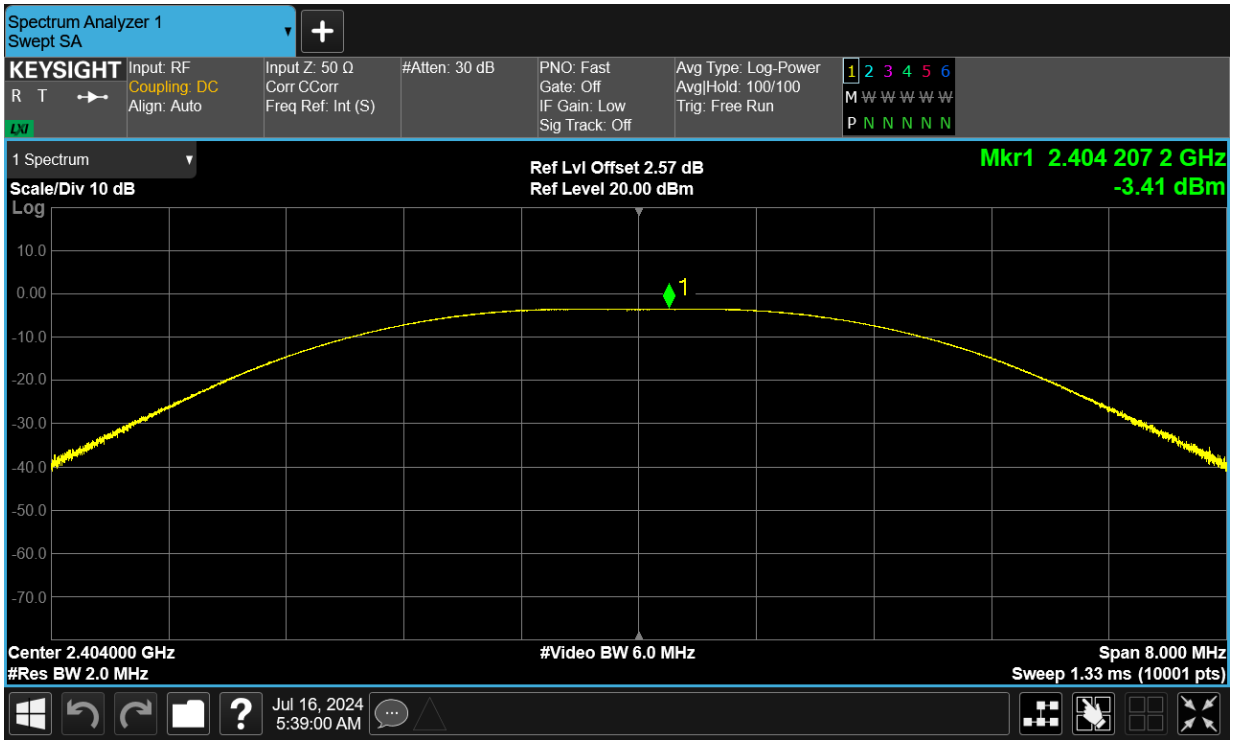
Test Data

Maximum Conducted Output Power

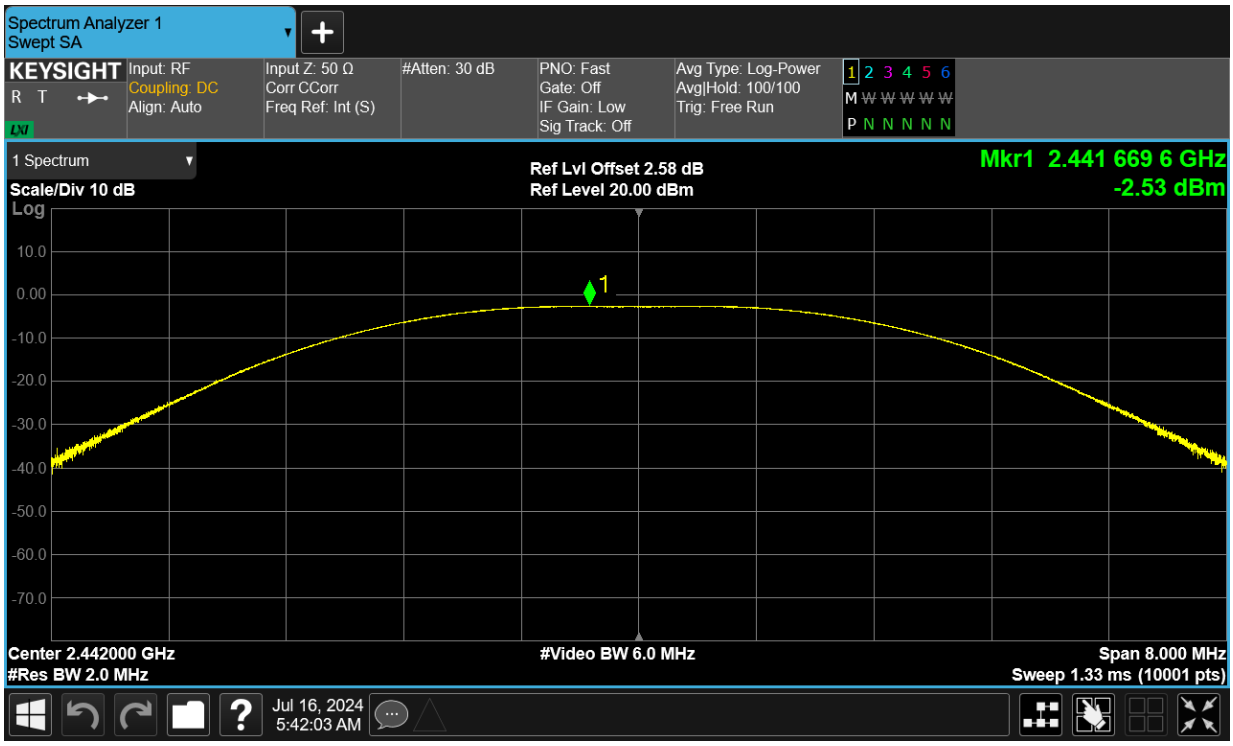
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	ANT14	-3.408	30	Pass
NVNT	BLE	2442	ANT14	-2.527	30	Pass
NVNT	BLE	2478	ANT14	-2.847	30	Pass

Test Graphs

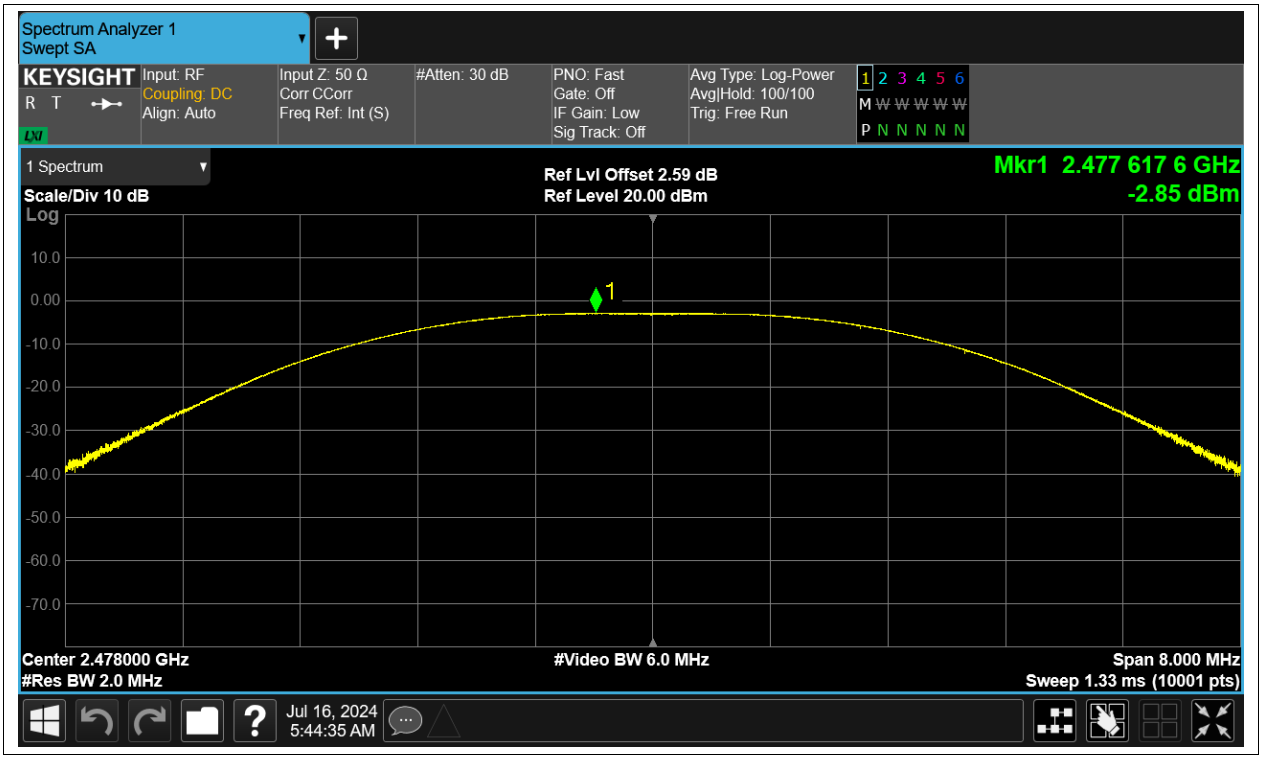
Power NVNT BLE 2404MHz ANT14



Power NVNT BLE 2442MHz ANT14



Power NVNT BLE 2478MHz ANT14

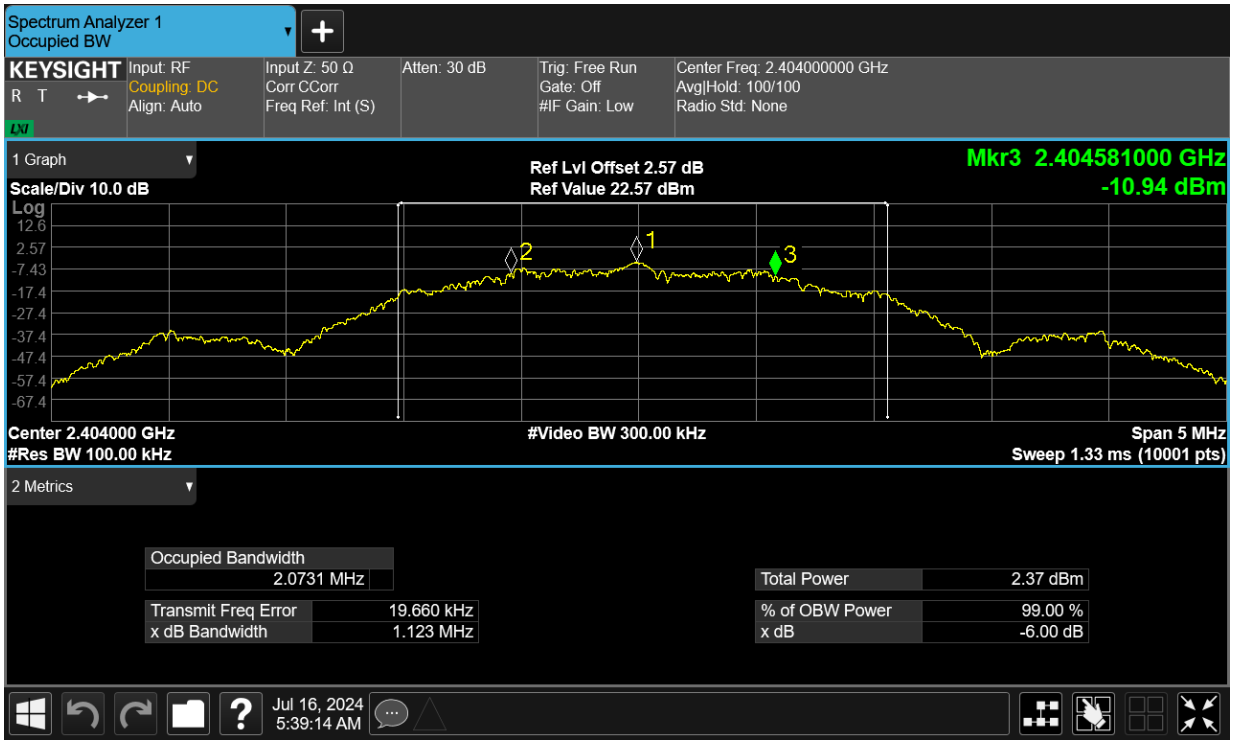

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 617 6 GHz
-2.85 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 16, 2024
5:44:35 AM

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2404	ANT14	1.123	0.5	Pass
NVNT	BLE	2442	ANT14	1.126	0.5	Pass
NVNT	BLE	2478	ANT14	1.148	0.5	Pass

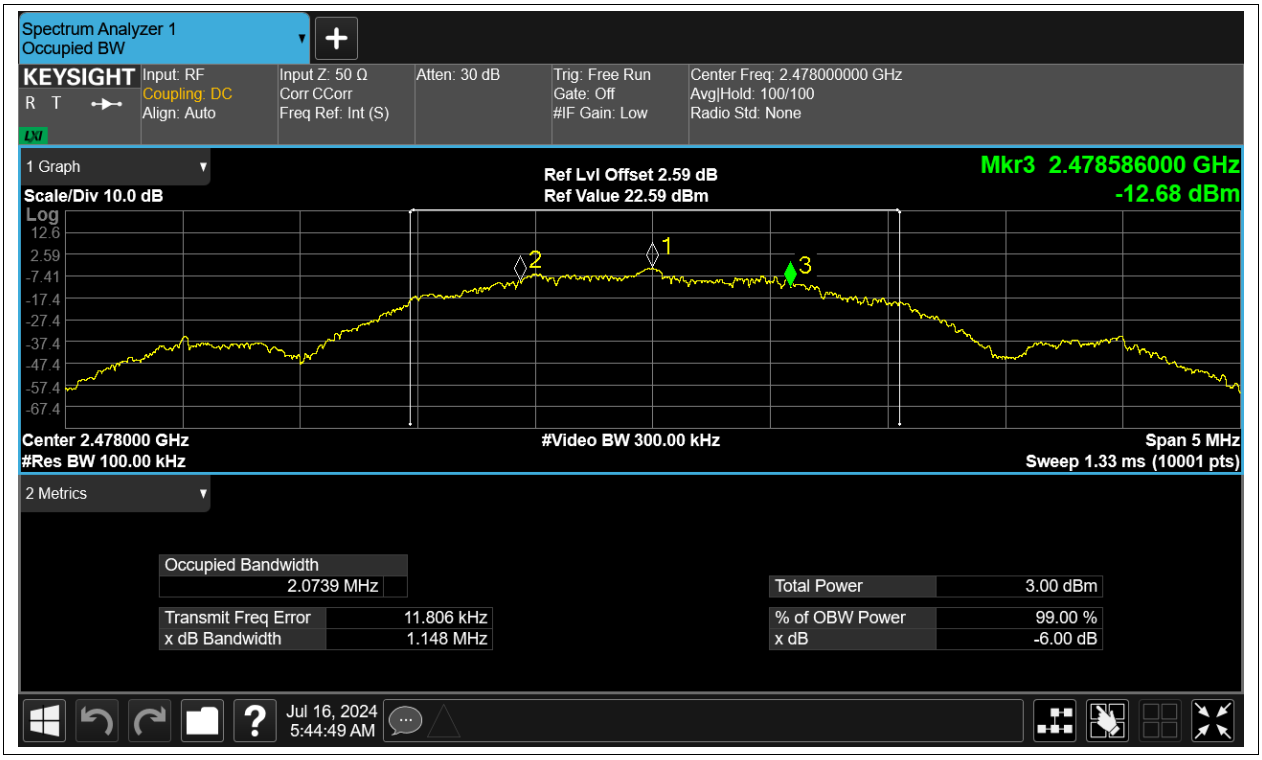
Test Graphs

-6dB Bandwidth NVNT BLE 2404MHz ANT14



-6dB Bandwidth NVNT BLE 2442MHz ANT14

-6dB Bandwidth NVNT BLE 2478MHz ANT14

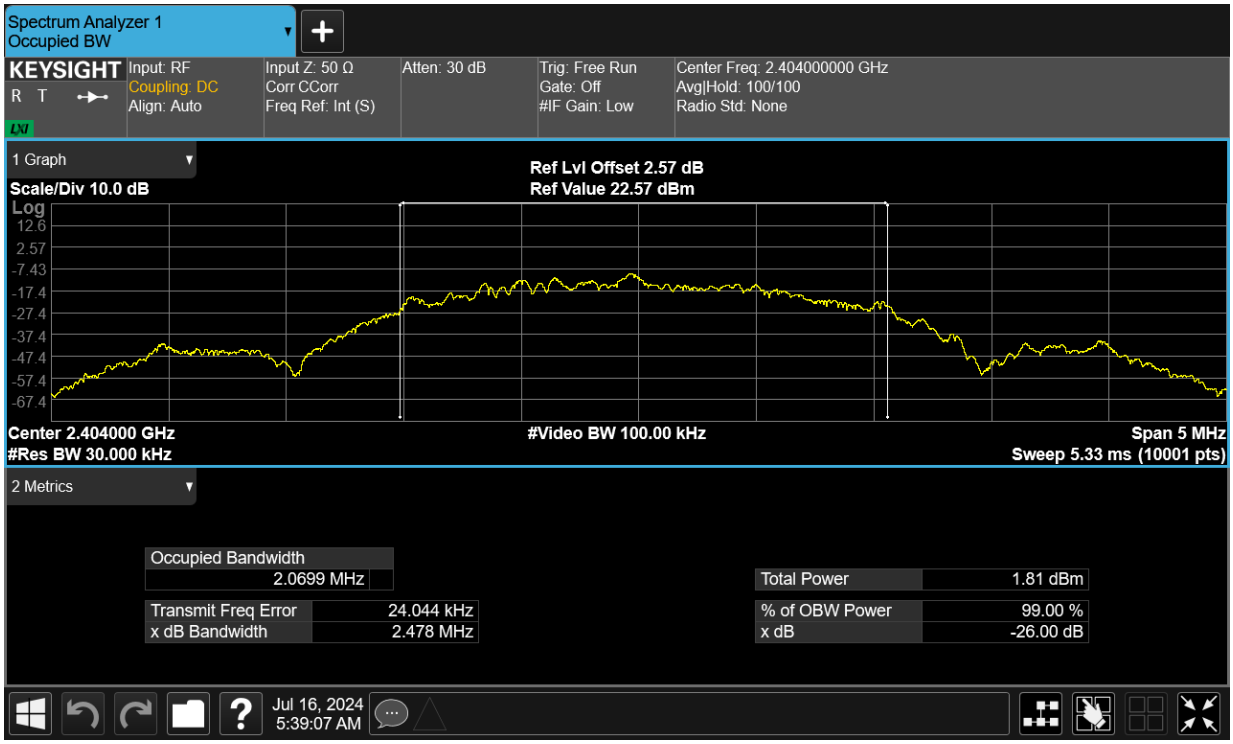

Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Mkr3 2.478586000 GHz
-12.68 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
2.0739 MHz
Transmit Freq Error 11.806 kHz
x dB Bandwidth 1.148 MHz
Total Power 3.00 dBm
% of OBW Power 99.00 %
x dB -6.00 dB
Jul 16, 2024
5:44:49 AM

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2404	ANT14	2.07
NVNT	BLE	2442	ANT14	2.065
NVNT	BLE	2478	ANT14	2.068

Test Graphs

OBW NVNT BLE 2404MHz ANT14



OBW NVNT BLE 2442MHz ANT14

OBW NVNT BLE 2478MHz ANT14

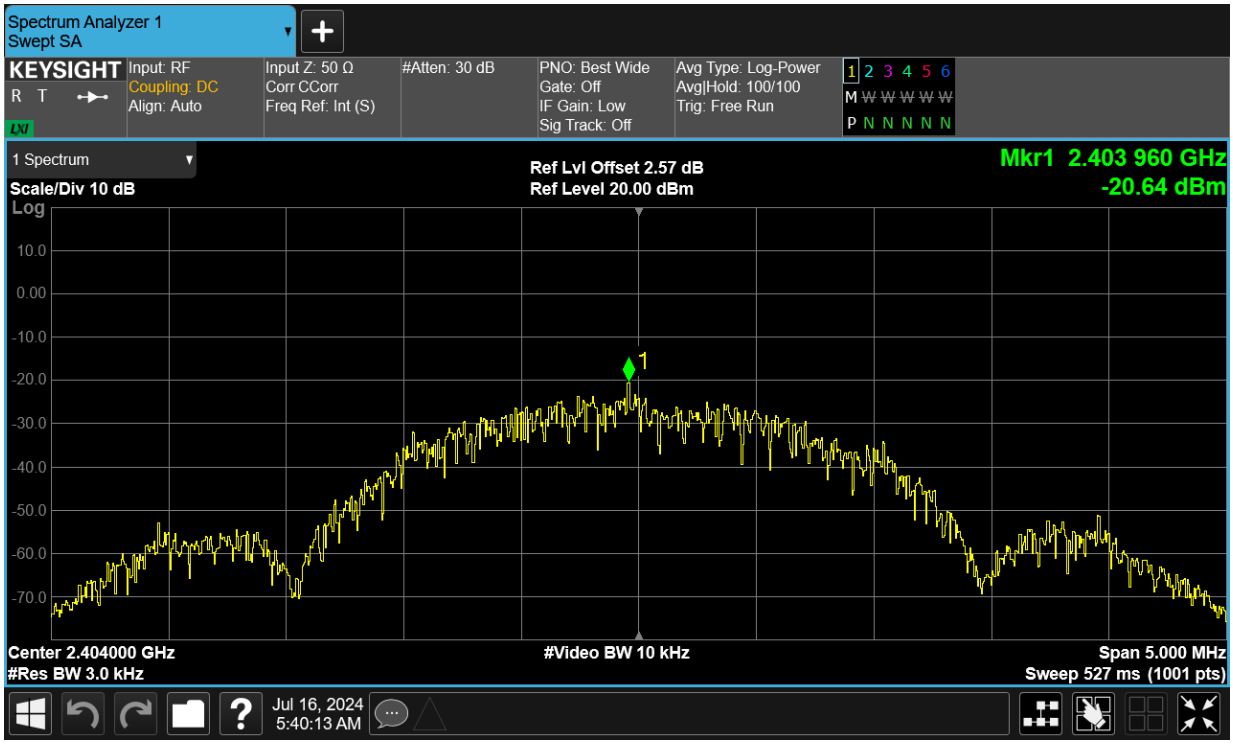
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.478000000 GHz
Avg|Hold: 100/100
Radio Std: None
1 Graph
Ref Lvl Offset 2.59 dB
Ref Value 22.59 dBm
Scale/Div 10.0 dB
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
2.0678 MHz
Transmit Freq Error 21.698 kHz
x dB Bandwidth 2.467 MHz
Total Power 2.33 dBm
% of OBW Power 99.00 %
x dB -26.00 dB
Jul 16, 2024
5:44:41 AM

Maximum Power Spectral Density Level

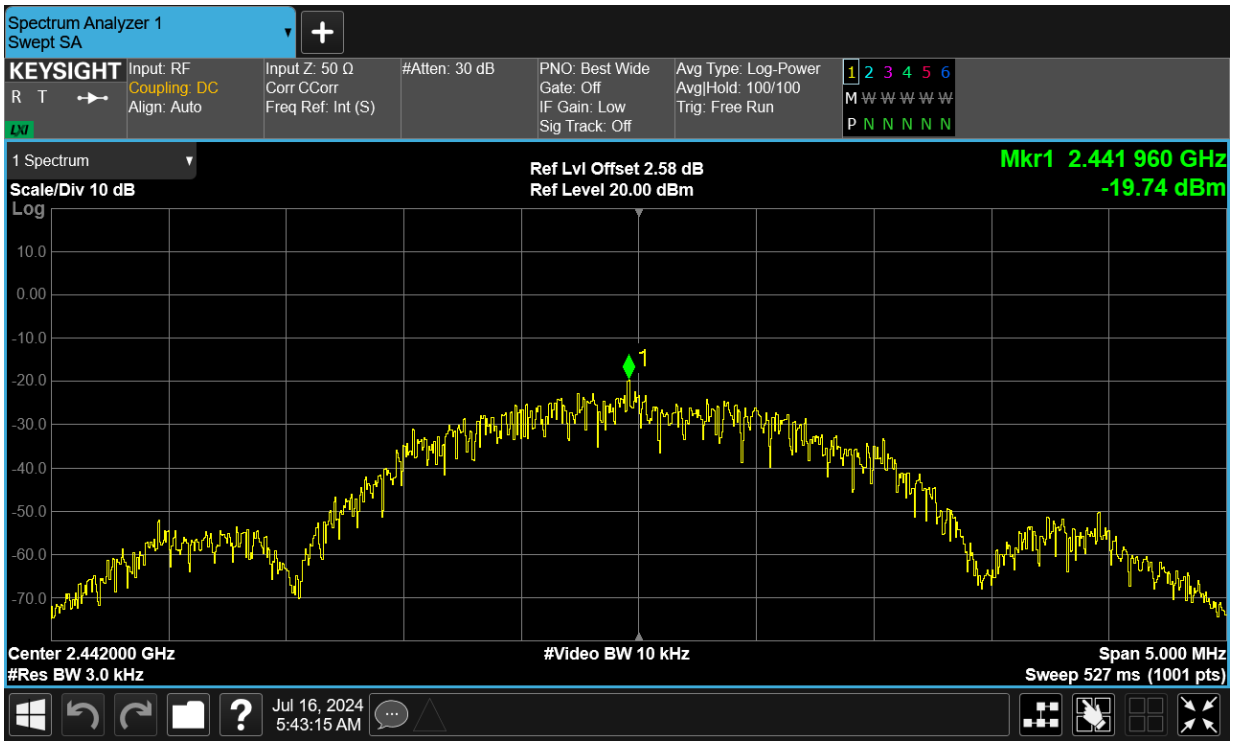
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2404	ANT14	-20.64	8	Pass
NVNT	BLE	2442	ANT14	-19.743	8	Pass
NVNT	BLE	2478	ANT14	-20.098	8	Pass

Test Graphs

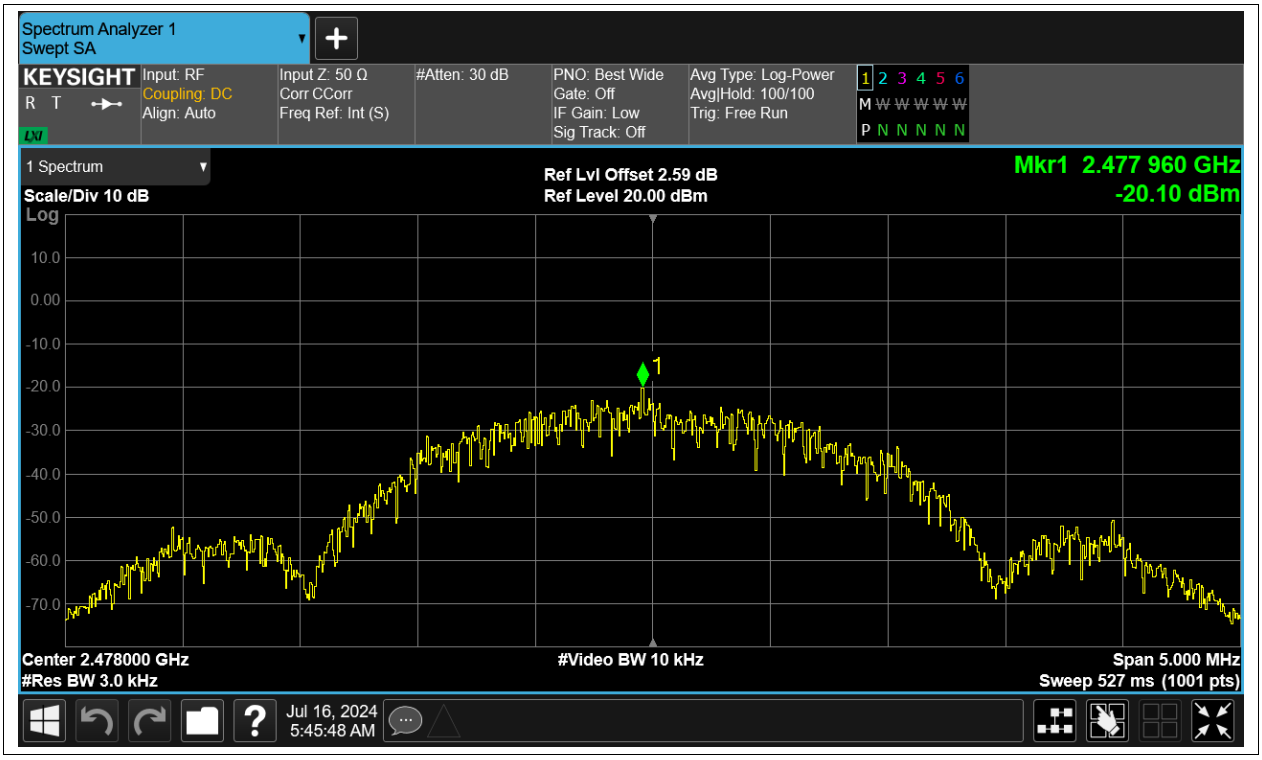
PSD NVNT BLE 2404MHz ANT14



PSD NVNT BLE 2442MHz ANT14



PSD NVNT BLE 2478MHz ANT14

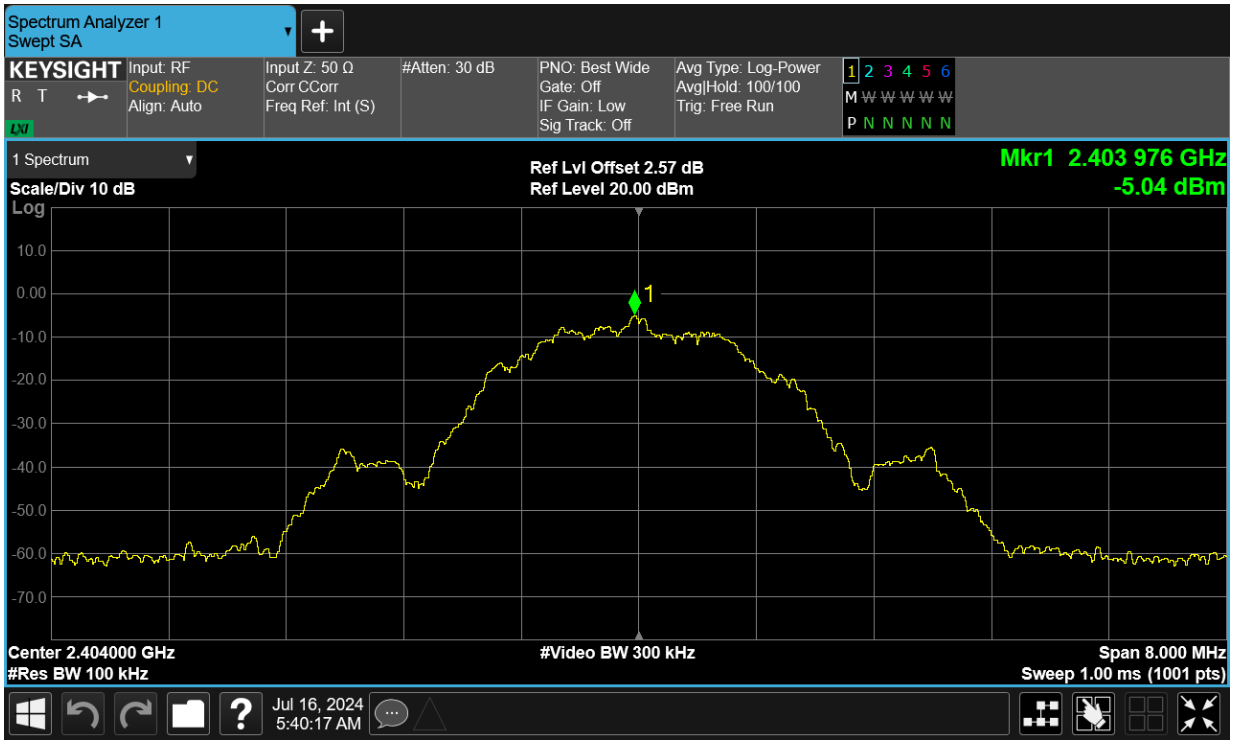

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.59 dB
Ref Level 20.00 dBm
Mkr1 2.477 960 GHz
-20.10 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 16, 2024
5:45:48 AM

Band Edge

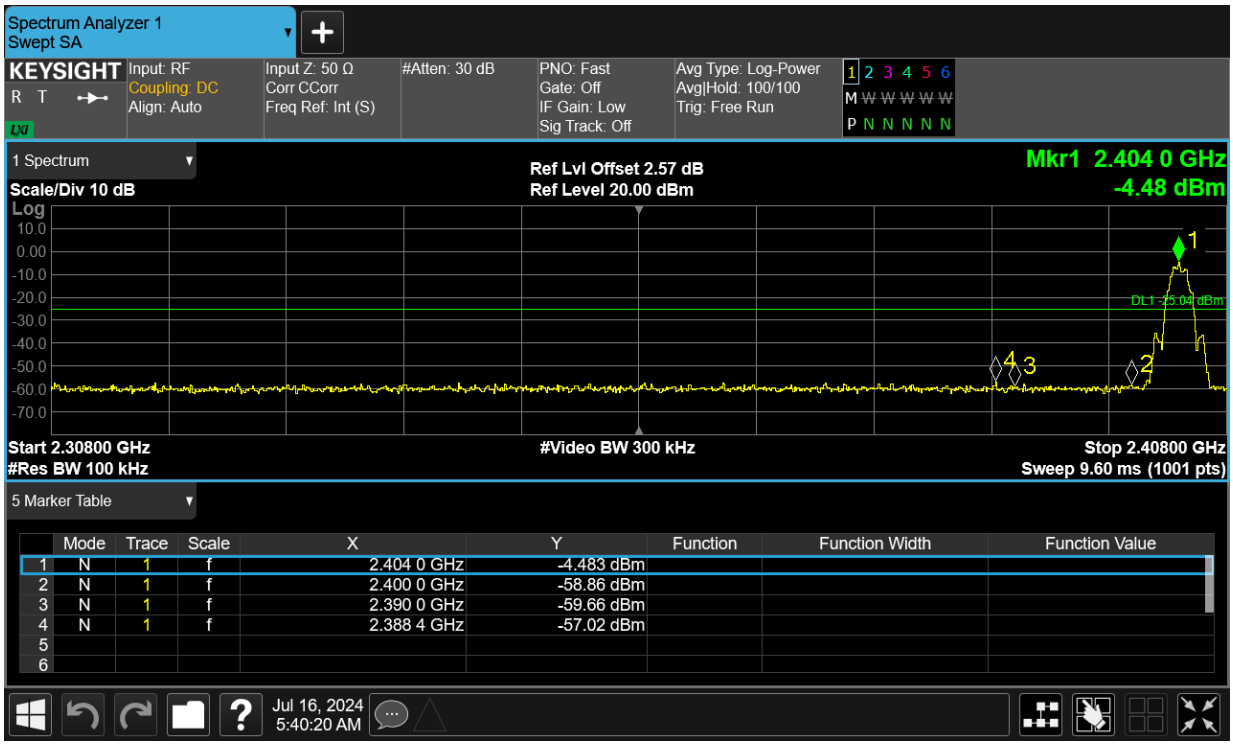
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	ANT14	-51.98	-20	Pass
NVNT	BLE	2478	ANT14	-52.69	-20	Pass

Test Graphs

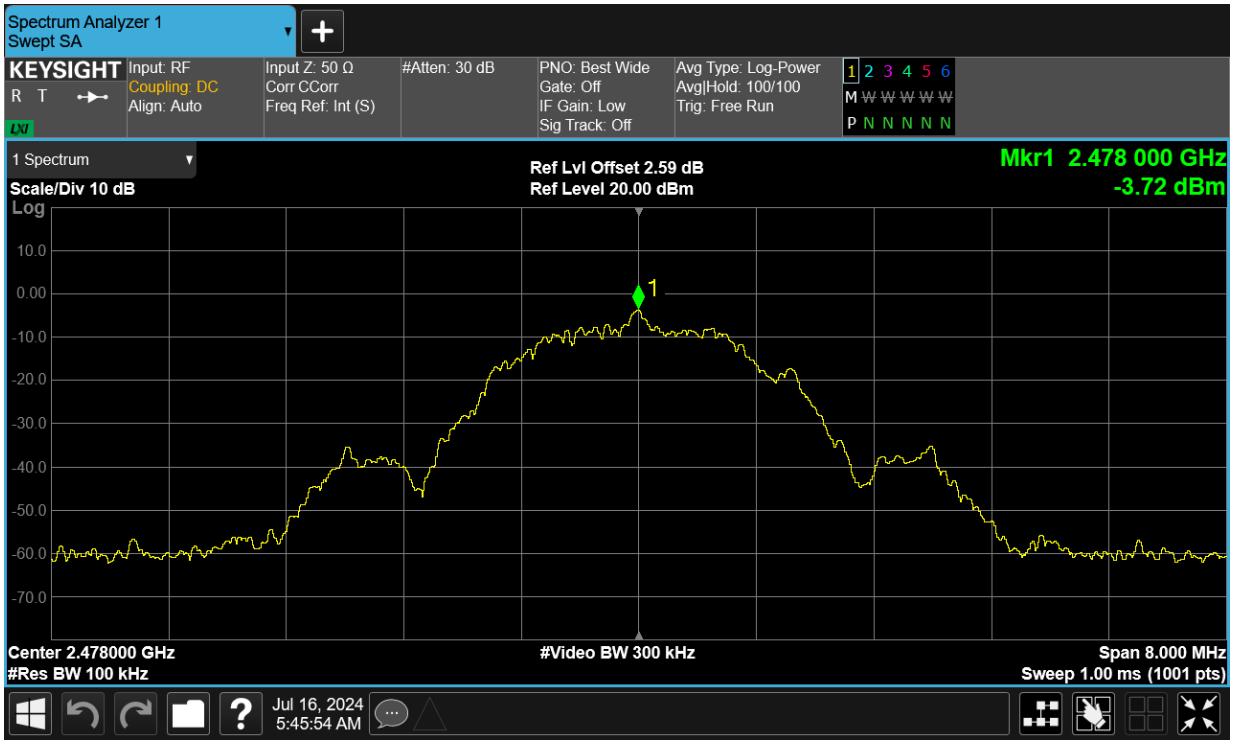
Band Edge NVNT BLE 2404MHz ANT14 Ref



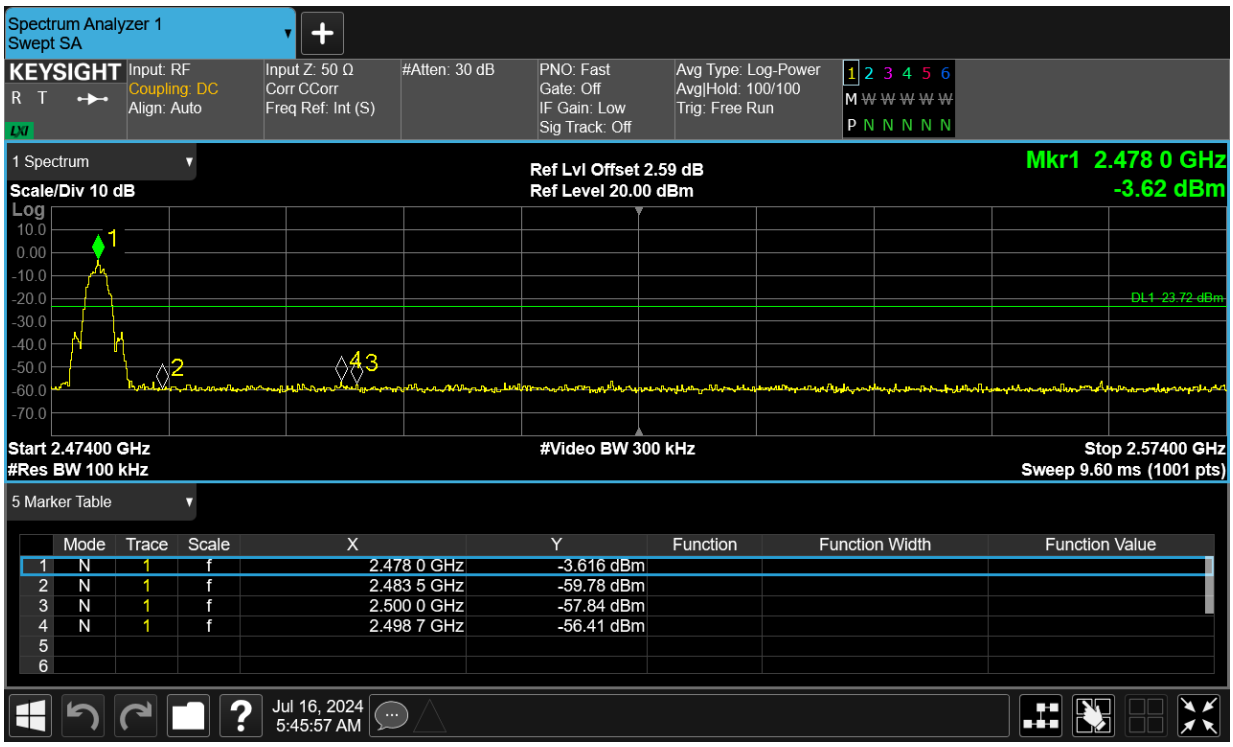
Band Edge NVNT BLE 2404MHz ANT14 Emission



Band Edge NVNT BLE 2478MHz ANT14 Ref



Band Edge NVNT BLE 2478MHz ANT14 Emission

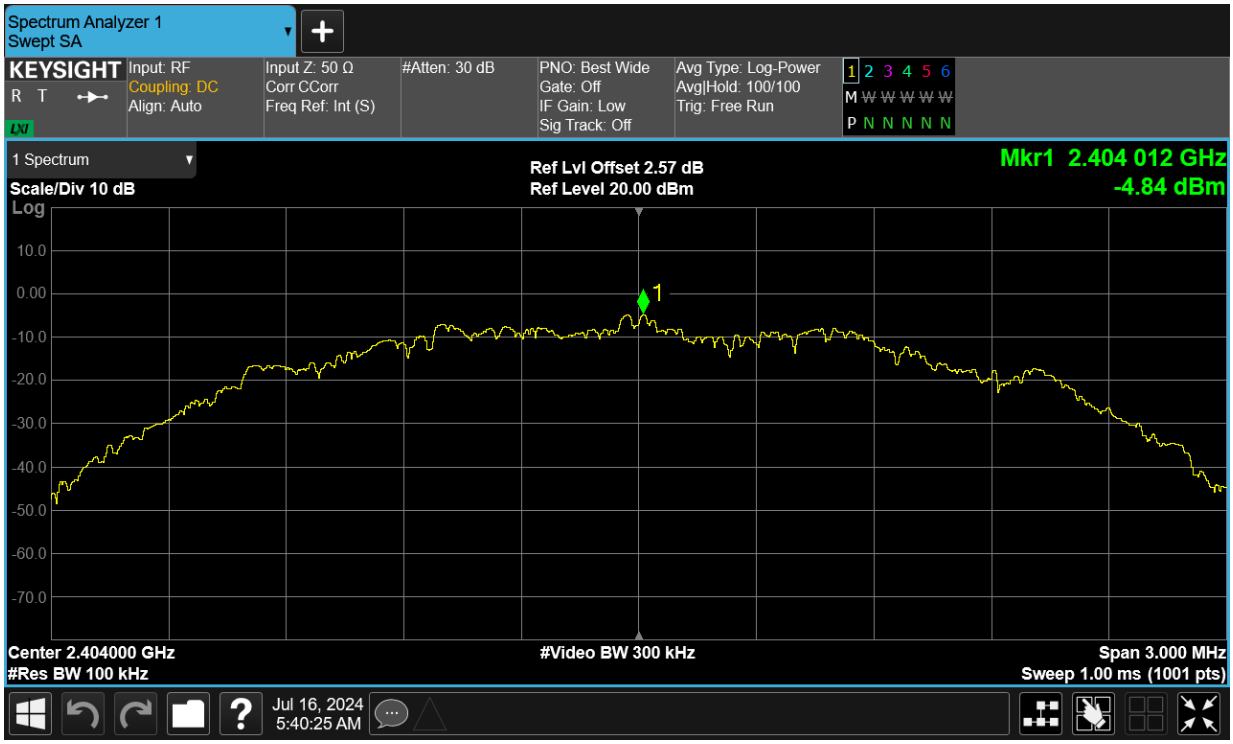


Conducted RF Spurious Emission

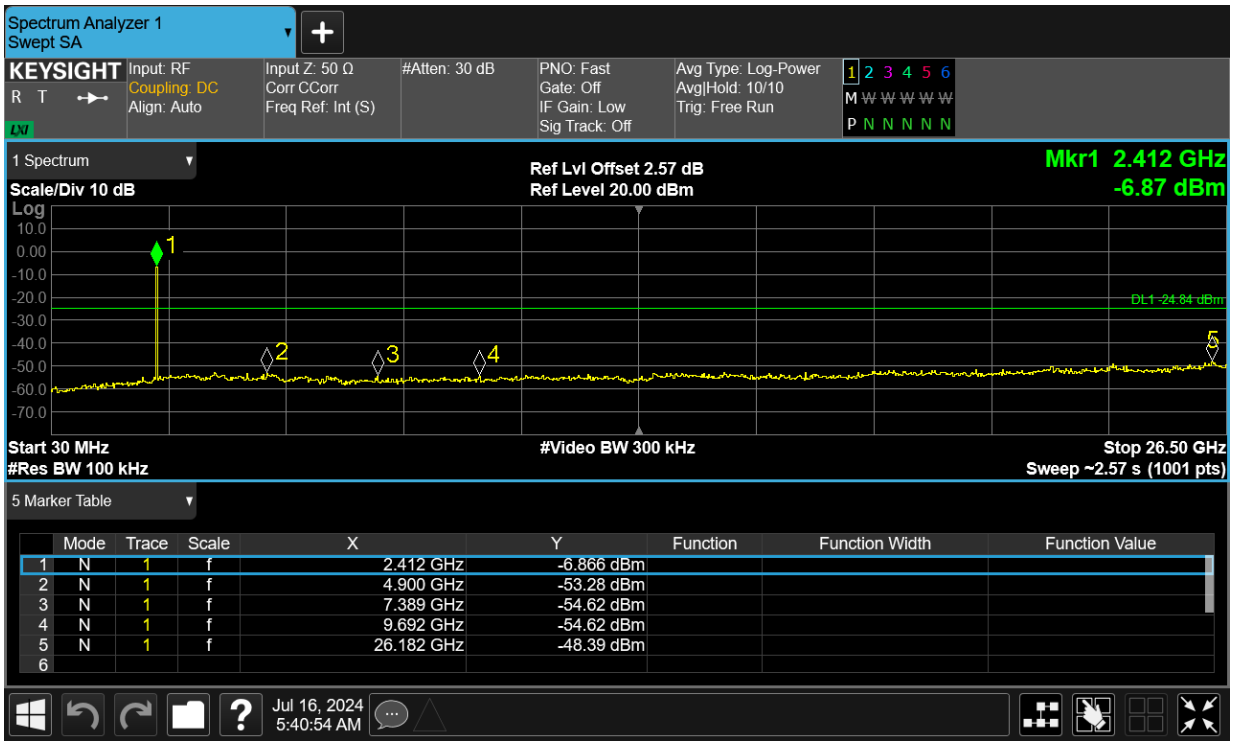
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2404	ANT14	-43.55	-20	Pass
NVNT	BLE	2442	ANT14	-45.56	-20	Pass
NVNT	BLE	2478	ANT14	-44.48	-20	Pass

Test Graphs

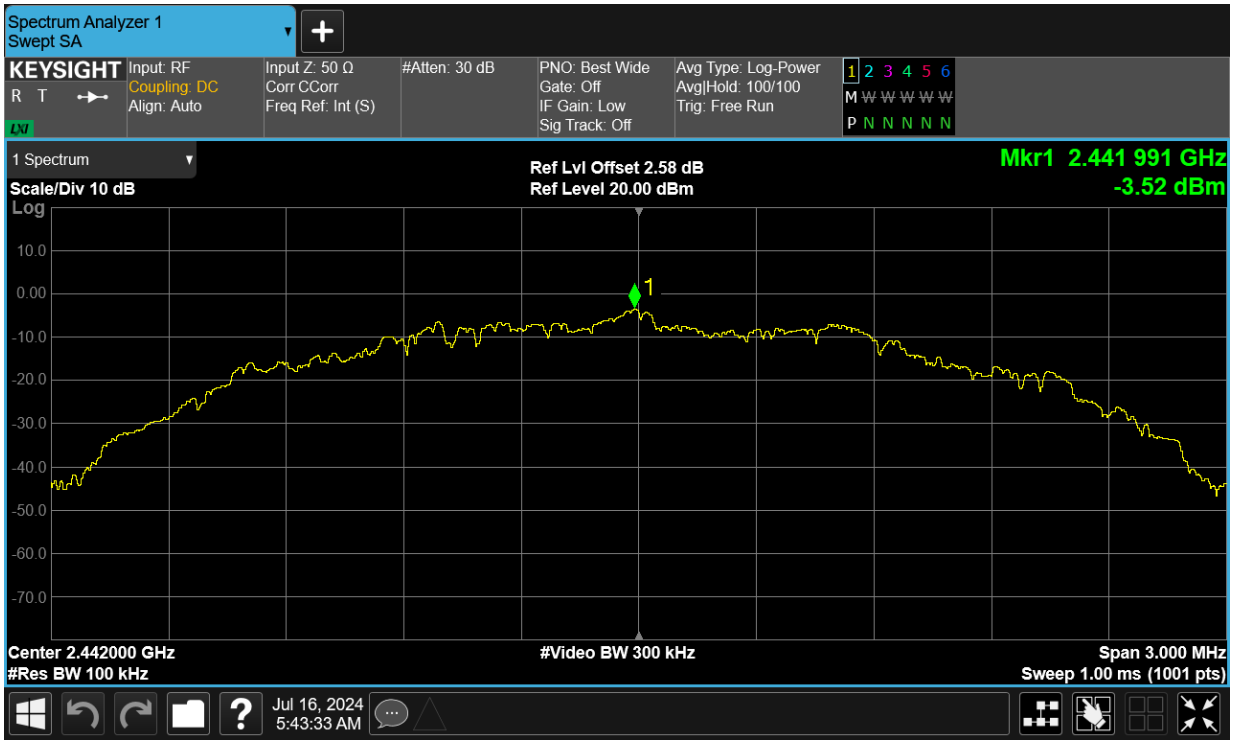
Tx. Spurious NVNT BLE 2404MHz ANT14 Ref



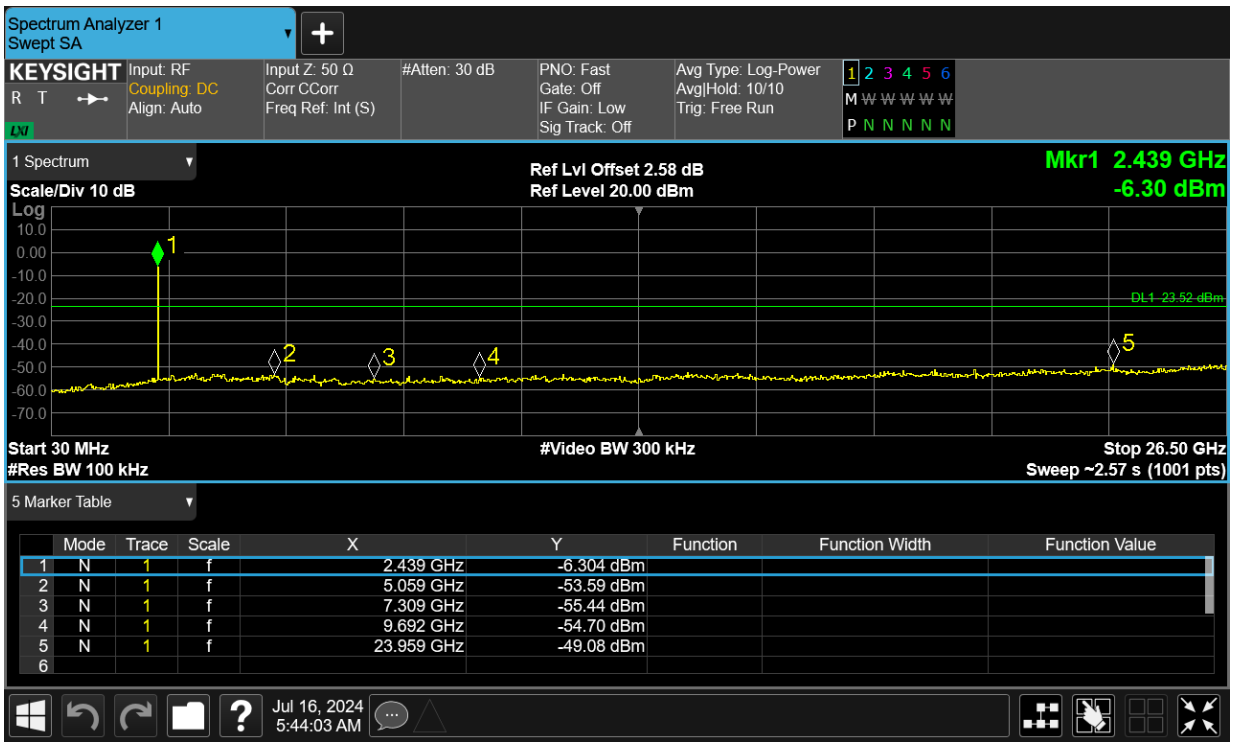
Tx. Spurious NVNT BLE 2404MHz ANT14 Emission



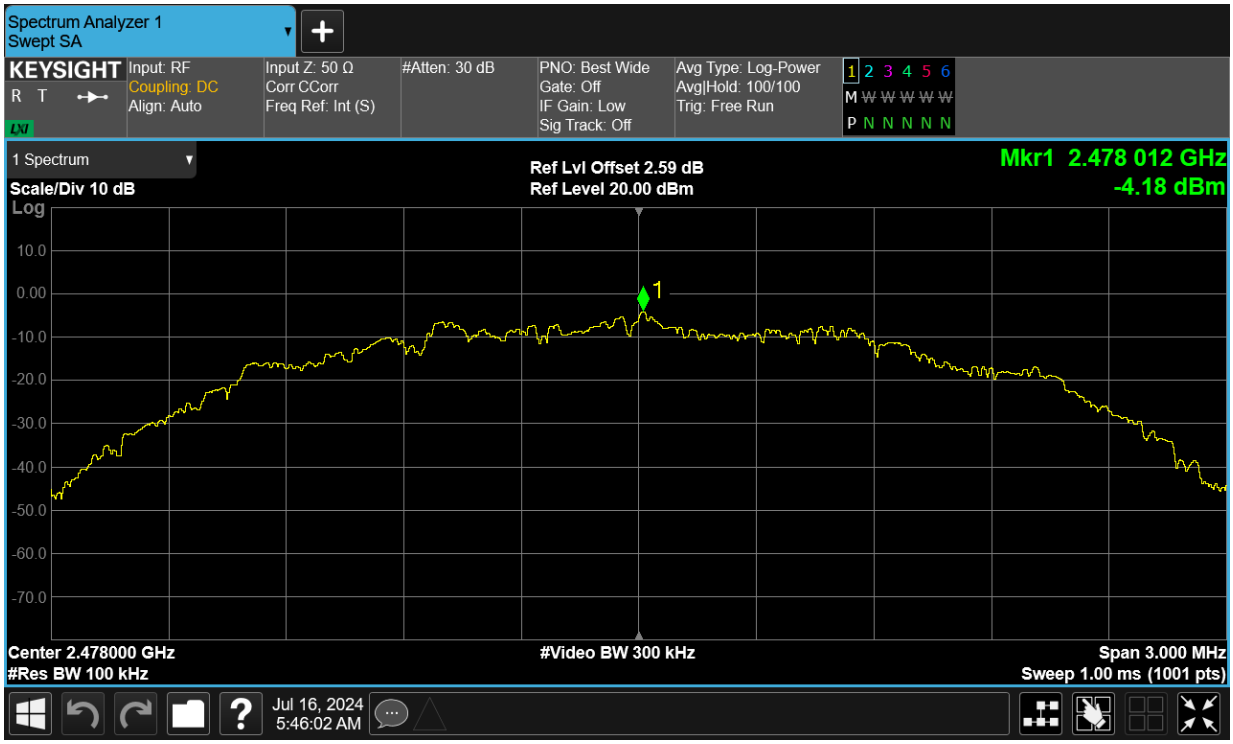
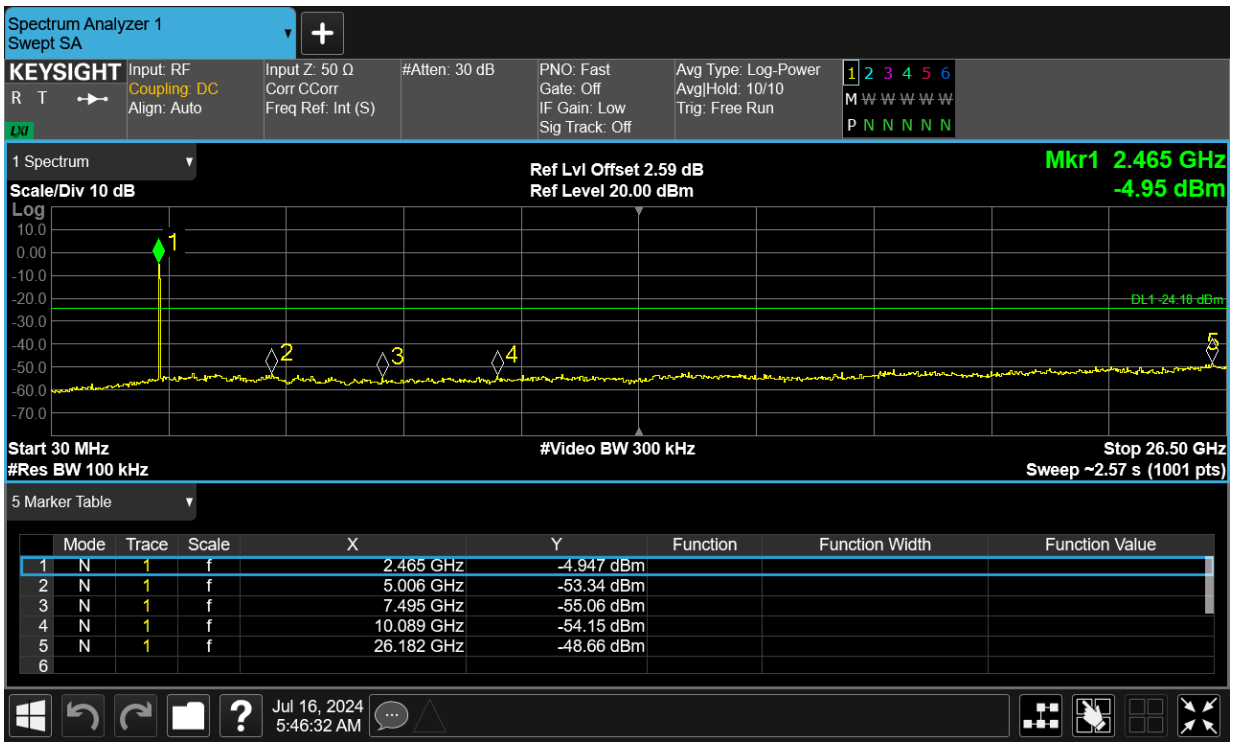
Tx. Spurious NVNT BLE 2442MHz ANT14 Ref



Tx. Spurious NVNT BLE 2442MHz ANT14 Emission



Tx. Spurious NVNT BLE 2478MHz ANT14 Ref



Tx. Spurious NVNT BLE 2478MHz ANT14 Emission