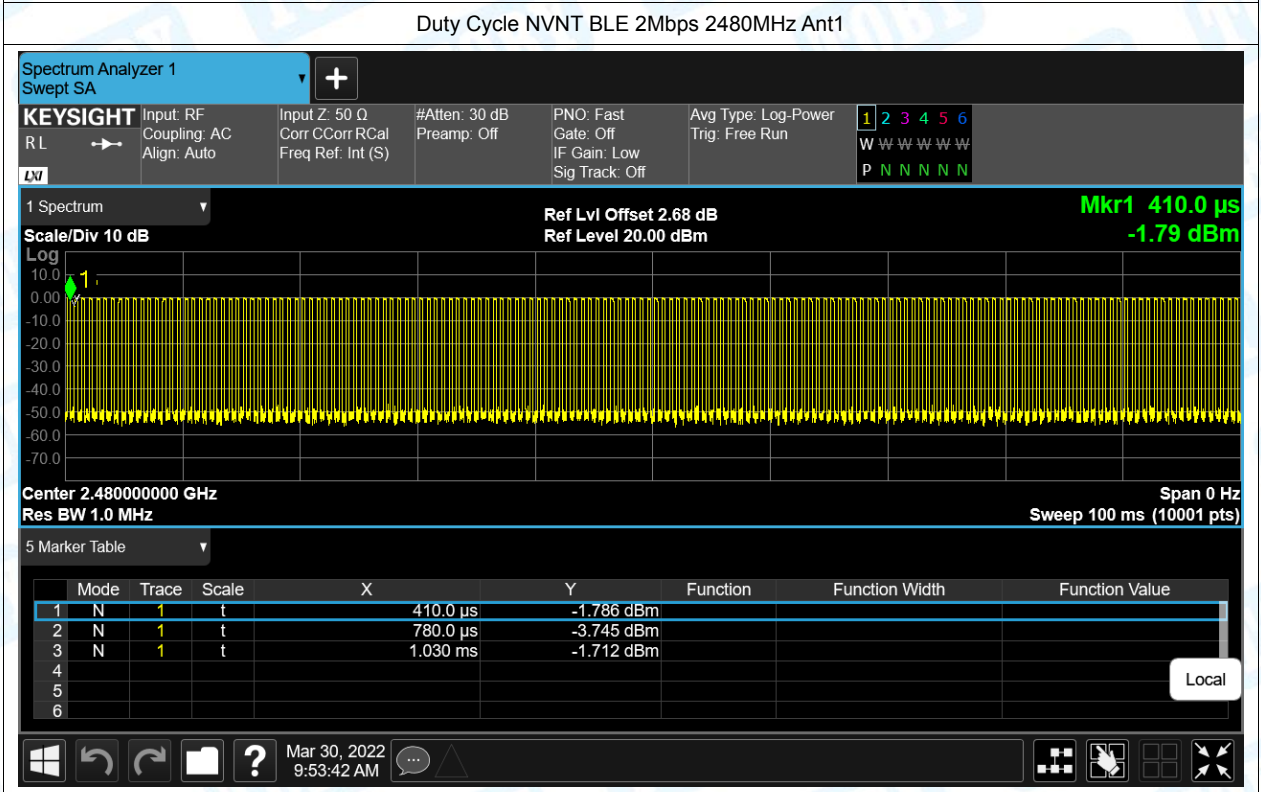
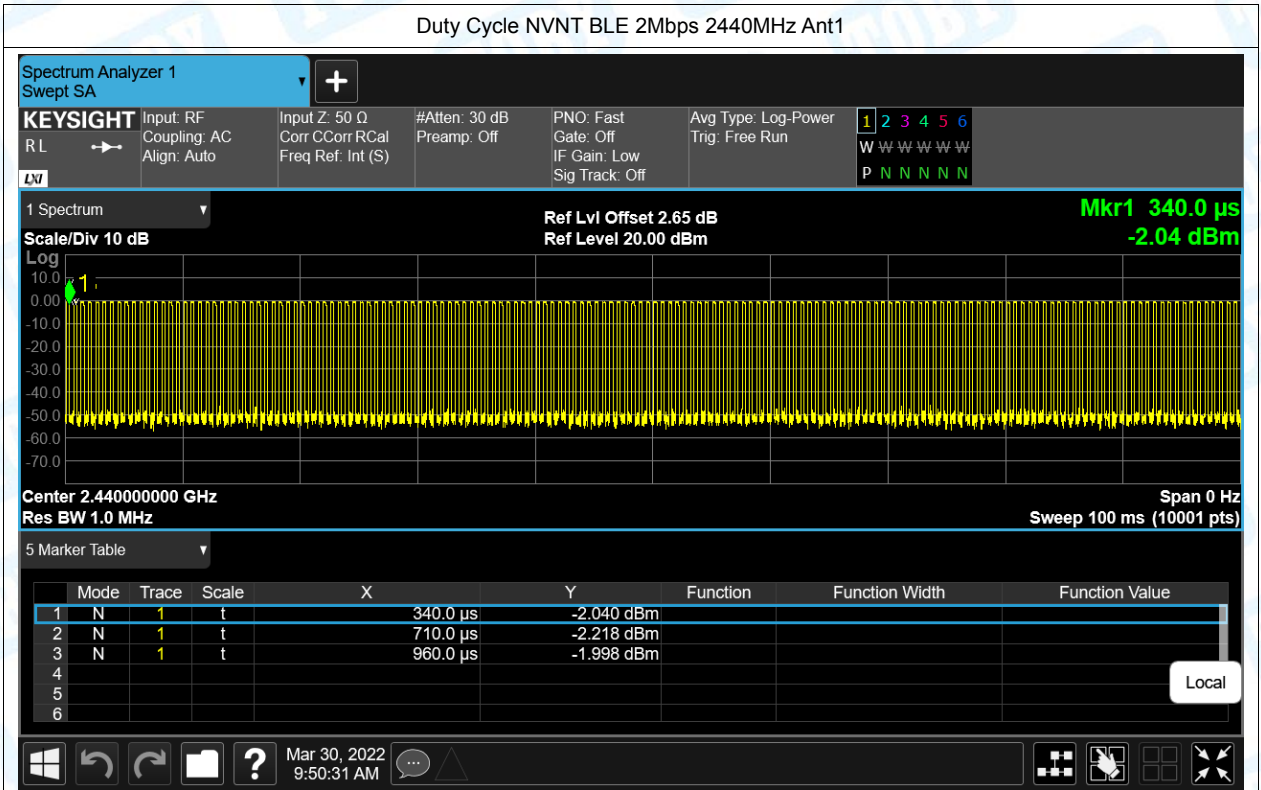
General Description of EUT	
Product Name:	Smart Watch
Test Model:	KT58
Sample ID:	202203-0044-2-2#
Environmental Conditions	
Temperature:	24℃
Relative Humidity:	50%
Test Voltage:	DC 3.7V
Test Engineer:	Huangjianping
Note: For a more detailed features description, please refer to the report TBR-C-202203-0044-2.	

Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1Mbps	2402	Ant1	69.8	1.56	2.33
NVNT	BLE 1Mbps	2440	Ant1	70.39	1.52	2.33
NVNT	BLE 1Mbps	2480	Ant1	70	1.55	2.38
NVNT	BLE 2Mbps	2402	Ant1	41.27	3.84	4
NVNT	BLE 2Mbps	2440	Ant1	41.6	3.81	4
NVNT	BLE 2Mbps	2480	Ant1	41.6	3.81	4

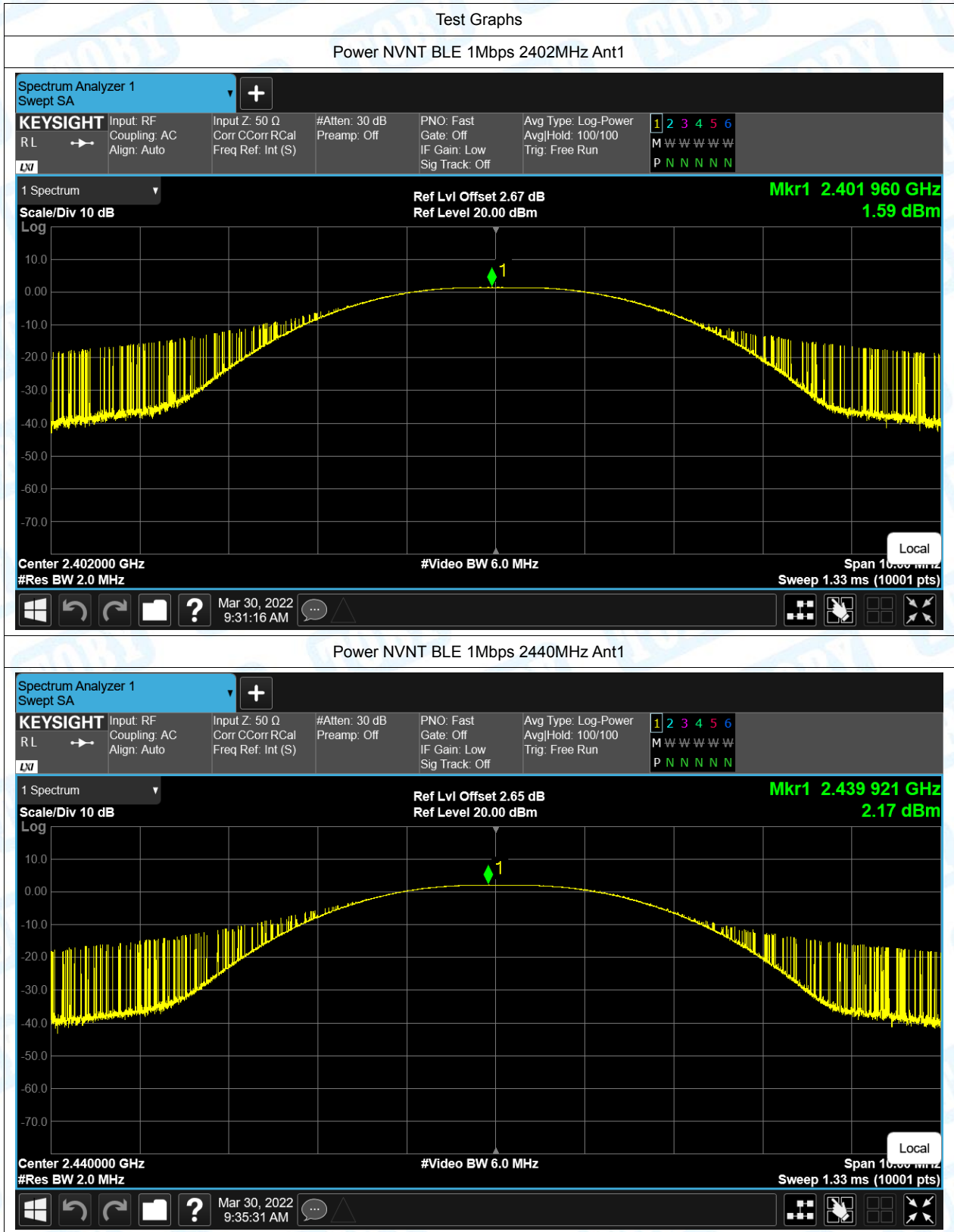






Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	1.59	30	Pass
NVNT	BLE 1Mbps	2440	Ant1	2.173	30	Pass
NVNT	BLE 1Mbps	2480	Ant1	2.066	30	Pass
NVNT	BLE 2Mbps	2402	Ant1	-0.502	30	Pass
NVNT	BLE 2Mbps	2440	Ant1	-0.201	30	Pass
NVNT	BLE 2Mbps	2480	Ant1	0.046	30	Pass



Power NVNT BLE 1Mbps 2440MHz Ant1

Spectrum Analyzer 1
Swept SA

KEYSIGHT

Input: RF
Coupling: AC
Align: Auto

Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)

#Atten: 30 dB
Preamp: Off

PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off

Avg Type: Log-Power
Avg/Hold: 100/100
Trig: Free Run

1 2 3 4 5 6
M W W W W W
P N N N N N

1 Spectrum

Scale/Div 10 dB

Log

Ref Lvl Offset 2.65 dB

Ref Level 20.00 dBm

Mkr1 2.439 921 GHz

2.17 dBm

Center 2.440000 GHz

#Res BW 2.0 MHz

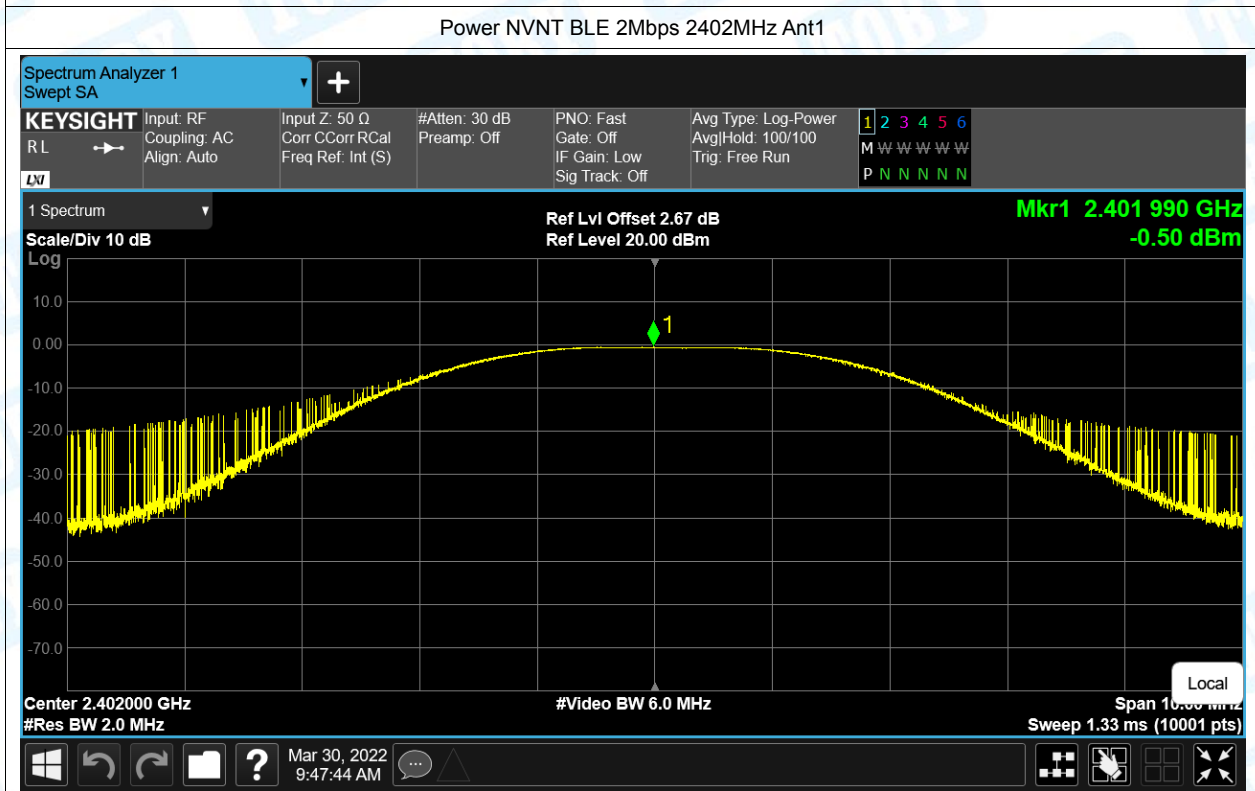
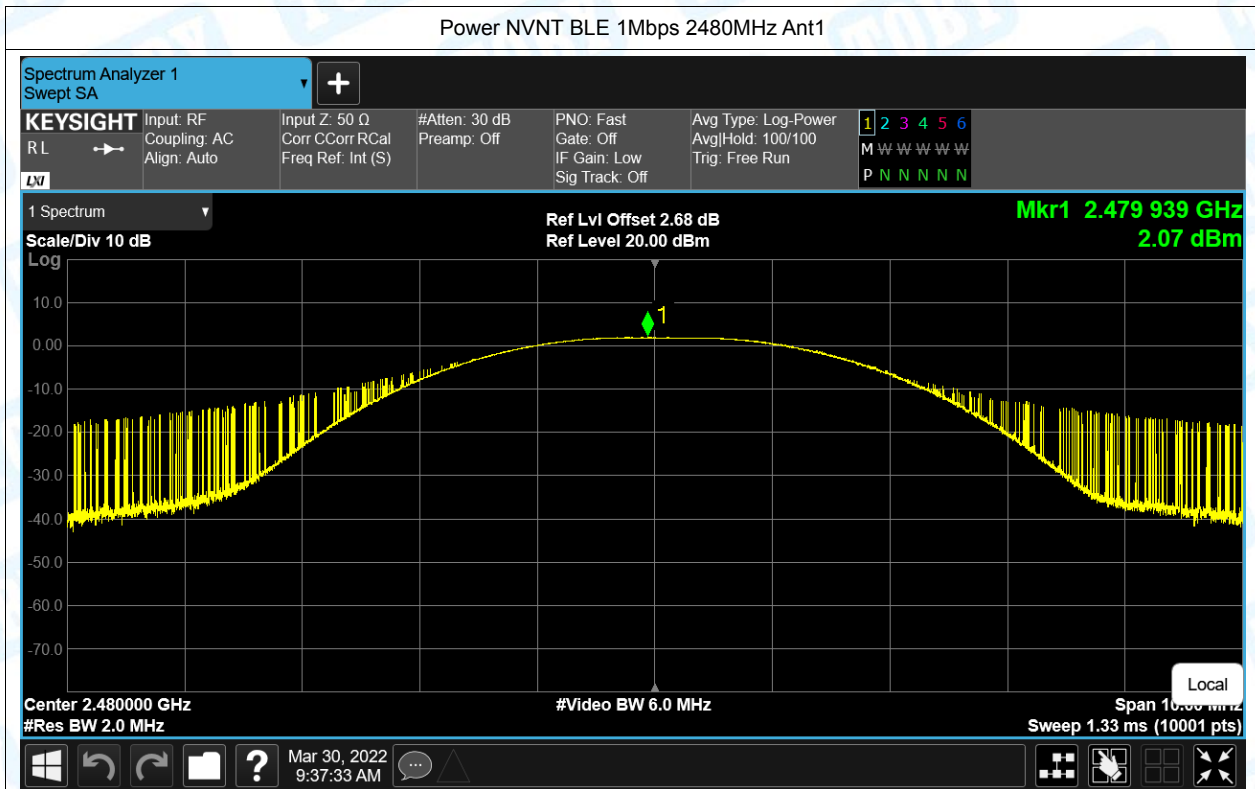
#Video BW 6.0 MHz

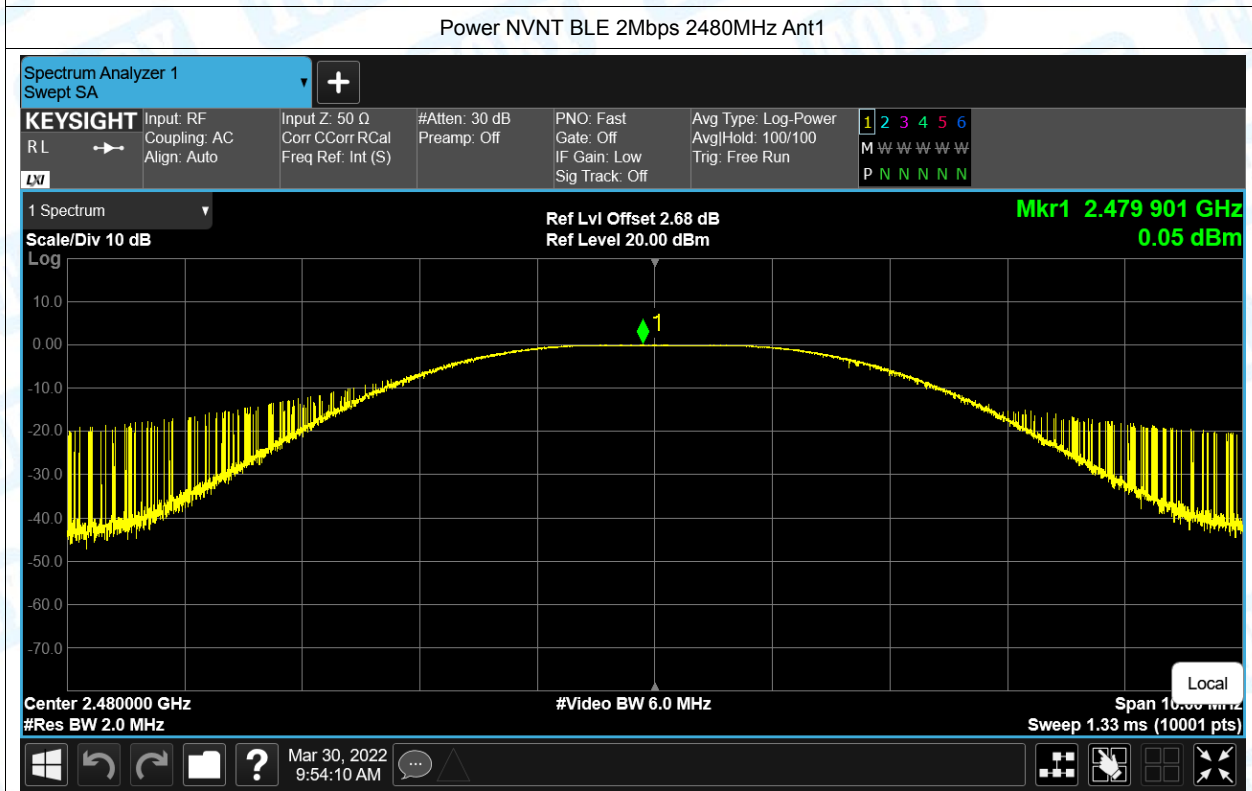
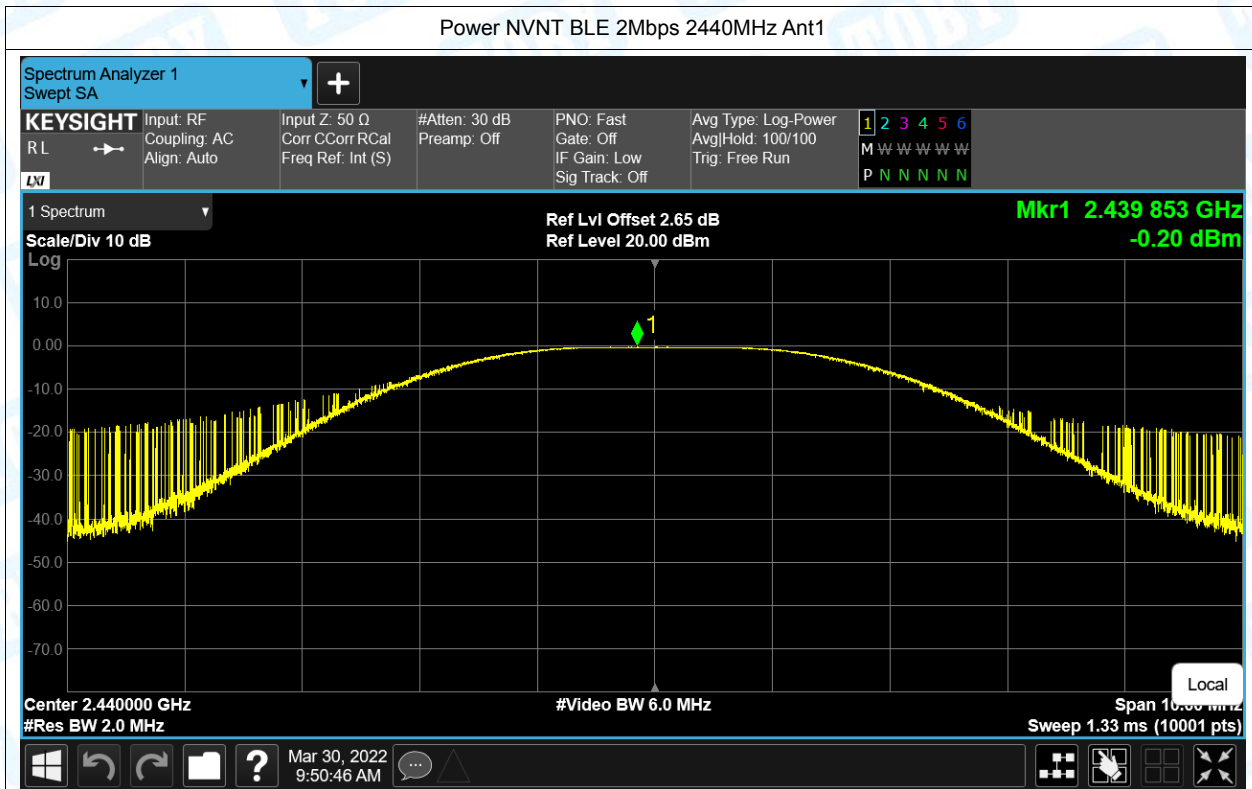
Span 10.00 MHz

Sweep 1.33 ms (10001 pts)

Local

Mar 30, 2022 9:35:31 AM



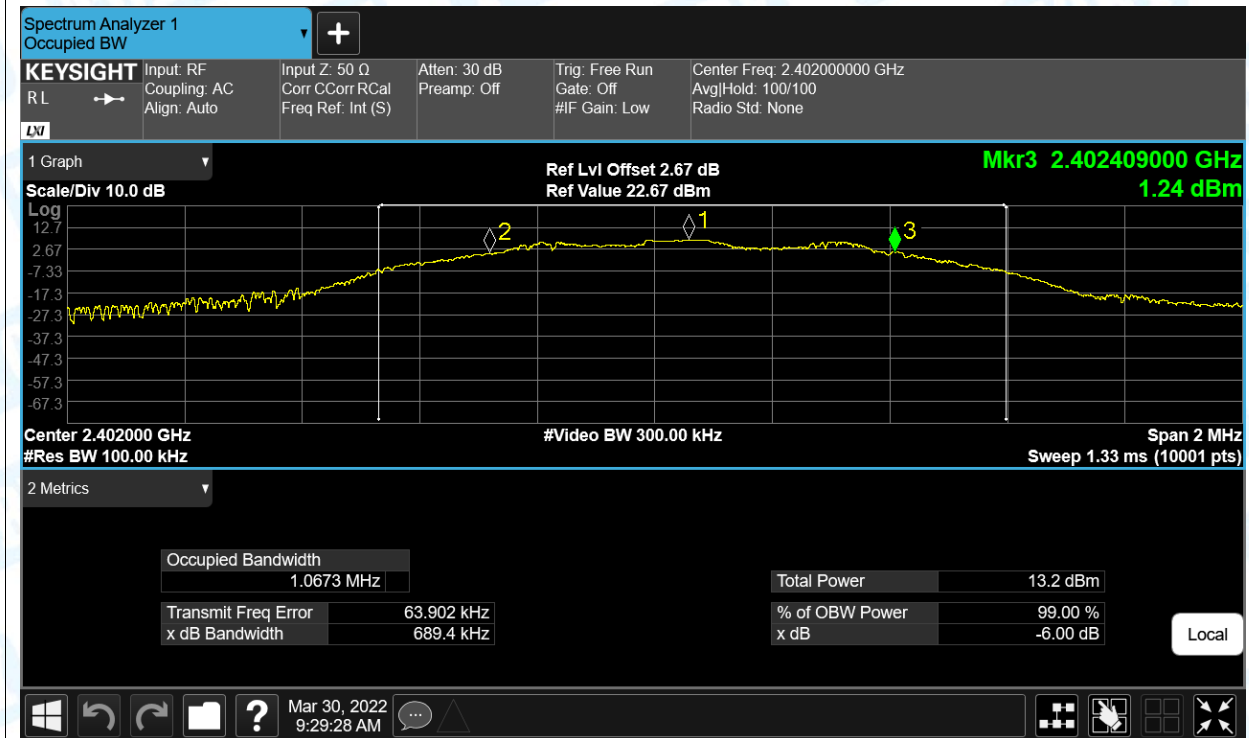


-6dB Bandwidth

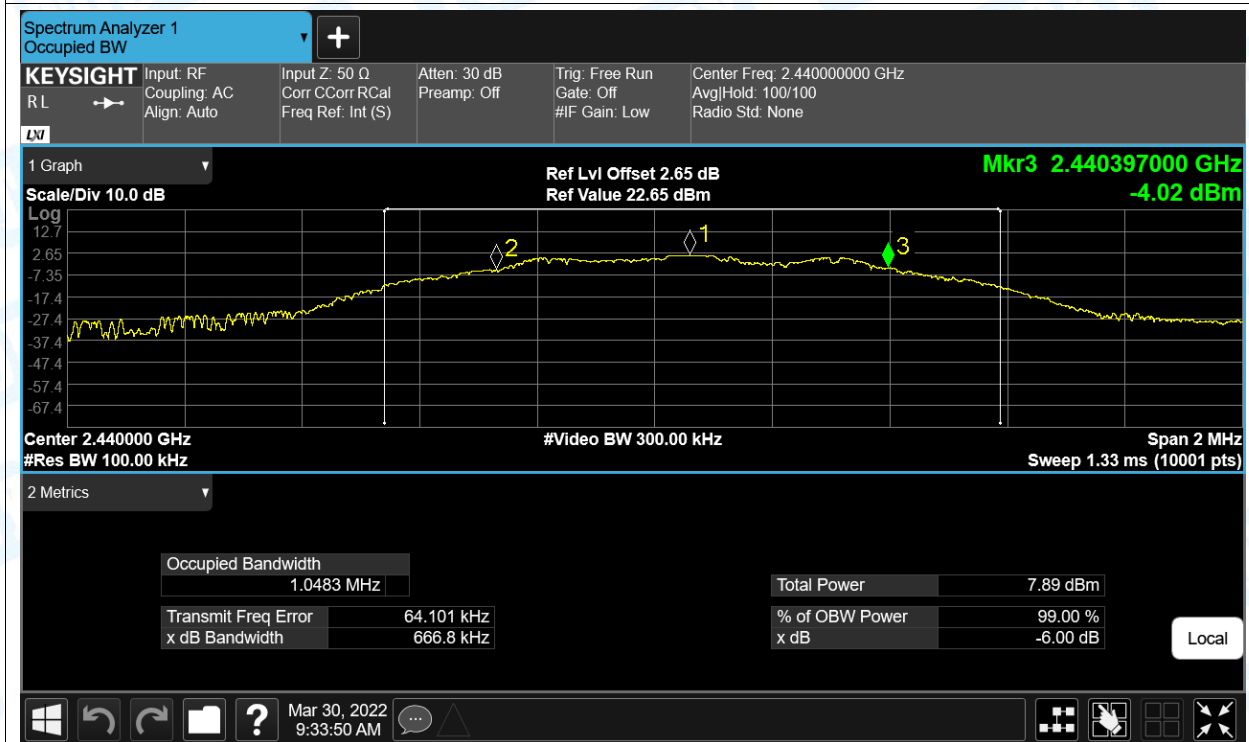
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	0.69	0.5	Pass
NVNT	BLE 1Mbps	2440	Ant1	0.67	0.5	Pass
NVNT	BLE 1Mbps	2480	Ant1	0.64	0.5	Pass
NVNT	BLE 2Mbps	2402	Ant1	0.51	0.5	Pass
NVNT	BLE 2Mbps	2440	Ant1	0.55	0.5	Pass
NVNT	BLE 2Mbps	2480	Ant1	0.55	0.5	Pass

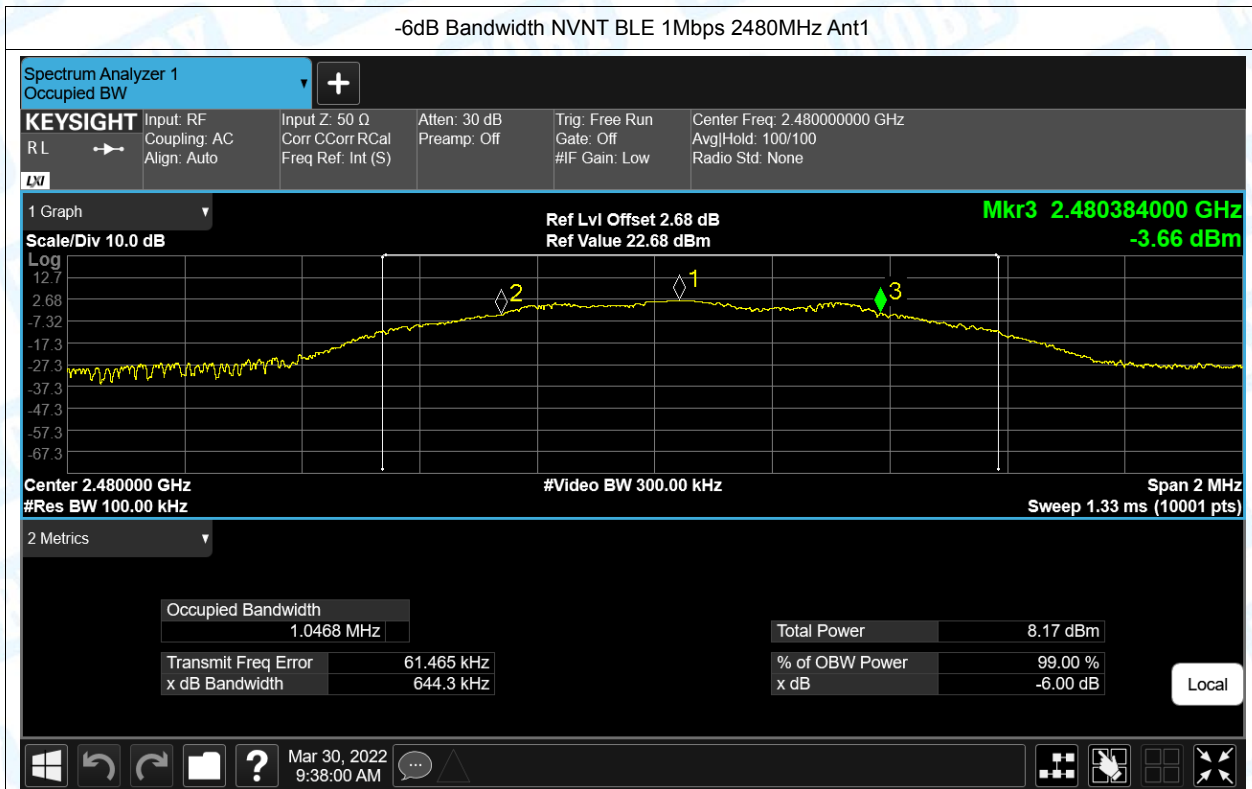
Test Graphs

-6dB Bandwidth NVNT BLE 1Mbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1Mbps 2440MHz Ant1





-6dB Bandwidth NVNT BLE 2Mbps 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2Mbps 2480MHz Ant1

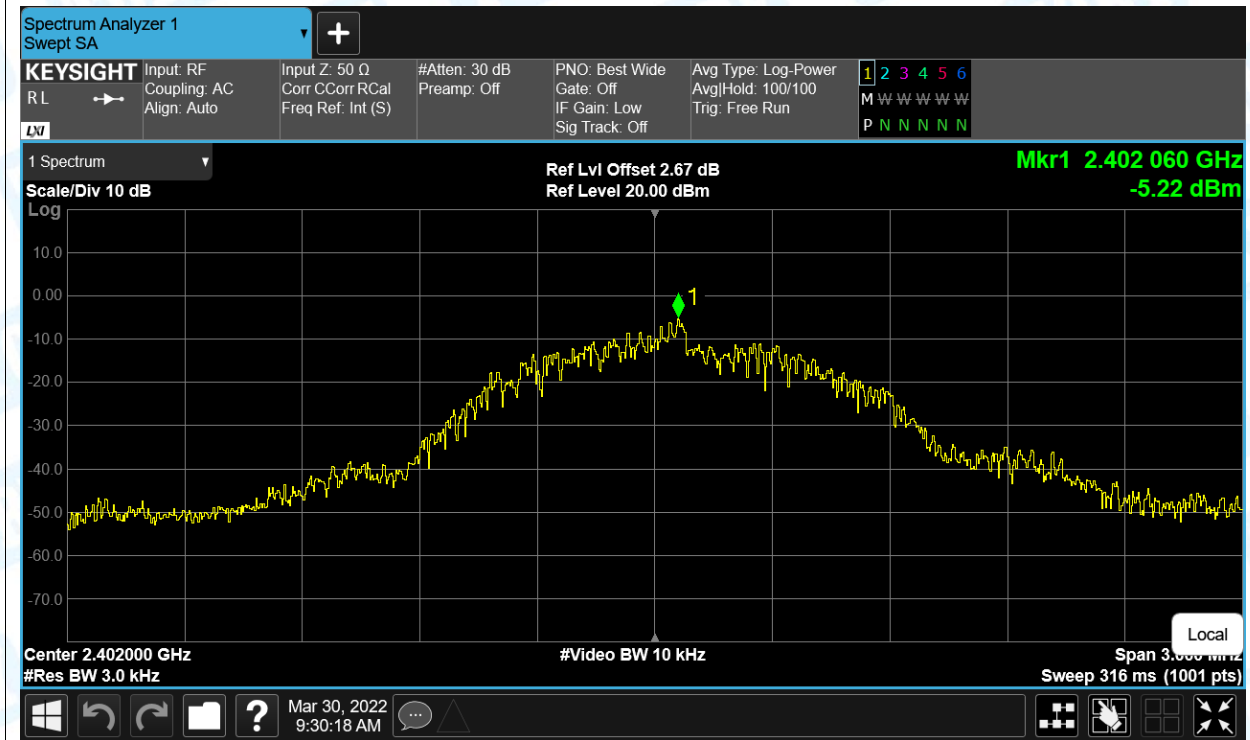


Maximum Power Spectral Density Level

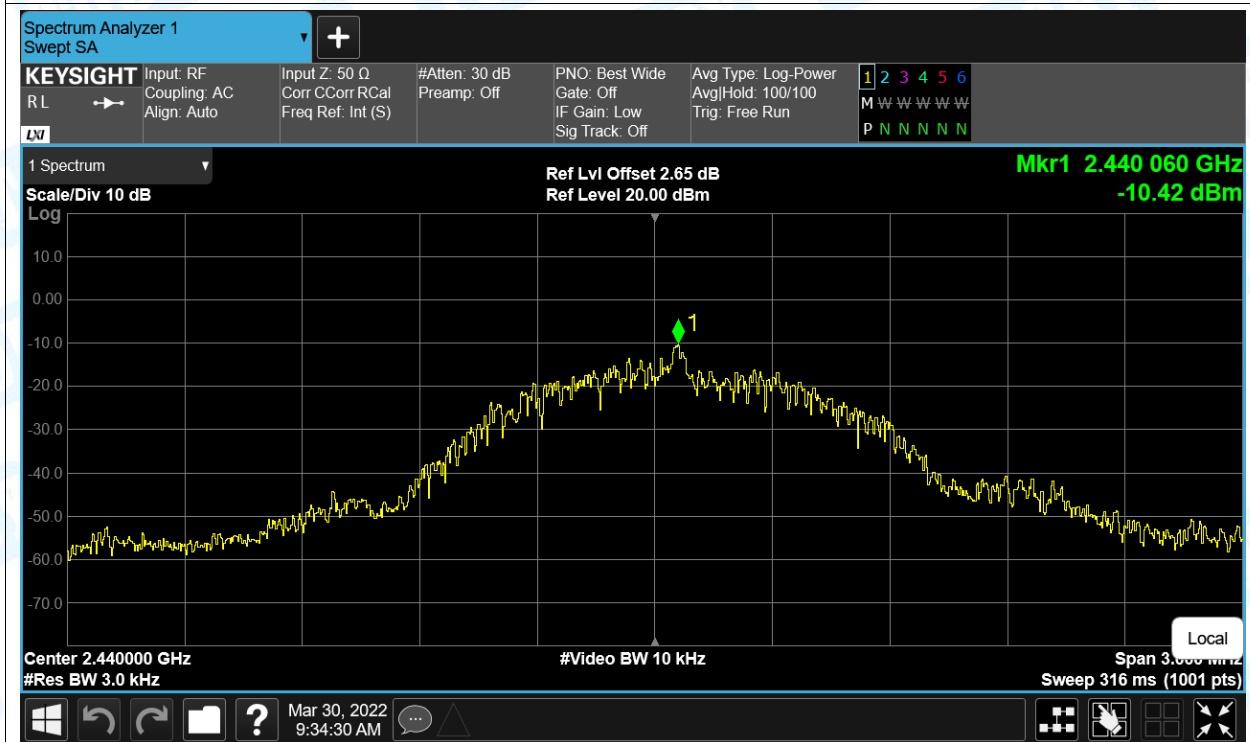
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-5.216	8	Pass
NVNT	BLE 1Mbps	2440	Ant1	-10.417	8	Pass
NVNT	BLE 1Mbps	2480	Ant1	-9.943	8	Pass
NVNT	BLE 2Mbps	2402	Ant1	-12.548	8	Pass
NVNT	BLE 2Mbps	2440	Ant1	-12.373	8	Pass
NVNT	BLE 2Mbps	2480	Ant1	-12.324	8	Pass

Test Graphs

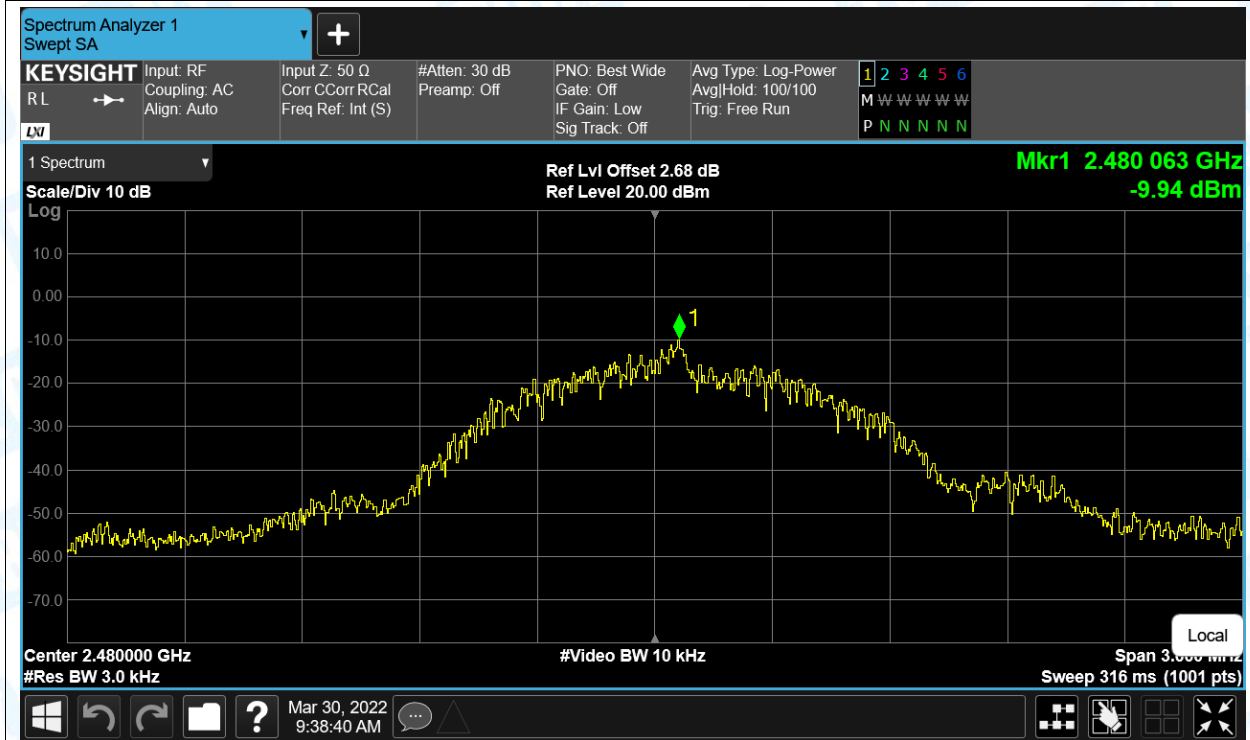
PSD NVNT BLE 1Mbps 2402MHz Ant1



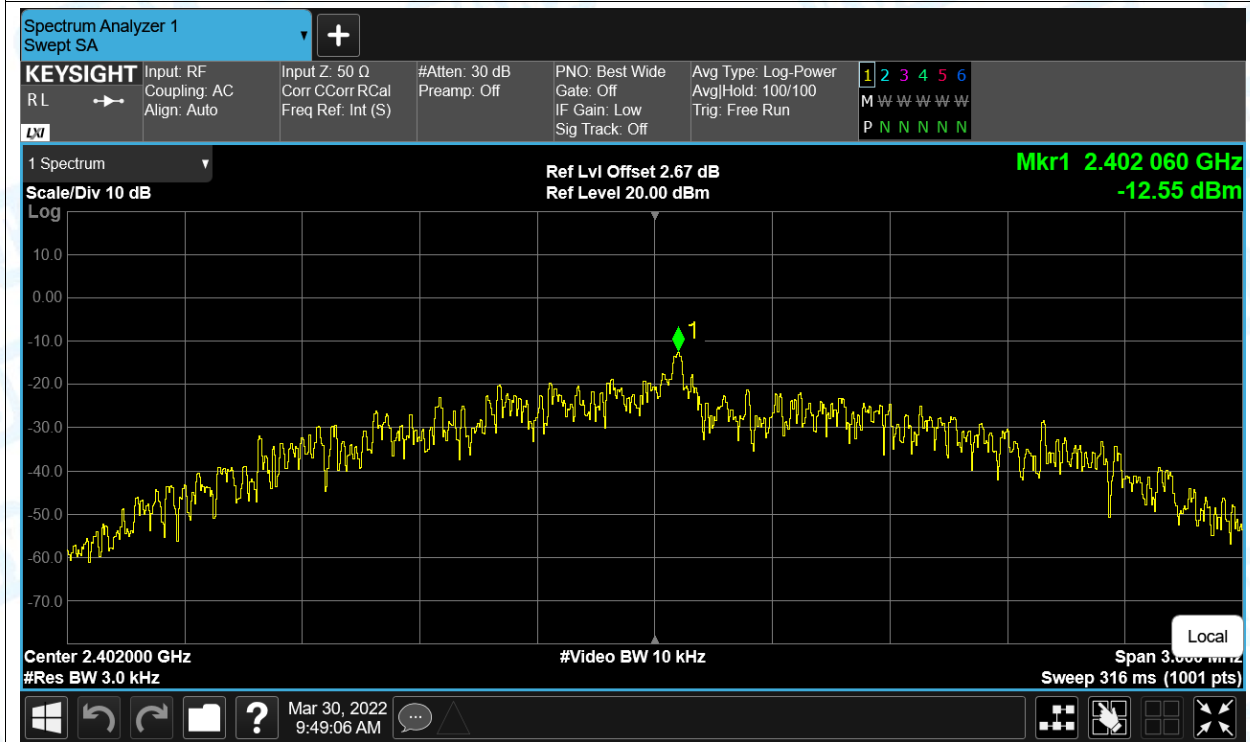
PSD NVNT BLE 1Mbps 2440MHz Ant1

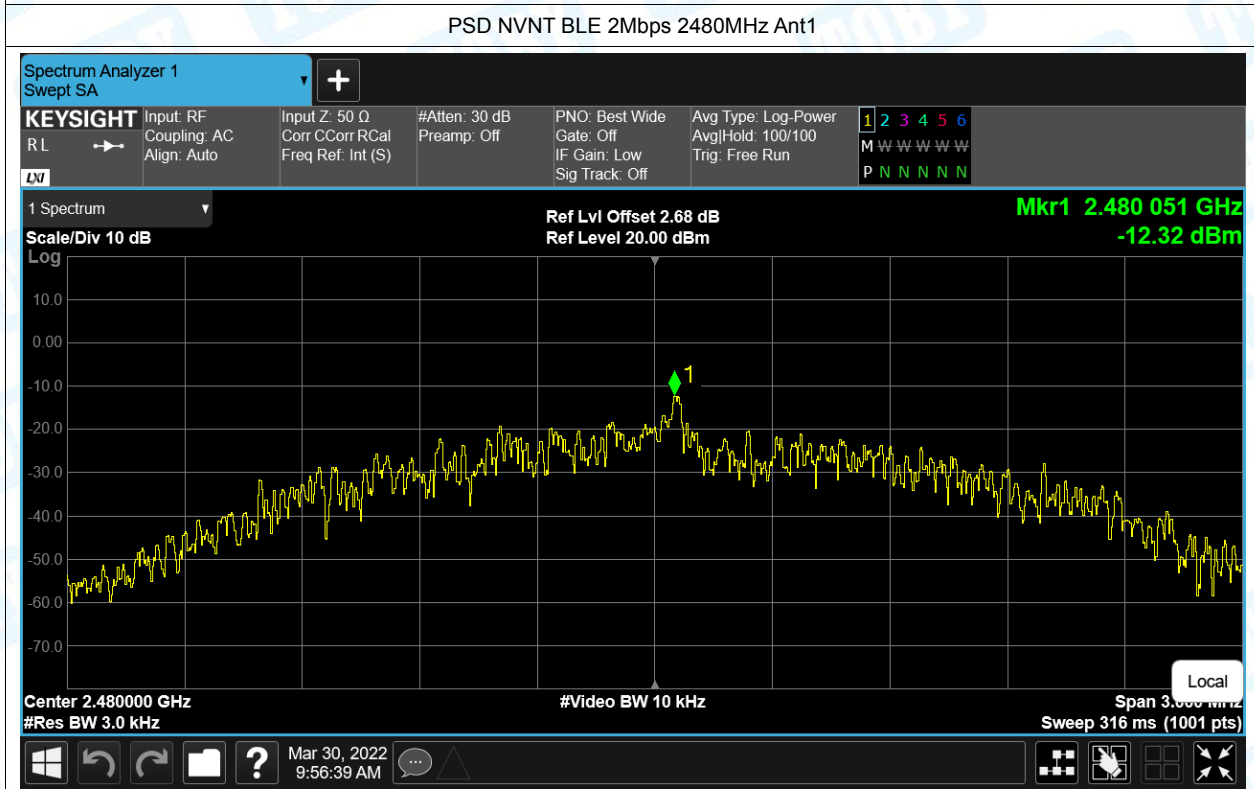
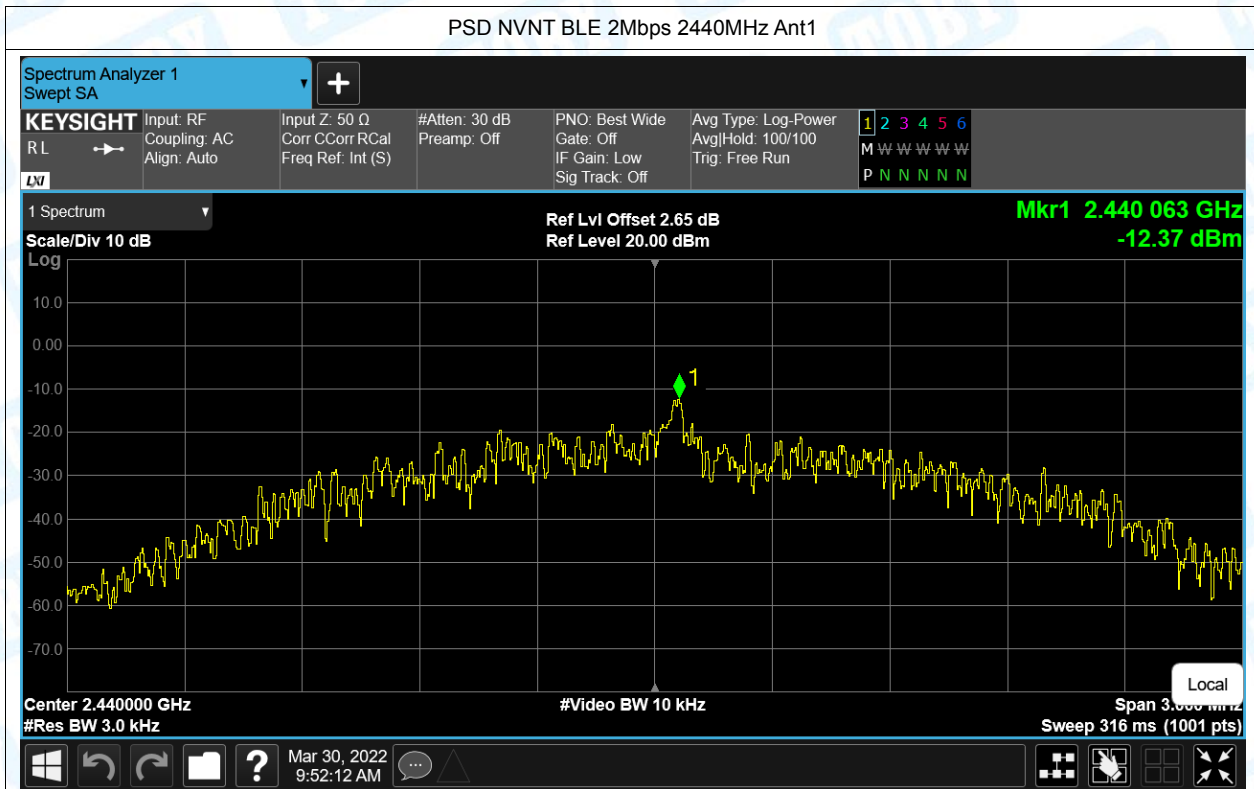


PSD NVNT BLE 1Mbps 2480MHz Ant1



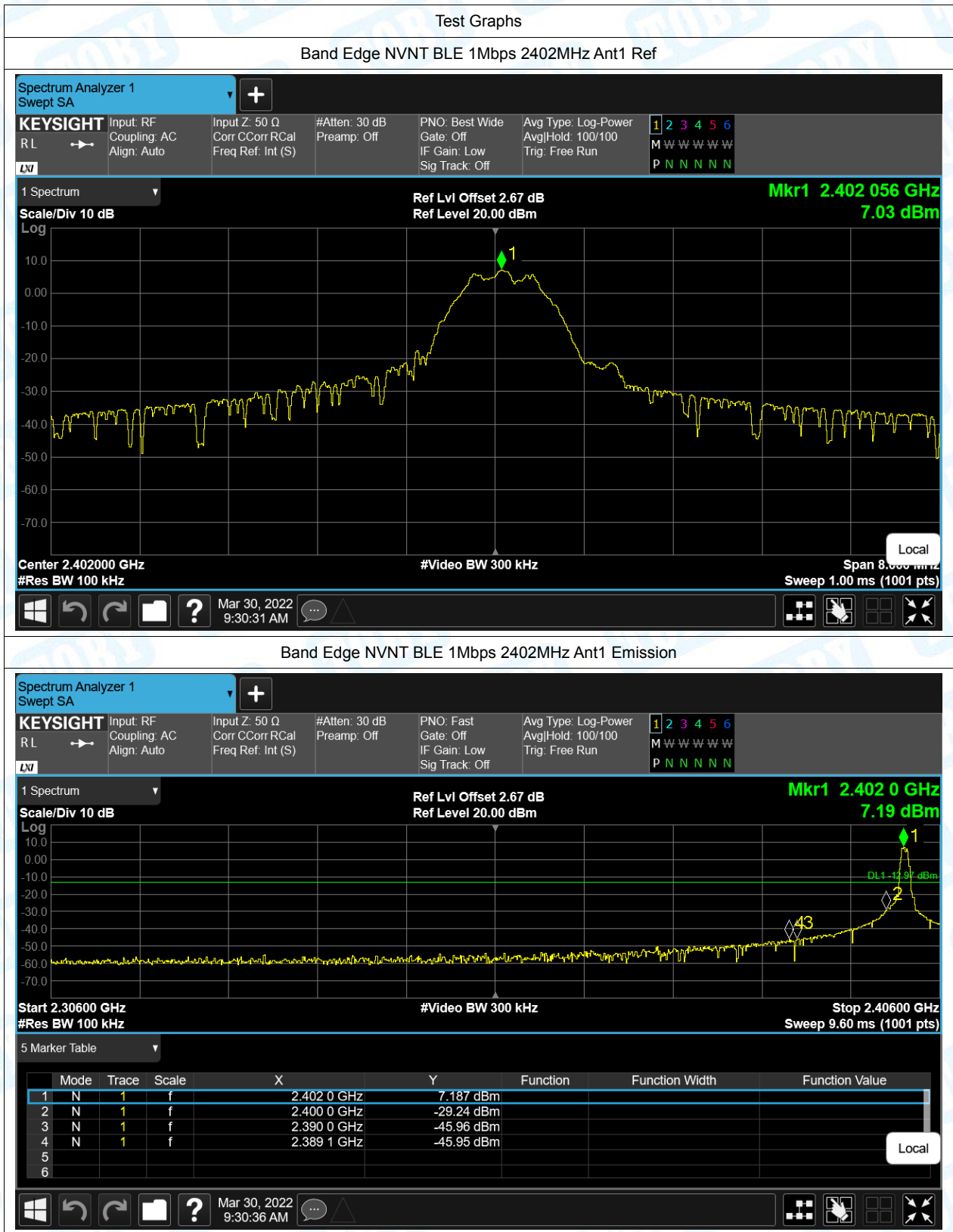
PSD NVNT BLE 2Mbps 2402MHz Ant1

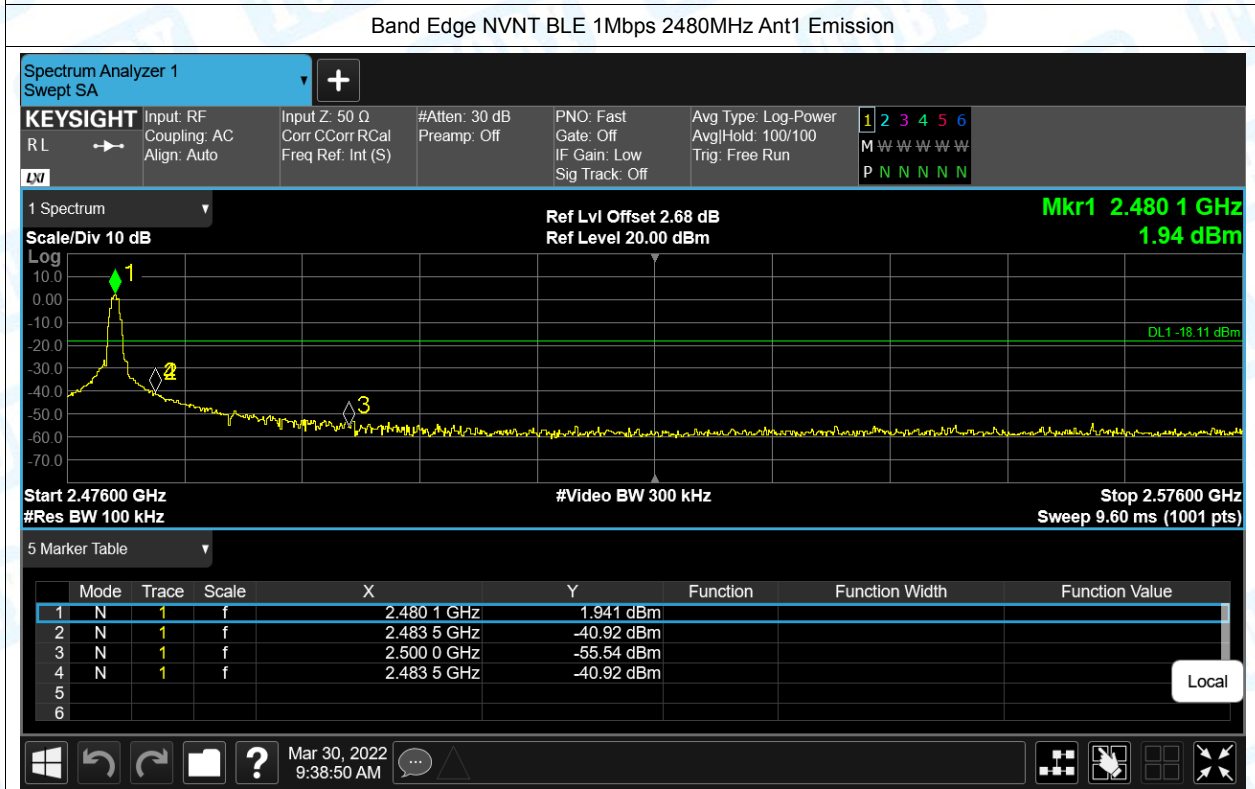
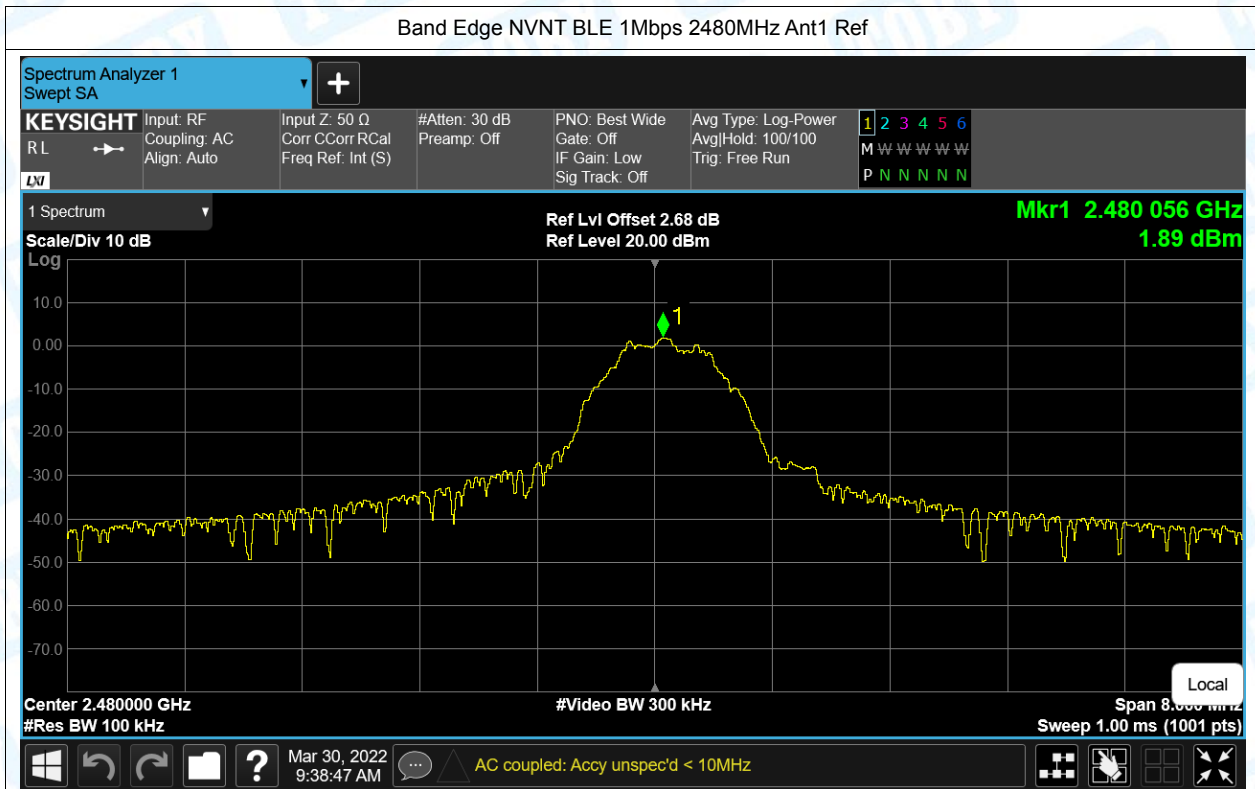


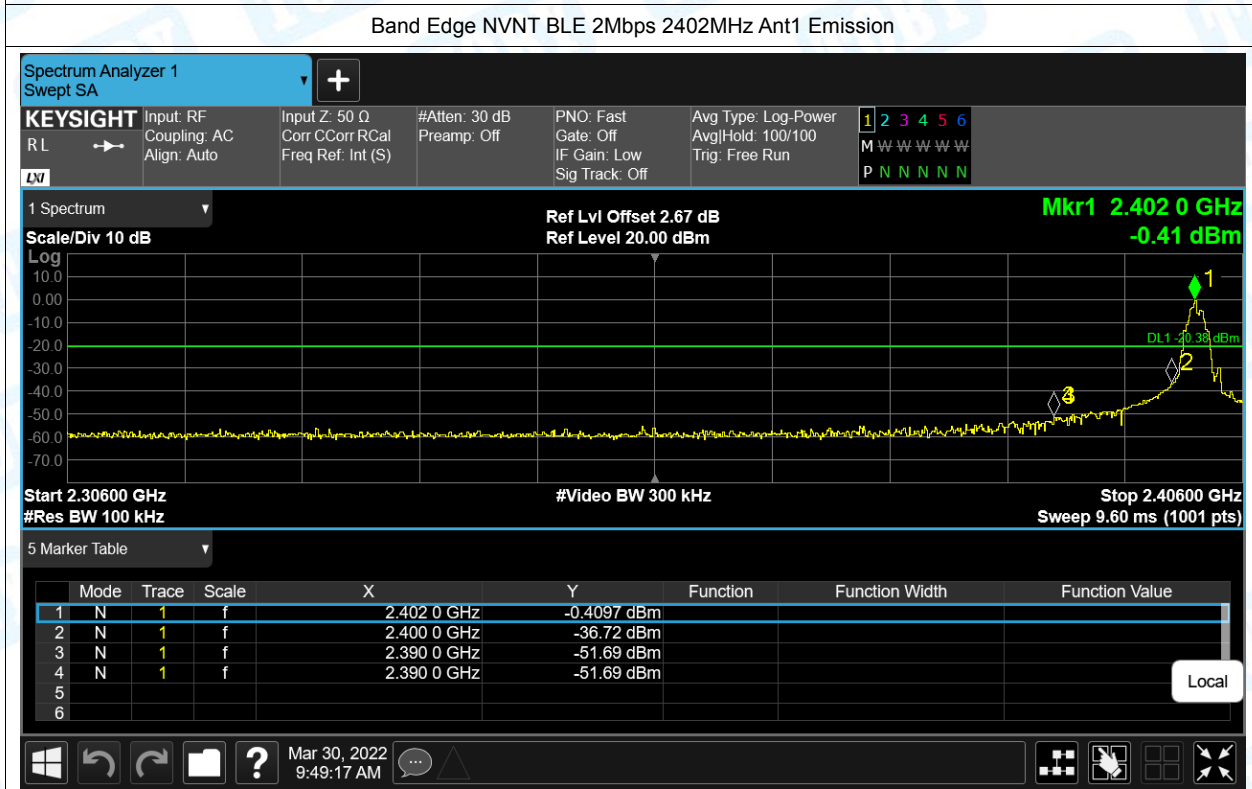
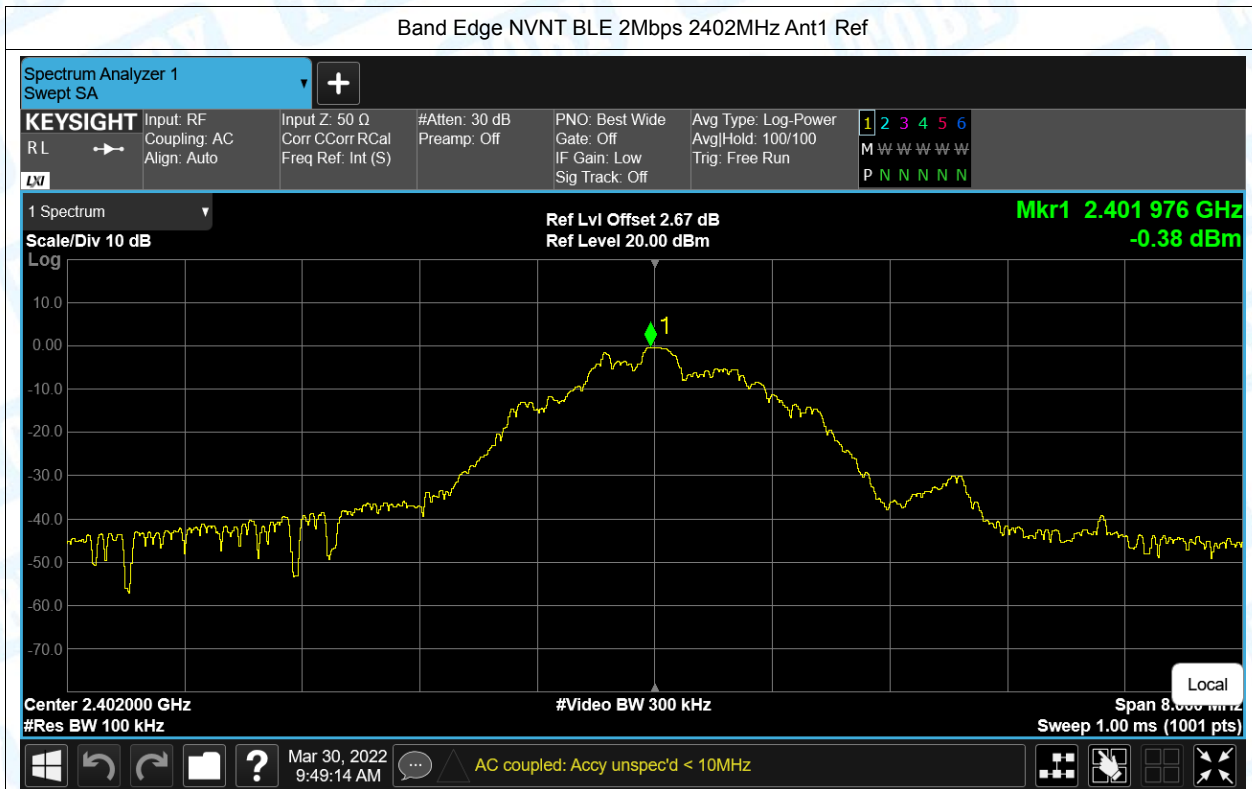


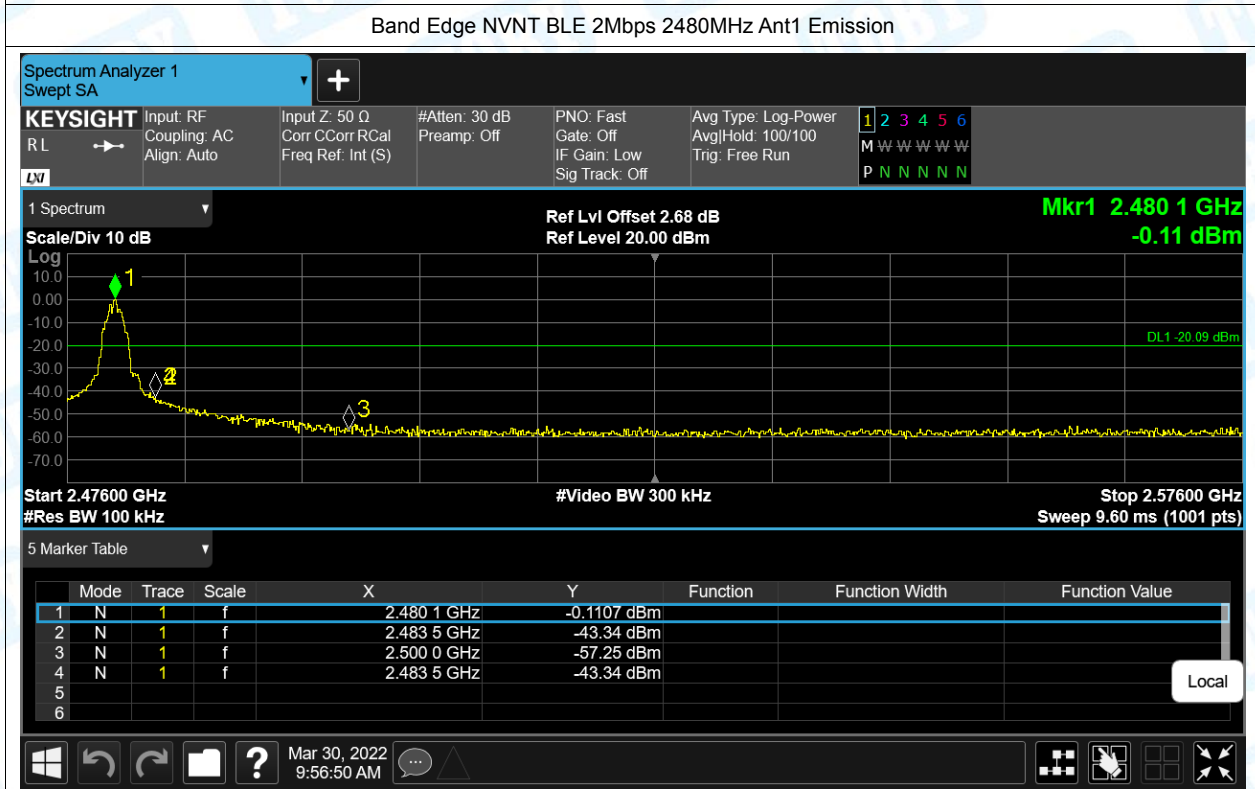
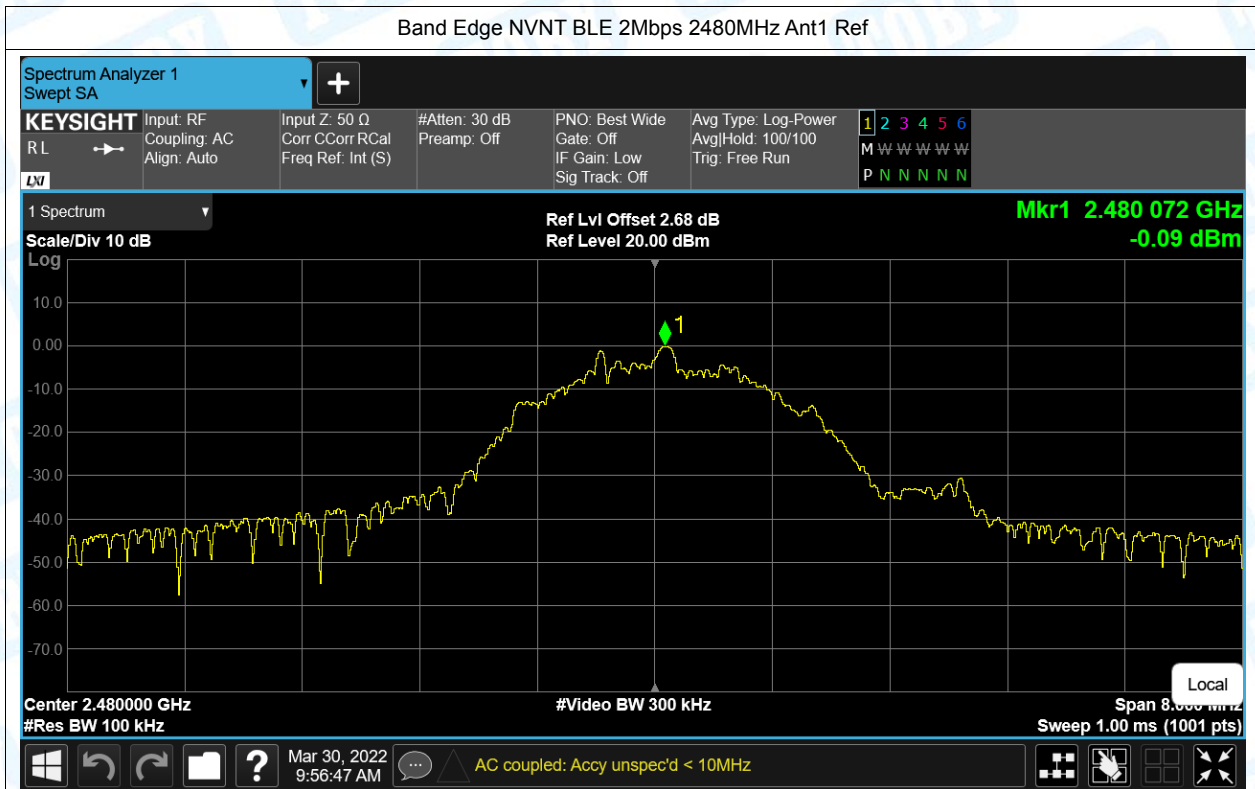
Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-52.98	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-42.81	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-51.31	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-43.25	-20	Pass





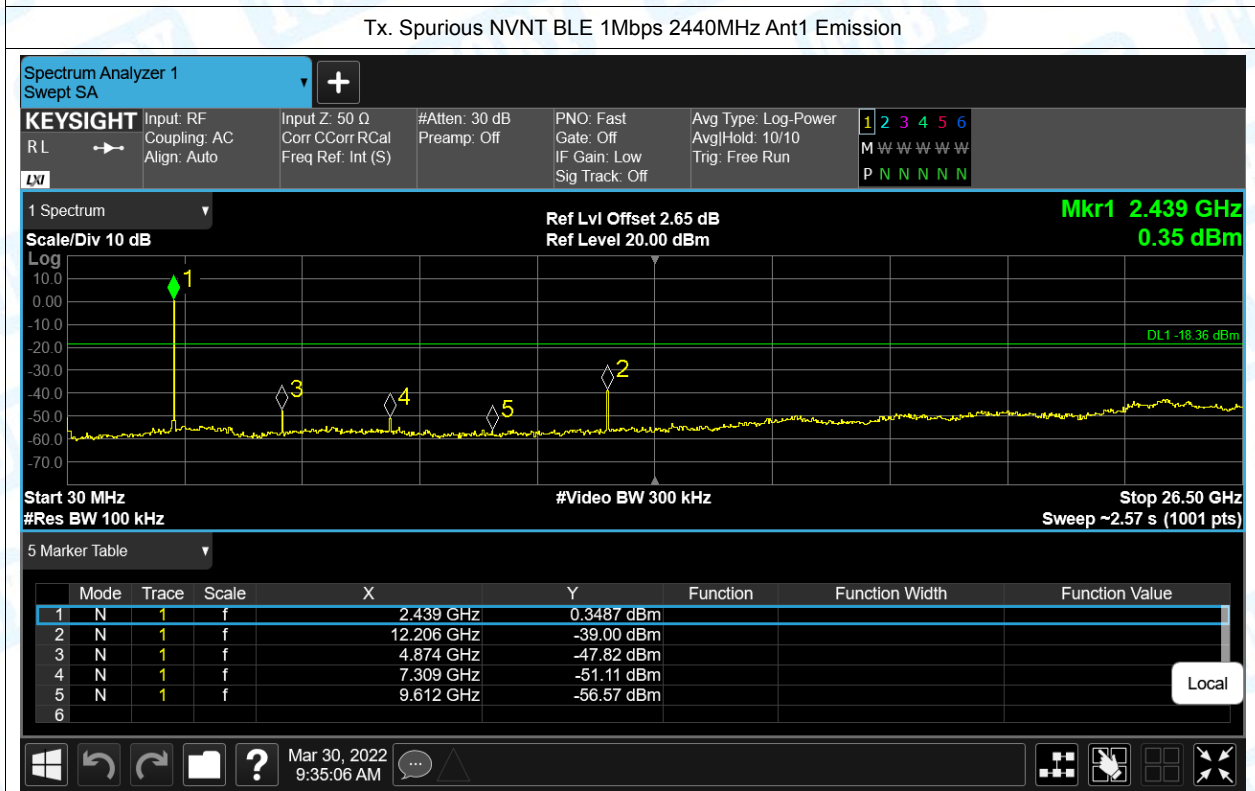
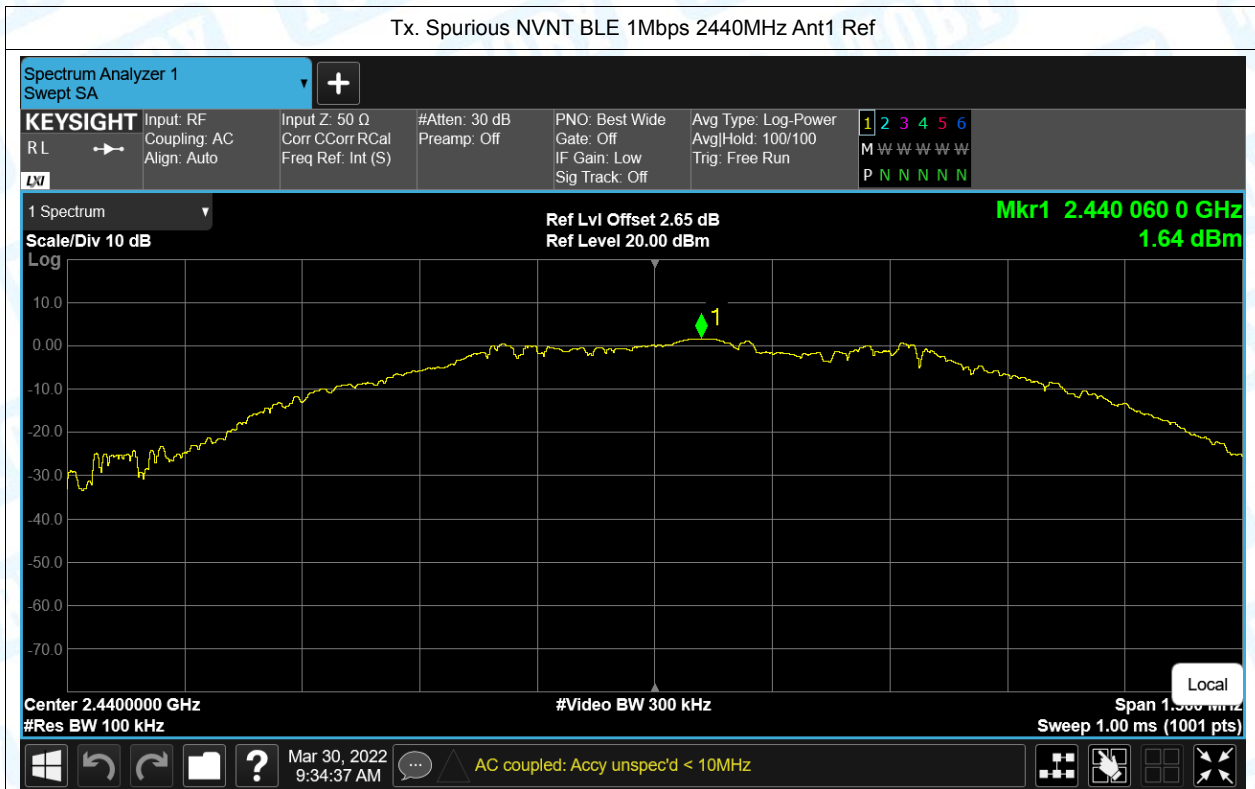


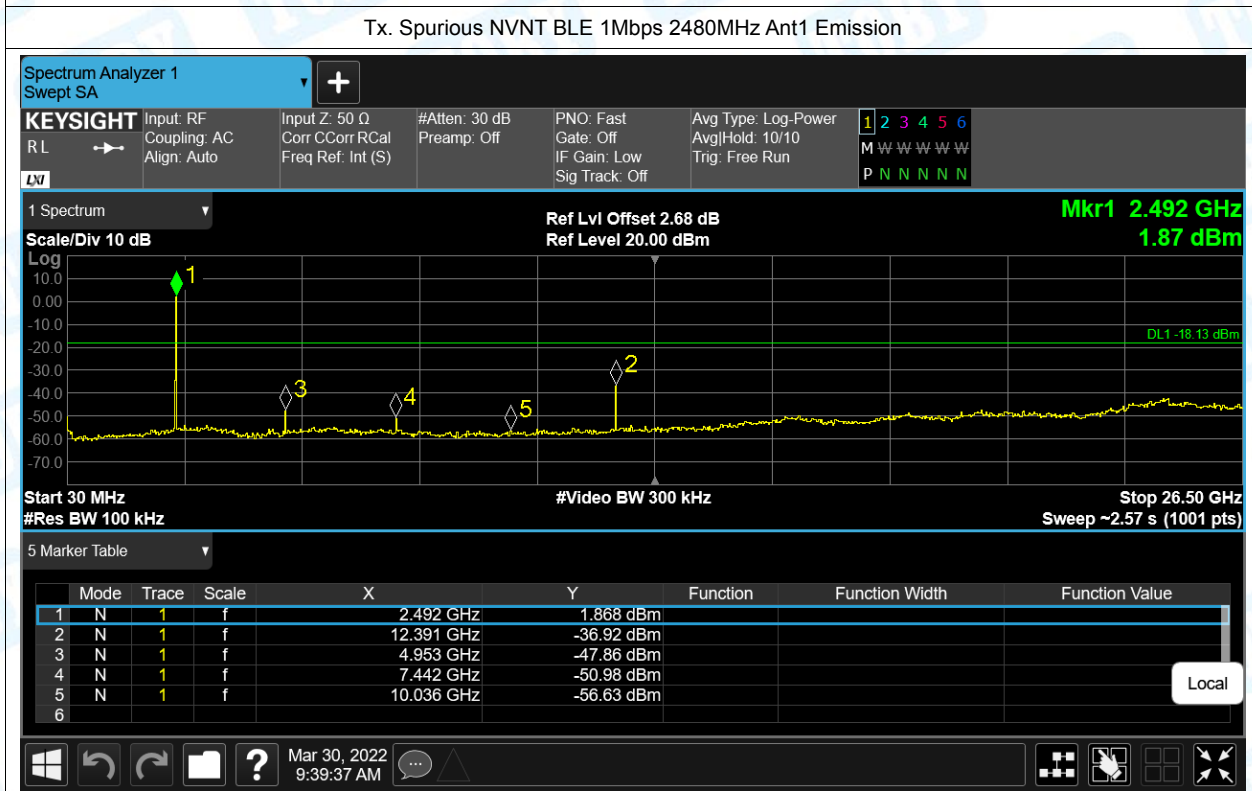
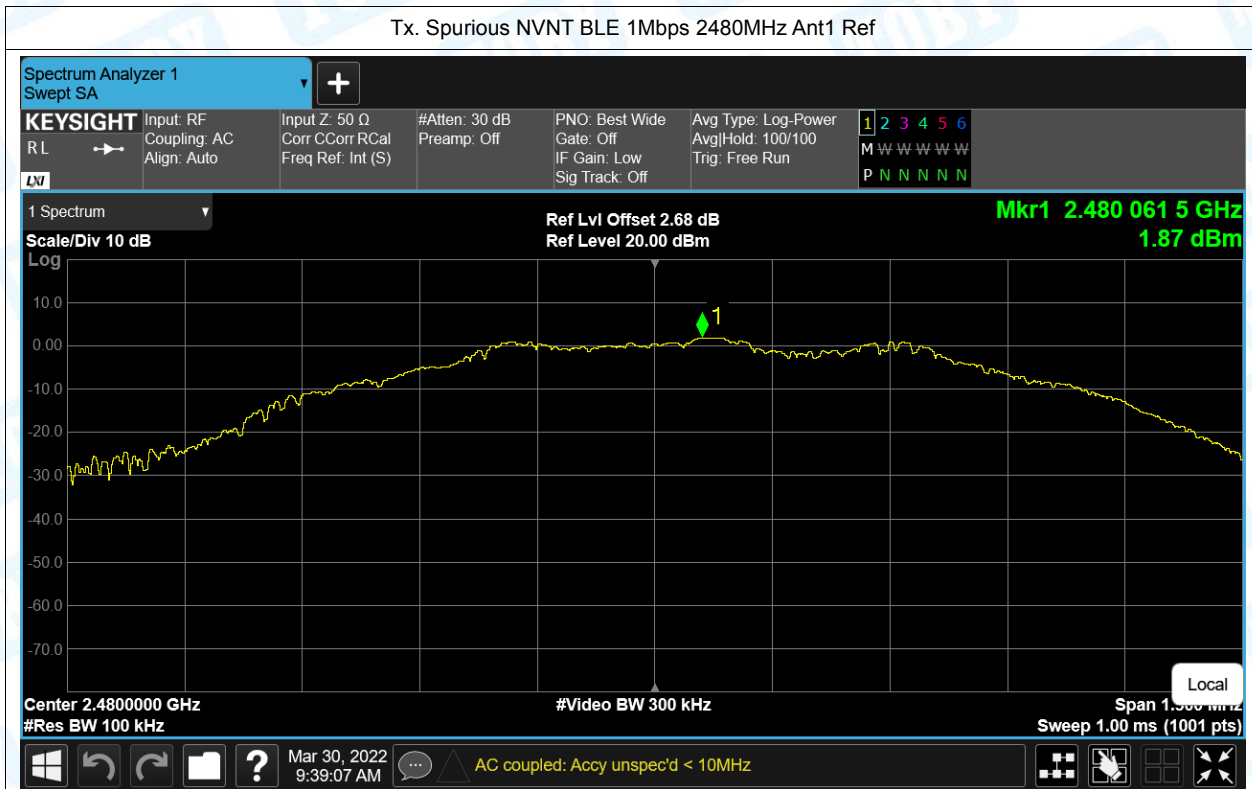


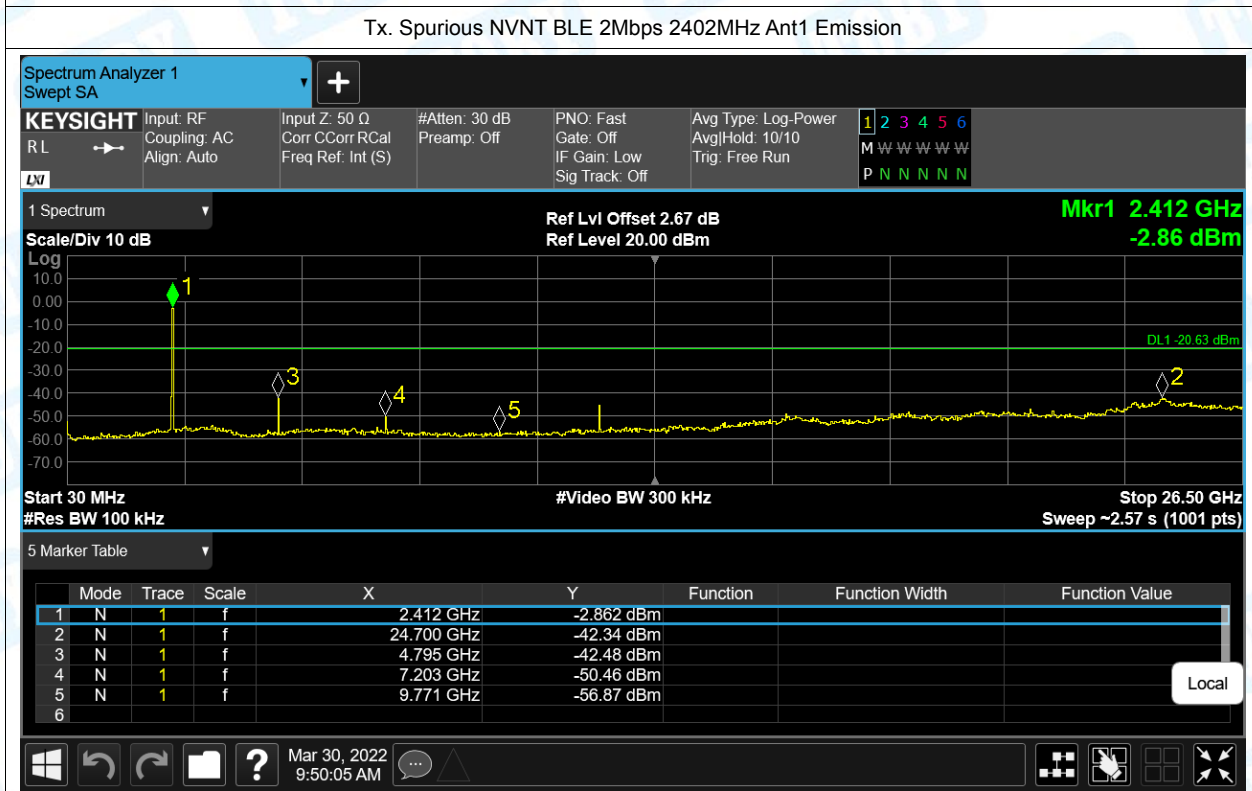
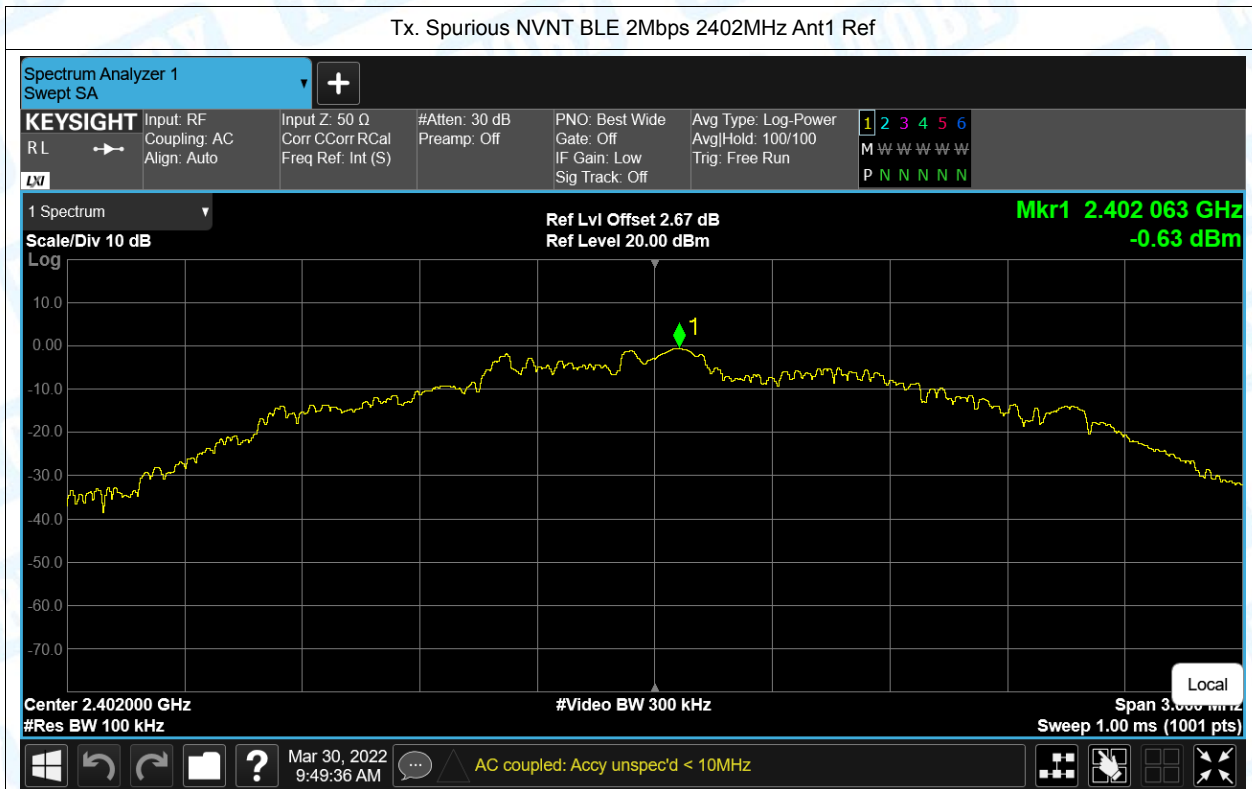
Conducted RF Spurious Emission

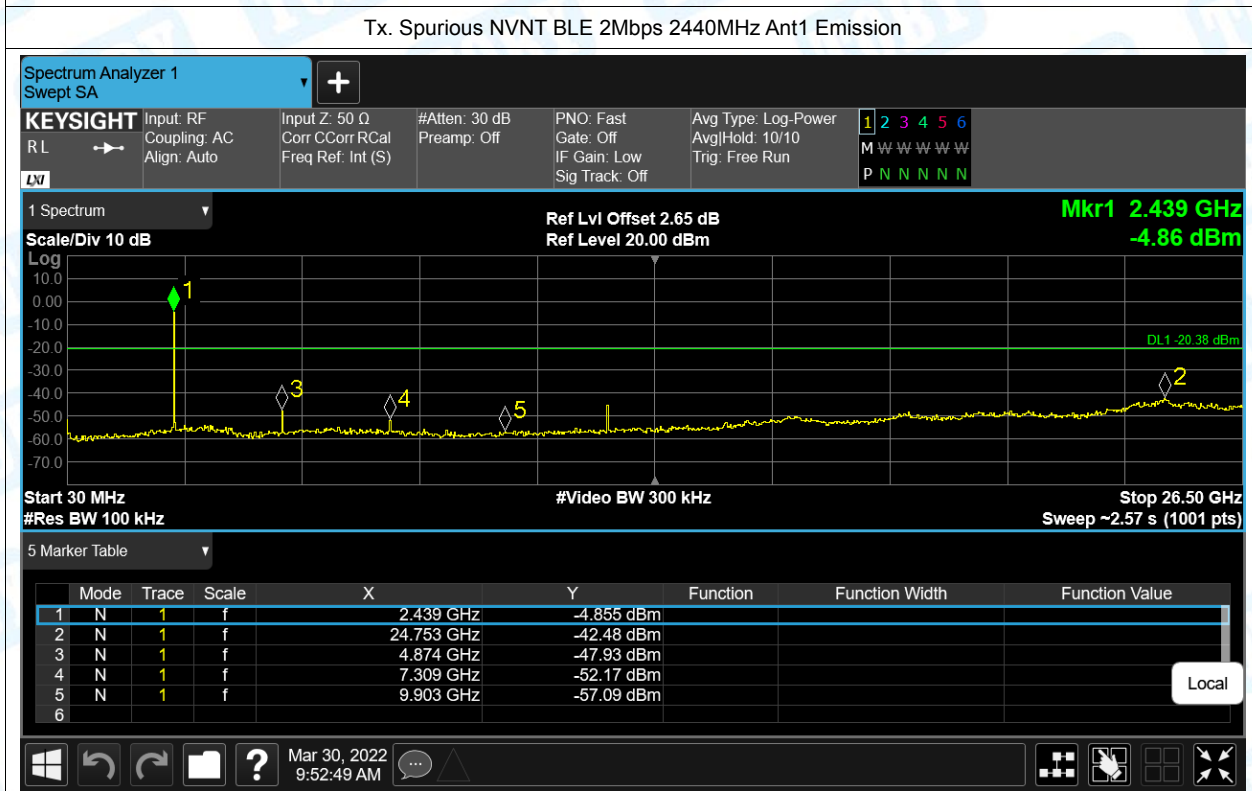
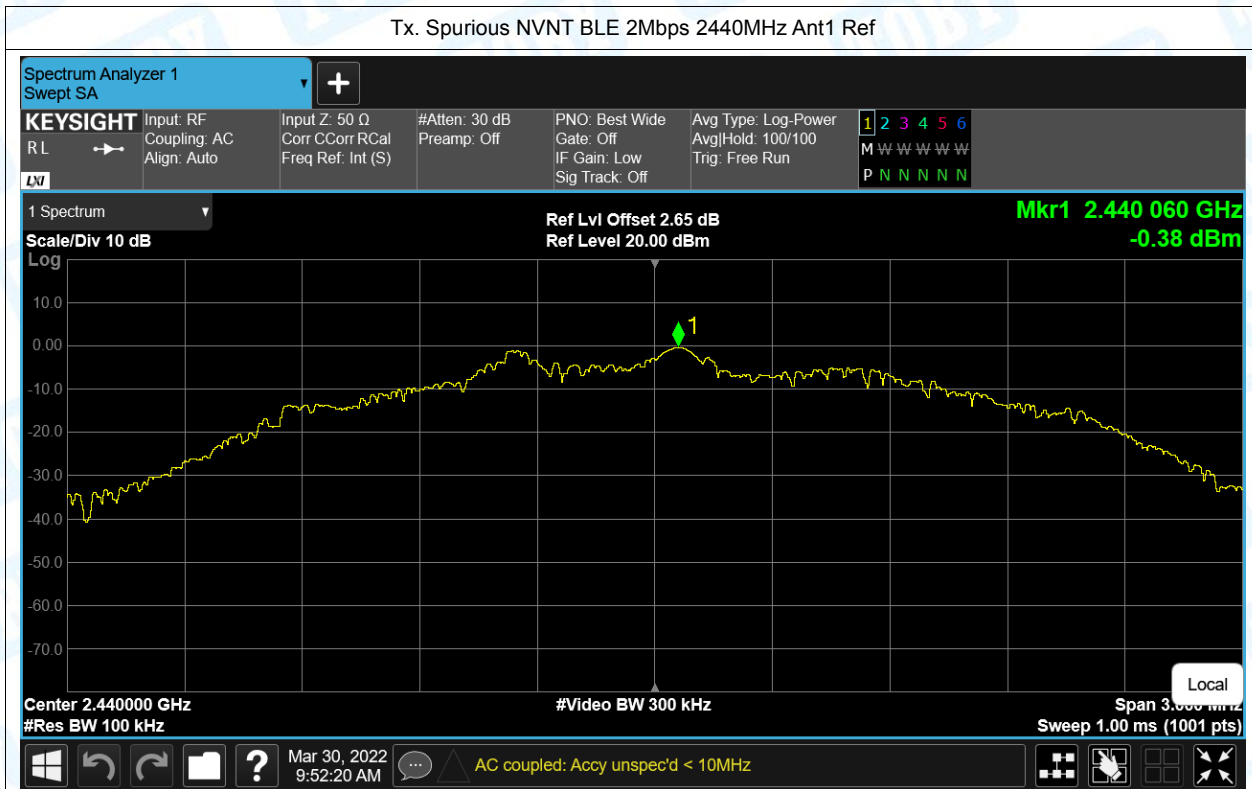
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	-42.89	-20	Pass
NVNT	BLE 1Mbps	2440	Ant1	-40.64	-20	Pass
NVNT	BLE 1Mbps	2480	Ant1	-38.79	-20	Pass
NVNT	BLE 2Mbps	2402	Ant1	-41.71	-20	Pass
NVNT	BLE 2Mbps	2440	Ant1	-42.1	-20	Pass
NVNT	BLE 2Mbps	2480	Ant1	-42.56	-20	Pass

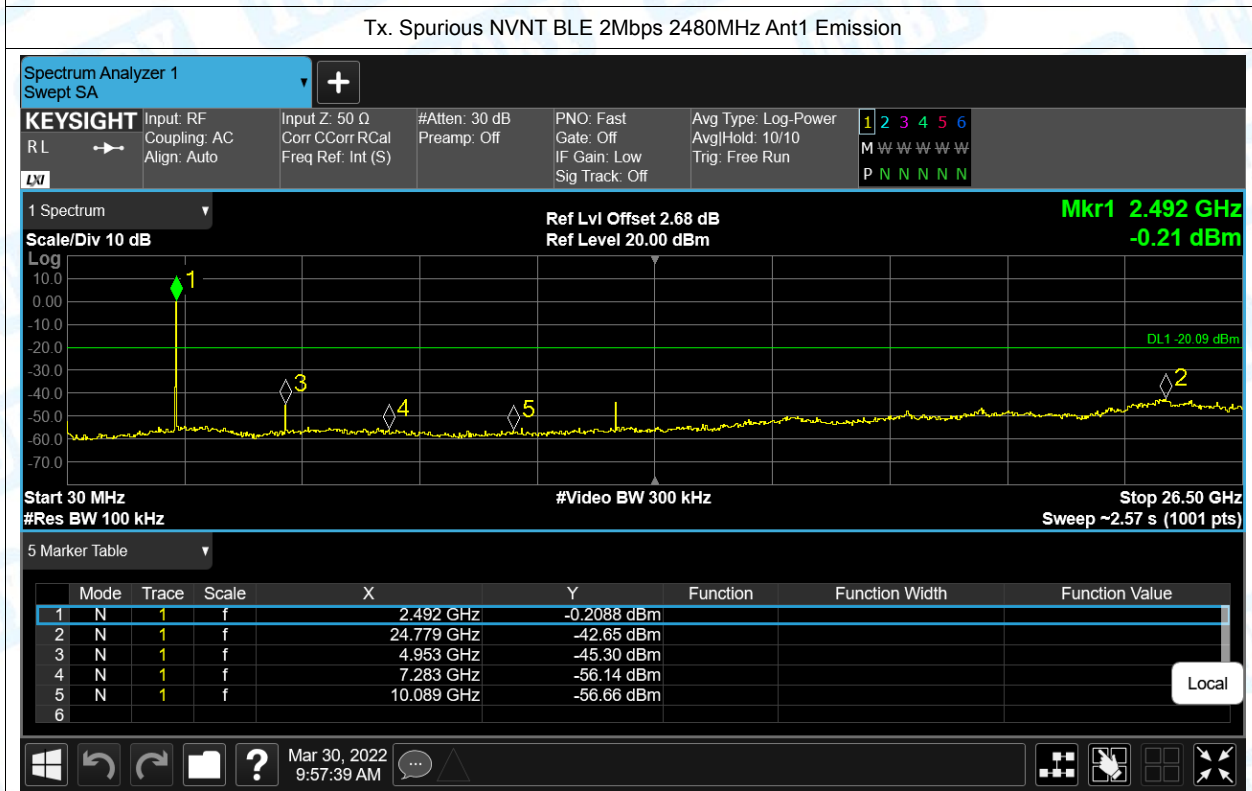
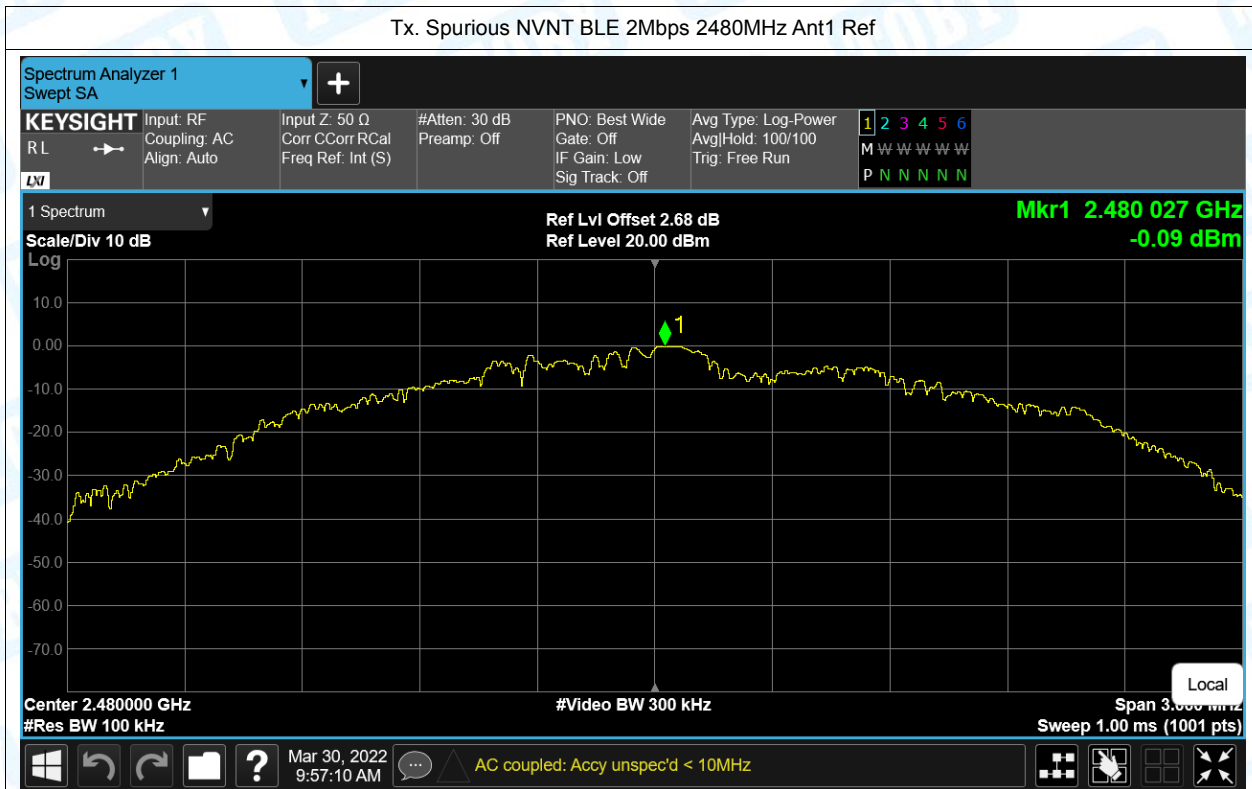








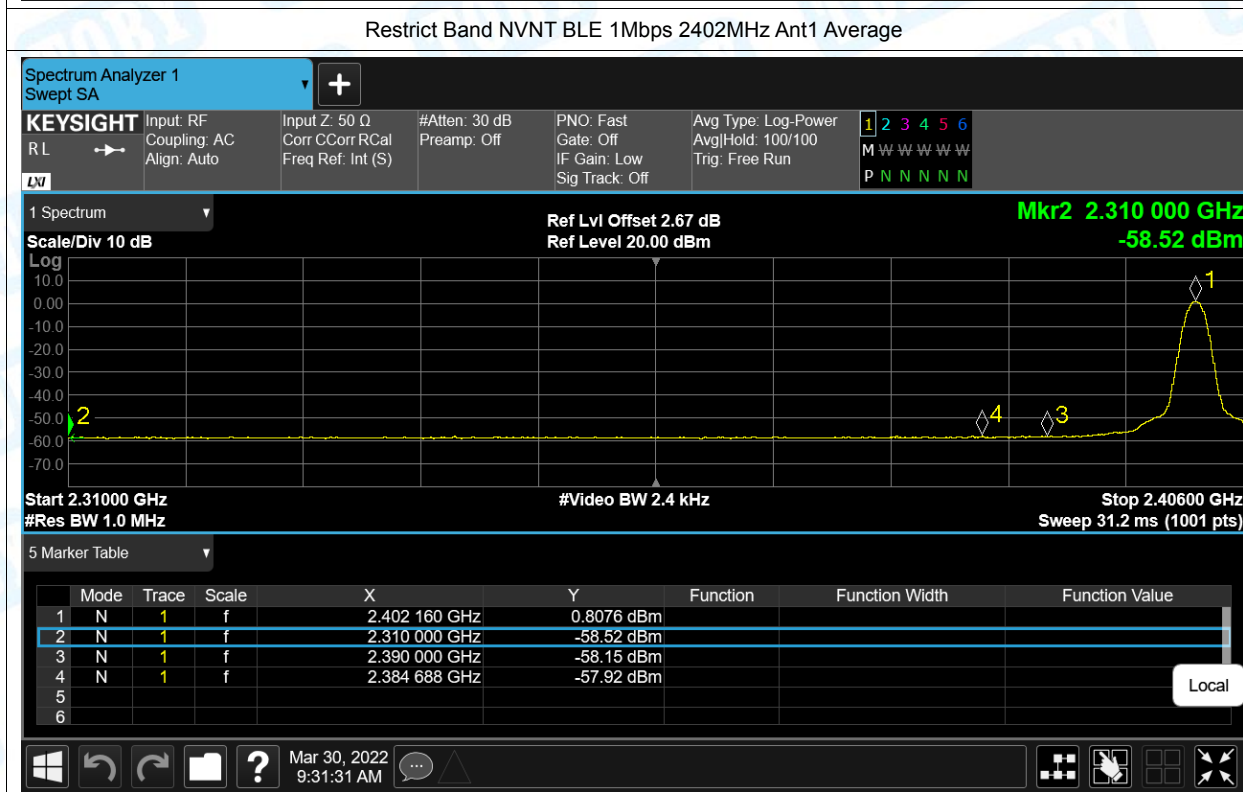
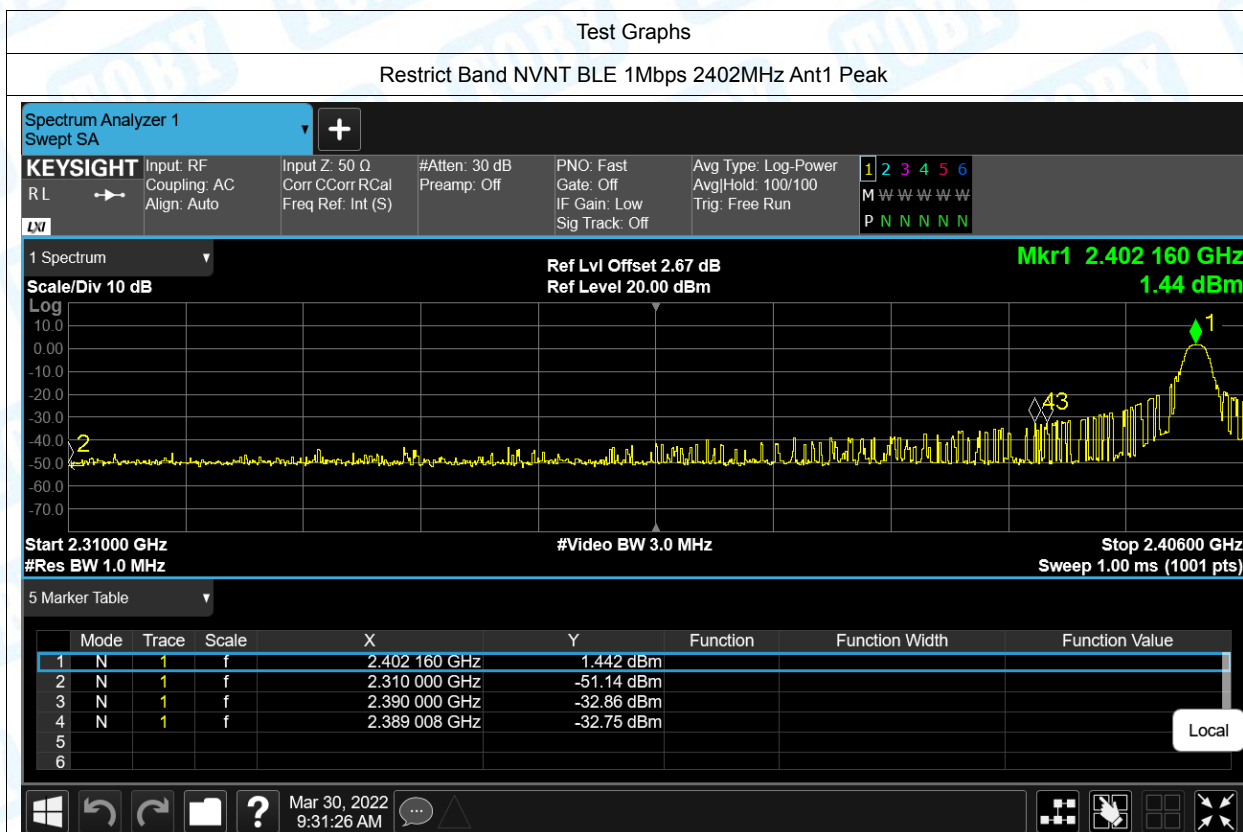


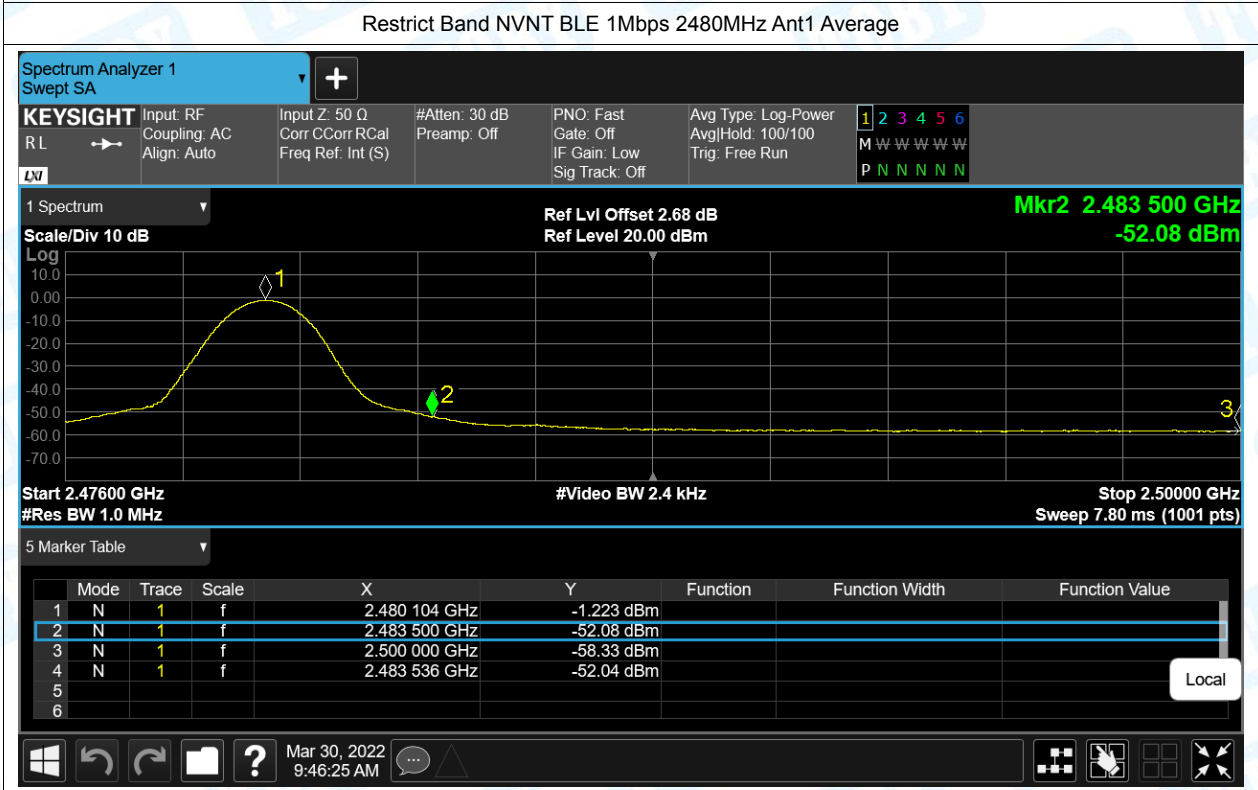
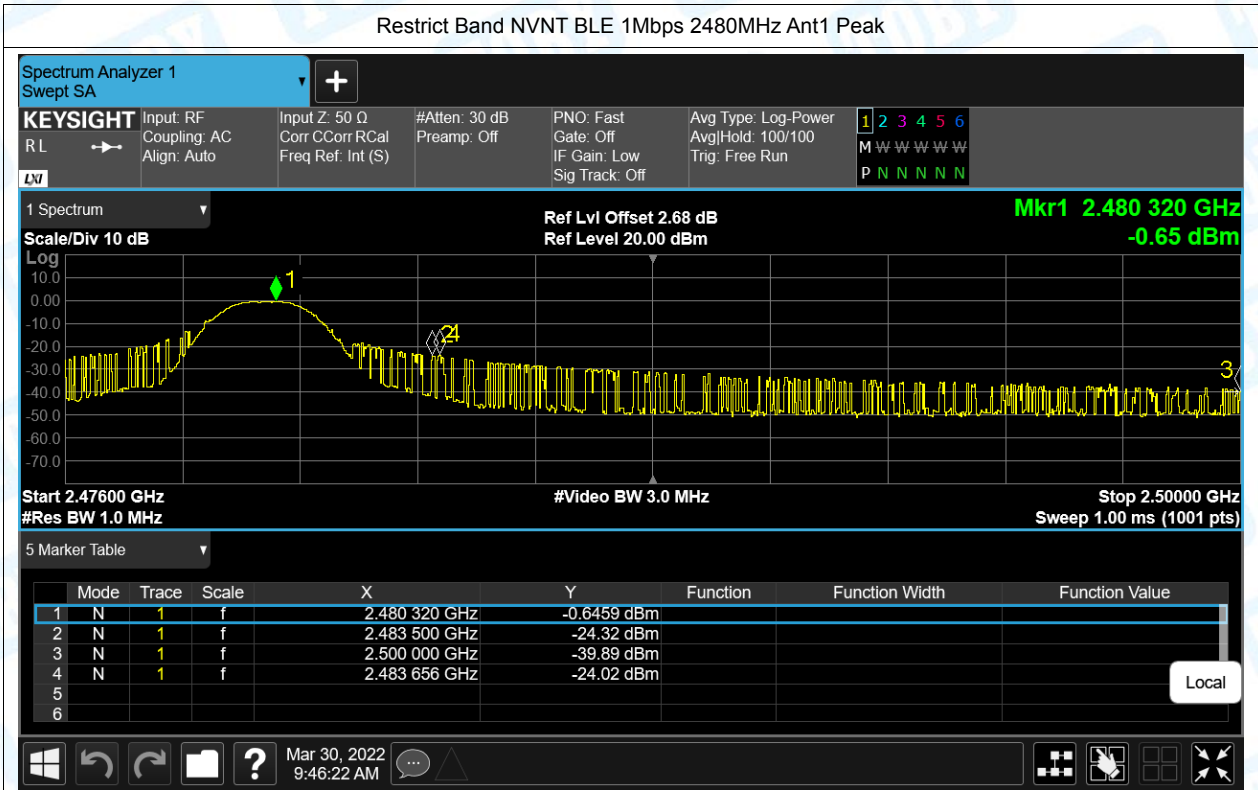


Restrict Band

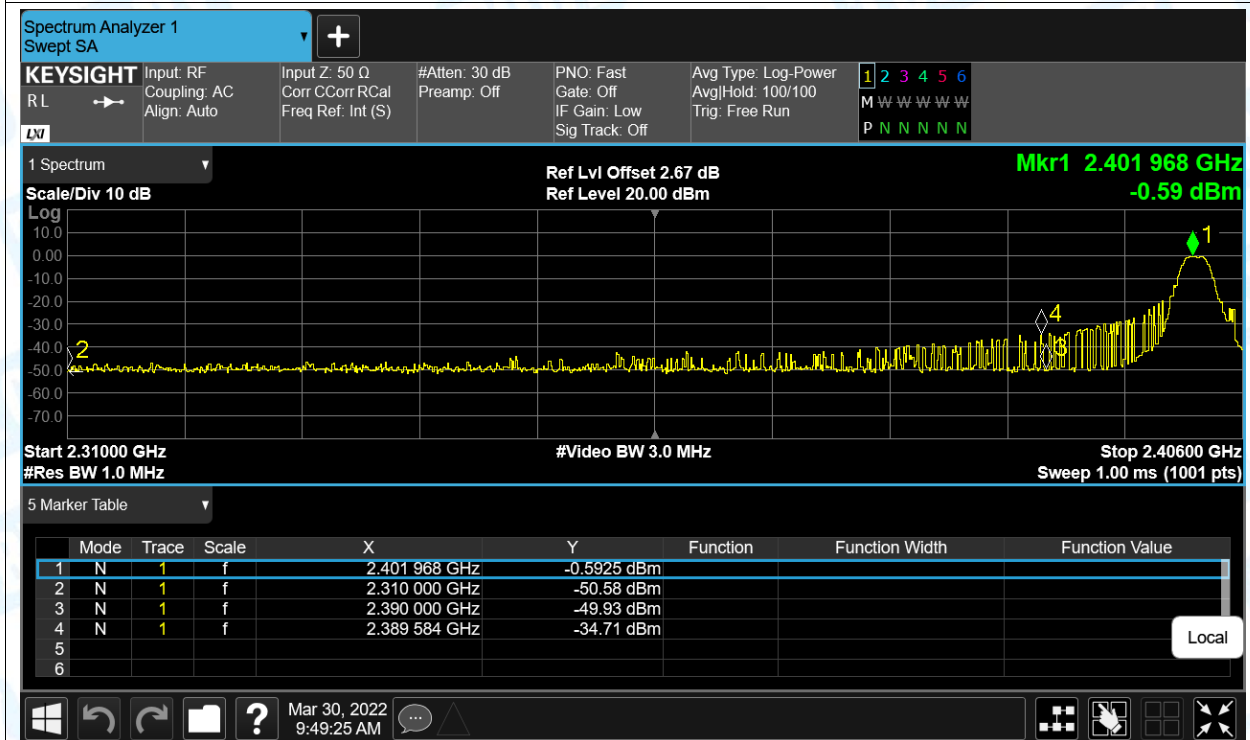
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1Mbps	2402	Ant1	2310	-51.14	2	46.12	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2310	-58.52	2	38.74	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2389.008	-32.75	2	64.51	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2384.688	-57.92	2	39.34	Average	54	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-37.37	2	59.89	Peak	74	Pass
NVNT	BLE 1Mbps	2402	Ant1	2390	-58.18	2	39.08	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-24.32	2	72.94	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.5	-52.08	2	45.18	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.656	-24.02	2	73.24	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2483.536	-52.04	2	45.22	Average	54	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-39.89	2	57.37	Peak	74	Pass
NVNT	BLE 1Mbps	2480	Ant1	2500	-58.33	2	38.93	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-50.58	2	46.68	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2310	-58.35	2	38.91	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2389.584	-34.71	2	62.55	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2389.68	-57.41	2	39.85	Average	54	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-50.18	2	47.08	Peak	74	Pass
NVNT	BLE 2Mbps	2402	Ant1	2390	-57.88	2	39.38	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-39.43	2	57.83	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.5	-48.68	2	48.58	Average	54	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.632	-23.98	2	73.28	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2483.512	-48.68	2	48.58	Average	54	Pass

NVNT	BLE 2Mbps	2480	Ant1	2500	-49.09	2	48.17	Peak	74	Pass
NVNT	BLE 2Mbps	2480	Ant1	2500	-57.92	2	39.34	Average	54	Pass





Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2Mbps 2402MHz Ant1 Average

