Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Speaker

Test Model: S9

Environmental Conditions

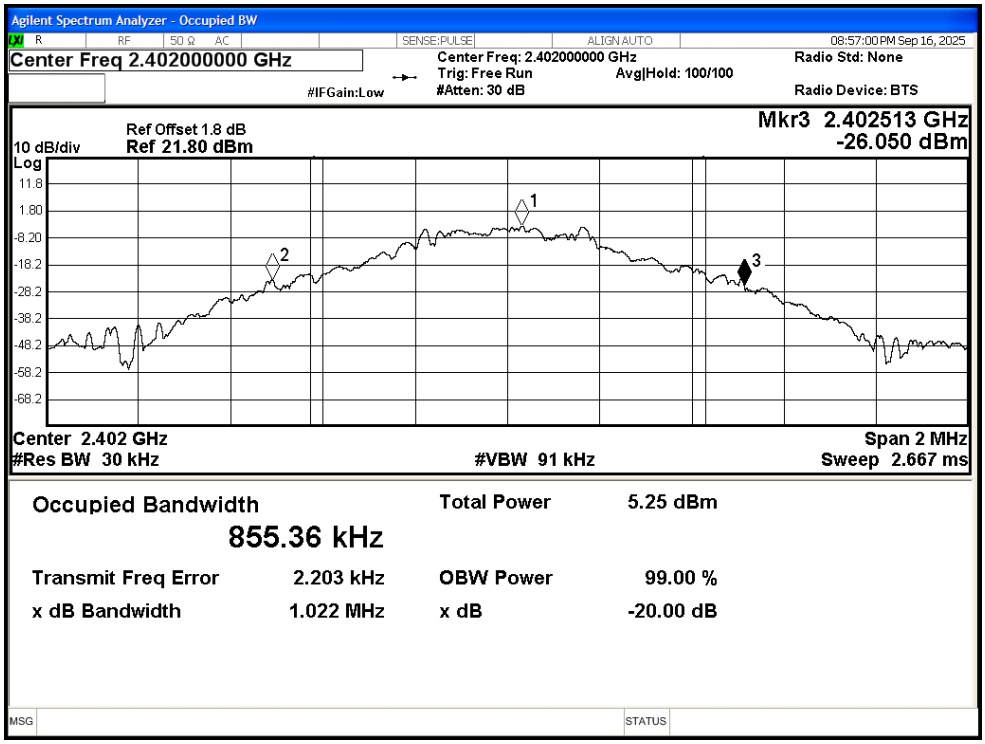
Temperature:	24.3°C
Relative Humidity:	52.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Jone.Lee
Supervised by:	Yan Chen

A.1 -20dB Bandwidth

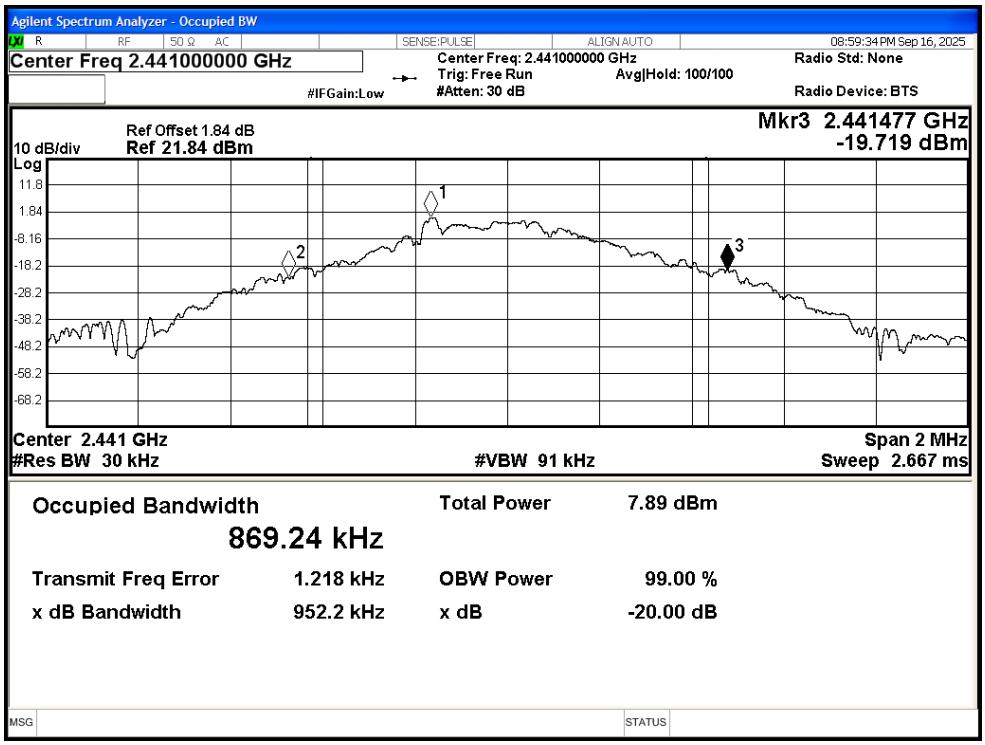
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.022	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.002	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.281	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.287	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.309	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.3	N/A	Pass

Test Graphs

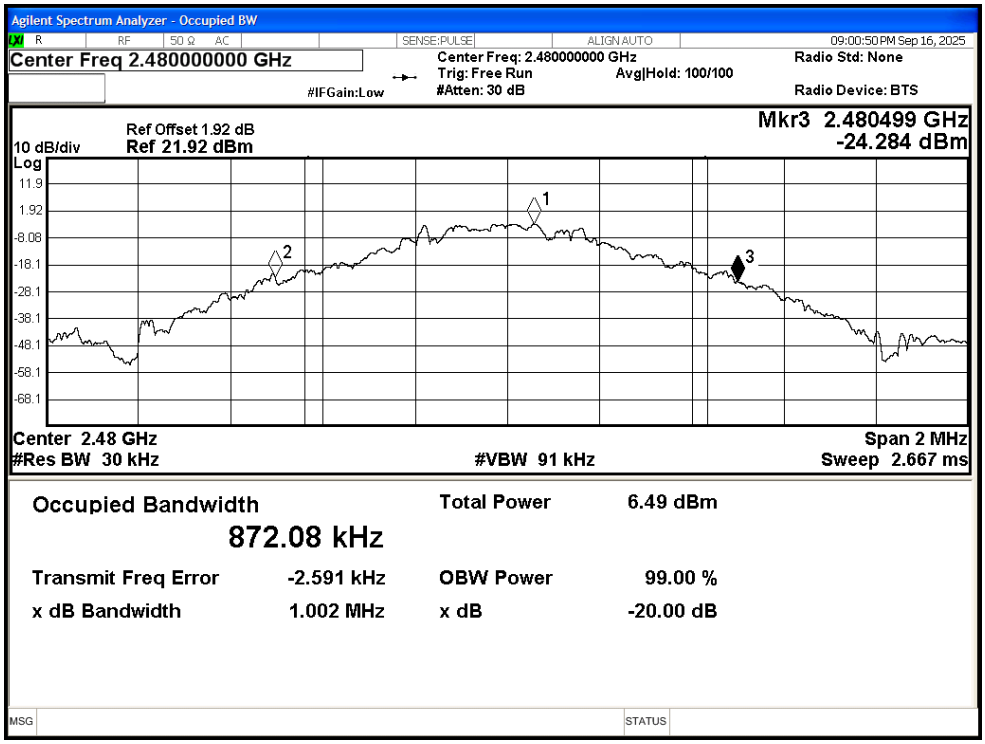
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



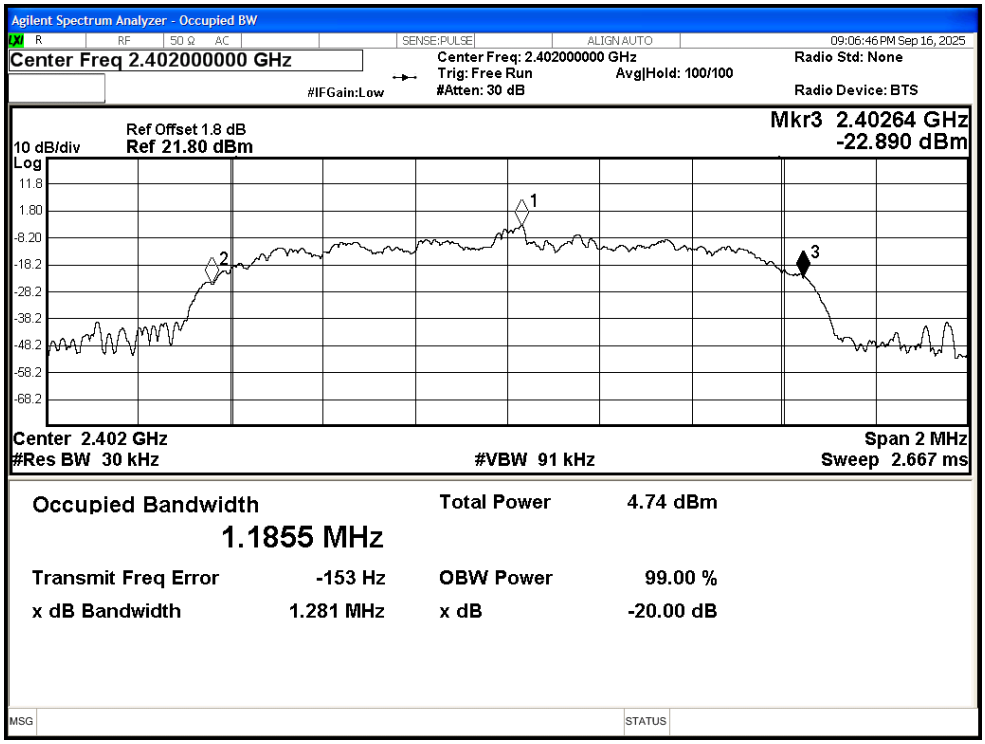
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



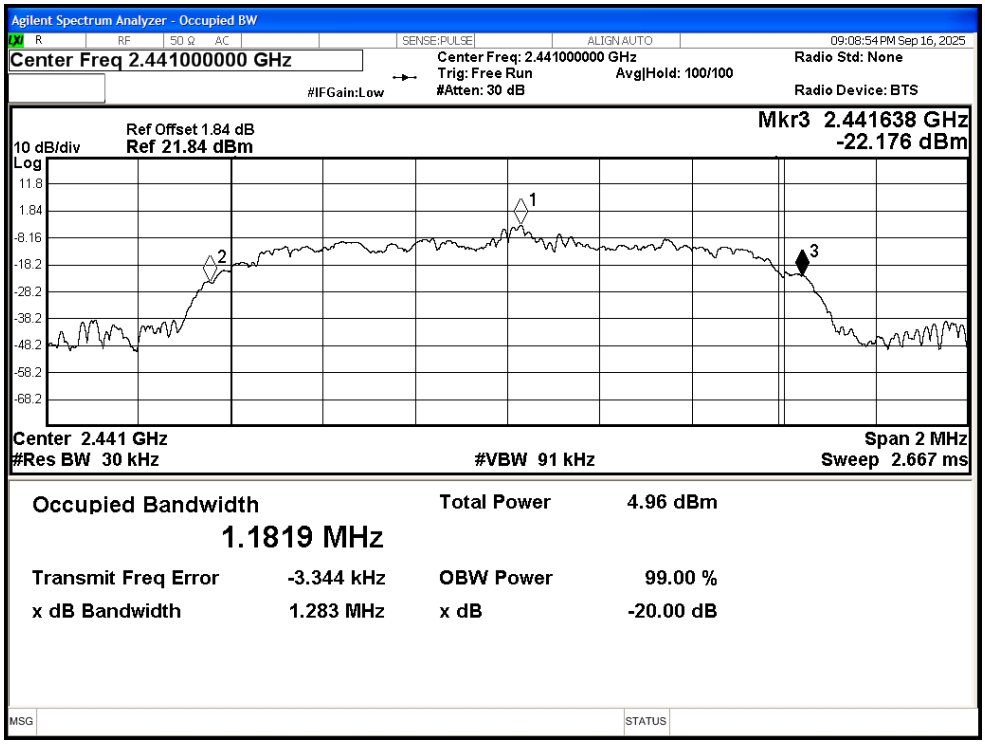
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



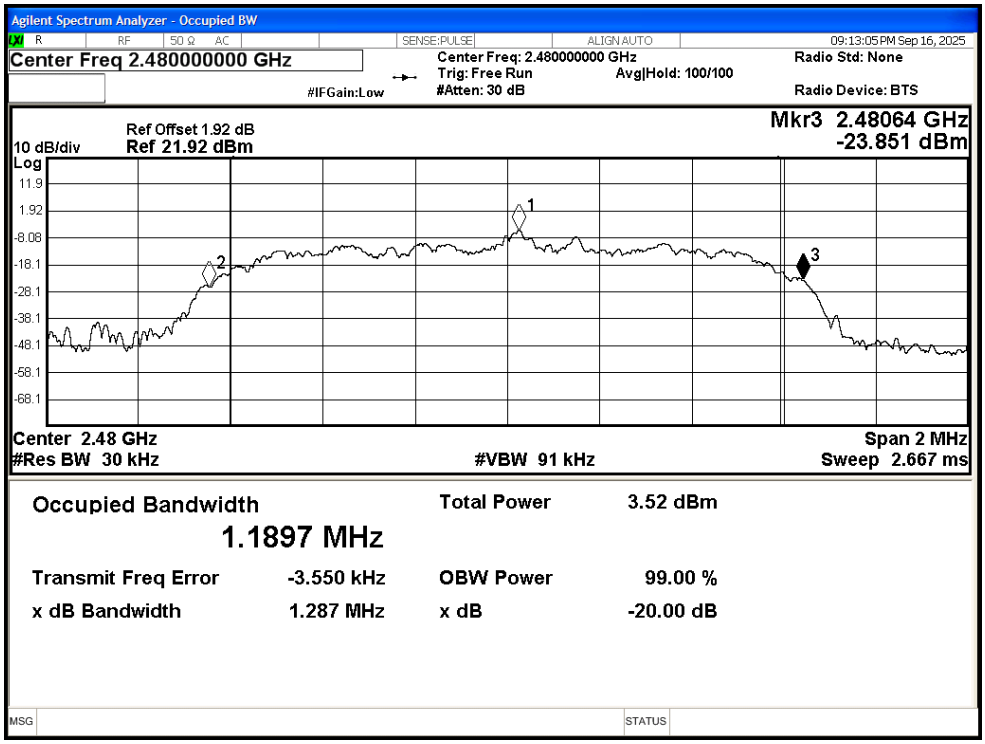
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



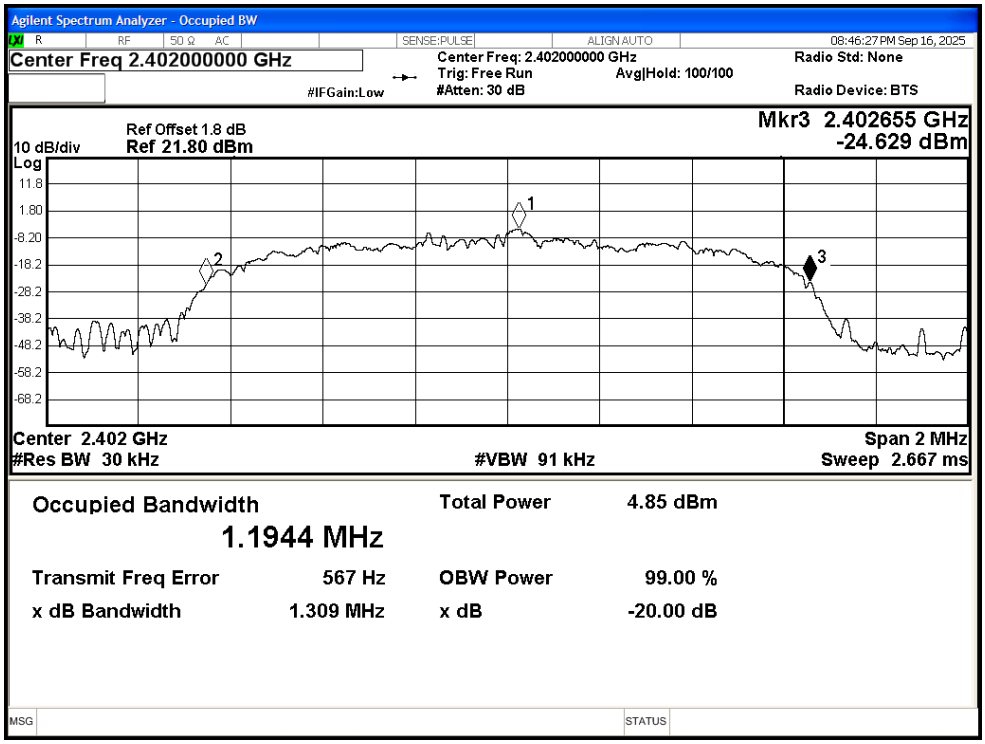
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



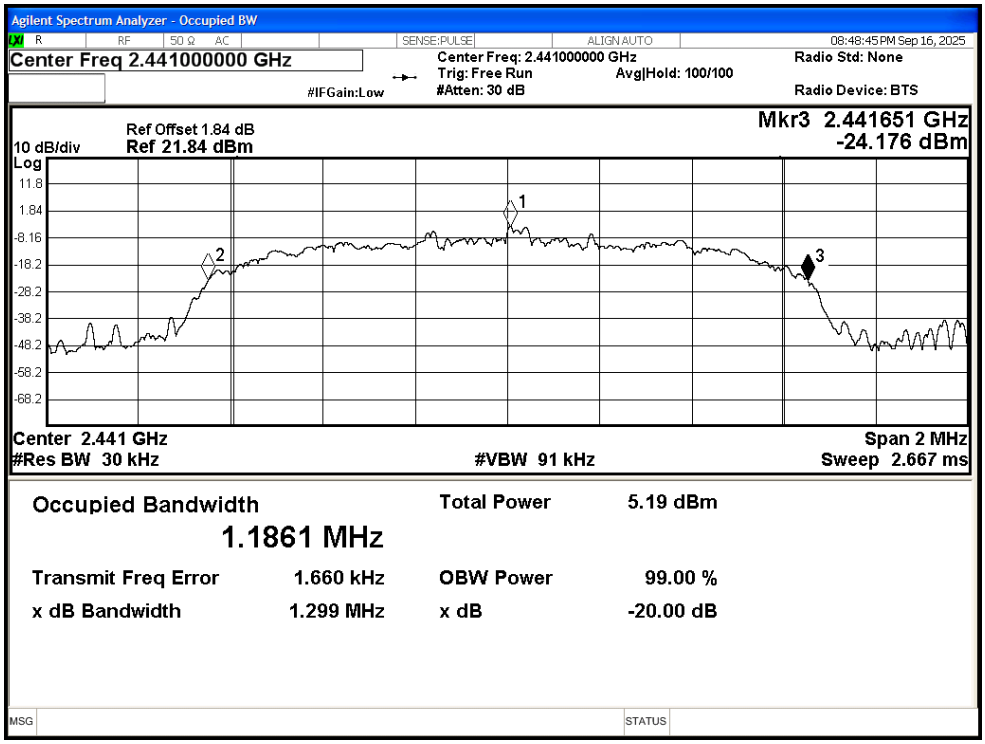
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



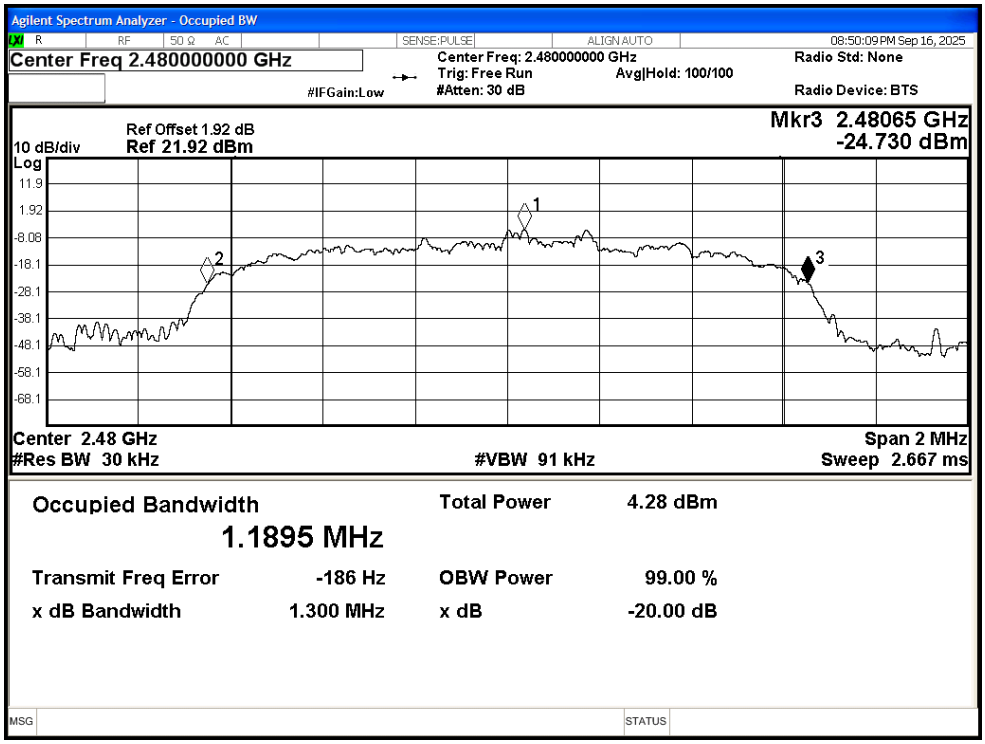
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

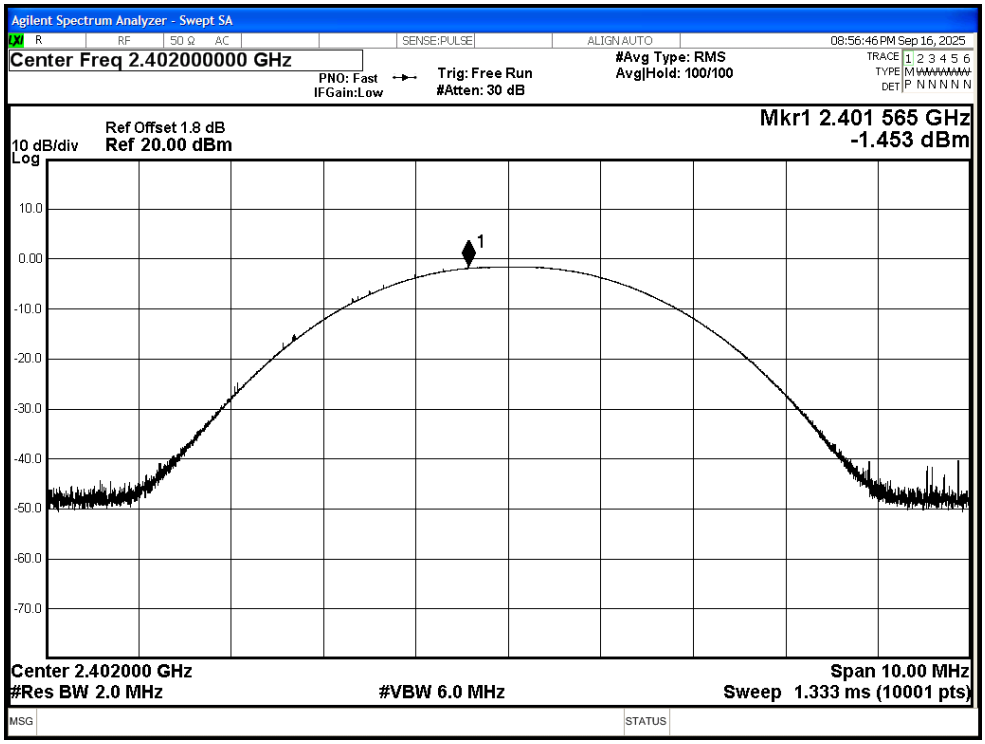


A.2 Maximum Peak Conducted Output Power

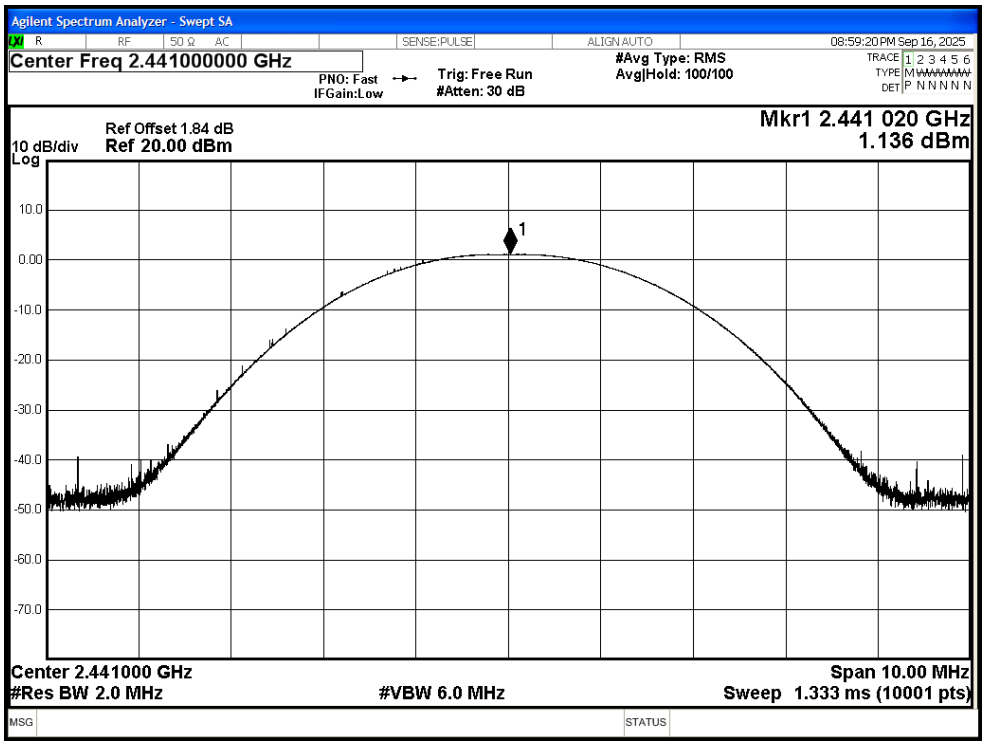
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.45	21	Pass
NVNT	1-DH5	2441	Ant1	1.14	21	Pass
NVNT	1-DH5	2480	Ant1	0.36	21	Pass
NVNT	2-DH5	2402	Ant1	0.5	21	Pass
NVNT	2-DH5	2441	Ant1	0.7	21	Pass
NVNT	2-DH5	2480	Ant1	-0.55	21	Pass
NVNT	3-DH5	2402	Ant1	0.89	21	Pass
NVNT	3-DH5	2441	Ant1	1.15	21	Pass
NVNT	3-DH5	2480	Ant1	0.07	21	Pass

Test Graphs

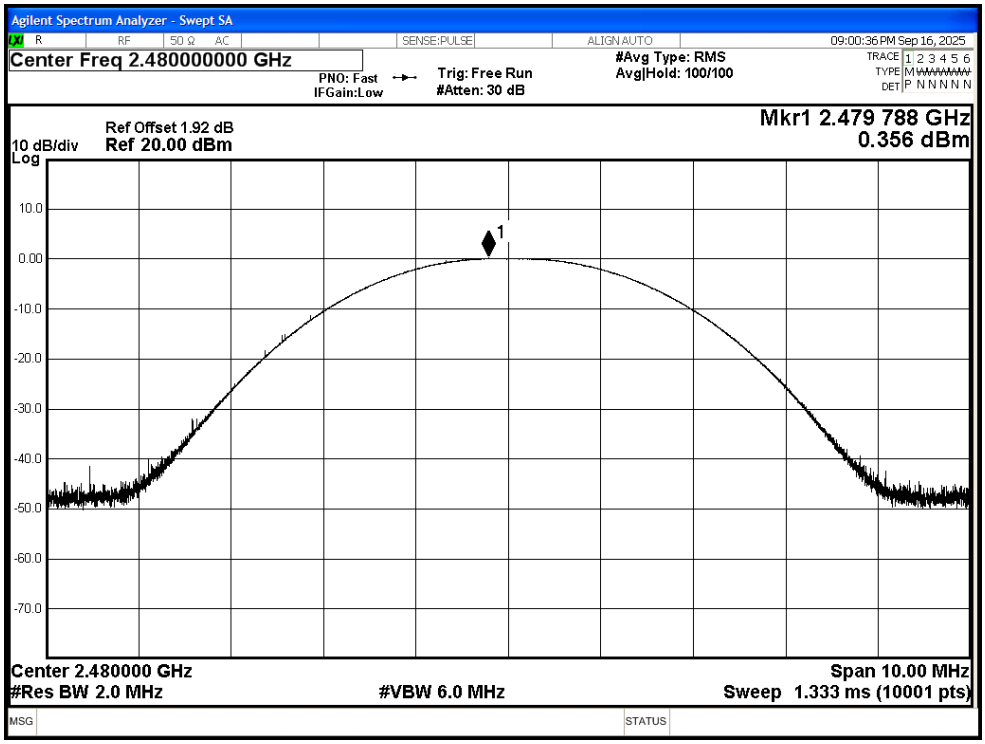
Power NVNT 1-DH5 2402MHz Ant1



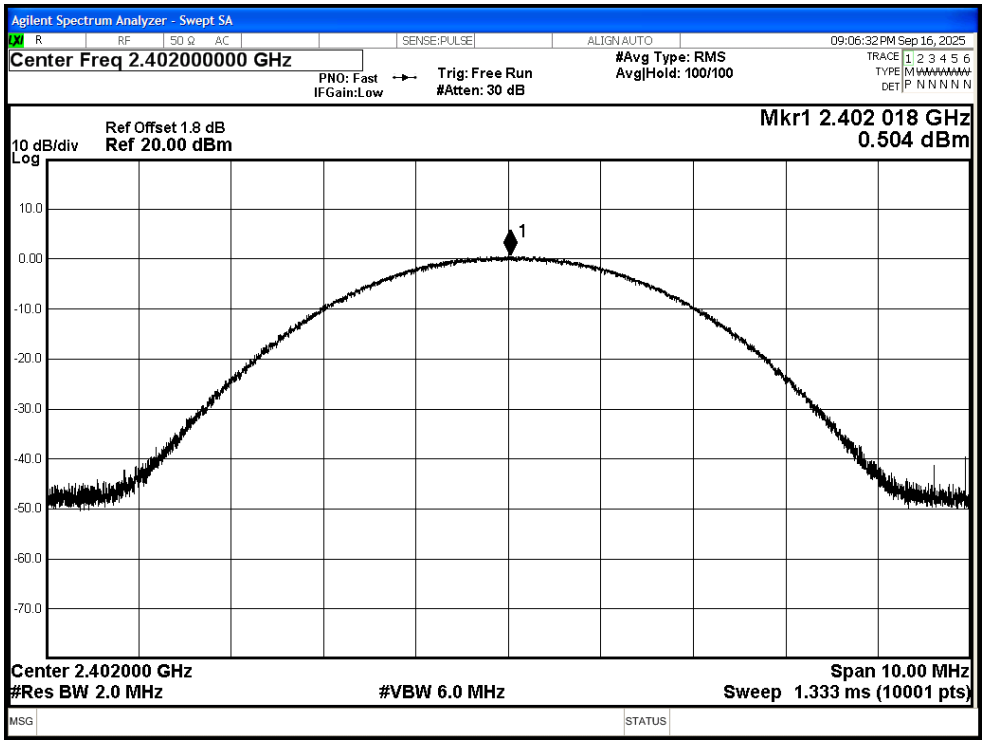
Power NVNT 1-DH5 2441MHz Ant1



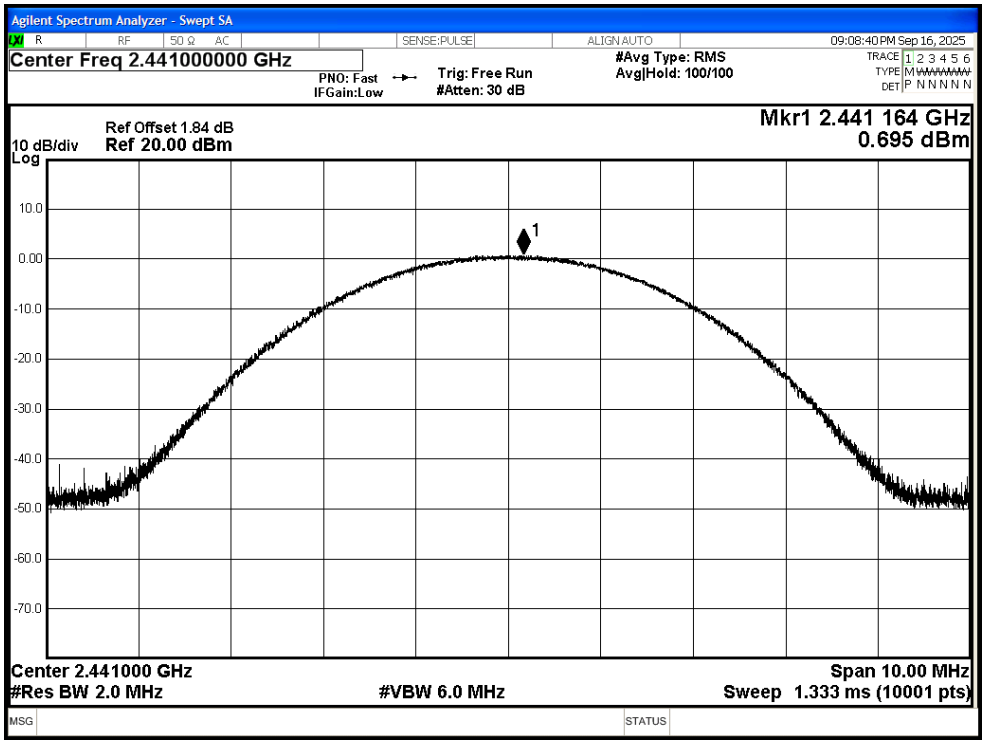
Power NVNT 1-DH5 2480MHz Ant1



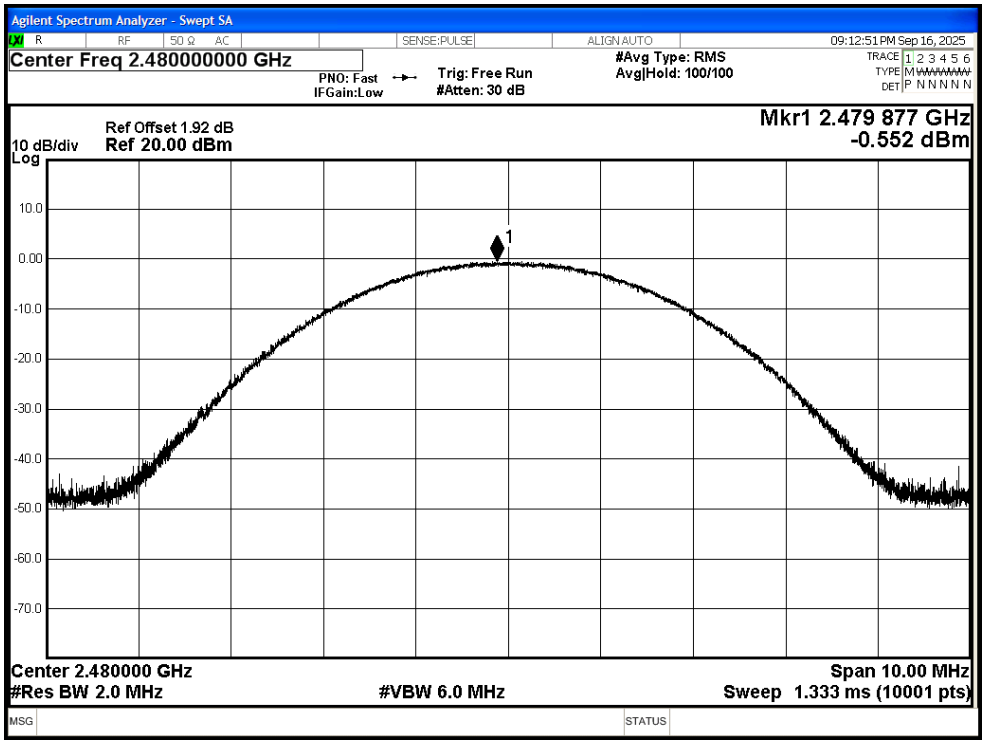
Power NVNT 2-DH5 2402MHz Ant1



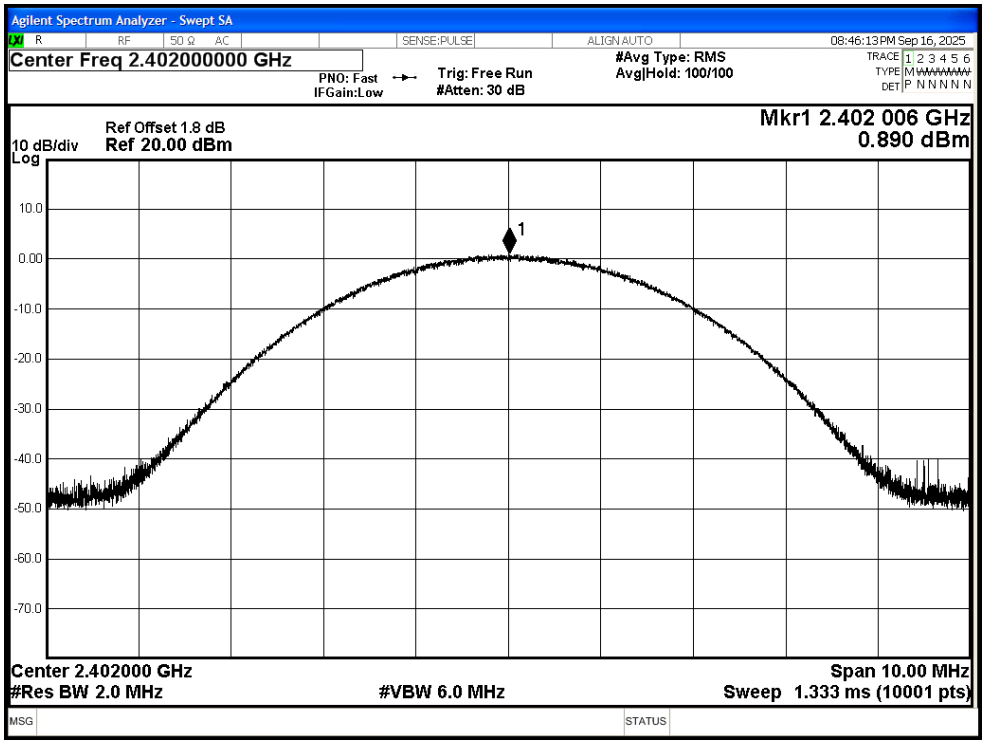
Power NVNT 2-DH5 2441MHz Ant1



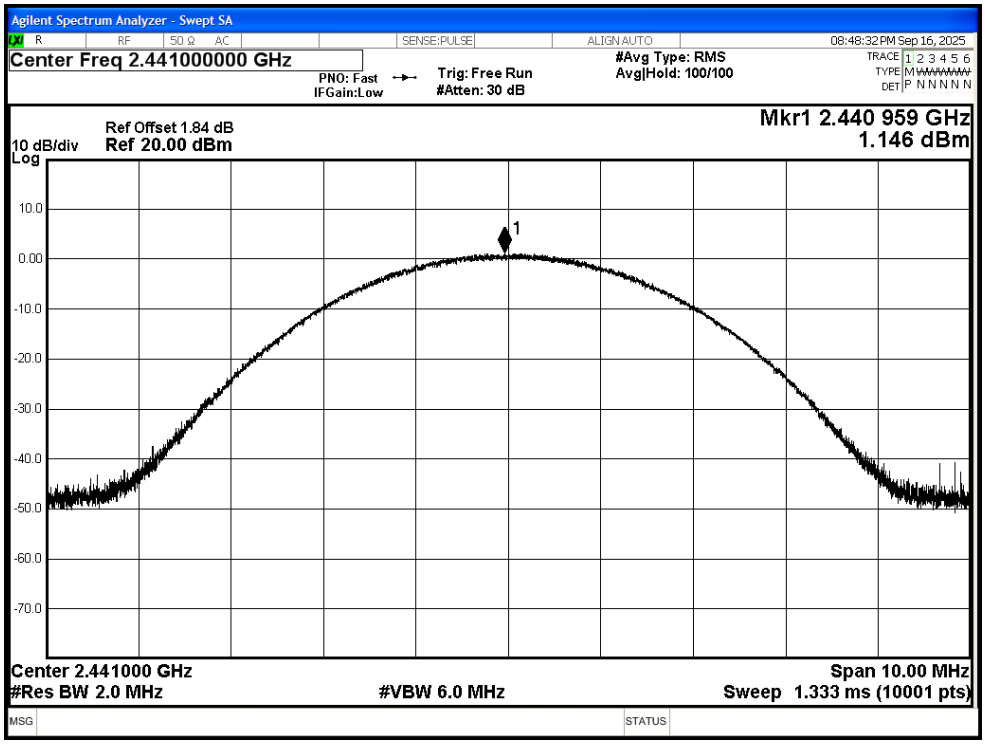
Power NVNT 2-DH5 2480MHz Ant1



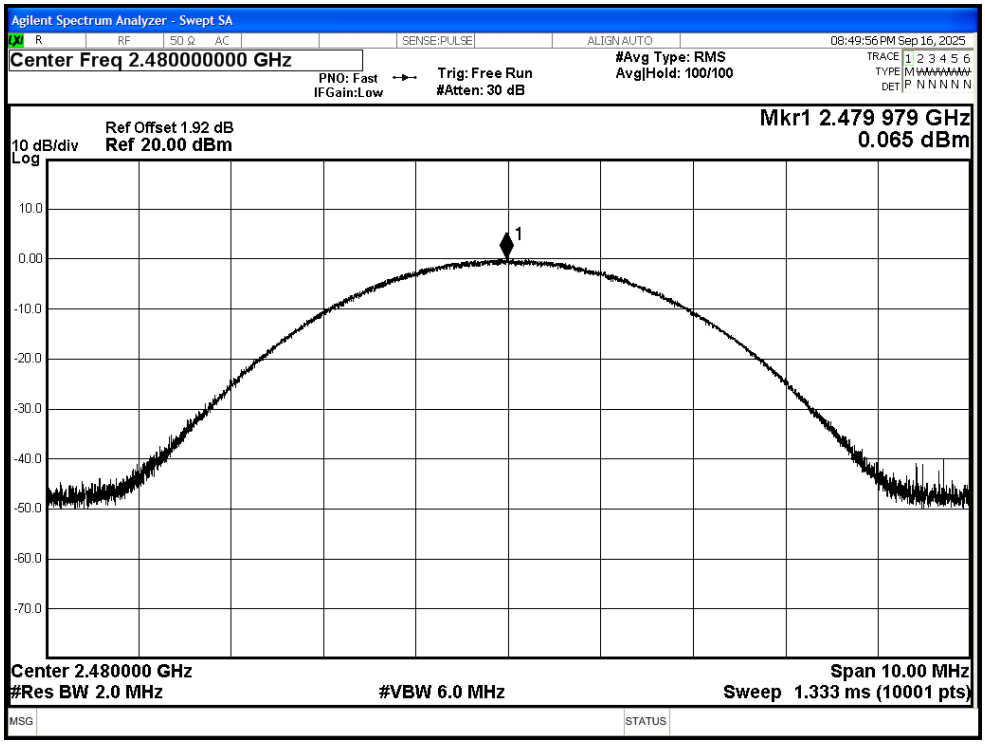
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

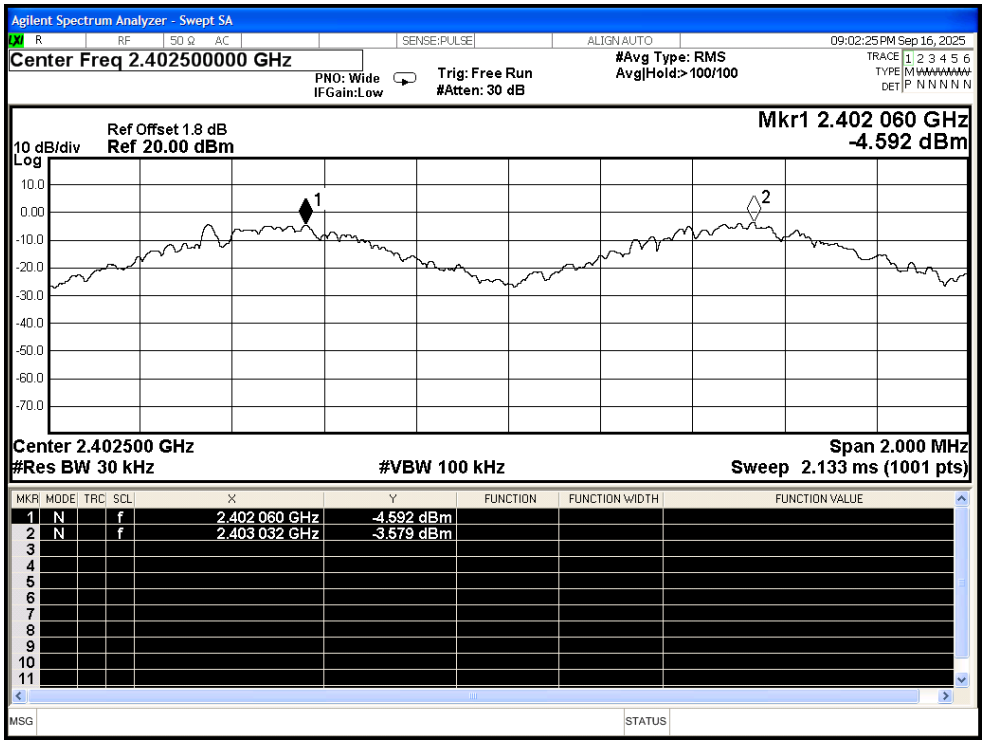


A.3 Carrier Frequencies Separation

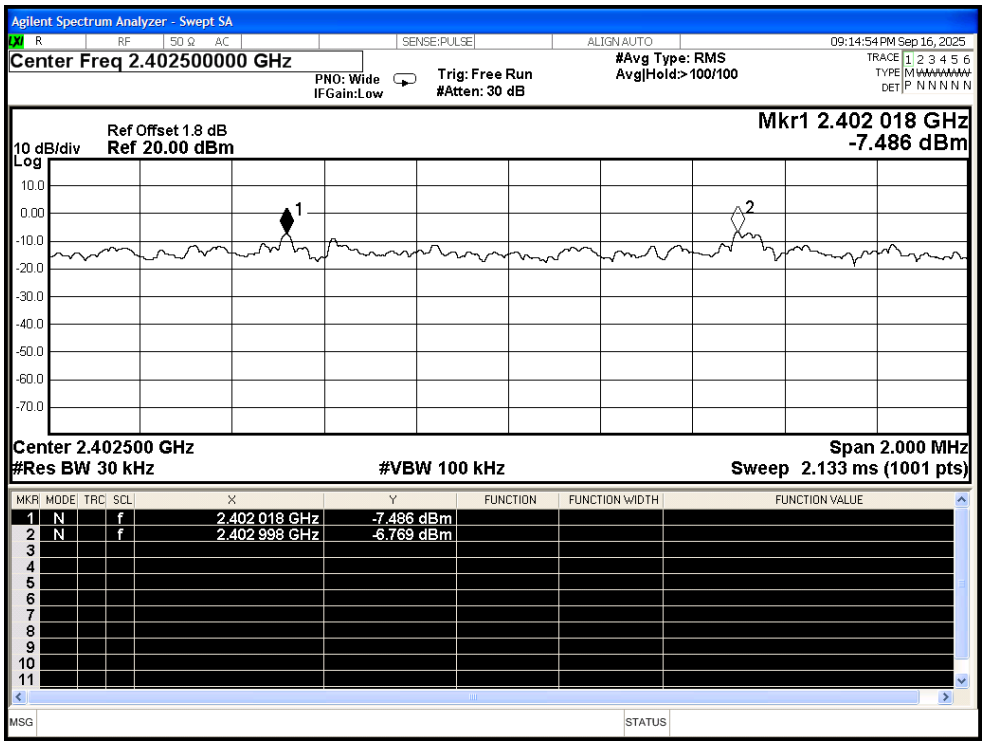
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.06	2403.032	0.972	0.681	Pass
NVNT	2-DH5	Ant1	2402.018	2402.998	0.98	0.854	Pass
NVNT	3-DH5	Ant1	2402.032	2403.034	1.002	0.873	Pass

Test Graphs

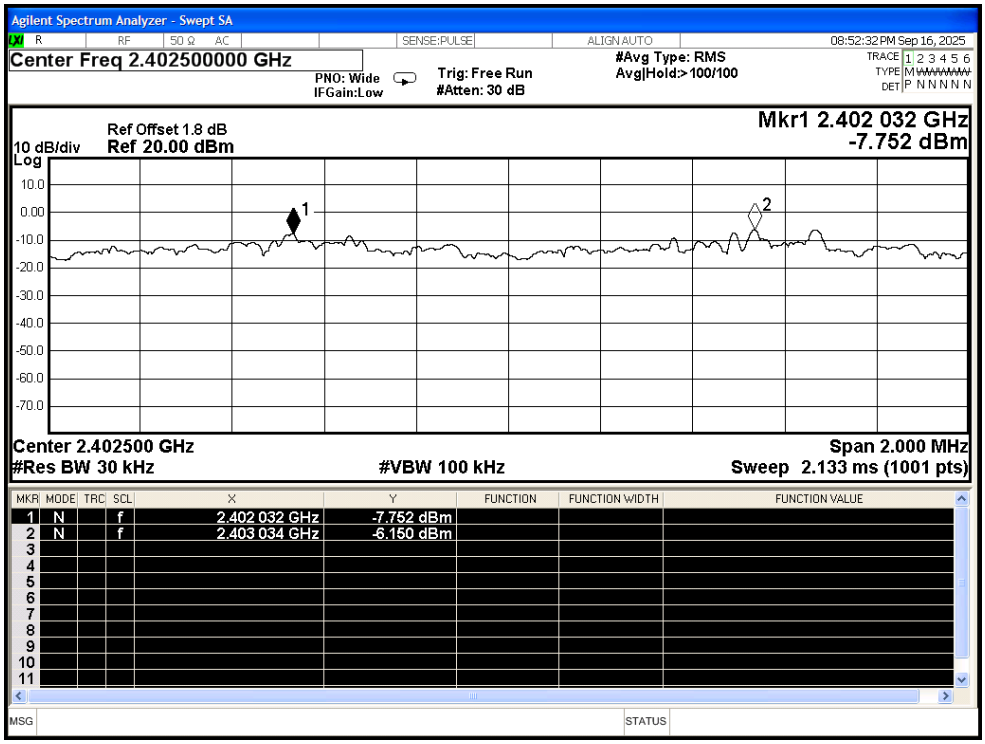
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

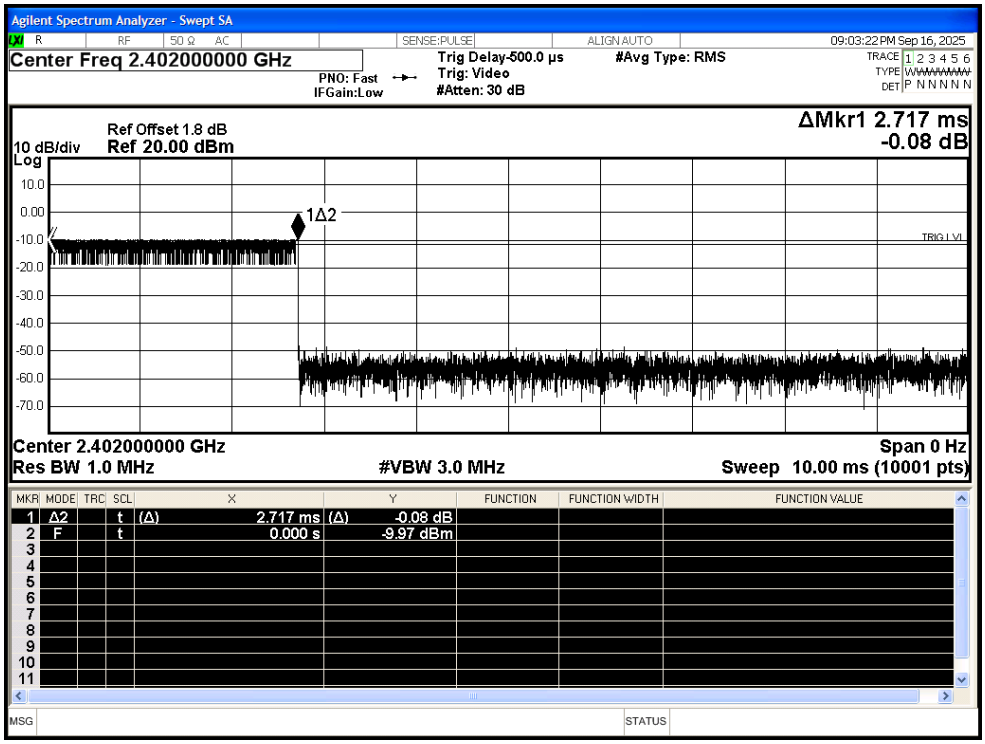


A.4 Dwell Time

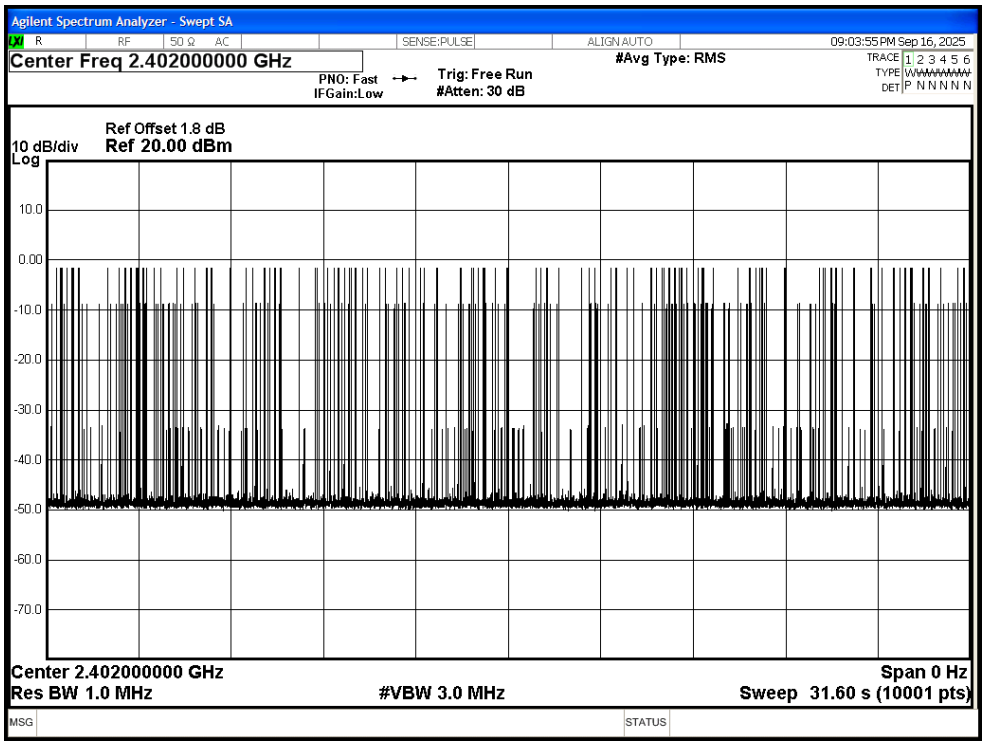
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.717	336.908	124	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	284.004	98	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	269.421	93	31600	400	Pass

Test Graphs

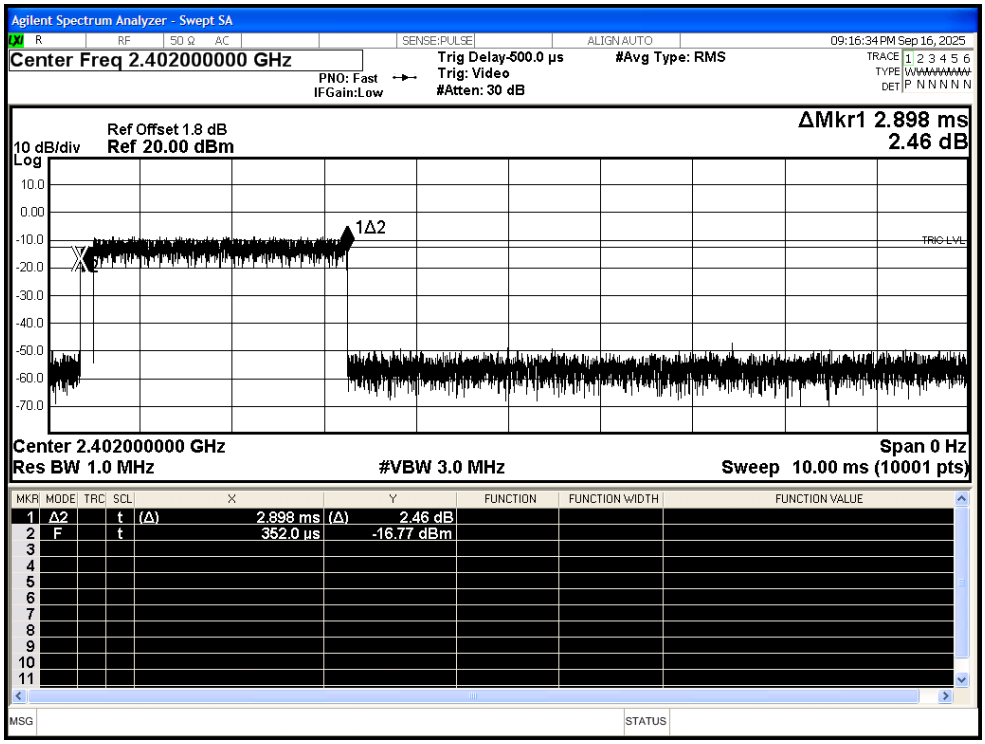
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



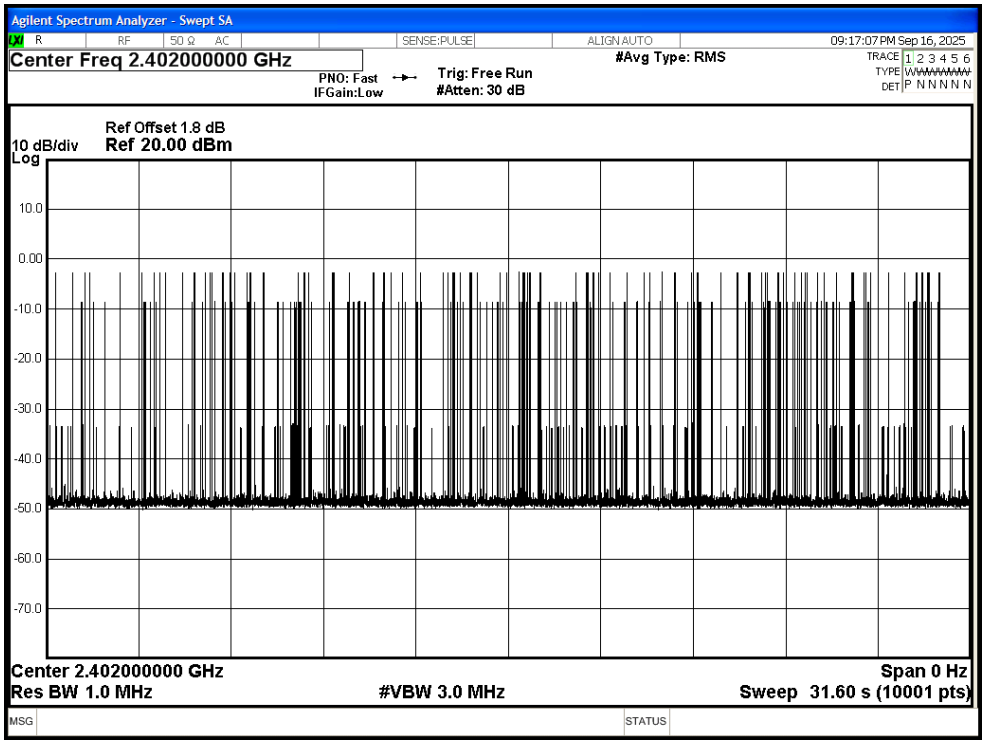
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



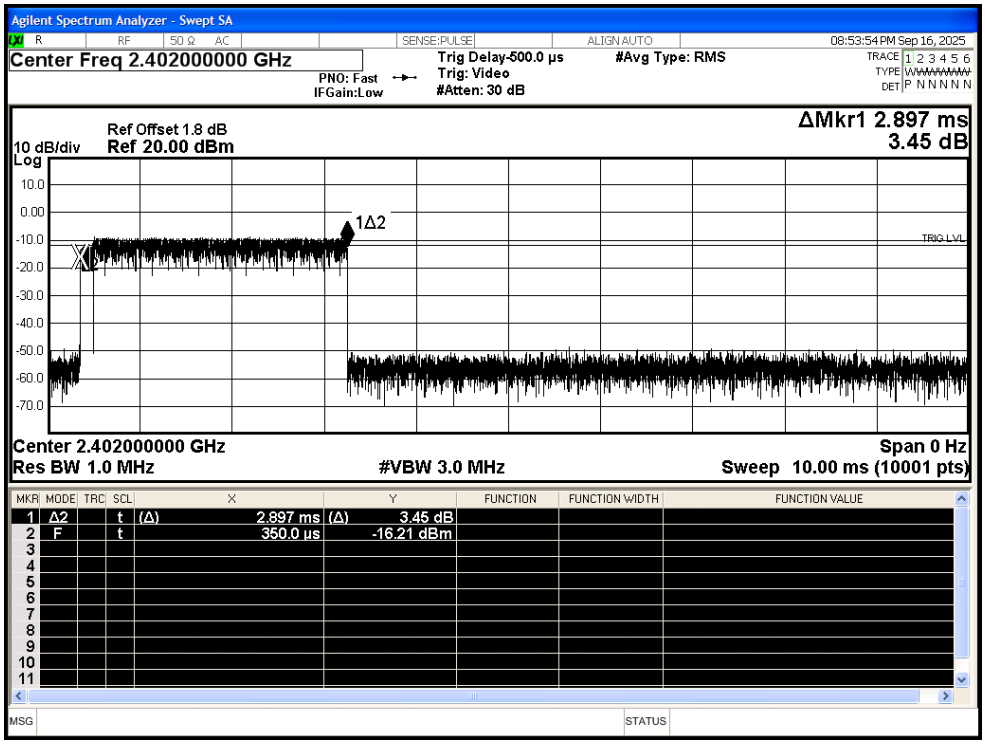
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



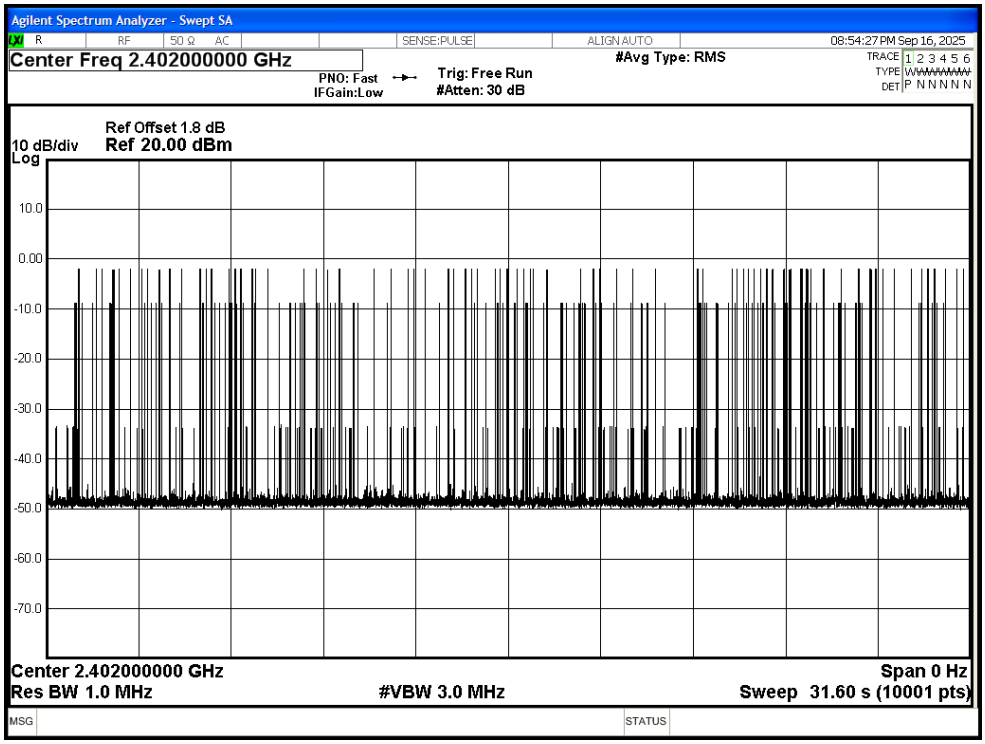
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

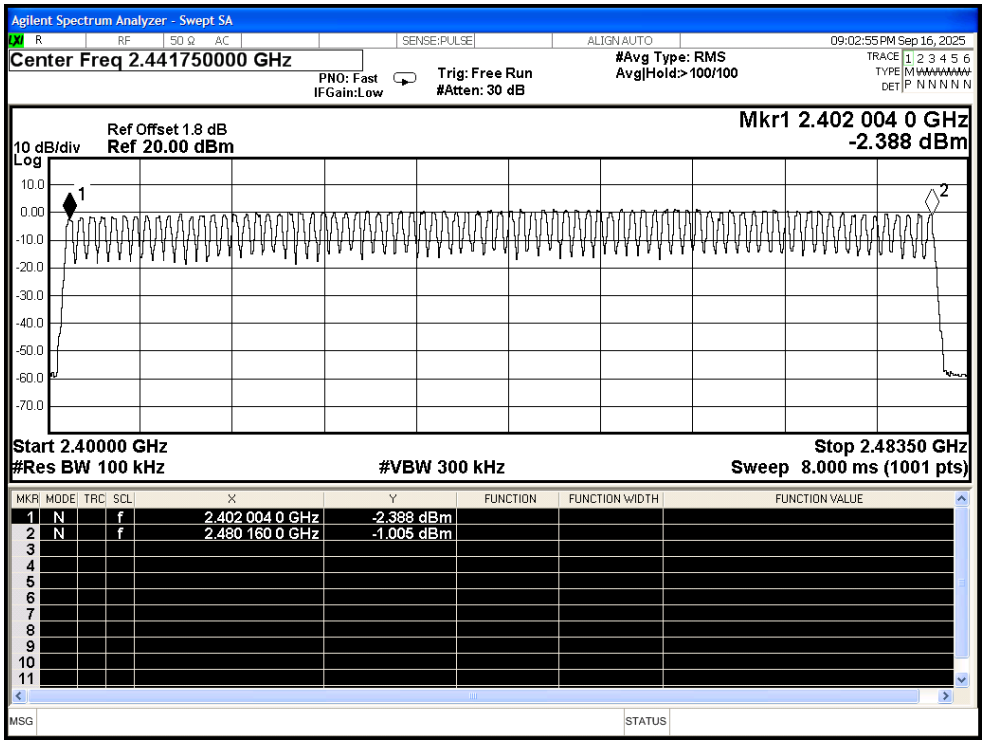


A.5 Number of Hopping Channel

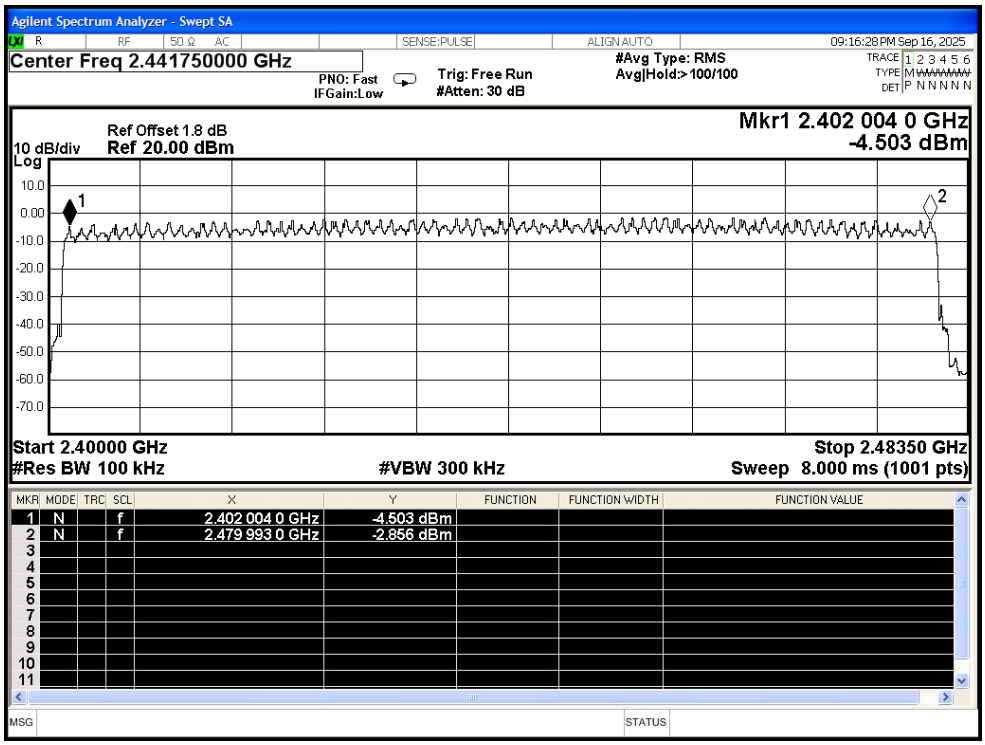
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

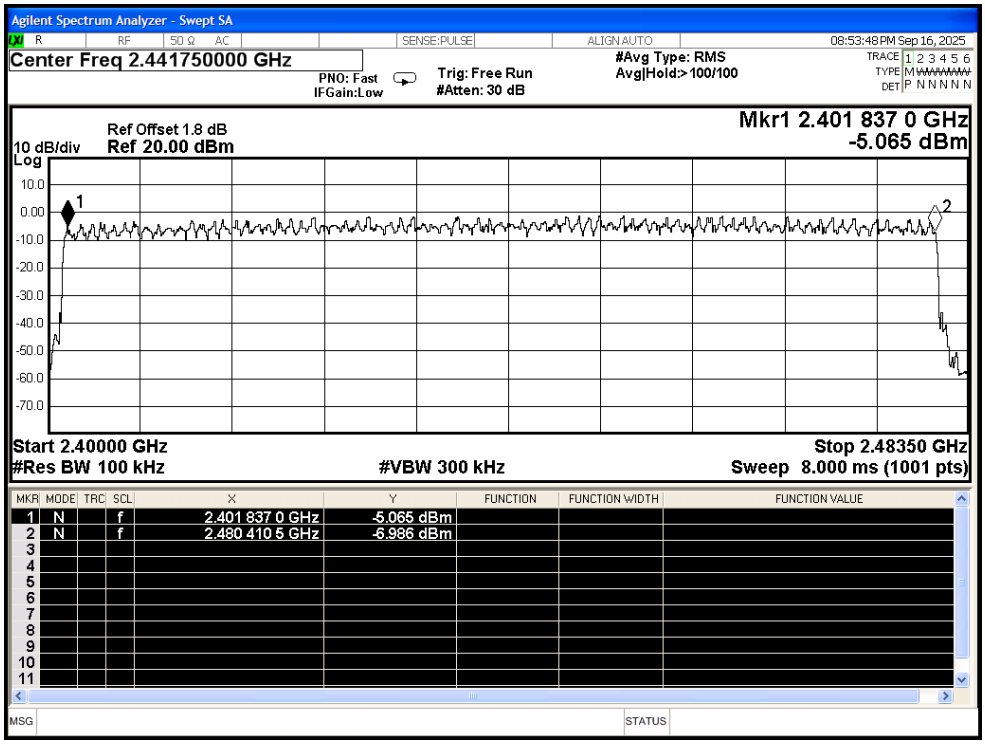
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

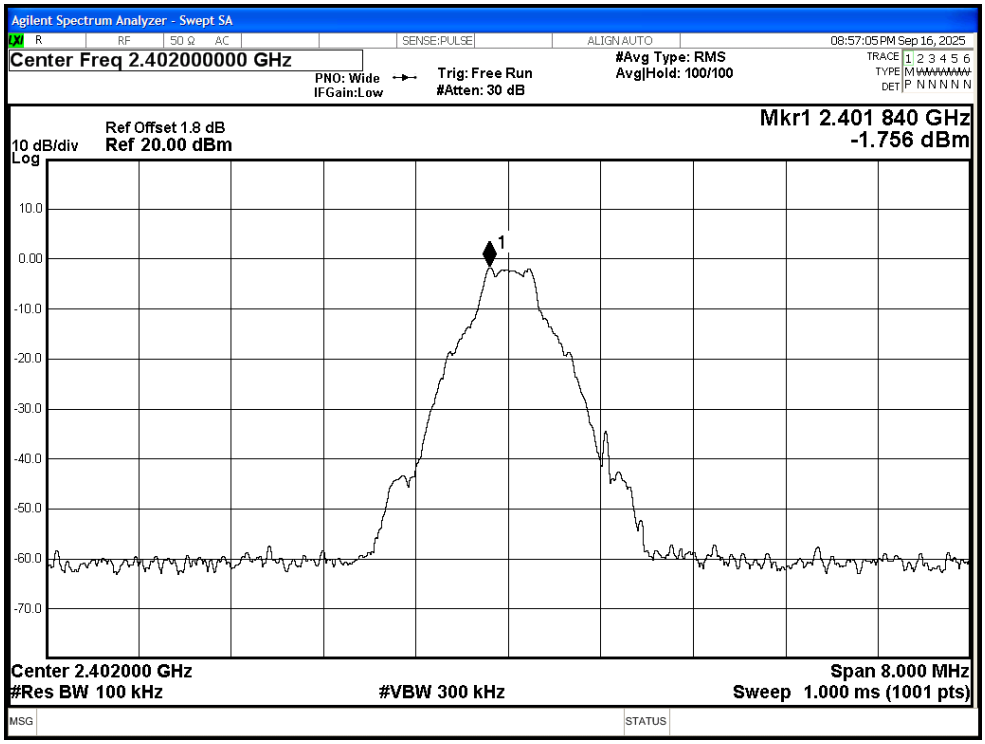


A.6 Band Edge

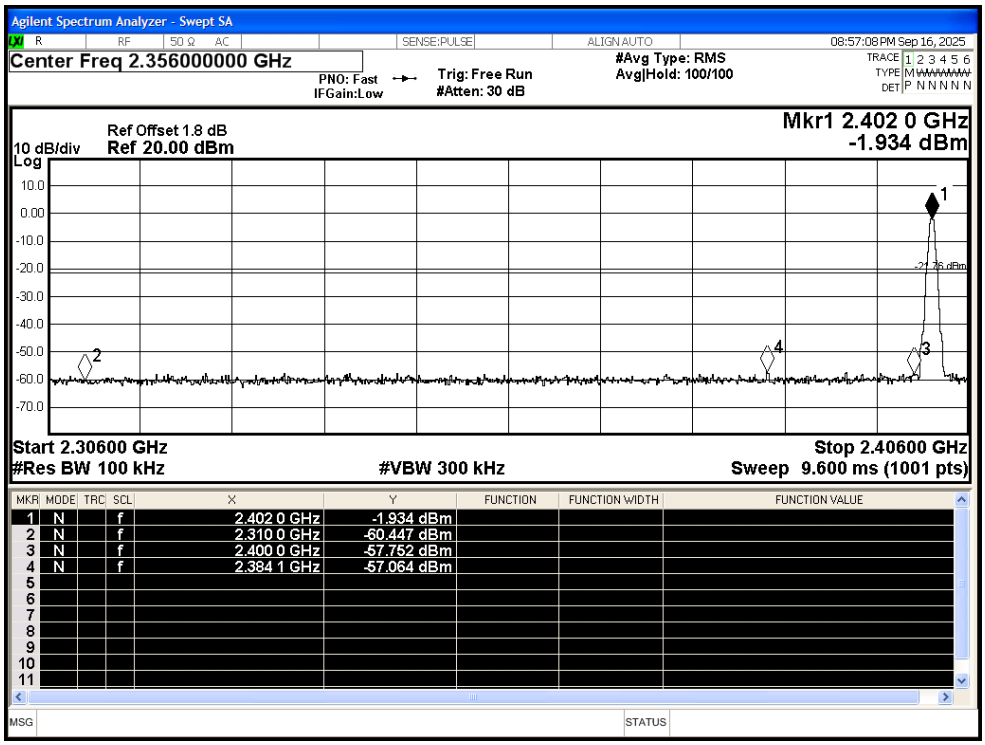
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.31	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.74	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.31	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.26	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.35	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.48	-20	Pass

Test Graphs

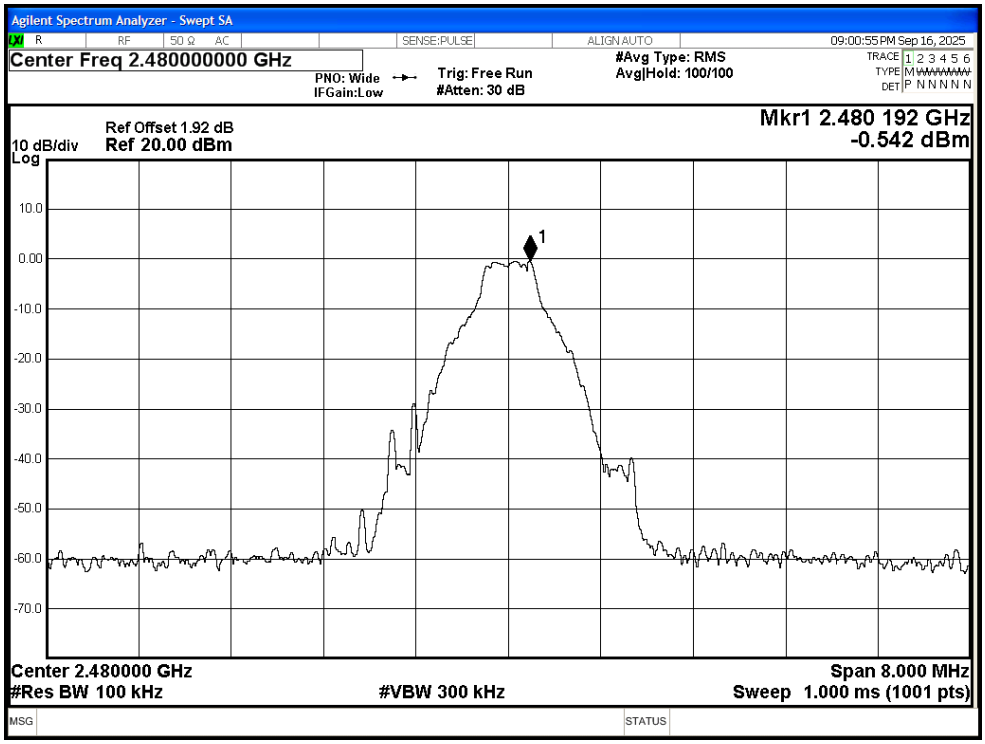
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



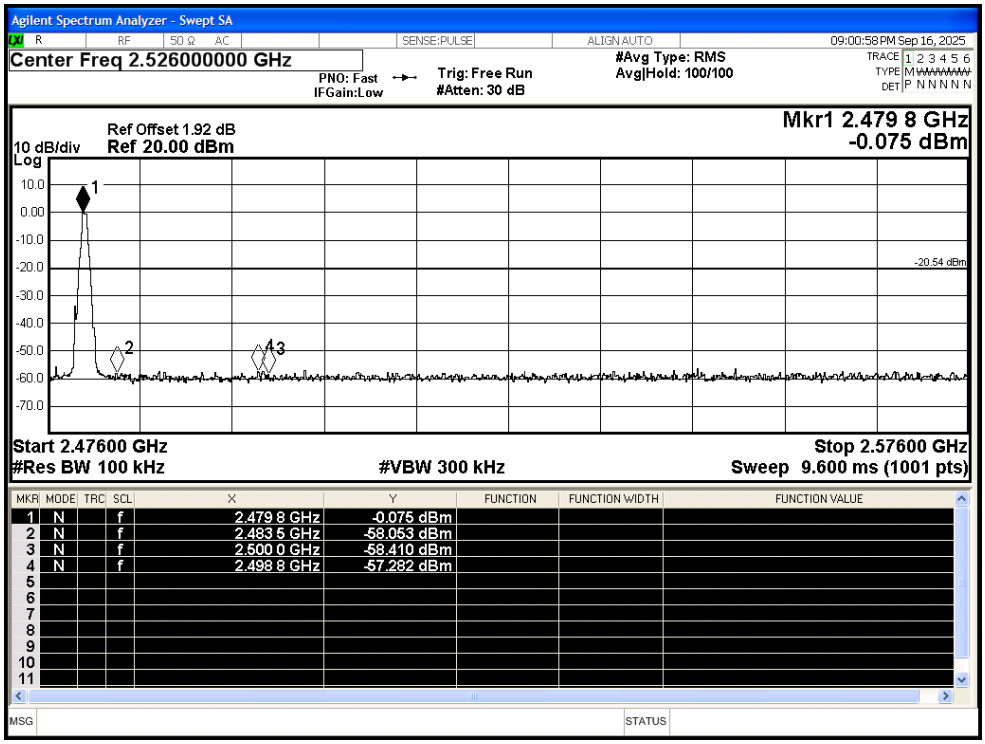
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



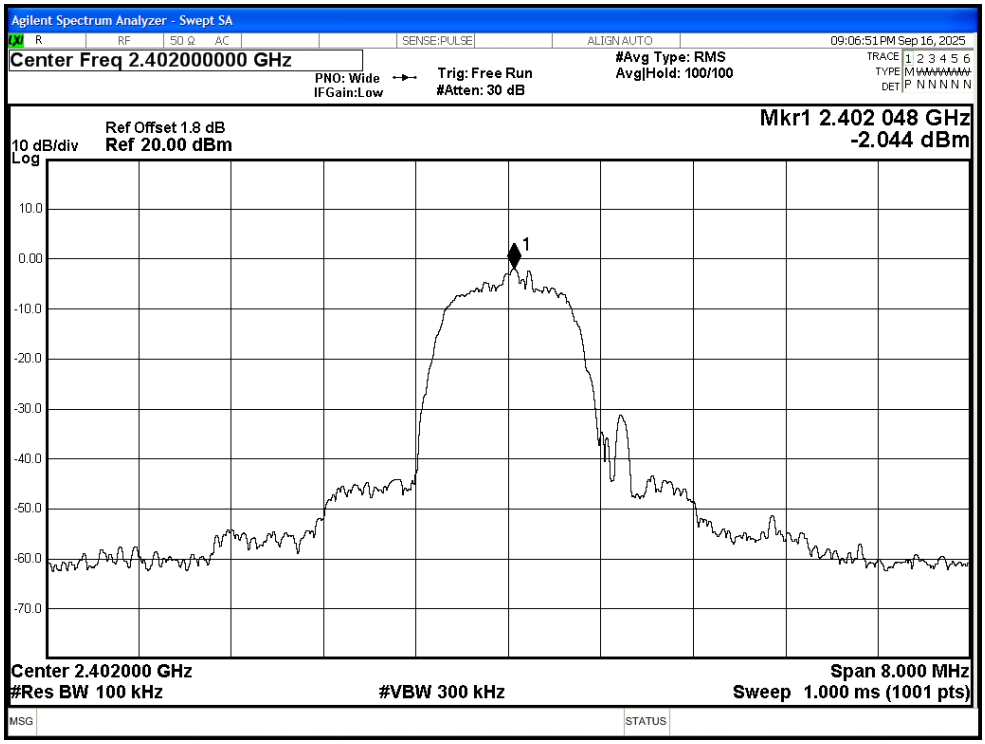
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



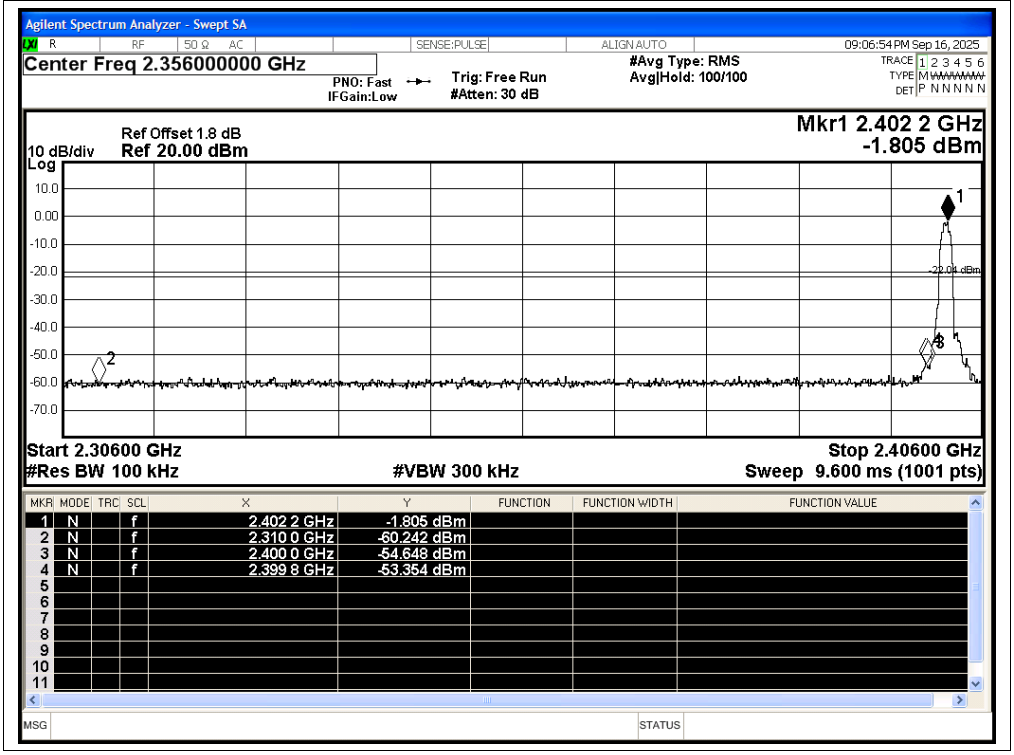
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



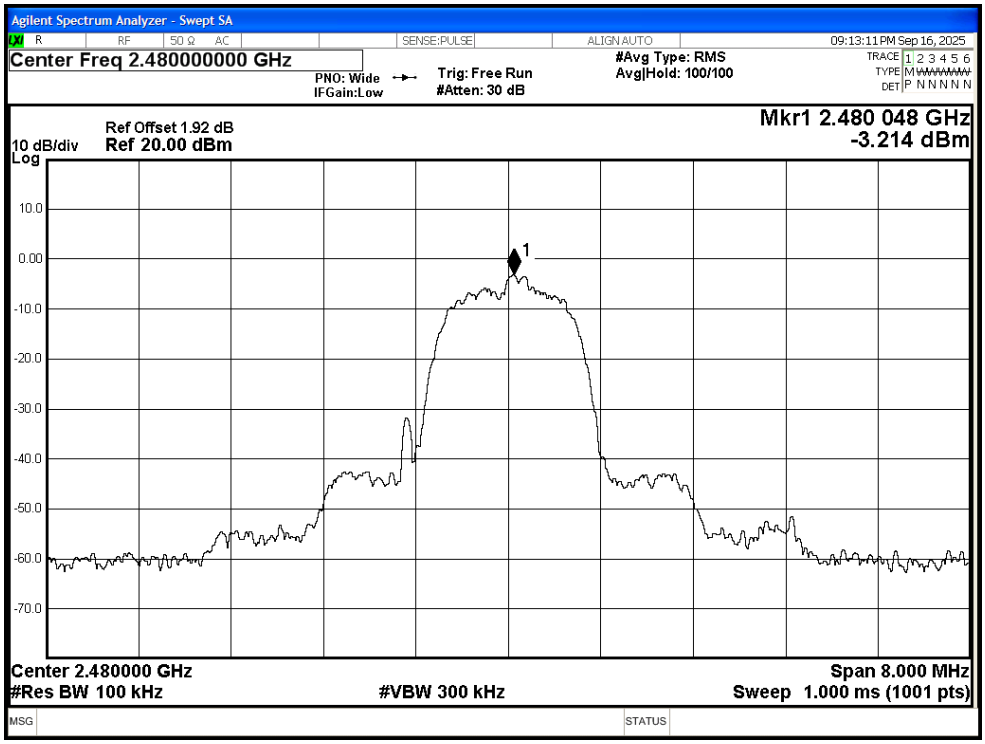
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



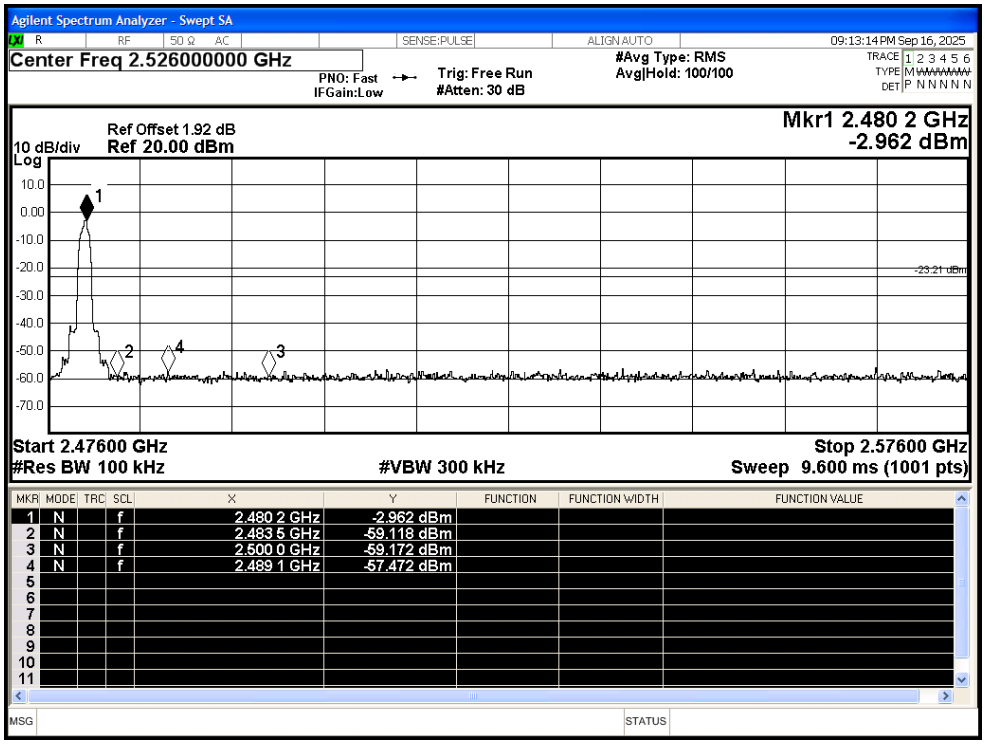
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



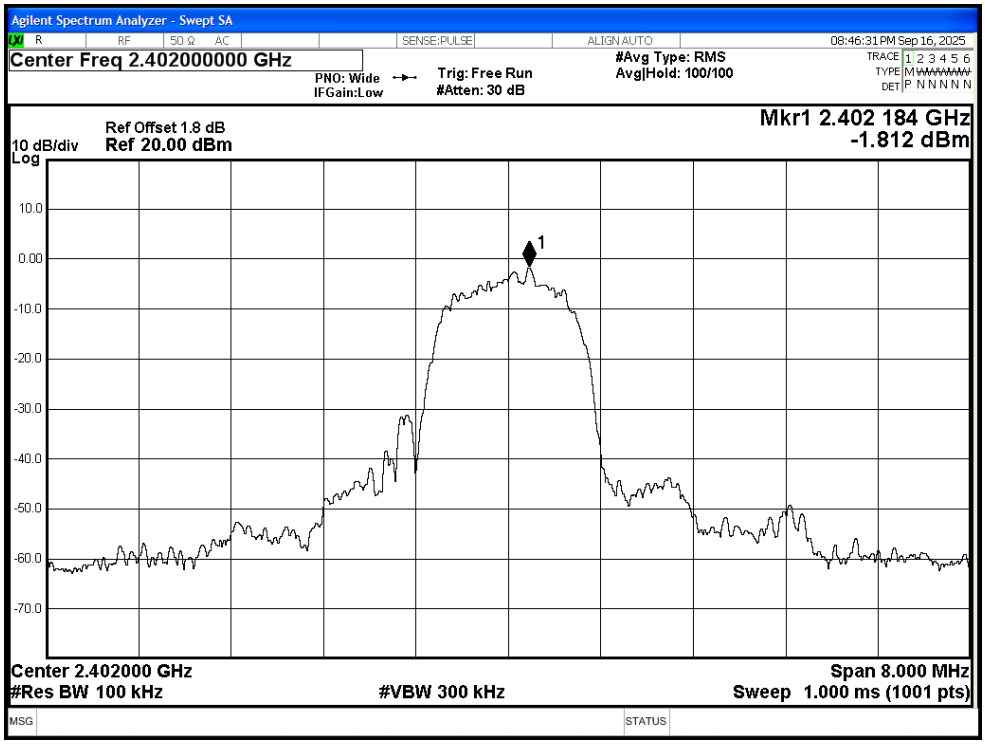
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



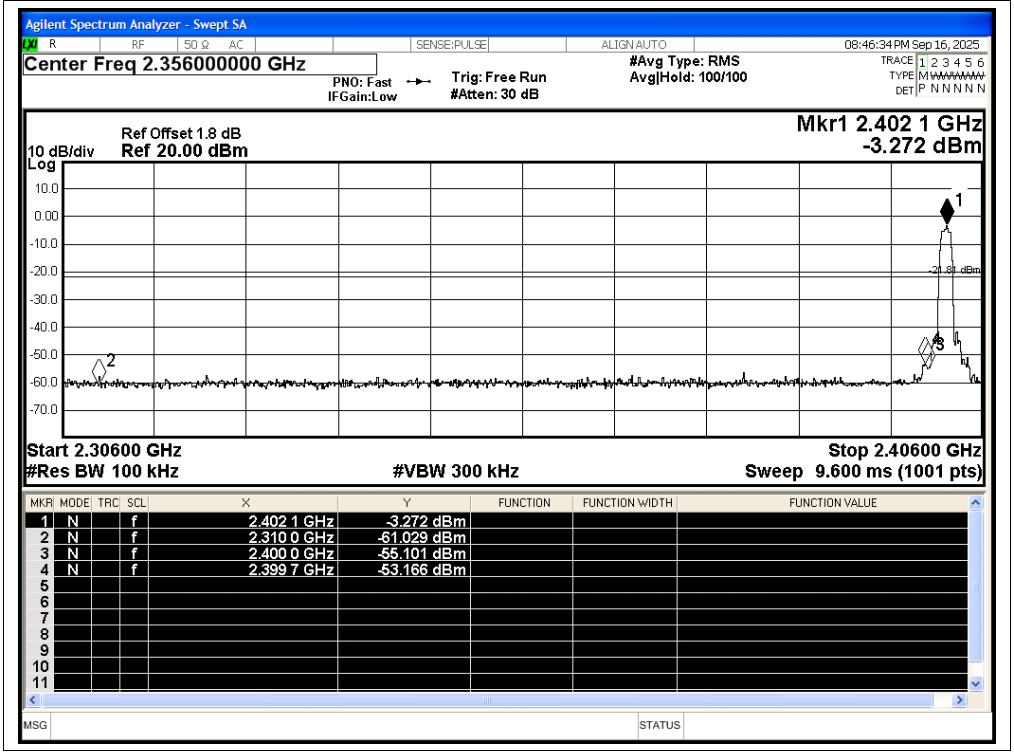
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



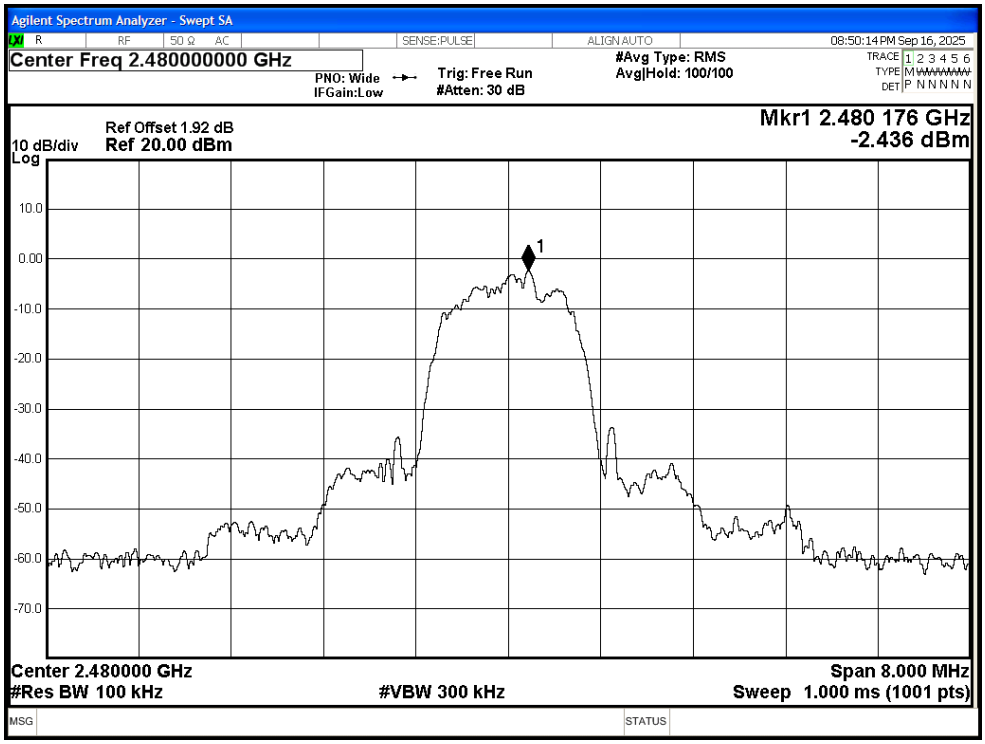
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



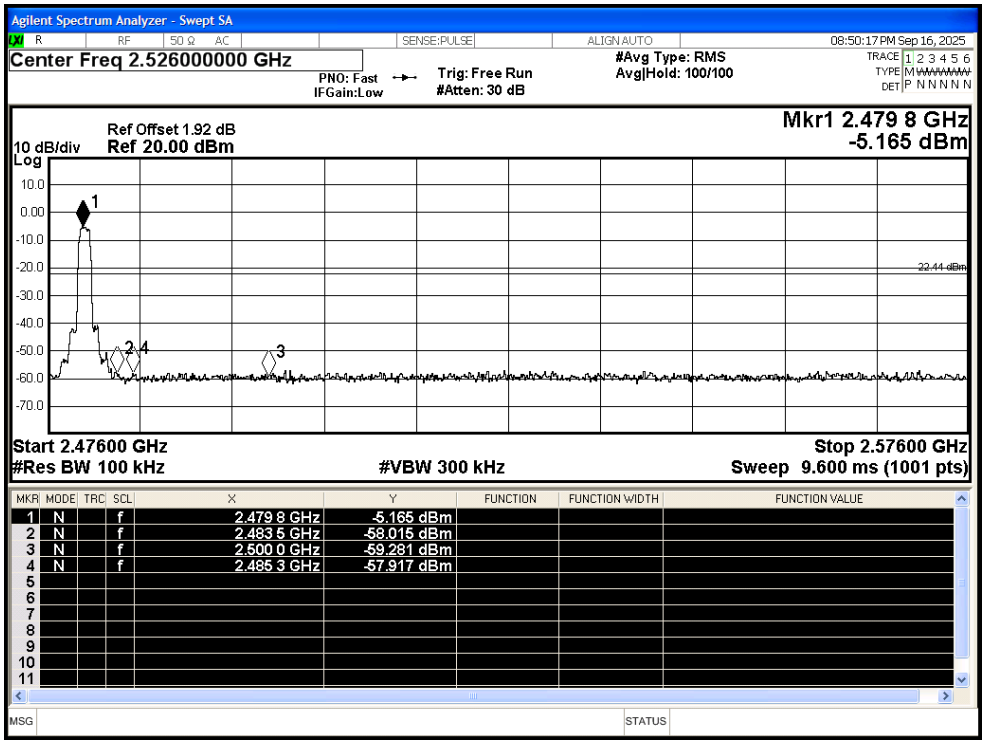
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

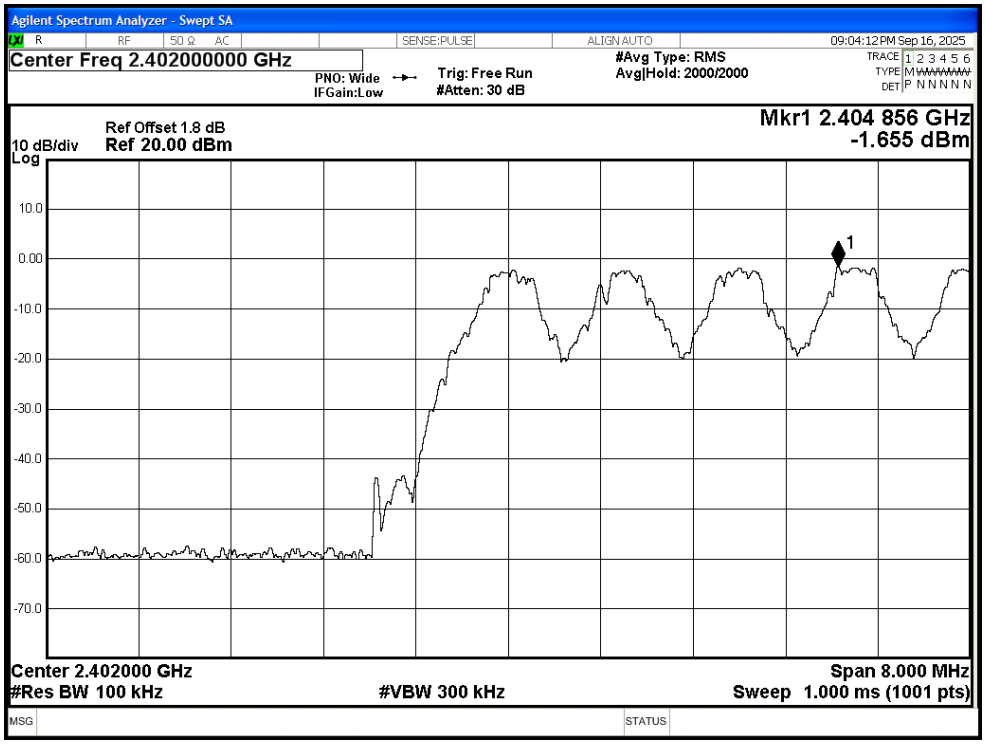


(Hopping)

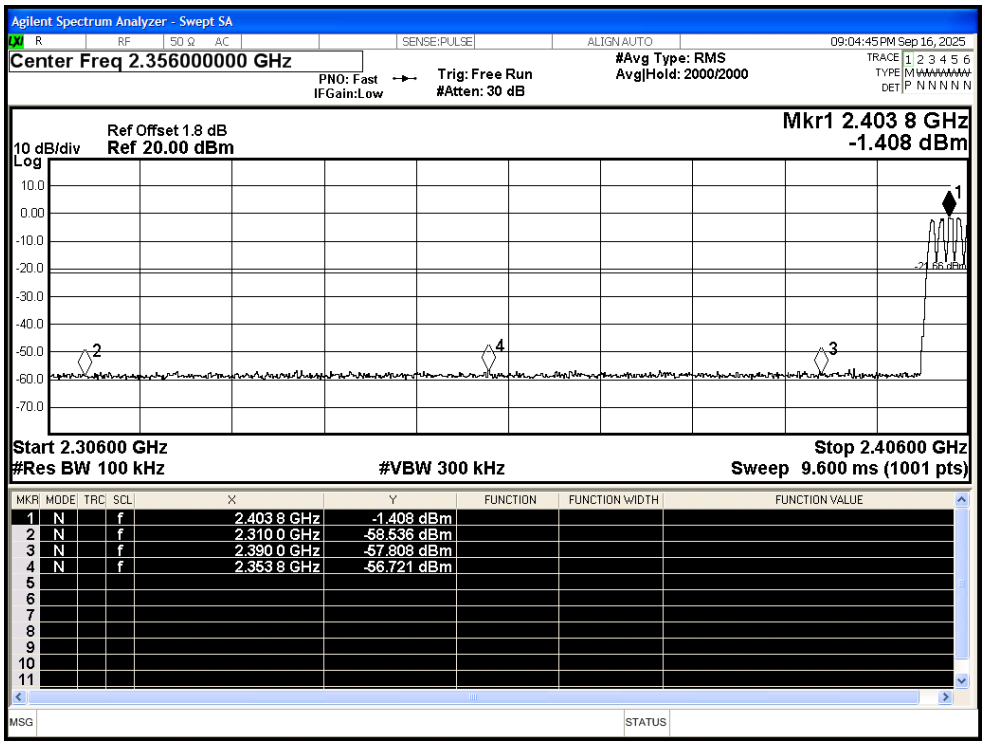
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.07	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.72	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.01	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-49.57	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-50.97	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.93	-20	Pass

Test Graphs

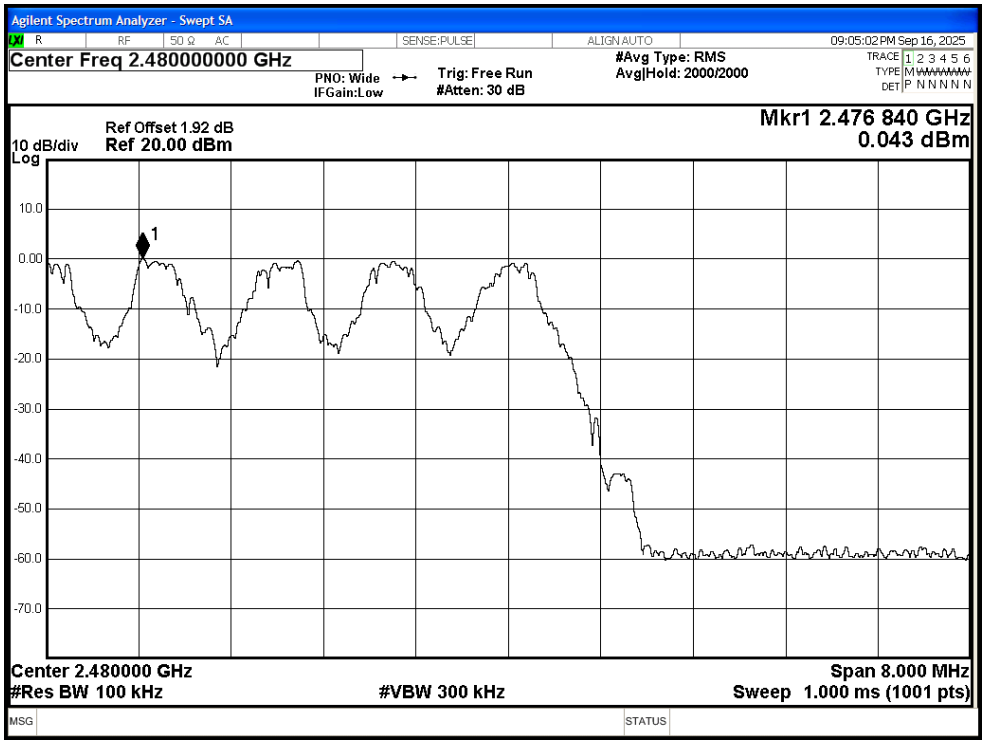
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



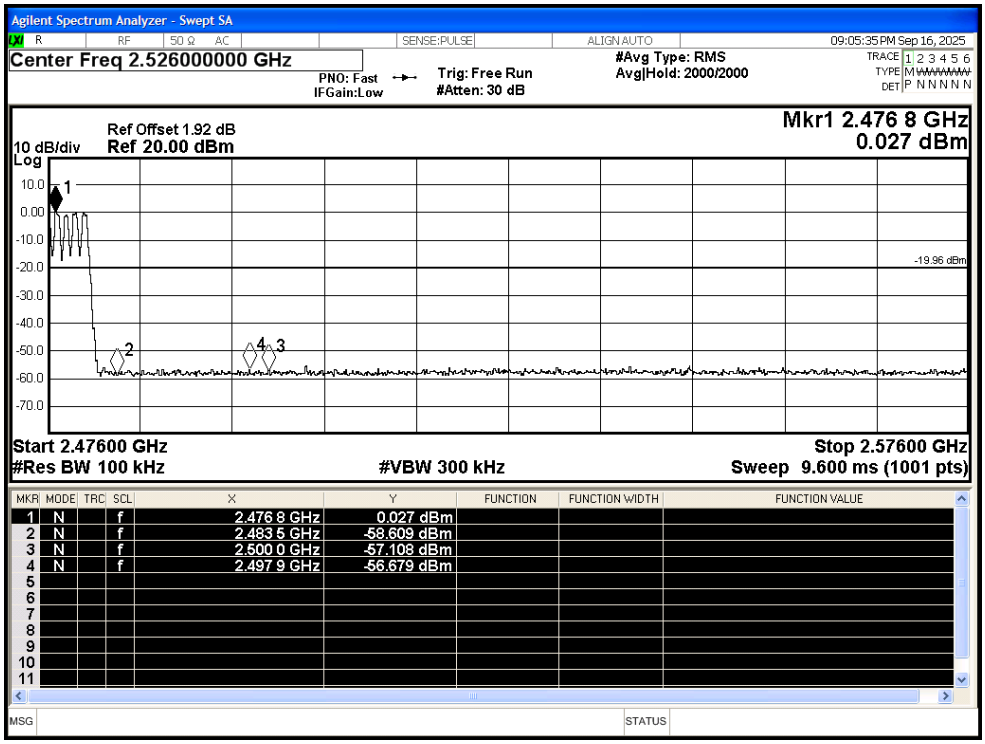
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



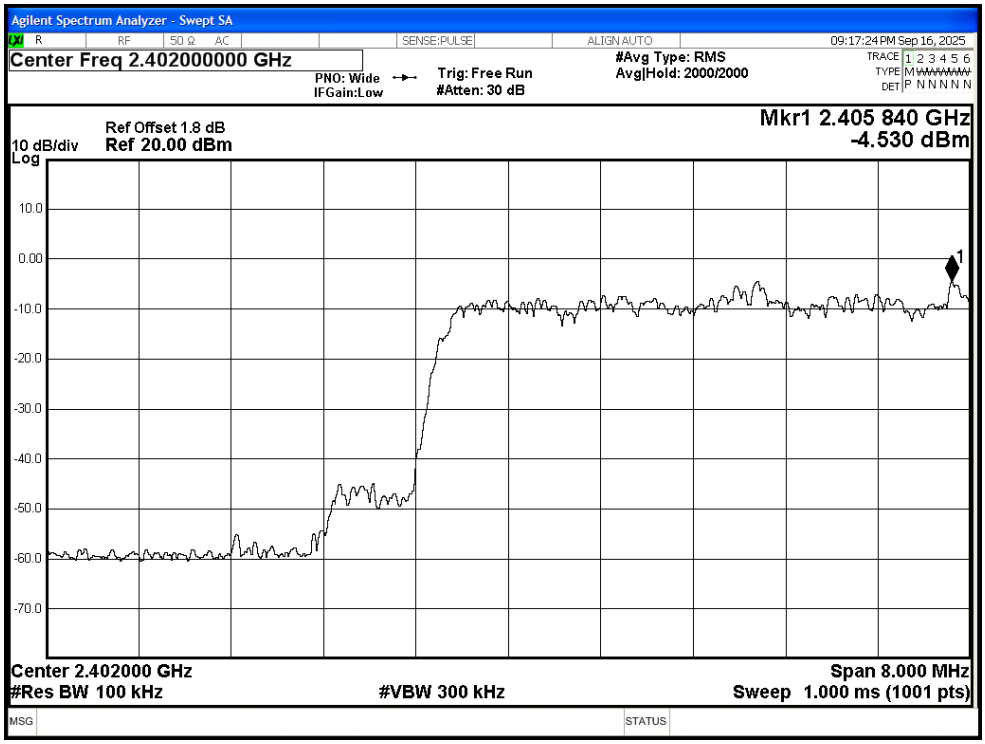
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



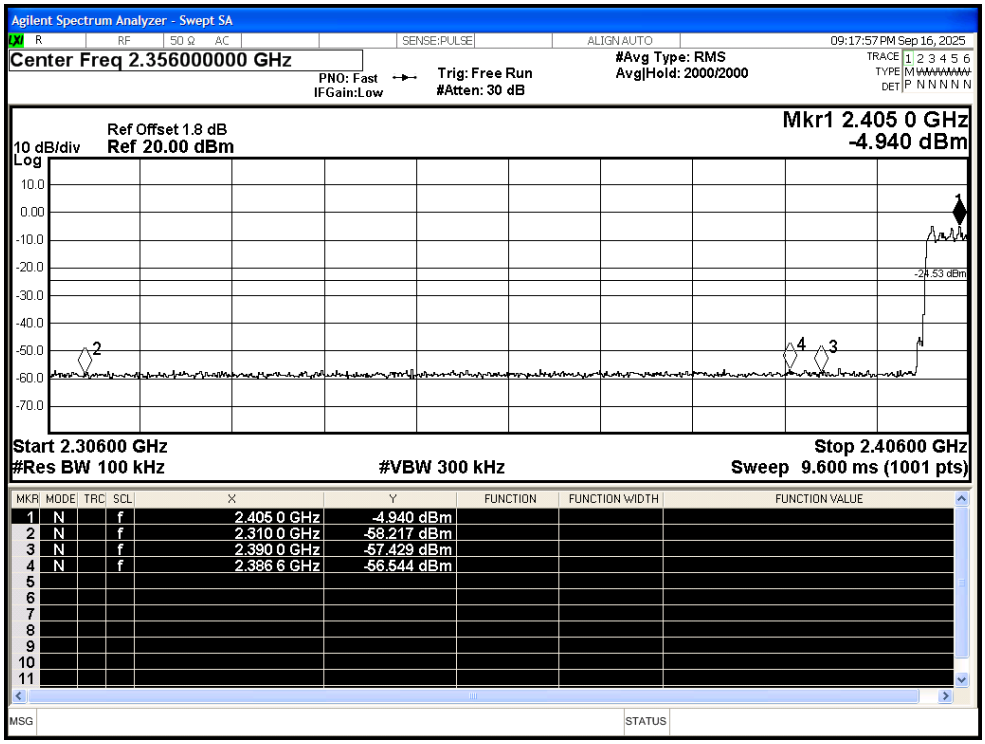
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



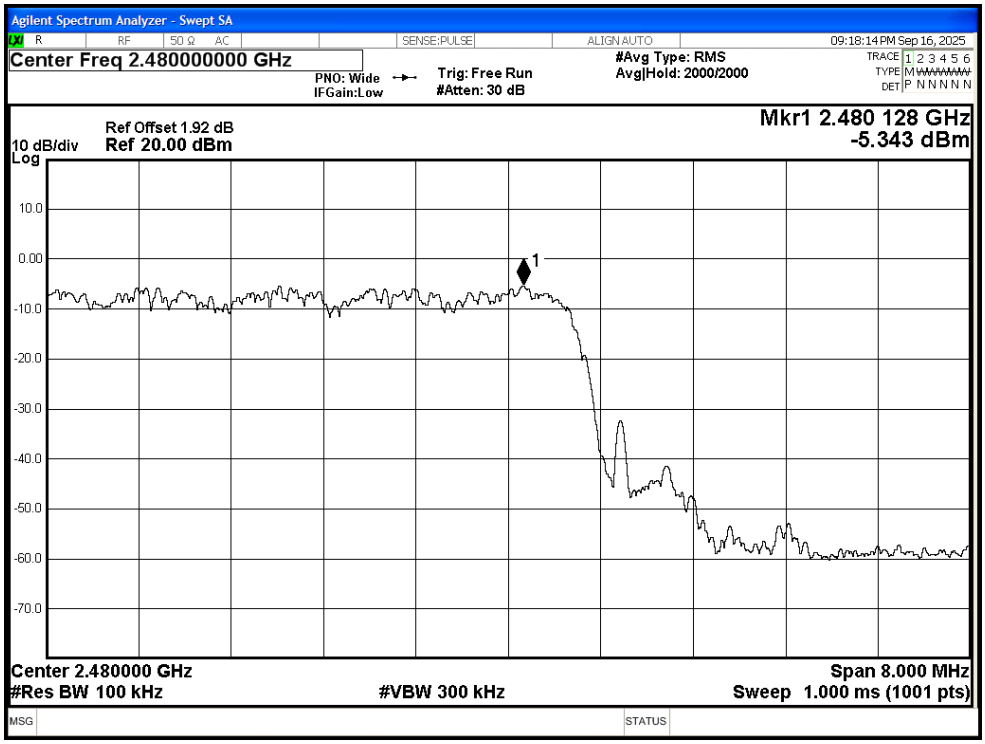
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



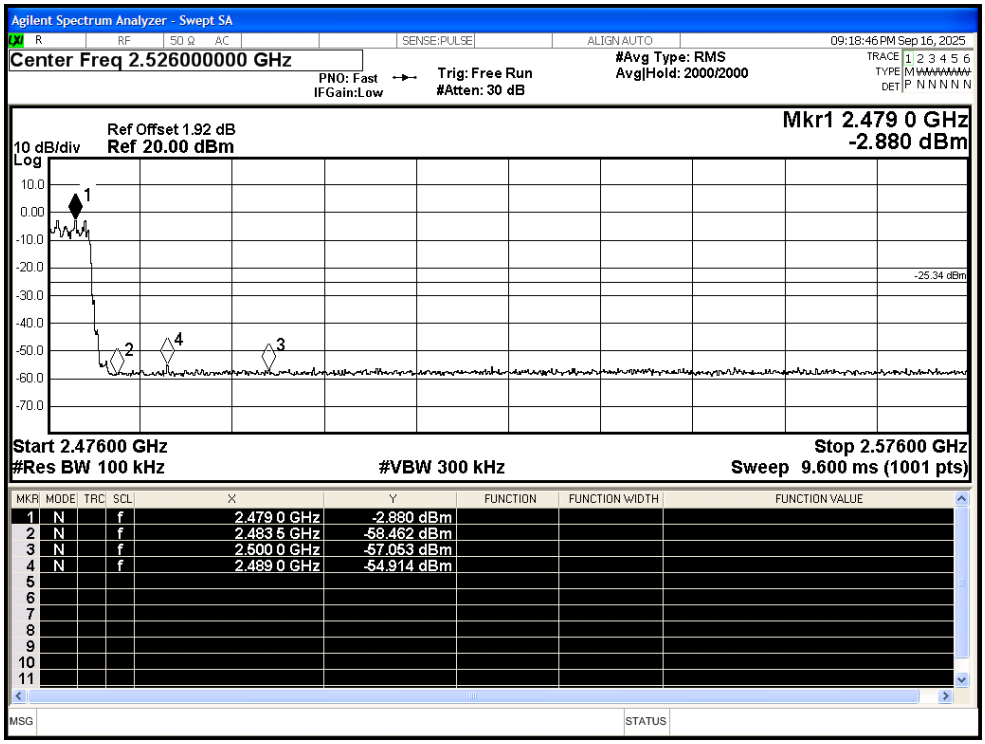
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



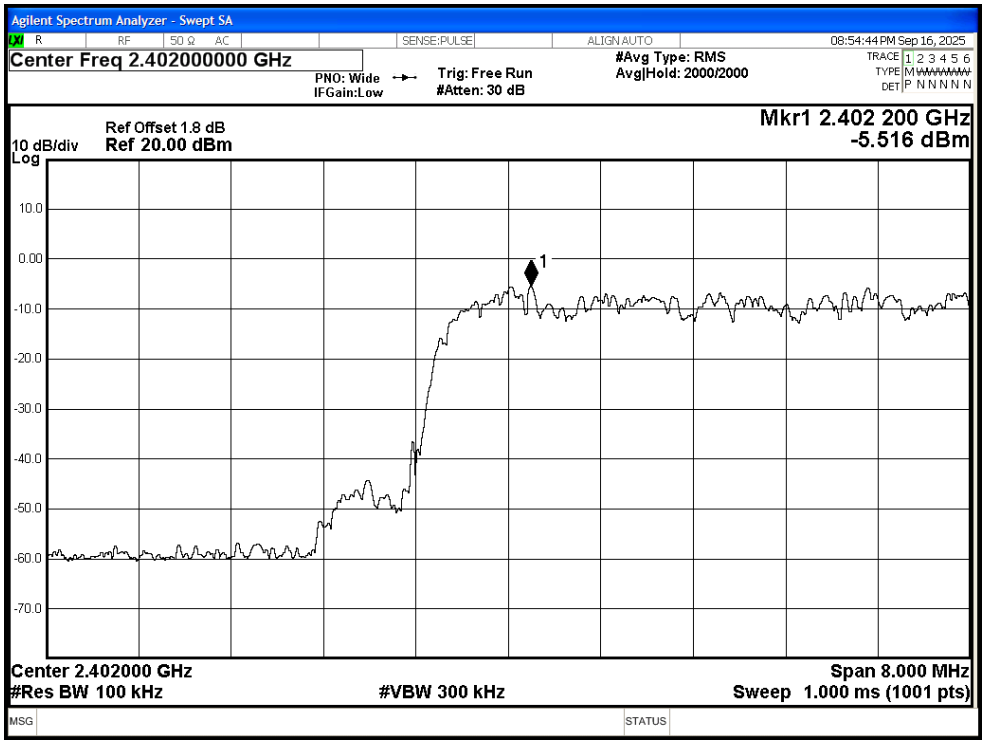
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



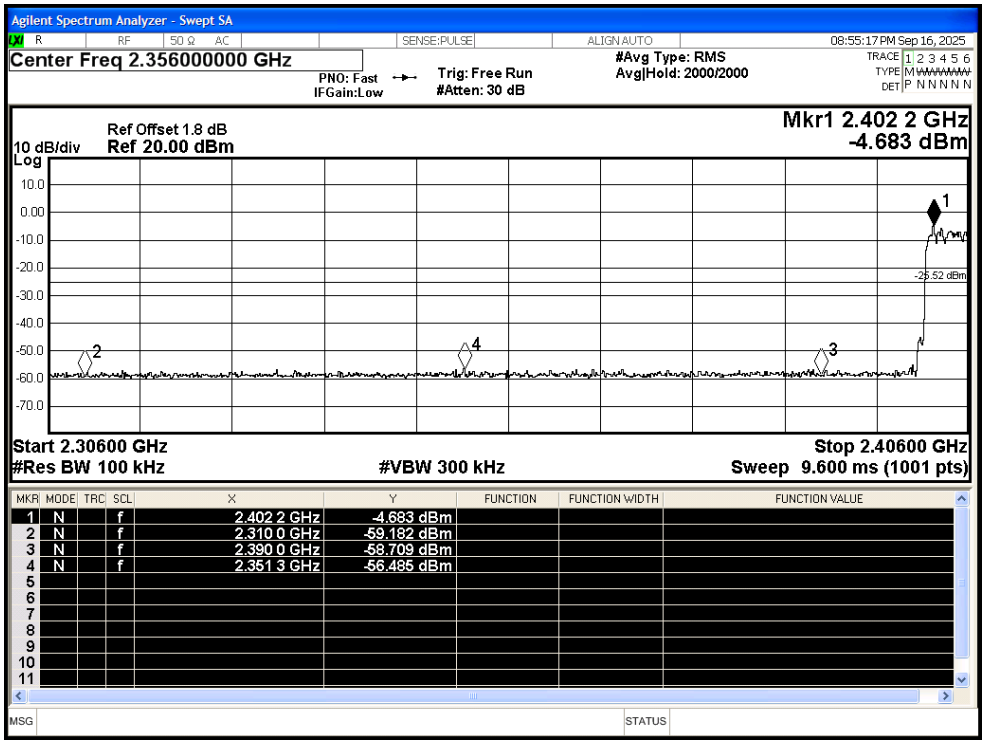
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



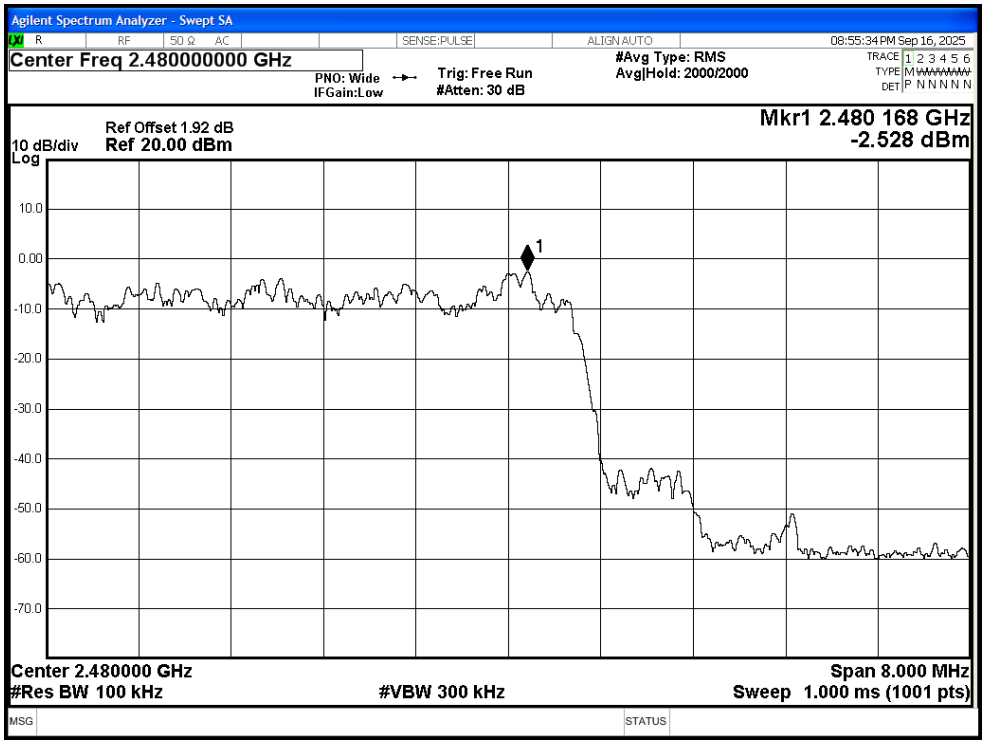
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



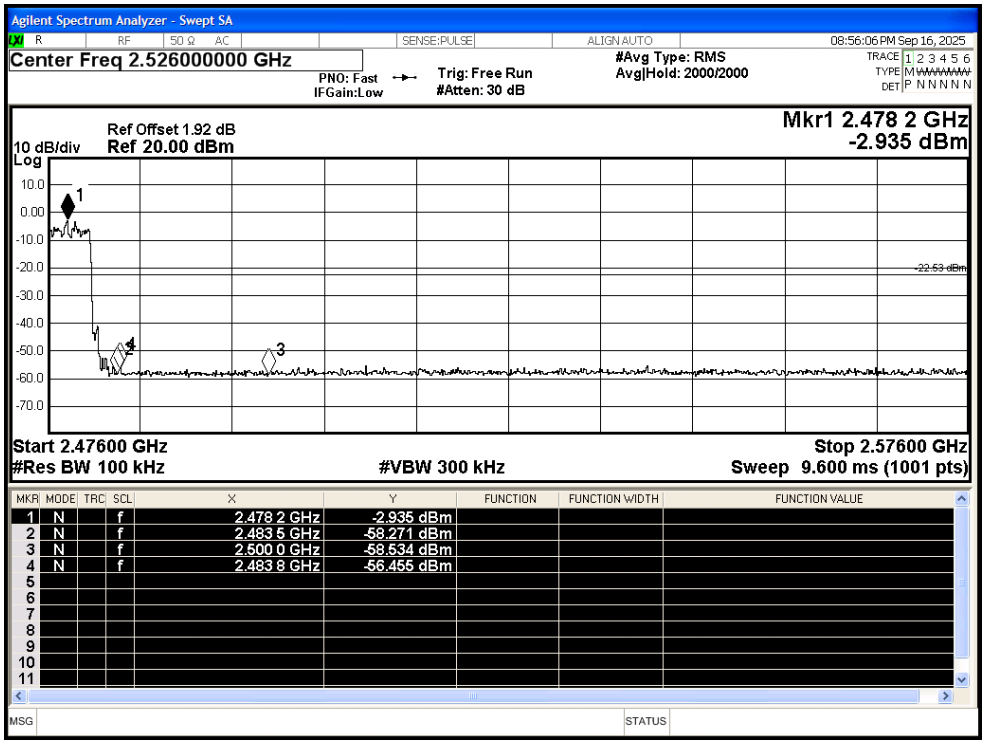
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

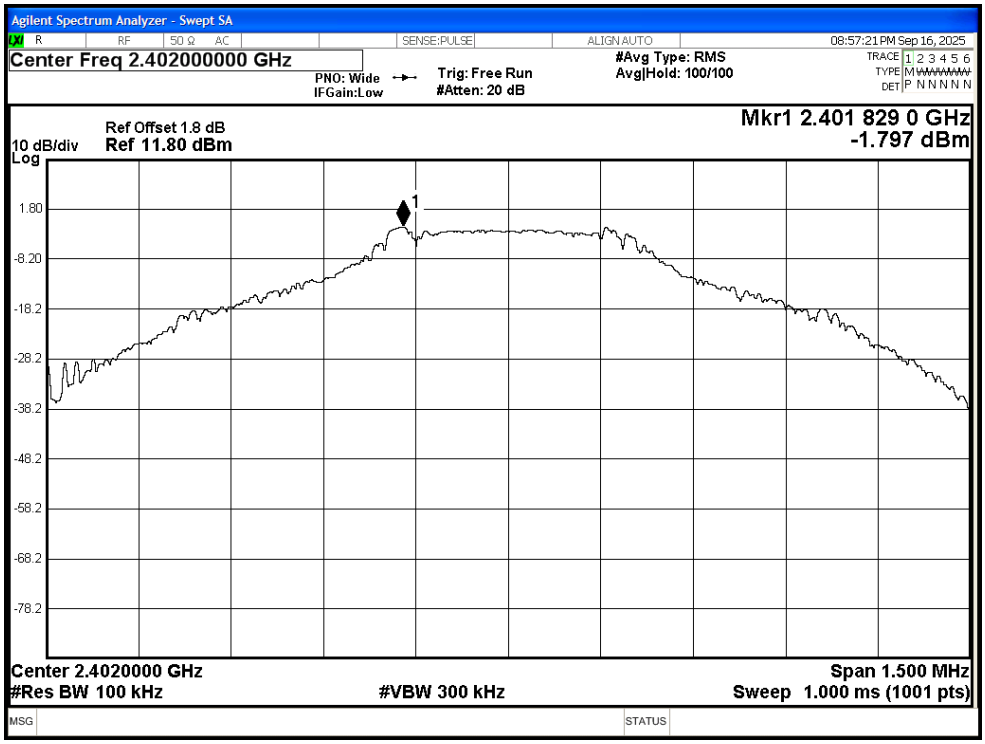


A.7 Conducted RF Spurious Emission

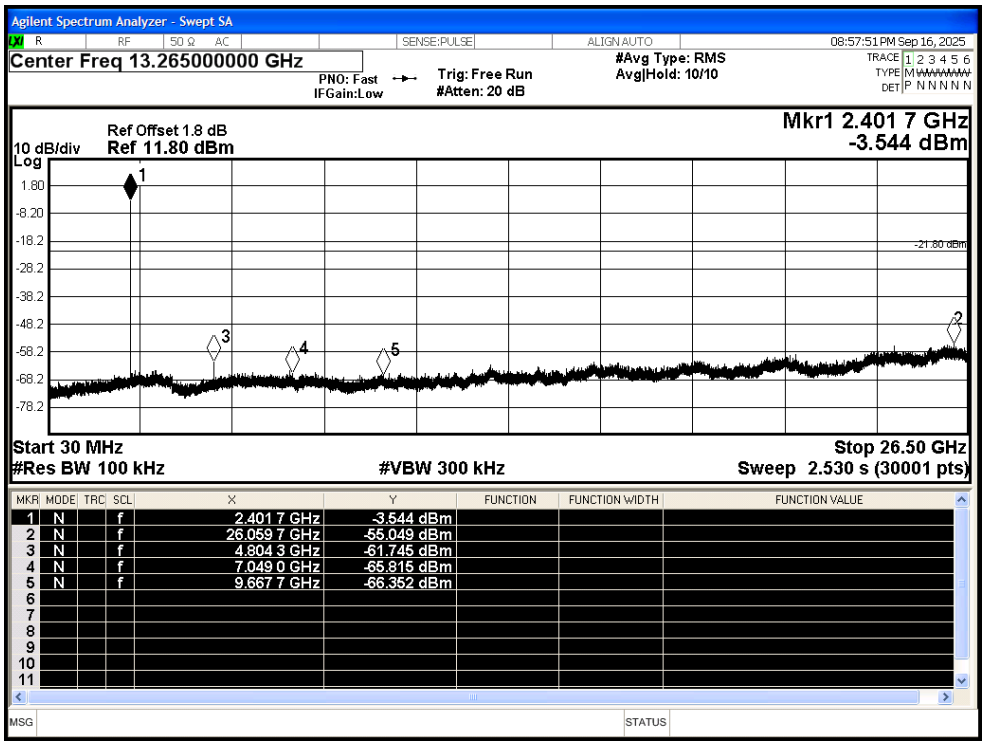
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.25	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.84	-20	Pass
NVNT	1-DH5	2480	Ant1	-54.66	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.81	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.43	-20	Pass
NVNT	2-DH5	2480	Ant1	-48.7	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.72	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.43	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.11	-20	Pass

Test Graphs

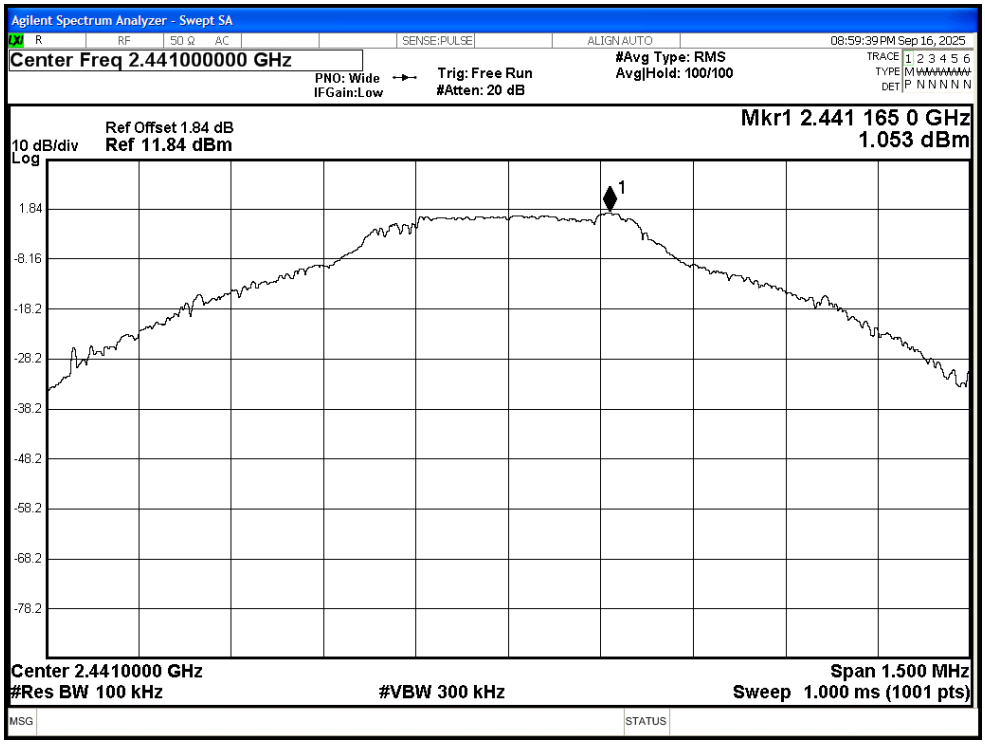
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



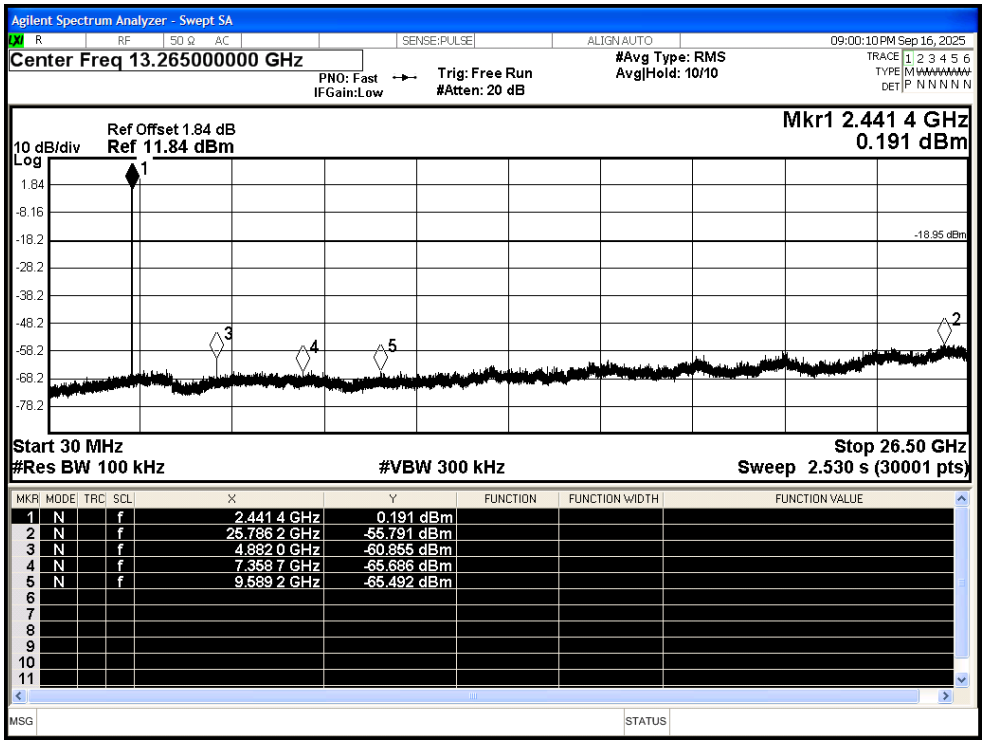
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



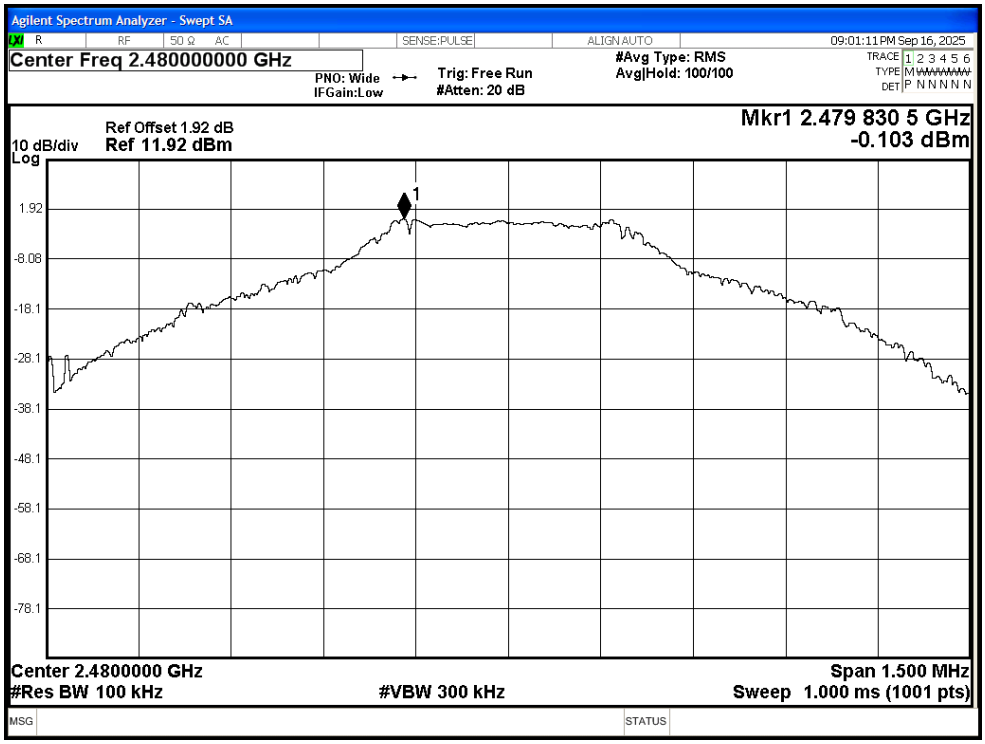
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



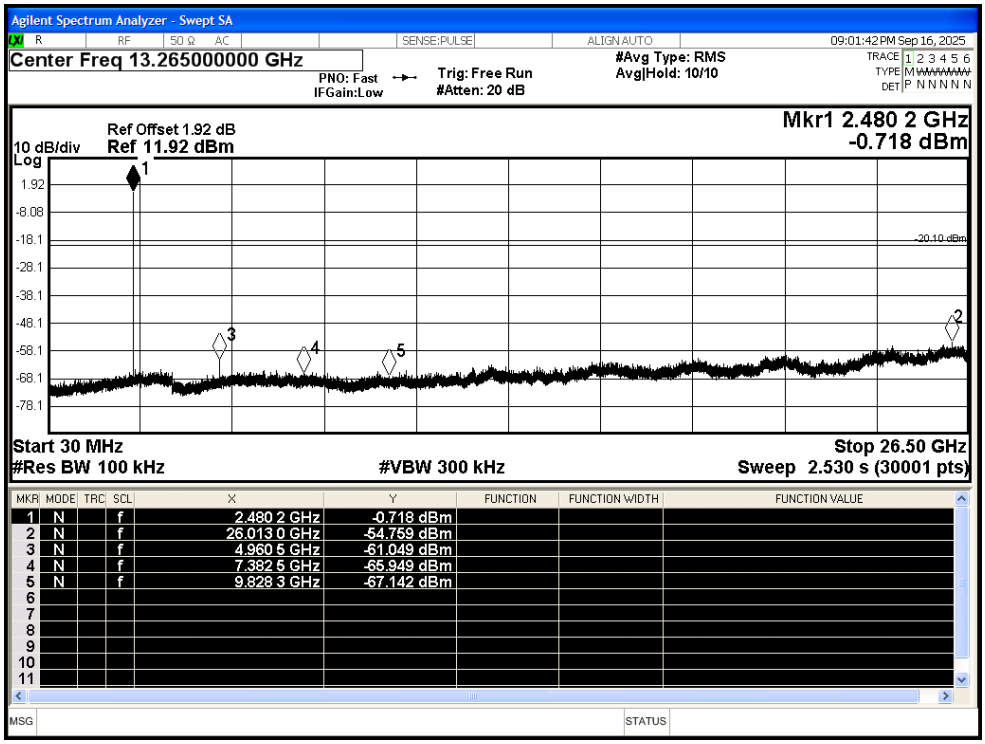
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

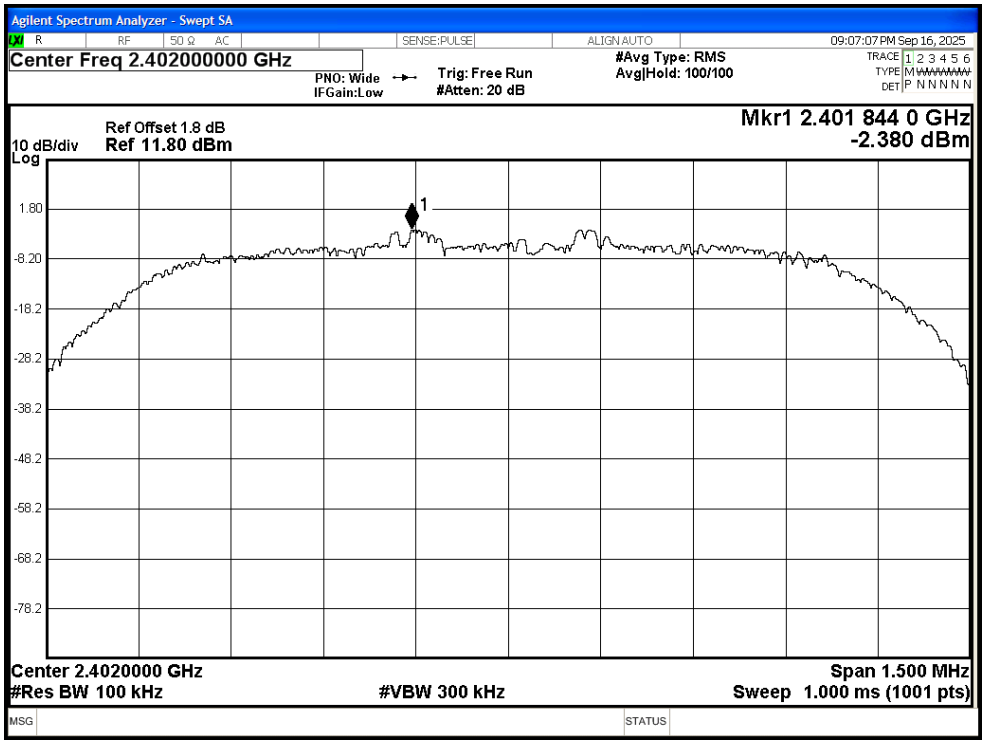


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

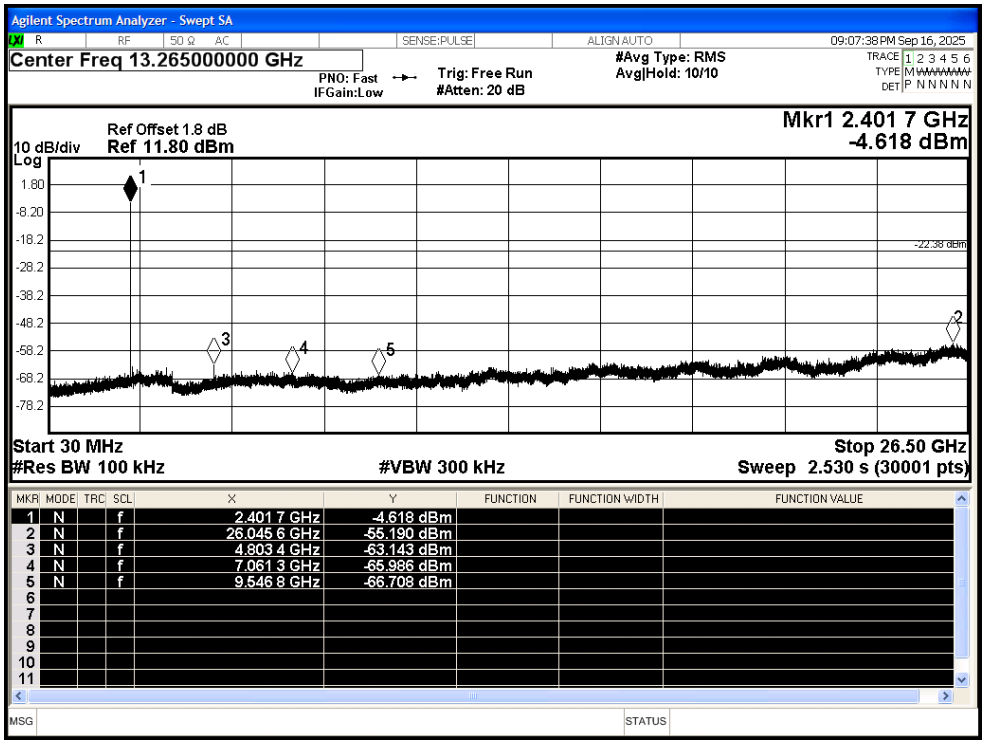


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.480 2 GHz	-0.718 dBm			
2	N		f	26.013 0 GHz	-54.759 dBm			
3	N		f	4.960 5 GHz	-61.049 dBm			
4	N		f	7.382 5 GHz	-65.949 dBm			
5	N		f	9.828 3 GHz	-67.142 dBm			
6								
7								
8								
9								
10								
11								

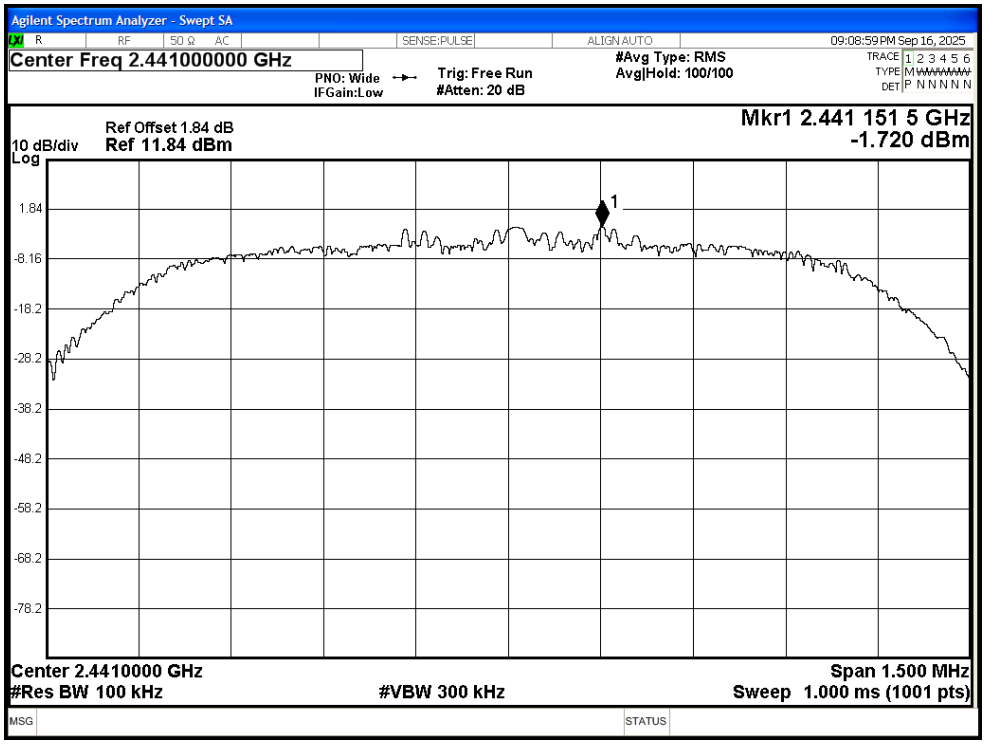
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



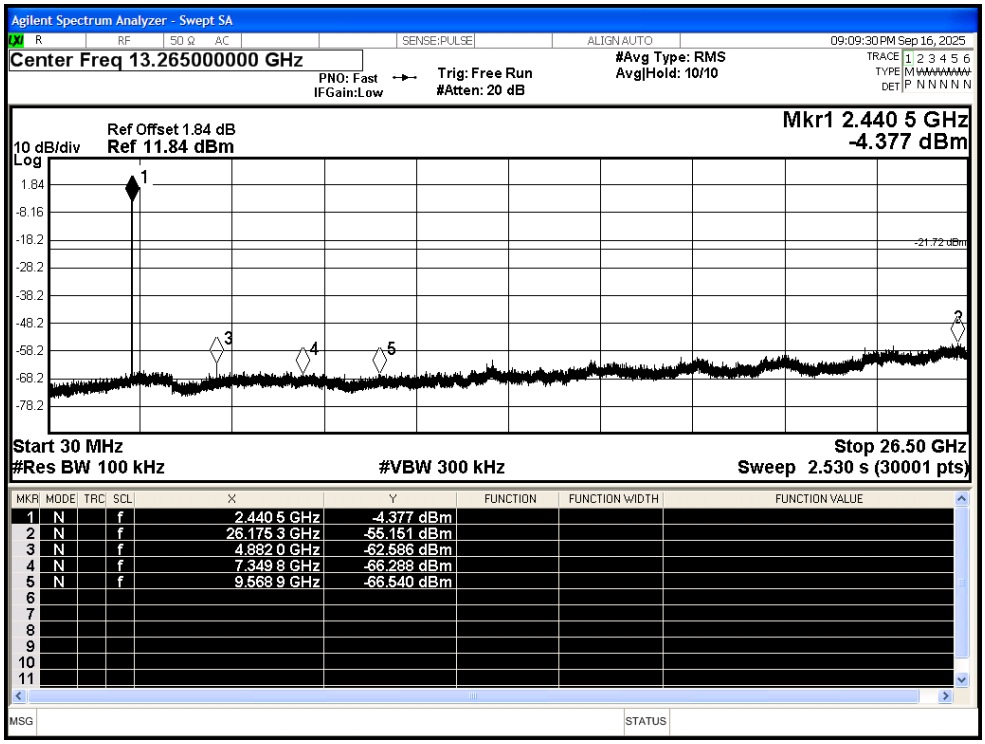
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



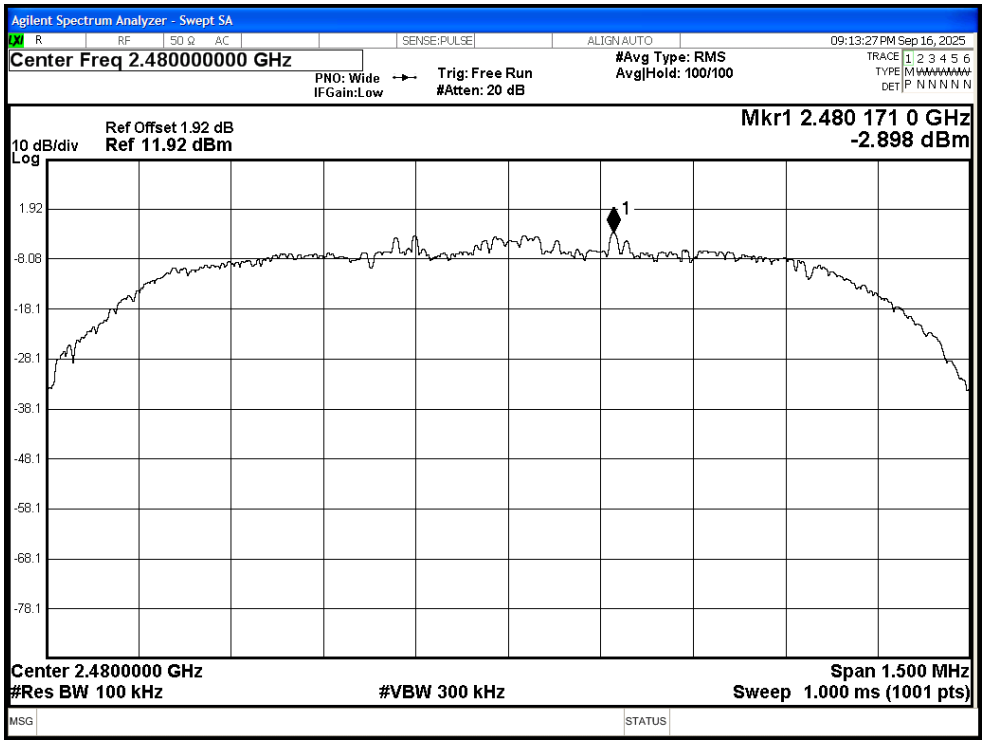
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



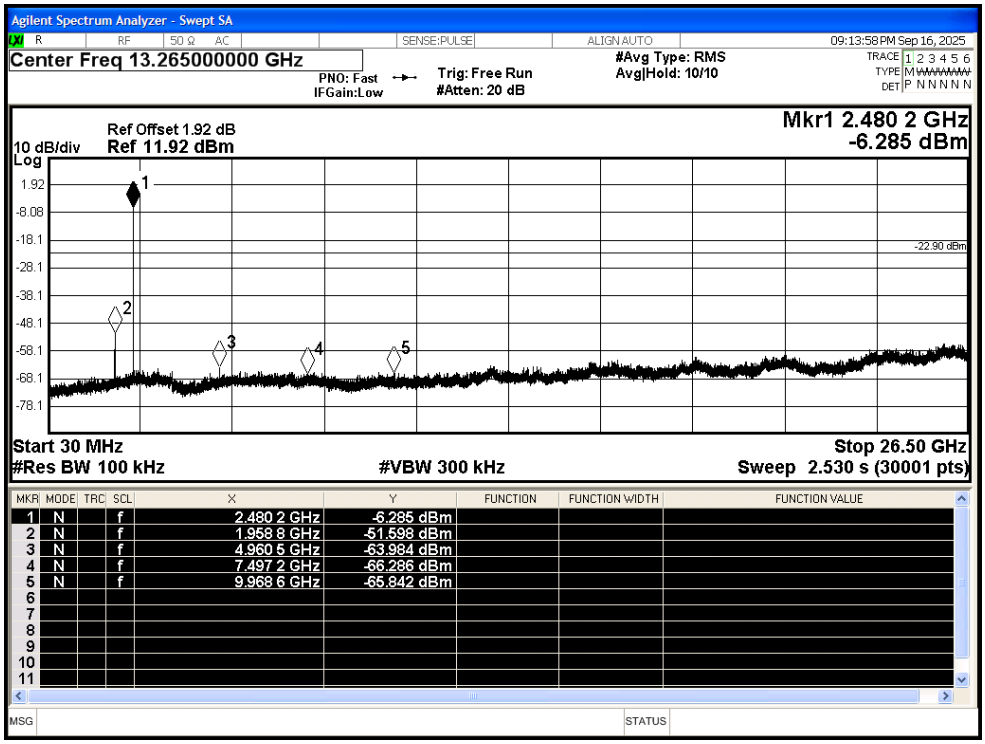
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



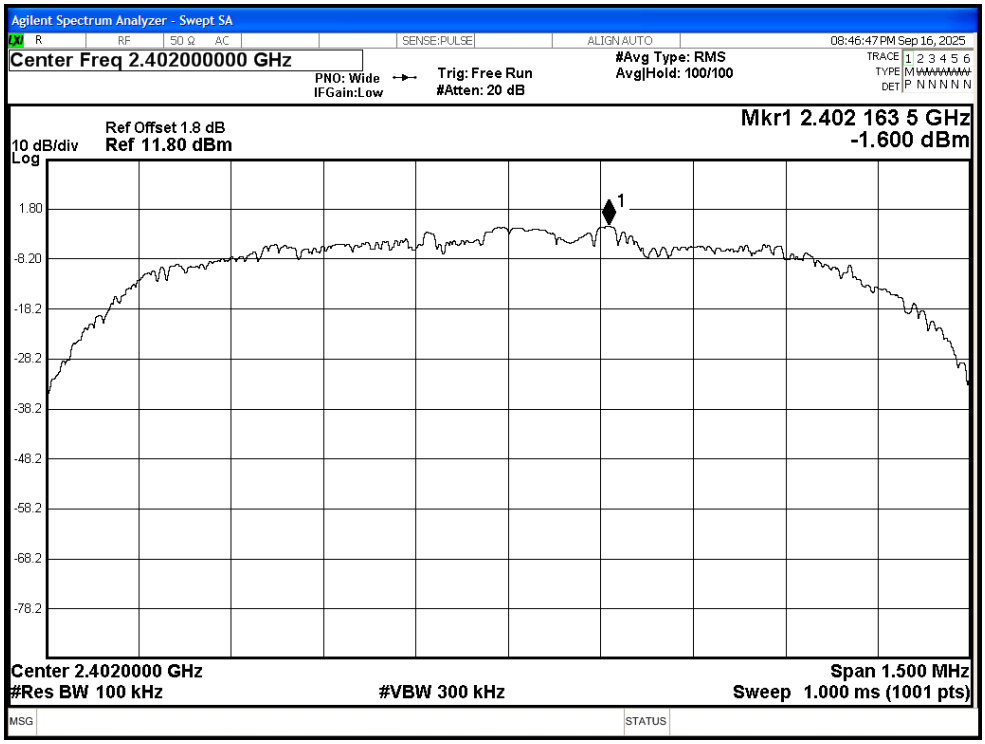
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



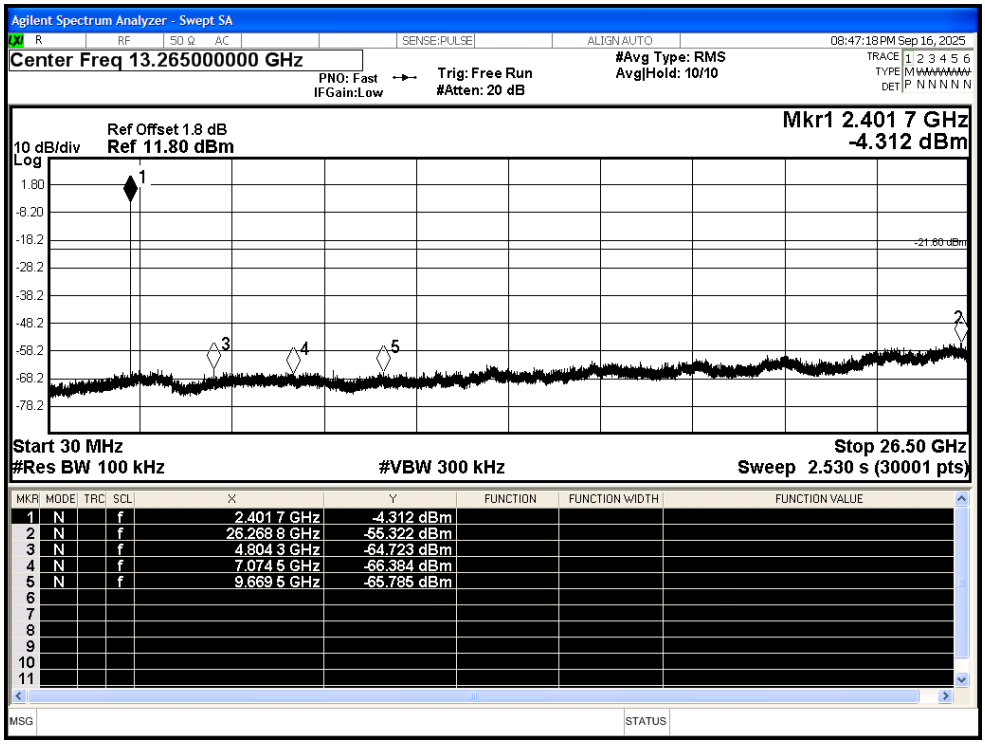
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



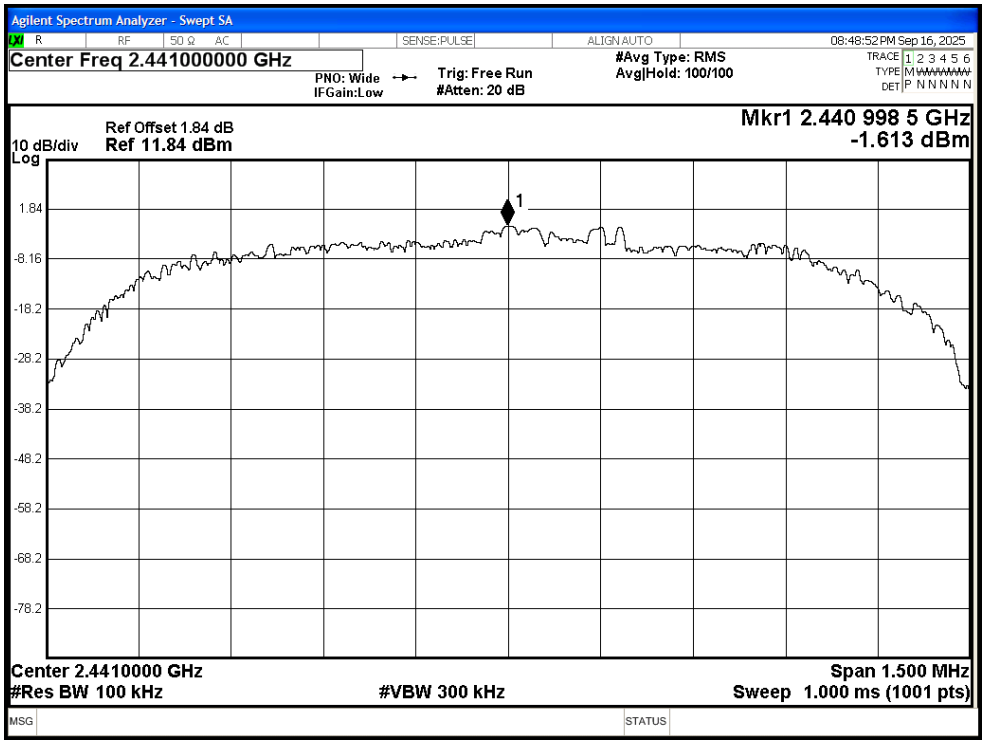
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



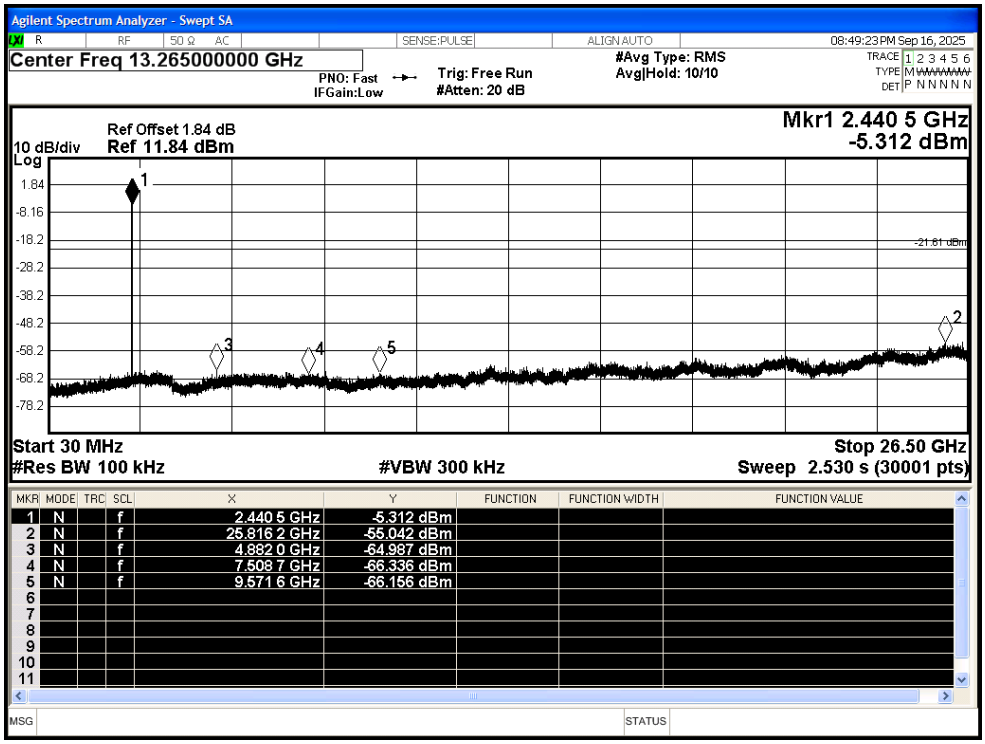
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



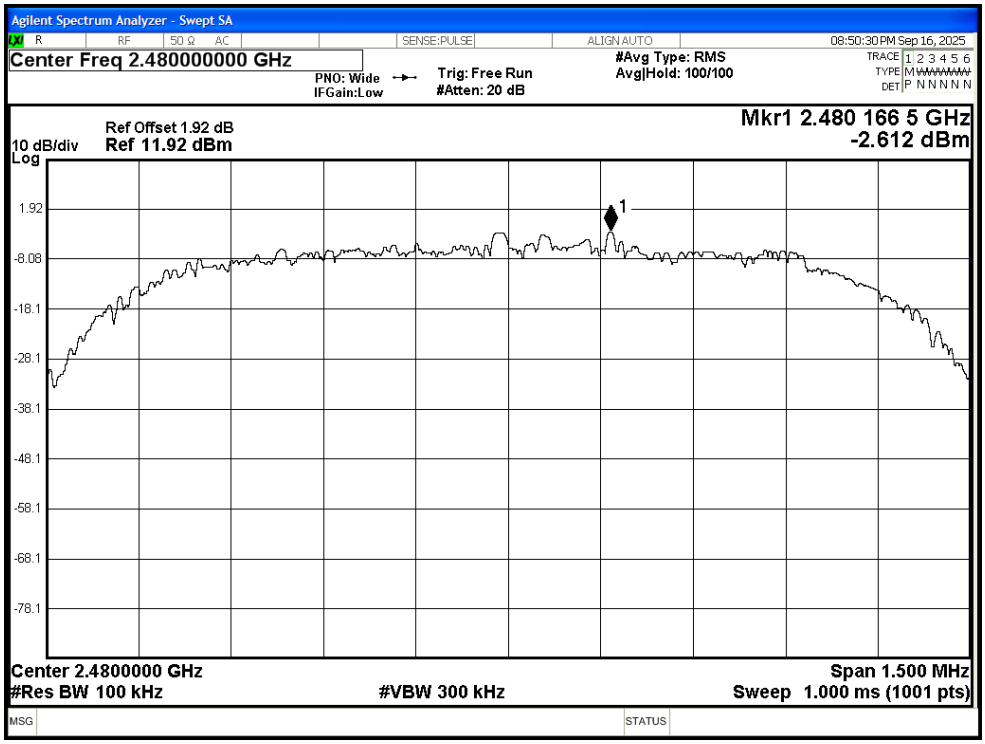
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



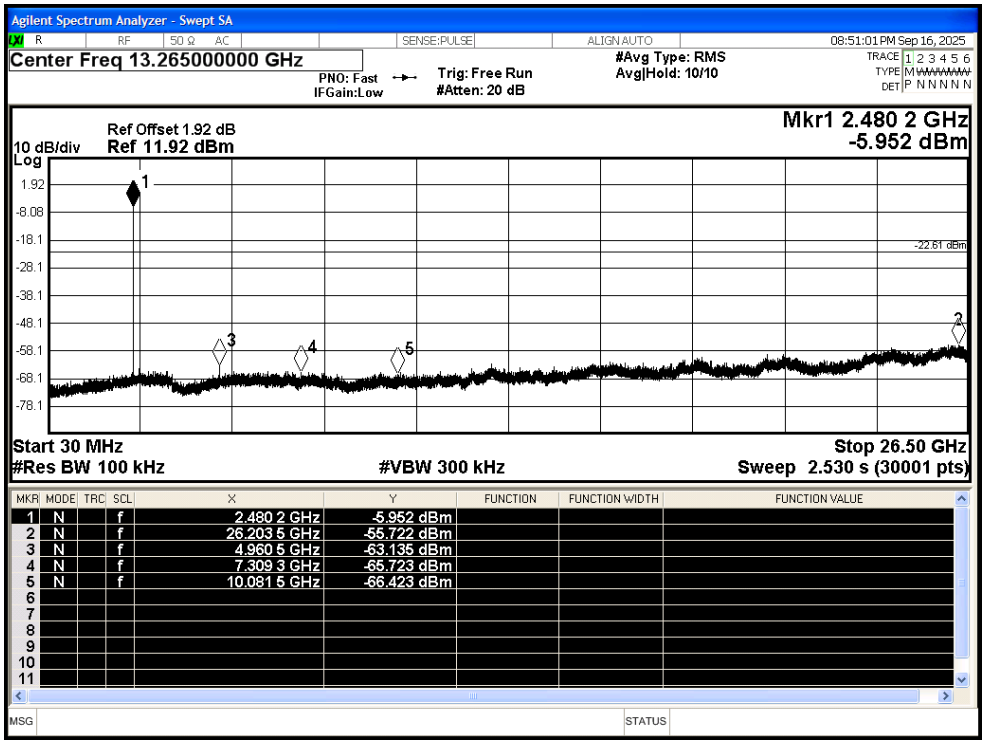
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

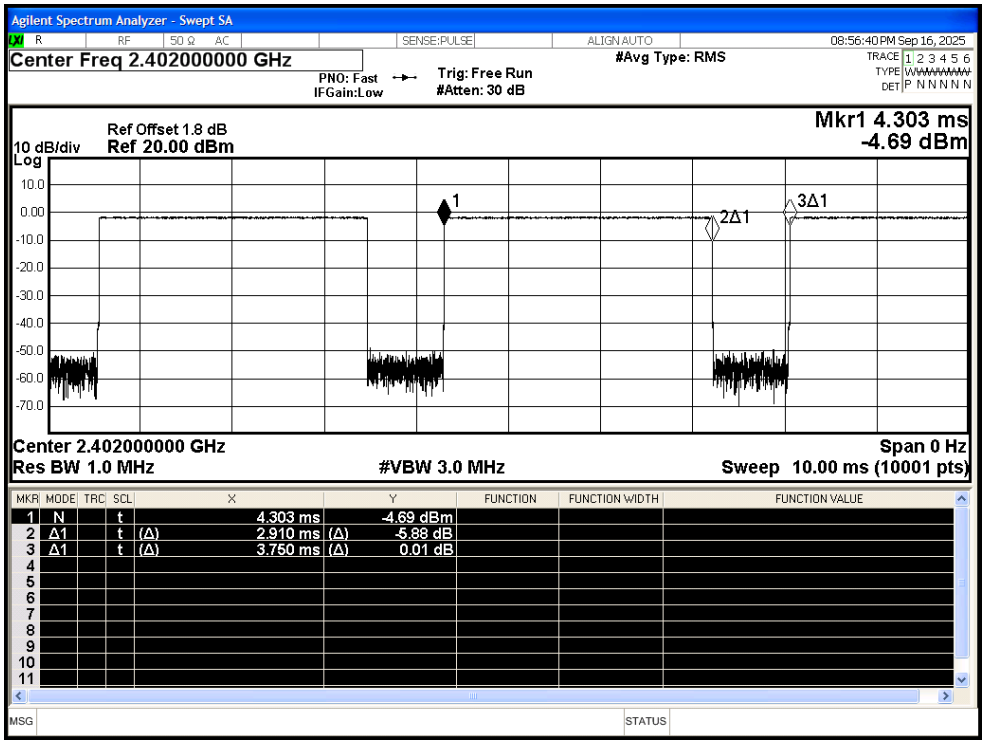


A.8 Duty Cycle

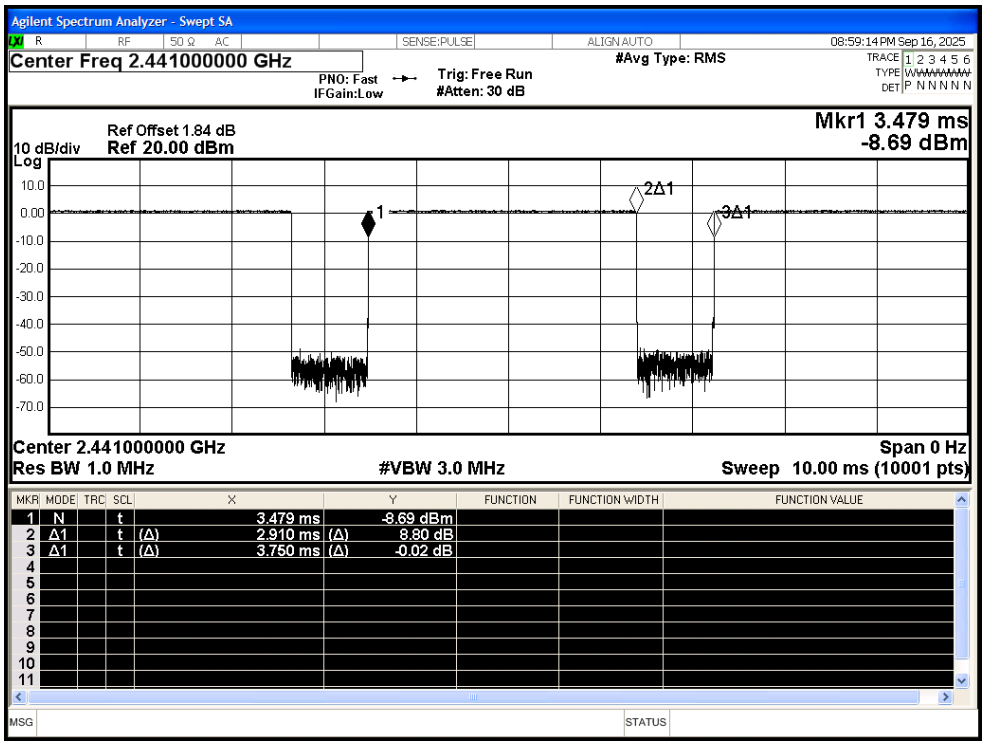
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35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

Test Graphs

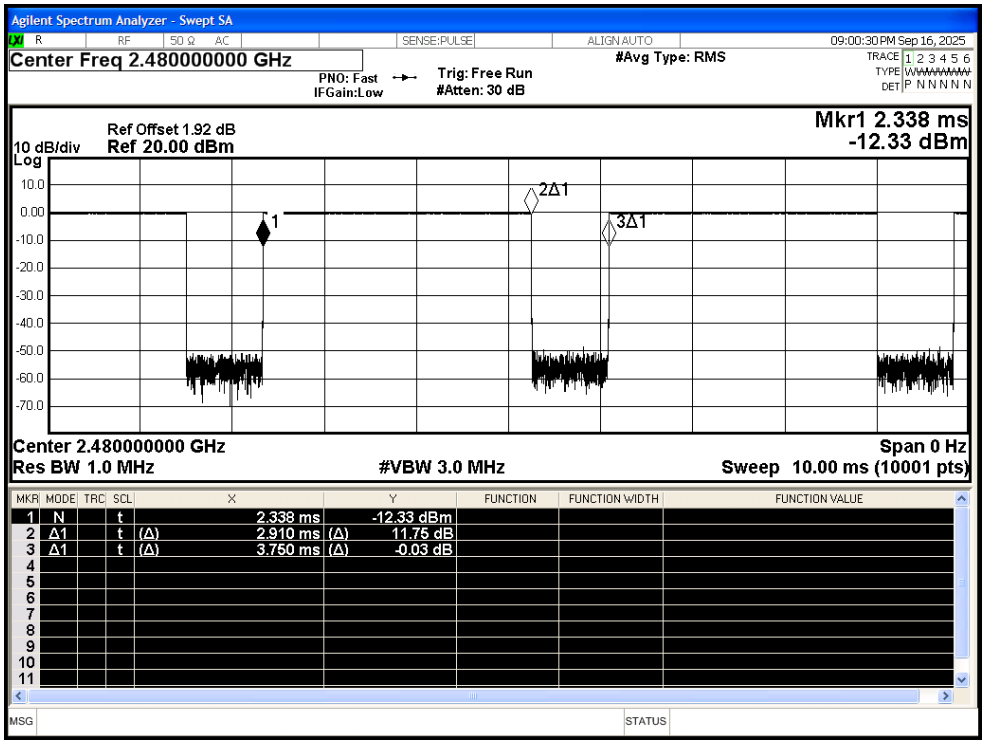
Duty Cycle NVNT 1-DH5 2402MHz Ant1



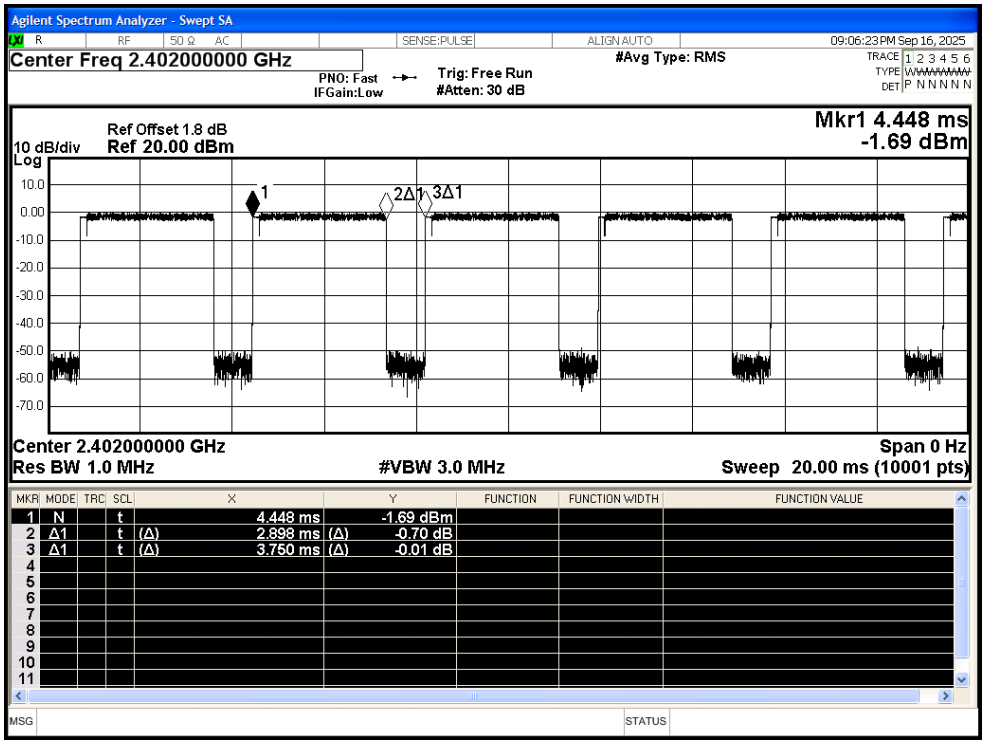
Duty Cycle NVNT 1-DH5 2441MHz Ant1



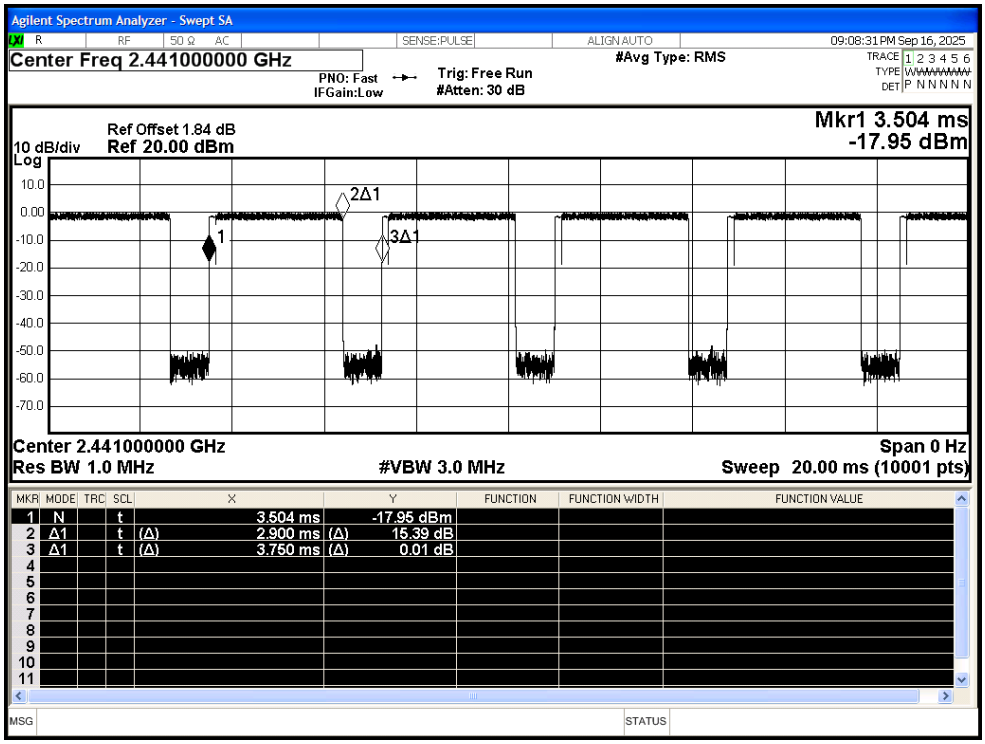
Duty Cycle NVNT 1-DH5 2480MHz Ant1



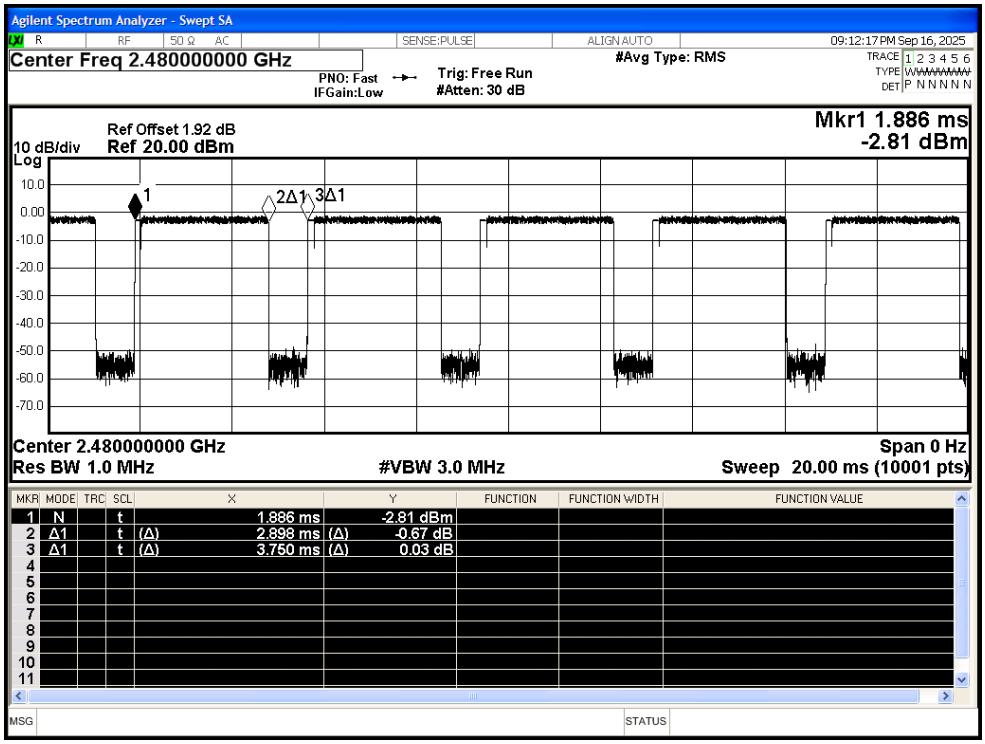
Duty Cycle NVNT 2-DH5 2402MHz Ant1



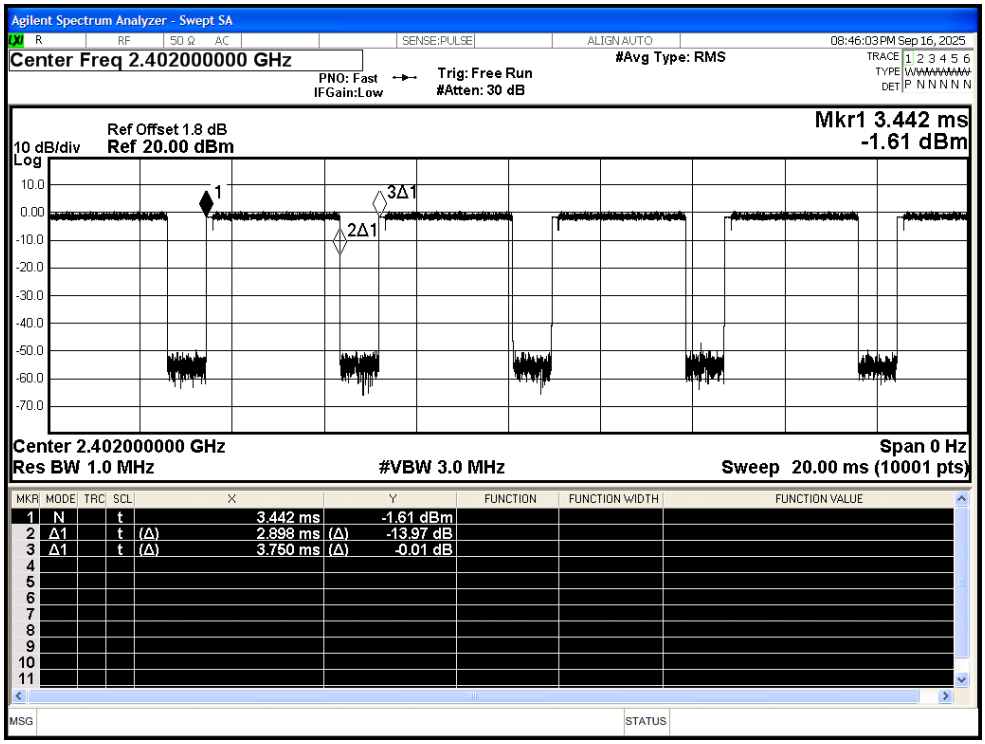
Duty Cycle NVNT 2-DH5 2441MHz Ant1



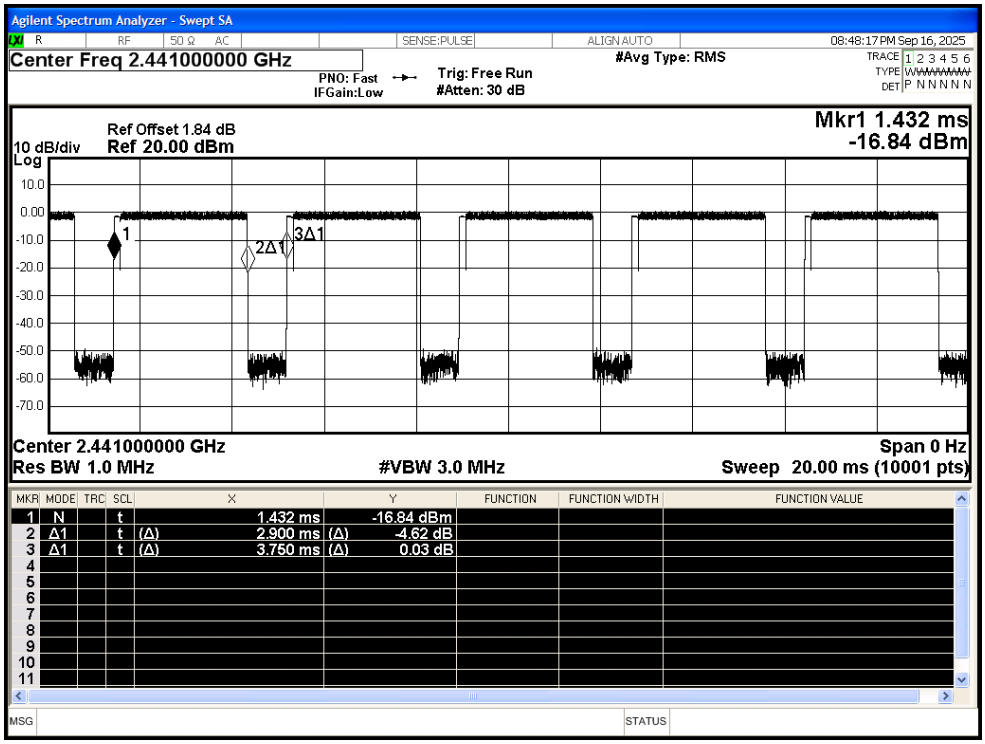
Duty Cycle NVNT 2-DH5 2480MHz Ant1



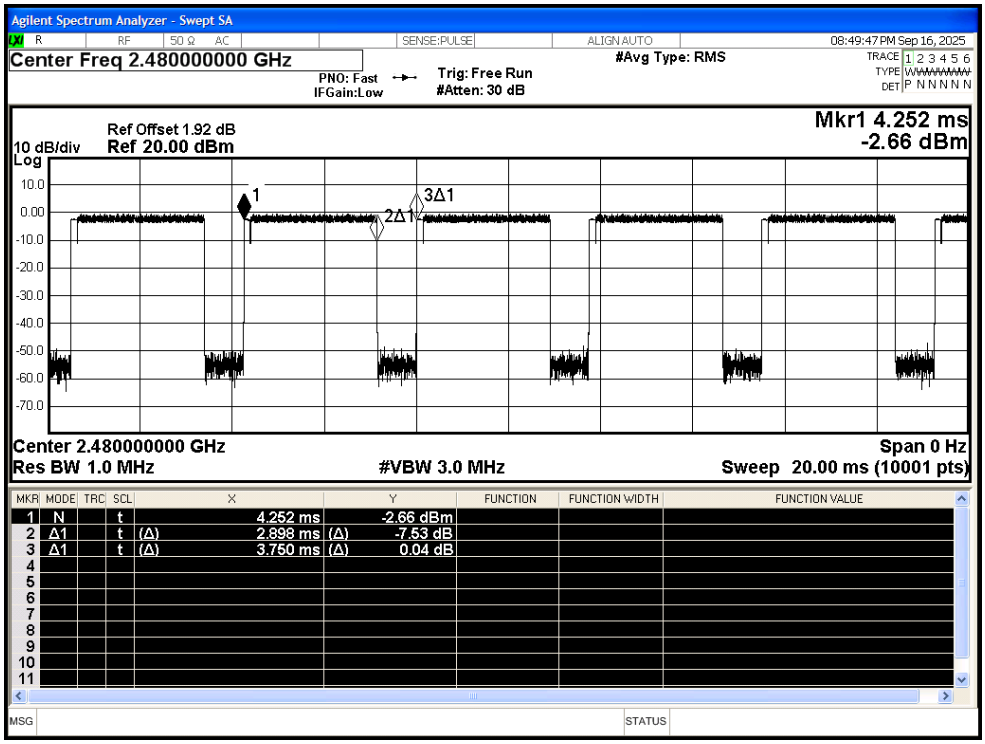
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

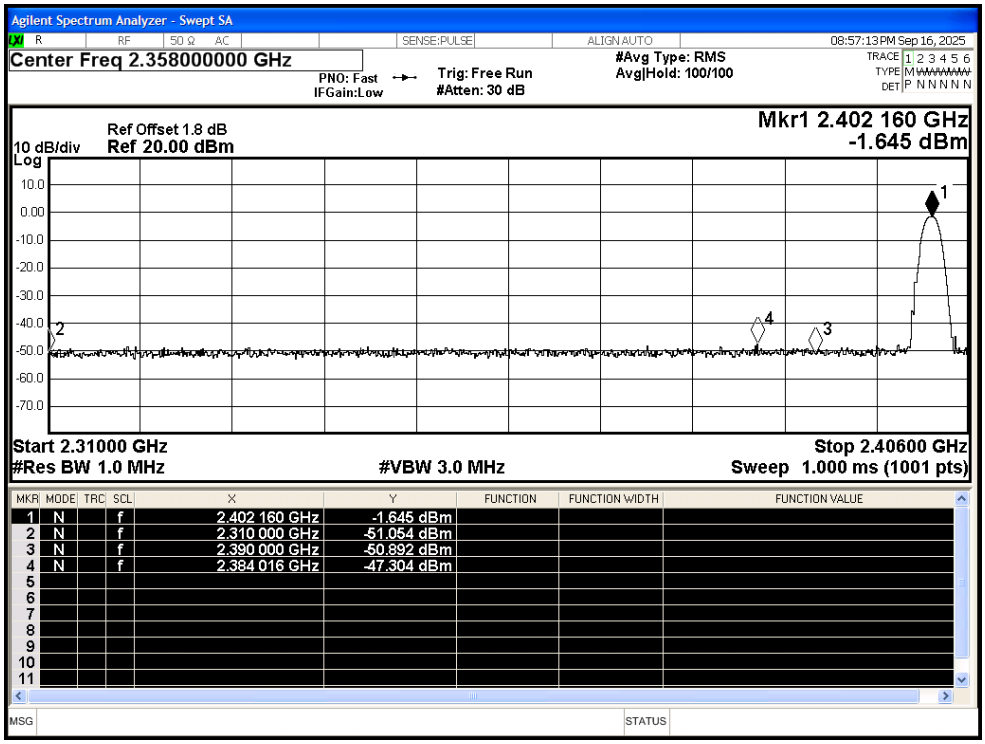


A.9 Restrict Band

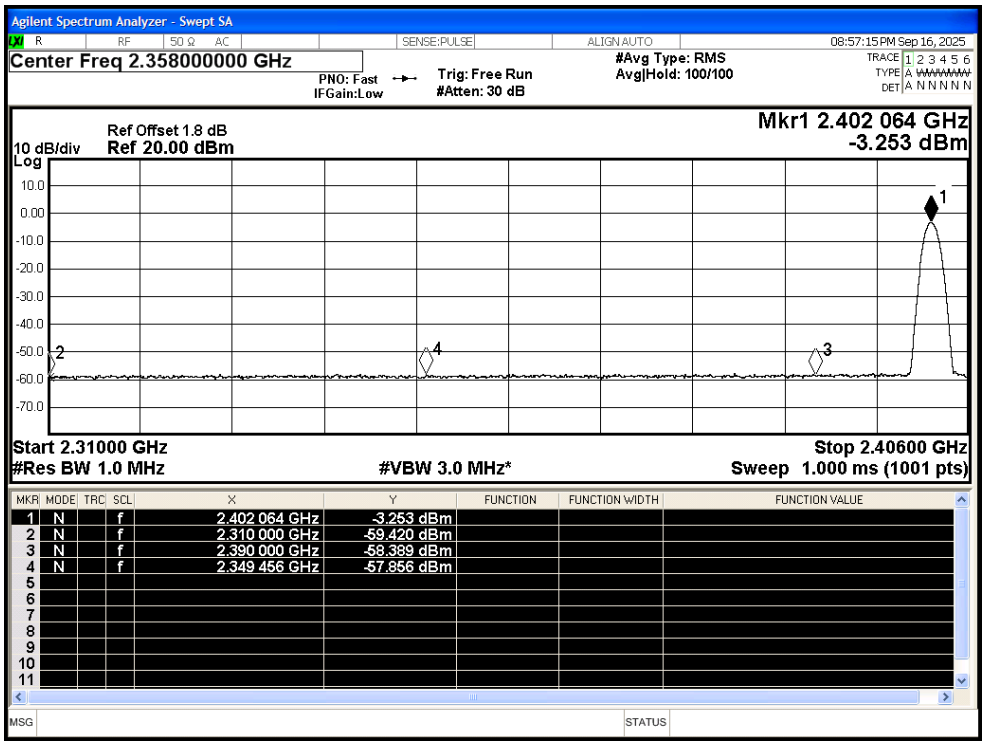
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.05	2	-	46.21	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.42	2	1.1	38.94	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.016	-47.3	2	-	49.96	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2349.456	-57.86	2	1.1	40.5	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.89	2	-	46.37	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.39	2	1.1	39.97	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.05	2	-	48.21	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.98	2	1.1	40.38	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.976	-47.23	2	-	50.03	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.584	-57.25	2	1.1	41.11	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.17	2	-	46.09	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.11	2	1.1	40.25	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.52	2	-	46.74	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.69	2	1.12	39.69	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2360.688	-47.91	2	-	49.35	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2383.92	-57.9	2	1.12	40.48	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.06	2	-	47.2	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.45	2	1.12	39.93	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-51.59	2	-	45.67	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.23	2	1.12	41.15	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2486.728	-46.34	2	-	50.92	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-57.23	2	1.12	41.15	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.9	2	-	47.36	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.77	2	1.12	40.61	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.79	2	-	46.47	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.86	2	1.12	39.52	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.144	-47.68	2	-	49.58	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2347.44	-58	2	1.12	40.38	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.01	2	-	48.25	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.78	2	1.12	39.6	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.06	2	-	47.2	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.64	2	1.12	40.74	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.528	-45.34	2	-	51.92	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2498.536	-57.31	2	1.12	41.07	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-51.24	2	-	46.02	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.21	2	1.12	40.17	Average	54	Pass

Test Graphs

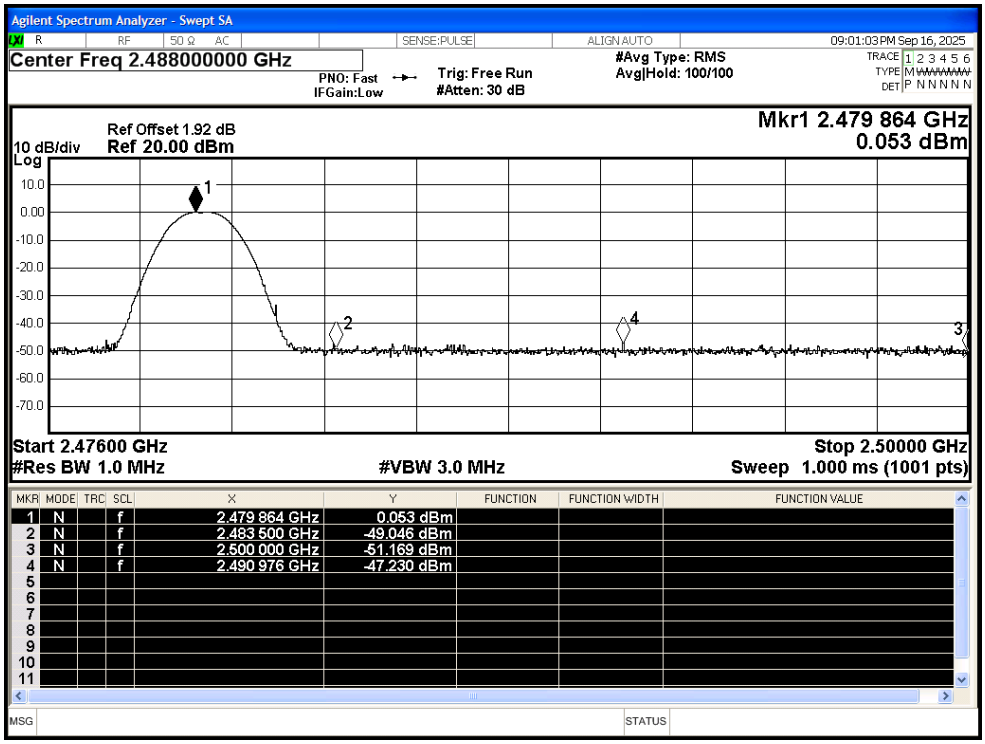
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



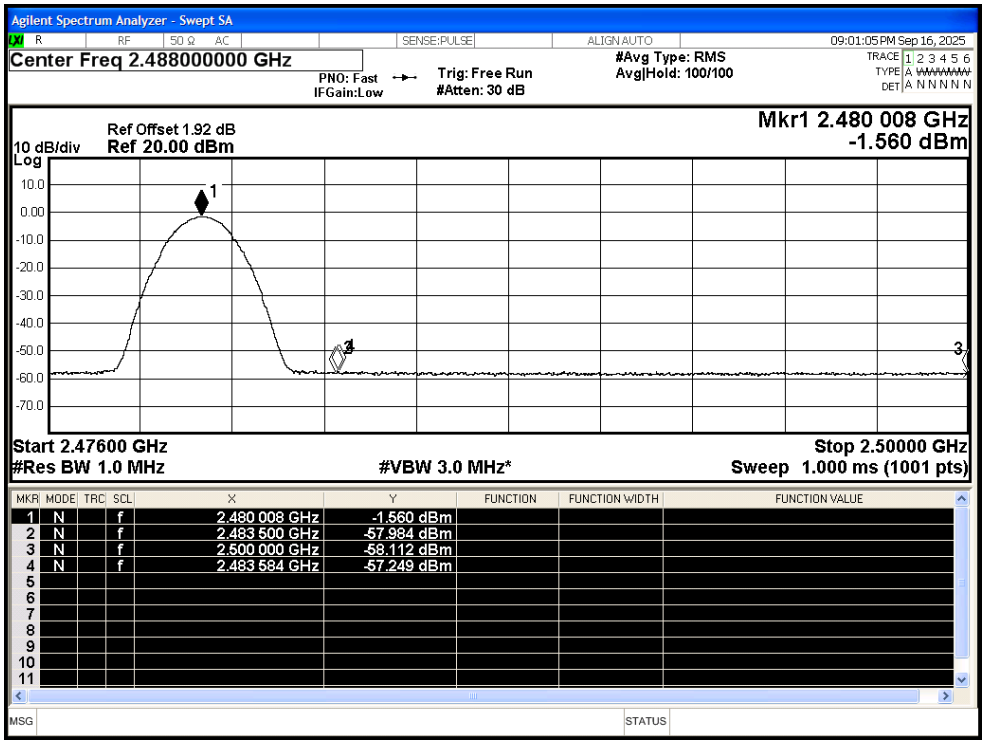
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



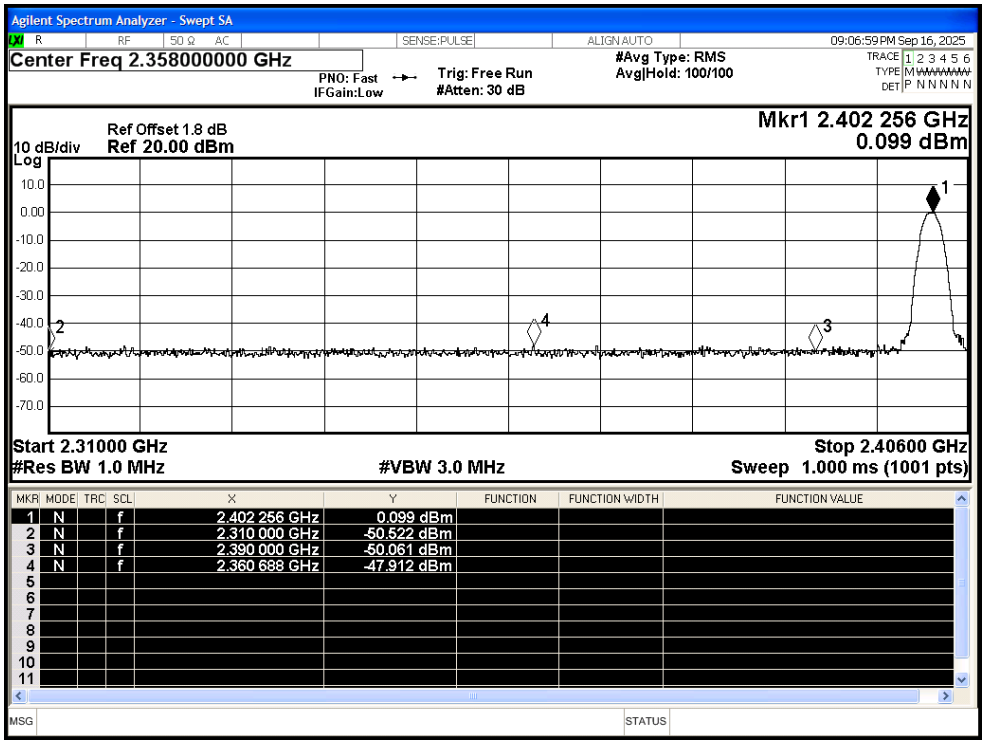
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



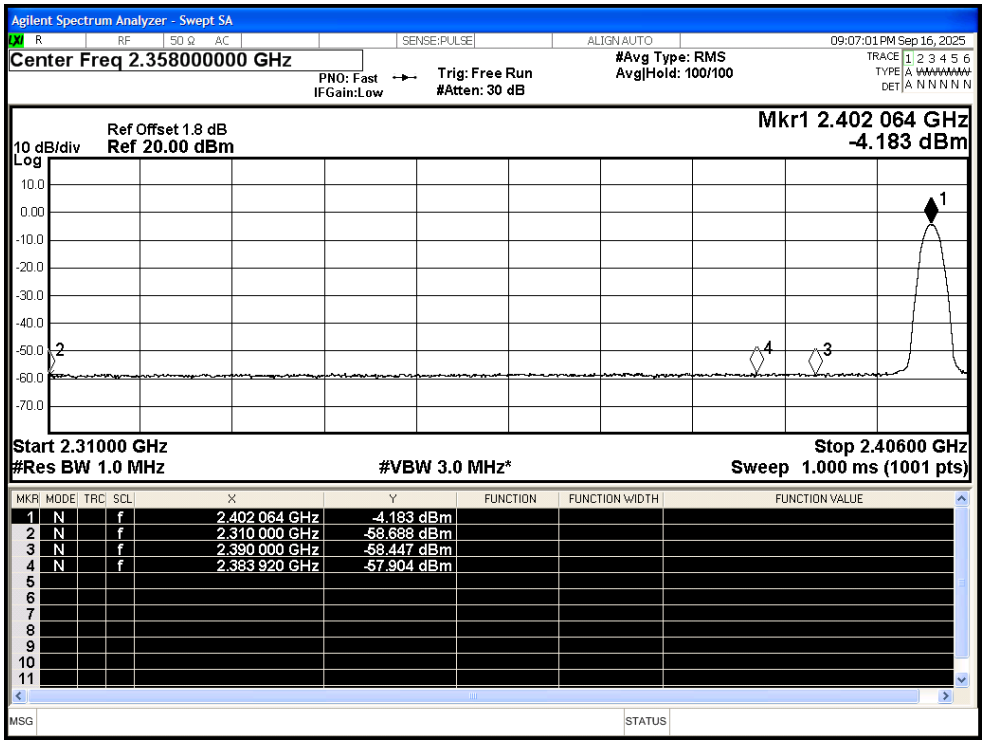
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



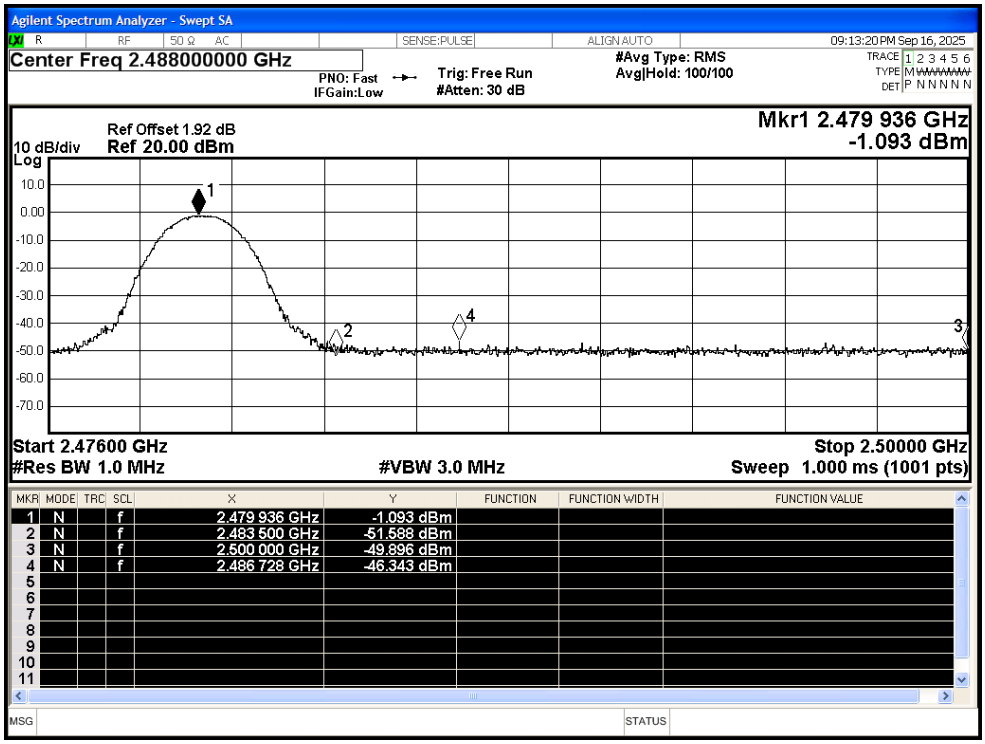
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



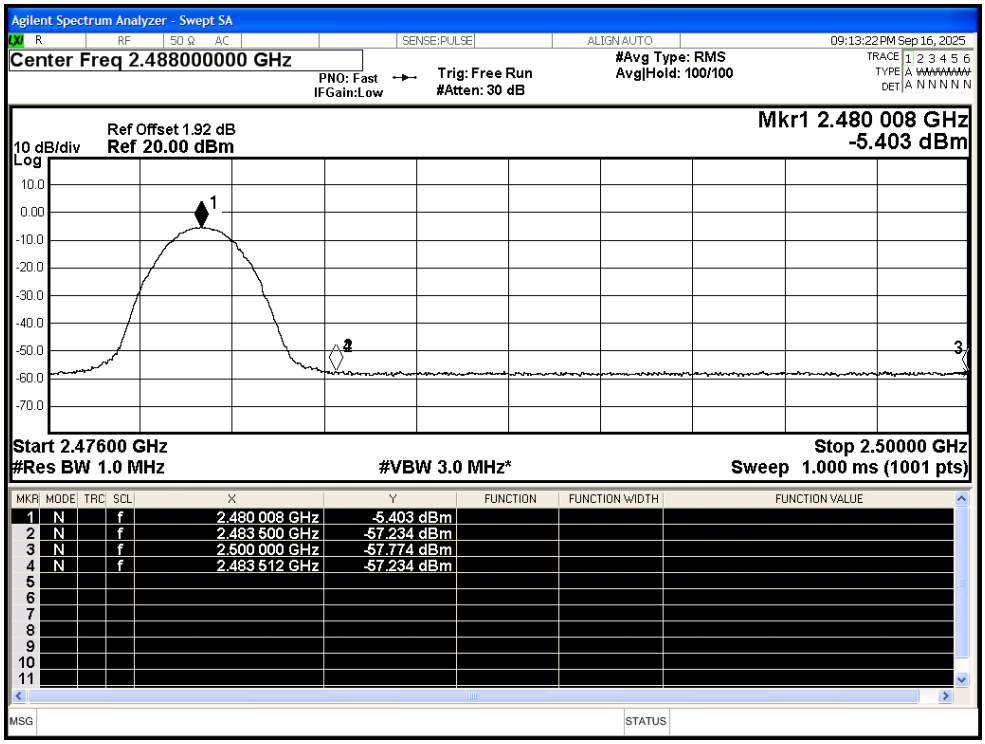
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



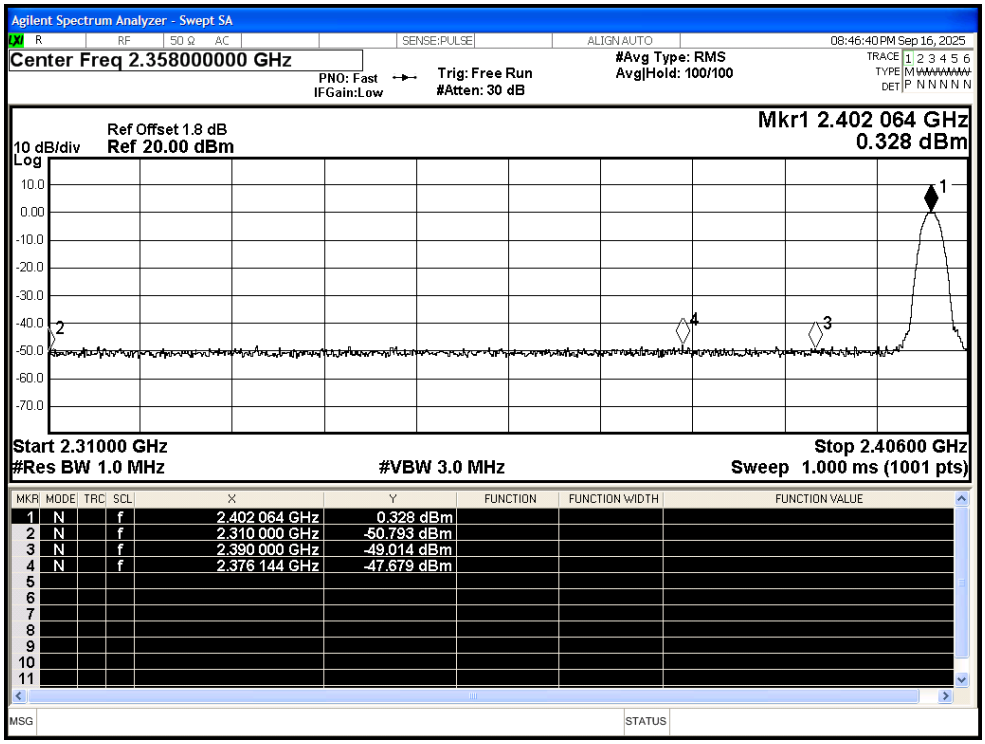
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



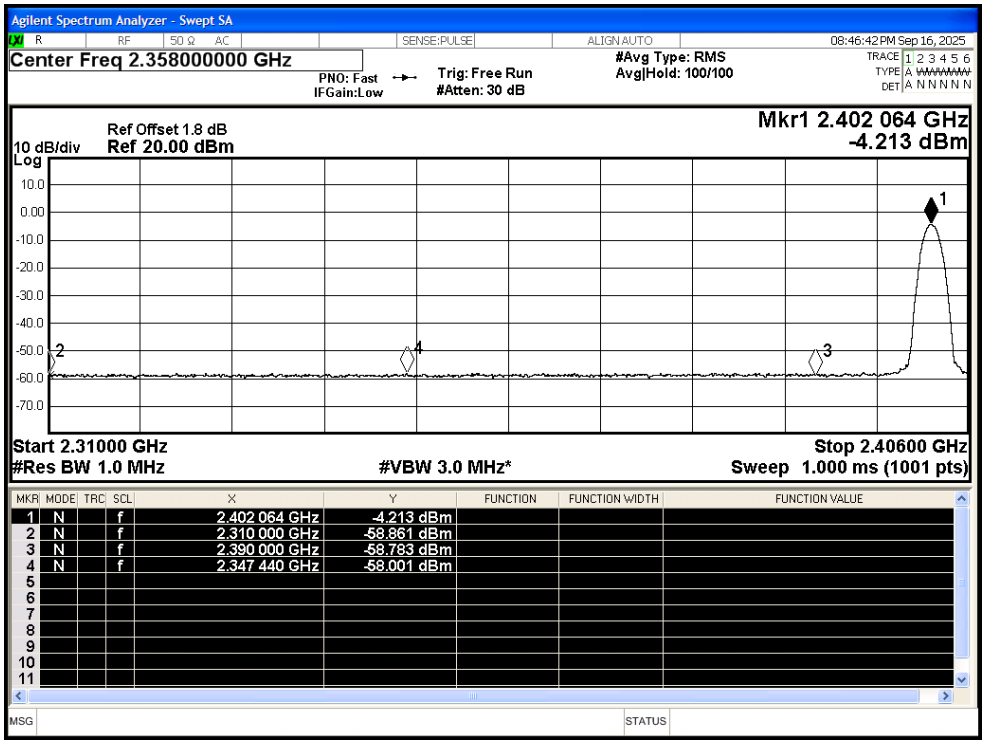
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



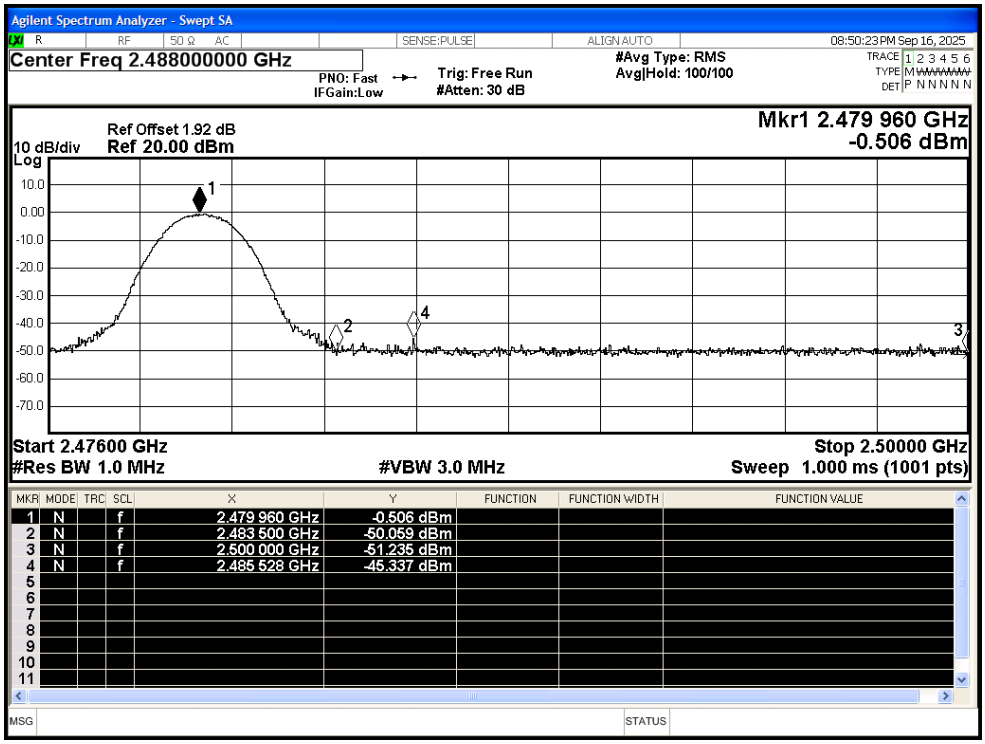
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

