RF Test Data for Bluetooth (Conducted Measurements)

General Description of EUT	
Product Name:	SMART WATCH
Test Model:	G303
Sample ID:	HC-C-202504-0057-01-2#
Environmental Conditions	
Temperature:	24.4℃
Relative Humidity:	50%
Test Voltage:	DC 5V
Test Engineer:	Lily Zhang
Note: For a more detailed features description, please refer to the report TBR-C-202504-0057-51 The report only show the worst case data.	

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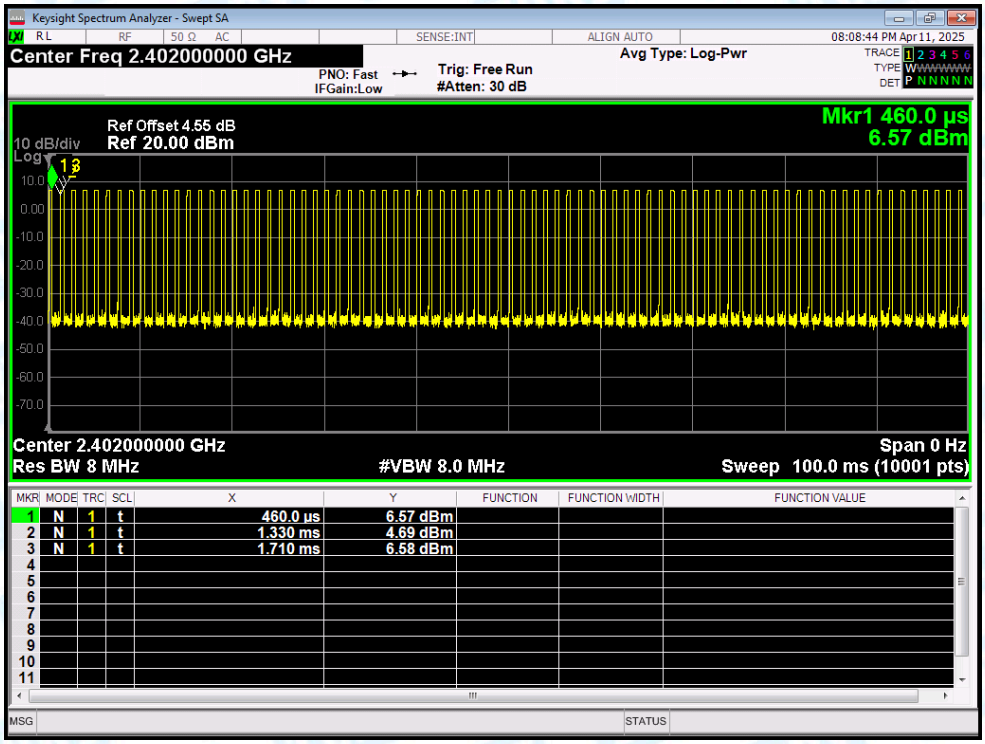
1. Duty Cycle

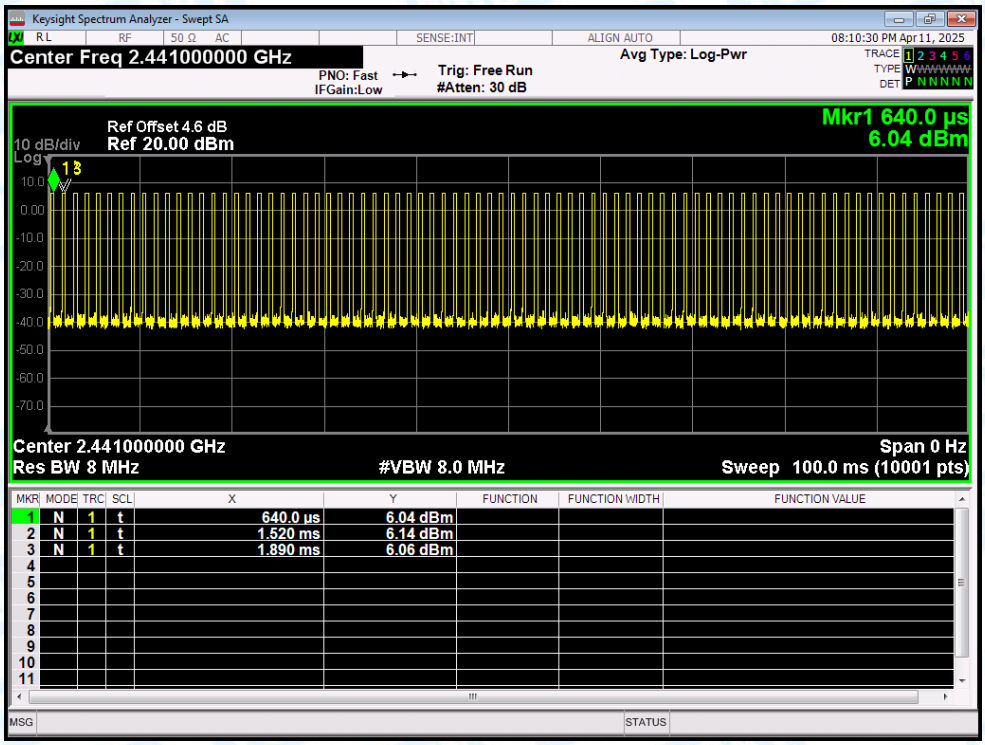
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	1-DH1	2441	Ant1	29.6	5.29	2.7
NVNT	1-DH1	2480	Ant1	29.6	5.29	2.7
NVNT	2-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	2-DH1	2480	Ant1	30.65	5.14	2.63
NVNT	3-DH1	2402	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2441	Ant1	30.4	5.17	2.63
NVNT	3-DH1	2480	Ant1	30.4	5.17	2.63

Test Graphs

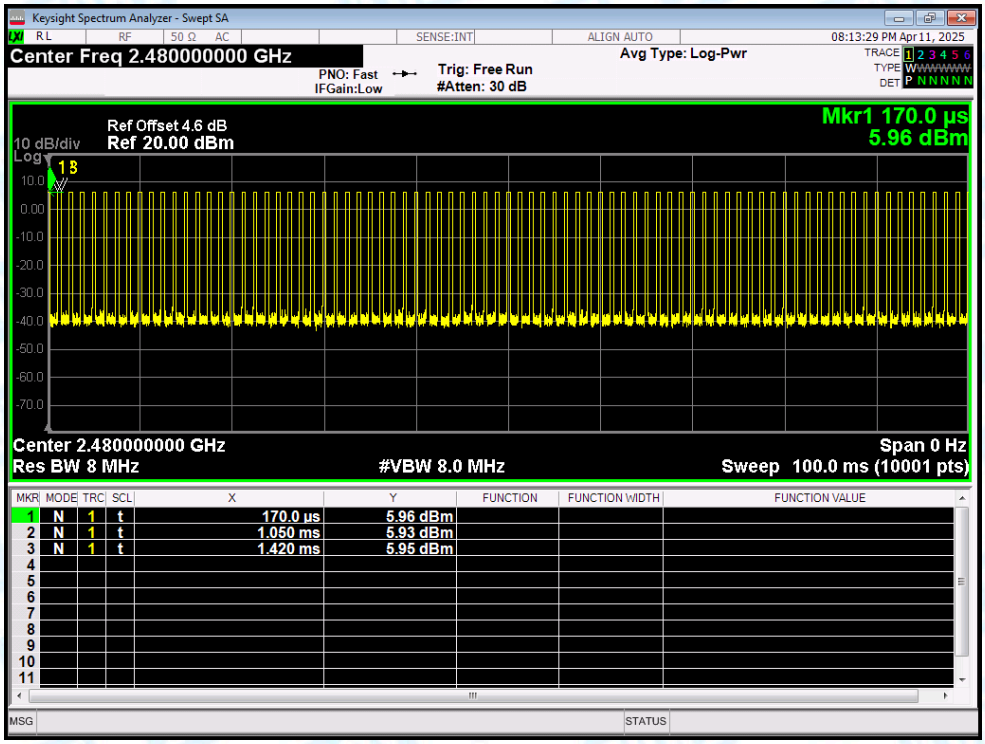
Duty Cycle NVNT 1-DH1 2402MHz Ant1



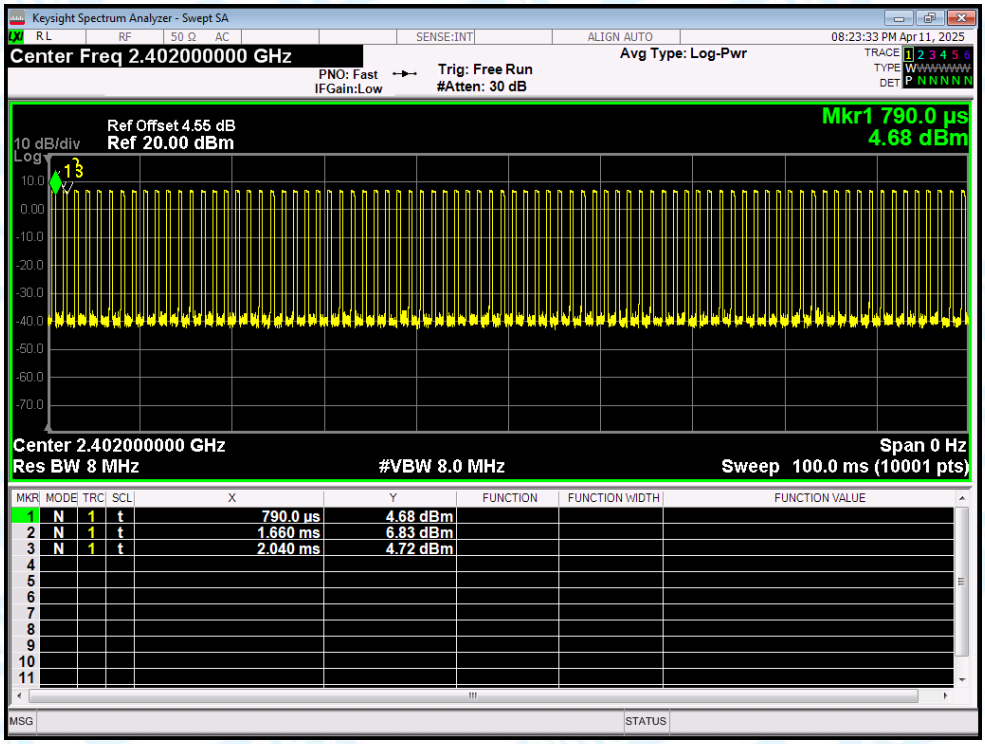
Duty Cycle NVNT 1-DH1 2441MHz Ant1



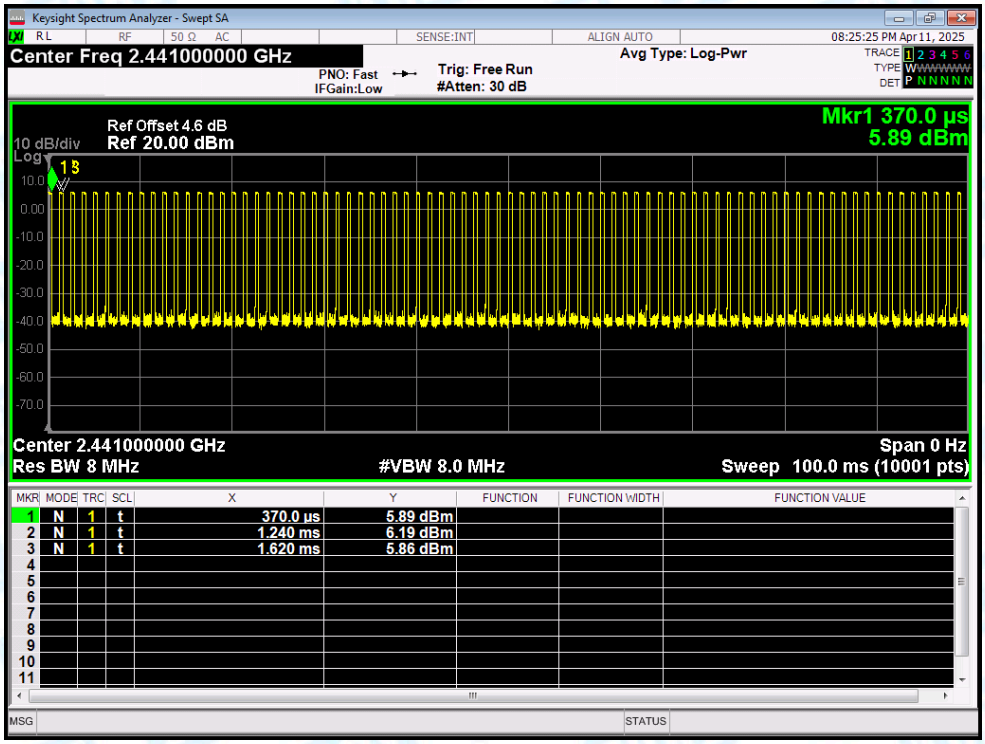
Duty Cycle NVNT 1-DH1 2480MHz Ant1



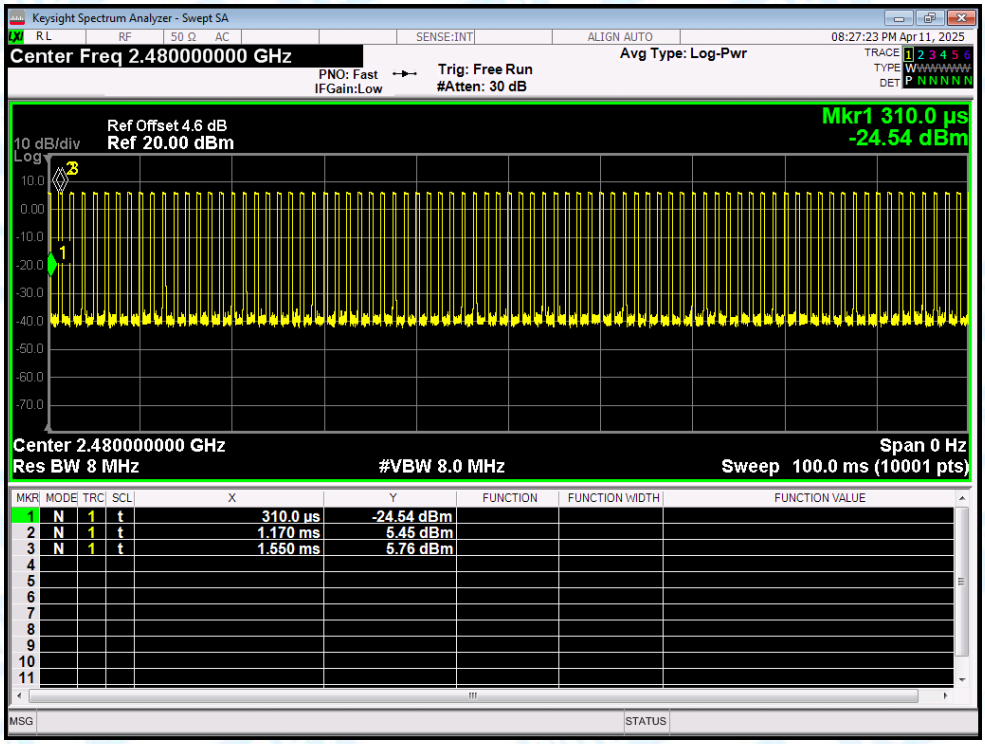
Duty Cycle NVNT 2-DH1 2402MHz Ant1



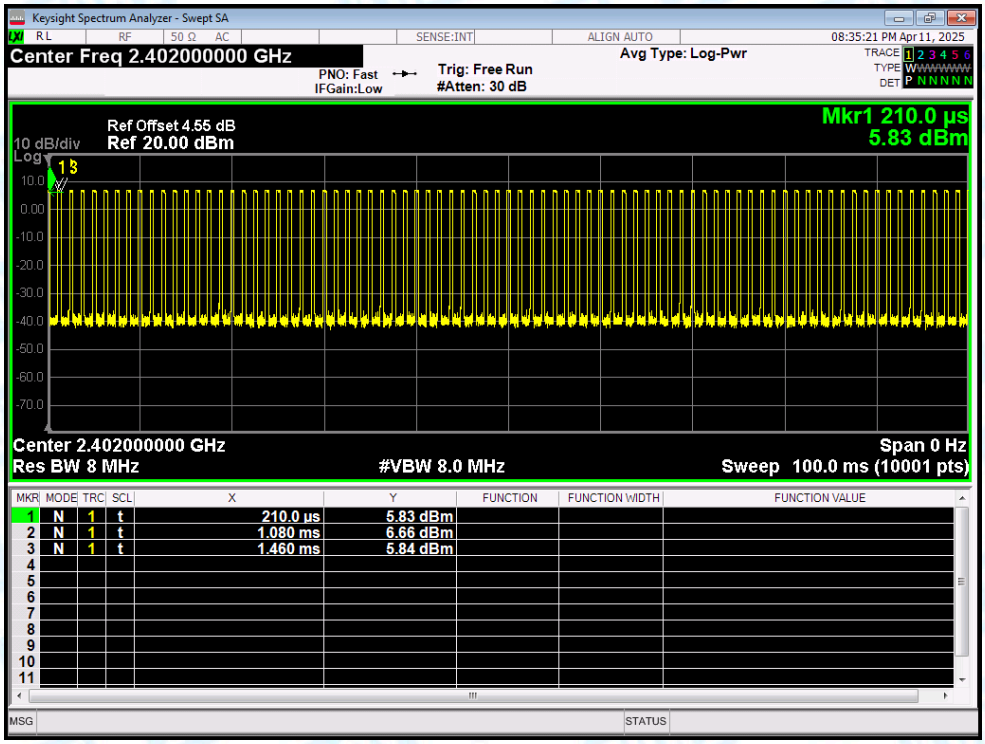
Duty Cycle NVNT 2-DH1 2441MHz Ant1



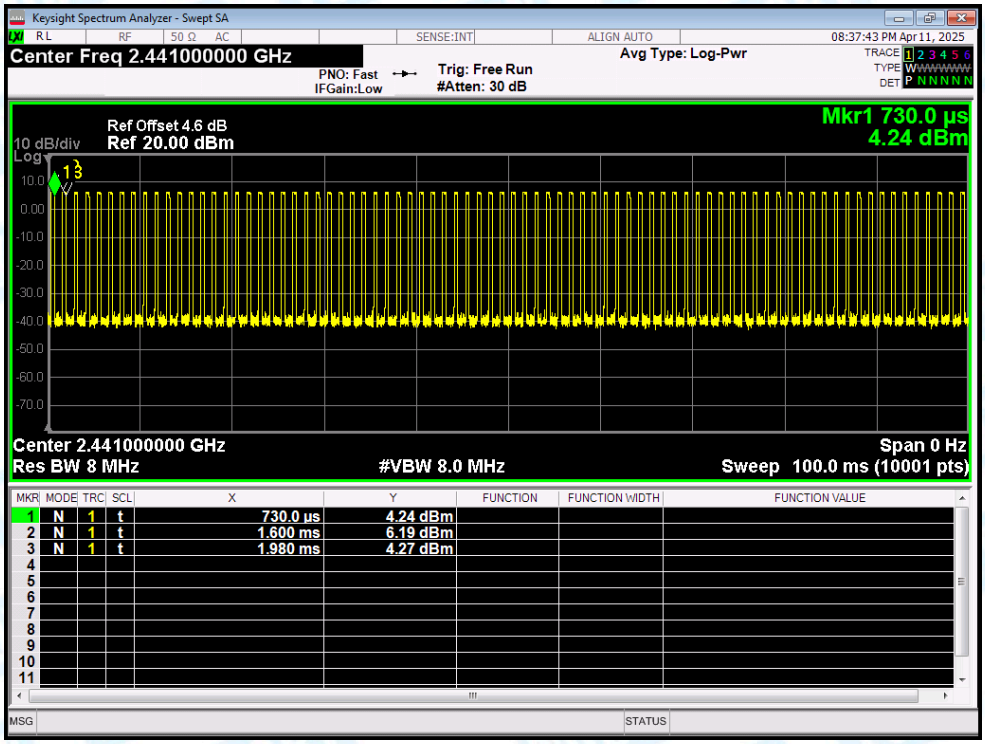
Duty Cycle NVNT 2-DH1 2480MHz Ant1



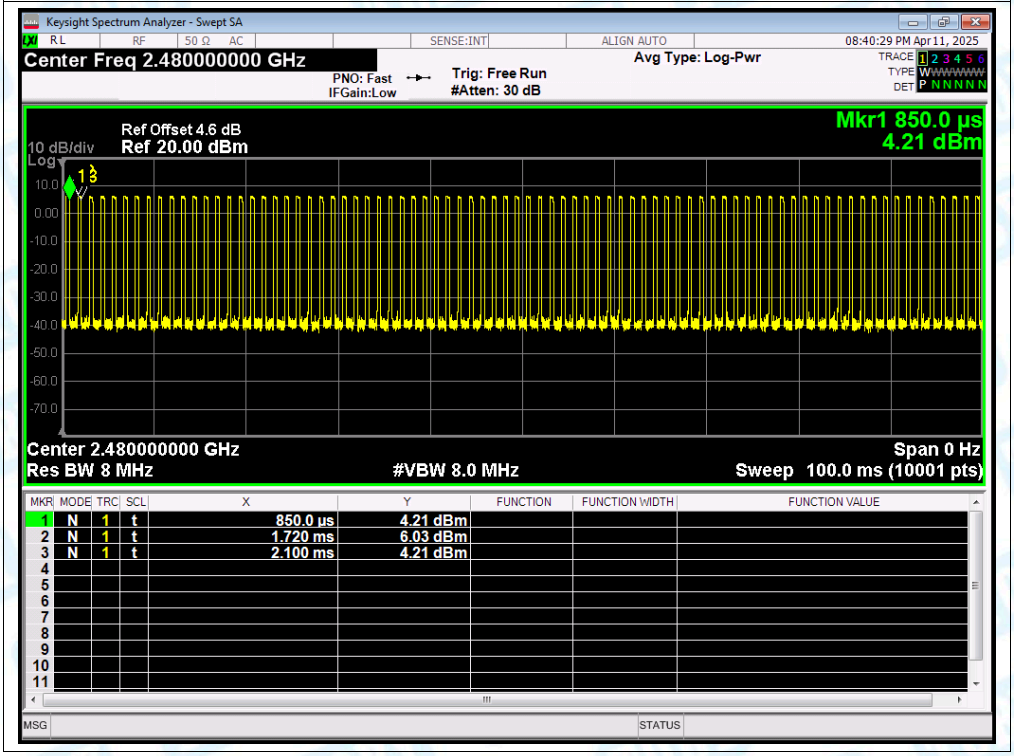
Duty Cycle NVNT 3-DH1 2402MHz Ant1



Duty Cycle NVNT 3-DH1 2441MHz Ant1



Duty Cycle NVNT 3-DH1 2480MHz Ant1

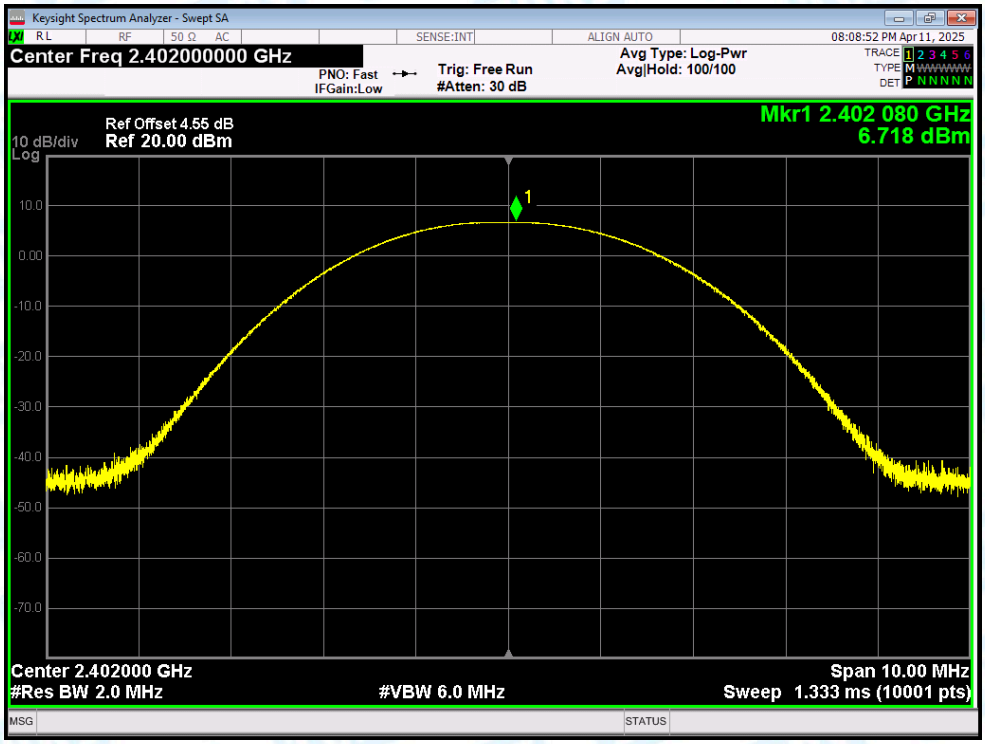


2. Maximum Conducted Output Power

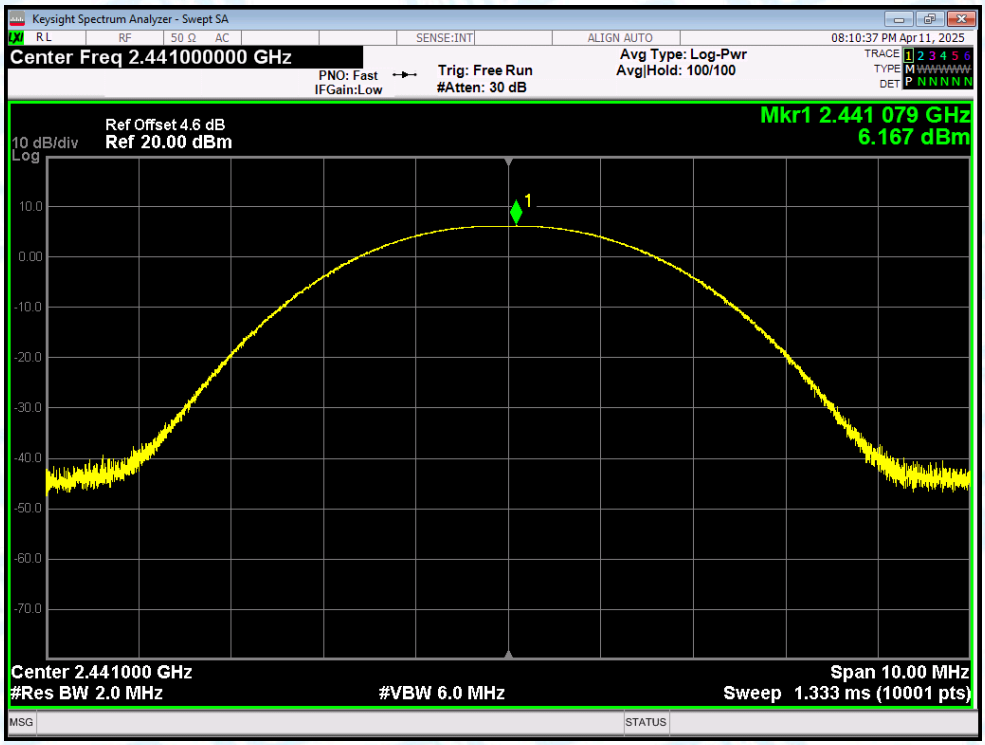
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	Ant1	6.718	21	Pass
NVNT	1-DH1	2441	Ant1	6.167	21	Pass
NVNT	1-DH1	2480	Ant1	6.041	21	Pass
NVNT	1-DH3	2441	Ant1	6.226	21	Pass
NVNT	1-DH5	2441	Ant1	6.217	21	Pass
NVNT	2-DH1	2402	Ant1	6.782	21	Pass
NVNT	2-DH1	2441	Ant1	6.198	21	Pass
NVNT	2-DH1	2480	Ant1	6.047	21	Pass
NVNT	2-DH3	2441	Ant1	6.232	21	Pass
NVNT	2-DH5	2441	Ant1	6.214	21	Pass
NVNT	3-DH1	2402	Ant1	6.791	21	Pass
NVNT	3-DH1	2441	Ant1	6.22	21	Pass
NVNT	3-DH1	2480	Ant1	6.067	21	Pass
NVNT	3-DH3	2441	Ant1	6.41	21	Pass
NVNT	3-DH5	2441	Ant1	6.31	21	Pass

Test Graphs

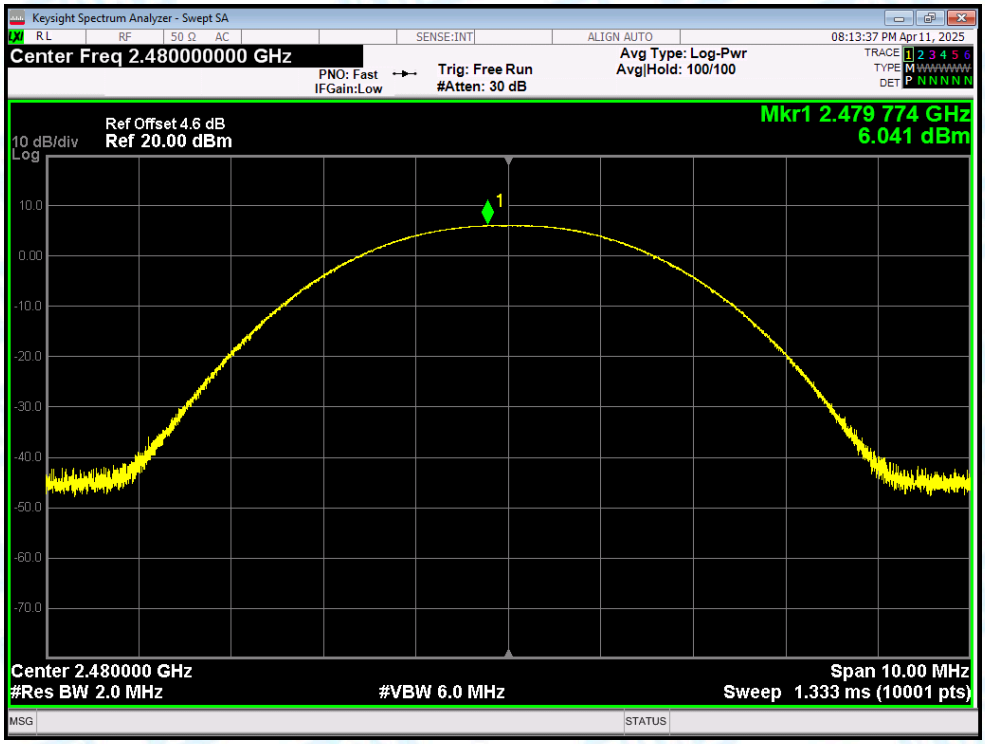
Power NVNT 1-DH1 2402MHz Ant1



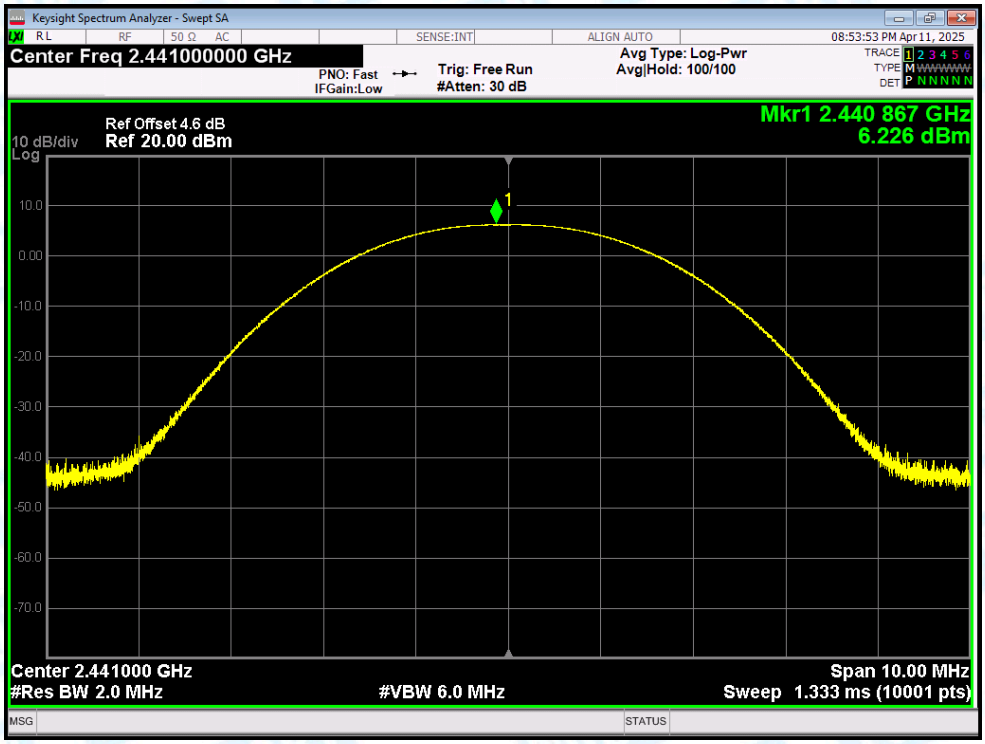
Power NVNT 1-DH1 2441MHz Ant1



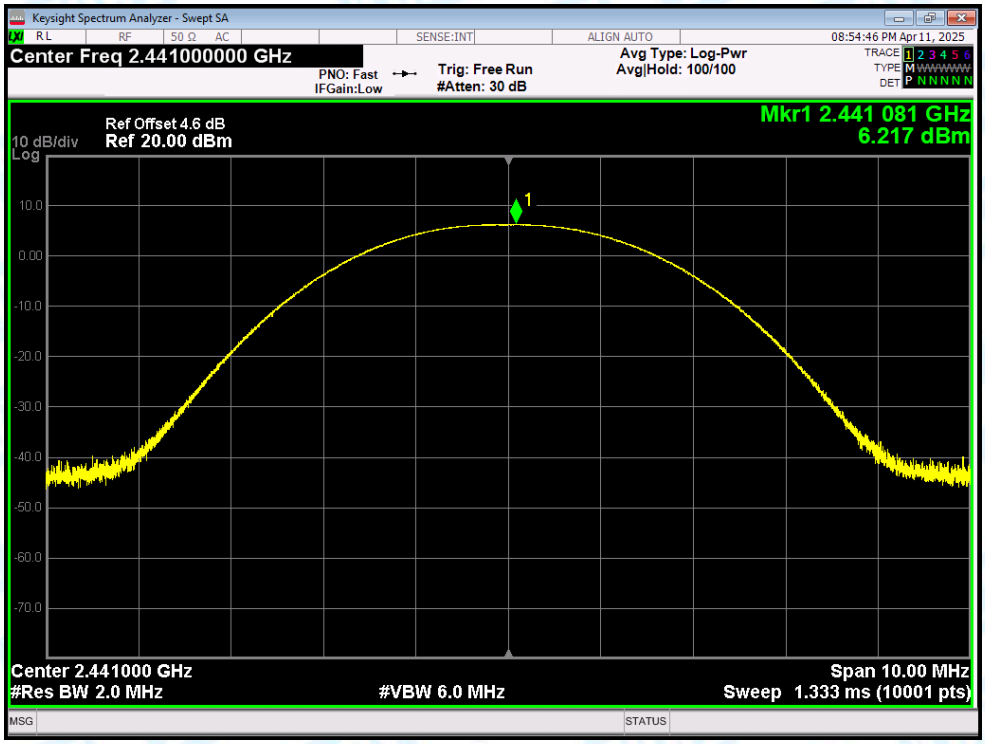
Power NVNT 1-DH1 2480MHz Ant1



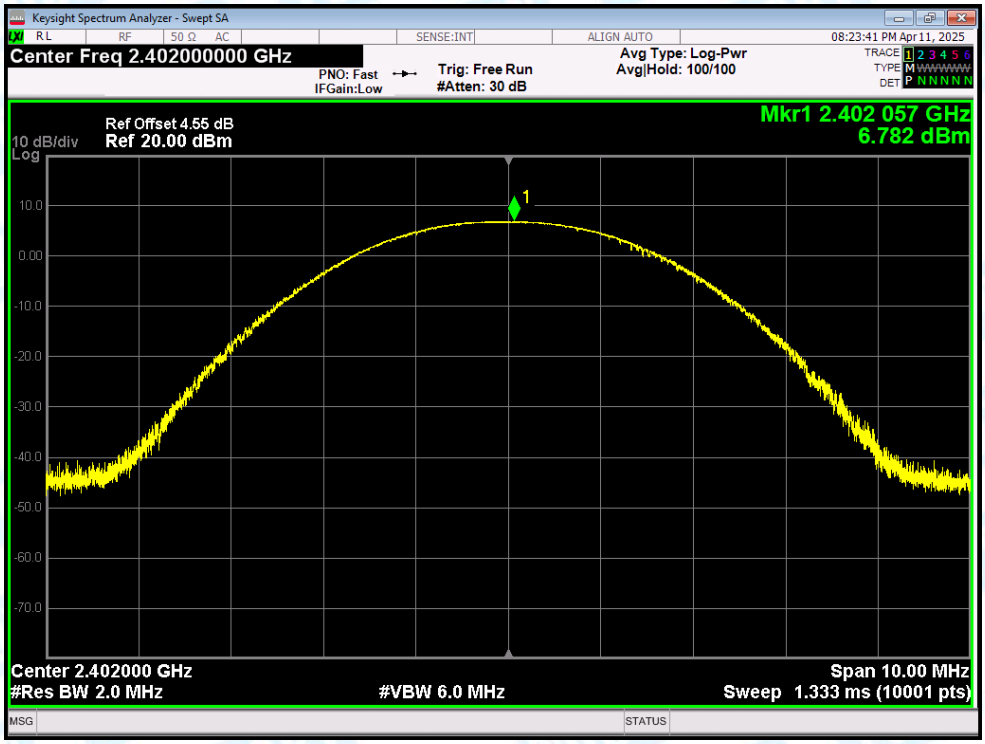
Power NVNT 1-DH3 2441MHz Ant1



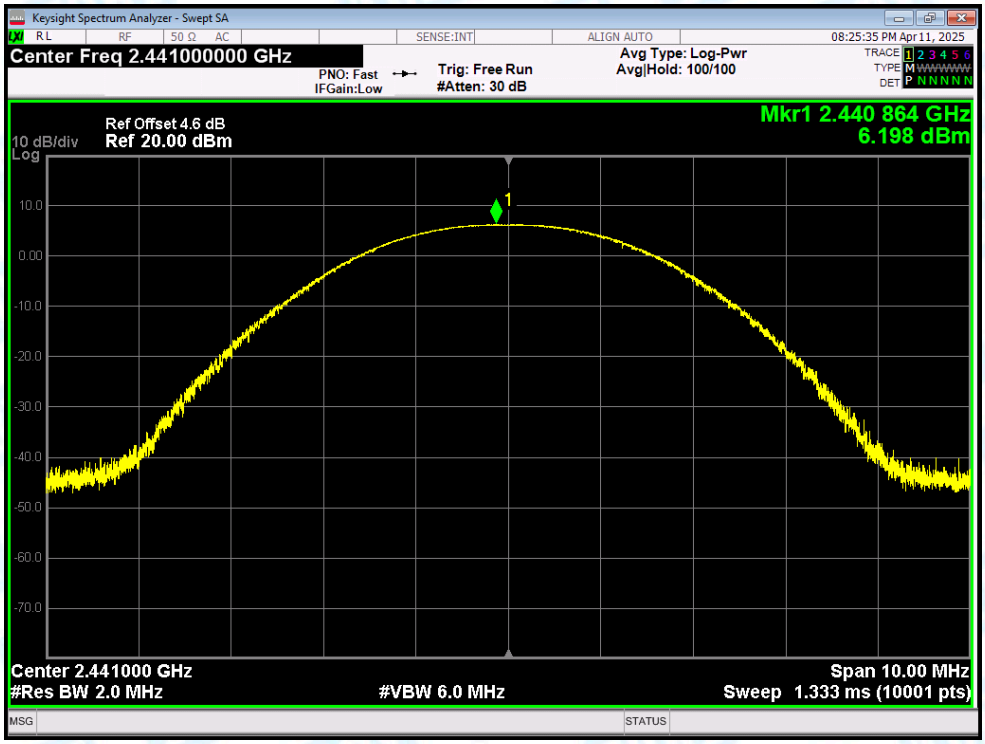
Power NVNT 1-DH5 2441MHz Ant1



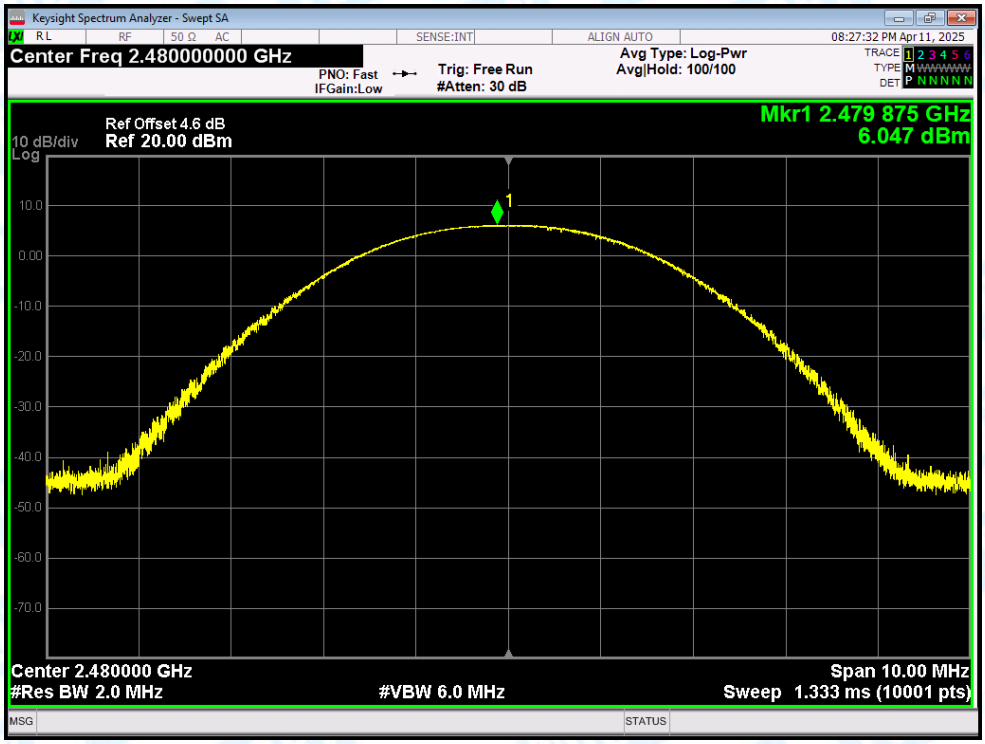
Power NVNT 2-DH1 2402MHz Ant1



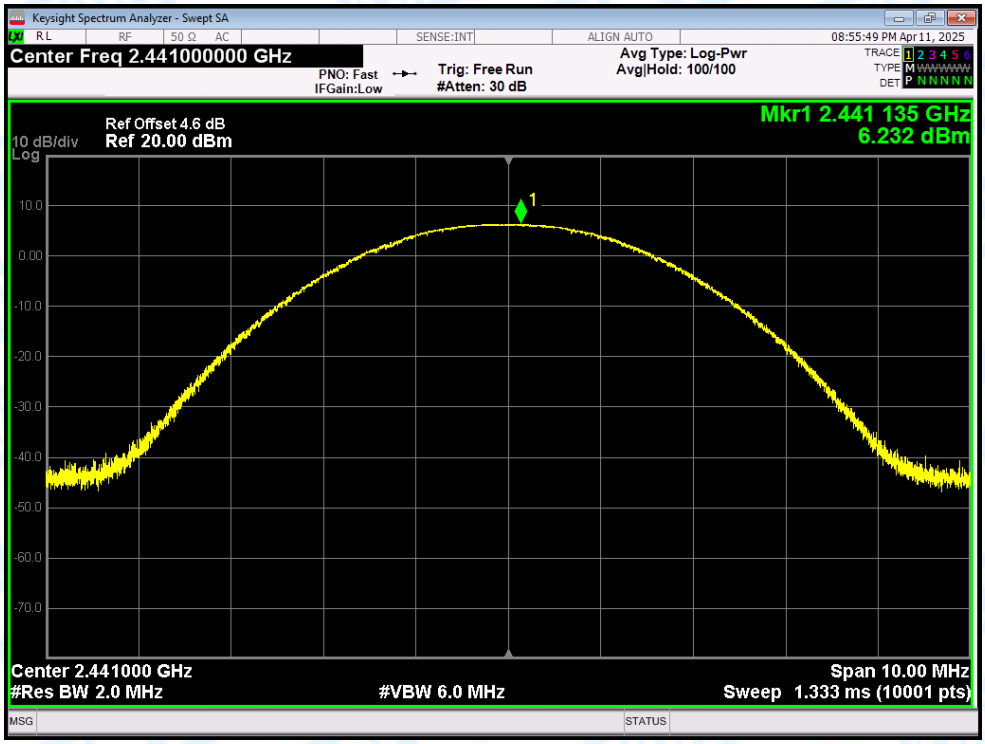
Power NVNT 2-DH1 2441MHz Ant1



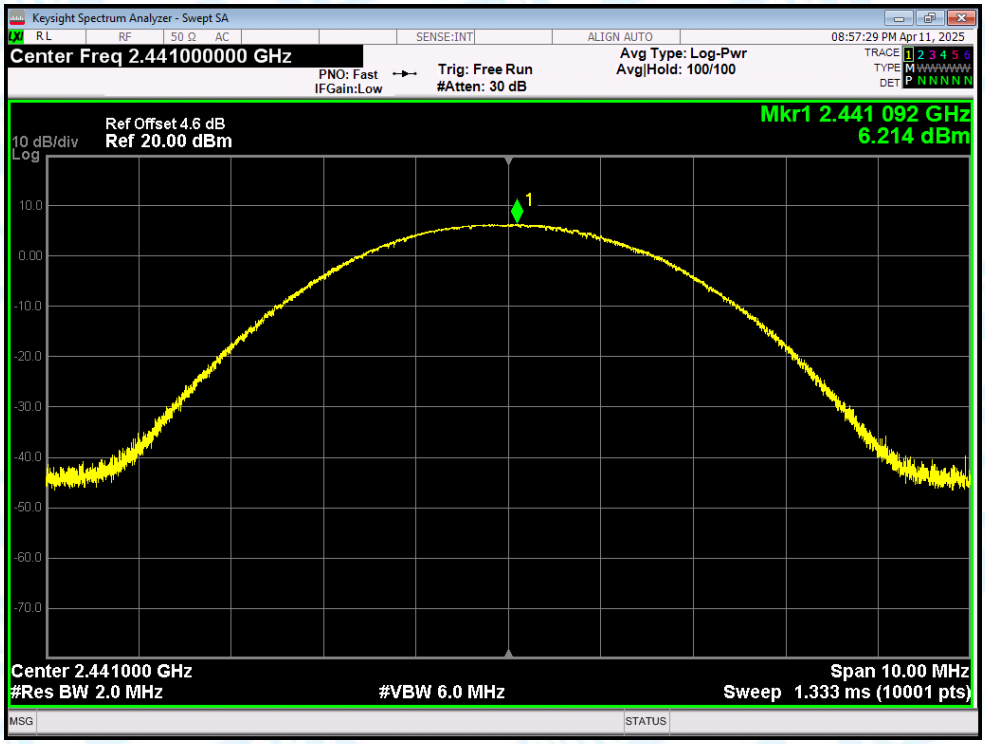
Power NVNT 2-DH1 2480MHz Ant1



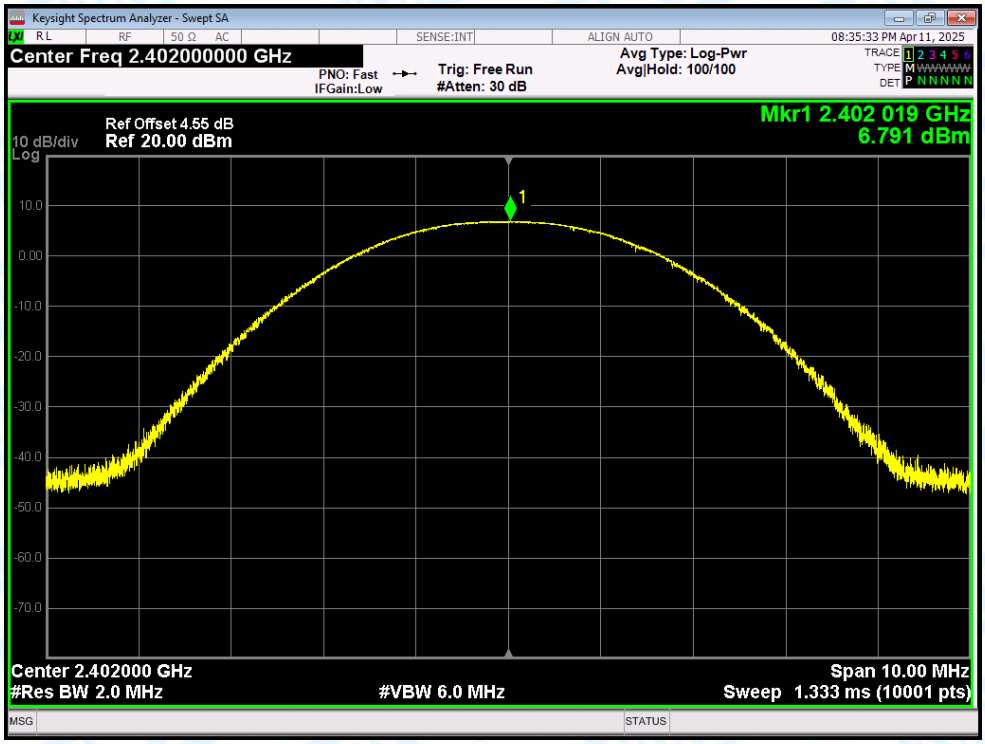
Power NVNT 2-DH3 2441MHz Ant1



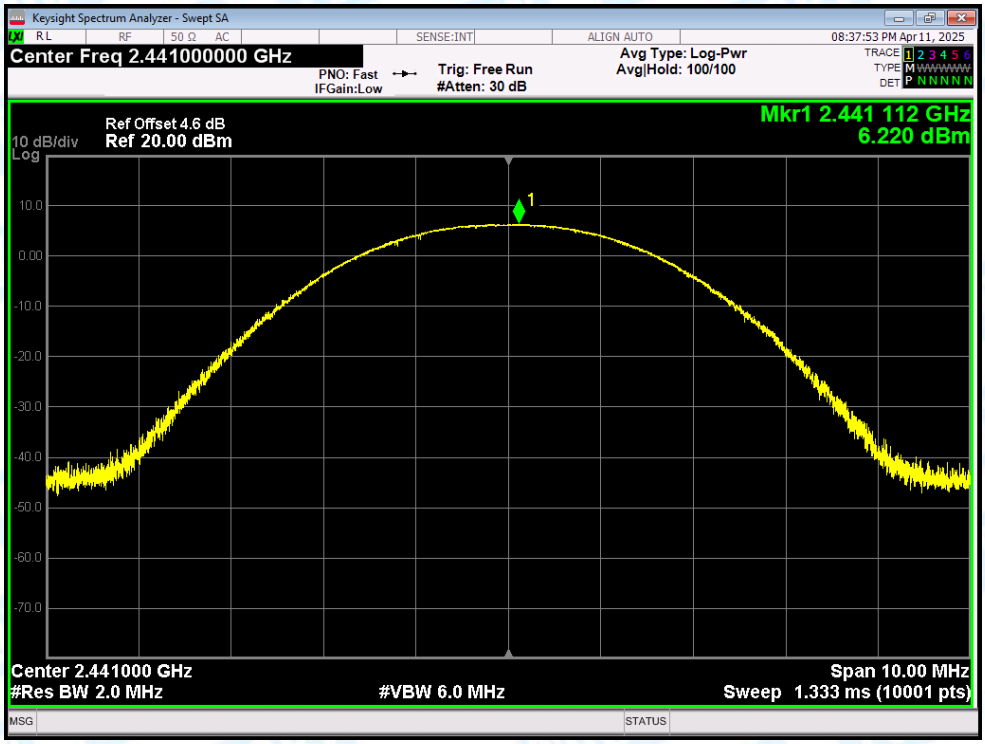
Power NVNT 2-DH5 2441MHz Ant1



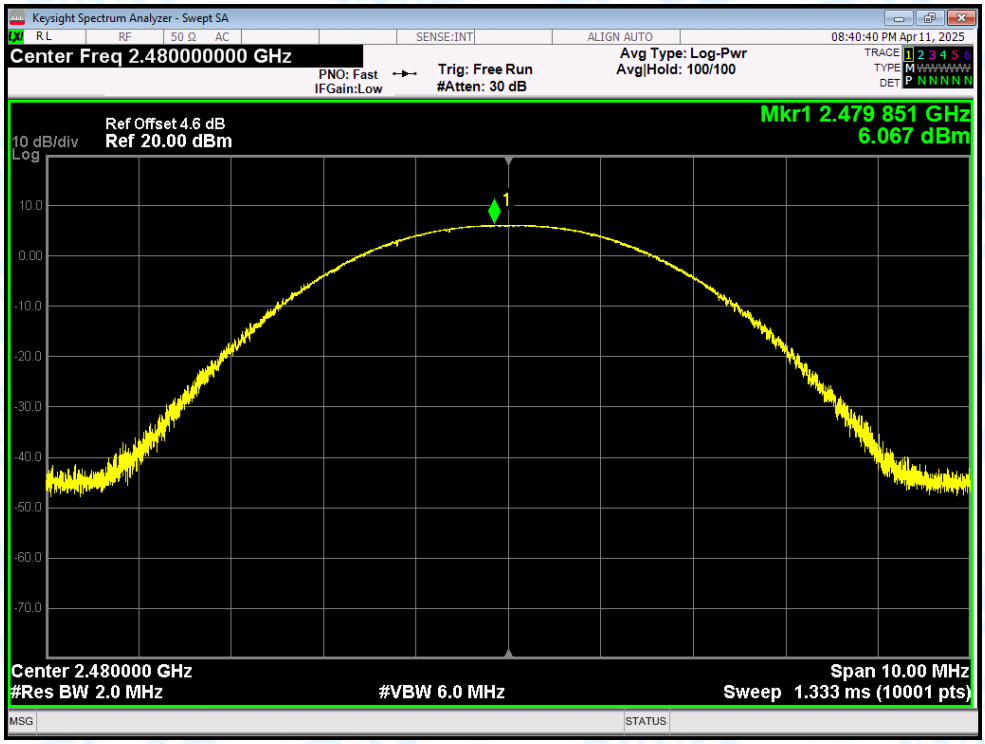
Power NVNT 3-DH1 2402MHz Ant1



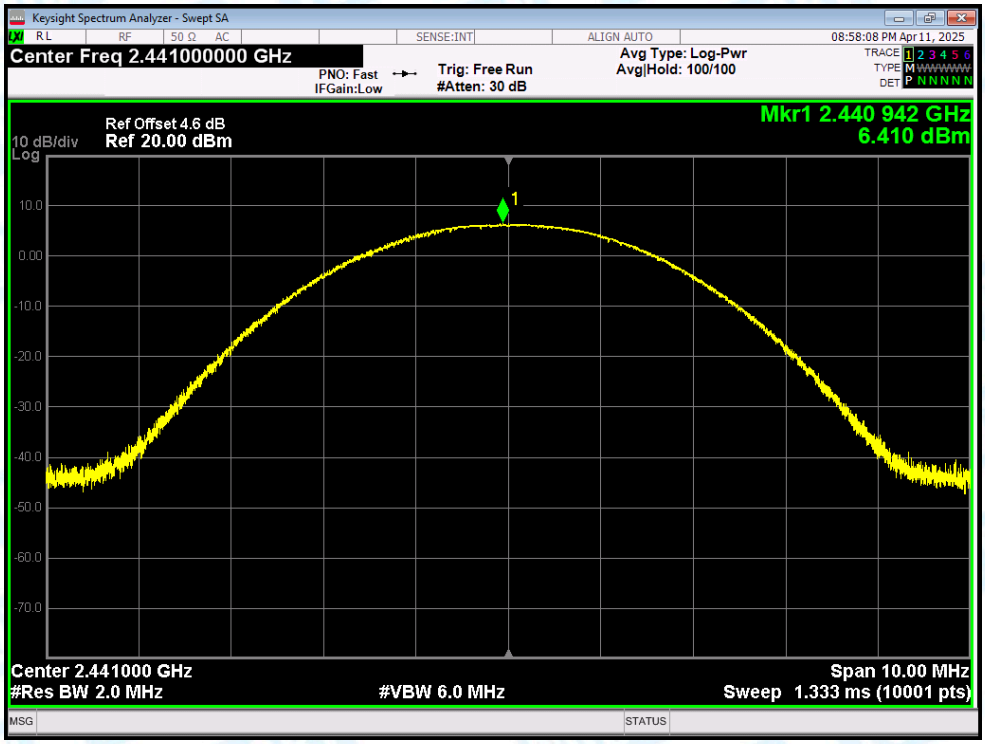
Power NVNT 3-DH1 2441MHz Ant1



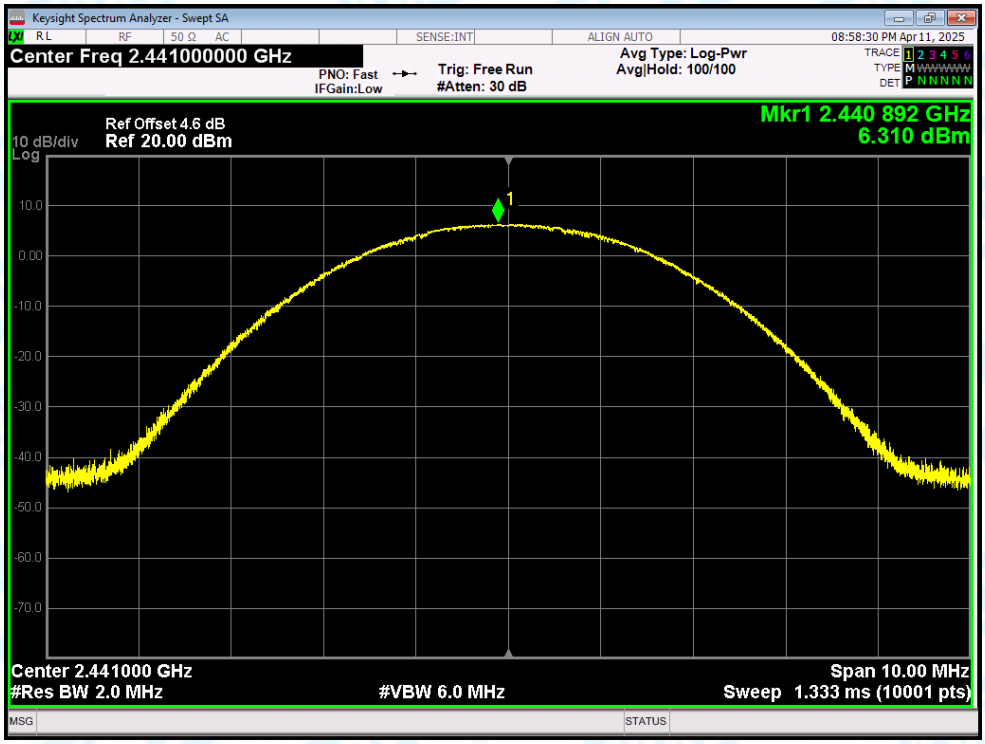
Power NVNT 3-DH1 2480MHz Ant1



Power NVNT 3-DH3 2441MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1

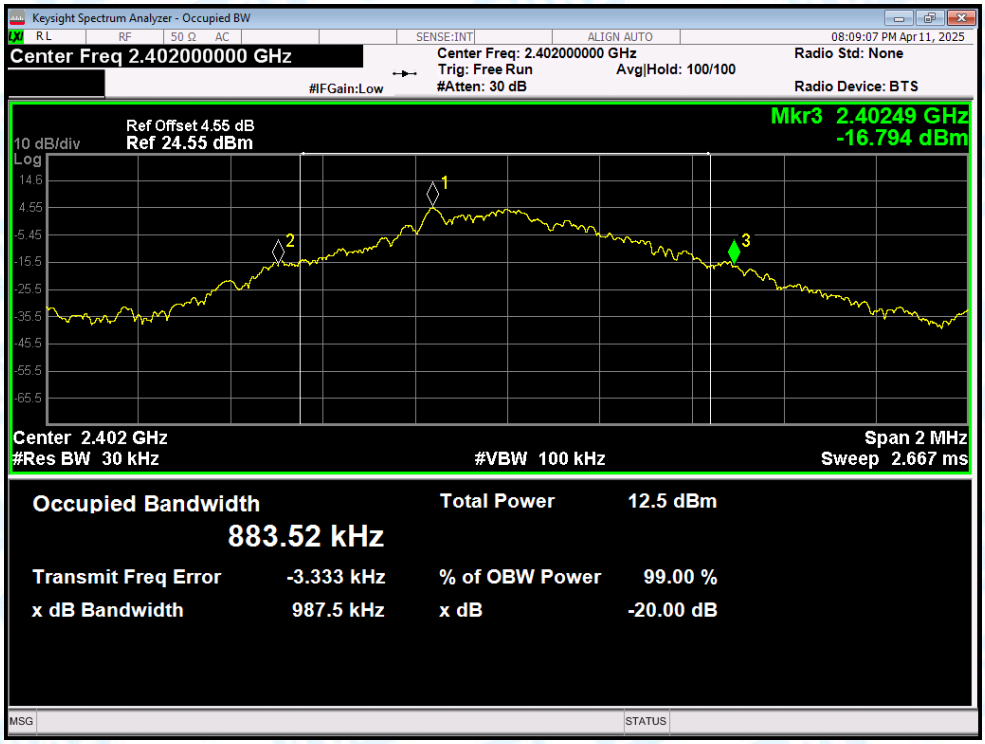


3. -20dB Bandwidth

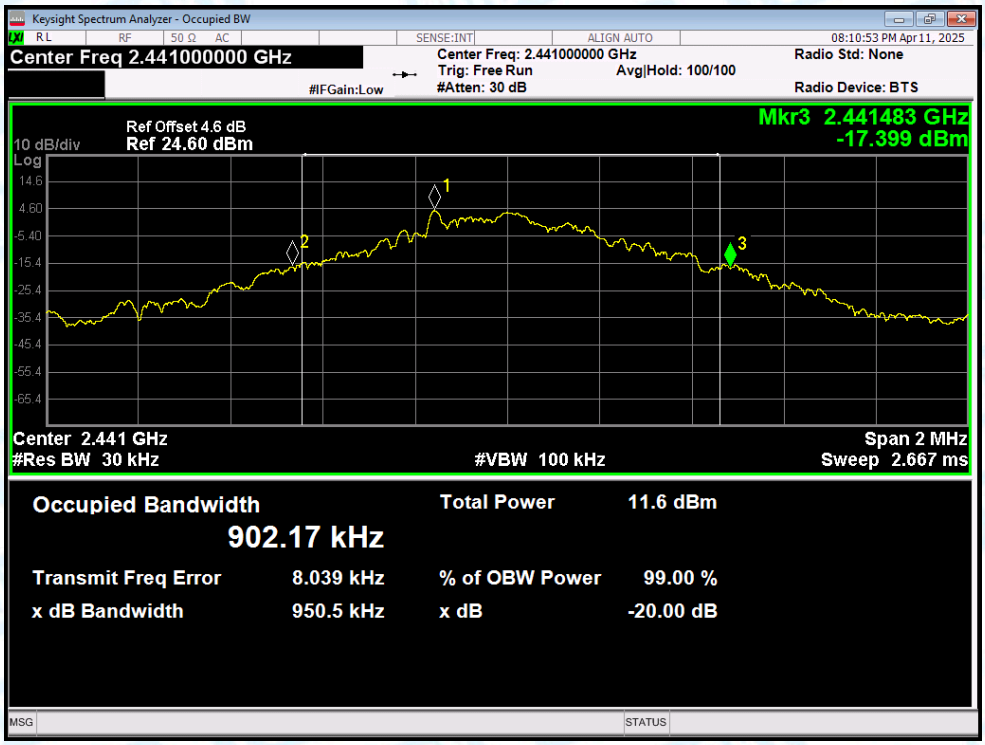
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	Ant1	0.99	0	Pass
NVNT	1-DH1	2441	Ant1	0.95	0	Pass
NVNT	1-DH1	2480	Ant1	0.96	0	Pass
NVNT	2-DH1	2402	Ant1	1.21	0	Pass
NVNT	2-DH1	2441	Ant1	1.21	0	Pass
NVNT	2-DH1	2480	Ant1	1.21	0	Pass
NVNT	3-DH1	2402	Ant1	1.21	0	Pass
NVNT	3-DH1	2441	Ant1	1.22	0	Pass
NVNT	3-DH1	2480	Ant1	1.22	0	Pass

Test Graphs

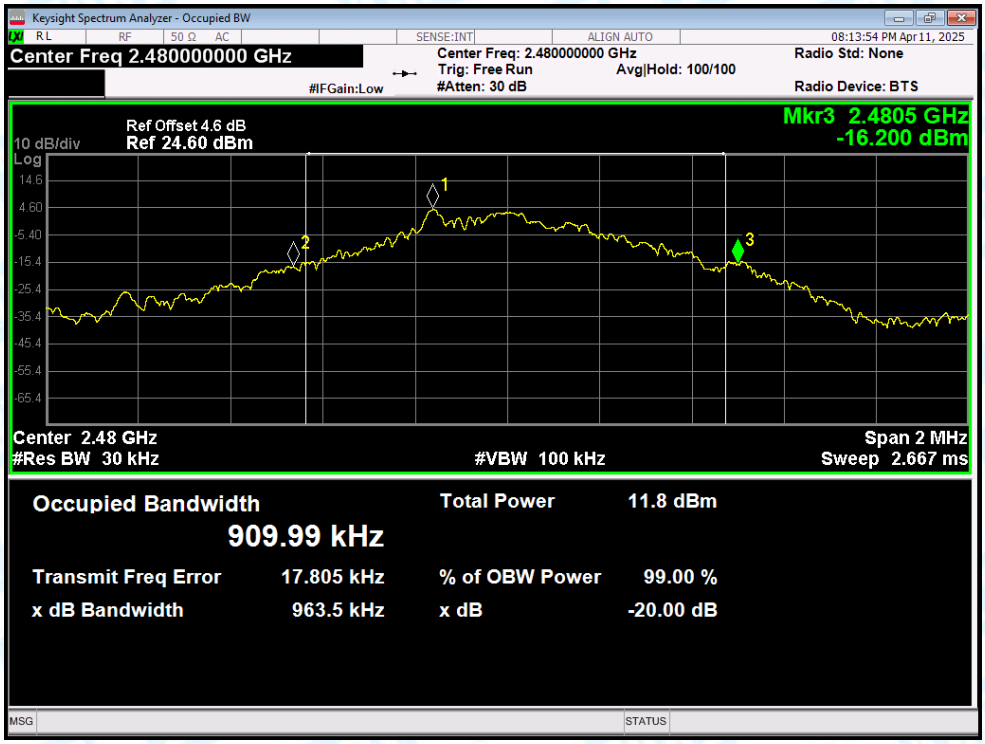
-20dB Bandwidth NVNT 1-DH1 2402MHz Ant1



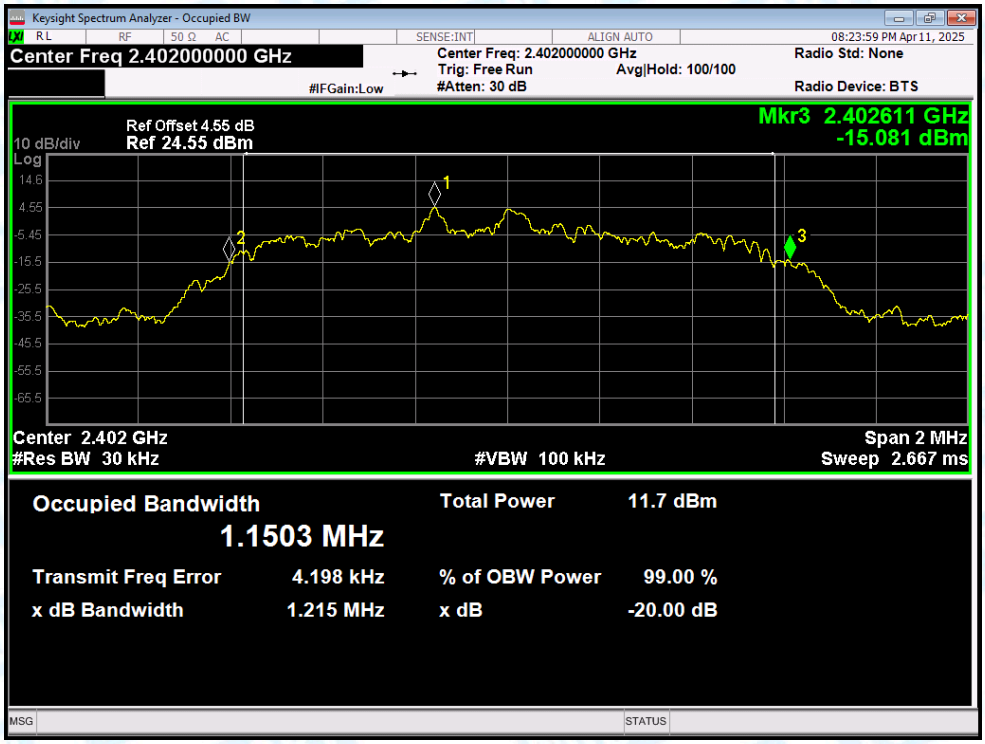
-20dB Bandwidth NVNT 1-DH1 2441MHz Ant1



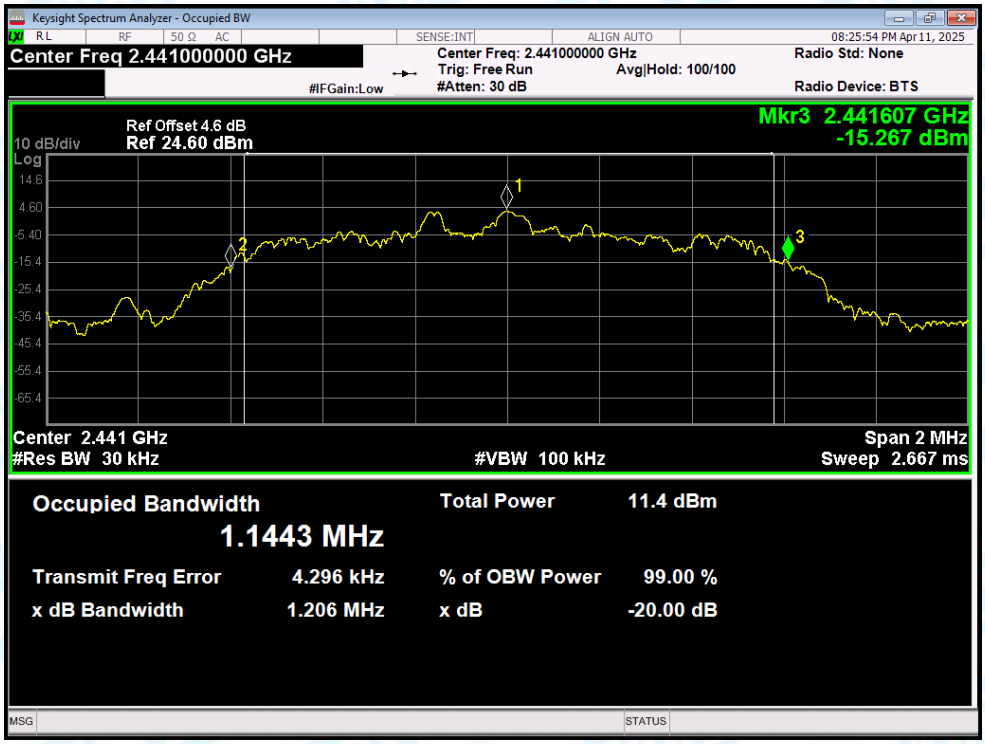
-20dB Bandwidth NVNT 1-DH1 2480MHz Ant1



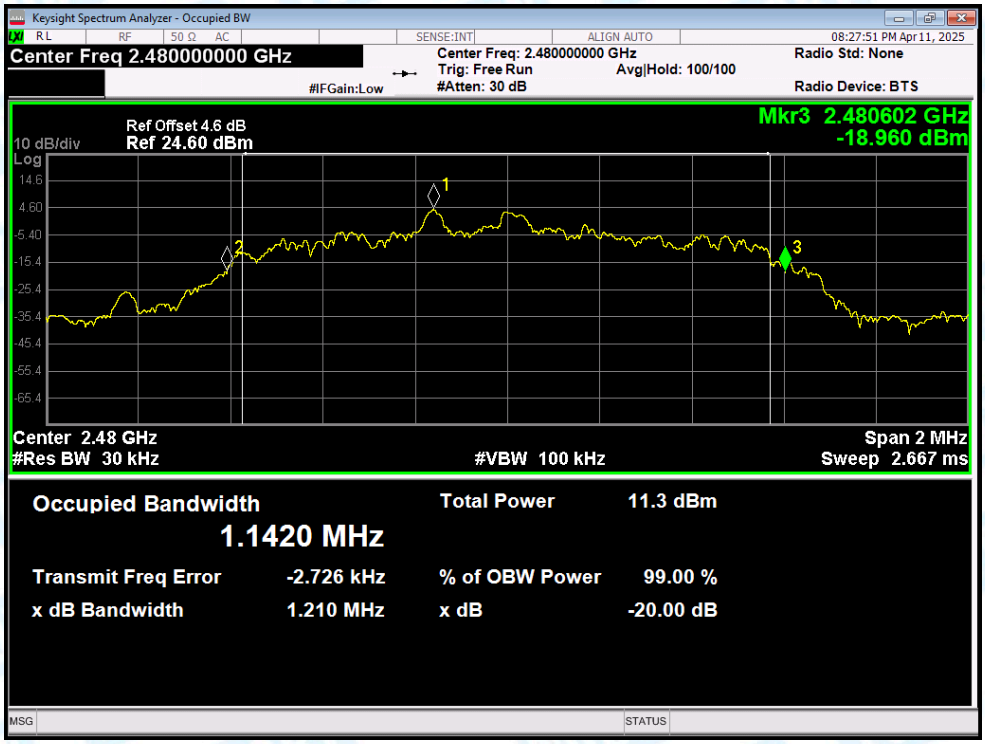
-20dB Bandwidth NVNT 2-DH1 2402MHz Ant1



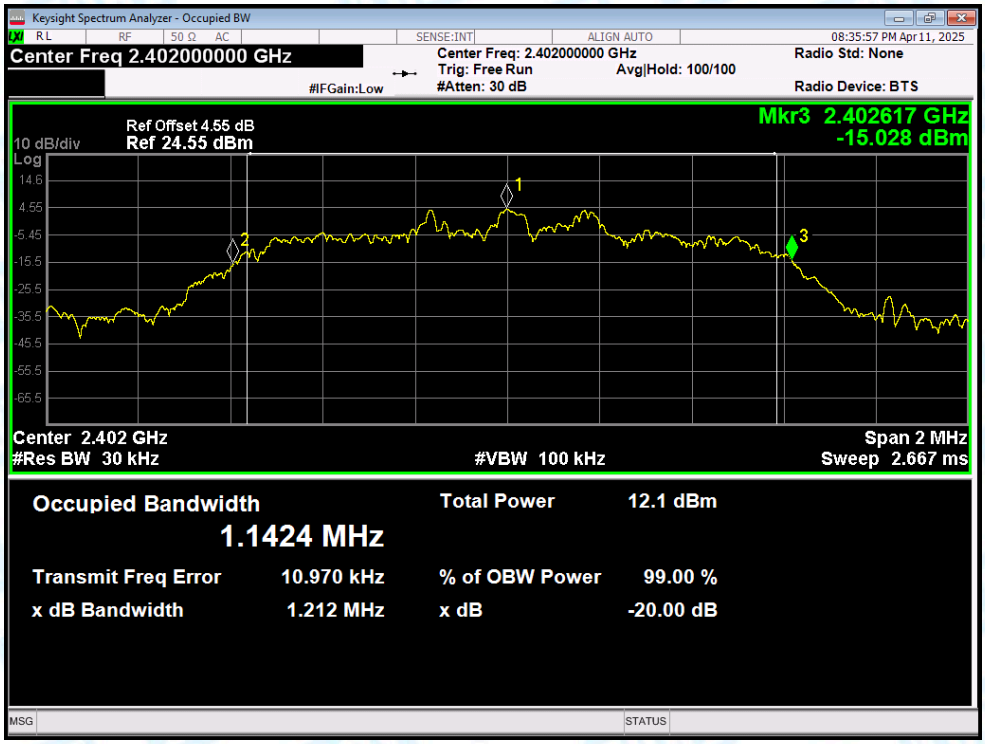
-20dB Bandwidth NVNT 2-DH1 2441MHz Ant1



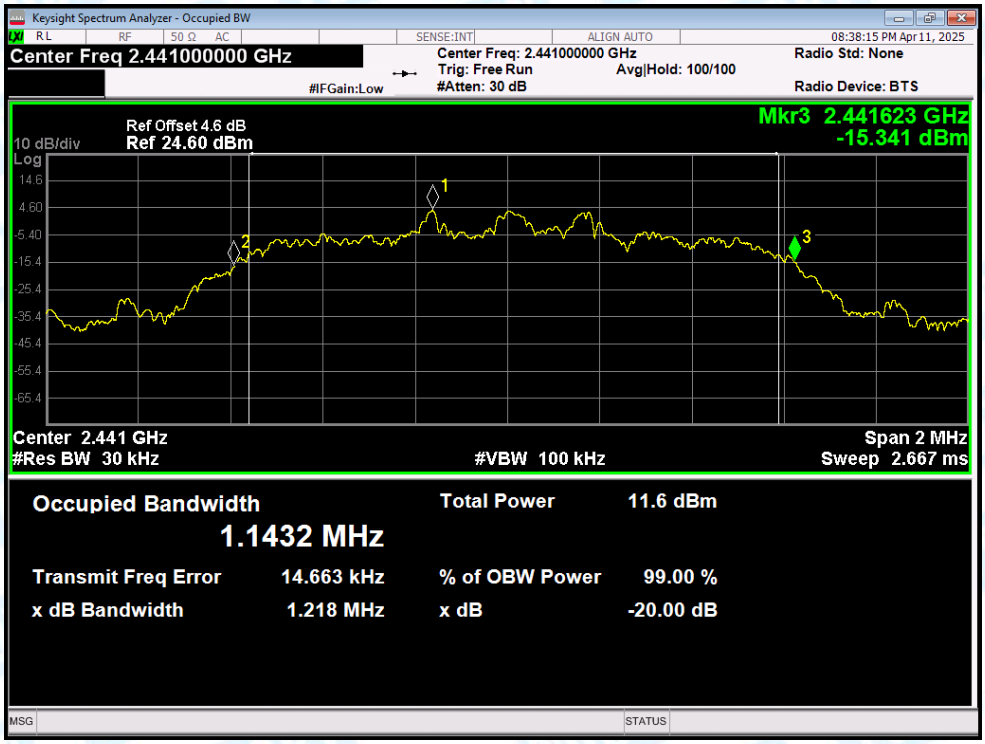
-20dB Bandwidth NVNT 2-DH1 2480MHz Ant1



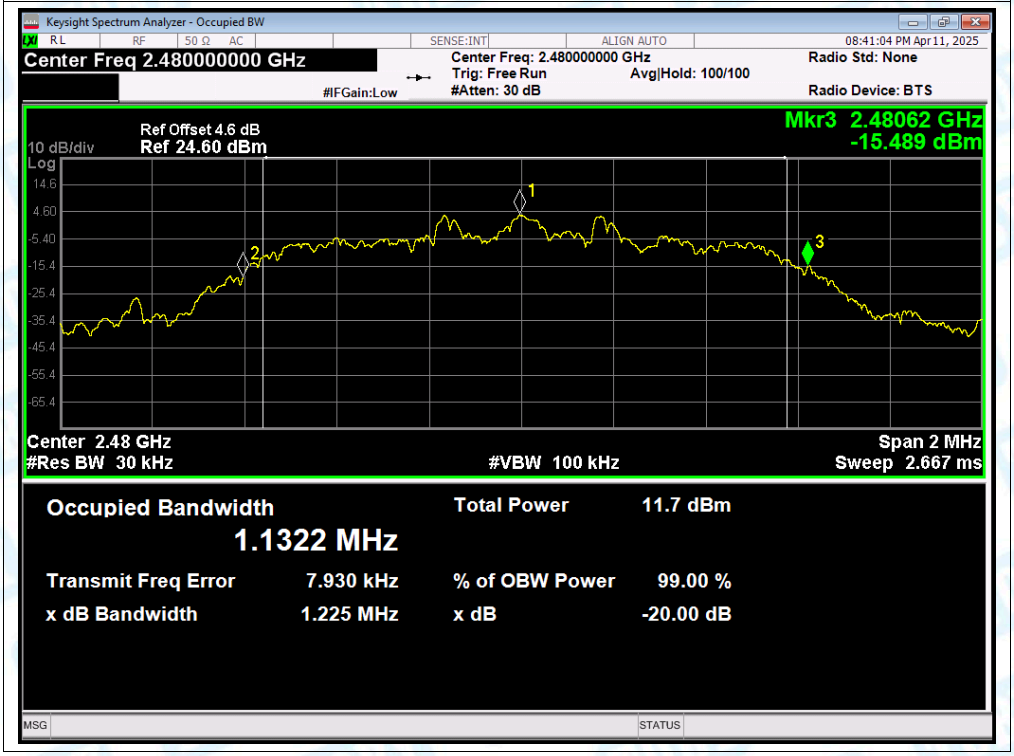
-20dB Bandwidth NVNT 3-DH1 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH1 2480MHz Ant1

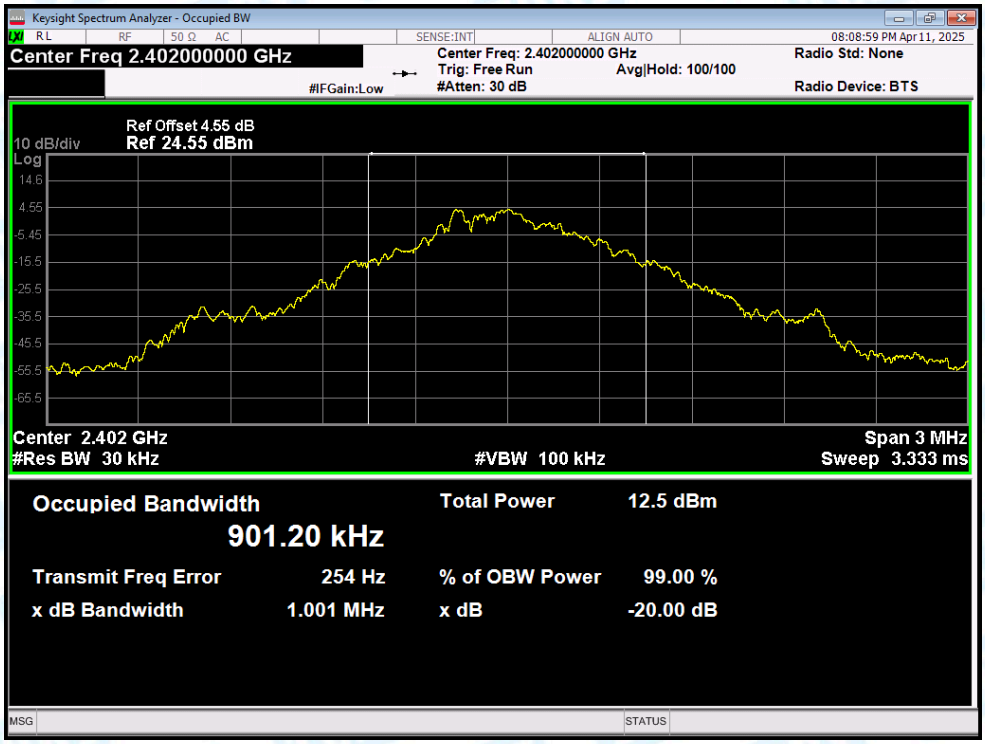


4. Occupied Channel Bandwidth

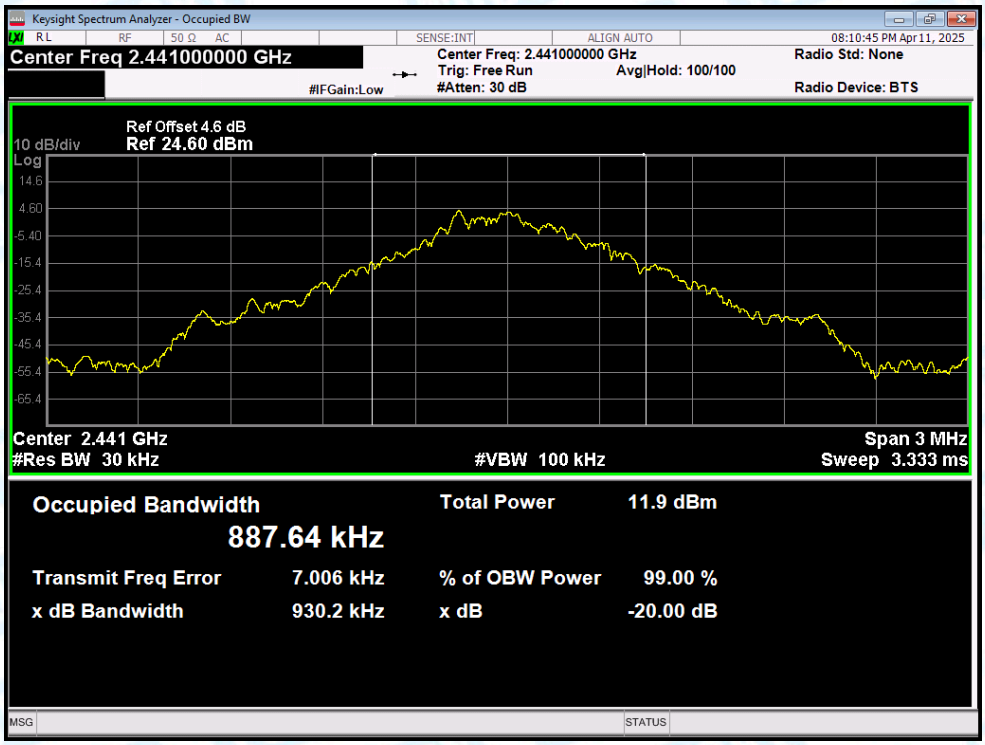
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH1	2402	Ant1	0.901
NVNT	1-DH1	2441	Ant1	0.888
NVNT	1-DH1	2480	Ant1	0.92
NVNT	2-DH1	2402	Ant1	1.132
NVNT	2-DH1	2441	Ant1	1.16
NVNT	2-DH1	2480	Ant1	1.145
NVNT	3-DH1	2402	Ant1	1.131
NVNT	3-DH1	2441	Ant1	1.133
NVNT	3-DH1	2480	Ant1	1.149

Test Graphs

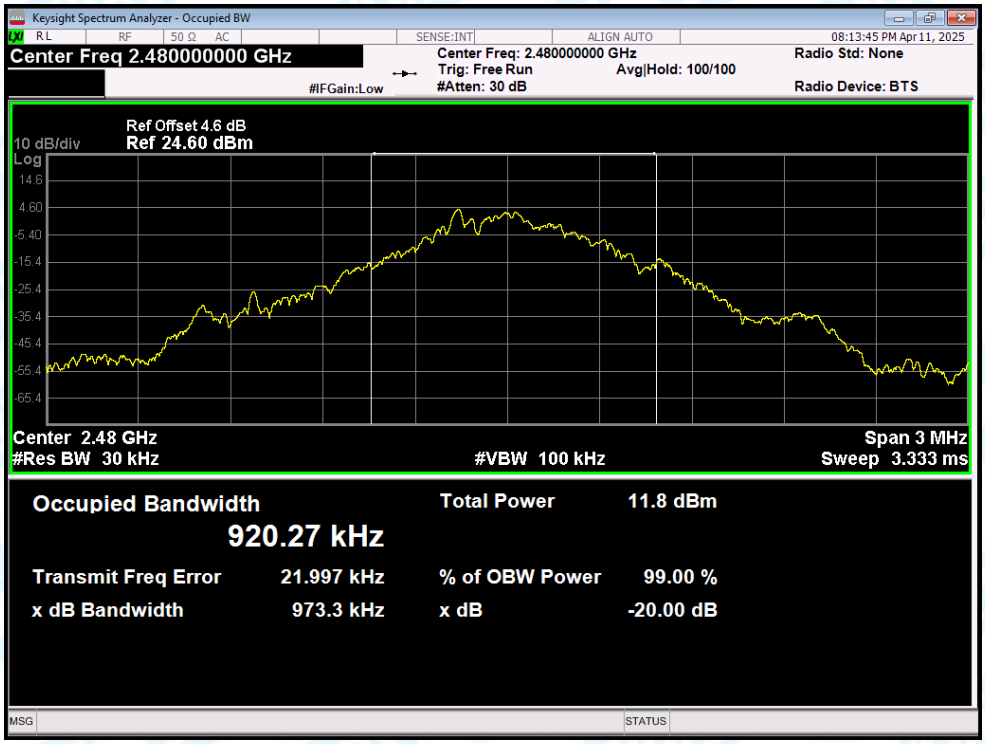
OBW NVNT 1-DH1 2402MHz Ant1



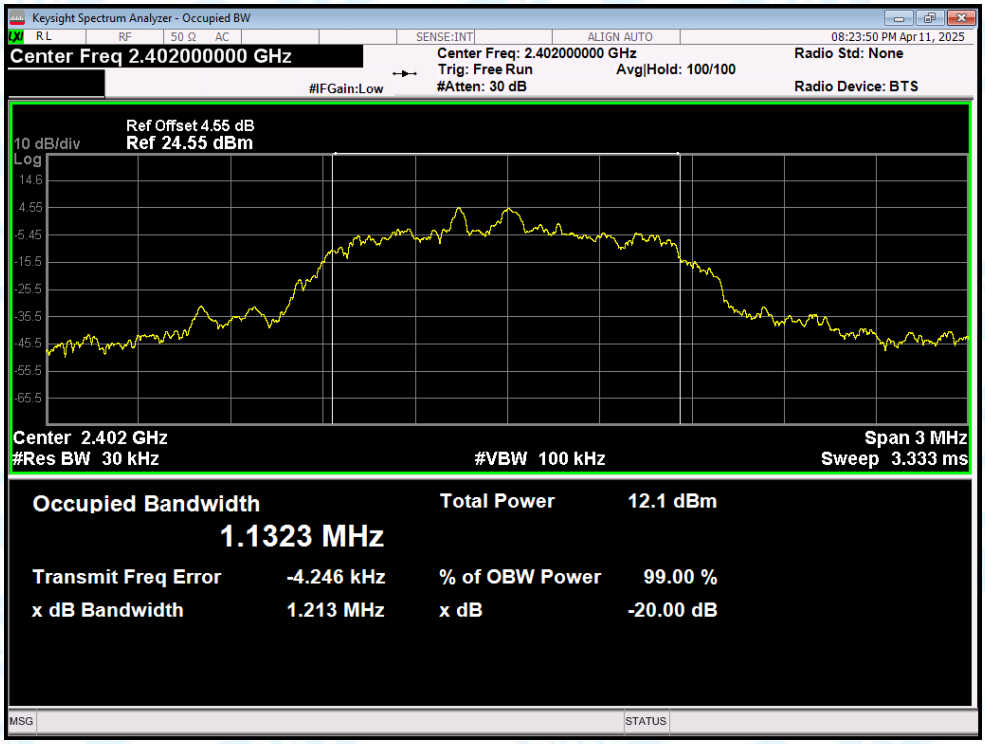
OBW NVNT 1-DH1 2441MHz Ant1



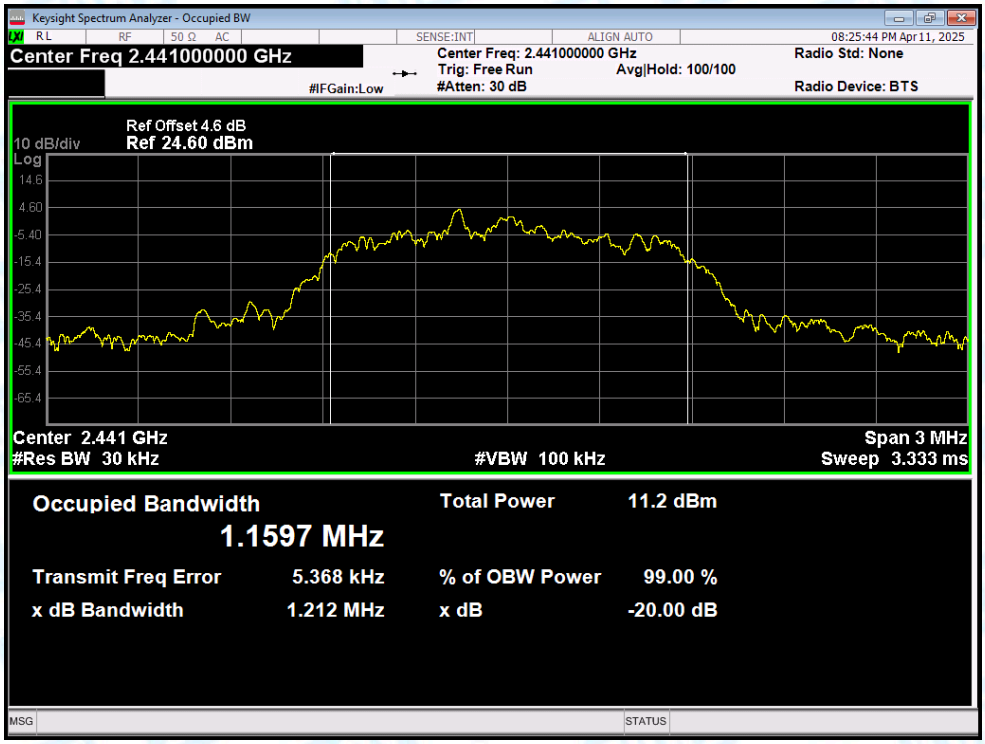
OBW NVNT 1-DH1 2480MHz Ant1



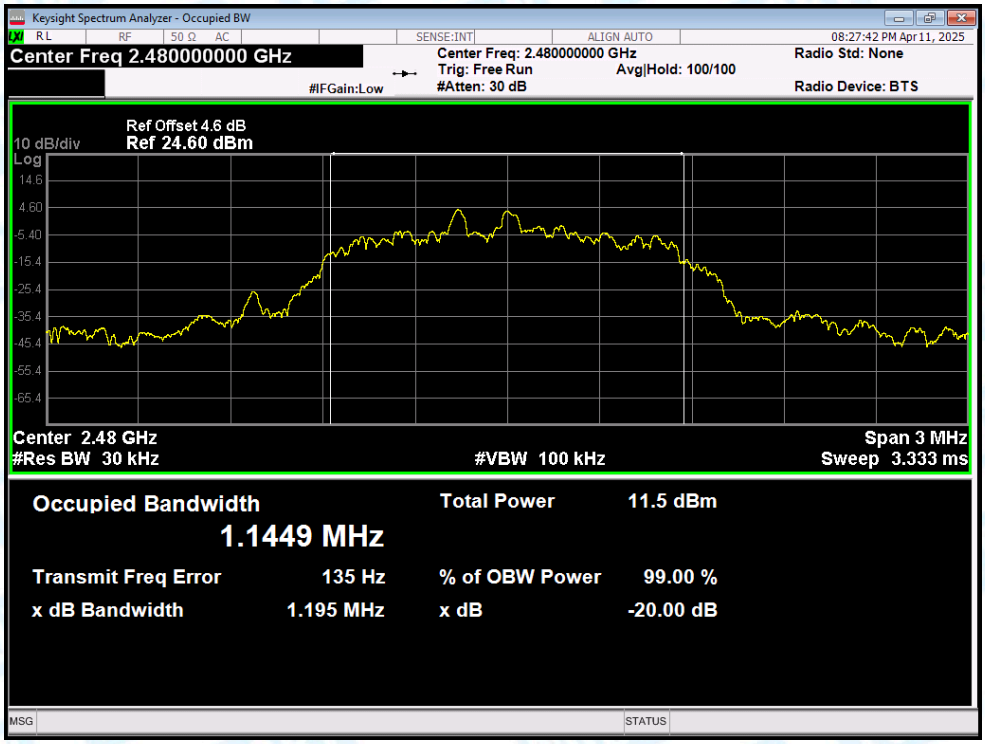
OBW NVNT 2-DH1 2402MHz Ant1



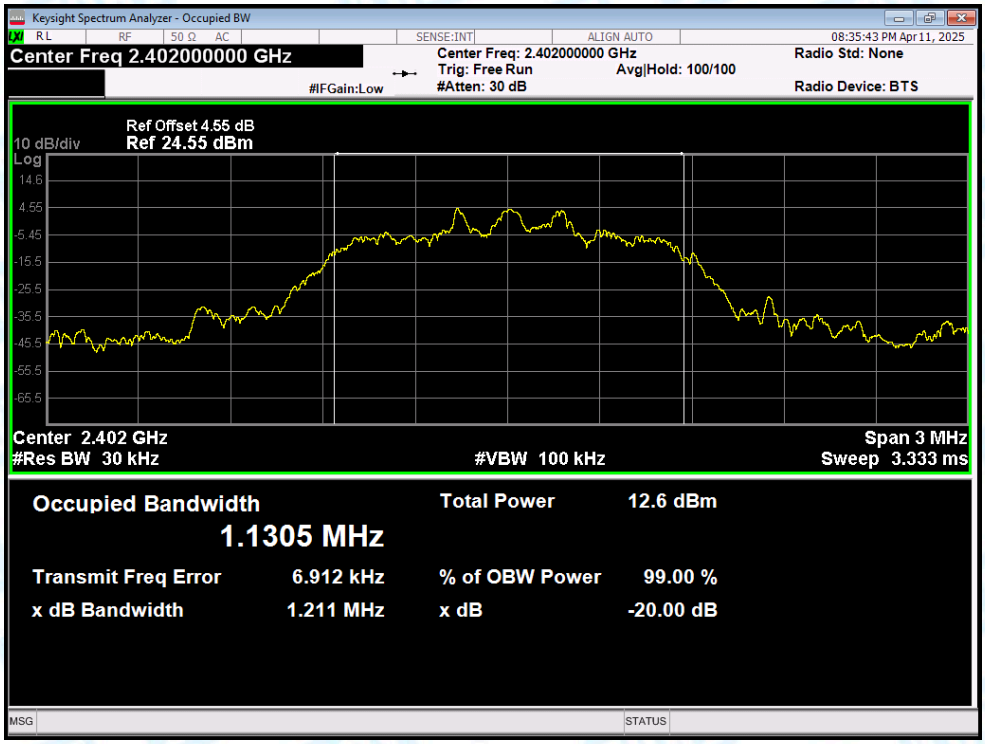
OBW NVNT 2-DH1 2441MHz Ant1



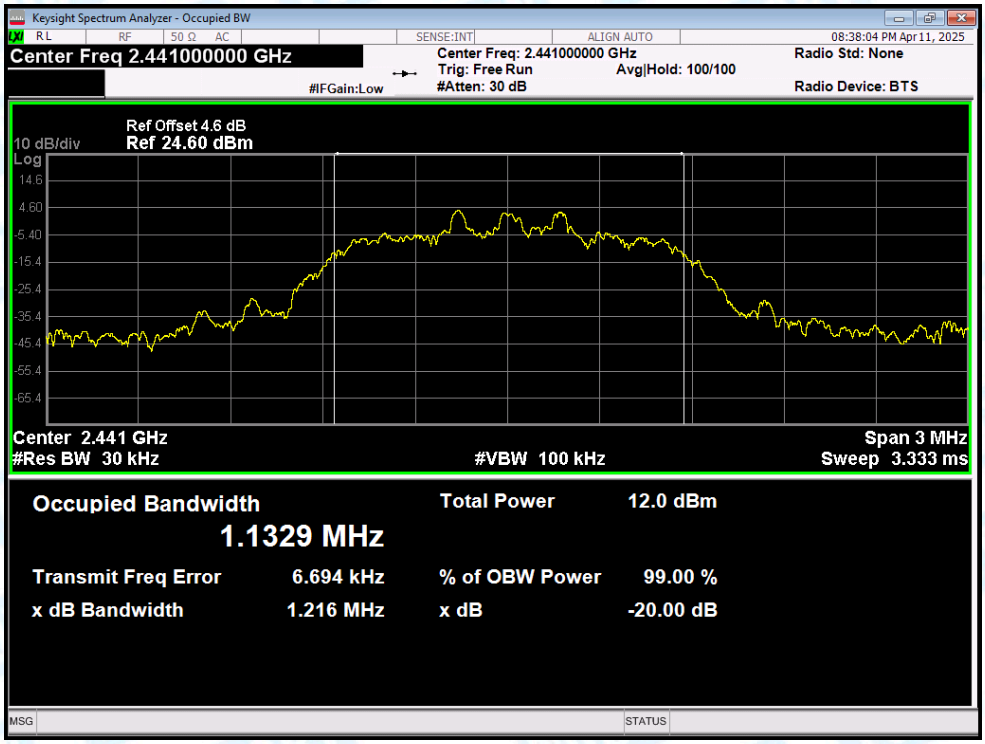
OBW NVNT 2-DH1 2480MHz Ant1



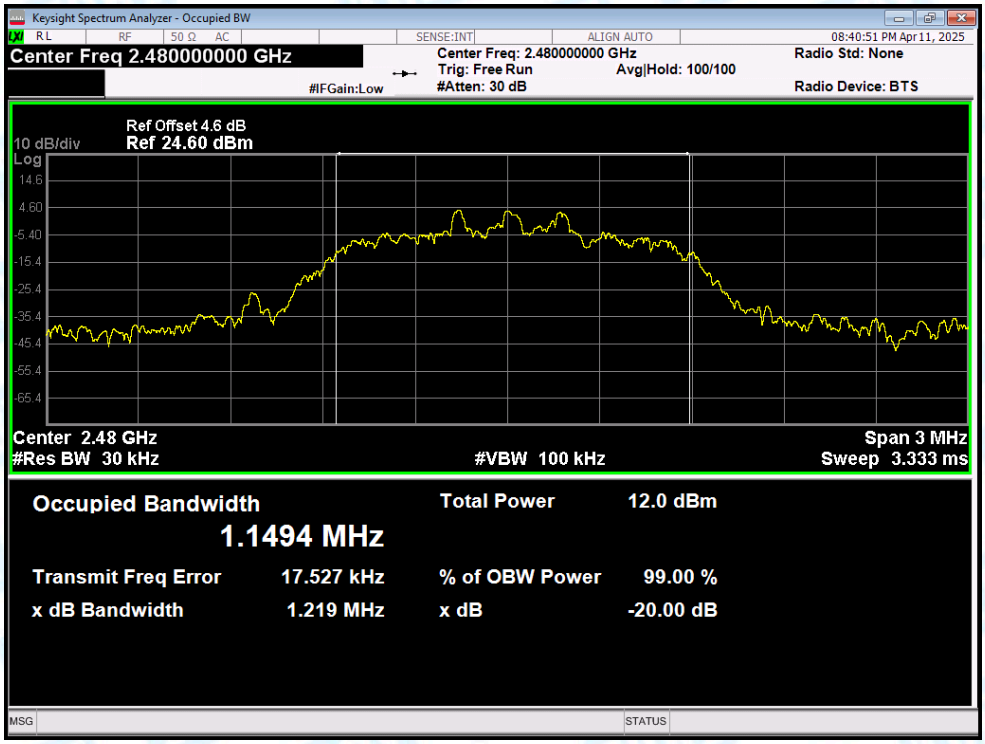
OBW NVNT 3-DH1 2402MHz Ant1



OBW NVNT 3-DH1 2441MHz Ant1



OBW NVNT 3-DH1 2480MHz Ant1

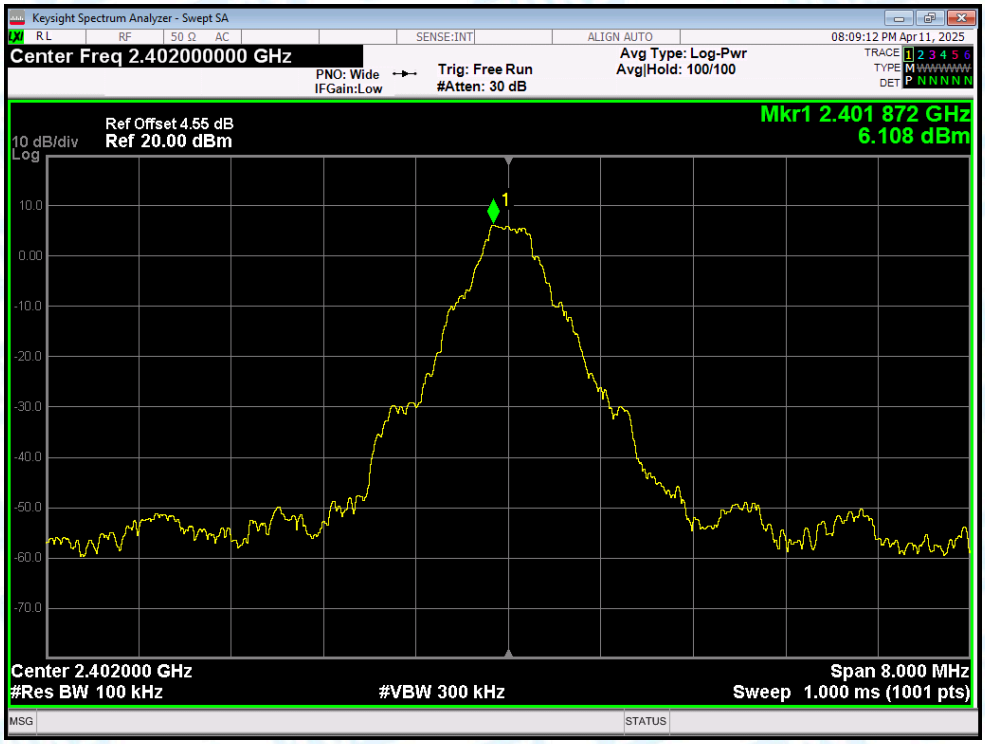


5. Band Edge

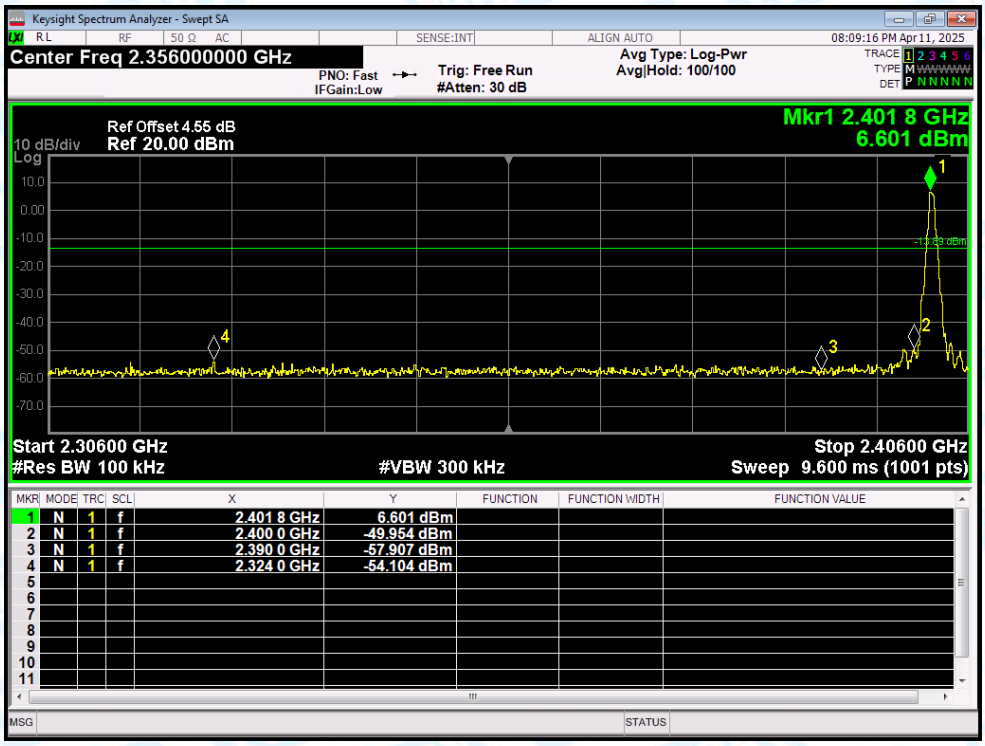
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	No-Hopping	-60.21	-20	Pass
NVNT	1-DH1	2480	Ant1	No-Hopping	-57.85	-20	Pass
NVNT	2-DH1	2402	Ant1	No-Hopping	-60.82	-20	Pass
NVNT	2-DH1	2480	Ant1	No-Hopping	-58.56	-20	Pass
NVNT	3-DH1	2402	Ant1	No-Hopping	-60.94	-20	Pass
NVNT	3-DH1	2480	Ant1	No-Hopping	-59.51	-20	Pass

Test Graphs

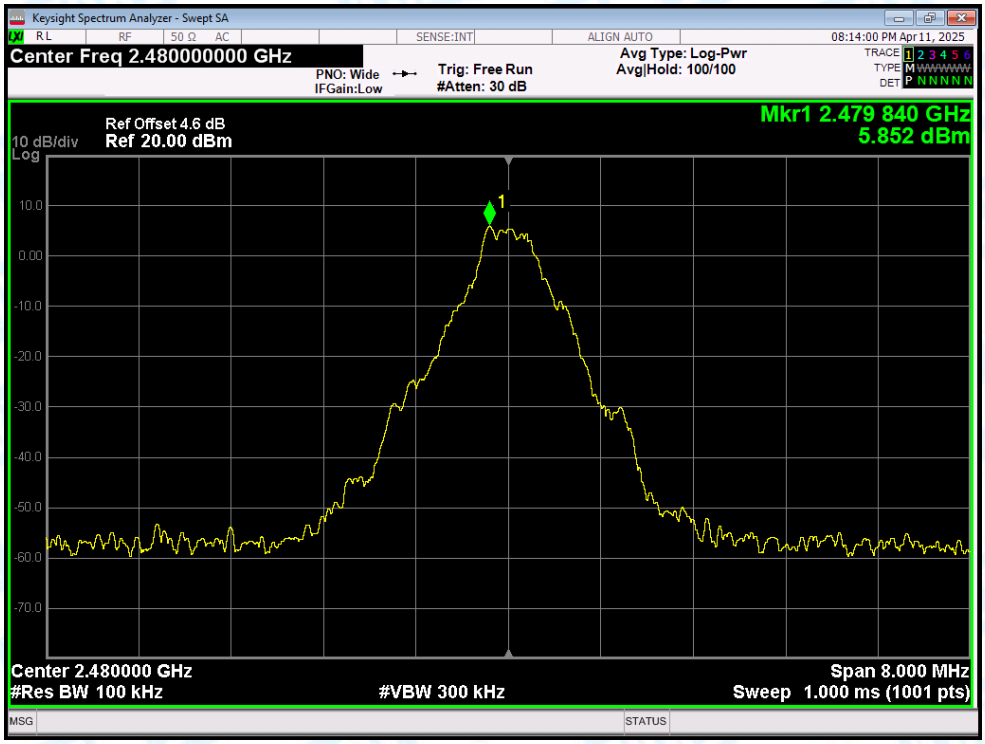
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Ref



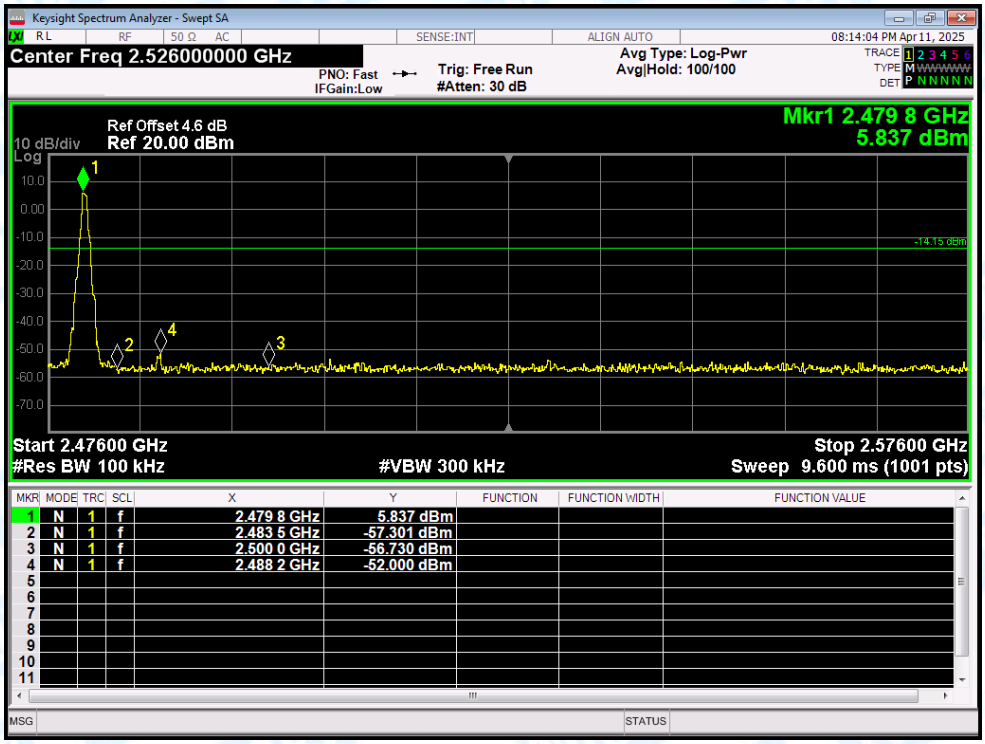
Band Edge NVNT 1-DH1 2402MHz Ant1 No-Hopping Emission



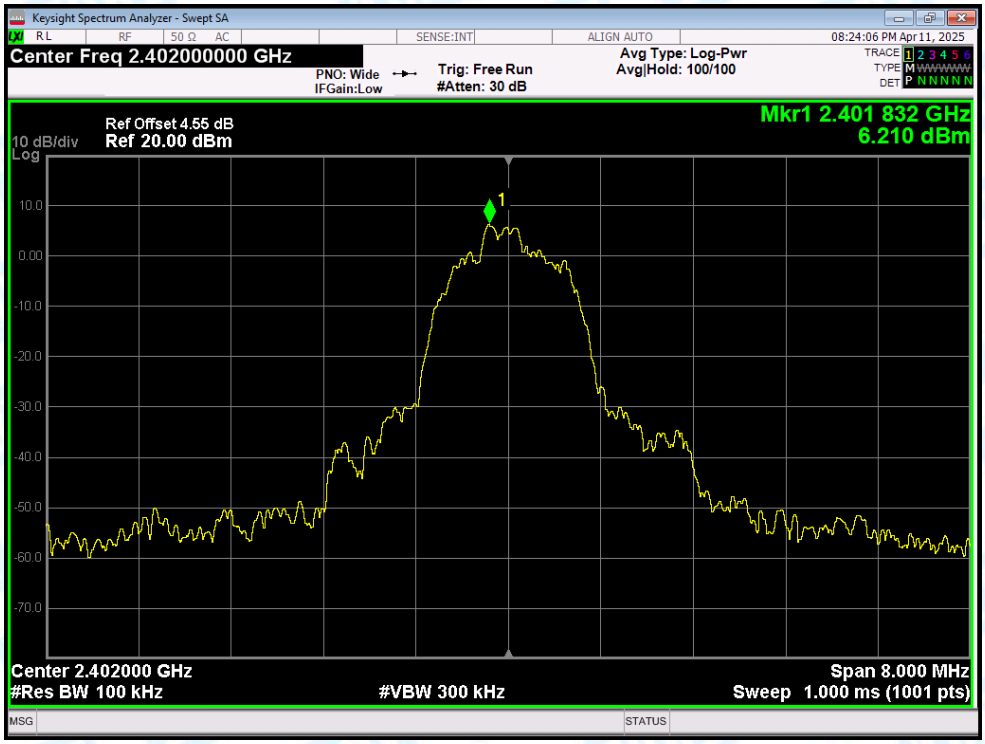
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Ref



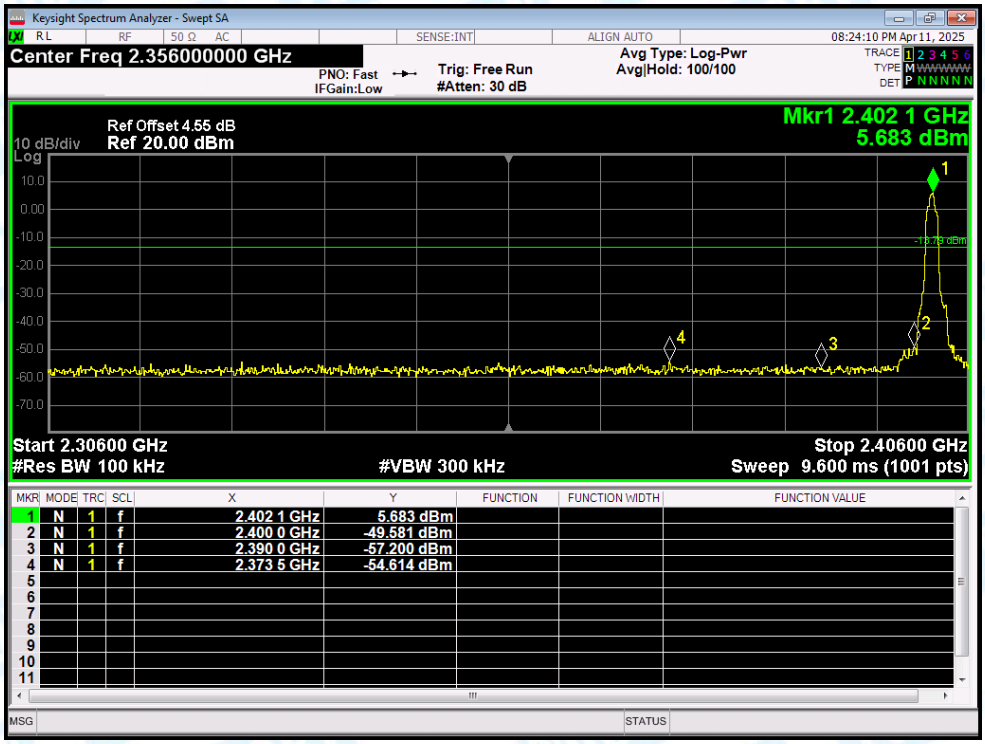
Band Edge NVNT 1-DH1 2480MHz Ant1 No-Hopping Emission



Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Ref



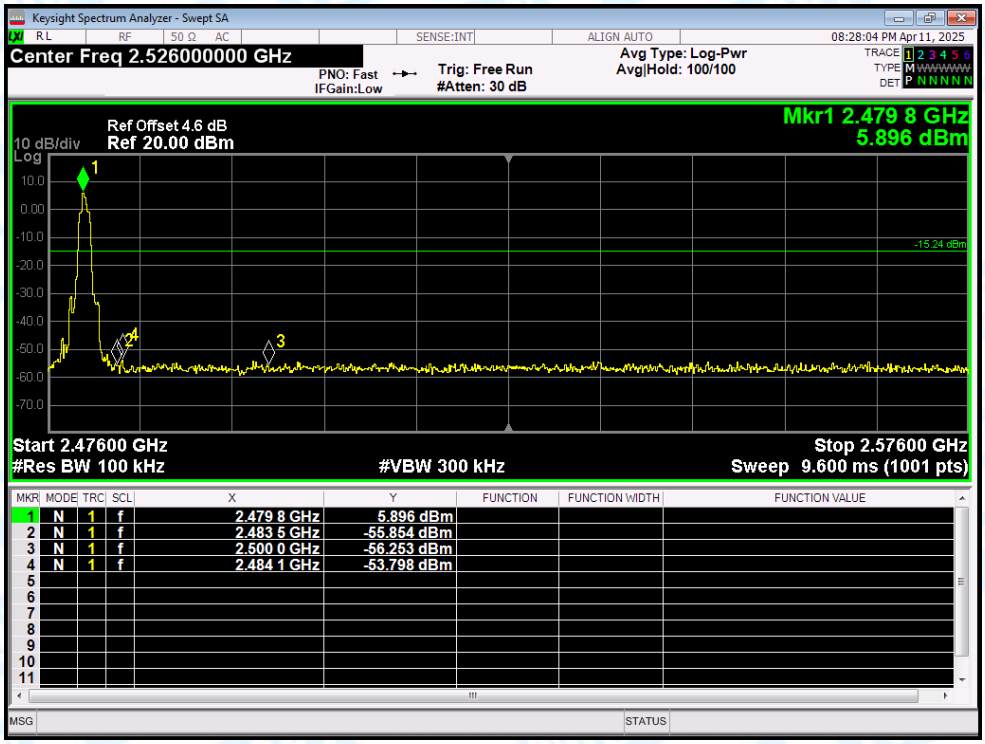
Band Edge NVNT 2-DH1 2402MHz Ant1 No-Hopping Emission



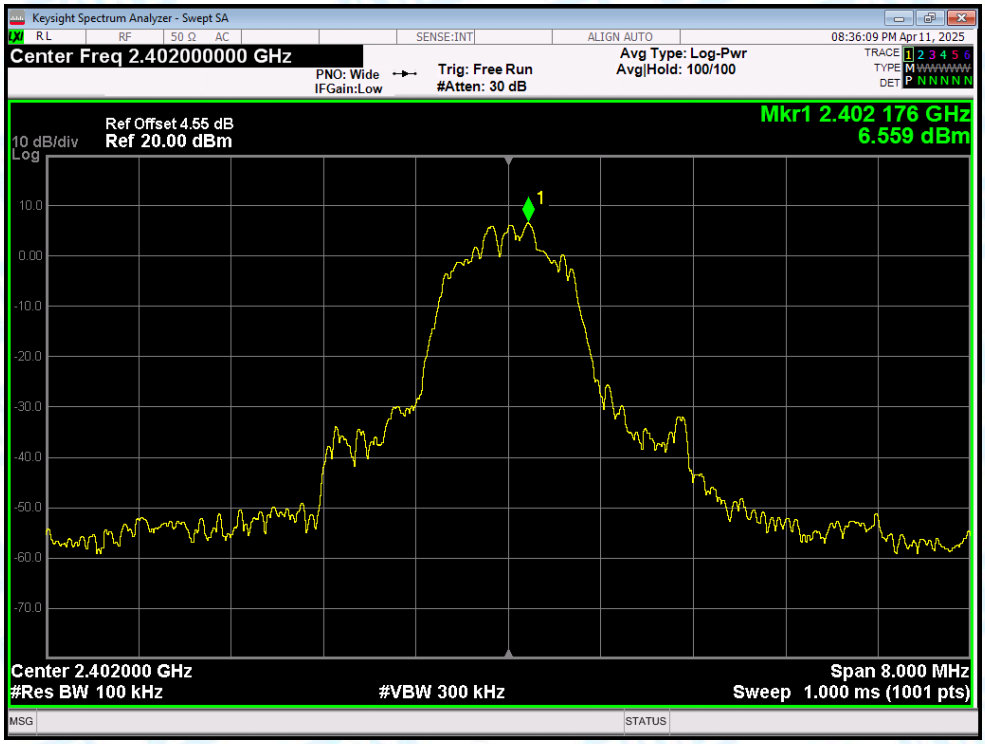
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.402 1 GHz	5.683 dBm			
2	N	1	f	2.400 0 GHz	-49.581 dBm			
3	N	1	f	2.390 0 GHz	-57.200 dBm			
4	N	1	f	2.373 5 GHz	-54.614 dBm			
5								
6								
7								
8								
9								
10								
11								

Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Ref

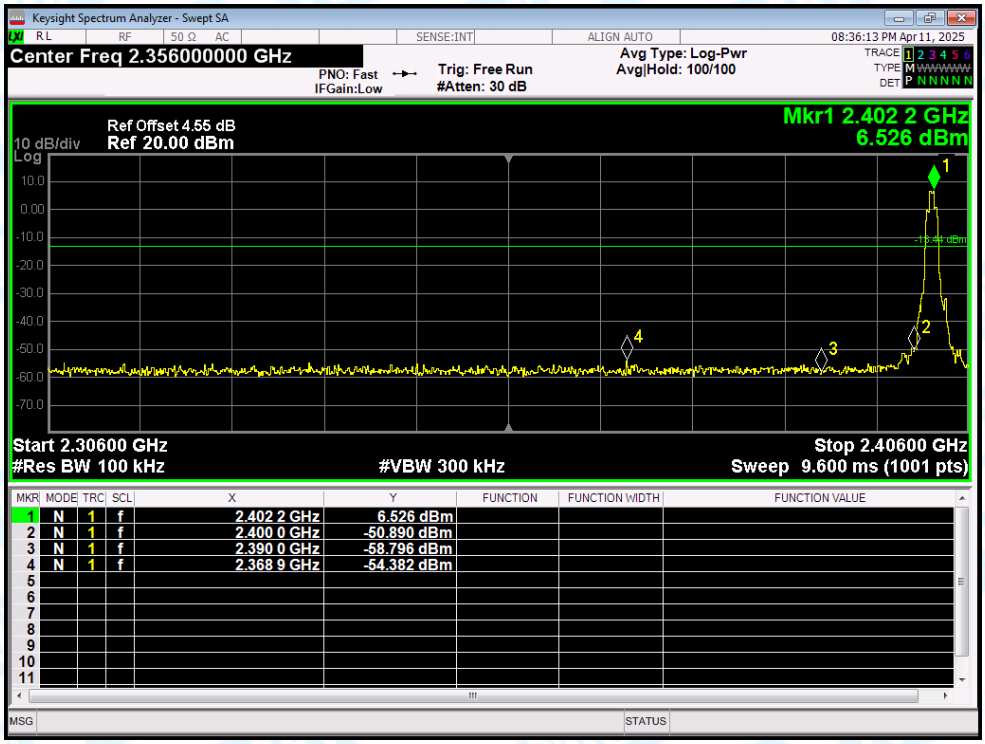
Band Edge NVNT 2-DH1 2480MHz Ant1 No-Hopping Emission



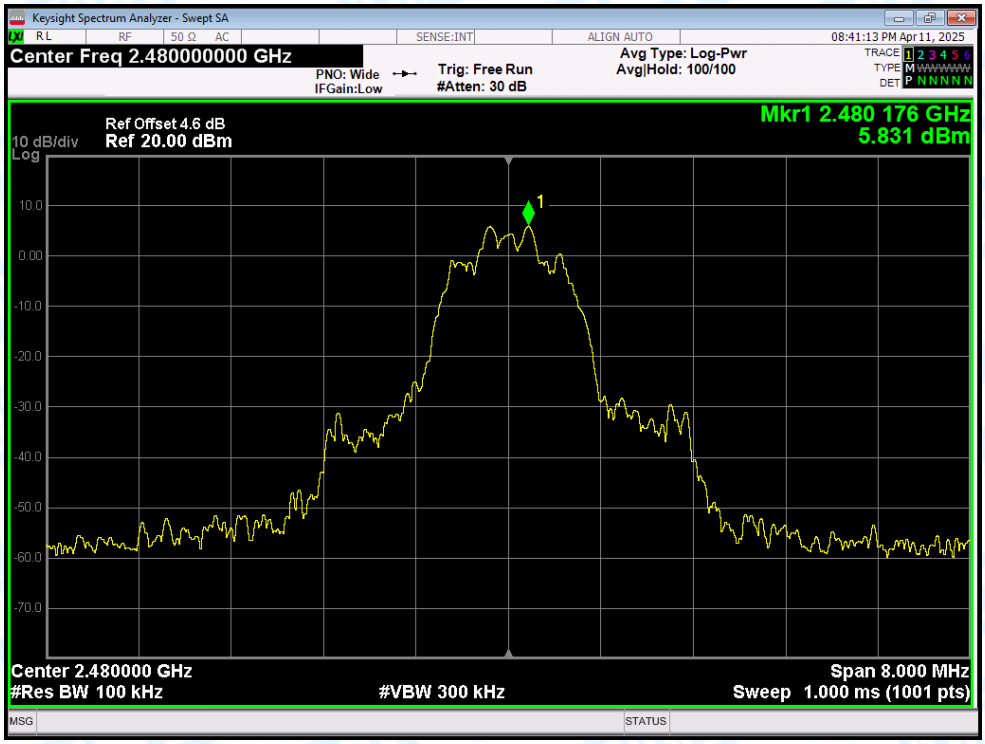
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Ref



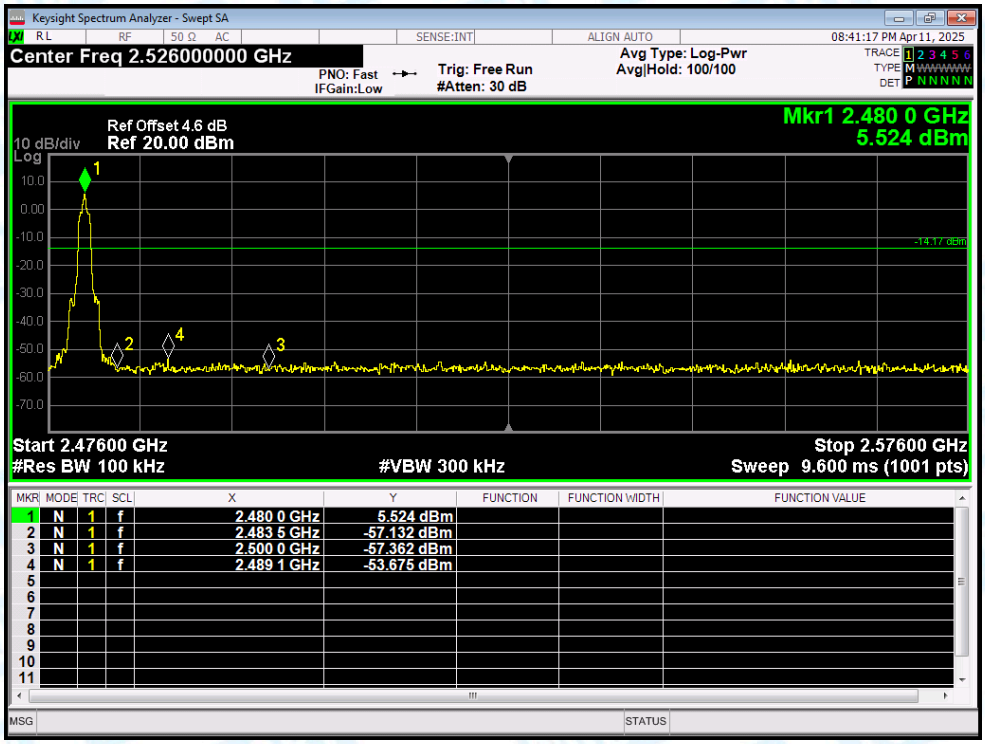
Band Edge NVNT 3-DH1 2402MHz Ant1 No-Hopping Emission



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH1 2480MHz Ant1 No-Hopping Emission



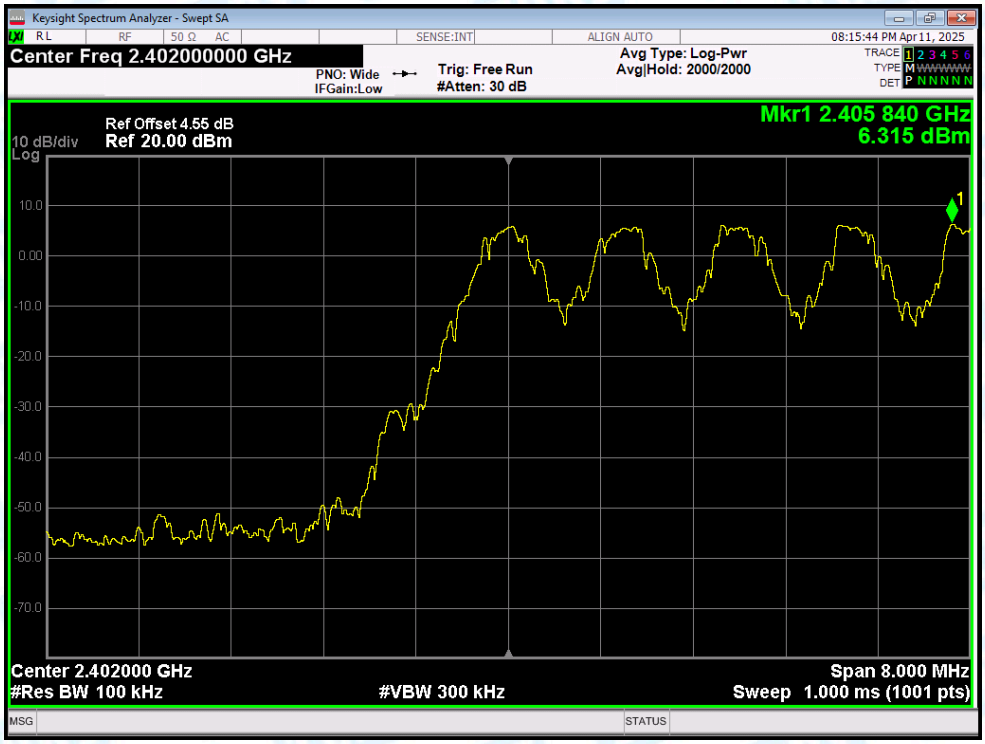
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.480 0 GHz	5.524 dBm			
2	N	1	f	2.483 5 GHz	-57.132 dBm			
3	N	1	f	2.500 0 GHz	-57.362 dBm			
4	N	1	f	2.489 1 GHz	-53.675 dBm			
5								
6								
7								
8								
9								
10								
11								

6. Band Edge(Hopping)

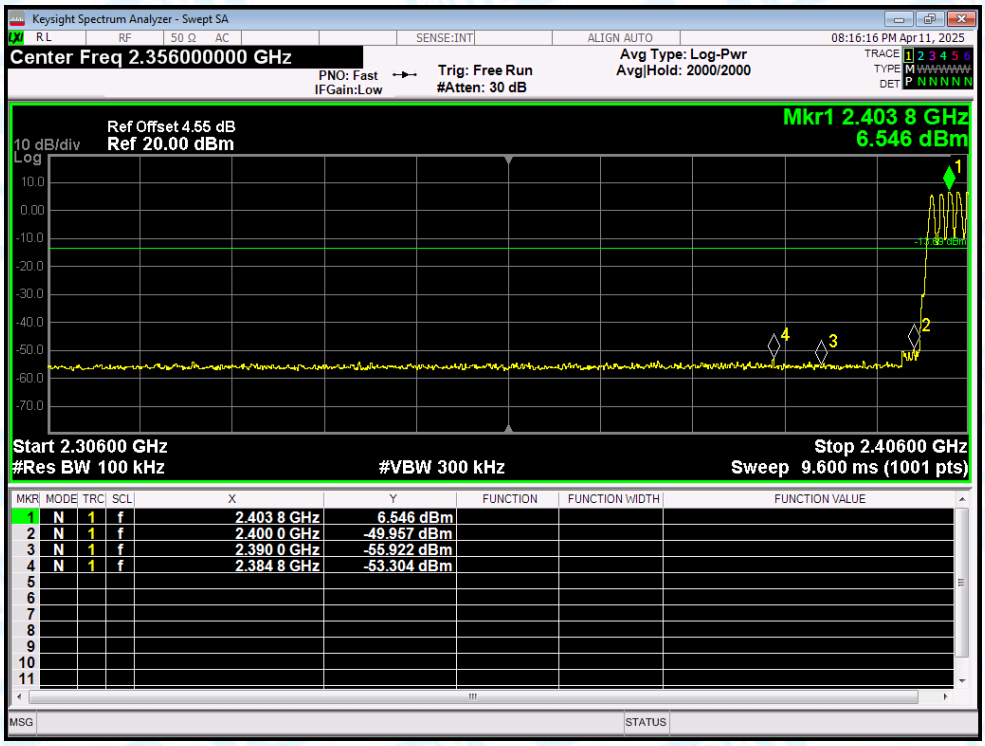
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	Hopping	-59.61	-20	Pass
NVNT	1-DH1	2480	Ant1	Hopping	-59.18	-20	Pass
NVNT	2-DH1	2402	Ant1	Hopping	-60.56	-20	Pass
NVNT	2-DH1	2480	Ant1	Hopping	-59.09	-20	Pass
NVNT	3-DH1	2402	Ant1	Hopping	-60.36	-20	Pass
NVNT	3-DH1	2480	Ant1	Hopping	-59.37	-20	Pass

Test Graphs

Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Ref

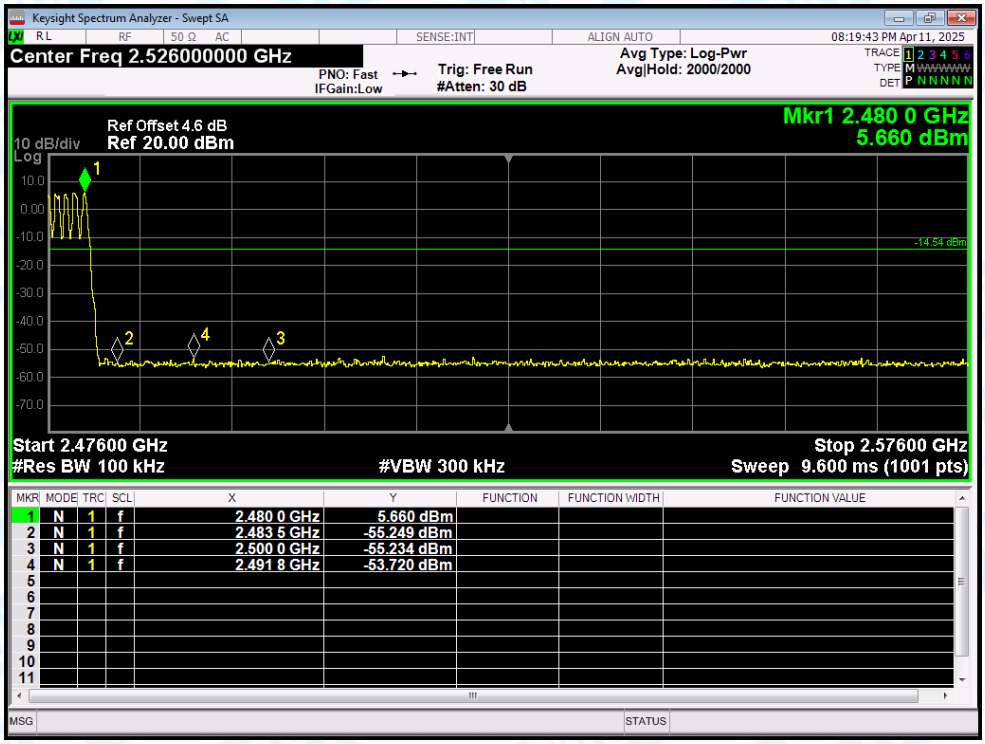


Band Edge(Hopping) NVNT 1-DH1 2402MHz Ant1 Hopping Emission



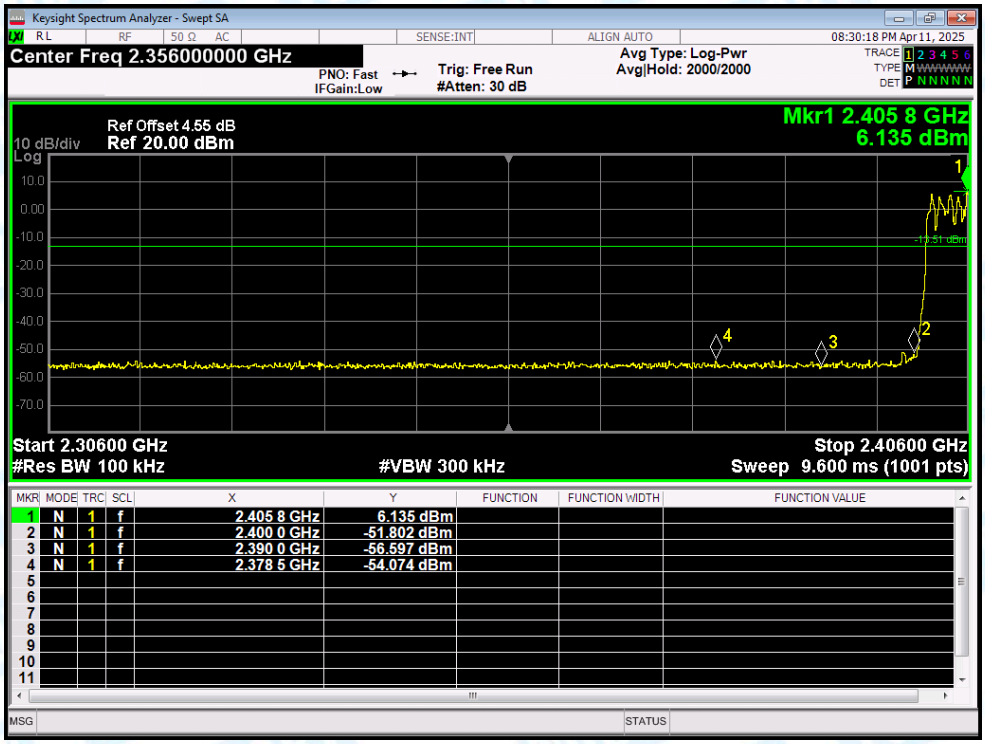
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 1-DH1 2480MHz Ant1 Hopping Emission



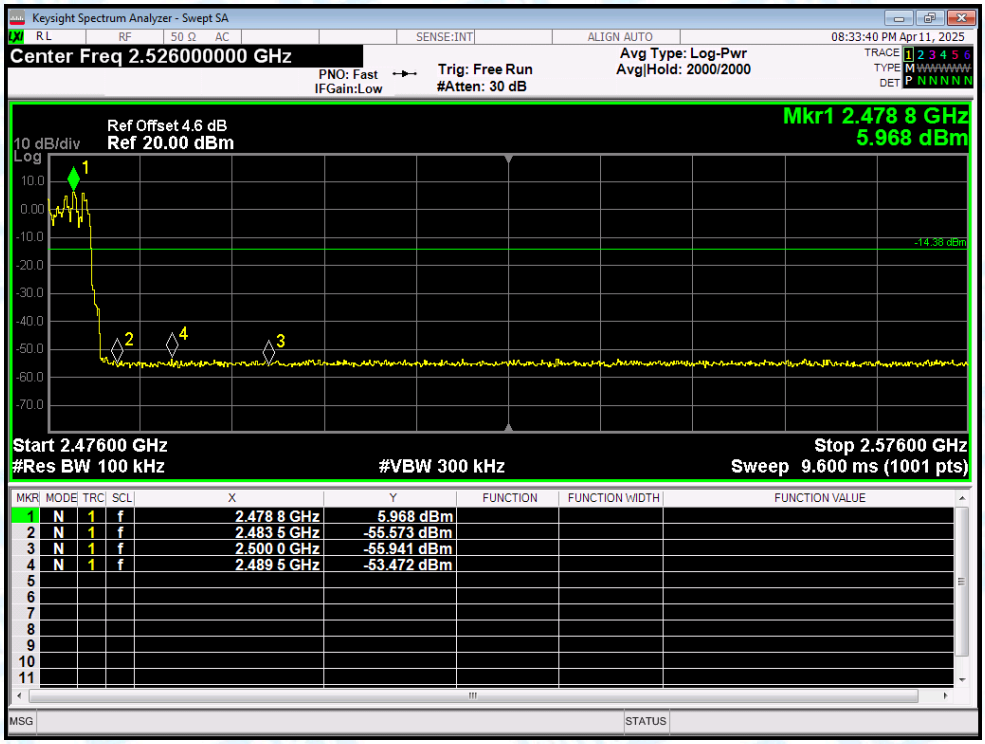
Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 2-DH1 2402MHz Ant1 Hopping Emission



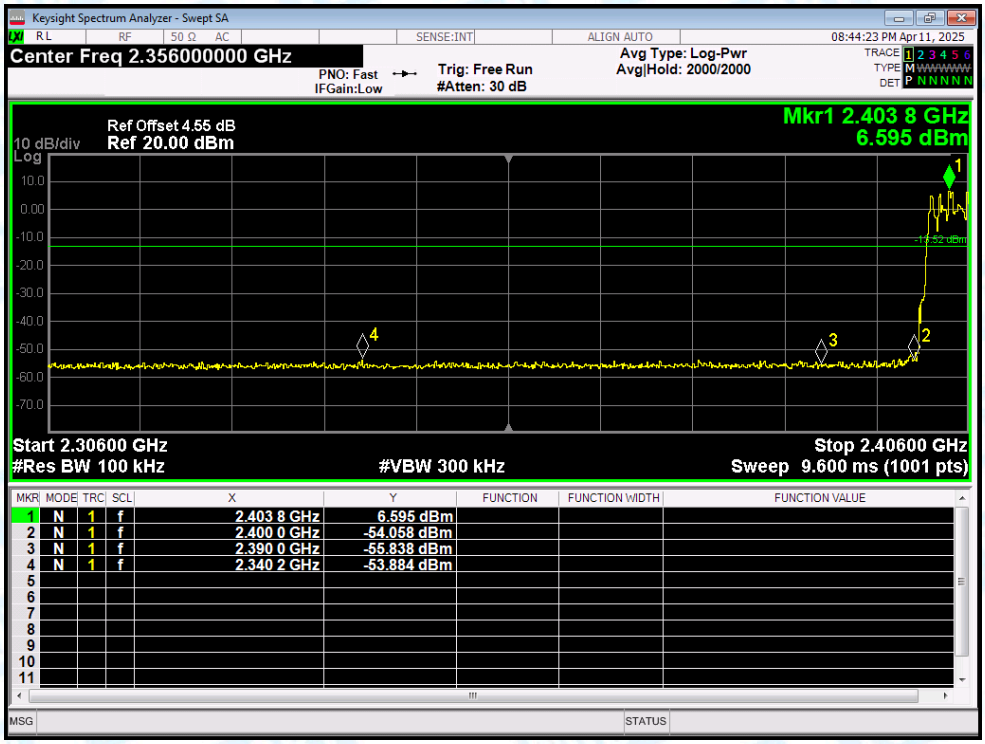
Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 2-DH1 2480MHz Ant1 Hopping Emission



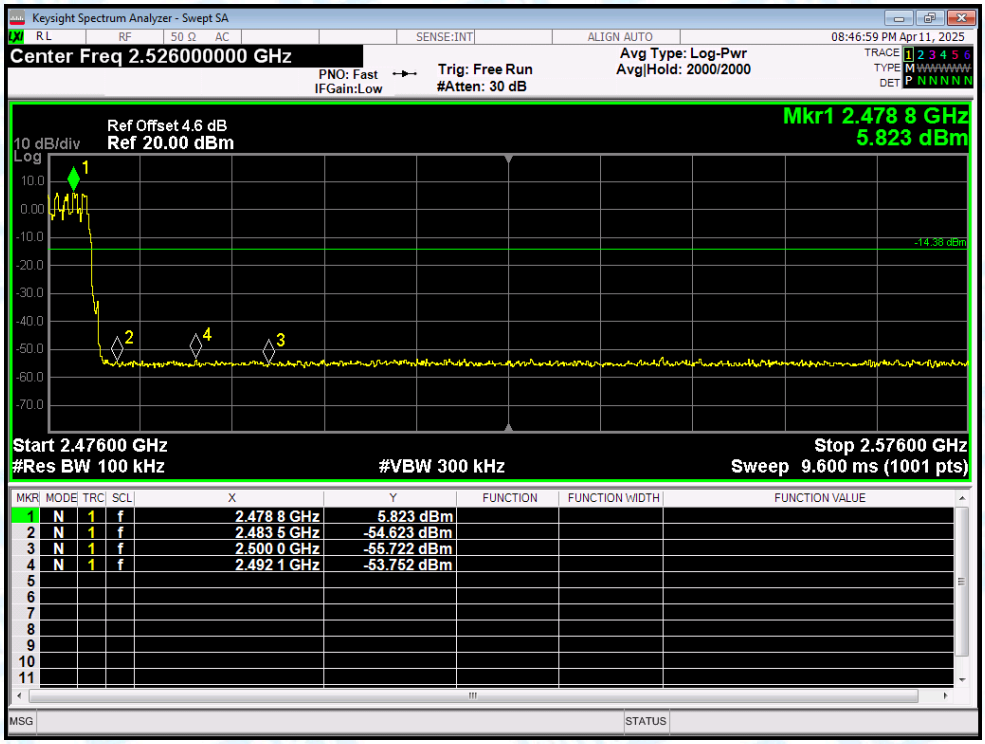
Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH1 2402MHz Ant1 Hopping Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Ref

Band Edge(Hopping) NVNT 3-DH1 2480MHz Ant1 Hopping Emission

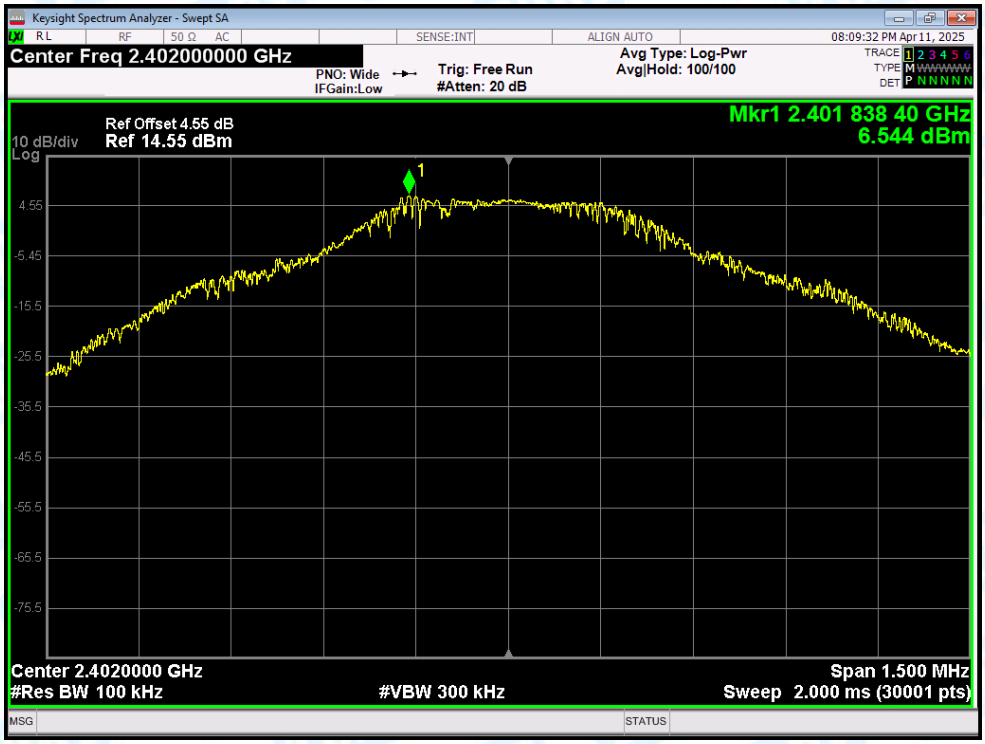


7. Conducted RF Spurious Emission

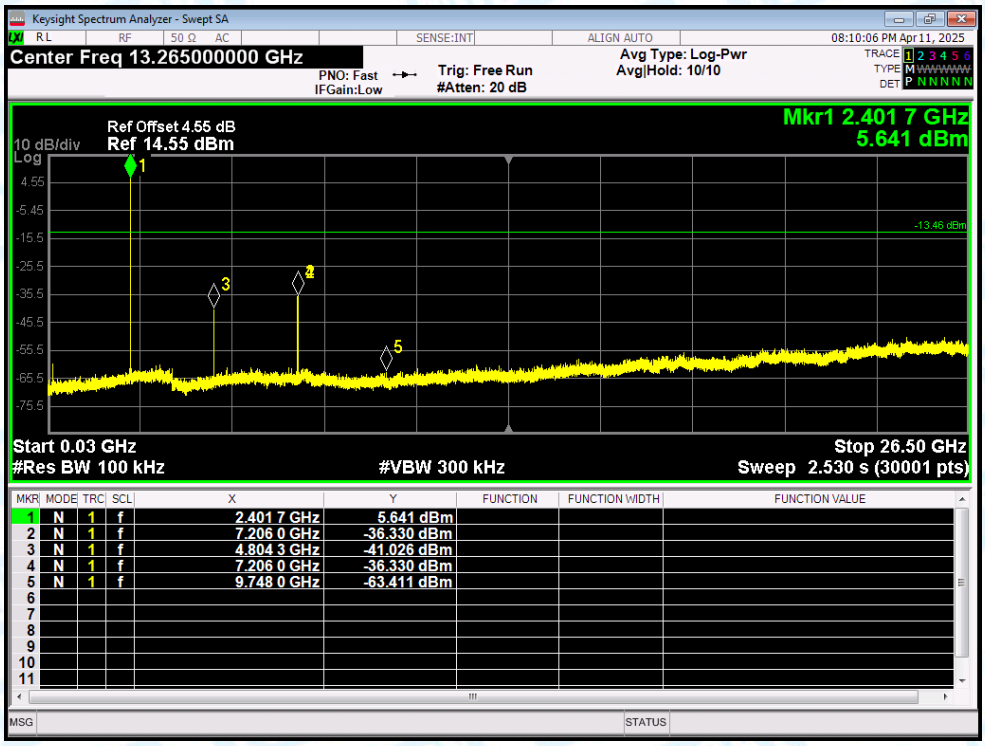
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	Ant1	-42.87	-20	Pass
NVNT	1-DH1	2441	Ant1	-46.26	-20	Pass
NVNT	1-DH1	2480	Ant1	-43.79	-20	Pass
NVNT	2-DH1	2402	Ant1	-48.66	-20	Pass
NVNT	2-DH1	2441	Ant1	-49.55	-20	Pass
NVNT	2-DH1	2480	Ant1	-47.42	-20	Pass
NVNT	3-DH1	2402	Ant1	-48.19	-20	Pass
NVNT	3-DH1	2441	Ant1	-44	-20	Pass
NVNT	3-DH1	2480	Ant1	-47.38	-20	Pass

Test Graphs

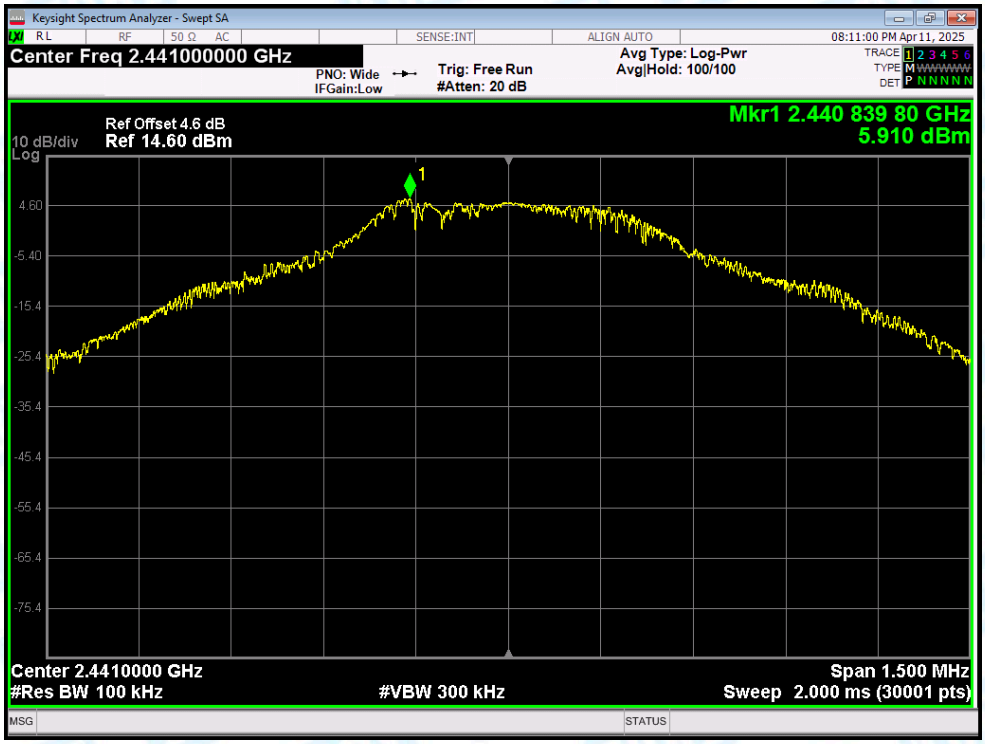
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Ref



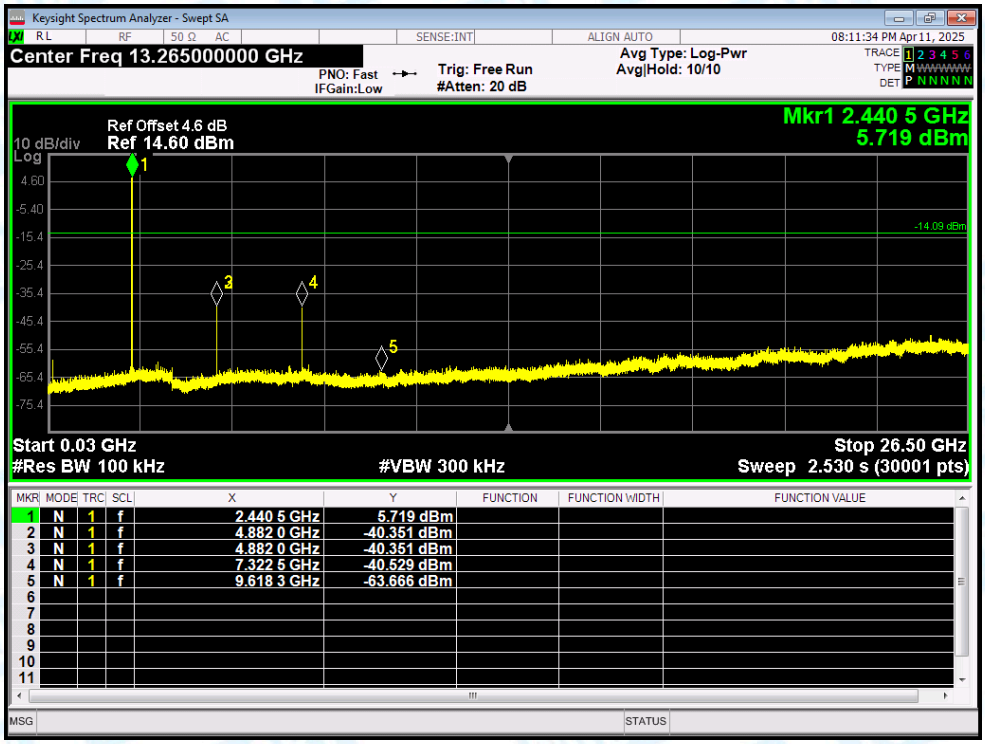
Tx. Spurious NVNT 1-DH1 2402MHz Ant1 Emission



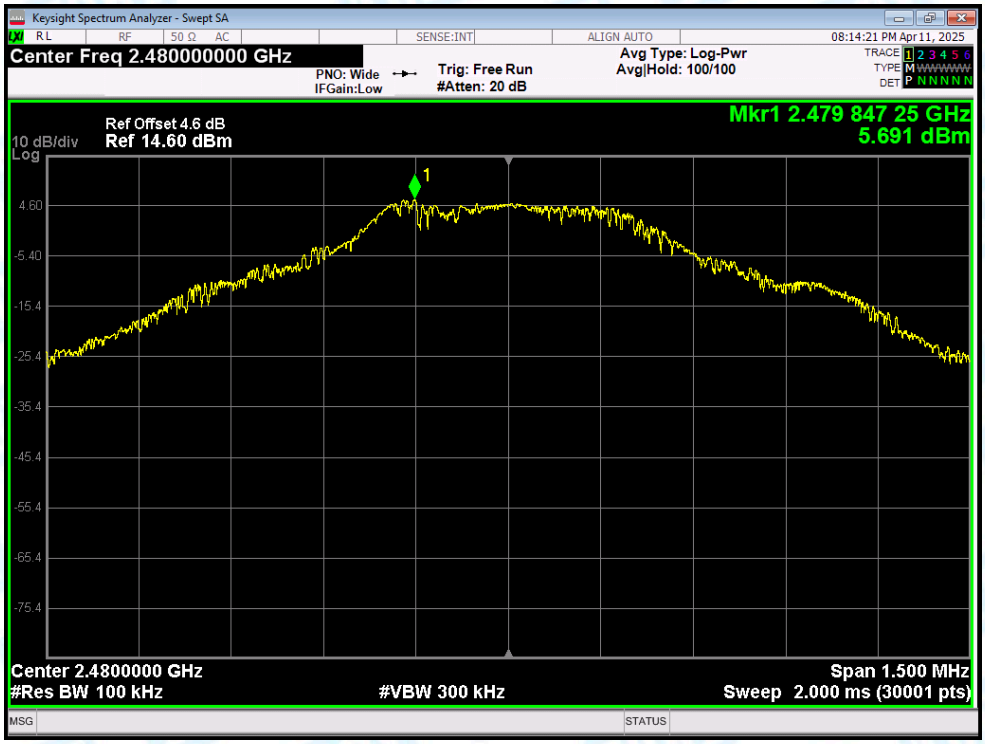
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Ref



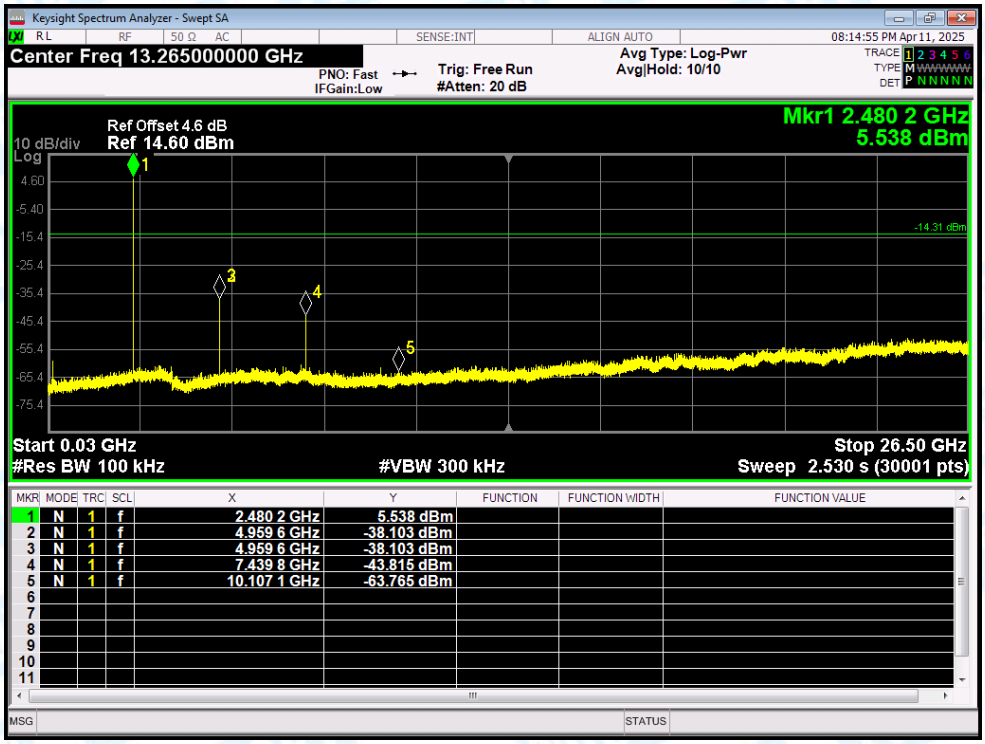
Tx. Spurious NVNT 1-DH1 2441MHz Ant1 Emission



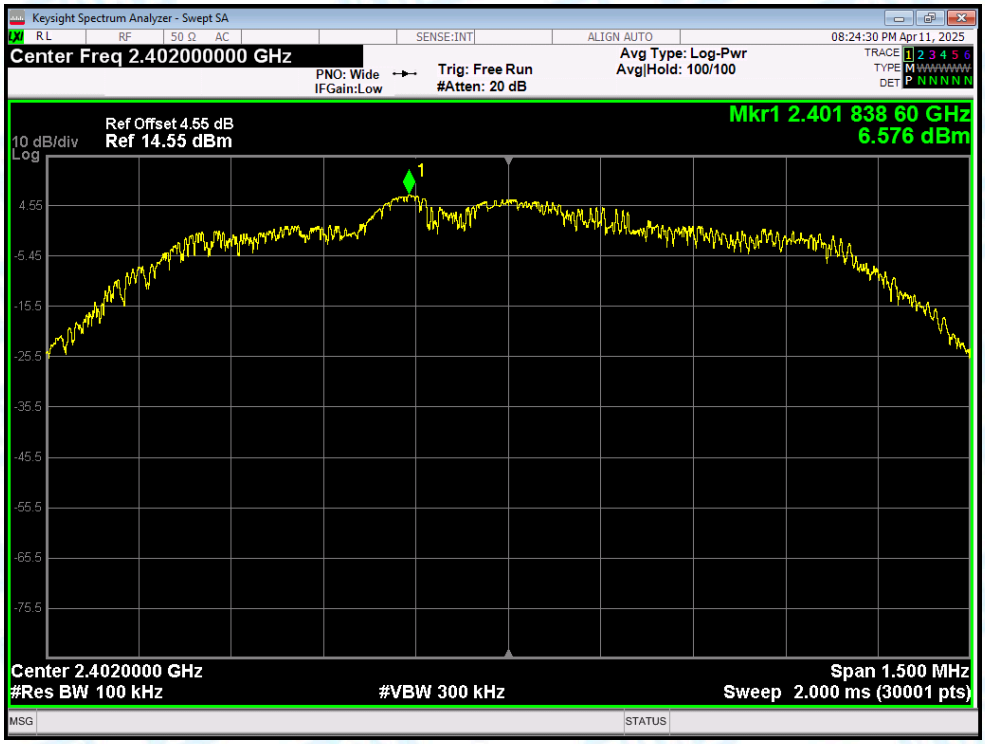
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Ref



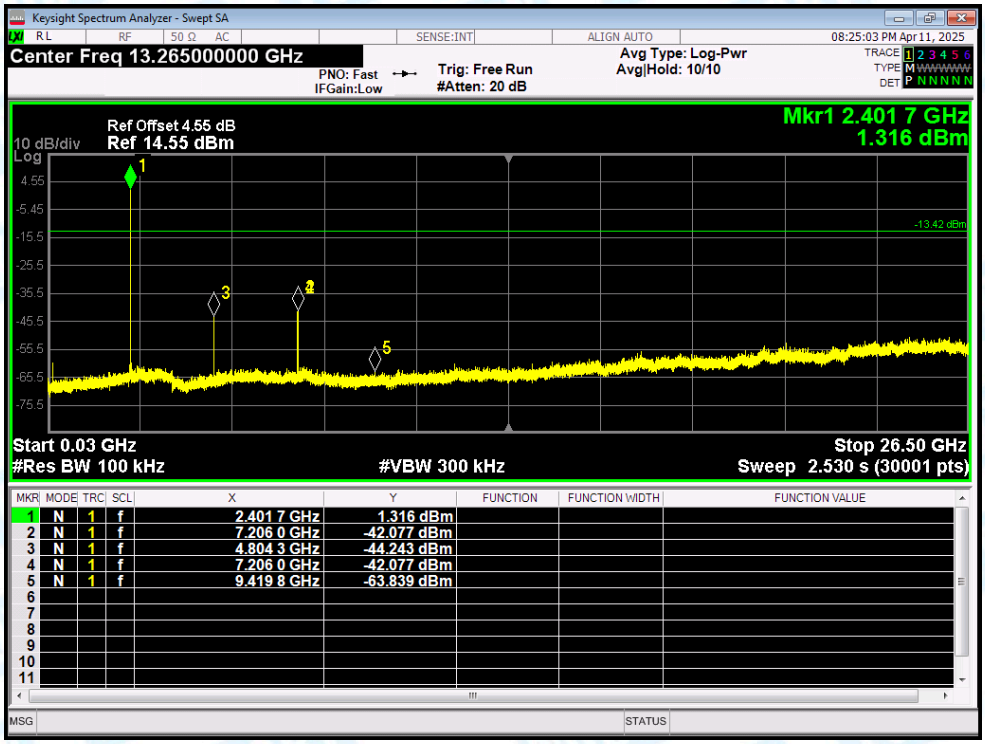
Tx. Spurious NVNT 1-DH1 2480MHz Ant1 Emission



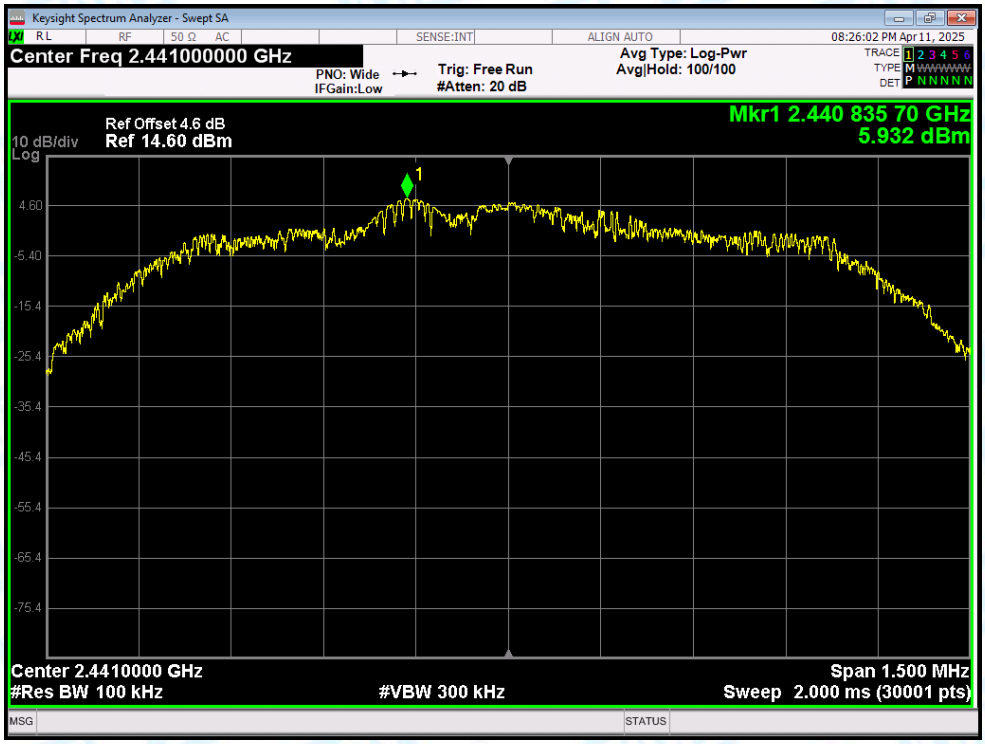
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Ref



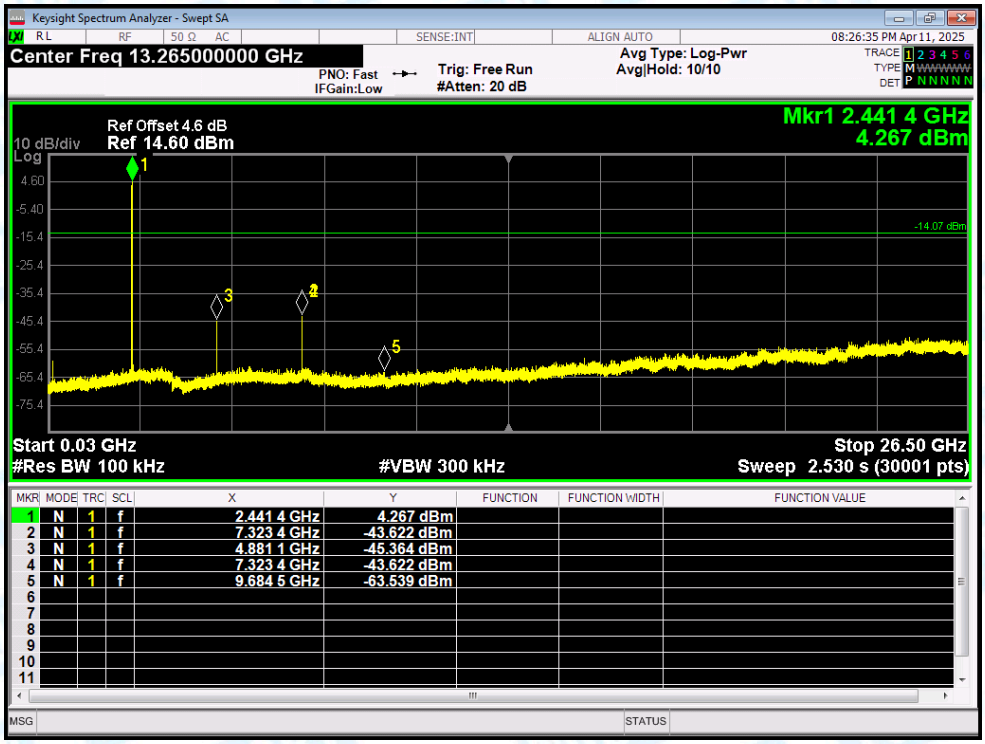
Tx. Spurious NVNT 2-DH1 2402MHz Ant1 Emission



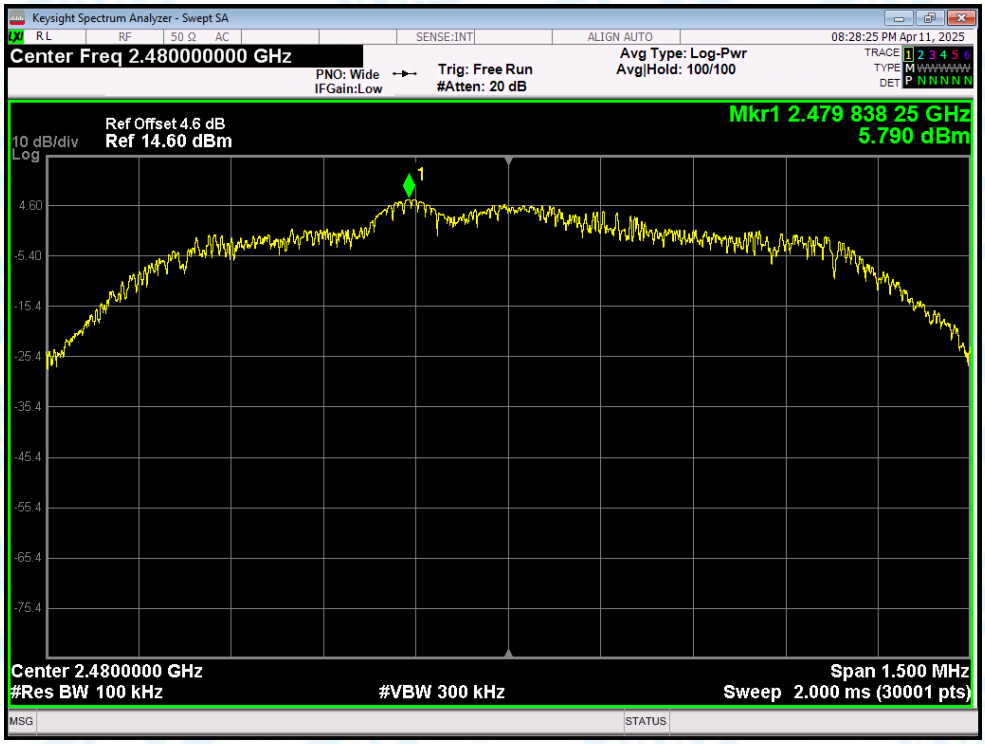
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Ref



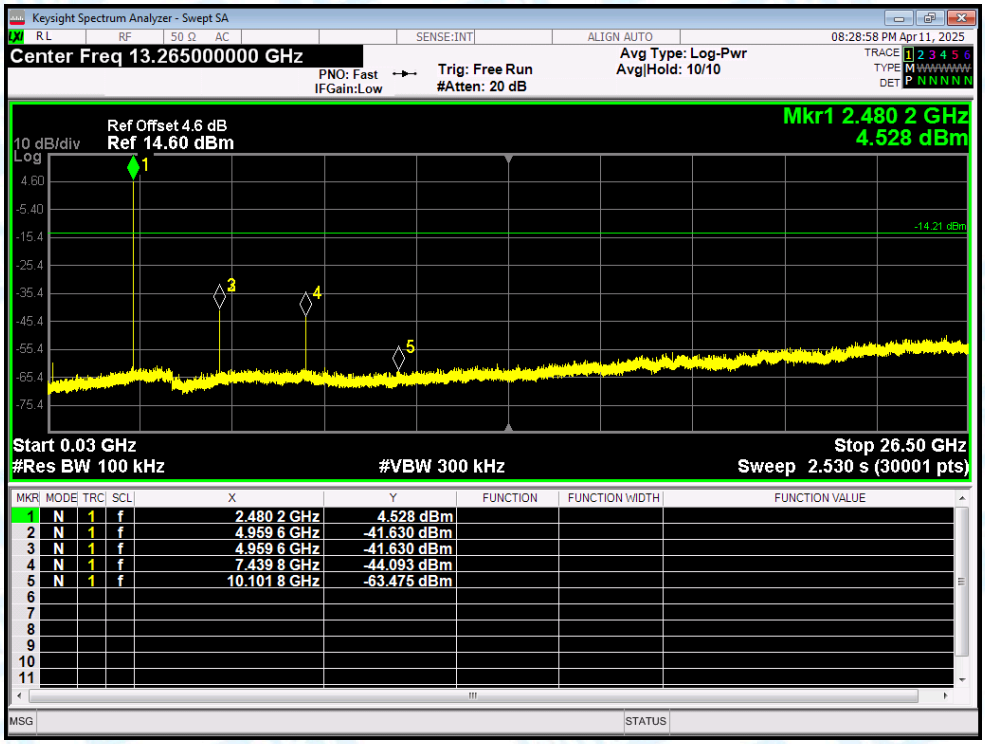
Tx. Spurious NVNT 2-DH1 2441MHz Ant1 Emission



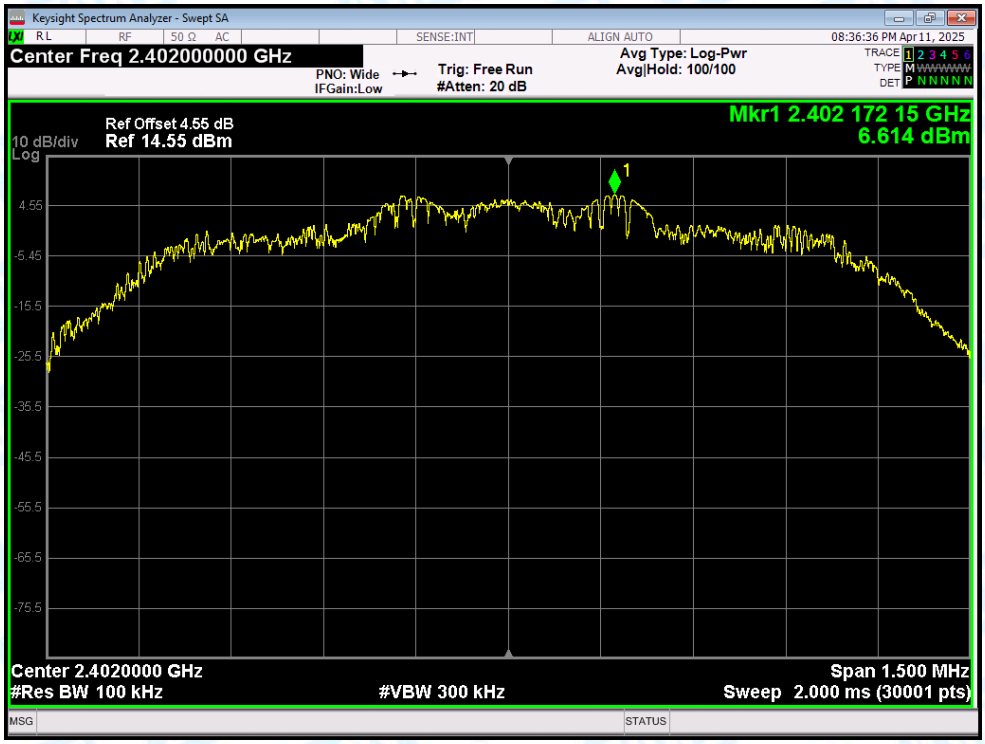
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Ref



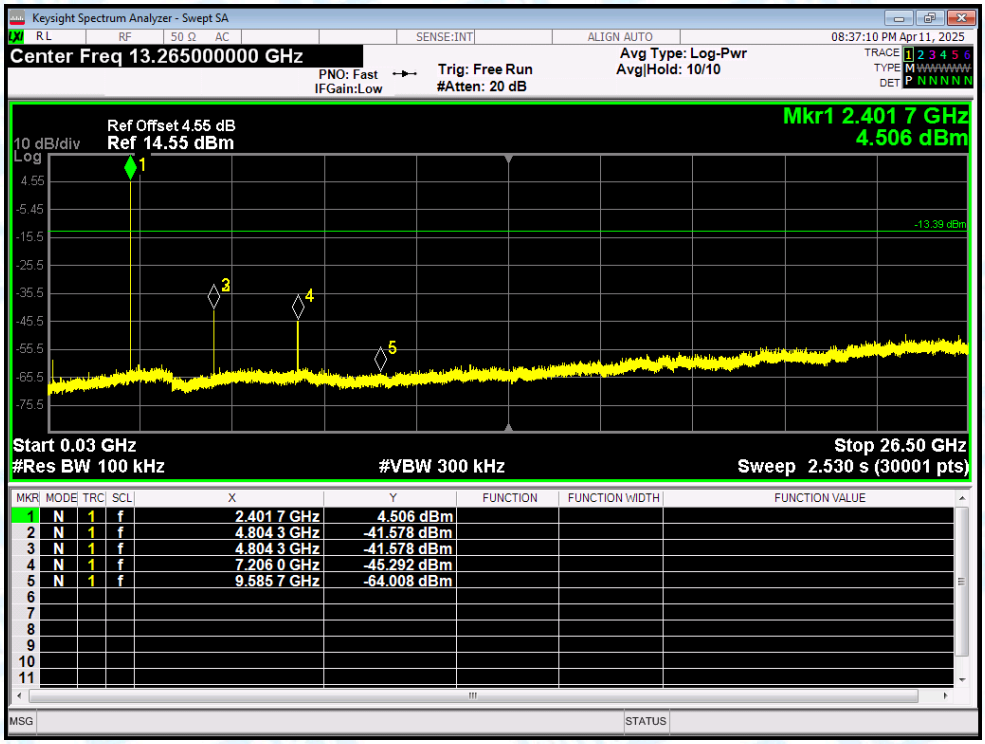
Tx. Spurious NVNT 2-DH1 2480MHz Ant1 Emission



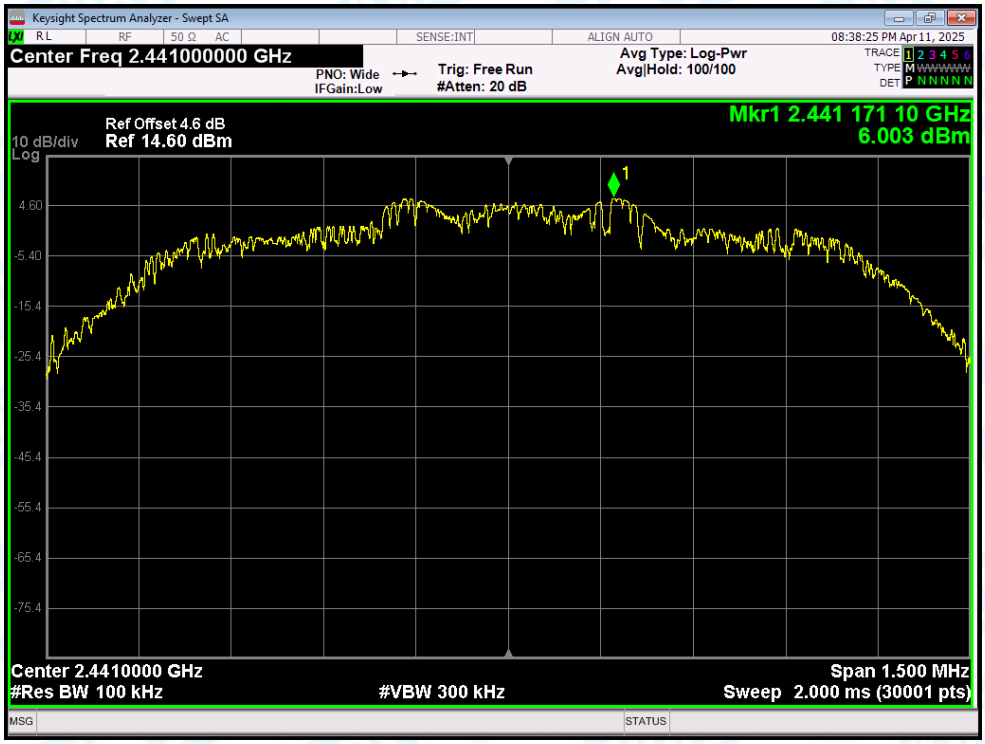
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Ref



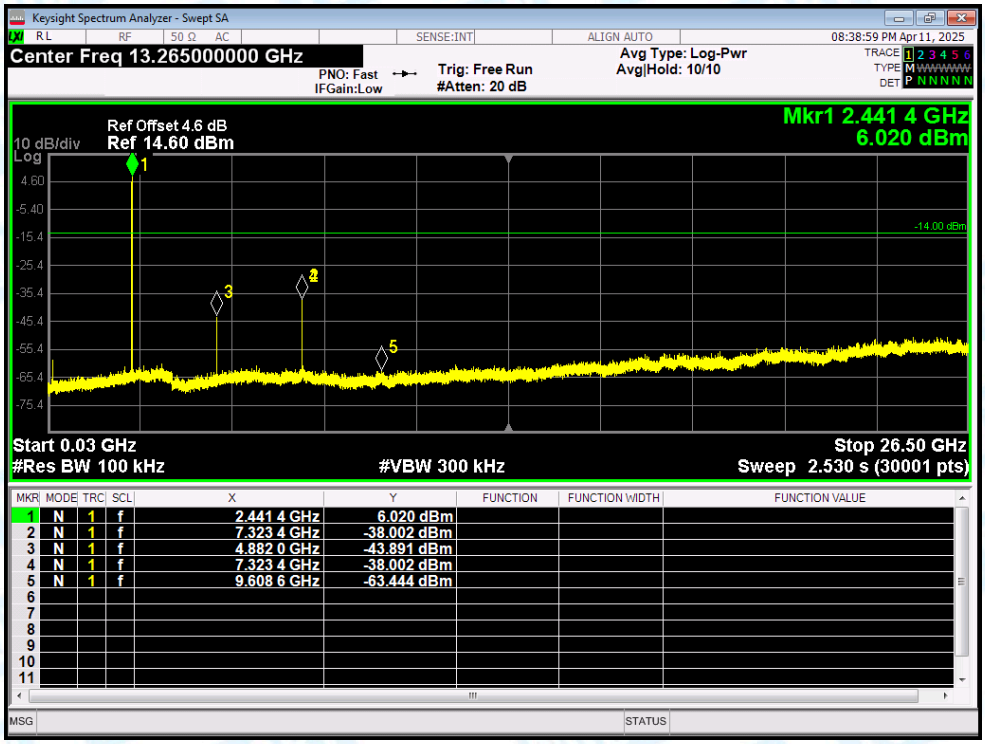
Tx. Spurious NVNT 3-DH1 2402MHz Ant1 Emission



Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Ref

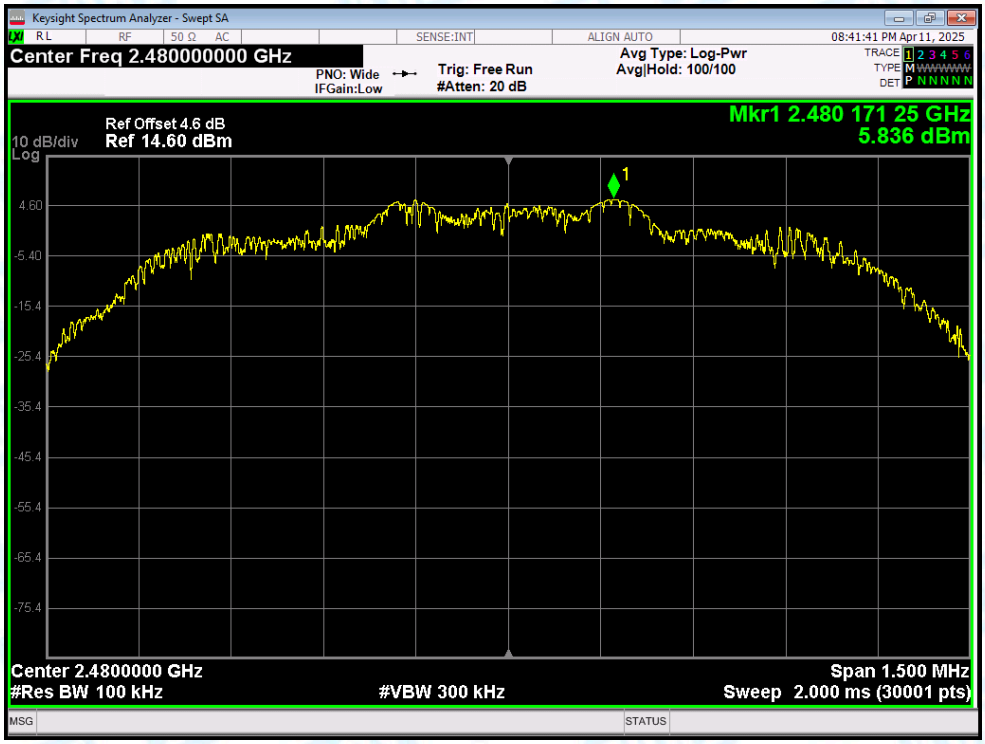


Tx. Spurious NVNT 3-DH1 2441MHz Ant1 Emission

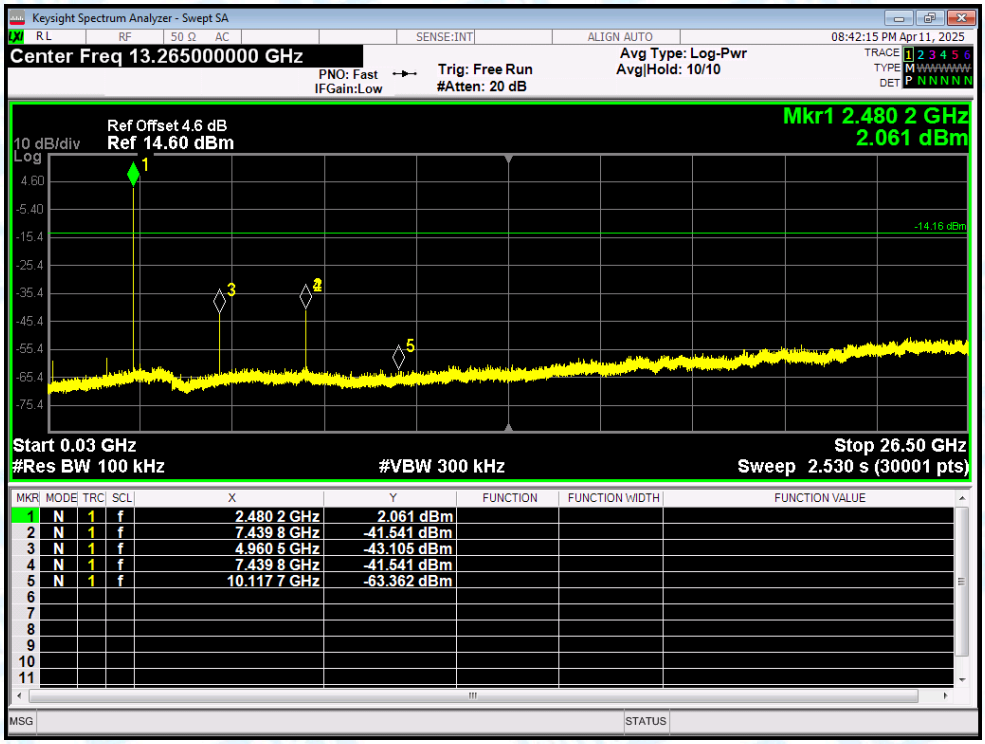


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	1	f	2.441 4 GHz	6.020 dBm			
2	N	1	f	7.323 4 GHz	-38.002 dBm			
3	N	1	f	4.882 0 GHz	-43.891 dBm			
4	N	1	f	7.323 4 GHz	-38.002 dBm			
5	N	1	f	9.608 6 GHz	-63.444 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission

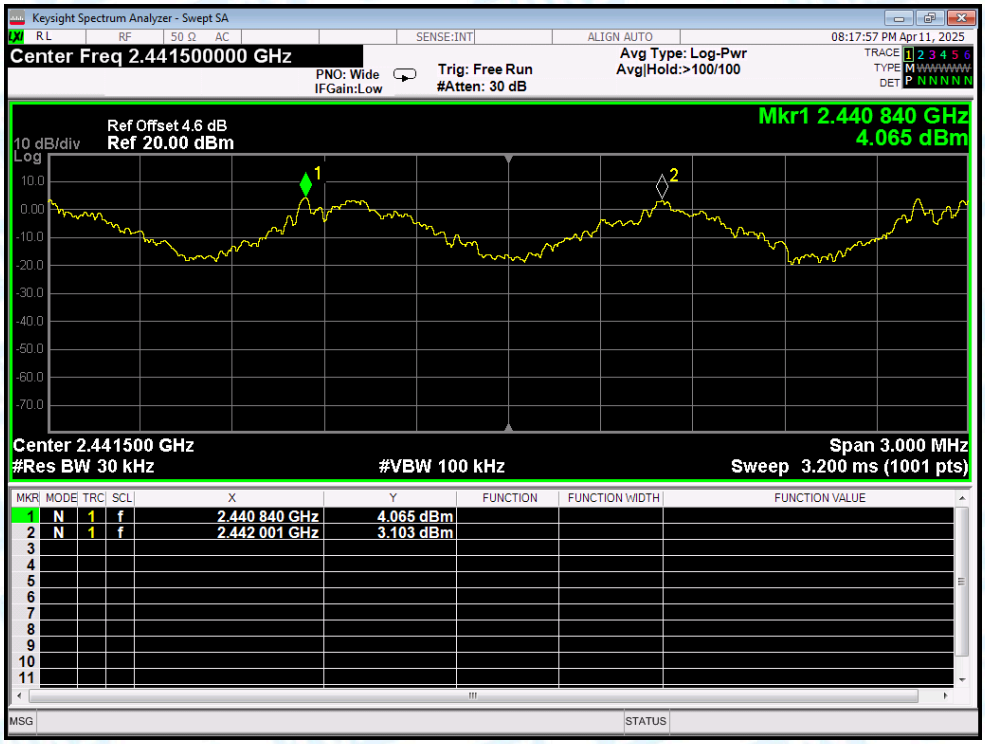


8. Carrier Frequencies Separation

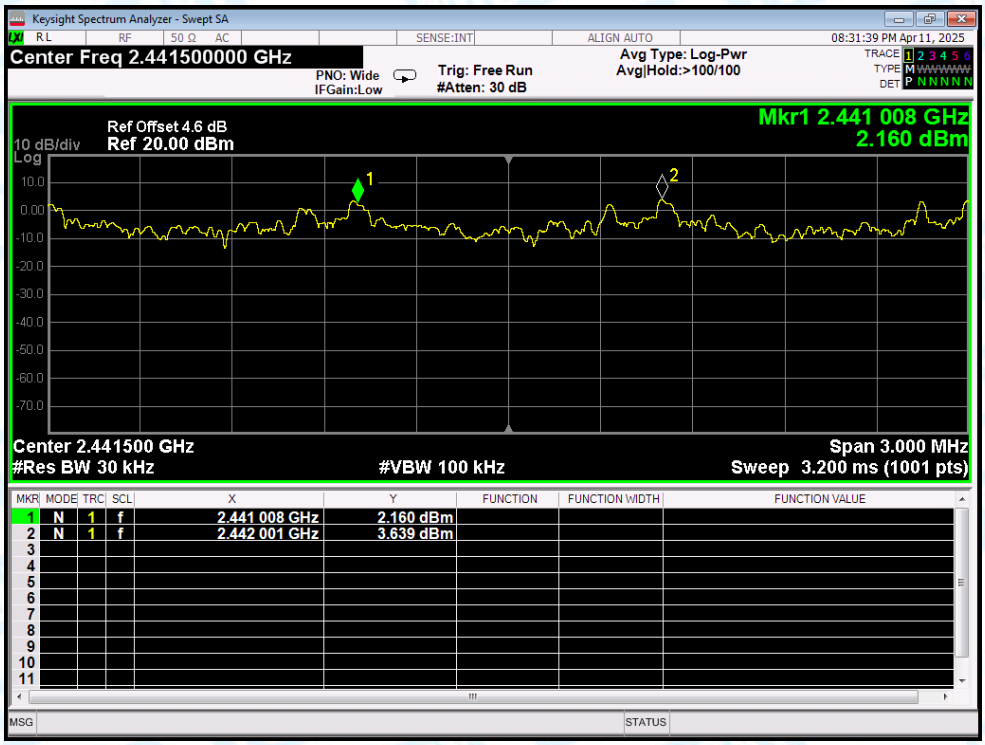
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	Ant1	2440.84	2442.001	1.161	0.633	Pass
NVNT	2-DH1	Ant1	2441.008	2442.001	0.993	0.807	Pass
NVNT	3-DH1	Ant1	2440.843	2441.842	0.999	0.813	Pass

Test Graphs

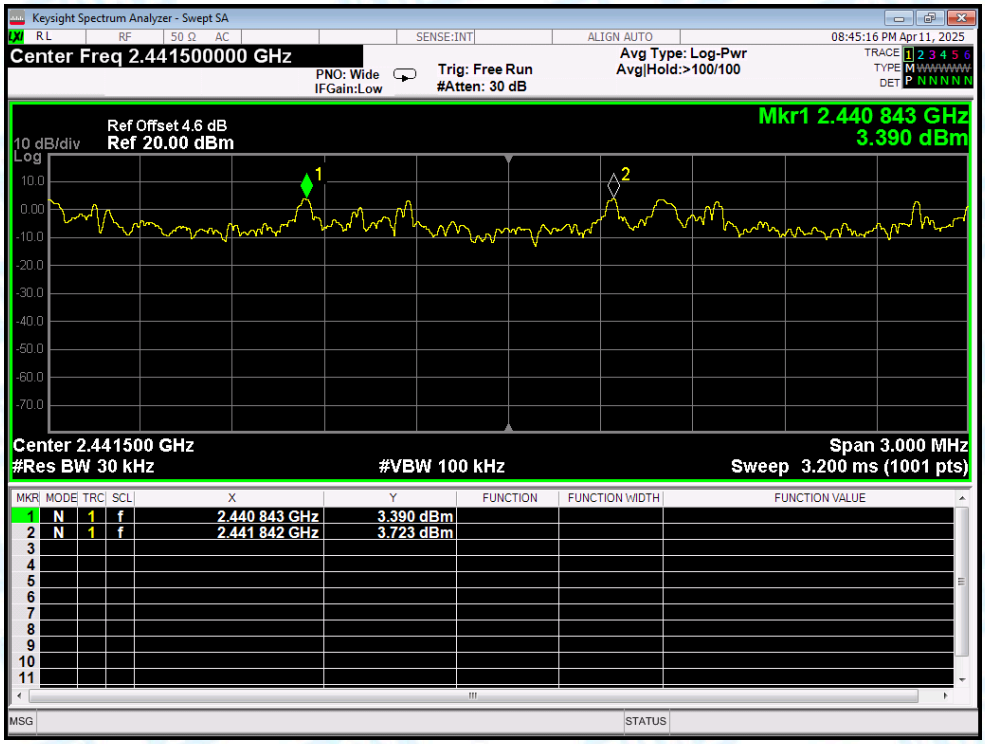
CFS NVNT 1-DH1 2441MHz Ant1



CFS NVNT 2-DH1 2441MHz Ant1



CFS NVNT 3-DH1 2441MHz Ant1

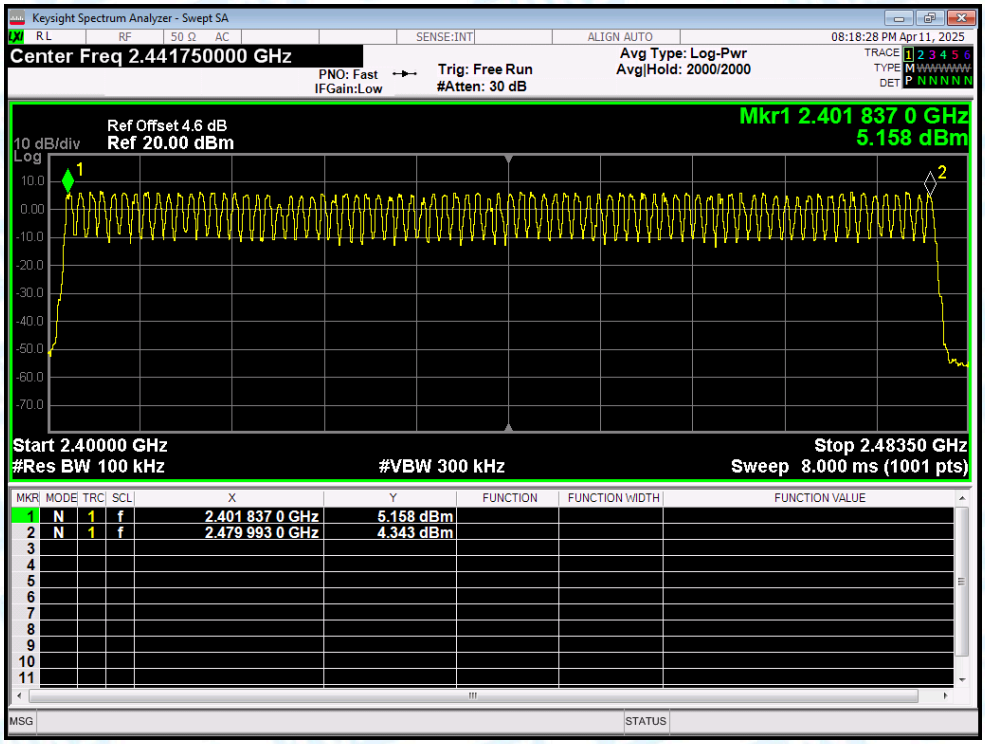


9. Number of Hopping Channel

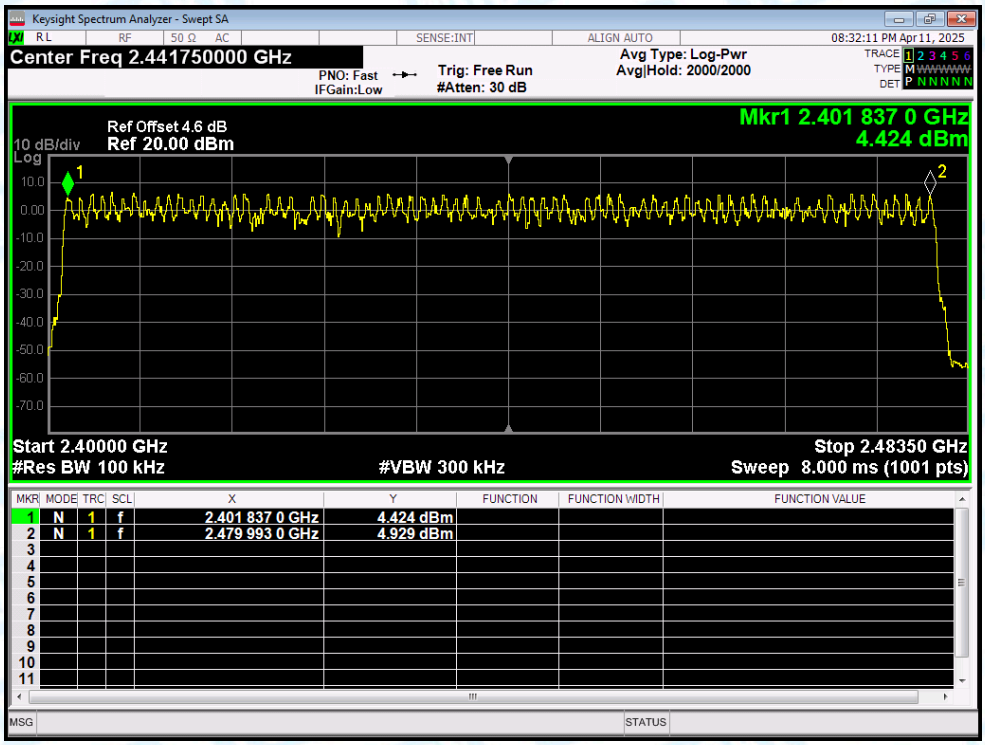
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH1	Ant1	79	15	Pass
NVNT	2-DH1	Ant1	79	15	Pass
NVNT	3-DH1	Ant1	79	15	Pass

Test Graphs

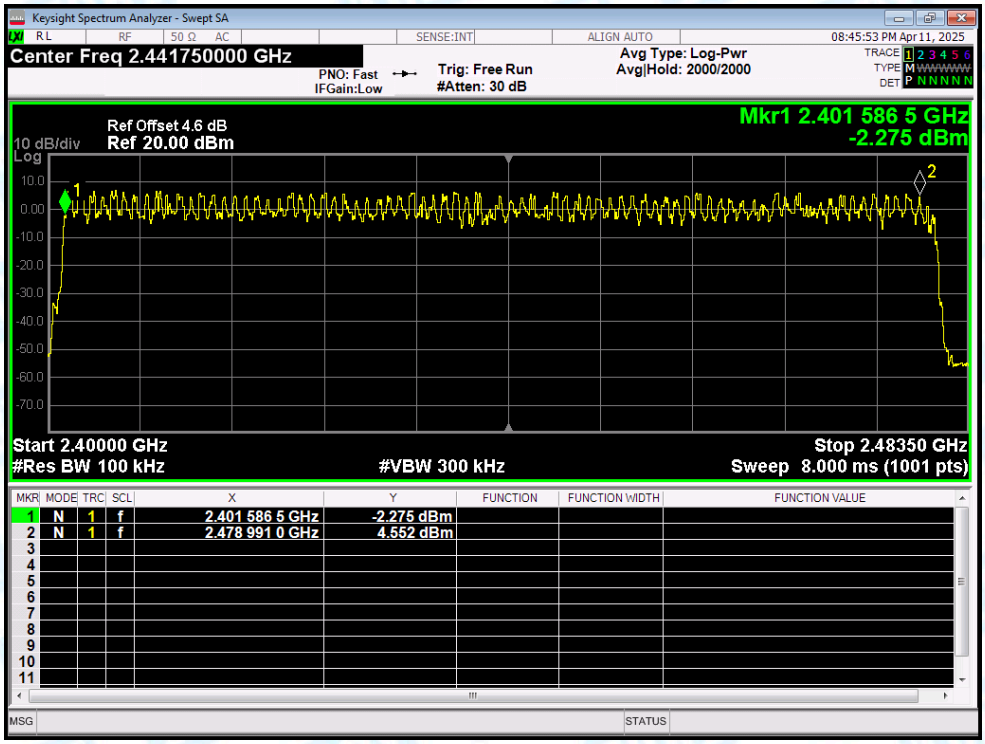
Hopping No. NVNT 1-DH1 2441MHz Ant1



Hopping No. NVNT 2-DH1 2441MHz Ant1



Hopping No. NVNT 3-DH1 2441MHz Ant1

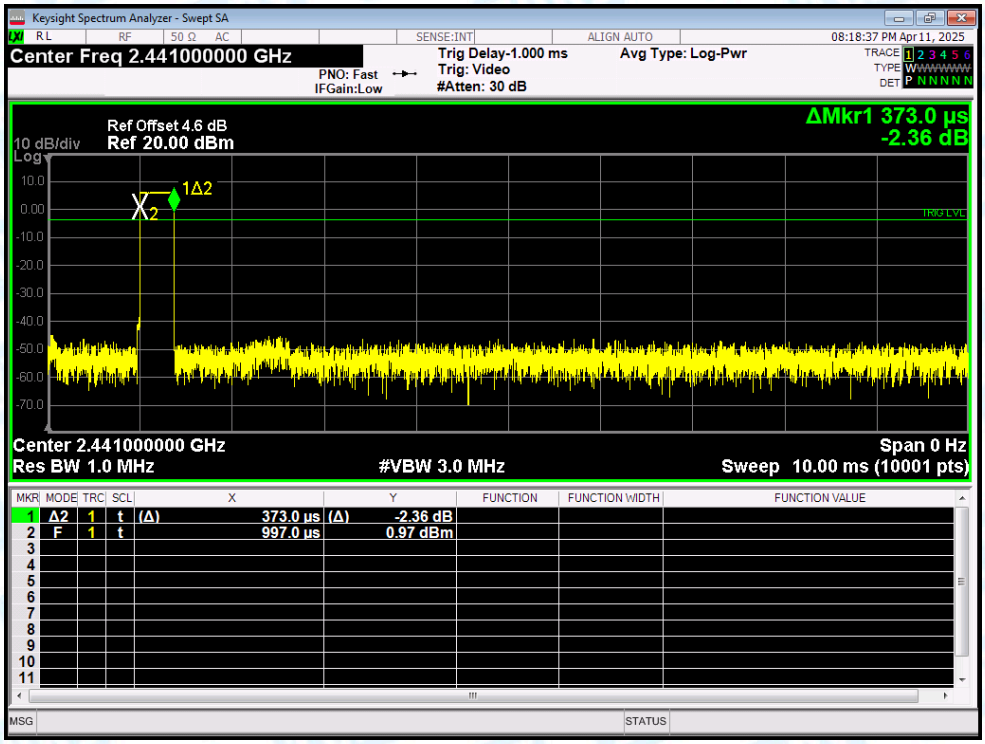


10. Dwell Time

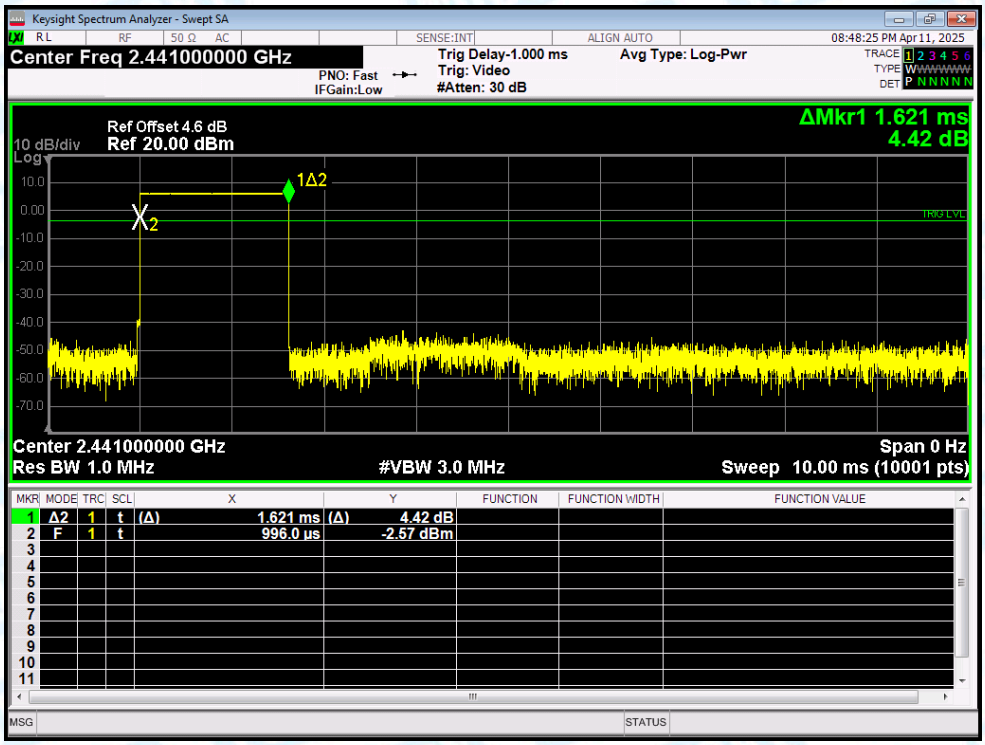
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	Ant1	0.373	119.36	31600	400	Pass
NVNT	1-DH3	2441	Ant1	1.621	259.36	31600	400	Pass
NVNT	1-DH5	2441	Ant1	2.869	306.027	31600	400	Pass
NVNT	2-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	2-DH3	2441	Ant1	1.633	261.28	31600	400	Pass
NVNT	2-DH5	2441	Ant1	2.88	307.2	31600	400	Pass
NVNT	3-DH1	2441	Ant1	0.38	121.6	31600	400	Pass
NVNT	3-DH3	2441	Ant1	1.63	260.8	31600	400	Pass
NVNT	3-DH5	2441	Ant1	2.881	307.307	31600	400	Pass

Test Graphs

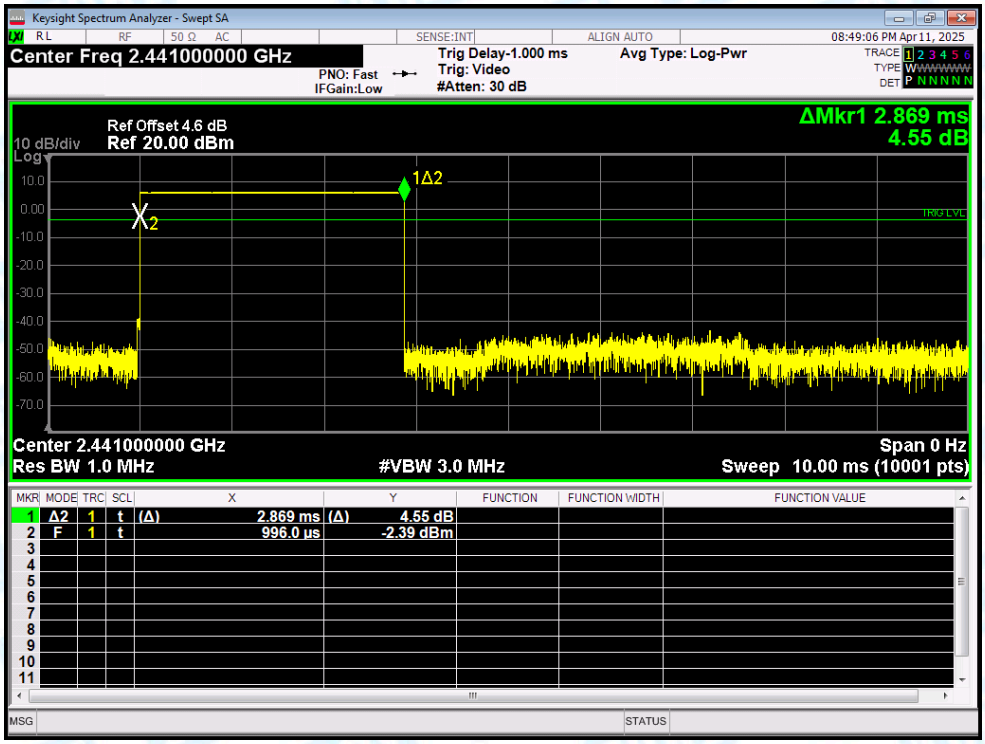
Dwell NVNT 1-DH1 2441MHz Ant1



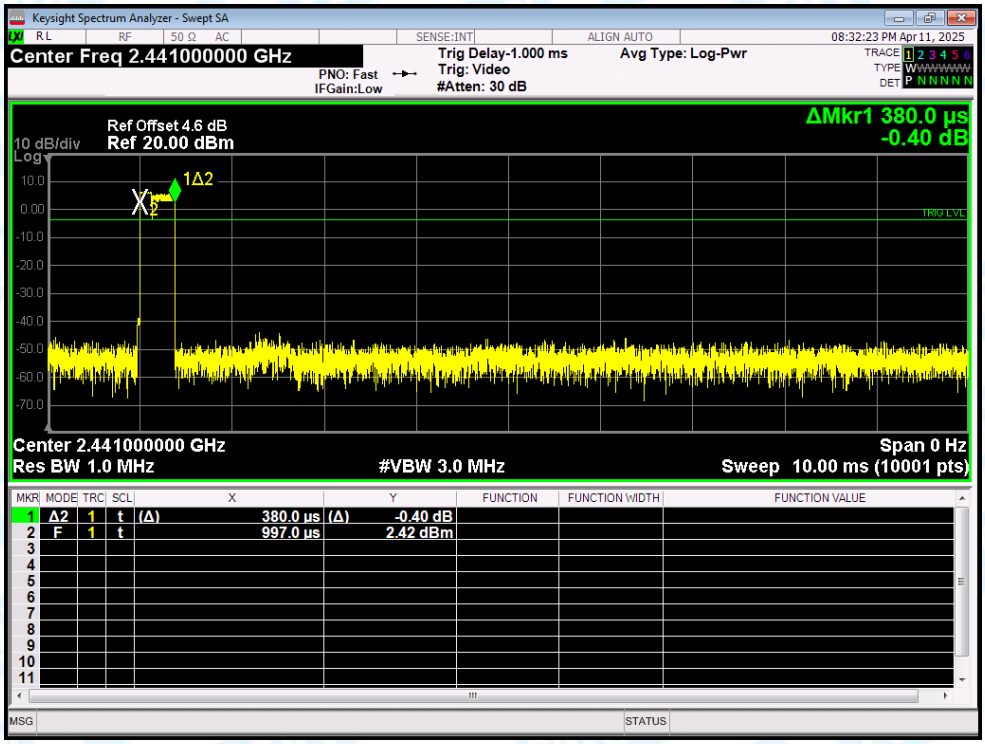
Dwell NVNT 1-DH3 2441MHz Ant1



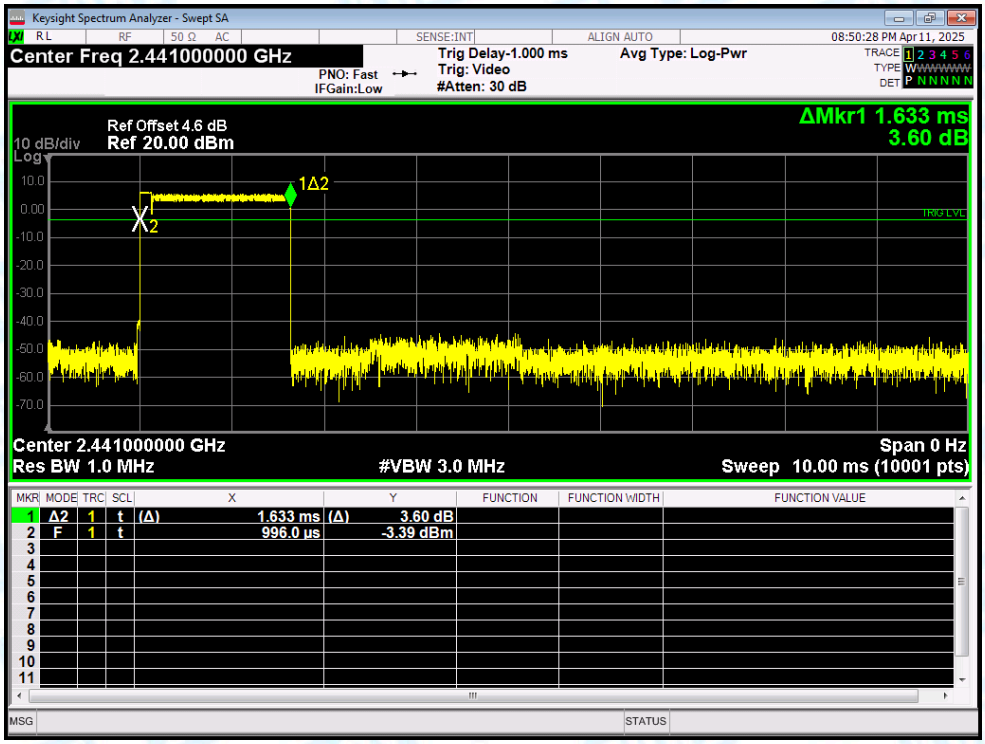
Dwell NVNT 1-DH5 2441MHz Ant1



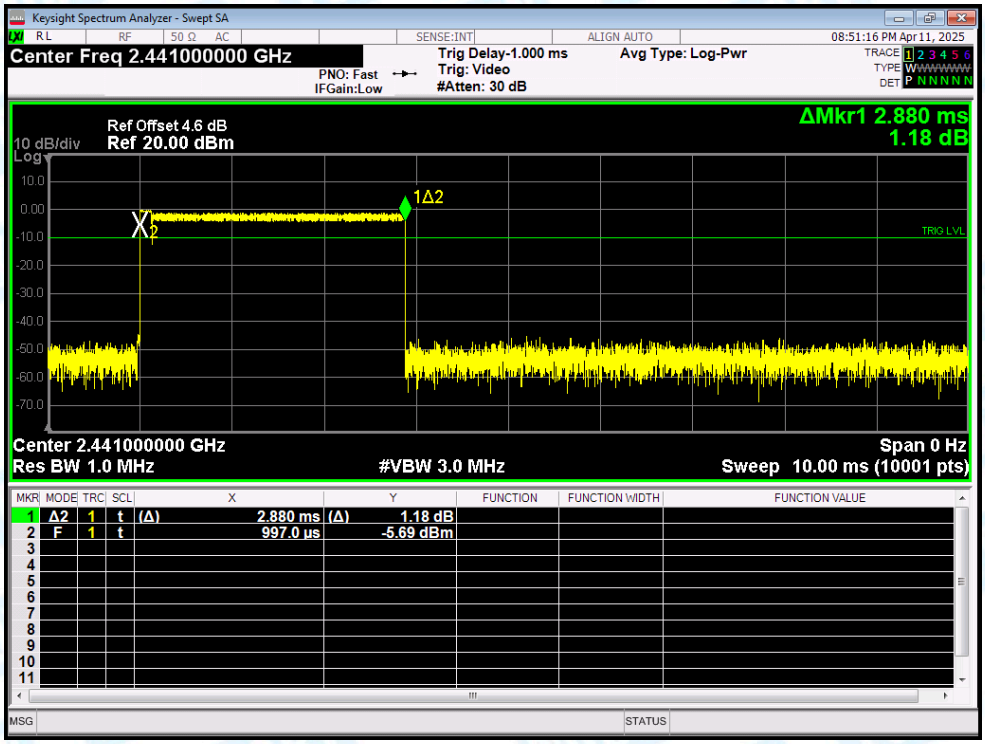
Dwell NVNT 2-DH1 2441MHz Ant1



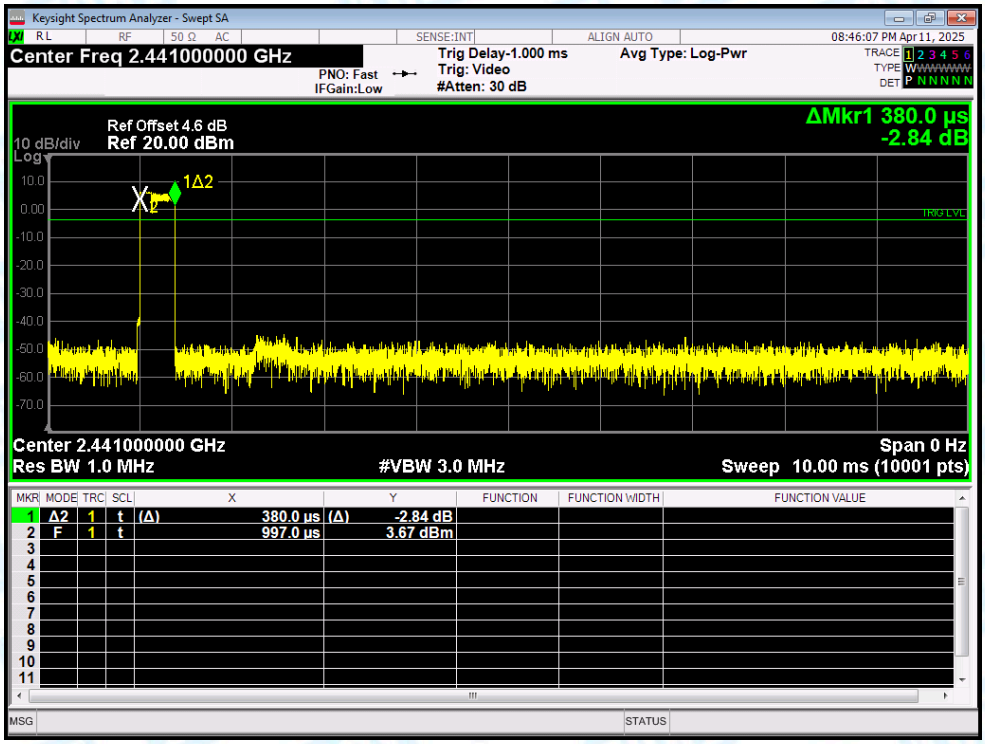
Dwell NVNT 2-DH3 2441MHz Ant1



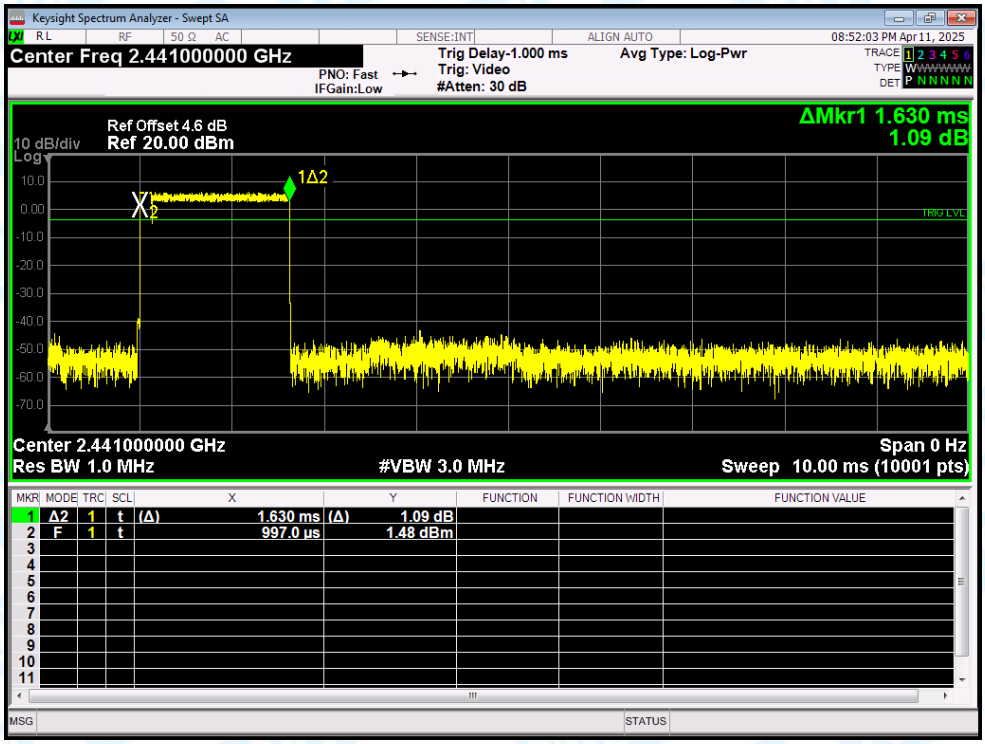
Dwell NVNT 2-DH5 2441MHz Ant1



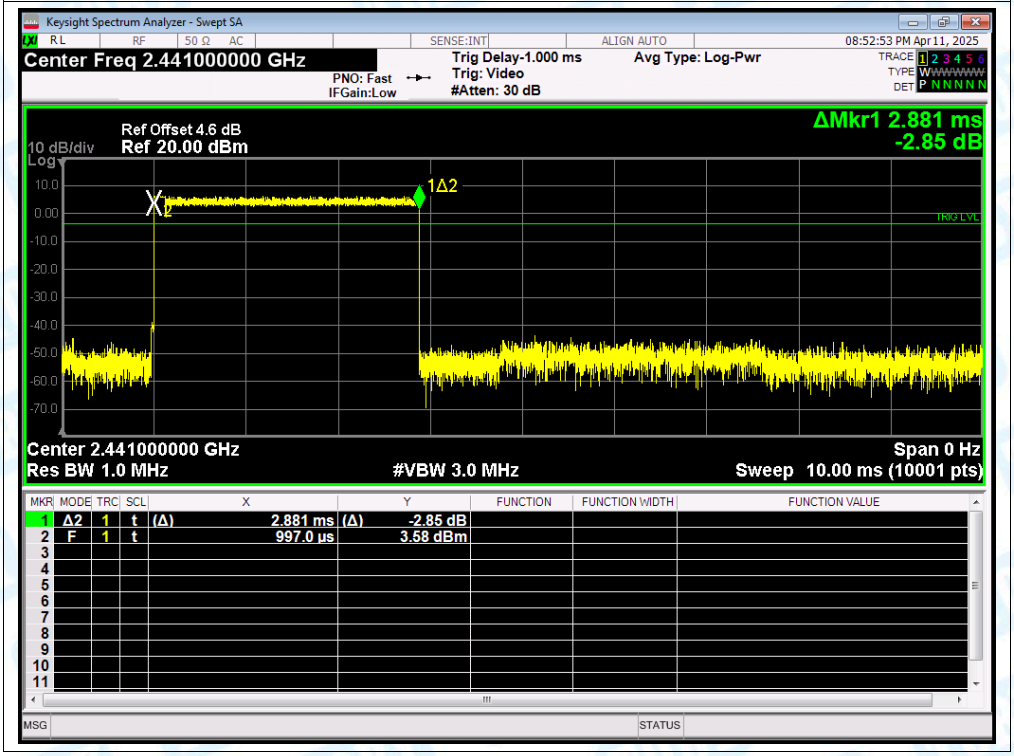
Dwell NVNT 3-DH1 2441MHz Ant1



Dwell NVNT 3-DH3 2441MHz Ant1



Dwell NVNT 3-DH5 2441MHz Ant1



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