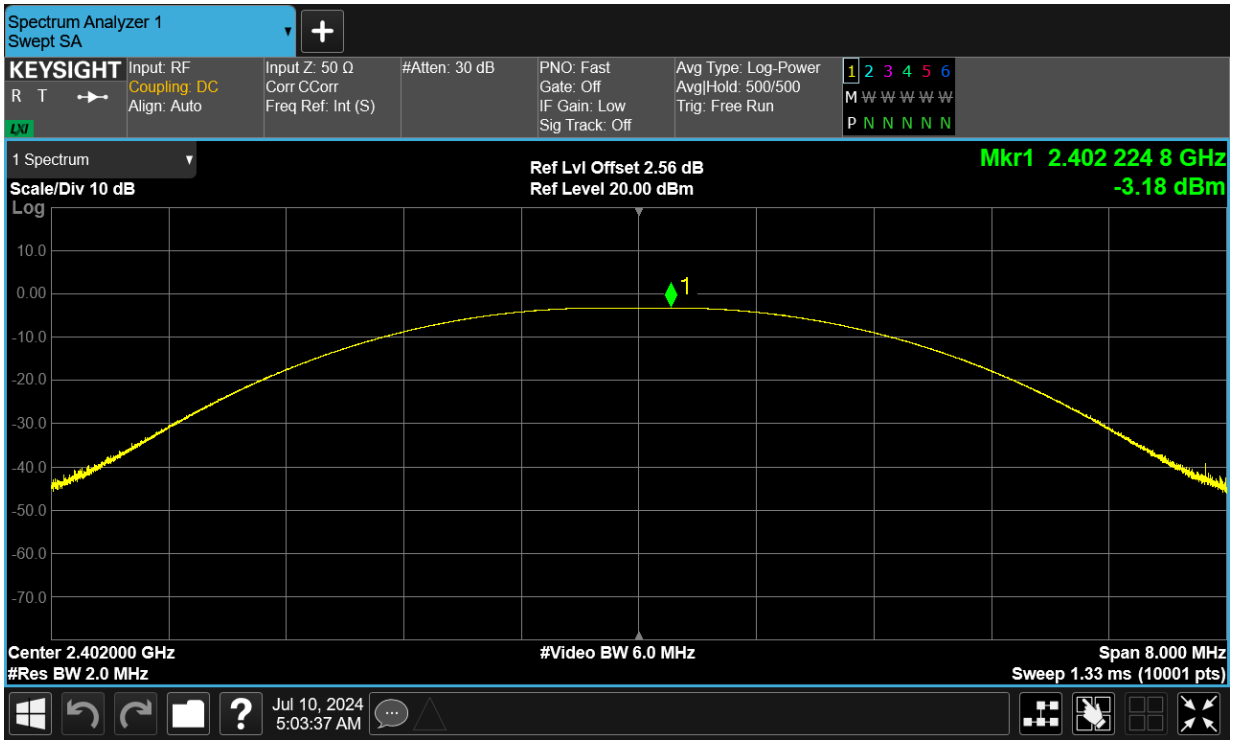
Test Data

Maximum Conducted Output Power

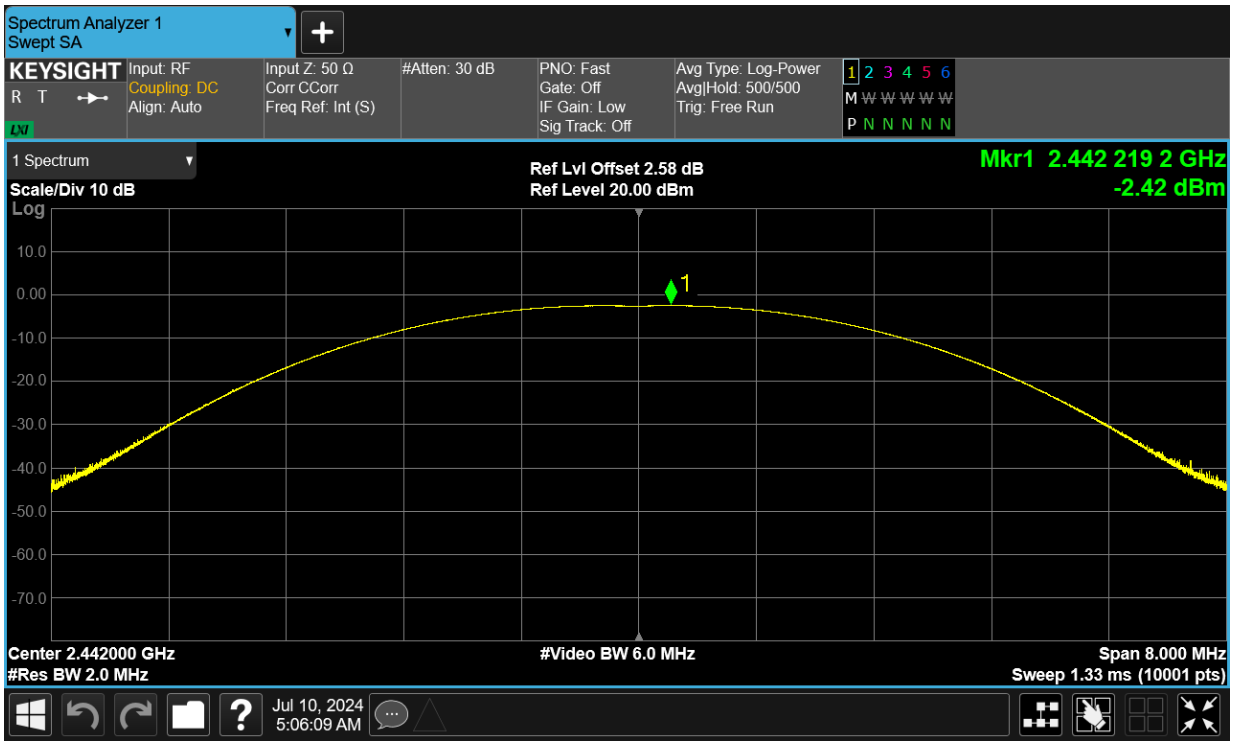
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	ANT13	-3.179	30	Pass
NVNT	BLE	2442	ANT13	-2.424	30	Pass
NVNT	BLE	2480	ANT13	-2.777	30	Pass

Test Graphs

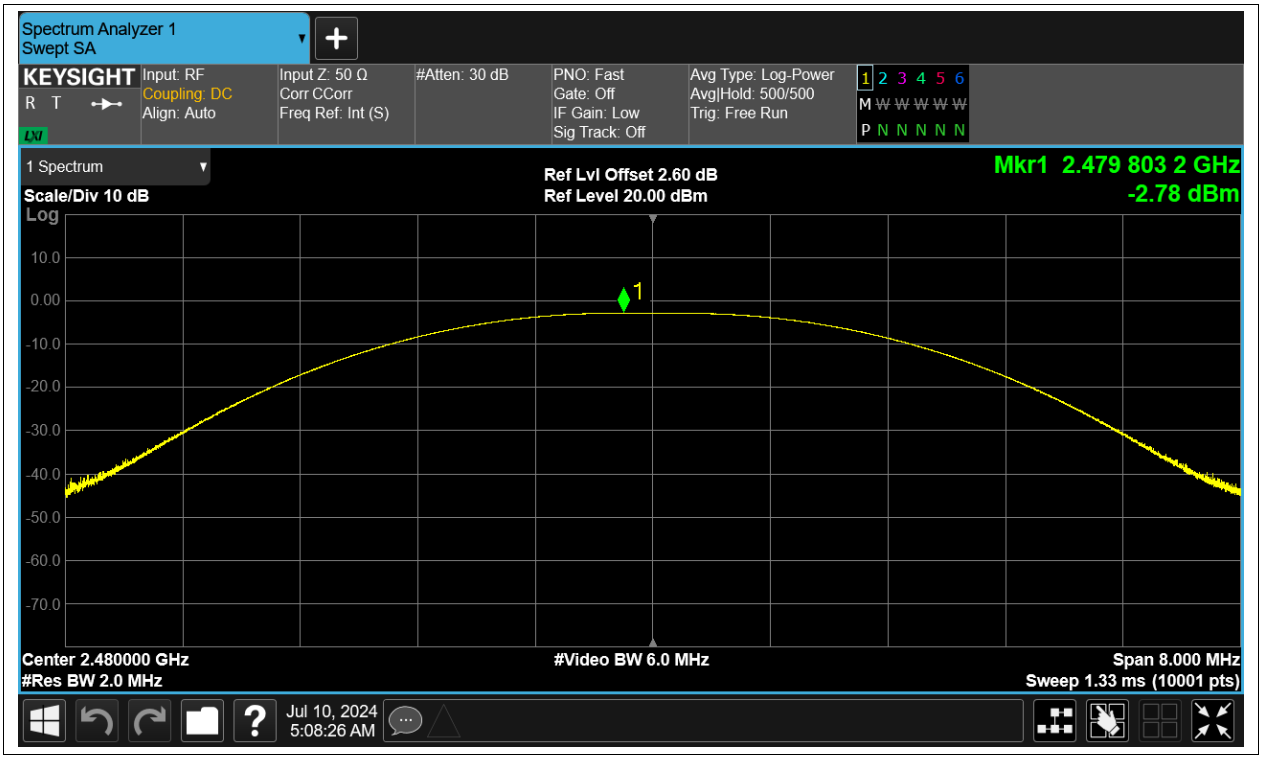
Power NVNT BLE 2402MHz ANT13



Power NVNT BLE 2442MHz ANT13



Power NVNT BLE 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: 30 dB
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 500/500
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.60 dB
Ref Level 20.00 dBm
Mkr1 2.479 803 2 GHz
-2.78 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
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
5:08:26 AM

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2402	ANT13	0.685	0.5	Pass
NVNT	BLE	2442	ANT13	0.684	0.5	Pass
NVNT	BLE	2480	ANT13	0.681	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz ANT13

-6dB Bandwidth NVNT BLE 2442MHz ANT13

-6dB Bandwidth NVNT BLE 2480MHz ANT13

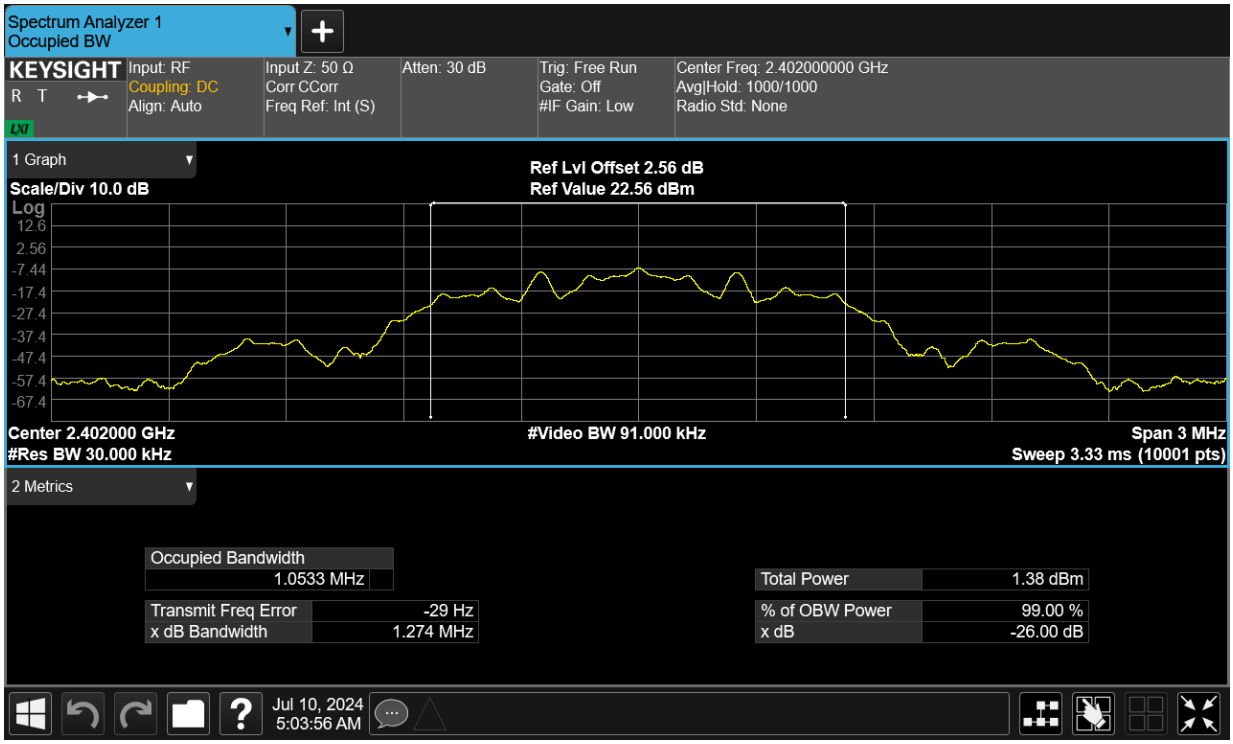
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.480000000 GHz
Avg|Hold: 1000/1000
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Log
12.6
2.60
-7.40
-17.4
-27.4
-37.4
-47.4
-57.4
-67.4
Ref Lvl Offset 2.60 dB
Ref Value 22.60 dBm
Mkr3 2.480342000 GHz
-12.38 dBm
Center 2.480000 GHz
#Res BW 100.00 kHz
#Video BW 300.00 kHz
Span 2 MHz
Sweep 1.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.0551 MHz
Transmit Freq Error 1.597 kHz
x dB Bandwidth 681.2 kHz
Total Power 0.06 dBm
% of OBW Power 99.00 %
x dB -6.00 dB
Jul 10, 2024
5:08:54 AM

Occupied Channel Bandwidth

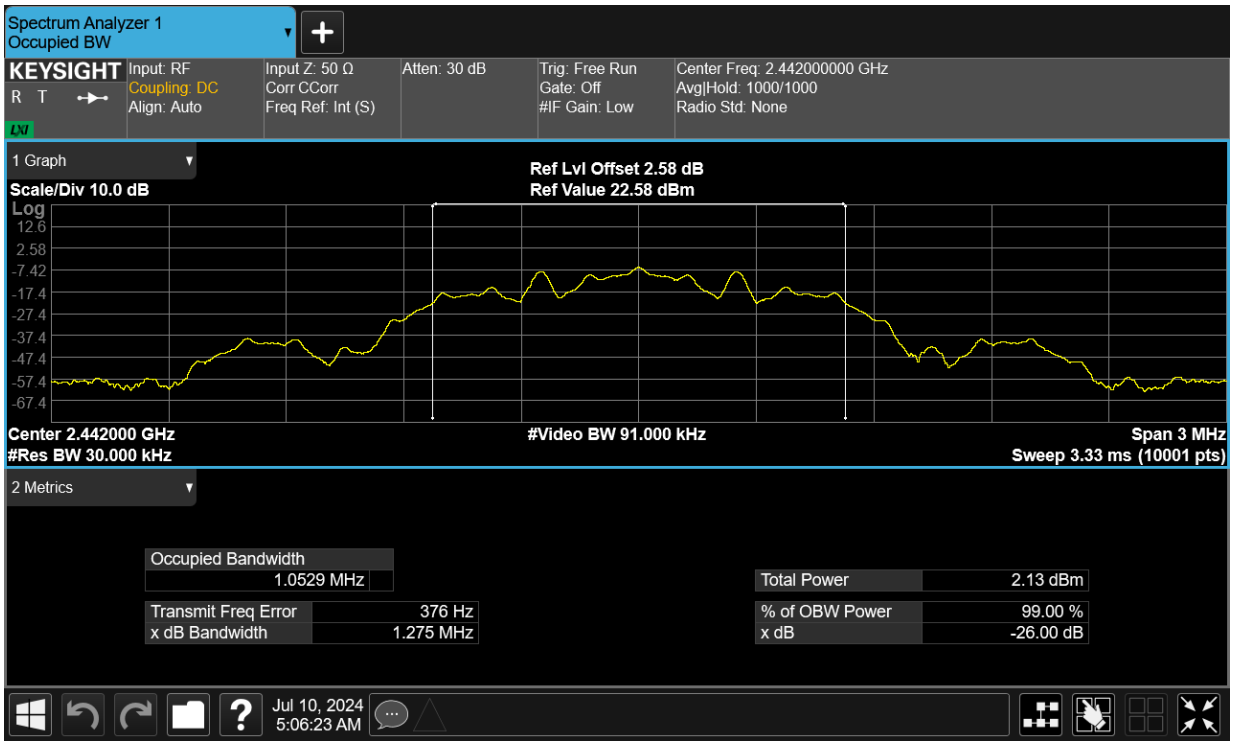
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	ANT13	1.053
NVNT	BLE	2442	ANT13	1.053
NVNT	BLE	2480	ANT13	1.053

Test Graphs

OBW NVNT BLE 2402MHz ANT13



OBW NVNT BLE 2442MHz ANT13



OBW NVNT BLE 2480MHz ANT13

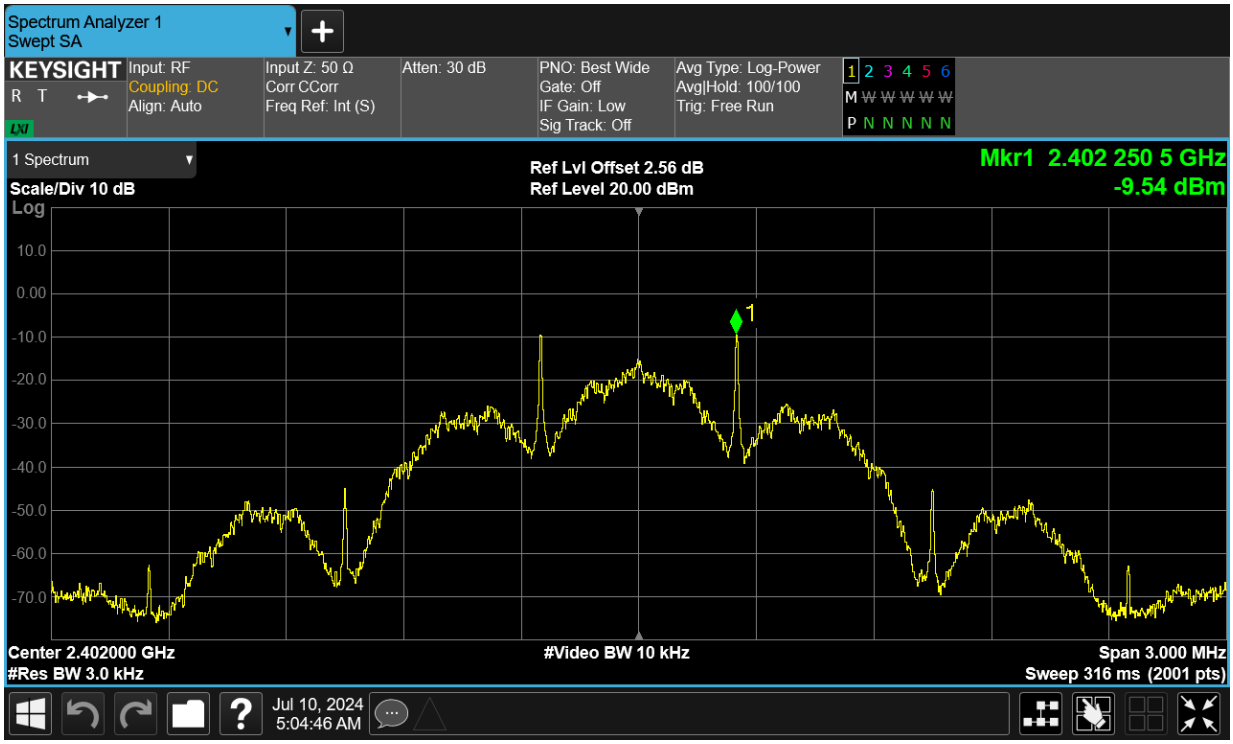
Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 30 dB
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 2.480000000 GHz
Avg|Hold: 1000/1000
Radio Std: None
1 Graph
Scale/Div 10.0 dB
Log
12.6
2.60
-7.40
-17.4
-27.4
-37.4
-47.4
-57.4
-67.4
Ref Lvl Offset 2.60 dB
Ref Value 22.60 dBm
Center 2.480000 GHz
#Res BW 30.000 kHz
#Video BW 91.000 kHz
Span 3 MHz
Sweep 3.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.0530 MHz
Transmit Freq Error -387 Hz
x dB Bandwidth 1.275 MHz
Total Power 1.80 dBm
% of OBW Power 99.00 %
x dB -26.00 dB
Jul 10, 2024
5:08:41 AM

Maximum Power Spectral Density Level

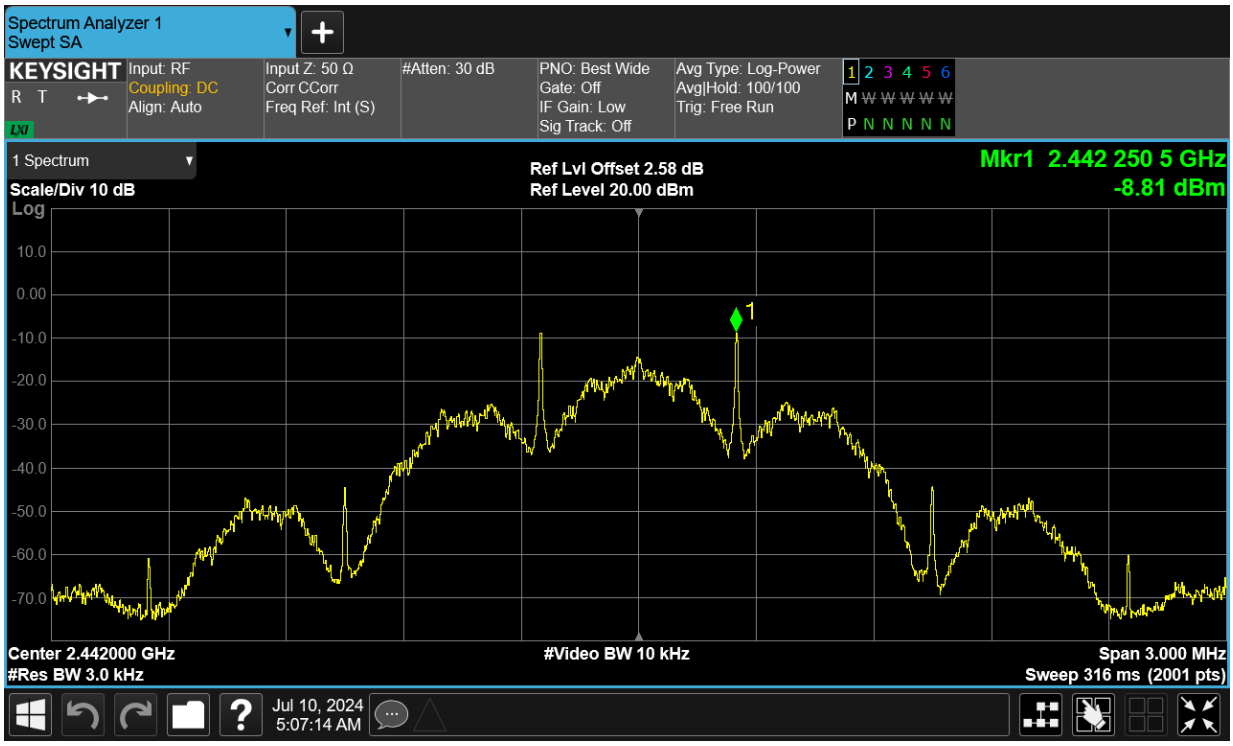
Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	ANT13	-9.536	8	Pass
NVNT	BLE	2442	ANT13	-8.807	8	Pass
NVNT	BLE	2480	ANT13	-9.119	8	Pass

Test Graphs

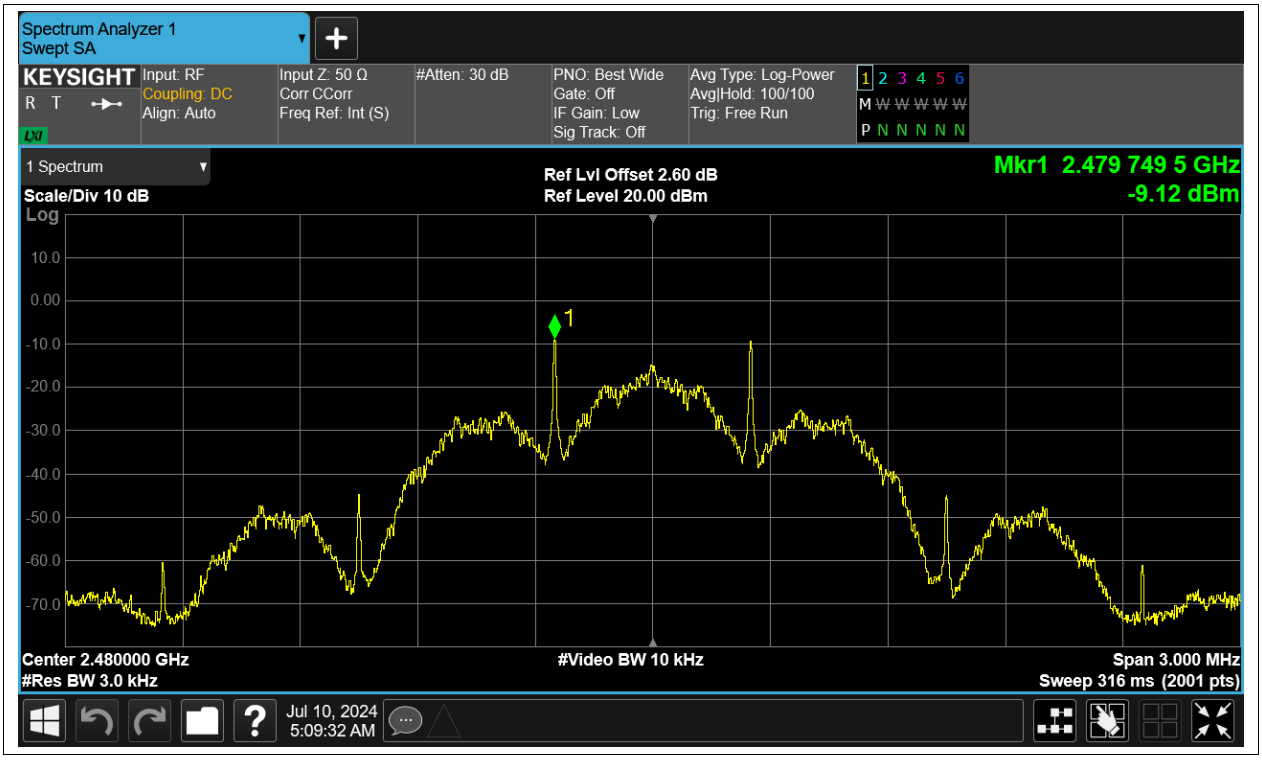
PSD NVNT BLE 2402MHz ANT13



PSD NVNT BLE 2442MHz ANT13



PSD NVNT BLE 2480MHz ANT13

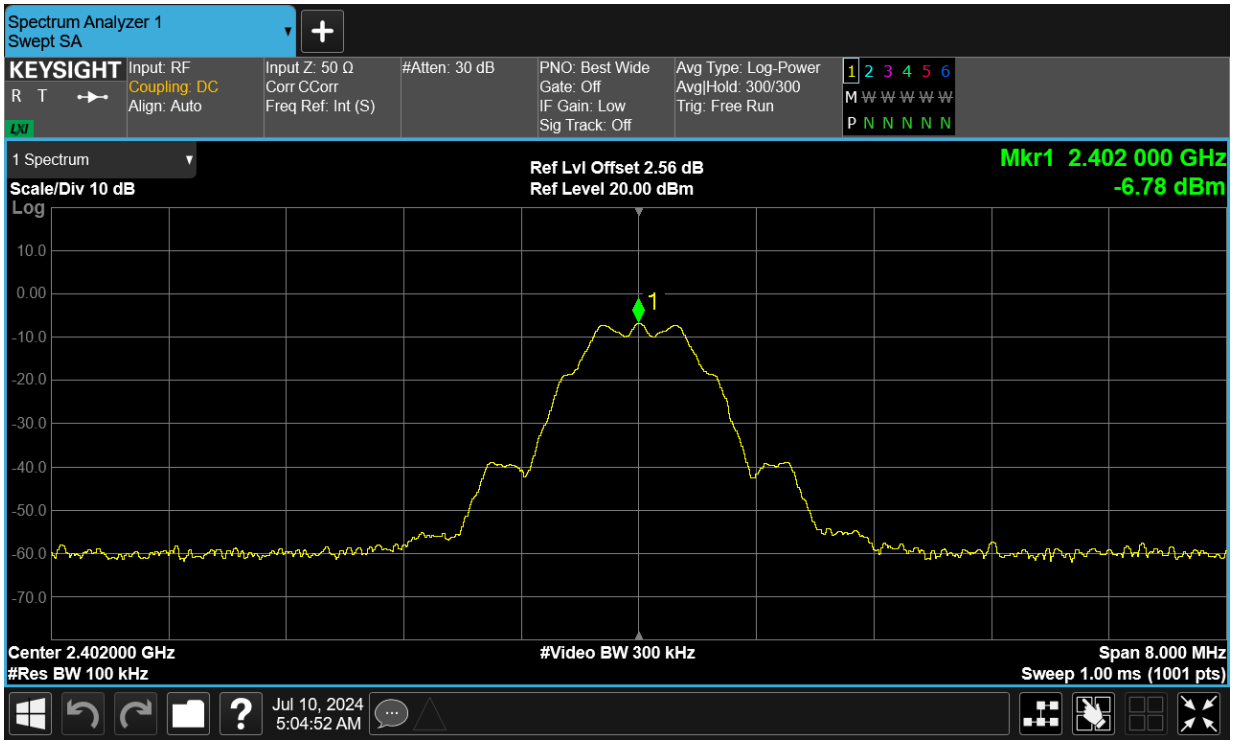

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 2.60 dB
Ref Level 20.00 dBm
Mkr1 2.479 749 5 GHz
-9.12 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.480000 GHz
#Res BW 3.0 kHz
#Video BW 10 kHz
Span 3.000 MHz
Sweep 316 ms (2001 pts)
Jul 10, 2024
5:09:32 AM

Band Edge

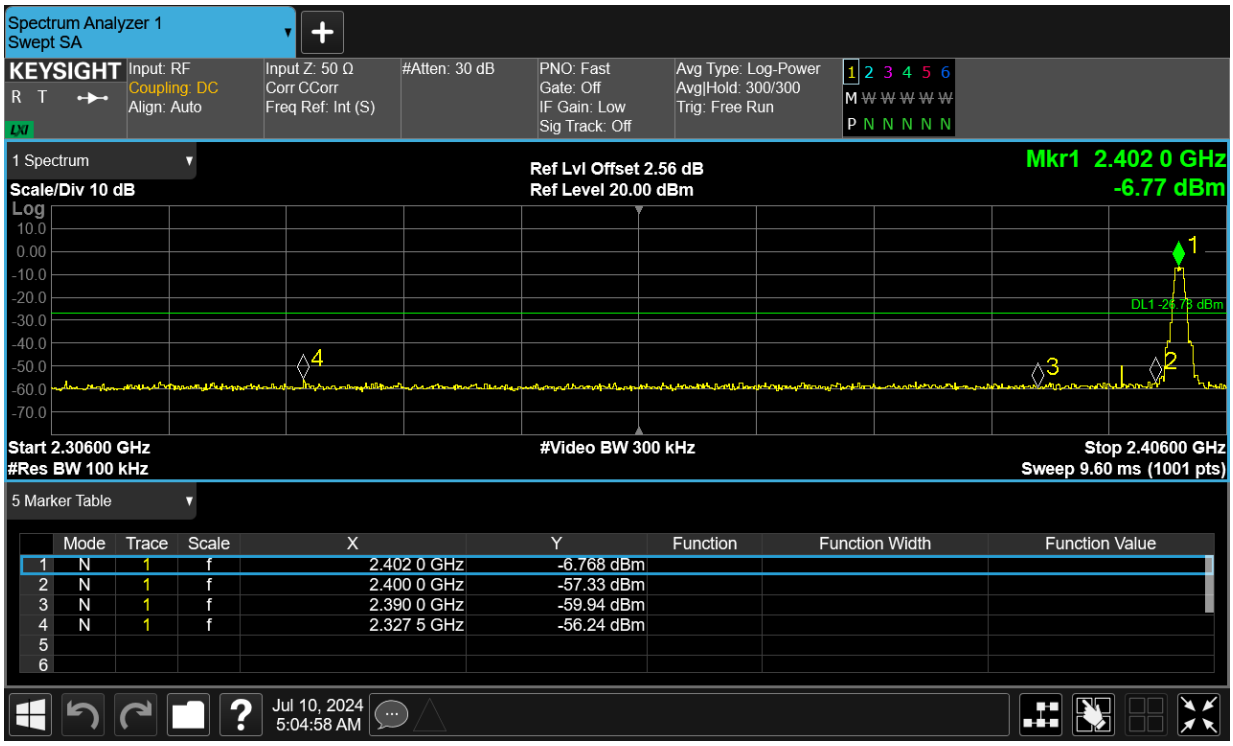
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	ANT13	-49.46	-20	Pass
NVNT	BLE	2480	ANT13	-50.09	-20	Pass

Test Graphs

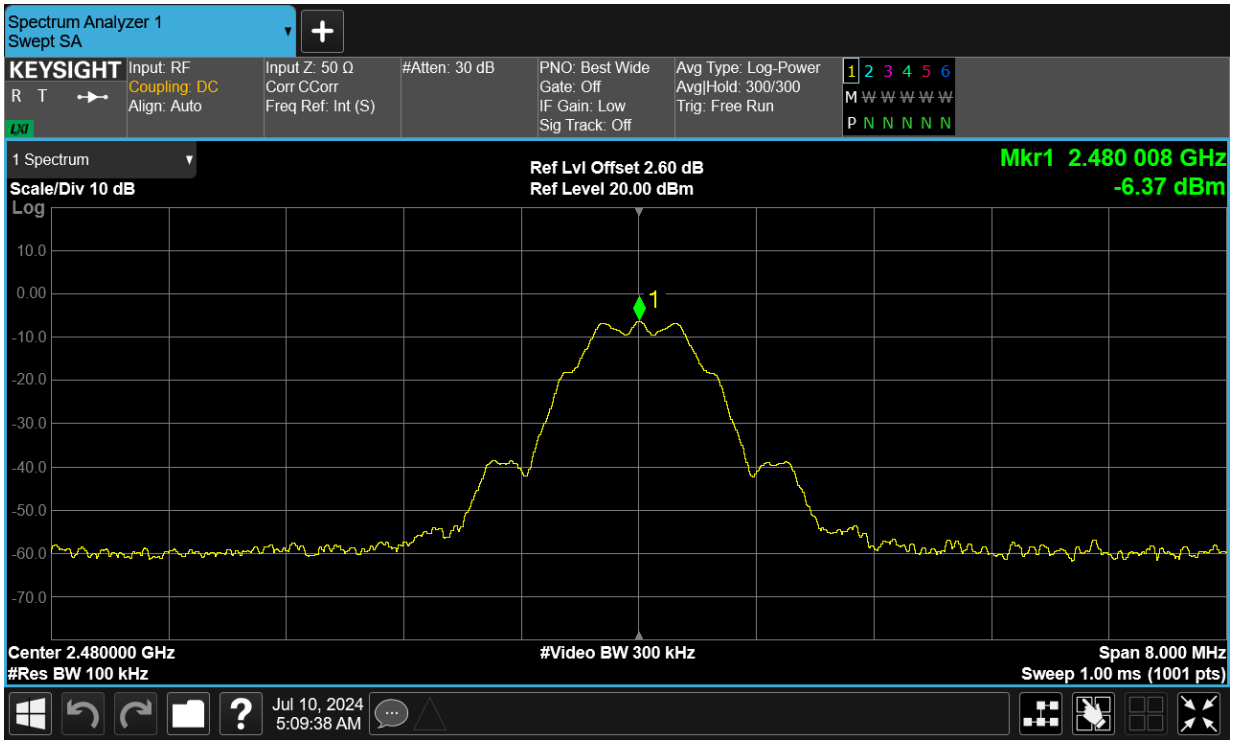
Band Edge NVNT BLE 2402MHz ANT13 Ref



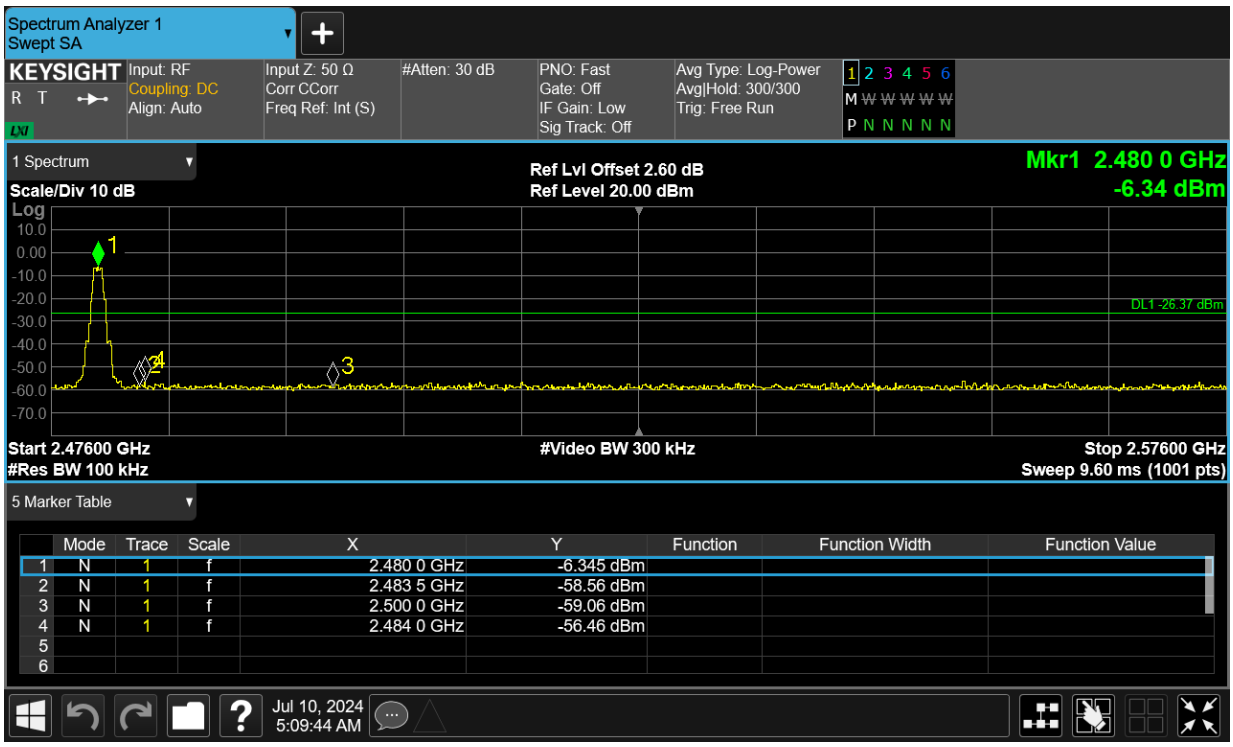
Band Edge NVNT BLE 2402MHz ANT13 Emission



Band Edge NVNT BLE 2480MHz ANT13 Ref



Band Edge NVNT BLE 2480MHz ANT13 Emission

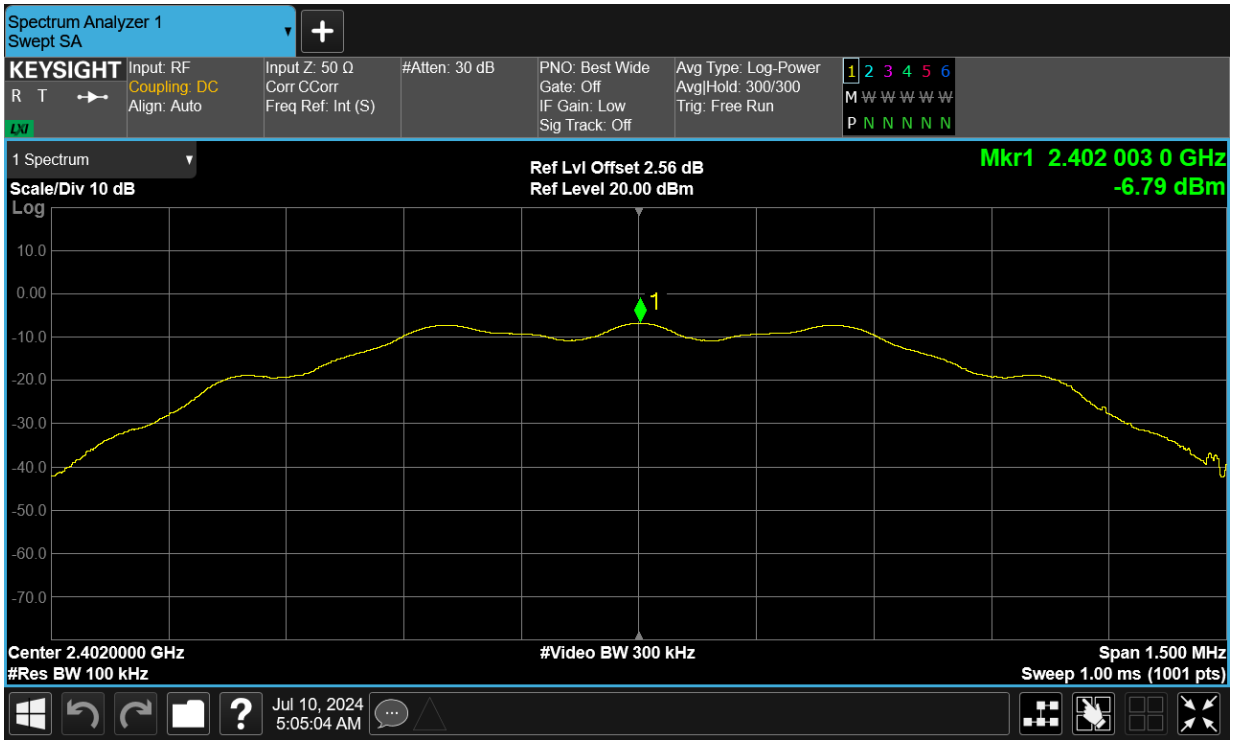


Conducted RF Spurious Emission

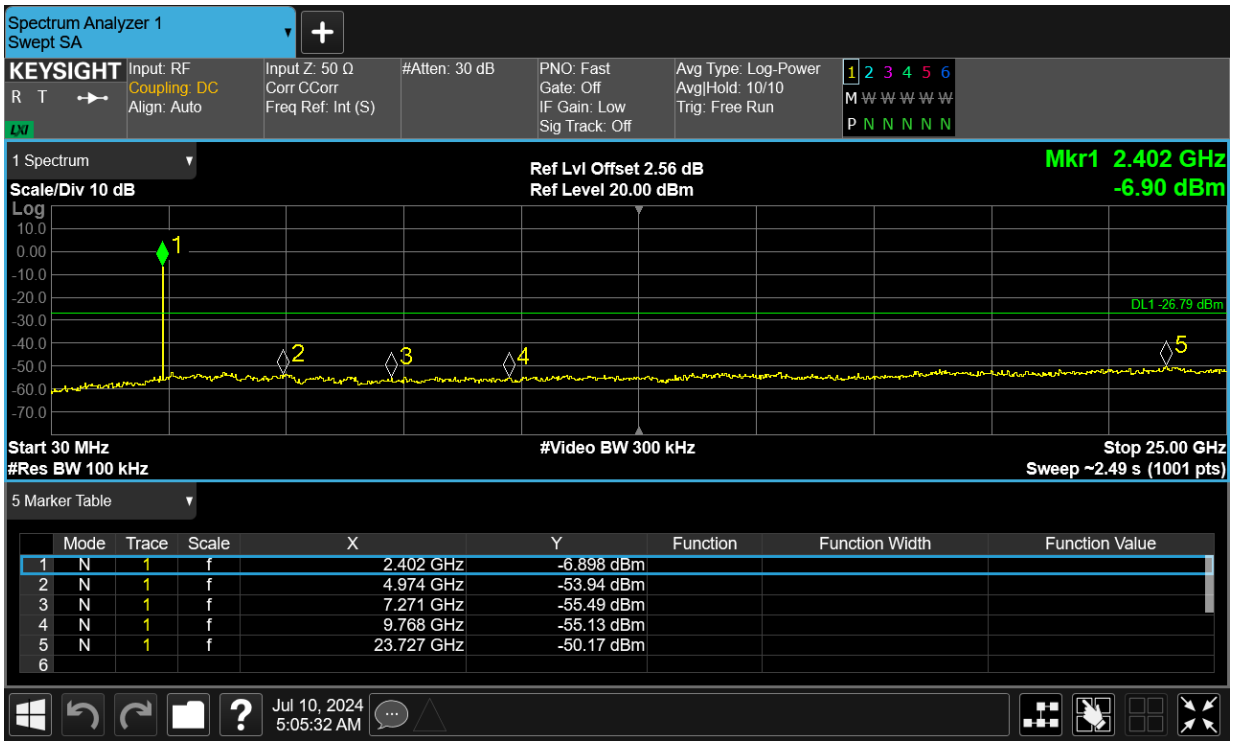
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	ANT13	-43.38	-20	Pass
NVNT	BLE	2442	ANT13	-44.14	-20	Pass
NVNT	BLE	2480	ANT13	-43.71	-20	Pass

Test Graphs

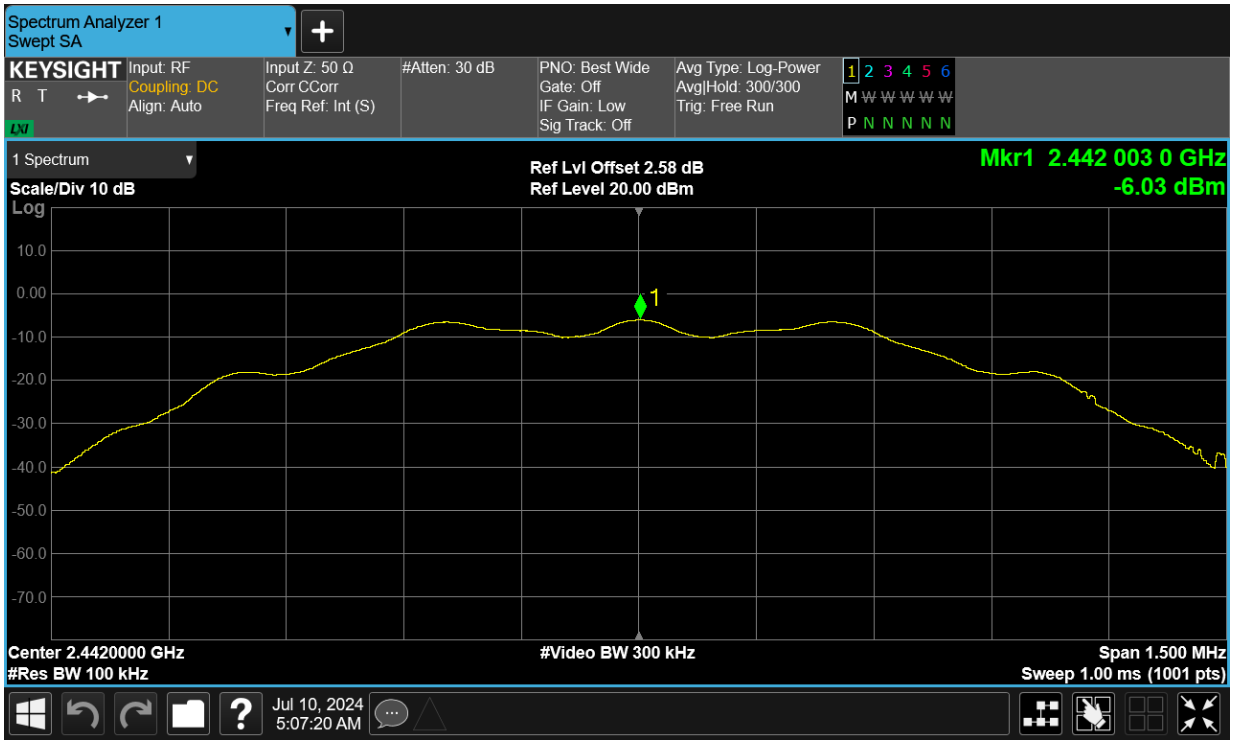
Tx. Spurious NVNT BLE 2402MHz ANT13 Ref



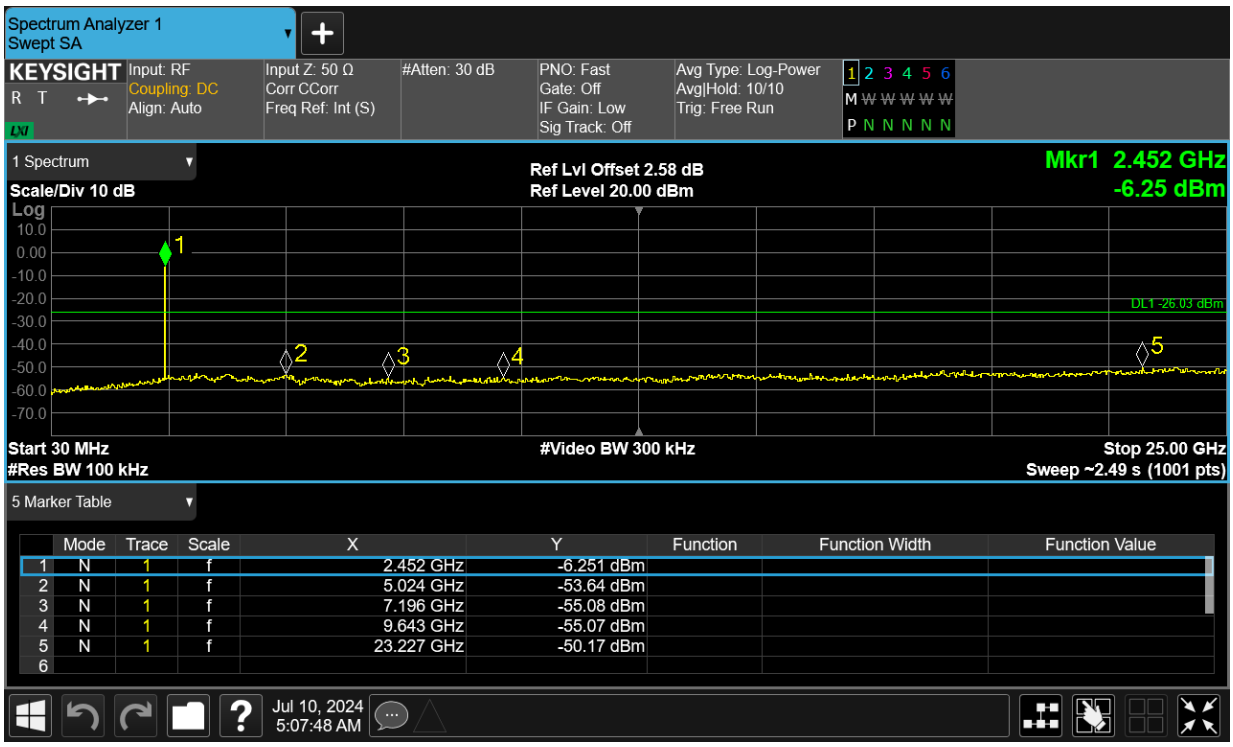
Tx. Spurious NVNT BLE 2402MHz ANT13 Emission



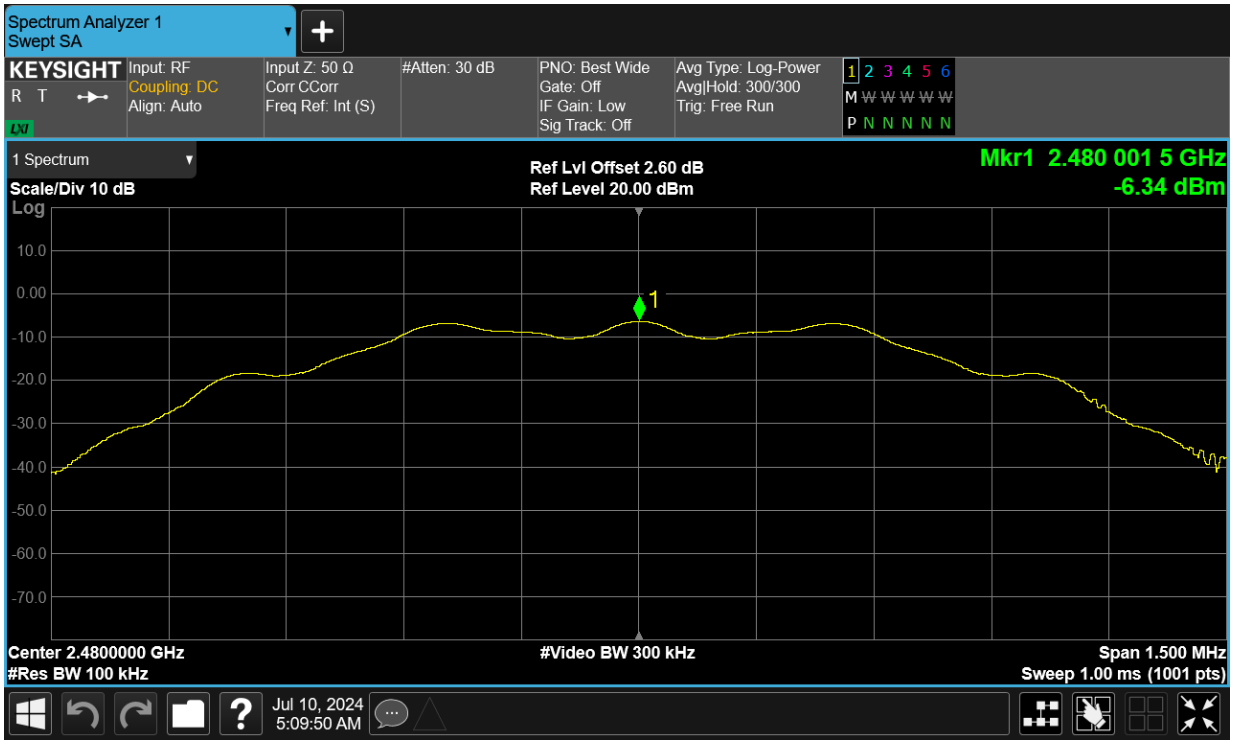
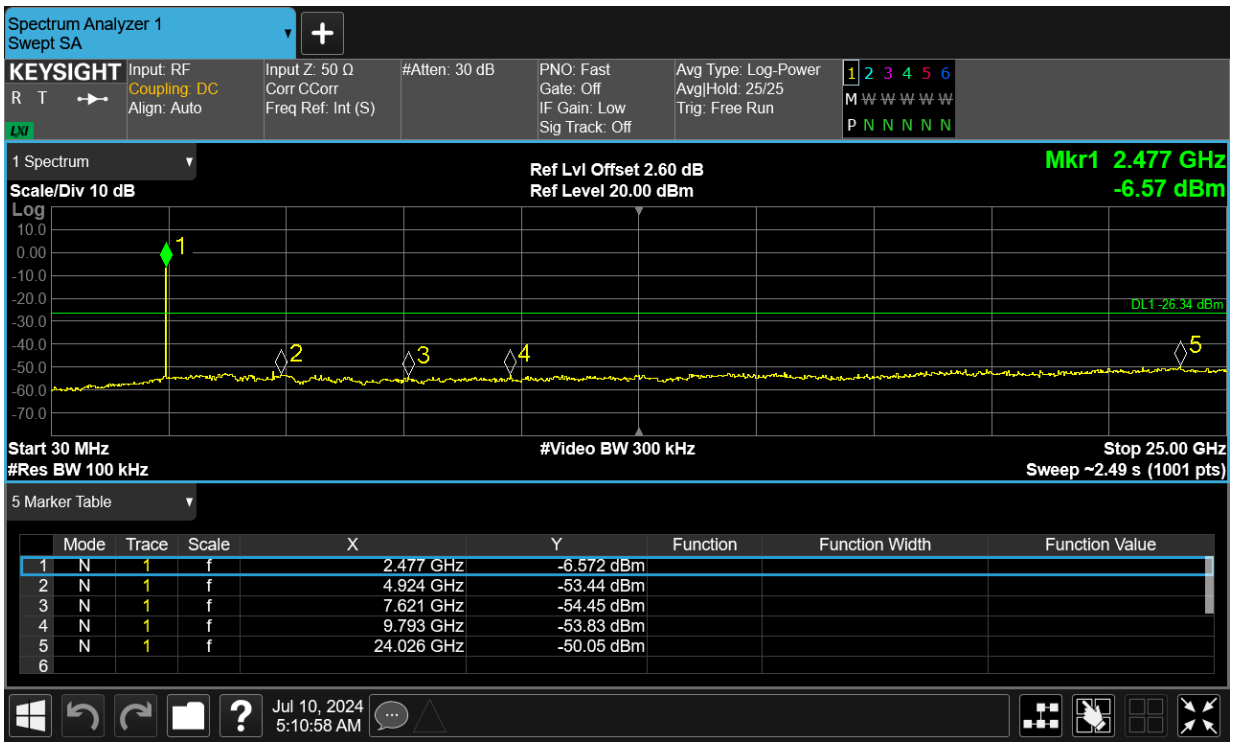
Tx. Spurious NVNT BLE 2442MHz ANT13 Ref



Tx. Spurious NVNT BLE 2442MHz ANT13 Emission



Tx. Spurious NVNT BLE 2480MHz ANT13 Ref



Tx. Spurious NVNT BLE 2480MHz ANT13 Emission