Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: laptop

Test Model: A1Pro

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng

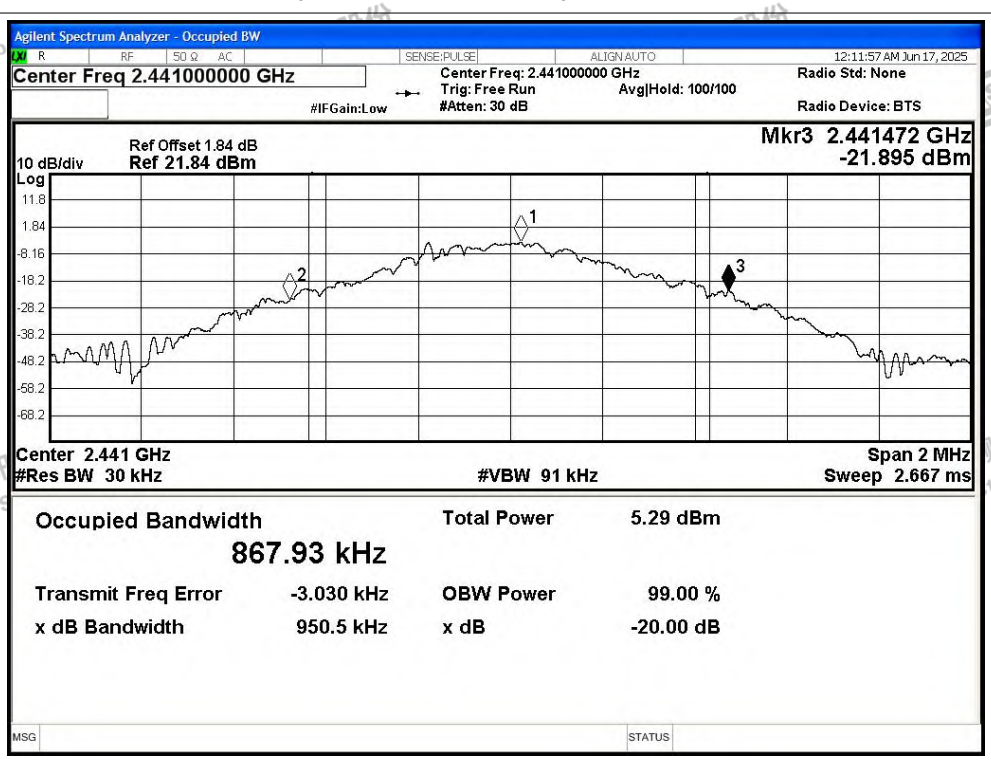
A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.942	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.95	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.964	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.301	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.283	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.289	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.313	N/A	Pass

Test Graphs

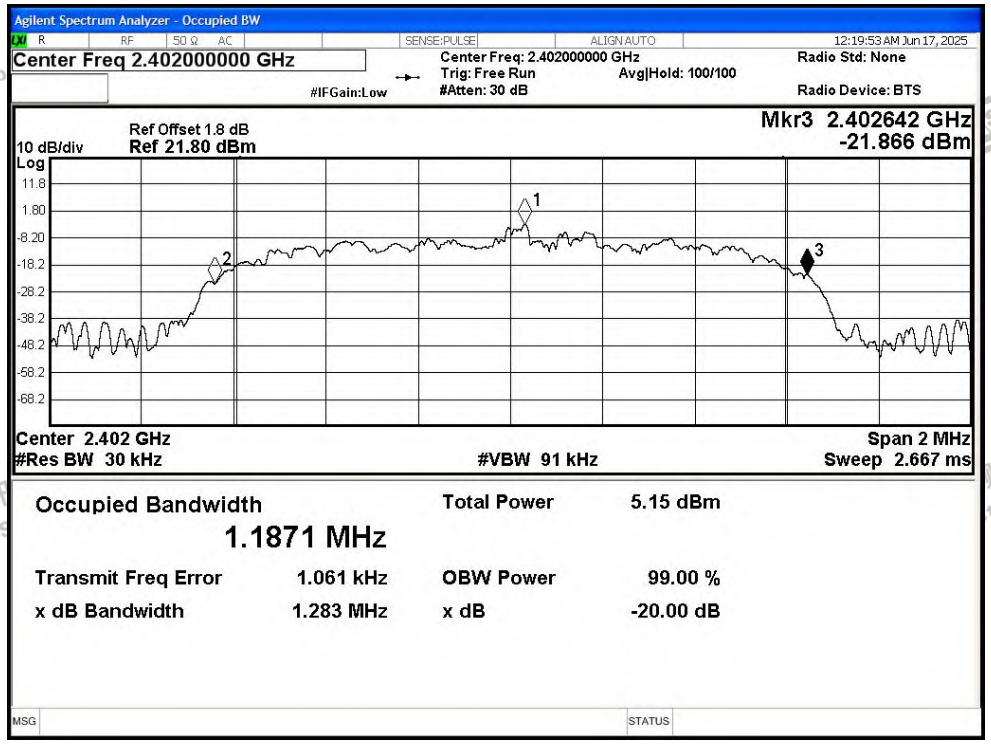
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

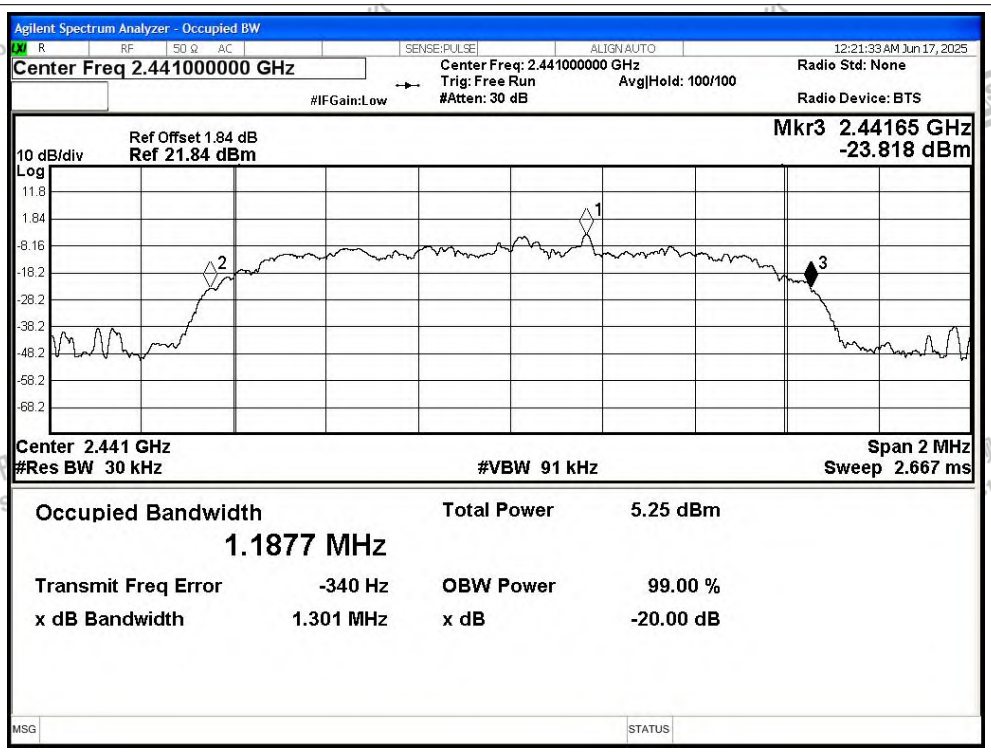


-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

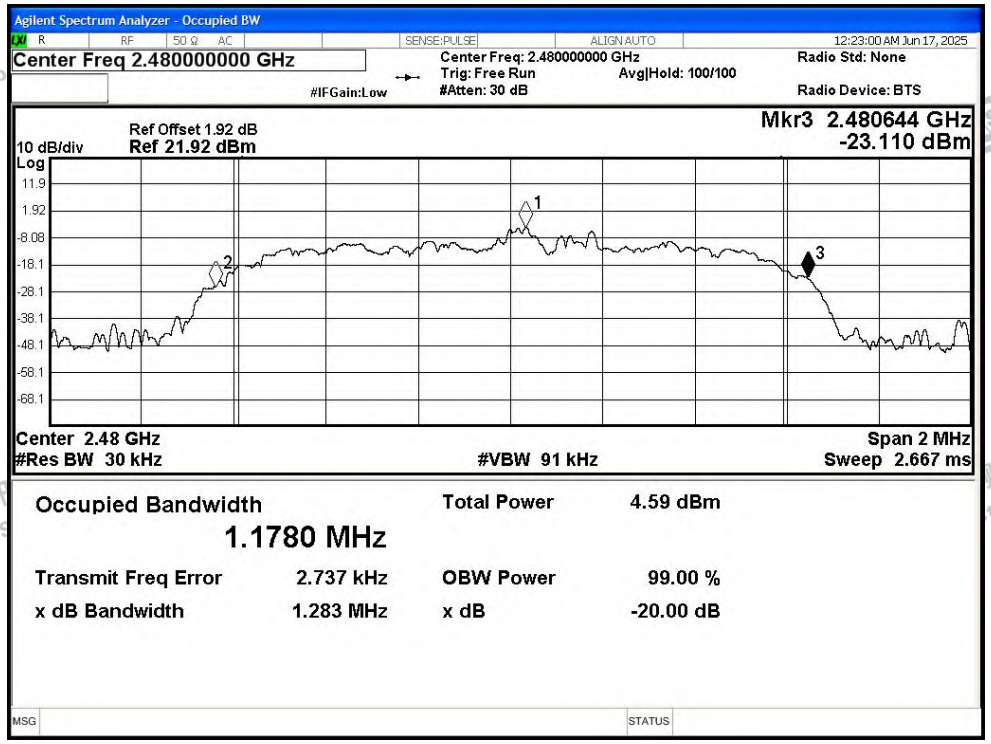
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



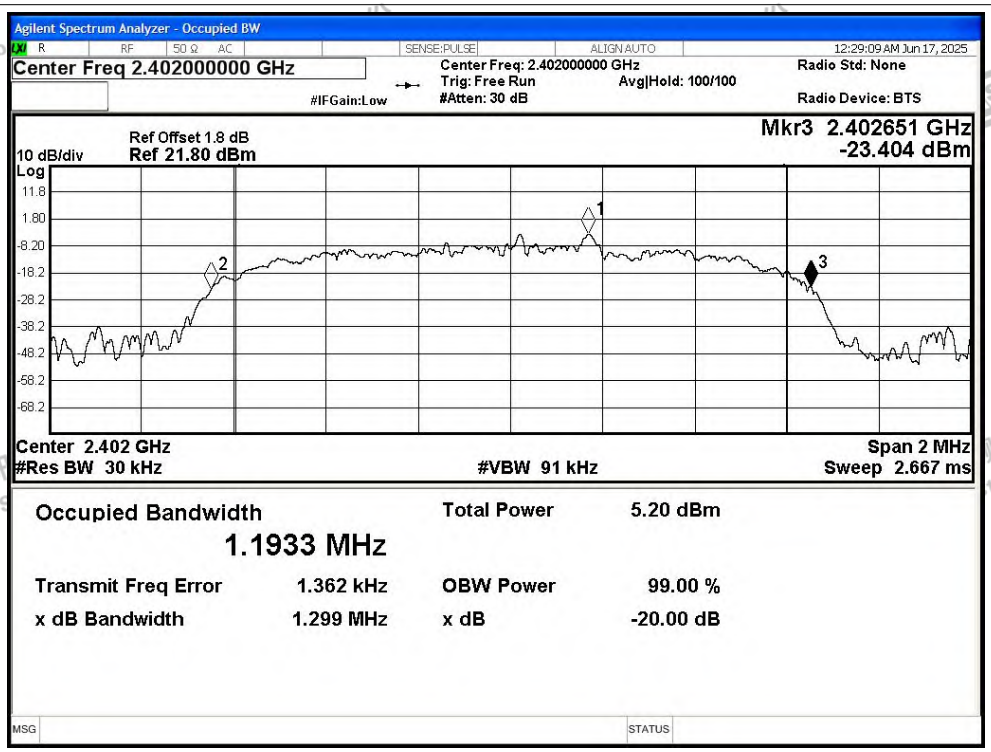
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



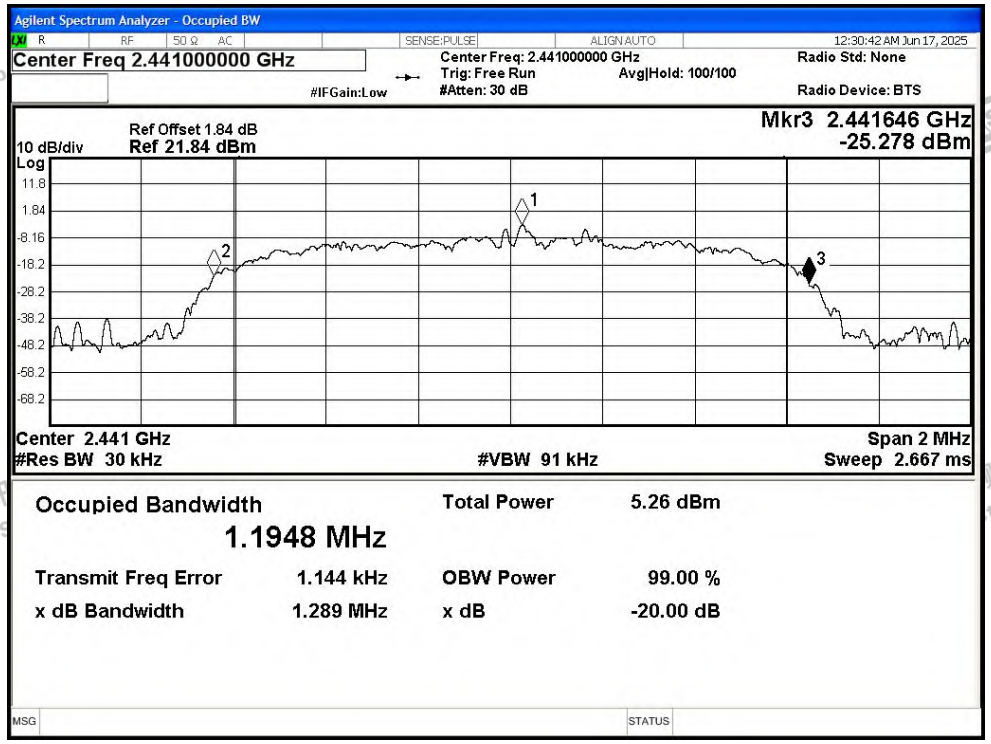
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



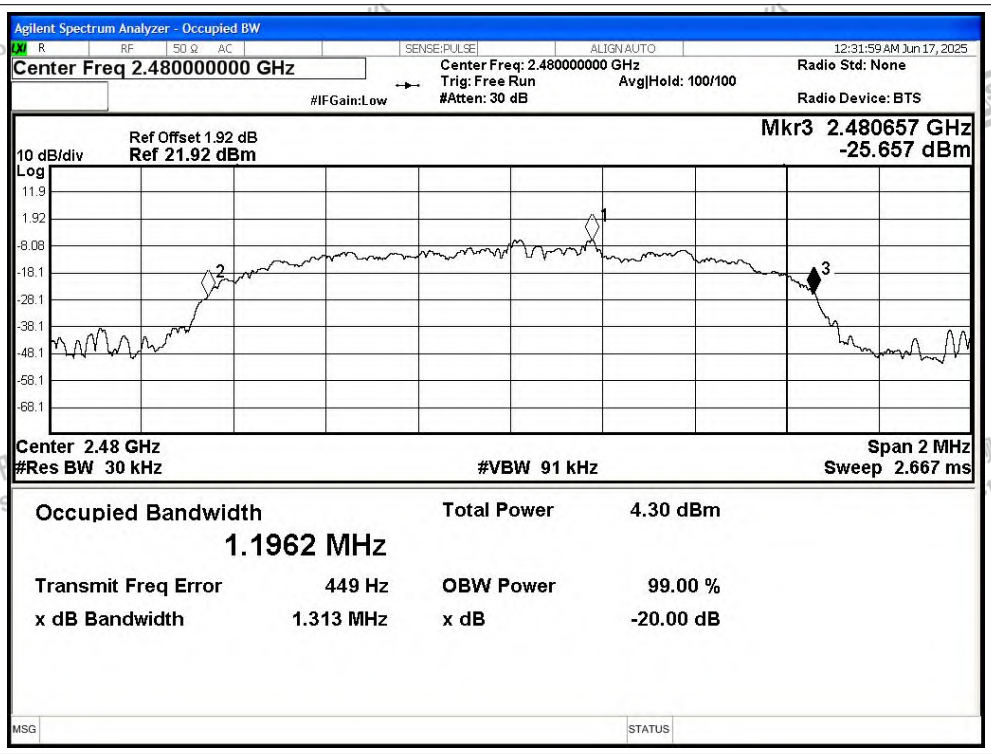
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

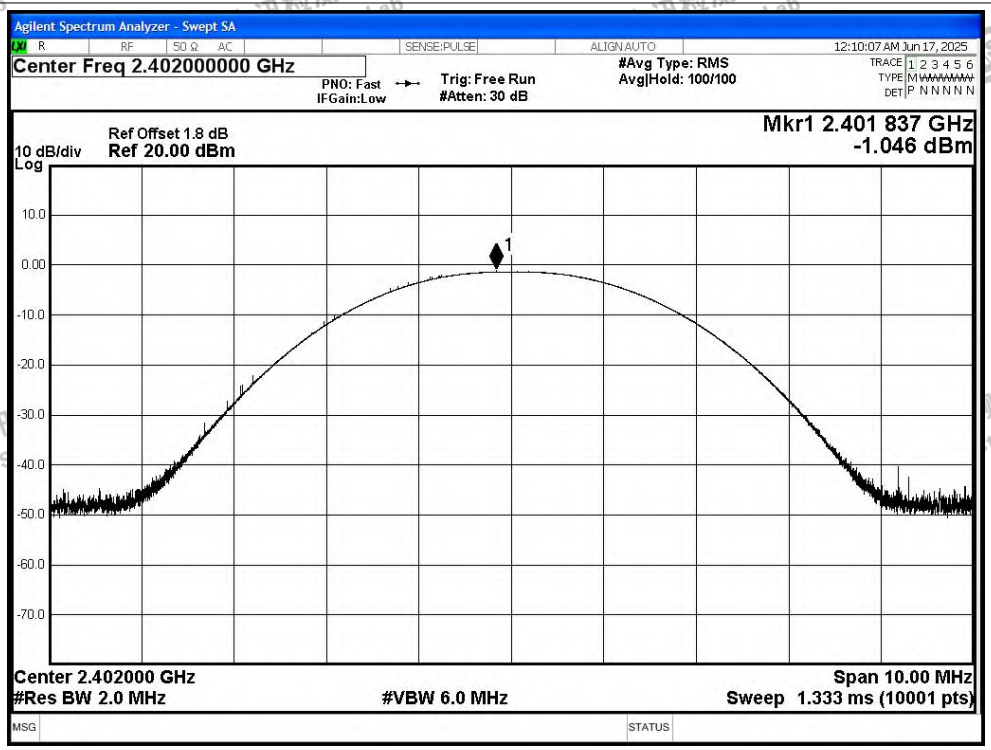


A.2 Maximum Peak Conducted Output Power

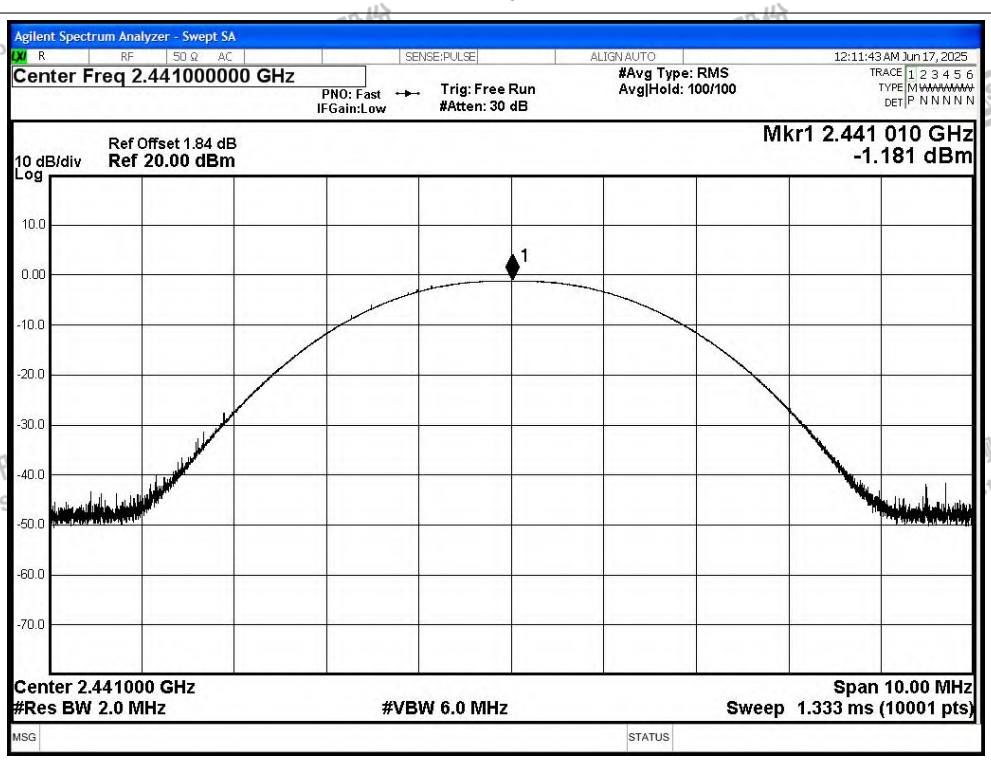
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.05	21	Pass
NVNT	1-DH5	2441	Ant1	-1.18	21	Pass
NVNT	1-DH5	2480	Ant1	-1.97	21	Pass
NVNT	2-DH5	2402	Ant1	0.87	21	Pass
NVNT	2-DH5	2441	Ant1	1.07	21	Pass
NVNT	2-DH5	2480	Ant1	0.02	21	Pass
NVNT	3-DH5	2402	Ant1	1.27	21	Pass
NVNT	3-DH5	2441	Ant1	1.52	21	Pass
NVNT	3-DH5	2480	Ant1	0.4	21	Pass

Test Graphs

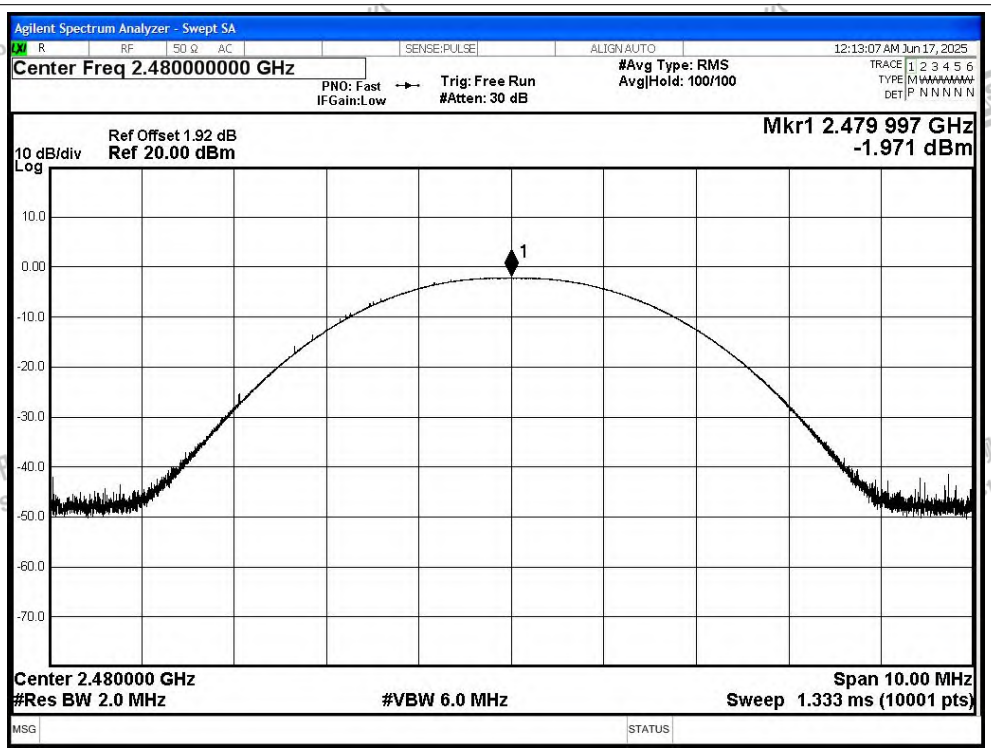
Power NVNT 1-DH5 2402MHz Ant1



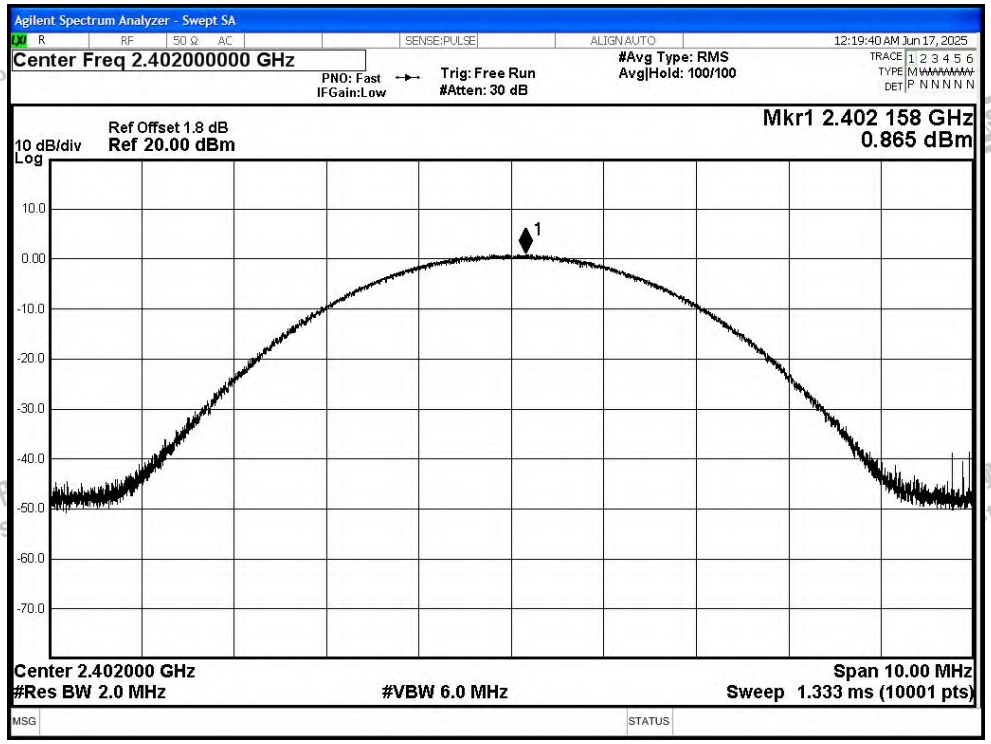
Power NVNT 1-DH5 2441MHz Ant1



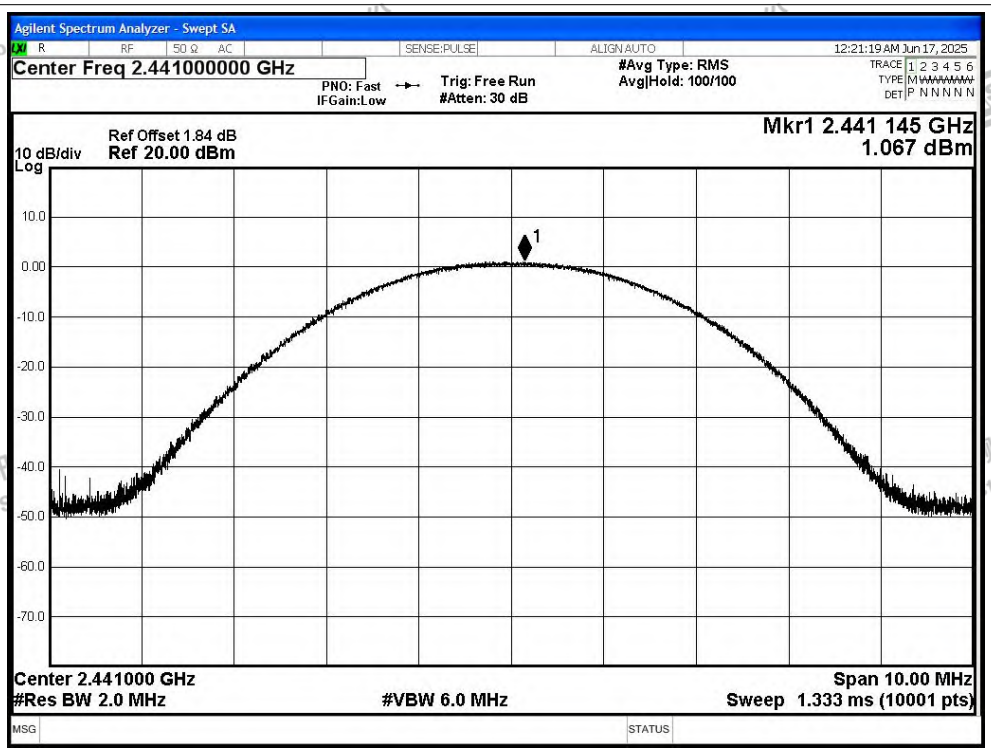
Power NVNT 1-DH5 2480MHz Ant1



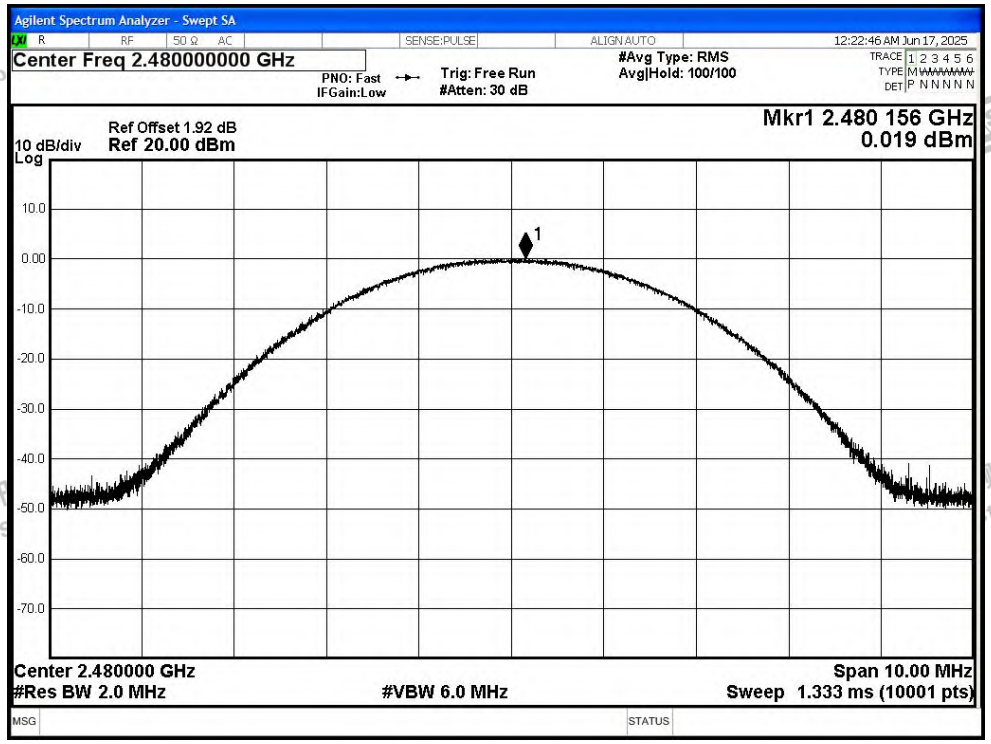
Power NVNT 2-DH5 2402MHz Ant1



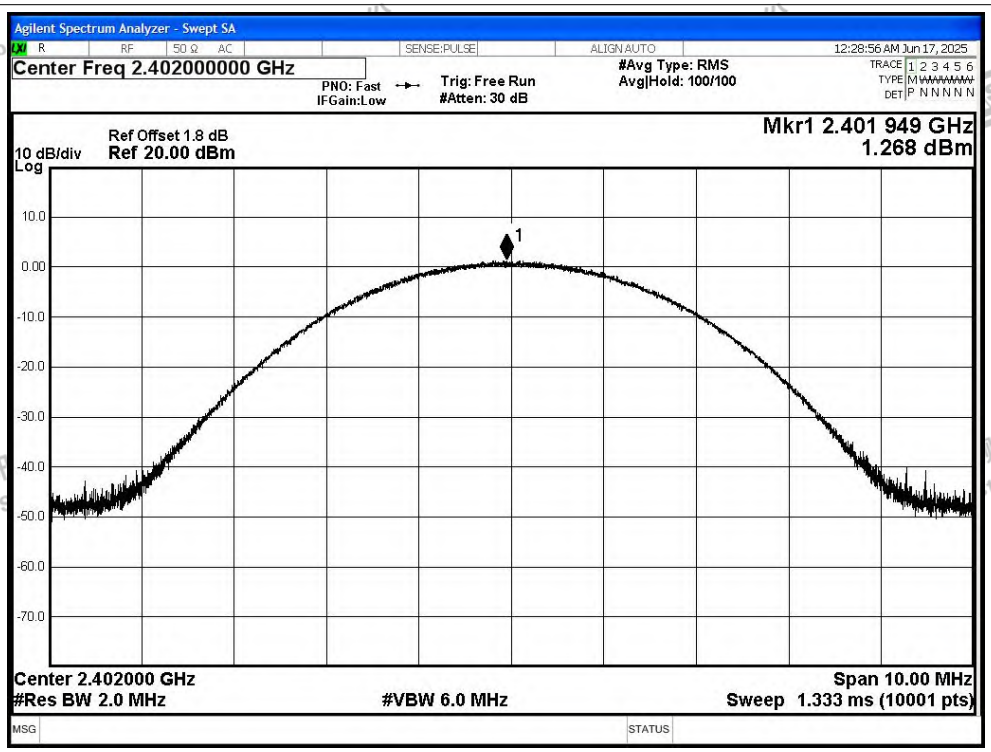
Power NVNT 2-DH5 2441MHz Ant1



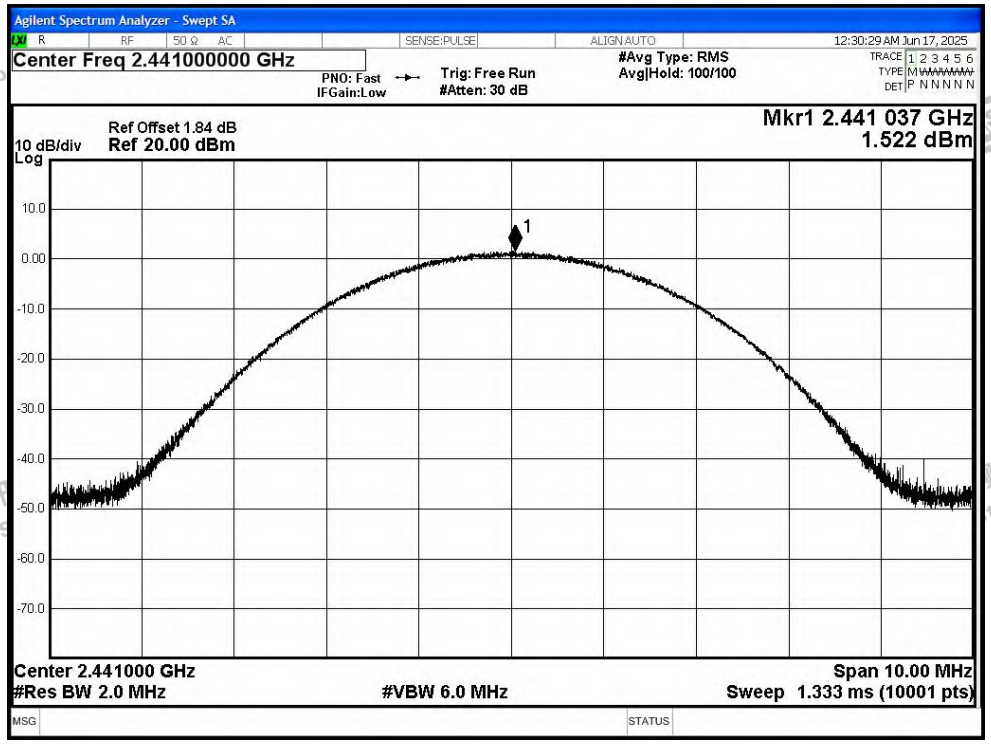
Power NVNT 2-DH5 2480MHz Ant1



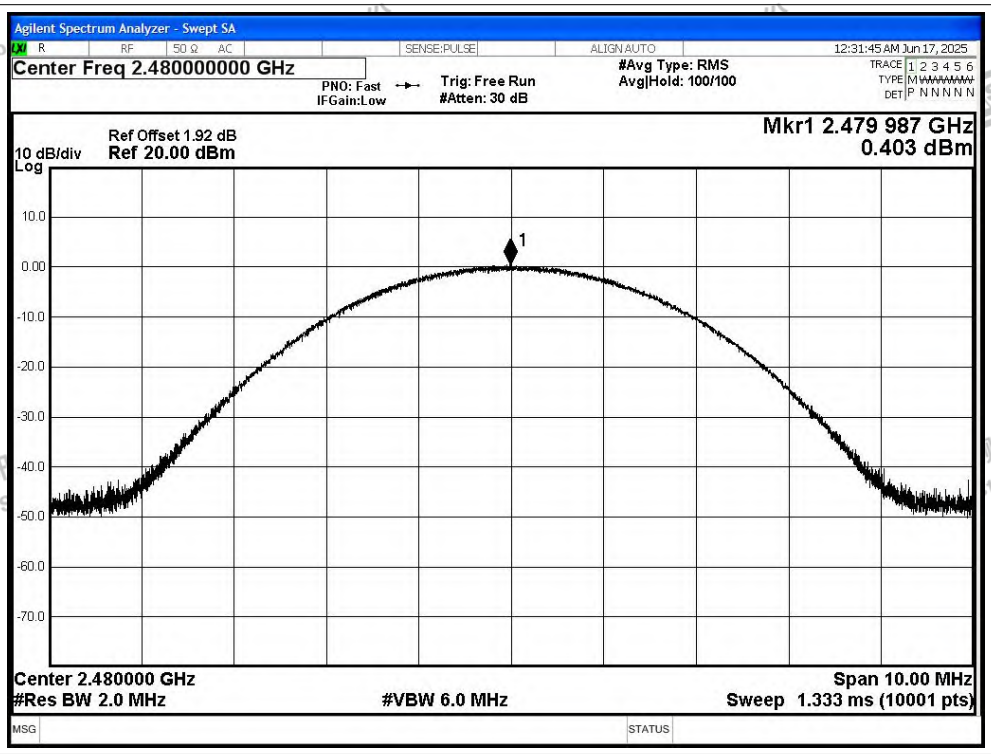
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

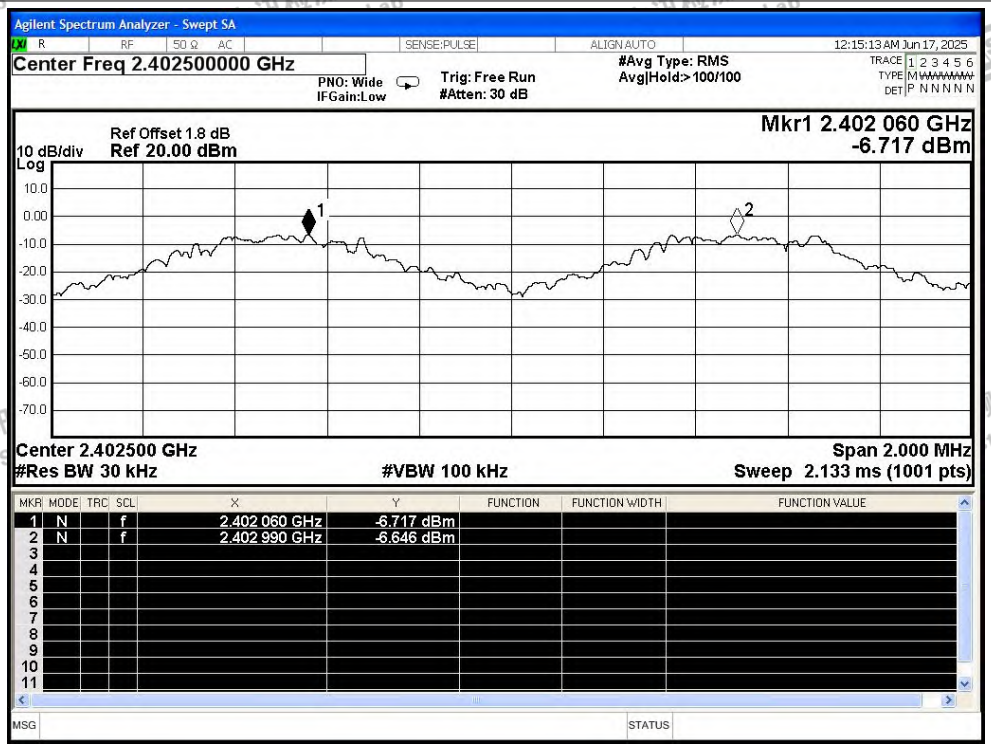


A.3 Carrier Frequencies Separation

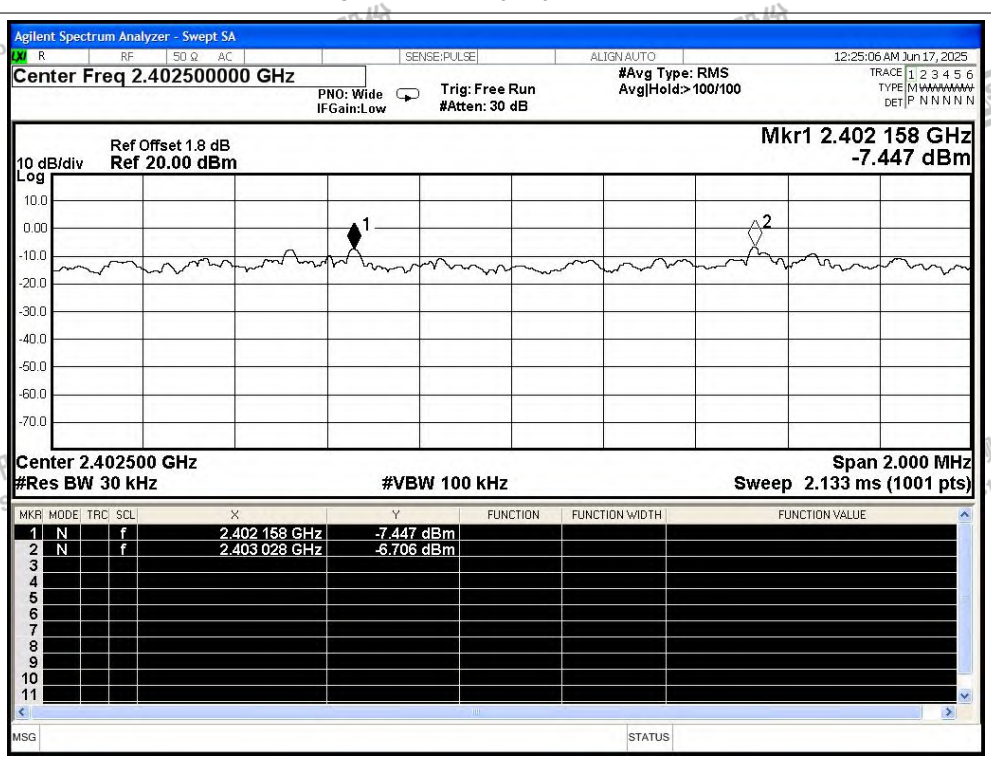
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.06	2402.99	0.93	0.643	Pass
NVNT	2-DH5	Ant1	2402.158	2403.028	0.87	0.867	Pass
NVNT	3-DH5	Ant1	2402.028	2403.026	0.998	0.875	Pass

Test Graphs

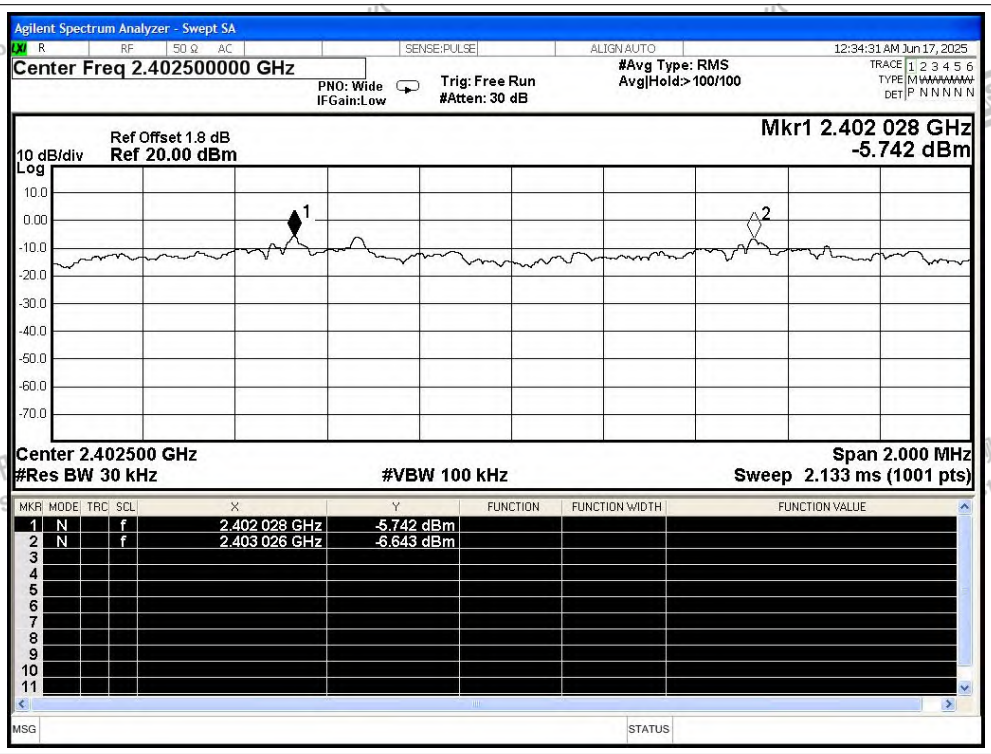
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

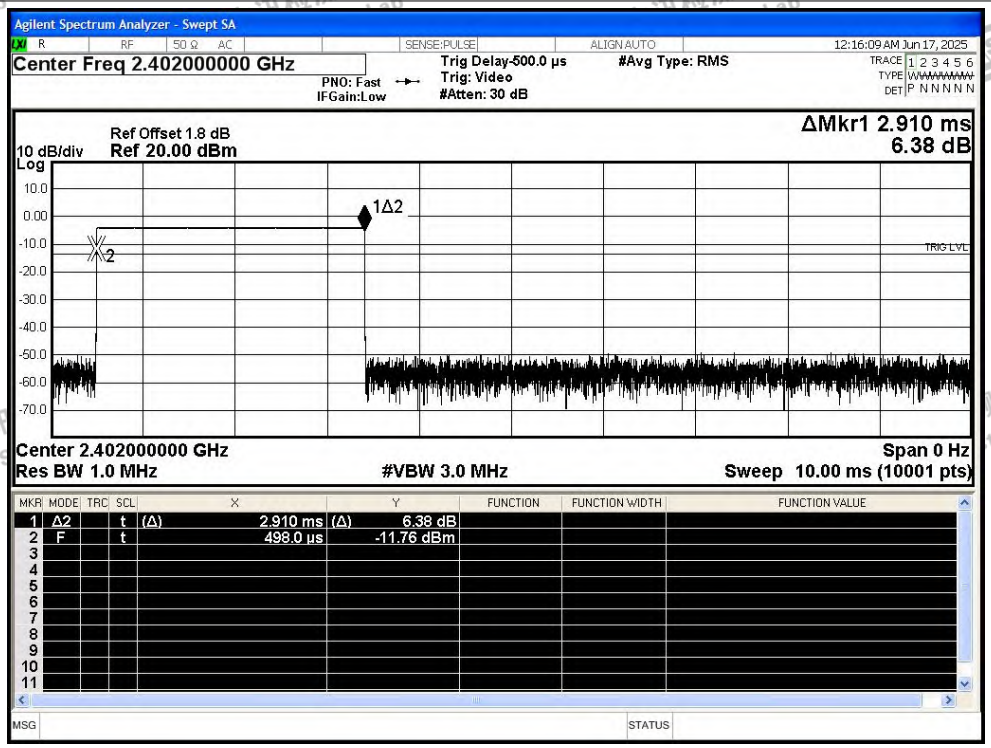


A.4 Dwell Time

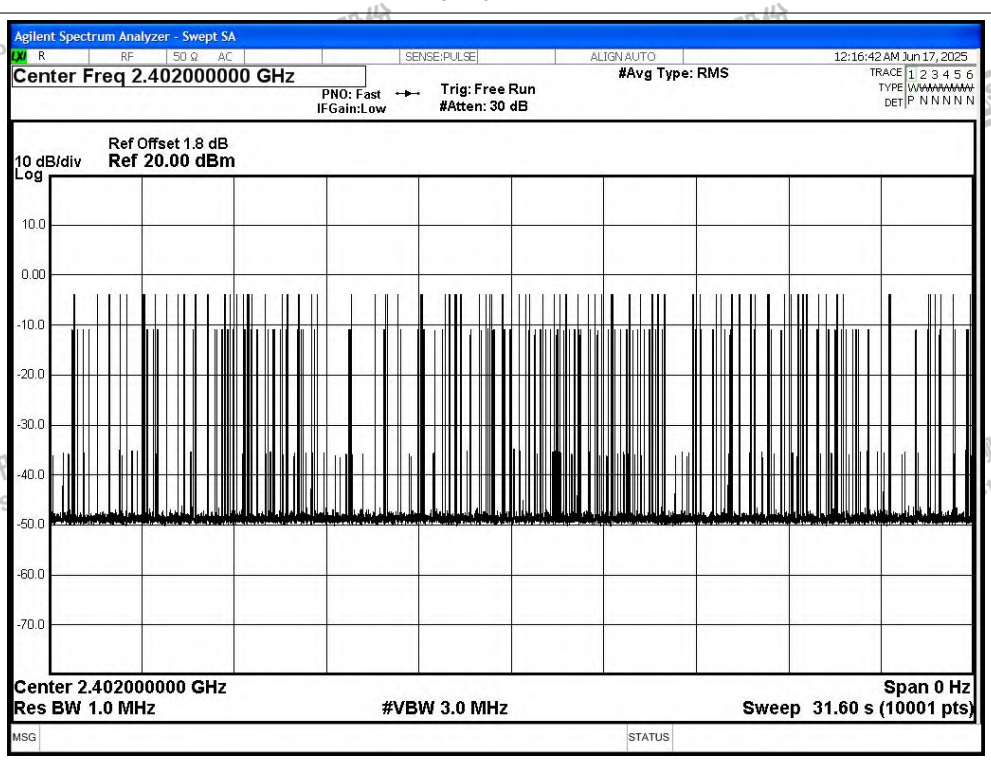
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	299.73	103	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	252.126	87	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	309.979	107	31600	400	Pass

Test Graphs

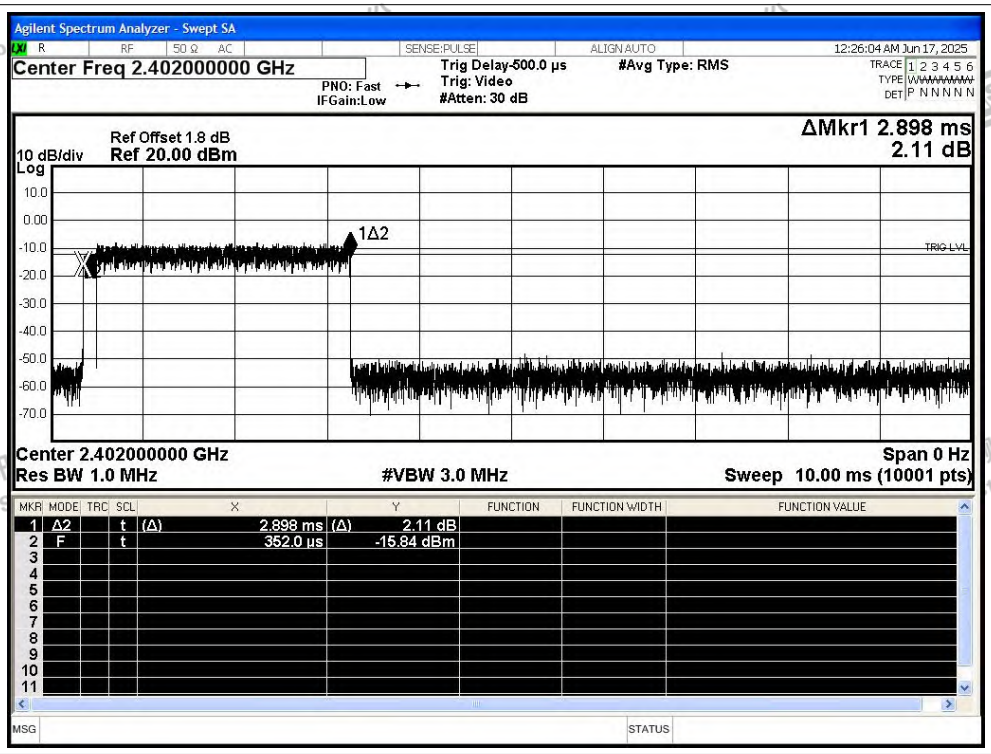
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



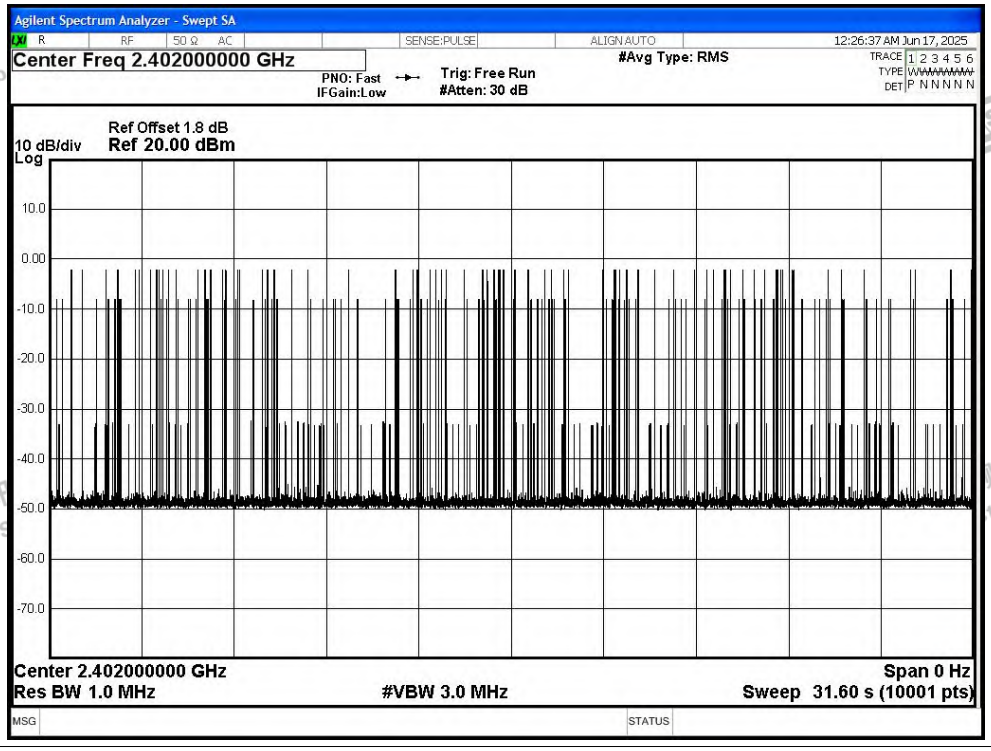
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



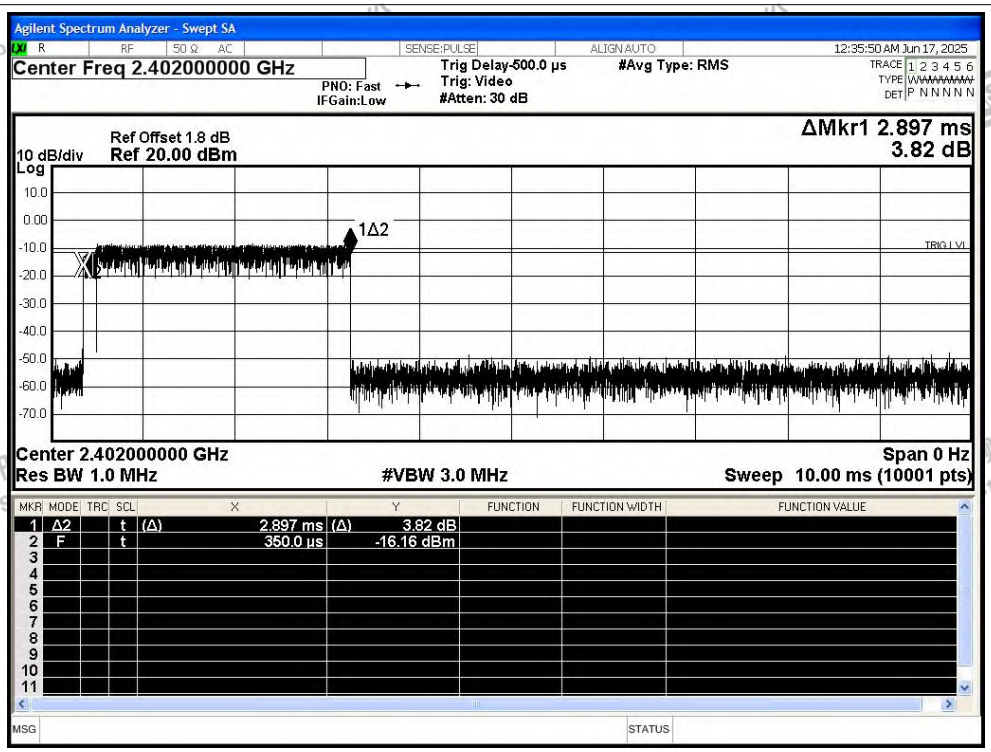
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



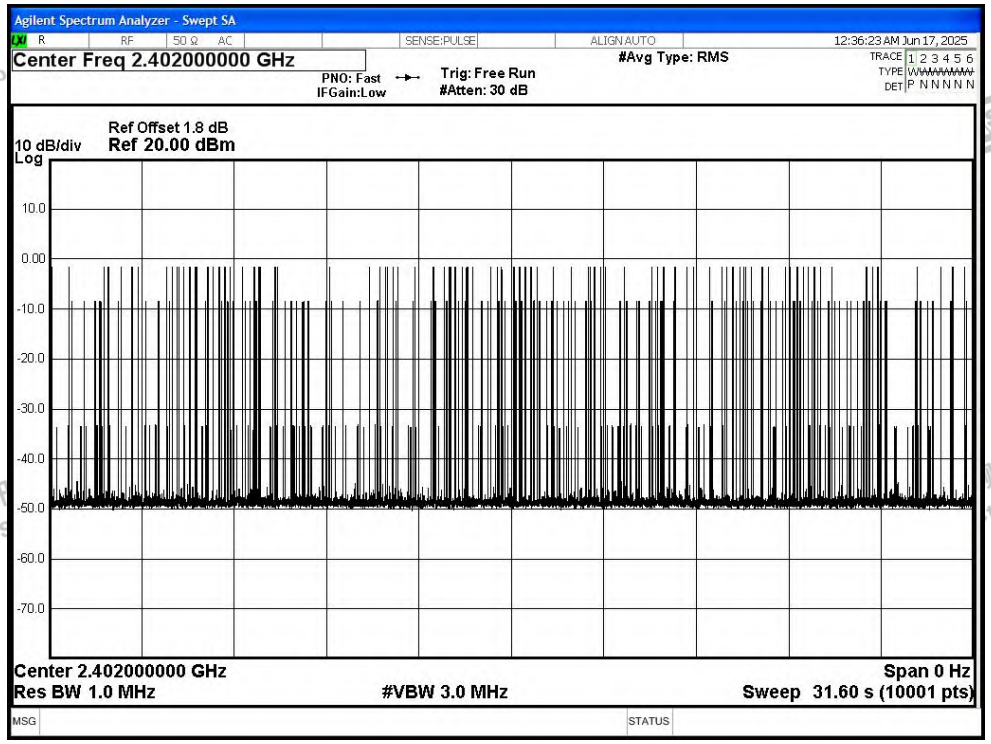
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

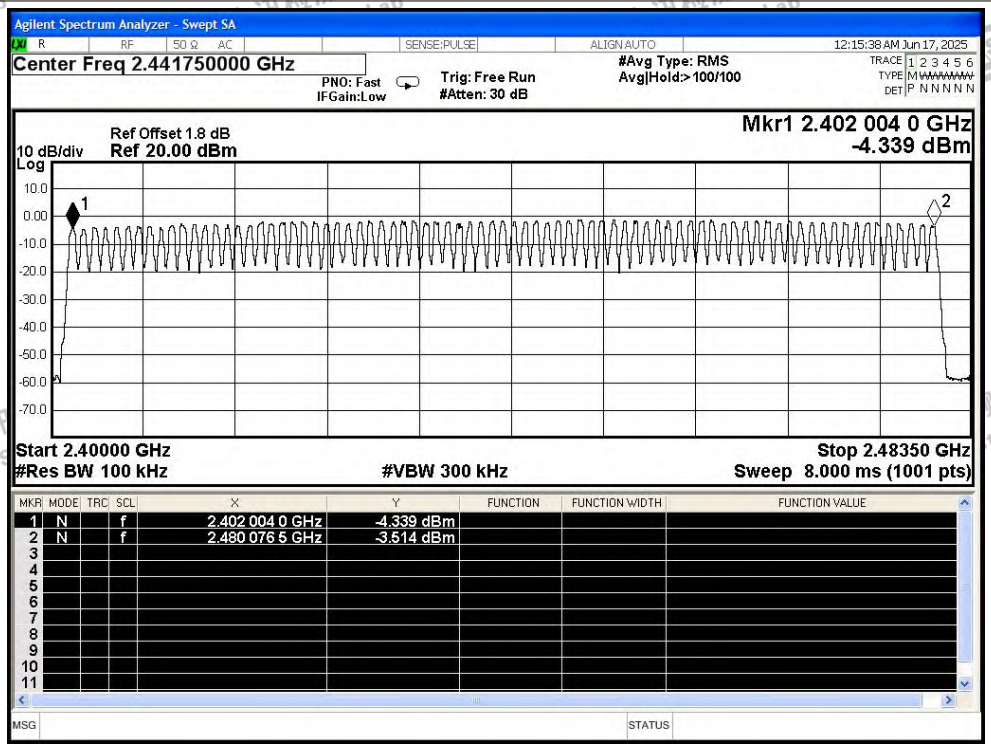


A.5 Number of Hopping Channel

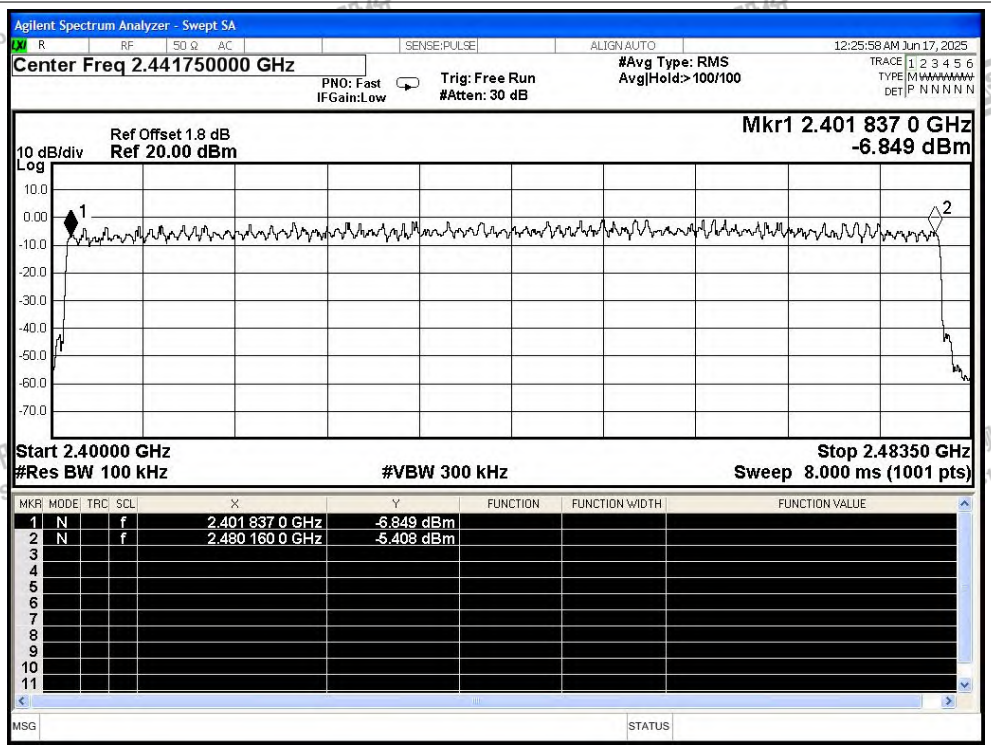
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

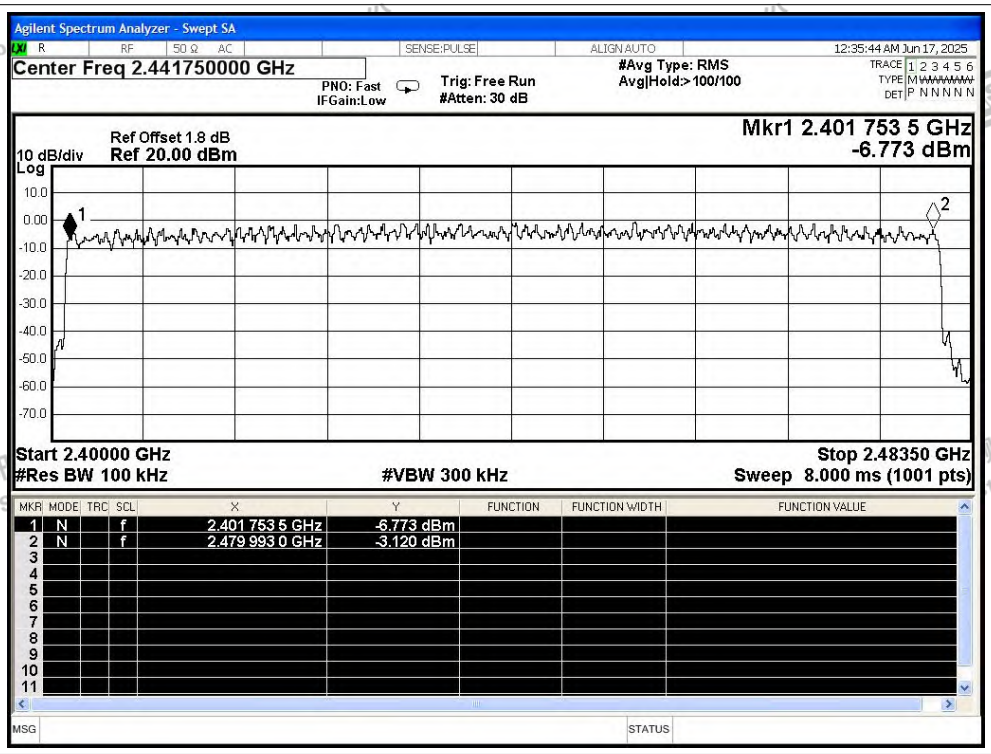
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

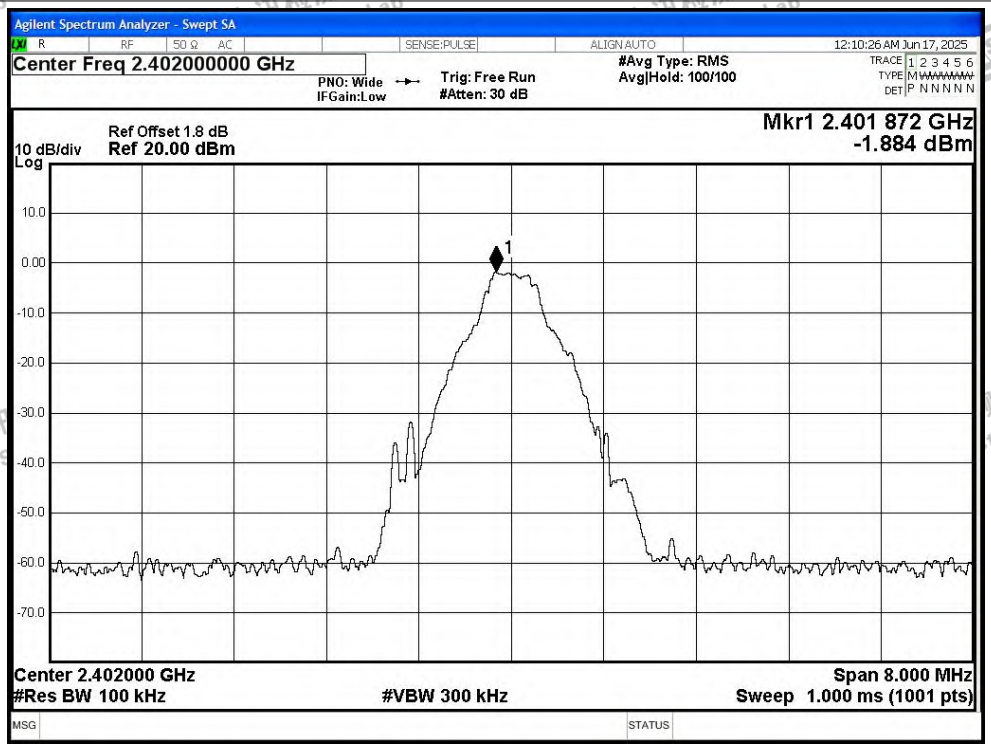


A.6 Band Edge

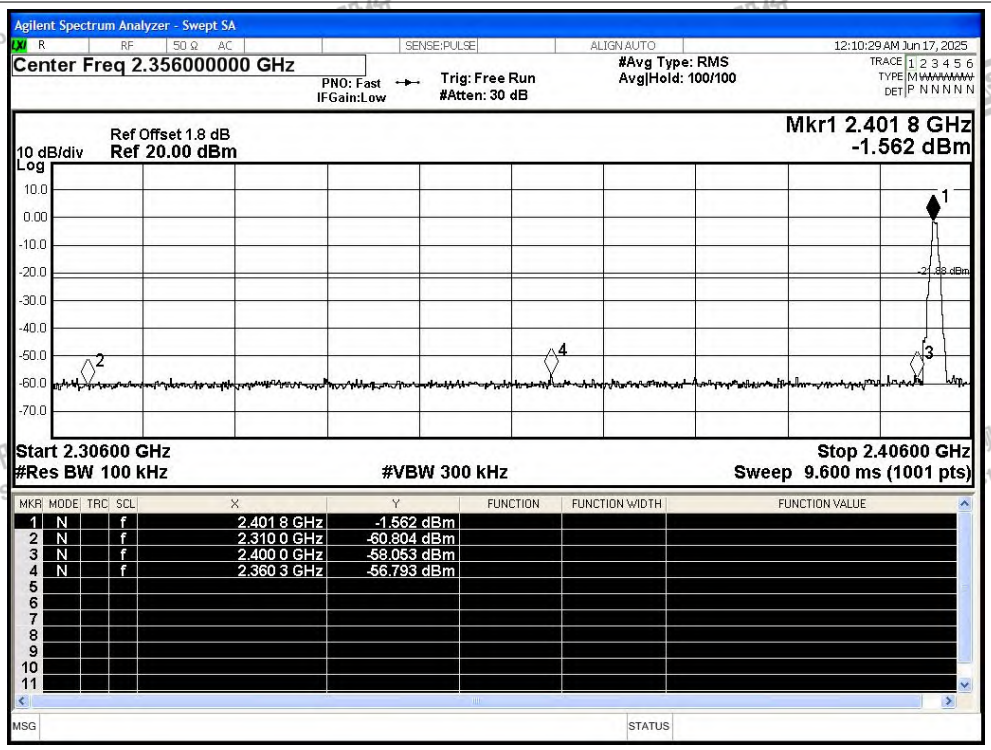
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.91	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.84	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.29	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.33	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.94	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-53.22	-20	Pass

Test Graphs

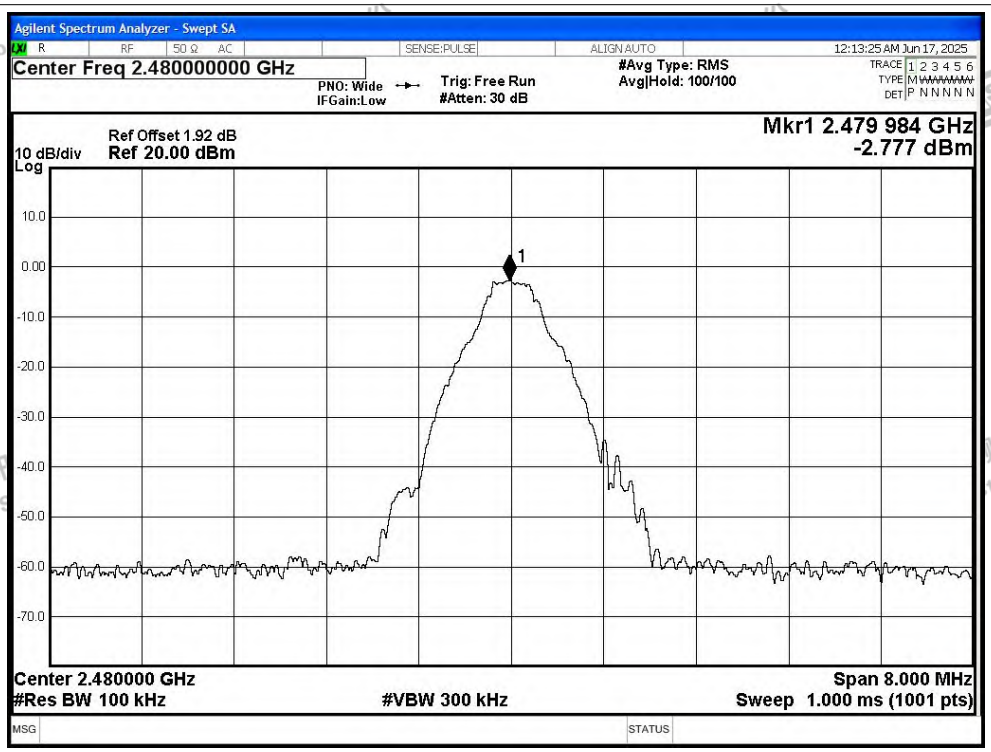
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



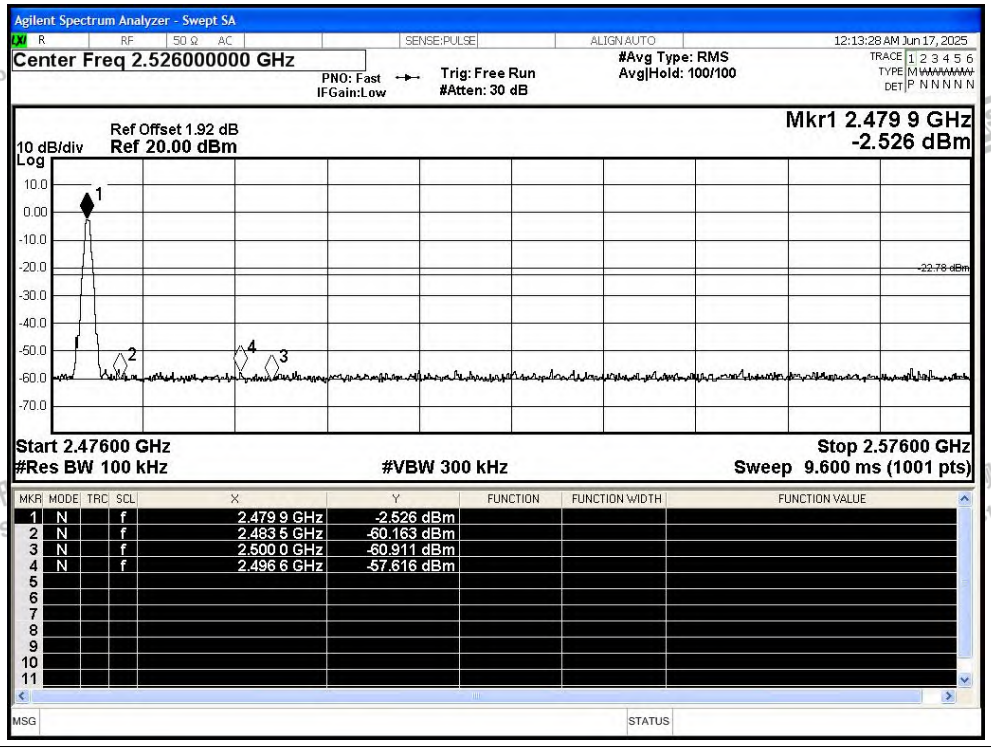
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



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

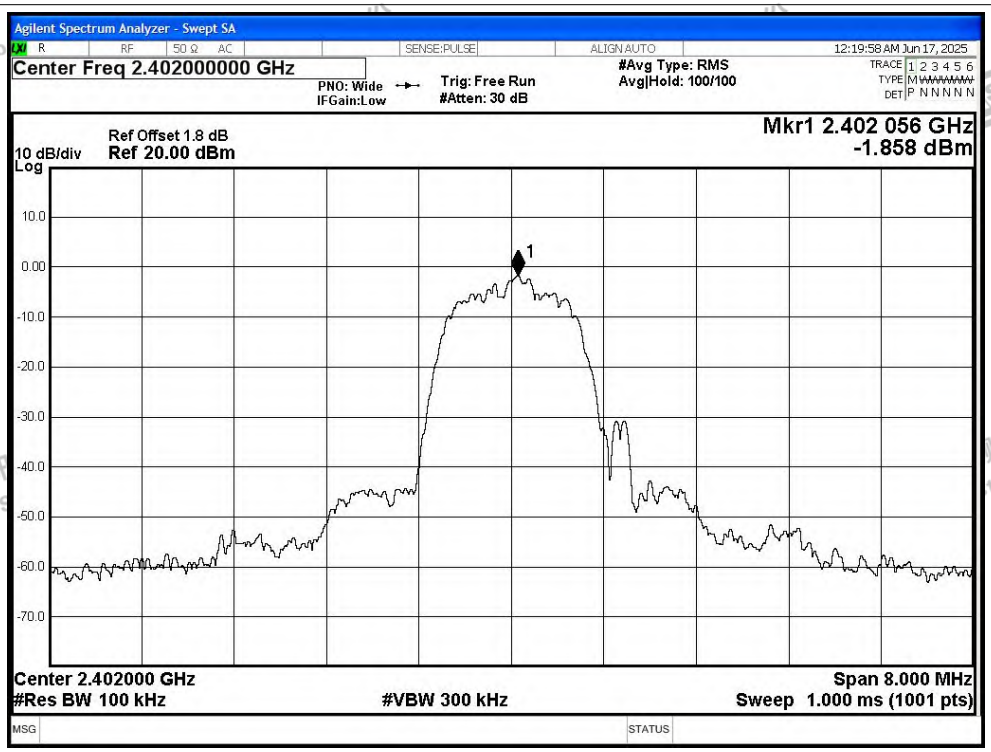


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

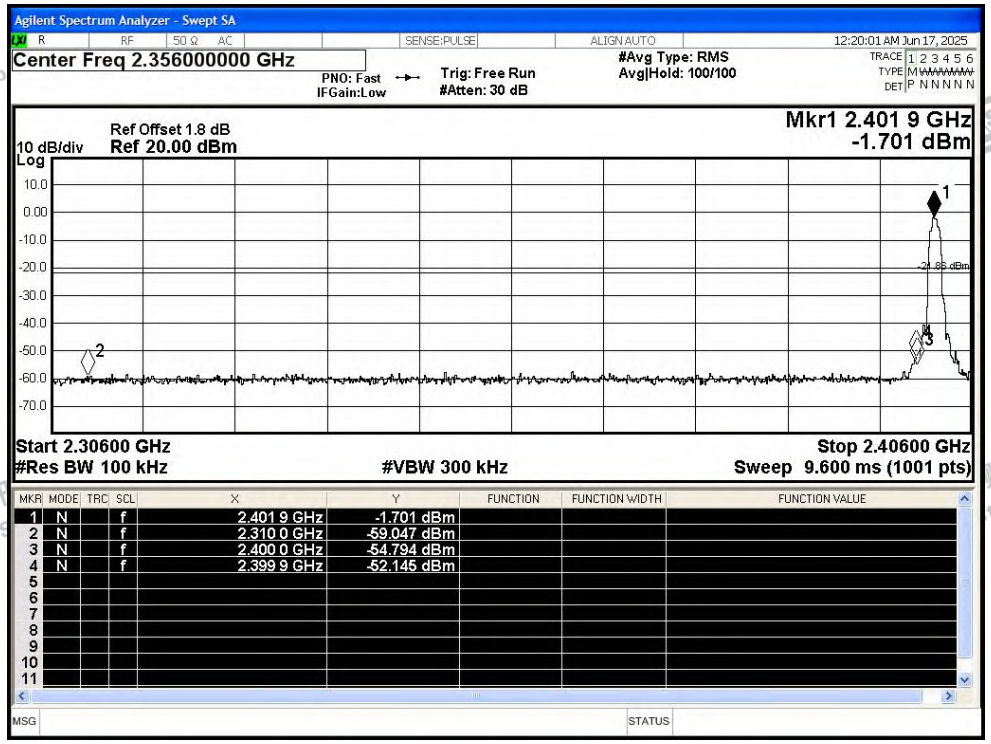


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.479 9 GHz	-2.526 dBm			
2	N		f	2.483 5 GHz	-60.163 dBm			
3	N		f	2.500 0 GHz	-60.911 dBm			
4	N		f	2.496 6 GHz	-57.616 dBm			
5								
6								
7								
8								
9								
10								
11								

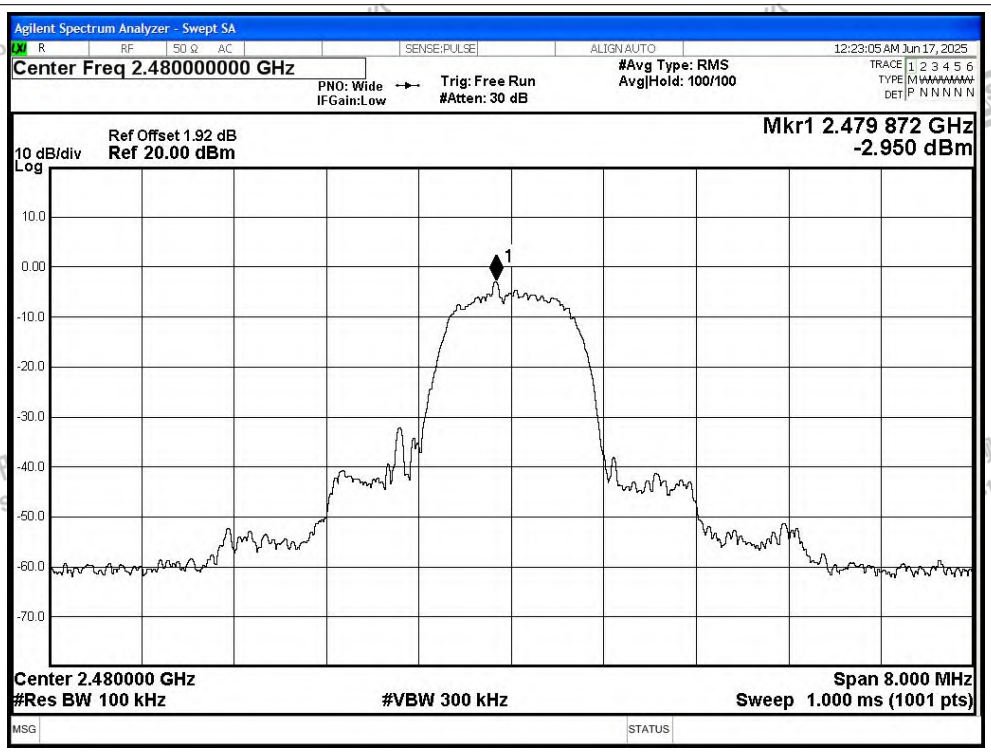
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



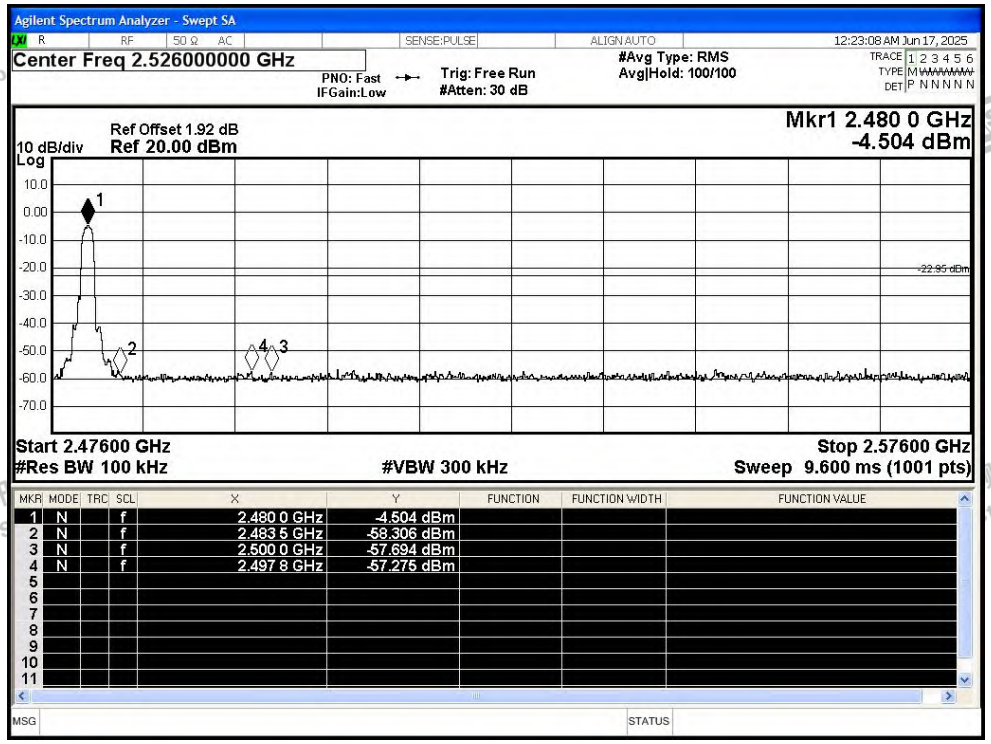
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



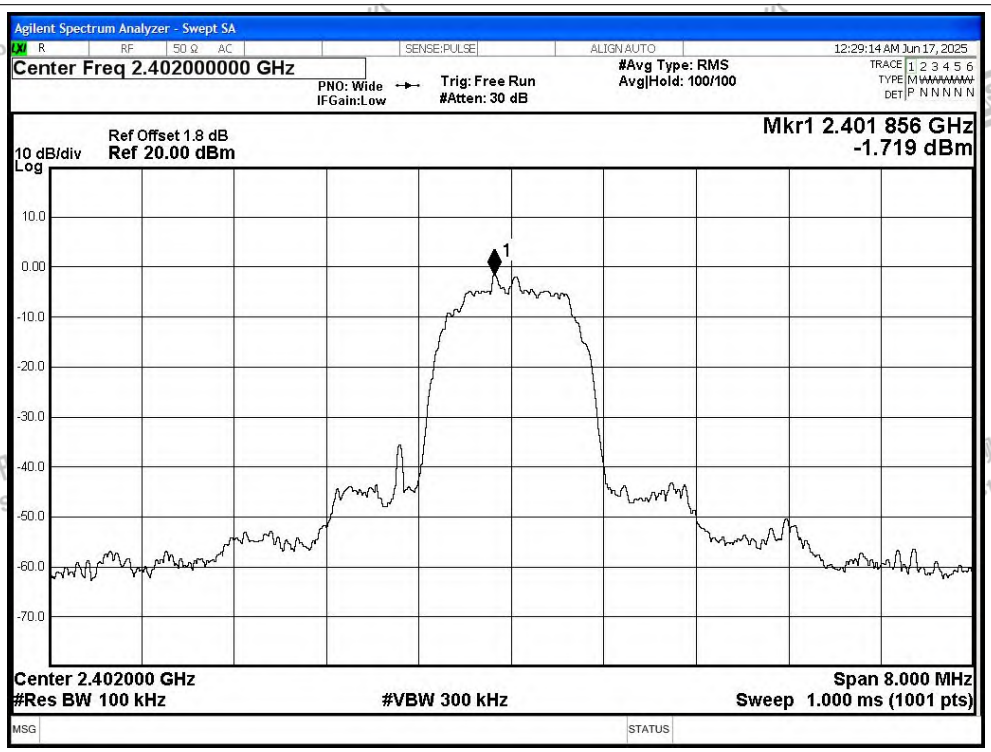
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



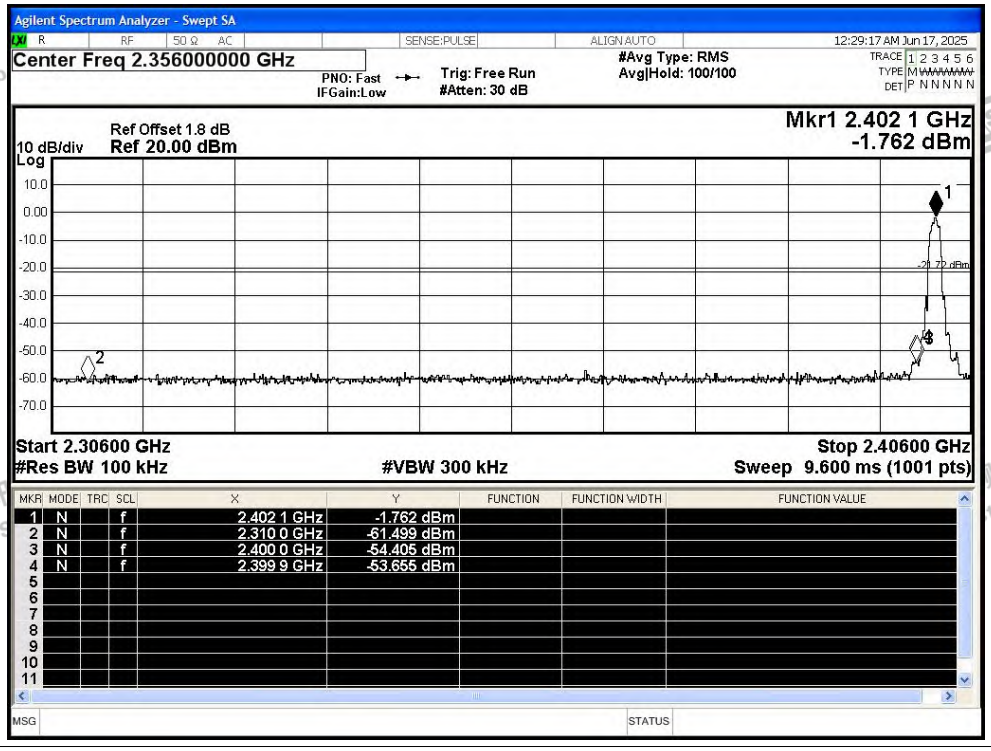
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



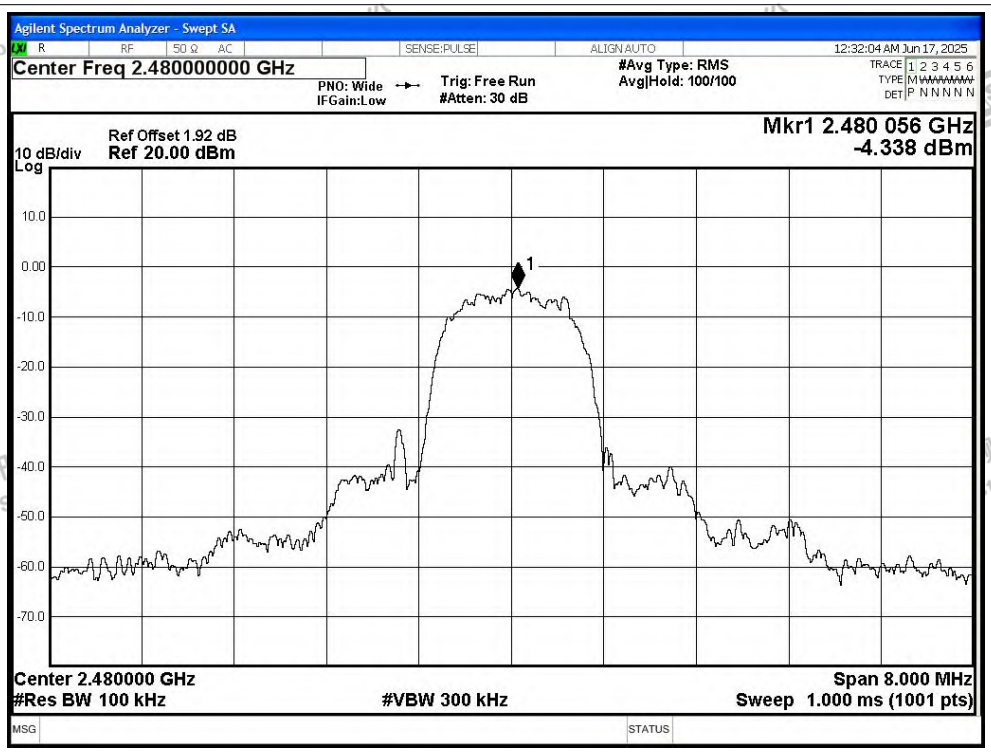
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



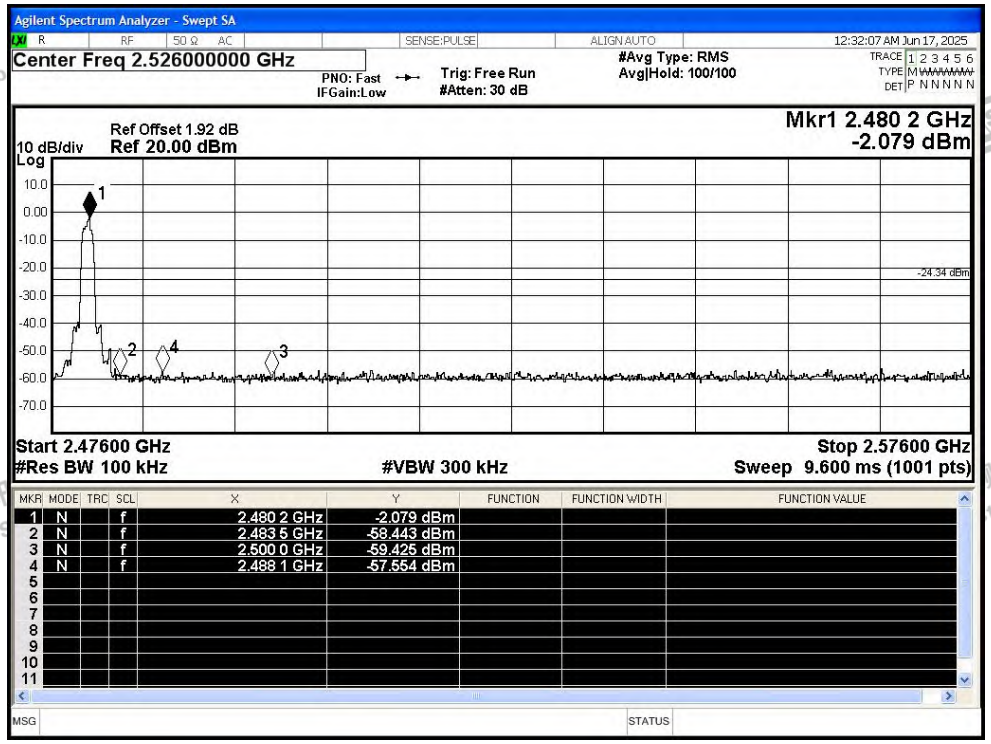
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

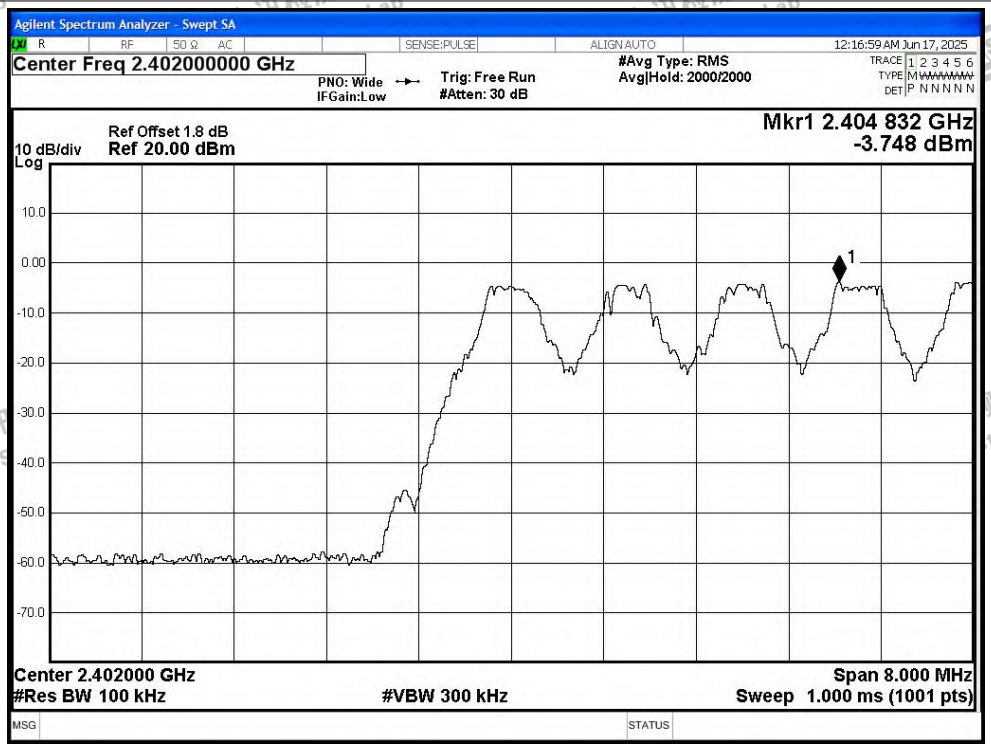


(Hopping)

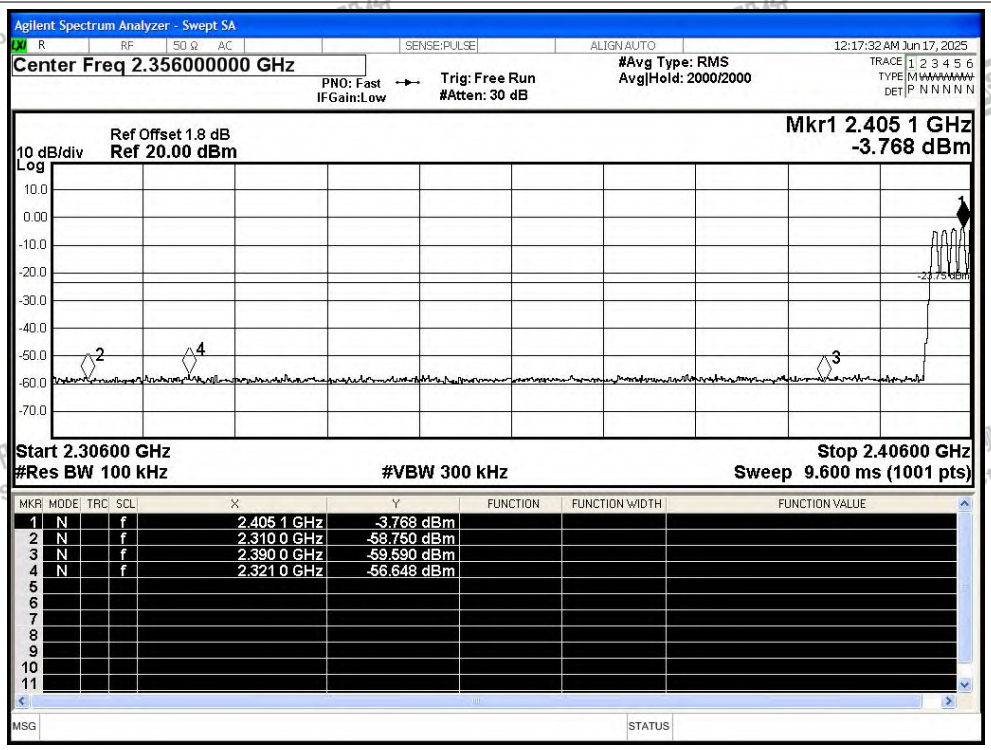
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.9	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.51	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.78	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.96	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.55	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.95	-20	Pass

Test Graphs

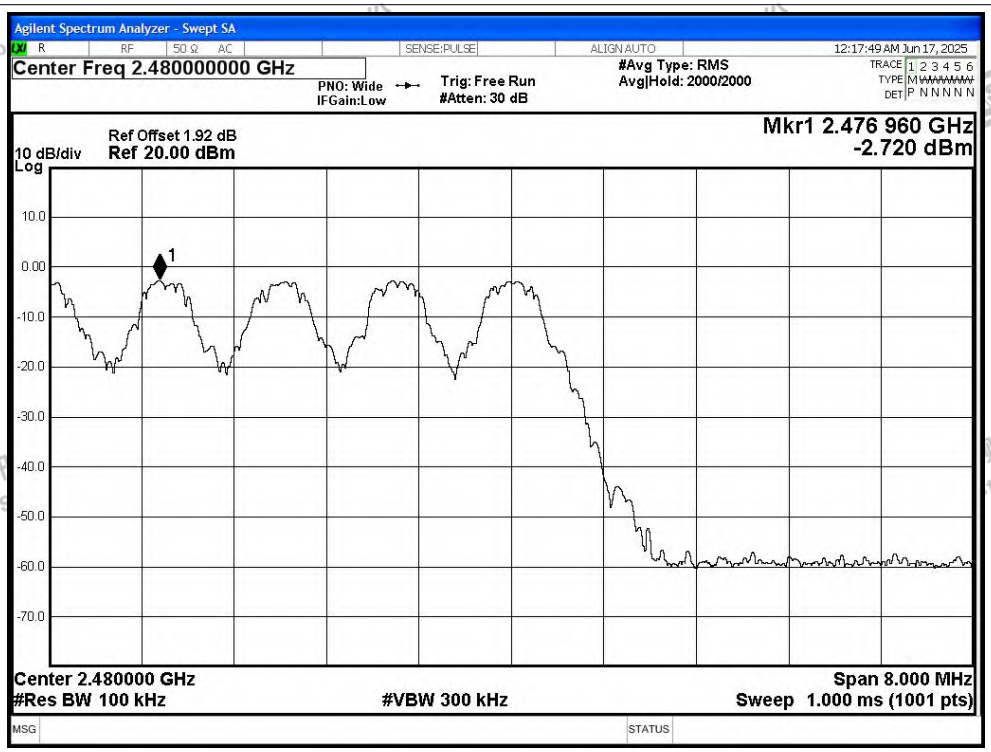
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



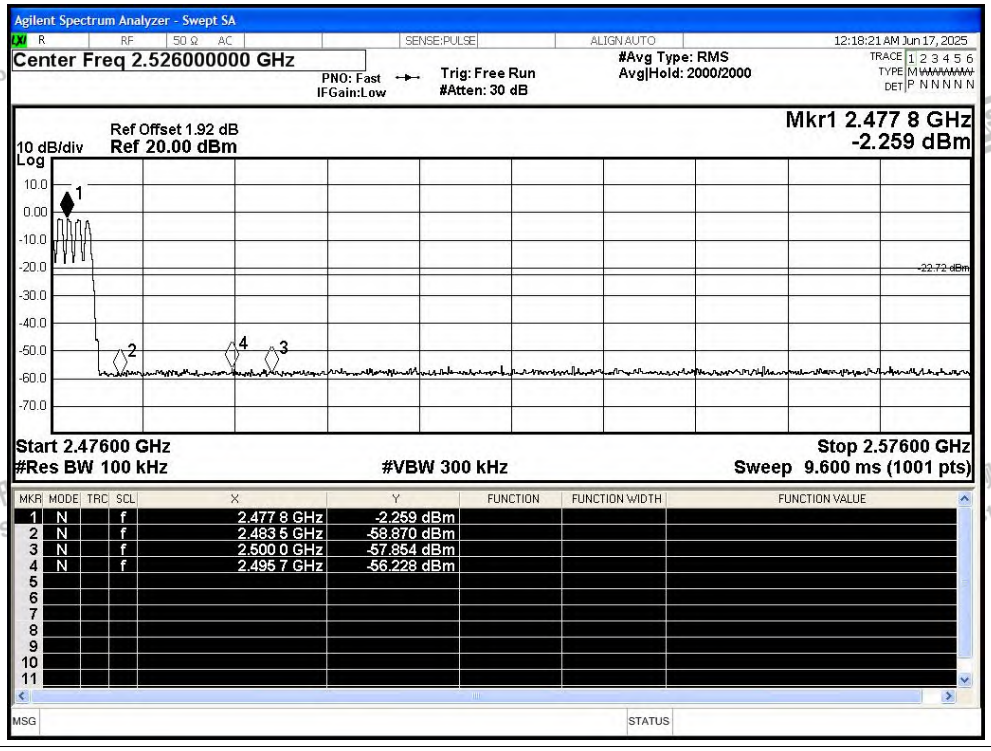
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



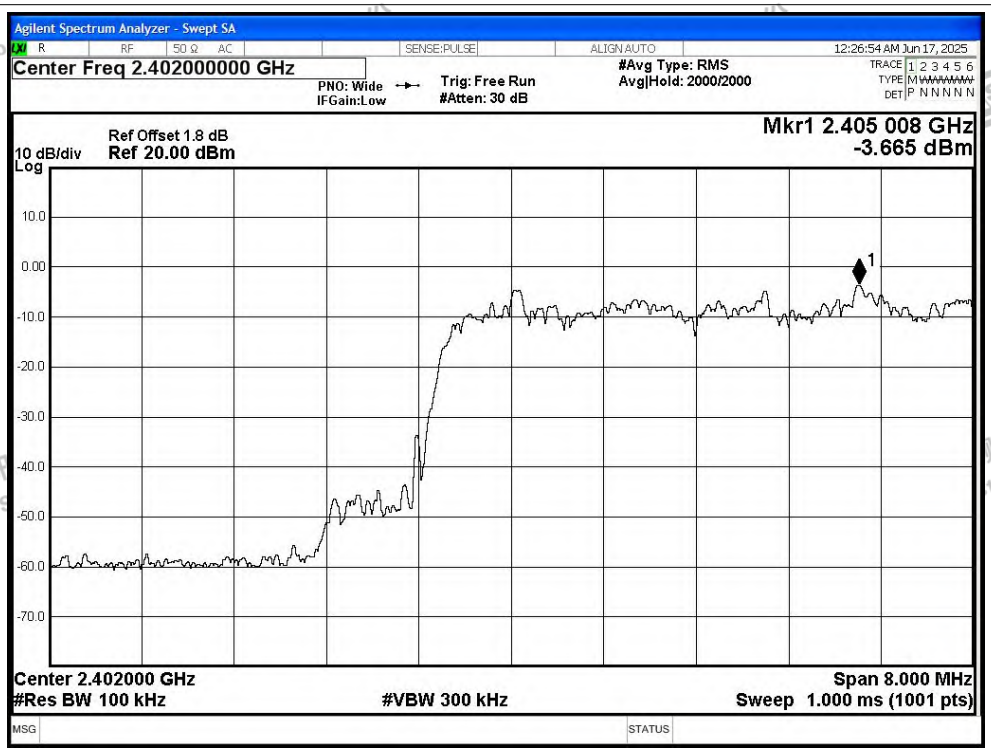
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



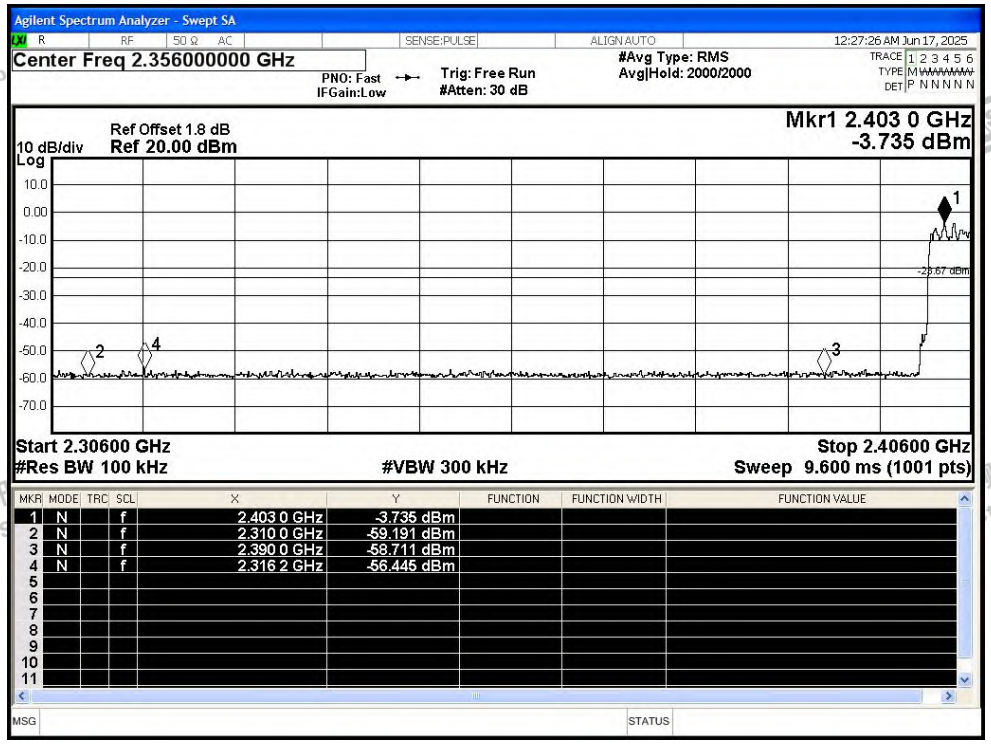
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



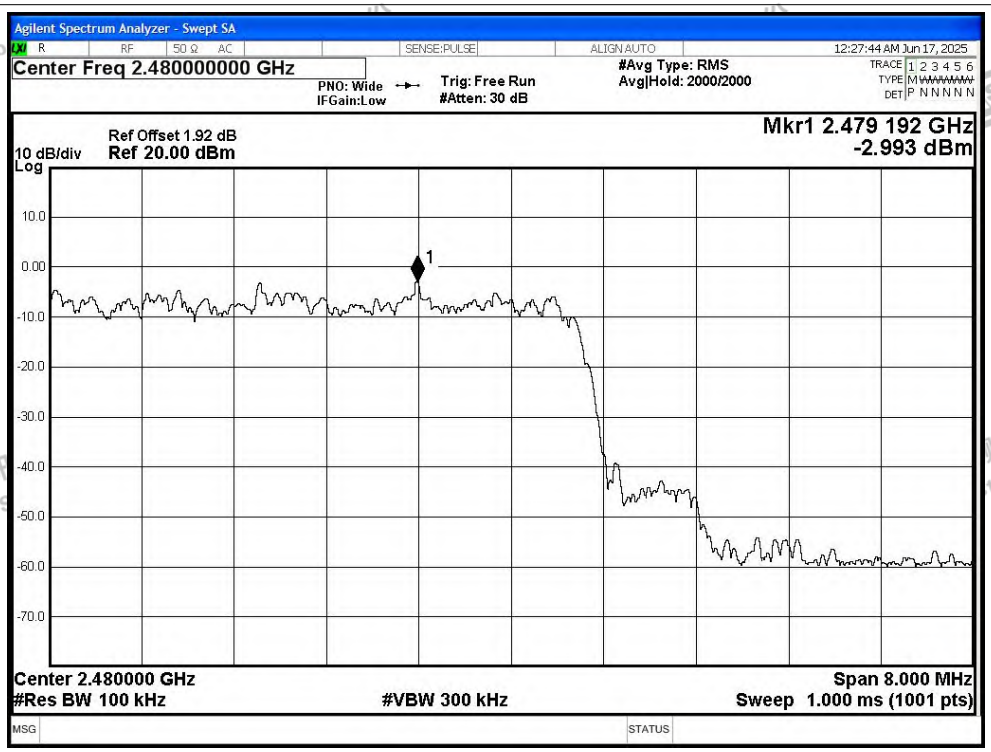
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



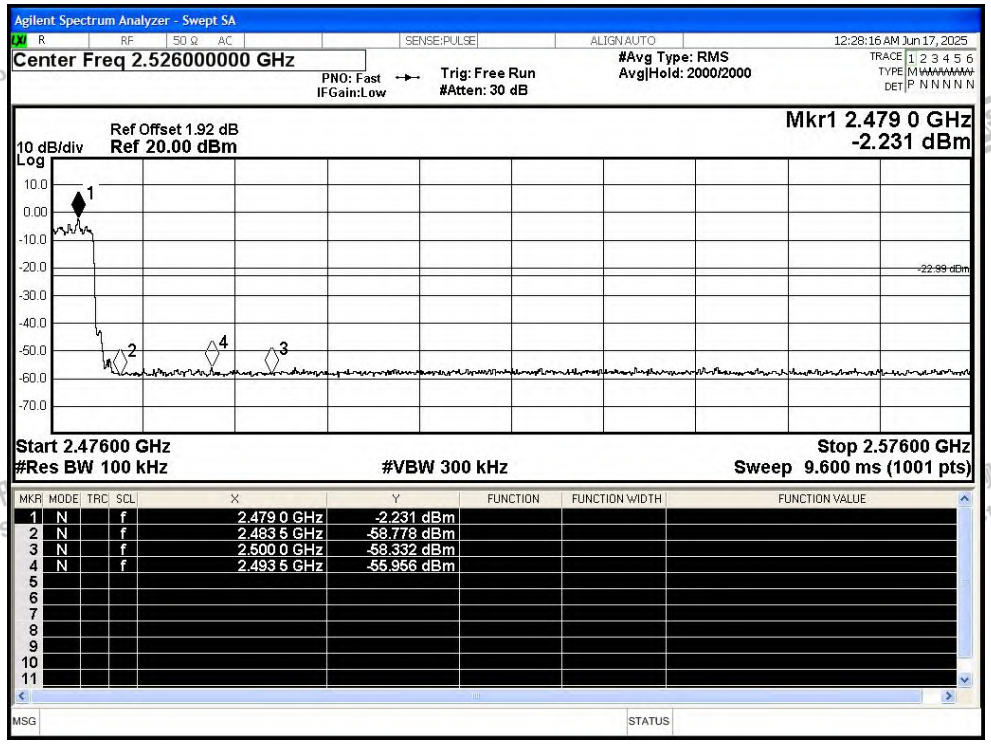
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



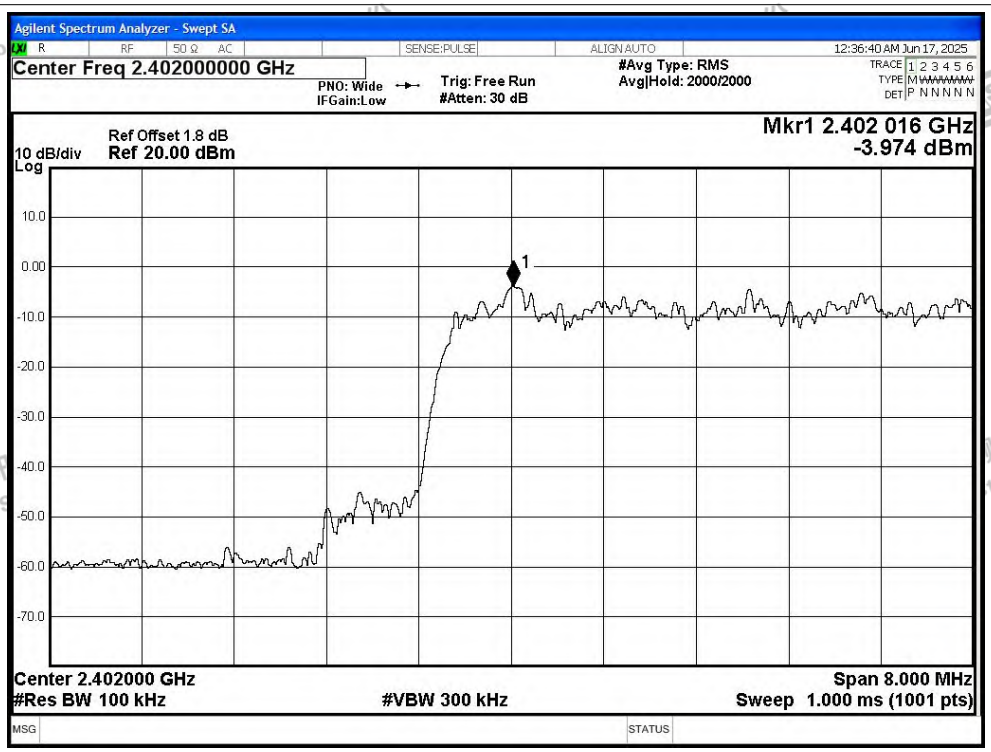
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



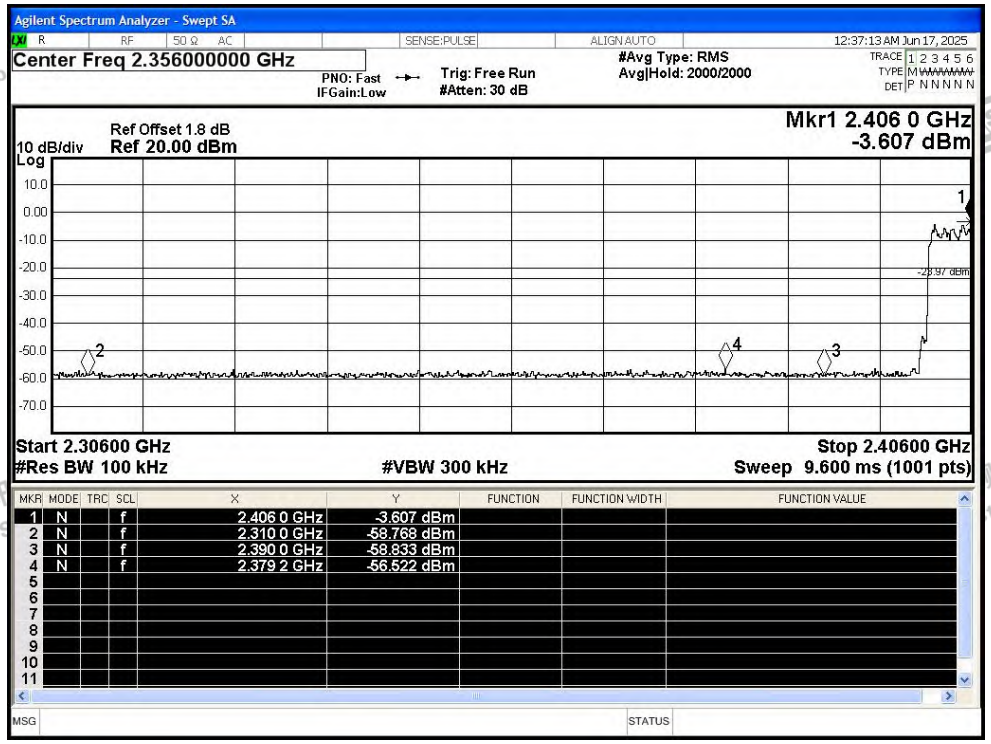
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



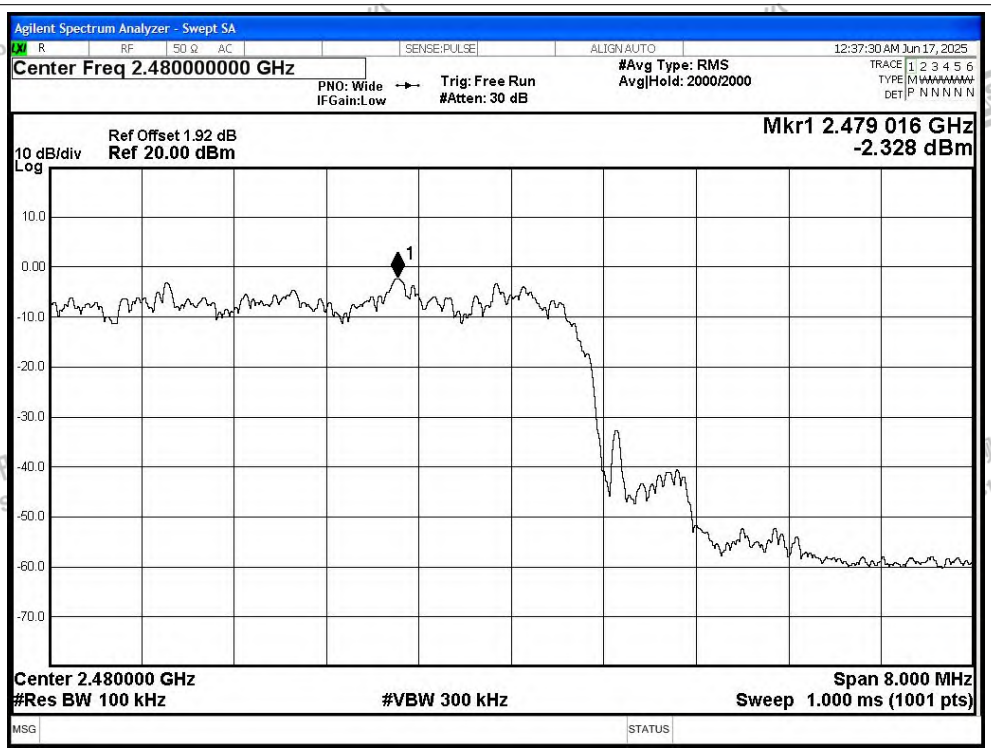
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



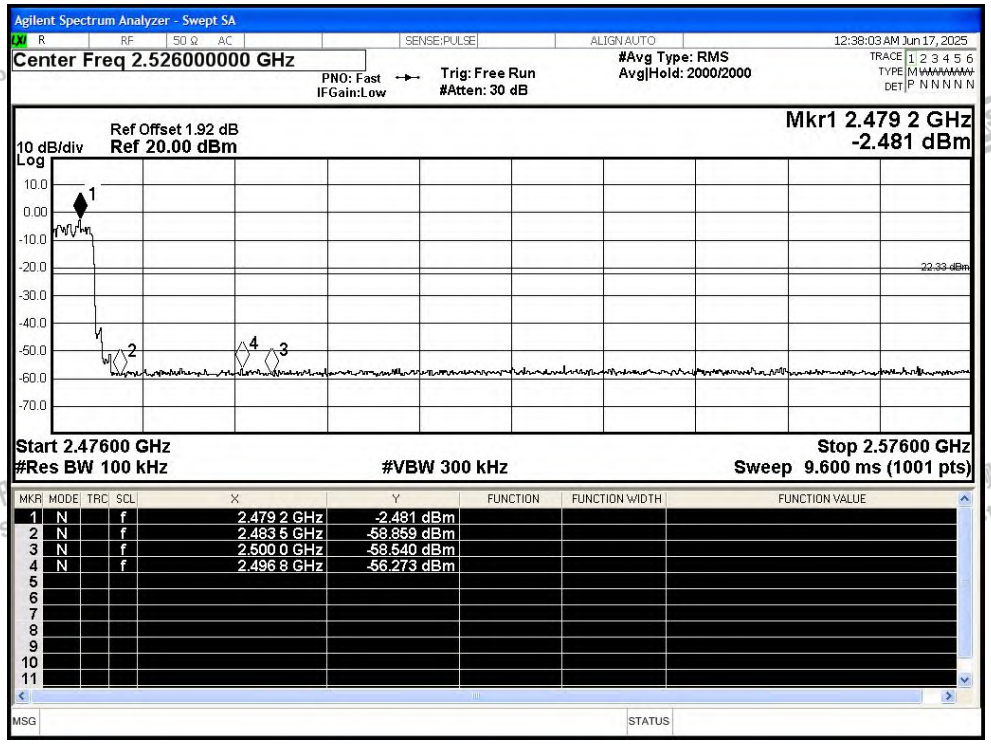
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

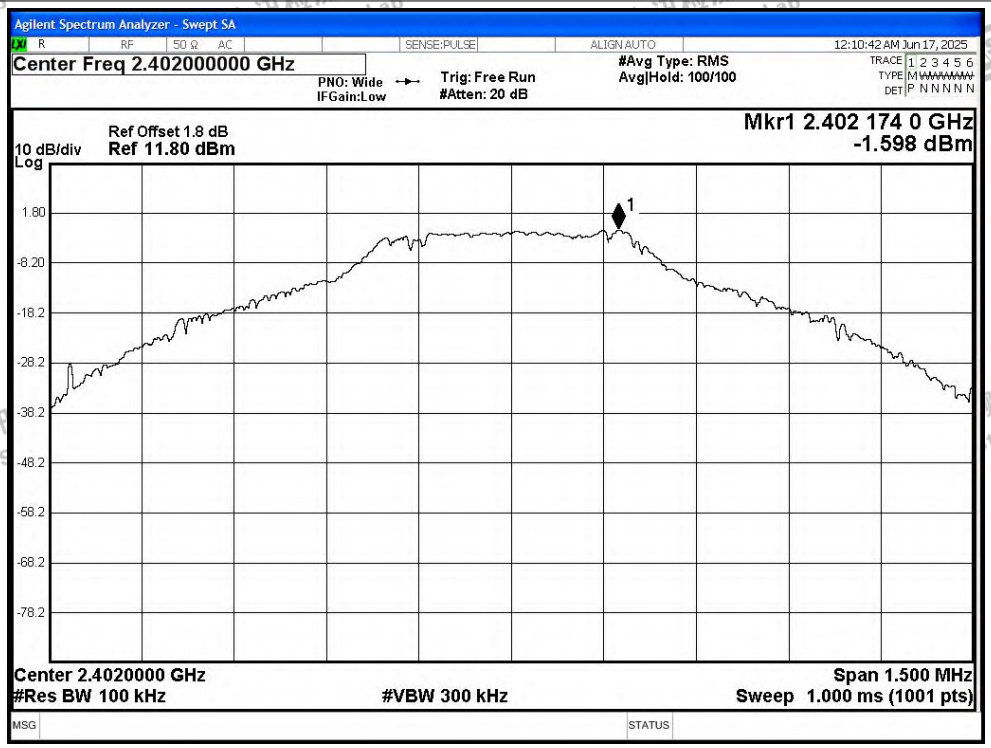


A.7 Conducted RF Spurious Emission

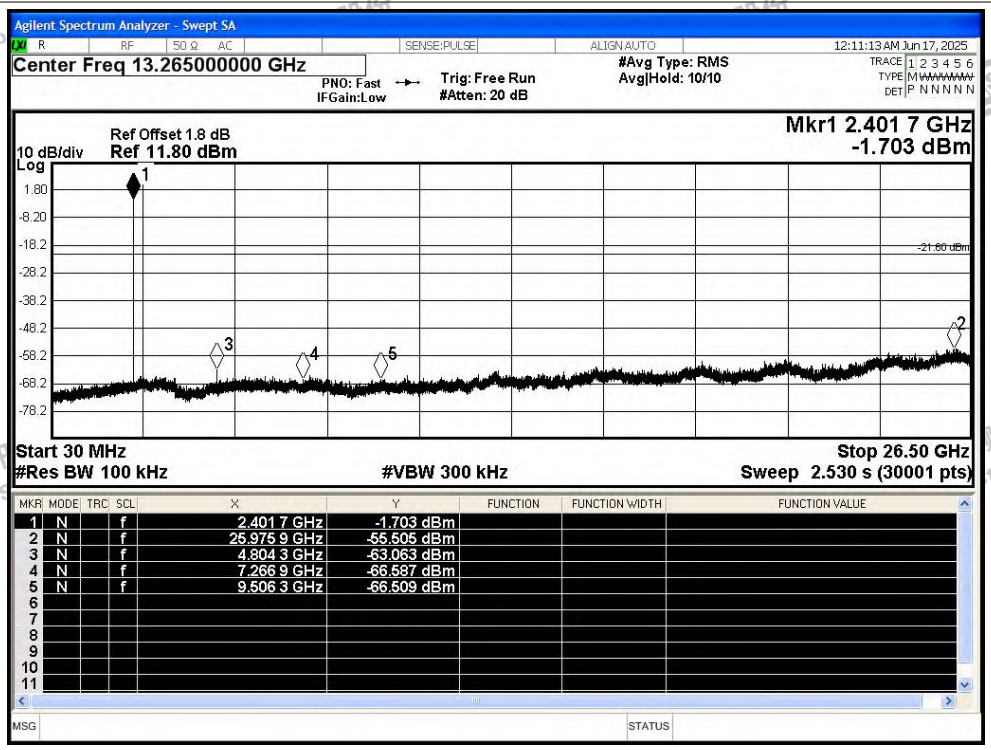
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.91	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.72	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.23	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.12	-20	Pass
NVNT	2-DH5	2441	Ant1	-54.73	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.15	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.88	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.23	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.54	-20	Pass

Test Graphs

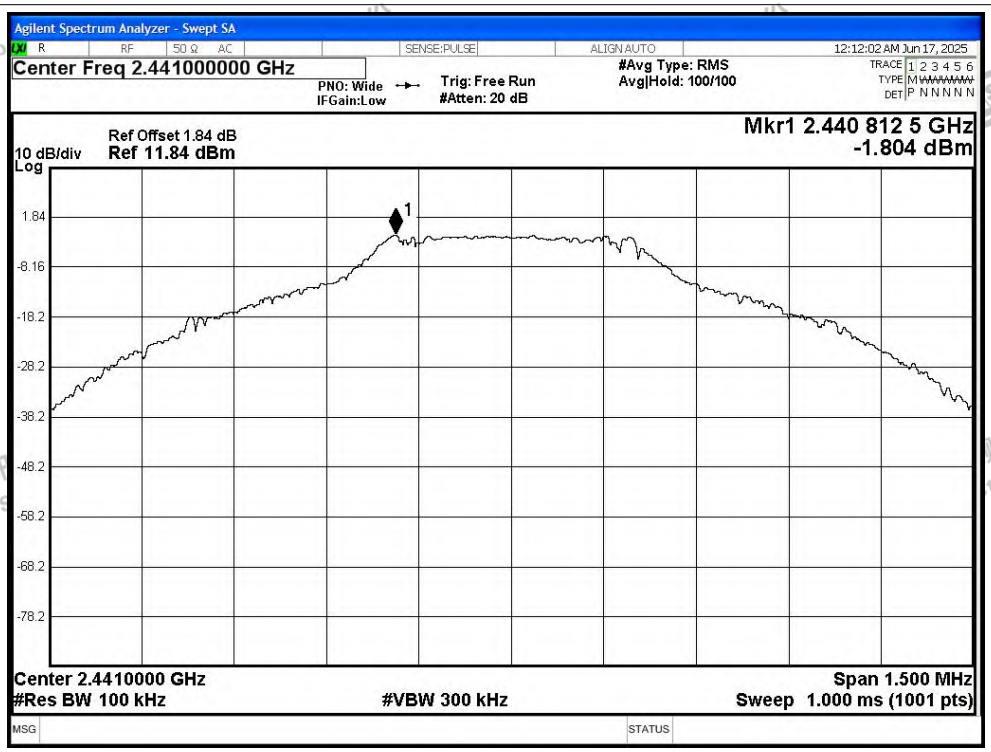
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



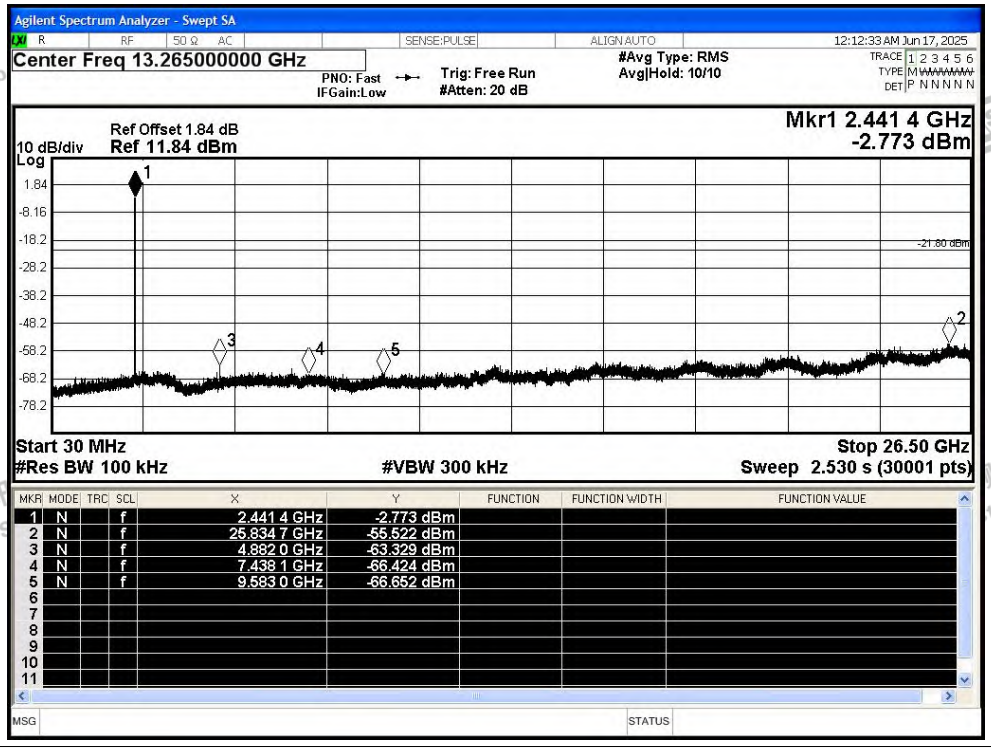
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

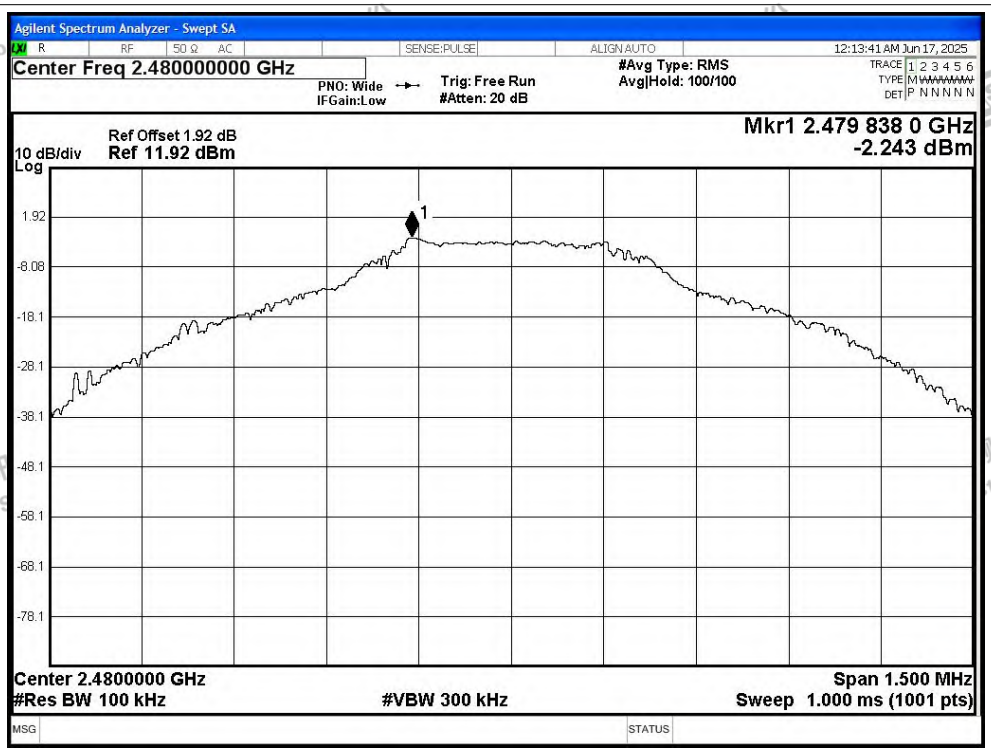


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

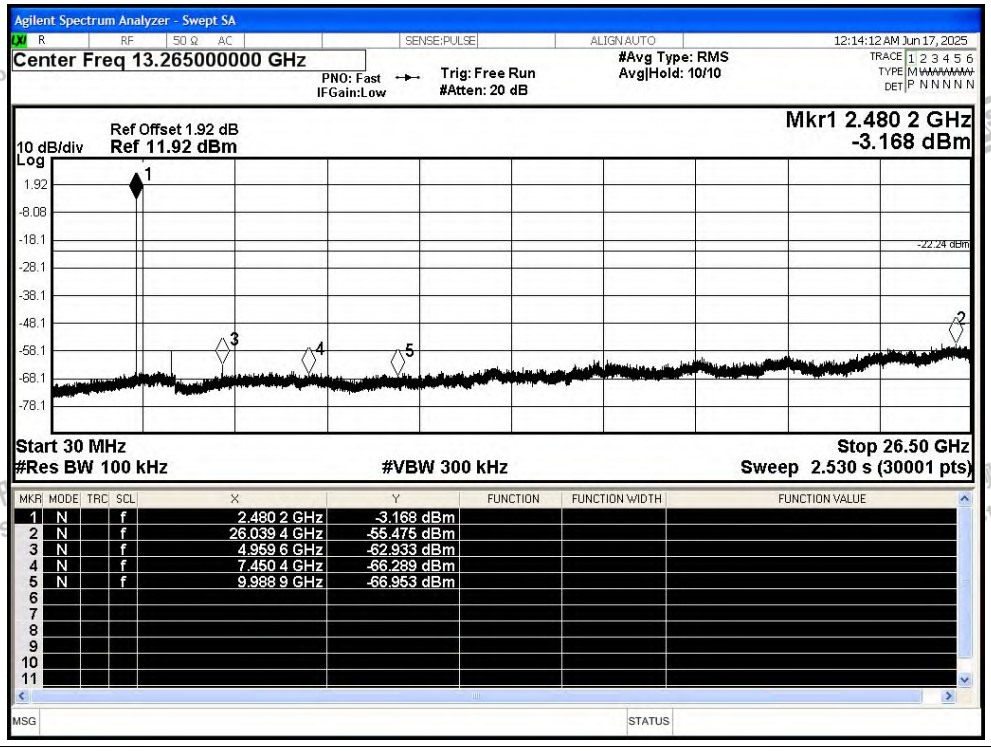


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.441 4 GHz	-2.773 dBm			
2	N		f	25.834 7 GHz	-55.522 dBm			
3	N		f	4.882 0 GHz	-63.329 dBm			
4	N		f	7.438 1 GHz	-66.424 dBm			
5	N		f	9.583 0 GHz	-66.652 dBm			
6								
7								
8								
9								
10								
11								

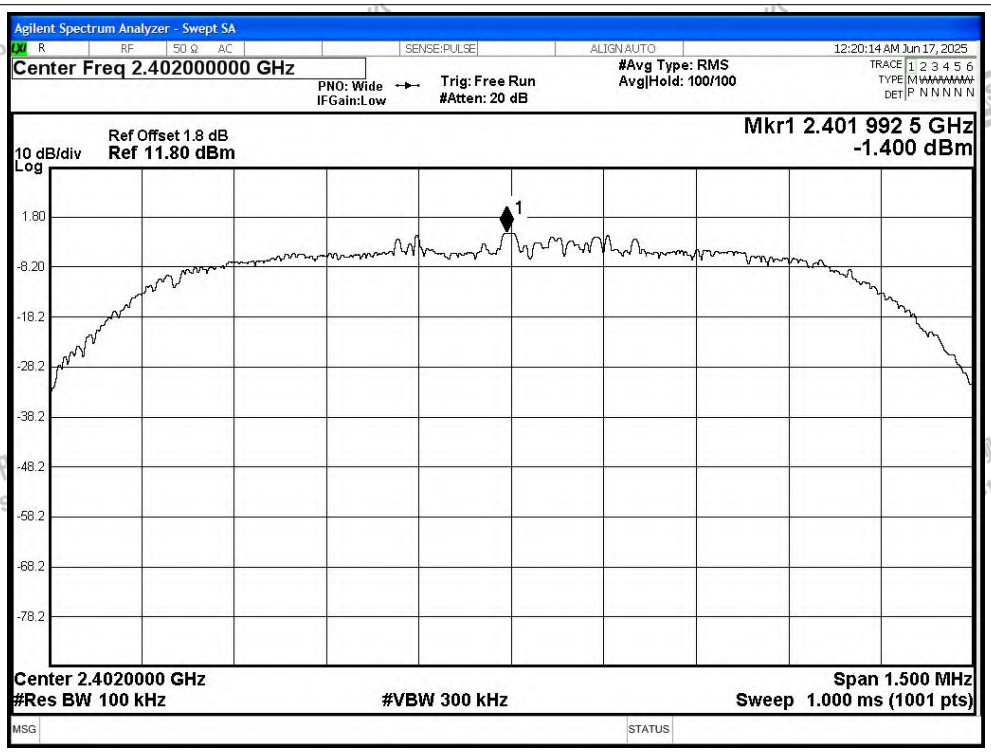
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



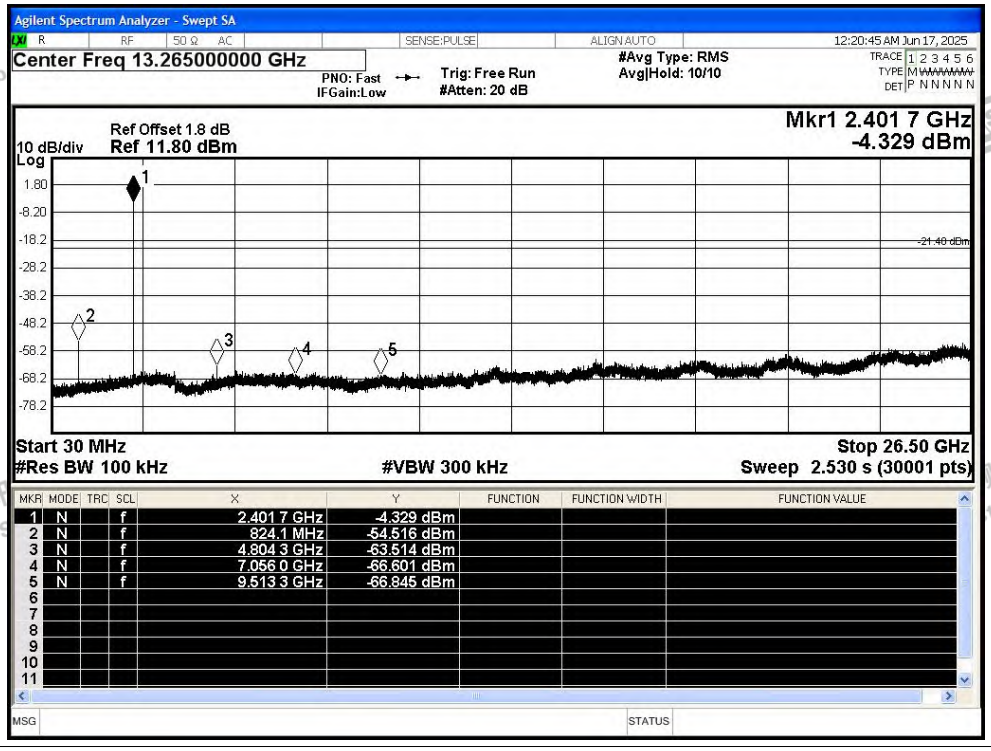
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



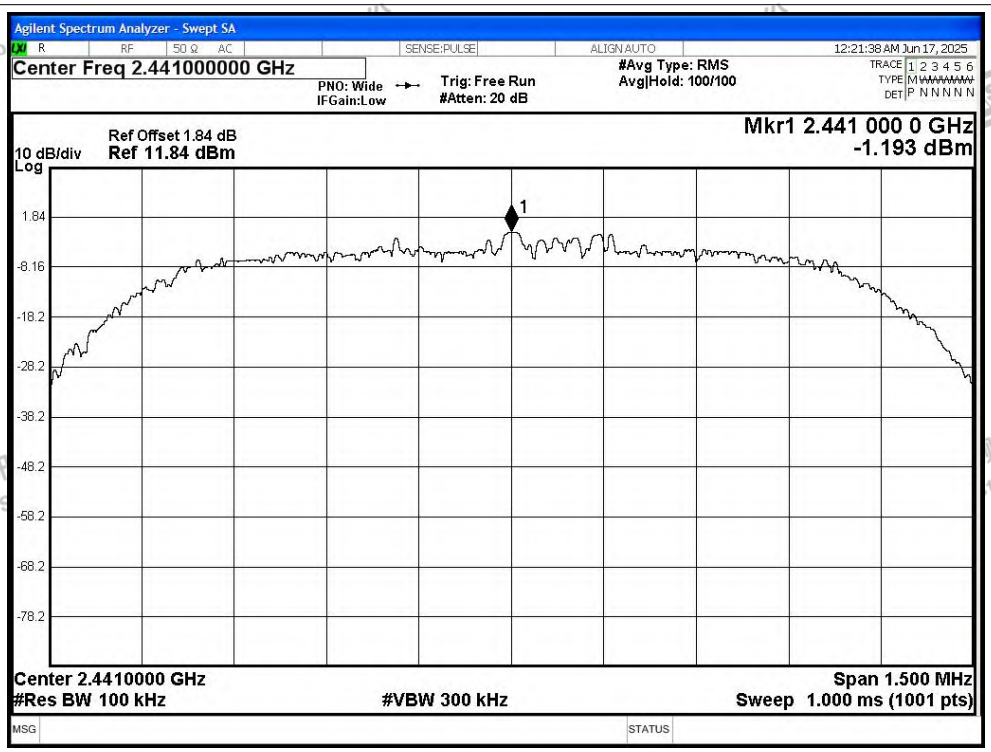
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



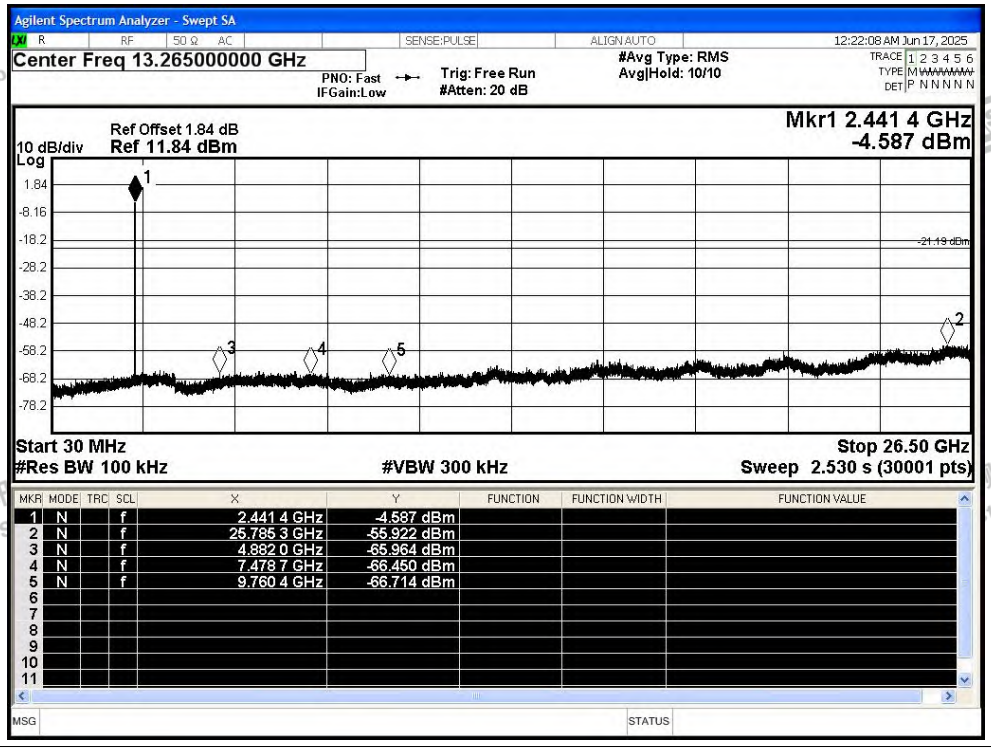
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



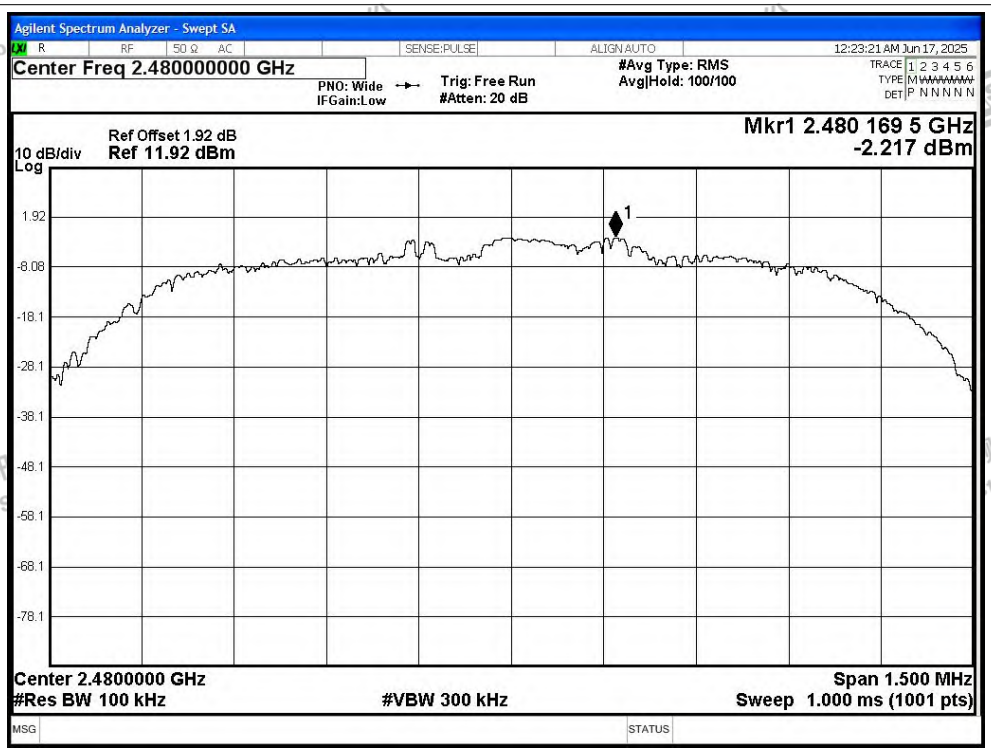
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



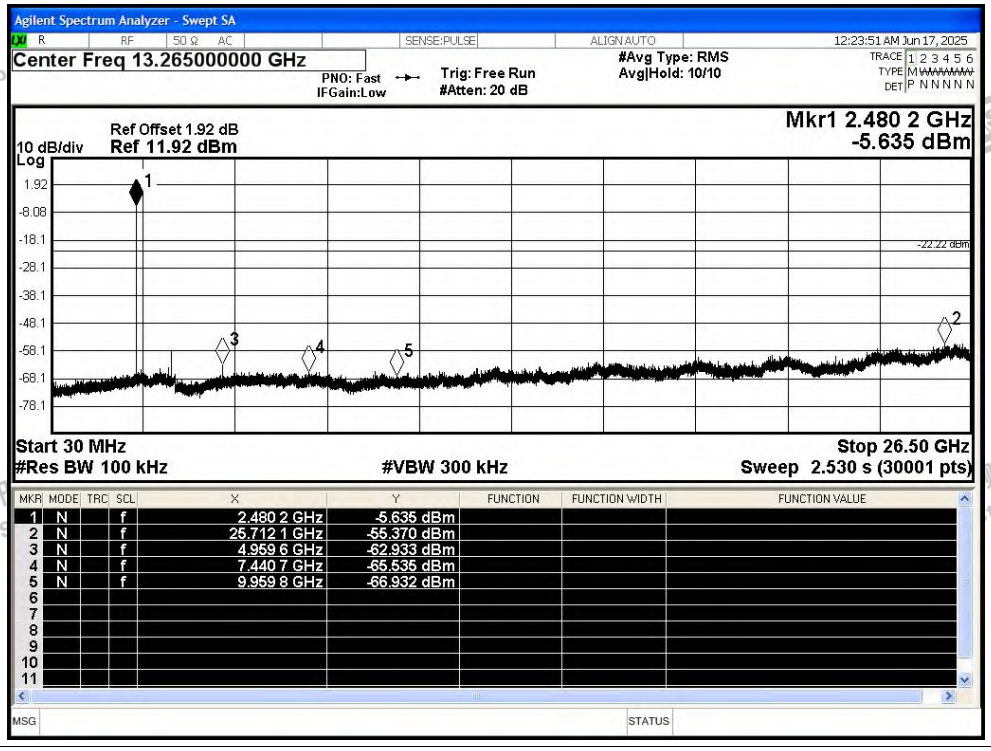
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

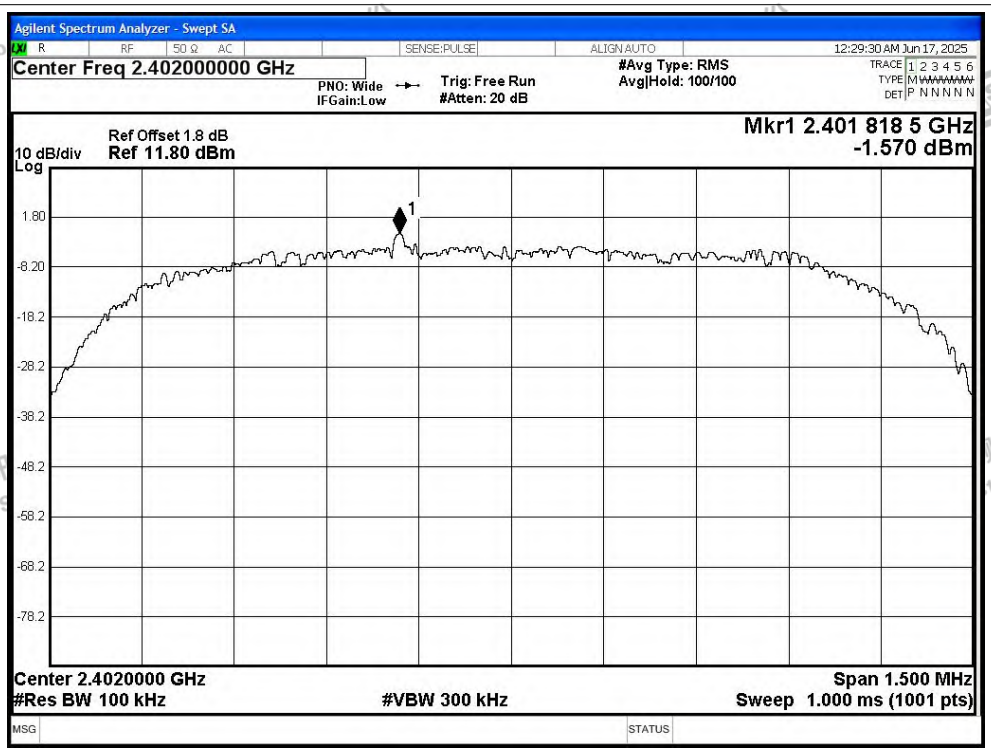


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

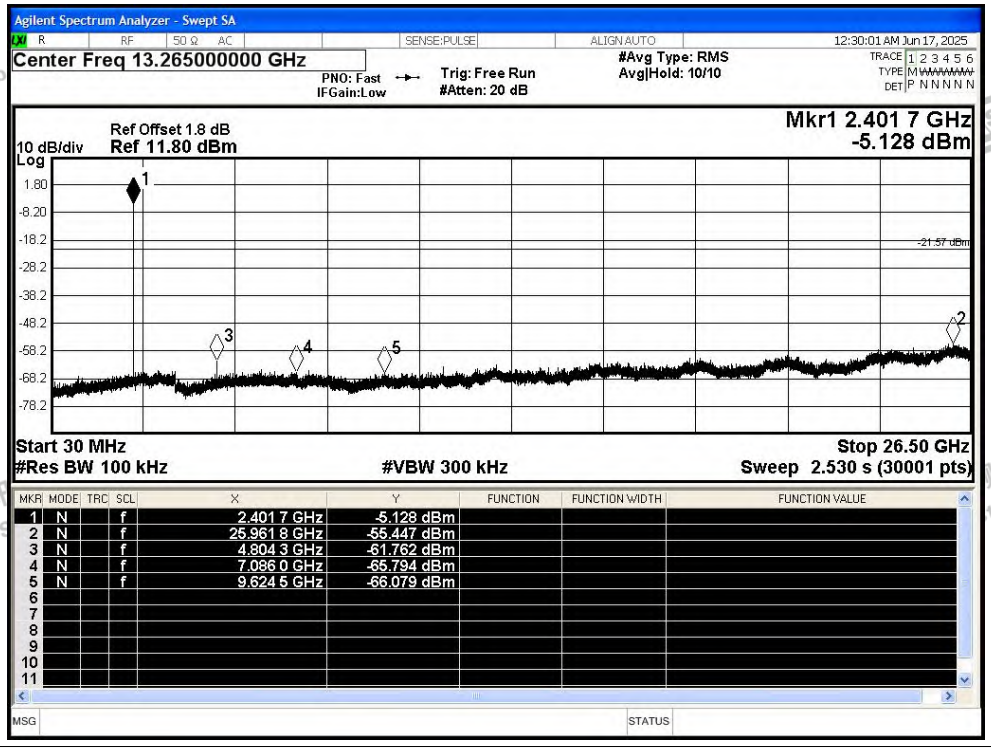


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.480 2 GHz	-5.635 dBm			
2	N		f	25.712 1 GHz	-55.370 dBm			
3	N		f	4.959 6 GHz	-62.933 dBm			
4	N		f	7.440 7 GHz	-65.535 dBm			
5	N		f	9.959 8 GHz	-66.932 dBm			
6								
7								
8								
9								
10								
11								

Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

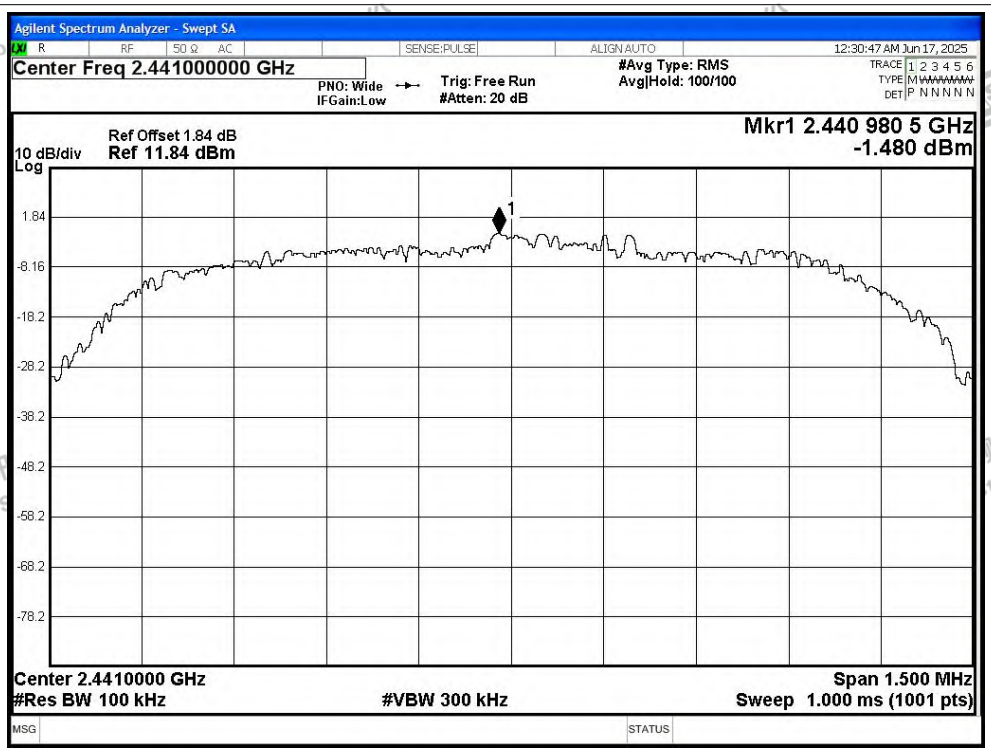


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

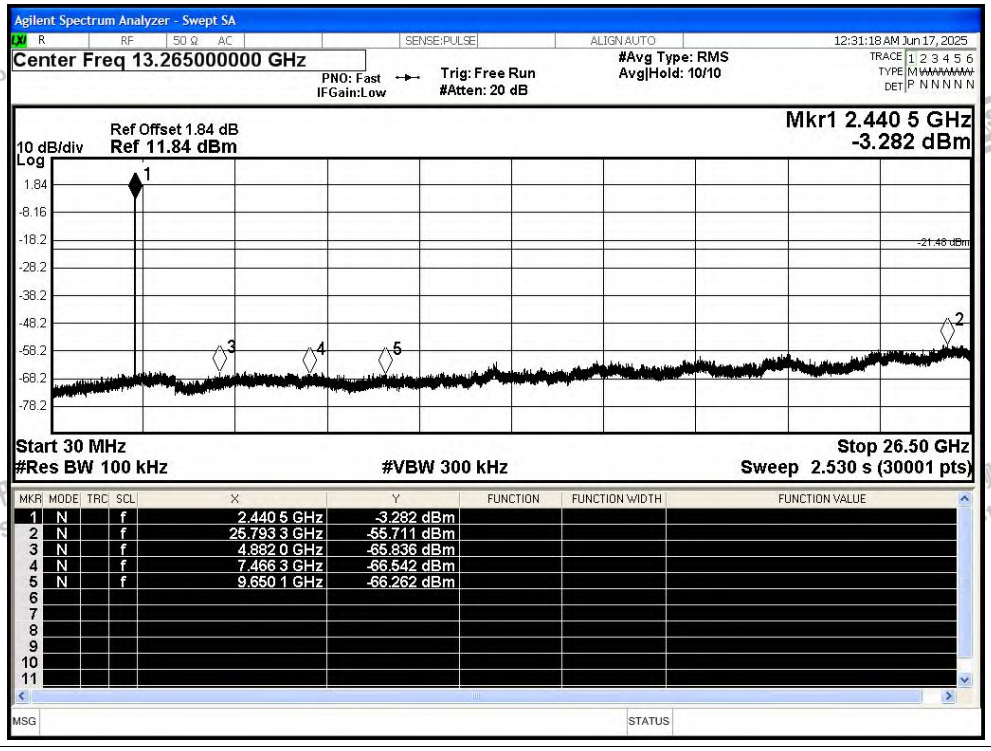


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.401 7 GHz	-5.128 dBm			
2	N		f	25.961 8 GHz	-55.447 dBm			
3	N		f	4.804 3 GHz	-61.762 dBm			
4	N		f	7.086 0 GHz	-65.794 dBm			
5	N		f	9.624 5 GHz	-66.079 dBm			
6								
7								
8								
9								
10								
11								

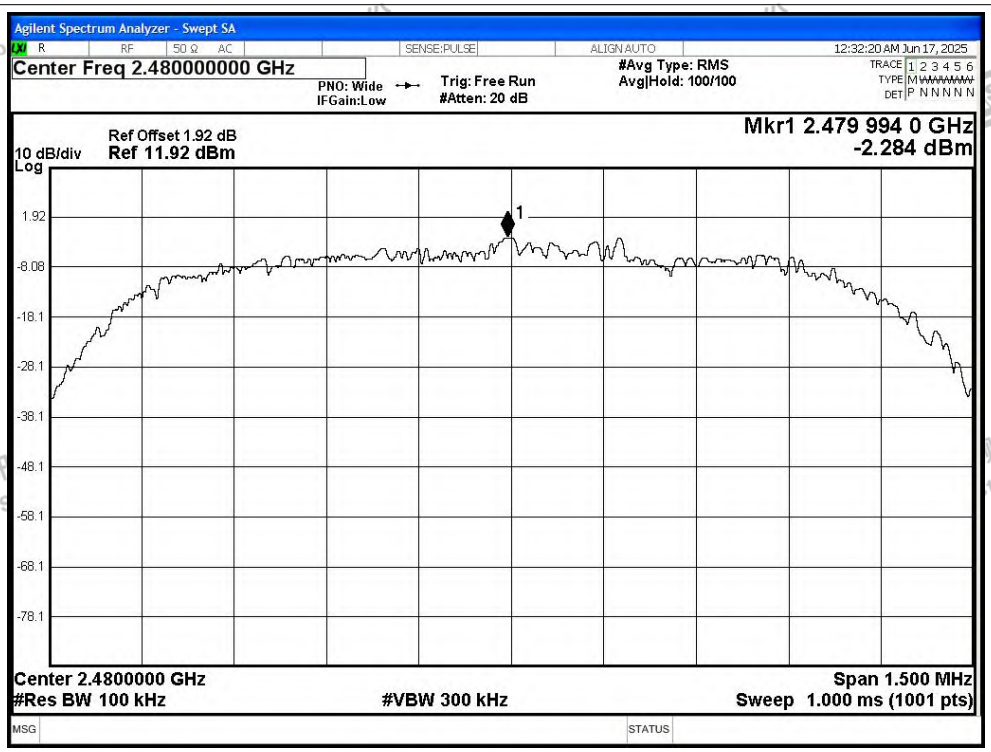
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



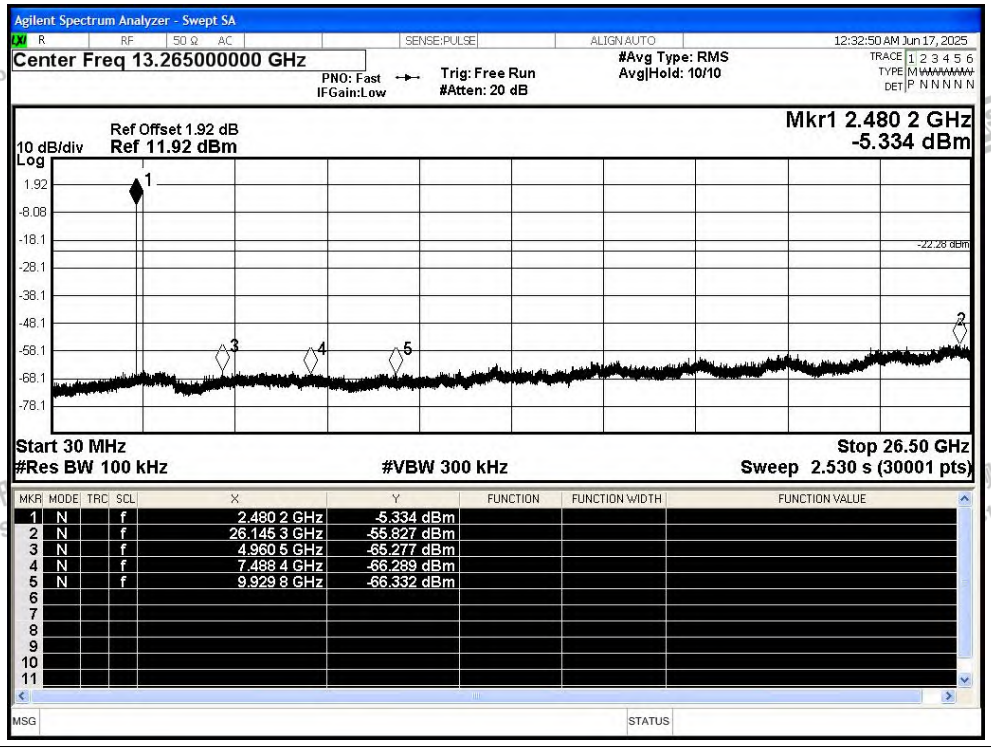
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

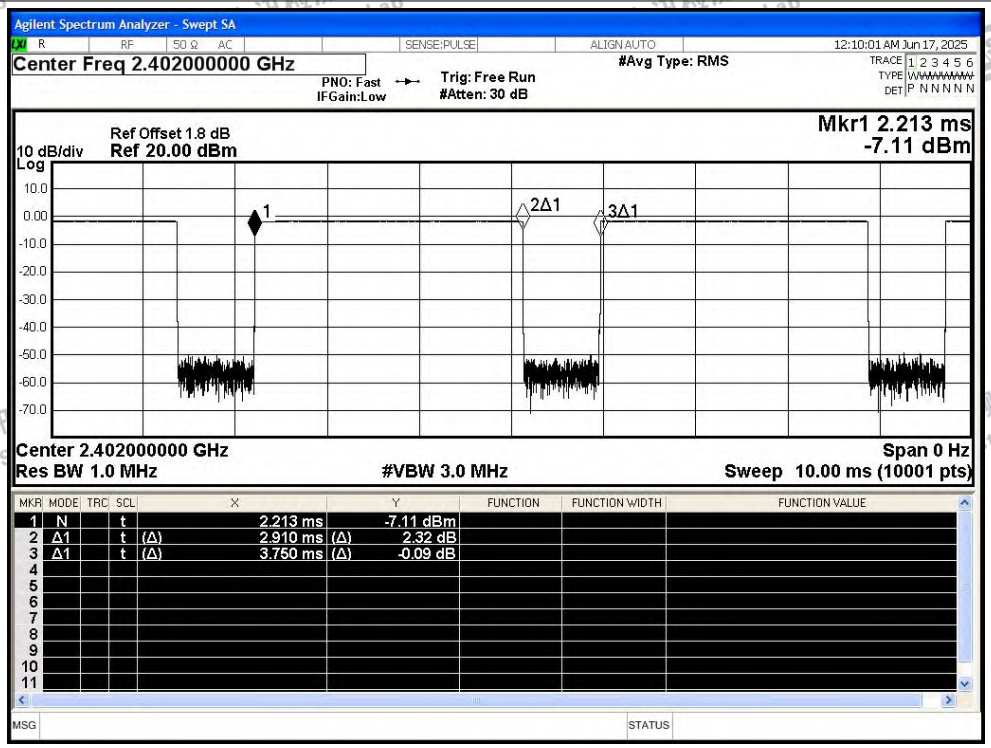


A.8 Duty Cycle

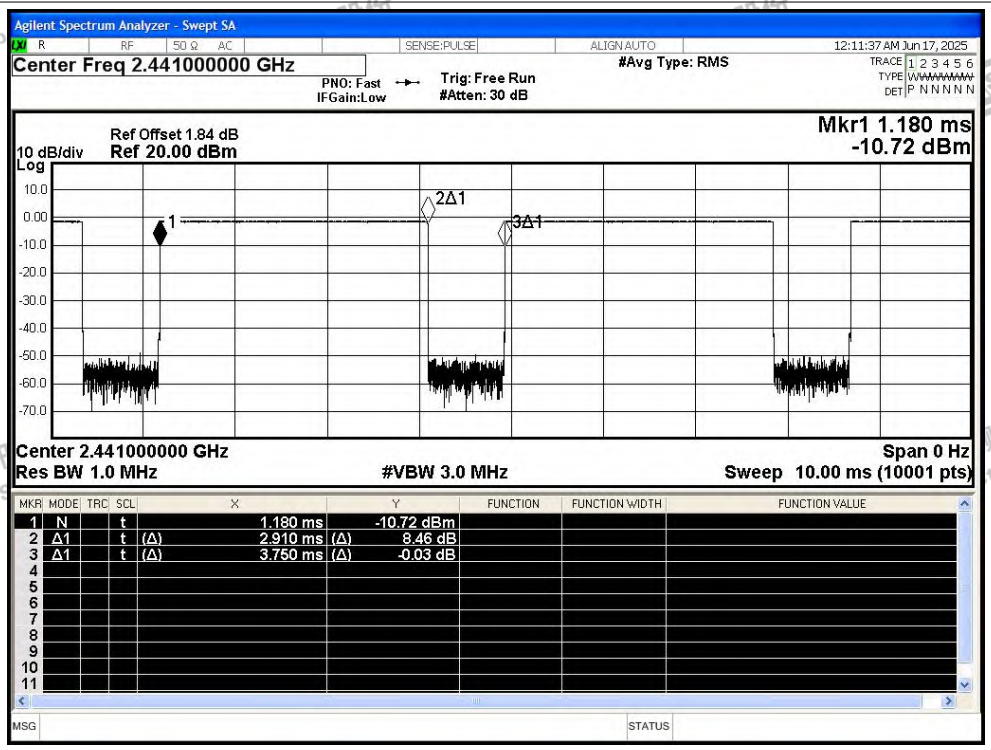
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34
NVNT	3-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.23	1.12	0.35

Test Graphs

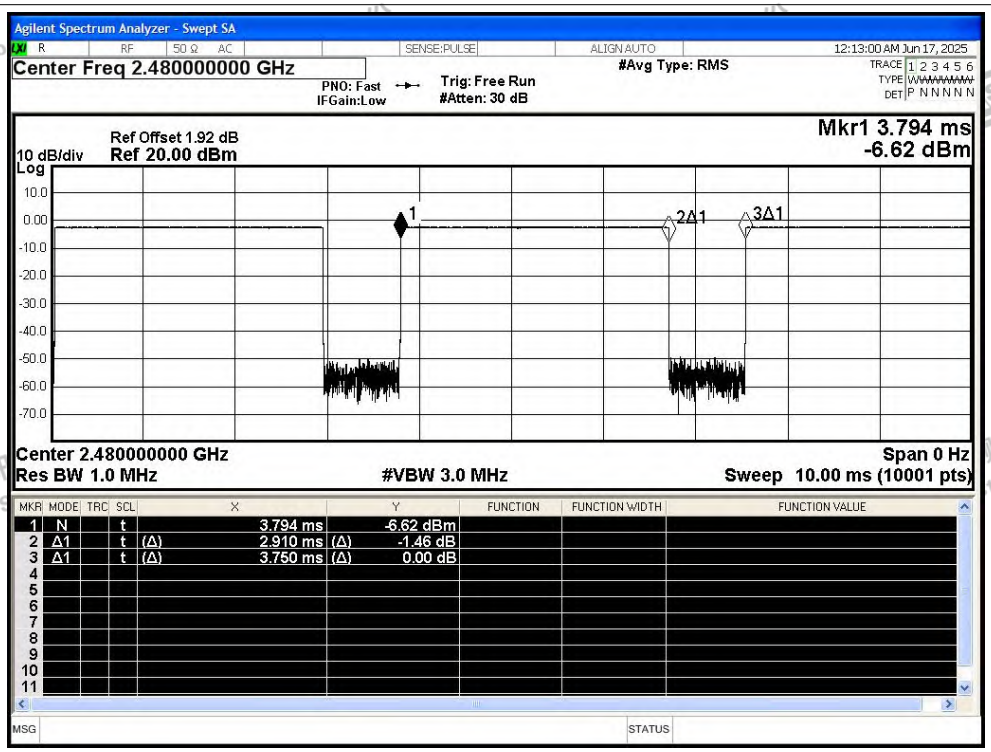
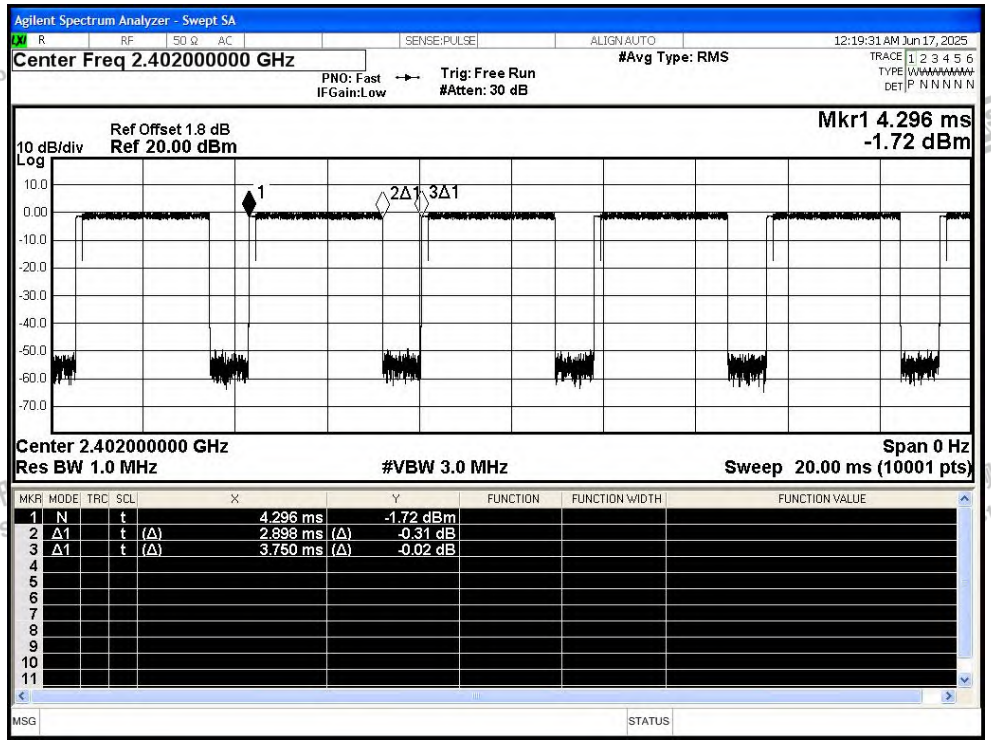
Duty Cycle NVNT 1-DH5 2402MHz Ant1



Duty Cycle NVNT 1-DH5 2441MHz Ant1



Duty Cycle NVNT 1-DH5 2480MHz Ant1



Duty Cycle NVNT 2-DH5 2402MHz Ant1