Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: TG STREAM

Test Model: TL-4KOT

Environmental Conditions

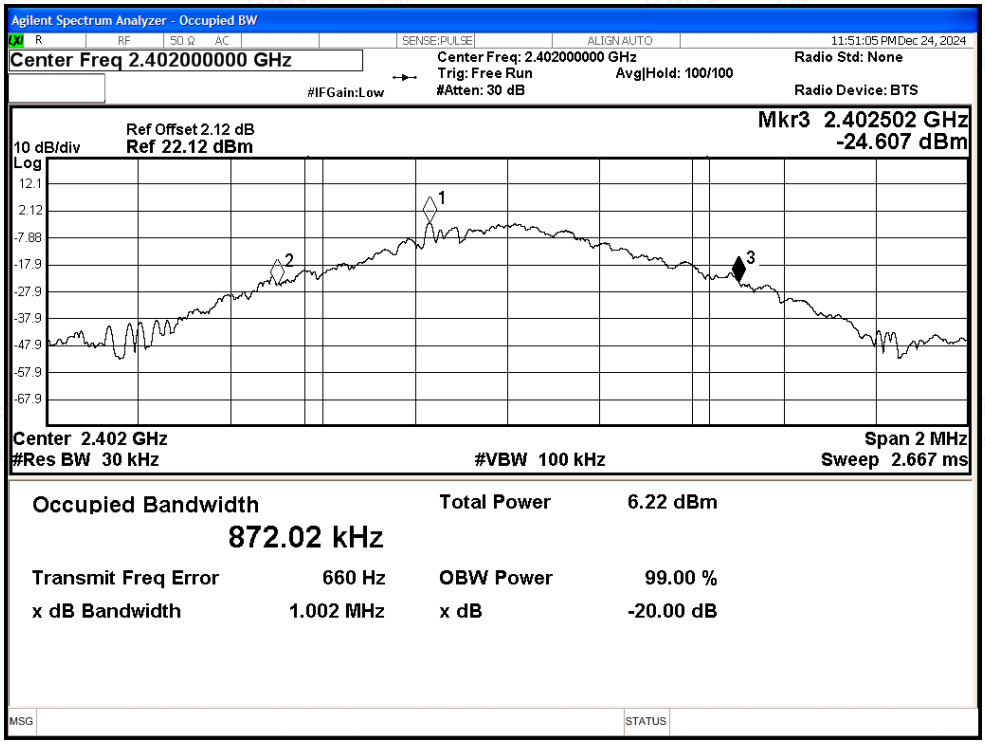
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

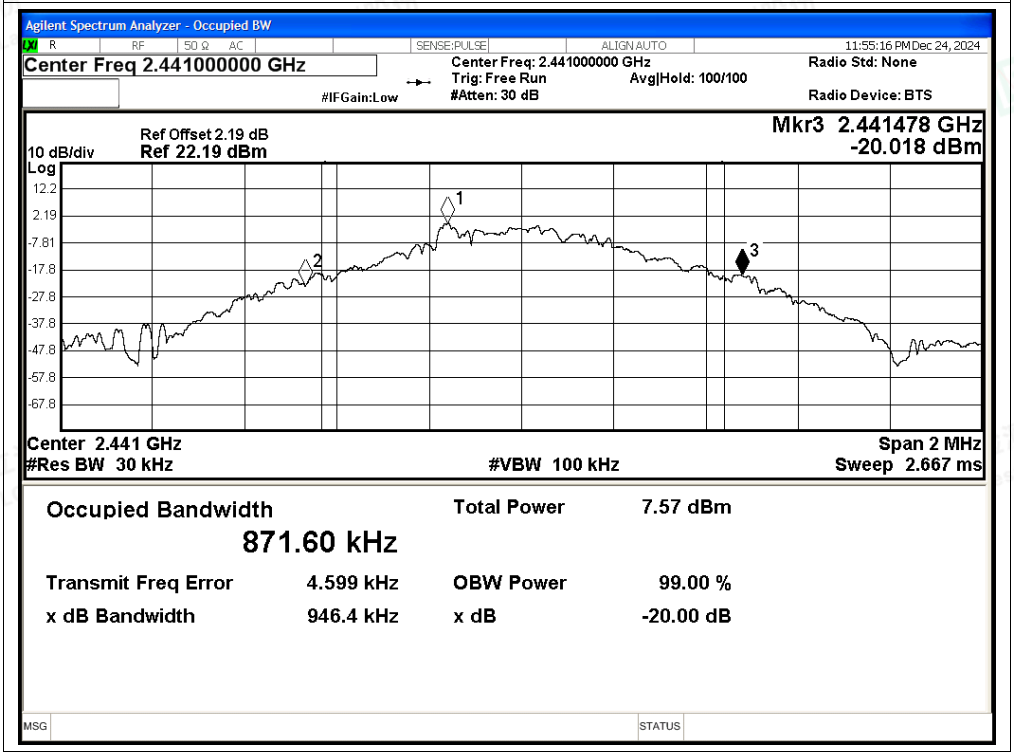
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.002	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.946	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.013	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.277	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.282	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.301	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.283	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.301	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.301	N/A	Pass

Test Graphs

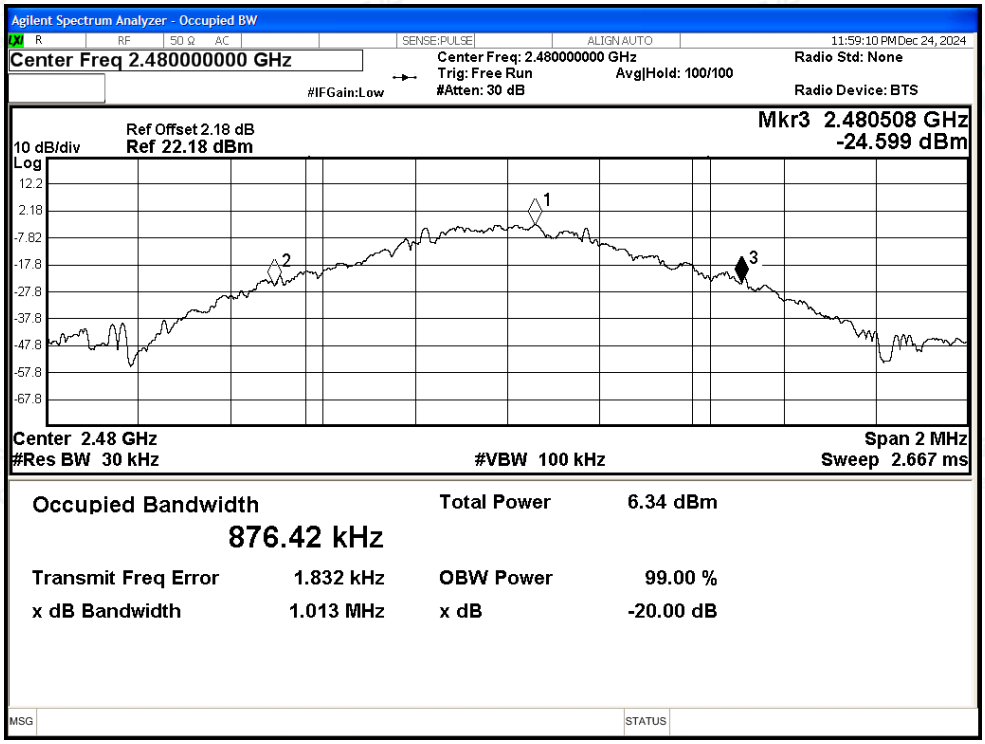
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



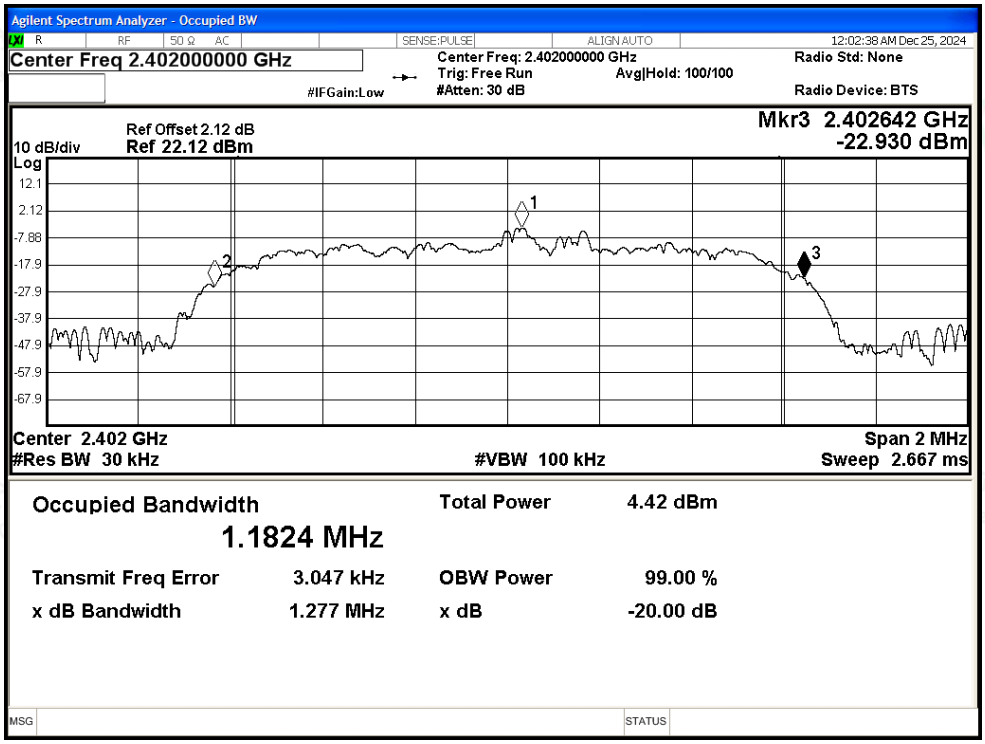
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



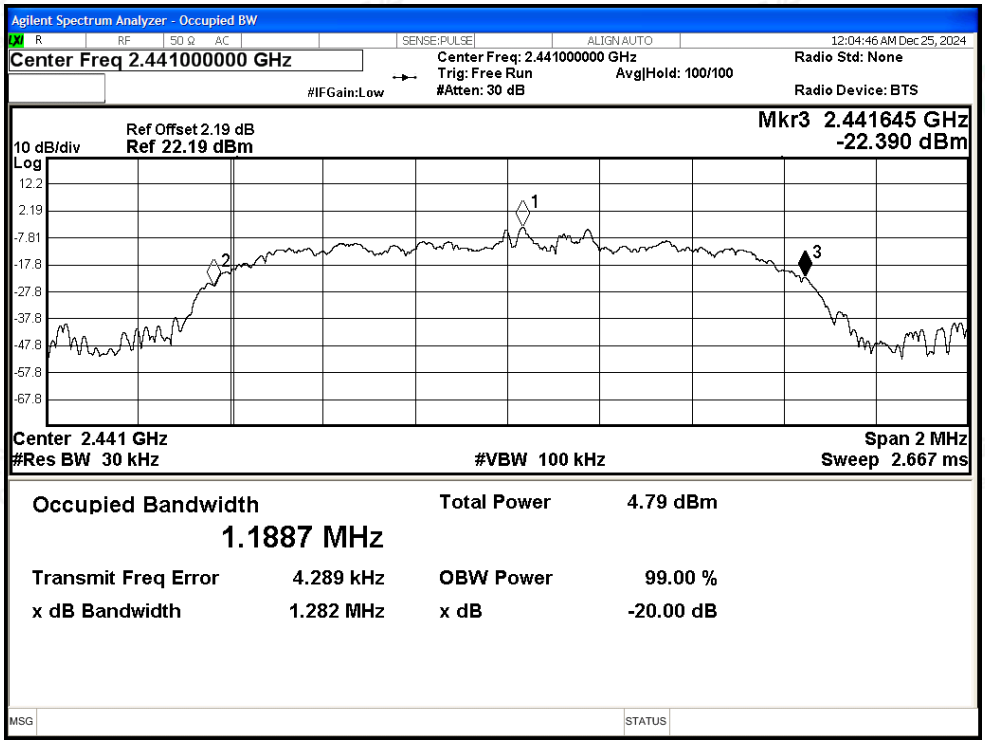
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



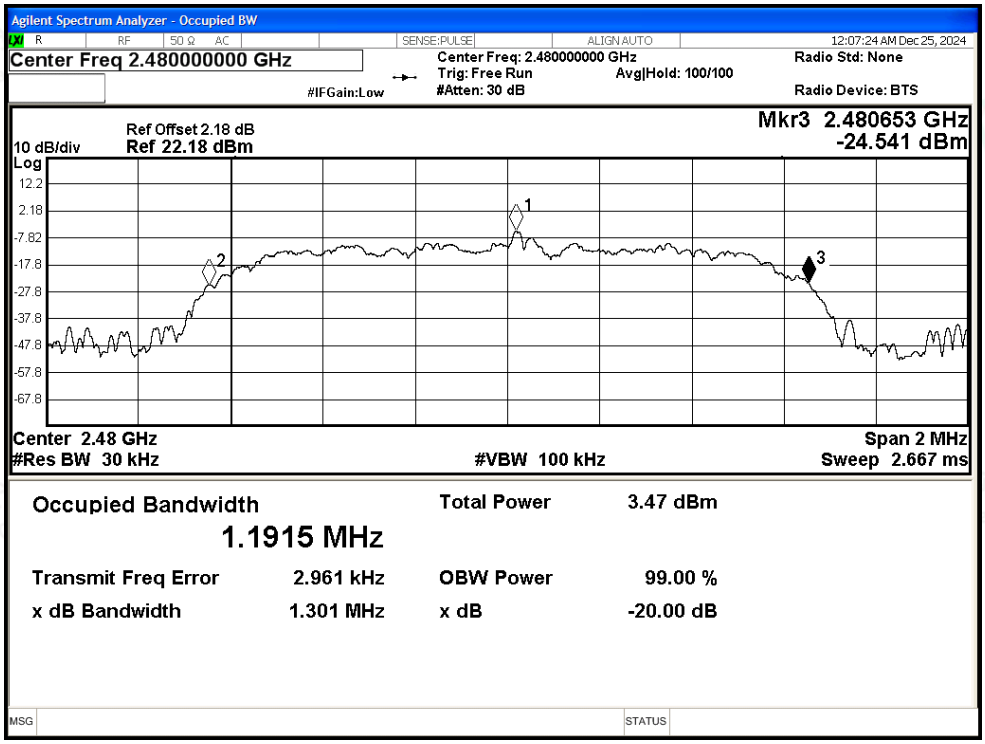
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



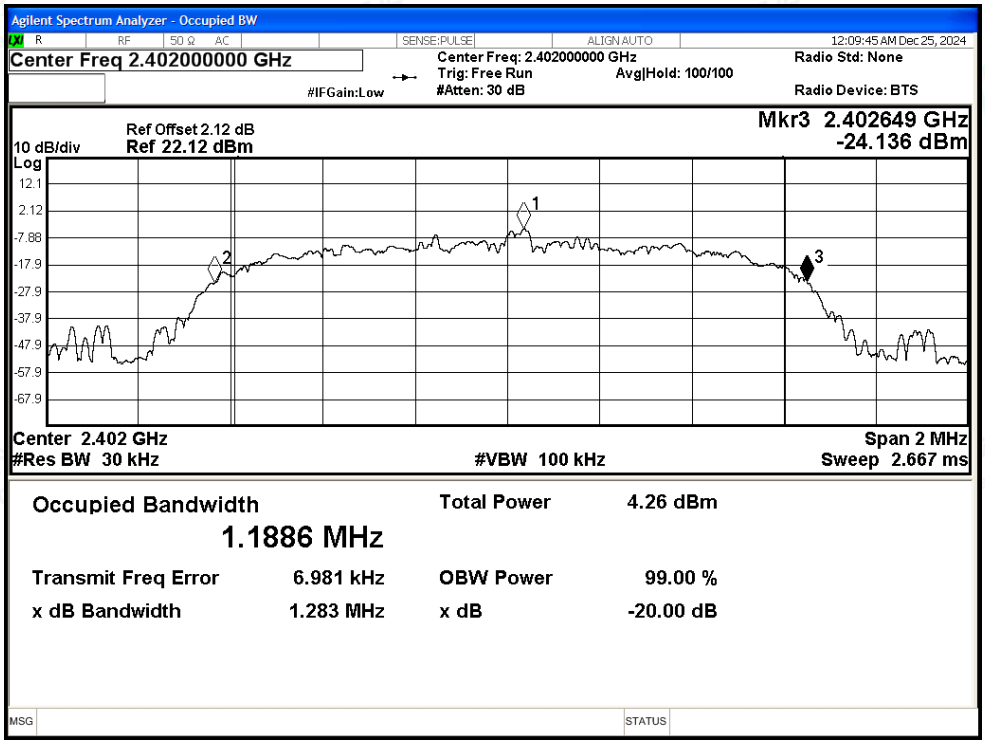
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



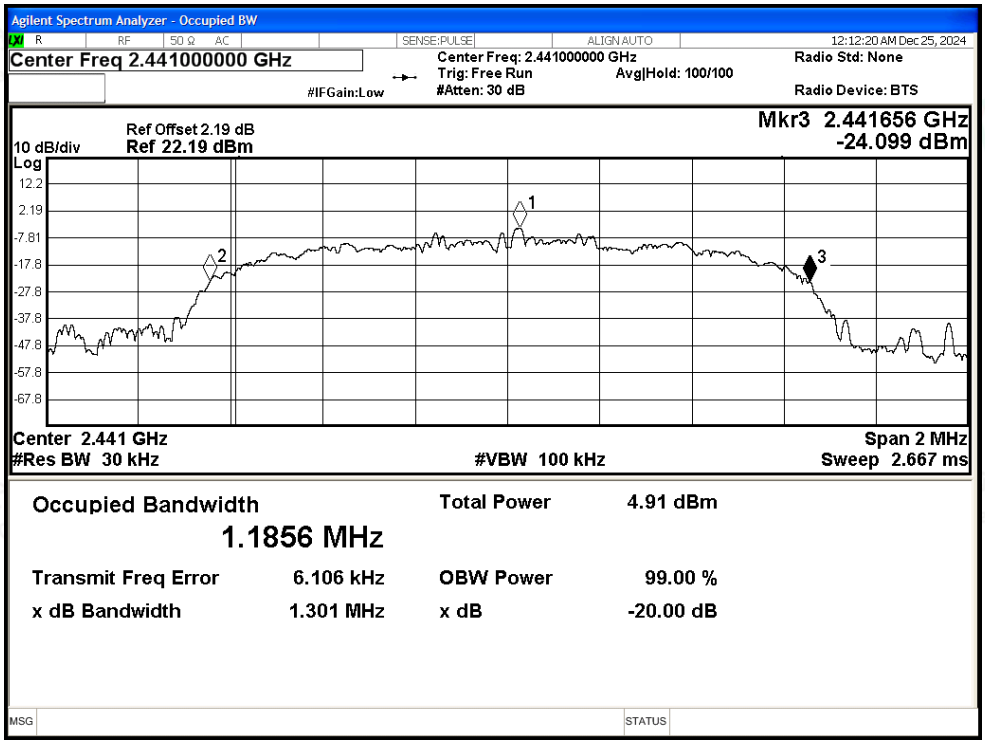
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



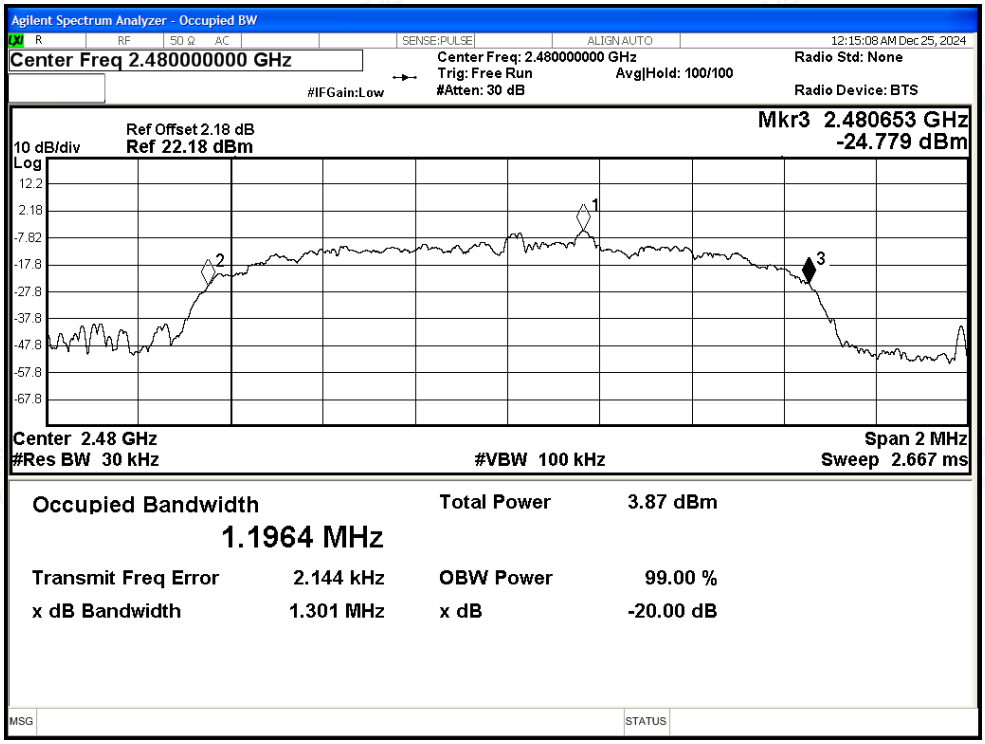
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

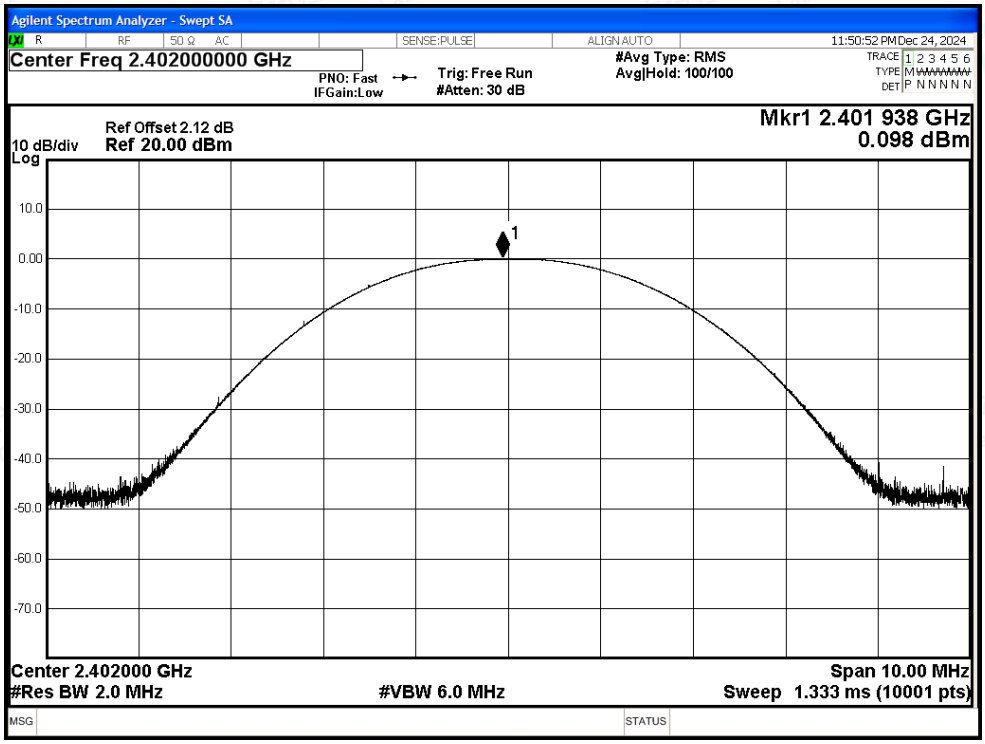


A.2 Maximum Peak Conducted Output Power

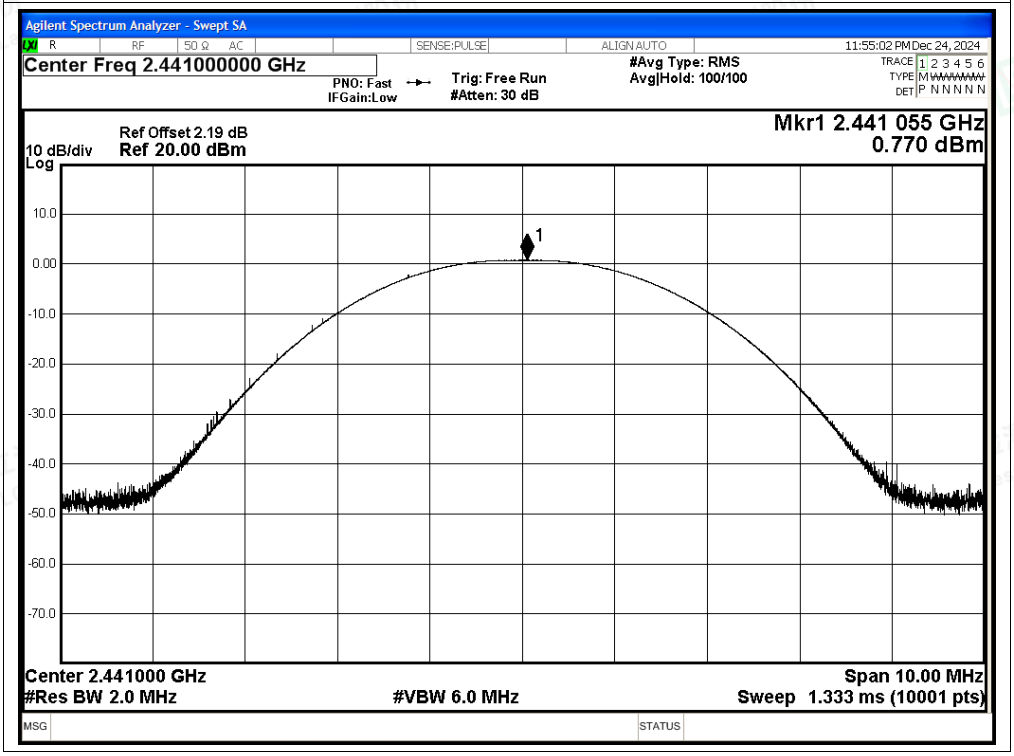
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.1	21	Pass
NVNT	1-DH5	2441	Ant1	0.77	21	Pass
NVNT	1-DH5	2480	Ant1	0.25	21	Pass
NVNT	2-DH5	2402	Ant1	-0.18	21	Pass
NVNT	2-DH5	2441	Ant1	0.32	21	Pass
NVNT	2-DH5	2480	Ant1	-0.56	21	Pass
NVNT	3-DH5	2402	Ant1	0.11	21	Pass
NVNT	3-DH5	2441	Ant1	0.68	21	Pass
NVNT	3-DH5	2480	Ant1	-0.23	21	Pass

Test Graphs

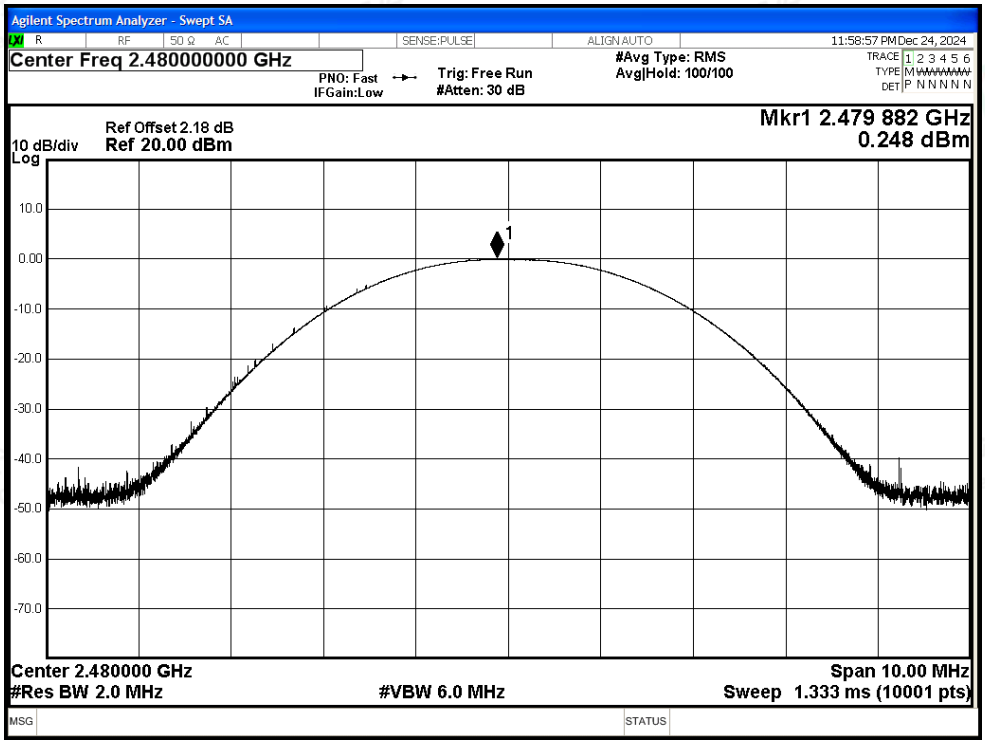
Power NVNT 1-DH5 2402MHz Ant1



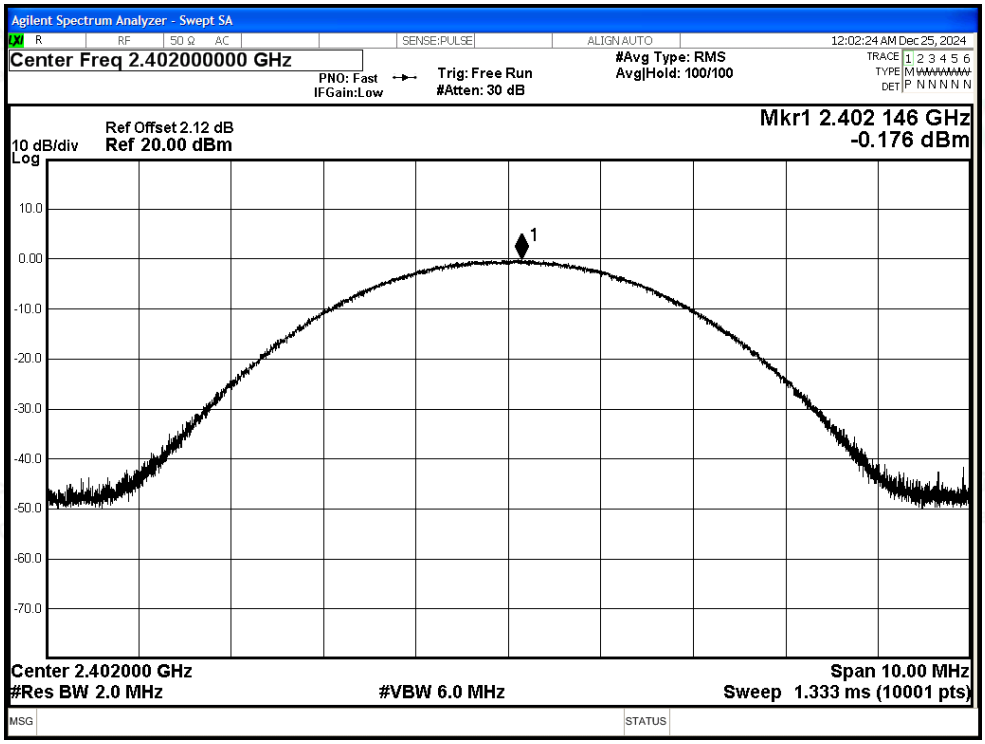
Power NVNT 1-DH5 2441MHz Ant1



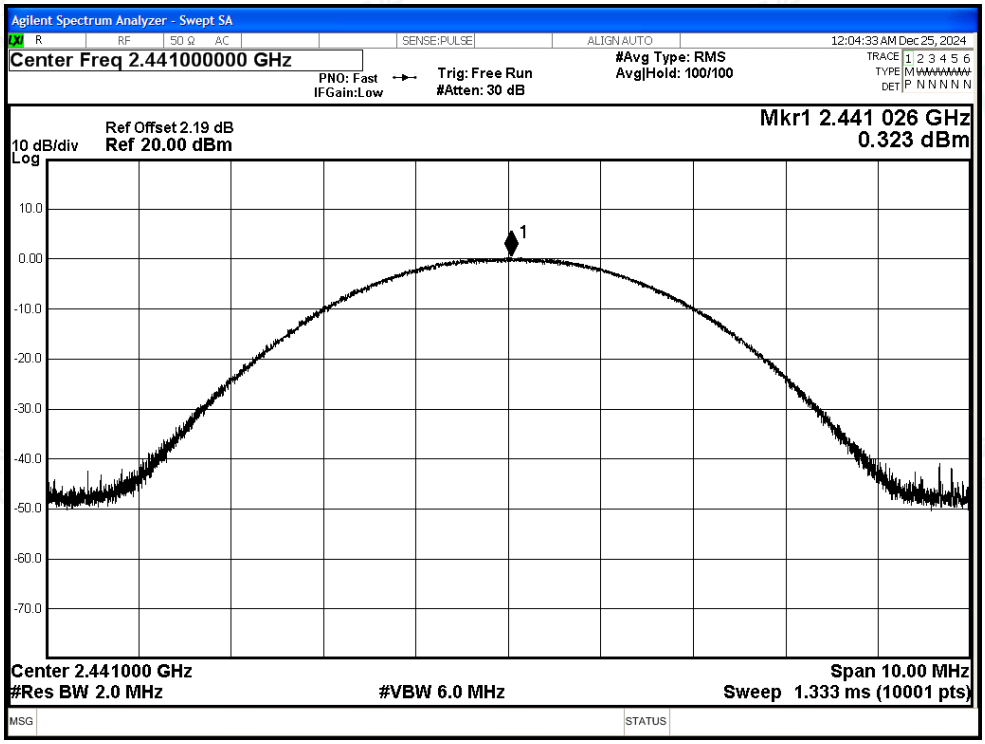
Power NVNT 1-DH5 2480MHz Ant1



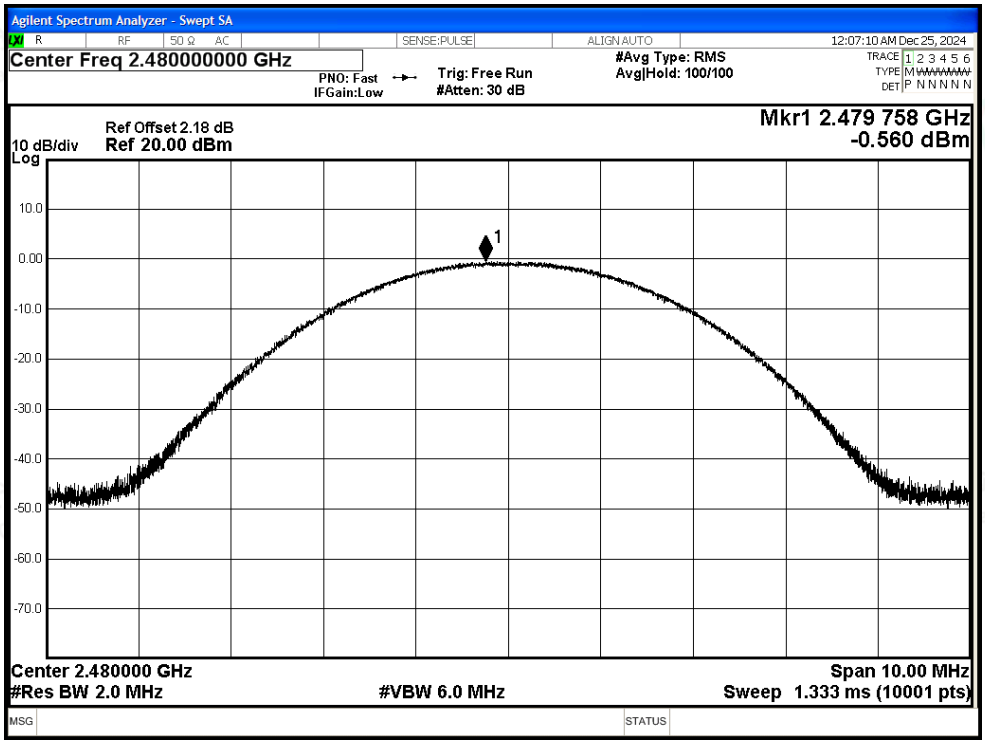
Power NVNT 2-DH5 2402MHz Ant1



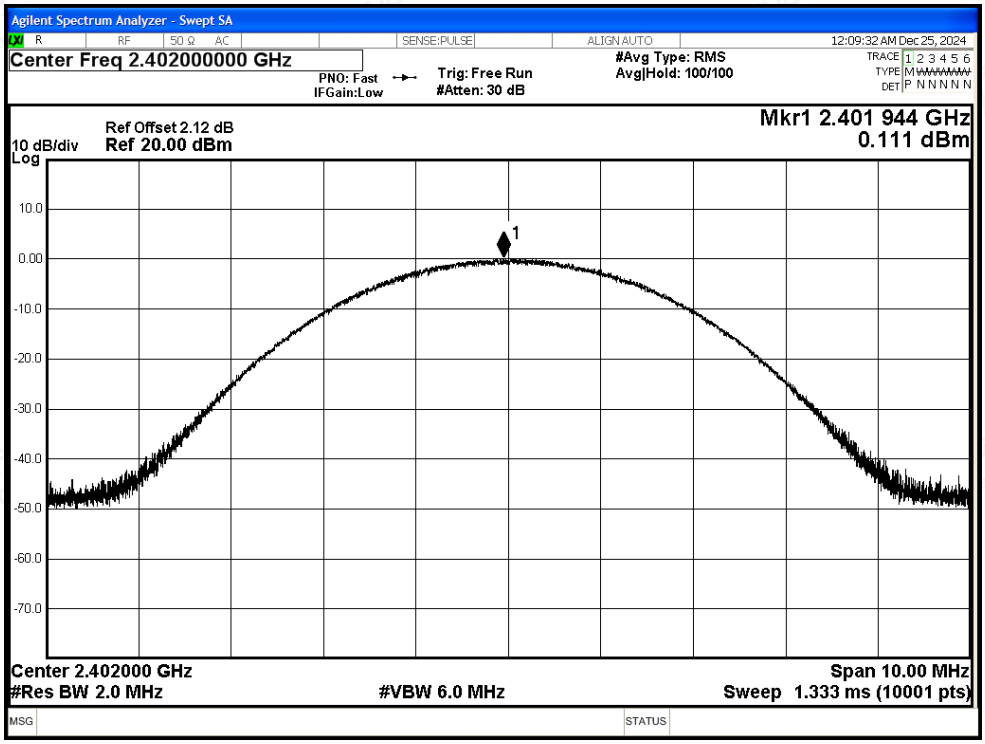
Power NVNT 2-DH5 2441MHz Ant1



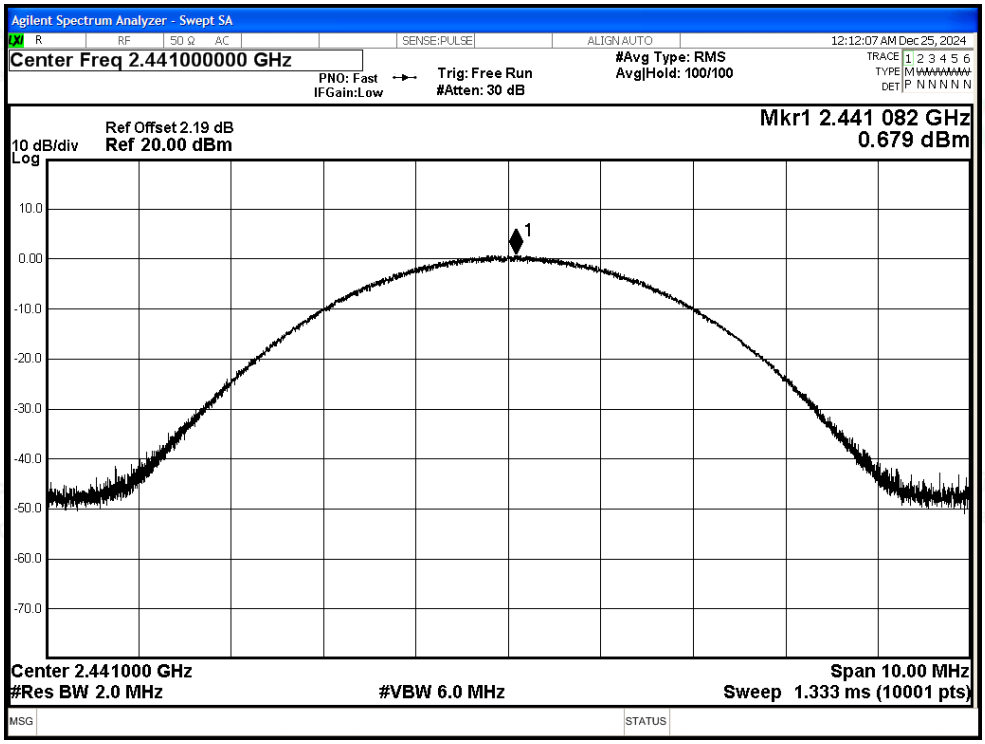
Power NVNT 2-DH5 2480MHz Ant1



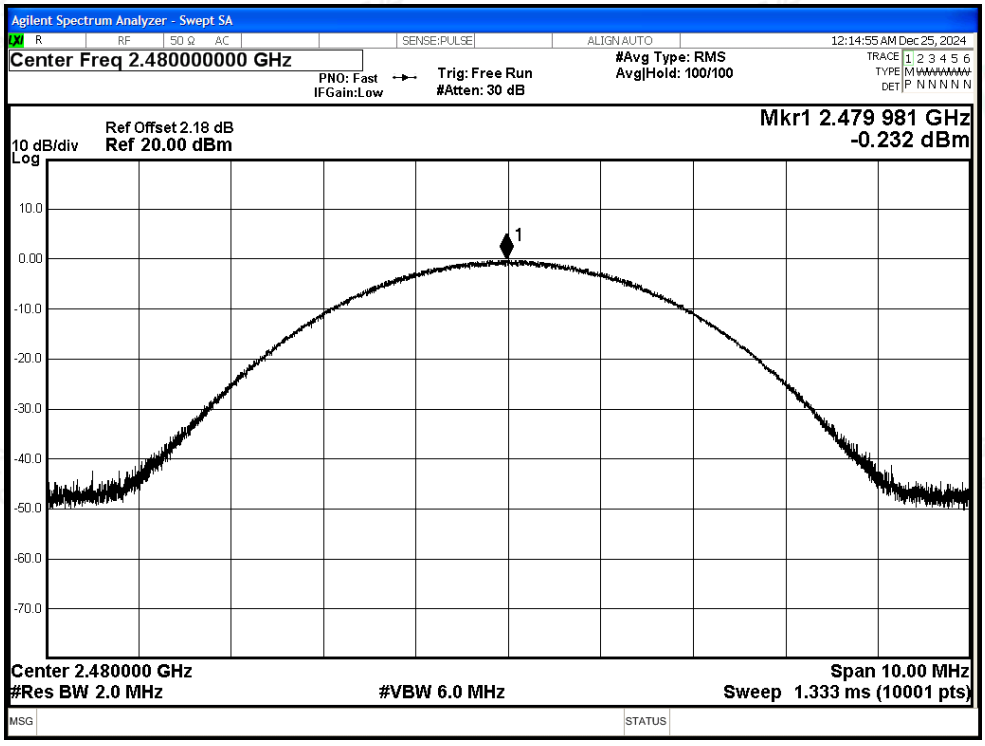
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

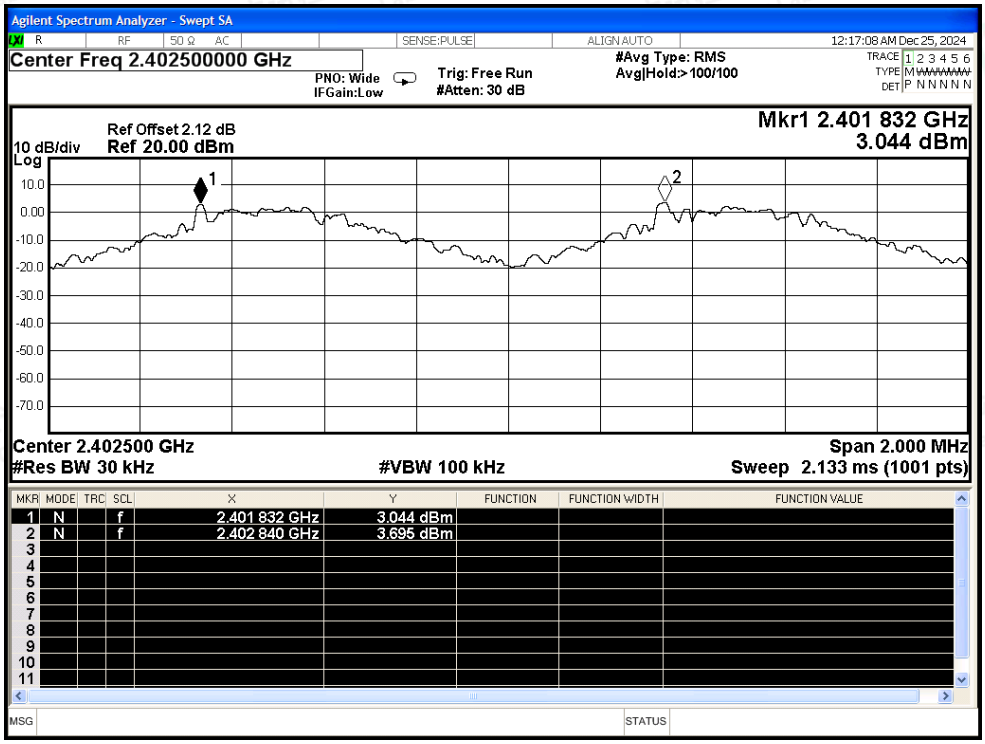


A.3 Carrier Frequencies Separation

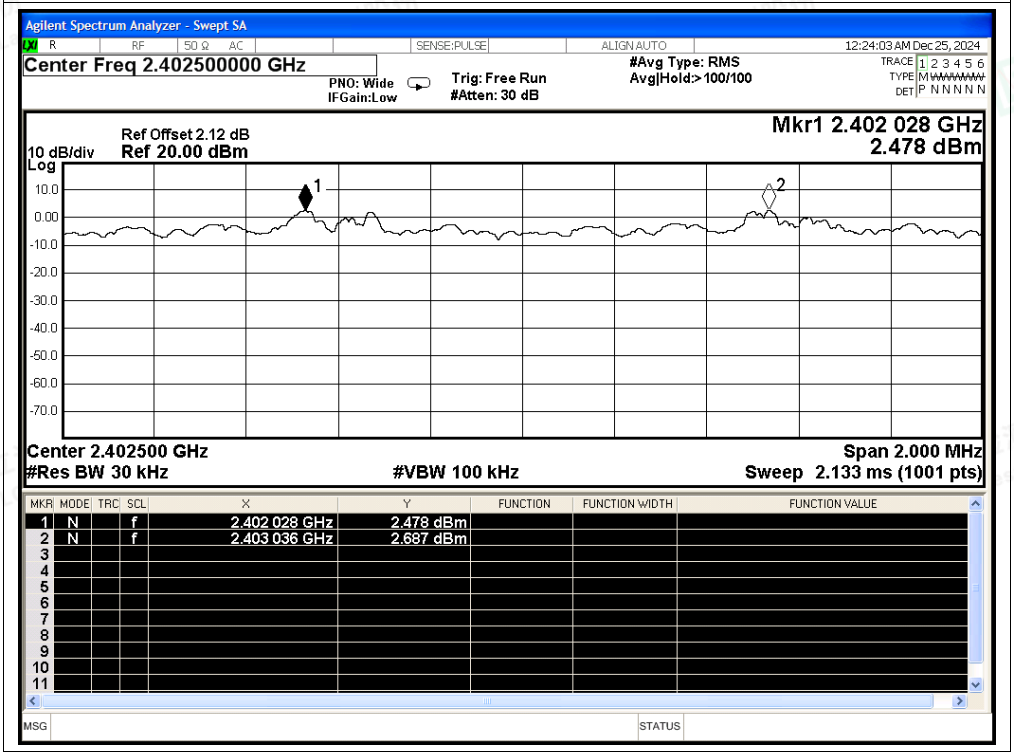
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.832	2402.84	1.008	0.675	Pass
NVNT	2-DH5	Ant1	2402.028	2403.036	1.008	0.867	Pass
NVNT	3-DH5	Ant1	2402.008	2403.17	1.162	0.867	Pass

Test Graphs

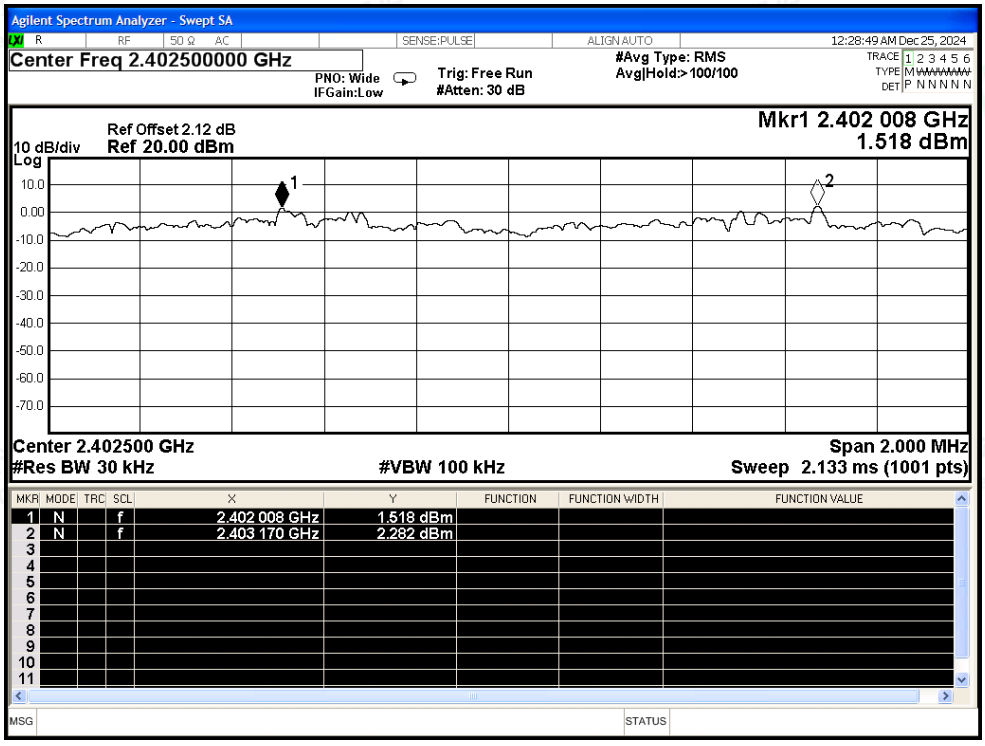
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

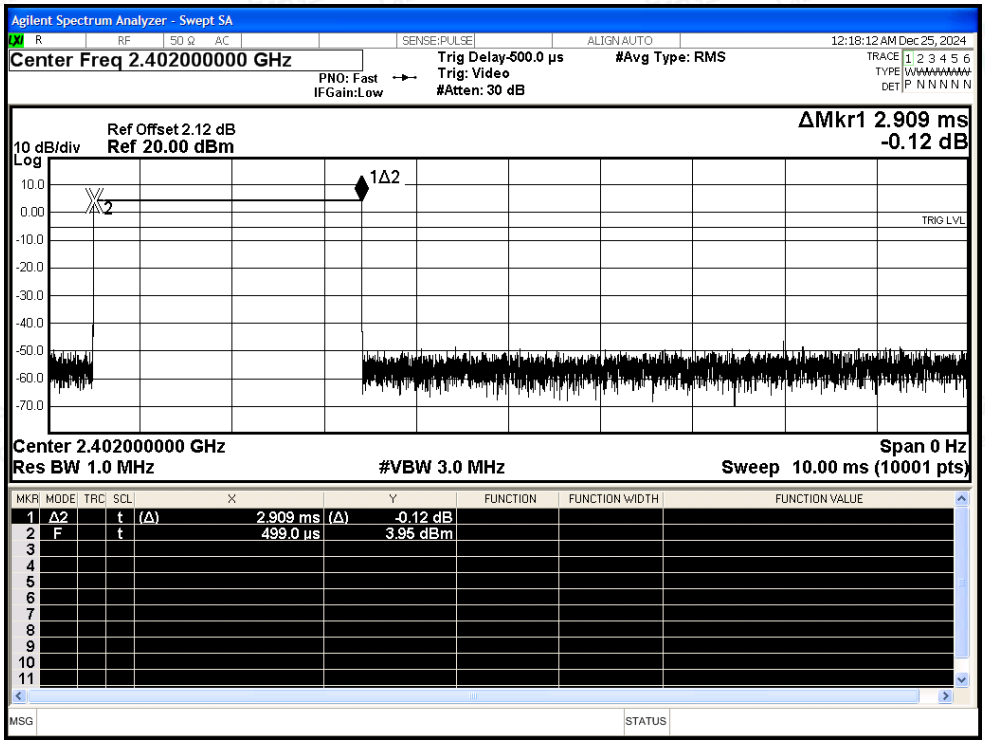


A.4 Dwell Time

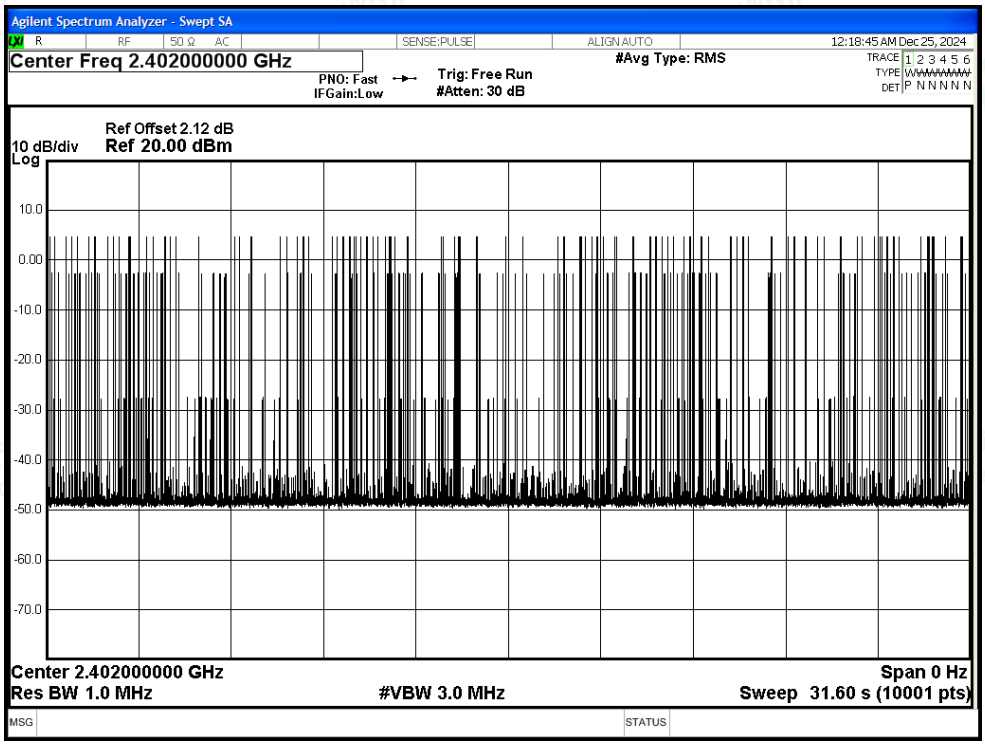
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	322.899	111	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	336.168	116	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	321.567	111	31600	400	Pass

Test Graphs

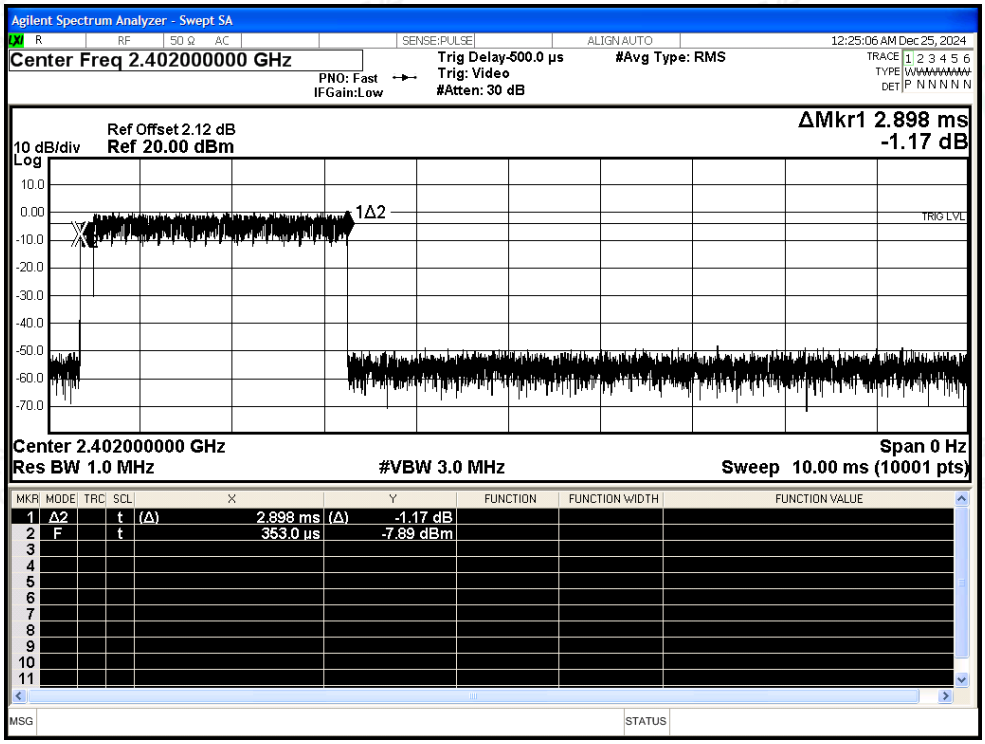
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



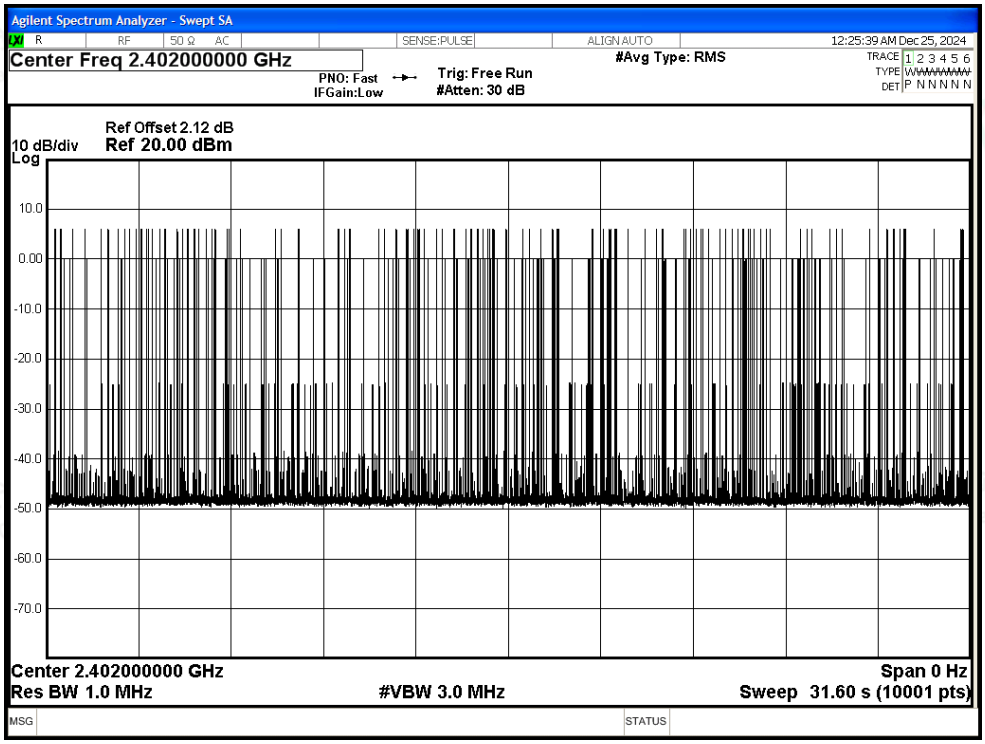
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



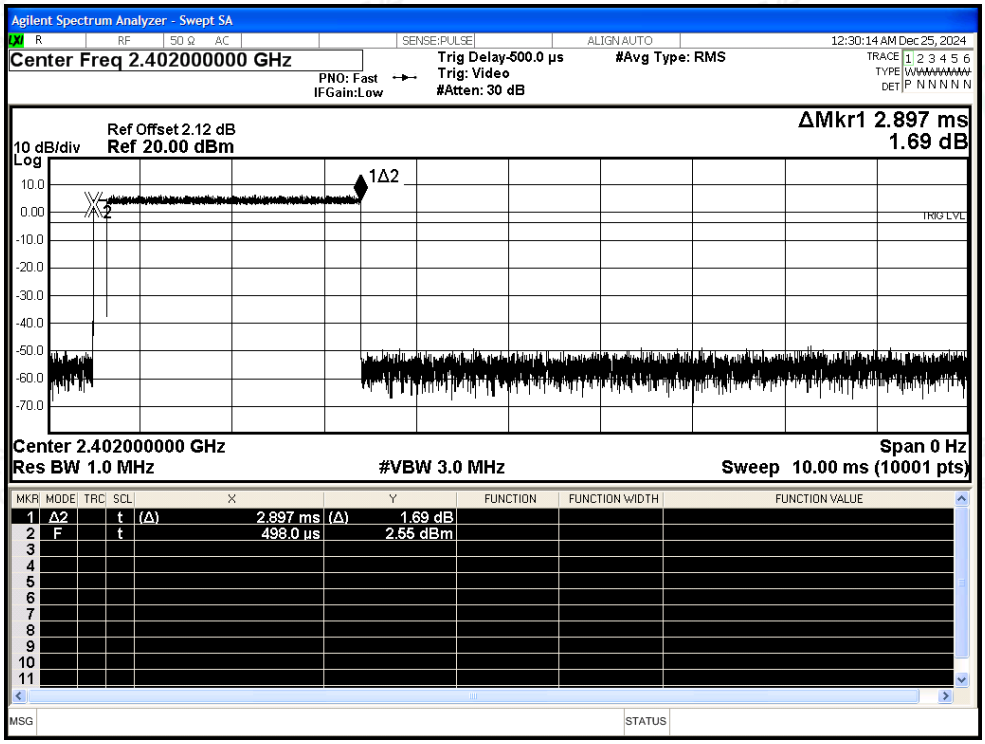
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



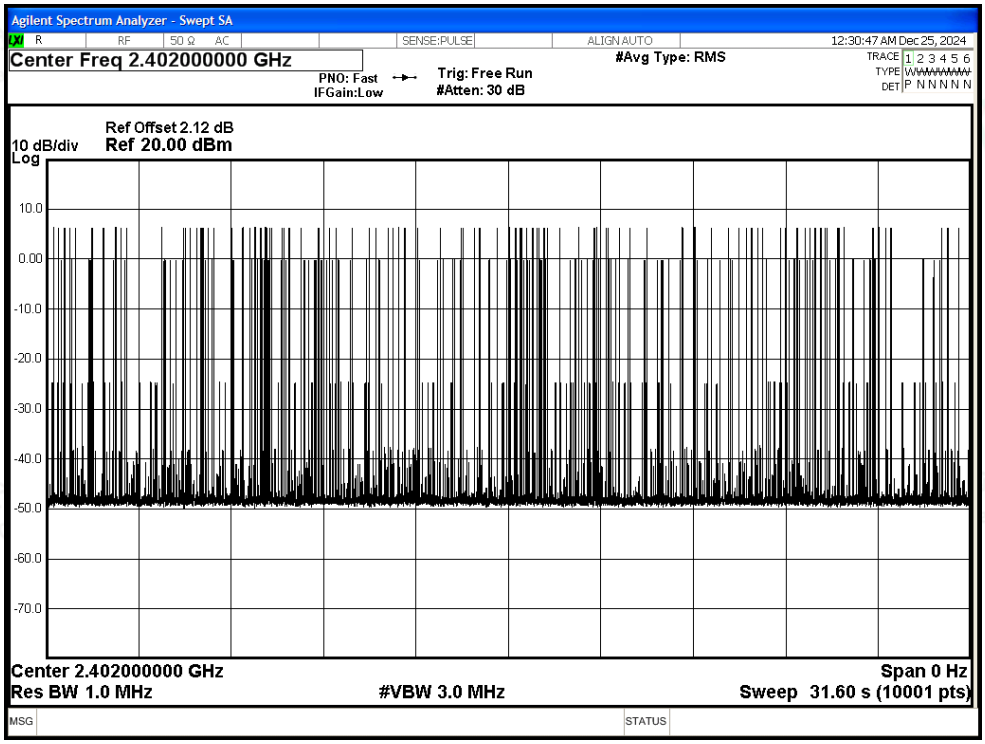
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

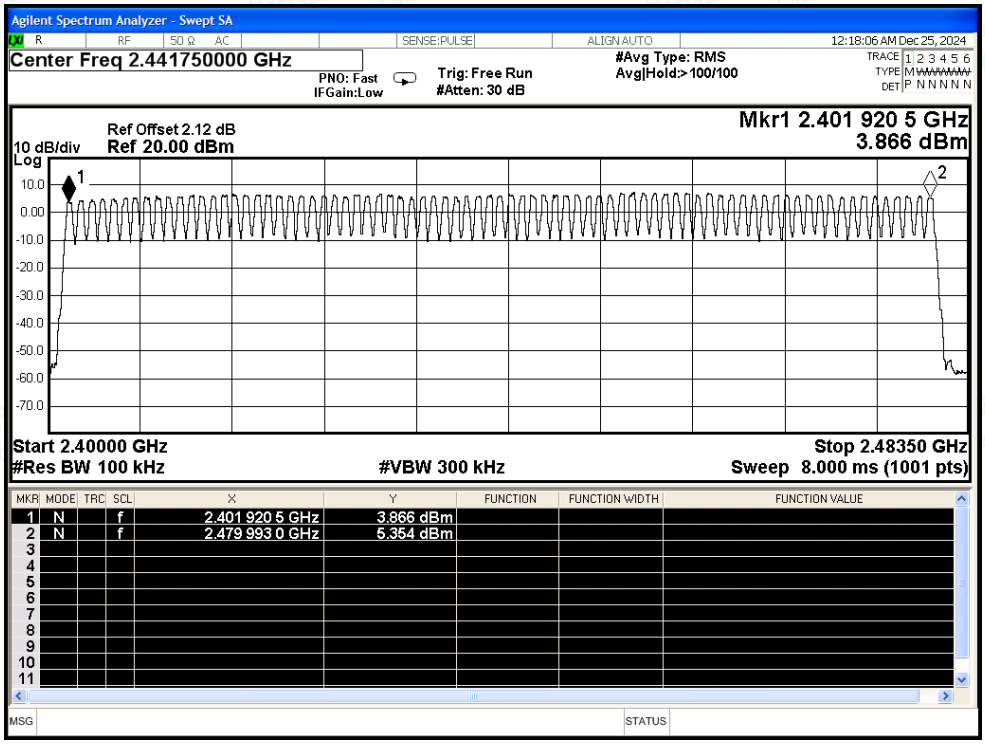


A.5 Number of Hopping Channel

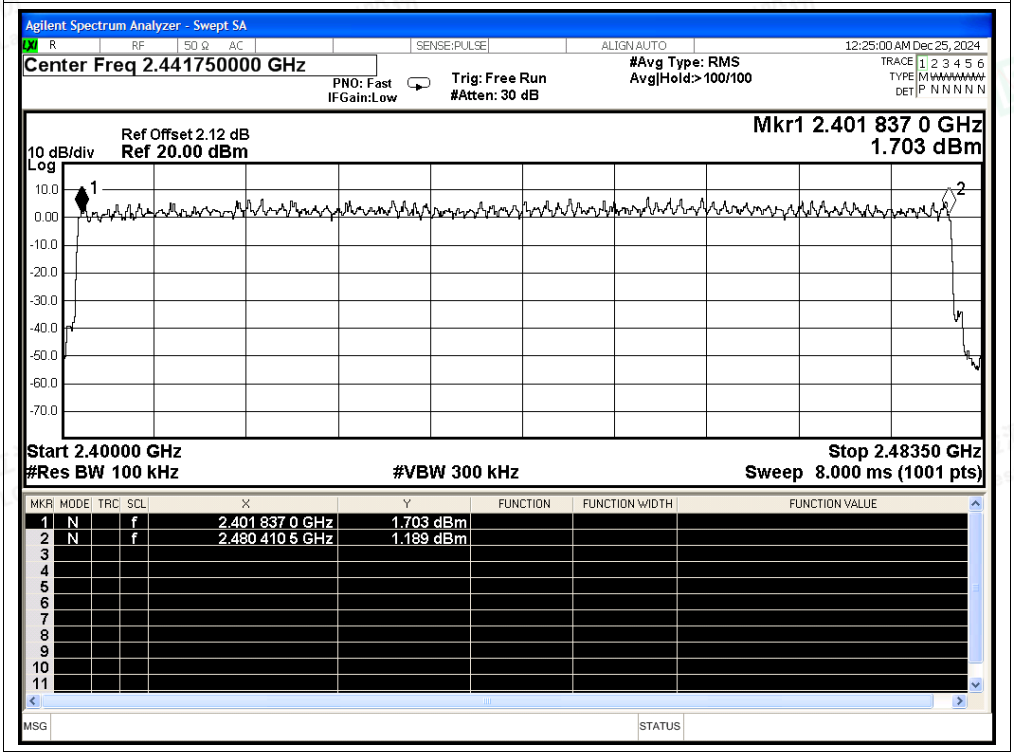
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

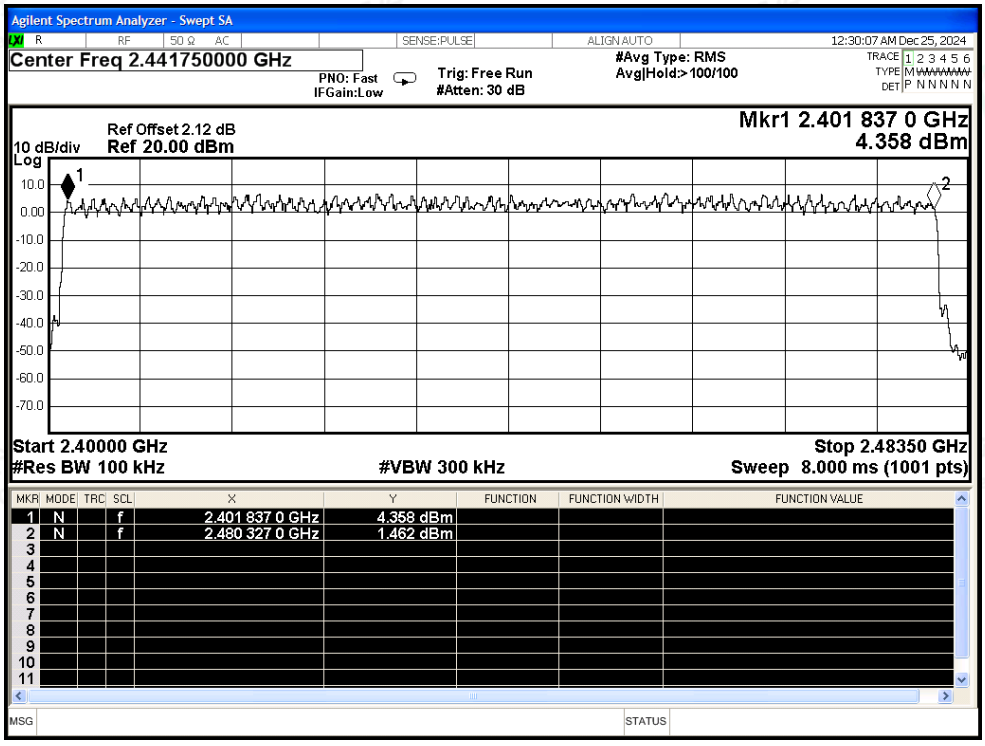
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

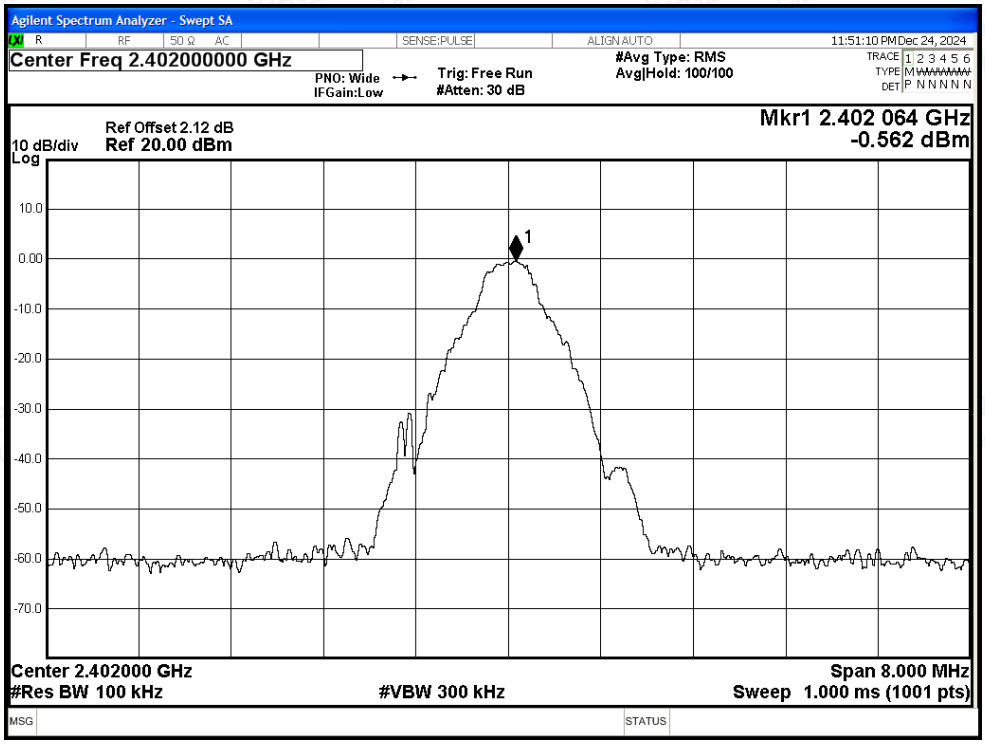


A.6 Band Edge

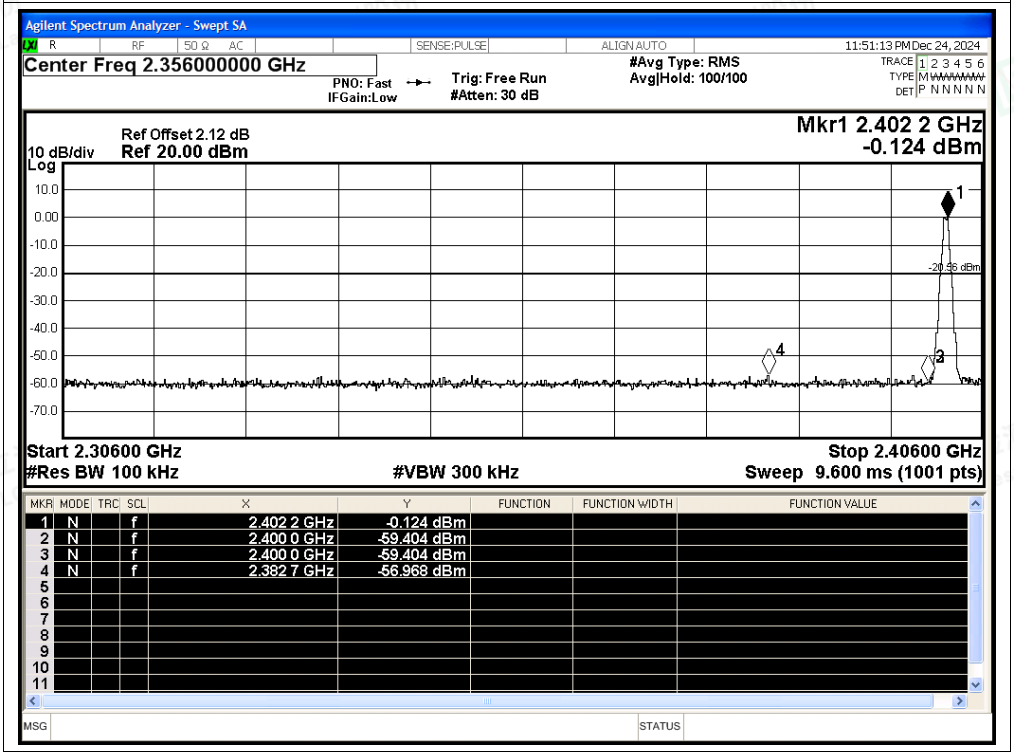
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.41	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.3	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.41	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.39	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.96	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.49	-20	Pass

Test Graphs

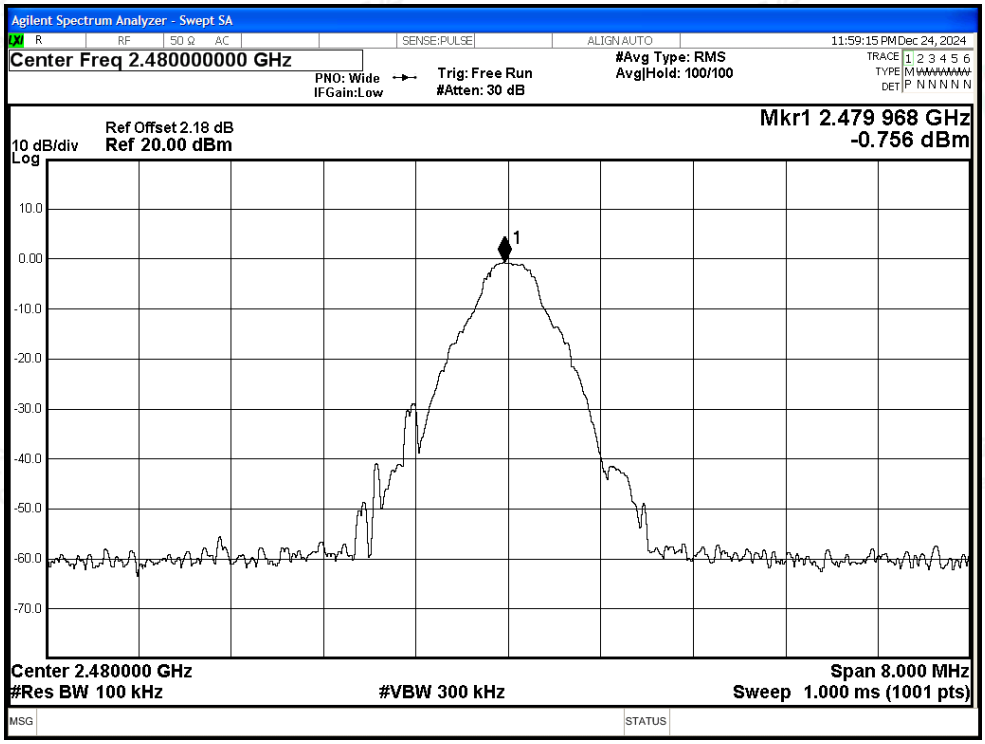
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



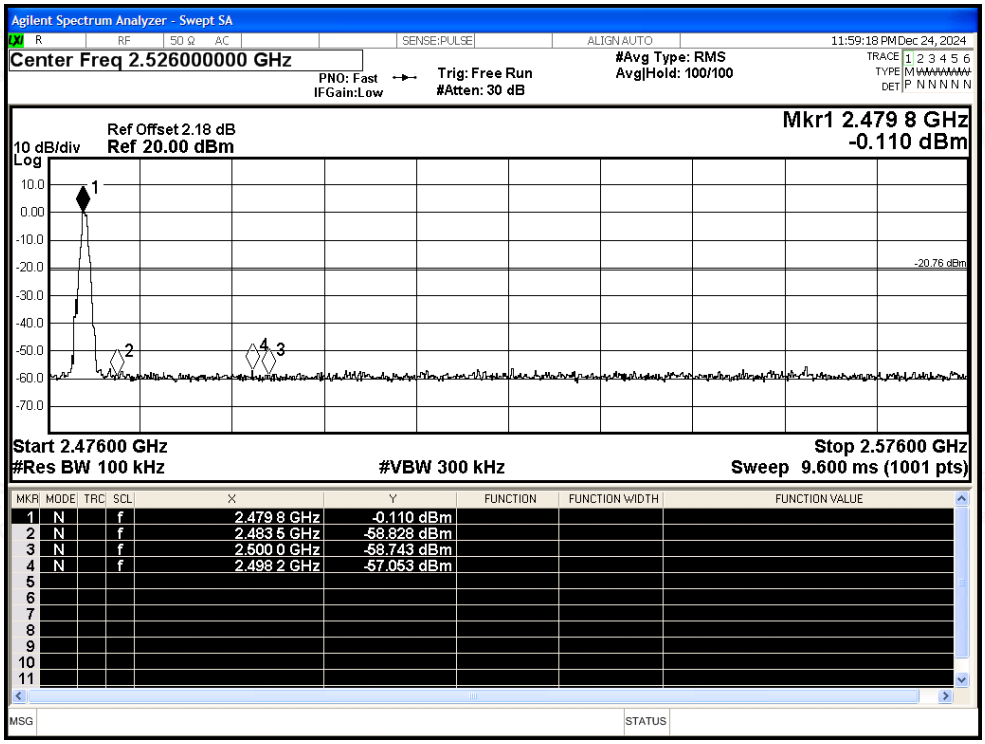
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



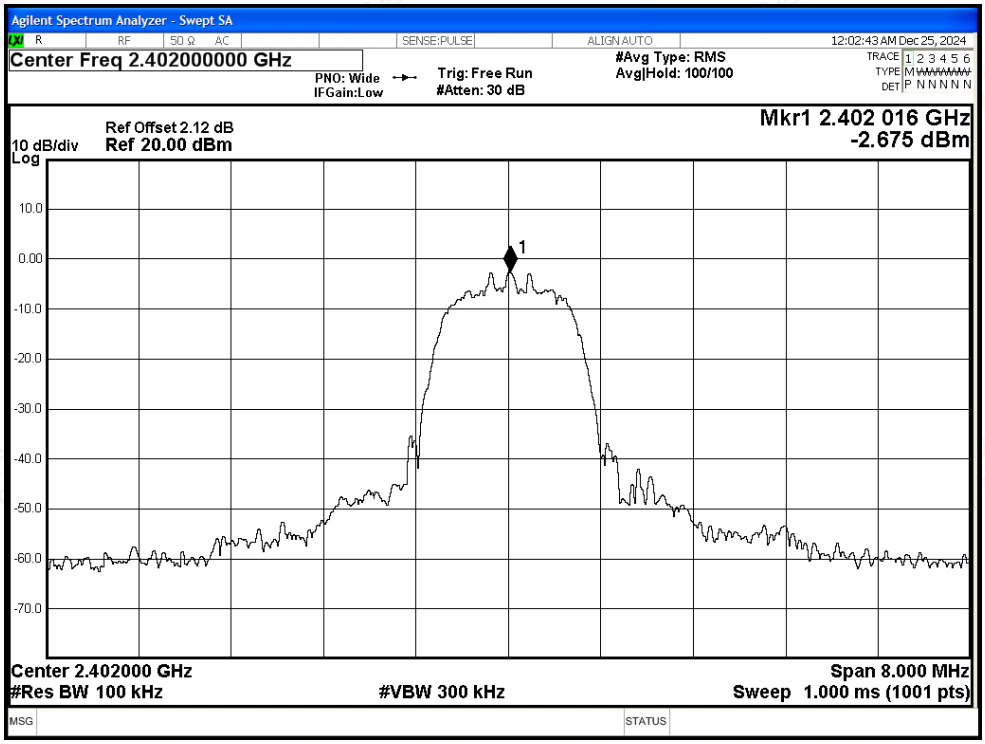
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



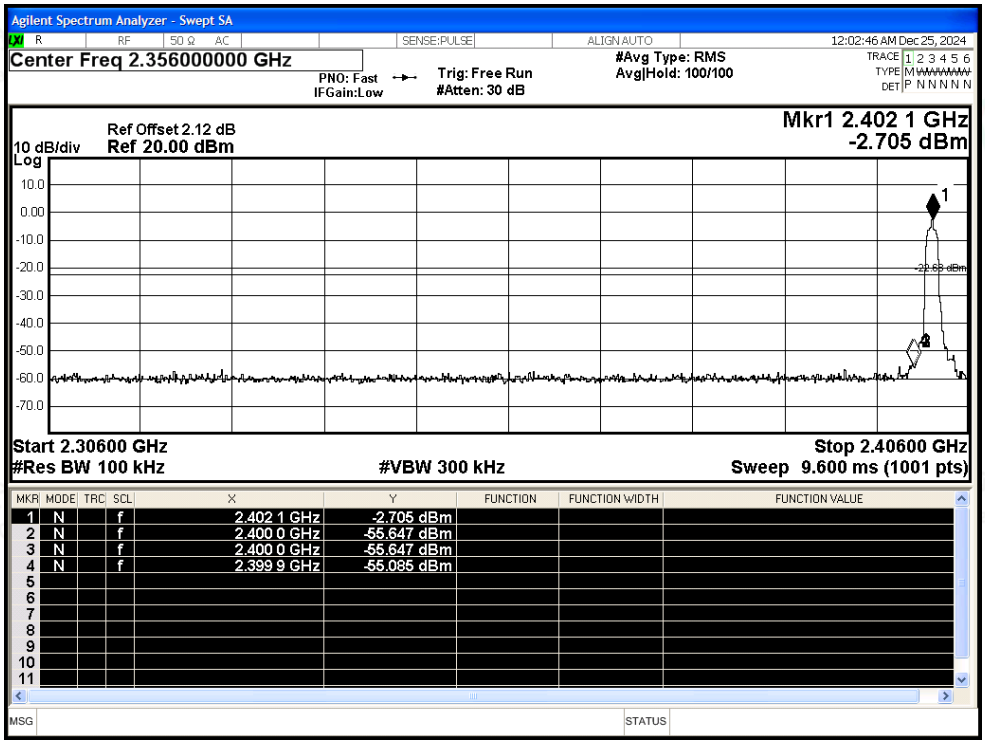
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



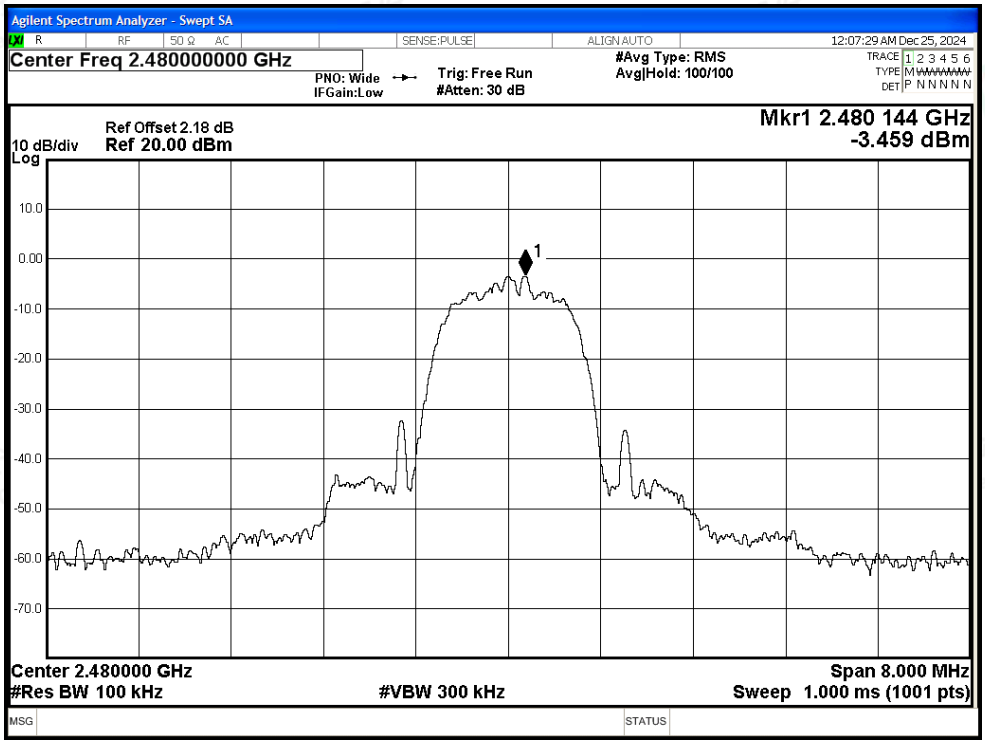
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



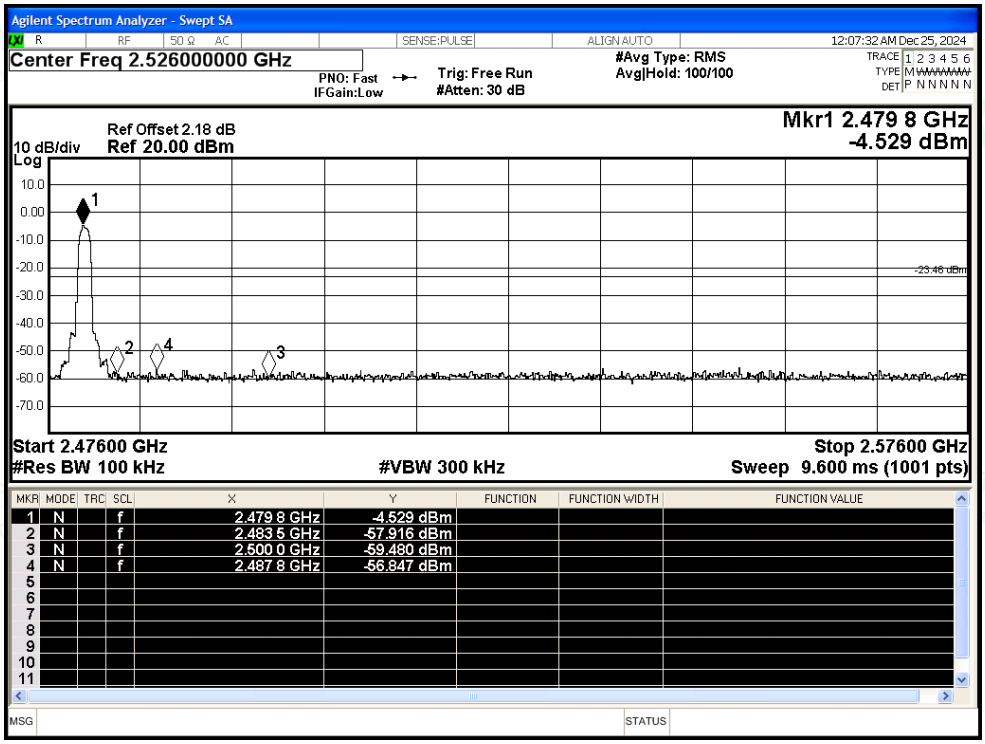
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



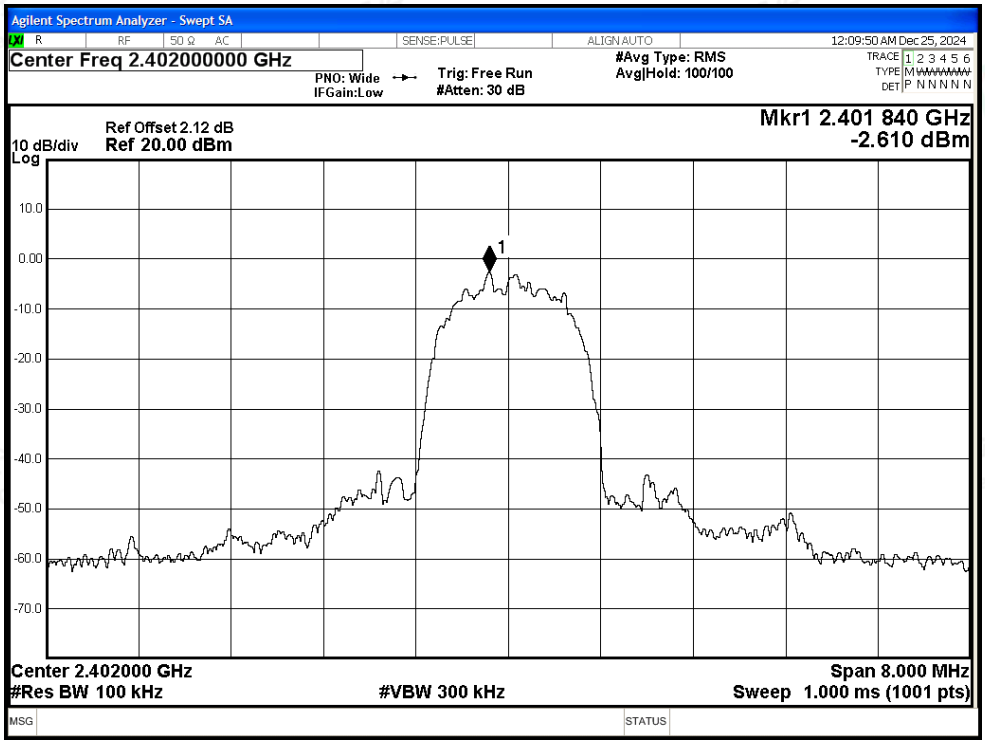
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



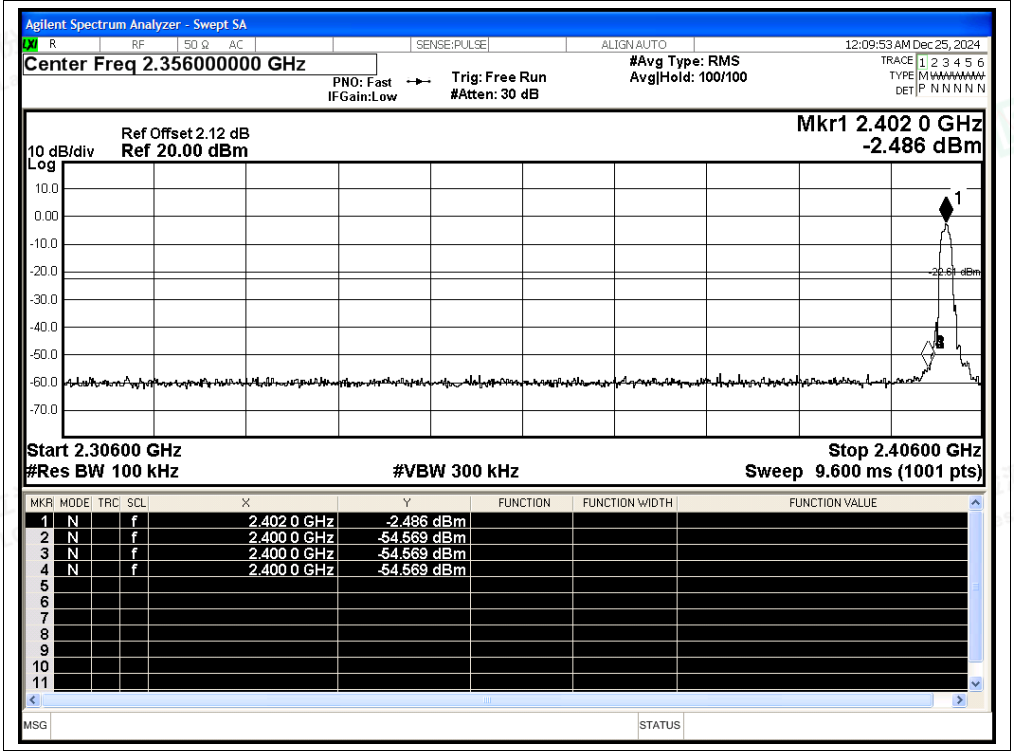
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



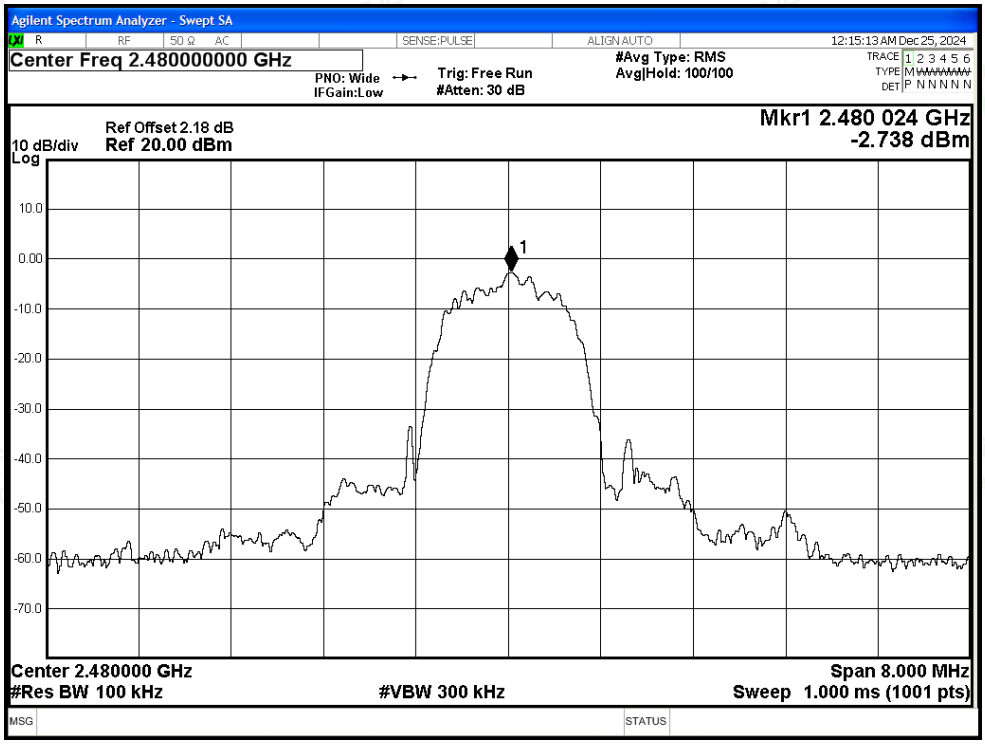
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



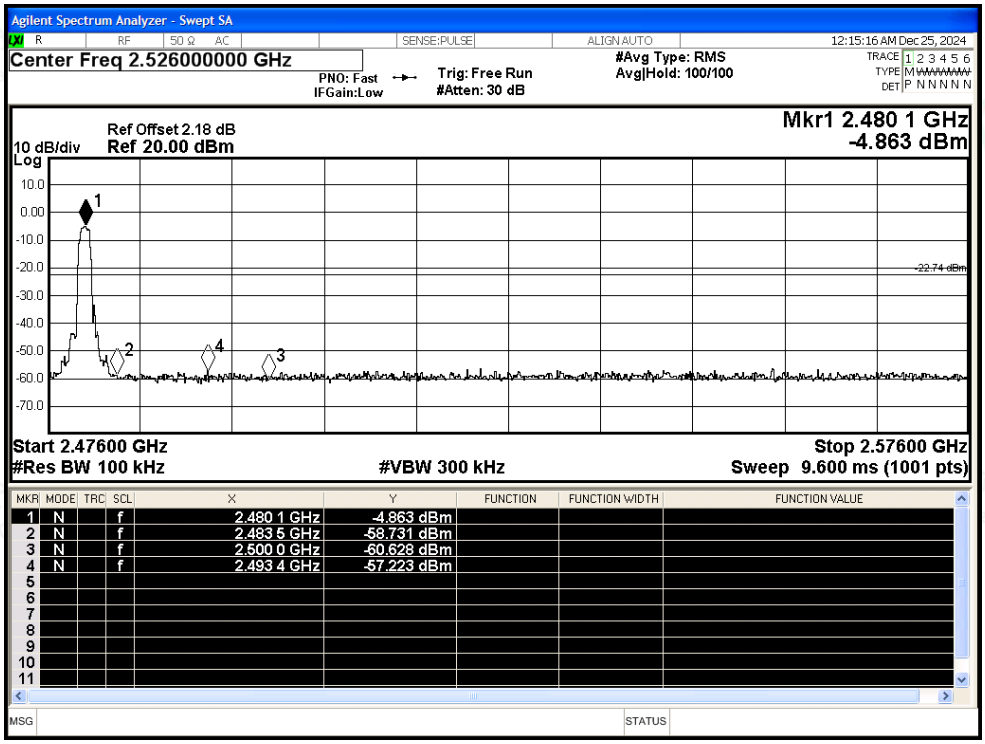
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

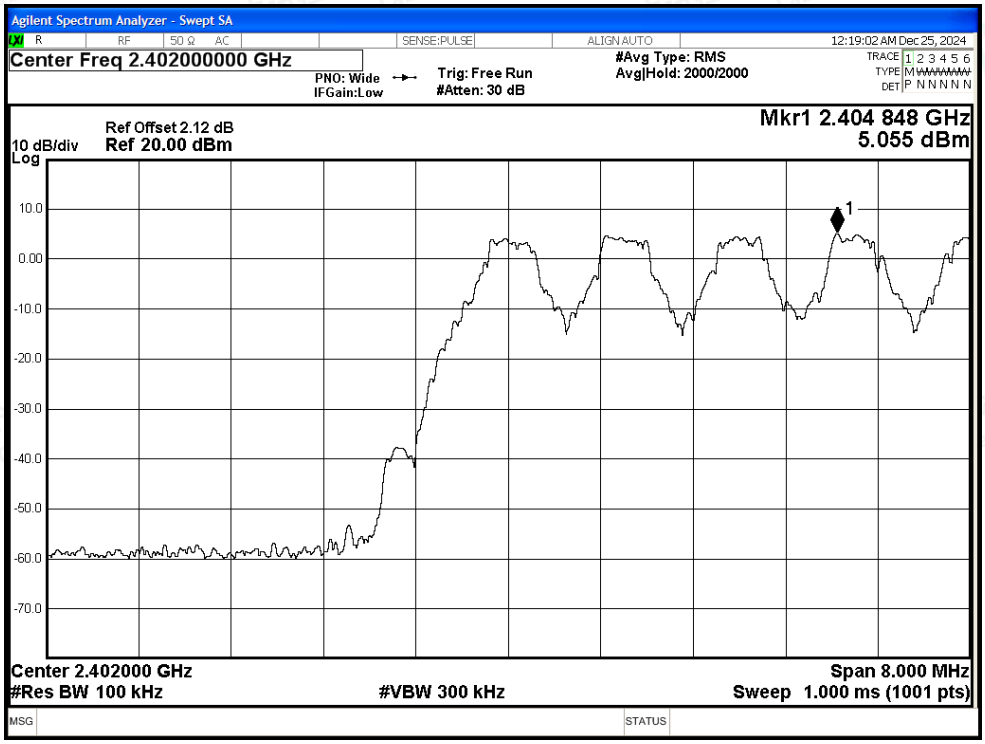


(Hopping)

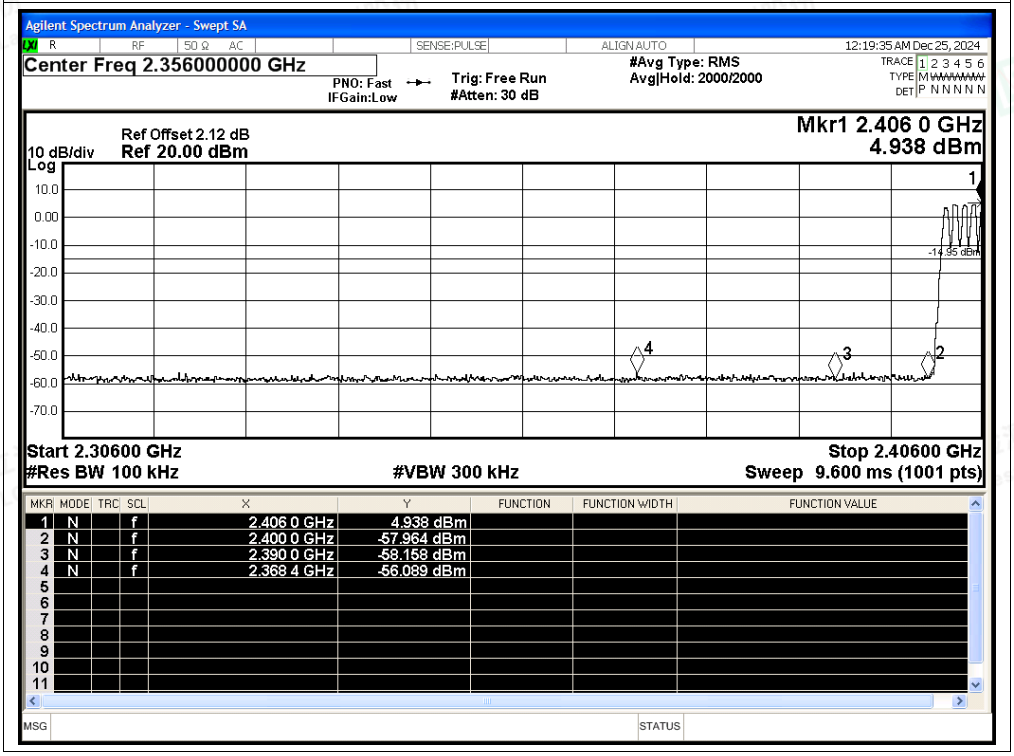
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-61.14	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-61.88	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-59.71	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-59.28	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-60.16	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-61.18	-20	Pass

Test Graphs

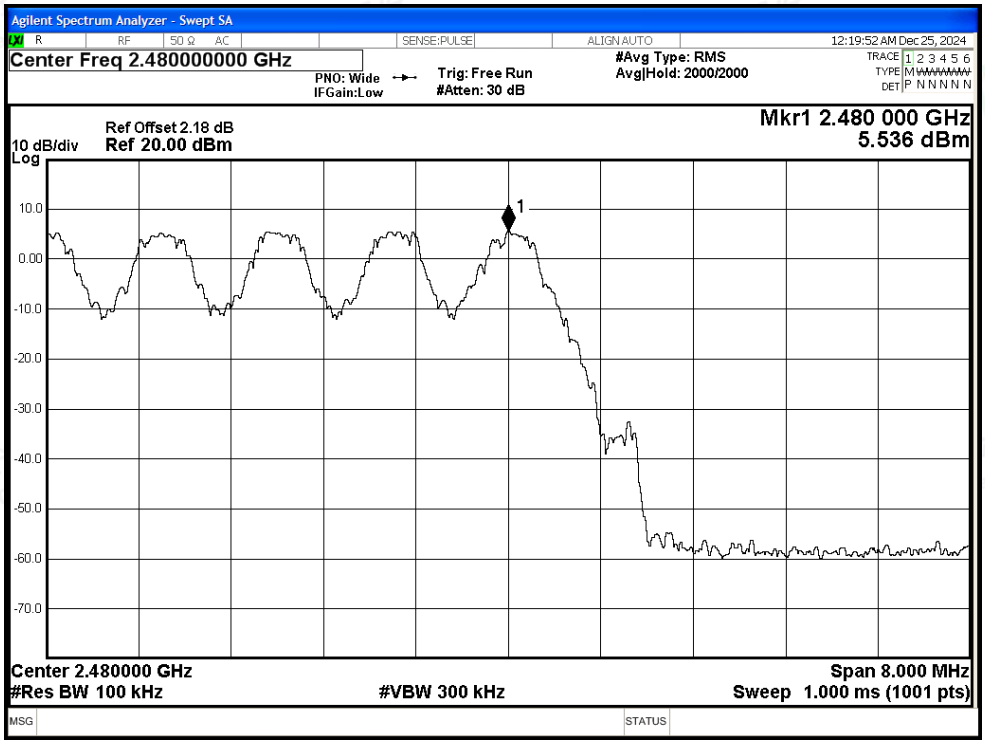
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



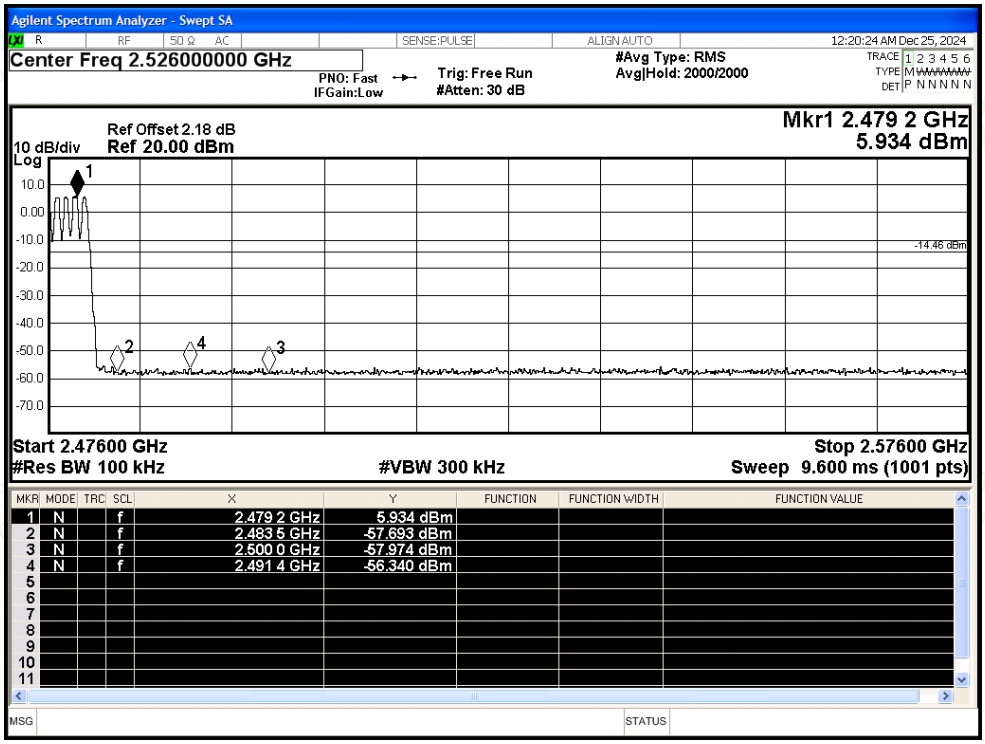
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



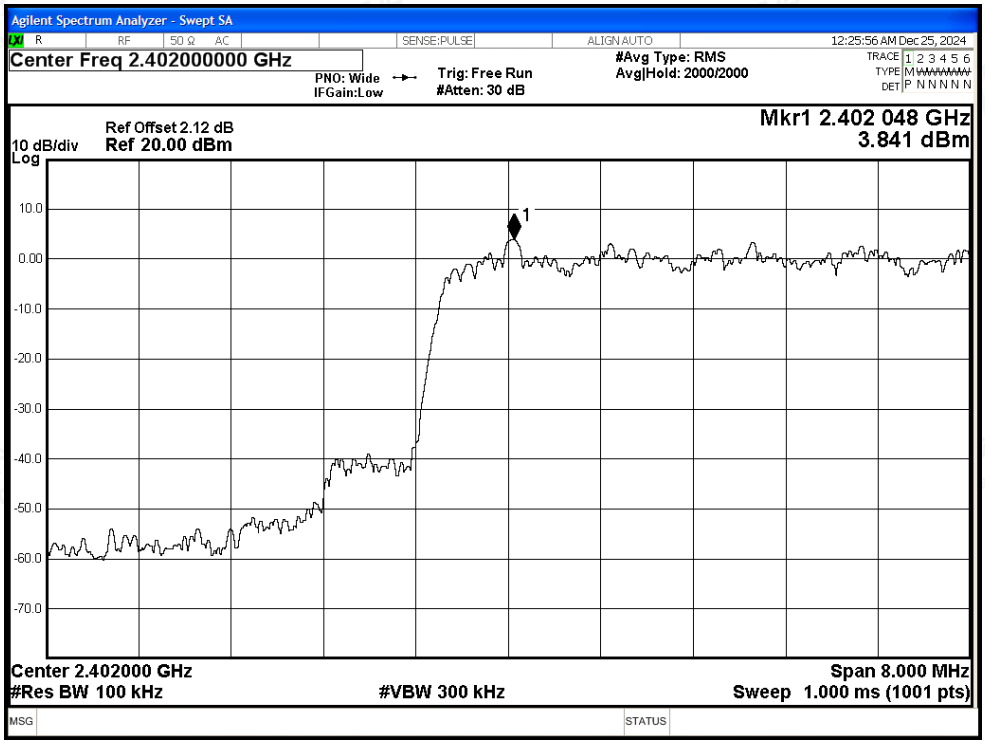
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



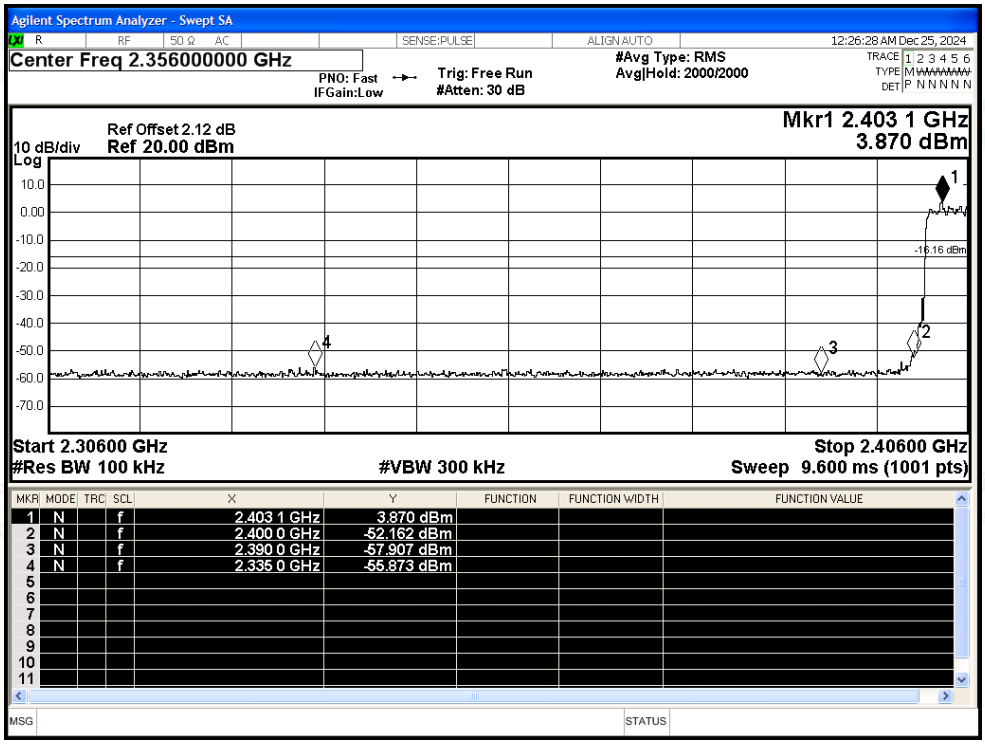
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



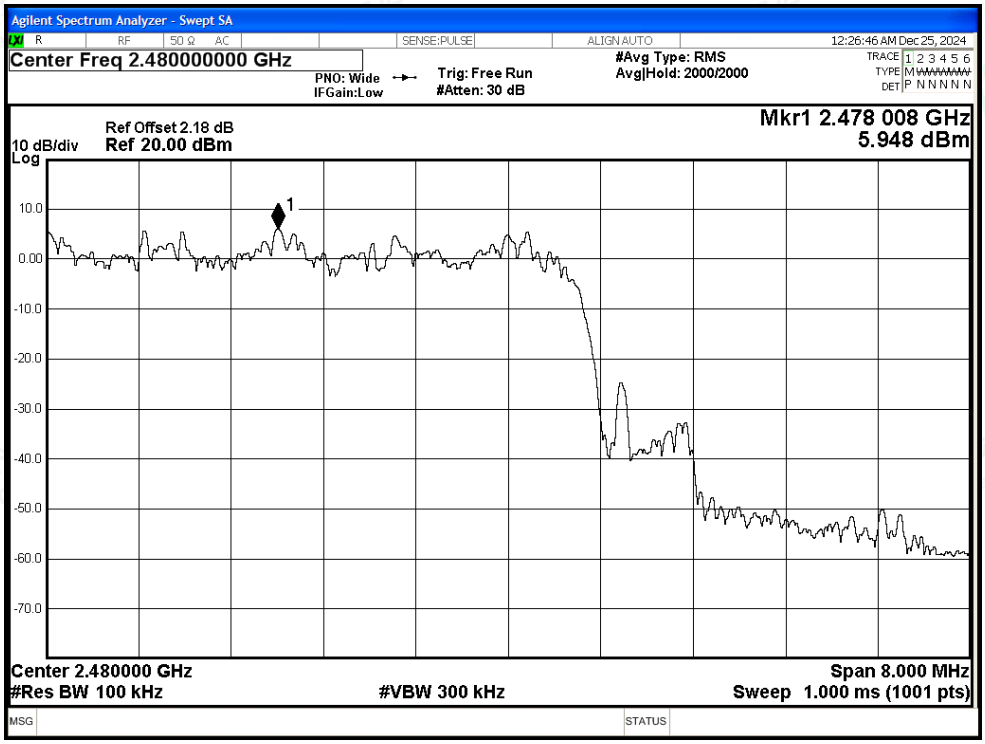
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



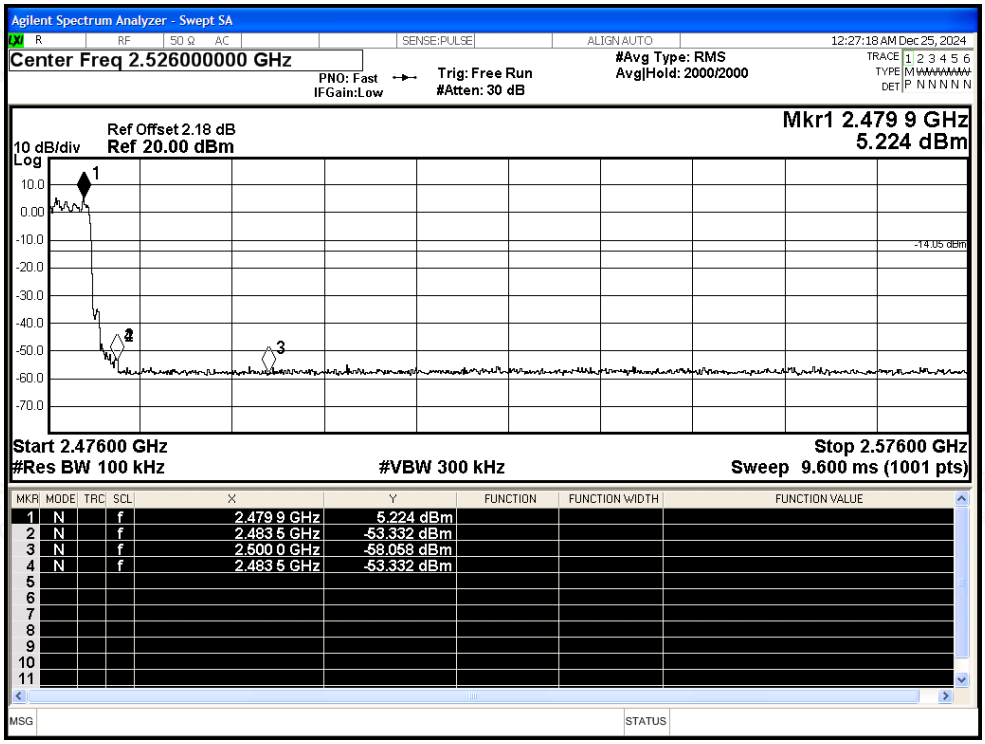
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



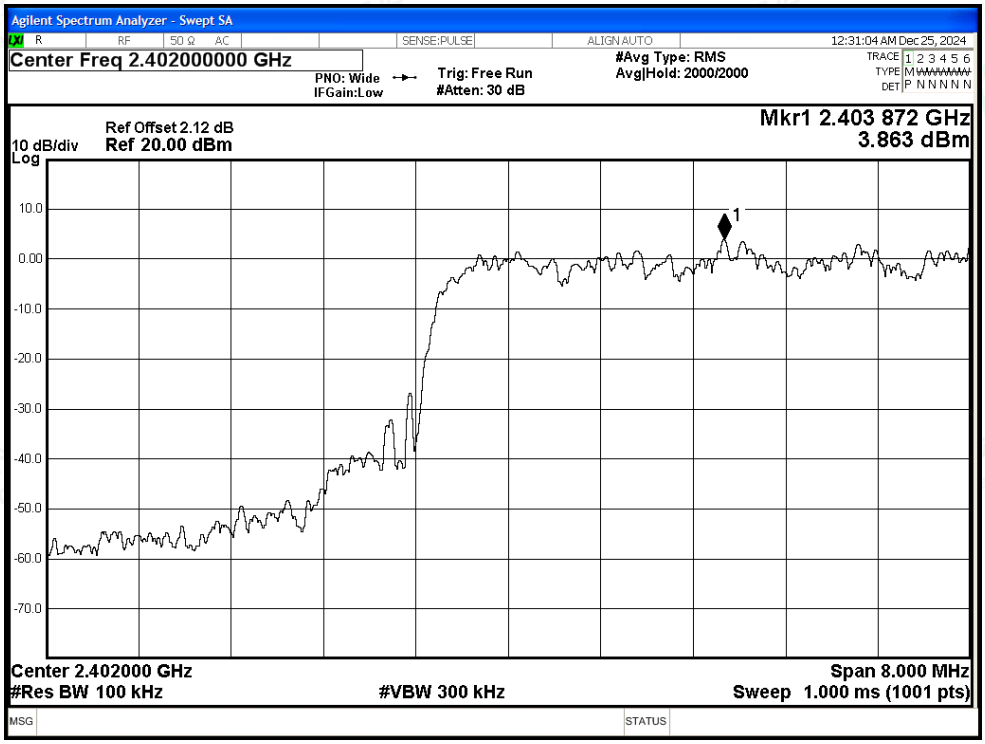
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



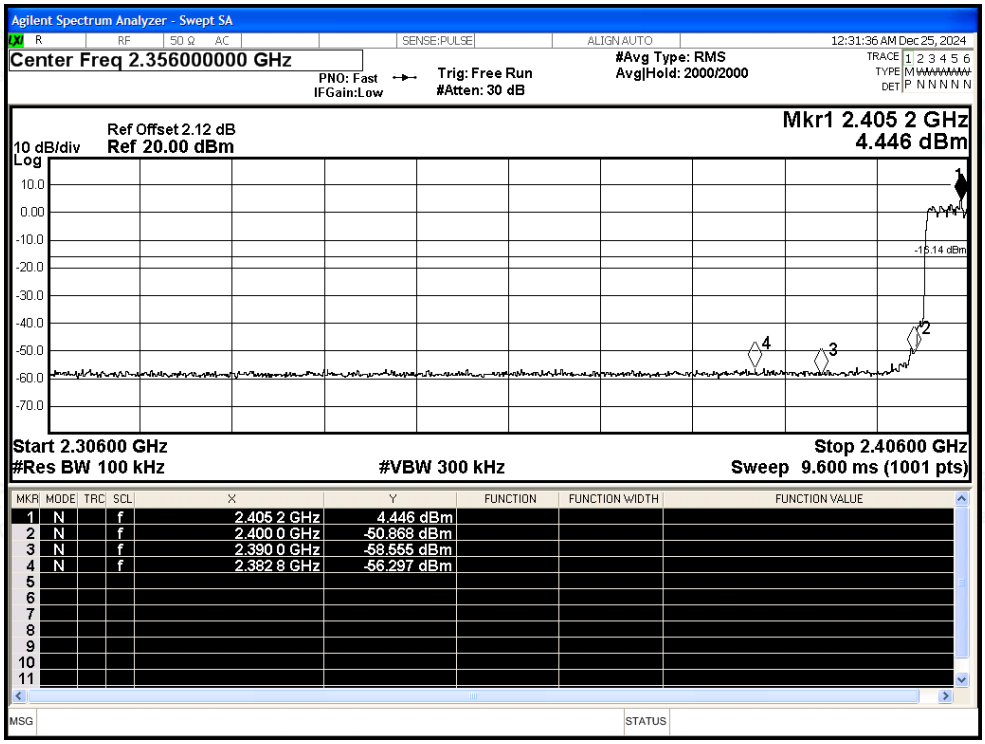
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



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

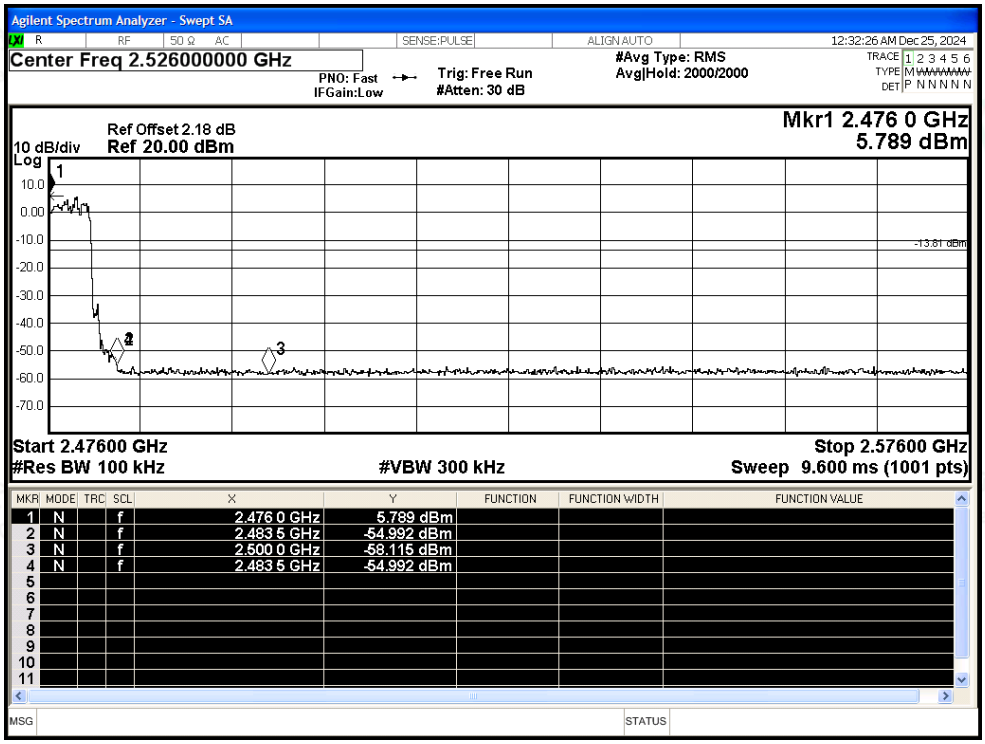


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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

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

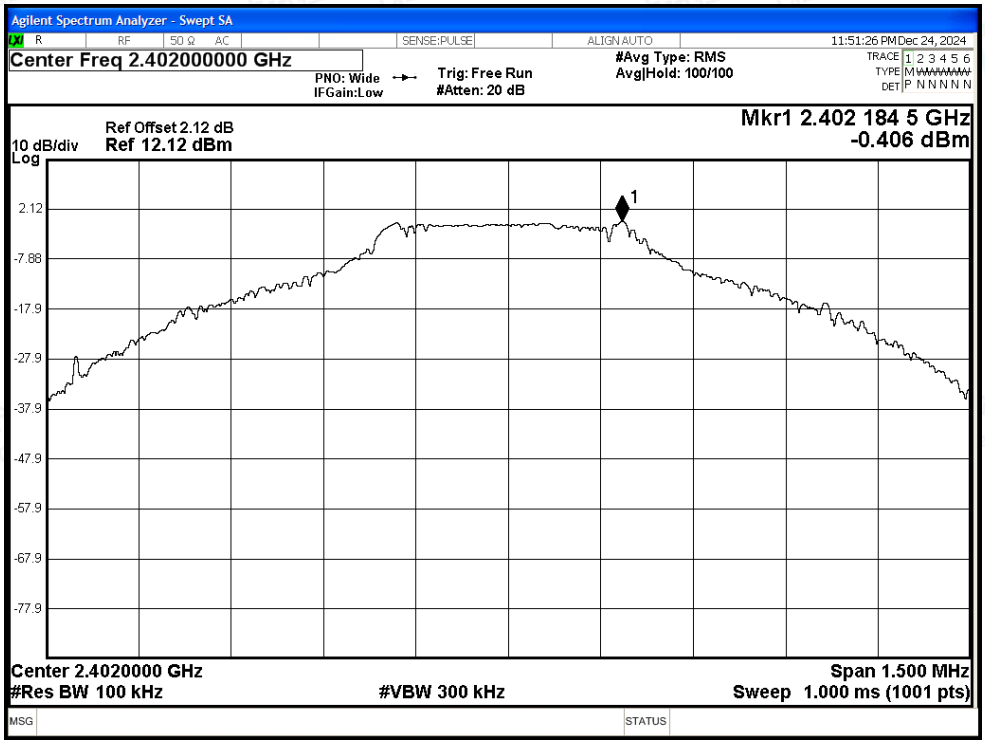


A.7 Conducted RF Spurious Emission

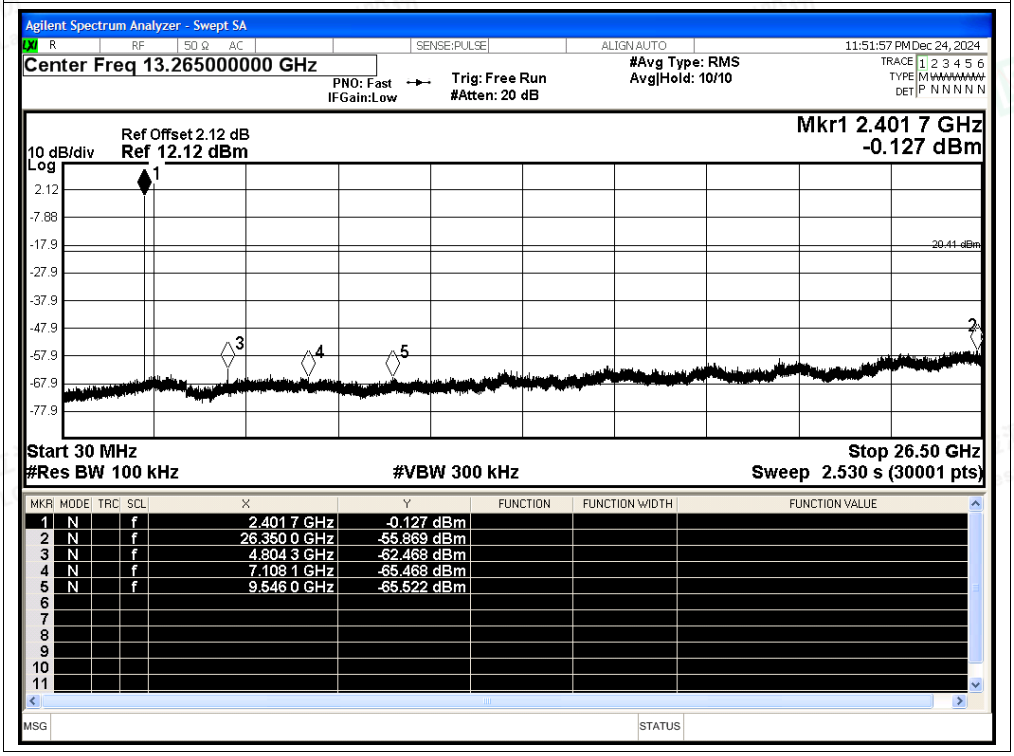
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.46	-20	Pass
NVNT	1-DH5	2441	Ant1	-55.77	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.48	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.57	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.84	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.71	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.06	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.24	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.43	-20	Pass

Test Graphs

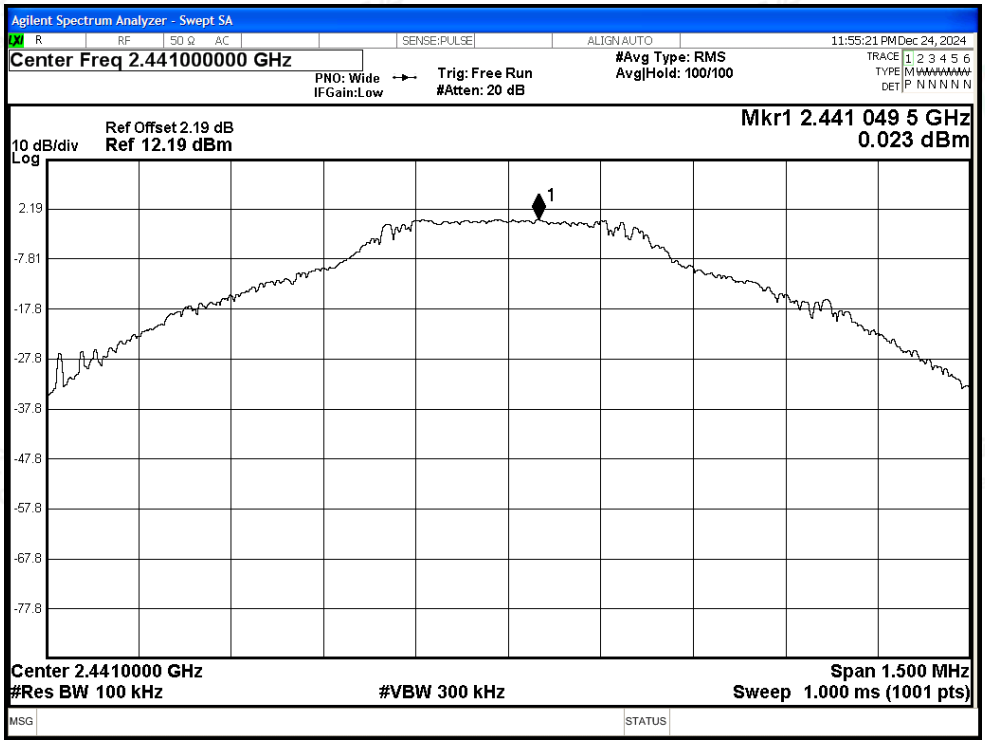
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



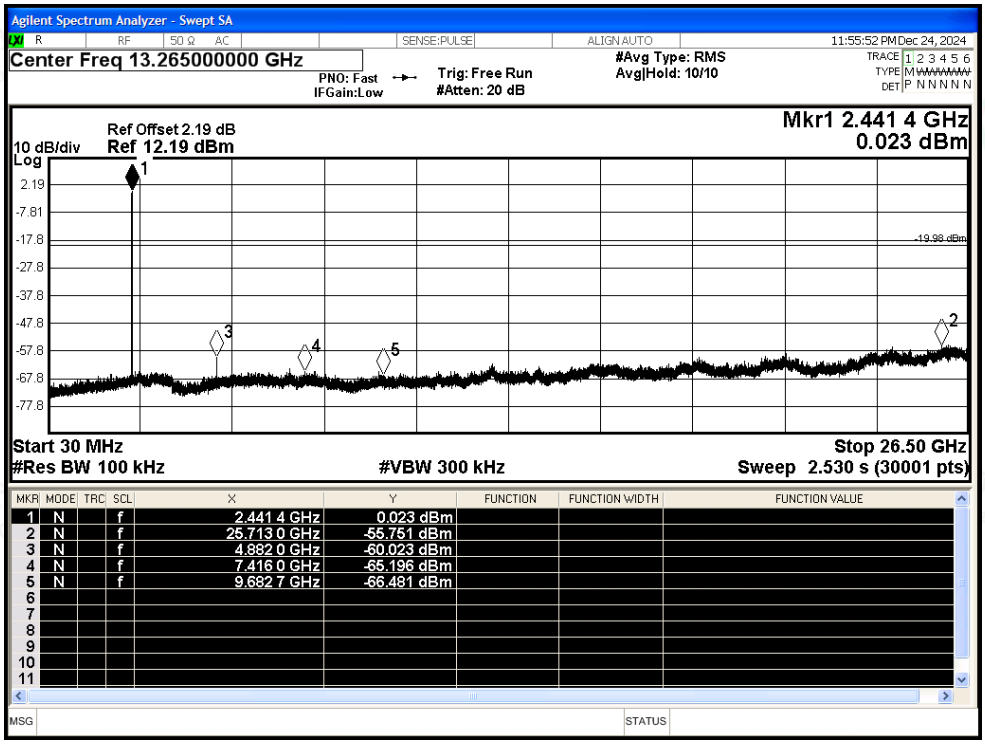
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



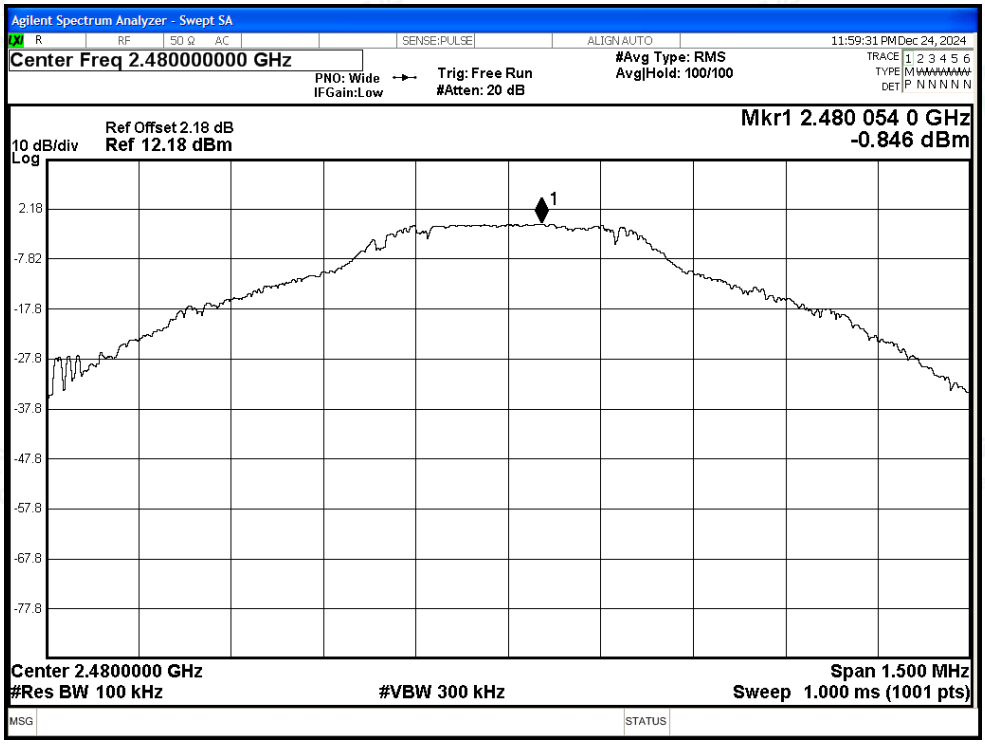
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



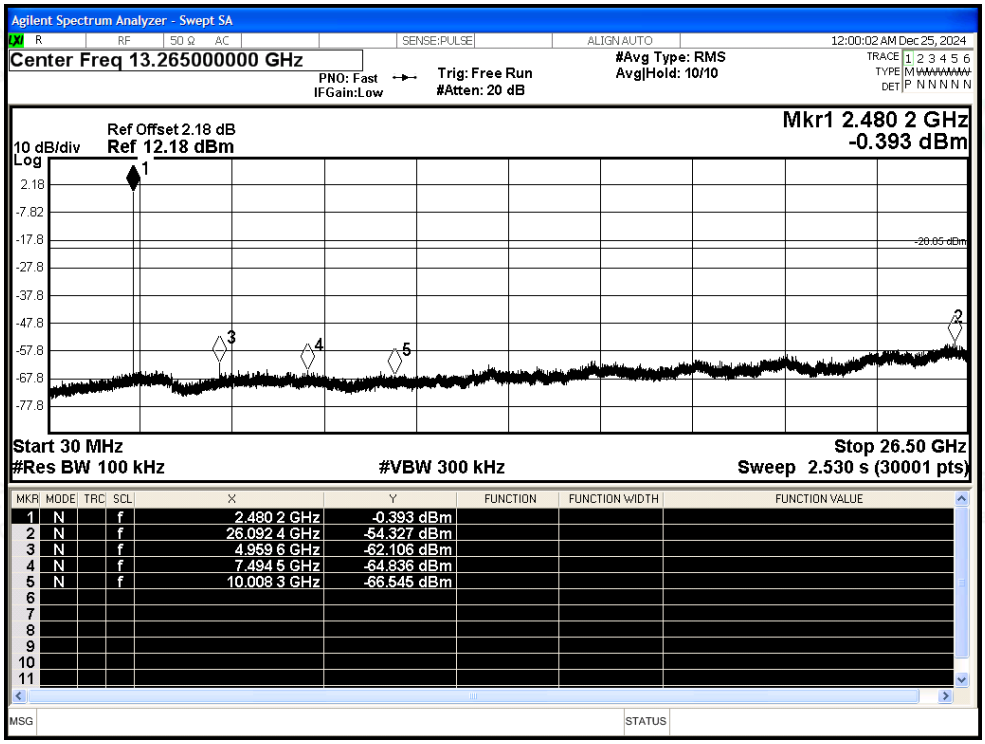
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



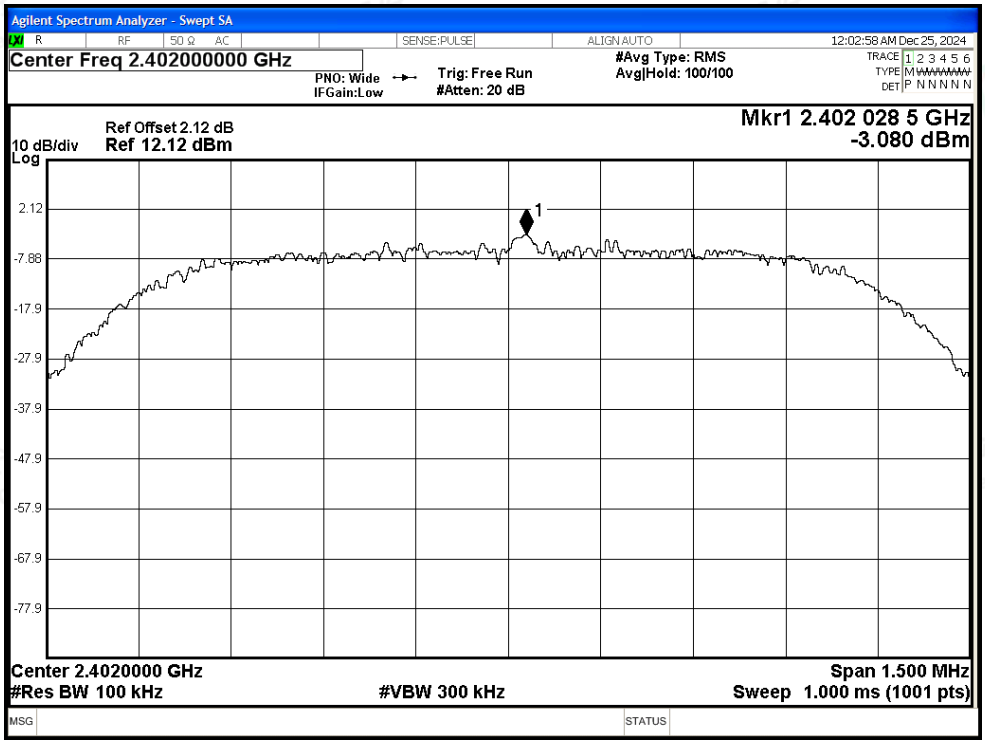
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



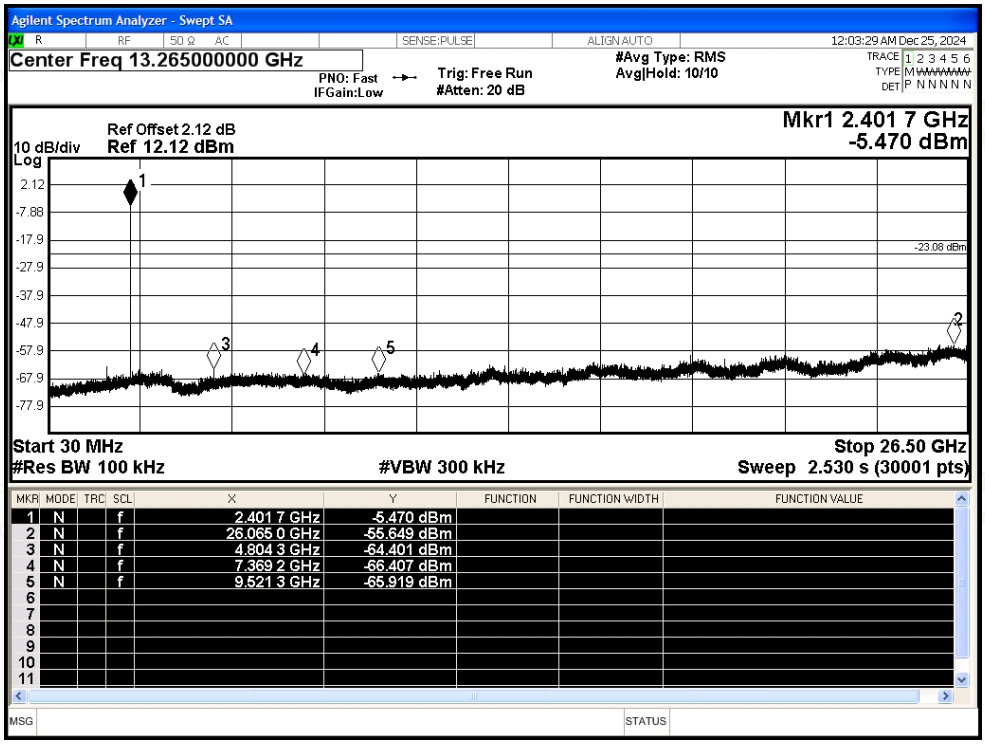
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



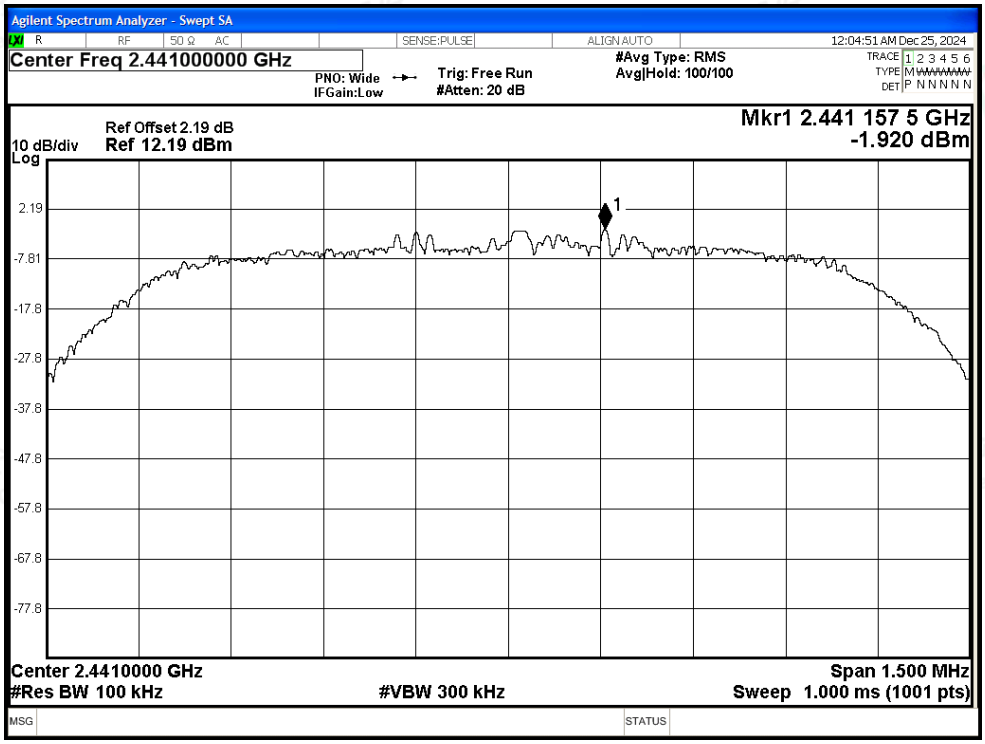
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



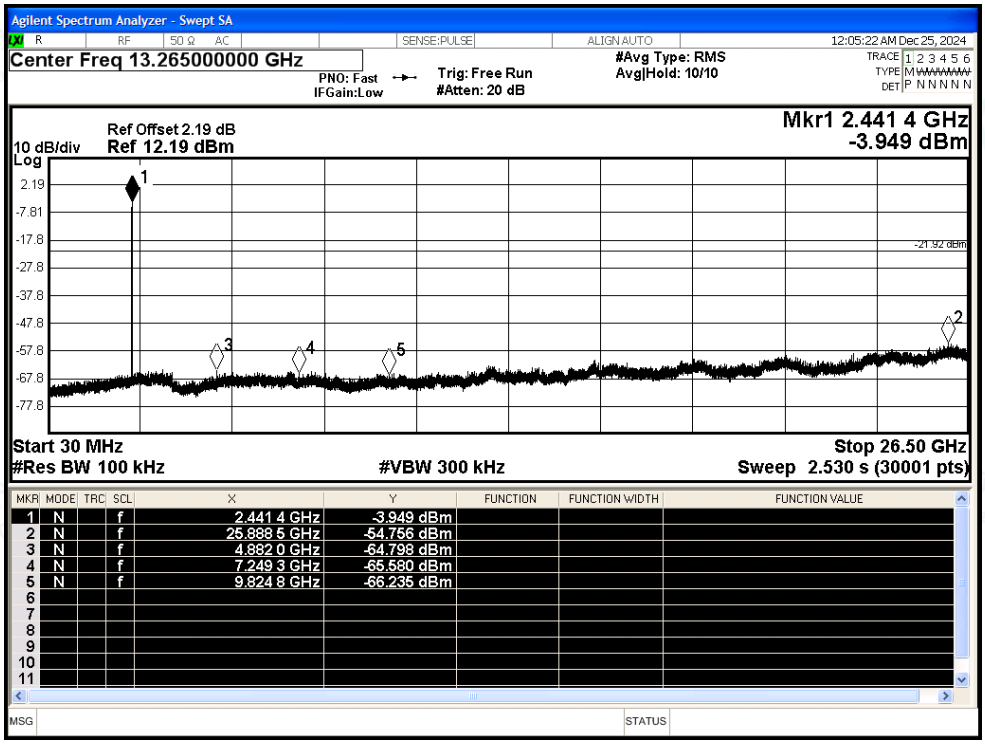
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



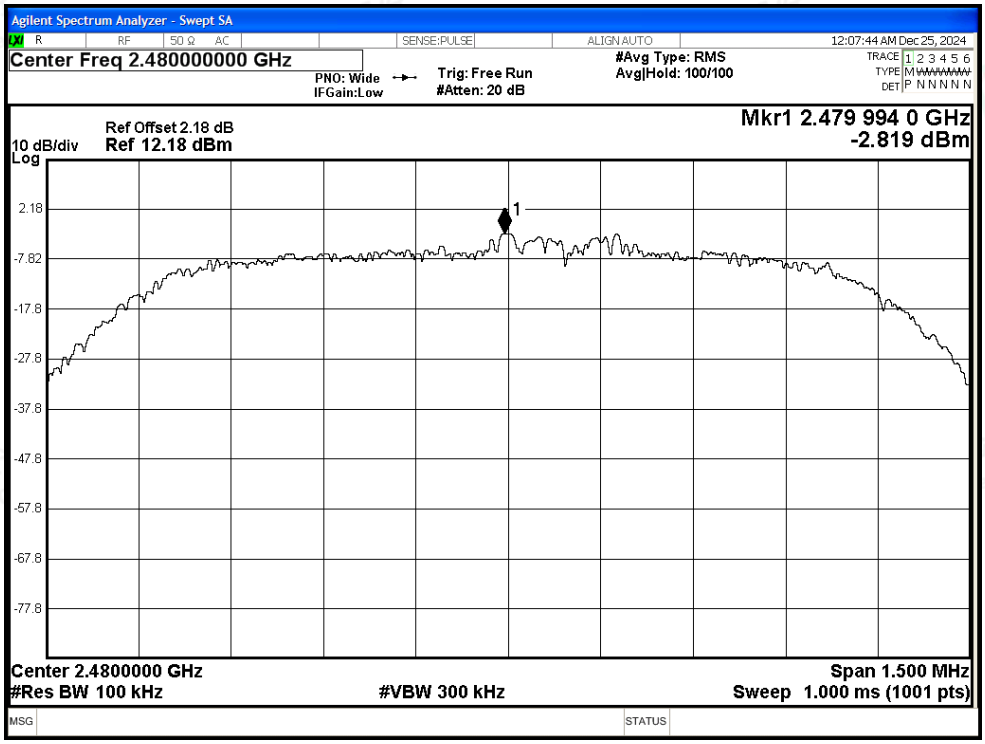
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



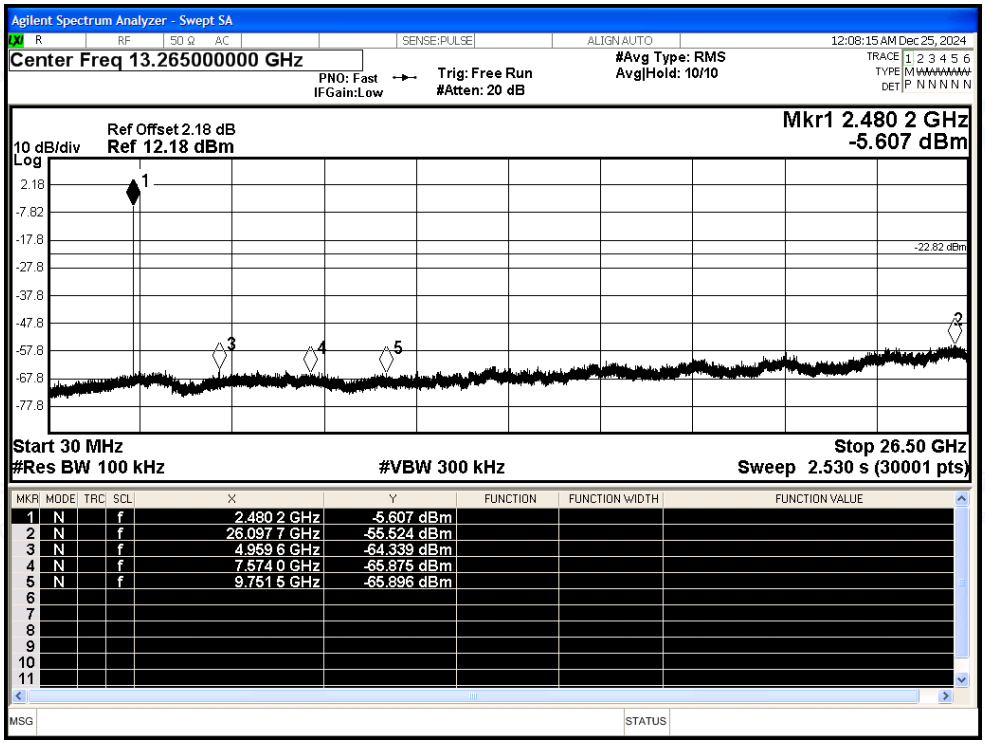
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



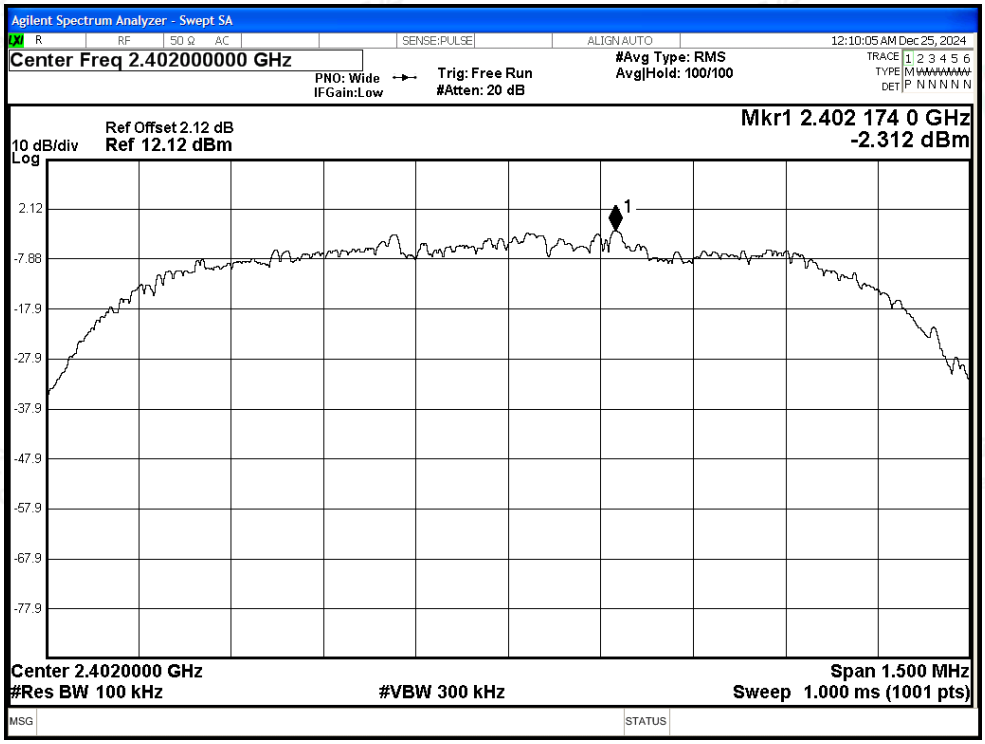
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



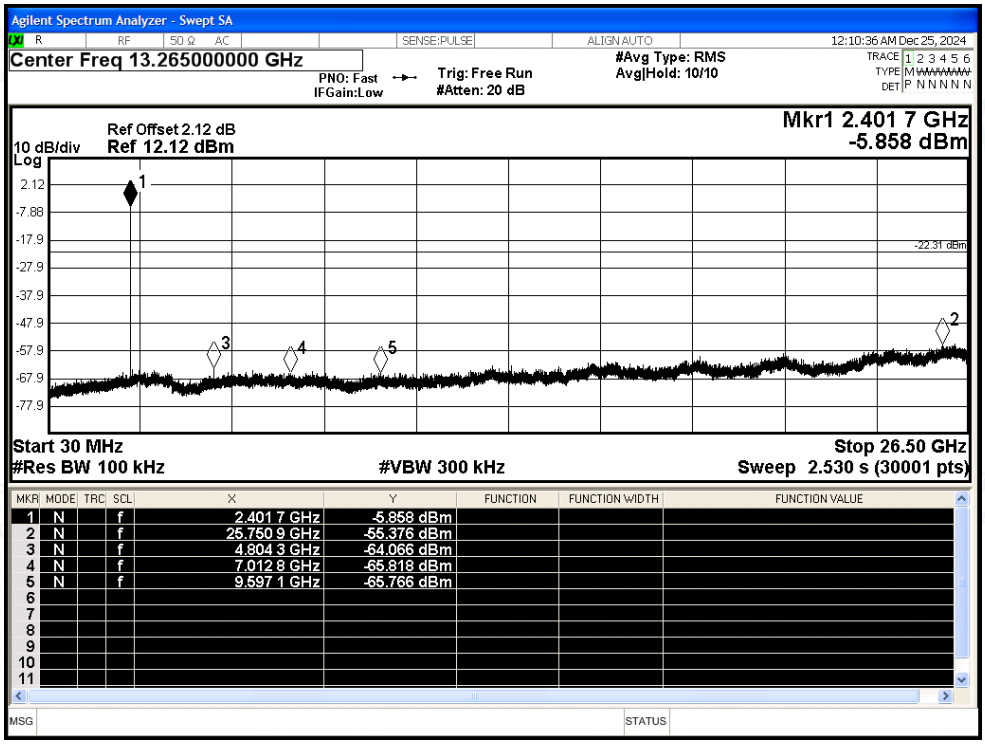
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

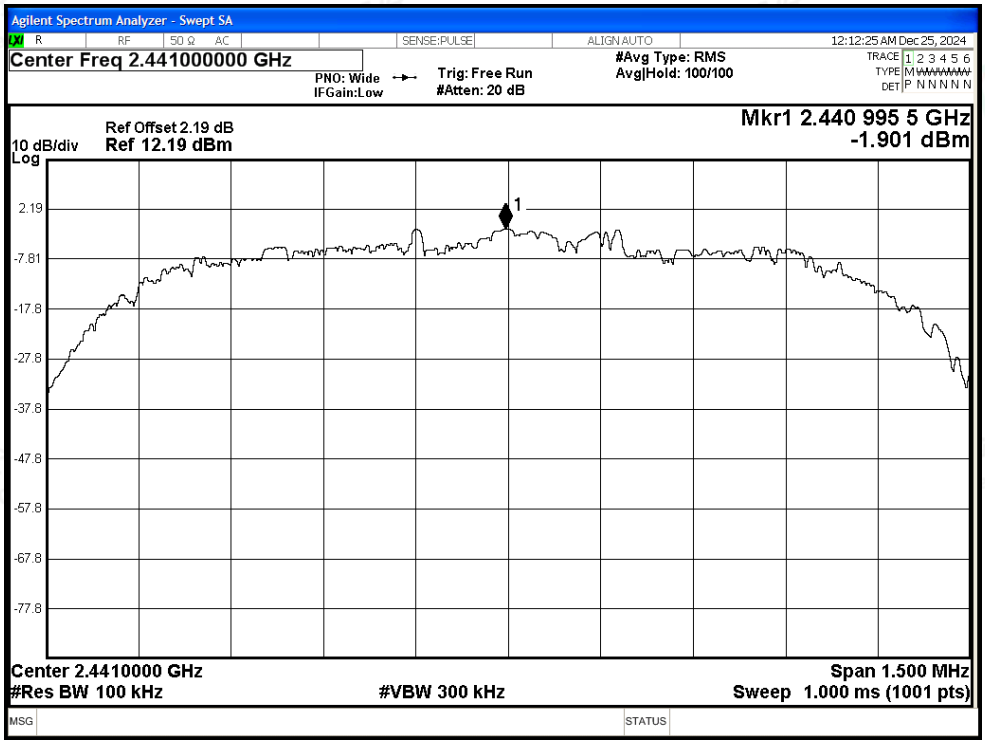


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

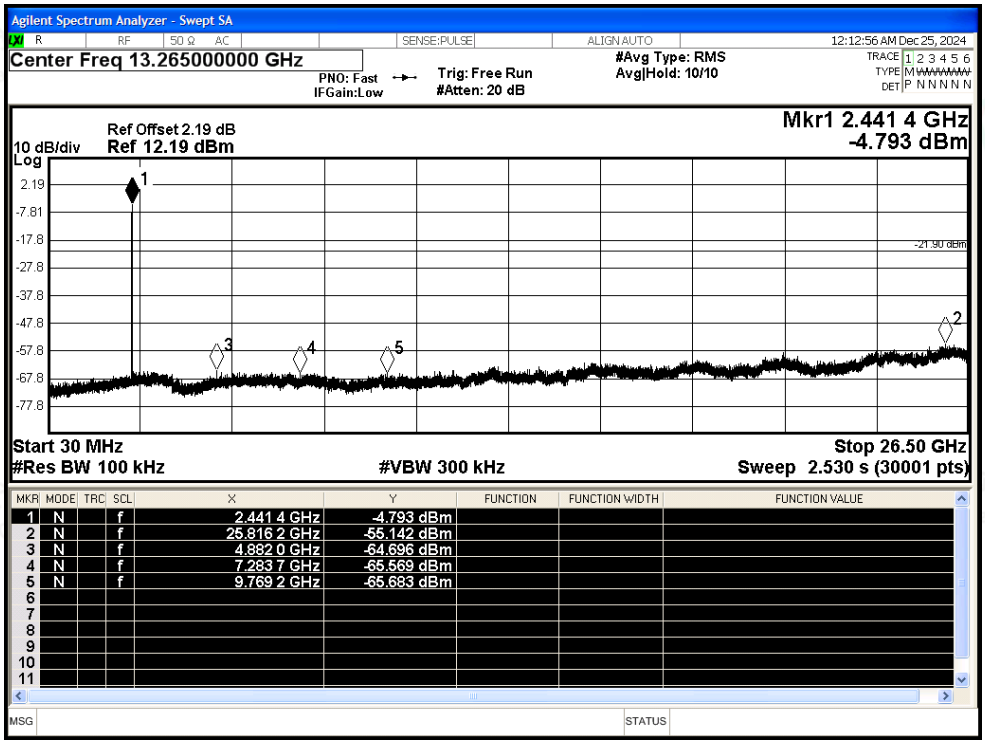


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.401 7 GHz	-5.858 dBm			
2	N		f	25.750 9 GHz	-55.376 dBm			
3	N		f	4.804 3 GHz	-64.066 dBm			
4	N		f	7.012 8 GHz	-65.818 dBm			
5	N		f	9.597 1 GHz	-65.766 dBm			
6								
7								
8								
9								
10								
11								

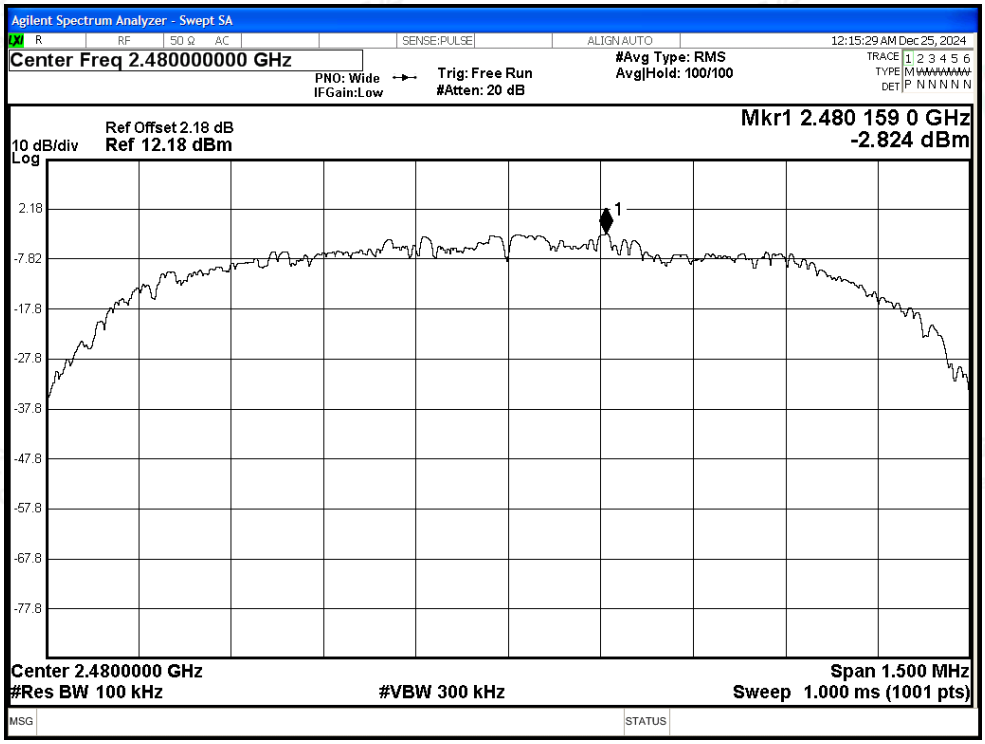
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



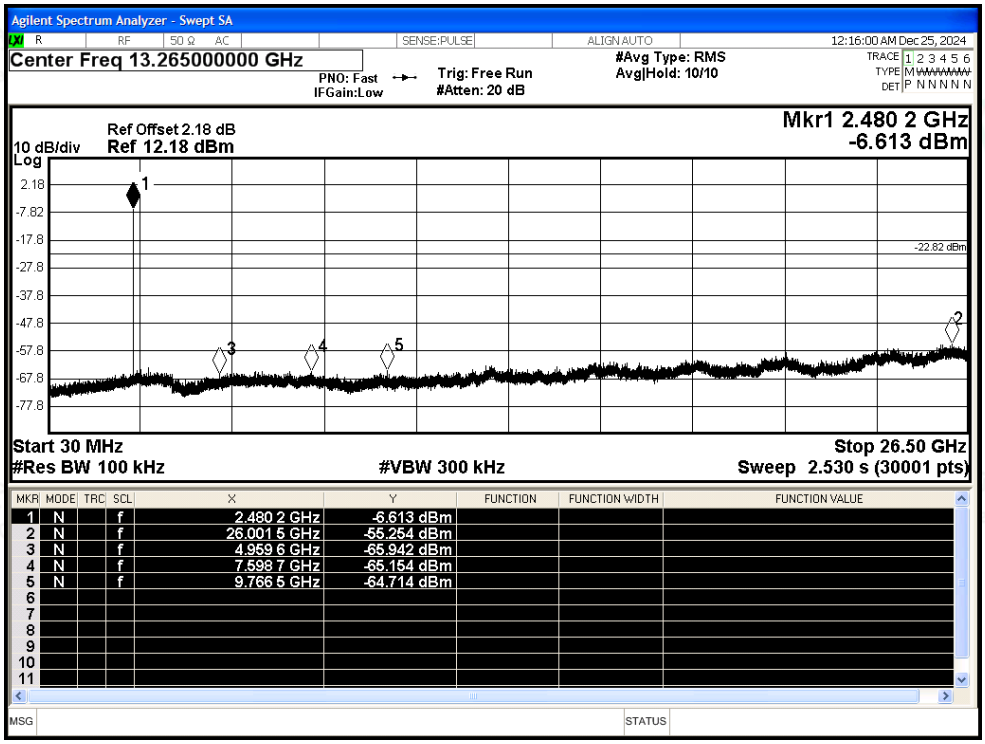
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

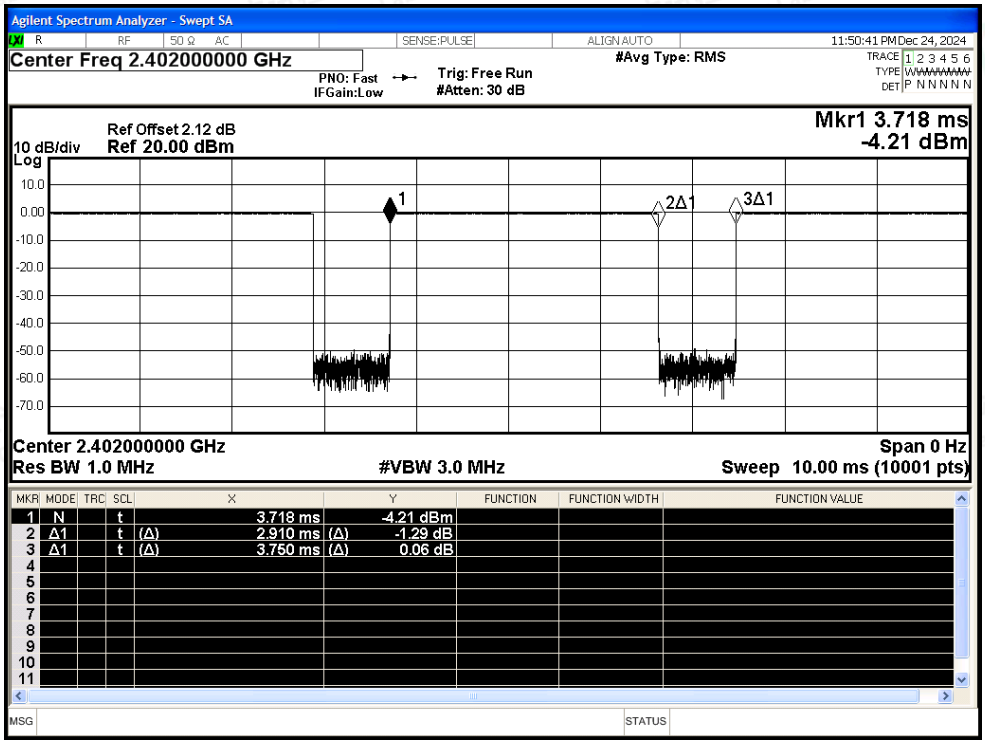


A.8 Duty Cycle

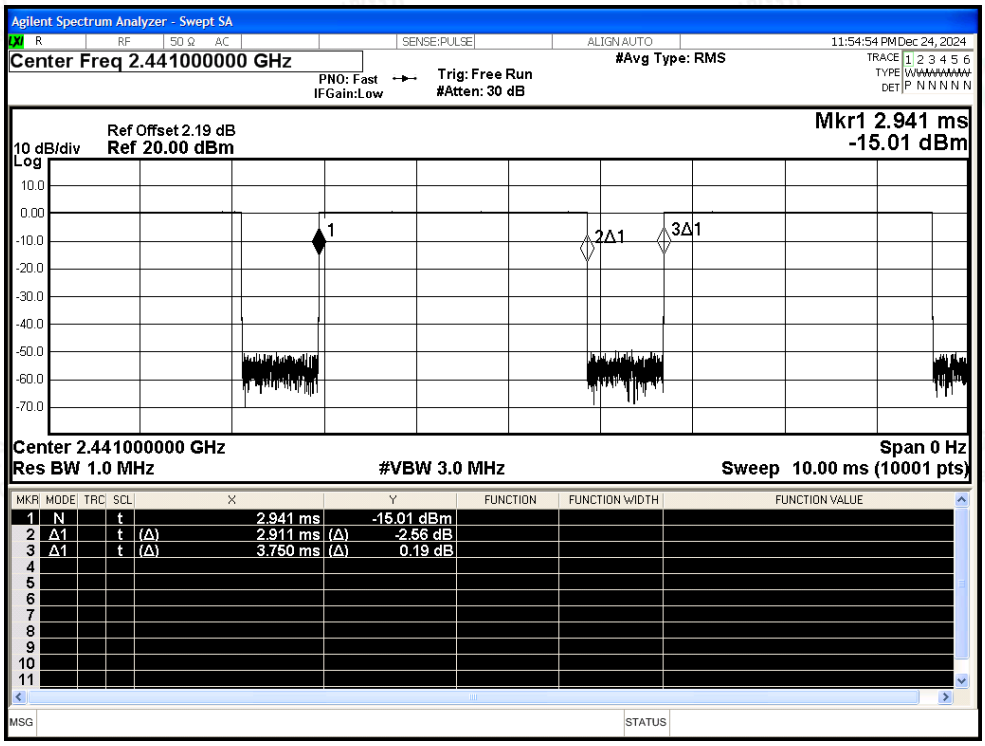
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34
NVNT	3-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35

Test Graphs

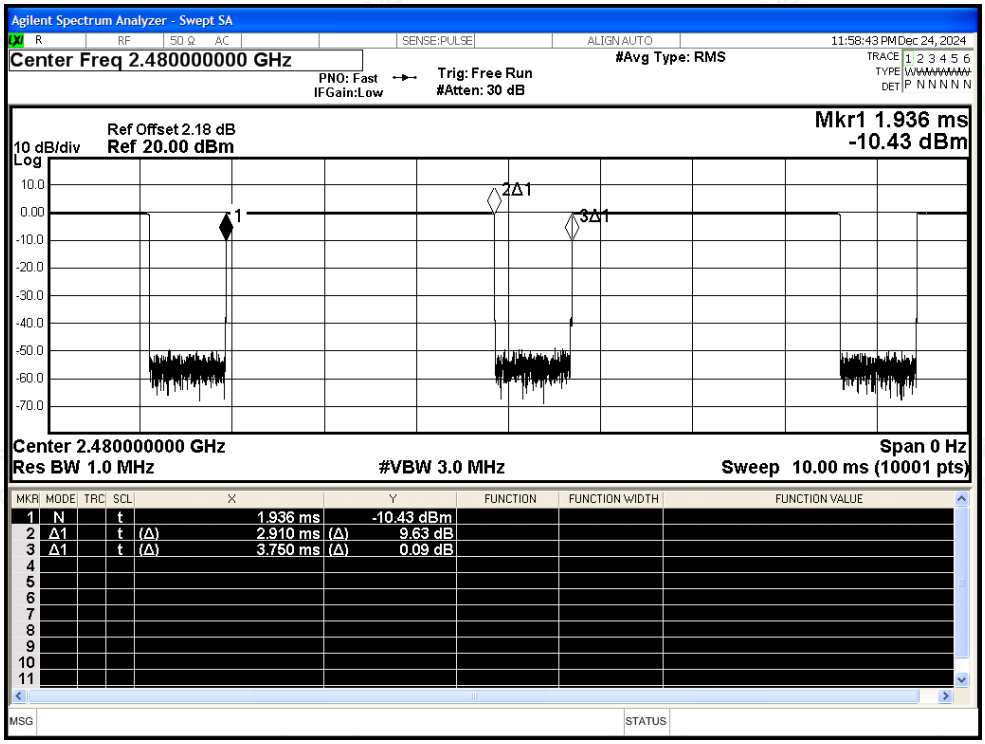
Duty Cycle NVNT 1-DH5 2402MHz Ant1



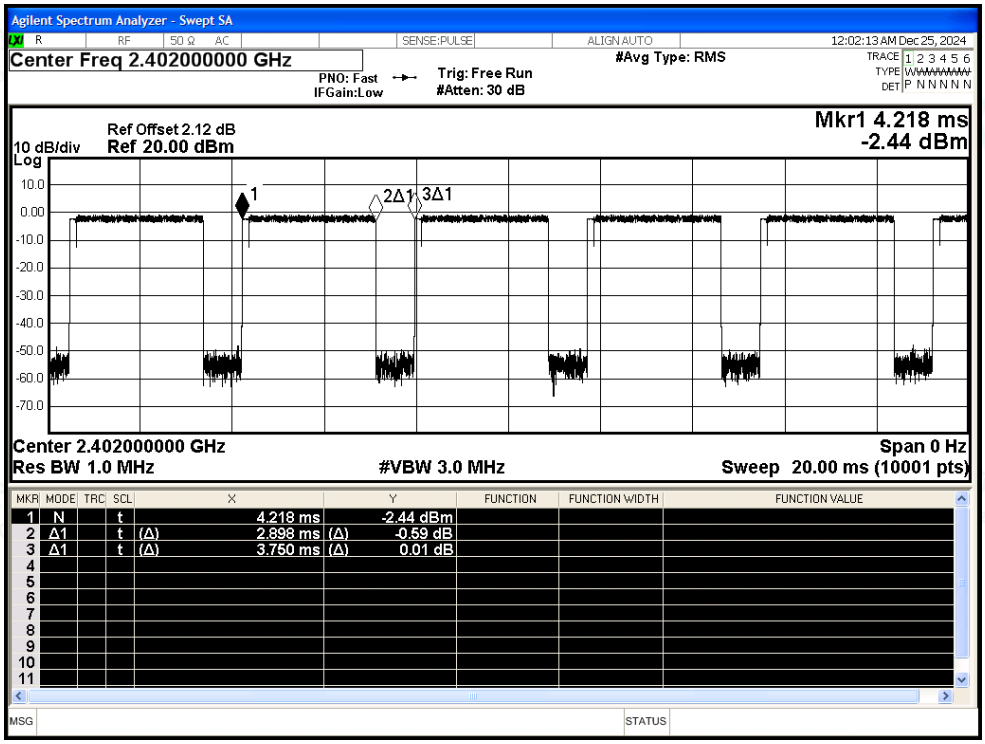
Duty Cycle NVNT 1-DH5 2441MHz Ant1



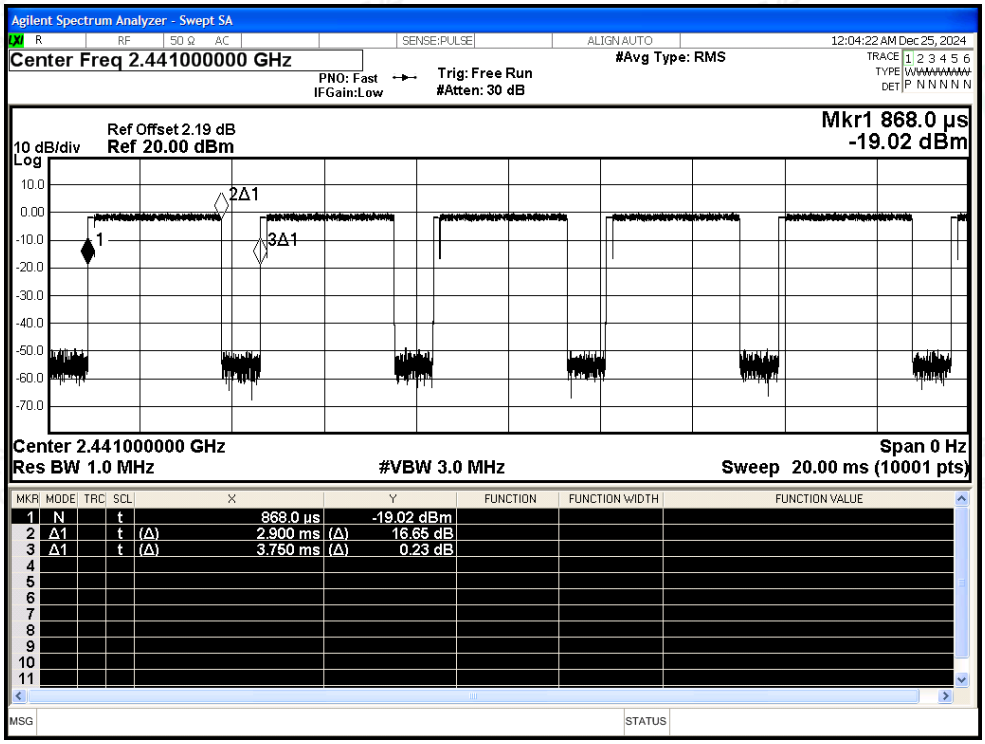
Duty Cycle NVNT 1-DH5 2480MHz Ant1



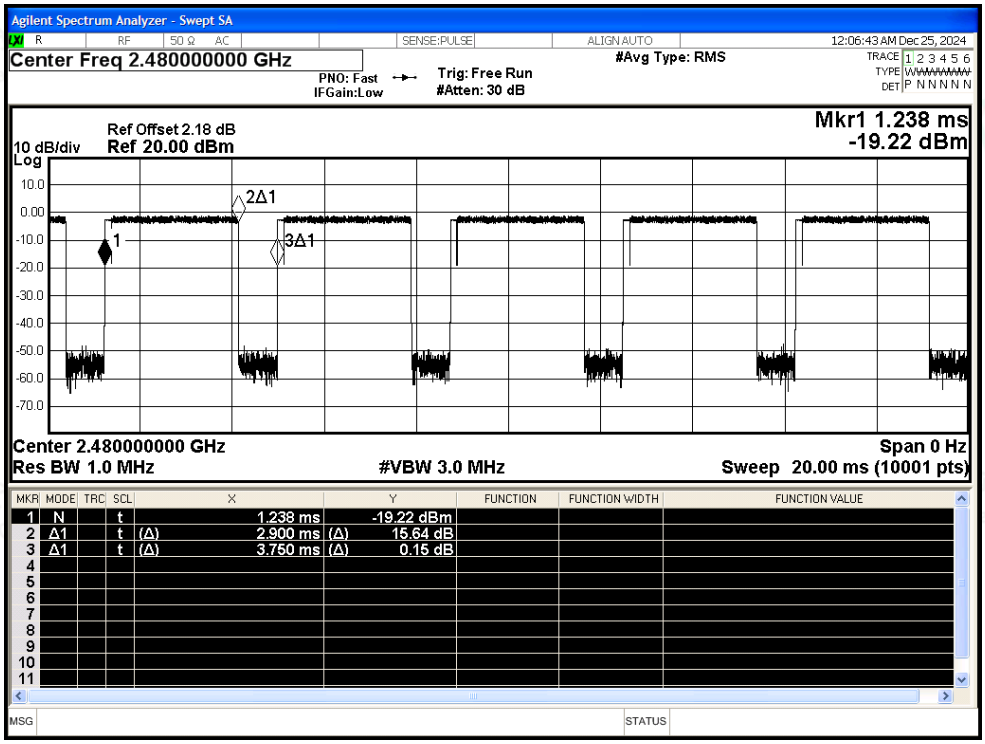
Duty Cycle NVNT 2-DH5 2402MHz Ant1



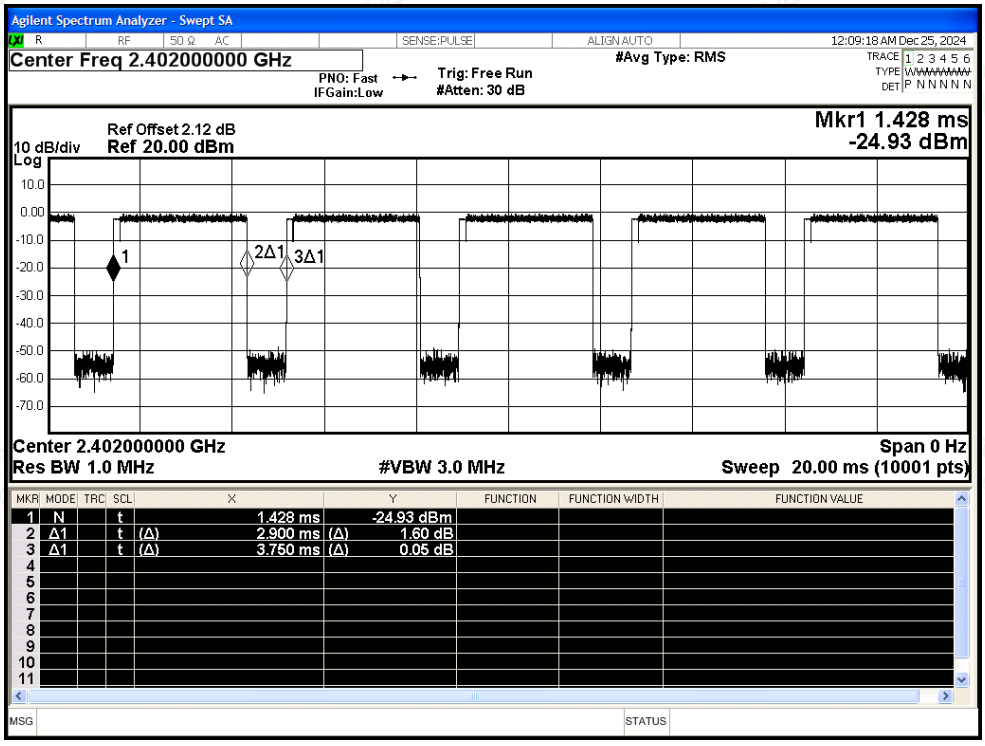
Duty Cycle NVNT 2-DH5 2441MHz Ant1



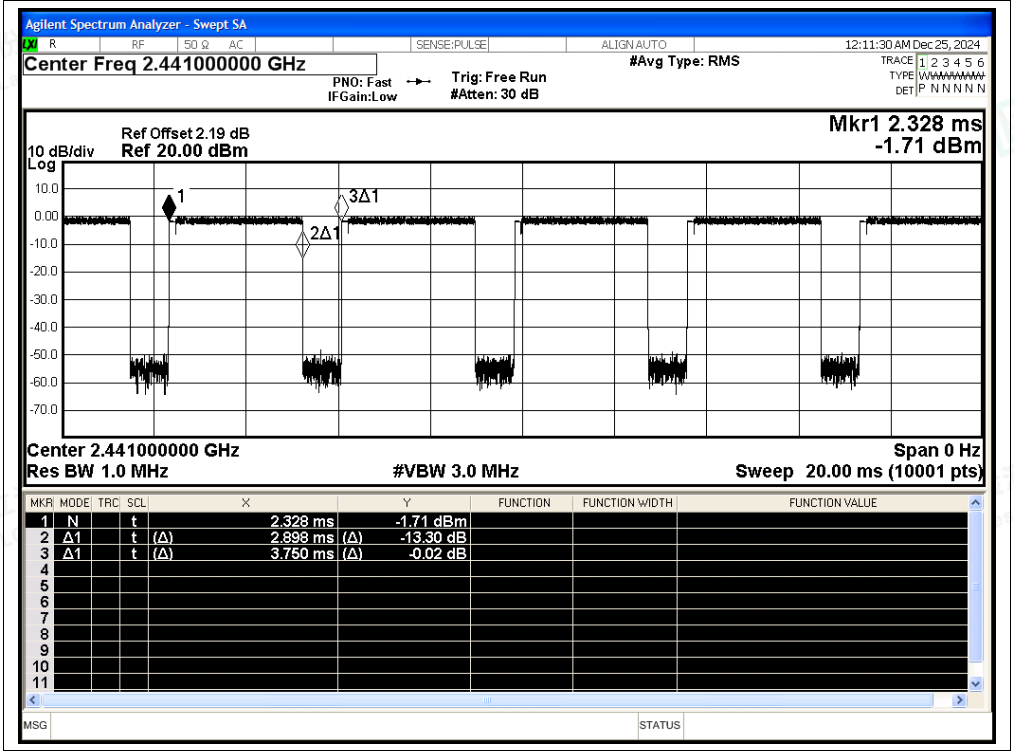
Duty Cycle NVNT 2-DH5 2480MHz Ant1



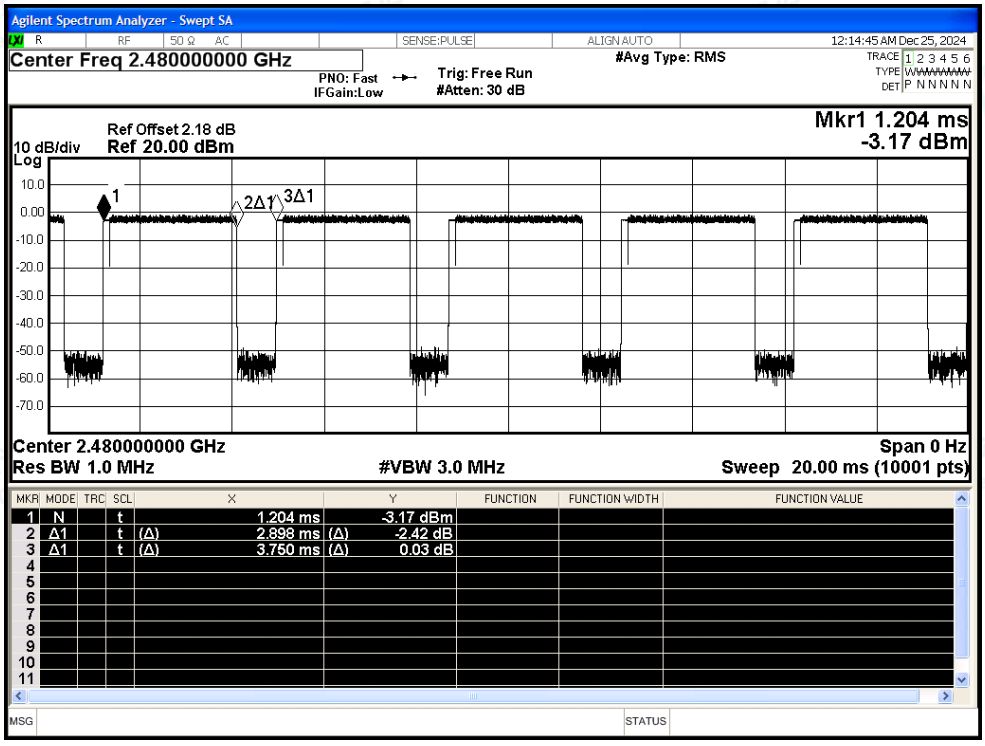
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

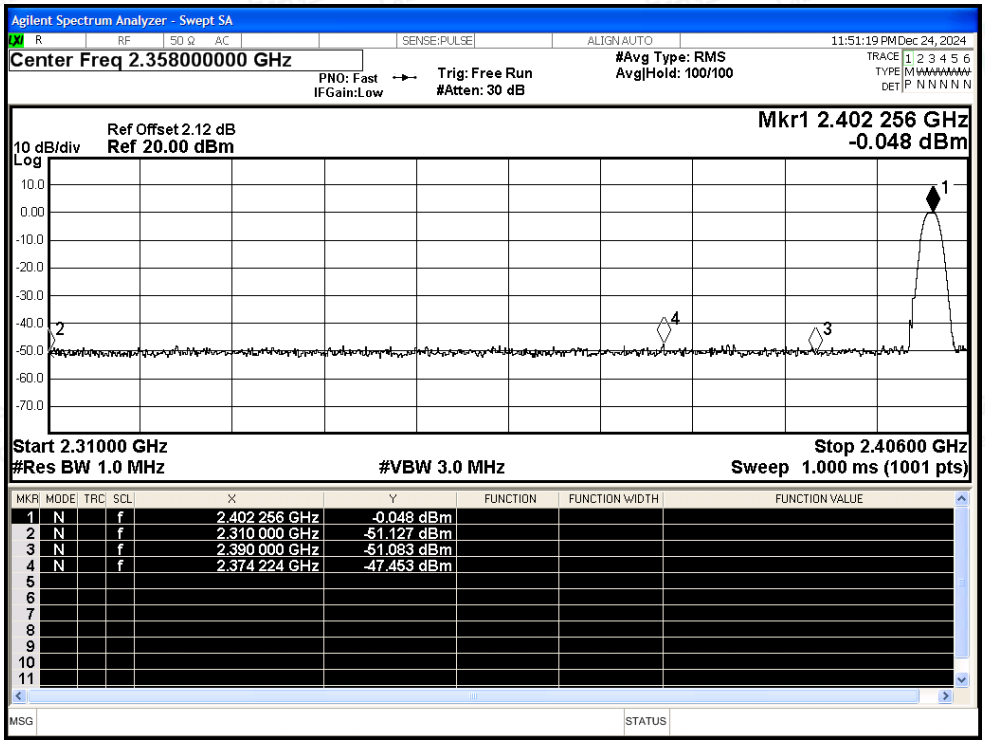


A.9 Restrict Band

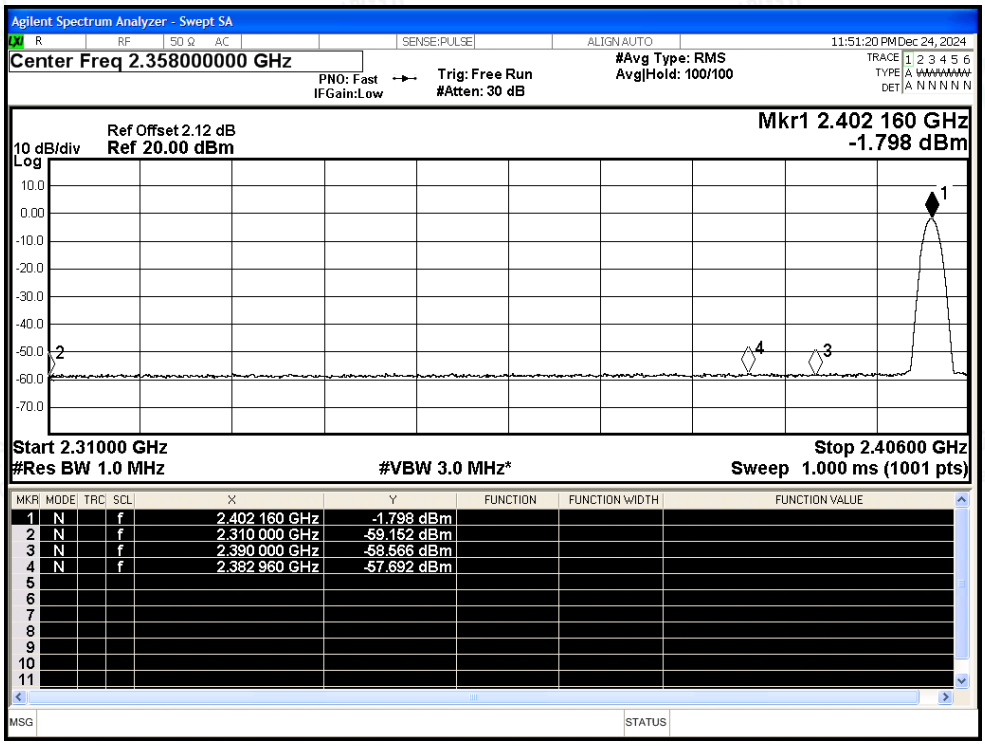
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.13	4.95	-	49.08	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.15	4.95	1.1	42.16	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2374.224	-47.45	4.95	-	52.76	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2382.96	-57.69	4.95	1.1	43.62	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.08	4.95	-	49.13	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.57	4.95	1.1	42.74	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.58	4.95	-	49.63	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.66	4.95	1.1	43.65	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.584	-46.61	4.95	-	53.6	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.472	-57.04	4.95	1.1	44.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.11	4.95	-	49.1	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.61	4.95	1.1	43.7	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.87	4.95	-	50.34	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.84	4.95	1.12	42.49	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2344.944	-47.63	4.95	-	52.58	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2357.712	-57.68	4.95	1.12	43.65	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.12	4.95	-	50.09	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.12	4.95	1.12	43.21	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.86	4.95	-	49.35	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.97	4.95	1.12	43.36	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2488.744	-47.24	4.95	-	52.97	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.072	-56.92	4.95	1.12	44.41	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.73	4.95	-	49.48	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.15	4.95	1.12	43.18	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.52	4.95	-	49.69	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.58	4.95	1.12	42.75	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2328.912	-47.74	4.95	-	52.47	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2360.976	-57.7	4.95	1.12	43.63	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.84	4.95	-	50.37	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.03	4.95	1.12	43.3	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.59	4.95	-	51.62	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.55	4.95	1.12	43.78	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.912	-46.75	4.95	-	53.46	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.728	-57.07	4.95	1.12	44.26	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-46.84	4.95	-	53.37	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.51	4.95	1.12	42.82	Average	54	Pass

Test Graphs

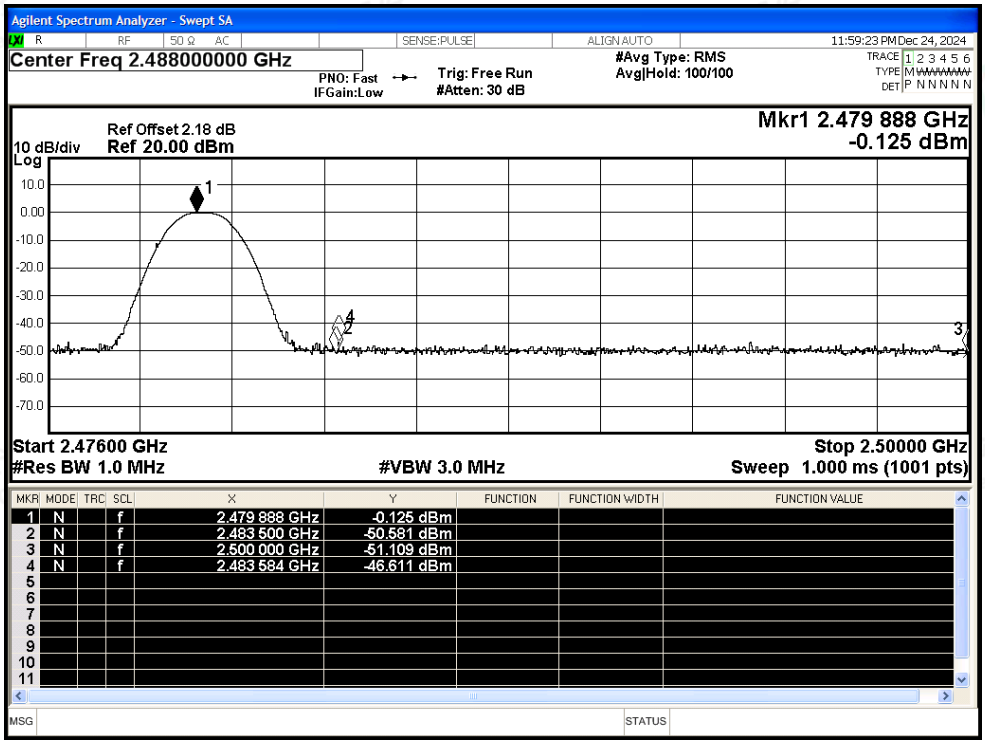
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



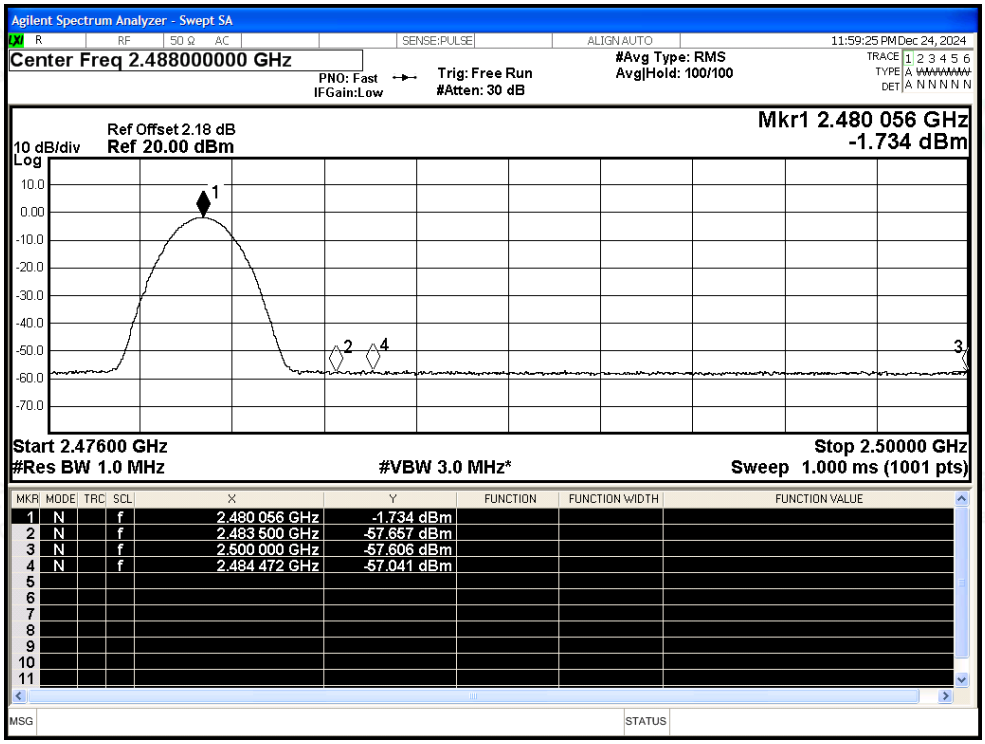
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



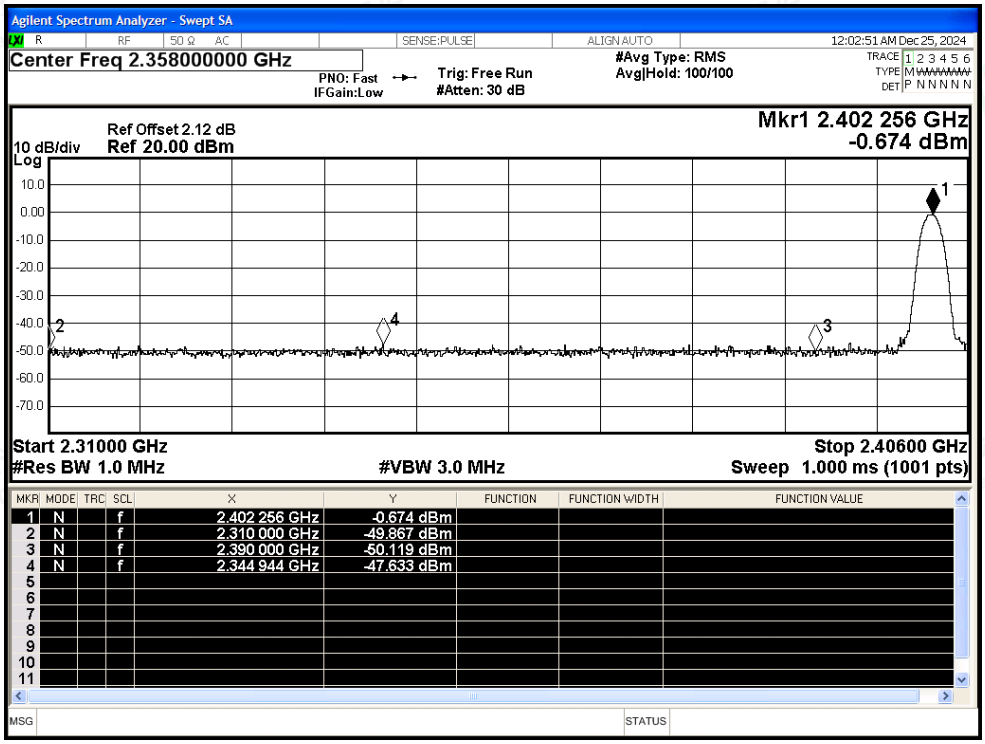
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



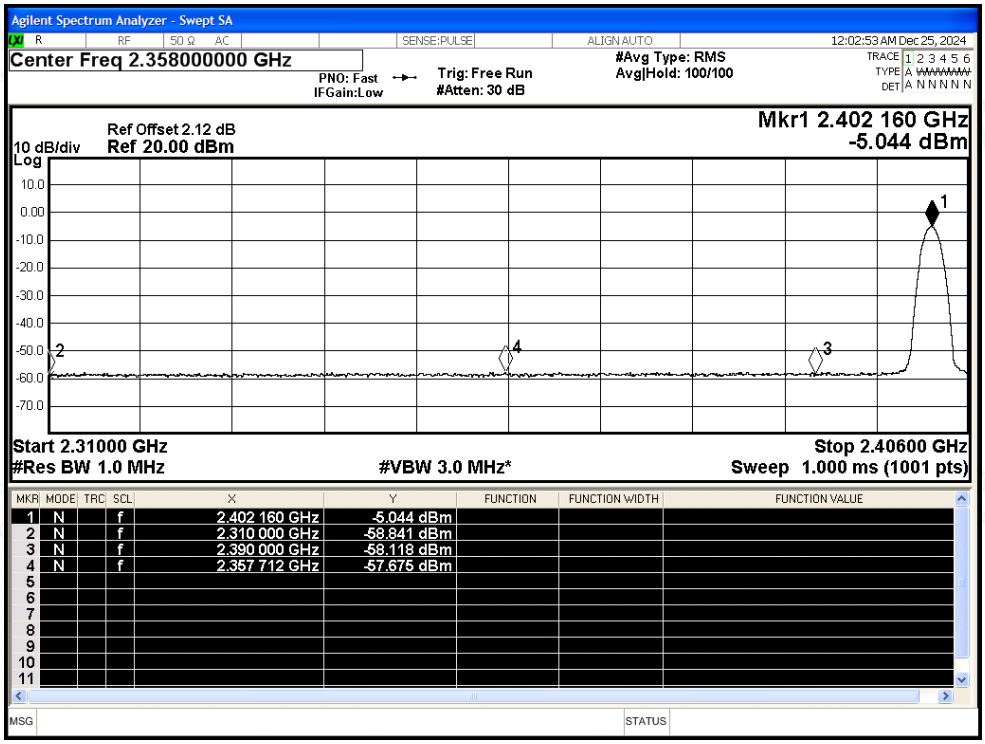
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



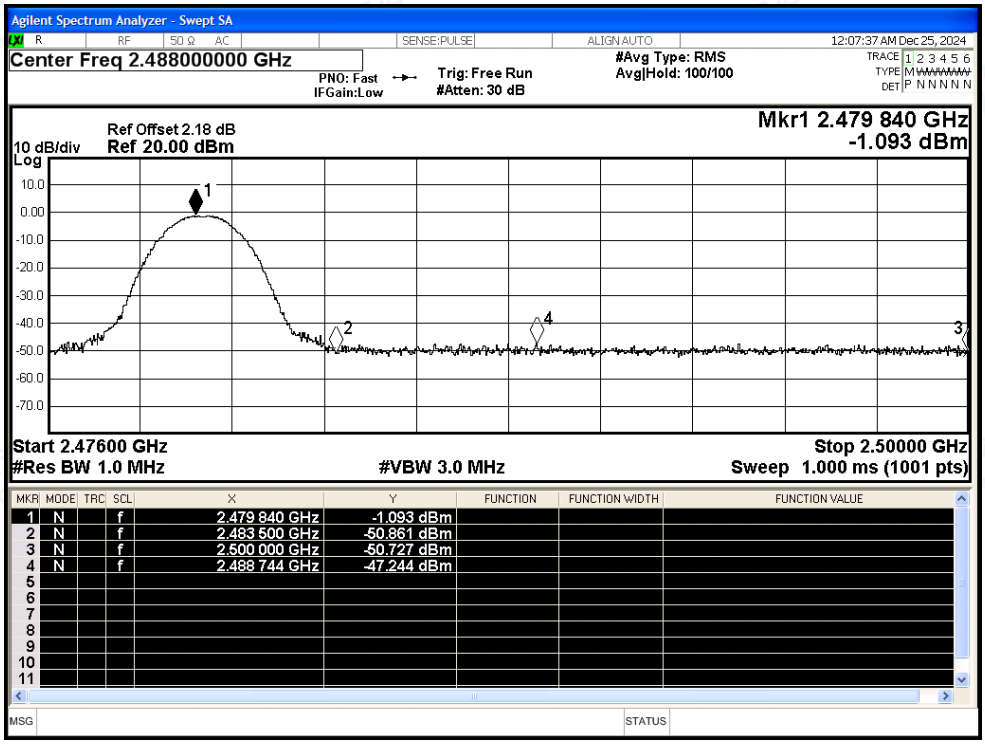
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



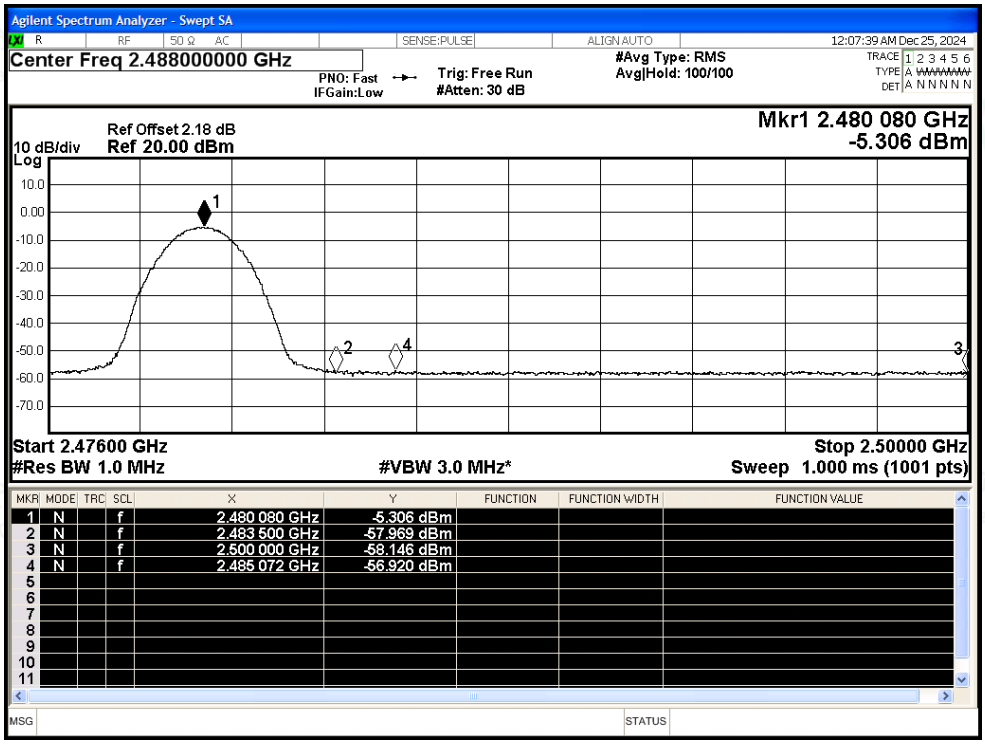
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



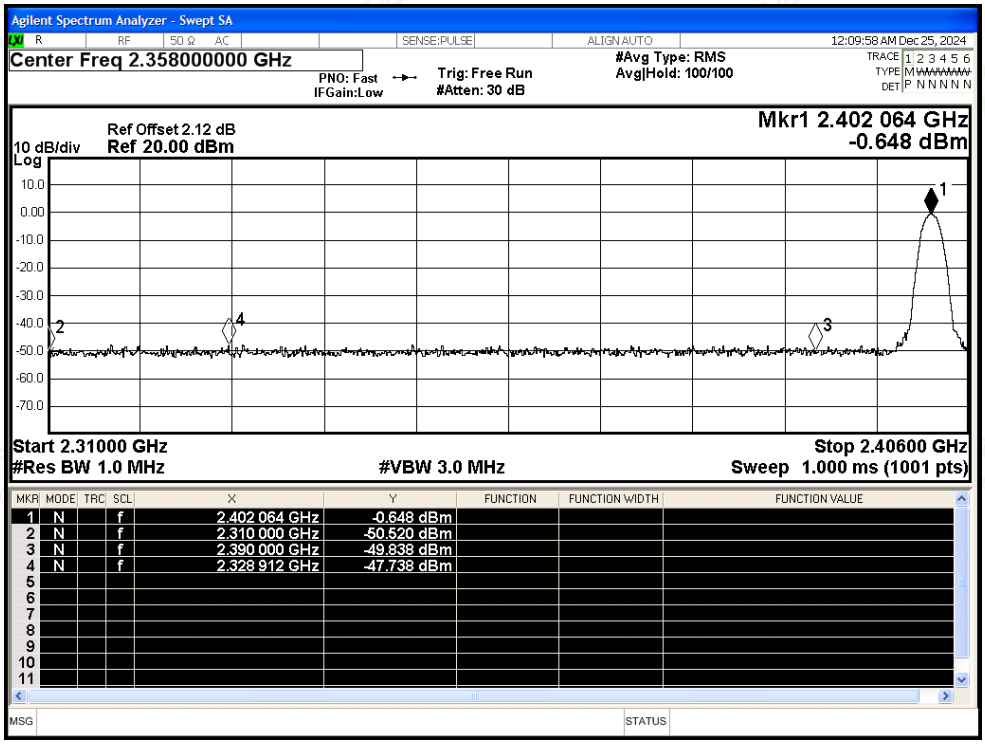
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



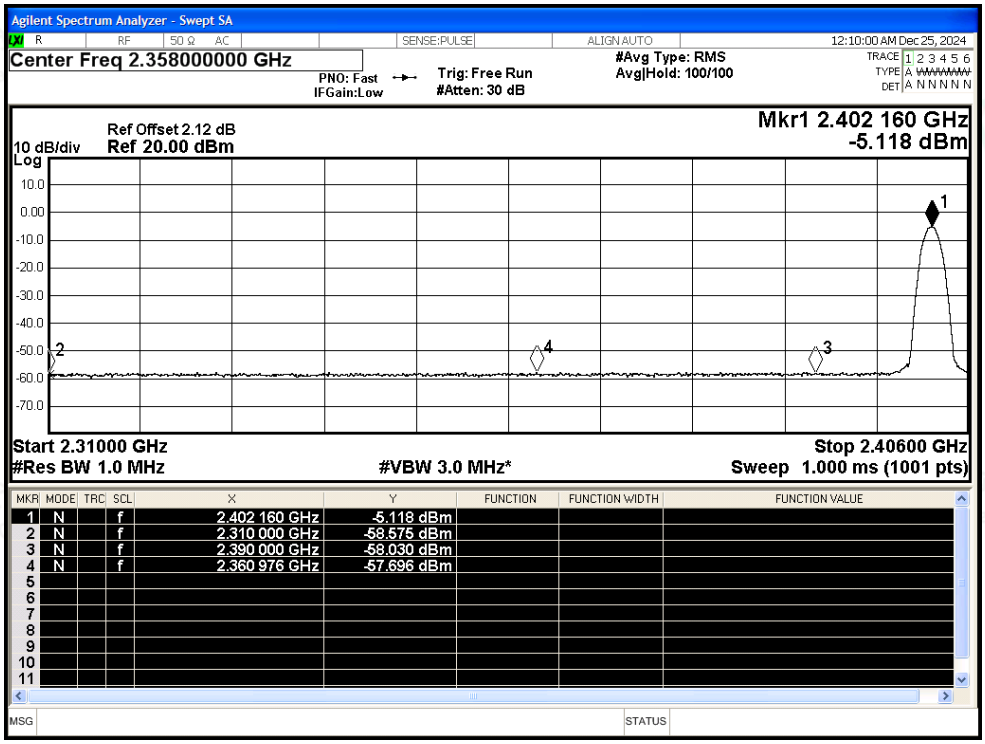
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



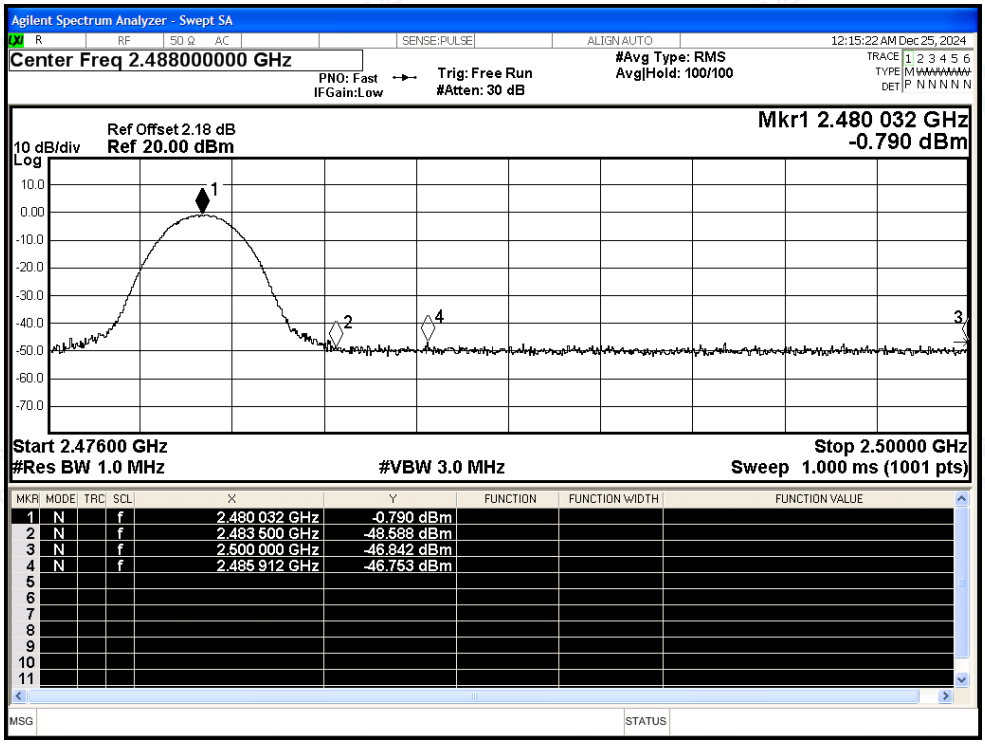
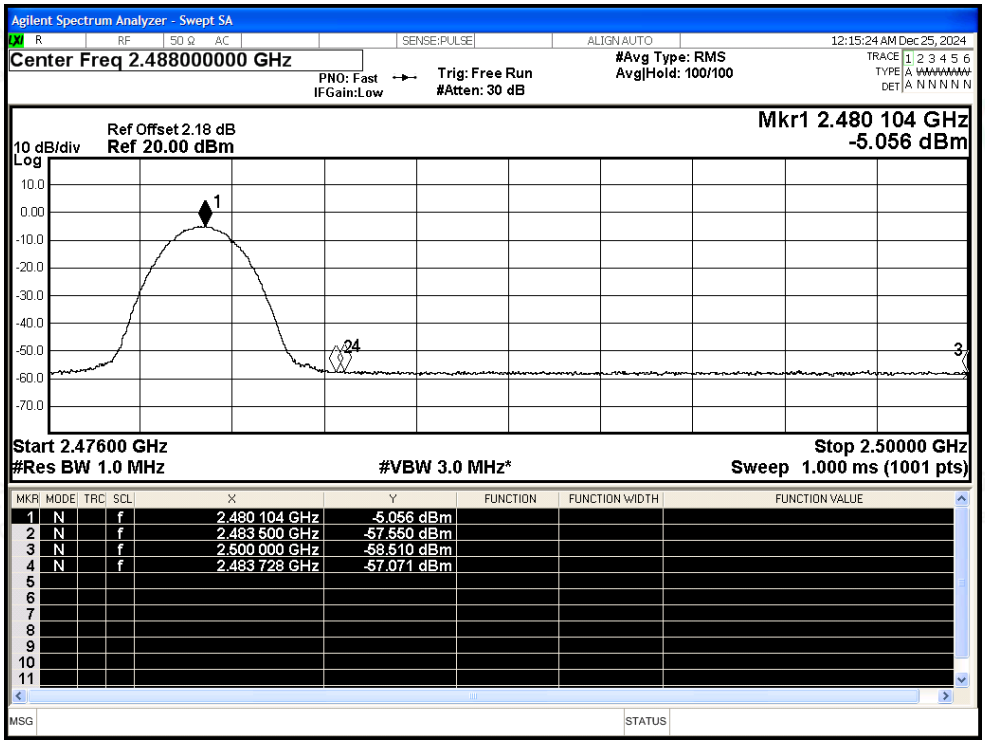
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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