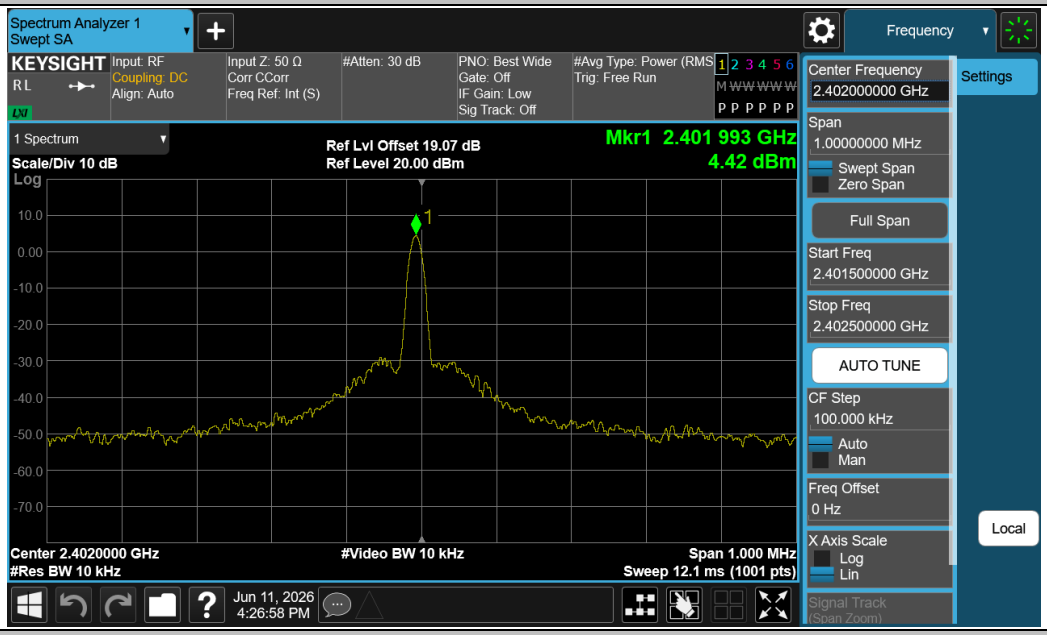
Appendix A: Frequency Error

Test Result

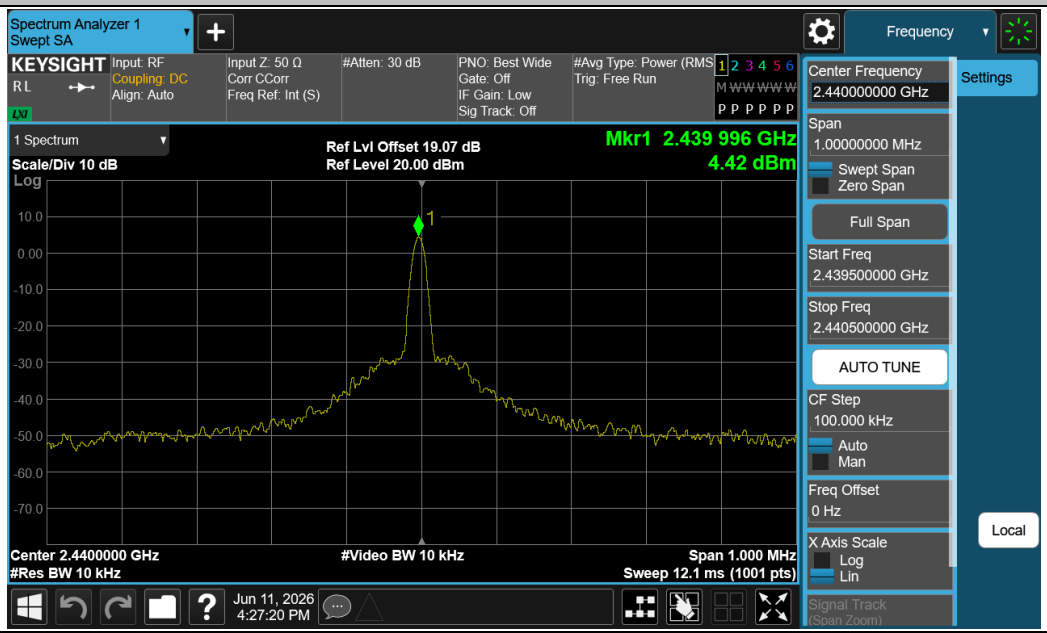
Test Condition	Test Mode	Antenna	Freq (MHz)	Center Freq [MHz]	Result [ppm]	Limit [ppm]	Verdict
NTNV	Carrier	Ant1	2402	2401.993	-2.91424	±50	PASS
NTNV	Carrier	Ant1	2440	2439.996	-1.63934	±50	PASS
NTNV	Carrier	Ant1	2480	2479.992	-3.22581	±50	PASS

Test Graphs

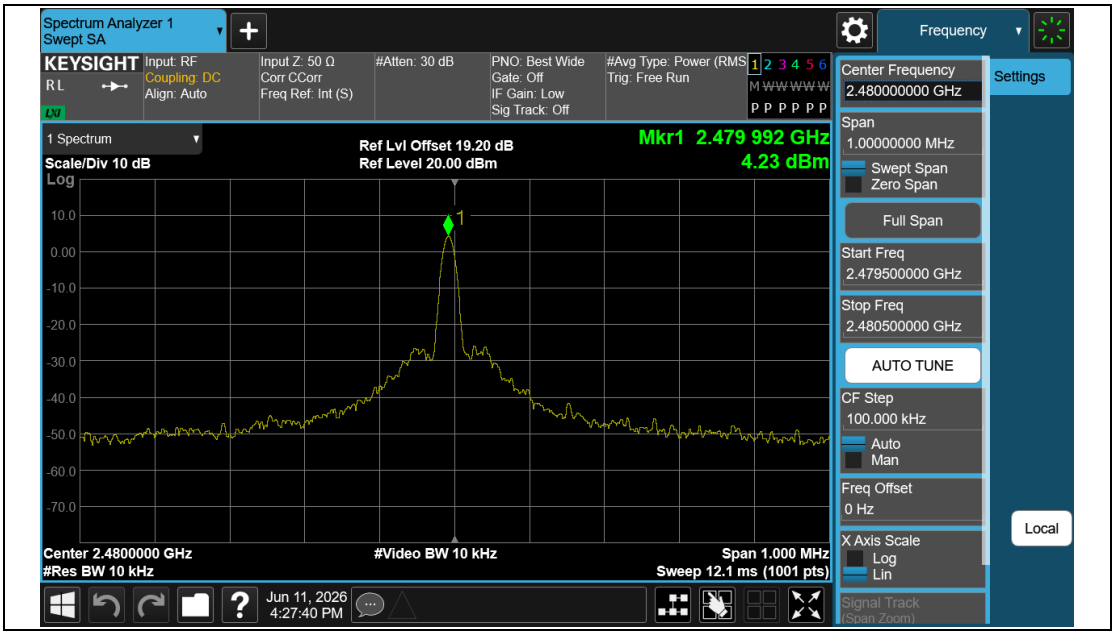
NTNV-Carrier-Ant1-2402-PASS



NTNV-Carrier-Ant1-2440-PASS



NTNV-Carrier-Ant1-2480-PASS


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 19.20 dB
Ref Level 20.00 dBm
Mkr1 2.479 992 GHz
4.23 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.4800000 GHz
#Res BW 10 kHz
#Video BW 10 kHz
Span 1.000 MHz
Sweep 12.1 ms (1001 pts)
Jun 11, 2026
4:27:40 PM
Frequency
Center Frequency
2.480000000 GHz
Span
1.00000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
2.479500000 GHz
Stop Freq
2.480500000 GHz
AUTO TUNE
CF Step
100.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Settings
Local

Appendix B: Antenna Power

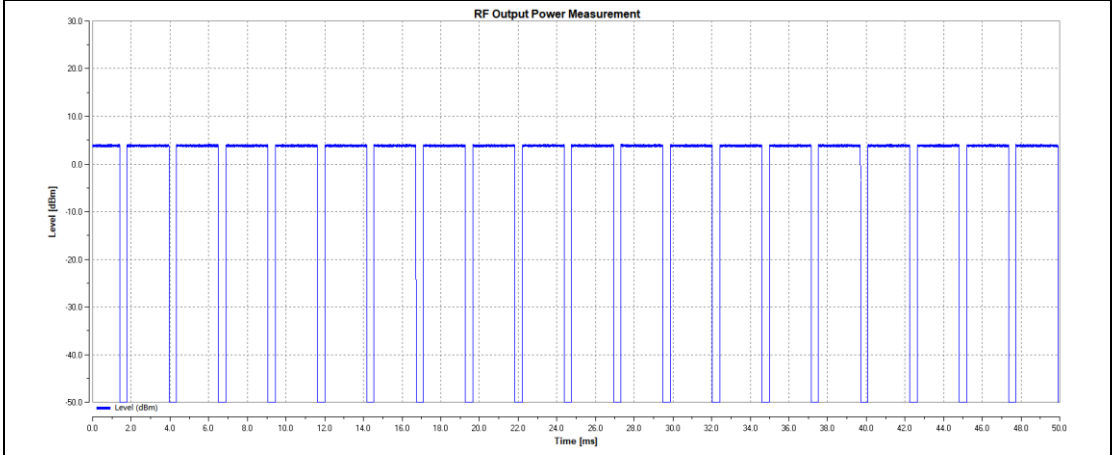
Test Result

Antenna Power							
Test Condition	Test Mode	Antenna	Freq (MHz)	Result(dBm)	Result(mW)	Limit(mW)	Verdict
NTNV	BLE_1M	Ant1	2402	3.92	2.4660	≤10	PASS
NTNV	BLE_1M	Ant1	2440	3.84	2.4210	≤10	PASS
NTNV	BLE_1M	Ant1	2480	3.68	2.3335	≤10	PASS
NTNV	BLE_2M	Ant1	2402	2.89	1.9454	≤10	PASS
NTNV	BLE_2M	Ant1	2440	2.79	1.9011	≤10	PASS
NTNV	BLE_2M	Ant1	2480	2.60	1.8197	≤10	PASS

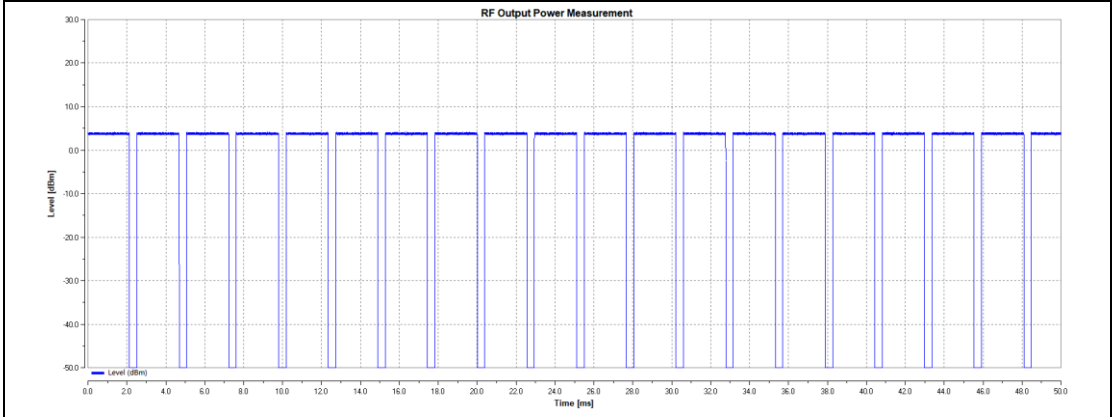
Tolerance								
Test Condition	Test Mode	Antenna	Freq (MHz)	Power (mW)	Rated Power (mW)	Result (%)	Limit (%)	Verdict
NTNV	BLE_1M	Ant1	2402	2.4660	3	-17.80	+20	PASS
NTNV	BLE_1M	Ant1	2440	2.4210	3	-19.30	+20	PASS
NTNV	BLE_1M	Ant1	2480	2.3335	3	-22.22	+20	PASS
NTNV	BLE_2M	Ant1	2402	1.9454	3	-35.15	+20	PASS
NTNV	BLE_2M	Ant1	2440	1.9011	3	-36.63	+20	PASS
NTNV	BLE_2M	Ant1	2480	1.8197	3	-39.34	+20	PASS

Test Result

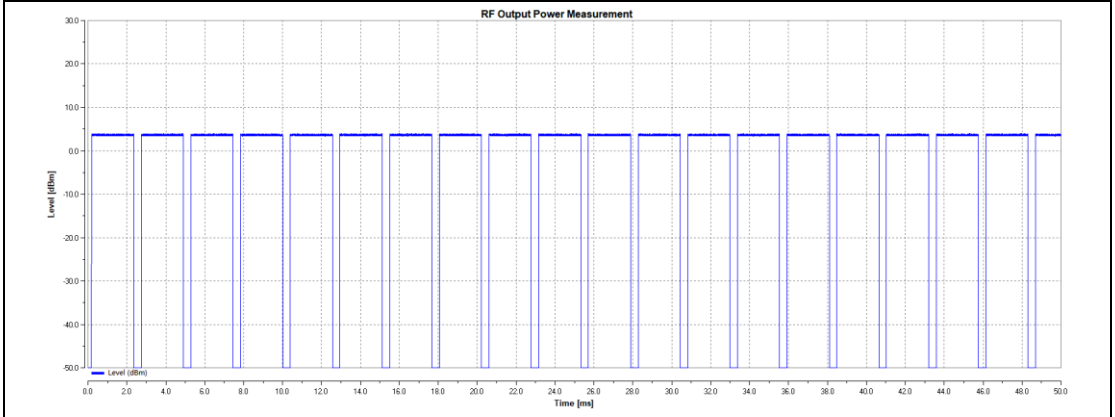
NTNV-BLE_1M-Ant1-2402-PASS



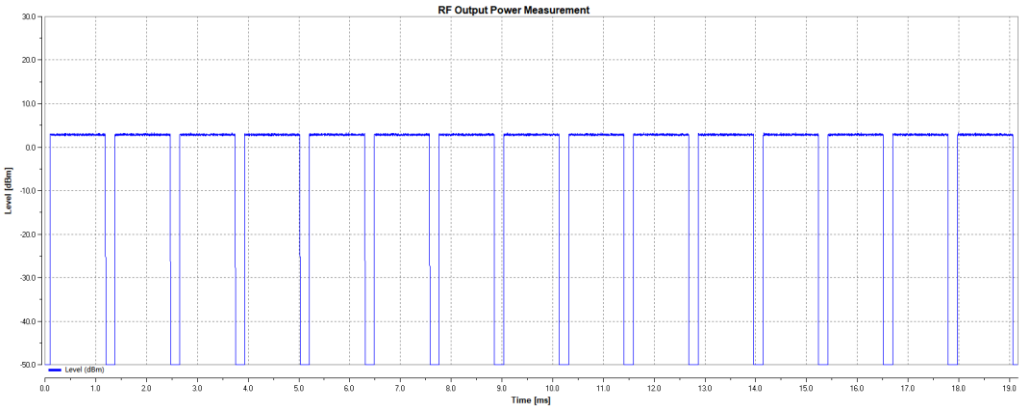
NTNV-BLE_1M-Ant1-2440-PASS



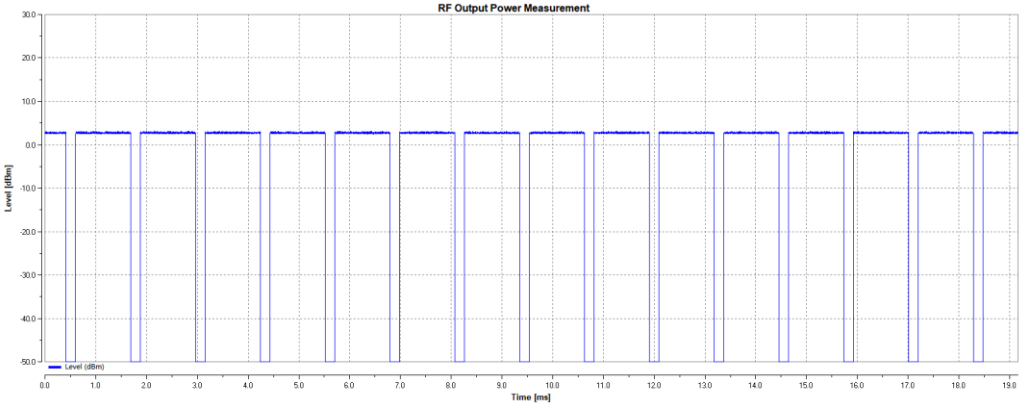
NTNV-BLE_1M-Ant1-2480-PASS



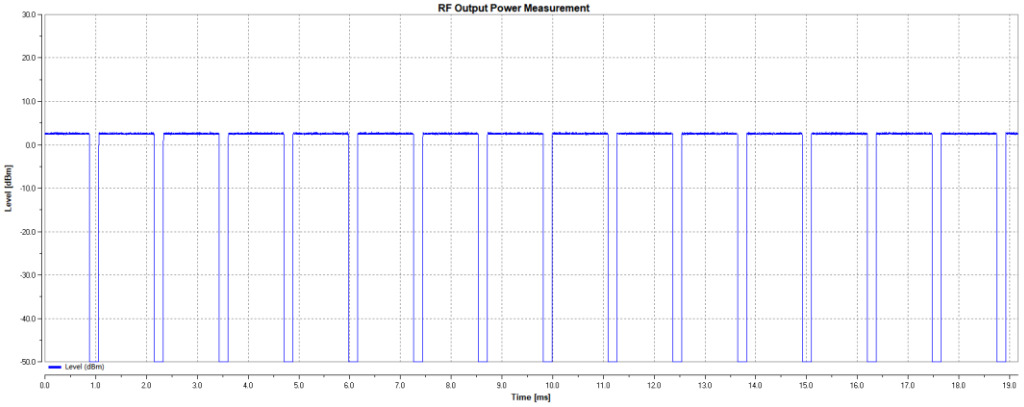
NTNV-BLE_2M-Ant1-2402-PASS



NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS



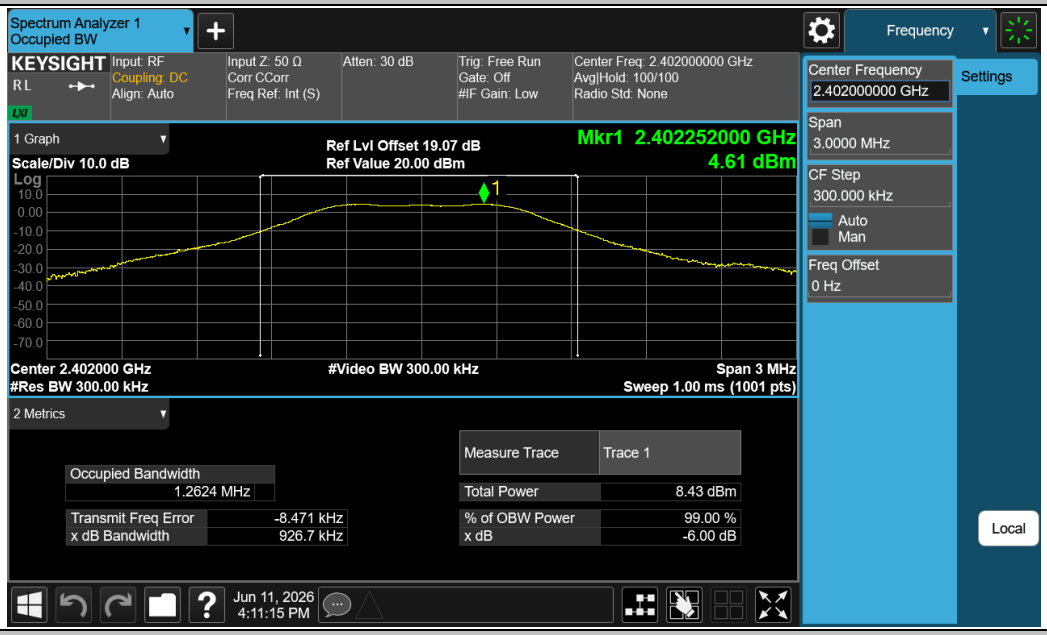
Appendix C: Occupied Bandwidth

Test Result

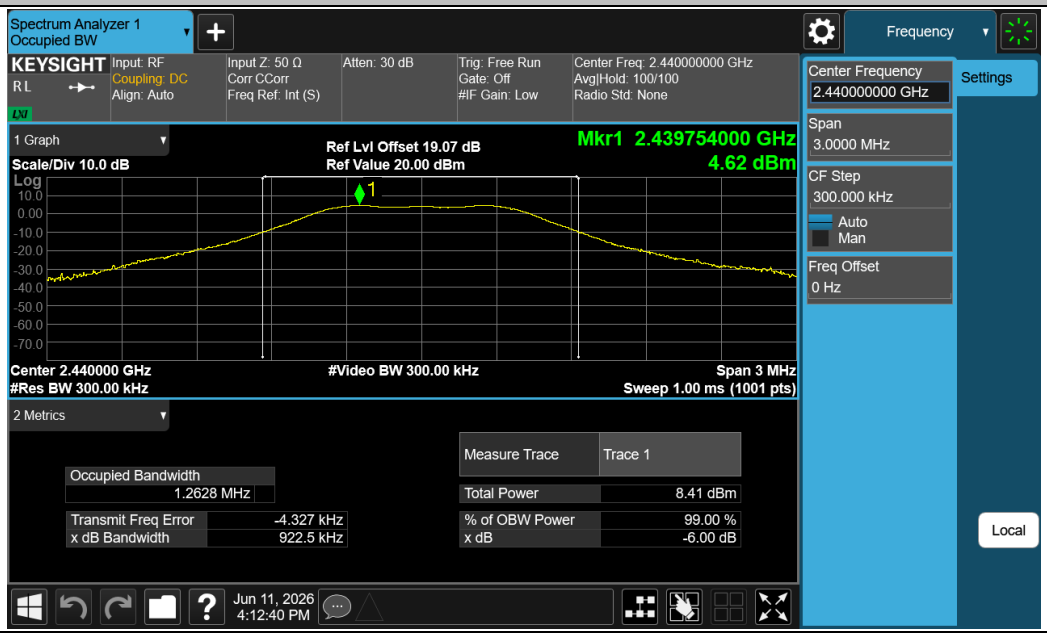
Test Condition	Test Mode	Antenna	Freq(MHz)	Result [MHz]	Limit [MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	1.262	≤26	PASS
NTNV	BLE_1M	Ant1	2440	1.263	≤26	PASS
NTNV	BLE_1M	Ant1	2480	1.262	≤26	PASS
NTNV	BLE_2M	Ant1	2402	2.130	≤26	PASS
NTNV	BLE_2M	Ant1	2440	2.133	≤26	PASS
NTNV	BLE_2M	Ant1	2480	2.133	≤26	PASS

Test Graphs

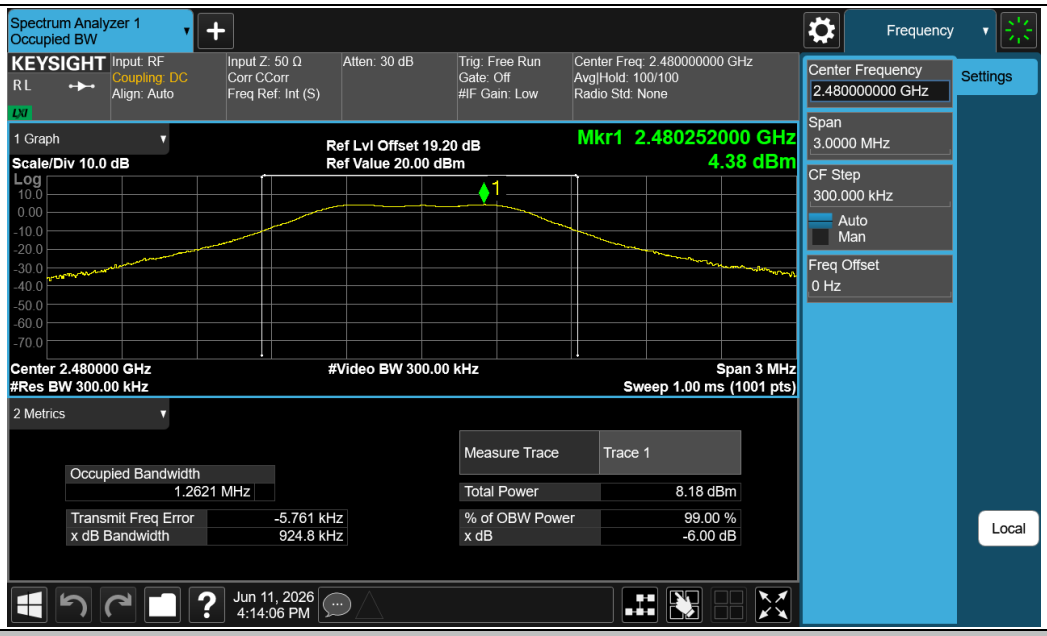
NTNV-BLE_1M-Ant1-2402-PASS



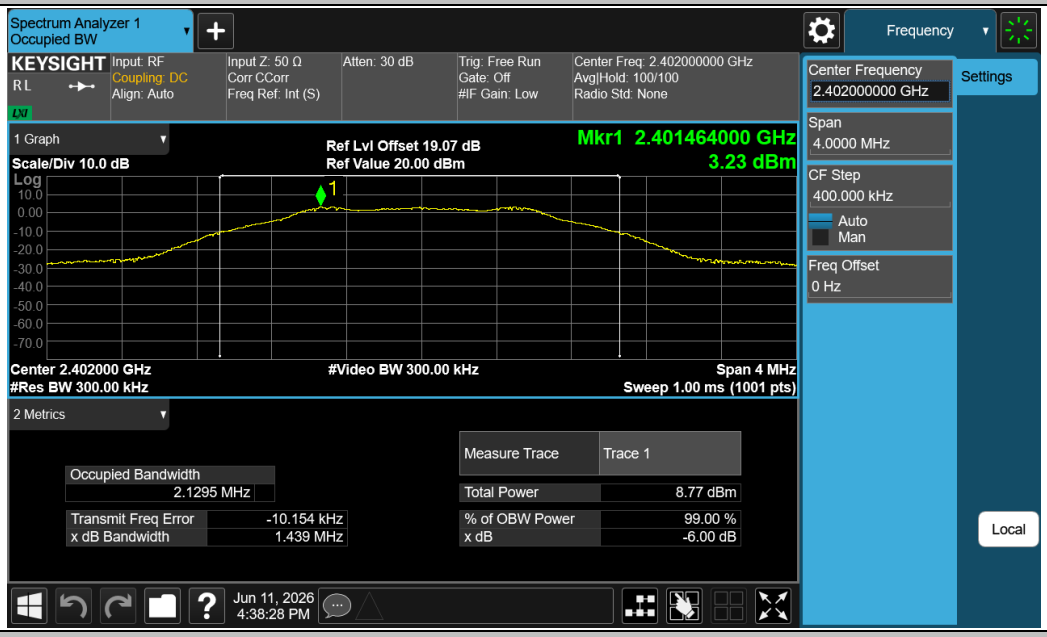
NTNV-BLE_1M-Ant1-2440-PASS



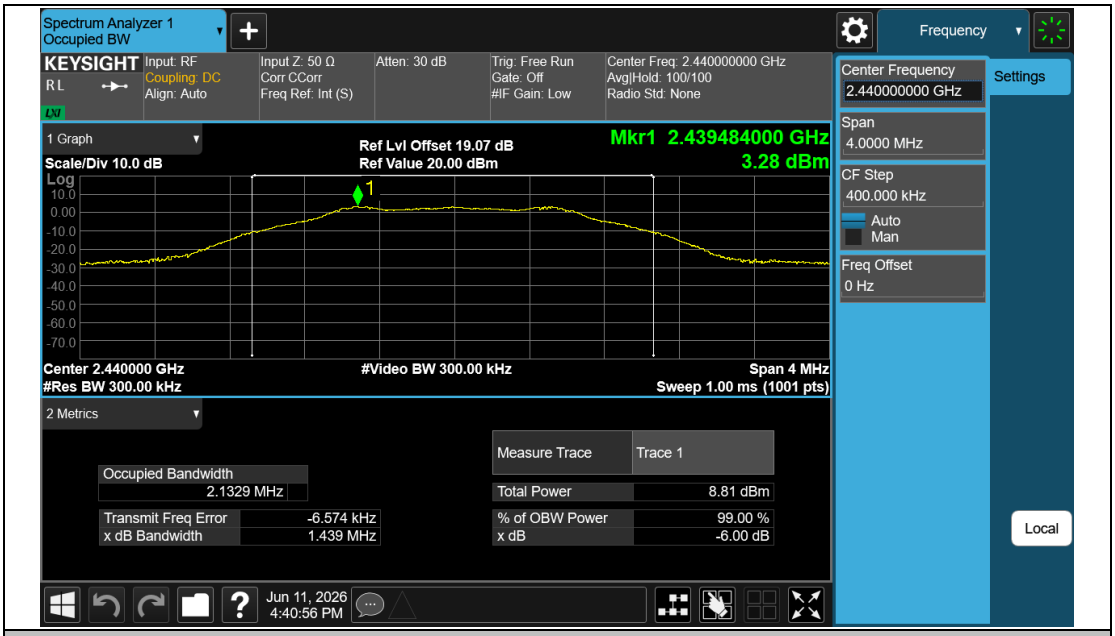
NTNV-BLE_1M-Ant1-2480-PASS



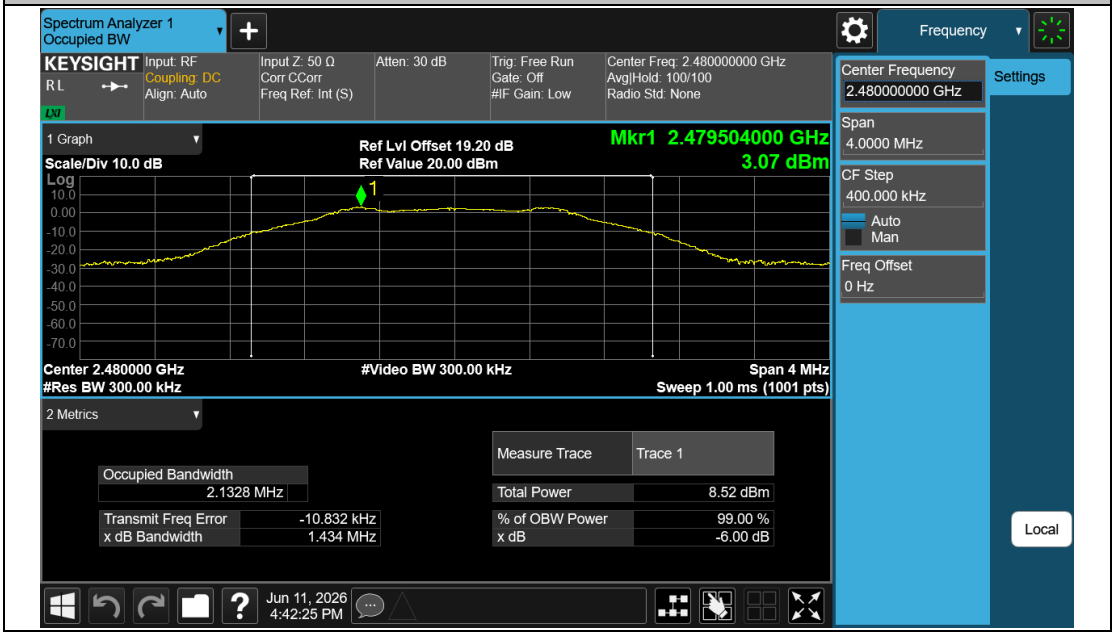
NTNV-BLE_2M-Ant1-2402-PASS



NTNV-BLE_2M-Ant1-2440-PASS



NTNV-BLE_2M-Ant1-2480-PASS



Appendix D: Spurious Emission of TX

Test Result

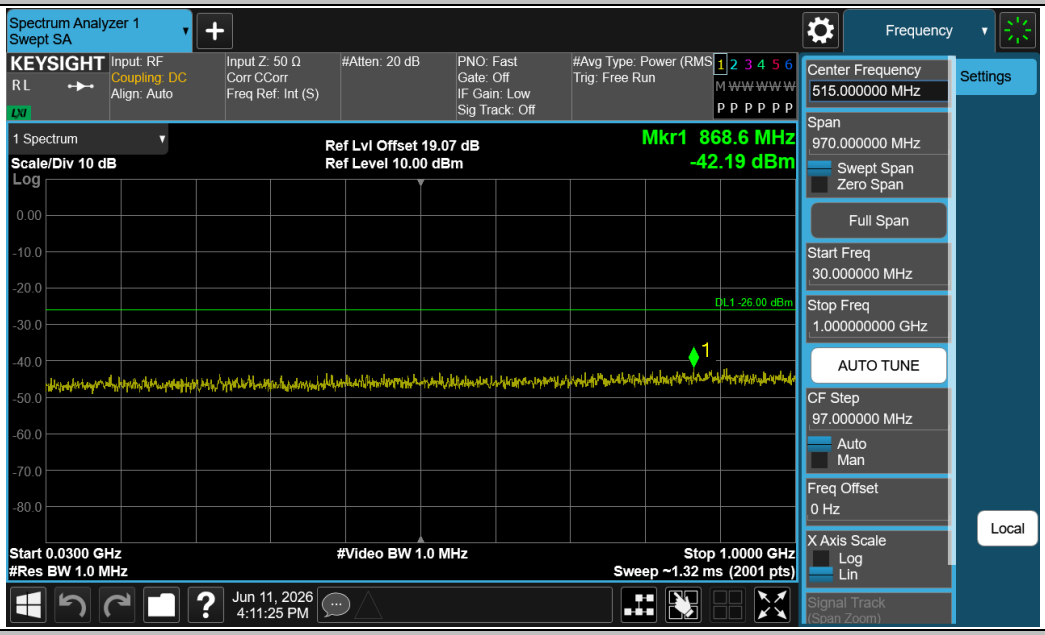
Test Condition	Test Mode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Result [μW/MHz]	Limit [μW/MHz]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	868.57	-42.19	≤-26	0.06039	≤2.5	PASS
NTNV	BLE_1M	Ant1	2402	1000~2387	2366.20	-39.33	≤-26	0.11668	≤2.5	PASS
NTNV	BLE_1M	Ant1	2402	2387~2400	2399.99	-30.40	≤-16	0.91201	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2483.5~2496.5	2485.11	-40.47	≤-16	0.08974	≤25	PASS
NTNV	BLE_1M	Ant1	2402	2496.5~12750	3821.25	-35.36	≤-26	0.29107	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	901.55	-42.15	≤-26	0.06095	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	1000~2387	2315.57	-40.58	≤-26	0.08750	≤2.5	PASS
NTNV	BLE_1M	Ant1	2440	2387~2400	2390.38	-41.09	≤-16	0.07780	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2483.5~2496.5	2487.74	-40.06	≤-16	0.09863	≤25	PASS
NTNV	BLE_1M	Ant1	2440	2496.5~12750	3783.31	-35.72	≤-26	0.26792	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	779.33	-41.64	≤-26	0.06855	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	1000~2387	2348.16	-38.86	≤-26	0.13002	≤2.5	PASS
NTNV	BLE_1M	Ant1	2480	2387~2400	2393.13	-41.01	≤-16	0.07925	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2483.5~2496.5	2484.71	-38.58	≤-16	0.13868	≤25	PASS
NTNV	BLE_1M	Ant1	2480	2496.5~12750	3774.09	-35.39	≤-26	0.28907	≤2.5	PASS
NTNV	BLE_2M	Ant1	2402	30~1000	938.89	-41.95	≤-26	0.06383	≤2.5	PASS
NTNV	BLE_2M	Ant1	2402	1000~2387	2321.12	-39.85	≤-26	0.10351	≤2.5	PASS
NTNV	BLE_2M	Ant1	2402	2387~2400	2400	-18.81	≤-16	13.15225	≤25	See table below
NTNV	BLE_2M	Ant1	2402	2483.5~2496.5	2493.61	-40.78	≤-16	0.08356	≤25	PASS
NTNV	BLE_2M	Ant1	2402	2496.5~12750	3884.82	-36.27	≤-26	0.23605	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	828.31	-41.49	≤-26	0.07096	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	1000~2387	2339.15	-39.94	≤-26	0.10139	≤2.5	PASS
NTNV	BLE_2M	Ant1	2440	2387~2400	2396.92	-40.32	≤-16	0.09290	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2483.5~2496.5	2484.04	-40.28	≤-16	0.09376	≤25	PASS
NTNV	BLE_2M	Ant1	2440	2496.5~12750	3733.07	-35.30	≤-26	0.29512	≤2.5	PASS
NTNV	BLE_2M	Ant1	2480	30~1000	871.96	-41.84	≤-26	0.06546	≤2.5	PASS
NTNV	BLE_2M	Ant1	2480	1000~2387	2307.25	-40.41	≤-26	0.09099	≤2.5	PASS
NTNV	BLE_2M	Ant1	2480	2387~2400	2397.41	-40.34	≤-16	0.09247	≤25	PASS
NTNV	BLE_2M	Ant1	2480	2483.5~2496.5	2483.88	-40.04	≤-16	0.09908	≤25	PASS
NTNV	BLE_2M	Ant1	2480	2496.5~12750	3924.81	-35.35	≤-26	0.29174	≤2.5	PASS

Test Result_Step2

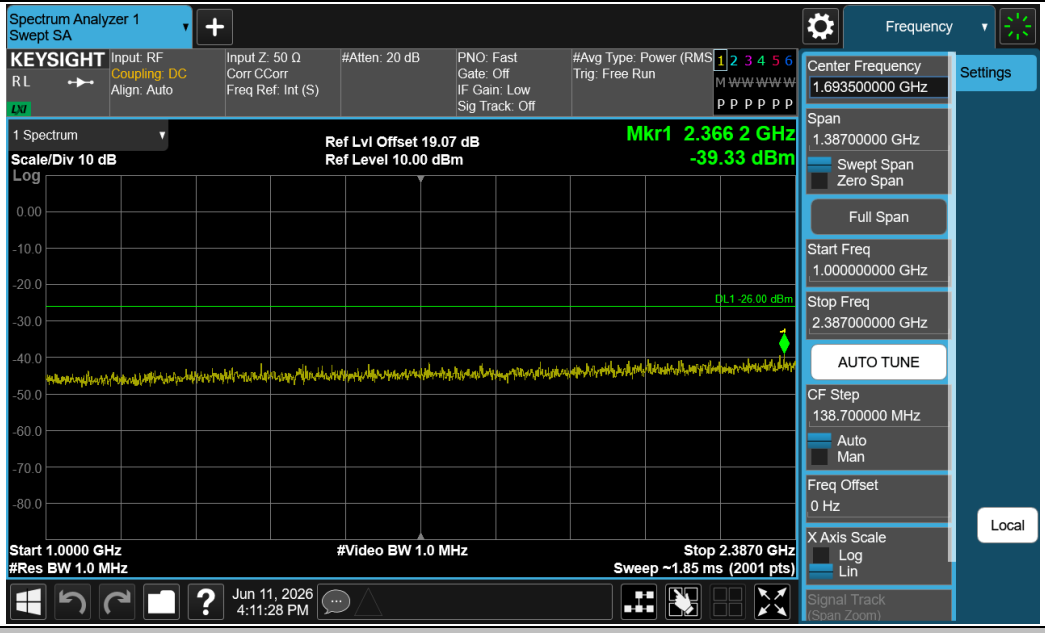
Test Condition	Test Mode	Antenna	Freq (MHz)	Freq. [MHz]	Result [dBm/MHz]	Limit [dBm/MHz]	Result [μW/MHz]	Limit [μW/MHz]	Verdict
NTNV	BLE_2M	Ant1	2402	2400.00	-23.23	≤-16	4.75335	≤25	PASS

Test Graphs

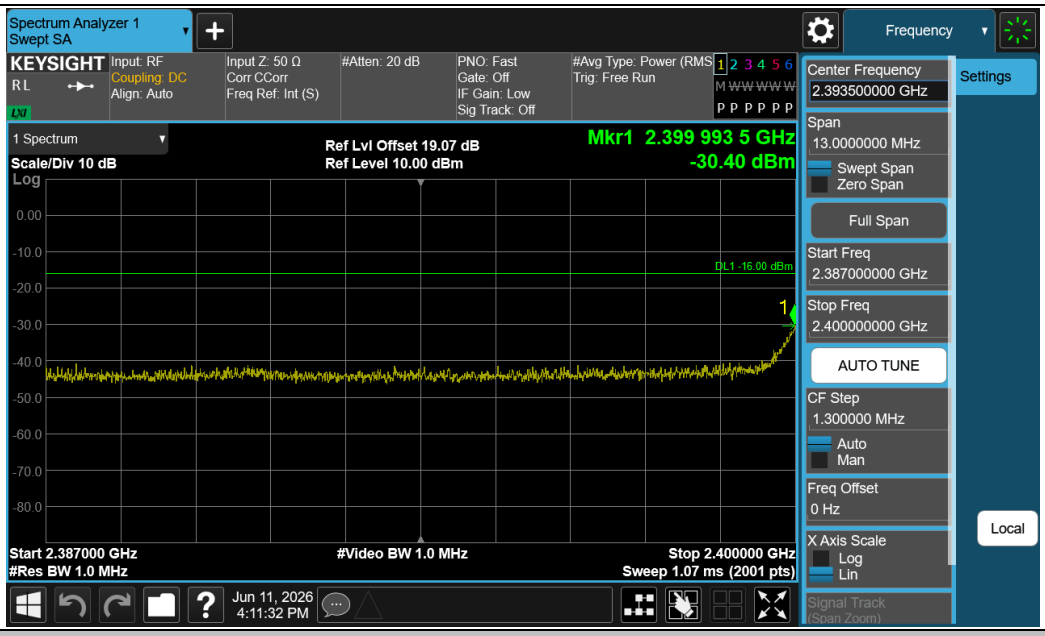
NTNV-BLE_1M-Ant1-2402-30~1000-PASS



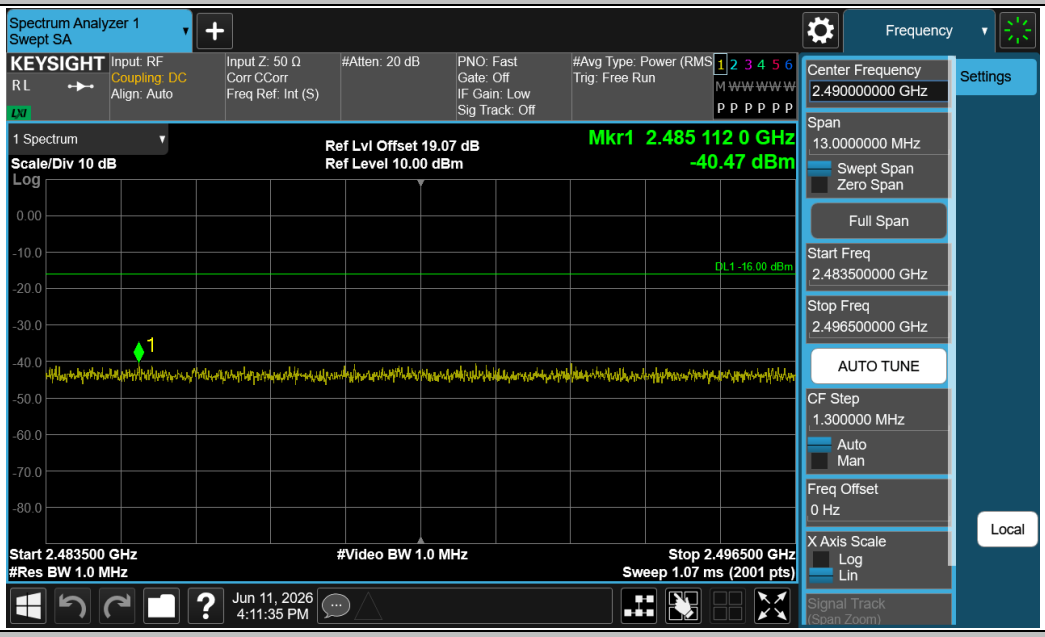
NTNV-BLE_1M-Ant1-2402-1000~2387-PASS



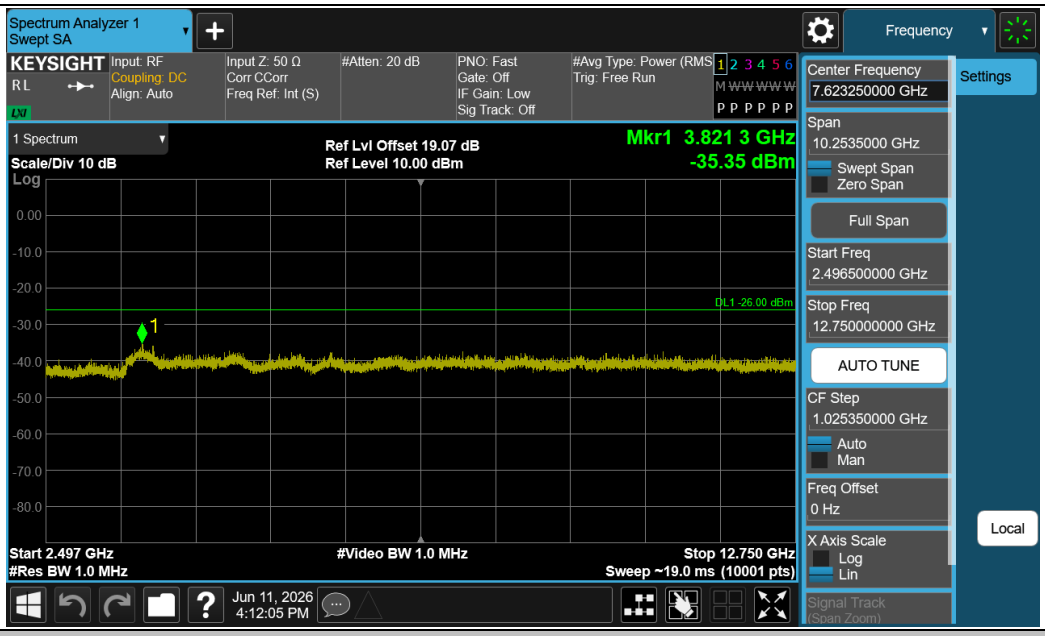
NTNV-BLE_1M-Ant1-2402-2387~2400-PASS



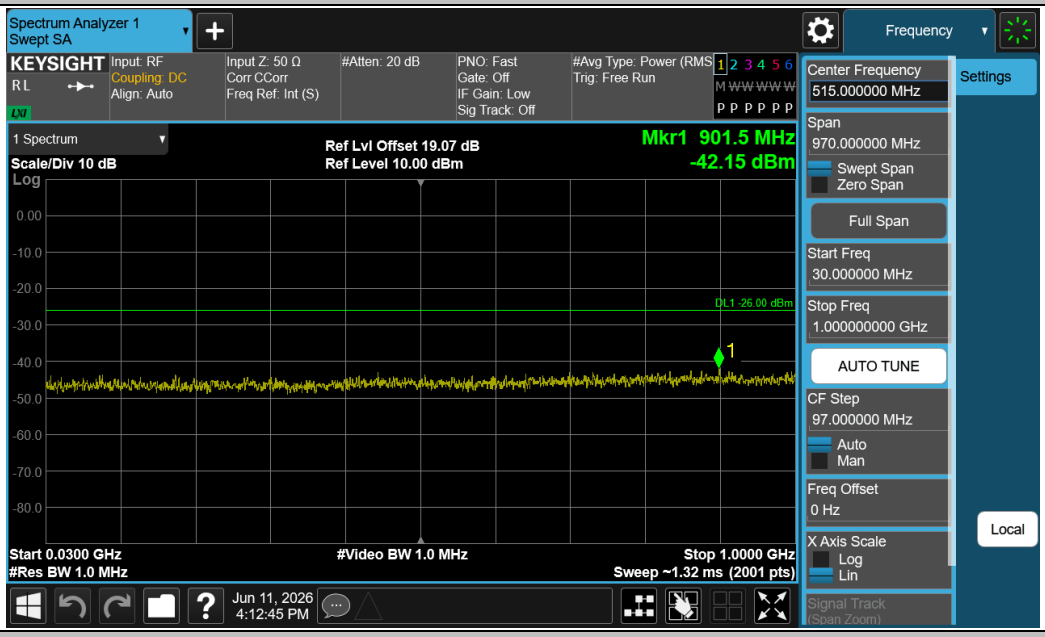
NTNV-BLE_1M-Ant1-2402-2483.5~2496.5-PASS



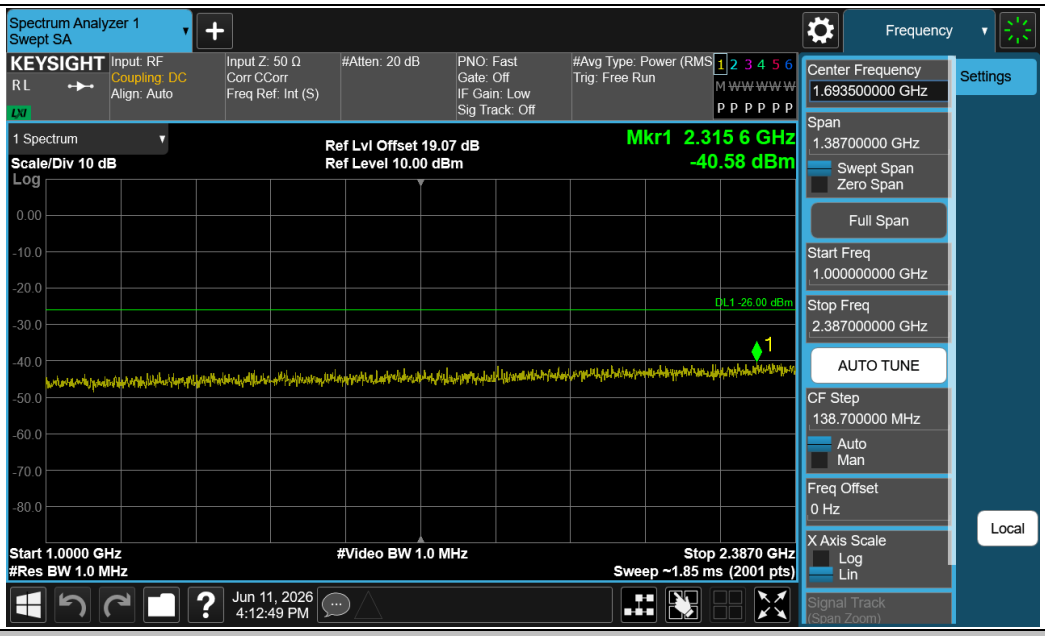
NTNV-BLE_1M-Ant1-2402-2496.5~12750-PASS



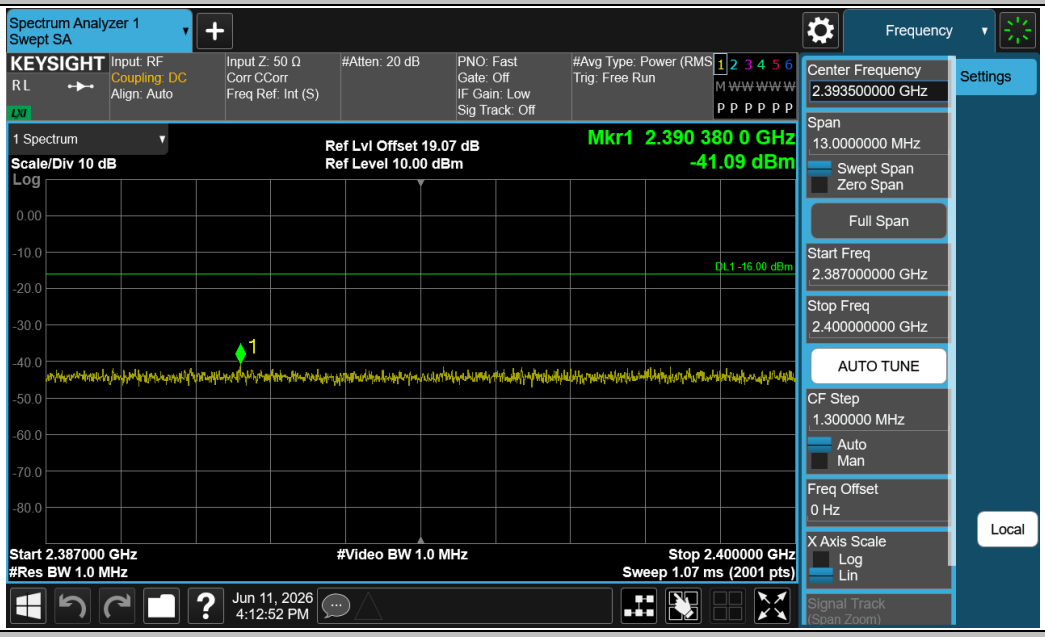
NTNV-BLE_1M-Ant1-2440-30~1000-PASS



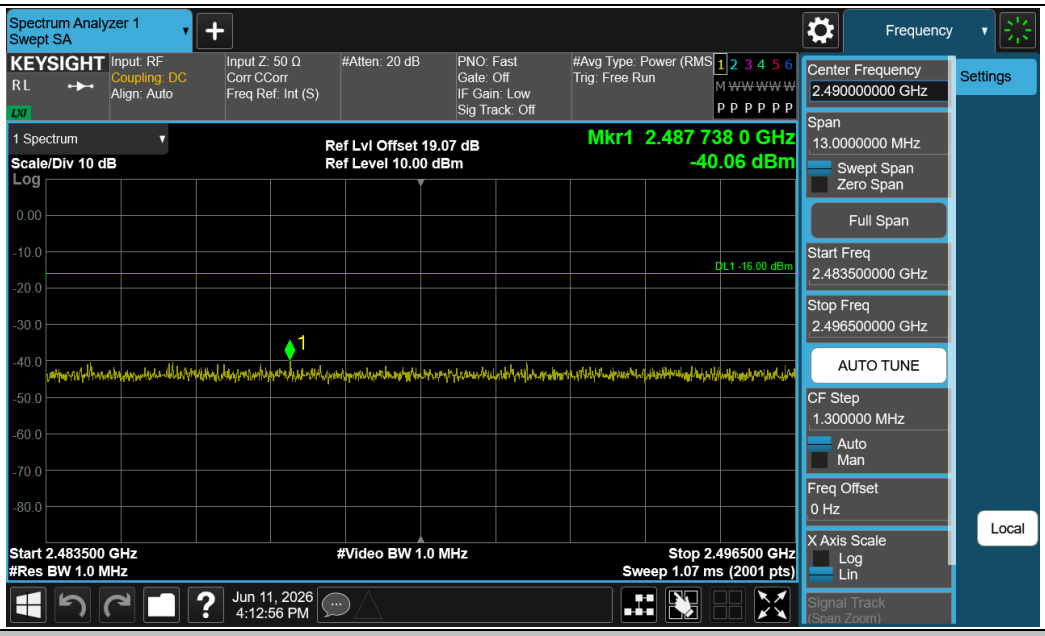
NTNV-BLE_1M-Ant1-2440-1000~2387-PASS



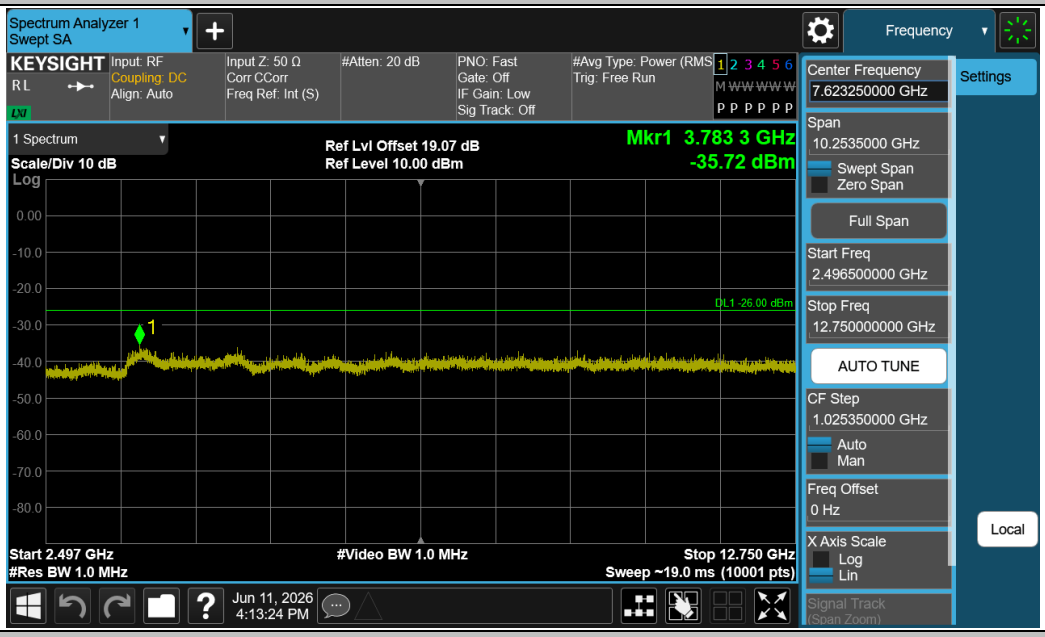
NTNV-BLE_1M-Ant1-2440-2387~2400-PASS



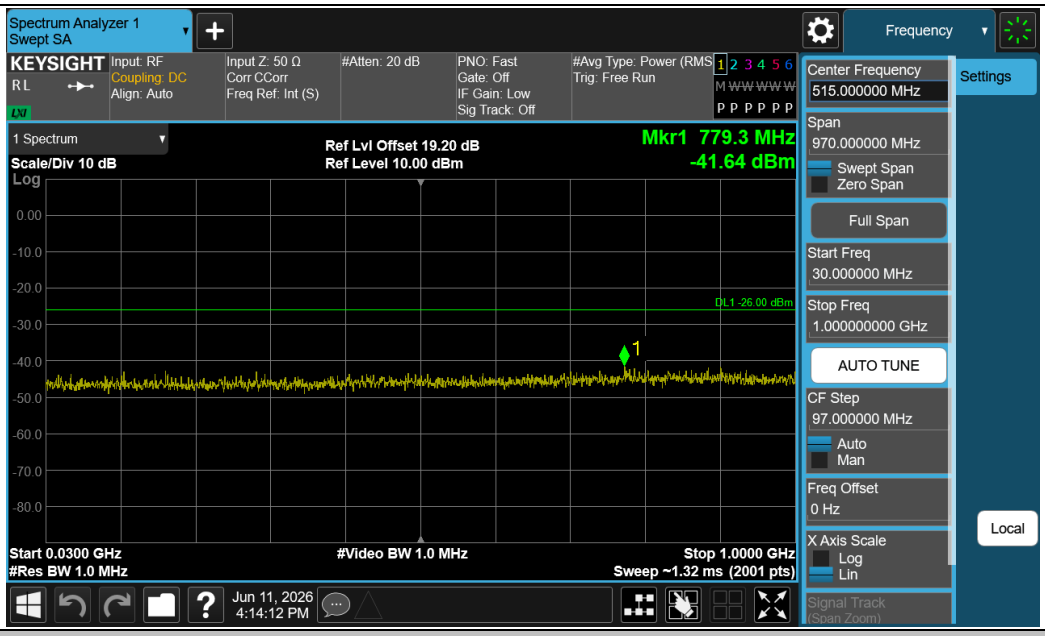
NTNV-BLE_1M-Ant1-2440-2483.5~2496.5-PASS



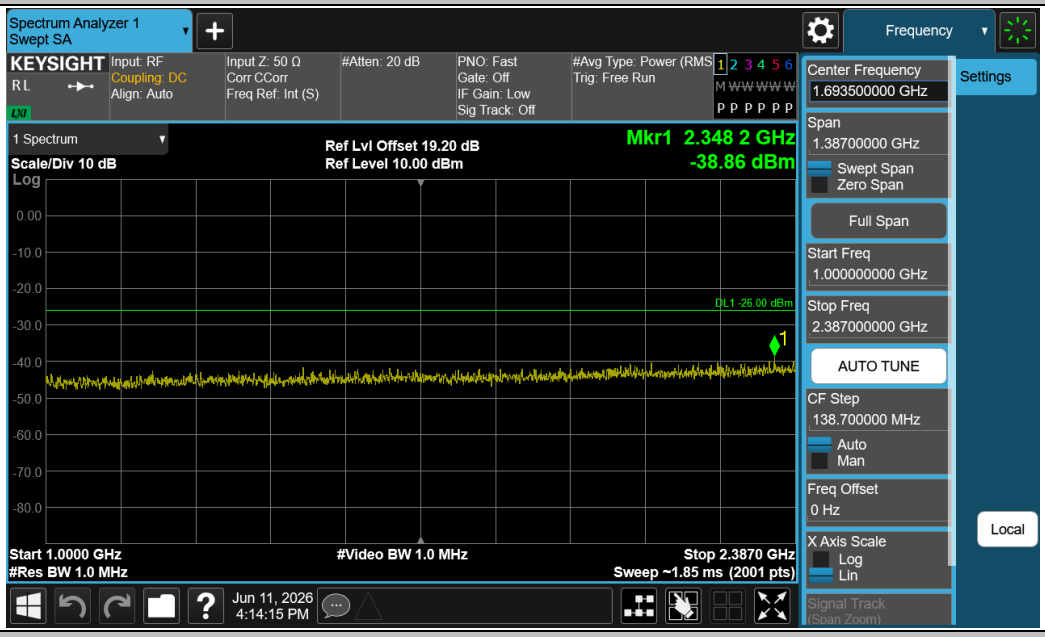
NTNV-BLE_1M-Ant1-2440-2496.5~12750-PASS



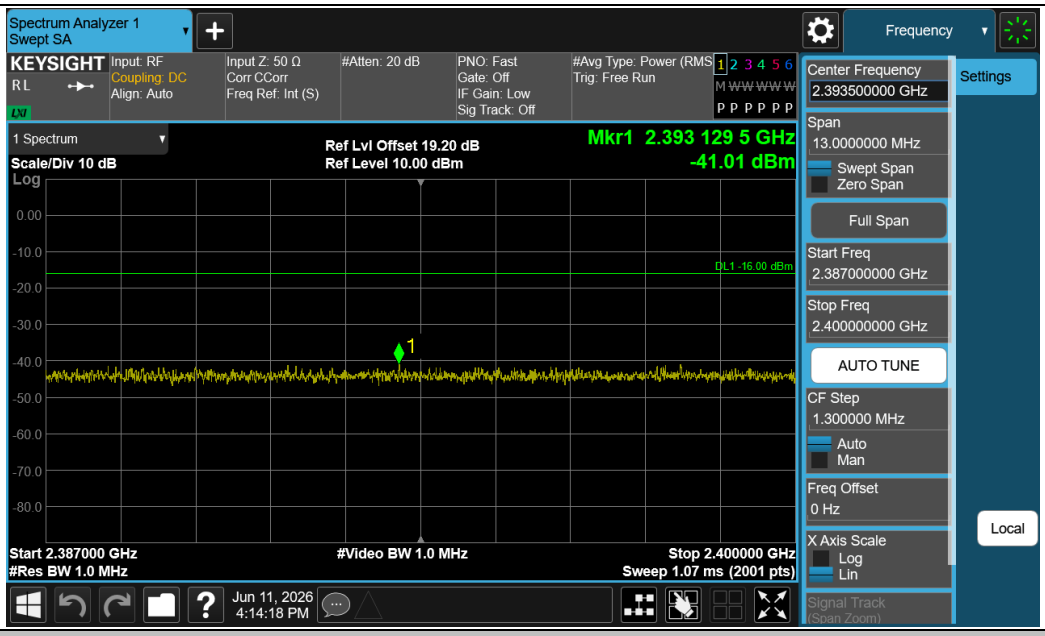
NTNV-BLE_1M-Ant1-2480-30~1000-PASS



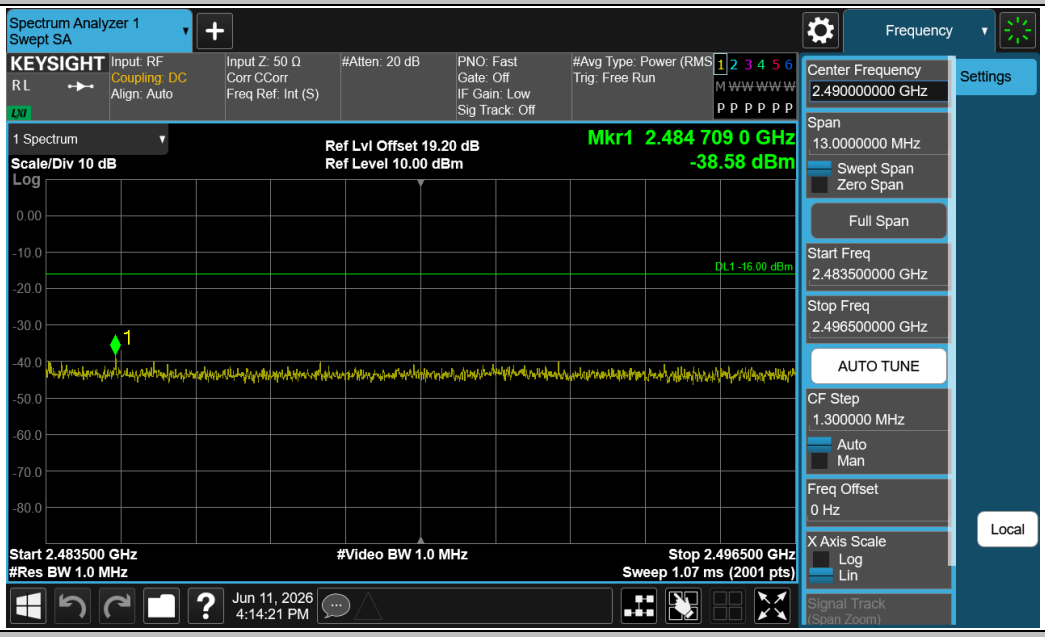
NTNV-BLE_1M-Ant1-2480-1000~2387-PASS



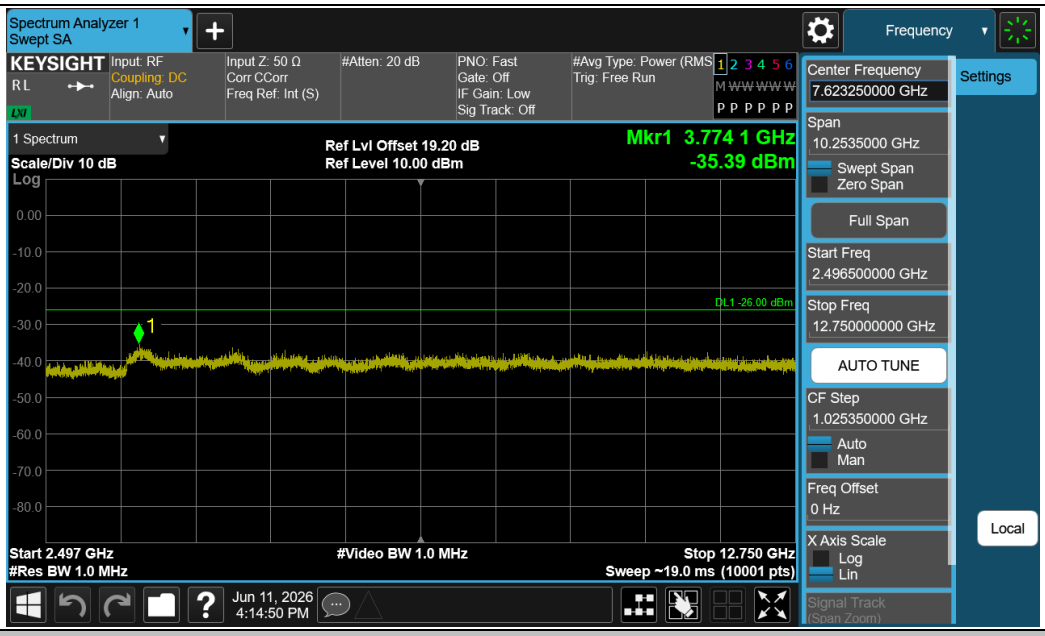
NTNV-BLE_1M-Ant1-2480-2387~2400-PASS



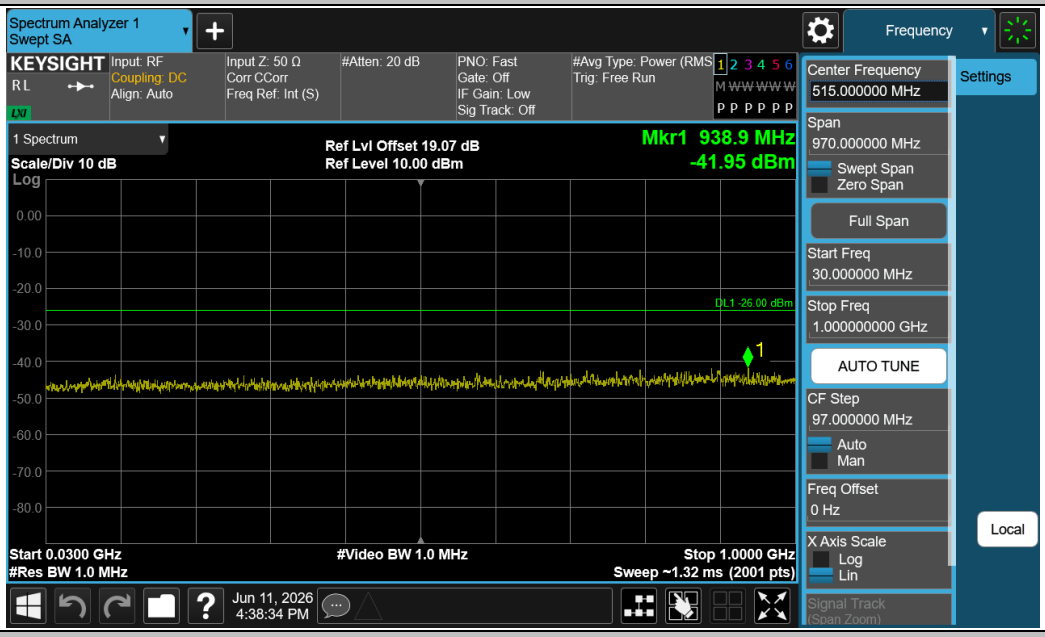
NTNV-BLE_1M-Ant1-2480-2483.5~2496.5-PASS



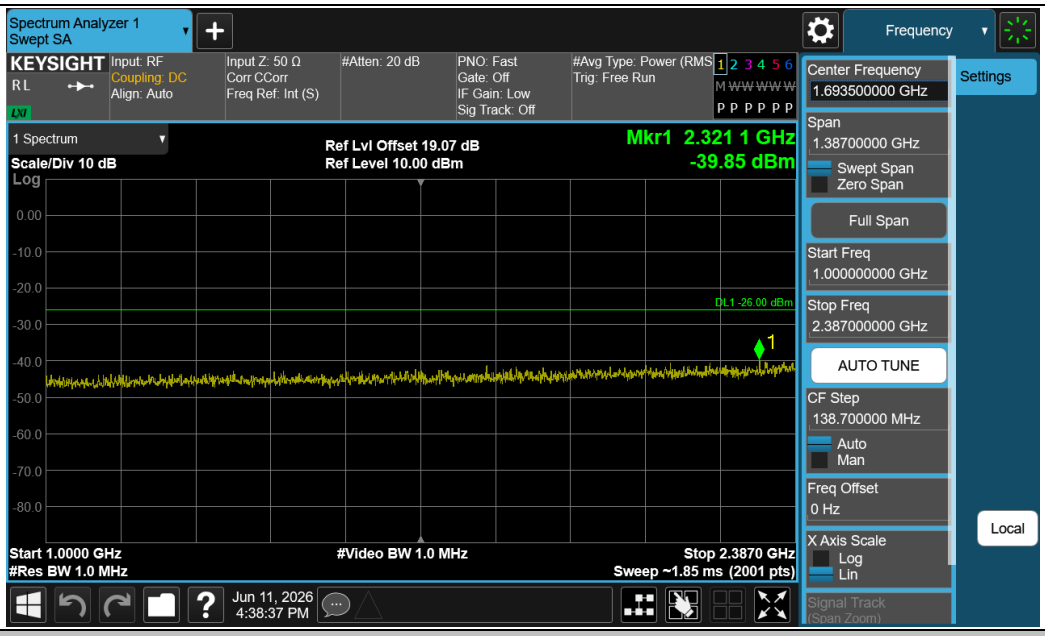
NTNV-BLE_1M-Ant1-2480-2496.5~12750-PASS



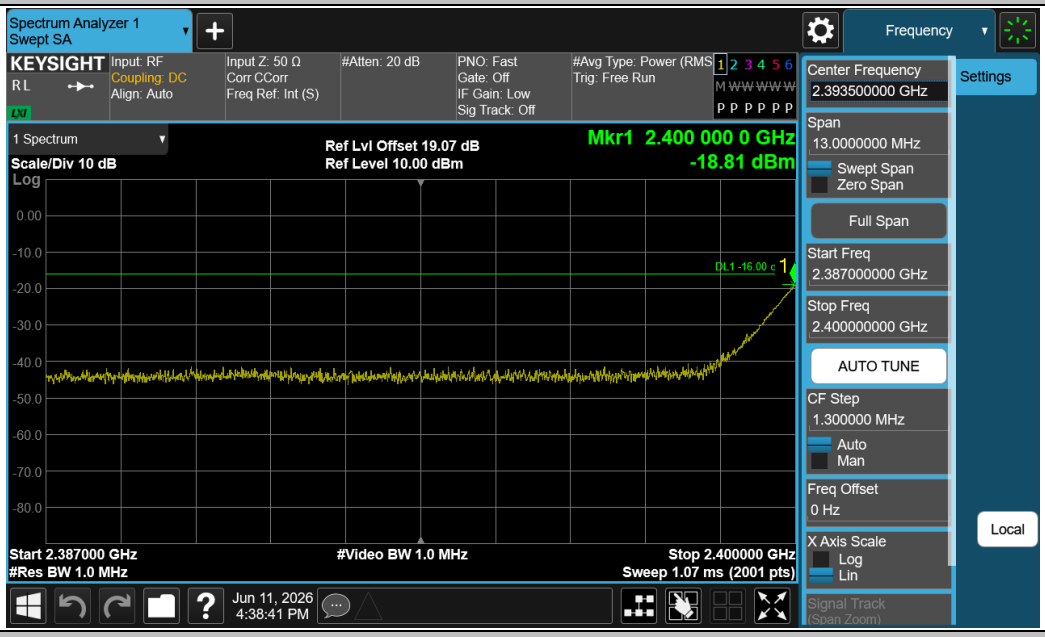
NTNV-BLE_2M-Ant1-2402-30~1000-PASS



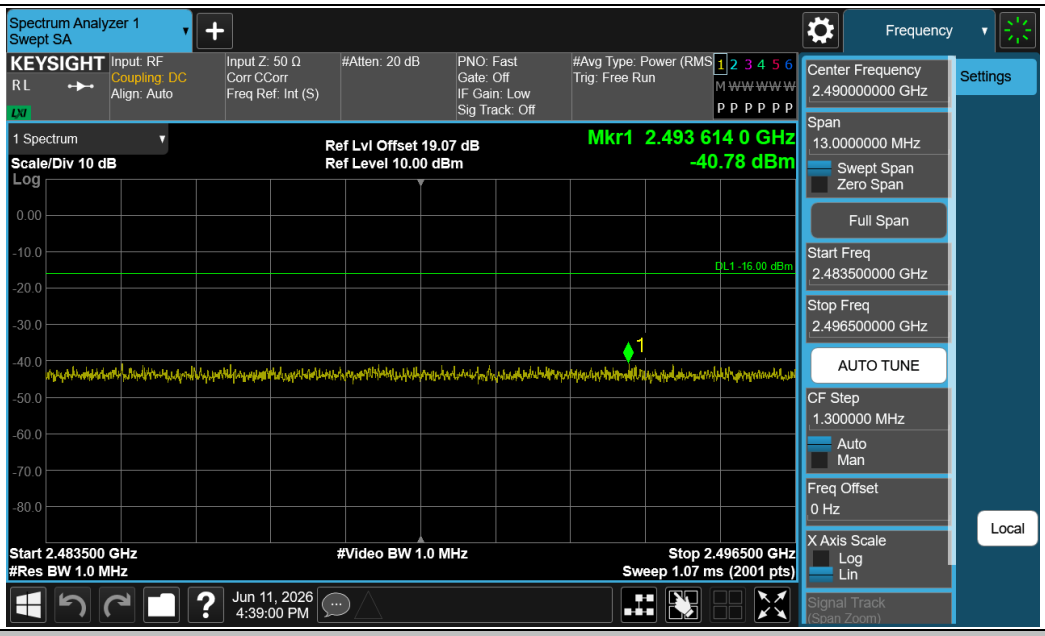
NTNV-BLE_2M-Ant1-2402-1000~2387-PASS



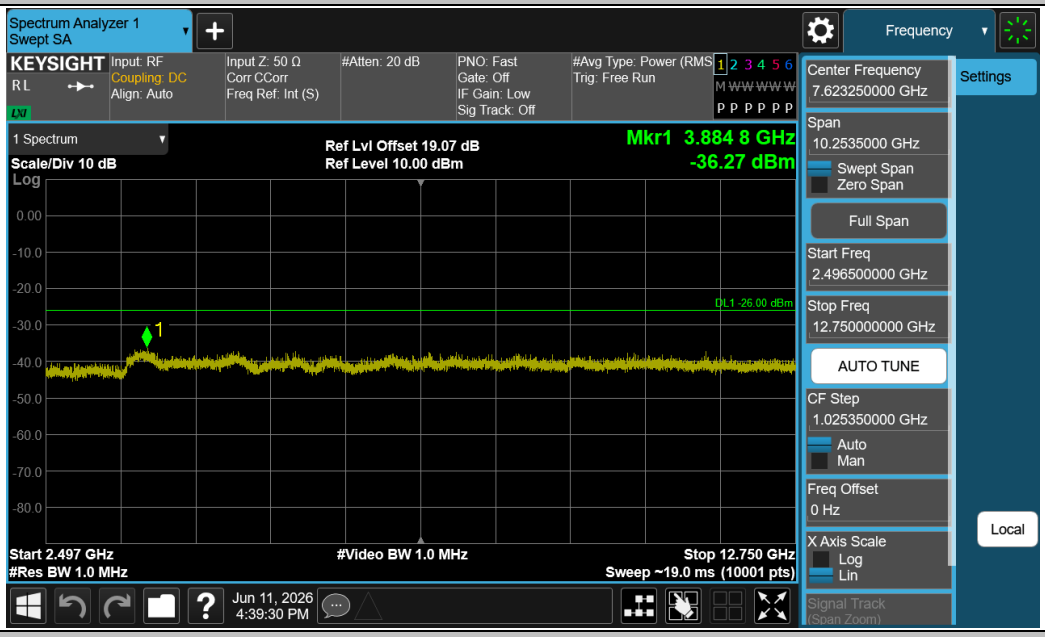
NTNV-BLE_2M-Ant1-2402-2387~2400-See table below



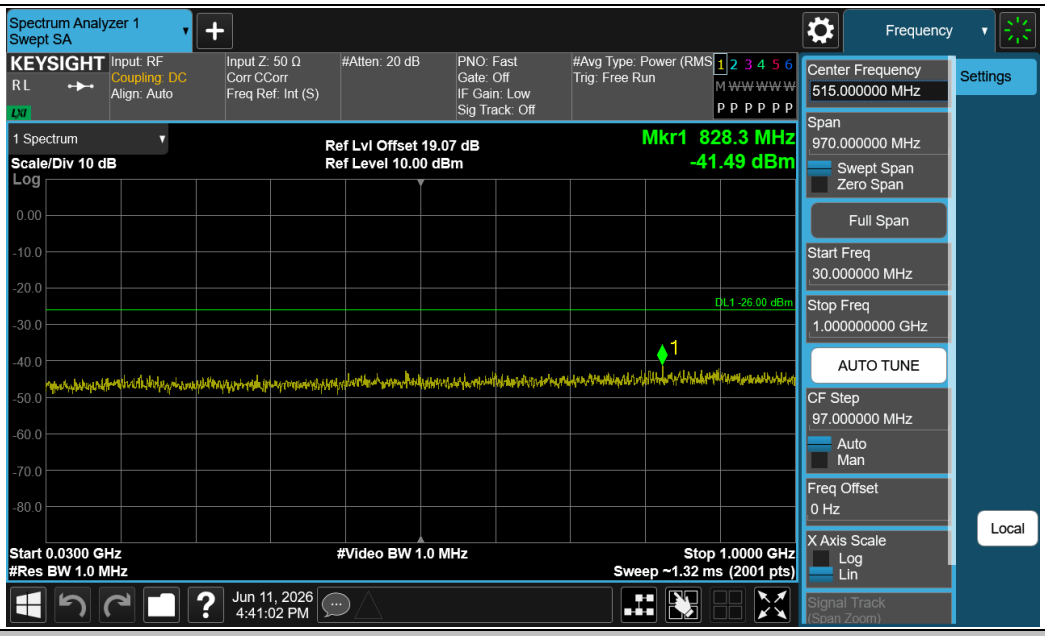
NTNV-BLE_2M-Ant1-2402-2483.5~2496.5-PASS



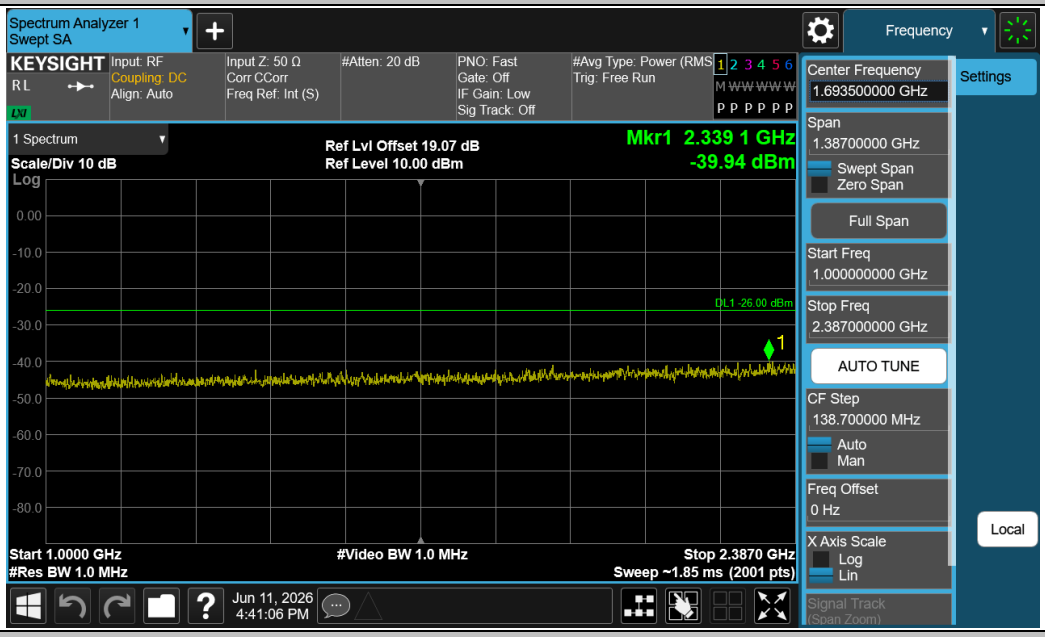
NTNV-BLE_2M-Ant1-2402-2496.5~12750-PASS



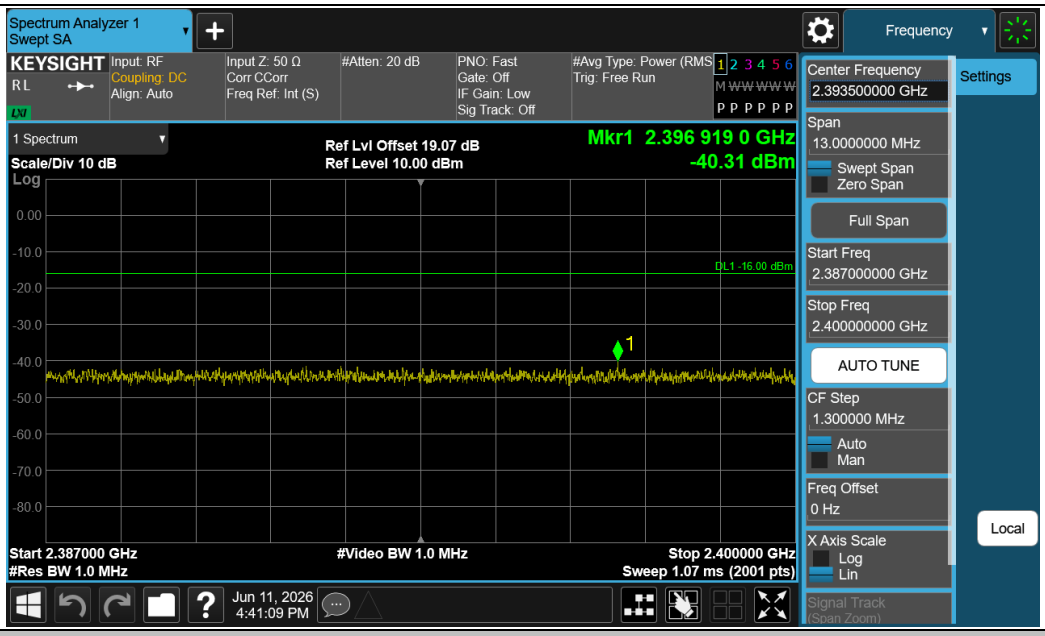
NTNV-BLE_2M-Ant1-2440-30~1000-PASS



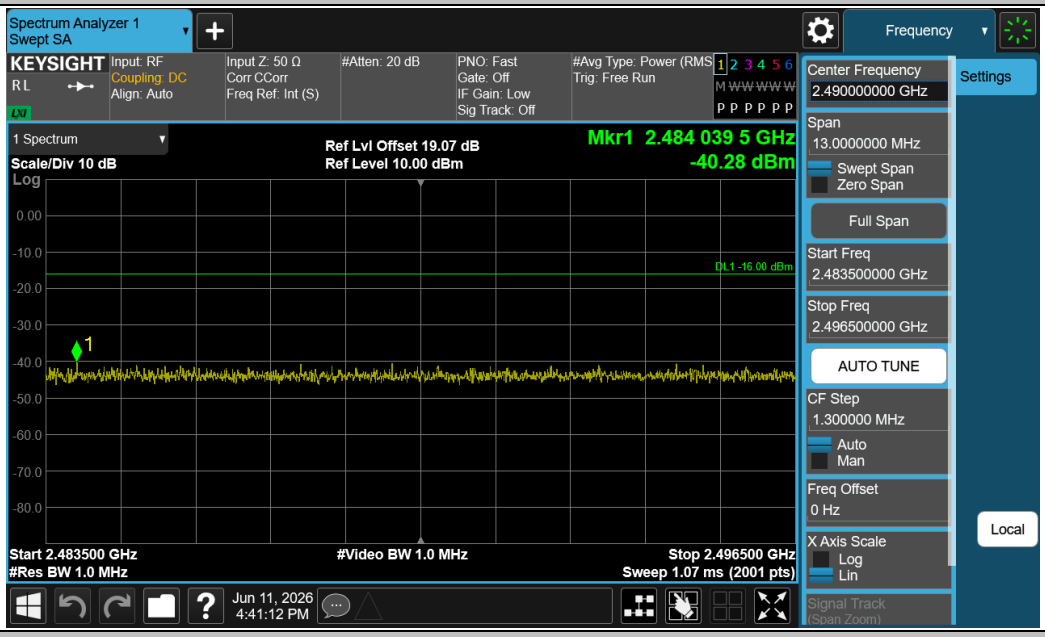
NTNV-BLE_2M-Ant1-2440-1000~2387-PASS



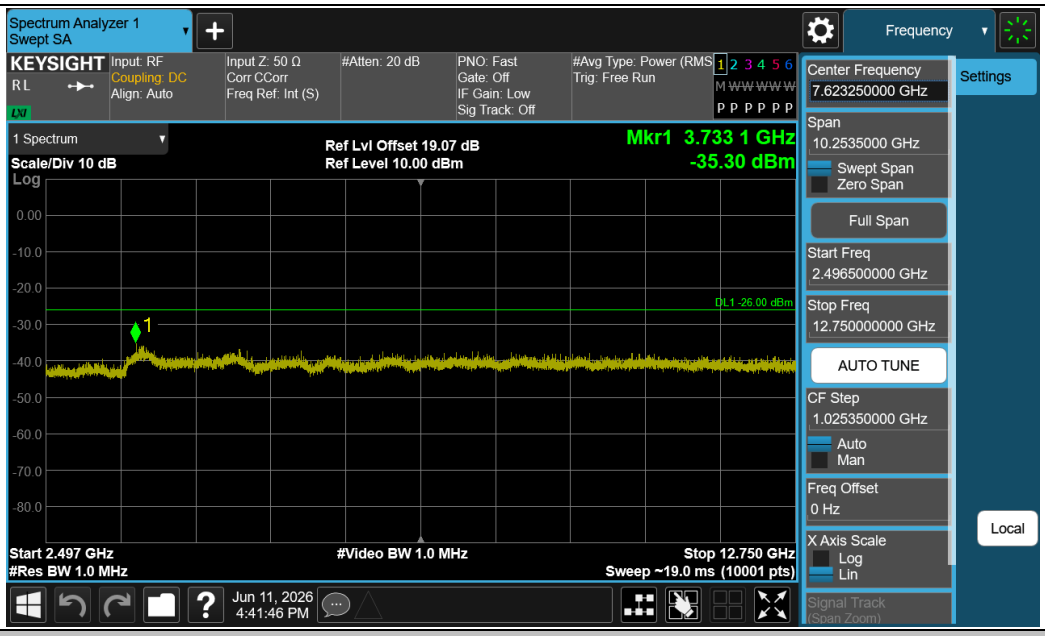
NTNV-BLE_2M-Ant1-2440-2387~2400-PASS



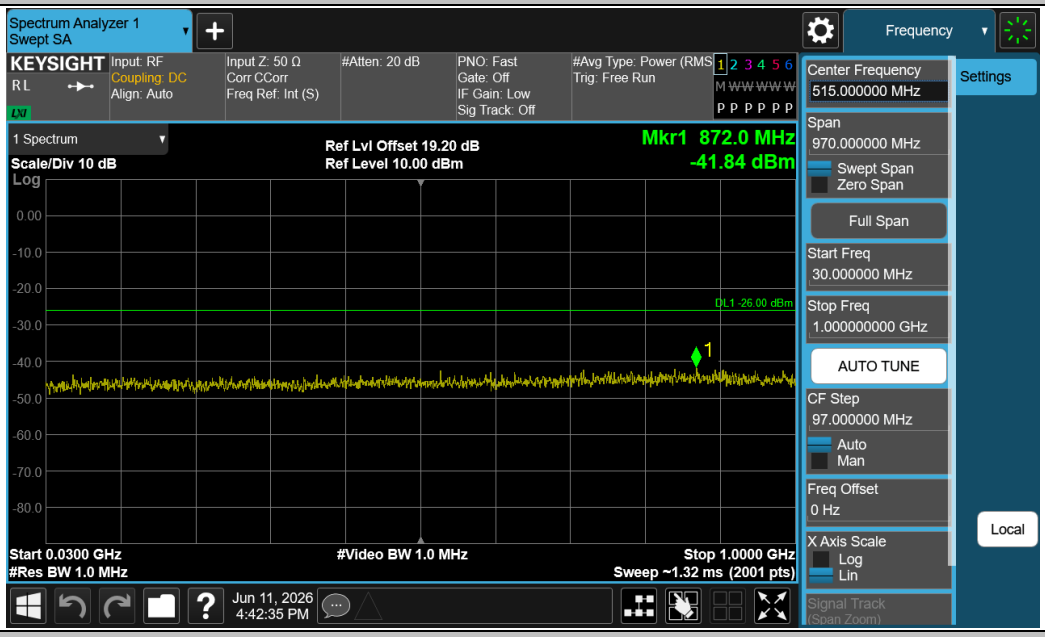
NTNV-BLE_2M-Ant1-2440-2483.5~2496.5-PASS



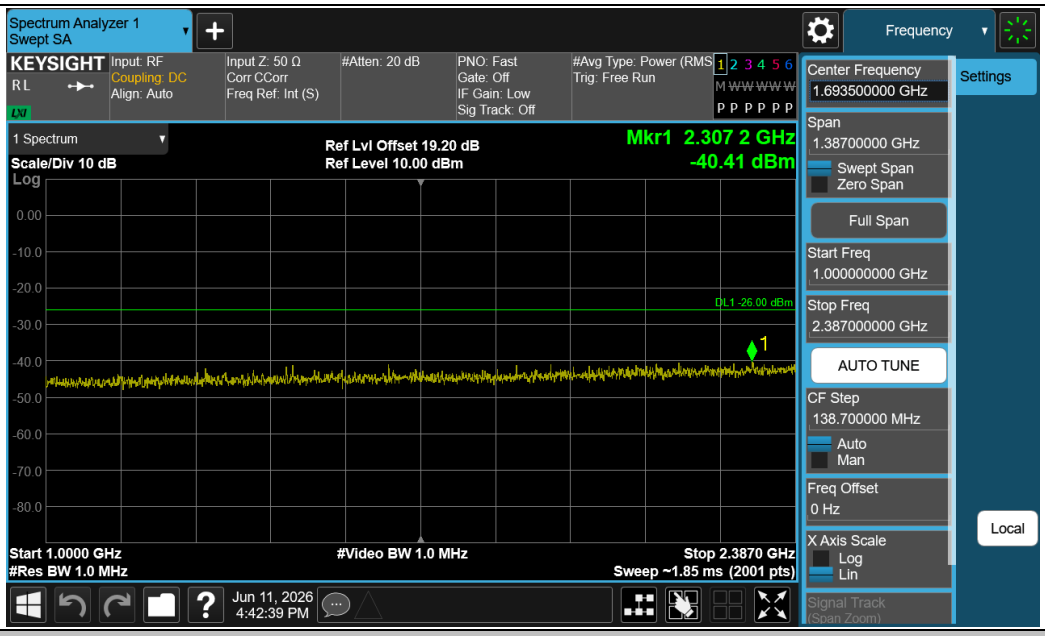
NTNV-BLE_2M-Ant1-2440-2496.5~12750-PASS



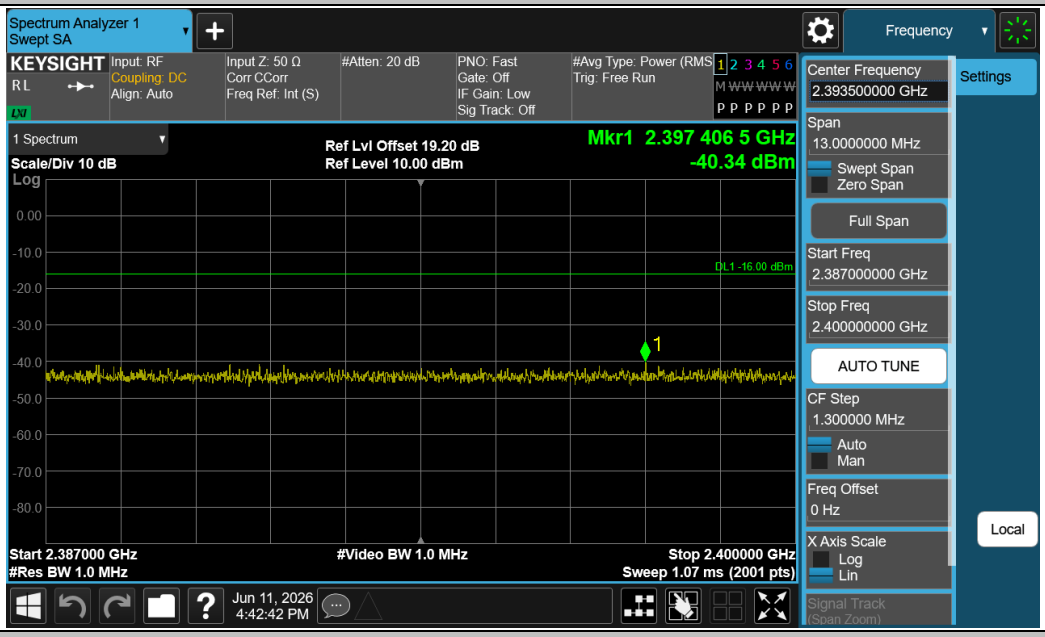
NTNV-BLE_2M-Ant1-2480-30~1000-PASS



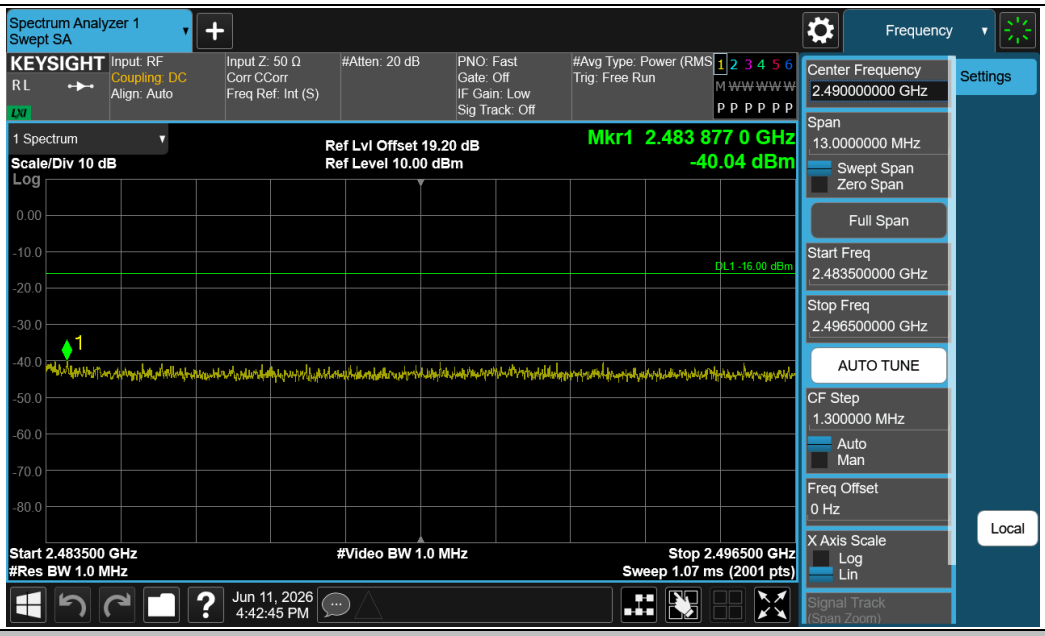
NTNV-BLE_2M-Ant1-2480-1000~2387-PASS



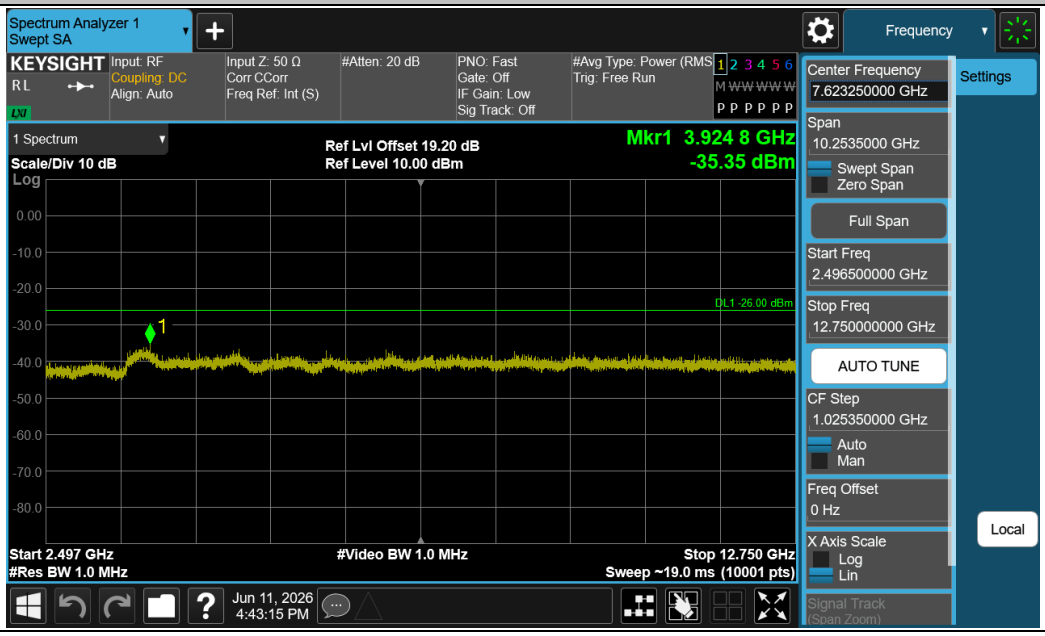
NTNV-BLE_2M-Ant1-2480-2387~2400-PASS



NTNV-BLE_2M-Ant1-2480-2483.5~2496.5-PASS

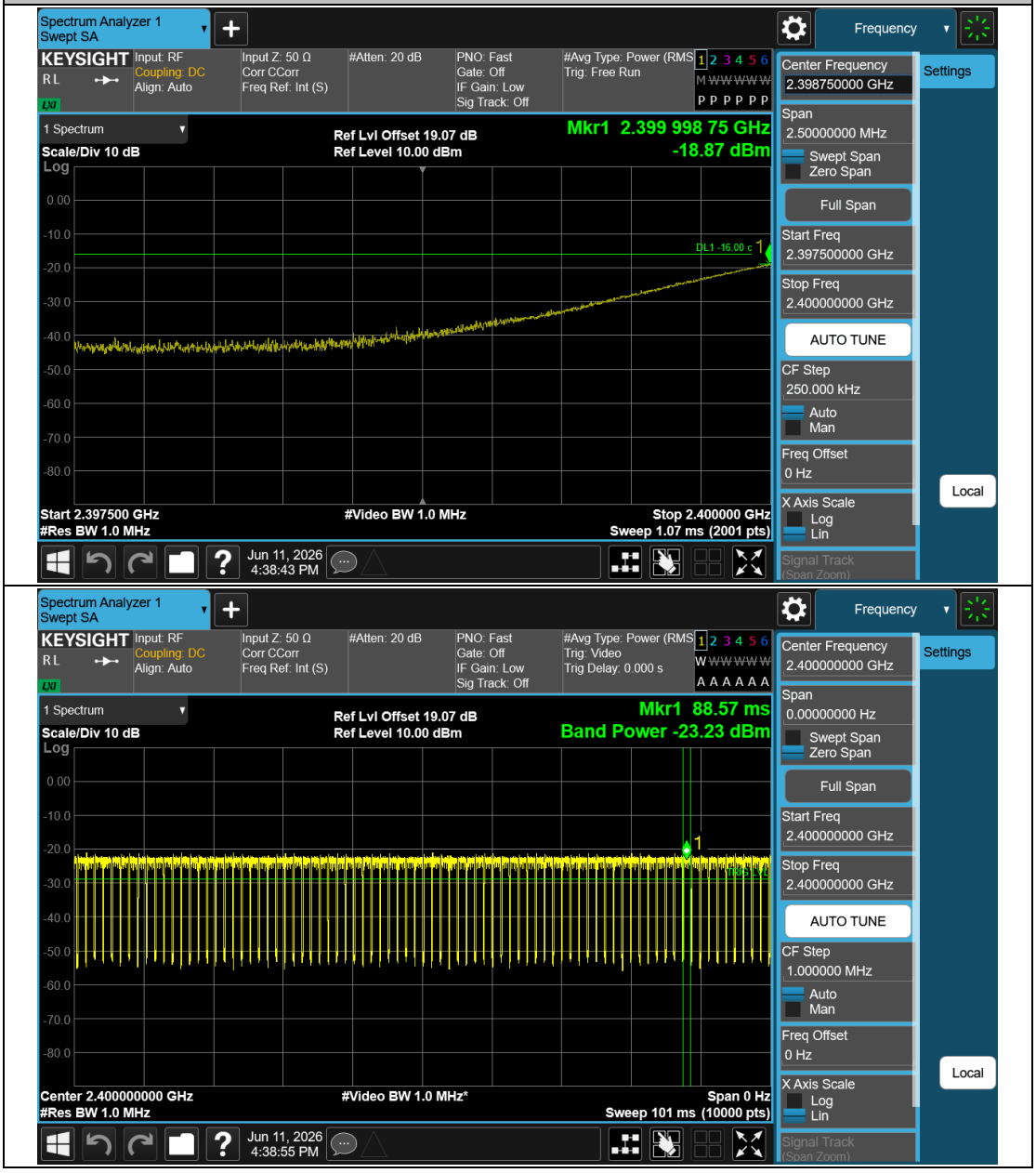


NTNV-BLE_2M-Ant1-2480-2496.5~12750-PASS



Test Graphs_Step2

NTNV-BLE_2M-Ant1-2402-2387~2400-PASS



Appendix E: Spurious Emission of RX

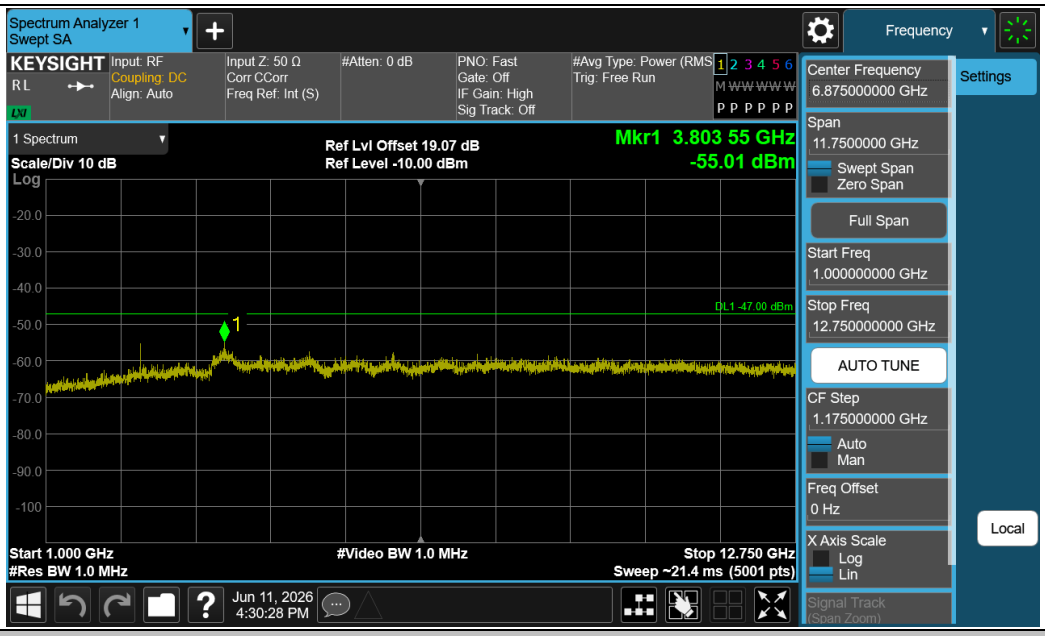
Test Result

Test Condition	Test Mode	Antenna	Freq (MHz)	Freq.Range [MHz]	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [nW]	Limit [nW]	Verdict
NTNV	BLE_1M	Ant1	2402	30~1000	307.42	-66.79	≤-54	0.20941	≤4	PASS
NTNV	BLE_1M	Ant1	2402	1000~12750	3803.55	-55.01	≤-47	3.15500	≤20	PASS
NTNV	BLE_1M	Ant1	2440	30~1000	282.20	-67.09	≤-54	0.19543	≤4	PASS
NTNV	BLE_1M	Ant1	2440	1000~12750	1723.8	-54.60	≤-47	3.46737	≤20	PASS
NTNV	BLE_1M	Ant1	2480	30~1000	282.20	-66.67	≤-54	0.21528	≤4	PASS
NTNV	BLE_1M	Ant1	2480	1000~12750	3808.25	-56.76	≤-47	2.10863	≤20	PASS
NTNV	BLE_2M	Ant1	2402	30~1000	307.42	-66.48	≤-54	0.22491	≤4	PASS
NTNV	BLE_2M	Ant1	2402	1000~12750	3843.5	-56.01	≤-47	2.50611	≤20	PASS
NTNV	BLE_2M	Ant1	2440	30~1000	307.42	-66.94	≤-54	0.20230	≤4	PASS
NTNV	BLE_2M	Ant1	2440	1000~12750	1940	-55.66	≤-47	2.71644	≤20	PASS
NTNV	BLE_2M	Ant1	2480	30~1000	282.20	-66.20	≤-54	0.23988	≤4	PASS
NTNV	BLE_2M	Ant1	2480	1000~12750	3744.8	-54.98	≤-47	3.17687	≤20	PASS

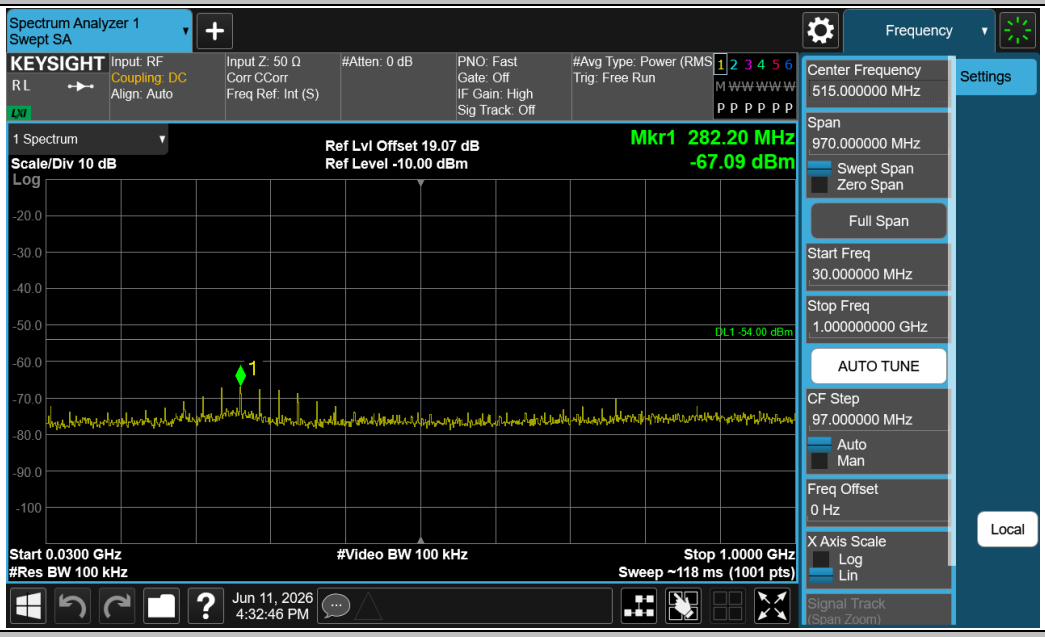
Test Graphs

NTNV-BLE_1M-Ant1-2402-30~1000-PASS

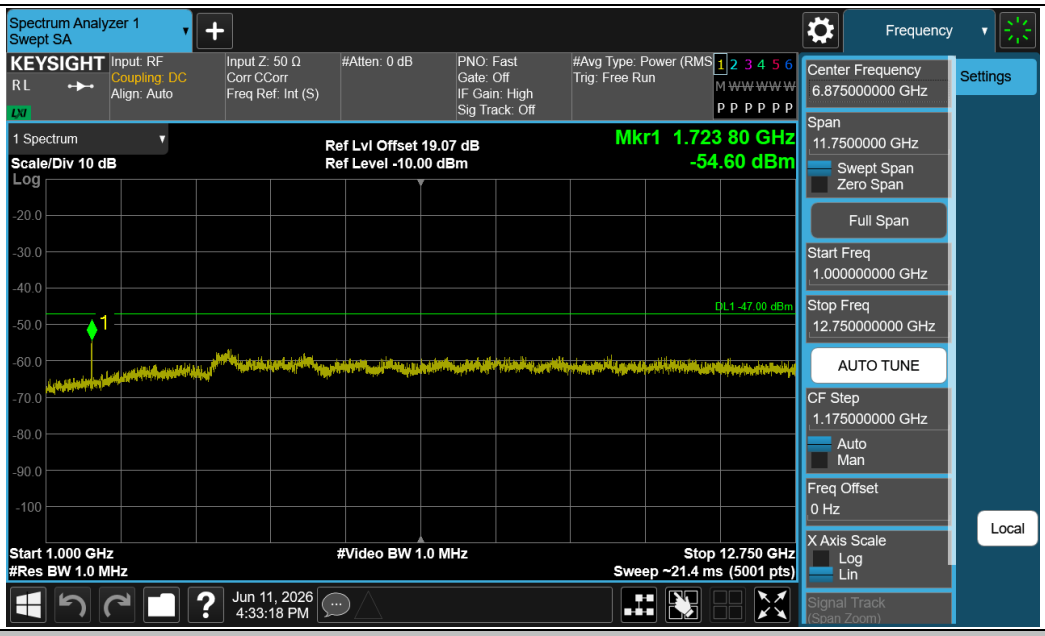
NTNV-BLE_1M-Ant1-2402-1000~12750-PASS



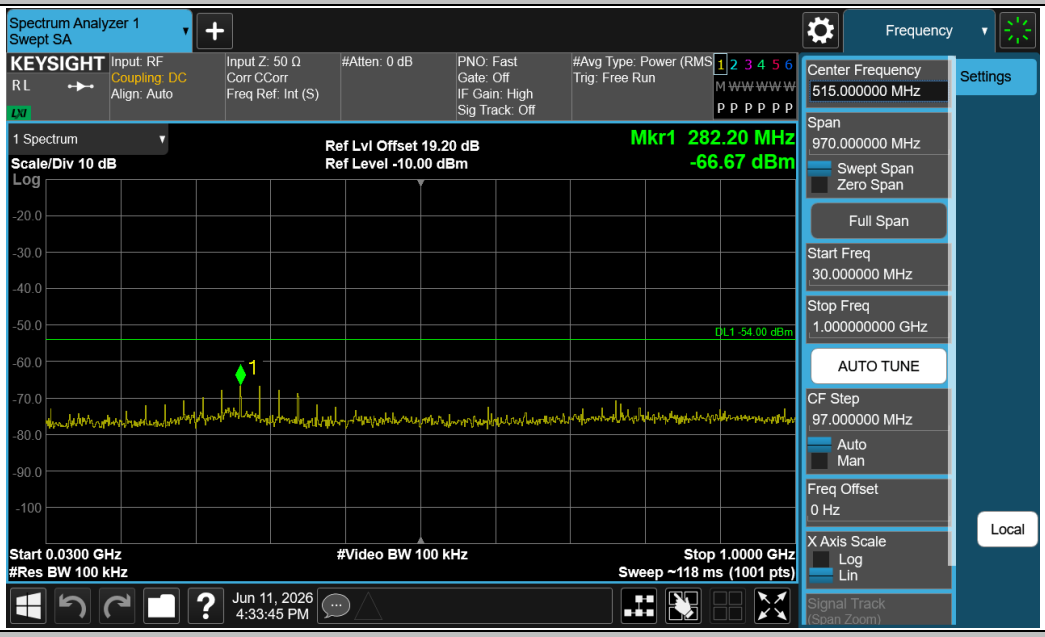
NTNV-BLE_1M-Ant1-2440-30~1000-PASS



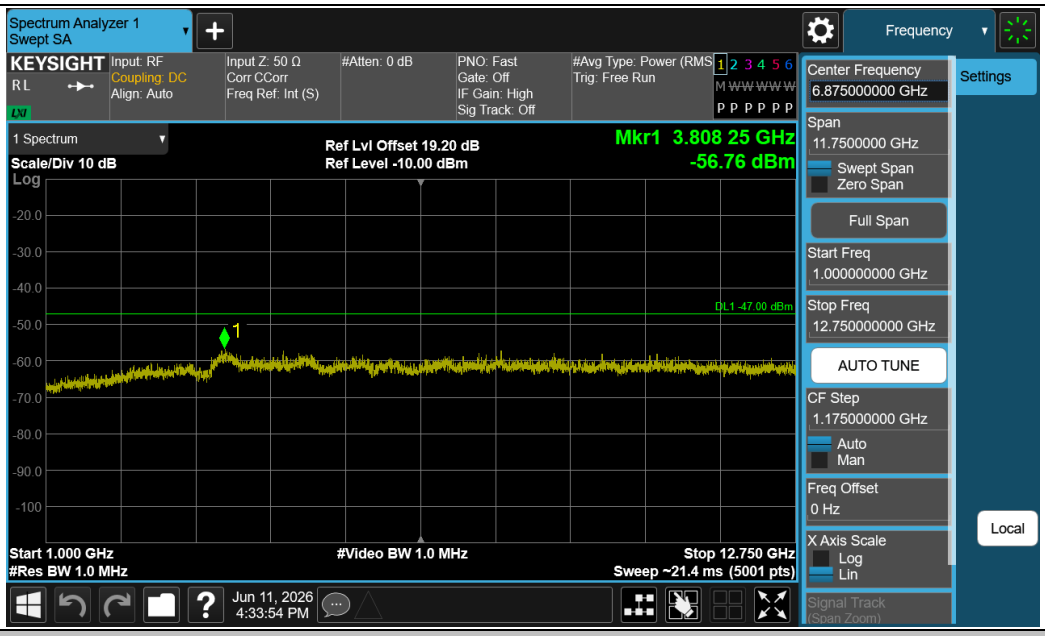
NTNV-BLE_1M-Ant1-2440-1000~12750-PASS



NTNV-BLE_1M-Ant1-2480-30~1000-PASS

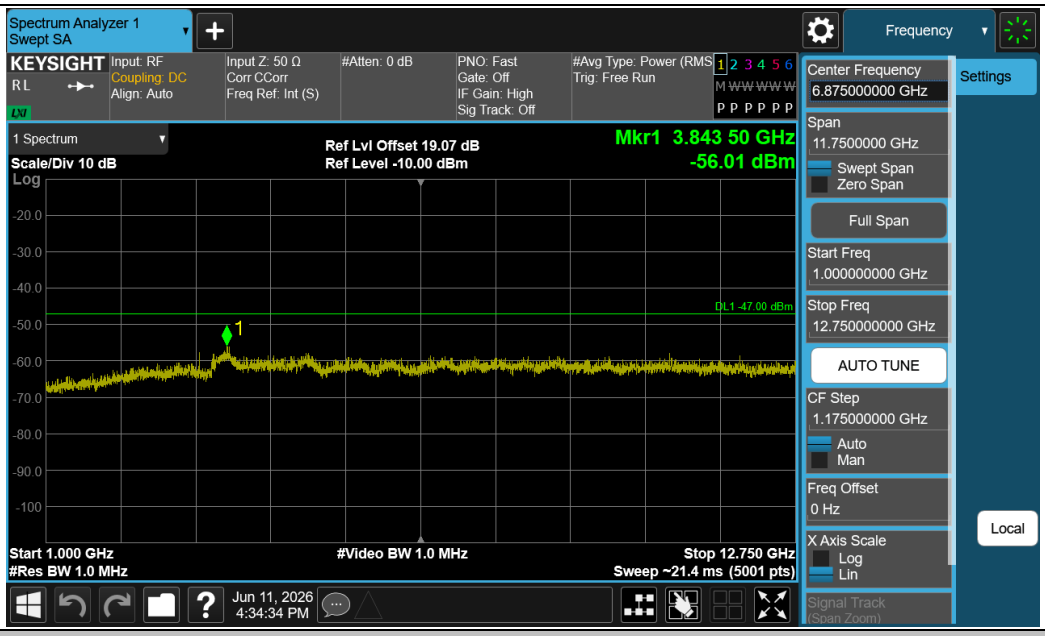


NTNV-BLE_1M-Ant1-2480-1000~12750-PASS

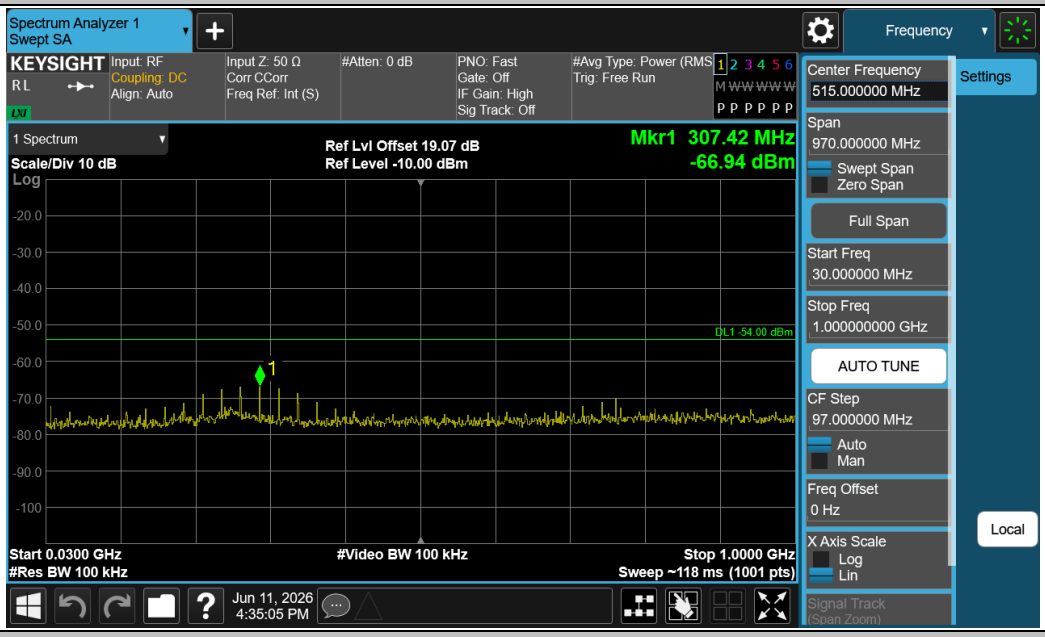


NTNV-BLE_2M-Ant1-2402-30~1000-PASS

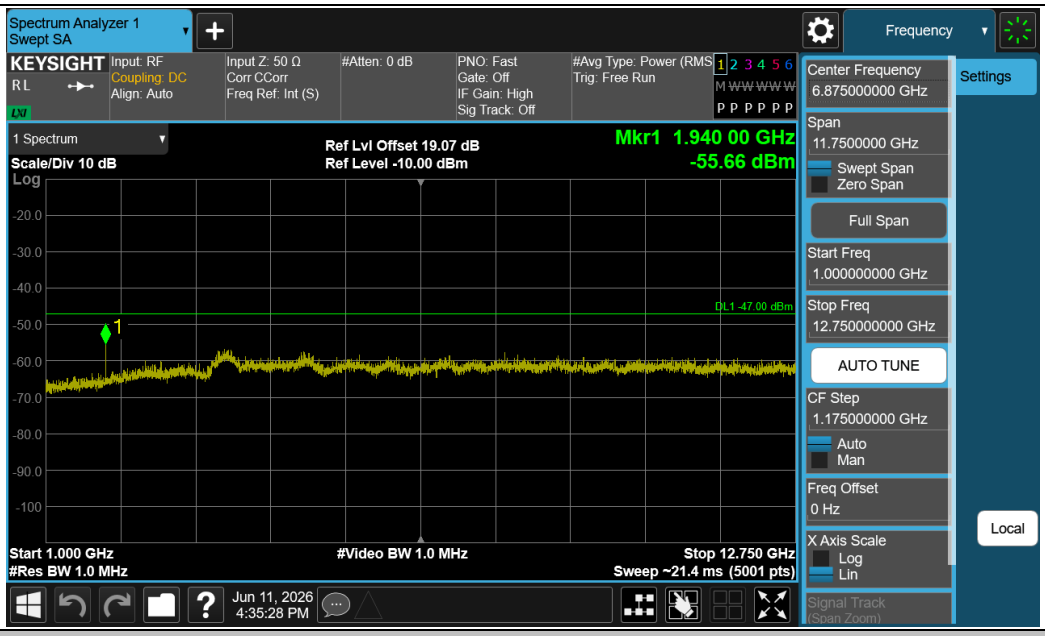
NTNV-BLE_2M-Ant1-2402-1000~12750-PASS



NTNV-BLE_2M-Ant1-2440-30~1000-PASS

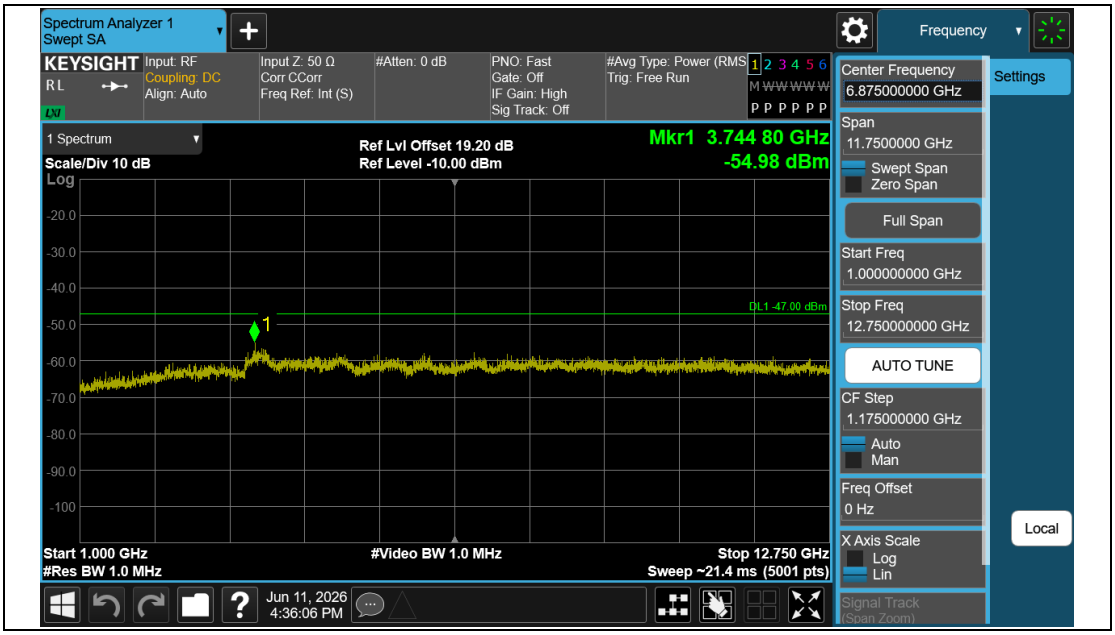


NTNV-BLE_2M-Ant1-2440-1000~12750-PASS



NTNV-BLE_2M-Ant1-2480-30~1000-PASS

NTNV-BLE_2M-Ant1-2480-1000~12750-PASS


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 0 dB
PNO: Fast
Gate: Off
IF Gain: High
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run
1 Spectrum
Ref Lvl Offset 19.20 dB
Ref Level -10.00 dBm
Mkr1 3.744 80 GHz
-54.98 dBm
Scale/Div 10 dB
Log
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100
DL1 -47.00 dBm
Start 1.000 GHz
#Res BW 1.0 MHz
#Video BW 1.0 MHz
Stop 12.750 GHz
Sweep ~21.4 ms (5001 pts)
Jun 11, 2026
4:36:06 PM
Frequency
Center Frequency
6.875000000 GHz
Span
11.7500000 GHz
Swept Span
Zero Span
Full Span
Start Freq
1.000000000 GHz
Stop Freq
12.750000000 GHz
AUTO TUNE
CF Step
1.175000000 GHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
Settings
Local