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FCC ID BT

FCC_BT(Part15.247) Test Data

1.Dwell Time

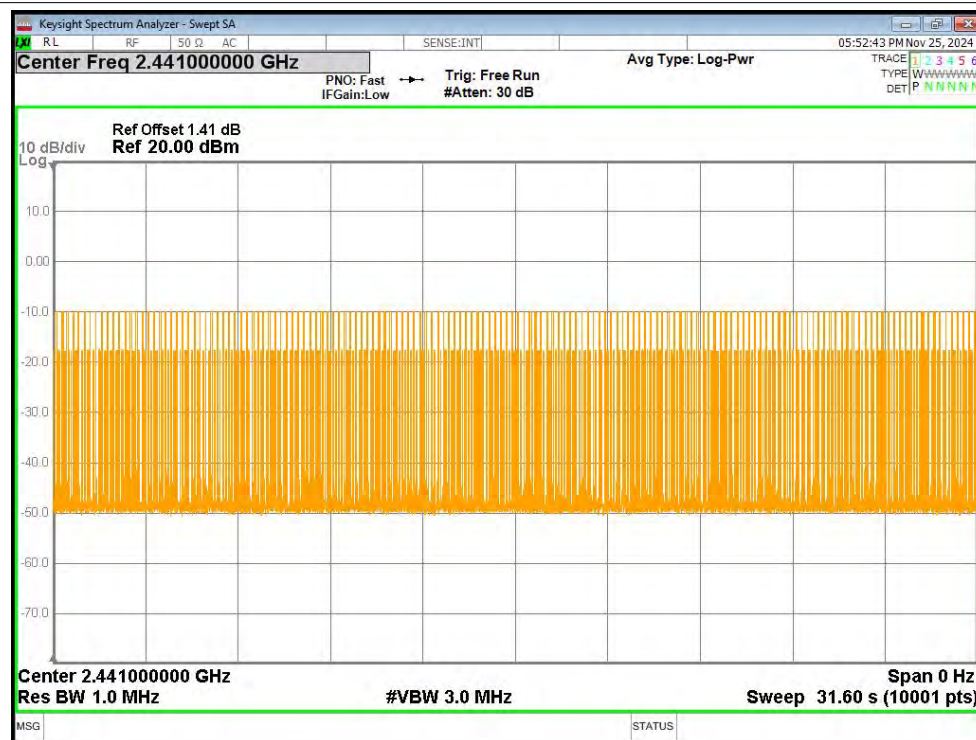
Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH1	2441	0.375	119.25	318	31600	400	Pass
1-DH3	2441	1.632	257.856	158	31600	400	Pass
1-DH5	2441	2.88	311.04	108	31600	400	Pass
2-DH1	2441	0.379	120.143	317	31600	400	Pass
2-DH3	2441	1.638	245.7	150	31600	400	Pass
2-DH5	2441	2.879	270.626	94	31600	400	Pass
3-DH1	2441	0.387	122.292	316	31600	400	Pass
3-DH3	2441	1.637	243.913	149	31600	400	Pass
3-DH5	2441	2.888	297.464	103	31600	400	Pass

Test Graphs

Dwell NVNT 1-DH1 2441MHz Ant1 One Burst



Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated



[illegible]

Keysight Spectrum Analyzer - Swept SA

05:53:26 PM Nov 25, 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

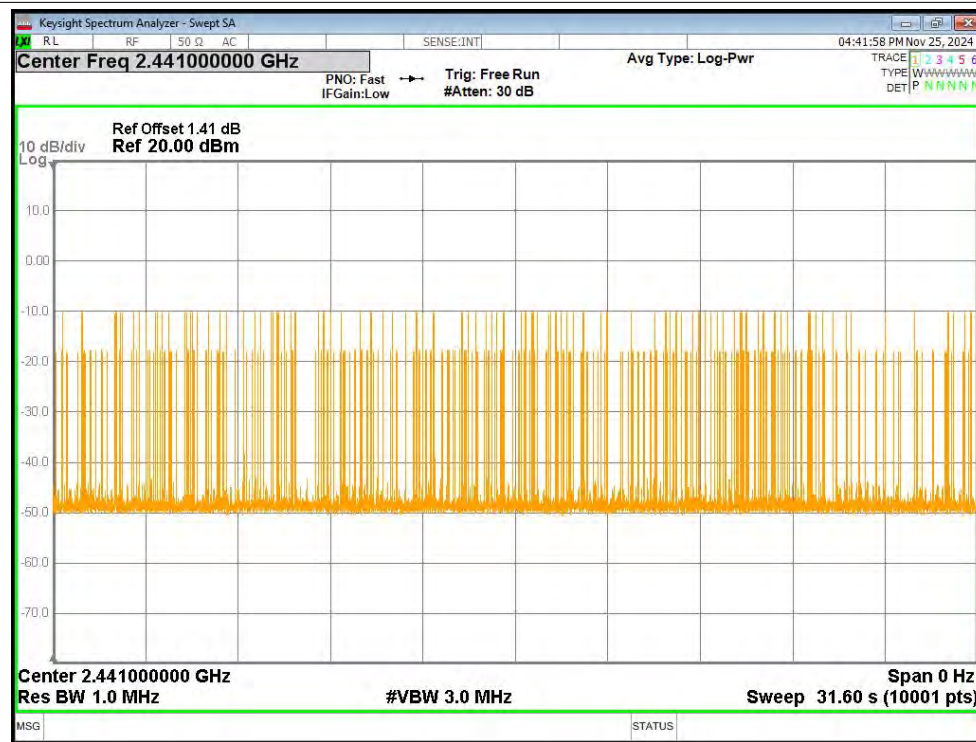
Span 0 Hz

Sweep 31.60 s (10001 pts)

Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



[illegible]

Keysight Spectrum Analyzer - Swept SA

05:54:09 PM Nov 25, 2024

Center Freq 2.441000000 GHz

Avg Type: Log-Pwr

Trace 1 2 3 4 5 6

Type: WWWWWW

Det: P NNNNN

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

10 dB/div Log

Ref Offset 1.41 dB

Ref 20.00 dBm

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Span 0 Hz

Sweep 31.60 s (10001 pts)

MSG STATUS

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 1.638 ms

1.86 dB

10 dB/div

Log

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)	1.638 ms (Δ)	1.86 dB		
2	F	1	t		491.0 μ s	-23.37 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

Keysight Spectrum Analyzer - Swept SA

05:54:51 PM Nov 25, 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

The image shows a Keysight Spectrum Analyzer interface. The main display area is a grid with a vertical axis labeled '10 dB/div Log' ranging from -70.0 to 10.0 dBm. The horizontal axis is labeled 'Center 2.441000000 GHz' and 'Span 0 Hz'. The signal is a dense, noisy orange line centered around -50 dBm. The top of the screen displays 'Center Freq 2.441000000 GHz' and 'Avg Type: Log-Pwr'. The bottom of the screen displays 'Center 2.441000000 GHz', 'Res BW 1.0 MHz', '#VBW 3.0 MHz', 'Span 0 Hz', and 'Sweep 31.60 s (10001 pts)'. The left side of the screen has a 'MSG' field, and the right side has a 'STATUS' field.

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 2.879 ms
0.91 dB

10 dB/div
Log

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)	2.879 ms (Δ)	0.91 dB		
2	F	1	t		485.0 μ s	-22.75 dBm		

Keysight Spectrum Analyzer - Swept SA

05:23:01 PM Nov 25, 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)

The image shows a Keysight Spectrum Analyzer interface. At the top, the title bar reads 'Keysight Spectrum Analyzer - Swept SA'. Below it, the status bar shows the date and time '05:23:01 PM Nov 25, 2024'. The main display area shows a spectrum plot with a center frequency of 'Center Freq 2.441000000 GHz'. The plot shows a noisy signal with a peak level around -10 dBm and a noise floor around -50 dBm. The y-axis is labeled '10 dB/div' and 'Log'. The x-axis is labeled 'Center 2.441000000 GHz'. The plot has a resolution bandwidth of 'Res BW 1.0 MHz' and a video bandwidth of '#VBW 3.0 MHz'. The span is 'Span 0 Hz' and the sweep time is 'Sweep 31.60 s (10001 pts)'. The average type is 'Avg Type: Log-Pwr'. The reference level is 'Ref 20.00 dBm' and the reference offset is 'Ref Offset 1.41 dB'. The trigger is 'Trig: Free Run' and the PNO is 'PNO: Fast'. The IF gain is 'IF Gain: Low' and the attenuation is '#Atten: 30 dB'. The trace is 'TRACE 1' and the type is 'TYPE: WWWWWW'. The detector is 'DET: P' and the mode is 'MODE: NNNNN'.

Dwell NVNT 3-DH1 2441 MHz Ant1 One Burst

Keysight Spectrum Analyzer - Swept SA

Center Freq 2.441000000 GHz PNO: Fast IFGain:Low Trig Delay-500.0 μs Trig: Video #Atten: 30 dB Avg Type: Log-Pwr

05:55:00 PM Nov 25, 2024 TRACE 1 2 3 4 5 6 TYPE: WWWWWWWW DET: P N N N N N

Ref Offset 1.41 dB ΔMkr1 387.0 μs 1.09 dB

10 dB/div Log

Center 2.441000000 GHz Span 0 Hz 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	Δ2	1	t	(Δ)	387.0 μs (Δ)	1.09 dB		
2	F	1	t		484.0 μs	-24.66 dBm		
3								
4								
5								
6								
7								
8								
9								
10								
11								

MSG STATUS

Keysight Spectrum Analyzer - Swept SA

RL RF 50 Ω AC SENSE:INT 05:55:35 PM Nov 25, 2024

Center Freq 2.441000000 GHz Avg Type: Log-Pwr

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

TRACE 1 2 3 4 5 6
TYPE WWWWWW
DET P NNNNN

10 dB/div
Log

Ref Offset 1.41 dB
Ref 20.00 dBm

Center 2.441000000 GHz Span 0 Hz
Res BW 1.0 MHz #VBW 3.0 MHz Sweep 31.60 s (10001 pts)

MSG STATUS

The screenshot displays the Keysight Spectrum Analyzer interface. The main plot shows a signal trace with a peak labeled $\Delta 2$. The peak's amplitude is measured as $\Delta \text{Mkr}1$ at 1.637 ms, which corresponds to 0.23 dB. The center frequency is set to 2.441000000 GHz. Other parameters visible include Res BW 1.0 MHz, #VBW 3.0 MHz, Sweep 10.00 ms (10001 pts), Span 0 Hz, and Avg Type: Log-Pwr.

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	$\Delta 2$	t	(Δ)	1.637 ms (Δ)	0.23 dB			
2	F	t		497.0 us	-12.73 dBm			

Keysight Spectrum Analyzer - Swept SA

05:56:41 PM Nov 25, 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)

PNO: Fast

IF Gain: Low

Trig: Free Run

#Atten: 30 dB

TYPE: WWWWWW

DET: P NNNNN

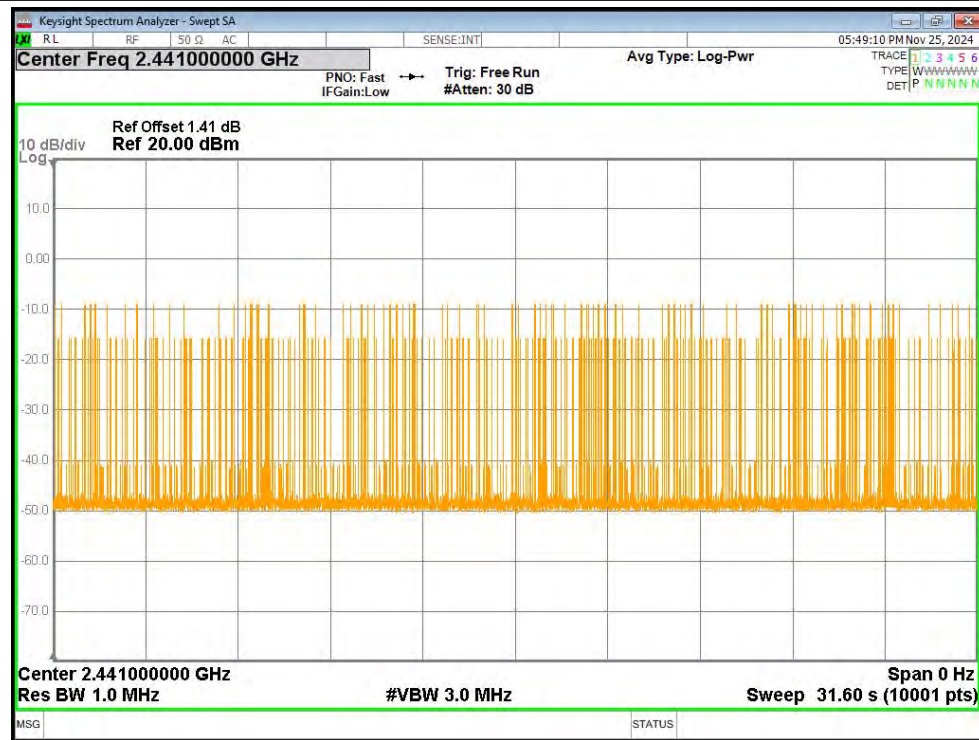
MSG

STATUS

Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated

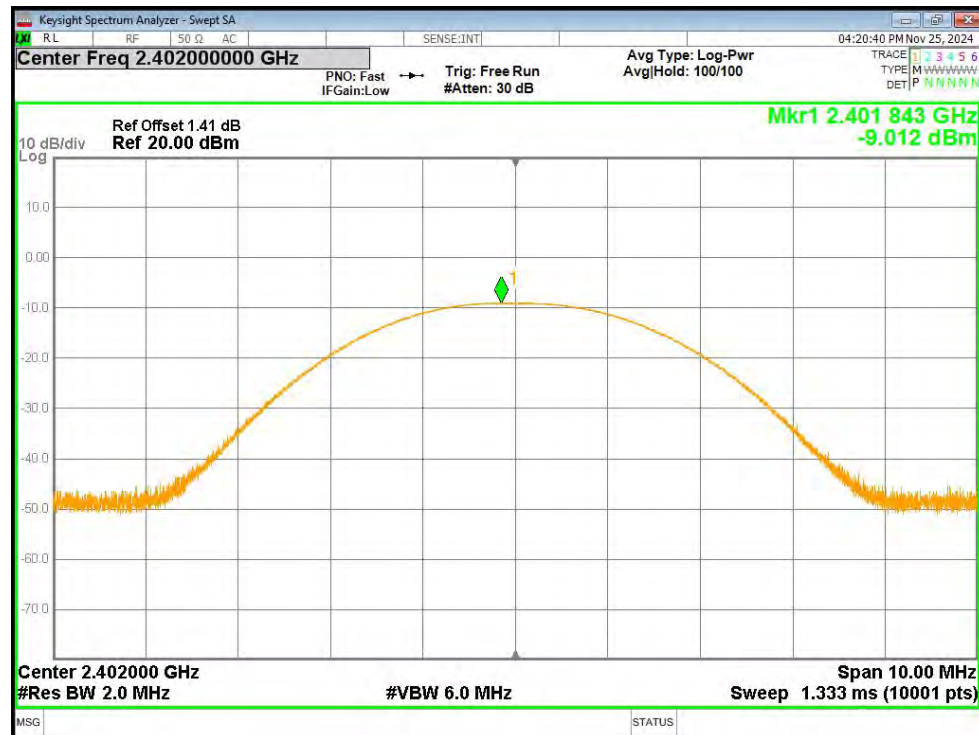


2.Maximum Peak Conducted Output Power

Mode	Frequency (MHz)	Total Power (dBm)	Limit (dBm)	Verdict
1-DH5	2402	-9.01	21	Pass
1-DH5	2441	-10.26	21	Pass
1-DH5	2480	-9.73	21	Pass
2-DH5	2402	-8.33	21	Pass
2-DH5	2441	-9.47	21	Pass
2-DH5	2480	-8.39	21	Pass
3-DH5	2402	-7.25	21	Pass
3-DH5	2441	-8.62	21	Pass
3-DH5	2480	-8.77	21	Pass

Test Graphs

Peak Power NVNT 1-DH5 2402MHz Ant1



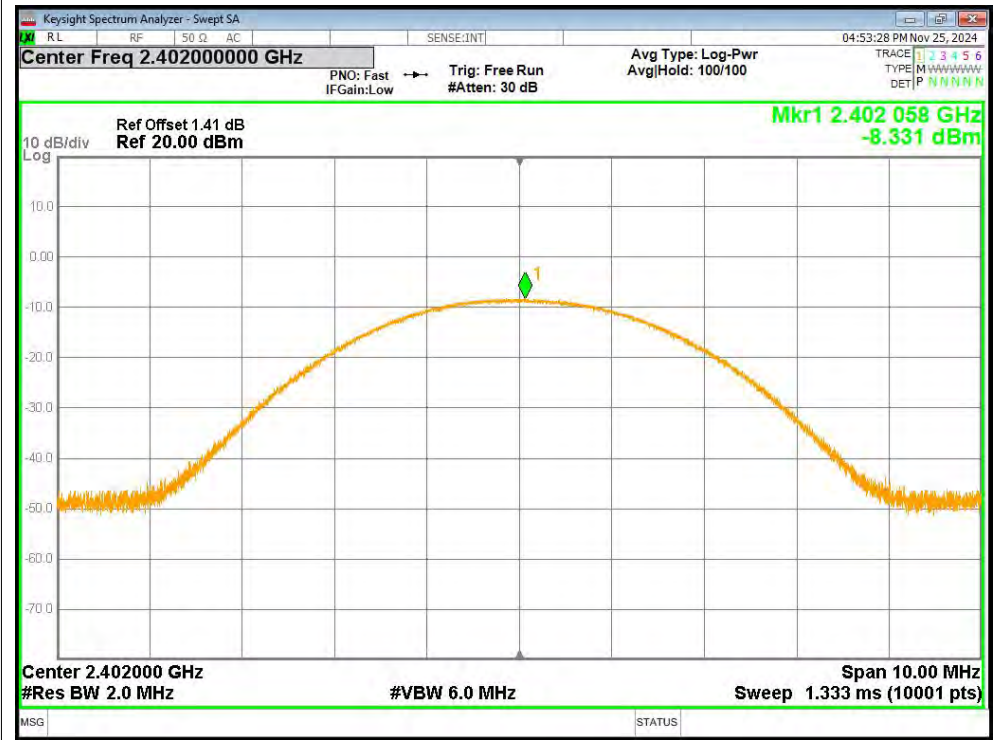
Peak Power NVNT 1-DH5 2441MHz Ant1



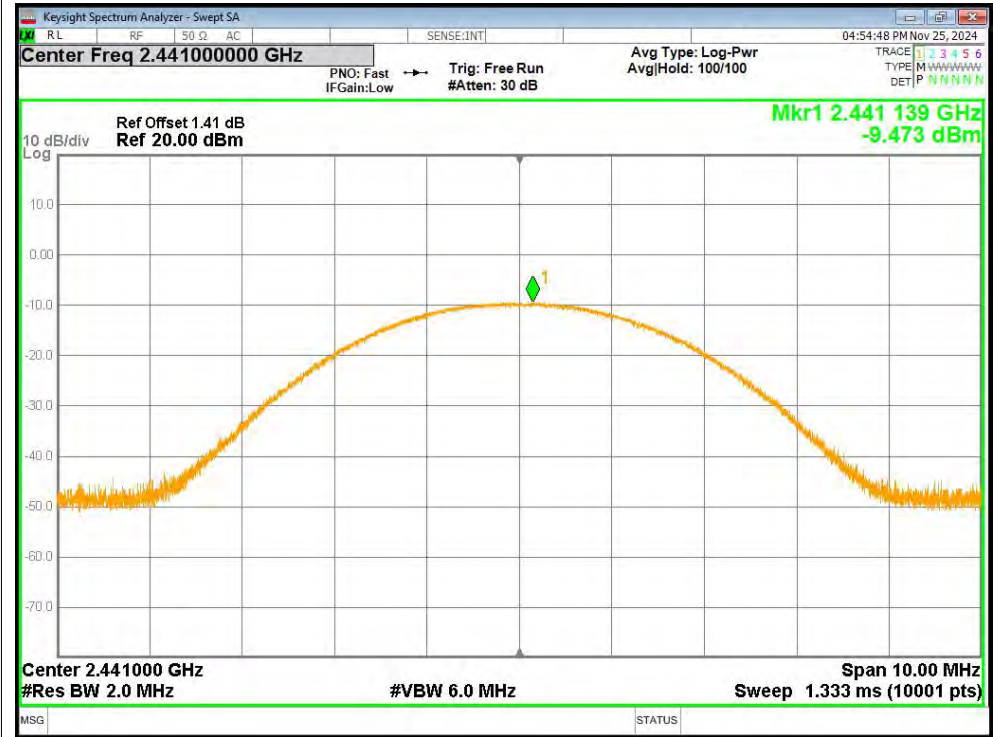
Peak Power NVNT 1-DH5 2480MHz Ant1



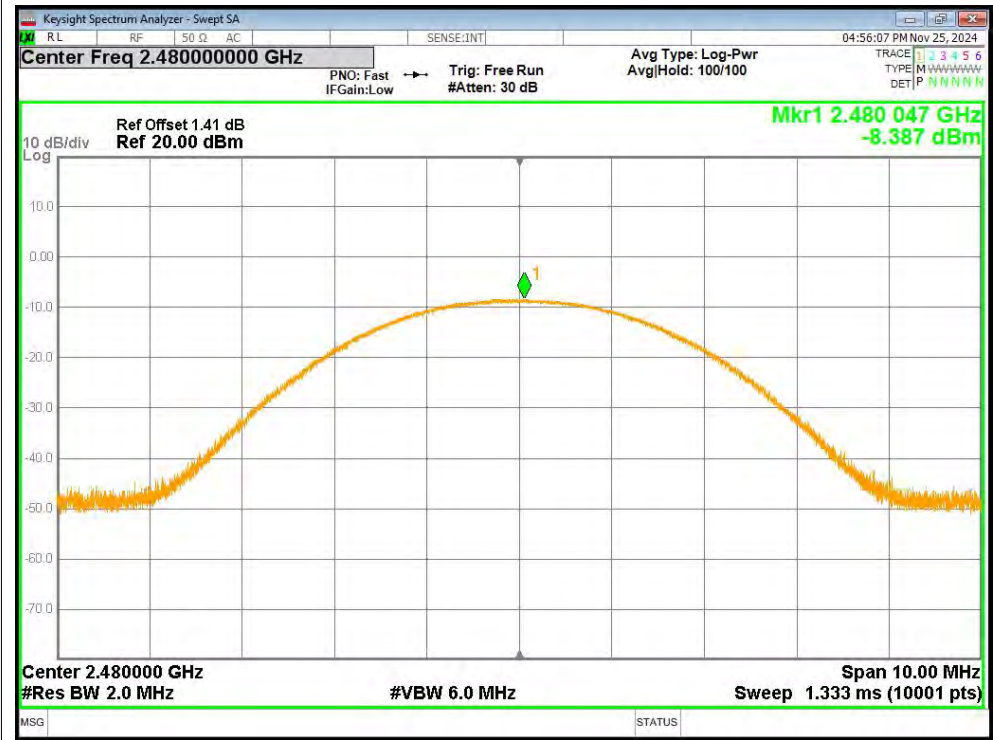
Peak Power NVNT 2-DH5 2402MHz Ant1



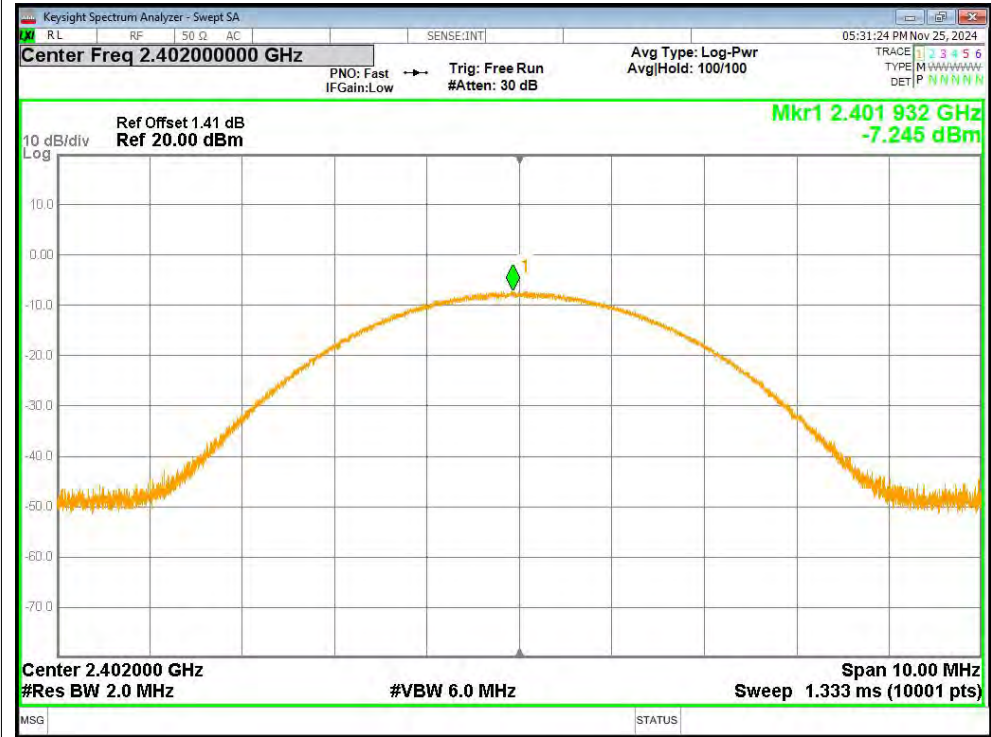
Peak Power NVNT 2-DH5 2441MHz Ant1



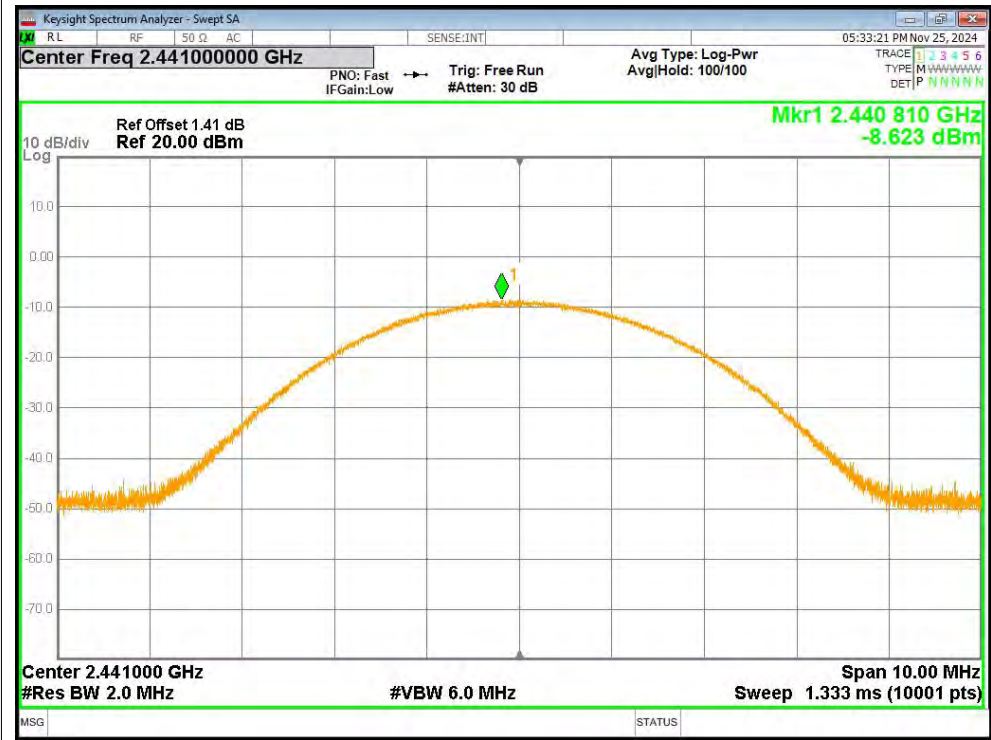
Peak Power NVNT 2-DH5 2480MHz Ant1



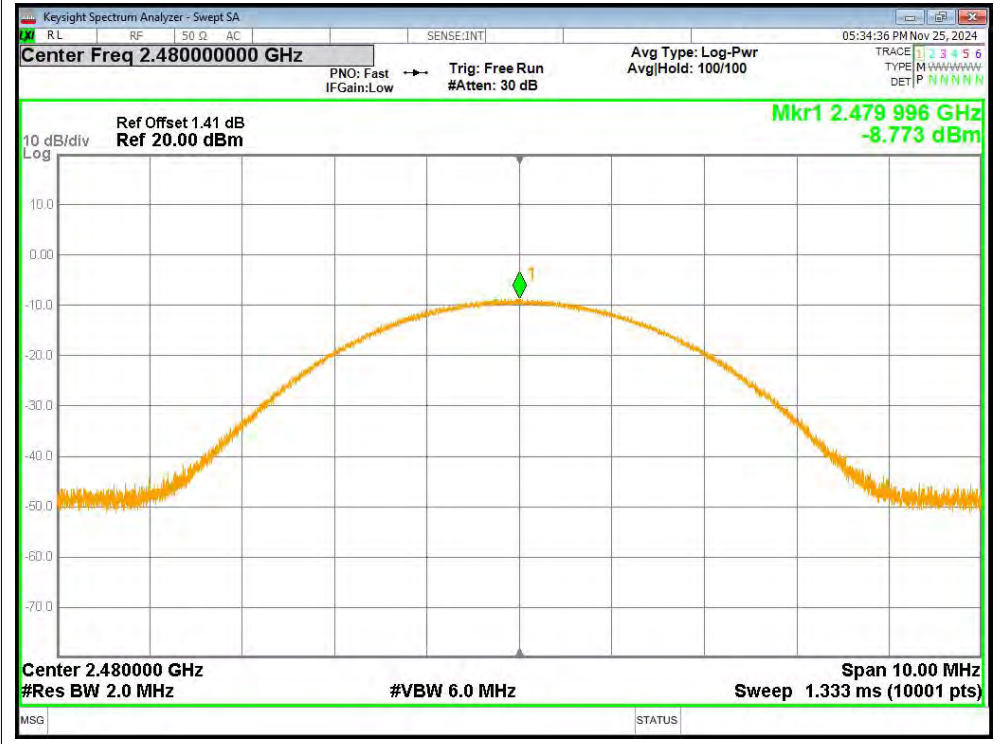
Peak Power NVNT 3-DH5 2402MHz Ant1



Peak Power NVNT 3-DH5 2441MHz Ant1



Peak Power NVNT 3-DH5 2480MHz Ant1

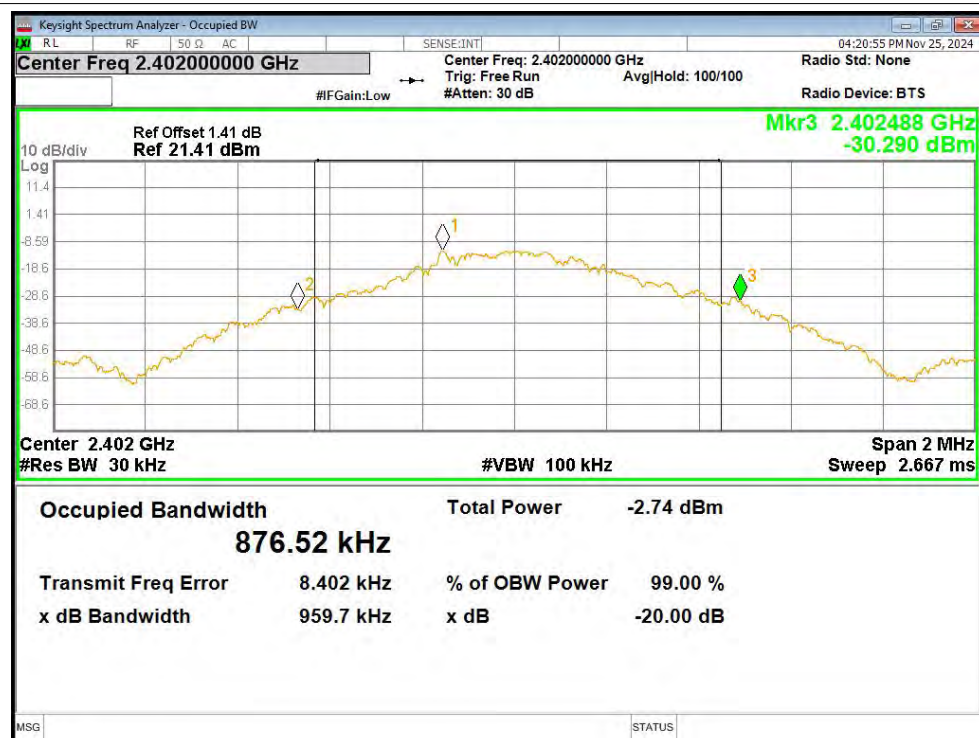


3.-20dB Bandwidth

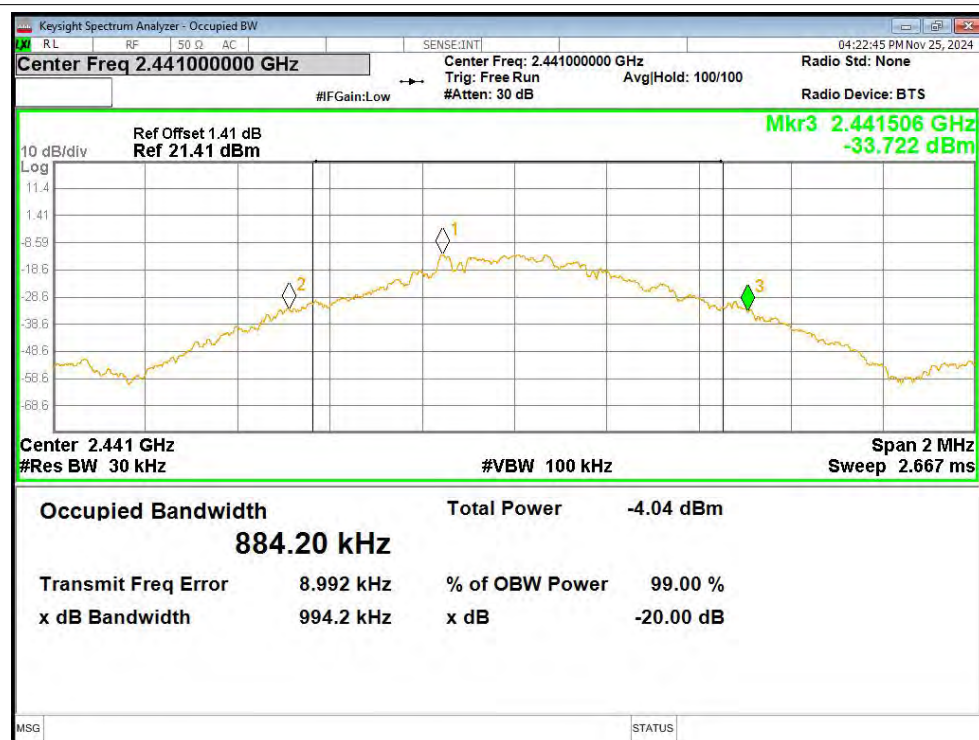
Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
1-DH5	2402	0.96	Pass
1-DH5	2441	0.994	Pass
1-DH5	2480	1.028	Pass
2-DH5	2402	1.312	Pass
2-DH5	2441	1.307	Pass
2-DH5	2480	1.313	Pass
3-DH5	2402	1.301	Pass
3-DH5	2441	1.337	Pass
3-DH5	2480	1.287	Pass

Test Graphs

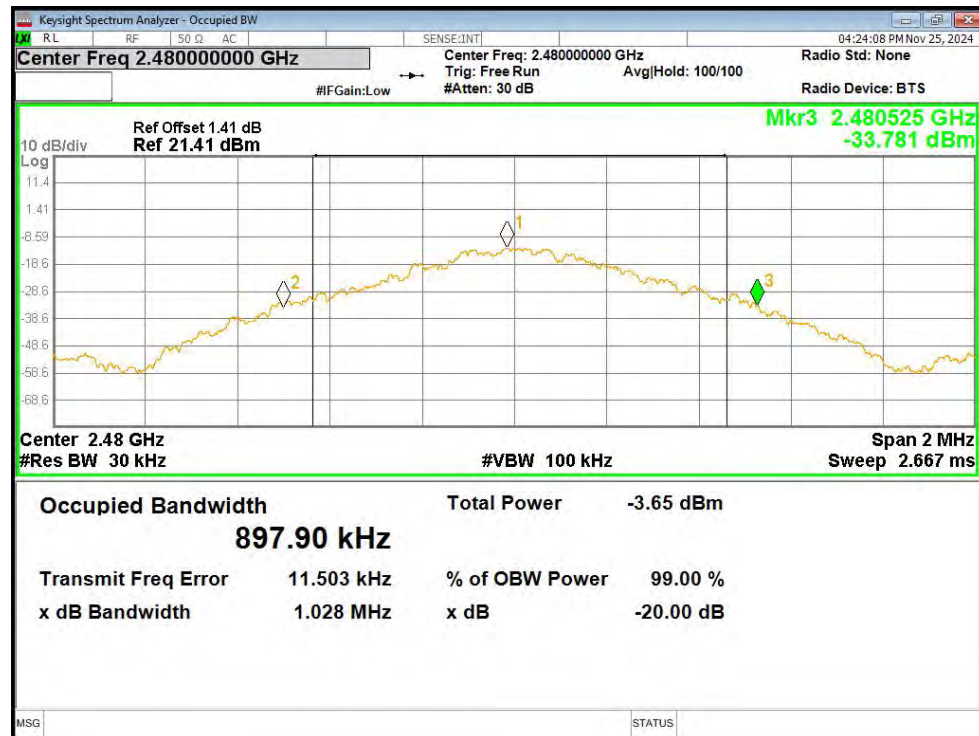
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



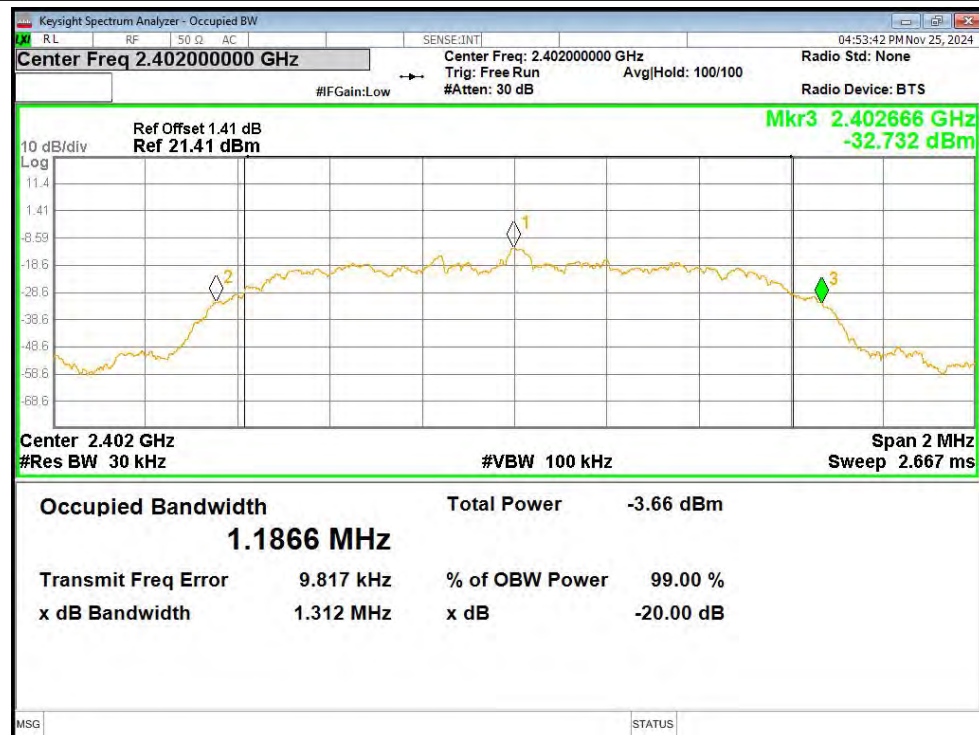
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



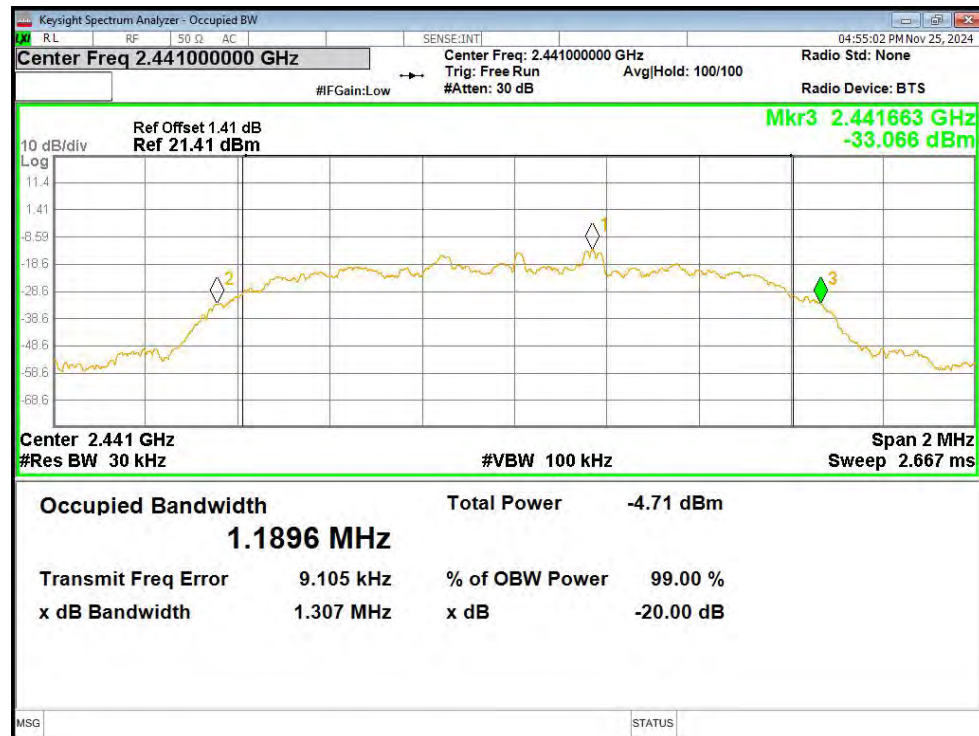
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



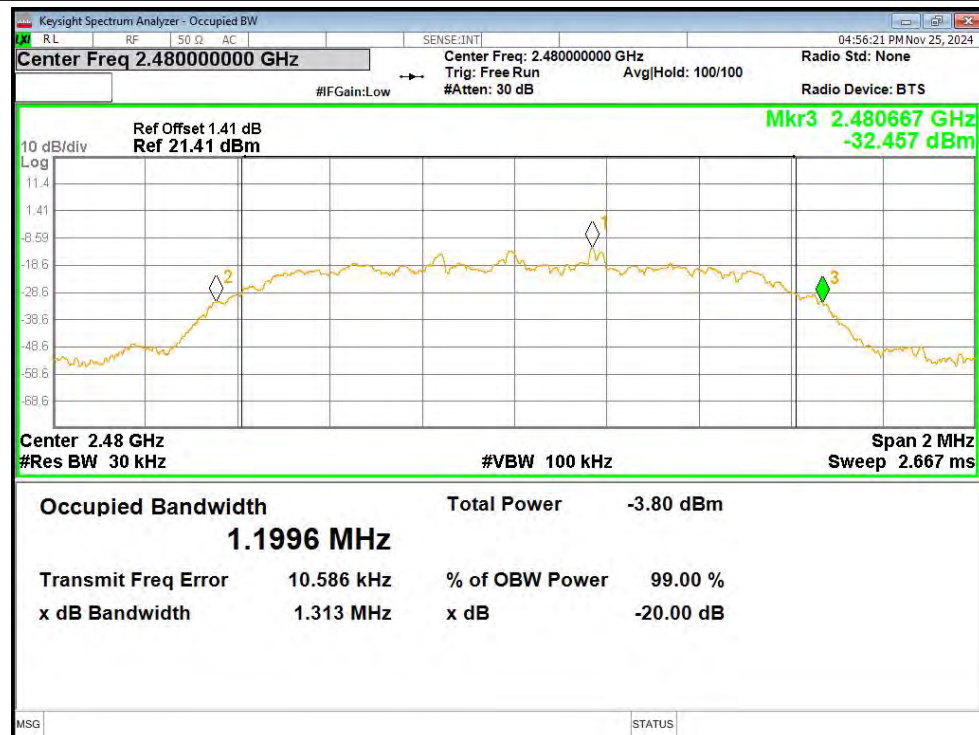
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



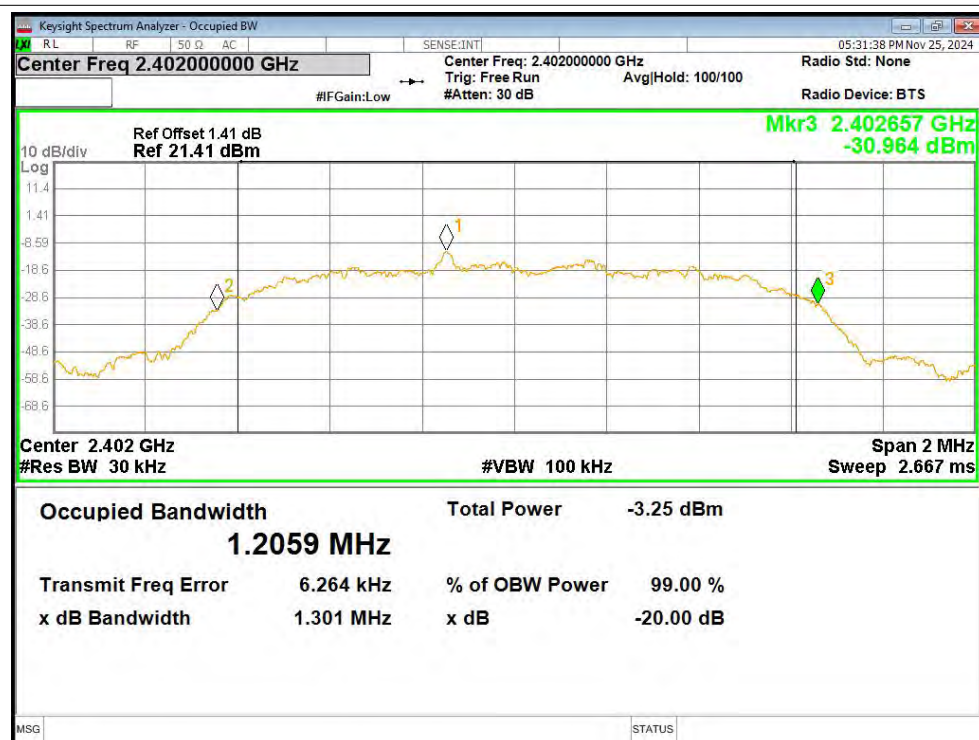
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



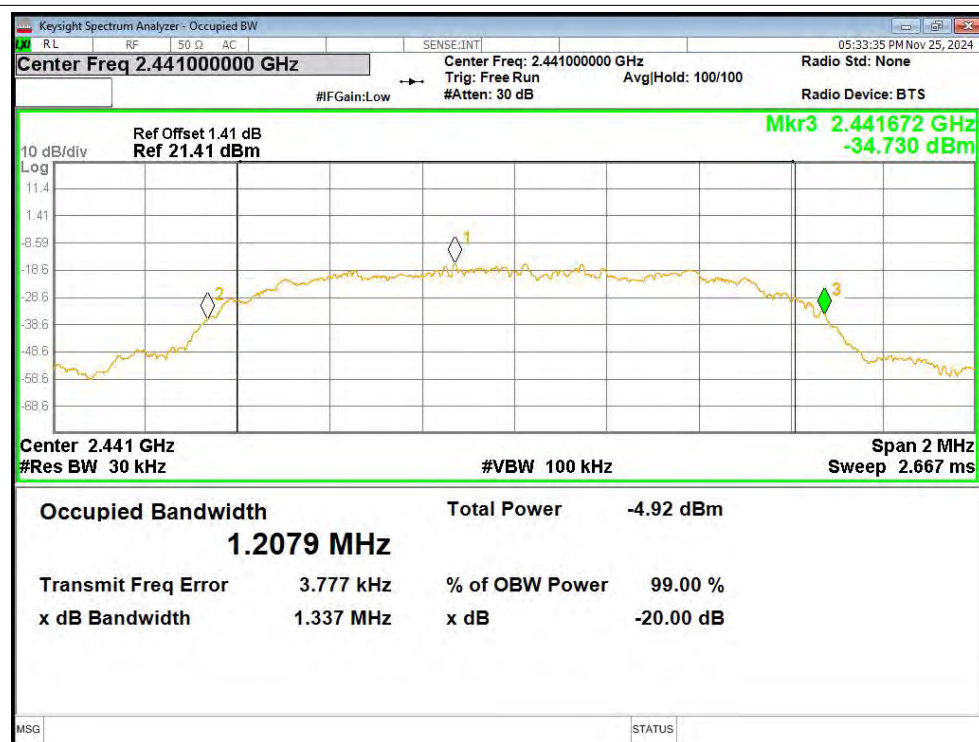
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



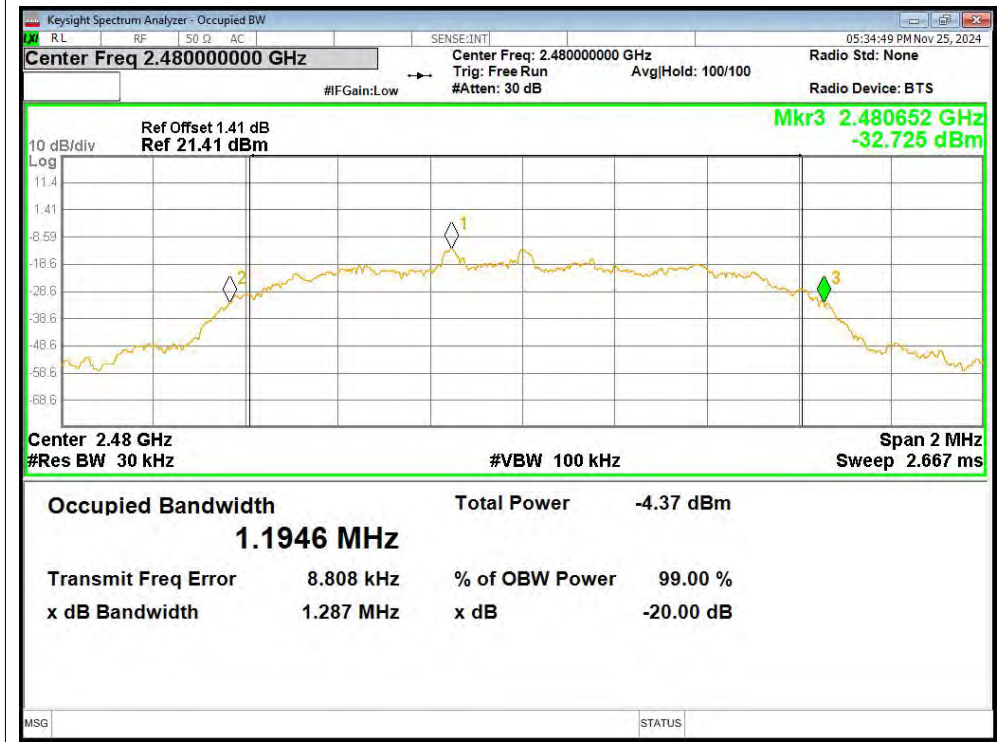
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

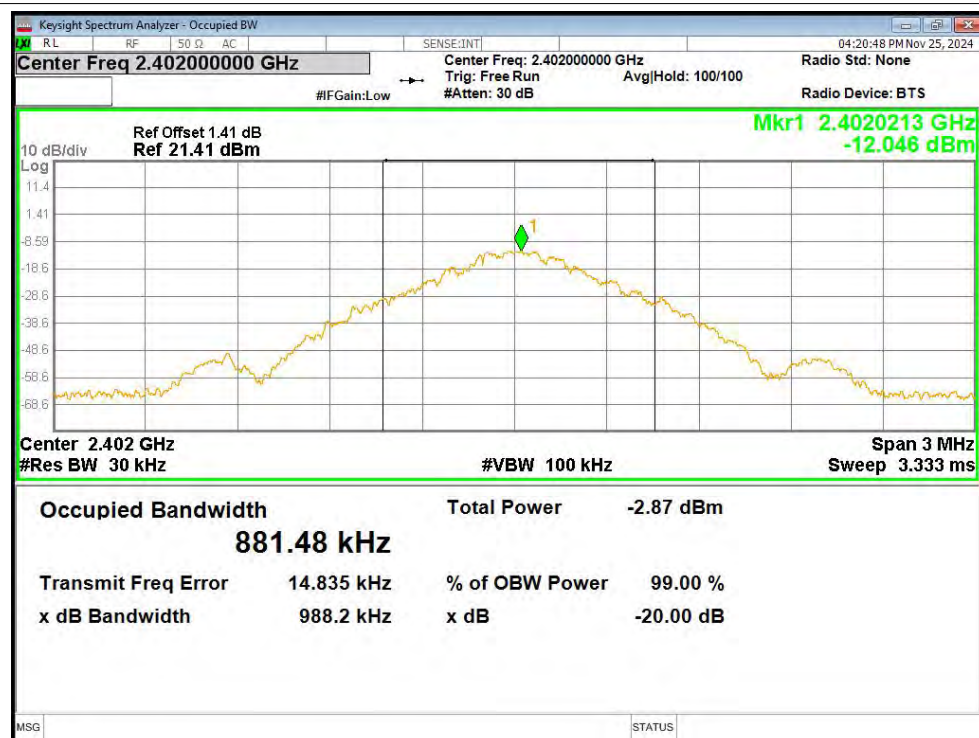


4.Occupied Channel Bandwidth

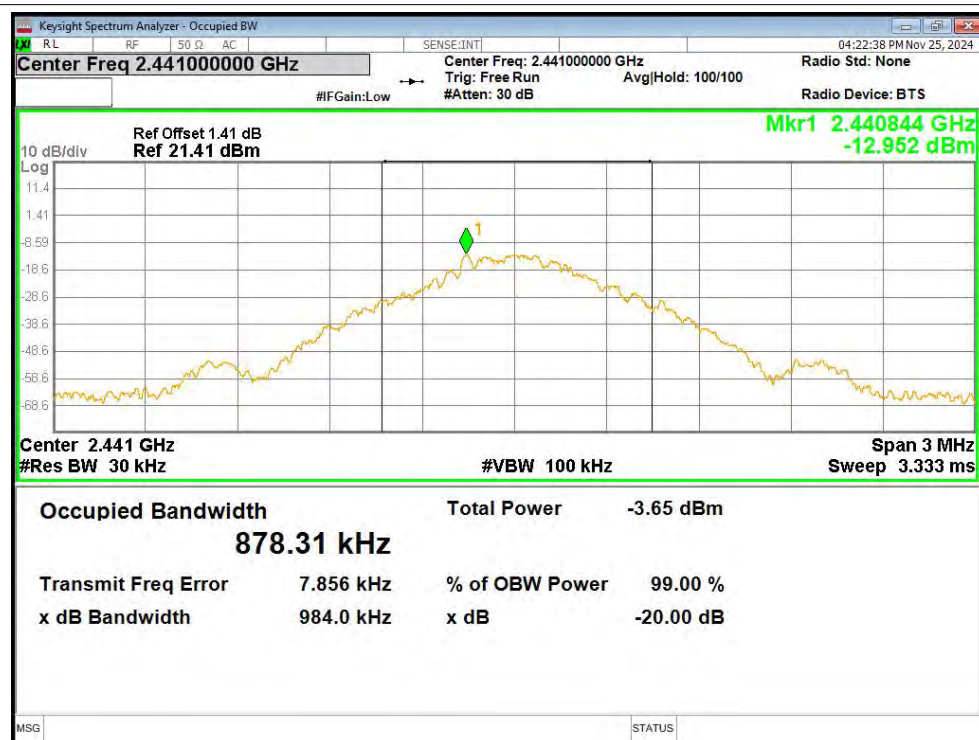
Mode	Frequency (MHz)	99% OBW (MHz)
1-DH5	2402	0.881
1-DH5	2441	0.878
1-DH5	2480	0.889
2-DH5	2402	1.194
2-DH5	2441	1.196
2-DH5	2480	1.193
3-DH5	2402	1.195
3-DH5	2441	1.207
3-DH5	2480	1.204

Test Graphs

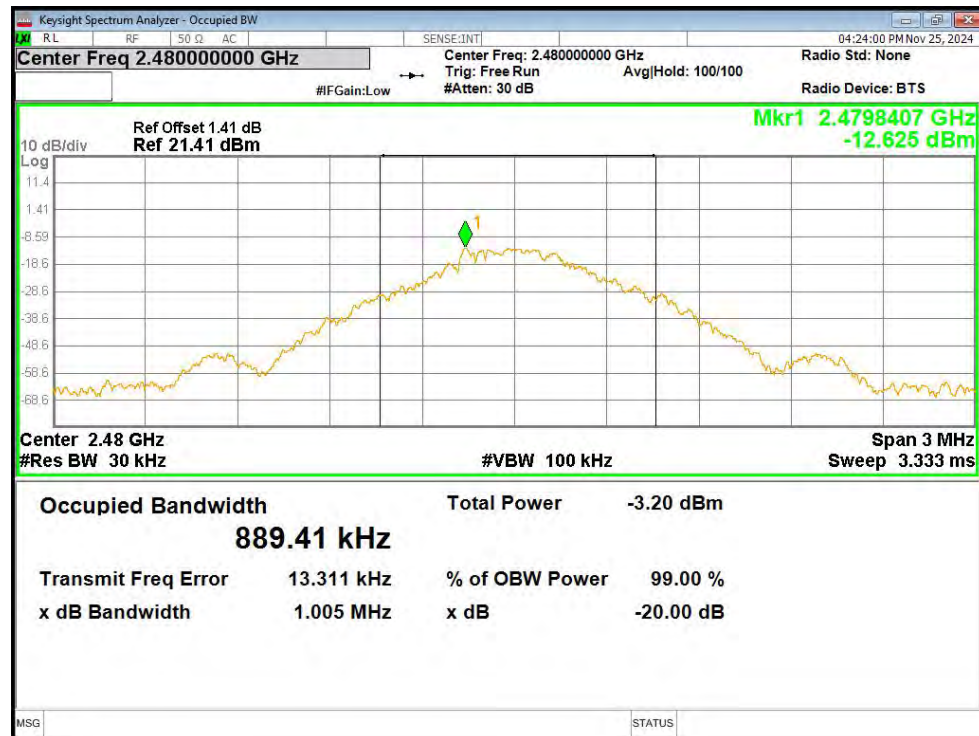
OBW NVNT 1-DH5 2402MHz Ant1



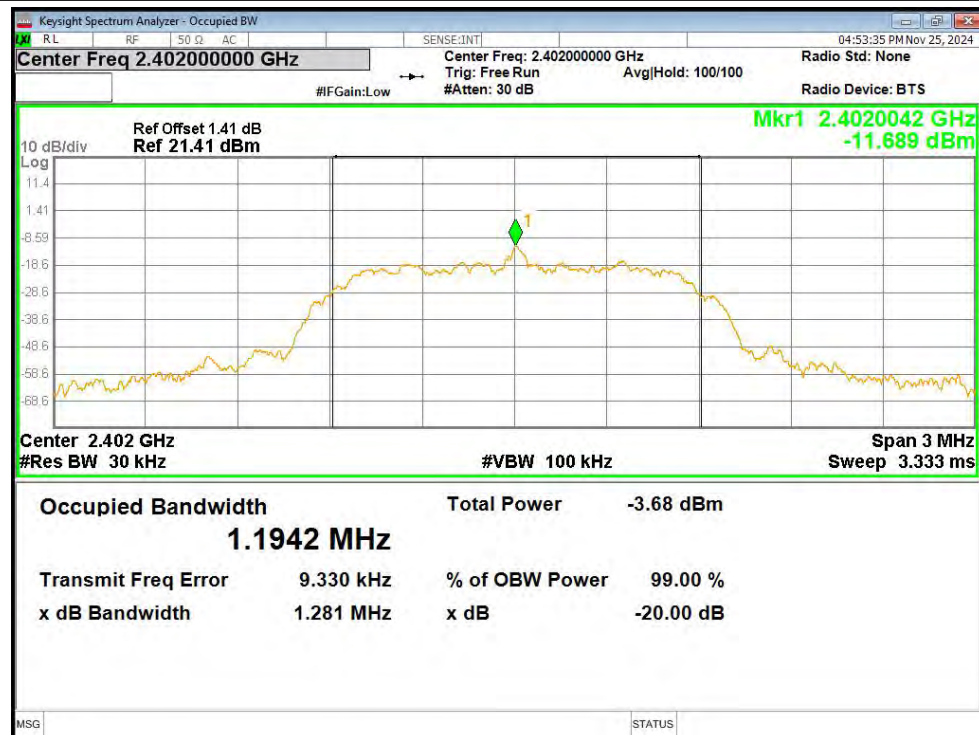
OBW NVNT 1-DH5 2441MHz Ant1



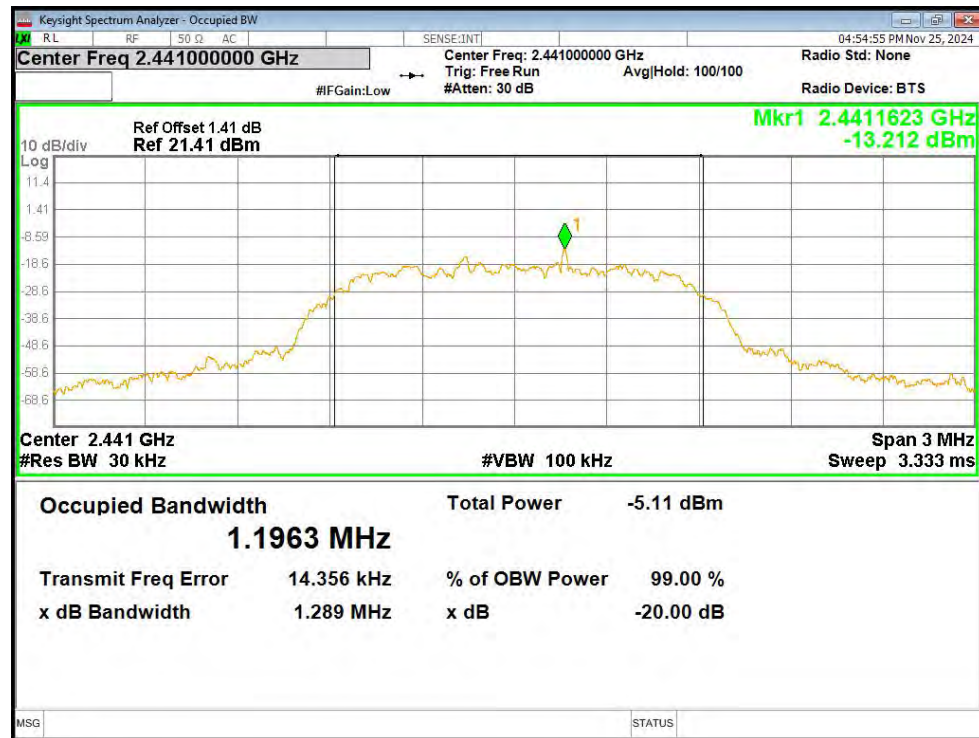
OBW NVNT 1-DH5 2480MHz Ant1



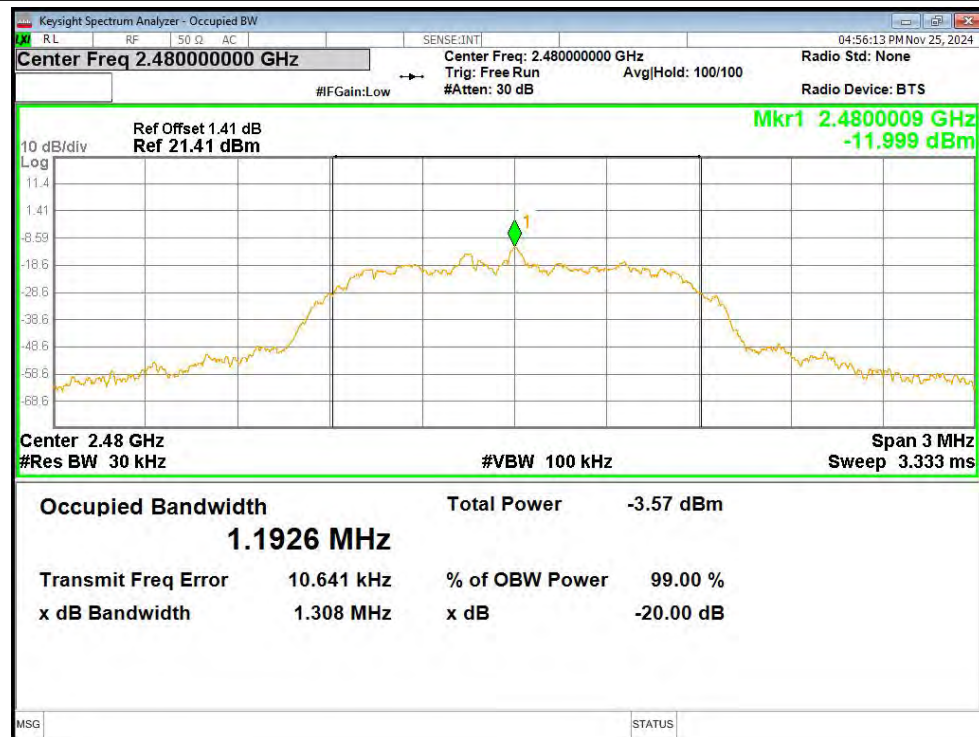
OBW NVNT 2-DH5 2402MHz Ant1



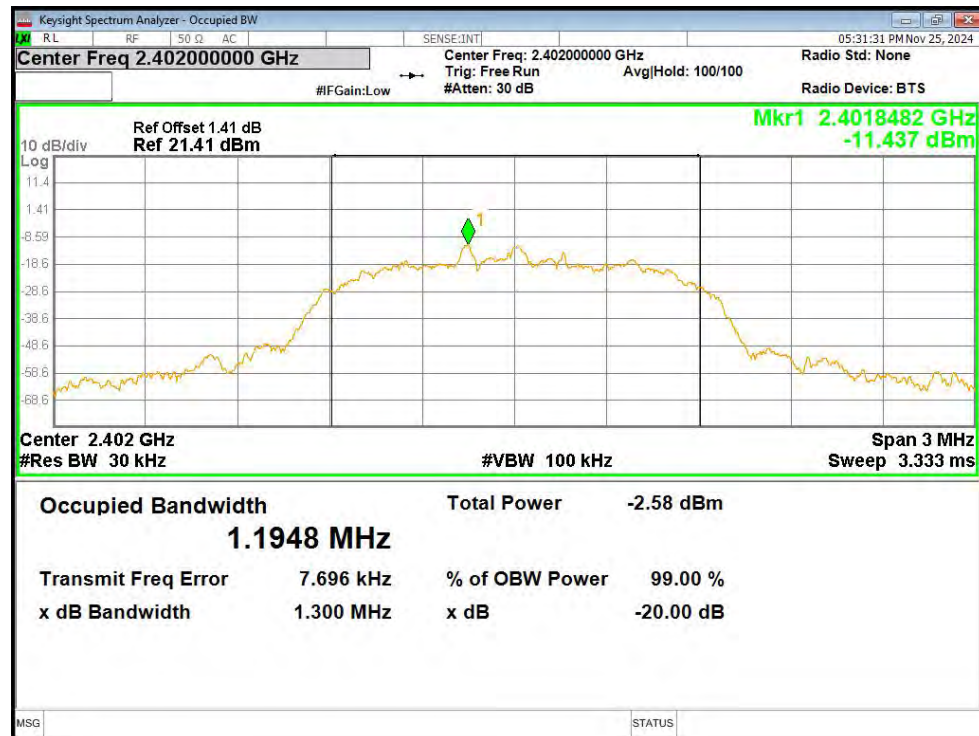
OBW NVNT 2-DH5 2441MHz Ant1



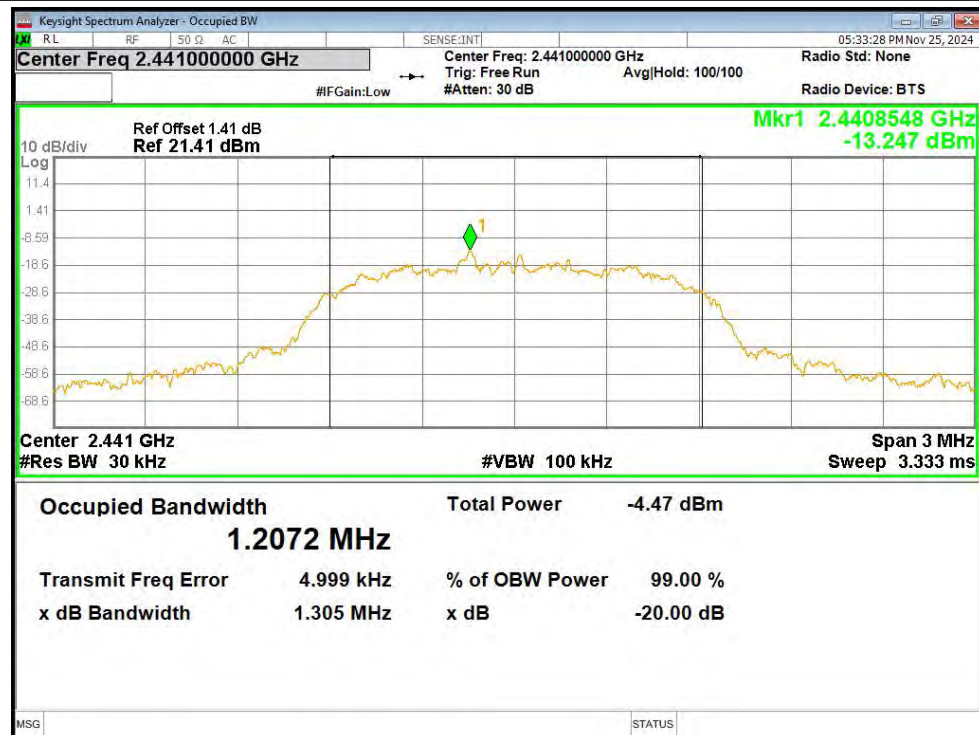
OBW NVNT 2-DH5 2480MHz Ant1



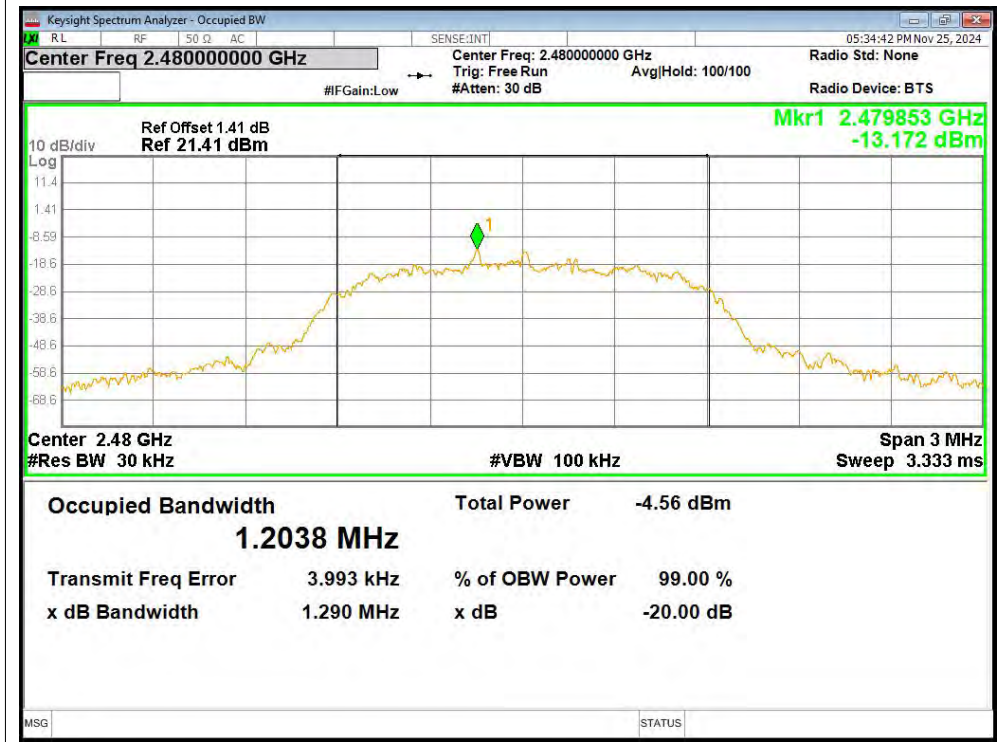
OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



OBW NVNT 3-DH5 2480MHz Ant1



5.Carrier Frequencies Separation

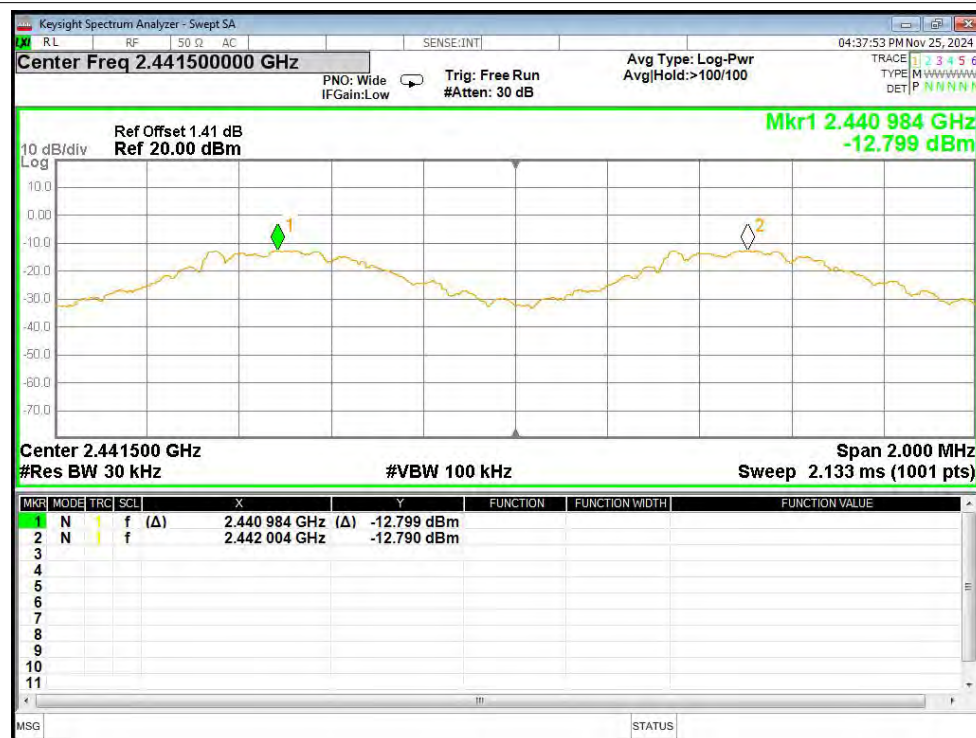
Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH5	2402.004	2403.004	1	0.64	Pass
1-DH5	2440.984	2442.004	1.02	0.663	Pass
1-DH5	2478.982	2479.844	0.862	0.685	Pass
2-DH5	2401.988	2403.008	1.02	0.875	Pass
2-DH5	2440.996	2442.17	1.174	0.871	Pass
2-DH5	2478.998	2480.004	1.006	0.875	Pass
3-DH5	2401.846	2403.006	1.16	0.867	Pass
3-DH5	2440.856	2441.844	0.988	0.891	Pass
3-DH5	2478.854	2479.846	0.992	0.858	Pass

Test Graphs

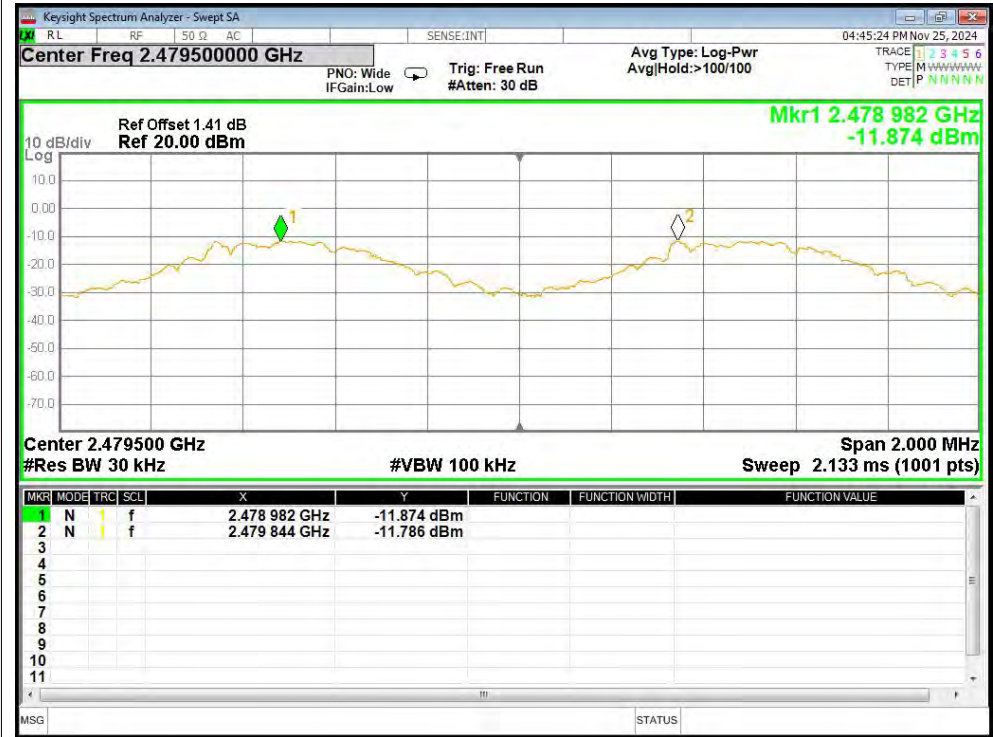
CFS NVNT 1-DH5 2402MHz Ant1



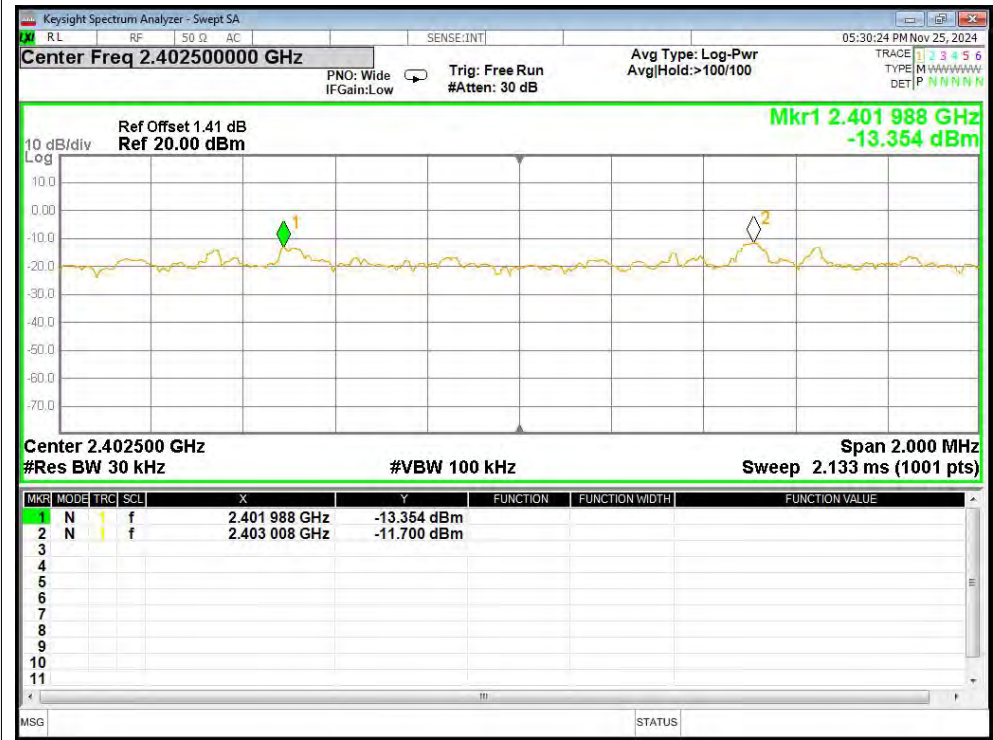
CFS NVNT 1-DH5 2441MHz Ant1



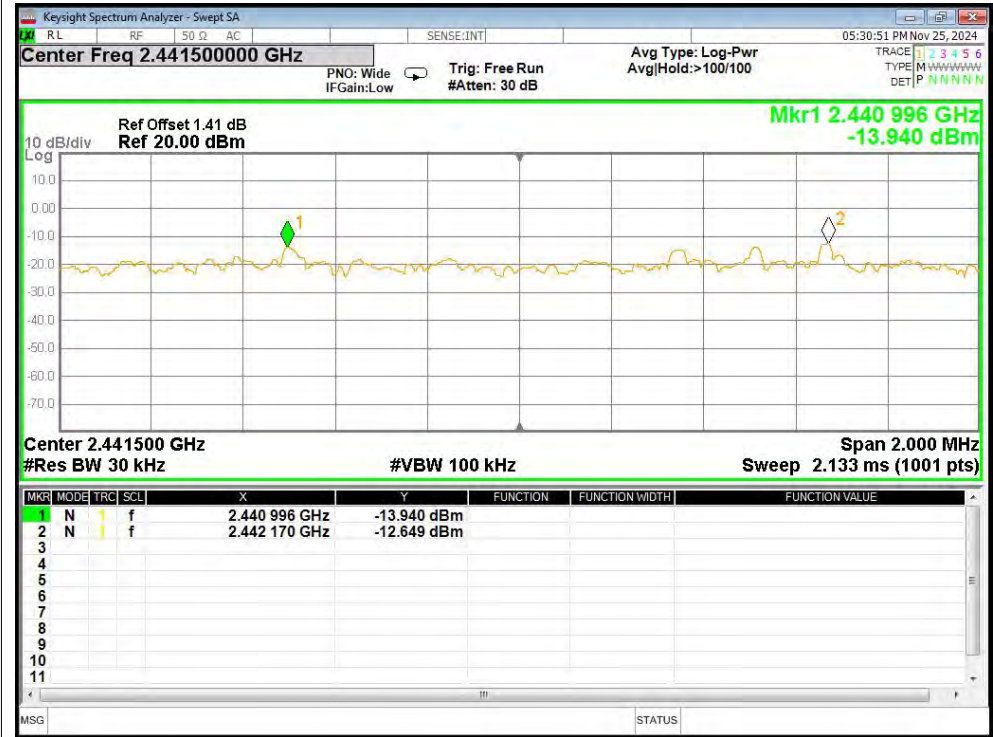
CFS NVNT 1-DH5 2480MHz Ant1



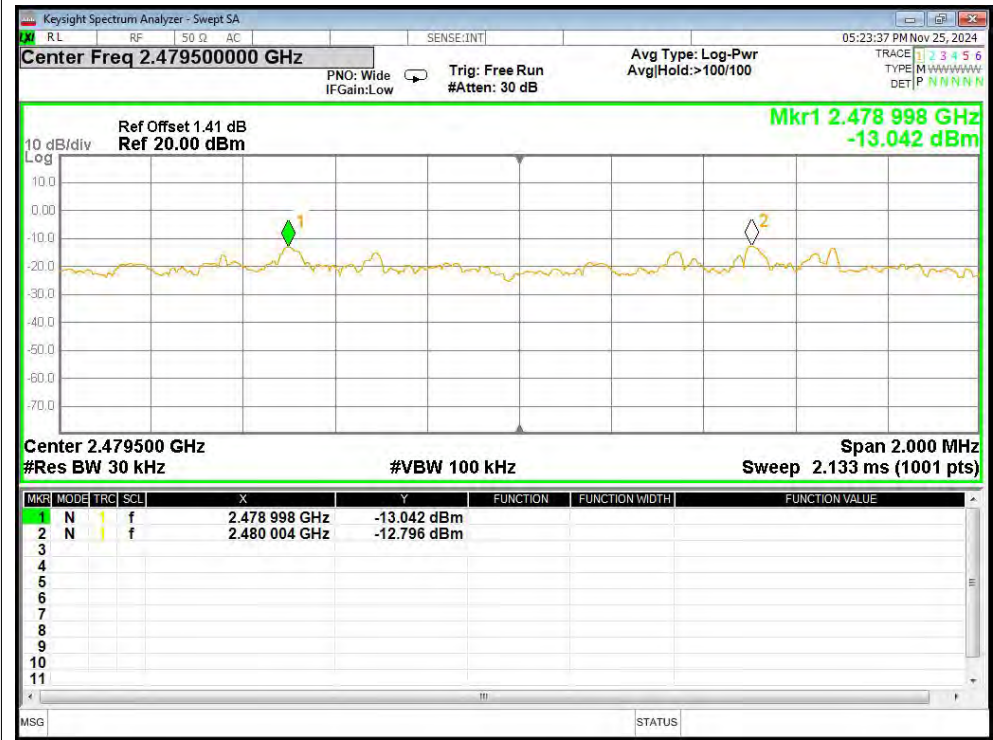
CFS NVNT 2-DH5 2402MHz Ant1



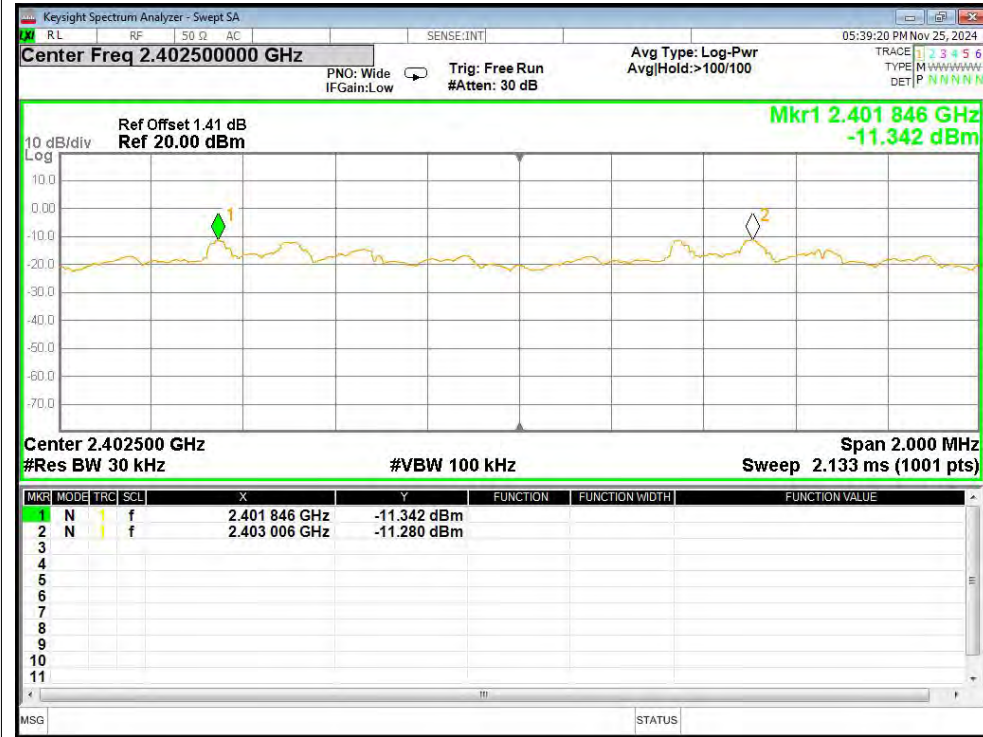
CFS NVNT 2-DH5 2441MHz Ant1



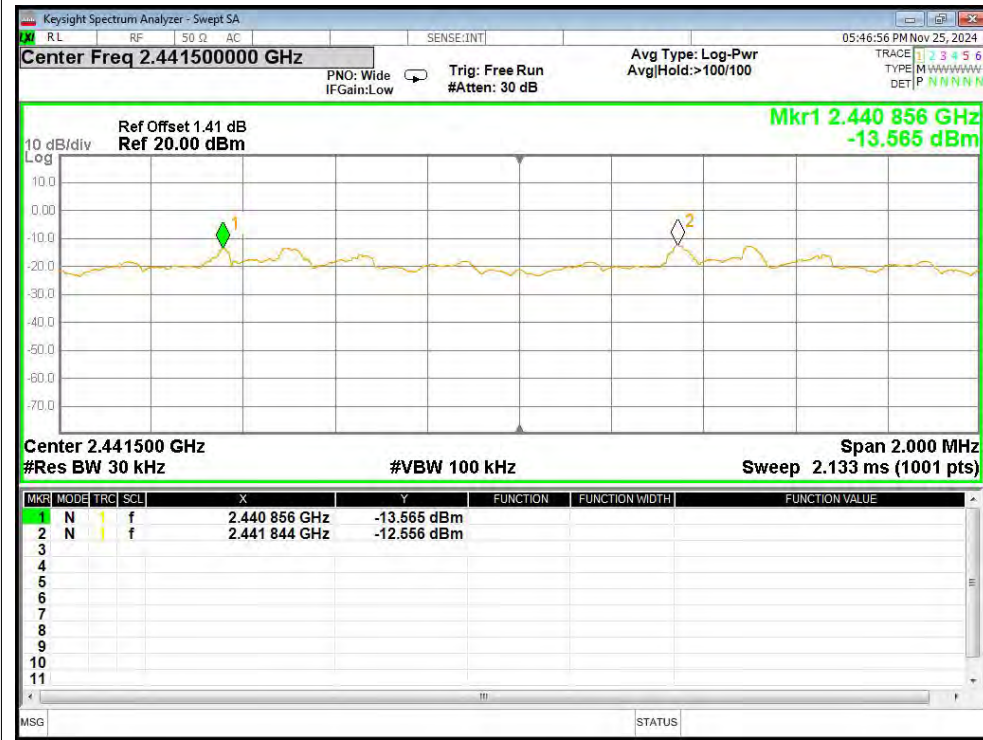
CFS NVNT 2-DH5 2480MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2441MHz Ant1



CFS NVNT 3-DH5 2480MHz Ant1

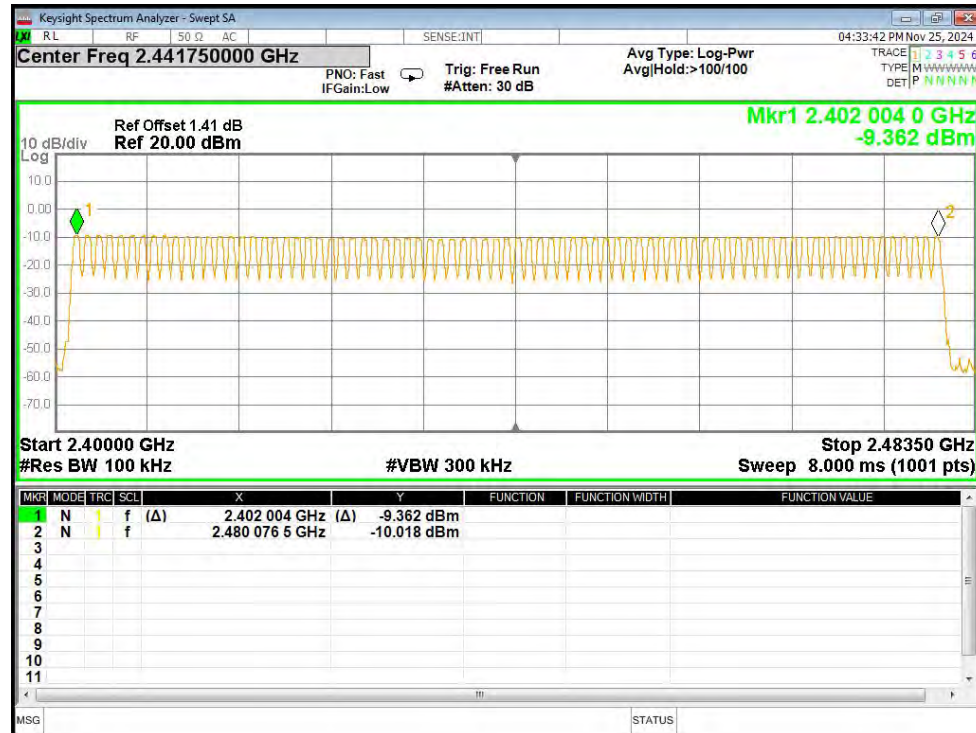


6.Number of Hopping Channel

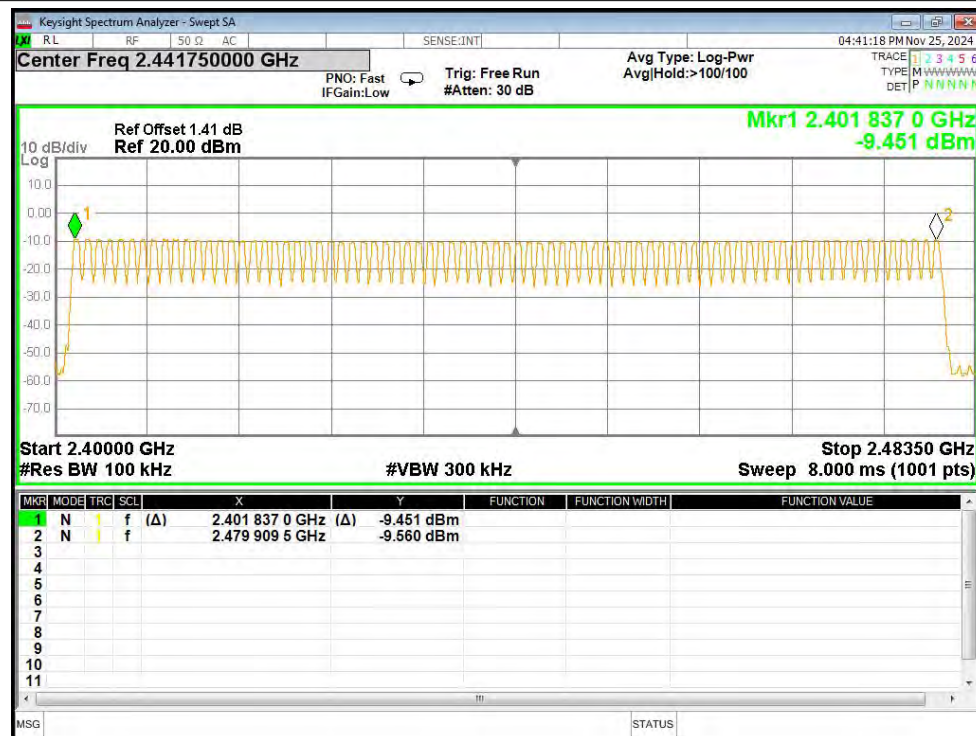
Mode	Hopping Number	Limit	Verdict
1-DH5	79	15	Pass
2-DH5	79	15	Pass
3-DH5	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 1-DH5 2480MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



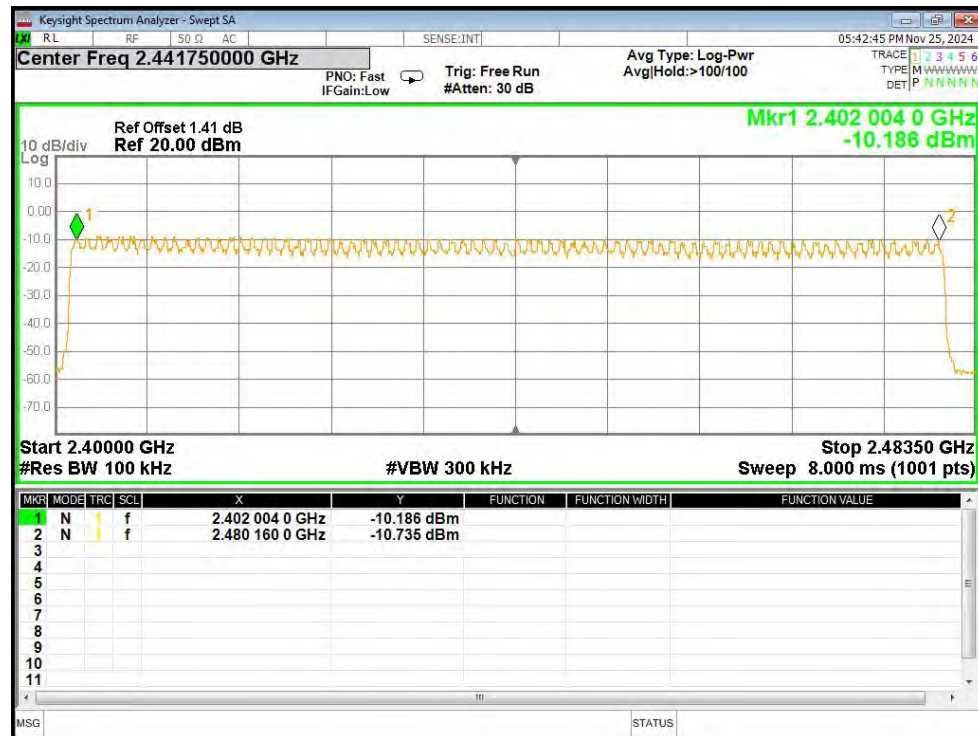
Hopping No. NVNT 2-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2480MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2441MHz Ant1



Hopping No. NVNT 3-DH5 2480MHz Ant1

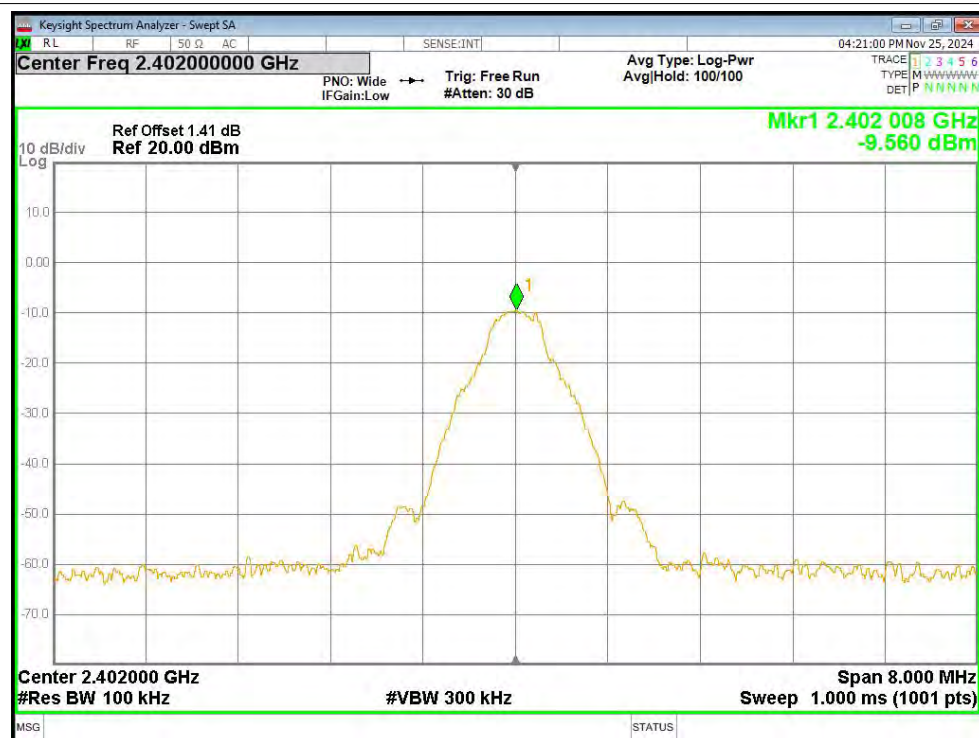


7.Band Edge

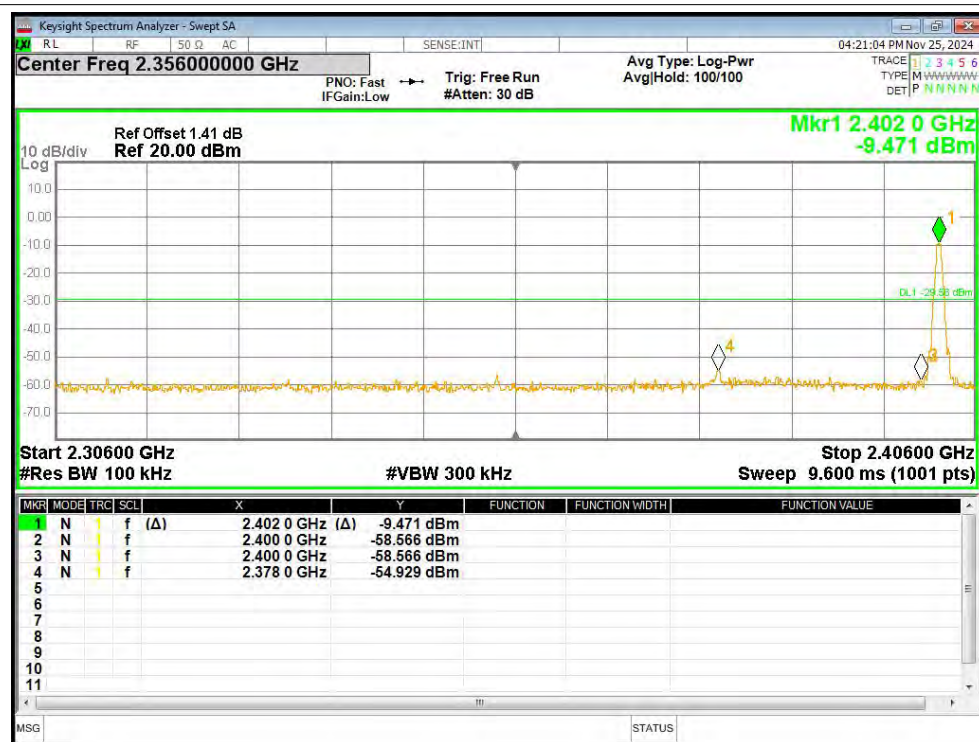
Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	No-Hopping	-45.36	-20	Pass
1-DH5	2480	No-Hopping	-46.92	-20	Pass
2-DH5	2402	No-Hopping	-43.53	-20	Pass
2-DH5	2480	No-Hopping	-44.97	-20	Pass
3-DH5	2402	No-Hopping	-45.84	-20	Pass
3-DH5	2480	No-Hopping	-43.02	-20	Pass

Test Graphs

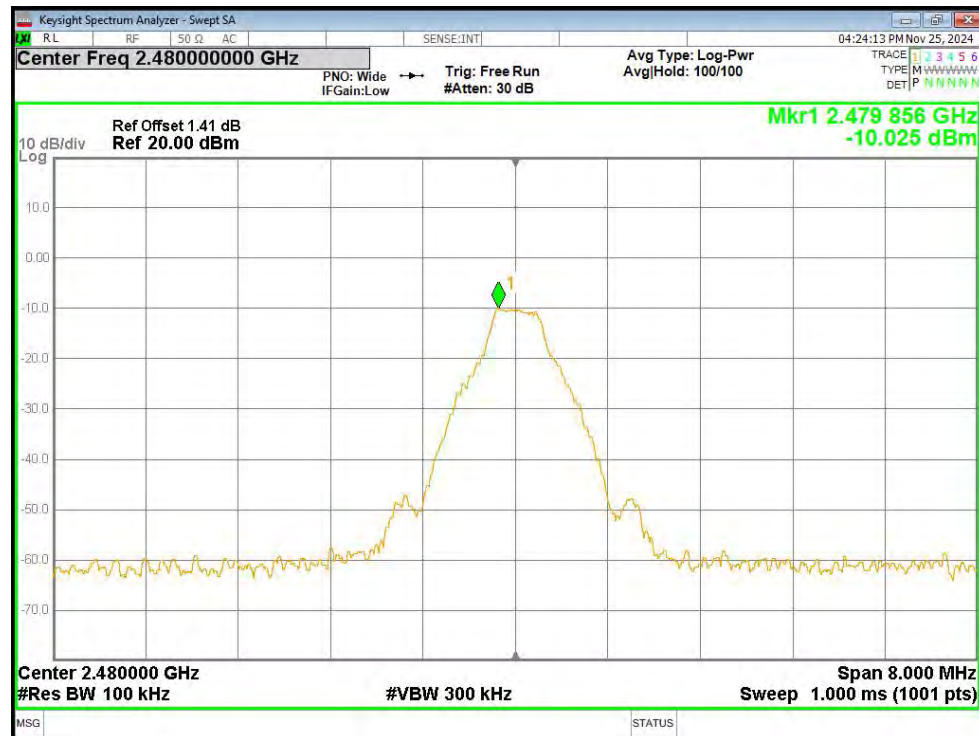
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



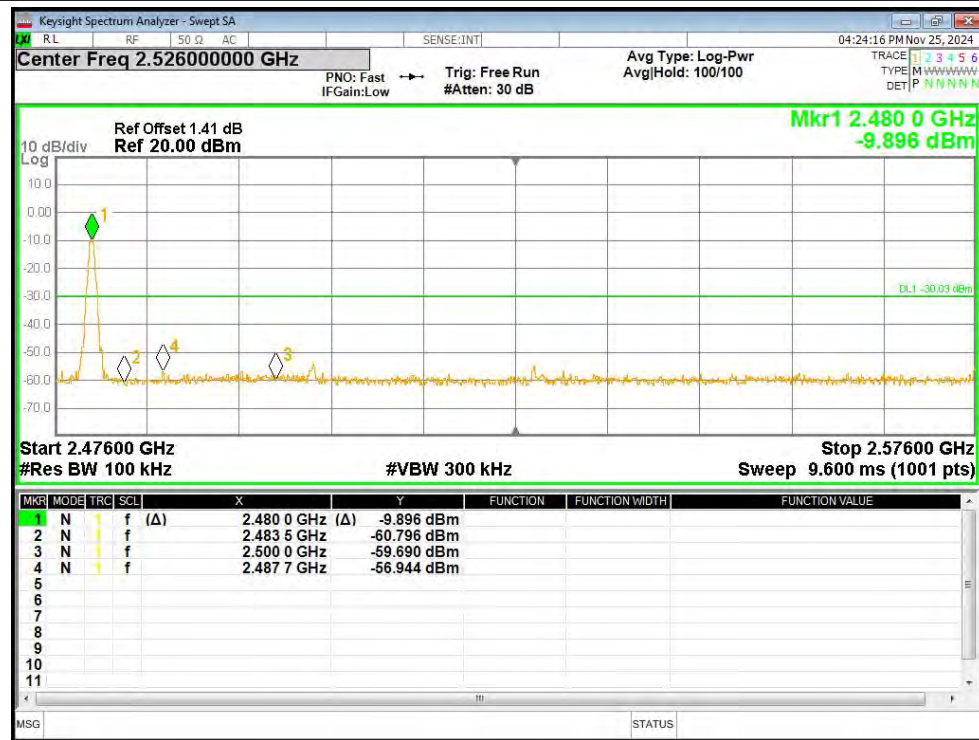
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



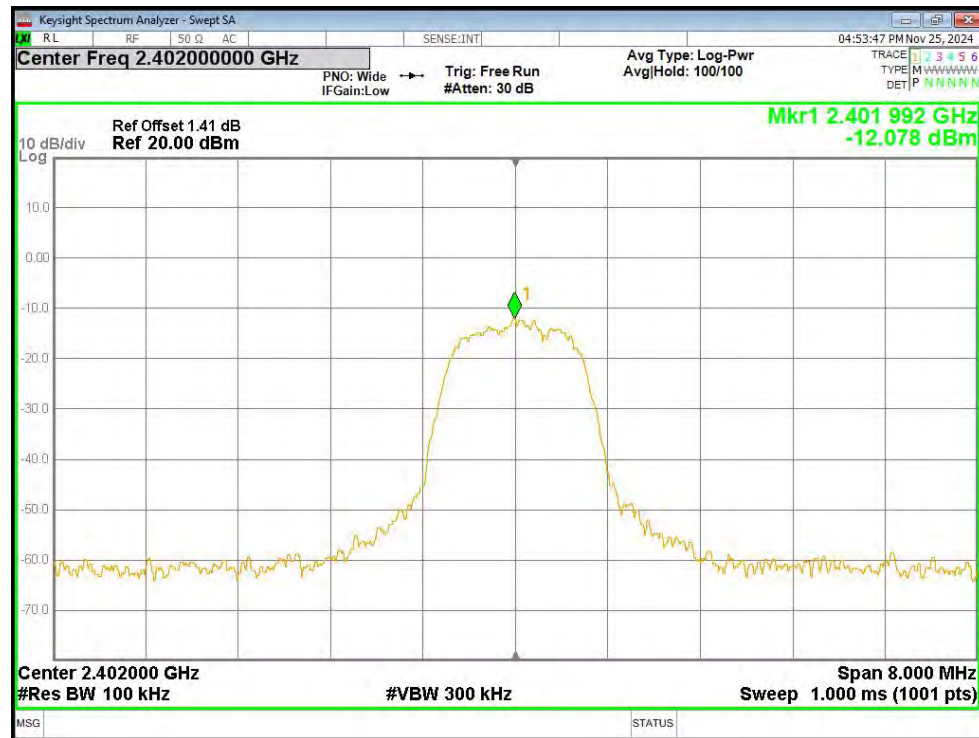
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



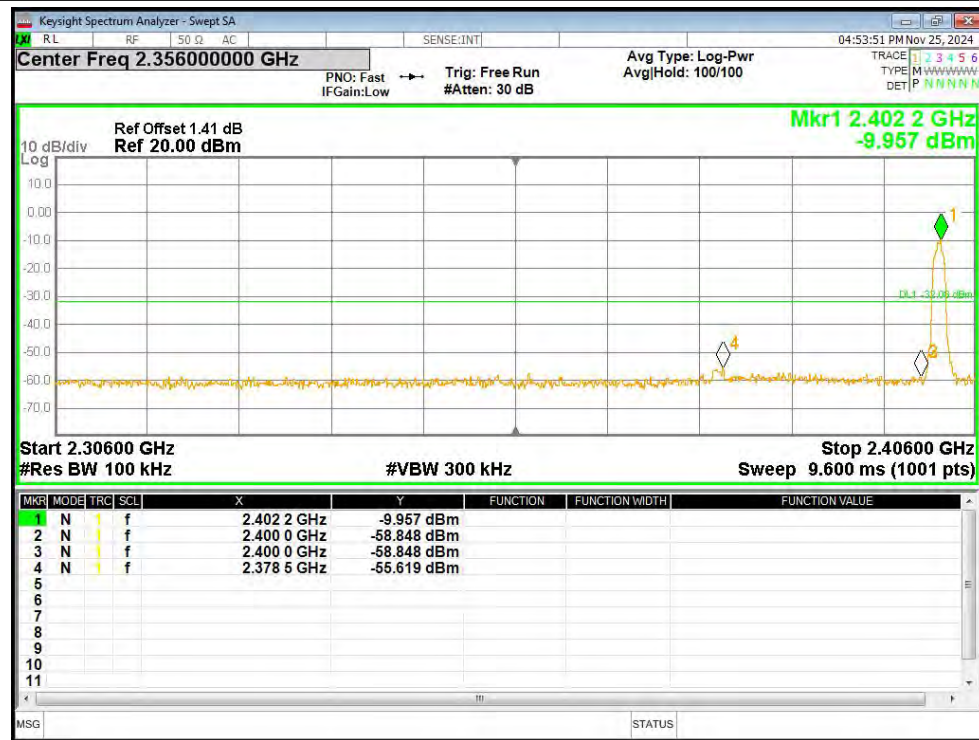
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



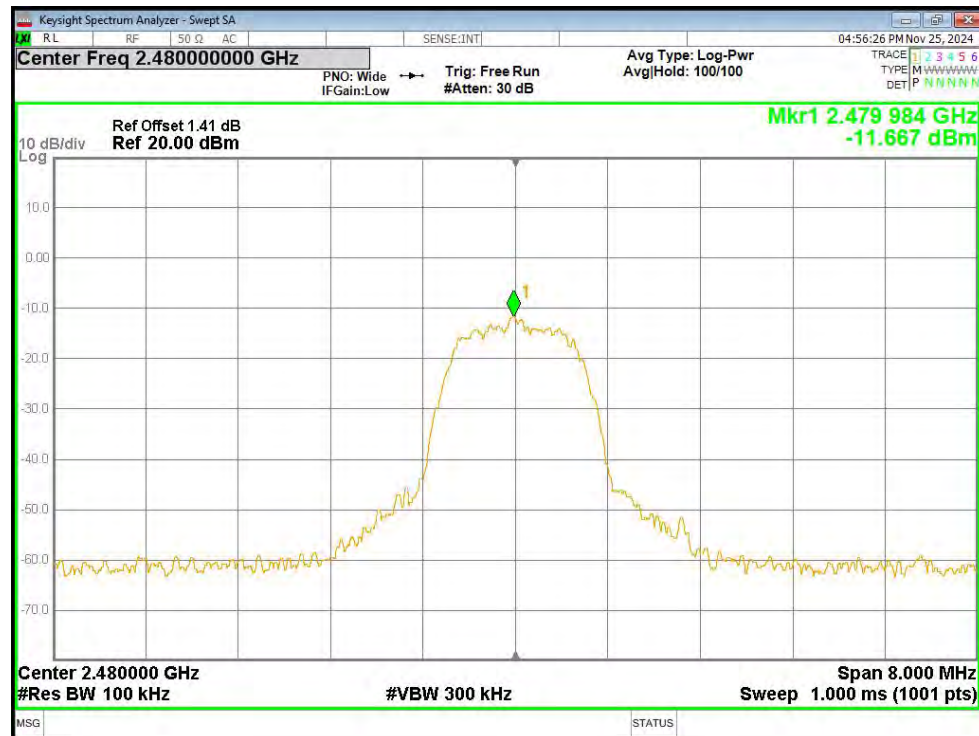
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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



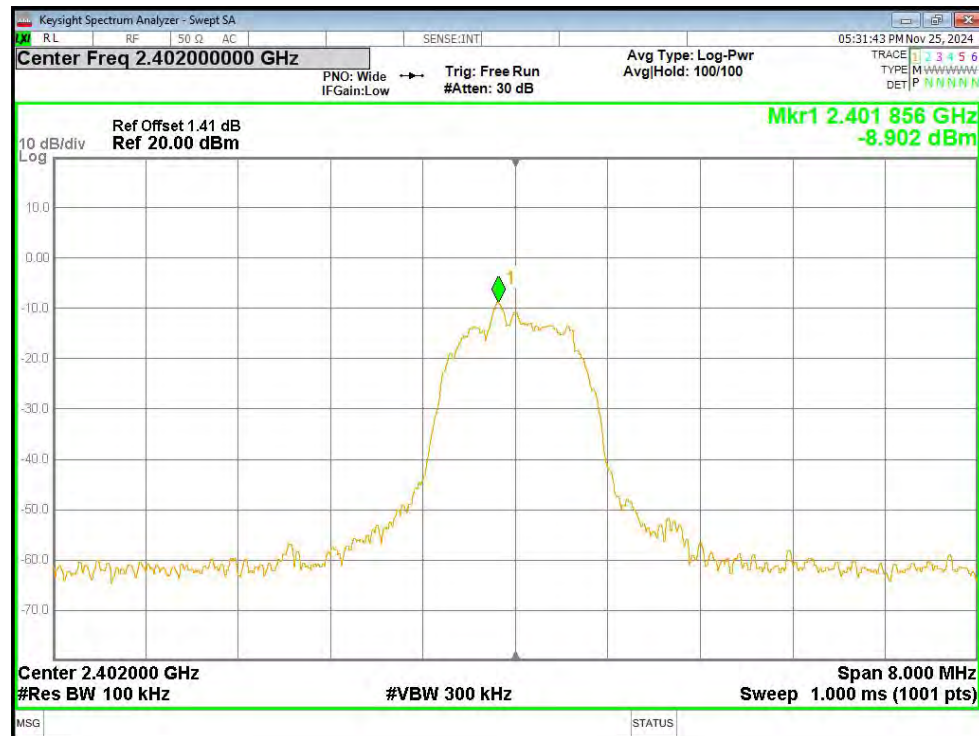
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



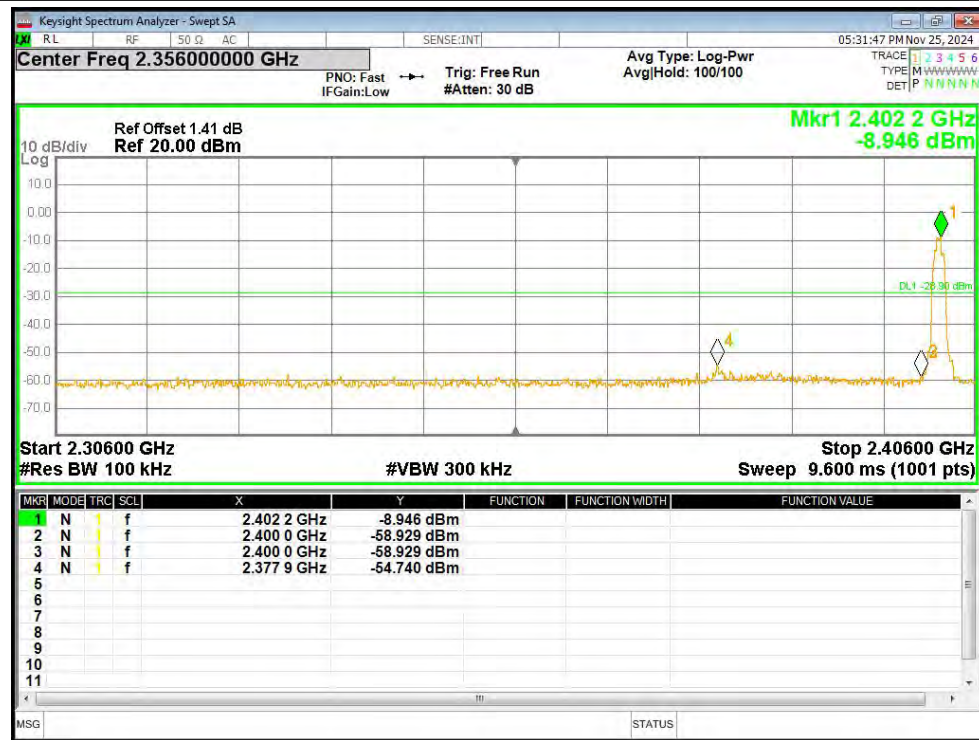
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



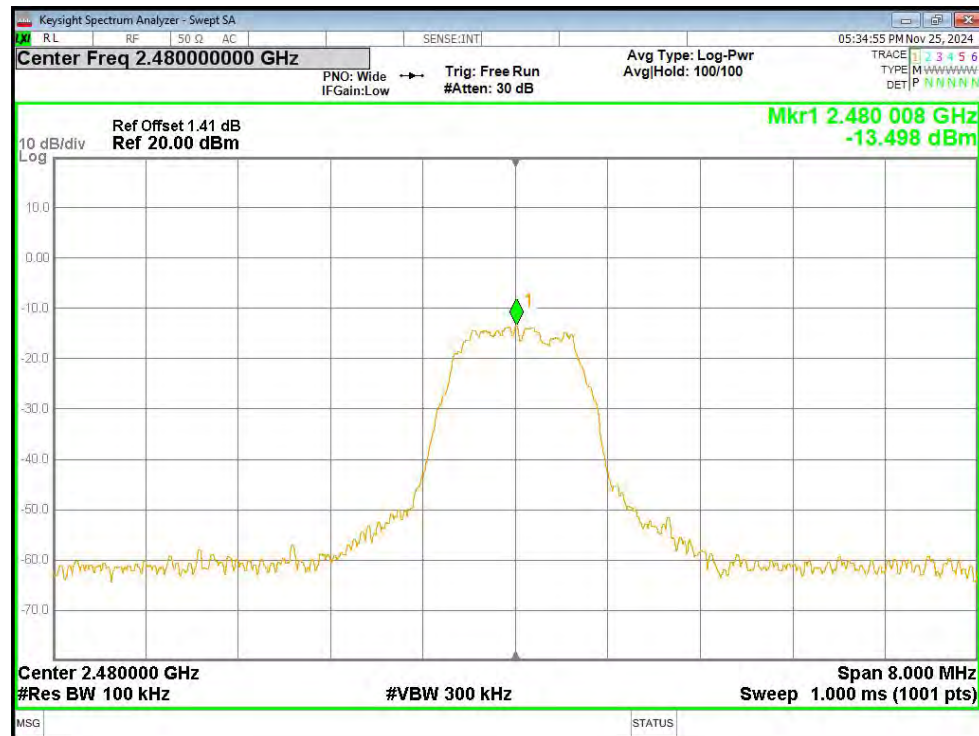
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



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

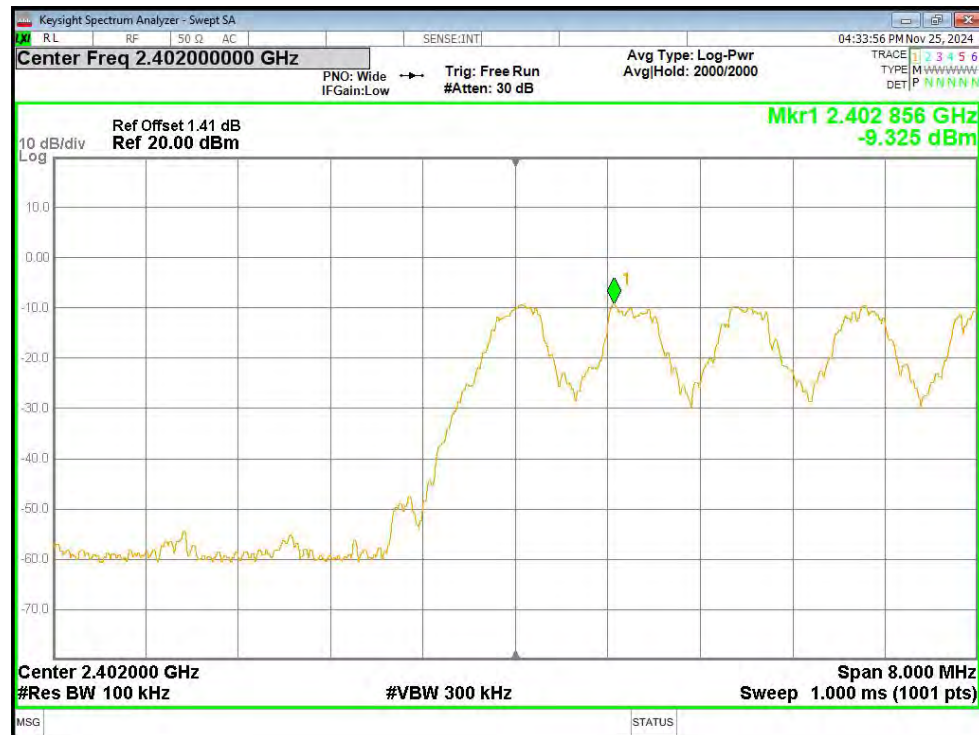


8.Band Edge(Hopping)

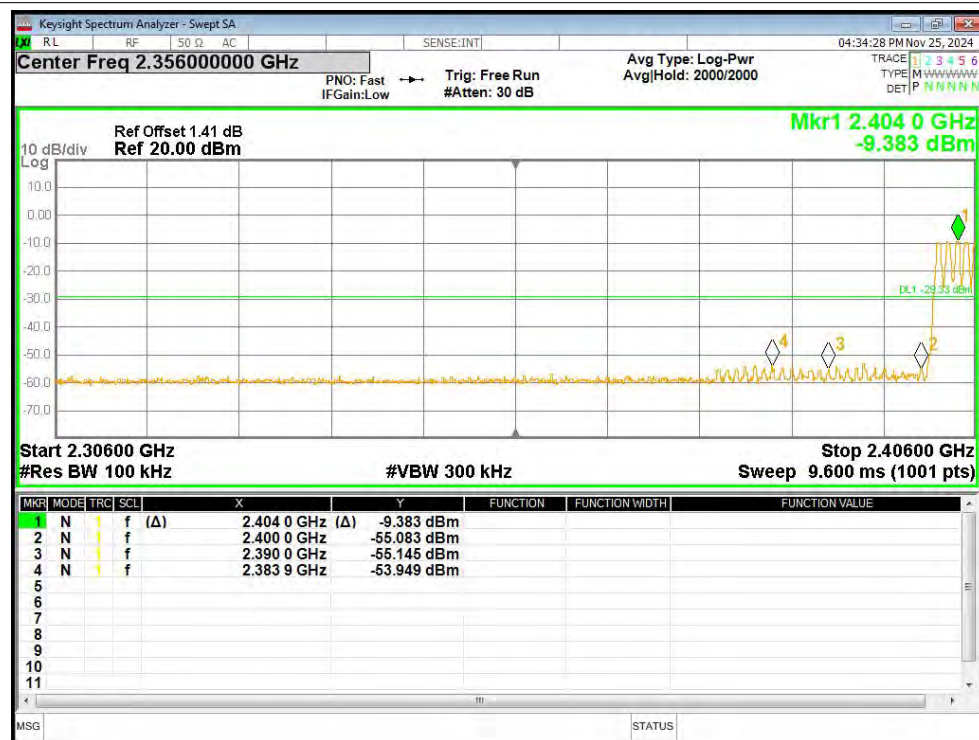
Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Hopping	-44.61	-20	Pass
1-DH5	2480	Hopping	-44.9	-20	Pass
2-DH5	2402	Hopping	-44.26	-20	Pass
2-DH5	2480	Hopping	-42.96	-20	Pass
3-DH5	2402	Hopping	-45.15	-20	Pass
3-DH5	2480	Hopping	-44.28	-20	Pass

Test Graphs

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



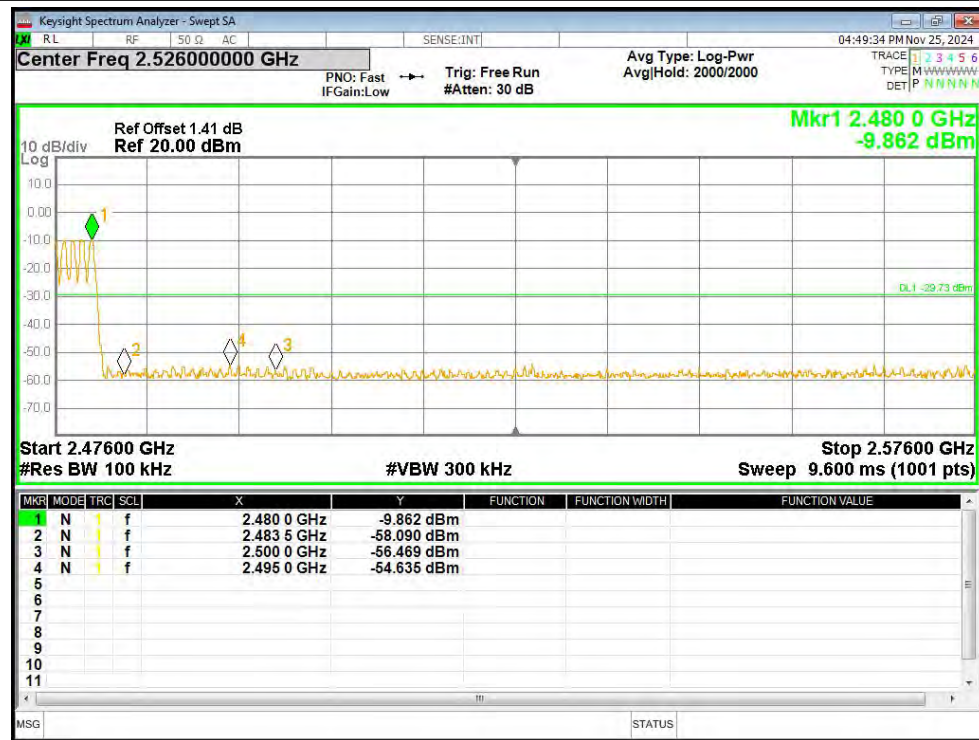
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



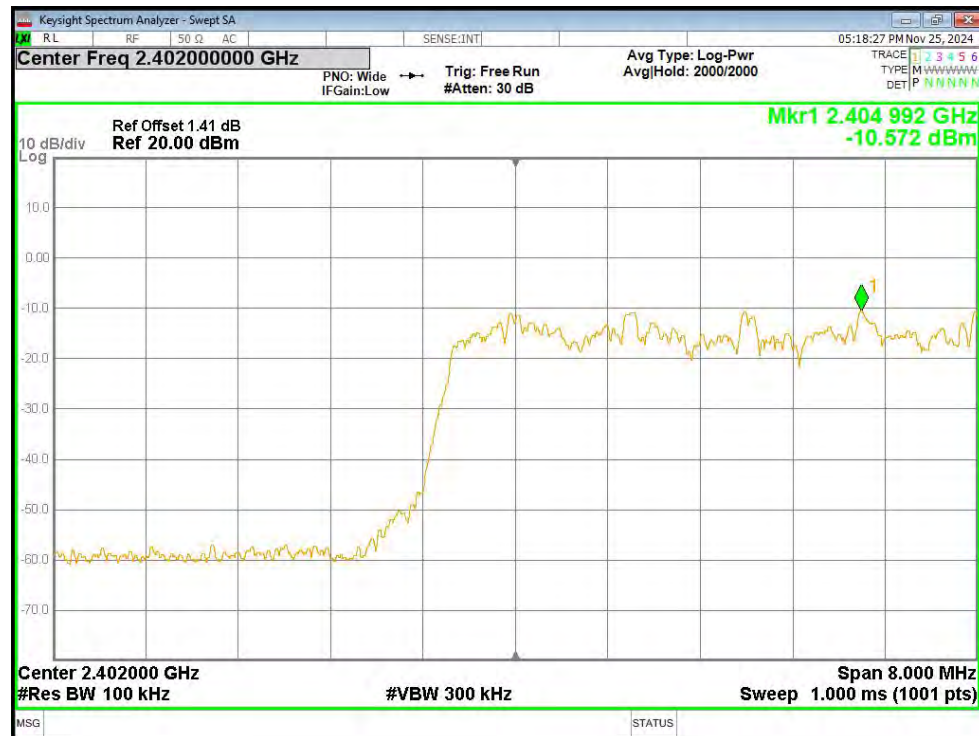
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



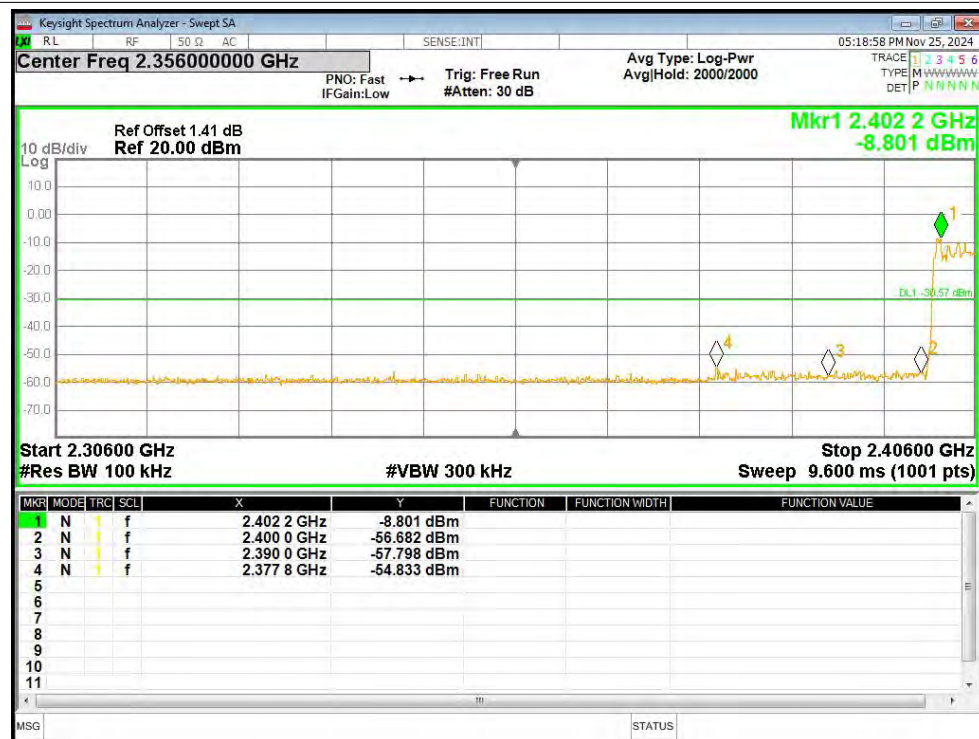
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



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



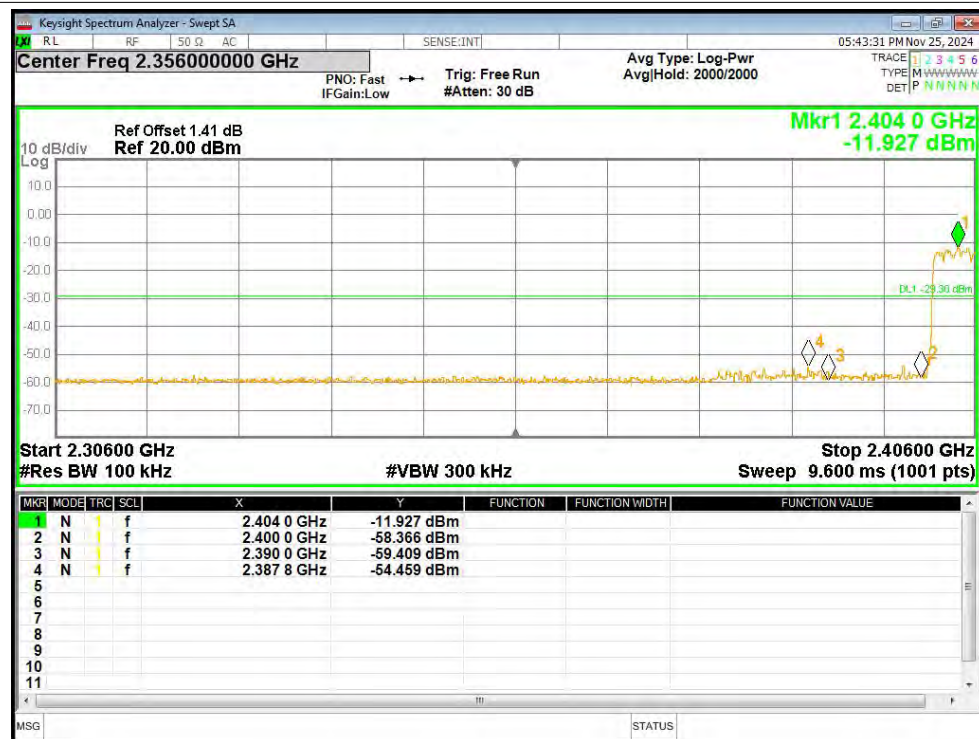
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



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

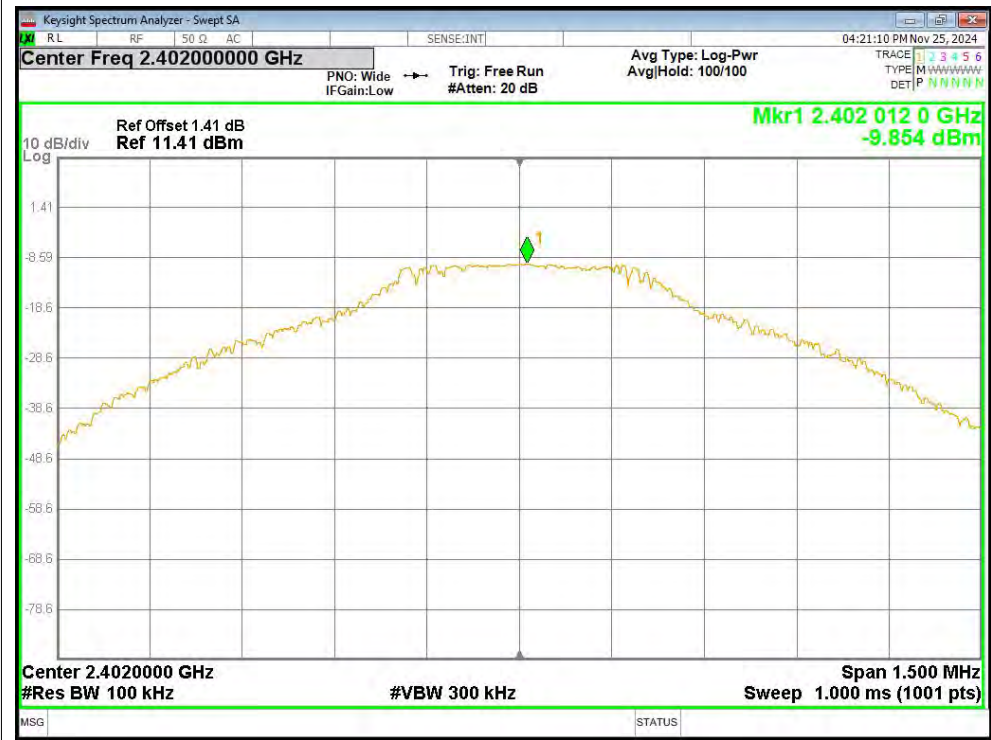


9. Conducted RF Spurious Emission

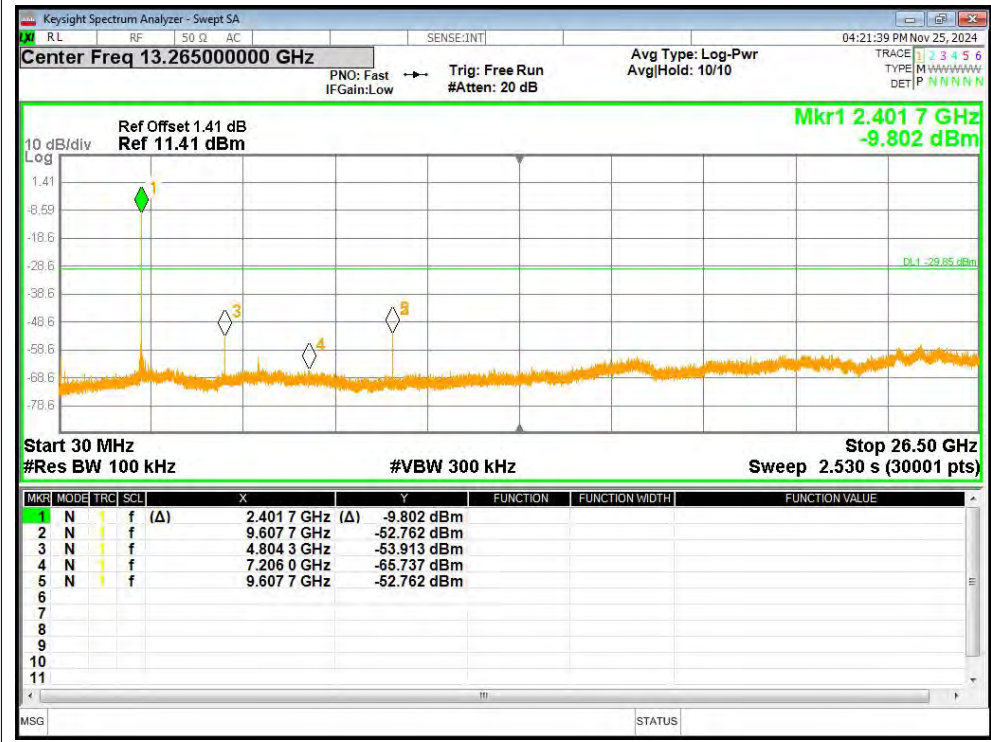
Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	-42.91	-20	Pass
1-DH5	2441	-39.91	-20	Pass
1-DH5	2480	-40.12	-20	Pass
2-DH5	2402	-42.27	-20	Pass
2-DH5	2441	-39.59	-20	Pass
2-DH5	2480	-39.86	-20	Pass
3-DH5	2402	-42.56	-20	Pass
3-DH5	2441	-39.37	-20	Pass
3-DH5	2480	-39.5	-20	Pass

Test Graphs

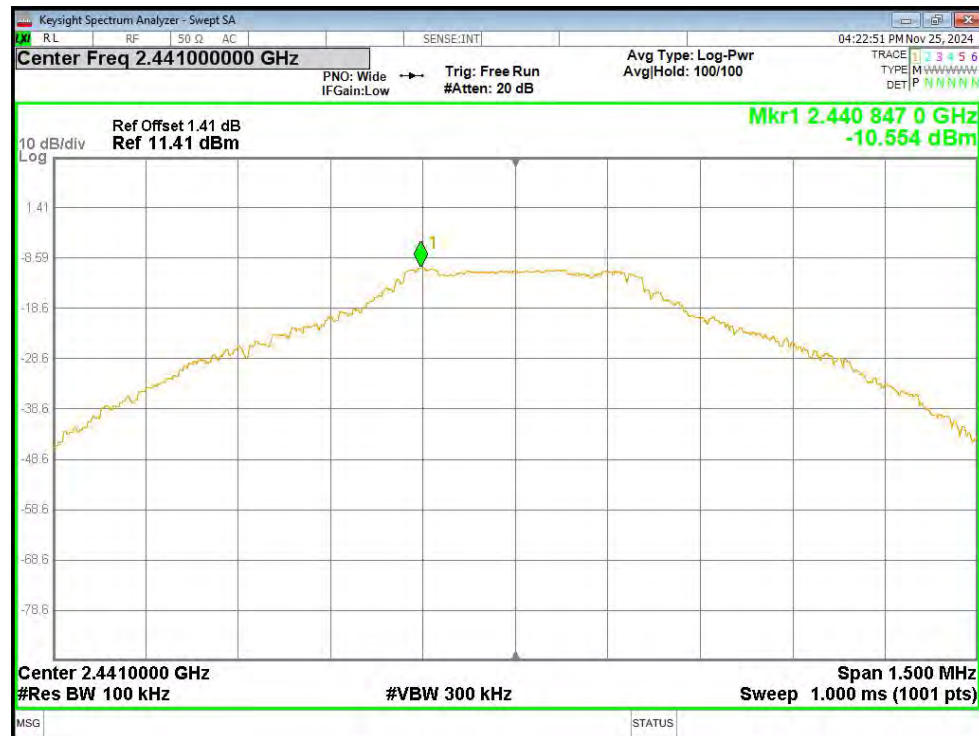
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



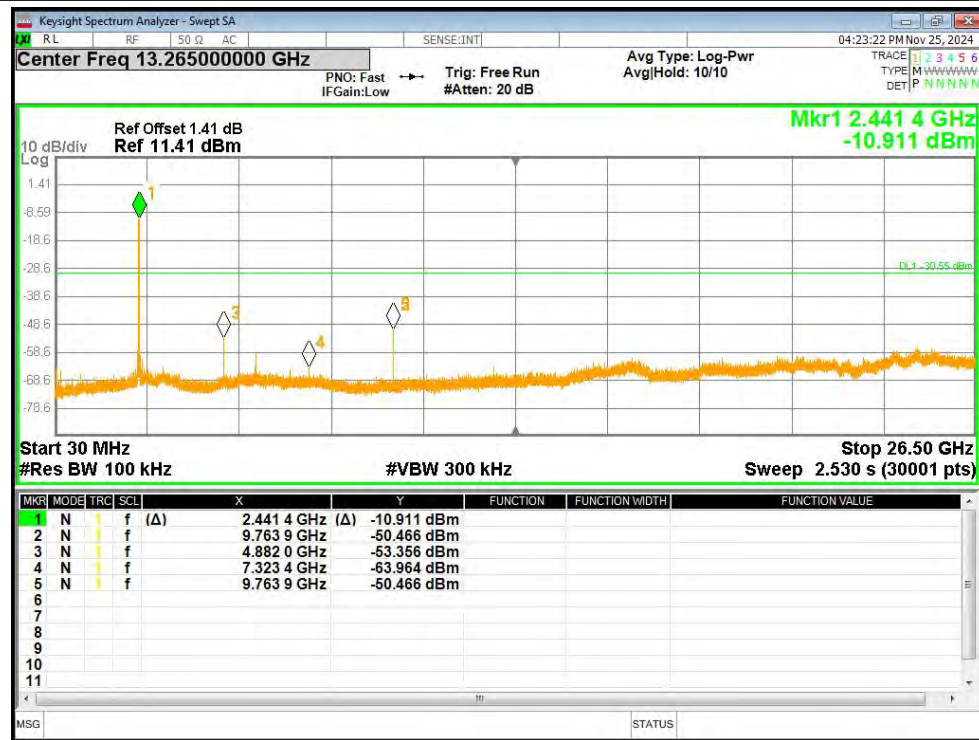
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



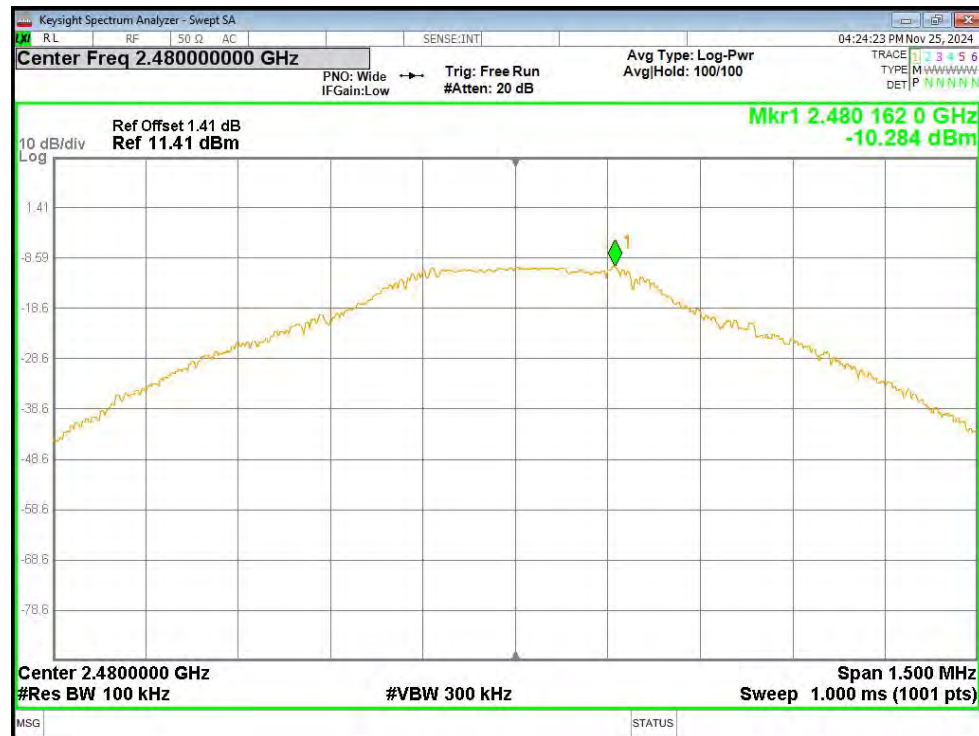
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



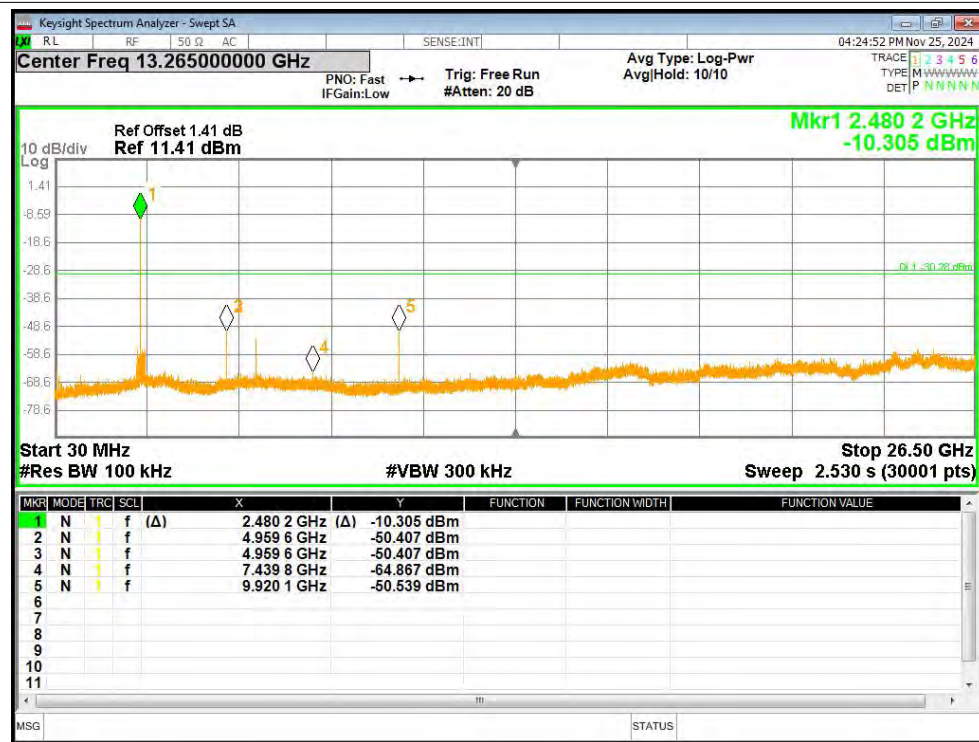
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



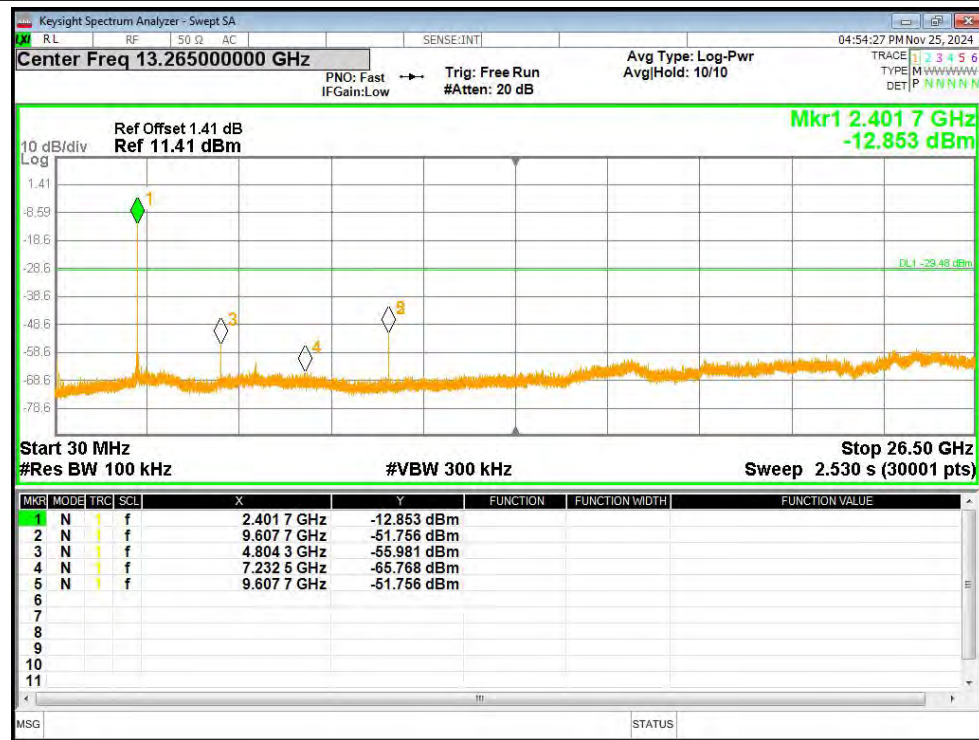
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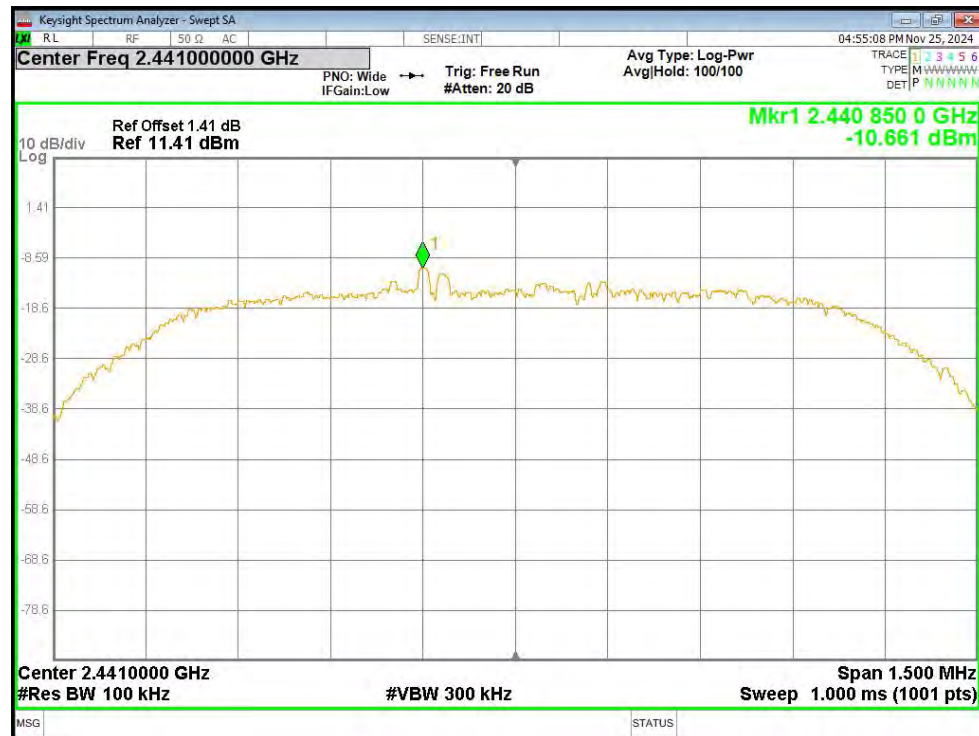
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



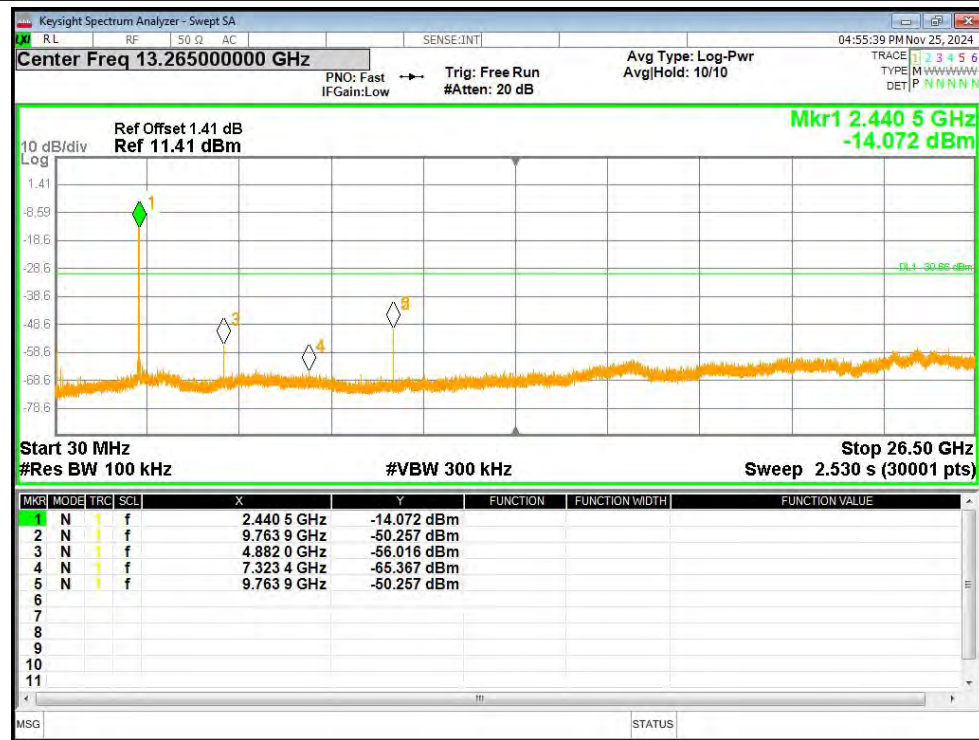
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



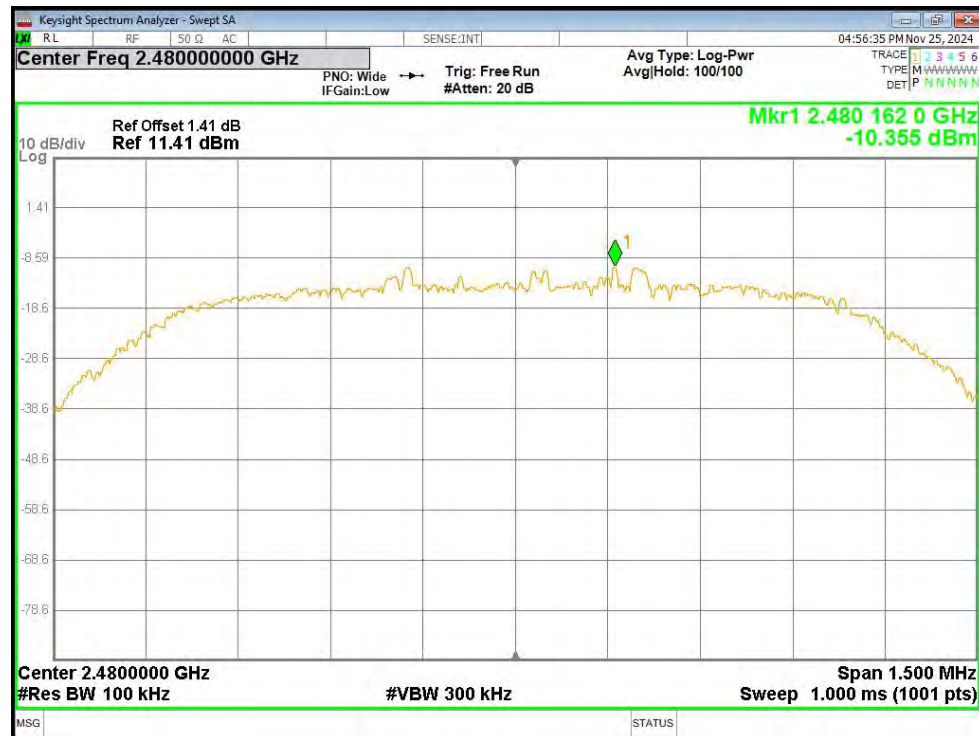
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



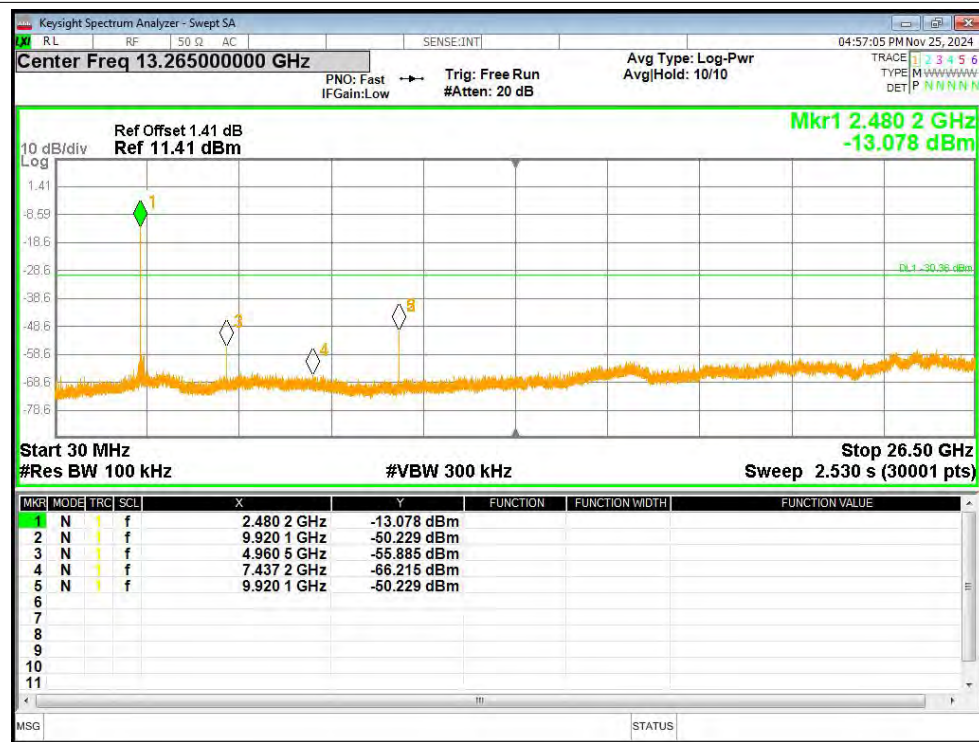
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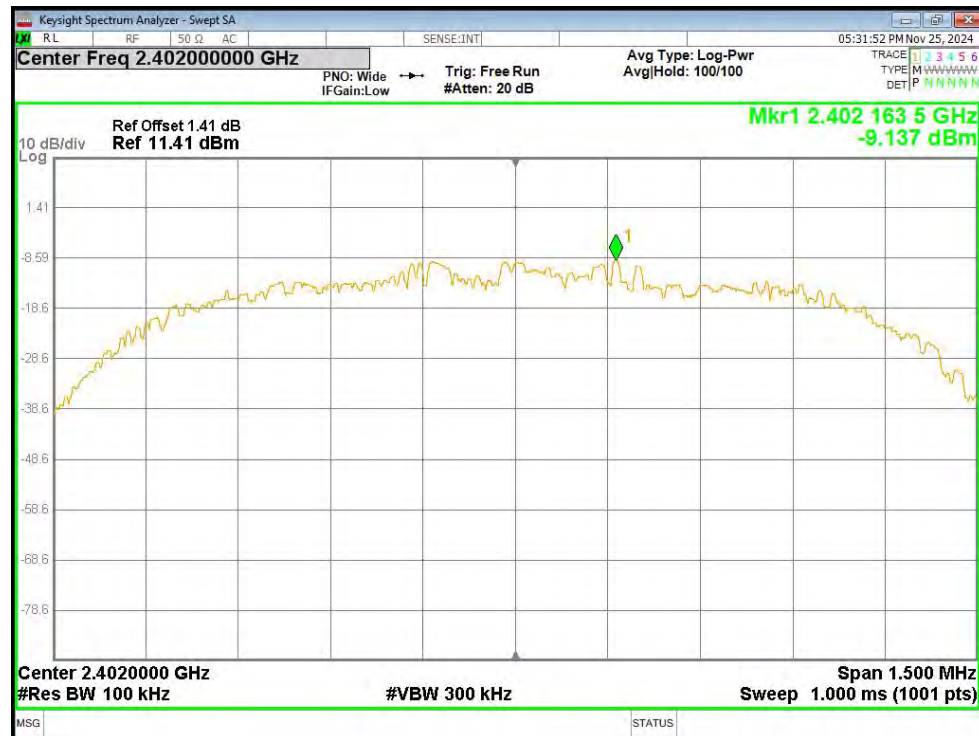
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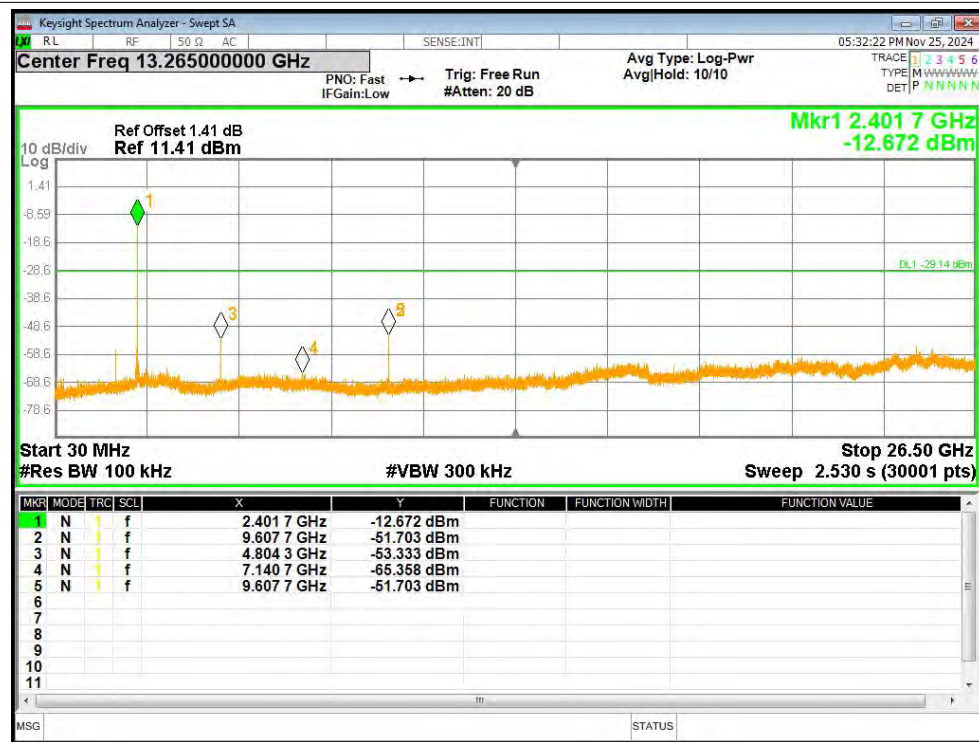
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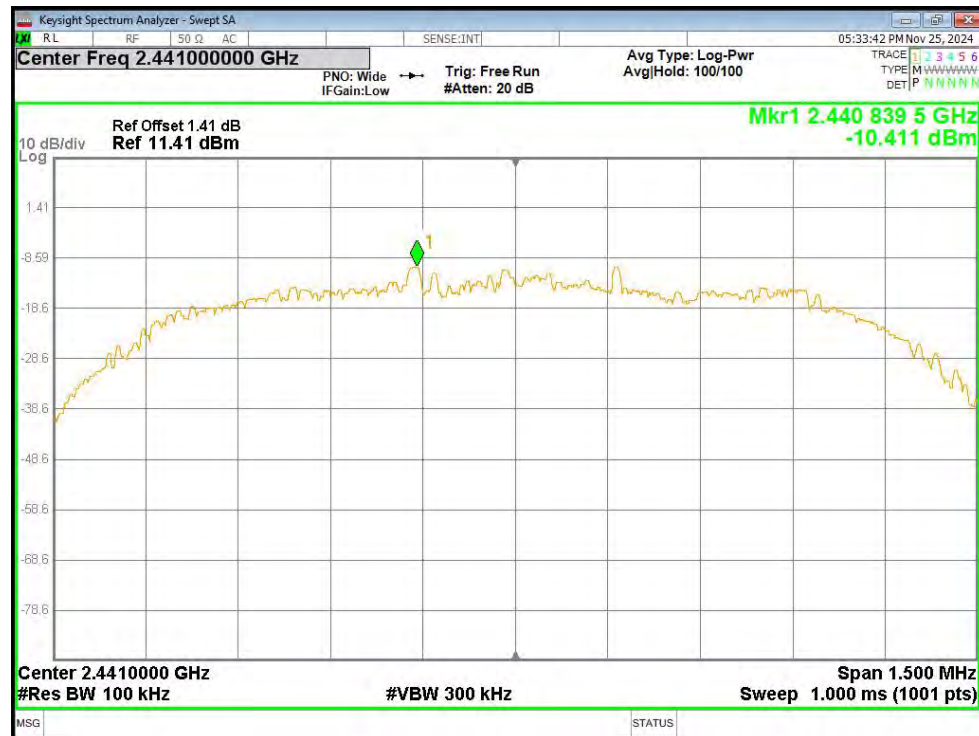
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



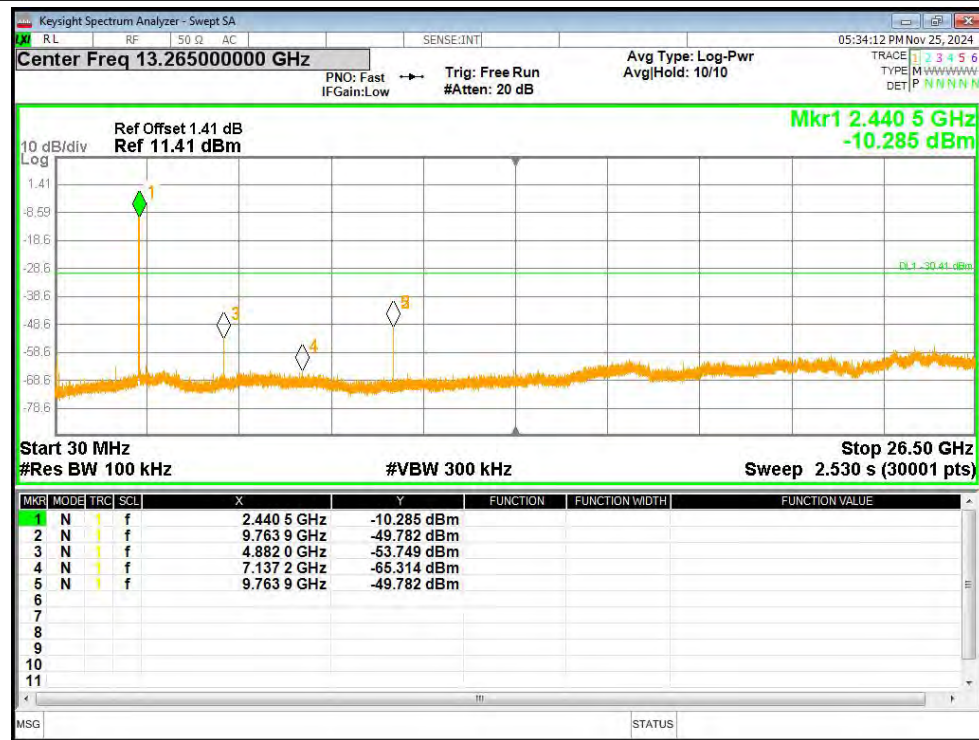
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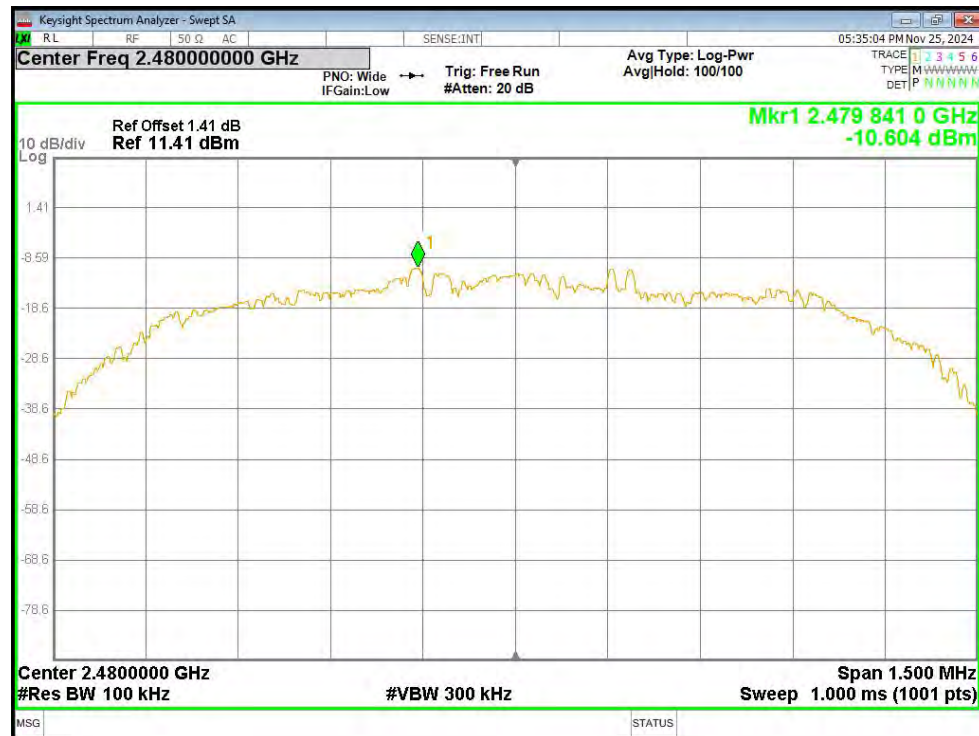
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

