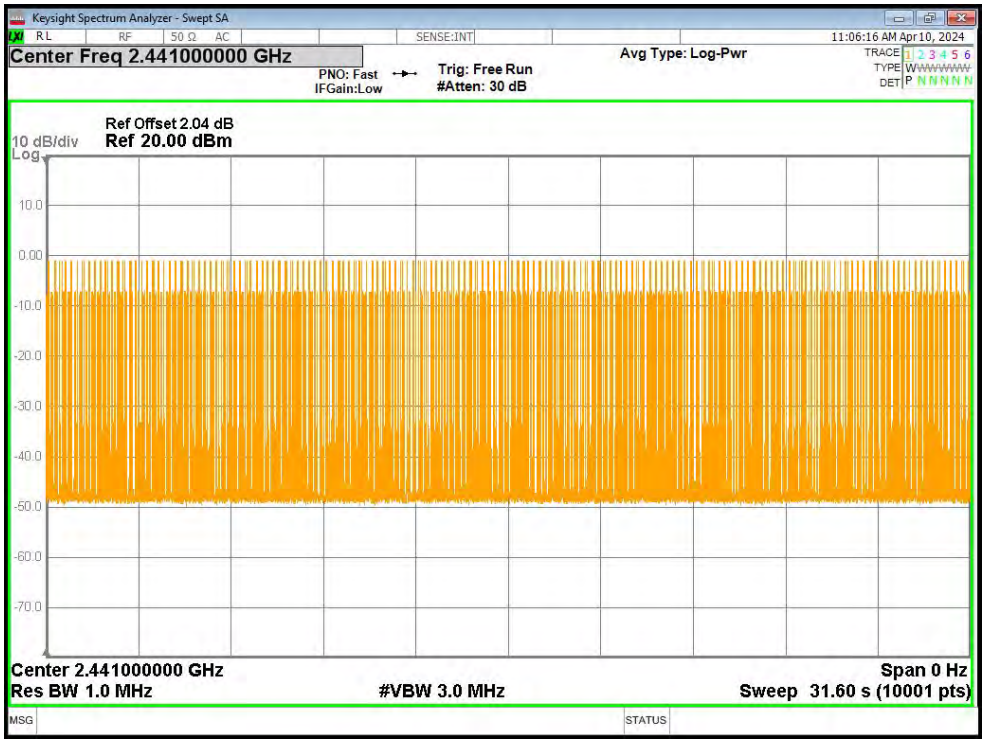
Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.383	122.177	319	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.639	255.684	156	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.886	303.03	105	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.391	124.729	319	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.643	264.523	161	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.891	280.427	97	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.391	124.729	319	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.644	264.684	161	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.891	291.991	101	31600	400	Pass

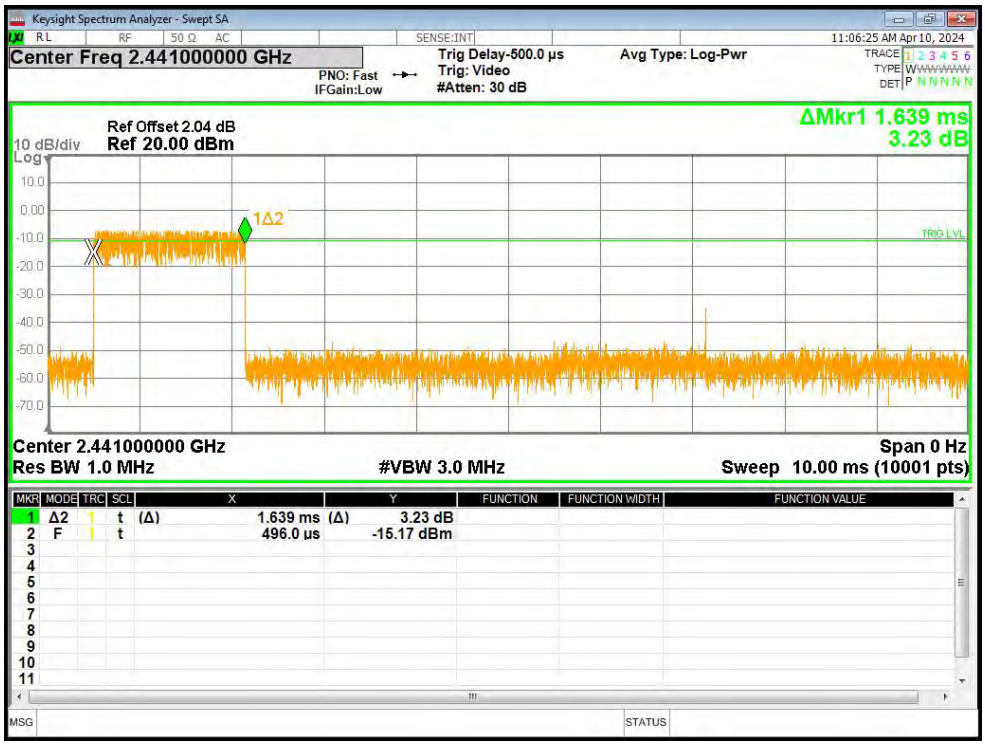
Test Graphs

Dwell NVNT 1-DH1 2441MHz Ant1 One Burst

Dwell NVNT 1-DH1 2441MHz Ant1 Accumulated

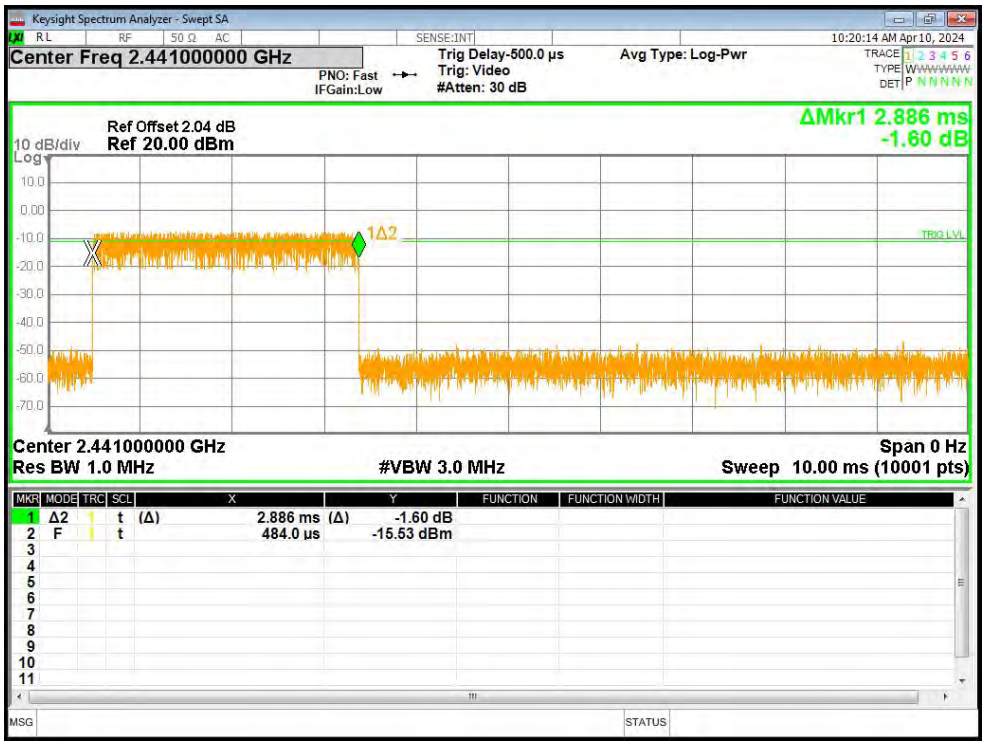


Dwell NVNT 1-DH3 2441MHz Ant1 One Burst



Dwell NVNT 1-DH3 2441MHz Ant1 Accumulated

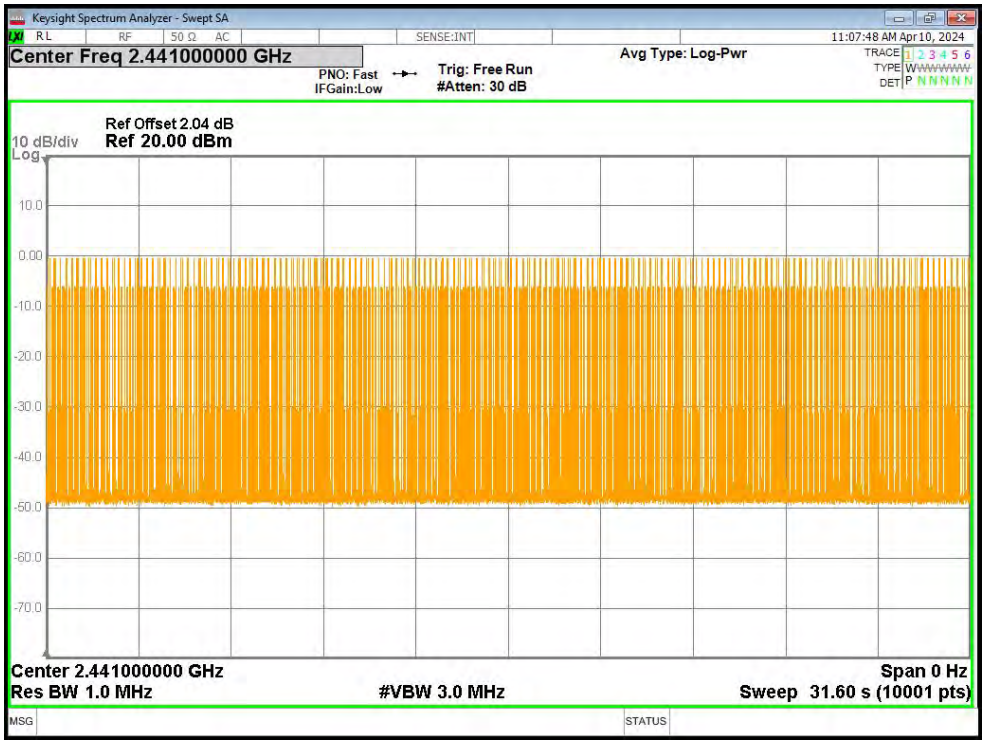
Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated

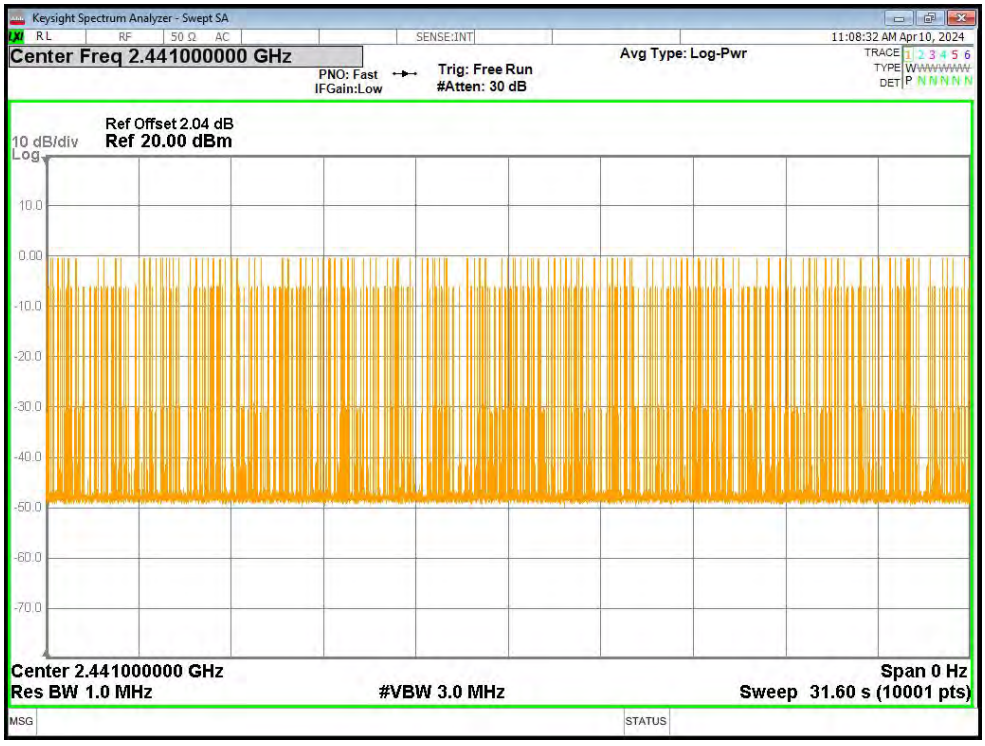
Dwell NVNT 2-DH1 2441MHz Ant1 One Burst

Dwell NVNT 2-DH1 2441MHz Ant1 Accumulated



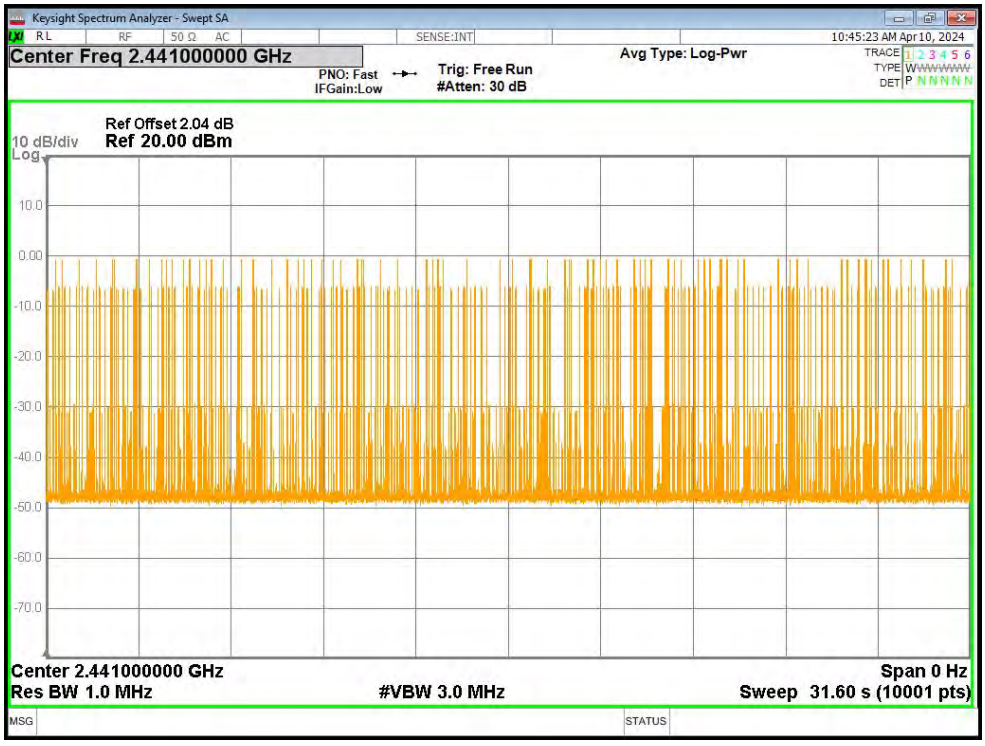
Dwell NVNT 2-DH3 2441MHz Ant1 One Burst

Dwell NVNT 2-DH3 2441MHz Ant1 Accumulated



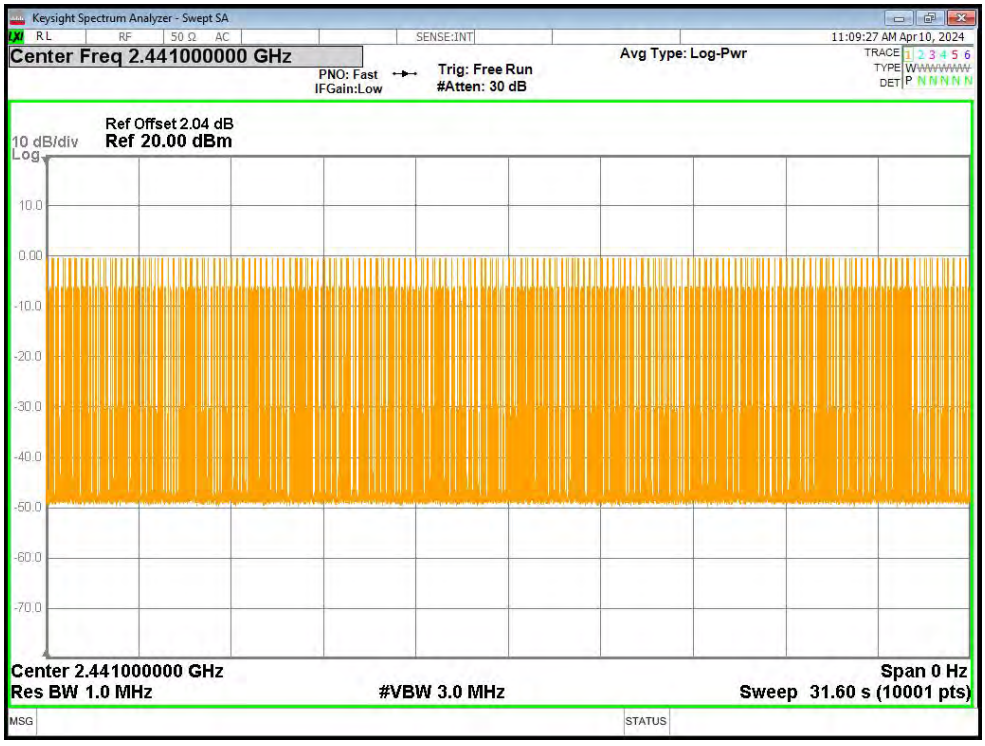
Dwell NVNT 2-DH5 2441MHz Ant1 One Burst

Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated



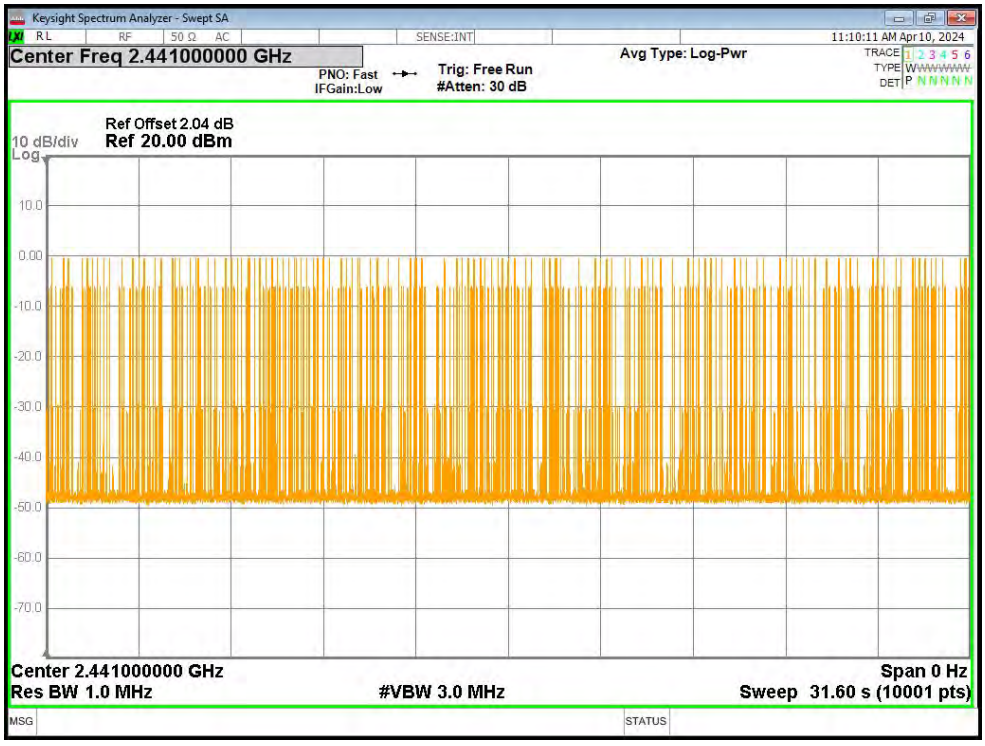
Dwell NVNT 3-DH1 2441MHz Ant1 One Burst

Dwell NVNT 3-DH1 2441MHz Ant1 Accumulated



Dwell NVNT 3-DH3 2441MHz Ant1 One Burst

Dwell NVNT 3-DH3 2441MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2441MHz Ant1 One Burst

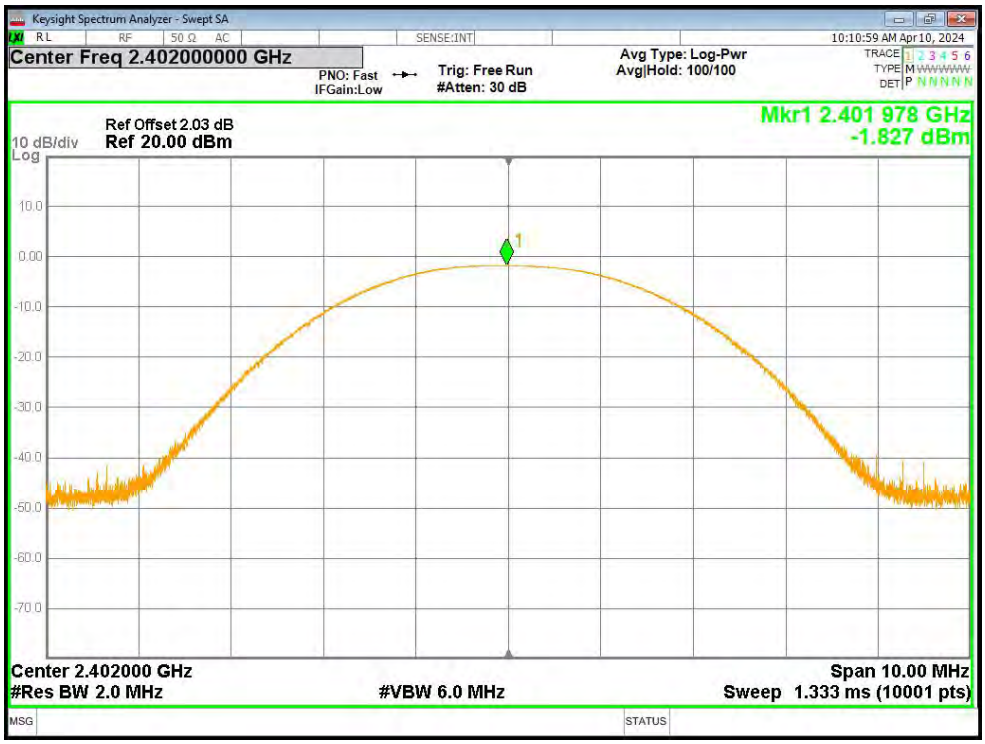
Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated

Maximum Peak Conducted Output Power

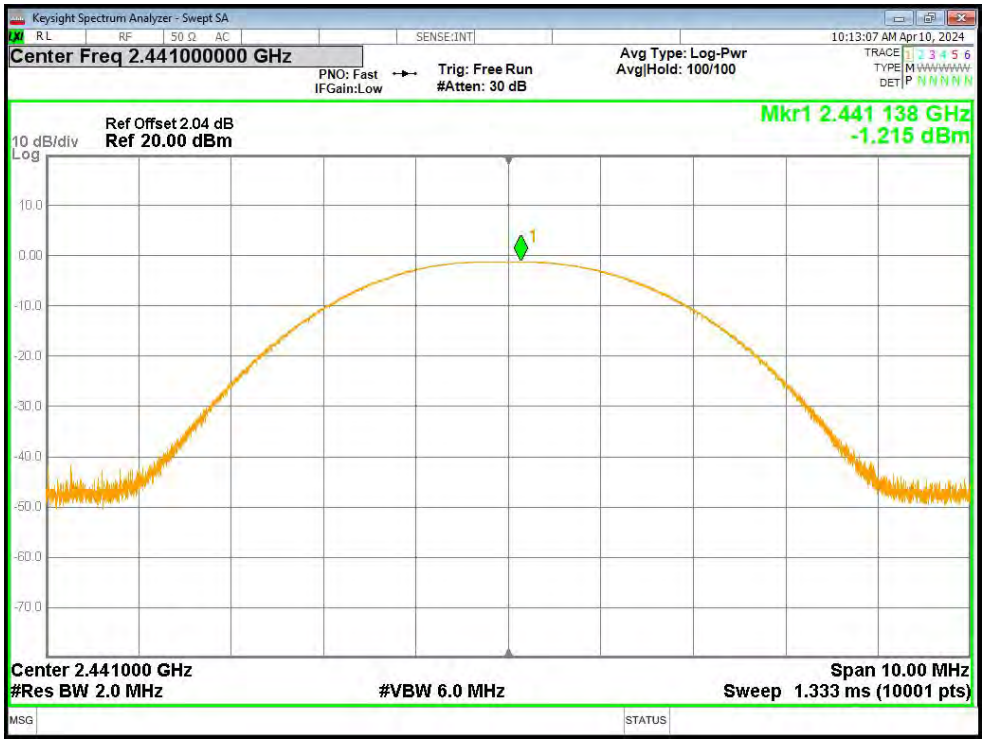
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.83	21	Pass
NVNT	1-DH5	2441	Ant1	-1.22	21	Pass
NVNT	1-DH5	2480	Ant1	-1.02	21	Pass
NVNT	2-DH5	2402	Ant1	-0.99	21	Pass
NVNT	2-DH5	2441	Ant1	-0.3	21	Pass
NVNT	2-DH5	2480	Ant1	-0.13	21	Pass
NVNT	3-DH5	2402	Ant1	-0.9	21	Pass
NVNT	3-DH5	2441	Ant1	-0.17	21	Pass
NVNT	3-DH5	2480	Ant1	0.05	21	Pass

Test Graphs

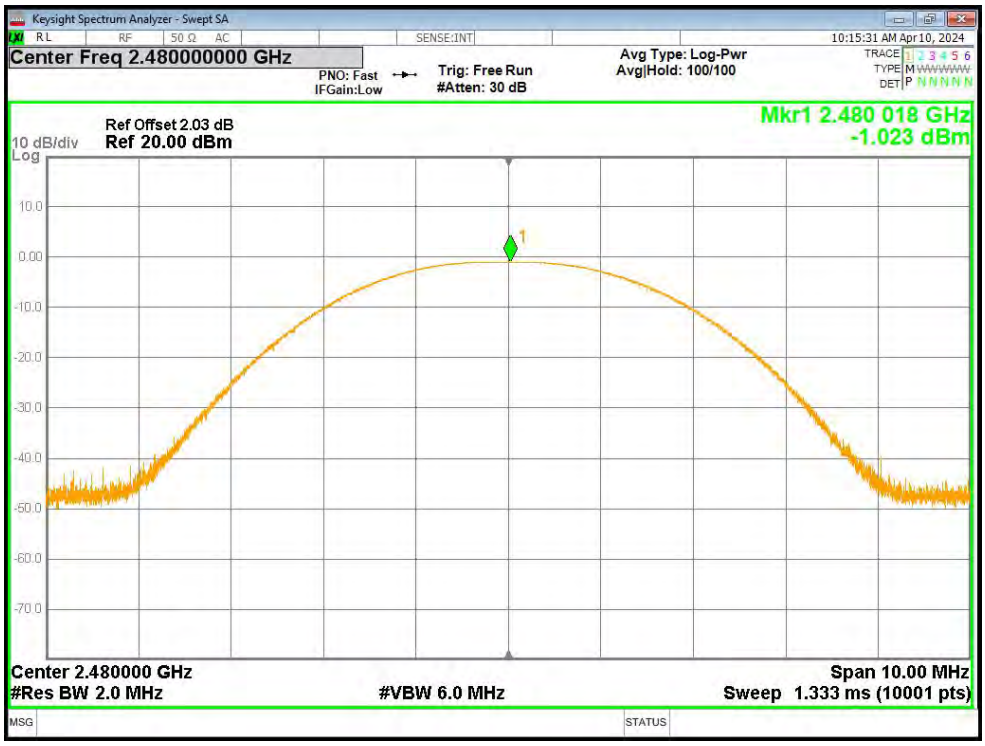
Peak Power NVNT 1-DH5 2402MHz Ant1



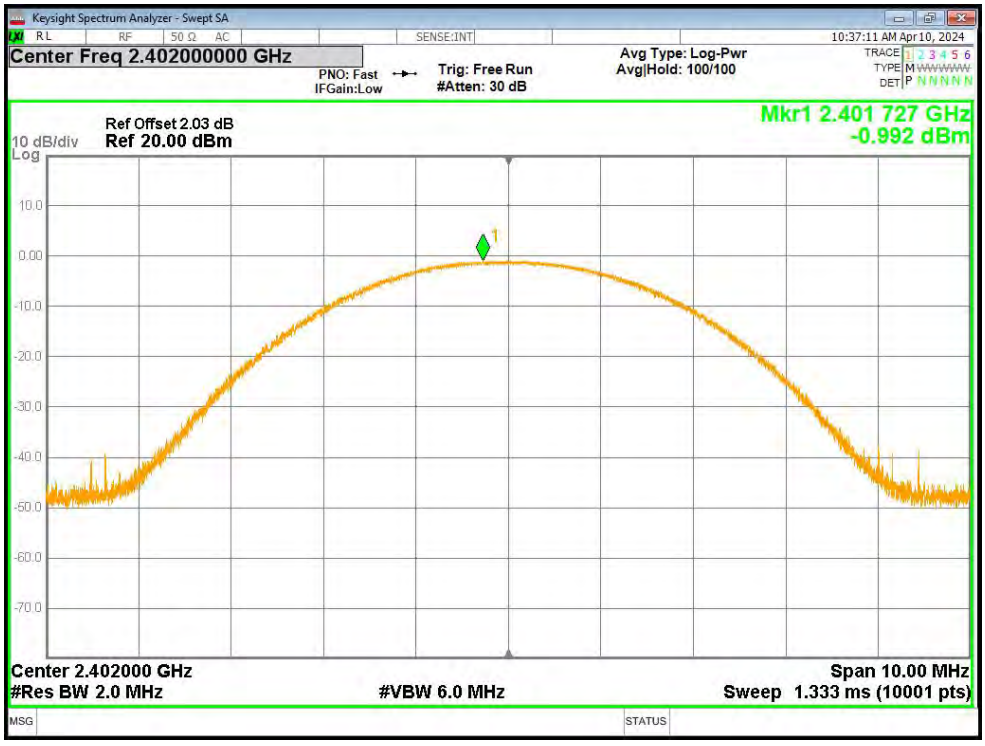
Peak Power NVNT 1-DH5 2441MHz Ant1



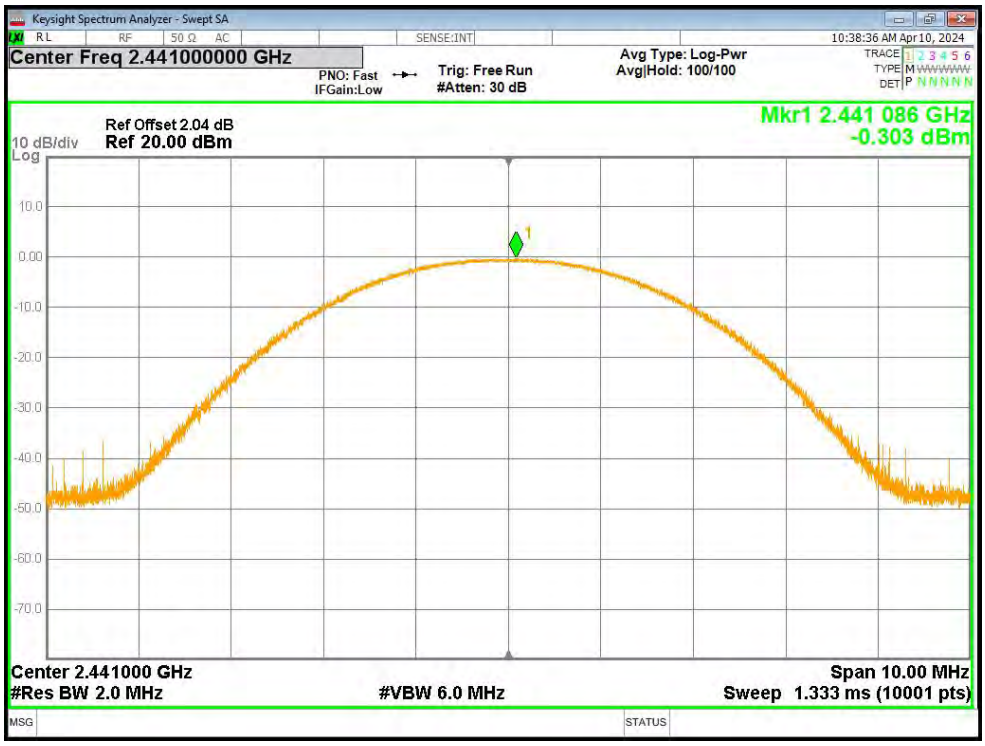
Peak Power NVNT 1-DH5 2480MHz Ant1



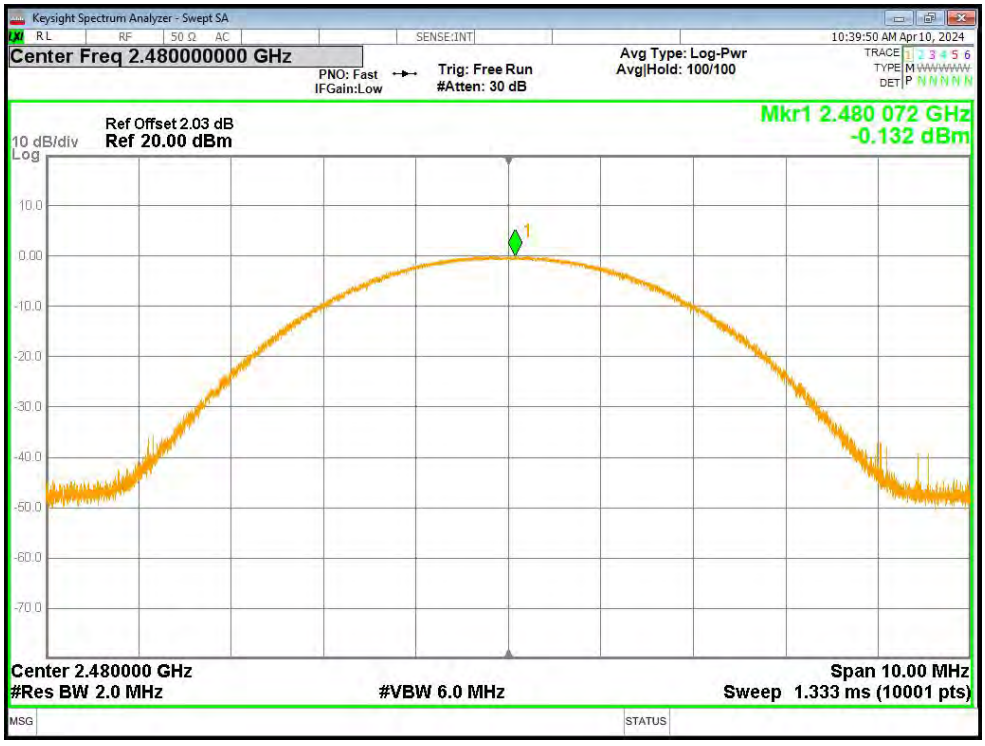
Peak Power NVNT 2-DH5 2402MHz Ant1



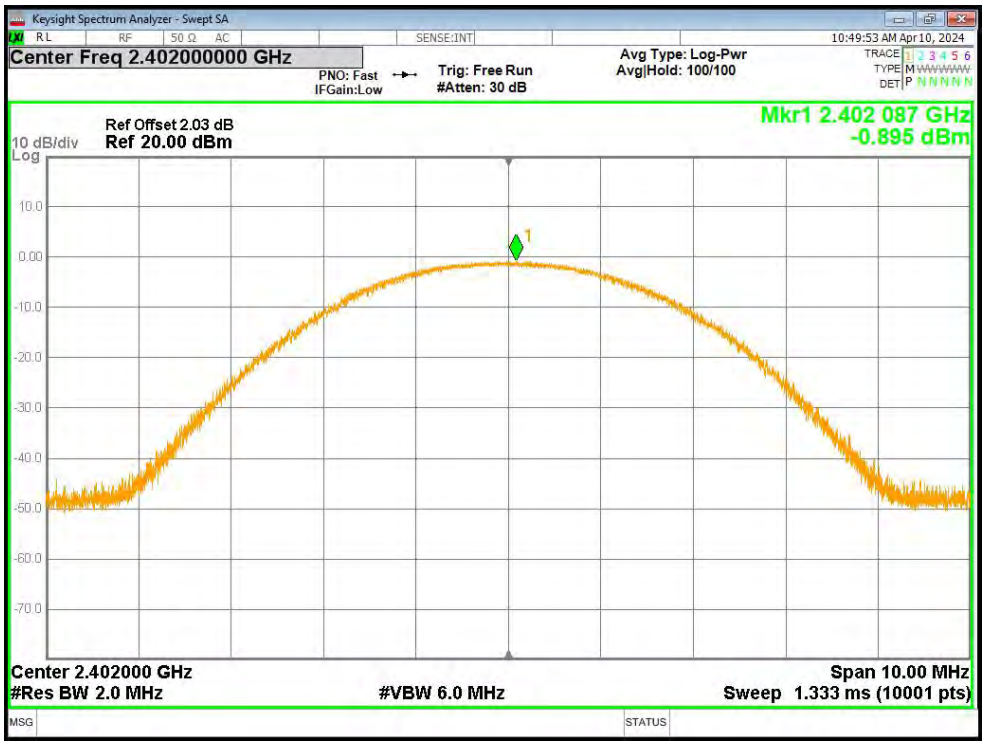
Peak Power NVNT 2-DH5 2441MHz Ant1



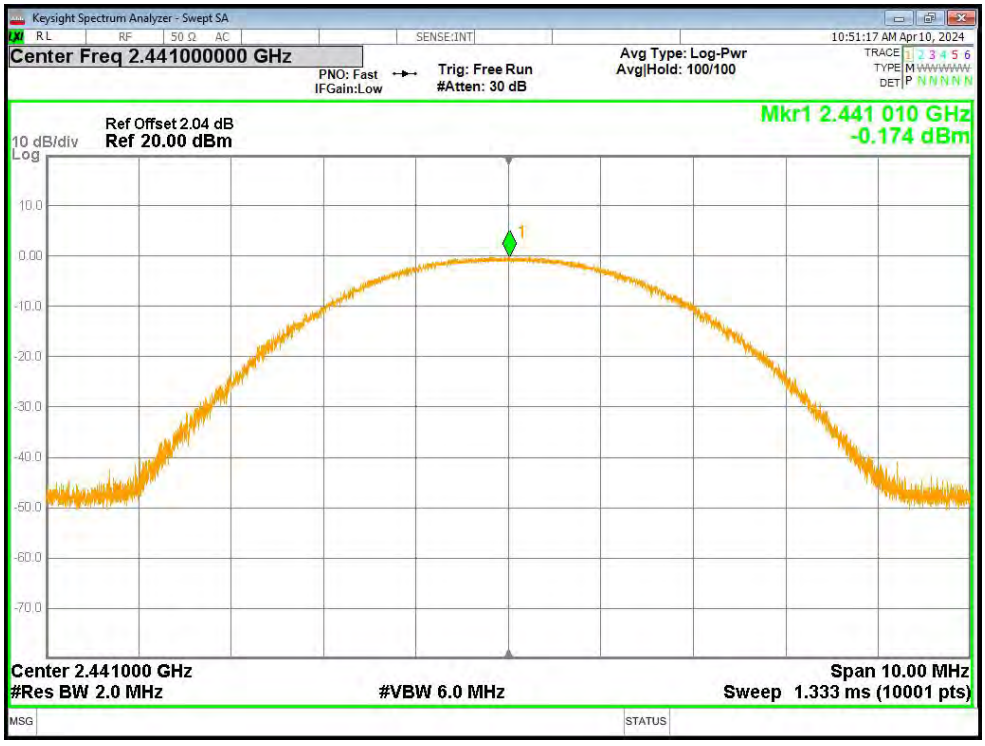
Peak Power NVNT 2-DH5 2480MHz Ant1



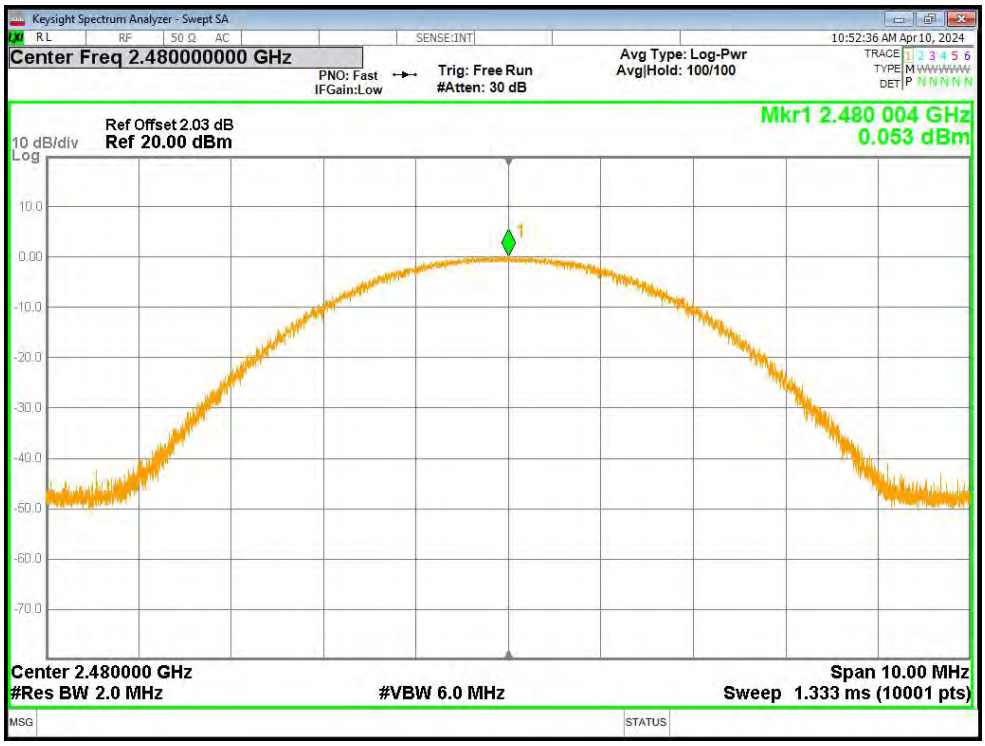
Peak Power NVNT 3-DH5 2402MHz Ant1



Peak Power NVNT 3-DH5 2441MHz Ant1



Peak Power NVNT 3-DH5 2480MHz Ant1

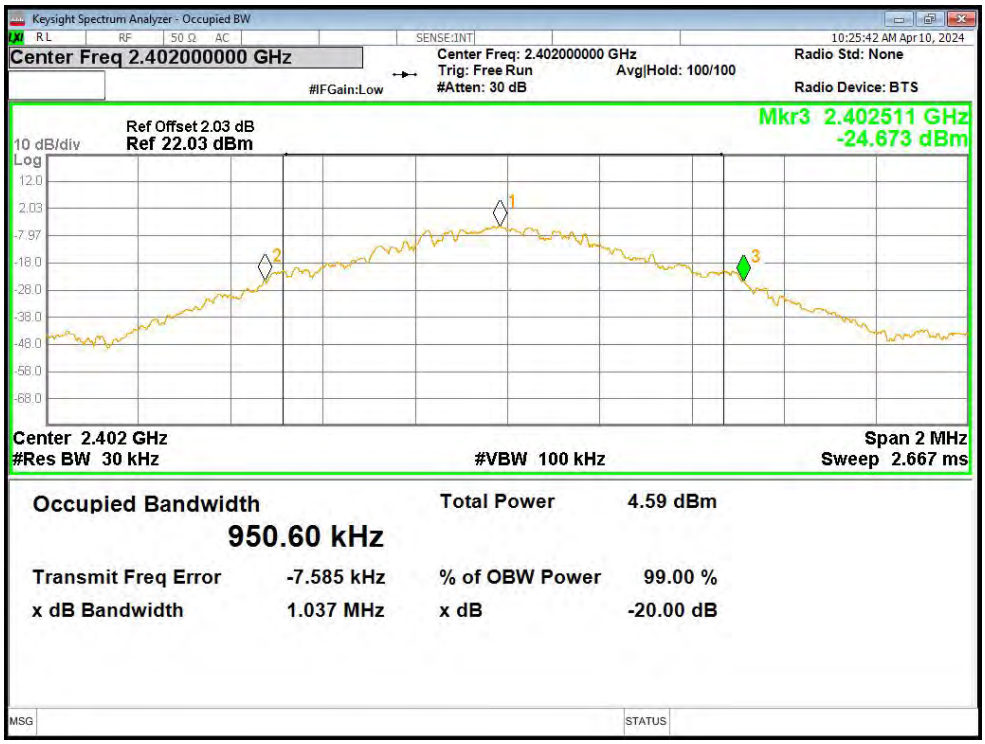


-20dB Bandwidth

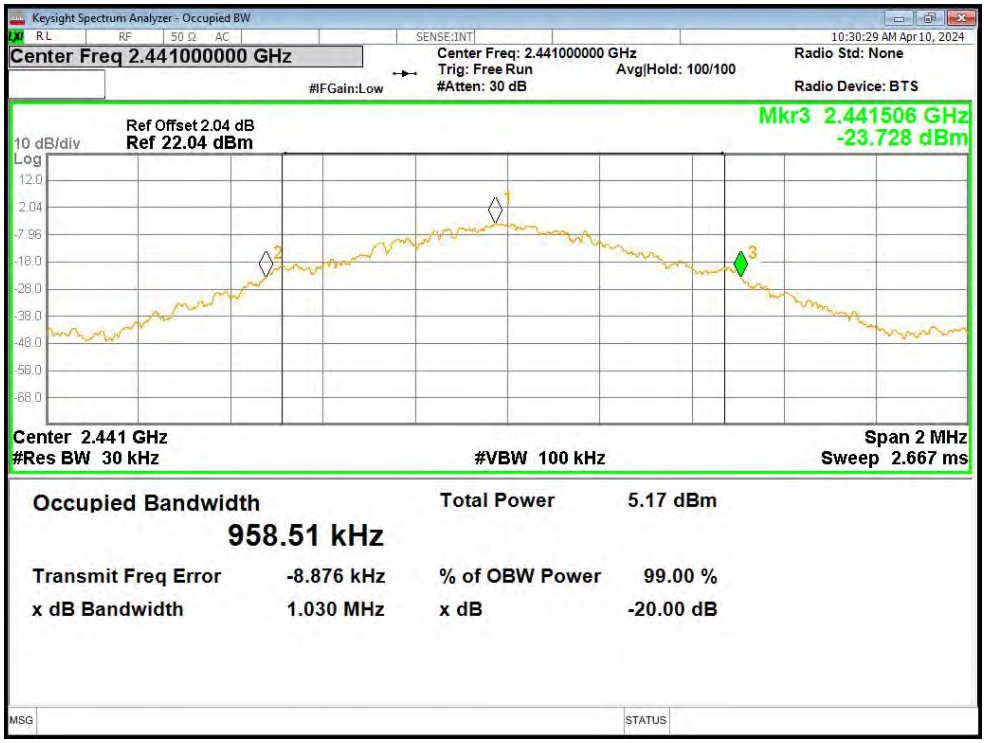
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.037	/	Pass
NVNT	1-DH5	2441	Ant1	1.03	/	Pass
NVNT	1-DH5	2480	Ant1	1.048	/	Pass
NVNT	2-DH5	2402	Ant1	1.332	/	Pass
NVNT	2-DH5	2441	Ant1	1.313	/	Pass
NVNT	2-DH5	2480	Ant1	1.331	/	Pass
NVNT	3-DH5	2402	Ant1	1.269	/	Pass
NVNT	3-DH5	2441	Ant1	1.34	/	Pass
NVNT	3-DH5	2480	Ant1	1.306	/	Pass

Test Graphs

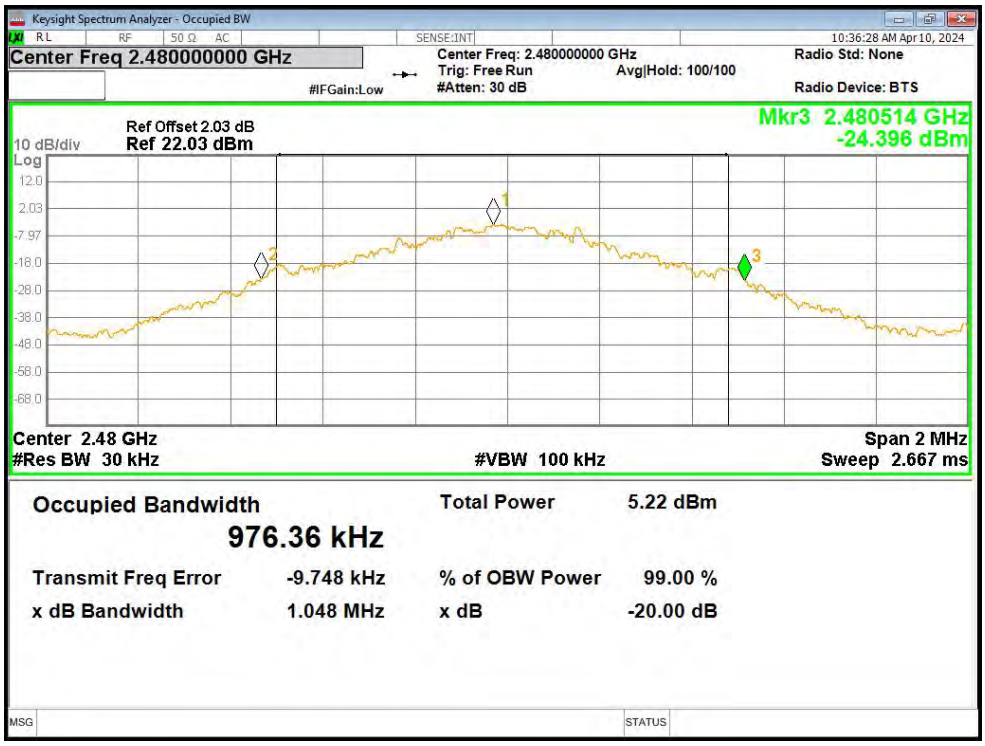
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



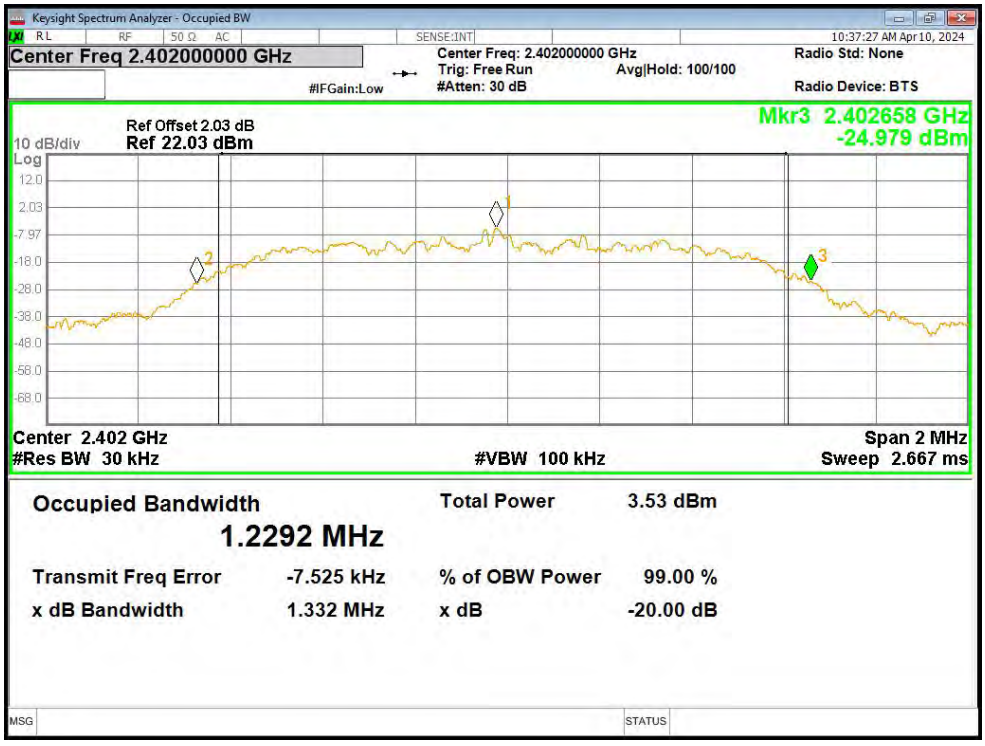
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



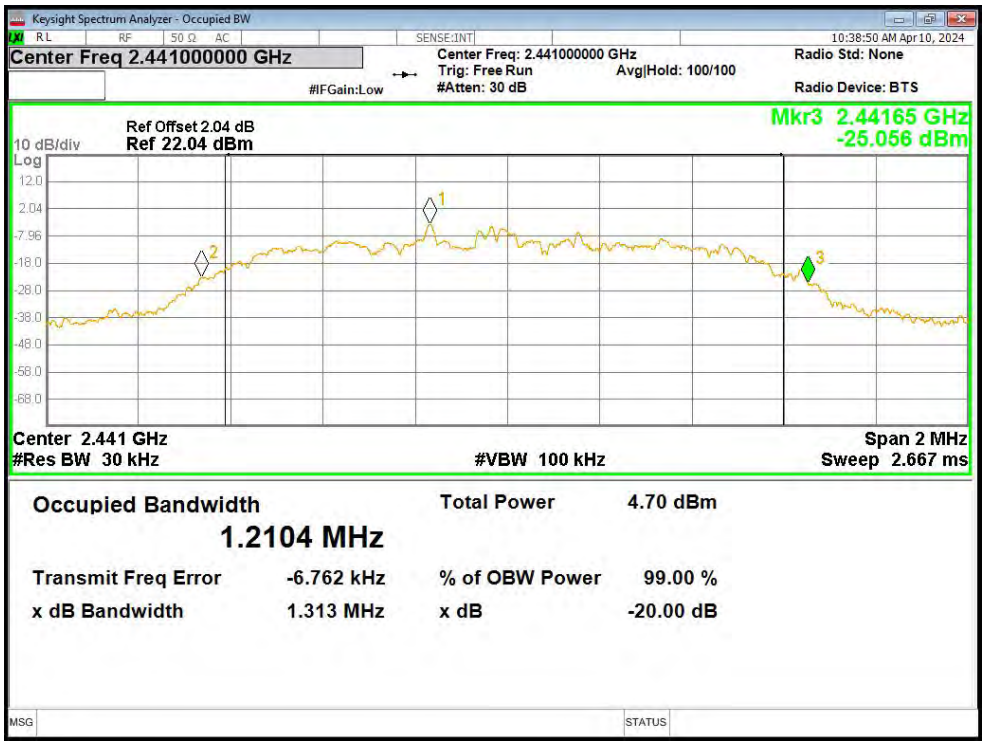
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



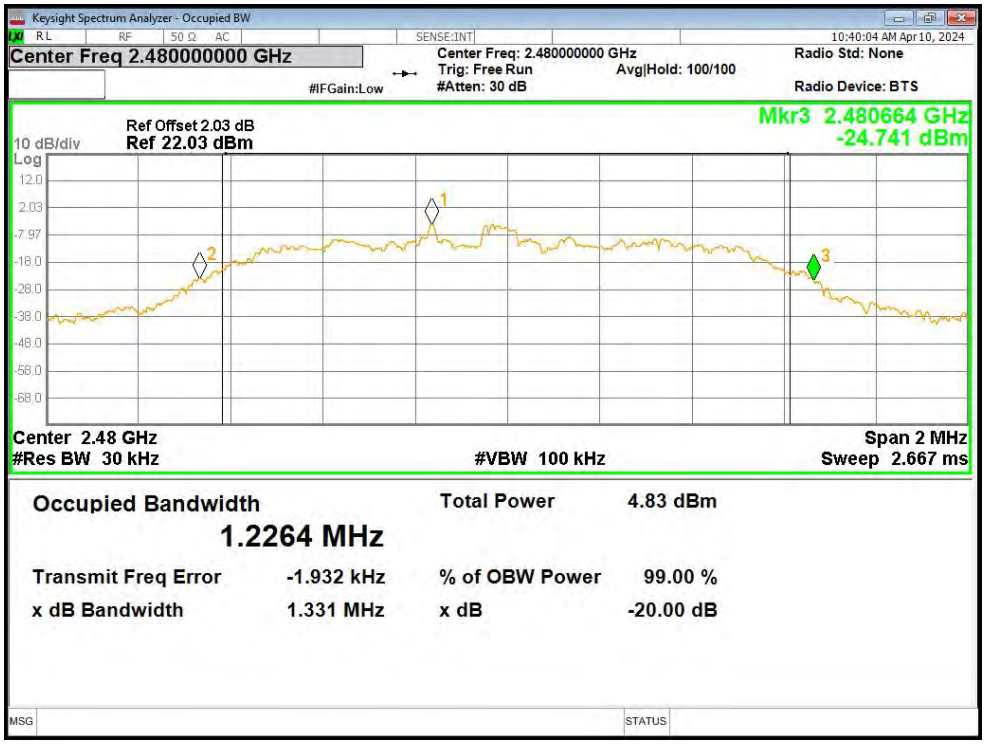
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



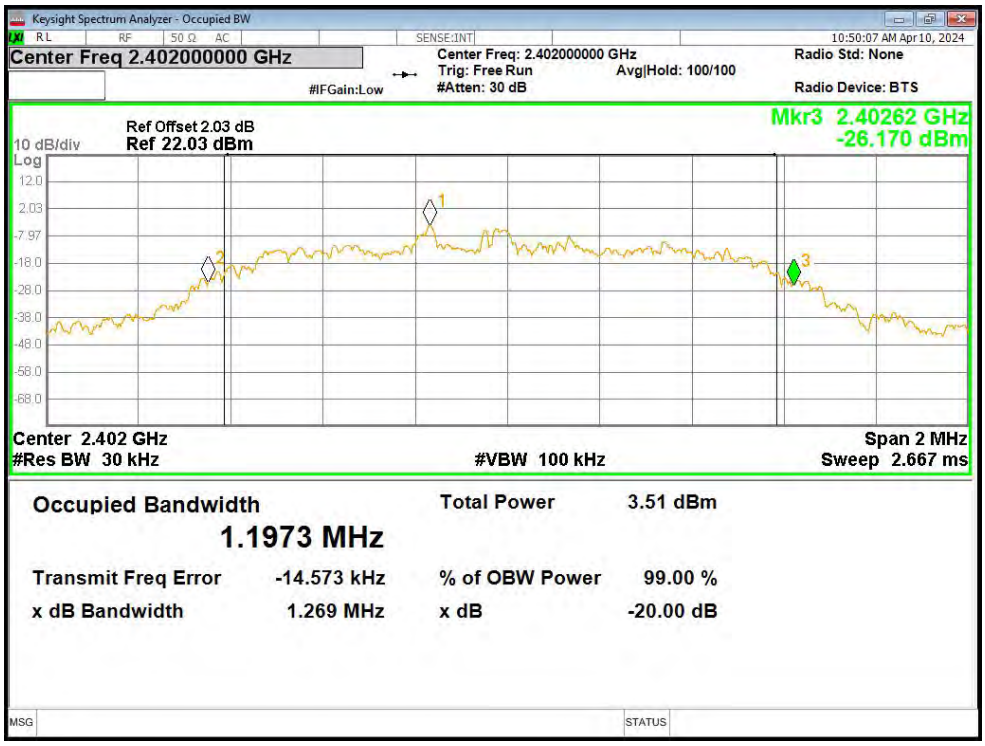
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



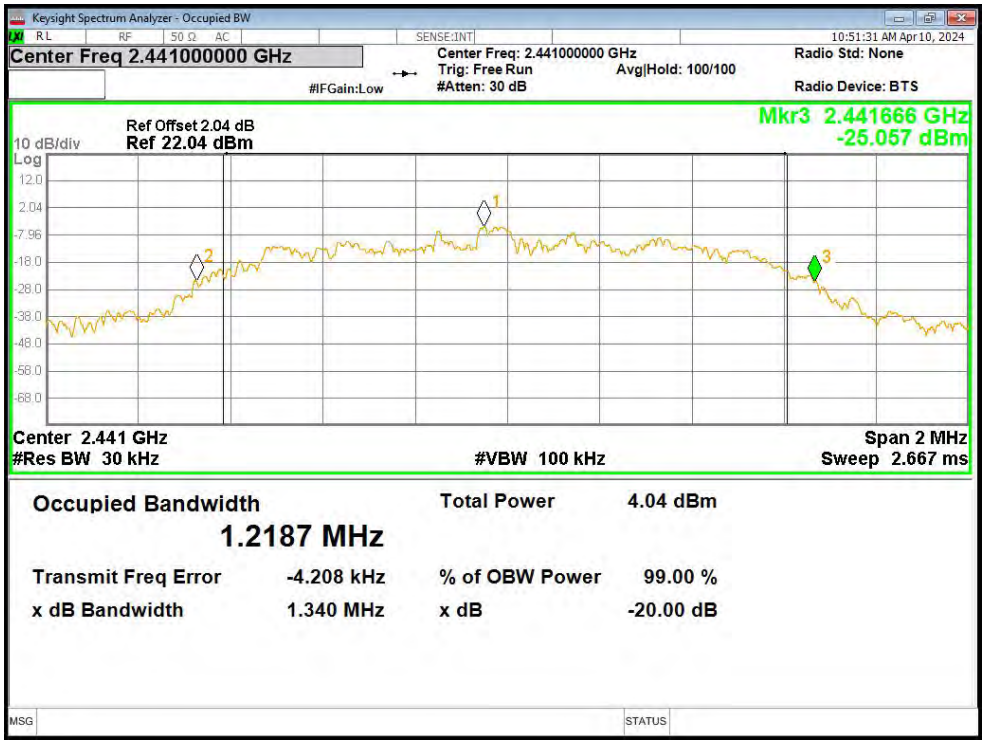
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



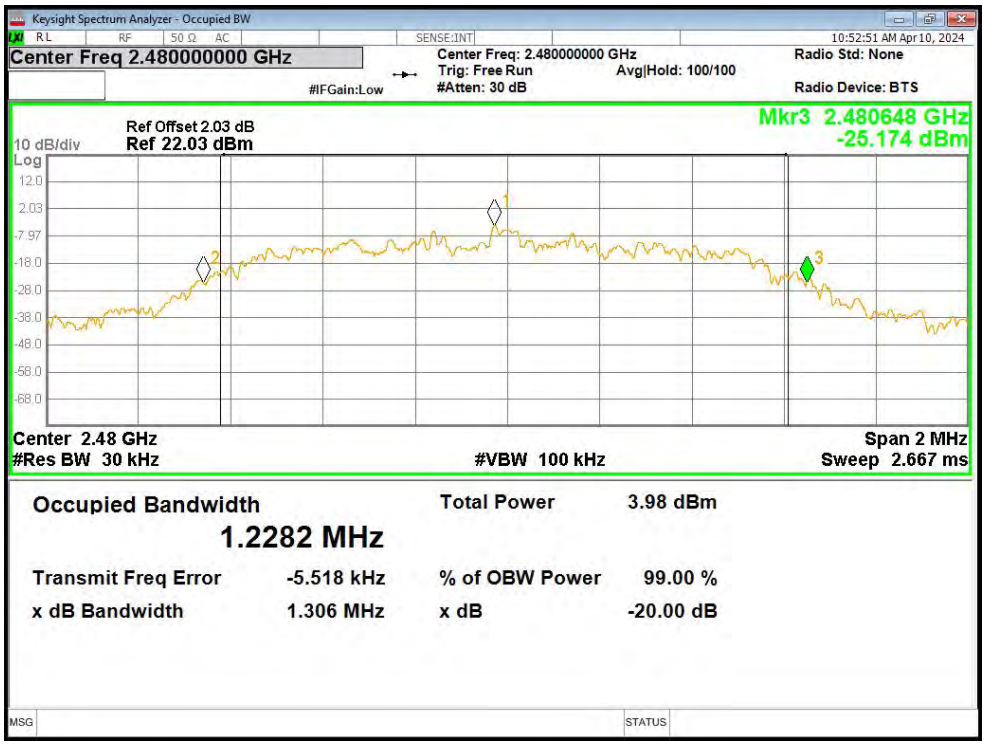
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

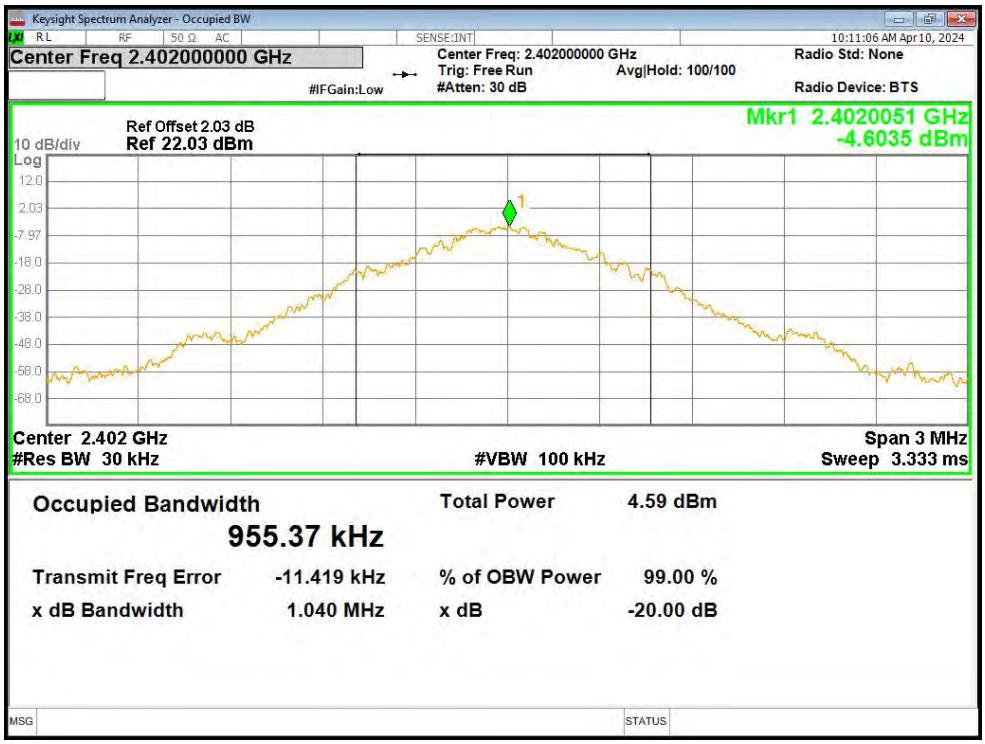


Occupied Channel Bandwidth

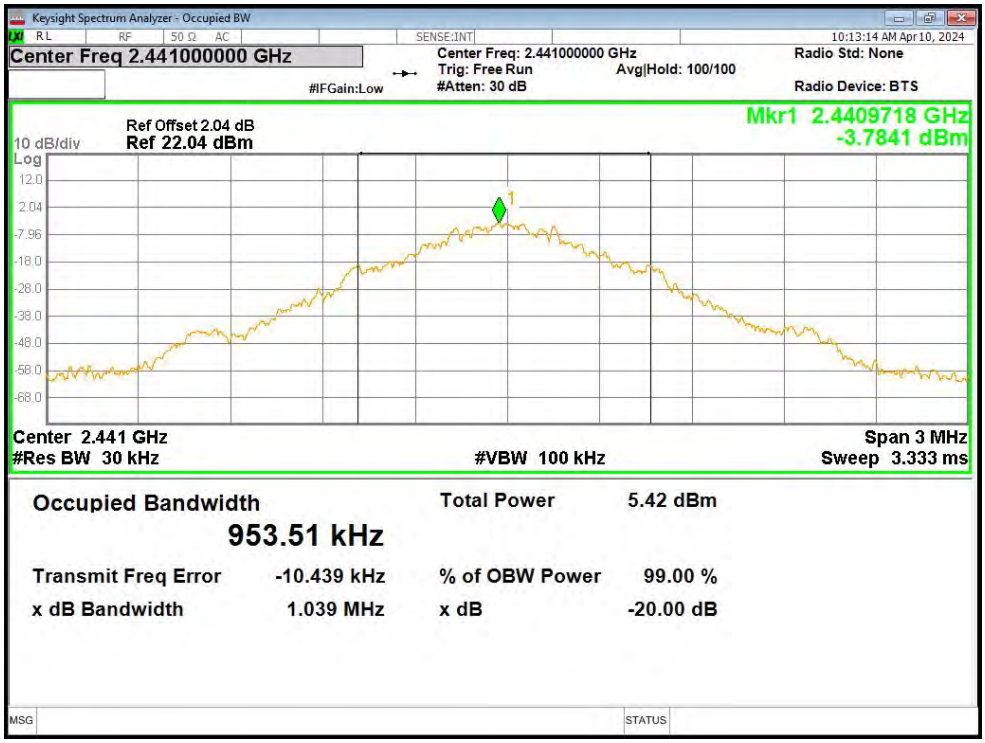
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.955
NVNT	1-DH5	2441	Ant1	0.954
NVNT	1-DH5	2480	Ant1	0.965
NVNT	2-DH5	2402	Ant1	1.21
NVNT	2-DH5	2441	Ant1	1.229
NVNT	2-DH5	2480	Ant1	1.228
NVNT	3-DH5	2402	Ant1	1.208
NVNT	3-DH5	2441	Ant1	1.201
NVNT	3-DH5	2480	Ant1	1.227

Test Graphs

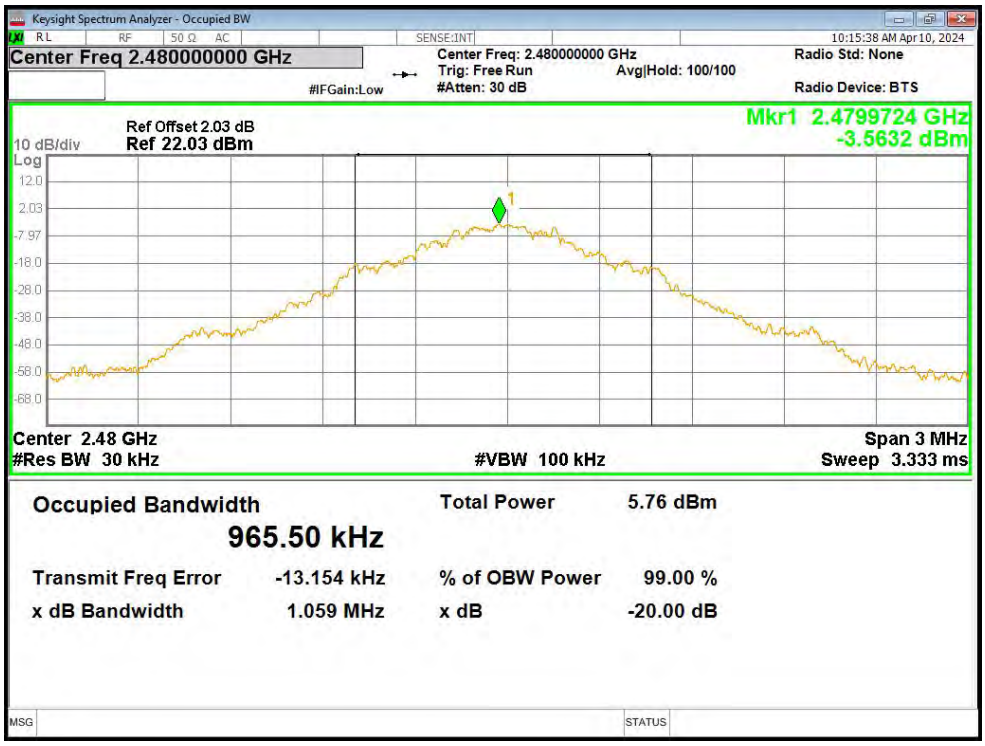
OBW NVNT 1-DH5 2402MHz Ant1



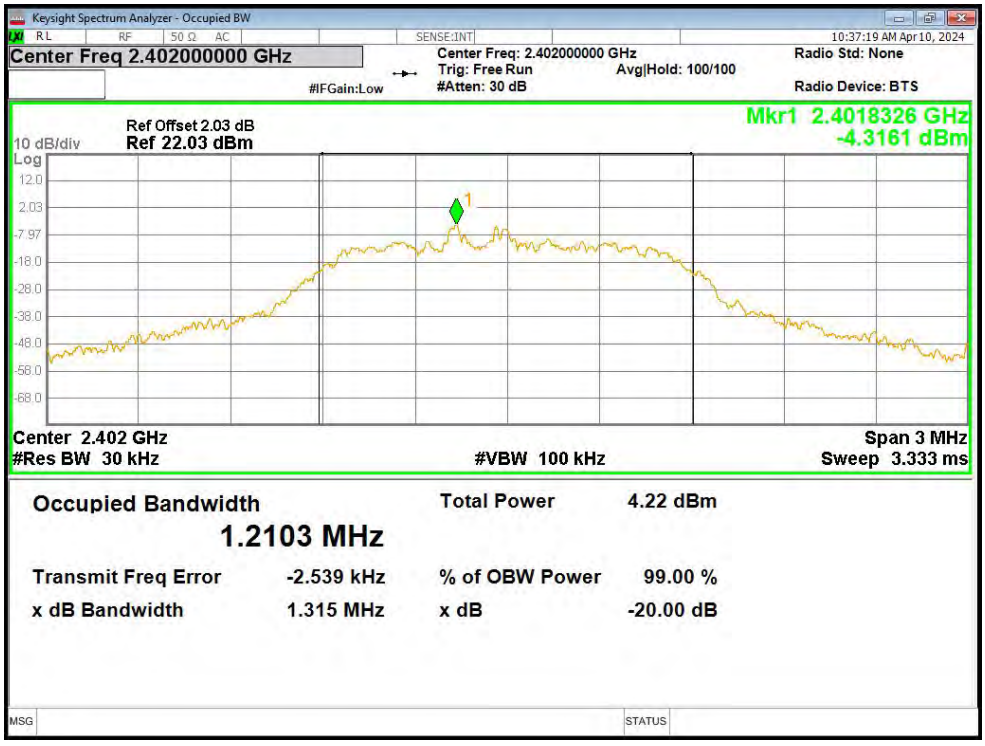
OBW NVNT 1-DH5 2441MHz Ant1



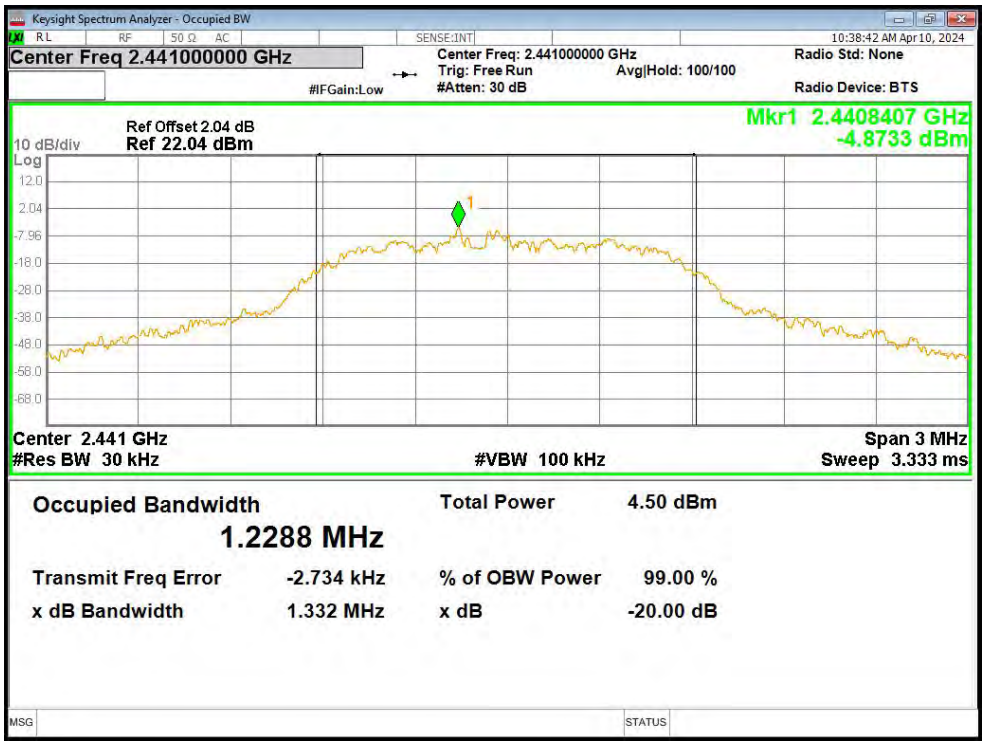
OBW NVNT 1-DH5 2480MHz Ant1



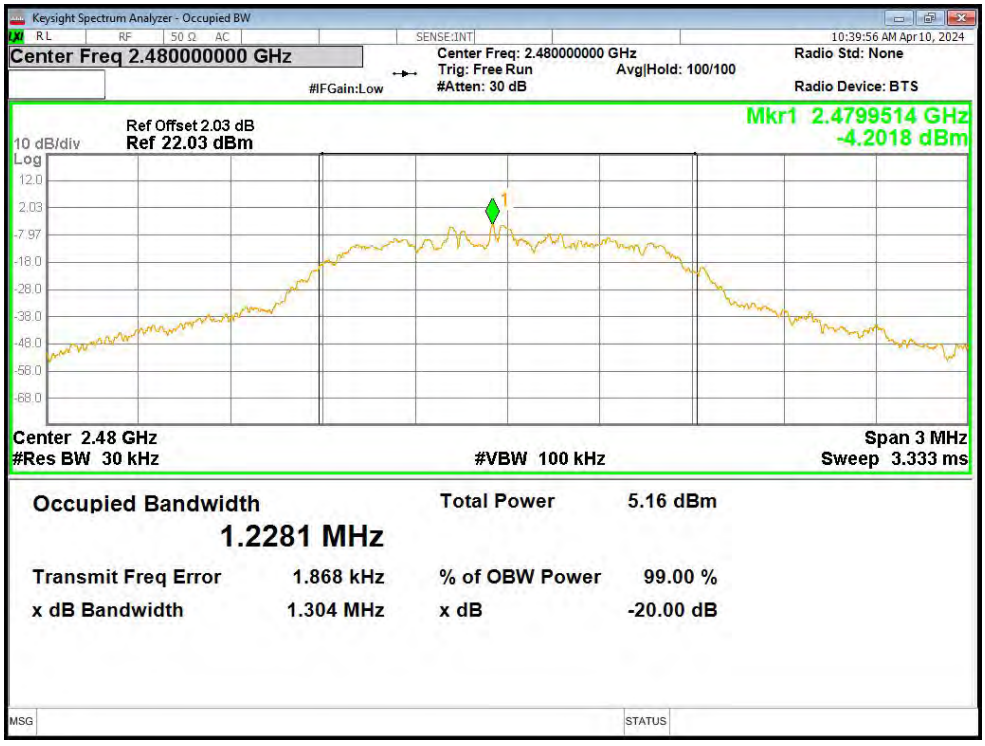
OBW NVNT 2-DH5 2402MHz Ant1



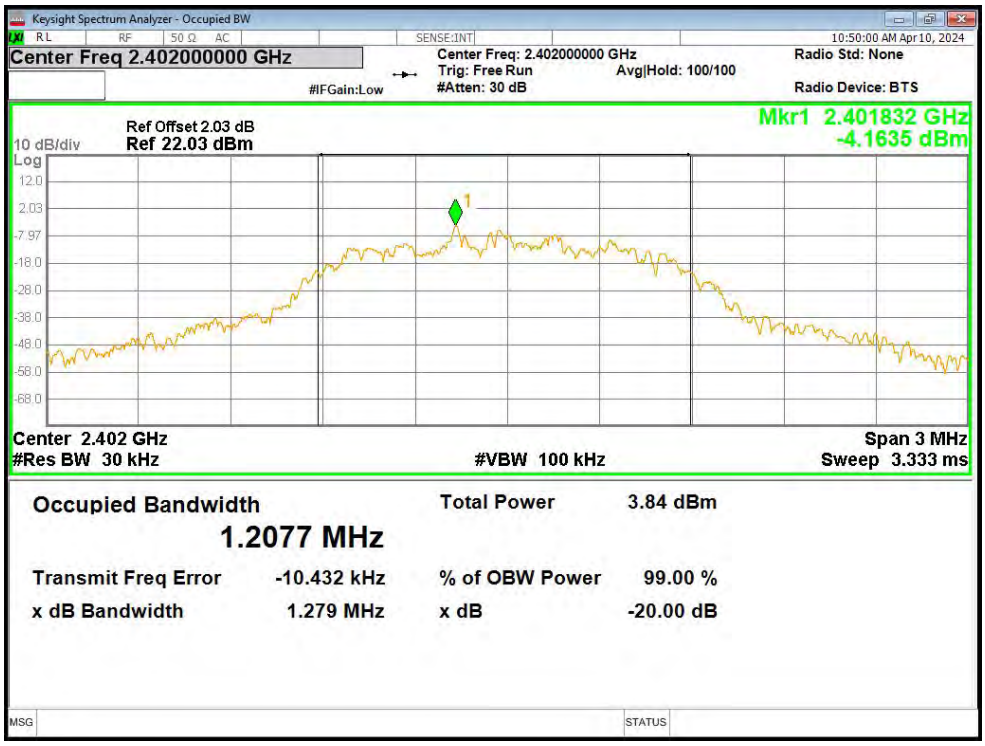
OBW NVNT 2-DH5 2441MHz Ant1



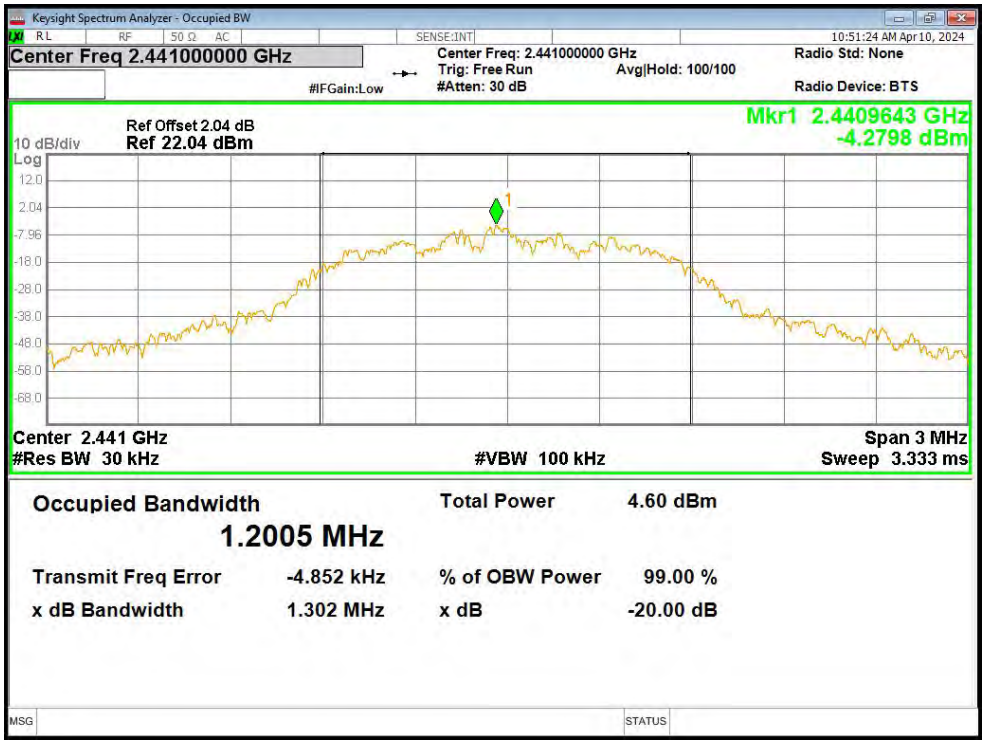
OBW NVNT 2-DH5 2480MHz Ant1



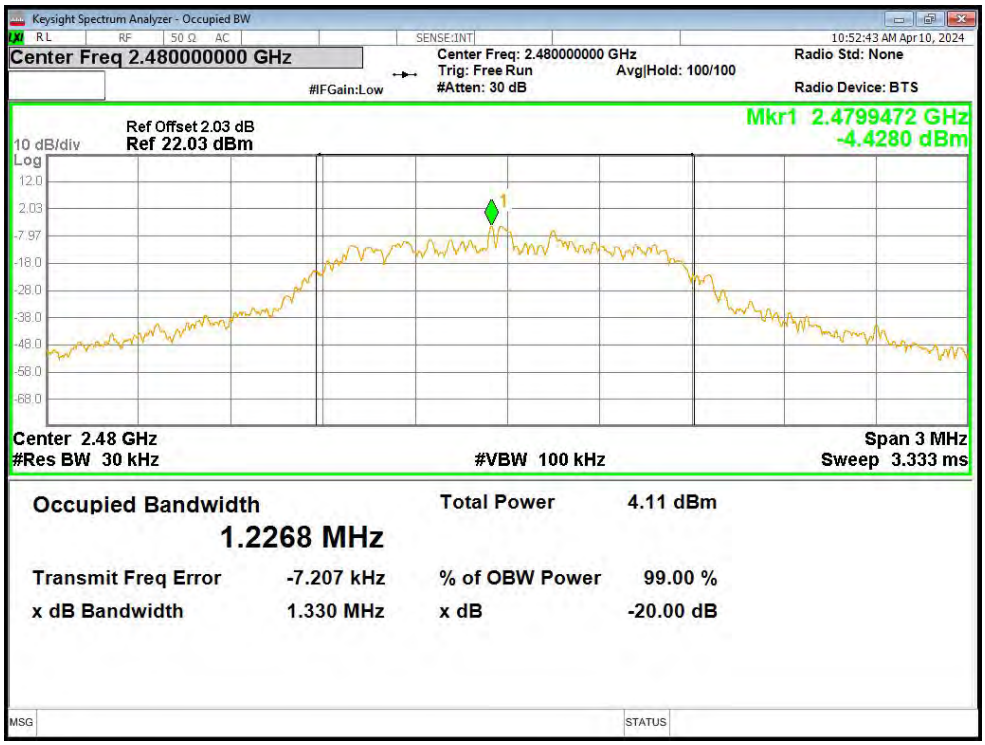
OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



OBW NVNT 3-DH5 2480MHz Ant1



Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.968	2403.006	1.038	0.697	Pass
NVNT	1-DH5	Ant1	2440.97	2442.02	1.05	0.687	Pass
NVNT	1-DH5	Ant1	2478.97	2480.002	1.032	0.698	Pass
NVNT	2-DH5	Ant1	2401.832	2402.972	1.14	0.888	Pass
NVNT	2-DH5	Ant1	2440.97	2441.98	1.01	0.875	Pass
NVNT	2-DH5	Ant1	2478.826	2479.826	1	0.887	Pass
NVNT	3-DH5	Ant1	2401.982	2402.984	1.002	0.846	Pass
NVNT	3-DH5	Ant1	2440.83	2441.85	1.02	0.893	Pass
NVNT	3-DH5	Ant1	2478.836	2479.962	1.126	0.871	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

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

Keysight Spectrum Analyzer - Swept SA
RL
RF
50 Ω AC
SENSE:INT
10:42:36 AM Apr 10, 2024
Center Freq 2.441750000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
TRACE 1 2 3 4 5 6
TYPE M WWWWW
DET P N N N N N
Ref Offset 2.03 dB
10 dB/div Ref 20.00 dBm
Log
Mkr1 2.401 503 0 GHz
-7.847 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.40000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.48350 GHz
Sweep 8.000 ms (1001 pts)
MKR MODE TRC SCL X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE
1 N 1 f 2.401 503 0 GHz -7.847 dBm
2 N 1 f 2.480 243 5 GHz -5.601 dBm
3
4
5
6
7
8
9
10
11
MSG
STATUS

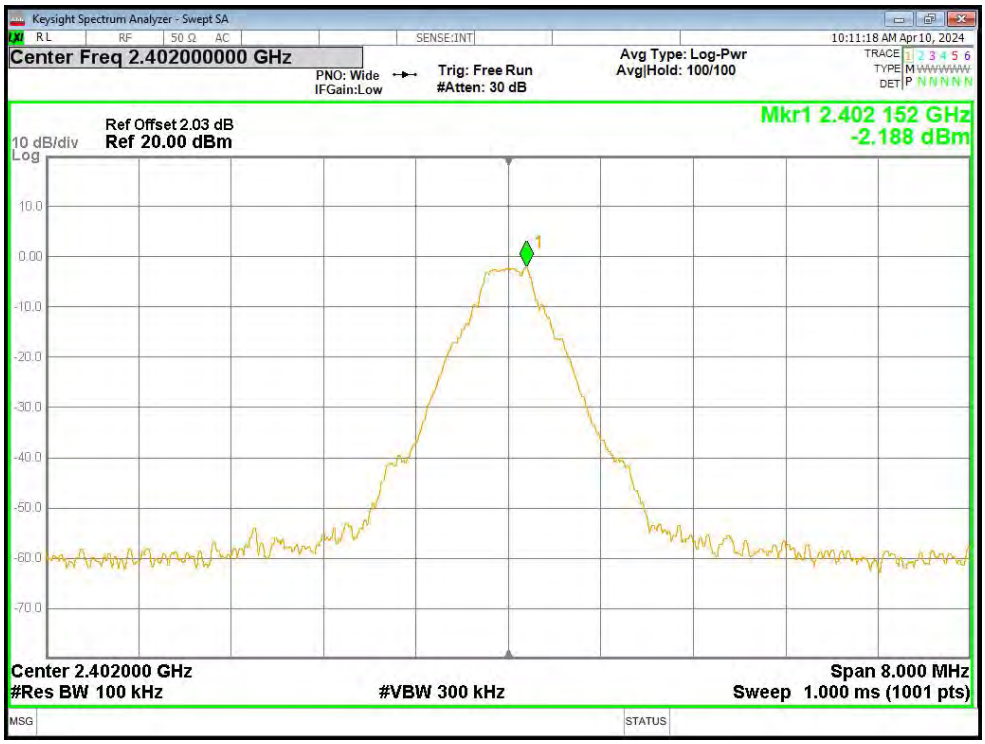
Hopping No. NVNT 3-DH5 Ant1

Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-53.58	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.22	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.62	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.43	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-49.15	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.38	-20	Pass

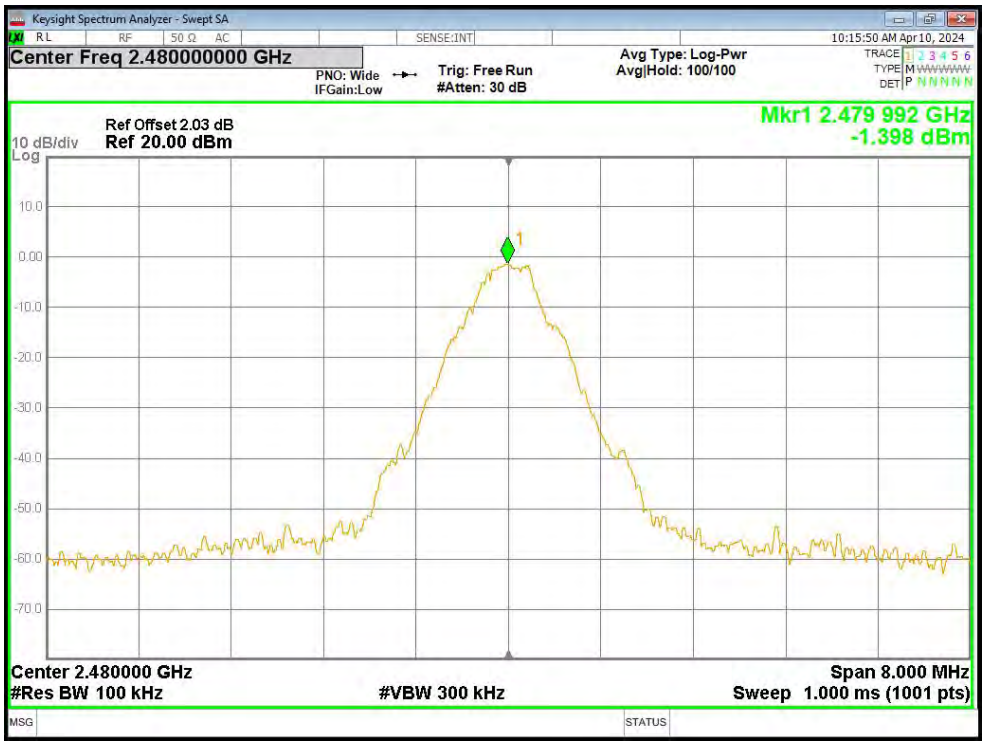
Test Graphs

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



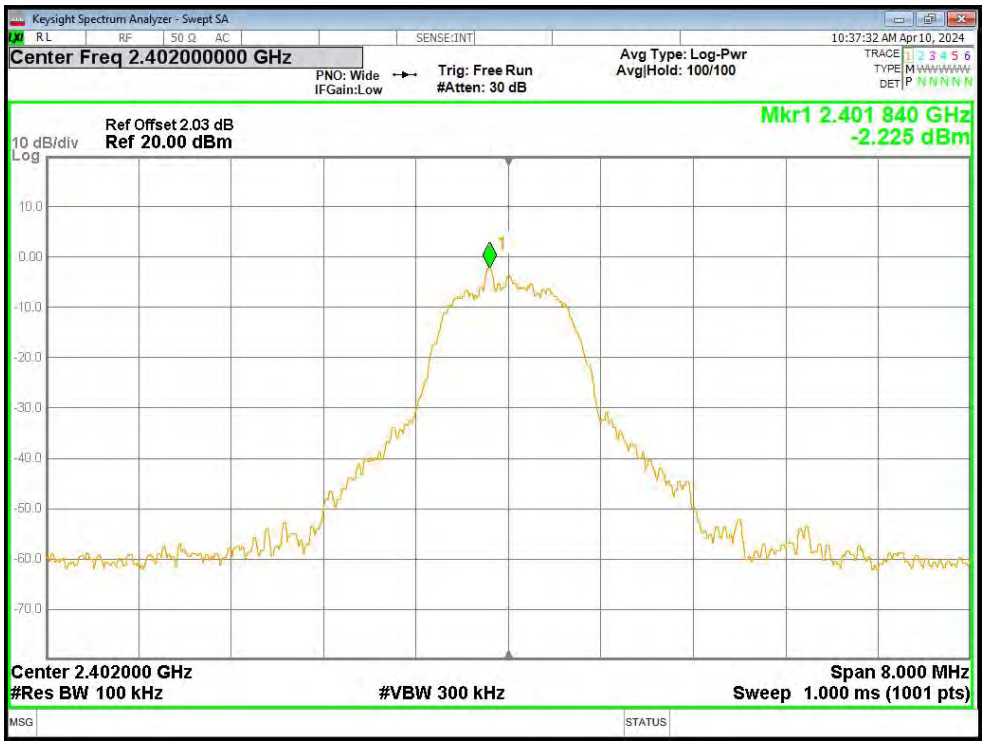
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

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



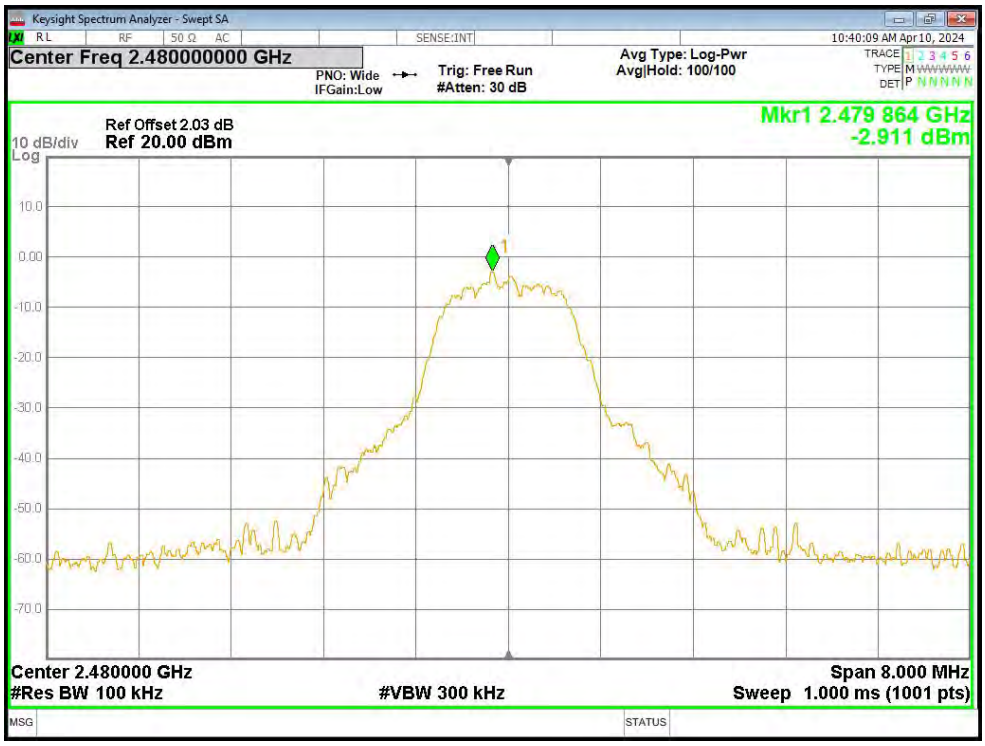
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

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

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 0 GHz	-4.214 dBm			
2	N	1	f	2.483 5 GHz	-59.583 dBm			
3	N	1	f	2.500 0 GHz	-59.736 dBm			
4	N	1	f	2.498 9 GHz	-56.347 dBm			
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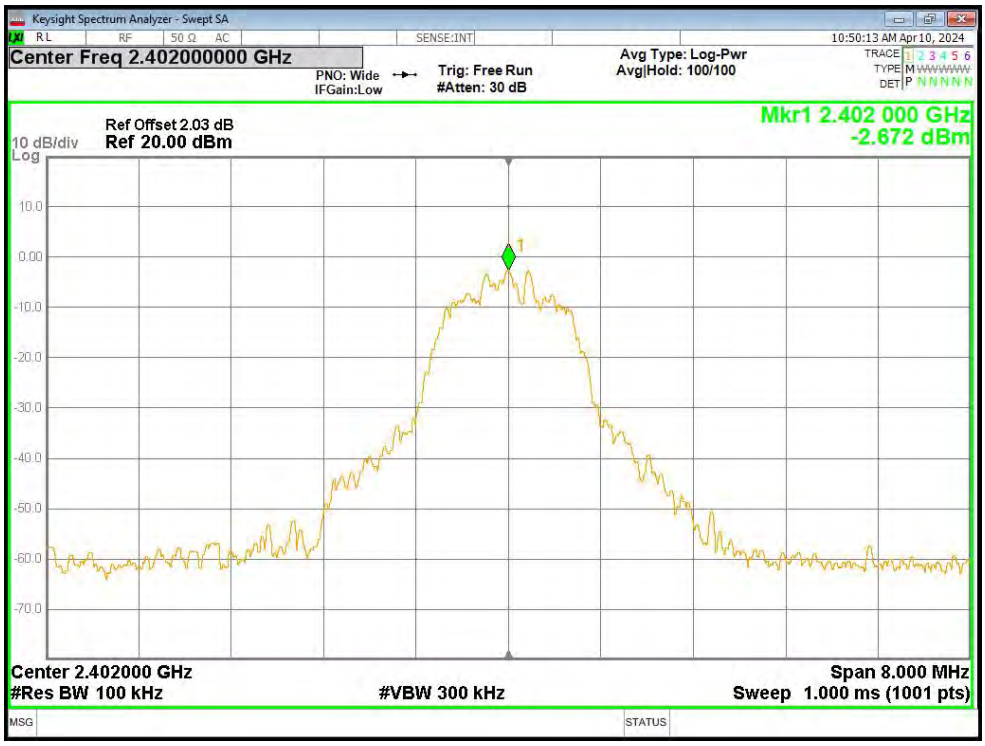
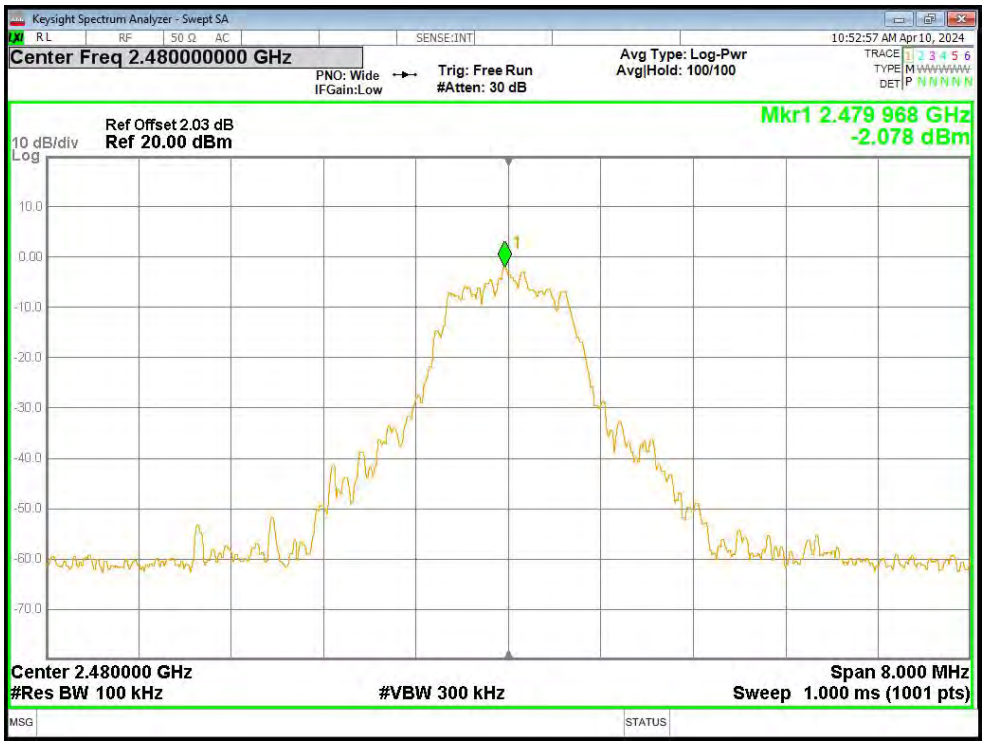
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



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

Band Edge(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.84	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.66	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.72	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.45	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-53.74	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-54.65	-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

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.405 0 GHz	-2.987 dBm			
2	N	1	f	2.400 0 GHz	-57.761 dBm			
3	N	1	f	2.390 0 GHz	-57.635 dBm			
4	N	1	f	2.379 1 GHz	-55.987 dBm			
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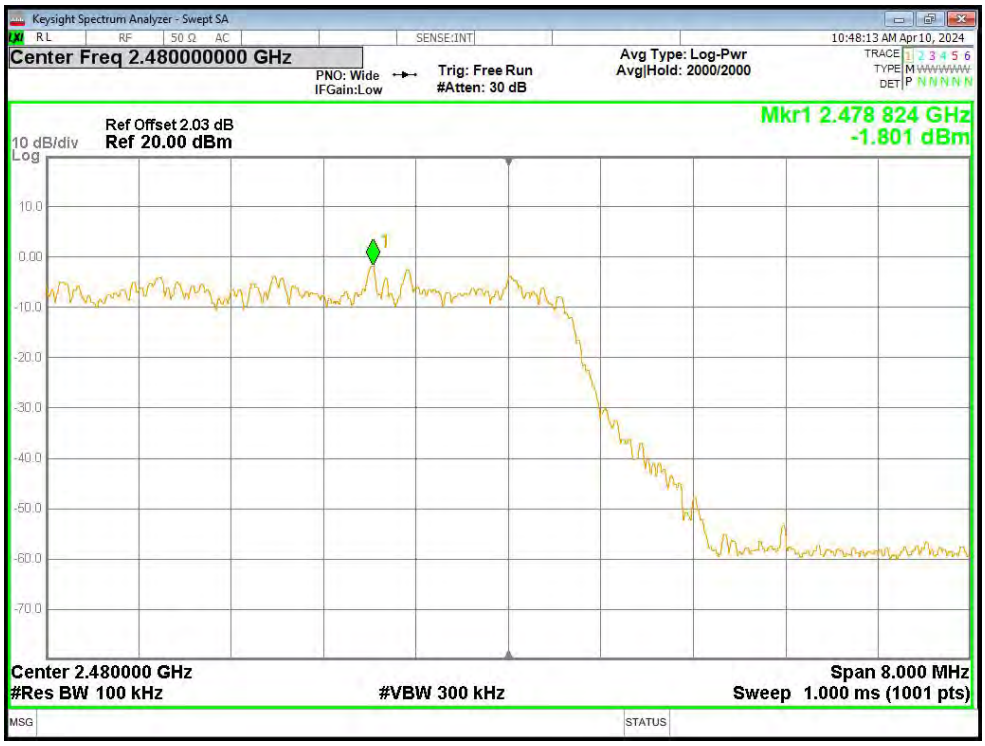
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.477 8 GHz	-1.424 dBm			
2	N	1	f	2.483 5 GHz	-58.022 dBm			
3	N	1	f	2.500 0 GHz	-58.372 dBm			
4	N	1	f	2.492 2 GHz	-56.256 dBm			
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Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

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

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.404 8 GHz	-2.574 dBm			
2	N	1	f	2.400 0 GHz	-58.503 dBm			
3	N	1	f	2.390 0 GHz	-59.101 dBm			
4	N	1	f	2.379 7 GHz	-56.100 dBm			
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Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref

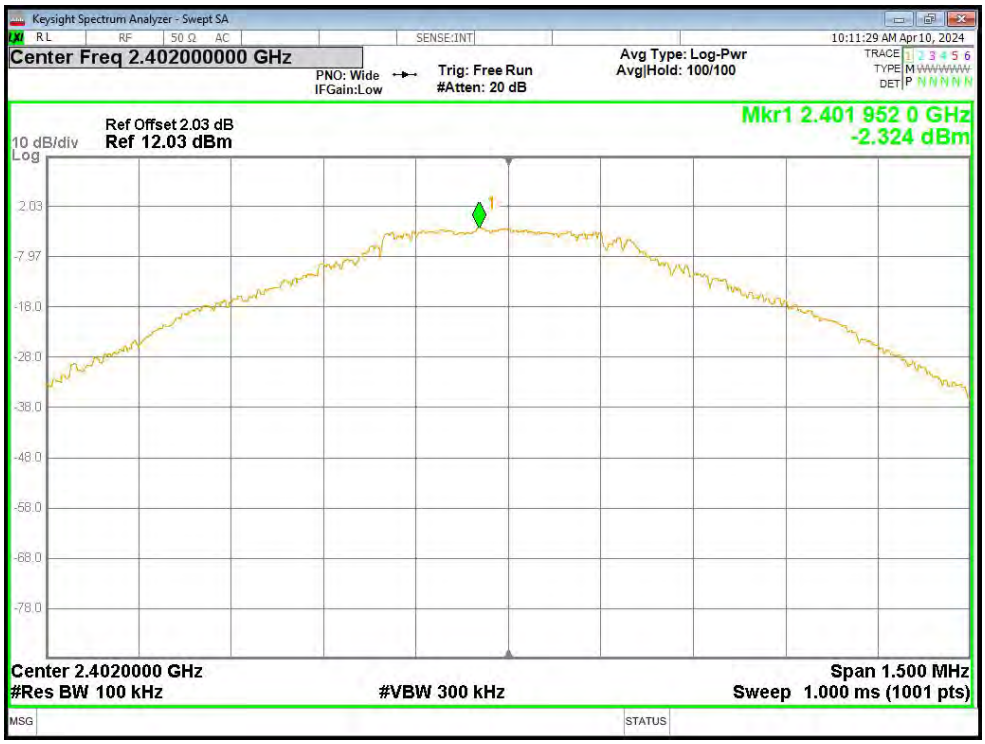
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission

Conducted RF Spurious Emission

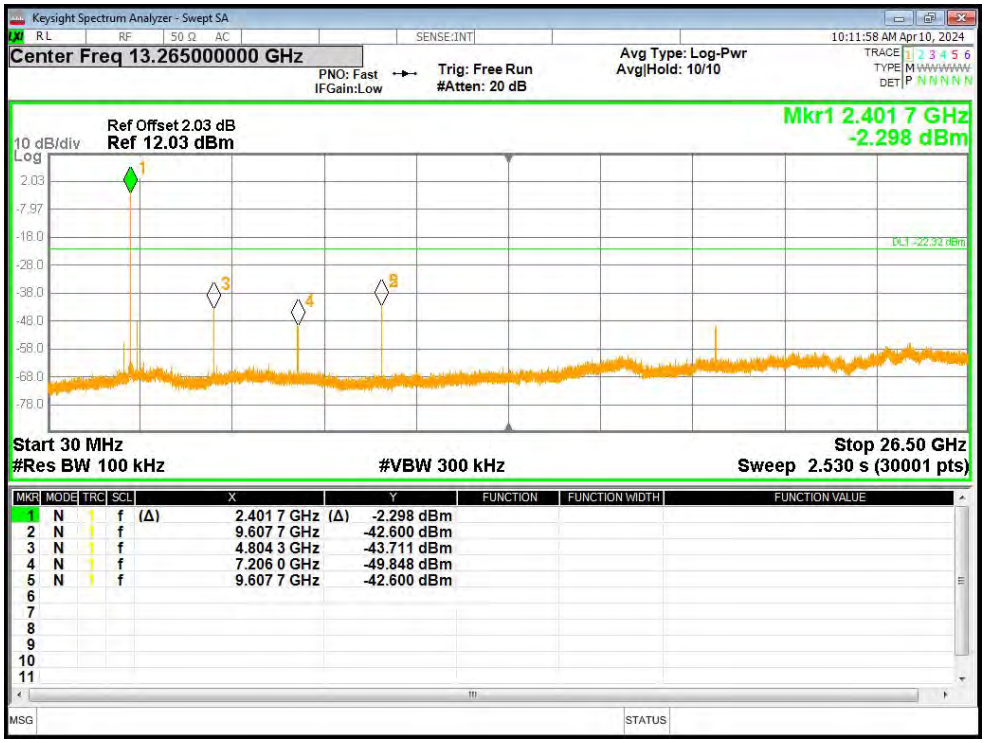
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-40.28	-20	Pass
NVNT	1-DH5	2441	Ant1	-42.29	-20	Pass
NVNT	1-DH5	2480	Ant1	-39.88	-20	Pass
NVNT	2-DH5	2402	Ant1	-39.99	-20	Pass
NVNT	2-DH5	2441	Ant1	-41.1	-20	Pass
NVNT	2-DH5	2480	Ant1	-37.82	-20	Pass
NVNT	3-DH5	2402	Ant1	-39.14	-20	Pass
NVNT	3-DH5	2441	Ant1	-41.23	-20	Pass
NVNT	3-DH5	2480	Ant1	-38.17	-20	Pass

Test Graphs

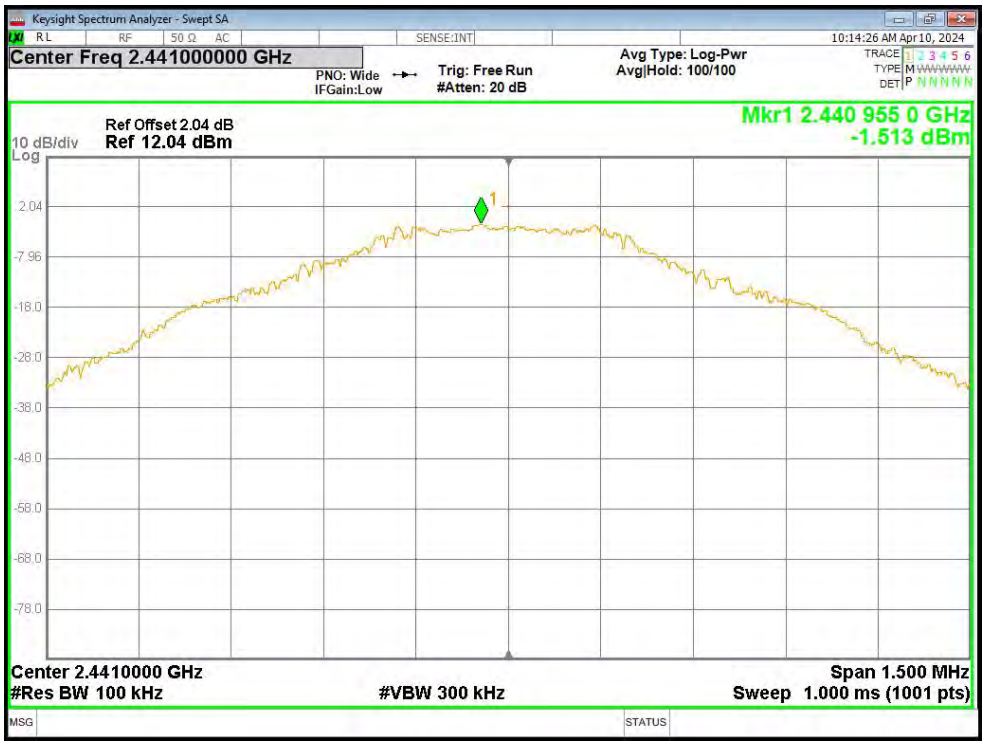
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



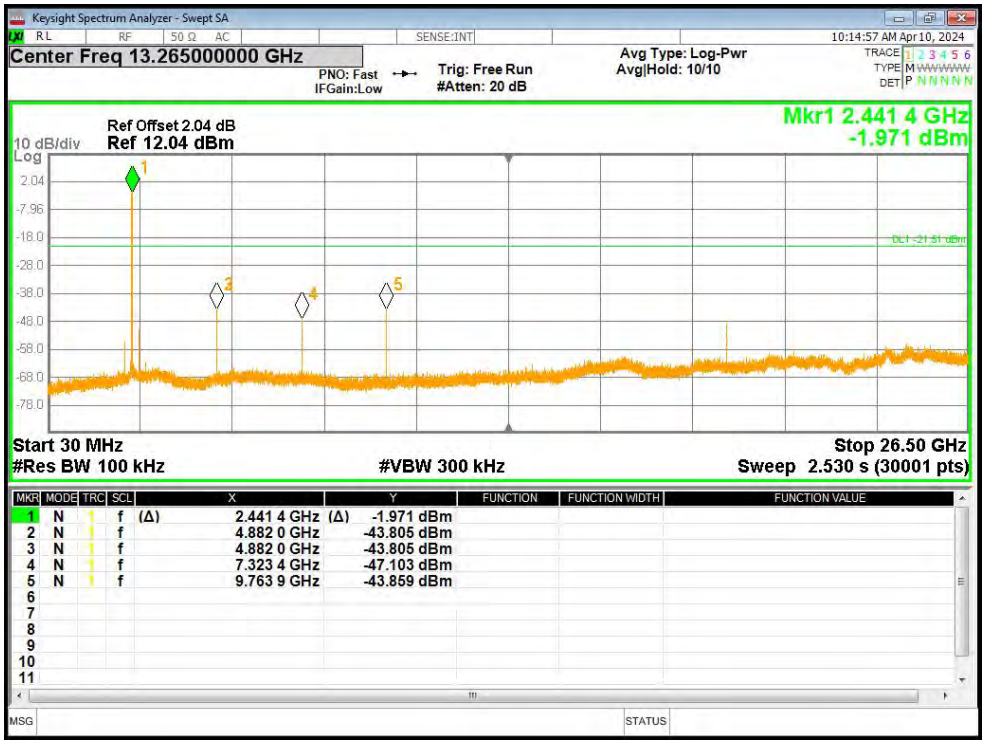
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	(Δ) 2.441 4 GHz	(Δ) -1.971 dBm			
2	N	1	f	4.882 0 GHz	-43.805 dBm			
3	N	1	f	4.882 0 GHz	-43.805 dBm			
4	N	1	f	7.323 4 GHz	-47.103 dBm			
5	N	1	f	9.763 9 GHz	-43.859 dBm			
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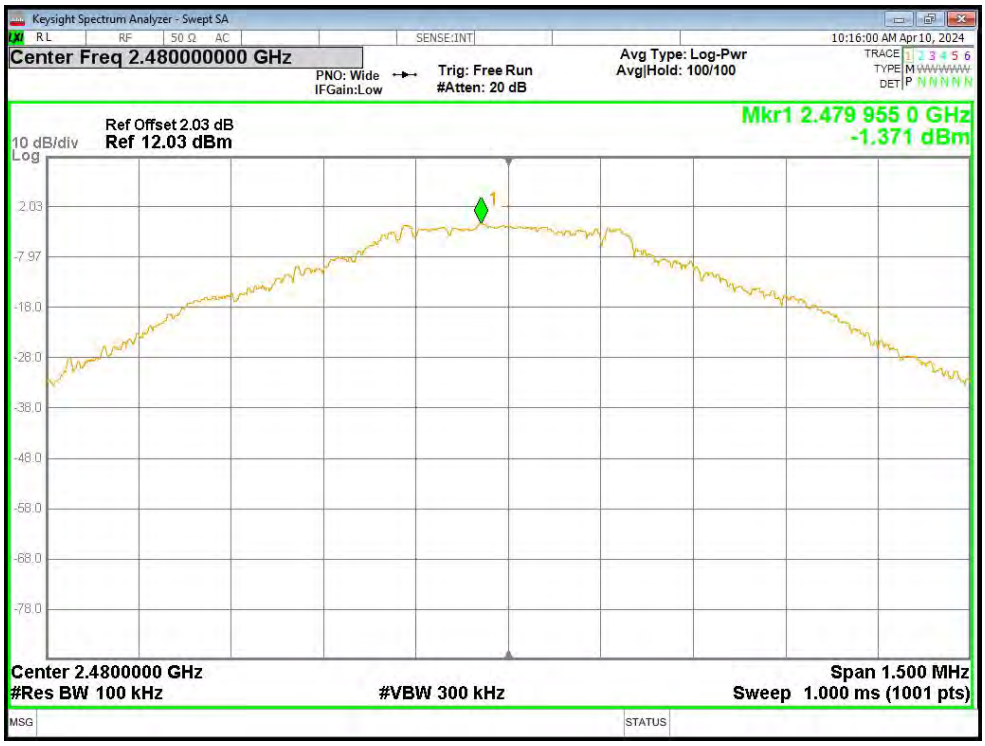
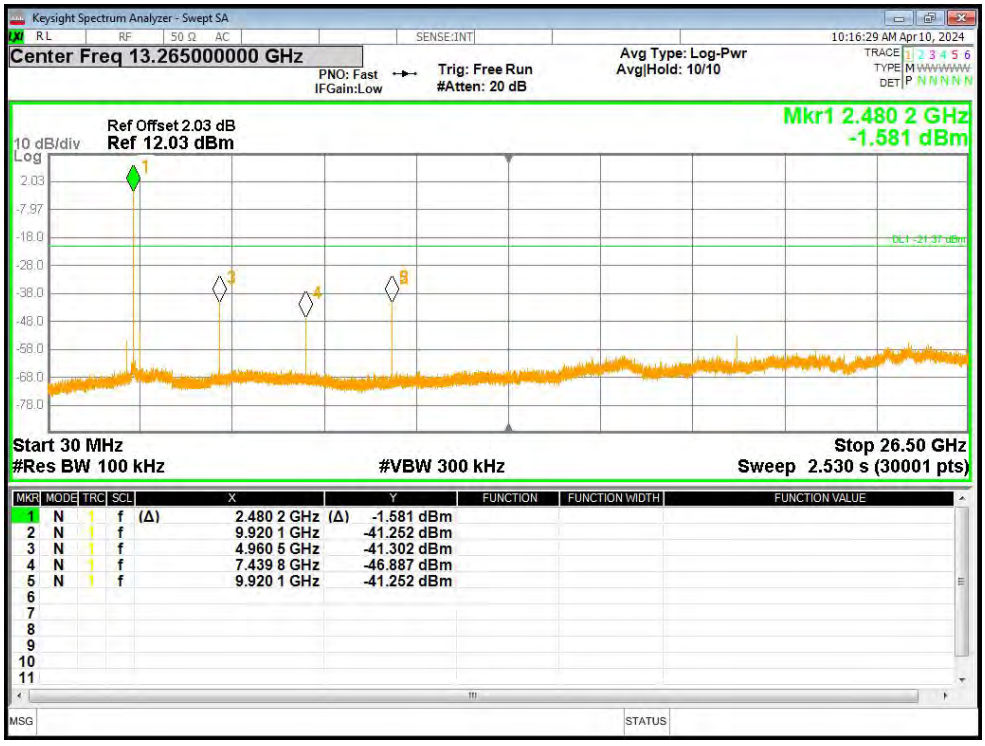
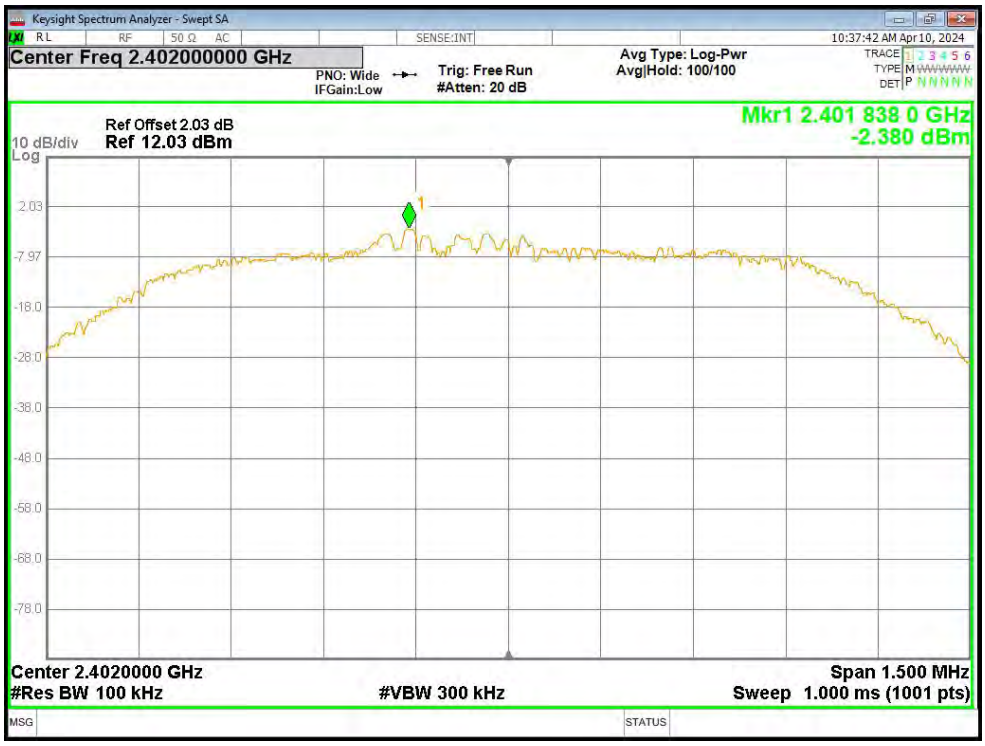
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



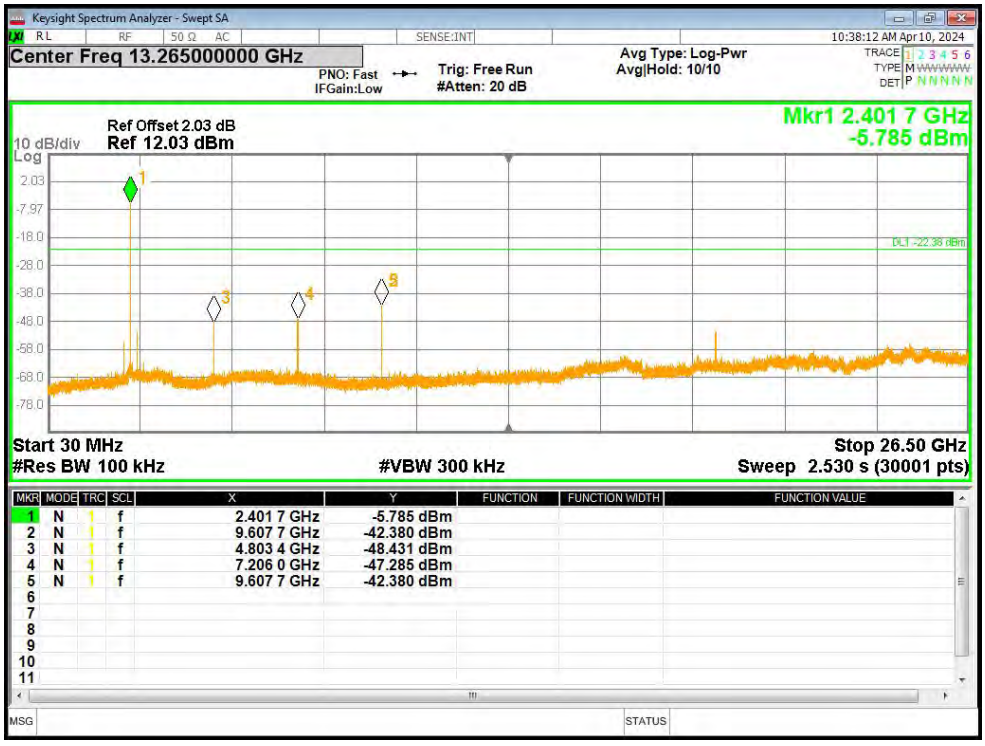
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 7 GHz	-5.785 dBm			
2	N	1	f	9.607 7 GHz	-42.380 dBm			
3	N	1	f	4.803 4 GHz	-48.431 dBm			
4	N	1	f	7.206 0 GHz	-47.285 dBm			
5	N	1	f	9.607 7 GHz	-42.380 dBm			
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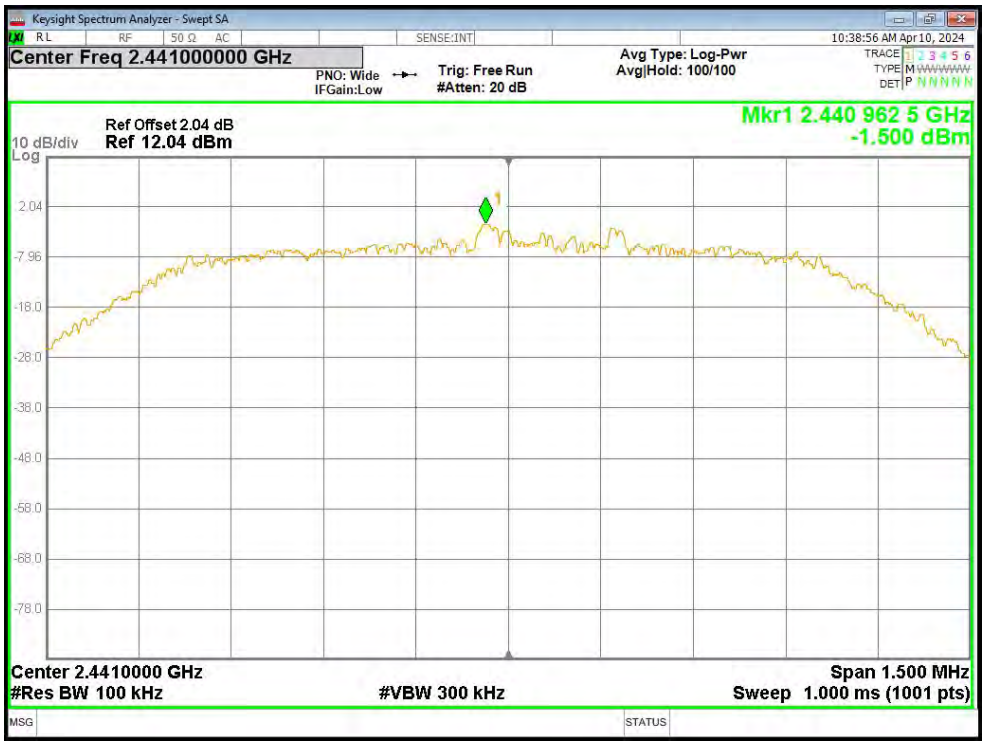
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.440 5 GHz	-5.925 dBm			
2	N	1	f	9.763 9 GHz	-42.609 dBm			
3	N	1	f	4.882 0 GHz	-45.391 dBm			
4	N	1	f	7.323 4 GHz	-47.942 dBm			
5	N	1	f	9.763 9 GHz	-42.609 dBm			
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7								
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Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 2 GHz	-2.766 dBm			
2	N	1	f	9.920 1 GHz	-39.322 dBm			
3	N	1	f	4.959 6 GHz	-45.535 dBm			
4	N	1	f	7.439 8 GHz	-42.766 dBm			
5	N	1	f	9.920 1 GHz	-39.322 dBm			
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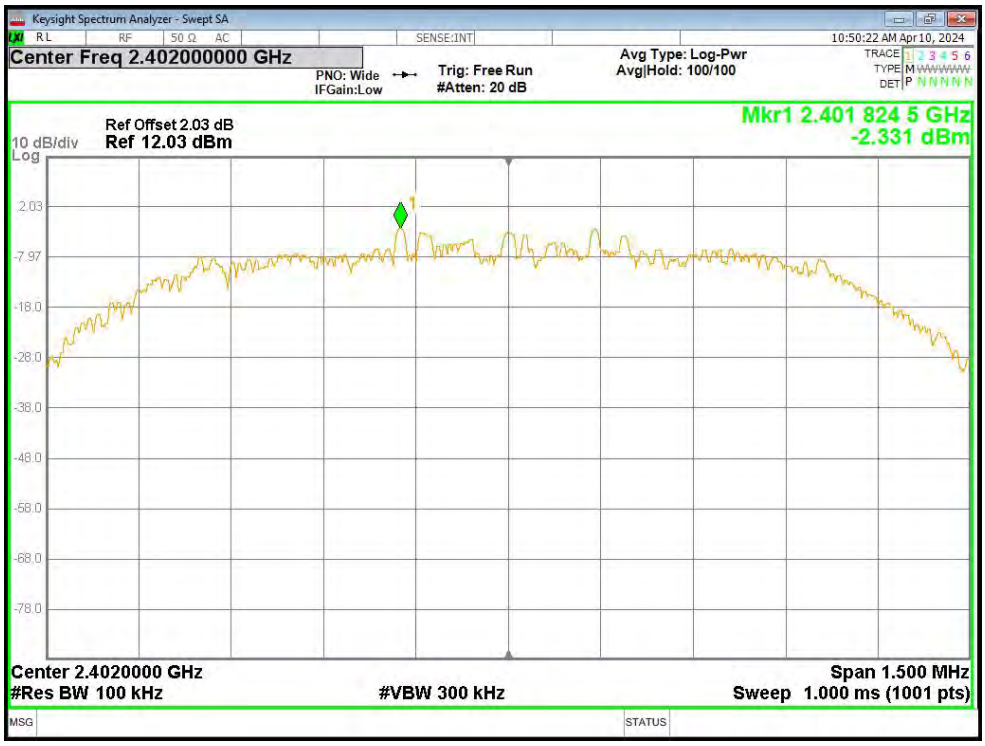
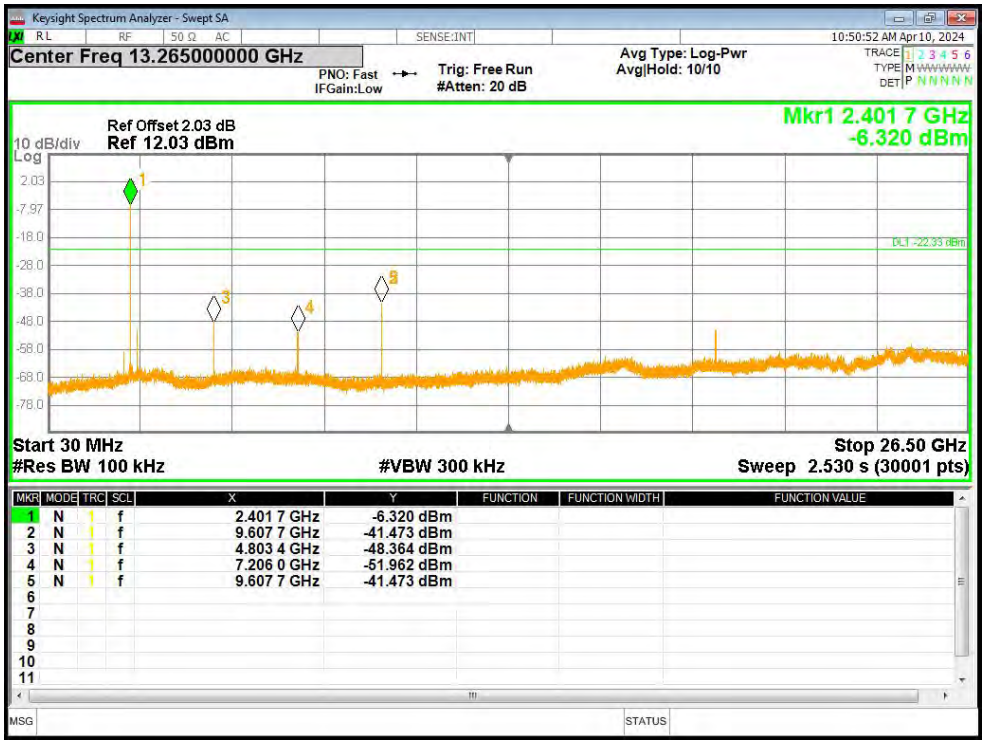
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.401 7 GHz	-6.320 dBm			
2	N	1	f	9.607 7 GHz	-41.473 dBm			
3	N	1	f	4.803 4 GHz	-48.364 dBm			
4	N	1	f	7.206 0 GHz	-51.962 dBm			
5	N	1	f	9.607 7 GHz	-41.473 dBm			
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Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.441 4 GHz	-5.181 dBm			
2	N	1	f	9.763 9 GHz	-42.742 dBm			
3	N	1	f	4.882 0 GHz	-46.808 dBm			
4	N	1	f	7.323 4 GHz	-46.870 dBm			
5	N	1	f	9.763 9 GHz	-42.742 dBm			
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Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 2 GHz	-4.242 dBm			
2	N	1	f	9.920 1 GHz	-39.524 dBm			
3	N	1	f	4.956 9 GHz	-50.121 dBm			
4	N	1	f	7.439 8 GHz	-50.281 dBm			
5	N	1	f	9.920 1 GHz	-39.524 dBm			
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