

FCC Appendix RF Test Data for BT

FCC ID : 2BHJR-223

Company : Shenzhen xiaoxiang supply chain technology co., ltd

EUT : MINISO Wireless Earbud

Model Number : MS223

Report No. : CTA26073003001

Reviewed By : Eric Wang

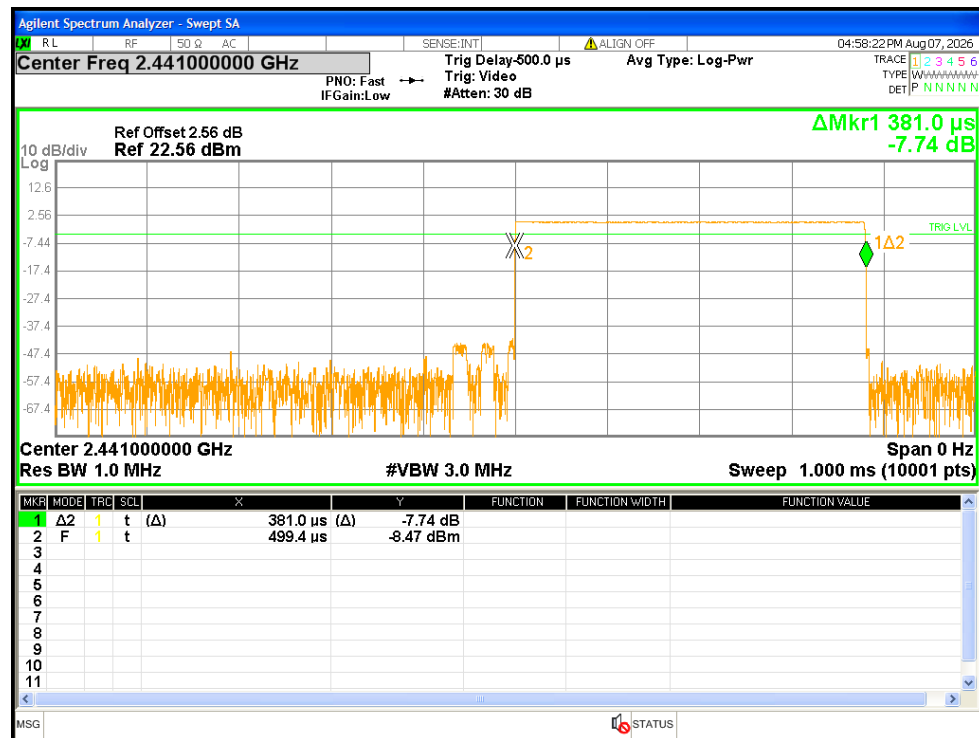
Dwell Time

Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH1	2441	0.381	120.396	316	31600	<=400	Pass
1-DH3	2441	1.637	265.194	162	31600	<=400	Pass
1-DH5	2441	2.884	305.704	106	31600	<=400	Pass
2-DH1	2441	0.389	122.924	316	31600	<=400	Pass
2-DH3	2441	1.641	262.56	160	31600	<=400	Pass
2-DH5	2441	2.889	306.234	106	31600	<=400	Pass
3-DH1	2441	0.389	122.924	316	31600	<=400	Pass
3-DH3	2441	1.64	254.2	155	31600	<=400	Pass
3-DH5	2441	2.891	335.356	116	31600	<=400	Pass

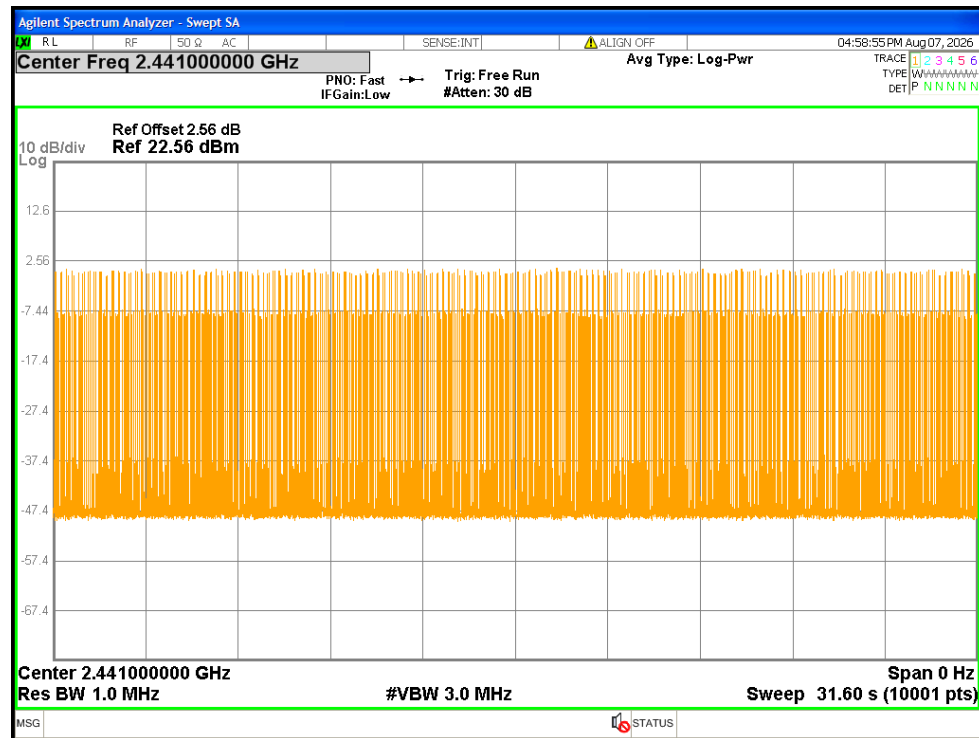
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

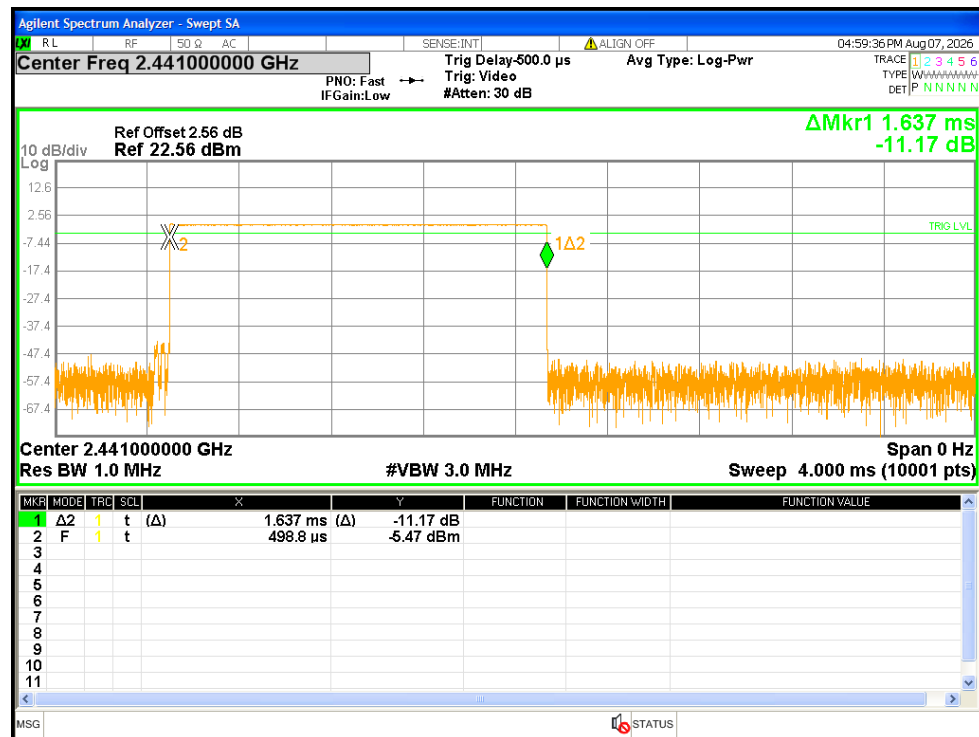
Dwell NVNT 1-DH1 2441MHz One Burst



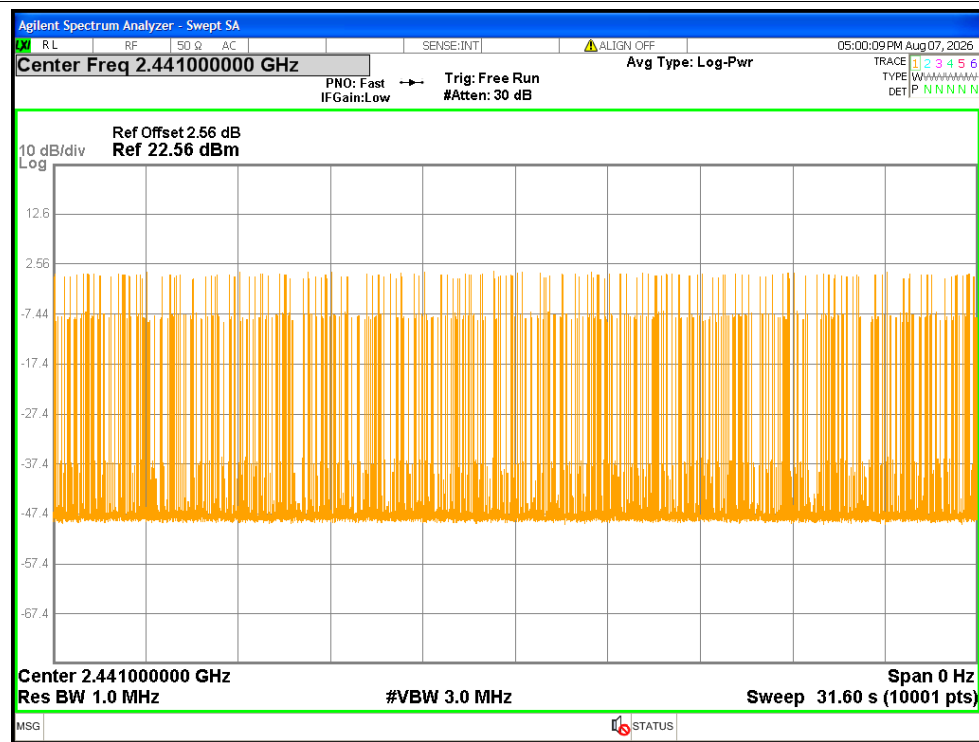
Dwell NVNT 1-DH1 2441MHz Accumulated



Dwell NVNT 1-DH3 2441MHz One Burst



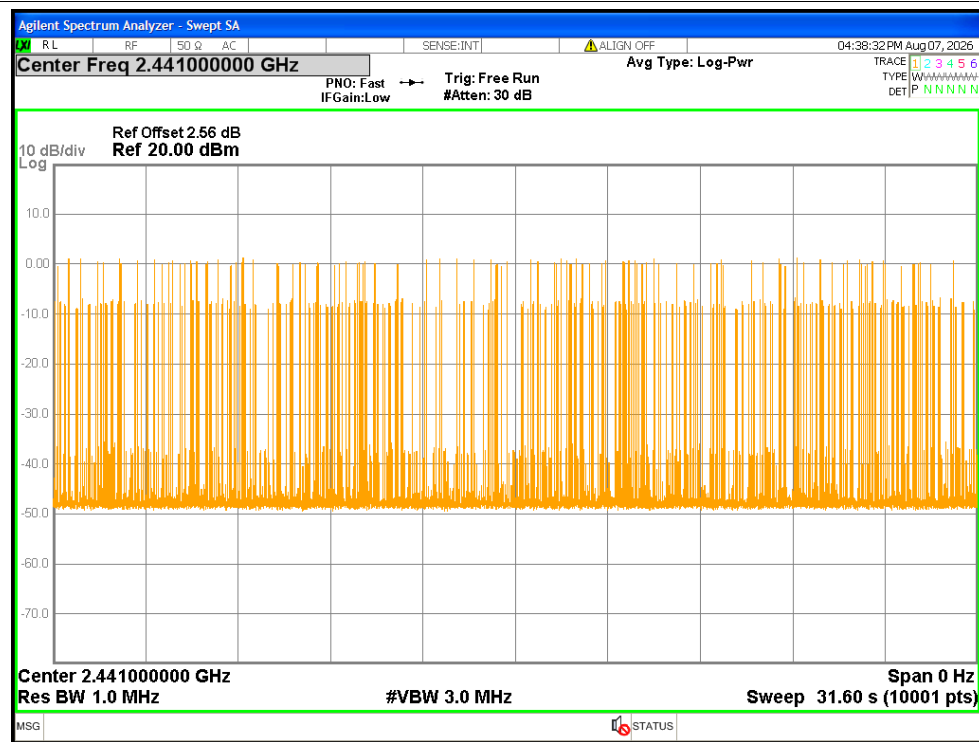
Dwell NVNT 1-DH3 2441MHz Accumulated



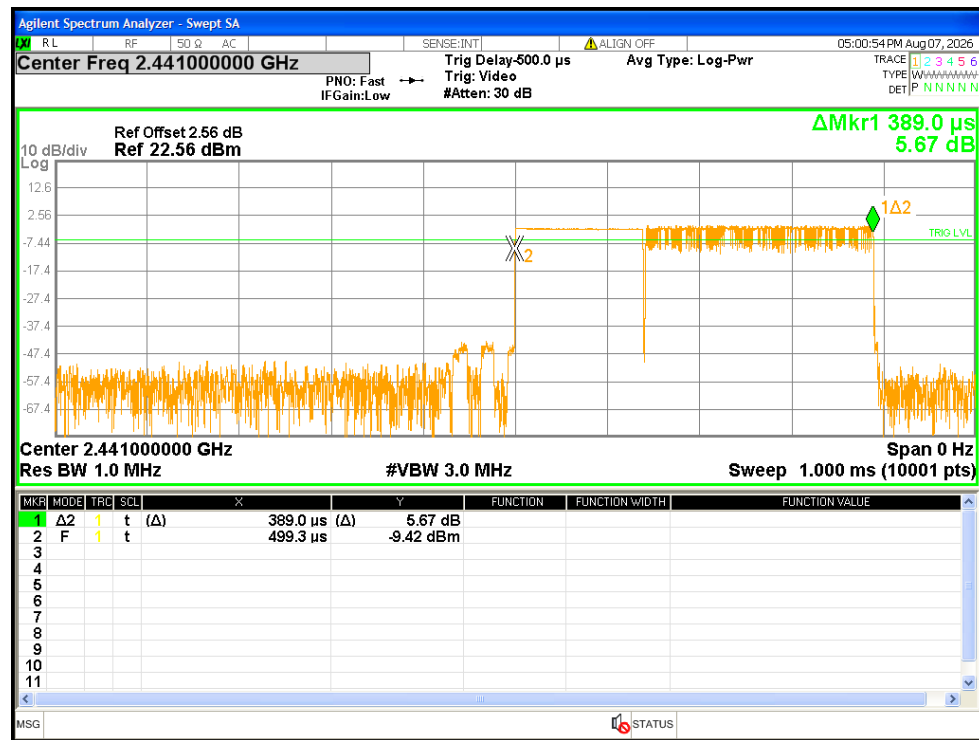
Dwell NVNT 1-DH5 2441MHz One Burst



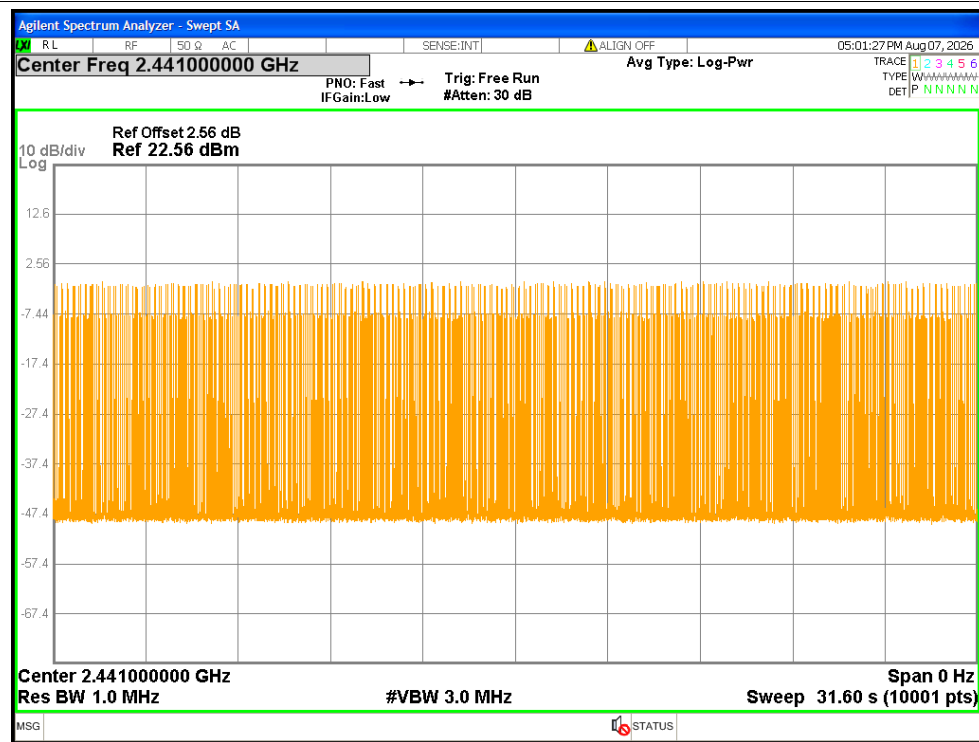
Dwell NVNT 1-DH5 2441MHz Accumulated



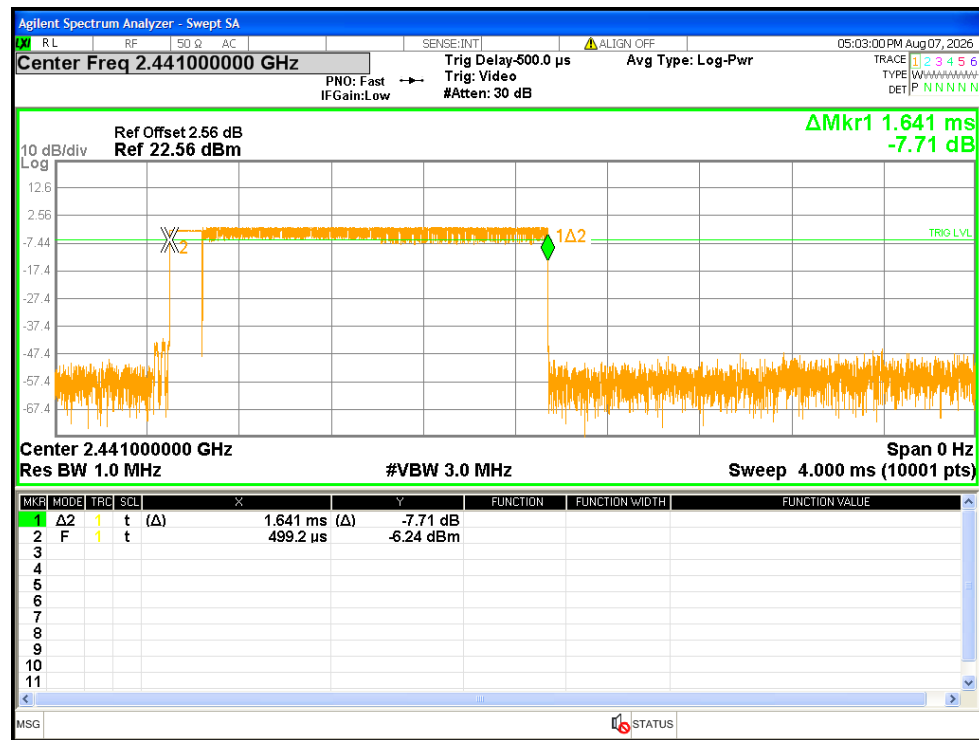
Dwell NVNT 2-DH1 2441MHz One Burst



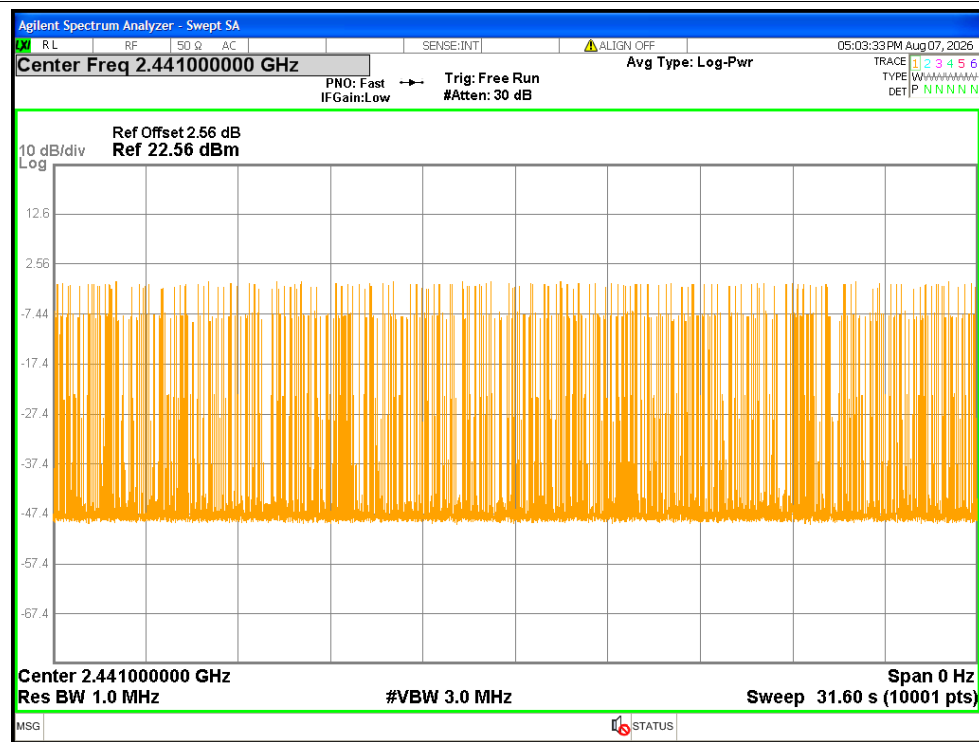
Dwell NVNT 2-DH1 2441MHz Accumulated



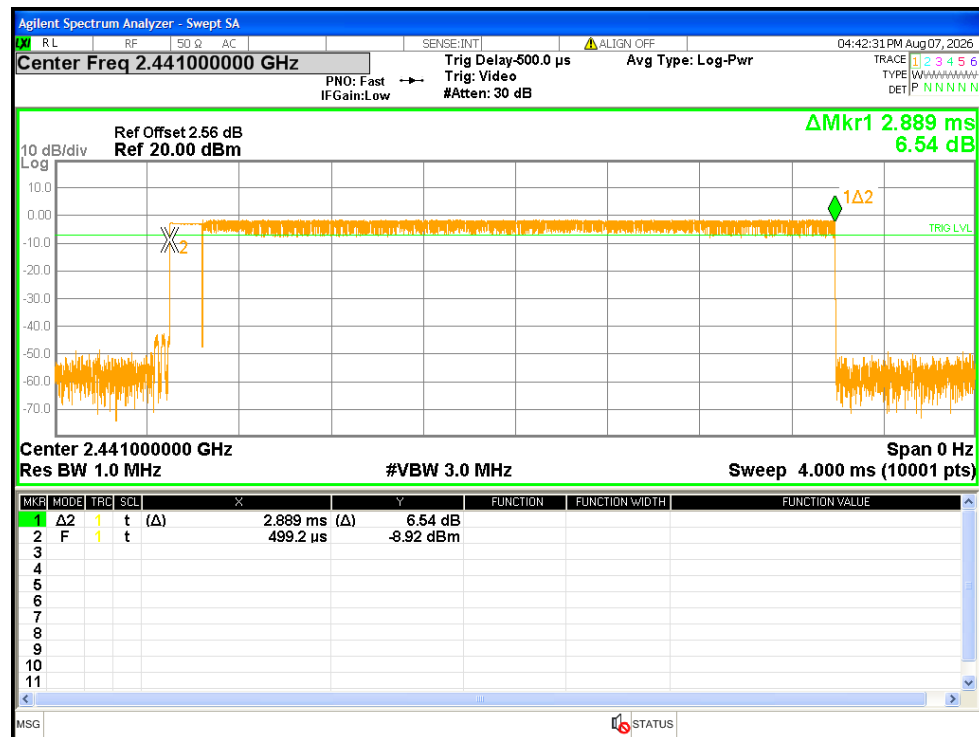
Dwell NVNT 2-DH3 2441MHz One Burst



Dwell NVNT 2-DH3 2441MHz Accumulated



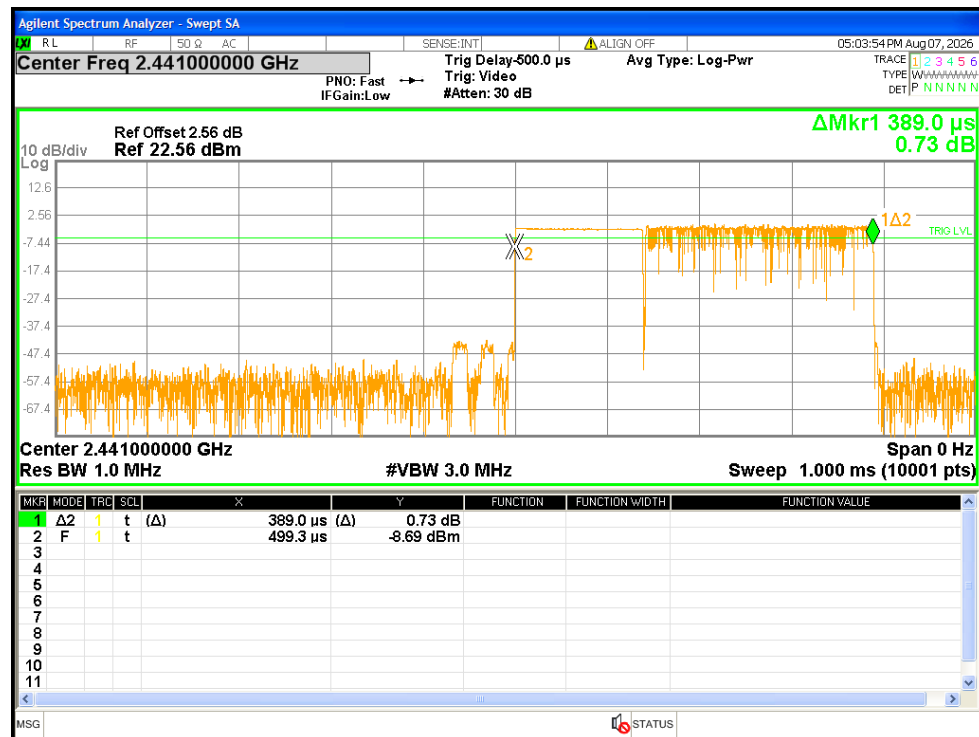
Dwell NVNT 2-DH5 2441MHz One Burst



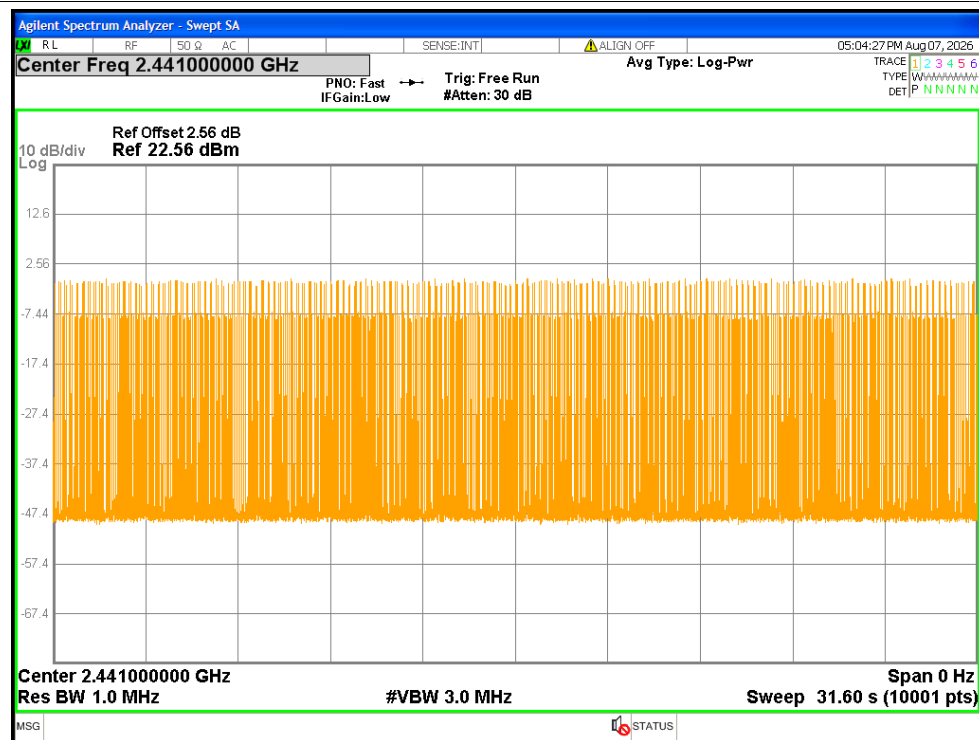
Dwell NVNT 2-DH5 2441MHz Accumulated



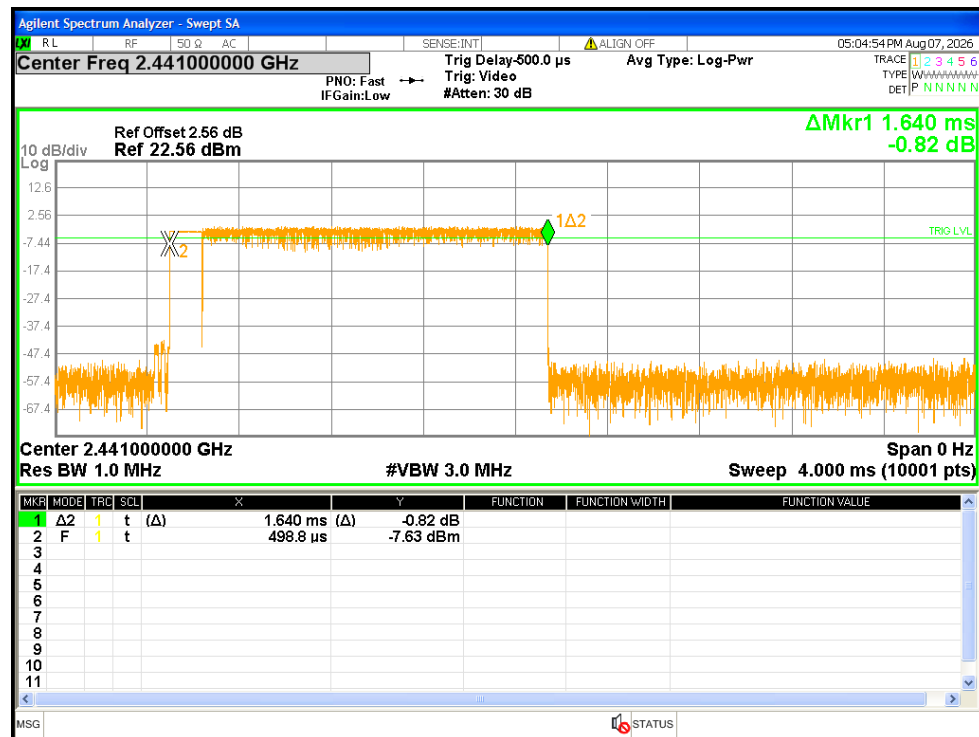
Dwell NVNT 3-DH1 2441MHz One Burst



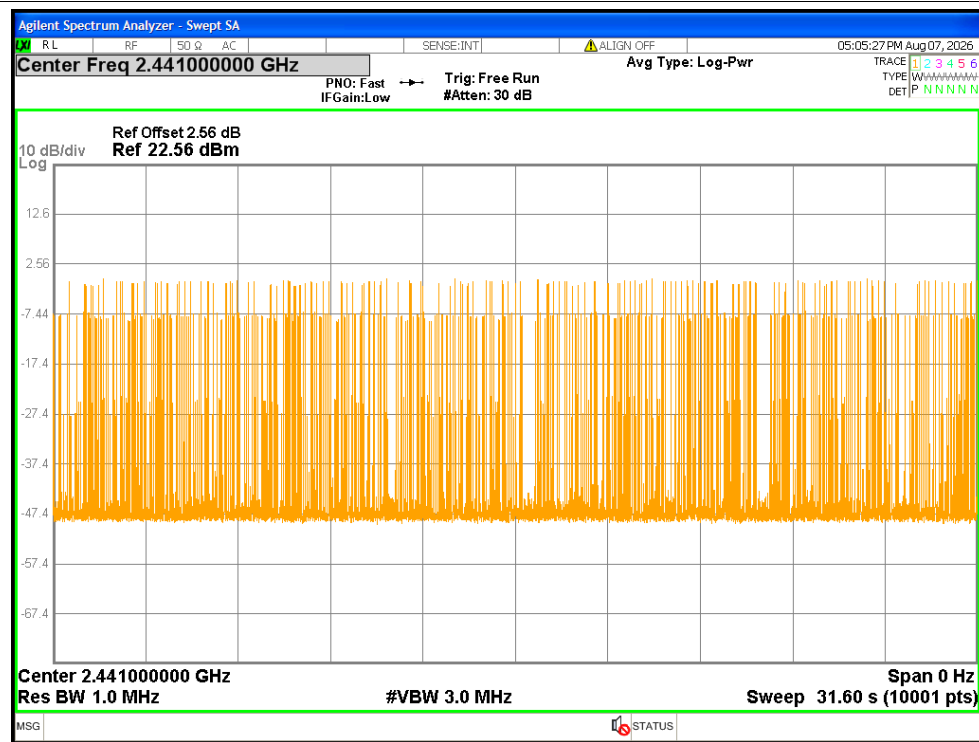
Dwell NVNT 3-DH1 2441MHz Accumulated



Dwell NVNT 3-DH3 2441MHz One Burst



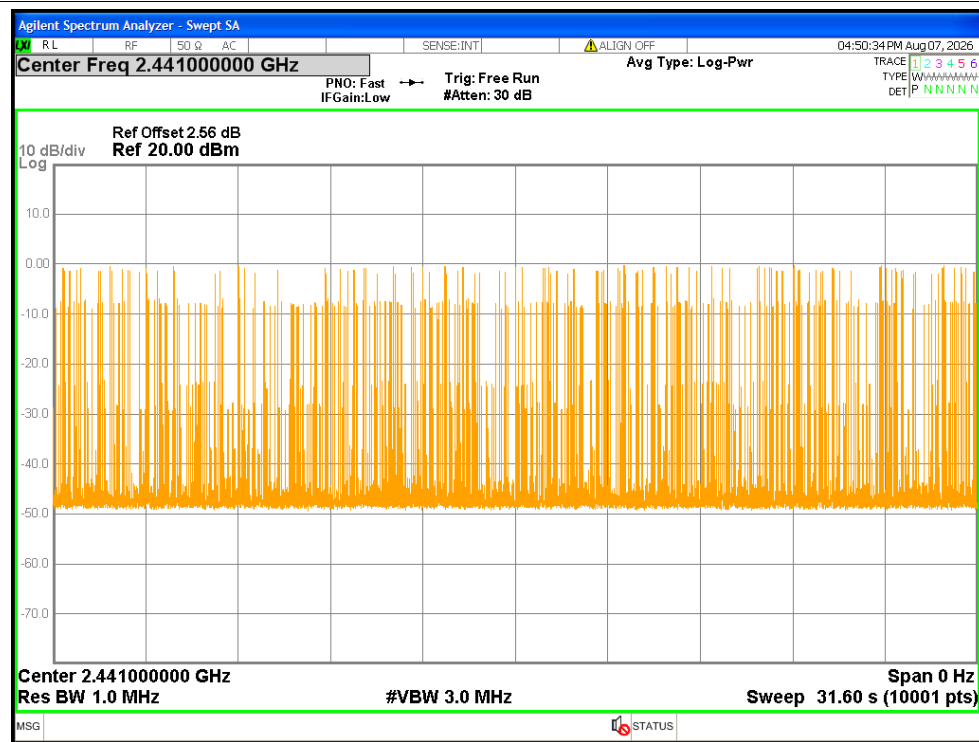
Dwell NVNT 3-DH3 2441MHz Accumulated



Dwell NVNT 3-DH5 2441MHz One Burst



Dwell NVNT 3-DH5 2441MHz Accumulated



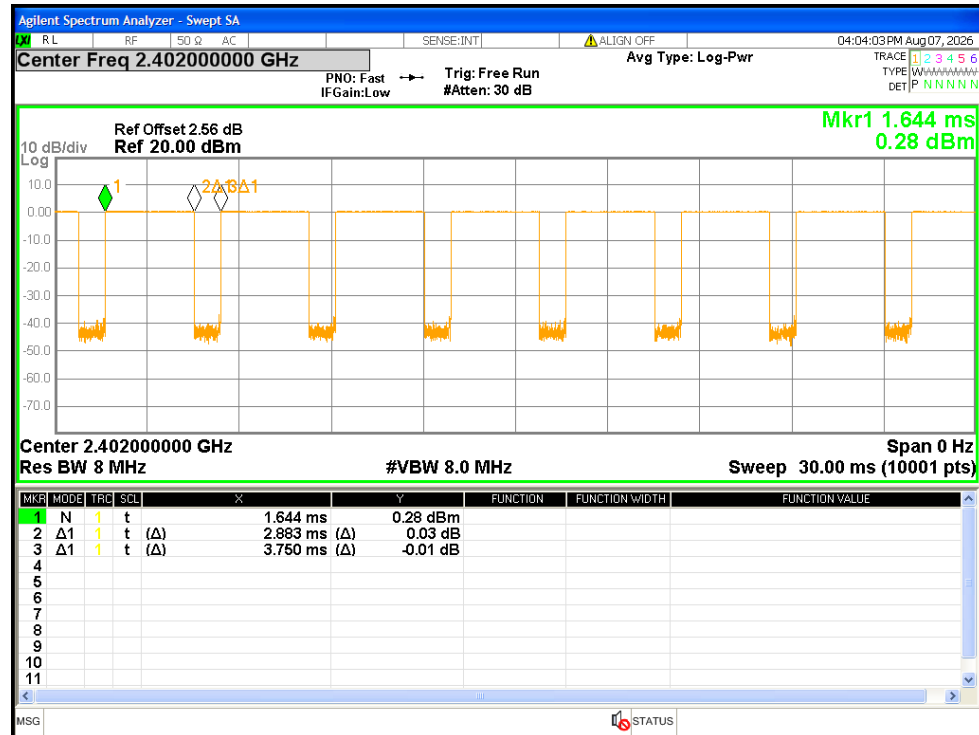
Duty Cycle

Mode	Frequency (MHz)	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
1-DH5	2402	2.883	3.75	76.88	1.14	0.35
1-DH5	2441	2.883	3.75	76.88	1.14	0.35
1-DH5	2480	2.886	3.75	76.96	1.14	0.35
2-DH5	2402	2.892	3.75	77.12	1.13	0.35
2-DH5	2441	2.892	3.75	77.12	1.13	0.35
2-DH5	2480	2.889	3.75	77.04	1.13	0.35
3-DH5	2402	2.892	3.75	77.12	1.13	0.35
3-DH5	2441	2.892	3.75	77.12	1.13	0.35
3-DH5	2480	2.892	3.75	77.12	1.13	0.35

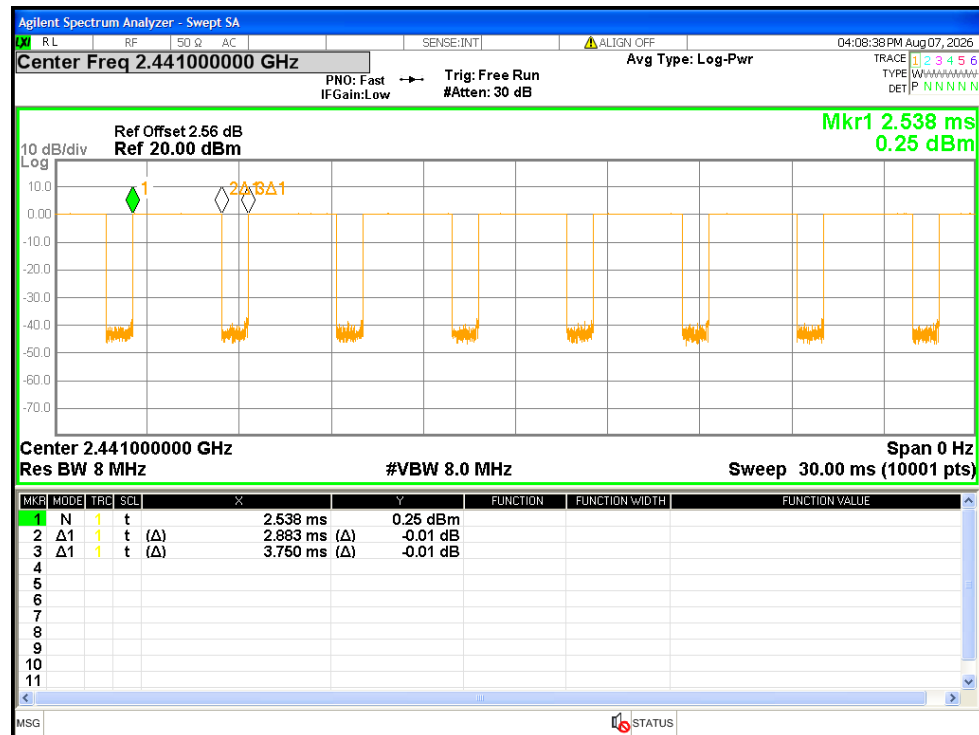
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

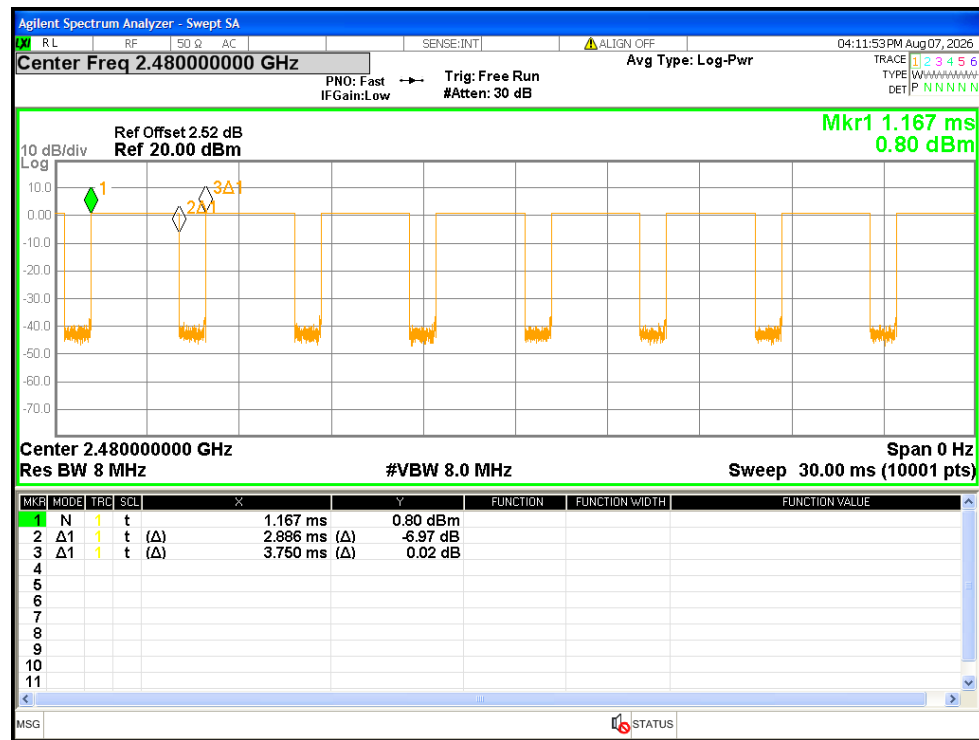
Duty Cycle NVNT 1-DH5 2402MHz



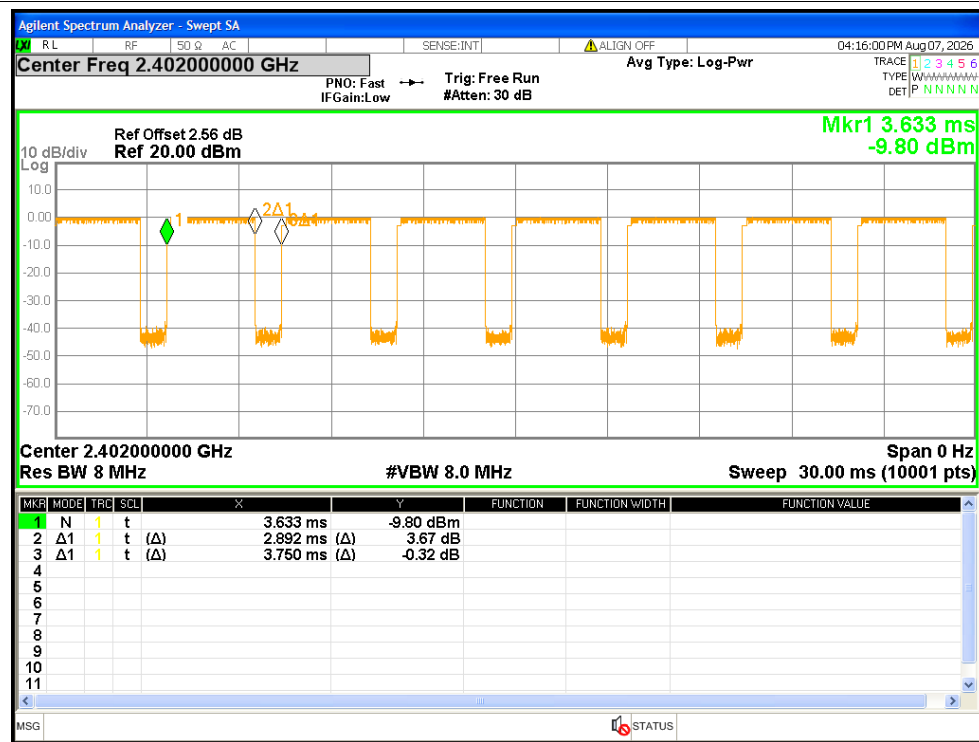
Duty Cycle NVNT 1-DH5 2441MHz



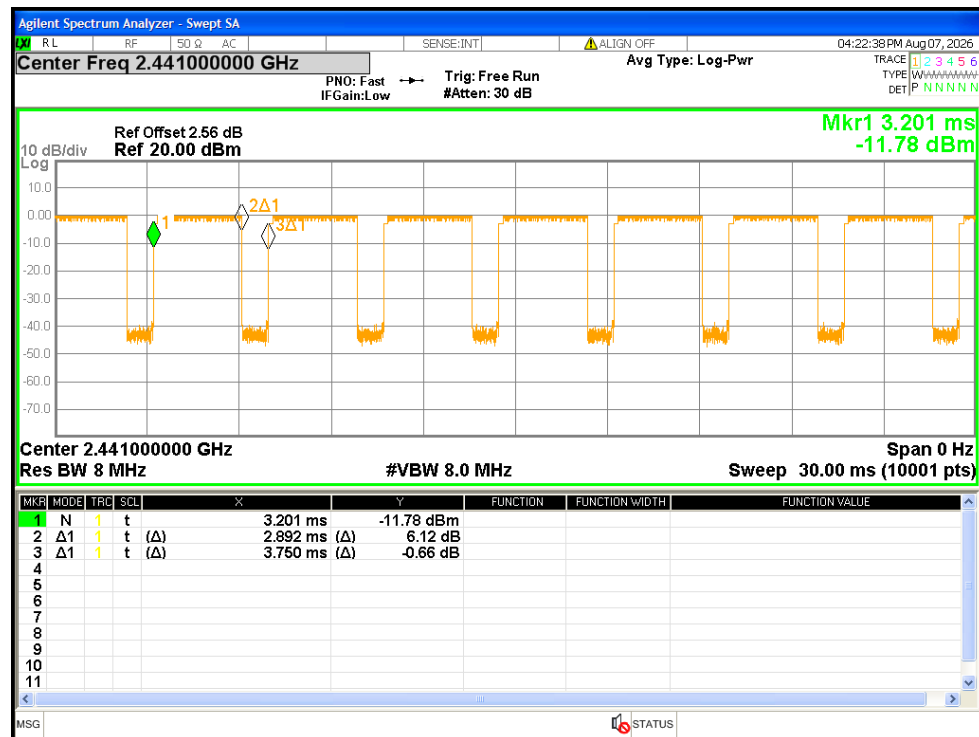
Duty Cycle NVNT 1-DH5 2480MHz



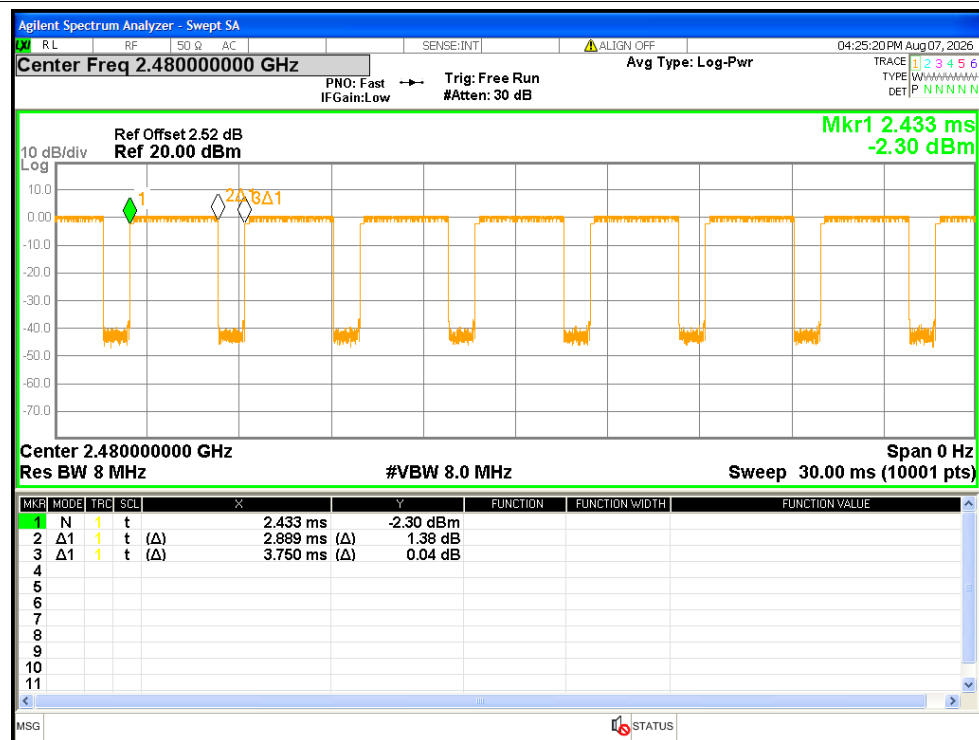
Duty Cycle NVNT 2-DH5 2402MHz



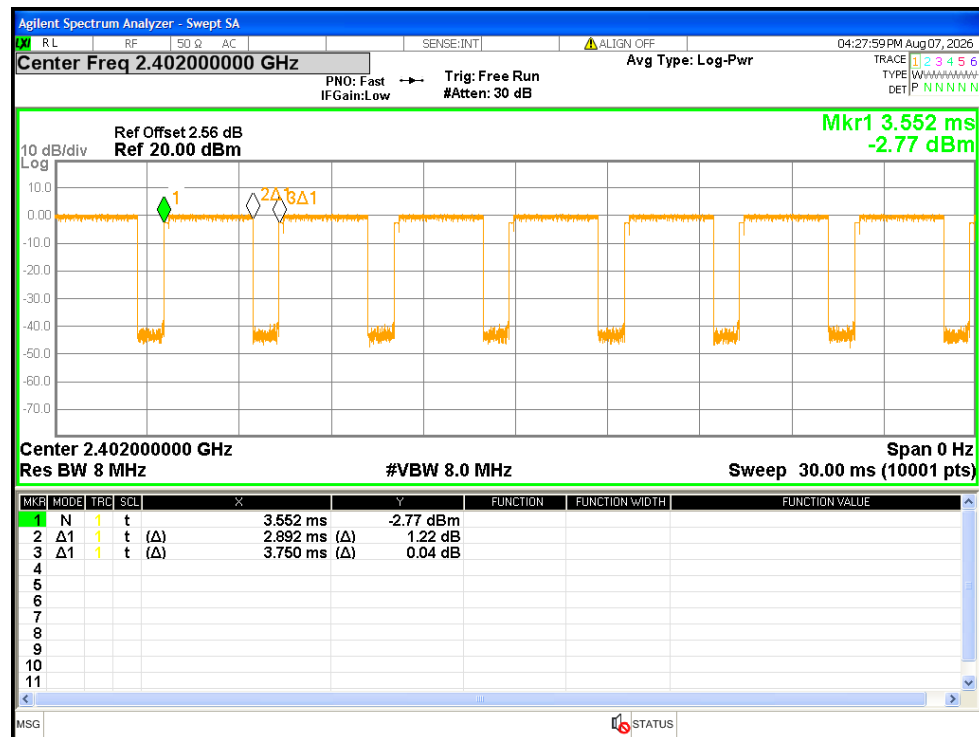
Duty Cycle NVNT 2-DH5 2441MHz



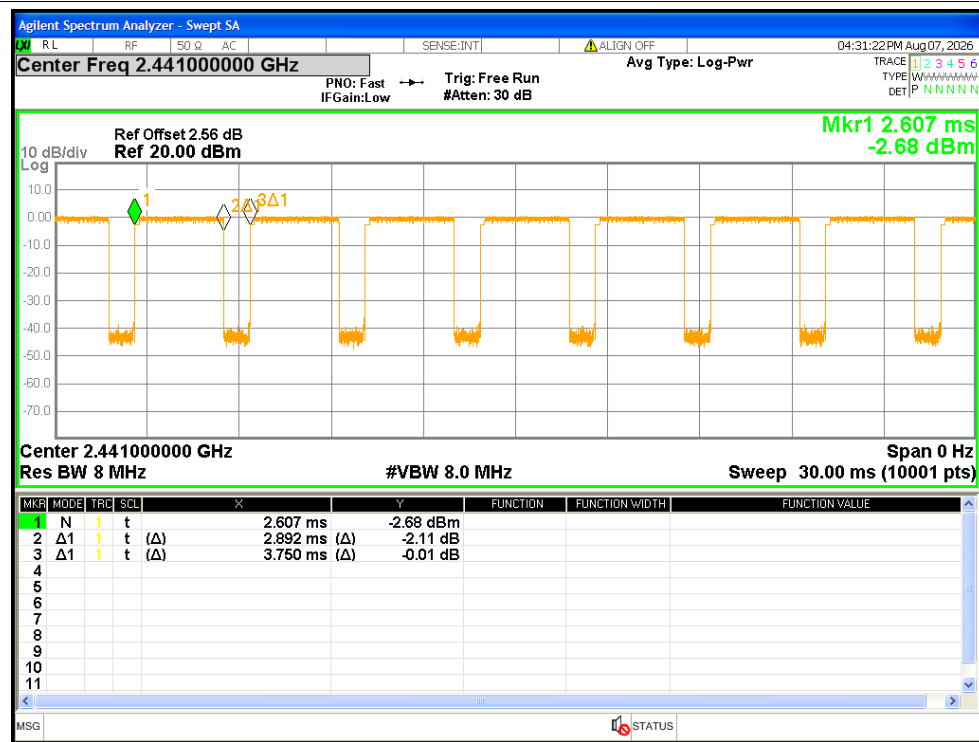
Duty Cycle NVNT 2-DH5 2480MHz



Duty Cycle NVNT 3-DH5 2402MHz



Duty Cycle NVNT 3-DH5 2441MHz



[illegible]

Maximum Peak Conducted Output Power

Left

Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
1-DH5	2402	0.3	<=30	Pass
1-DH5	2441	0.28	<=30	Pass
1-DH5	2480	0.87	<=30	Pass
2-DH5	2402	-0.72	<=21	Pass
2-DH5	2441	-0.81	<=21	Pass
2-DH5	2480	-0.22	<=21	Pass
3-DH5	2402	-0.38	<=21	Pass
3-DH5	2441	-0.4	<=21	Pass
3-DH5	2480	0.04	<=21	Pass

Right

Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
1-DH5	2402	0.25	<=30	Pass
1-DH5	2441	0.22	<=30	Pass
1-DH5	2480	0.69	<=30	Pass
2-DH5	2402	-0.80	<=21	Pass
2-DH5	2441	-0.85	<=21	Pass
2-DH5	2480	-0.29	<=21	Pass
3-DH5	2402	-0.46	<=21	Pass
3-DH5	2441	-0.55	<=21	Pass
3-DH5	2480	-0.06	<=21	Pass

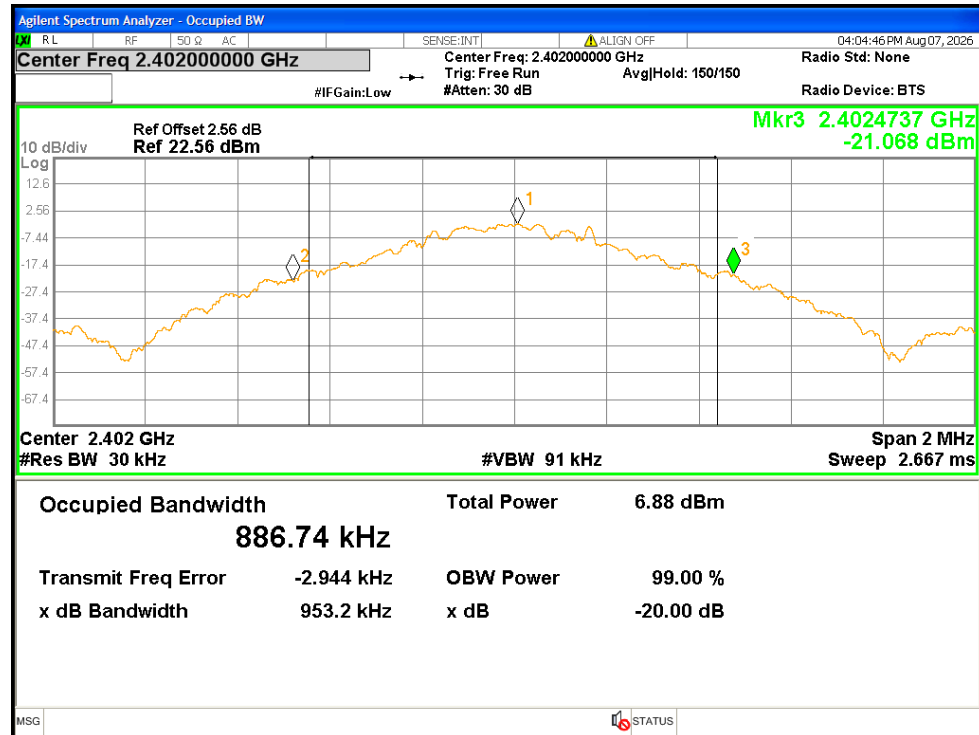
-20dB Bandwidth

Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
1-DH5	2402	0.9532	Pass
1-DH5	2441	0.957	Pass
1-DH5	2480	0.9511	Pass
2-DH5	2402	1.439	Pass
2-DH5	2441	1.504	Pass
2-DH5	2480	1.478	Pass
3-DH5	2402	1.483	Pass
3-DH5	2441	1.485	Pass
3-DH5	2480	1.483	Pass

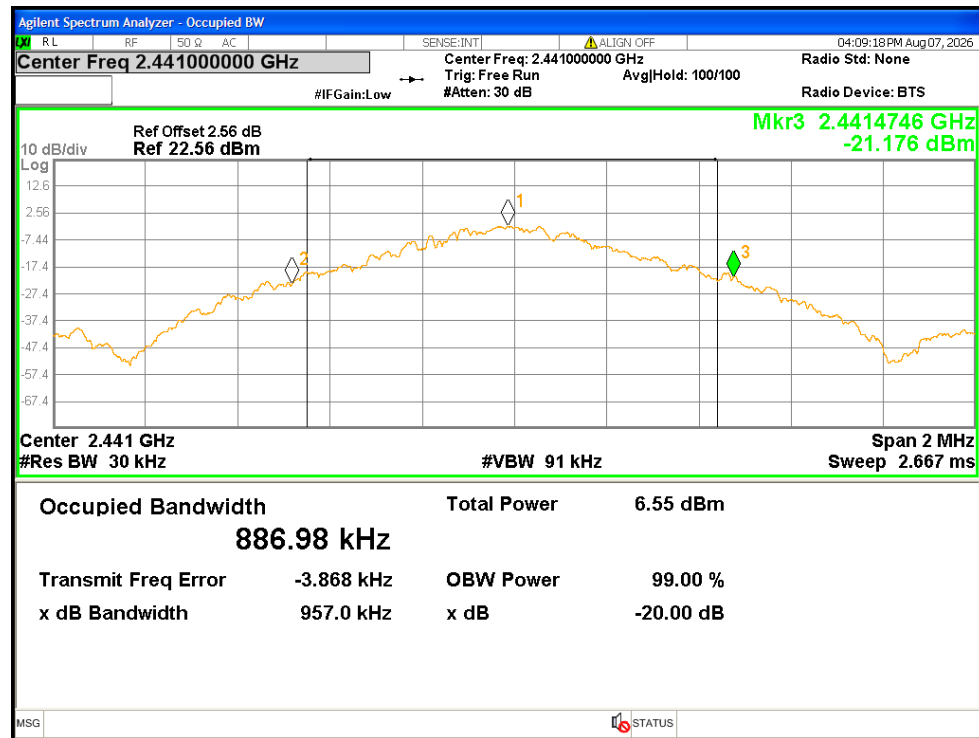
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

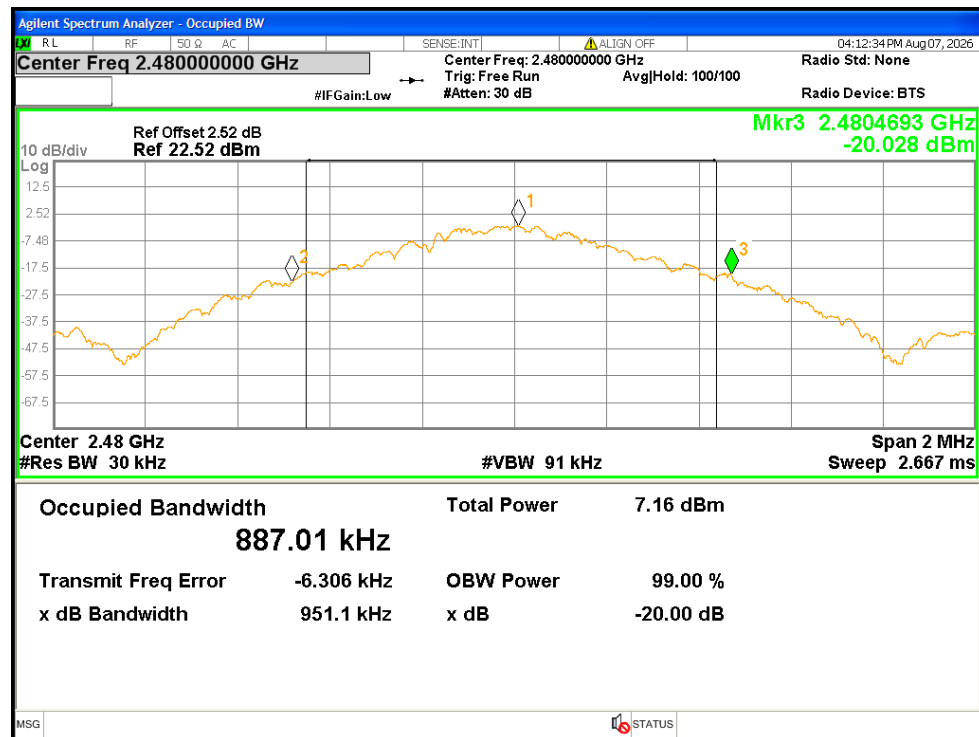
-20dB Bandwidth NVNT 1-DH5 2402MHz



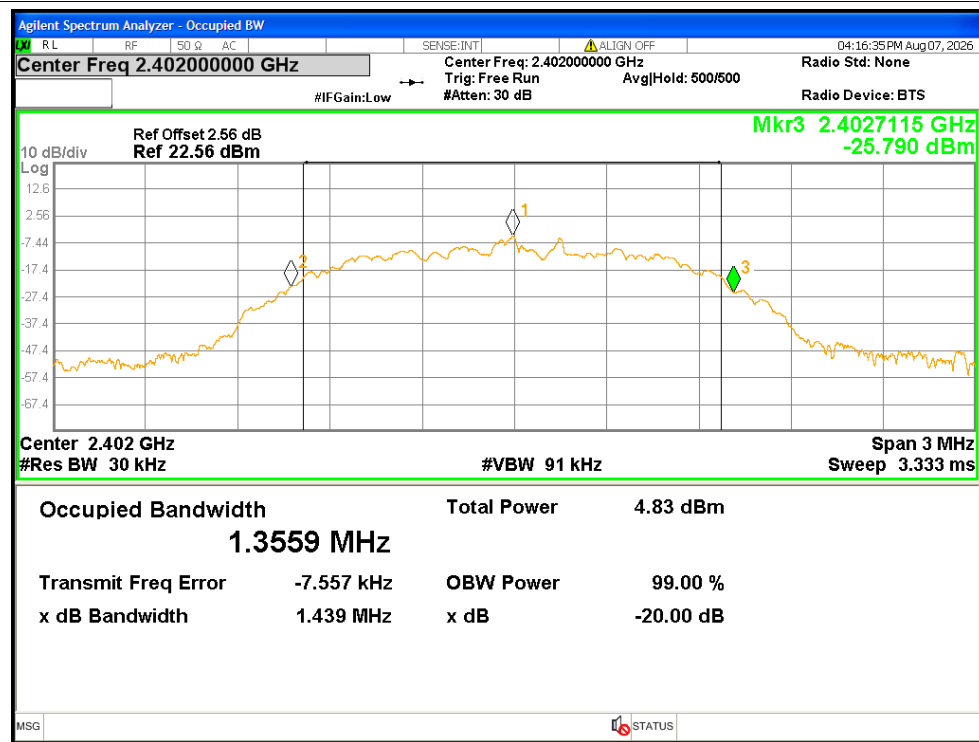
-20dB Bandwidth NVNT 1-DH5 2441MHz



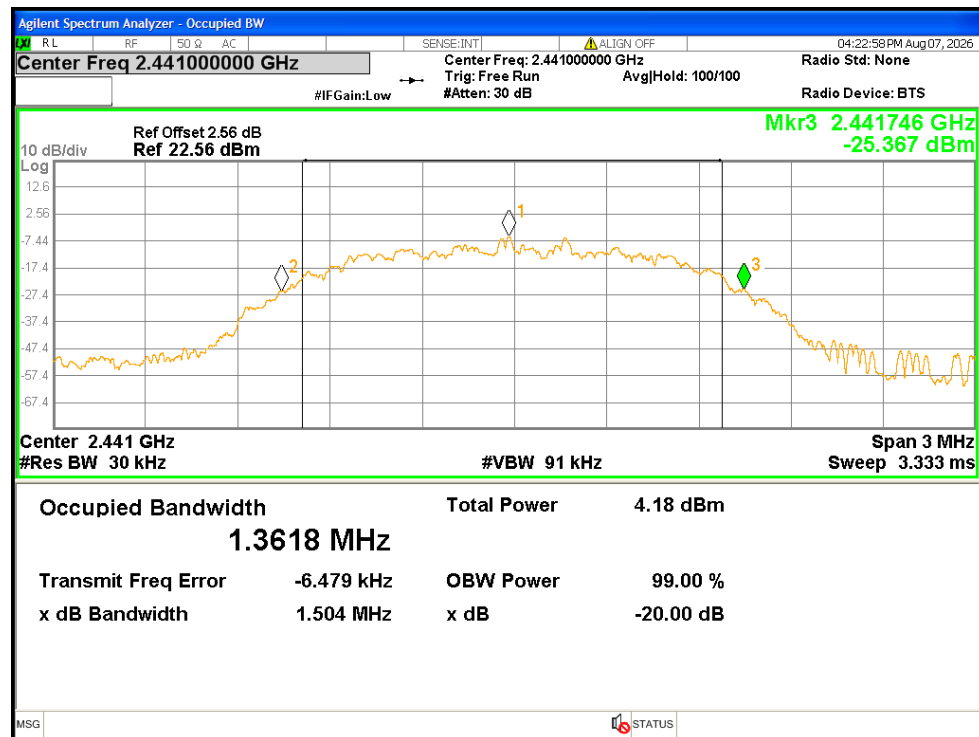
-20dB Bandwidth NVNT 1-DH5 2480MHz



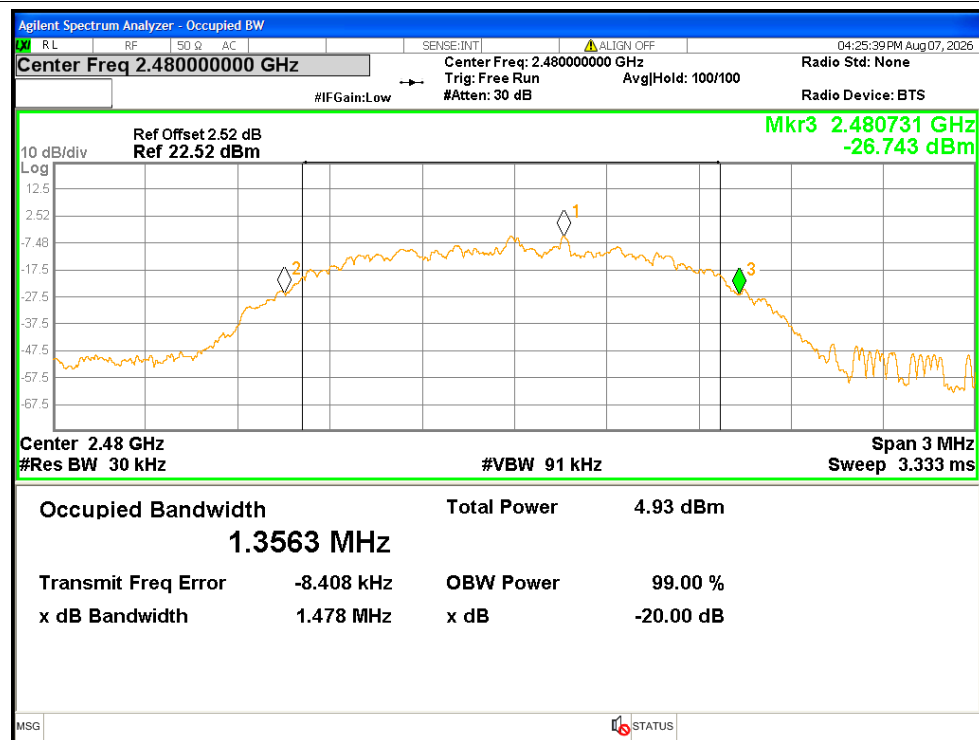
-20dB Bandwidth NVNT 2-DH5 2402MHz



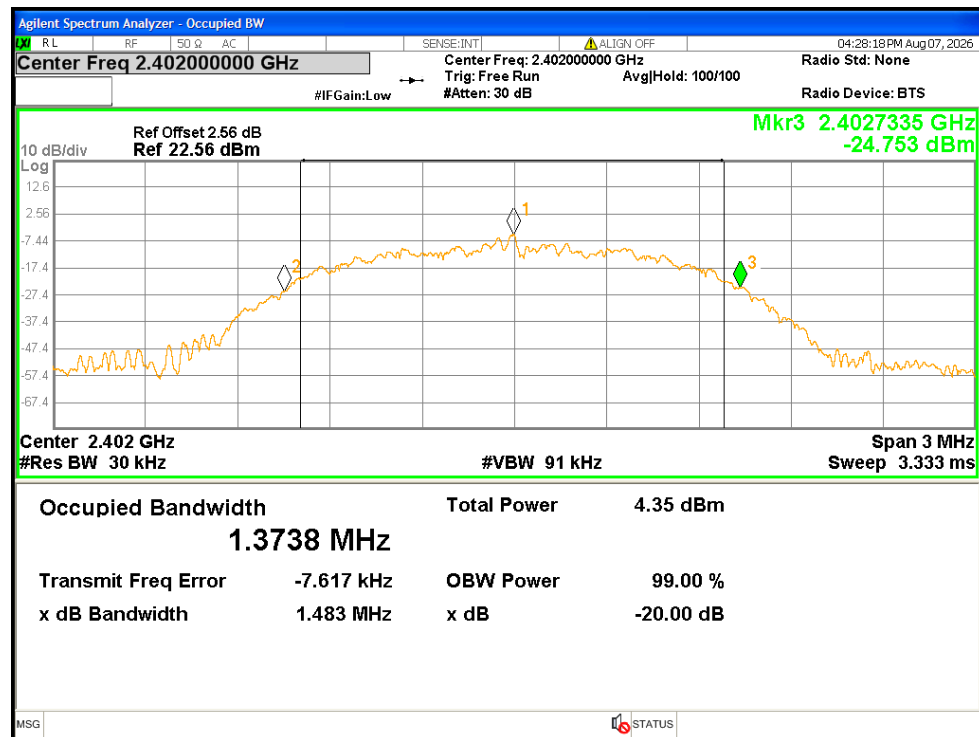
-20dB Bandwidth NVNT 2-DH5 2441MHz



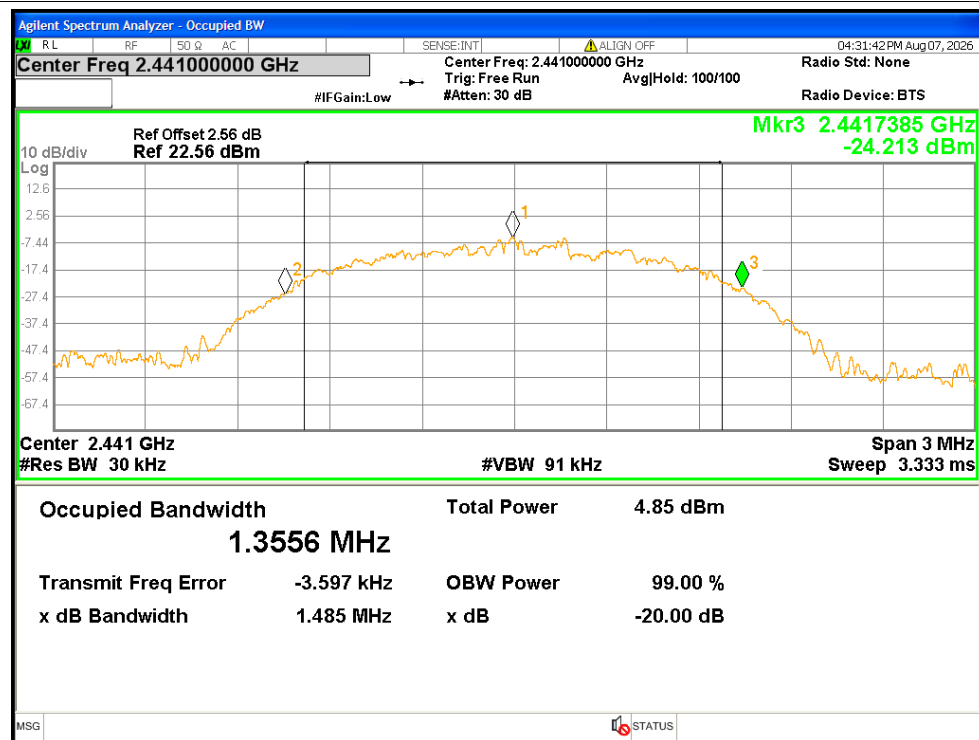
-20dB Bandwidth NVNT 2-DH5 2480MHz



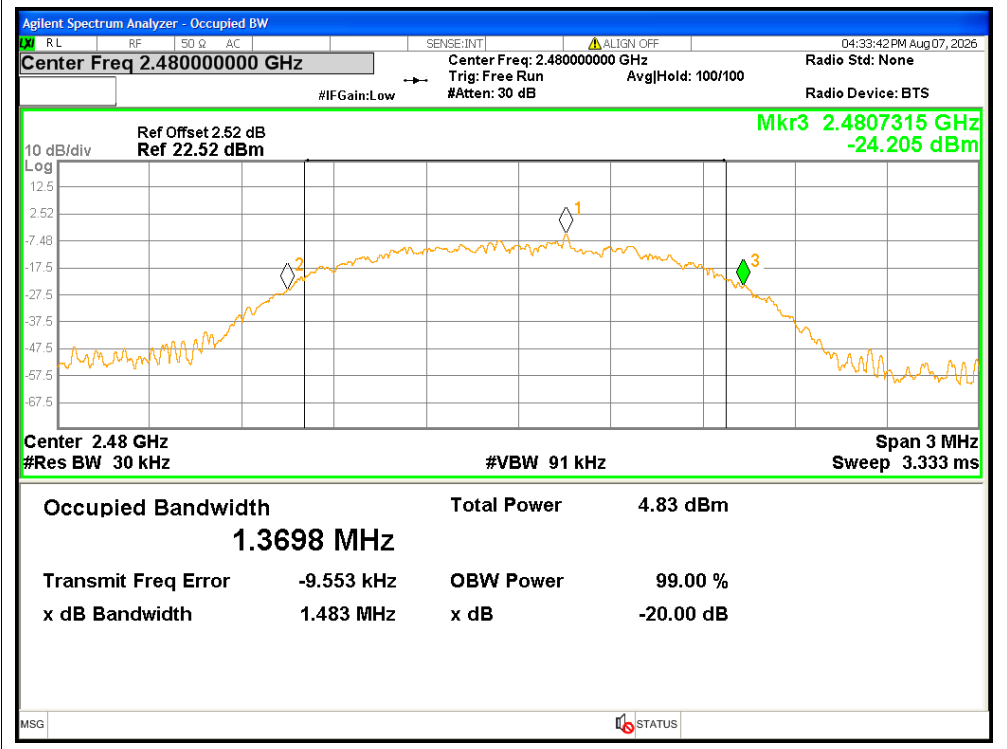
-20dB Bandwidth NVNT 3-DH5 2402MHz



-20dB Bandwidth NVNT 3-DH5 2441MHz



-20dB Bandwidth NVNT 3-DH5 2480MHz



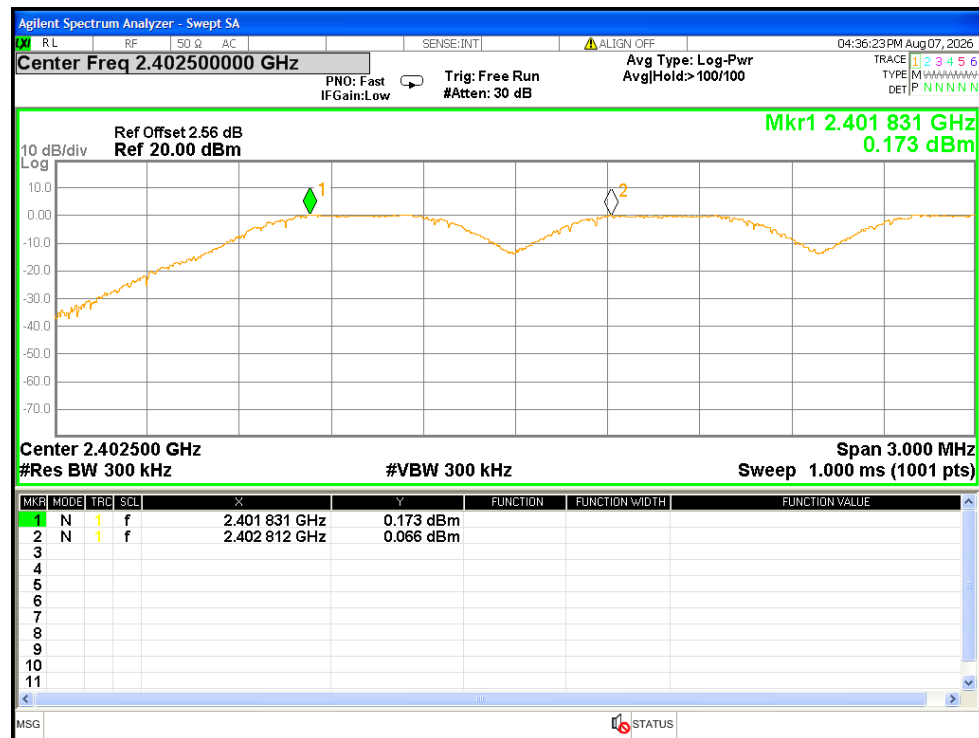
Carrier Frequencies Separation

Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH5	2401.831	2402.812	0.981	≥ 0.9532	Pass
1-DH5	2440.828	2442.145	1.317	≥ 0.957	Pass
1-DH5	2478.822	2479.83	1.008	≥ 0.9511	Pass
2-DH5	2401.849	2403.085	1.236	≥ 0.959	Pass
2-DH5	2440.843	2442.109	1.266	≥ 1.003	Pass
2-DH5	2478.855	2479.845	0.99	≥ 0.985	Pass
3-DH5	2401.771	2402.848	1.077	≥ 0.989	Pass
3-DH5	2440.849	2441.935	1.086	≥ 0.99	Pass
3-DH5	2478.822	2479.911	1.089	≥ 0.989	Pass

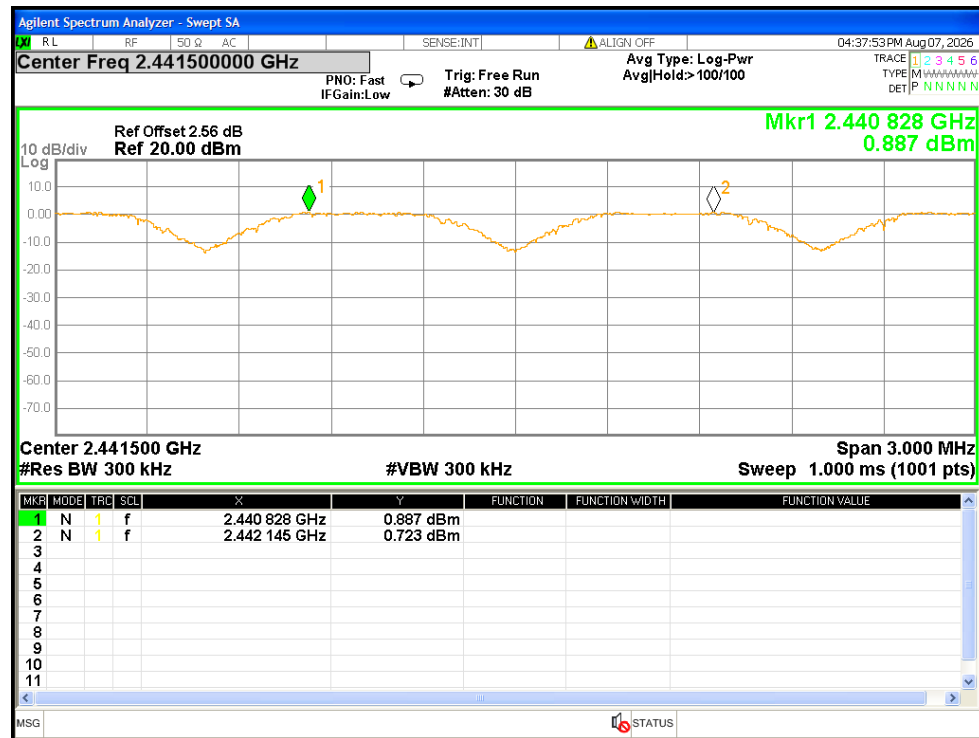
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

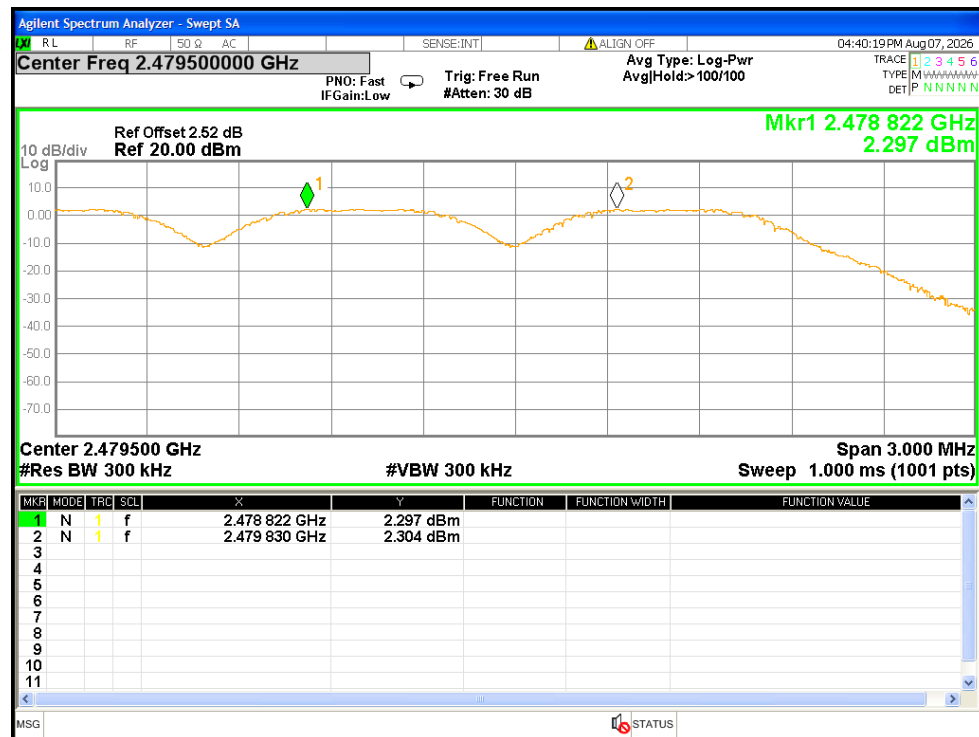
CFS NVNT 1-DH5 2402MHz



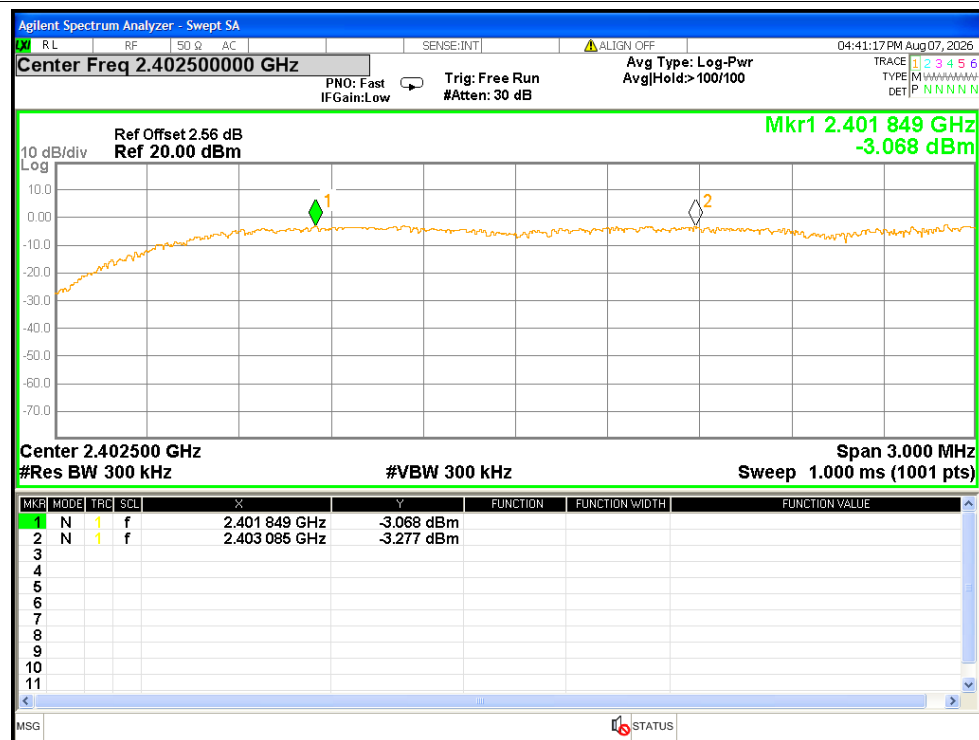
CFS NVNT 1-DH5 2441MHz



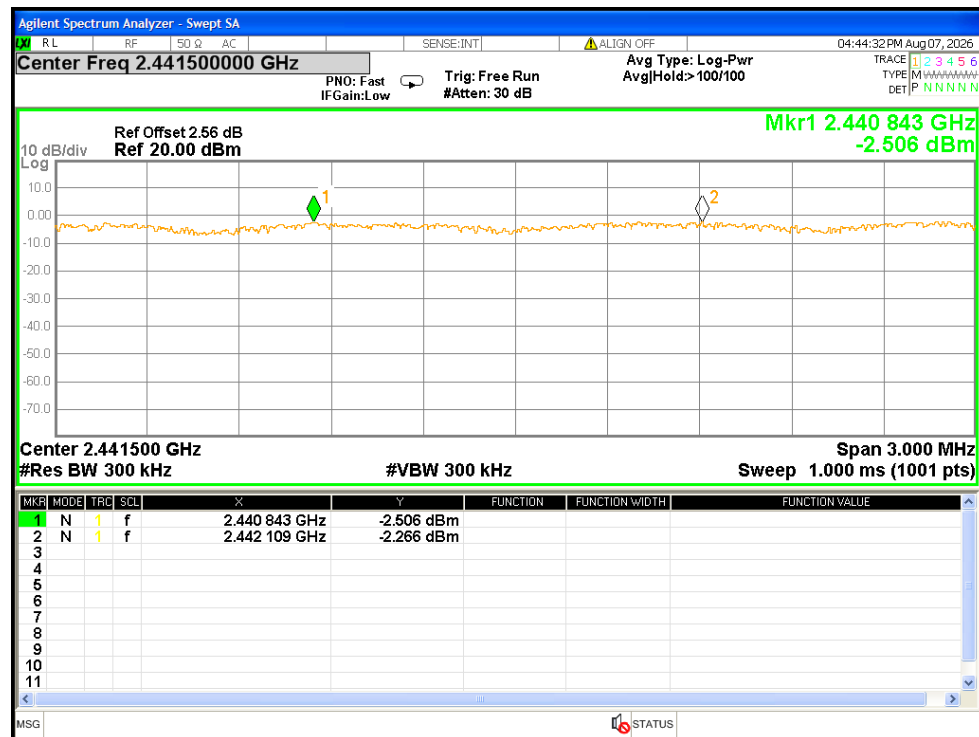
CFS NVNT 1-DH5 2480MHz



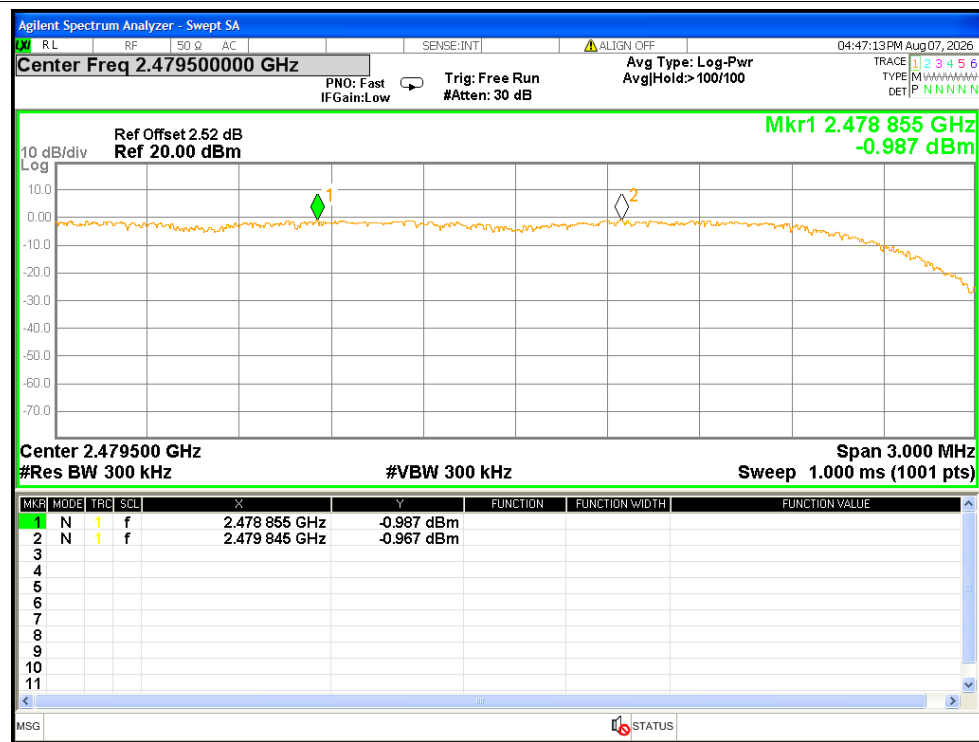
CFS NVNT 2-DH5 2402MHz



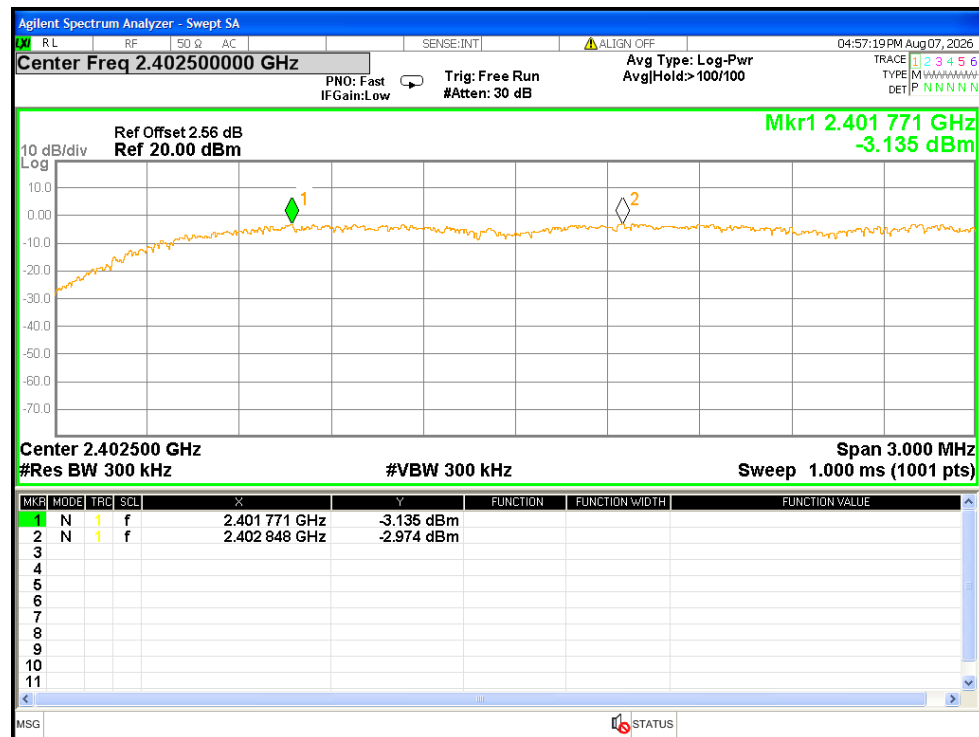
CFS NVNT 2-DH5 2441MHz



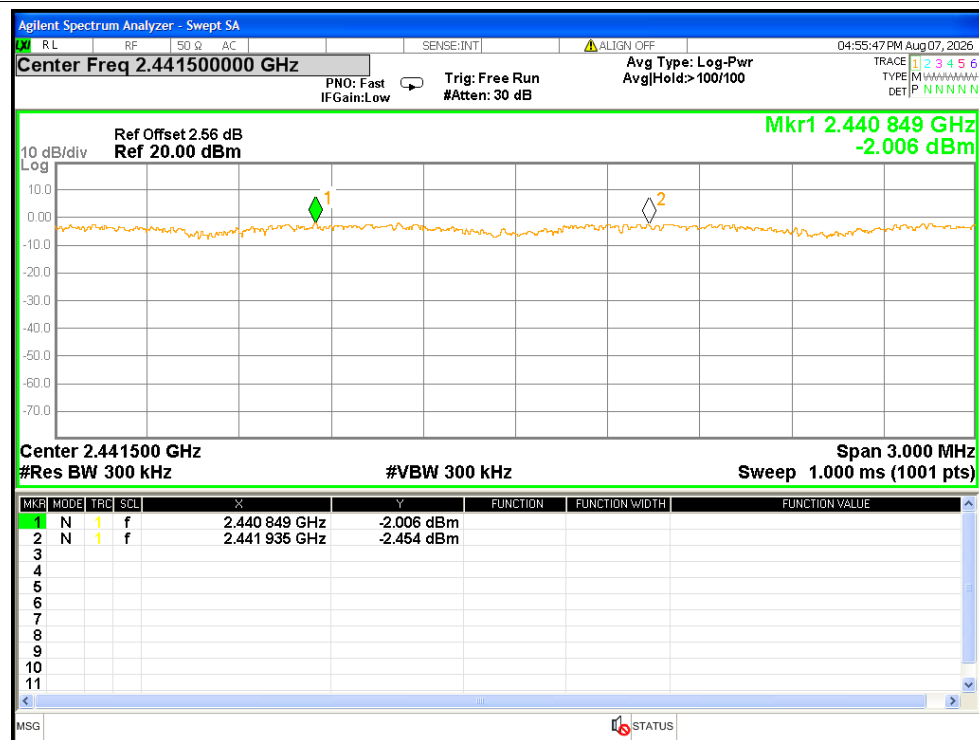
CFS NVNT 2-DH5 2480MHz



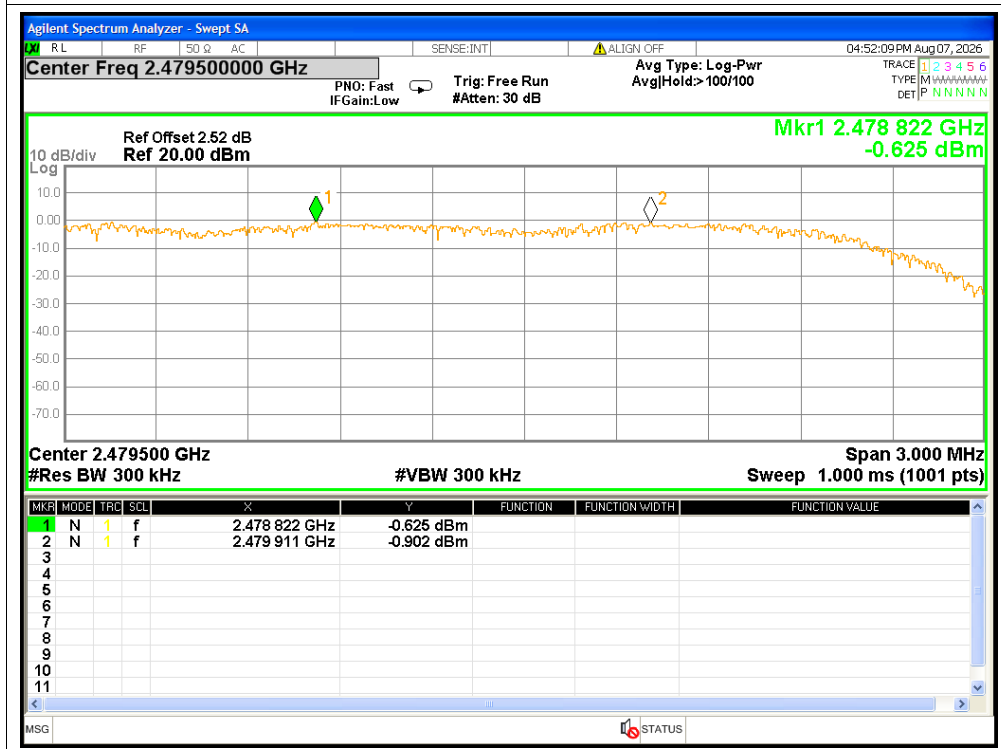
CFS NVNT 3-DH5 2402MHz



CFS NVNT 3-DH5 2441MHz



CFS NVNT 3-DH5 2480MHz



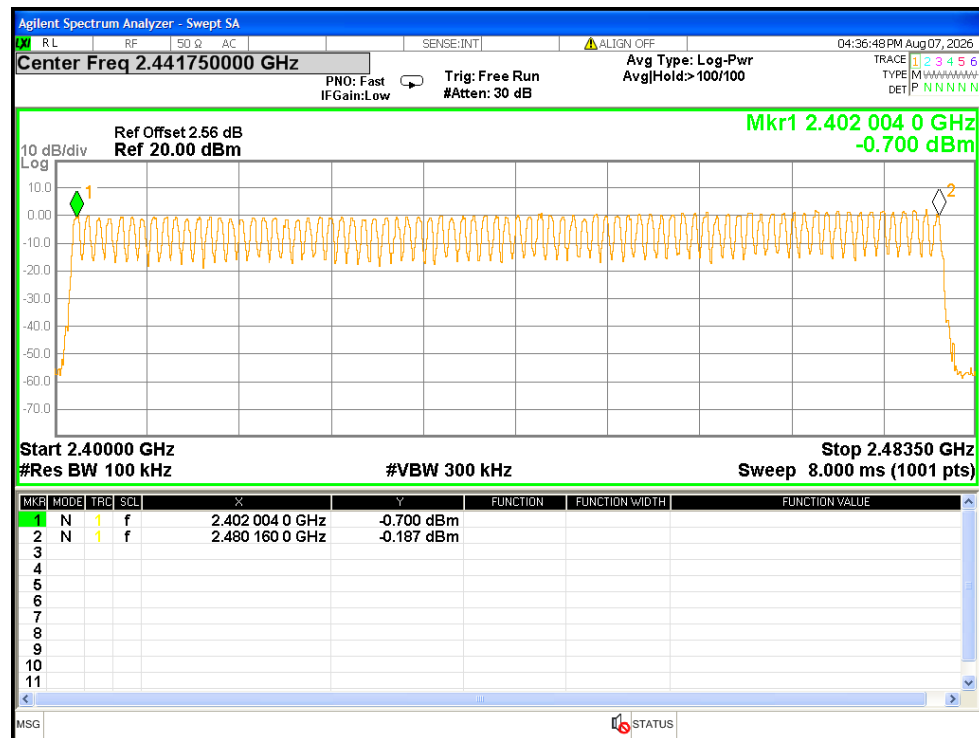
Number of Hopping Channel

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

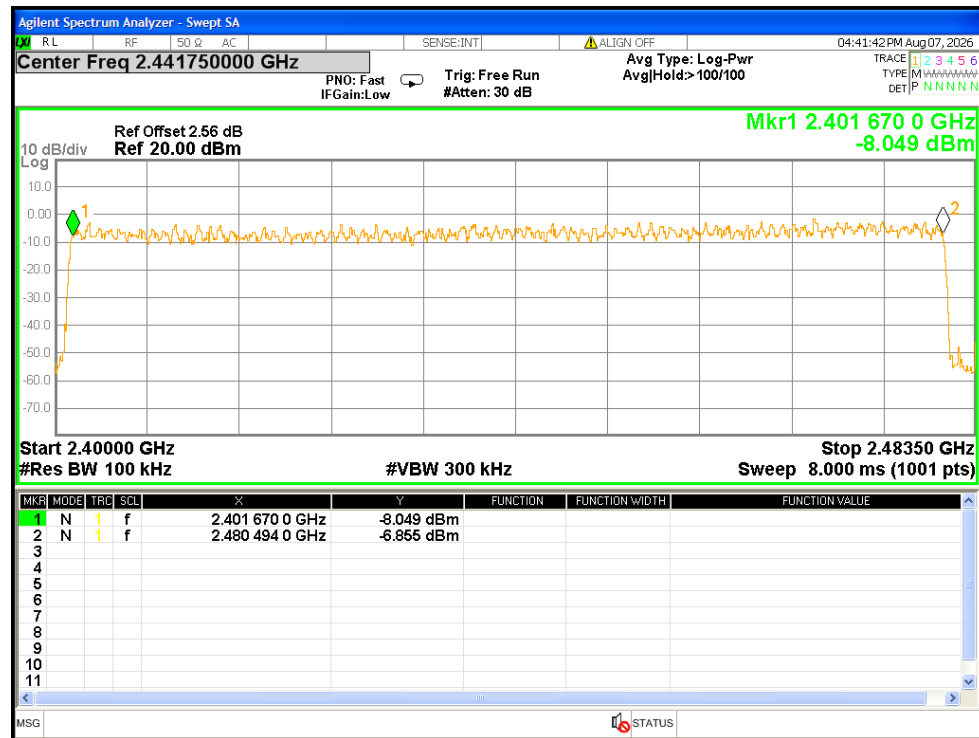
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

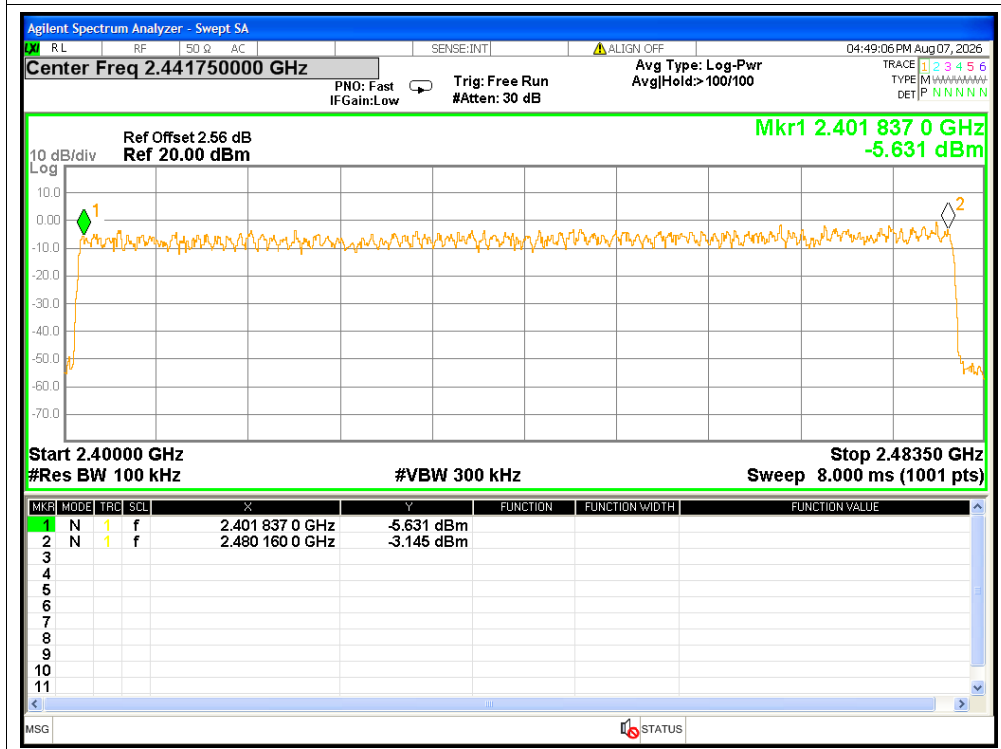
Hopping No. NVNT 1-DH5 Hopping



Hopping No. NVNT 2-DH5 Hopping



Hopping No. NVNT 3-DH5 Hopping



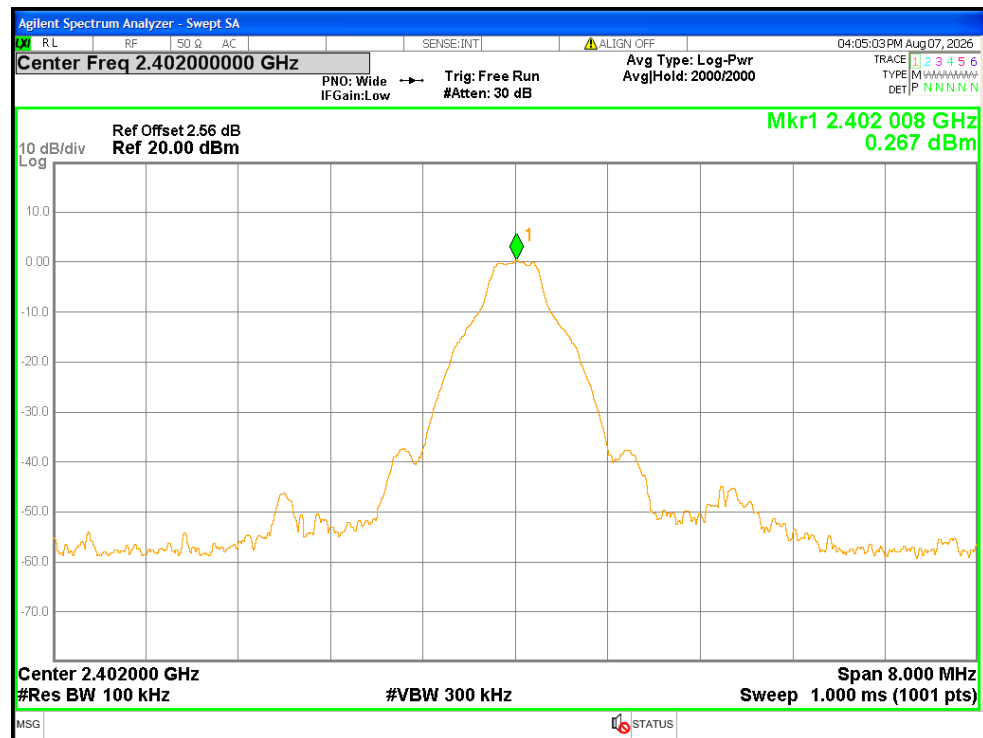
Band Edge

Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	No-Hopping	-56.96	<=-20	Pass
1-DH5	2480	No-Hopping	-44.98	<=-20	Pass
2-DH5	2402	No-Hopping	-53.34	<=-20	Pass
2-DH5	2480	No-Hopping	-51.25	<=-20	Pass
3-DH5	2402	No-Hopping	-53.82	<=-20	Pass
3-DH5	2480	No-Hopping	-51.32	<=-20	Pass

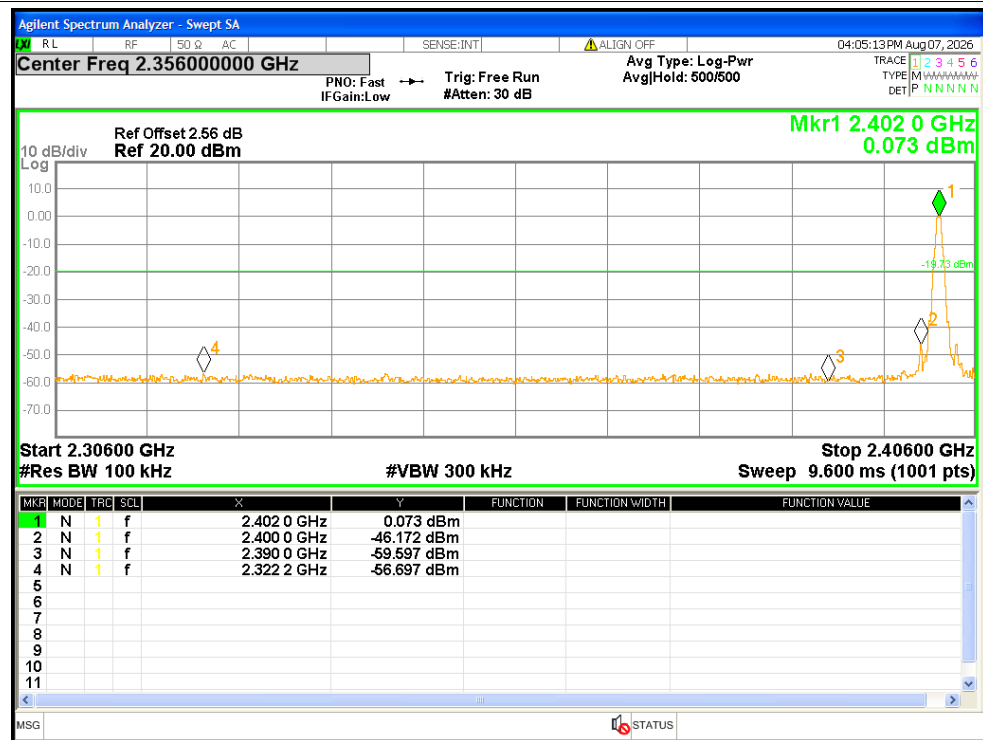
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

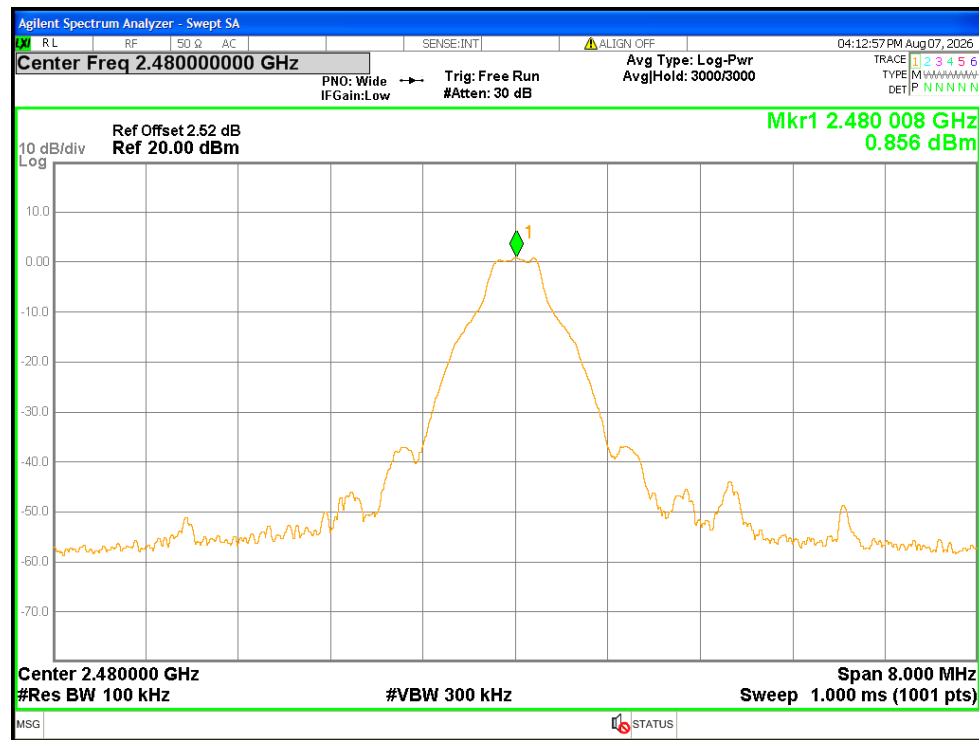
Band Edge NVNT 1-DH5 2402MHz No-Hopping Ref



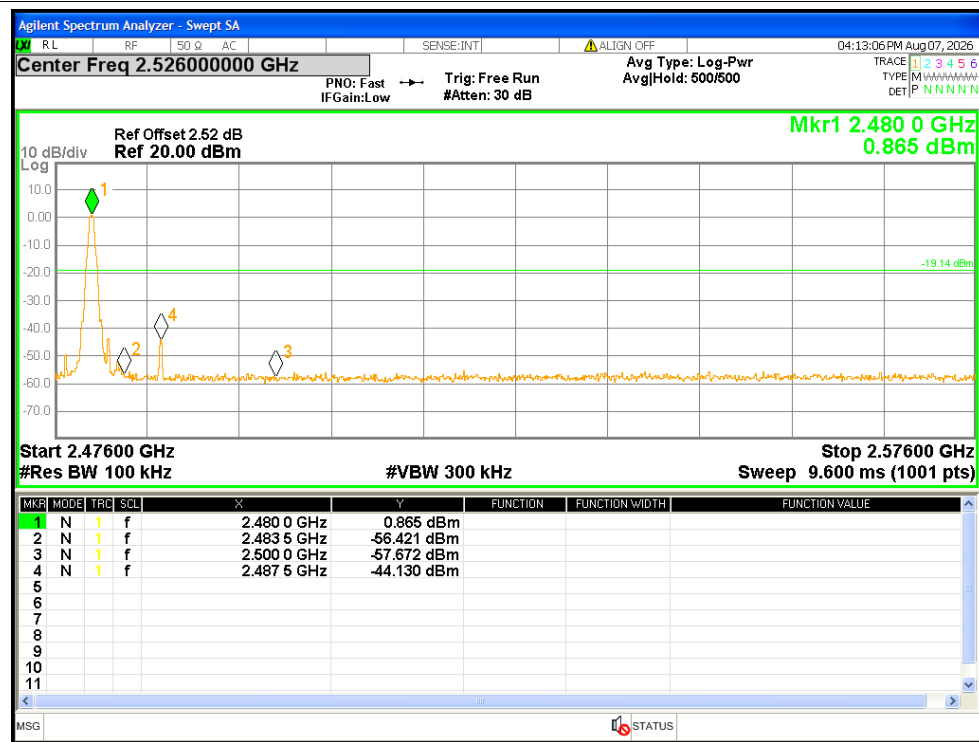
Band Edge NVNT 1-DH5 2402MHz No-Hopping Emission



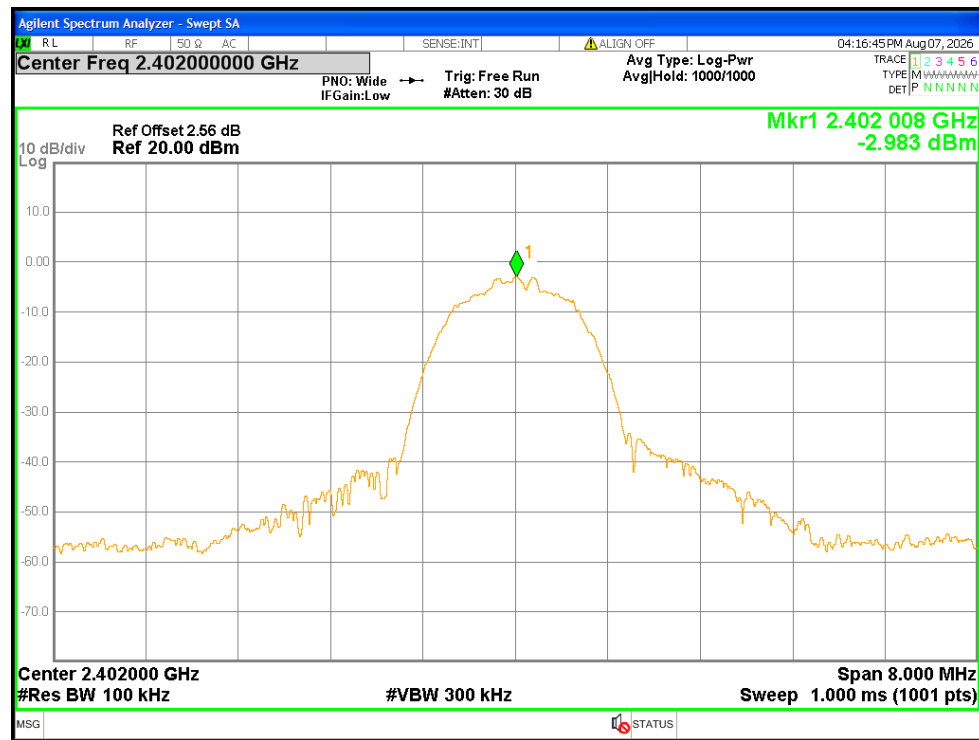
Band Edge NVNT 1-DH5 2480MHz No-Hopping Ref



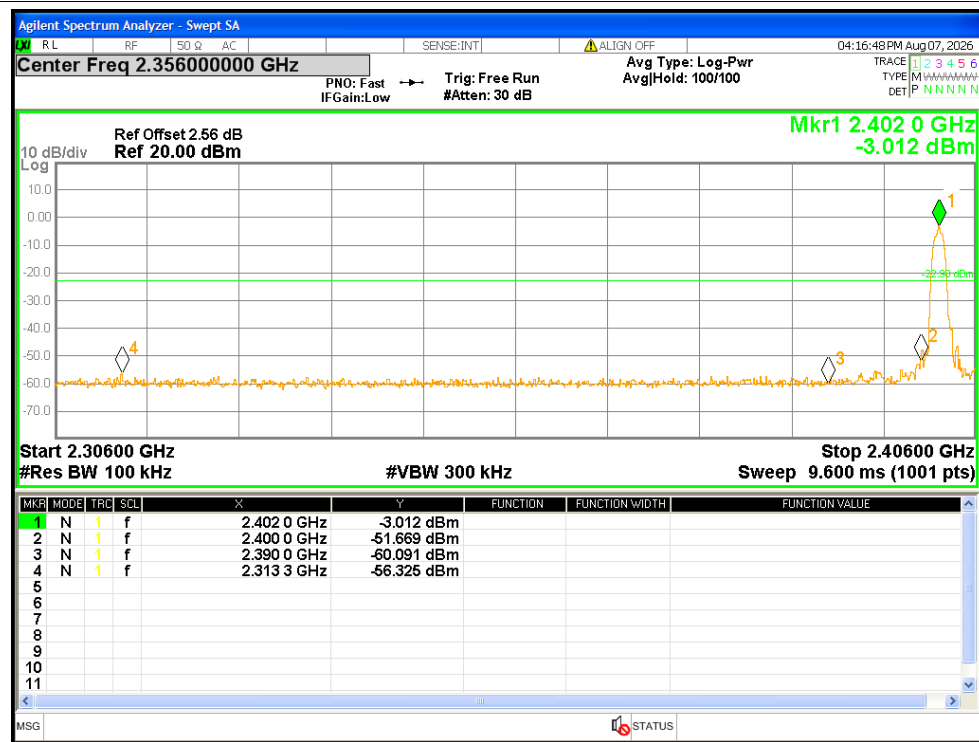
Band Edge NVNT 1-DH5 2480MHz No-Hopping Emission



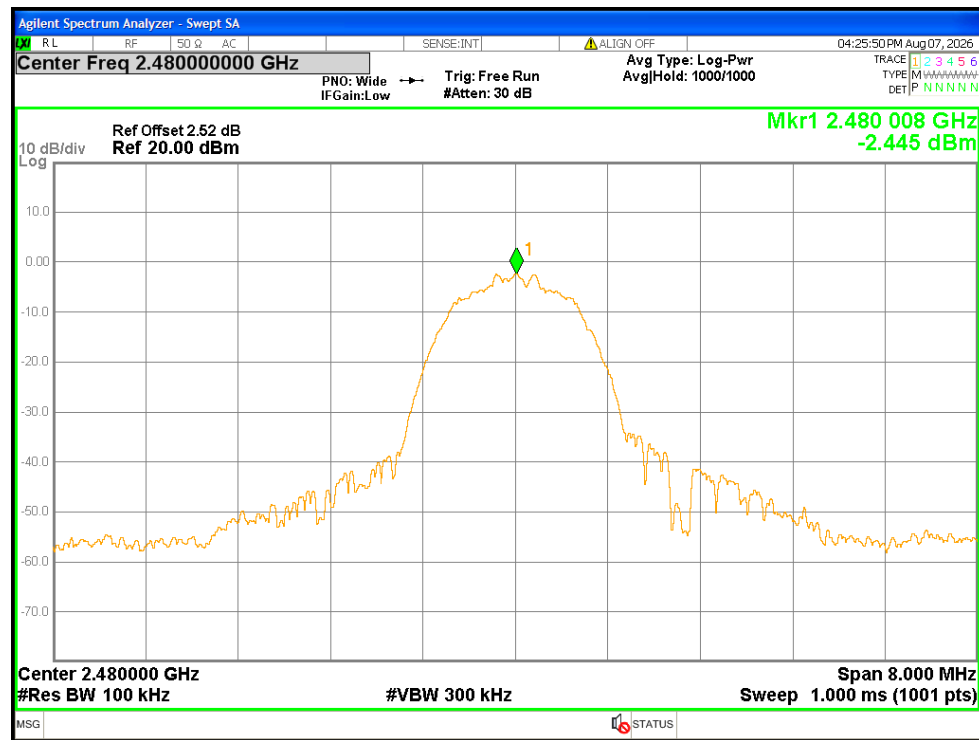
Band Edge NVNT 2-DH5 2402MHz No-Hopping Ref



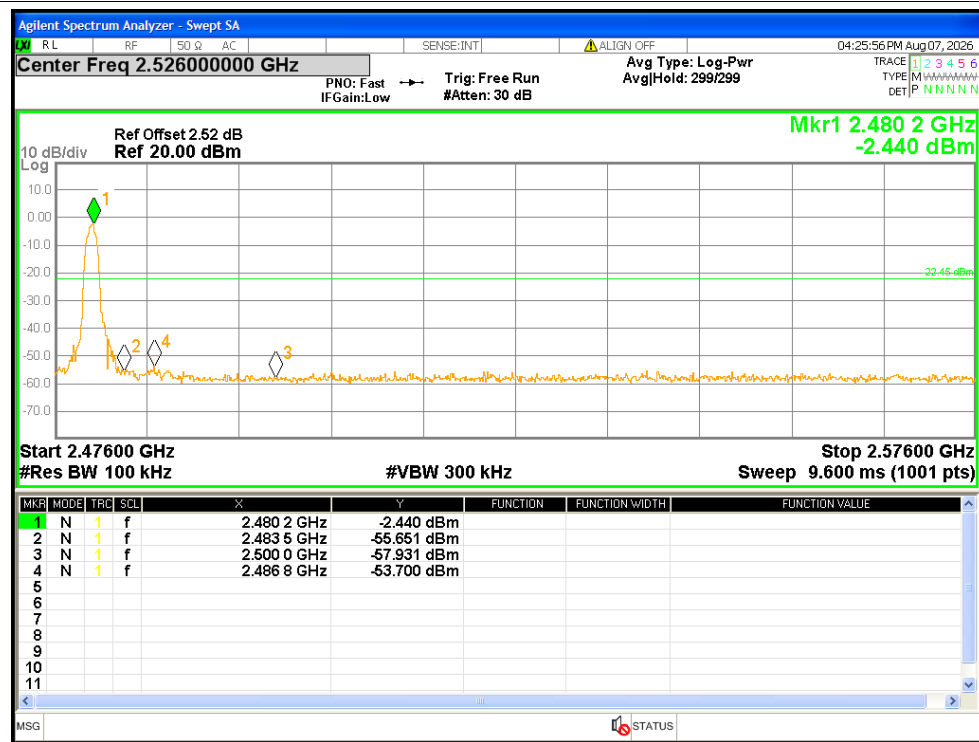
Band Edge NVNT 2-DH5 2402MHz No-Hopping Emission



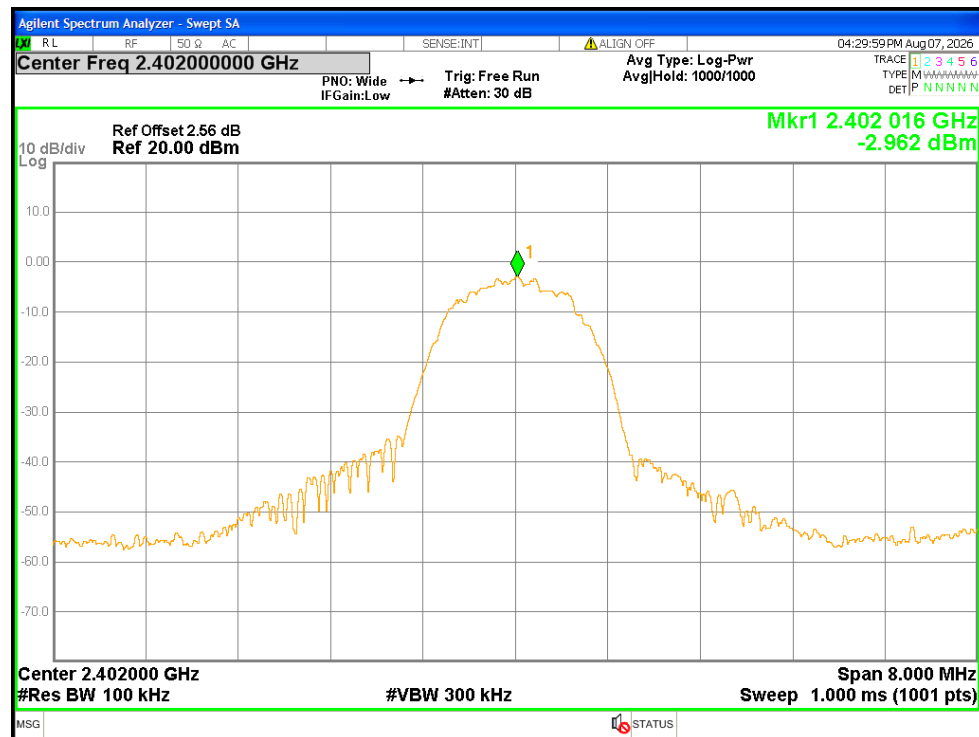
Band Edge NVNT 2-DH5 2480MHz No-Hopping Ref



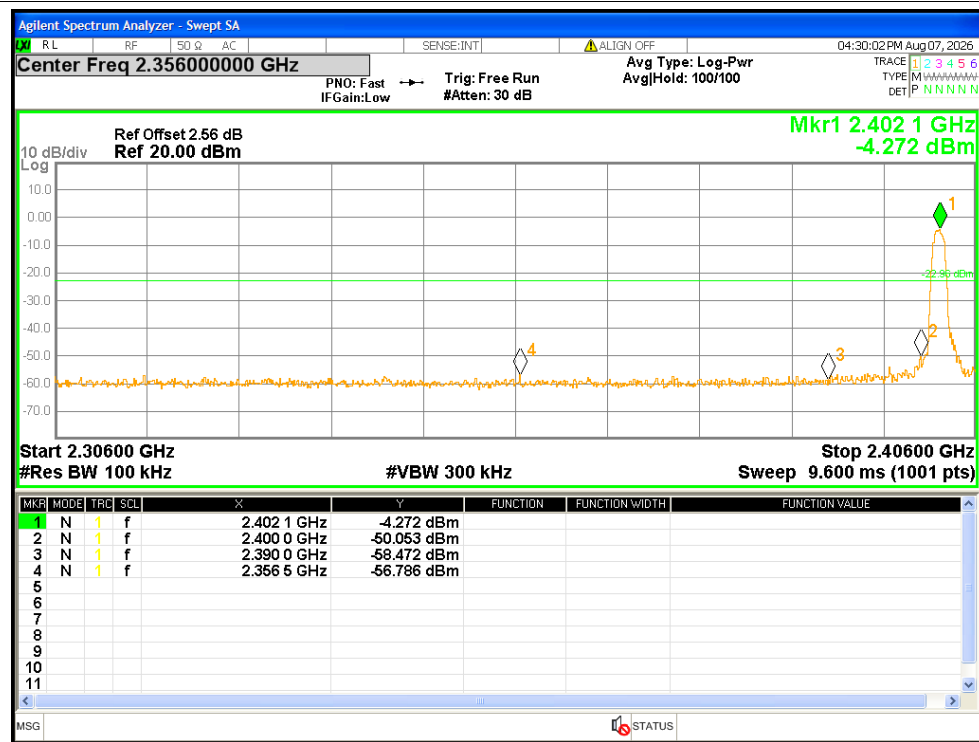
Band Edge NVNT 2-DH5 2480MHz No-Hopping Emission



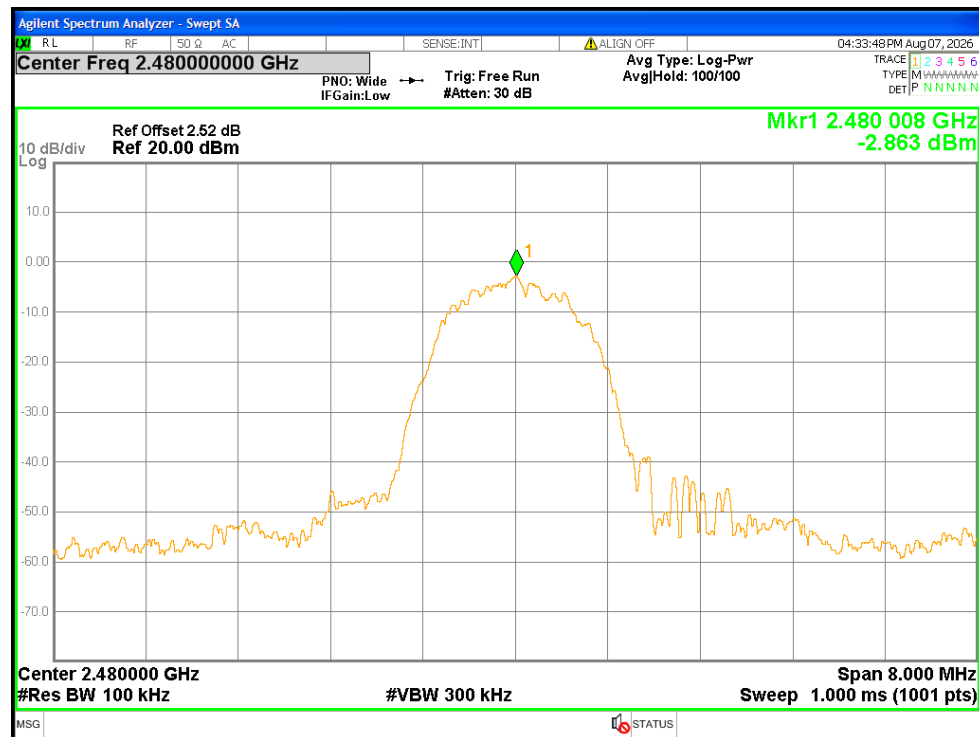
Band Edge NVNT 3-DH5 2402MHz No-Hopping Ref



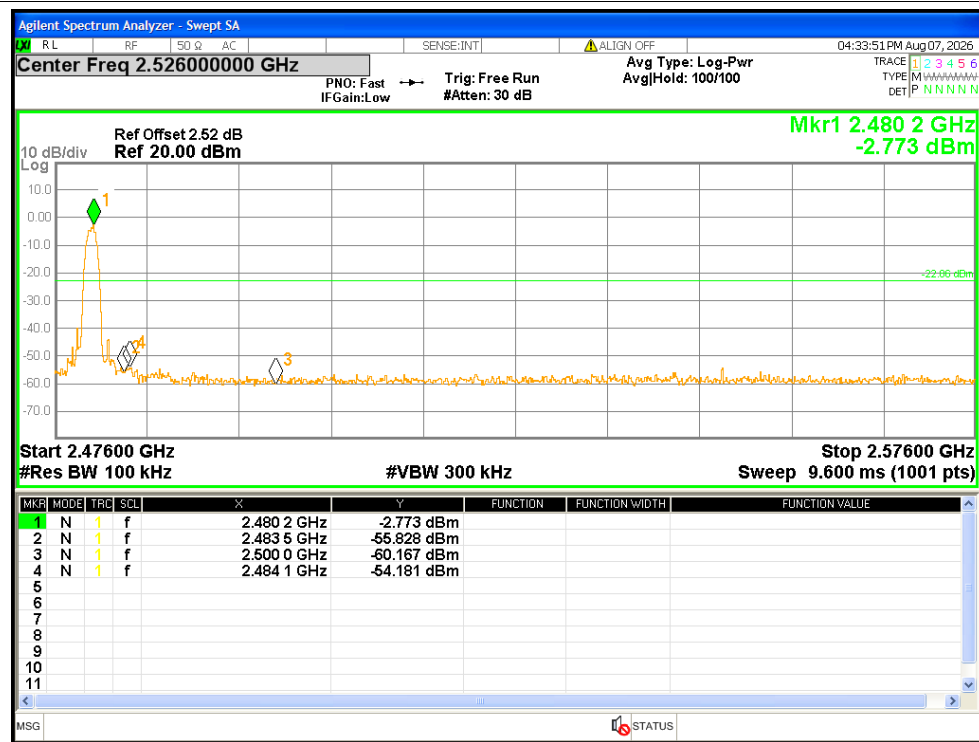
Band Edge NVNT 3-DH5 2402MHz No-Hopping Emission



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



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



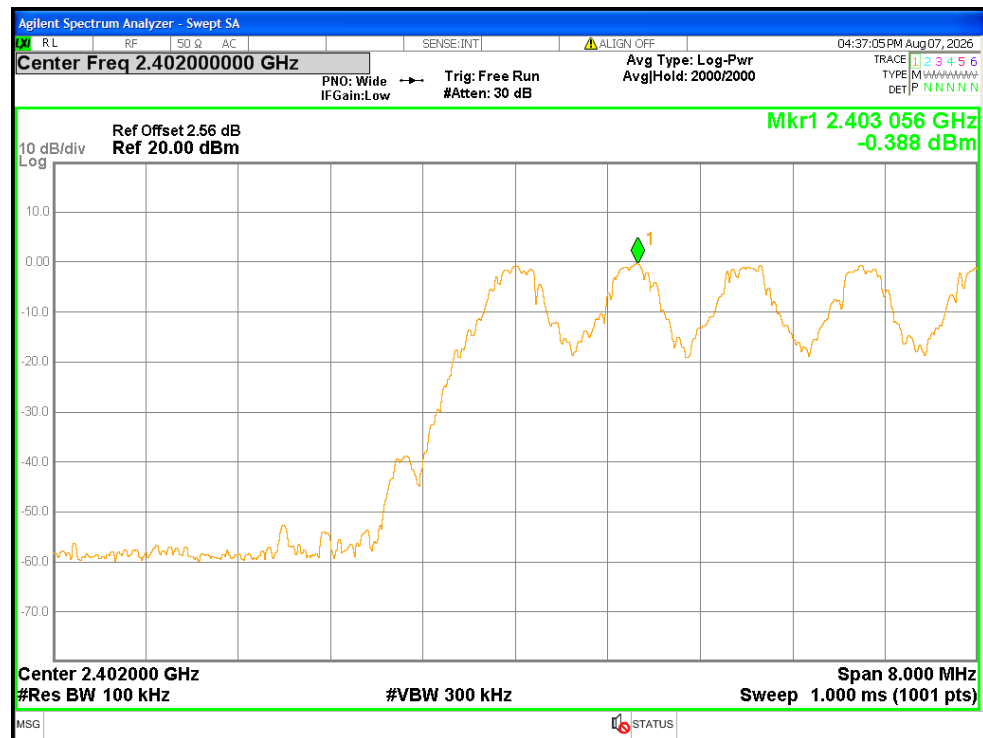
Band Edge(Hopping)

Mode	Frequency (MHz)	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Hopping	-55.02	<=-20	Pass
1-DH5	2480	Hopping	-46.7	<=-20	Pass
2-DH5	2402	Hopping	-51.63	<=-20	Pass
2-DH5	2480	Hopping	-54.07	<=-20	Pass
3-DH5	2402	Hopping	-52.02	<=-20	Pass
3-DH5	2480	Hopping	-50.43	<=-20	Pass

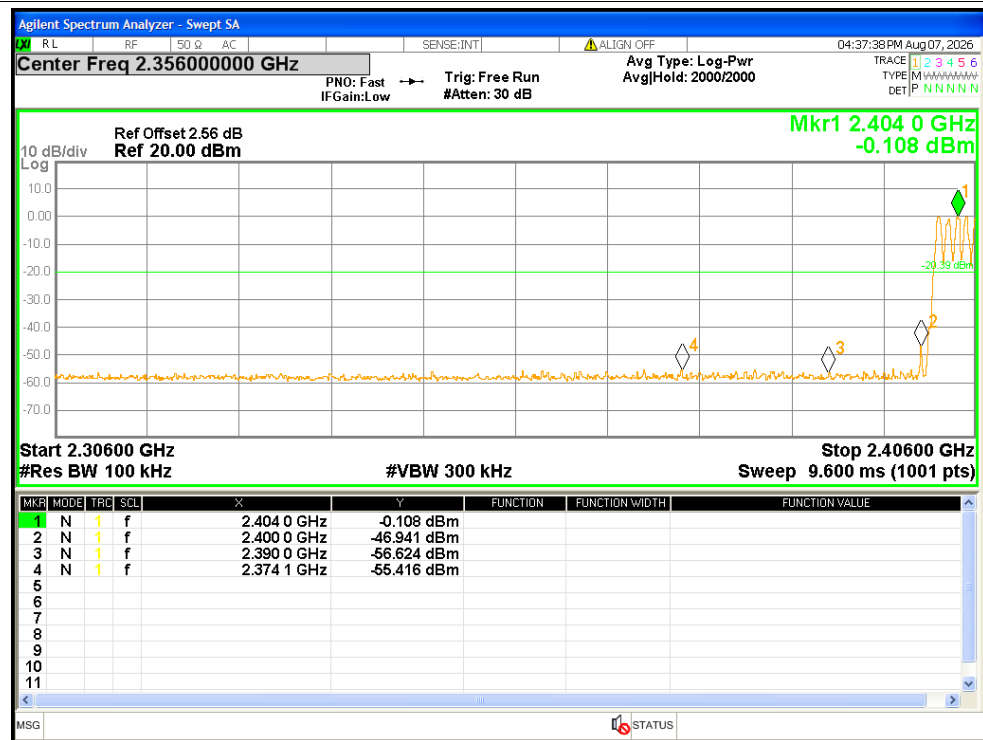
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

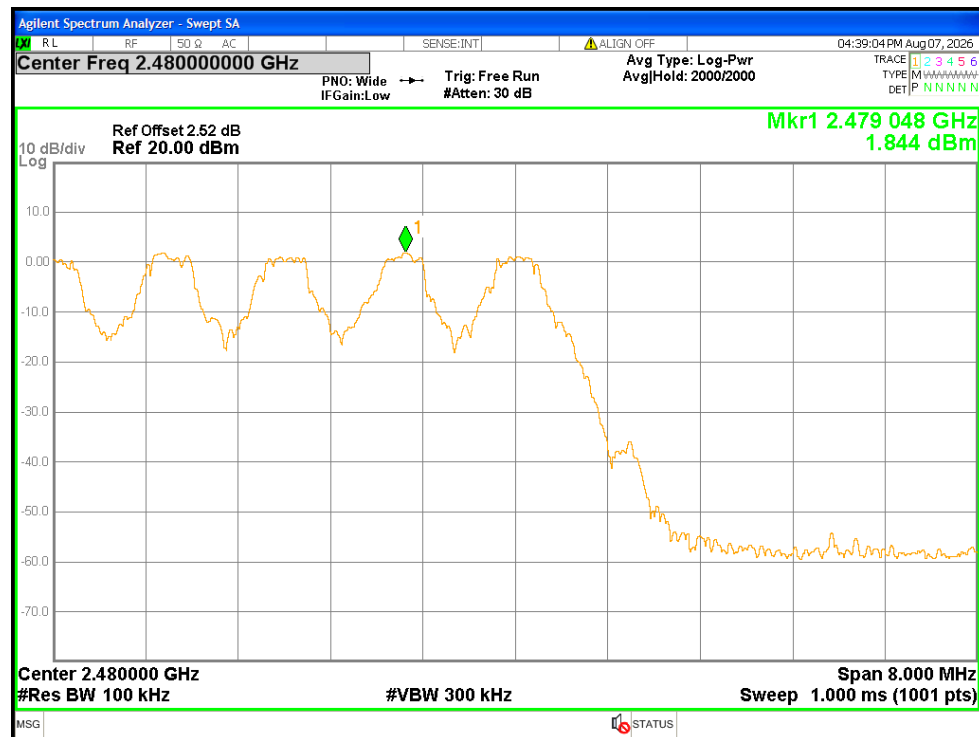
Band Edge(Hopping) NVNT 1-DH5 2402MHz Hopping Ref



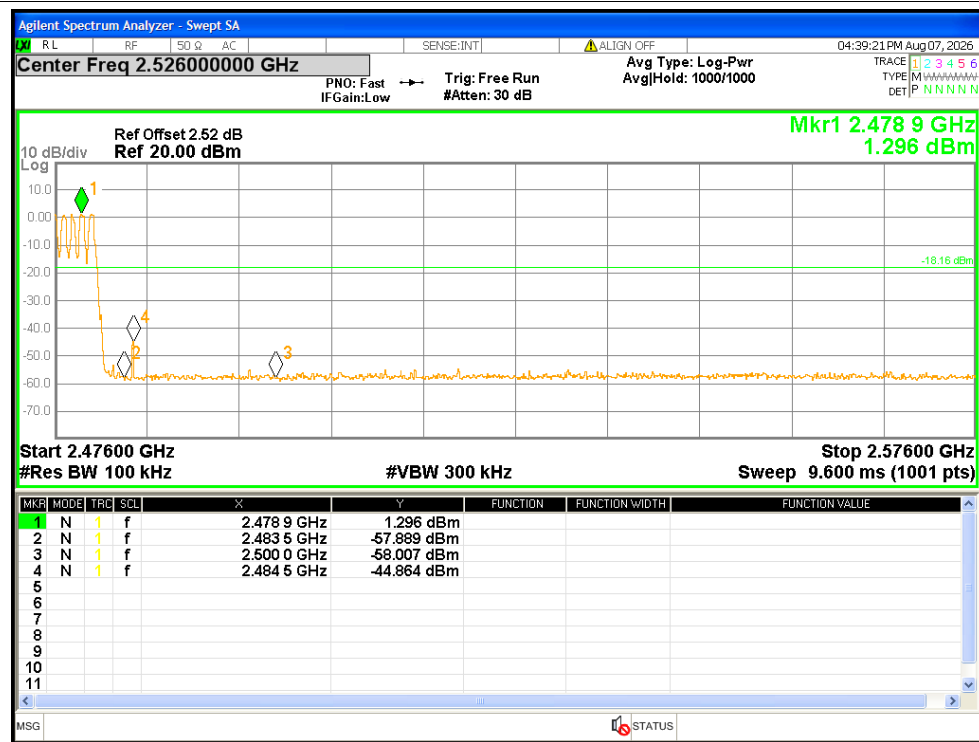
Band Edge(Hopping) NVNT 1-DH5 2402MHz Hopping Emission



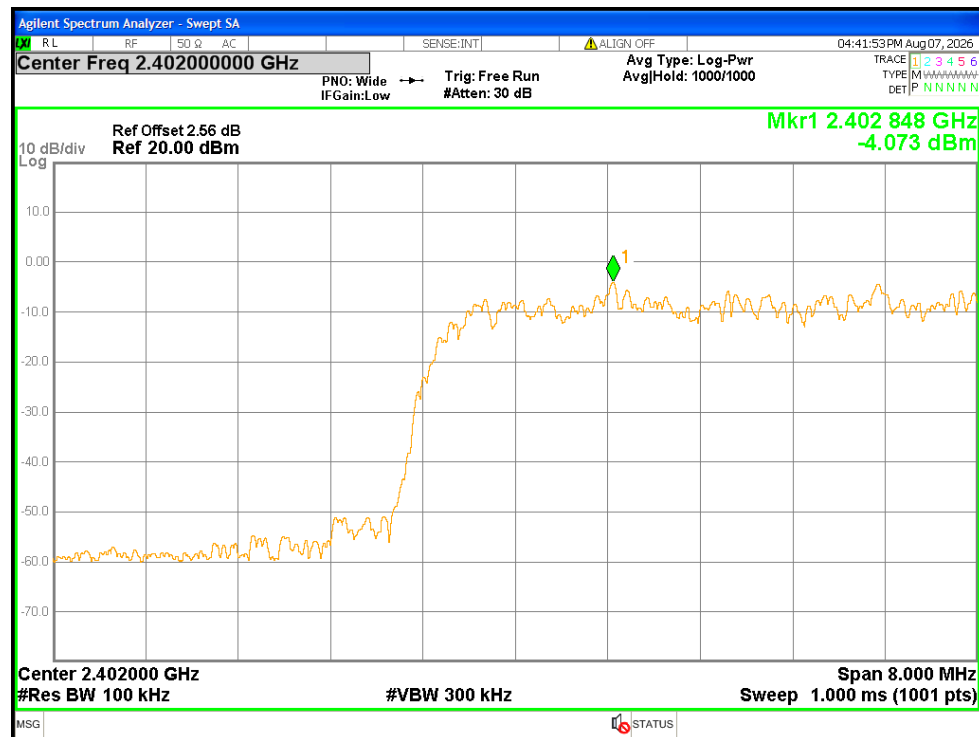
Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Ref



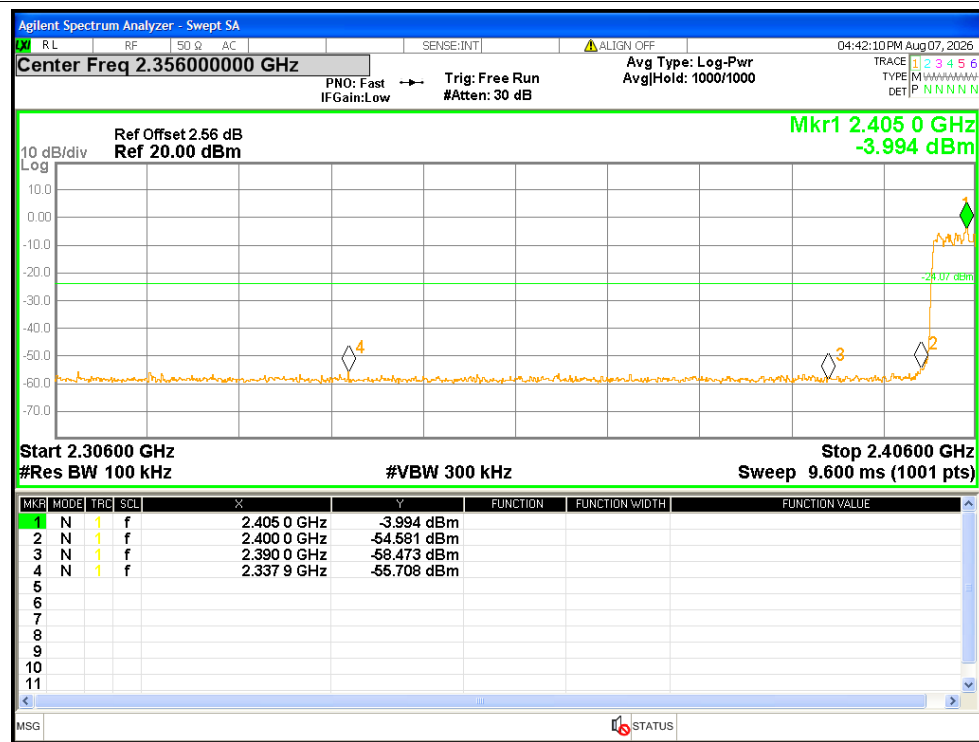
Band Edge(Hopping) NVNT 1-DH5 2480MHz Hopping Emission



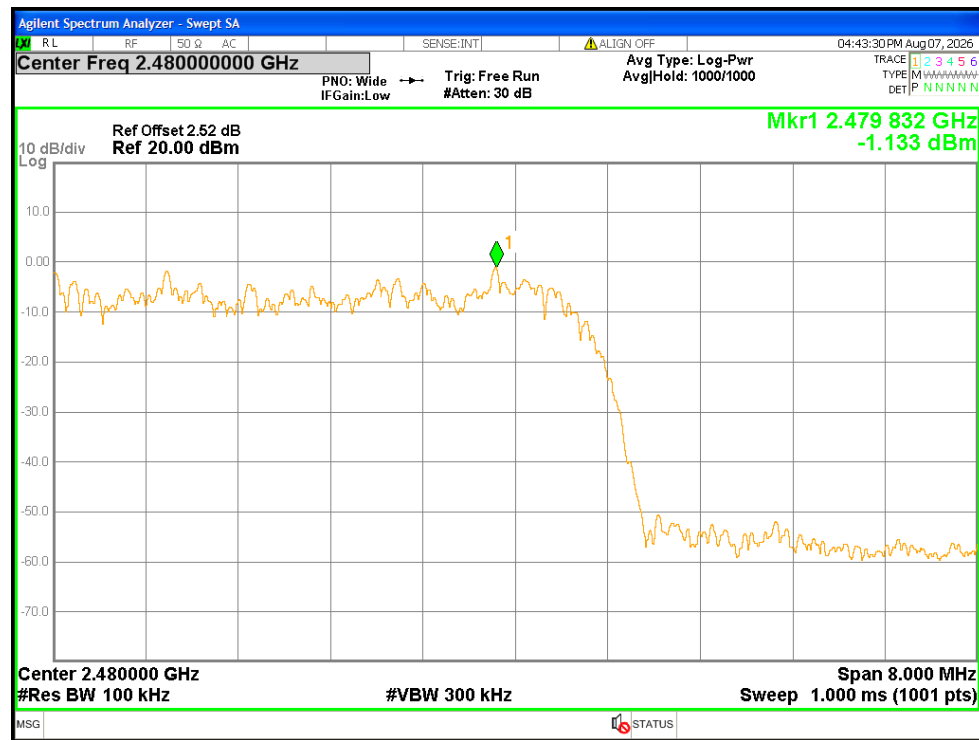
Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Ref



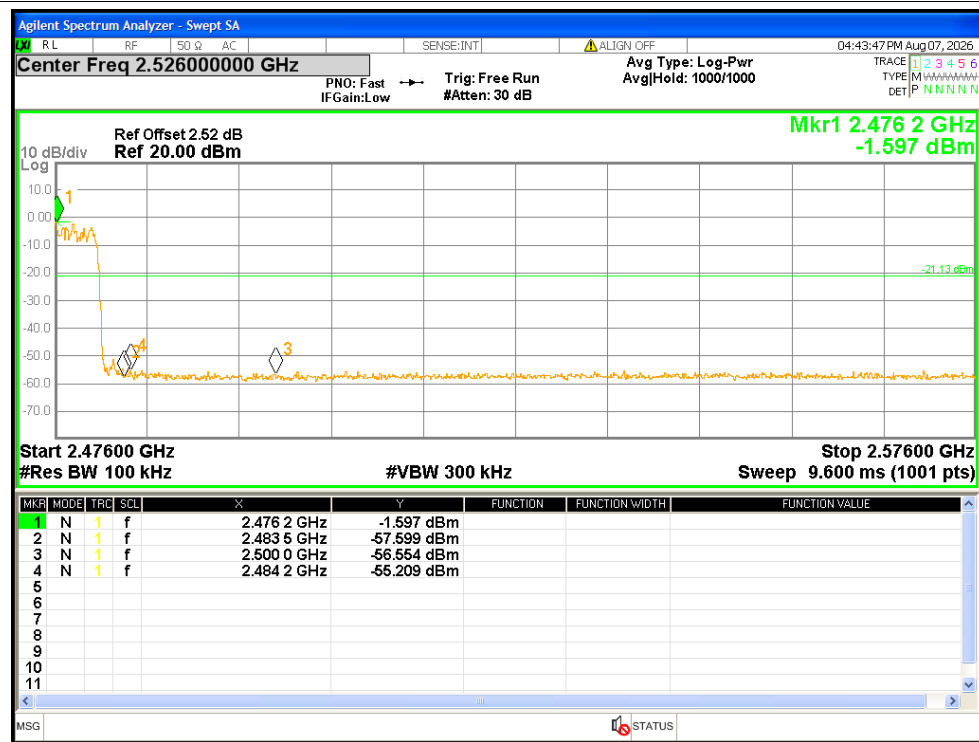
Band Edge(Hopping) NVNT 2-DH5 2402MHz Hopping Emission



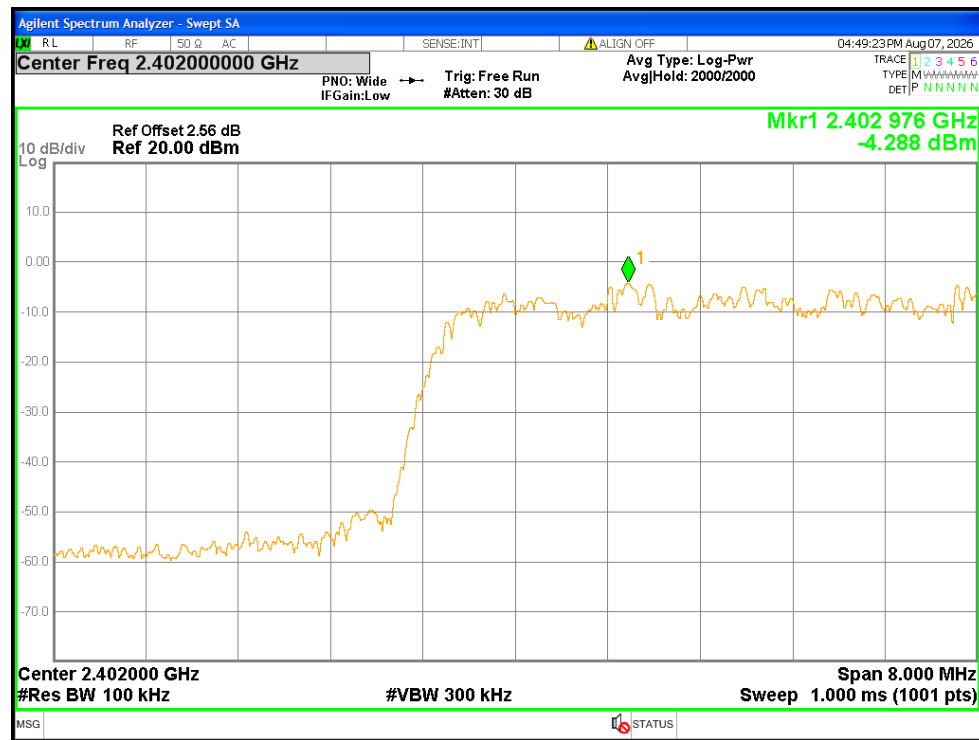
Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Ref



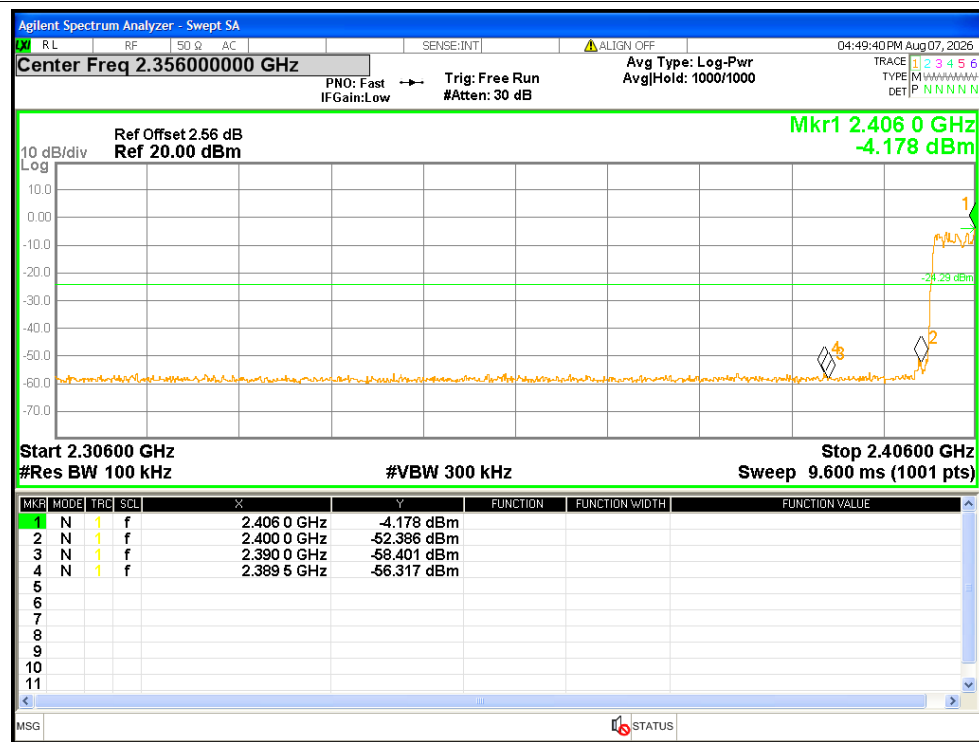
Band Edge(Hopping) NVNT 2-DH5 2480MHz Hopping Emission



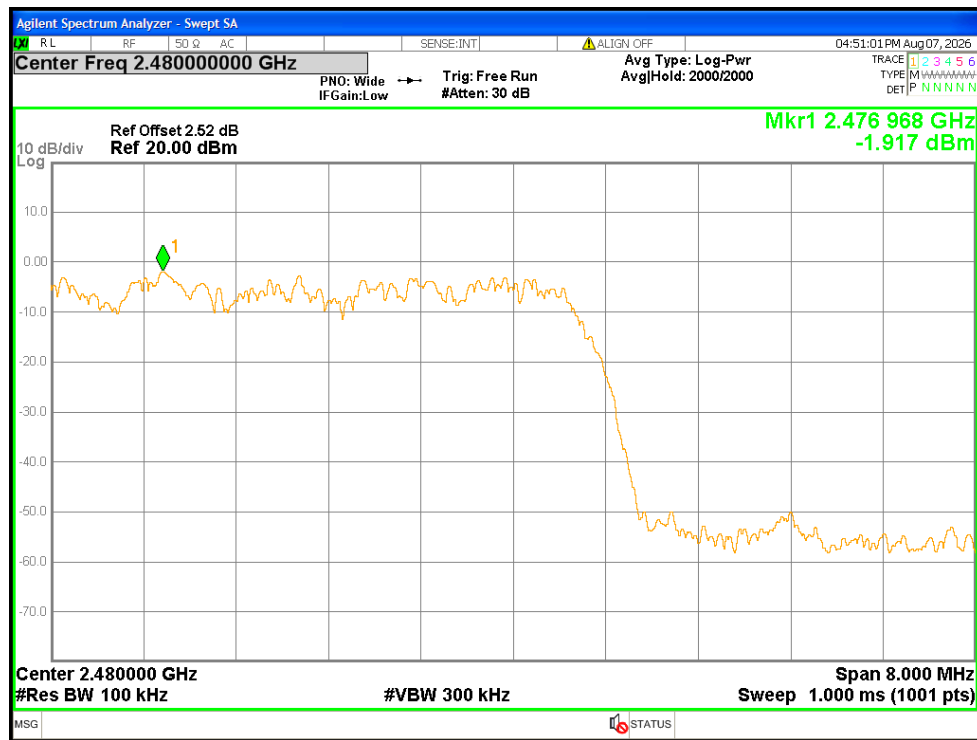
Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Ref



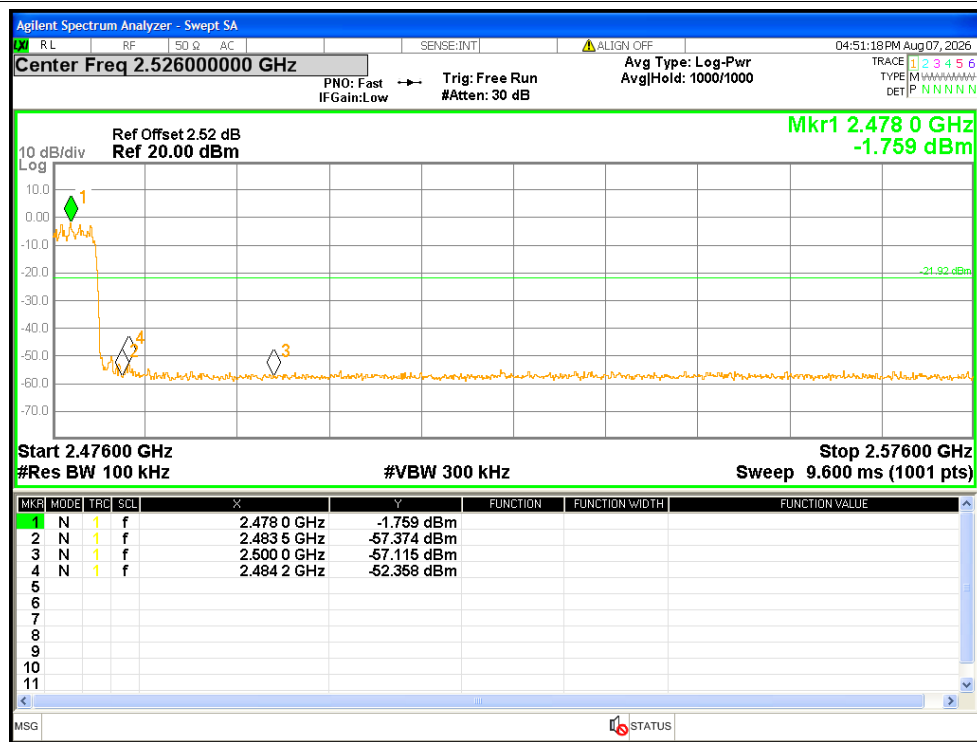
Band Edge(Hopping) NVNT 3-DH5 2402MHz Hopping Emission



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



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



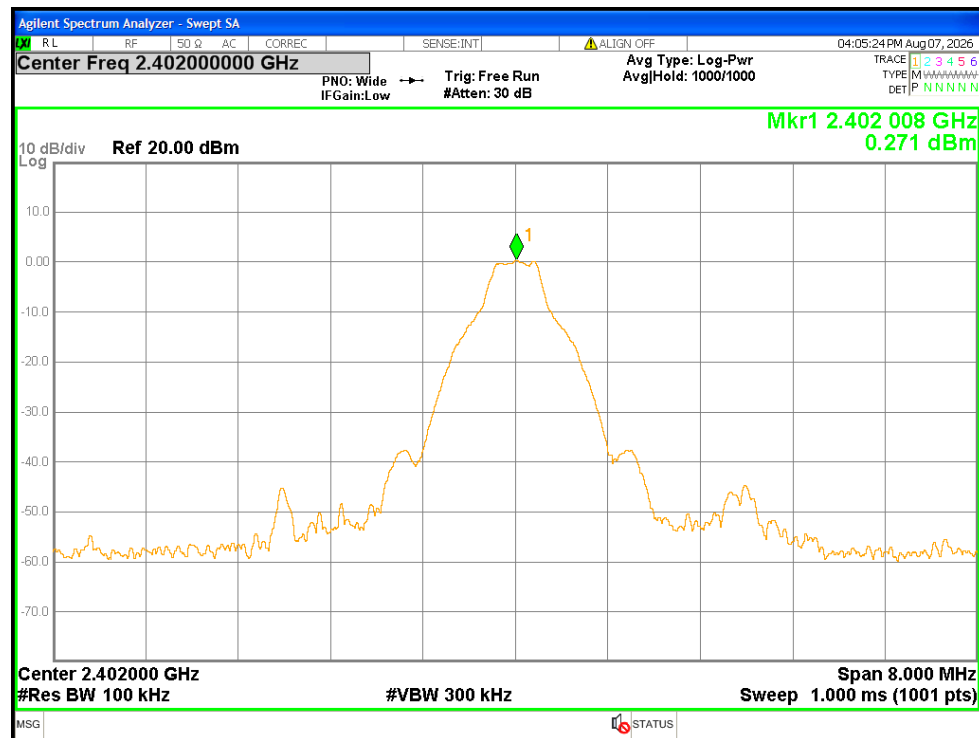
Conducted RF Spurious Emission

Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	-41.01	<=-20	Pass
1-DH5	2441	-40.37	<=-20	Pass
1-DH5	2480	-41.07	<=-20	Pass
2-DH5	2402	-37.17	<=-20	Pass
2-DH5	2441	-36.92	<=-20	Pass
2-DH5	2480	-37.85	<=-20	Pass
3-DH5	2402	-36.05	<=-20	Pass
3-DH5	2441	-36.89	<=-20	Pass
3-DH5	2480	-36.24	<=-20	Pass

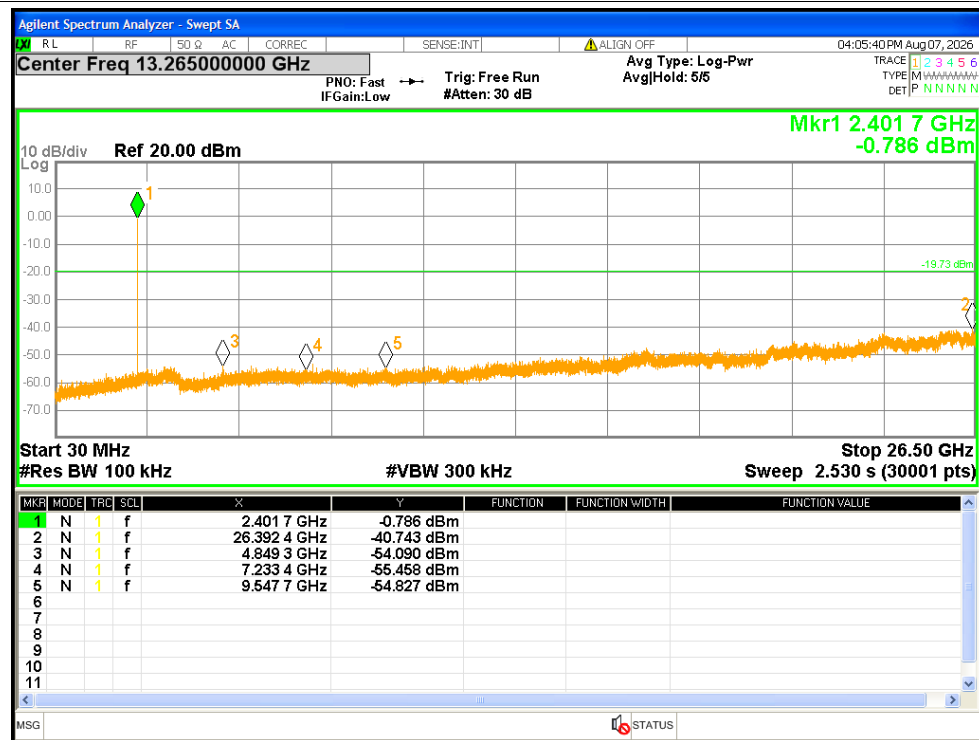
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

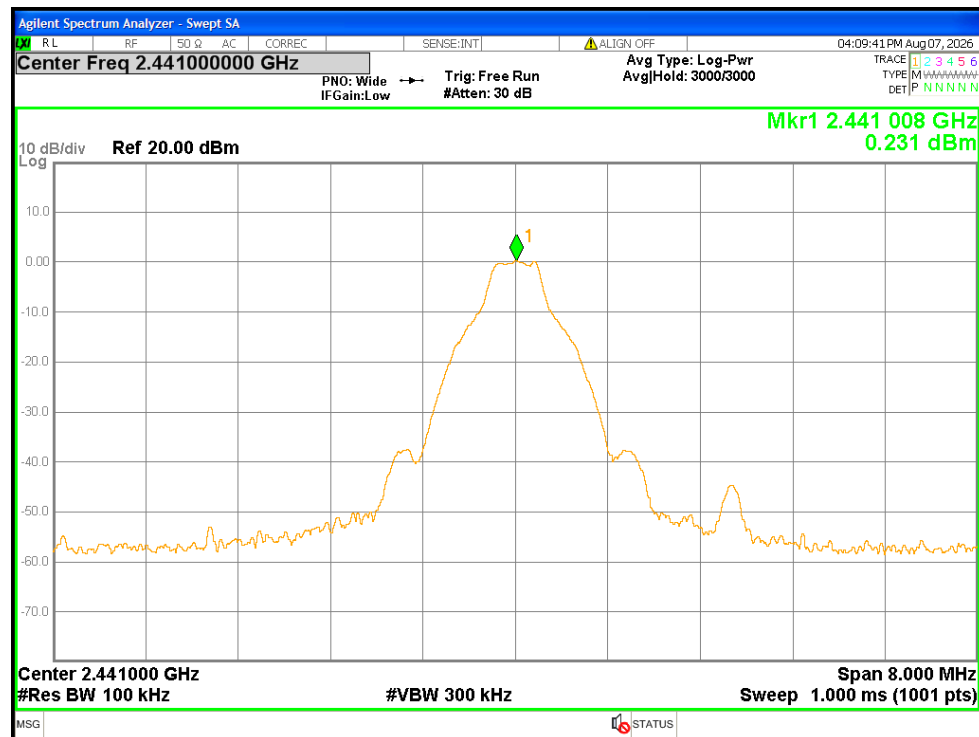
Tx. Spurious NVNT 1-DH5 2402MHz Ref



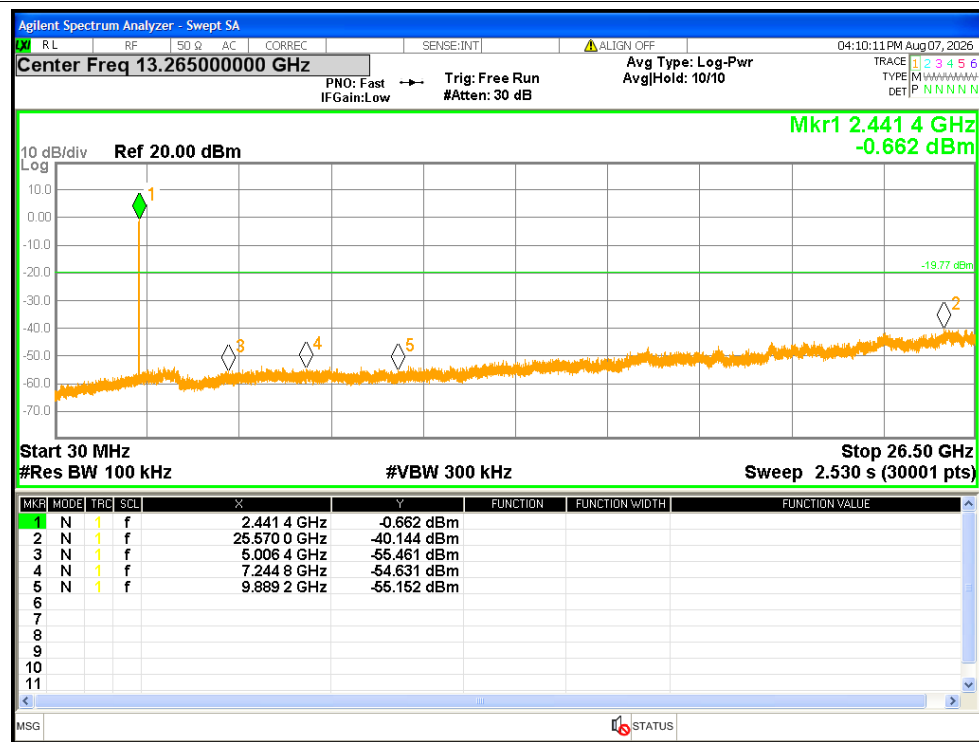
Tx. Spurious NVNT 1-DH5 2402MHz Emission



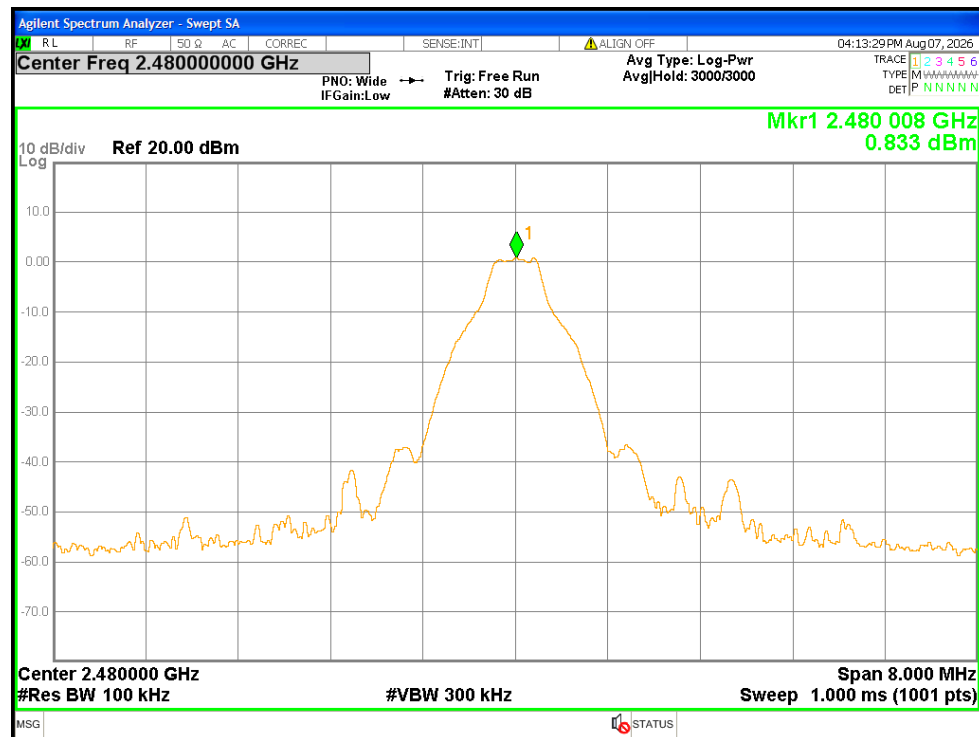
Tx. Spurious NVNT 1-DH5 2441MHz Ref



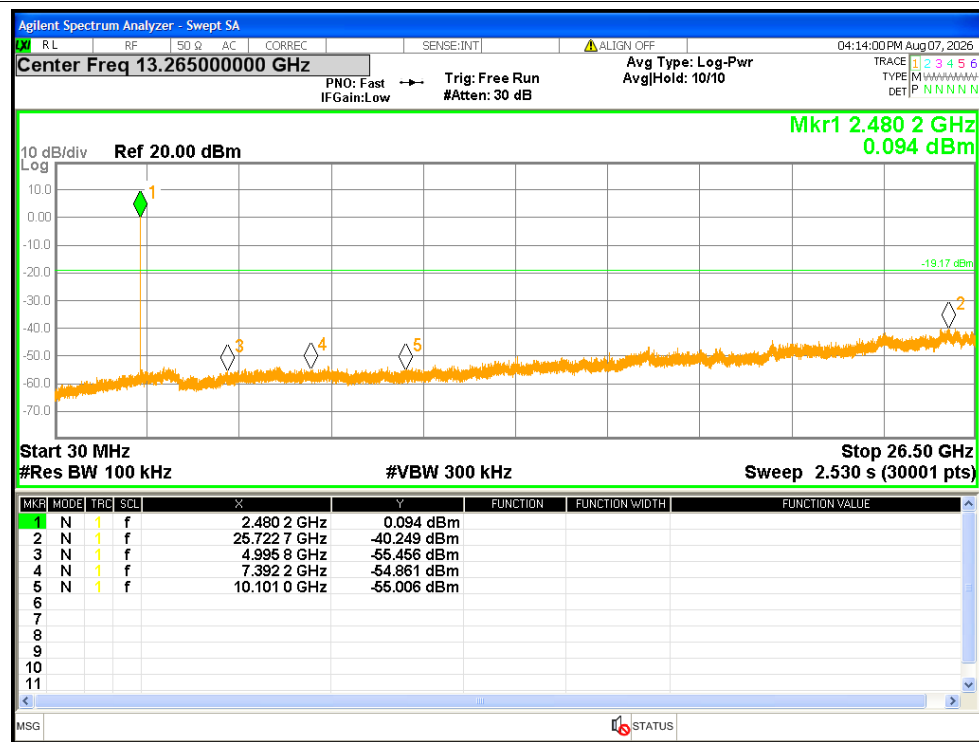
Tx. Spurious NVNT 1-DH5 2441MHz Emission



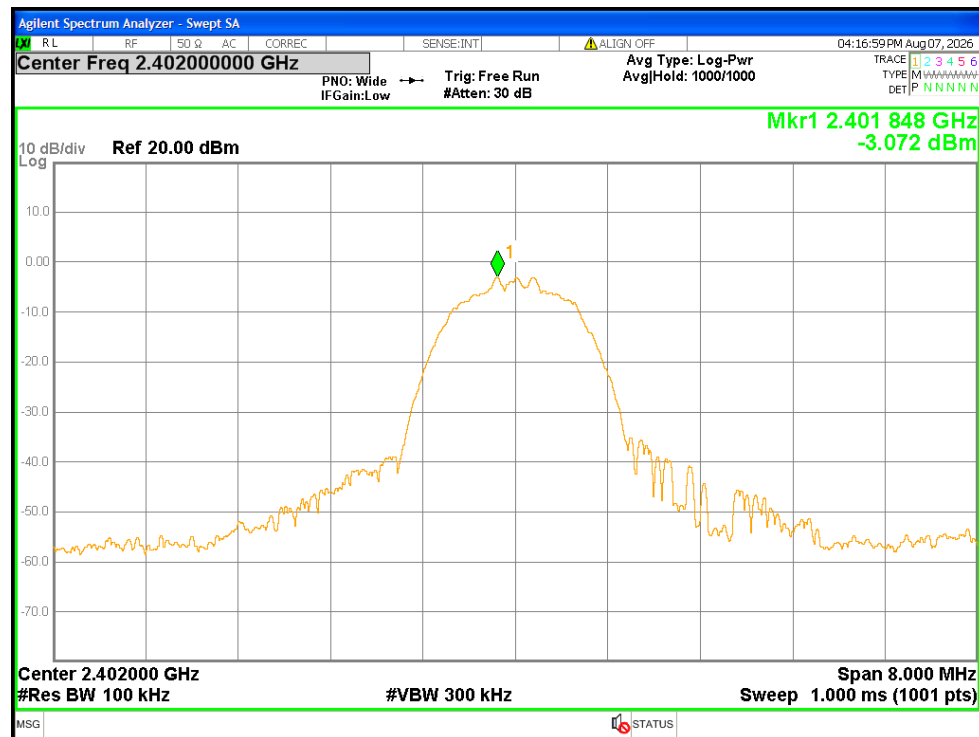
Tx. Spurious NVNT 1-DH5 2480MHz Ref



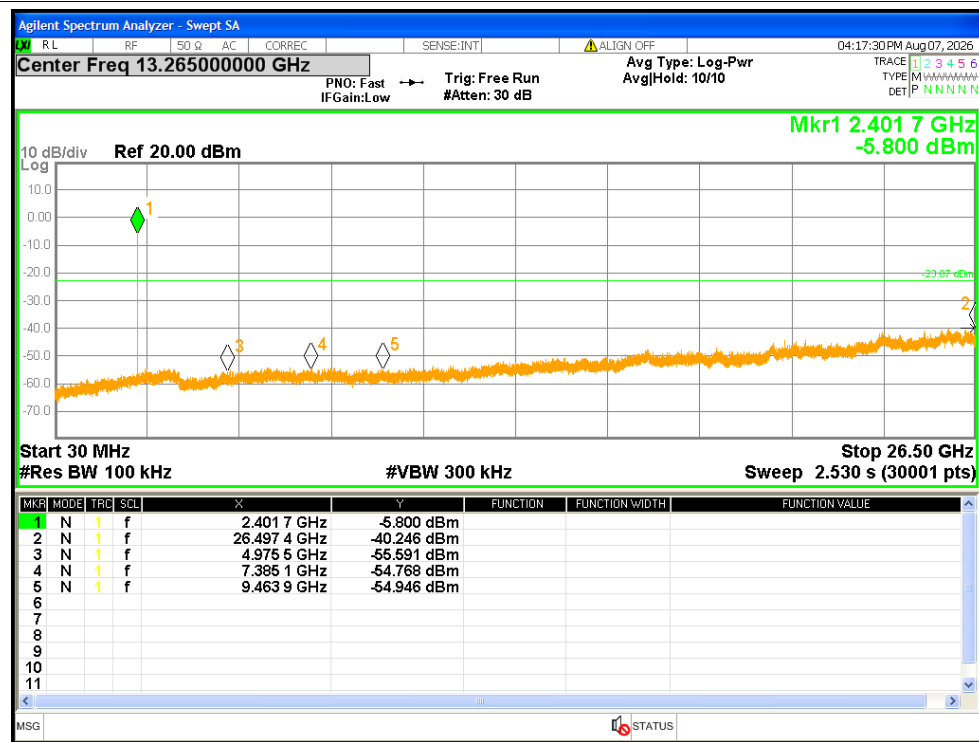
Tx. Spurious NVNT 1-DH5 2480MHz Emission



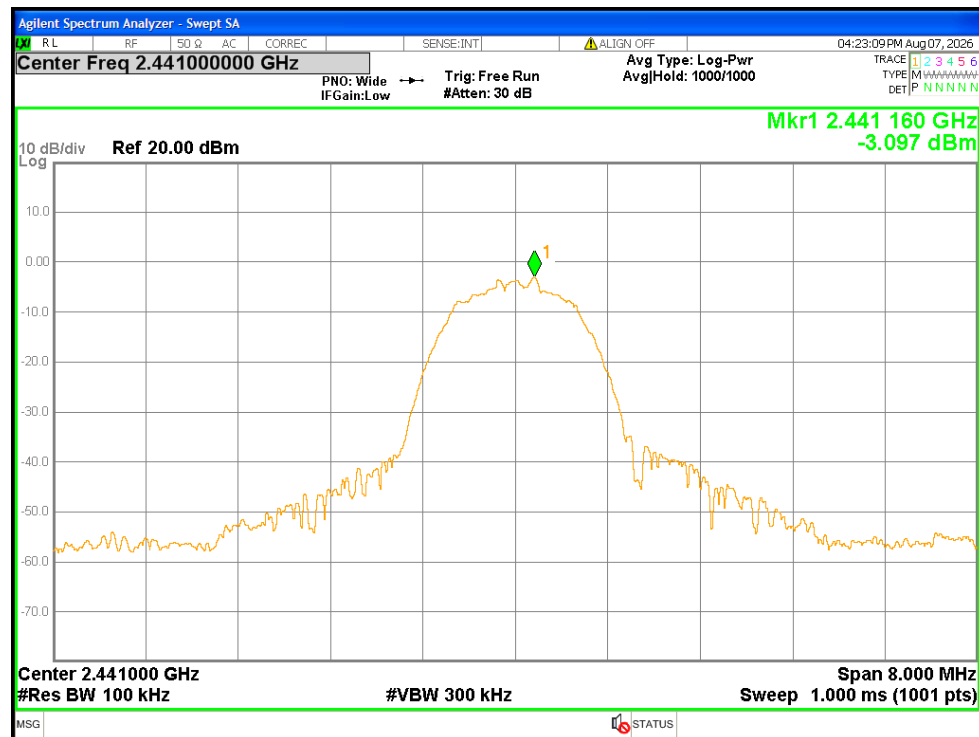
Tx. Spurious NVNT 2-DH5 2402MHz Ref



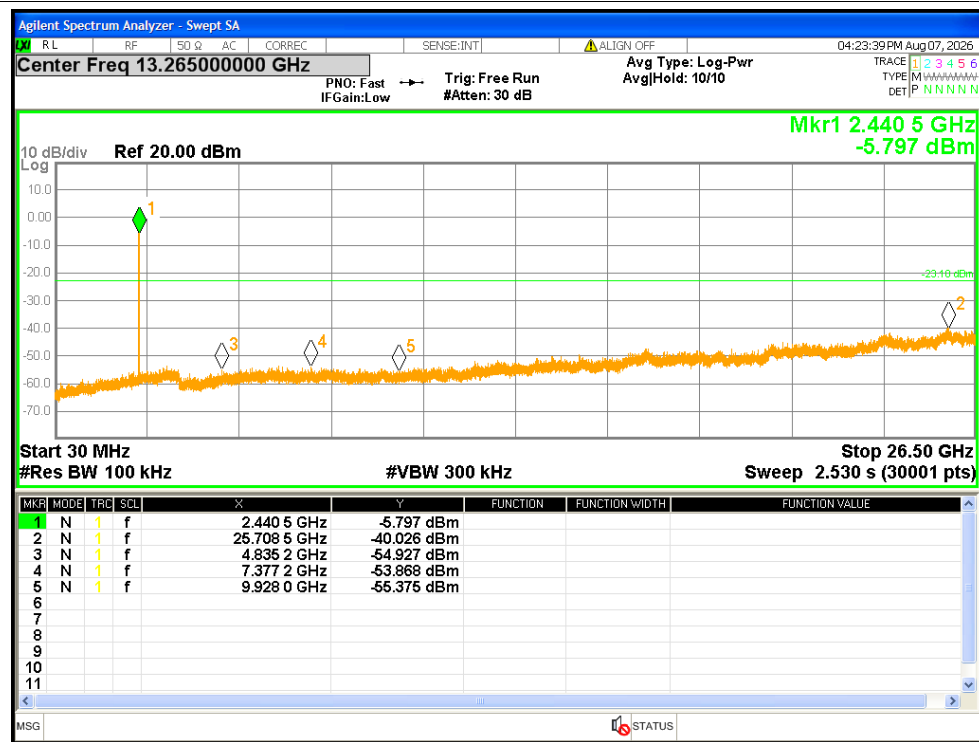
Tx. Spurious NVNT 2-DH5 2402MHz Emission



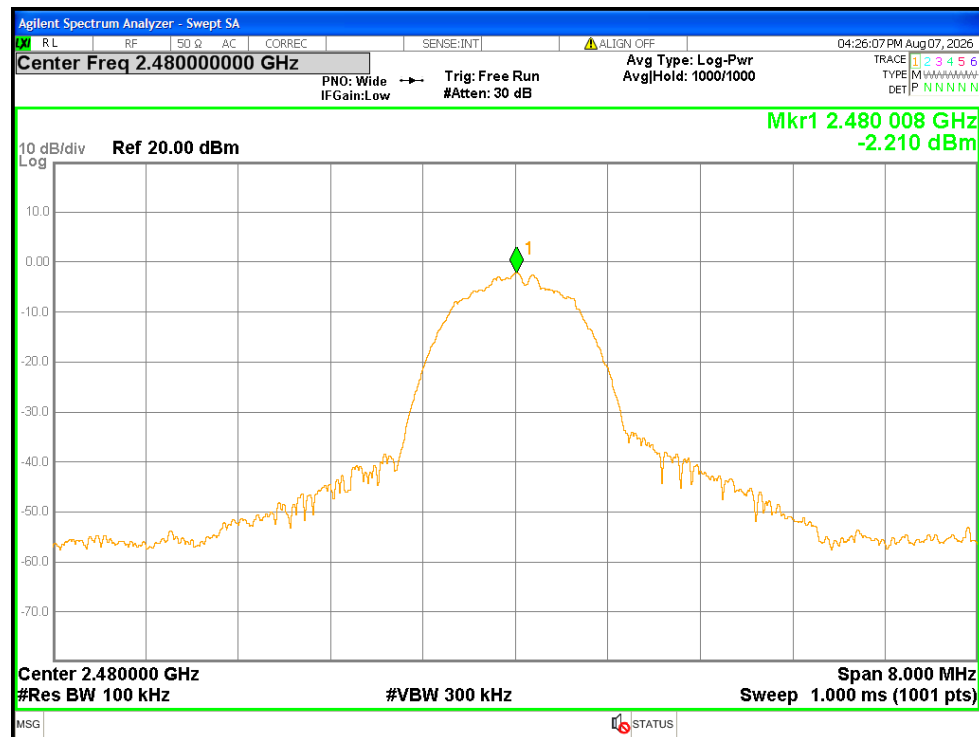
Tx. Spurious NVNT 2-DH5 2441MHz Ref



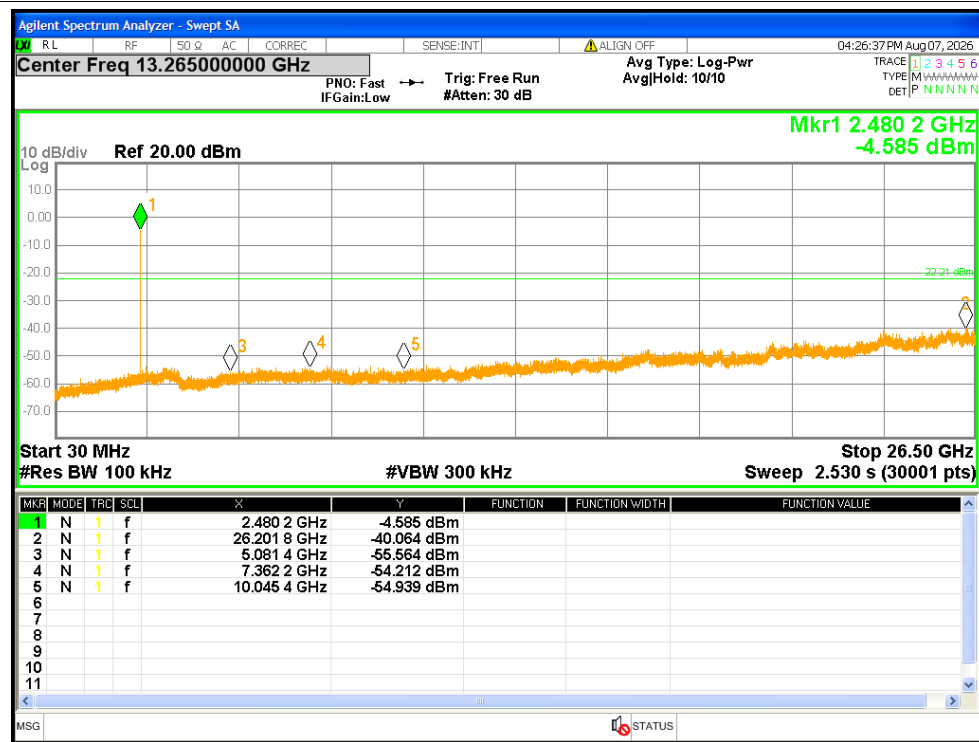
Tx. Spurious NVNT 2-DH5 2441MHz Emission



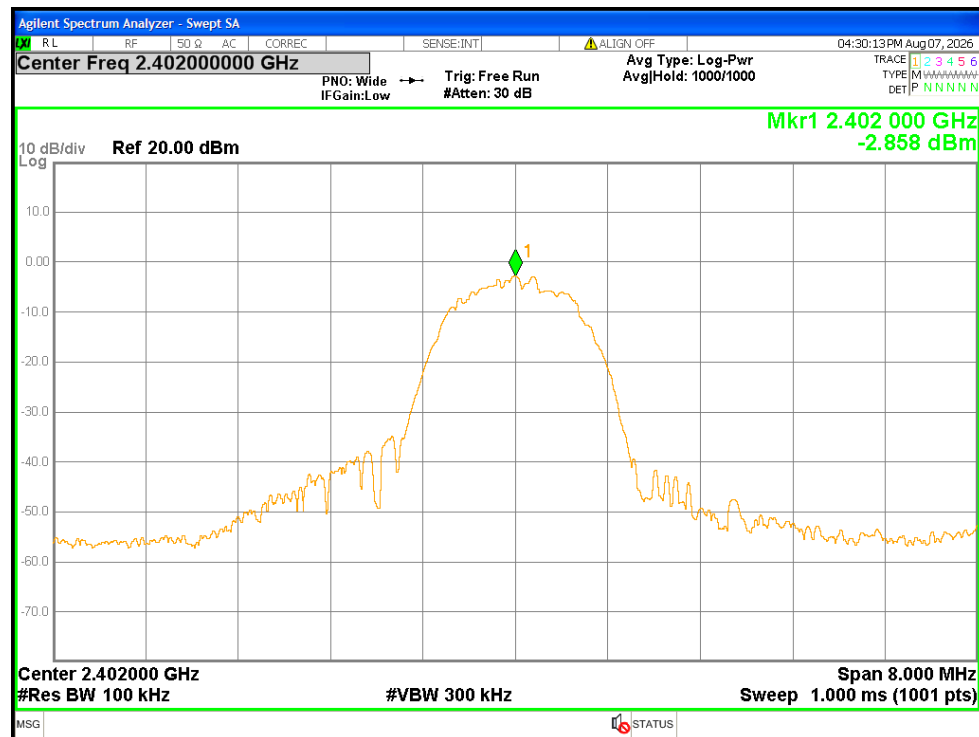
Tx. Spurious NVNT 2-DH5 2480MHz Ref



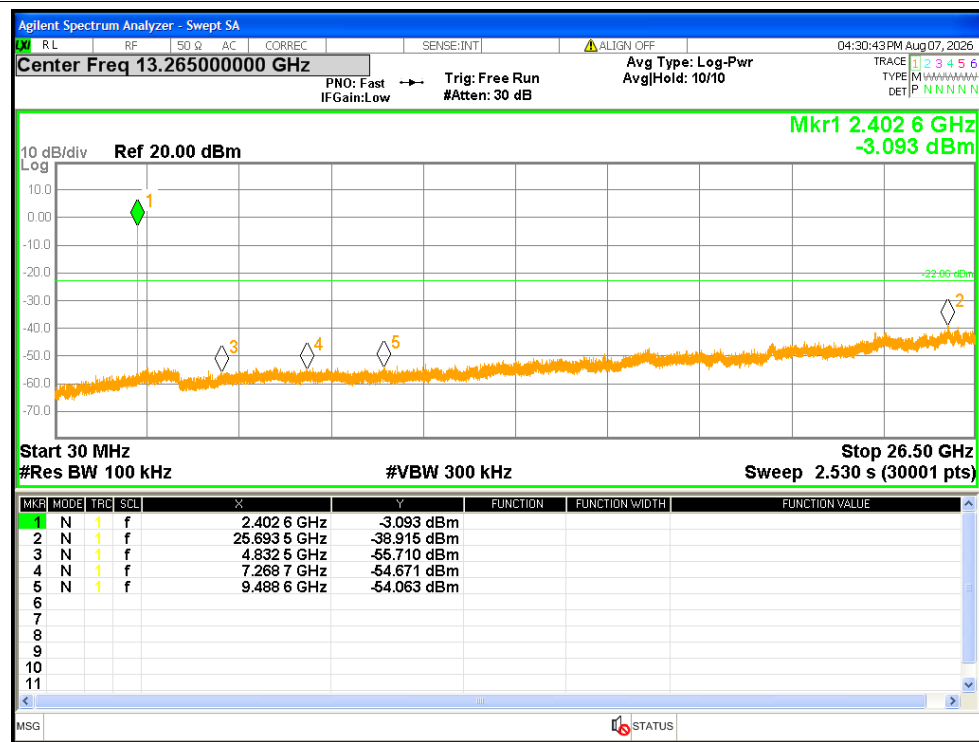
Tx. Spurious NVNT 2-DH5 2480MHz Emission



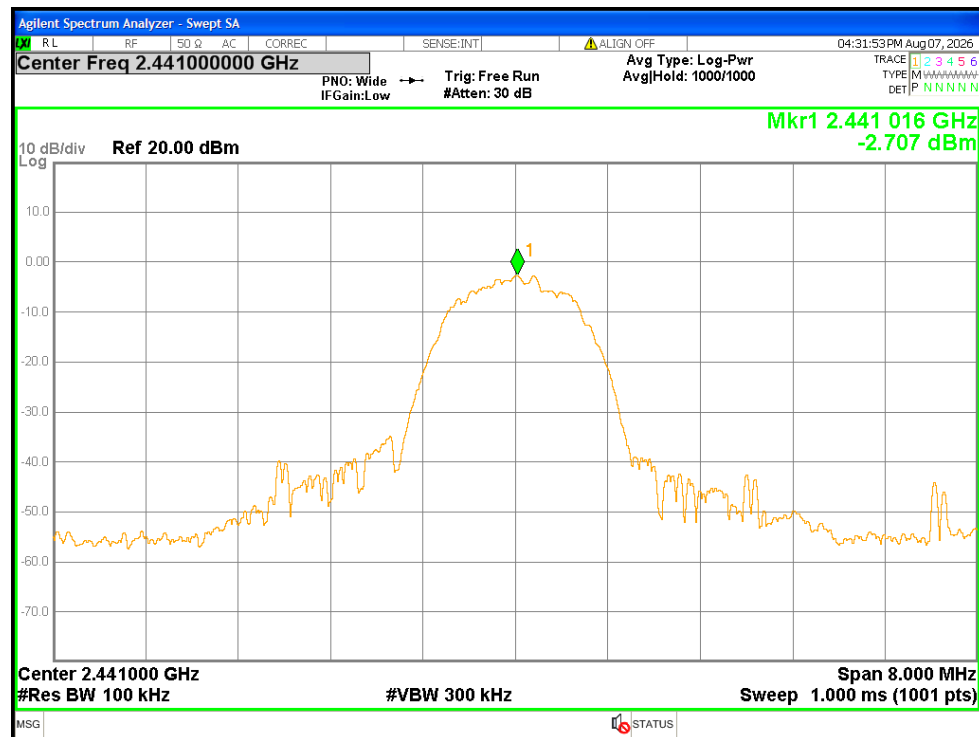
Tx. Spurious NVNT 3-DH5 2402MHz Ref



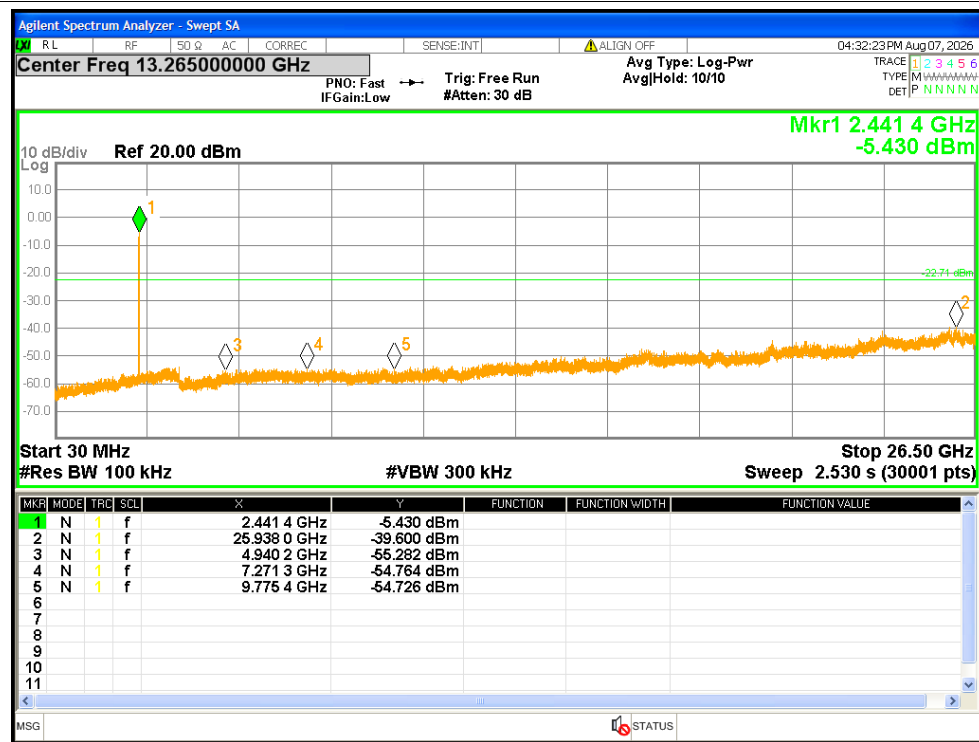
Tx. Spurious NVNT 3-DH5 2402MHz Emission



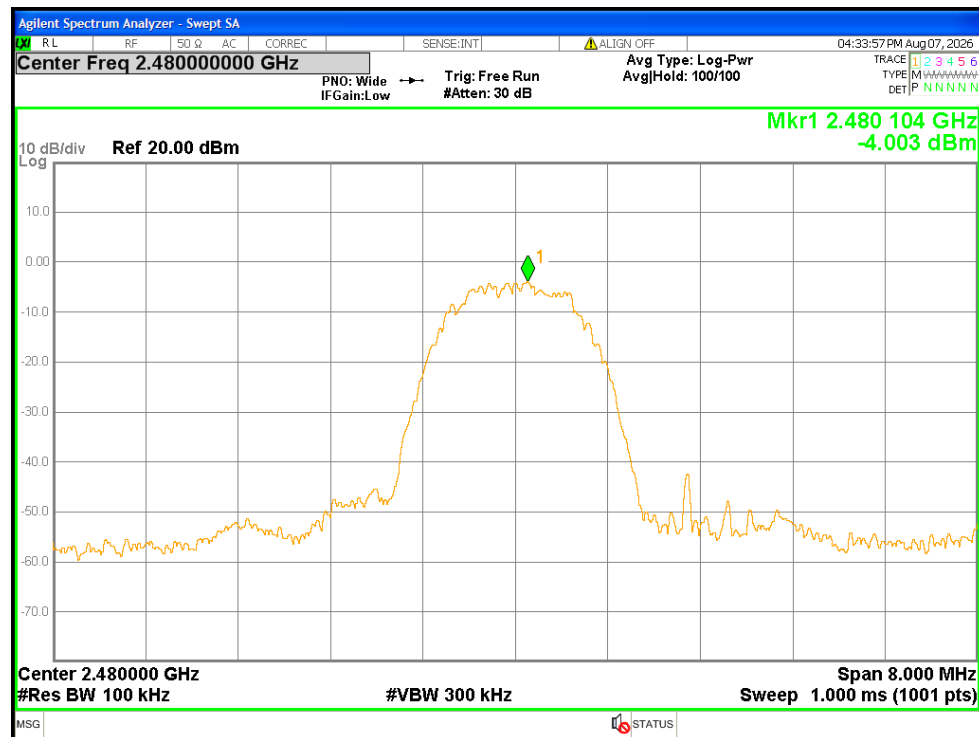
Tx. Spurious NVNT 3-DH5 2441MHz Ref



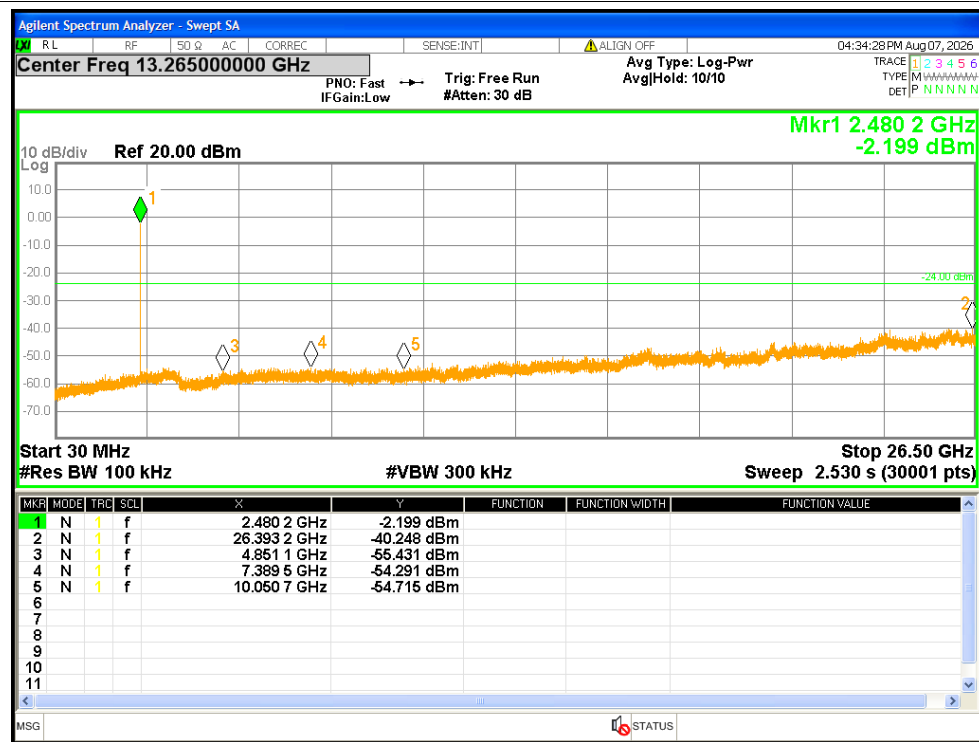
Tx. Spurious NVNT 3-DH5 2441MHz Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ref



Tx. Spurious NVNT 3-DH5 2480MHz Emission



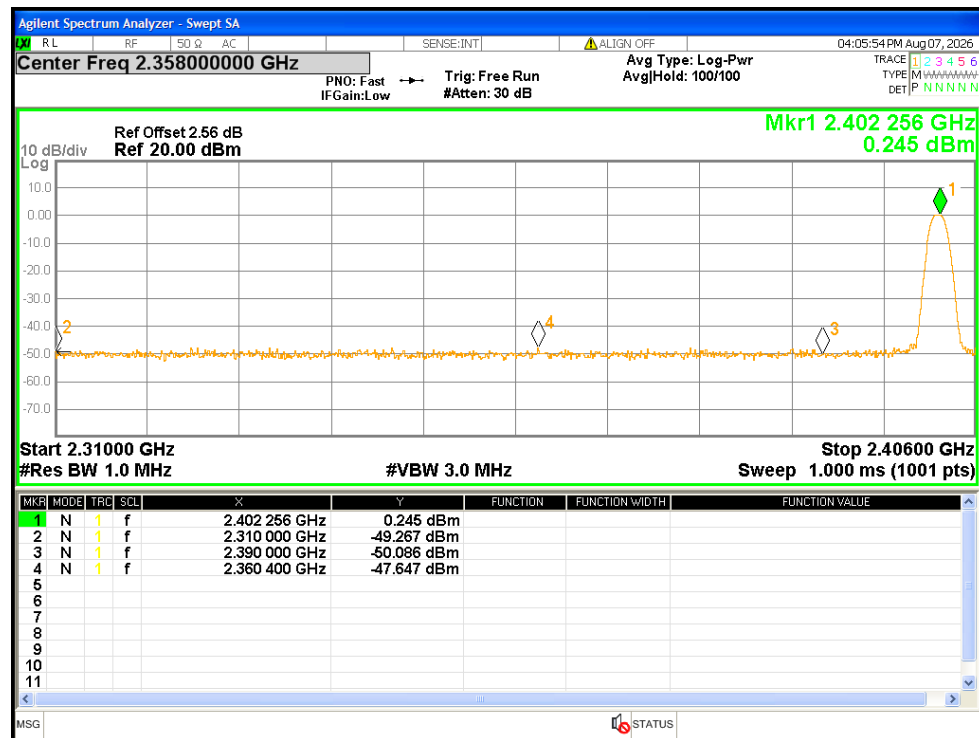
Restrict Band

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	-49.26	3	0	49	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2310	-58.04	3	1.14	41.36	Average	<=54	Pass
1-DH5	2402	No-Hopping	2360.4	-47.64	3	0	50.62	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2342.064	-56.6	3	1.14	42.8	Average	<=54	Pass
1-DH5	2402	No-Hopping	2390	-50.25	3	0	48.01	Peak	<=74	Pass
1-DH5	2402	No-Hopping	2390	-58.61	3	1.14	40.79	Average	<=54	Pass
1-DH5	2480	No-Hopping	2483.5	-47.53	3	0	50.73	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2483.5	-56.67	3	1.14	42.73	Average	<=54	Pass
1-DH5	2480	No-Hopping	2487.664	-41.84	3	0	56.42	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2483.56	-56.21	3	1.14	43.19	Average	<=54	Pass
1-DH5	2480	No-Hopping	2500	-50.81	3	0	47.45	Peak	<=74	Pass
1-DH5	2480	No-Hopping	2500	-58.01	3	1.14	41.39	Average	<=54	Pass
2-DH5	2402	No-Hopping	2310	-49.06	3	0	49.2	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2310	-58.15	3	1.13	41.24	Average	<=54	Pass
2-DH5	2402	No-Hopping	2381.52	-47.67	3	0	50.59	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2389.104	-57.25	3	1.13	42.14	Average	<=54	Pass
2-DH5	2402	No-Hopping	2390	-50.38	3	0	47.88	Peak	<=74	Pass
2-DH5	2402	No-Hopping	2390	-57.77	3	1.13	41.62	Average	<=54	Pass
2-DH5	2480	No-Hopping	2483.5	-47.33	3	0	50.93	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2483.5	-54.64	3	1.13	44.75	Average	<=54	Pass
2-DH5	2480	No-Hopping	2486.92	-44.15	3	0	54.11	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2483.92	-54.45	3	1.13	44.94	Average	<=54	Pass
2-DH5	2480	No-Hopping	2500	-49.67	3	0	48.59	Peak	<=74	Pass
2-DH5	2480	No-Hopping	2500	-57.76	3	1.13	41.63	Average	<=54	Pass
3-DH5	2402	No-Hopping	2310	-50.97	3	0	47.29	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2310	-57.62	3	1.13	41.77	Average	<=54	Pass
3-DH5	2402	No-Hopping	2389.008	-46.45	3	0	51.81	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2389.584	-57.03	3	1.13	42.36	Average	<=54	Pass
3-DH5	2402	No-Hopping	2390	-48.38	3	0	49.88	Peak	<=74	Pass
3-DH5	2402	No-Hopping	2390	-58	3	1.13	41.39	Average	<=54	Pass
3-DH5	2480	No-Hopping	2483.5	-45.91	3	0	52.35	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2483.5	-53.72	3	1.13	45.67	Average	<=54	Pass
3-DH5	2480	No-Hopping	2487.928	-42.58	3	0	55.68	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2483.944	-53.6	3	1.13	45.79	Average	<=54	Pass
3-DH5	2480	No-Hopping	2500	-49.69	3	0	48.57	Peak	<=74	Pass
3-DH5	2480	No-Hopping	2500	-57.12	3	1.13	42.27	Average	<=54	Pass

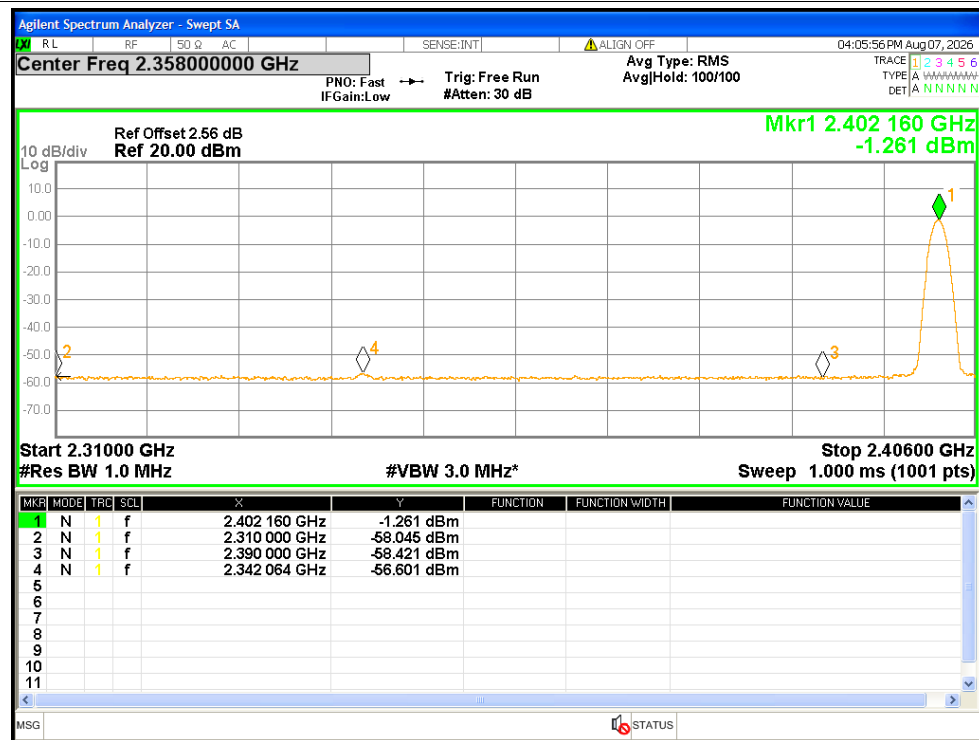
Note: Both the left and right ears have been tested, and the worst result recorded was for the left ear.

Test Graphs

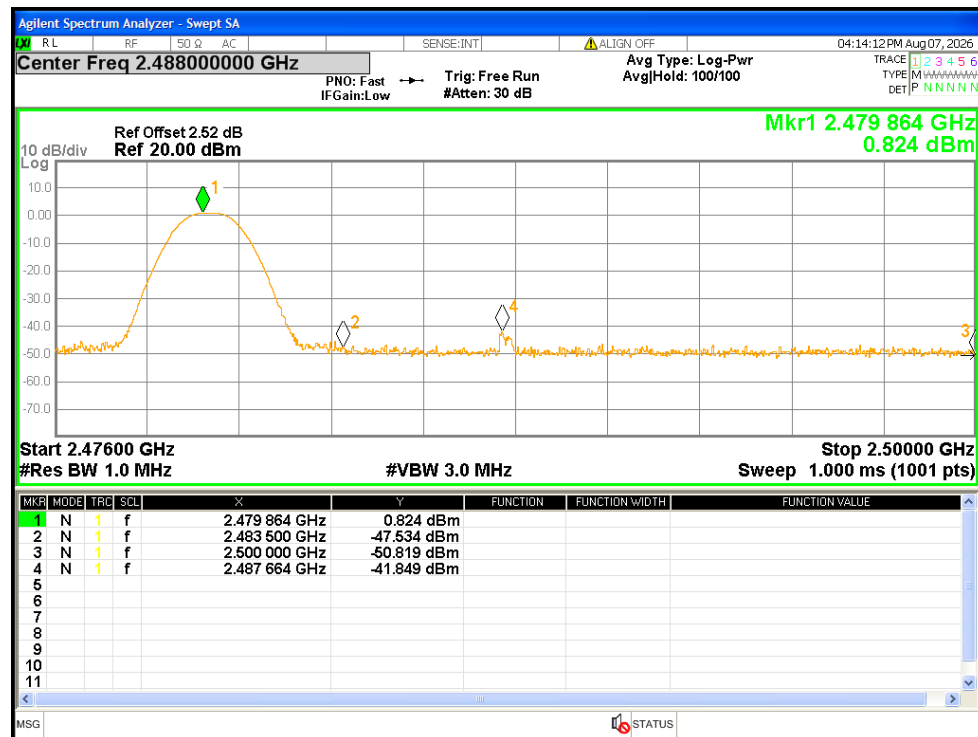
Restrict Band NVNT 1-DH5 2402MHz No-Hopping Peak



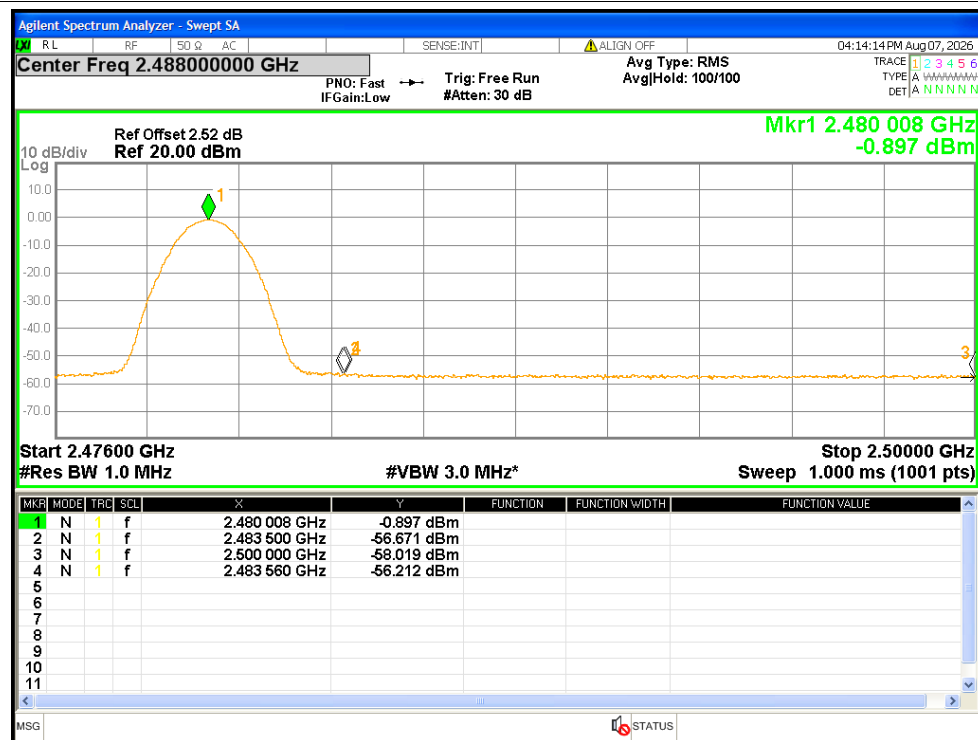
Restrict Band NVNT 1-DH5 2402MHz No-Hopping Average



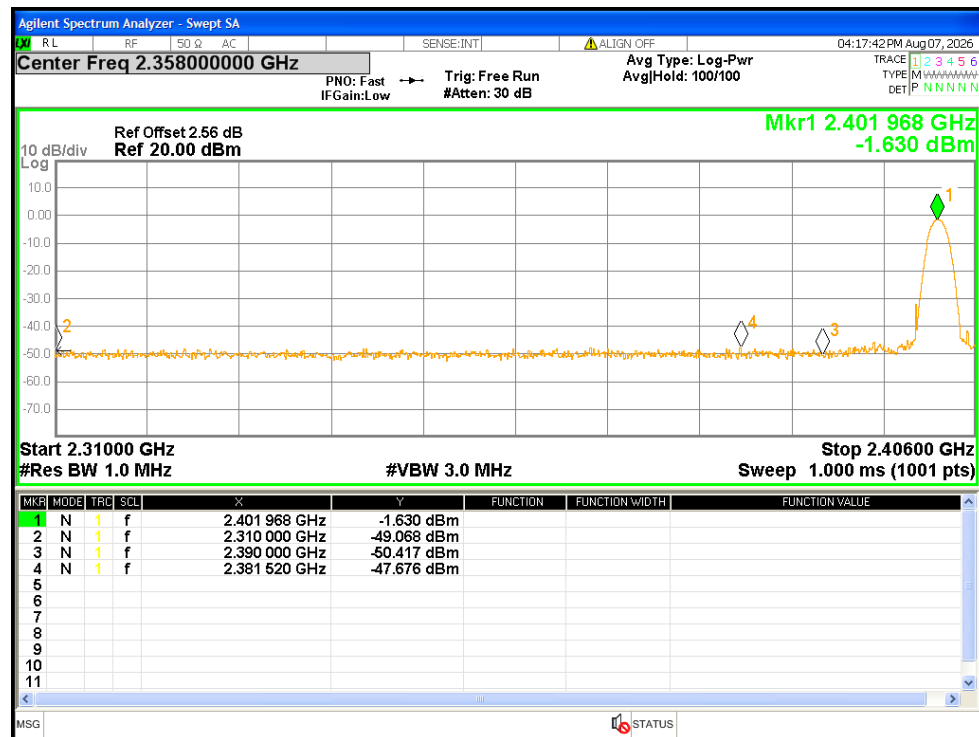
Restrict Band NVNT 1-DH5 2480MHz No-Hopping Peak



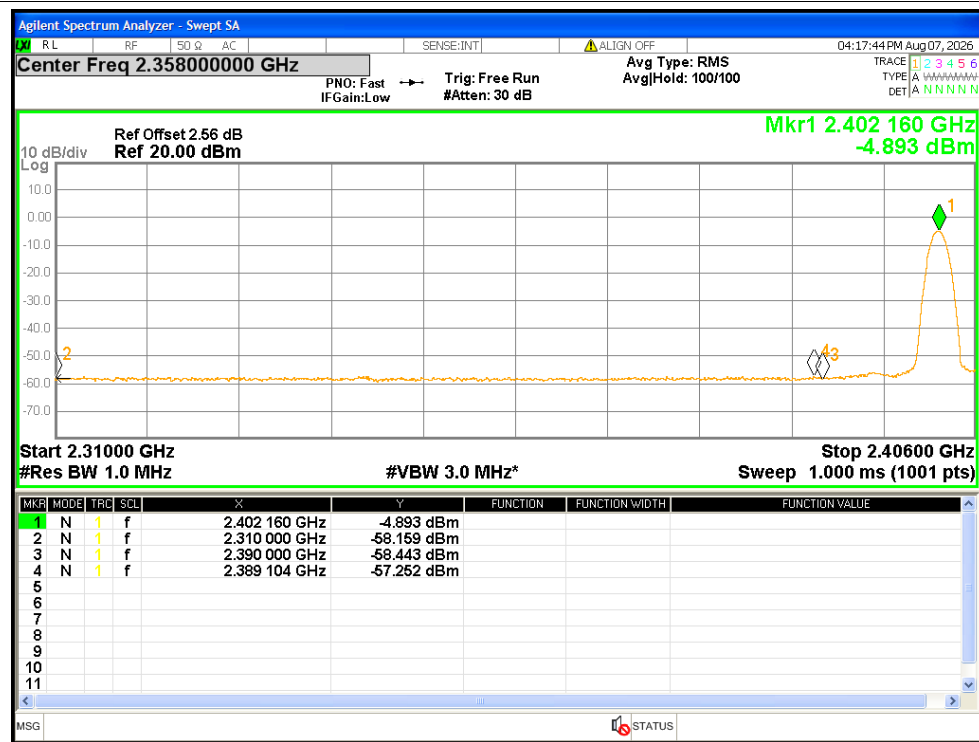
Restrict Band NVNT 1-DH5 2480MHz No-Hopping Average



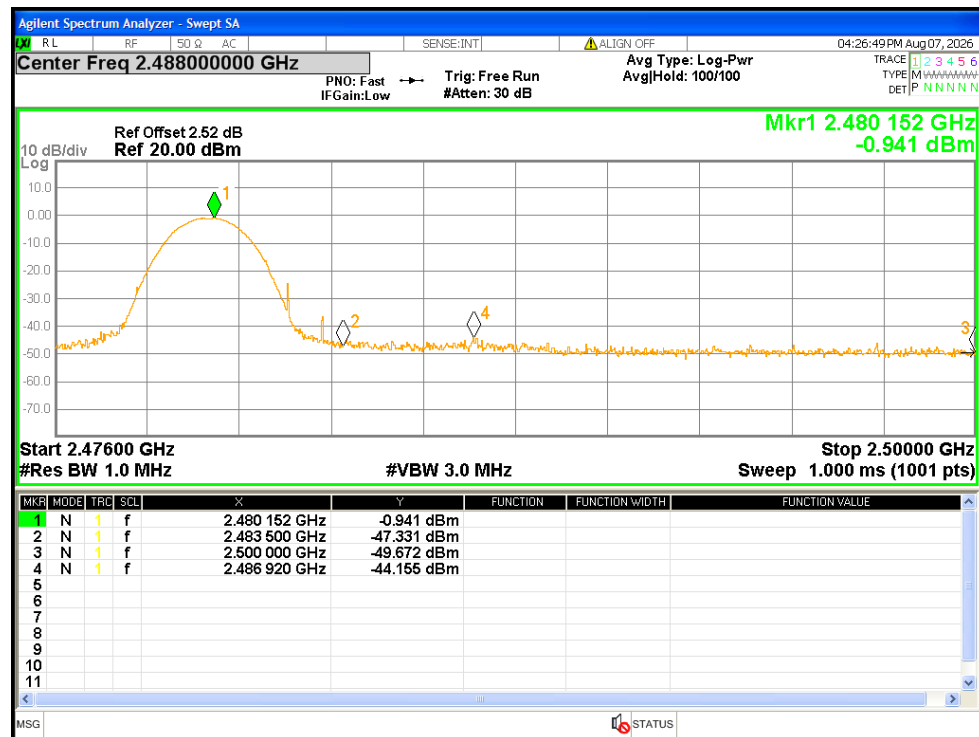
Restrict Band NVNT 2-DH5 2402MHz No-Hopping Peak



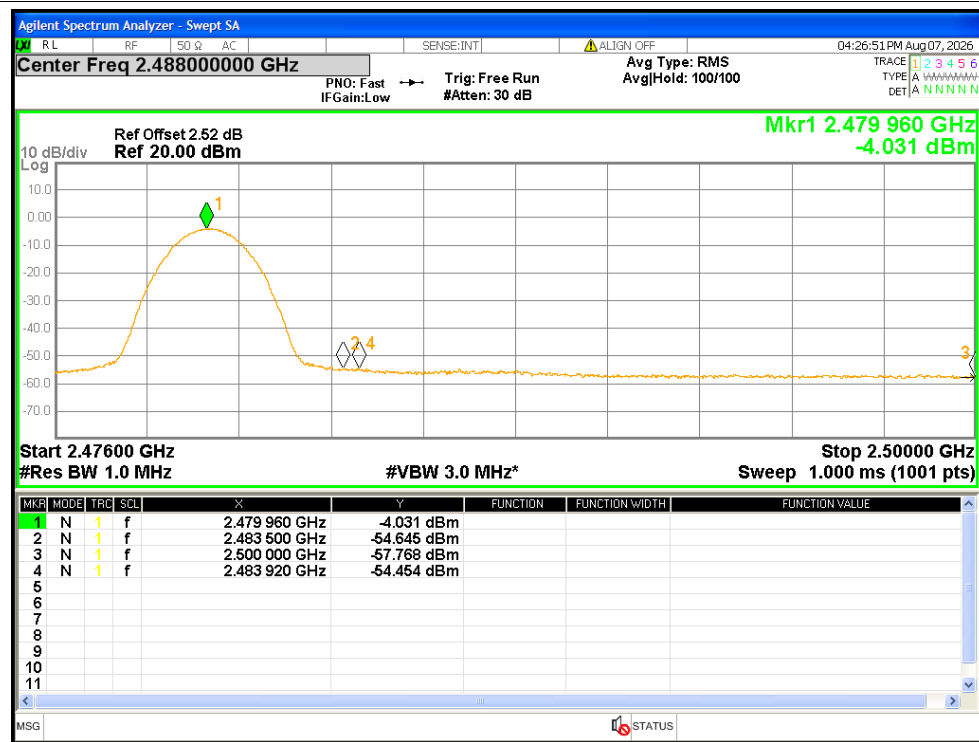
Restrict Band NVNT 2-DH5 2402MHz No-Hopping Average



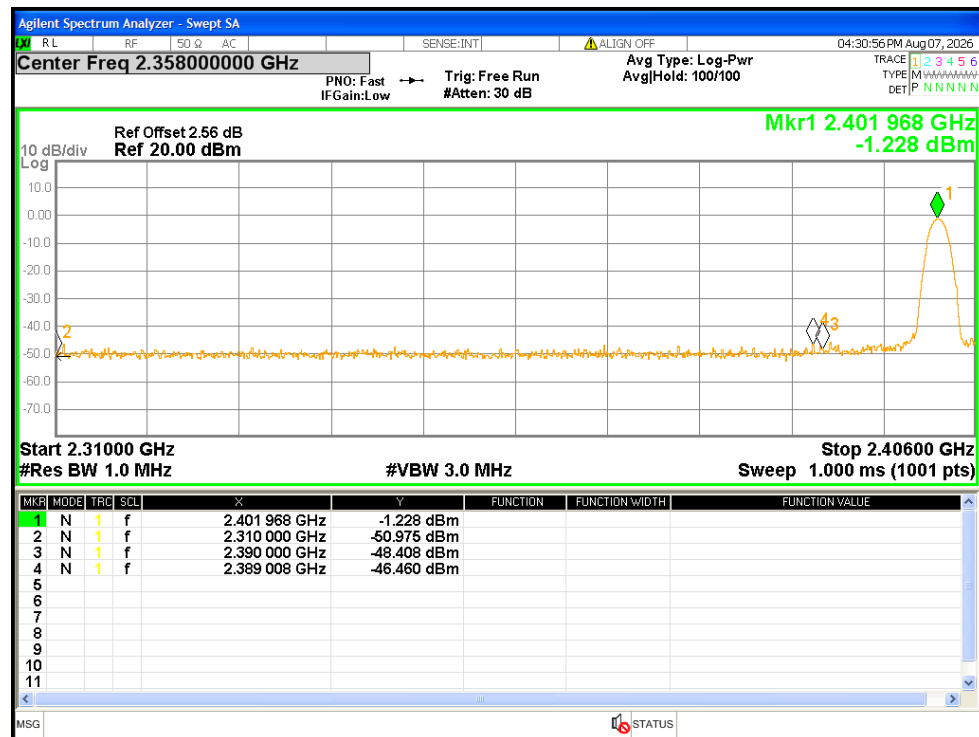
Restrict Band NVNT 2-DH5 2480MHz No-Hopping Peak



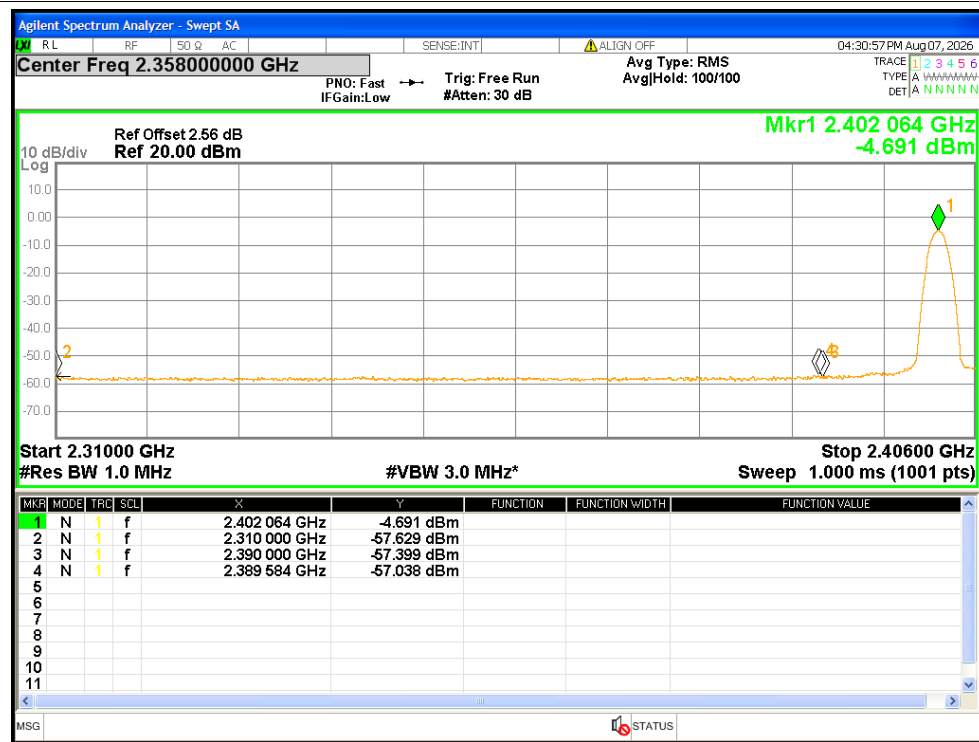
Restrict Band NVNT 2-DH5 2480MHz No-Hopping Average



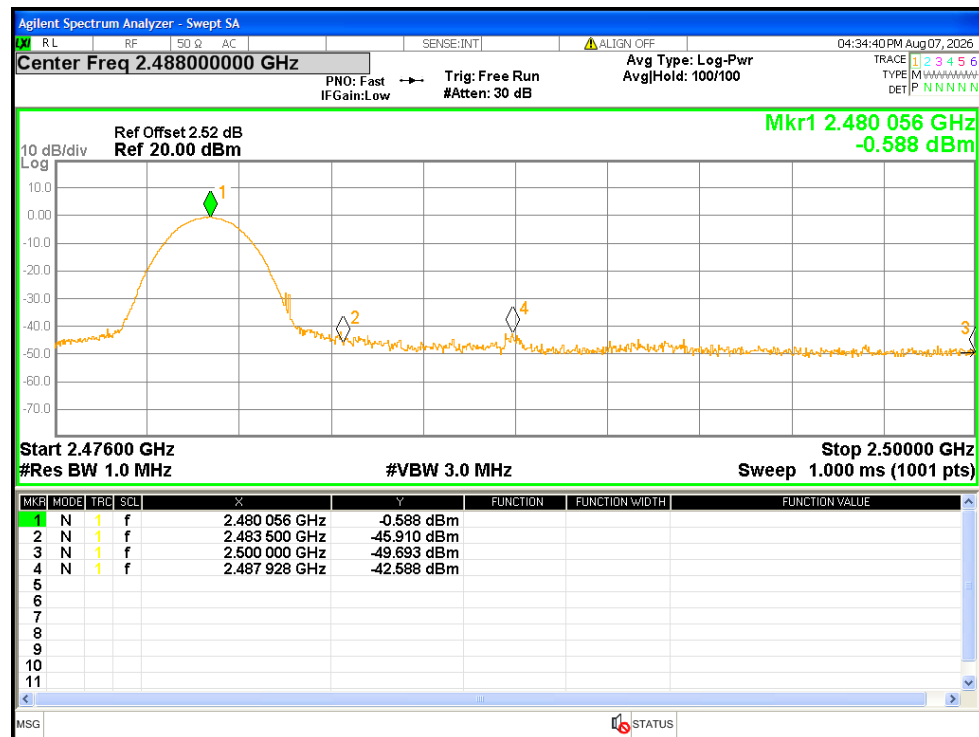
Restrict Band NVNT 3-DH5 2402MHz No-Hopping Peak



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

