Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: TWS Bluetooth Earphones

Test Model: Airdopes 71

Environmental Conditions

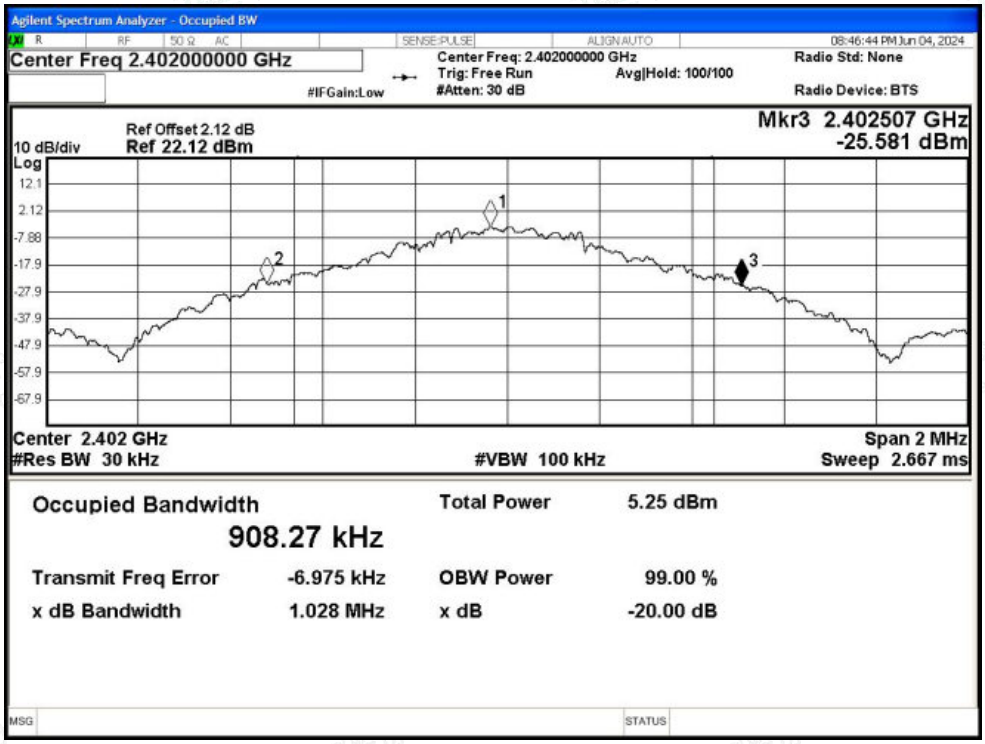
Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.028	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.951	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.017	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.281	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.28	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.279	N/A	Pass

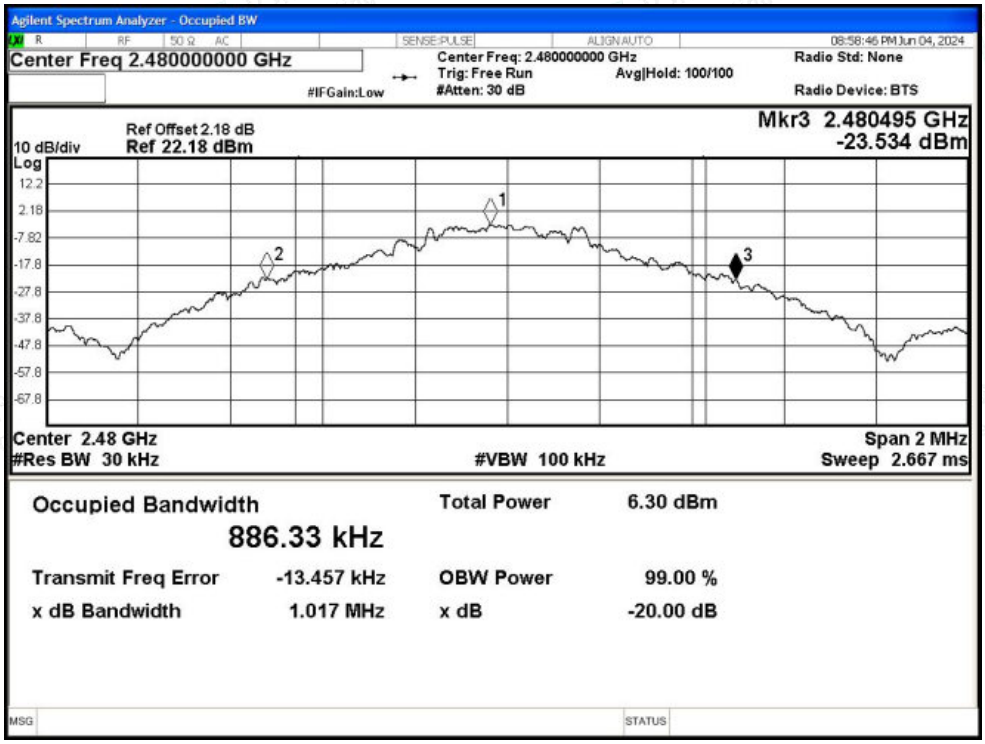
Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

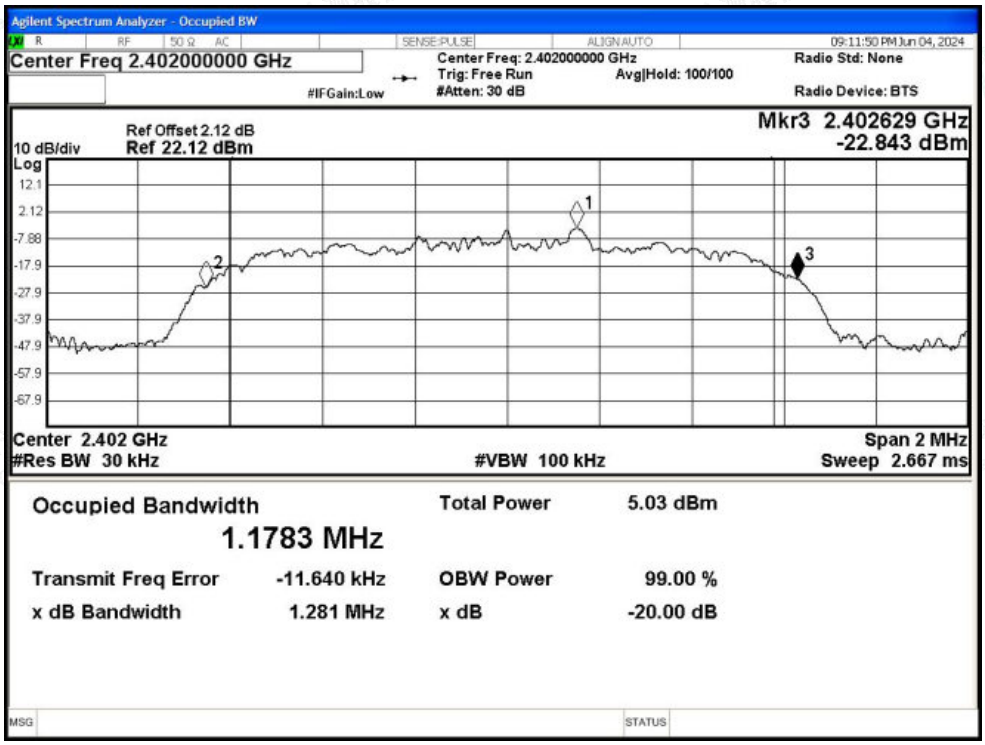


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

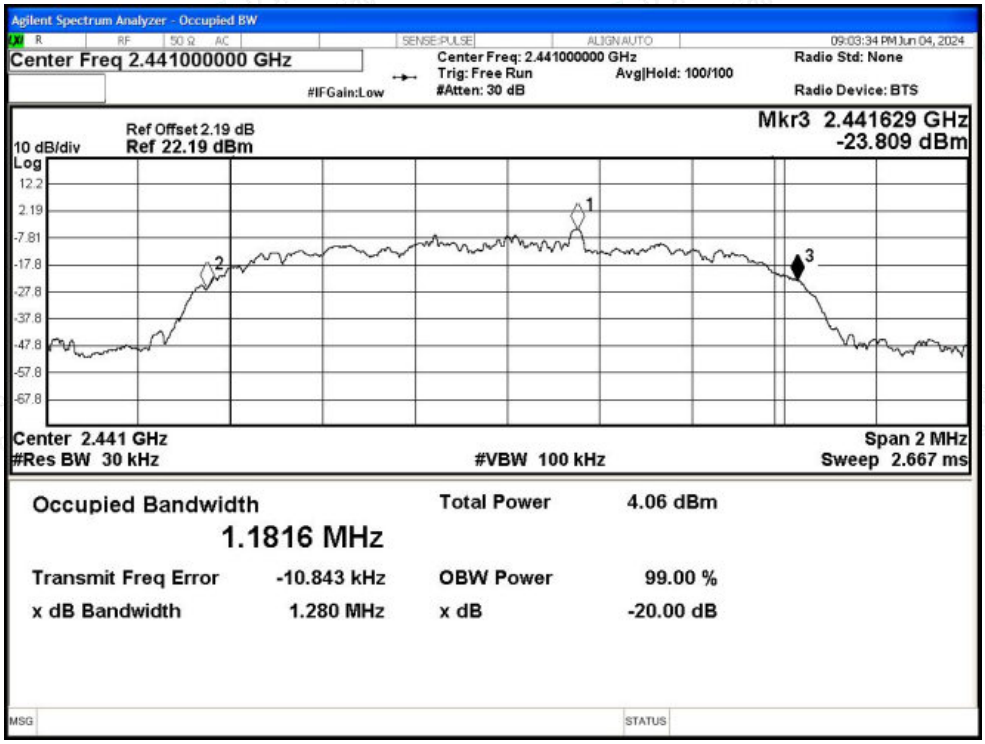
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



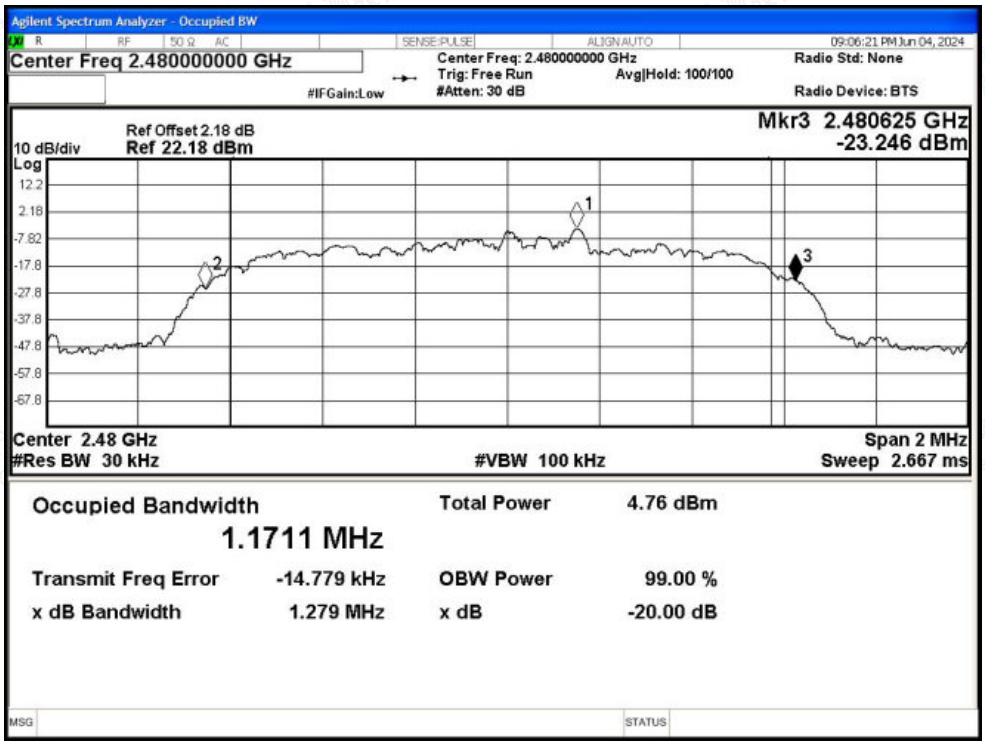
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

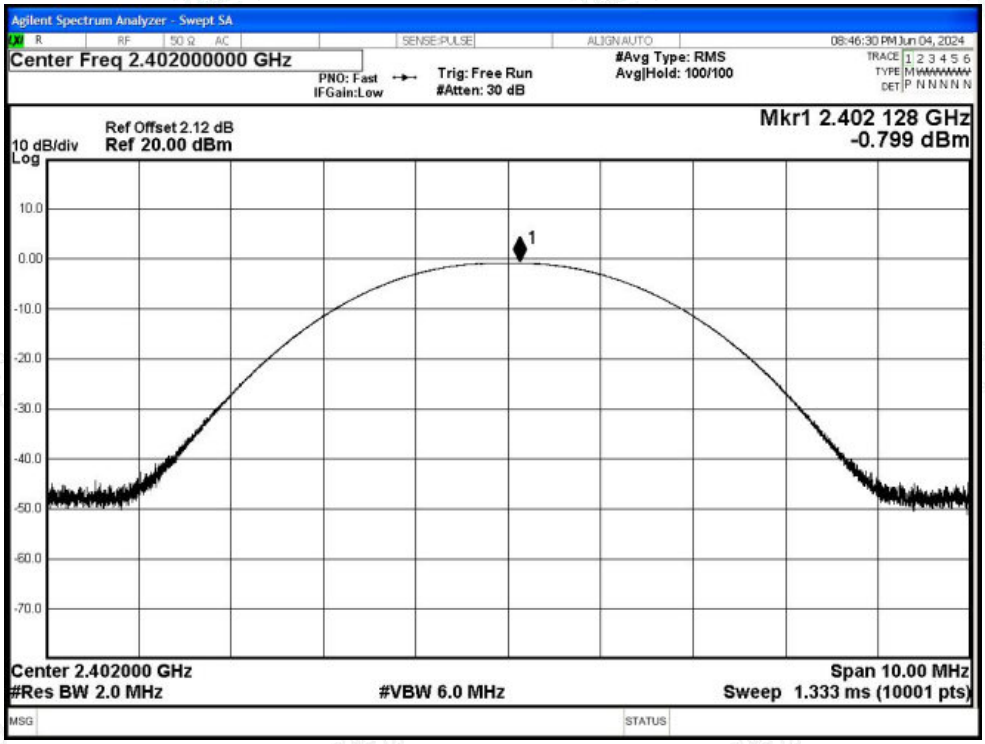


A.2 Maximum Conducted Output Power

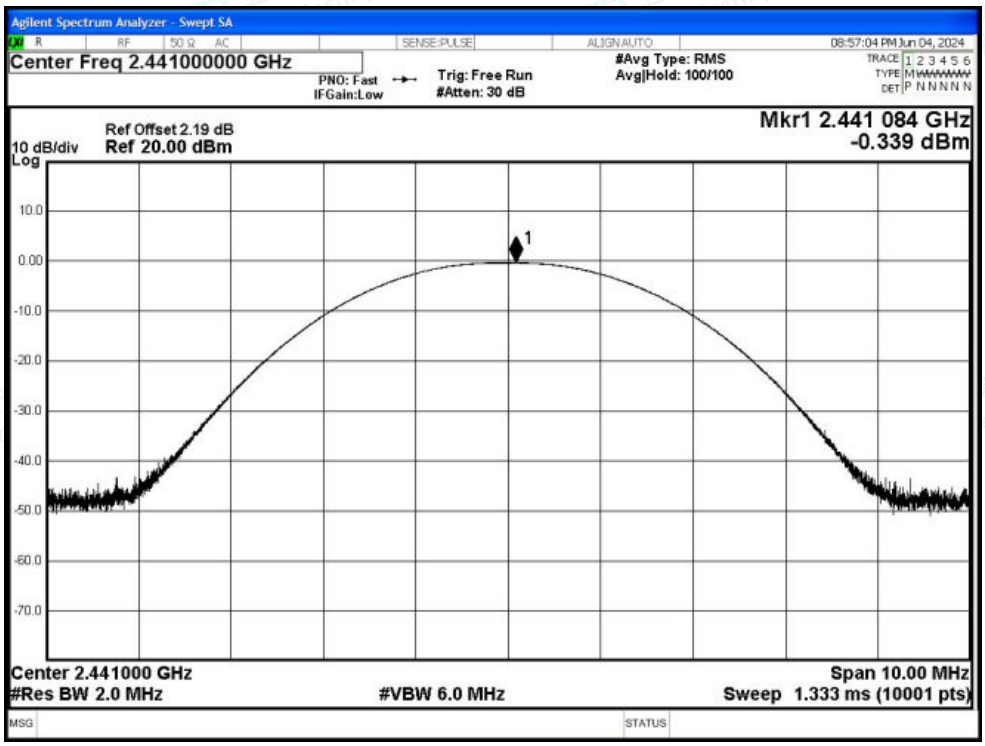
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.80	21	Pass
NVNT	1-DH5	2441	Ant1	-0.34	21	Pass
NVNT	1-DH5	2480	Ant1	-0.03	21	Pass
NVNT	2-DH5	2402	Ant1	0.29	21	Pass
NVNT	2-DH5	2441	Ant1	-0.50	21	Pass
NVNT	2-DH5	2480	Ant1	-0.19	21	Pass

Test Graphs

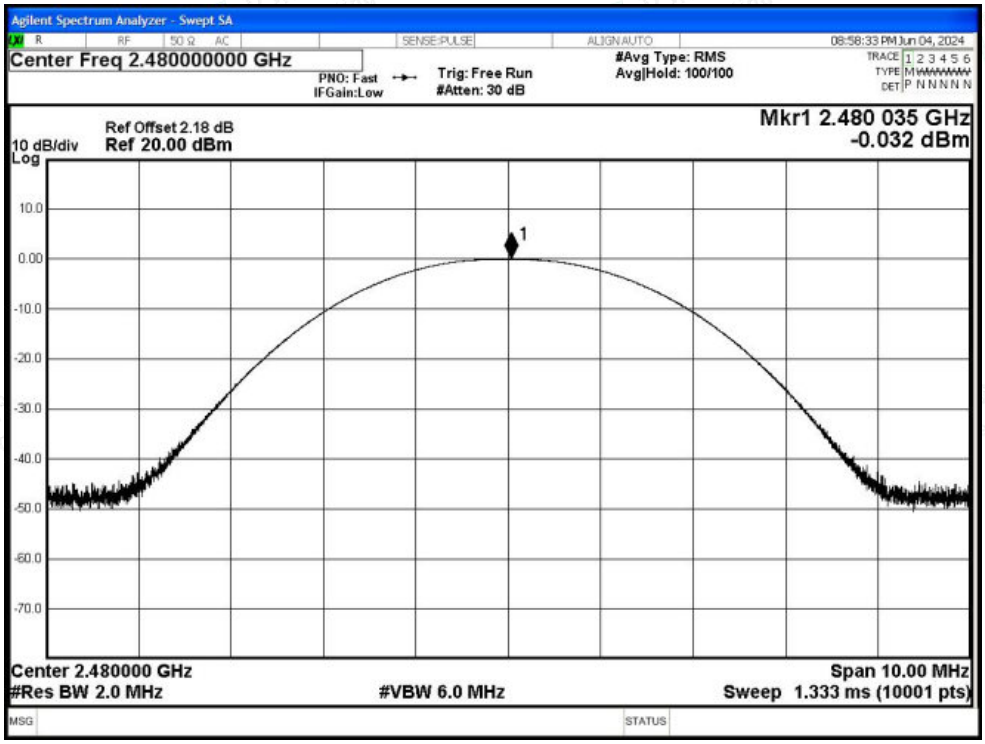
Power NVNT 1-DH5 2402MHz Ant1



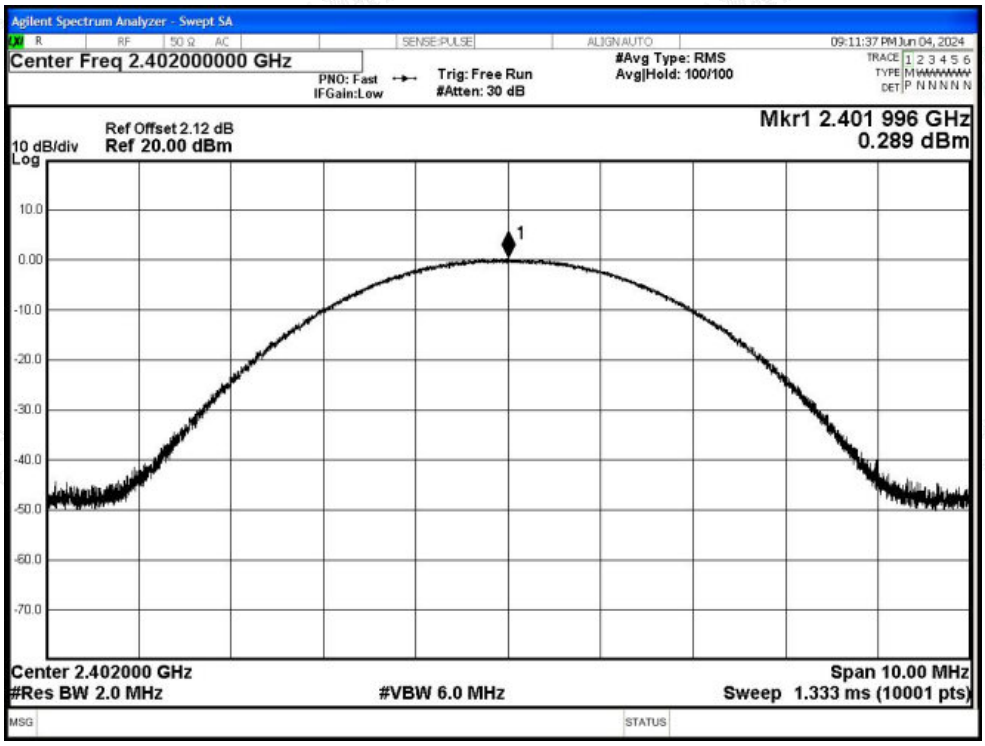
Power NVNT 1-DH5 2441MHz Ant1



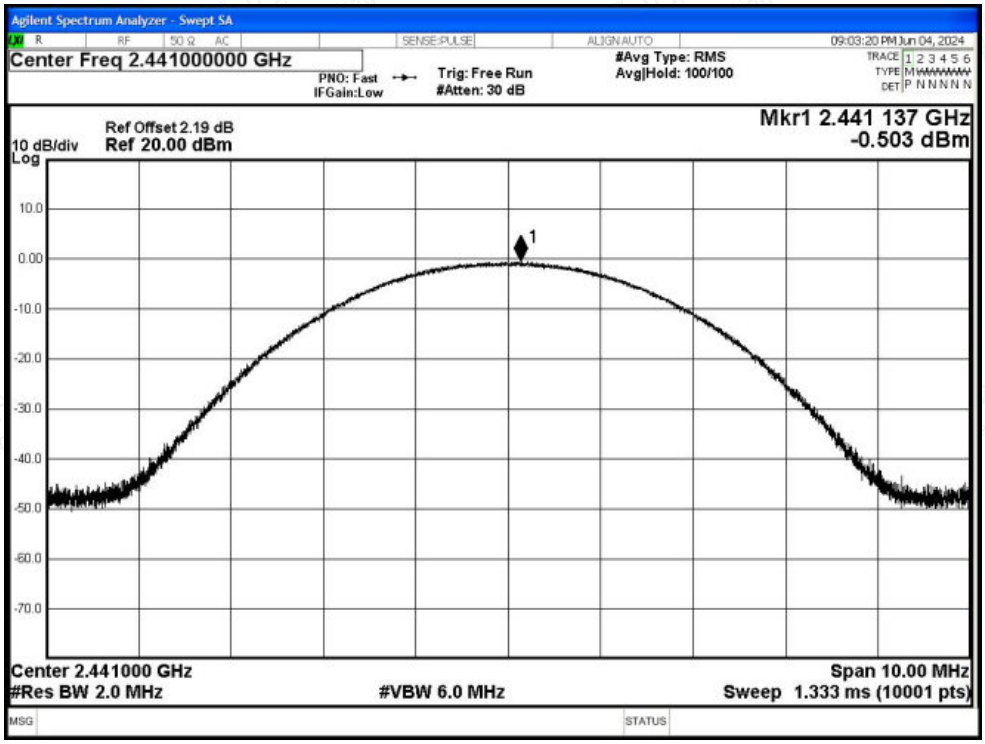
Power NVNT 1-DH5 2480MHz Ant1



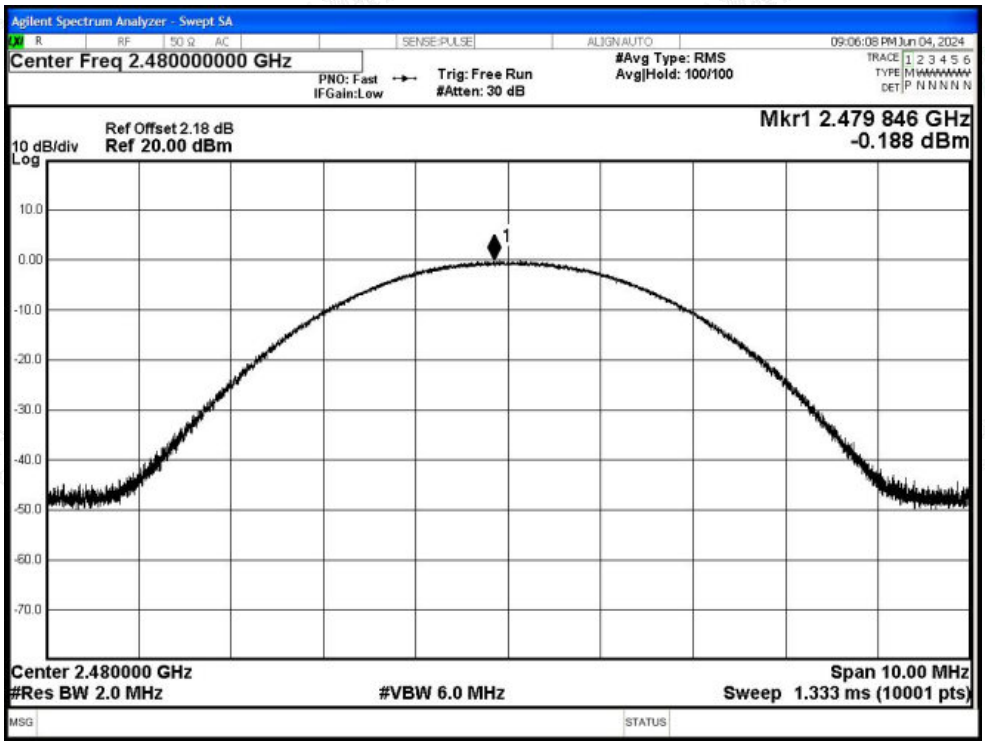
Power NVNT 2-DH5 2402MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1

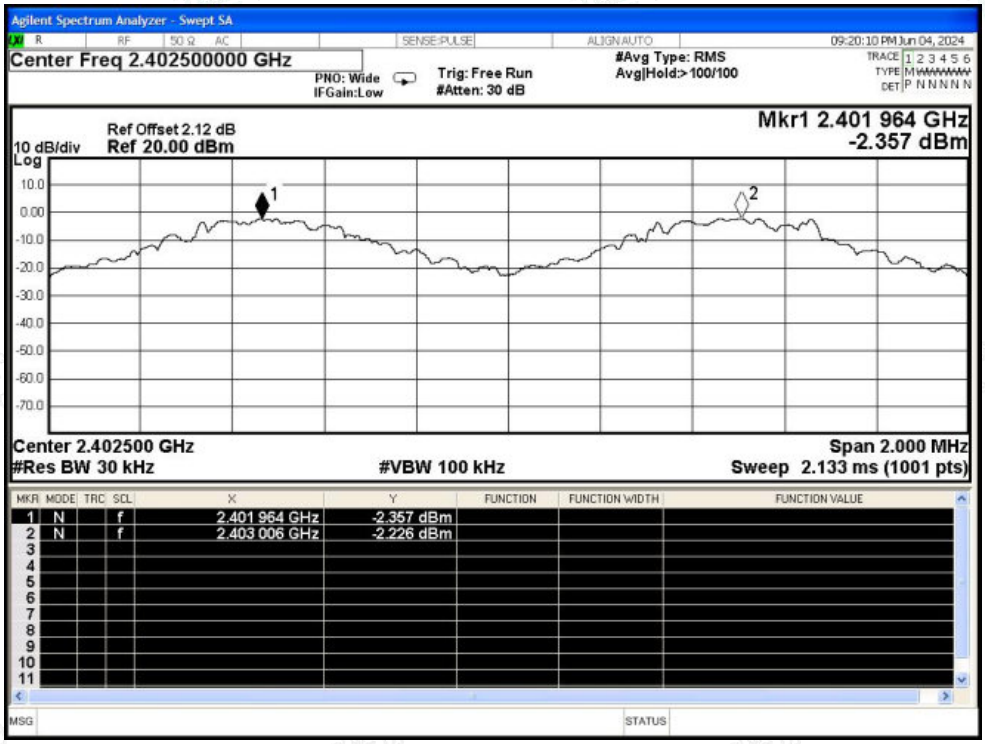


A.3 Carrier Frequencies Separation

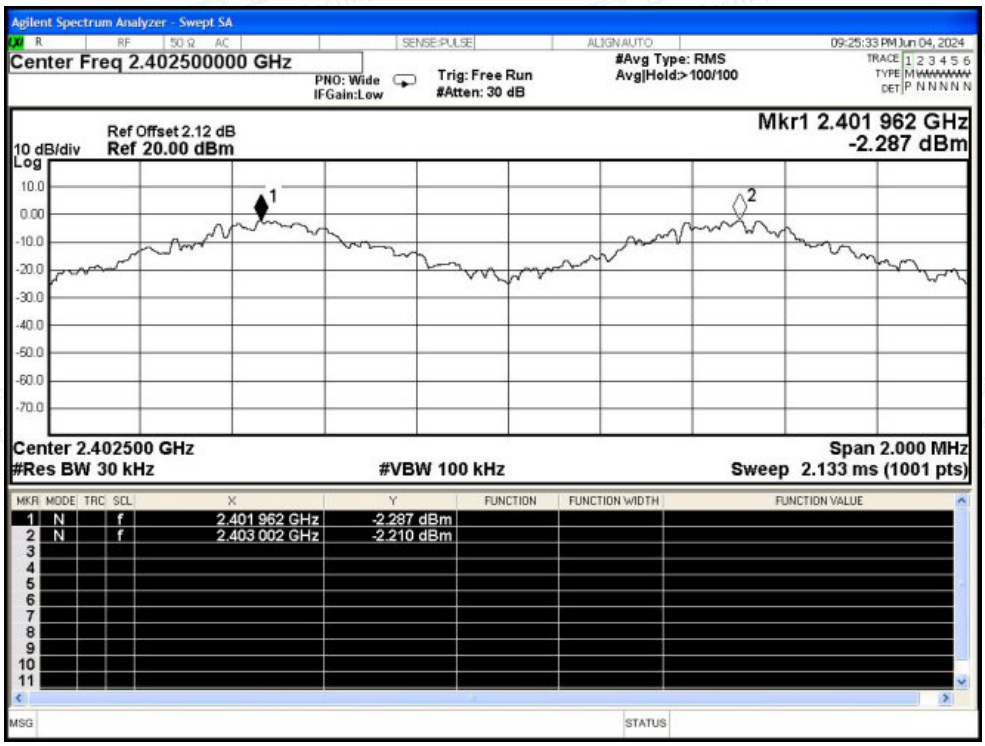
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.964	2403.006	1.042	0.685	Pass
NVNT	2-DH5	Ant1	2401.962	2403.002	1.04	0.854	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

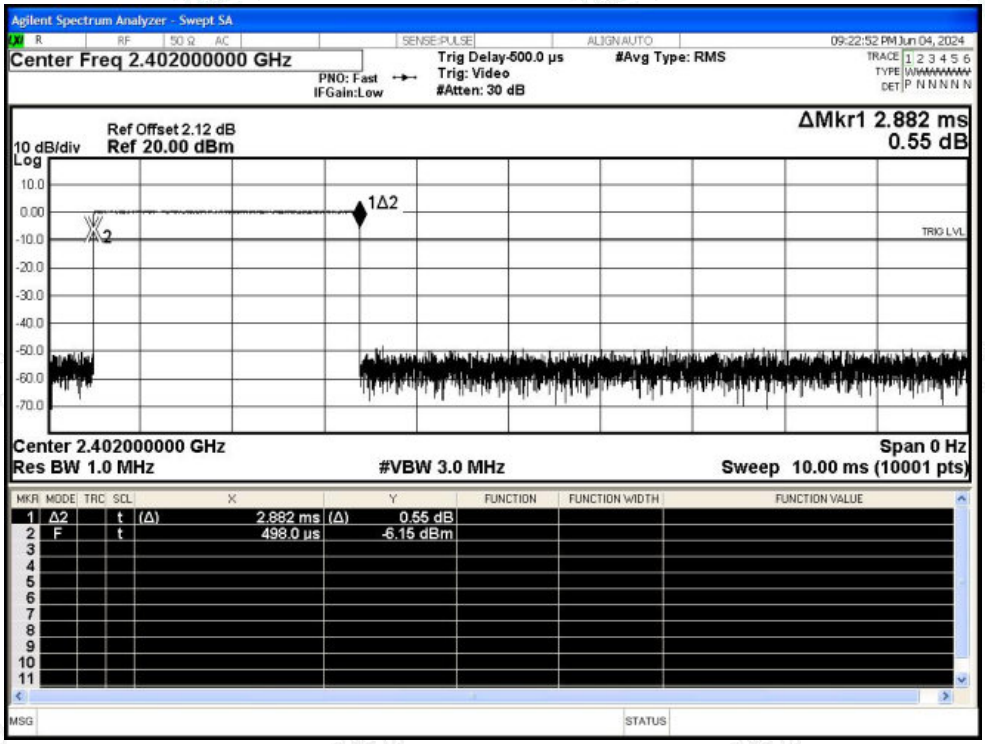


A.4 Dwell Time

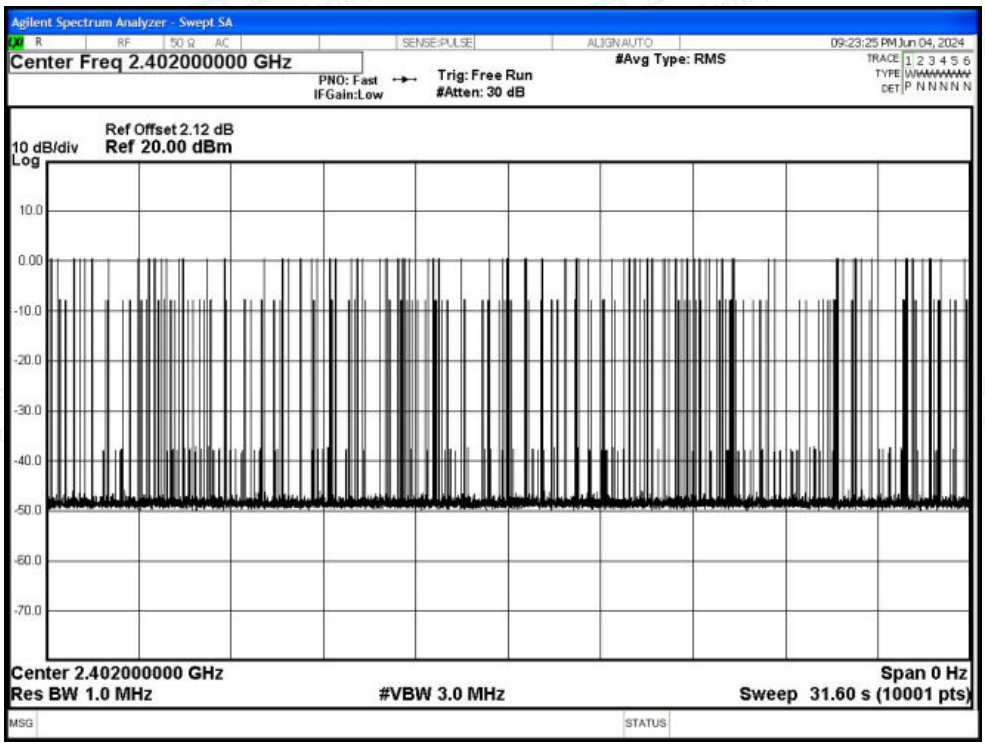
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	299.728	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.881	305.386	106	31600	400	Pass

Test Graphs

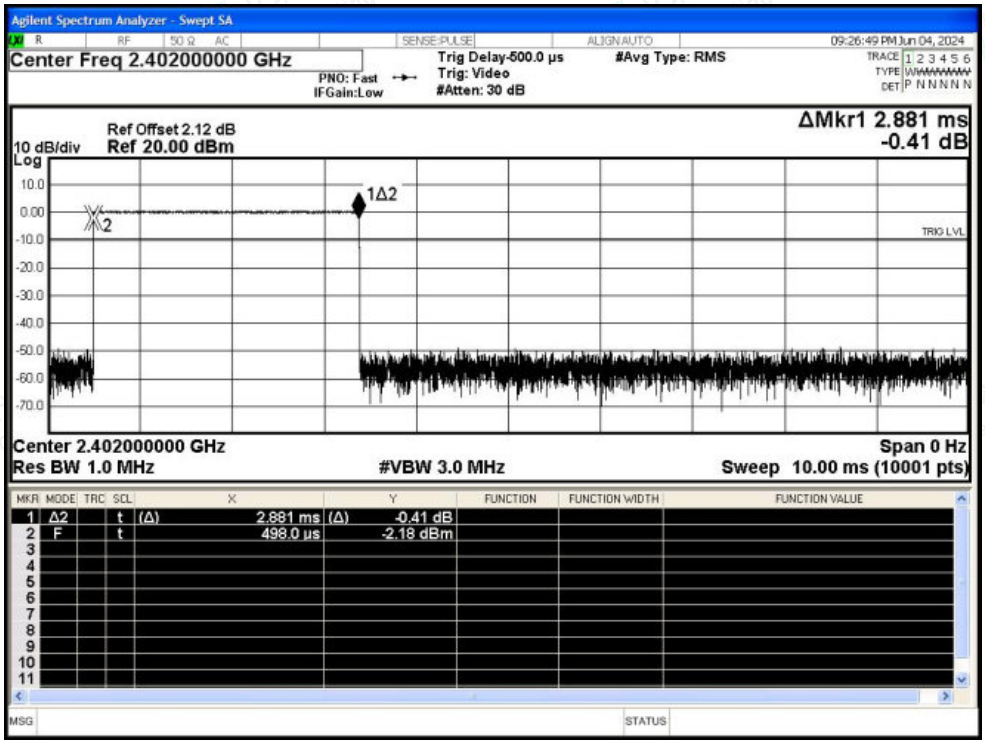
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



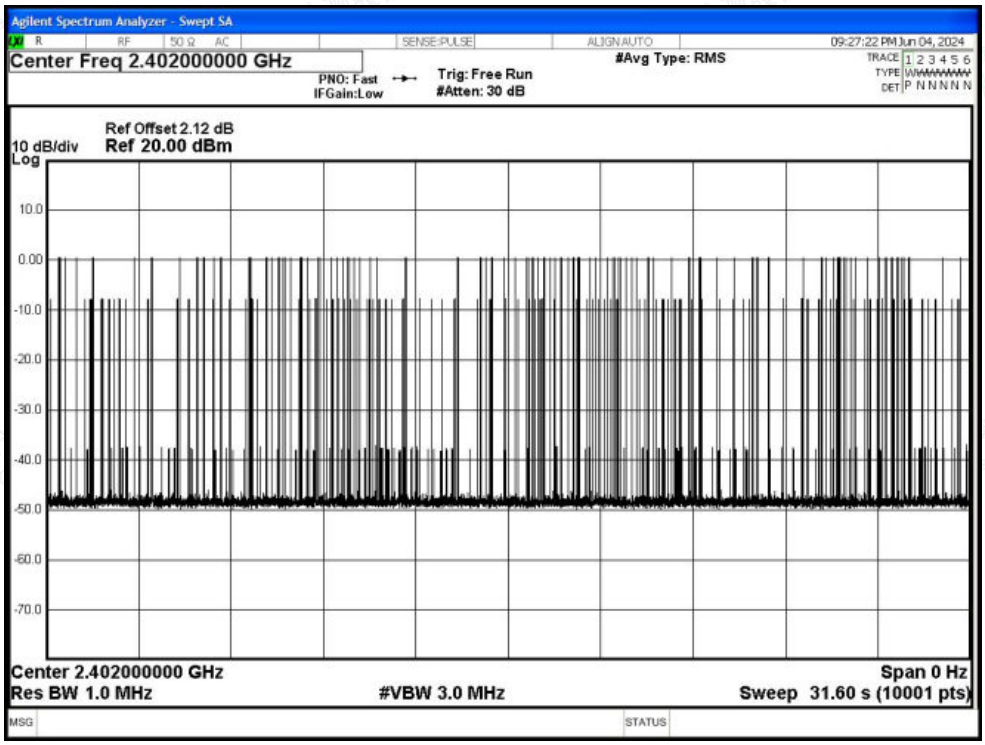
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

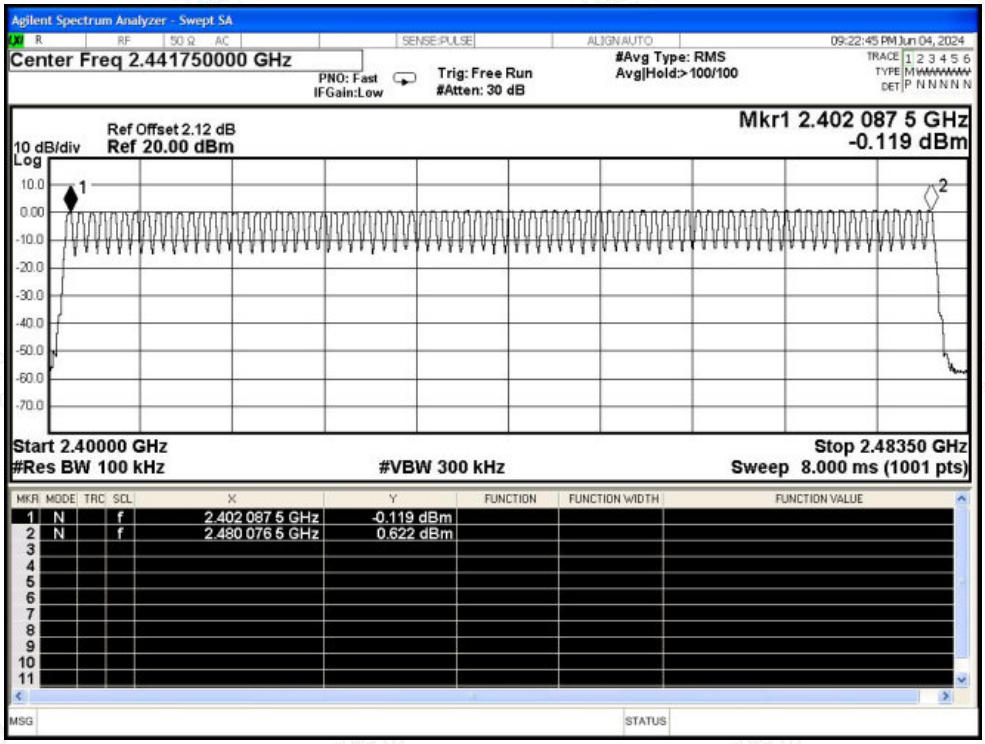


A.5 Number of Hopping Channel

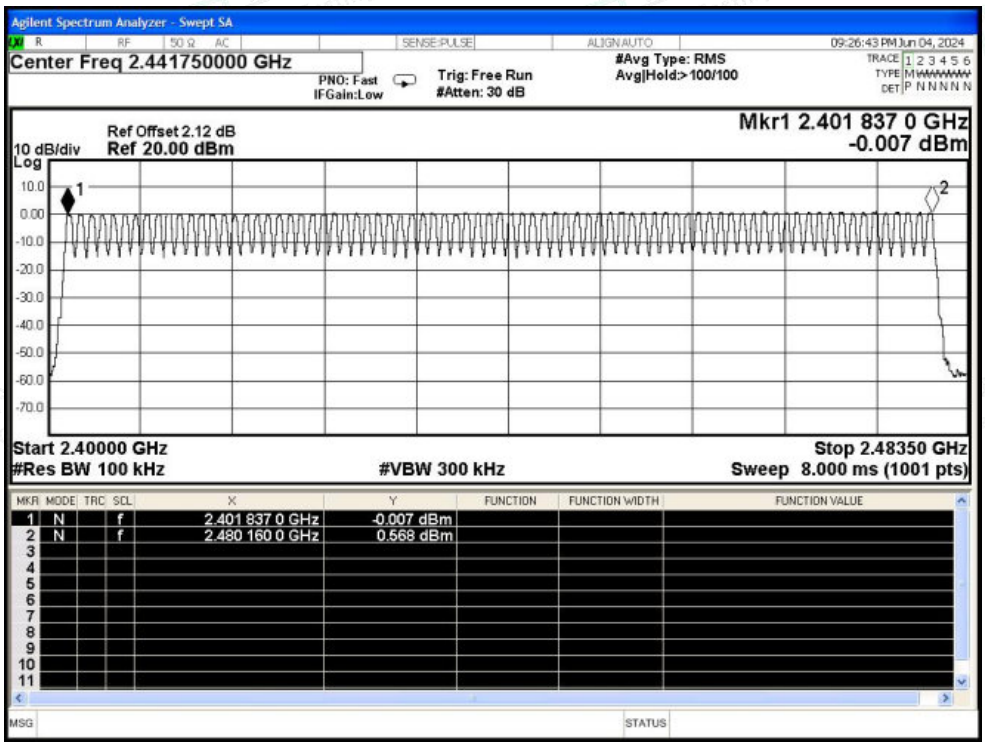
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

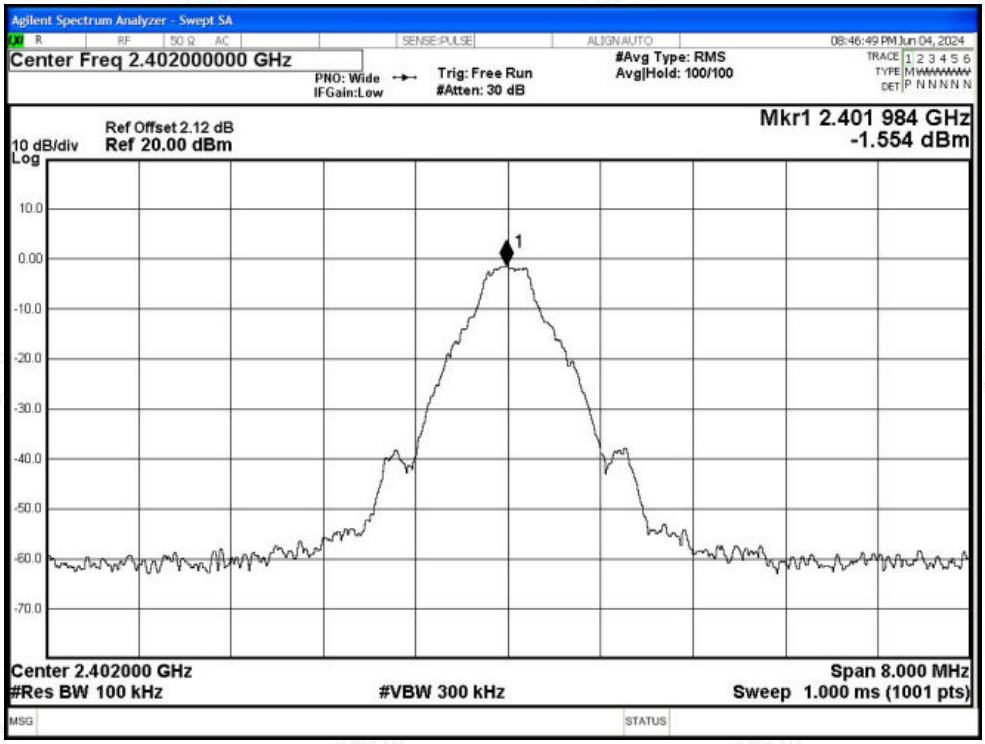


A.6 Band Edge

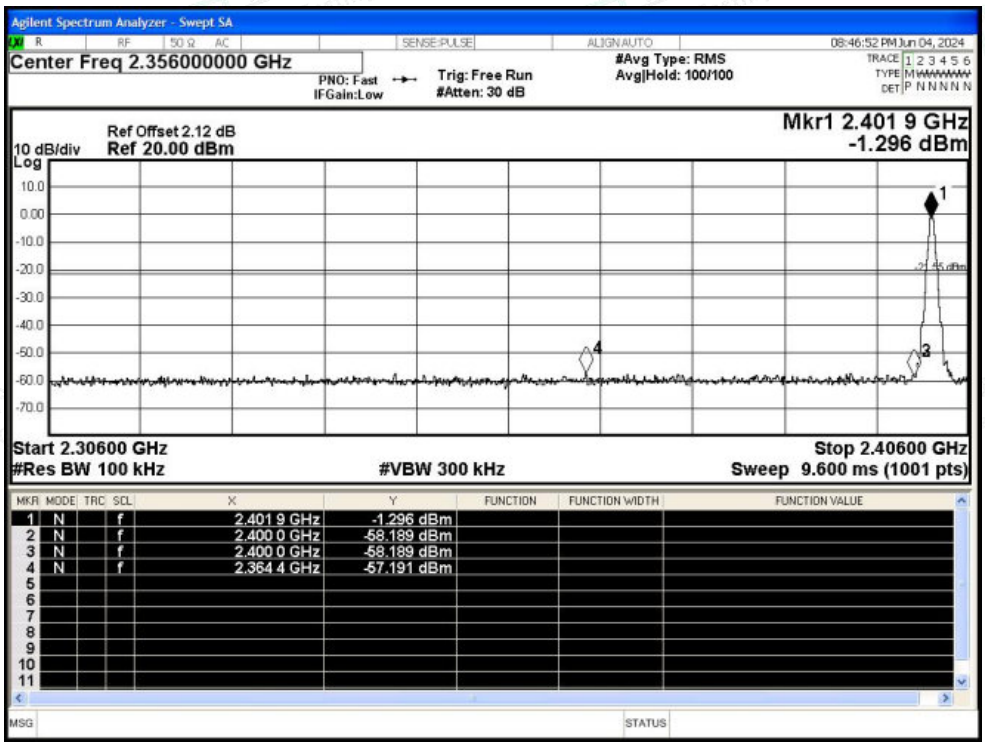
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.64	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.69	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.77	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-55.16	-20	Pass

Test Graphs

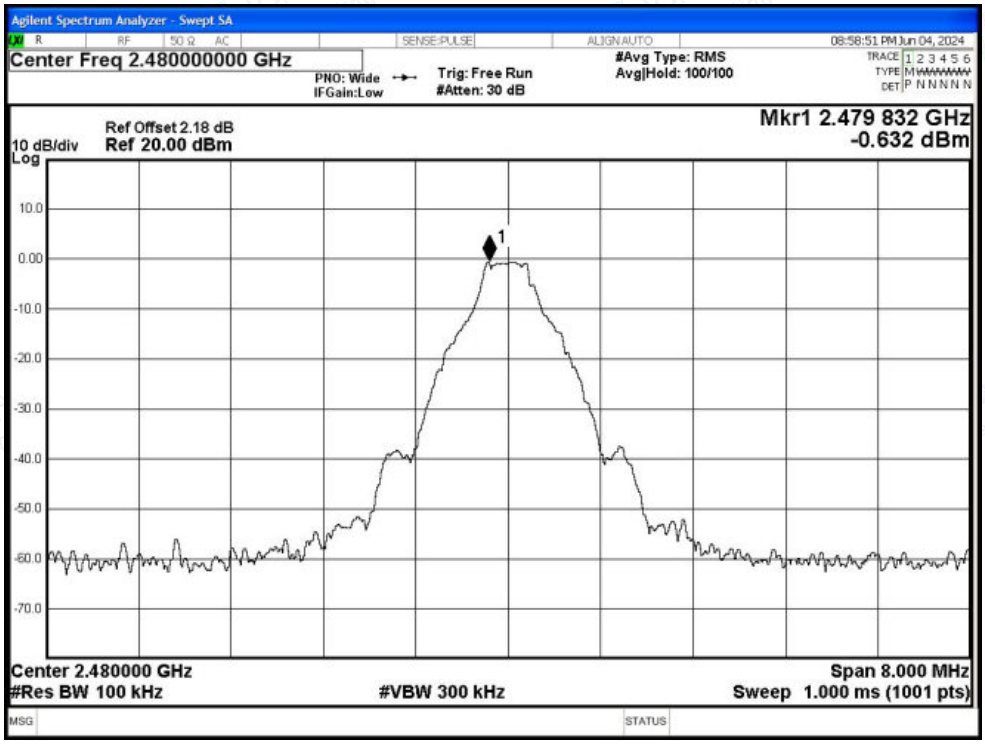
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



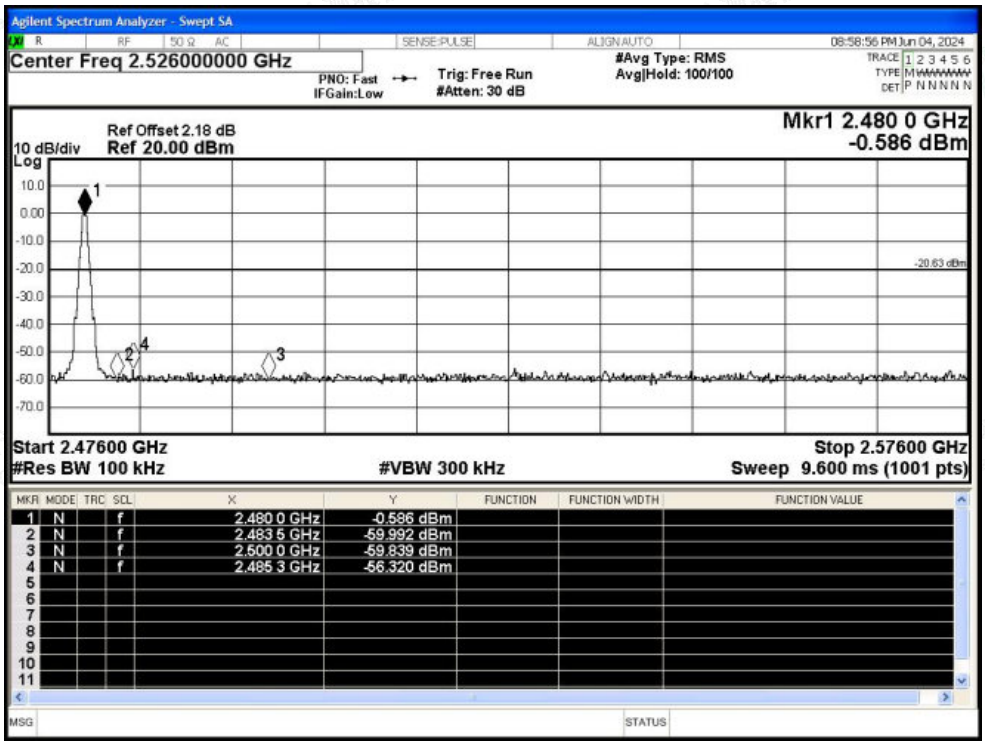
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



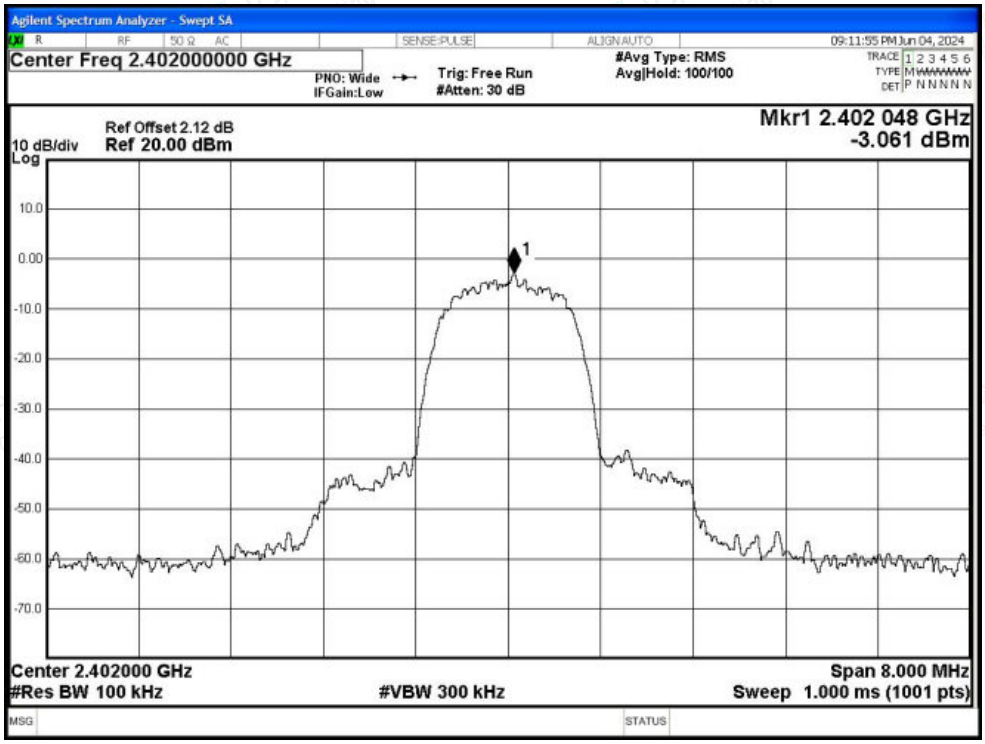
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



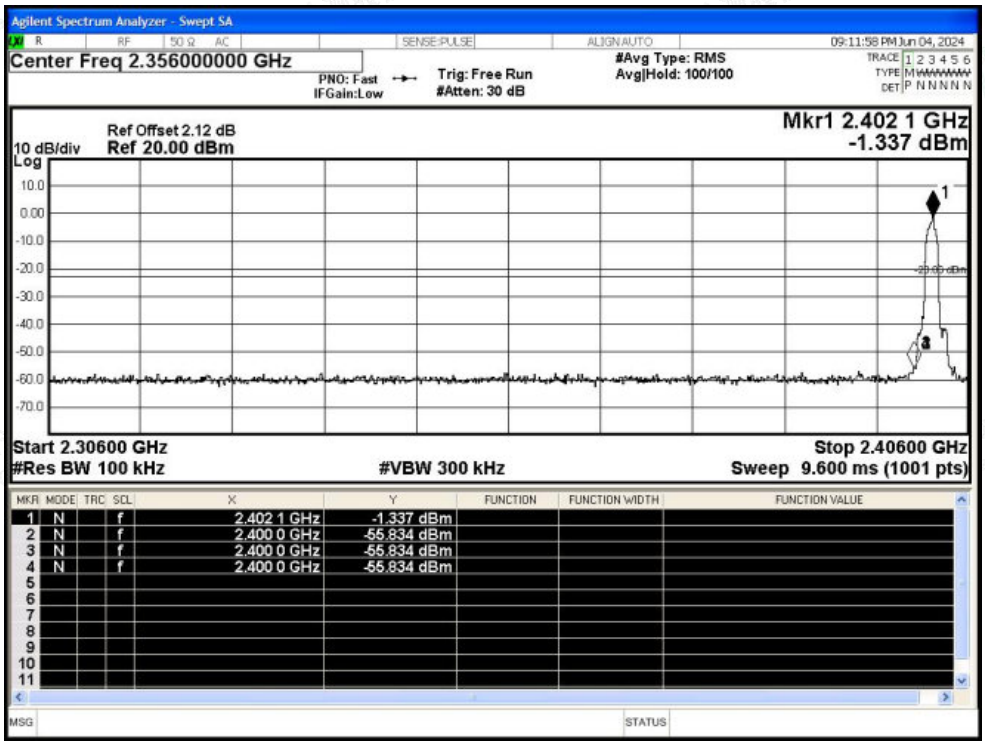
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



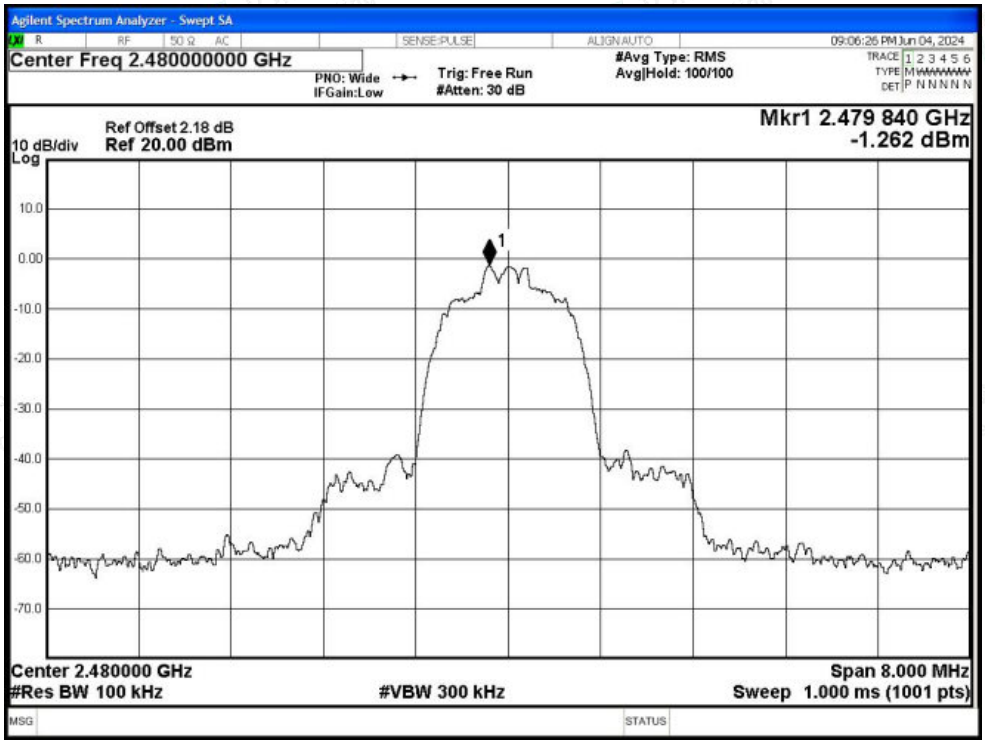
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



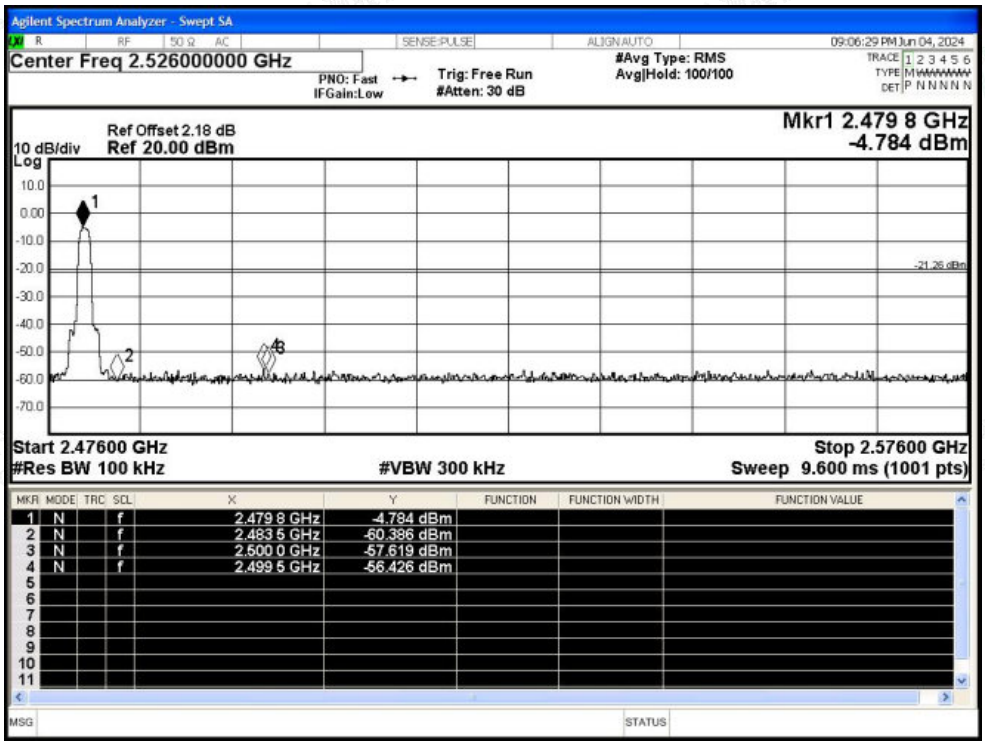
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



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



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

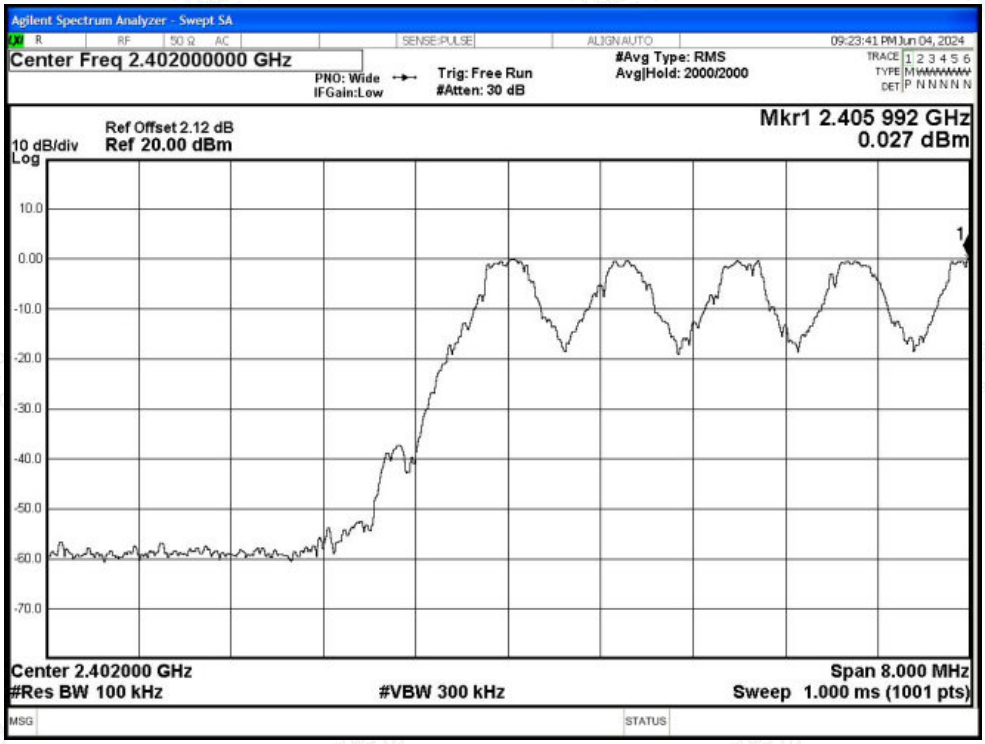


(Hopping)

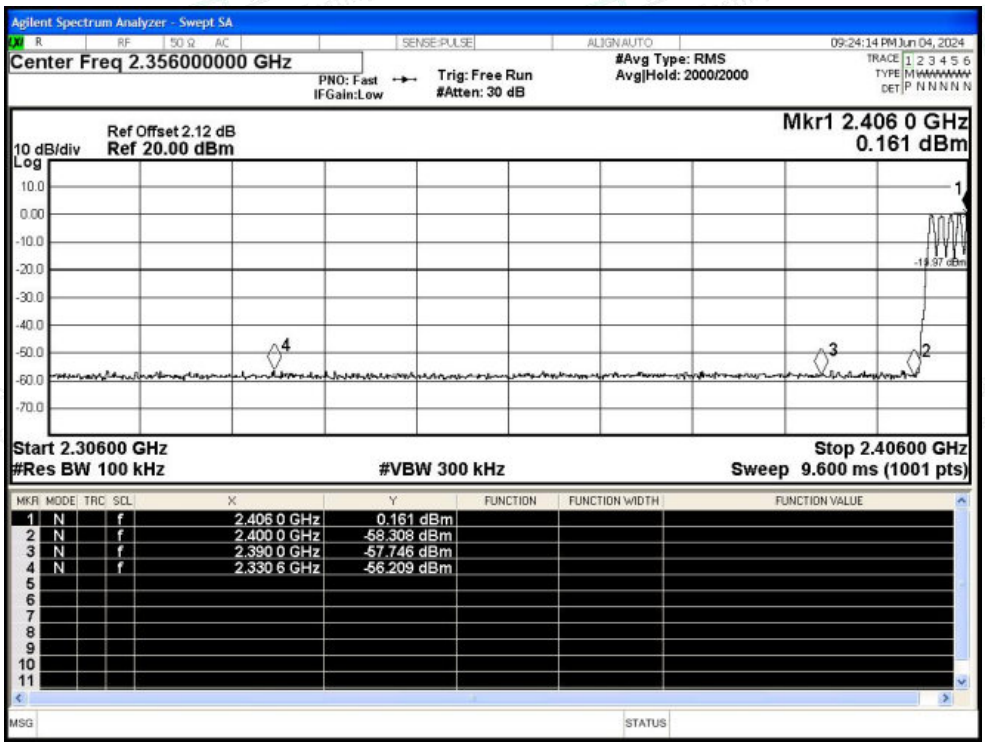
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.24	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.79	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.48	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-57.09	-20	Pass

Test Graphs

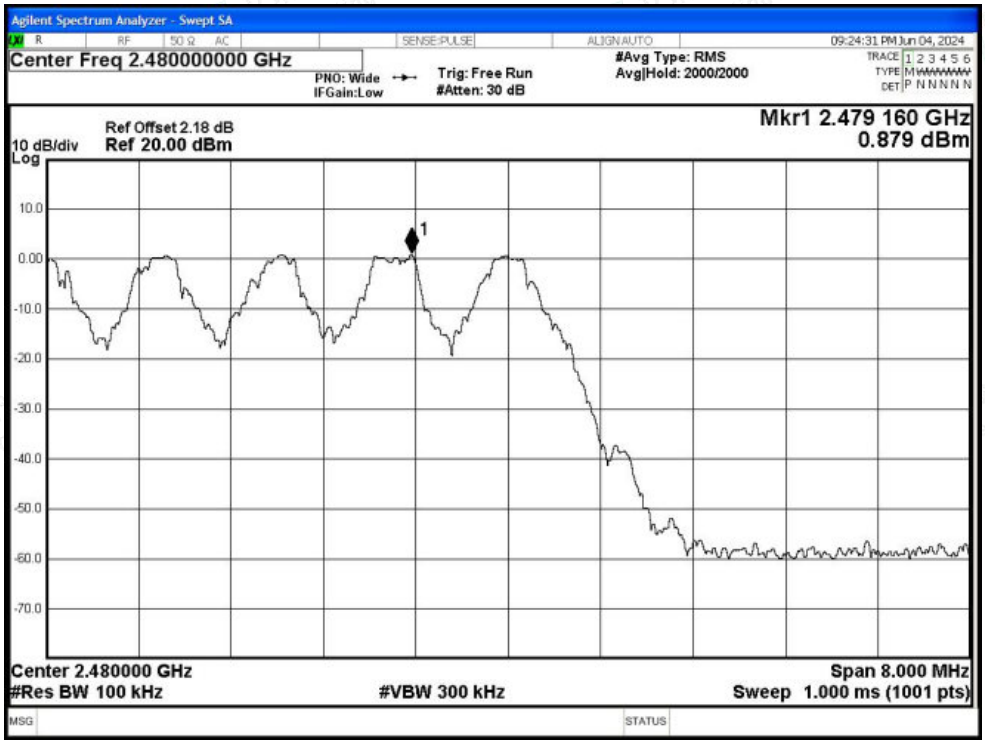
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



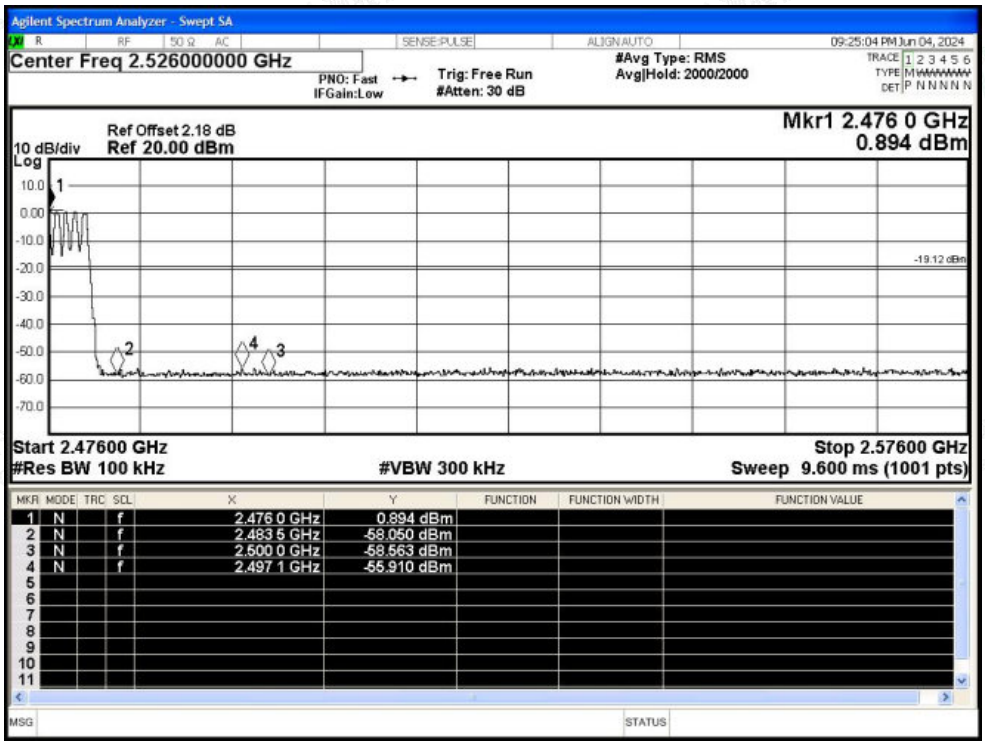
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



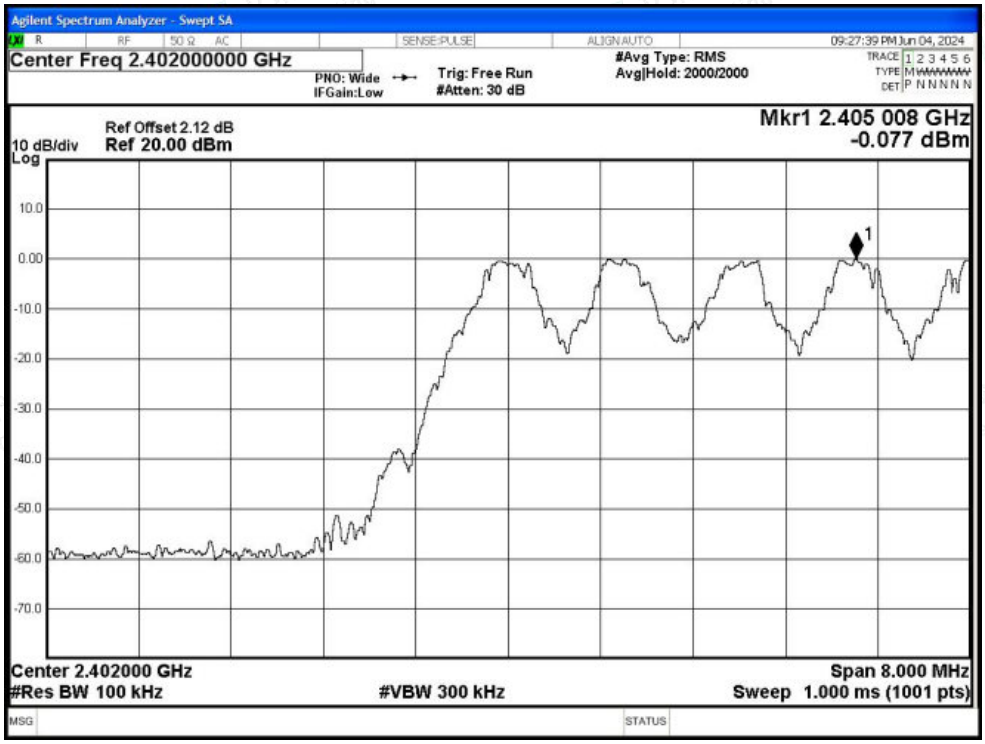
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



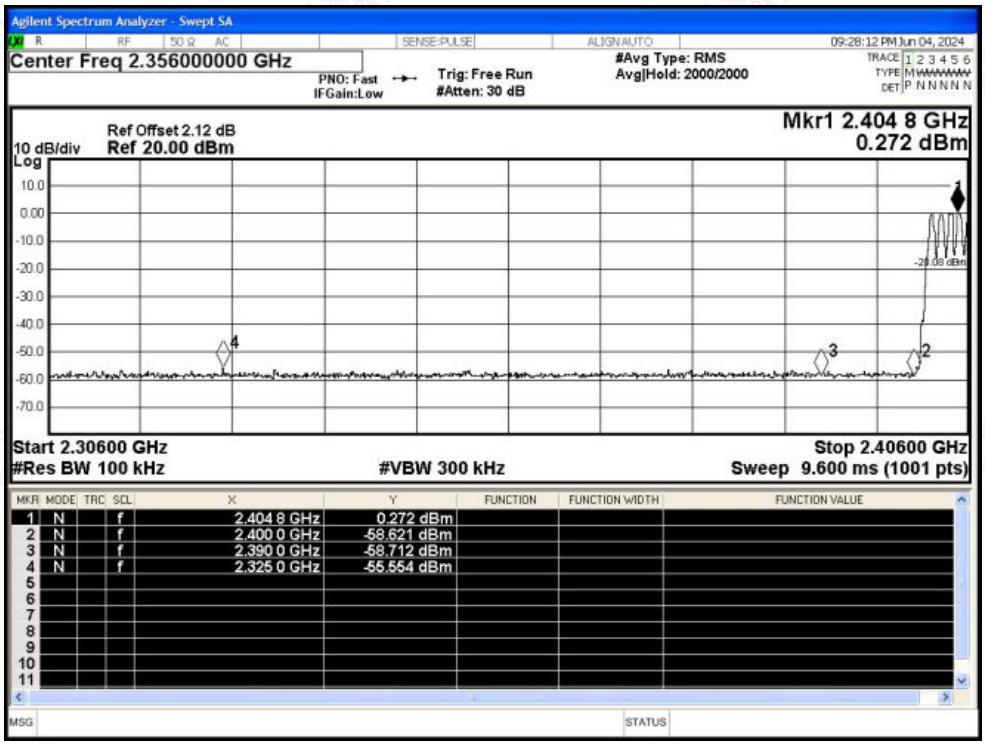
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



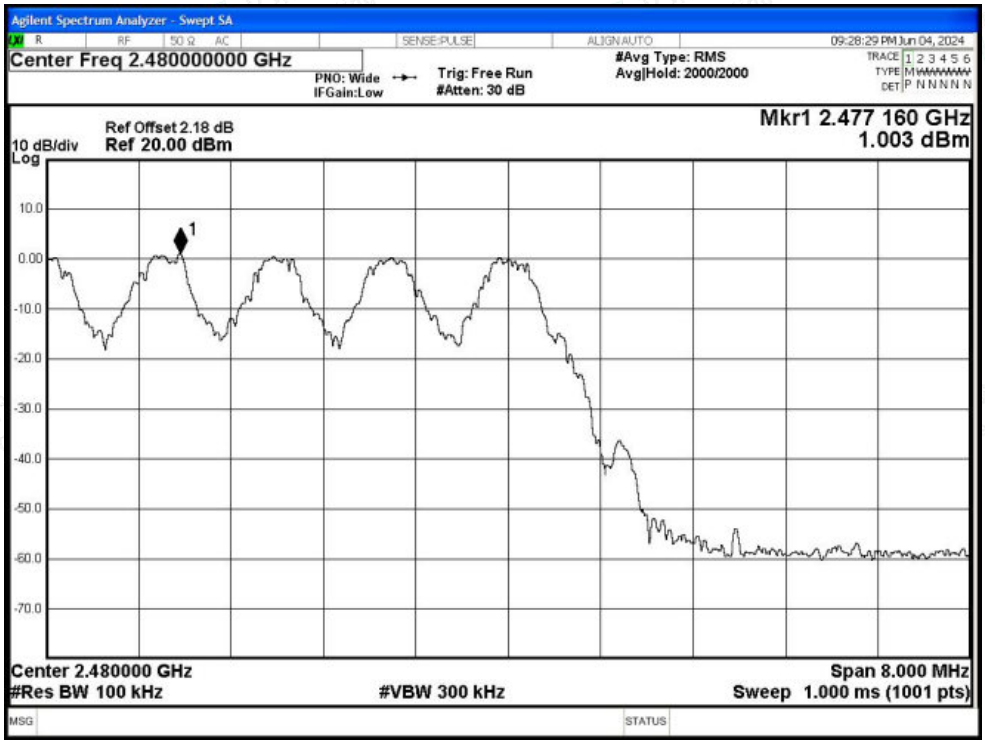
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



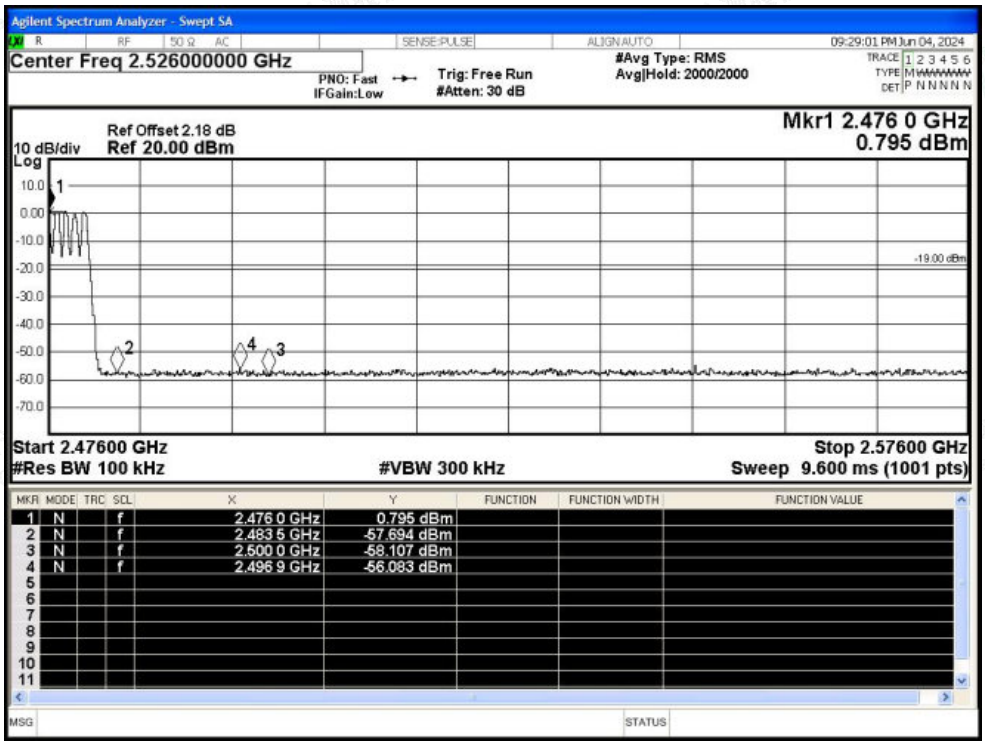
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



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



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

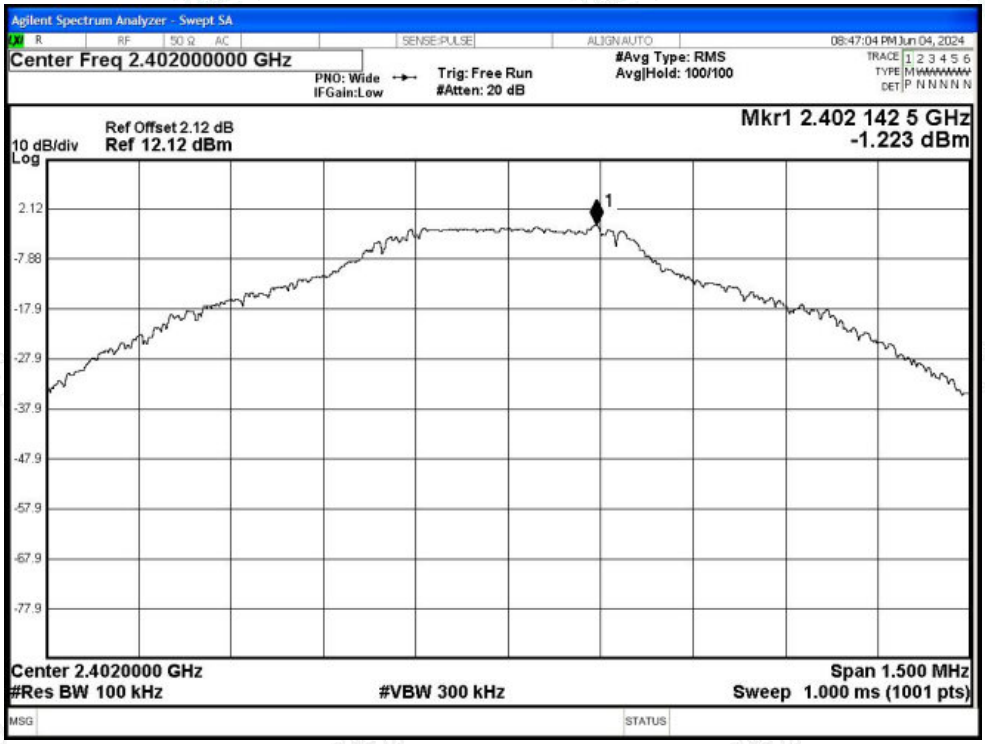


A.7 Conducted RF Spurious Emission

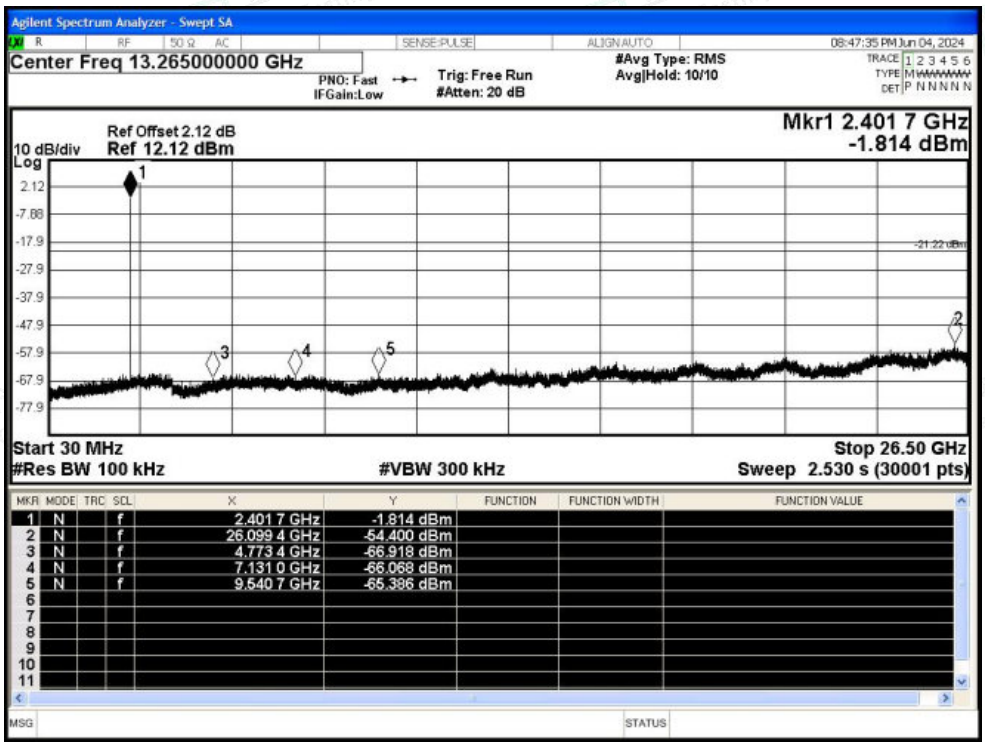
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.18	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.73	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.18	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.97	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.33	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.31	-20	Pass

Test Graphs

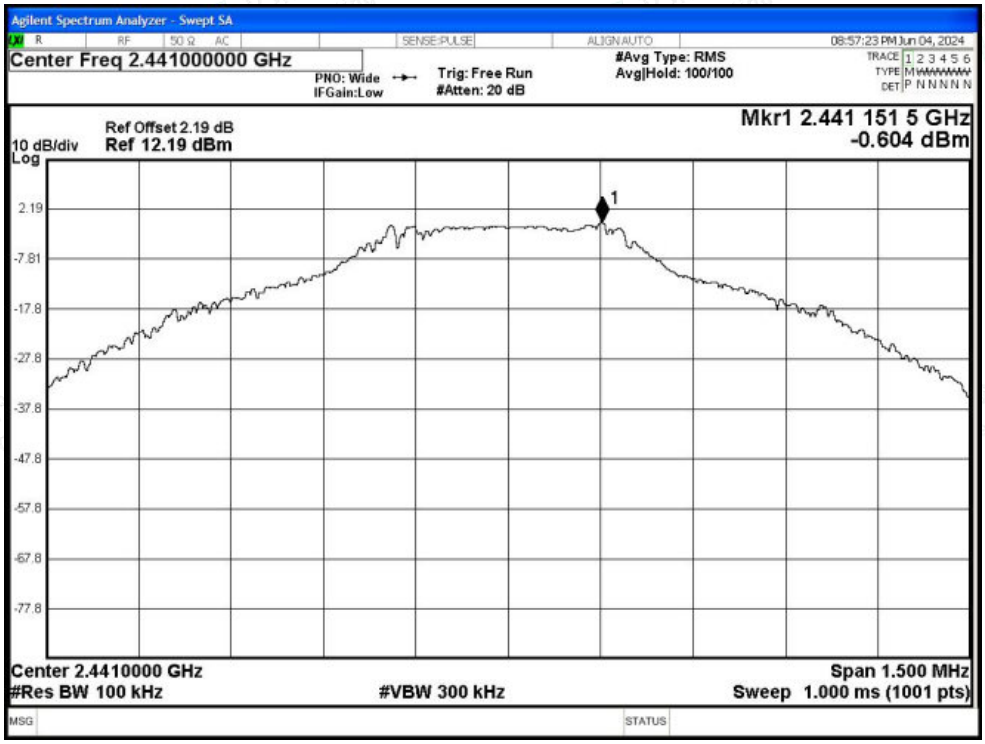
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



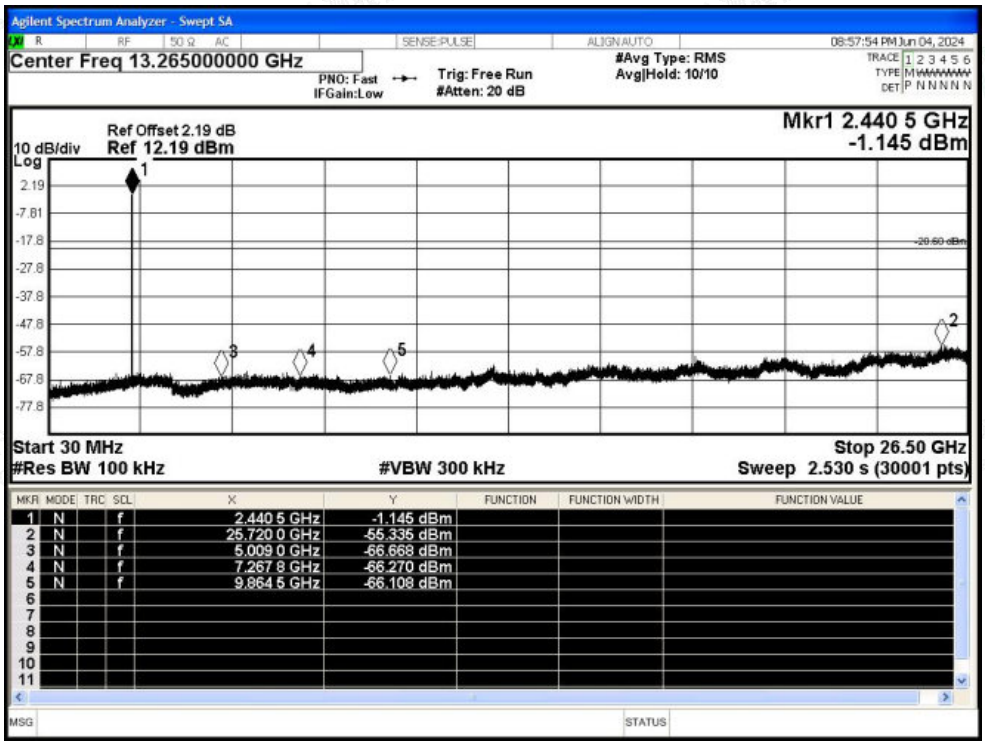
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



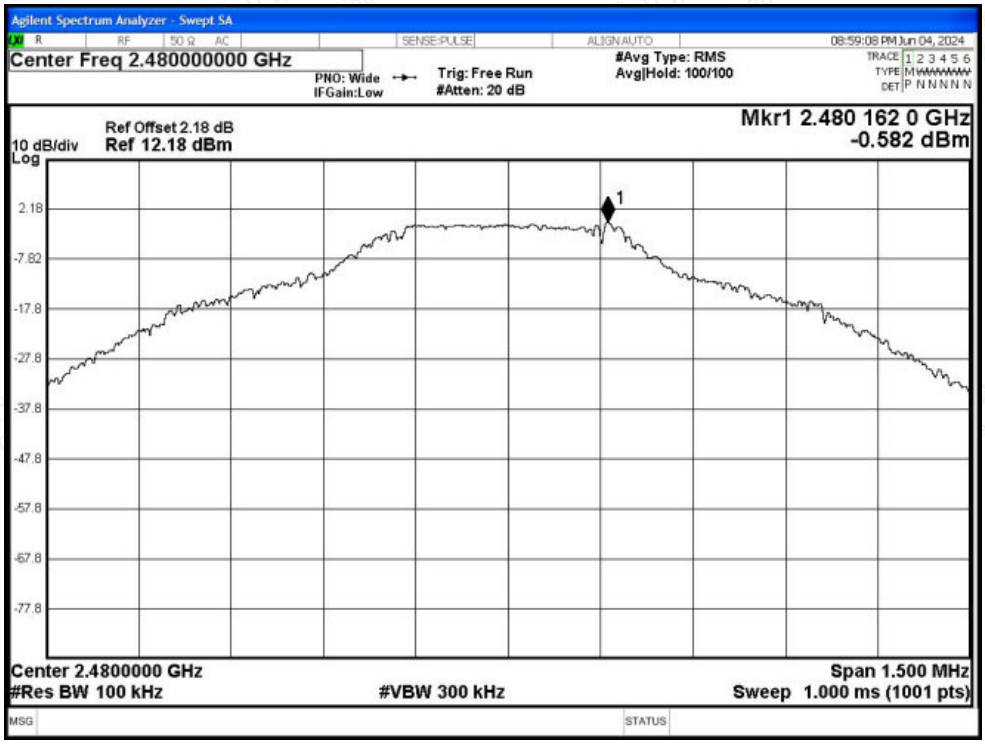
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



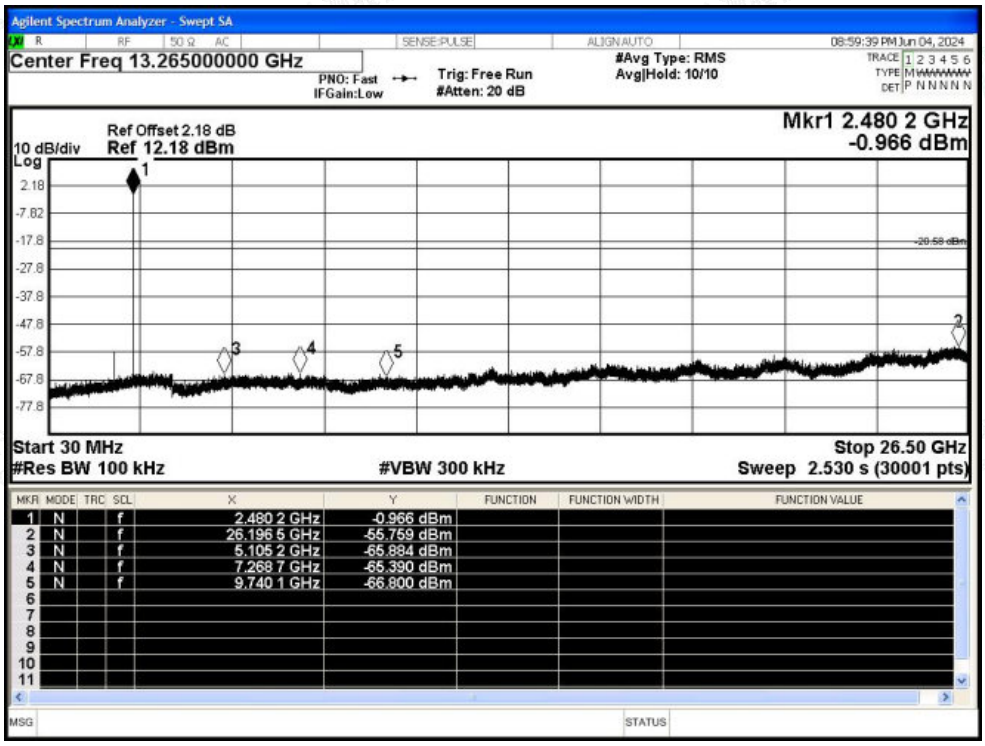
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



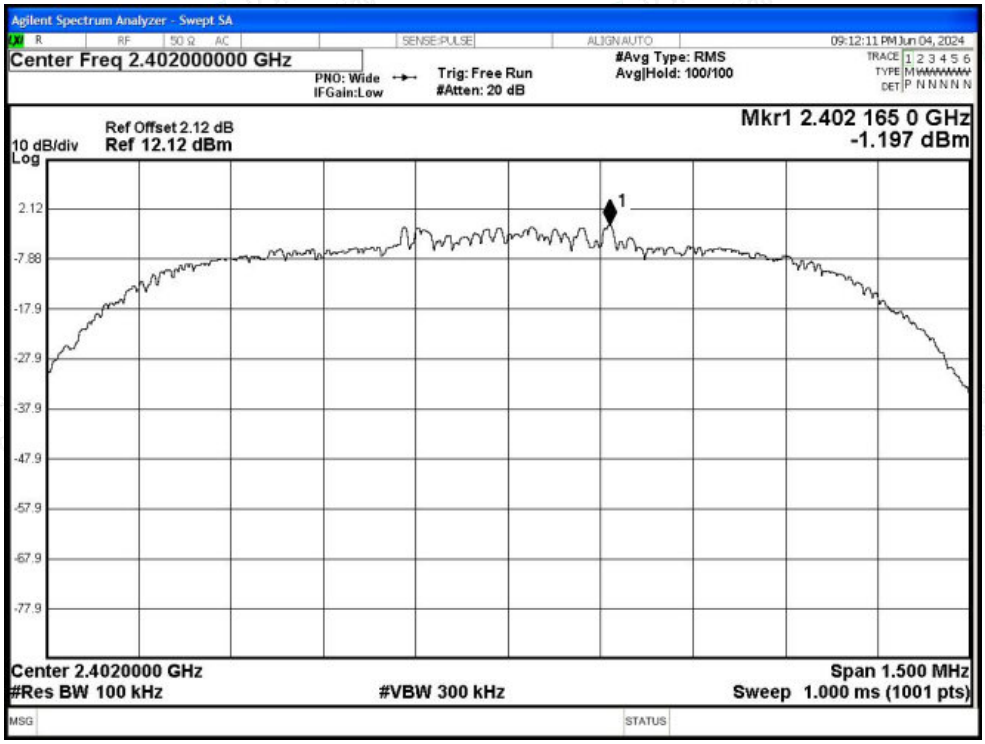
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



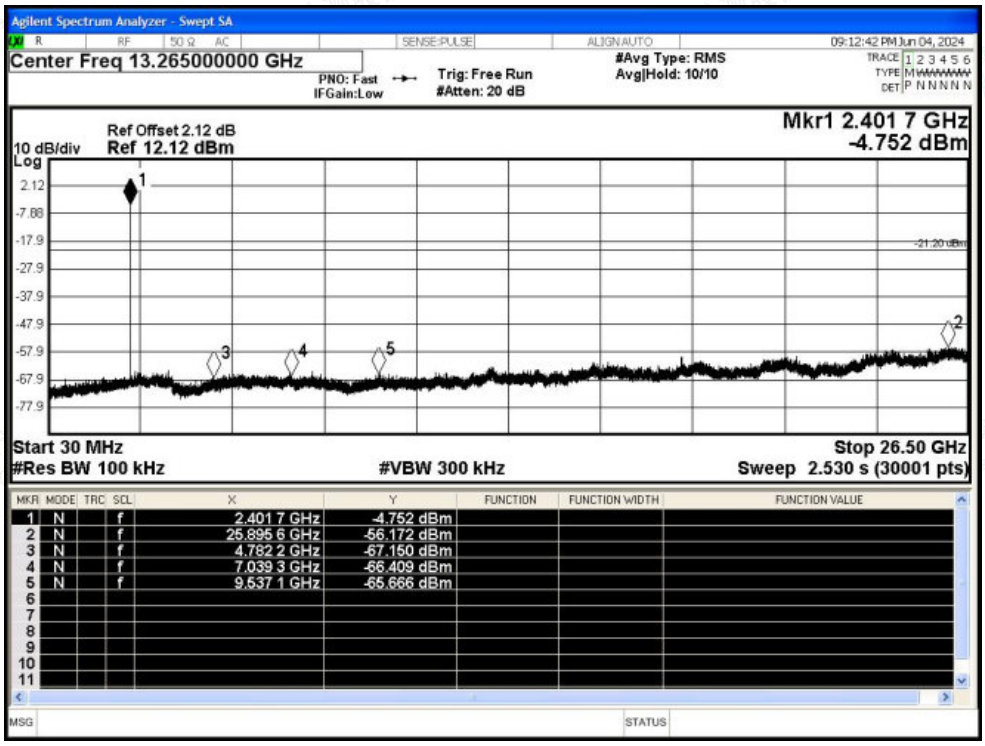
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



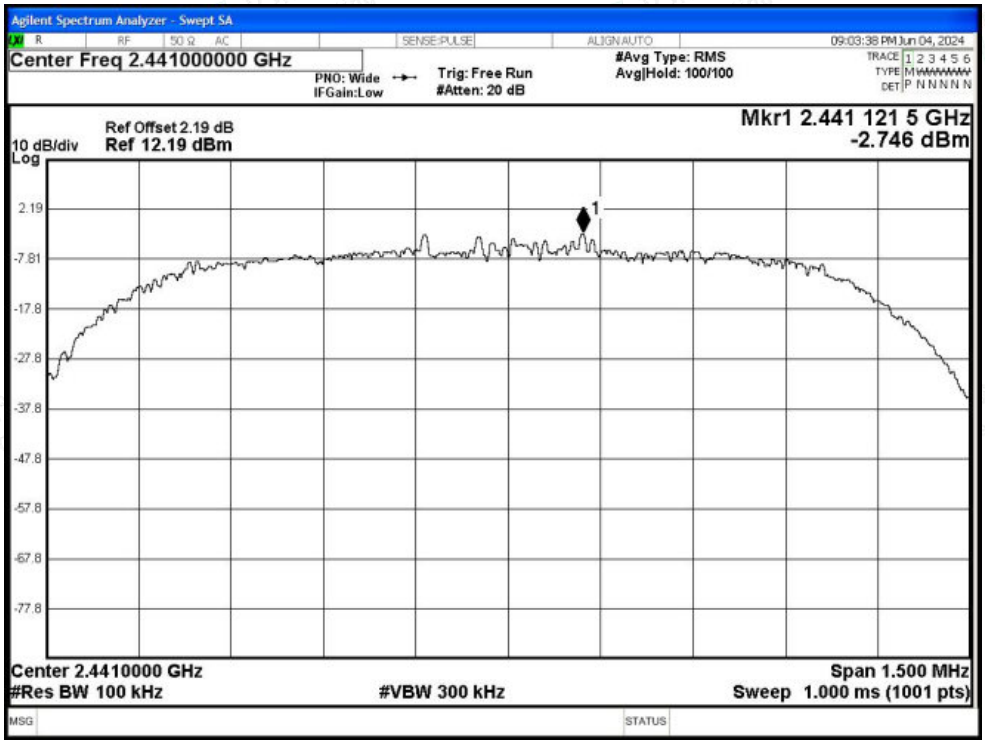
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



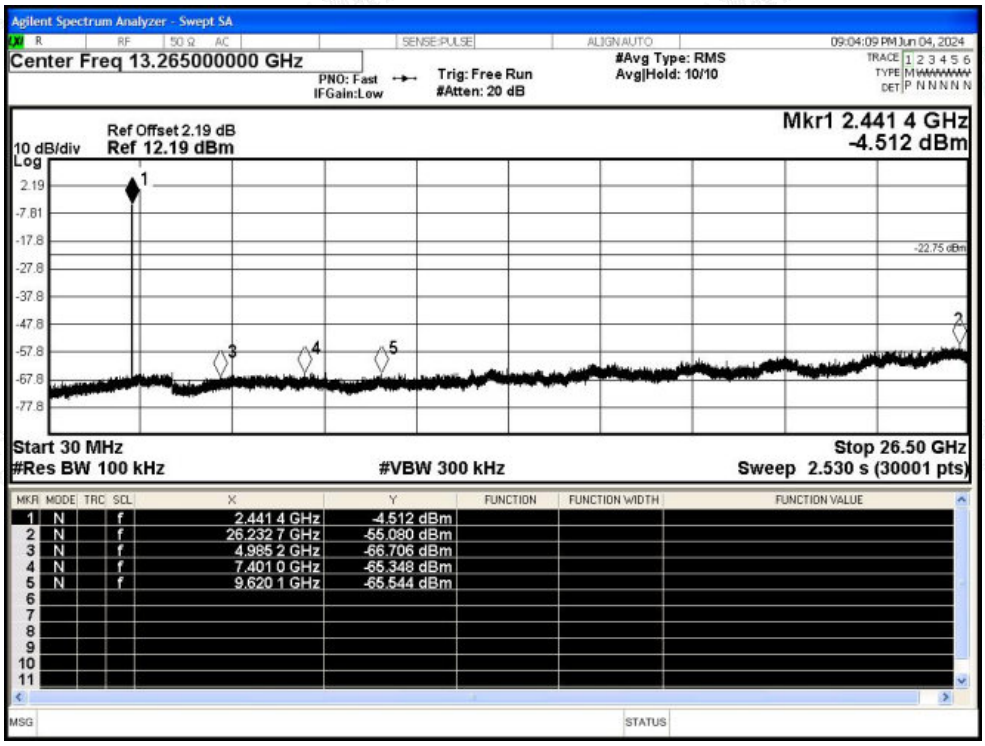
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



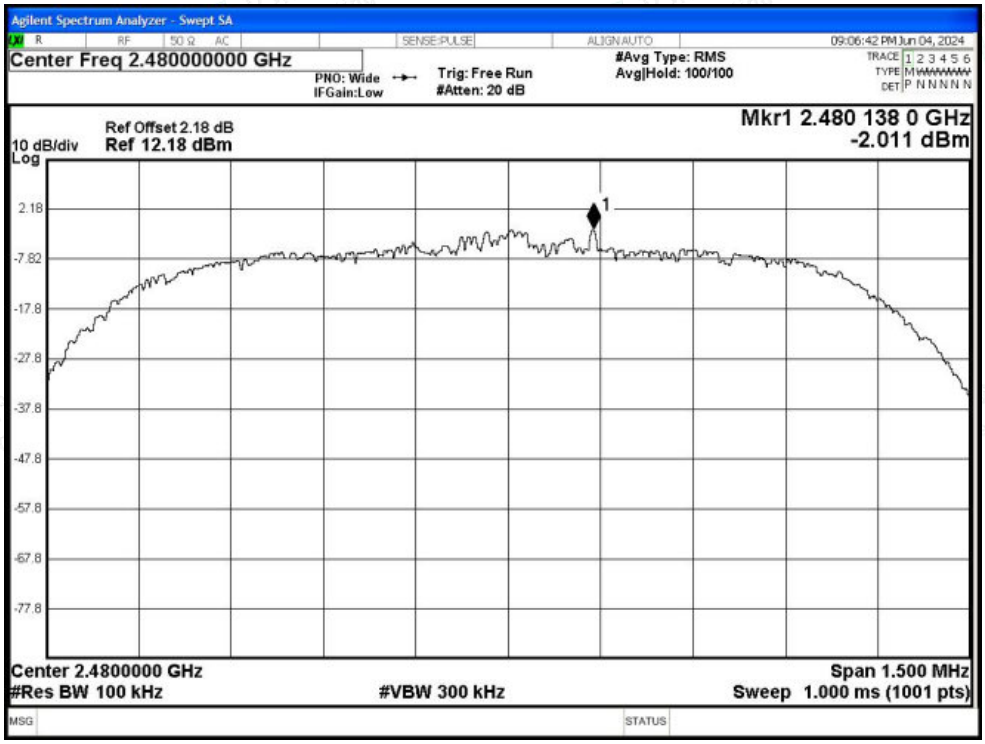
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



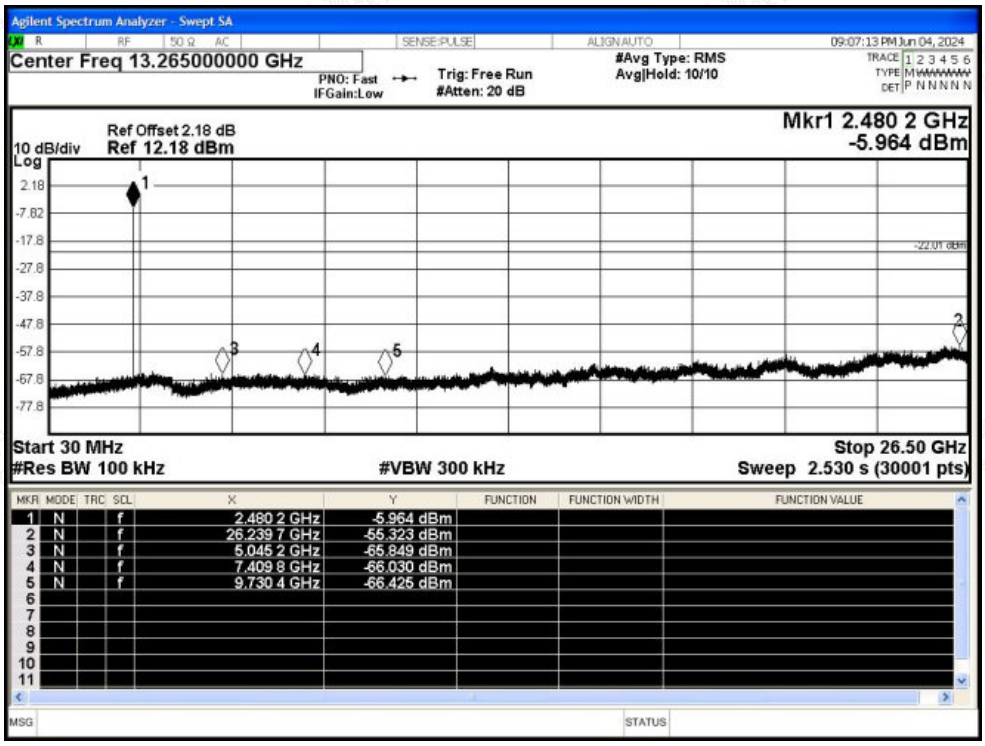
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

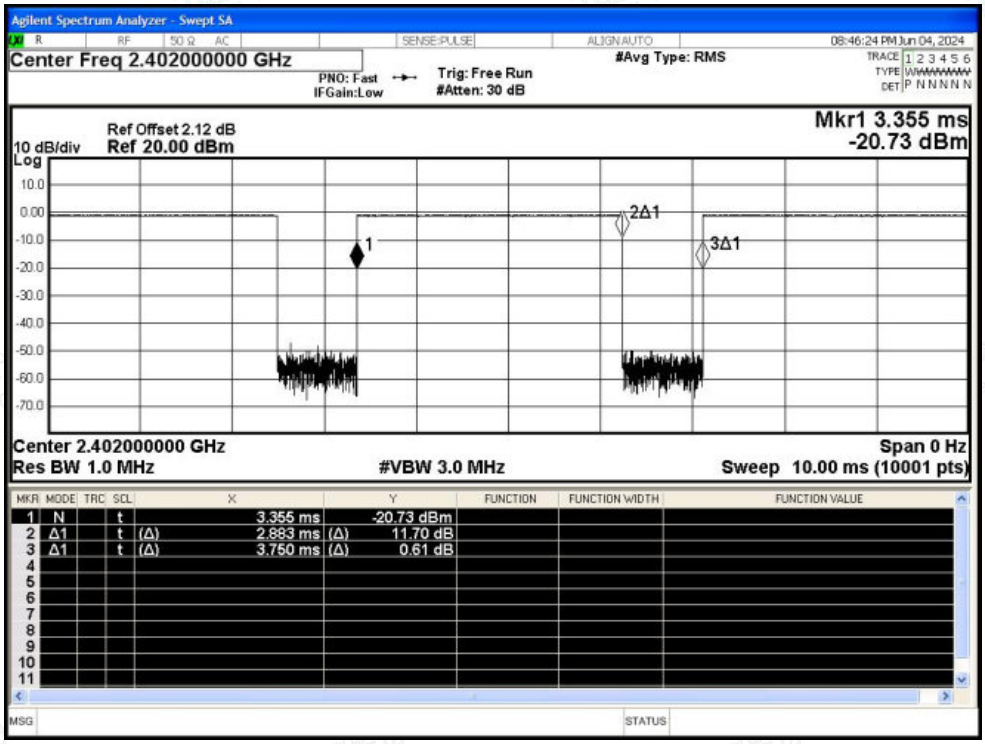


A.8 Duty Cycle

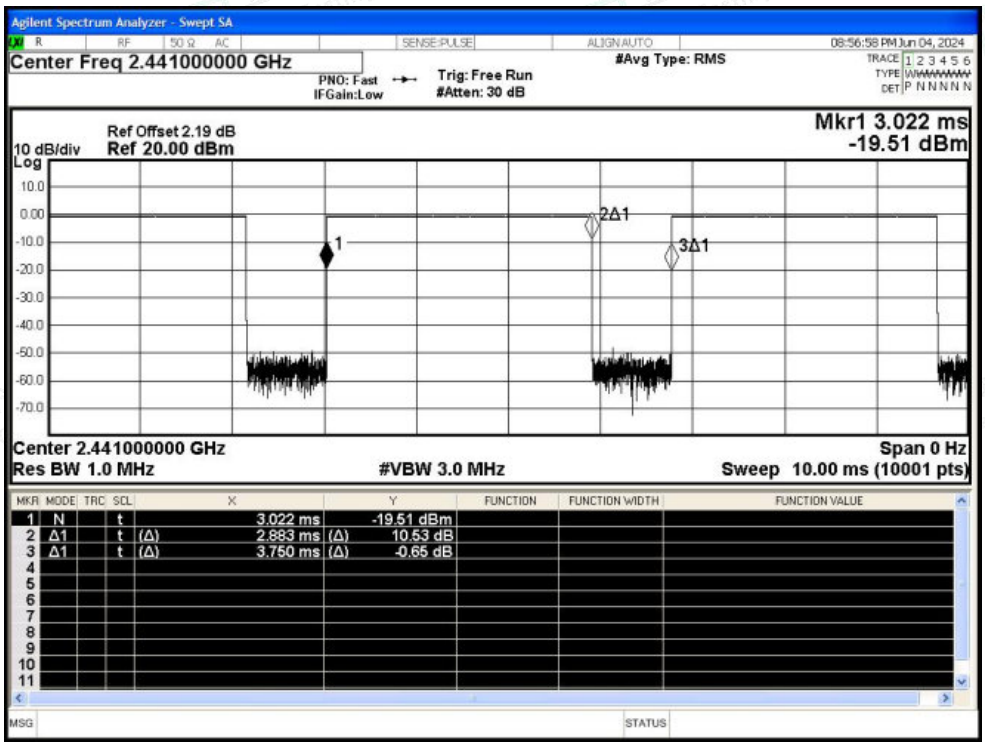
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.99	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.99	1.14	0.35

Test Graphs

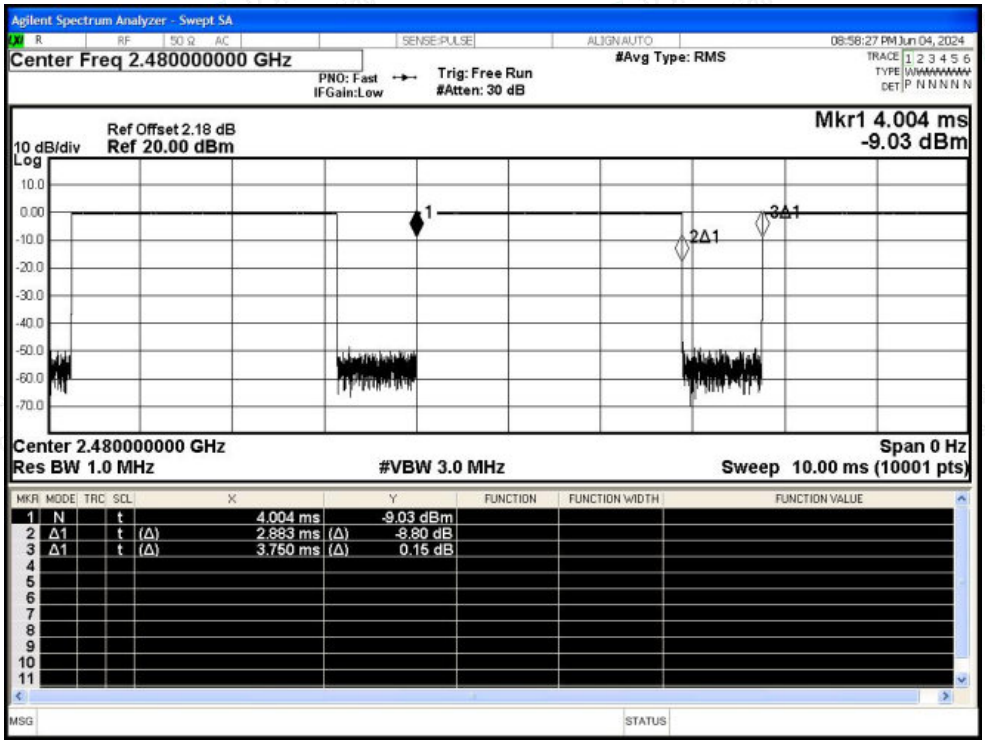
Duty Cycle NVNT 1-DH5 2402MHz Ant1



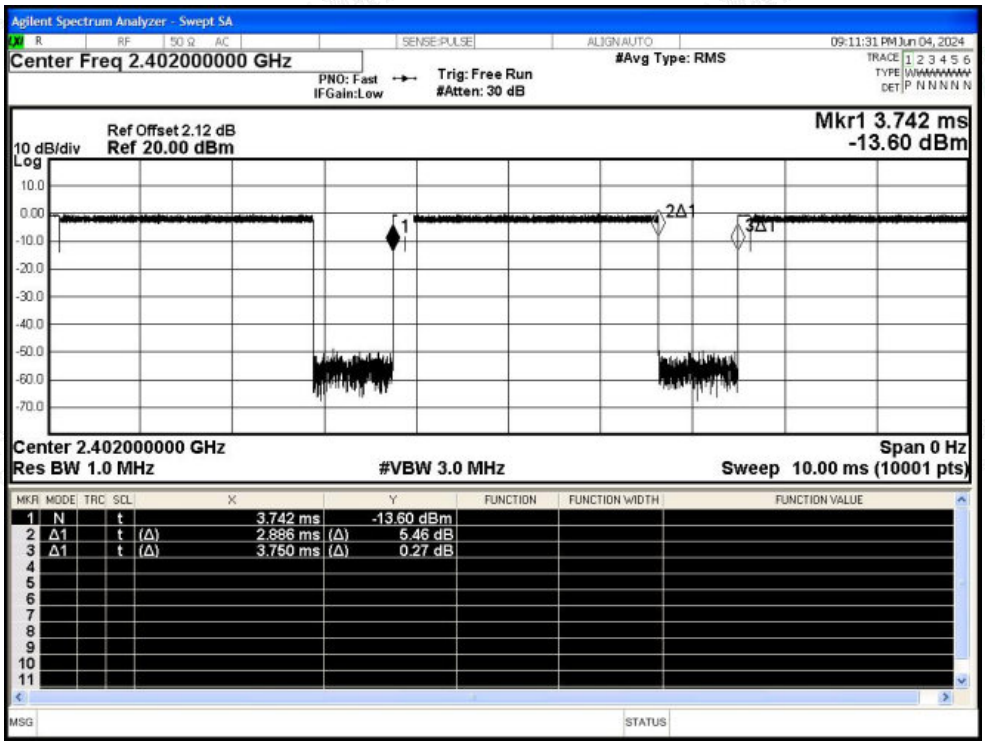
Duty Cycle NVNT 1-DH5 2441MHz Ant1



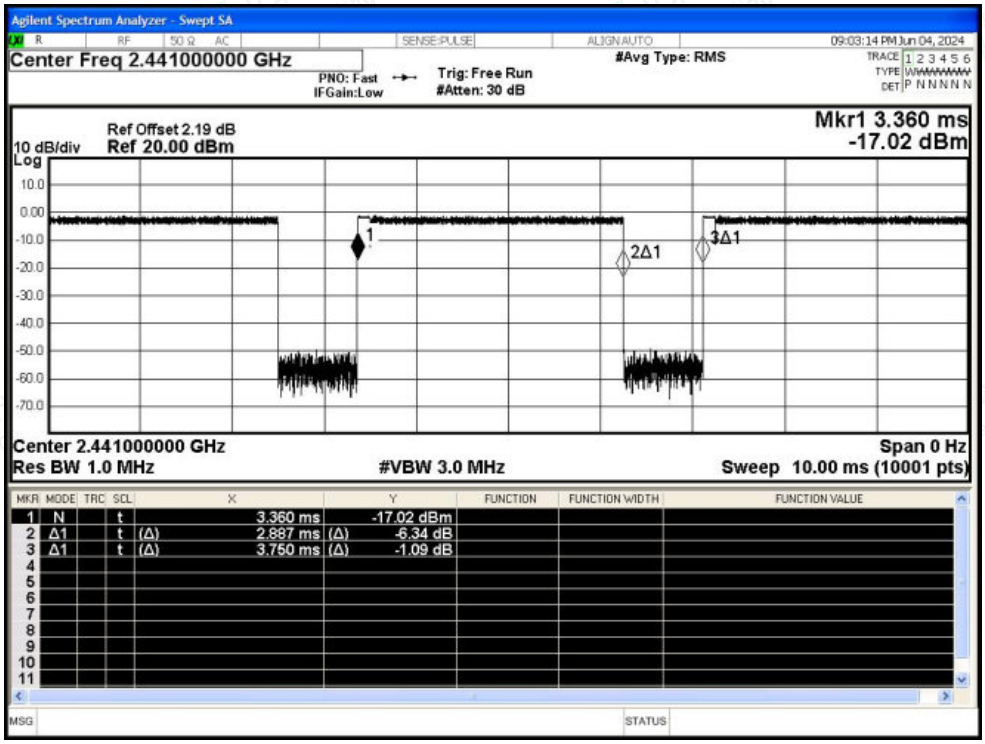
Duty Cycle NVNT 1-DH5 2480MHz Ant1



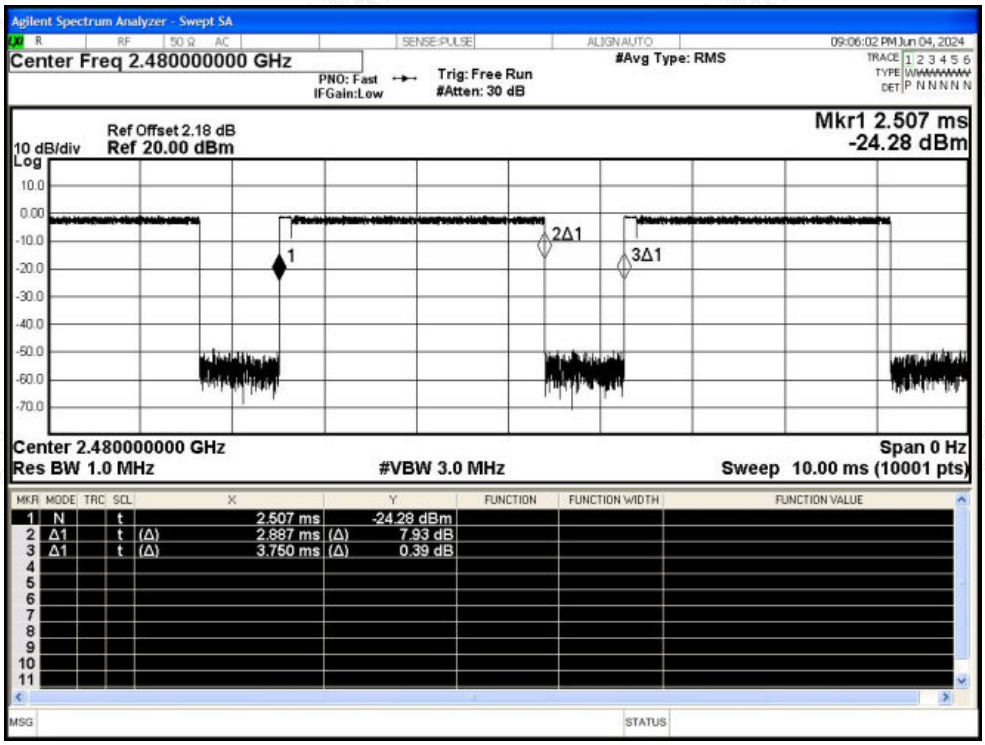
Duty Cycle NVNT 2-DH5 2402MHz Ant1



Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

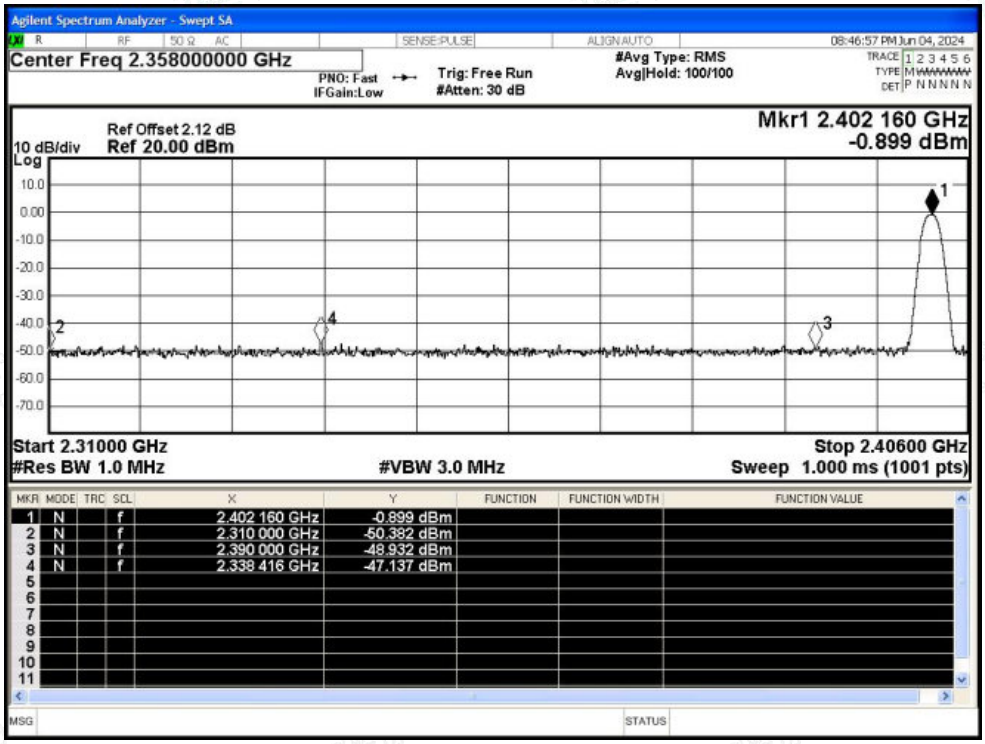


A.9 Restrict Band

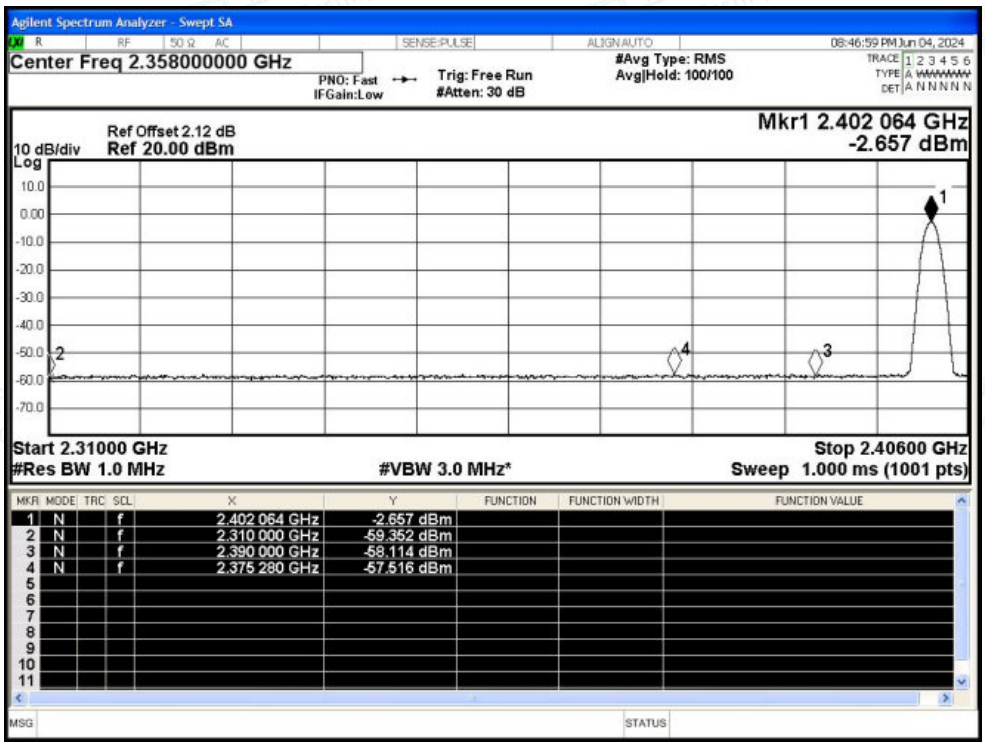
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.38	2.5	-	47.38	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.35	2.5	1.14	38.41	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2338.416	-47.14	2.5	-	50.62	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2375.28	-57.52	2.5	1.14	40.24	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-48.93	2.5	-	48.83	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.11	2.5	1.14	39.65	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-51.63	2.5	-	46.13	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.89	2.5	1.14	39.87	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.512	-44.88	2.5	-	52.88	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2493.904	-57.21	2.5	1.14	40.55	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.14	2.5	-	48.62	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.44	2.5	1.14	39.32	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.47	2.5	-	46.29	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.99	2.5	1.14	38.77	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2338.8	-47.91	2.5	-	49.85	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2352.432	-57.64	2.5	1.14	40.12	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.92	2.5	-	47.84	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.71	2.5	1.14	39.05	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.23	2.5	-	47.53	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.54	2.5	1.14	39.22	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.424	-47.1	2.5	-	50.66	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.472	-57.11	2.5	1.14	40.65	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-51.36	2.5	-	46.40	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.74	2.5	1.14	40.02	Average	54	Pass

Test Graphs

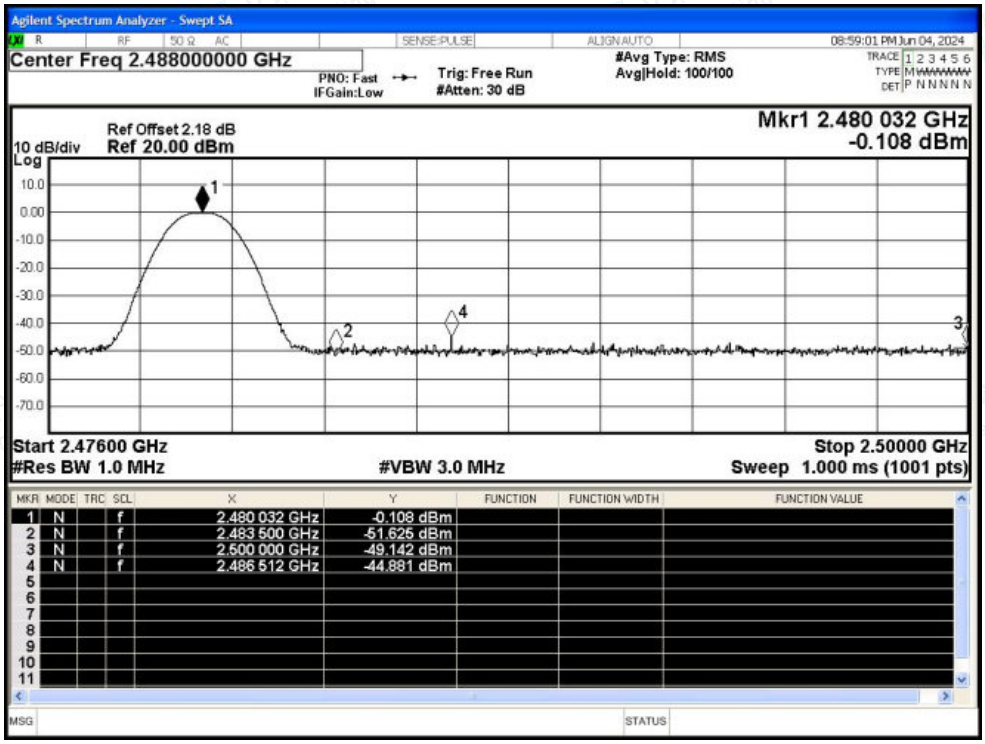
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



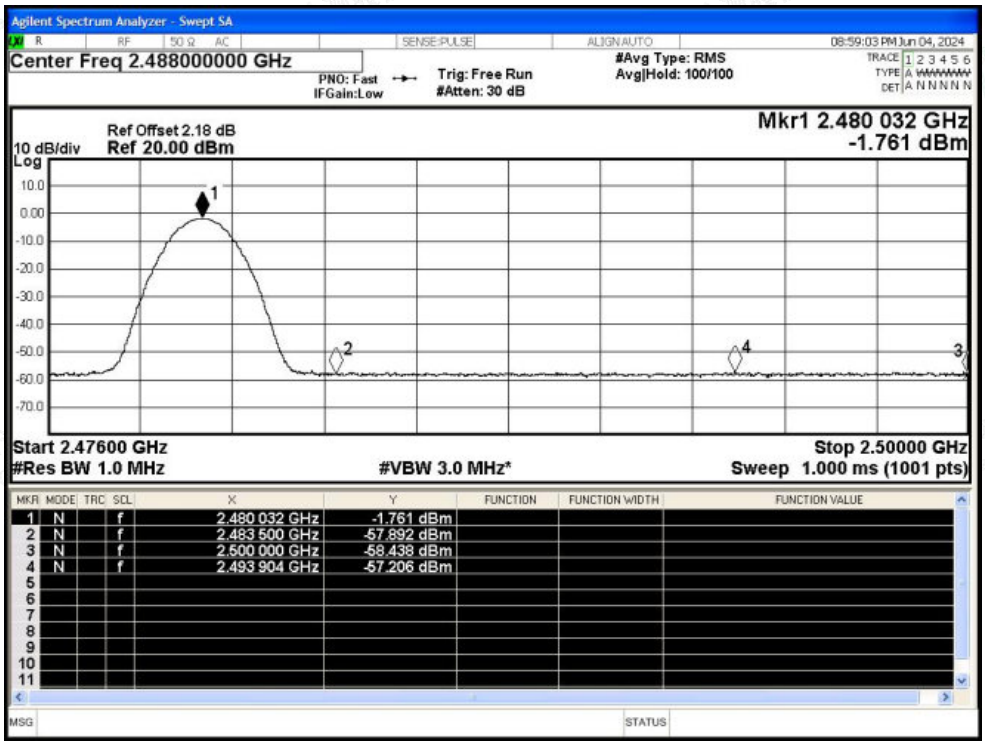
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



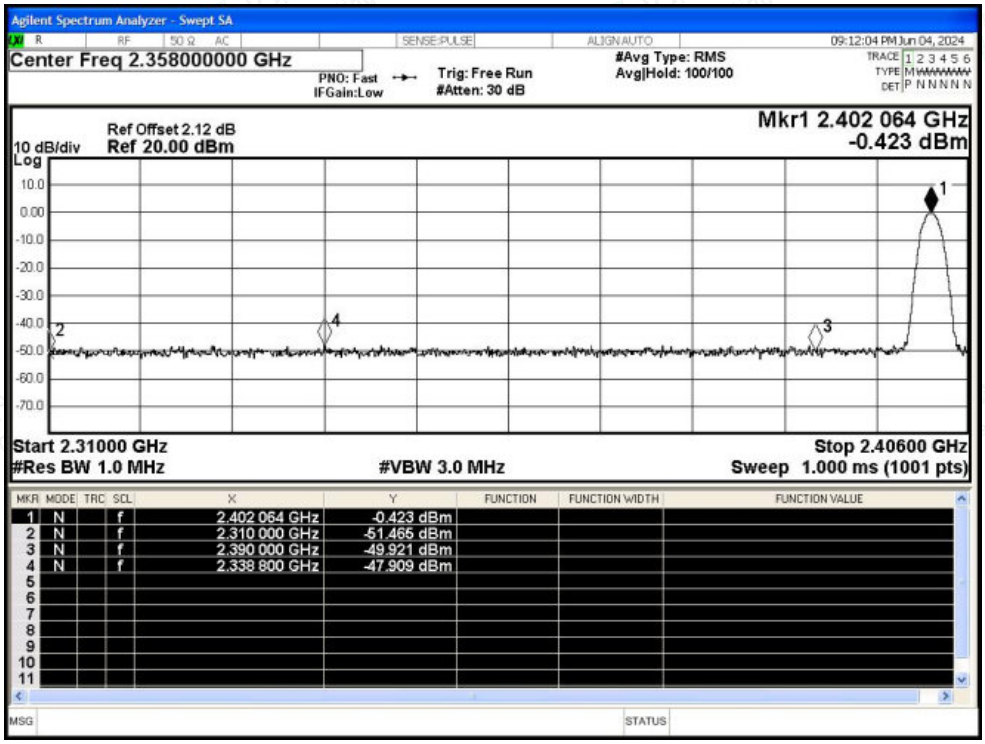
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



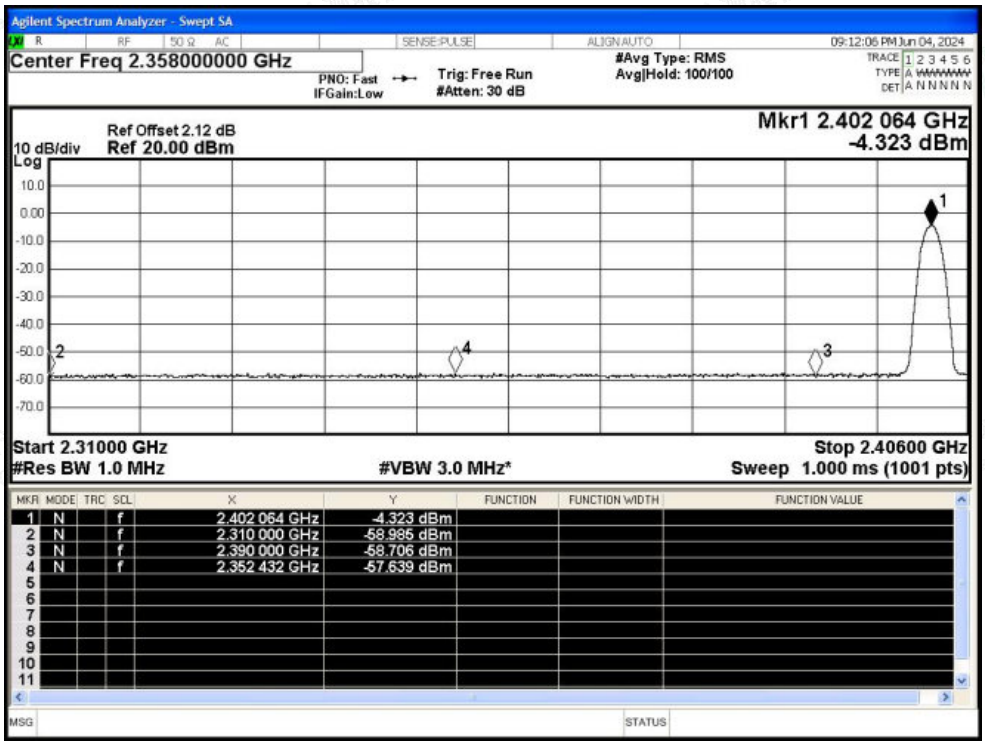
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



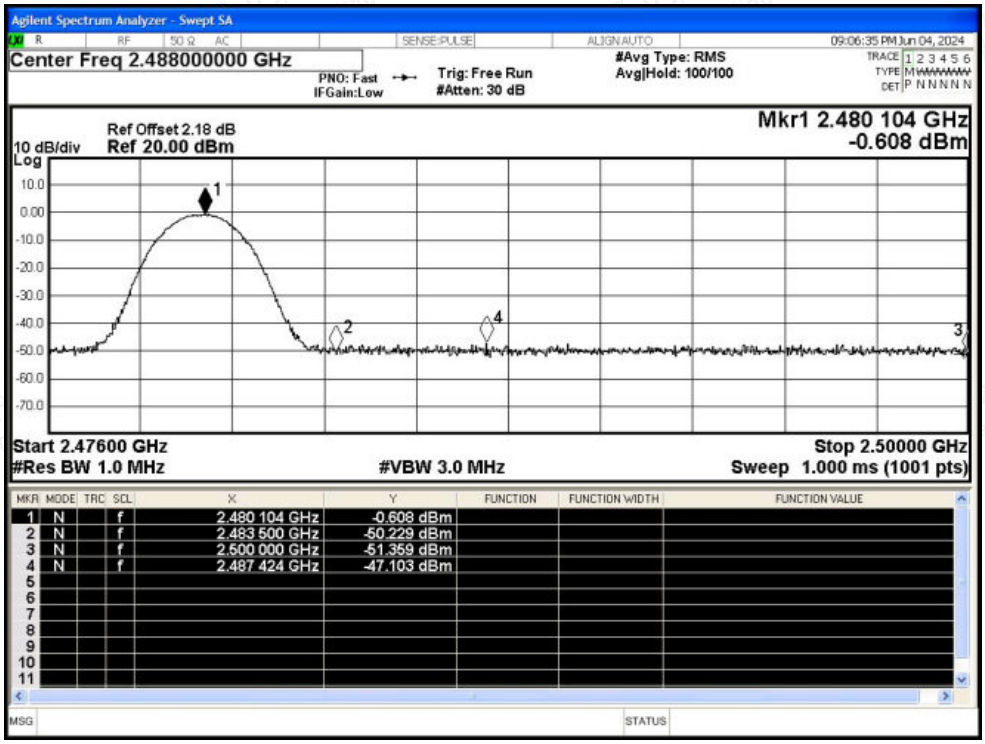
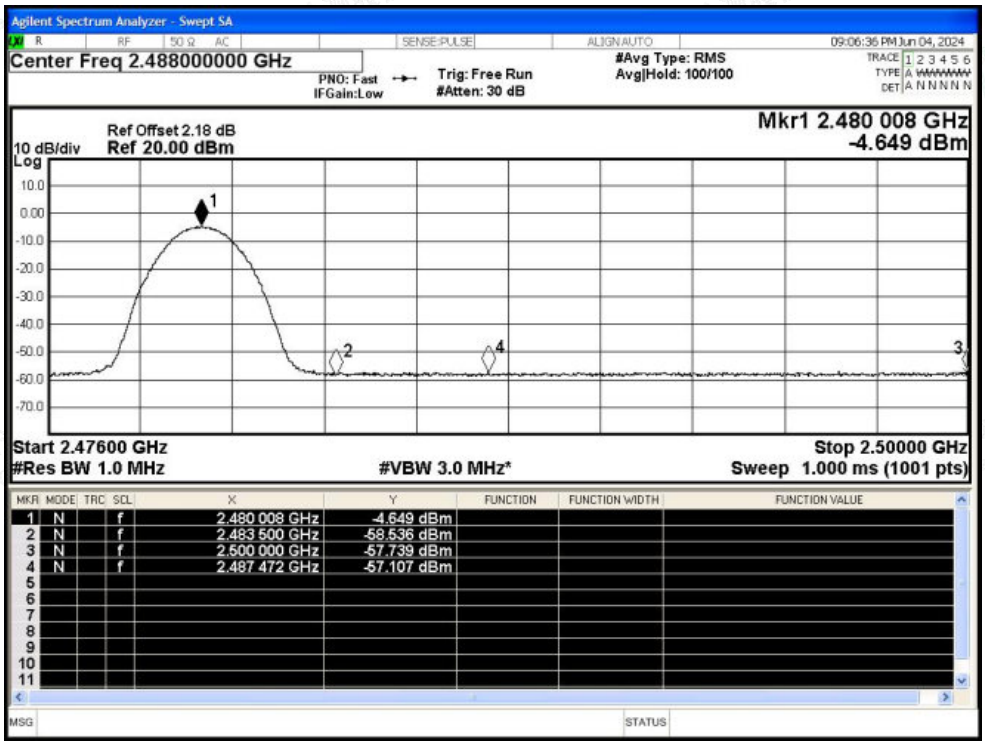
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



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