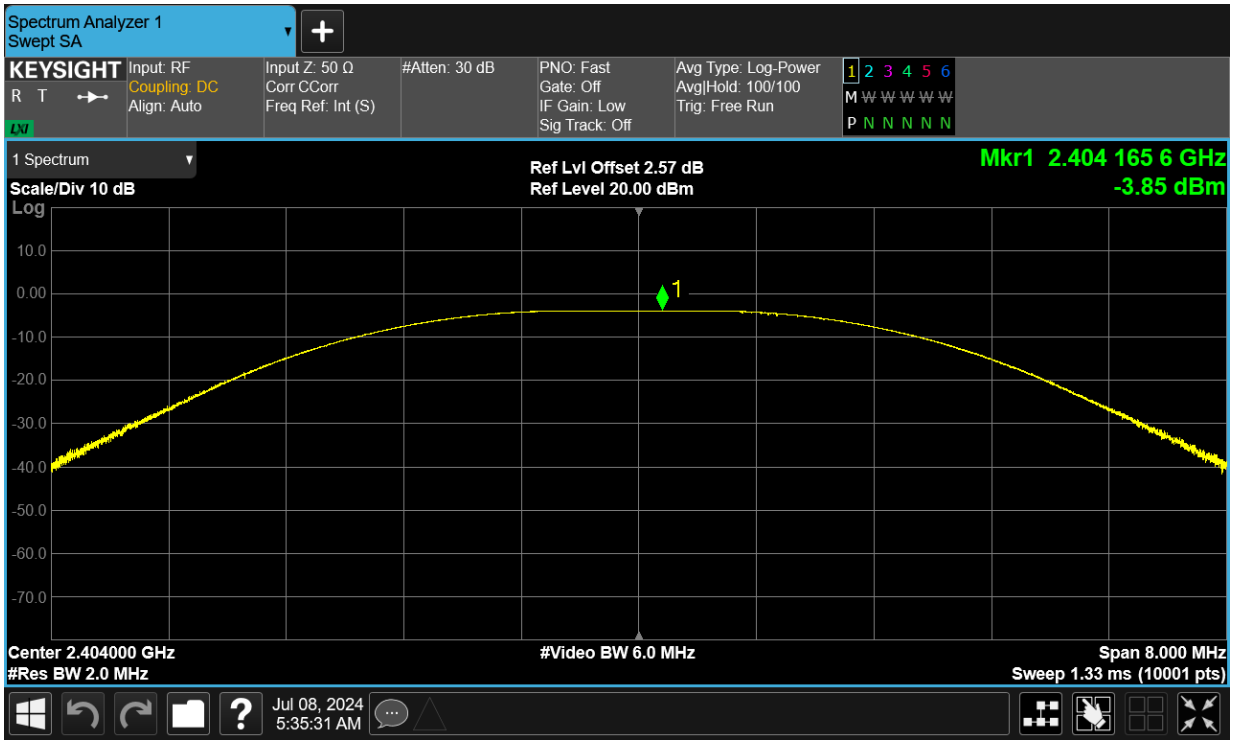
Test Data

Maximum Conducted Output Power

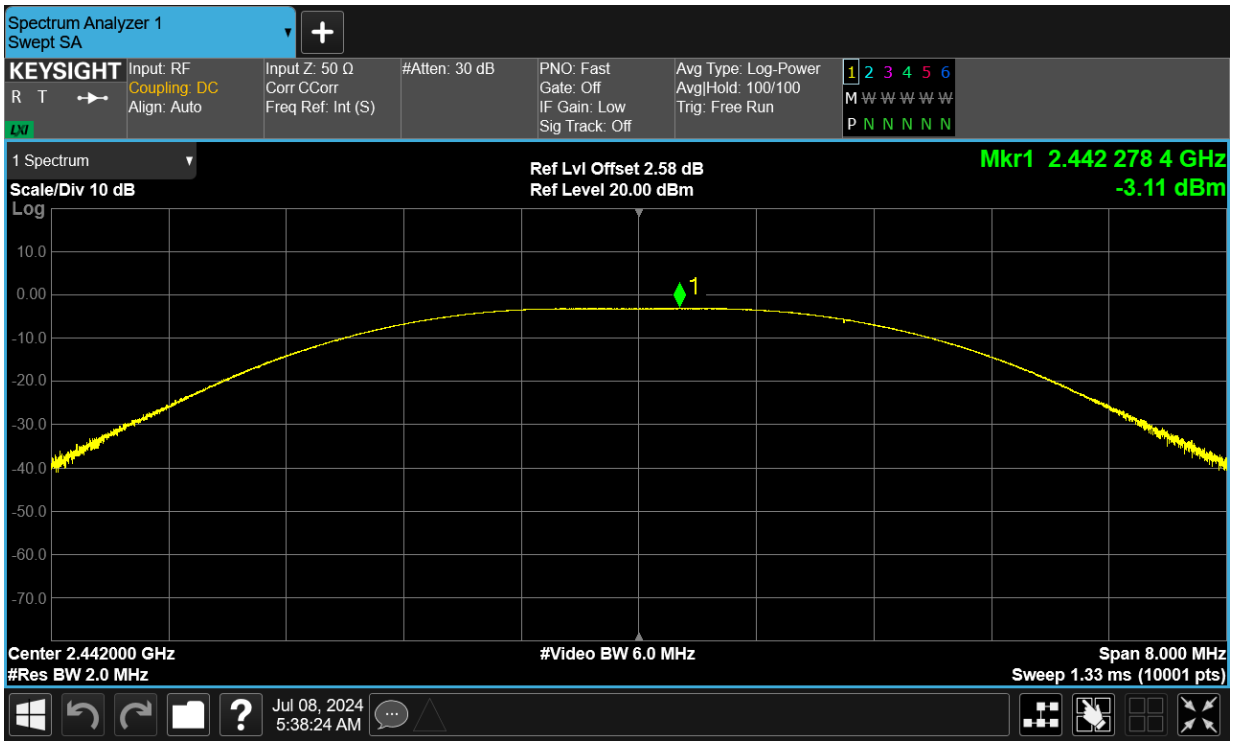
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	Ant2	-3.847	30	Pass
NVNT	BLE	2442	Ant2	-3.106	30	Pass
NVNT	BLE	2478	Ant2	-3.361	30	Pass

Test Graphs

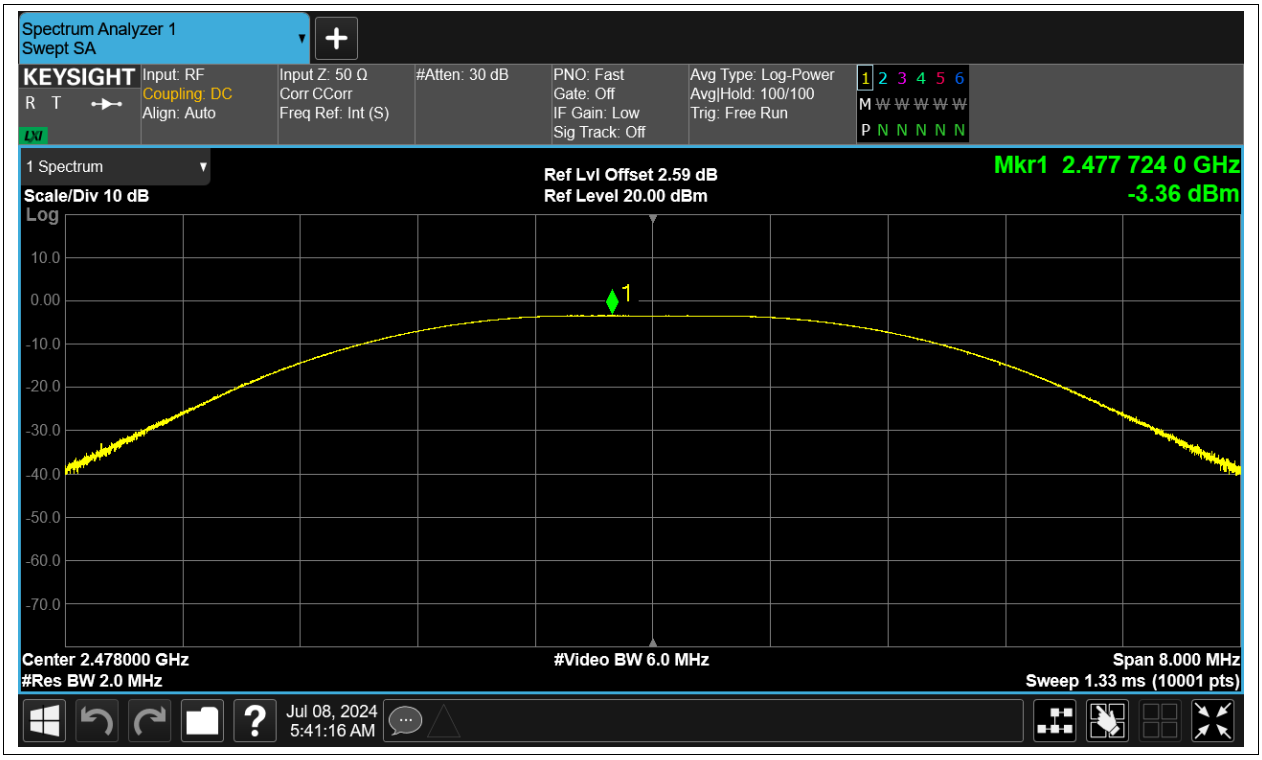
Power NVNT BLE 2404MHz Ant2



Power NVNT BLE 2442MHz Ant2



Power NVNT BLE 2478MHz Ant2

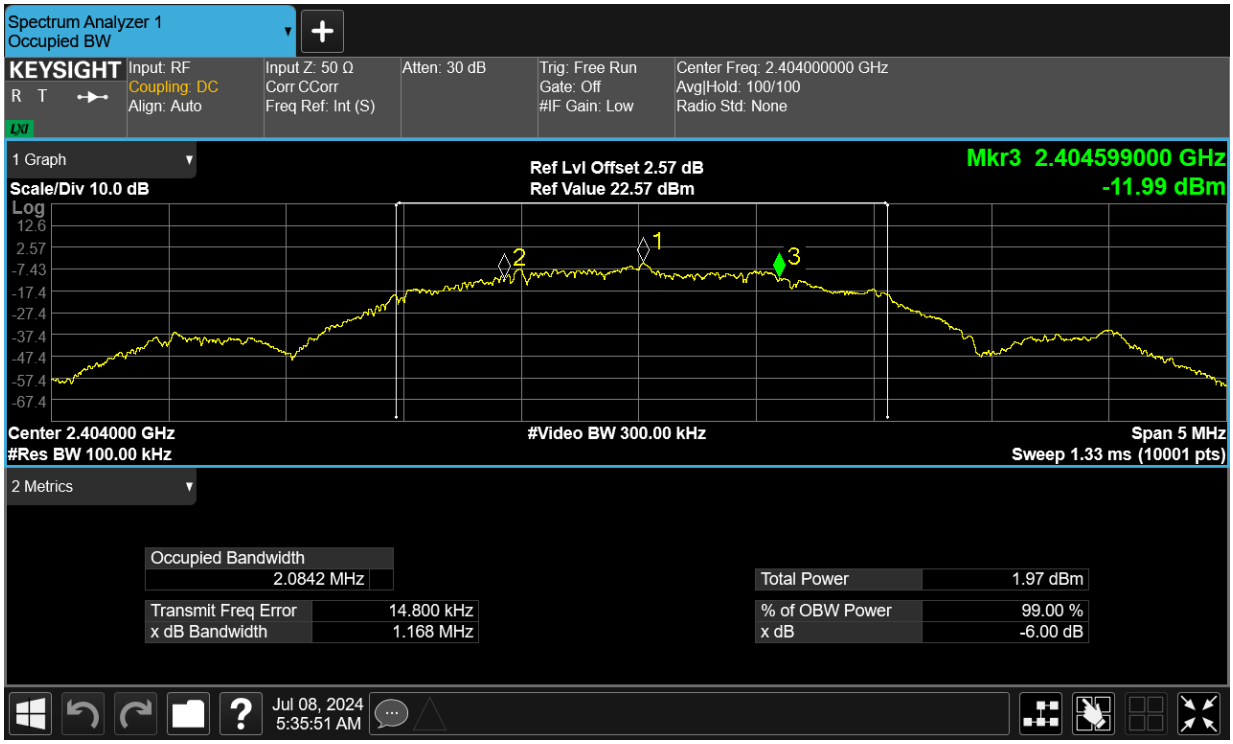

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 724 0 GHz
-3.36 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)
Jul 08, 2024
5:41:16 AM

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2404	Ant2	1.168	0.5	Pass
NVNT	BLE	2442	Ant2	1.269	0.5	Pass
NVNT	BLE	2478	Ant2	1.092	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 2404MHz Ant2



-6dB Bandwidth NVNT BLE 2442MHz Ant2

-6dB Bandwidth NVNT BLE 2478MHz Ant2

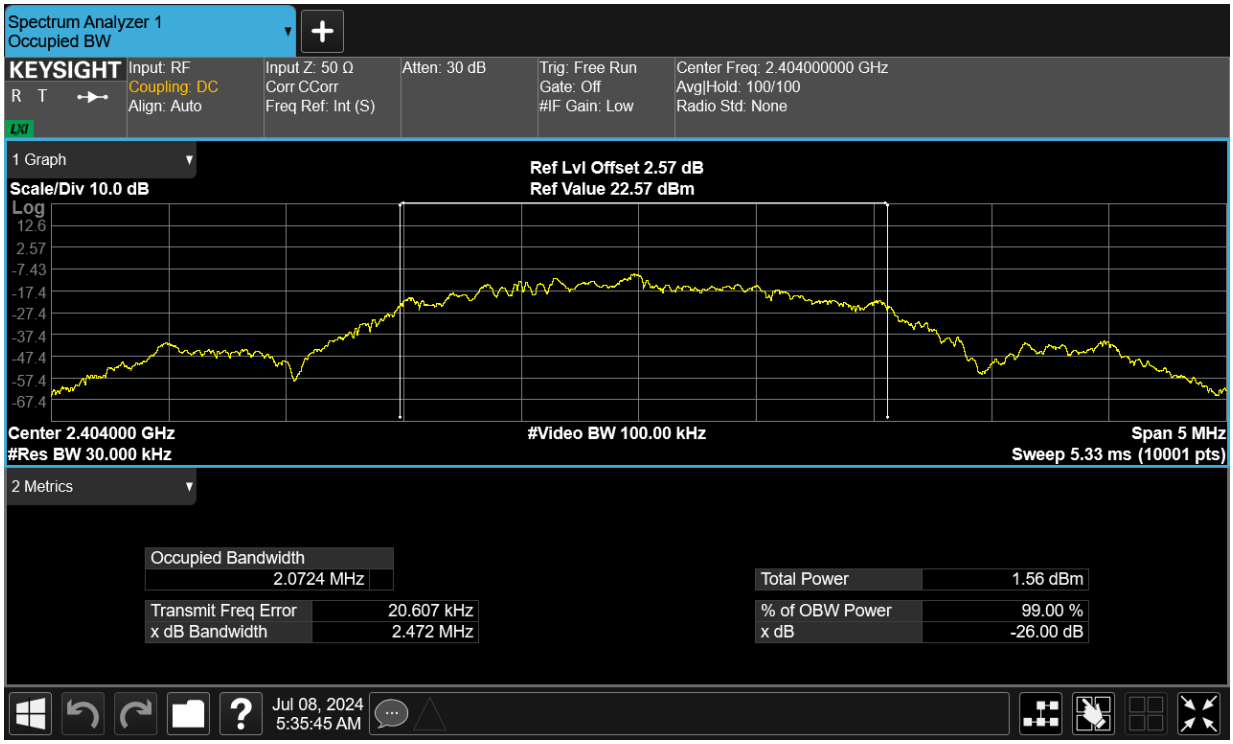
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Mkr3 2.478568000 GHz
-10.31 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 100.00 kHz
#Video BW 300.00 kHz
Span 5 MHz
Sweep 1.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
2.0738 MHz
Transmit Freq Error 22.284 kHz
x dB Bandwidth 1.092 MHz
Total Power 2.53 dBm
% of OBW Power 99.00 %
x dB -6.00 dB
Jul 08, 2024
5:41:31 AM

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2404	Ant2	2.072
NVNT	BLE	2442	Ant2	2.076
NVNT	BLE	2478	Ant2	2.074

Test Graphs

OBW NVNT BLE 2404MHz Ant2



OBW NVNT BLE 2442MHz Ant2

OBW NVNT BLE 2478MHz Ant2

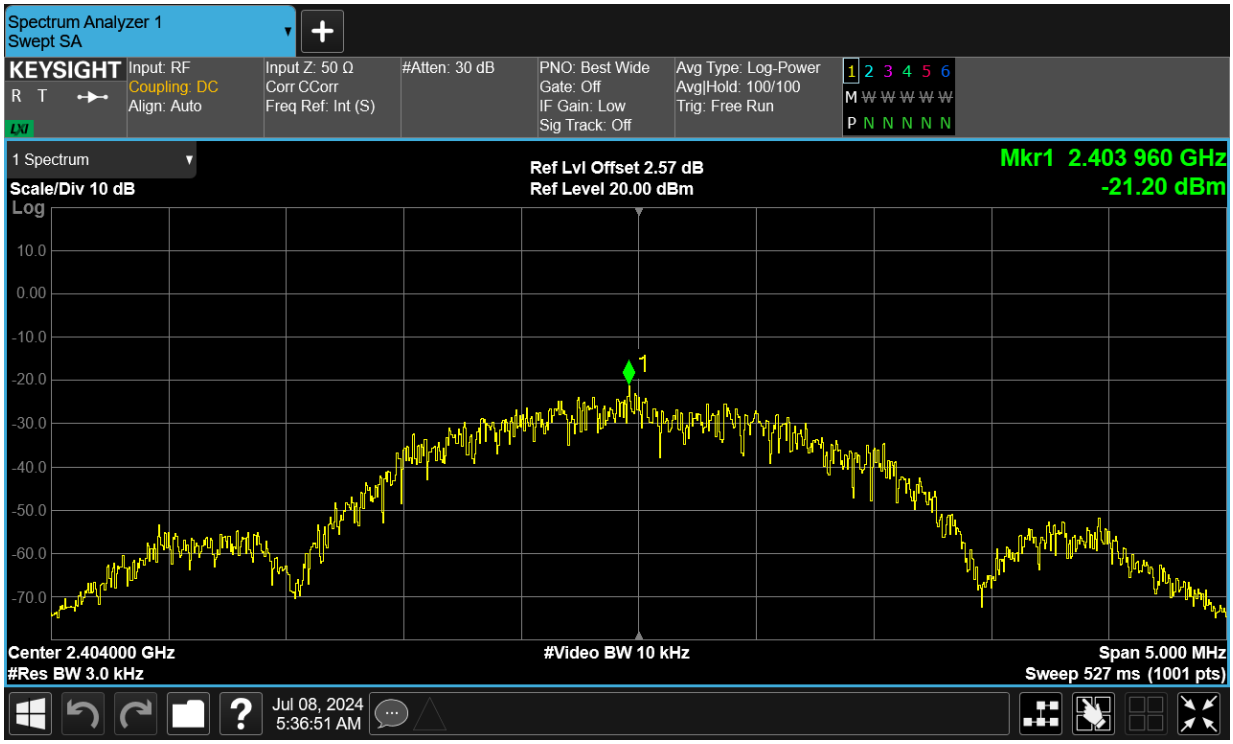
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Scale/Div 10.0 dB
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
2.0743 MHz
Transmit Freq Error 17.249 kHz
x dB Bandwidth 2.460 MHz
Total Power 2.01 dBm
% of OBW Power 99.00 %
x dB -26.00 dB
Jul 08, 2024
5:41:24 AM

Maximum Power Spectral Density Level

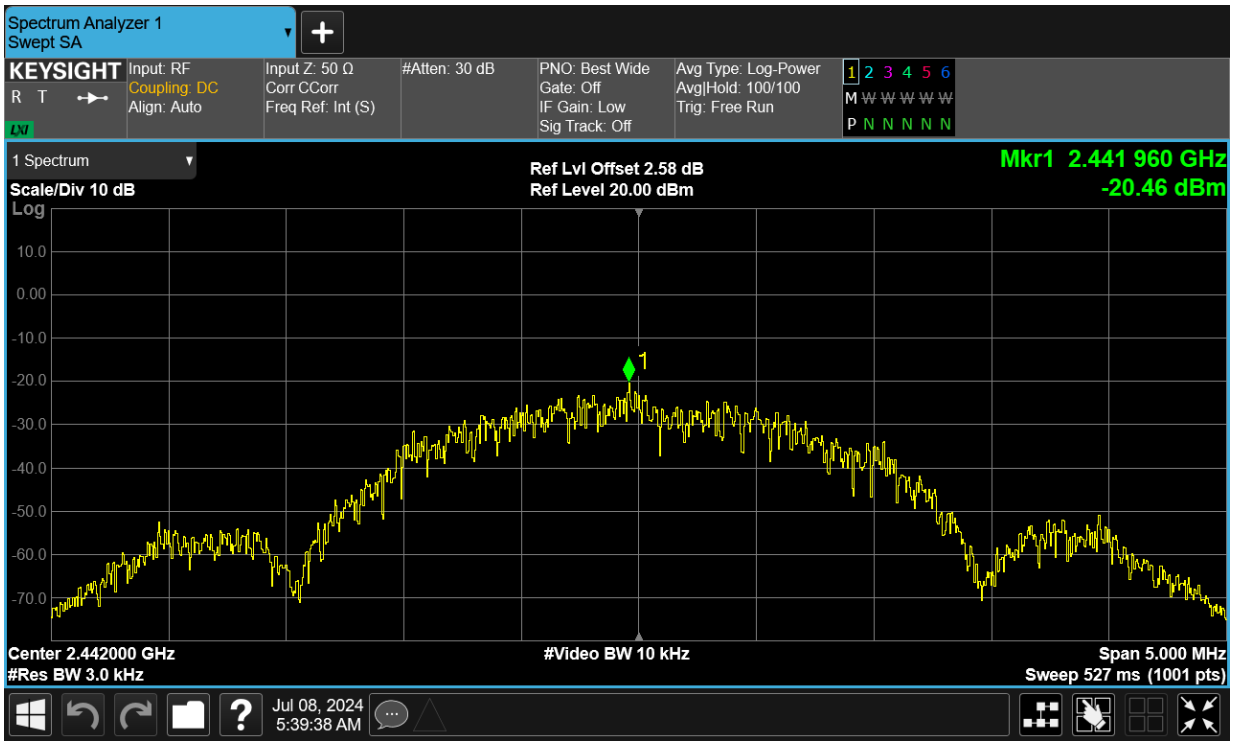
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	Ant2	-21.205	8	Pass
NVNT	BLE	2442	Ant2	-20.465	8	Pass
NVNT	BLE	2478	Ant2	-20.749	8	Pass

Test Graphs

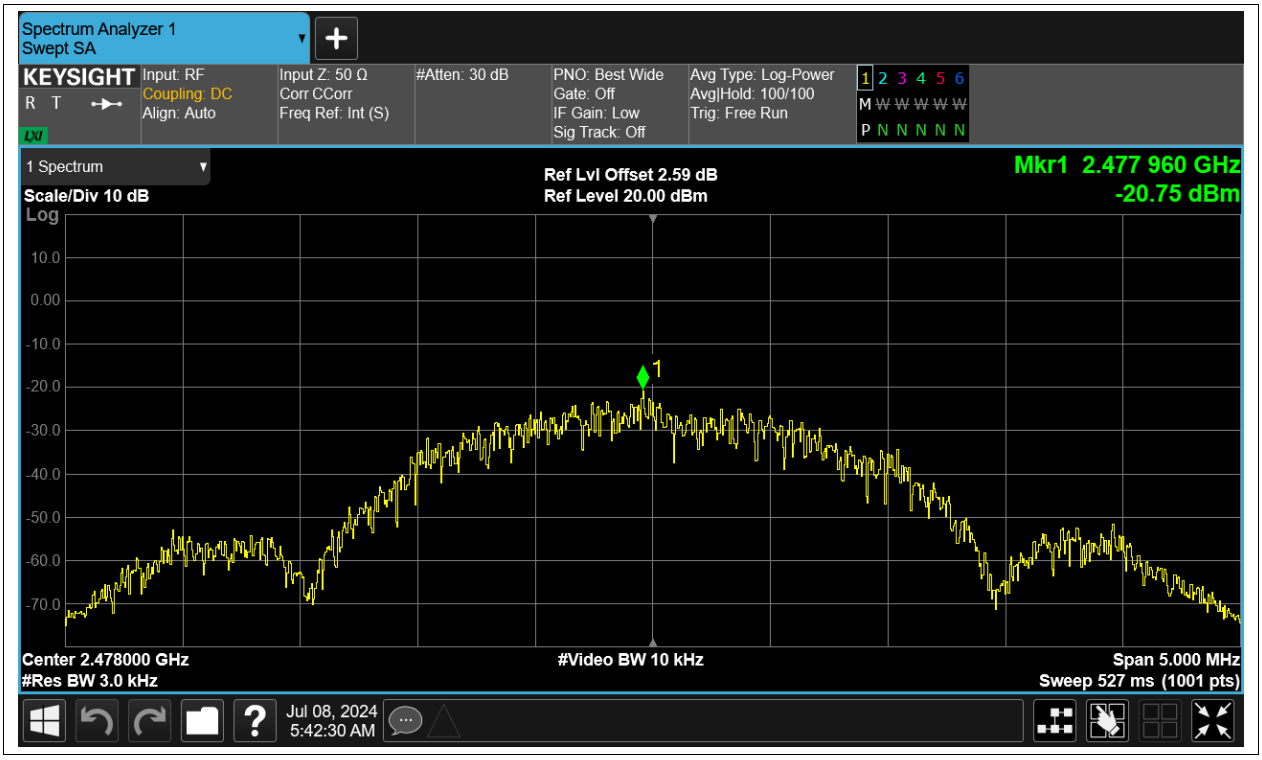
PSD NVNT BLE 2404MHz Ant2



PSD NVNT BLE 2442MHz Ant2



PSD NVNT BLE 2478MHz Ant2

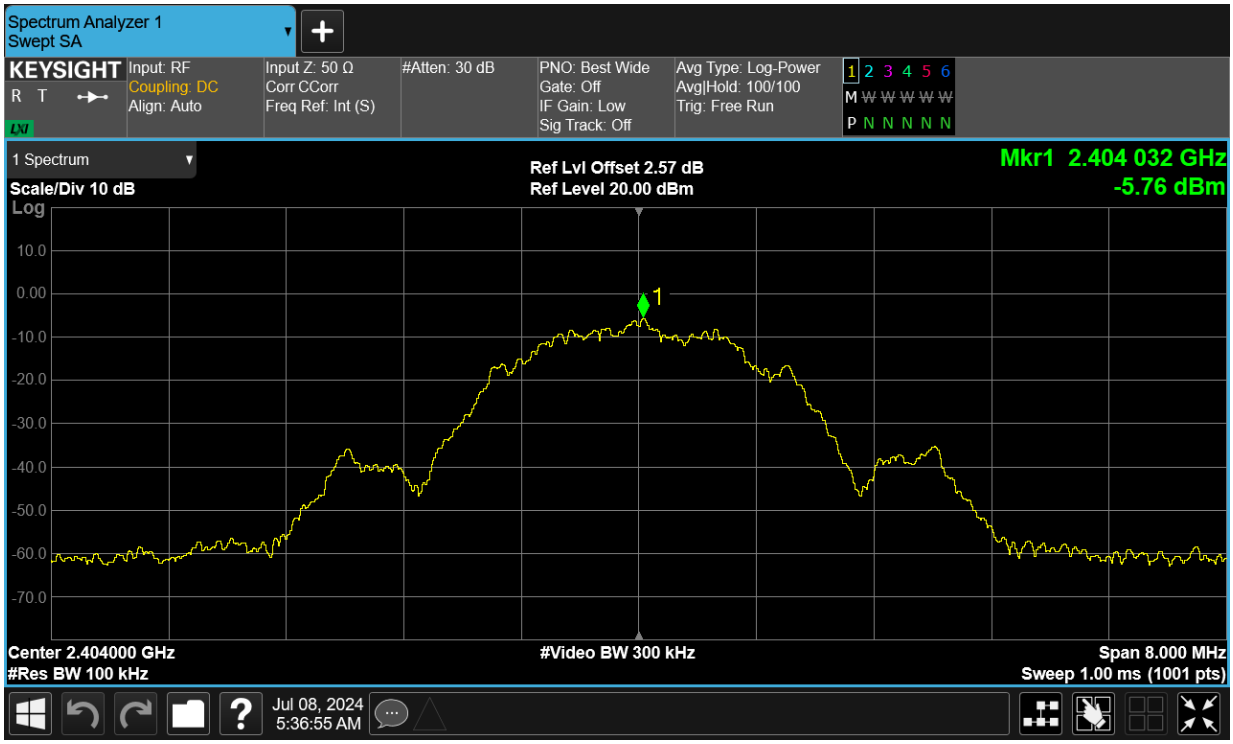

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 960 GHz
-20.75 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)
Jul 08, 2024
5:42:30 AM

Band Edge

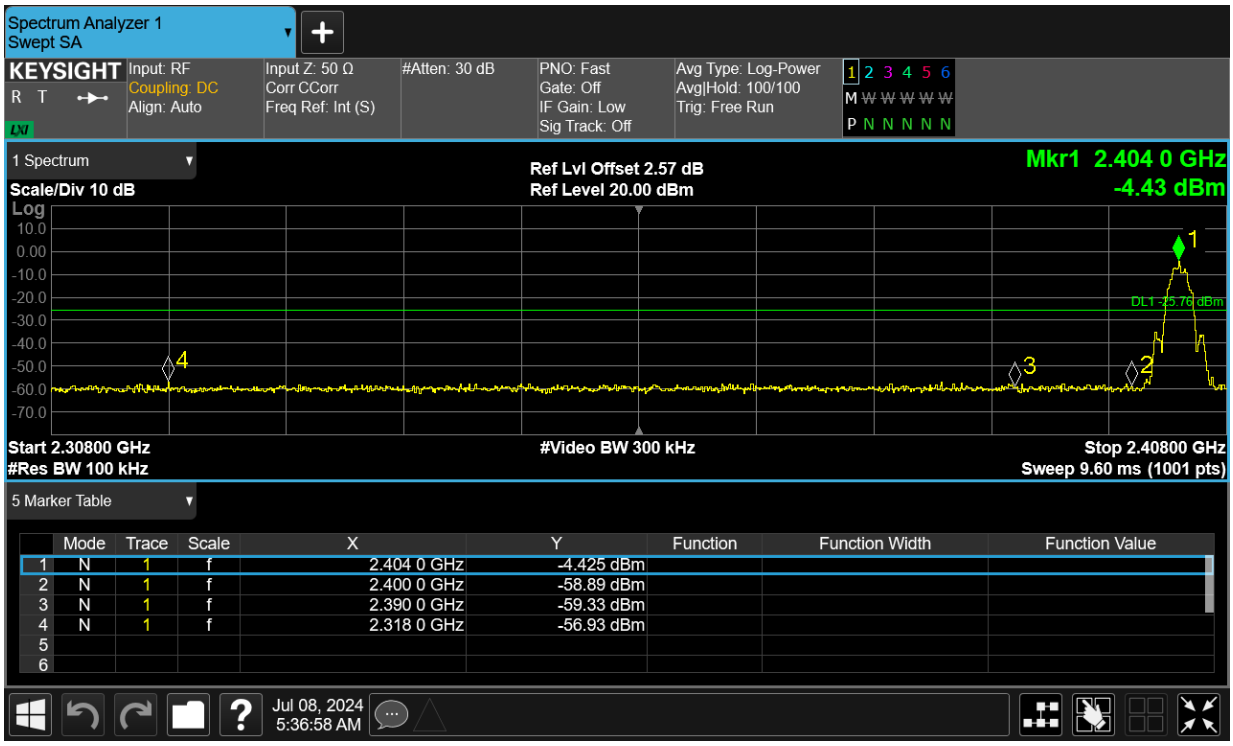
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	Ant2	-51.17	-20	Pass
NVNT	BLE	2478	Ant2	-53.49	-20	Pass

Test Graphs

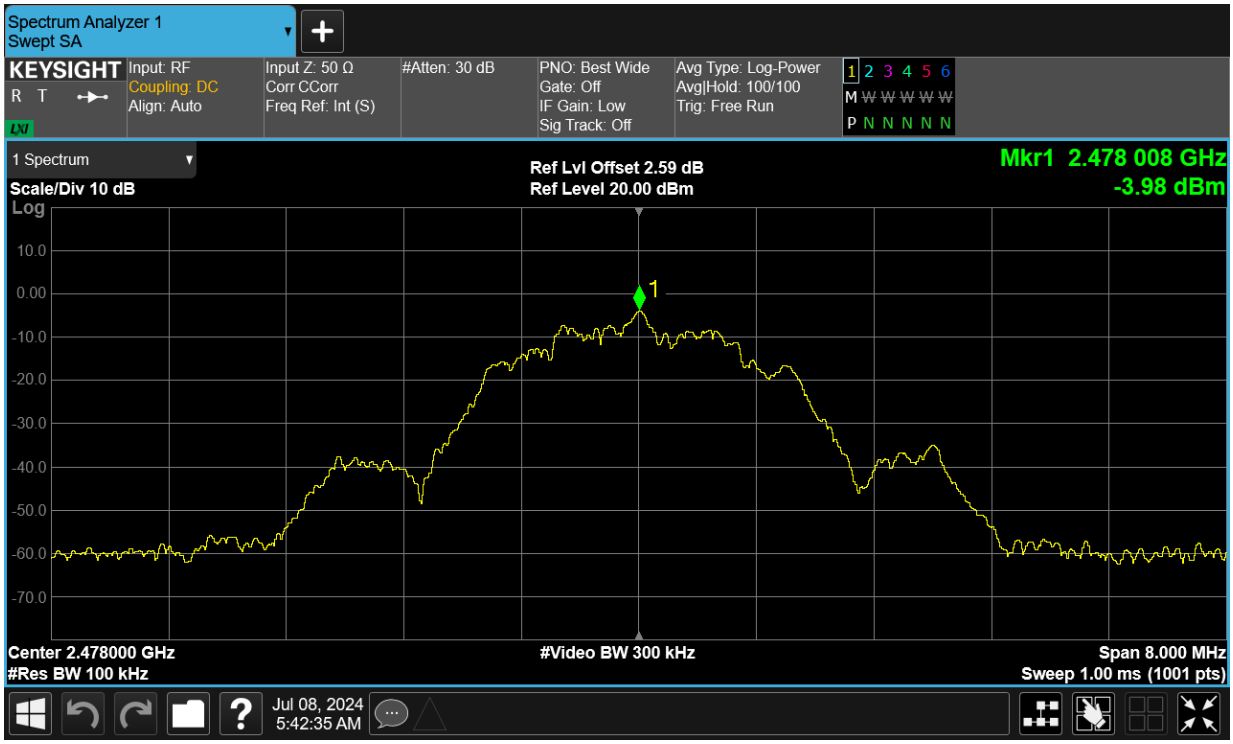
Band Edge NVNT BLE 2404MHz Ant2 Ref



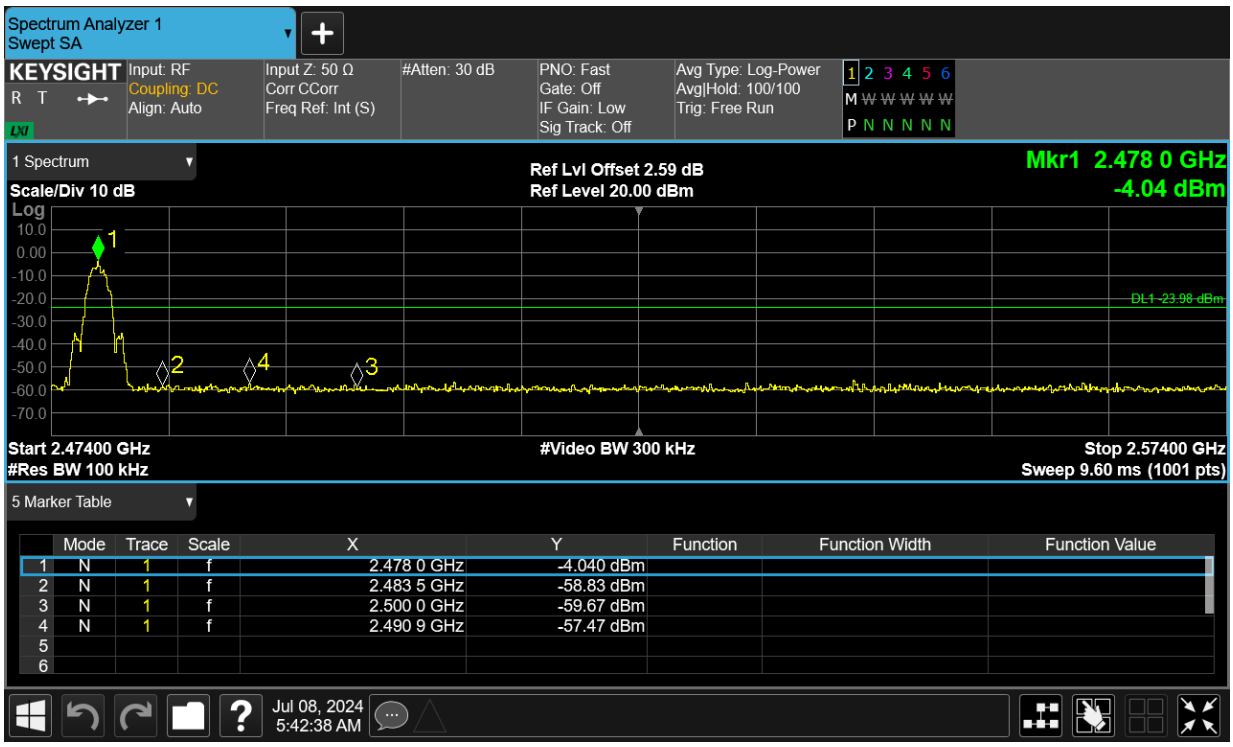
Band Edge NVNT BLE 2404MHz Ant2 Emission



Band Edge NVNT BLE 2478MHz Ant2 Ref



Band Edge NVNT BLE 2478MHz Ant2 Emission

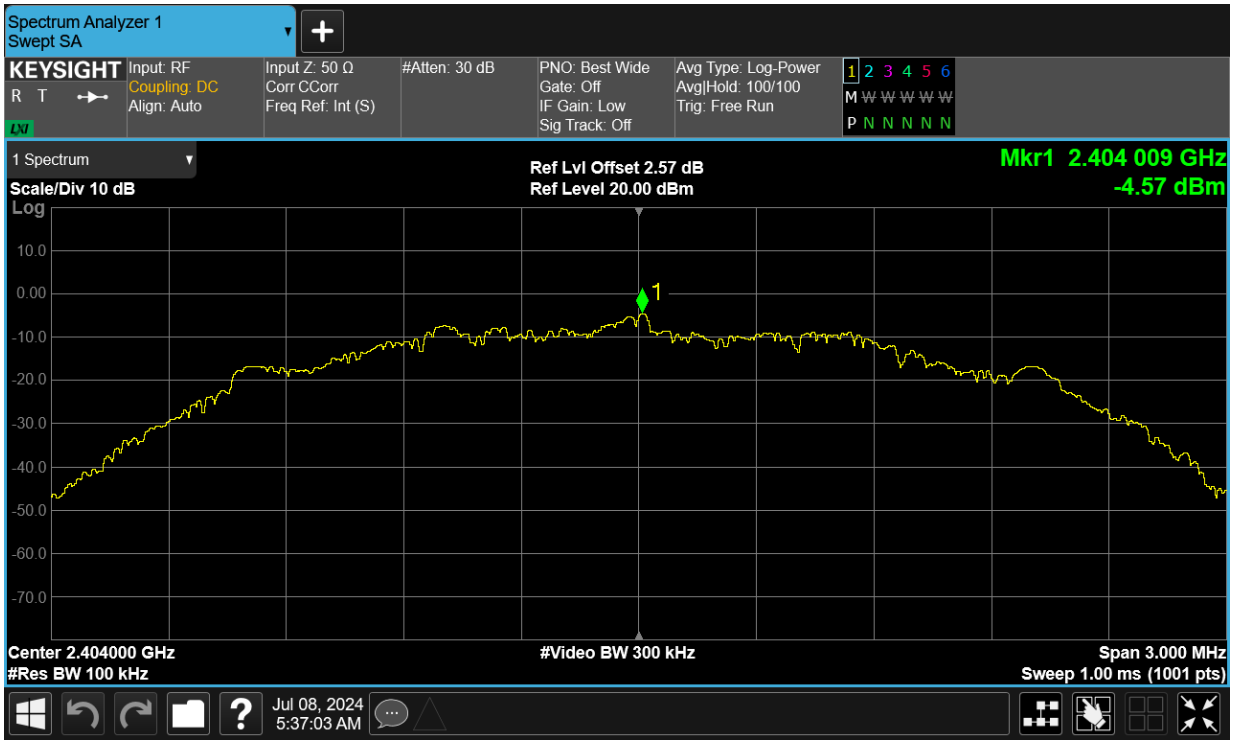


Conducted RF Spurious Emission

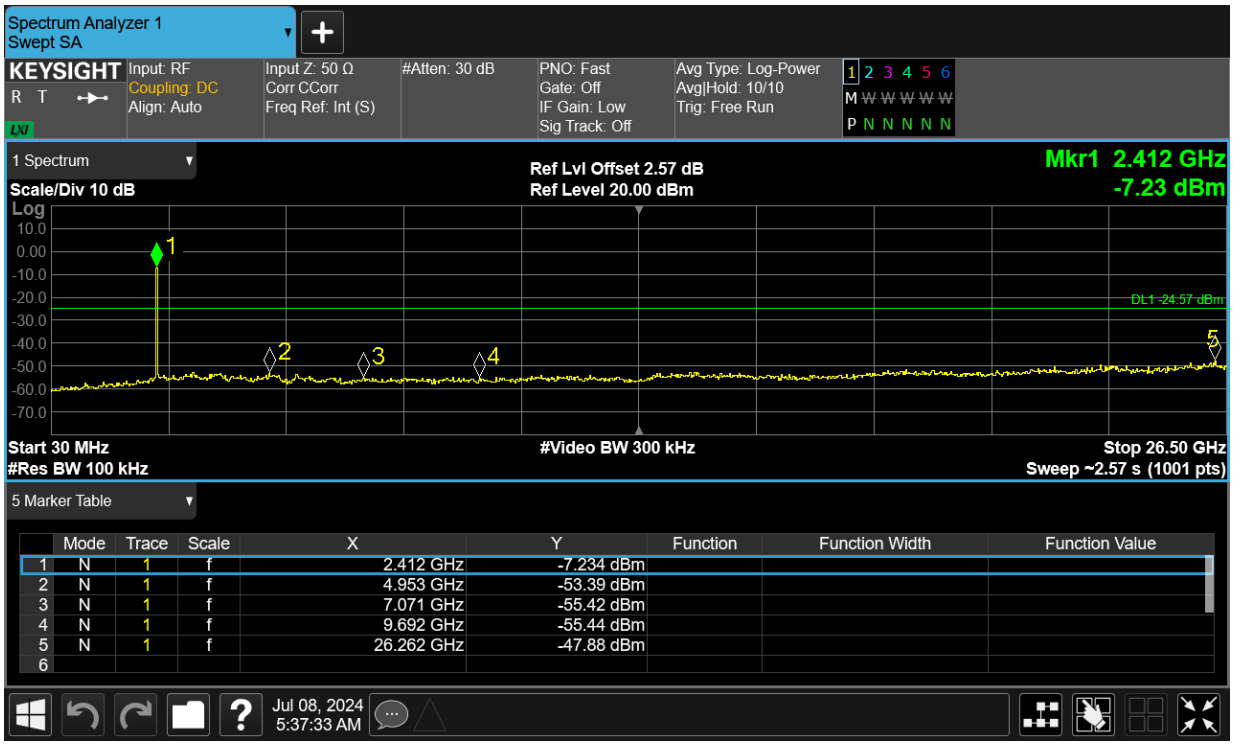
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	Ant2	-43.31	-20	Pass
NVNT	BLE	2442	Ant2	-43.94	-20	Pass
NVNT	BLE	2478	Ant2	-44.08	-20	Pass

Test Graphs

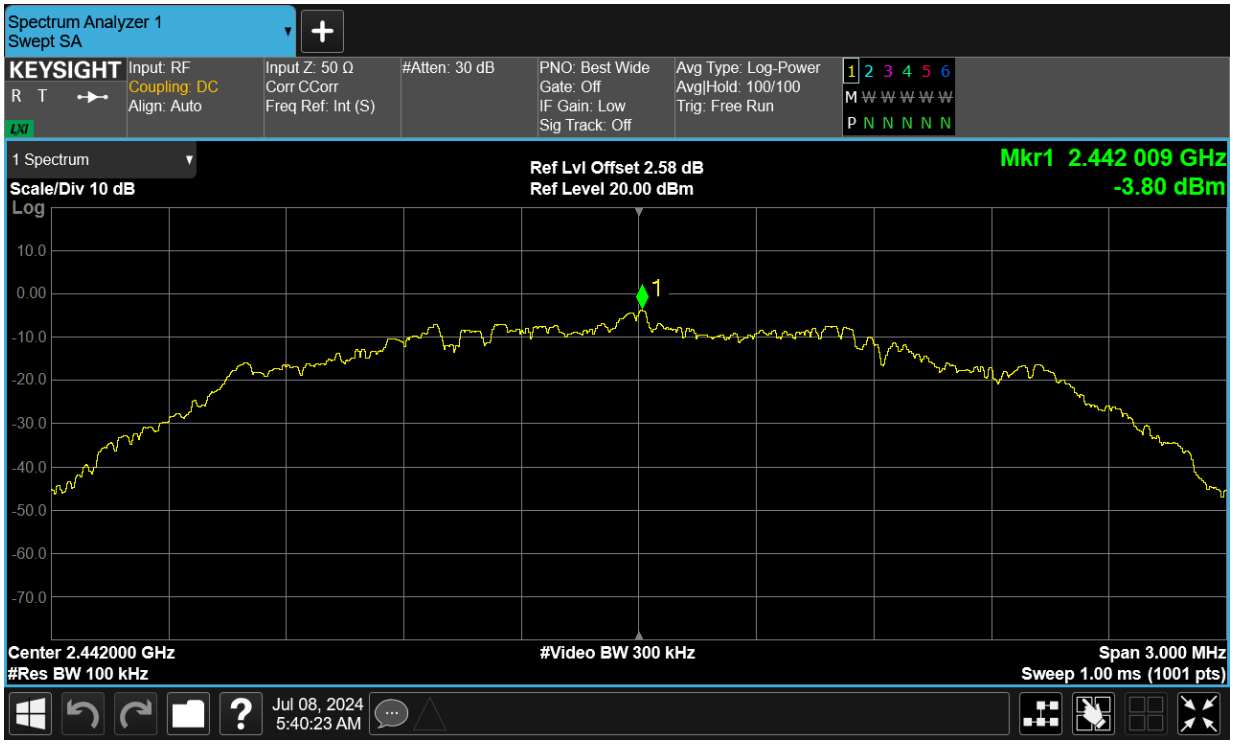
Tx. Spurious NVNT BLE 2404MHz Ant2 Ref



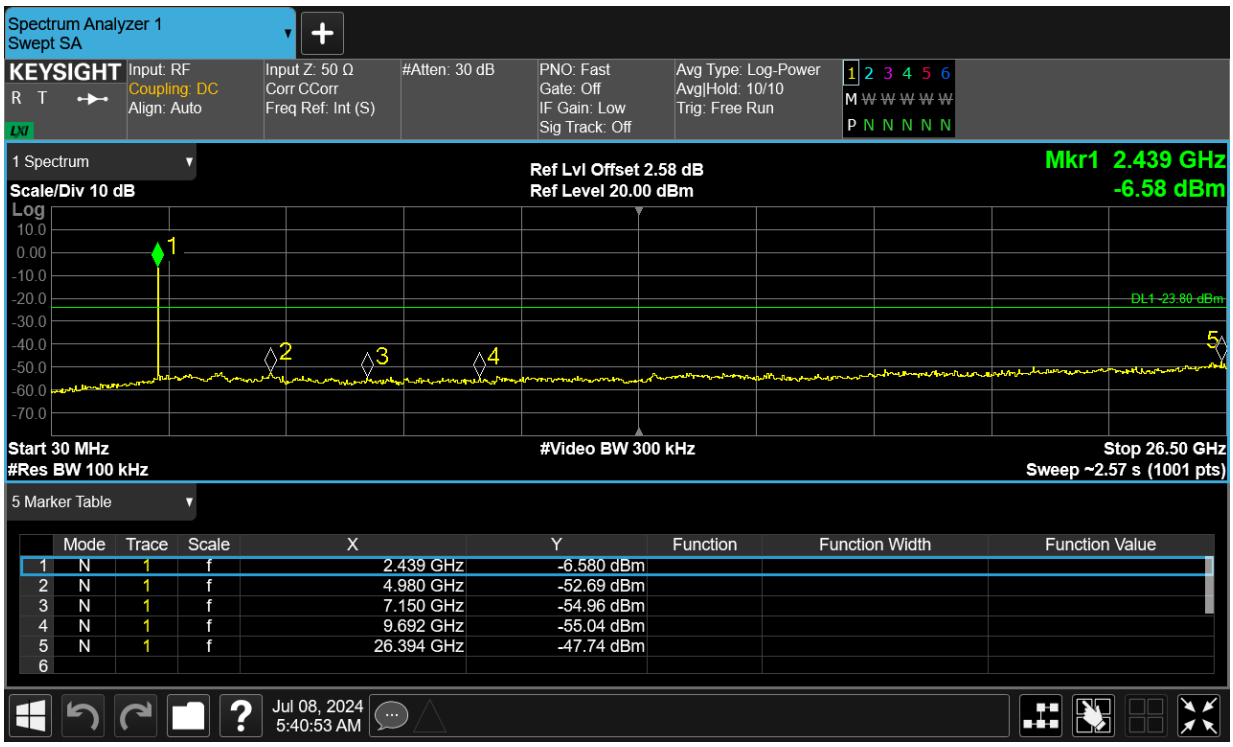
Tx. Spurious NVNT BLE 2404MHz Ant2 Emission



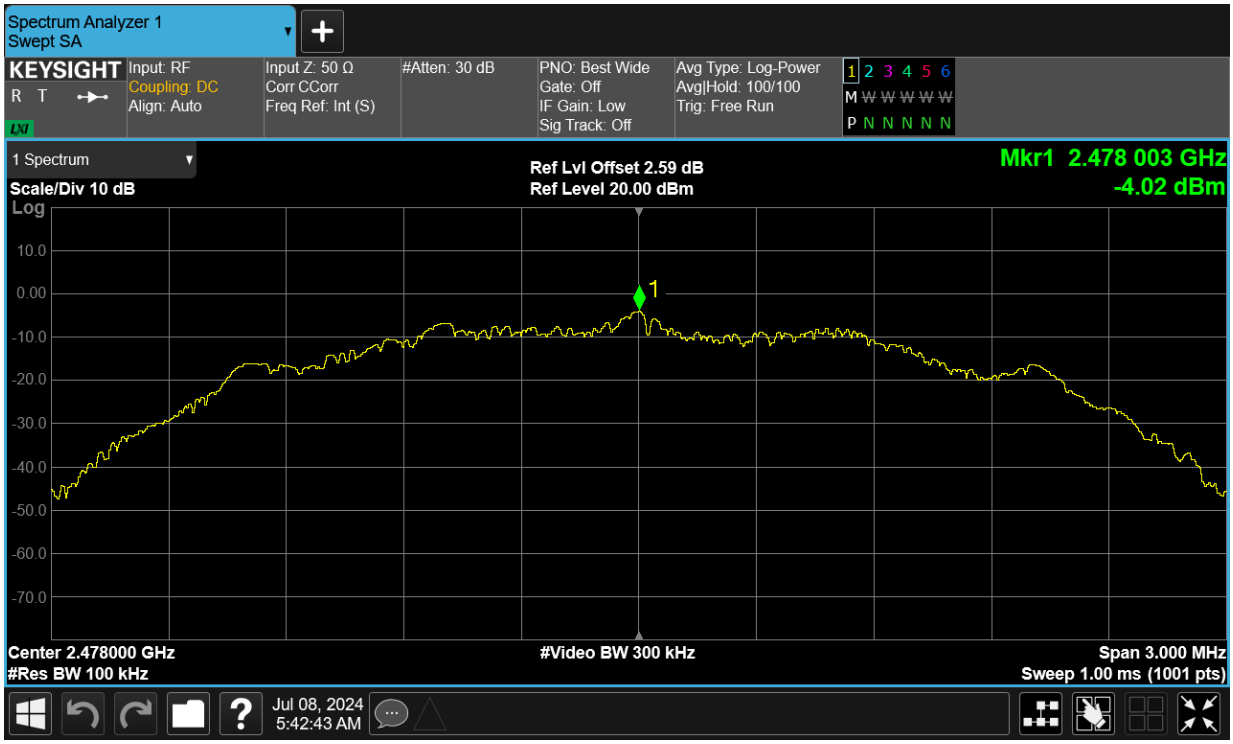
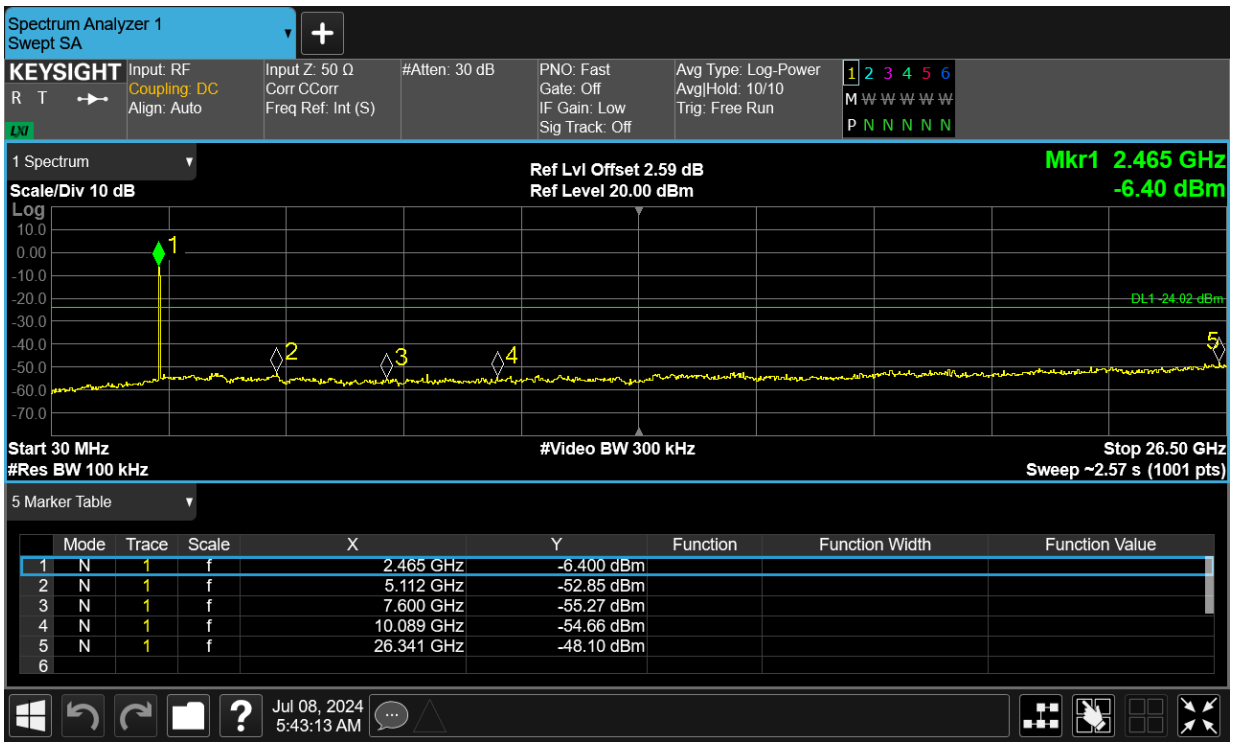
Tx. Spurious NVNT BLE 2442MHz Ant2 Ref



Tx. Spurious NVNT BLE 2442MHz Ant2 Emission



Tx. Spurious NVNT BLE 2478MHz Ant2 Ref



Tx. Spurious NVNT BLE 2478MHz Ant2 Emission