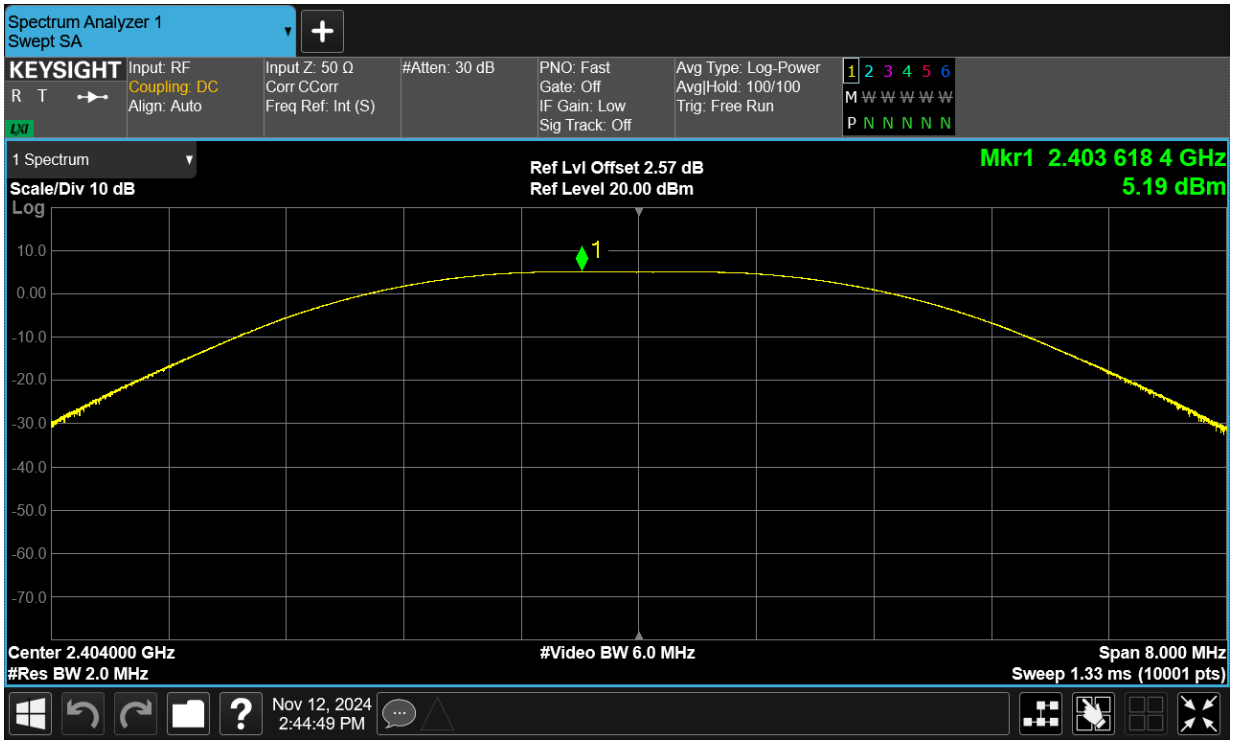
Test Data

Maximum Conducted Output Power

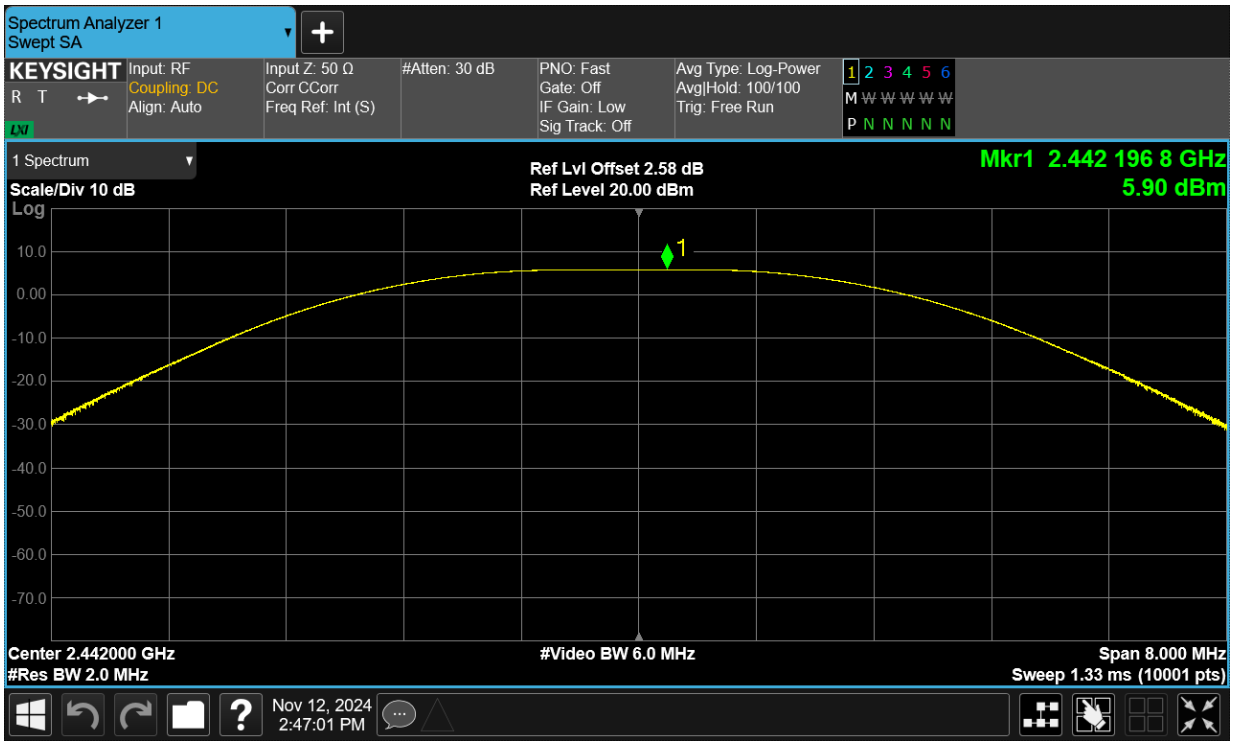
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	Ant1	5.193	30	Pass
NVNT	BLE	2442	Ant1	5.899	30	Pass
NVNT	BLE	2478	Ant1	5.022	30	Pass

Test Graphs

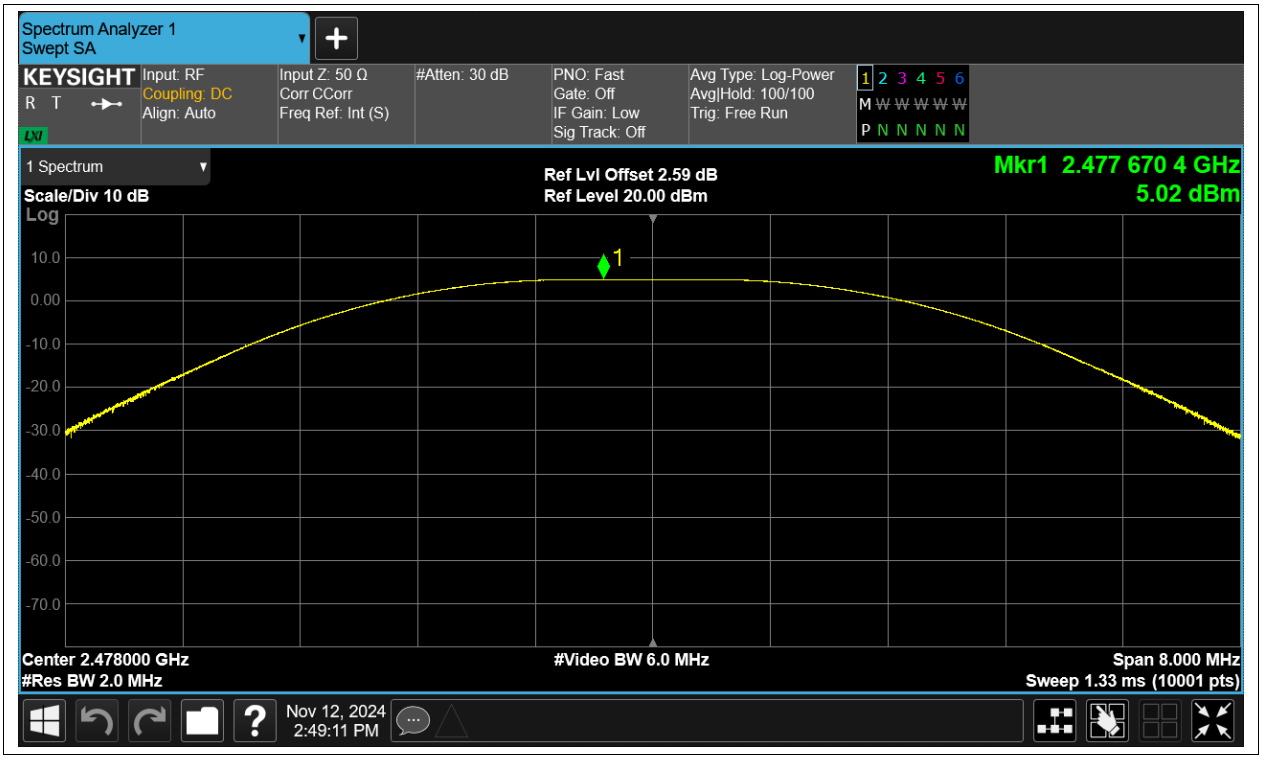
Power NVNT BLE 2404MHz Ant1



Power NVNT BLE 2442MHz Ant1



Power NVNT BLE 2478MHz Ant1


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: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 670 4 GHz
5.02 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.478000 GHz
#Res BW 2.0 MHz
#Video BW 6.0 MHz
Span 8.000 MHz
Sweep 1.33 ms (10001 pts)
Nov 12, 2024
2:49:11 PM

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2404	Ant1	1.375	0.5	Pass
NVNT	BLE	2442	Ant1	1.377	0.5	Pass
NVNT	BLE	2478	Ant1	1.212	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 2404MHz Ant1

-6dB Bandwidth NVNT BLE 2442MHz Ant1

-6dB Bandwidth NVNT BLE 2478MHz Ant1

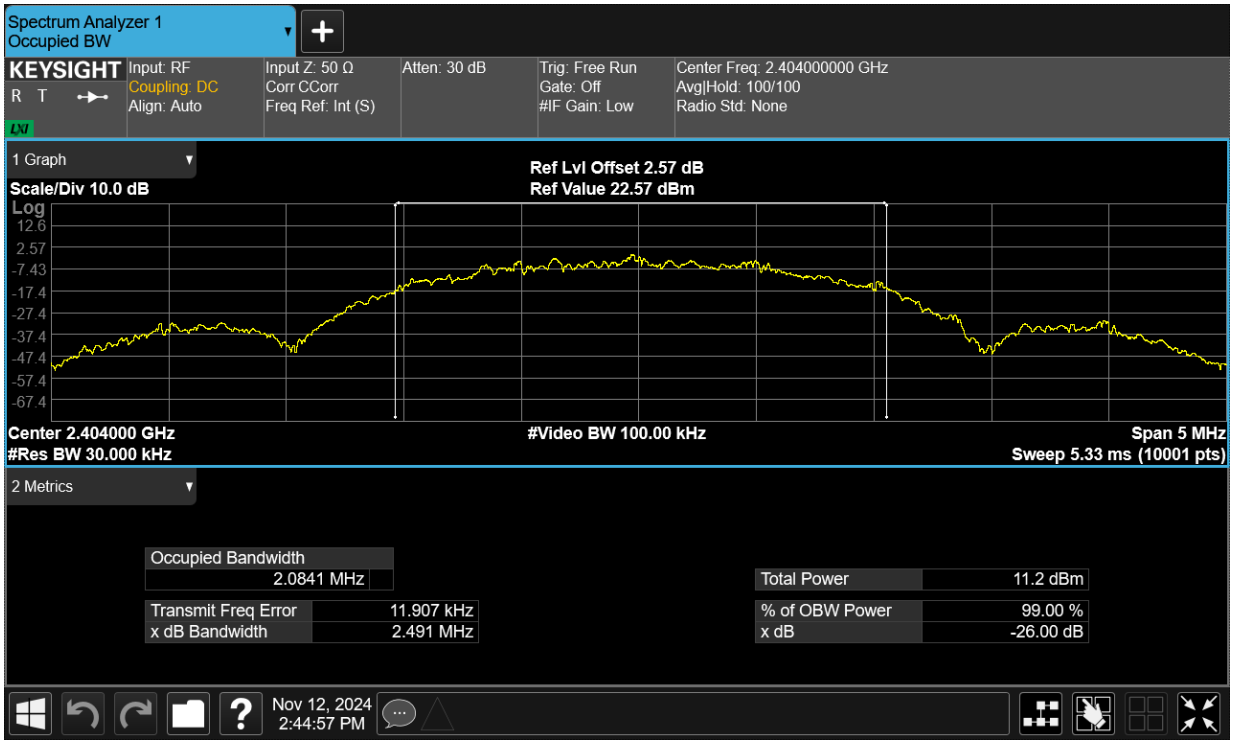
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Log
12.6
2.59
-7.41
-17.4
-27.4
-37.4
-47.4
-57.4
-67.4
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Mkr3 2.478613000 GHz
-3.33 dBm
Center 2.478000 GHz
#Res BW 100.00 kHz
#Video BW 300.00 kHz
Span 5 MHz
Sweep 1.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
2.0869 MHz
Transmit Freq Error 7.209 kHz
x dB Bandwidth 1.212 MHz
Total Power 11.3 dBm
% of OBW Power 99.00 %
x dB -6.00 dB
Nov 12, 2024
2:49:24 PM

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2404	Ant1	2.084
NVNT	BLE	2442	Ant1	2.074
NVNT	BLE	2478	Ant1	2.085

Test Graphs

OBW NVNT BLE 2404MHz Ant1



OBW NVNT BLE 2442MHz Ant1

OBW NVNT BLE 2478MHz Ant1

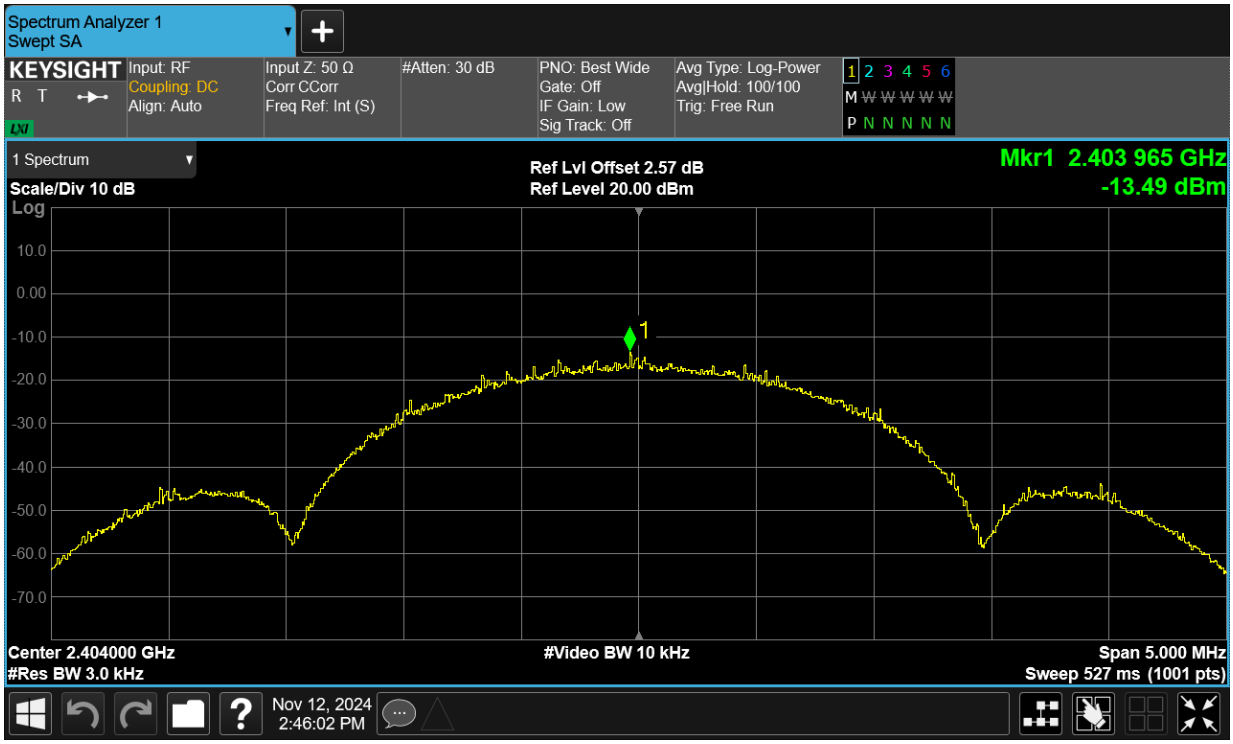
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Scale/Div 10.0 dB
Log
12.6
2.59
-7.41
-17.4
-27.4
-37.4
-47.4
-57.4
-67.4
Center 2.478000 GHz
#Res BW 30.000 kHz
#Video BW 100.00 kHz
Span 5 MHz
Sweep 5.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
2.0849 MHz
Transmit Freq Error 11.995 kHz
x dB Bandwidth 2.502 MHz
Total Power 11.1 dBm
% of OBW Power 99.00 %
x dB -26.00 dB
Nov 12, 2024
2:49:17 PM

Maximum Power Spectral Density Level

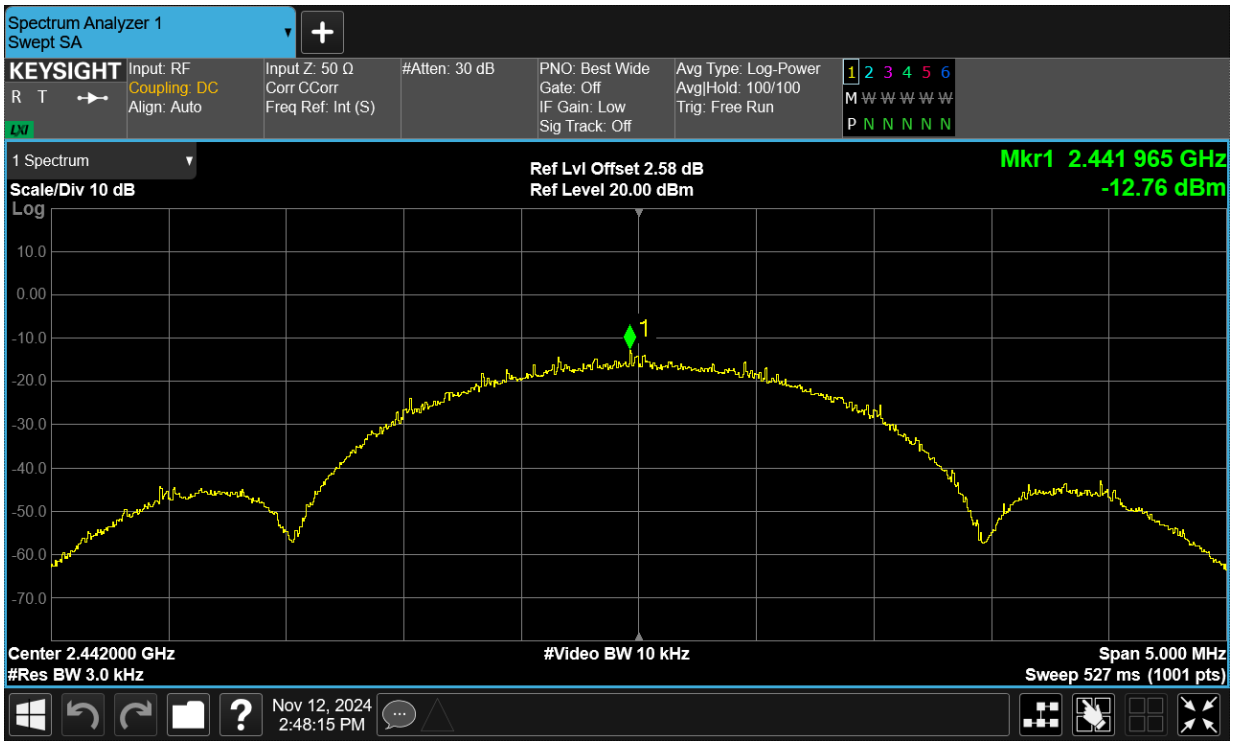
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	Ant1	-13.489	8	Pass
NVNT	BLE	2442	Ant1	-12.757	8	Pass
NVNT	BLE	2478	Ant1	-13.589	8	Pass

Test Graphs

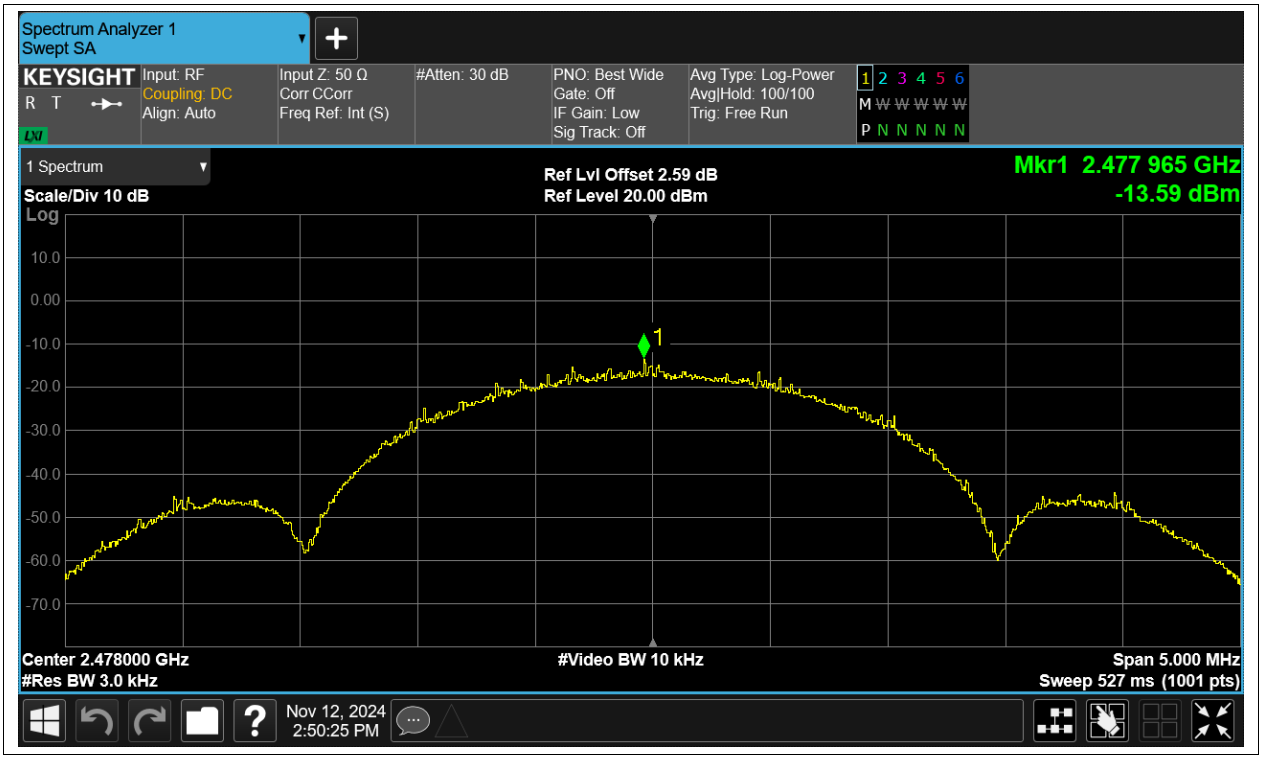
PSD NVNT BLE 2404MHz Ant1



PSD NVNT BLE 2442MHz Ant1



PSD NVNT BLE 2478MHz Ant1

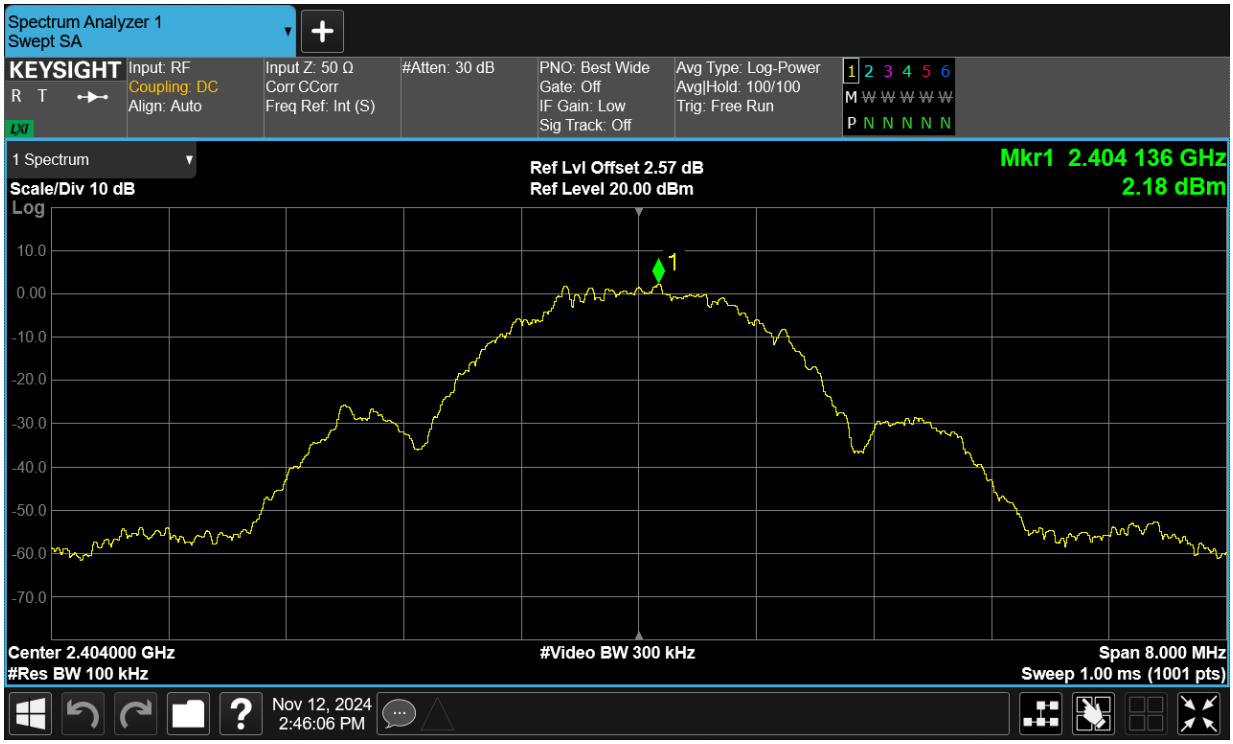

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 965 GHz
-13.59 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.478000 GHz
#Res BW 3.0 kHz
#Video BW 10 kHz
Span 5.000 MHz
Sweep 527 ms (1001 pts)
Nov 12, 2024
2:50:25 PM

Band Edge

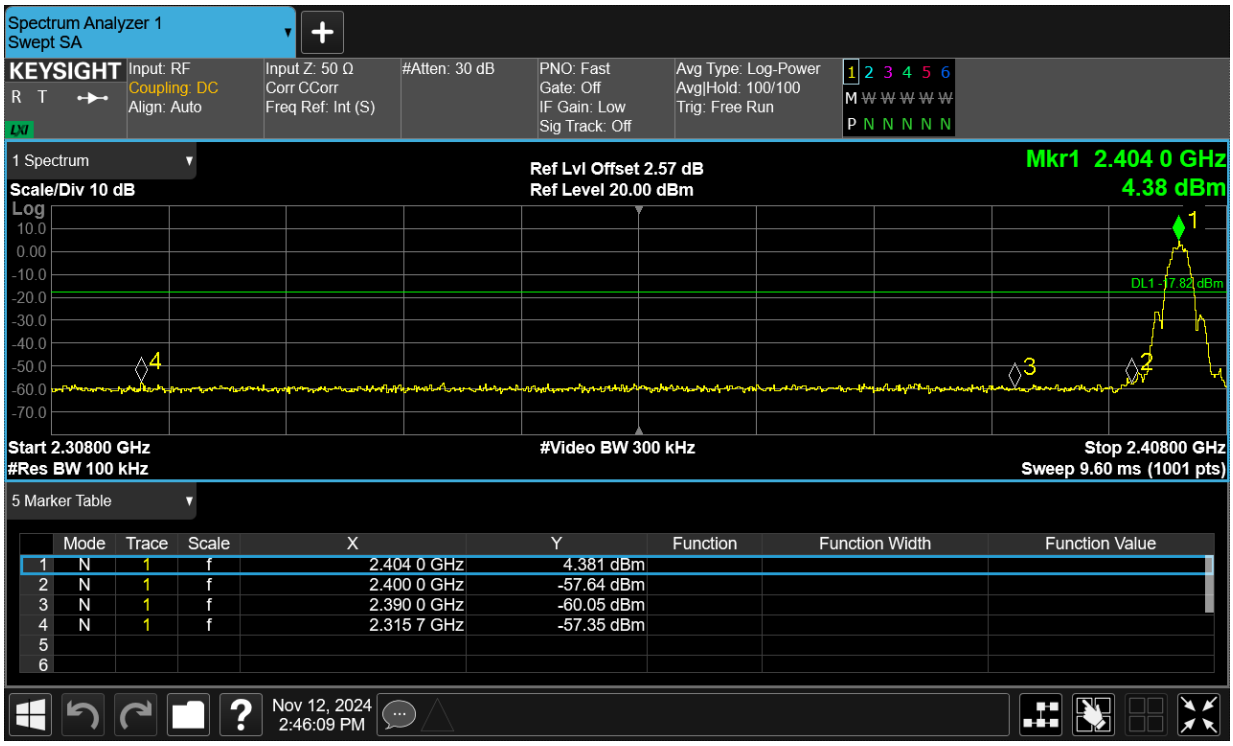
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	Ant1	-59.53	-20	Pass
NVNT	BLE	2478	Ant1	-60.62	-20	Pass

Test Graphs

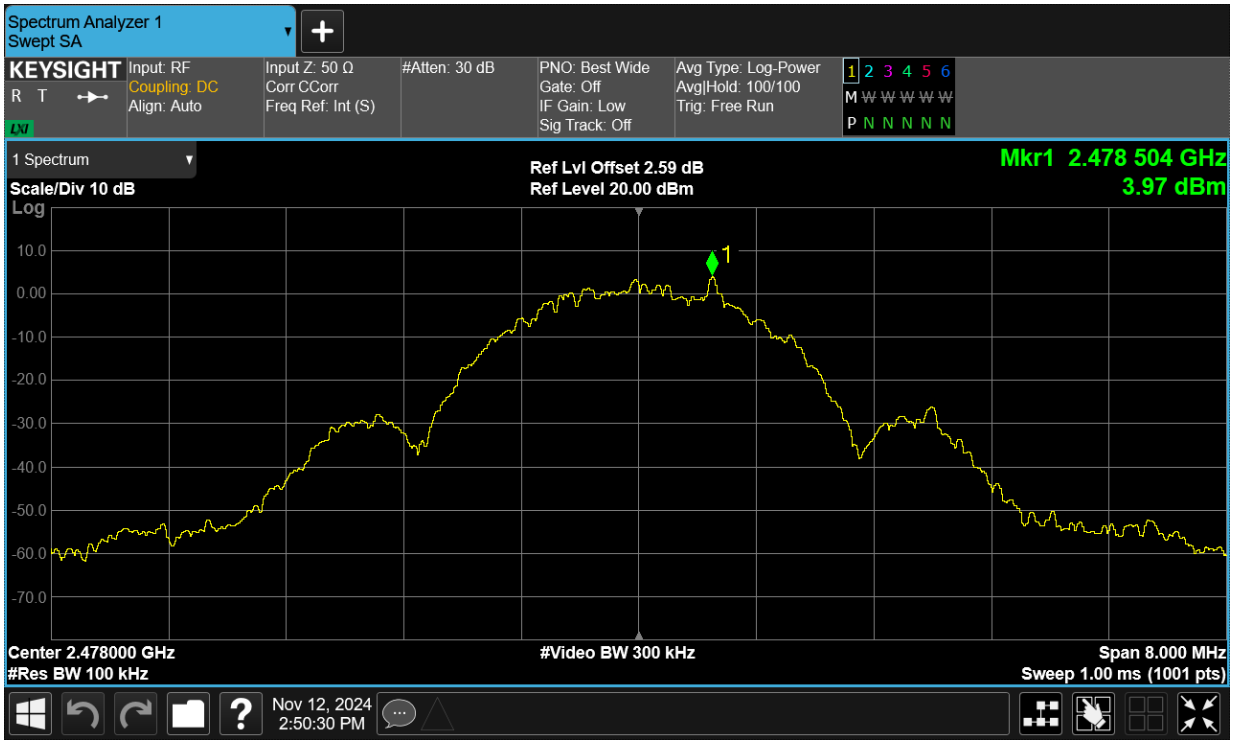
Band Edge NVNT BLE 2404MHz Ant1 Ref



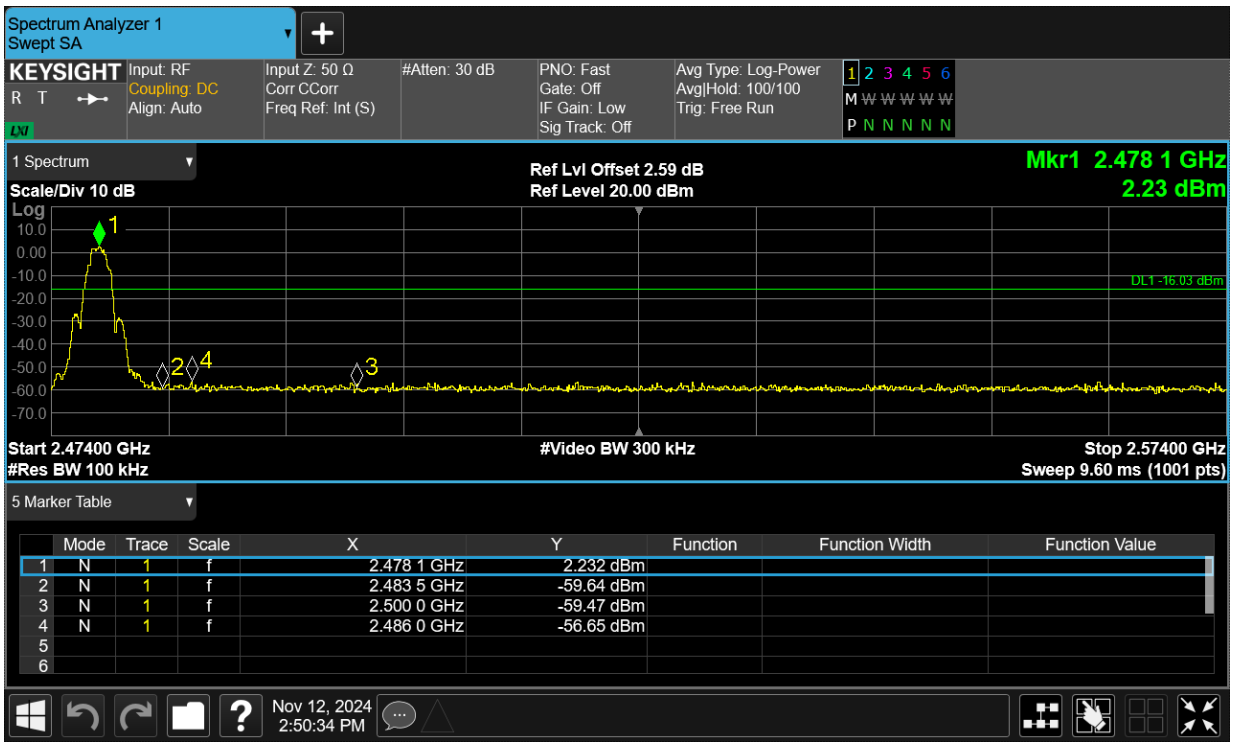
Band Edge NVNT BLE 2404MHz Ant1 Emission



Band Edge NVNT BLE 2478MHz Ant1 Ref



Band Edge NVNT BLE 2478MHz Ant1 Emission

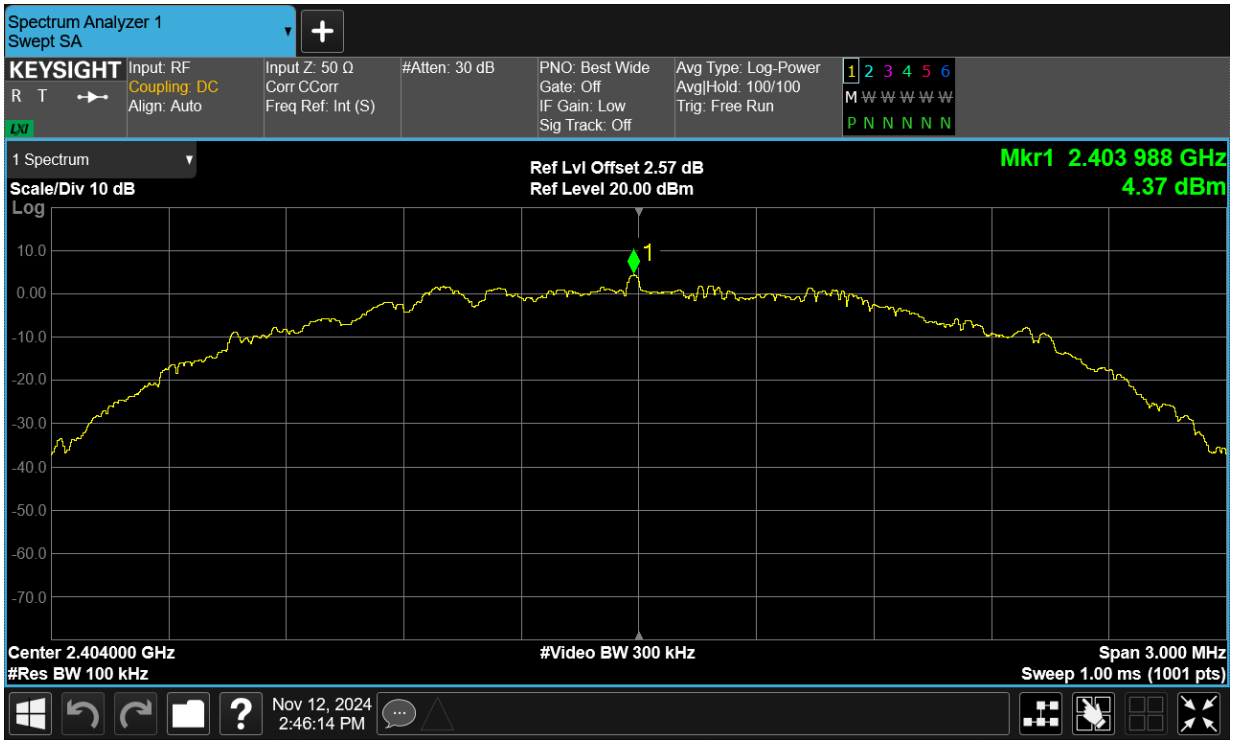


Conducted RF Spurious Emission

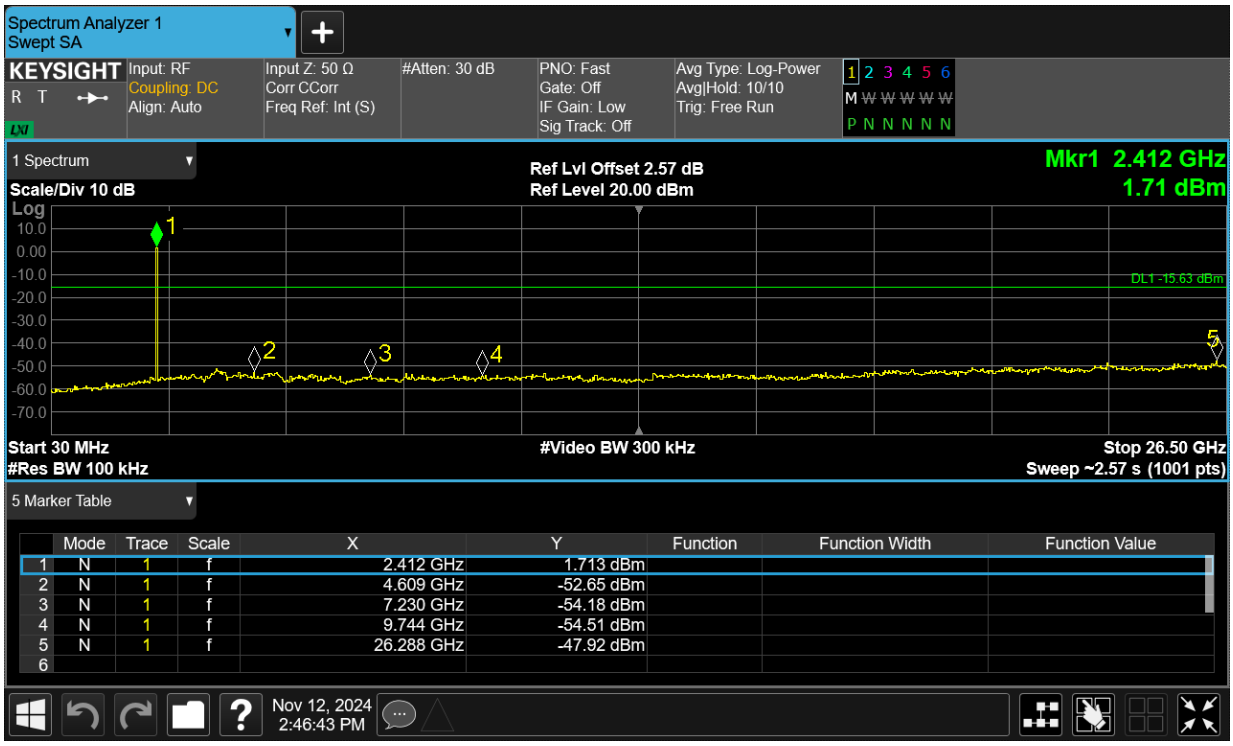
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	Ant1	-52.29	-20	Pass
NVNT	BLE	2442	Ant1	-53.98	-20	Pass
NVNT	BLE	2478	Ant1	-51.21	-20	Pass

Test Graphs

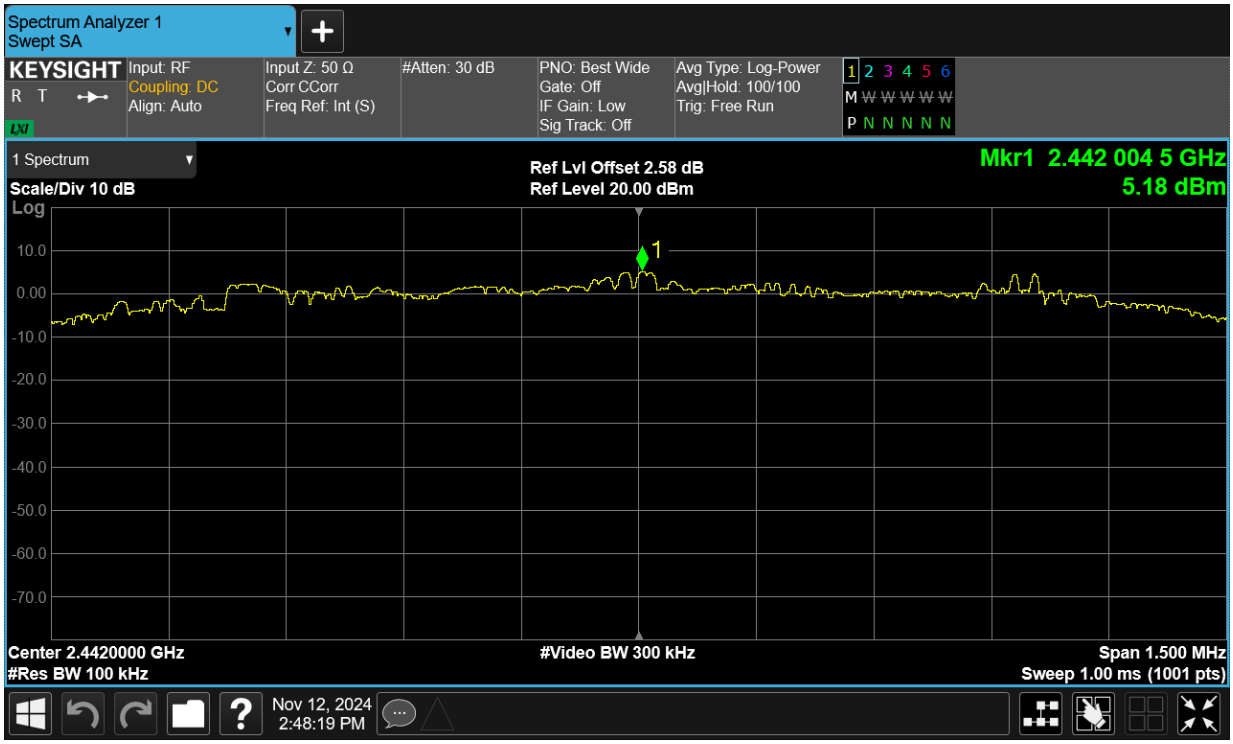
Tx. Spurious NVNT BLE 2404MHz Ant1 Ref



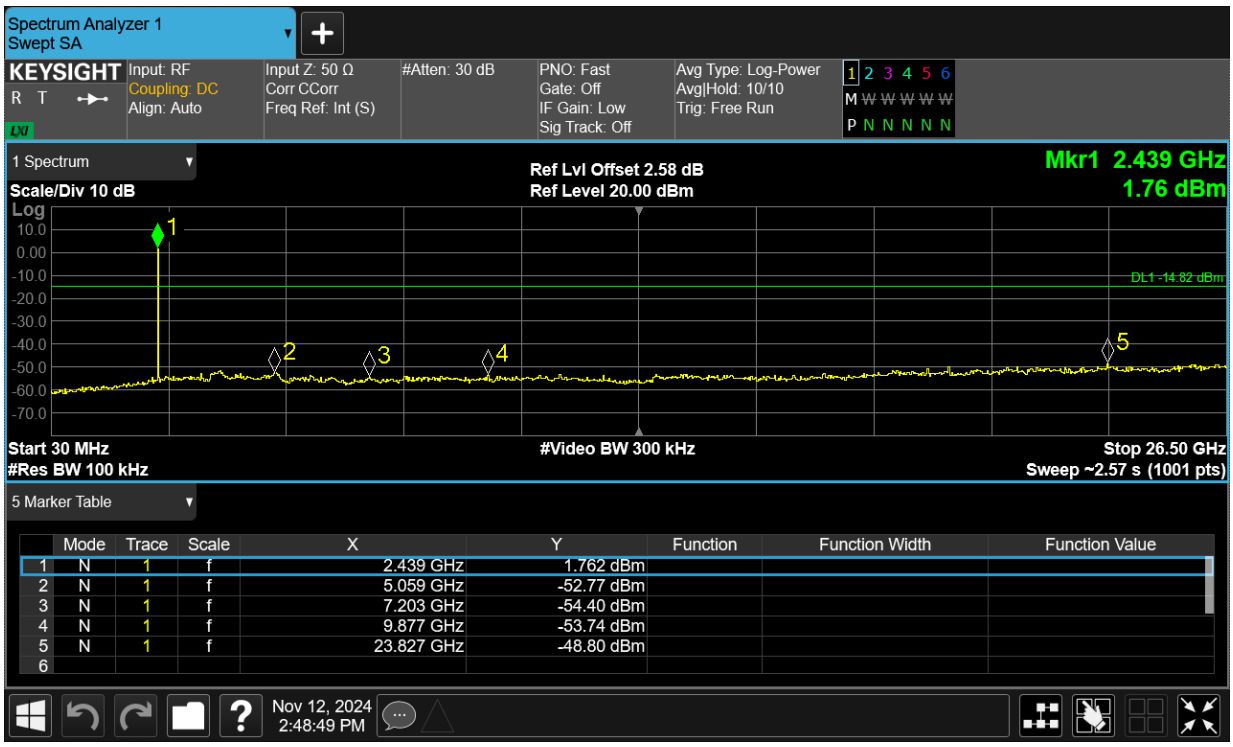
Tx. Spurious NVNT BLE 2404MHz Ant1 Emission



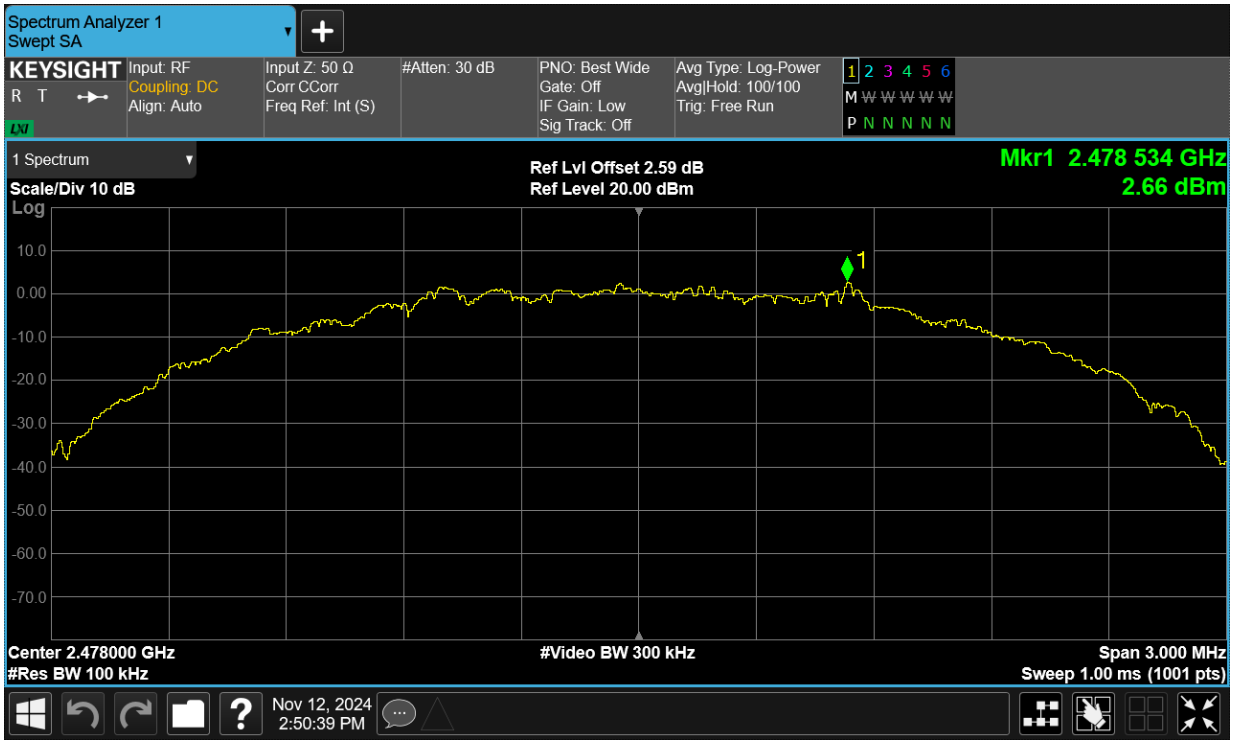
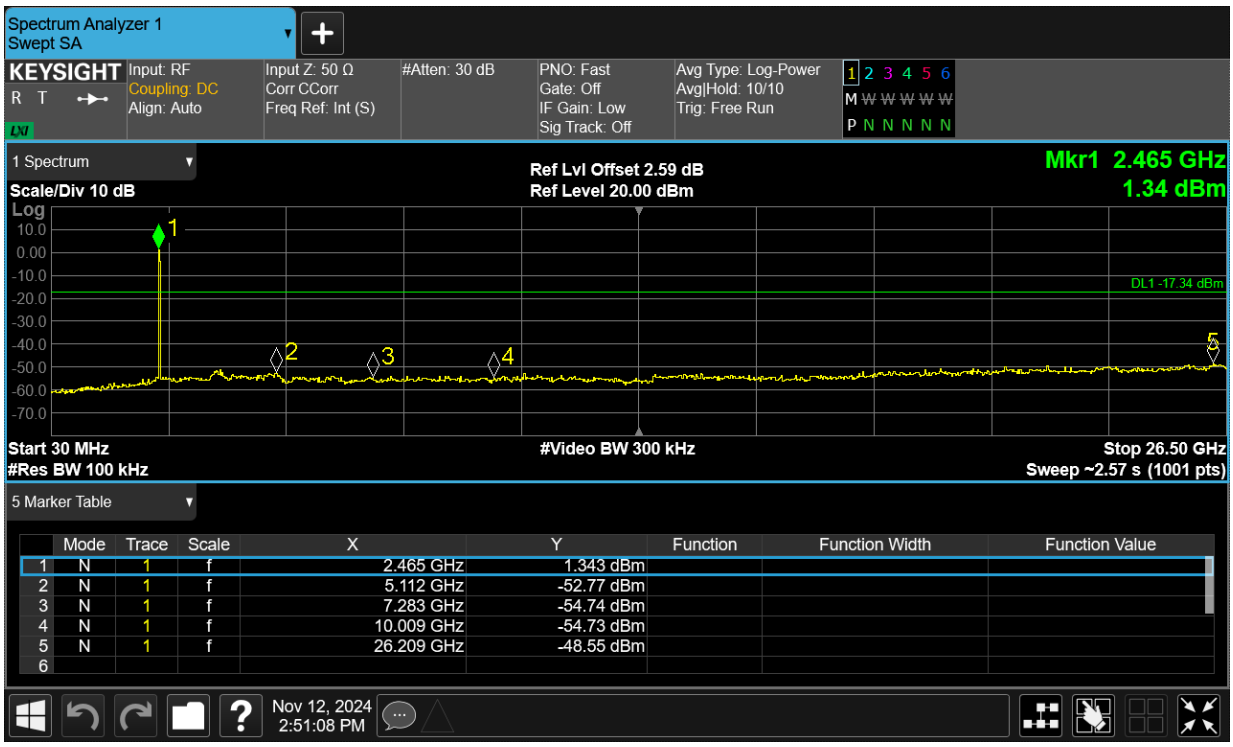
Tx. Spurious NVNT BLE 2442MHz Ant1 Ref



Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



Tx. Spurious NVNT BLE 2478MHz Ant1 Ref



Tx. Spurious NVNT BLE 2478MHz Ant1 Emission