

FCC Appendix RF Test Data for BT

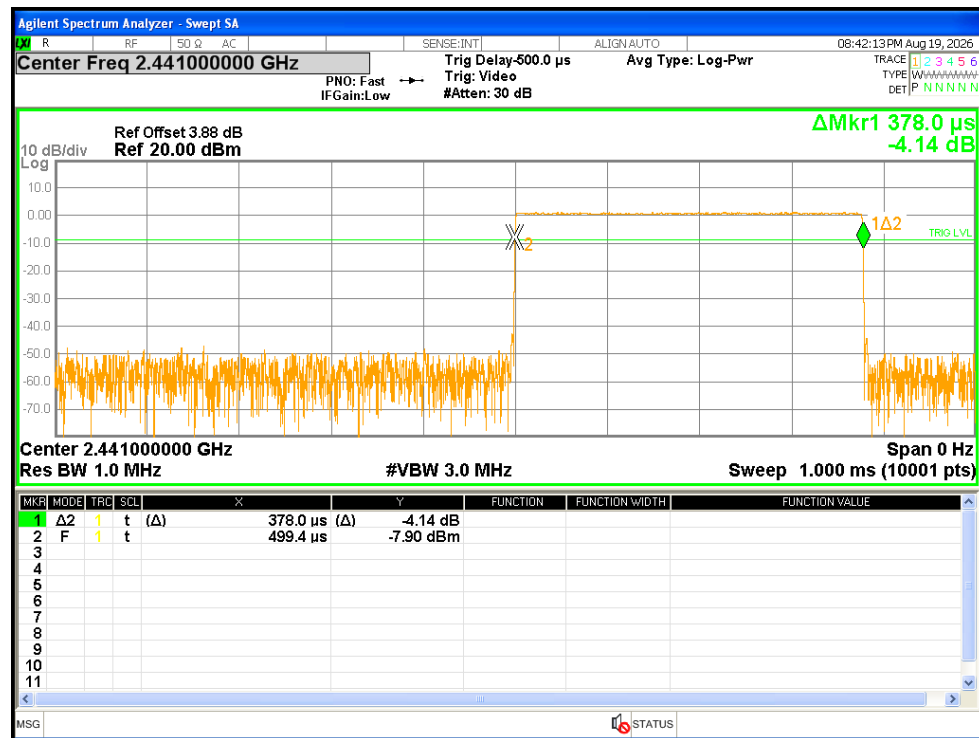
FCC ID : 2AUARTU7ABS
Company : THINKCAR TECH CO., LTD.
EUT : Automotive Diagnostic Tool
Model Number : TU7ABS
Report No. : CTA26080701802
Reviewed By : Eric Wang

Dwell Time

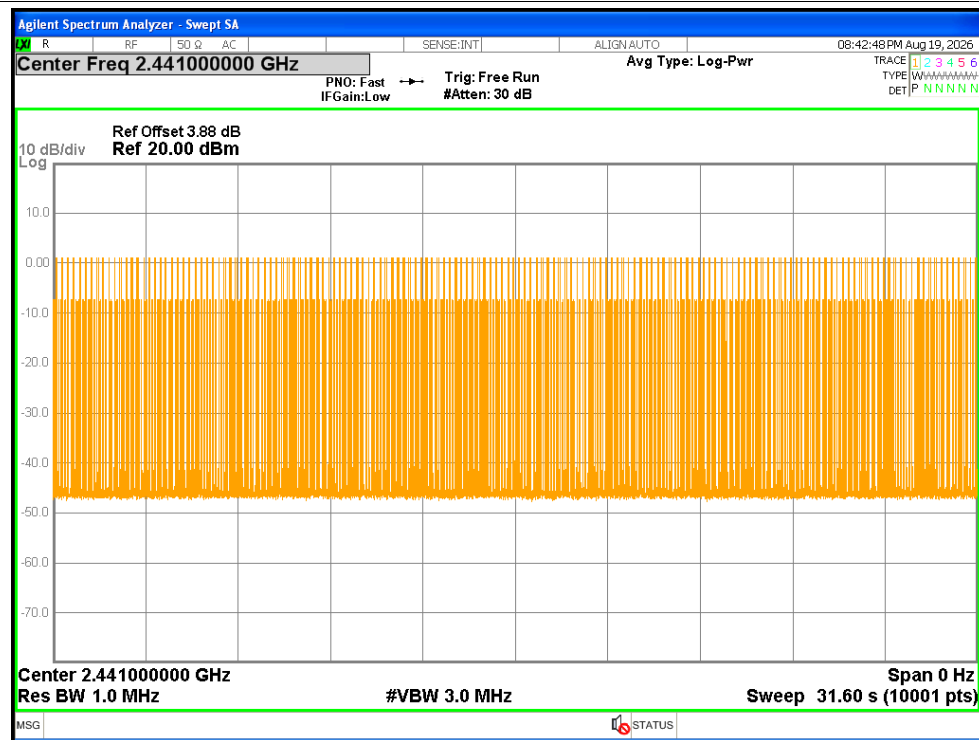
Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH1	2441	0.378	120.204	318	31600	<=400	Pass
1-DH3	2441	1.634	259.806	159	31600	<=400	Pass
1-DH5	2441	2.882	308.374	107	31600	<=400	Pass
2-DH1	2441	0.385	120.505	313	31600	<=400	Pass
2-DH3	2441	1.637	265.194	162	31600	<=400	Pass
2-DH5	2441	2.885	297.155	103	31600	<=400	Pass
3-DH1	2441	0.386	120.818	313	31600	<=400	Pass
3-DH3	2441	1.636	255.216	156	31600	<=400	Pass
3-DH5	2441	2.887	280.039	97	31600	<=400	Pass

Test Graphs

Dwell NVNT 1-DH1 2441MHz One Burst



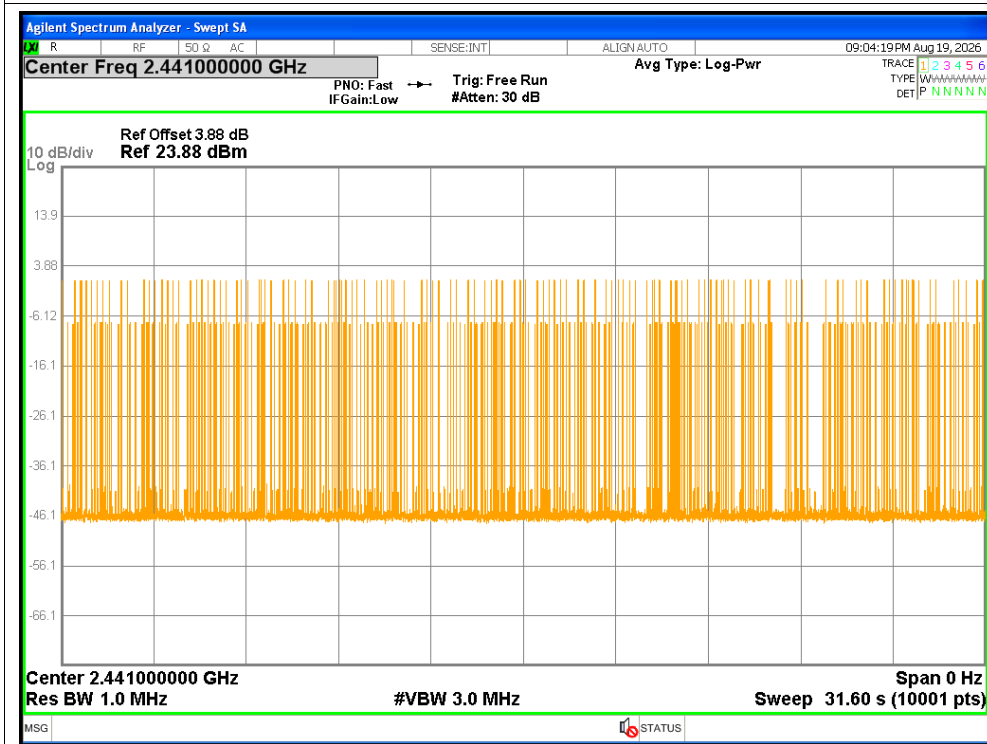
Dwell NVNT 1-DH1 2441MHz Accumulated



Dwell NVNT 1-DH3 2441MHz One Burst



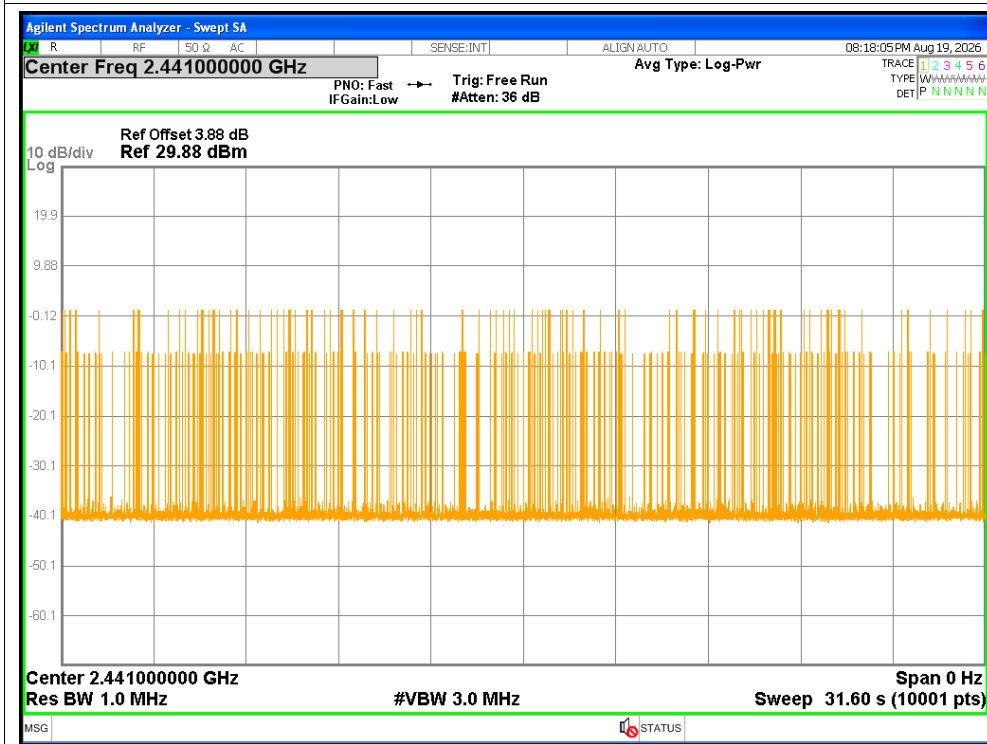
Dwell NVNT 1-DH3 2441MHz Accumulated



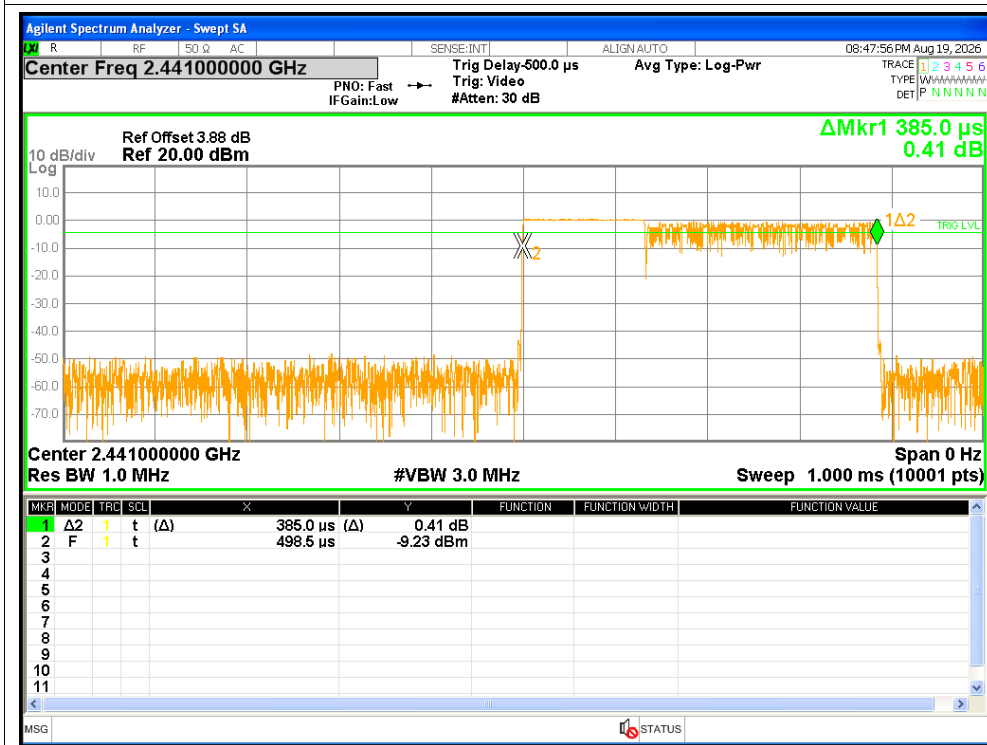
Dwell NVNT 1-DH5 2441MHz One Burst



Dwell NVNT 1-DH5 2441MHz Accumulated



Dwell NVNT 2-DH1 2441MHz One Burst



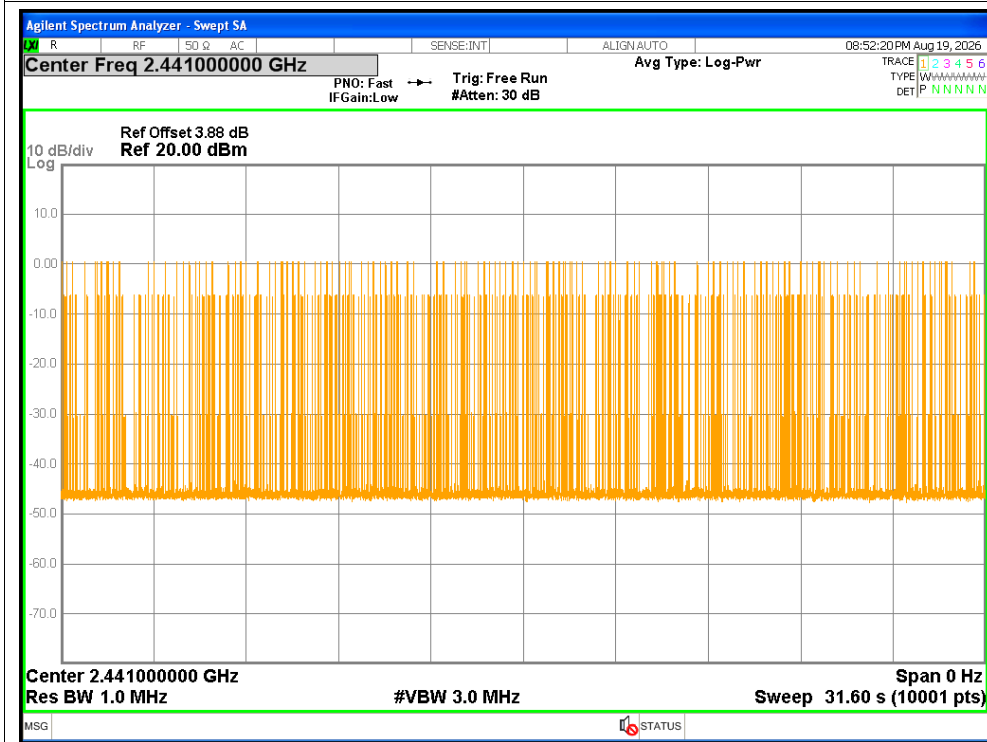
Dwell NVNT 2-DH1 2441MHz Accumulated



Dwell NVNT 2-DH3 2441MHz One Burst



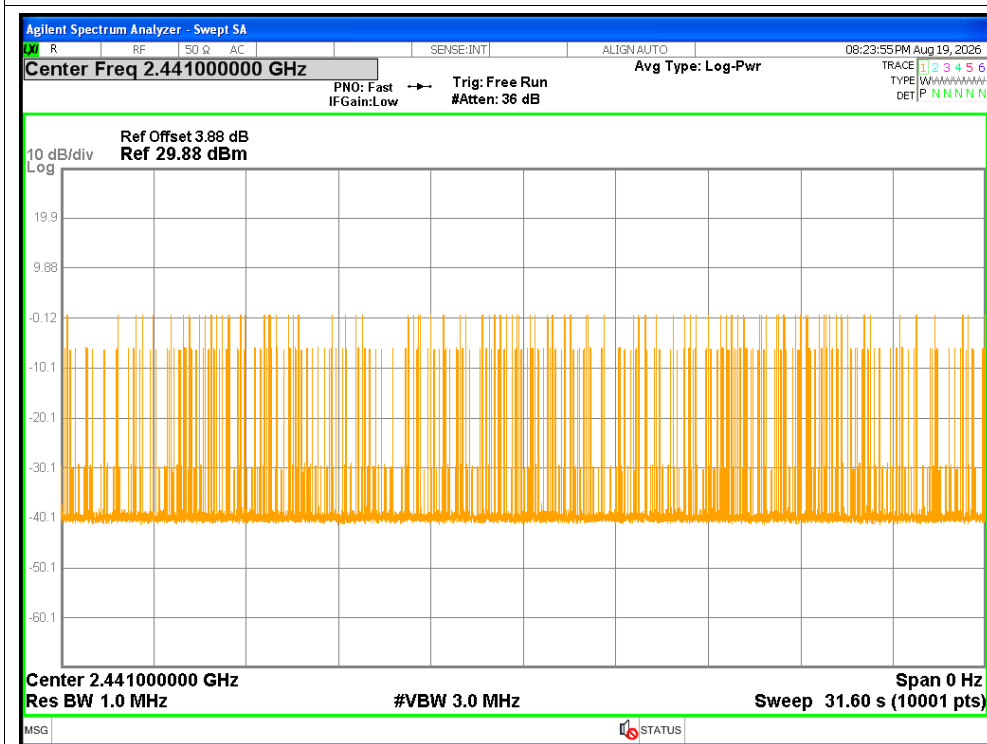
Dwell NVNT 2-DH3 2441MHz Accumulated



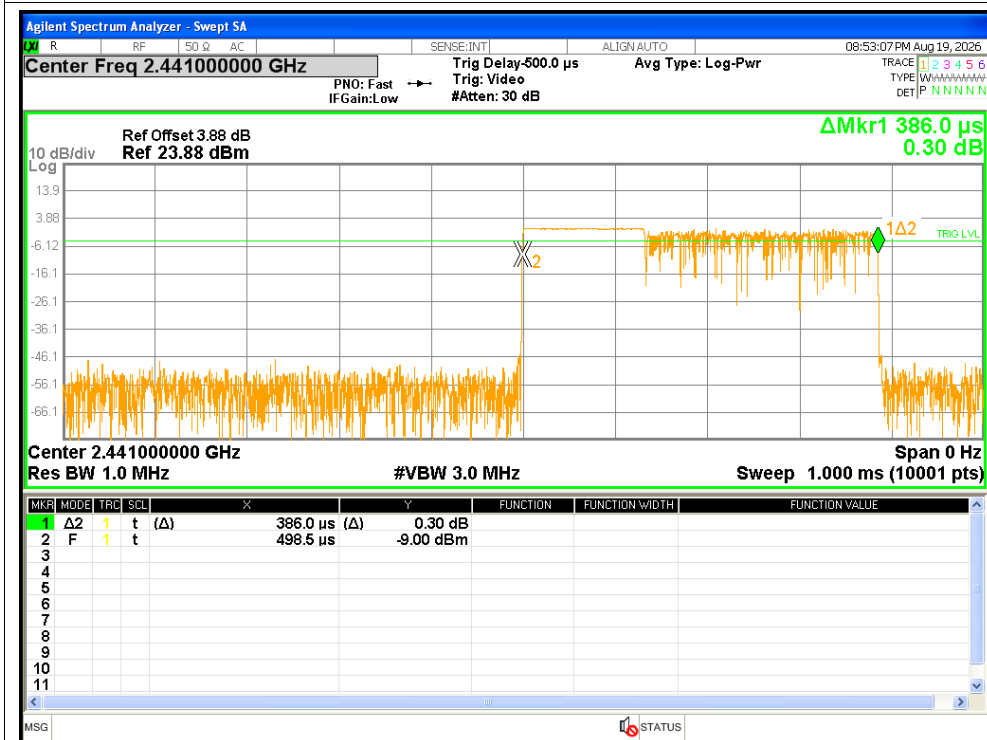
Dwell NVNT 2-DH5 2441MHz One Burst



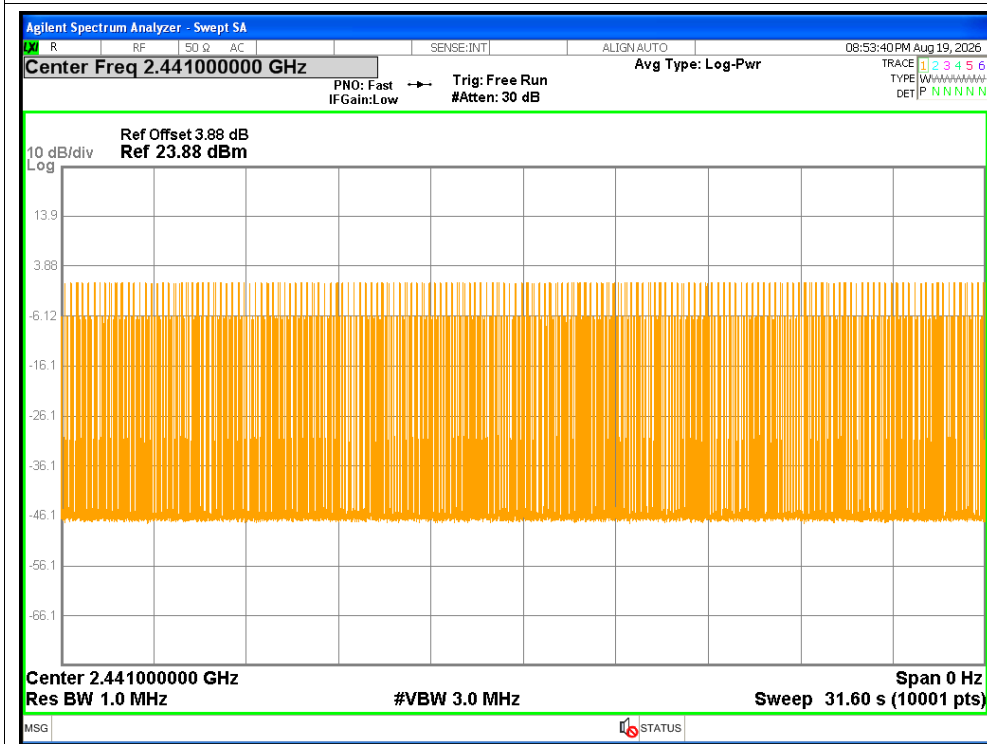
Dwell NVNT 2-DH5 2441MHz Accumulated



Dwell NVNT 3-DH1 2441MHz One Burst



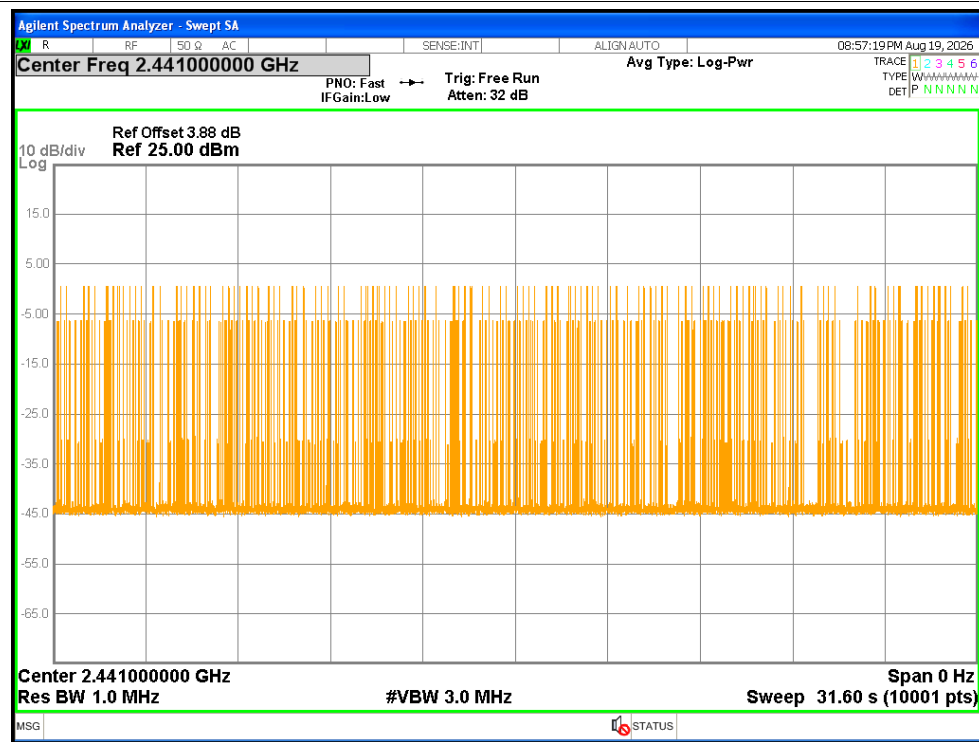
Dwell NVNT 3-DH1 2441MHz Accumulated



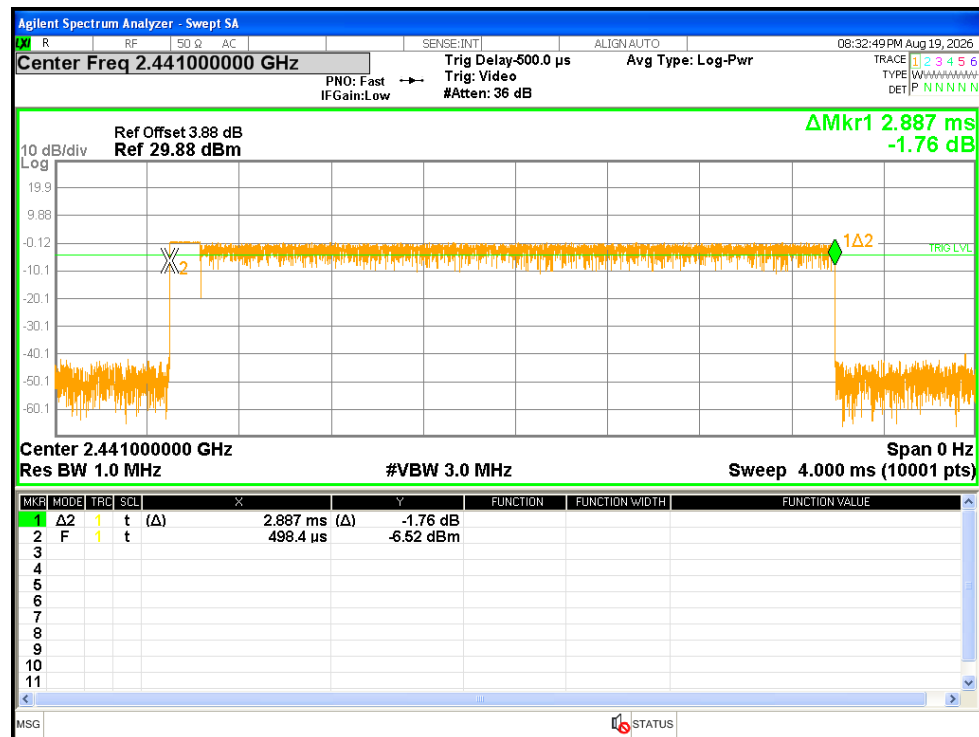
Dwell NVNT 3-DH3 2441MHz One Burst



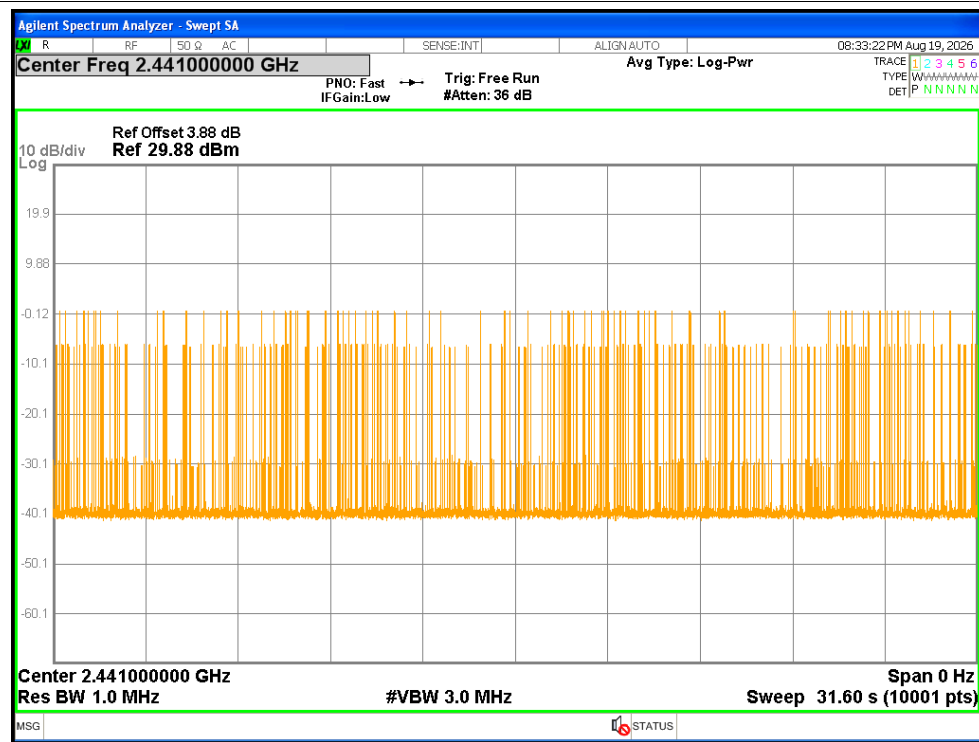
Dwell NVNT 3-DH3 2441MHz Accumulated



Dwell NVNT 3-DH5 2441MHz One Burst



Dwell NVNT 3-DH5 2441MHz Accumulated

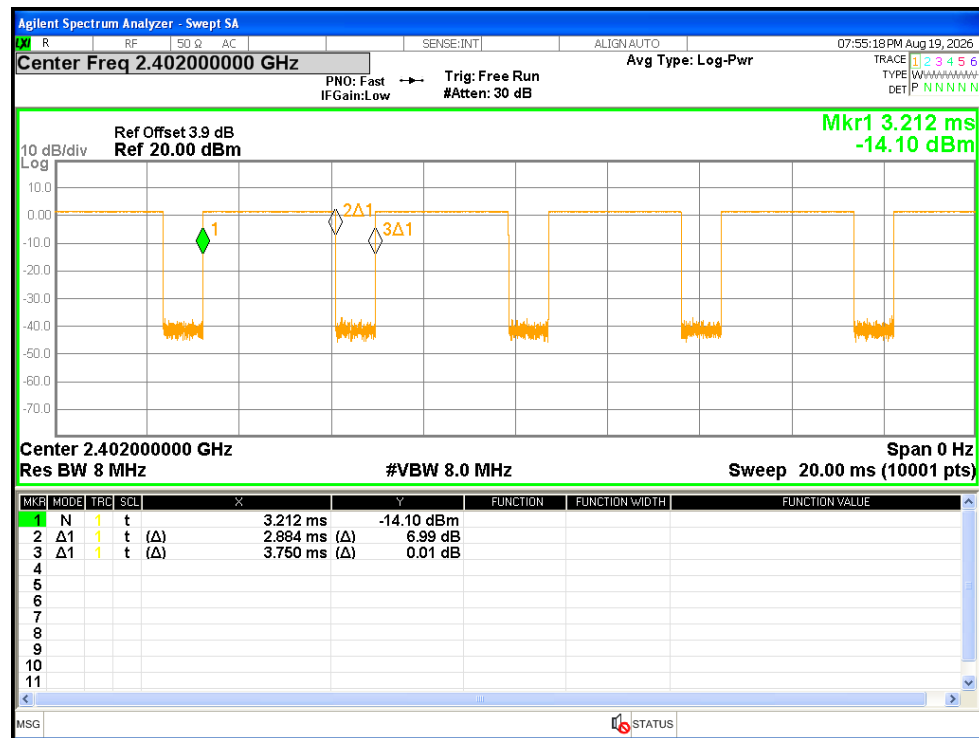


Duty Cycle

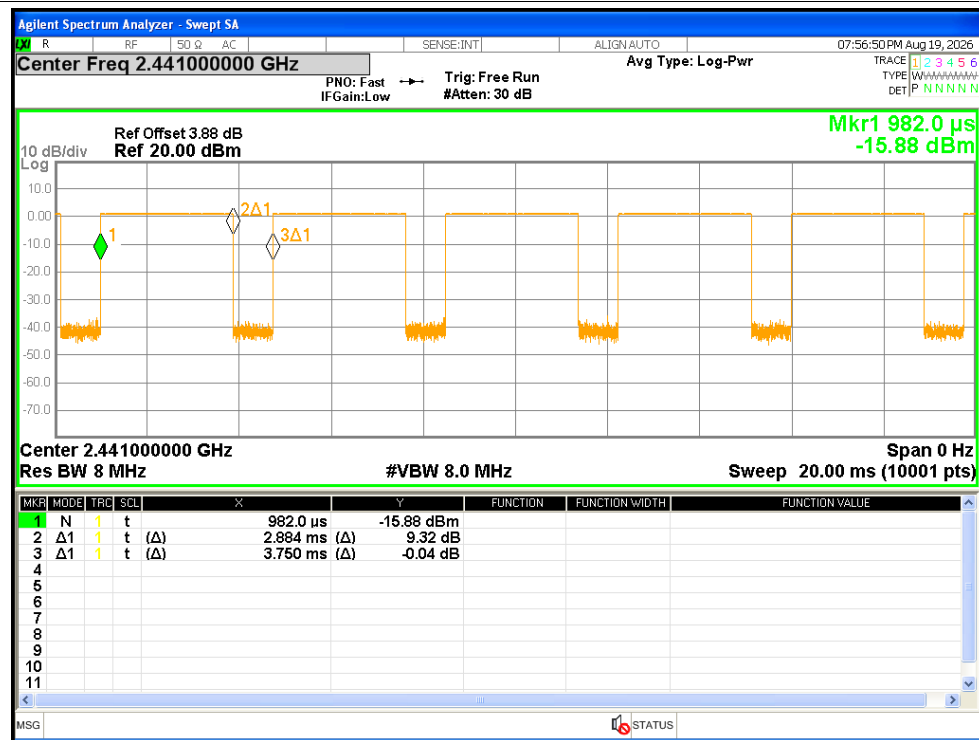
Mode	Frequency (MHz)	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
1-DH5	2402	2.884	3.75	76.91	1.14	0.35
1-DH5	2441	2.884	3.75	76.91	1.14	0.35
1-DH5	2480	2.884	3.75	76.91	1.14	0.35
2-DH5	2402	2.886	3.75	76.96	1.14	0.35
2-DH5	2441	2.886	3.75	76.96	1.14	0.35
2-DH5	2480	2.886	3.75	76.96	1.14	0.35
3-DH5	2402	2.89	3.75	77.07	1.13	0.35
3-DH5	2441	2.888	3.75	77.01	1.13	0.35
3-DH5	2480	2.89	3.75	77.07	1.13	0.35

Test Graphs

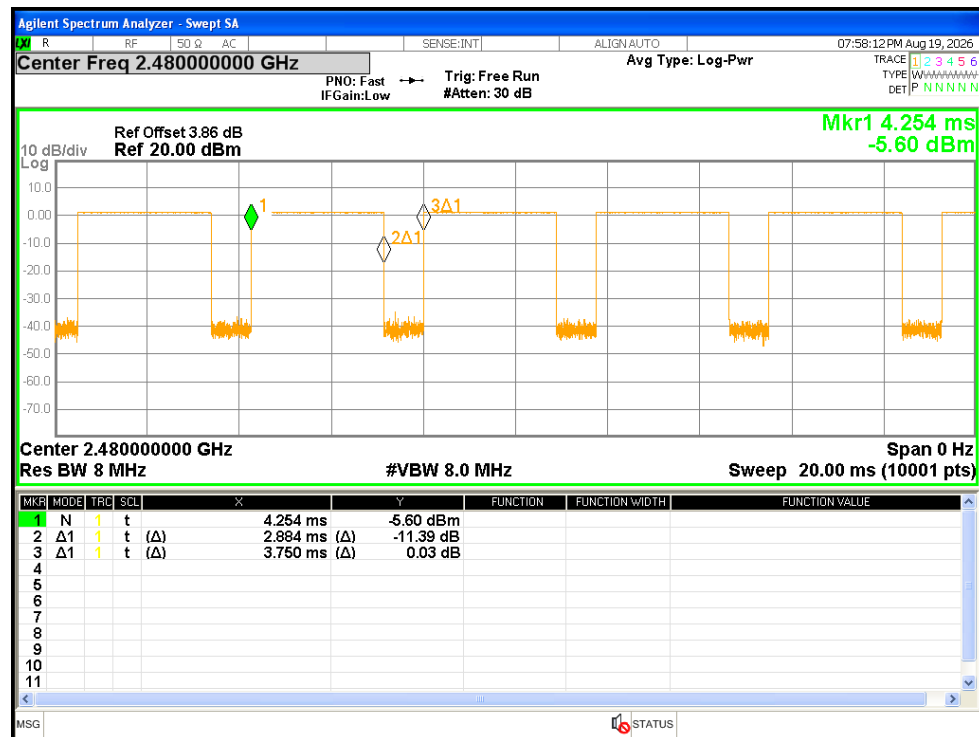
Duty Cycle NVNT 1-DH5 2402MHz



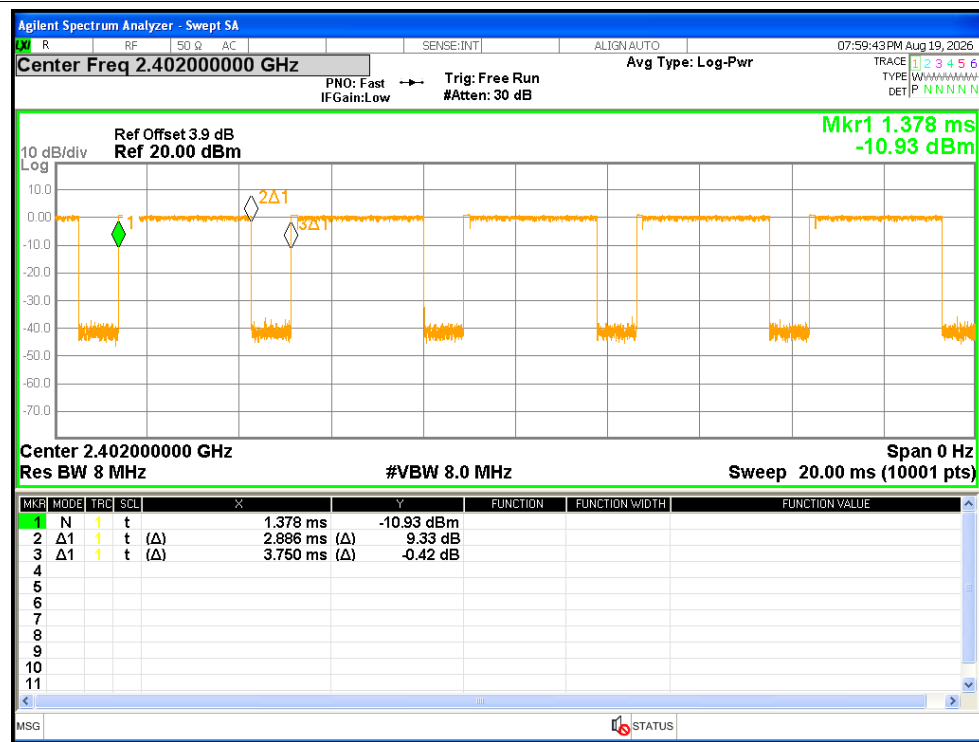
Duty Cycle NVNT 1-DH5 2441MHz



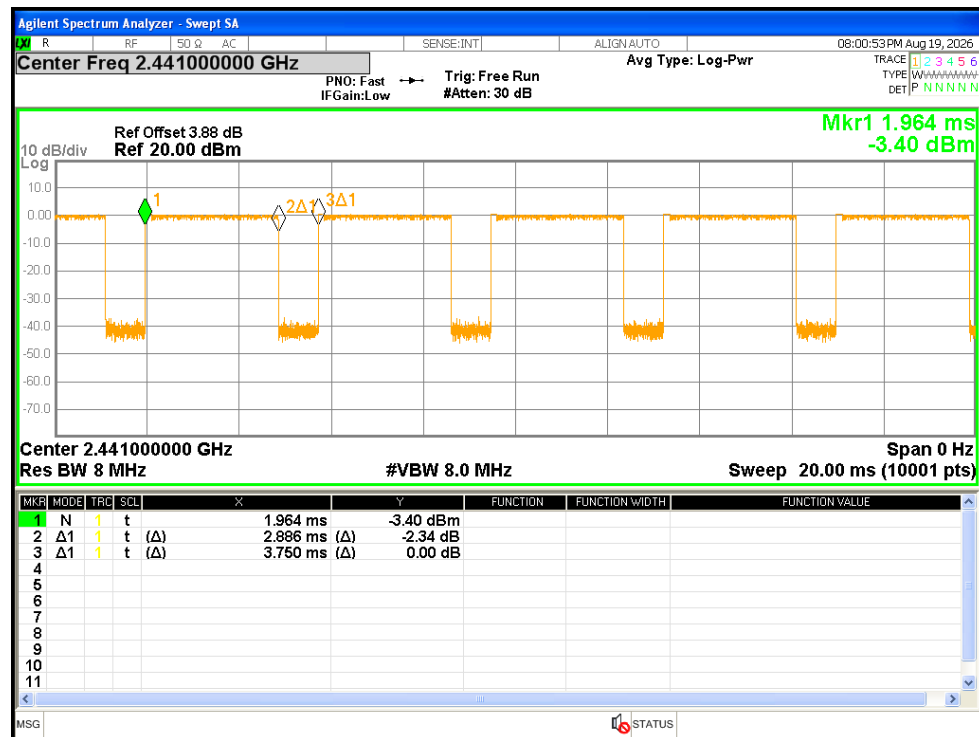
Duty Cycle NVNT 1-DH5 2480MHz



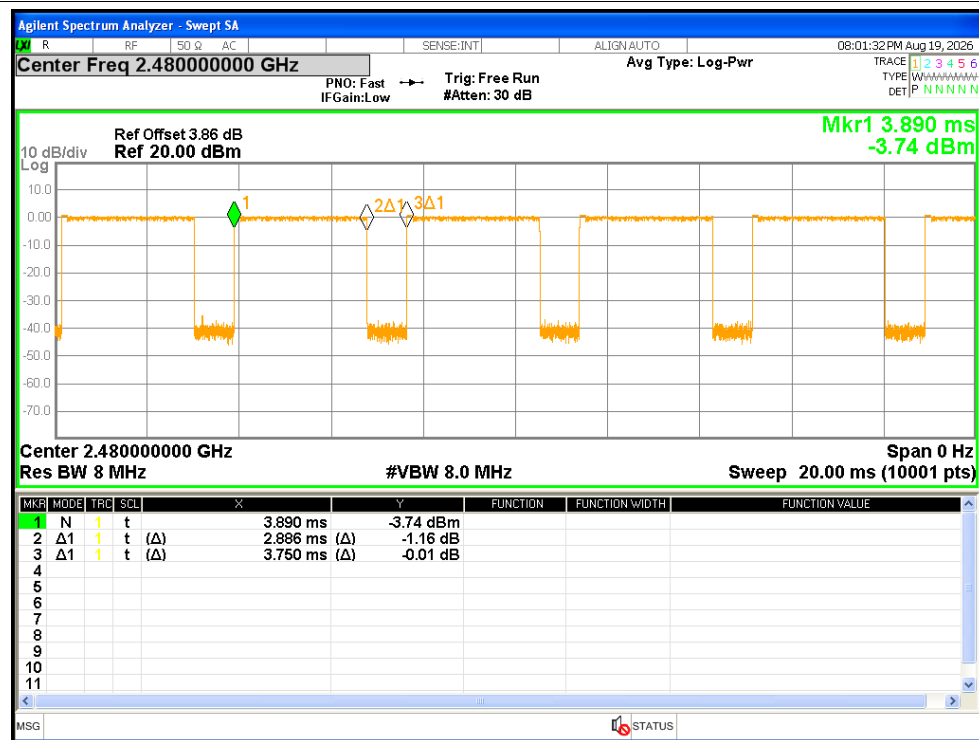
Duty Cycle NVNT 2-DH5 2402MHz



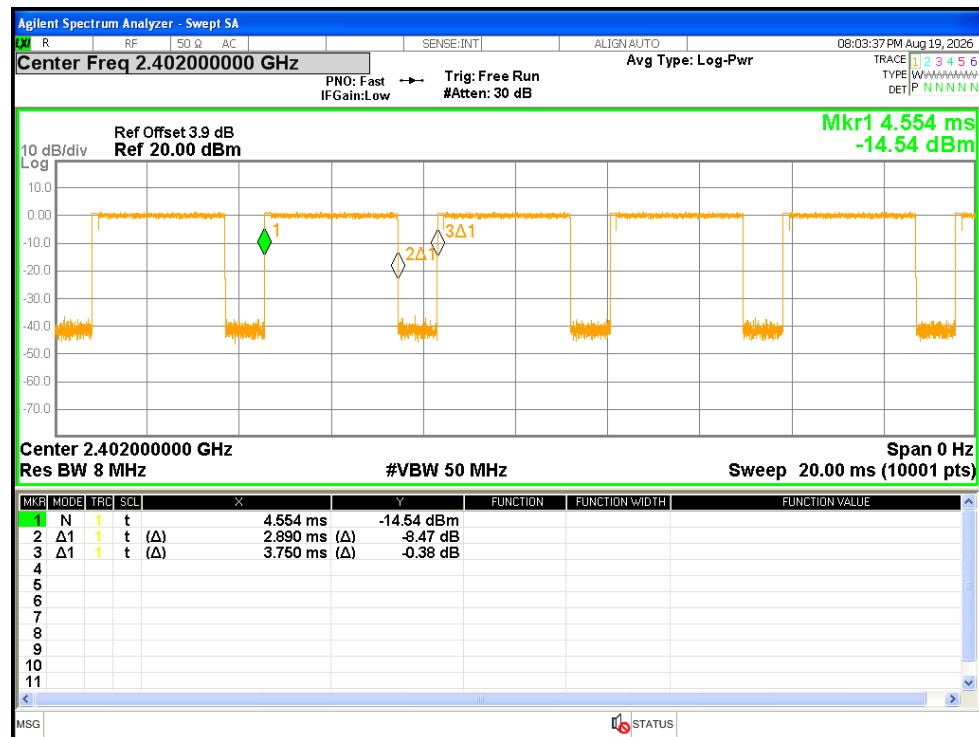
Duty Cycle NVNT 2-DH5 2441MHz



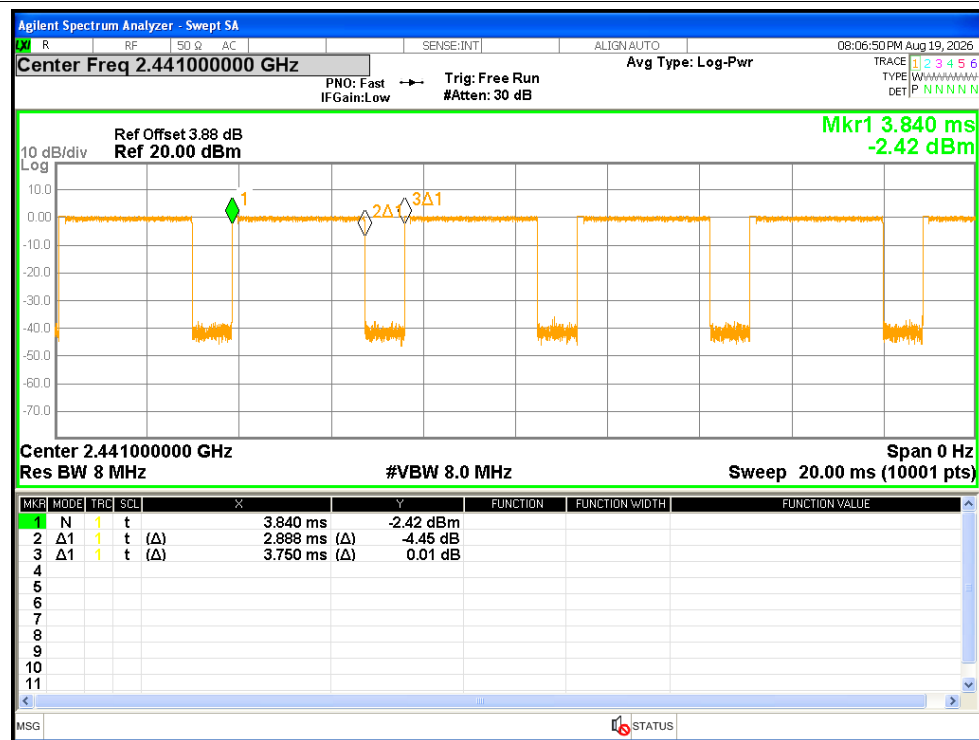
Duty Cycle NVNT 2-DH5 2480MHz



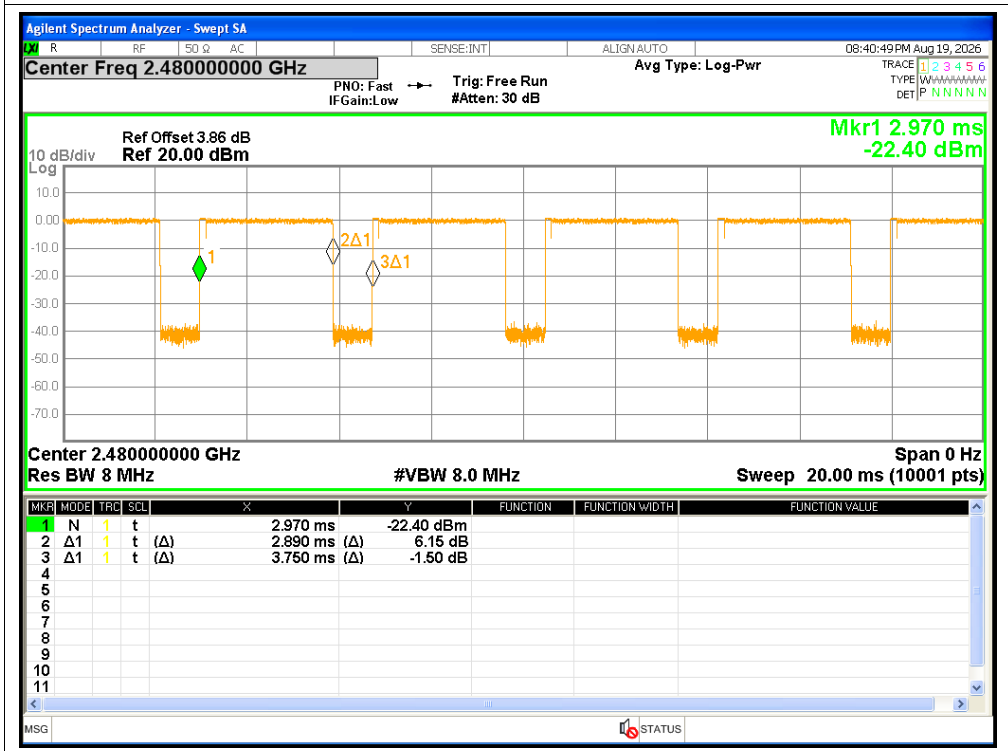
Duty Cycle NVNT 3-DH5 2402MHz



Duty Cycle NVNT 3-DH5 2441MHz



Duty Cycle NVNT 3-DH5 2480MHz



Maximum Peak Conducted Output Power

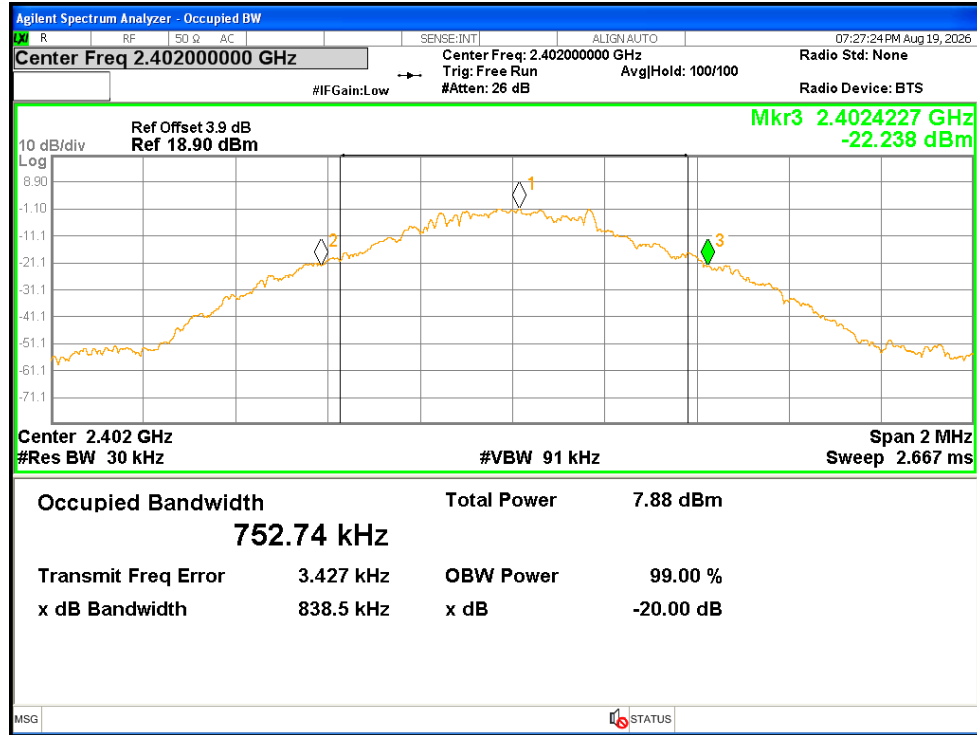
Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
1-DH5	2402	1.6	<=30	Pass
1-DH5	2441	1.05	<=30	Pass
1-DH5	2480	1.29	<=30	Pass
2-DH5	2402	0.93	<=21	Pass
2-DH5	2441	0.47	<=21	Pass
2-DH5	2480	0.68	<=21	Pass
3-DH5	2402	0.94	<=21	Pass
3-DH5	2441	0.47	<=21	Pass
3-DH5	2480	0.69	<=21	Pass

-20dB Bandwidth

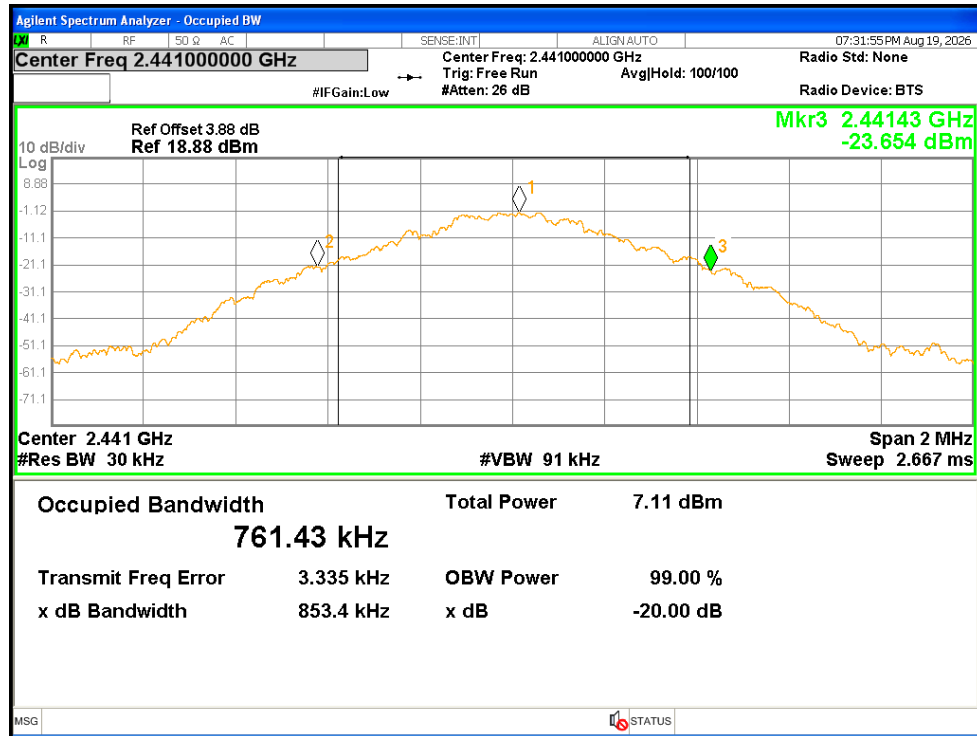
Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
1-DH5	2402	0.8385	Pass
1-DH5	2441	0.8534	Pass
1-DH5	2480	0.8484	Pass
2-DH5	2402	1.277	Pass
2-DH5	2441	1.276	Pass
2-DH5	2480	1.281	Pass
3-DH5	2402	1.294	Pass
3-DH5	2441	1.293	Pass
3-DH5	2480	1.266	Pass

Test Graphs

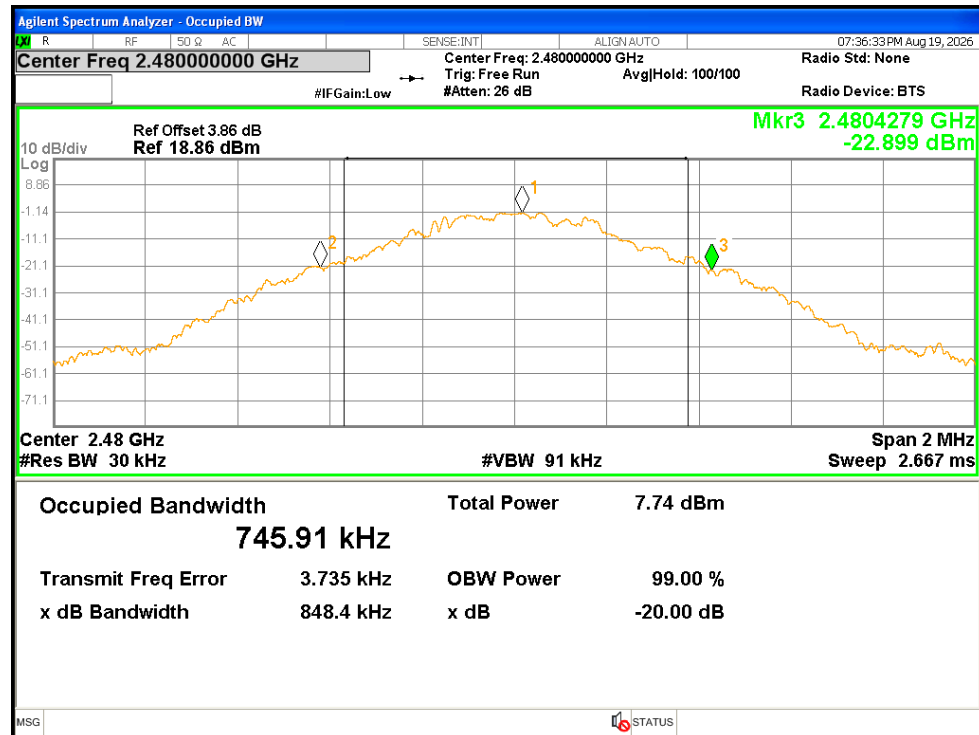
-20dB Bandwidth NVNT 1-DH5 2402MHz



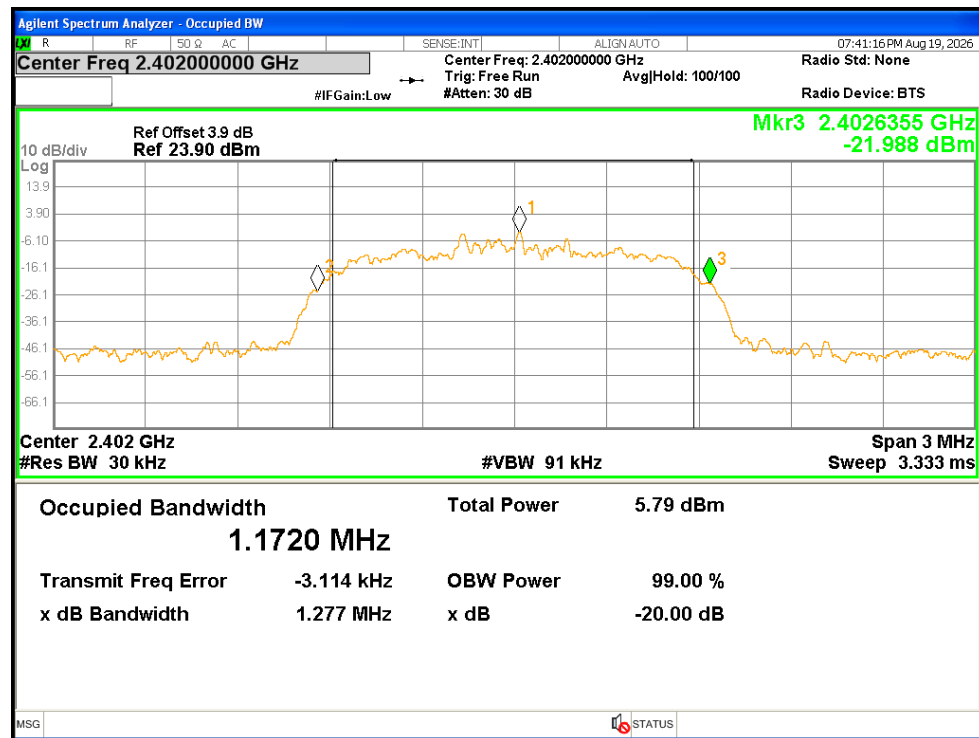
-20dB Bandwidth NVNT 1-DH5 2441MHz



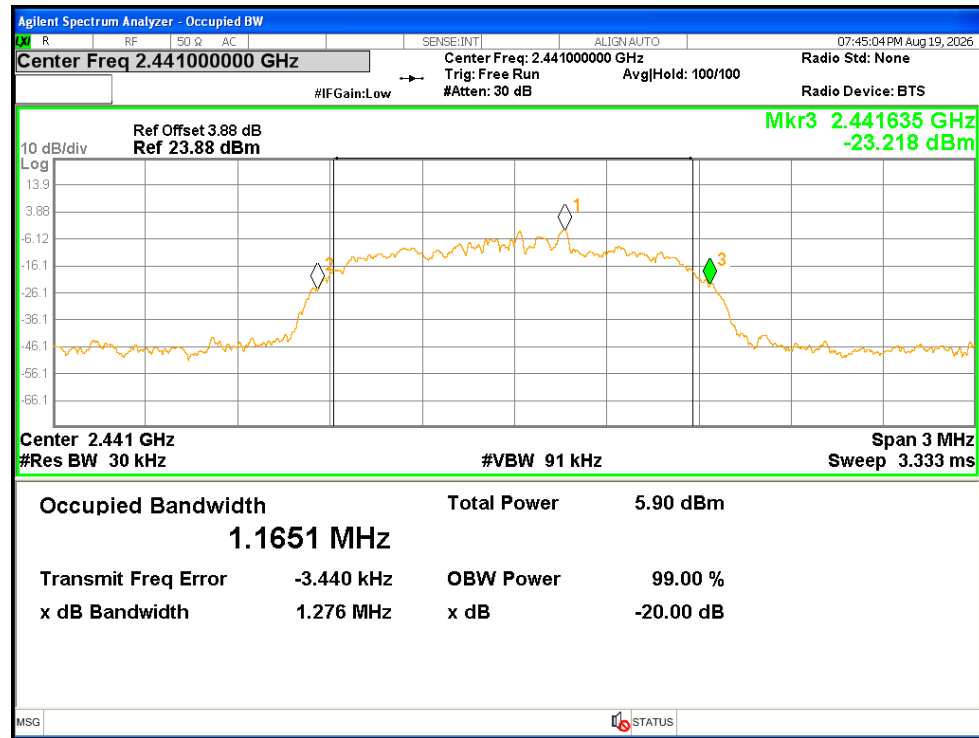
-20dB Bandwidth NVNT 1-DH5 2480MHz



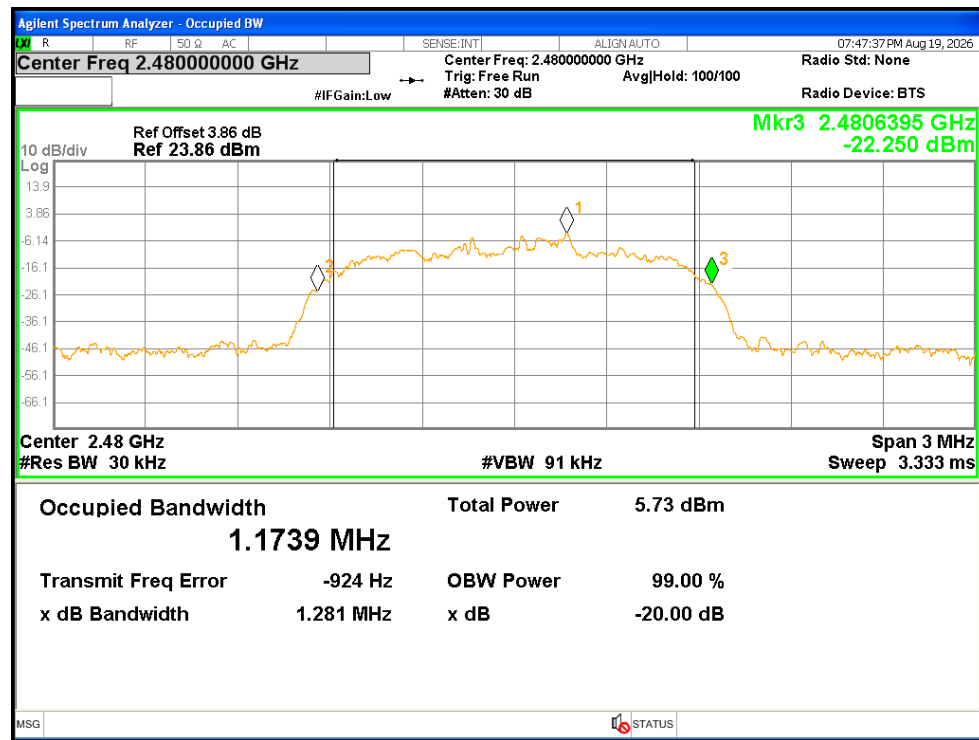
-20dB Bandwidth NVNT 2-DH5 2402MHz



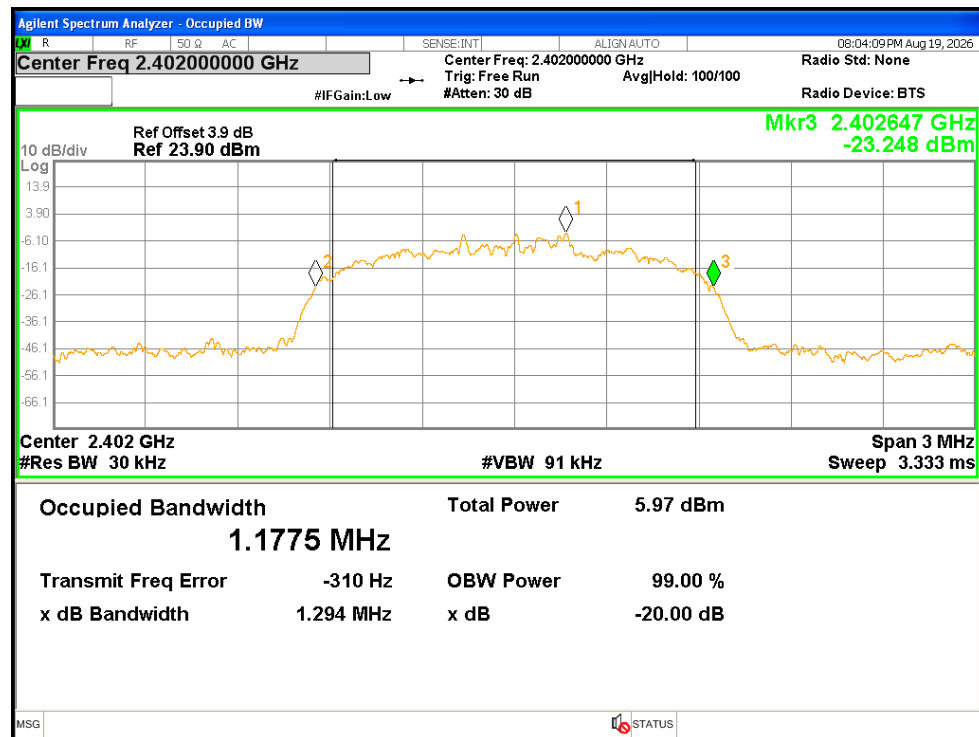
-20dB Bandwidth NVNT 2-DH5 2441MHz



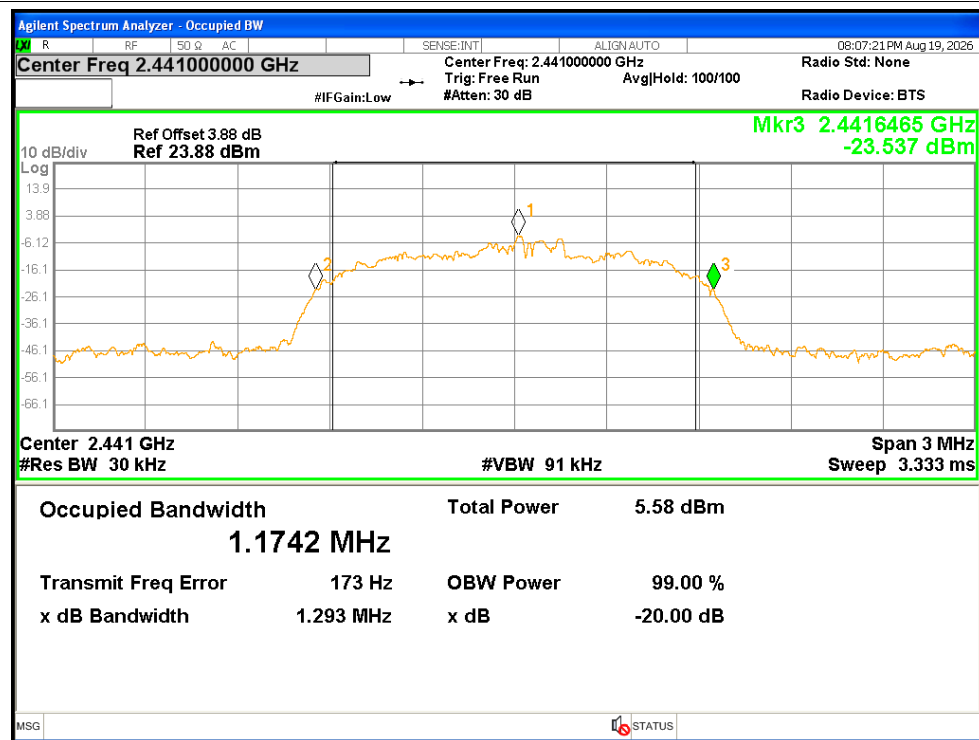
-20dB Bandwidth NVNT 2-DH5 2480MHz



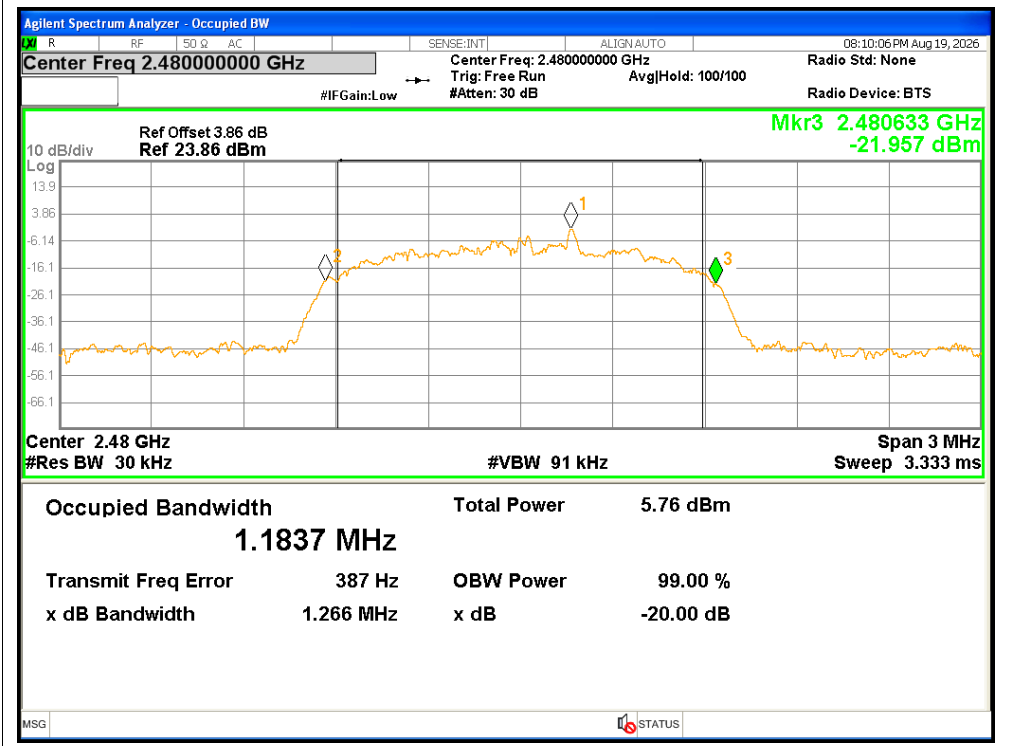
-20dB Bandwidth NVNT 3-DH5 2402MHz



-20dB Bandwidth NVNT 3-DH5 2441MHz



-20dB Bandwidth NVNT 3-DH5 2480MHz

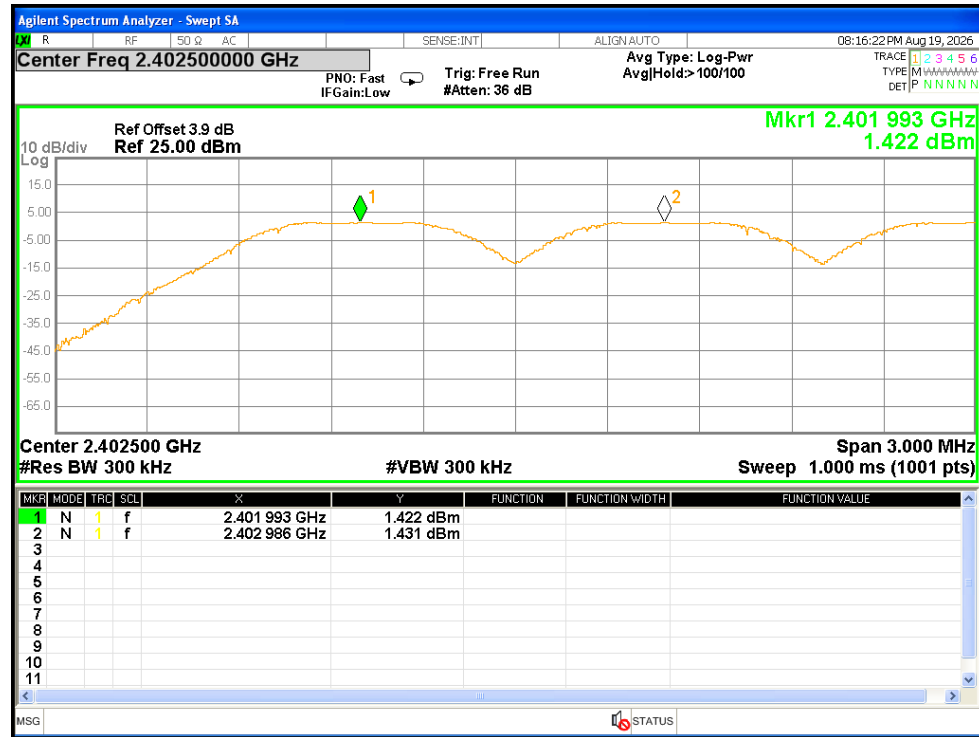


Carrier Frequencies Separation

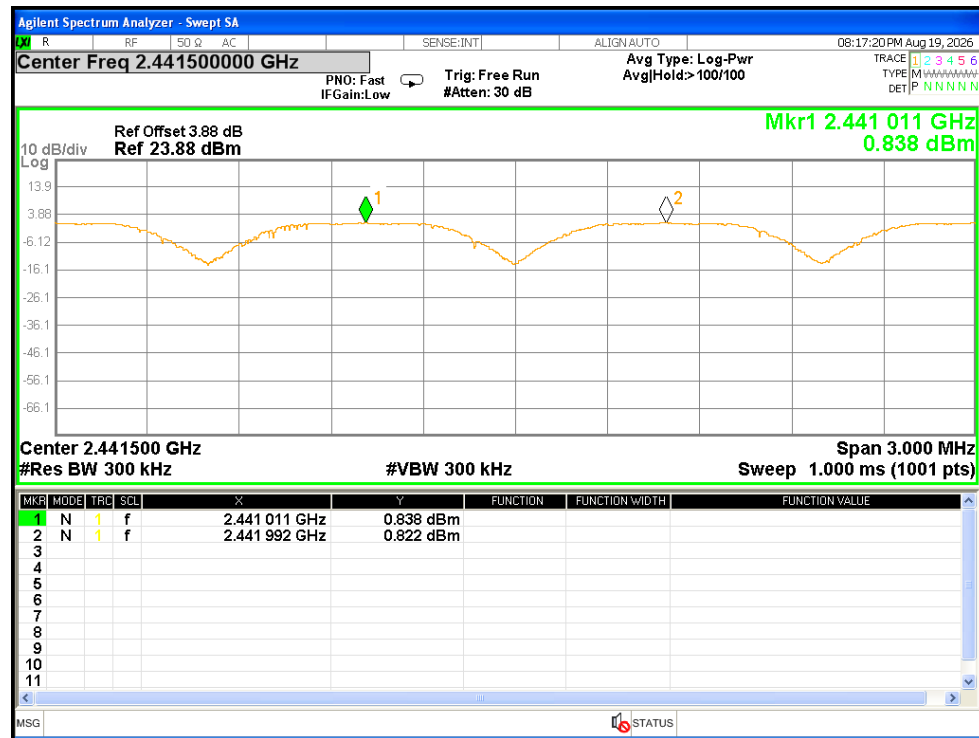
Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH5	2401.993	2402.986	0.993	≥ 0.839	Pass
1-DH5	2441.011	2441.992	0.981	≥ 0.853	Pass
1-DH5	2479.005	2479.98	0.975	≥ 0.848	Pass
2-DH5	2402.137	2403.169	1.032	≥ 0.851	Pass
2-DH5	2441.002	2442.412	1.41	≥ 0.851	Pass
2-DH5	2478.888	2480.157	1.269	≥ 0.854	Pass
3-DH5	2402.026	2403.142	1.116	≥ 0.863	Pass
3-DH5	2440.813	2442.142	1.329	≥ 0.862	Pass
3-DH5	2478.804	2480.127	1.323	≥ 0.844	Pass

Test Graphs

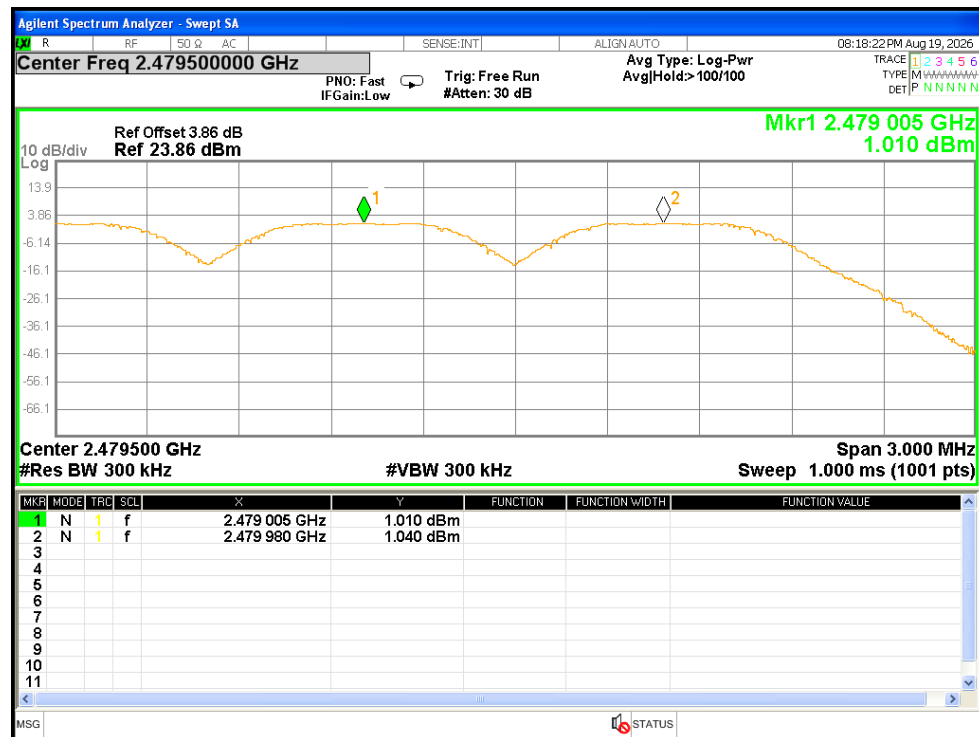
CFS NVNT 1-DH5 2402MHz



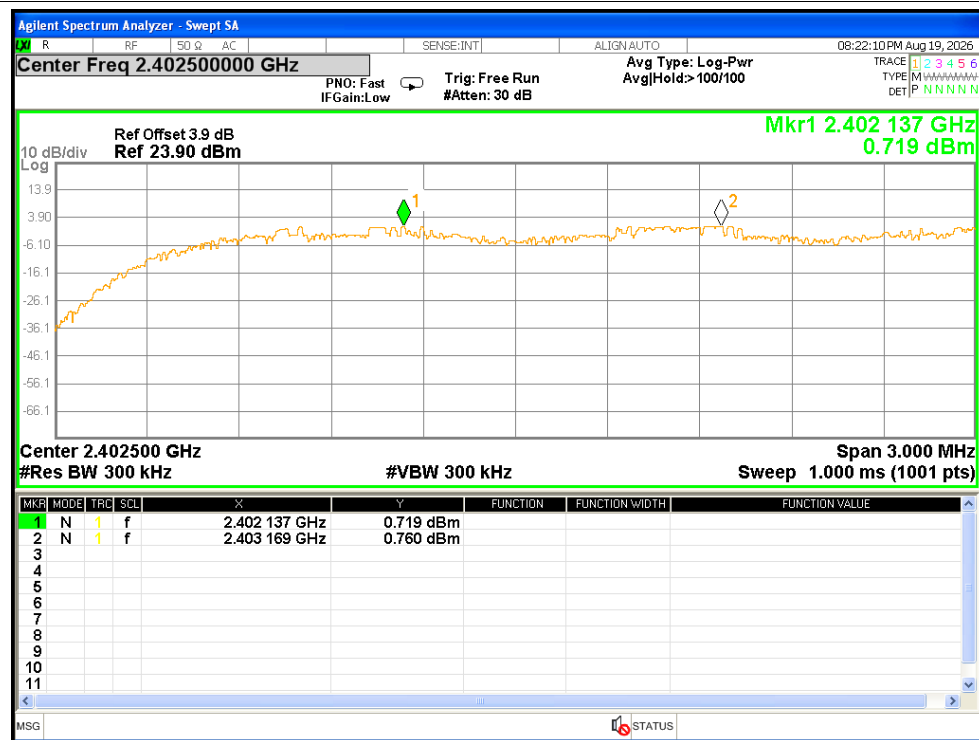
CFS NVNT 1-DH5 2441MHz



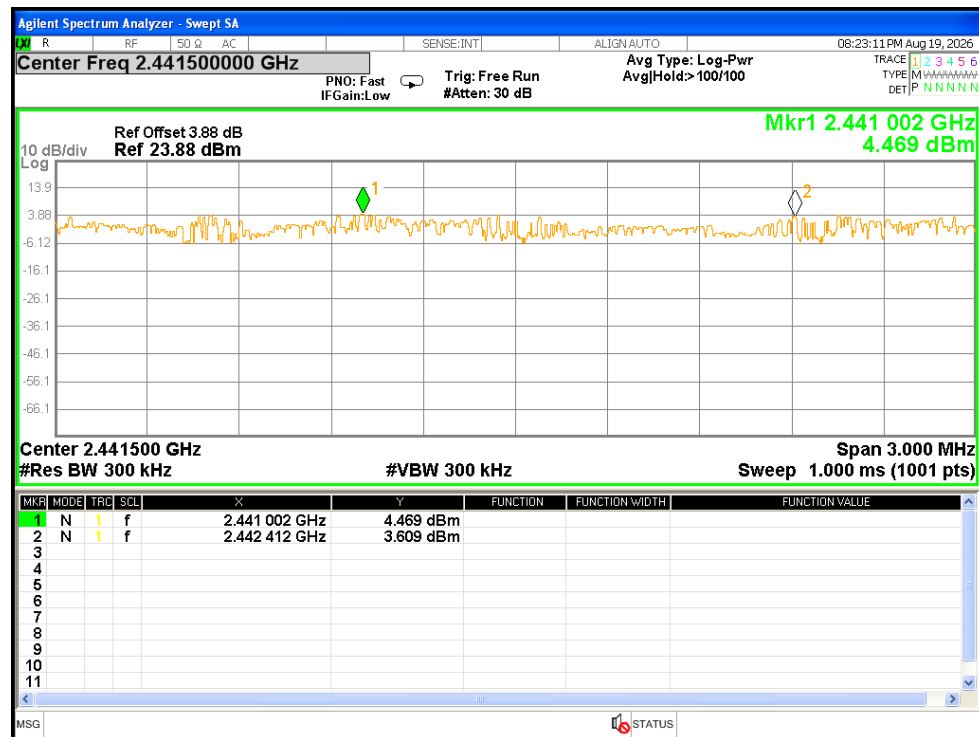
CFS NVNT 1-DH5 2480MHz



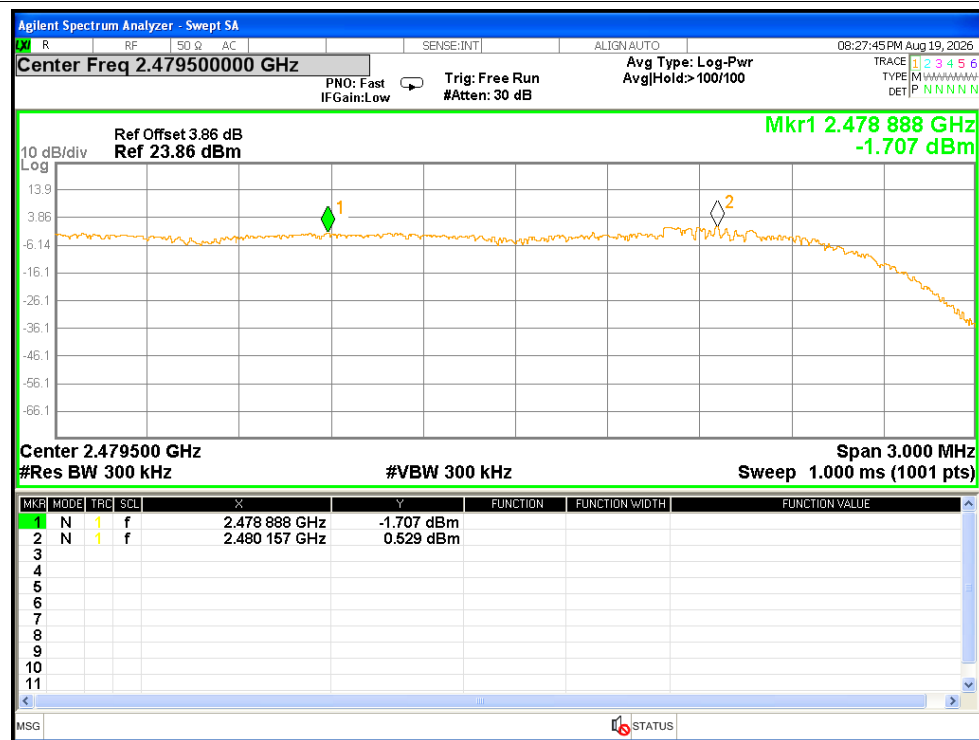
CFS NVNT 2-DH5 2402MHz



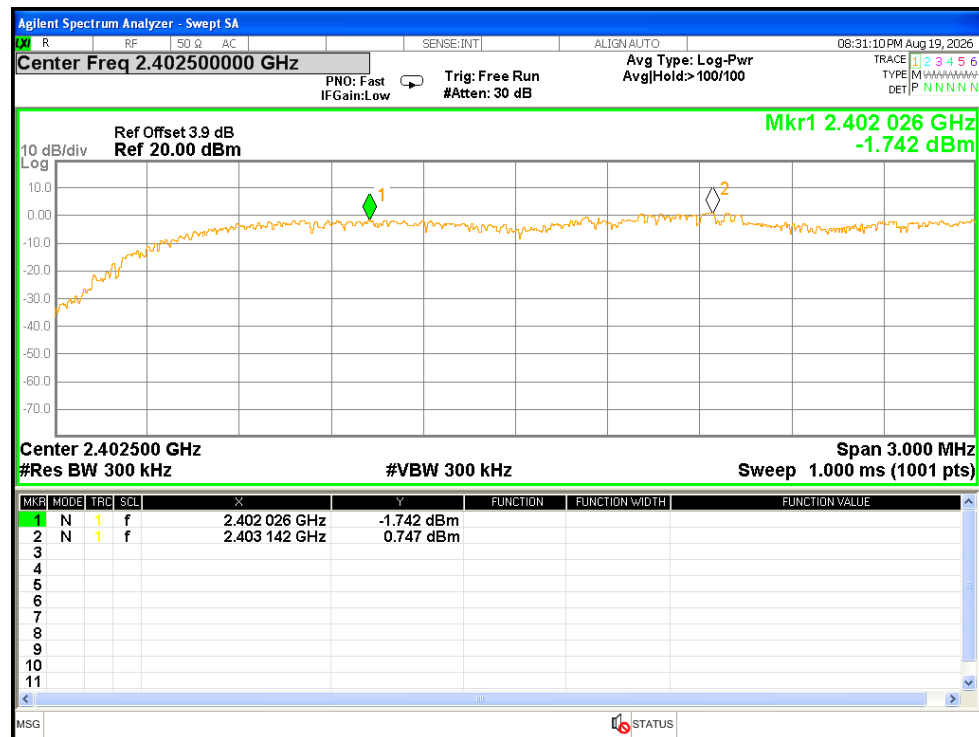
CFS NVNT 2-DH5 2441MHz



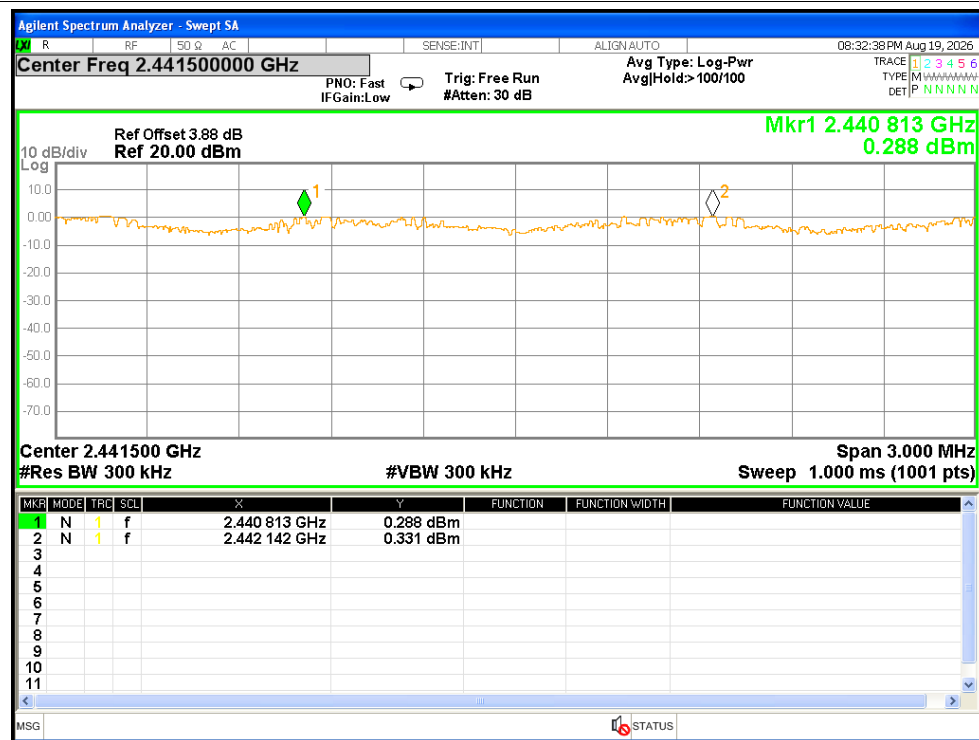
CFS NVNT 2-DH5 2480MHz



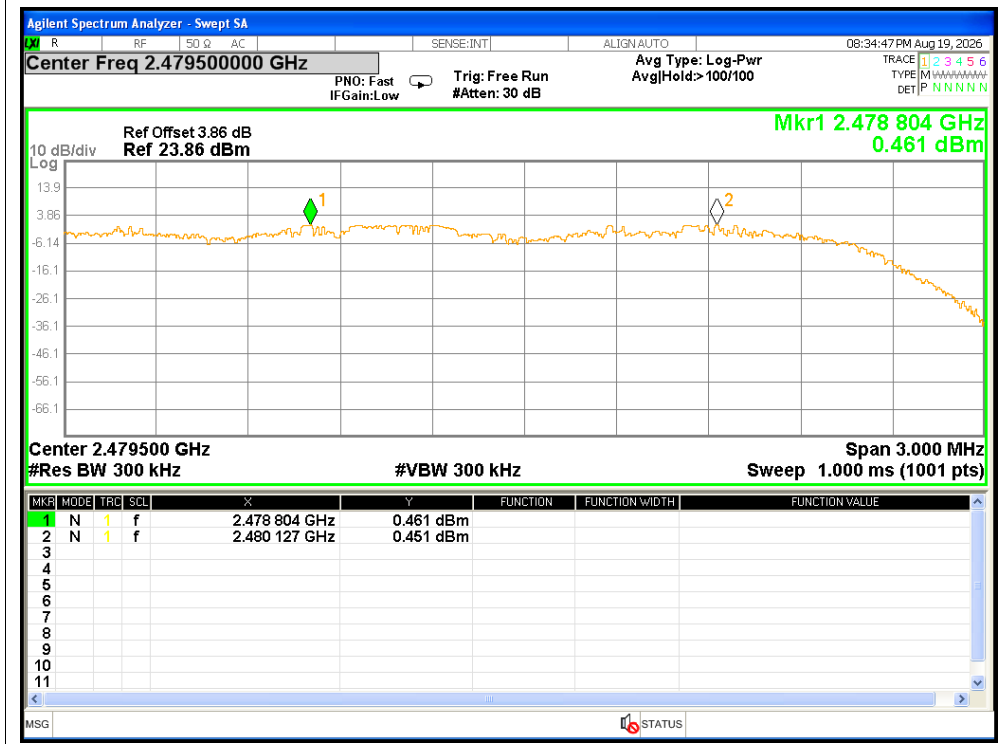
CFS NVNT 3-DH5 2402MHz



CFS NVNT 3-DH5 2441MHz



CFS NVNT 3-DH5 2480MHz

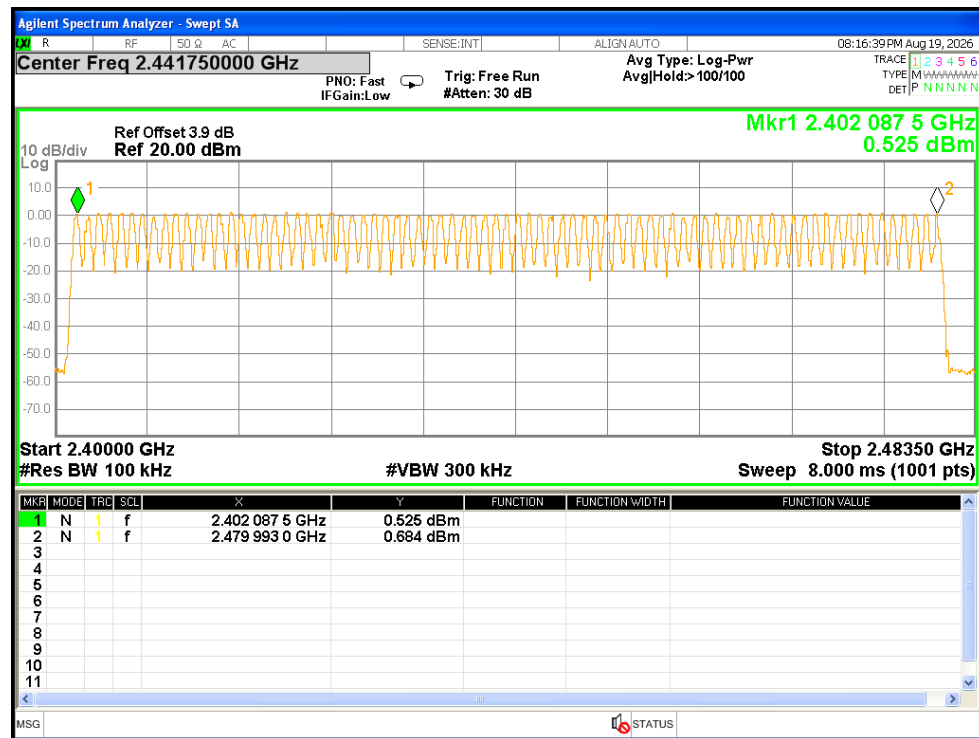


Number of Hopping Channel

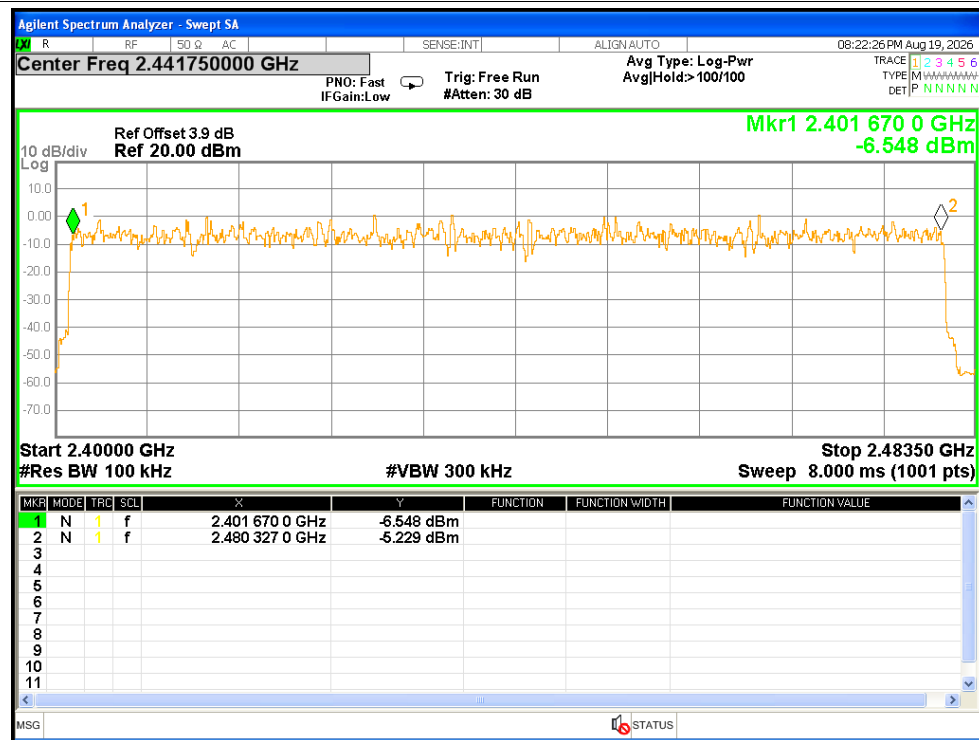
Mode	Hopping Number	Limit	Verdict
1-DH5	79	≥ 15	Pass
2-DH5	79	≥ 15	Pass
3-DH5	79	≥ 15	Pass

Test Graphs

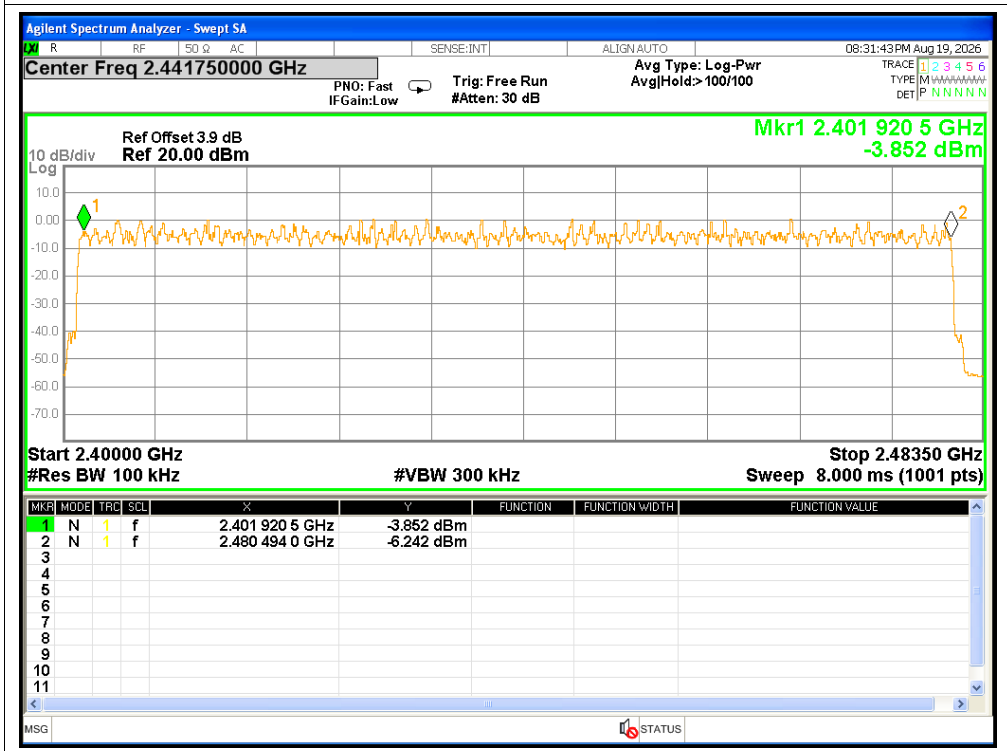
Hopping No. NVNT 1-DH5 Hopping



Hopping No. NVNT 2-DH5 Hopping



Hopping No. NVNT 3-DH5 Hopping

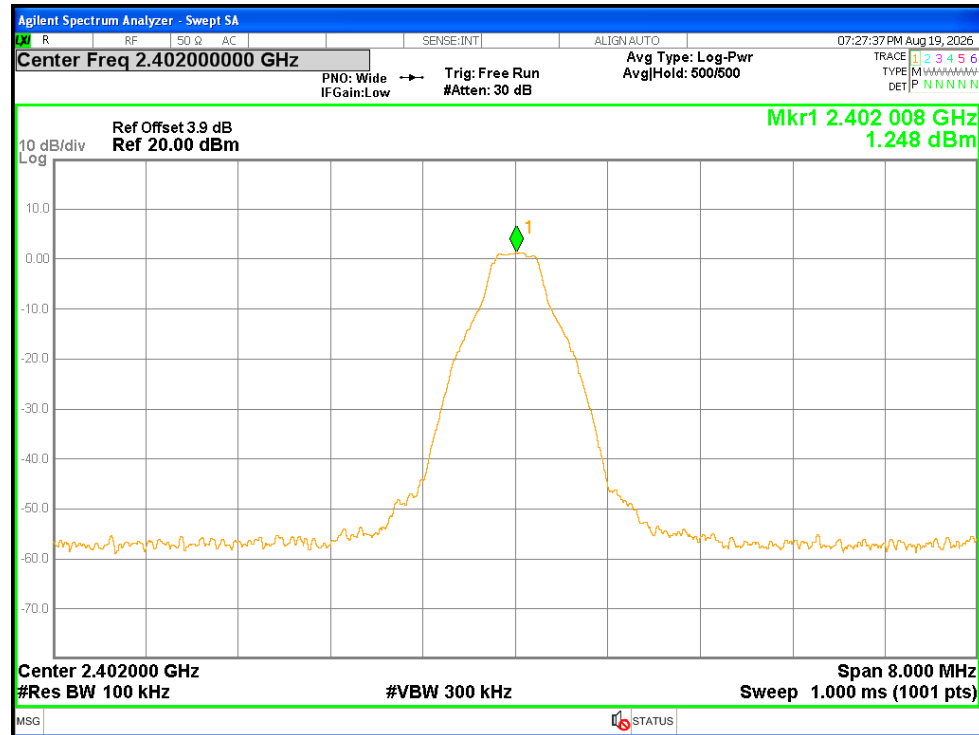


Band Edge

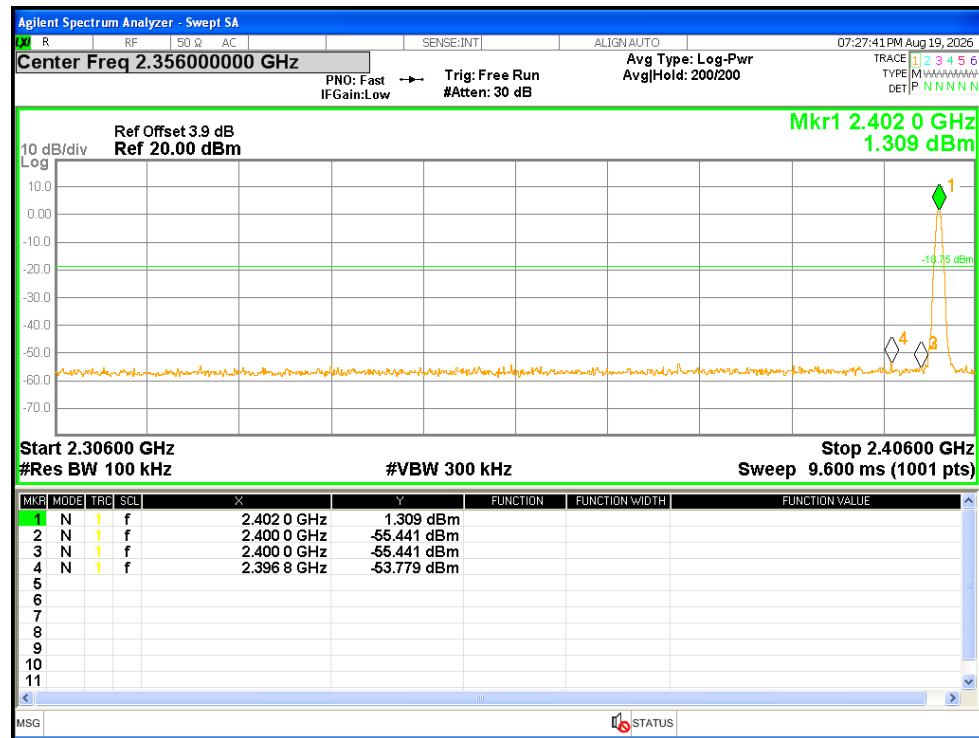
Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	No-Hopping	-55.02	<=-20	Pass
1-DH5	2480	No-Hopping	-55.07	<=-20	Pass
2-DH5	2402	No-Hopping	-54.51	<=-20	Pass
2-DH5	2480	No-Hopping	-54.34	<=-20	Pass
3-DH5	2402	No-Hopping	-53.63	<=-20	Pass
3-DH5	2480	No-Hopping	-54.2	<=-20	Pass

Test Graphs

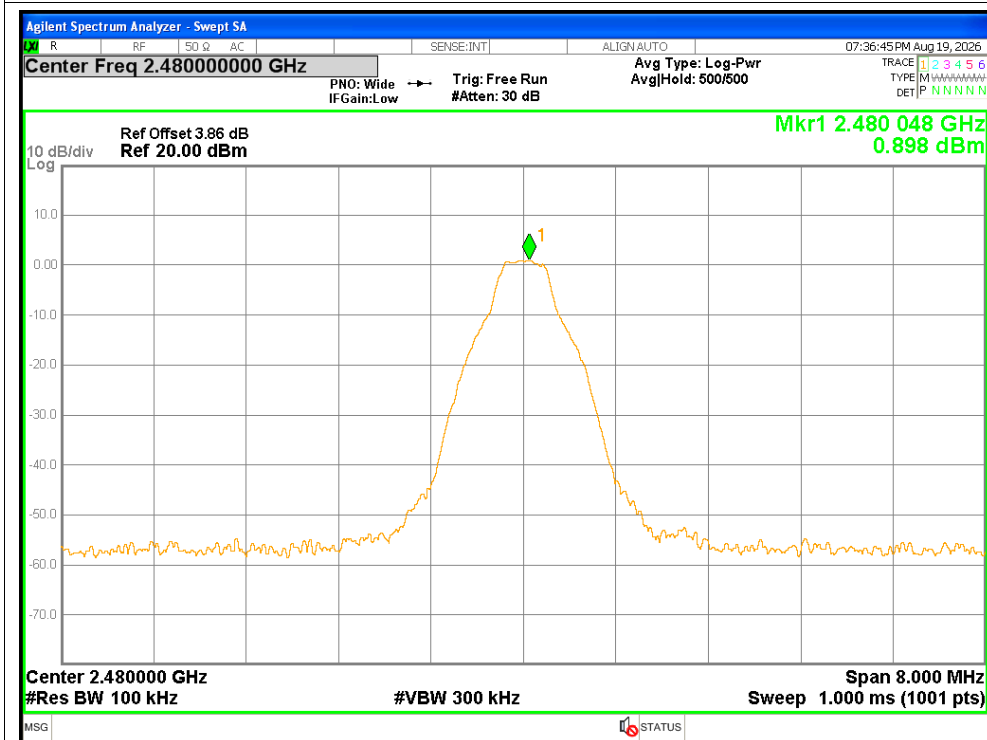
Band Edge NVNT 1-DH5 2402MHz No-Hopping Ref



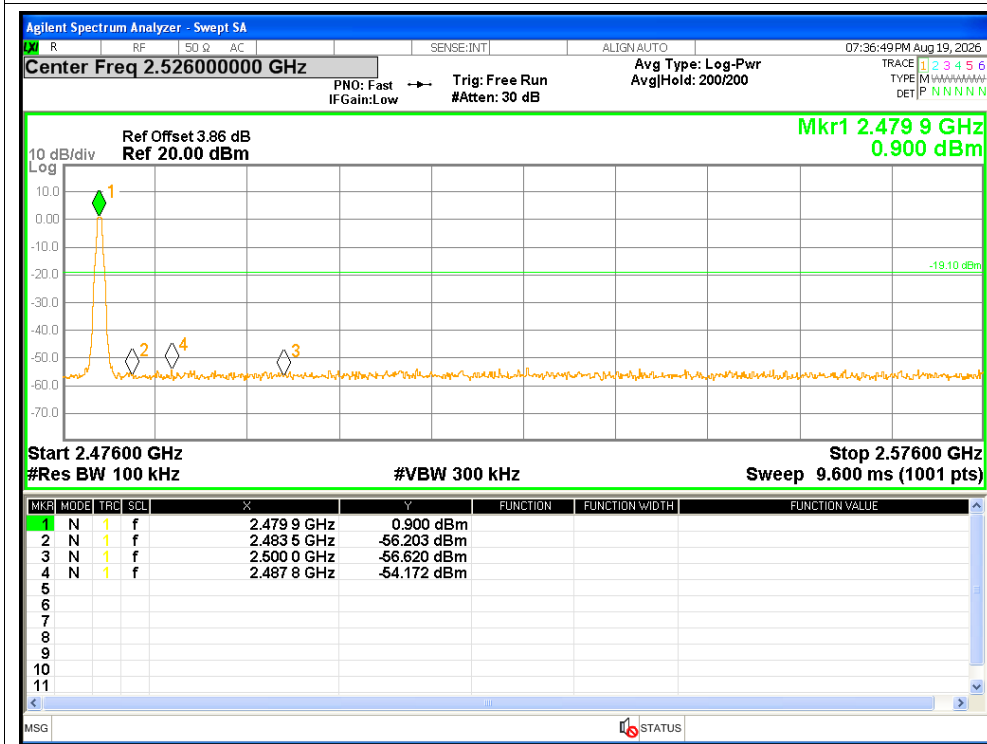
Band Edge NVNT 1-DH5 2402MHz No-Hopping Emission



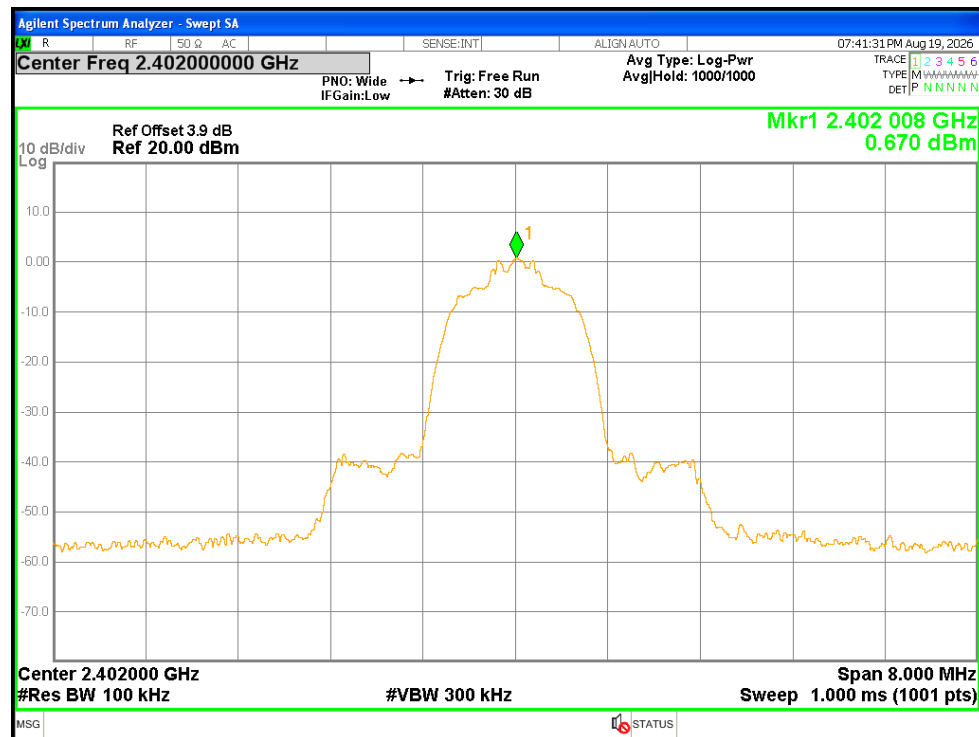
Band Edge NVNT 1-DH5 2480MHz No-Hopping Ref



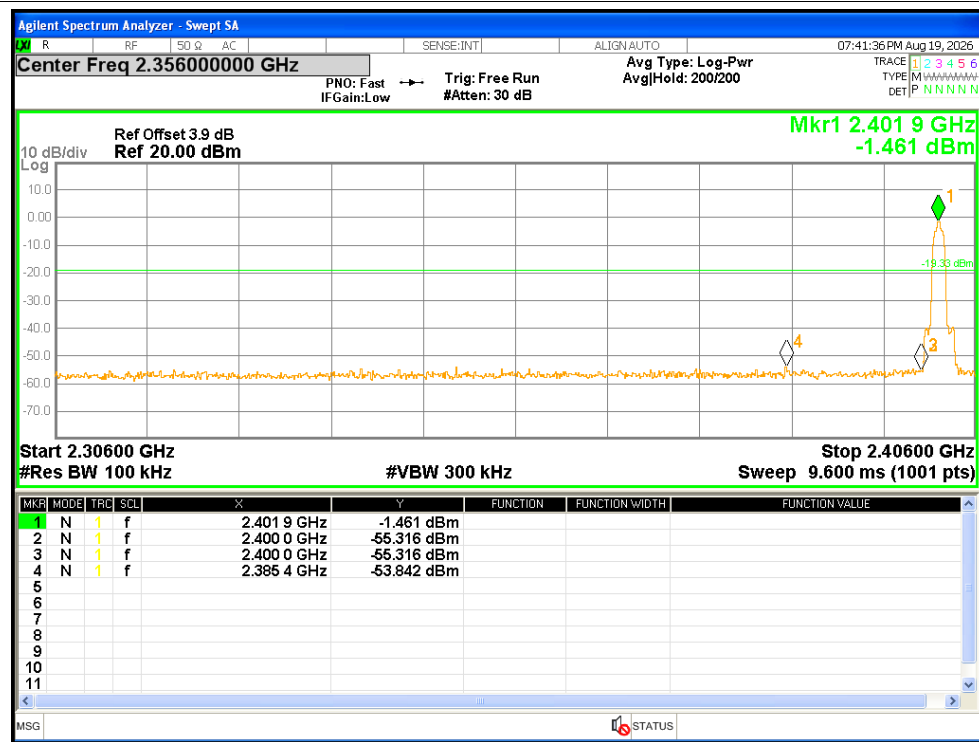
Band Edge NVNT 1-DH5 2480MHz No-Hopping Emission



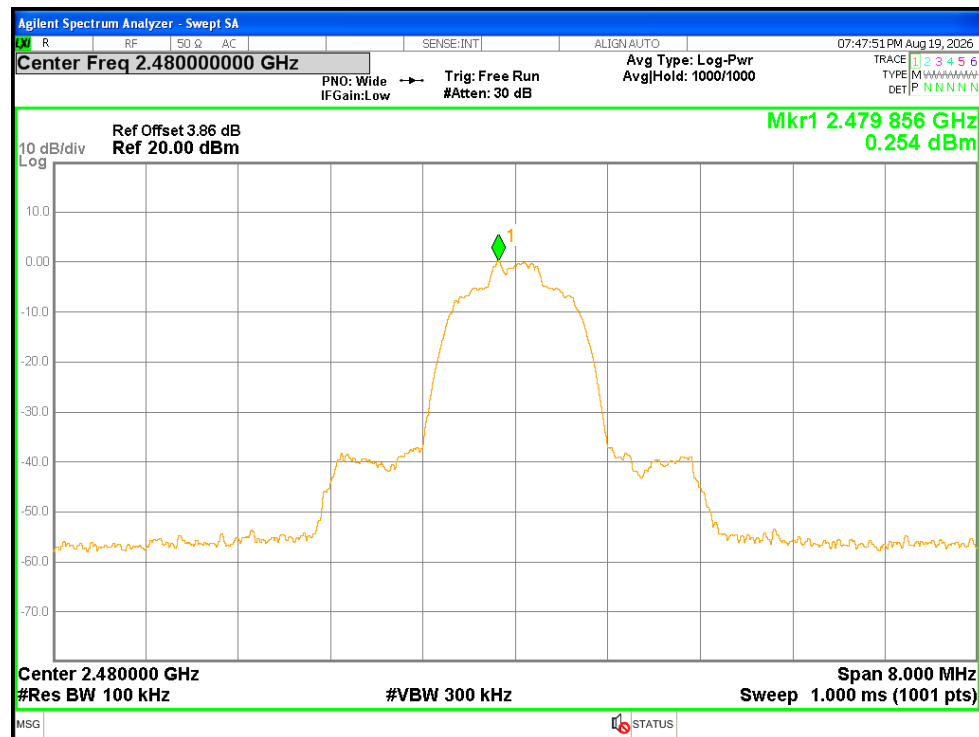
Band Edge NVNT 2-DH5 2402MHz No-Hopping Ref



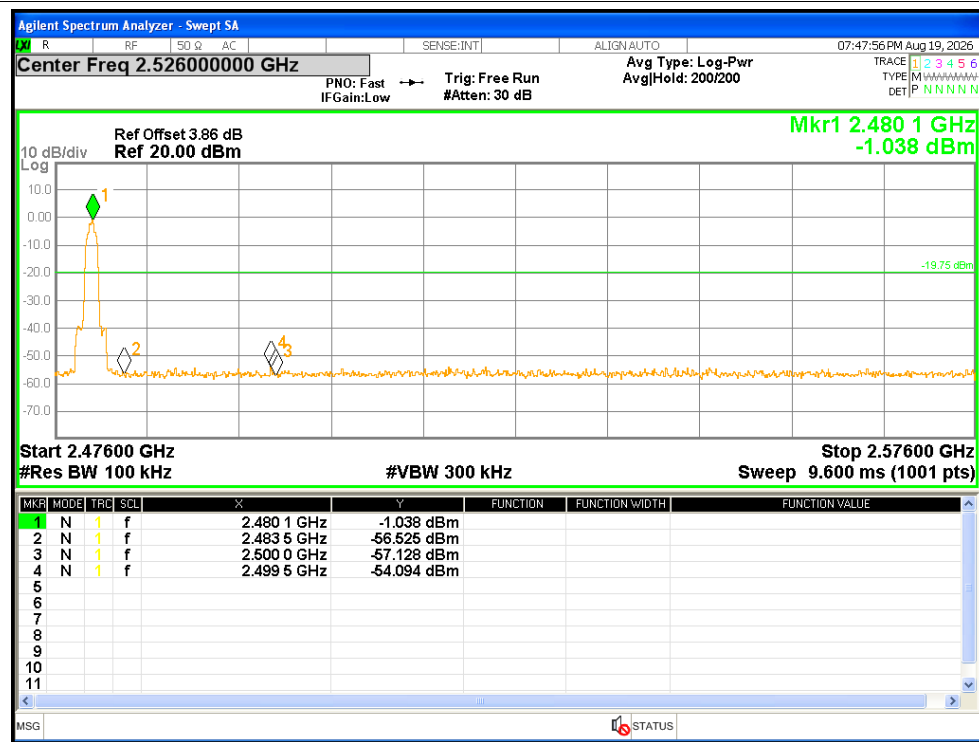
Band Edge NVNT 2-DH5 2402MHz No-Hopping Emission



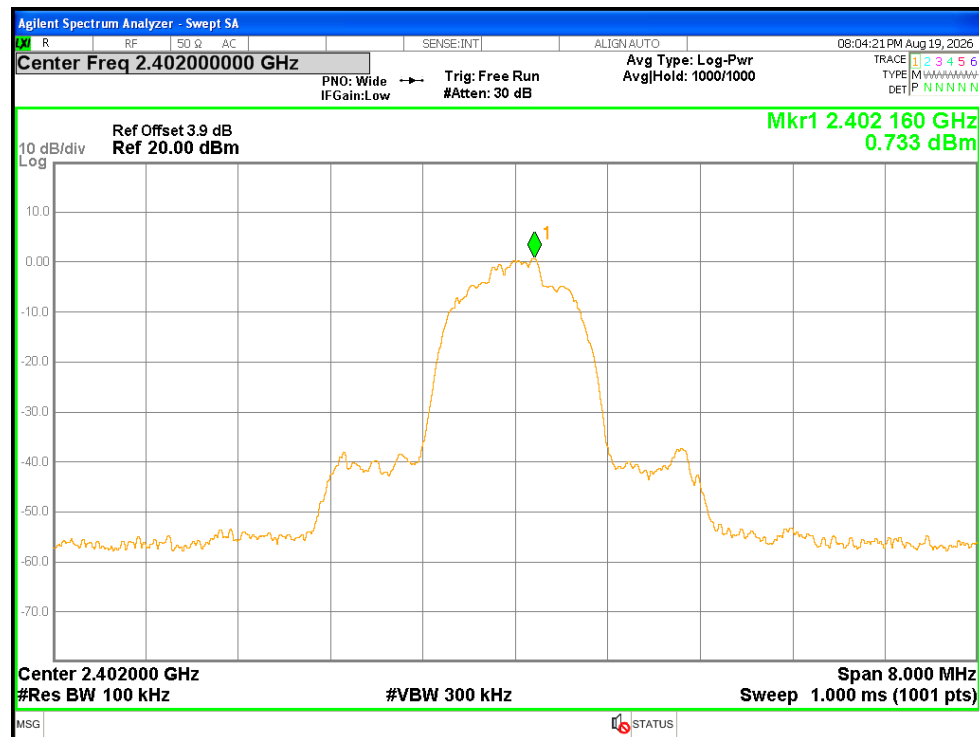
Band Edge NVNT 2-DH5 2480MHz No-Hopping Ref



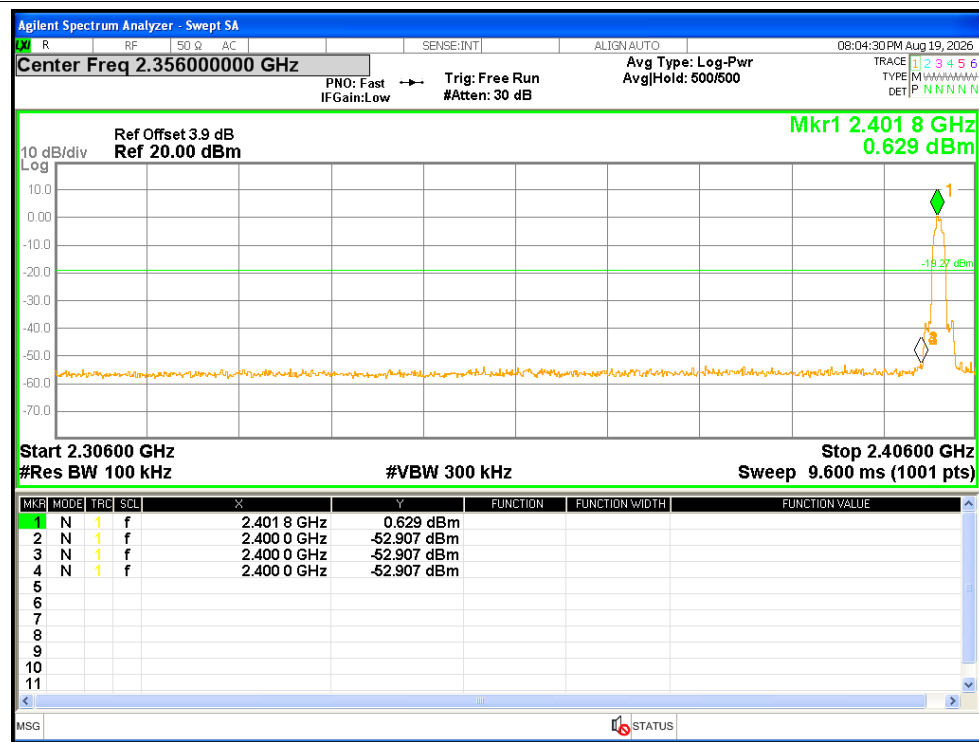
Band Edge NVNT 2-DH5 2480MHz No-Hopping Emission



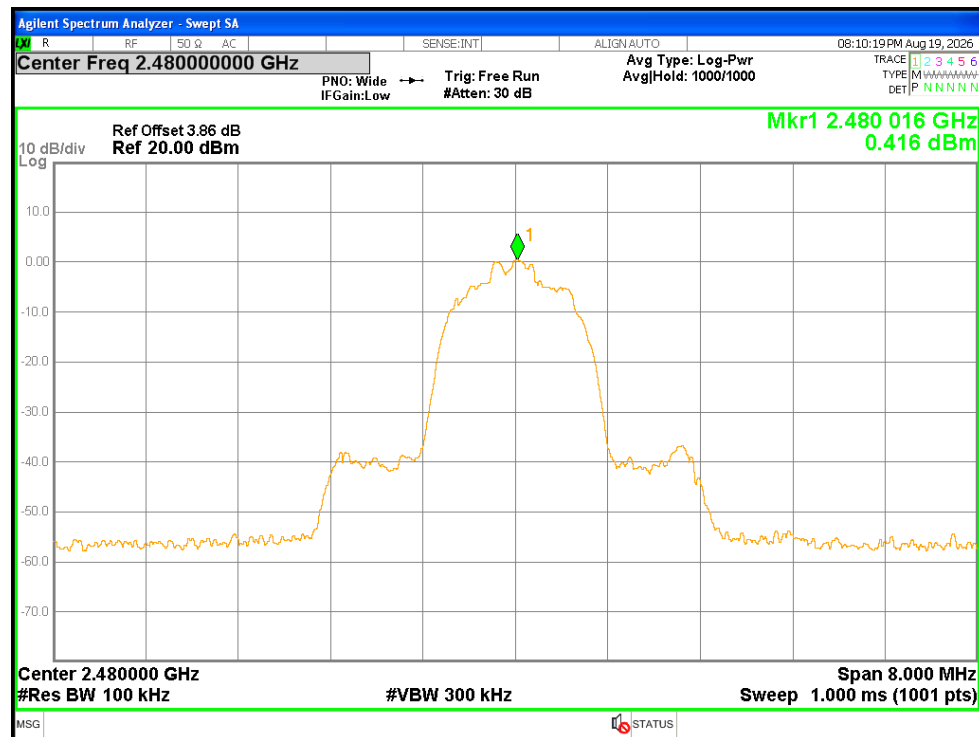
Band Edge NVNT 3-DH5 2402MHz No-Hopping Ref



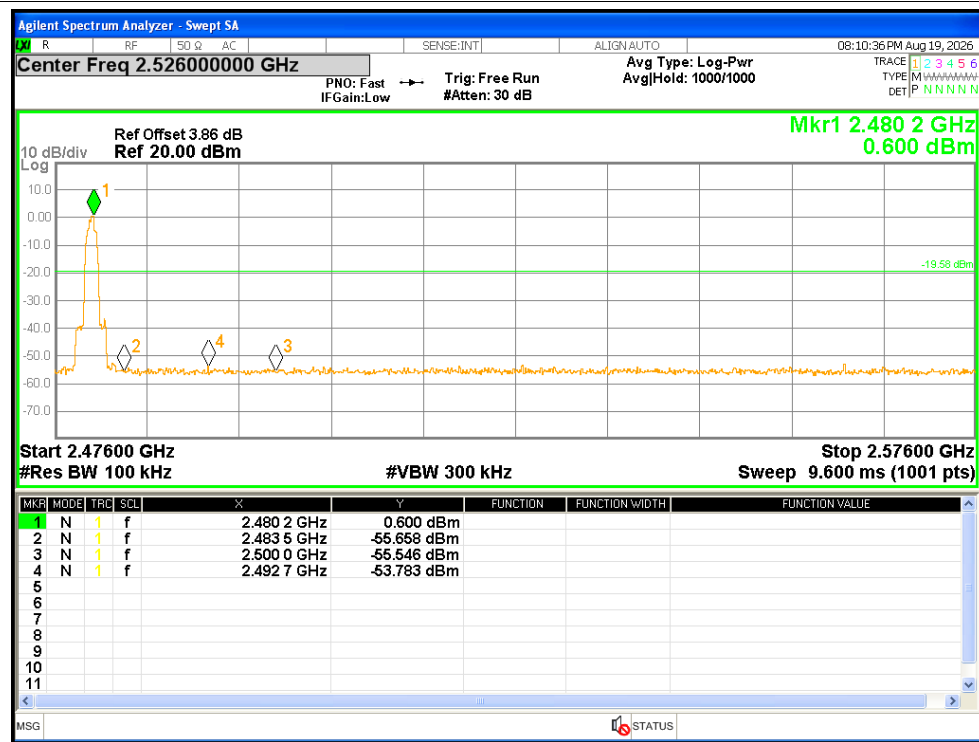
Band Edge NVNT 3-DH5 2402MHz No-Hopping Emission



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



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

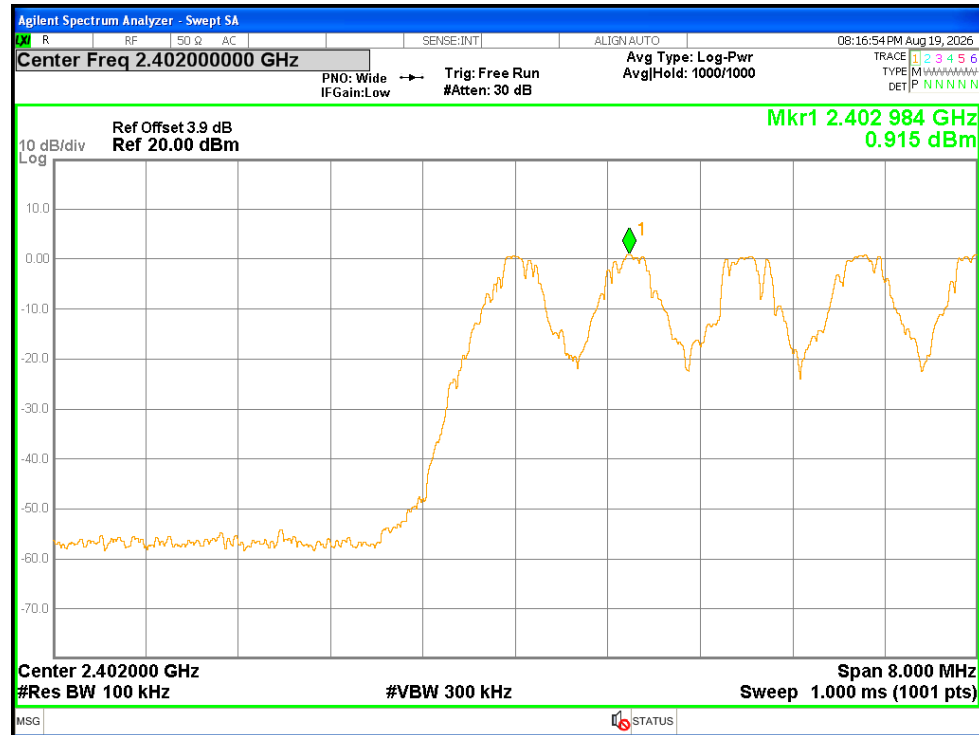


Band Edge(Hopping)

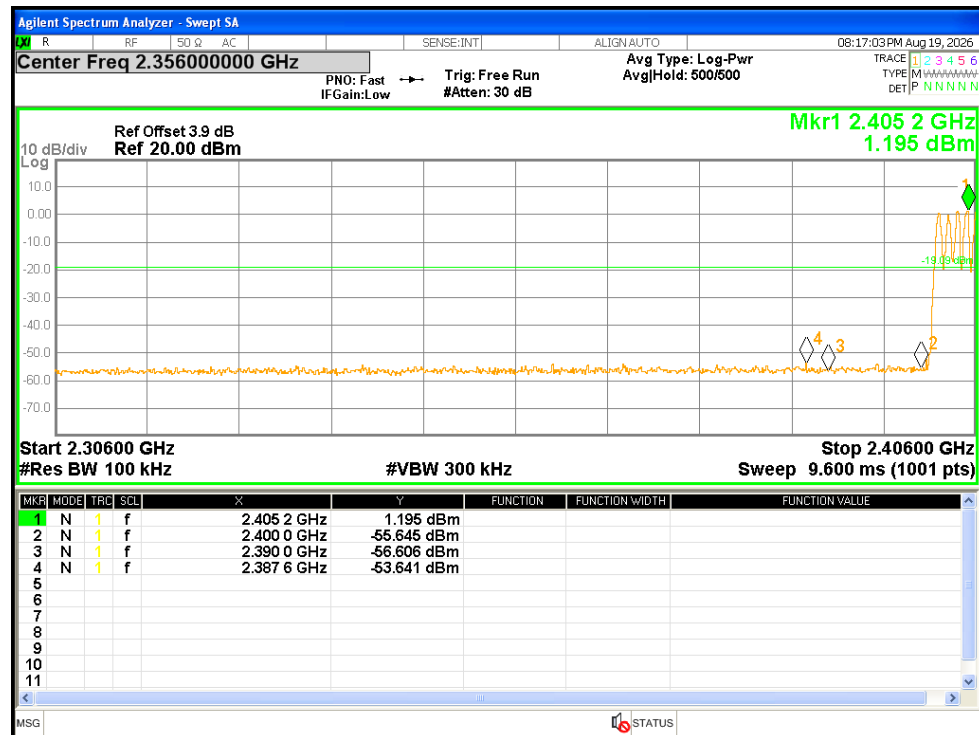
Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Hopping	-54.56	<=-20	Pass
1-DH5	2480	Hopping	-54.08	<=-20	Pass
2-DH5	2402	Hopping	-52.13	<=-20	Pass
2-DH5	2480	Hopping	-54.12	<=-20	Pass
3-DH5	2402	Hopping	-54.27	<=-20	Pass
3-DH5	2480	Hopping	-56.06	<=-20	Pass

Test Graphs

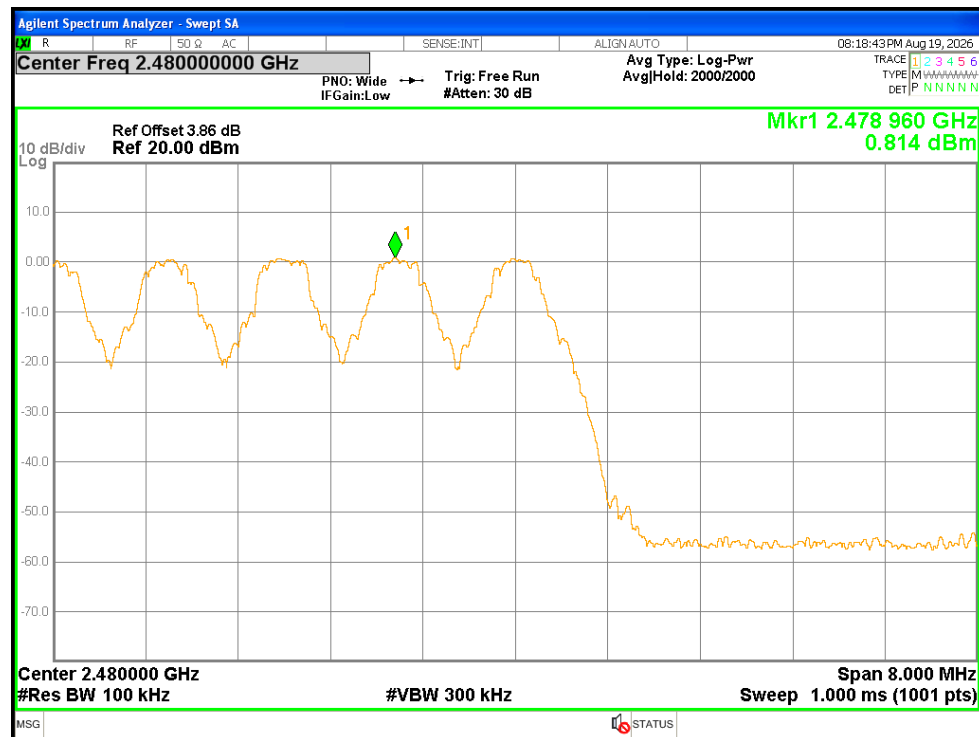
Band Edge(Hopping) NVNT 1-DH5 2402MHz Hopping Ref



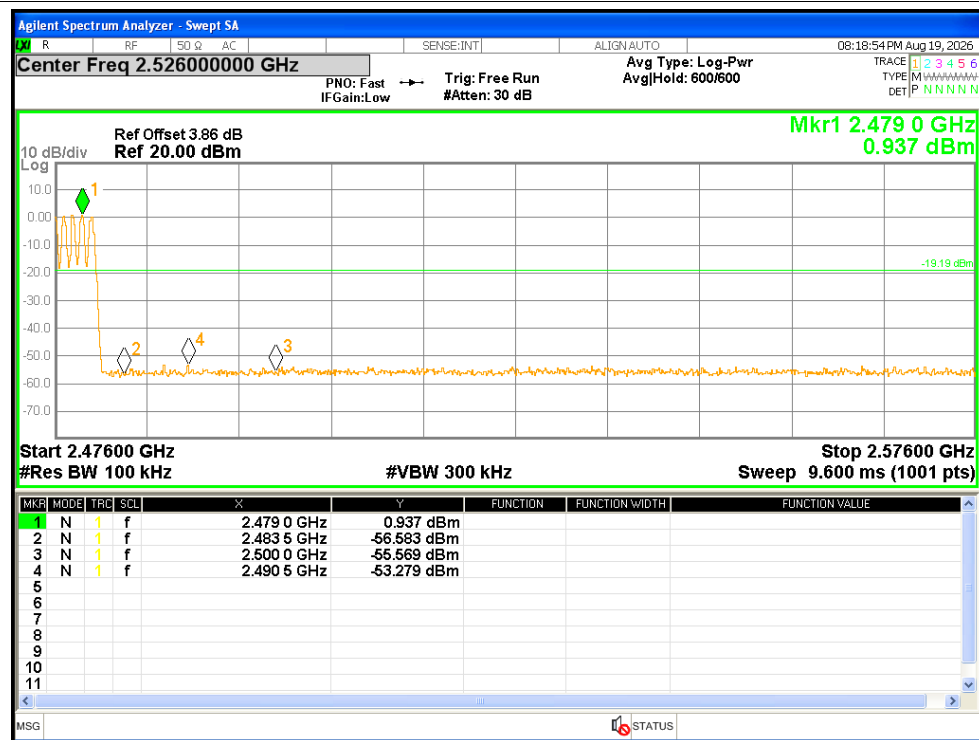
Band Edge(Hopping) NVNT 1-DH5 2402MHz Hopping Emission



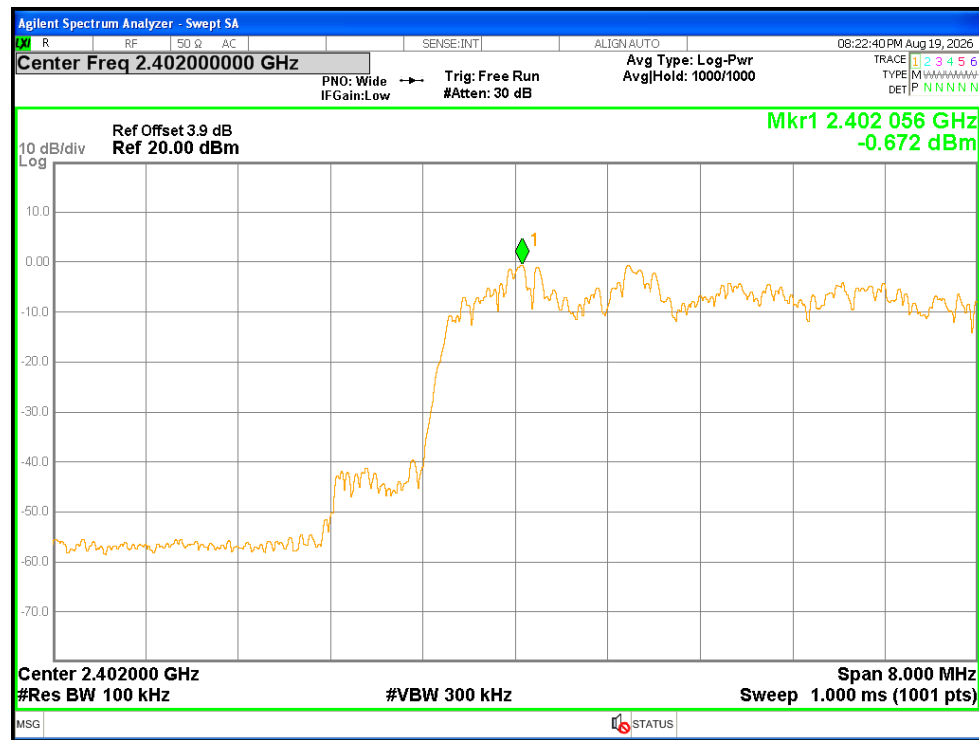
Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Ref



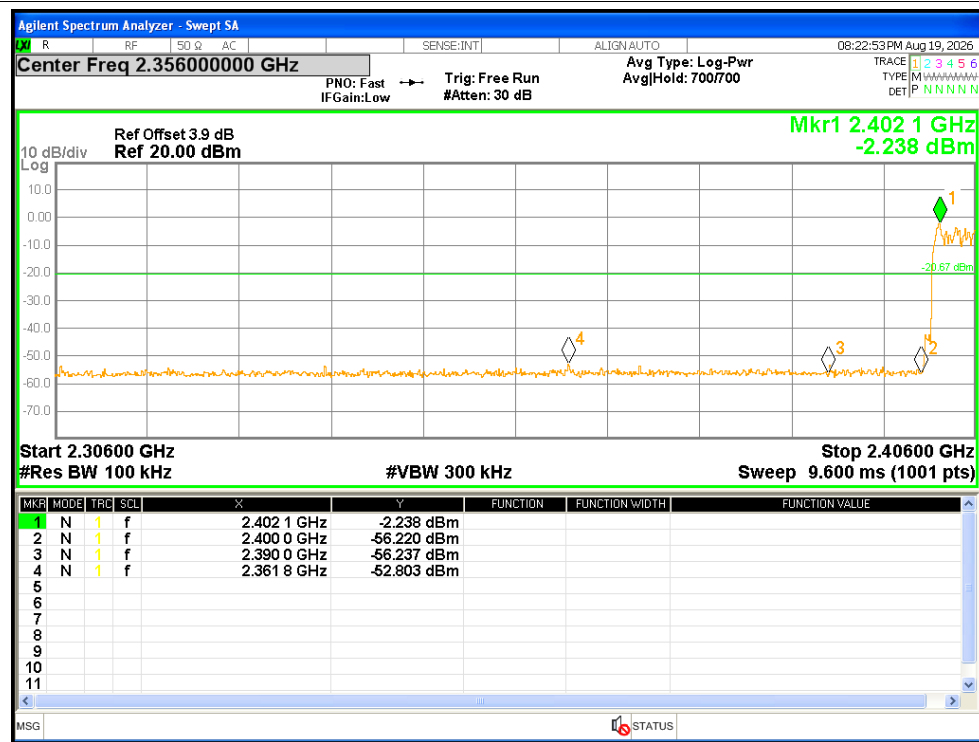
Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Emission



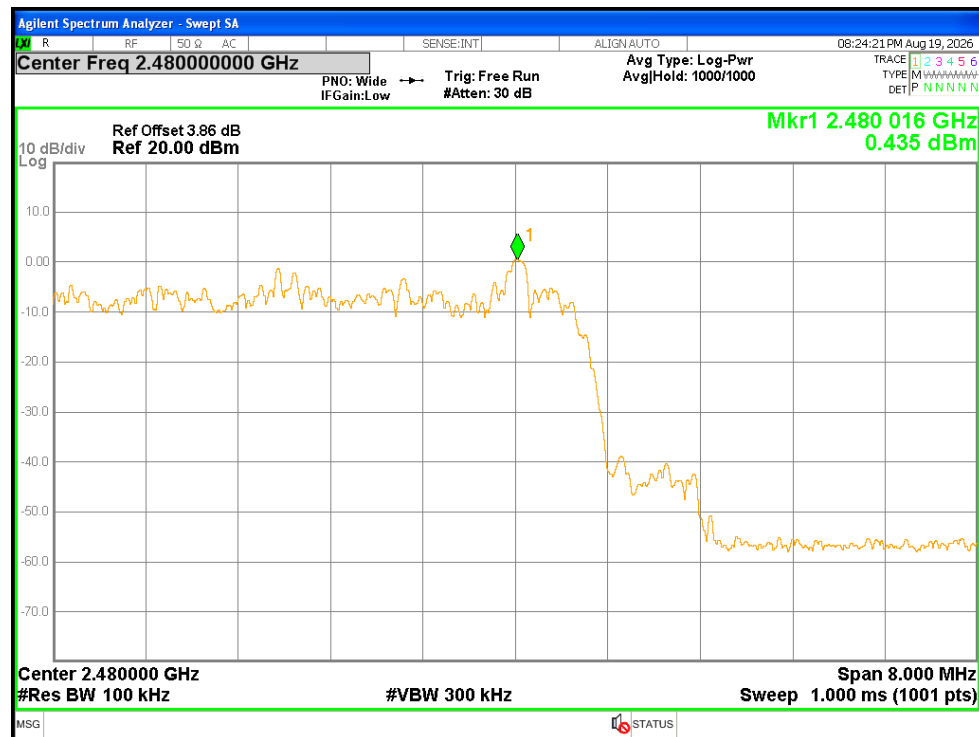
Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Ref



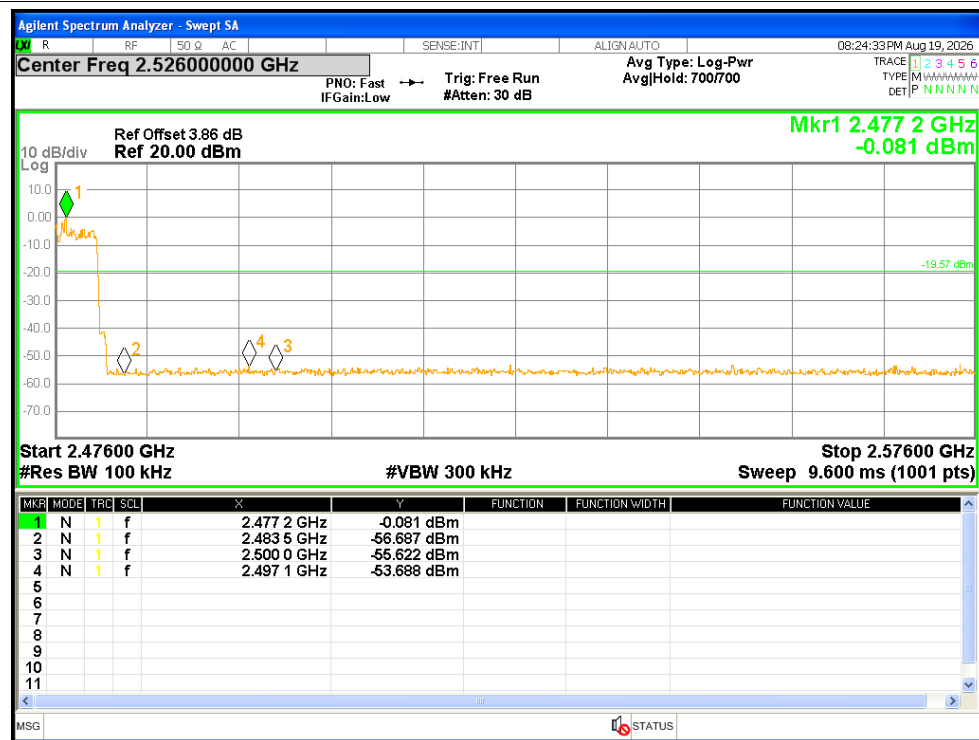
Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Emission



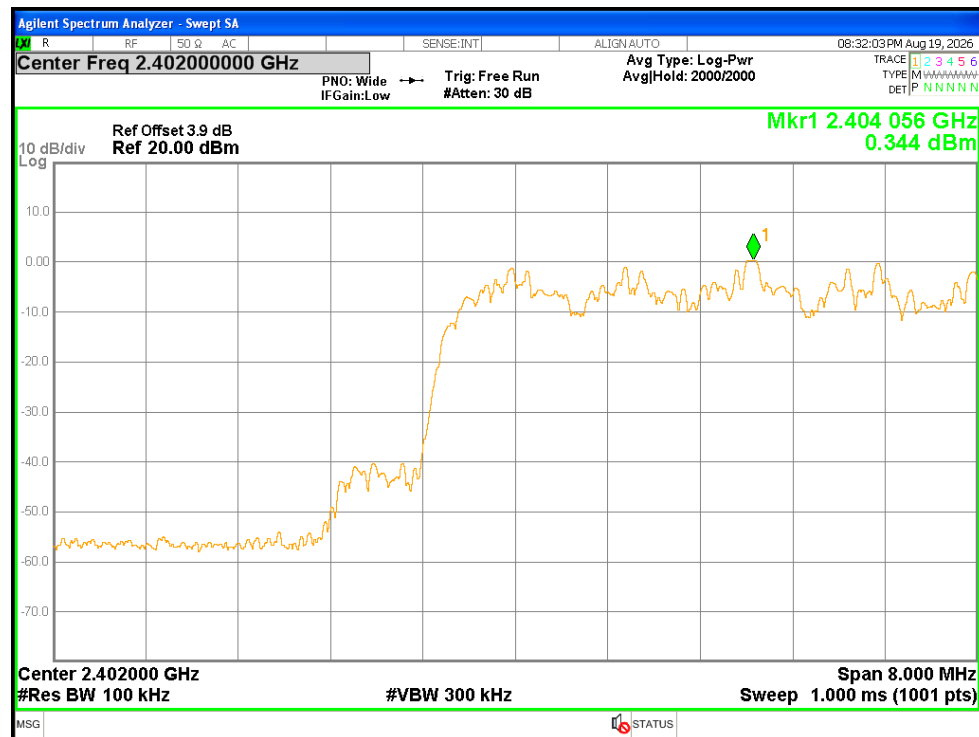
Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Ref



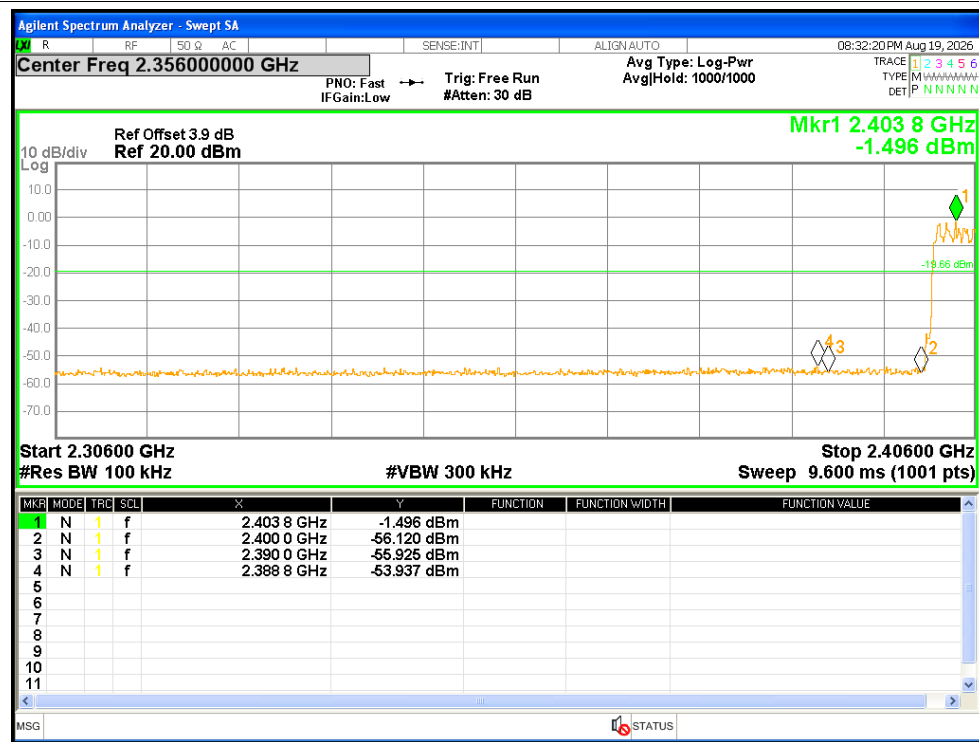
Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Emission



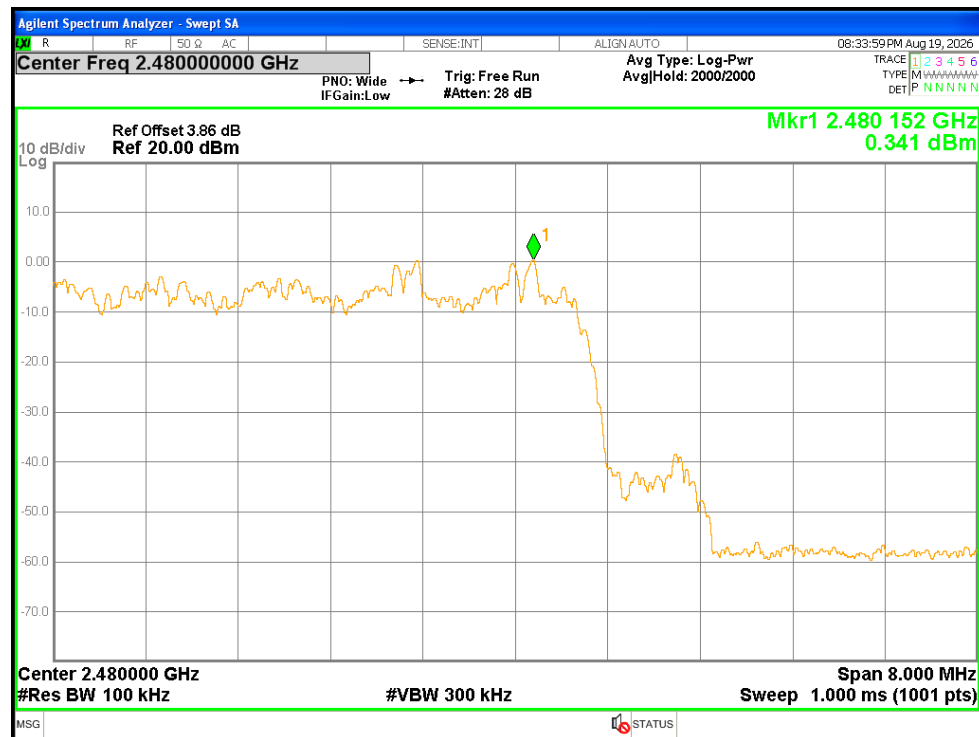
Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Ref



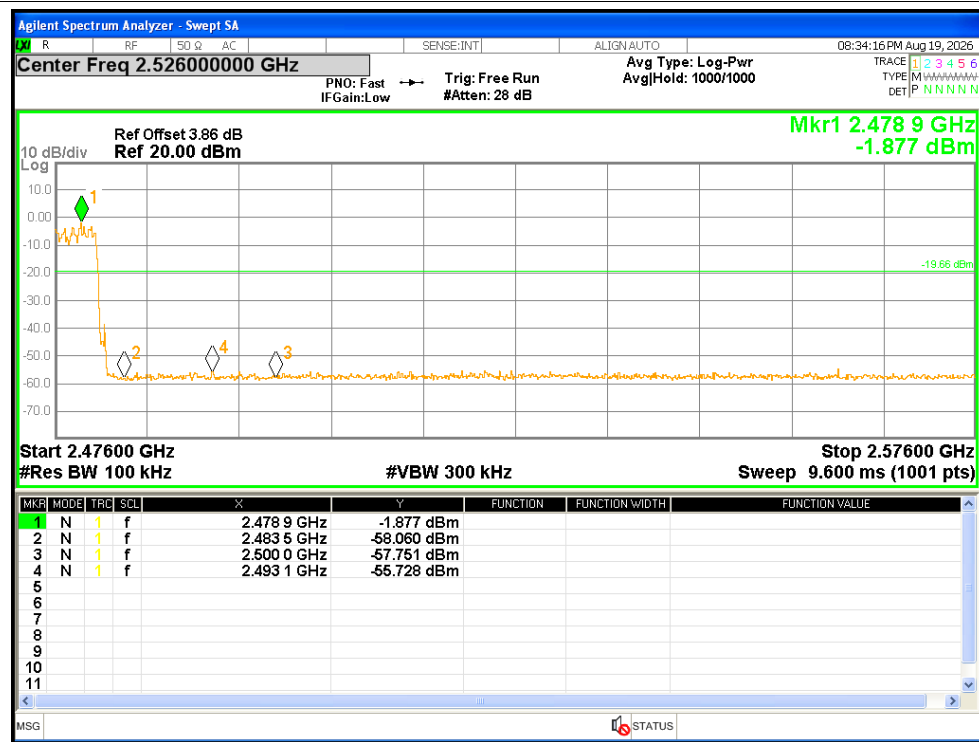
Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Emission



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



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

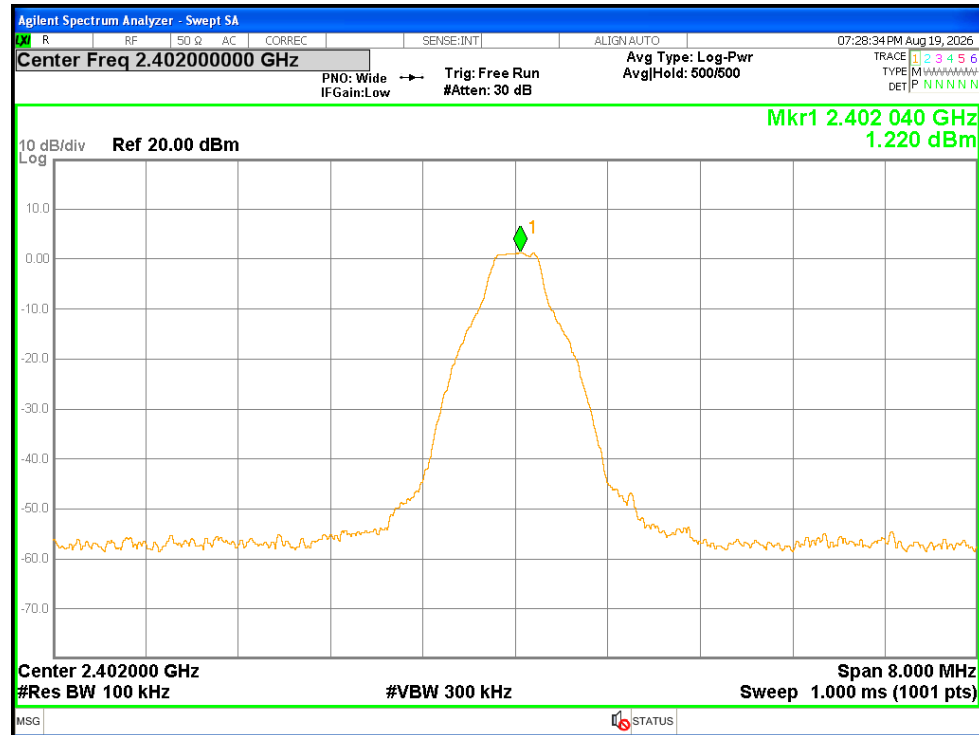


Conducted RF Spurious Emission

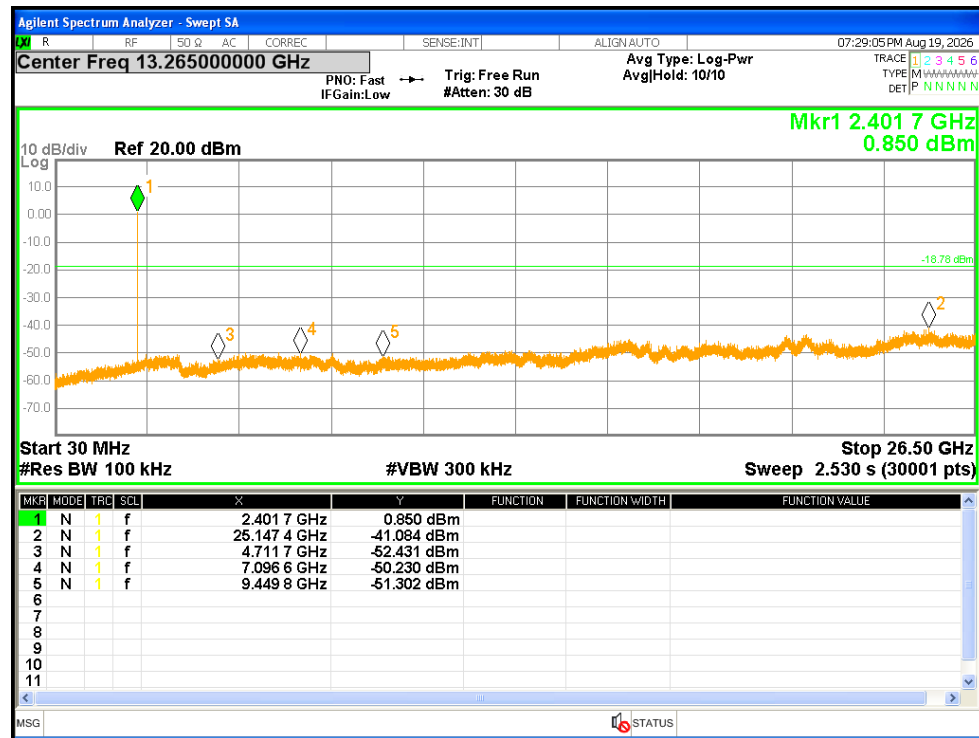
Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	-42.3	<=-20	Pass
1-DH5	2441	-42.83	<=-20	Pass
1-DH5	2480	-42.47	<=-20	Pass
2-DH5	2402	-42.11	<=-20	Pass
2-DH5	2441	-41.55	<=-20	Pass
2-DH5	2480	-42.32	<=-20	Pass
3-DH5	2402	-42.57	<=-20	Pass
3-DH5	2441	-41.31	<=-20	Pass
3-DH5	2480	-42.44	<=-20	Pass

Test Graphs

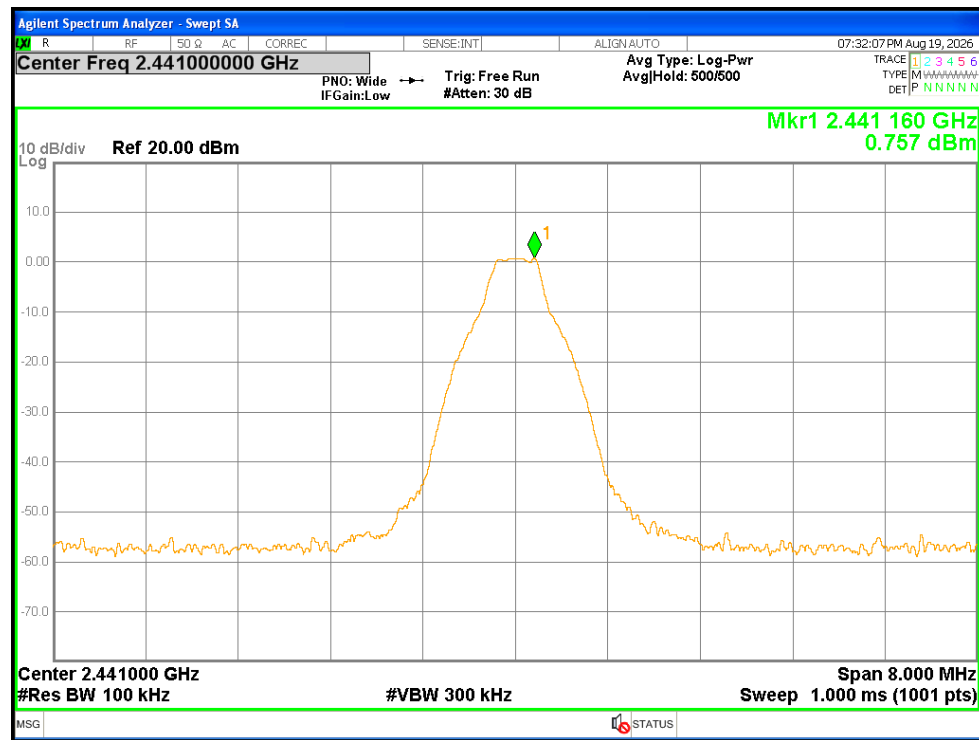
Tx. Spurious NVNT 1-DH5 2402MHz Ref



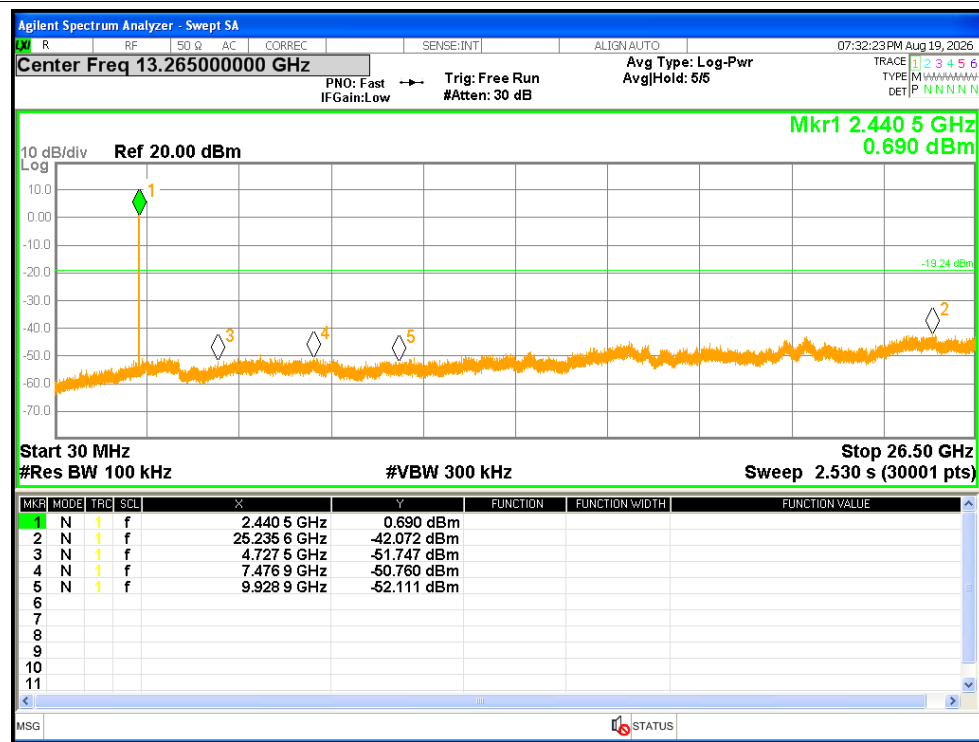
Tx. Spurious NVNT 1-DH5 2402MHz Emission



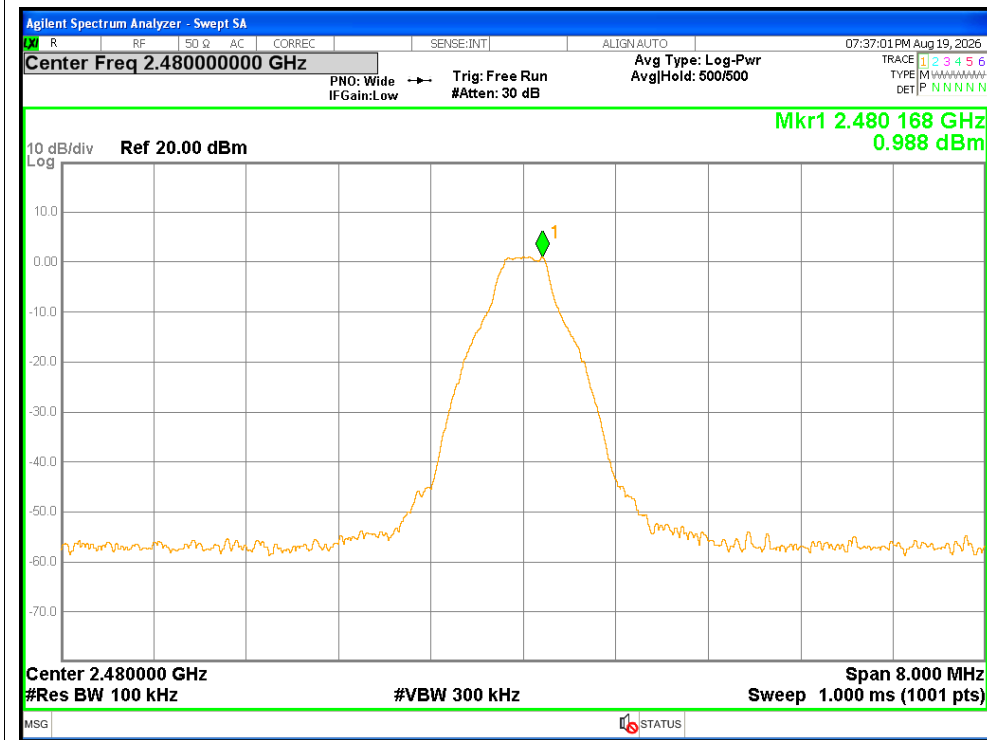
Tx. Spurious NVNT 1-DH5 2441MHz Ref



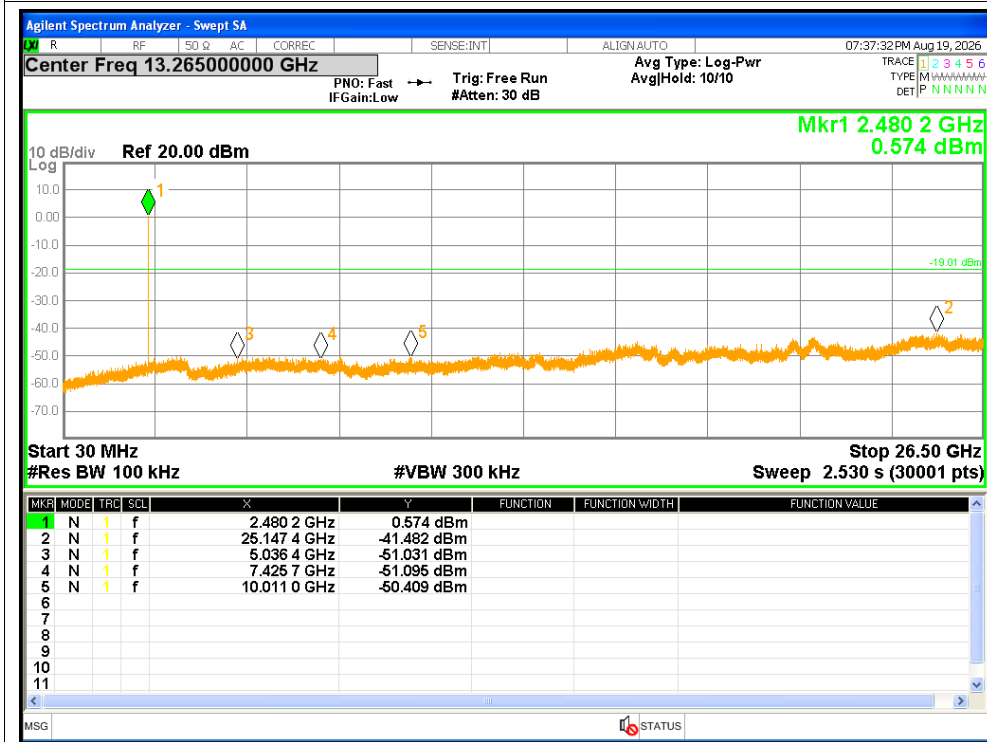
Tx. Spurious NVNT 1-DH5 2441MHz Emission



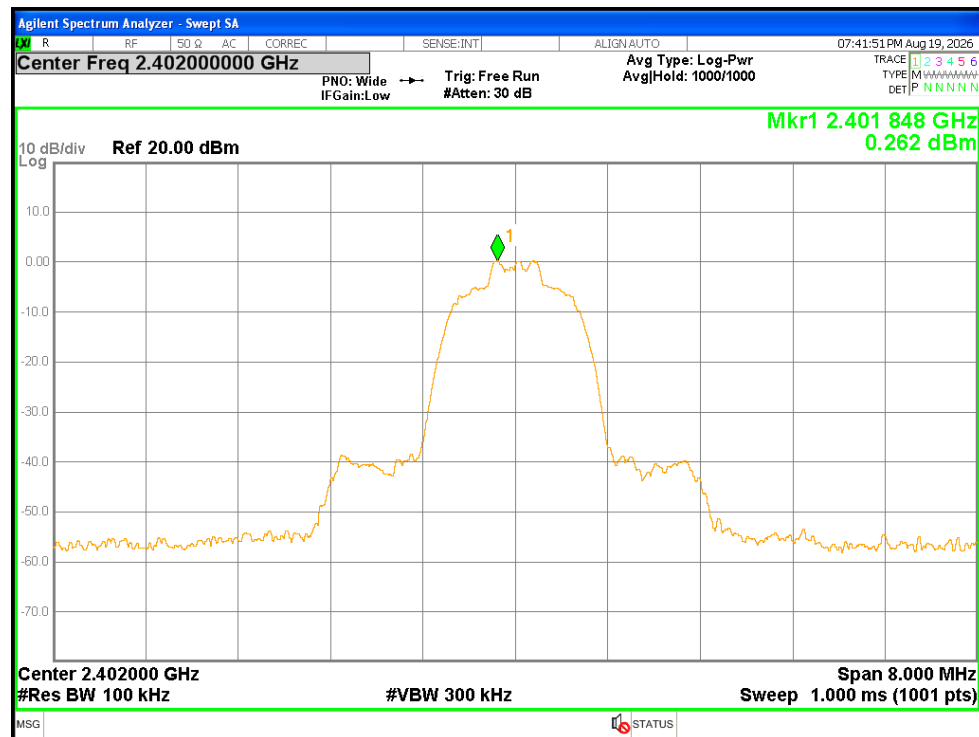
Tx. Spurious NVNT 1-DH5 2480MHz Ref



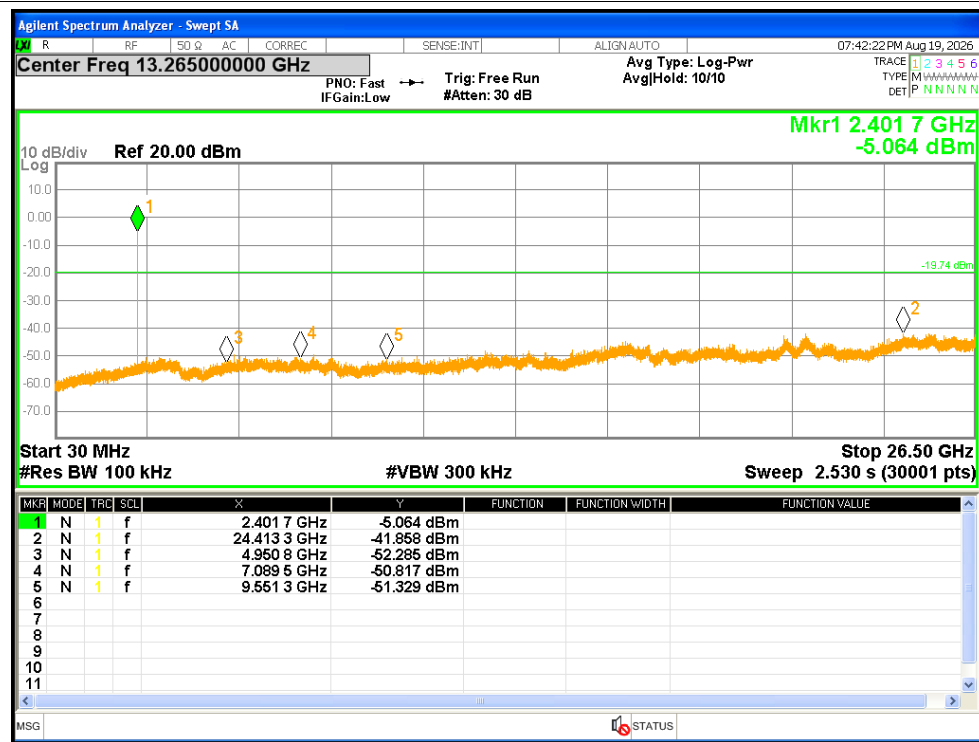
Tx. Spurious NVNT 1-DH5 2480MHz Emission



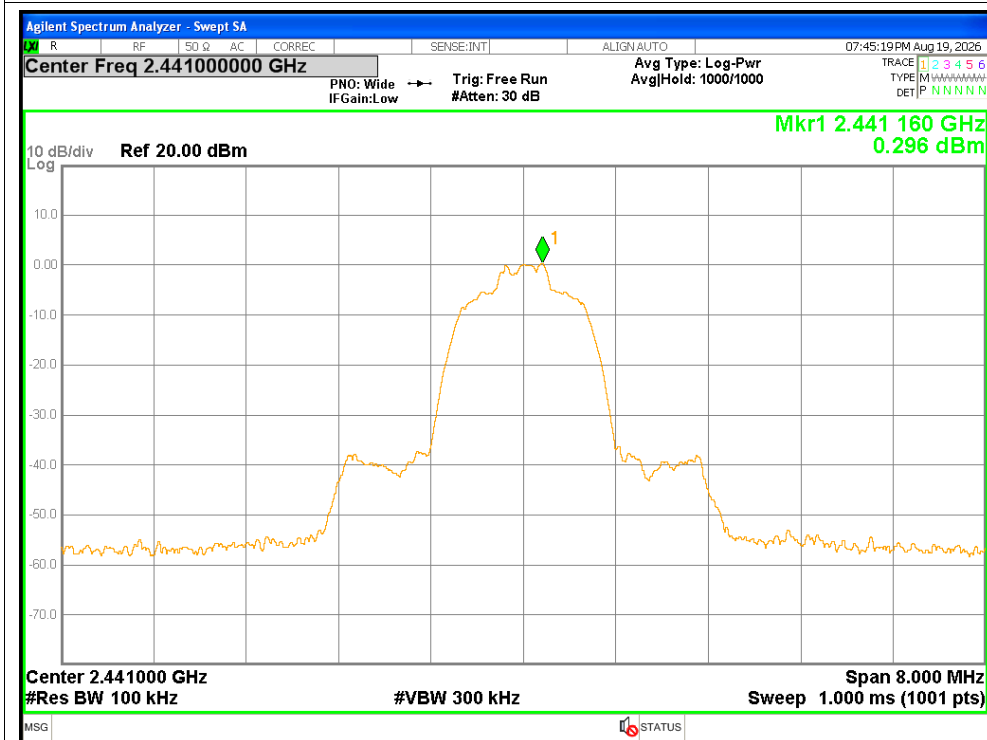
Tx. Spurious NVNT 2-DH5 2402MHz Ref



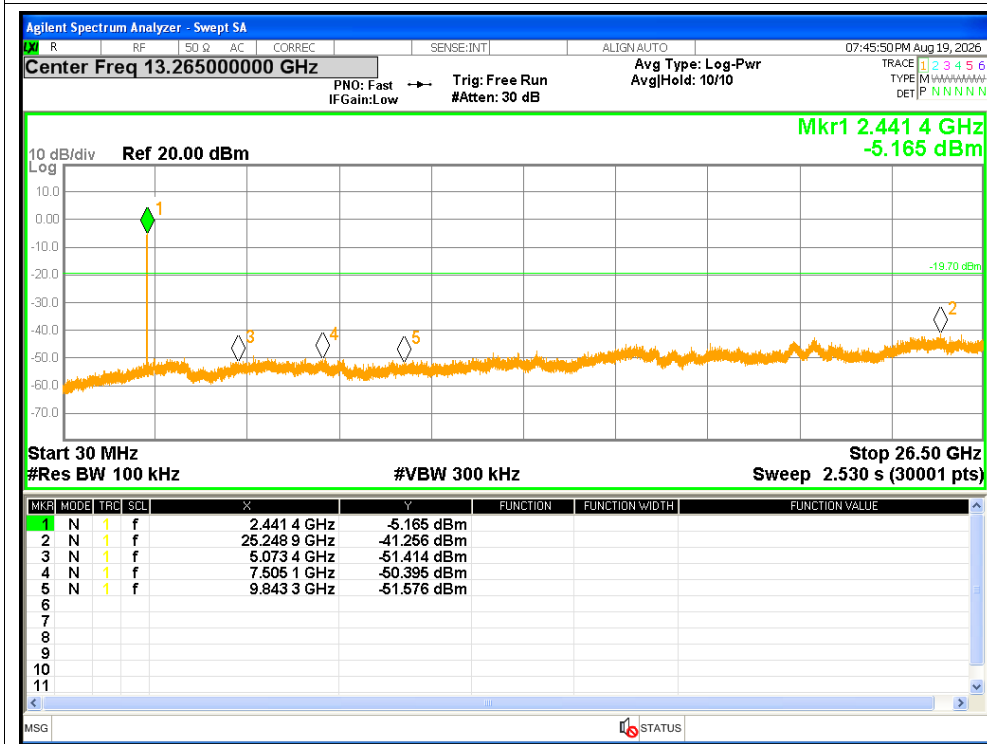
Tx. Spurious NVNT 2-DH5 2402MHz Emission



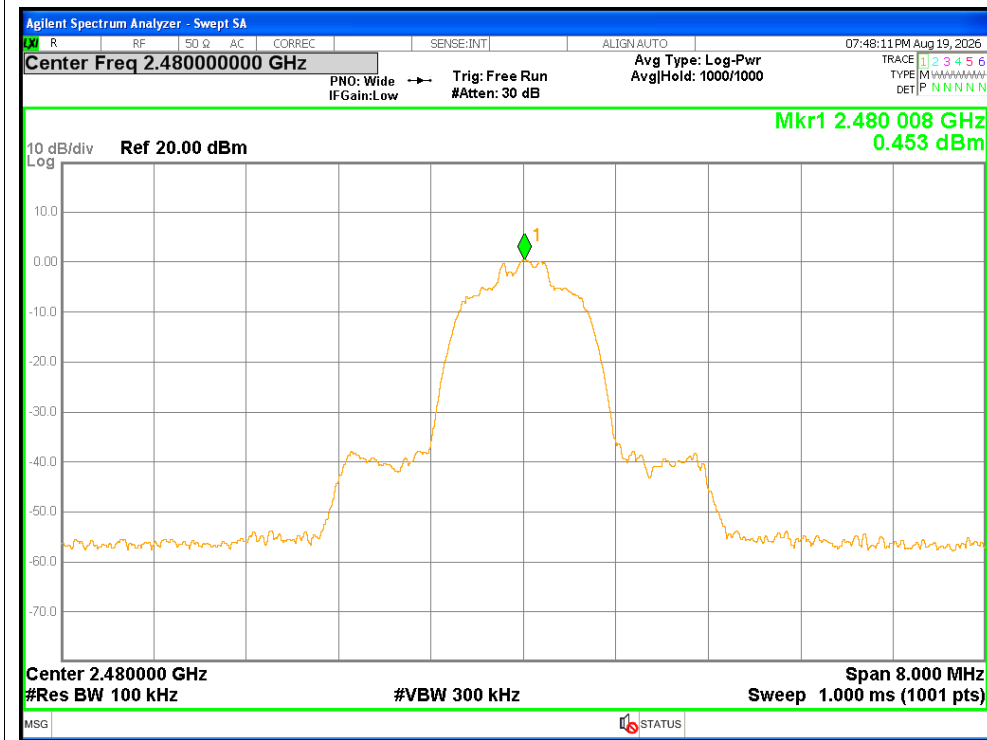
Tx. Spurious NVNT 2-DH5 2441MHz Ref



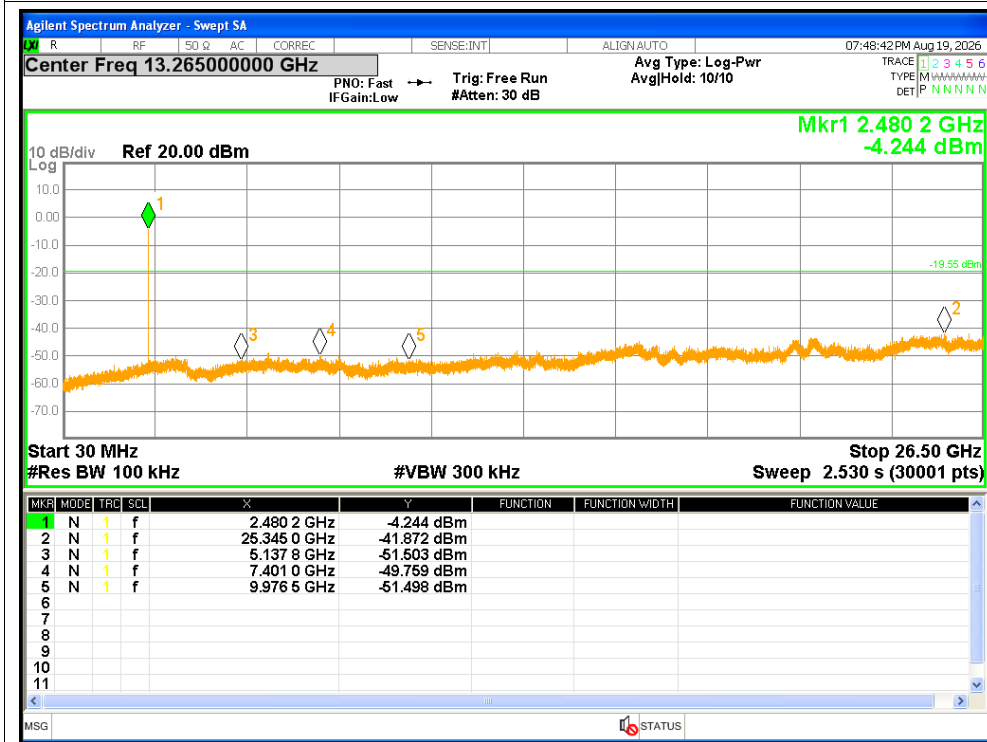
Tx. Spurious NVNT 2-DH5 2441MHz Emission



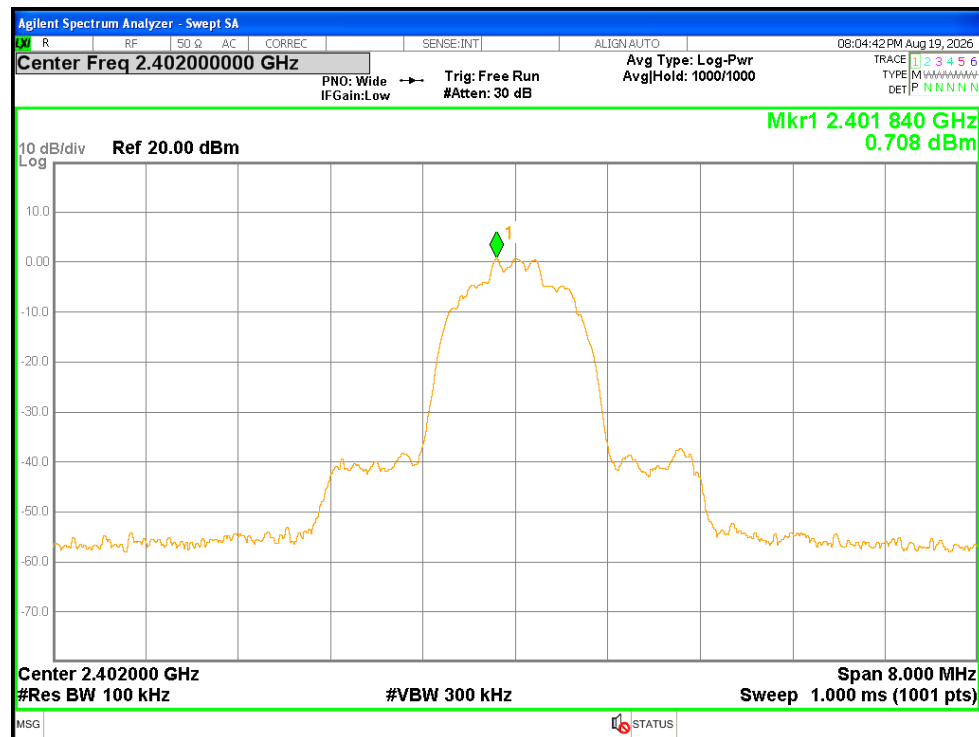
Tx. Spurious NVNT 2-DH5 2480MHz Ref



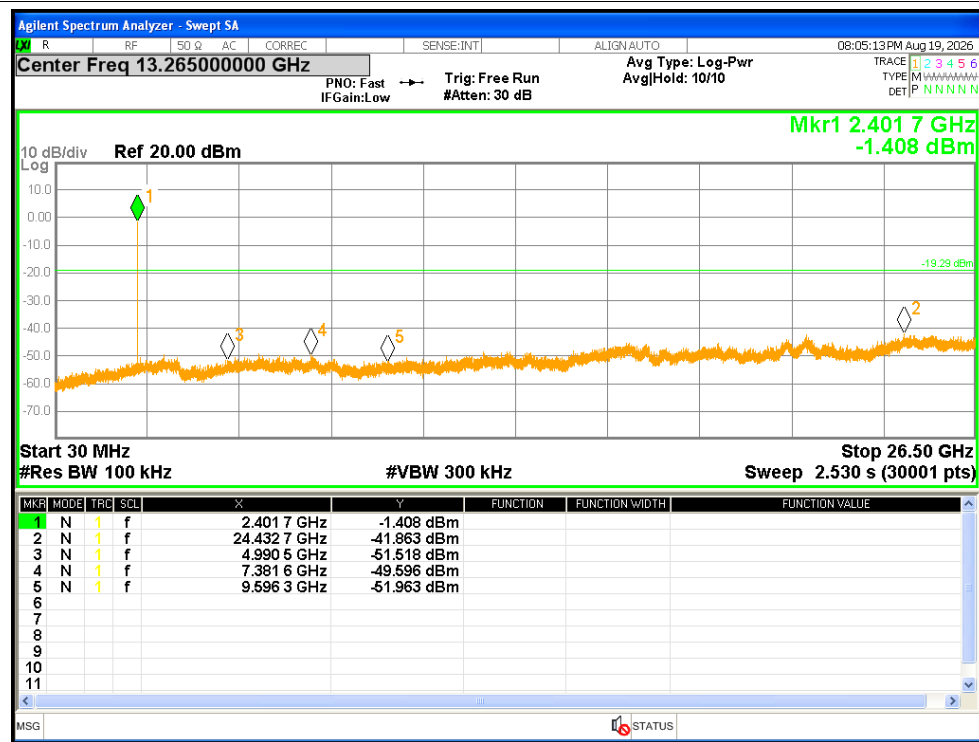
Tx. Spurious NVNT 2-DH5 2480MHz Emission



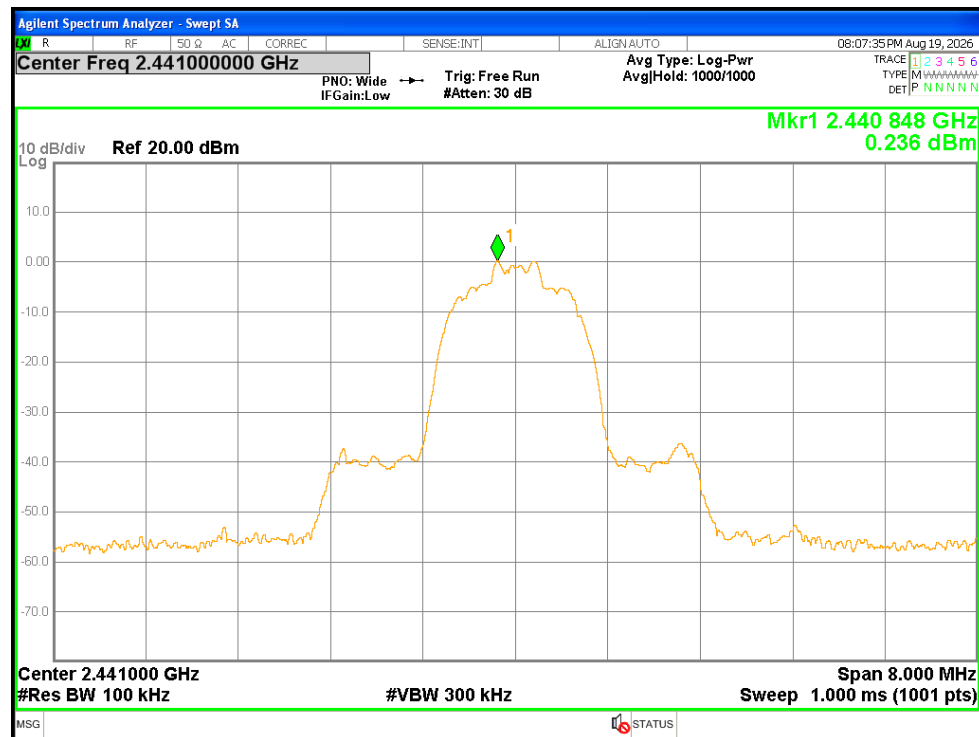
Tx. Spurious NVNT 3-DH5 2402MHz Ref



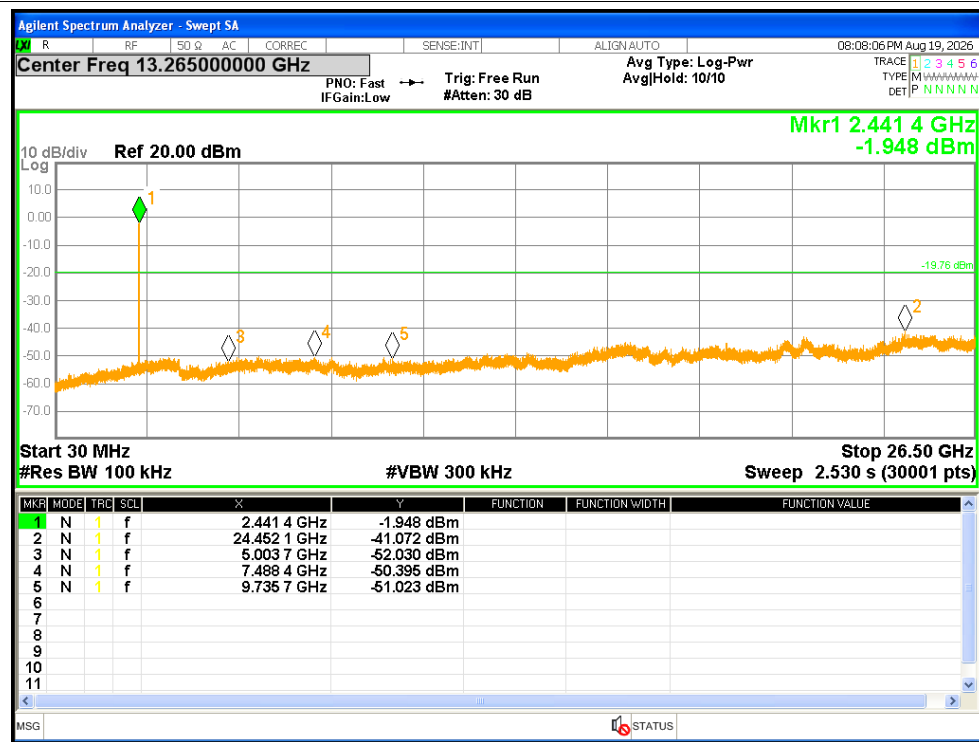
Tx. Spurious NVNT 3-DH5 2402MHz Emission



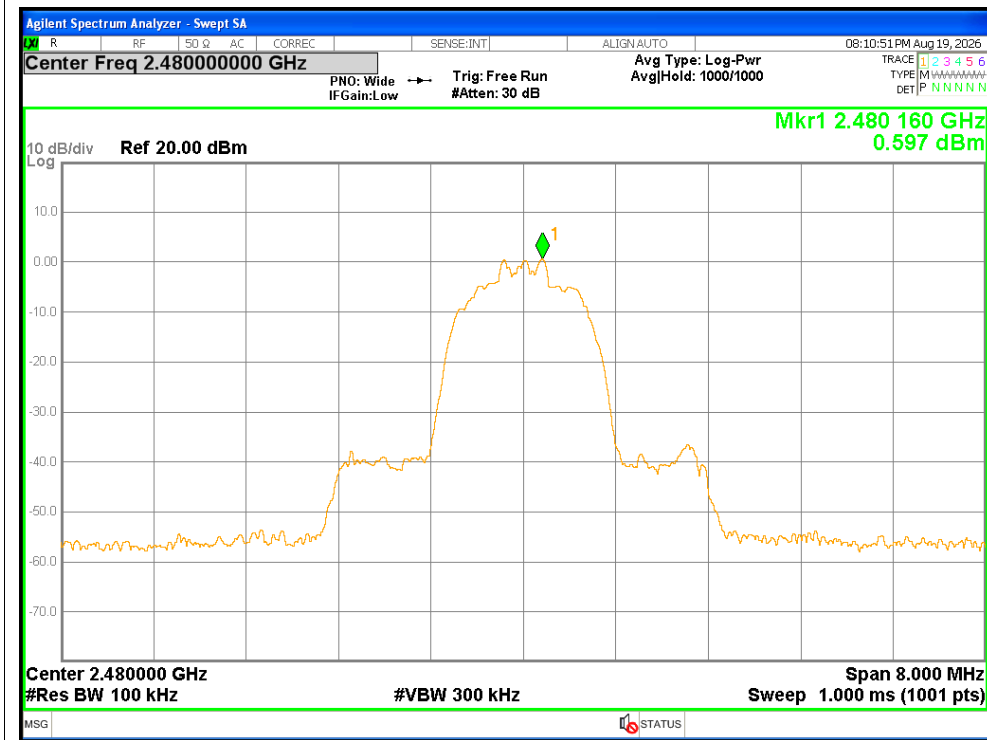
Tx. Spurious NVNT 3-DH5 2441MHz Ref



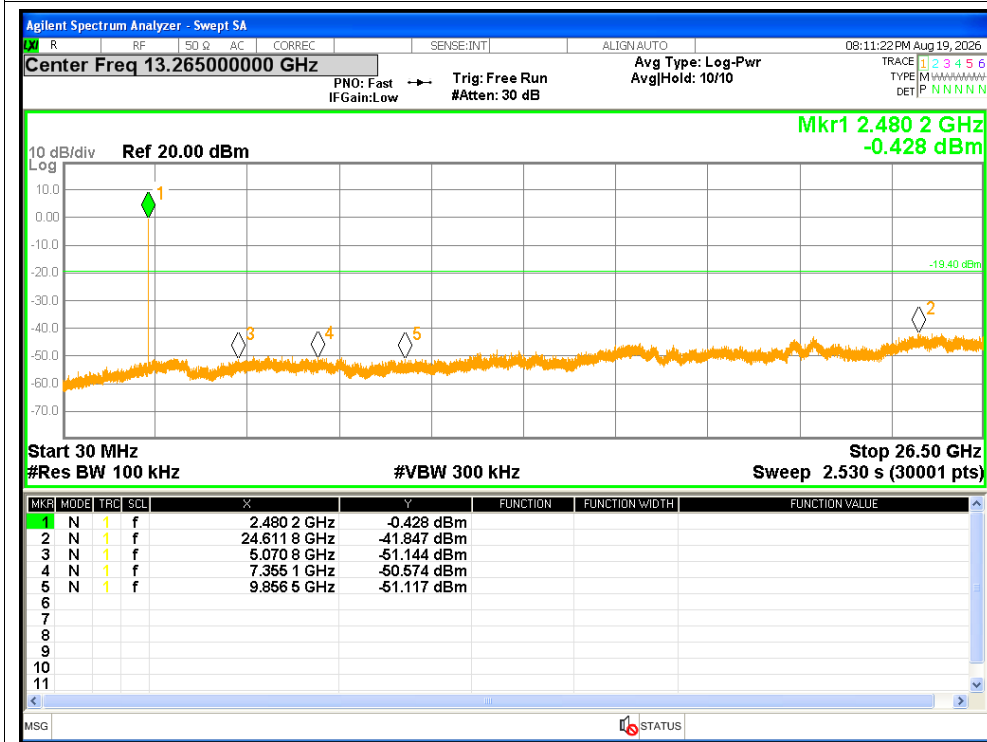
Tx. Spurious NVNT 3-DH5 2441MHz Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ref



Tx. Spurious NVNT 3-DH5 2480MHz Emission

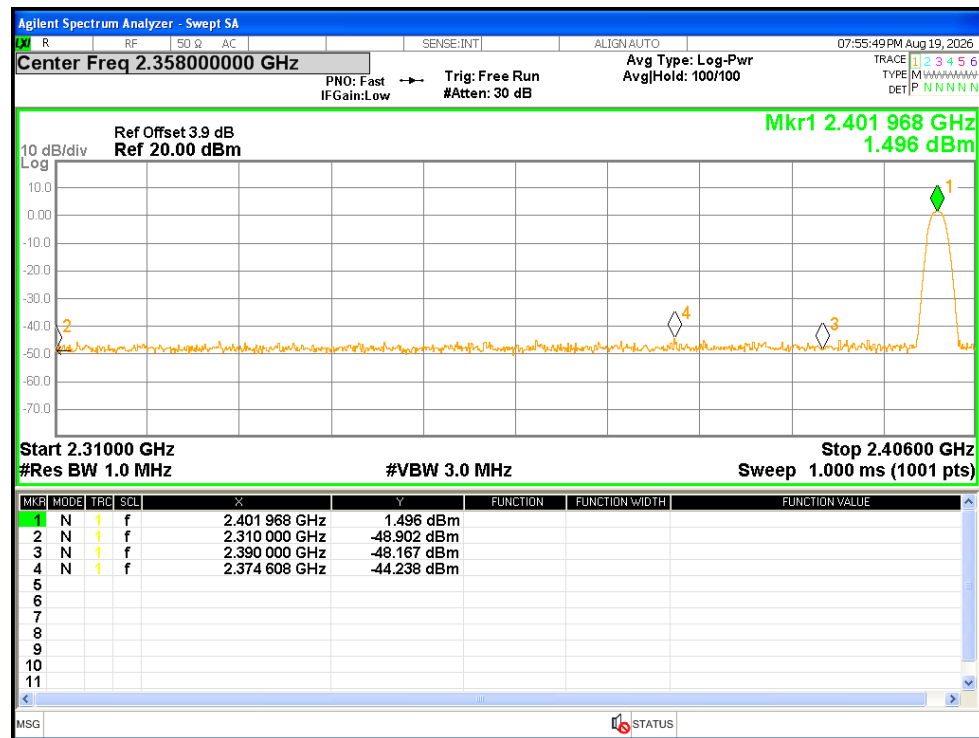


Restrict Band

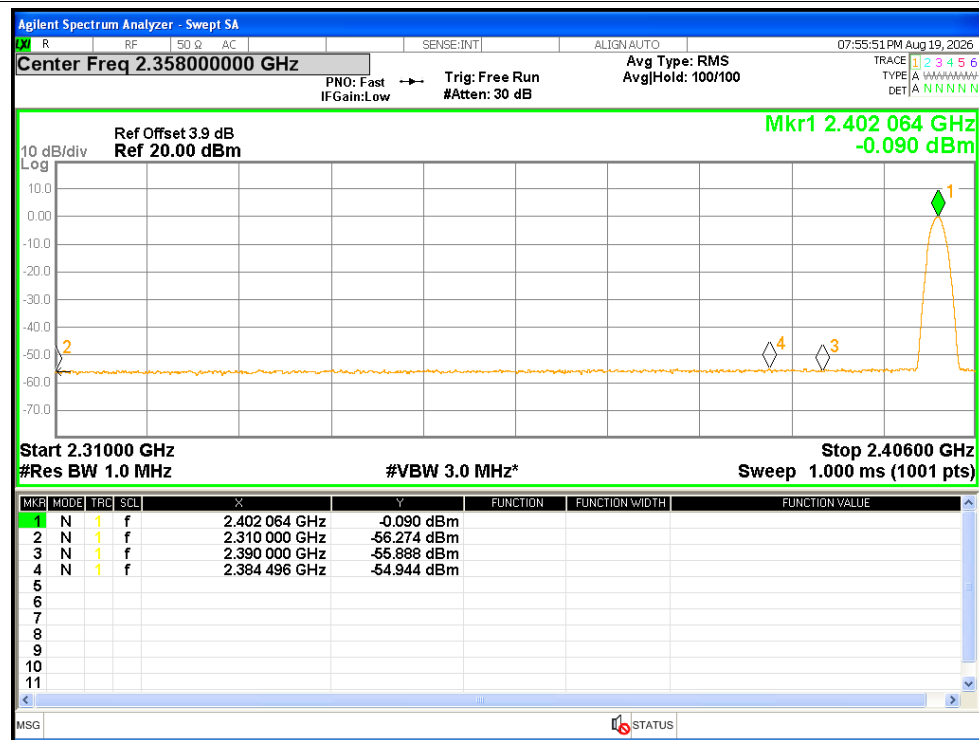
Mode	Frequency (MHz)	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
1-DH5	2402	No-Hopping	2310	-48.9	2.06	0	48.42	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2310	-56.27	2.06	1.14	42.19	Average	<=54	Pass
1-DH5	2402	No-Hopping	2374.608	-44.23	2.06	0	53.09	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2384.496	-54.94	2.06	1.14	43.52	Average	<=54	Pass
1-DH5	2402	No-Hopping	2390	-48.36	2.06	0	48.96	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2390	-56.03	2.06	1.14	42.43	Average	<=54	Pass
1-DH5	2480	No-Hopping	2483.5	-48.54	2.06	0	48.78	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2483.5	-55.73	2.06	1.14	42.73	Average	<=54	Pass
1-DH5	2480	No-Hopping	2499.28	-44.89	2.06	0	52.43	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2492.224	-54.75	2.06	1.14	43.71	Average	<=54	Pass
1-DH5	2480	No-Hopping	2500	-47.38	2.06	0	49.94	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2500	-55.12	2.06	1.14	43.34	Average	<=54	Pass
2-DH5	2402	No-Hopping	2310	-47.62	2.06	0	49.7	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2310	-55.48	2.06	1.14	42.98	Average	<=54	Pass
2-DH5	2402	No-Hopping	2378.736	-44.22	2.06	0	53.1	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2373.168	-55.14	2.06	1.14	43.32	Average	<=54	Pass
2-DH5	2402	No-Hopping	2390	-48.34	2.06	0	48.98	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2390	-55.73	2.06	1.14	42.73	Average	<=54	Pass
2-DH5	2480	No-Hopping	2483.5	-47.6	2.06	0	49.72	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2483.5	-55.94	2.06	1.14	42.52	Average	<=54	Pass
2-DH5	2480	No-Hopping	2496.952	-44.3	2.06	0	53.02	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2499.4	-54.74	2.06	1.14	43.72	Average	<=54	Pass
2-DH5	2480	No-Hopping	2500	-47.62	2.06	0	49.7	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2500	-55.61	2.06	1.14	42.85	Average	<=54	Pass
3-DH5	2402	No-Hopping	2310	-48.1	2.06	0	49.22	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2310	-55.78	2.06	1.13	42.67	Average	<=54	Pass
3-DH5	2402	No-Hopping	2375.664	-44.95	2.06	0	52.37	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2383.056	-54.74	2.06	1.13	43.71	Average	<=54	Pass
3-DH5	2402	No-Hopping	2390	-47.4	2.06	0	49.92	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2390	-55.02	2.06	1.13	43.43	Average	<=54	Pass
3-DH5	2480	No-Hopping	2483.5	-47.2	2.06	0	50.12	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2483.5	-55.08	2.06	1.13	43.37	Average	<=54	Pass
3-DH5	2480	No-Hopping	2497.96	-44.69	2.06	0	52.63	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2490.712	-54.78	2.06	1.13	43.67	Average	<=54	Pass
3-DH5	2480	No-Hopping	2500	-47.36	2.06	0	49.96	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2500	-55.72	2.06	1.13	42.73	Average	<=54	Pass

Test Graphs

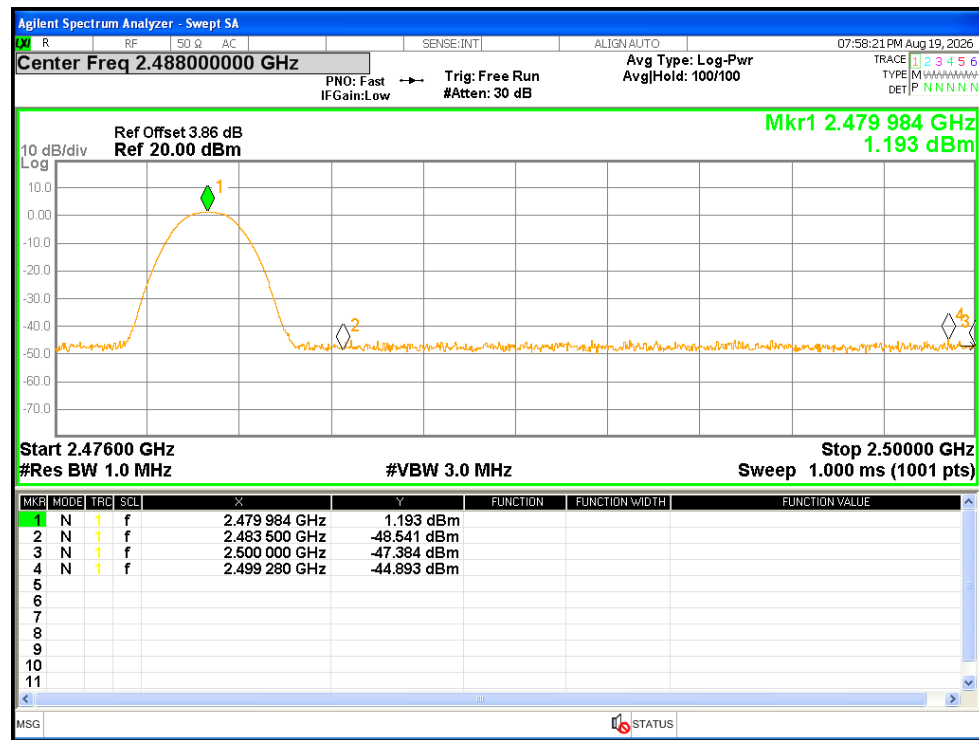
Restrict Band NVNT 1-DH5 2402MHz No-Hopping Peak



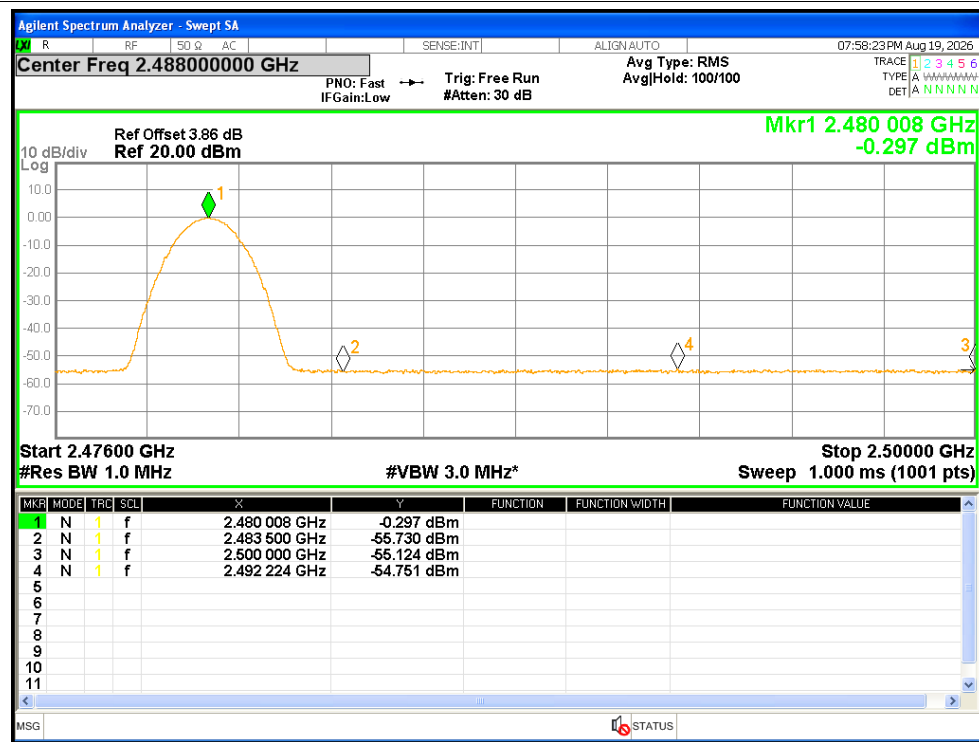
Restrict Band NVNT 1-DH5 2402MHz No-Hopping Average



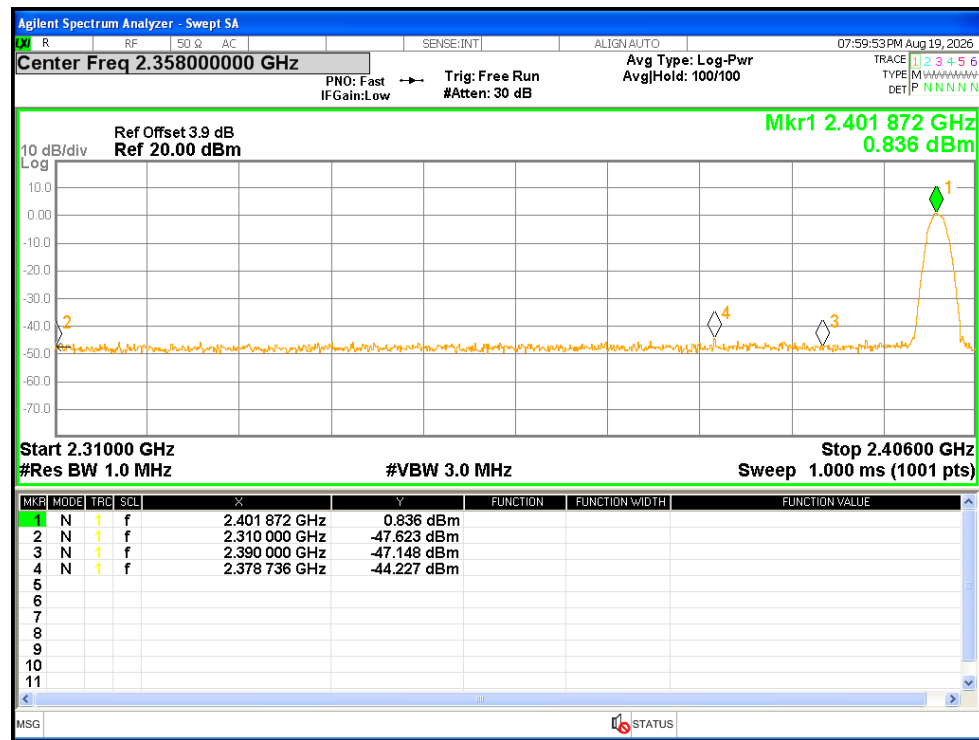
Restrict Band NVNT 1-DH5 2480MHz No-Hopping Peak



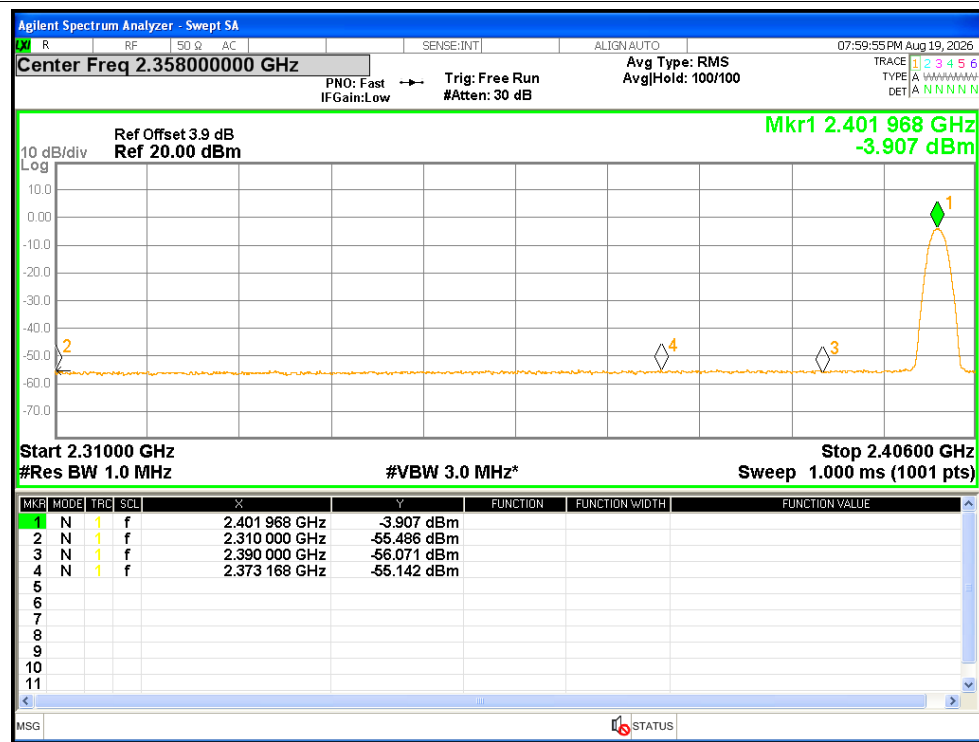
Restrict Band NVNT 1-DH5 2480MHz No-Hopping Average



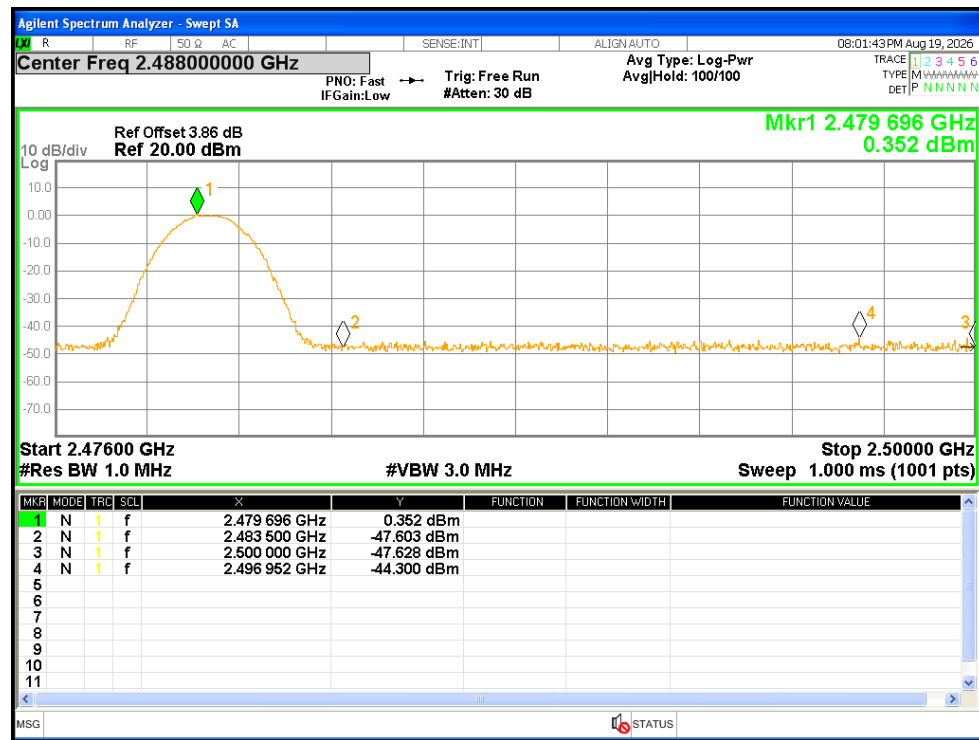
Restrict Band NVNT 2-DH5 2402MHz No-Hopping Peak



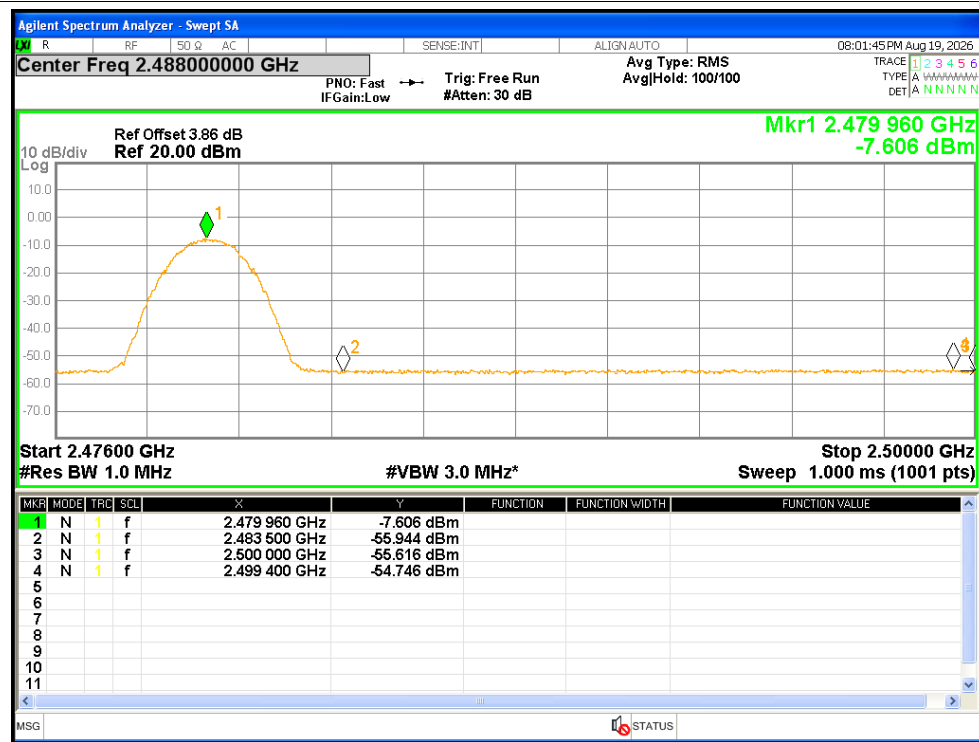
Restrict Band NVNT 2-DH5 2402MHz No-Hopping Average



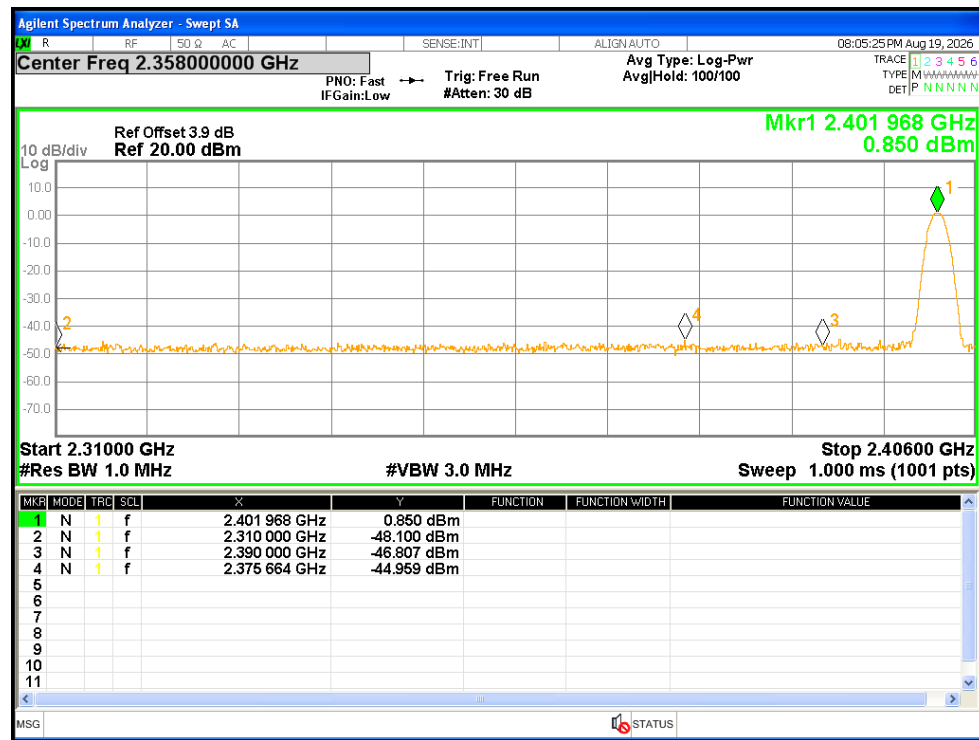
Restrict Band NVNT 2-DH5 2480MHz No-Hopping Peak



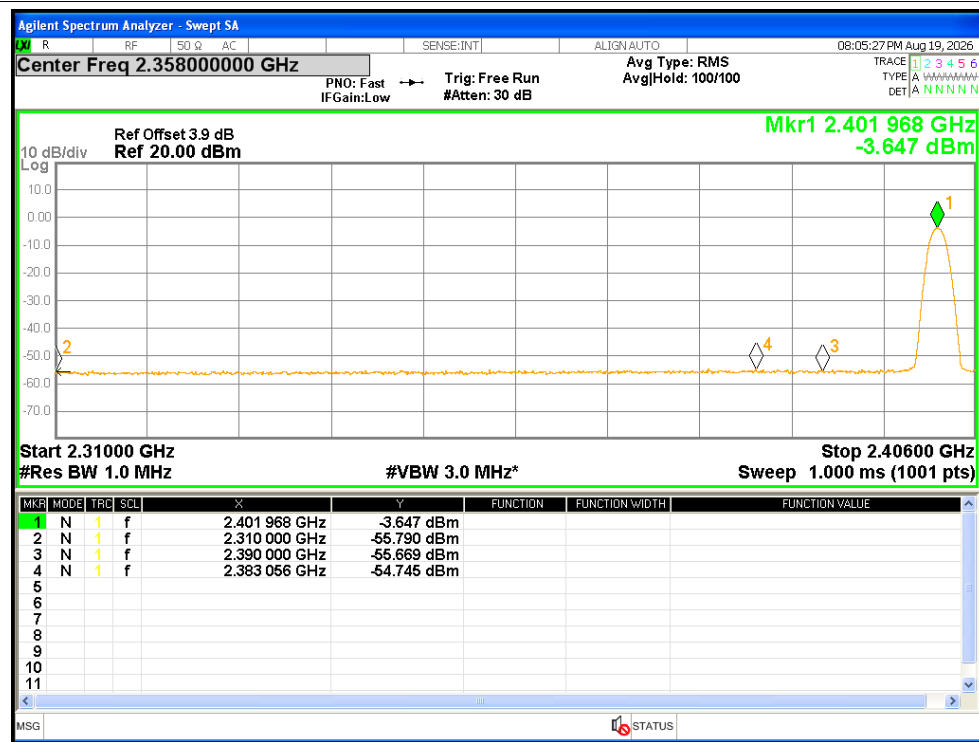
Restrict Band NVNT 2-DH5 2480MHz No-Hopping Average



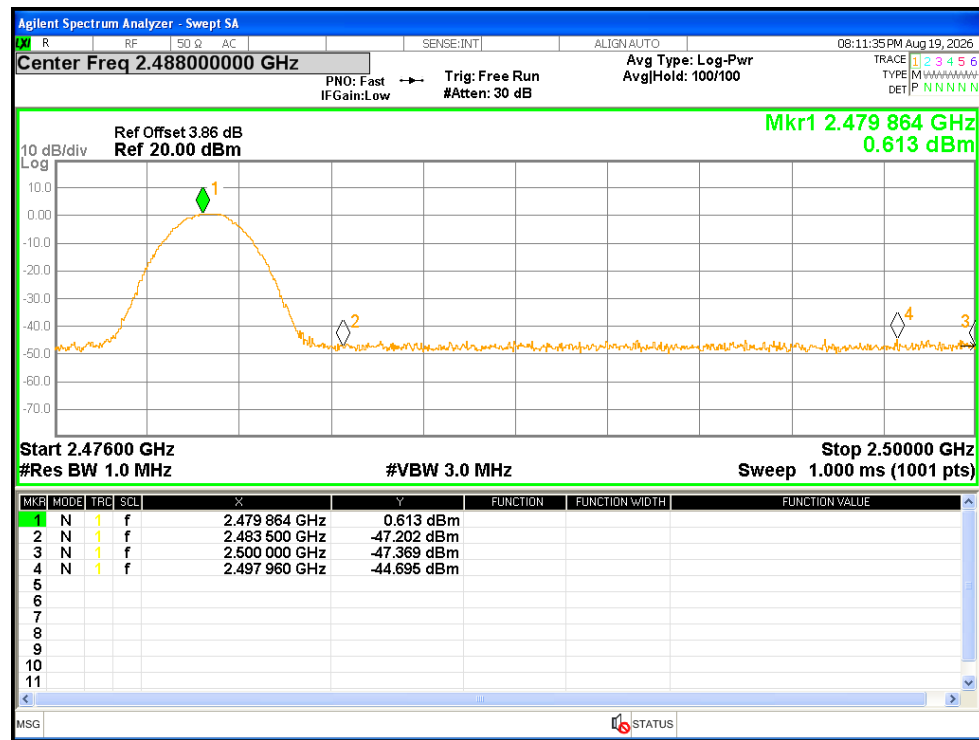
Restrict Band NVNT 3-DH5 2402MHz No-Hopping Peak



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



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



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

