Appendix A

RF Test Data for BT(Conducted Measurement)

Product Name: Mini PC

Test Model: MN-N1

Environmental Conditions

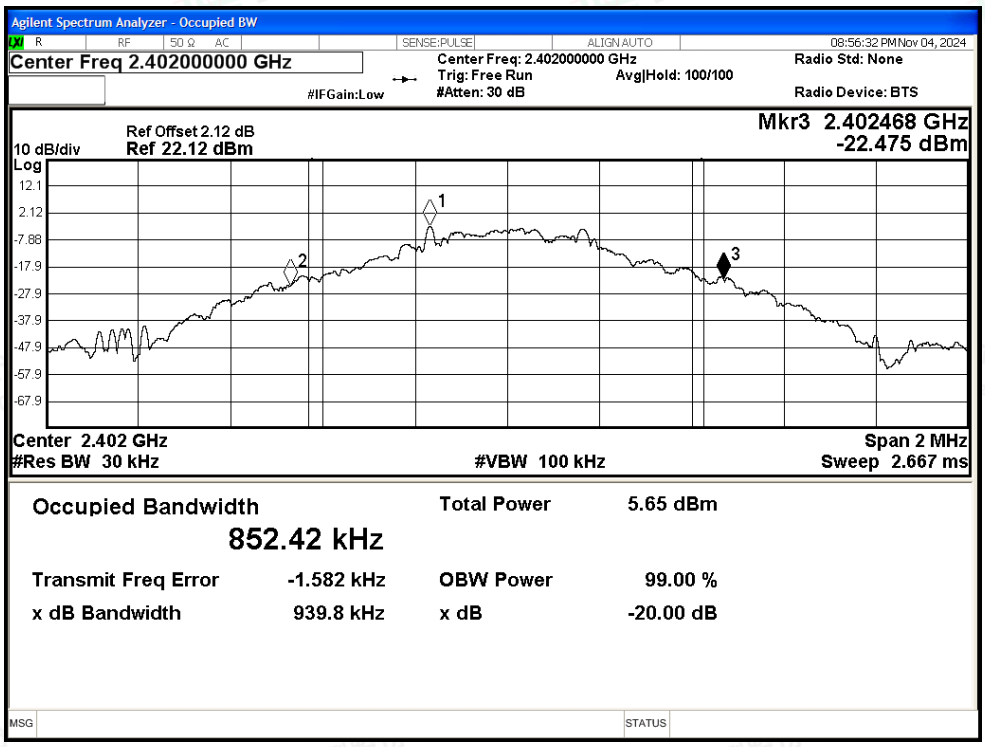
Temperature:	24.8° C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	Jose Zhu
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

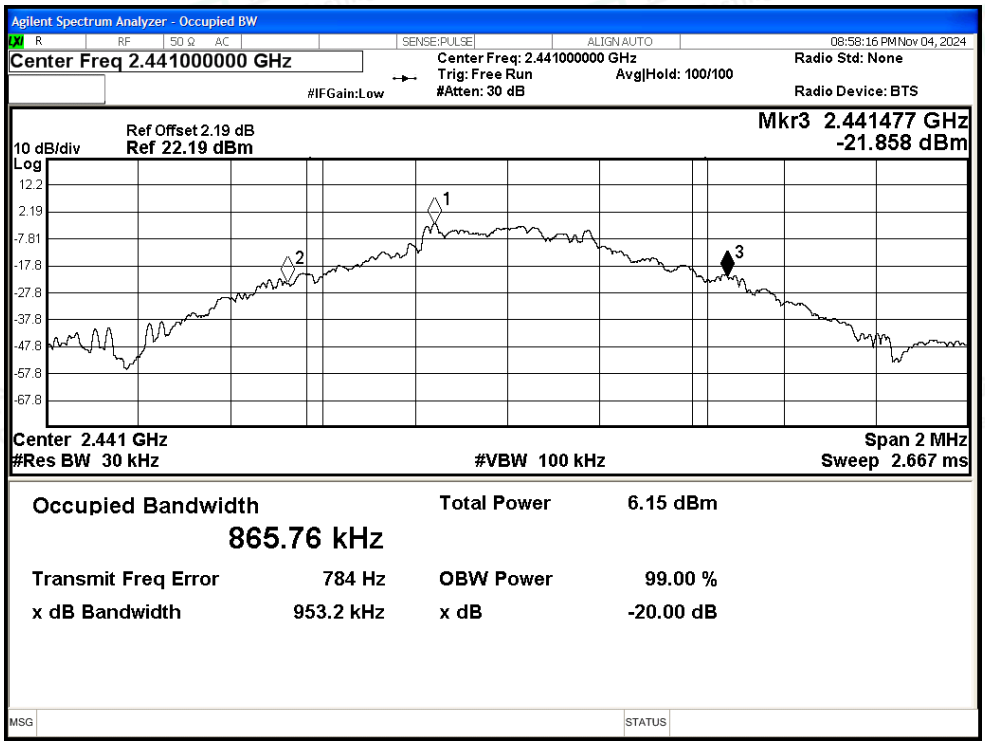
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant0	0.94	N/A	Pass
NVNT	1-DH5	2441	Ant0	0.953	N/A	Pass
NVNT	1-DH5	2480	Ant0	0.957	N/A	Pass
NVNT	2-DH5	2402	Ant0	1.282	N/A	Pass
NVNT	2-DH5	2441	Ant0	1.28	N/A	Pass
NVNT	2-DH5	2480	Ant0	1.287	N/A	Pass
NVNT	3-DH5	2402	Ant0	1.292	N/A	Pass
NVNT	3-DH5	2441	Ant0	1.291	N/A	Pass
NVNT	3-DH5	2480	Ant0	1.299	N/A	Pass

Test Graphs

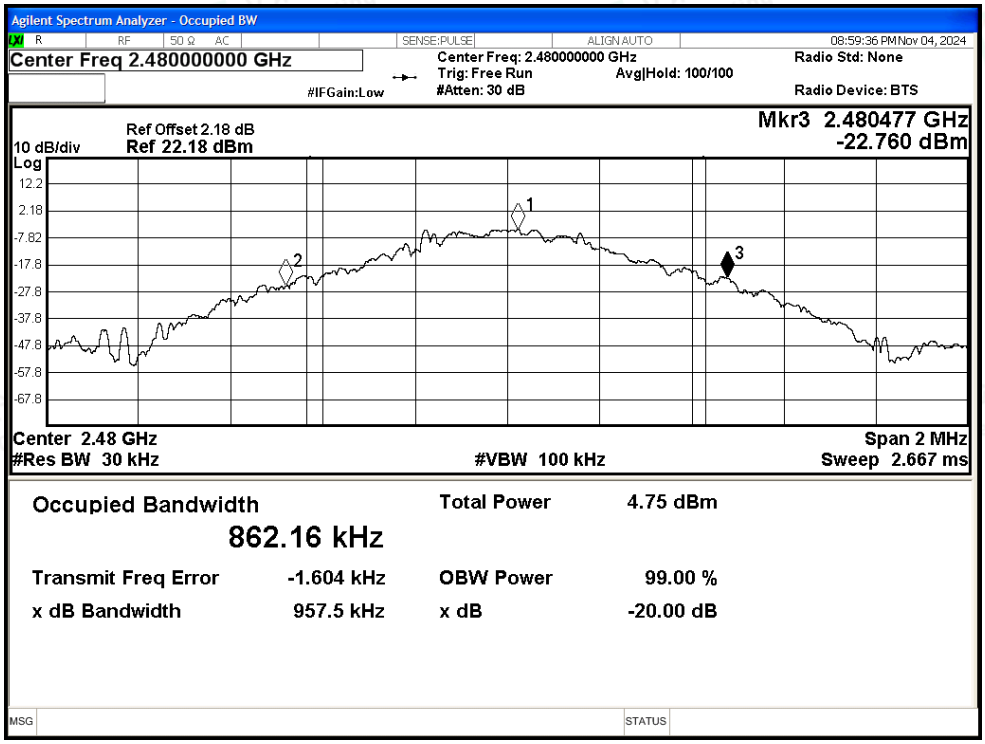
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant0



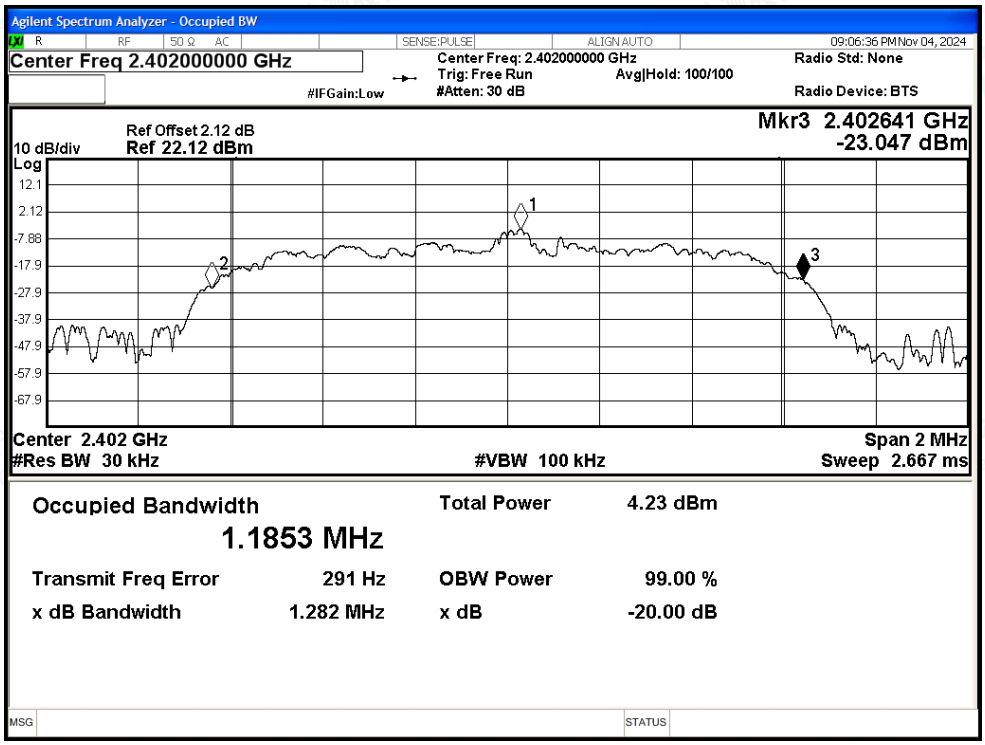
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant0



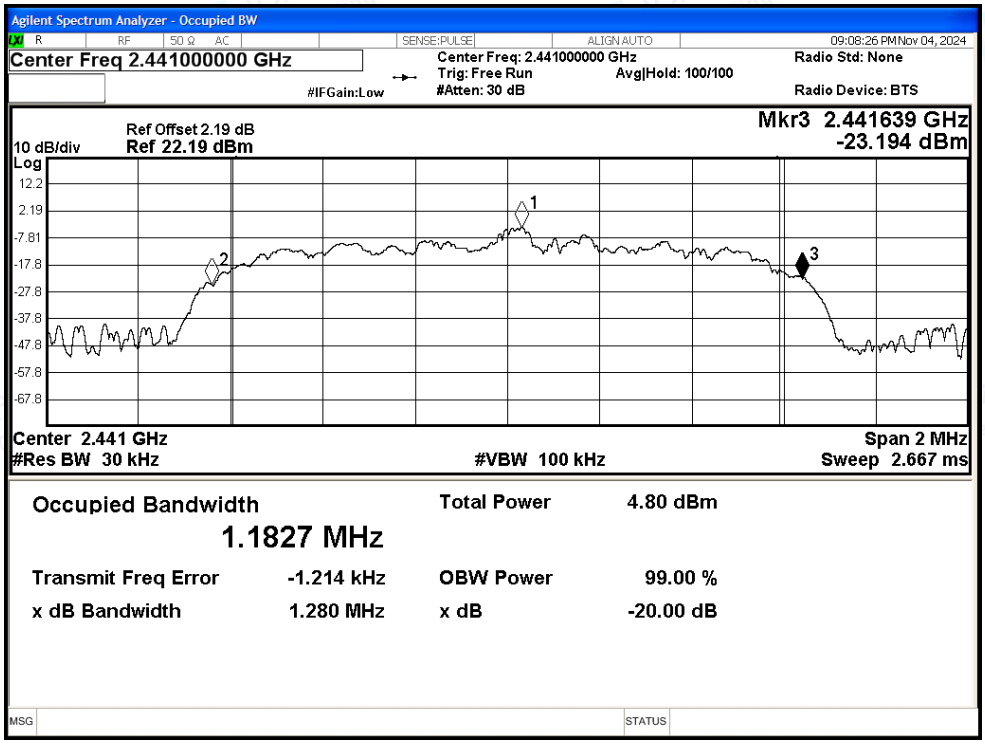
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant0



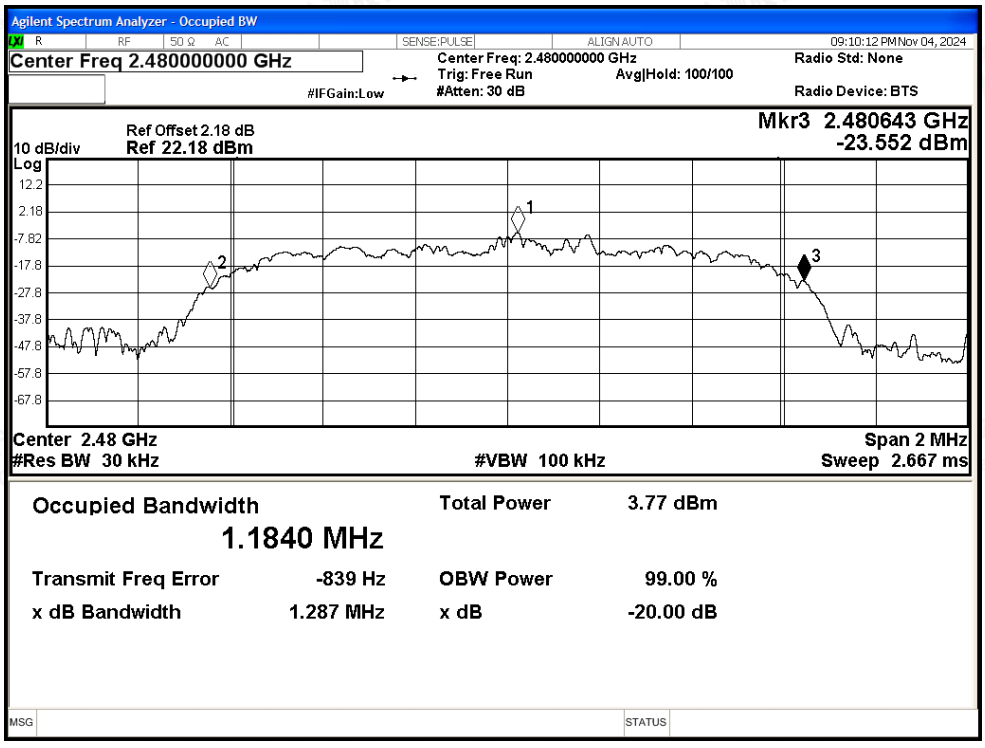
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant0



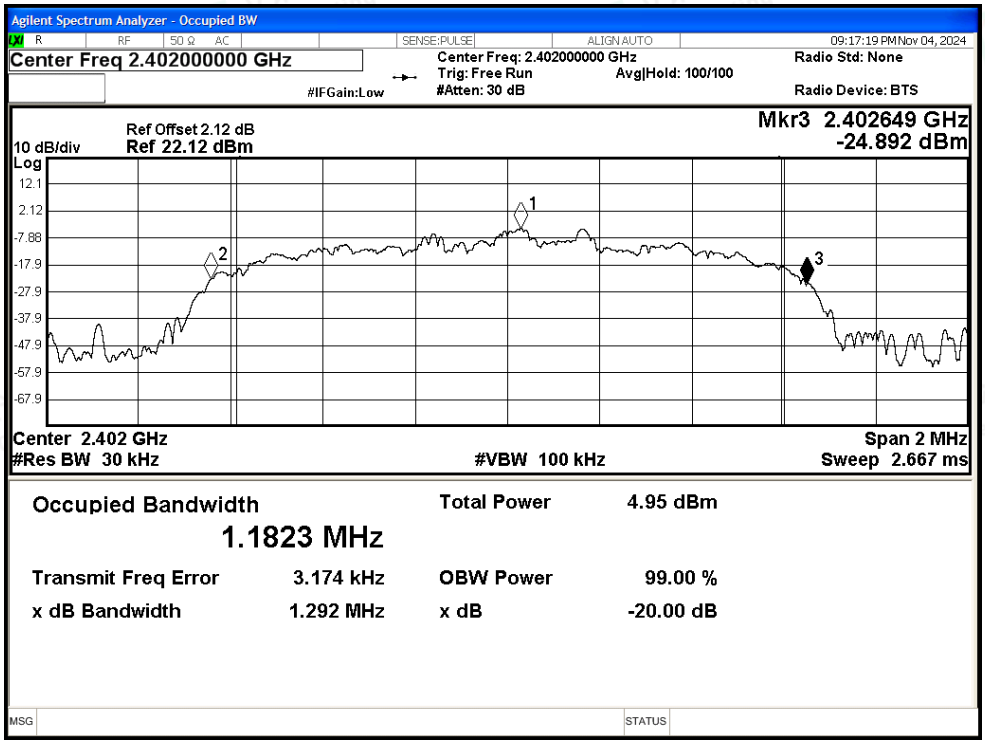
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant0



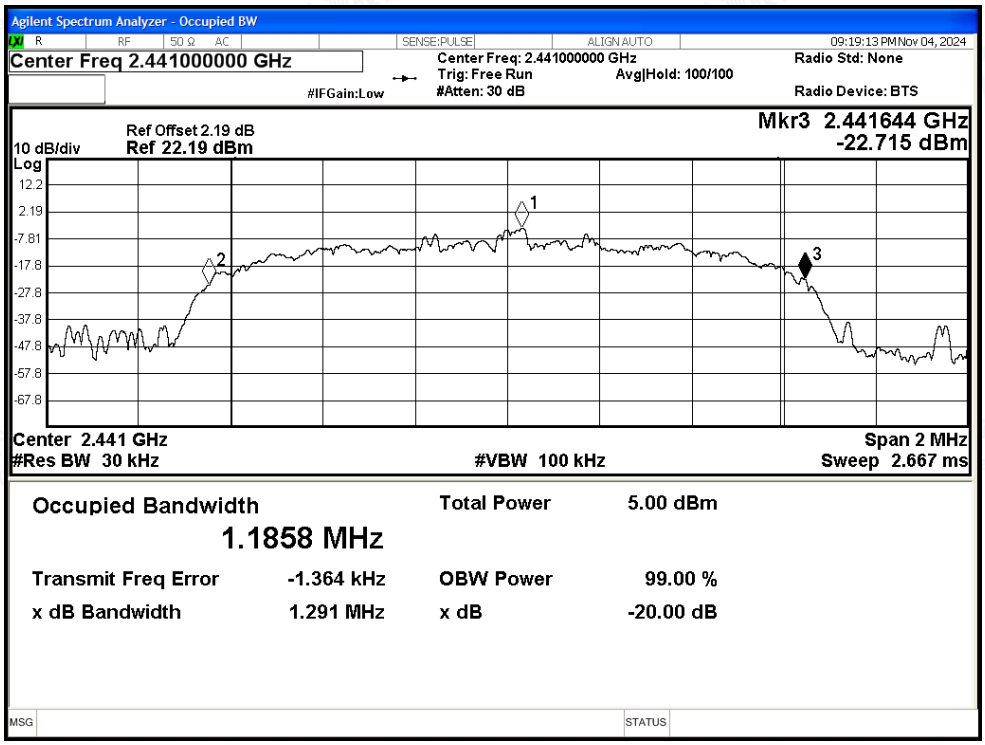
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant0



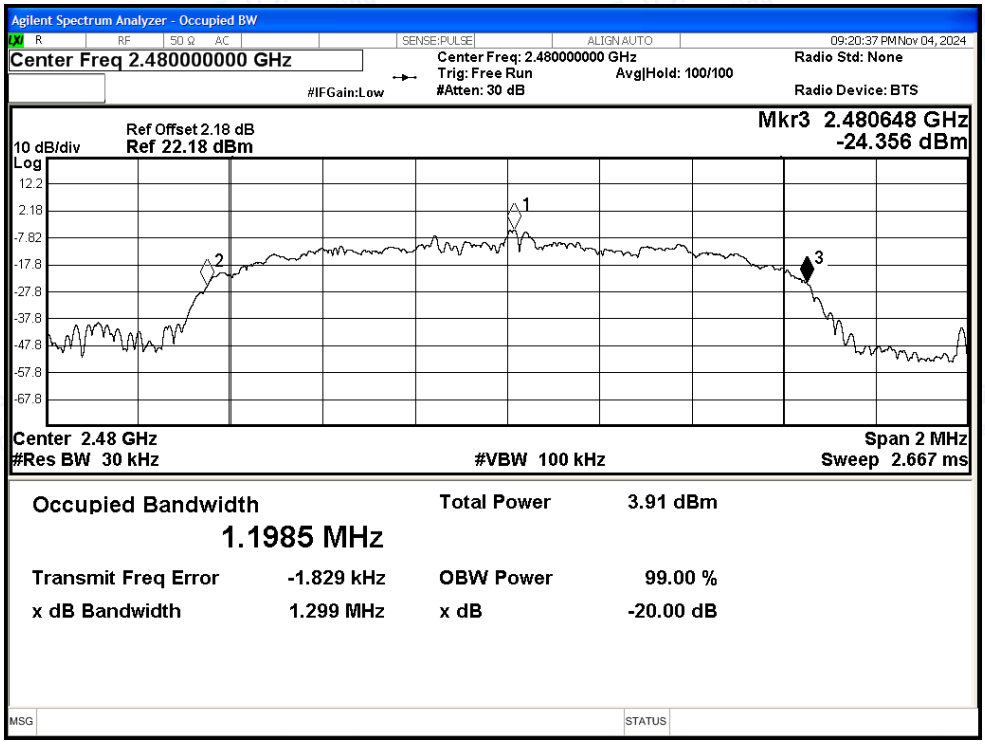
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant0



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant0



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant0

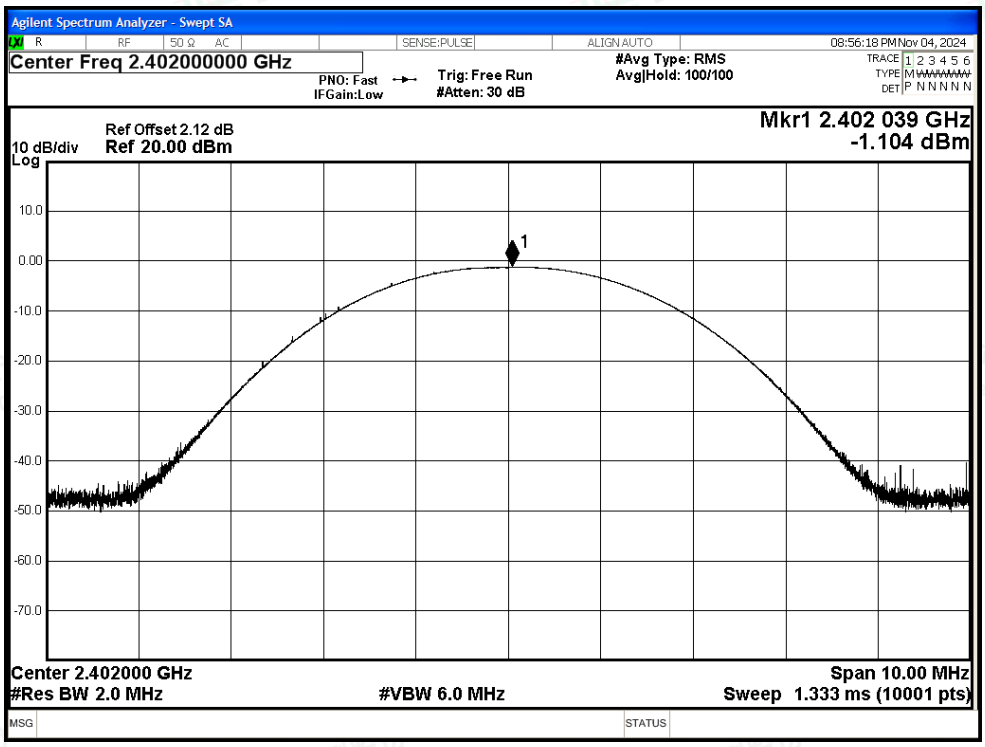


A.2 Maximum Peak Conducted Output Power

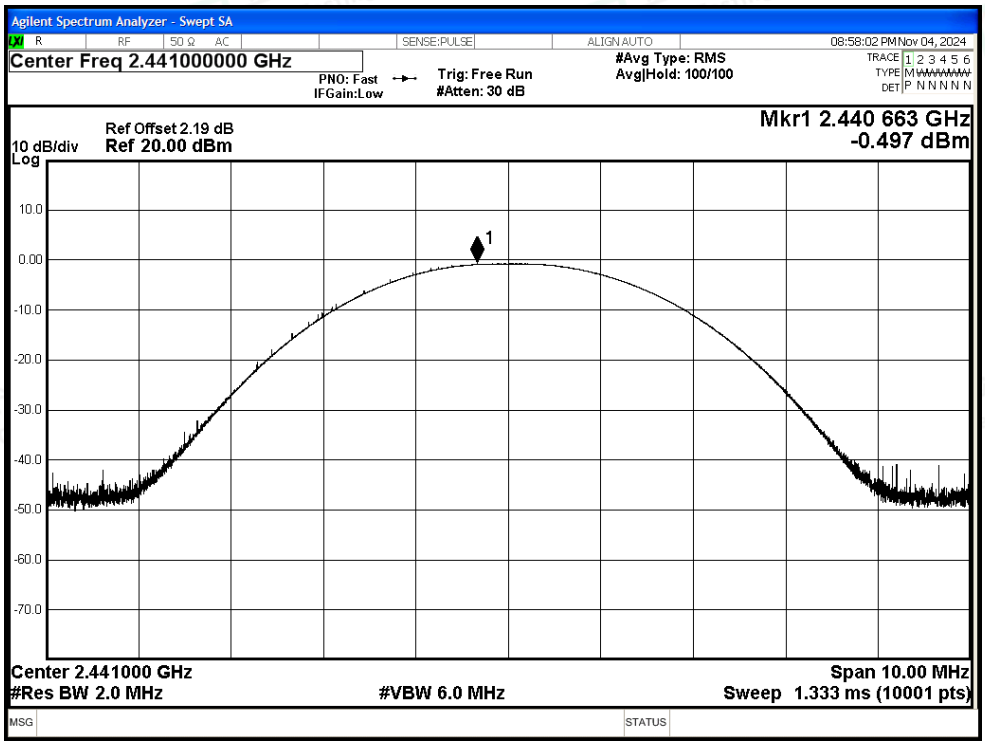
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant0	-1.1	21	Pass
NVNT	1-DH5	2441	Ant0	-0.5	21	Pass
NVNT	1-DH5	2480	Ant0	-1.53	21	Pass
NVNT	2-DH5	2402	Ant0	-0.21	21	Pass
NVNT	2-DH5	2441	Ant0	0.3	21	Pass
NVNT	2-DH5	2480	Ant0	-0.7	21	Pass
NVNT	3-DH5	2402	Ant0	0.3	21	Pass
NVNT	3-DH5	2441	Ant0	0.63	21	Pass
NVNT	3-DH5	2480	Ant0	-0.21	21	Pass

Test Graphs

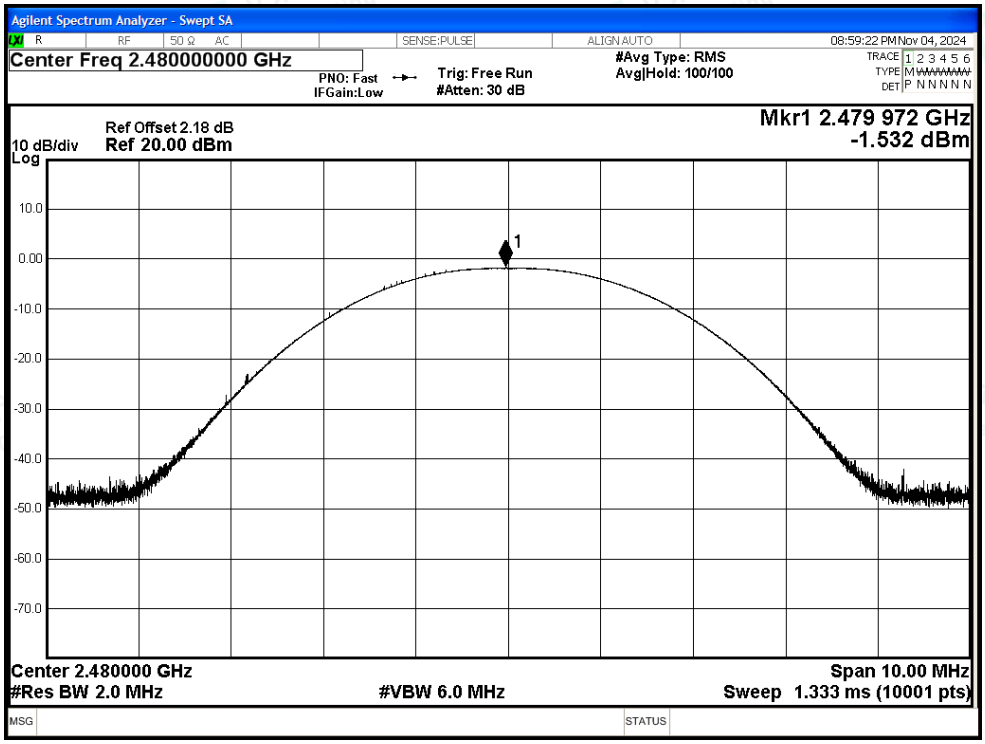
Power NVNT 1-DH5 2402MHz Ant0



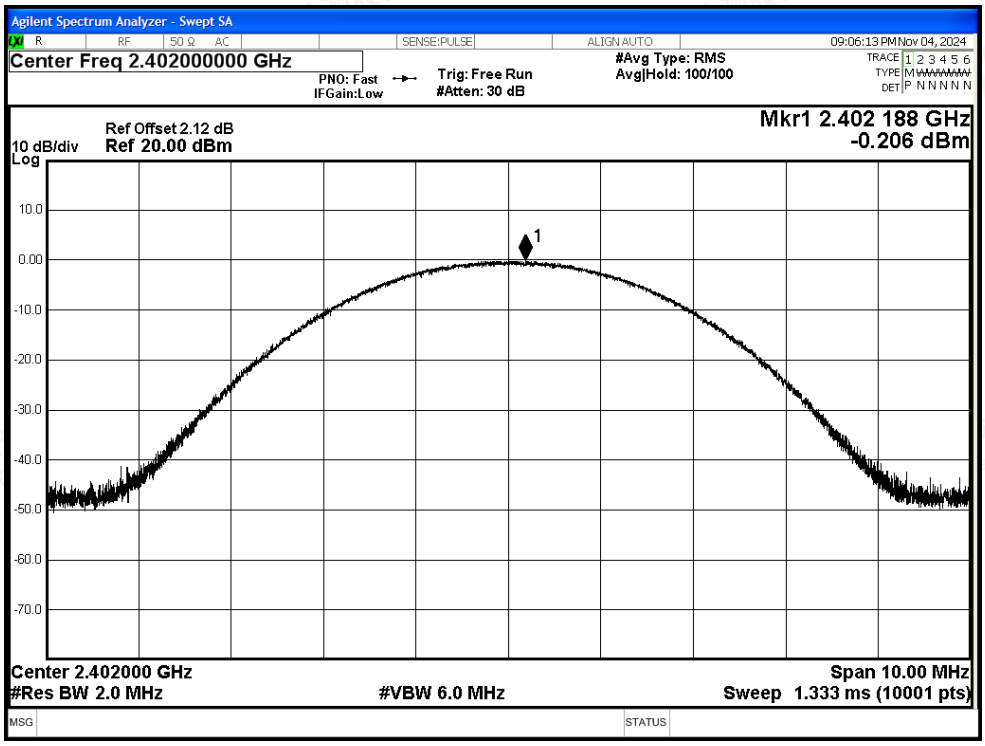
Power NVNT 1-DH5 2441MHz Ant0



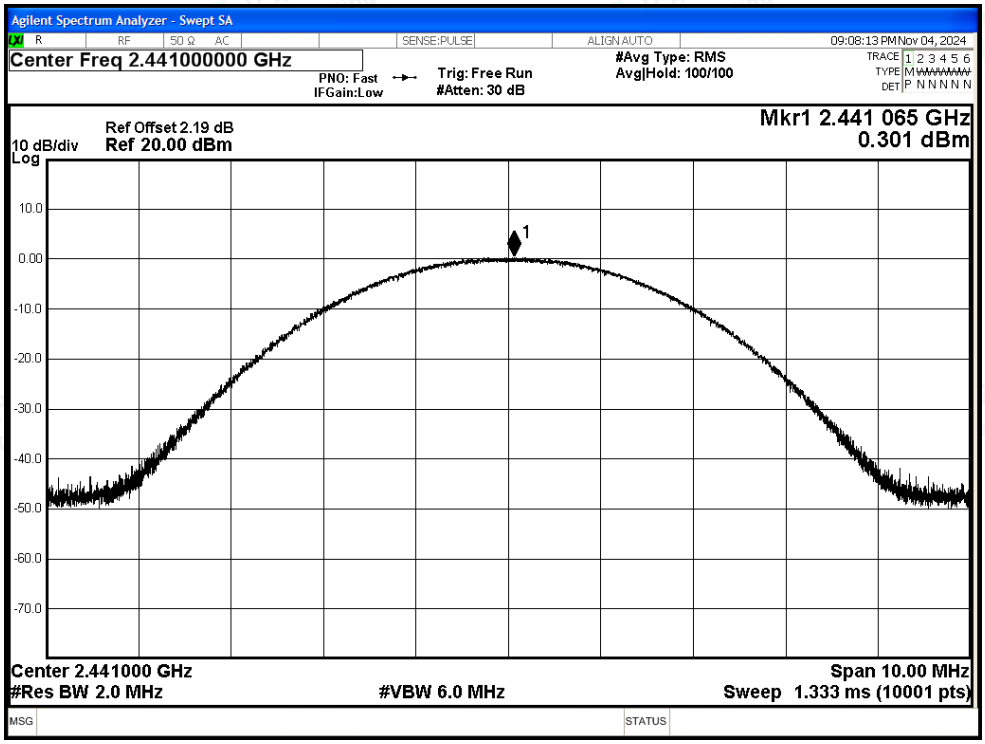
Power NVNT 1-DH5 2480MHz Ant0



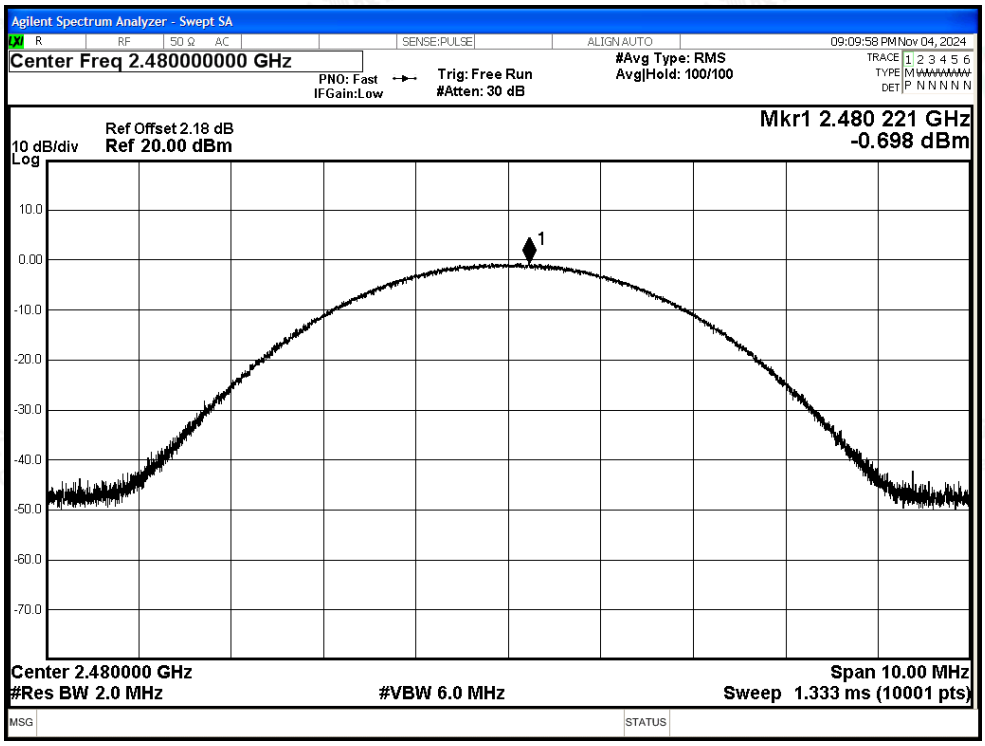
Power NVNT 2-DH5 2402MHz Ant0



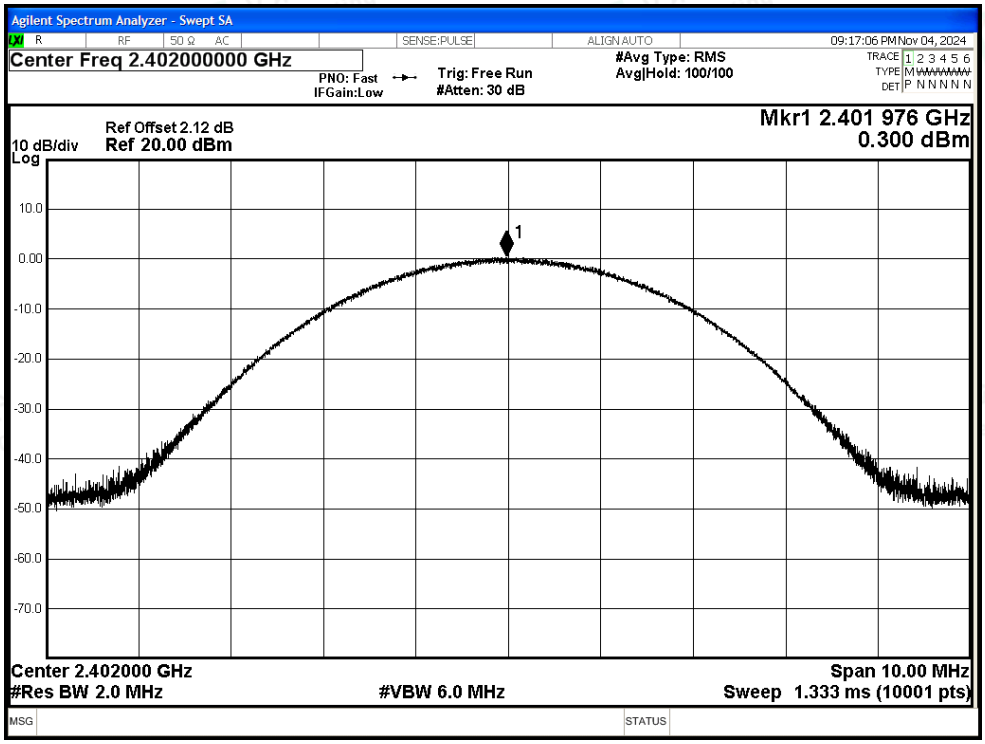
Power NVNT 2-DH5 2441MHz Ant0



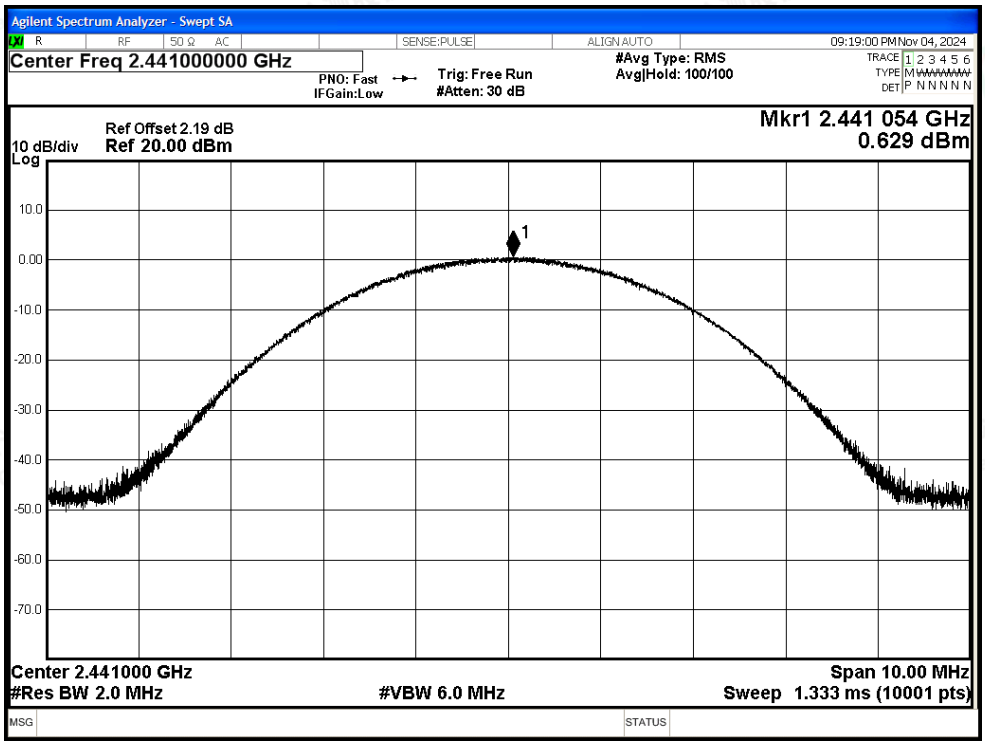
Power NVNT 2-DH5 2480MHz Ant0



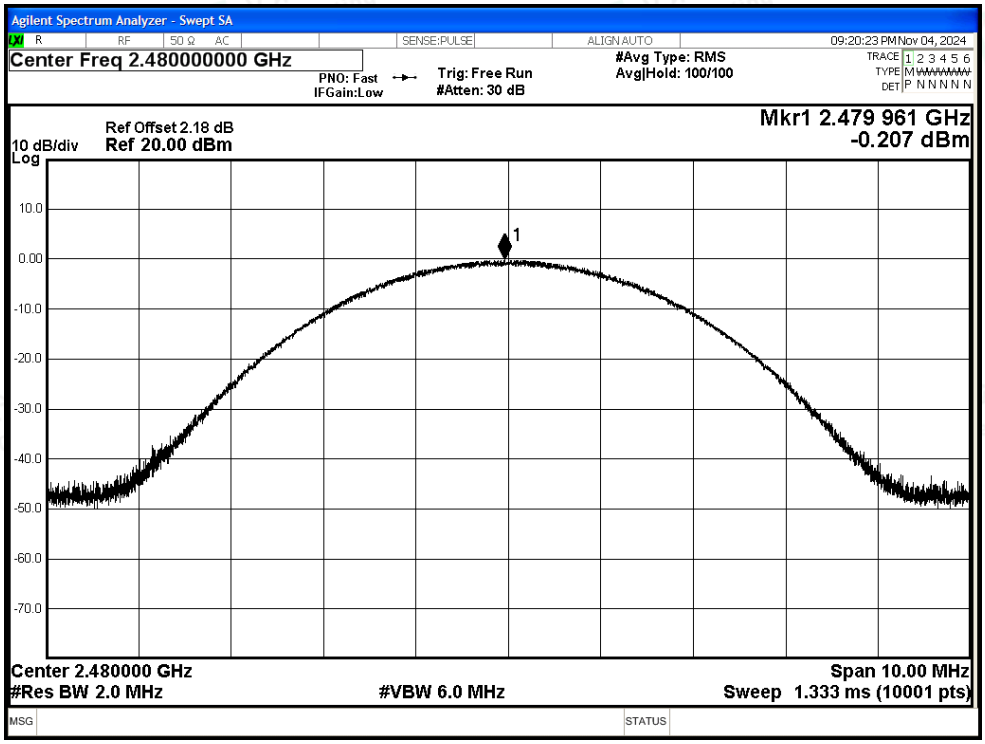
Power NVNT 3-DH5 2402MHz Ant0



Power NVNT 3-DH5 2441MHz Ant0



Power NVNT 3-DH5 2480MHz Ant0

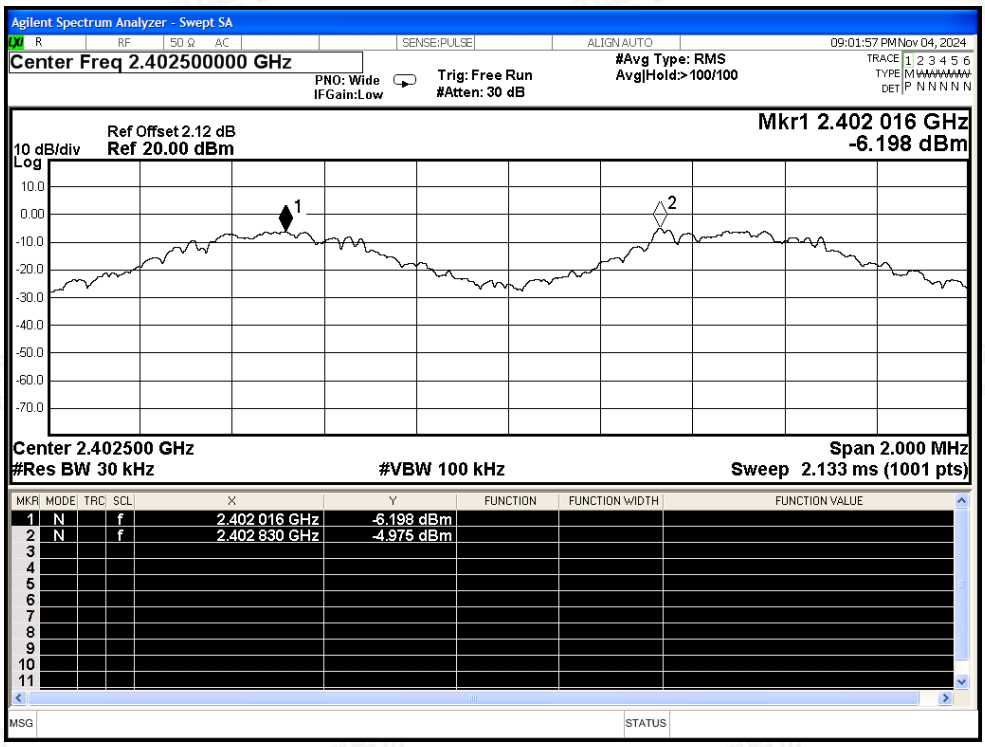


A.3 Carrier Frequencies Separation

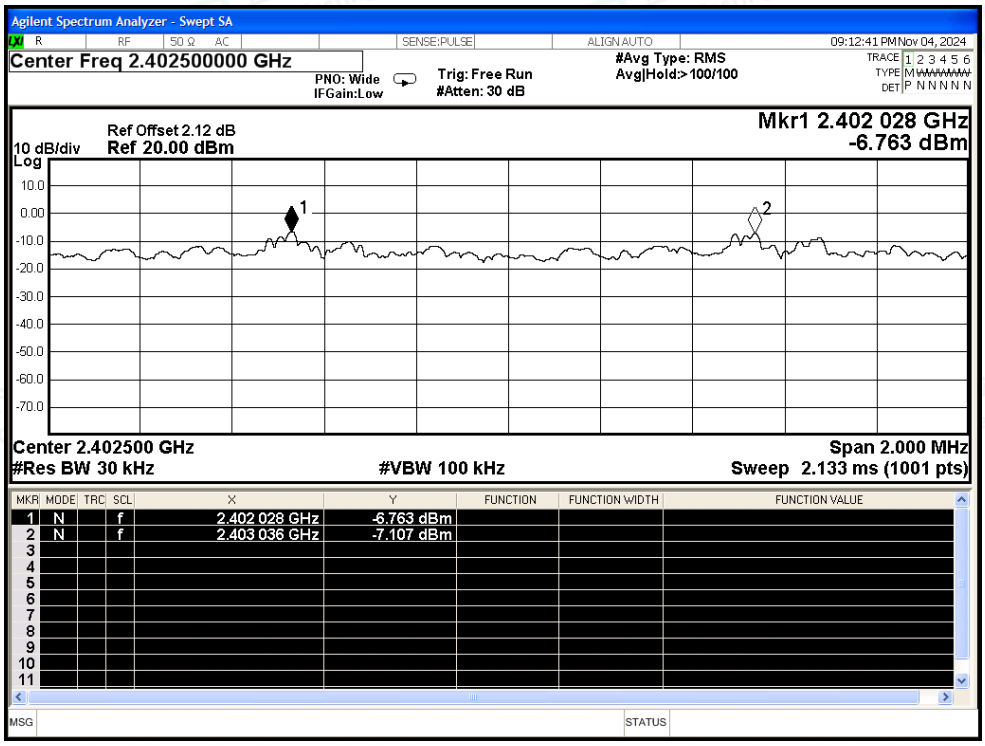
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant0	2402.016	2402.83	0.814	0.627	Pass
NVNT	2-DH5	Ant0	2402.028	2403.036	1.008	0.855	Pass
NVNT	3-DH5	Ant0	2402.034	2403.028	0.994	0.861	Pass

Test Graphs

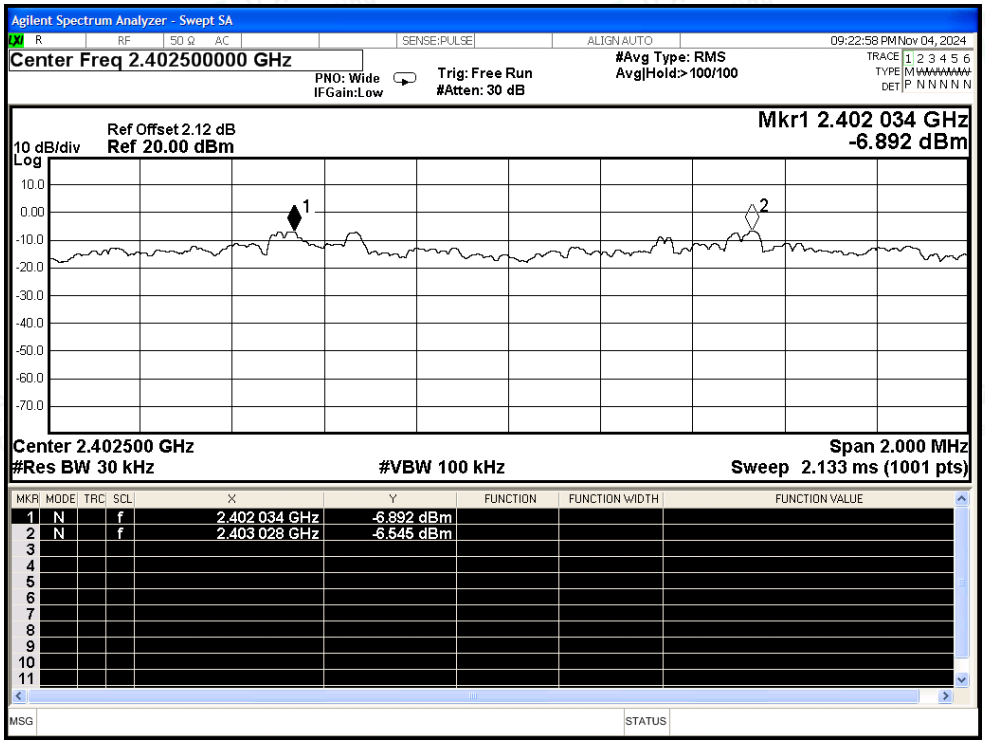
CFS NVNT 1-DH5 2402MHz Ant0



CFS NVNT 2-DH5 2402MHz Ant0



CFS NVNT 3-DH5 2402MHz Ant0

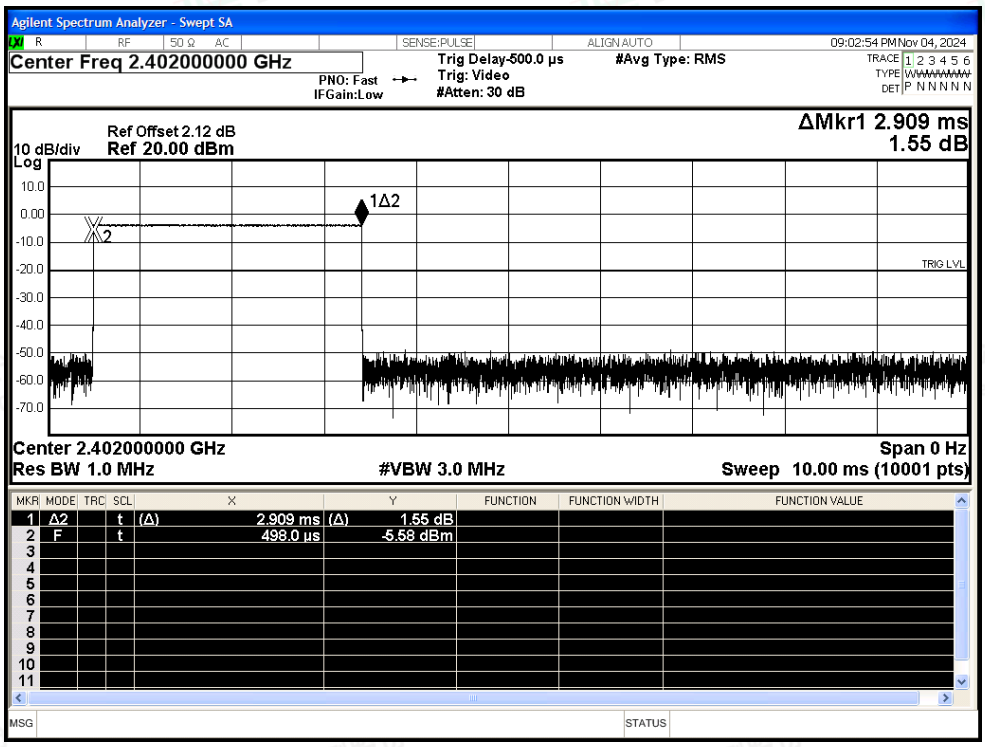


A.4 Dwell Time

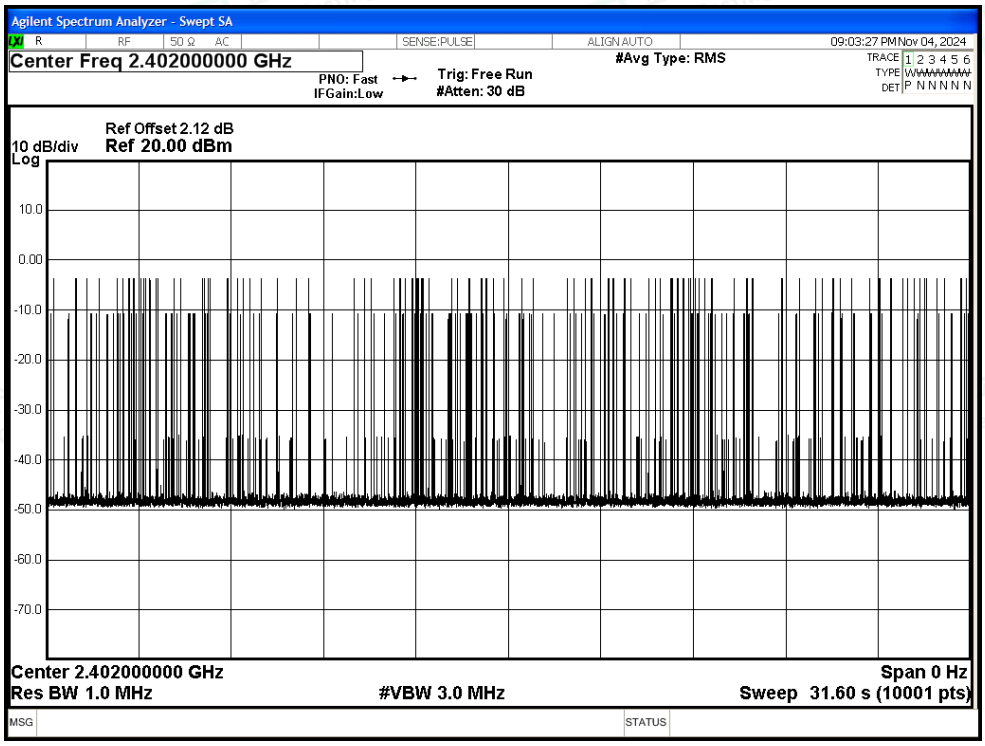
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant0	2.909	317.081	109	31600	400	Pass
NVNT	2-DH5	2402	Ant0	2.898	286.902	99	31600	400	Pass
NVNT	3-DH5	2402	Ant0	2.897	318.67	110	31600	400	Pass

Test Graphs

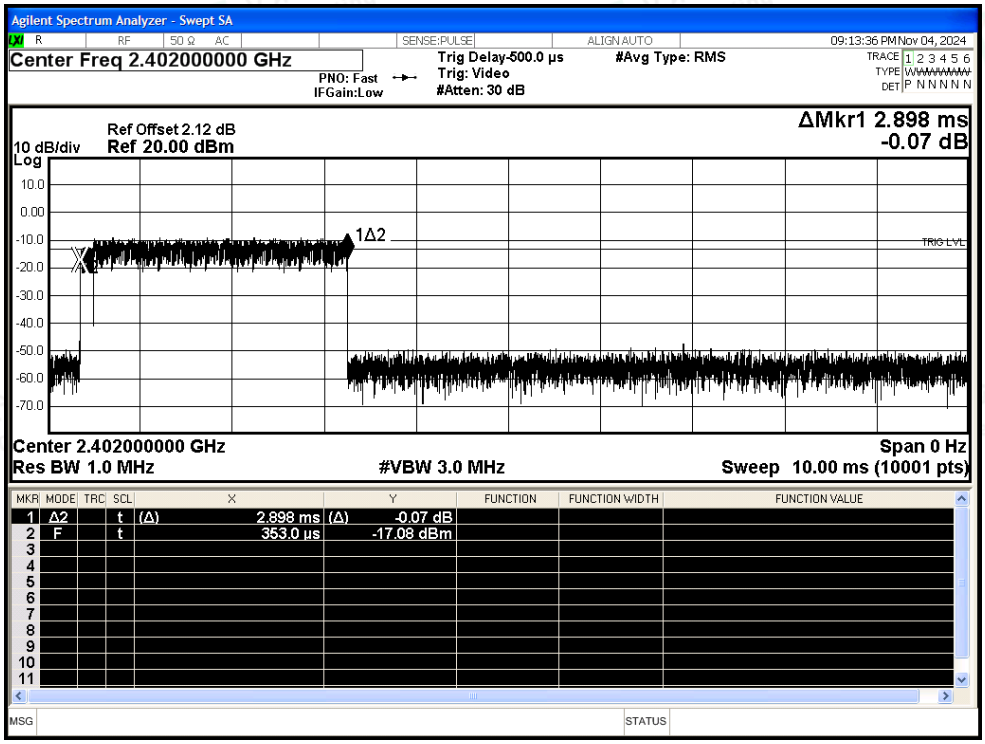
Dwell NVNT 1-DH5 2402MHz Ant0 One Burst



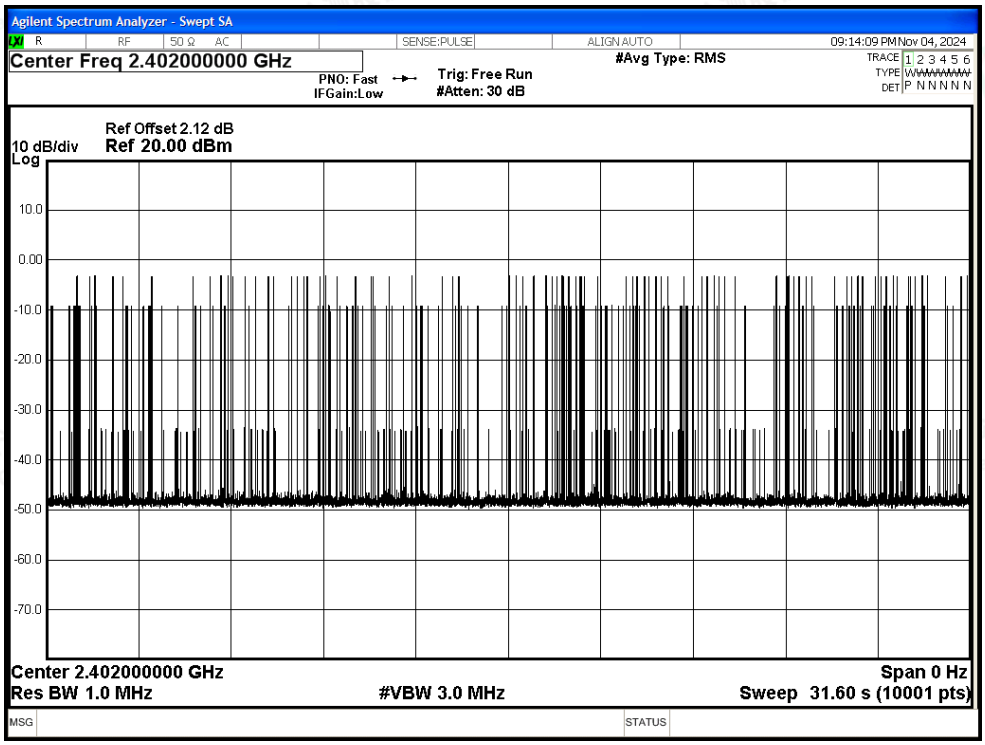
Dwell NVNT 1-DH5 2402MHz Ant0 Accumulated



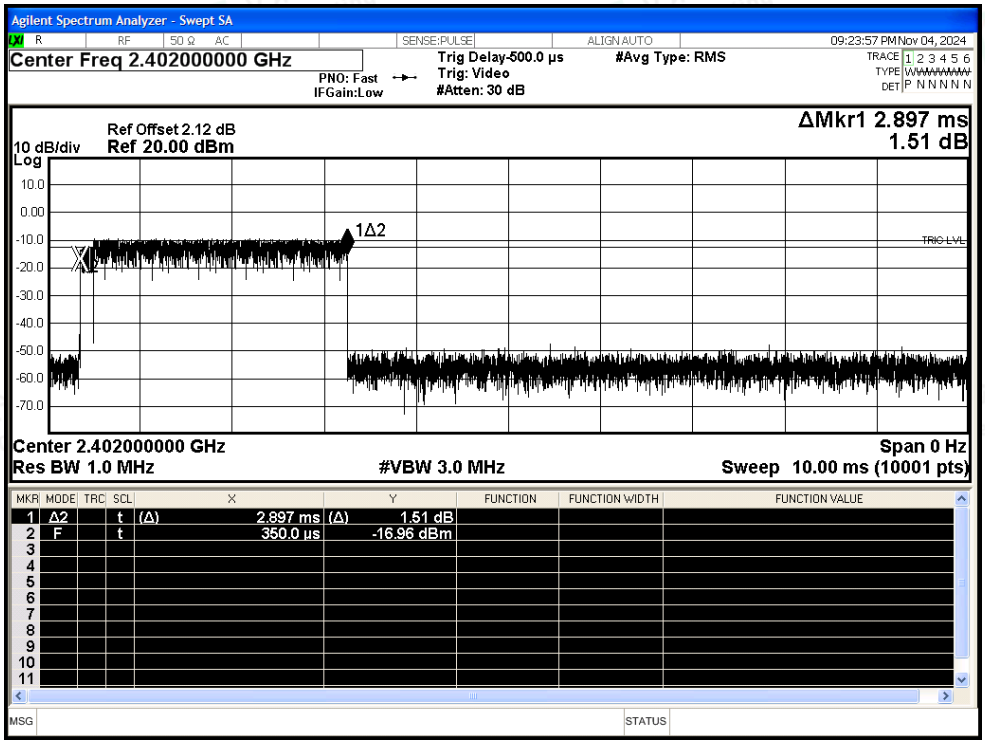
Dwell NVNT 2-DH5 2402MHz Ant0 One Burst



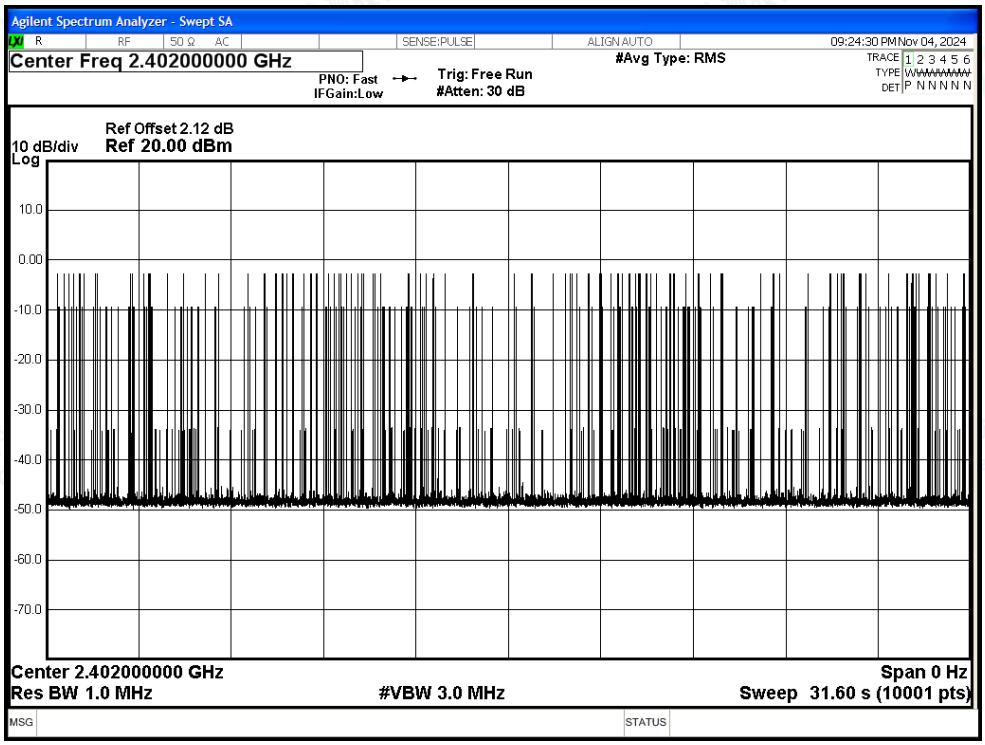
Dwell NVNT 2-DH5 2402MHz Ant0 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant0 One Burst



Dwell NVNT 3-DH5 2402MHz Ant0 Accumulated

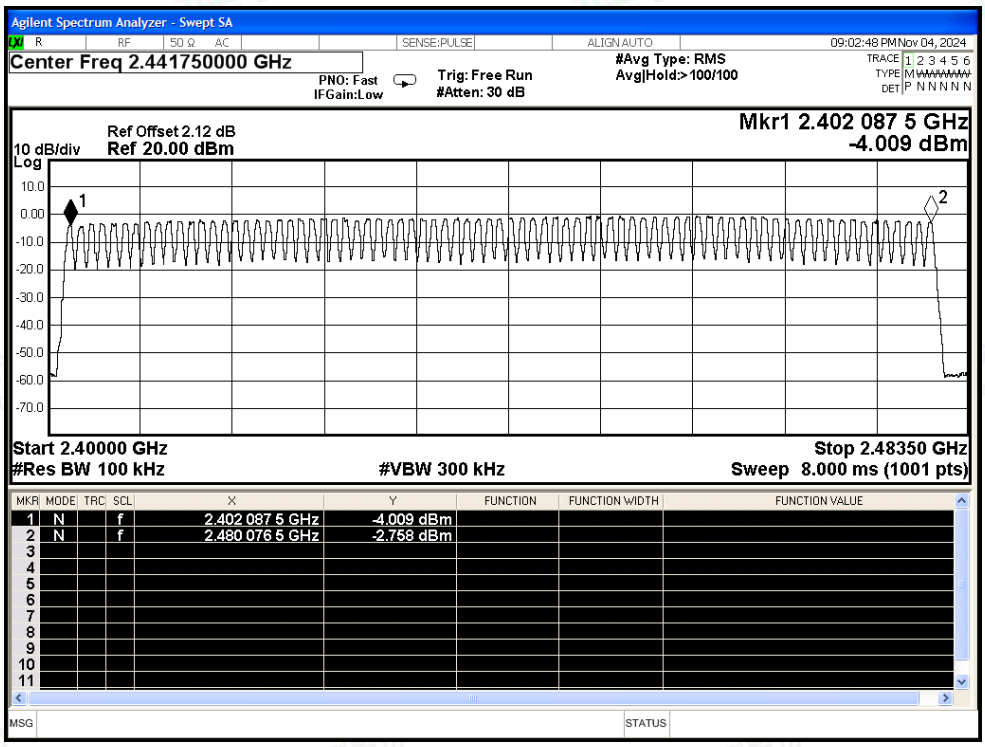


A.5 Number of Hopping Channel

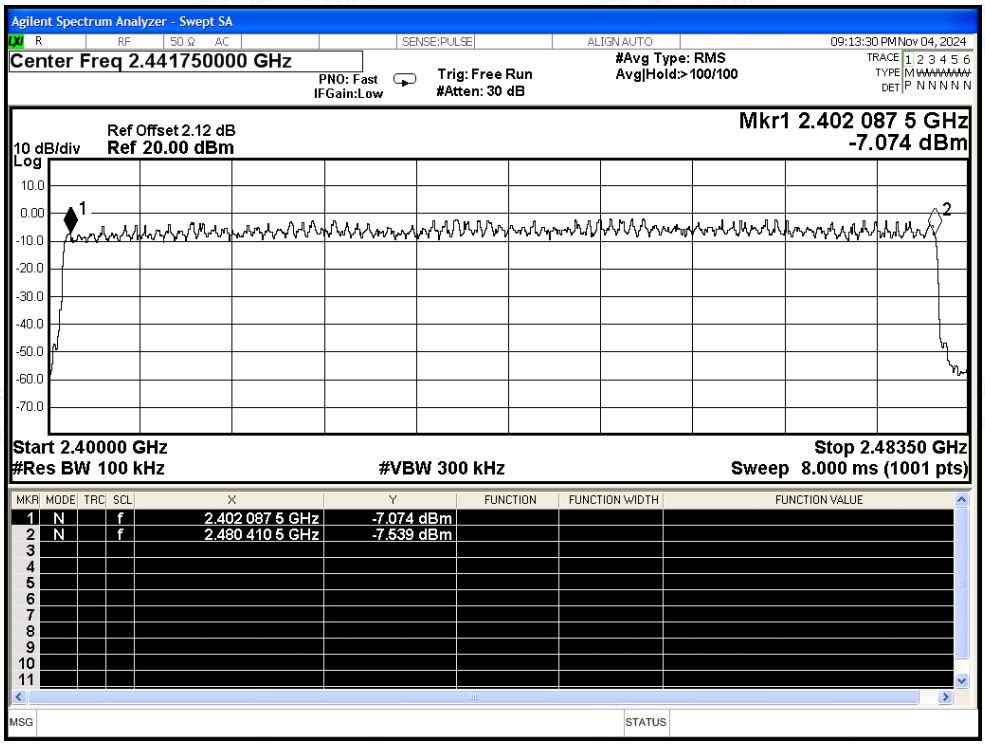
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant0	79	15	Pass
NVNT	2-DH5	Ant0	79	15	Pass
NVNT	3-DH5	Ant0	79	15	Pass

Test Graphs

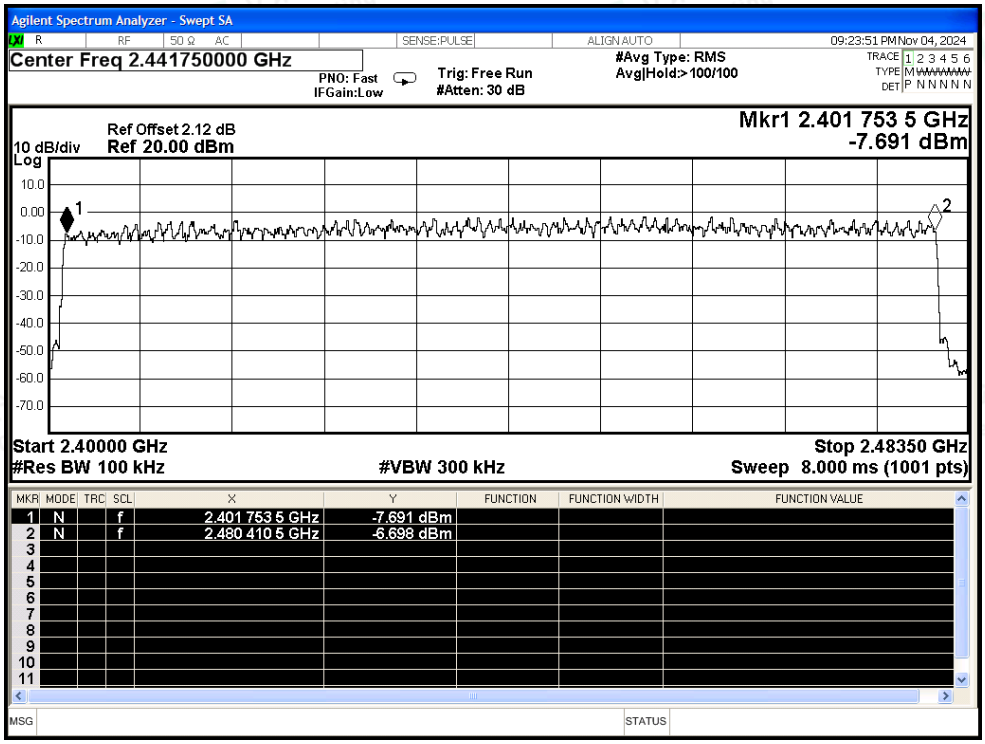
Hopping No. NVNT 1-DH5 2402MHz Ant0



Hopping No. NVNT 2-DH5 2402MHz Ant0



Hopping No. NVNT 3-DH5 2402MHz Ant0

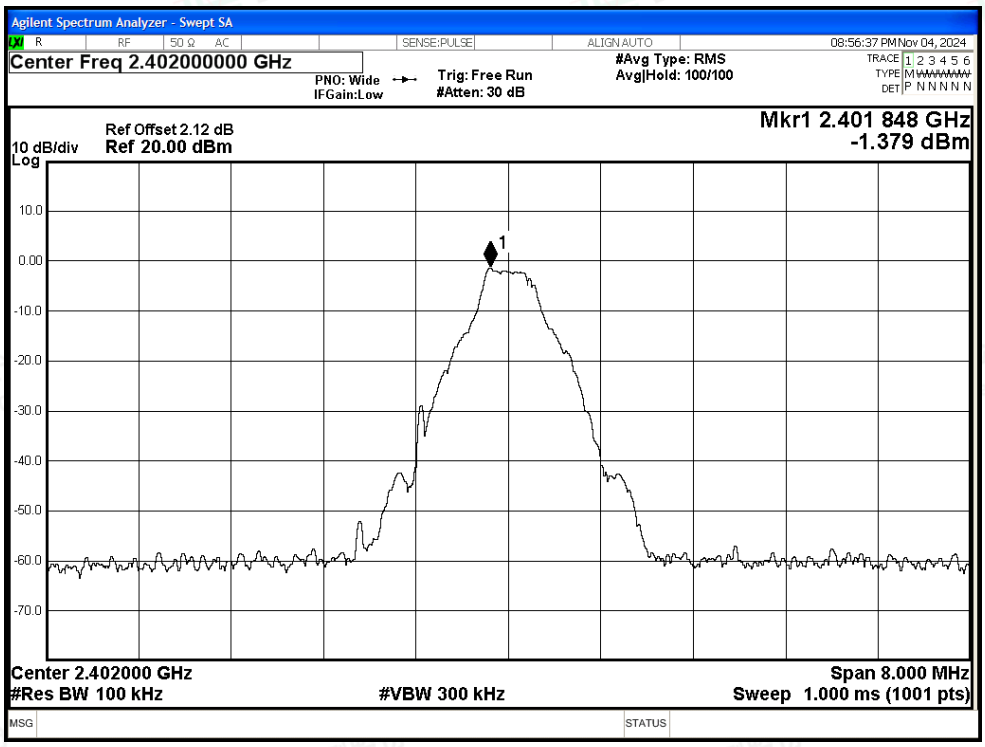


A.6 Band Edge

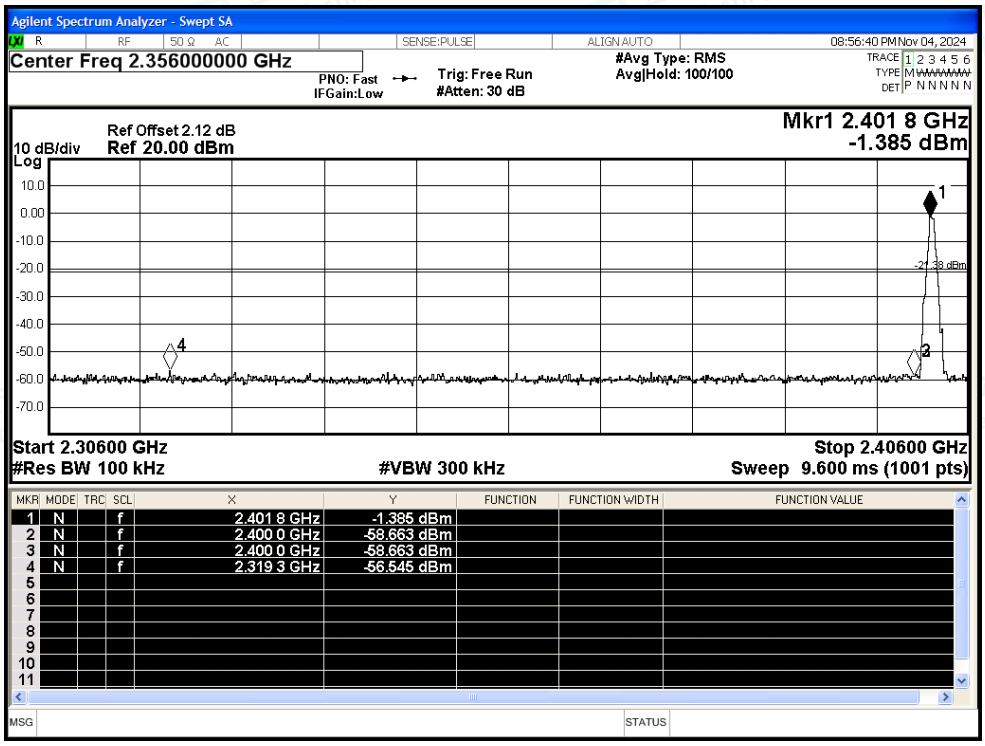
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	-55.17	-20	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	-55.41	-20	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	-52.72	-20	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	-53.06	-20	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	-51.77	-20	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	-53.05	-20	Pass

Test Graphs

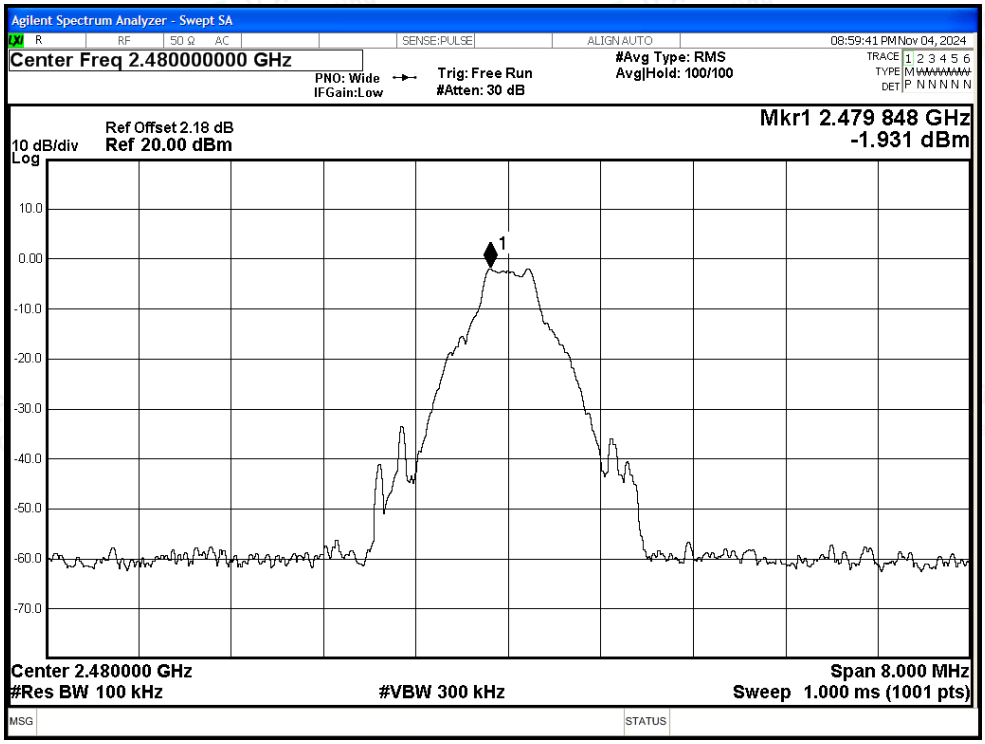
Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Ref



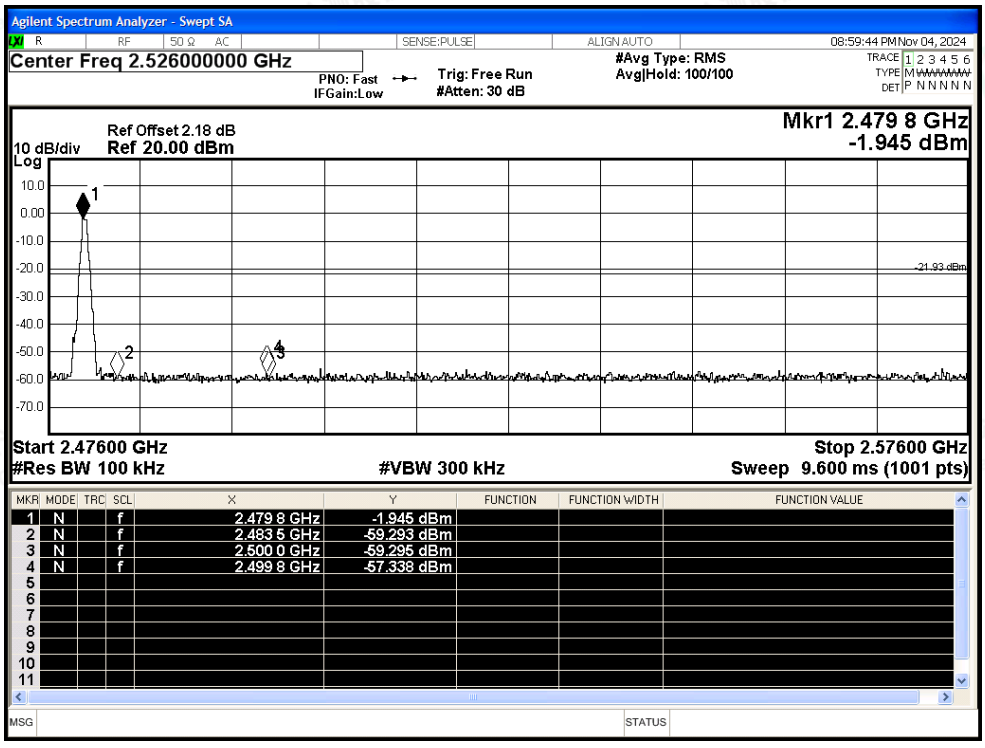
Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Emission



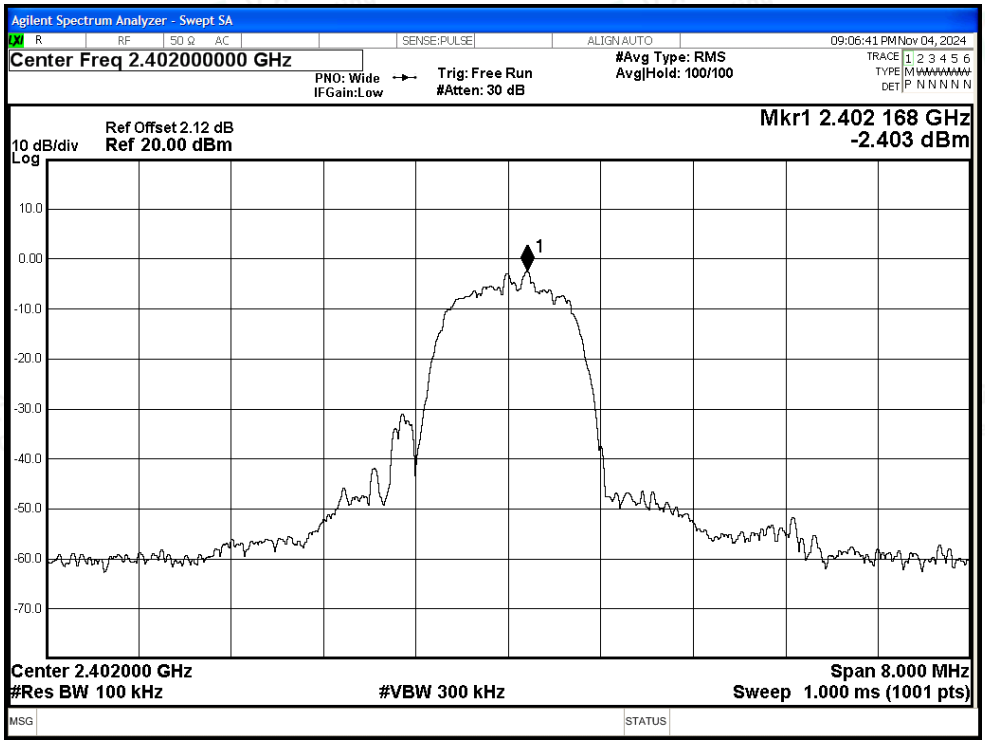
Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Ref



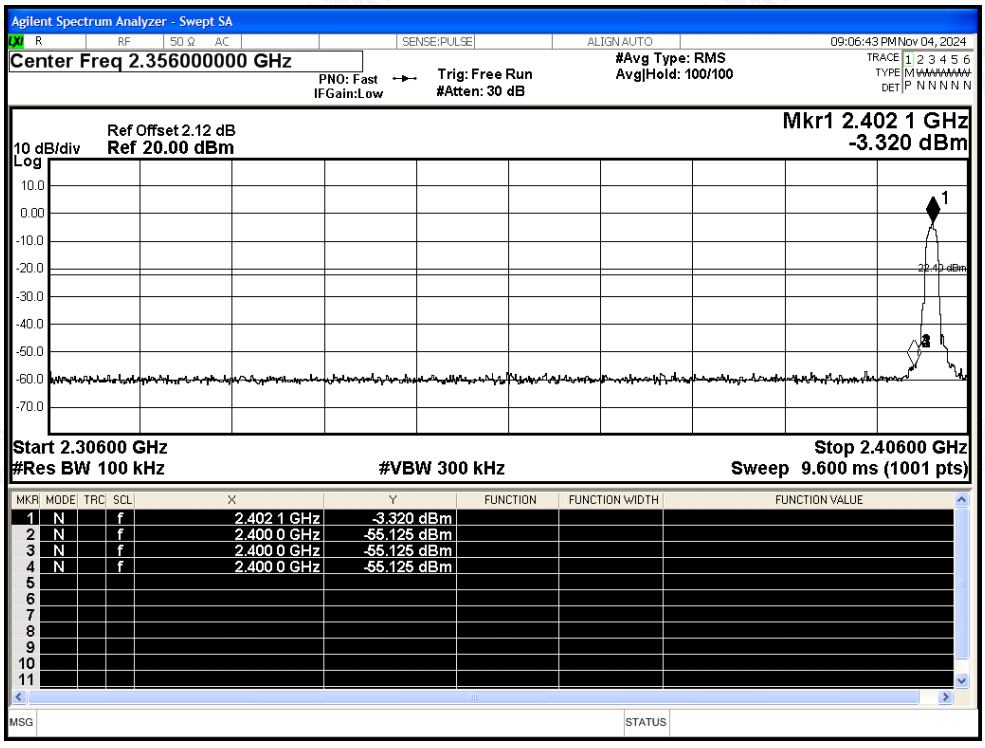
Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Emission



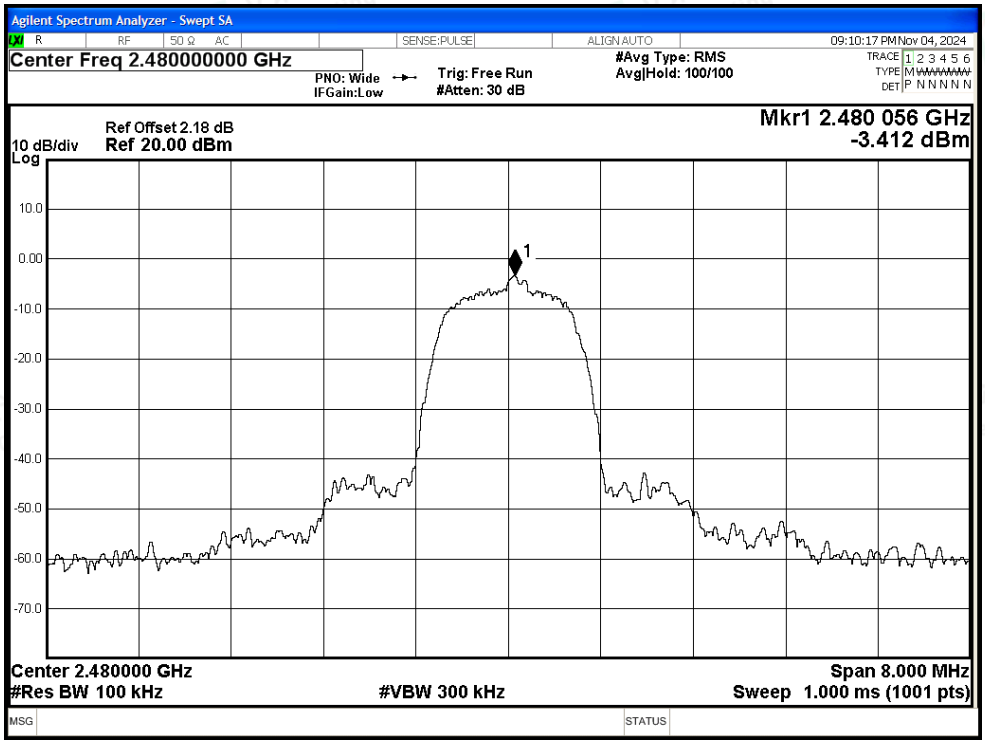
Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Ref



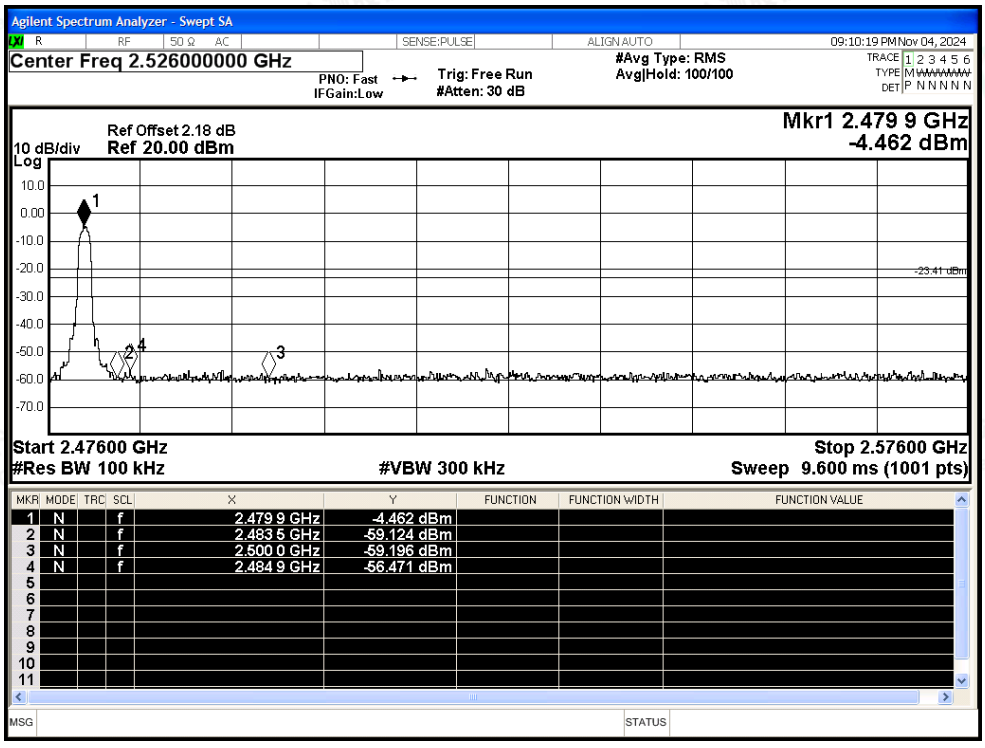
Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Emission



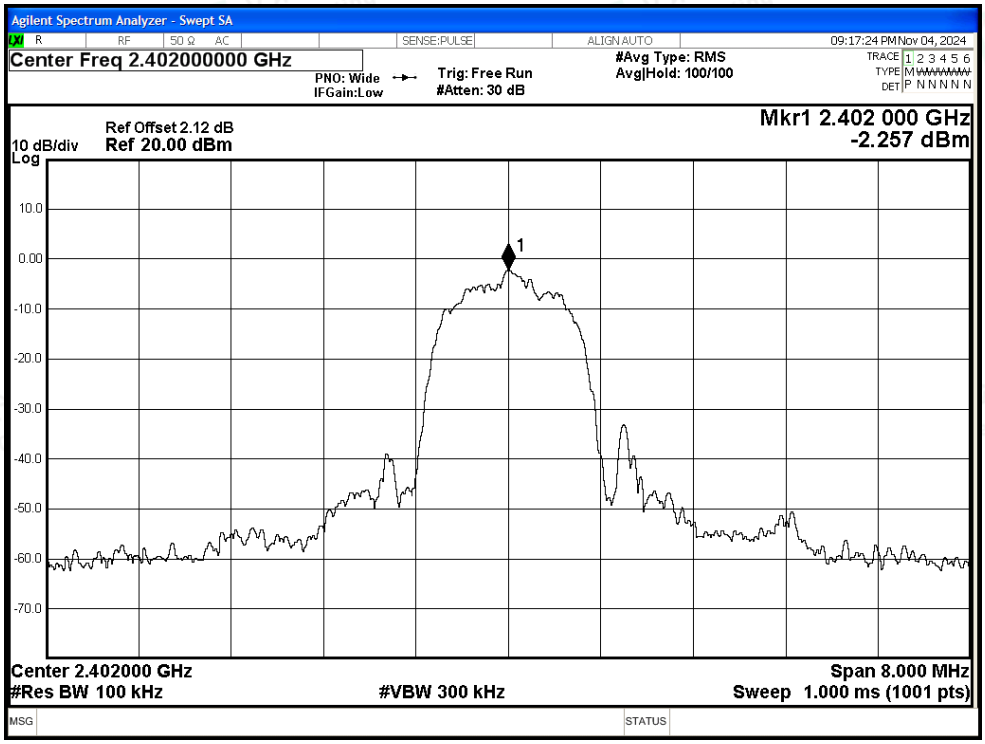
Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Ref



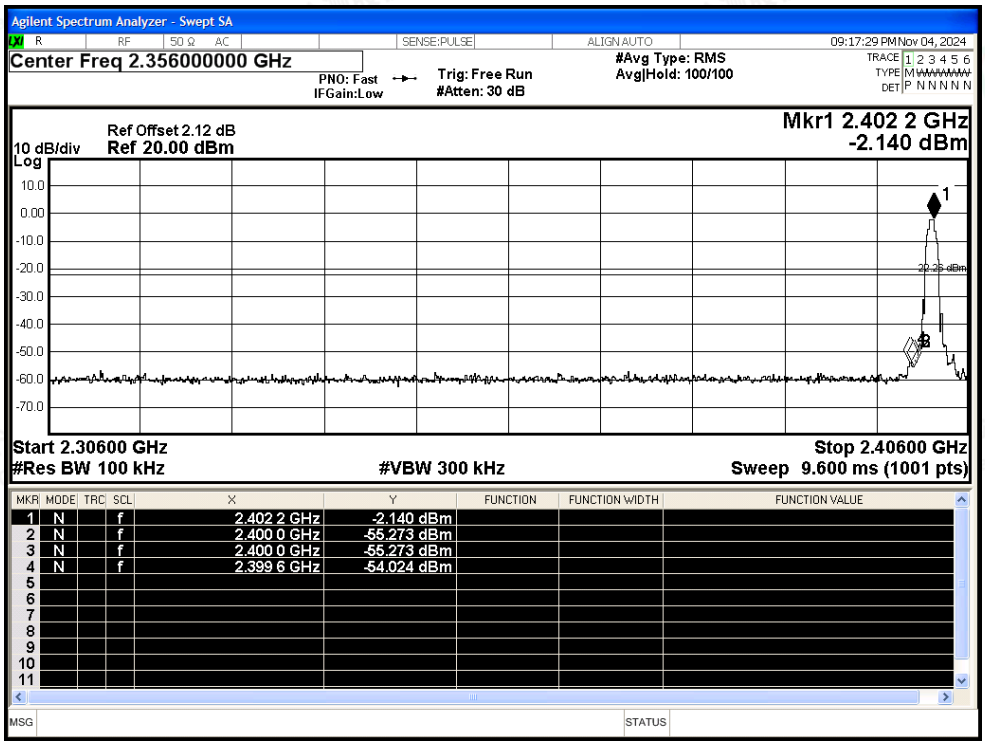
Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Emission



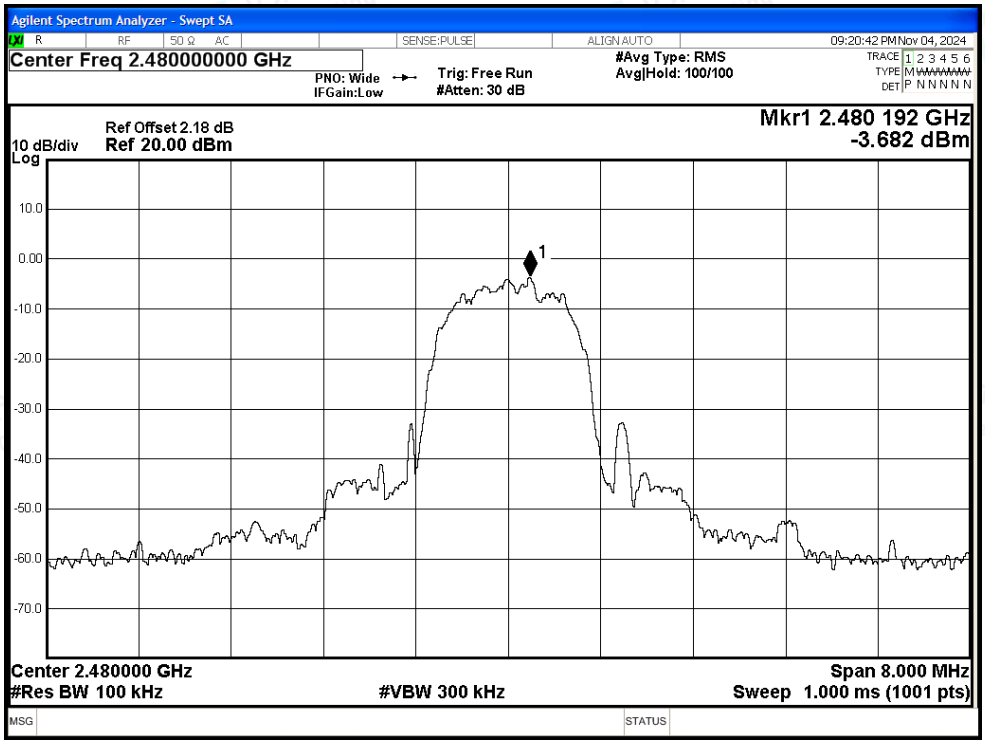
Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Ref



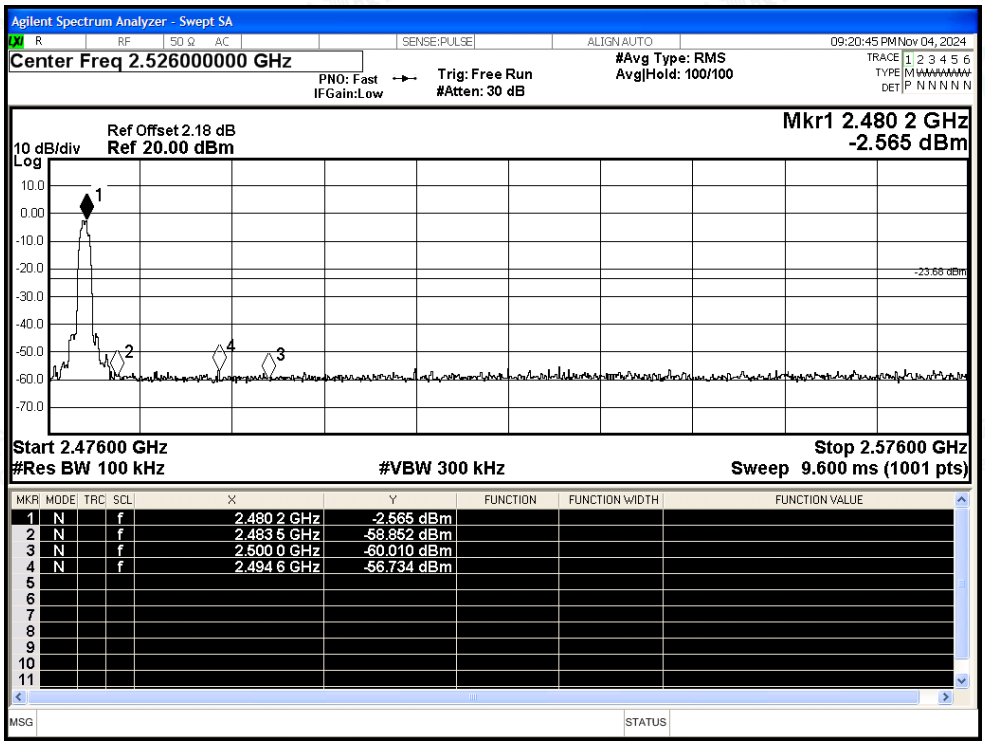
Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Emission

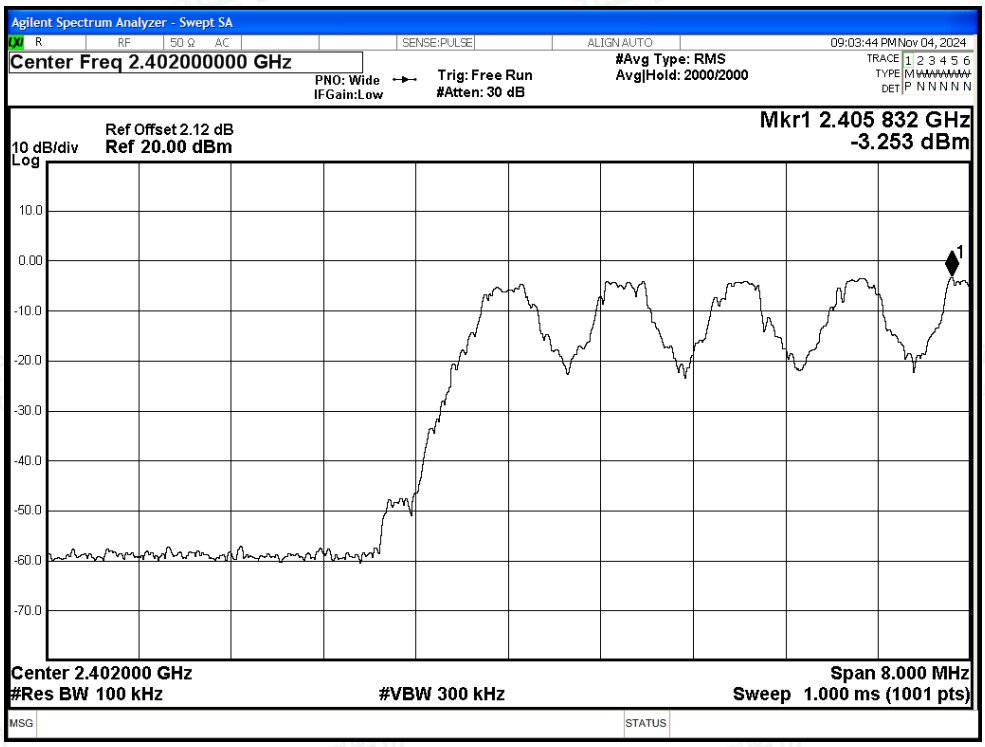


(Hopping)

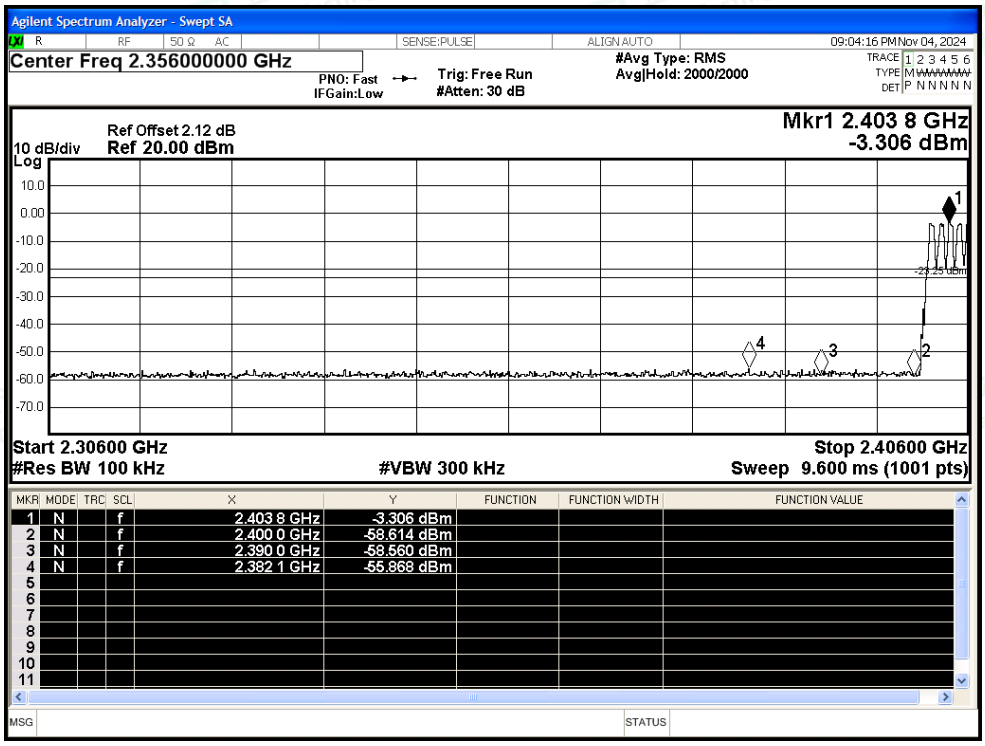
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	Hopping	-52.62	-20	Pass
NVNT	1-DH5	2480	Ant0	Hopping	-54.26	-20	Pass
NVNT	2-DH5	2402	Ant0	Hopping	-50.85	-20	Pass
NVNT	2-DH5	2480	Ant0	Hopping	-52.16	-20	Pass
NVNT	3-DH5	2402	Ant0	Hopping	-51.77	-20	Pass
NVNT	3-DH5	2480	Ant0	Hopping	-53.2	-20	Pass

Test Graphs

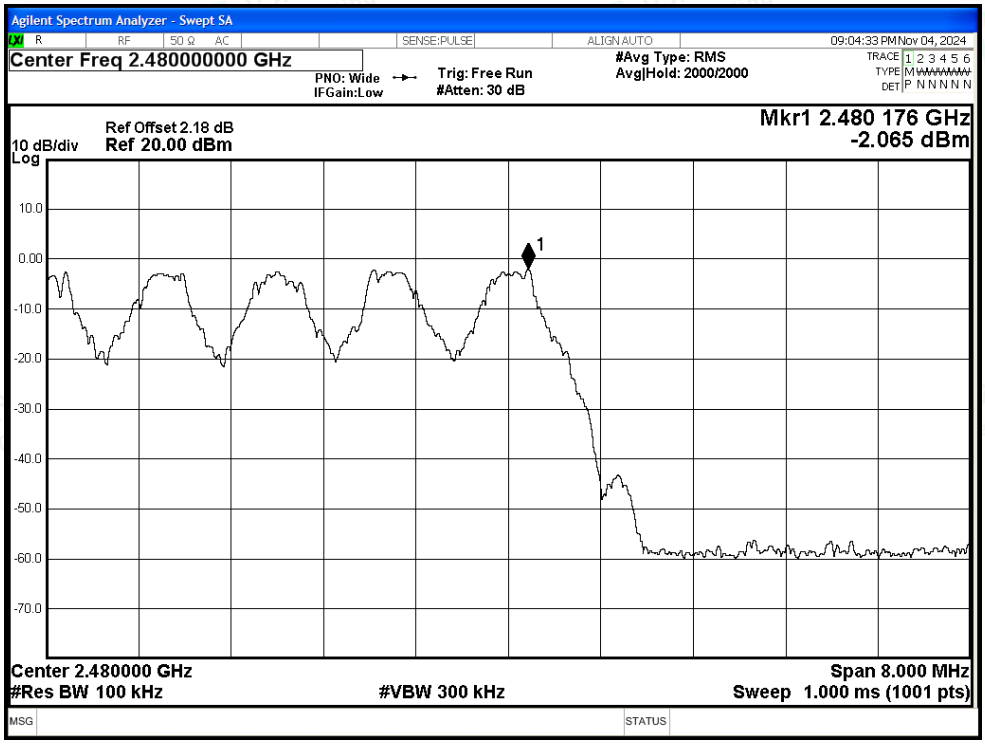
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Ref



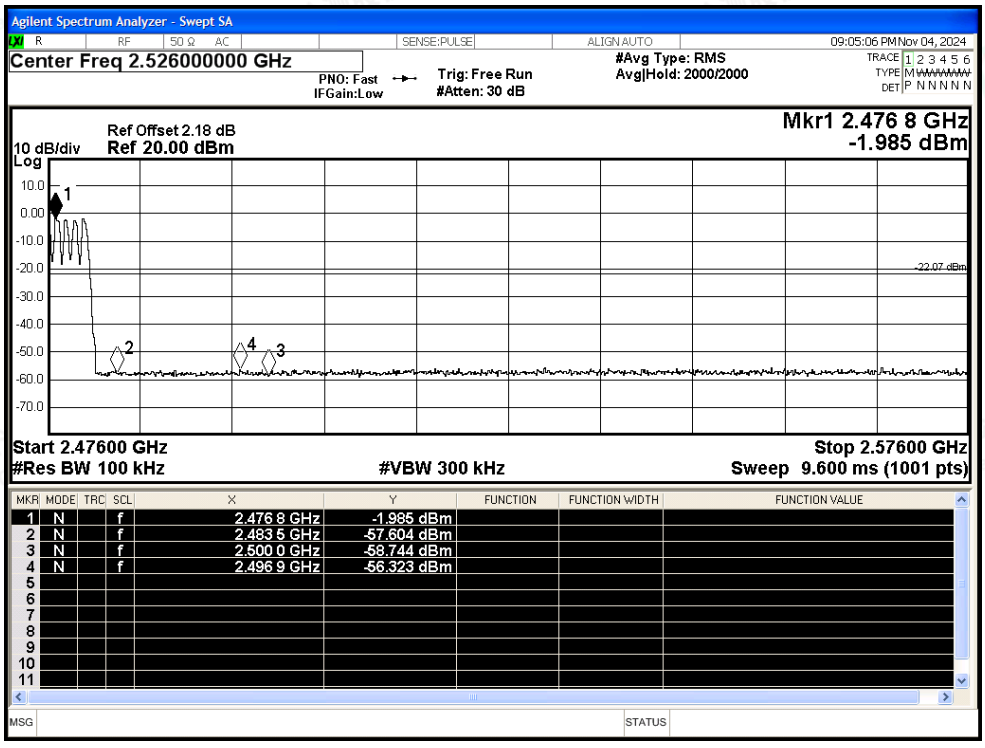
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Emission



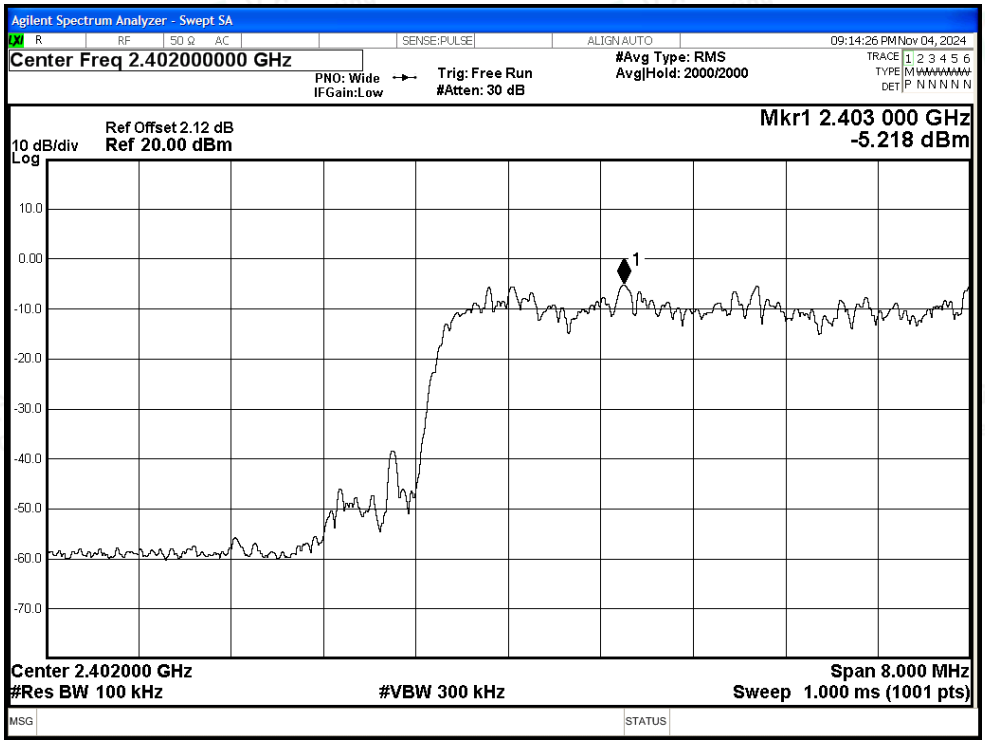
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Ref



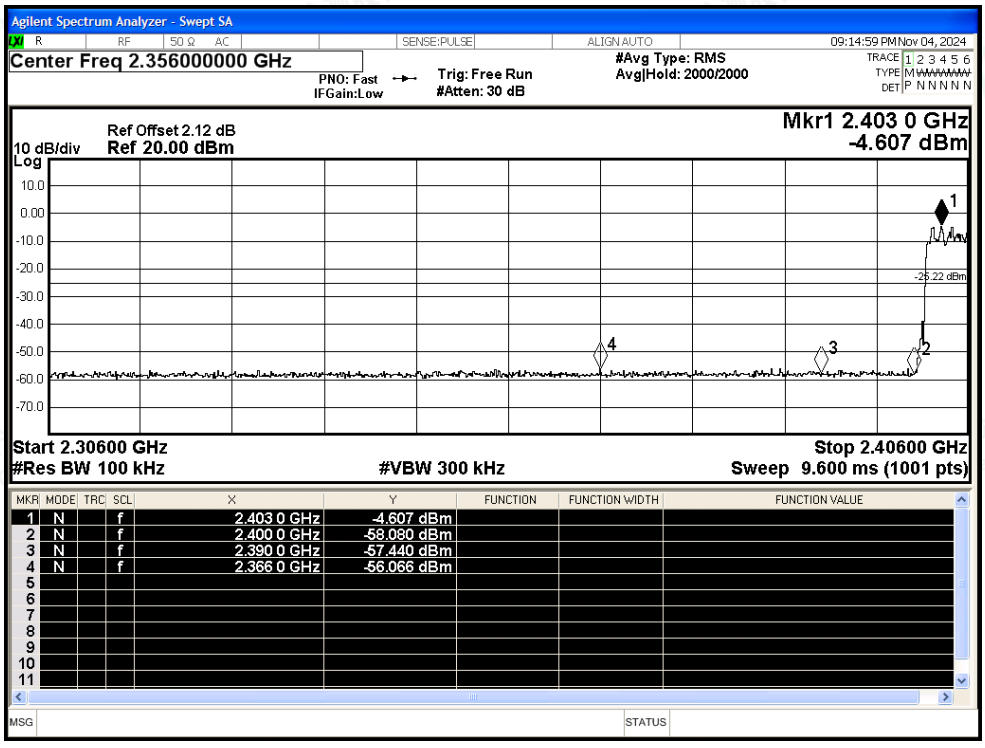
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Emission



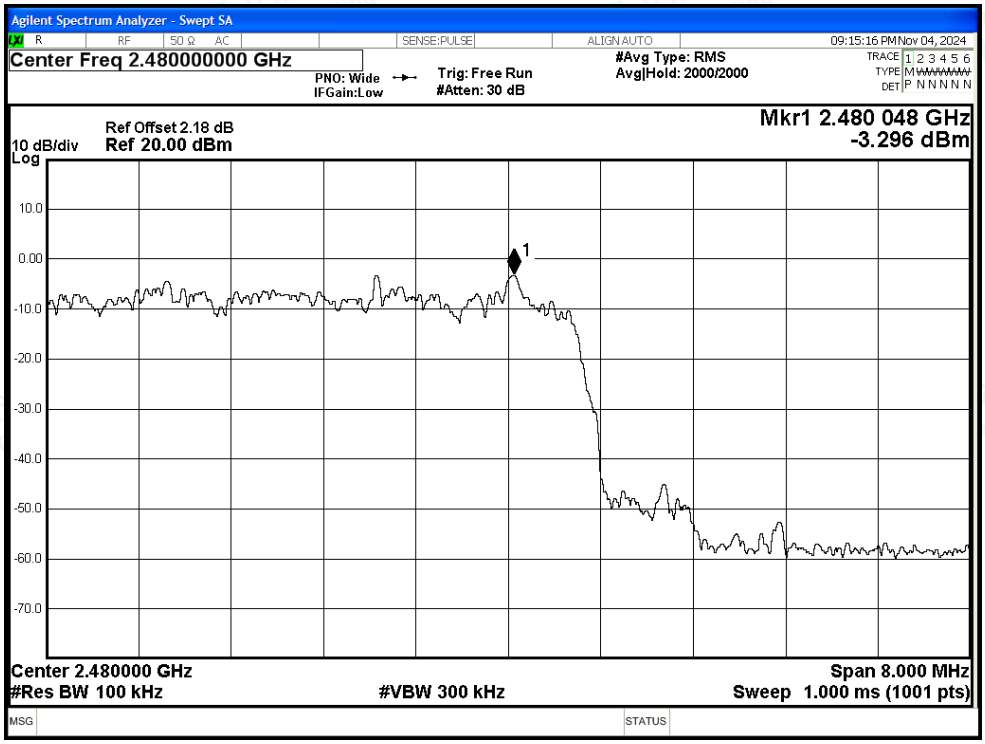
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Ref



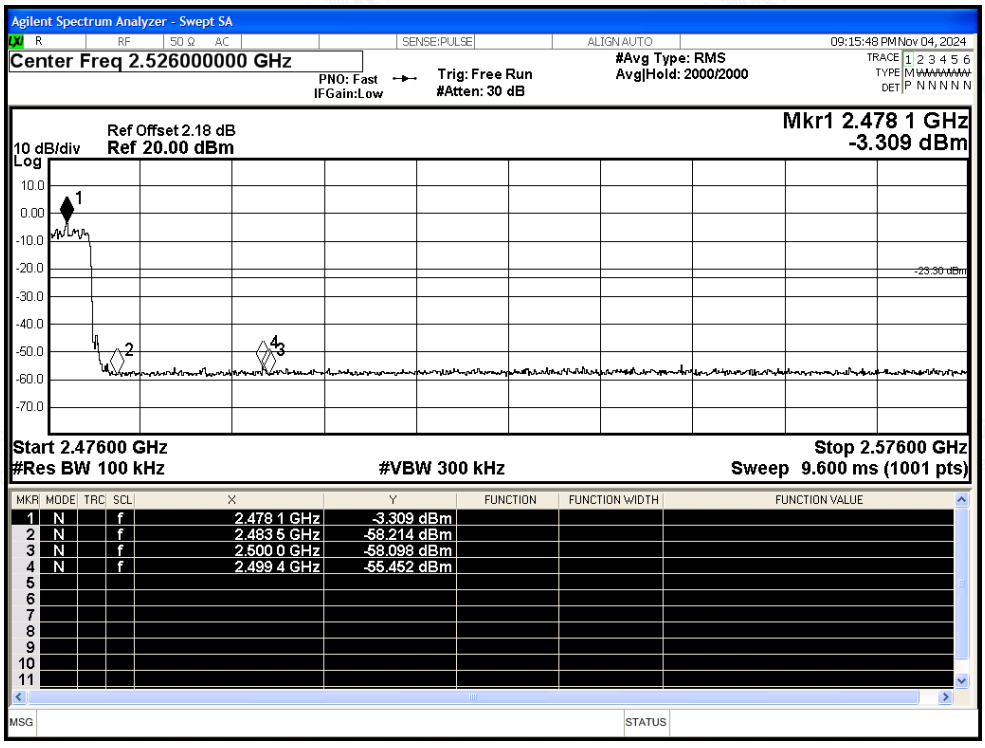
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Emission



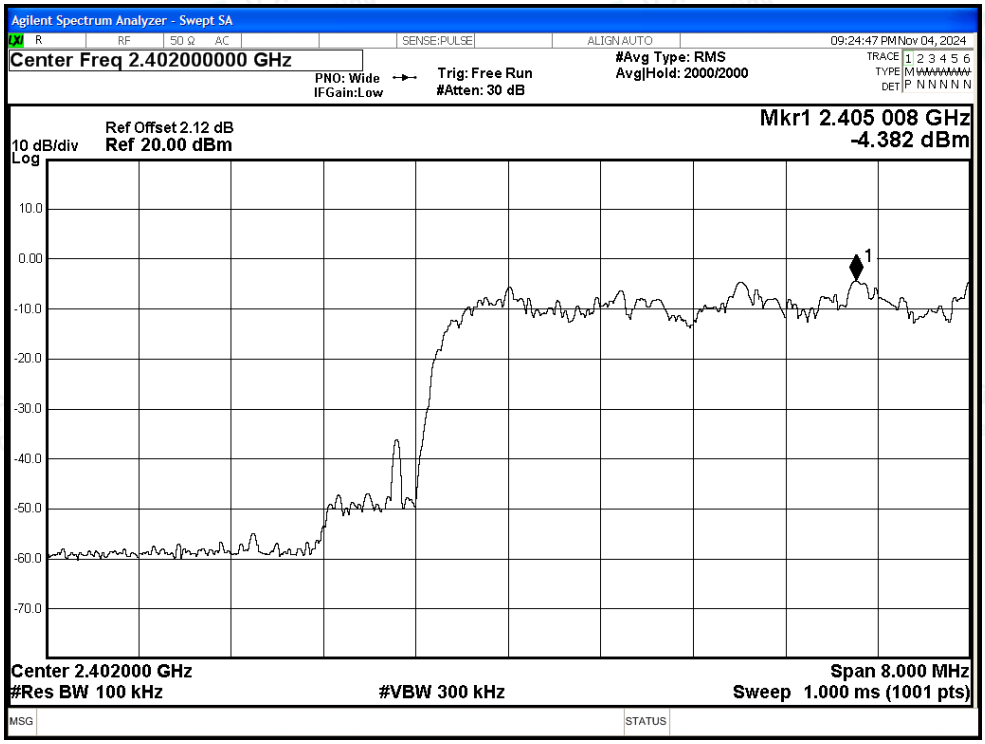
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Ref



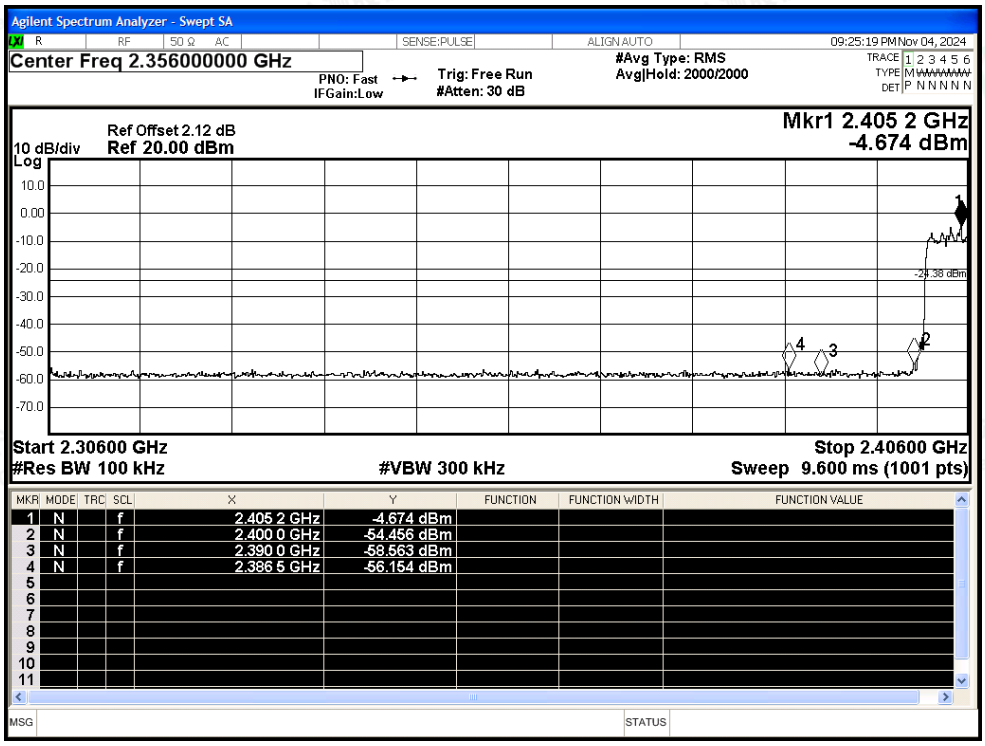
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Emission



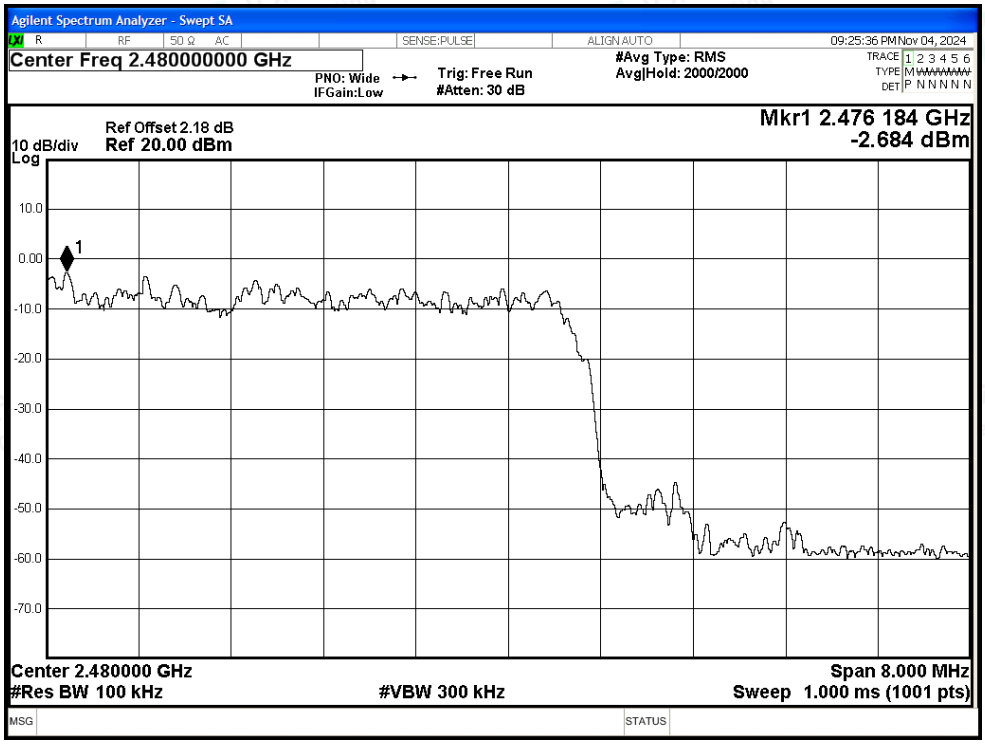
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Ref



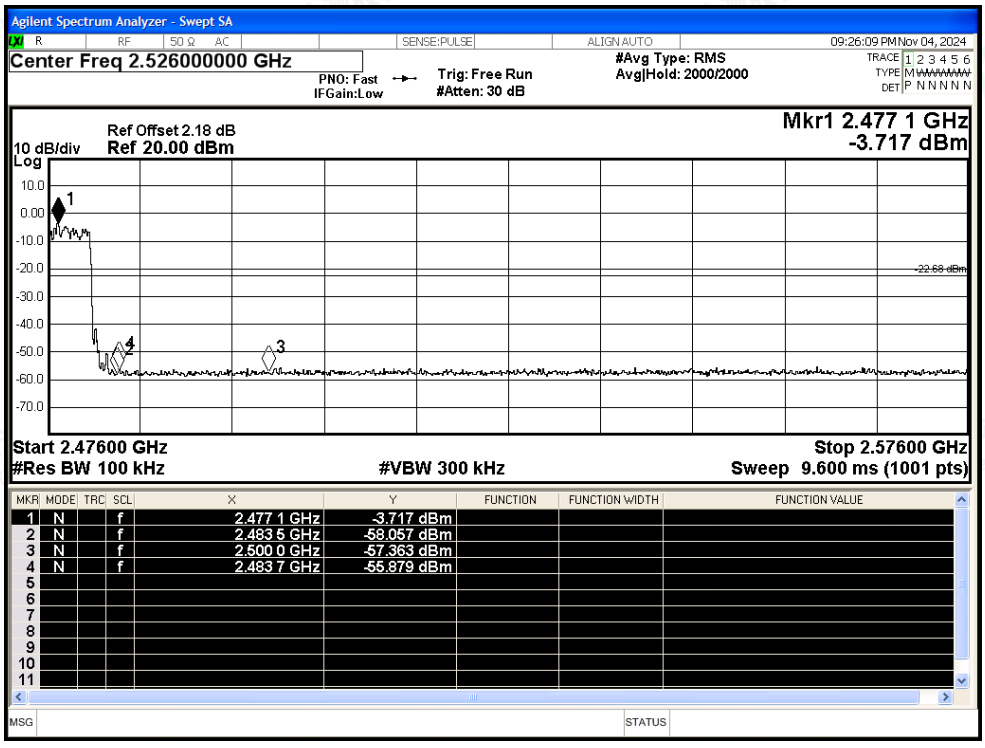
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Emission

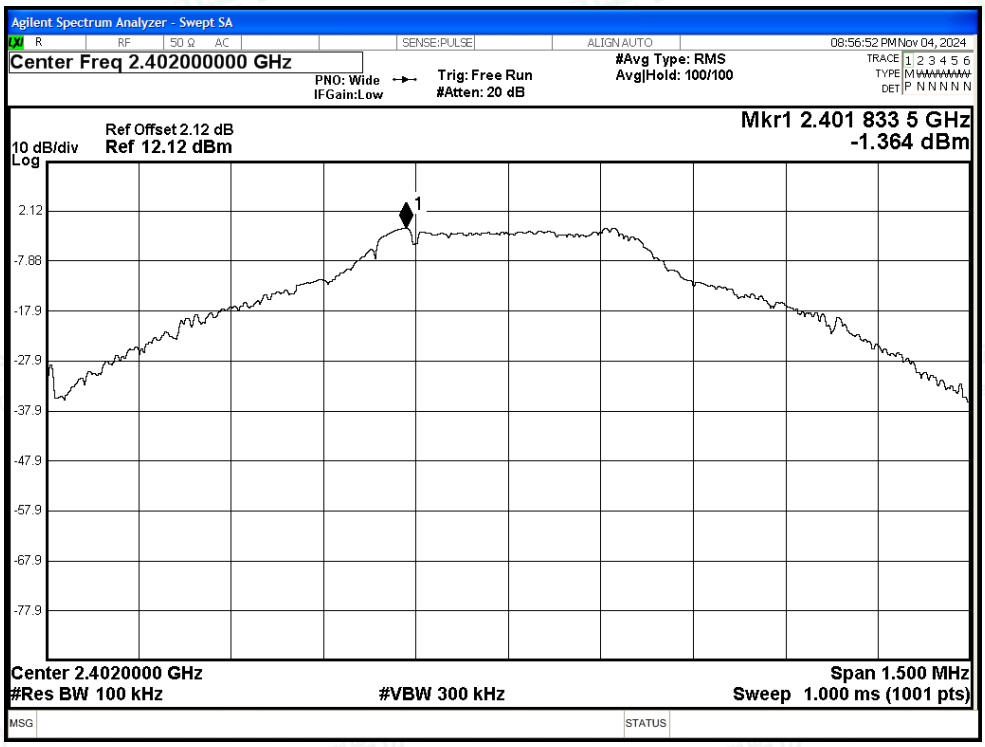


A.7 Conducted RF Spurious Emission

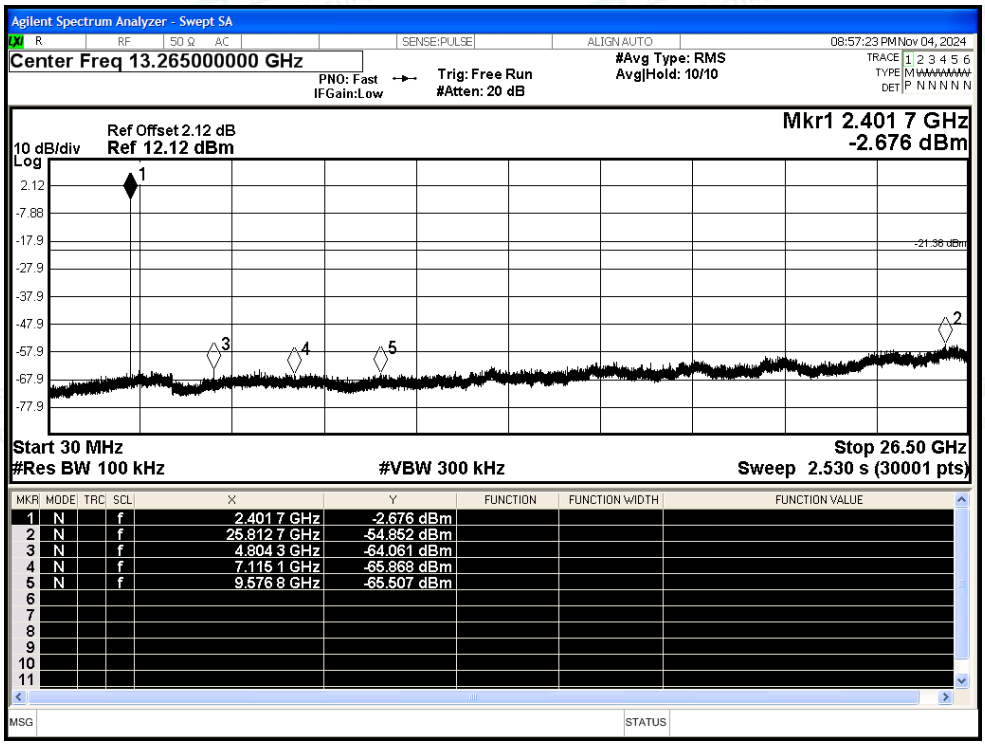
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	-53.49	-20	Pass
NVNT	1-DH5	2441	Ant0	-53.62	-20	Pass
NVNT	1-DH5	2480	Ant0	-52.79	-20	Pass
NVNT	2-DH5	2402	Ant0	-53.1	-20	Pass
NVNT	2-DH5	2441	Ant0	-52.99	-20	Pass
NVNT	2-DH5	2480	Ant0	-51.75	-20	Pass
NVNT	3-DH5	2402	Ant0	-52.49	-20	Pass
NVNT	3-DH5	2441	Ant0	-52.87	-20	Pass
NVNT	3-DH5	2480	Ant0	-51.94	-20	Pass

Test Graphs

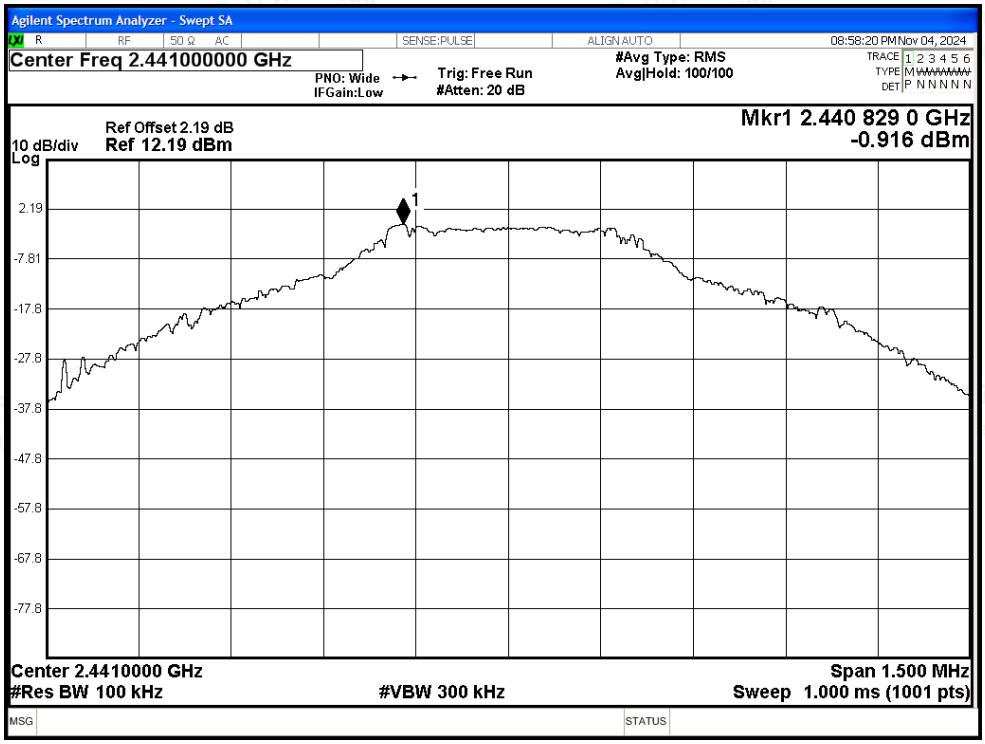
Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Ref



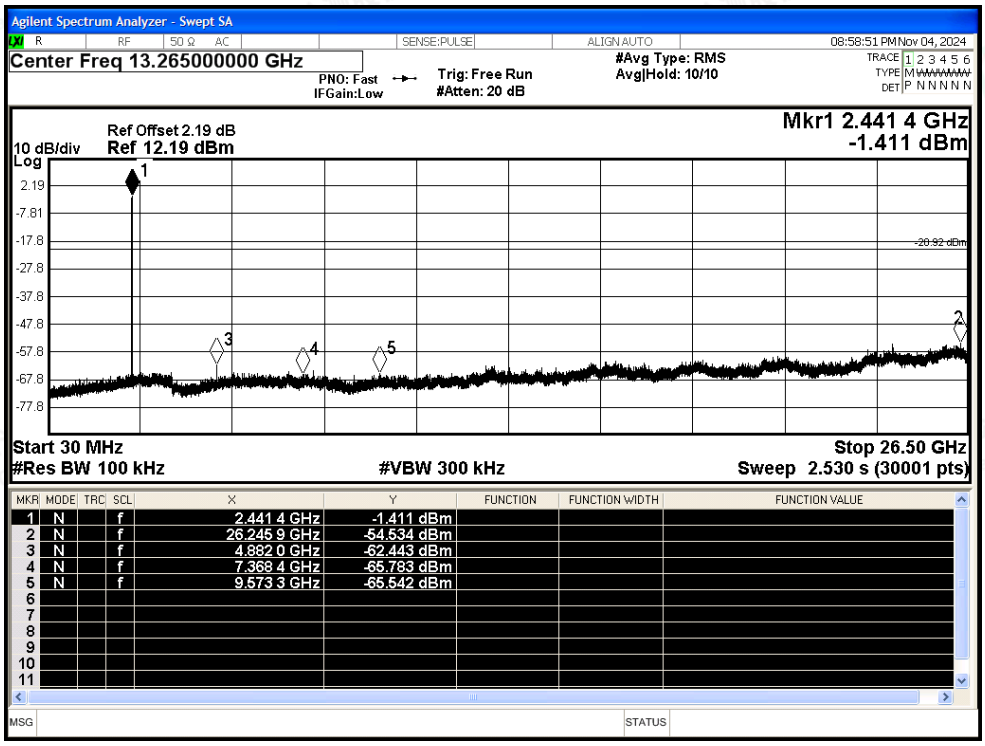
Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Emission



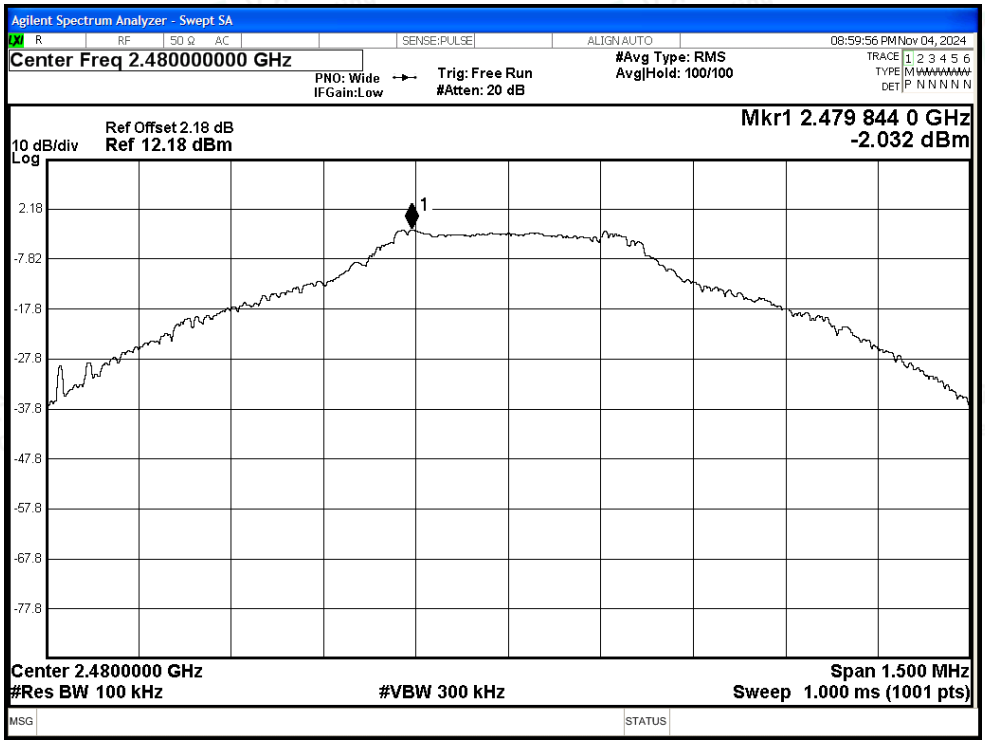
Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Ref



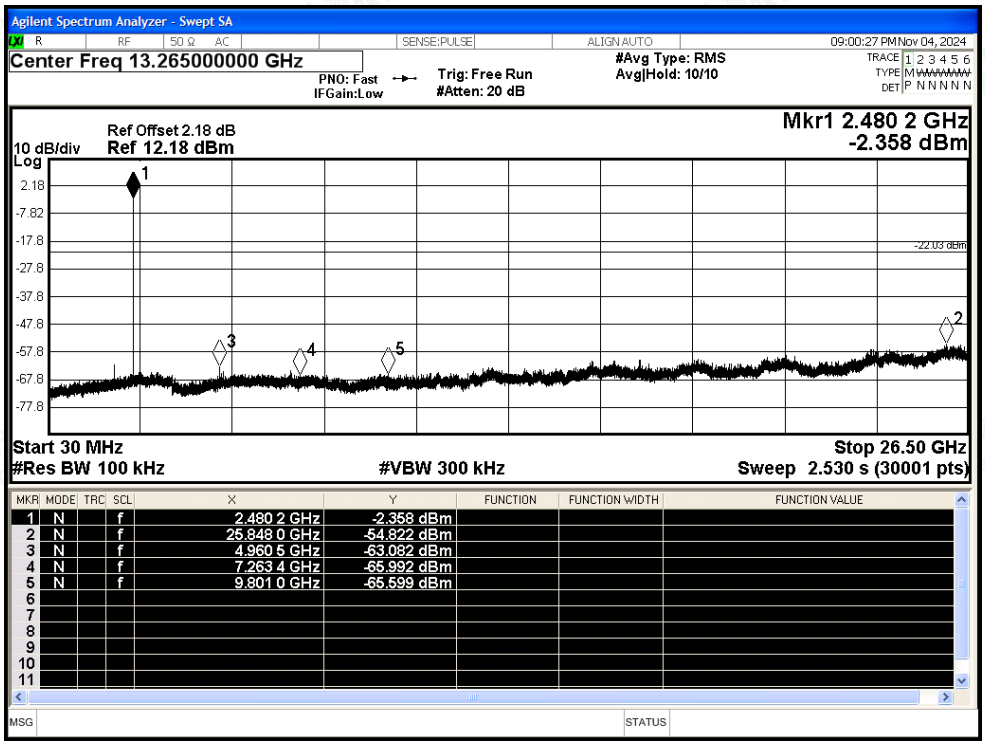
Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Emission



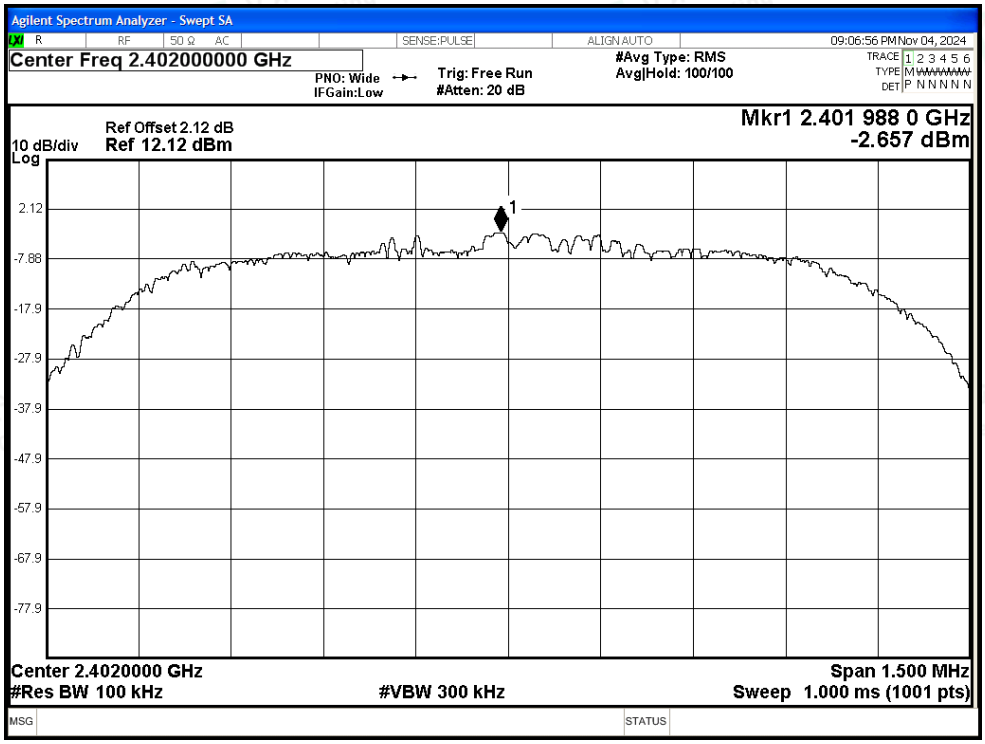
Tx. Spurious NVNT 1-DH5 2480MHz Ant0 Ref



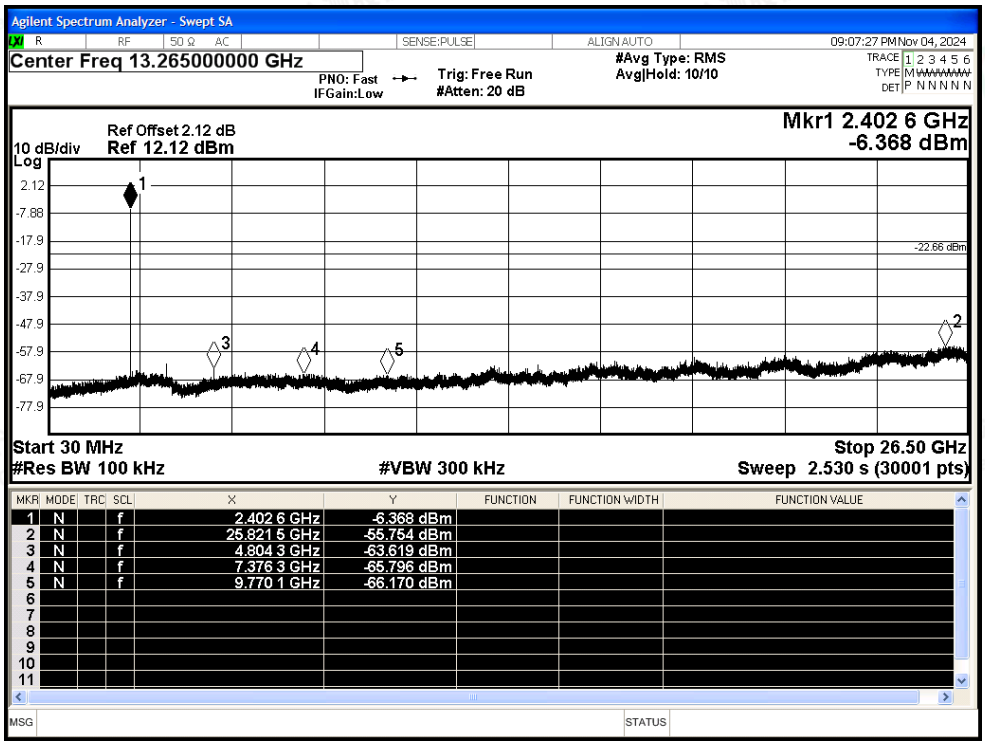
Tx. Spurious NVNT 1-DH5 2480MHz Ant0 Emission



Tx. Spurious NVNT 2-DH5 2402MHz Ant0 Ref

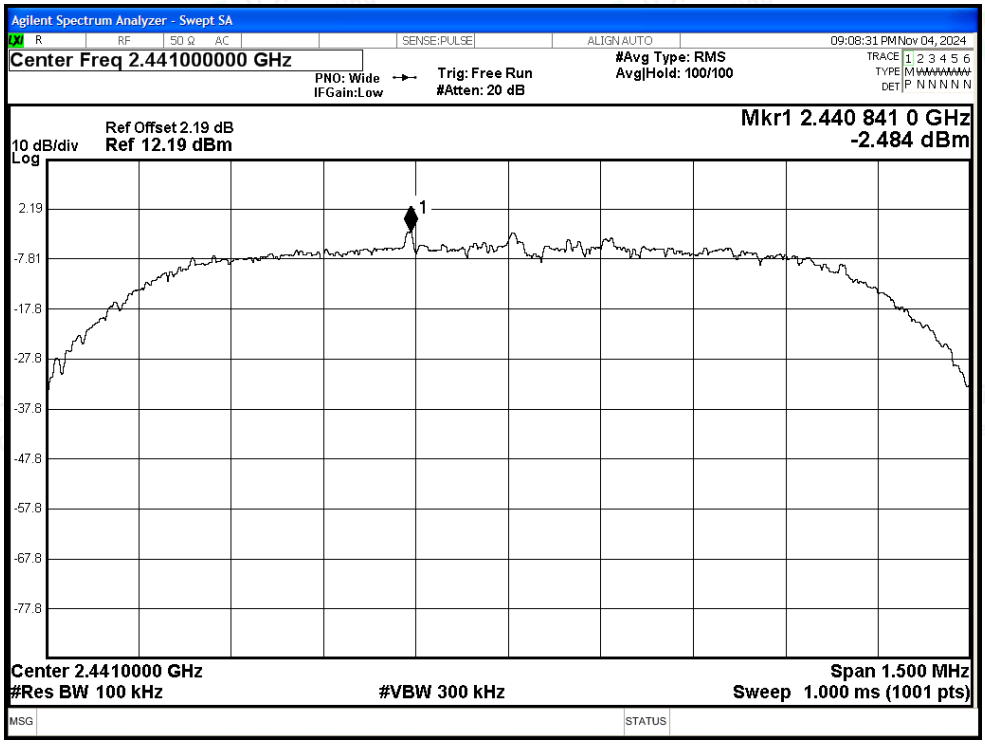


Tx. Spurious NVNT 2-DH5 2402MHz Ant0 Emission

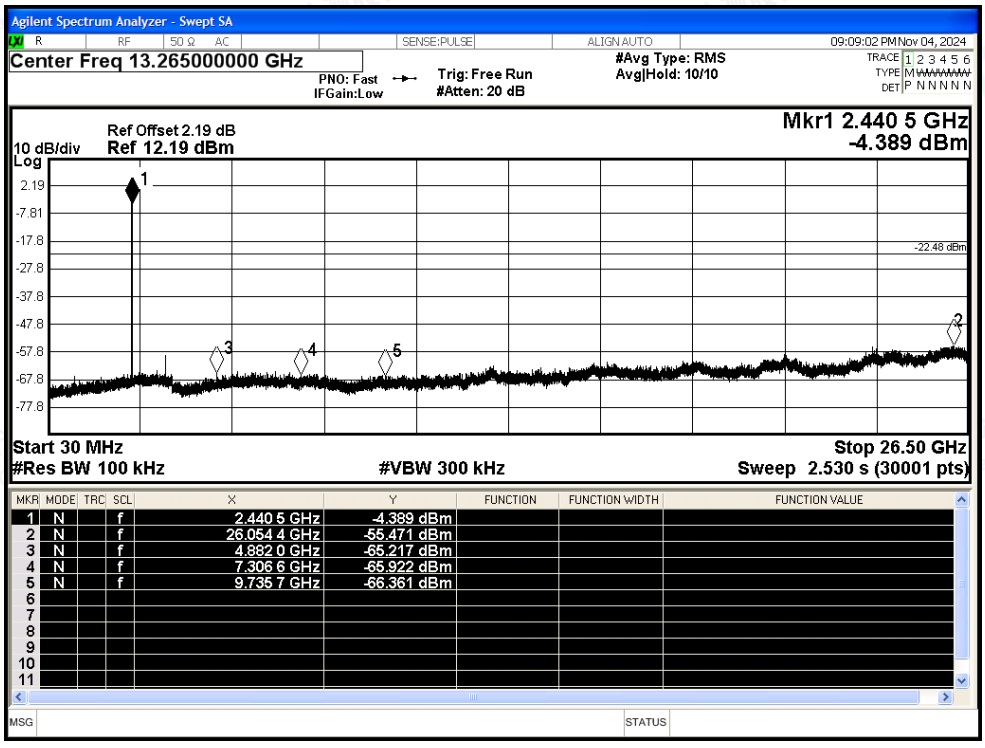


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.402 6 GHz	-6.368 dBm			
2	N		f	25.821 5 GHz	-55.754 dBm			
3	N		f	4.804 3 GHz	-63.619 dBm			
4	N		f	7.376 3 GHz	-65.796 dBm			
5	N		f	9.770 1 GHz	-66.170 dBm			
6								
7								
8								
9								
10								
11								

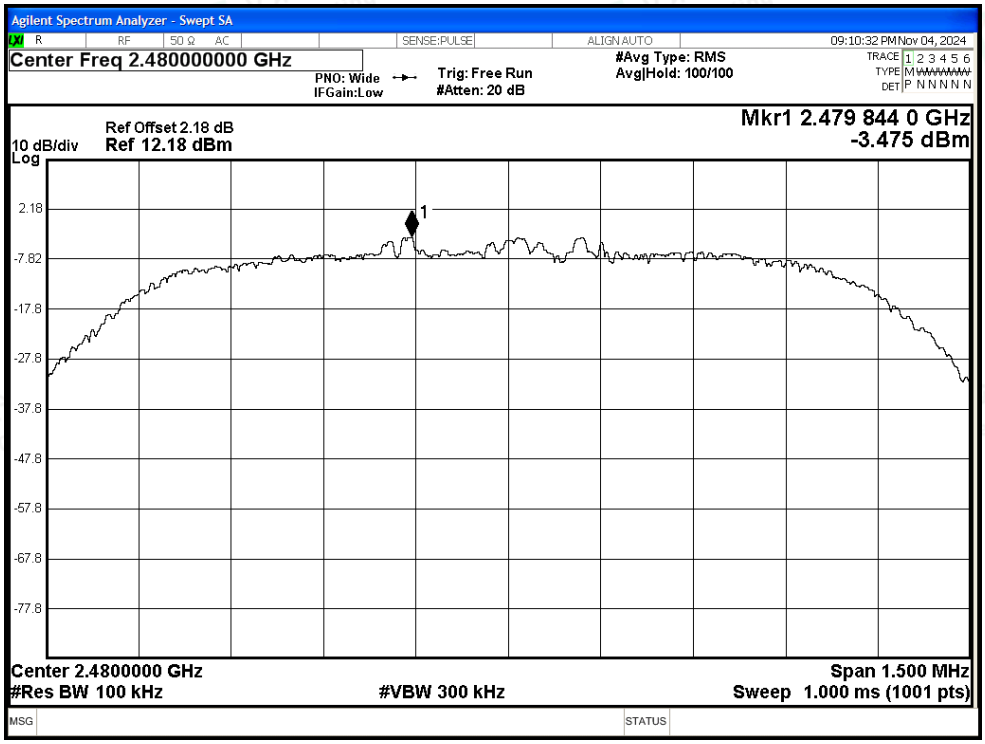
Tx. Spurious NVNT 2-DH5 2441MHz Ant0 Ref



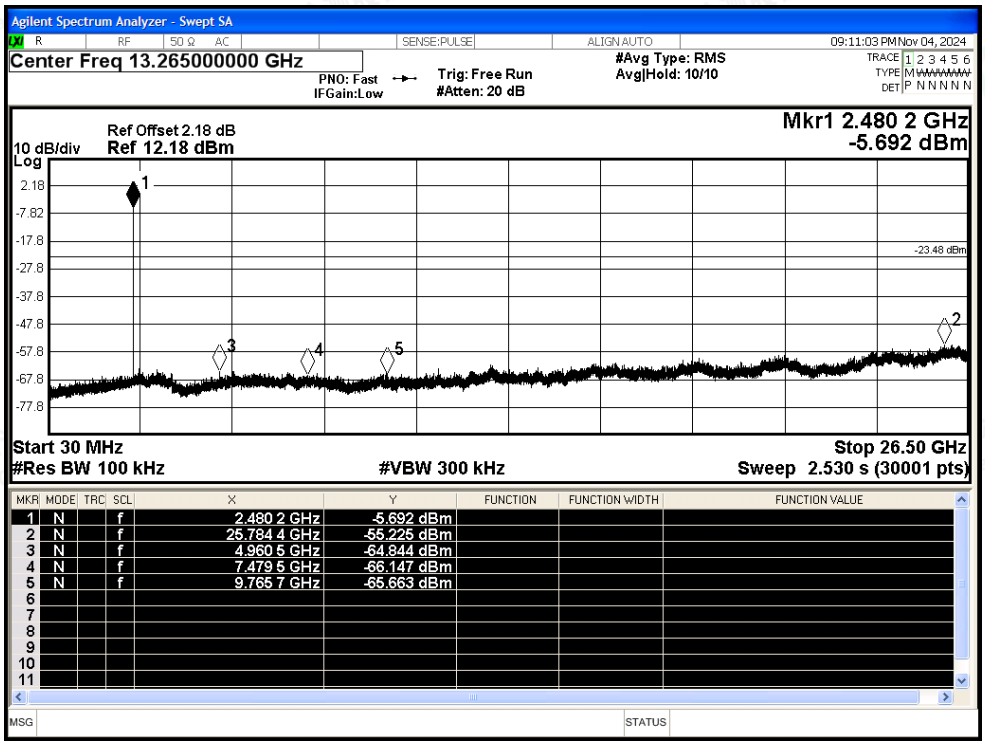
Tx. Spurious NVNT 2-DH5 2441MHz Ant0 Emission



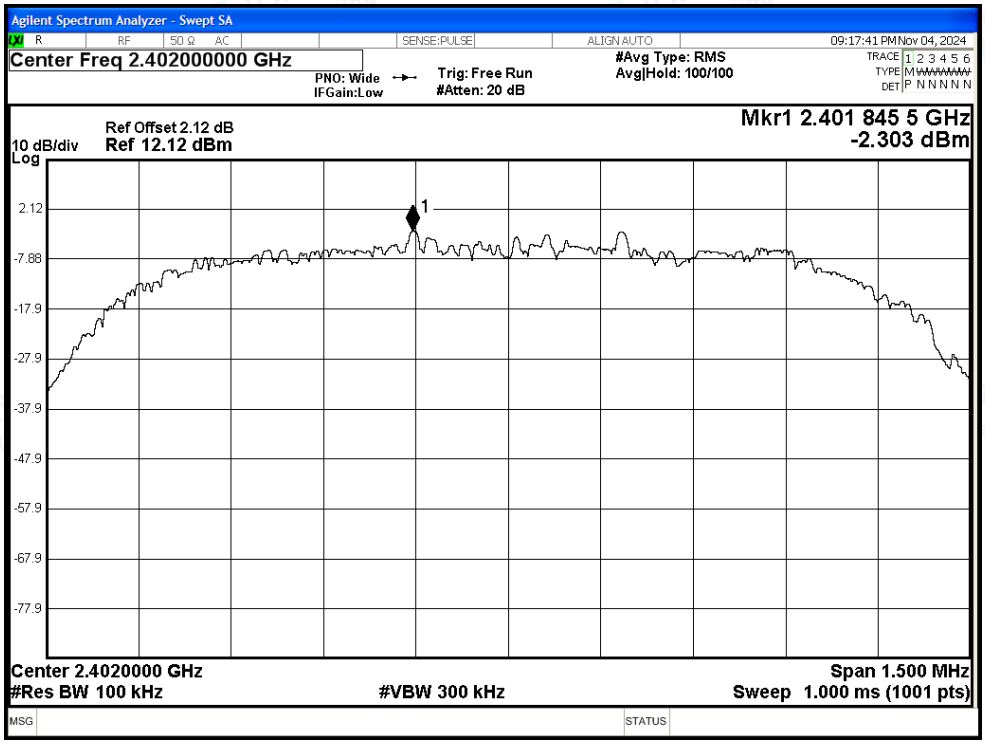
Tx. Spurious NVNT 2-DH5 2480MHz Ant0 Ref



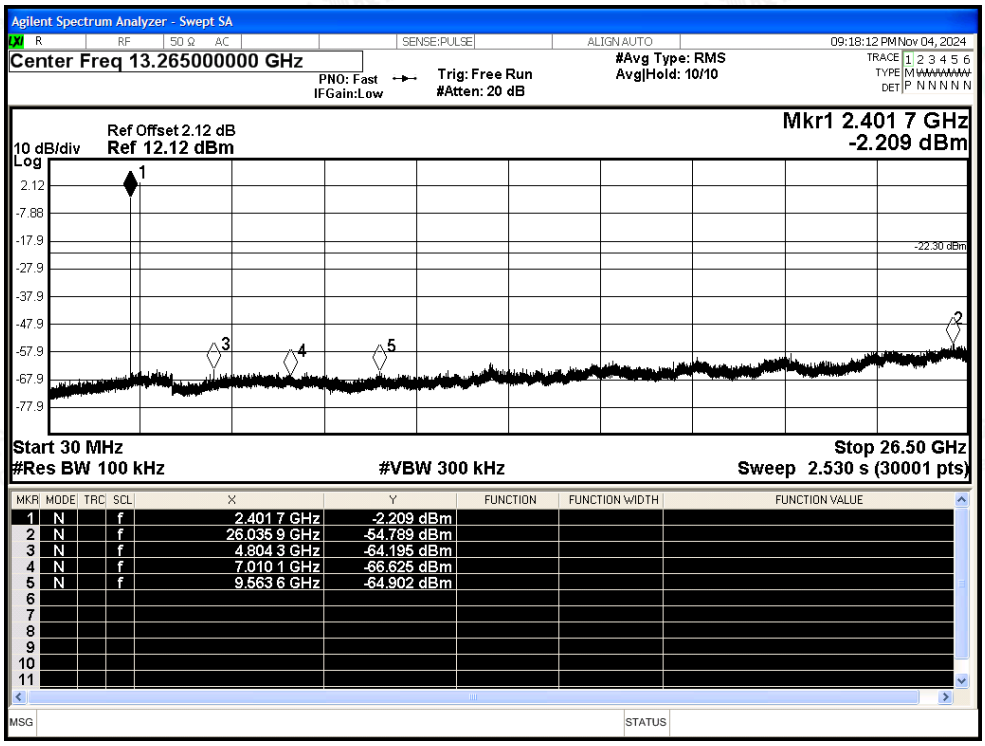
Tx. Spurious NVNT 2-DH5 2480MHz Ant0 Emission



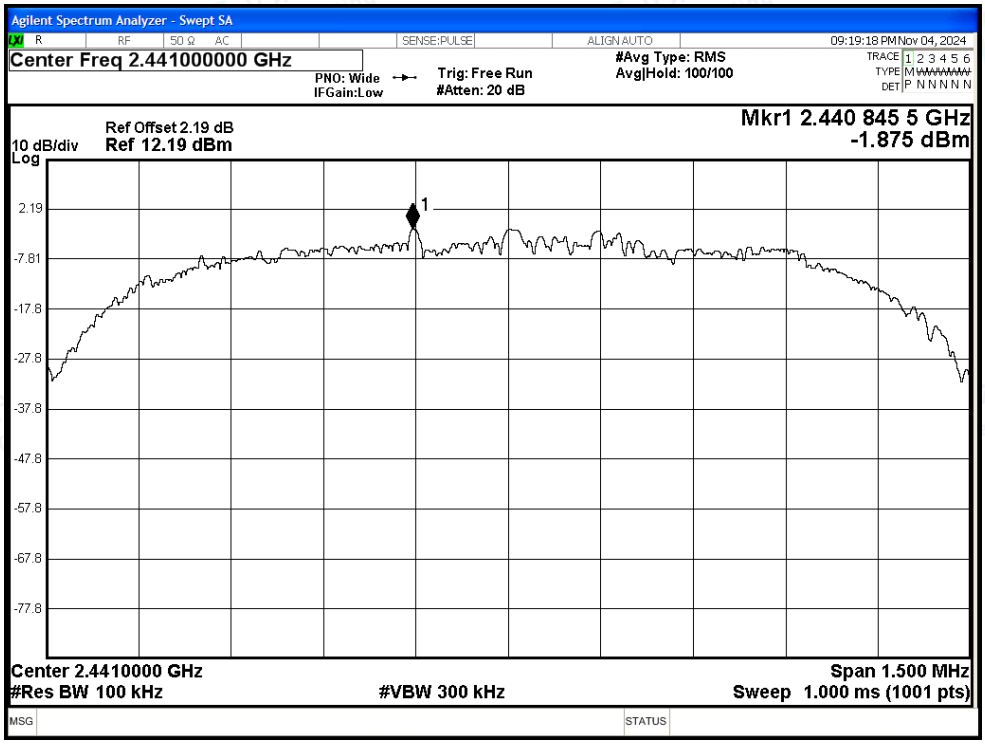
Tx. Spurious NVNT 3-DH5 2402MHz Ant0 Ref



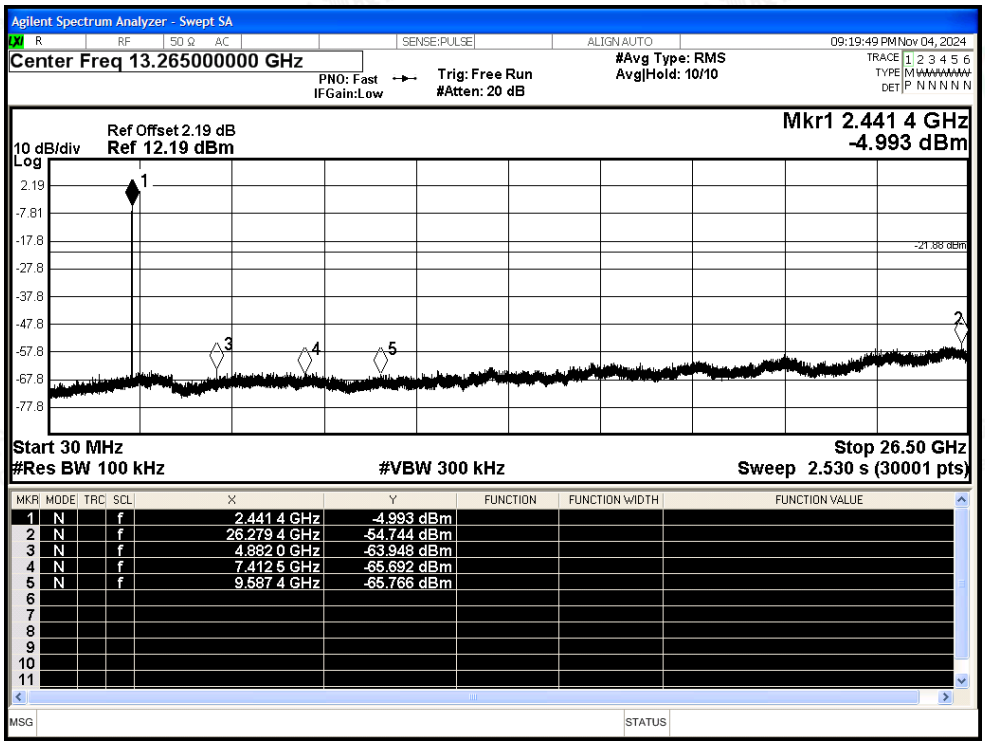
Tx. Spurious NVNT 3-DH5 2402MHz Ant0 Emission



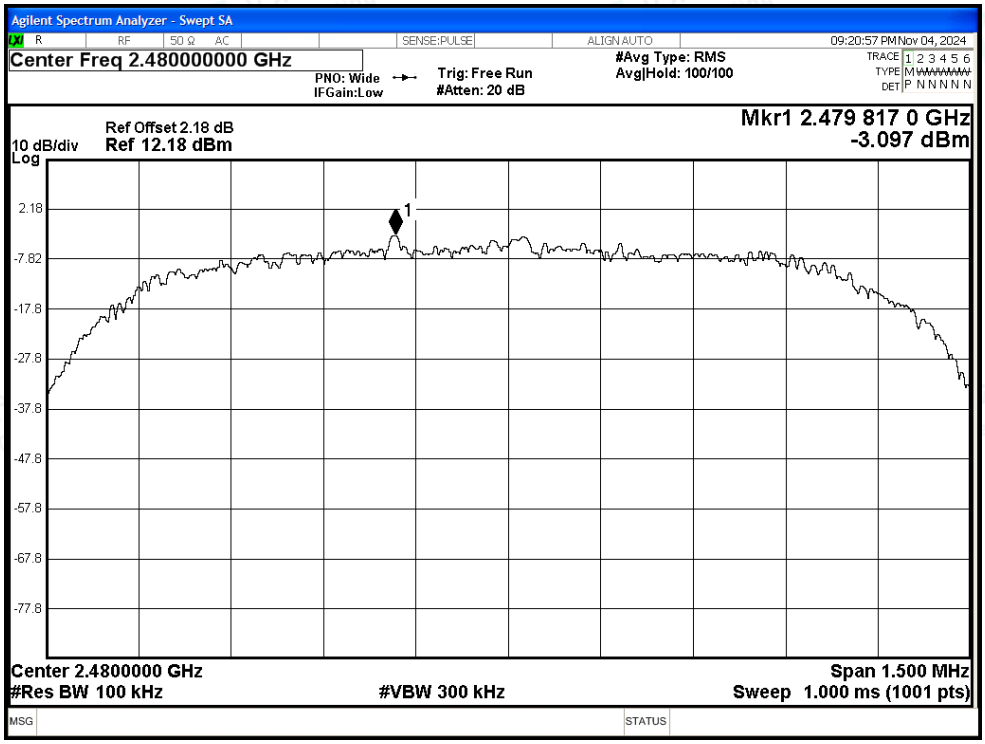
Tx. Spurious NVNT 3-DH5 2441MHz Ant0 Ref



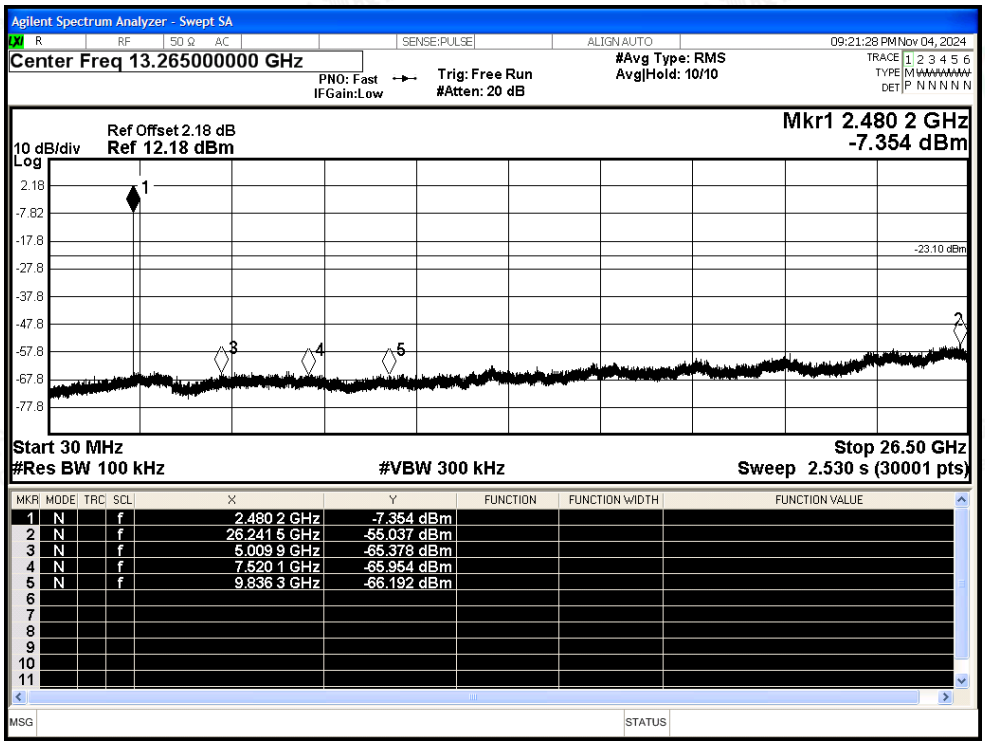
Tx. Spurious NVNT 3-DH5 2441MHz Ant0 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Emission



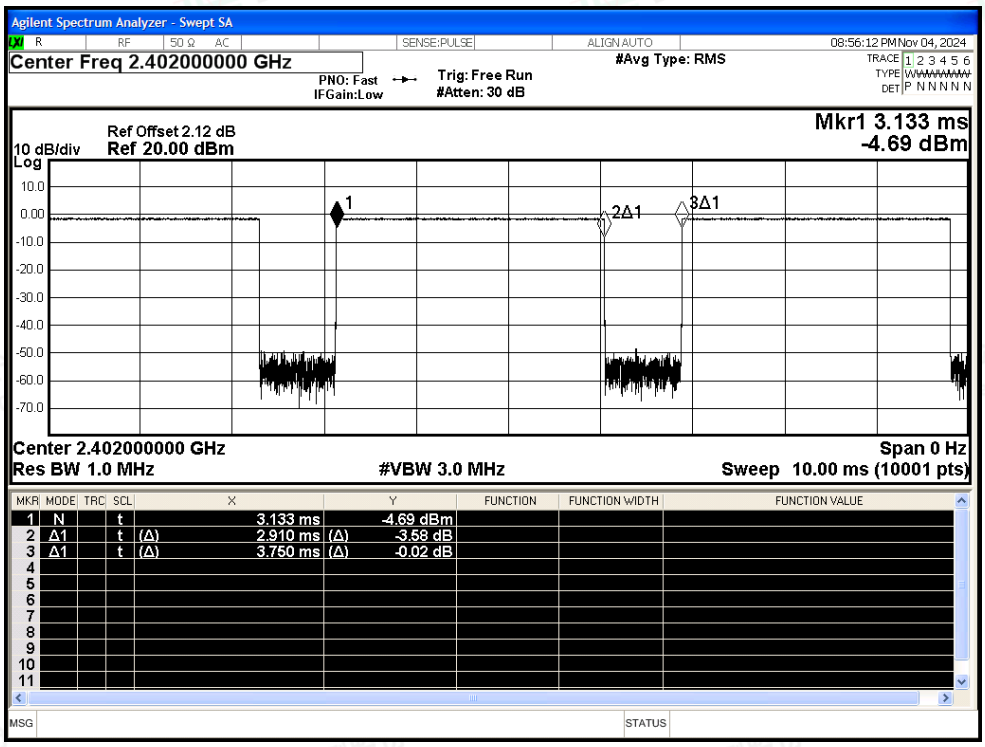
MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.480 2 GHz	-7.354 dBm			
2	N		f	26.241 5 GHz	-55.037 dBm			
3	N		f	5.009 9 GHz	-65.378 dBm			
4	N		f	7.520 1 GHz	-65.954 dBm			
5	N		f	9.836 3 GHz	-66.192 dBm			
6								
7								
8								
9								
10								
11								

A.8 Duty Cycle

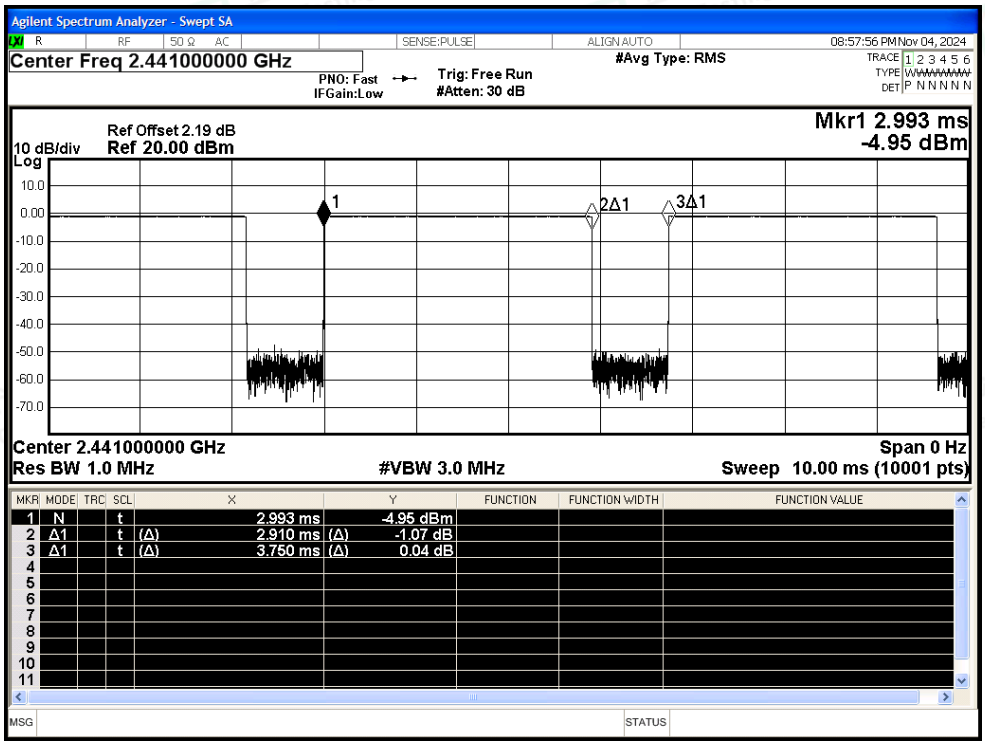
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant0	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant0	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant0	77.63	1.1	0.34
NVNT	2-DH5	2402	Ant0	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant0	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant0	77.33	1.12	0.34
NVNT	3-DH5	2402	Ant0	77.29	1.12	0.34
NVNT	3-DH5	2441	Ant0	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant0	77.23	1.12	0.35

Test Graphs

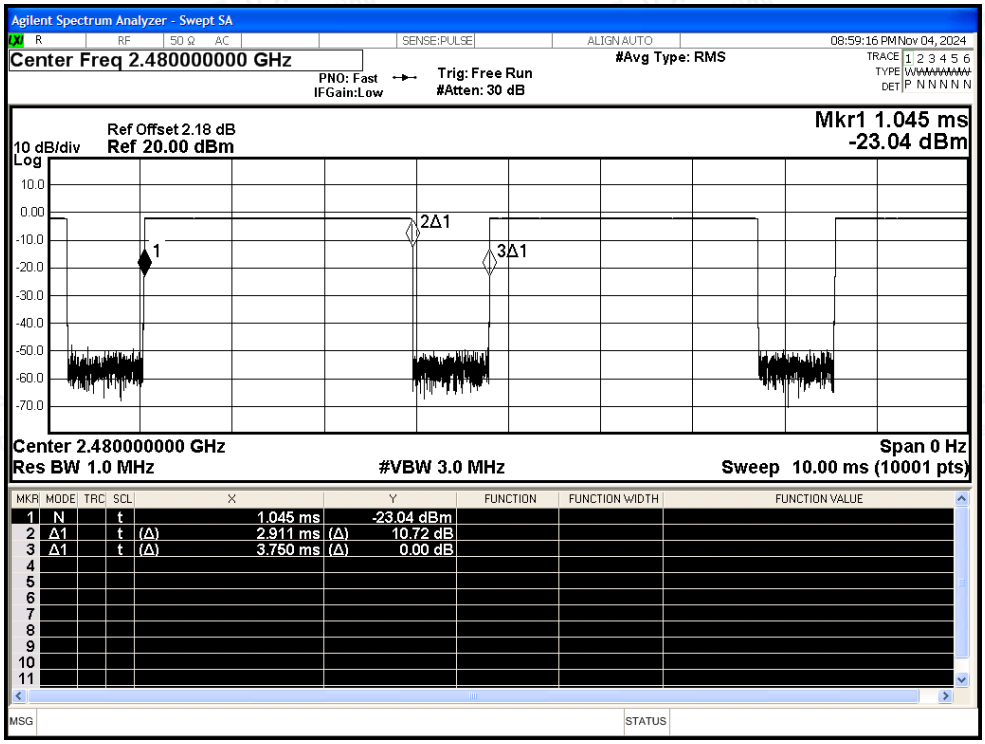
Duty Cycle NVNT 1-DH5 2402MHz Ant0



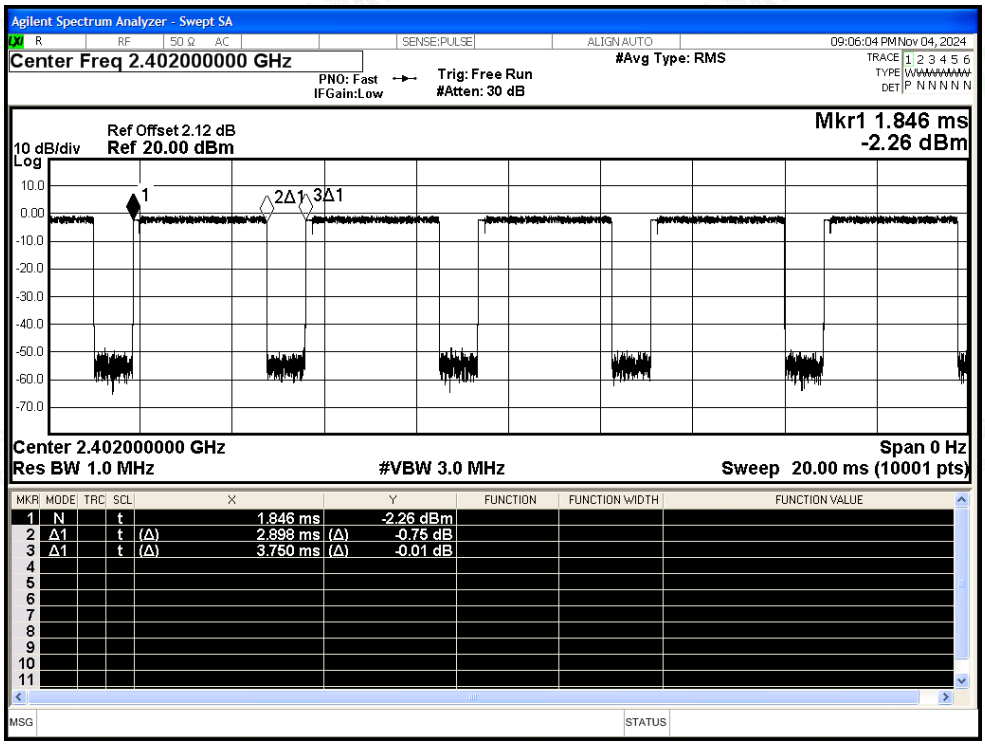
Duty Cycle NVNT 1-DH5 2441MHz Ant0



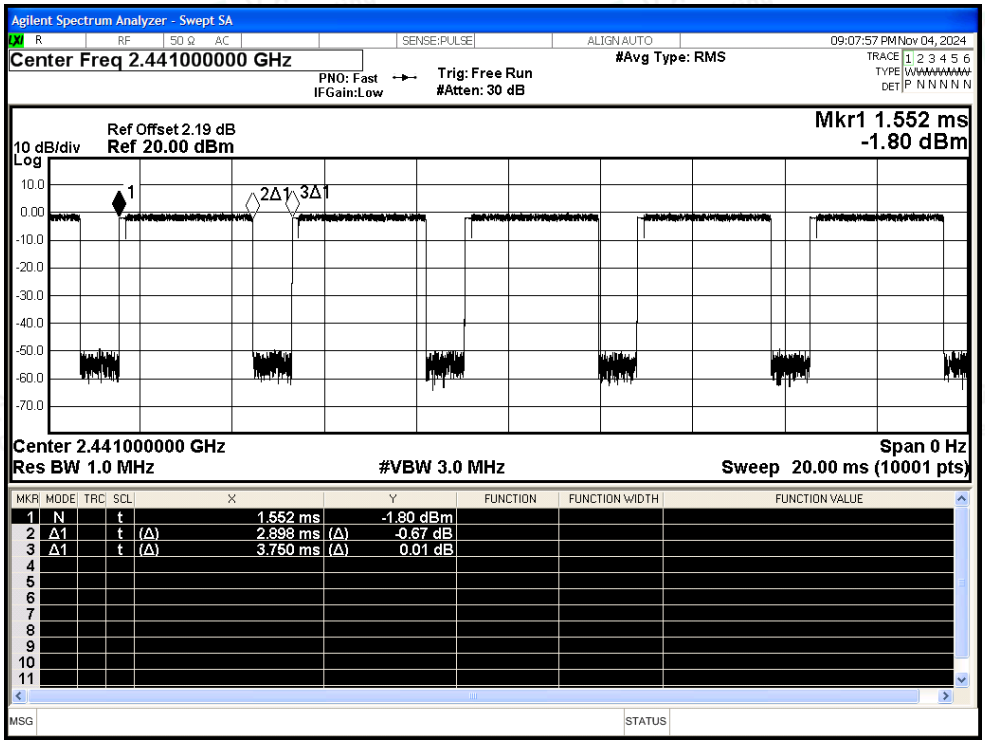
Duty Cycle NVNT 1-DH5 2480MHz Ant0



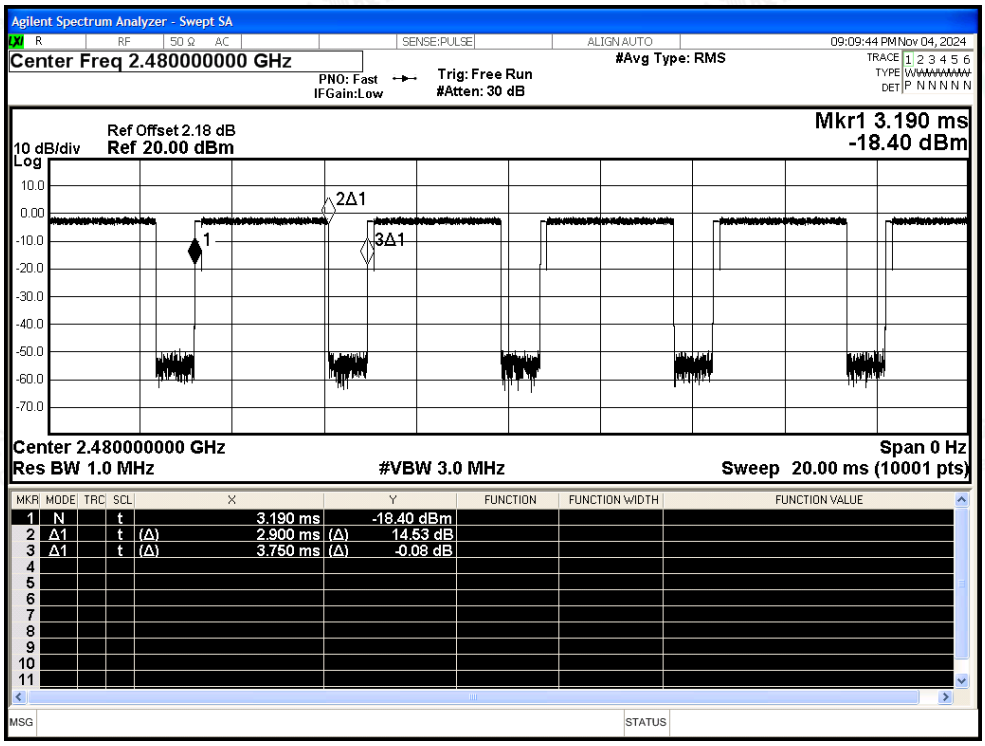
Duty Cycle NVNT 2-DH5 2402MHz Ant0



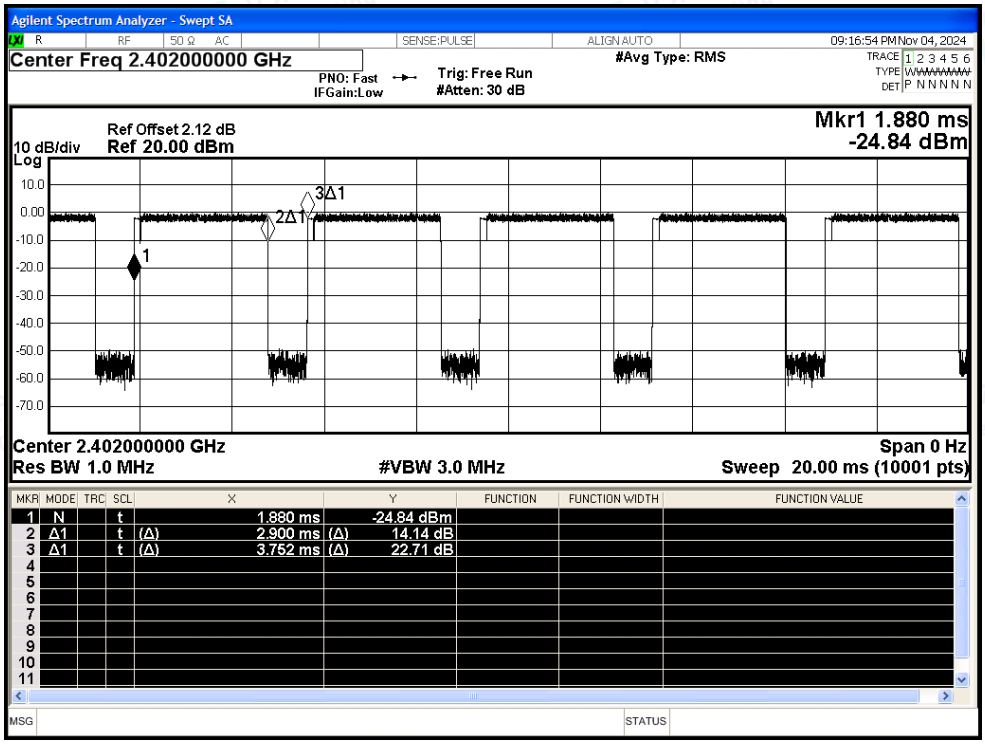
Duty Cycle NVNT 2-DH5 2441MHz Ant0



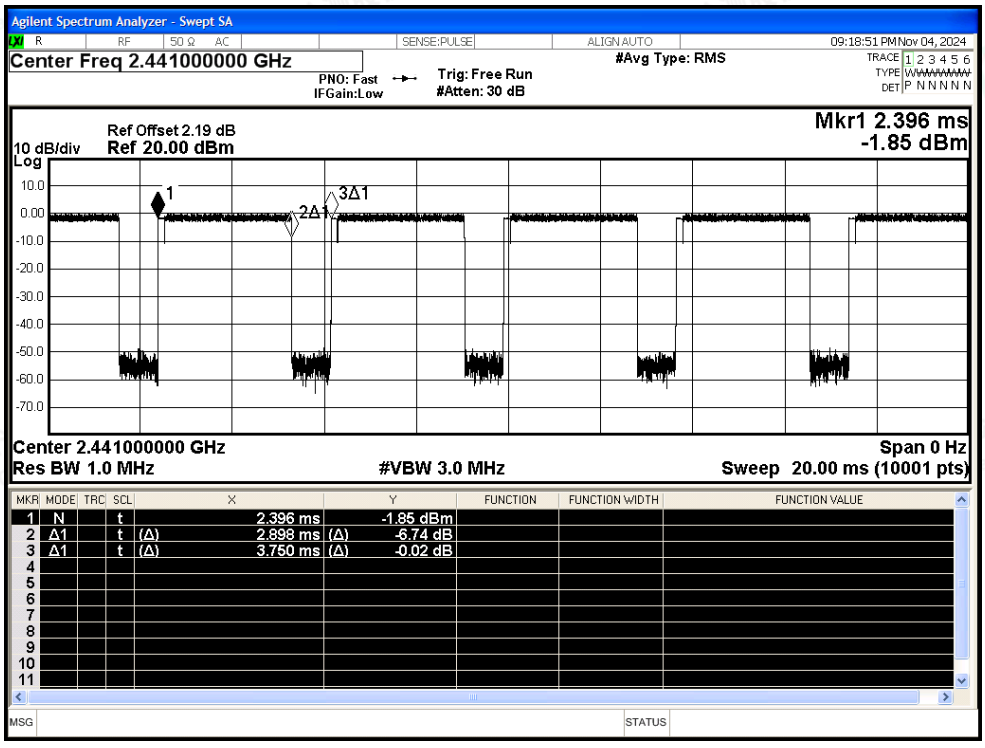
Duty Cycle NVNT 2-DH5 2480MHz Ant0



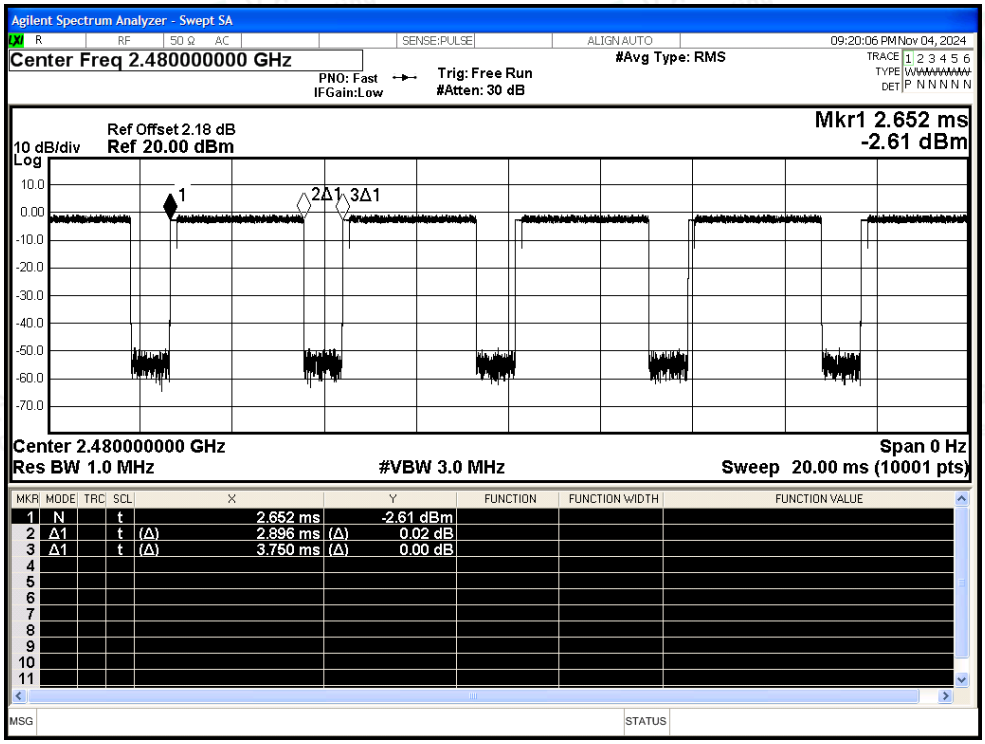
Duty Cycle NVNT 3-DH5 2402MHz Ant0



Duty Cycle NVNT 3-DH5 2441MHz Ant0



Duty Cycle NVNT 3-DH5 2480MHz Ant0

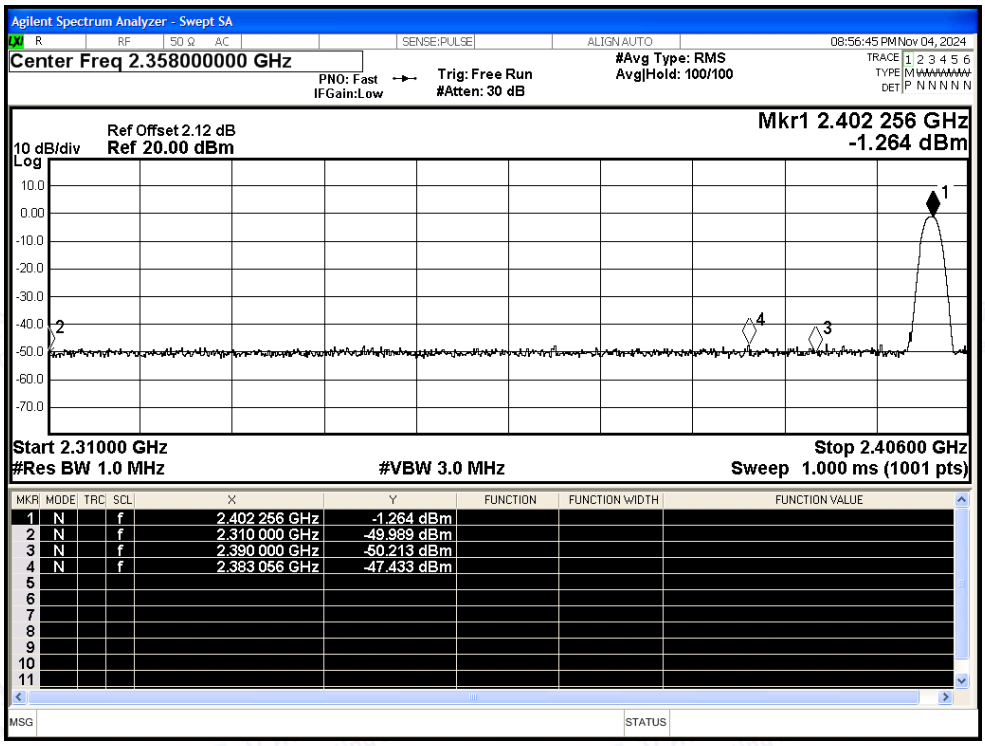


A.9 Restrict Band

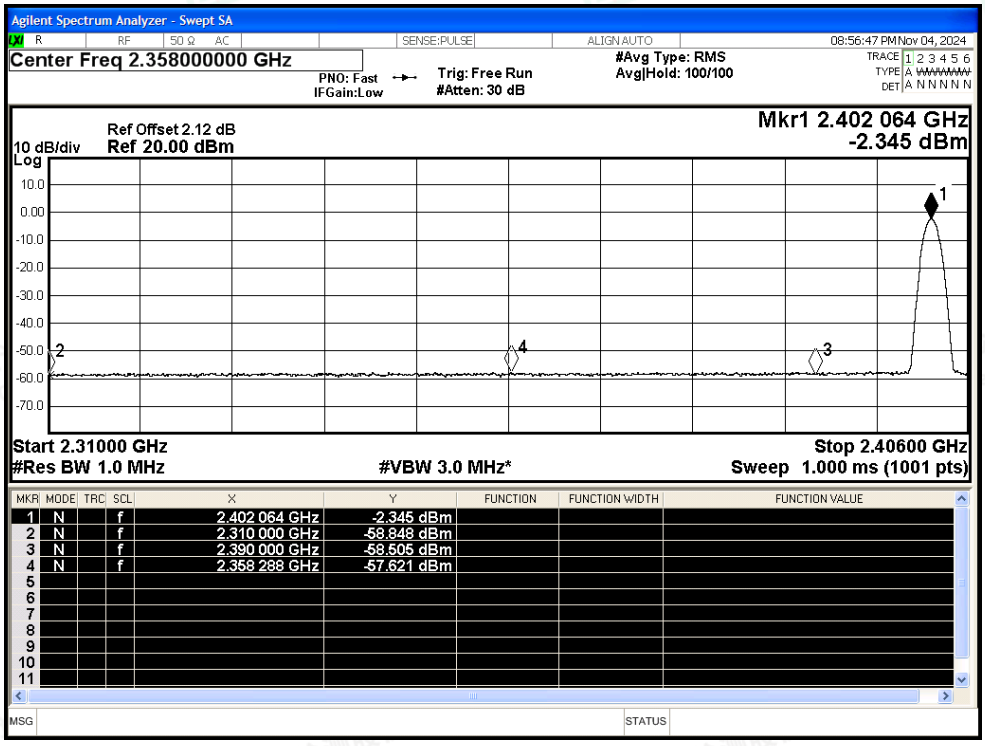
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-49.99	2.74	-	48.01	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-58.85	2.74	1.1	40.25	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2383.056	-47.43	2.74	-	50.57	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2358.288	-57.62	2.74	1.1	41.48	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-50.21	2.74	-	47.79	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-58.51	2.74	1.1	40.59	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-49.79	2.74	-	48.21	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-58.02	2.74	1.1	41.08	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2491.84	-46.35	2.74	-	51.65	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2498.776	-57.07	2.74	1.1	42.03	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-50.53	2.74	-	47.47	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-57.83	2.74	1.1	41.27	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-50.92	2.74	-	47.08	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-58.37	2.74	1.12	40.75	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2385.264	-46.31	2.74	-	51.69	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2383.728	-57.28	2.74	1.12	41.84	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-49.68	2.74	-	48.32	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-58.09	2.74	1.12	41.03	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-48.76	2.74	-	49.24	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-57.87	2.74	1.12	41.25	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2496.928	-46.49	2.74	-	51.51	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2498.344	-57.05	2.74	1.12	42.07	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-50.87	2.74	-	47.13	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-57.62	2.74	1.12	41.5	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-49.91	2.74	-	48.09	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-58.39	2.74	1.12	40.73	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2371.536	-46.84	2.74	-	51.16	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2385.072	-57.59	2.74	1.12	41.53	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-50.34	2.74	-	47.66	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-58.13	2.74	1.12	40.99	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-47.57	2.74	-	50.43	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-57.68	2.74	1.12	41.44	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2495.512	-47.09	2.74	-	50.91	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.584	-56.96	2.74	1.12	42.16	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-50.25	2.74	-	47.75	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-58.17	2.74	1.12	40.95	Average	54	Pass

Test Graphs

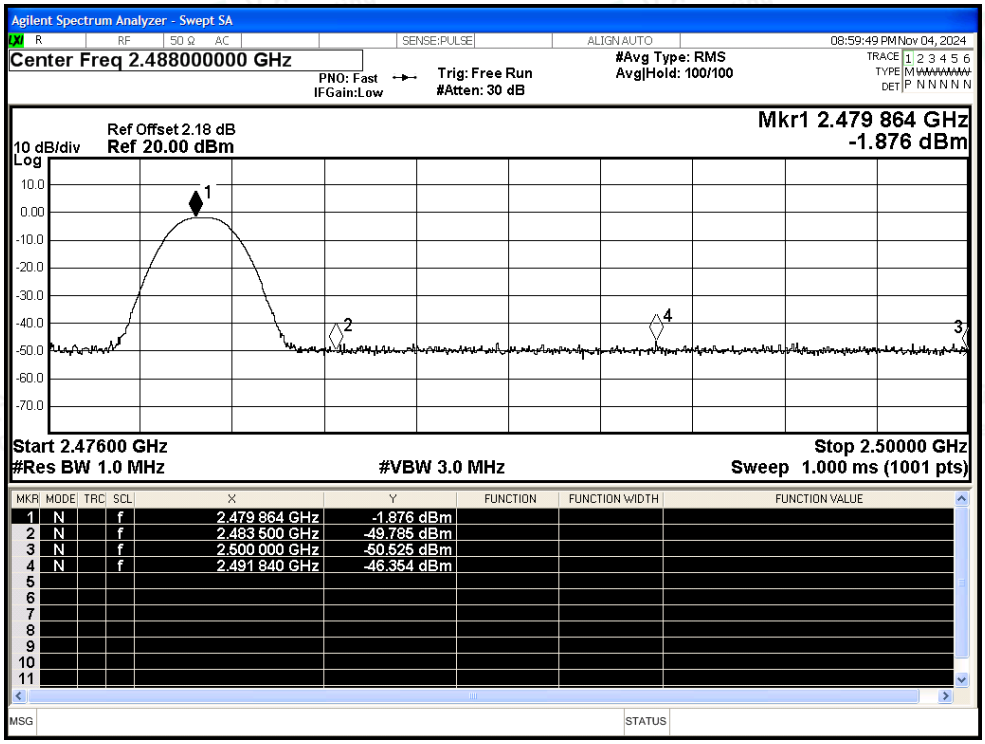
Restrict Band NVNT 1-DH5 2402MHz Ant0 No-Hopping Peak



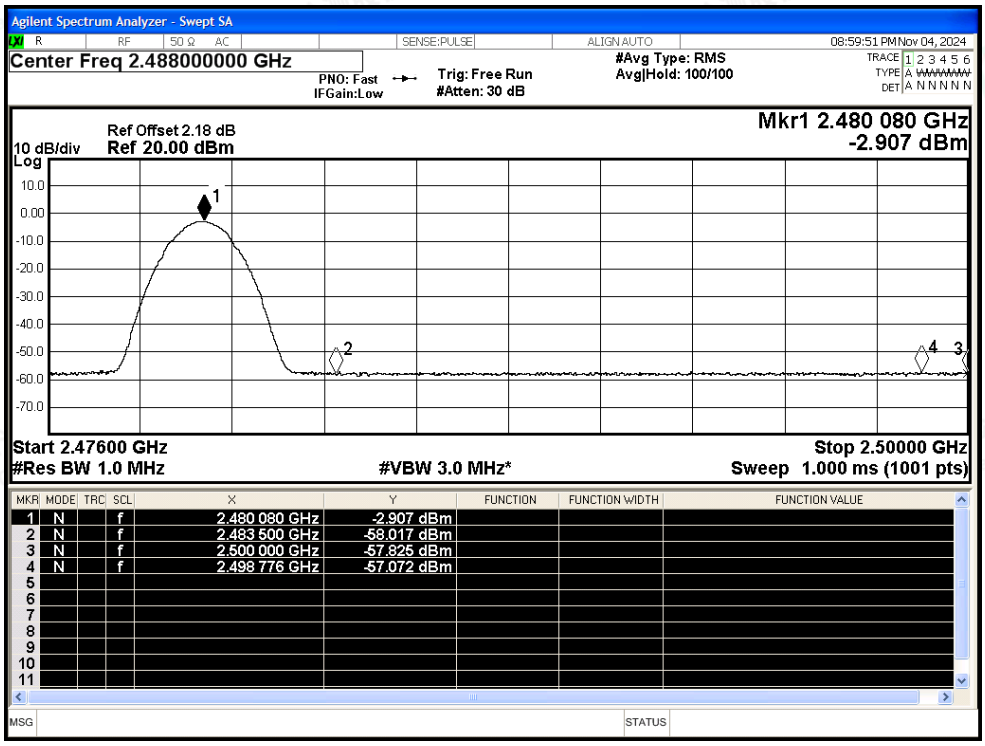
Restrict Band NVNT 1-DH5 2402MHz Ant0 No-Hopping Average



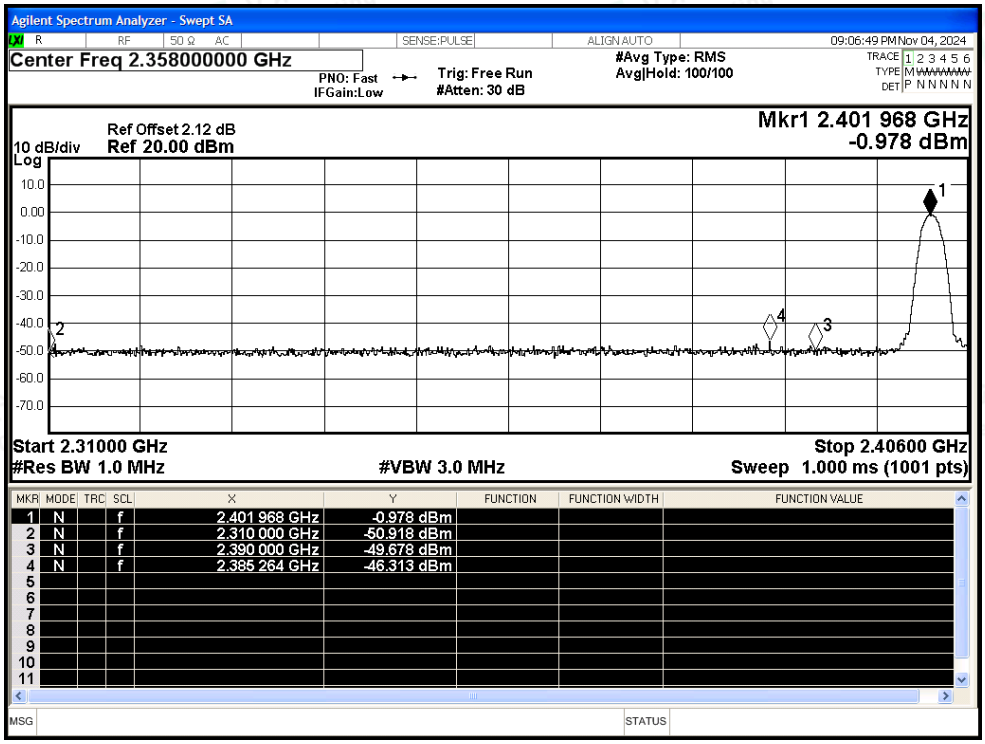
Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Peak



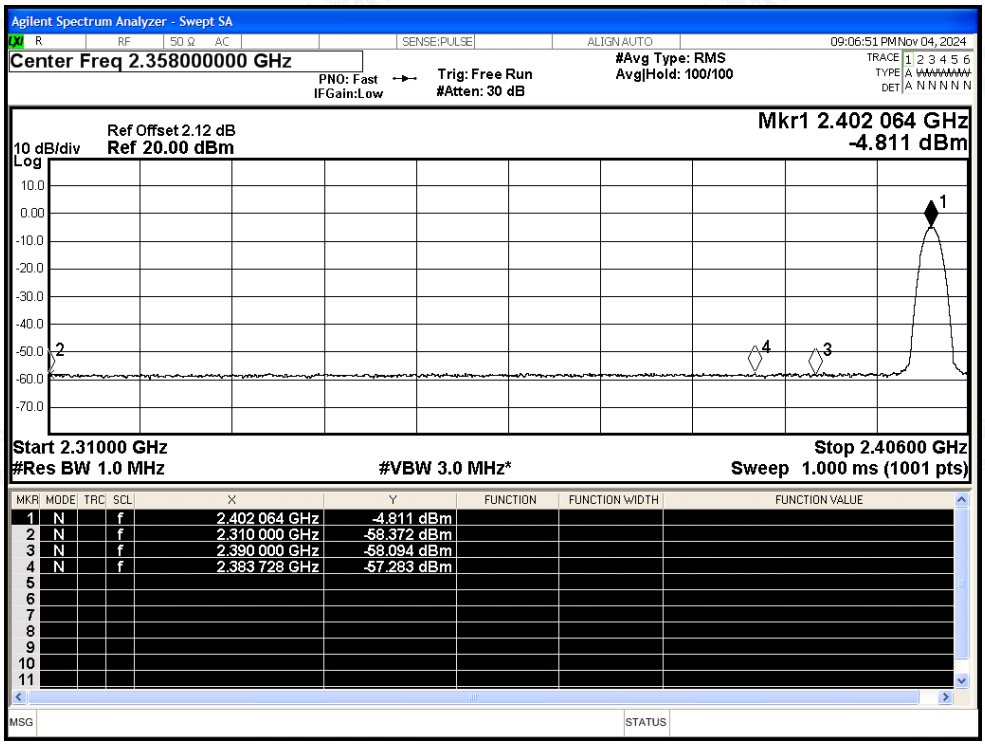
Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Average



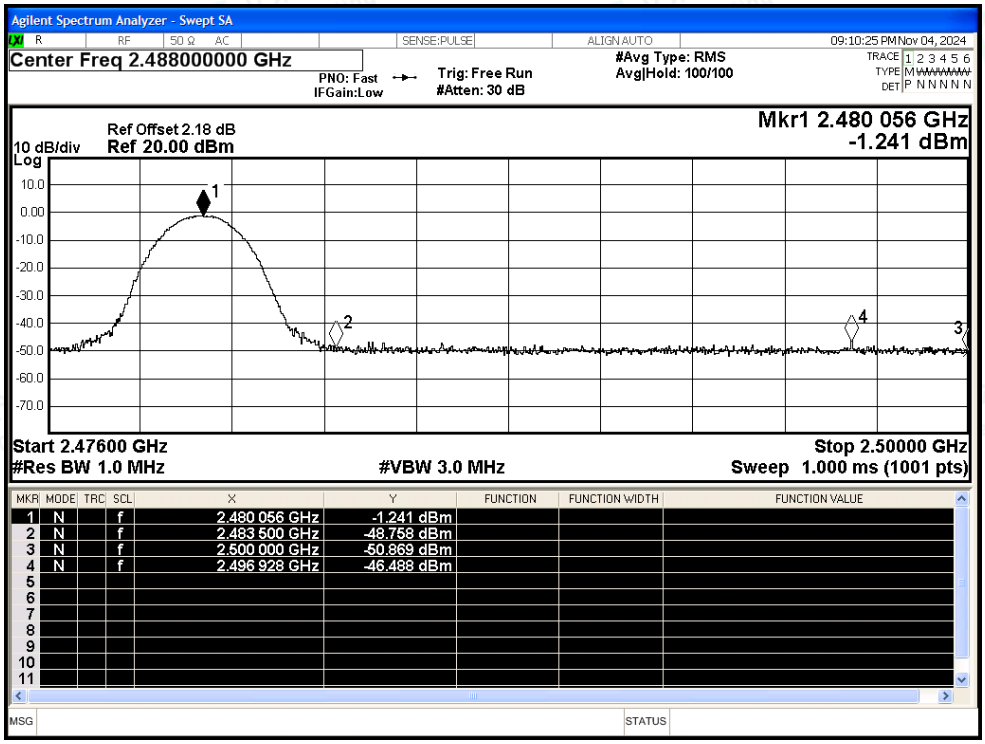
Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Peak



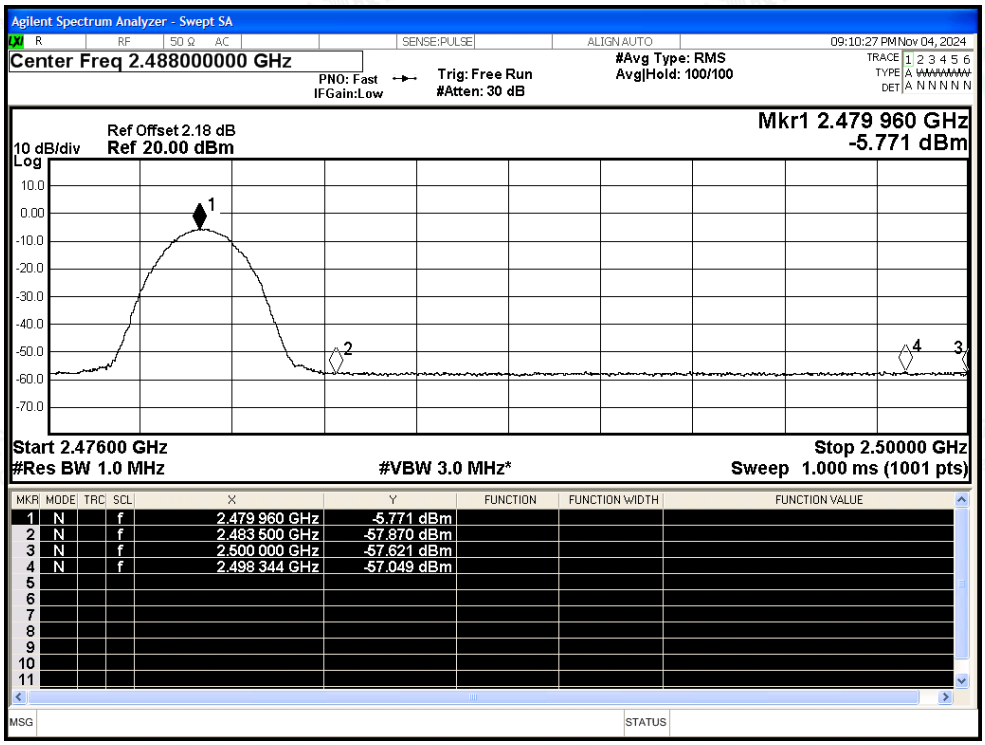
Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Average



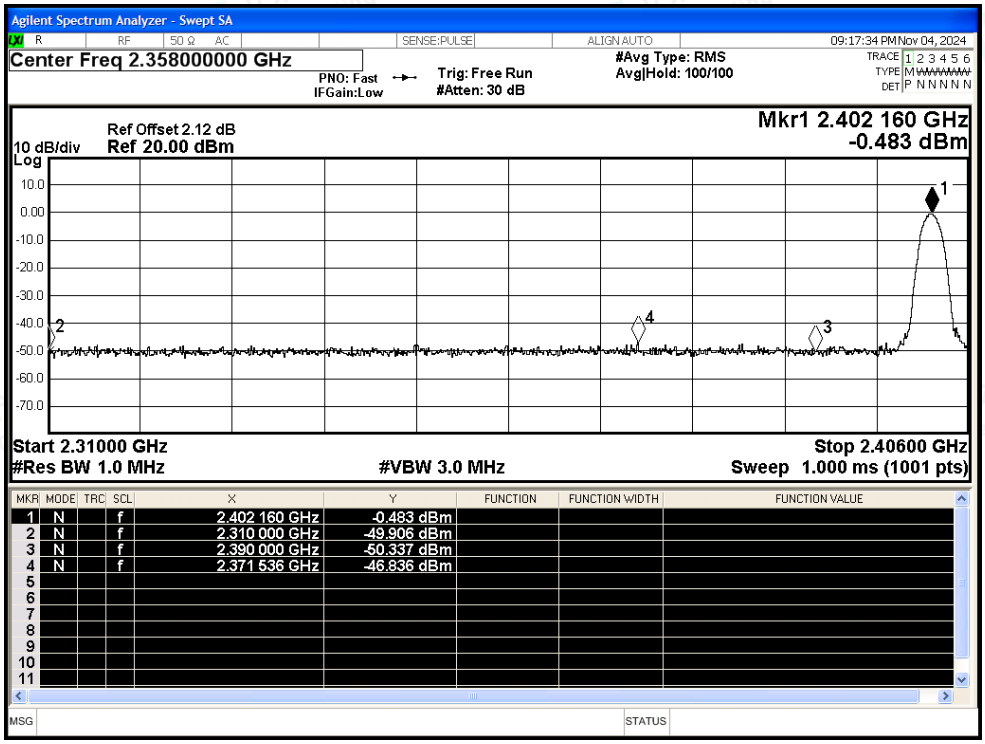
Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Peak



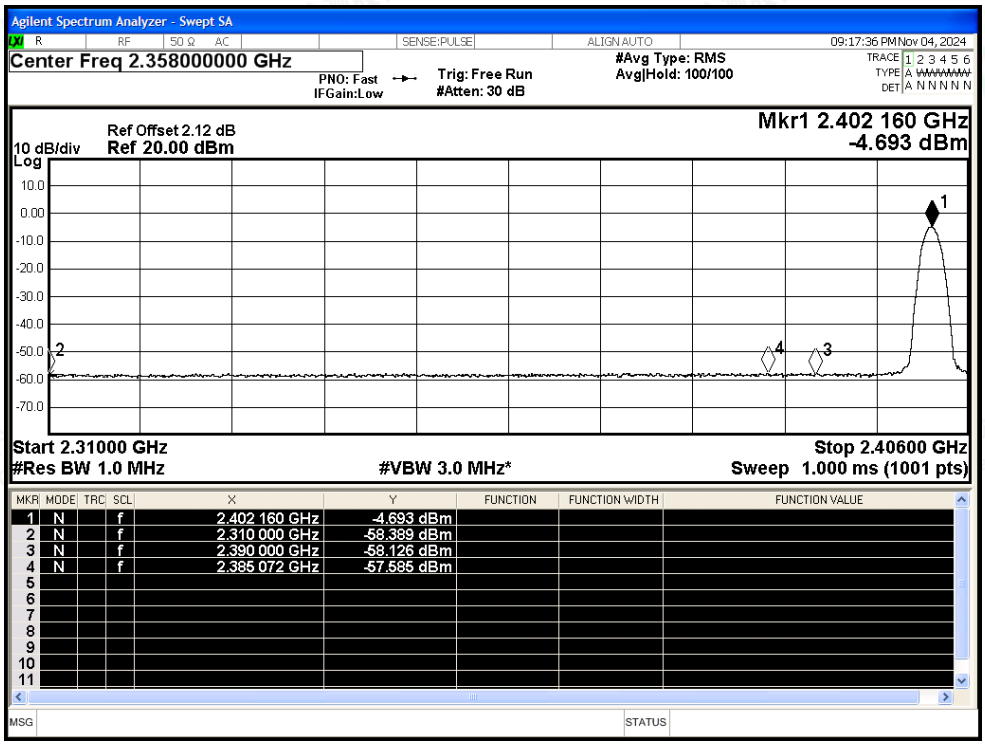
Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Average



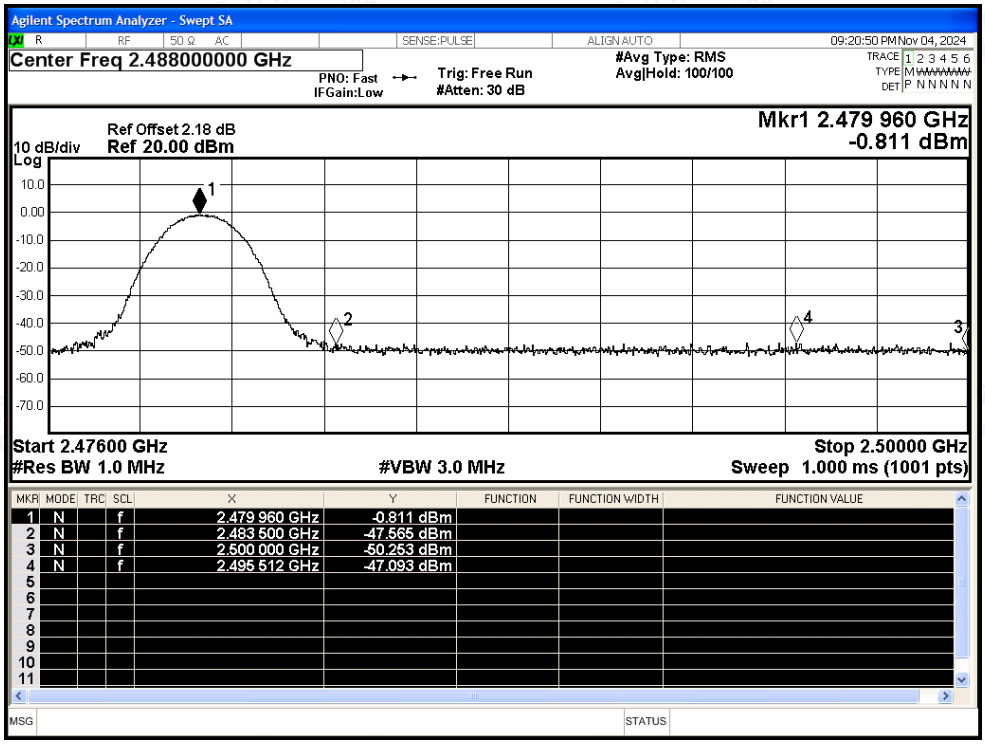
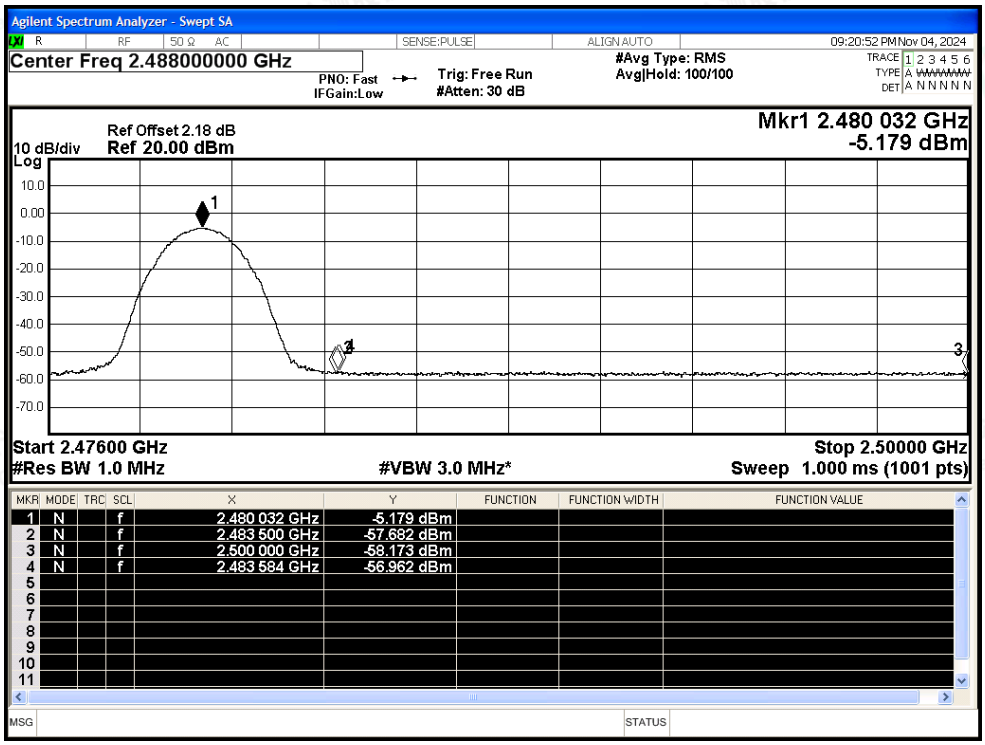
Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Peak



Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Average



Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Average