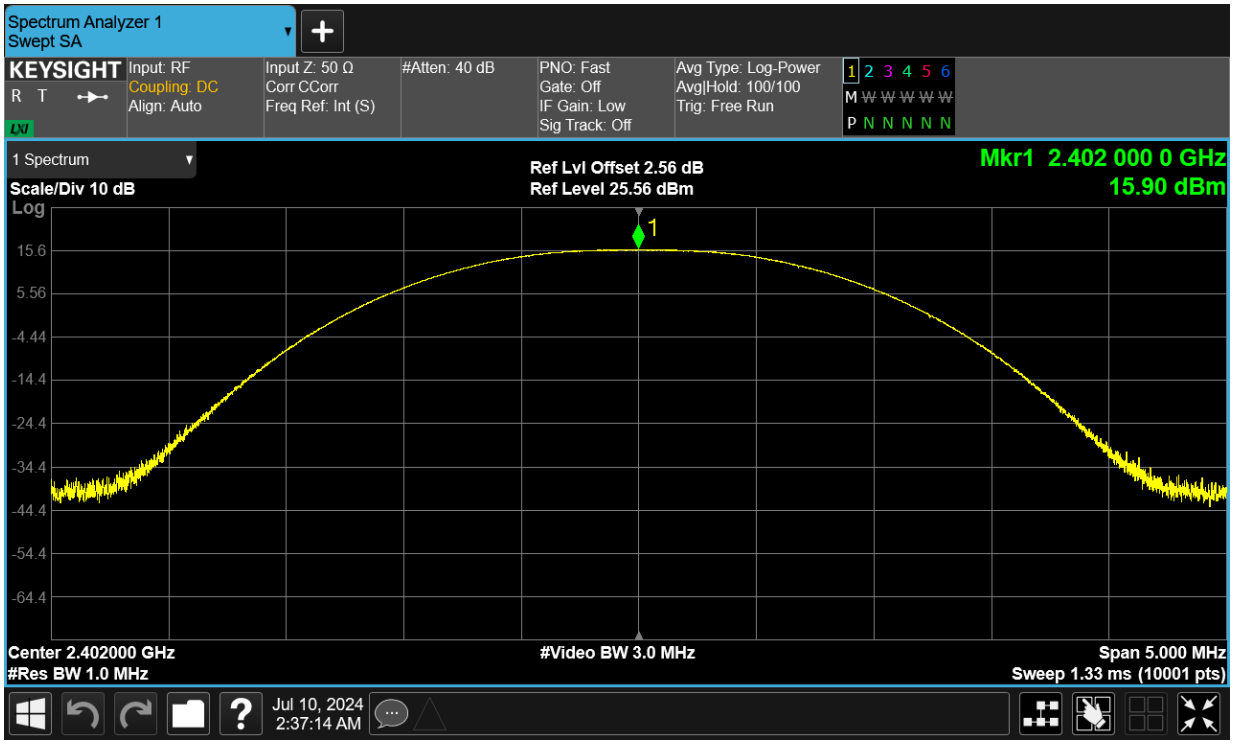
Test Data

Maximum Conducted Output Power

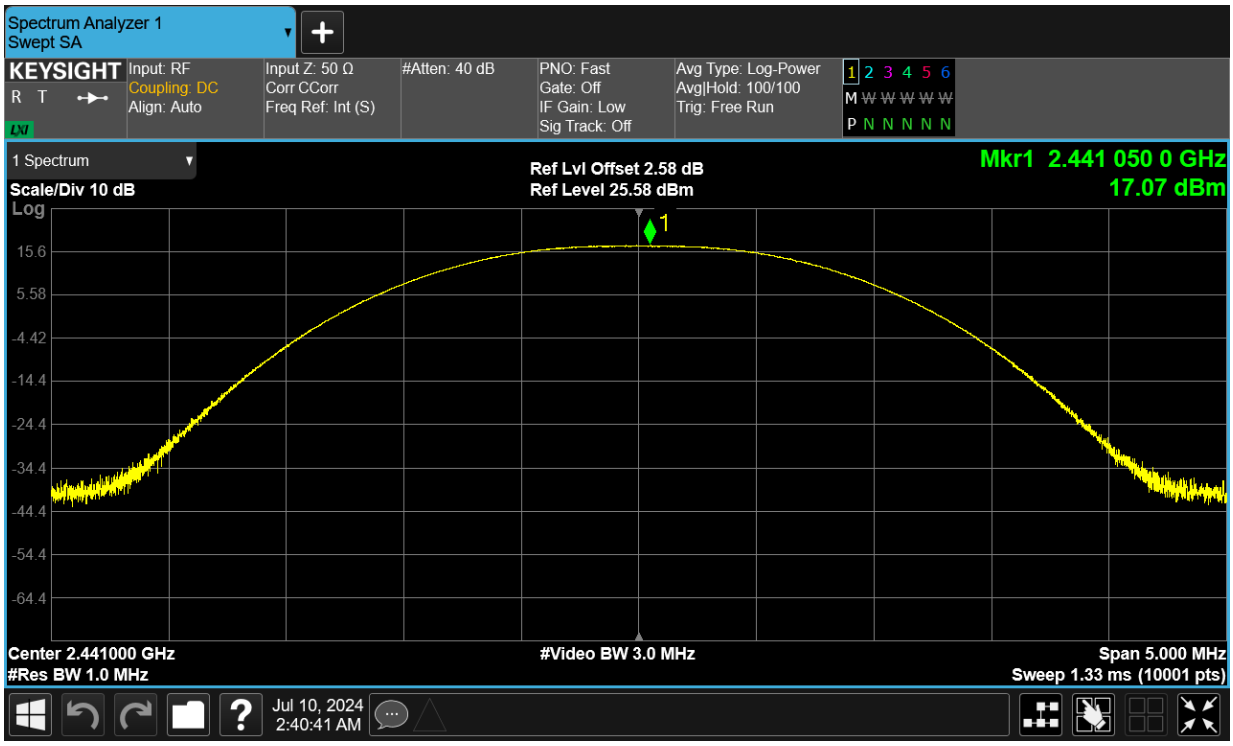
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	ANT13	15.898	30	Pass
NVNT	1-DH1	2441	ANT13	17.07	30	Pass
NVNT	1-DH1	2480	ANT13	17.087	30	Pass
NVNT	2-DH1	2402	ANT13	16.293	21	Pass
NVNT	2-DH1	2441	ANT13	17.295	21	Pass
NVNT	2-DH1	2480	ANT13	17.305	21	Pass
NVNT	3-DH1	2402	ANT13	16.054	21	Pass
NVNT	3-DH1	2441	ANT13	17.081	21	Pass
NVNT	3-DH1	2480	ANT13	17.18	21	Pass

Test Graphs

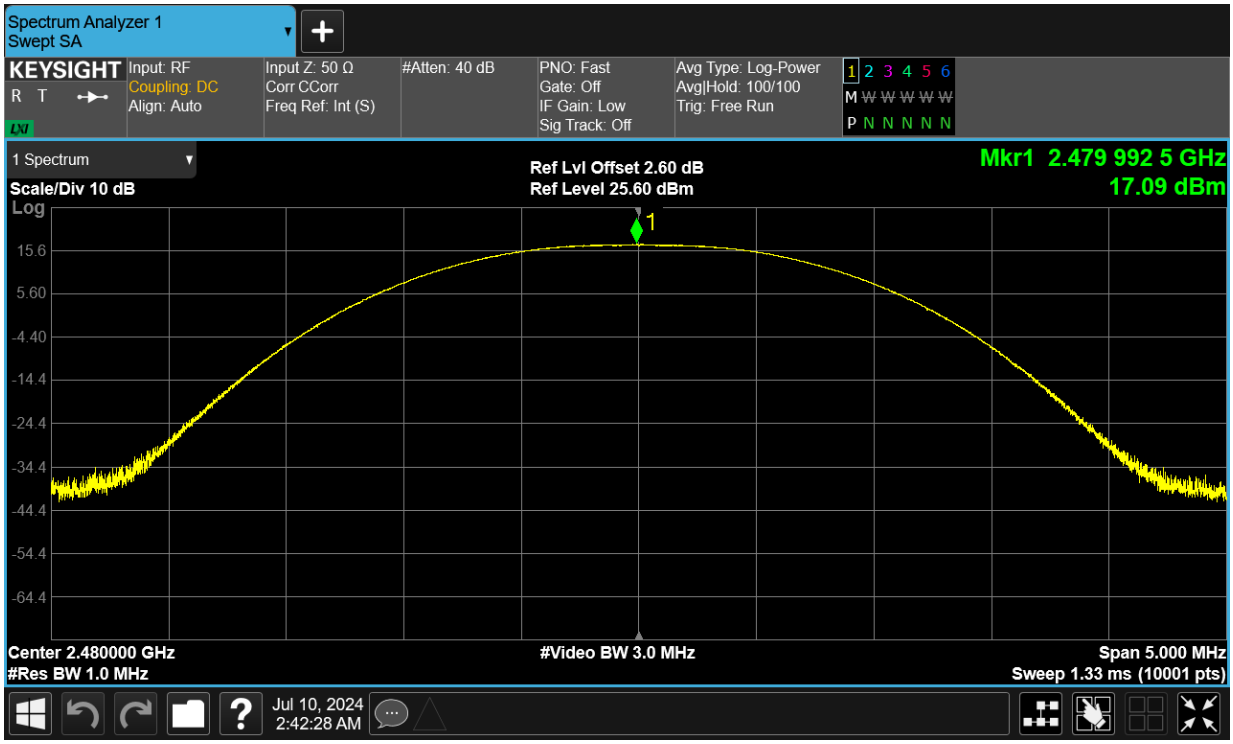
Power NVNT 1-DH1 2402MHz ANT13



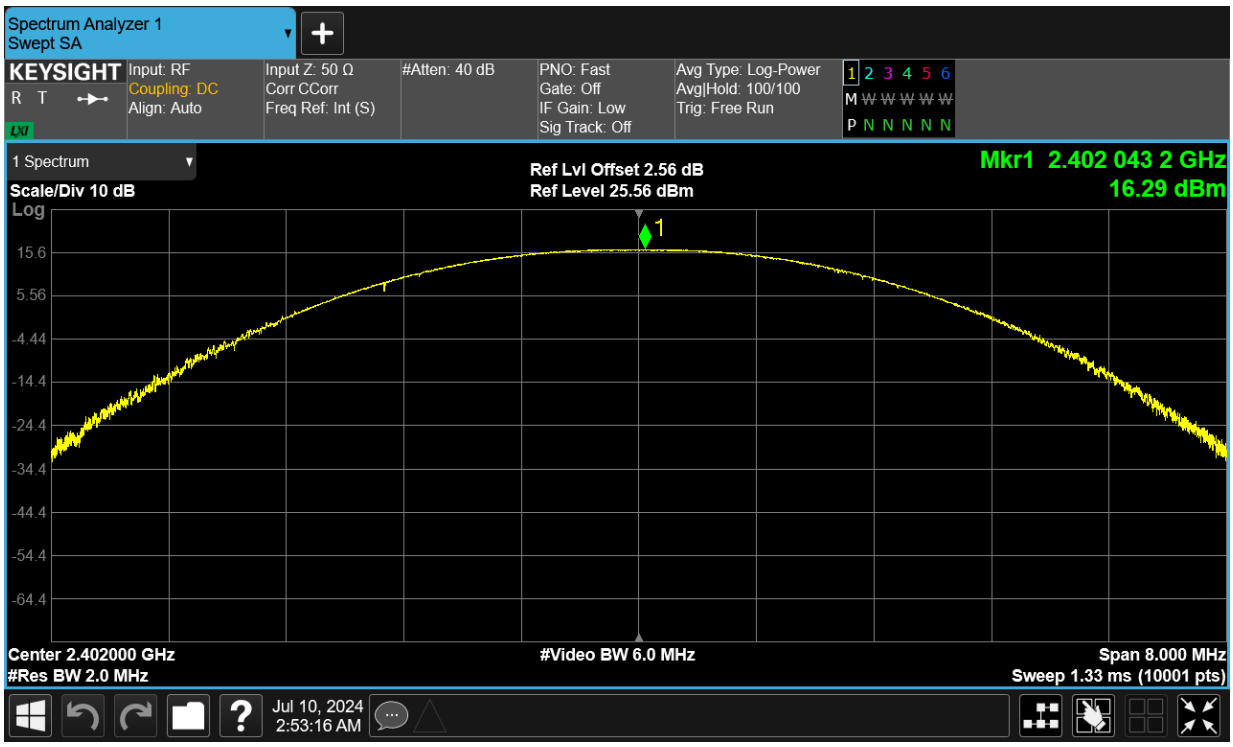
Power NVNT 1-DH1 2441MHz ANT13



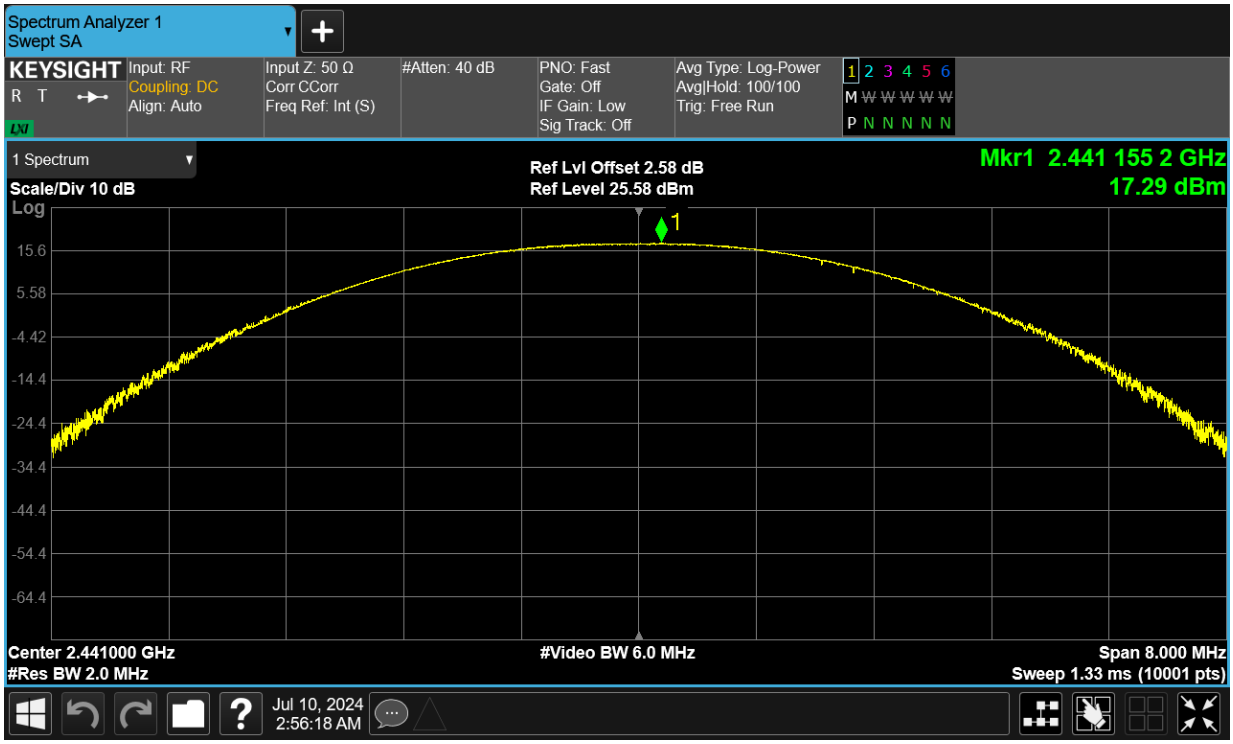
Power NVNT 1-DH1 2480MHz ANT13



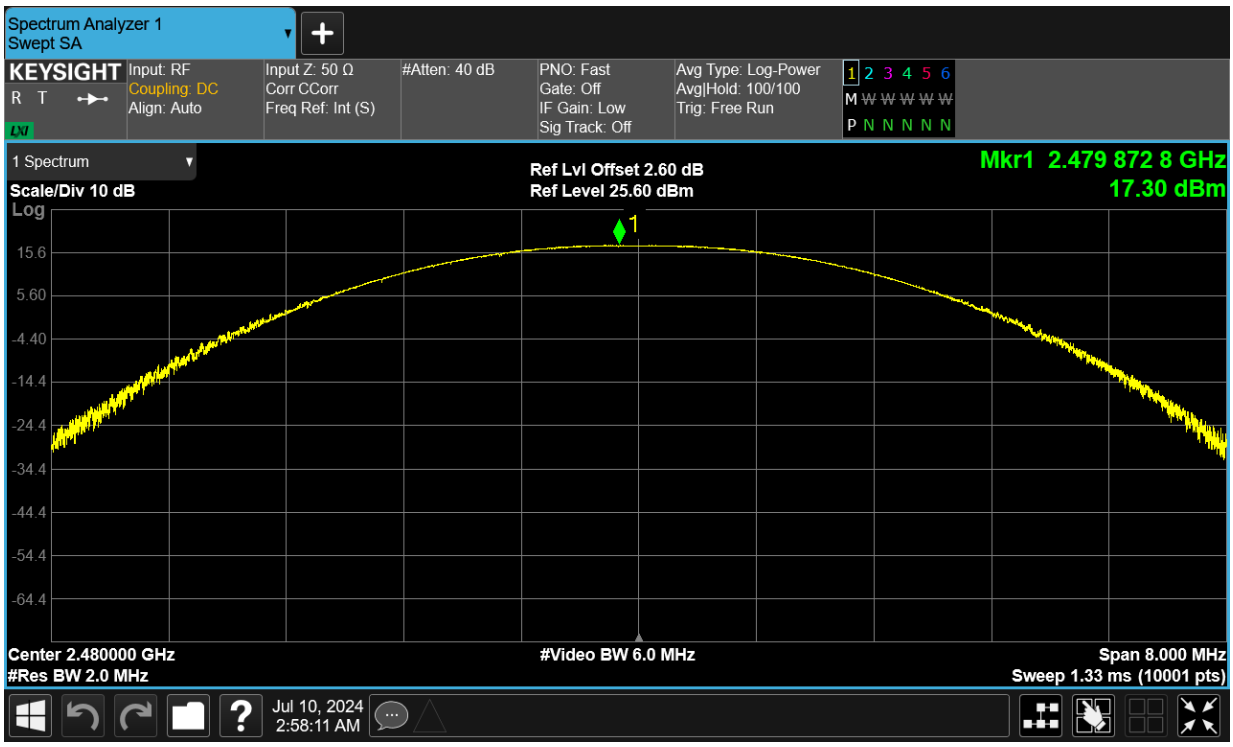
Power NVNT 2-DH1 2402MHz ANT13



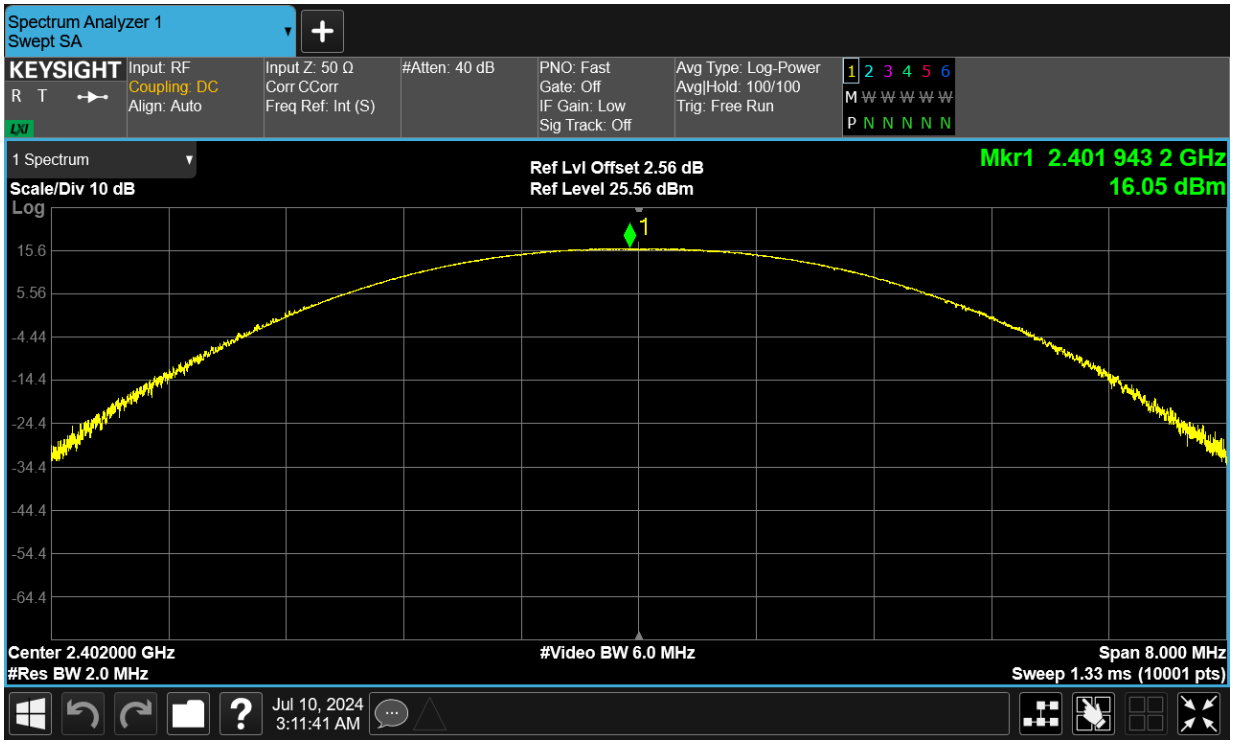
Power NVNT 2-DH1 2441MHz ANT13



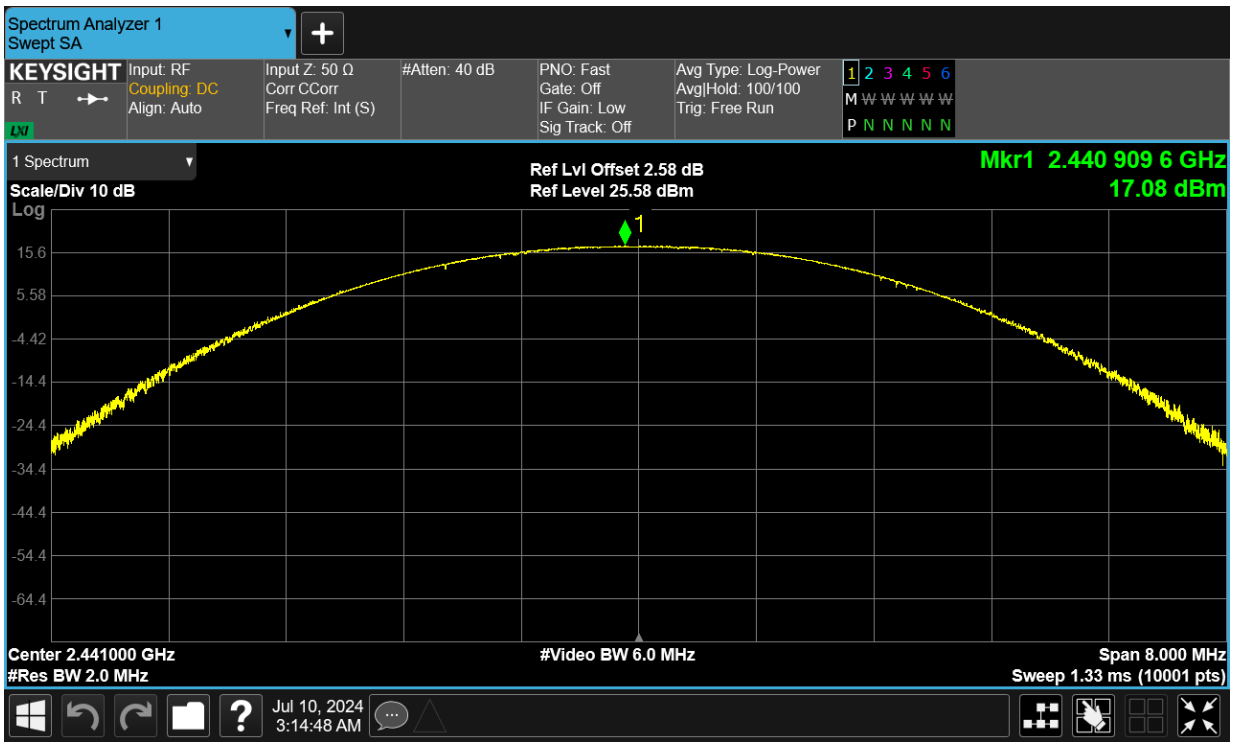
Power NVNT 2-DH1 2480MHz ANT13



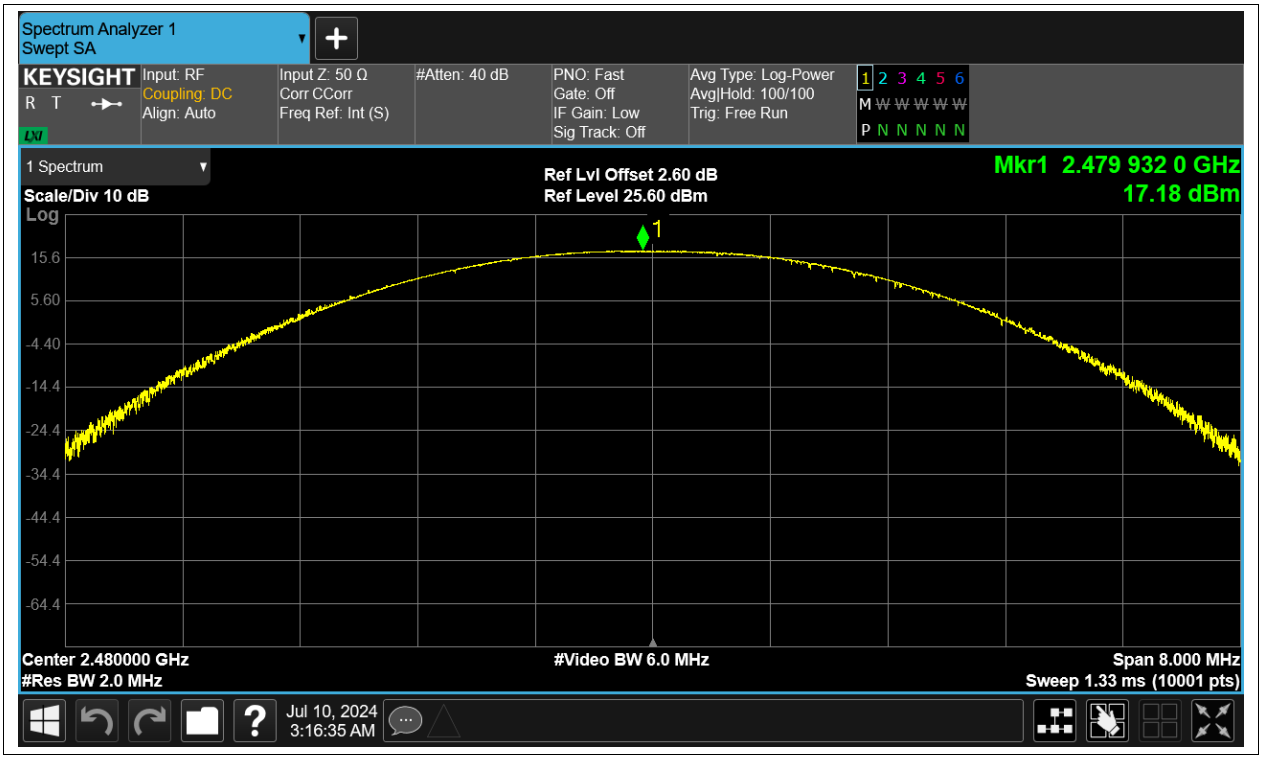
Power NVNT 3-DH1 2402MHz ANT13



Power NVNT 3-DH1 2441MHz ANT13



Power NVNT 3-DH1 2480MHz ANT13

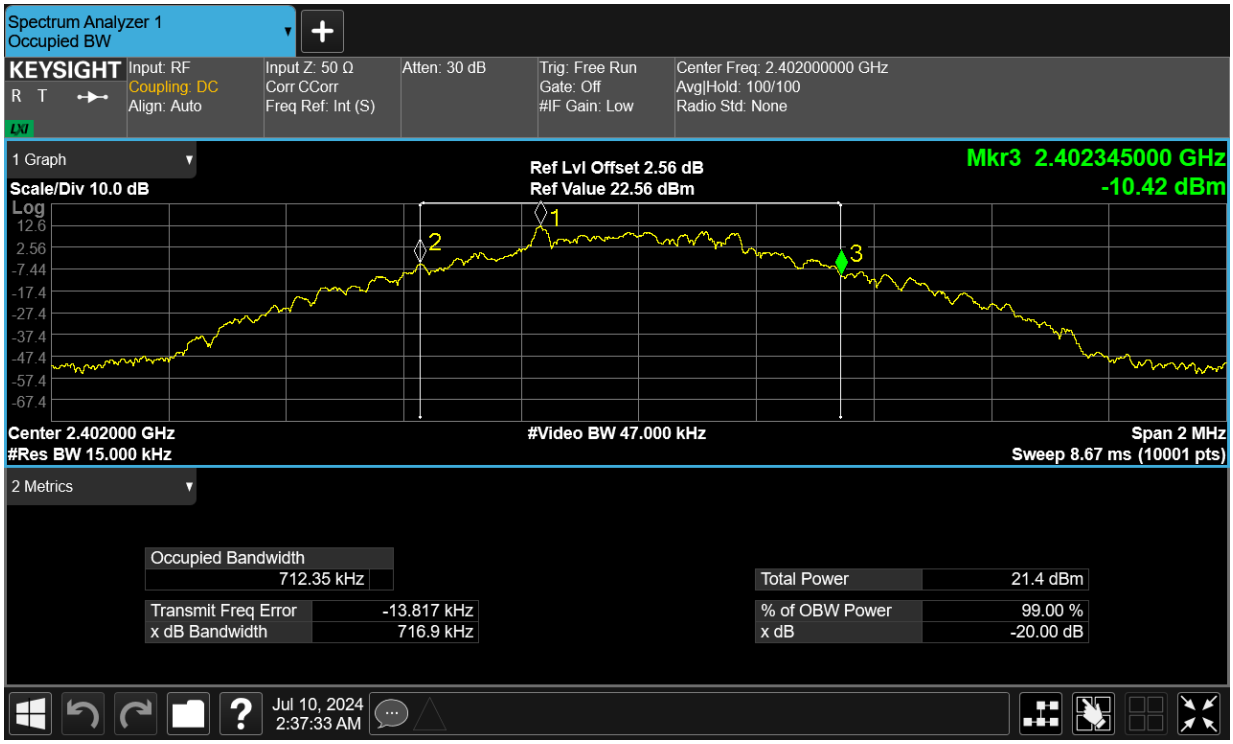

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 40 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.60 dB
Ref Level 25.60 dBm
Mkr1 2.479 932 0 GHz
17.18 dBm
15.6
5.60
-4.40
-14.4
-24.4
-34.4
-44.4
-54.4
-64.4
Center 2.480000 GHz
#Res BW 2.0 MHz
#Video BW 6.0 MHz
Span 8.000 MHz
Sweep 1.33 ms (10001 pts)
Jul 10, 2024
3:16:35 AM

-20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)
NVNT	1-DH1	2402	ANT13	0.717
NVNT	1-DH1	2441	ANT13	0.723
NVNT	1-DH1	2480	ANT13	0.764
NVNT	2-DH1	2402	ANT13	1.177
NVNT	2-DH1	2441	ANT13	1.228
NVNT	2-DH1	2480	ANT13	1.185
NVNT	3-DH1	2402	ANT13	1.215
NVNT	3-DH1	2441	ANT13	1.197
NVNT	3-DH1	2480	ANT13	1.2

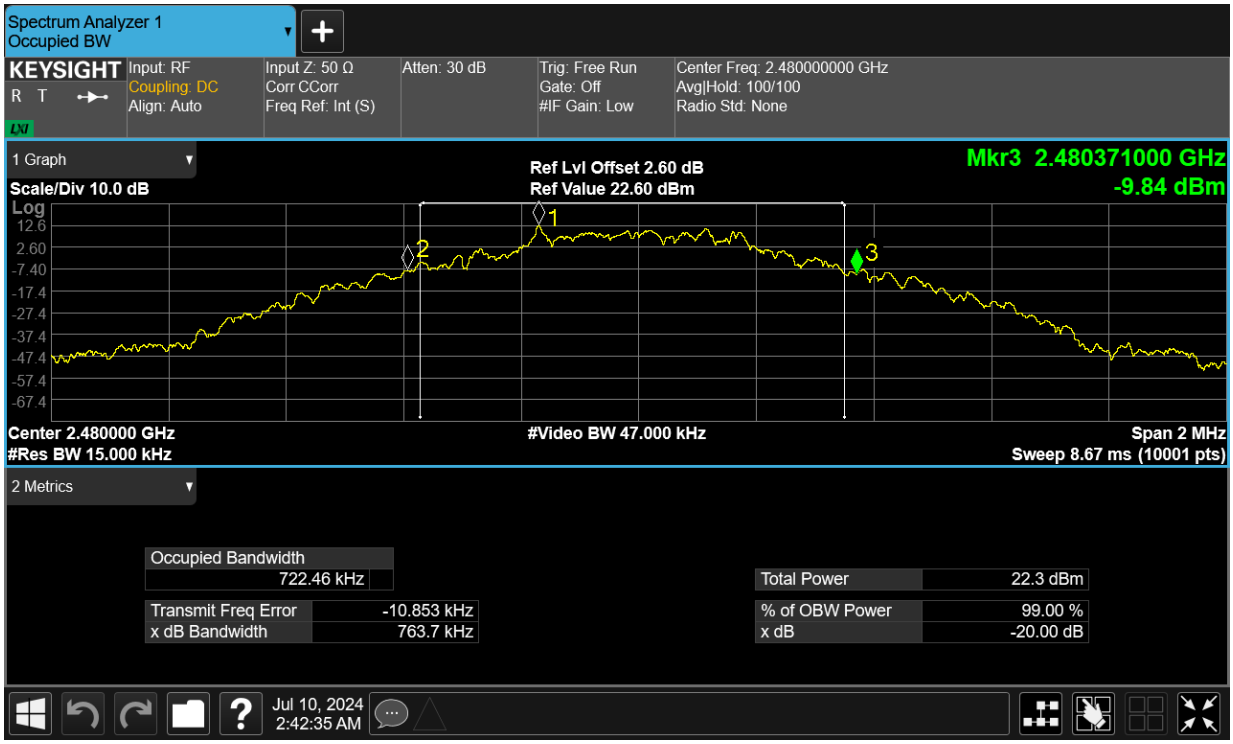
Test Graphs

-20dB Bandwidth NVNT 1-DH1 2402MHz ANT13

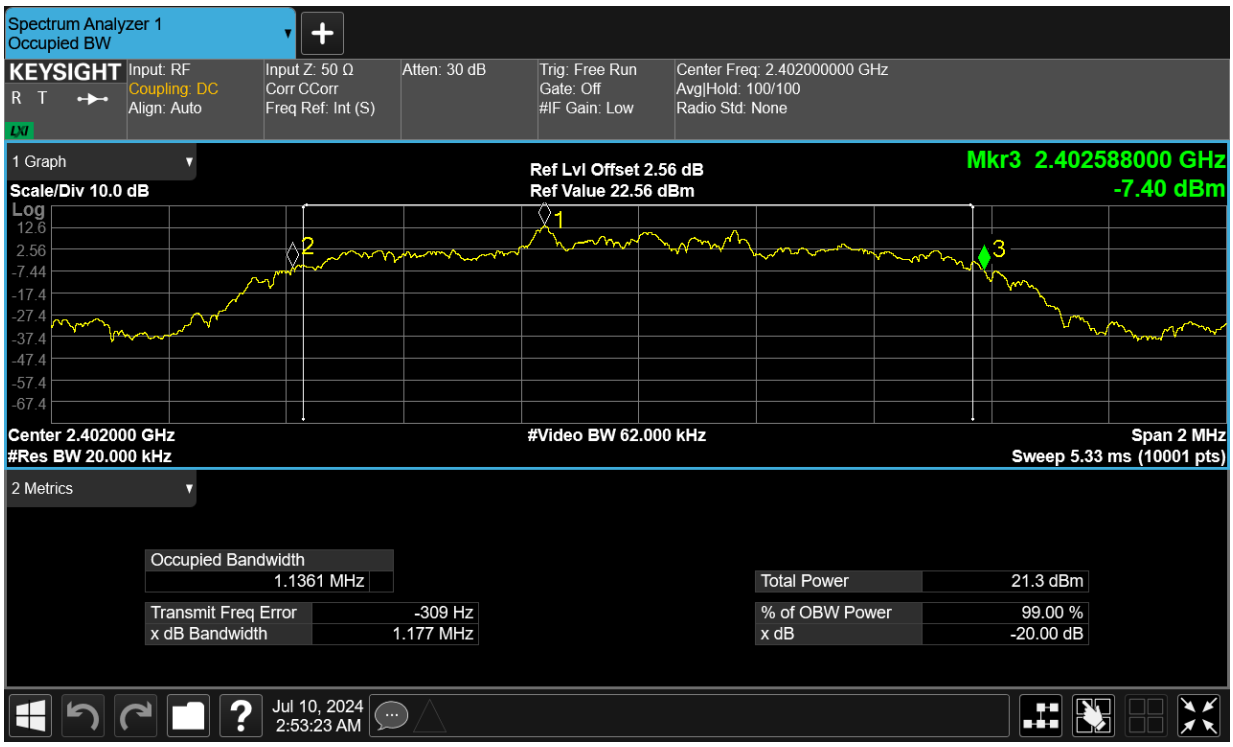


-20dB Bandwidth NVNT 1-DH1 2441MHz ANT13

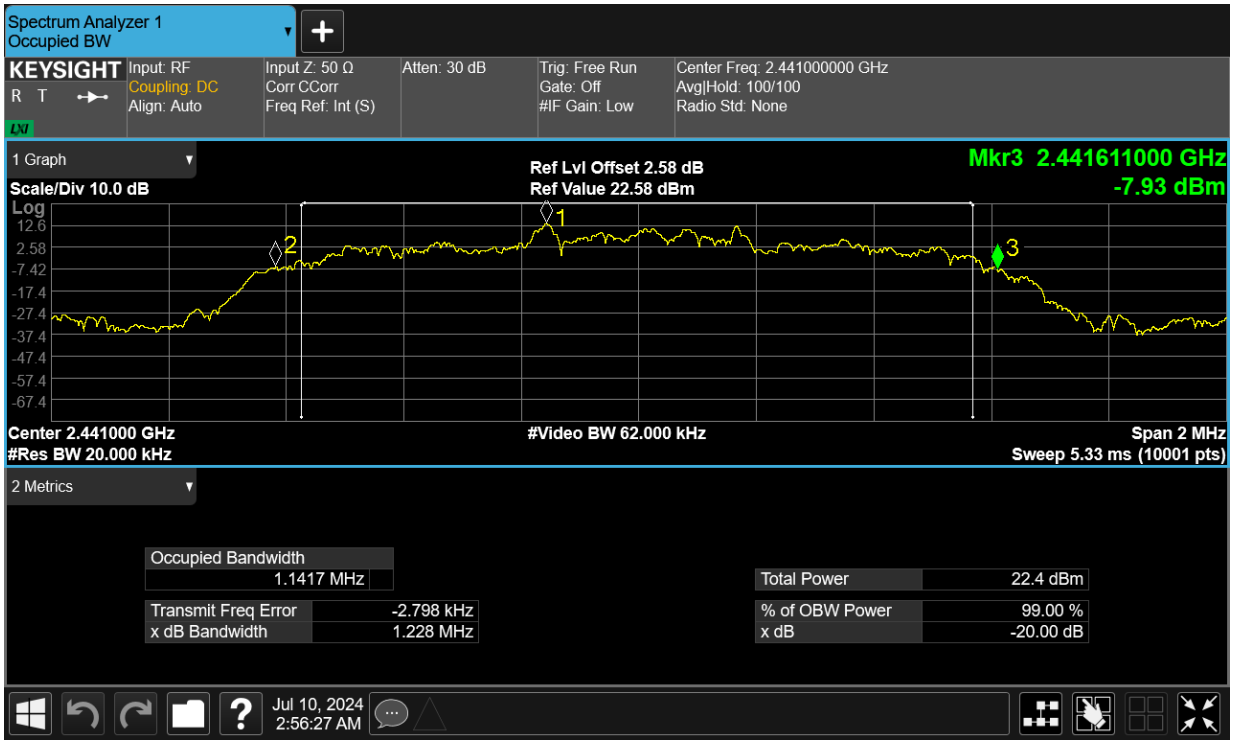
-20dB Bandwidth NVNT 1-DH1 2480MHz ANT13



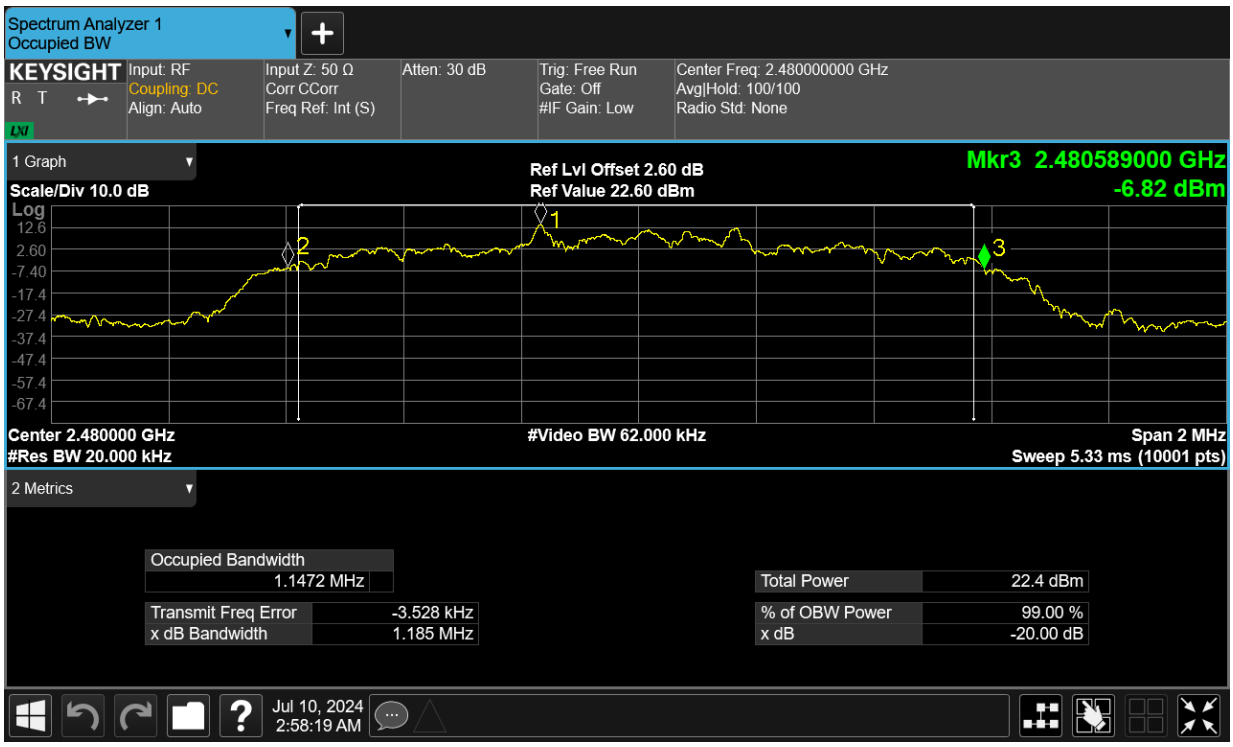
-20dB Bandwidth NVNT 2-DH1 2402MHz ANT13



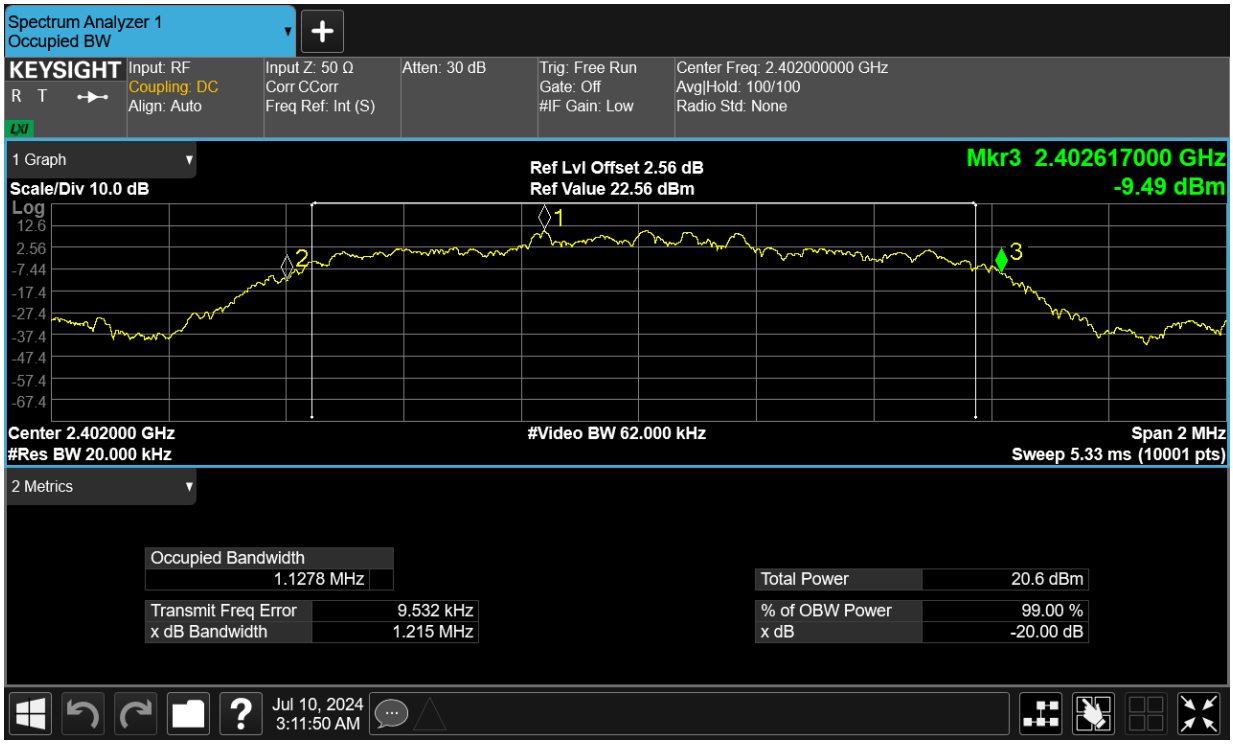
-20dB Bandwidth NVNT 2-DH1 2441MHz ANT13



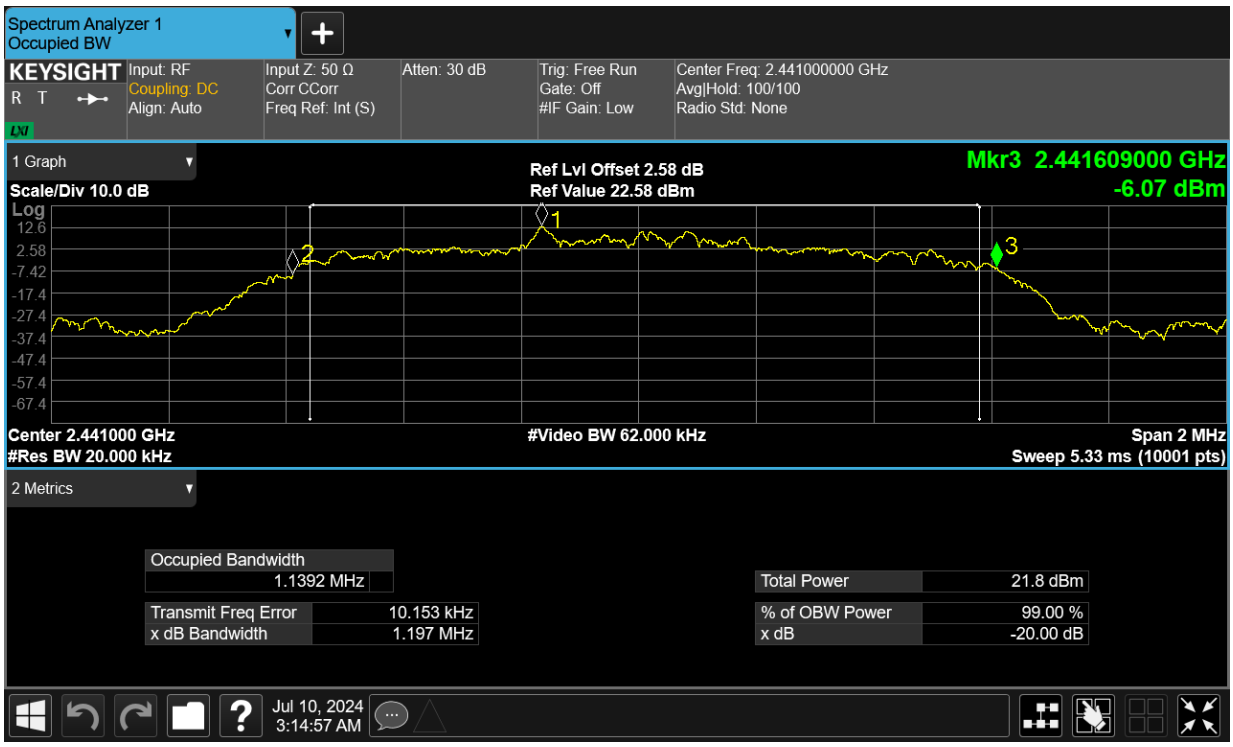
-20dB Bandwidth NVNT 2-DH1 2480MHz ANT13



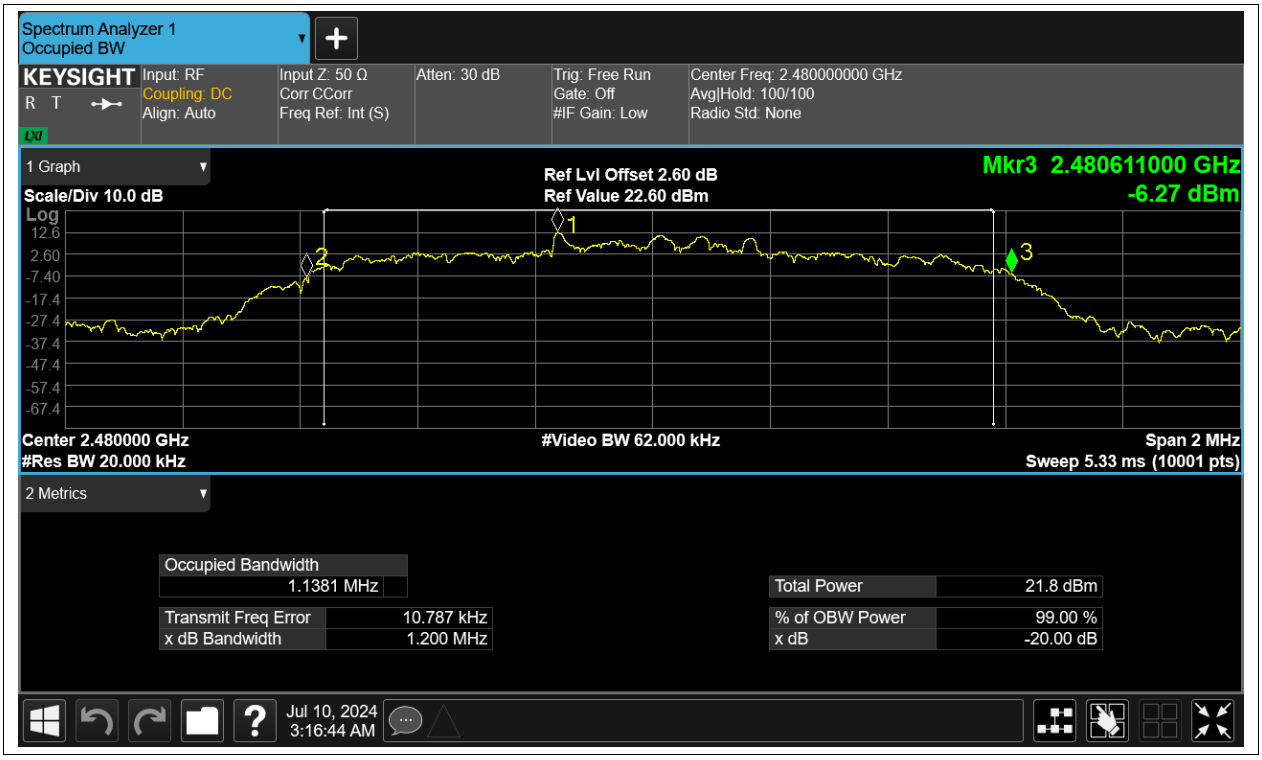
-20dB Bandwidth NVNT 3-DH1 2402MHz ANT13



-20dB Bandwidth NVNT 3-DH1 2441MHz ANT13



-20dB Bandwidth NVNT 3-DH1 2480MHz ANT13

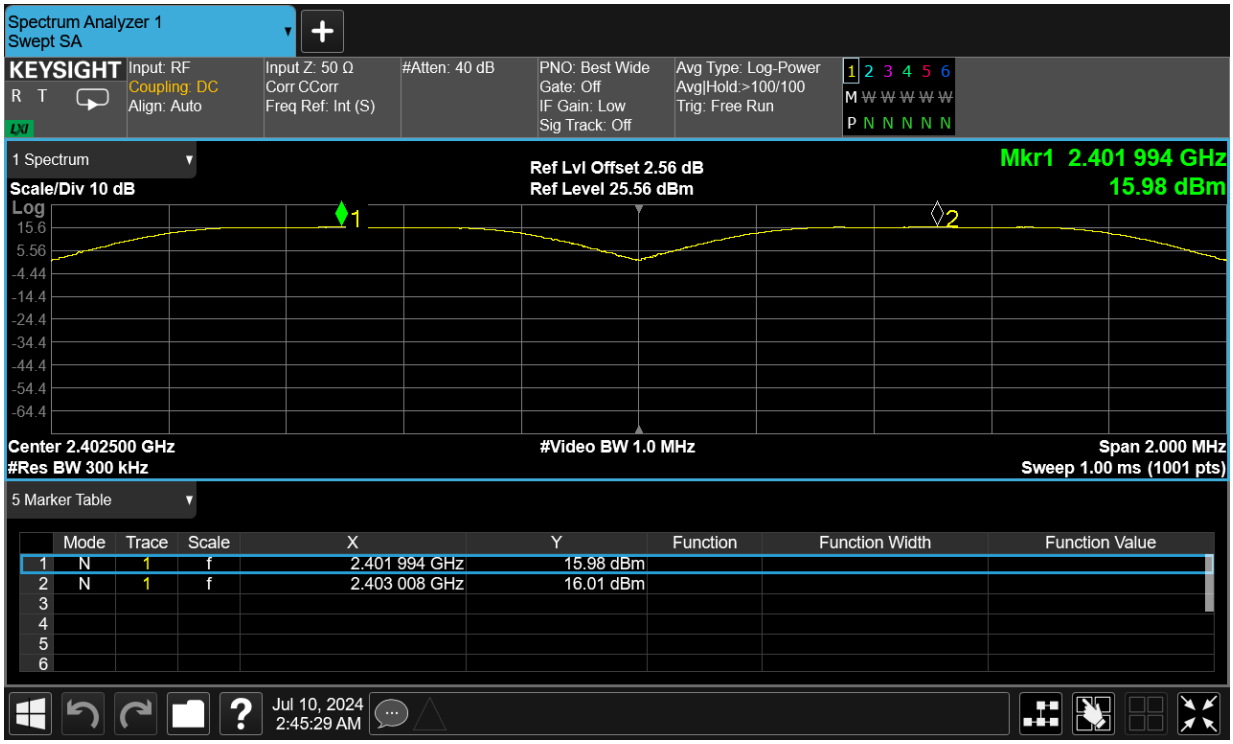

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.480000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.60 dB
Ref Value 22.60 dBm
Mkr3 2.480611000 GHz
-6.27 dBm
Scale/Div 10.0 dB
Log
12.6
2.60
-7.40
-17.4
-27.4
-37.4
-47.4
-57.4
-67.4
Center 2.480000 GHz
#Res BW 20.000 kHz
#Video BW 62.000 kHz
Span 2 MHz
Sweep 5.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.1381 MHz
Transmit Freq Error 10.787 kHz
x dB Bandwidth 1.200 MHz
Total Power 21.8 dBm
% of OBW Power 99.00 %
x dB -20.00 dB
Jul 10, 2024
3:16:44 AM

Carrier Frequencies Separation

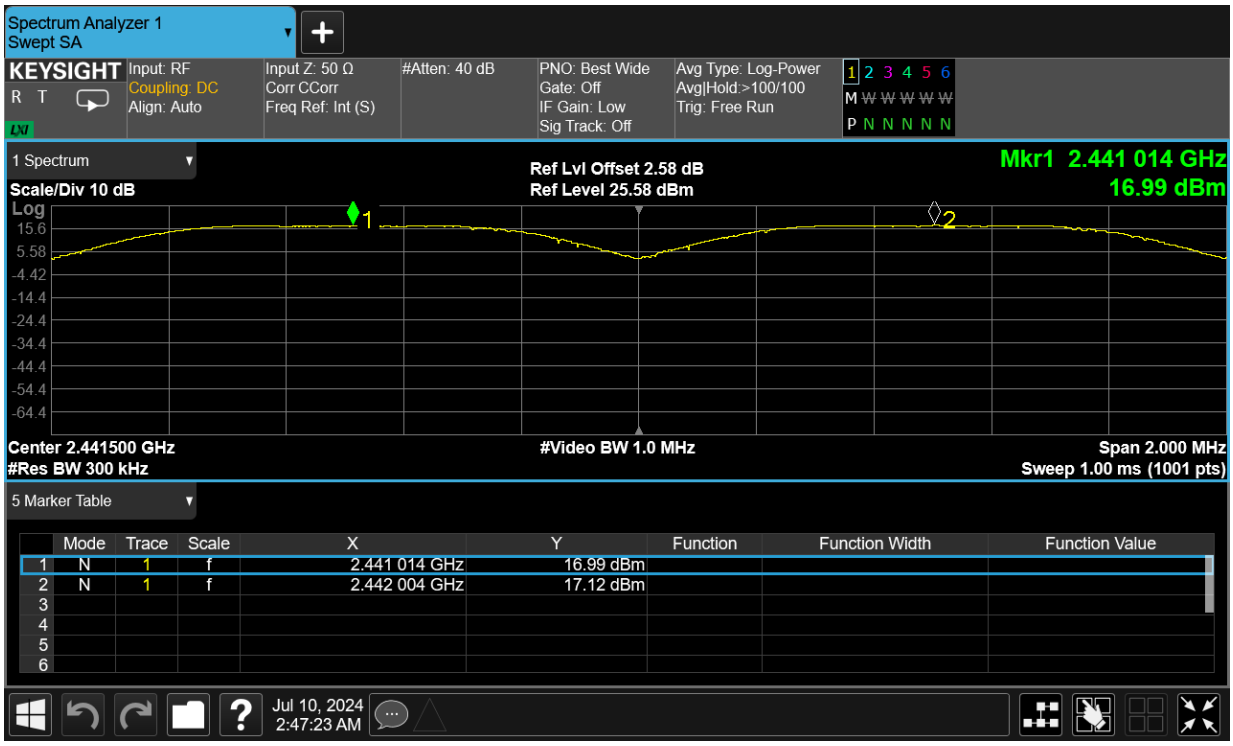
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	ANT13	2401.994	2403.008	1.014	0.717	Pass
NVNT	1-DH1	ANT13	2441.014	2442.004	0.99	0.723	Pass
NVNT	1-DH1	ANT13	2479.006	2479.99	0.984	0.764	Pass
NVNT	2-DH1	ANT13	2402.16	2403.16	1	0.785	Pass
NVNT	2-DH1	ANT13	2441.15	2442.158	1.008	0.819	Pass
NVNT	2-DH1	ANT13	2478.836	2479.838	1.002	0.79	Pass
NVNT	3-DH1	ANT13	2401.844	2403.158	1.314	0.81	Pass
NVNT	3-DH1	ANT13	2441.164	2442.164	1	0.798	Pass
NVNT	3-DH1	ANT13	2478.842	2479.842	1	0.8	Pass

Test Graphs

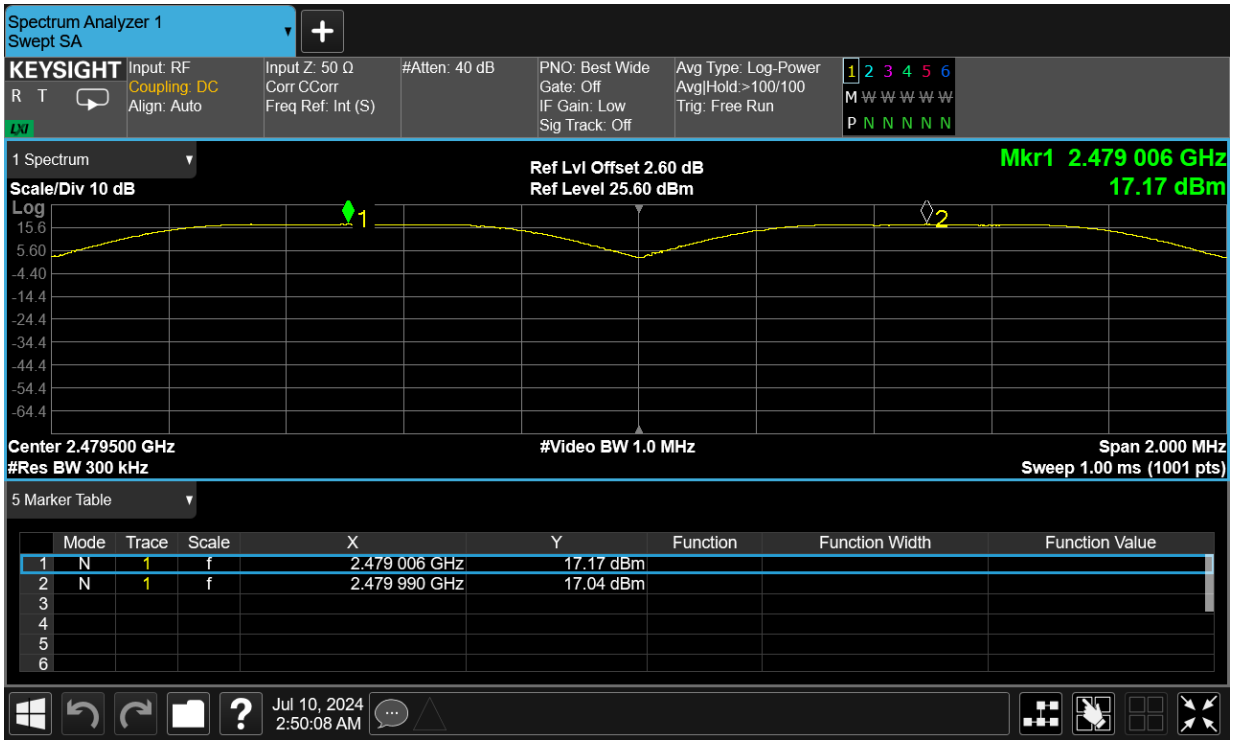
CFS NVNT 1-DH1 2402MHz ANT13



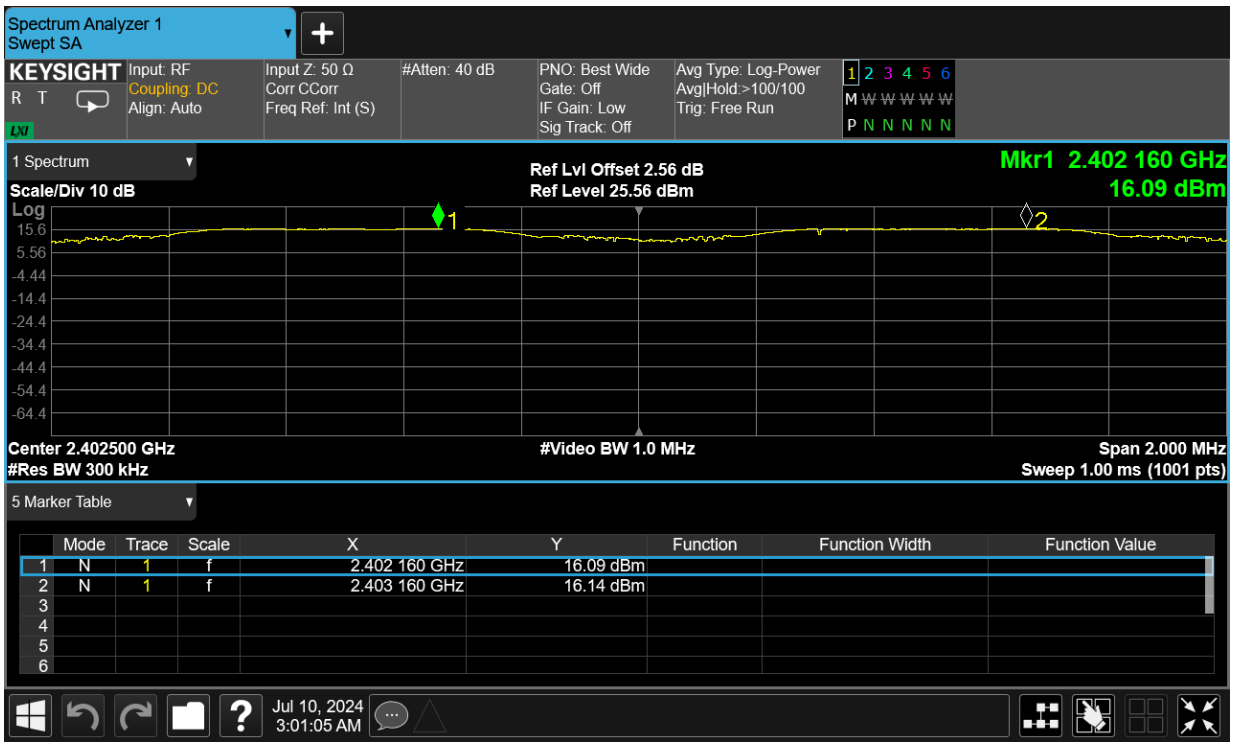
CFS NVNT 1-DH1 2441MHz ANT13



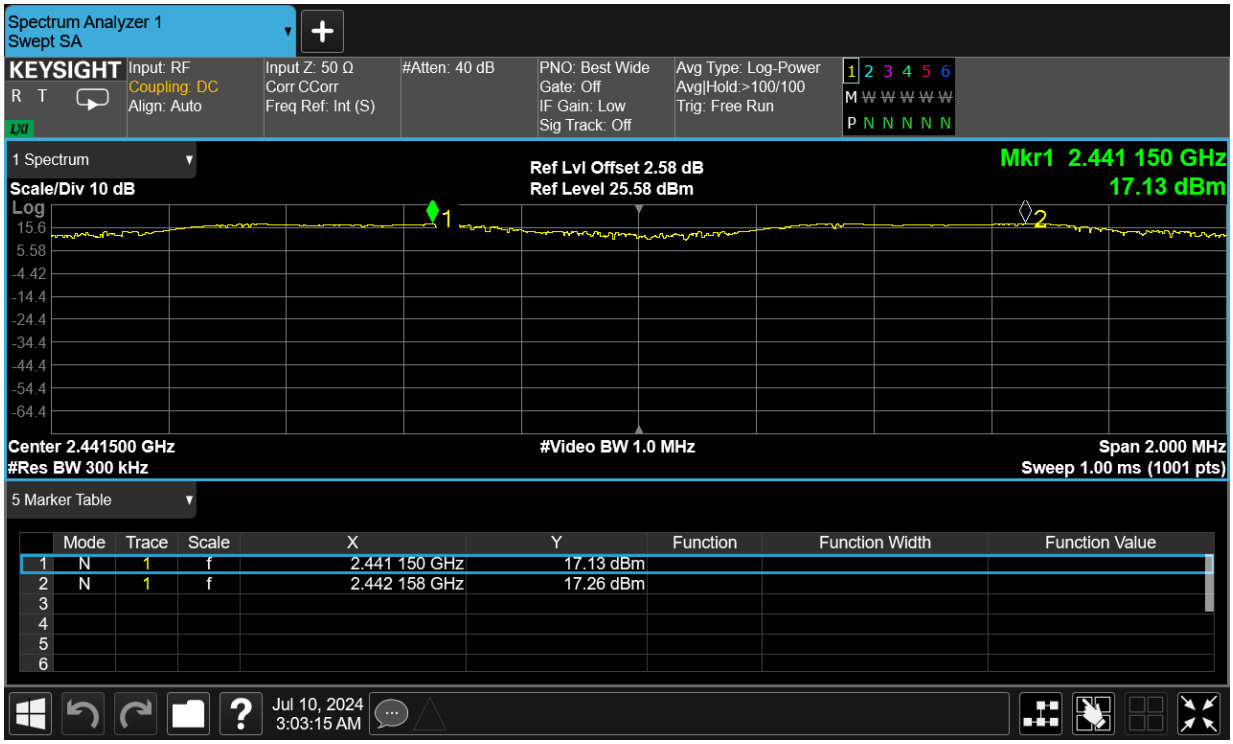
CFS NVNT 1-DH1 2480MHz ANT13



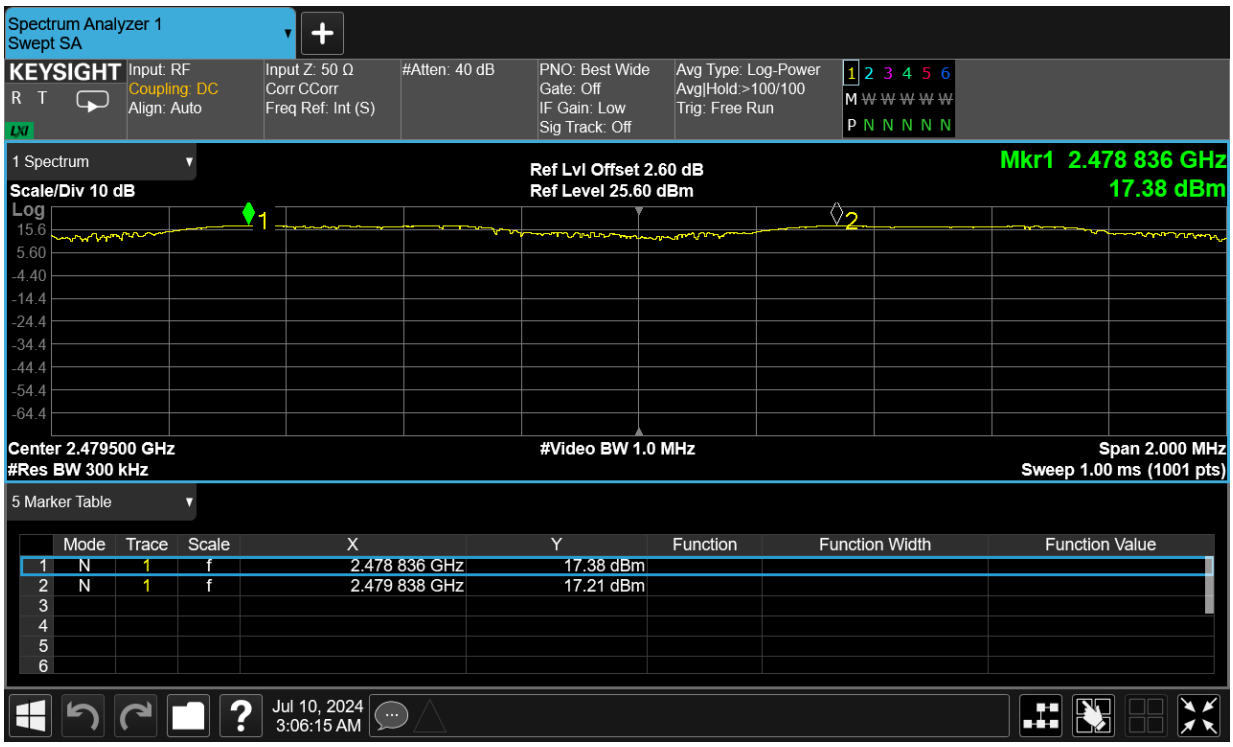
CFS NVNT 2-DH1 2402MHz ANT13



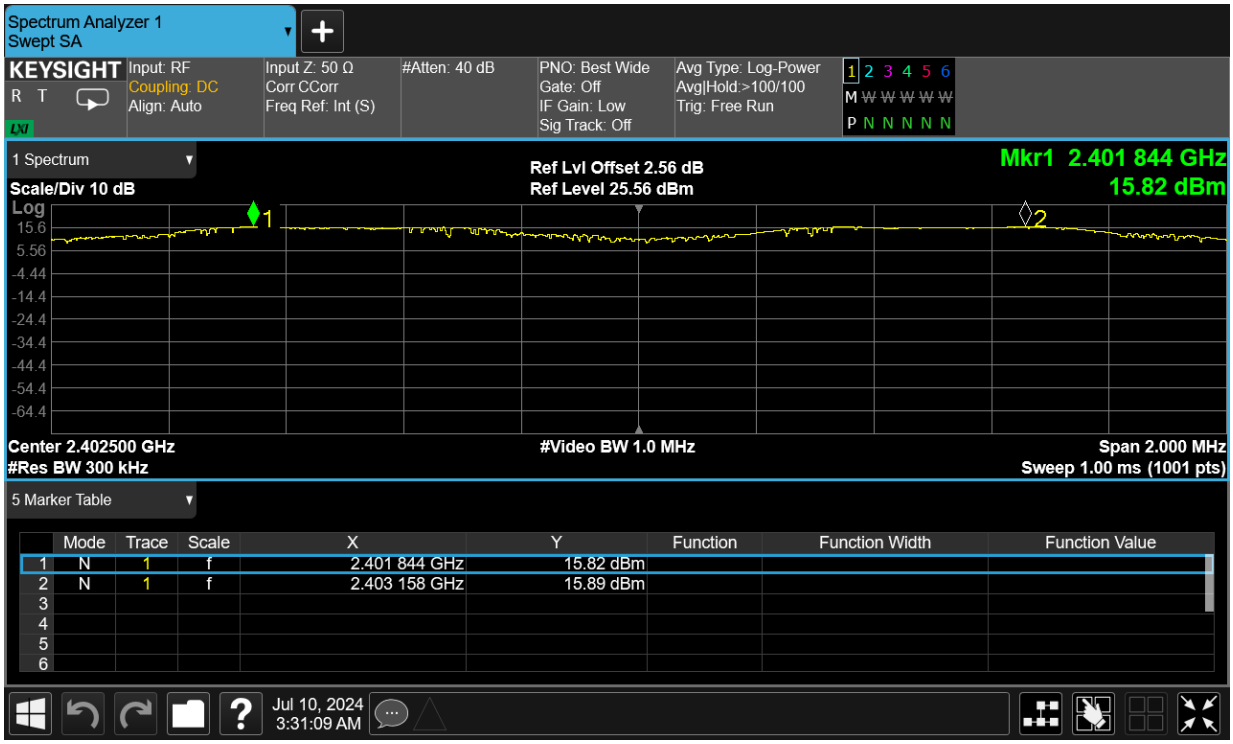
CFS NVNT 2-DH1 2441MHz ANT13



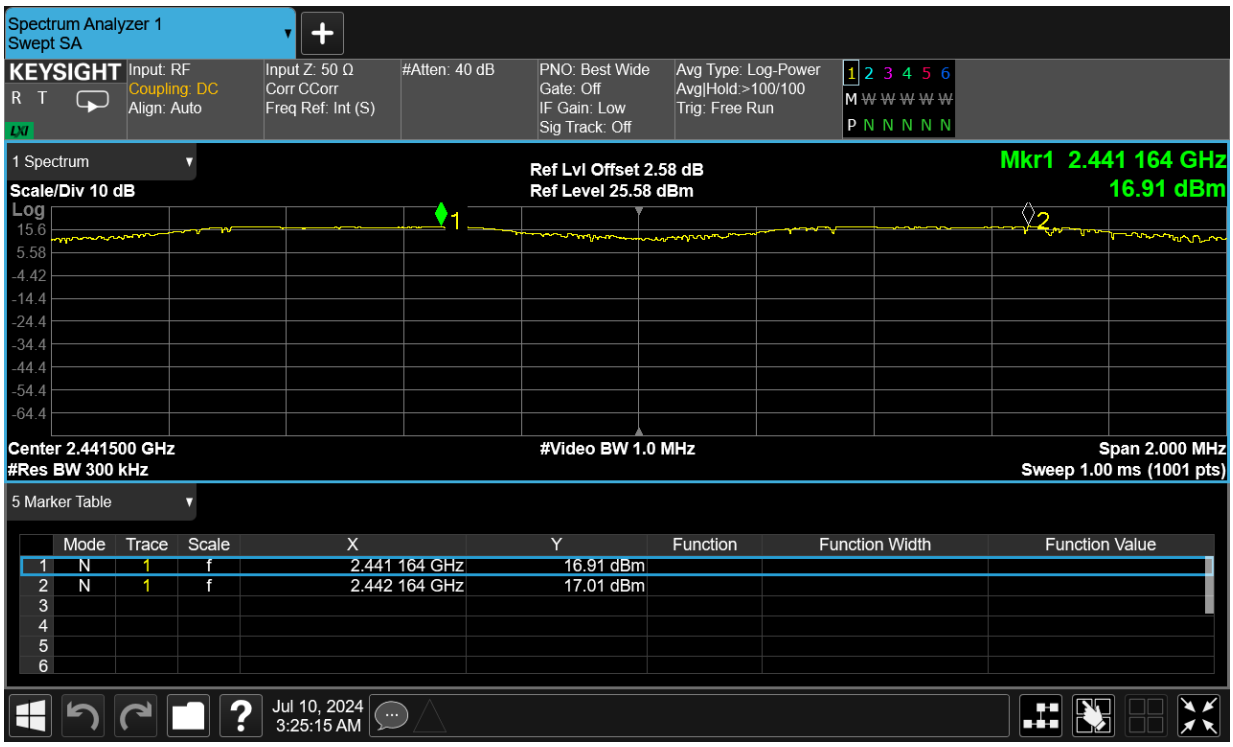
CFS NVNT 2-DH1 2480MHz ANT13



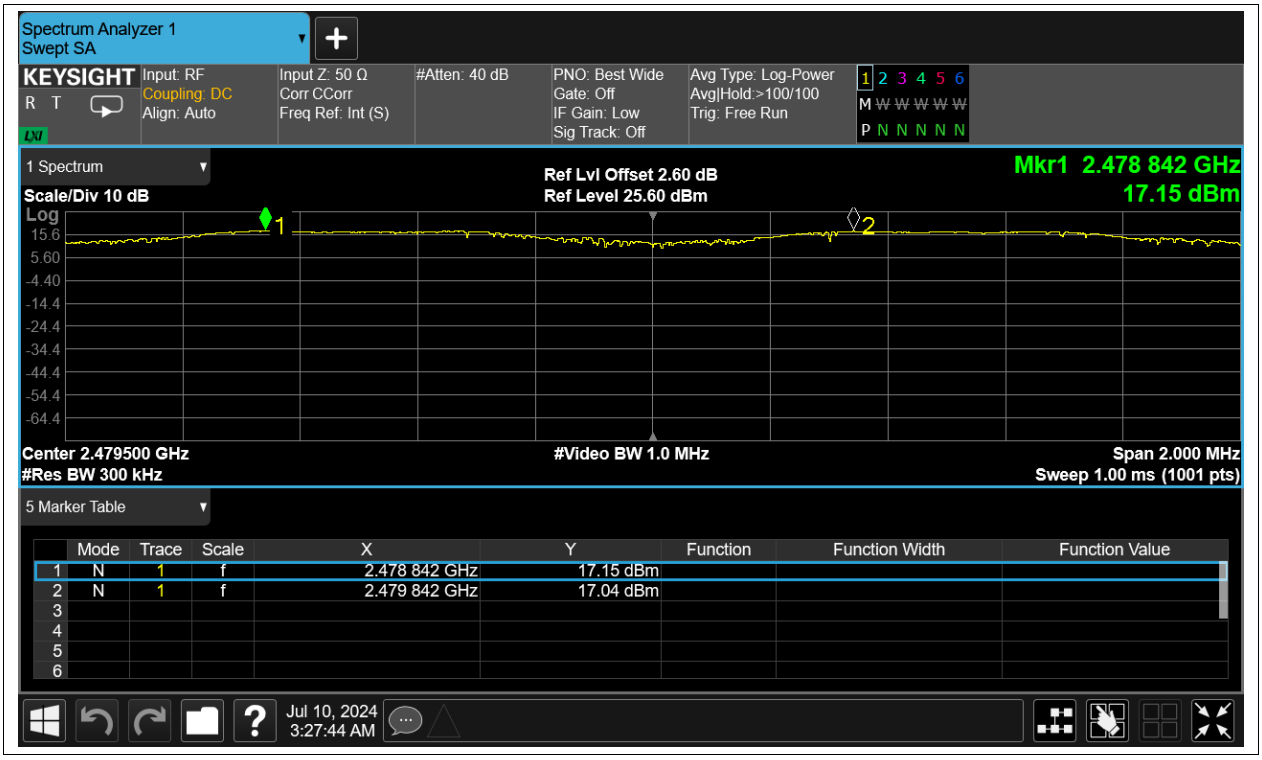
CFS NVNT 3-DH1 2402MHz ANT13



CFS NVNT 3-DH1 2441MHz ANT13



CFS NVNT 3-DH1 2480MHz ANT13

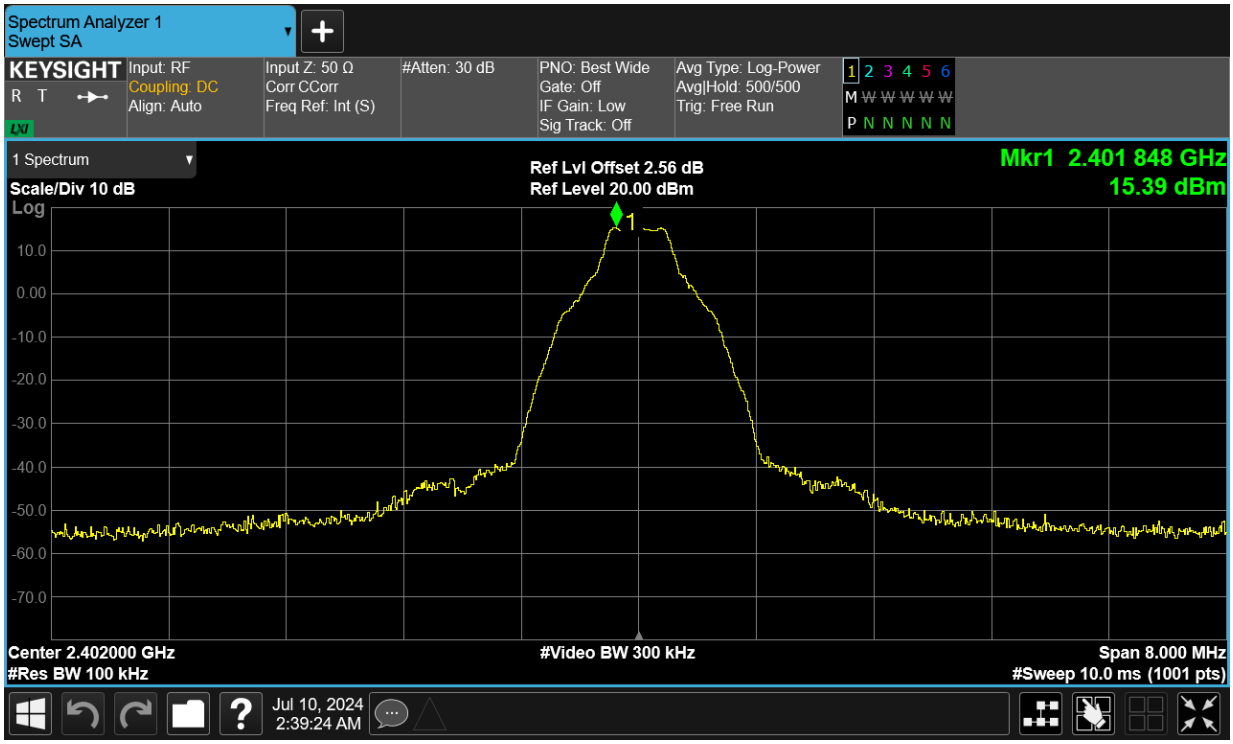

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 40 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold:>100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.60 dB
Ref Level 25.60 dBm
Mkr1 2.478 842 GHz
17.15 dBm
Center 2.479500 GHz
#Res BW 300 kHz
#Video BW 1.0 MHz
Span 2.000 MHz
Sweep 1.00 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.478 842 GHz 17.15 dBm
2 N 1 f 2.479 842 GHz 17.04 dBm
Jul 10, 2024
3:27:44 AM

Band Edge

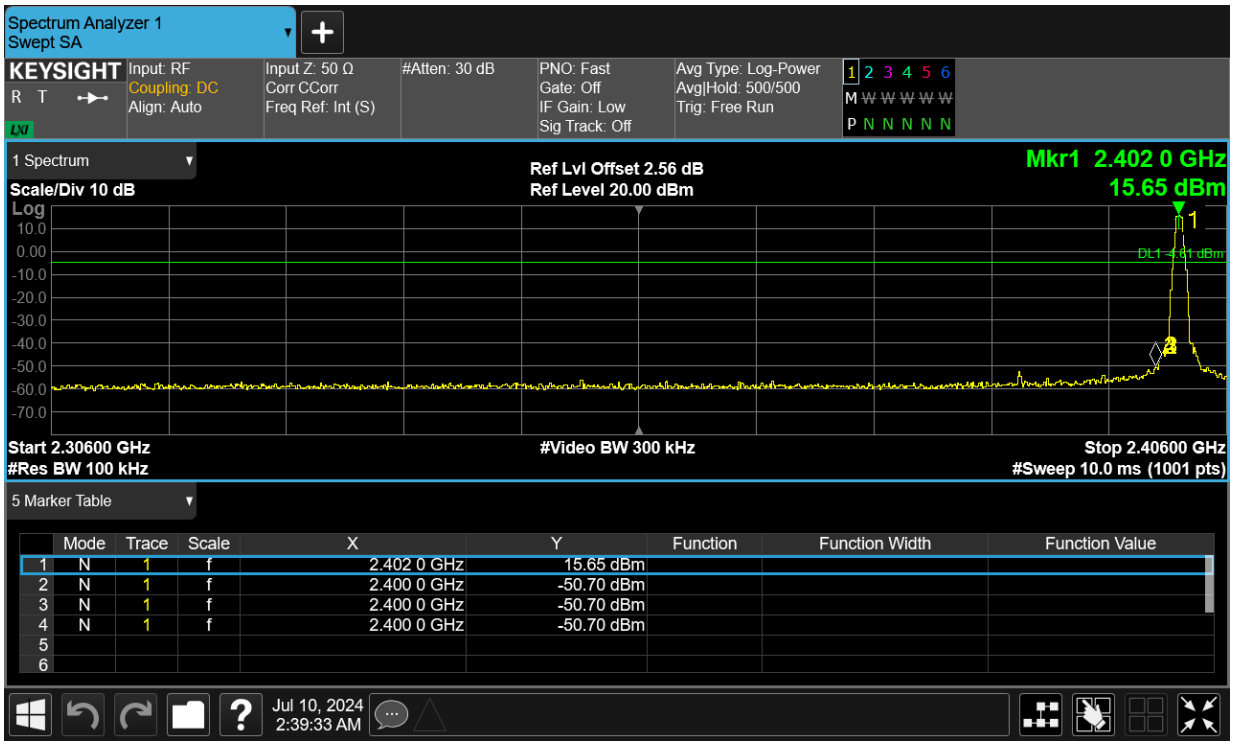
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	ANT13	No-Hopping	-66.09	-20	Pass
NVNT	1-DH1	2480	ANT13	No-Hopping	-69.64	-20	Pass
NVNT	2-DH1	2402	ANT13	No-Hopping	-63.17	-20	Pass
NVNT	2-DH1	2480	ANT13	No-Hopping	-71.04	-20	Pass
NVNT	3-DH1	2402	ANT13	No-Hopping	-62.34	-20	Pass
NVNT	3-DH1	2480	ANT13	No-Hopping	-69.7	-20	Pass

Test Graphs

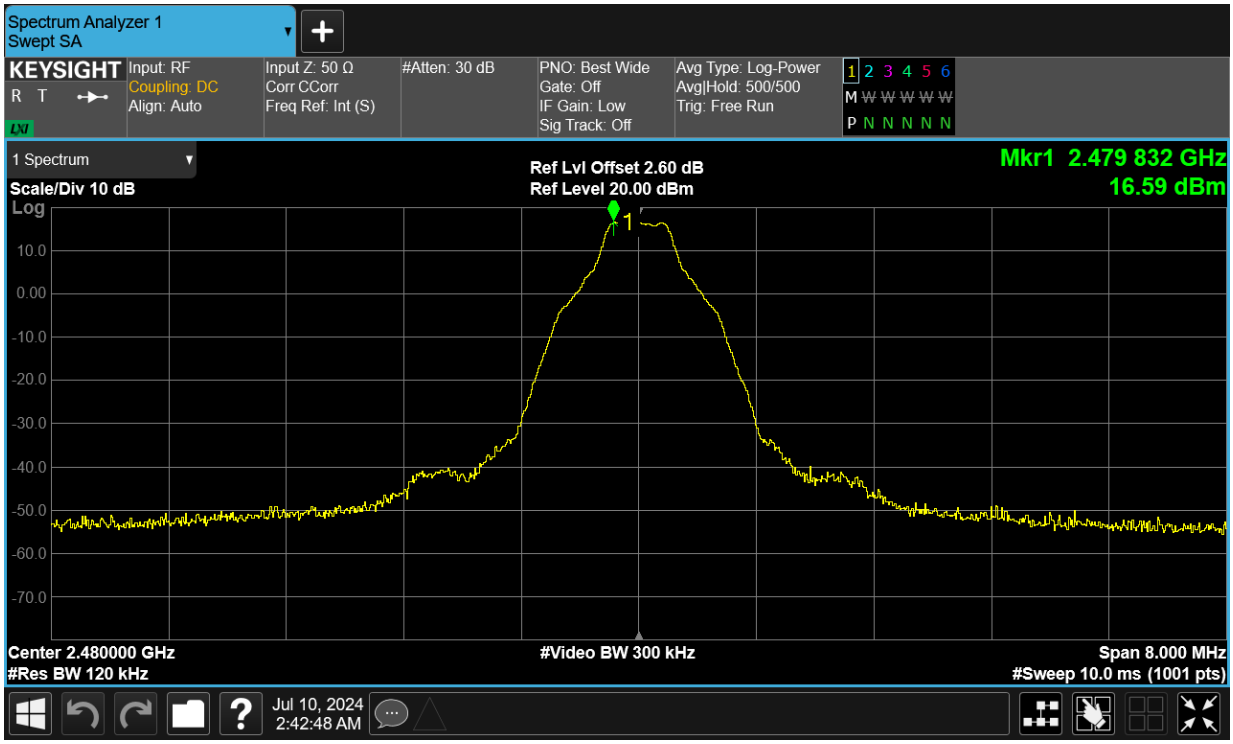
Band Edge NVNT 1-DH1 2402MHz ANT13 No-Hopping Ref



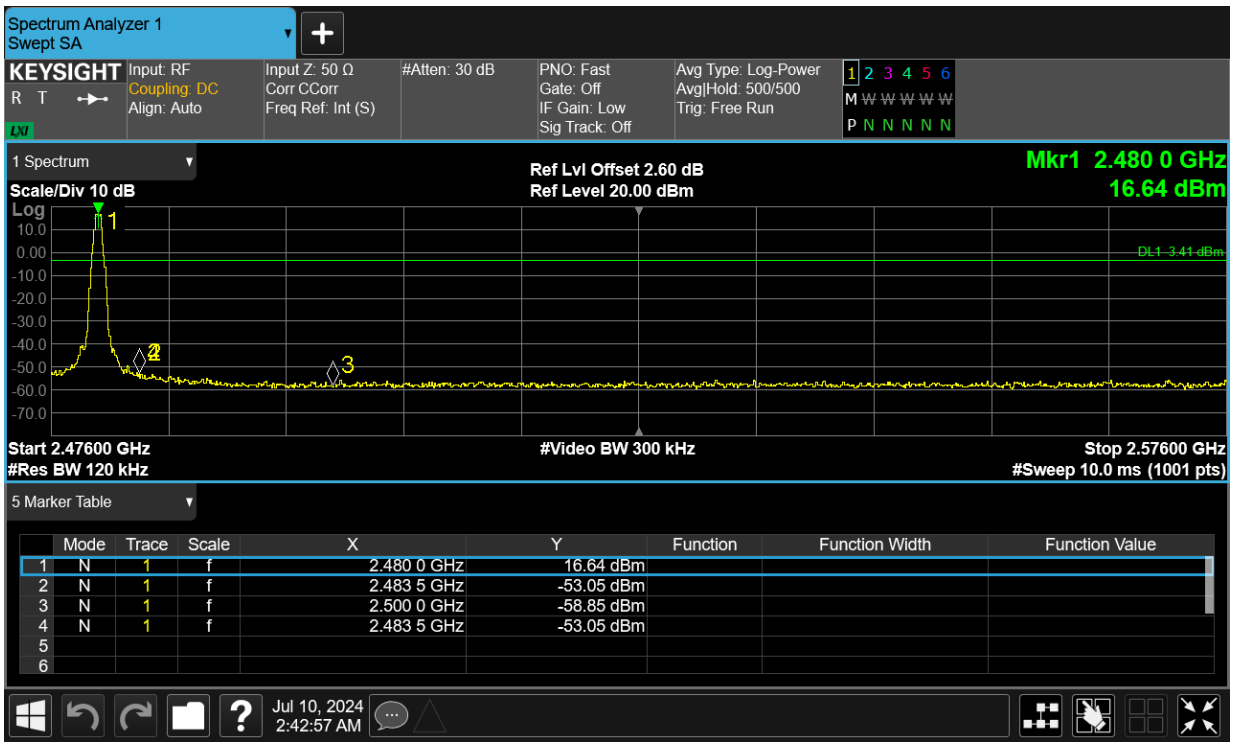
Band Edge NVNT 1-DH1 2402MHz ANT13 No-Hopping Emission



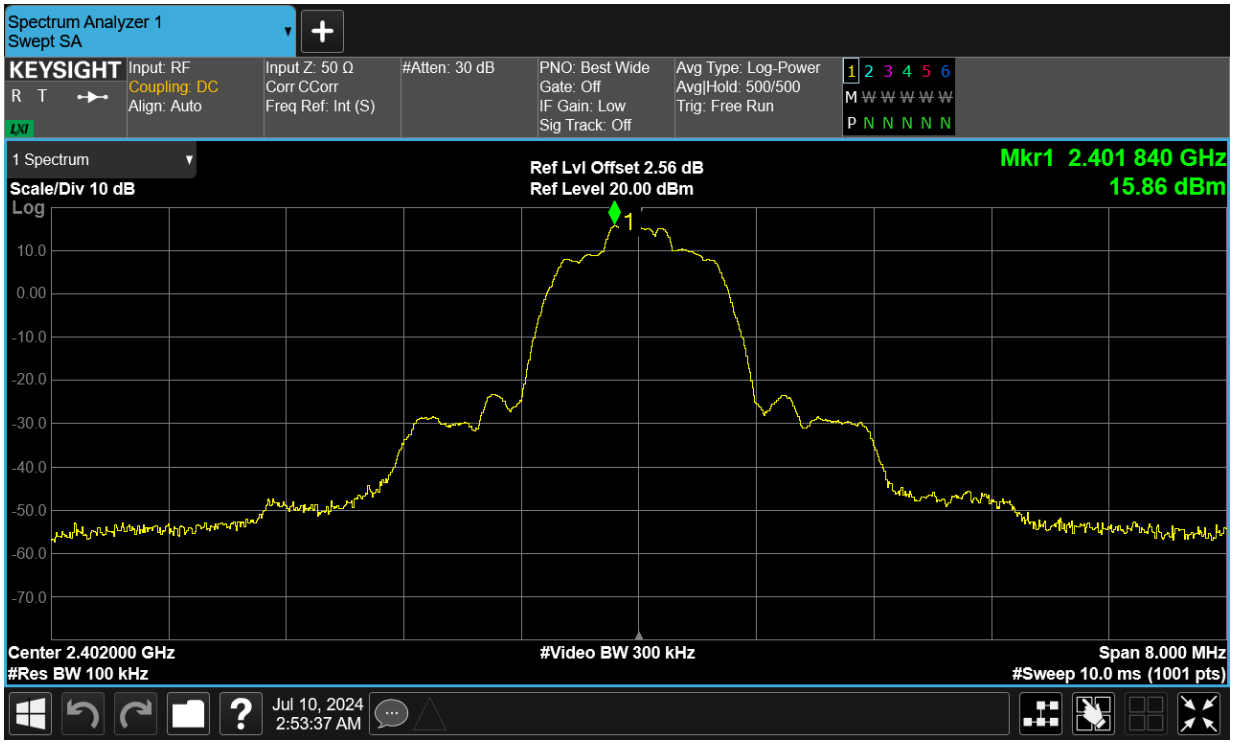
Band Edge NVNT 1-DH1 2480MHz ANT13 No-Hopping Ref



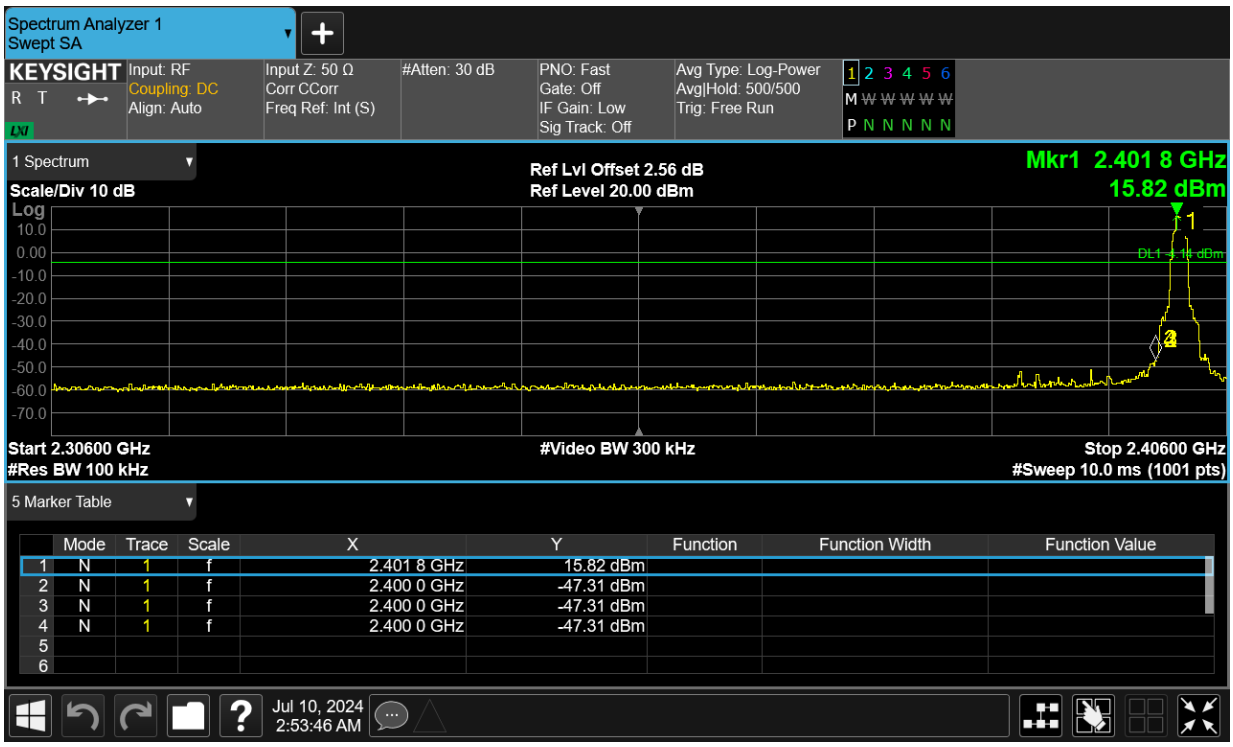
Band Edge NVNT 1-DH1 2480MHz ANT13 No-Hopping Emission



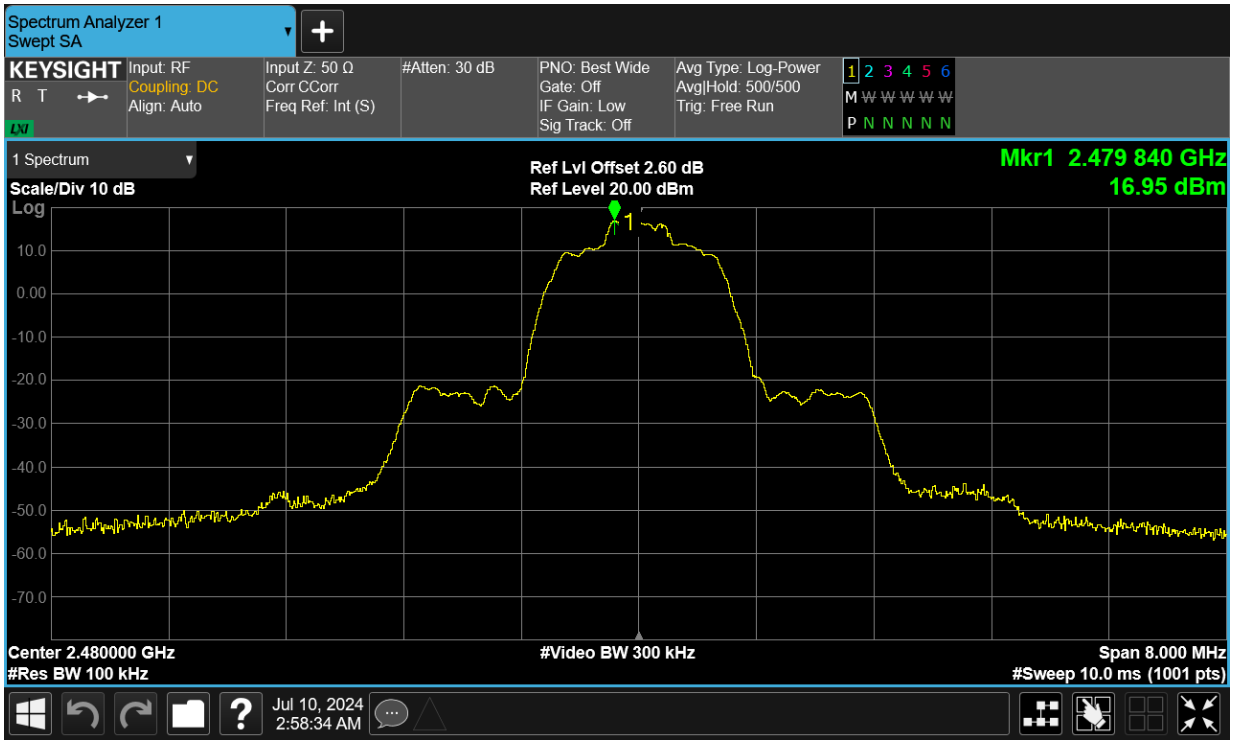
Band Edge NVNT 2-DH1 2402MHz ANT13 No-Hopping Ref



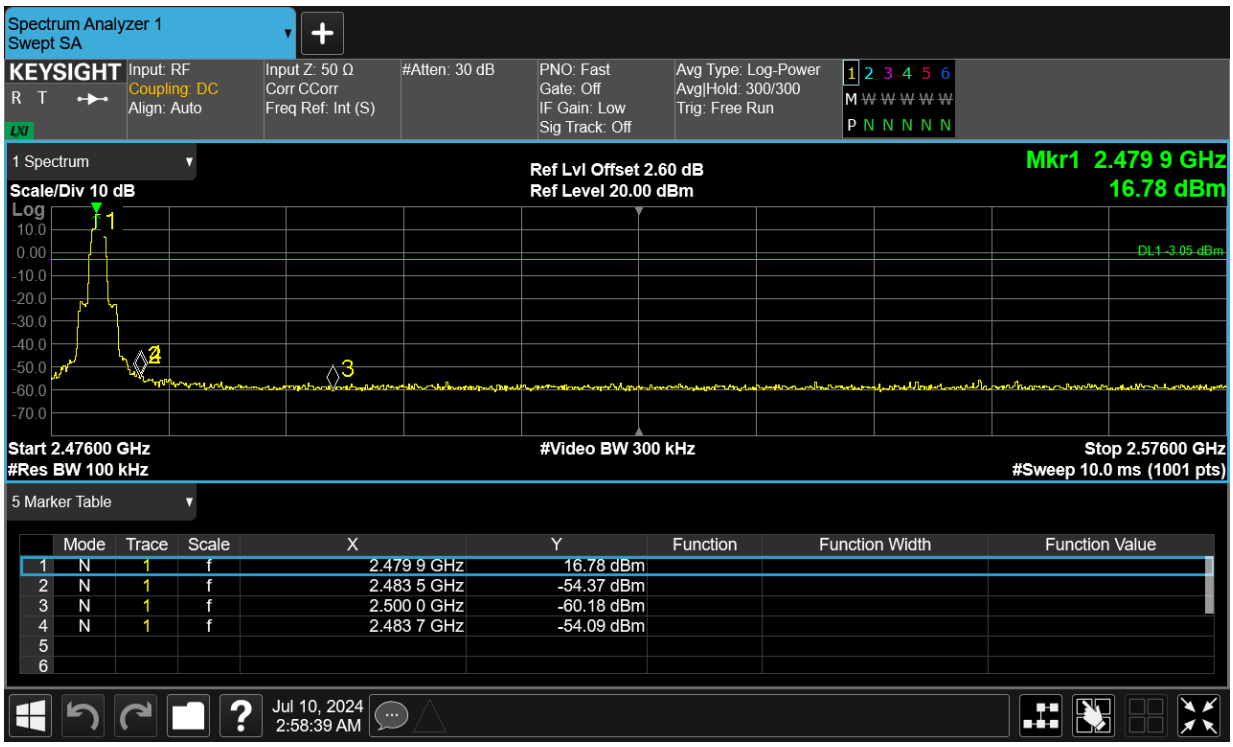
Band Edge NVNT 2-DH1 2402MHz ANT13 No-Hopping Emission



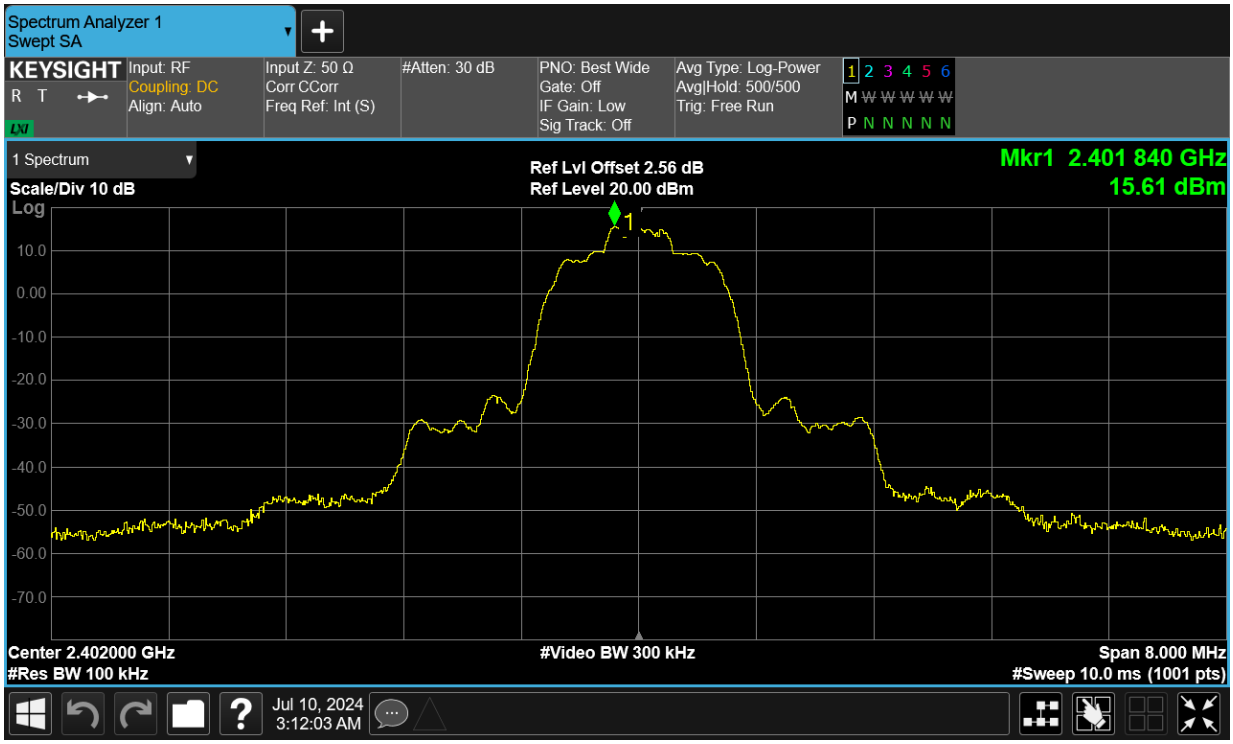
Band Edge NVNT 2-DH1 2480MHz ANT13 No-Hopping Ref



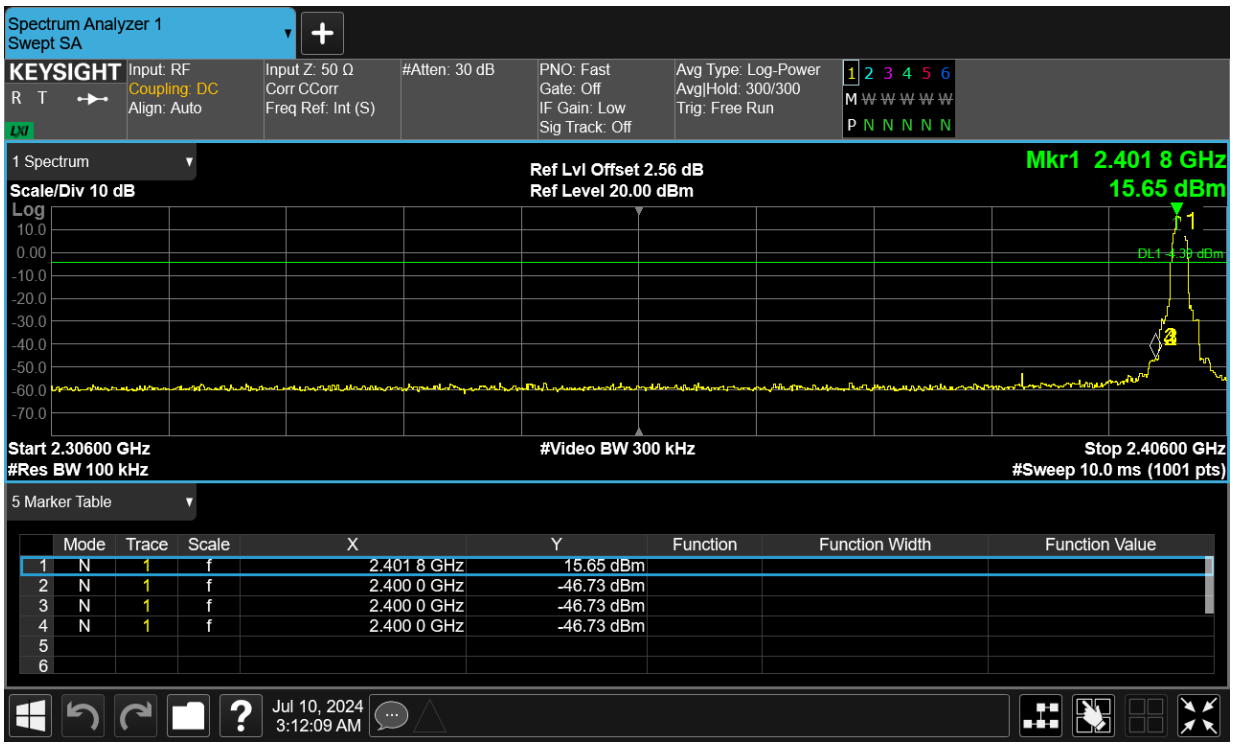
Band Edge NVNT 2-DH1 2480MHz ANT13 No-Hopping Emission



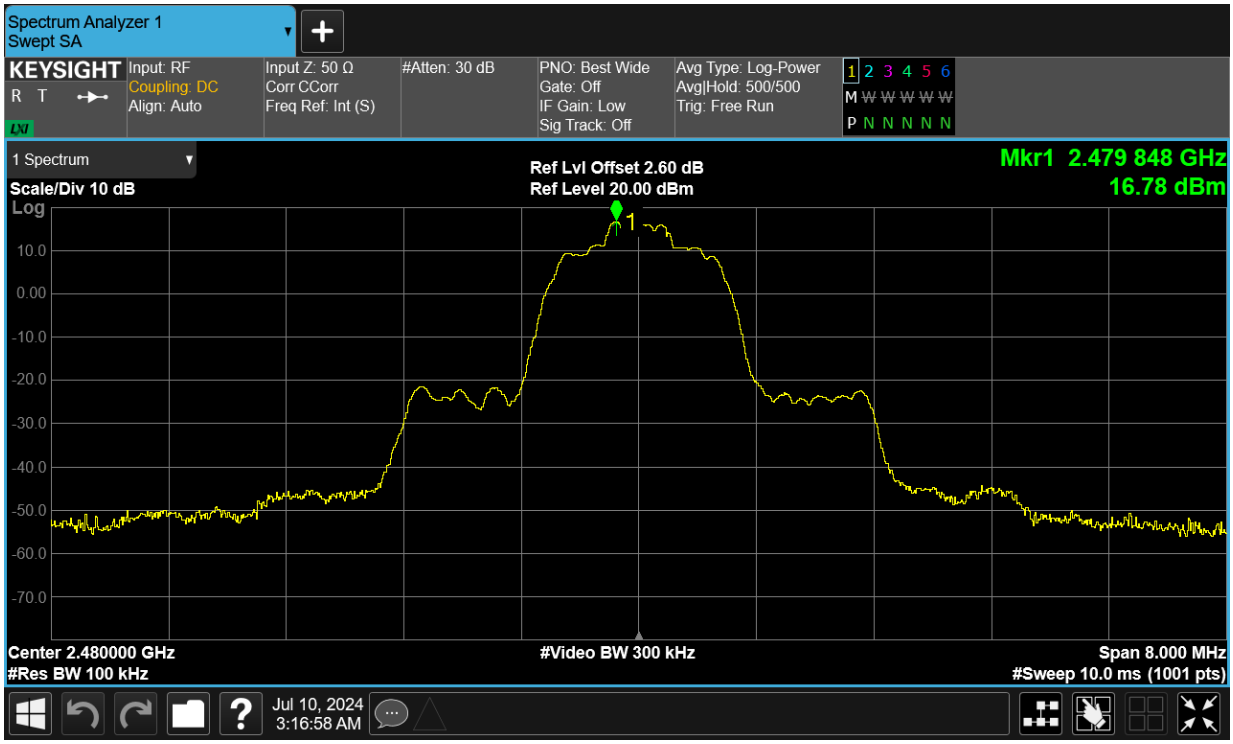
Band Edge NVNT 3-DH1 2402MHz ANT13 No-Hopping Ref



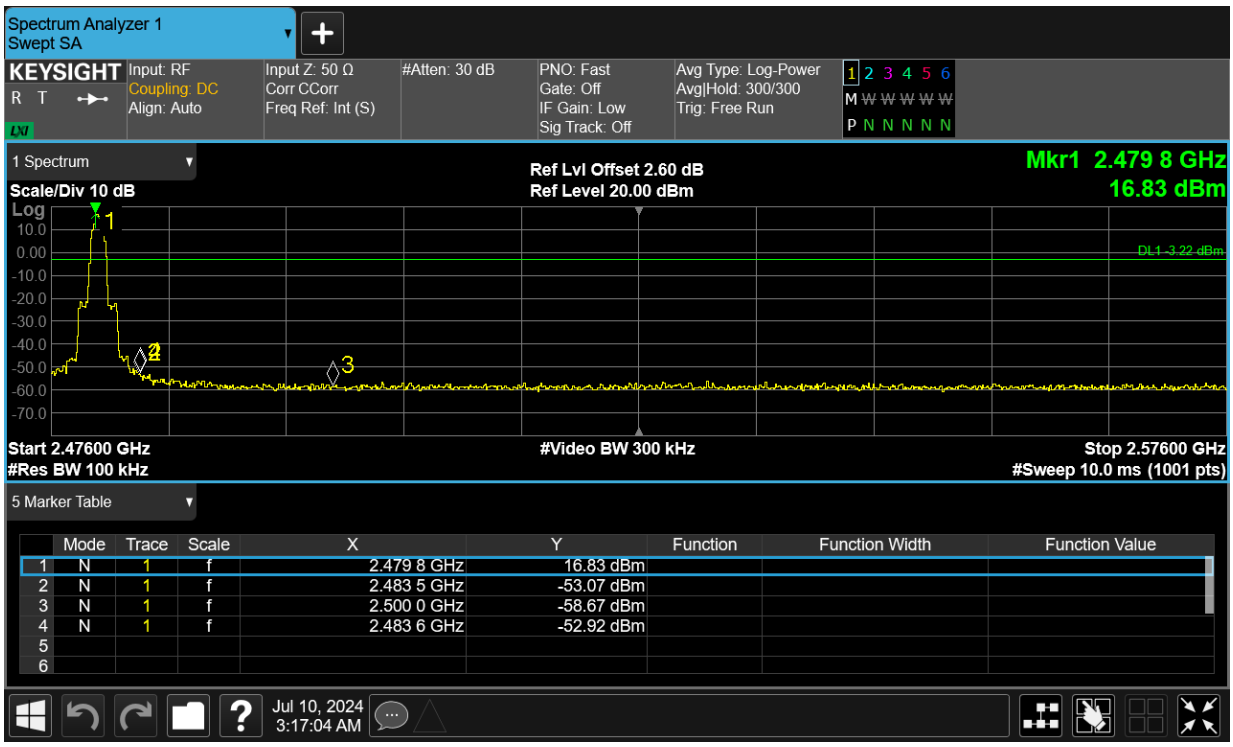
Band Edge NVNT 3-DH1 2402MHz ANT13 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz ANT13 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz ANT13 No-Hopping Emission

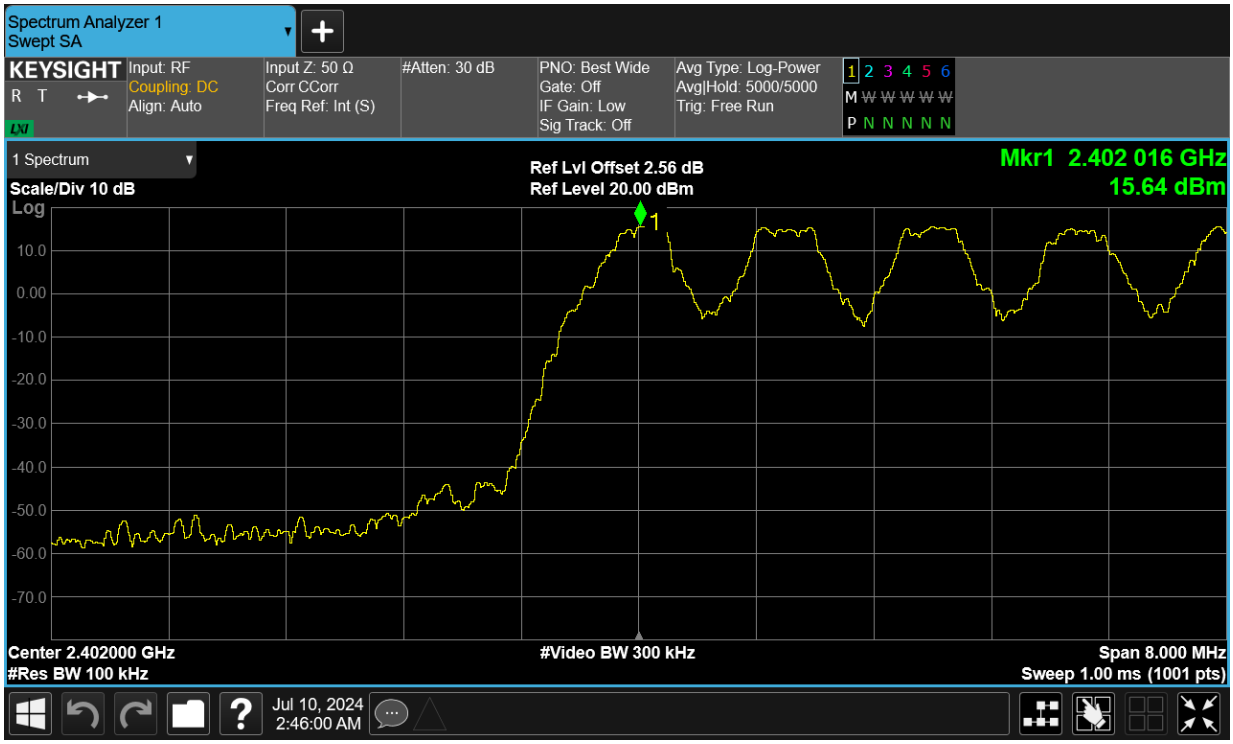


Band Edge(Hopping)

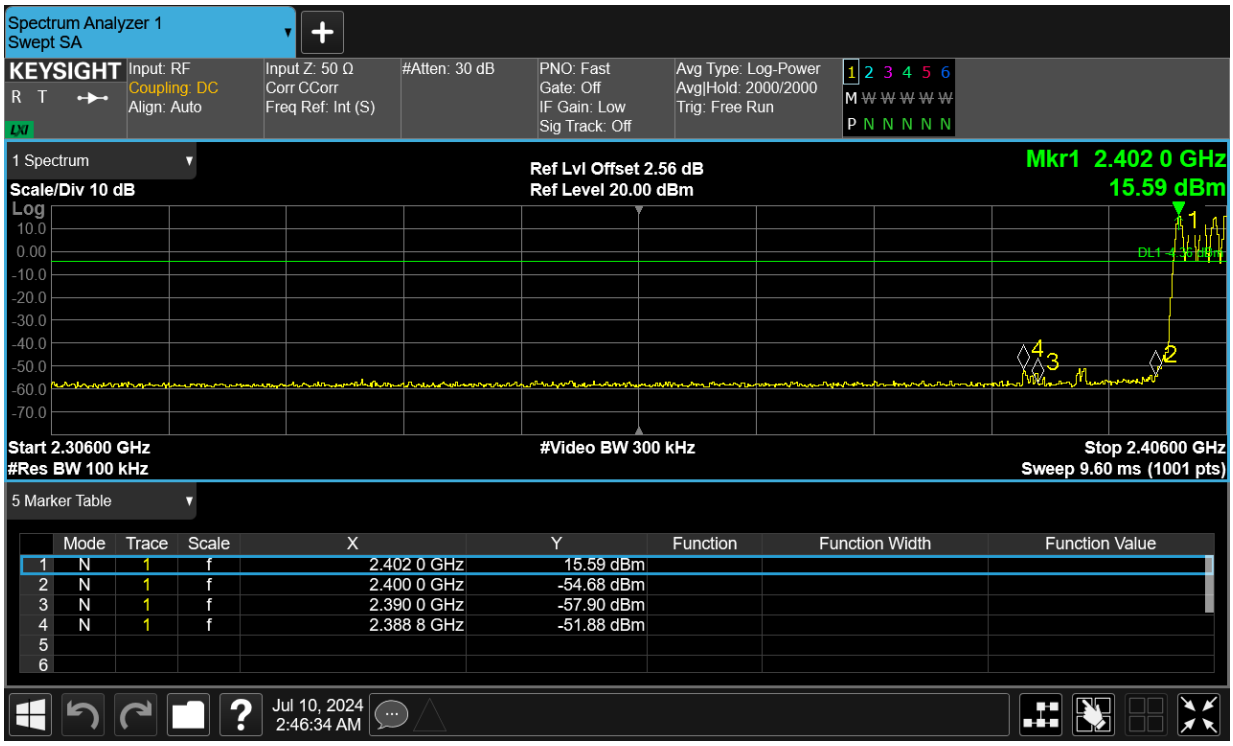
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	ANT13	Hopping	-67.52	-20	Pass
NVNT	1-DH1	2480	ANT13	Hopping	-68.67	-20	Pass
NVNT	2-DH1	2402	ANT13	Hopping	-71.69	-20	Pass
NVNT	2-DH1	2480	ANT13	Hopping	-72.2	-20	Pass
NVNT	3-DH1	2402	ANT13	Hopping	-72.12	-20	Pass
NVNT	3-DH1	2480	ANT13	Hopping	-70.56	-20	Pass

Test Graphs

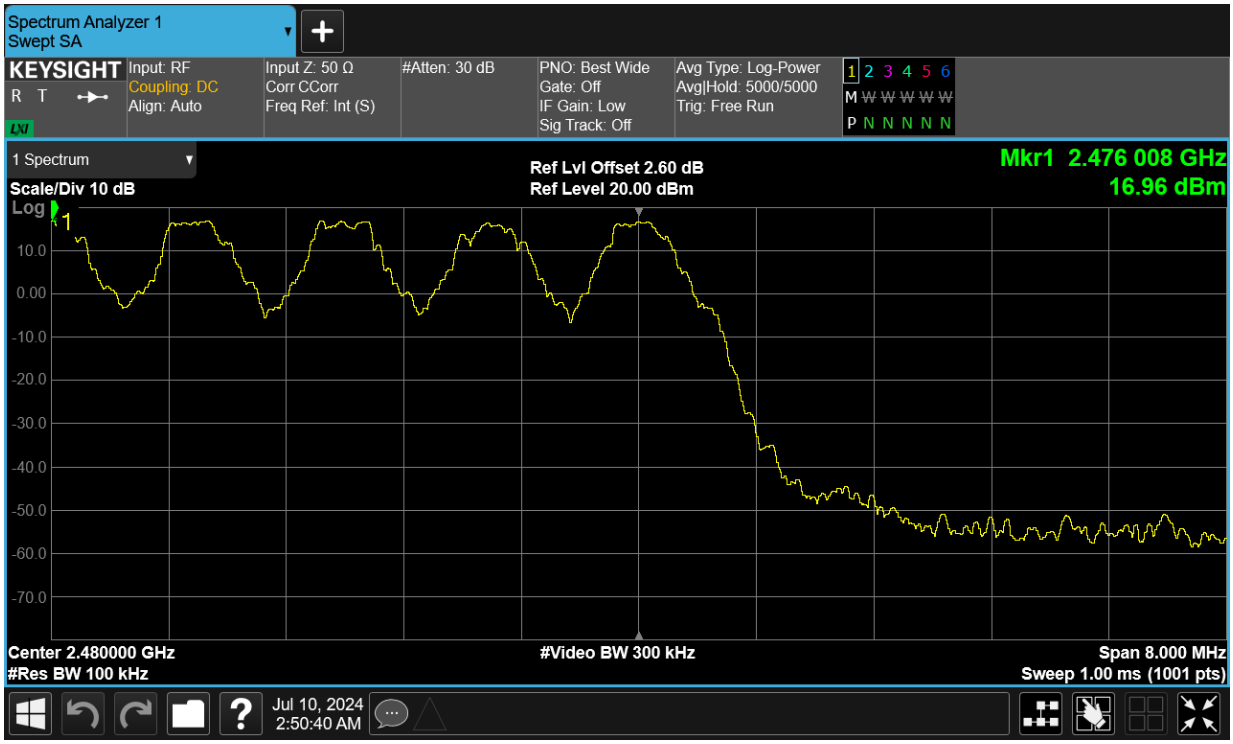
Band Edge(Hopping) NVNT 1-DH1 2402MHz ANT13 Hopping Ref



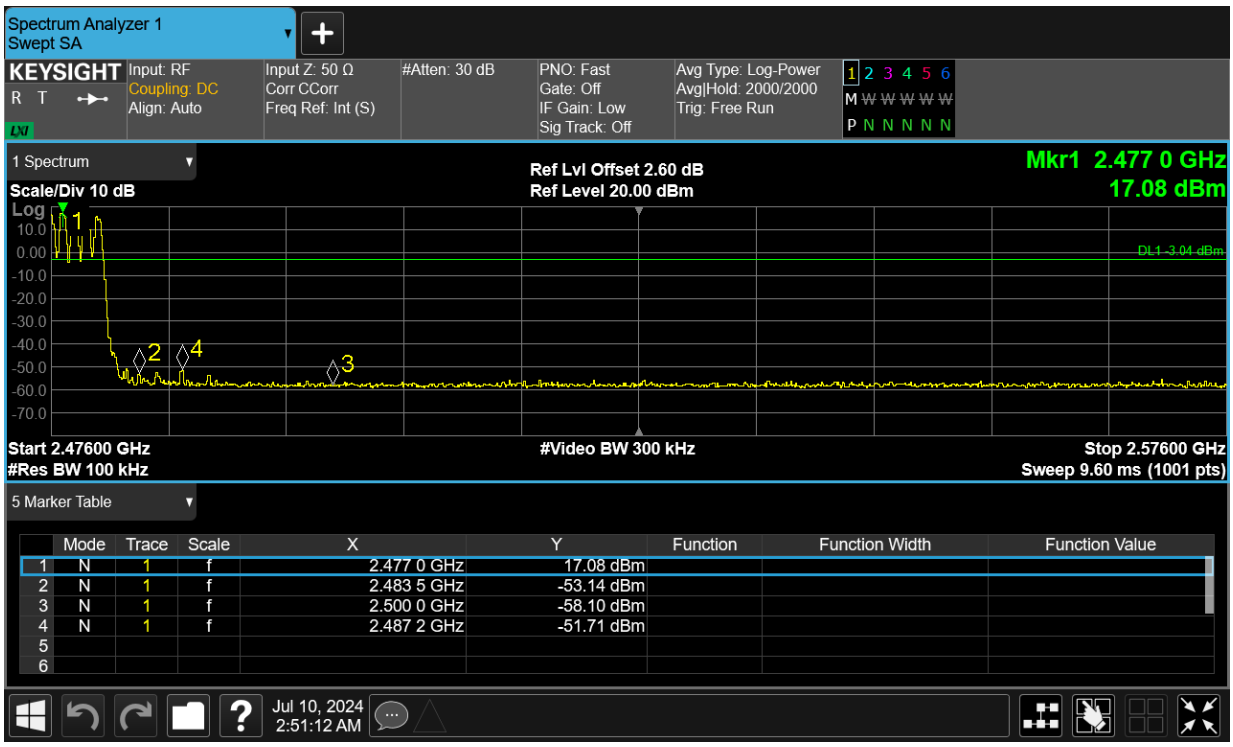
Band Edge(Hopping) NVNT 1-DH1 2402MHz ANT13 Hopping Emission



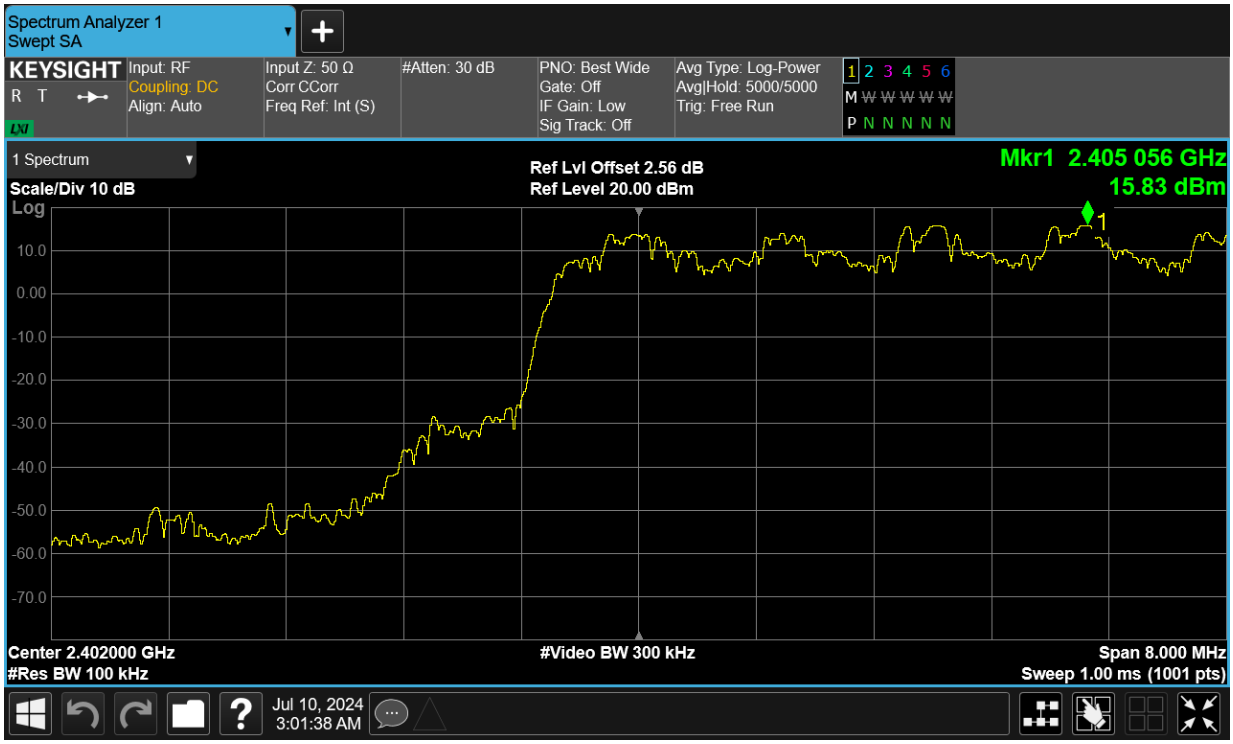
Band Edge(Hopping) NVNT 1-DH1 2480MHz ANT13 Hopping Ref



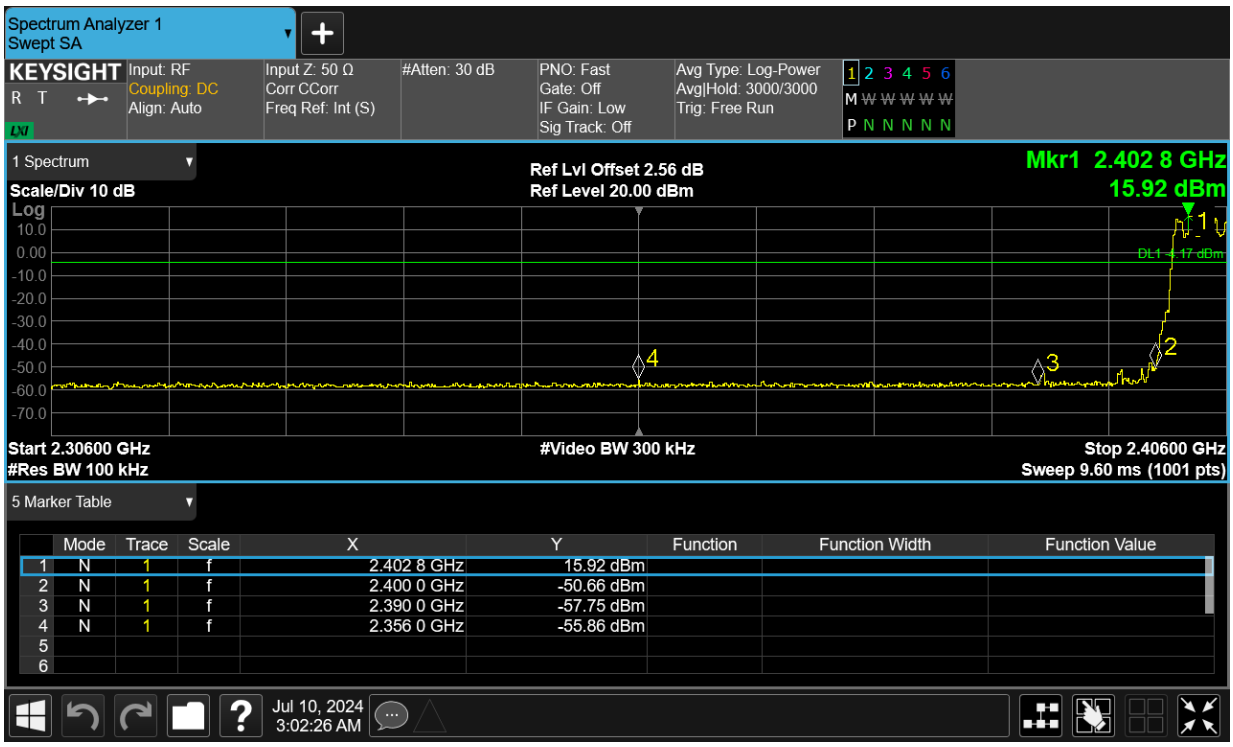
Band Edge(Hopping) NVNT 1-DH1 2480MHz ANT13 Hopping Emission



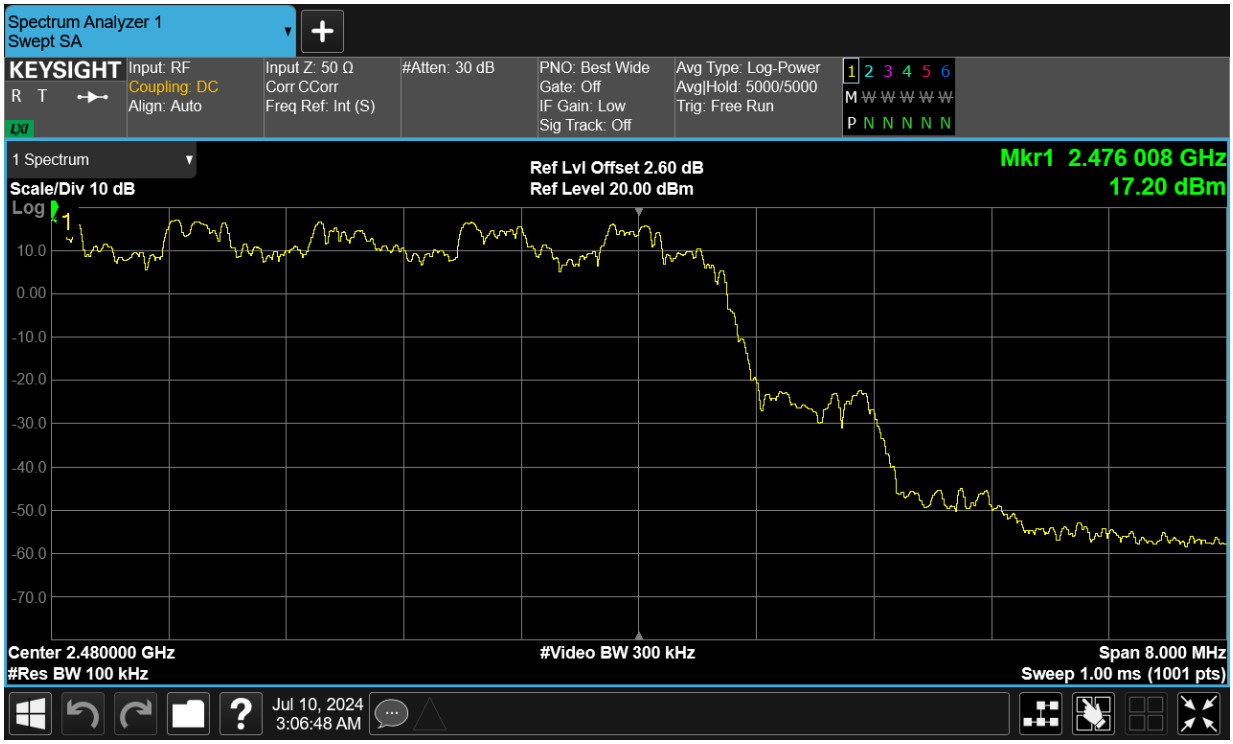
Band Edge(Hopping) NVNT 2-DH1 2402MHz ANT13 Hopping Ref



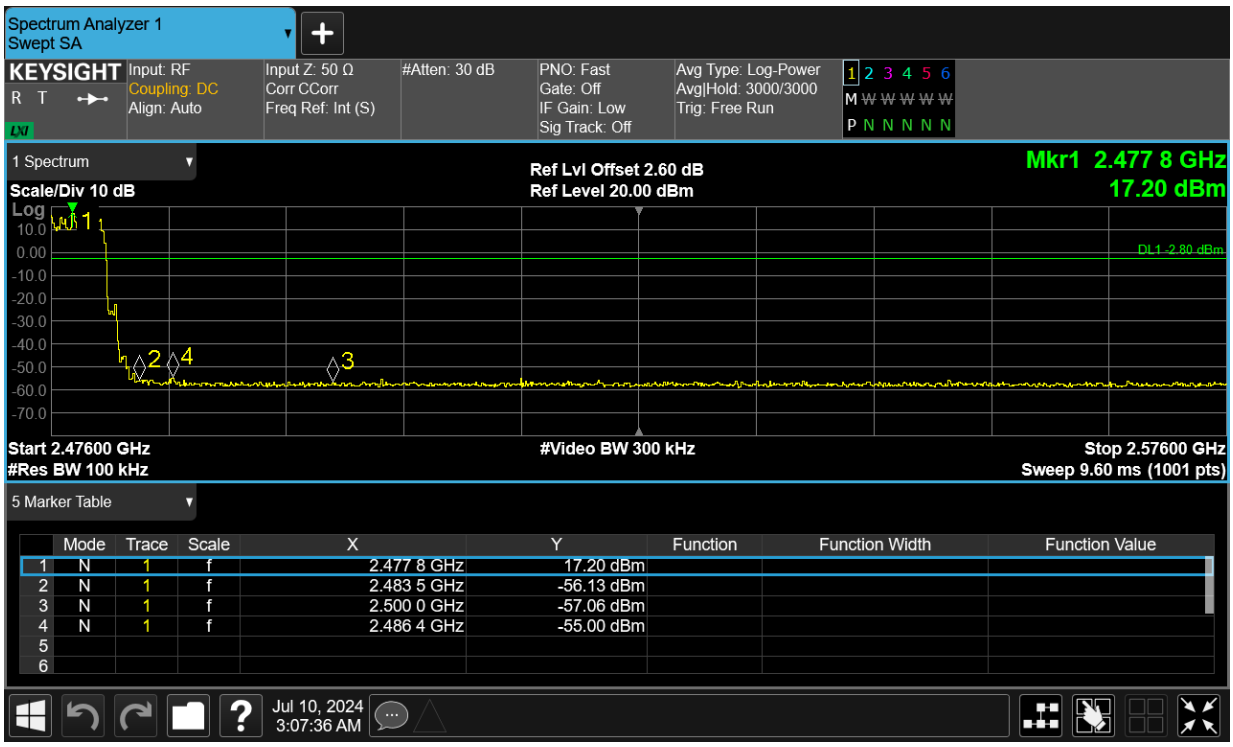
Band Edge(Hopping) NVNT 2-DH1 2402MHz ANT13 Hopping Emission



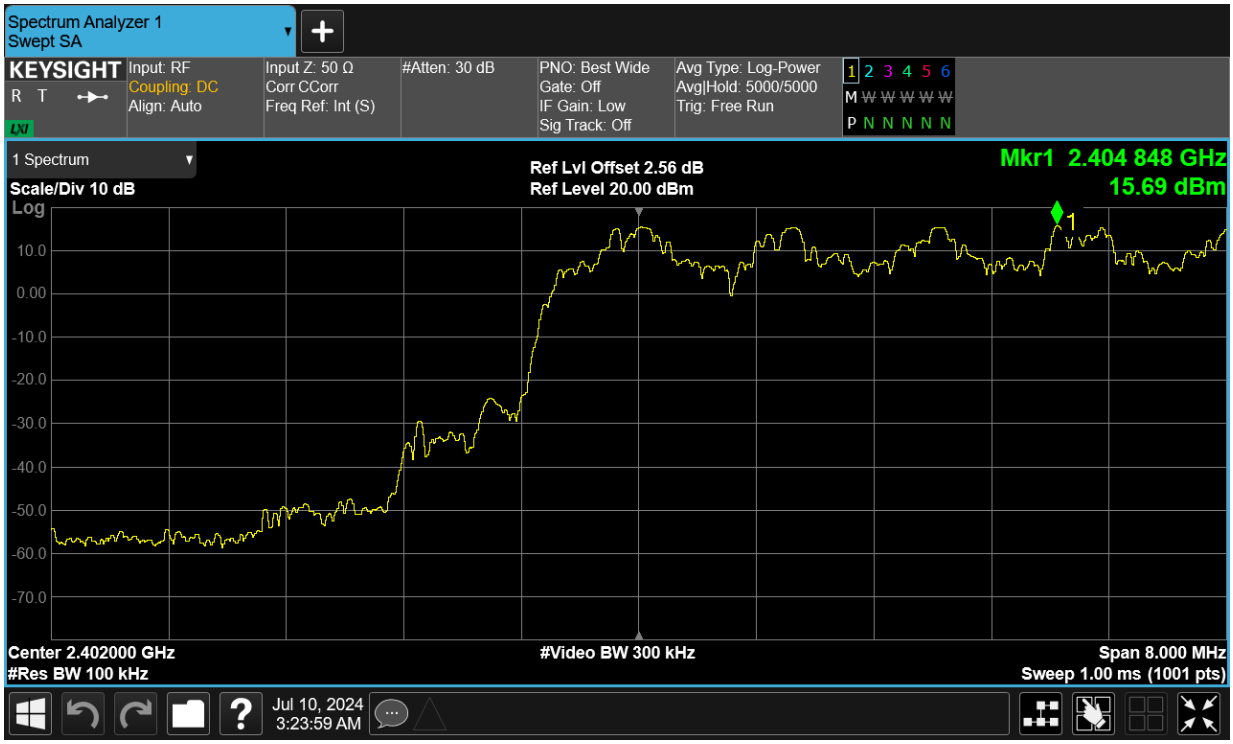
Band Edge(Hopping) NVNT 2-DH1 2480MHz ANT13 Hopping Ref



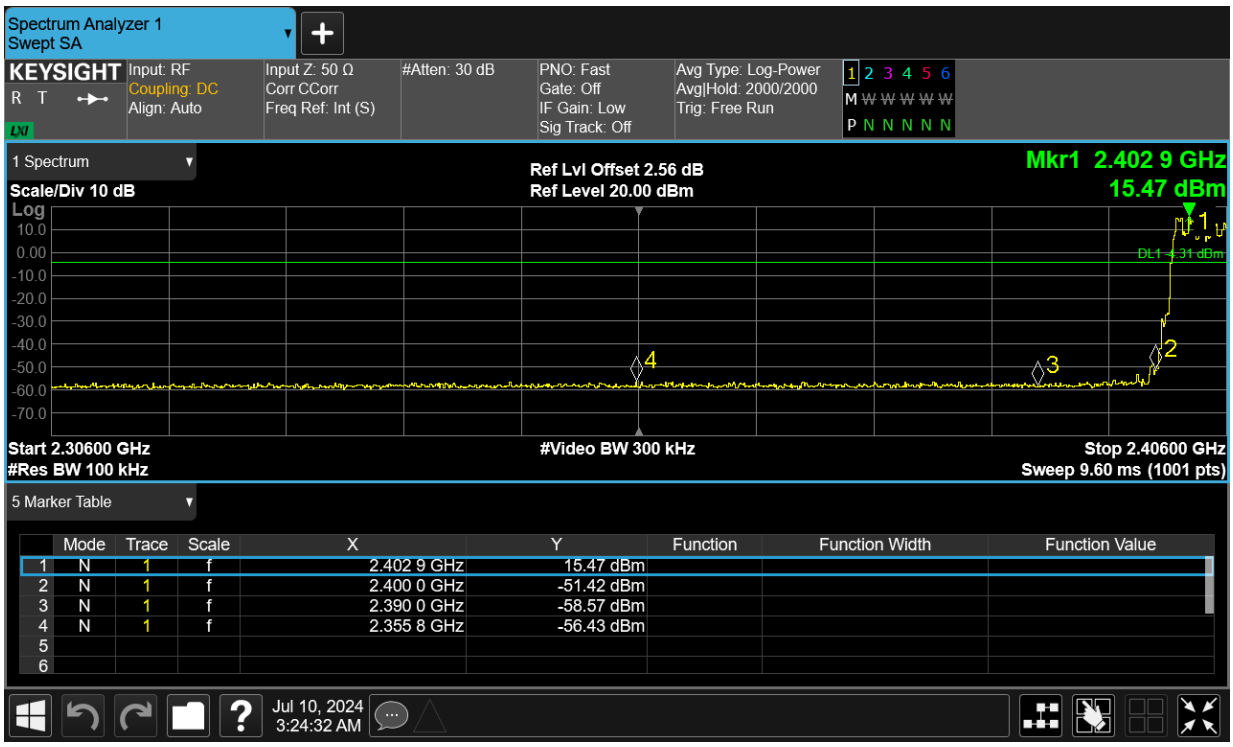
Band Edge(Hopping) NVNT 2-DH1 2480MHz ANT13 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2402MHz ANT13 Hopping Ref

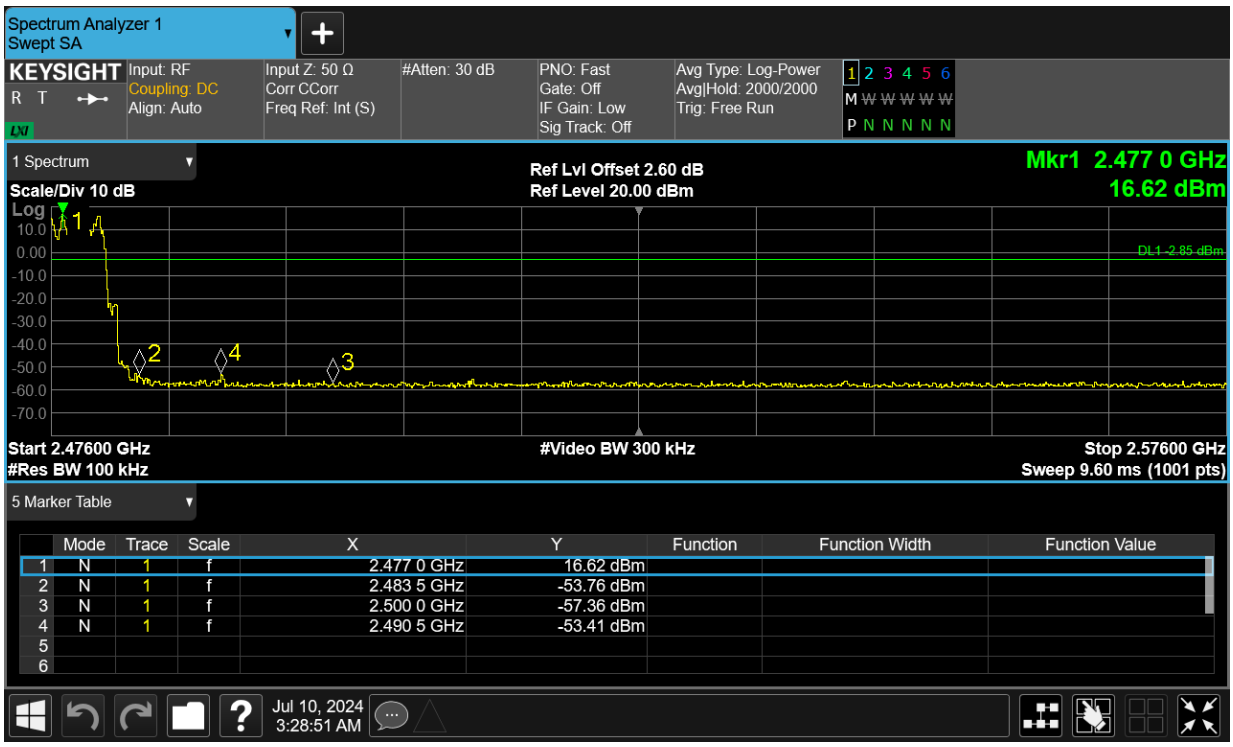


Band Edge(Hopping) NVNT 3-DH1 2402MHz ANT13 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz ANT13 Hopping Ref

Band Edge(Hopping) NVNT 3-DH1 2480MHz ANT13 Hopping Emission

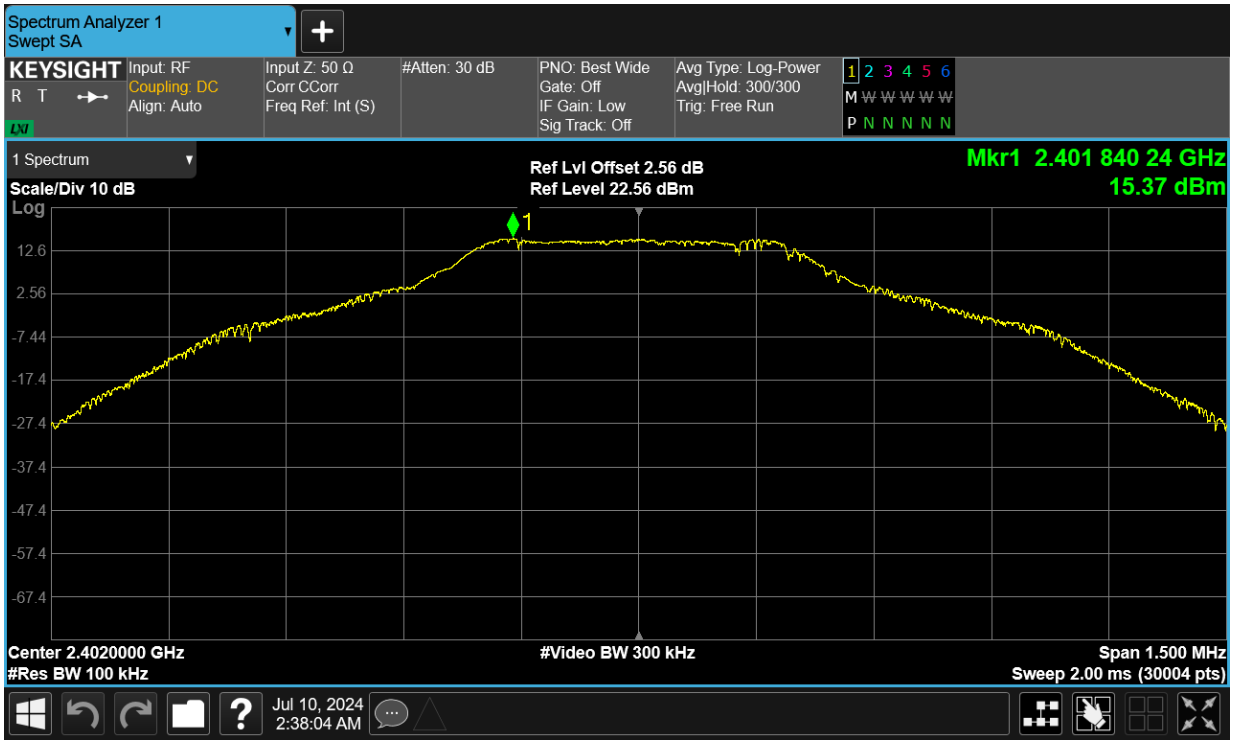


Conducted RF Spurious Emission

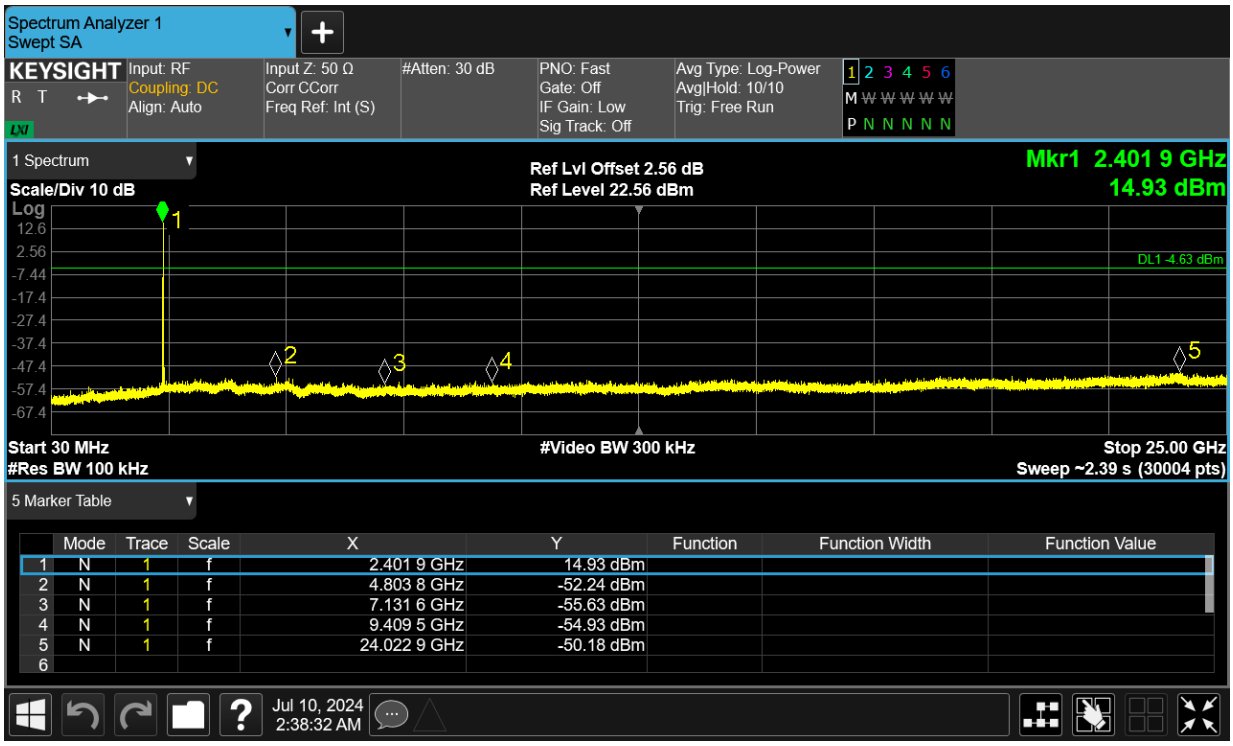
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	ANT13	-65.55	-20	Pass
NVNT	1-DH1	2441	ANT13	-66.5	-20	Pass
NVNT	1-DH1	2480	ANT13	-66.5	-20	Pass
NVNT	2-DH1	2402	ANT13	-66.22	-20	Pass
NVNT	2-DH1	2441	ANT13	-66.73	-20	Pass
NVNT	2-DH1	2480	ANT13	-66.4	-20	Pass
NVNT	3-DH1	2402	ANT13	-65.48	-20	Pass
NVNT	3-DH1	2441	ANT13	-67.03	-20	Pass
NVNT	3-DH1	2480	ANT13	-66.66	-20	Pass

Test Graphs

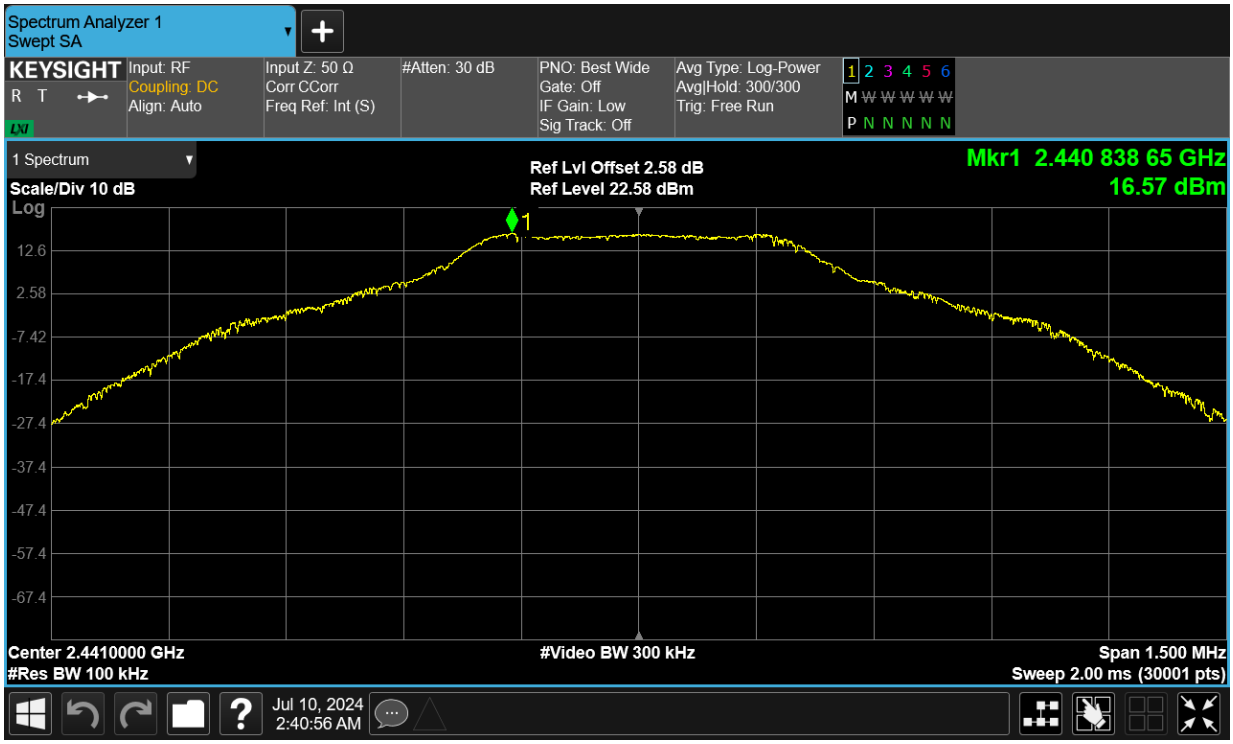
Tx. Spurious NVNT 1-DH1 2402MHz ANT13 Ref



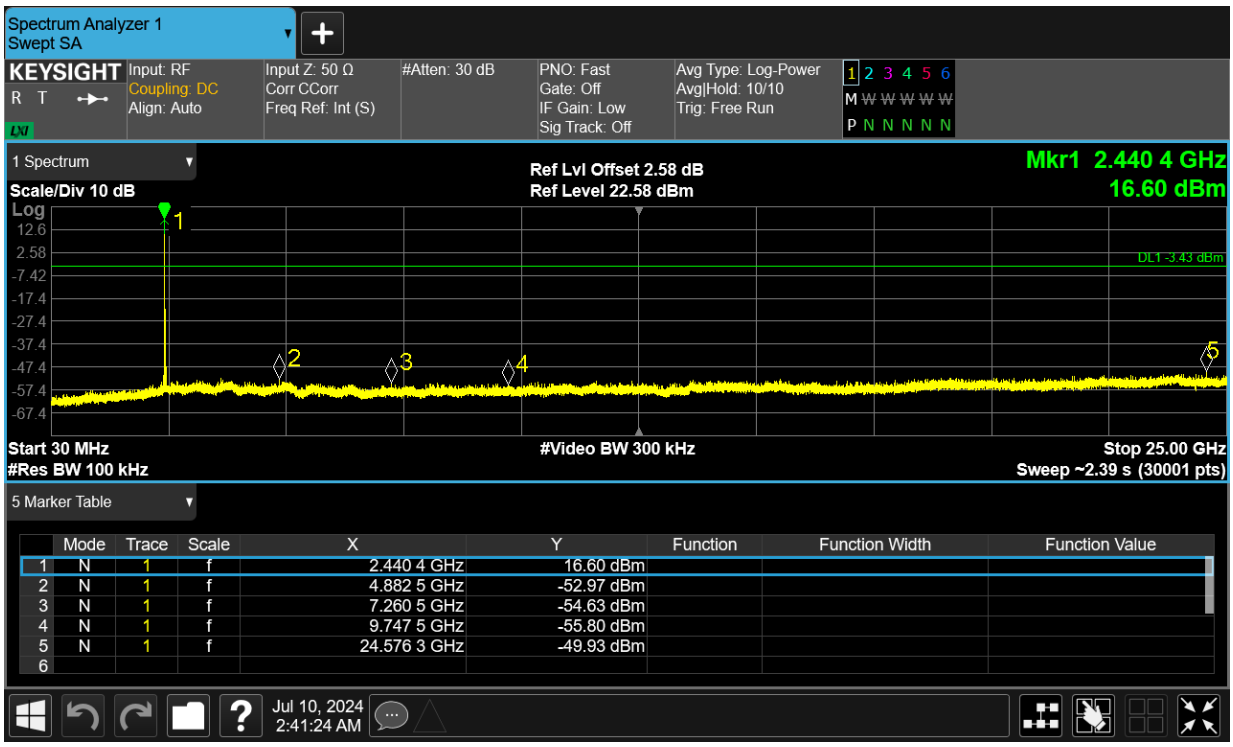
Tx. Spurious NVNT 1-DH1 2402MHz ANT13 Emission



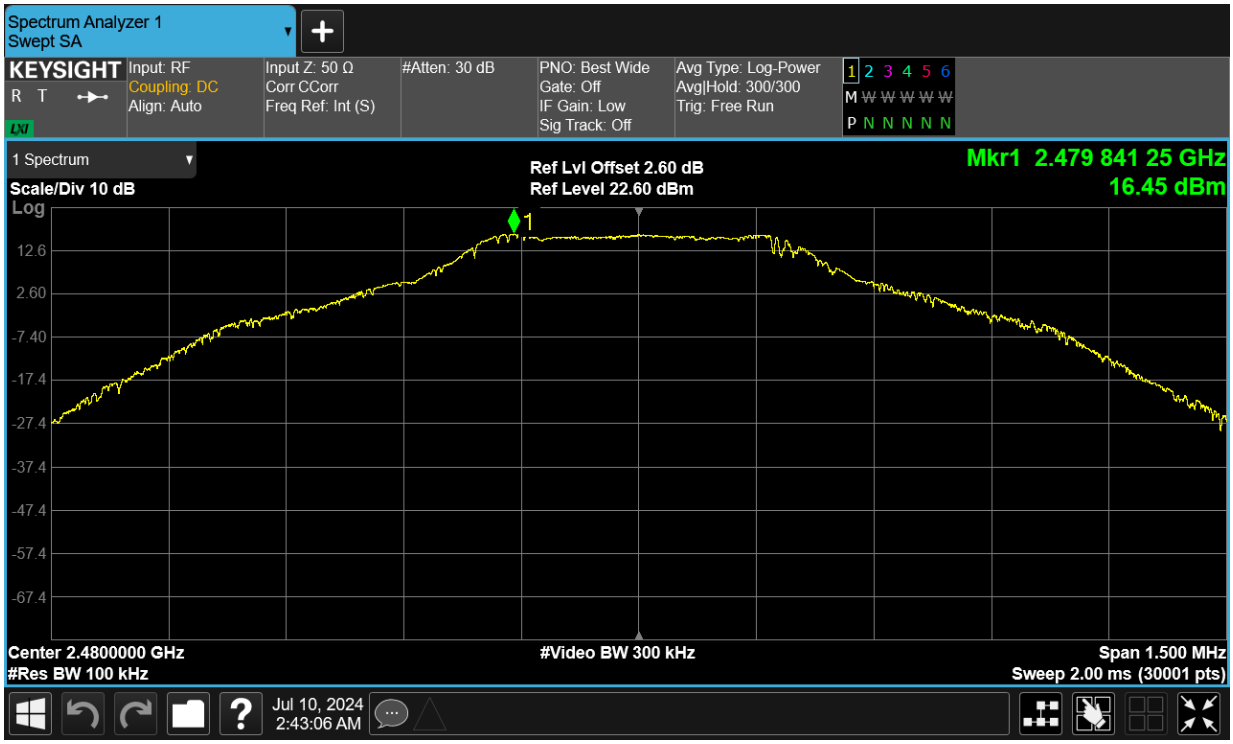
Tx. Spurious NVNT 1-DH1 2441MHz ANT13 Ref



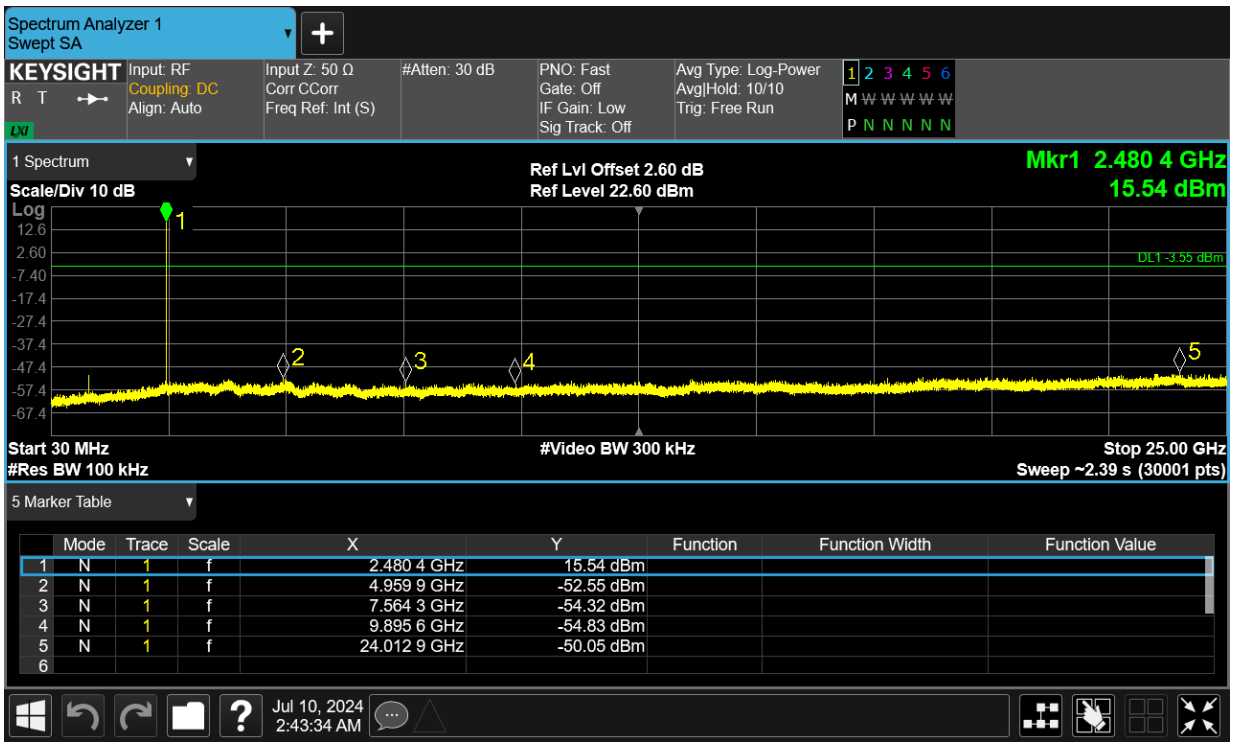
Tx. Spurious NVNT 1-DH1 2441MHz ANT13 Emission



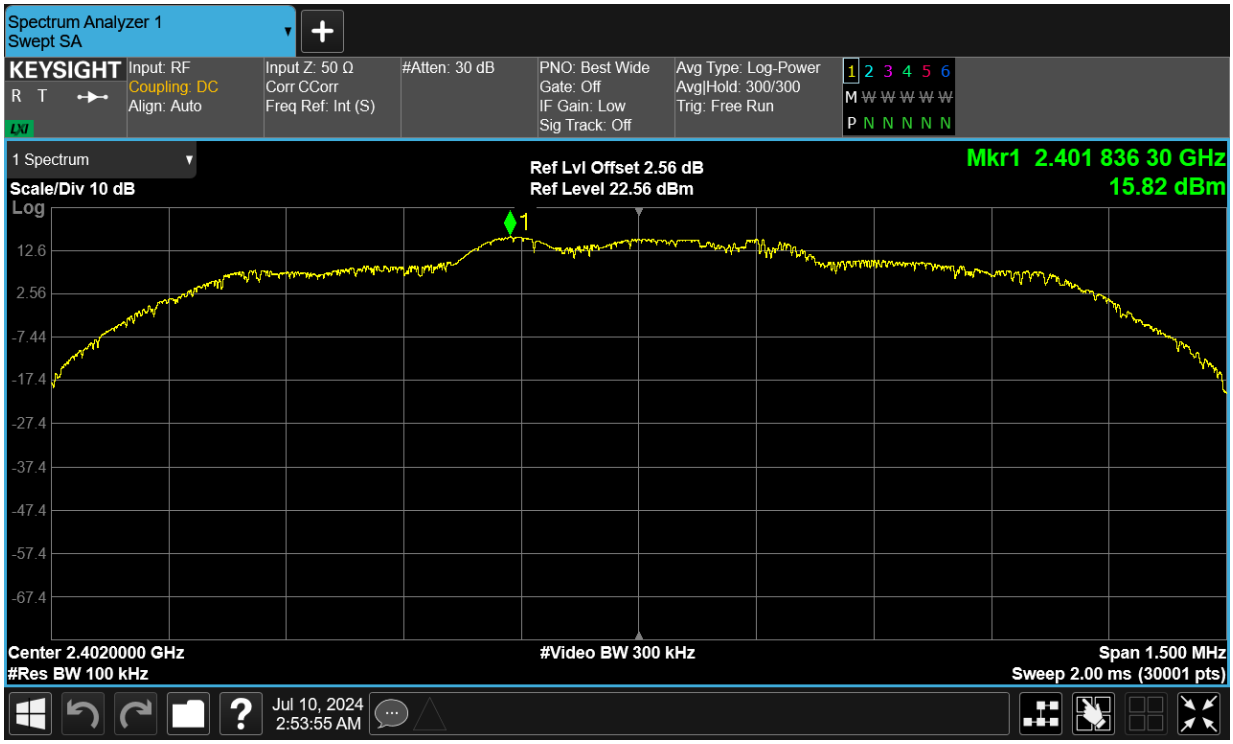
Tx. Spurious NVNT 1-DH1 2480MHz ANT13 Ref



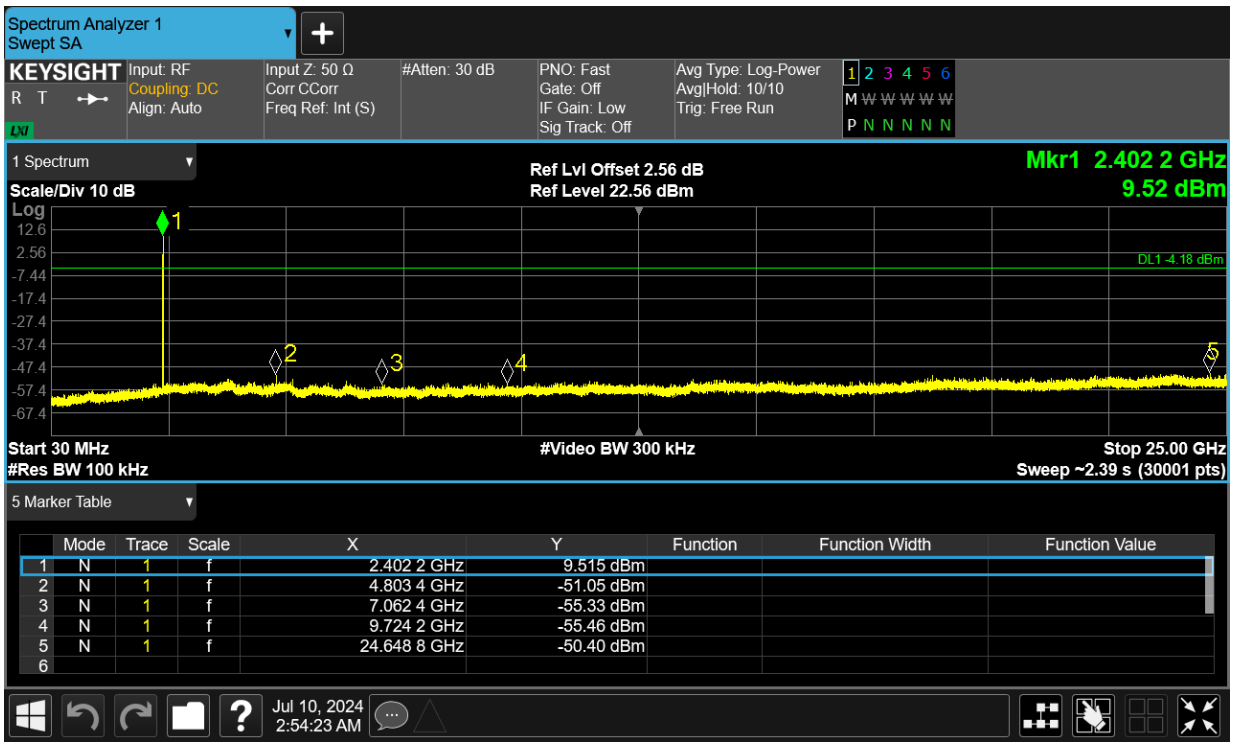
Tx. Spurious NVNT 1-DH1 2480MHz ANT13 Emission



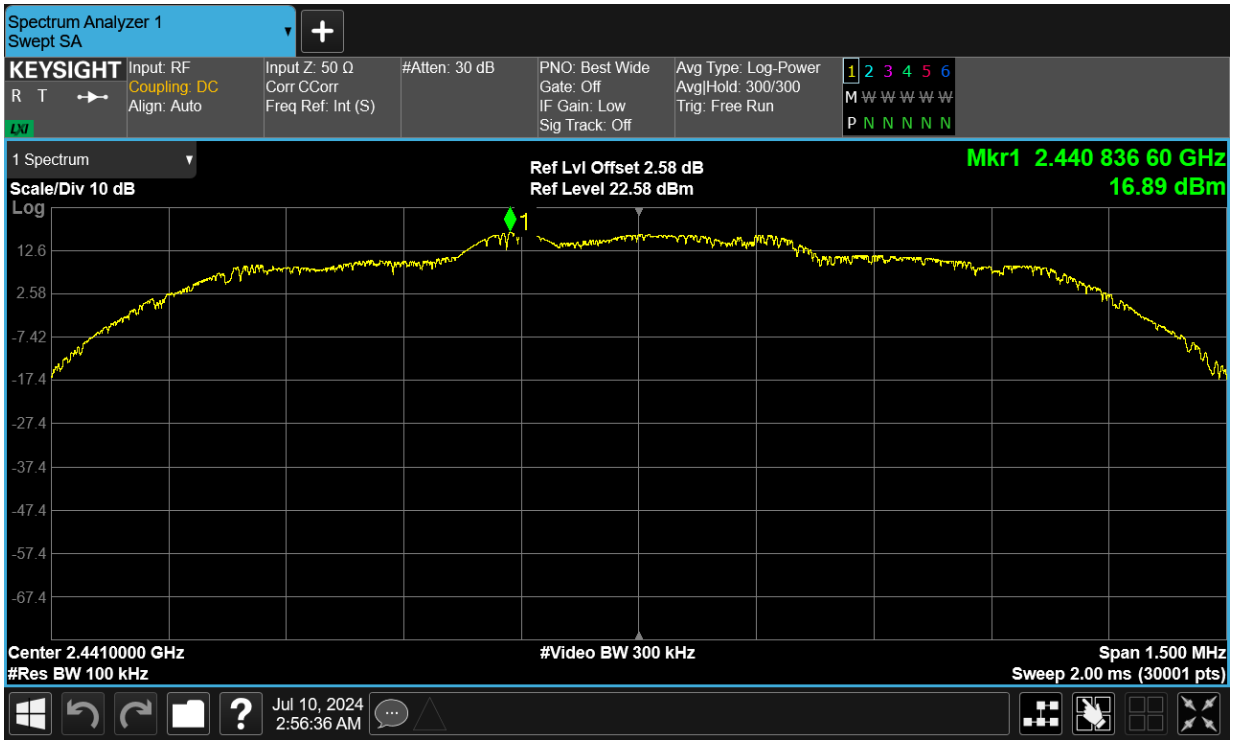
Tx. Spurious NVNT 2-DH1 2402MHz ANT13 Ref



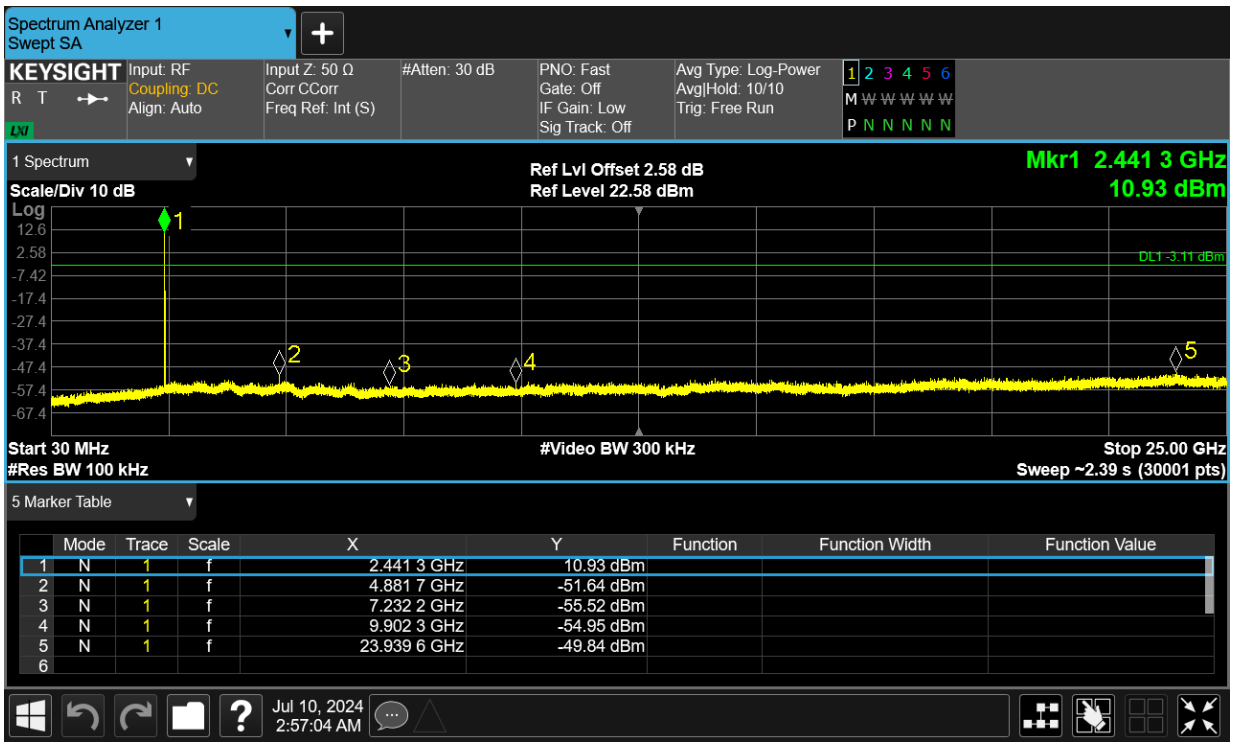
Tx. Spurious NVNT 2-DH1 2402MHz ANT13 Emission



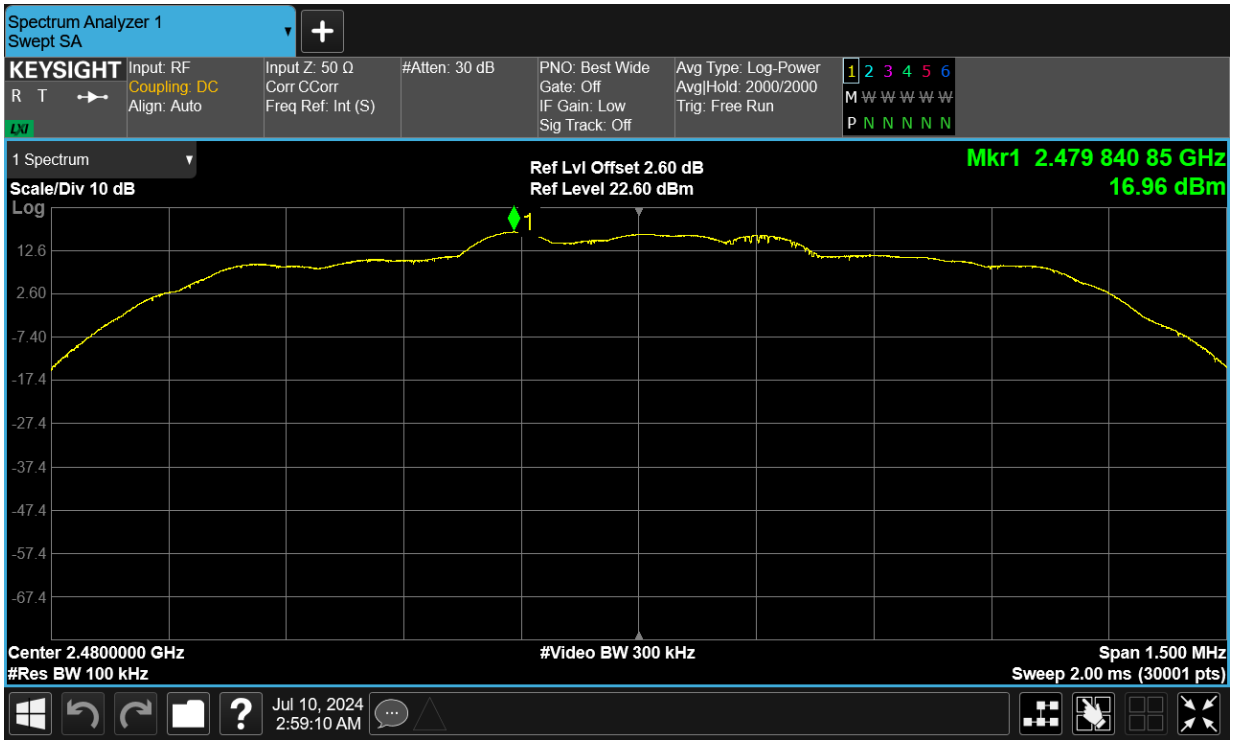
Tx. Spurious NVNT 2-DH1 2441MHz ANT13 Ref



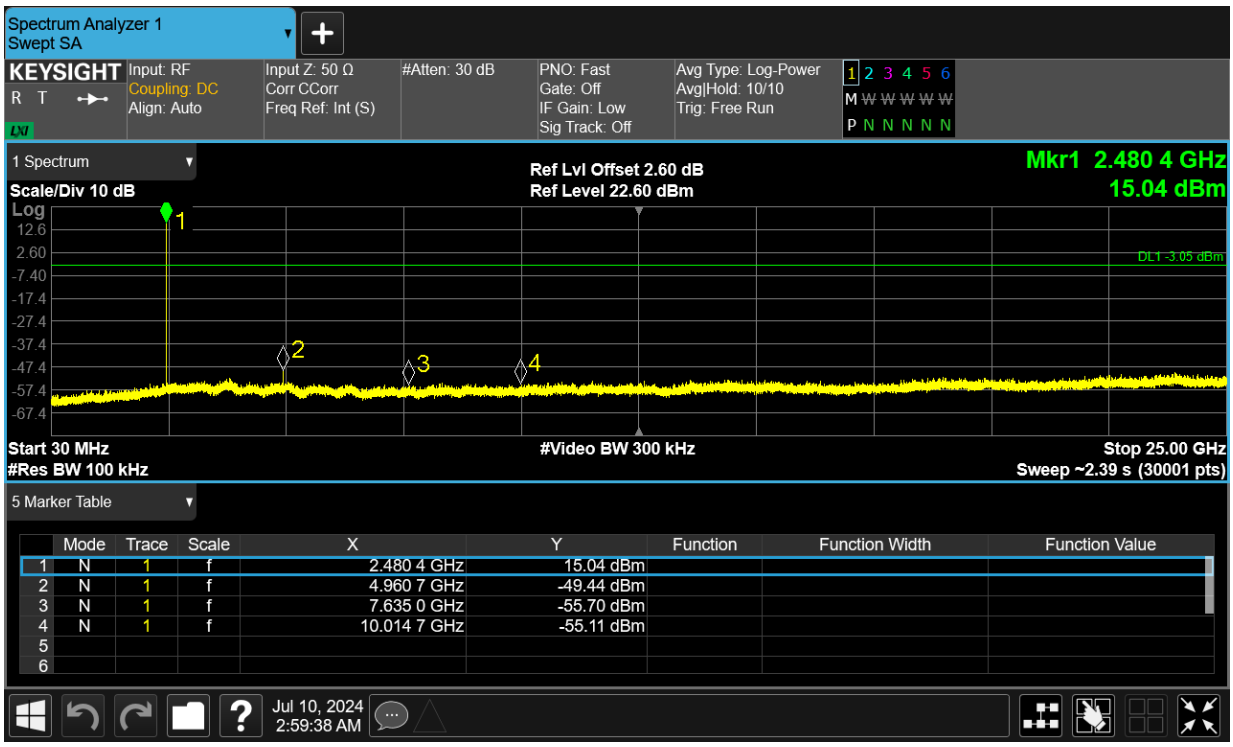
Tx. Spurious NVNT 2-DH1 2441MHz ANT13 Emission



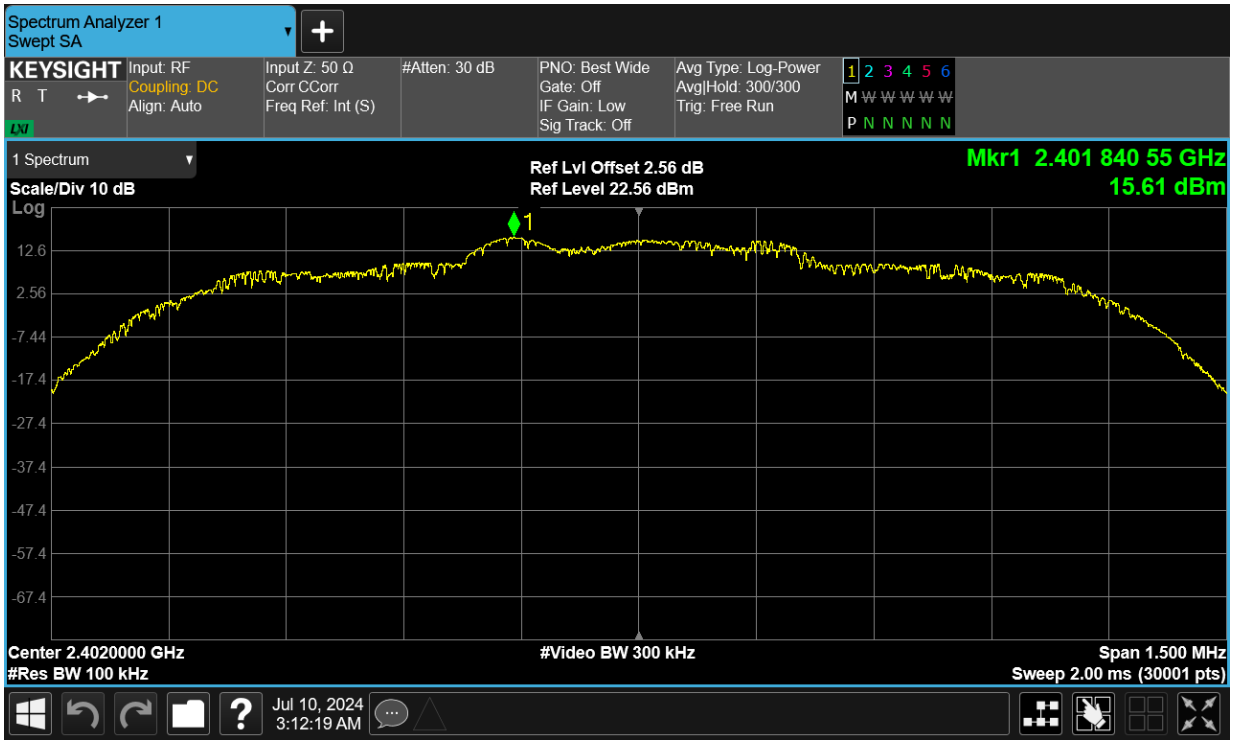
Tx. Spurious NVNT 2-DH1 2480MHz ANT13 Ref



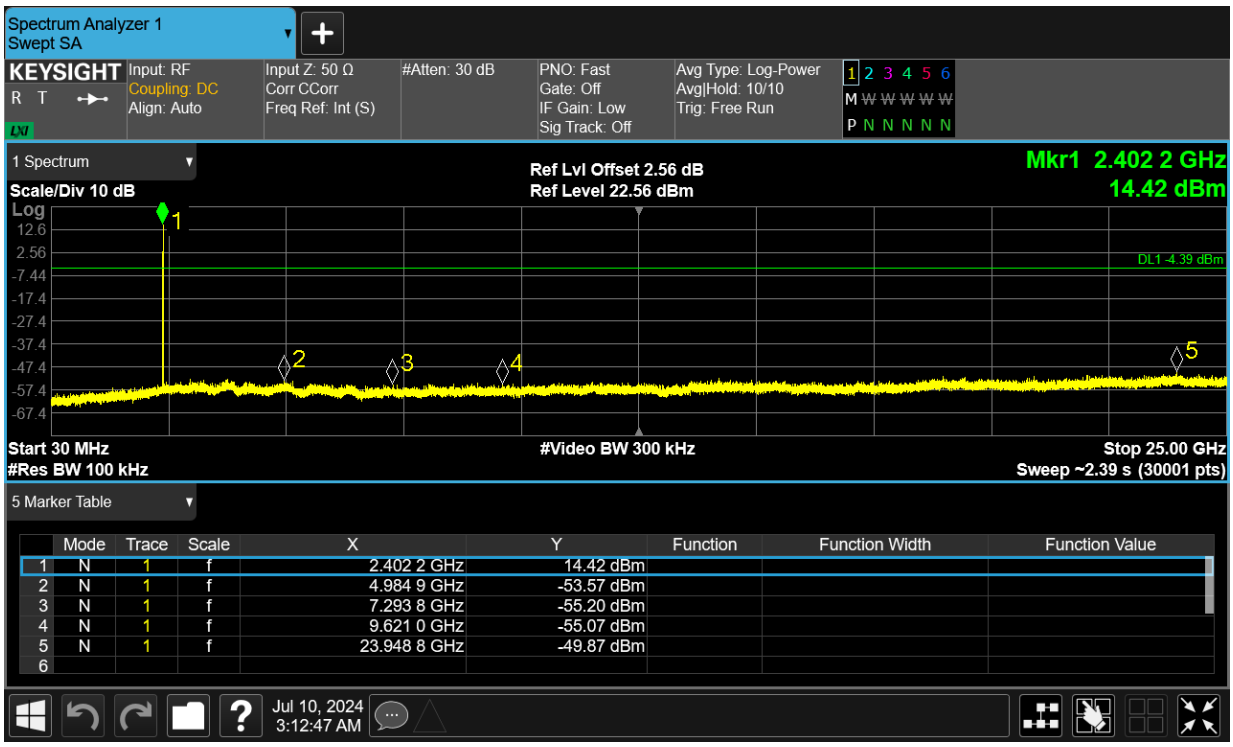
Tx. Spurious NVNT 2-DH1 2480MHz ANT13 Emission



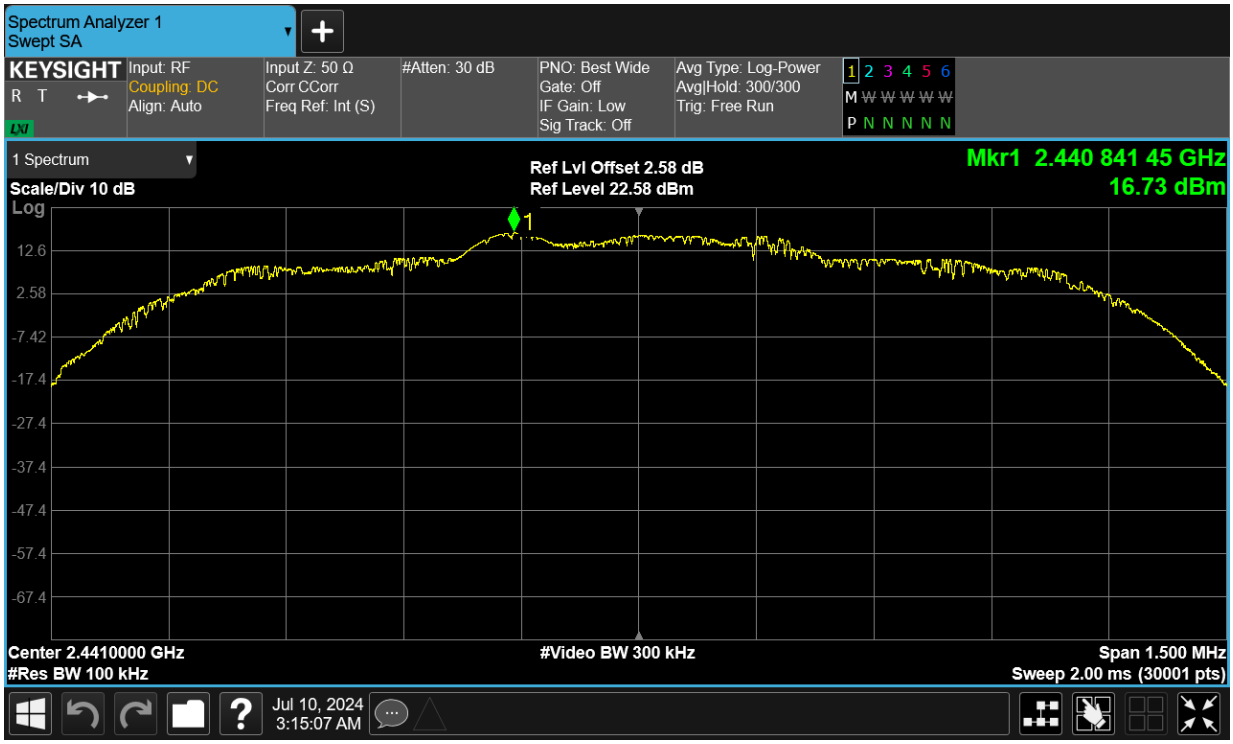
Tx. Spurious NVNT 3-DH1 2402MHz ANT13 Ref



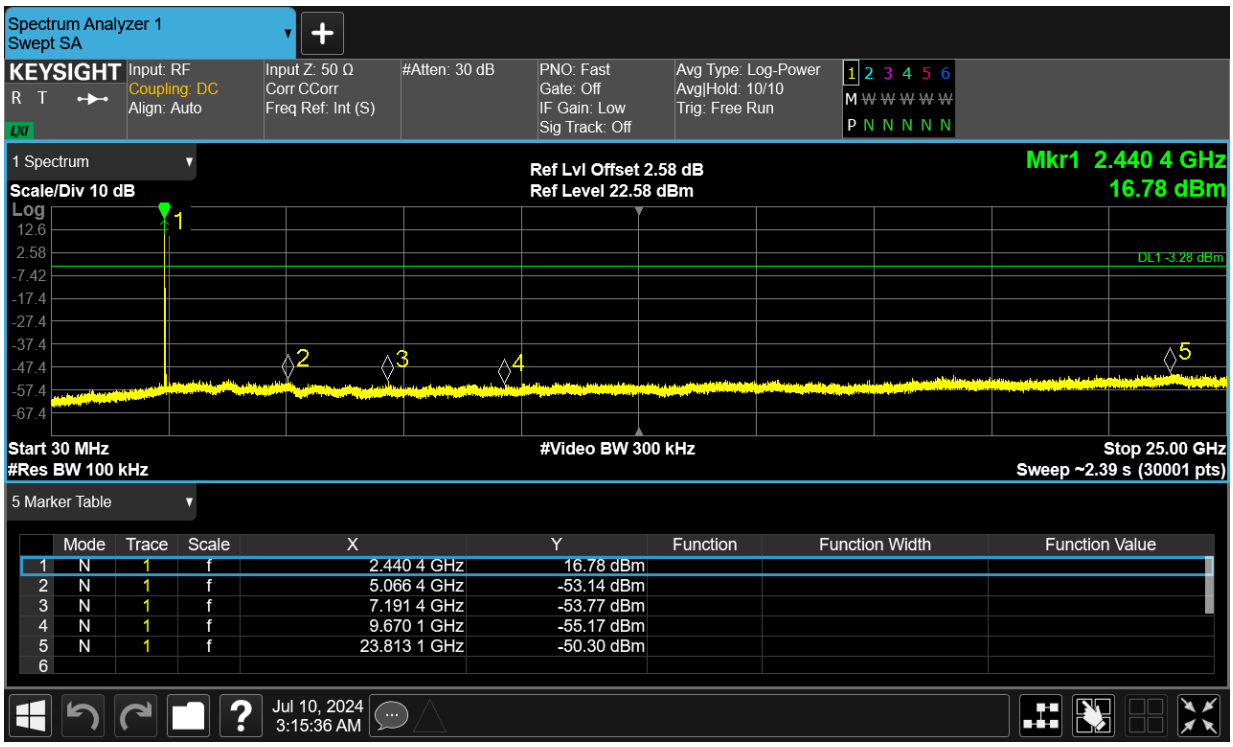
Tx. Spurious NVNT 3-DH1 2402MHz ANT13 Emission



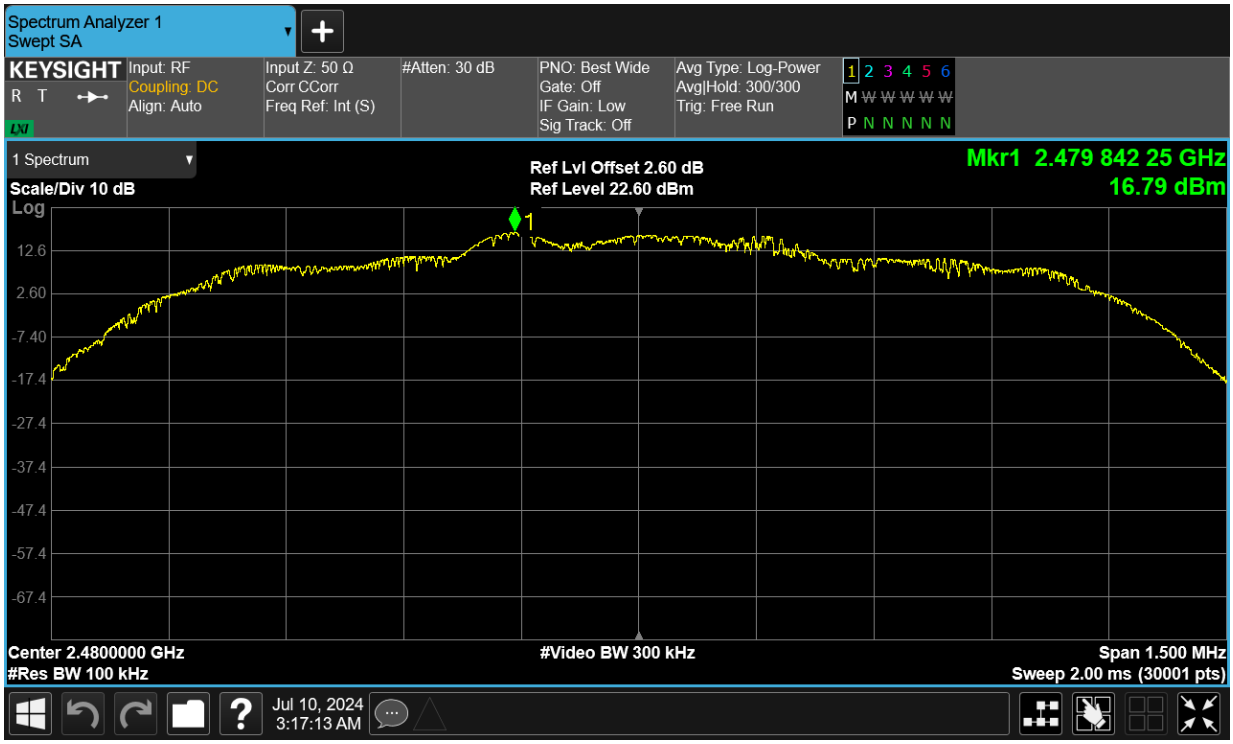
Tx. Spurious NVNT 3-DH1 2441MHz ANT13 Ref



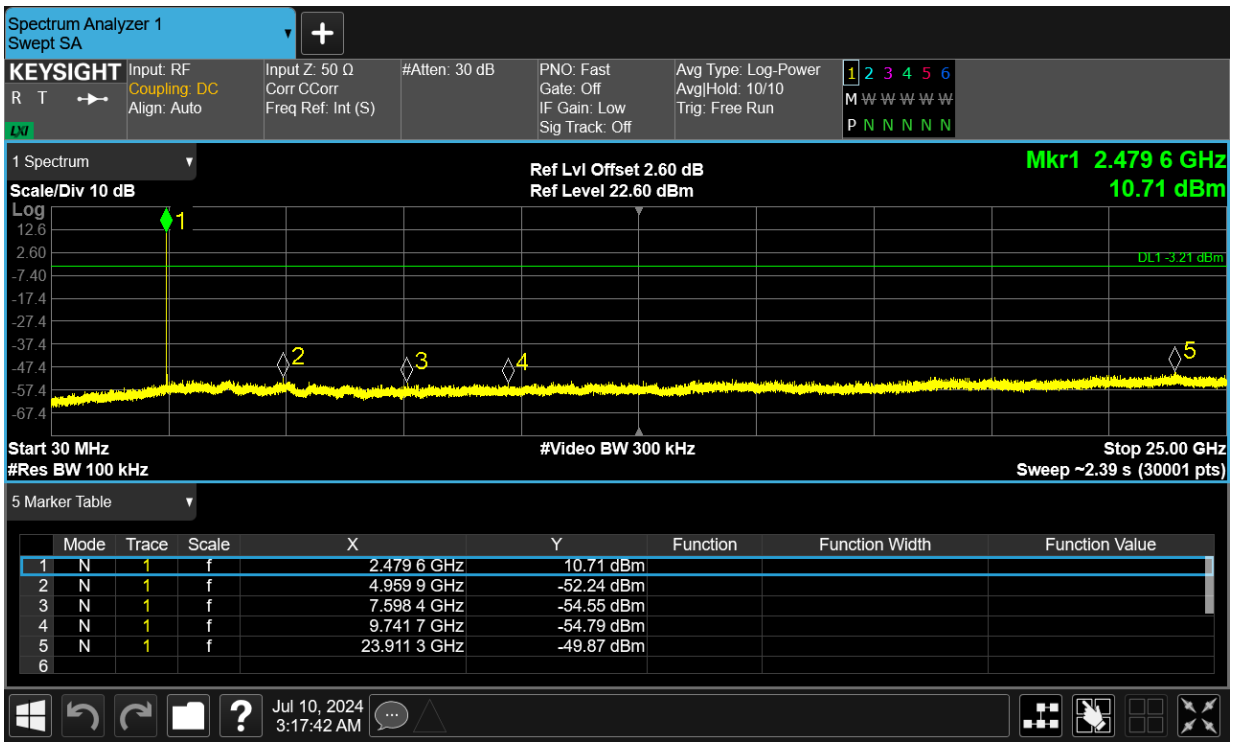
Tx. Spurious NVNT 3-DH1 2441MHz ANT13 Emission



Tx. Spurious NVNT 3-DH1 2480MHz ANT13 Ref



Tx. Spurious NVNT 3-DH1 2480MHz ANT13 Emission

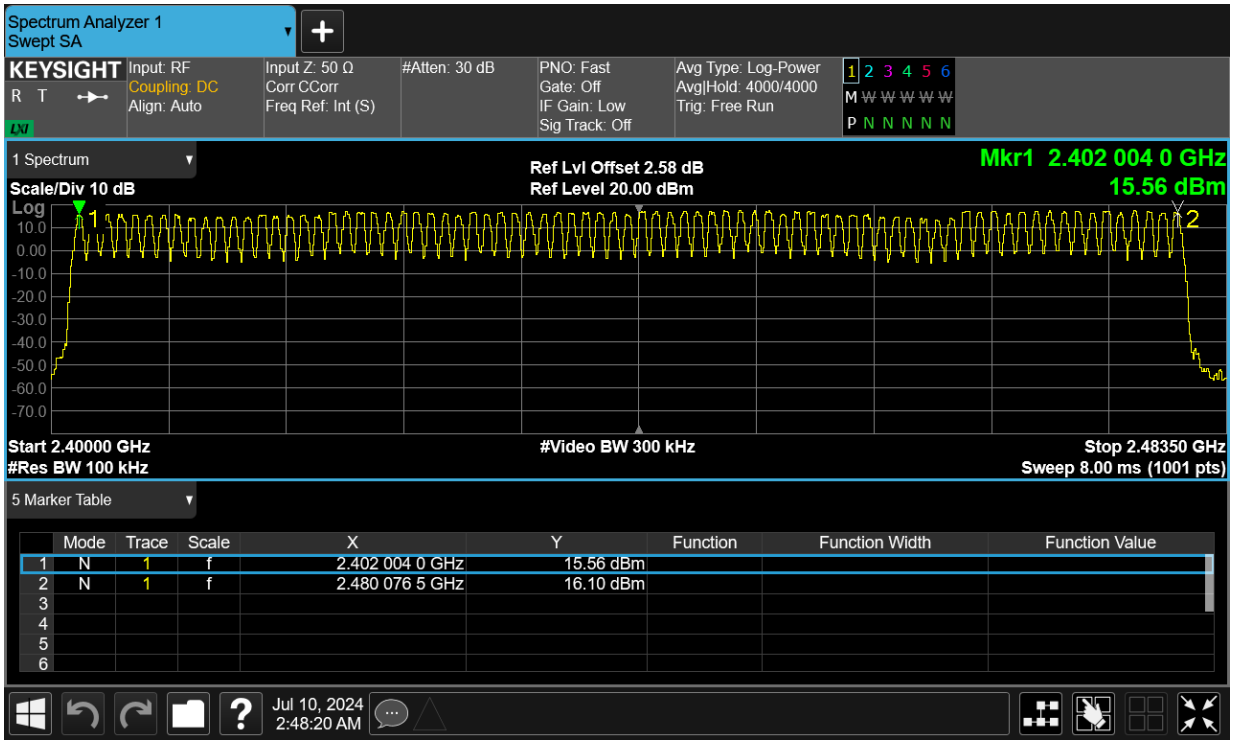


Number of Hopping Channel

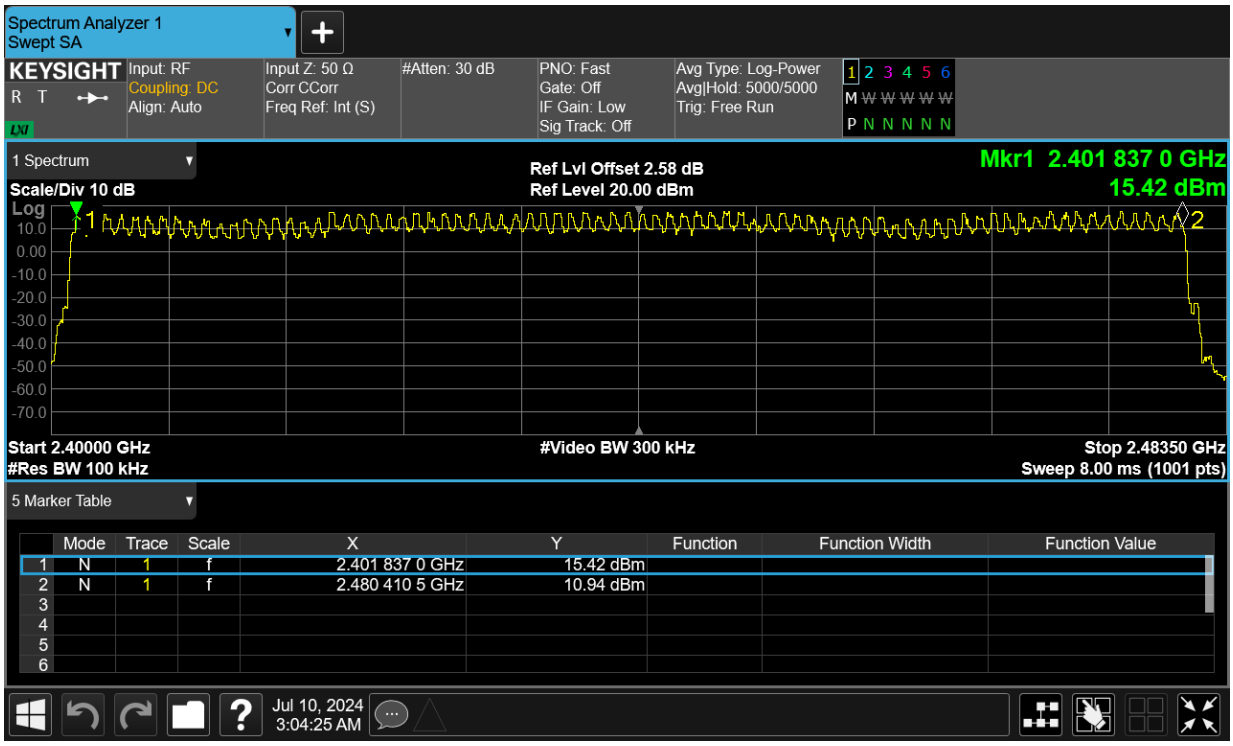
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	ANT13	79	15	Pass
NVNT	2-DH1	ANT13	79	15	Pass
NVNT	3-DH1	ANT13	79	15	Pass

Test Graphs

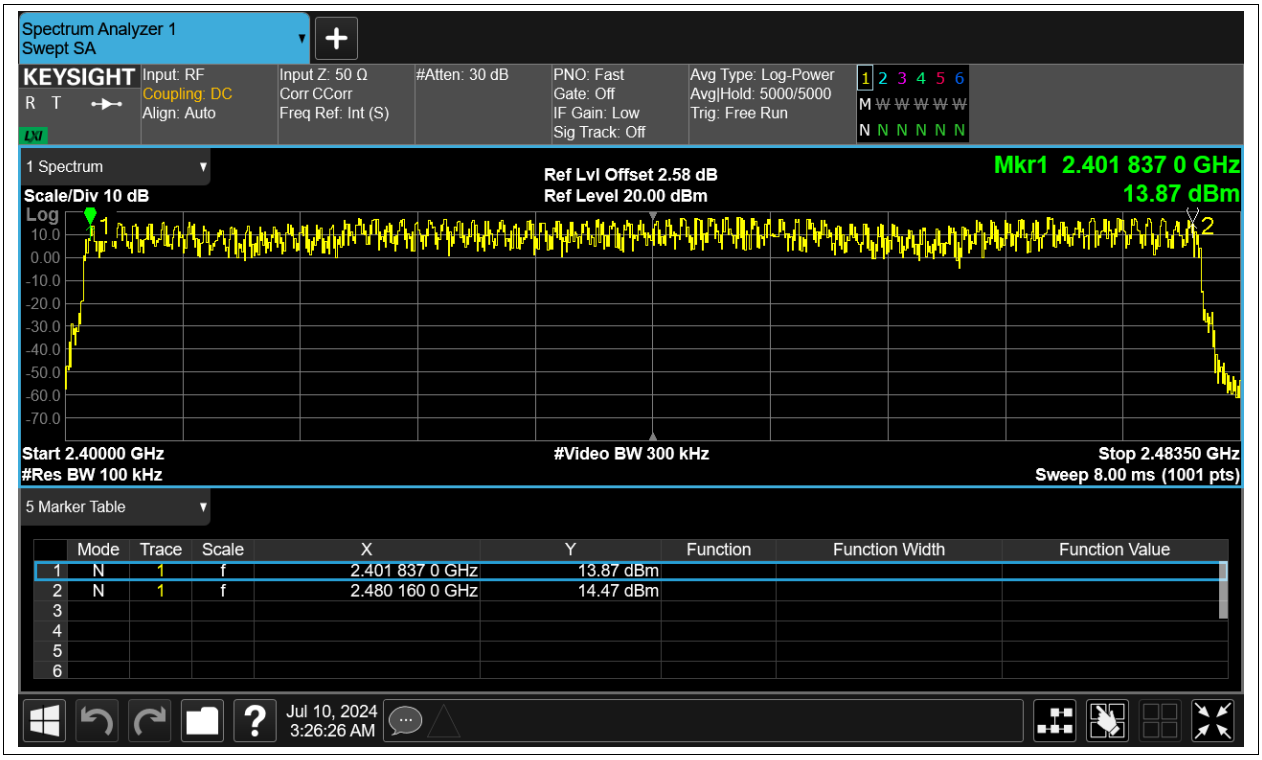
Hopping No. NVNT 1-DH1 2441MHz ANT13



Hopping No. NVNT 2-DH1 2441MHz ANT13



Hopping No. NVNT 3-DH1 2441MHz ANT13

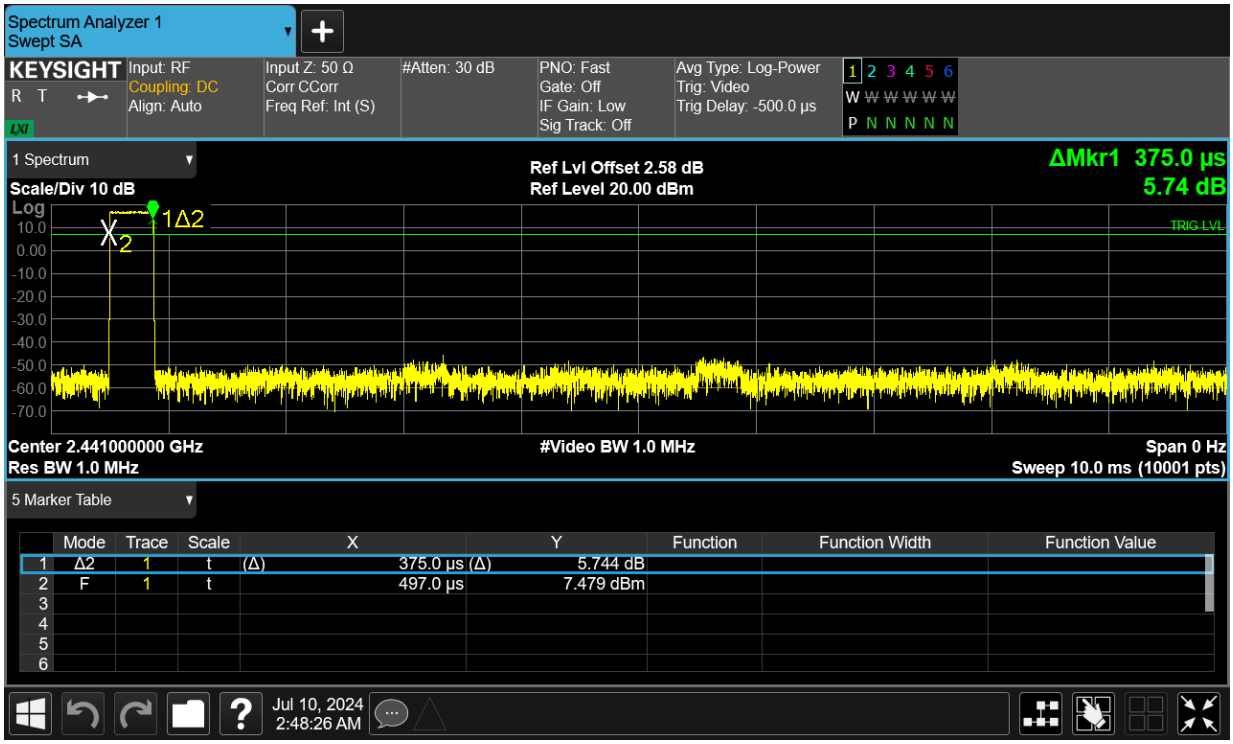

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 5000/5000
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.58 dB
Ref Level 20.00 dBm
Mkr1 2.401 837 0 GHz
13.87 dBm
Start 2.40000 GHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 2.48350 GHz
Sweep 8.00 ms (1001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 N 1 f 2.401 837 0 GHz 13.87 dBm
2 N 1 f 2.480 160 0 GHz 14.47 dBm
Jul 10, 2024
3:26:26 AM

Dwell Time

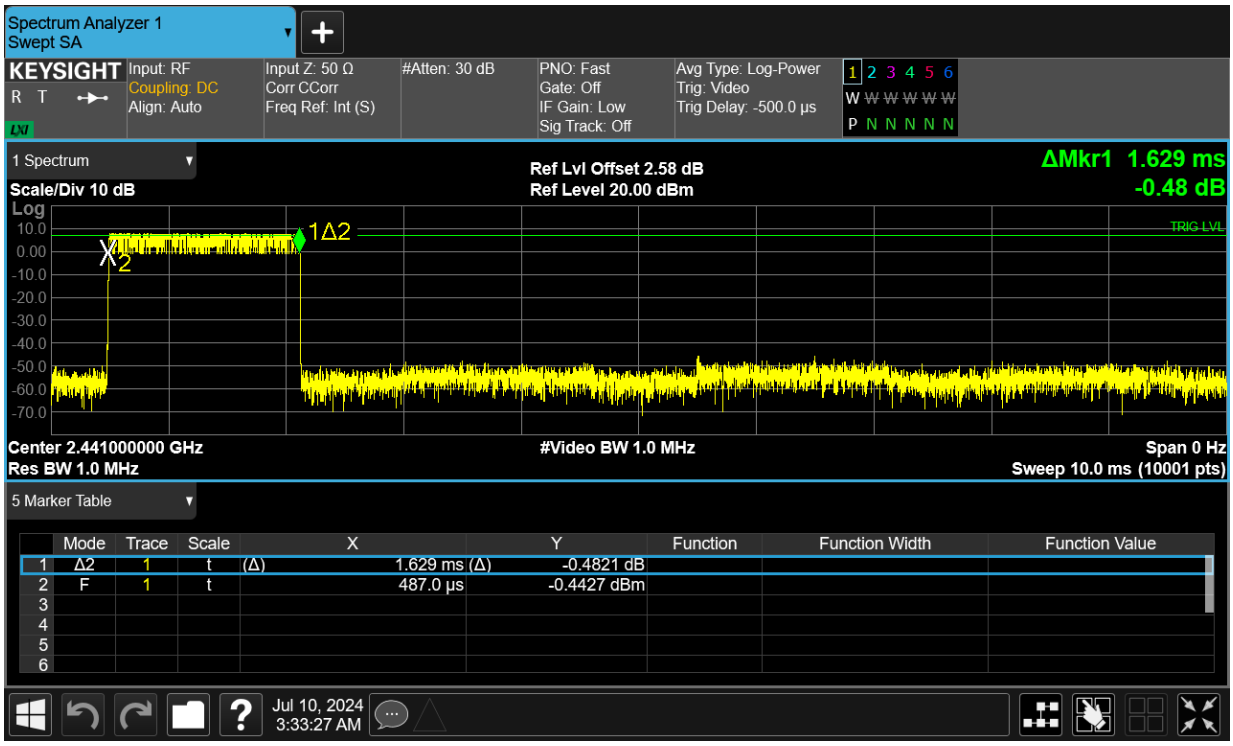
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	ANT13	0.375	120	31600	400	Pass
NVNT	1-DH3	2441	ANT13	1.629	260.64	31600	400	Pass
NVNT	1-DH5	2441	ANT13	2.879	307.093	31600	400	Pass
NVNT	2-DH1	2441	ANT13	0.383	122.56	31600	400	Pass
NVNT	2-DH3	2441	ANT13	1.632	261.12	31600	400	Pass
NVNT	2-DH5	2441	ANT13	2.88	307.2	31600	400	Pass
NVNT	3-DH1	2441	ANT13	0.383	122.56	31600	400	Pass
NVNT	3-DH3	2441	ANT13	1.632	261.12	31600	400	Pass
NVNT	3-DH5	2441	ANT13	2.882	307.413	31600	400	Pass

Test Graphs

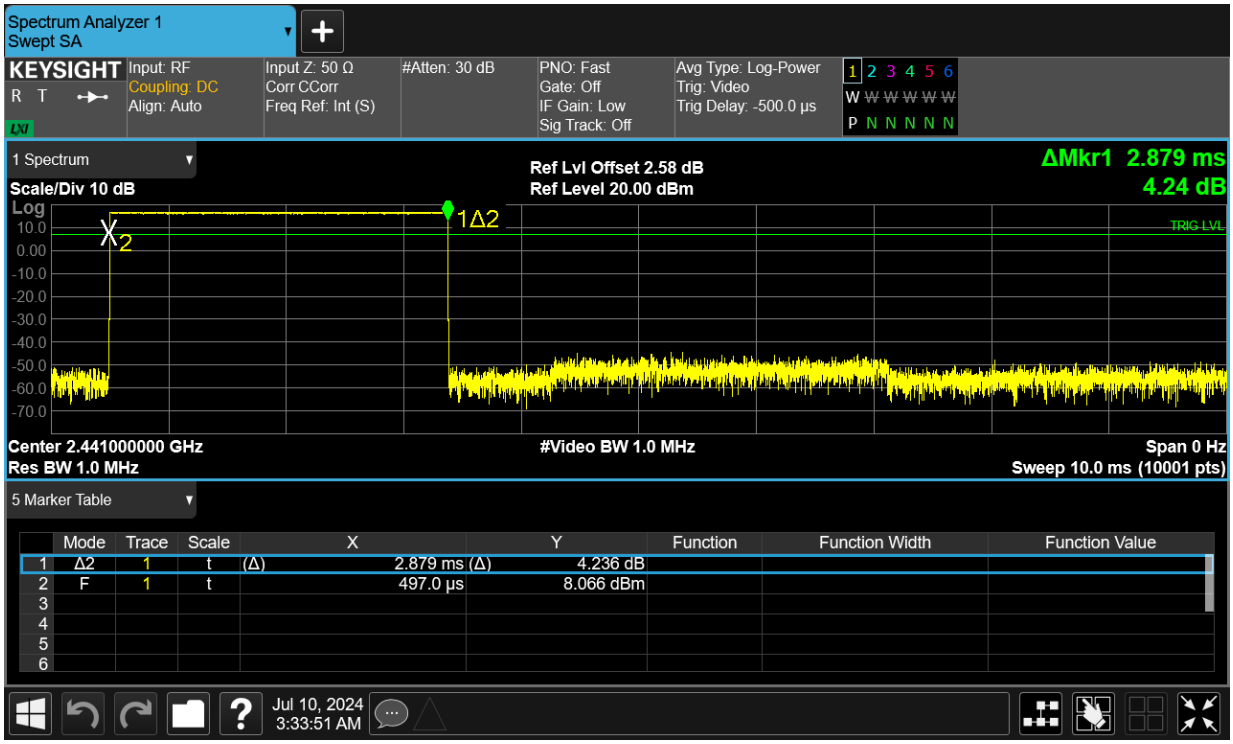
Dwell NVNT 1-DH1 2441MHz ANT13



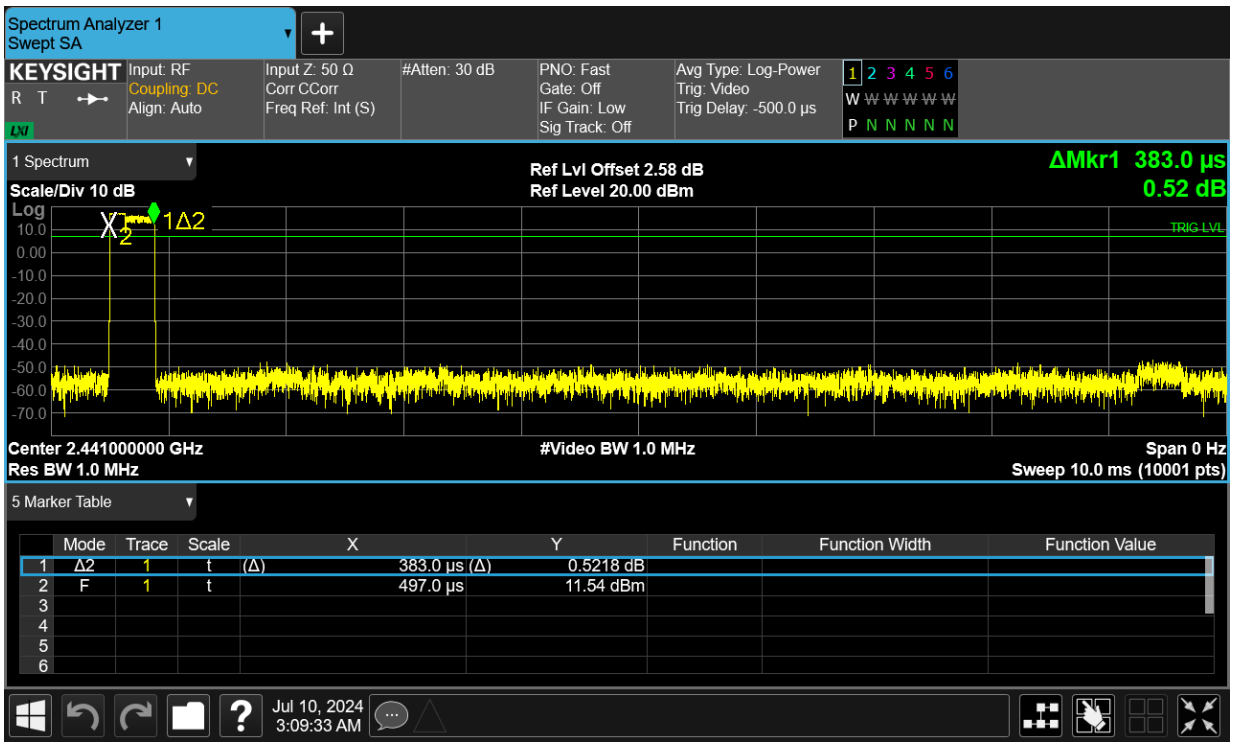
Dwell NVNT 1-DH3 2441MHz ANT13



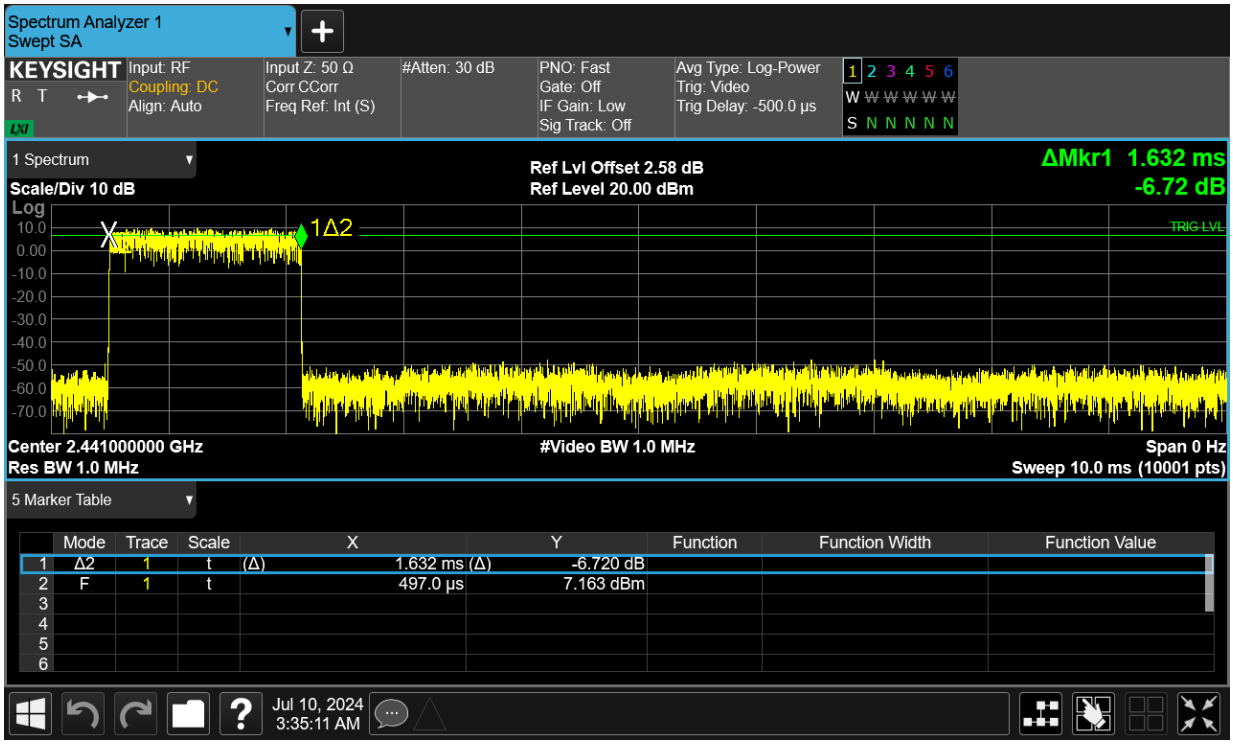
Dwell NVNT 1-DH5 2441MHz ANT13



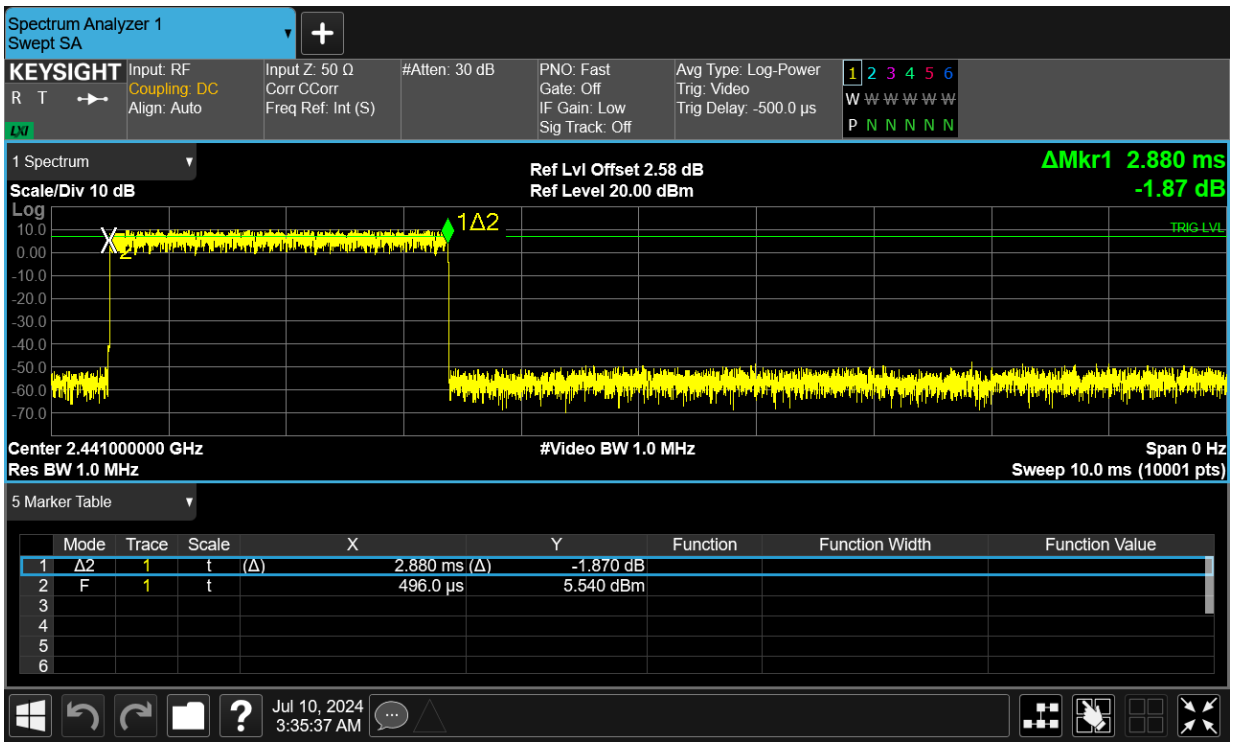
Dwell NVNT 2-DH1 2441MHz ANT13



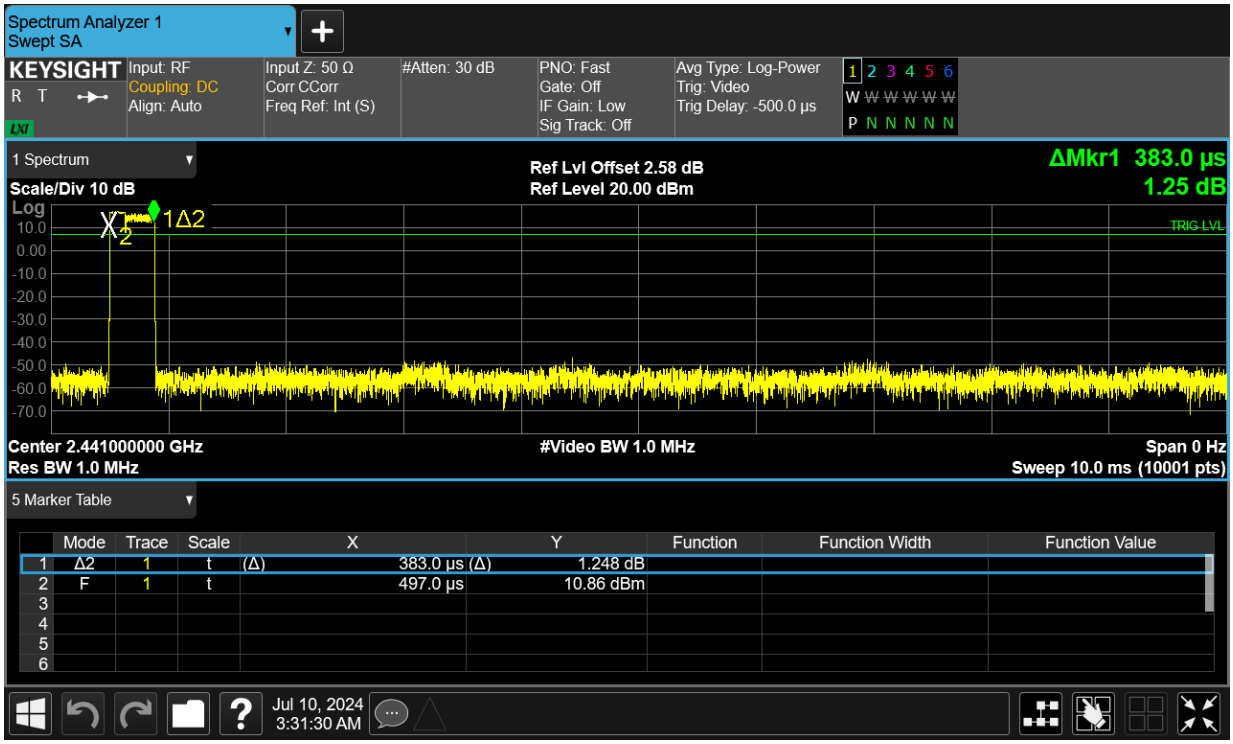
Dwell NVNT 2-DH3 2441MHz ANT13



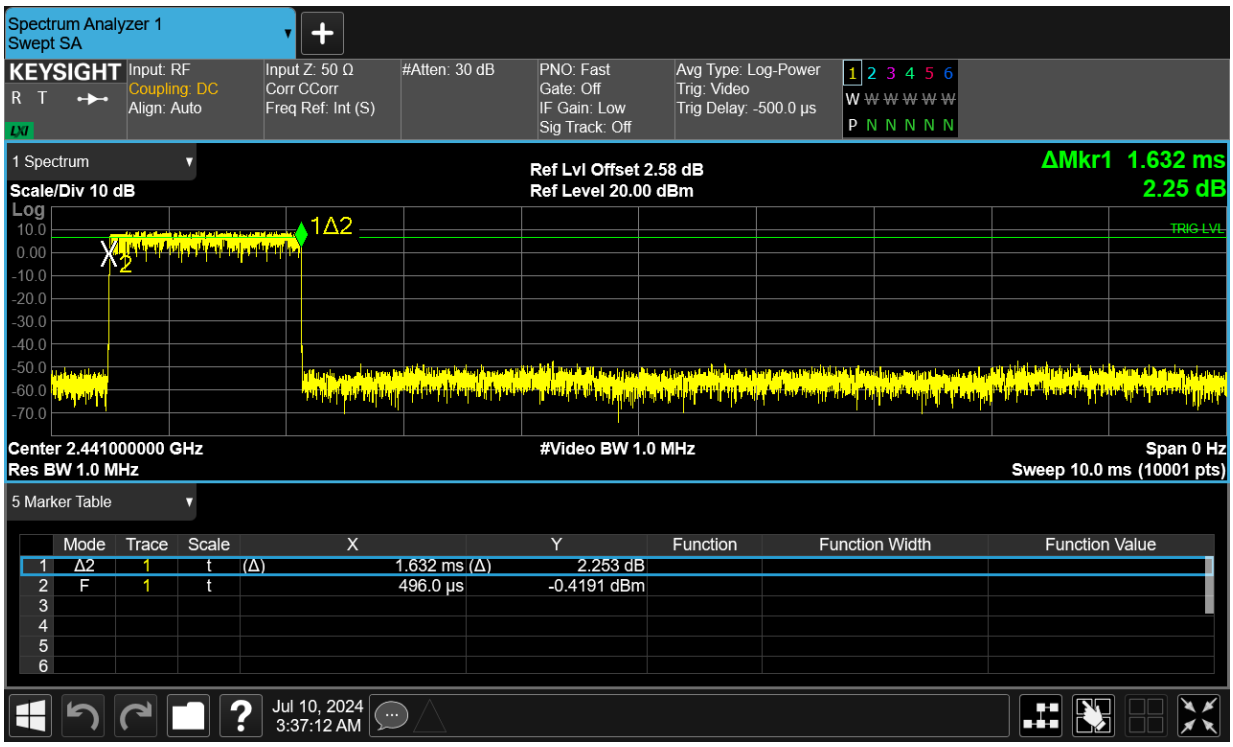
Dwell NVNT 2-DH5 2441MHz ANT13



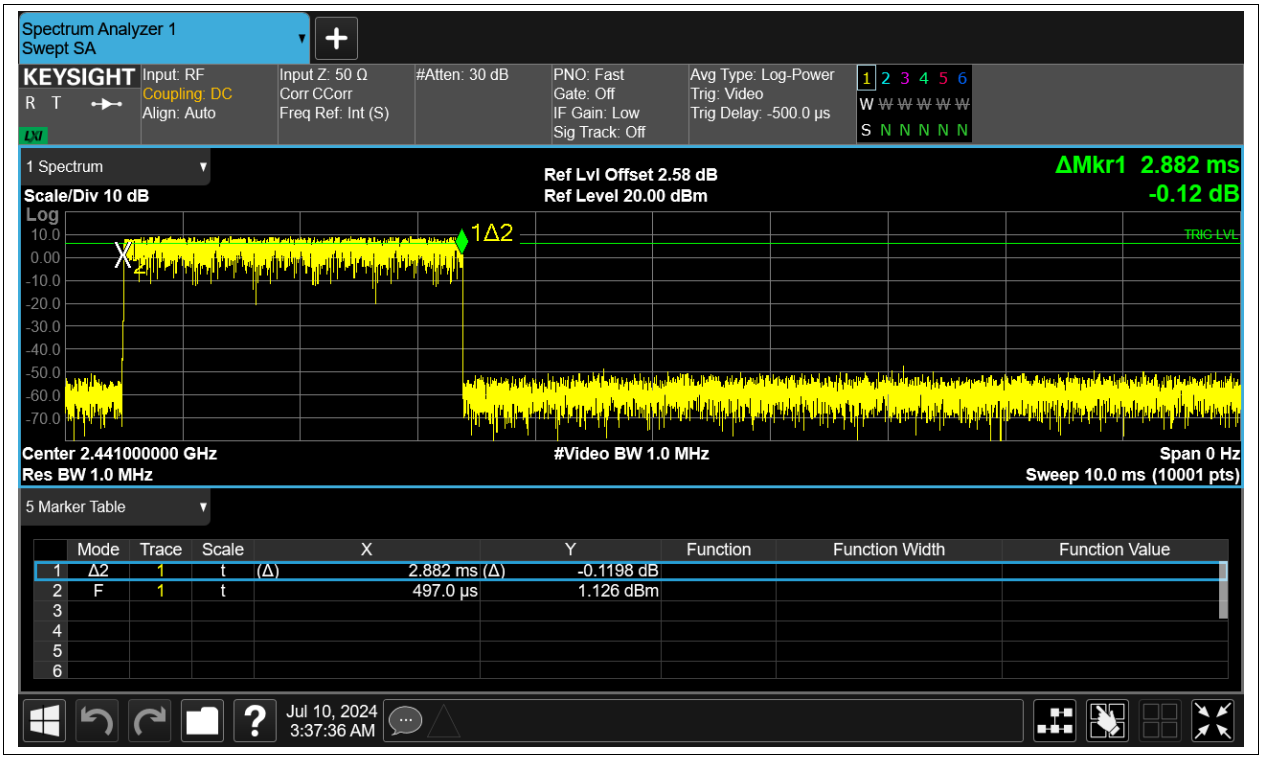
Dwell NVNT 3-DH1 2441MHz ANT13



Dwell NVNT 3-DH3 2441MHz ANT13



Dwell NVNT 3-DH5 2441MHz ANT13


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: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Trig: Video
Trig Delay: -500.0 µs
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.58 dB
Ref Level 20.00 dBm
ΔMkr1 2.882 ms
-0.12 dB
1Δ2
Center 2.441000000 GHz
Res BW 1.0 MHz
#Video BW 1.0 MHz
Span 0 Hz
Sweep 10.0 ms (10001 pts)
5 Marker Table
Mode Trace Scale X Y Function Function Width Function Value
1 Δ2 1 t (Δ) 2.882 ms (Δ) -0.1198 dB
2 F 1 t 497.0 µs 1.126 dBm
Jul 10, 2024
3:37:36 AM