

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: GNSS Receiver

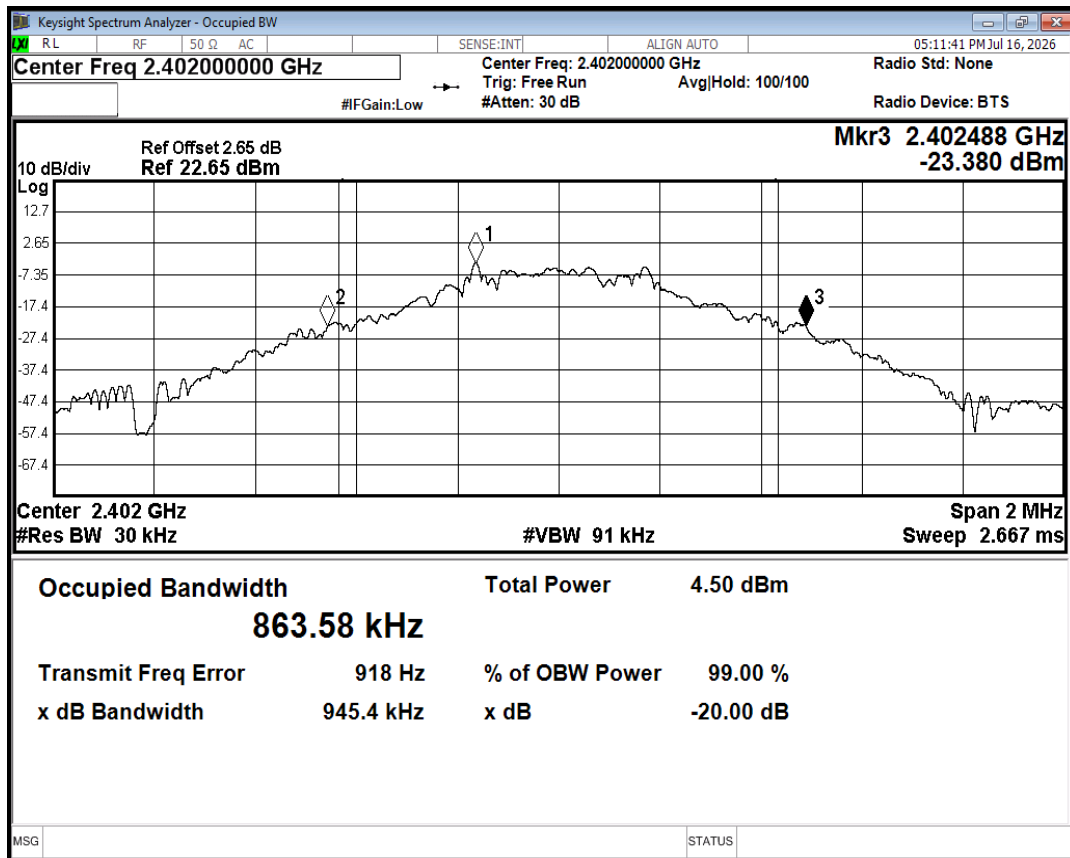
Test Model: Horus

Environmental Conditions

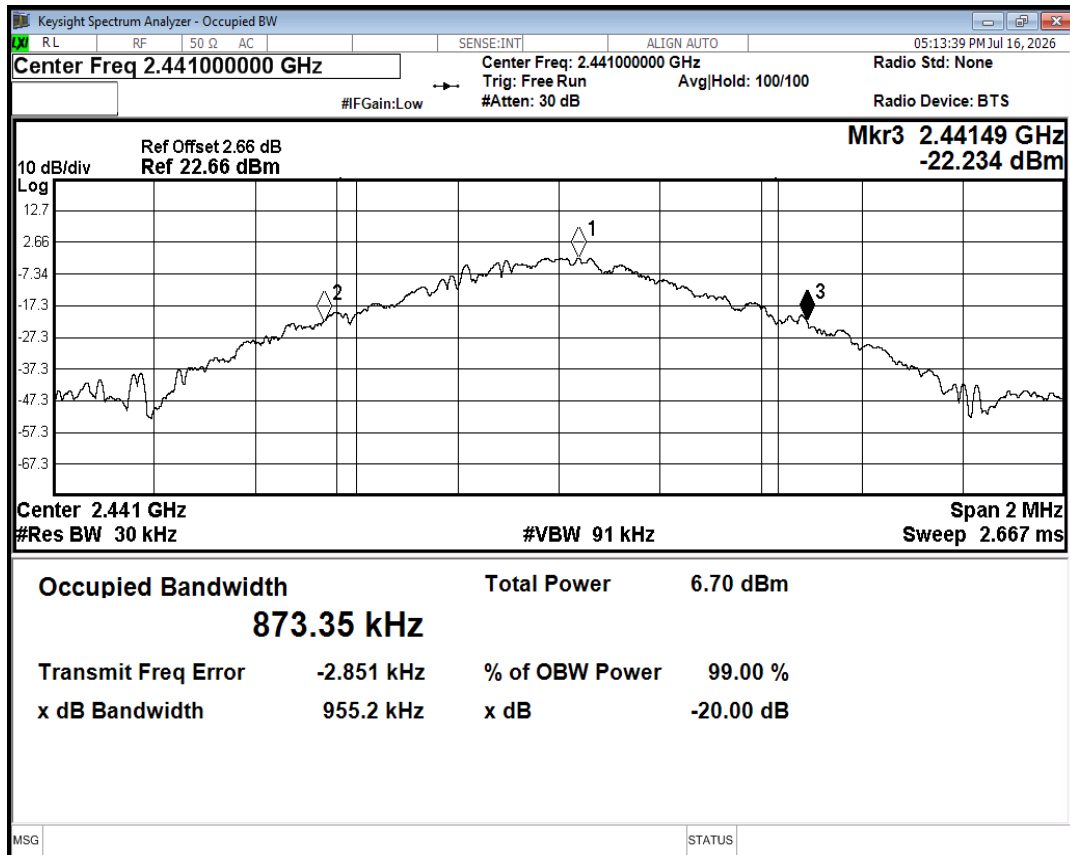
Temperature:	24.6°C
Relative Humidity:	53.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Zhang hai
Supervised by:	Fengliu Tang

A.1-20dB Bandwidth

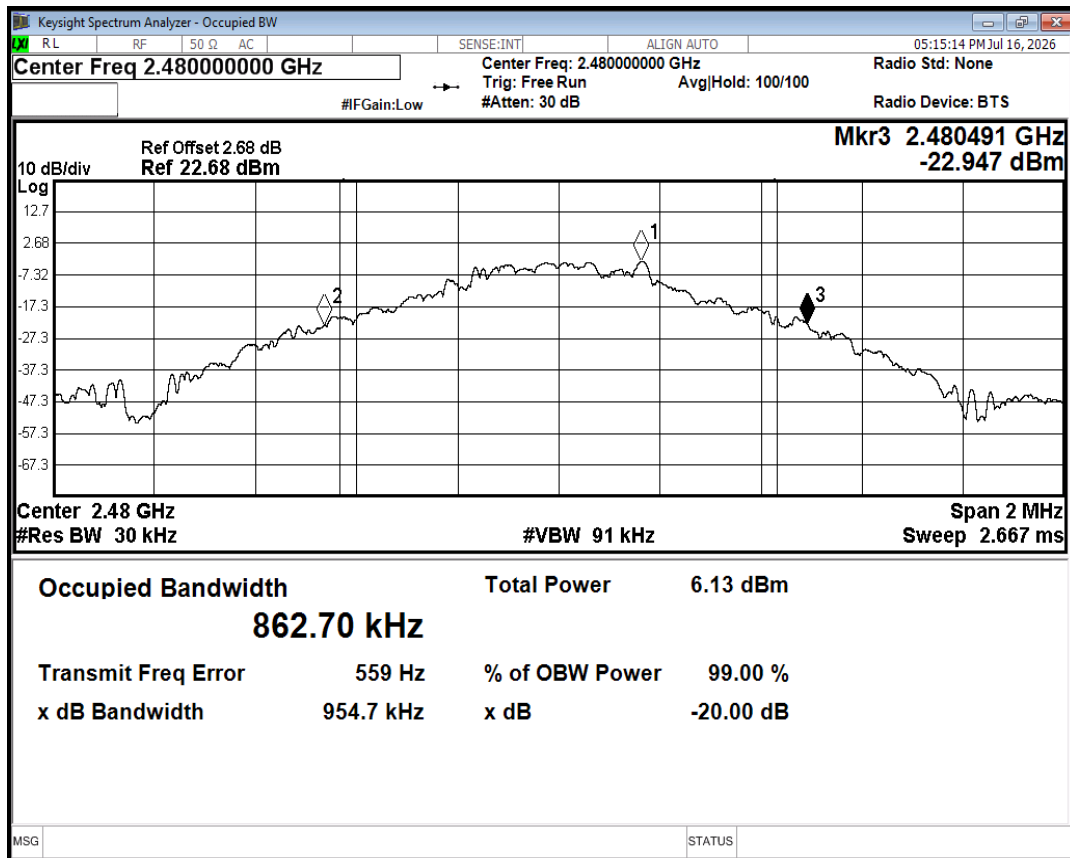
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.9454	0	Pass
NVNT	1-DH5	2441	Ant1	0.9552	0	Pass
NVNT	1-DH5	2480	Ant1	0.9547	0	Pass
NVNT	2-DH5	2402	Ant1	1.31	0	Pass
NVNT	2-DH5	2441	Ant1	1.287	0	Pass
NVNT	2-DH5	2480	Ant1	1.286	0	Pass
NVNT	3-DH5	2402	Ant1	1.287	0	Pass
NVNT	3-DH5	2441	Ant1	1.299	0	Pass
NVNT	3-DH5	2480	Ant1	1.298	0	Pass



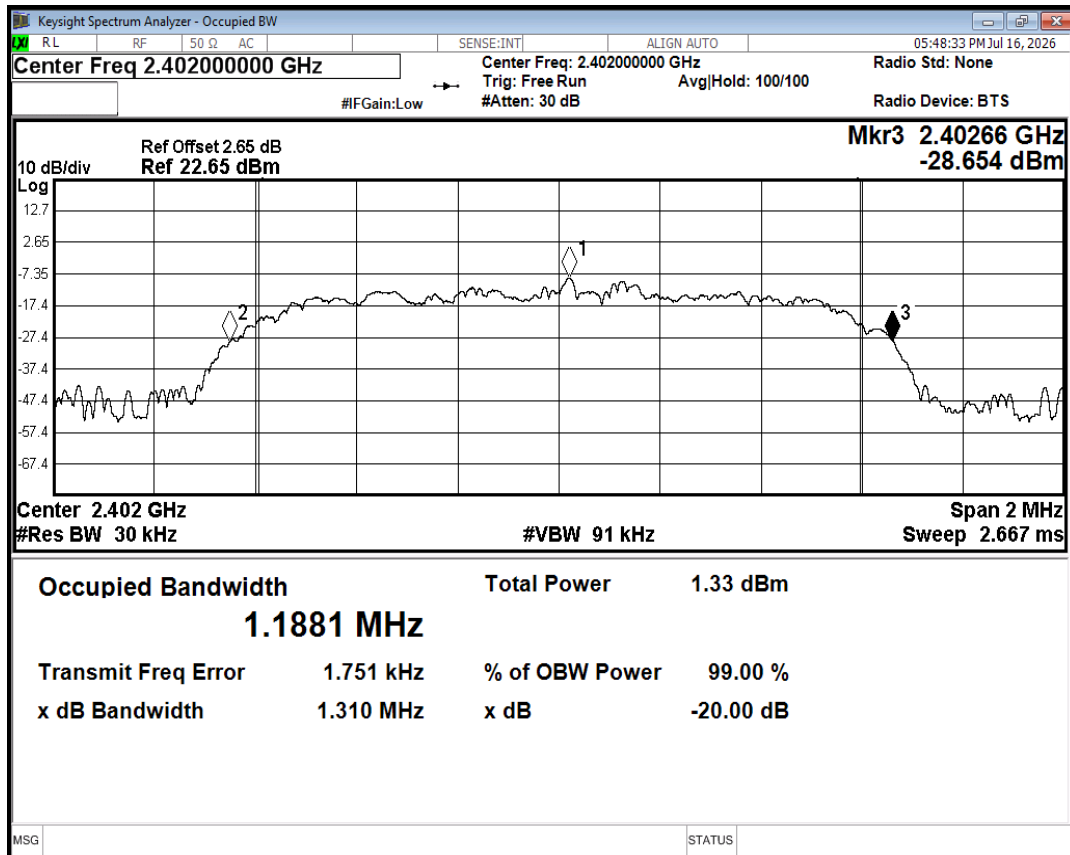
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



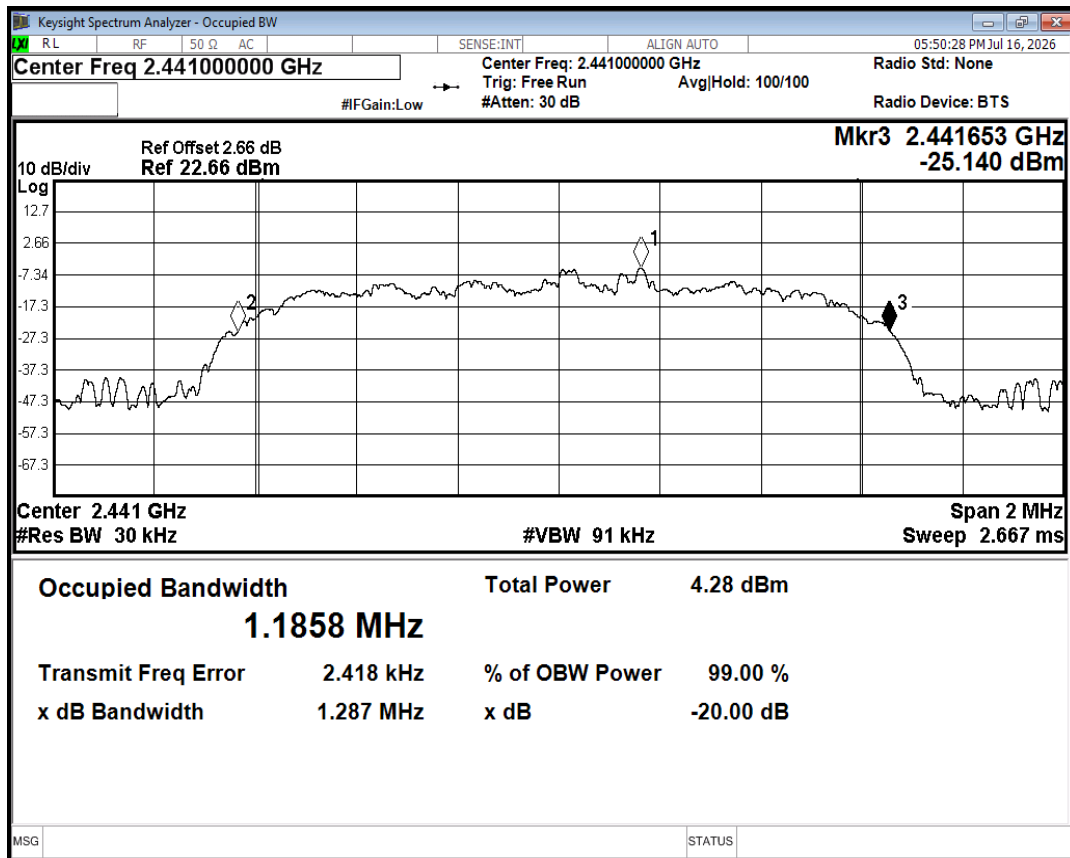
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



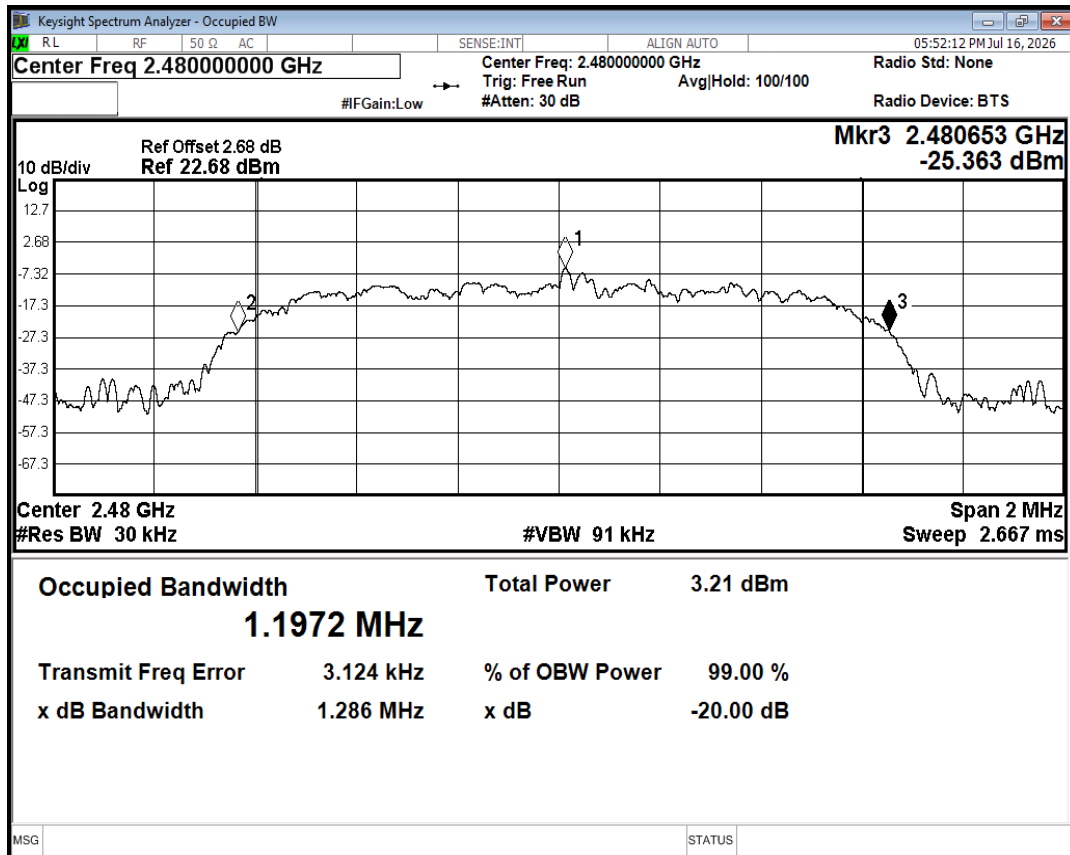
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



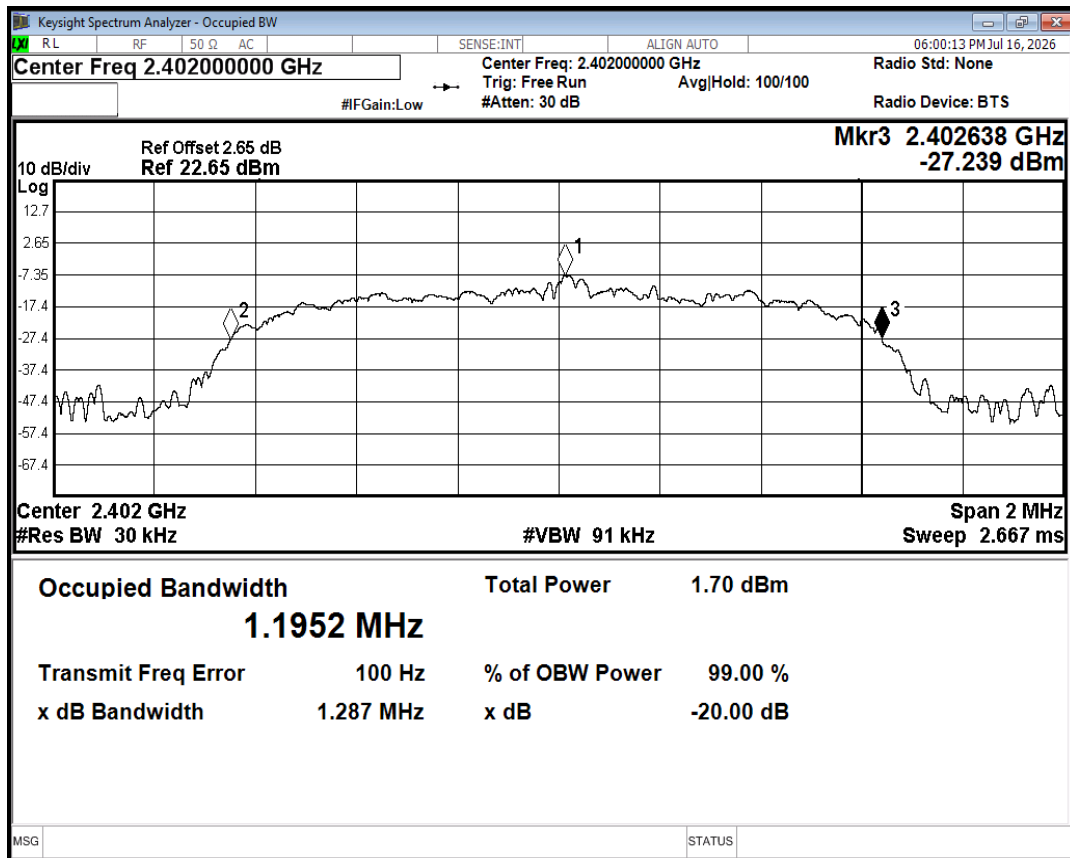
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



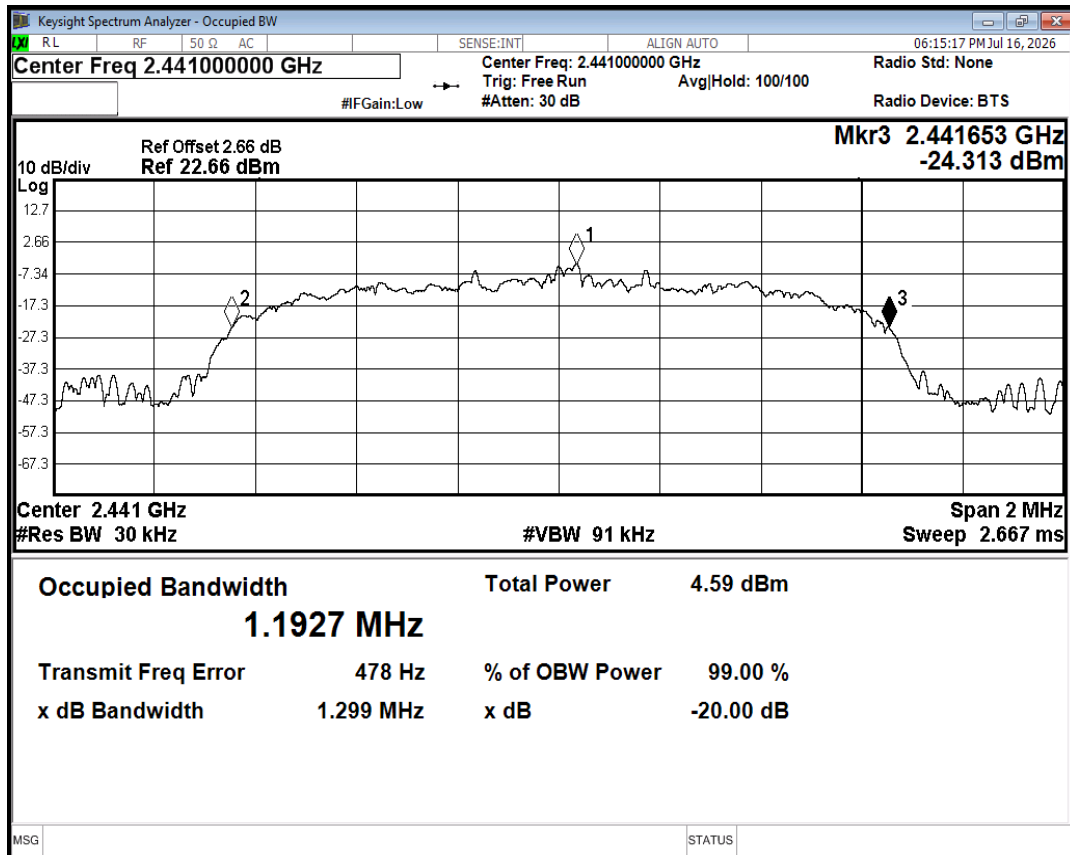
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



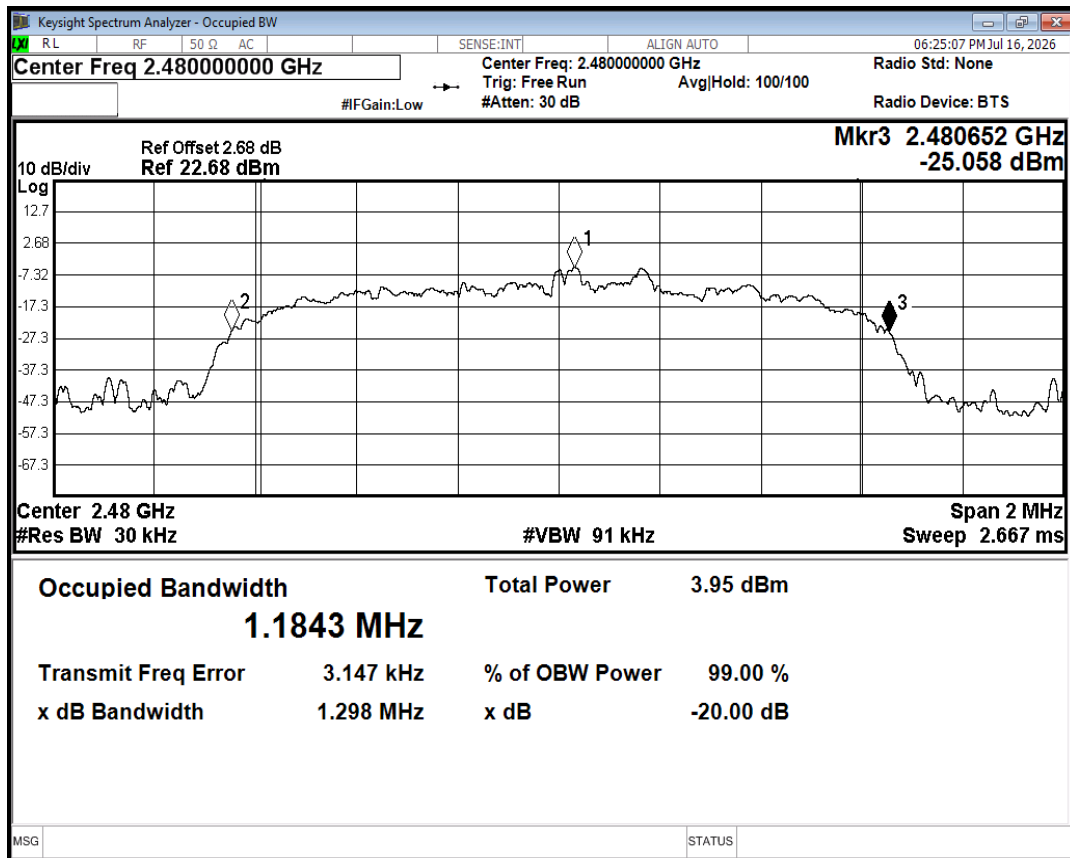
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



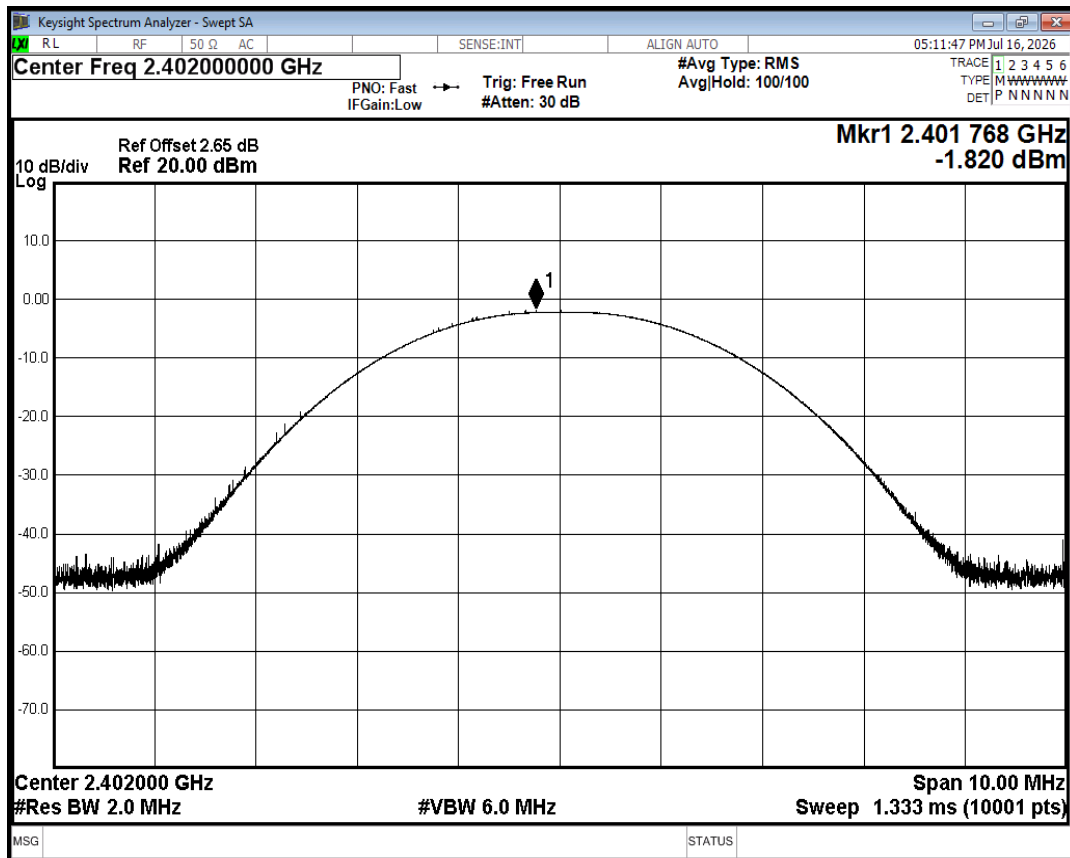
-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



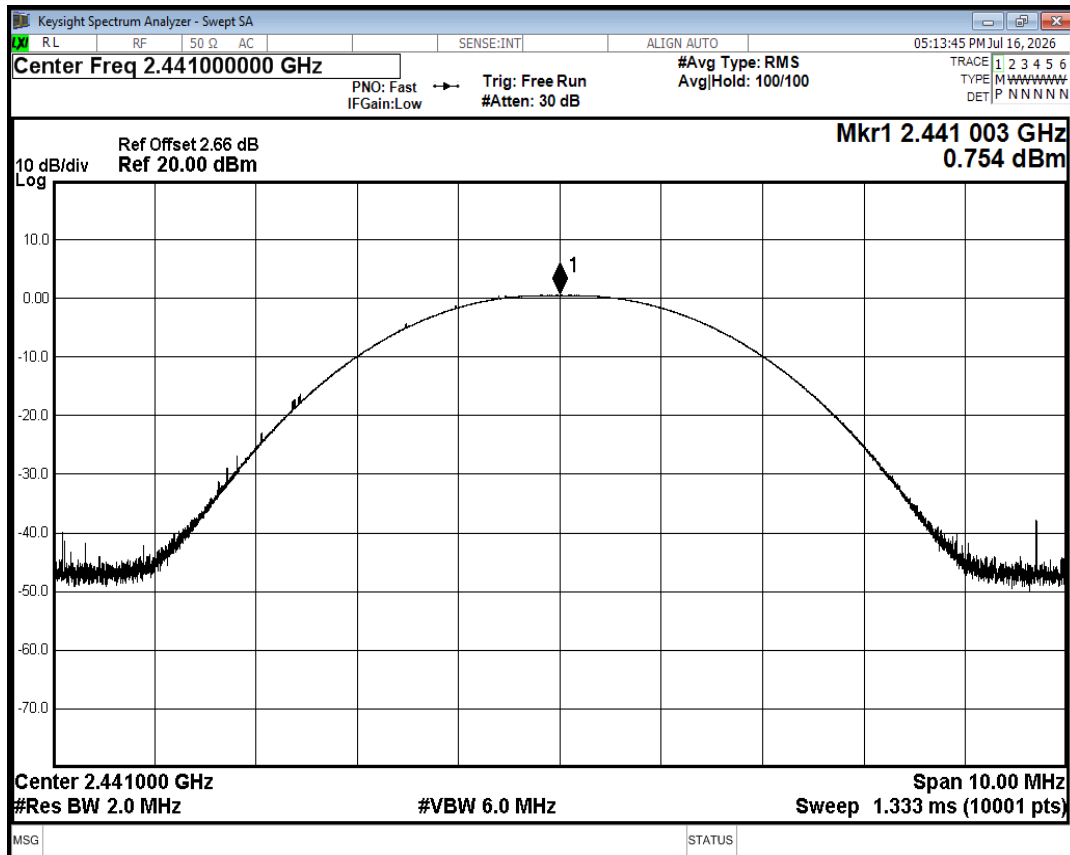
-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

A.2 Maximum Peak Conducted Output Power

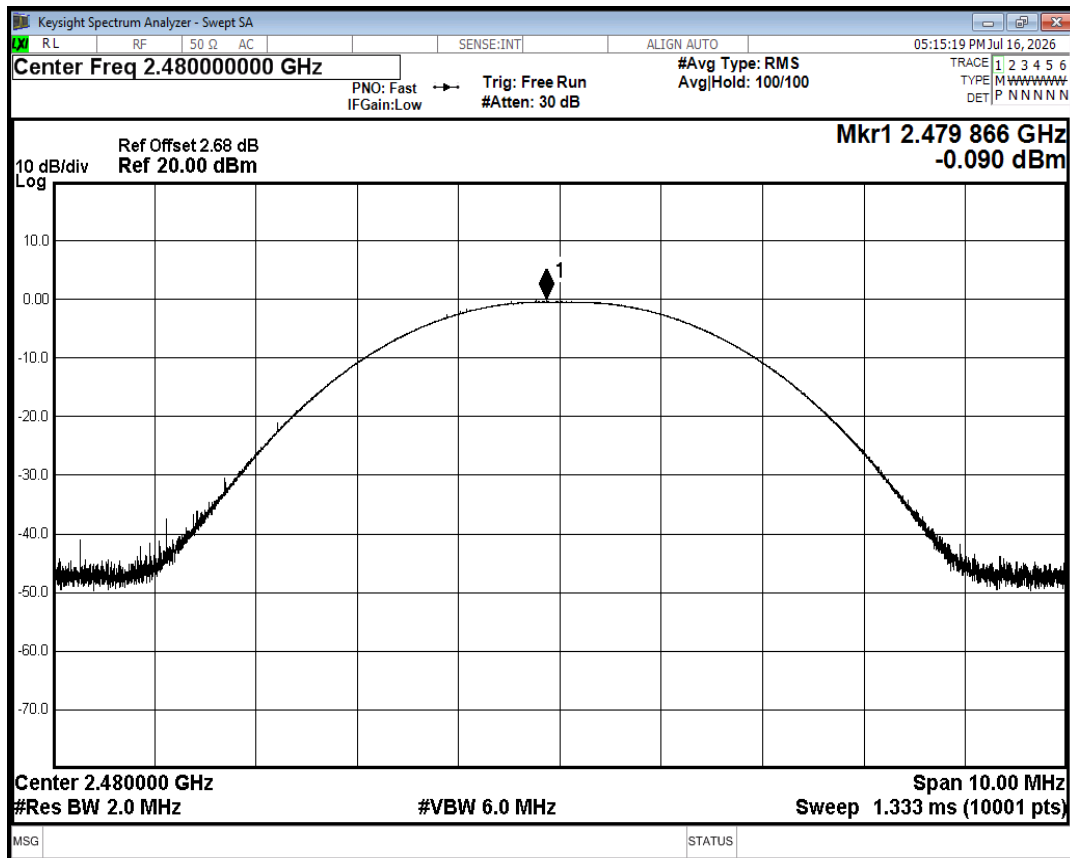
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.82	30	Pass
NVNT	1-DH5	2441	Ant1	0.75	30	Pass
NVNT	1-DH5	2480	Ant1	-0.09	30	Pass
NVNT	2-DH5	2402	Ant1	-2.58	30	Pass
NVNT	2-DH5	2441	Ant1	0.09	30	Pass
NVNT	2-DH5	2480	Ant1	-0.74	30	Pass
NVNT	3-DH5	2402	Ant1	-2.11	30	Pass
NVNT	3-DH5	2441	Ant1	0.56	30	Pass
NVNT	3-DH5	2480	Ant1	-0.35	30	Pass



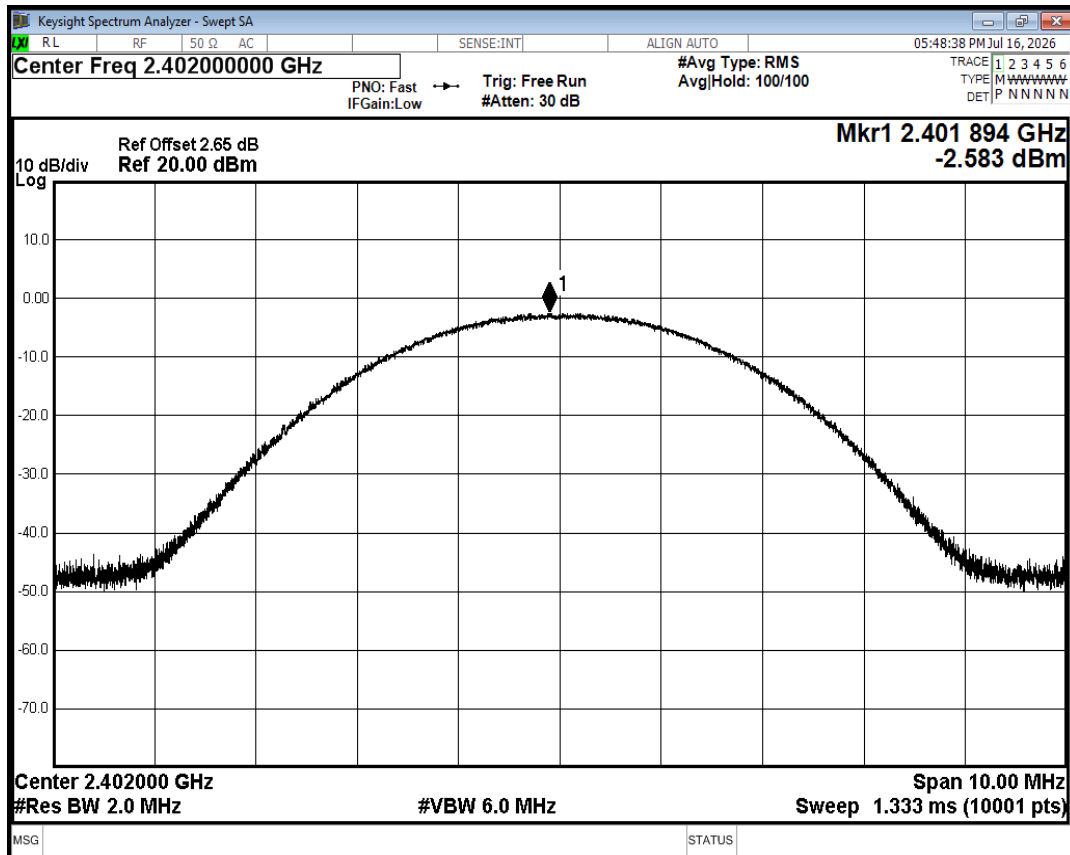
Peak Power NVNT 1-DH5 2402MHz Ant1



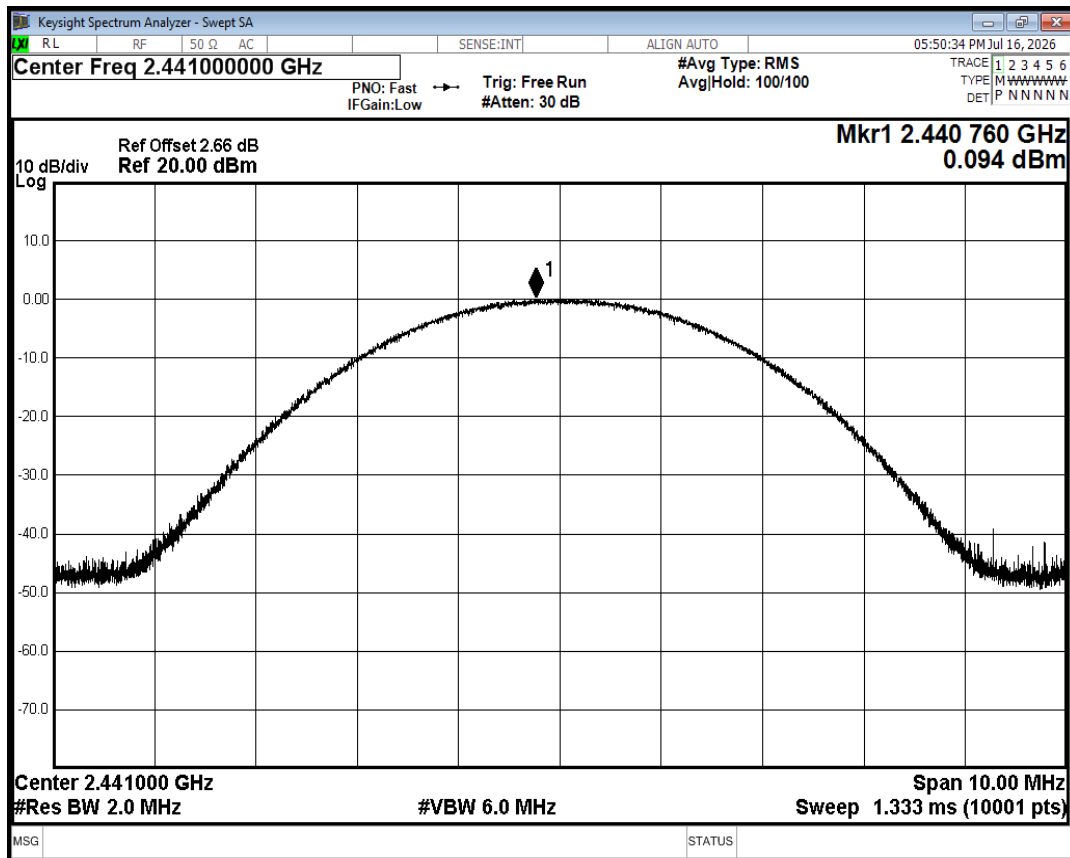
Peak Power NVNT 1-DH5 2441MHz Ant1



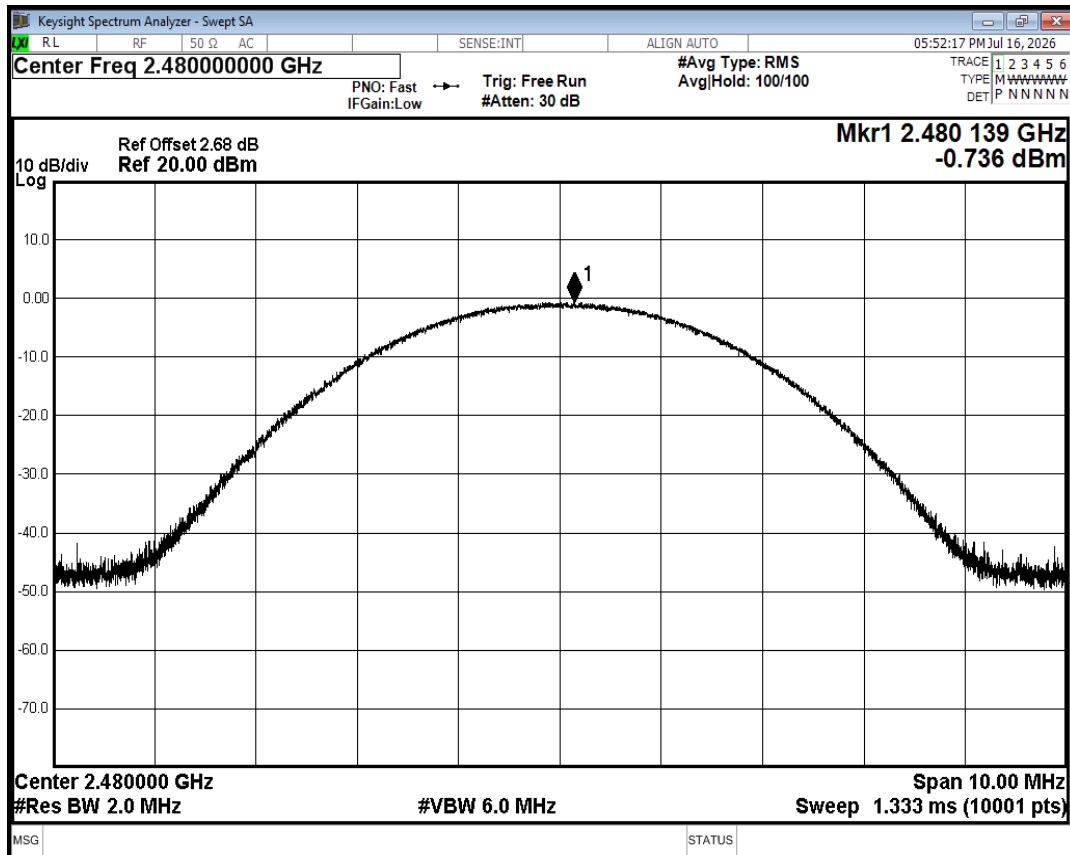
Peak Power NVNT 1-DH5 2480MHz Ant1



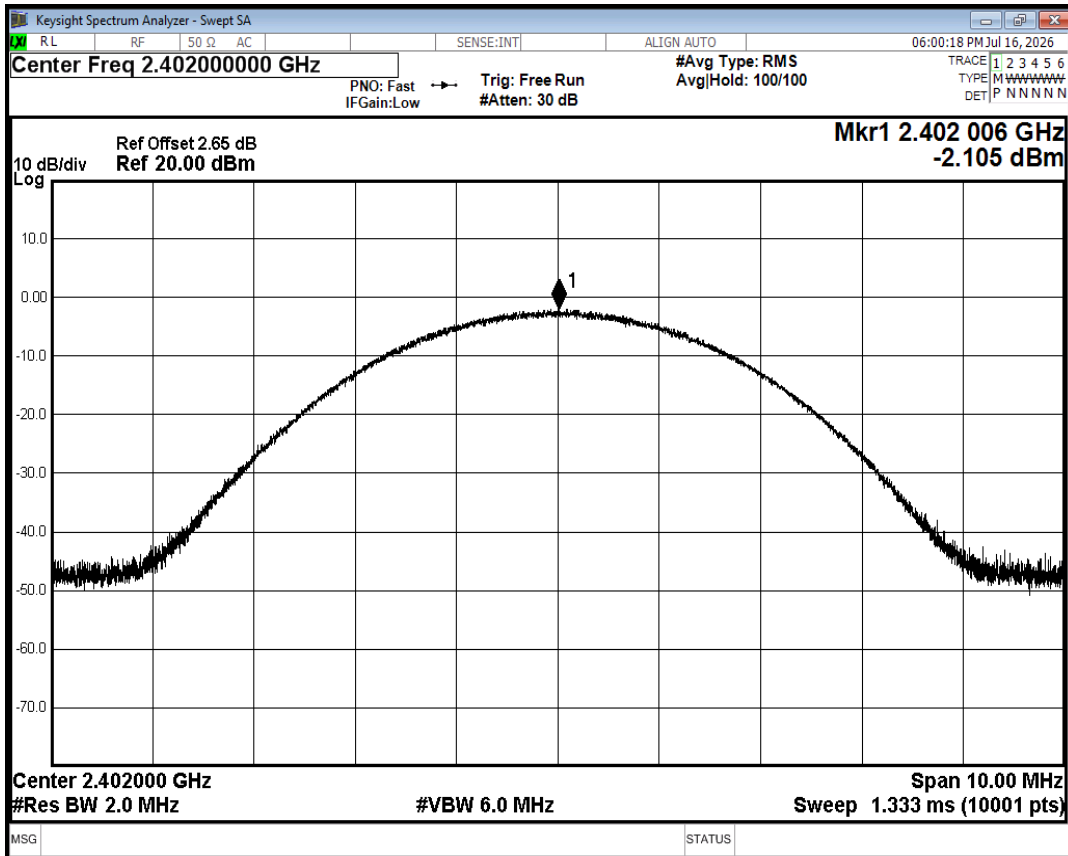
Peak Power NVNT 2-DH5 2402MHz Ant1



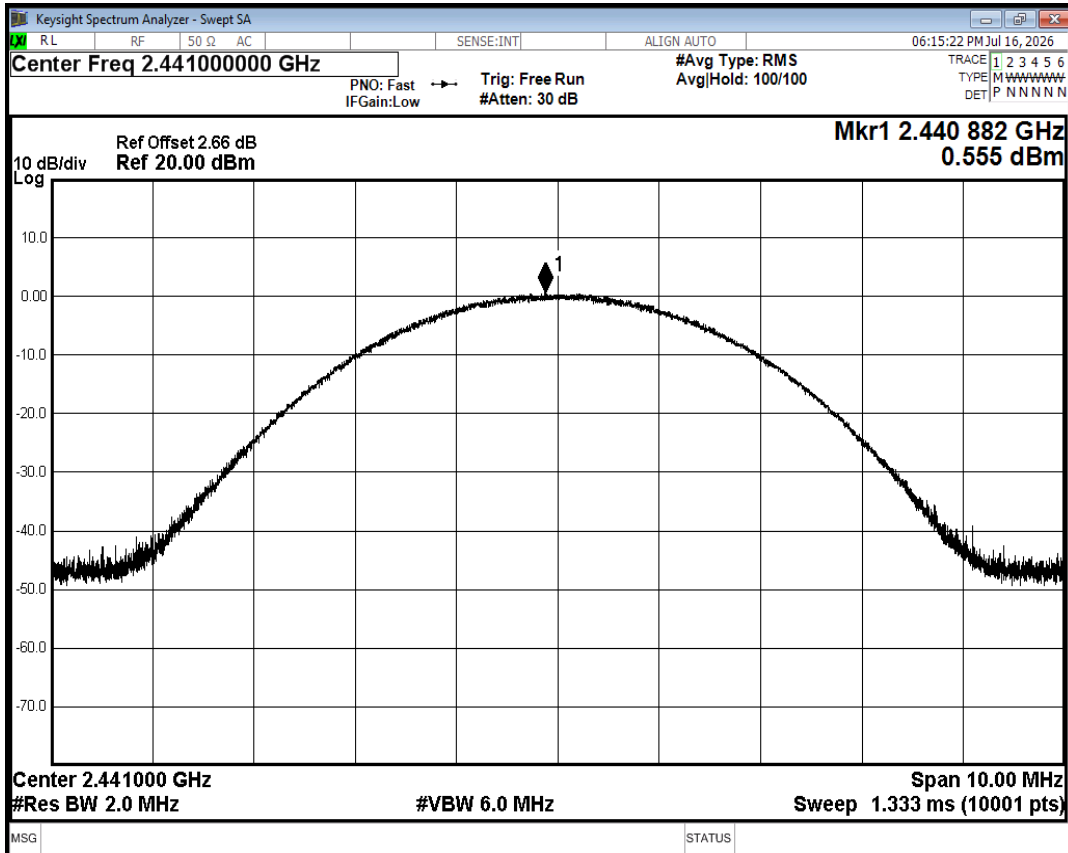
Peak Power NVNT 2-DH5 2441MHz Ant1



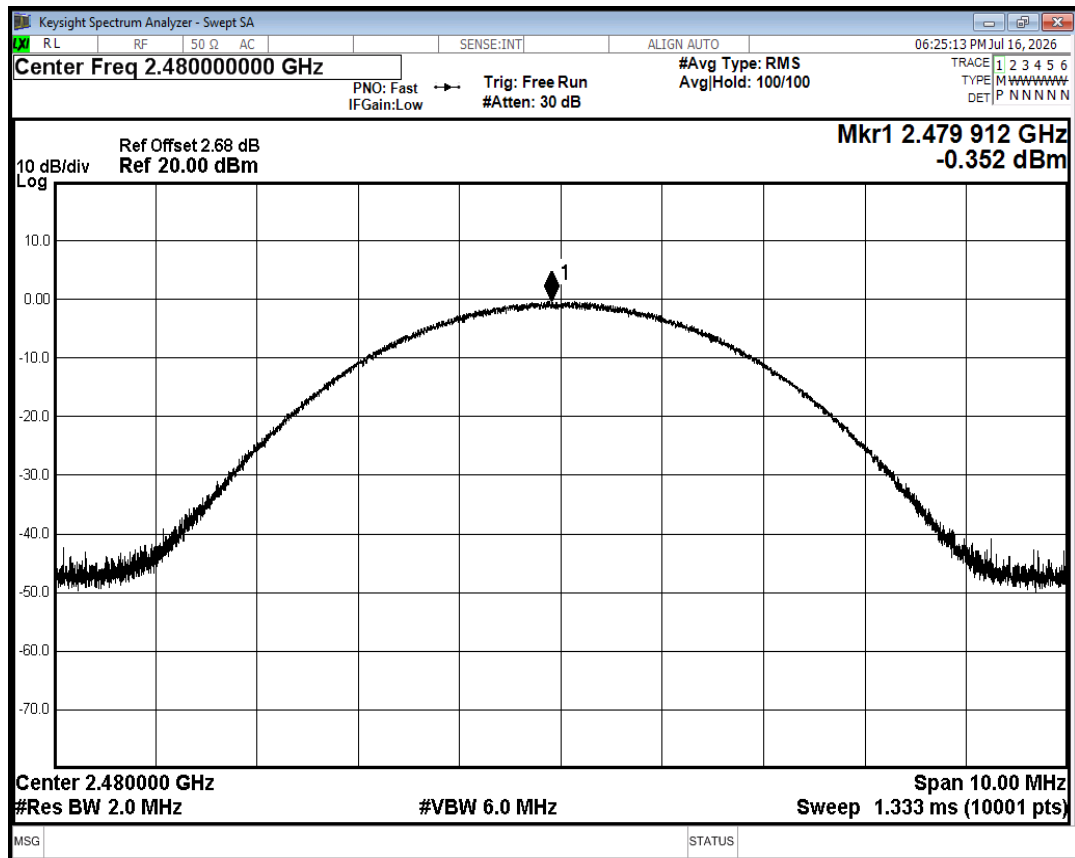
Peak Power NVNT 2-DH5 2480MHz Ant1



Peak Power NVNT 3-DH5 2402MHz Ant1



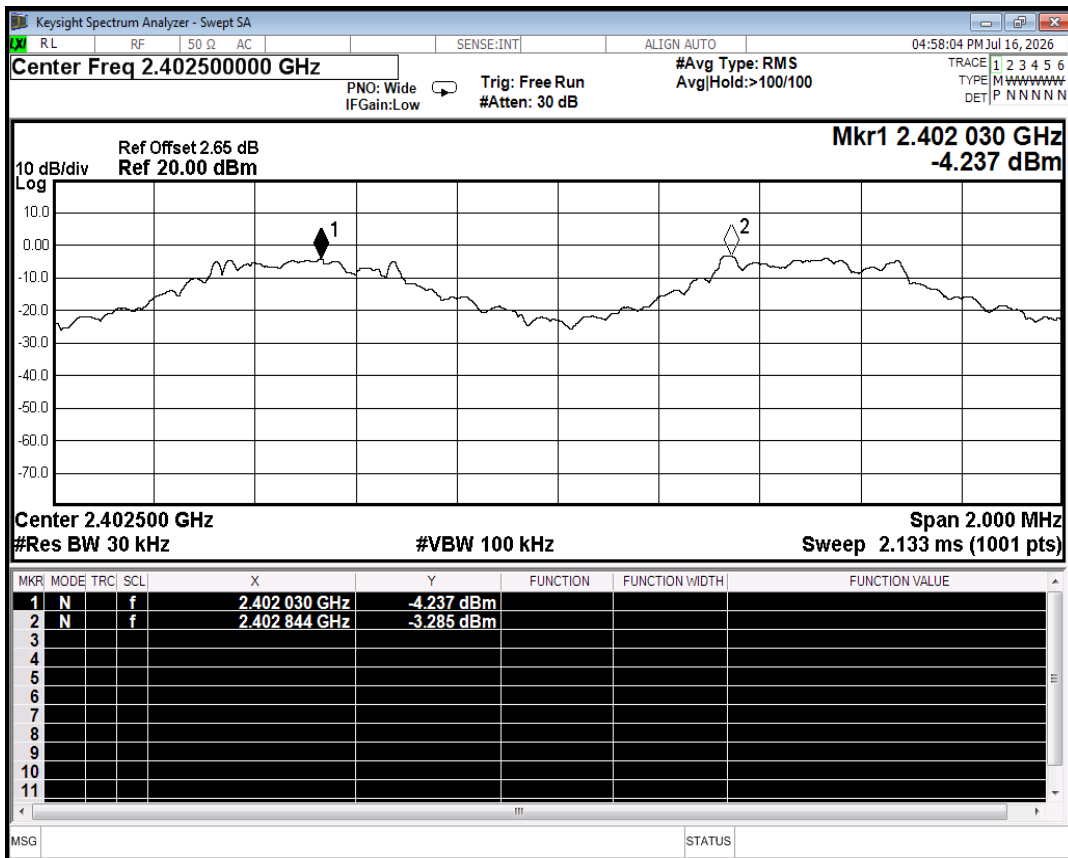
Peak Power NVNT 3-DH5 2441MHz Ant1



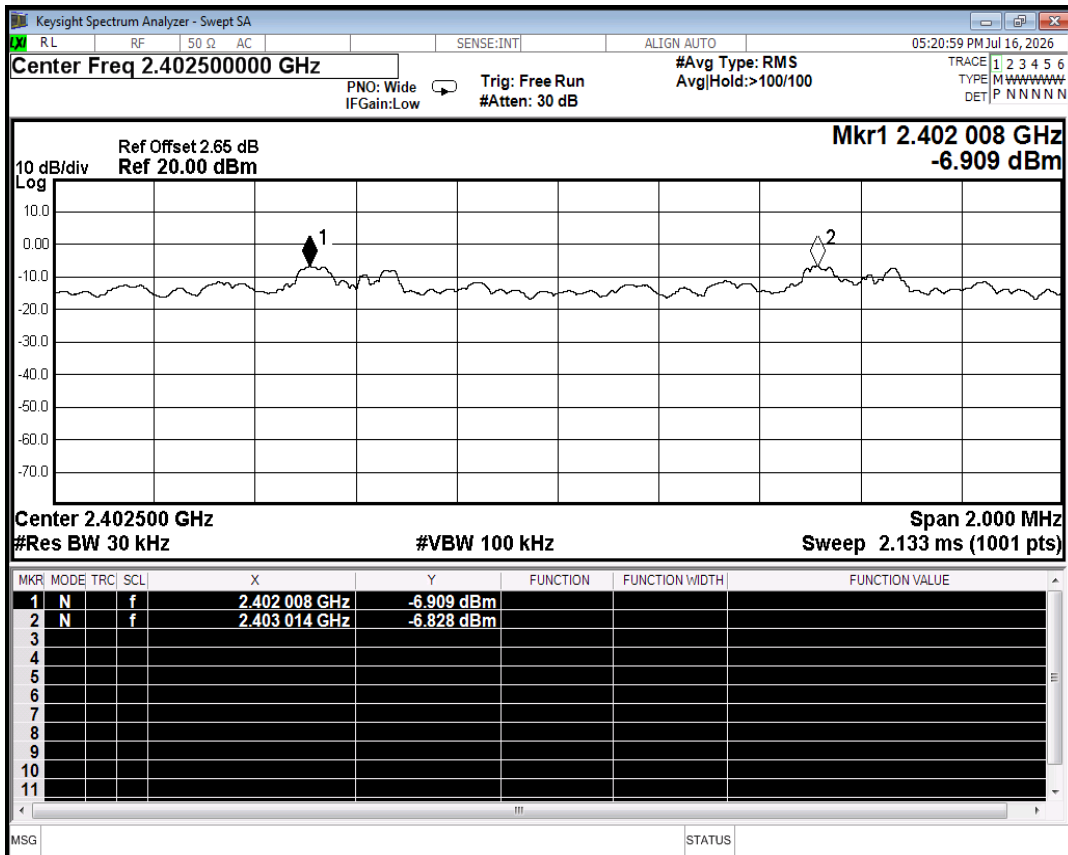
Peak Power NVNT 3-DH5 2480MHz Ant1

A.3 Carrier Frequencies Separation

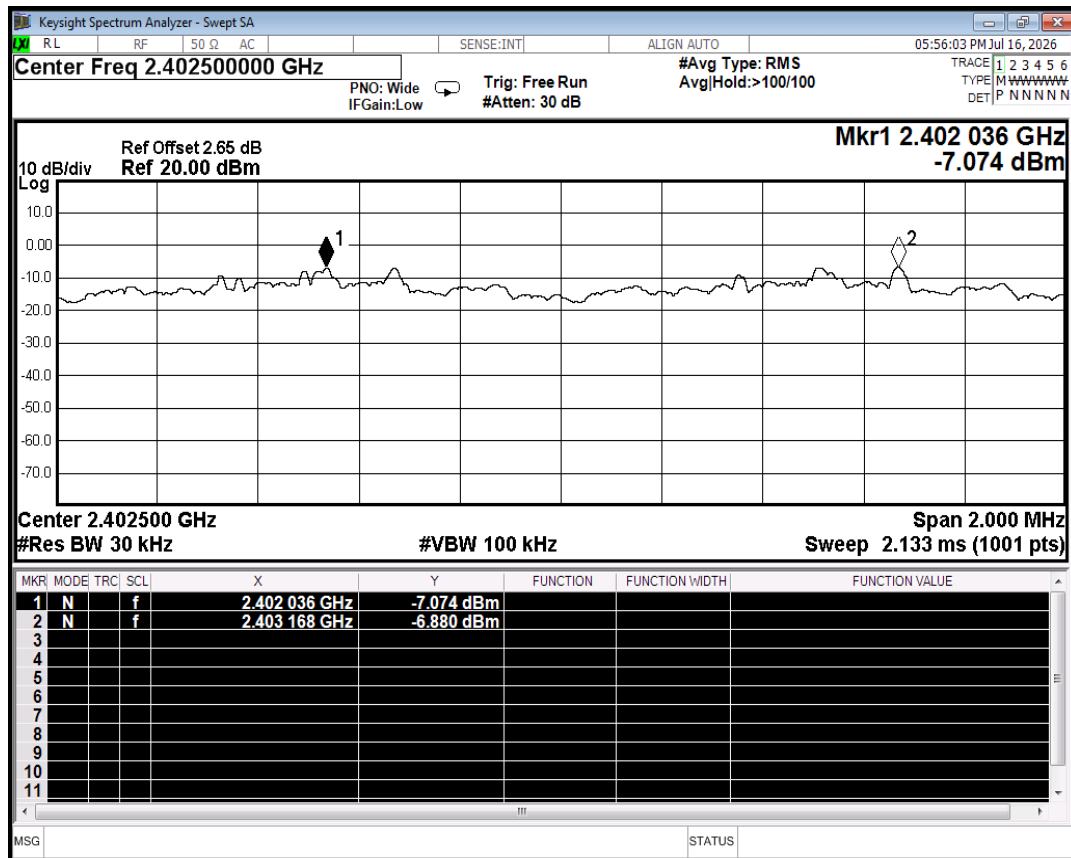
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.03	2402.844	0.814	0.637	Pass
NVNT	2-DH5	Ant1	2402.008	2403.014	1.006	0.873	Pass
NVNT	3-DH5	Ant1	2402.036	2403.168	1.132	0.866	Pass



CFS NVNT 1-DH5 2402MHz Ant1



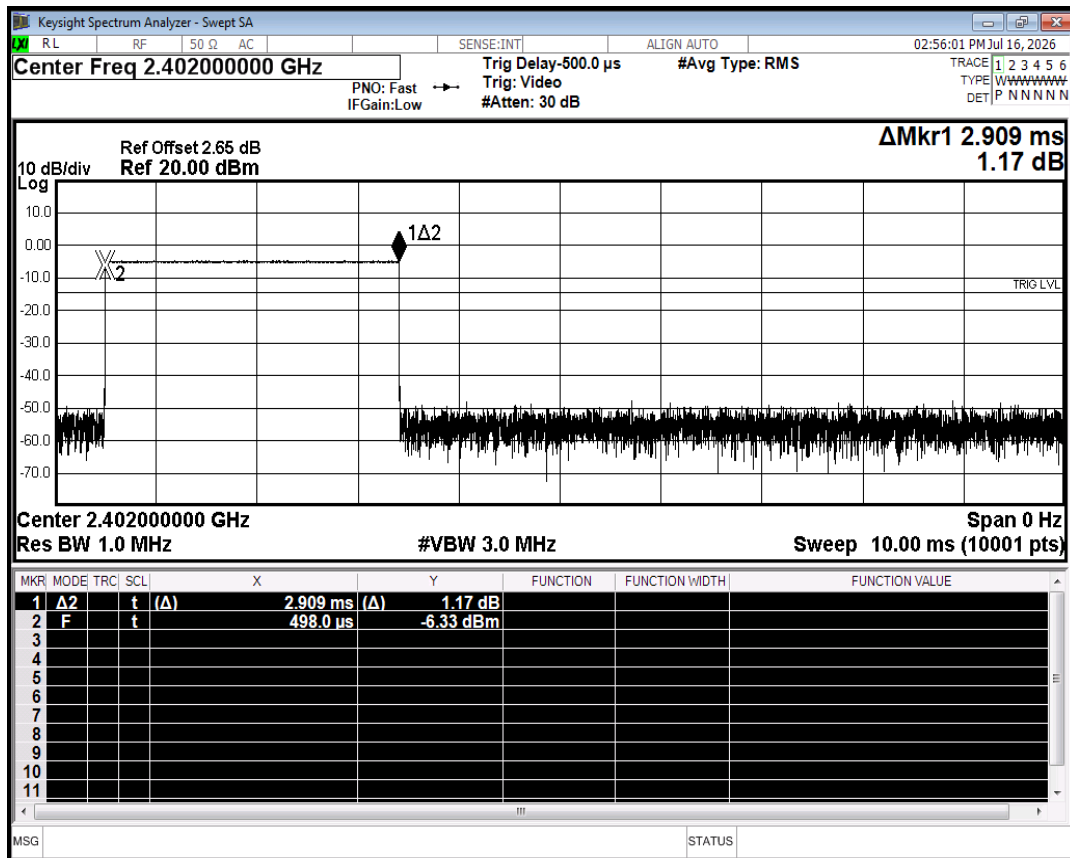
CFS NVNT 2-DH5 2402MHz Ant1



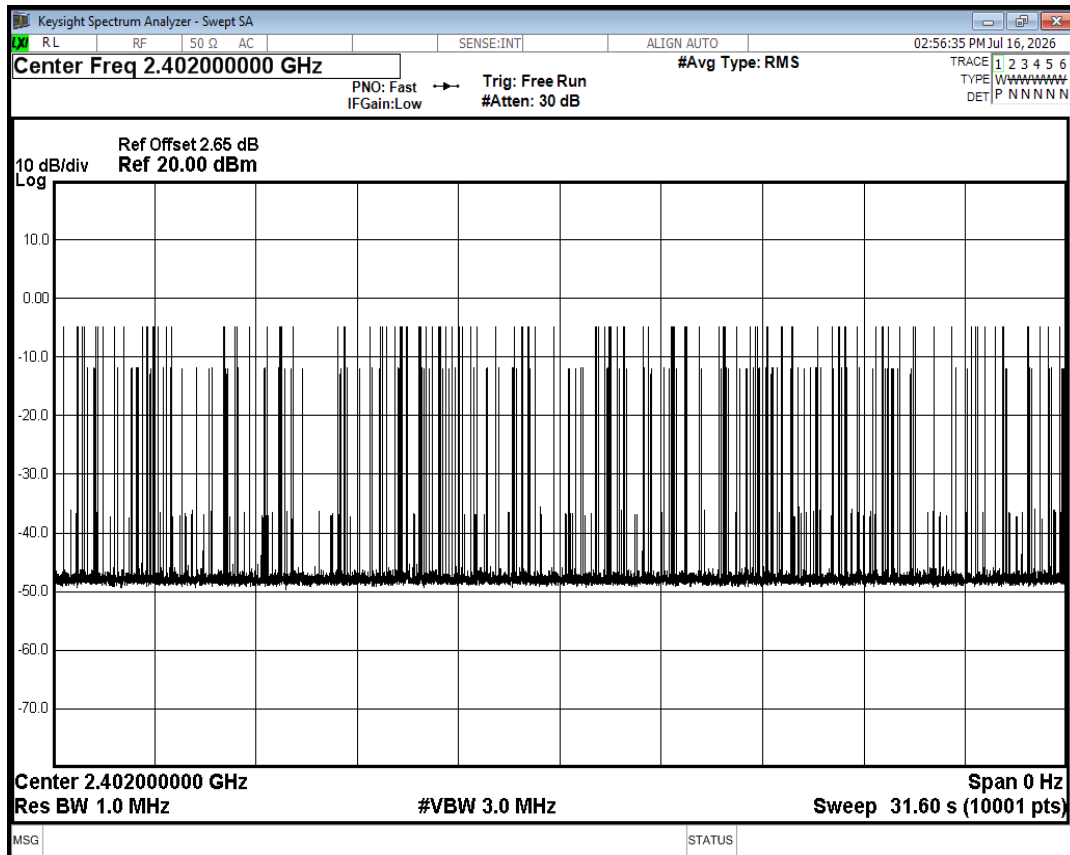
CFS NVNT 3-DH5 2402MHz Ant1

A.4 Dwell Time

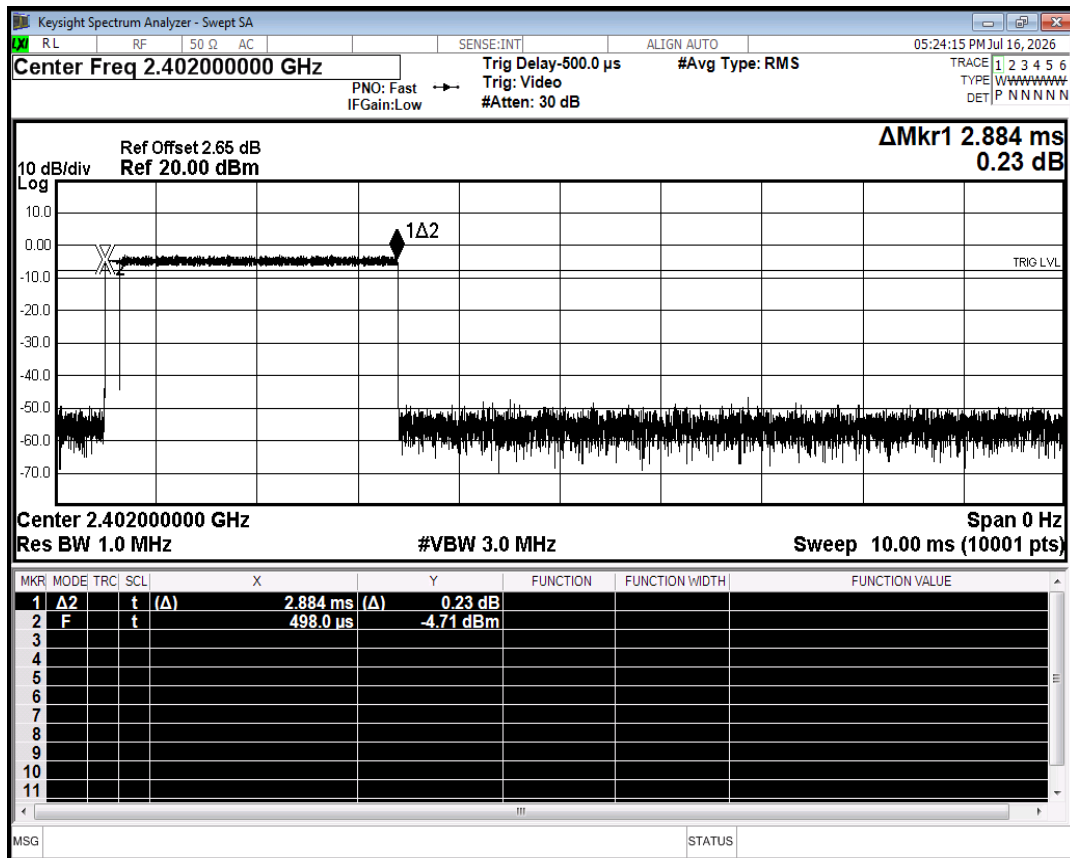
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	311.263	107	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.884	308.588	107	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	298.391	103	31600	400	Pass



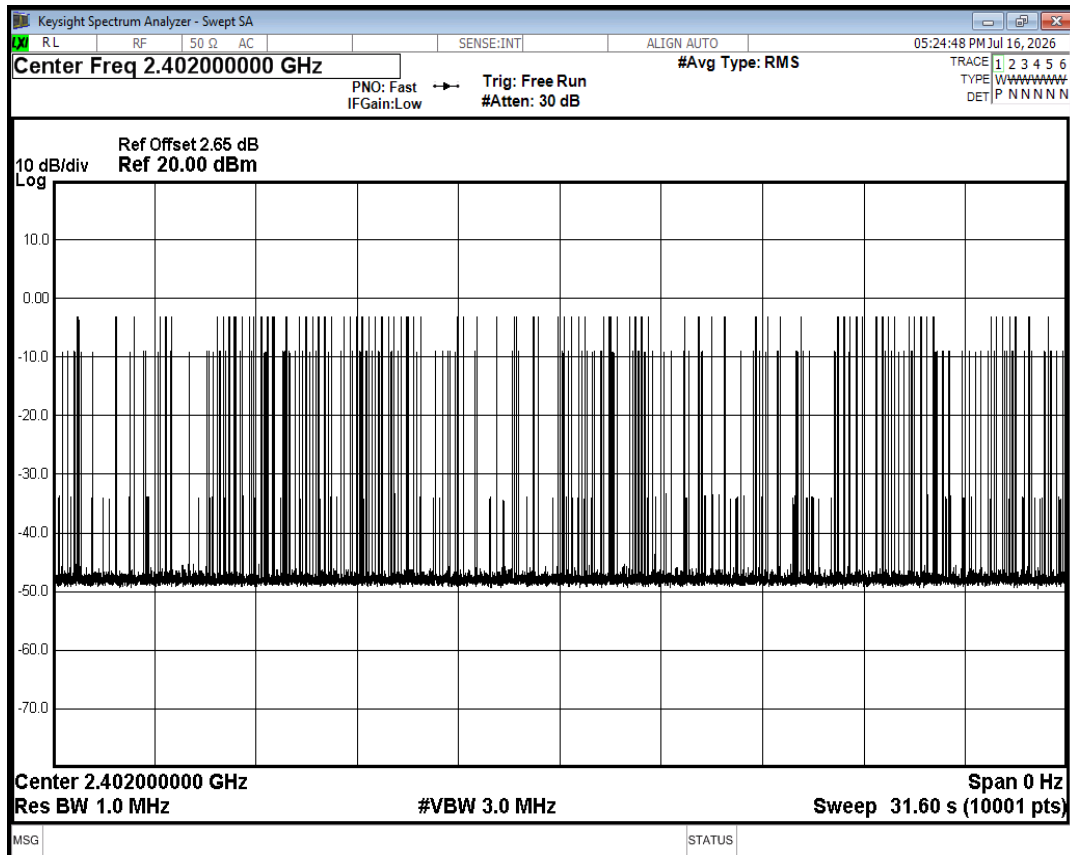
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



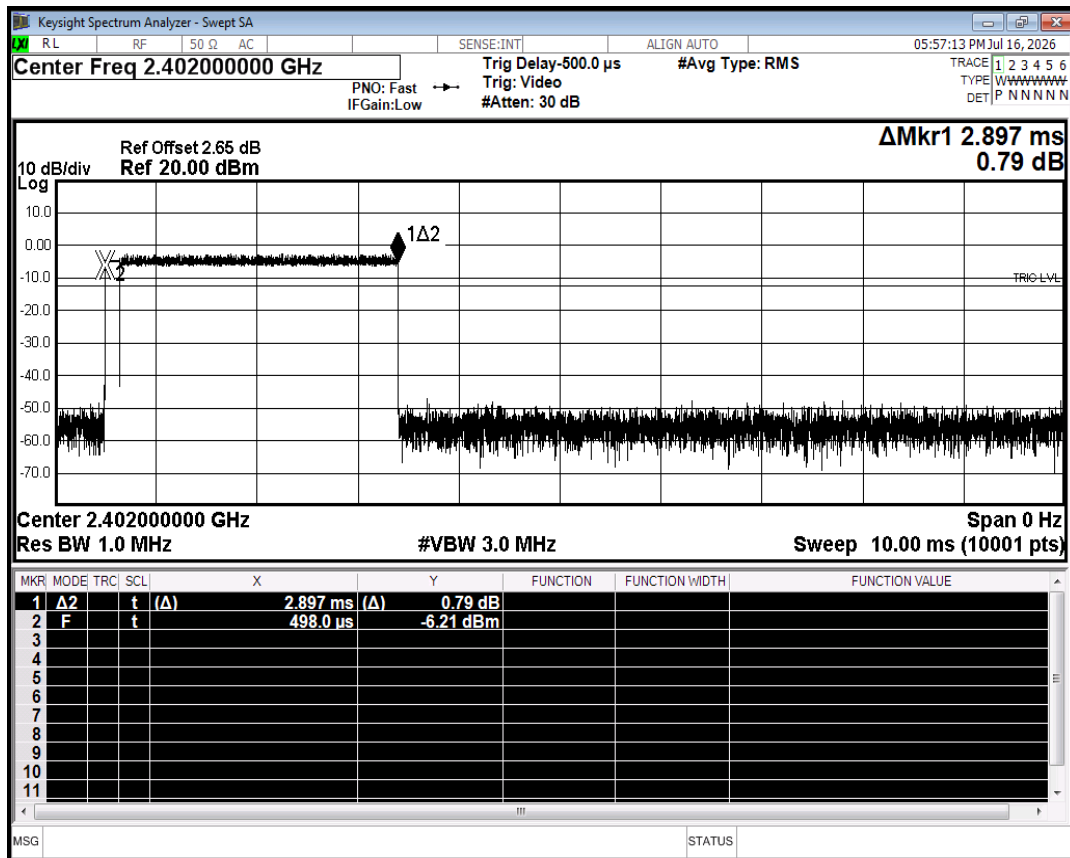
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



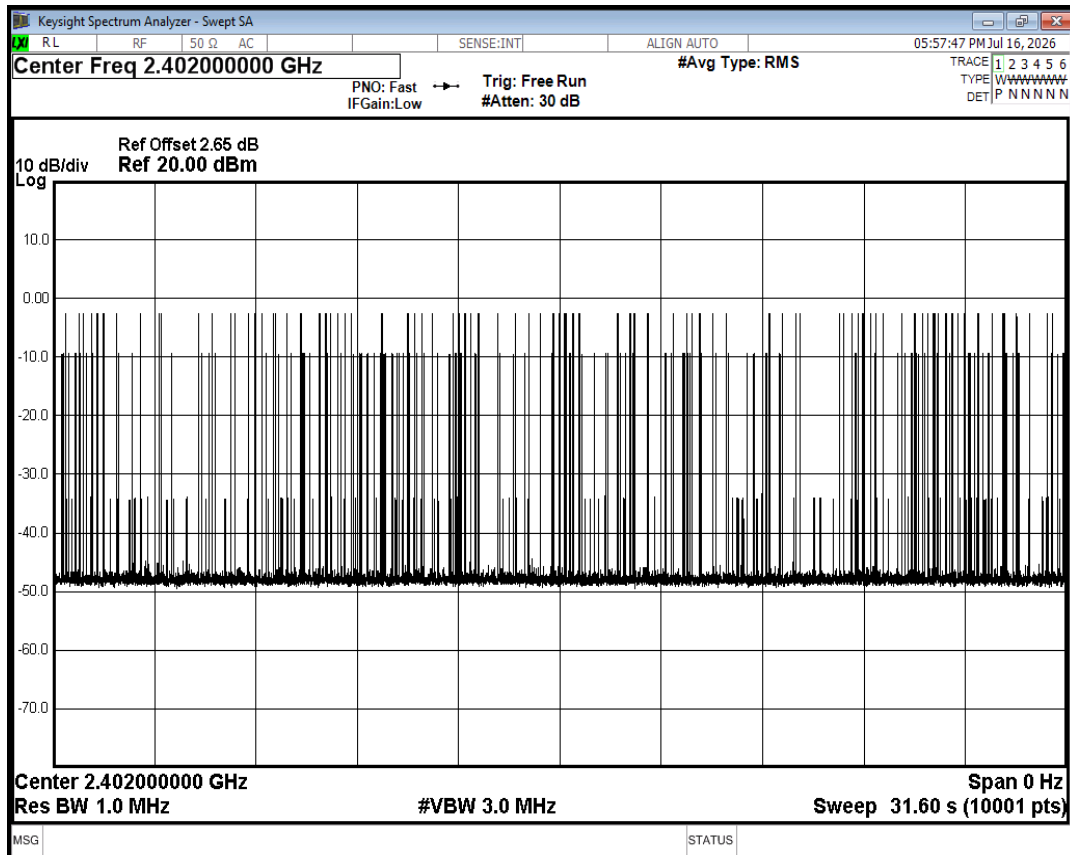
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



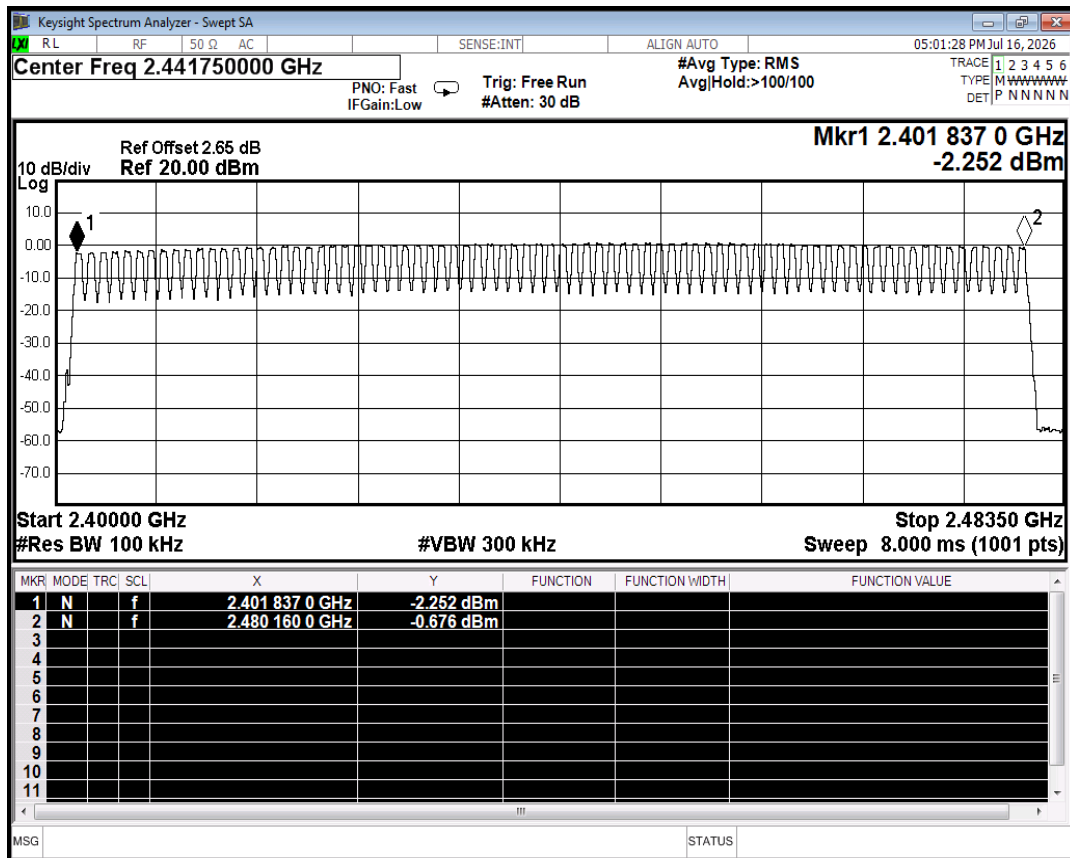
Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



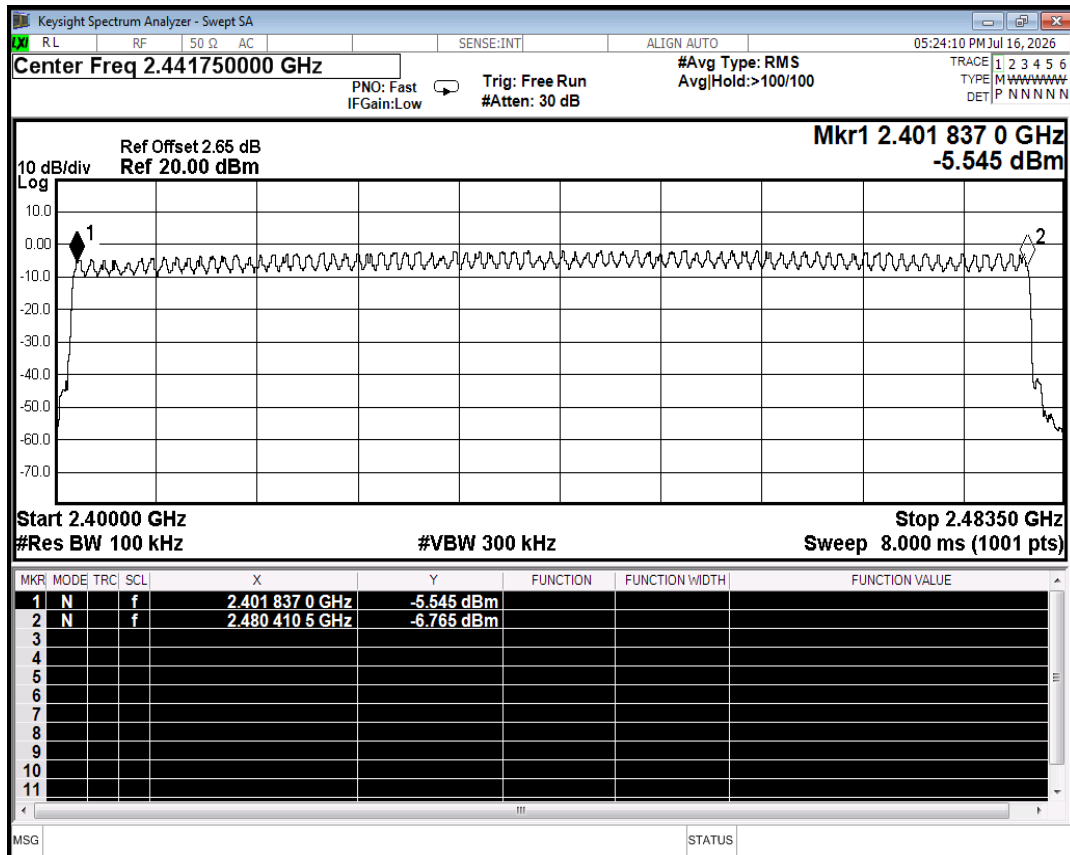
Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

A.5 Number of Hopping Channel

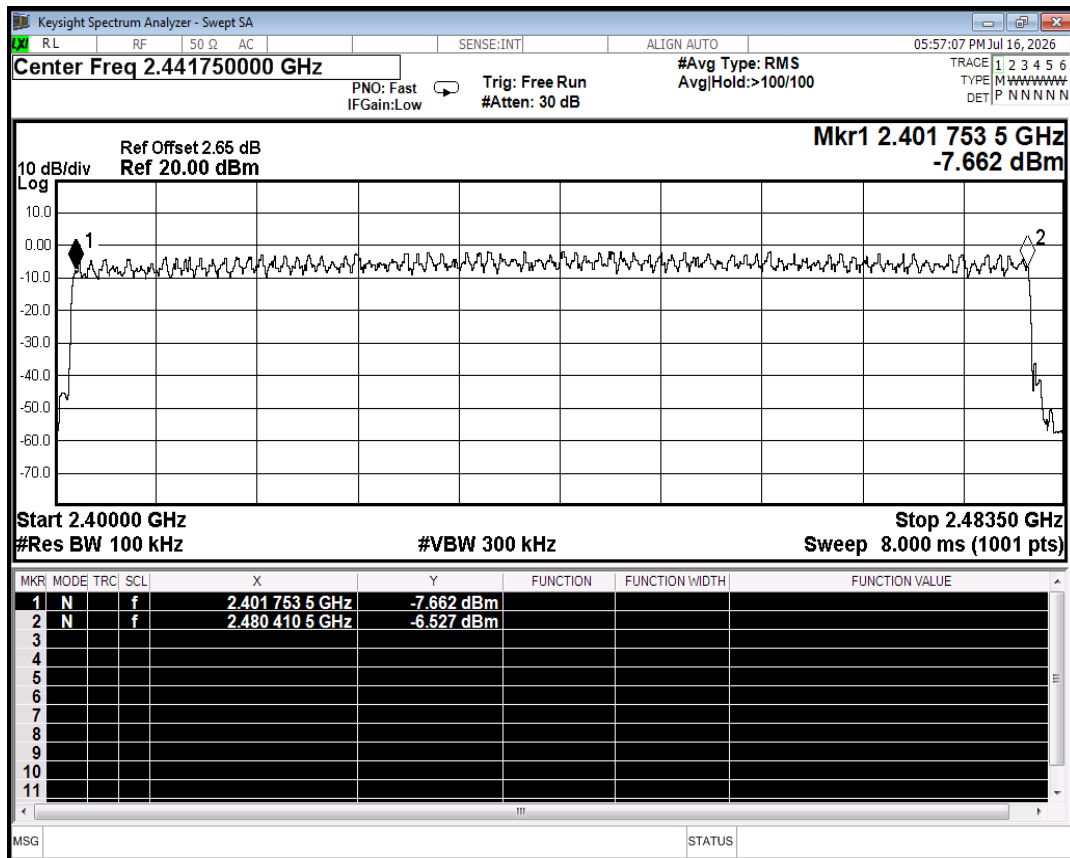
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



Hopping No. NVNT 1-DH5 2402MHz Ant1



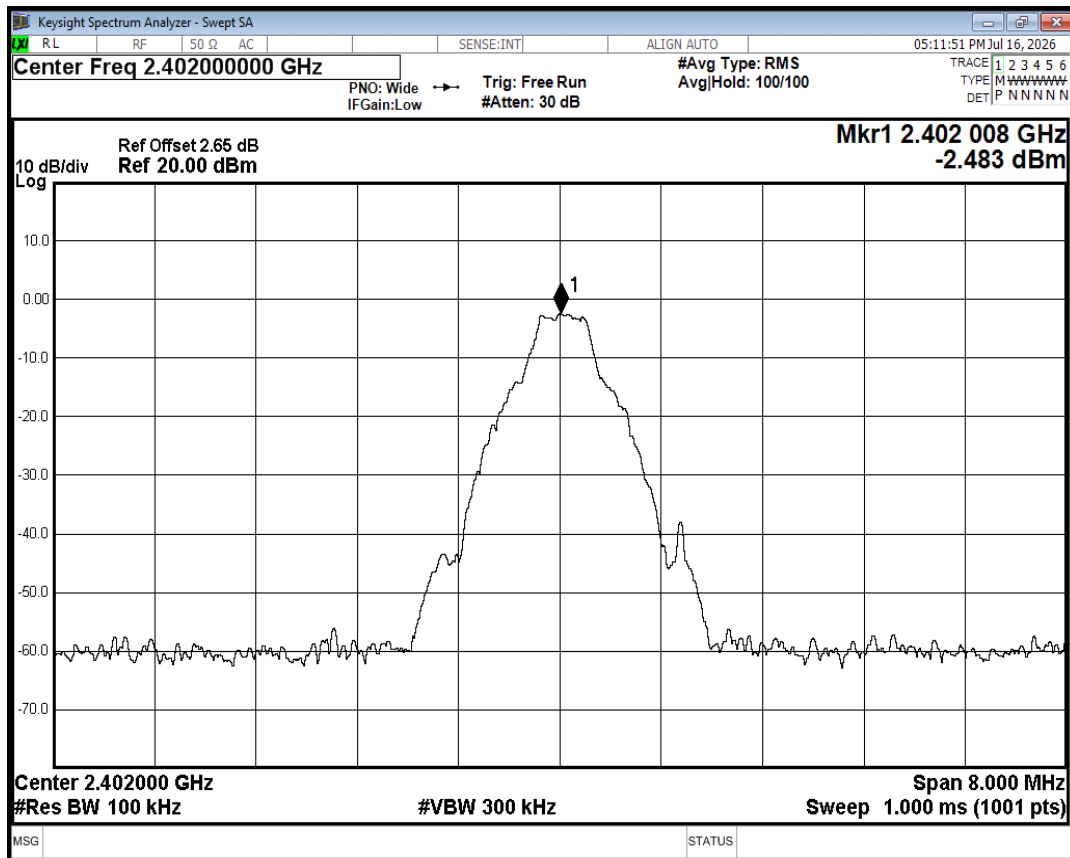
Hopping No. NVNT 2-DH5 2402MHz Ant1



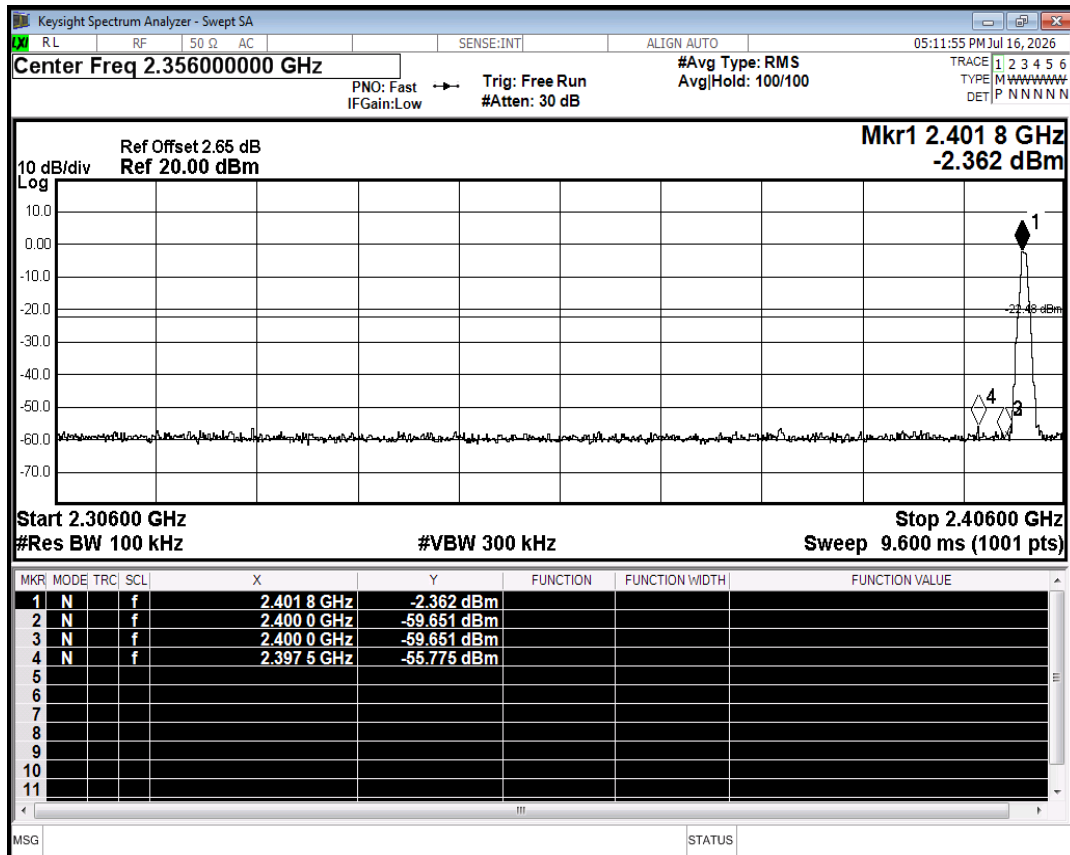
Hopping No. NVNT 3-DH5 2402MHz Ant1

A.6 Band Edge

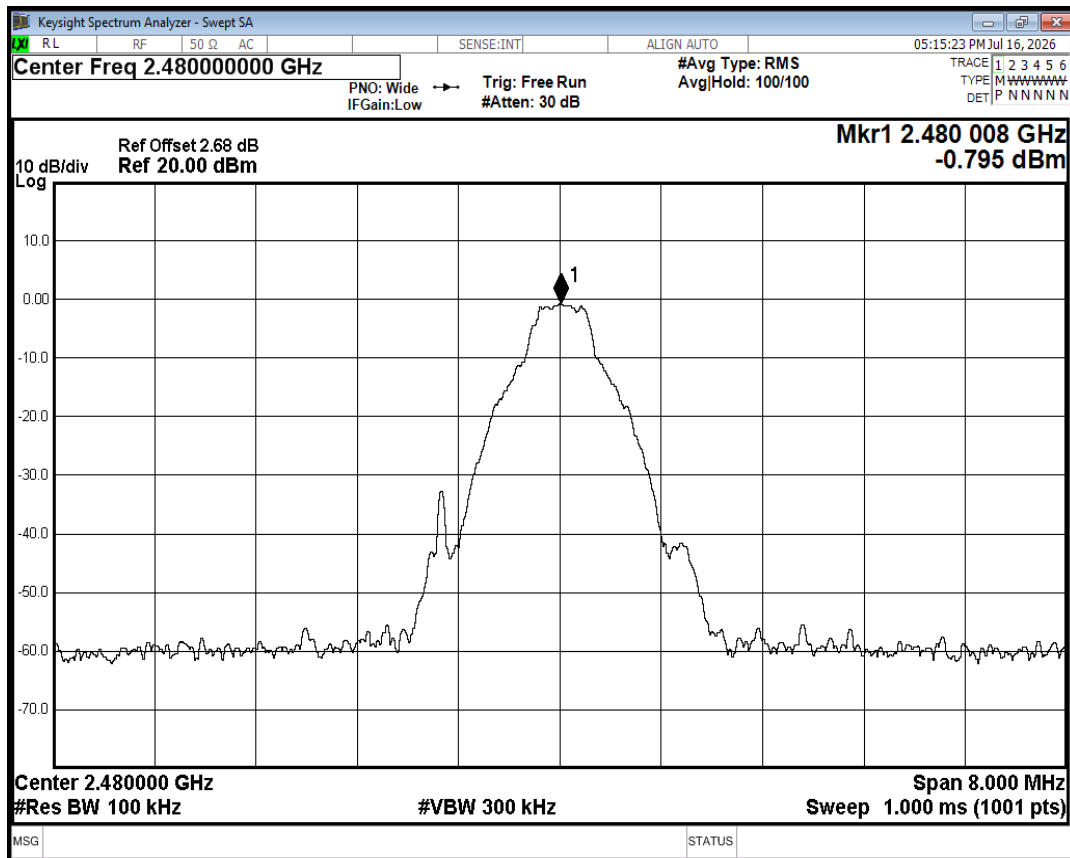
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-53.29	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.33	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.05	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-51.03	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-49.84	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-52.42	-20	Pass



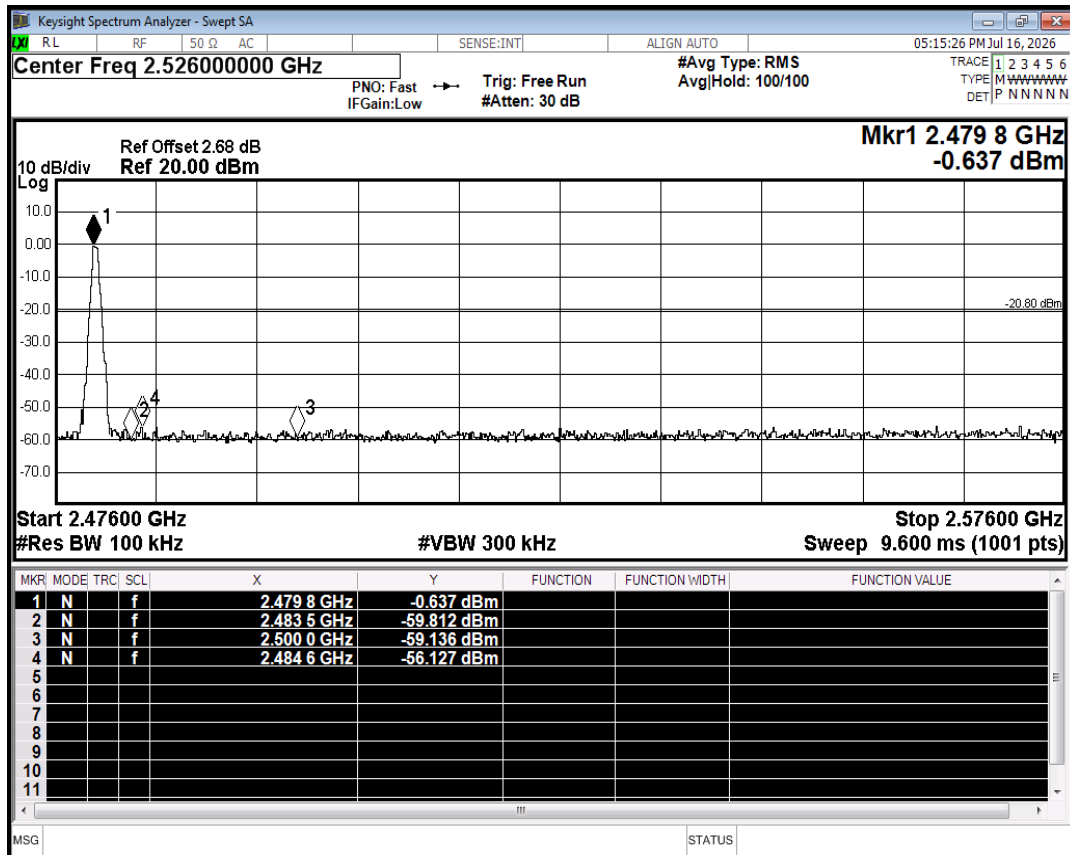
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



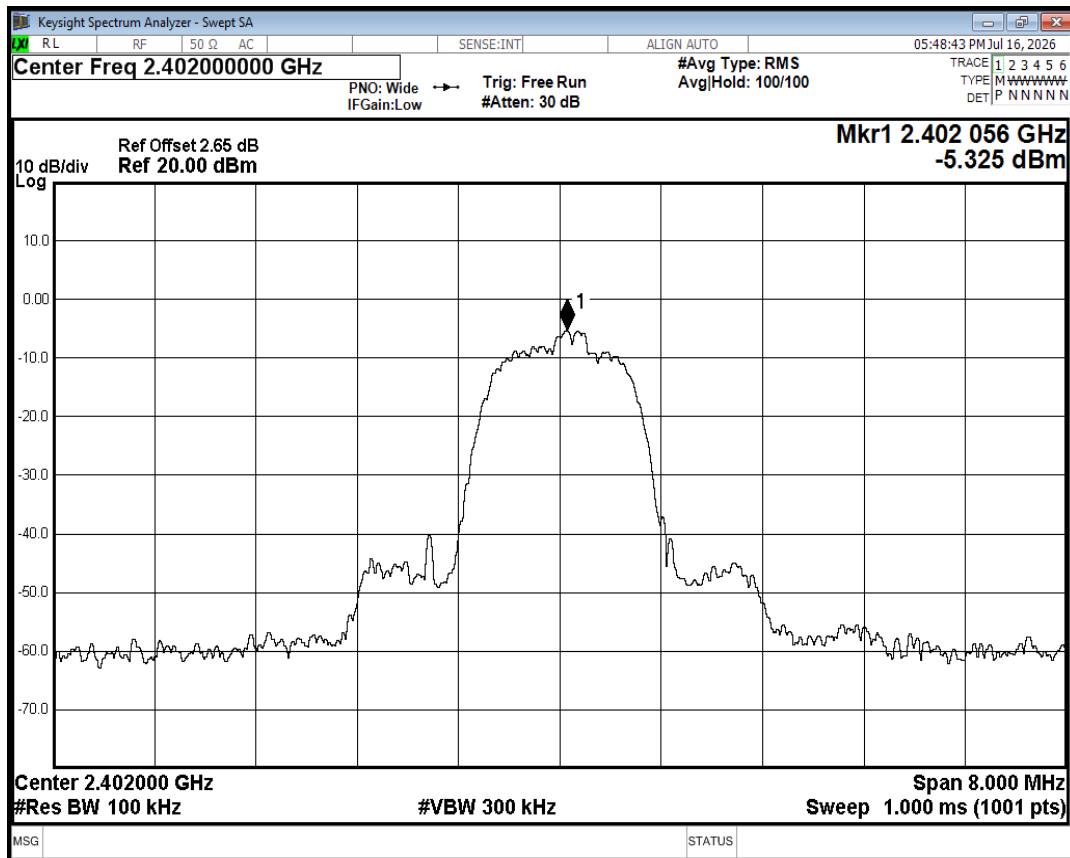
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



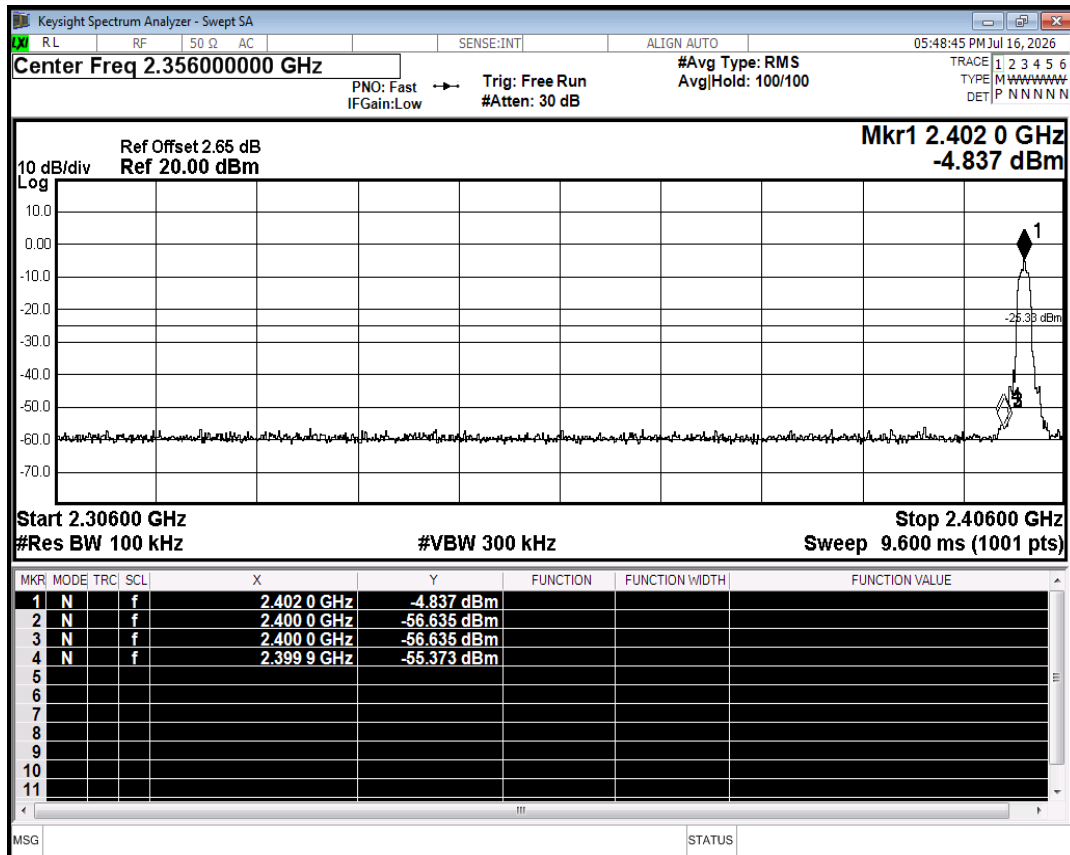
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



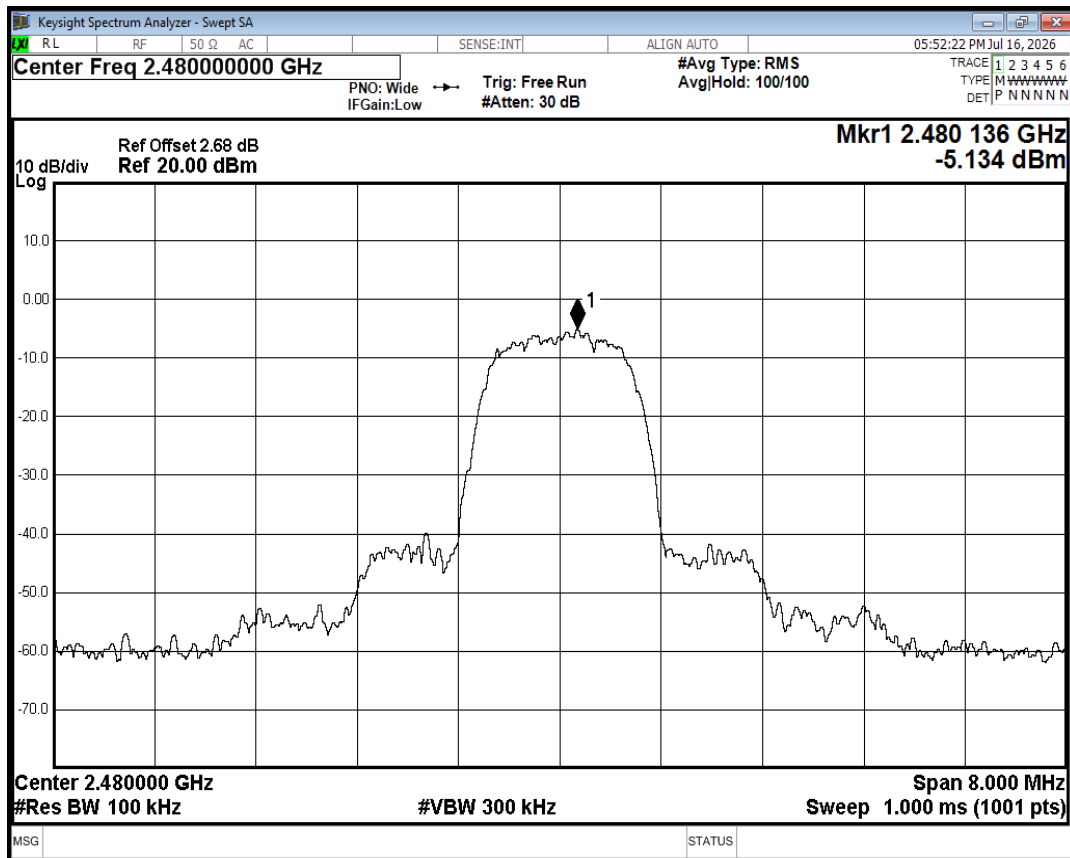
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



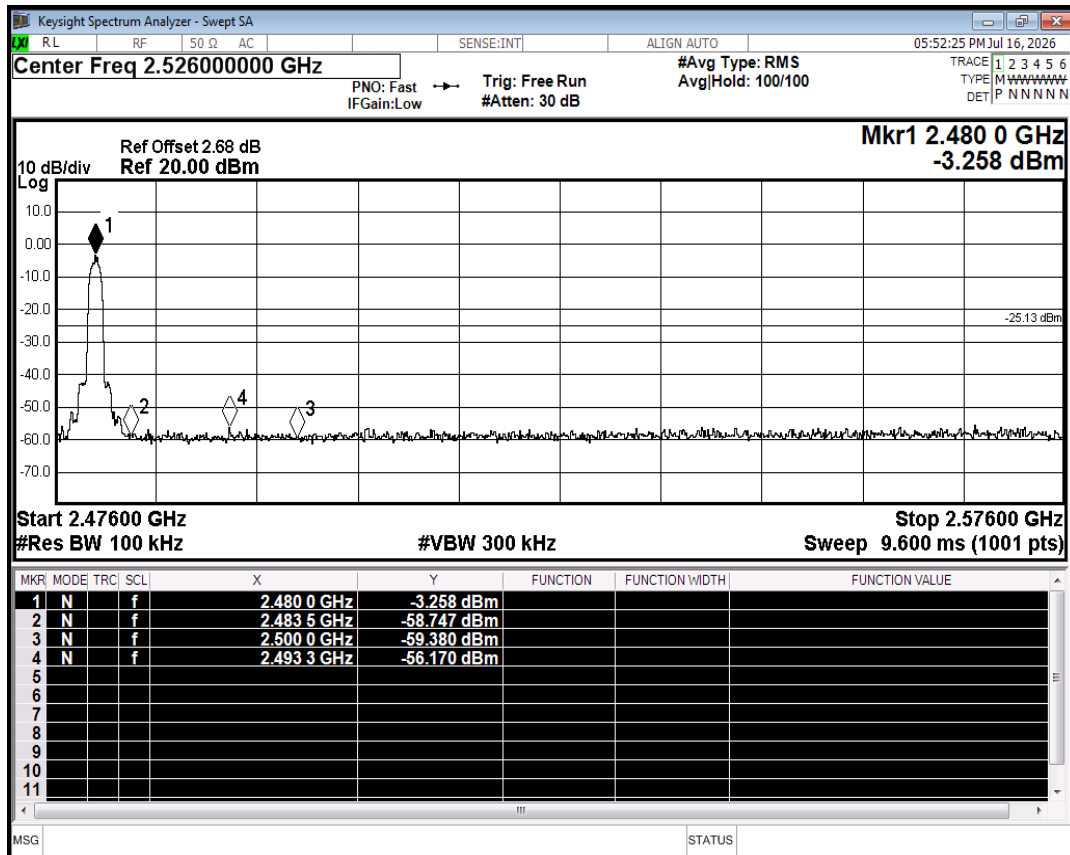
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



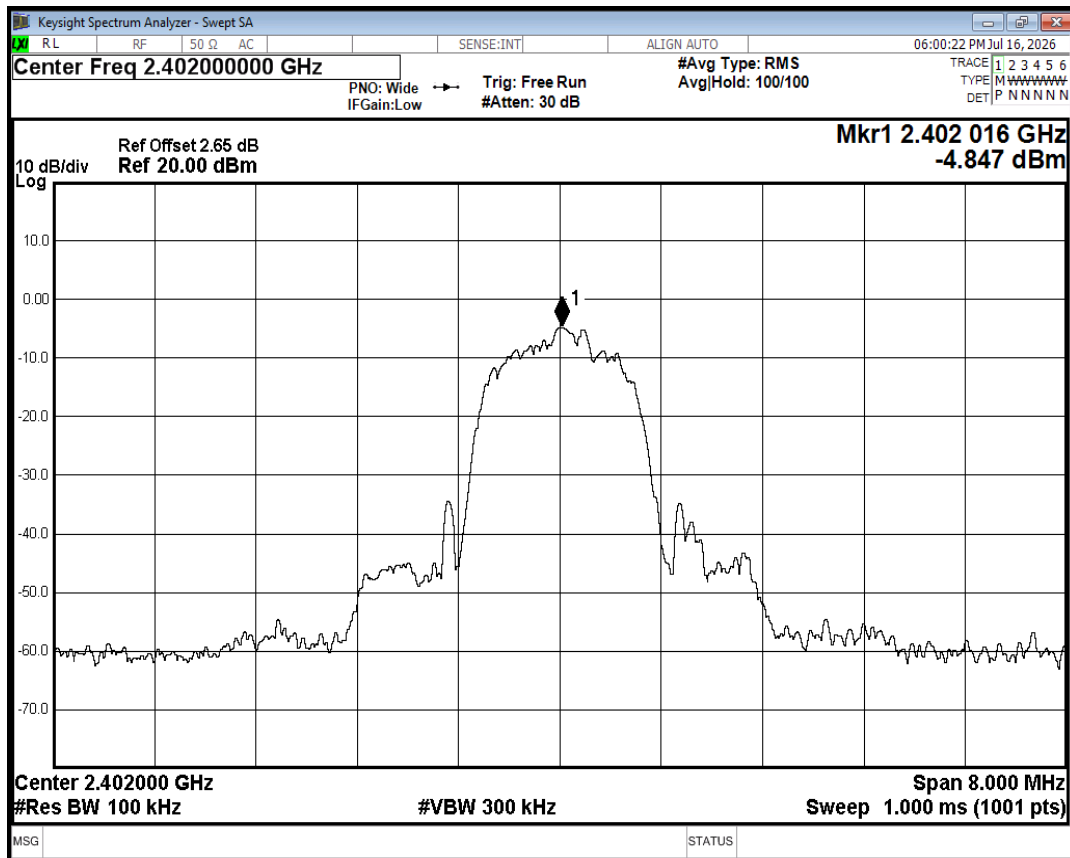
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



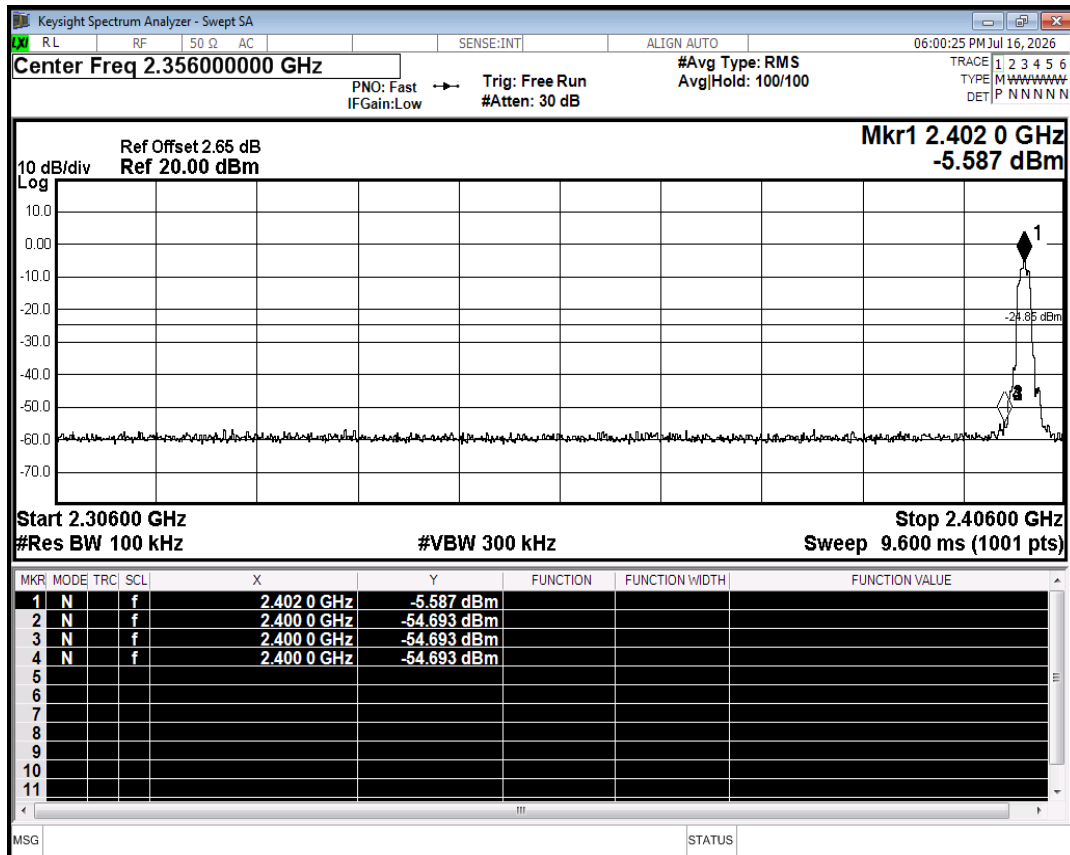
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



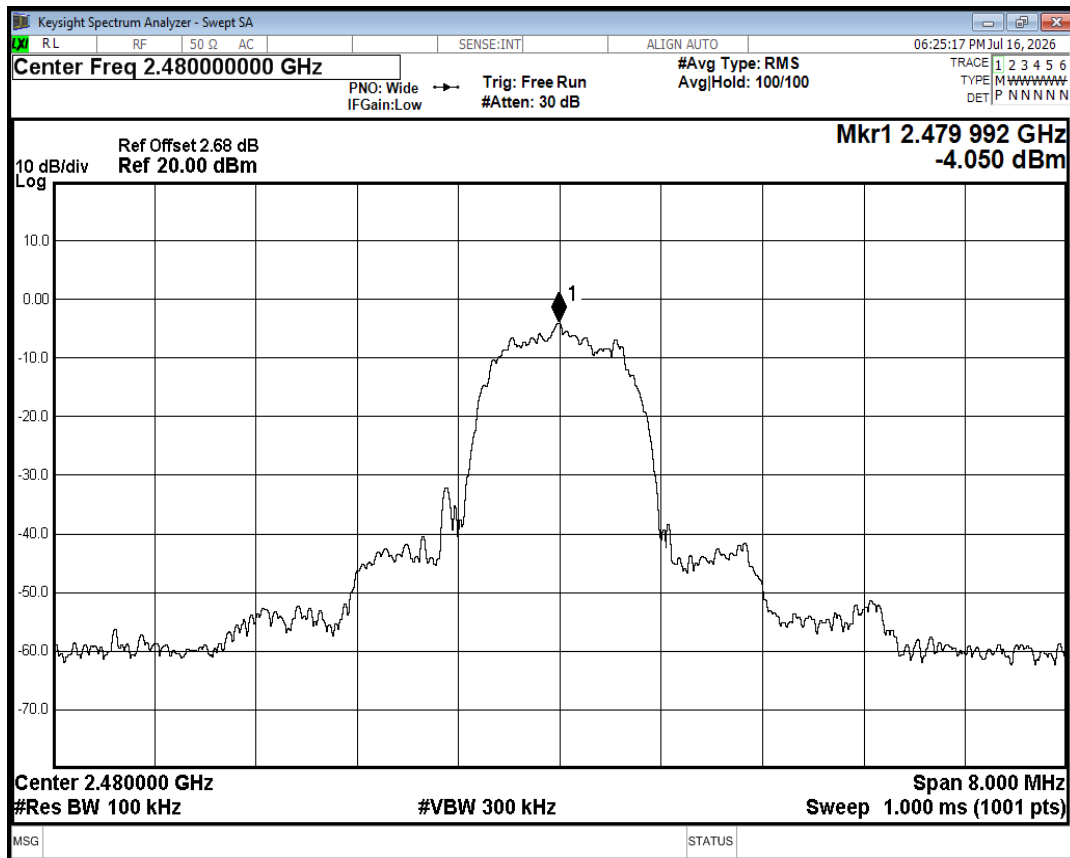
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



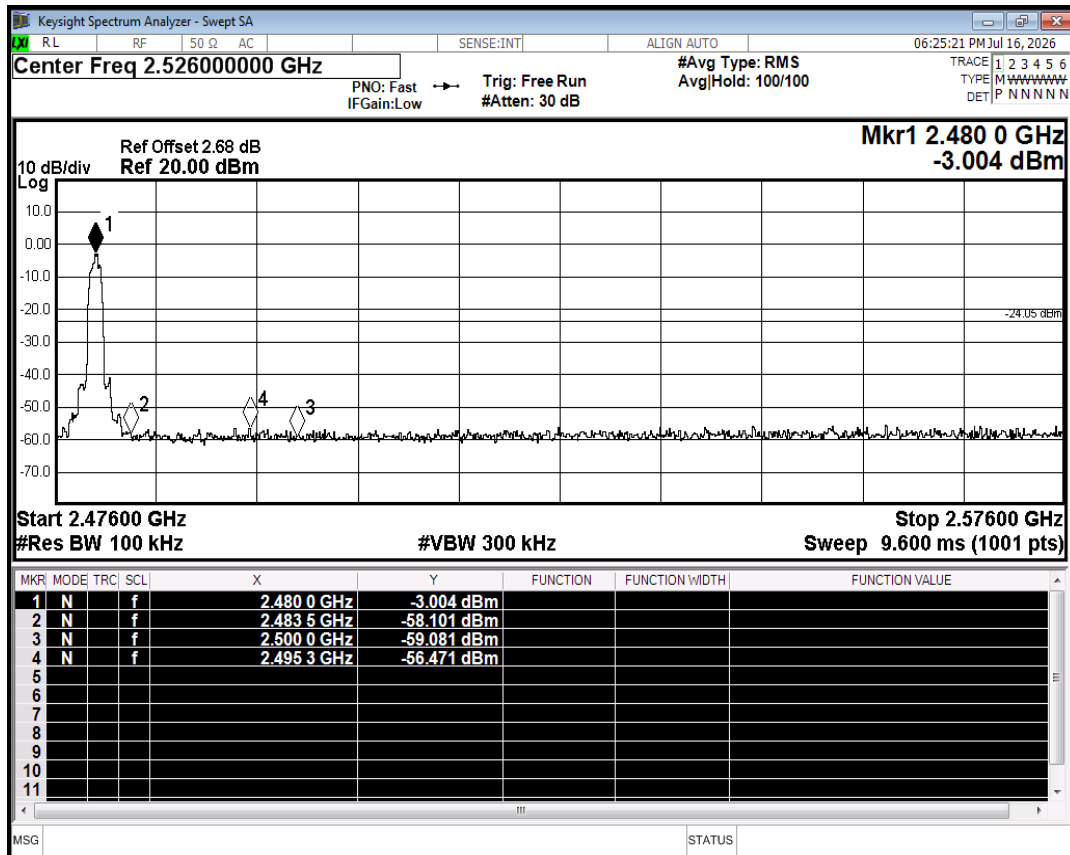
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



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



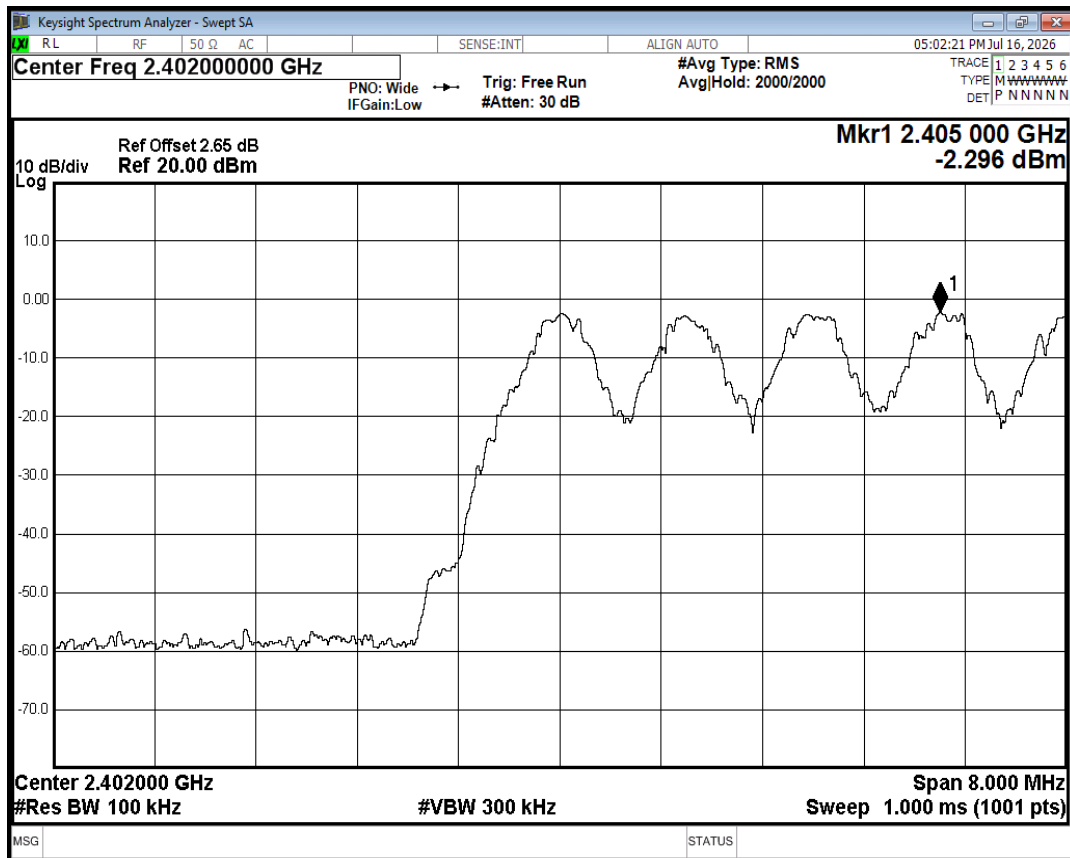
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



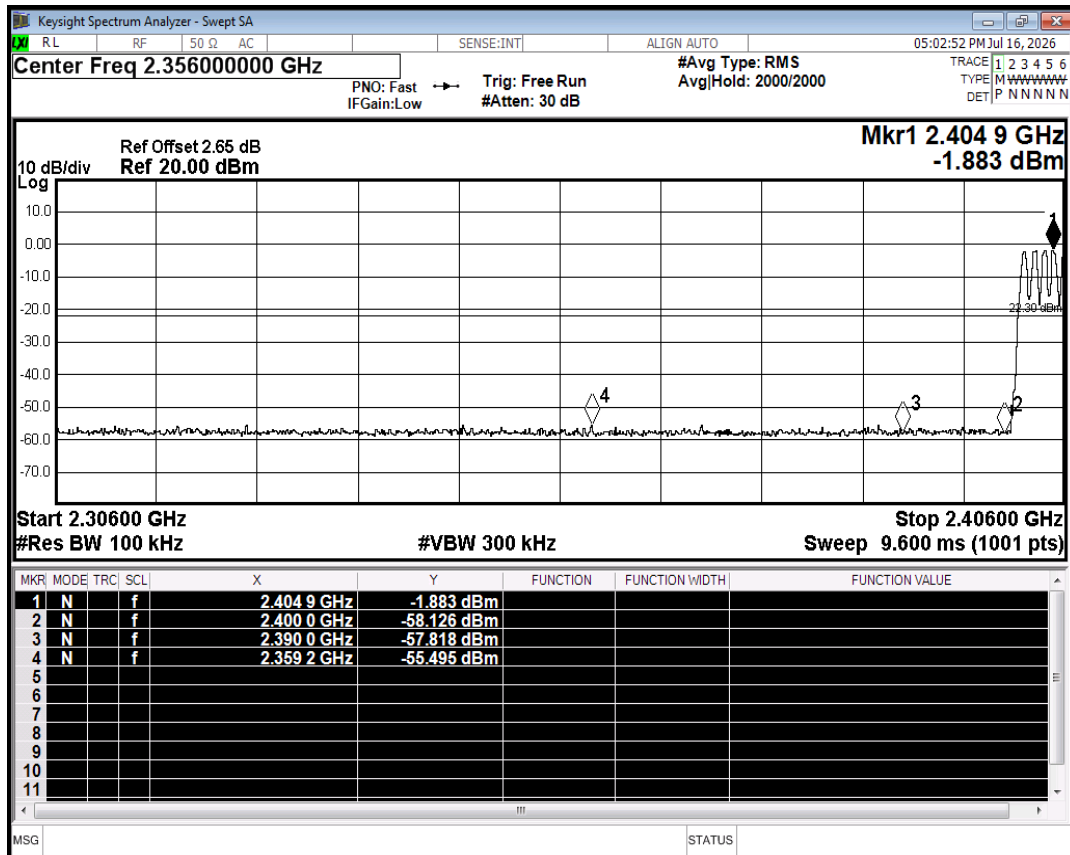
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

(Hopping)

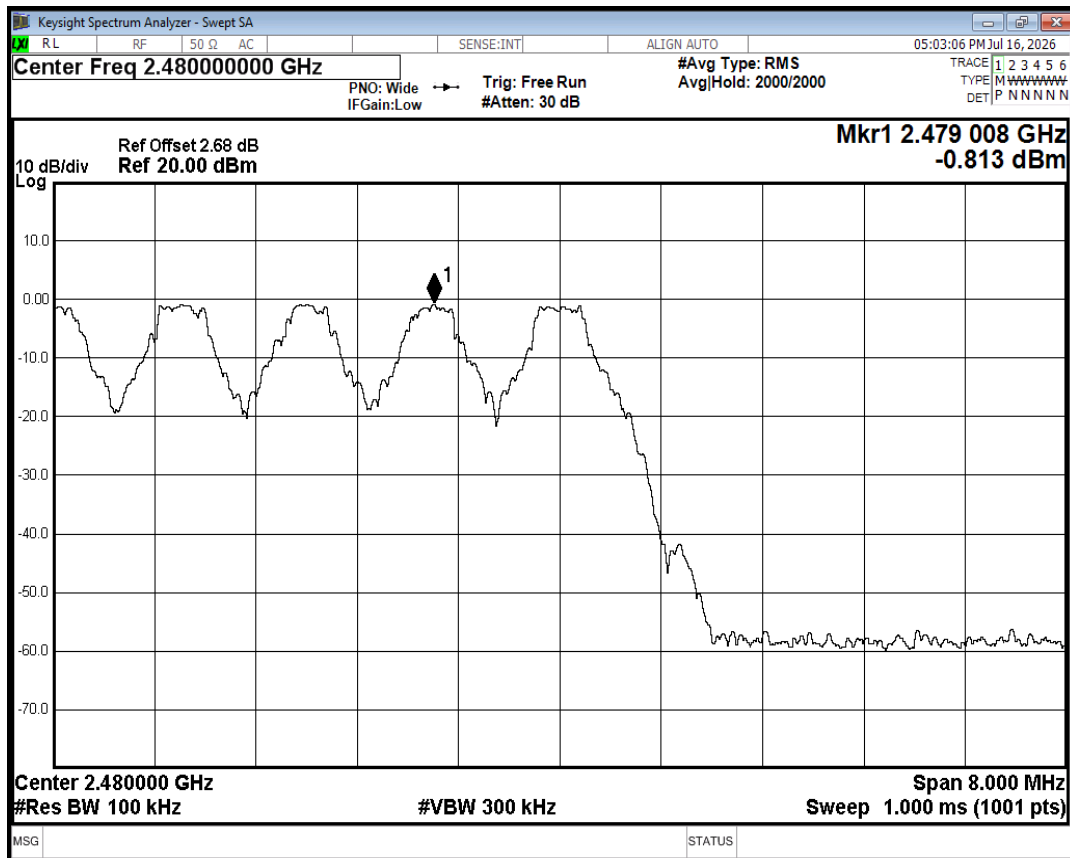
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.19	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.36	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-49.77	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.4	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-50.13	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.92	-20	Pass



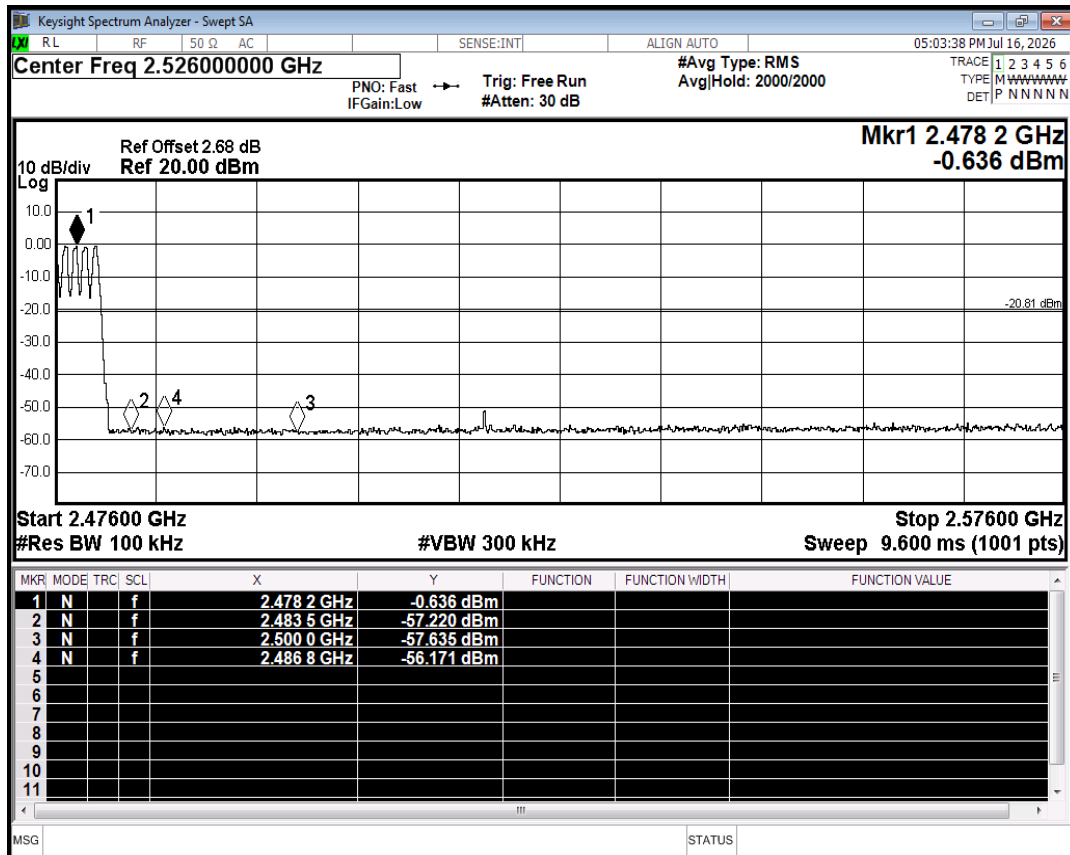
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



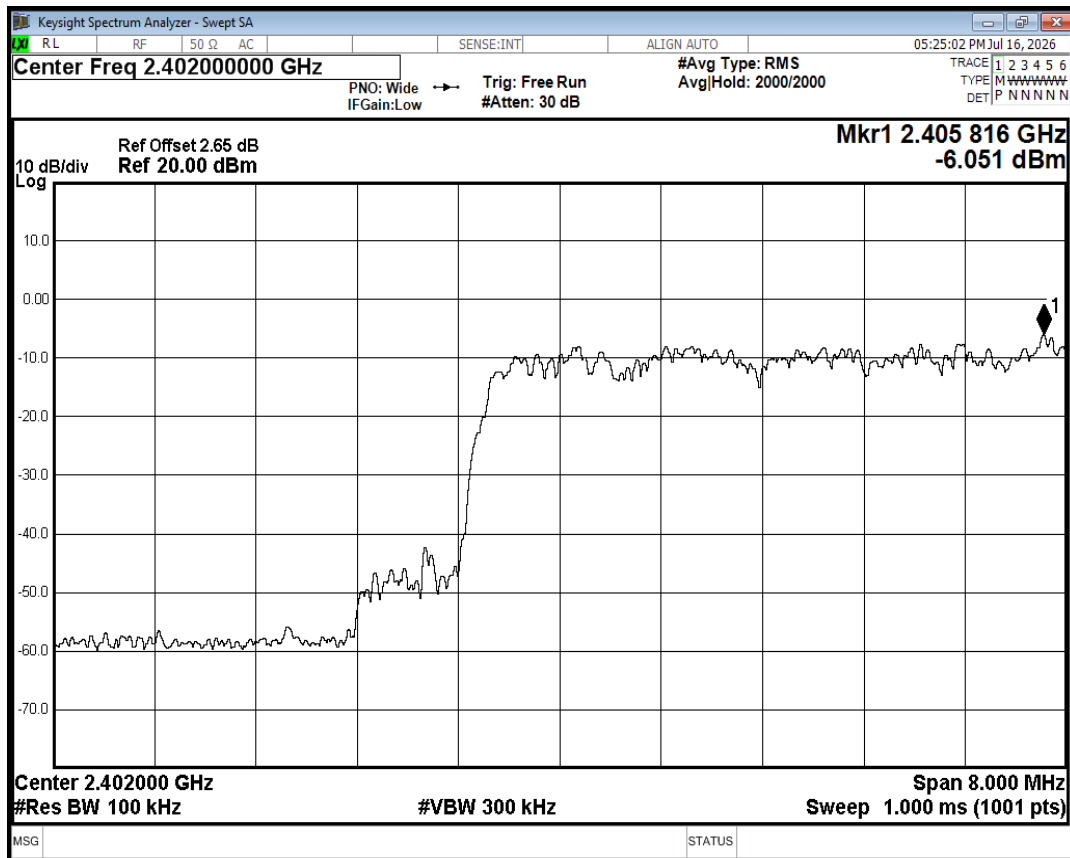
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



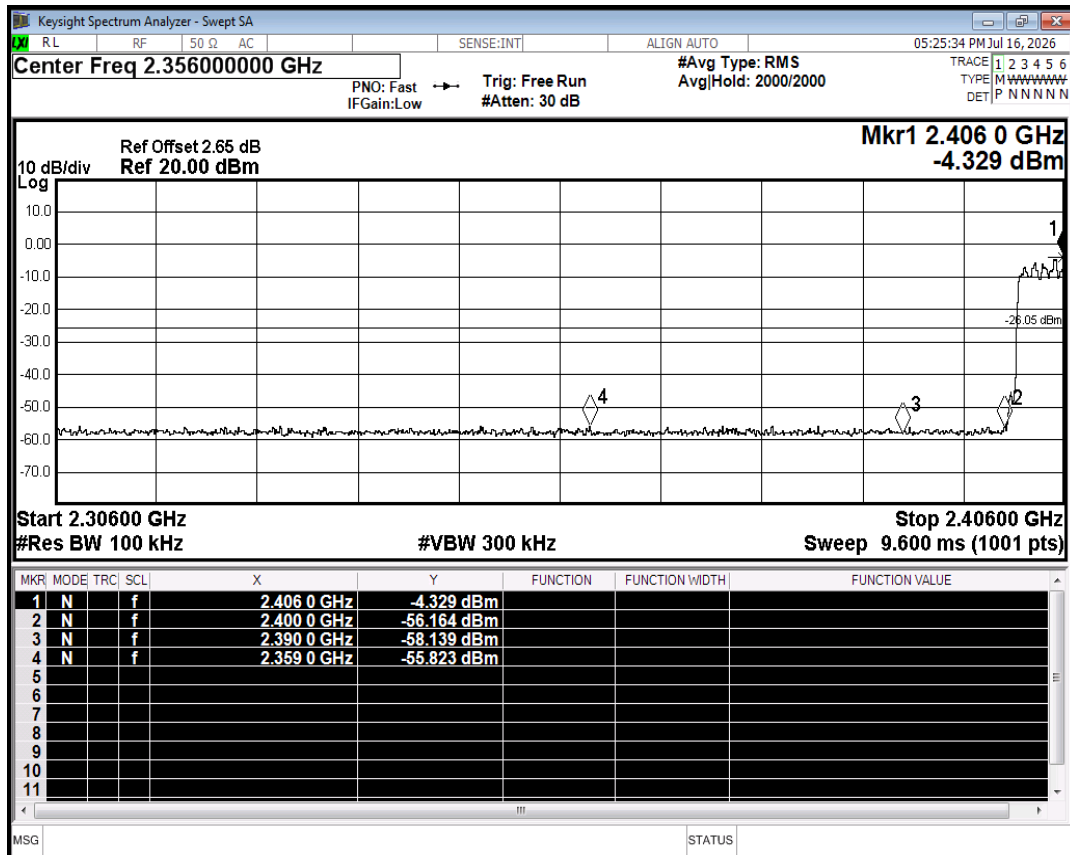
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



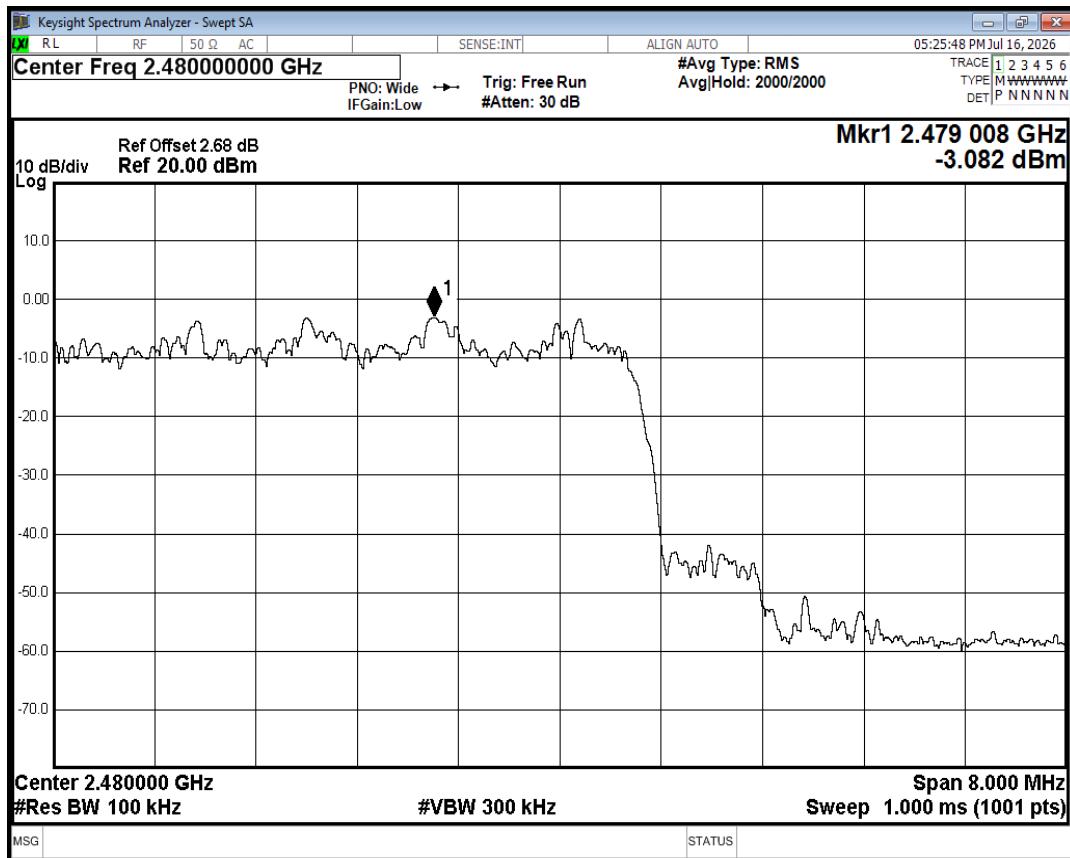
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



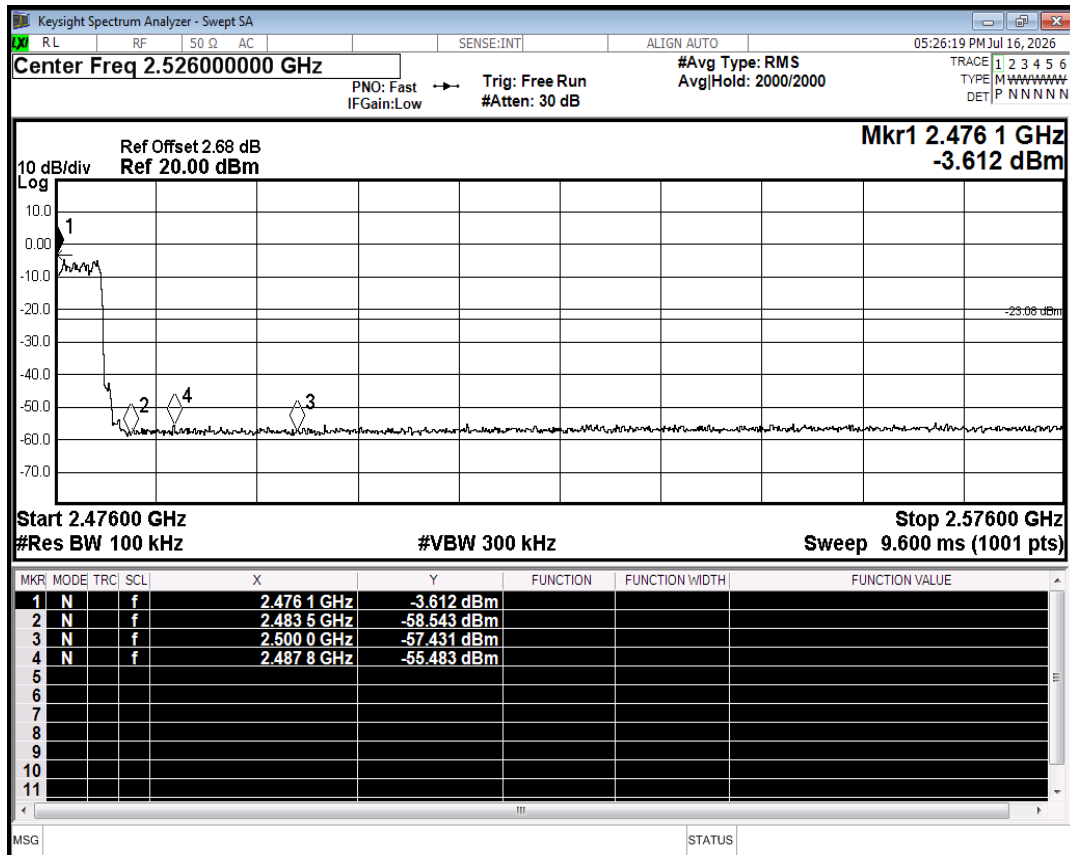
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



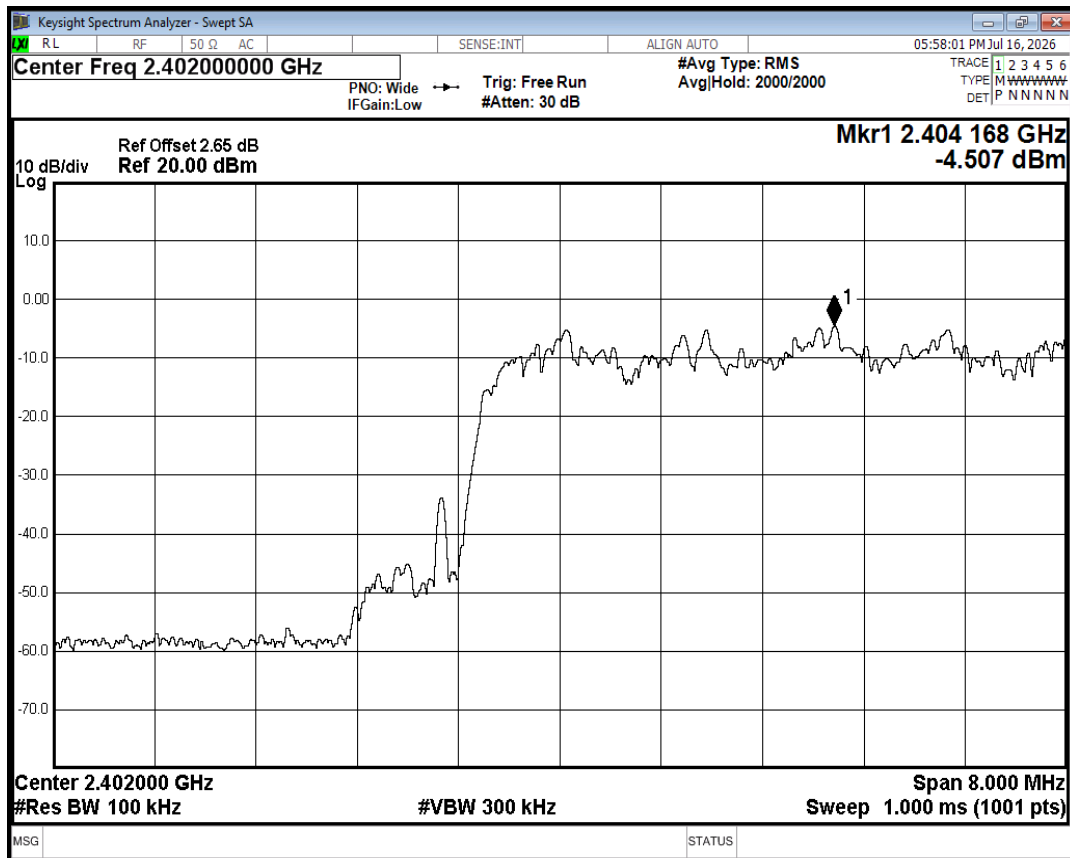
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



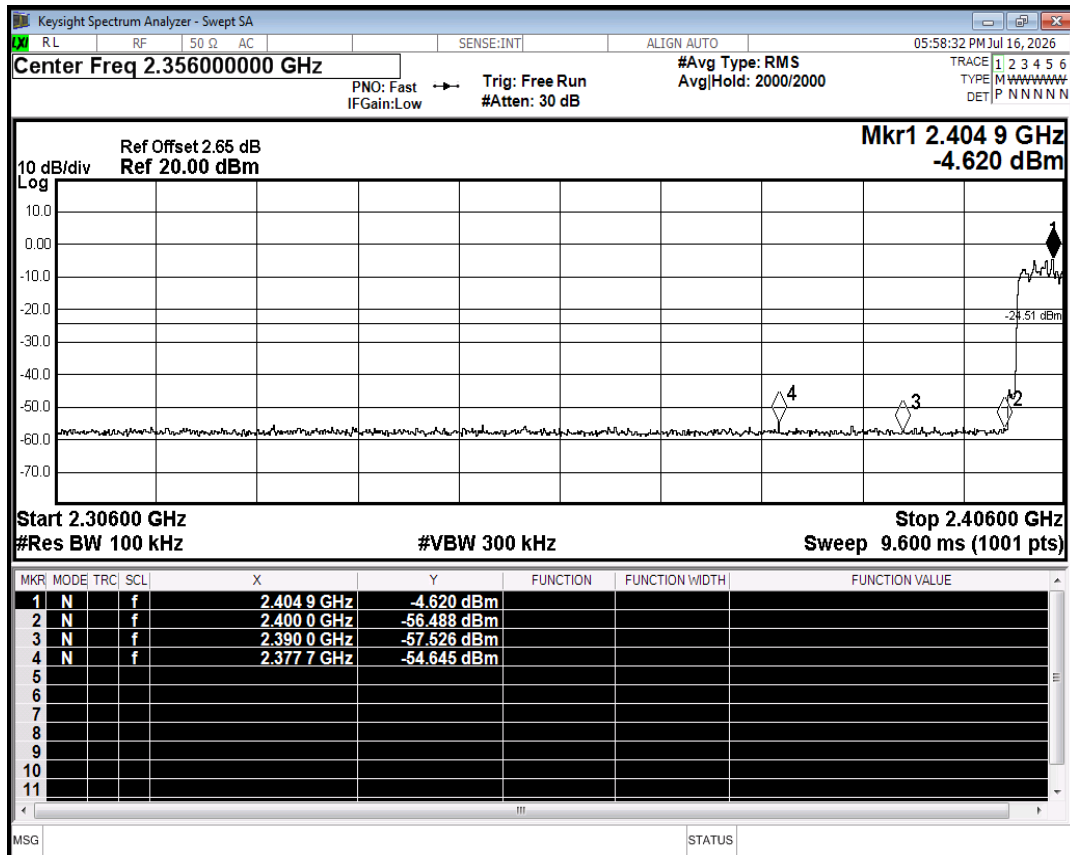
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



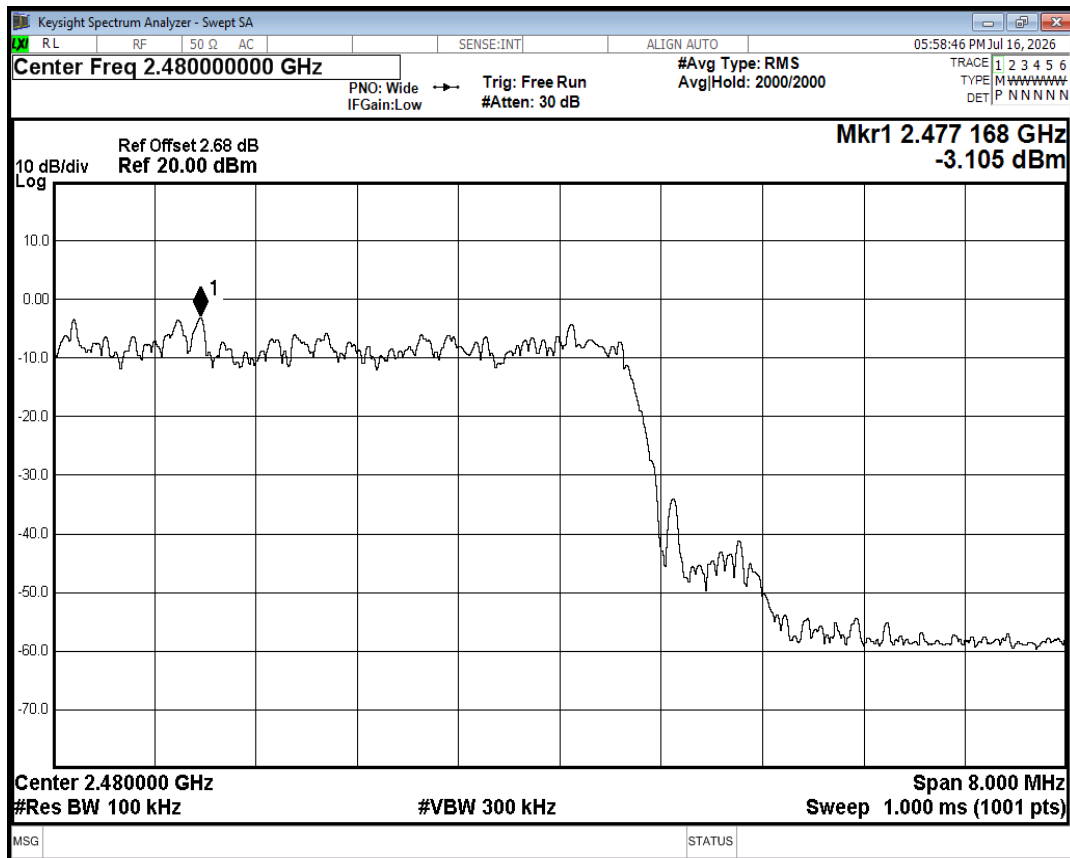
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



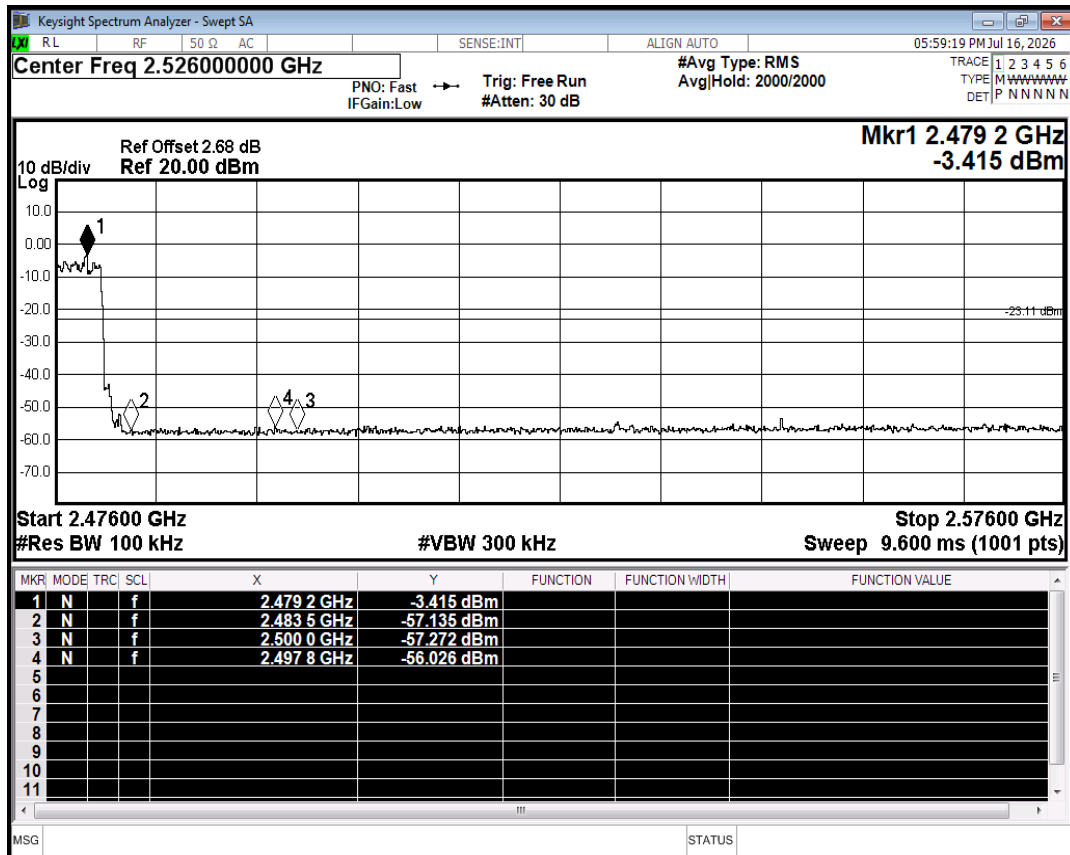
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



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



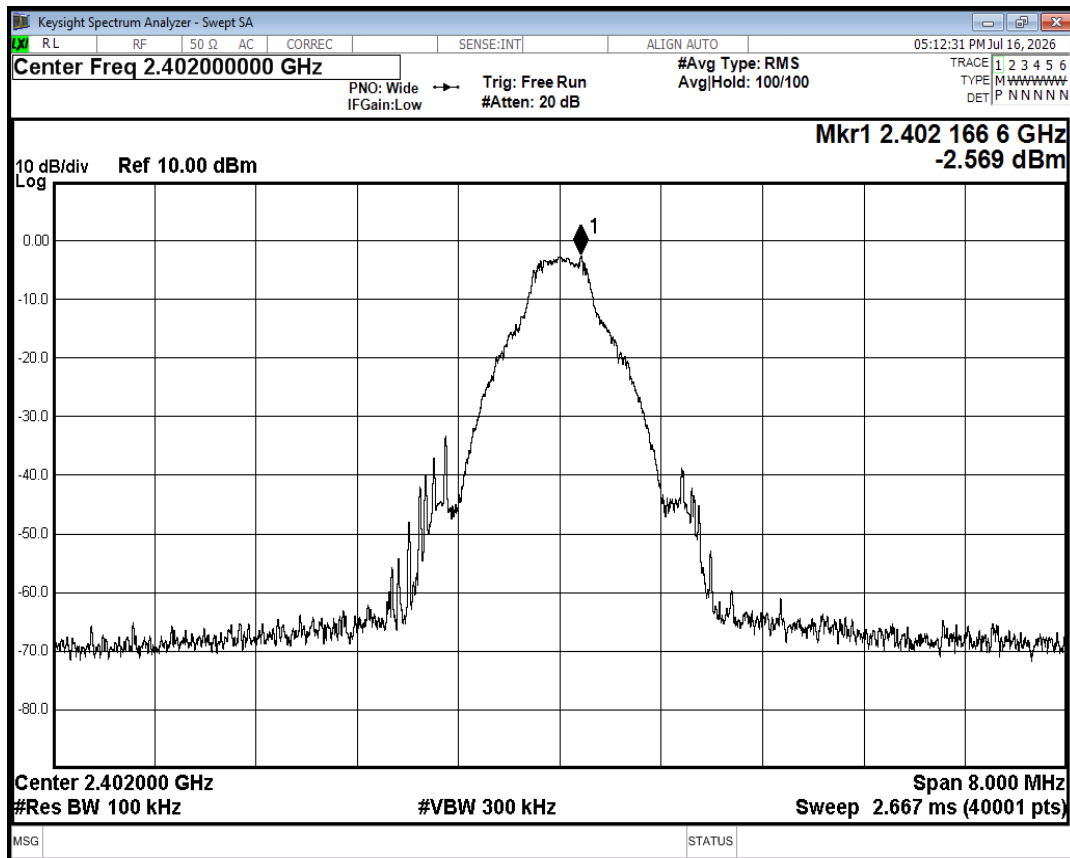
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



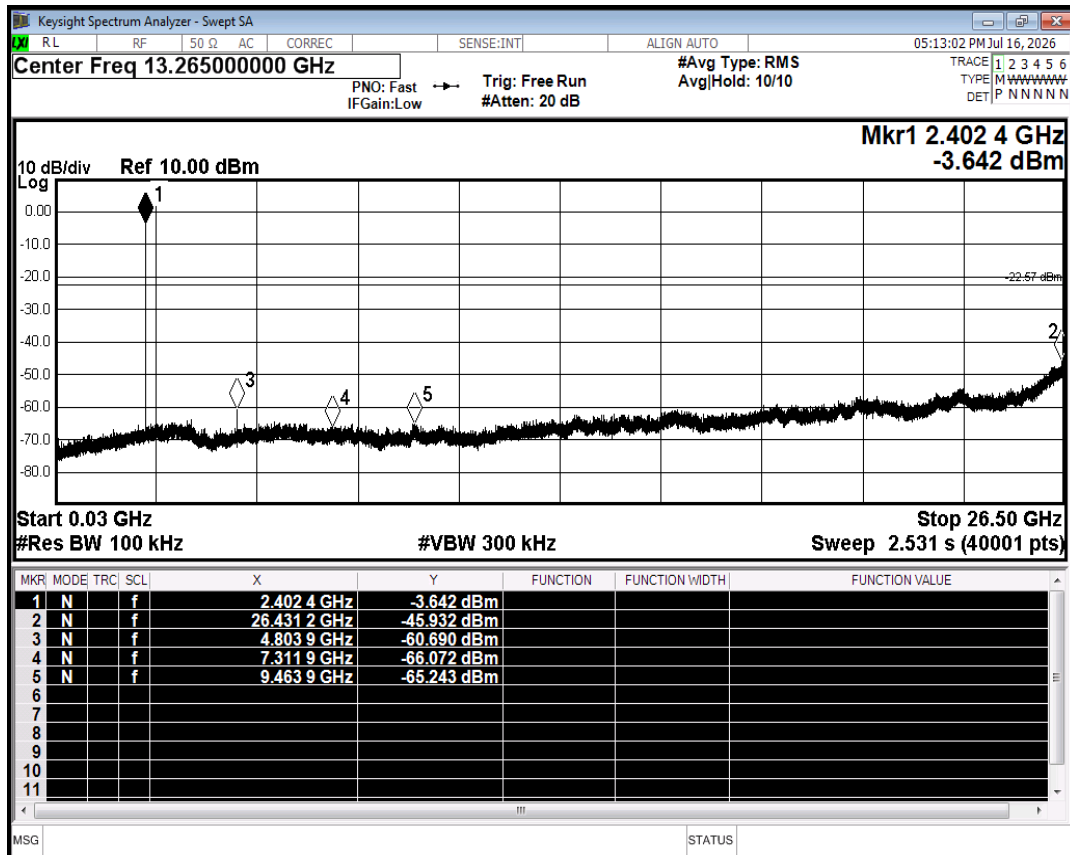
Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission

A.7 Conducted RF Spurious Emission

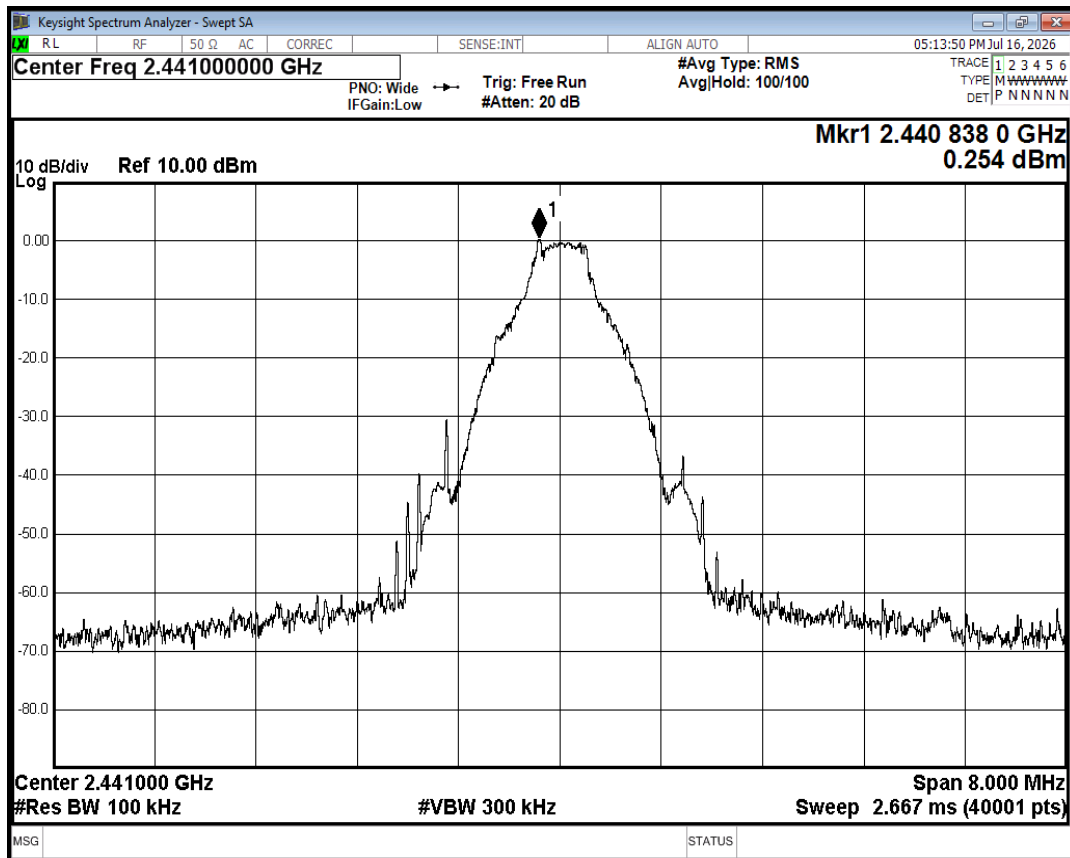
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-43.36	-20	Pass
NVNT	1-DH5	2441	Ant1	-46.86	-20	Pass
NVNT	1-DH5	2480	Ant1	-46.08	-20	Pass
NVNT	2-DH5	2402	Ant1	-40	-20	Pass
NVNT	2-DH5	2441	Ant1	-42.92	-20	Pass
NVNT	2-DH5	2480	Ant1	-42.88	-20	Pass
NVNT	3-DH5	2402	Ant1	-40.49	-20	Pass
NVNT	3-DH5	2441	Ant1	-43.73	-20	Pass
NVNT	3-DH5	2480	Ant1	-43.41	-20	Pass



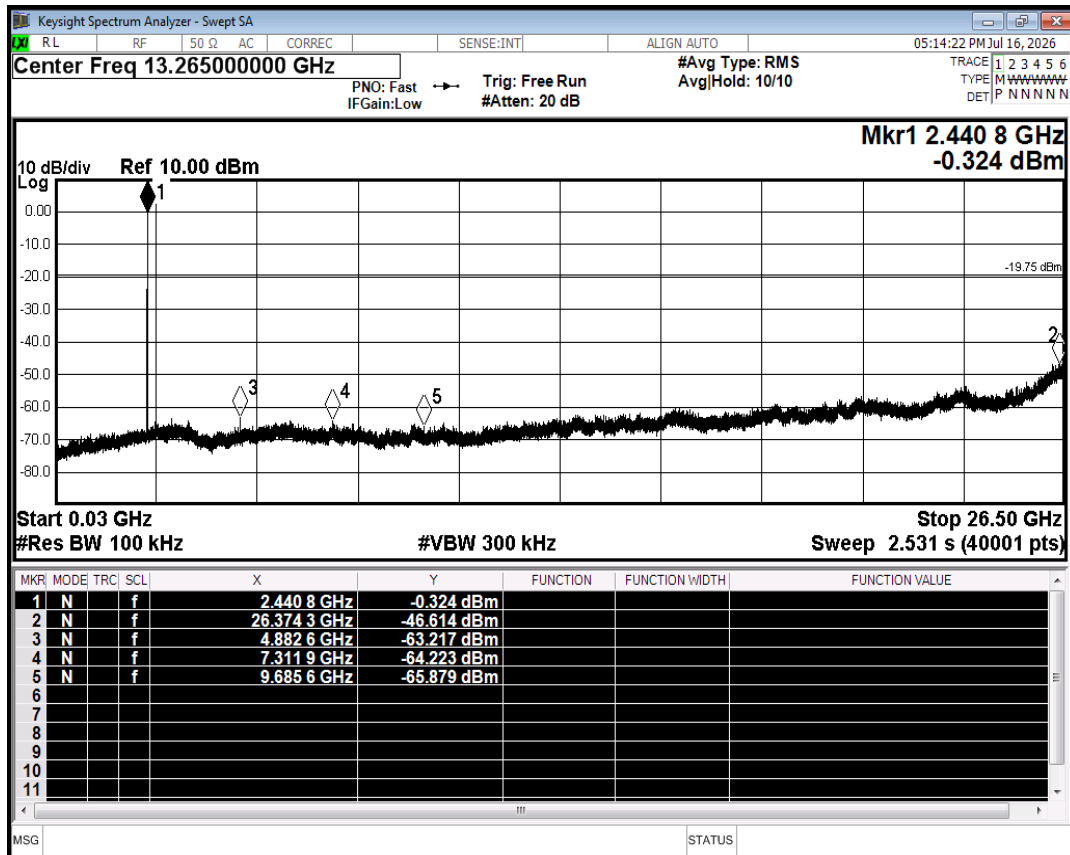
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



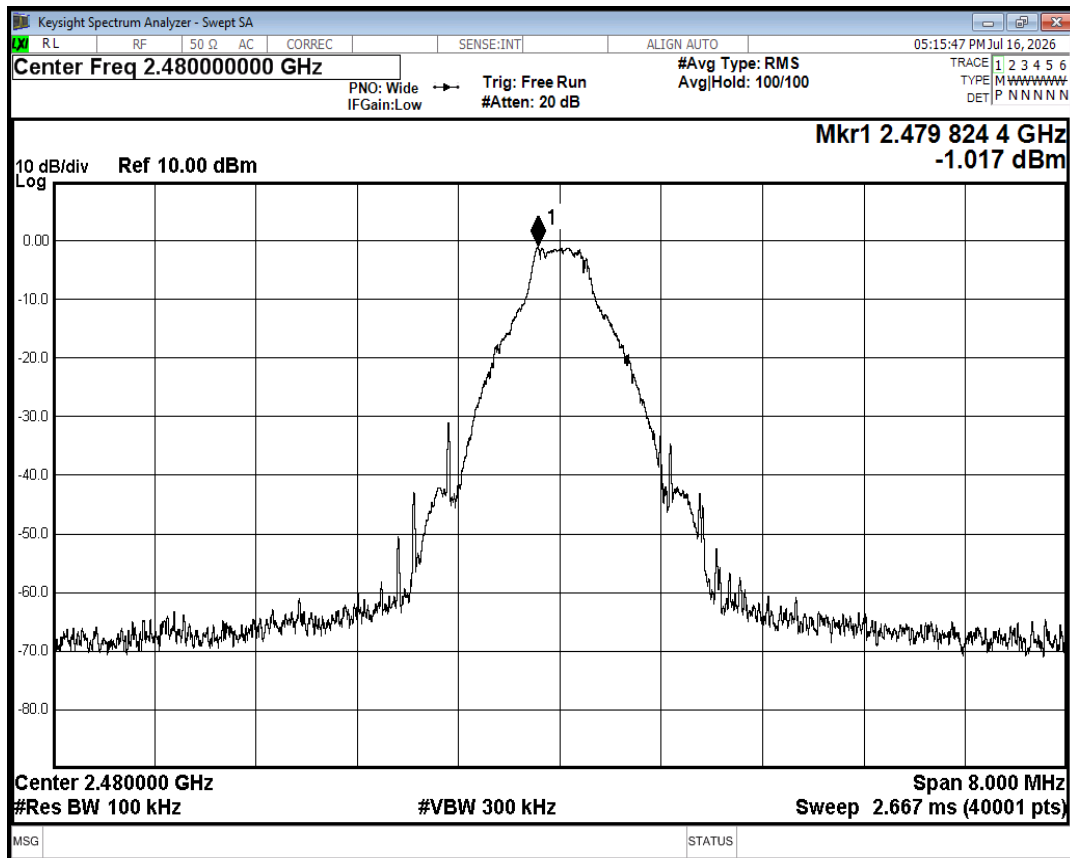
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



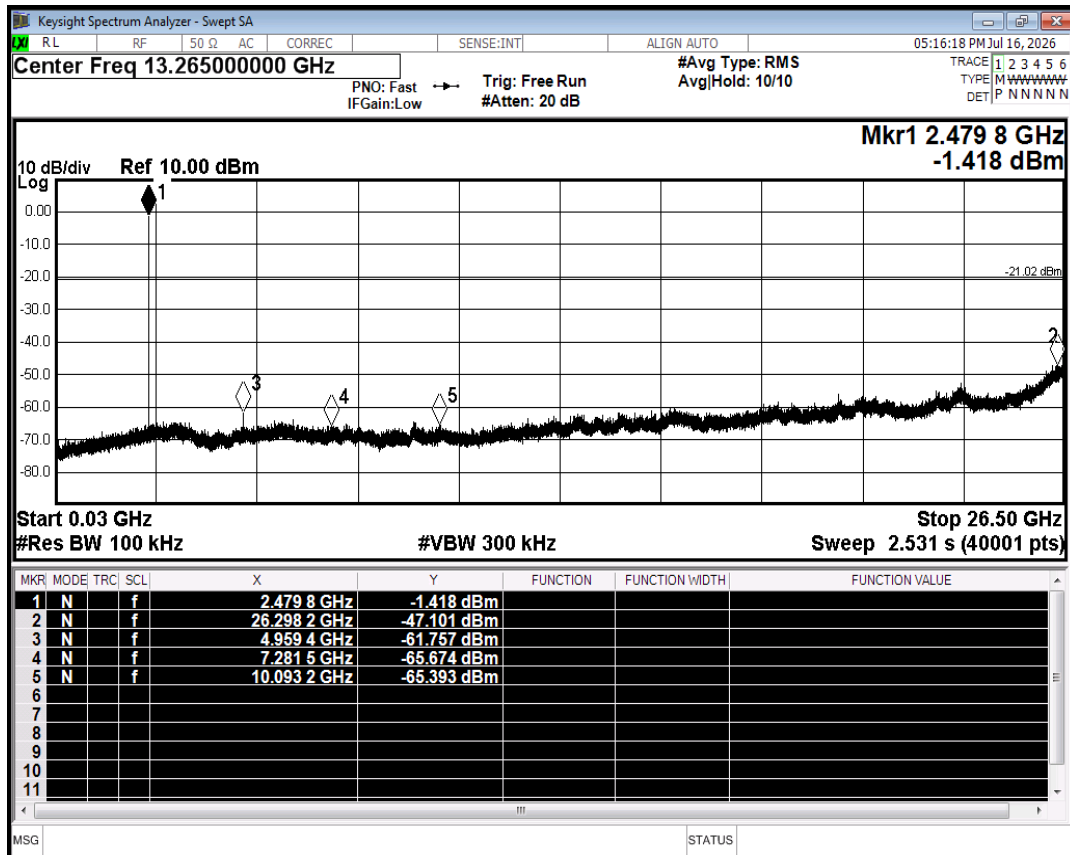
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



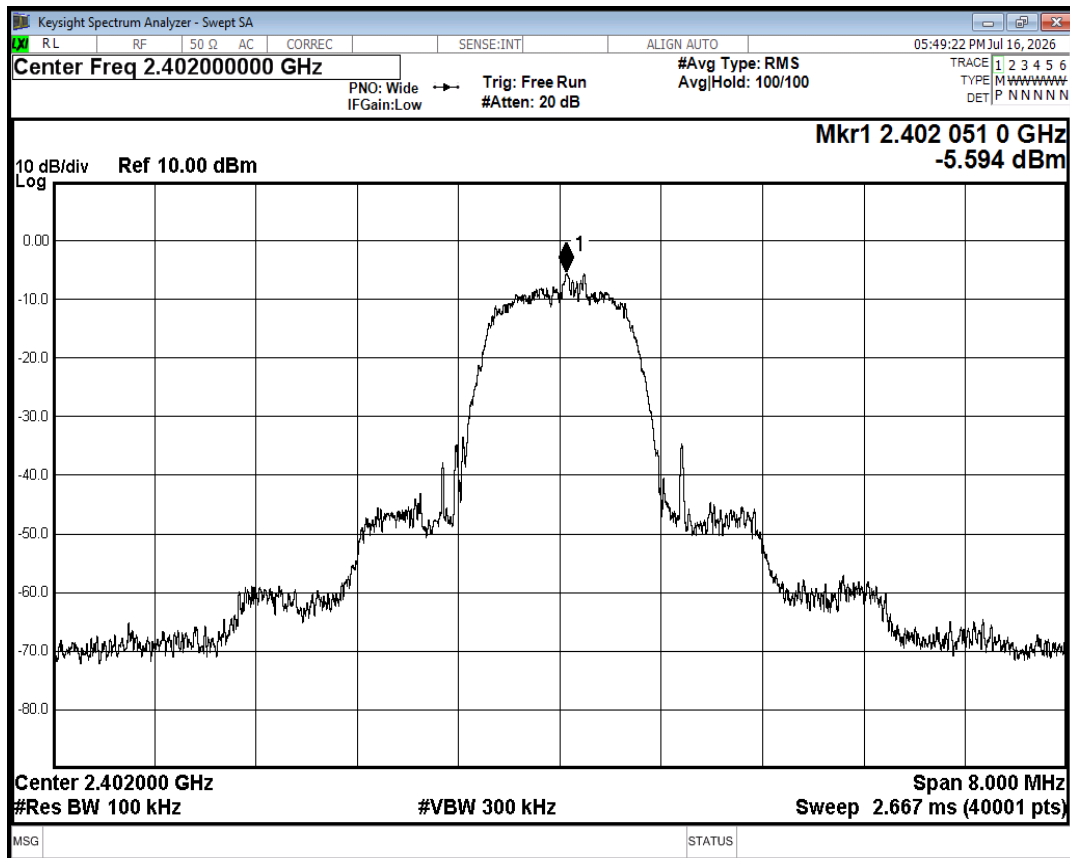
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



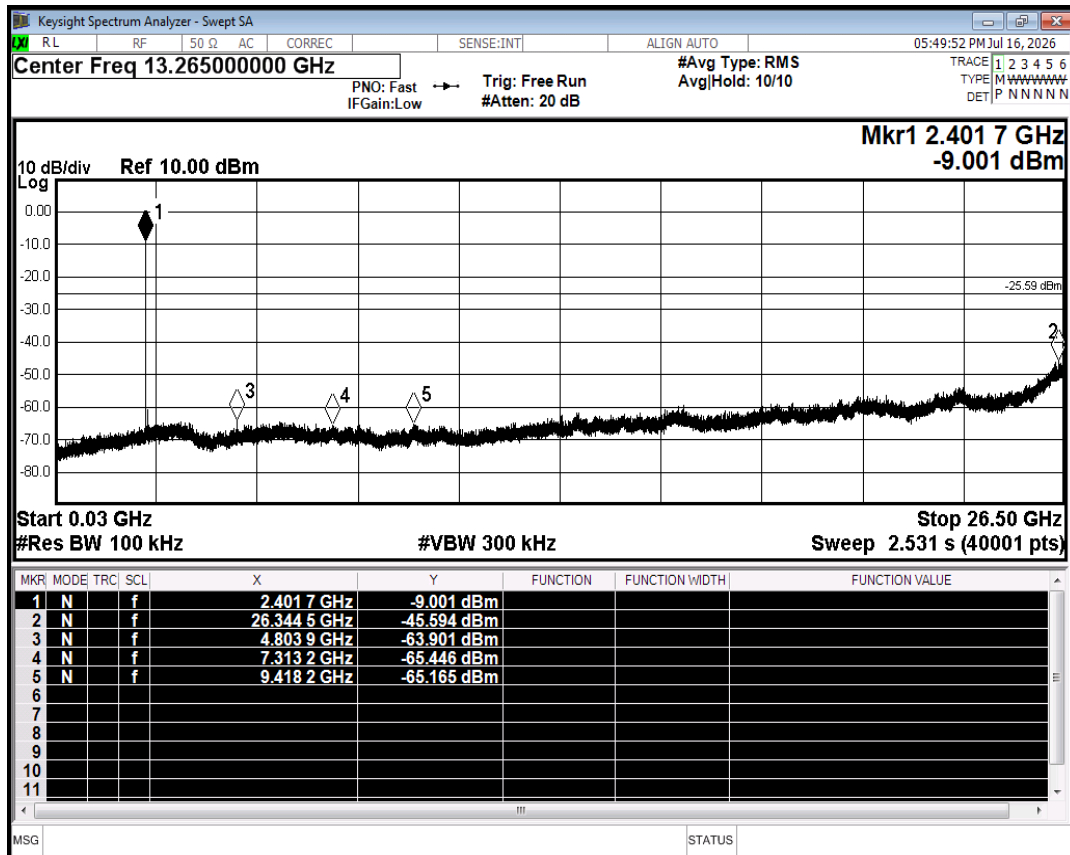
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



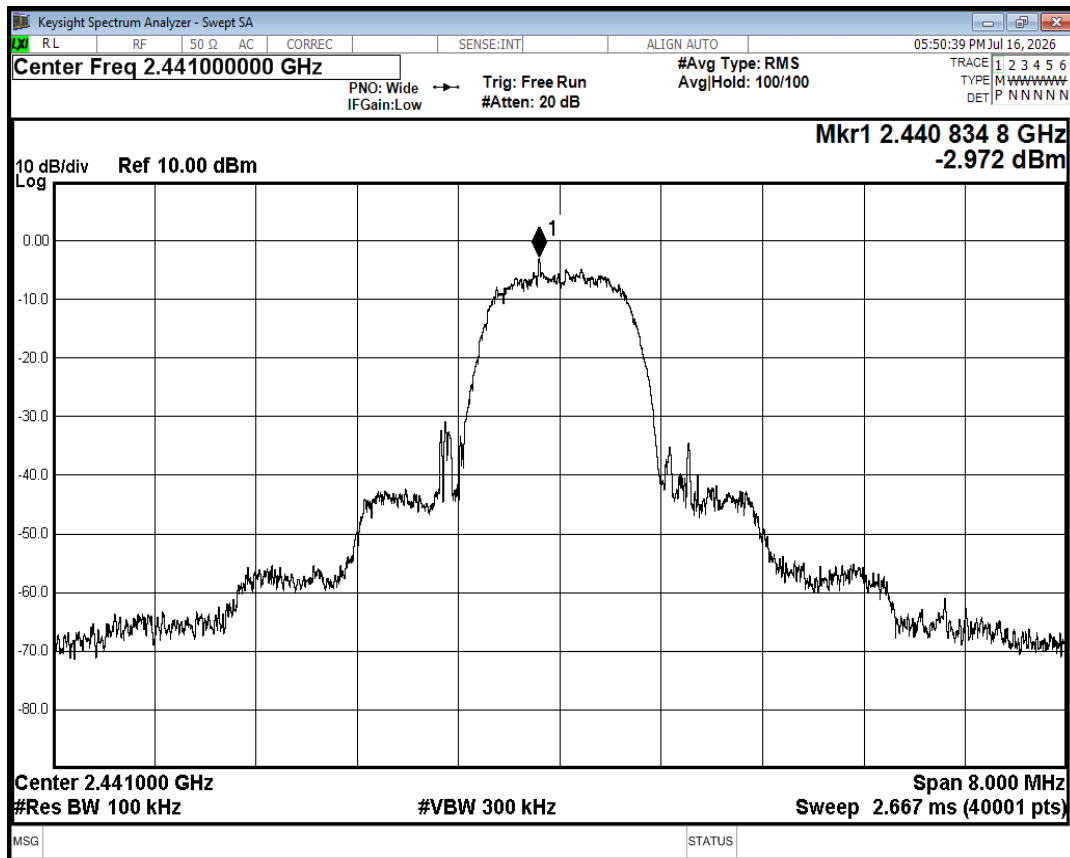
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



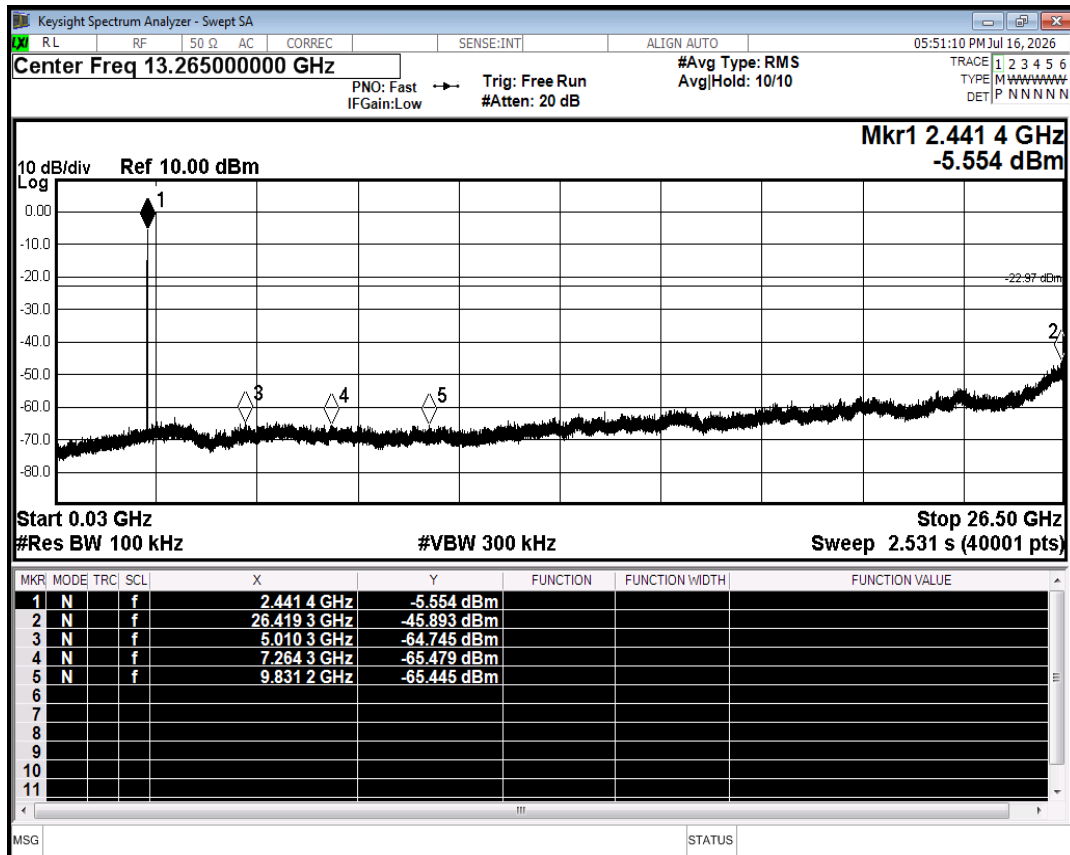
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



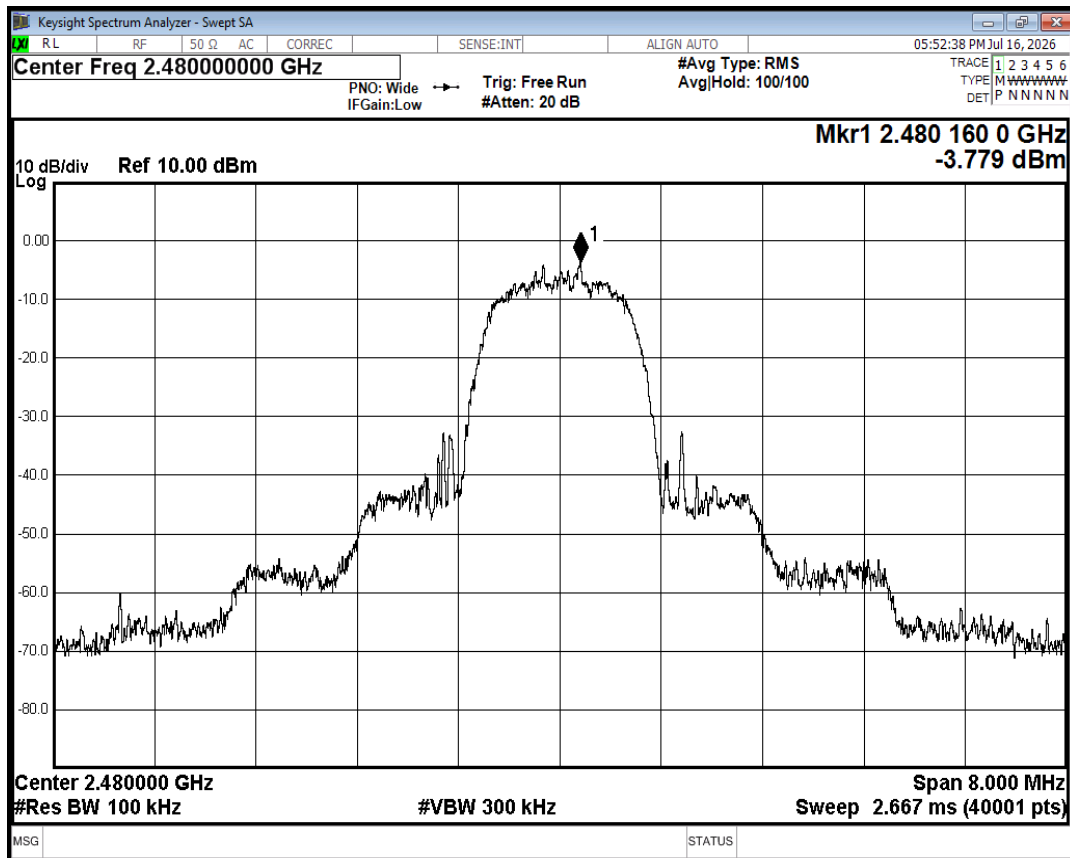
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



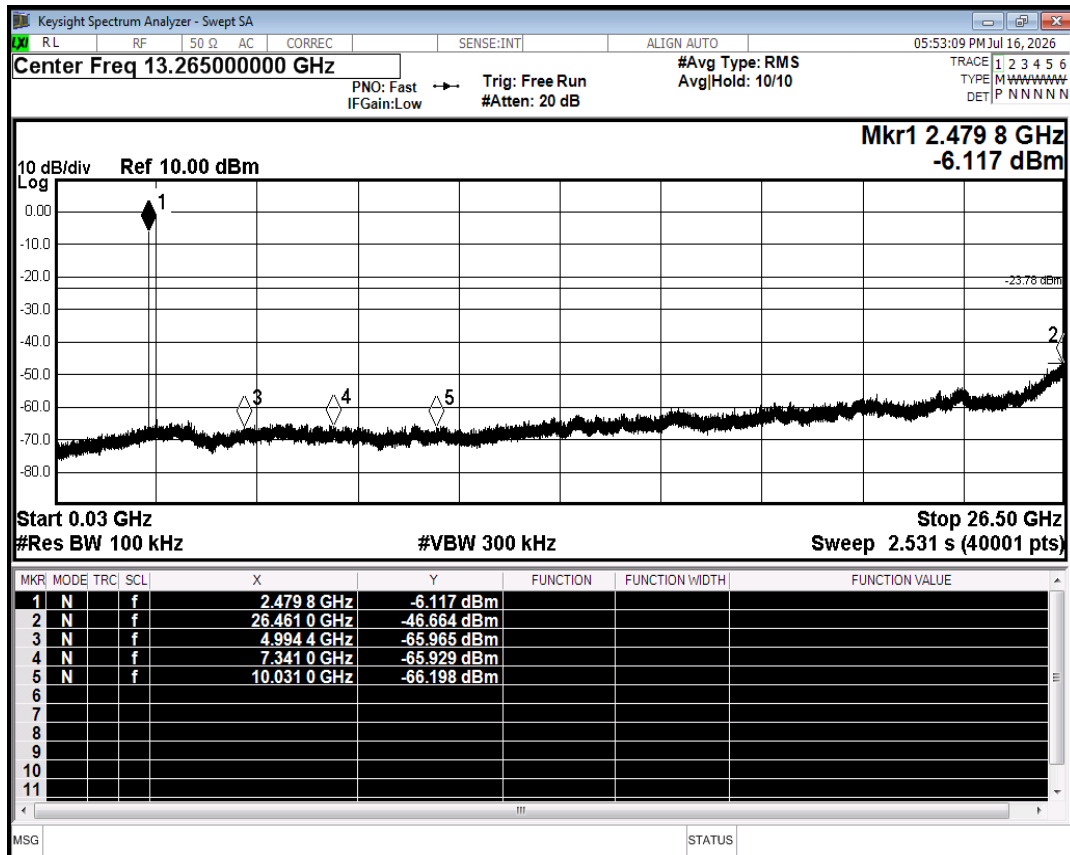
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



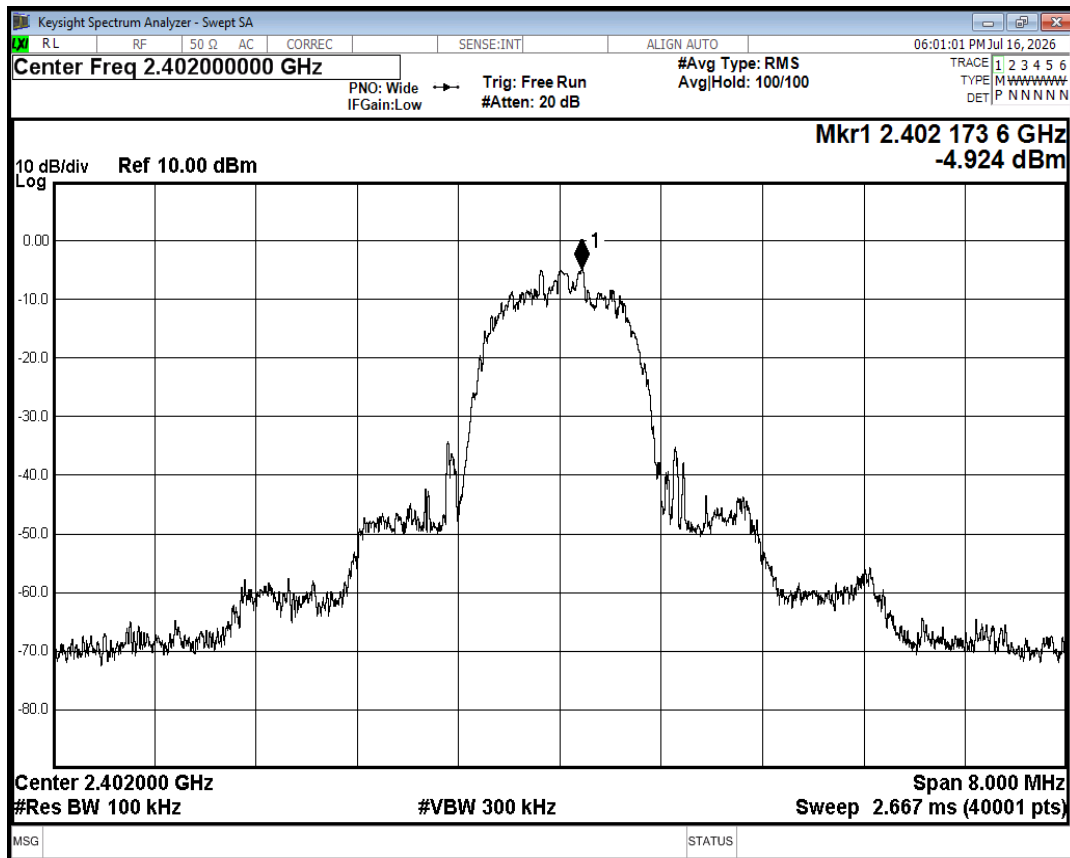
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



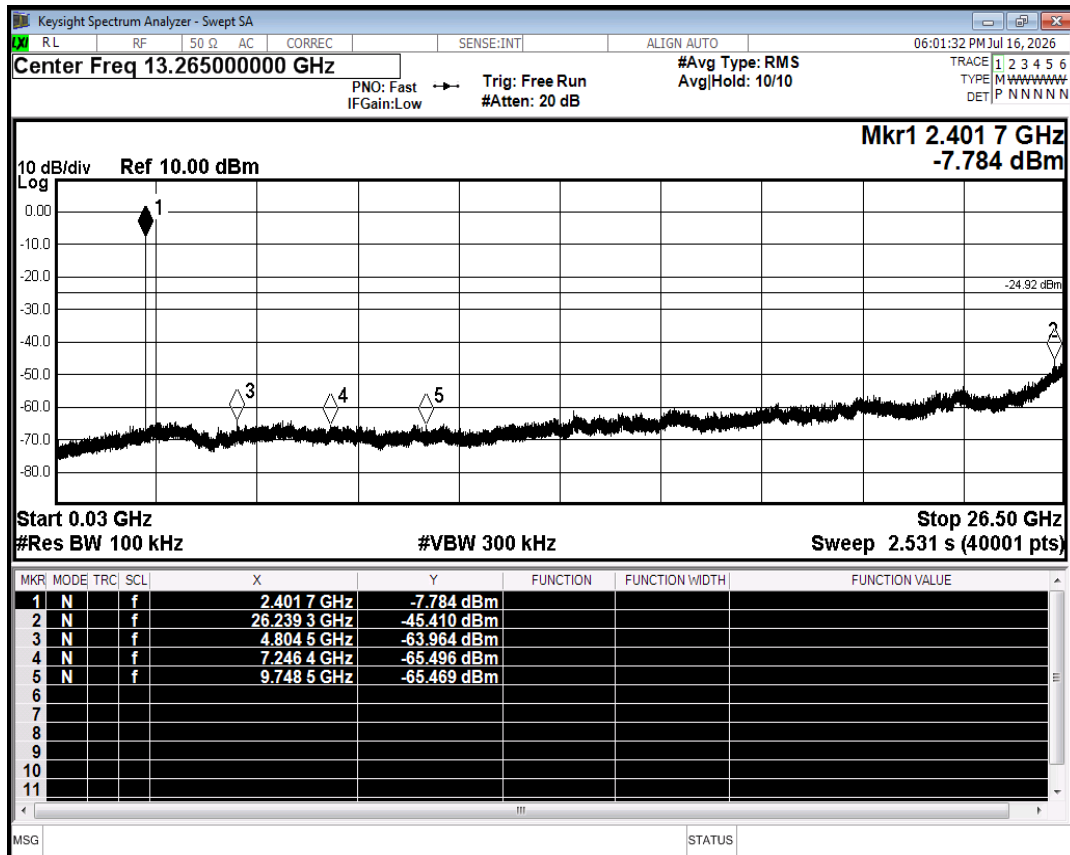
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



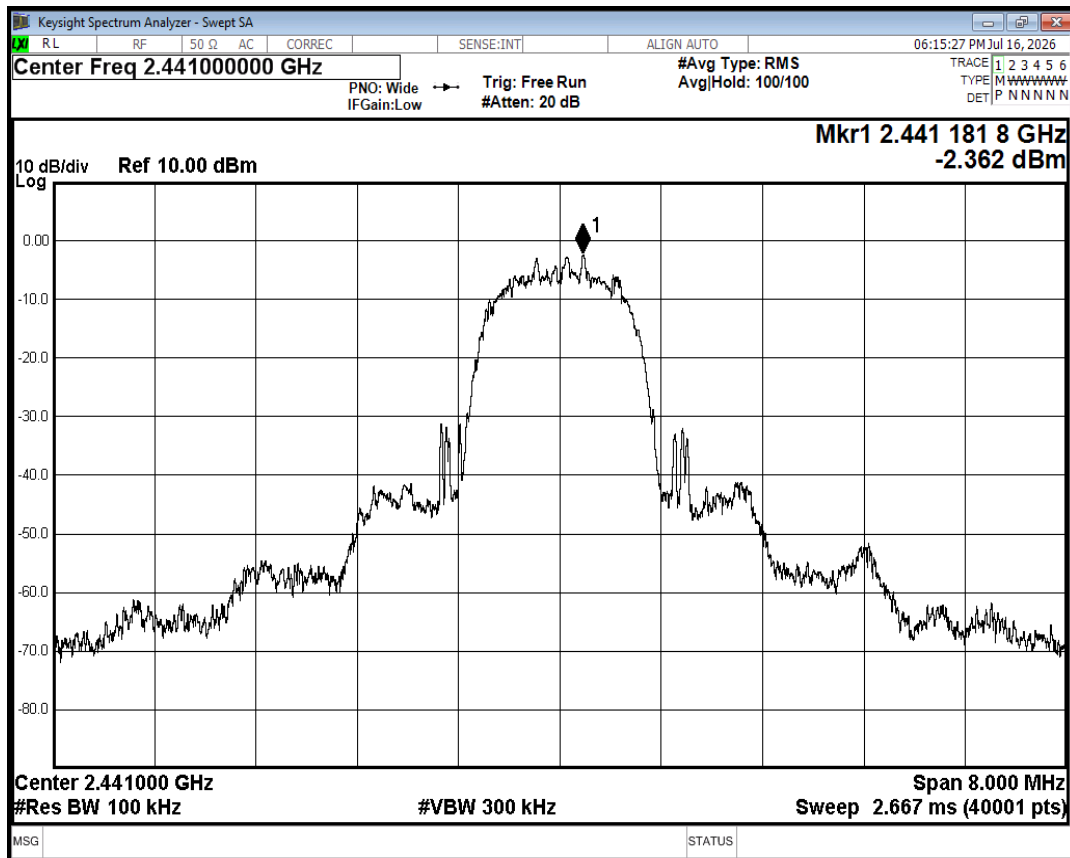
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



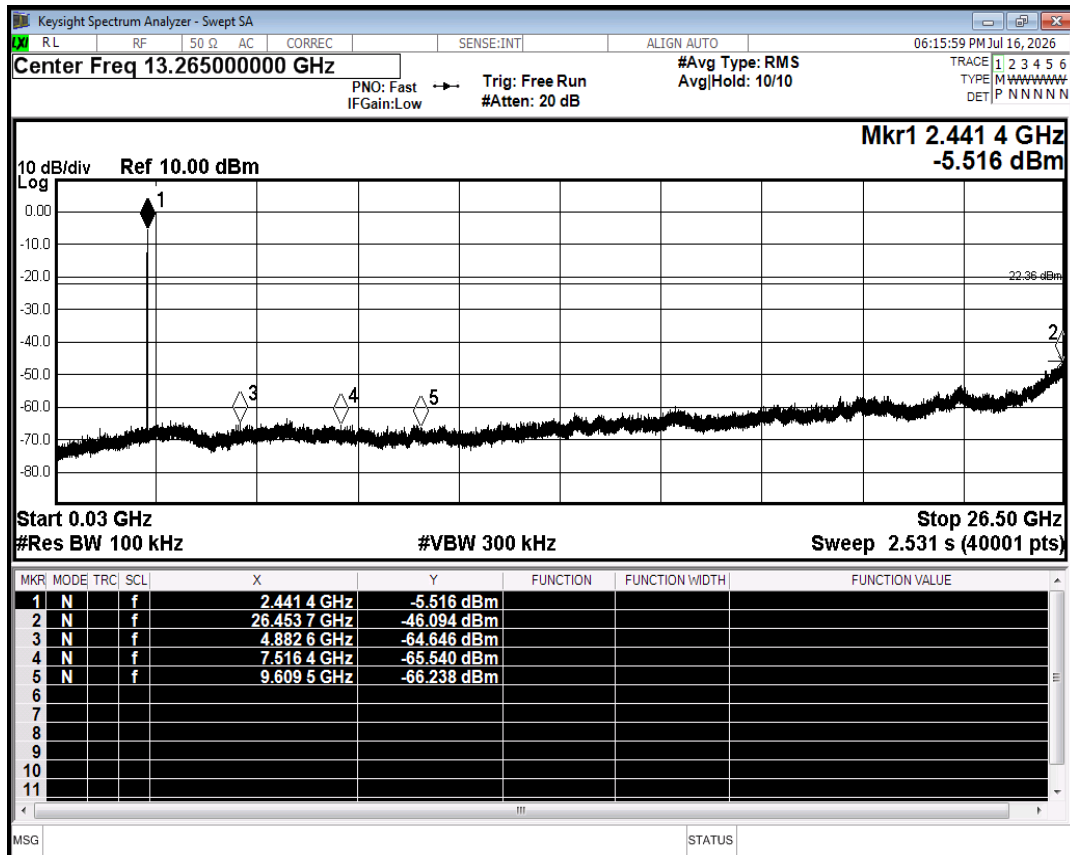
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



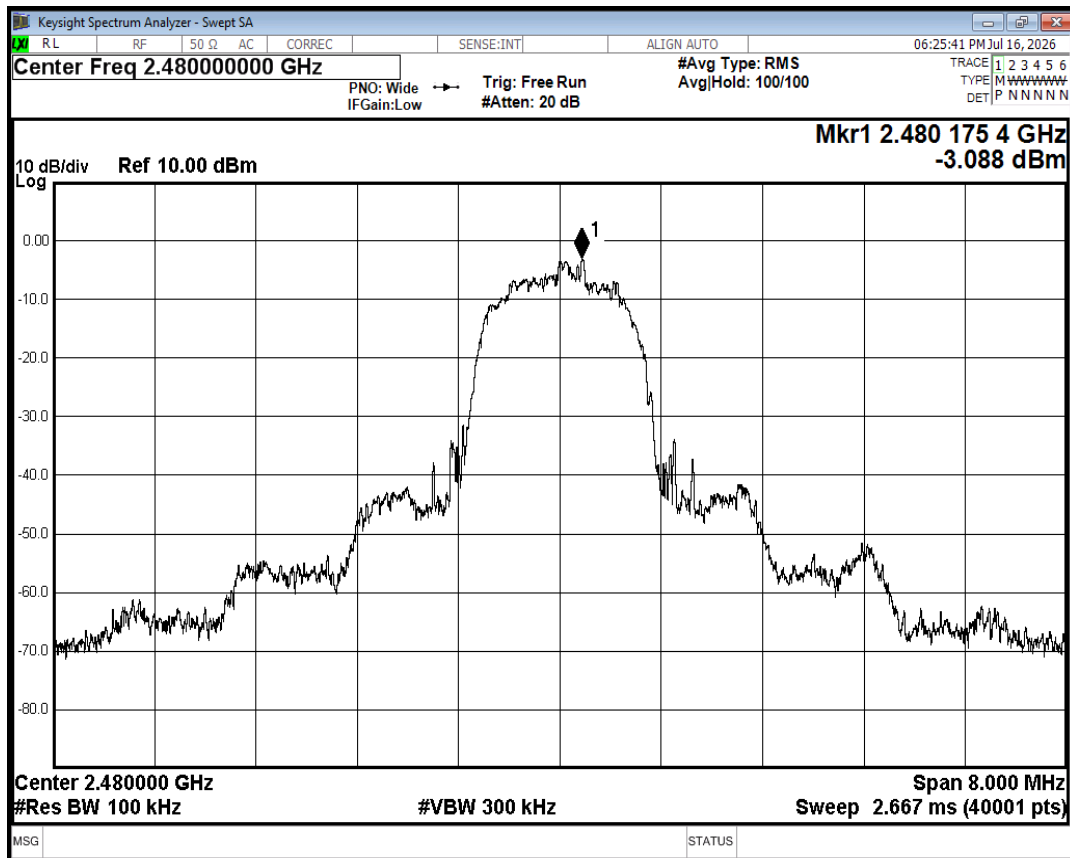
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



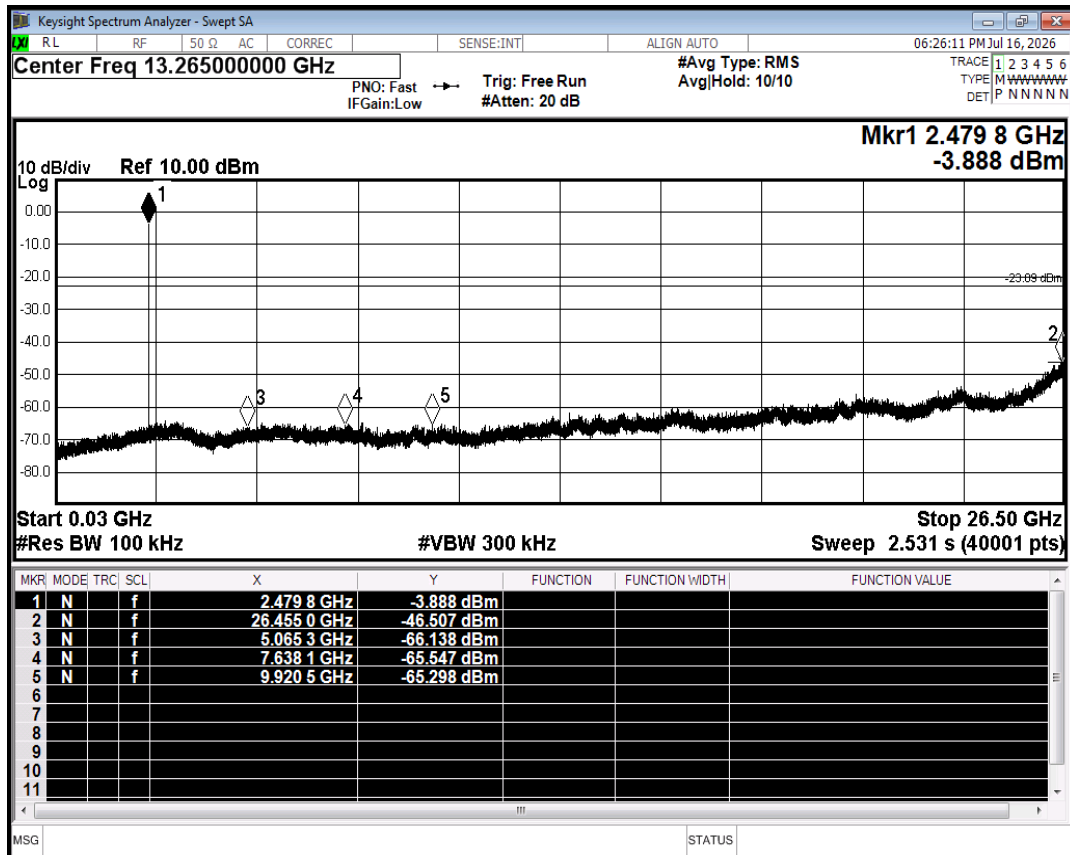
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



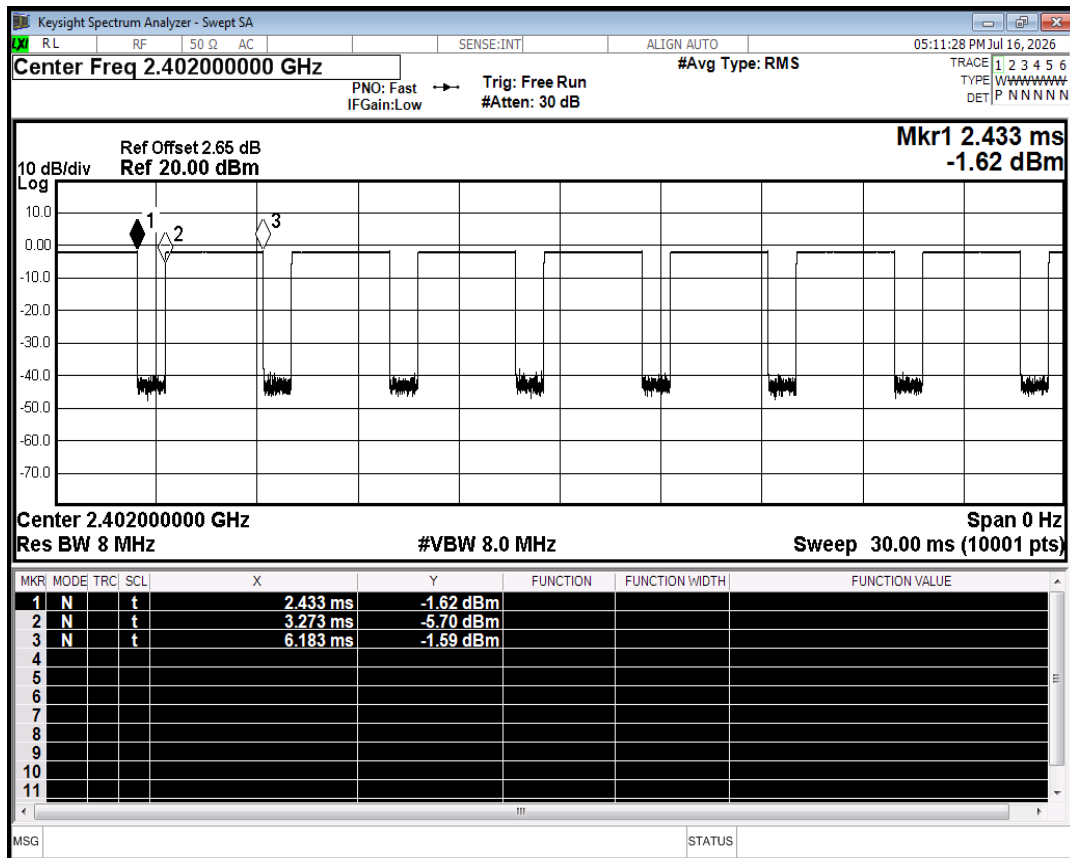
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



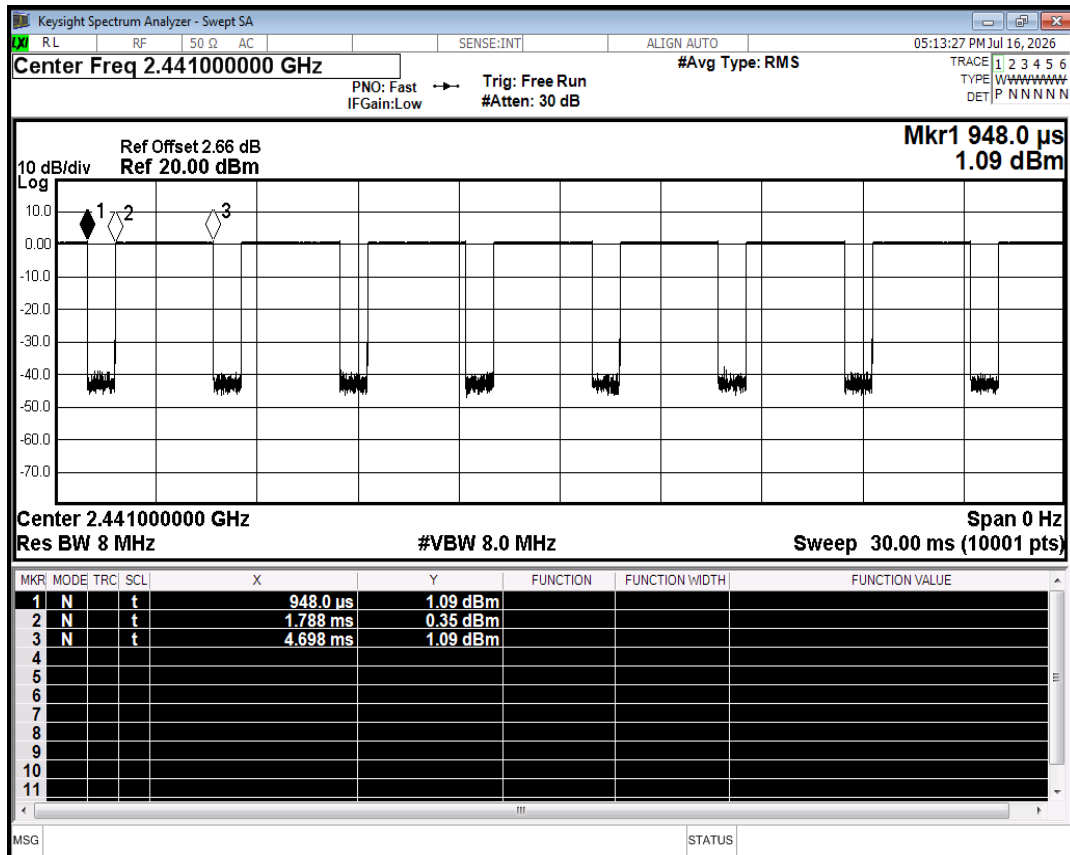
Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

A.8 Duty Cycle

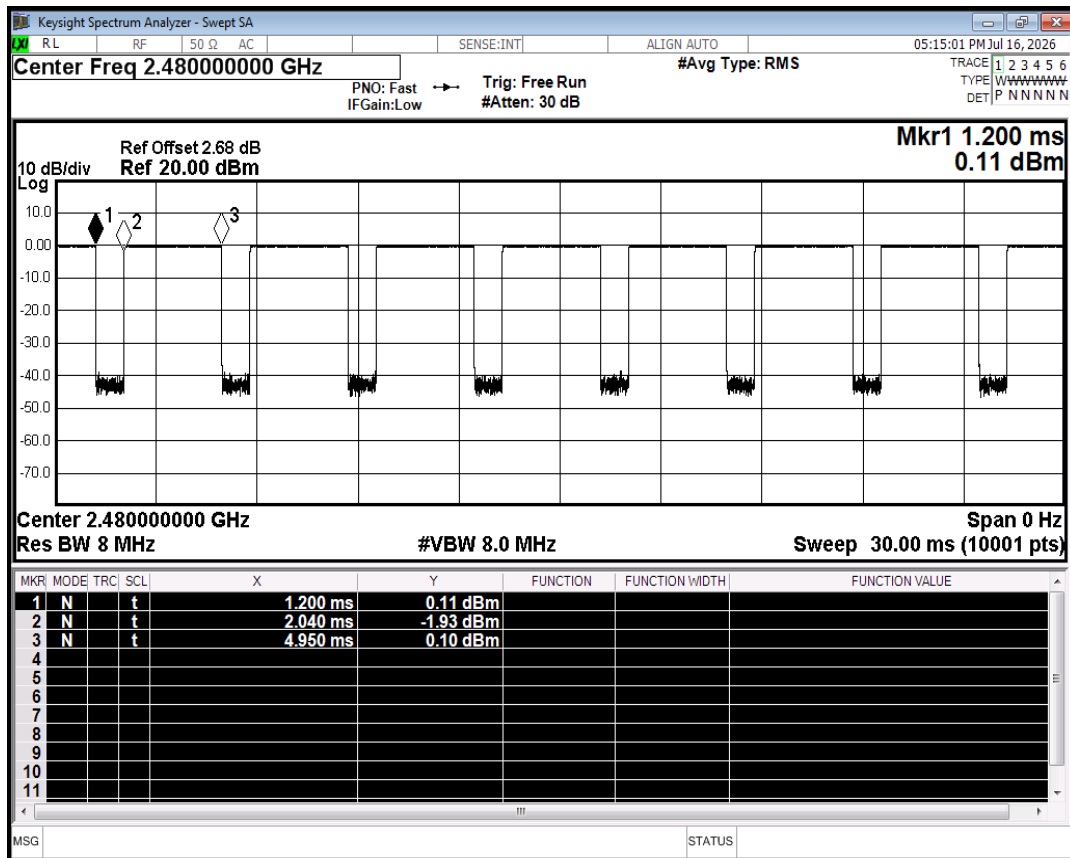
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.36	1.11	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35



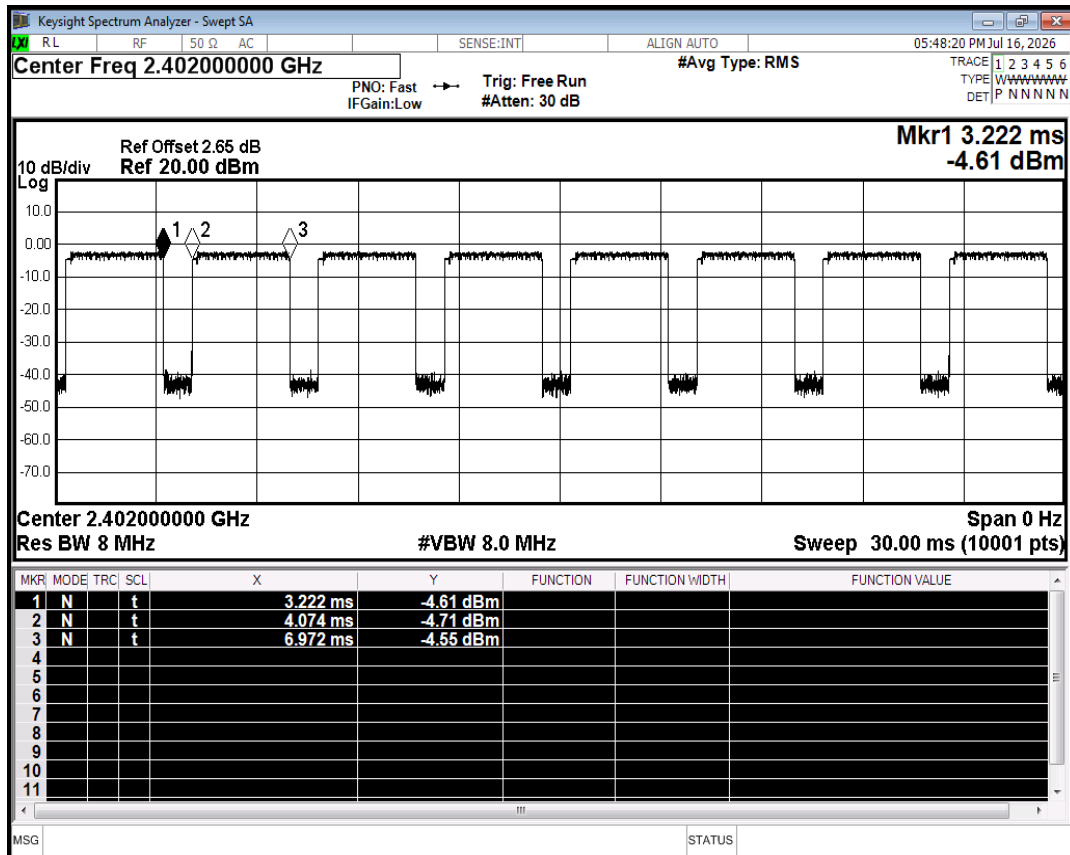
Duty Cycle NVNT 1-DH5 2402MHz Ant1



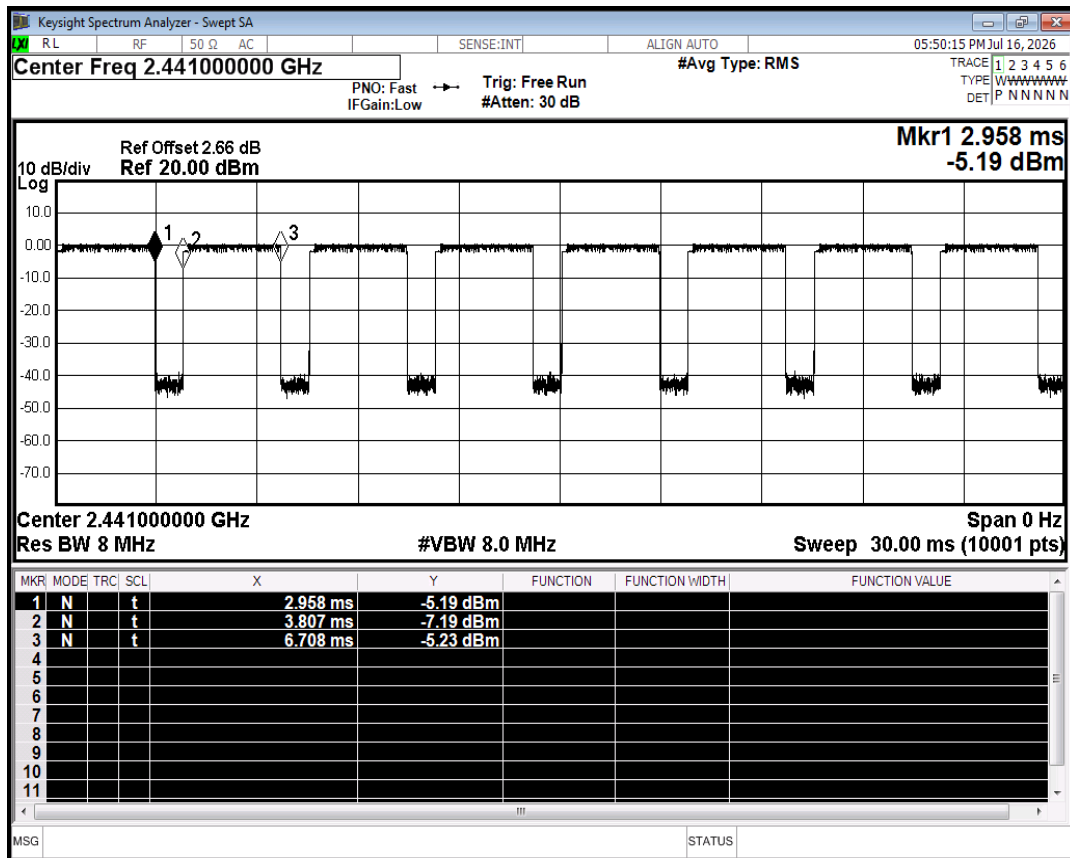
Duty Cycle NVNT 1-DH5 2441MHz Ant1



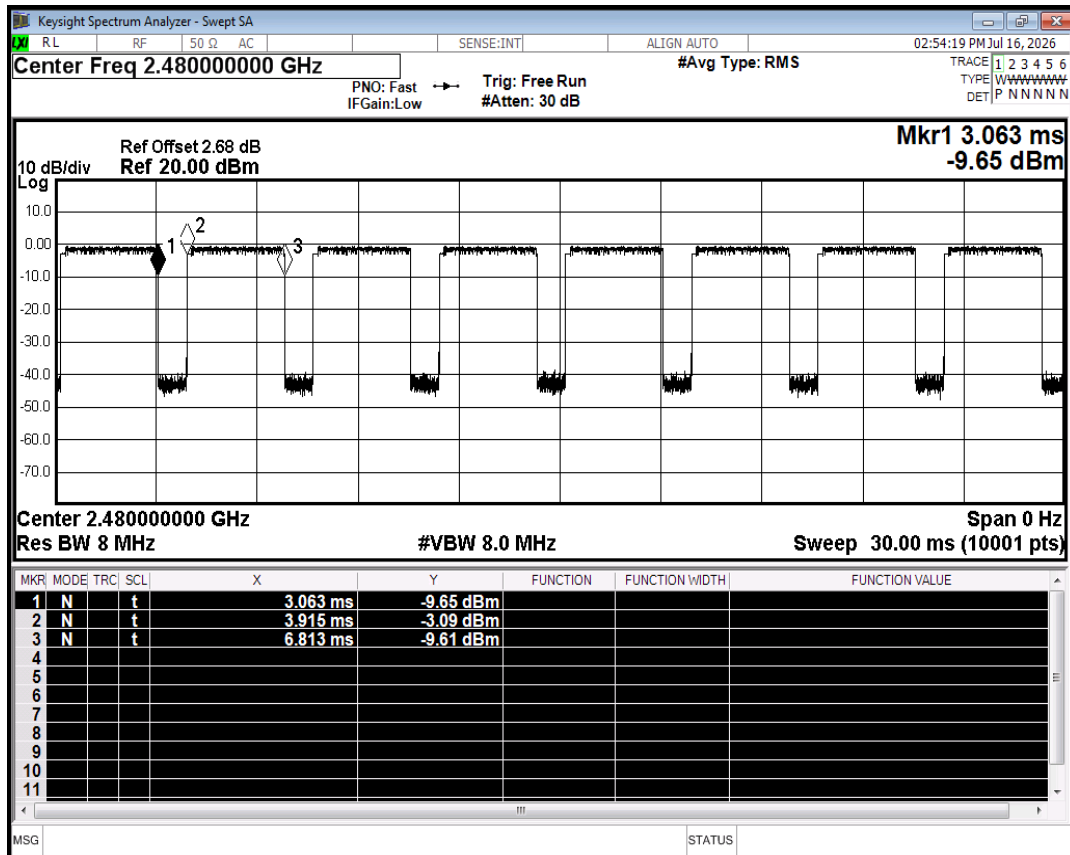
Duty Cycle NVNT 1-DH5 2480MHz Ant1



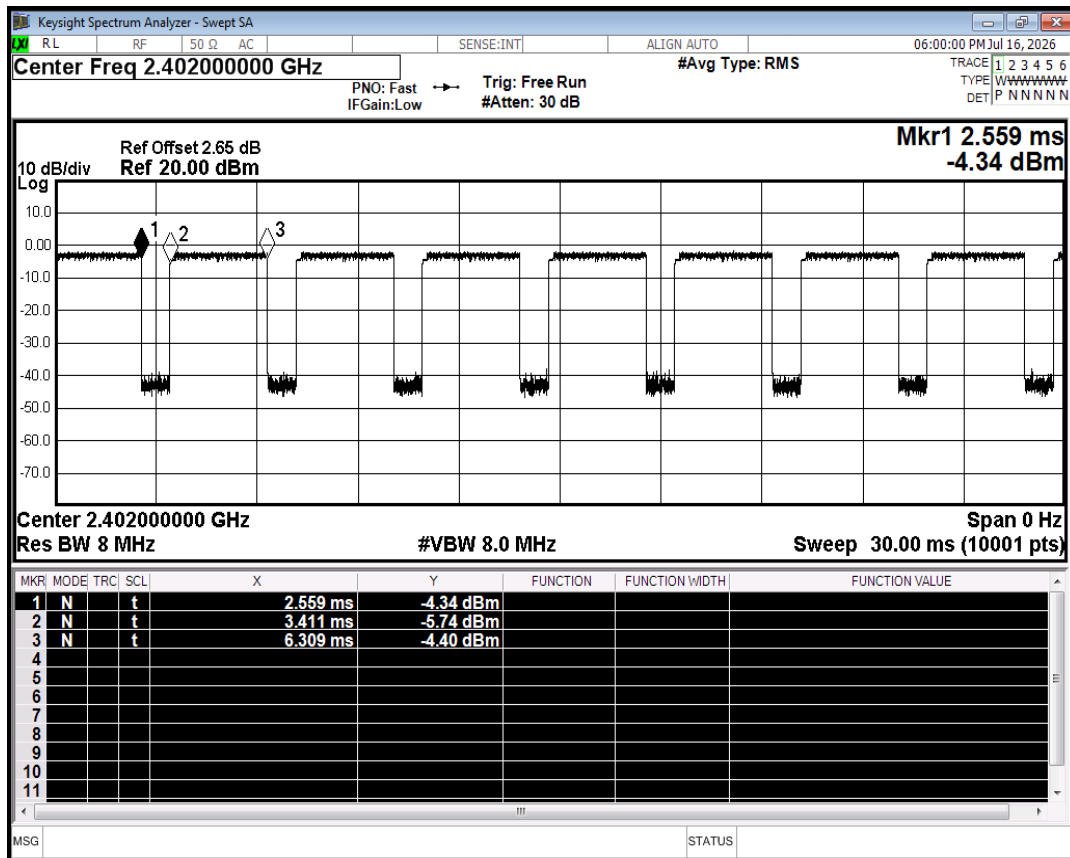
Duty Cycle NVNT 2-DH5 2402MHz Ant1



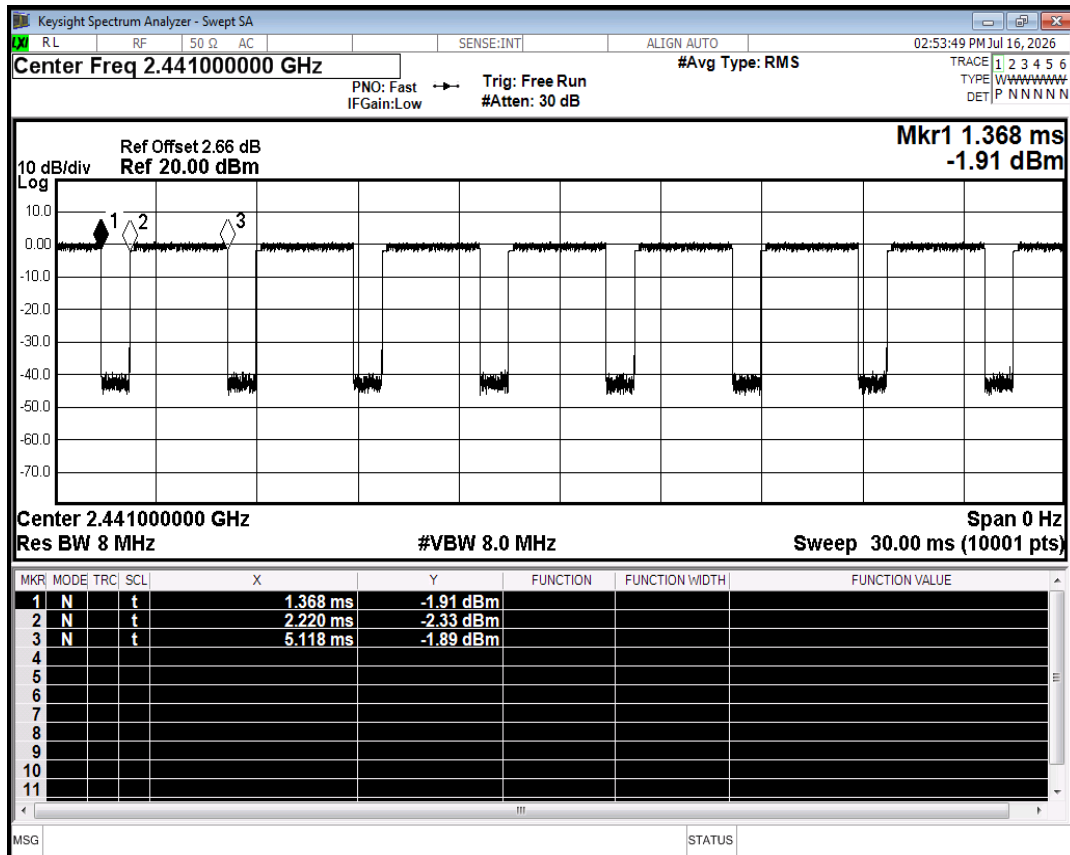
Duty Cycle NVNT 2-DH5 2441MHz Ant1



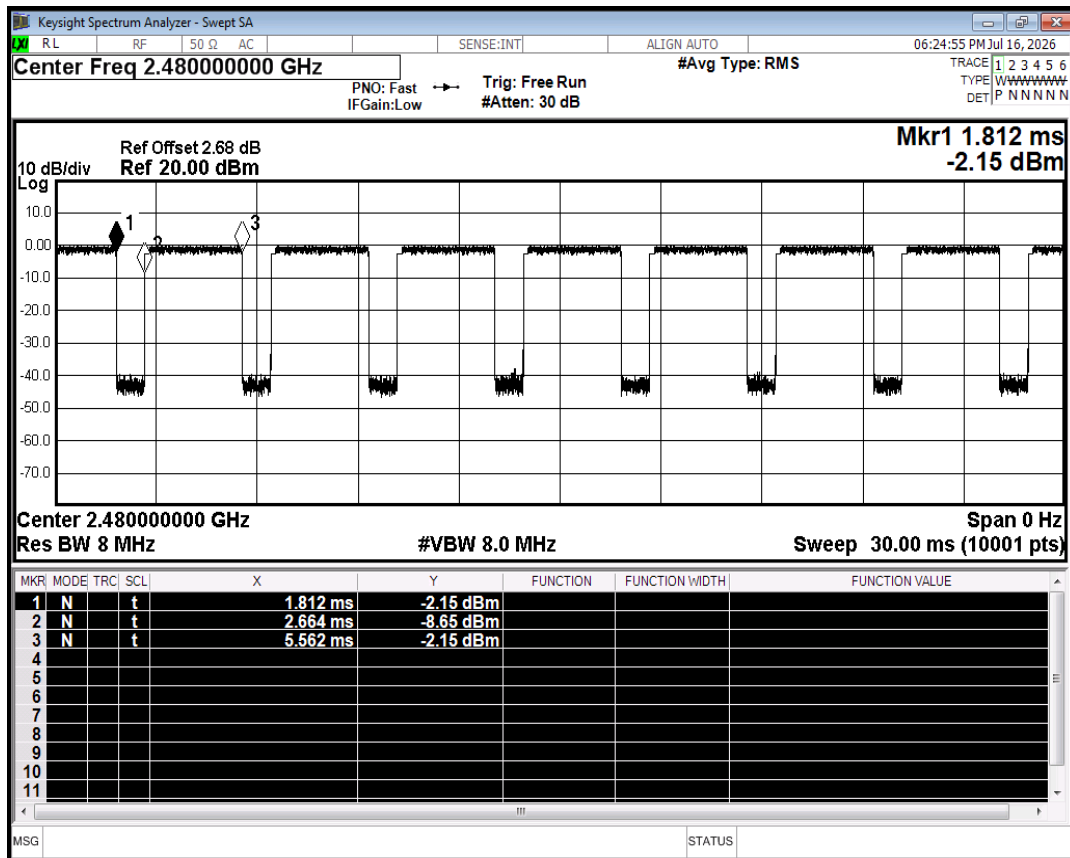
Duty Cycle NVNT 2-DH5 2480MHz Ant1



Duty Cycle NVNT 3-DH5 2402MHz Ant1



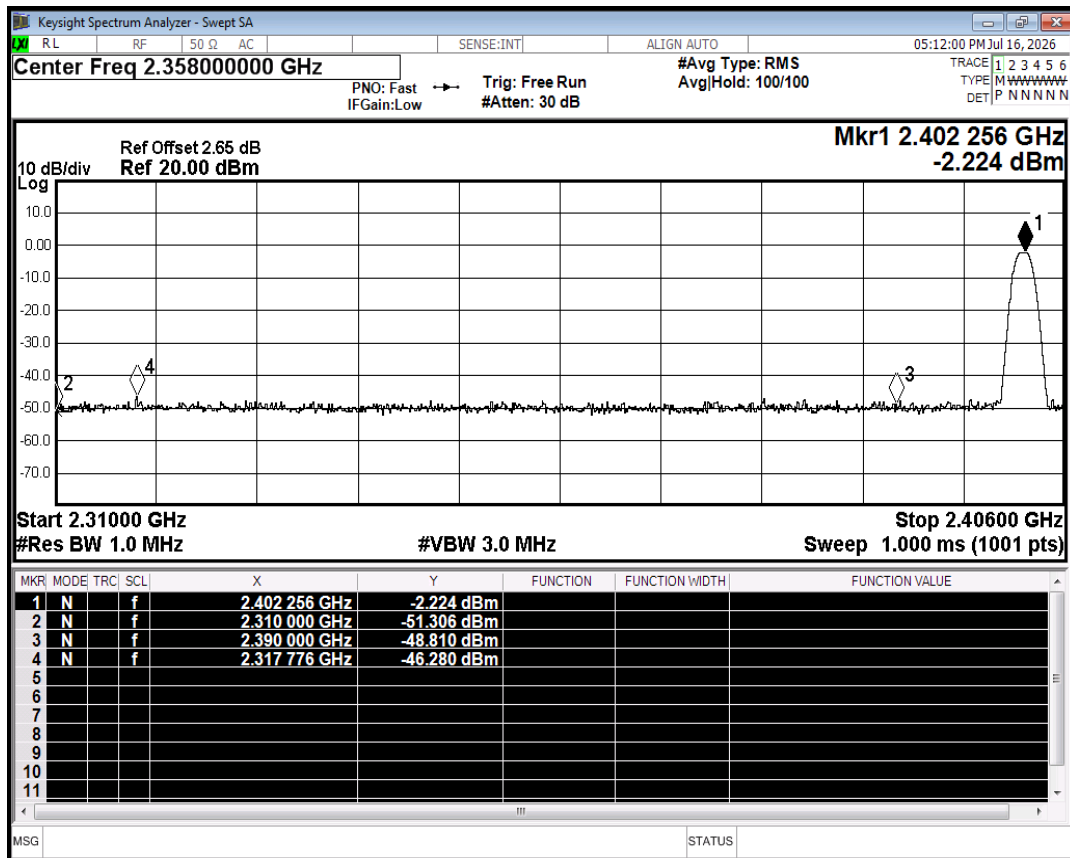
Duty Cycle NVNT 3-DH5 2441MHz Ant1



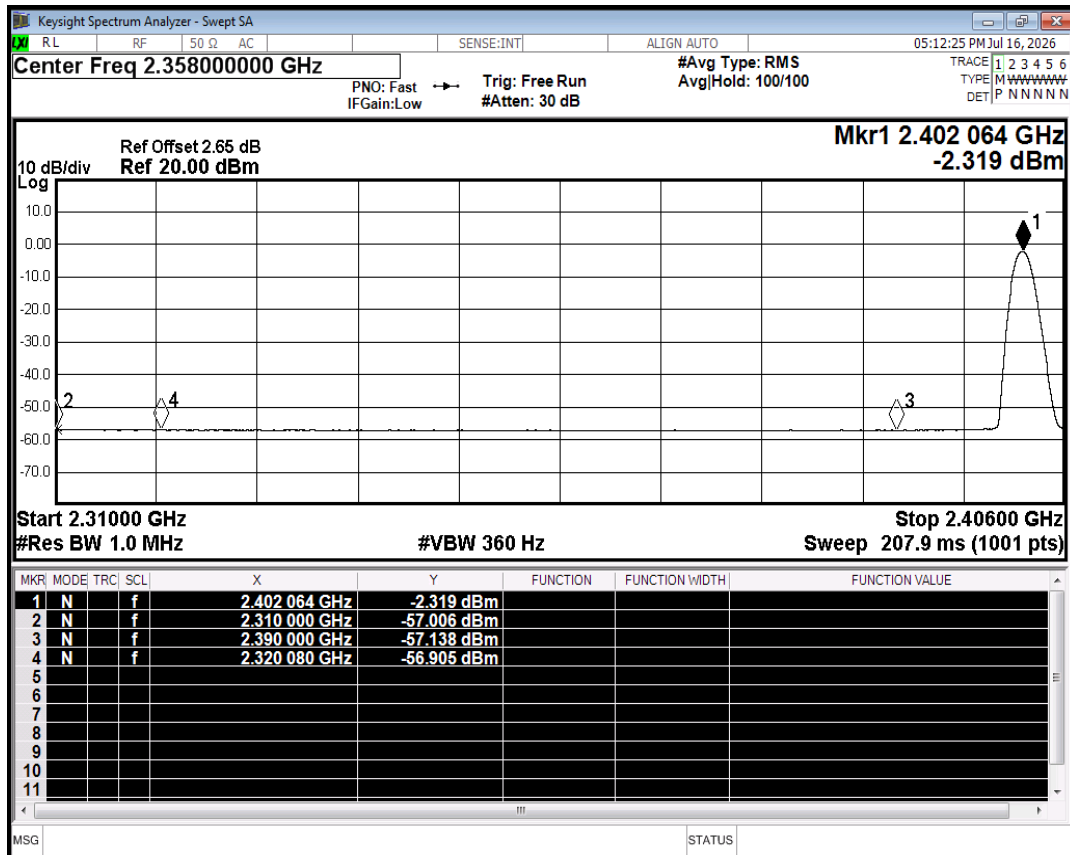
Duty Cycle NVNT 3-DH5 2480MHz Ant1

A.9 Restrict Band

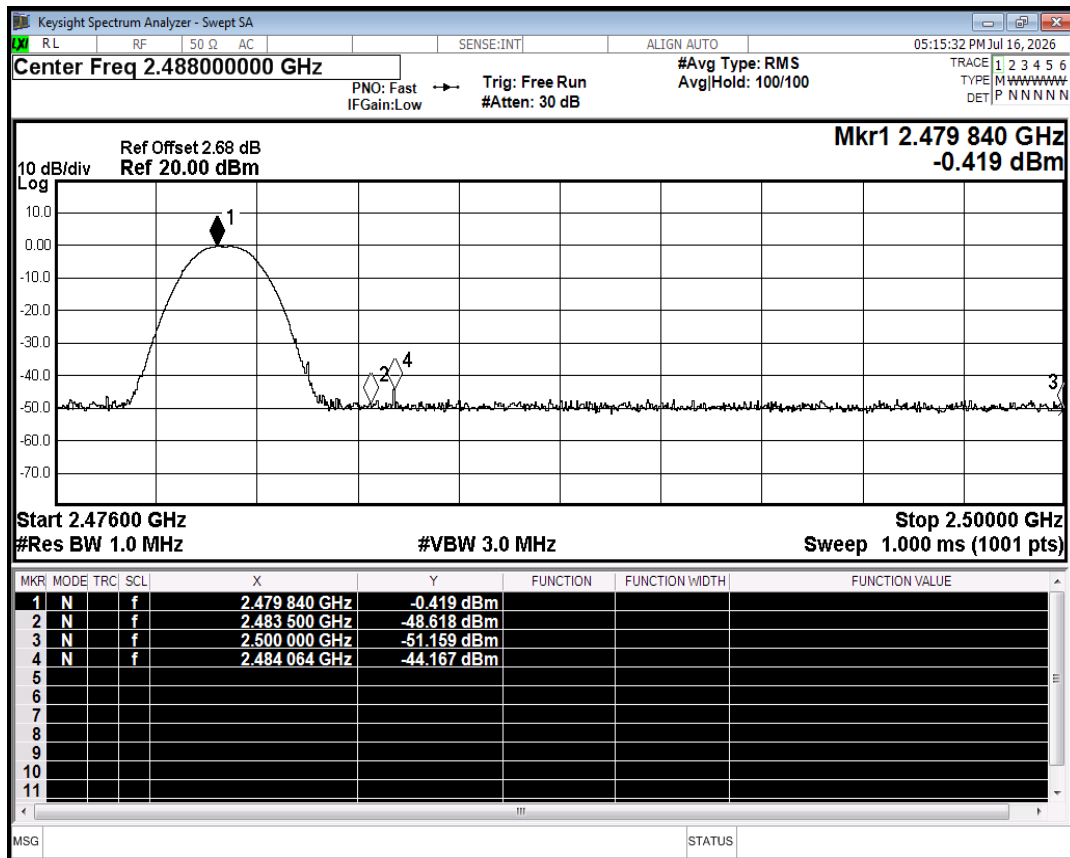
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.3	2.24	46.20	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-57	2.24	40.50	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2317.776	-46.27	2.24	51.23	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2320.08	-56.9	2.24	40.60	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.54	2.24	46.96	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.13	2.24	40.37	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.61	2.24	48.89	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-55.66	2.24	41.84	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.064	-44.16	2.24	53.34	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-55.66	2.24	41.84	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.15	2.24	46.35	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-56.97	2.24	40.53	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.76	2.24	46.74	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-57.02	2.24	40.48	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2335.152	-47.14	2.24	50.36	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2321.712	-56.93	2.24	40.57	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.07	2.24	49.43	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.17	2.24	40.33	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.02	2.24	48.48	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-54.62	2.24	42.88	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.952	-45.23	2.24	52.27	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-54.62	2.24	42.88	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.85	2.24	47.65	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-55.85	2.24	41.65	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.01	2.24	47.49	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-57.05	2.24	40.45	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2344.752	-47.19	2.24	50.31	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2335.536	-56.91	2.24	40.59	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.91	2.24	47.59	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.17	2.24	40.33	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.17	2.24	49.33	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-55.19	2.24	42.31	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2484.496	-45.8	2.24	51.70	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-55.19	2.24	42.31	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.6	2.24	46.90	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-56.88	2.24	40.62	Average	54	Pass



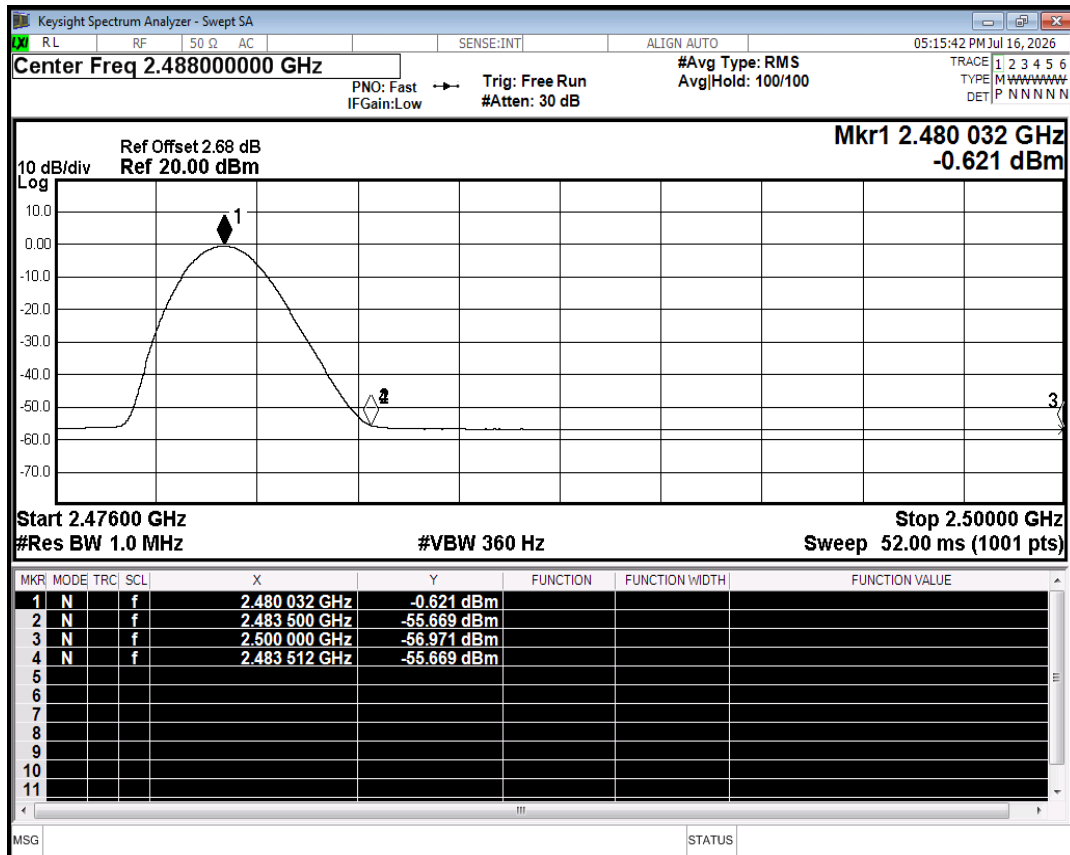
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



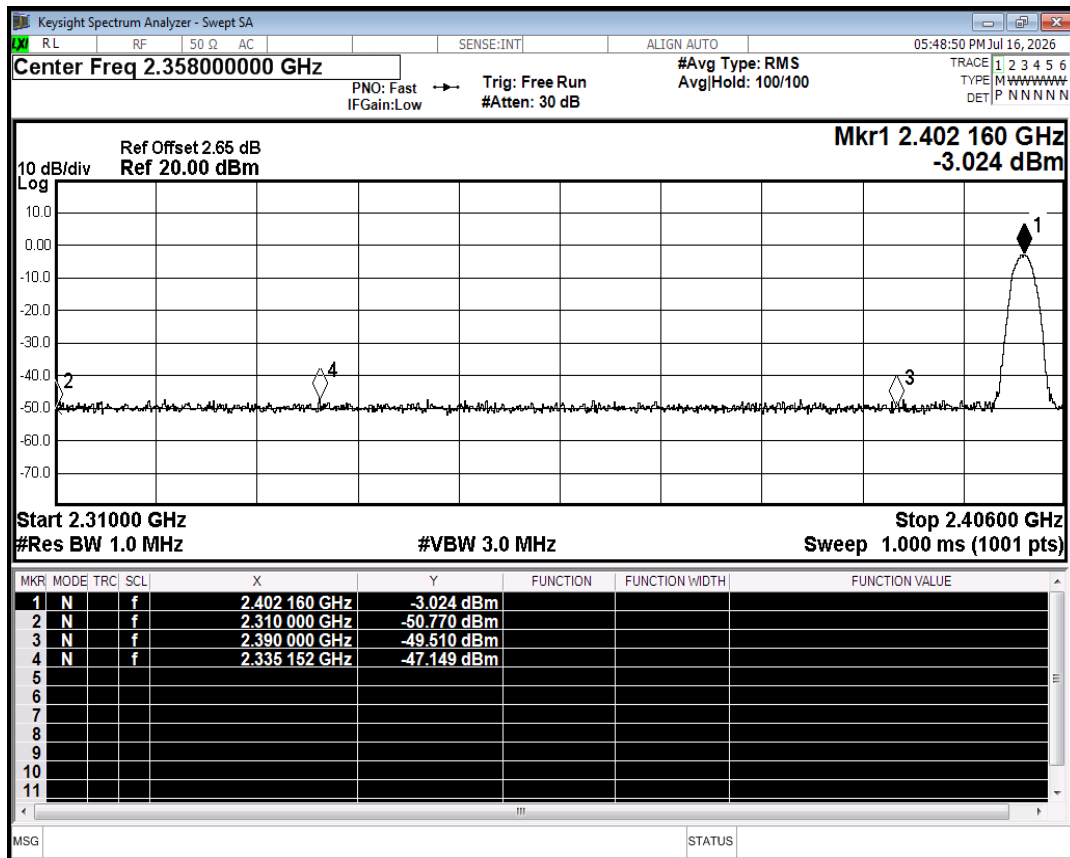
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



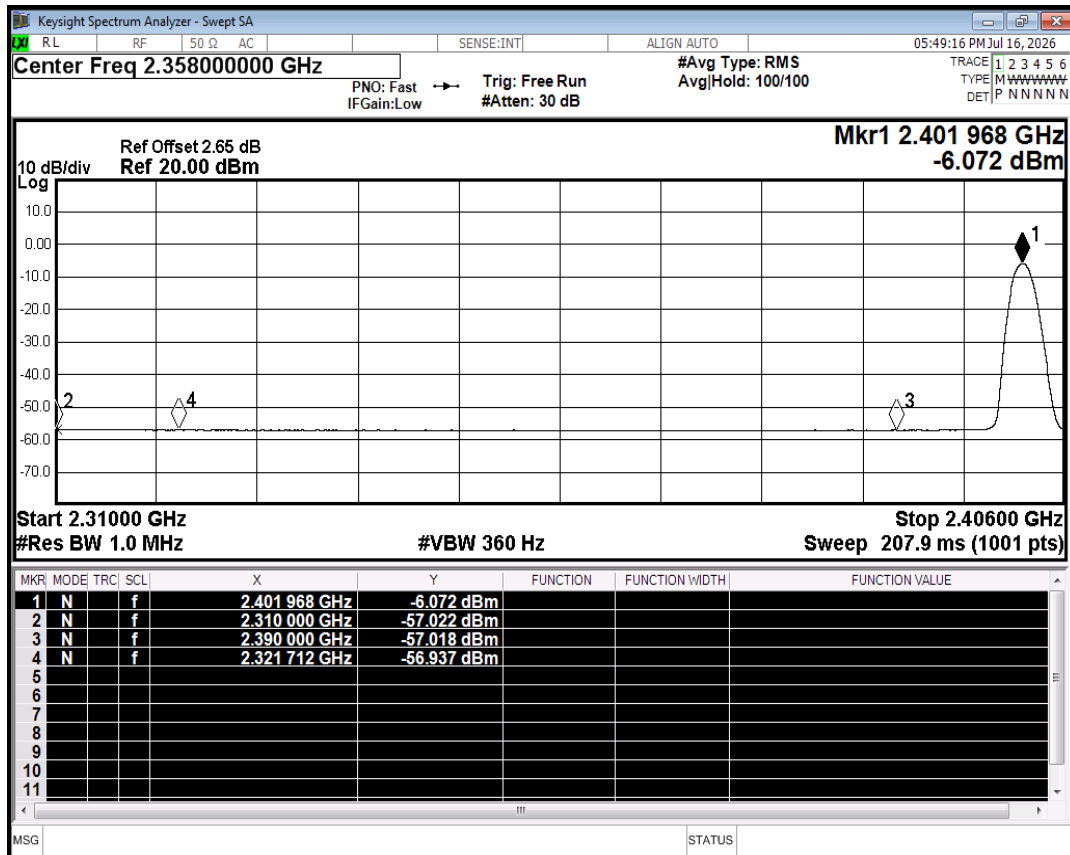
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



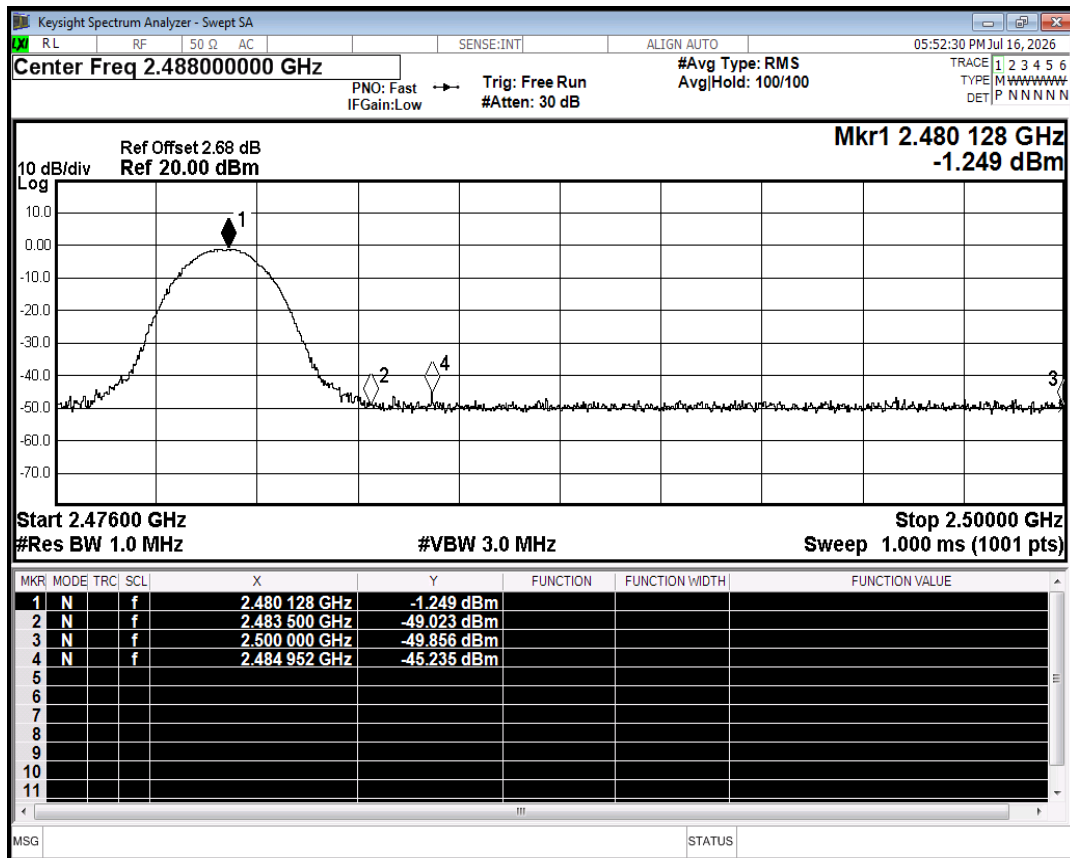
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



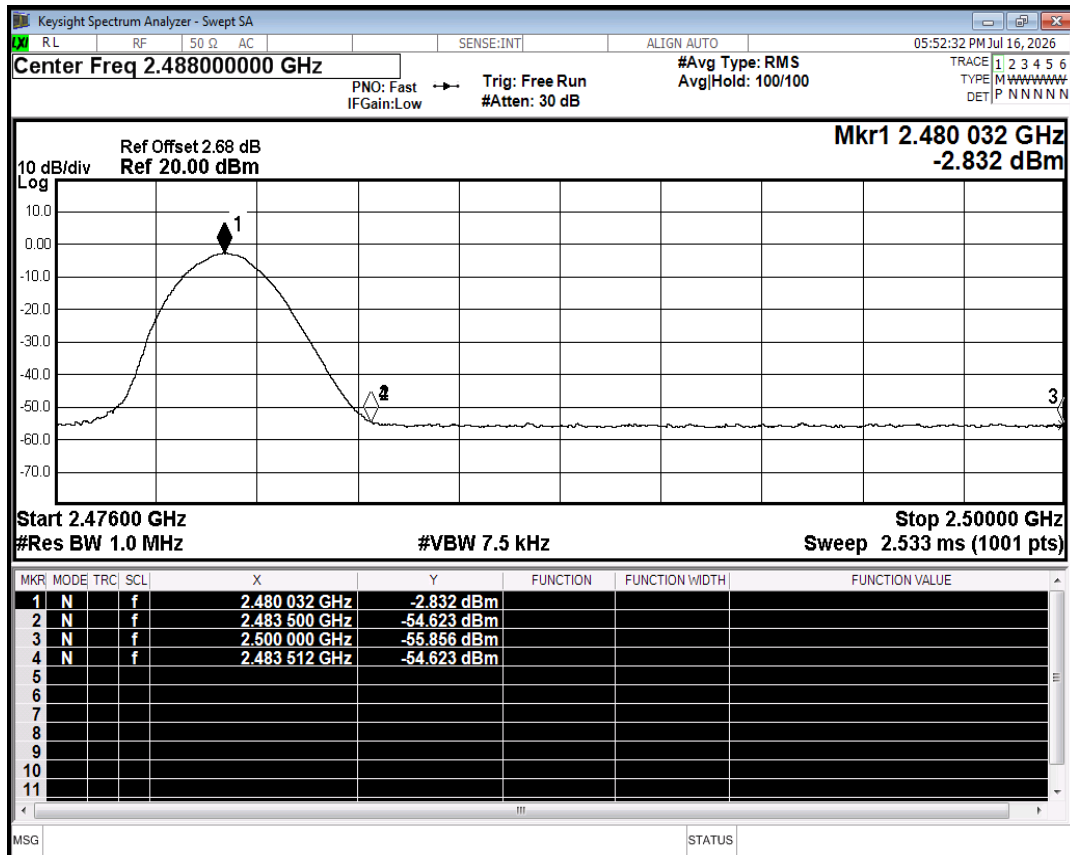
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



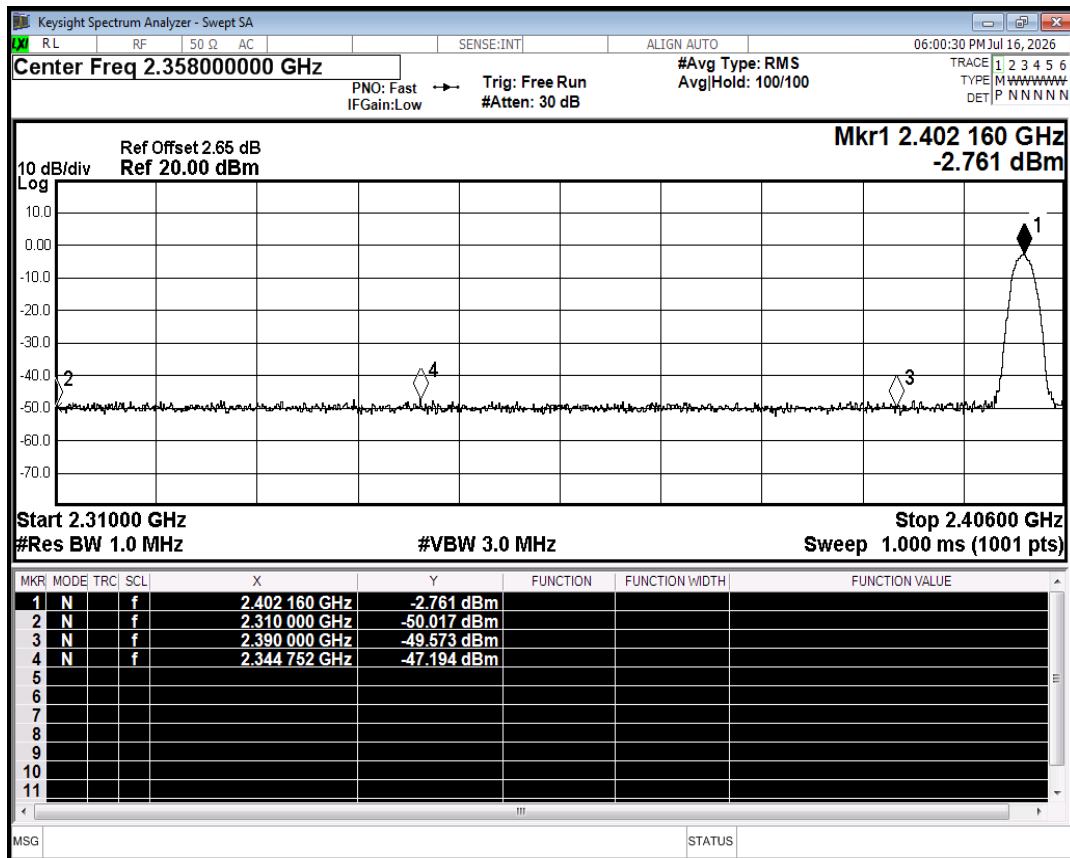
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



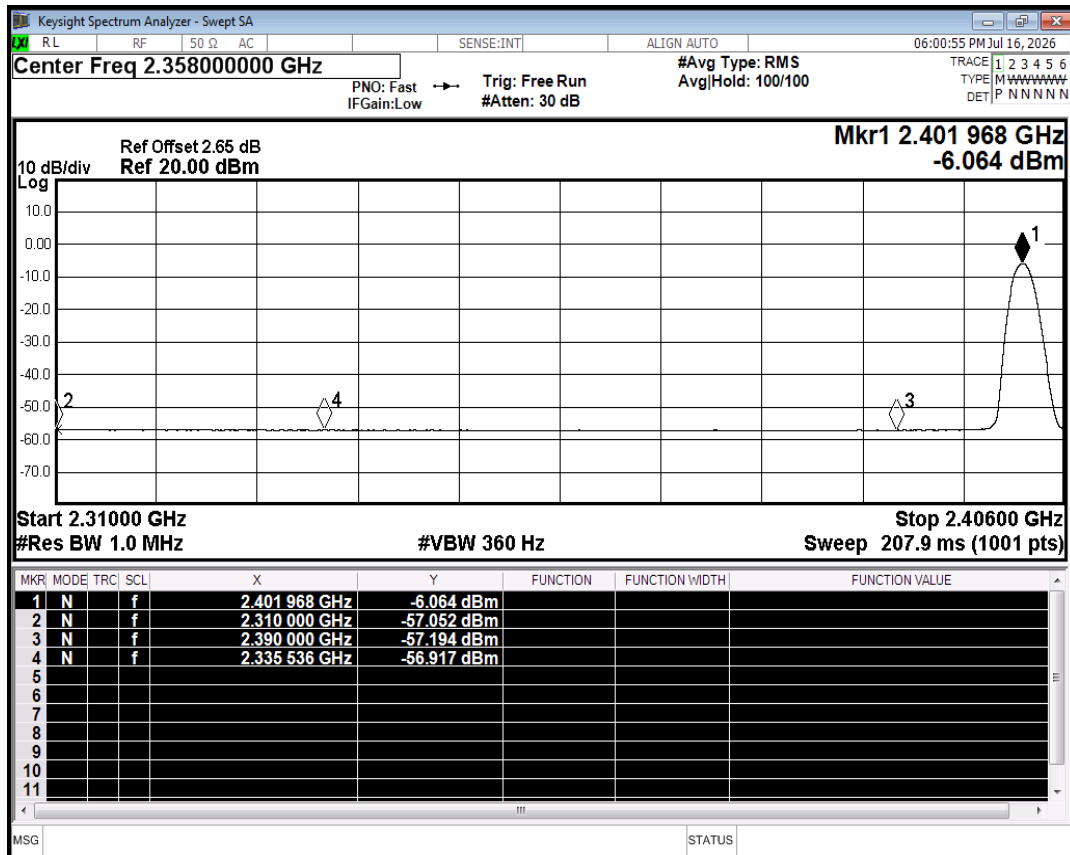
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



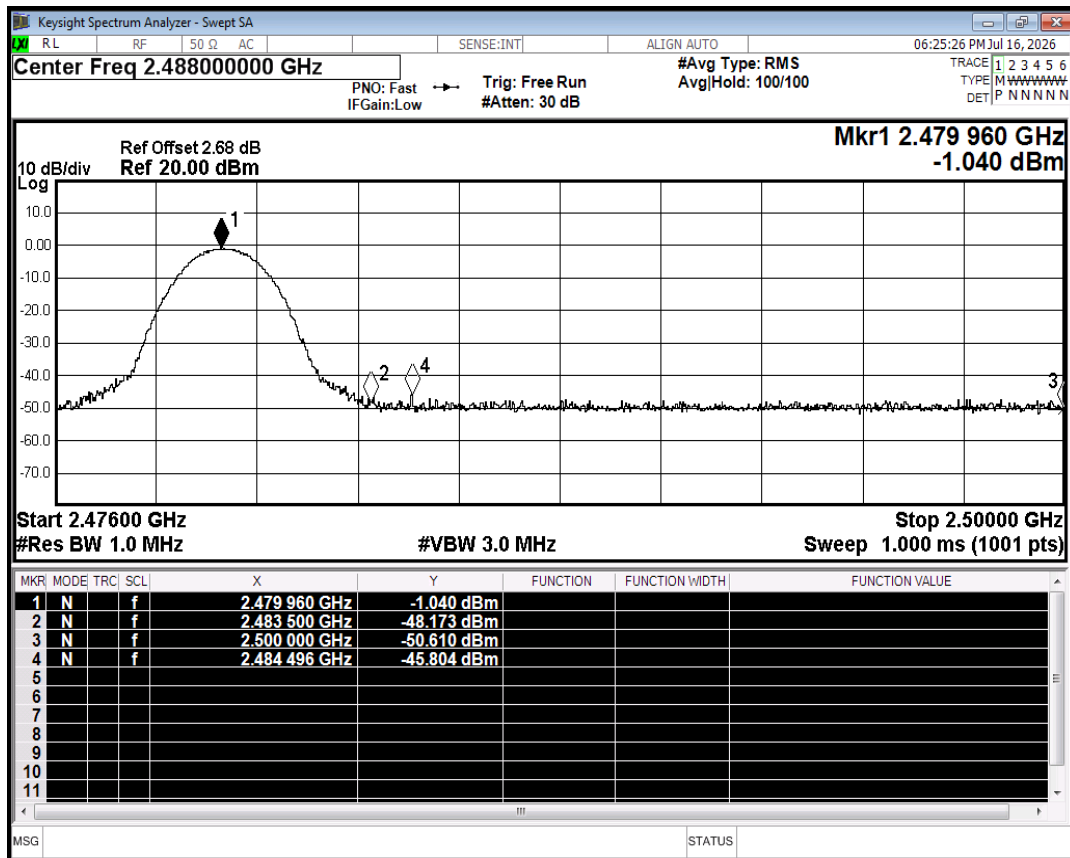
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



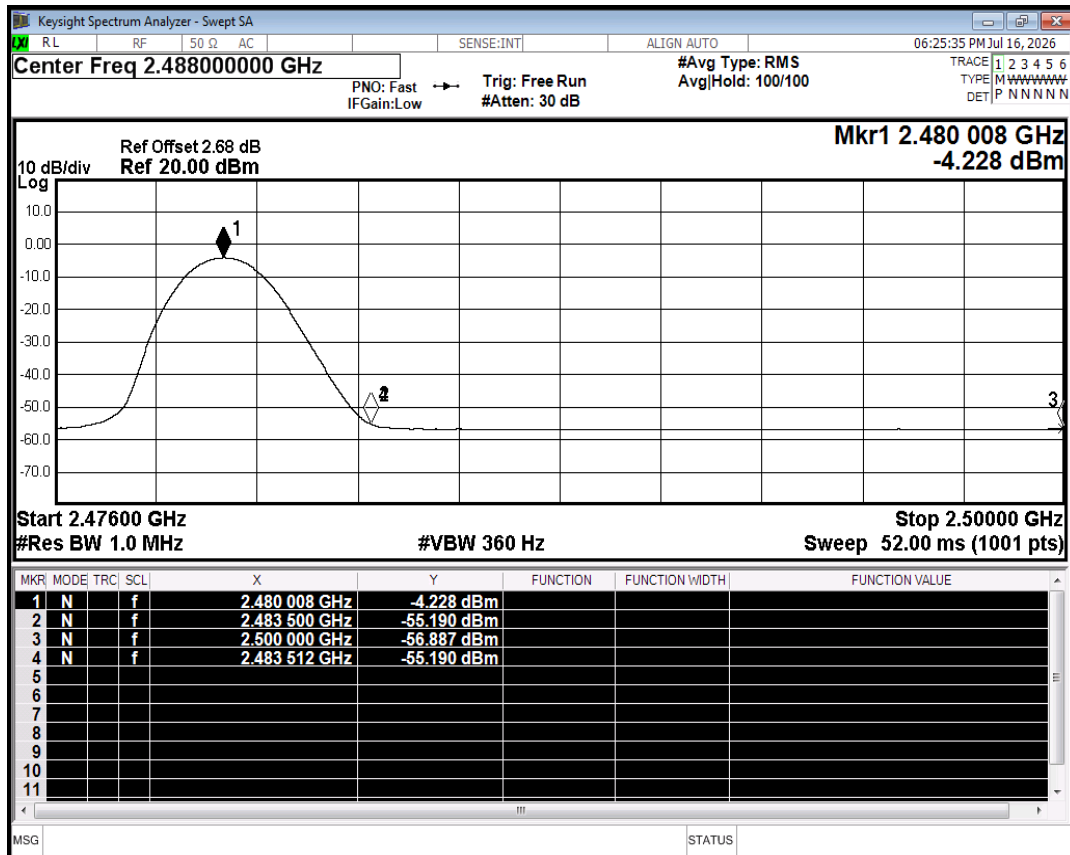
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average