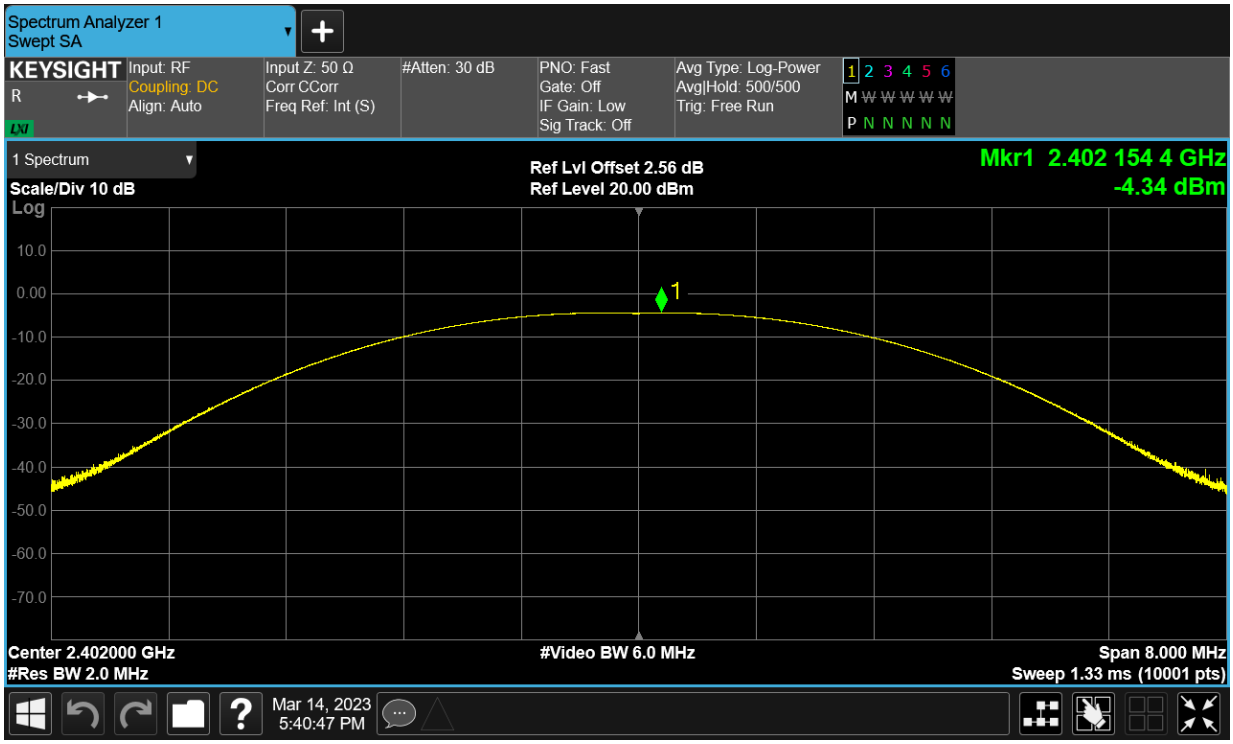
Test Data

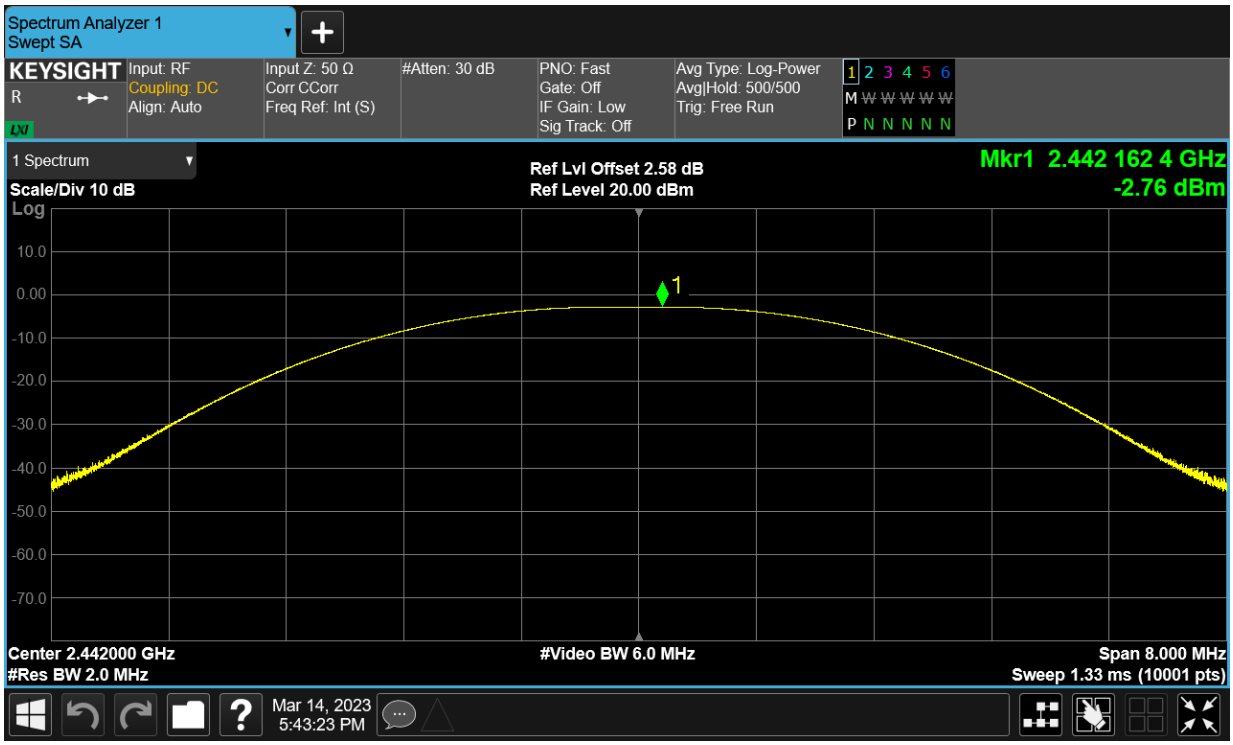
Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant5	-4.341	30	Pass
NVNT	BLE	2442	Ant5	-2.763	30	Pass
NVNT	BLE	2480	Ant5	-3.701	30	Pass

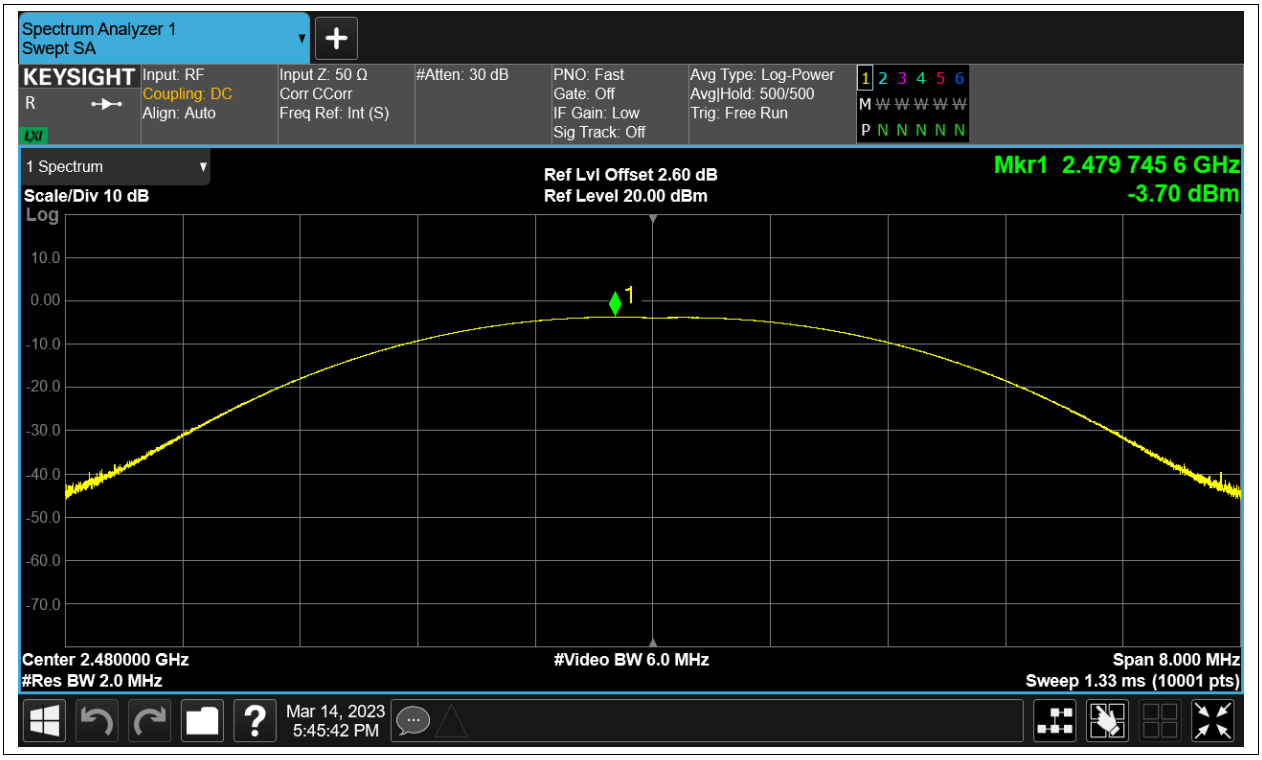
Test Graphs
Power NVNT BLE 2402MHz Ant5



Power NVNT BLE 2442MHz Ant5



Power NVNT BLE 2480MHz Ant5


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
Ref Lvl Offset 2.60 dB
Ref Level 20.00 dBm
Mkr1 2.479 745 6 GHz
-3.70 dBm
Log
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)
Mar 14, 2023
5:45:42 PM

-6dB Bandwidth

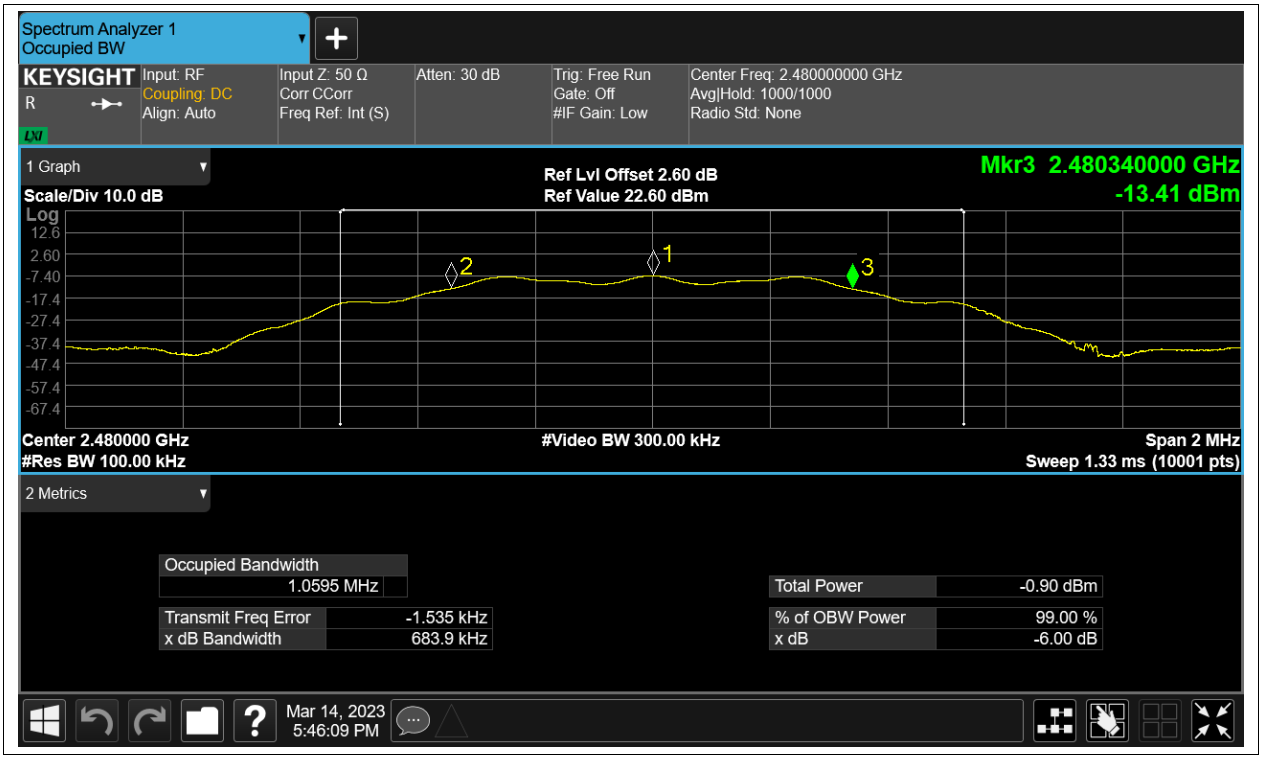
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	limit	Verdic
NVNT	BLE	2402	Ant5	0.684	0.5	Pass
NVNT	BLE	2442	Ant5	0.684	0.5	Pass
NVNT	BLE	2480	Ant5	0.684	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz Ant5

-6dB Bandwidth NVNT BLE 2442MHz Ant5

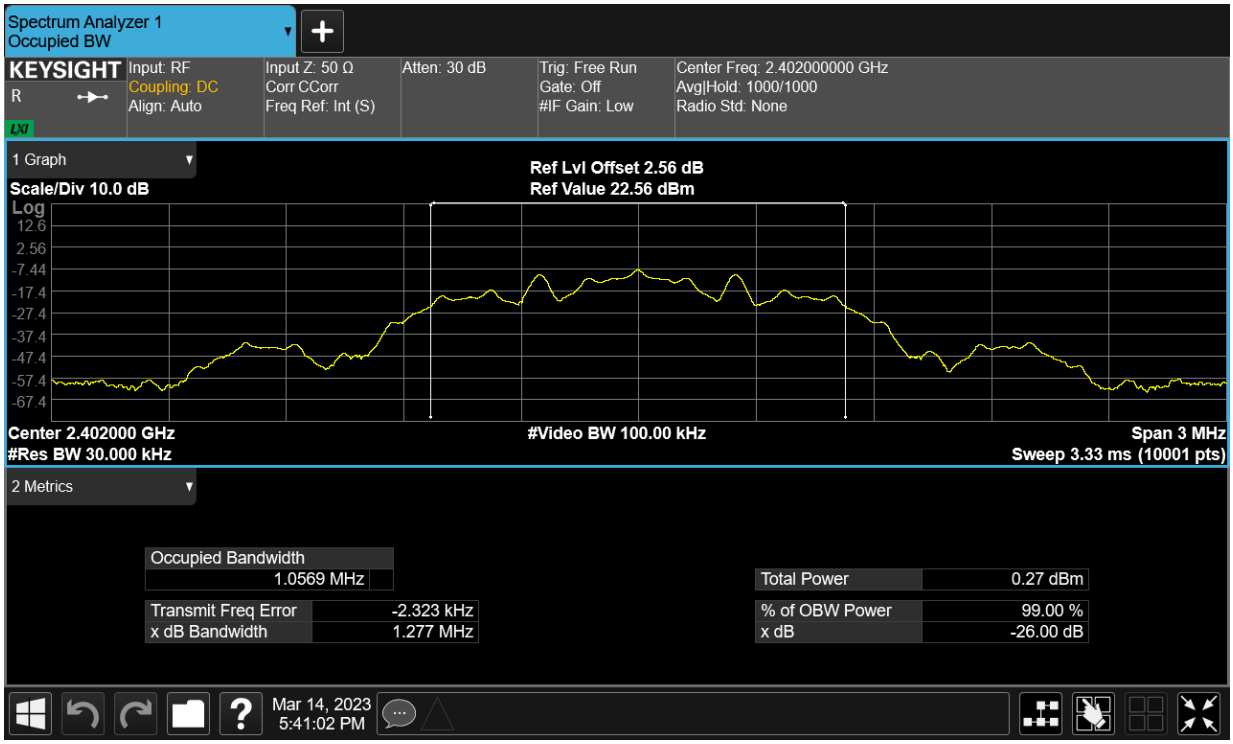
-6dB Bandwidth NVNT BLE 2480MHz Ant5


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
Ref Lvl Offset 2.60 dB
Ref Value 22.60 dBm
Mkr3 2.480340000 GHz
-13.41 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 100.00 kHz
#Video BW 300.00 kHz
Span 2 MHz
Sweep 1.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.0595 MHz
Transmit Freq Error -1.535 kHz
x dB Bandwidth 683.9 kHz
Total Power -0.90 dBm
% of OBW Power 99.00 %
x dB -6.00 dB
Mar 14, 2023
5:46:09 PM

Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant5	1.057
NVNT	BLE	2442	Ant5	1.056
NVNT	BLE	2480	Ant5	1.057

Test Graphs
OBW NVNT BLE 2402MHz Ant5



OBW NVNT BLE 2442MHz Ant5

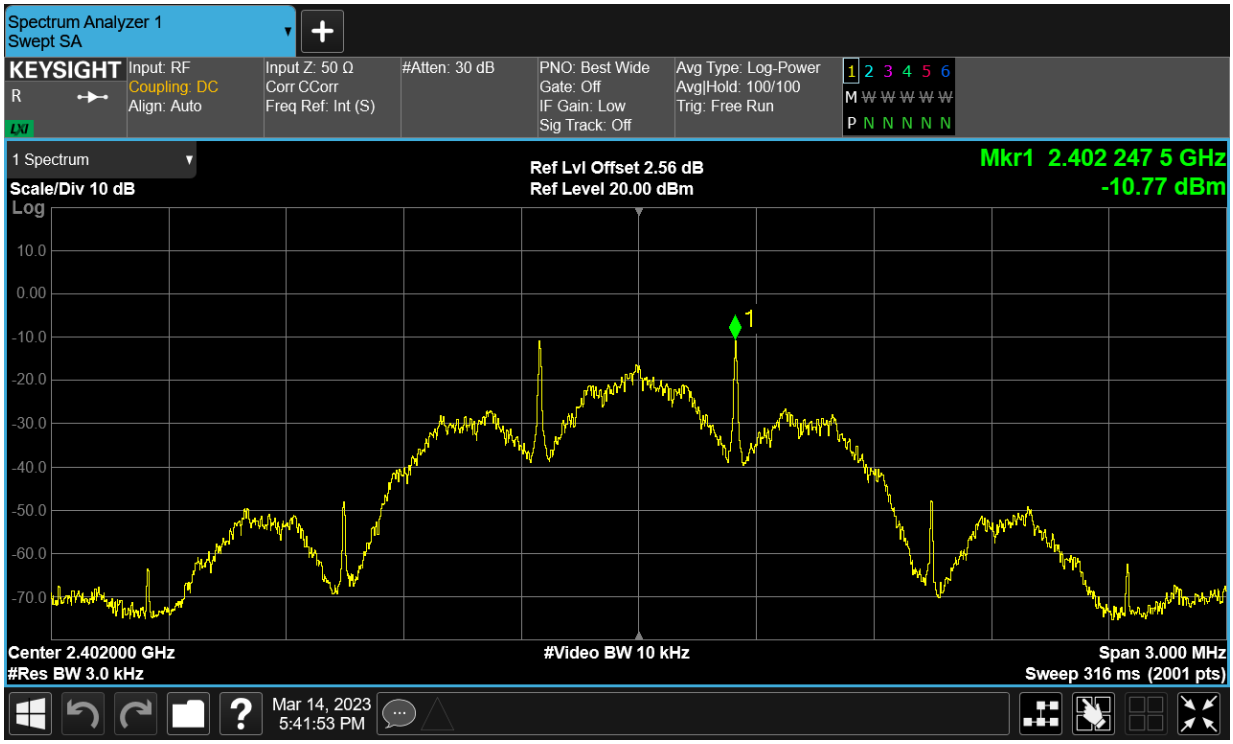
OBW NVNT BLE 2480MHz Ant5

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
Ref Lvl Offset 2.60 dB
Ref Value 22.60 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 30.000 kHz
#Video BW 100.00 kHz
Span 3 MHz
Sweep 3.33 ms (10001 pts)
2 Metrics
Occupied Bandwidth
1.0570 MHz
Total Power
0.86 dBm
Transmit Freq Error
-4.499 kHz
% of OBW Power
99.00 %
x dB Bandwidth
1.277 MHz
x dB
-26.00 dB
Mar 14, 2023
5:45:56 PM

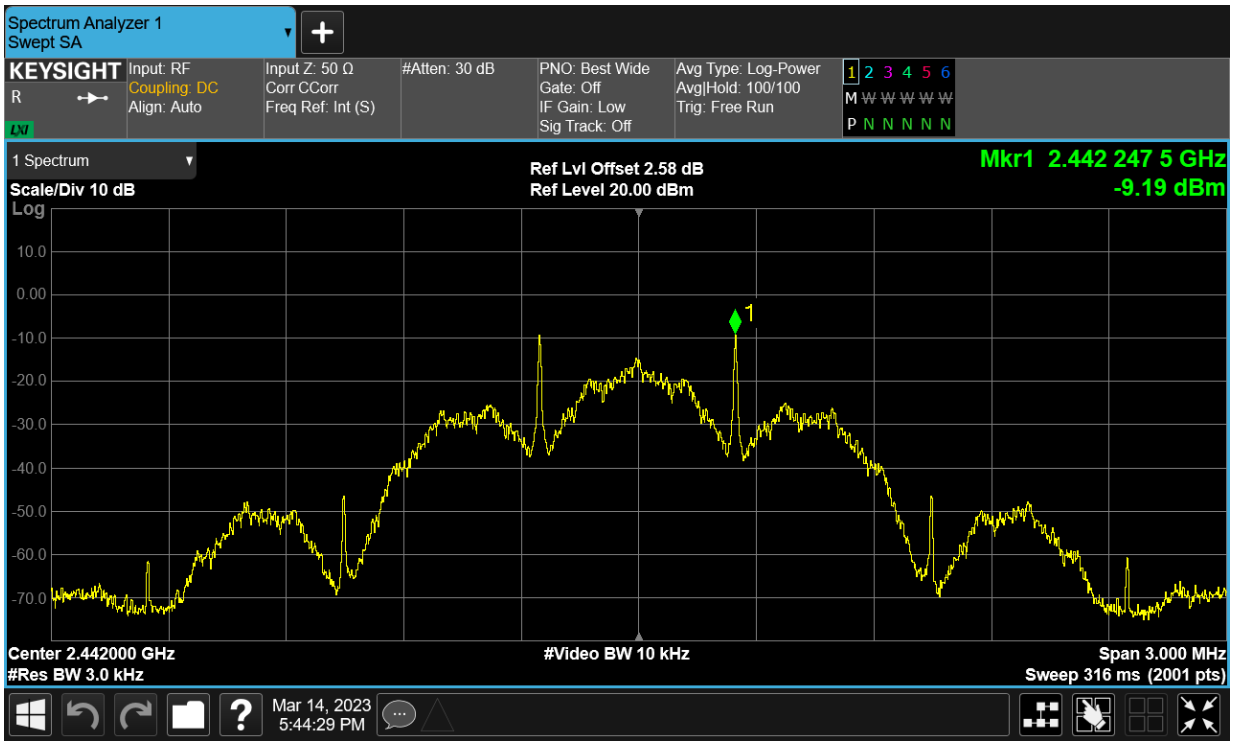
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant5	-10.766	8	Pass
NVNT	BLE	2442	Ant5	-9.186	8	Pass
NVNT	BLE	2480	Ant5	-10.13	8	Pass

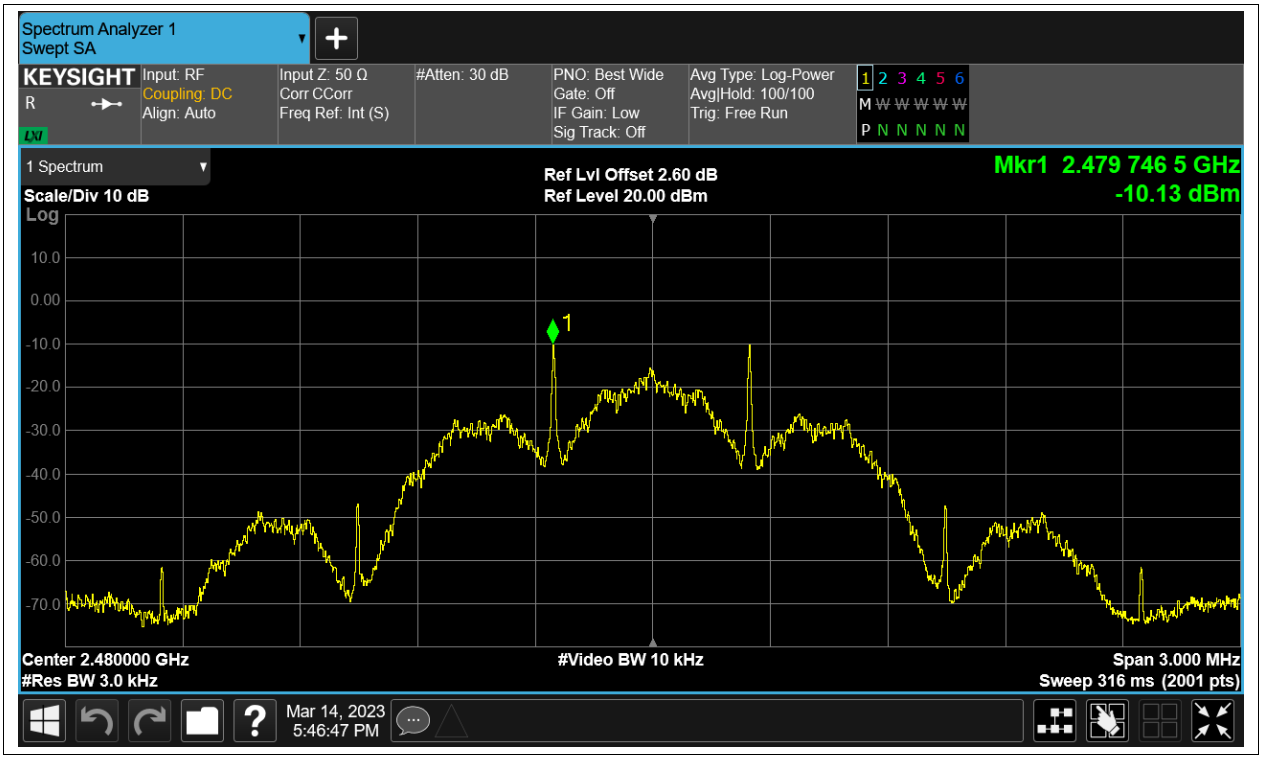
Test Graphs
PSD NVNT BLE 2402MHz Ant5



PSD NVNT BLE 2442MHz Ant5



PSD NVNT BLE 2480MHz Ant5

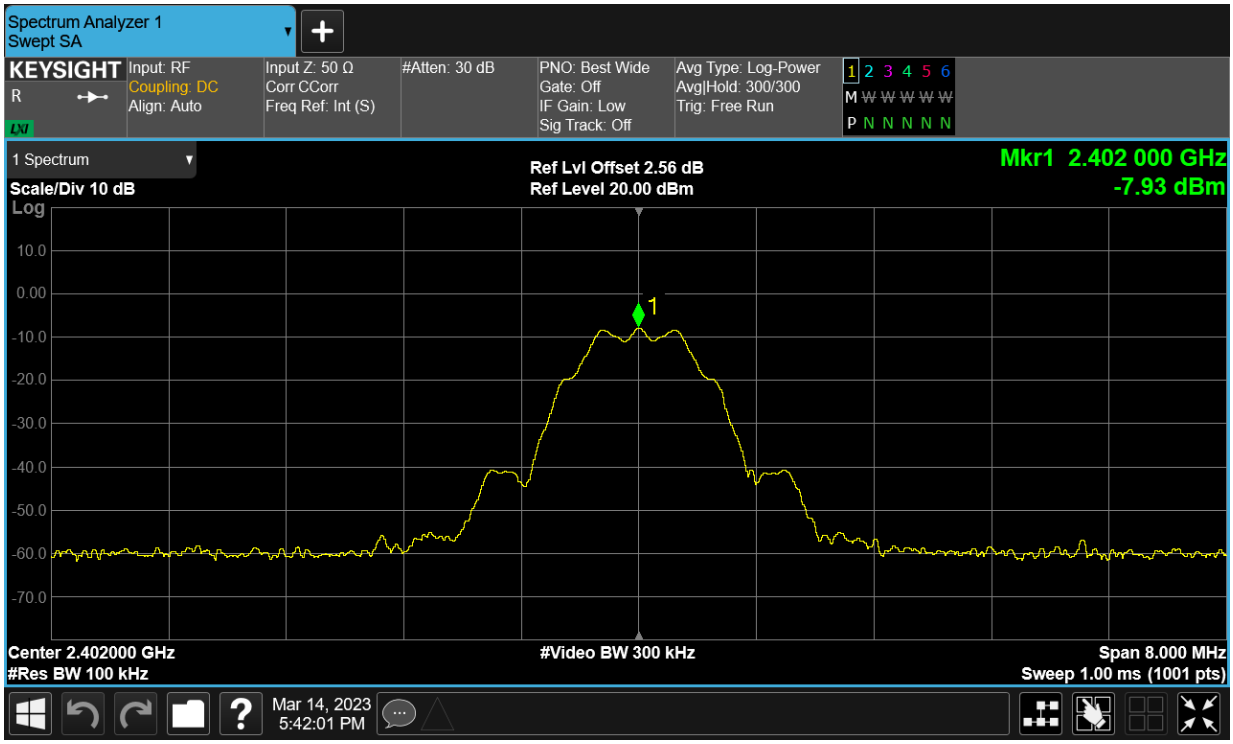

Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
#Atten: 30 dB
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
Avg Type: Log-Power
Avg|Hold: 100/100
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 2.60 dB
Ref Level 20.00 dBm
Mkr1 2.479 746 5 GHz
-10.13 dBm
Log
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)
Mar 14, 2023
5:46:47 PM

Band Edge

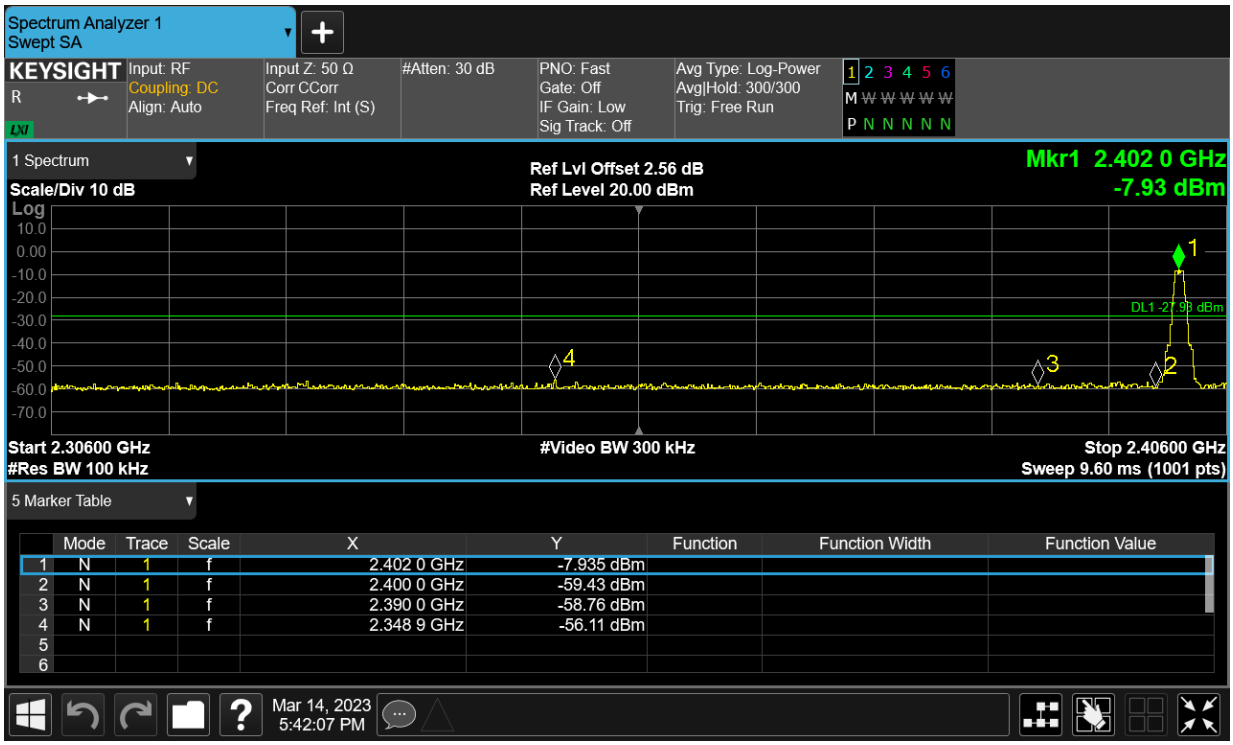
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant5	-48.18	-20	Pass
NVNT	BLE	2480	Ant5	-49.16	-20	Pass

Test Graphs

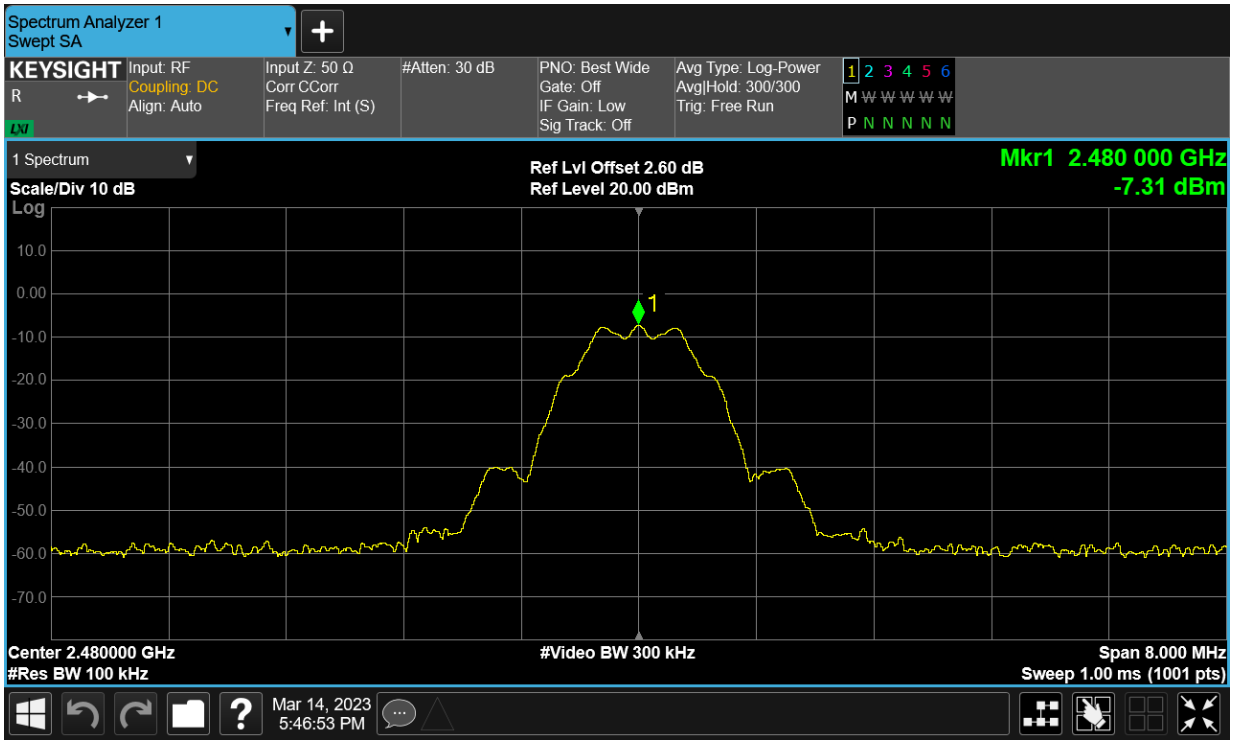
Band Edge NVNT BLE 2402MHz Ant5 Ref



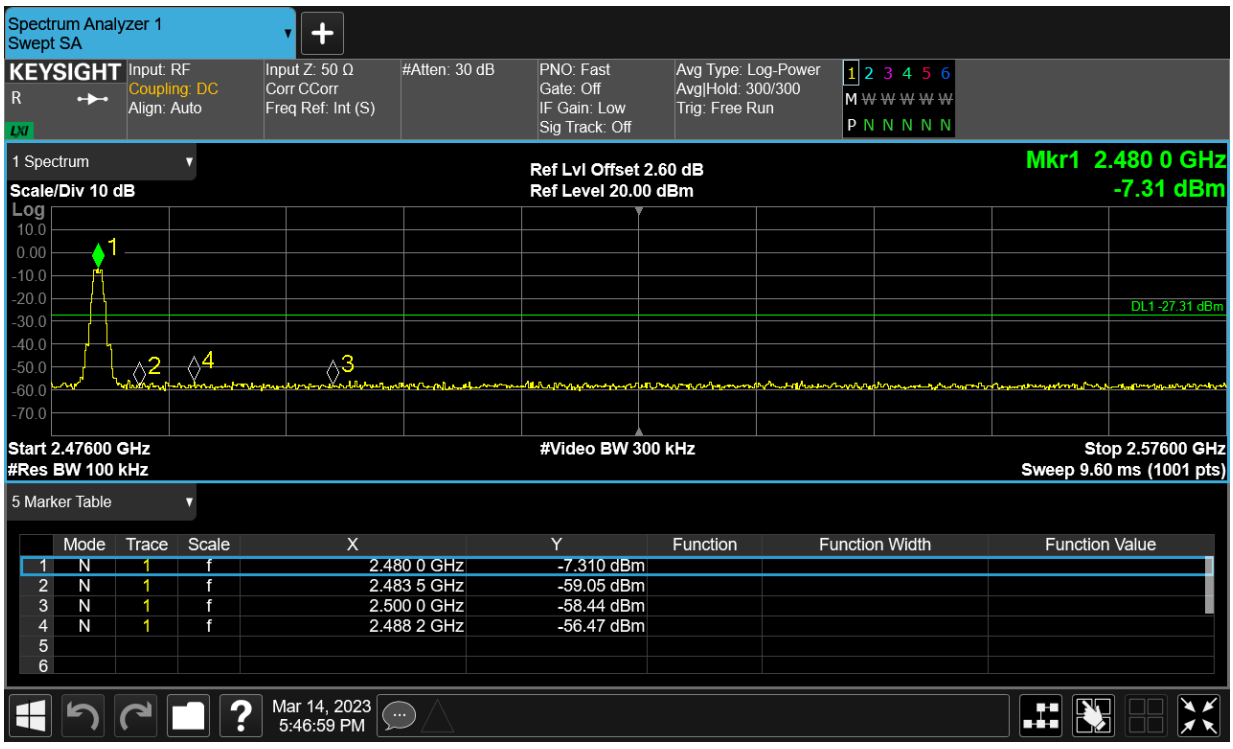
Band Edge NVNT BLE 2402MHz Ant5 Emission



Band Edge NVNT BLE 2480MHz Ant5 Ref



Band Edge NVNT BLE 2480MHz Ant5 Emission

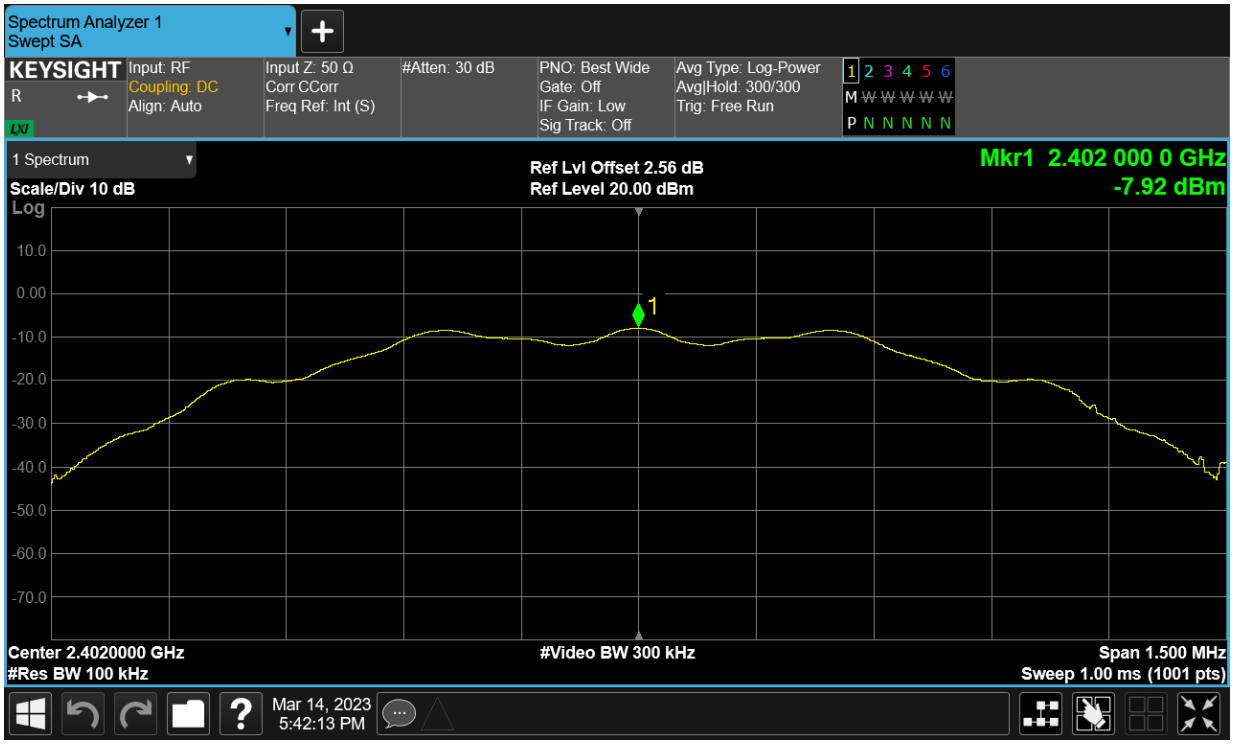


Conducted RF Spurious Emission

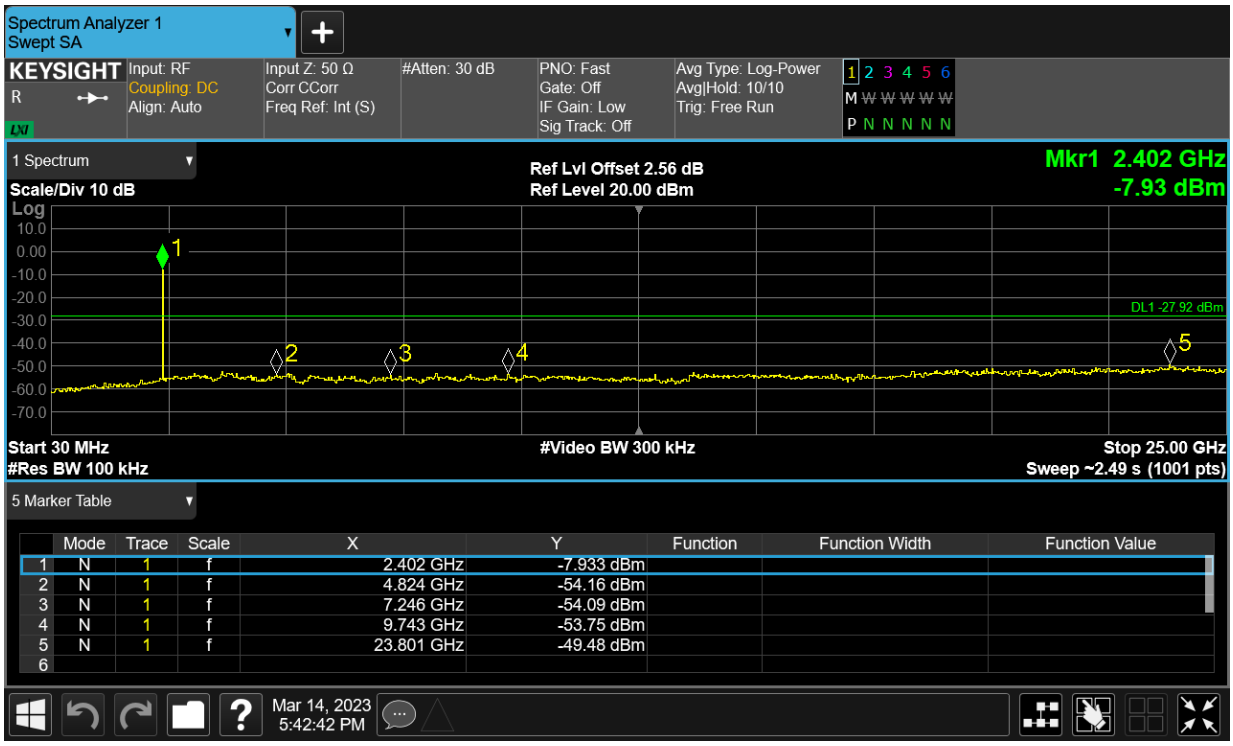
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant5	-41.56	-20	Pass
NVNT	BLE	2442	Ant5	-43.96	-20	Pass
NVNT	BLE	2480	Ant5	-42.35	-20	Pass

Test Graphs

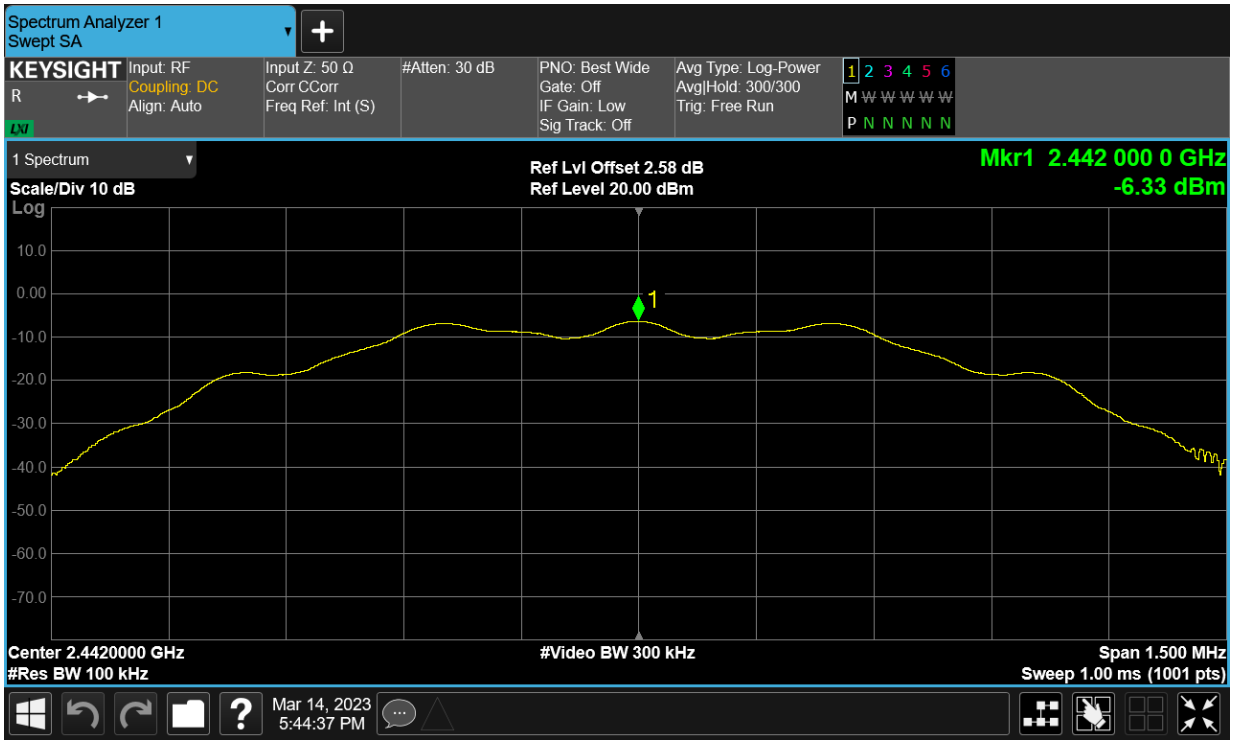
Tx. Spurious NVNT BLE 2402MHz Ant5 Ref



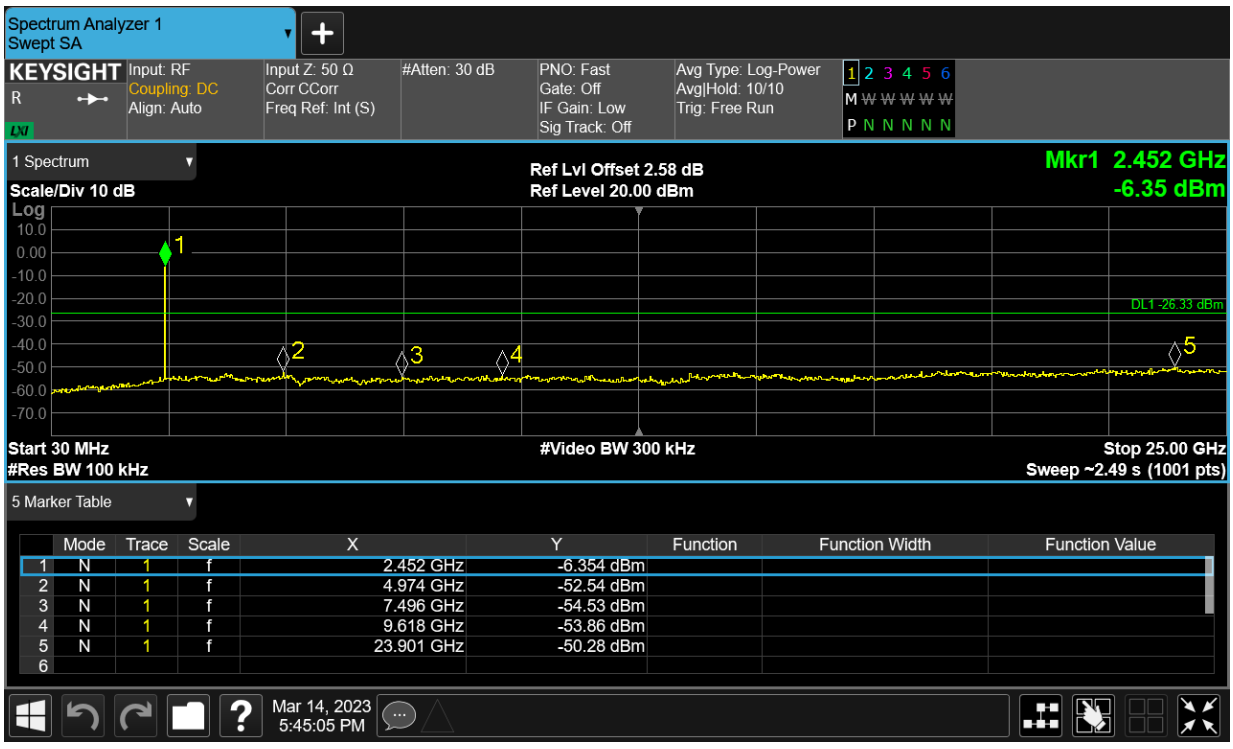
Tx. Spurious NVNT BLE 2402MHz Ant5 Emission



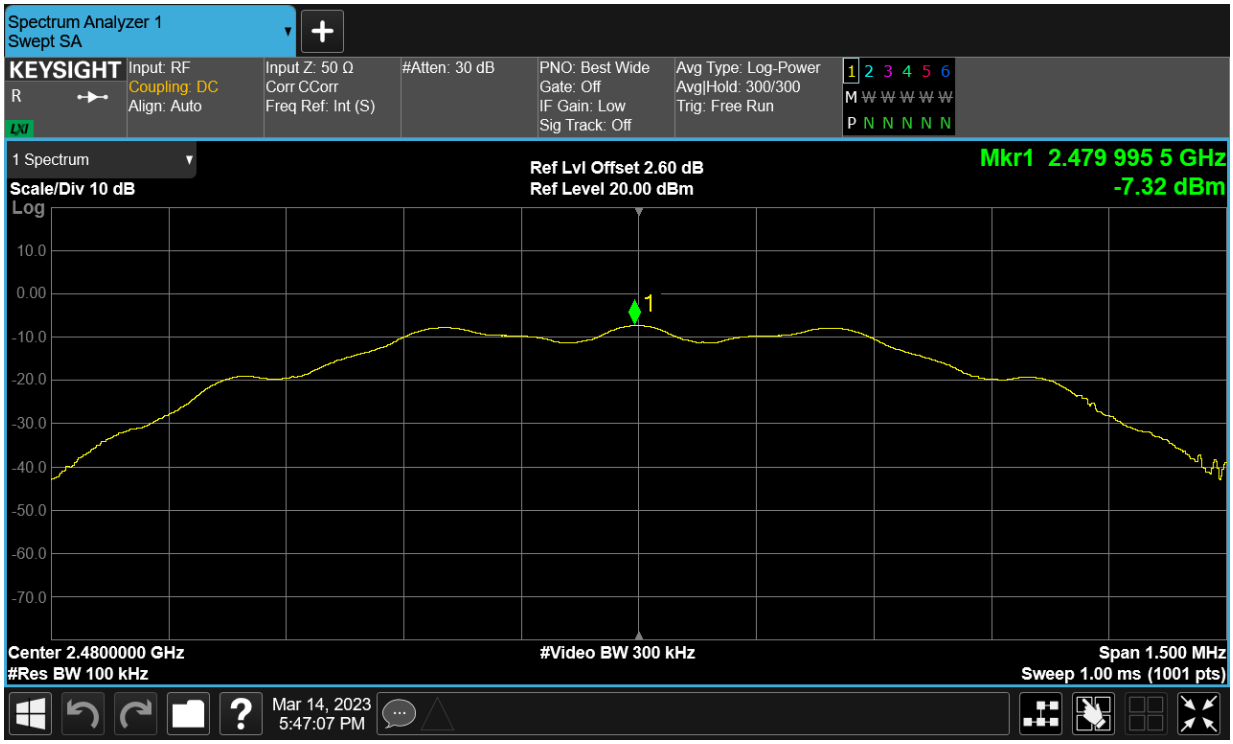
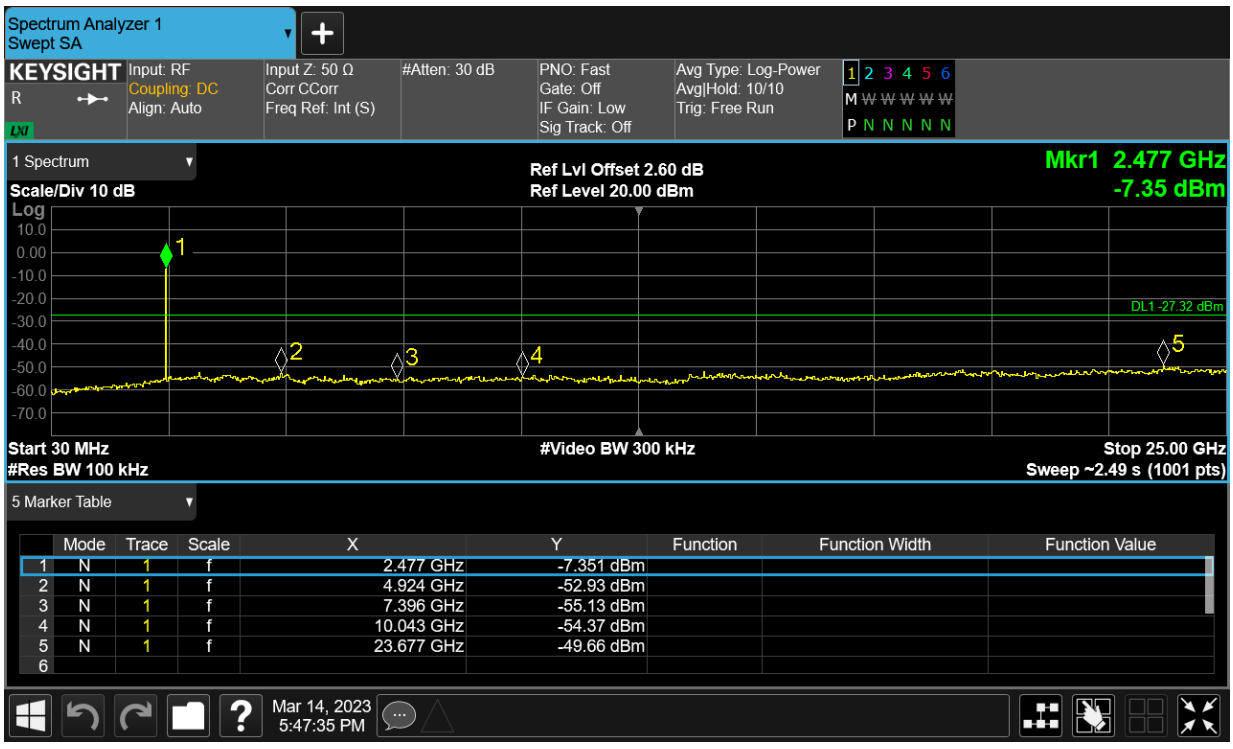
Tx. Spurious NVNT BLE 2442MHz Ant5 Ref



Tx. Spurious NVNT BLE 2442MHz Ant5 Emission



Tx. Spurious NVNT BLE 2480MHz Ant5 Ref



Tx. Spurious NVNT BLE 2480MHz Ant5 Emission