

Table of Contents

1.Dwell Time	2
2.Maximum Peak Conducted Output Power	12
3.-20dB Bandwidth	18
4.Carrier Frequencies Separation	24
5.Number of Hopping Channel	30
6.Band Edge	33
7.Band Edge(Hopping)	40
8.Conducted RF Spurious Emission	47

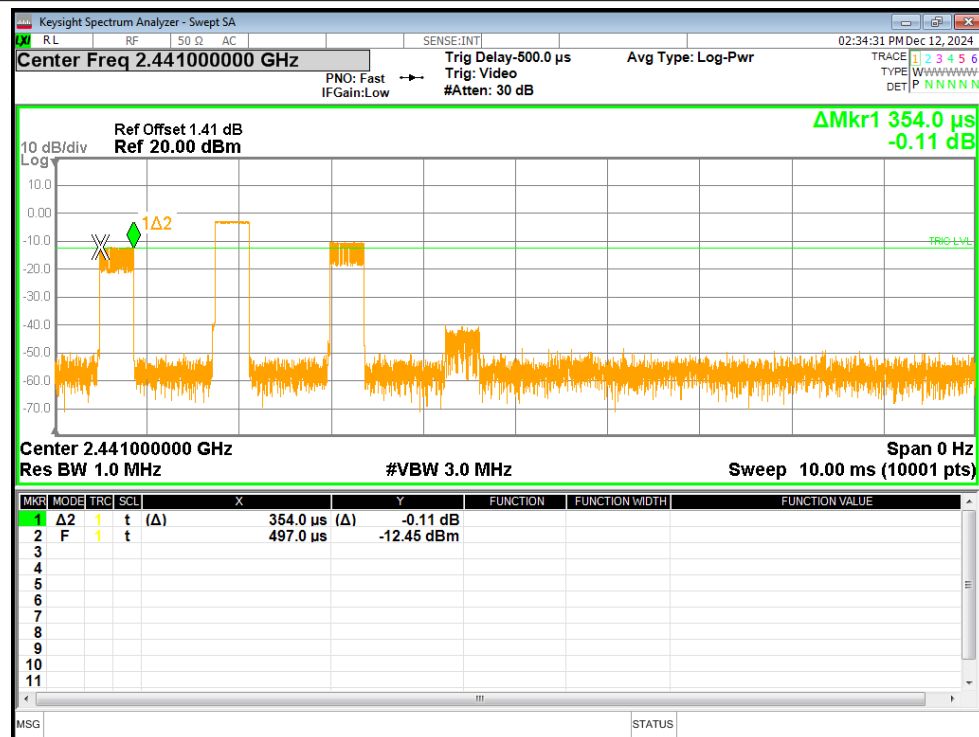
FCC_BT(Part15.247) Test Data

1.Dwell Time

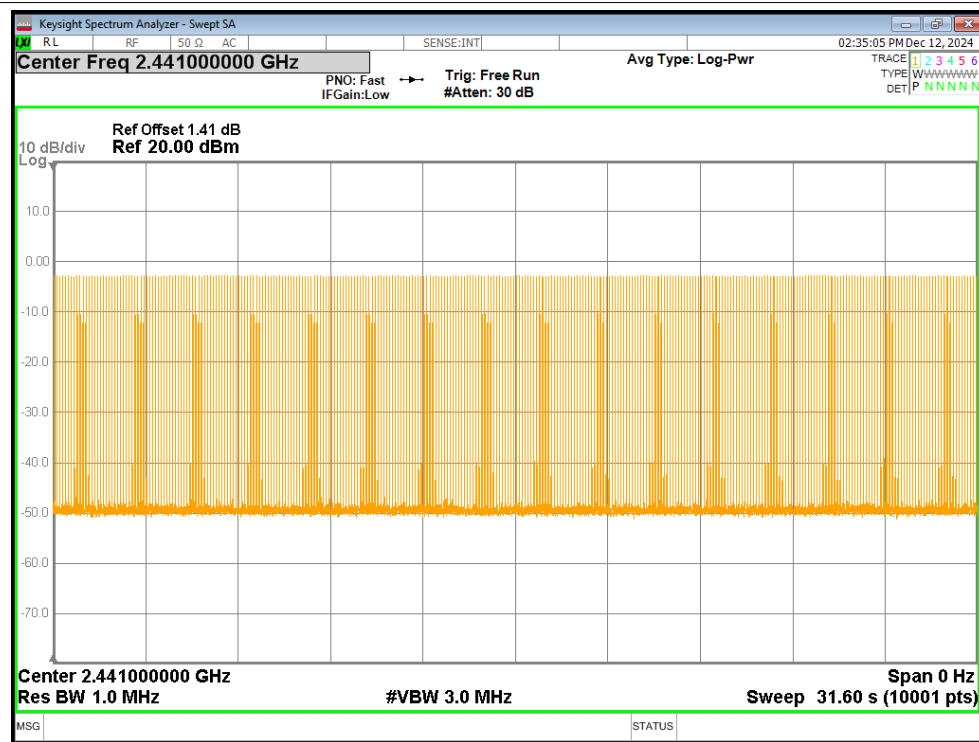
Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH1	2441	0.354	112.926	319	31600	400	Pass
1-DH3	2441	1.62	259.2	160	31600	400	Pass
1-DH5	2441	2.867	303.902	106	31600	400	Pass
2-DH1	2441	0.365	116.435	319	31600	400	Pass
2-DH3	2441	1.63	260.8	160	31600	400	Pass
2-DH5	2441	2.877	307.839	107	31600	400	Pass
3-DH1	2441	0.362	115.478	319	31600	400	Pass
3-DH3	2441	1.63	259.17	159	31600	400	Pass
3-DH5	2441	2.882	308.374	107	31600	400	Pass

Test Graphs

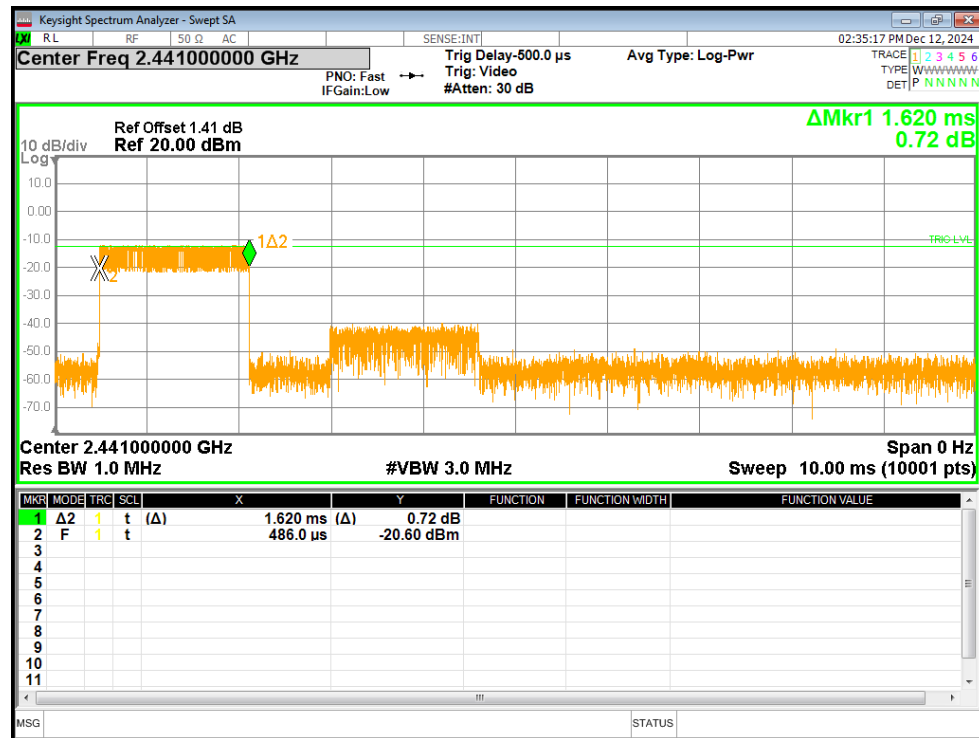
Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



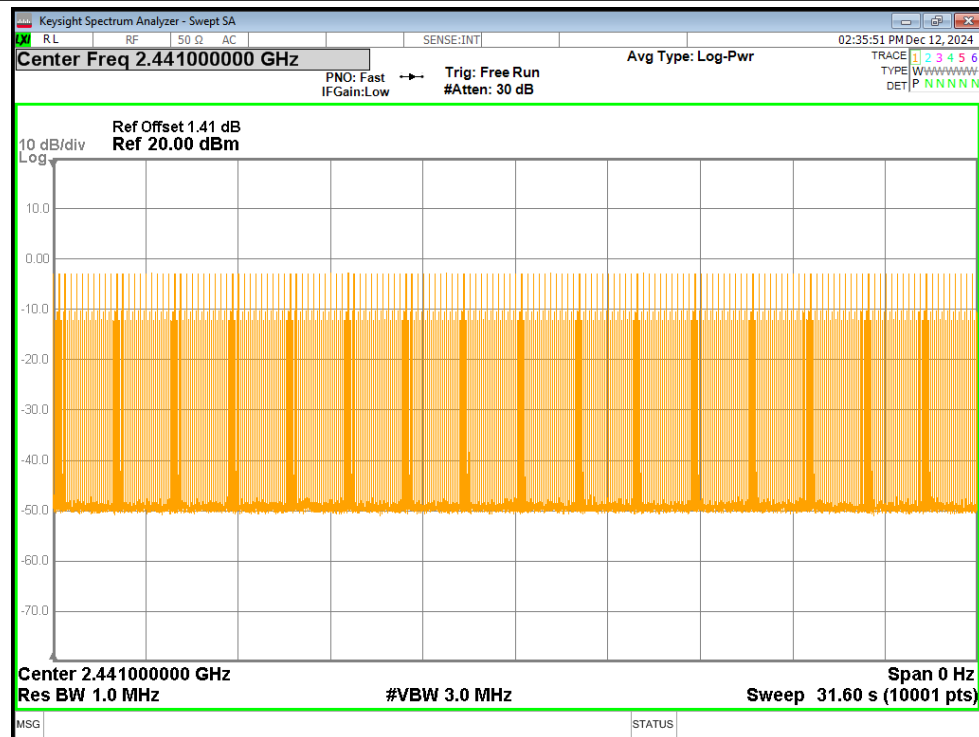
Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



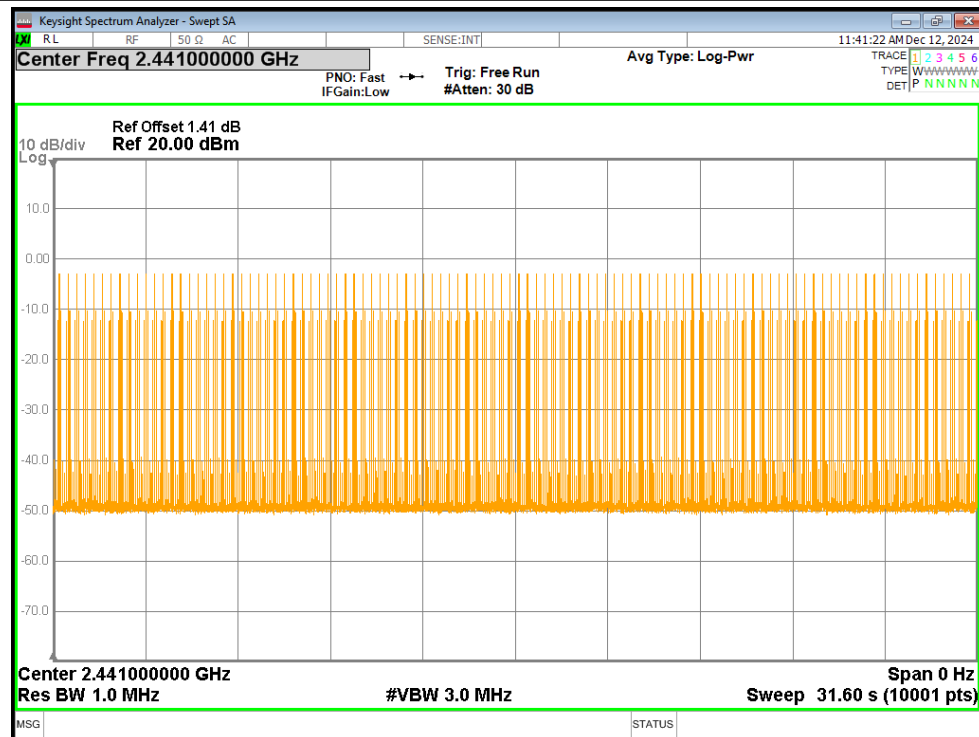
Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated



Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



Keysight Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Trig Delay: 500.0 μ s
Trig: Video
#Atten: 30 dB

Avg Type: Log-Pwr

Ref Offset 1.41 dB
Ref 20.00 dBm

Δ Mkr1 365.0 μ s
-0.23 dB

Center 2.441000000 GHz
Res BW 1.0 MHz
#VBW 3.0 MHz
Sweep 10.00 ms (10001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	1	t	(Δ)	365.0 μ s (Δ)	-0.23 dB		
2	F	1	t		474.0 μ s	-12.39 dBm		

Keysight Spectrum Analyzer - Swept SA

02:36:38 PM Dec 12, 2024

Center Freq 2.441000000 GHz

Avg Type: Log-Pwr

Ref Offset 1.41 dB

Ref 20.00 dBm

10 dB/div

Log

Center 2.441000000 GHz

Res BW 1.0 MHz

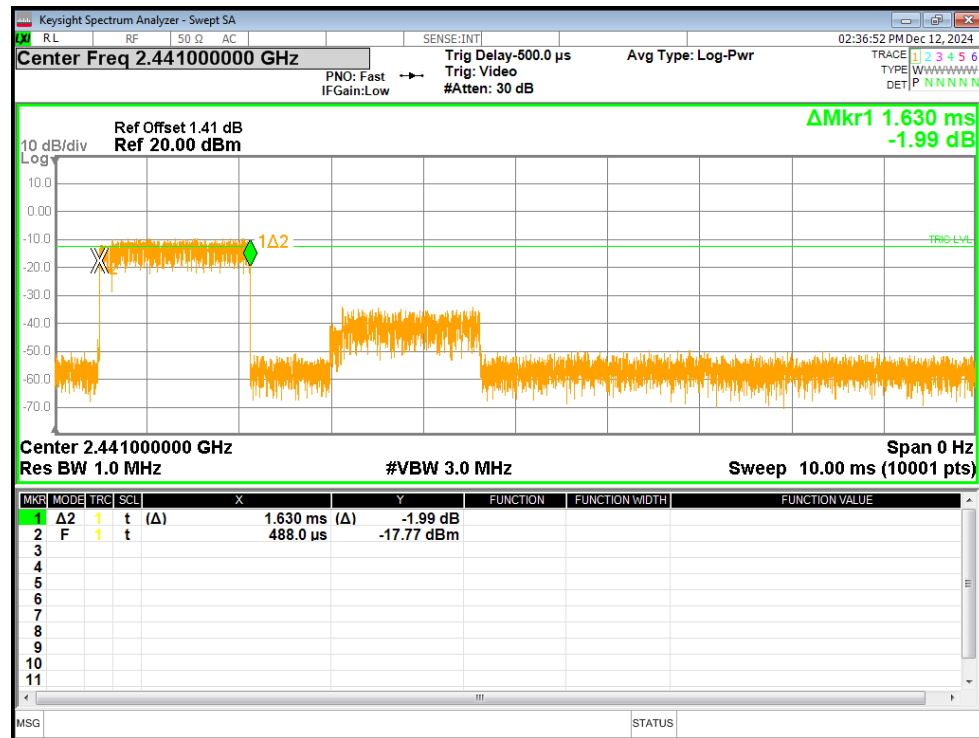
#VBW 3.0 MHz

Span 0 Hz

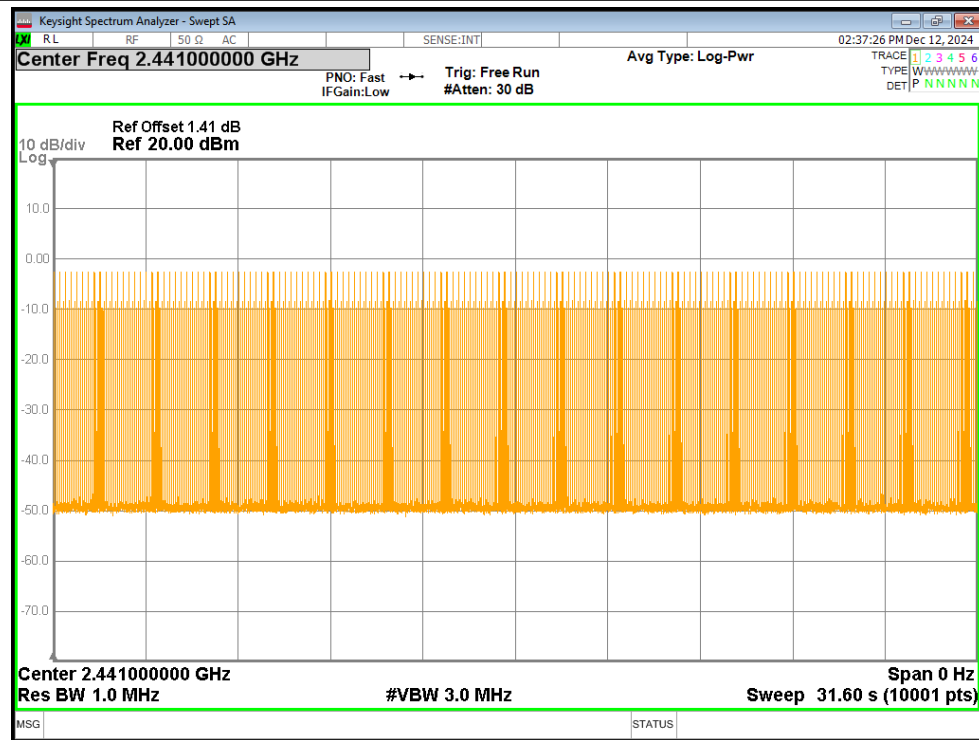
Sweep 31.60 s (10001 pts)

MSG STATUS

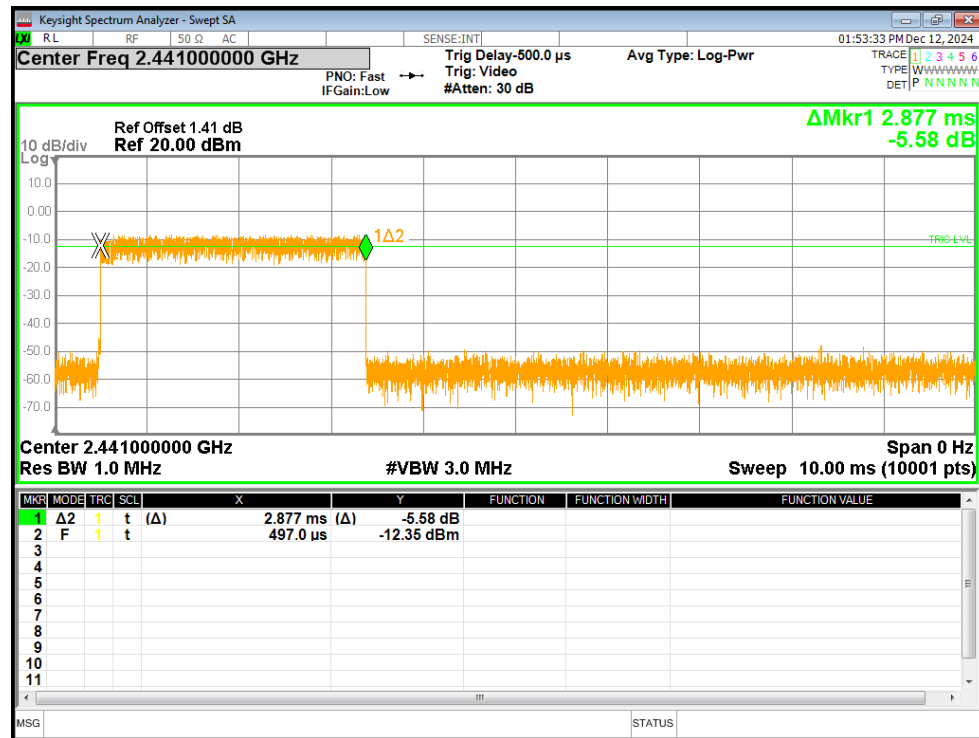
Dwell NVNT 2-DH3 2441MHz Ant1 One Burst



Dwell NVNT 2-DH3 2441MHz Ant1 Accumulated



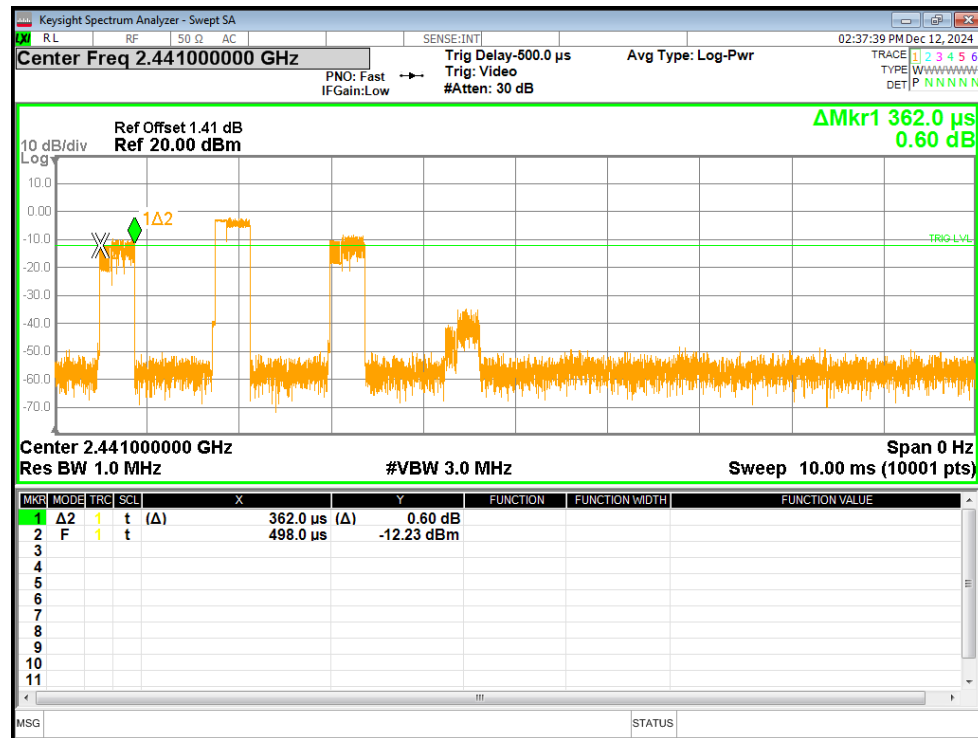
Dwell NVNT 2-DH5 2441MHz Ant1 One Burst



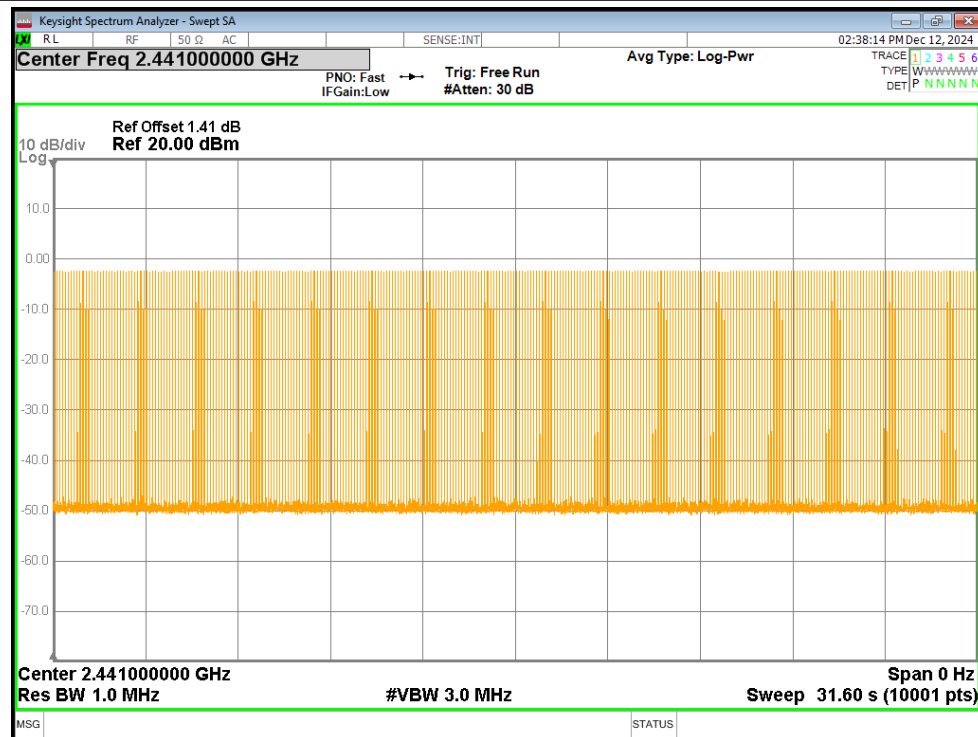
Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated



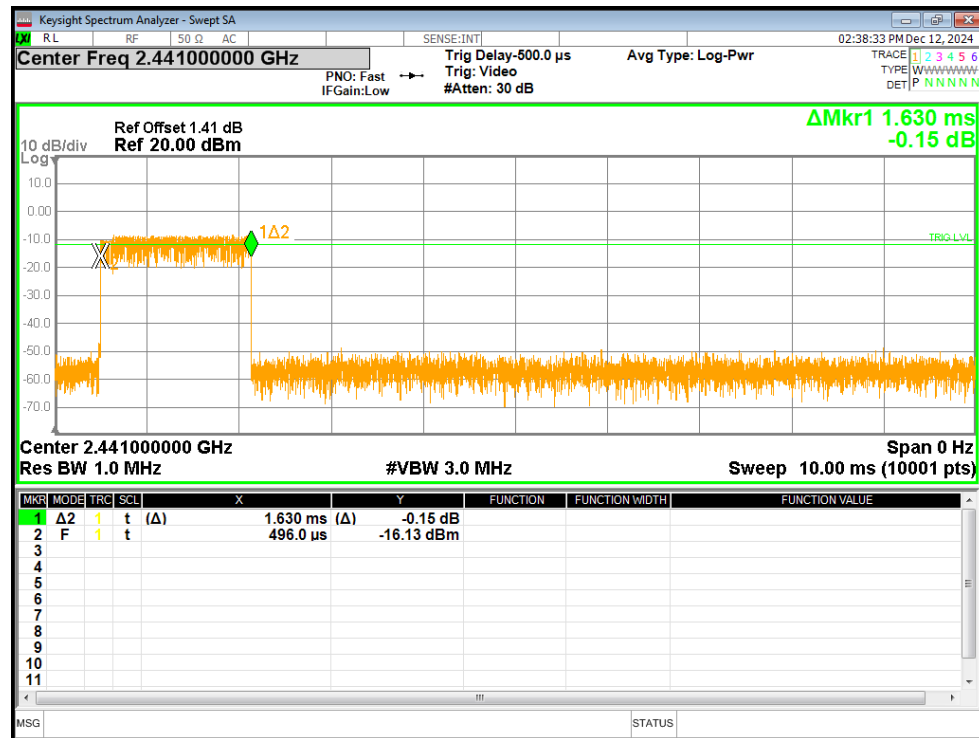
Dwell NVNT 3-DH1 2441MHz Ant1 One Burst



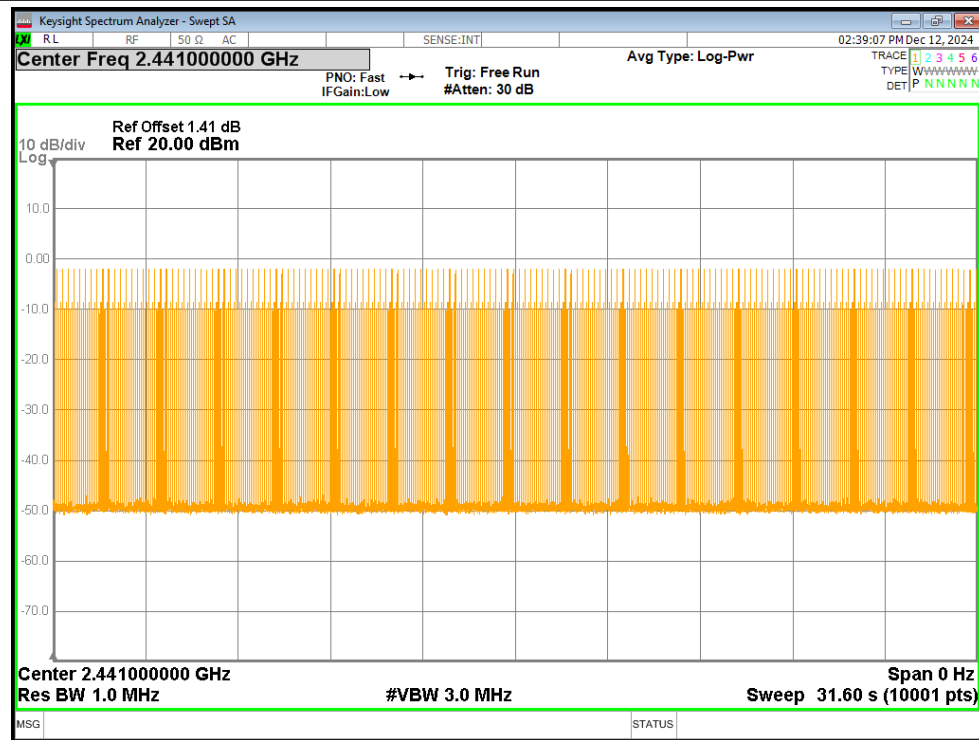
Dwell NVNT 3-DH1 2441MHz Ant1 Accumulated



Dwell NVNT 3-DH3 2441MHz Ant1 One Burst



Dwell NVNT 3-DH3 2441MHz Ant1 Accumulated



Keysight Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz

Trig Delay: 500.0 μ s

Avg Type: Log-Pwr

Ref Offset 1.41 dB

Ref 20.00 dBm

Δ Mkr1 2.882 ms

0.36 dB

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.00 ms (10001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	Δ 2	1	t	(Δ)	2.882 ms	(Δ)	0.36 dB	
2	F	1	t		497.0 μ s		-10.77 dBm	
3								
4								
5								
6								
7								
8								
9								
10								
11								

Keysight Spectrum Analyzer - Swept SA

02:22:29 PM Dec 12, 2024

Center Freq 2.441000000 GHz

Avg Type: Log-Pwr

Trace 1 2 3 4 5 6

Type: WWWWWWW

Det: P NNNNN

PNO: Fast → Trig: Free Run

IFGain: Low #Atten: 30 dB

Ref Offset 1.41 dB

Ref 20.00 dBm

10 dB/div

Log

Center 2.441000000 GHz

Span 0 Hz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 31.60 s (10001 pts)

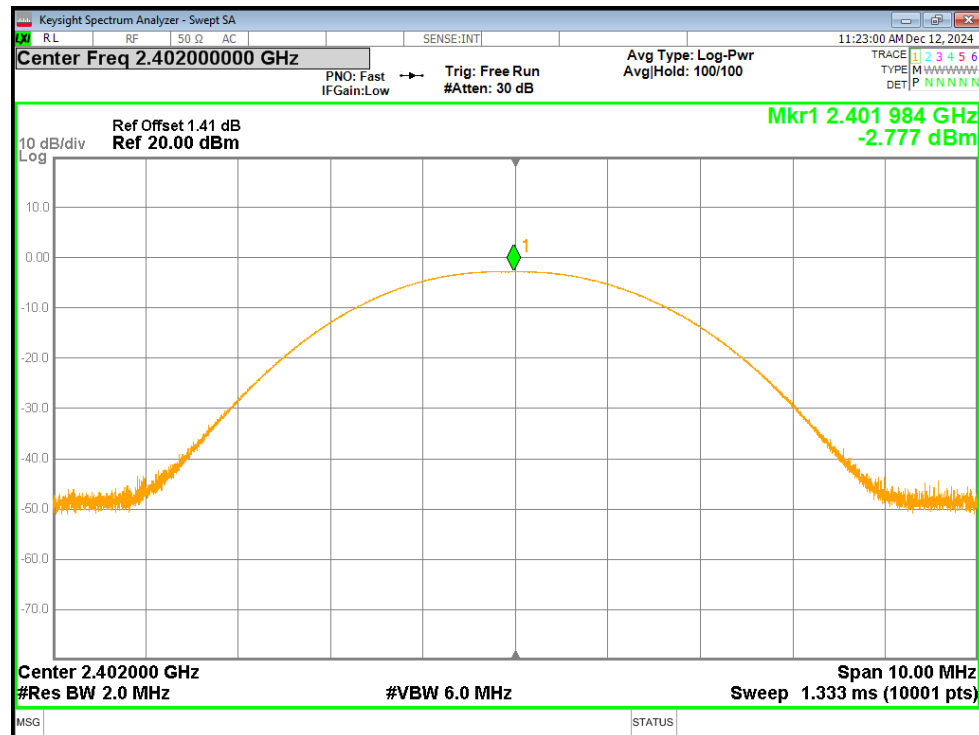
MSG STATUS

2.Maximum Peak Conducted Output Power

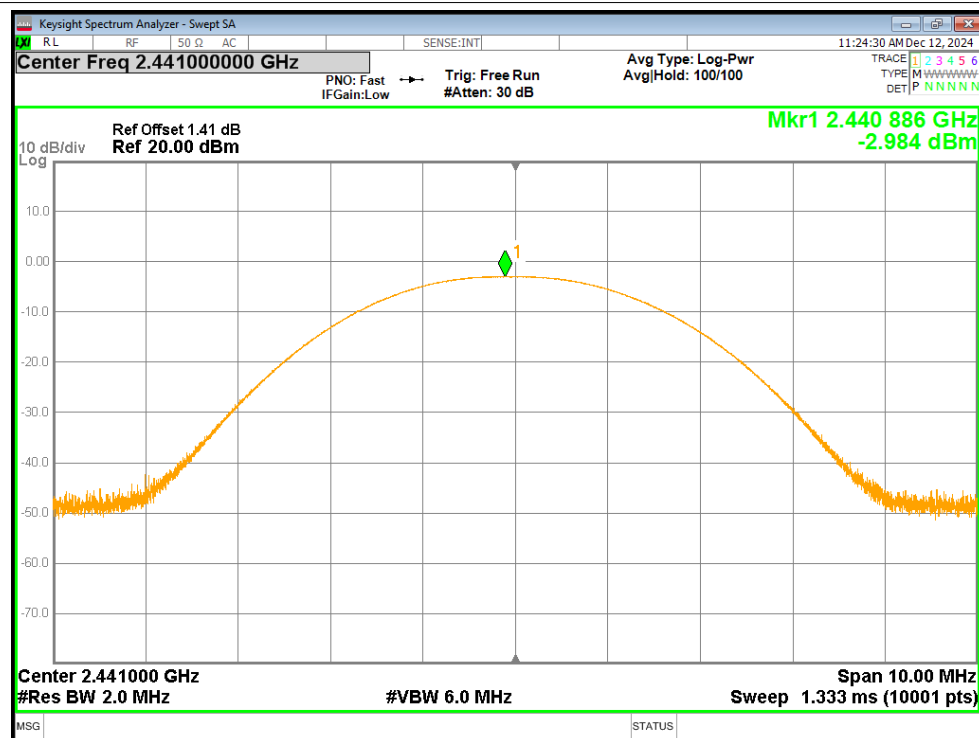
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-2.78	21	Pass
NVNT	1-DH5	2441	Ant1	-2.98	21	Pass
NVNT	1-DH5	2480	Ant1	-4.02	21	Pass
NVNT	2-DH5	2402	Ant1	-2.1	21	Pass
NVNT	2-DH5	2441	Ant1	-2.24	21	Pass
NVNT	2-DH5	2480	Ant1	-3.21	21	Pass
NVNT	3-DH5	2402	Ant1	-1.55	21	Pass
NVNT	3-DH5	2441	Ant1	-1.65	21	Pass
NVNT	3-DH5	2480	Ant1	-2.68	21	Pass

Test Graphs

Peak Power NVNT 1-DH5 2402MHz Ant1



Peak Power NVNT 1-DH5 2441MHz Ant1



Peak Power NVNT 1-DH5 2480MHz Ant1

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.480000000 GHz

PNO: Fast IFGain:Low Trig: Free Run #Atten: 30 dB

Avg Type: Log-Pwr Avg/Hold: 100/100

11:25:52 AM Dec 12, 2024

TRACE 1 2 3 4 5 6

TYPE M W W W W W W W

DET P N N N N N N

Ref Offset 1.41 dB

Ref 20.00 dBm

Mkr1 2.479759 GHz

-4.018 dBm

10 dB/div

Log

Center 2.480000 GHz

#Res BW 2.0 MHz

#VBW 6.0 MHz

Span 10.00 MHz

Sweep 1.333 ms (10001 pts)

MSG STATUS

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT 01:34:34 PM Dec 12, 2024

Center Freq 2.40200000 GHz

PNO: Fast Trg: Free Run Avg Type: Log-Pwr
IF Gain: Low #Atten: 30 dB Avg|Hold: 100/100

TRACE 1 2 3 4 5 6
TYPE M W W W W W W W
DET P N N N N N N

Ref Offset 1.41 dB
Ref 20.00 dBm

Mkr1 2.401 969 GHz
-2.100 dBm

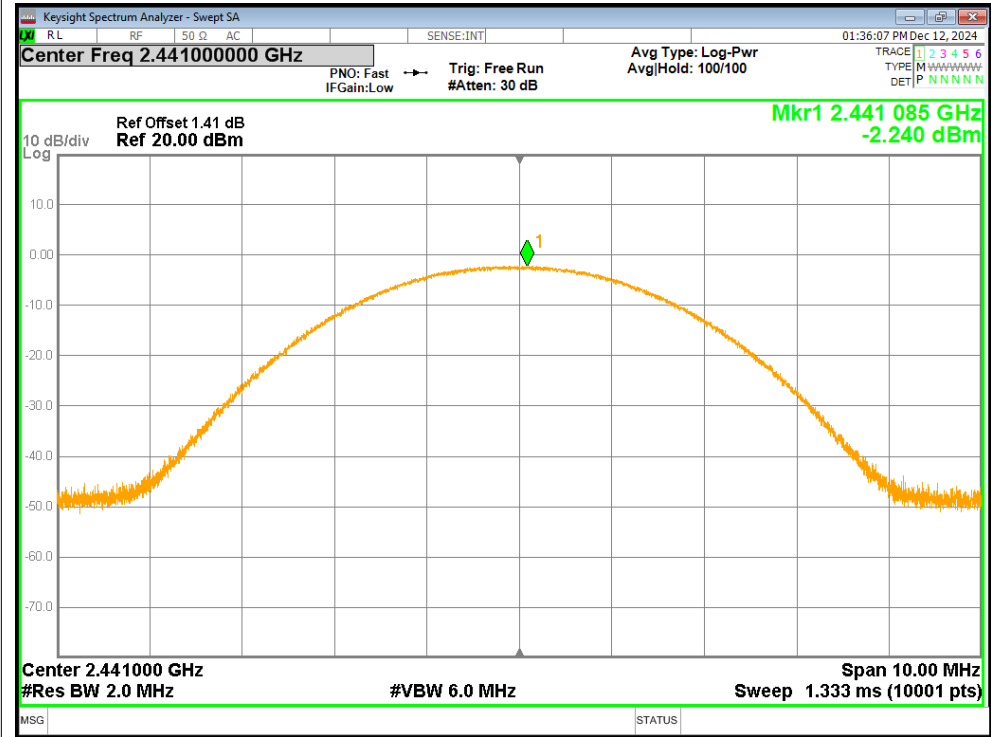
10 dB/div
Log

The plot shows a swept signal with a peak at 2.401969 GHz. The y-axis is labeled 10 dB/div Log and ranges from -70.0 to 10.0. The x-axis is labeled Center Freq 2.402000 GHz. The signal is a noisy curve with a peak at 2.401969 GHz. A marker is placed at the peak with a value of -2.100 dBm. The plot is titled 'Center Freq 2.40200000 GHz' and 'Mkr1 2.401 969 GHz -2.100 dBm'. The plot is also labeled with '10 dB/div Log' and 'Ref Offset 1.41 dB Ref 20.00 dBm'. The plot is also labeled with 'PNO: Fast Trg: Free Run Avg Type: Log-Pwr IF Gain: Low #Atten: 30 dB Avg|Hold: 100/100' and 'TRACE 1 2 3 4 5 6 TYPE M W W W W W W W DET P N N N N N N'.

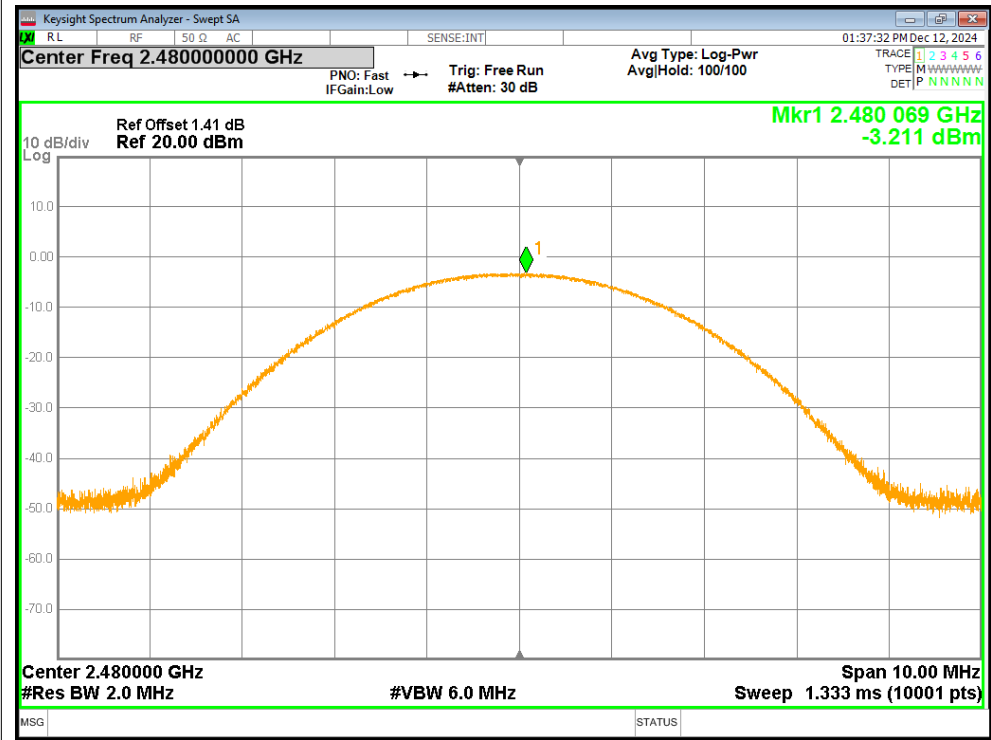
Center 2.402000 GHz Span 10.00 MHz
#Res BW 2.0 MHz #VBW 6.0 MHz Sweep 1.333 ms (10001 pts)

MSG STATUS

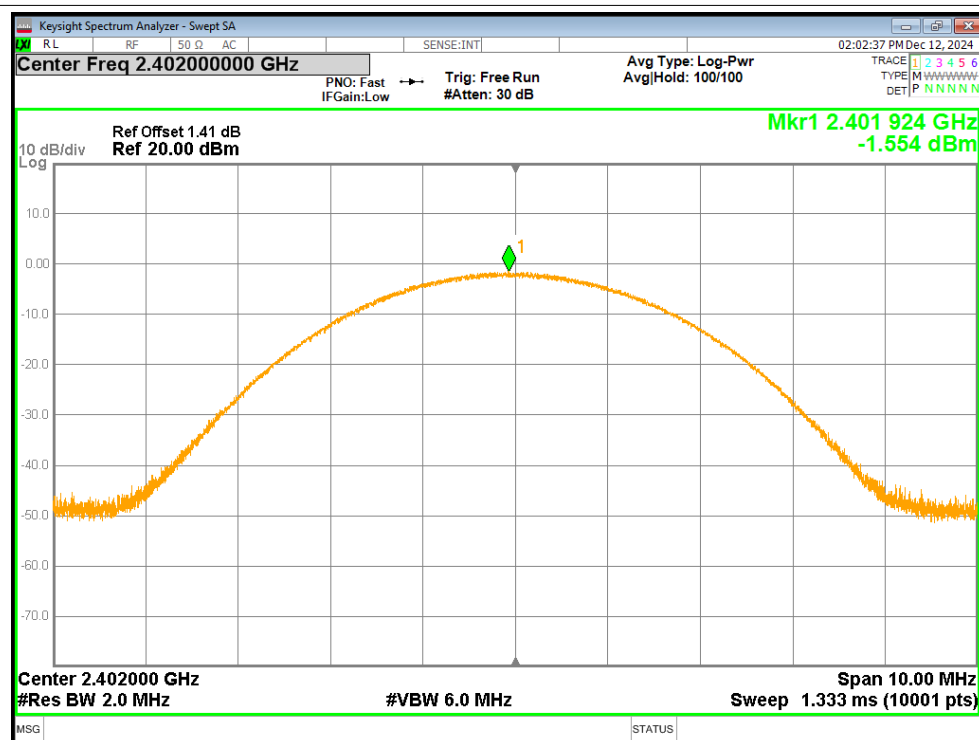
Peak Power NVNT 2-DH5 2441MHz Ant1



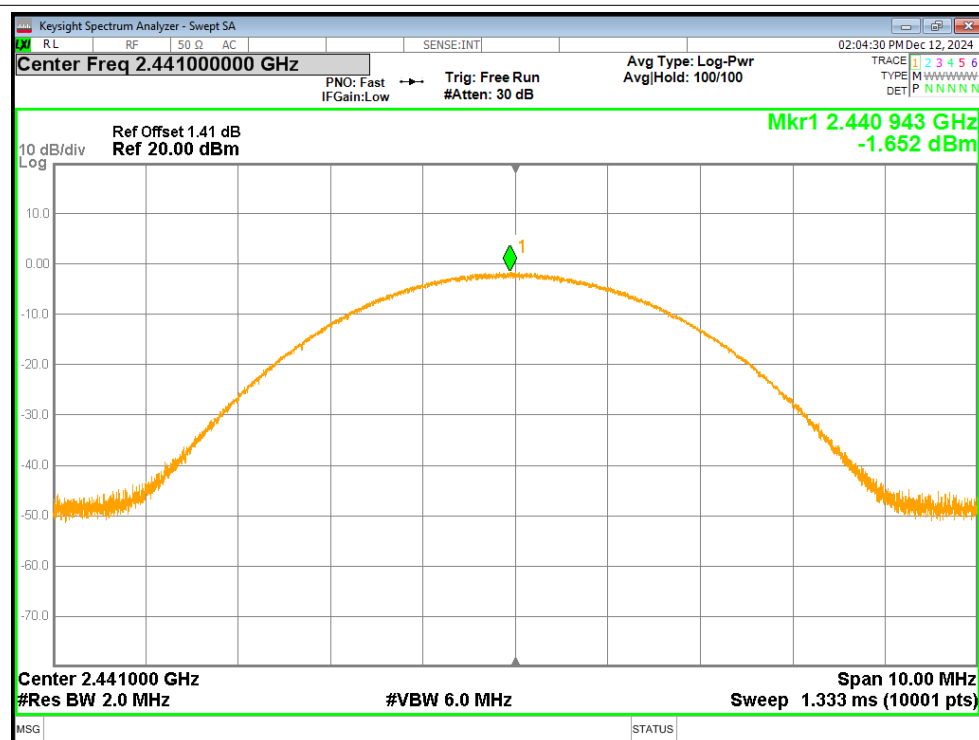
Peak Power NVNT 2-DH5 2480MHz Ant1



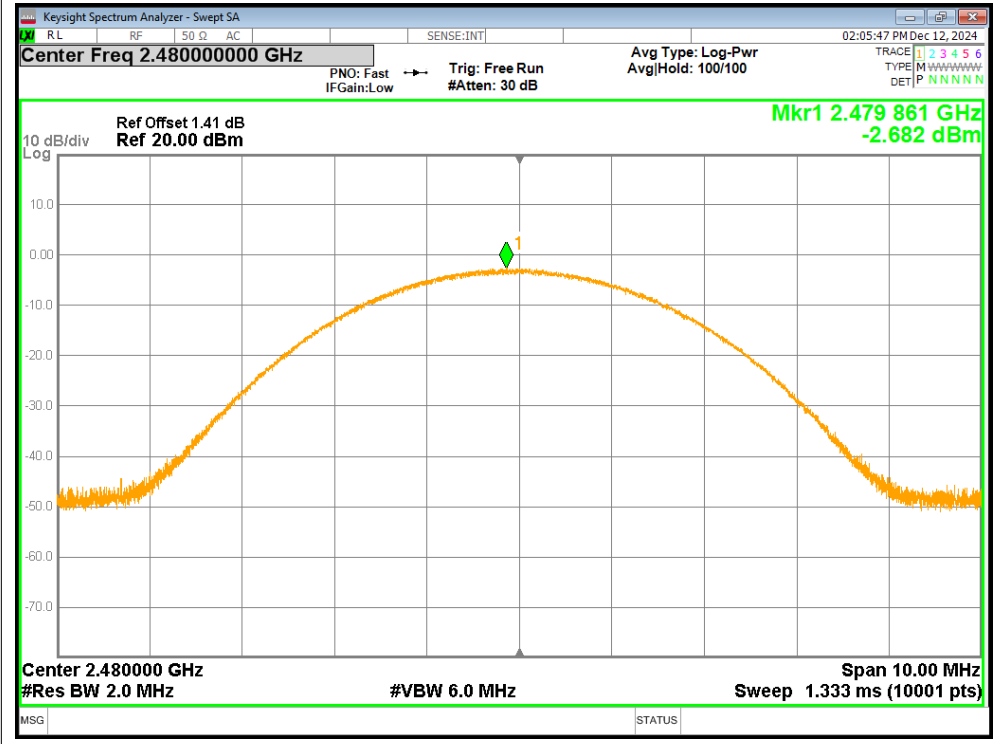
Peak Power NVNT 3-DH5 2402MHz Ant1



Peak Power NVNT 3-DH5 2441MHz Ant1



Peak Power NVNT 3-DH5 2480MHz Ant1

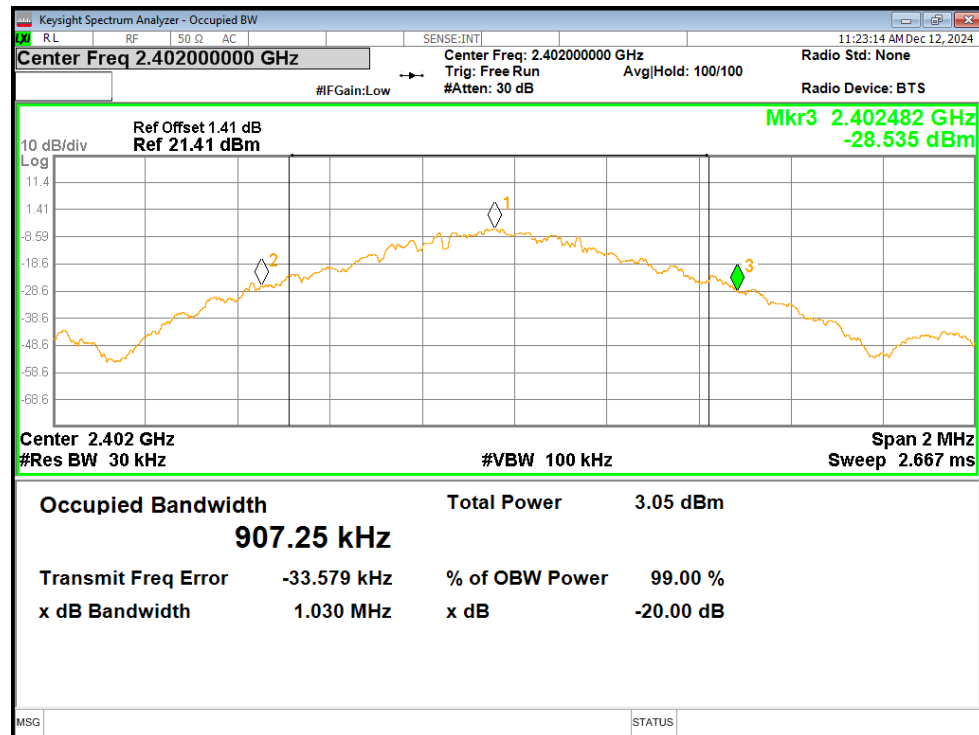


3.-20dB Bandwidth

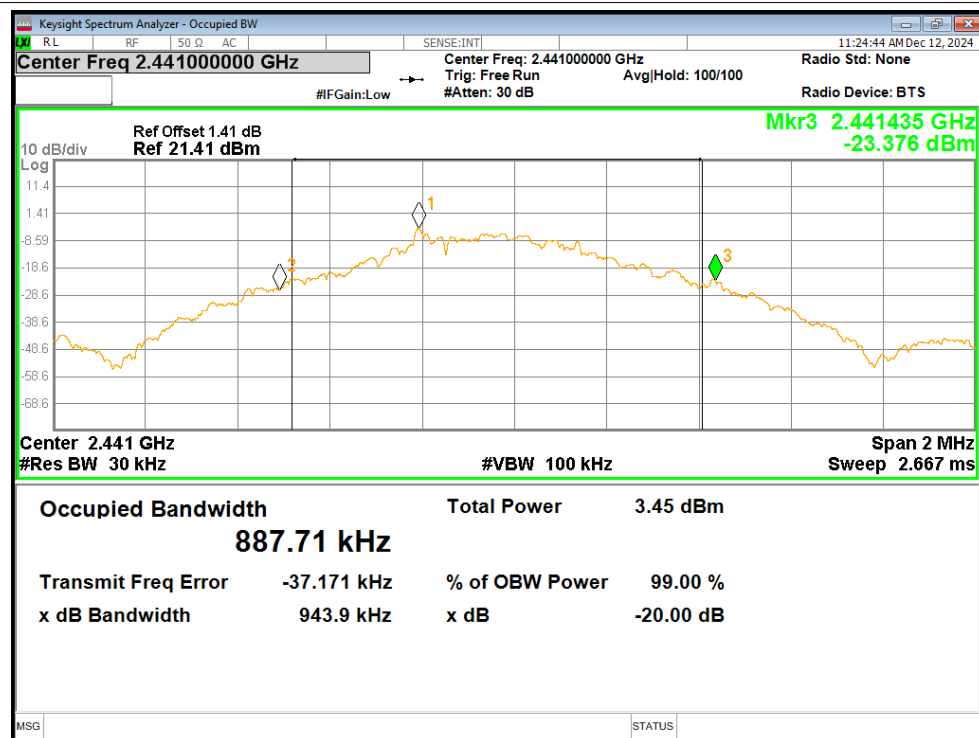
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.03	Pass
NVNT	1-DH5	2441	Ant1	0.944	Pass
NVNT	1-DH5	2480	Ant1	0.926	Pass
NVNT	2-DH5	2402	Ant1	1.317	Pass
NVNT	2-DH5	2441	Ant1	1.315	Pass
NVNT	2-DH5	2480	Ant1	1.29	Pass
NVNT	3-DH5	2402	Ant1	1.252	Pass
NVNT	3-DH5	2441	Ant1	1.25	Pass
NVNT	3-DH5	2480	Ant1	1.238	Pass

Test Graphs

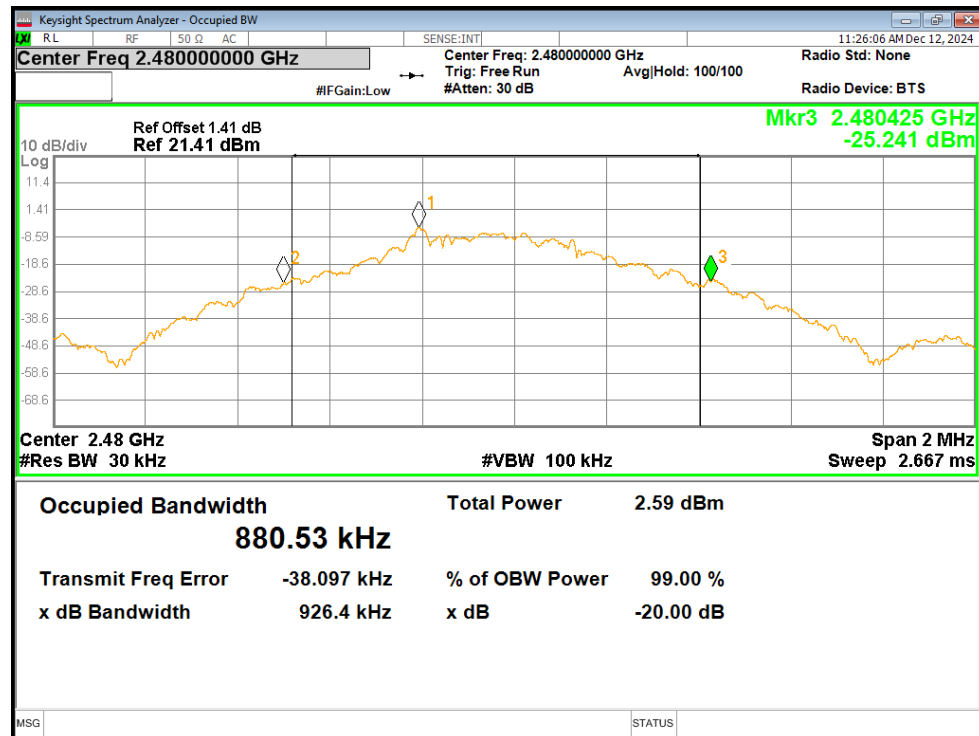
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



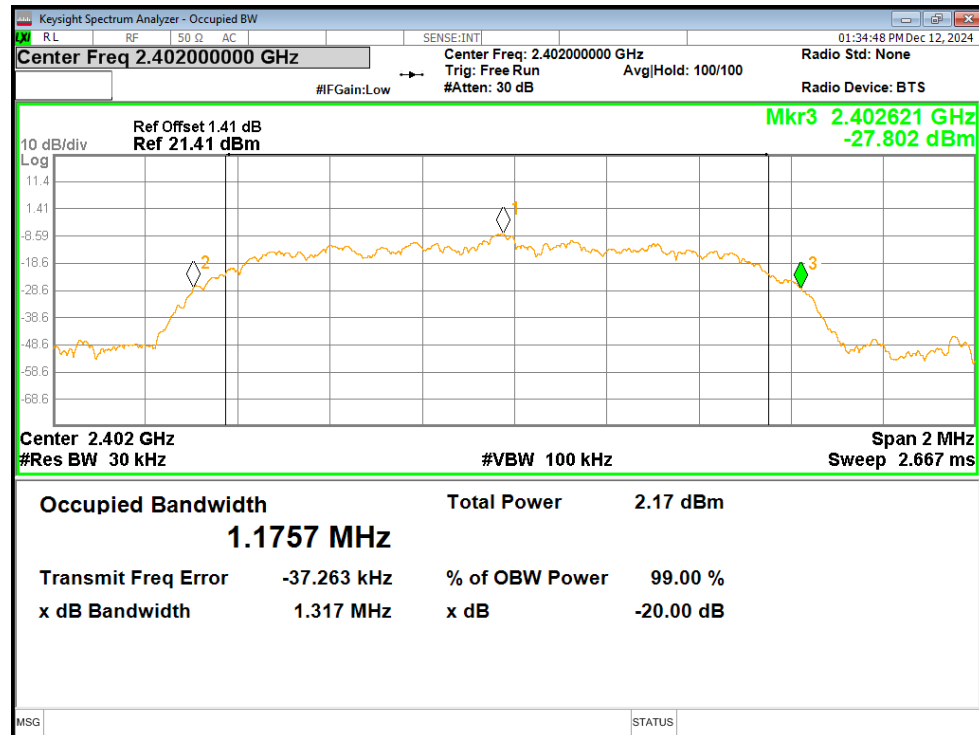
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



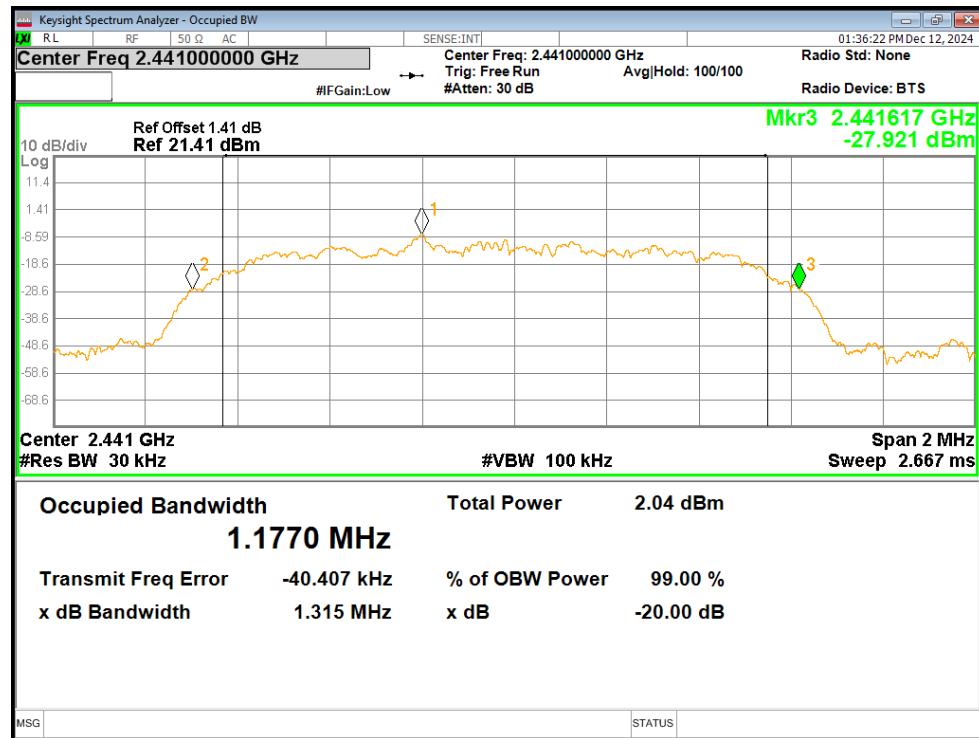
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



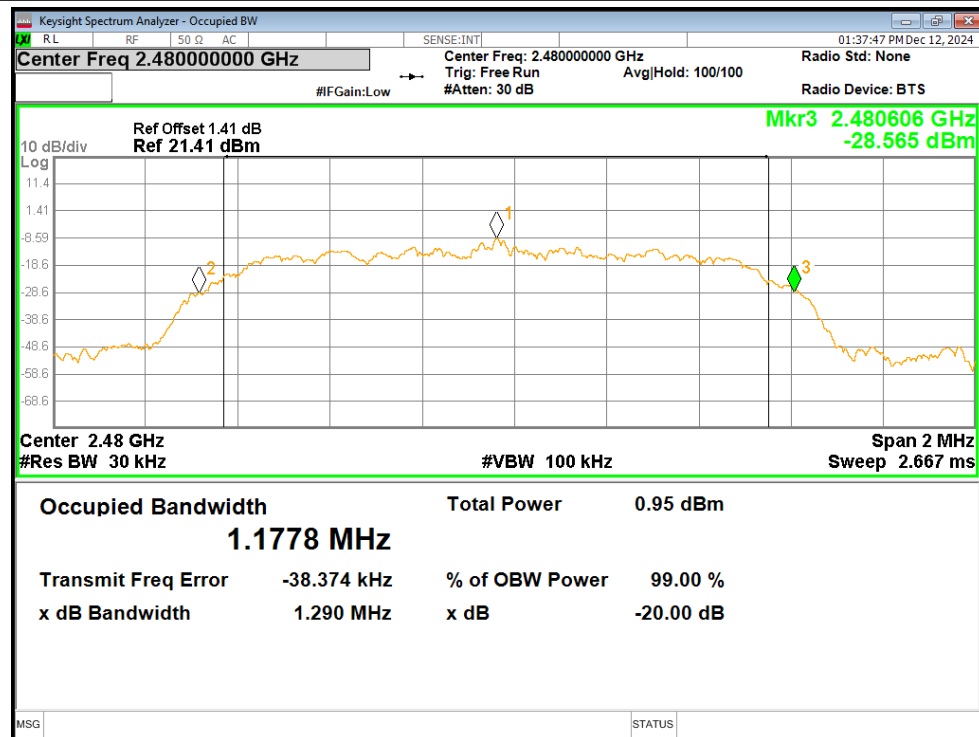
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



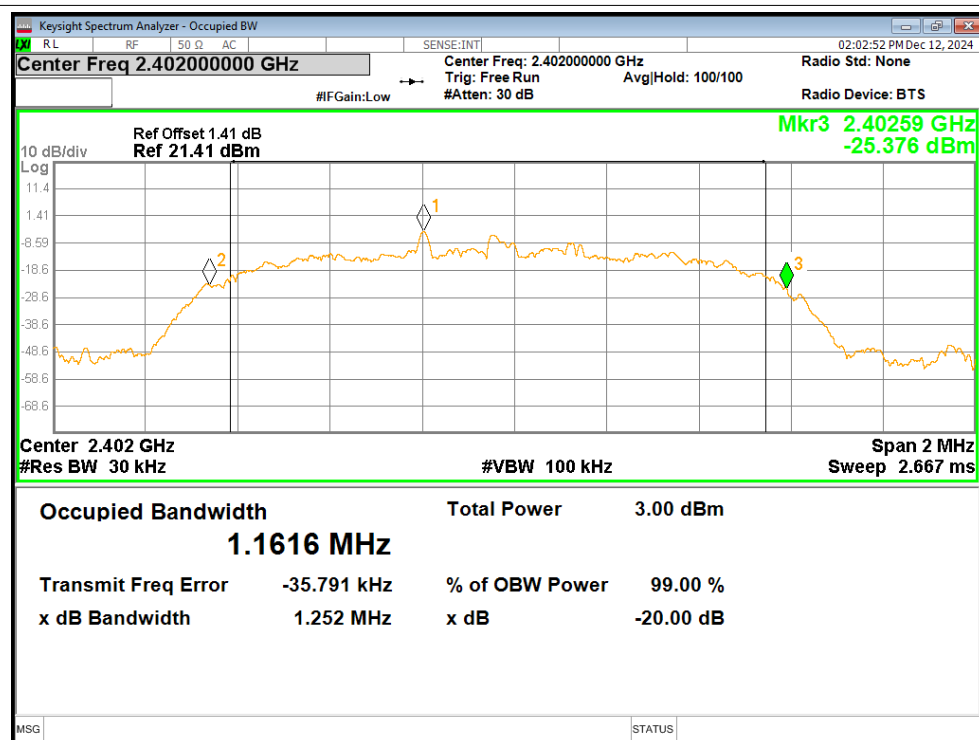
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



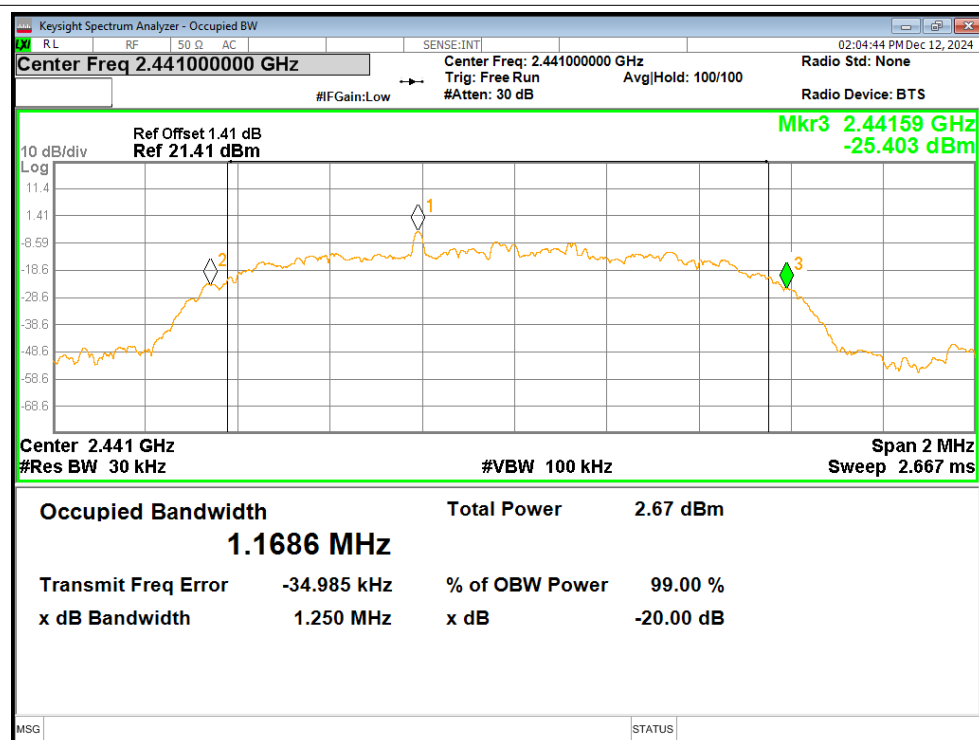
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



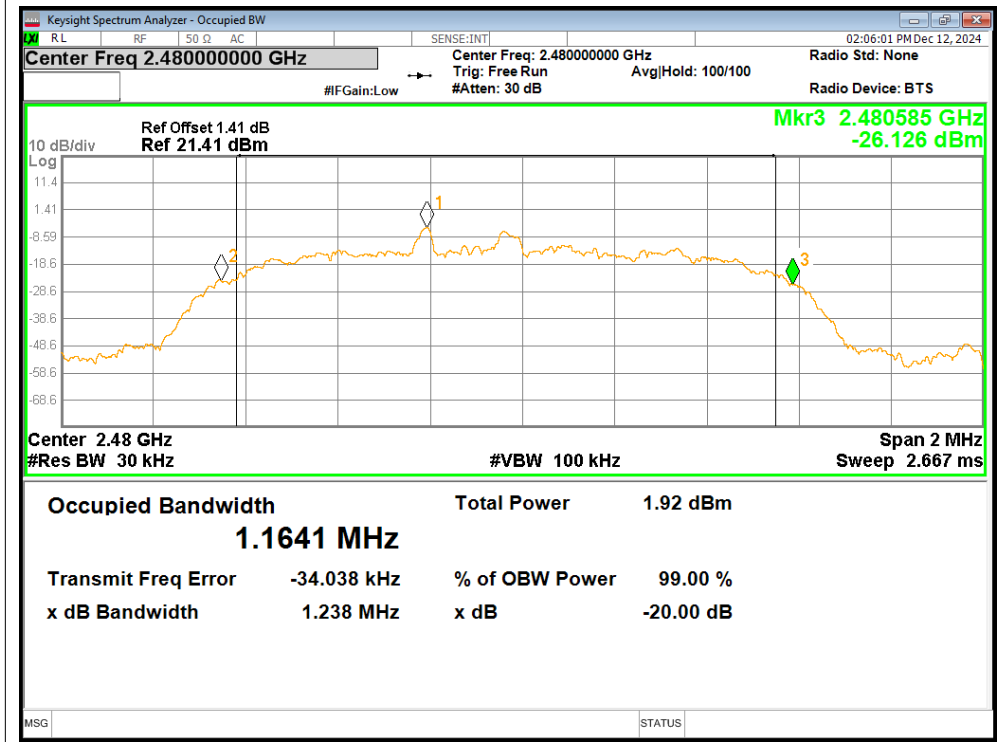
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

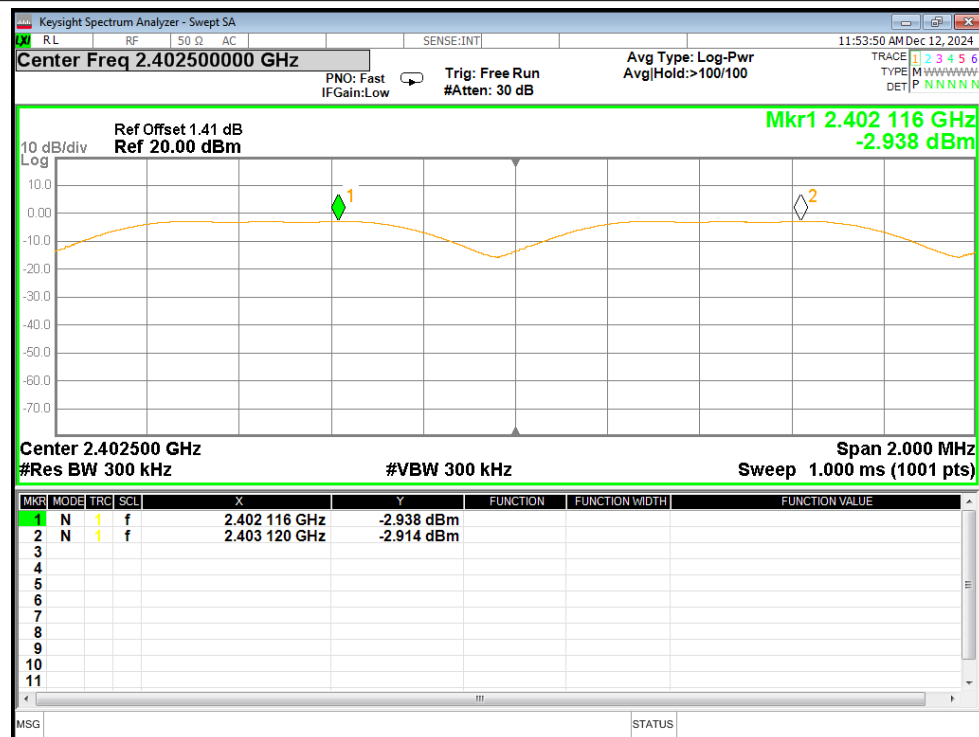


4.Carrier Frequencies Separation

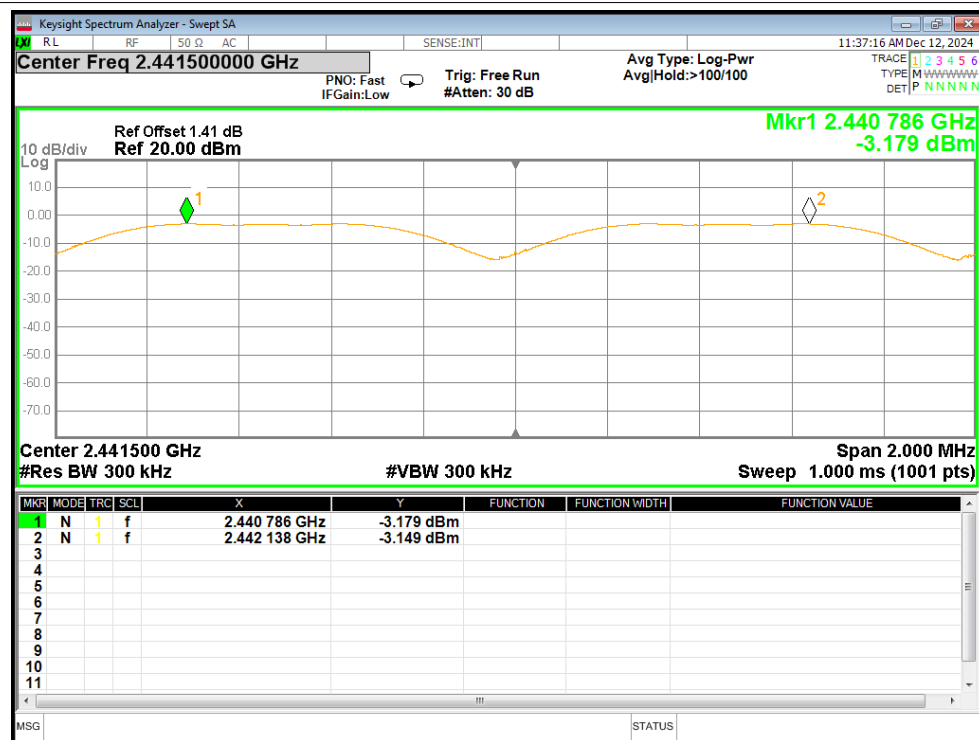
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.116	2403.12	1.004	0.687	Pass
NVNT	1-DH5	Ant1	2440.786	2442.138	1.352	0.629	Pass
NVNT	1-DH5	Ant1	2479.12	2479.79	0.67	0.617	Pass
NVNT	2-DH5	Ant1	2402.128	2403.13	1.002	0.878	Pass
NVNT	2-DH5	Ant1	2440.786	2441.79	1.004	0.877	Pass
NVNT	2-DH5	Ant1	2478.784	2479.788	1.004	0.86	Pass
NVNT	3-DH5	Ant1	2401.796	2403.122	1.326	0.835	Pass
NVNT	3-DH5	Ant1	2440.794	2441.79	0.996	0.833	Pass
NVNT	3-DH5	Ant1	2478.958	2479.96	1.002	0.825	Pass

Test Graphs

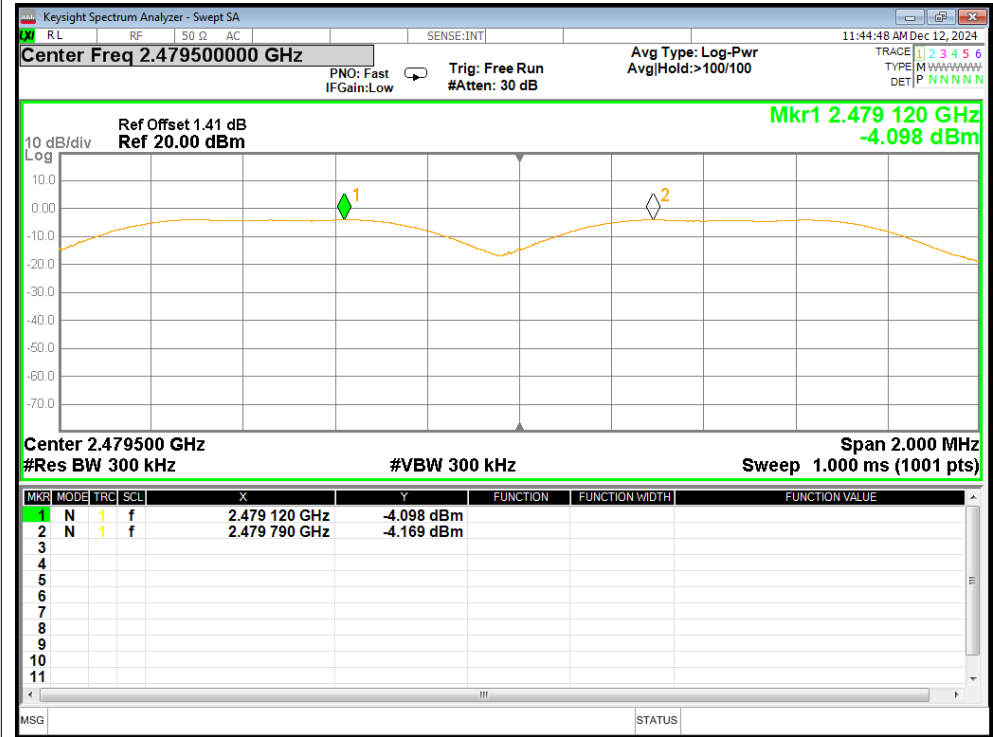
CFS NVNT 1-DH5 2402MHz Ant1



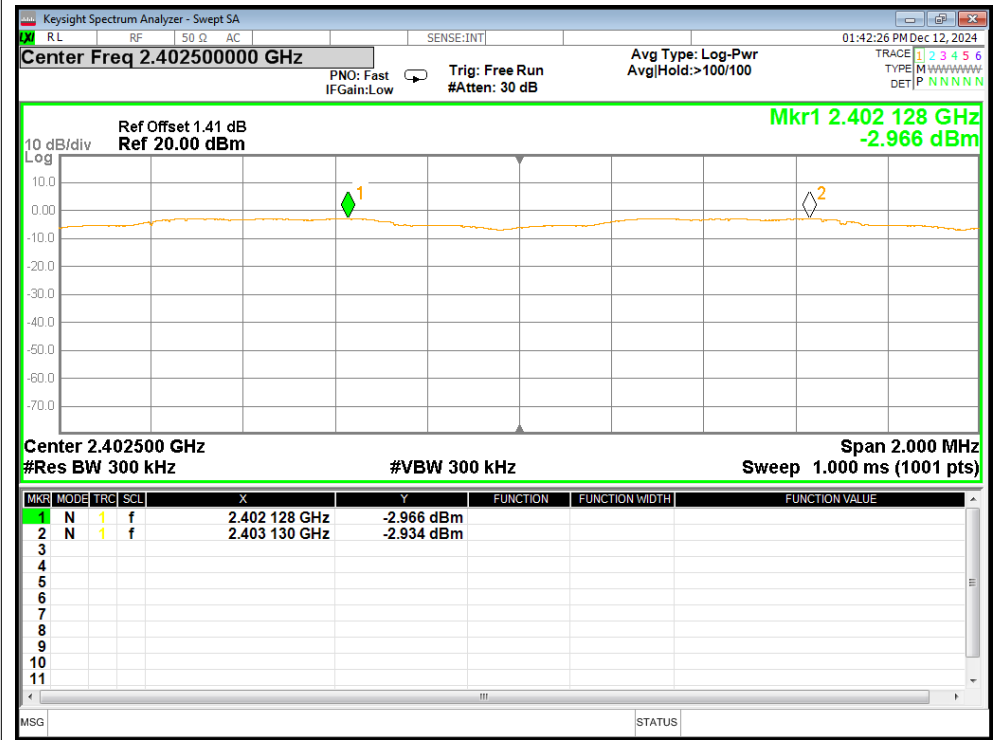
CFS NVNT 1-DH5 2441MHz Ant1



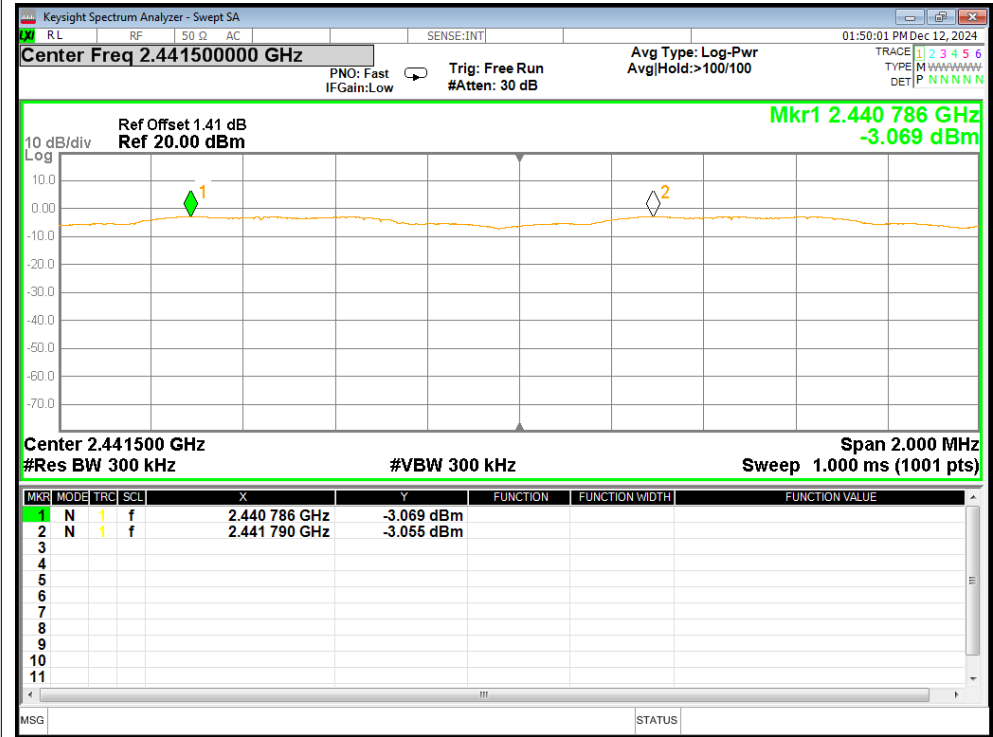
CFS NVNT 1-DH5 2480MHz Ant1



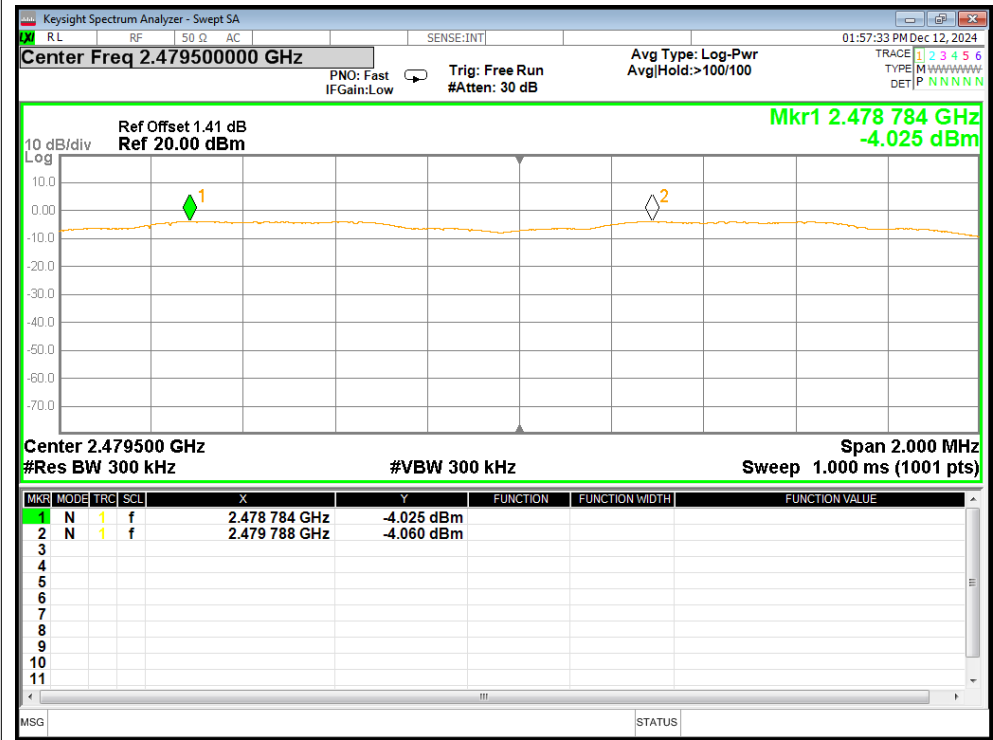
CFS NVNT 2-DH5 2402MHz Ant1



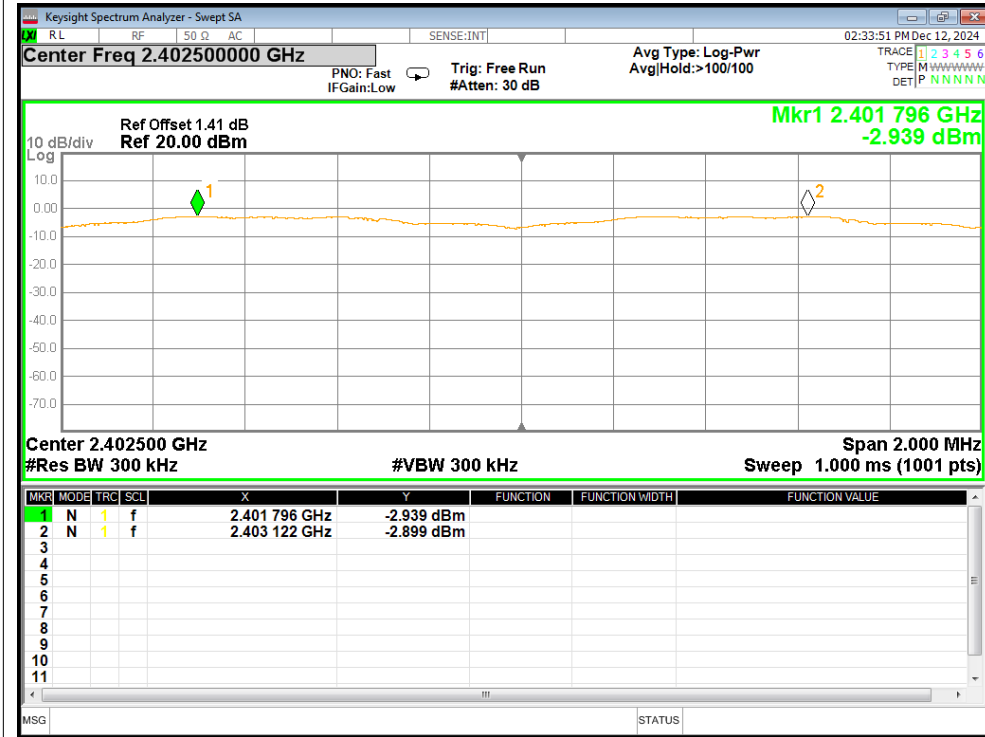
CFS NVNT 2-DH5 2441MHz Ant1



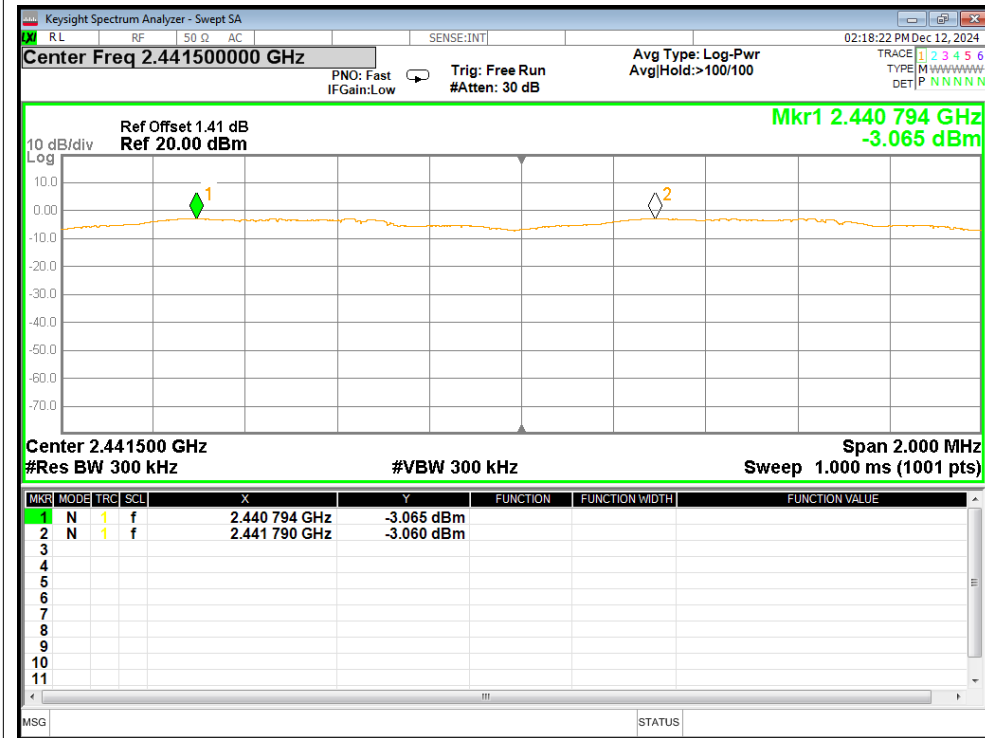
CFS NVNT 2-DH5 2480MHz Ant1



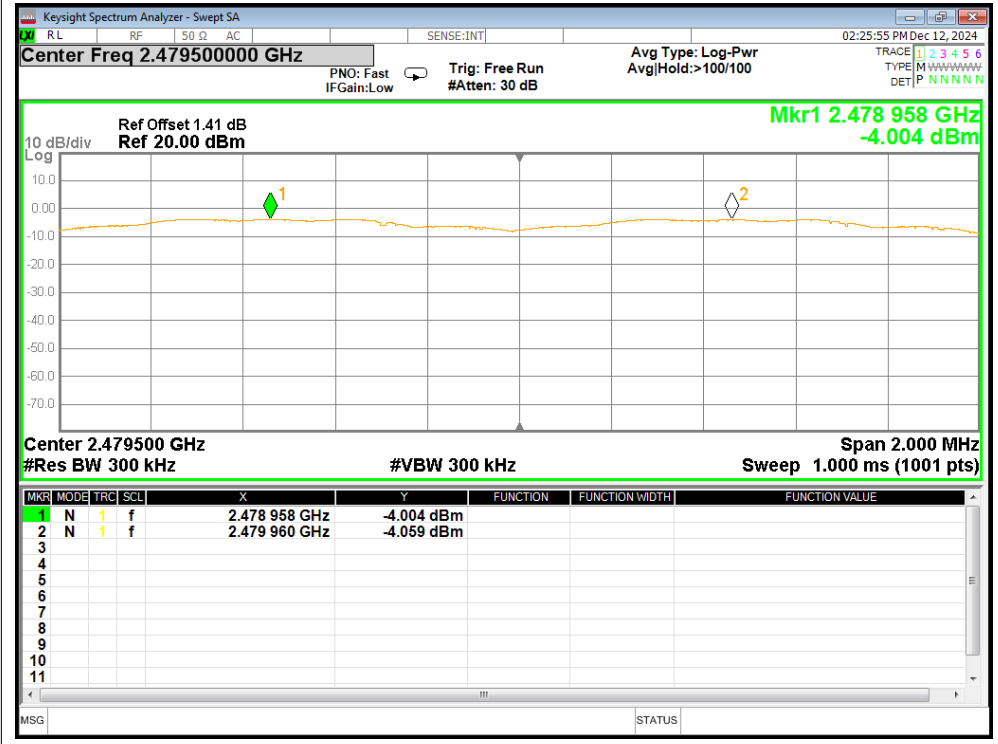
CFS NVNT 3-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2441MHz Ant1



CFS NVNT 3-DH5 2480MHz Ant1

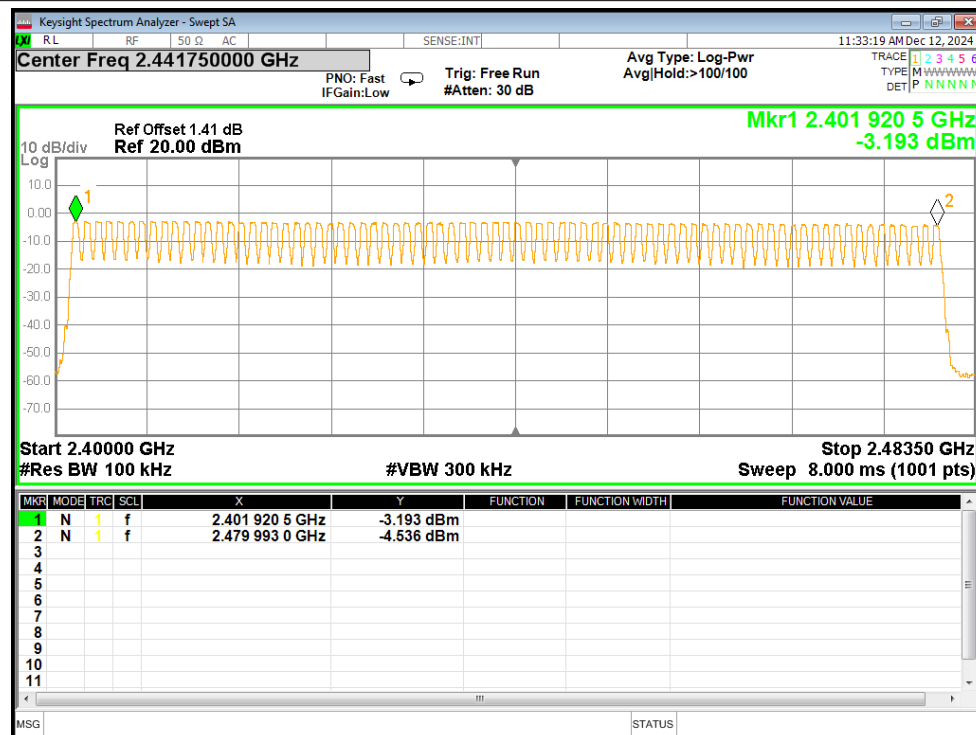


5.Number of Hopping Channel

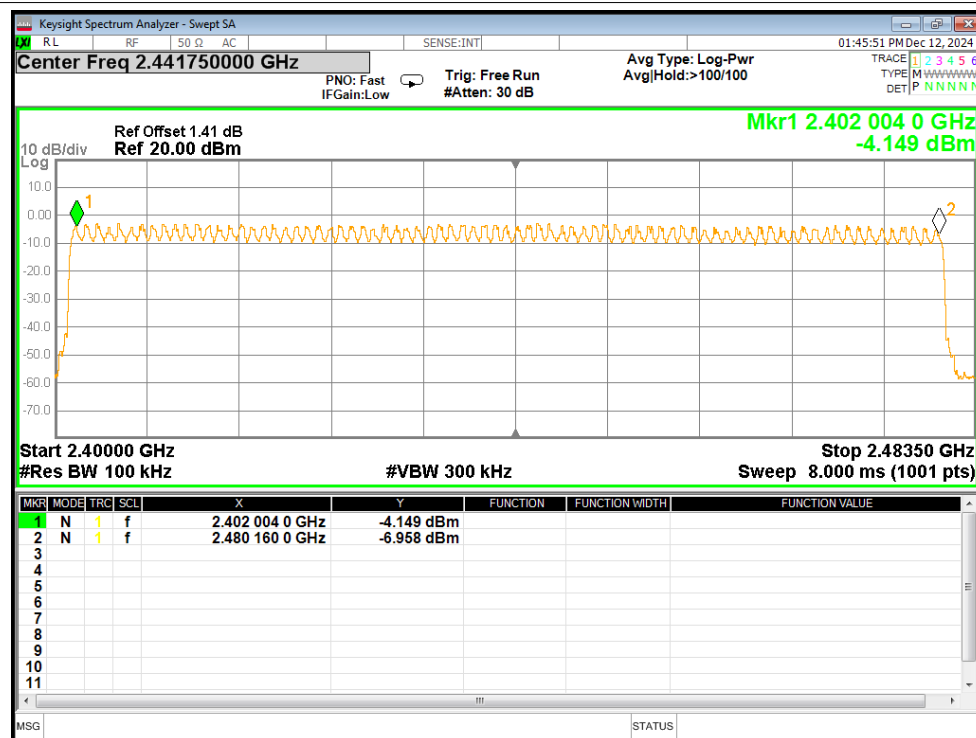
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

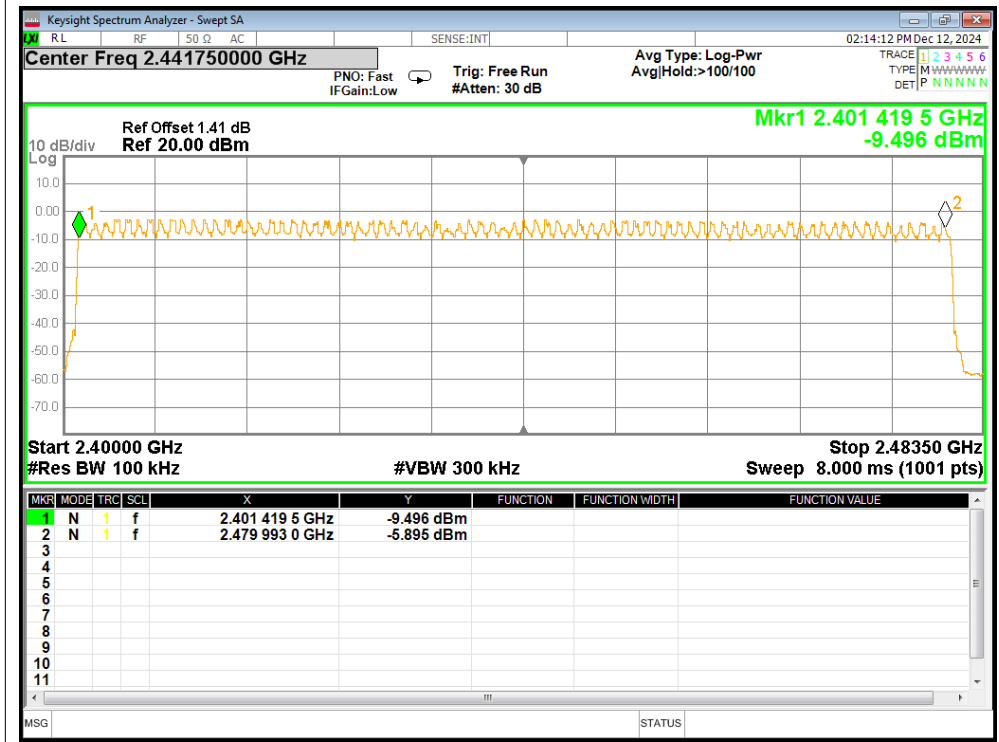
Hopping No. NVNT 1-DH5 Ant1



Hopping No. NVNT 2-DH5 Ant1



Hopping No. NVNT 3-DH5 Ant1

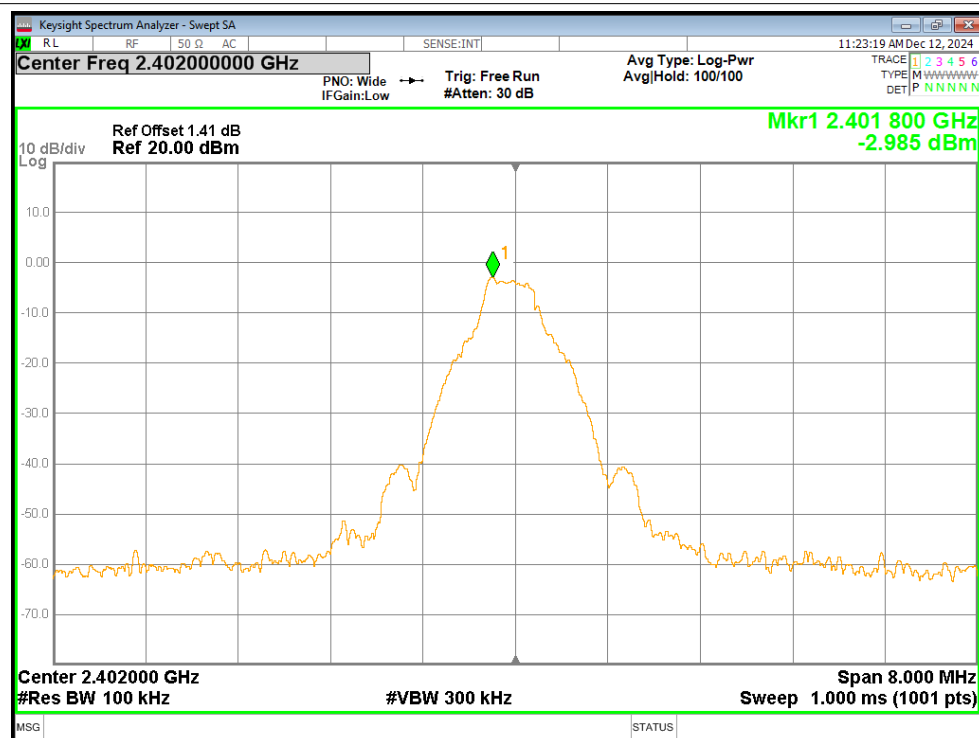


6.Band Edge

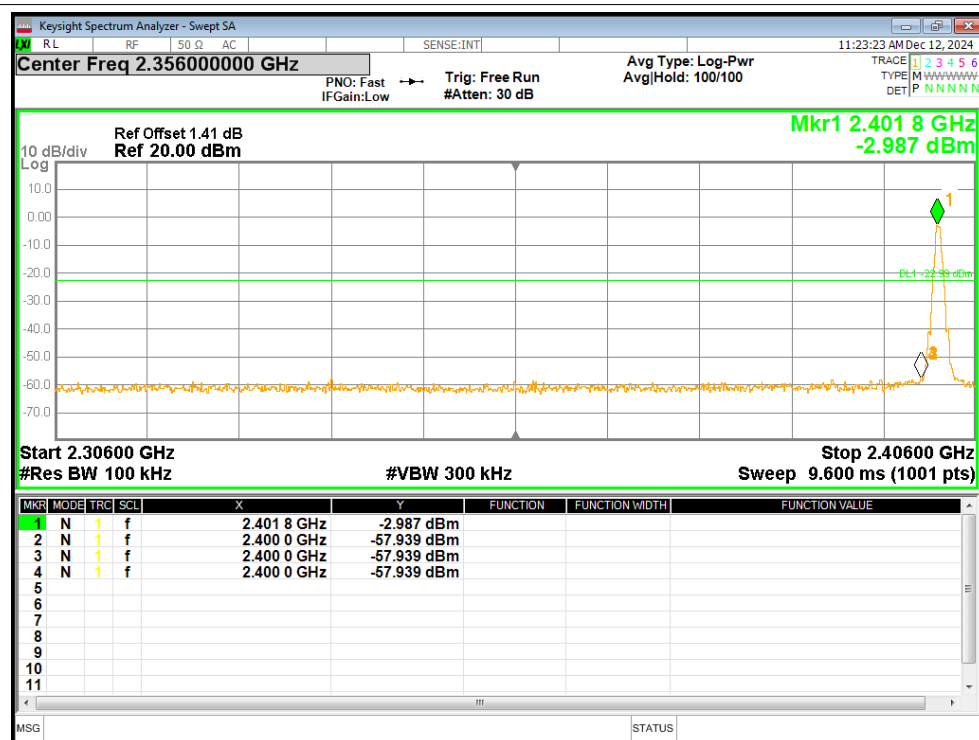
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.95	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.16	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.45	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.68	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.58	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-50.3	-20	Pass

Test Graphs

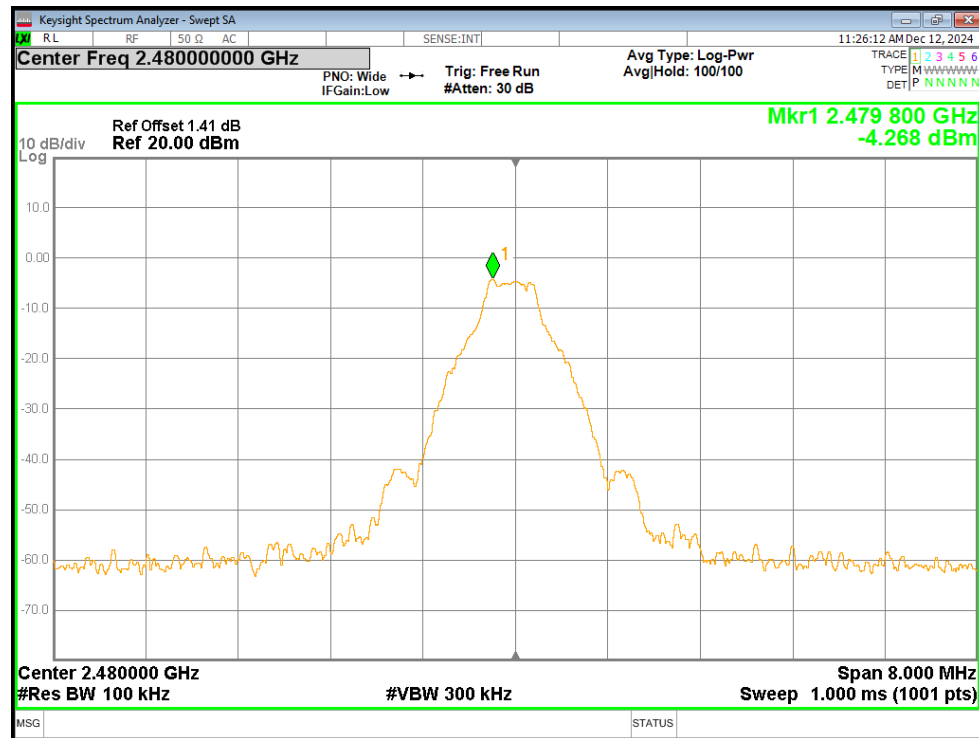
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



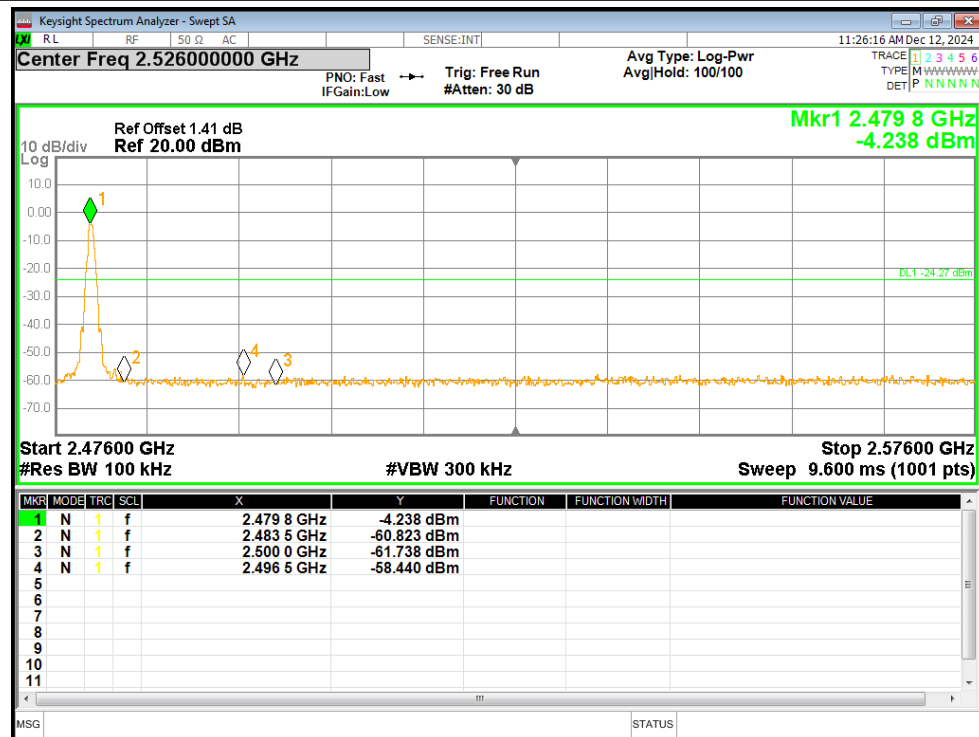
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



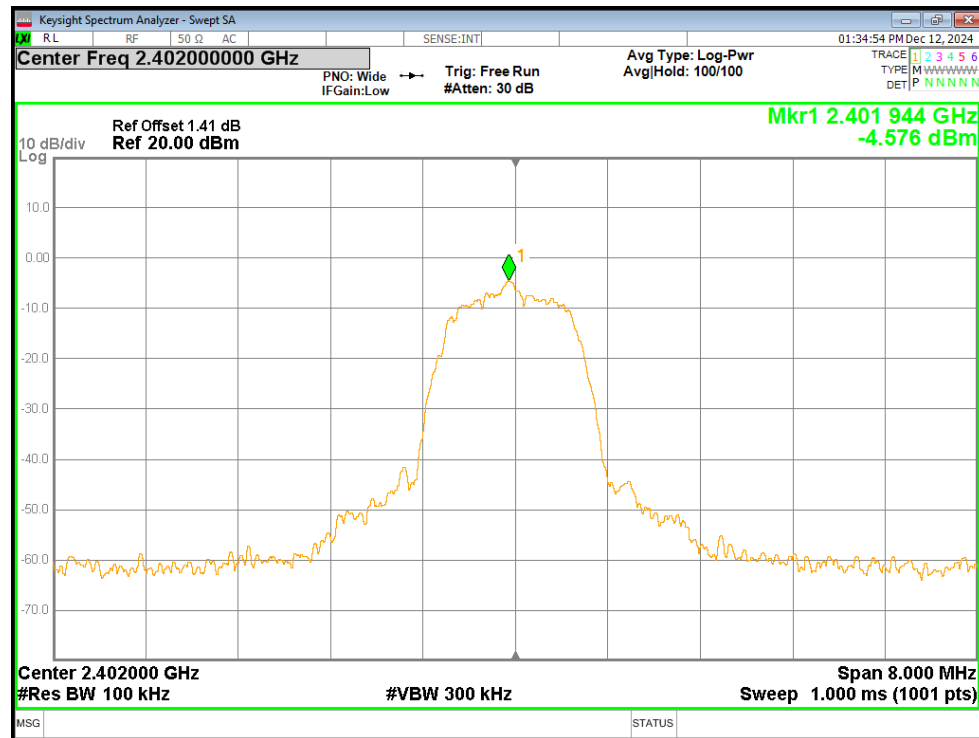
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



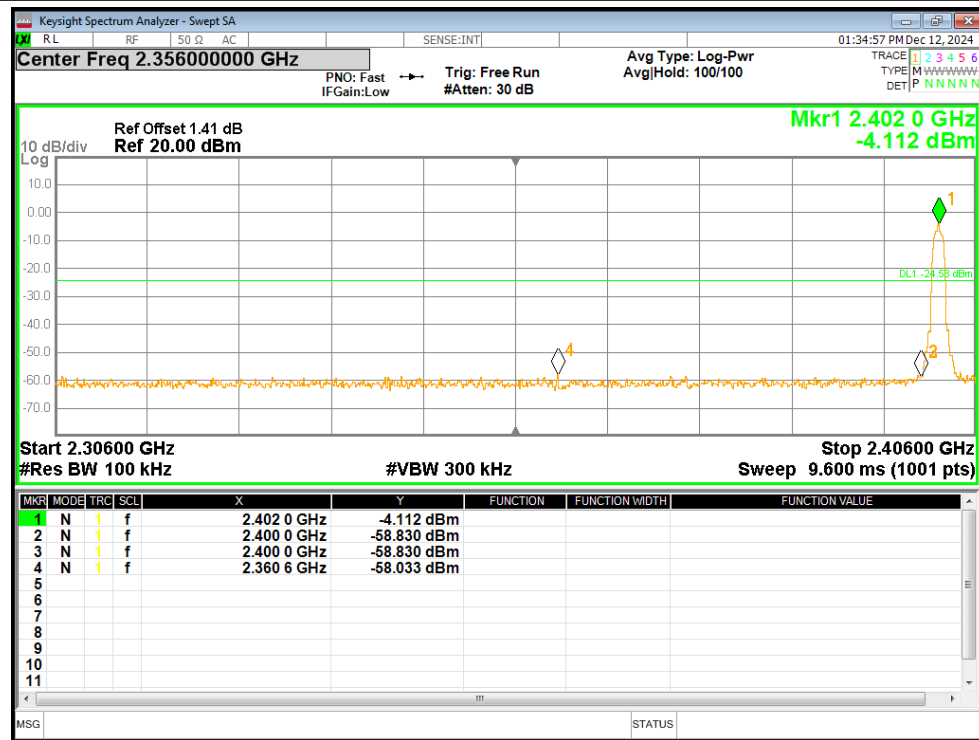
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



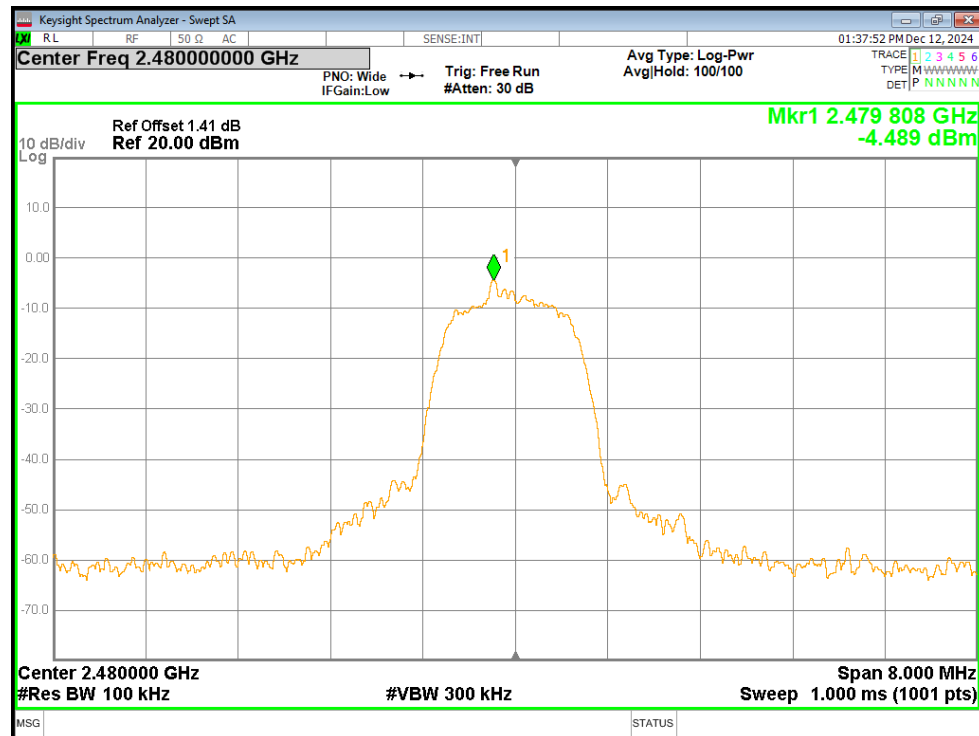
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



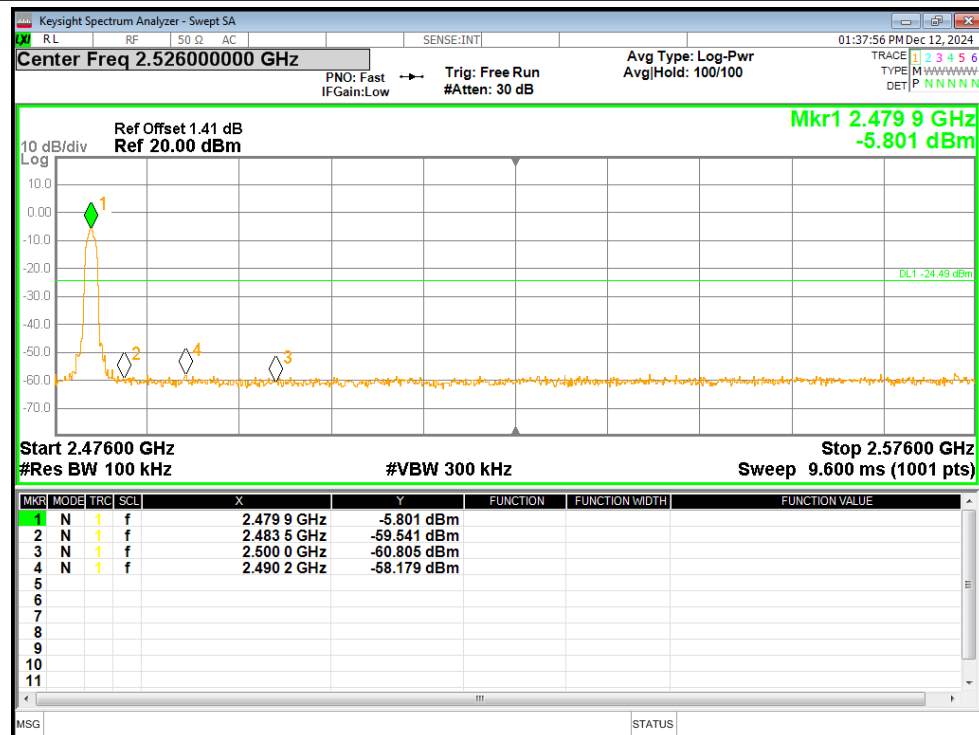
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



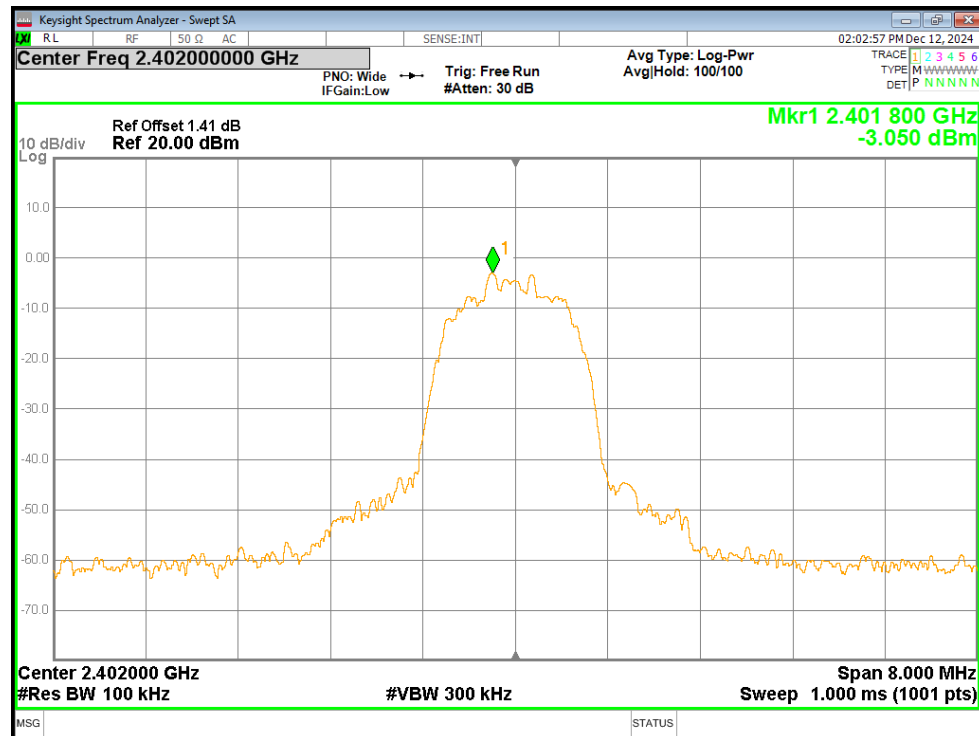
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



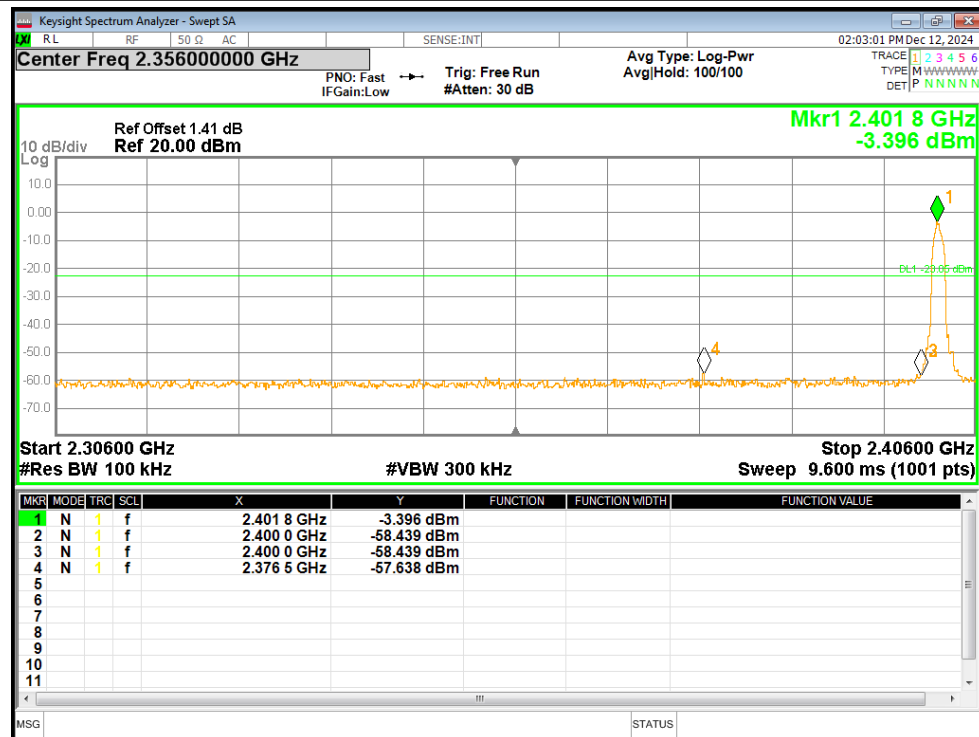
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



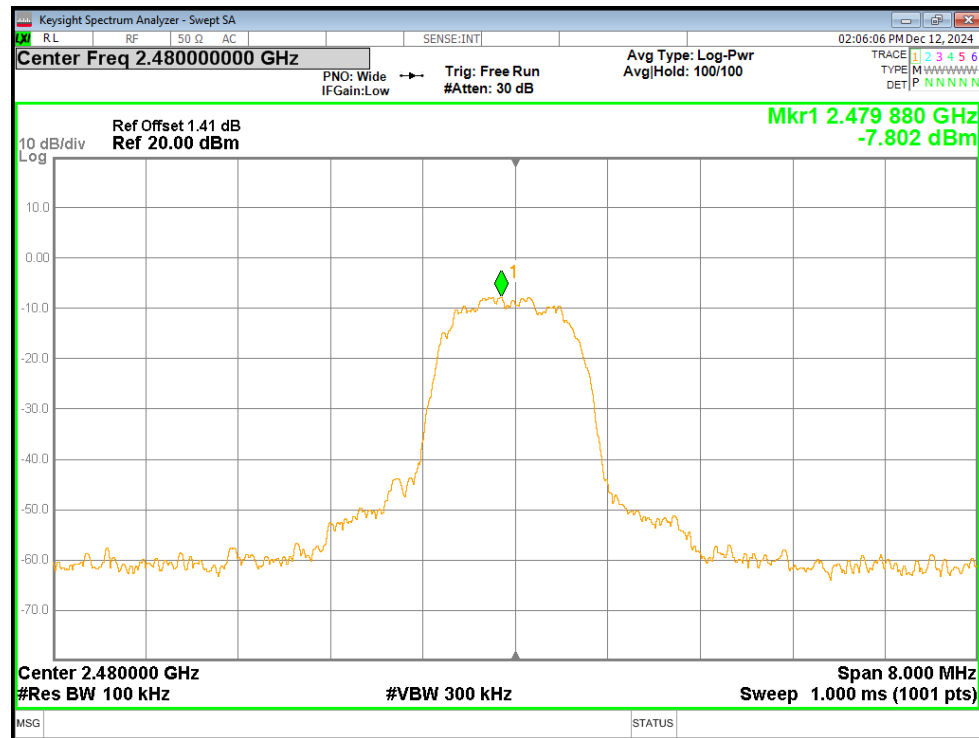
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



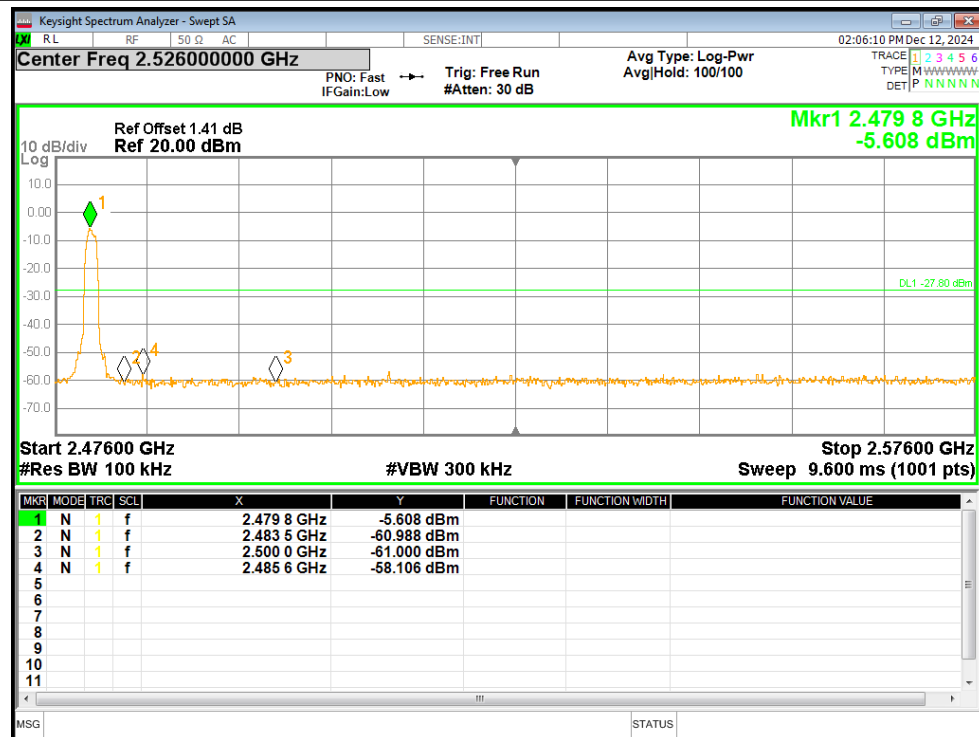
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

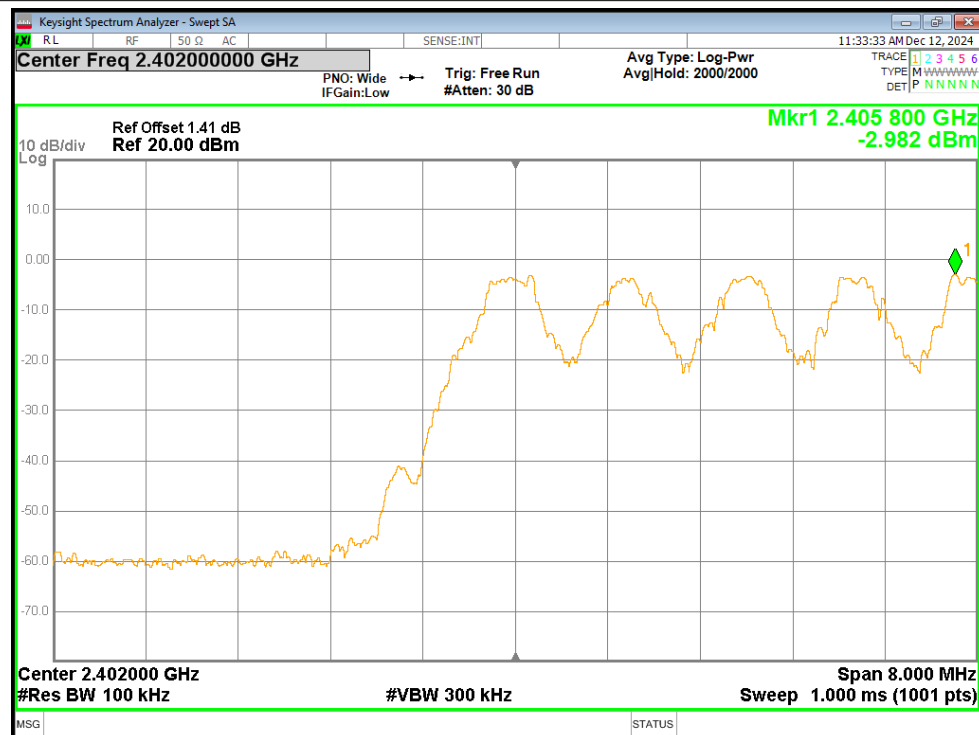


7.Band Edge(Hopping)

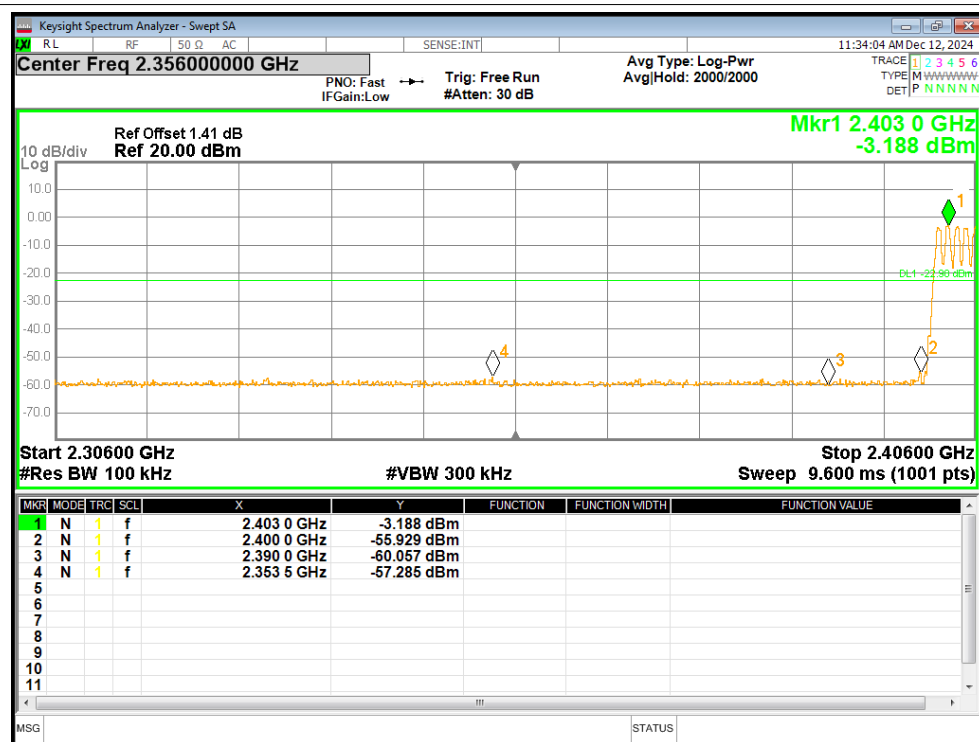
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.3	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.62	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.45	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.57	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.7	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.15	-20	Pass

Test Graphs

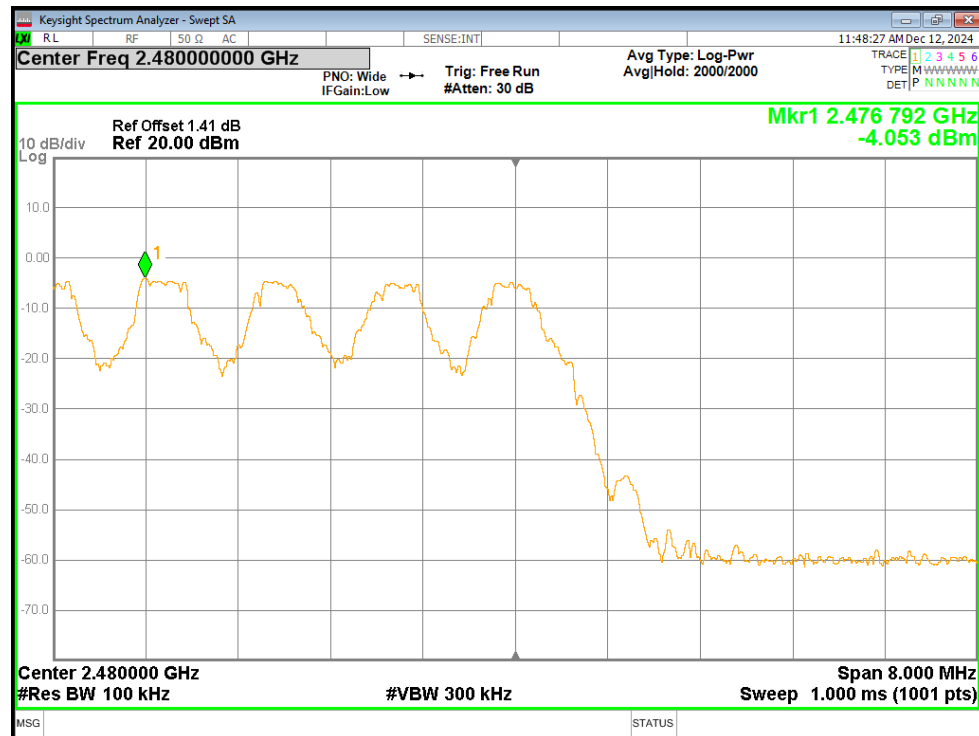
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



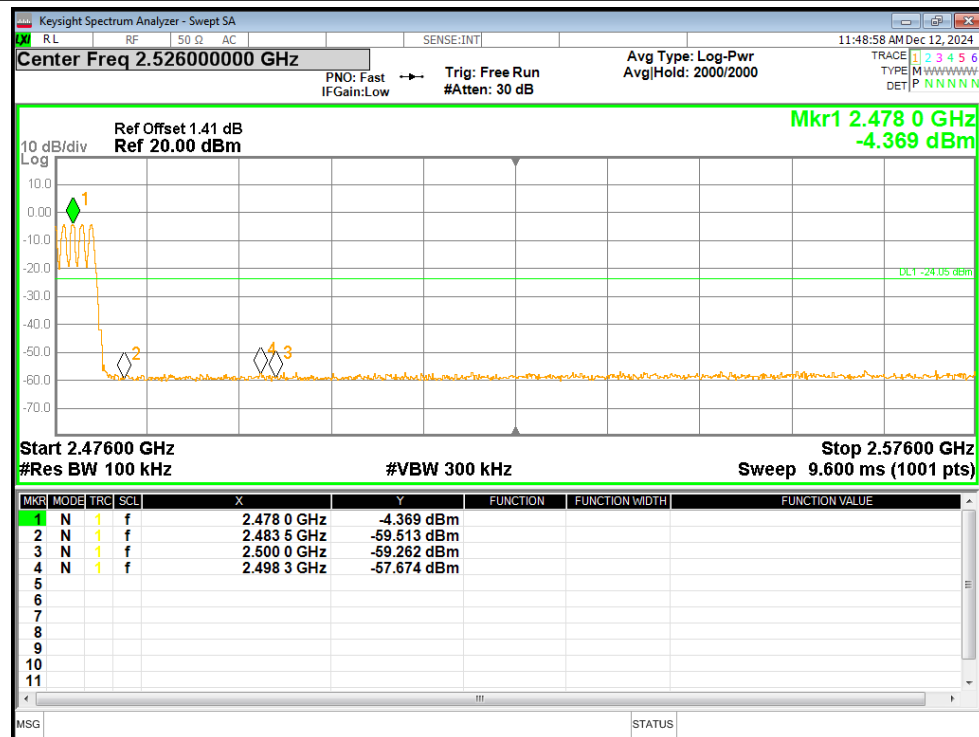
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



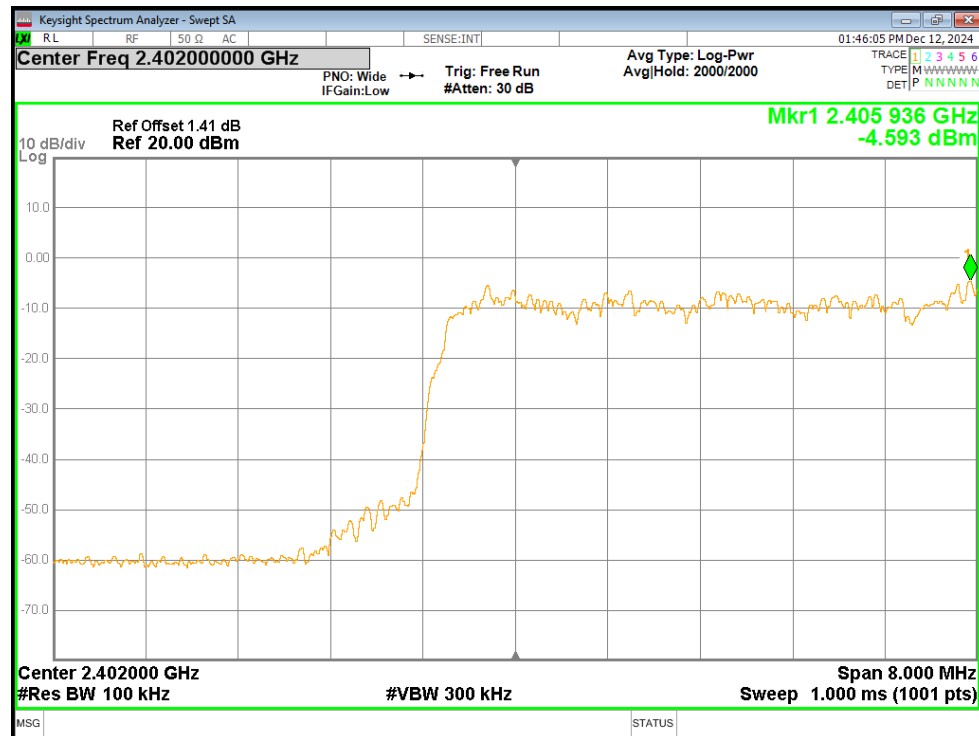
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



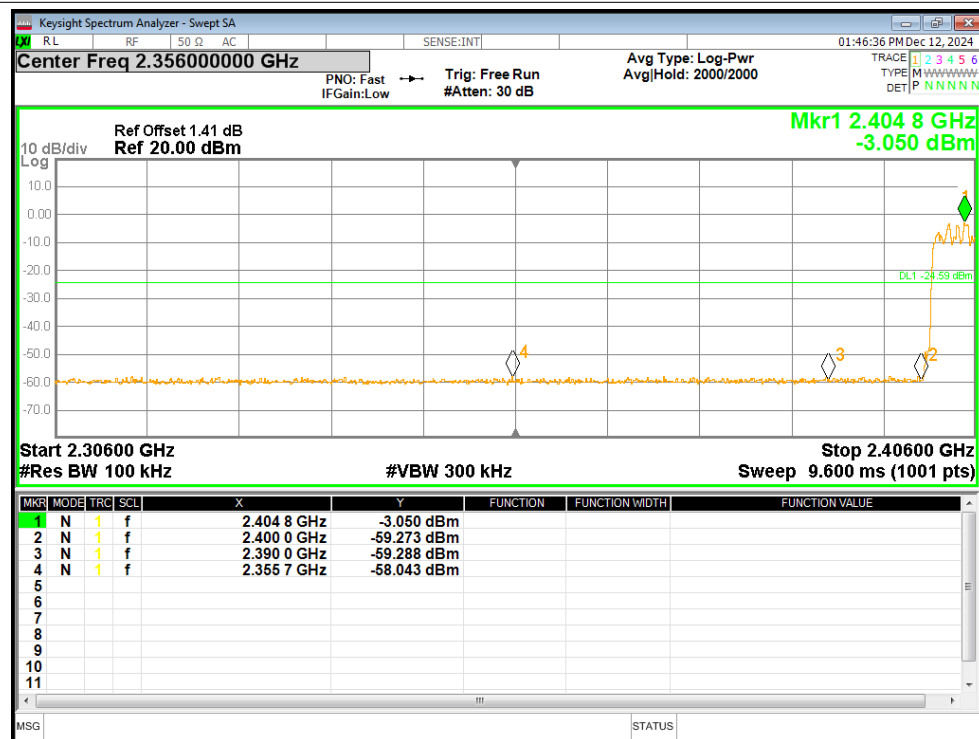
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



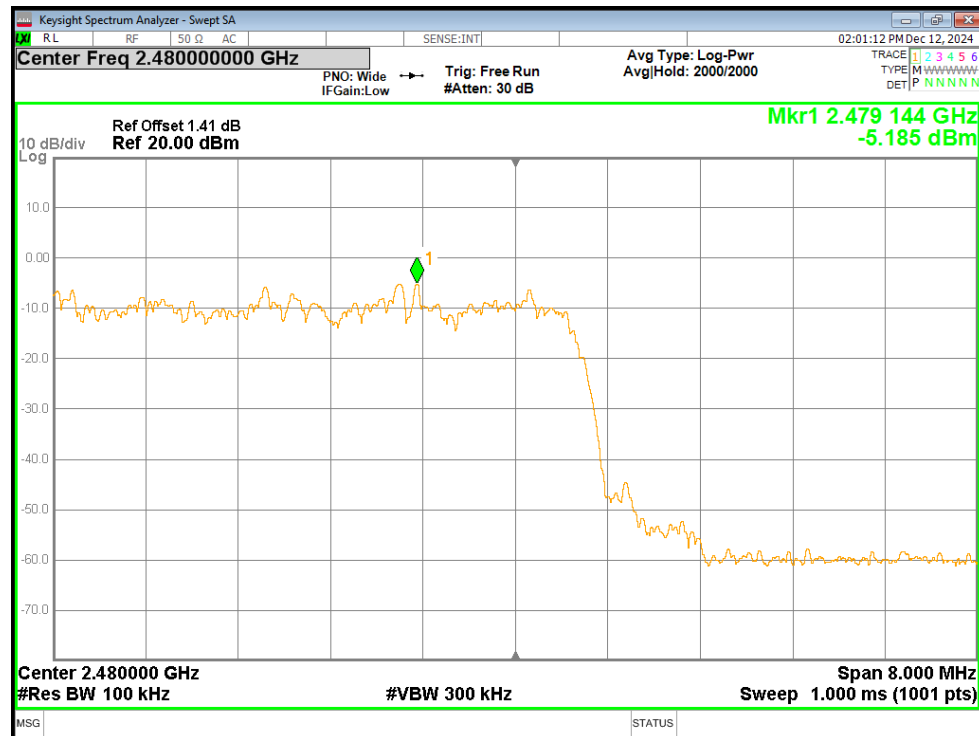
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



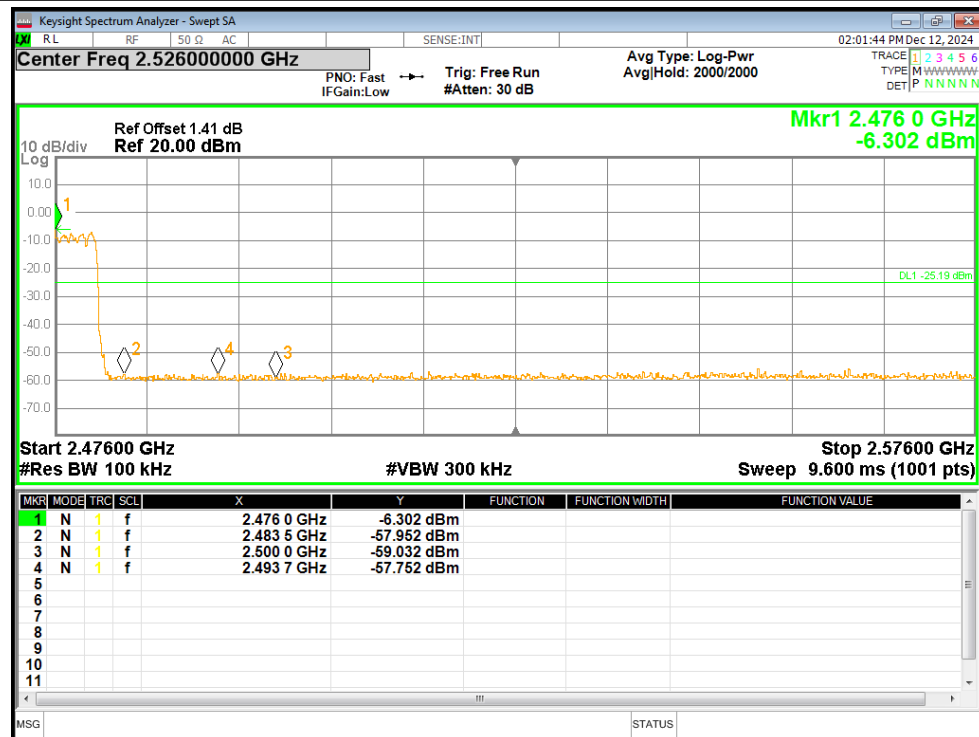
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



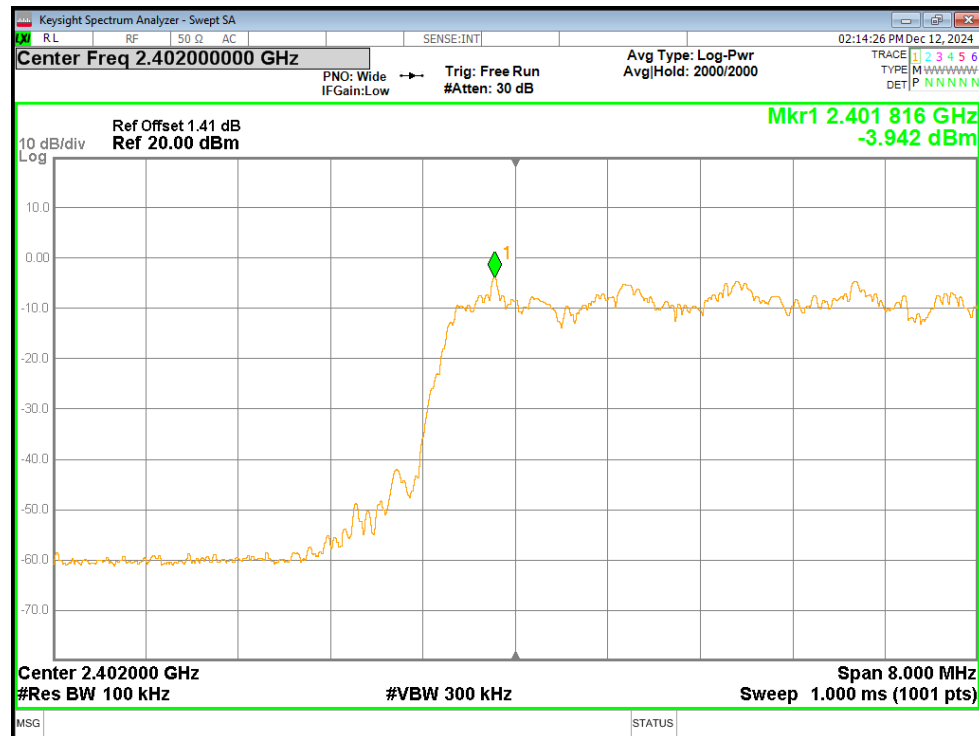
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



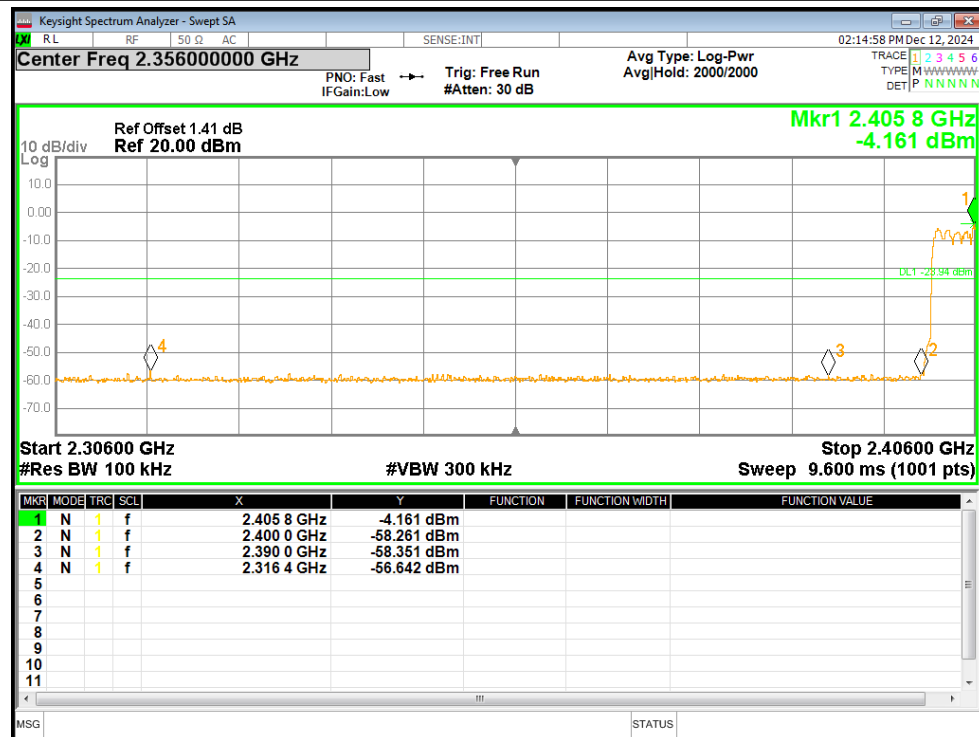
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



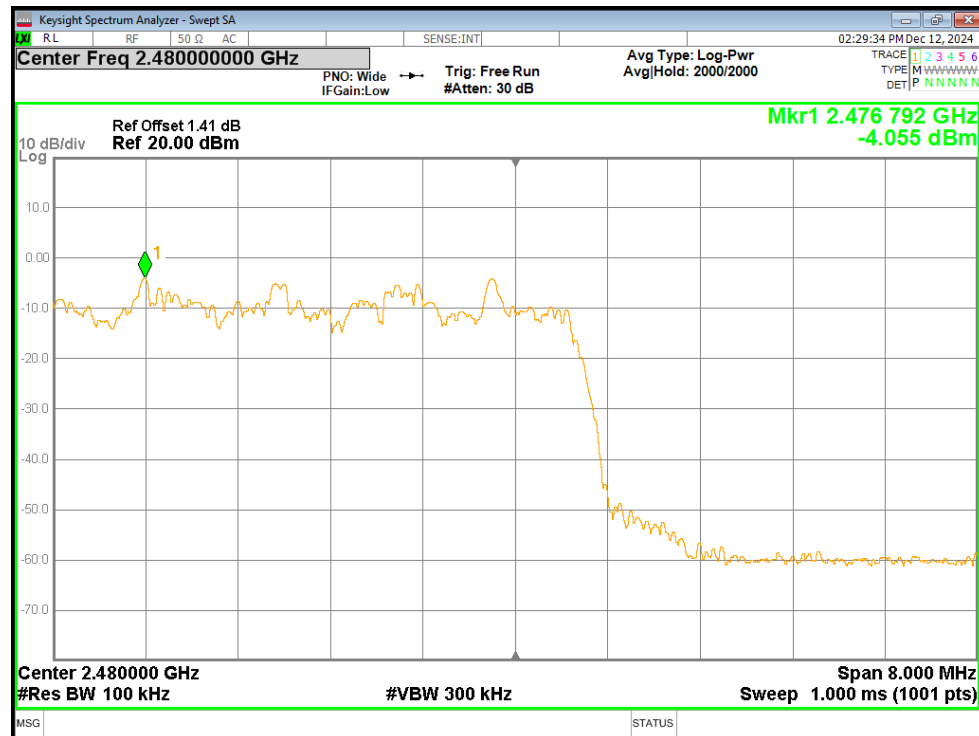
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



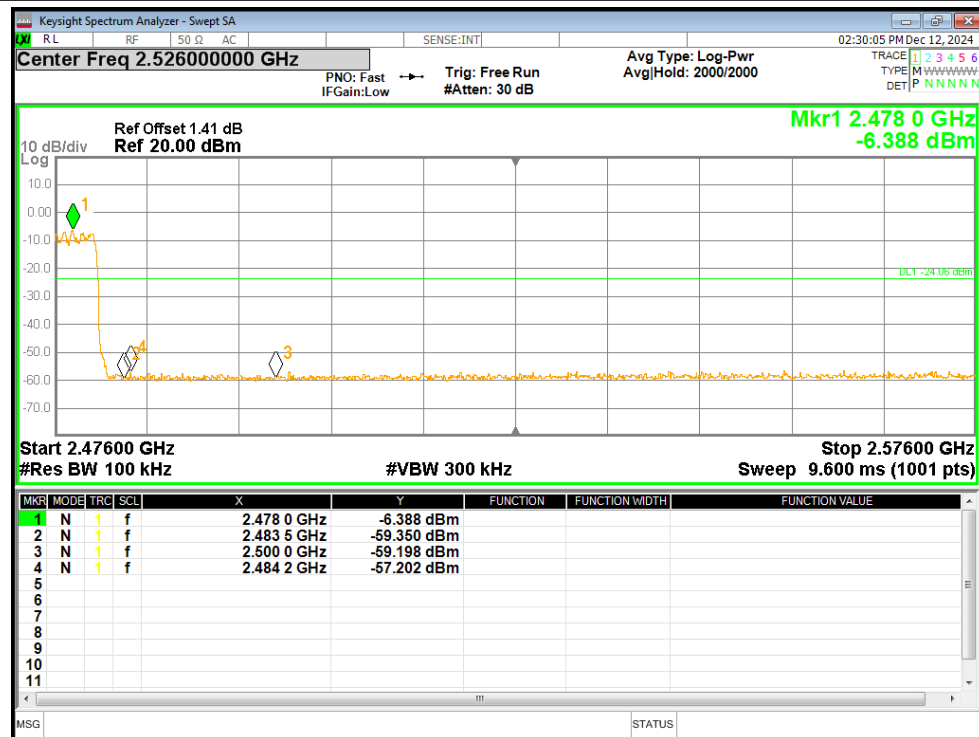
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission

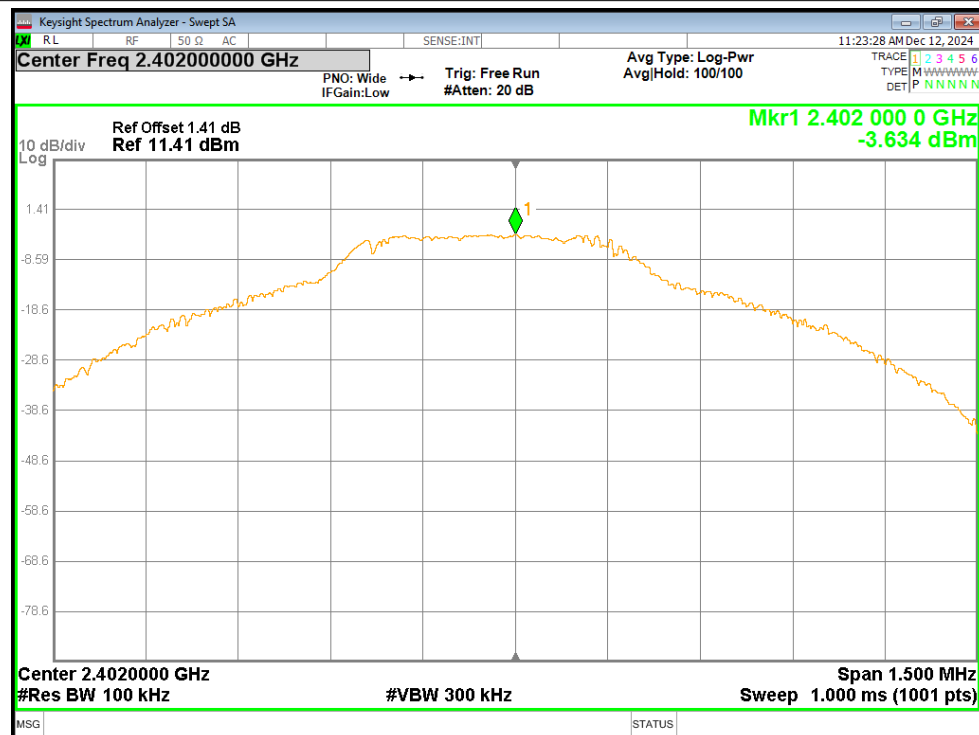


8. Conducted RF Spurious Emission

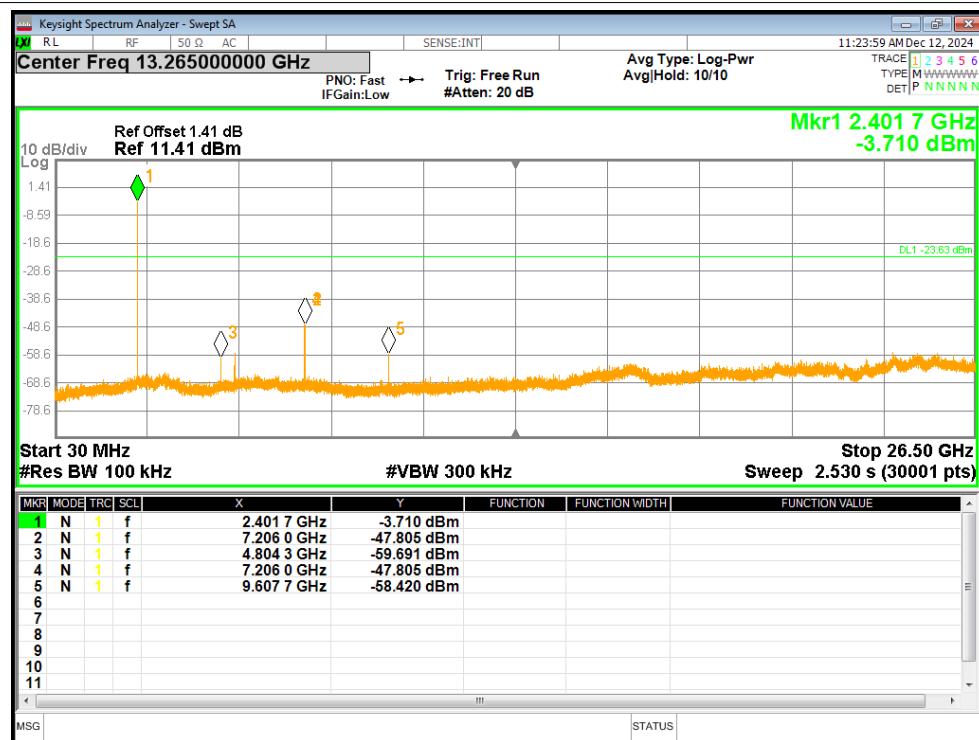
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-44.17	-20	Pass
NVNT	1-DH5	2441	Ant1	-47.53	-20	Pass
NVNT	1-DH5	2480	Ant1	-46.72	-20	Pass
NVNT	2-DH5	2402	Ant1	-28.76	-20	Pass
NVNT	2-DH5	2441	Ant1	-49.29	-20	Pass
NVNT	2-DH5	2480	Ant1	-45.92	-20	Pass
NVNT	3-DH5	2402	Ant1	-26.04	-20	Pass
NVNT	3-DH5	2441	Ant1	-50.21	-20	Pass
NVNT	3-DH5	2480	Ant1	-46.3	-20	Pass

Test Graphs

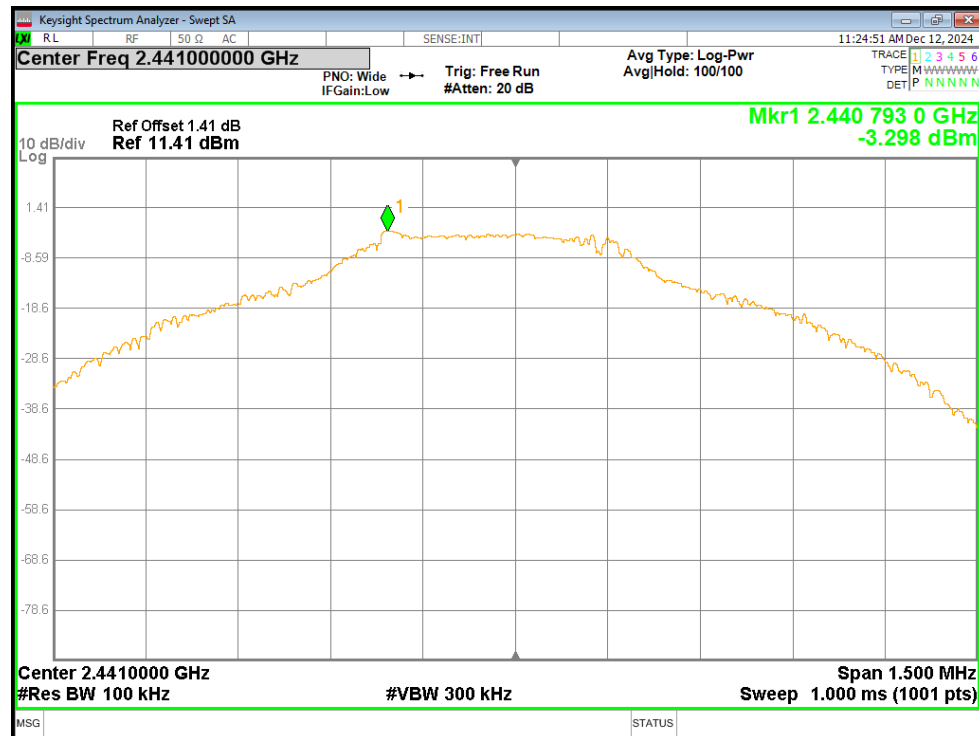
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



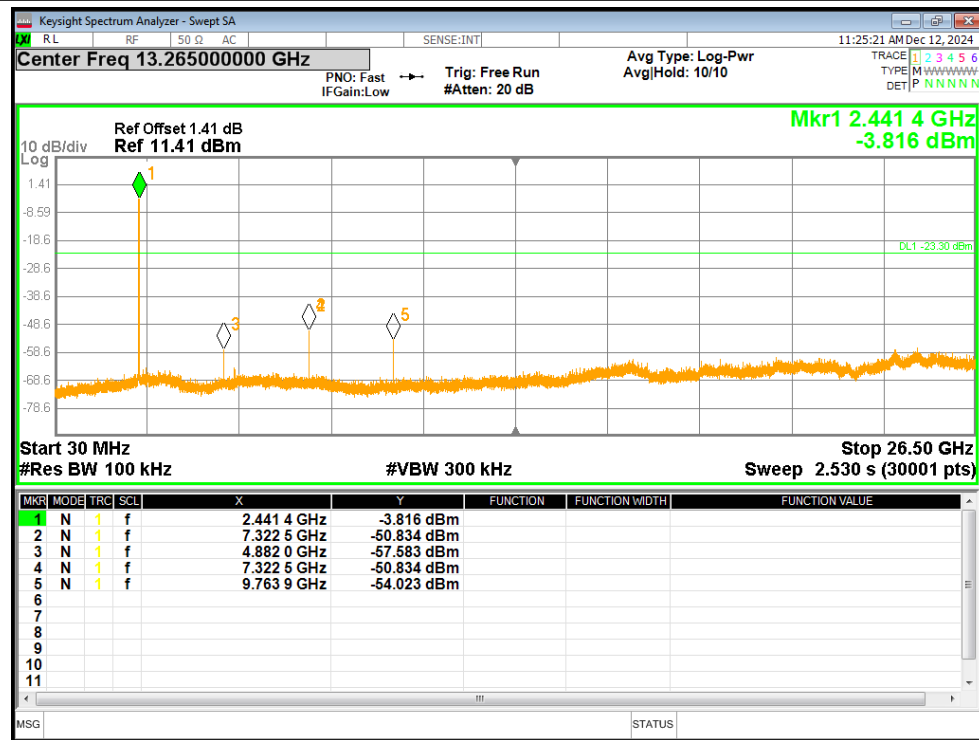
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



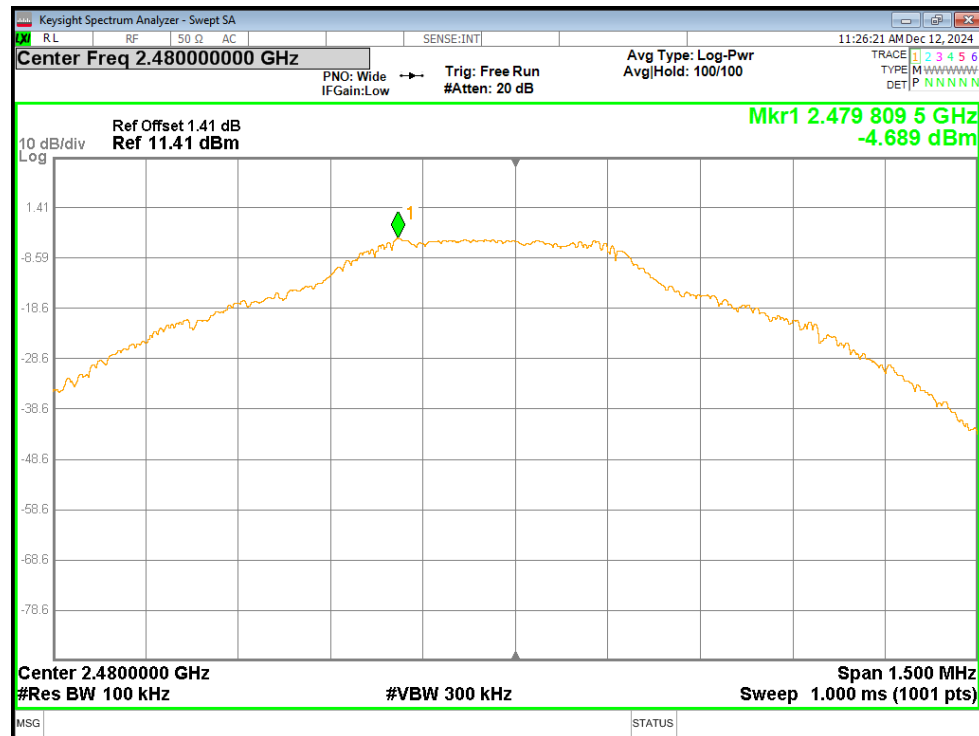
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



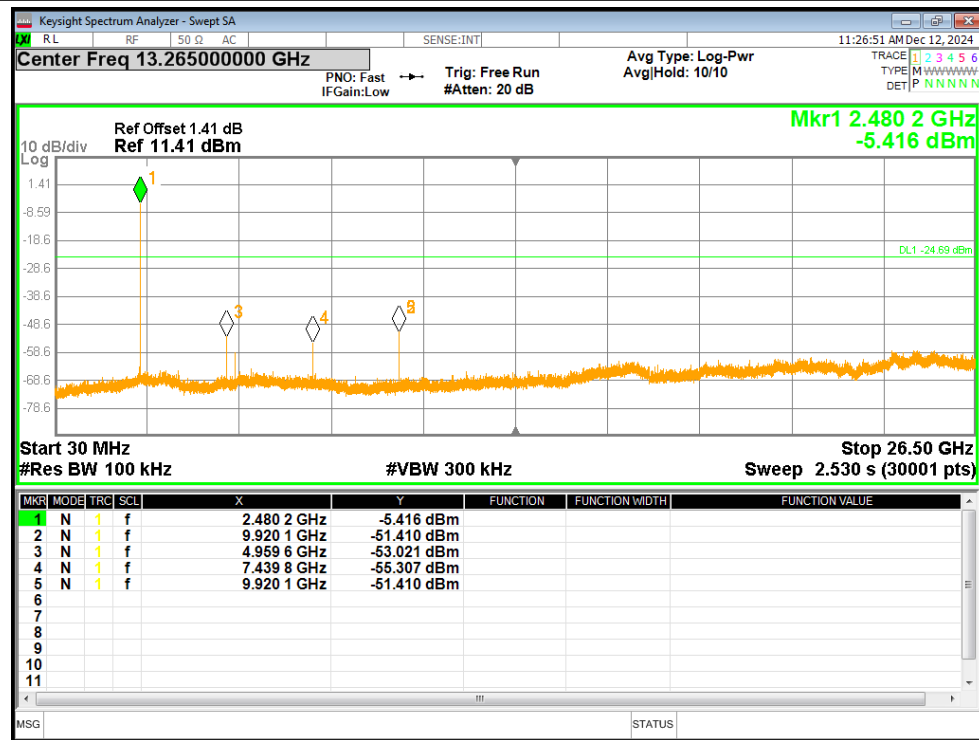
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



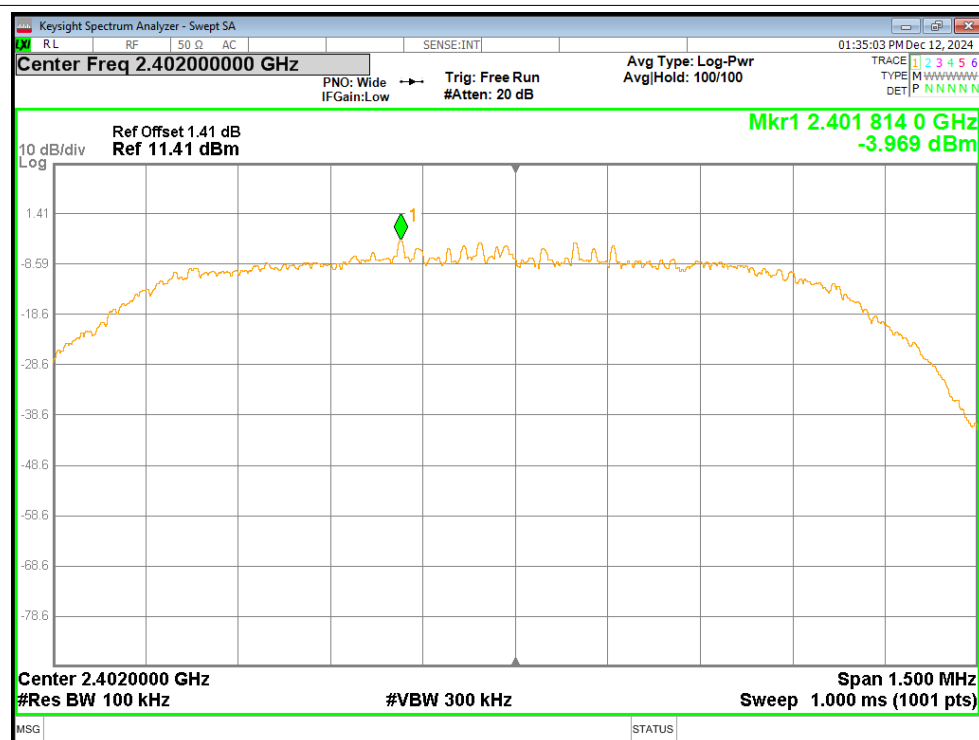
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



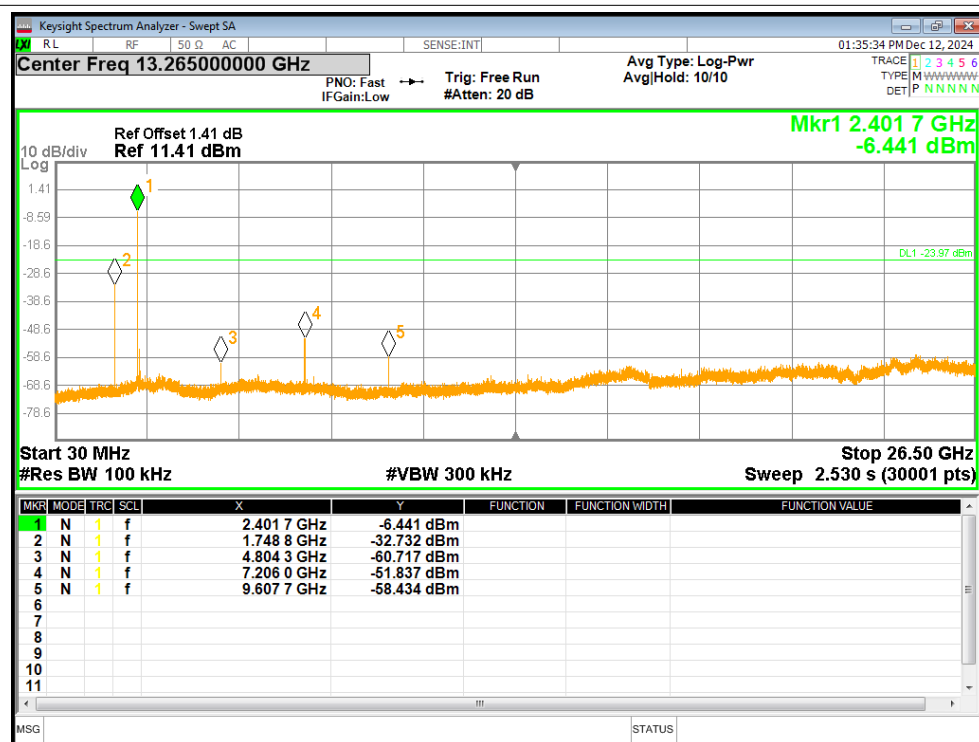
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



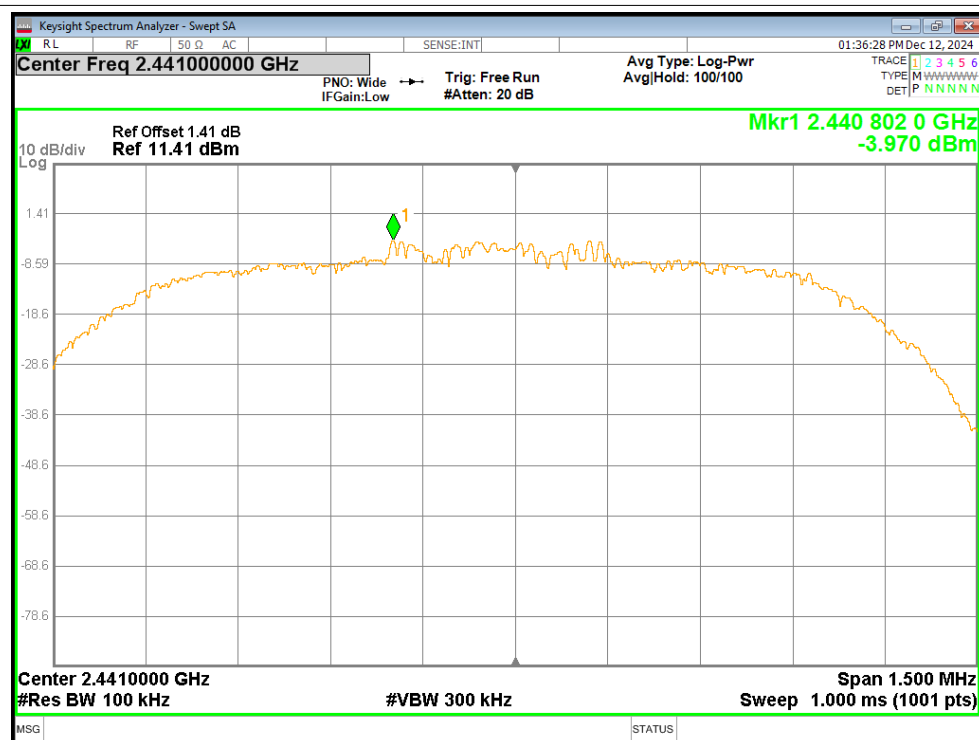
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



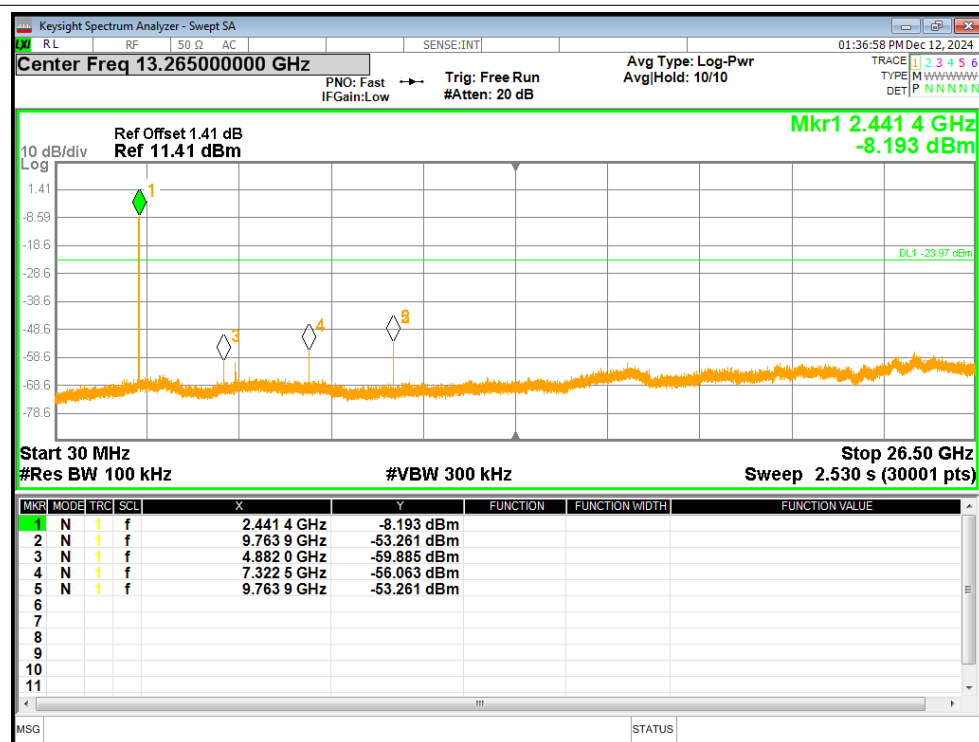
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



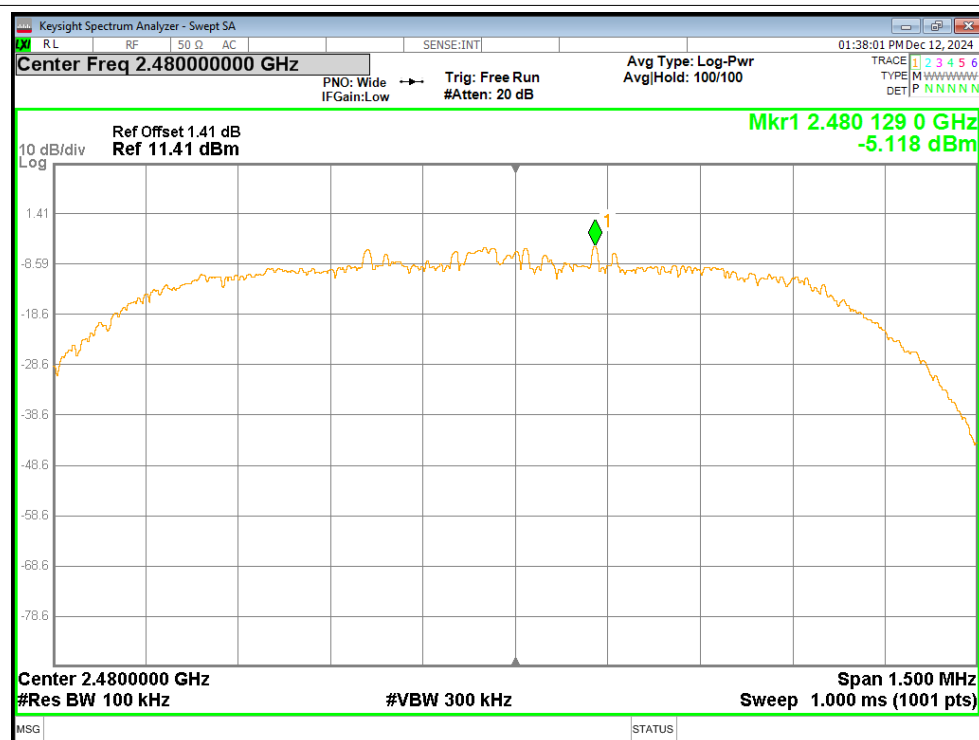
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



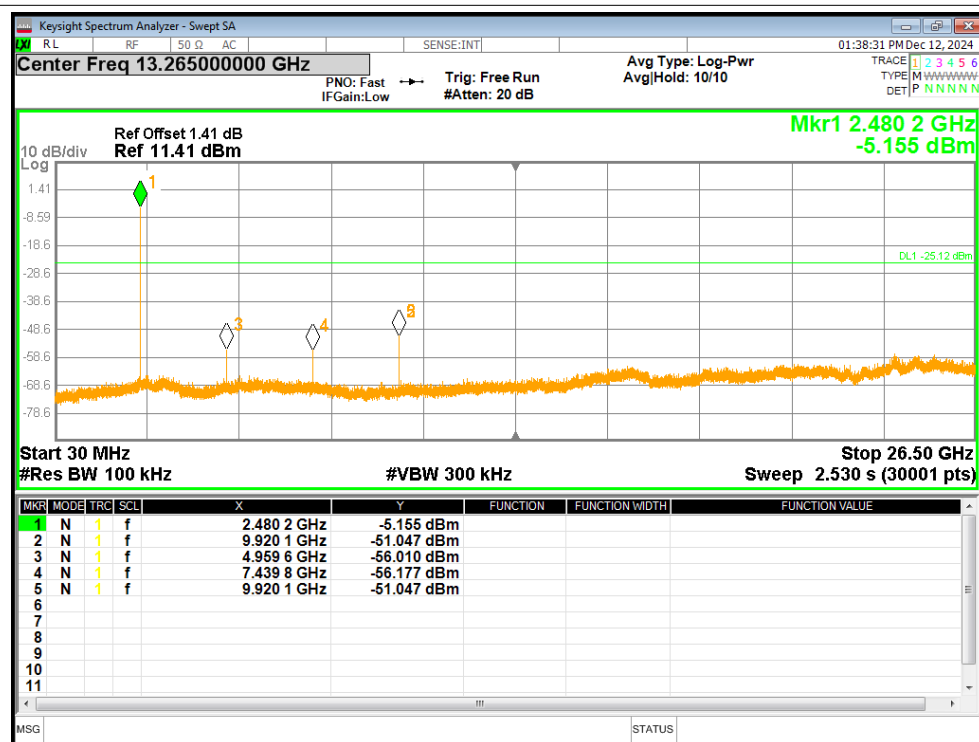
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



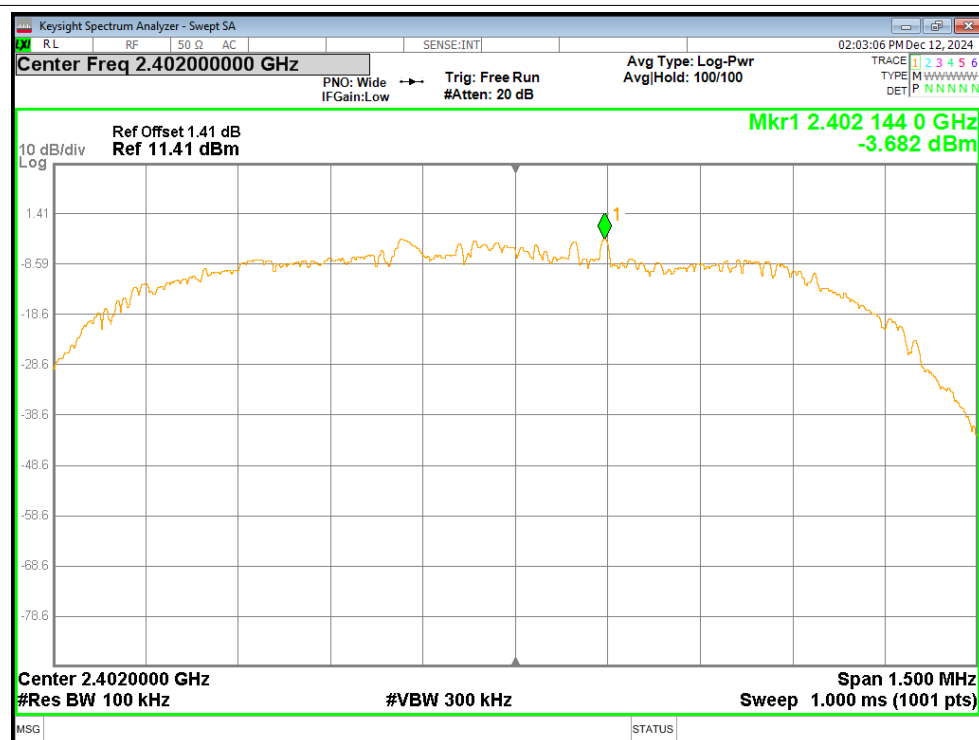
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



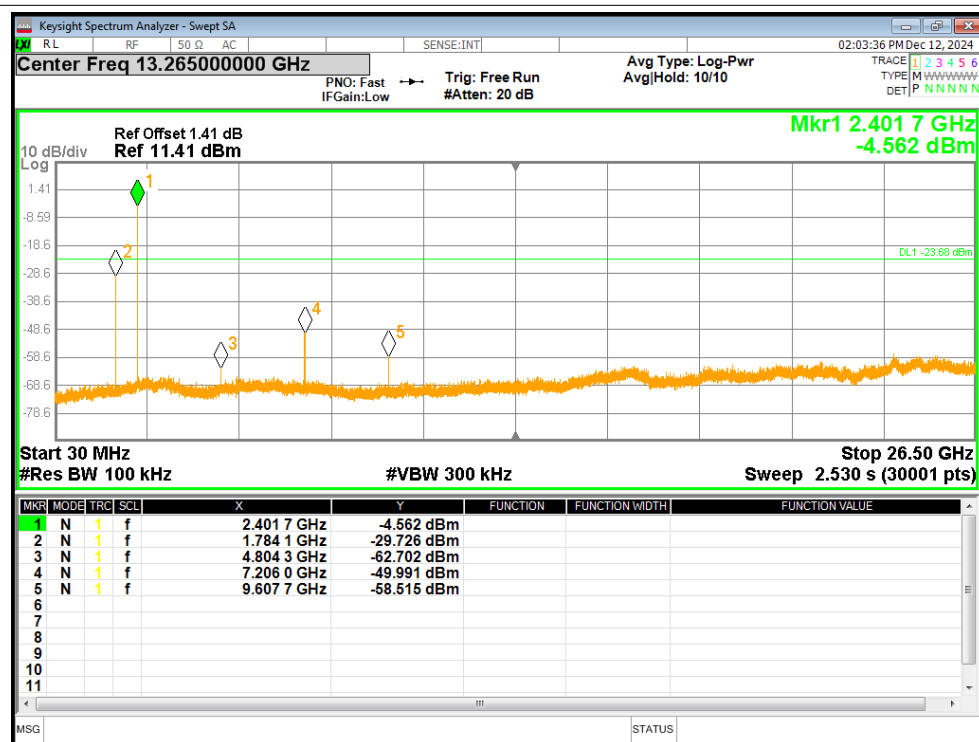
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



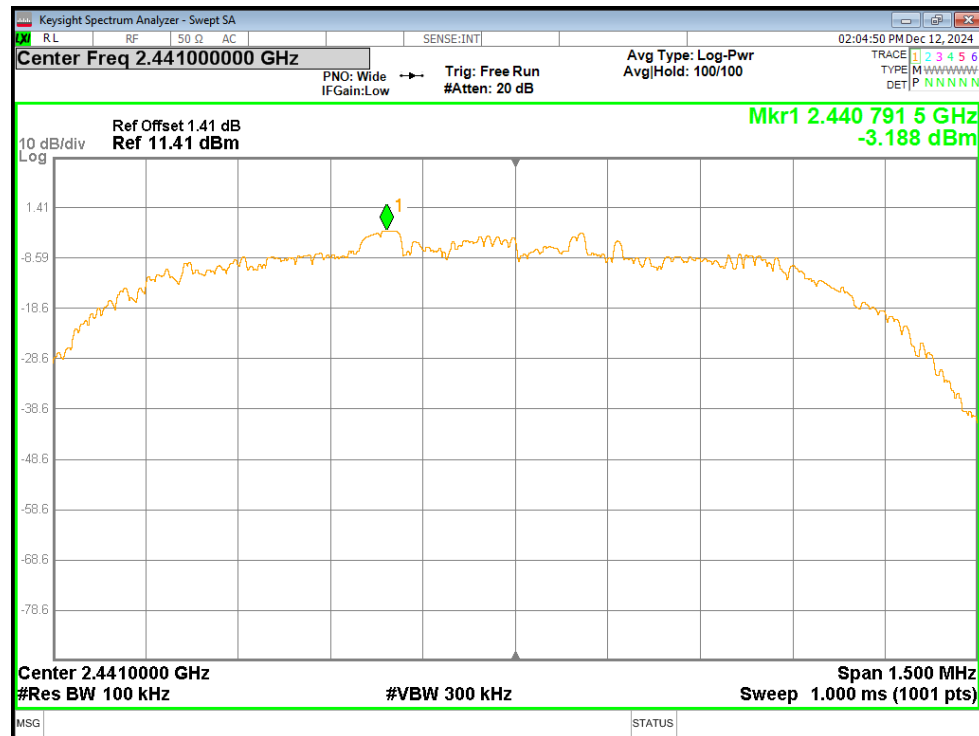
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



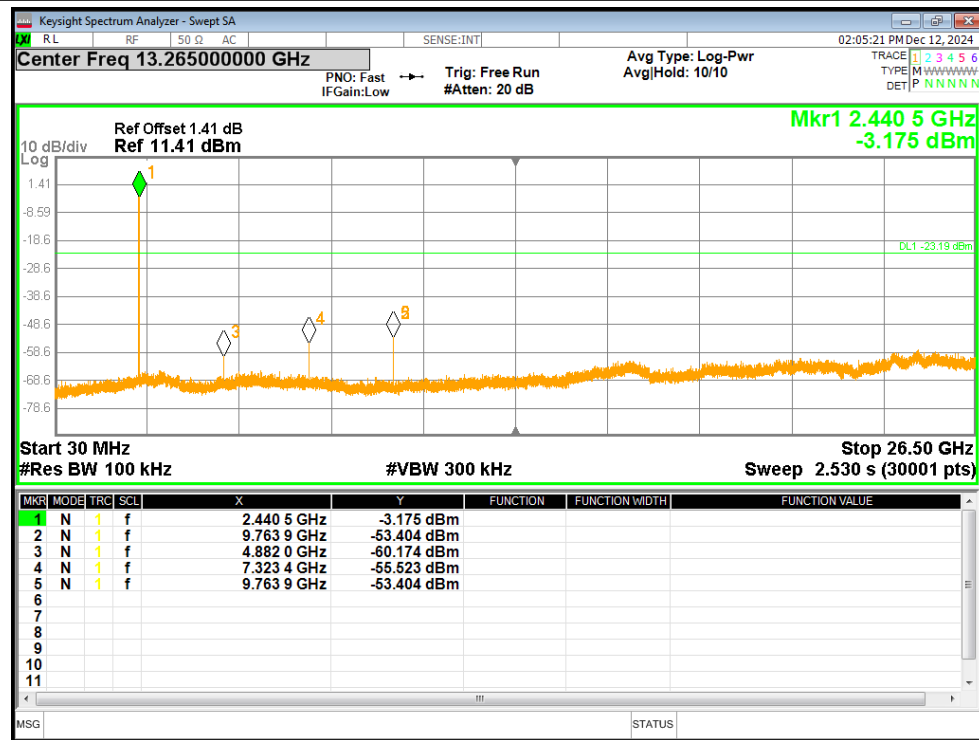
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



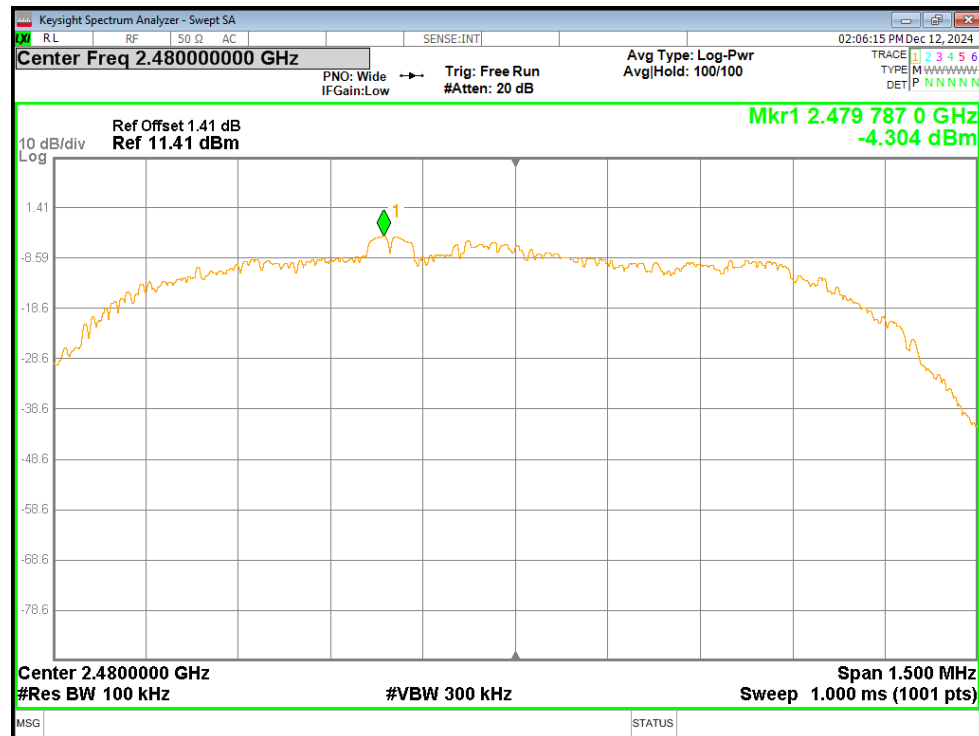
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

