

FCC Appendix RF Test Data for BT

FCC ID : 2BVTV-K180
Company : Shenzhen Wiikk Technology Co., Ltd
EUT : 3D LED FAN
Model Number : K180
Report No. : CTA25120502201
Reviewed By : Eric Wang

Maximum Conducted Output Power

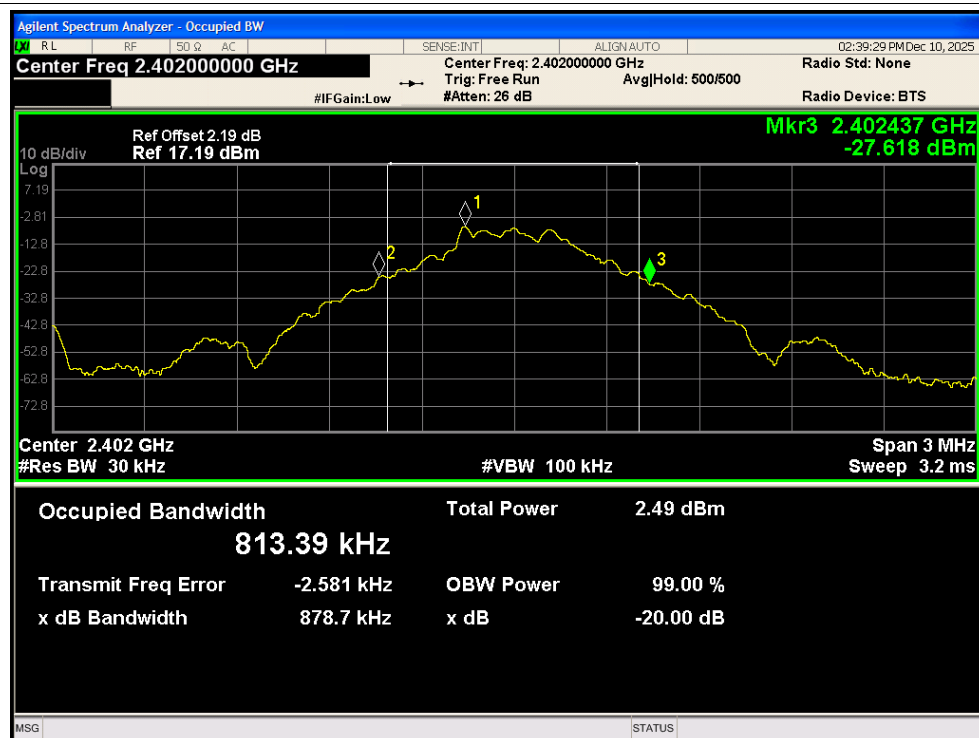
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	-4.58	30	Pass
NVNT	1-DH1	2441	-3.66	30	Pass
NVNT	1-DH1	2480	-3.60	30	Pass
NVNT	2-DH1	2402	-3.64	21	Pass
NVNT	2-DH1	2441	-2.78	21	Pass
NVNT	2-DH1	2480	-2.68	21	Pass
NVNT	3-DH1	2402	-3.11	21	Pass
NVNT	3-DH1	2441	-2.26	21	Pass
NVNT	3-DH1	2480	-2.16	21	Pass

-20dB Bandwidth

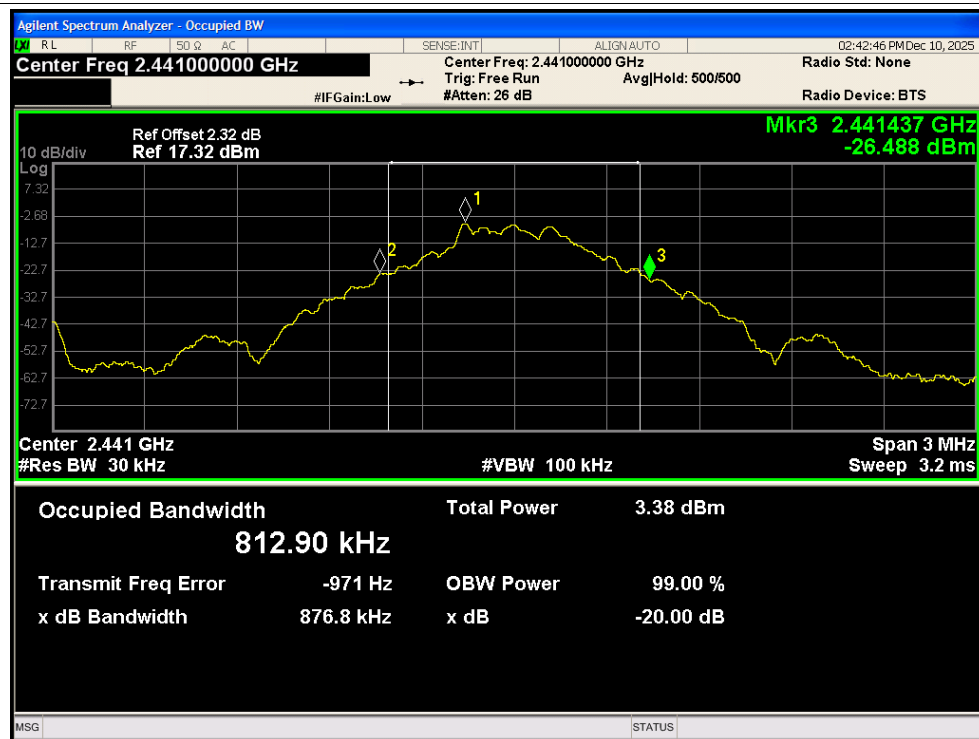
Condition	Mode	Frequency (MHz)	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH1	2402	0.879	Pass
NVNT	1-DH1	2441	0.877	Pass
NVNT	1-DH1	2480	0.880	Pass
NVNT	2-DH1	2402	1.259	Pass
NVNT	2-DH1	2441	1.256	Pass
NVNT	2-DH1	2480	1.259	Pass
NVNT	3-DH1	2402	1.223	Pass
NVNT	3-DH1	2441	1.223	Pass
NVNT	3-DH1	2480	1.220	Pass

Test Graphs

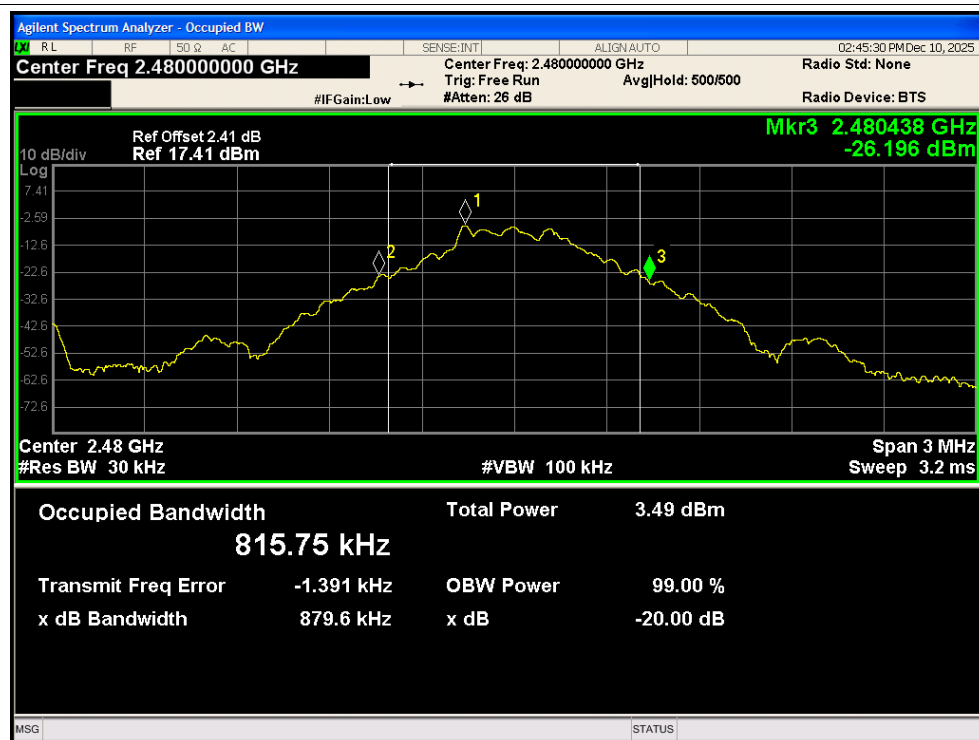
-20dB Bandwidth NVNT 1-DH1 2402MHz



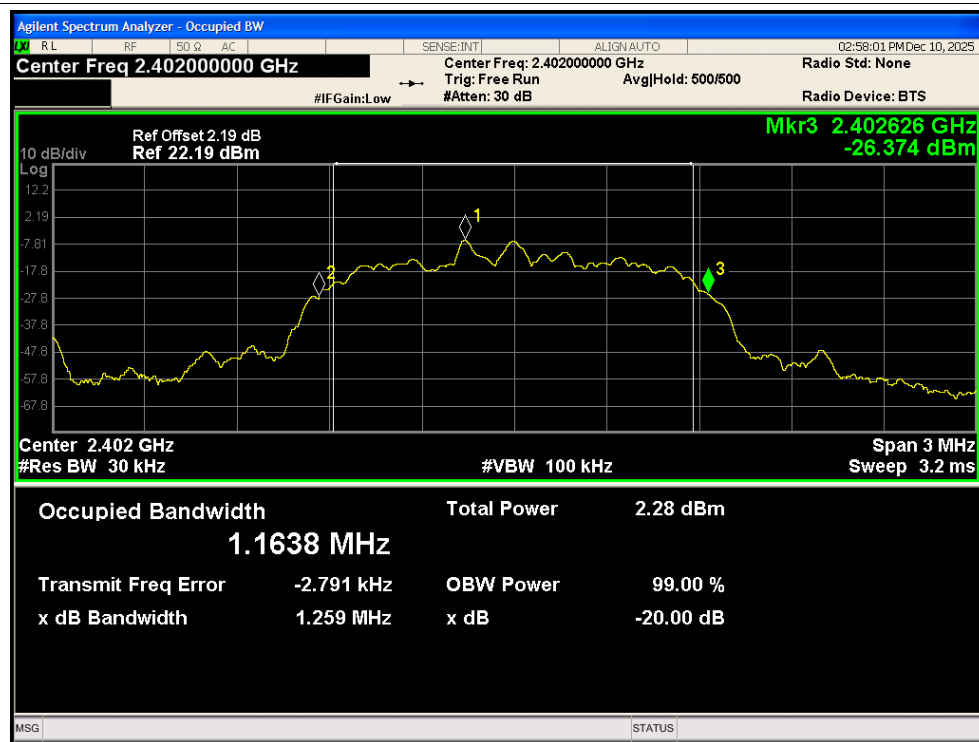
-20dB Bandwidth NVNT 1-DH1 2441MHz



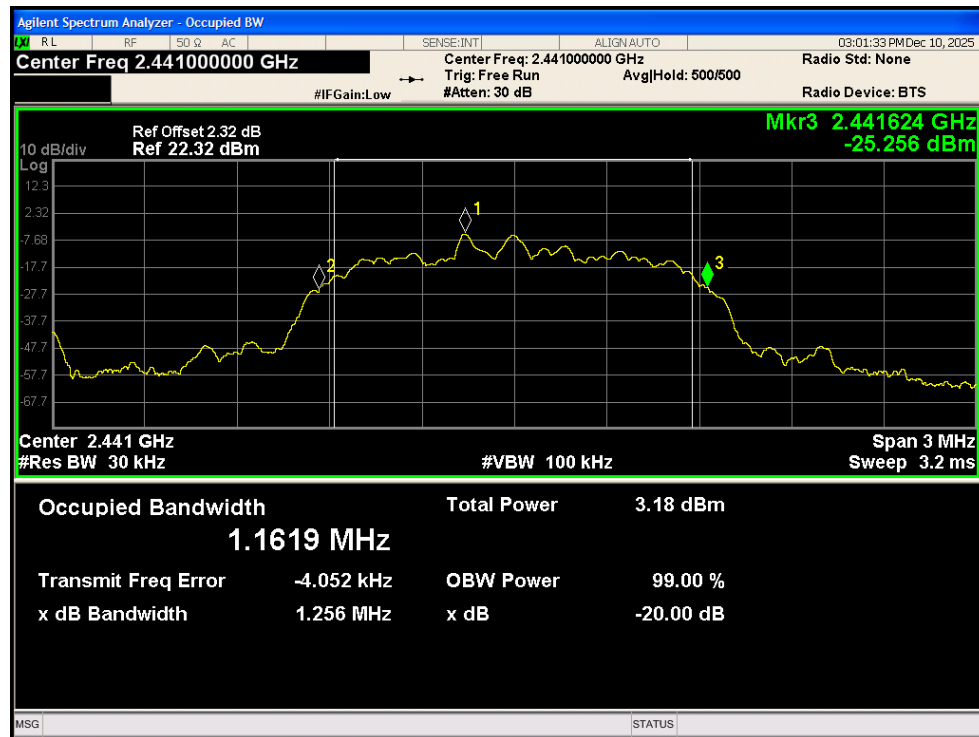
-20dB Bandwidth NVNT 1-DH1 2480MHz



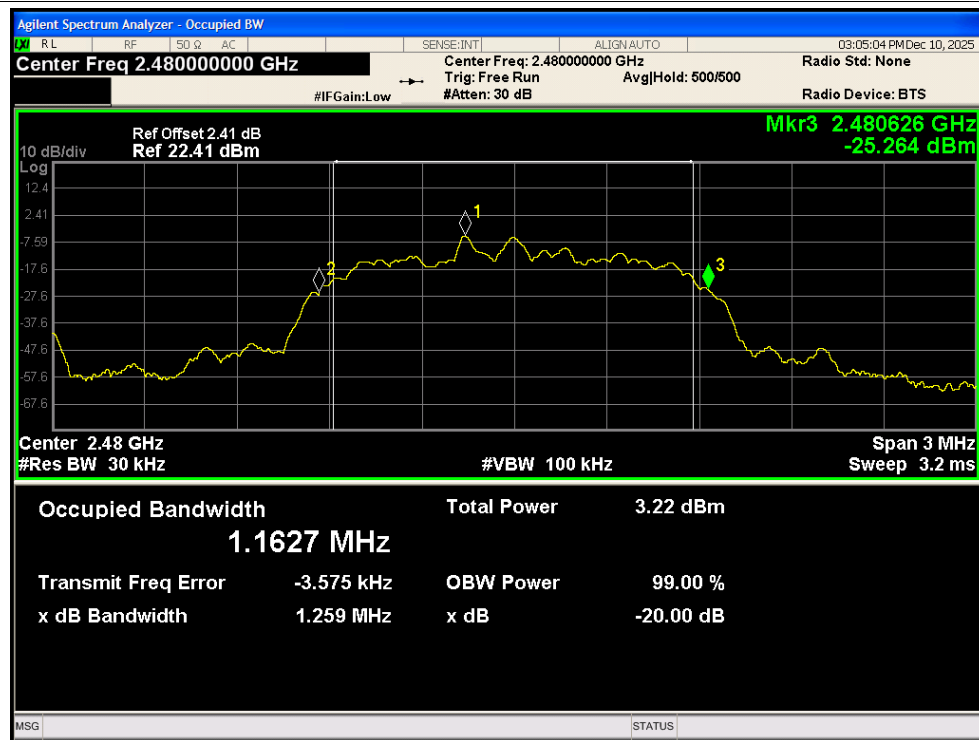
-20dB Bandwidth NVNT 2-DH1 2402MHz



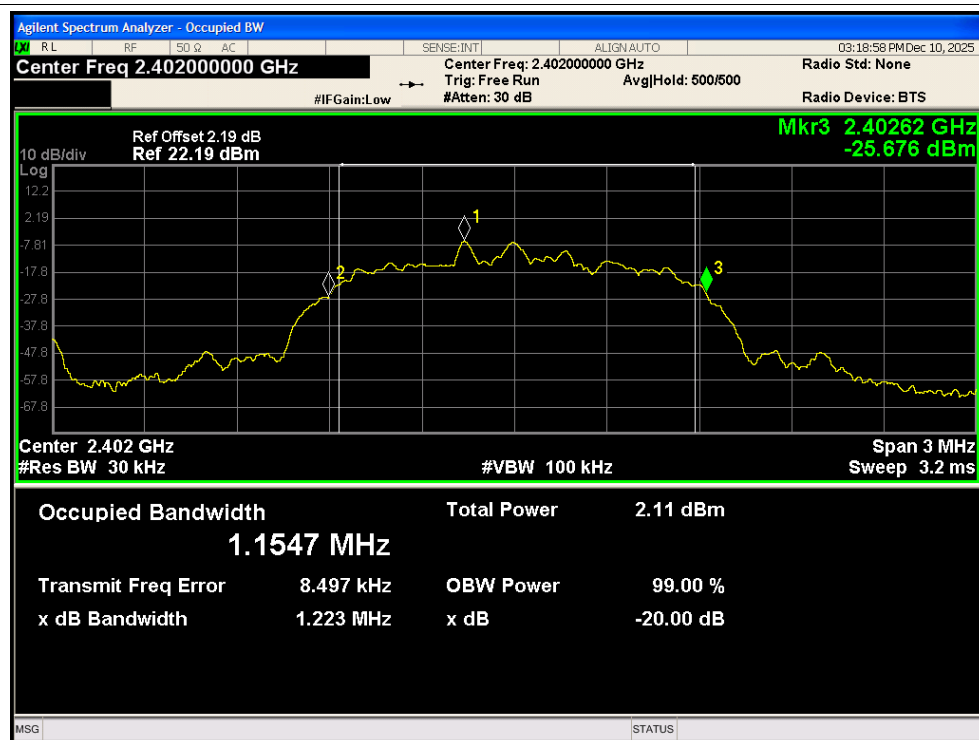
-20dB Bandwidth NVNT 2-DH1 2441MHz



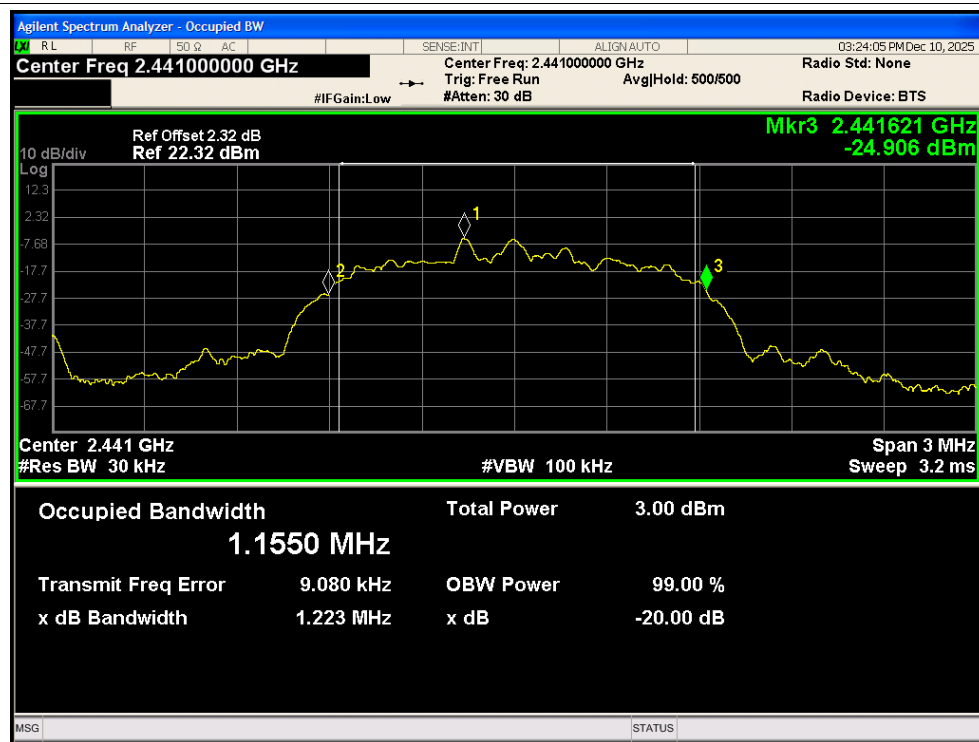
-20dB Bandwidth NVNT 2-DH1 2480MHz



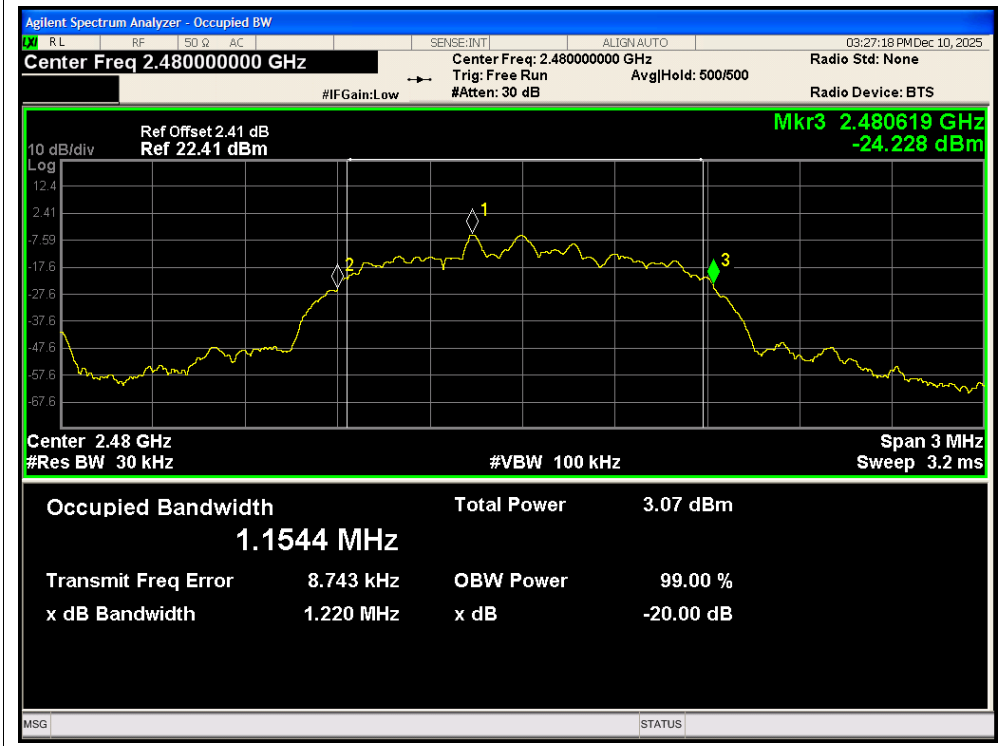
-20dB Bandwidth NVNT 3-DH1 2402MHz



-20dB Bandwidth NVNT 3-DH1 2441MHz



-20dB Bandwidth NVNT 3-DH1 2480MHz

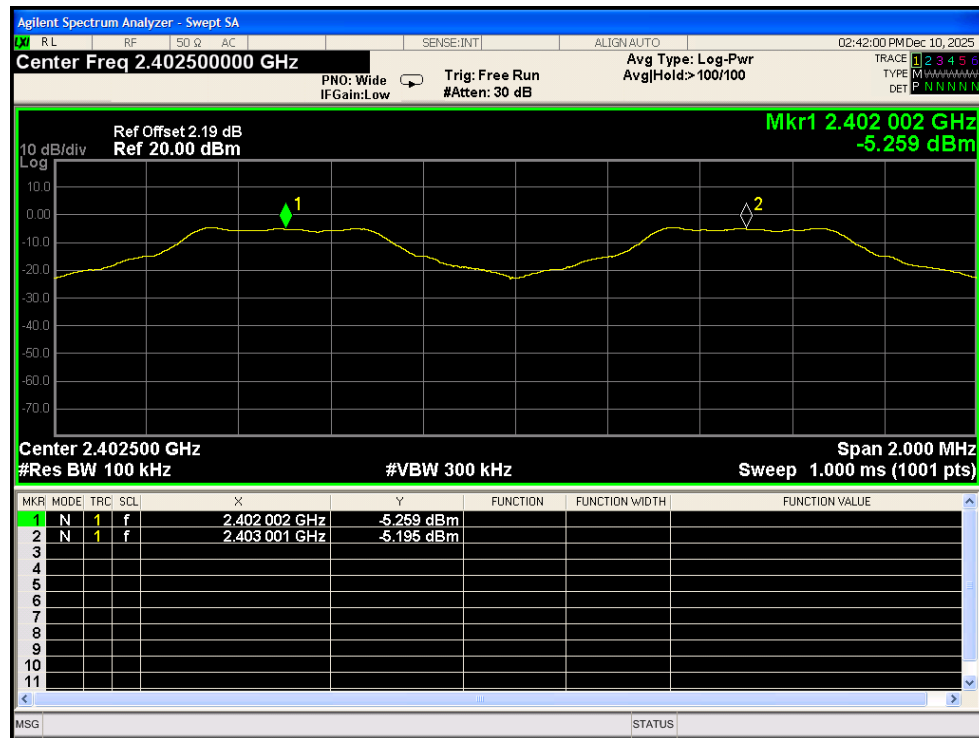


Carrier Frequencies Separation

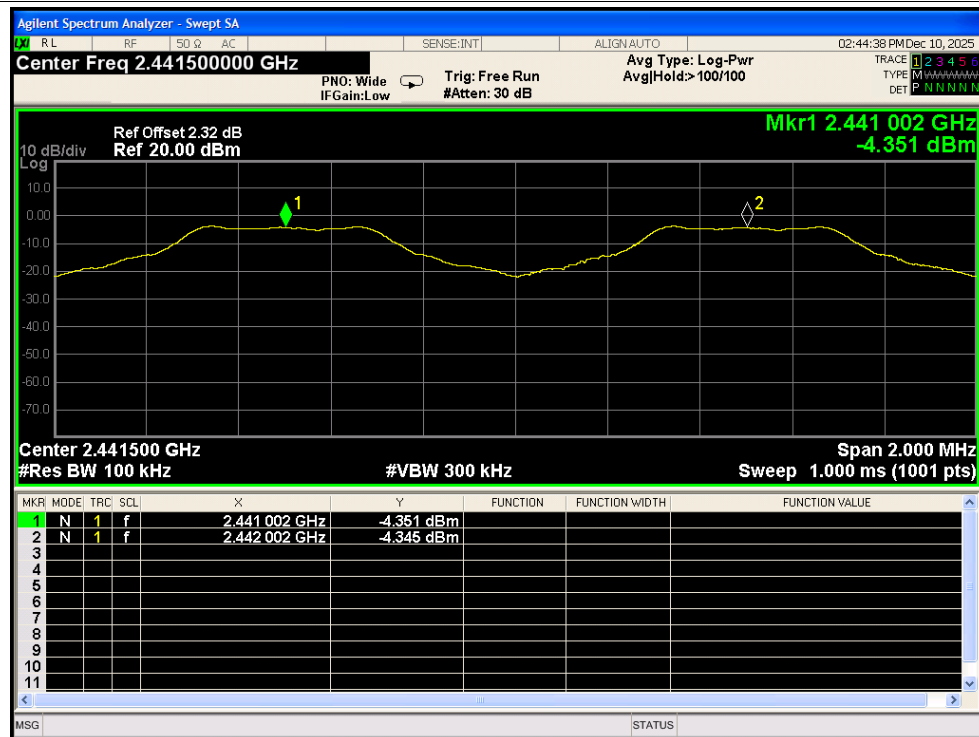
Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2402.002	2403.001	0.999	0.880	Pass
NVNT	1-DH1	2441.002	2442.002	1.000	0.880	Pass
NVNT	1-DH1	2479.002	2480.003	1.001	0.880	Pass
NVNT	2-DH1	2402.000	2402.999	0.999	0.839	Pass
NVNT	2-DH1	2441.002	2441.999	0.997	0.839	Pass
NVNT	2-DH1	2479.007	2480.012	1.005	0.839	Pass
NVNT	3-DH1	2402.000	2403.002	1.002	0.815	Pass
NVNT	3-DH1	2441.000	2441.995	0.995	0.815	Pass
NVNT	3-DH1	2478.954	2479.954	1.000	0.815	Pass

Test Graphs

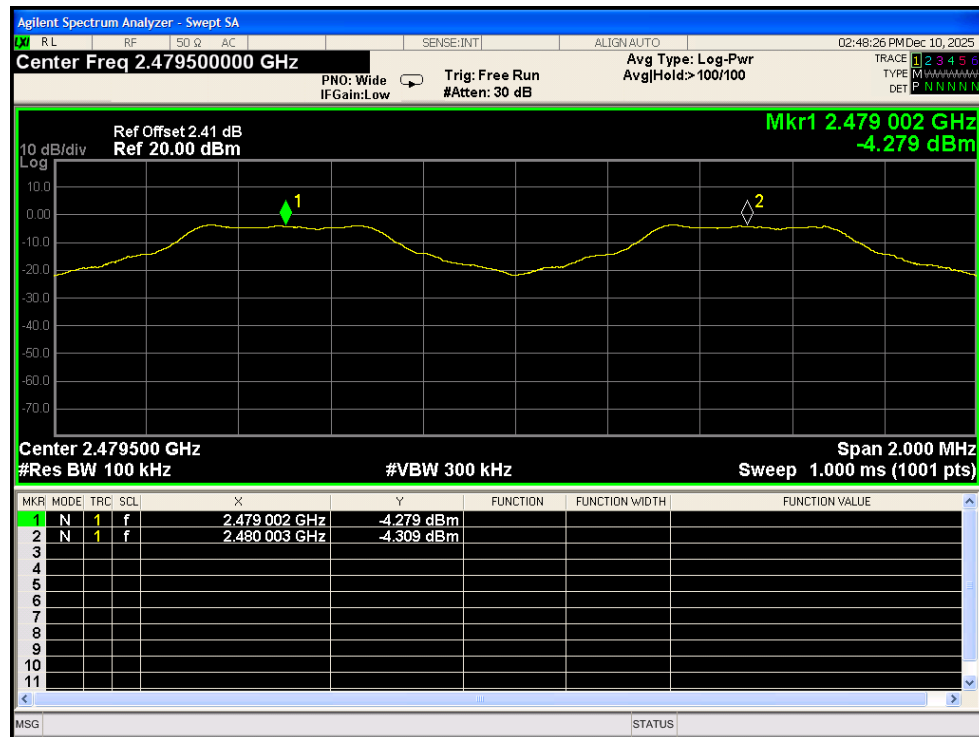
CFS NVNT 1-DH1 2402MHz



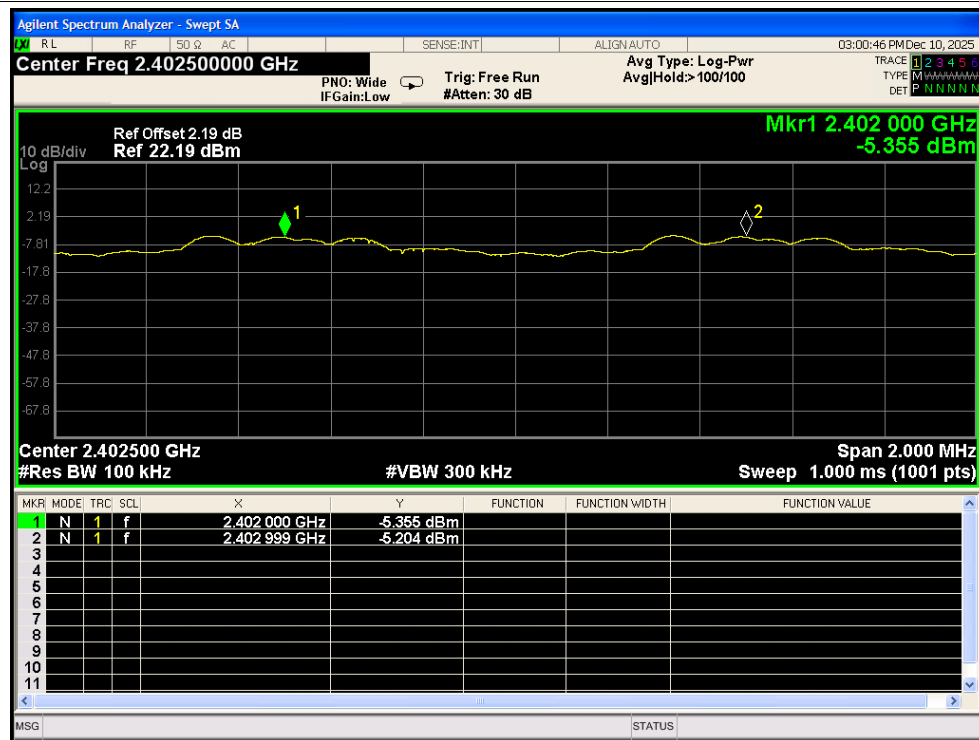
CFS NVNT 1-DH1 2441MHz



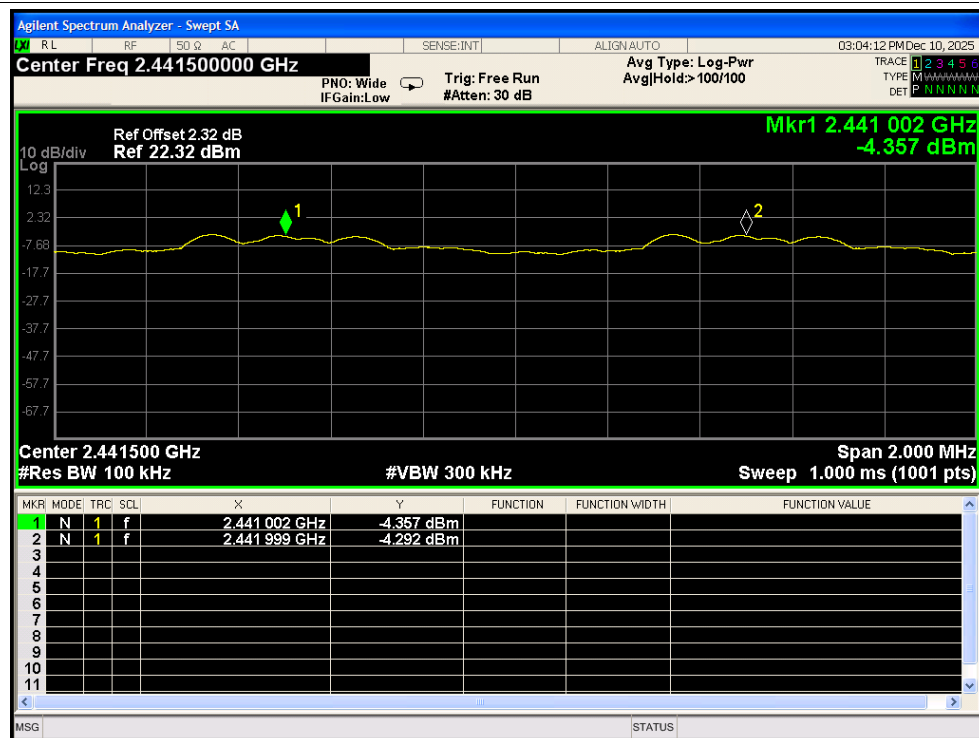
CFS NVNT 1-DH1 2480MHz



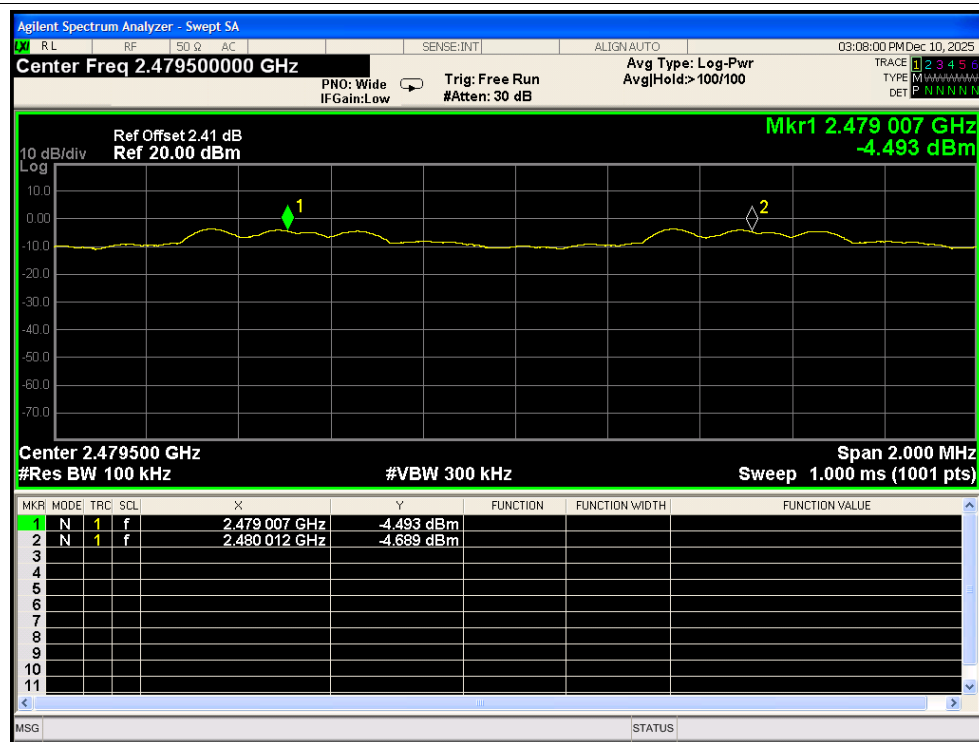
CFS NVNT 2-DH1 2402MHz



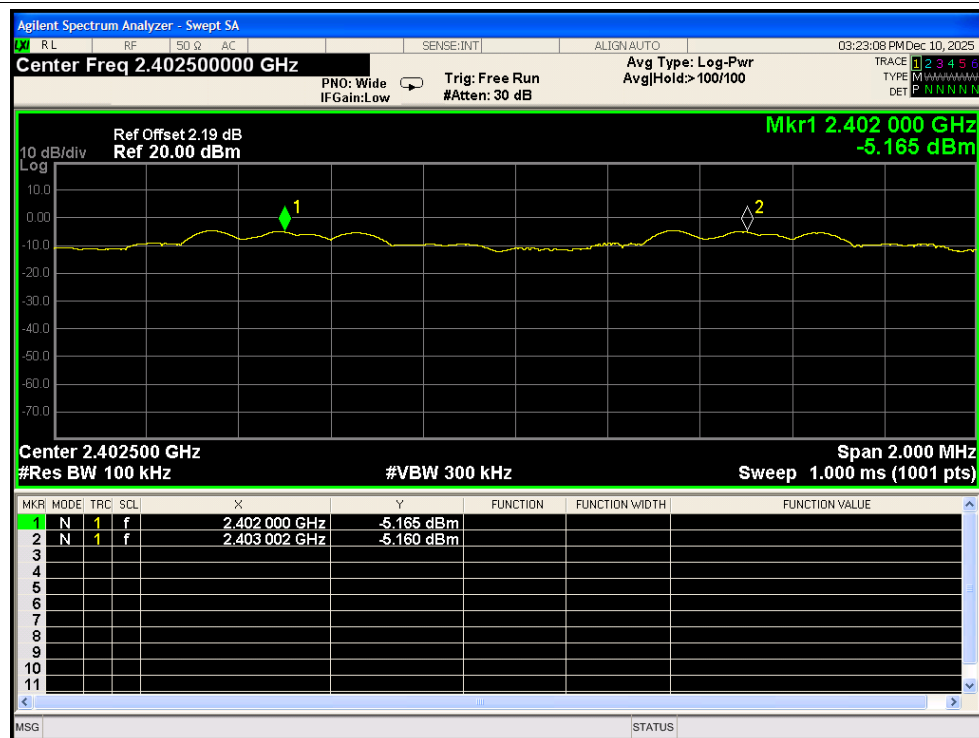
CFS NVNT 2-DH1 2441MHz



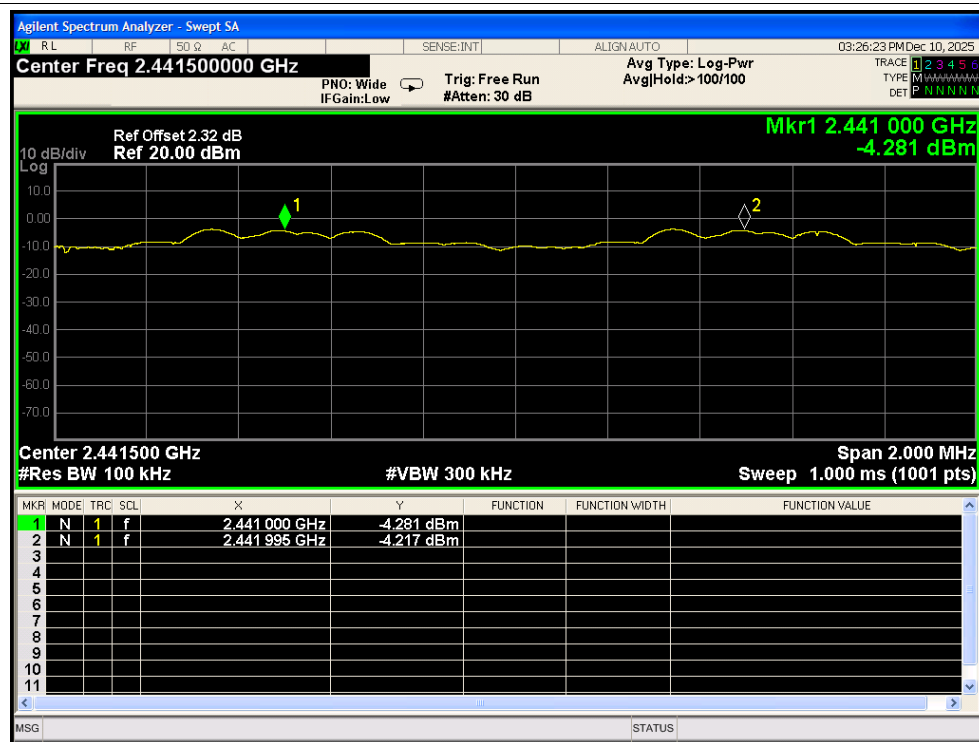
CFS NVNT 2-DH1 2480MHz



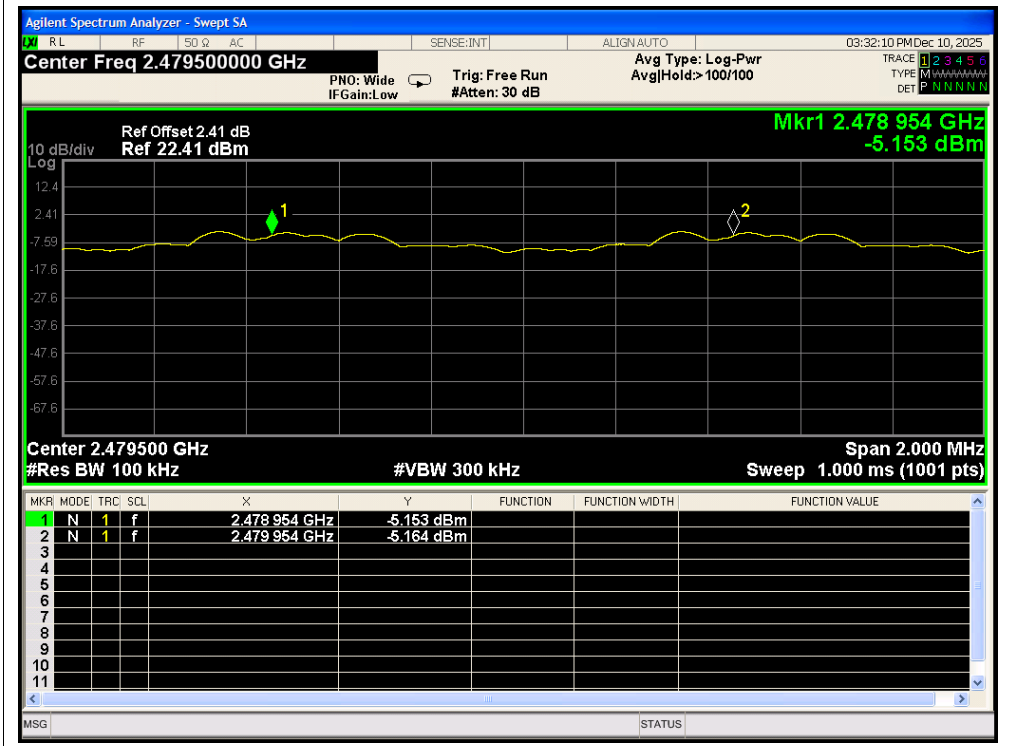
CFS NVNT 3-DH1 2402MHz



CFS NVNT 3-DH1 2441MHz



CFS NVNT 3-DH1 2480MHz

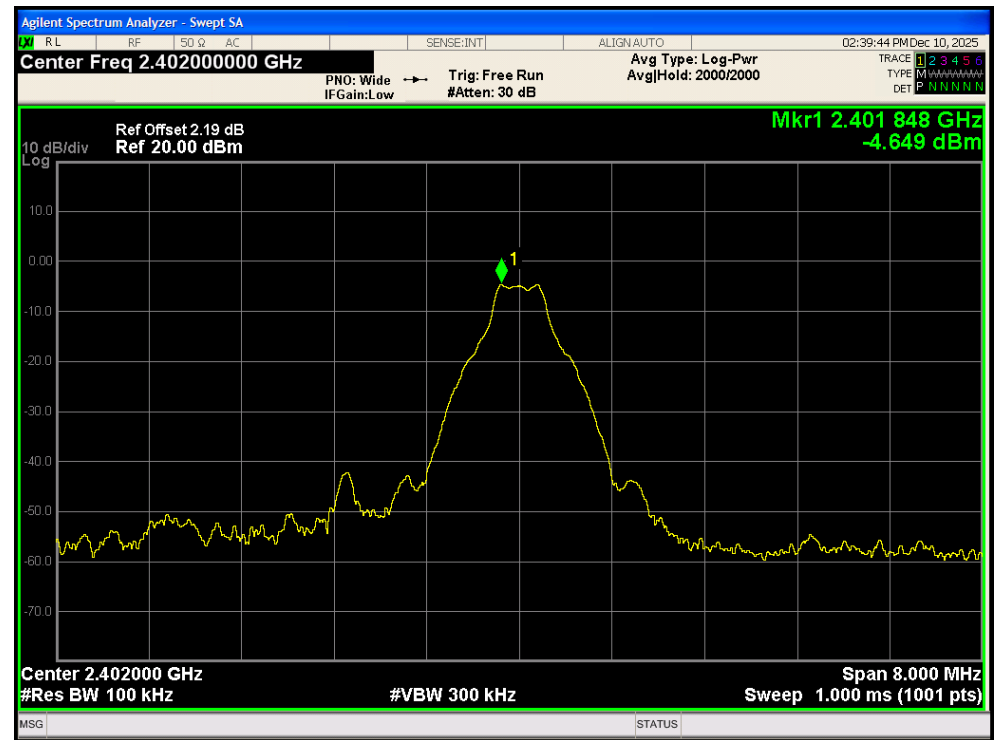


Band Edge

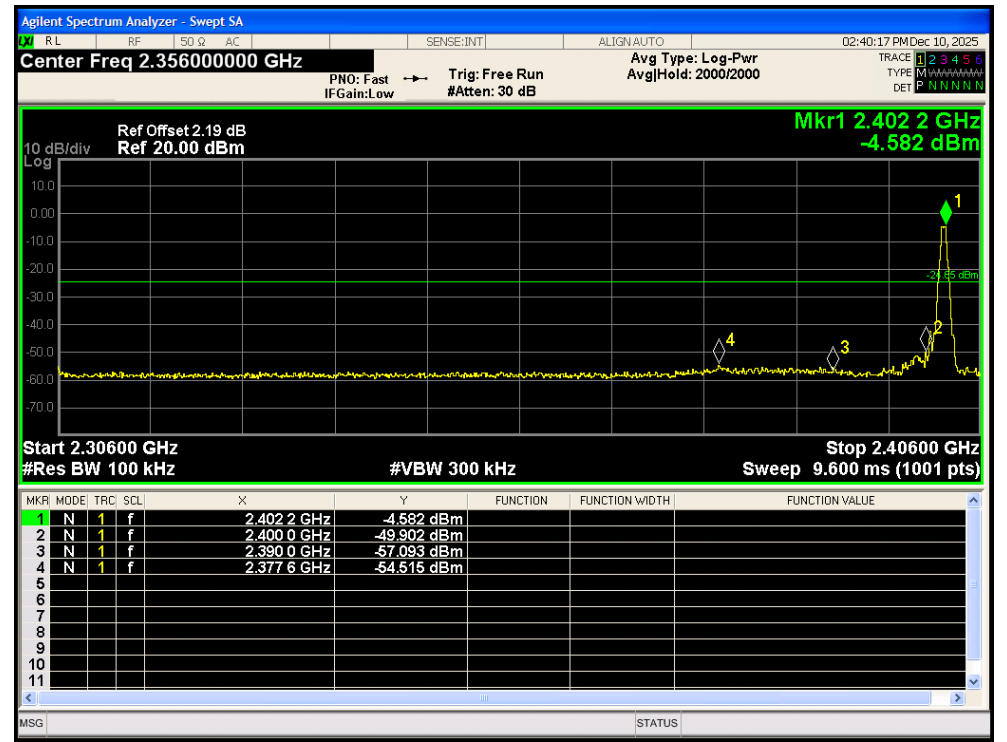
Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	-49.86	-20	Pass
NVNT	1-DH1	2480	-49.16	-20	Pass
NVNT	2-DH1	2402	-49.91	-20	Pass
NVNT	2-DH1	2480	-49.51	-20	Pass
NVNT	3-DH1	2402	-49.90	-20	Pass
NVNT	3-DH1	2480	-49.34	-20	Pass

Test Graphs

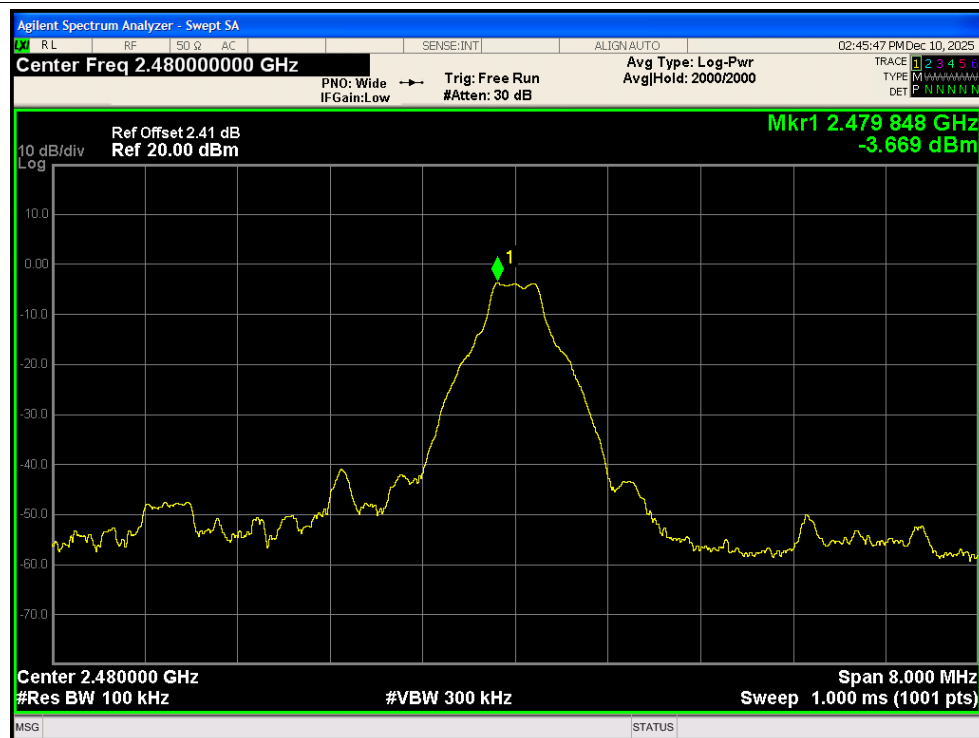
Band Edge NVNT 1-DH1 2402MHz Ref



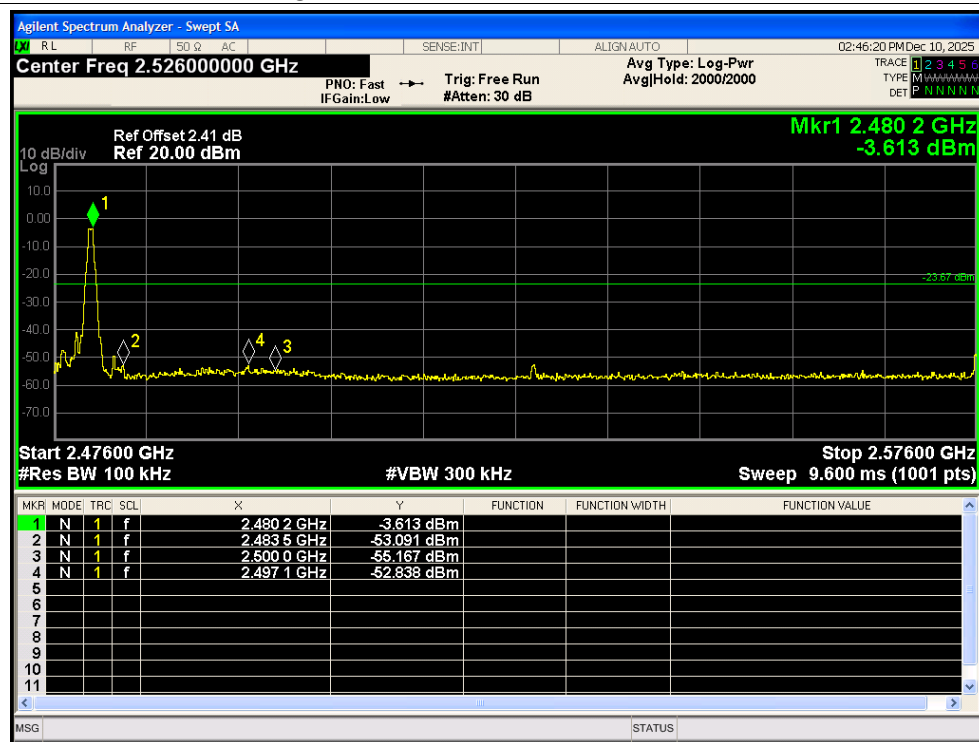
Band Edge NVNT 1-DH1 2402MHz Emission



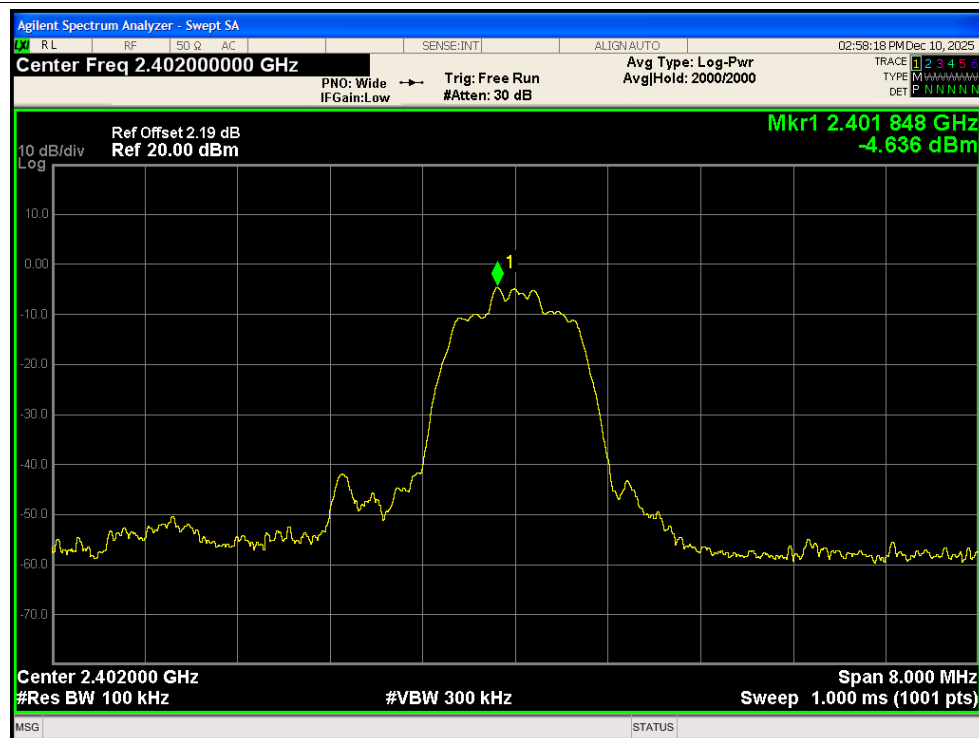
Band Edge NVNT 1-DH1 2480MHz Ref



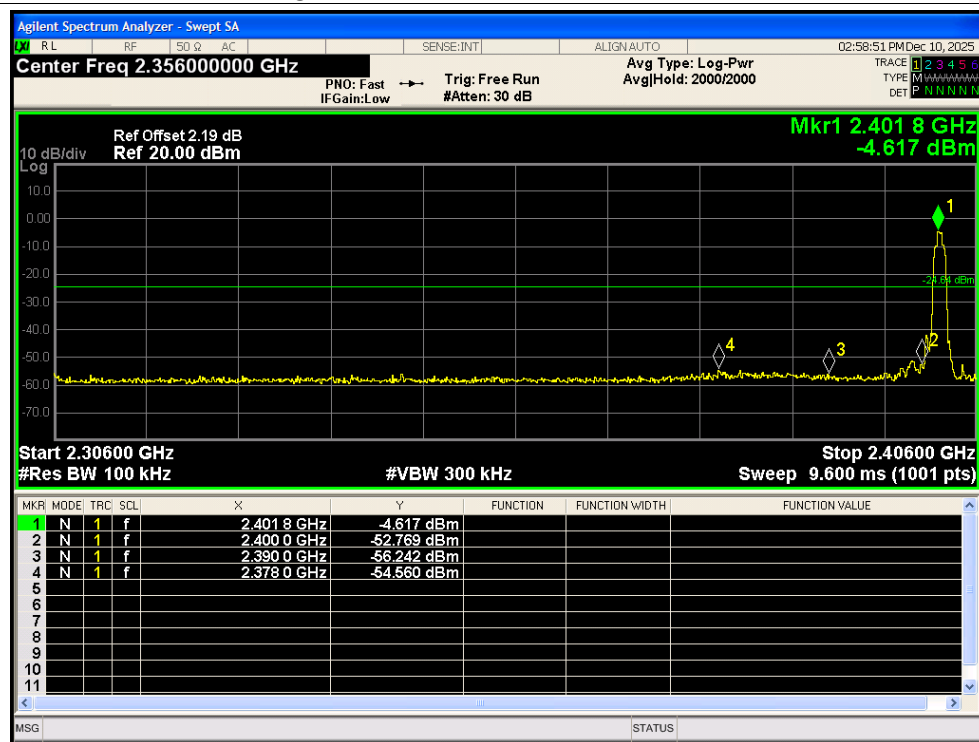
Band Edge NVNT 1-DH1 2480MHz Emission



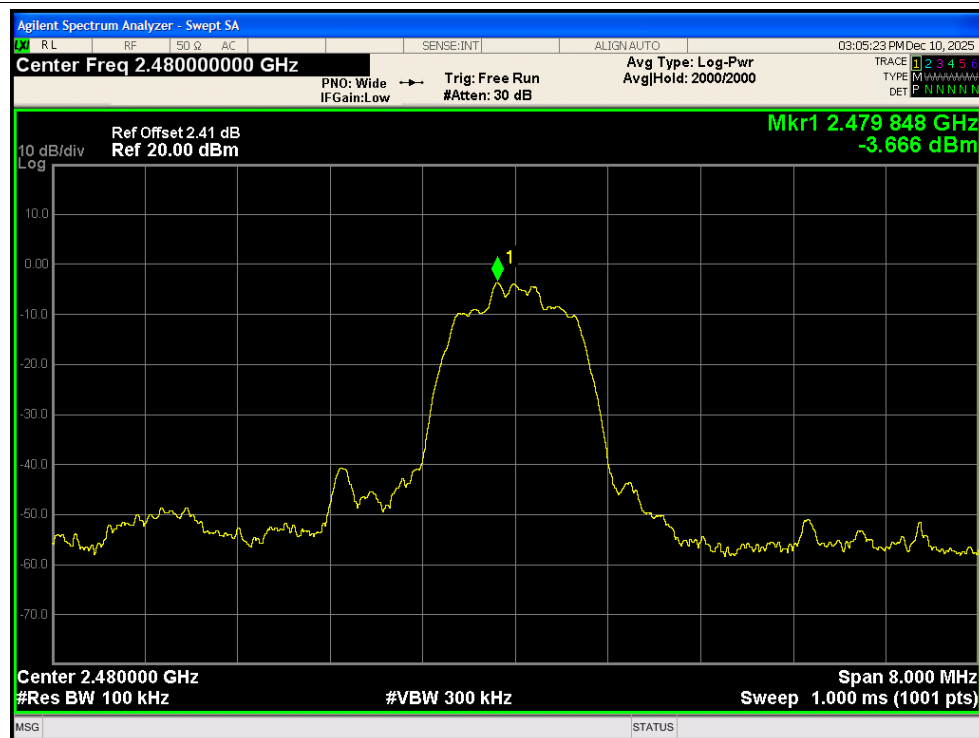
Band Edge NVNT 2-DH1 2402MHz Ref



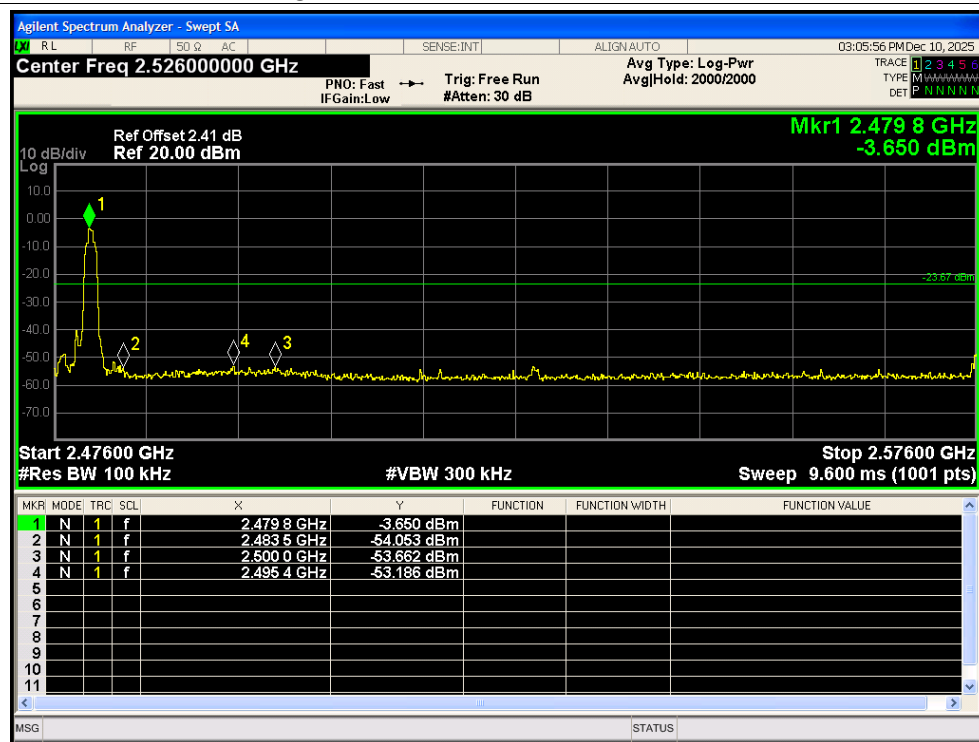
Band Edge NVNT 2-DH1 2402MHz Emission



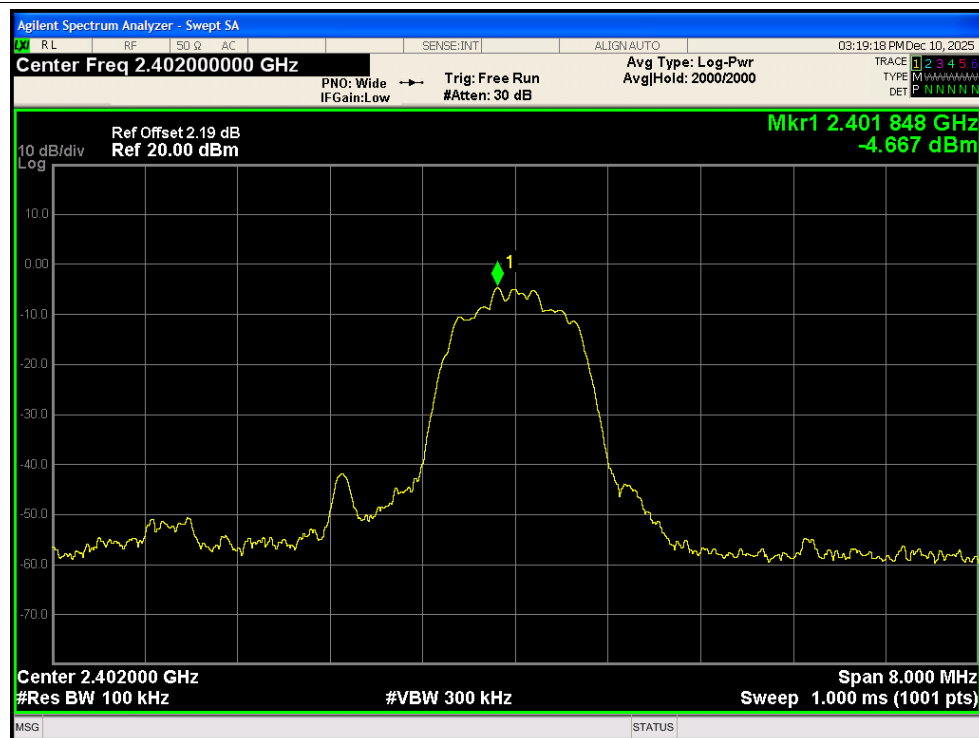
Band Edge NVNT 2-DH1 2480MHz Ref



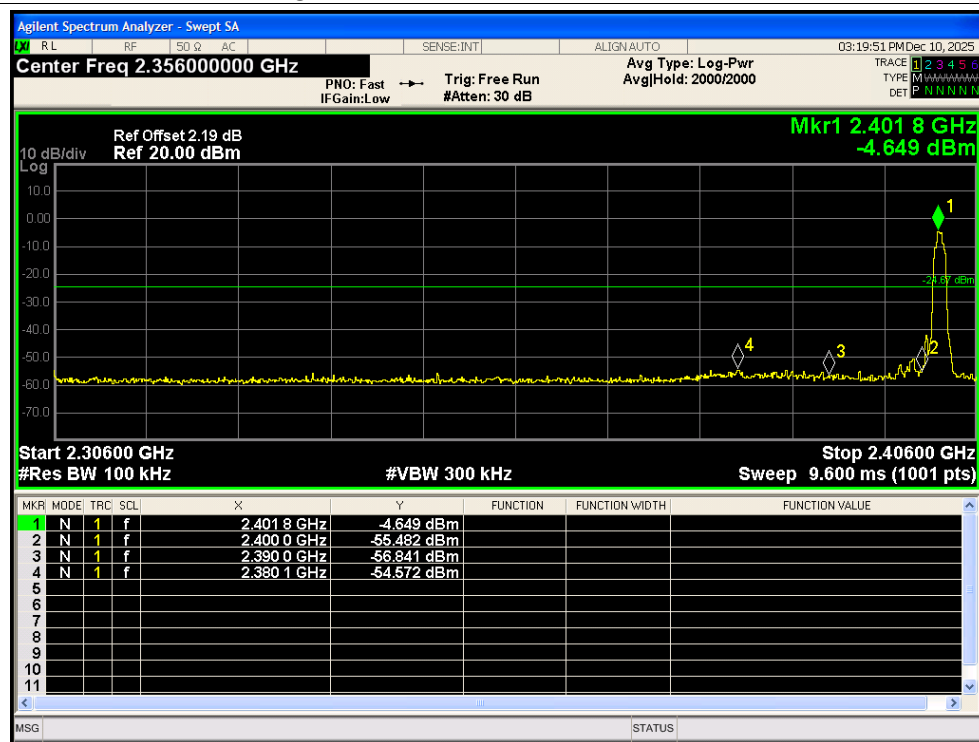
Band Edge NVNT 2-DH1 2480MHz Emission



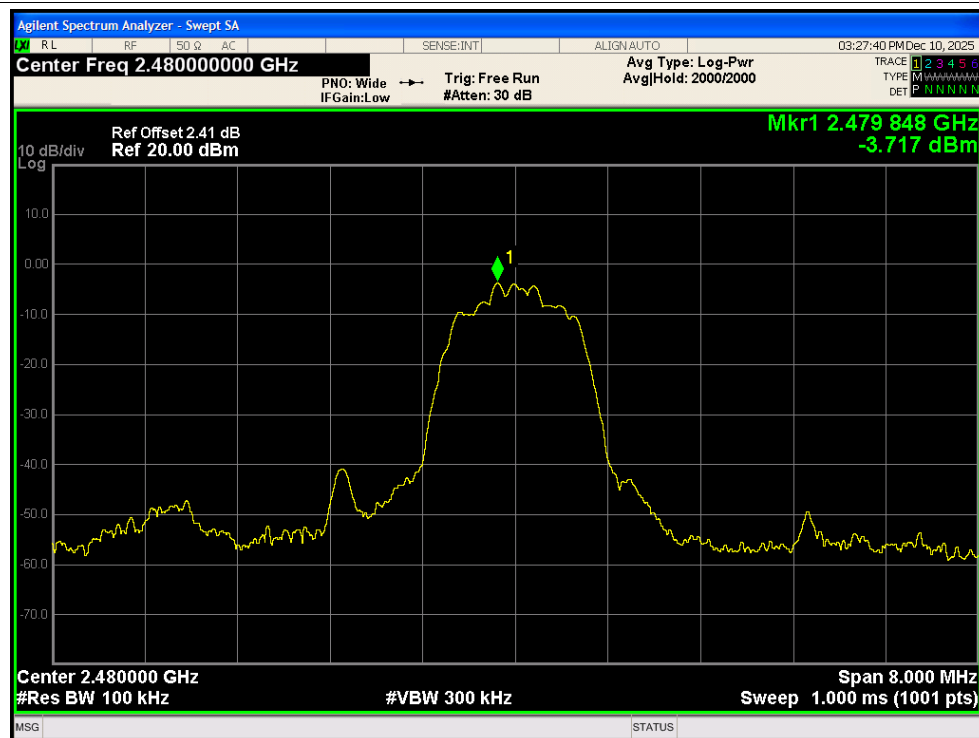
Band Edge NVNT 3-DH1 2402MHz Ref



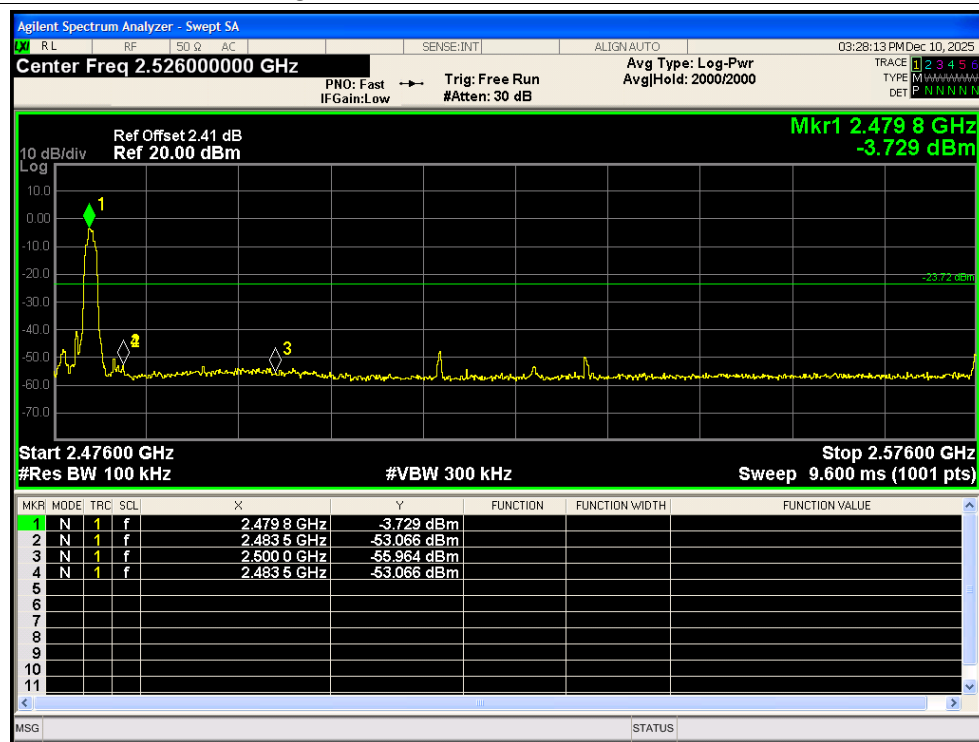
Band Edge NVNT 3-DH1 2402MHz Emission



Band Edge NVNT 3-DH1 2480MHz Ref



Band Edge NVNT 3-DH1 2480MHz Emission

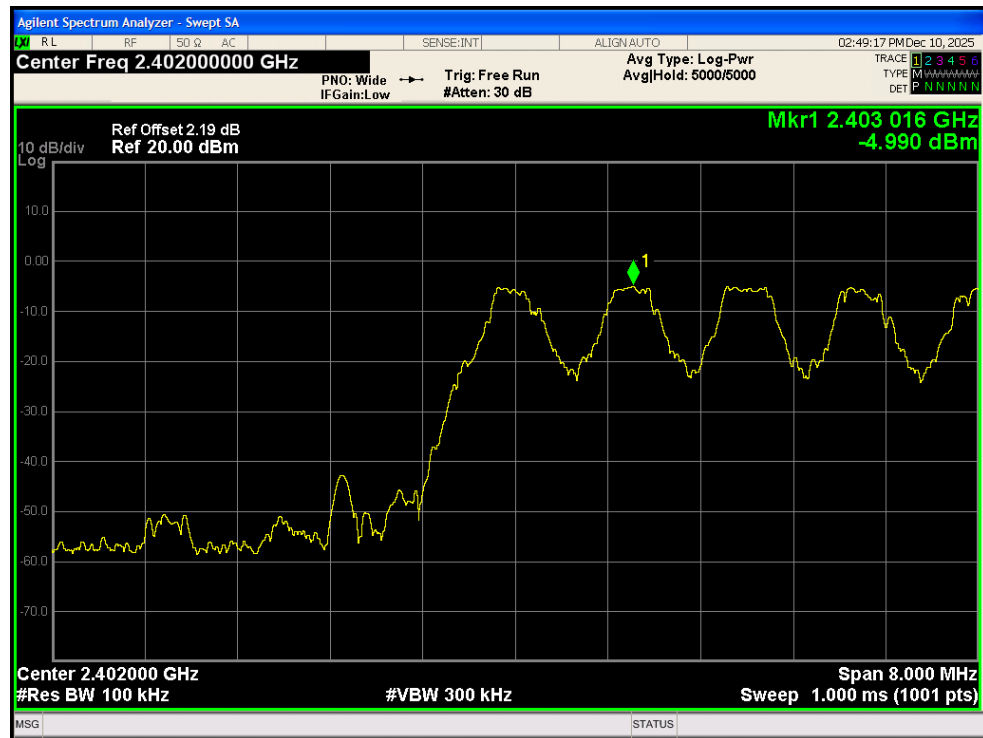


Band Edge(Hopping)

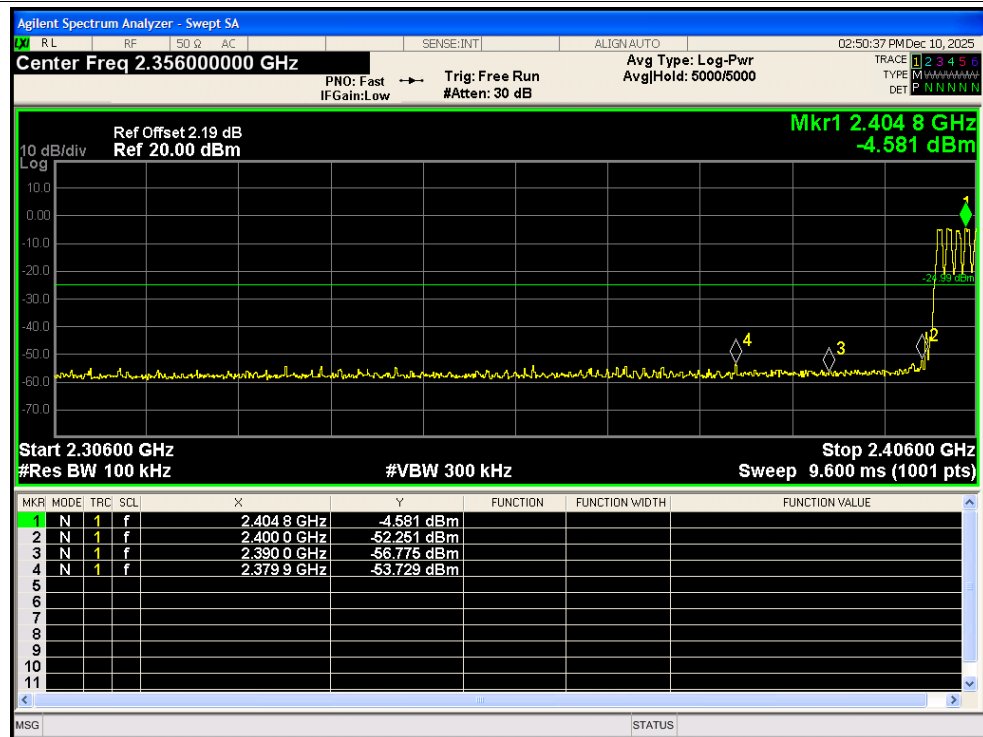
Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	-48.73	-20	Pass
NVNT	1-DH1	2480	-45.84	-20	Pass
NVNT	2-DH1	2402	-38.98	-20	Pass
NVNT	2-DH1	2480	-48.74	-20	Pass
NVNT	3-DH1	2402	-50.17	-20	Pass
NVNT	3-DH1	2480	-46.02	-20	Pass

Test Graphs

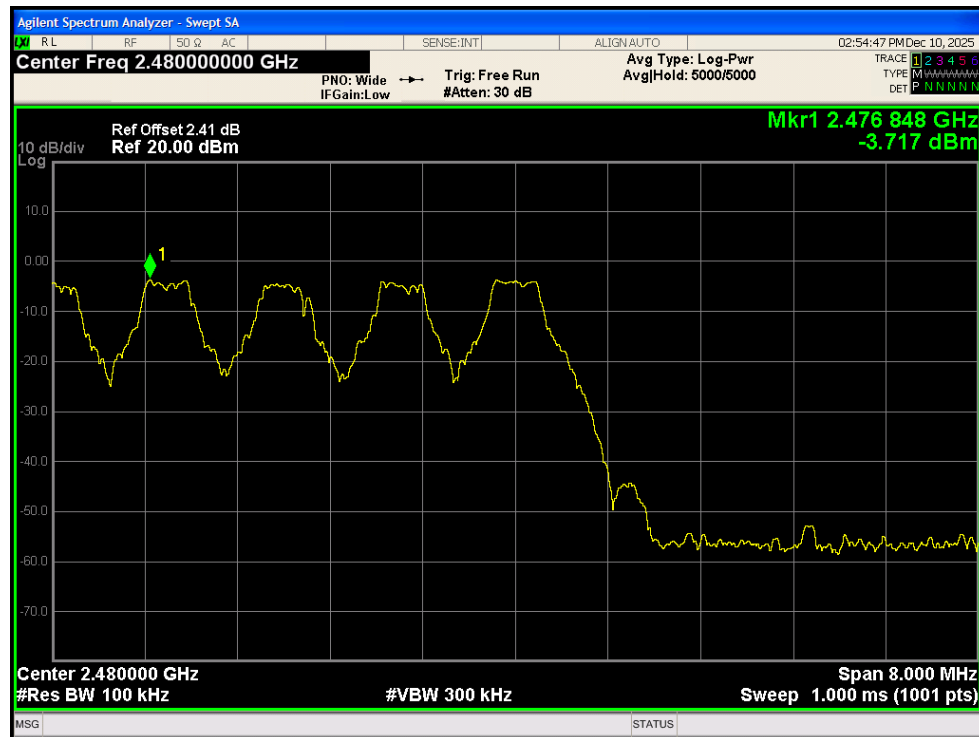
Band Edge(Hopping) NVNT 1-DH1 2402MHz Ref



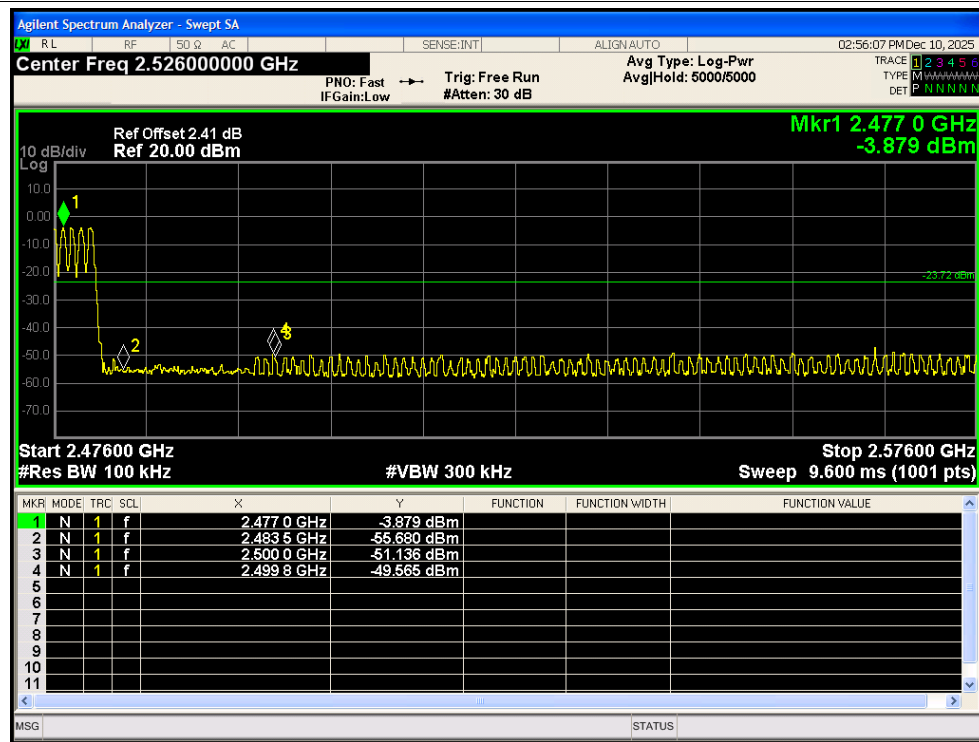
Band Edge(Hopping) NVNT 1-DH1 2402MHz Emission



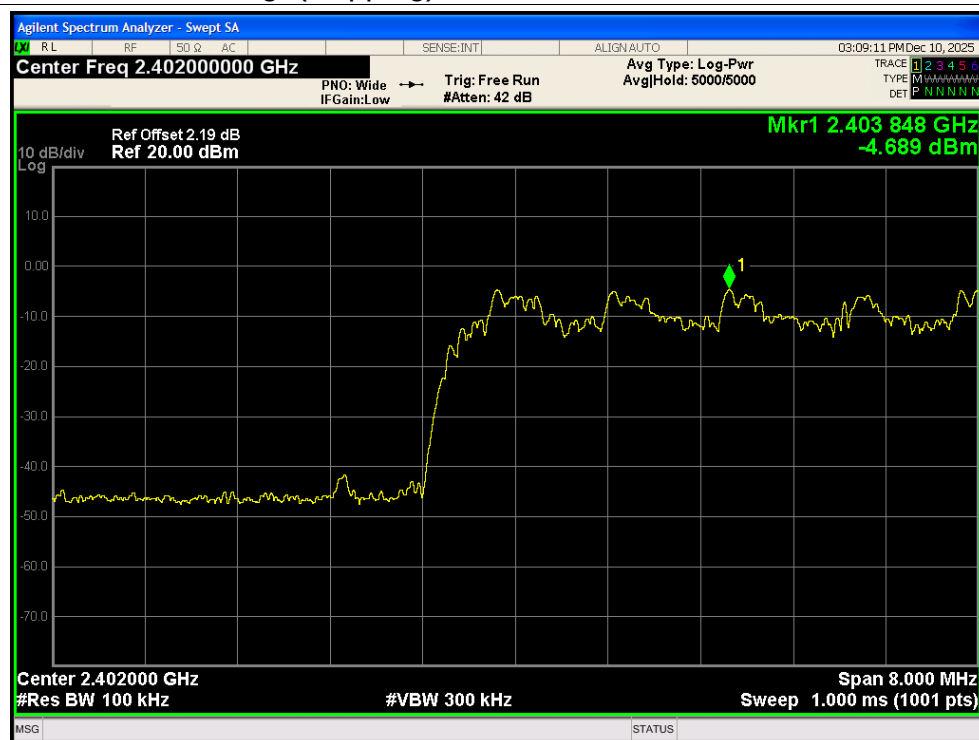
Band Edge(Hopping) NVNT 1-DH1 2480MHz Ref



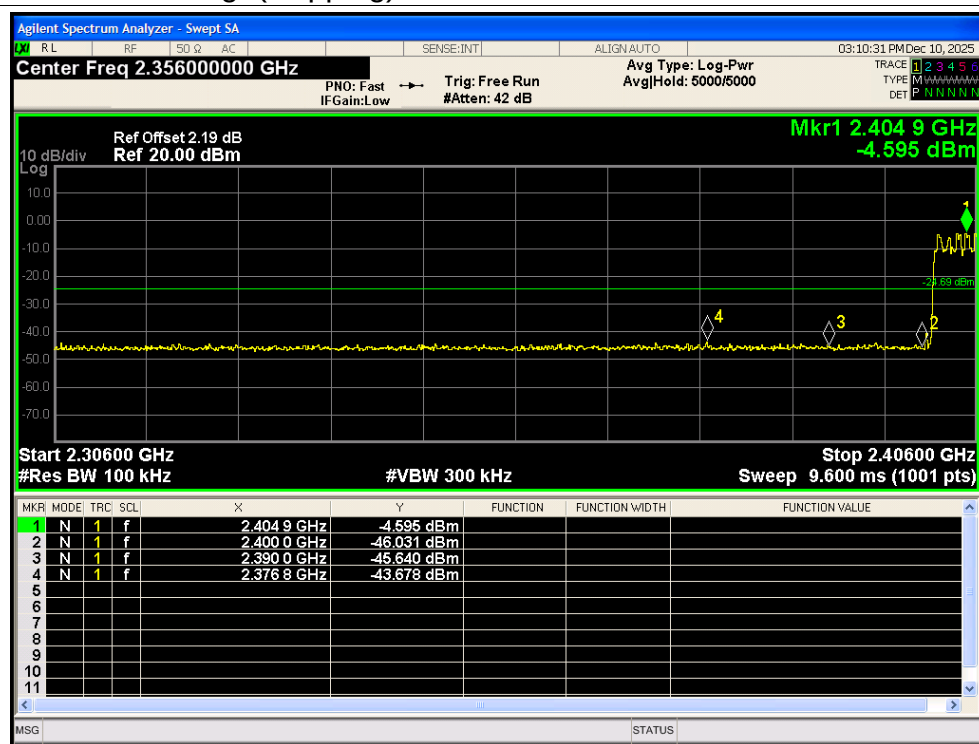
Band Edge(Hopping) NVNT 1-DH1 2480MHz Emission



Band Edge(Hopping) NVNT 2-DH1 2402MHz Ref



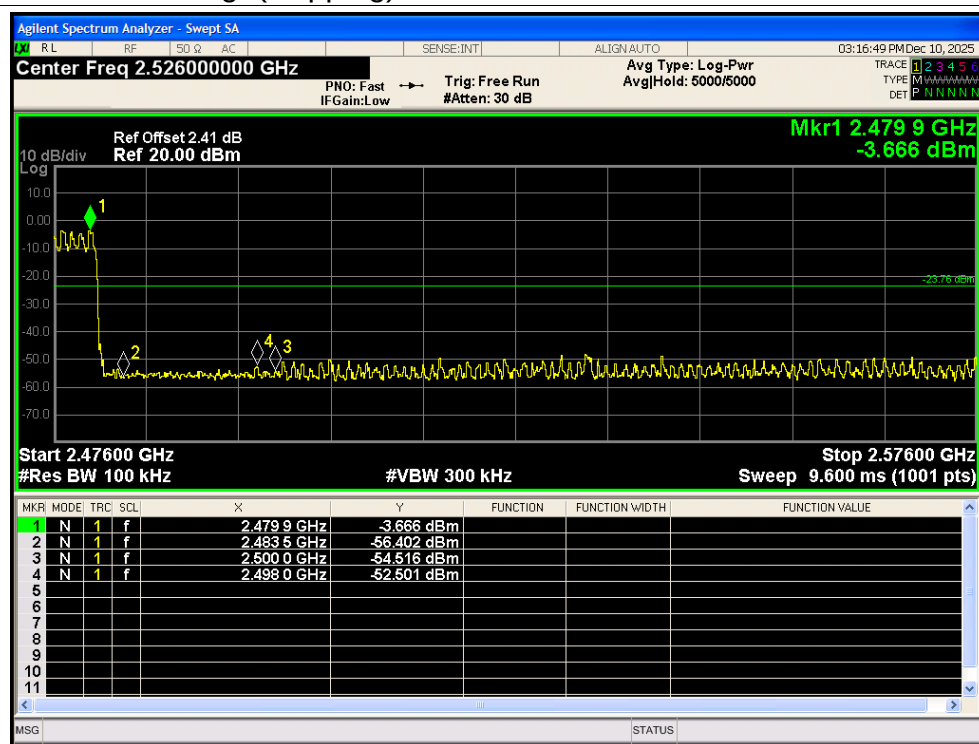
Band Edge(Hopping) NVNT 2-DH1 2402MHz Emission



Band Edge(Hopping) NVNT 2-DH1 2480MHz Ref



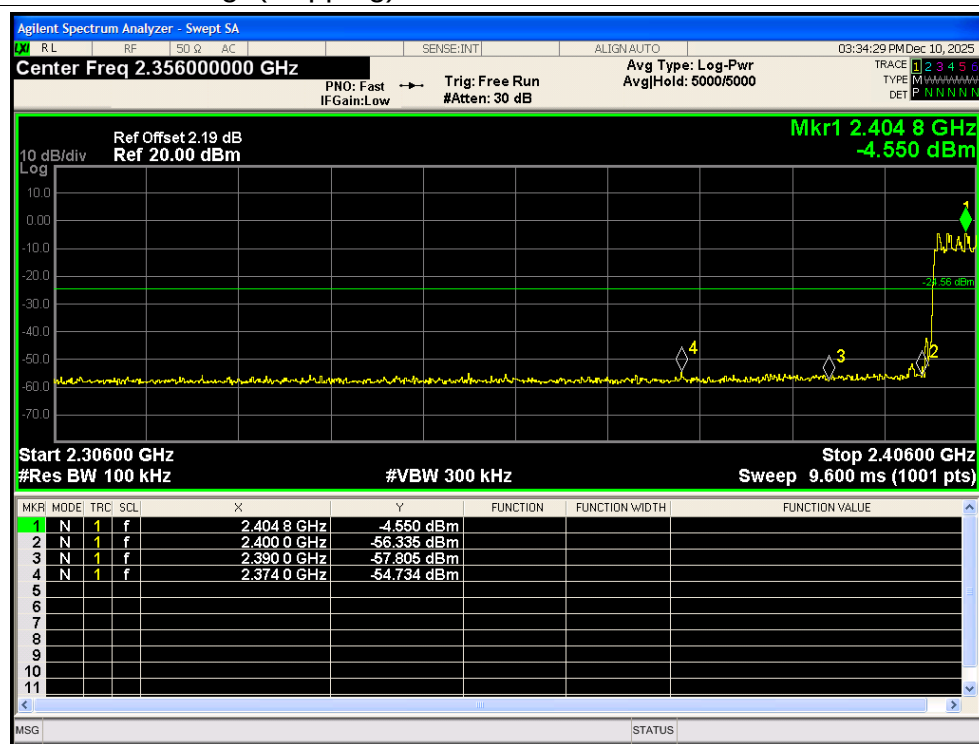
Band Edge(Hopping) NVNT 2-DH1 2480MHz Emission



Band Edge(Hopping) NVNT 3-DH1 2402MHz Ref



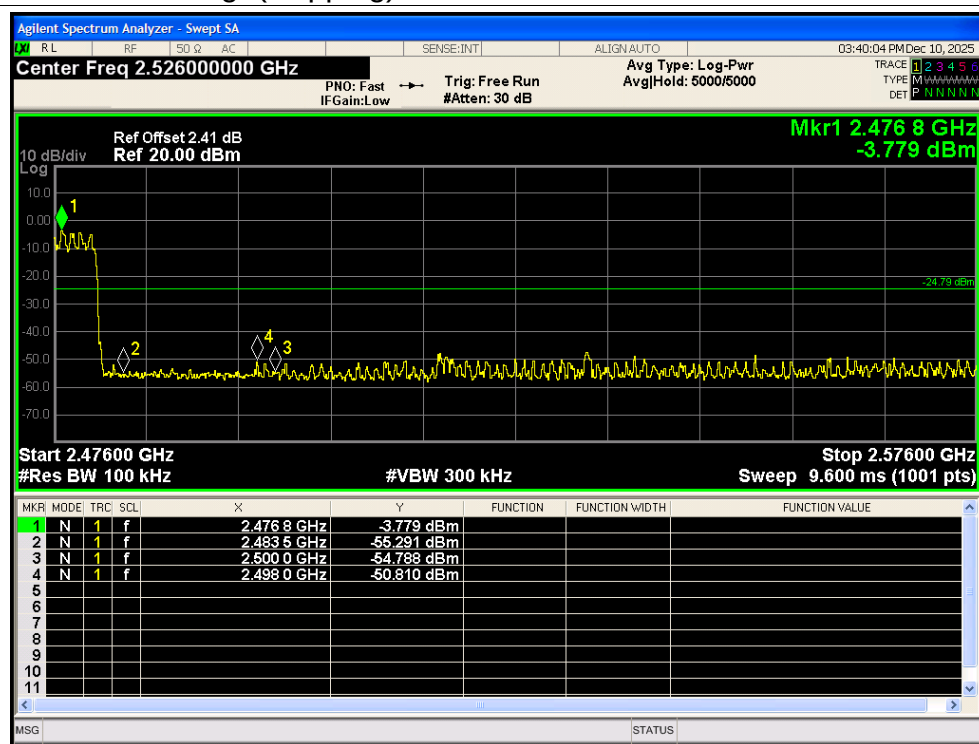
Band Edge(Hopping) NVNT 3-DH1 2402MHz Emission



Band Edge(Hopping) NVNT 3-DH1 2480MHz Ref



Band Edge(Hopping) NVNT 3-DH1 2480MHz Emission

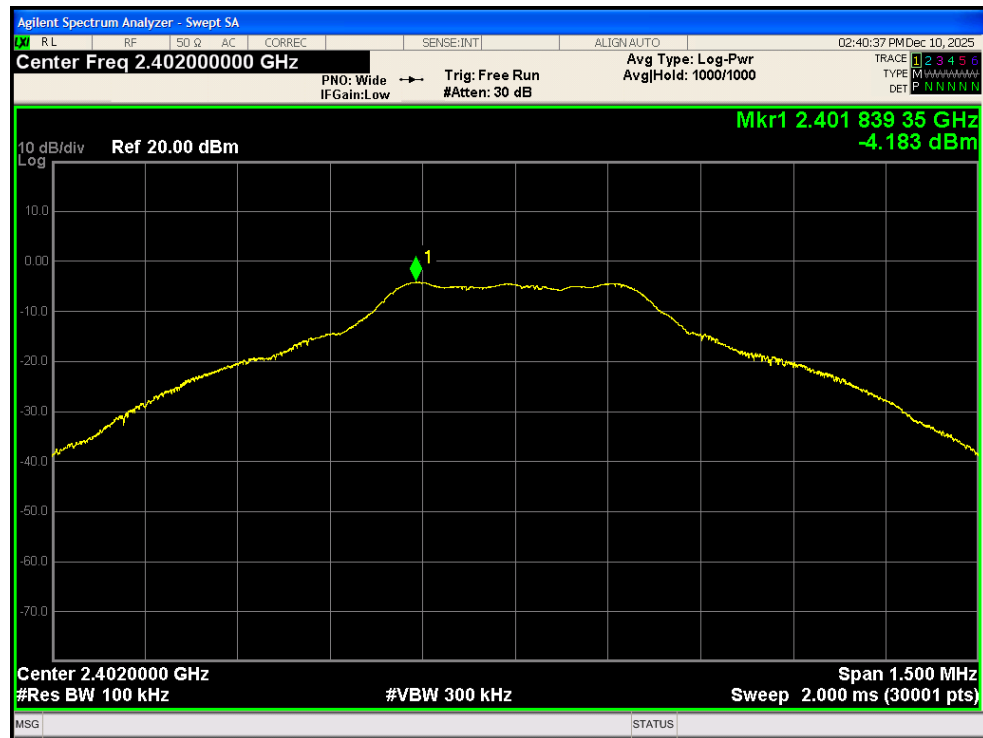


Conducted RF Spurious Emission

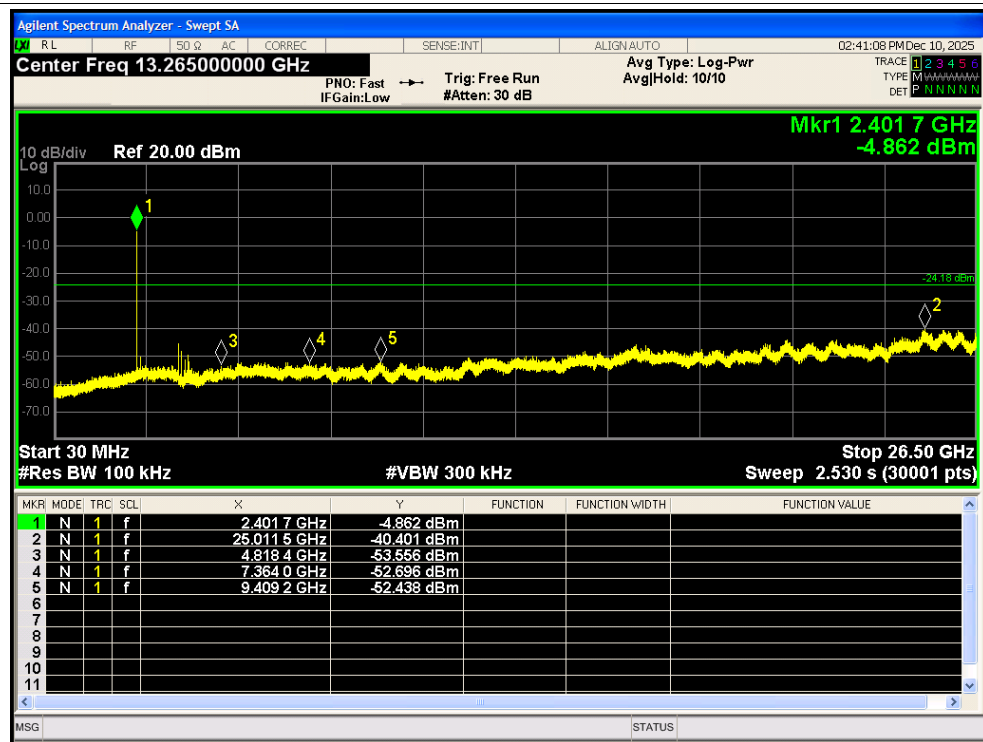
Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH1	2402	-36.22	-20	Pass
NVNT	1-DH1	2441	-37.60	-20	Pass
NVNT	1-DH1	2480	-36.54	-20	Pass
NVNT	2-DH1	2402	-35.24	-20	Pass
NVNT	2-DH1	2441	-36.46	-20	Pass
NVNT	2-DH1	2480	-36.90	-20	Pass
NVNT	3-DH1	2402	-35.86	-20	Pass
NVNT	3-DH1	2441	-40.90	-20	Pass
NVNT	3-DH1	2480	-36.20	-20	Pass

Test Graphs

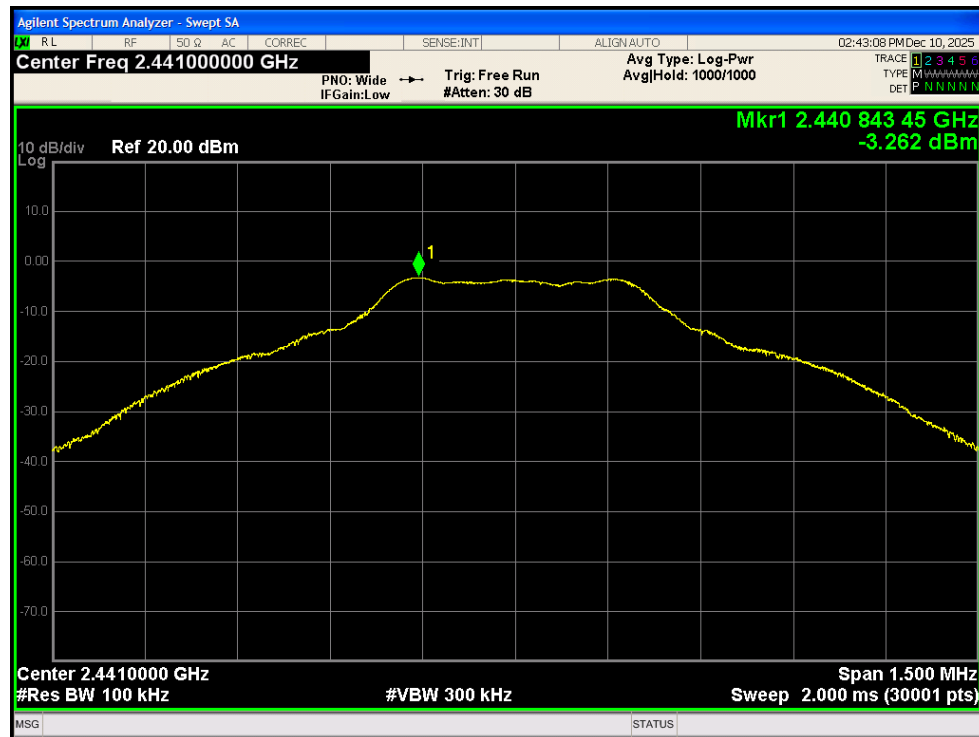
Tx. Spurious NVNT 1-DH1 2402MHz Ref



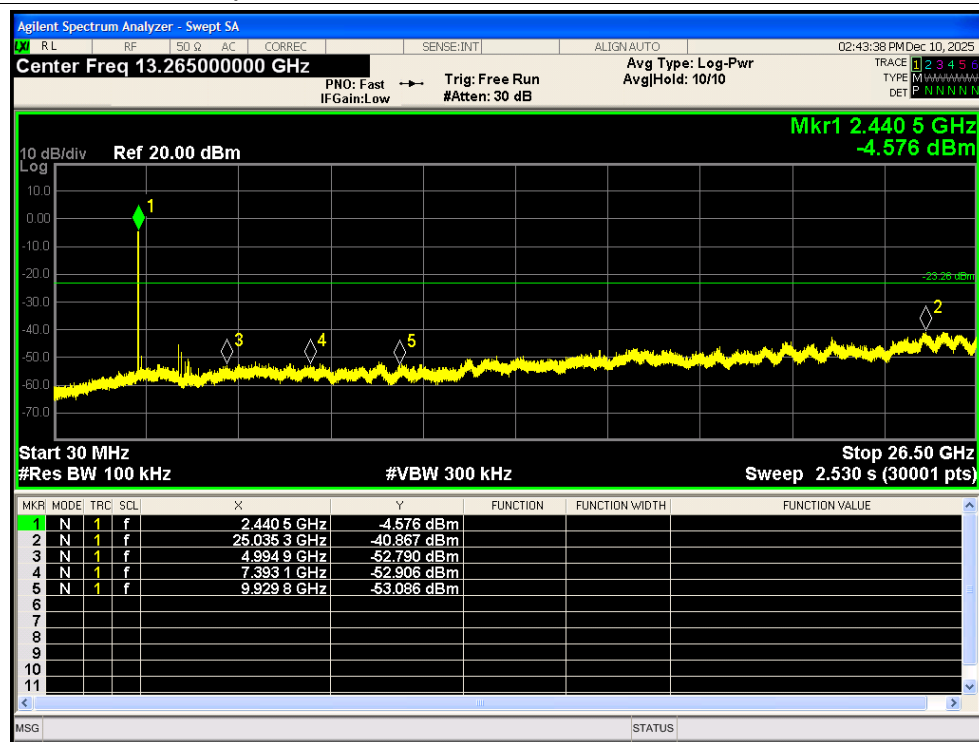
Tx. Spurious NVNT 1-DH1 2402MHz Emission



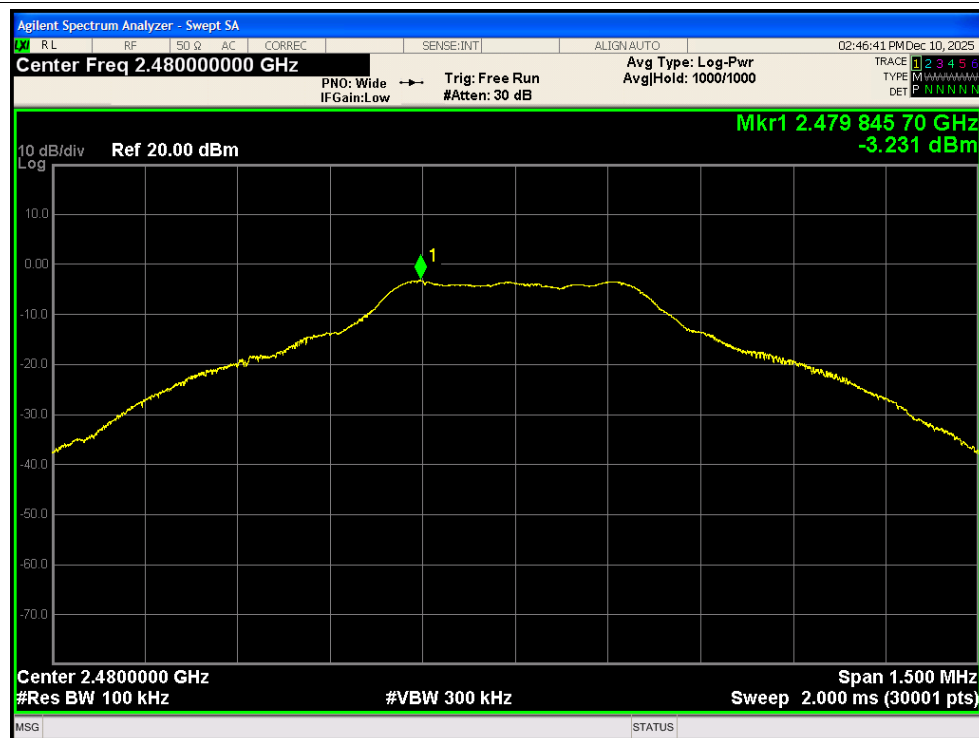
Tx. Spurious NVNT 1-DH1 2441MHz Ref



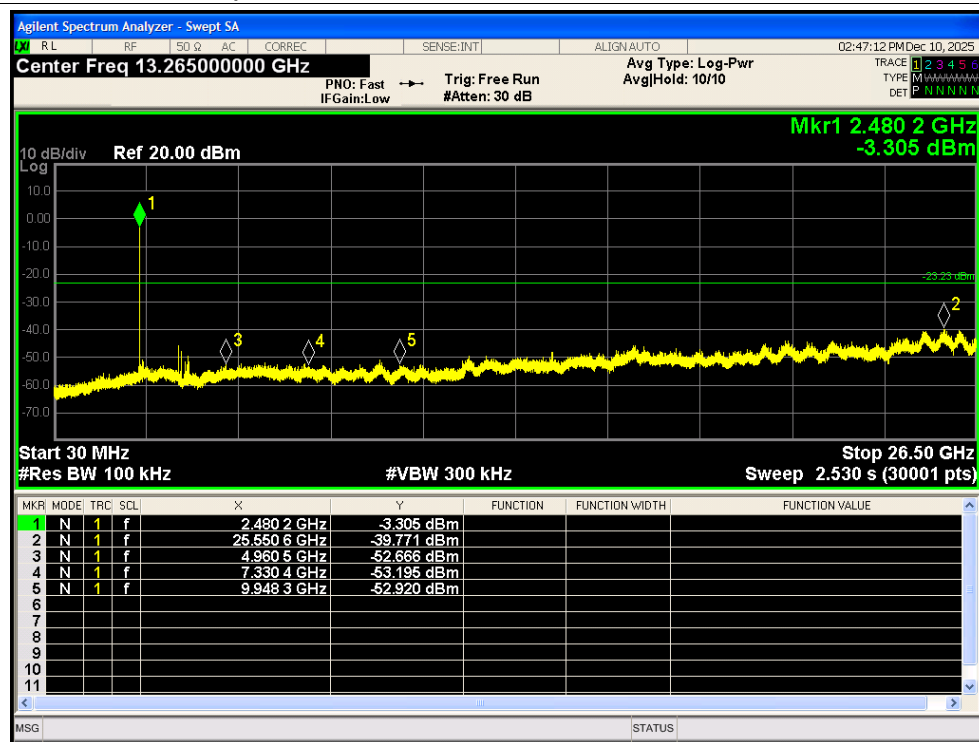
Tx. Spurious NVNT 1-DH1 2441MHz Emission



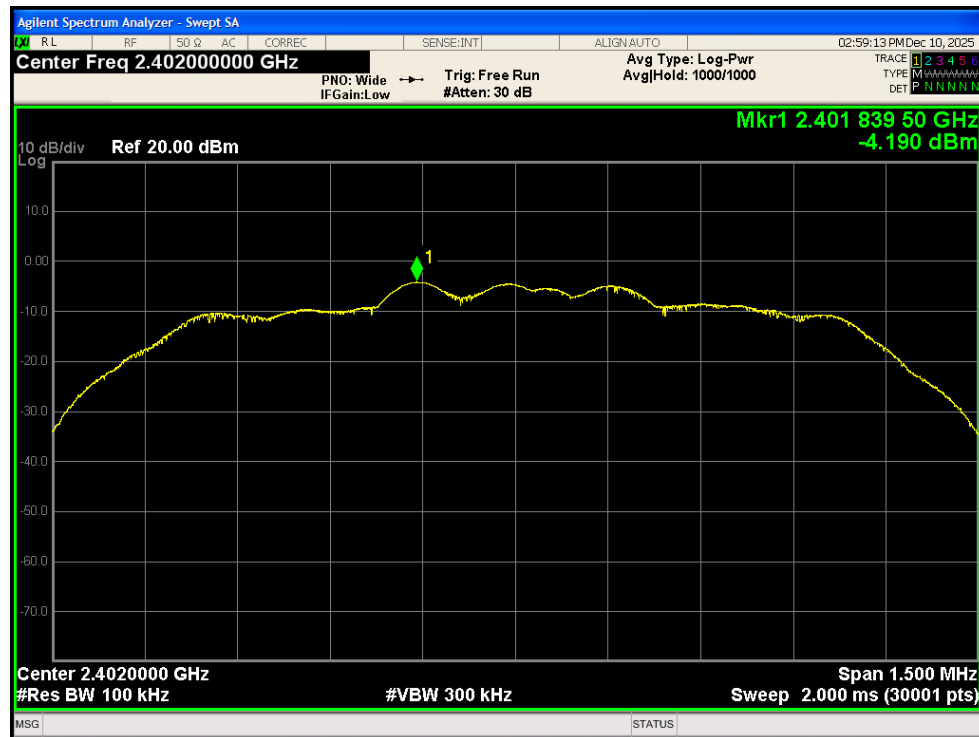
Tx. Spurious NVNT 1-DH1 2480MHz Ref



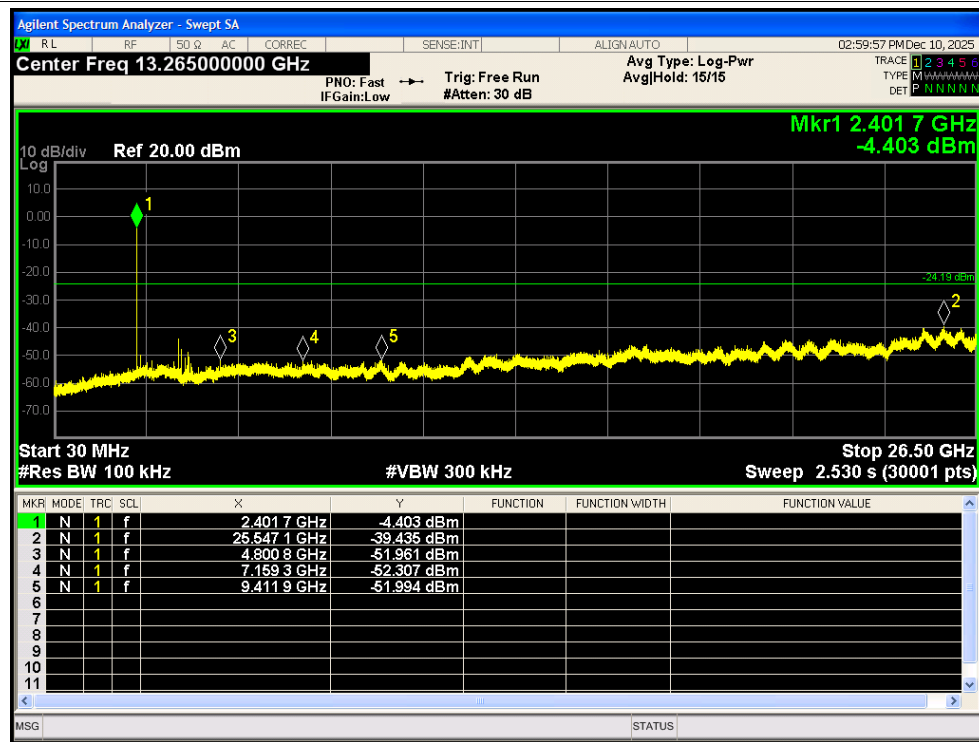
Tx. Spurious NVNT 1-DH1 2480MHz Emission



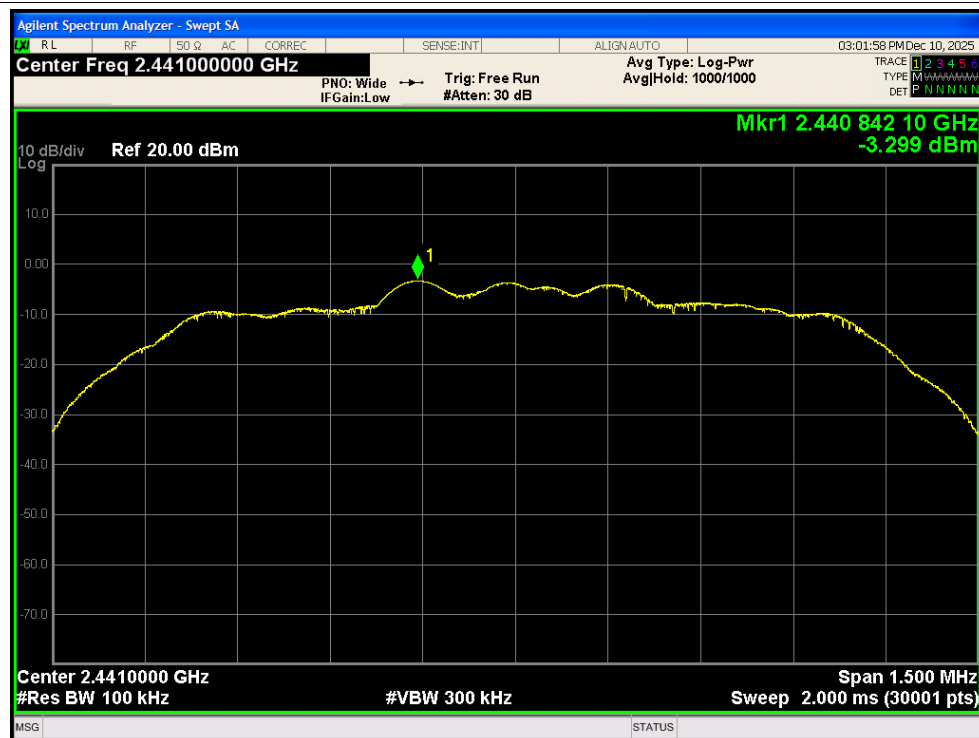
Tx. Spurious NVNT 2-DH1 2402MHz Ref



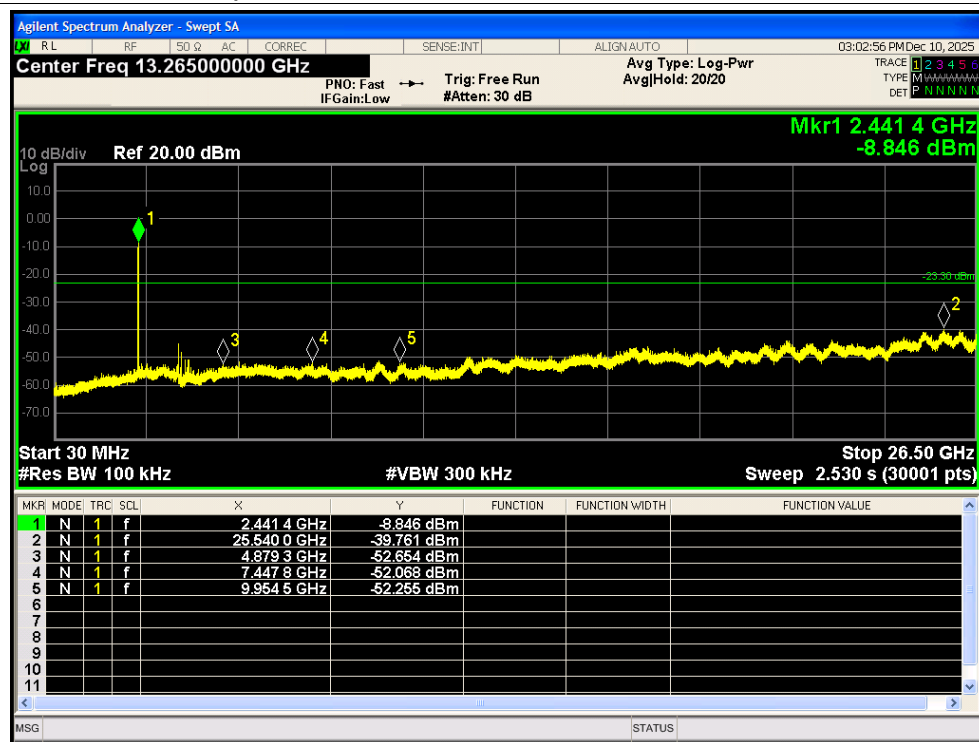
Tx. Spurious NVNT 2-DH1 2402MHz Emission



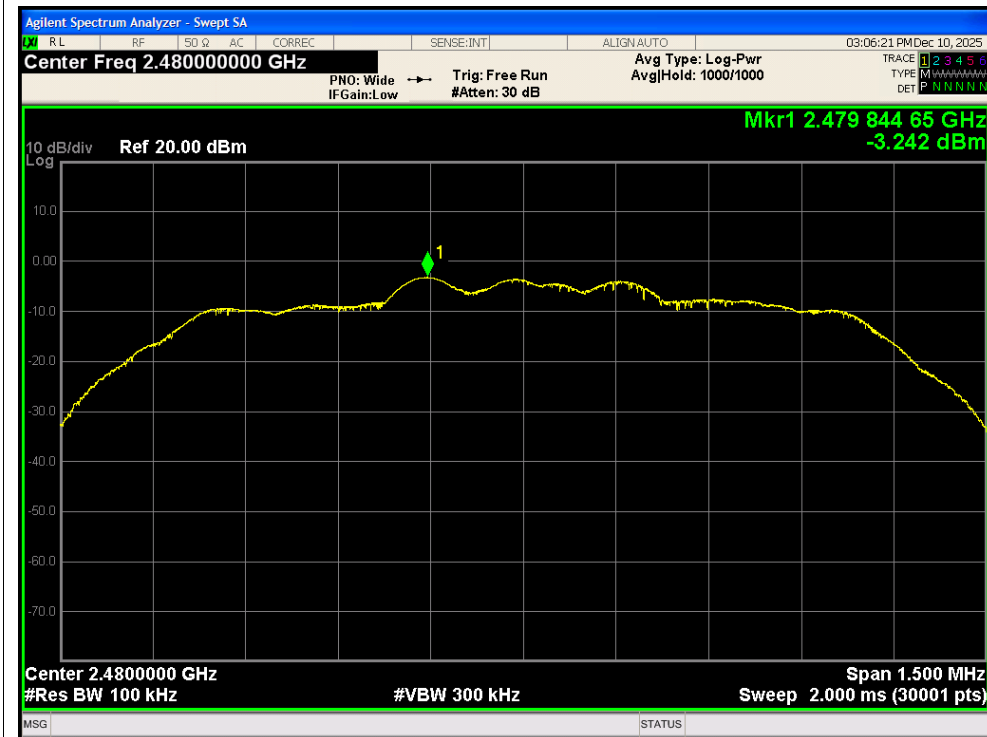
Tx. Spurious NVNT 2-DH1 2441MHz Ref



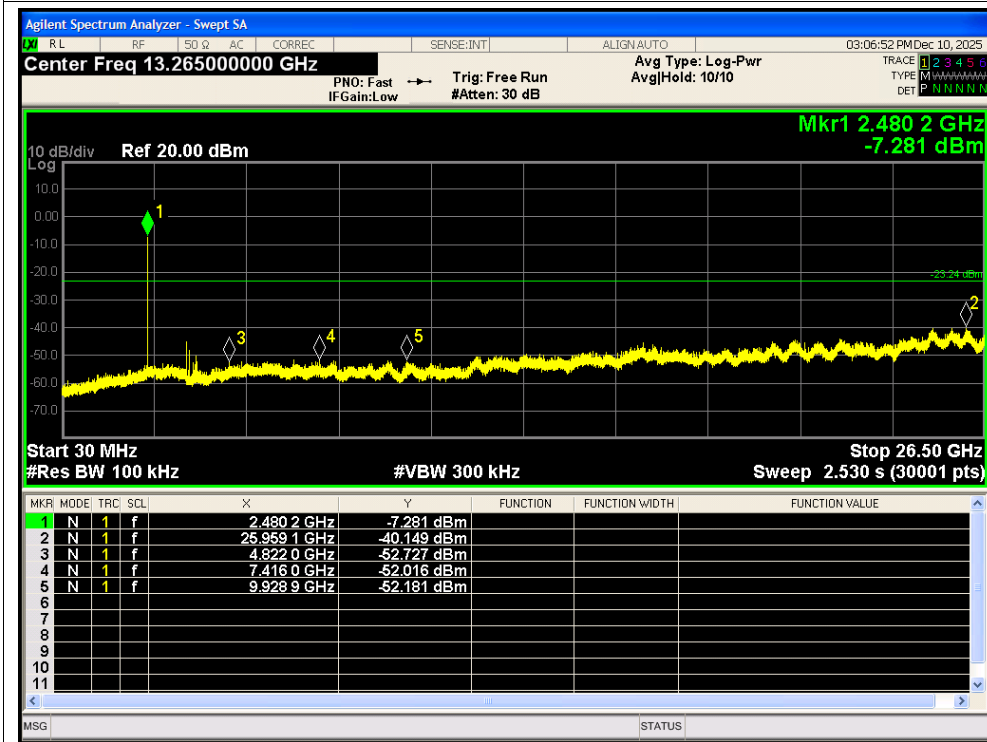
Tx. Spurious NVNT 2-DH1 2441MHz Emission



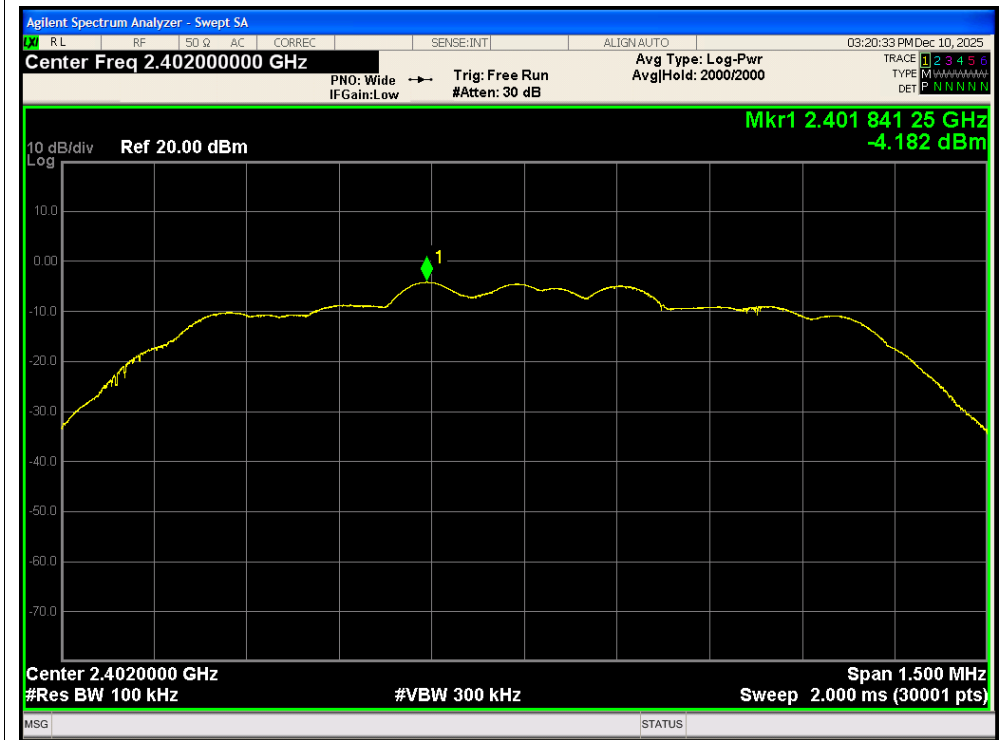
Tx. Spurious NVNT 2-DH1 2480MHz Ref



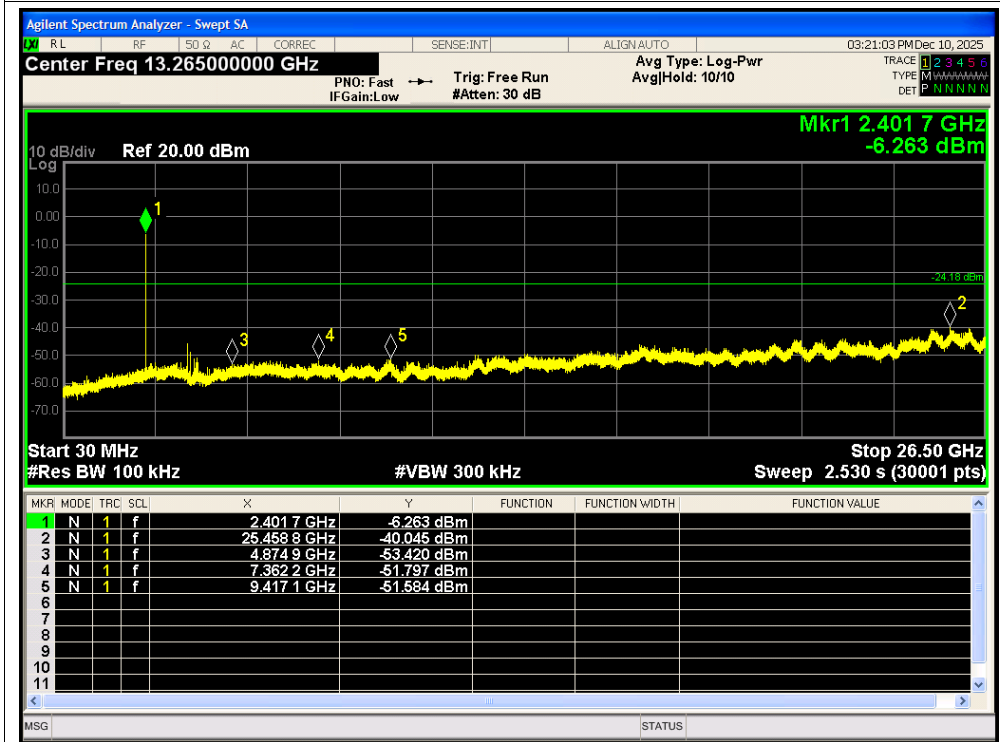
Tx. Spurious NVNT 2-DH1 2480MHz Emission



Tx. Spurious NVNT 3-DH1 2402MHz Ref



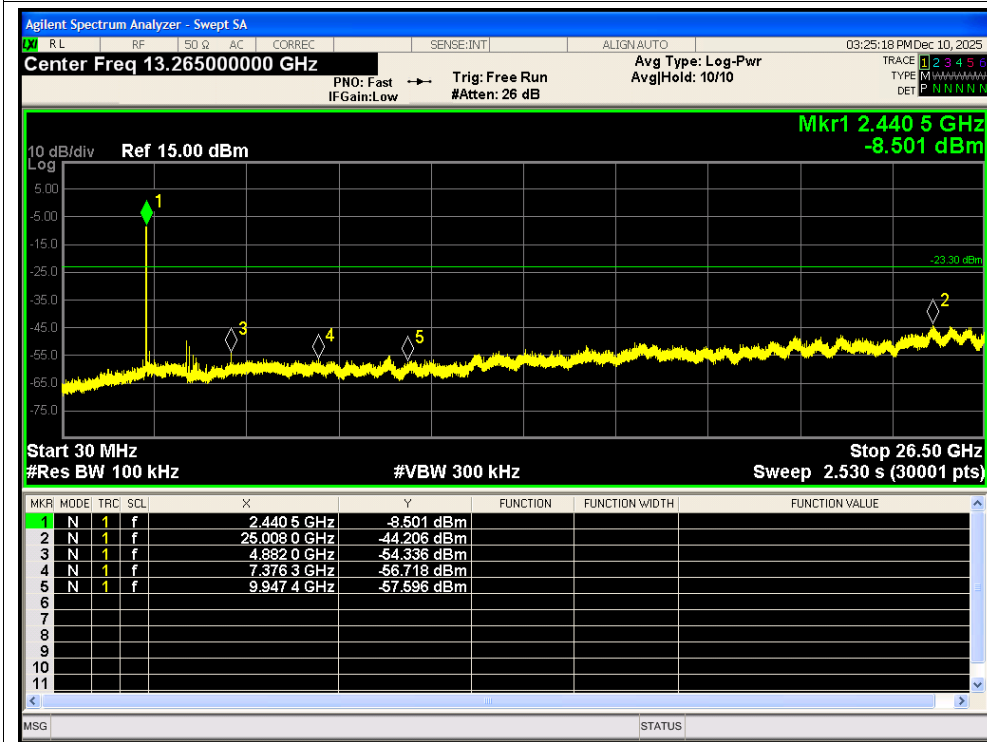
Tx. Spurious NVNT 3-DH1 2402MHz Emission



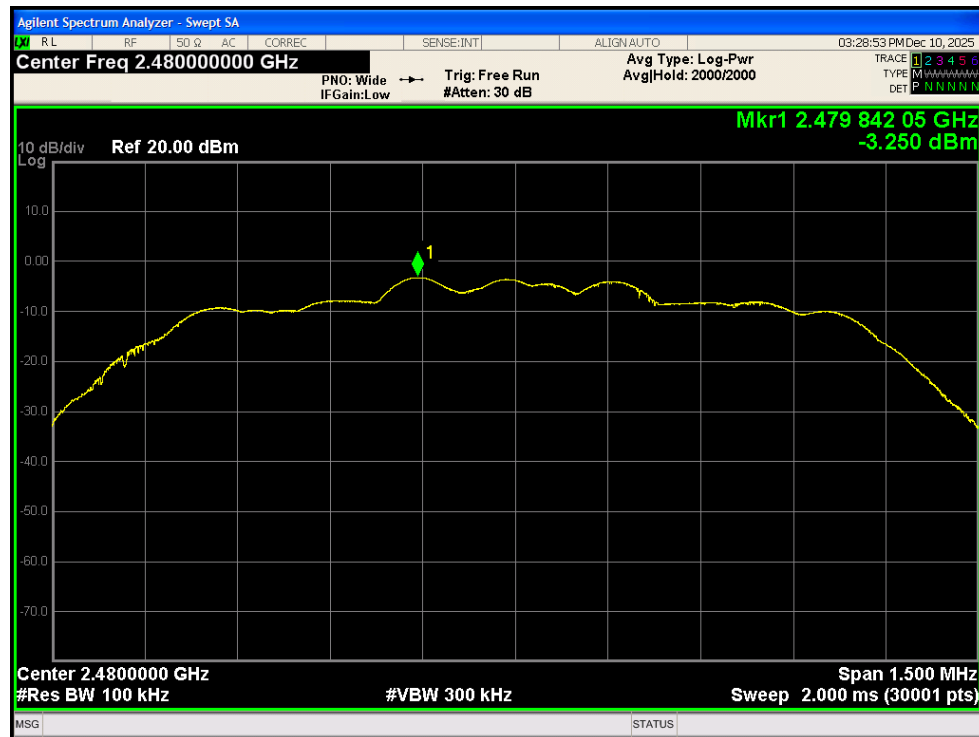
Tx. Spurious NVNT 3-DH1 2441MHz Ref



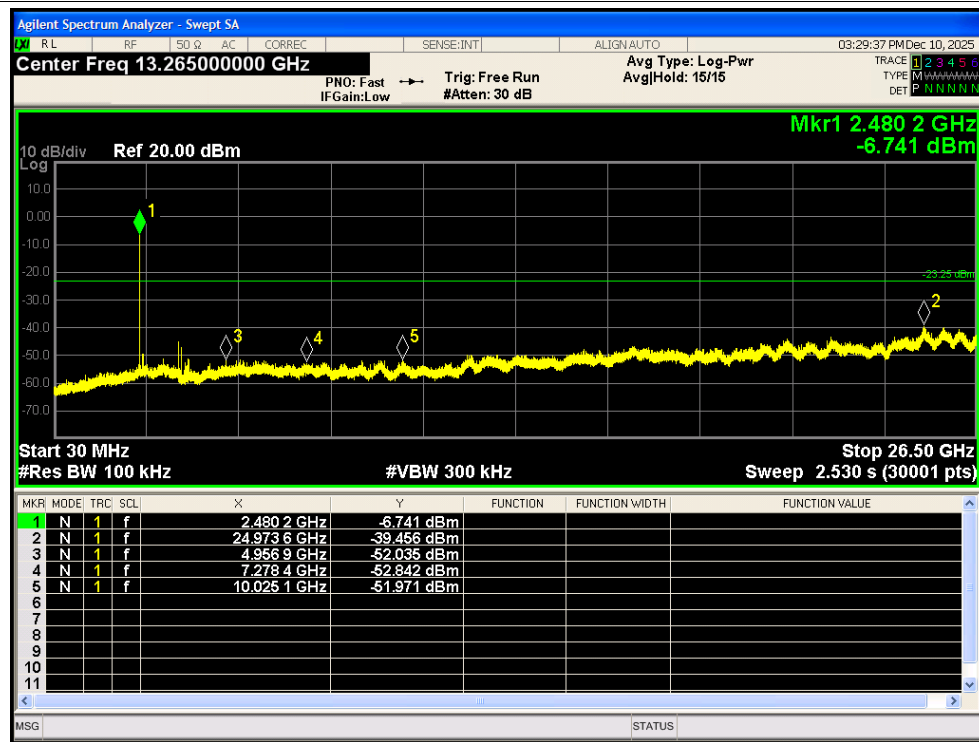
Tx. Spurious NVNT 3-DH1 2441MHz Emission



Tx. Spurious NVNT 3-DH1 2480MHz Ref



Tx. Spurious NVNT 3-DH1 2480MHz Emission

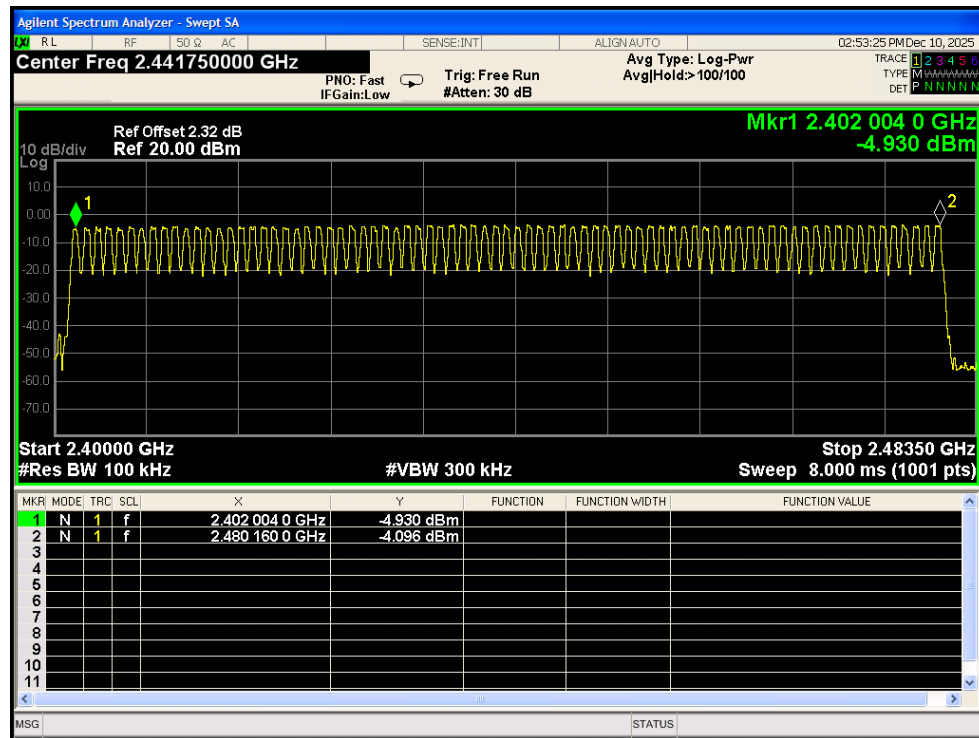


Number of Hopping Channel

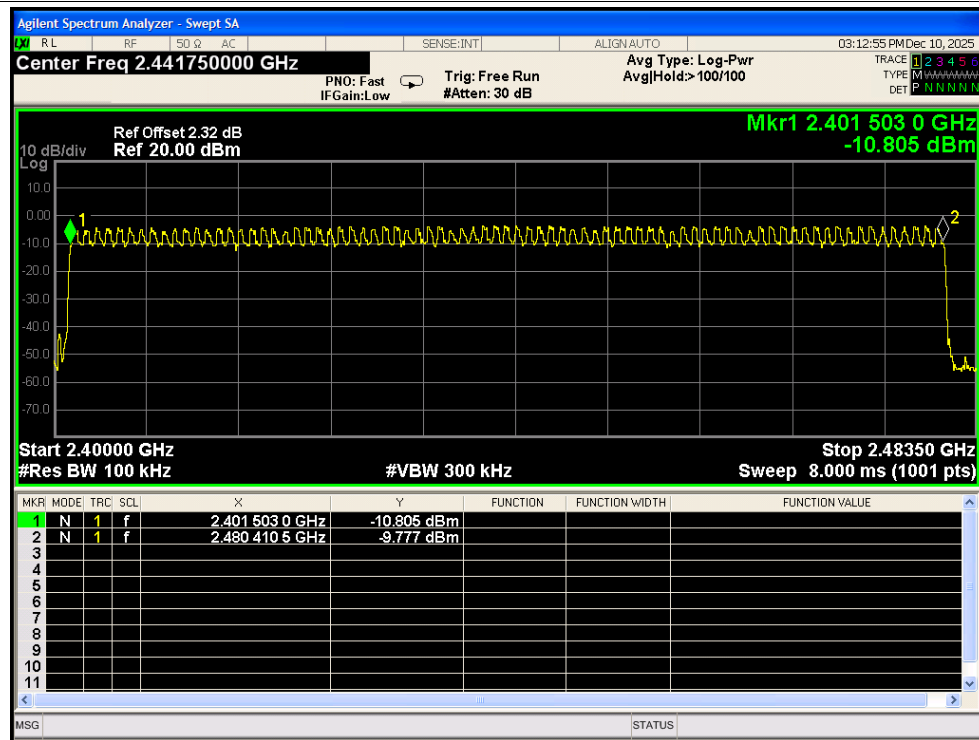
Condition	Mode	Hopping Number	Limit	Verdict
NVNT	1-DH1	79	15	Pass
NVNT	2-DH1	79	15	Pass
NVNT	3-DH1	79	15	Pass

Test Graphs

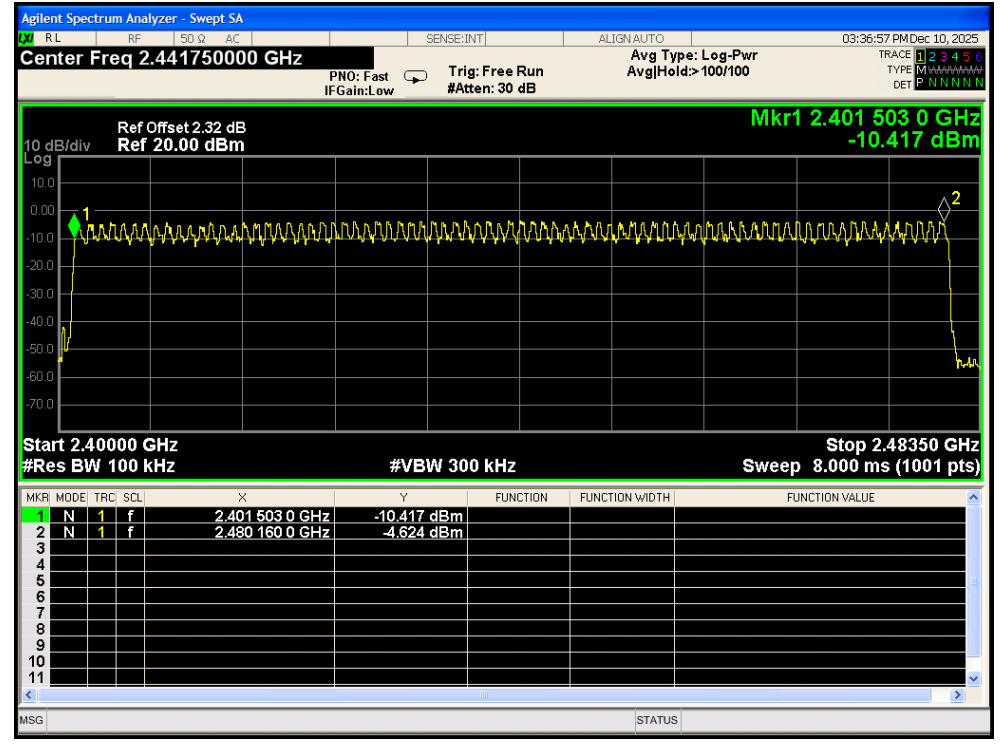
Hopping No. NVNT 1-DH1 2441MHz



Hopping No. NVNT 2-DH1 2441MHz



Hopping No. NVNT 3-DH1 2441MHz

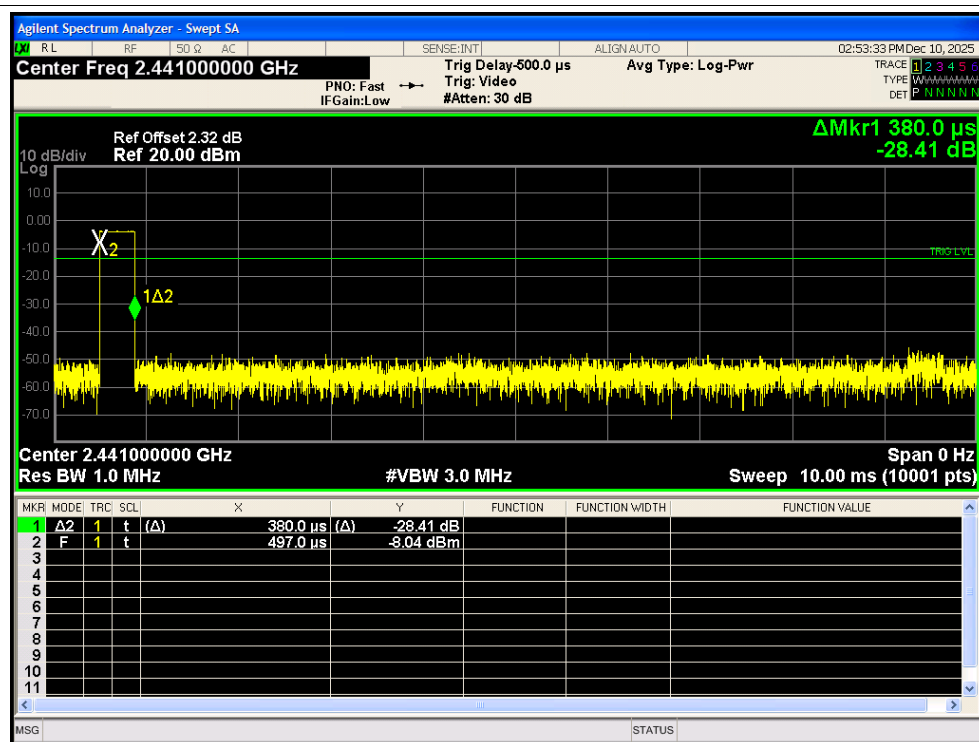


Dwell Time

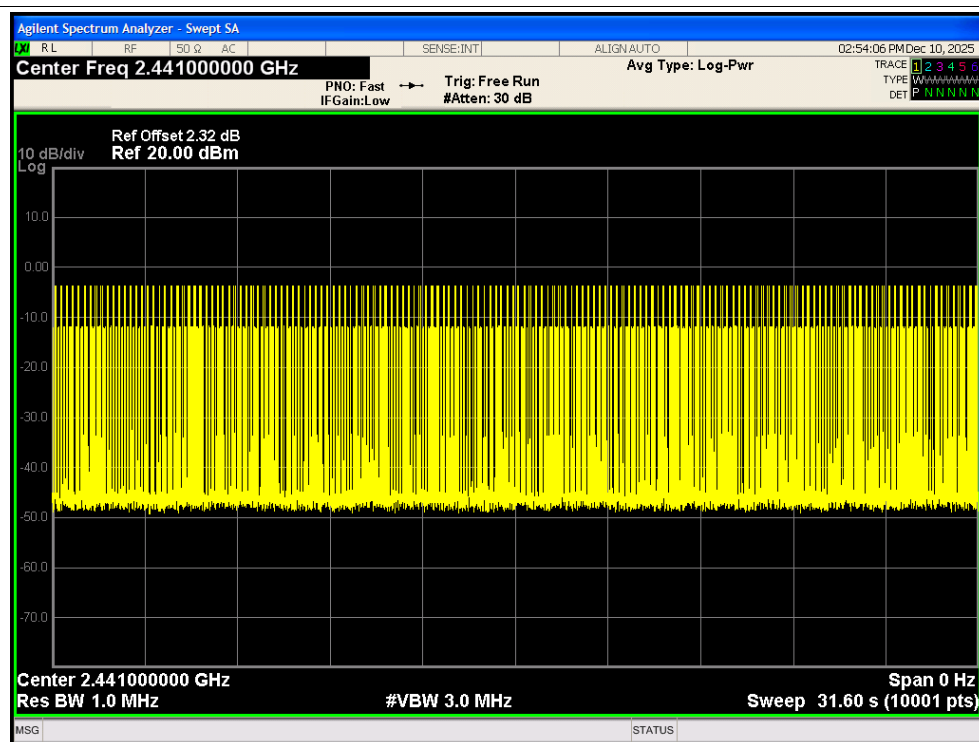
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.38	120.46	317	31600	400	Pass
NVNT	1-DH3	2441	1.63	280.36	172	31600	400	Pass
NVNT	1-DH5	2441	2.88	288.00	100	31600	400	Pass
NVNT	2-DH1	2441	0.39	122.46	314	31600	400	Pass
NVNT	2-DH3	2441	1.64	262.40	160	31600	400	Pass
NVNT	2-DH5	2441	2.89	297.67	103	31600	400	Pass
NVNT	3-DH1	2441	0.39	124.41	319	31600	400	Pass
NVNT	3-DH3	2441	1.64	252.56	154	31600	400	Pass
NVNT	3-DH5	2441	2.89	323.68	112	31600	400	Pass

Test Graphs

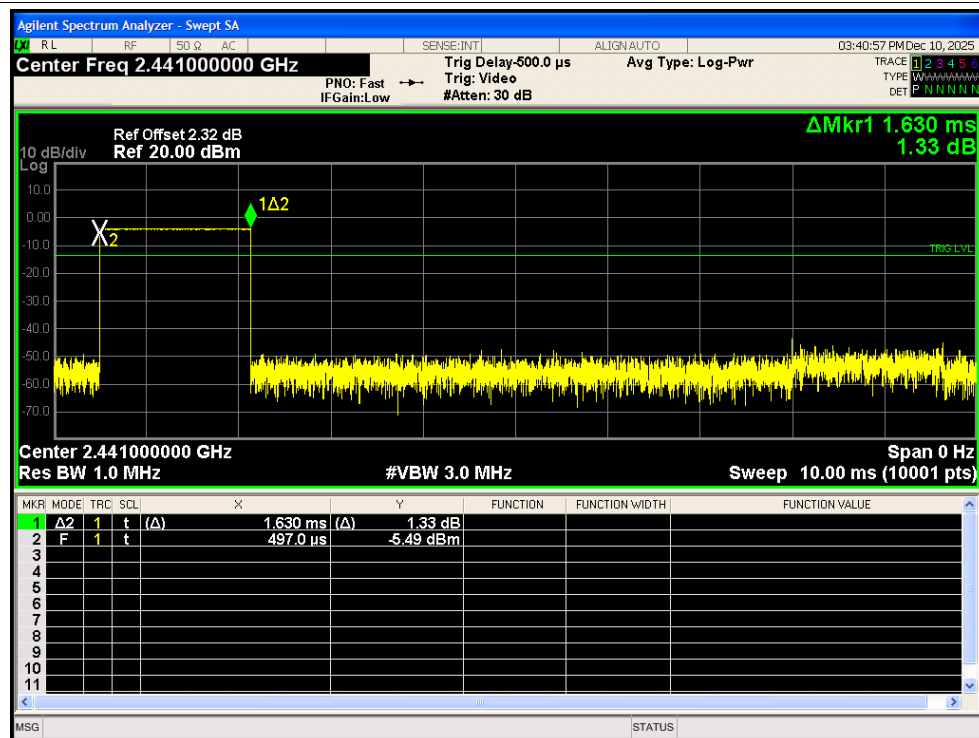
Dwell NVNT 1-DH1 2441MHz One Burst



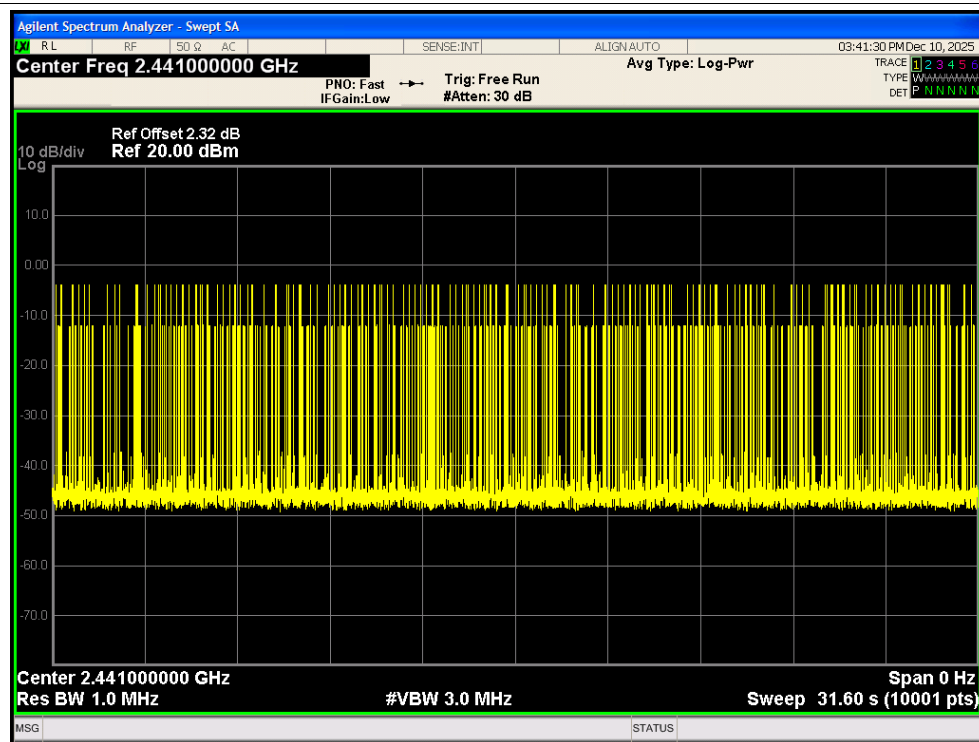
Dwell NVNT 1-DH1 2441MHz Accumulated



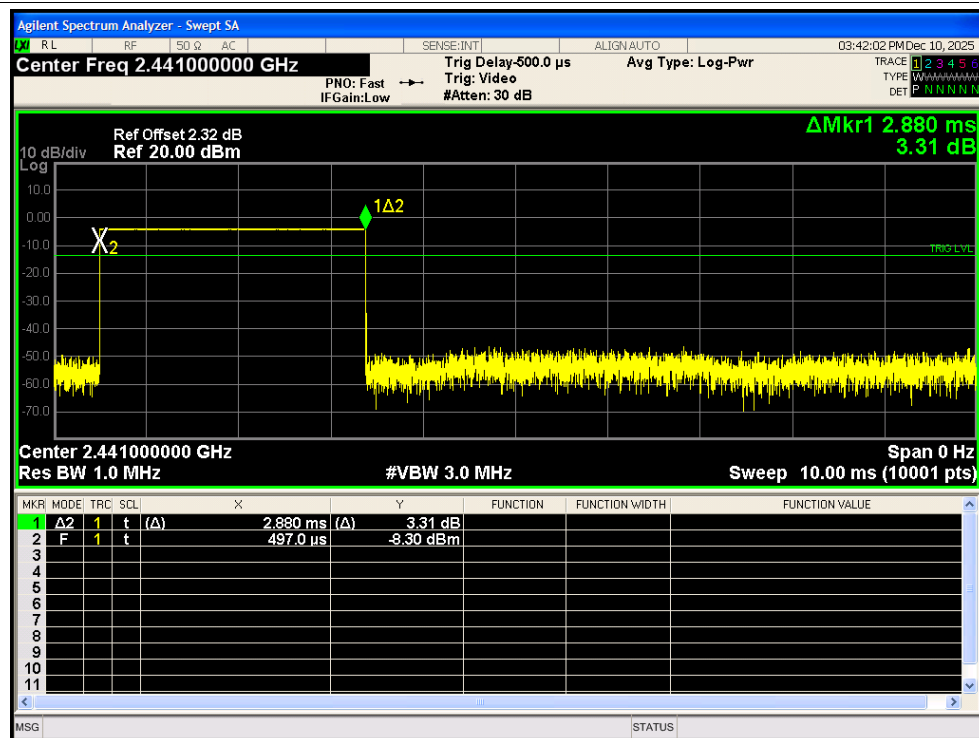
Dwell NVNT 1-DH3 2441MHz One Burst



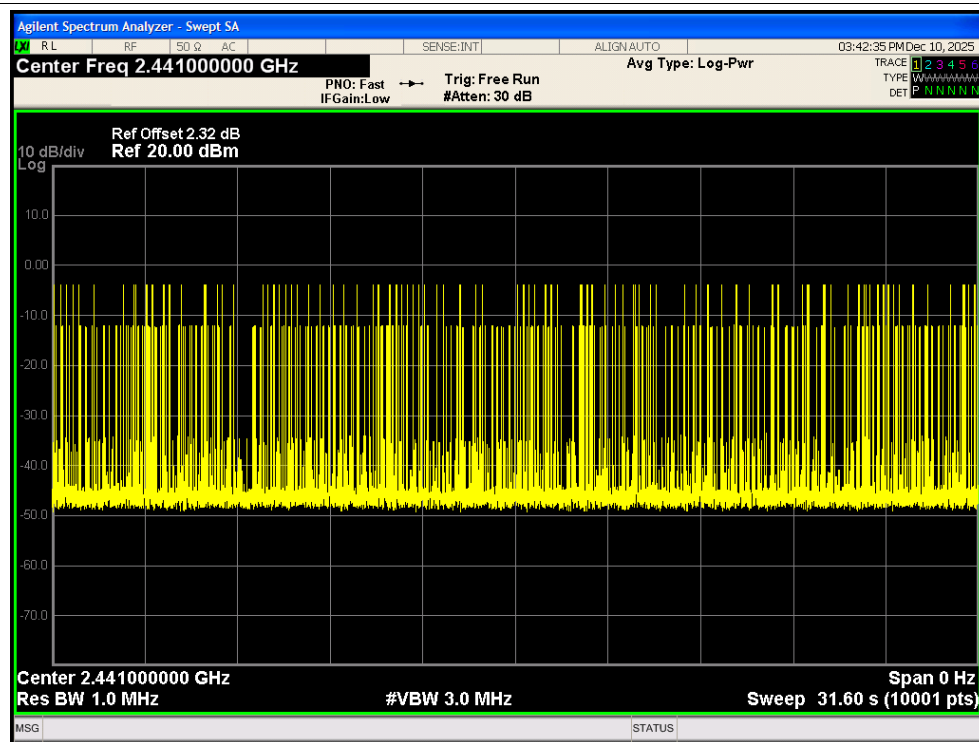
Dwell NVNT 1-DH3 2441MHz Accumulated



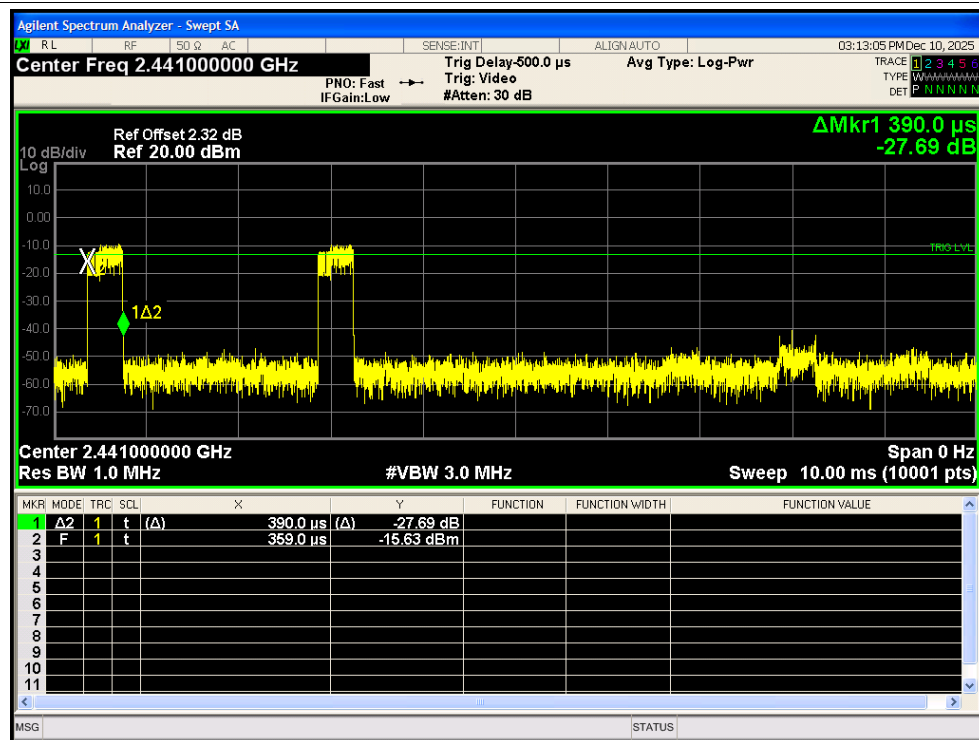
Dwell NVNT 1-DH5 2441MHz One Burst



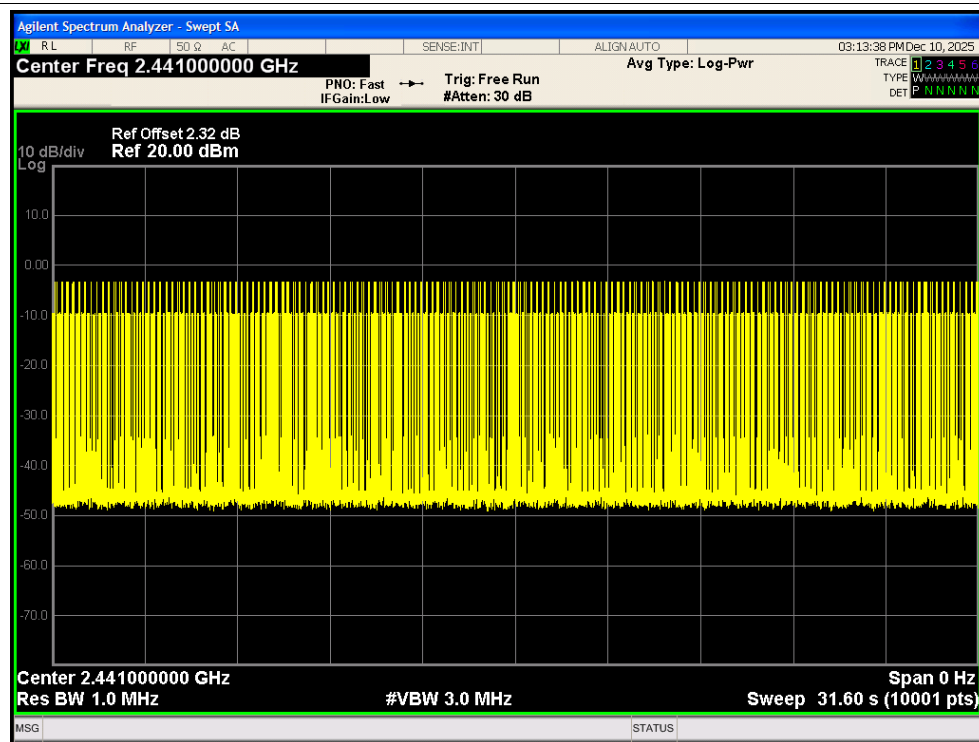
Dwell NVNT 1-DH5 2441MHz Accumulated



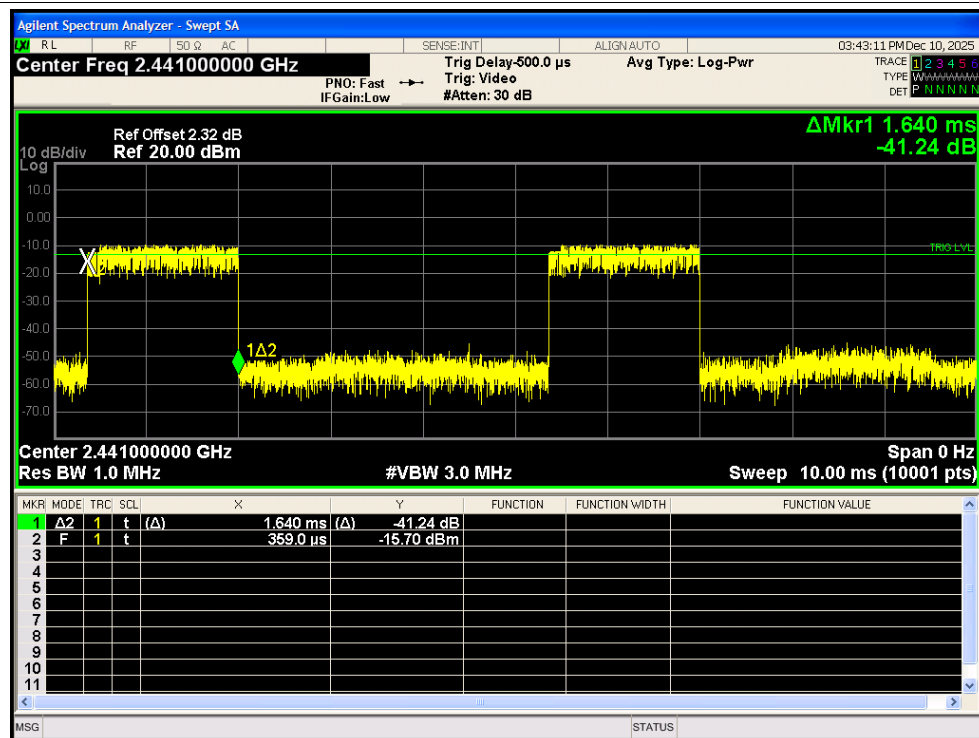
Dwell NVNT 2-DH1 2441MHz One Burst



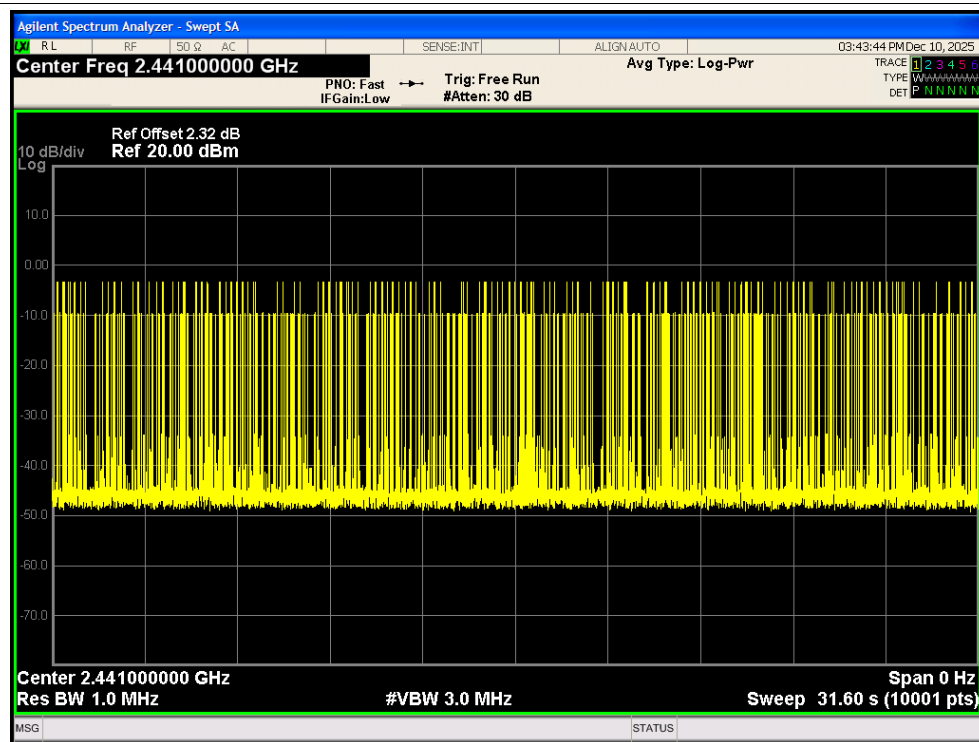
Dwell NVNT 2-DH1 2441MHz Accumulated



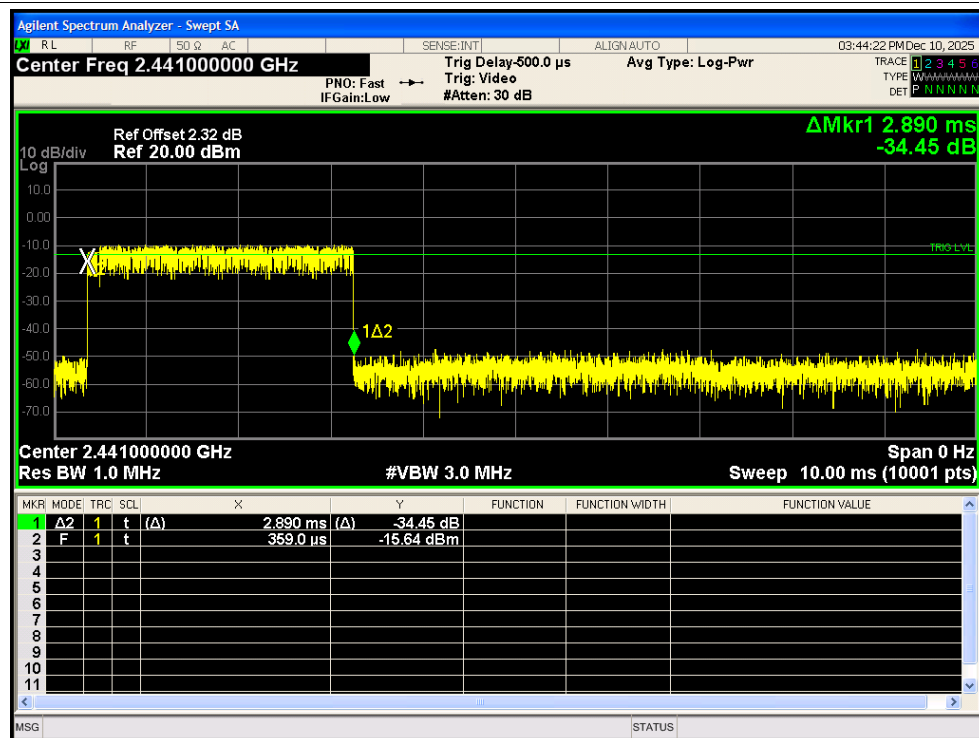
Dwell NVNT 2-DH3 2441MHz One Burst



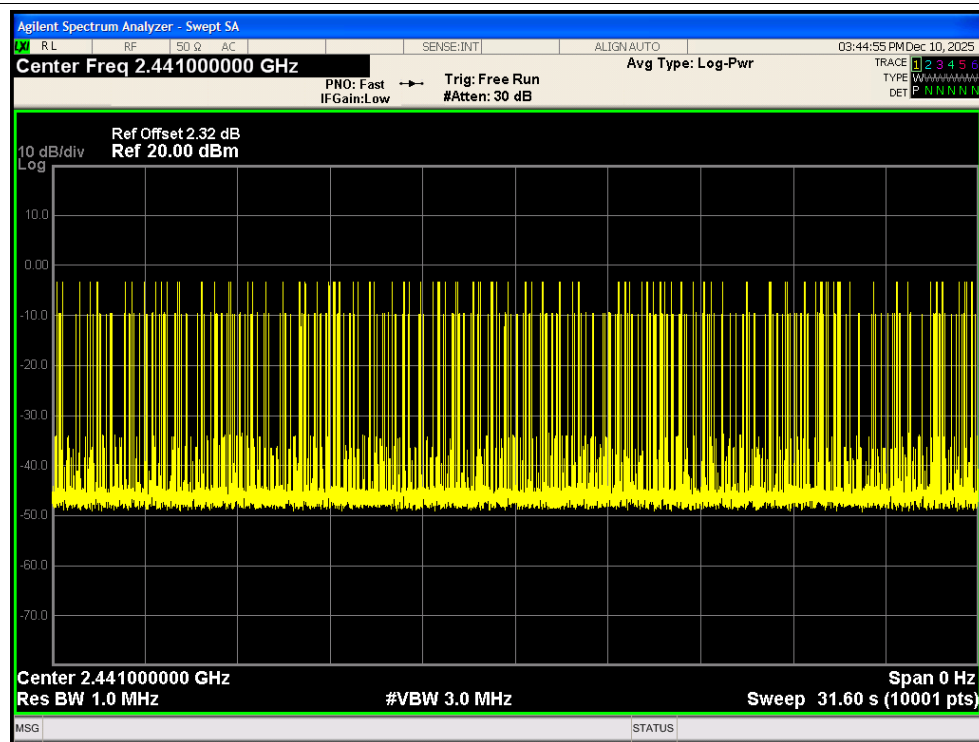
Dwell NVNT 2-DH3 2441MHz Accumulated



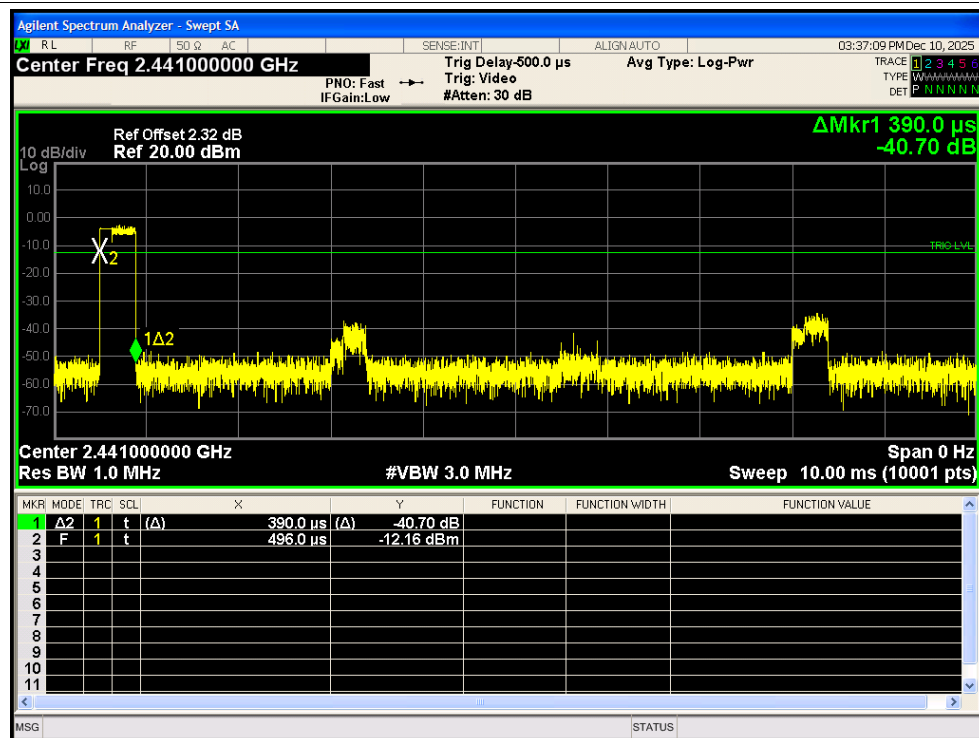
Dwell NVNT 2-DH5 2441MHz One Burst



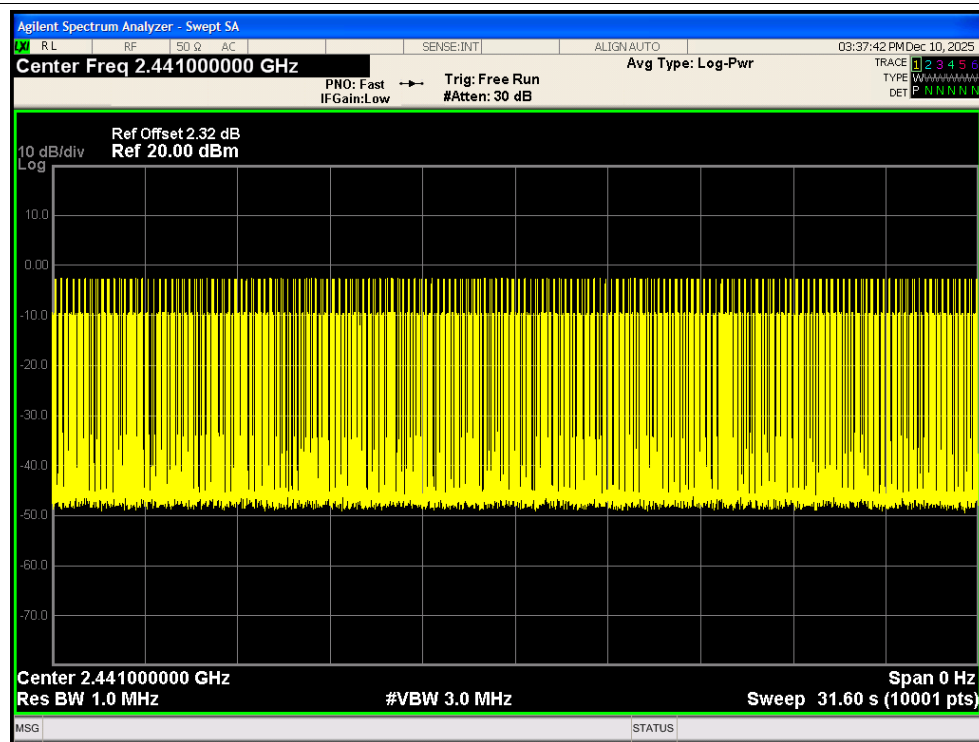
Dwell NVNT 2-DH5 2441MHz Accumulated



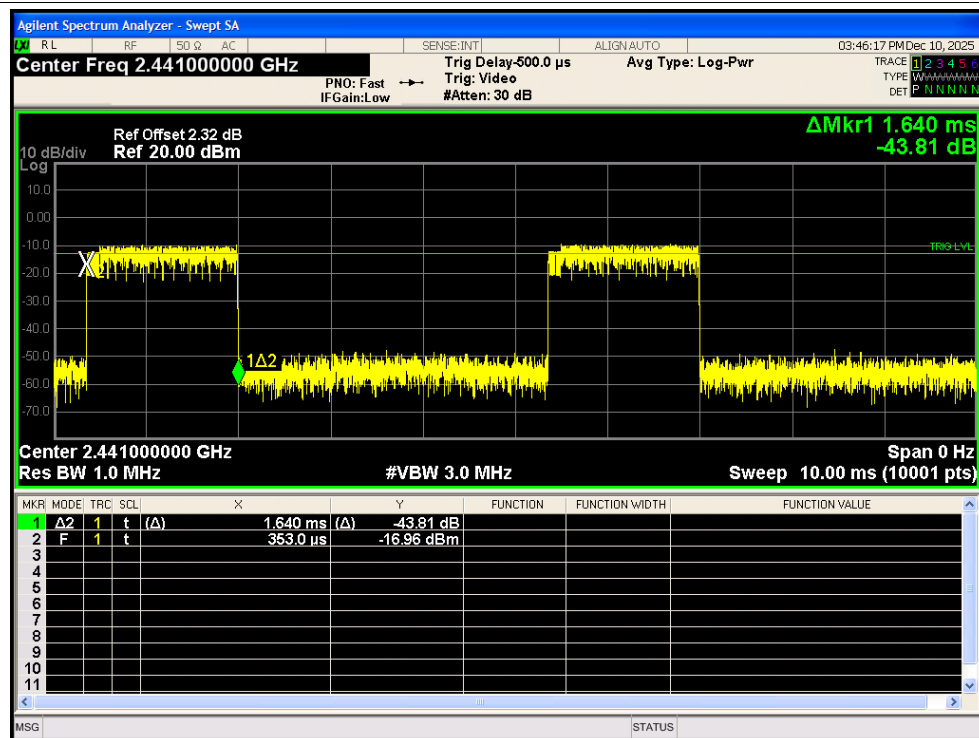
Dwell NVNT 3-DH1 2441MHz One Burst



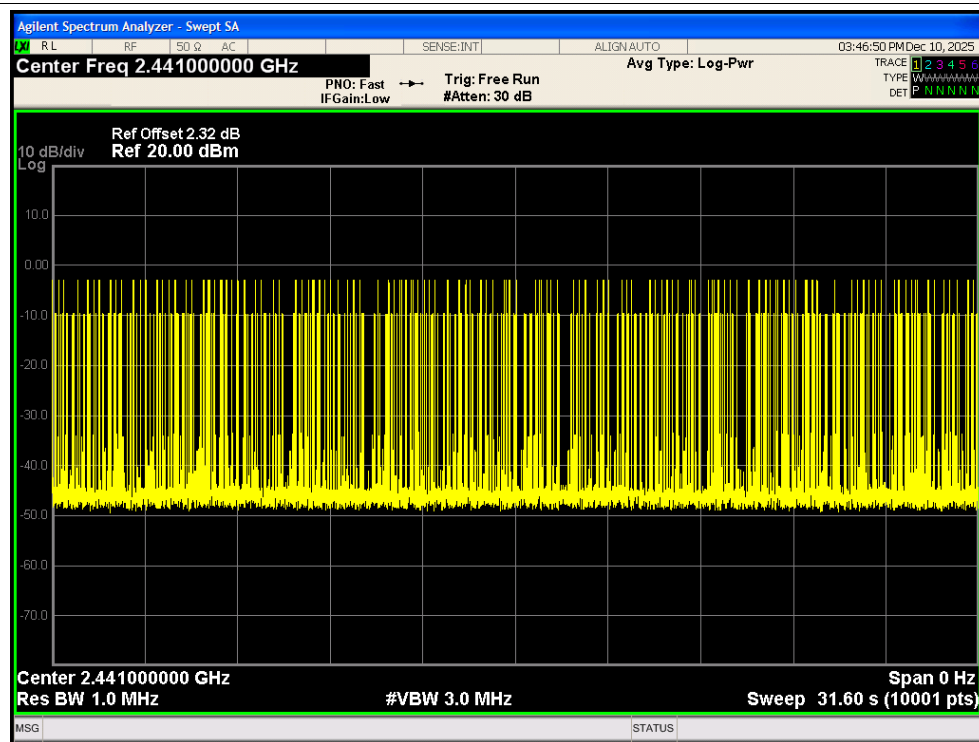
Dwell NVNT 3-DH1 2441MHz Accumulated



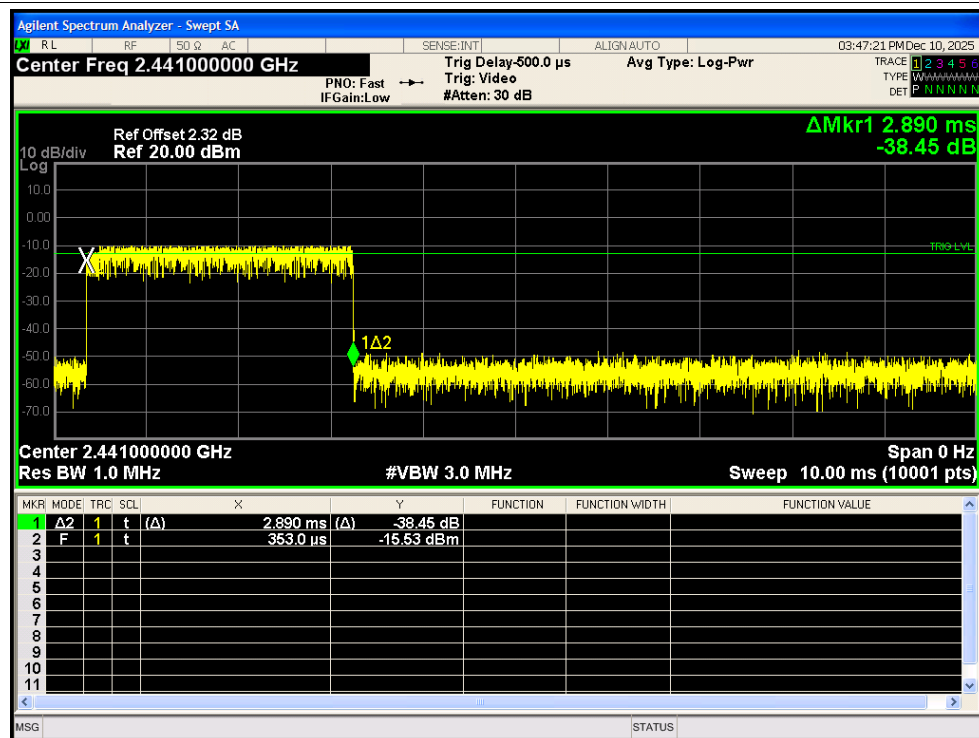
Dwell NVNT 3-DH3 2441MHz One Burst



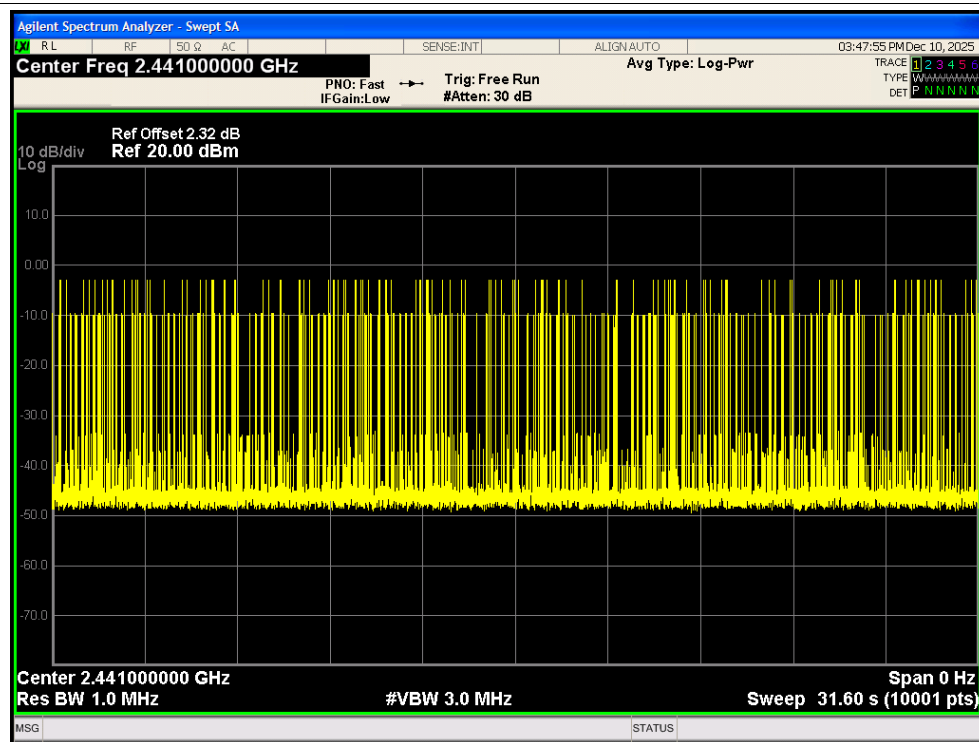
Dwell NVNT 3-DH3 2441MHz Accumulated



Dwell NVNT 3-DH5 2441MHz One Burst



Dwell NVNT 3-DH5 2441MHz Accumulated

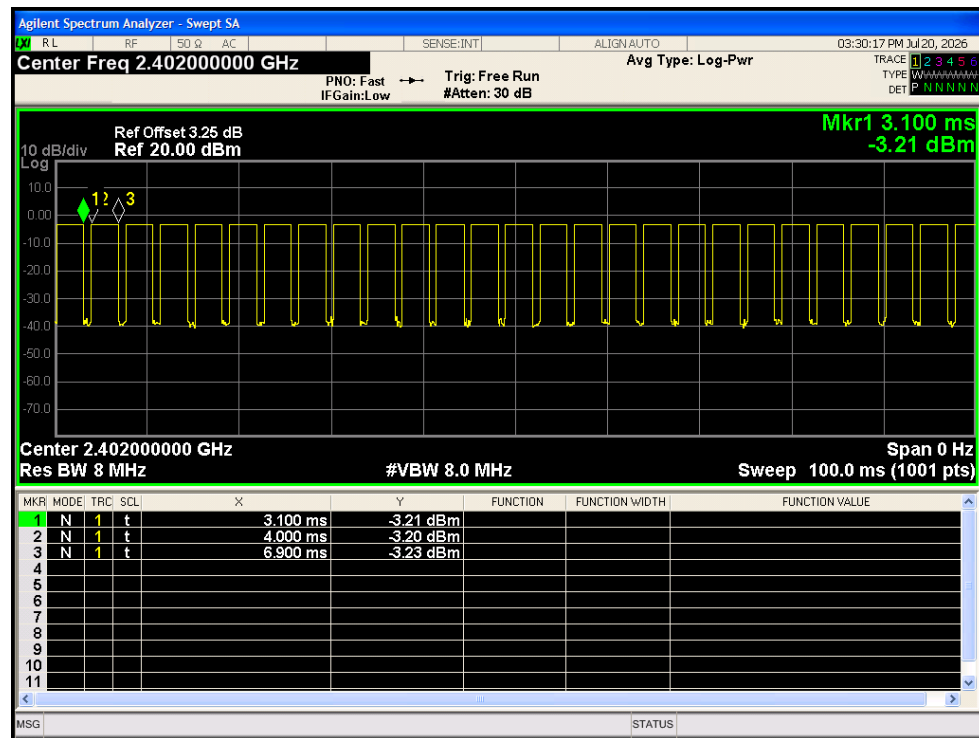


Duty Cycle

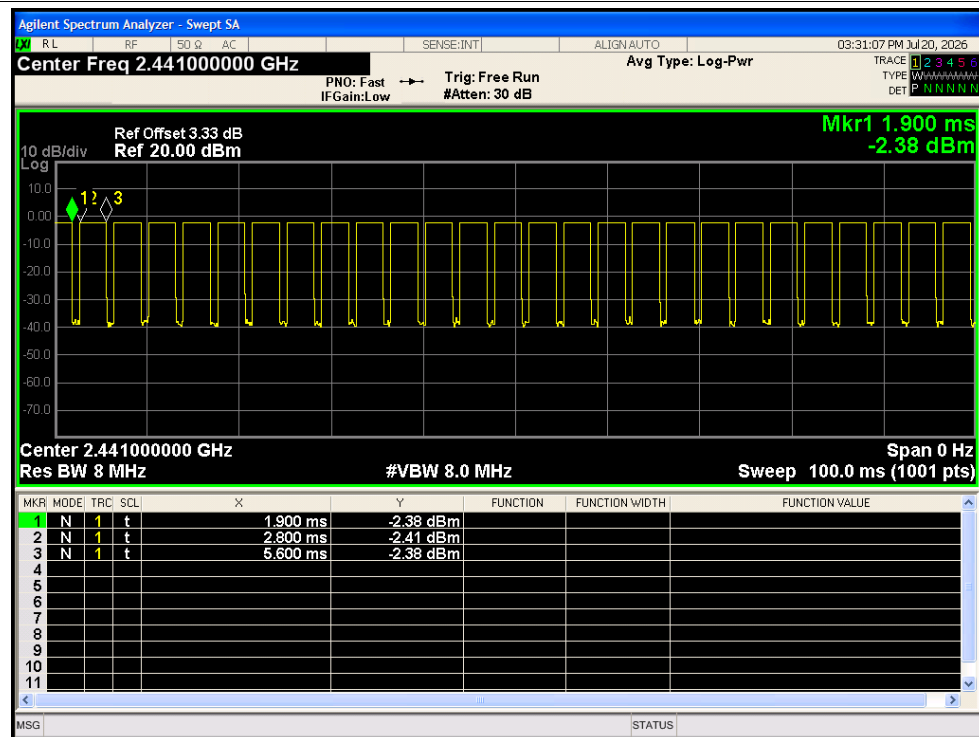
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	1-DH1	2402	78.92	1.03
NVNT	1-DH1	2441	78.62	1.04
NVNT	1-DH1	2480	78.42	1.06
NVNT	2-DH1	2402	79.92	0.97
NVNT	2-DH1	2441	80.52	0.94
NVNT	2-DH1	2480	80.22	0.96
NVNT	3-DH1	2402	78.42	1.06
NVNT	3-DH1	2441	80.02	0.97
NVNT	3-DH1	2480	80.42	0.95

Test Graphs

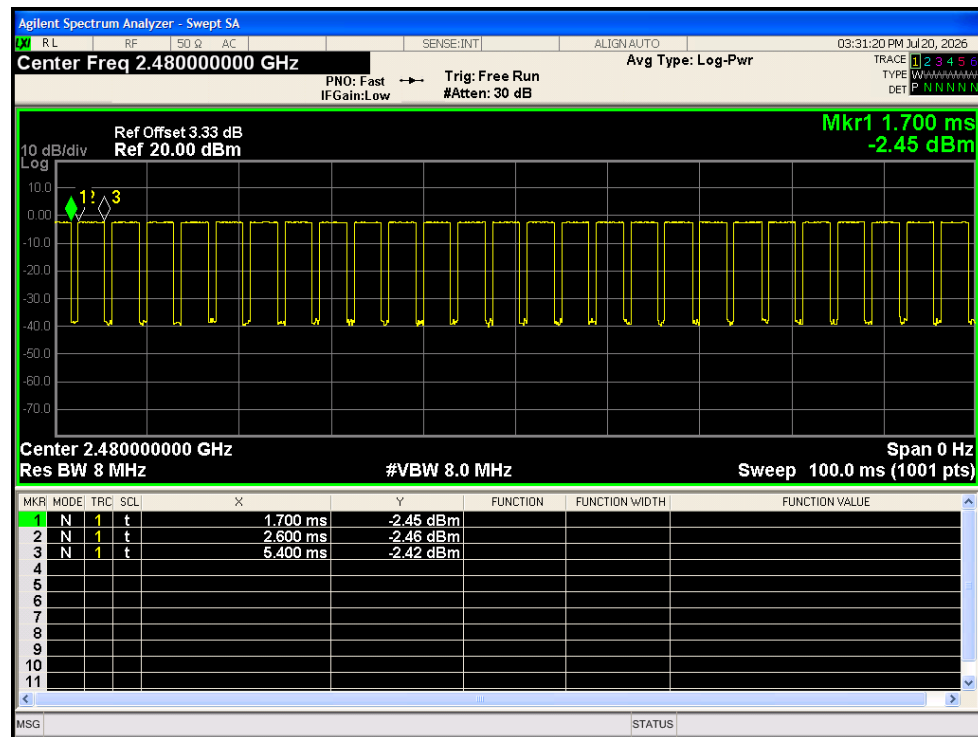
Duty Cycle NVNT 1-DH1 2402MHz



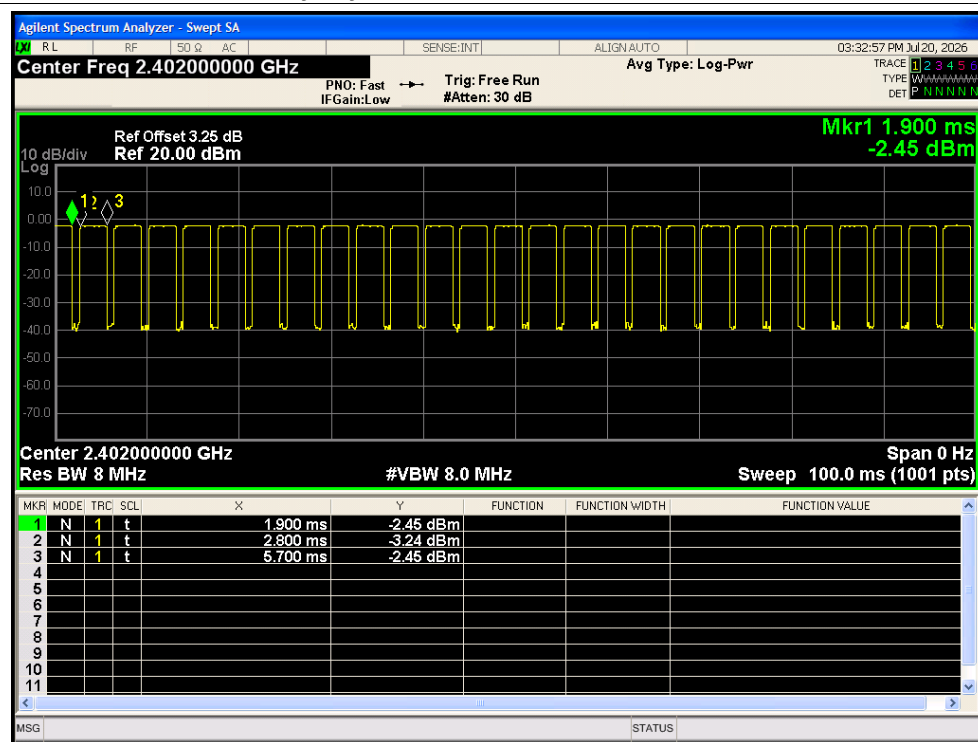
Duty Cycle NVNT 1-DH1 2441MHz



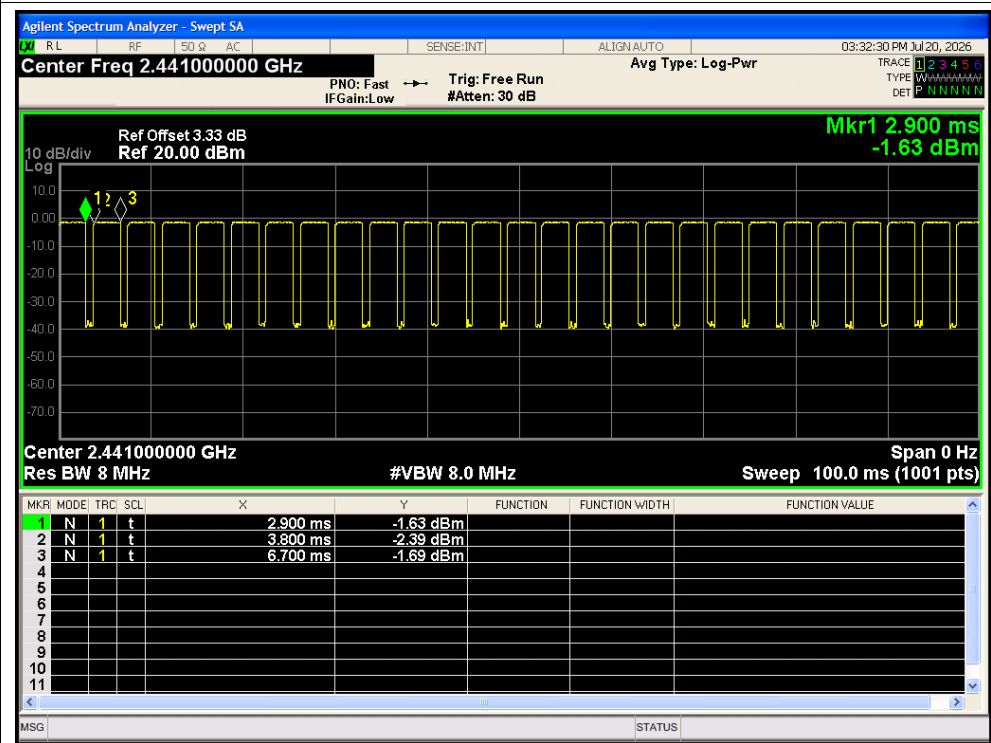
Duty Cycle NVNT 1-DH1 2480MHz



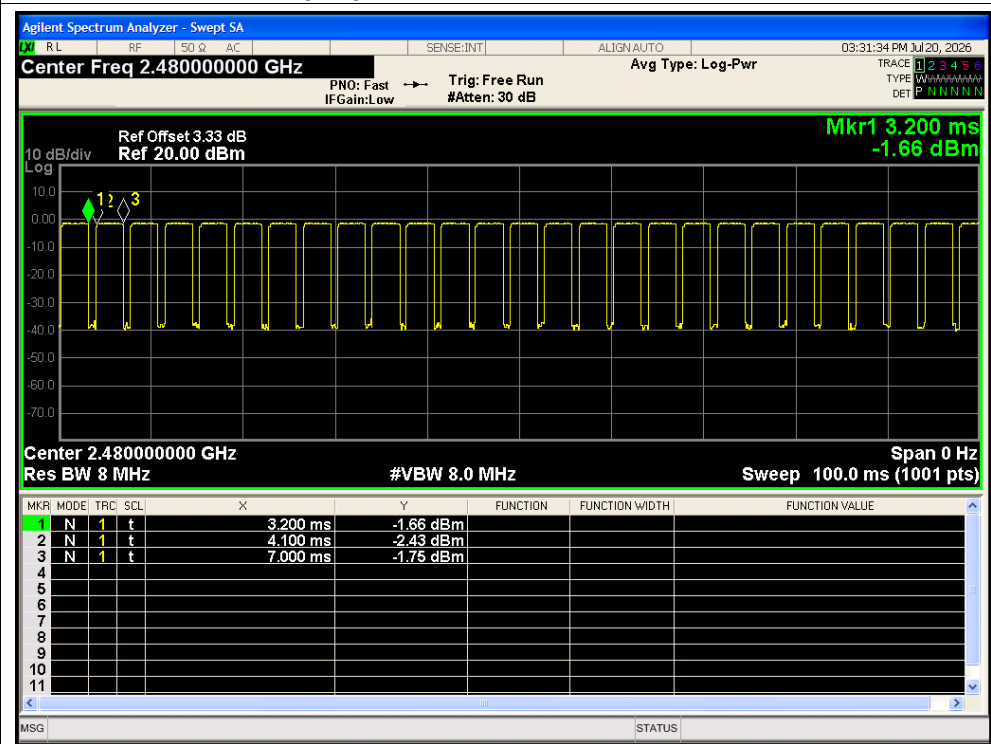
Duty Cycle NVNT 2-DH1 2402MHz



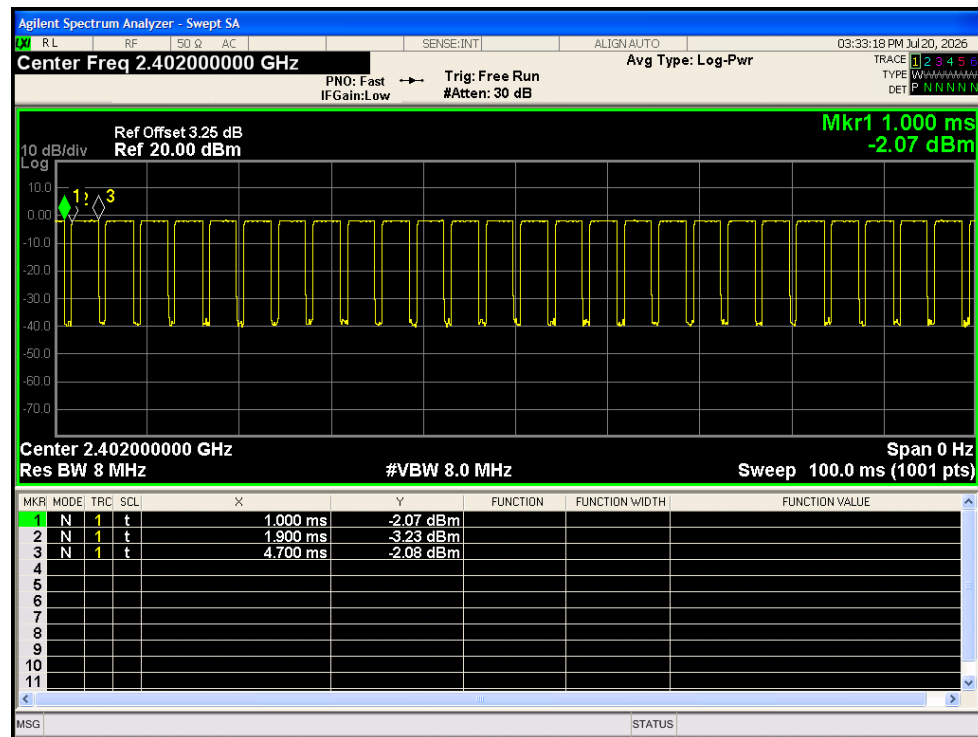
Duty Cycle NVNT 2-DH1 2441MHz



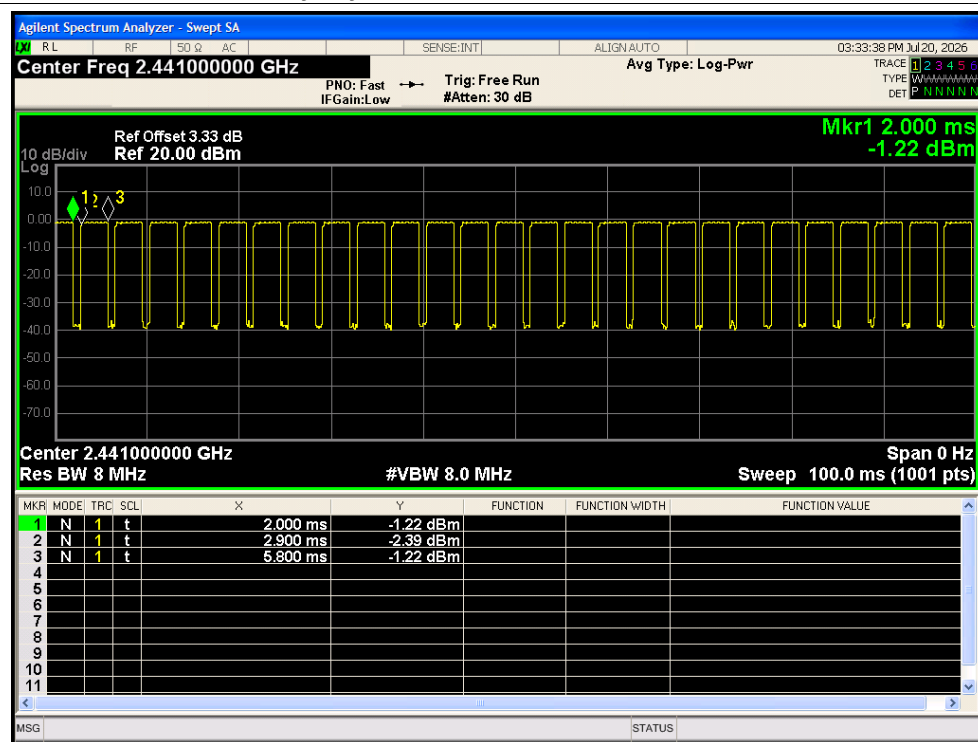
Duty Cycle NVNT 2-DH1 2480MHz



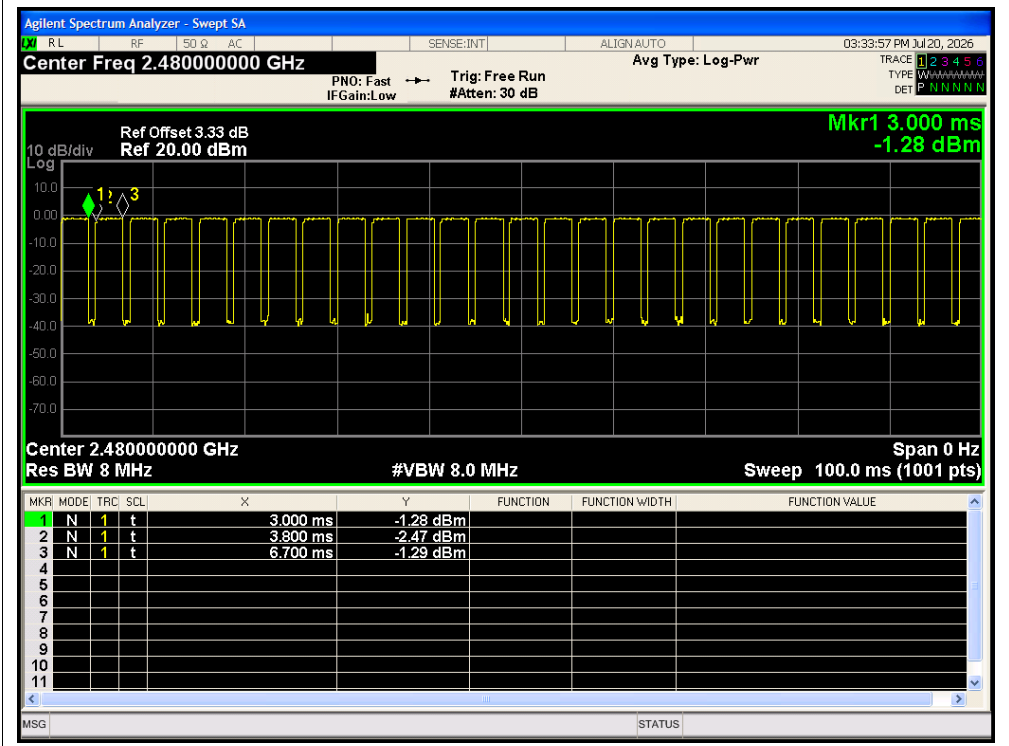
Duty Cycle NVNT 3-DH1 2402MHz



Duty Cycle NVNT 3-DH1 2441MHz



Duty Cycle NVNT 3-DH1 2480MHz



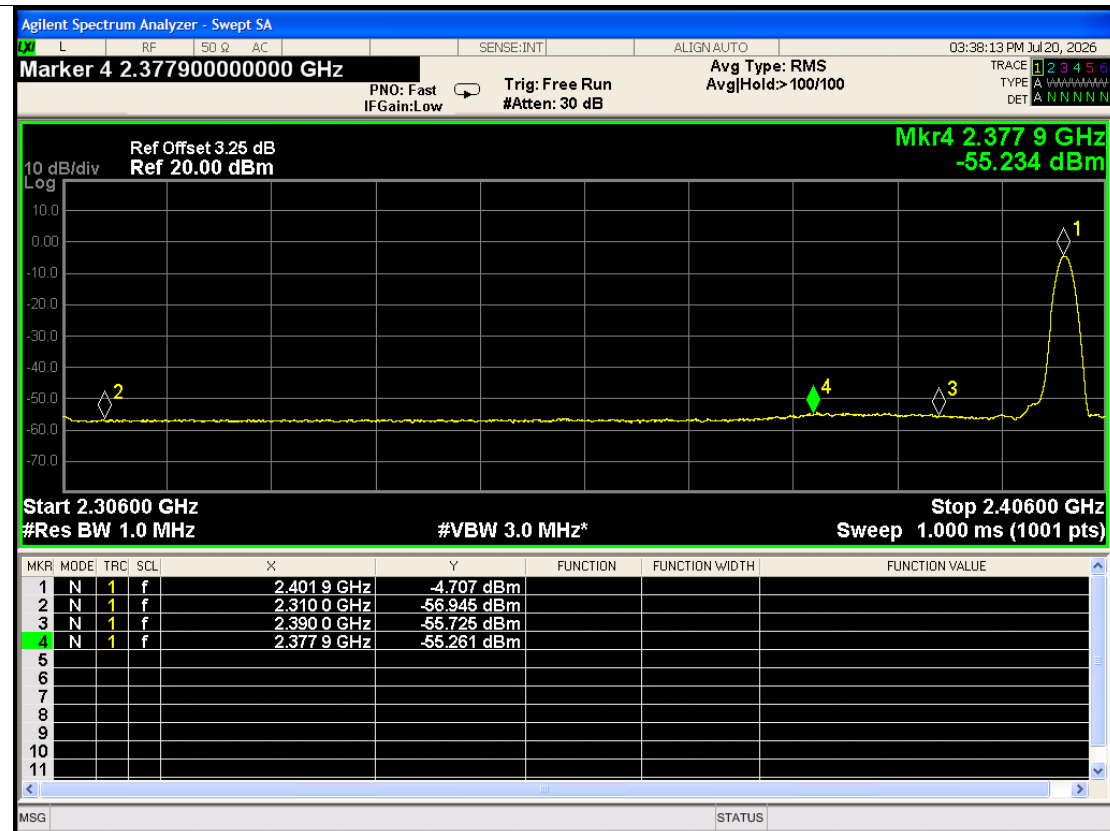
Emissions at Restricted Band

Test Mode	Ch	Freq (MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dBi]	DC Factor [dB]	Result [dBUV/m]	Limit [dBUV/m]	Verdict
1-DH5	Low	2402	AV	2310.0	-56.95	2.36	1.03	41.64	≤54	PASS
			AV	2377.9	-55.26	2.36	1.03	43.33	≤54	PASS
			AV	2390.0	-55.73	2.36	1.03	42.86	≤54	PASS
			Peak	2310.0	-48.57	2.36	0.00	48.99	≤74	PASS
			Peak	2377.5	-44.11	2.36	0.00	53.45	≤74	PASS
			Peak	2390.0	-47.74	2.36	0.00	49.82	≤74	PASS
	High	2480	AV	2483.5	-53.57	2.36	1.06	45.05	≤54	PASS
			AV	2488.4	-55.02	2.36	1.06	43.60	≤54	PASS
			AV	2500.0	-53.94	2.36	1.06	44.68	≤54	PASS
			Peak	2483.5	-43.85	2.36	0.00	53.71	≤74	PASS
			Peak	2488.2	-42.29	2.36	0.00	55.27	≤74	PASS
			Peak	2500.0	-43.76	2.36	0.00	53.80	≤74	PASS
2-DH5	Low	2402	AV	2310.0	-57.04	2.36	0.97	41.49	≤54	PASS
			AV	2379.0	-55.14	2.36	0.97	43.39	≤54	PASS
			AV	2390.0	-55.82	2.36	0.97	42.71	≤54	PASS
			Peak	2310.0	-46.55	2.36	0.00	51.01	≤74	PASS
			Peak	2379.9	-43.40	2.36	0.00	54.16	≤74	PASS
			Peak	2390.0	-45.42	2.36	0.00	52.14	≤74	PASS
	High	2480	AV	2483.5	-54.76	2.36	0.96	43.76	≤54	PASS
			AV	2498.8	-53.88	2.36	0.96	44.64	≤54	PASS
			AV	2500.0	-54.01	2.36	0.96	44.51	≤54	PASS
			Peak	2483.5	-43.97	2.36	0.00	53.59	≤74	PASS
			Peak	2498.8	-42.15	2.36	0.00	55.41	≤74	PASS
			Peak	2500.0	-43.77	2.36	0.00	53.79	≤74	PASS
3-DH5	Low	2402	AV	2310.0	-57.04	2.36	1.06	41.58	≤54	PASS
			AV	2379.4	-55.06	2.36	1.06	43.56	≤54	PASS
			AV	2390.0	-55.56	2.36	1.06	43.06	≤54	PASS
			Peak	2310.0	-47.13	2.36	0.00	50.43	≤74	PASS
			Peak	2379.3	-43.08	2.36	0.00	54.48	≤74	PASS
			Peak	2390.0	-45.58	2.36	0.00	51.98	≤74	PASS
	High	2480	AV	2483.5	-54.93	2.36	0.95	43.58	≤54	PASS
			AV	2488.4	-54.93	2.36	0.95	43.58	≤54	PASS
			AV	2500.0	-53.92	2.36	0.95	44.59	≤54	PASS
			Peak	2483.5	-45.46	2.36	0.00	52.10	≤74	PASS
			Peak	2488.4	-43.17	2.36	0.00	54.39	≤74	PASS
			Peak	2500.0	-45.74	2.36	0.00	51.82	≤74	PASS

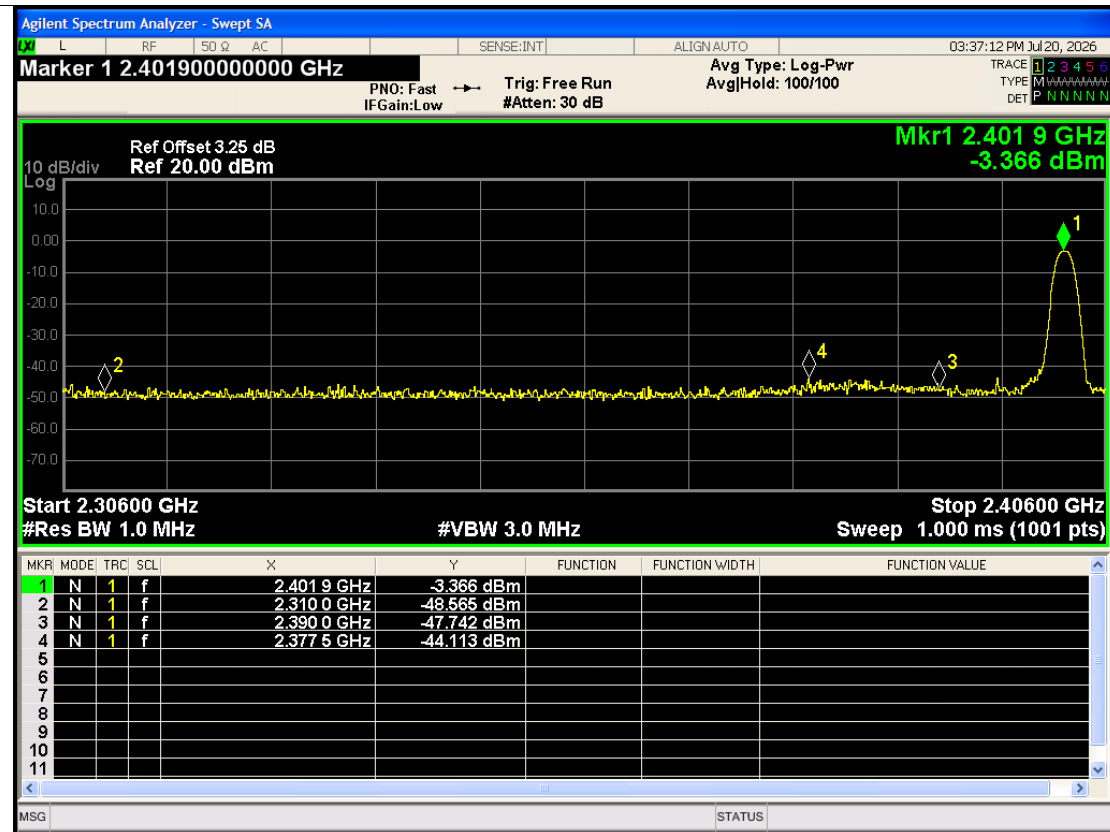
Note: The limit in dBm for average detector is conversion from 54dBUV/m, according to RSS-Gen. The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

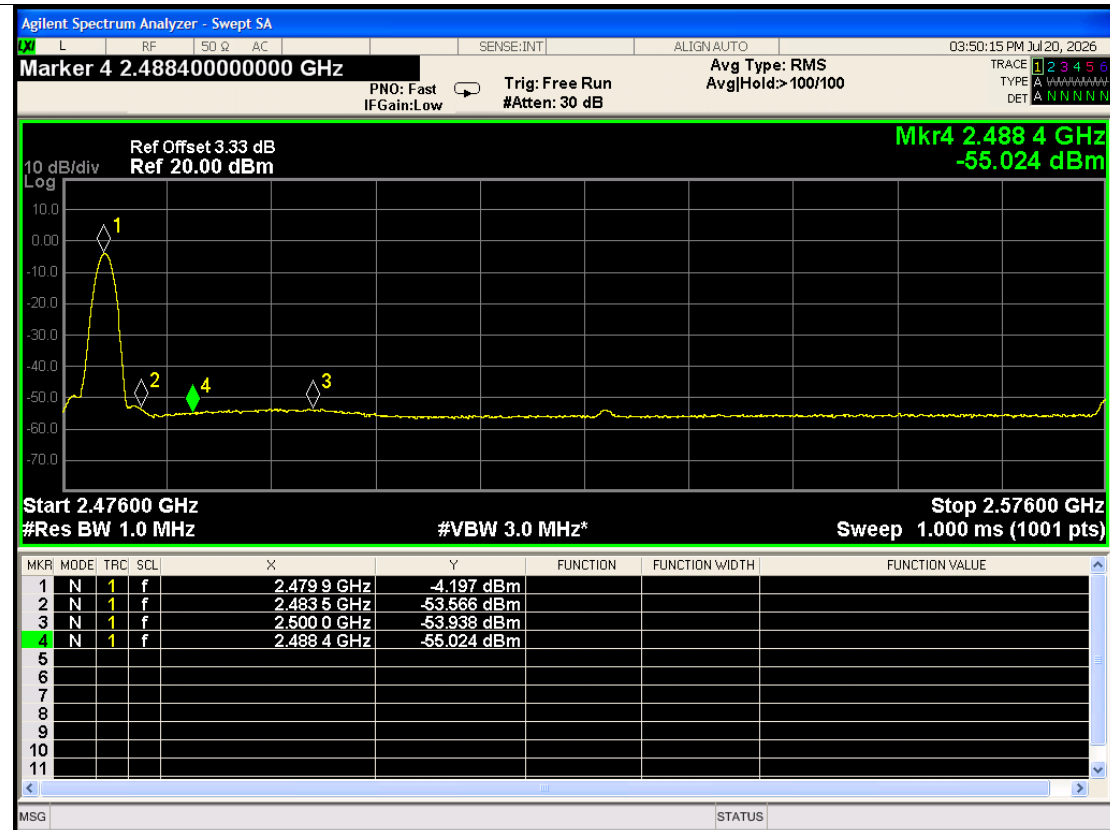
NVNT 1-DH5 2402MHz AV



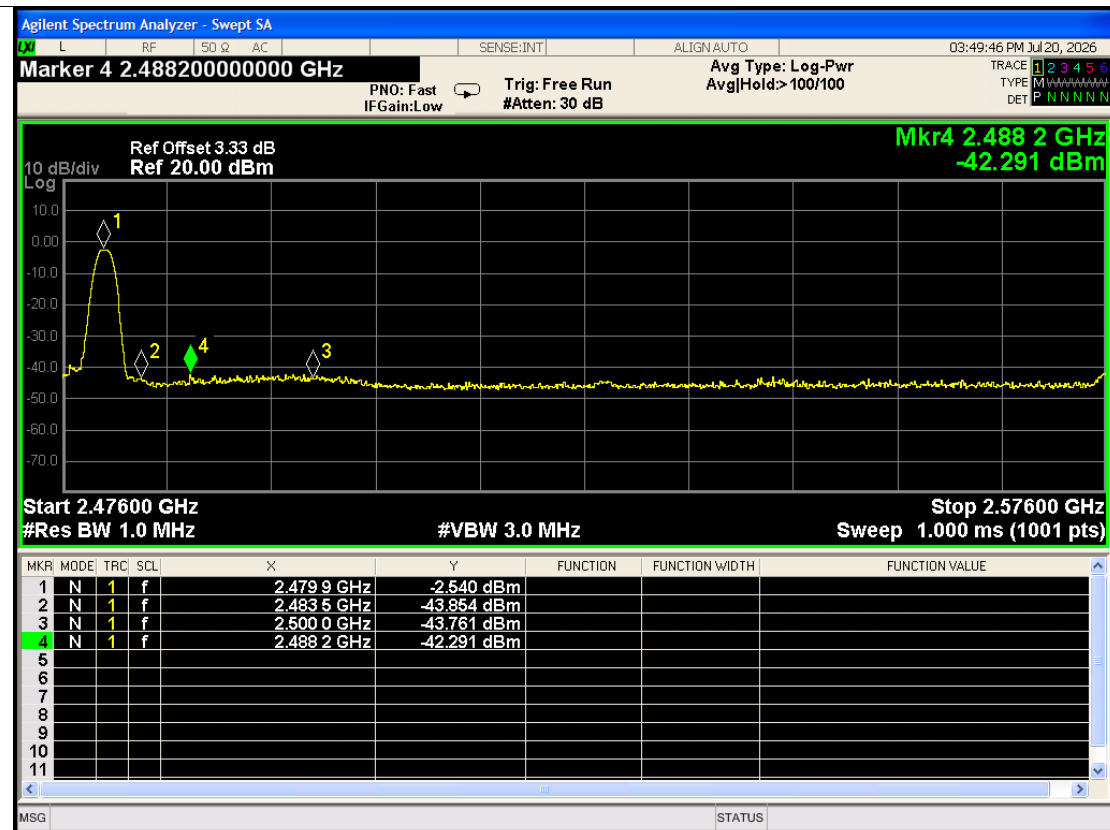
NVNT 1-DH5 2402MHz PK



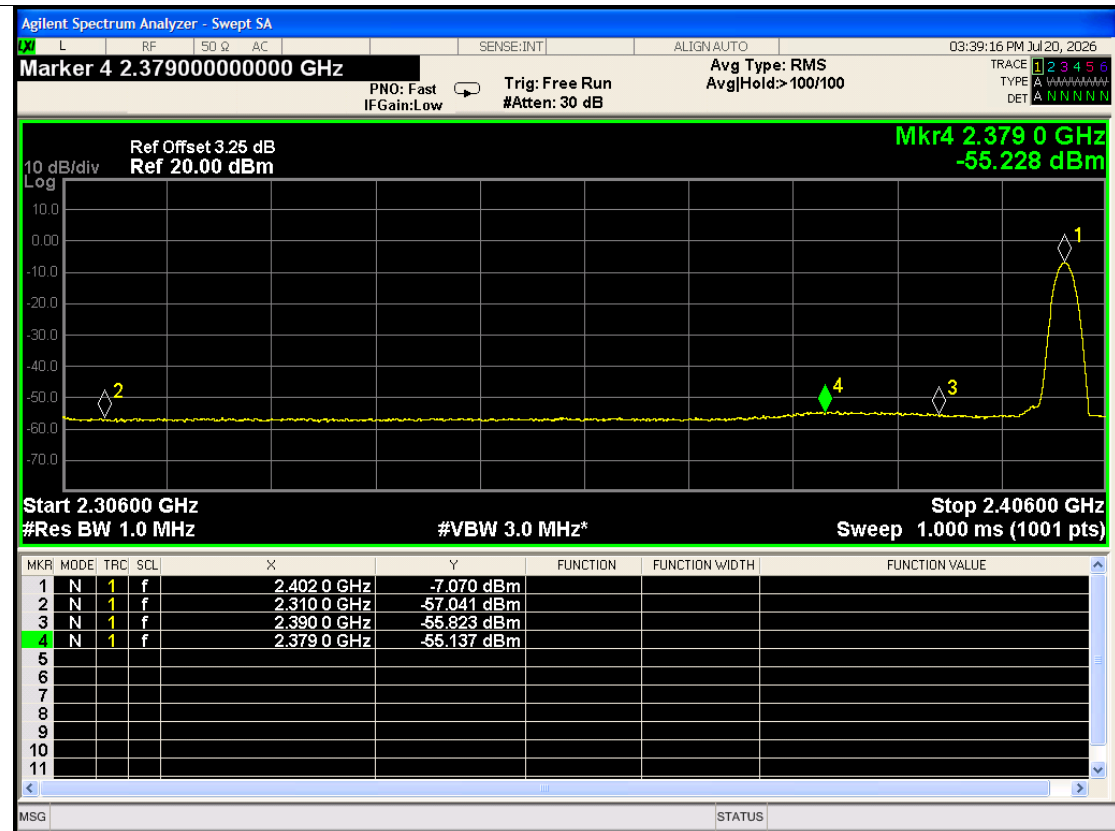
NVNT 1-DH5 2480MHz AV



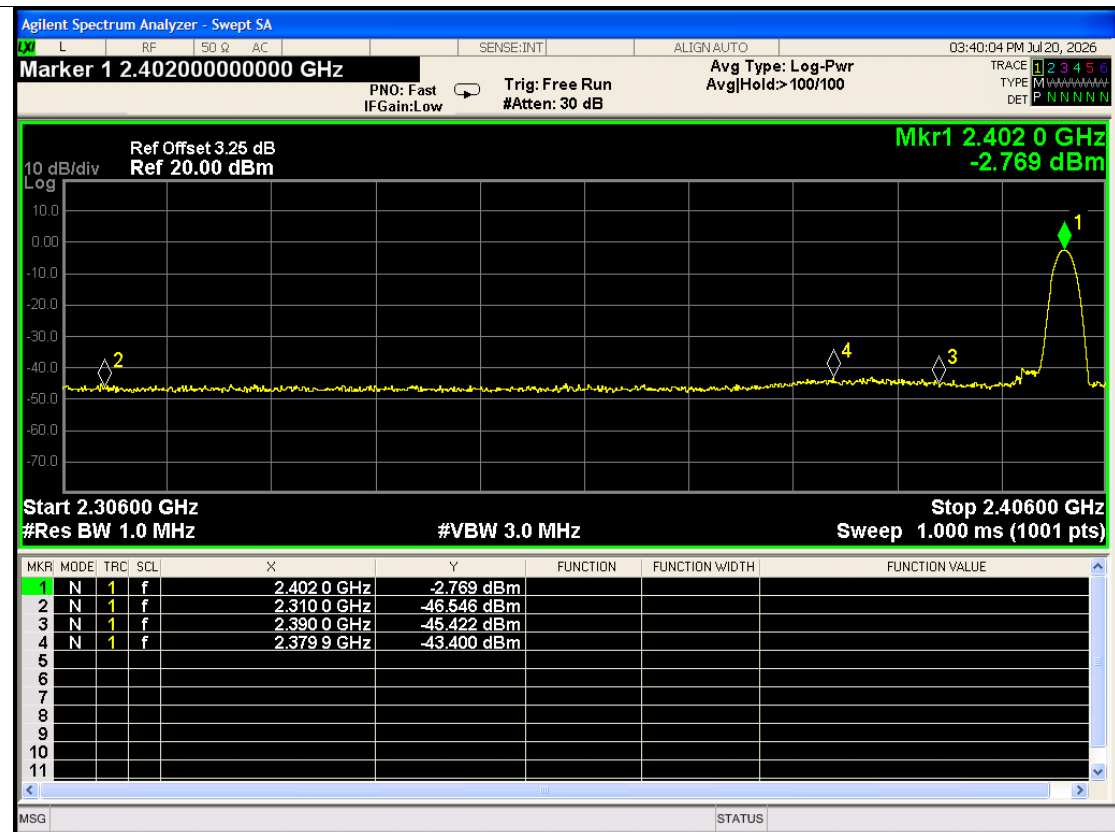
NVNT 1-DH5 2480MHz PK



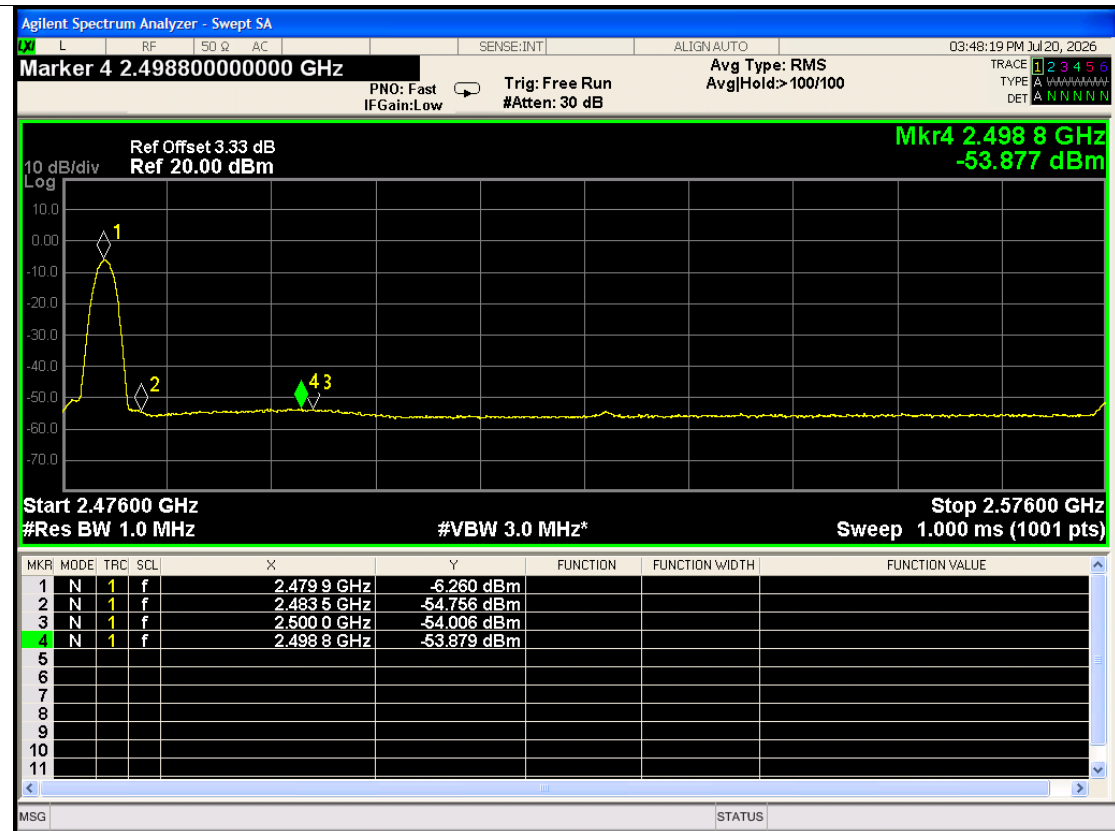
NVNT 2-DH5 2402MHz AV



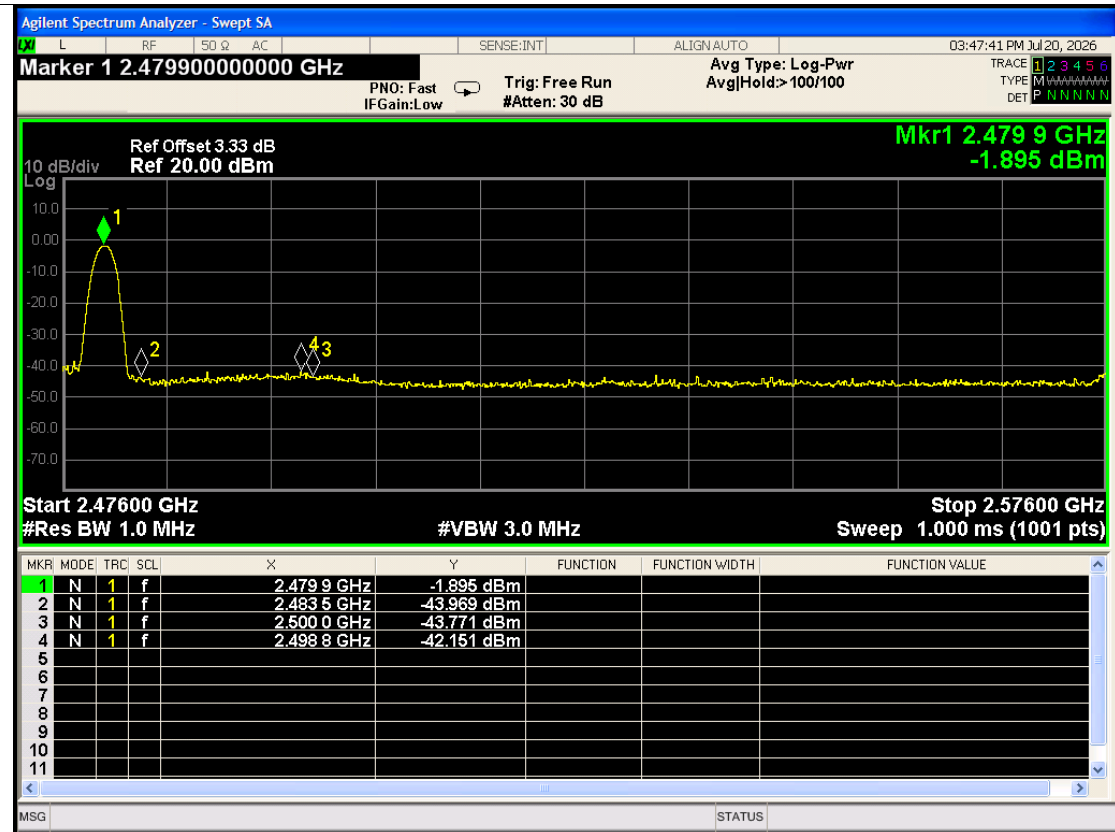
NVNT 2-DH5 2402MHz PK



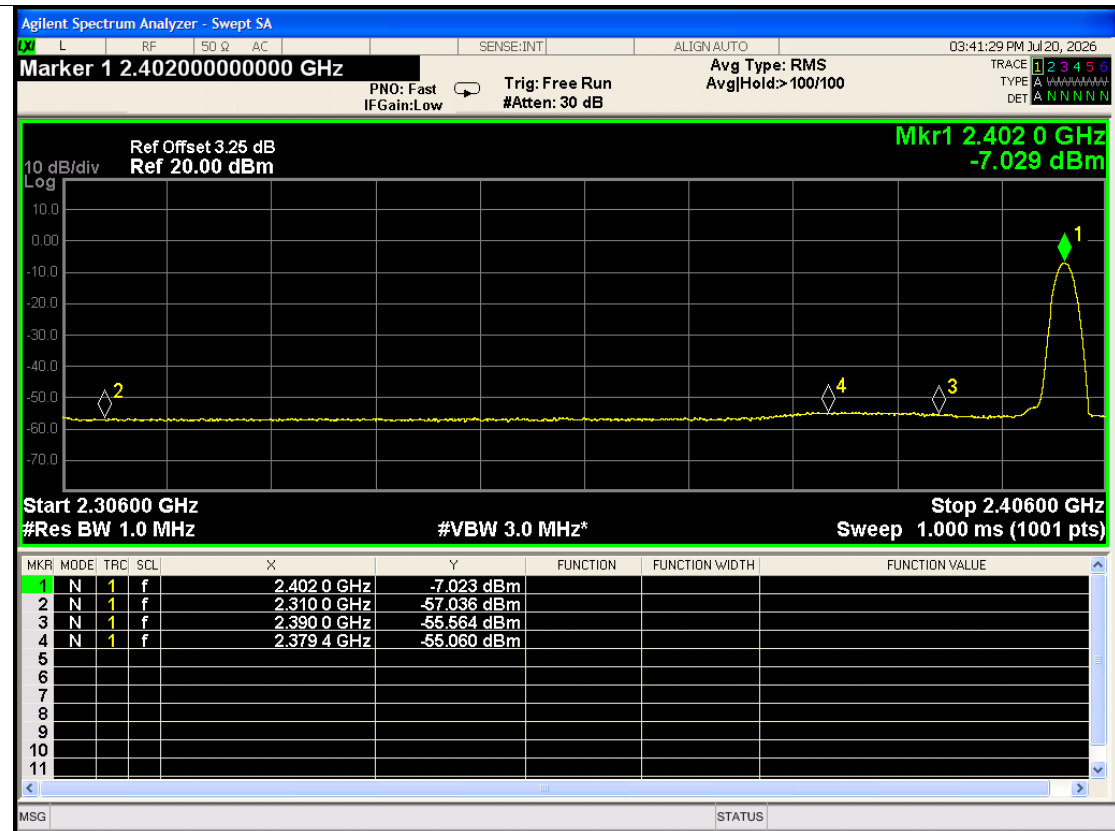
NVNT 2-DH5 2480MHz AV



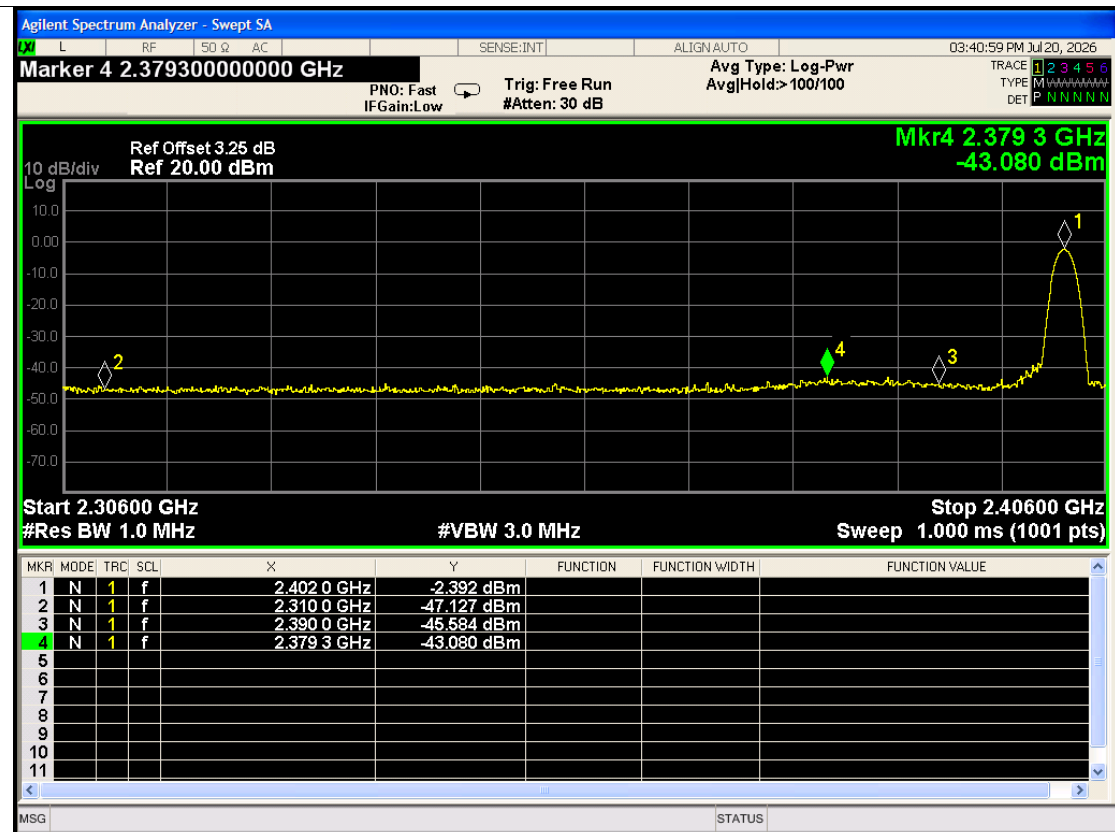
NVNT 2-DH5 2480MHz PK



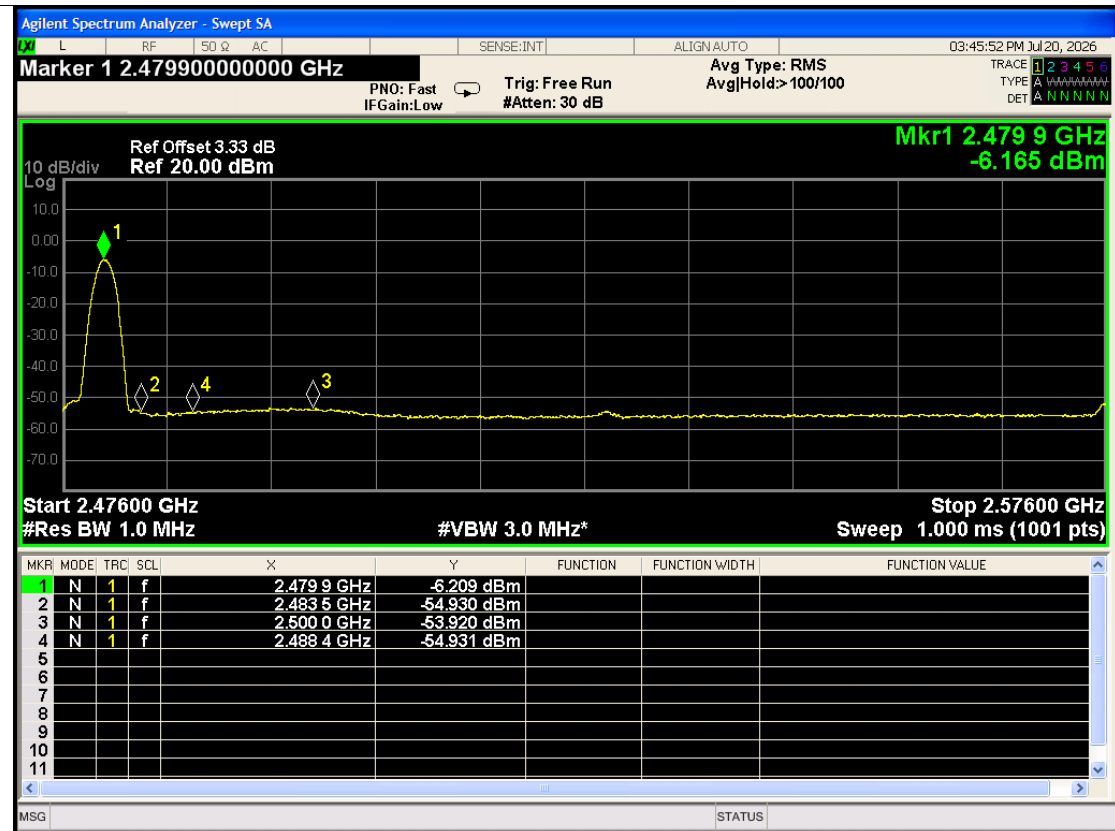
NVNT 3-DH5 2402MHz AV



NVNT 3-DH5 2402MHz PK



NVNT 3-DH5 2480MHz AV



NVNT 3-DH5 2480MHz PK

