Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Speaker

Test Model: IMT8000

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
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	0.944	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.964	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.992	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.282	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.282	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.28	N/A	Pass

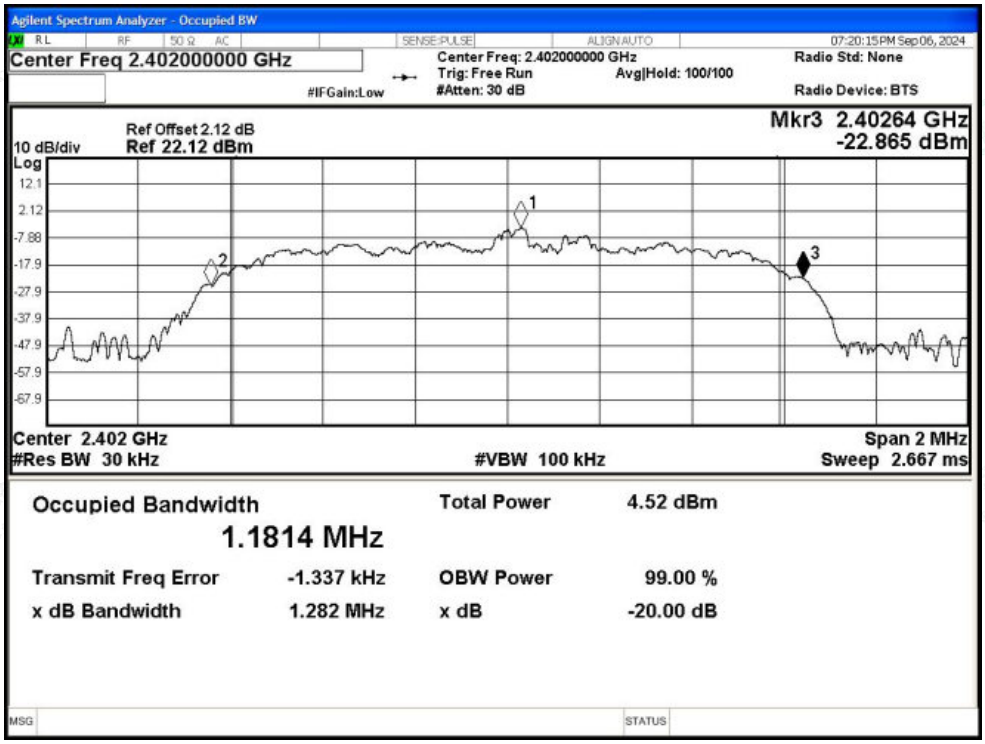
Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

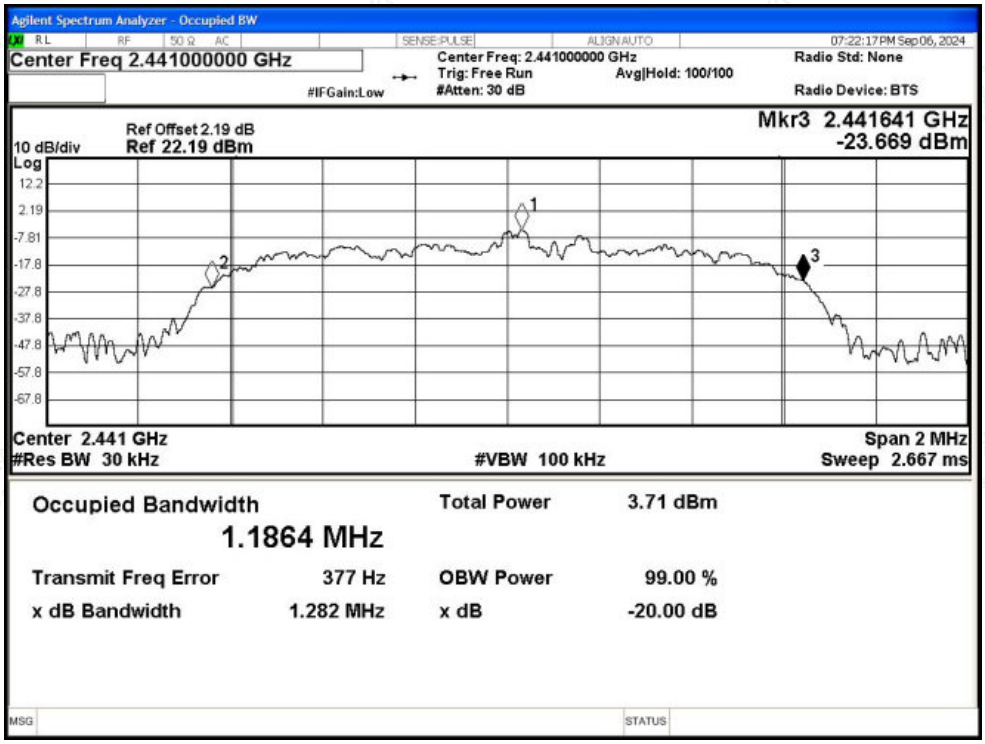
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

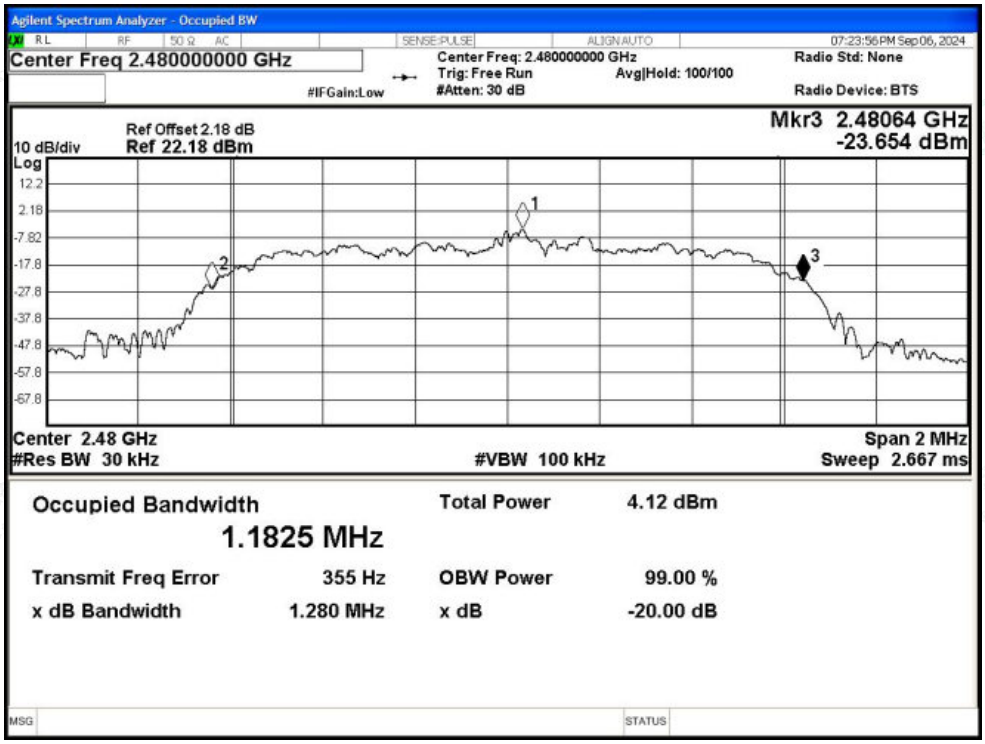
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

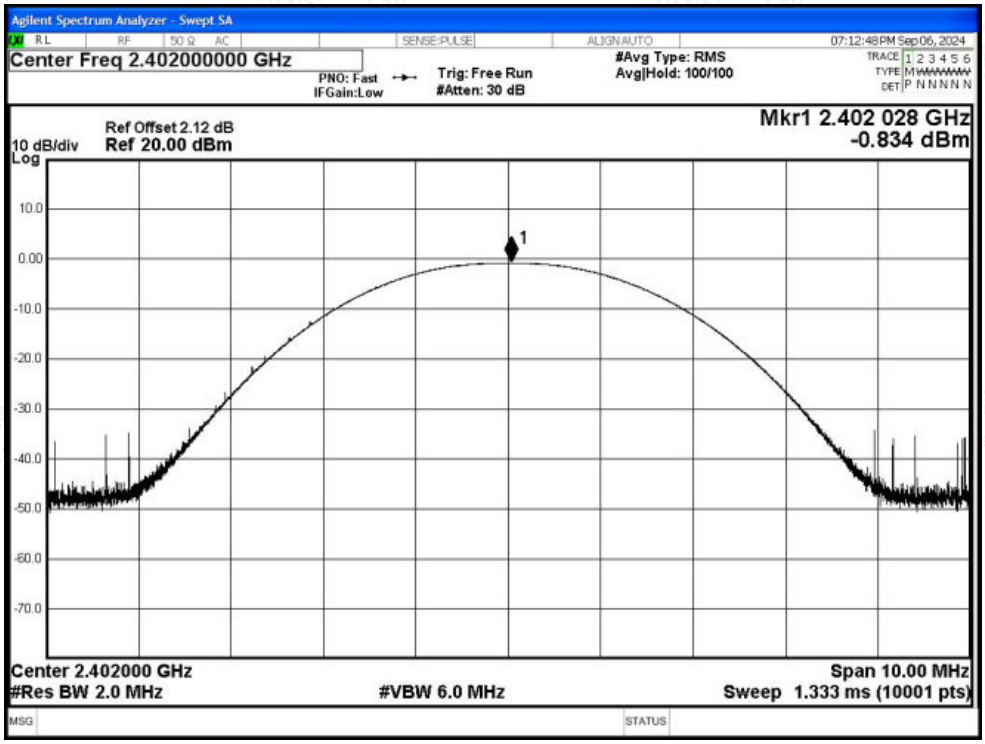


A.2 Maximum Peak Conducted Output Power

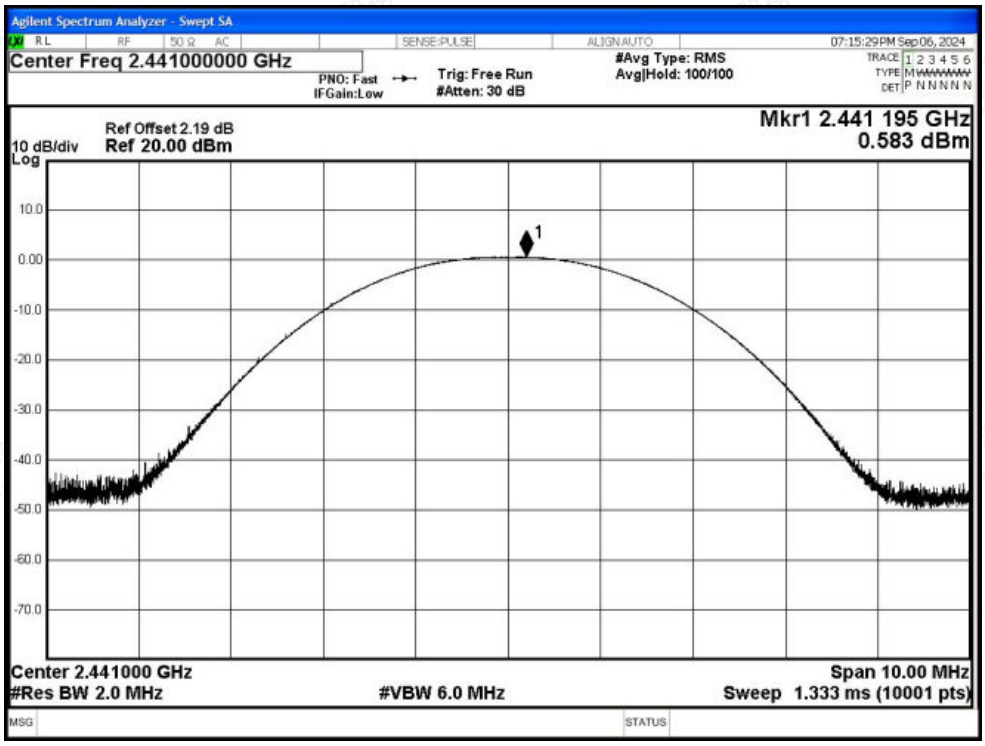
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.83	21	Pass
NVNT	1-DH5	2441	Ant1	0.58	21	Pass
NVNT	1-DH5	2480	Ant1	0.82	21	Pass
NVNT	2-DH5	2402	Ant1	-0.03	21	Pass
NVNT	2-DH5	2441	Ant1	-0.78	21	Pass
NVNT	2-DH5	2480	Ant1	-0.36	21	Pass

Test Graphs

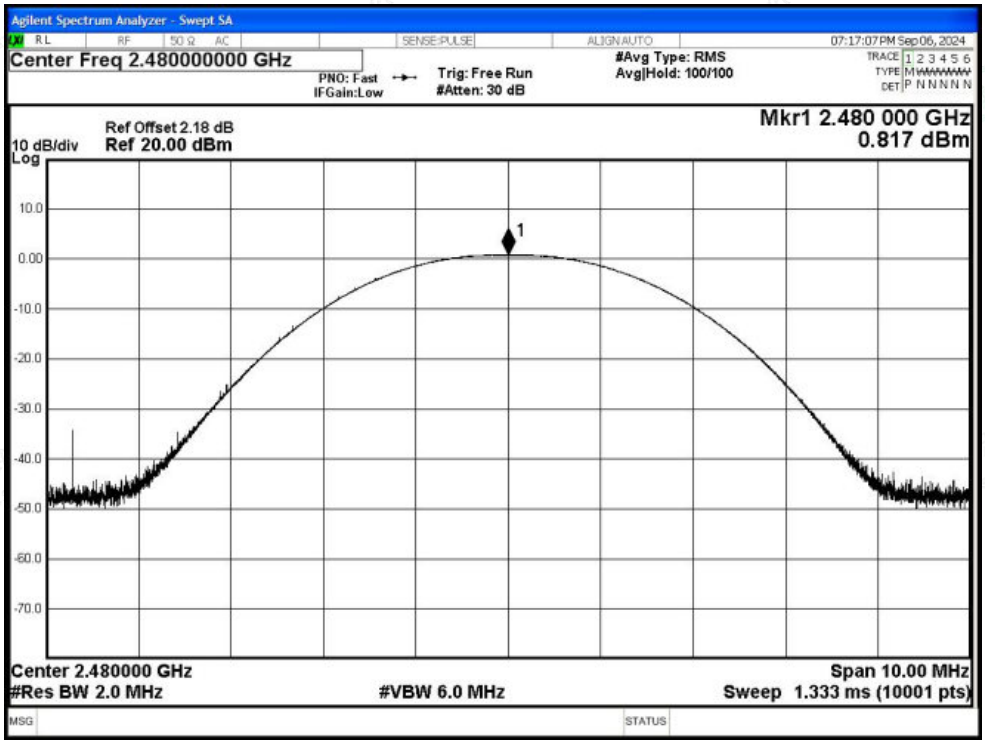
Power NVNT 1-DH5 2402MHz Ant1



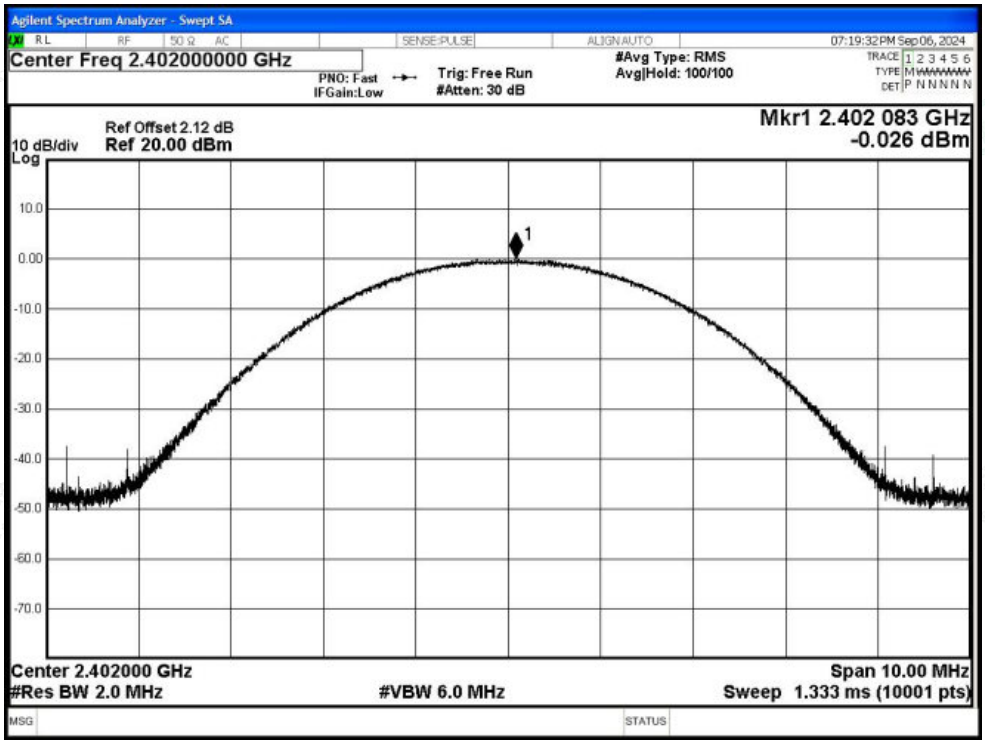
Power NVNT 1-DH5 2441MHz Ant1



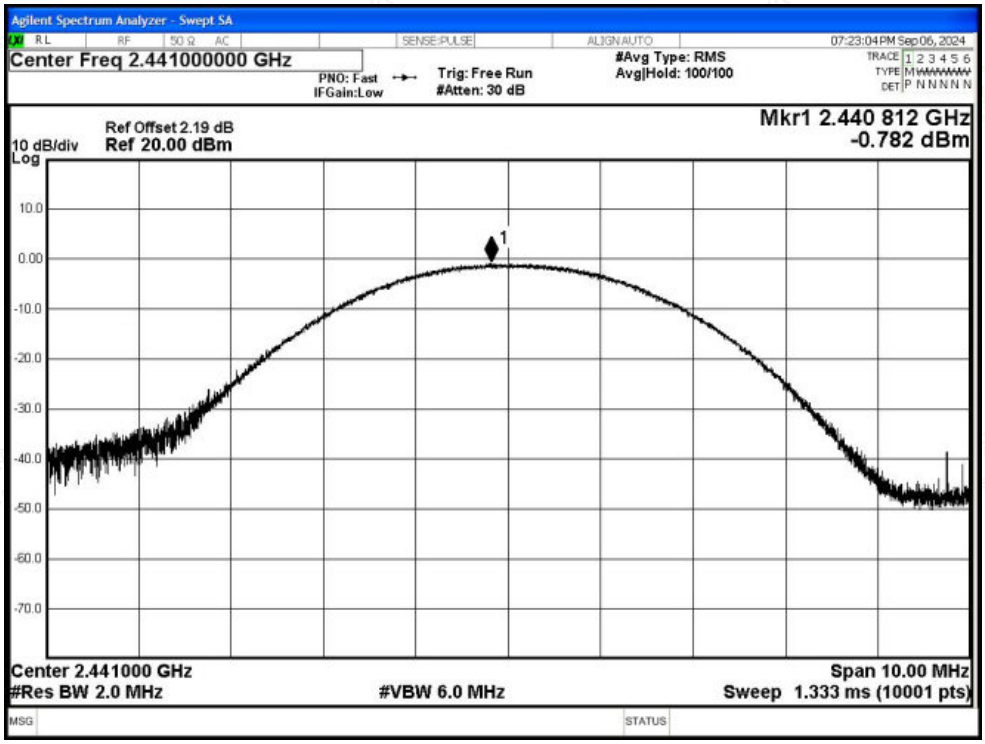
Power NVNT 1-DH5 2480MHz Ant1



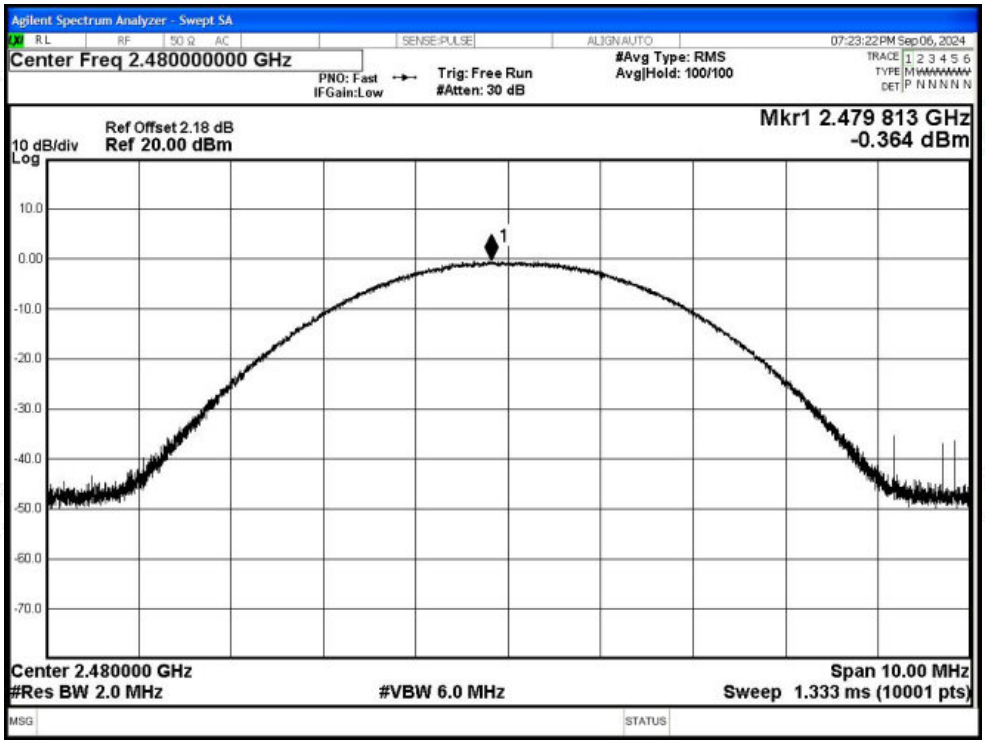
Power NVNT 2-DH5 2402MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1

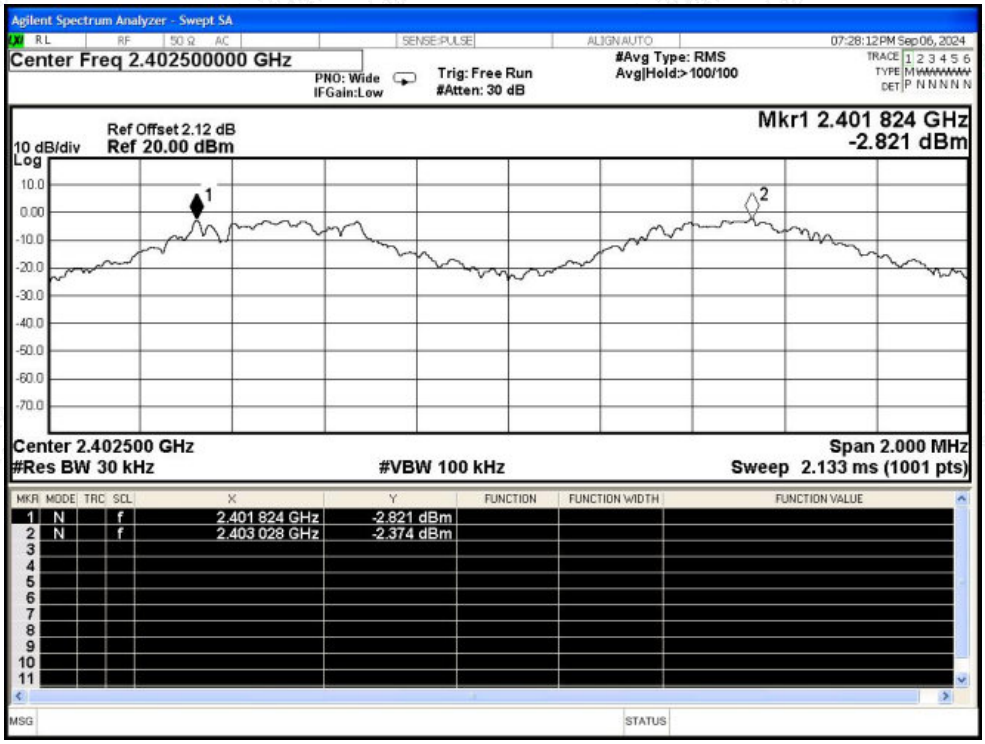


A.3 Carrier Frequencies Separation

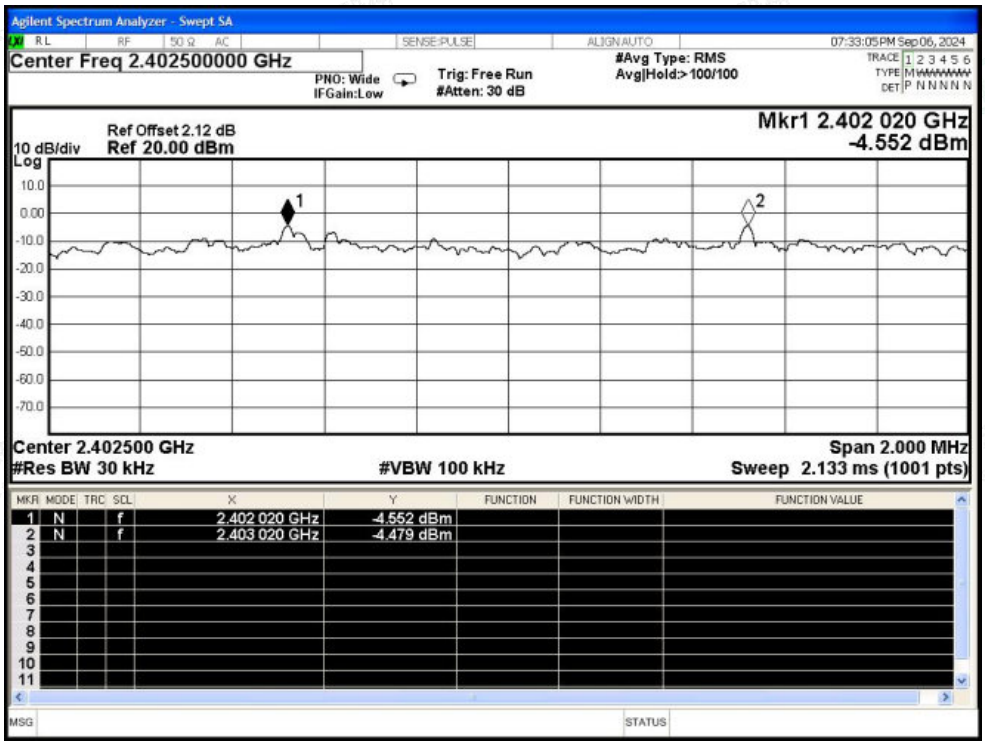
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.824	2403.028	1.204	0.661	Pass
NVNT	2-DH5	Ant1	2402.02	2403.02	1	0.855	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

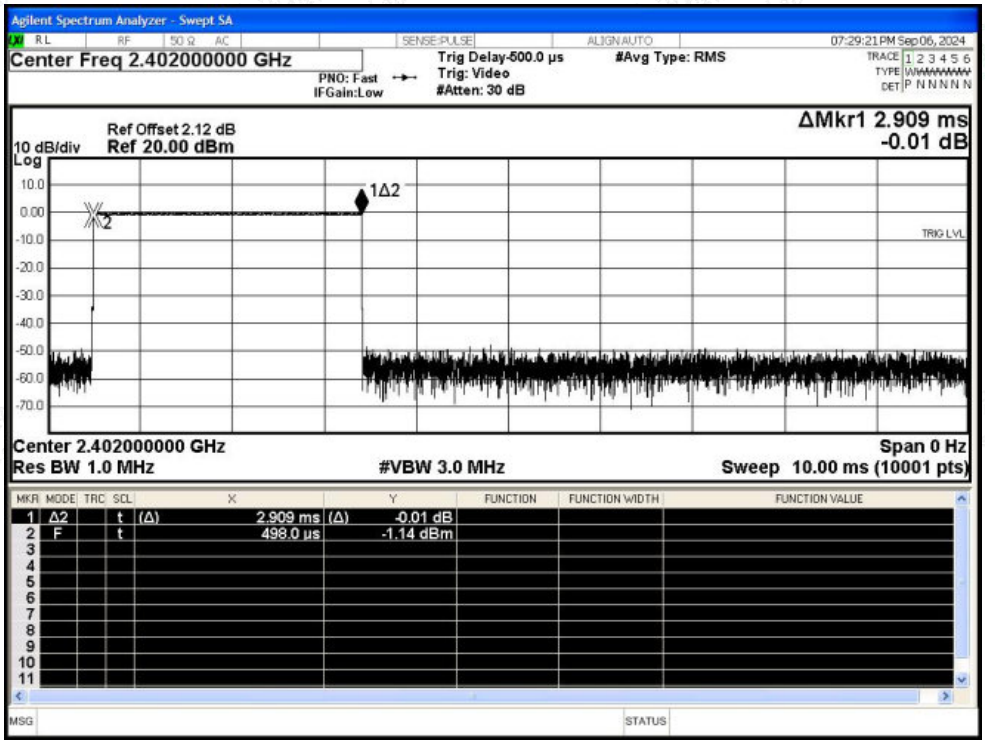


A.4 Dwell Time

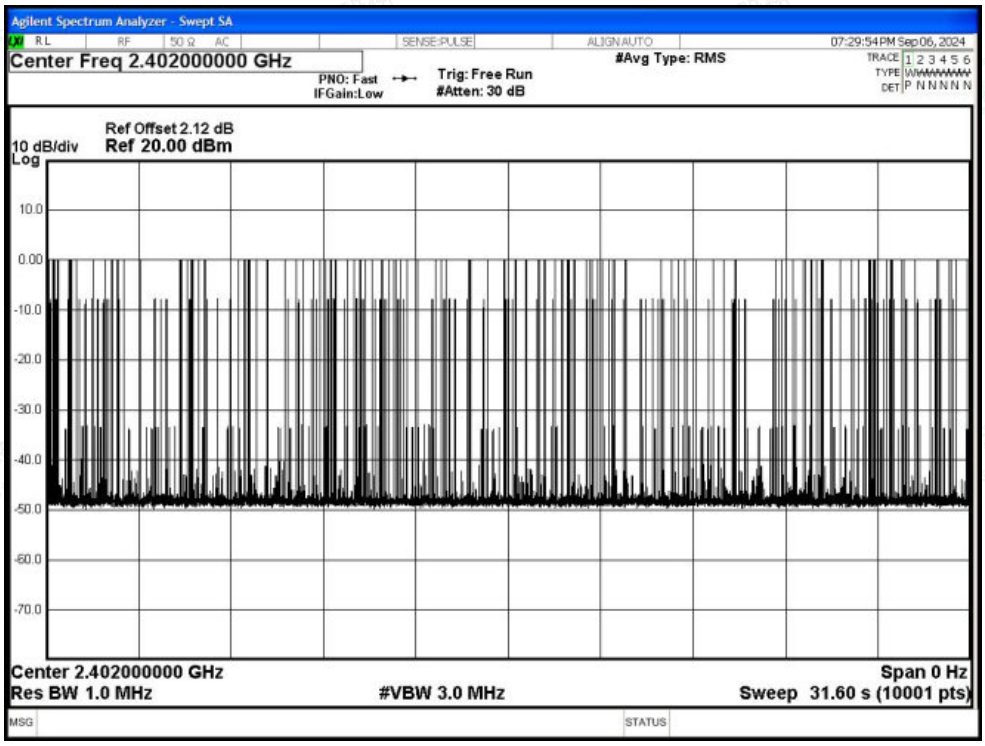
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	354.898	122	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	312.984	108	31600	400	Pass

Test Graphs

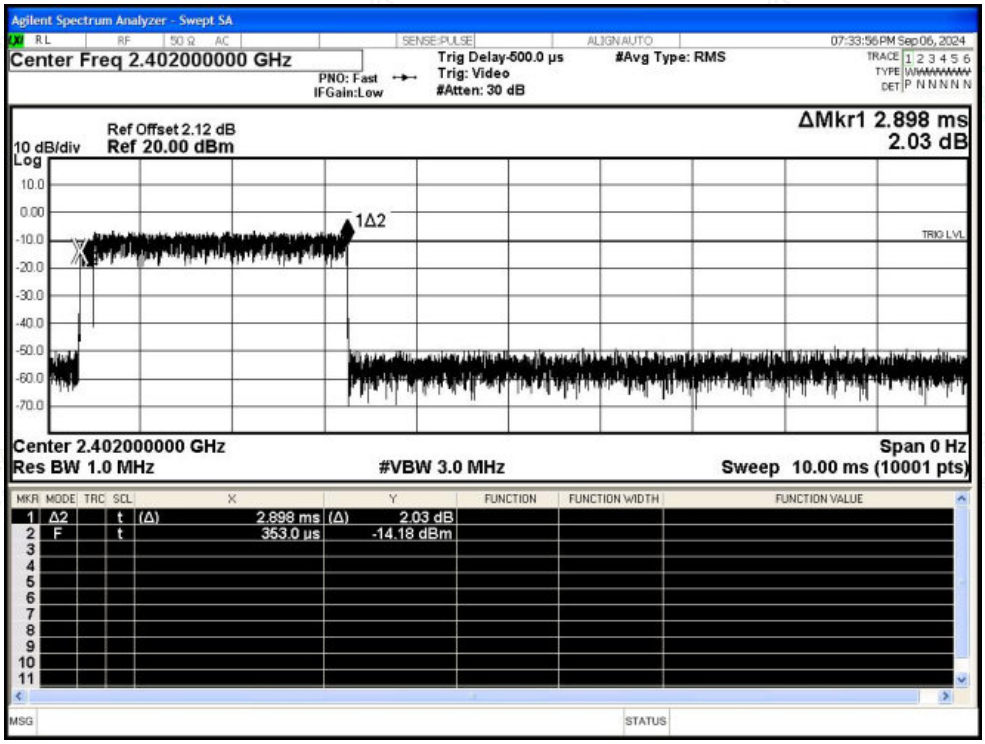
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



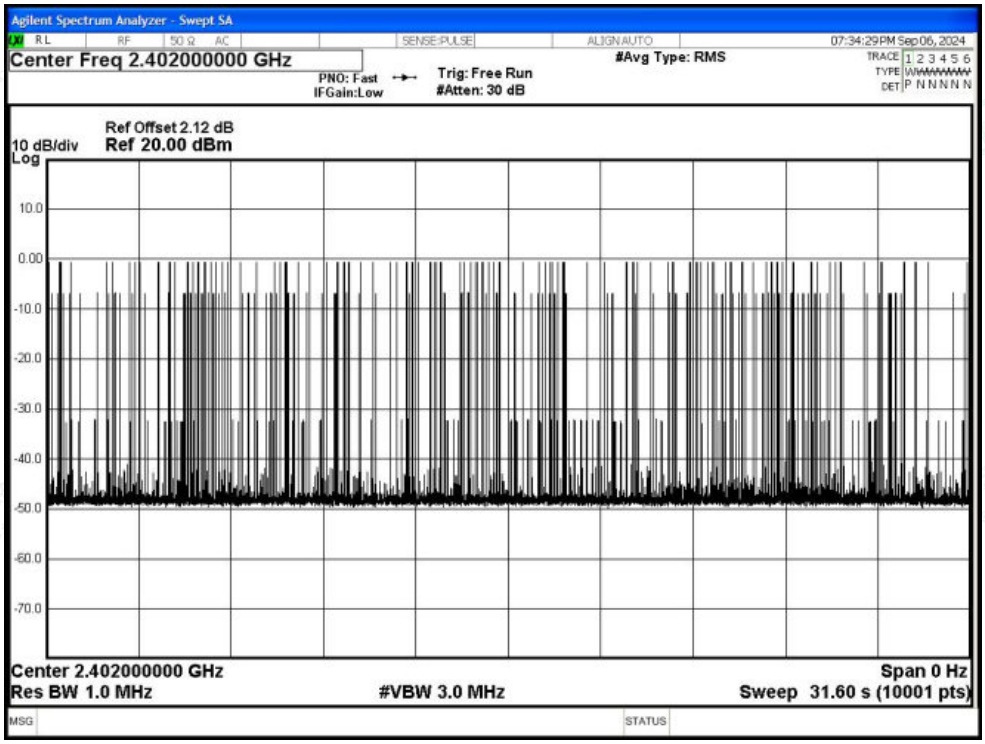
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

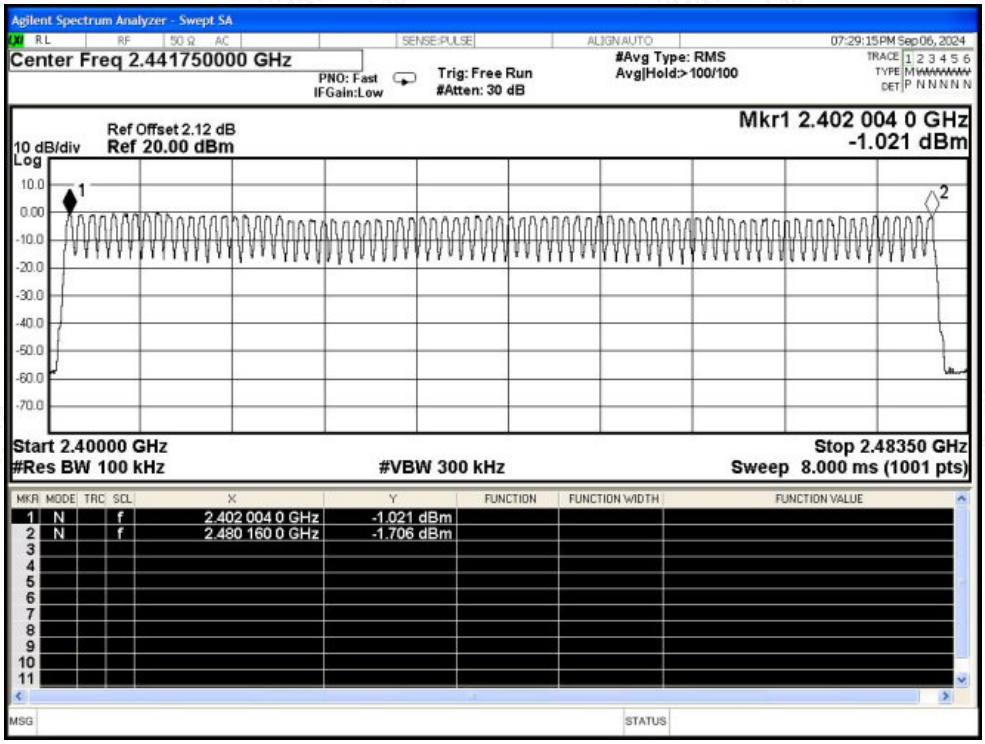


A.5 Number of Hopping Channel

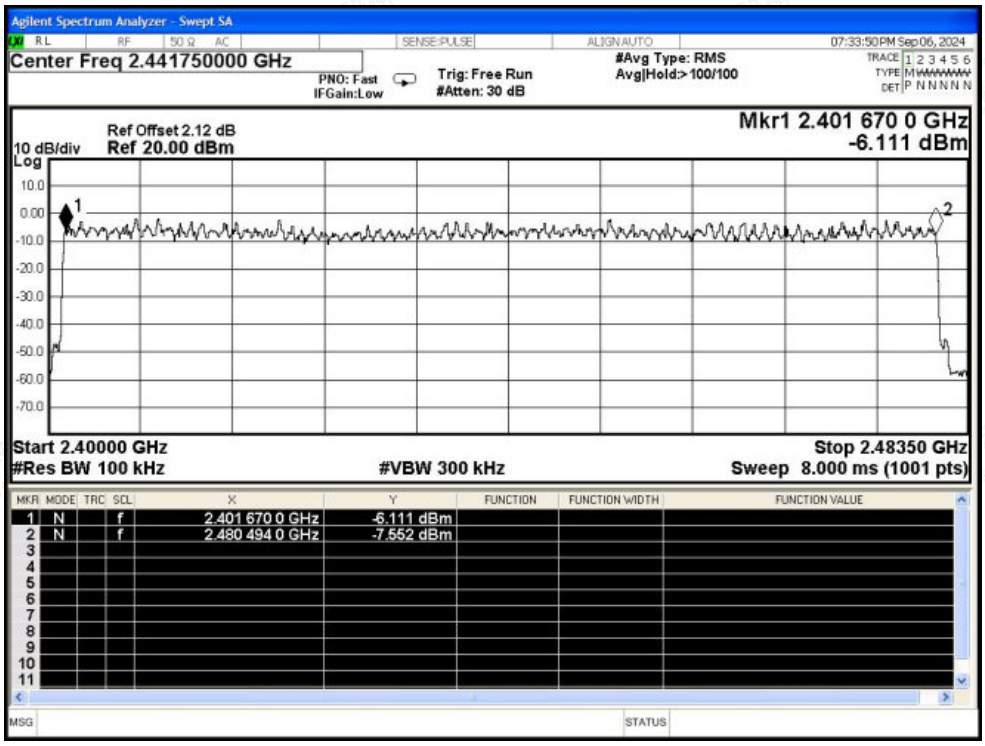
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

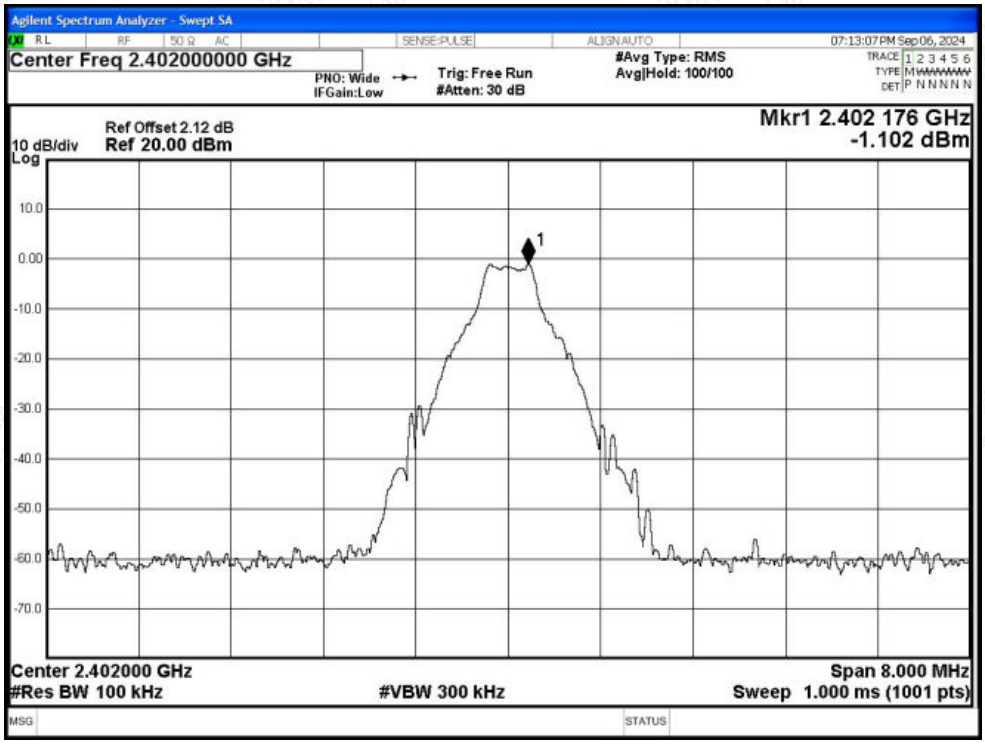


A.6 Band Edge

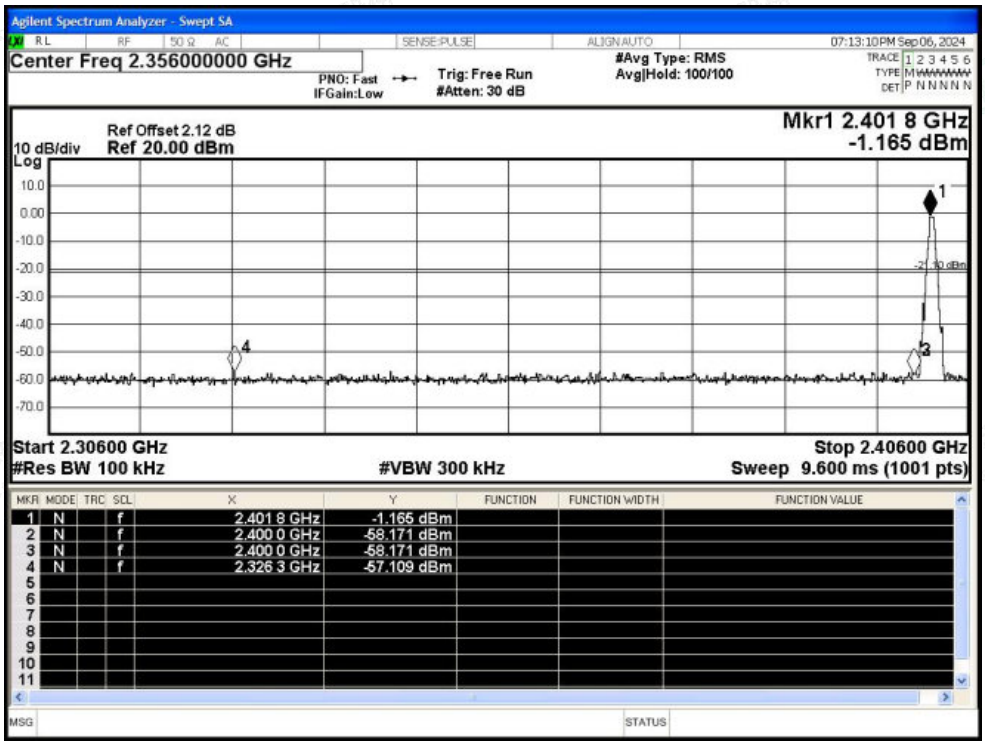
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.01	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.61	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.24	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.2	-20	Pass

Test Graphs

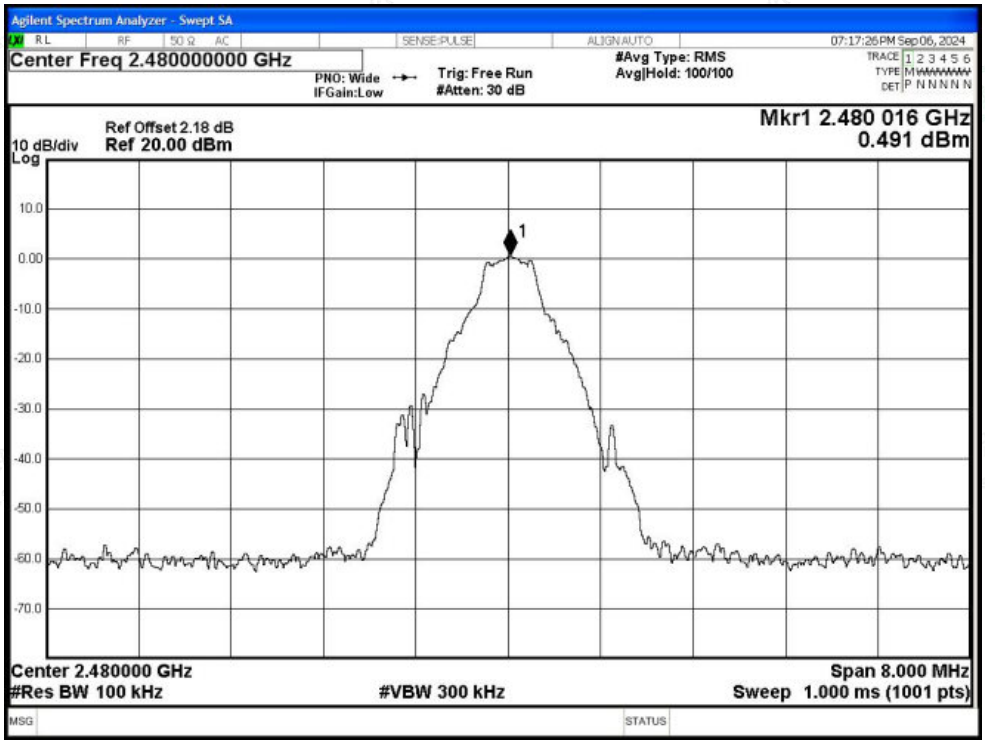
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



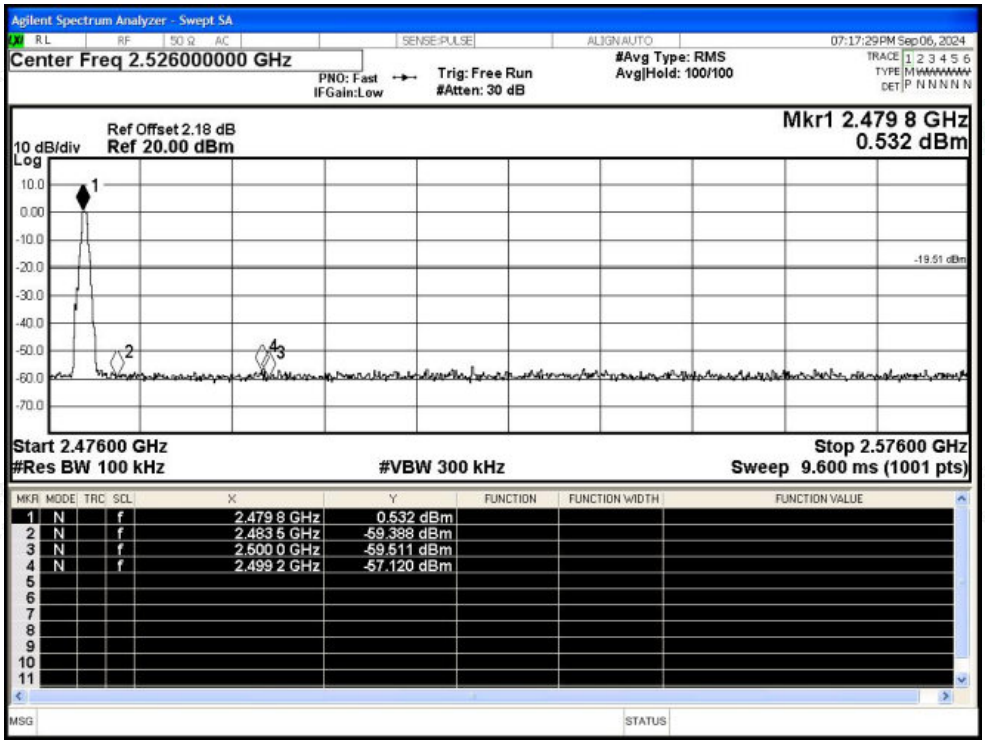
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



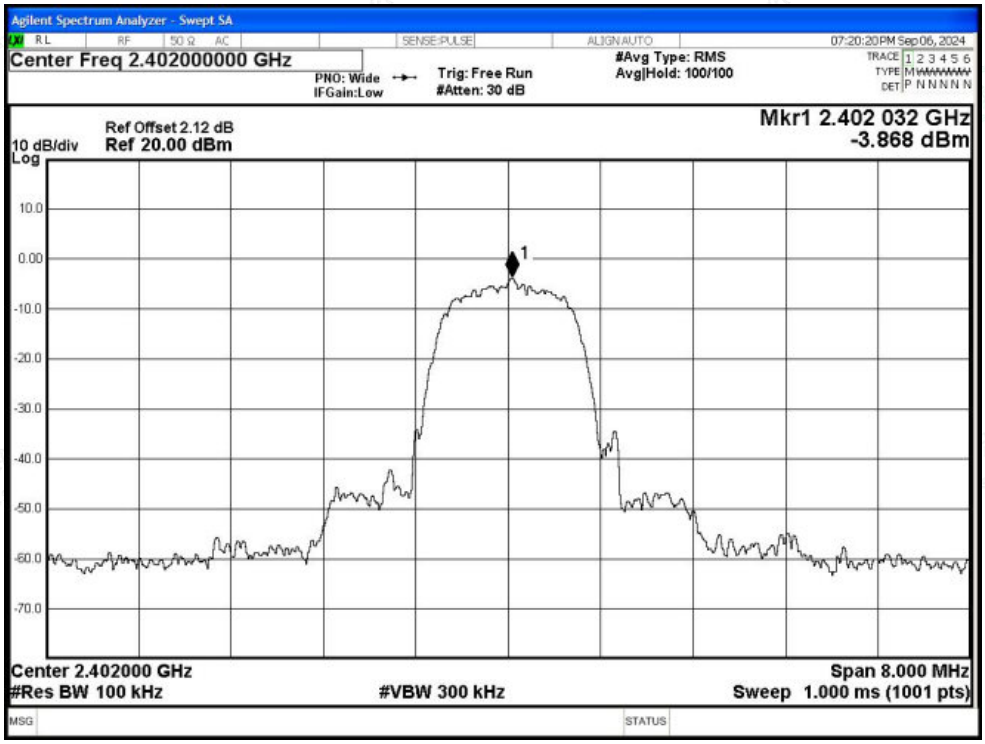
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



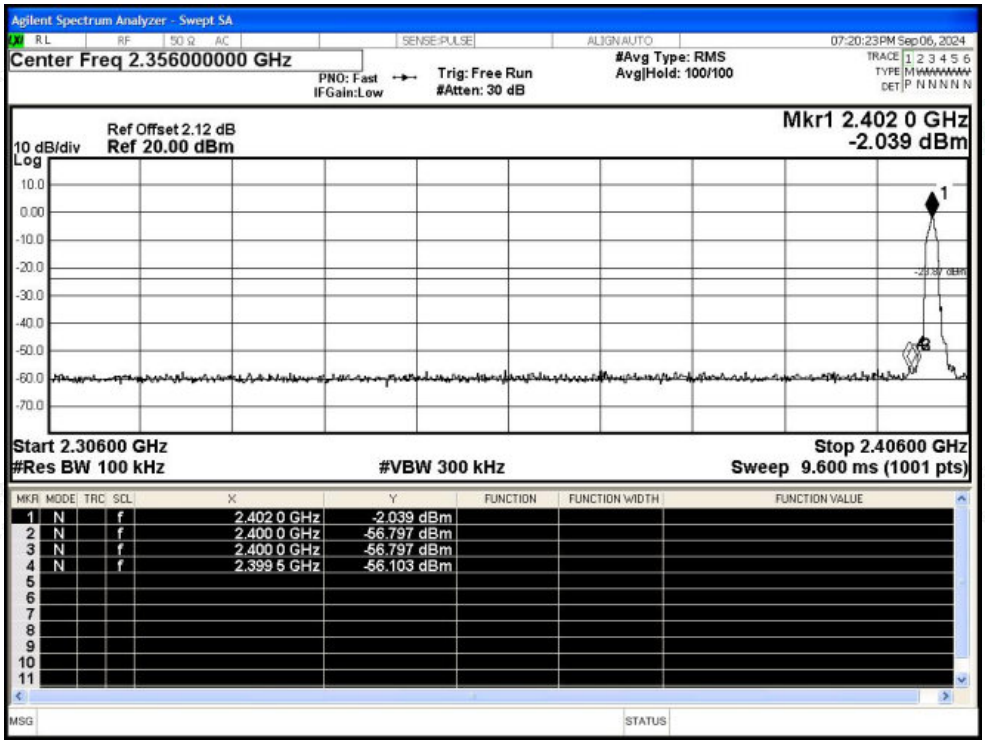
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



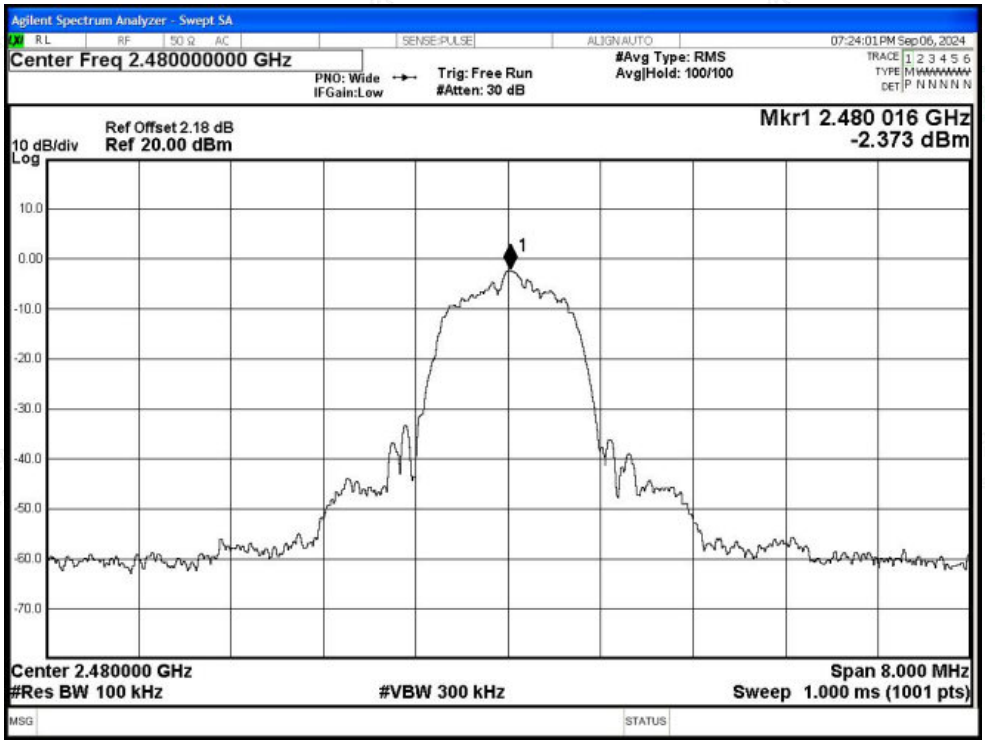
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



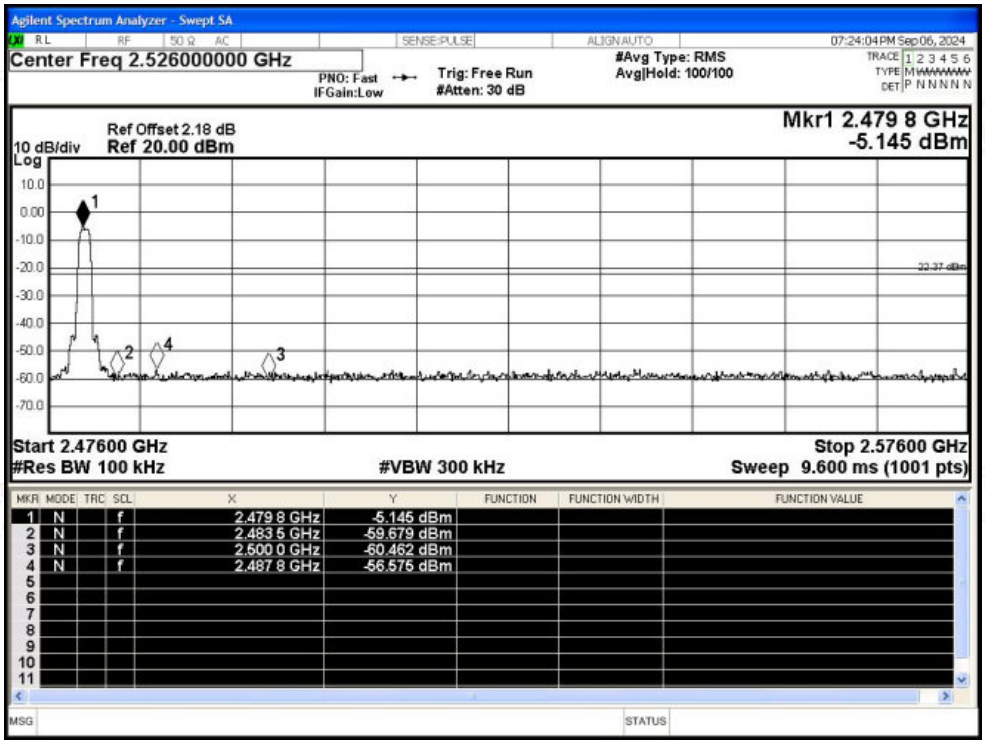
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



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



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

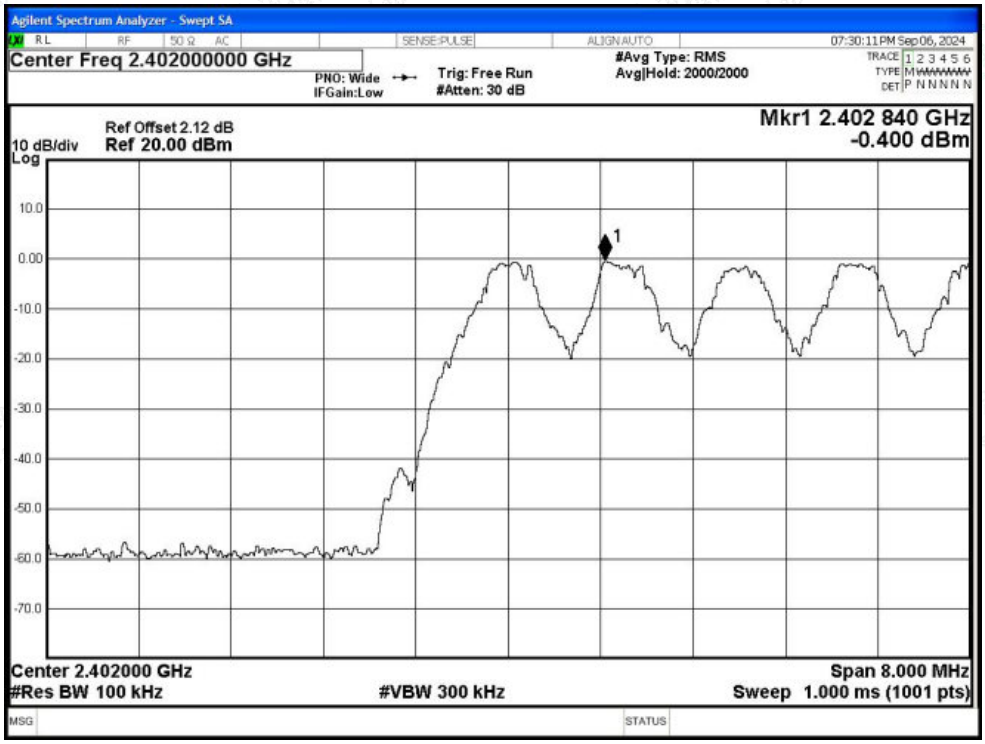


(Hopping)

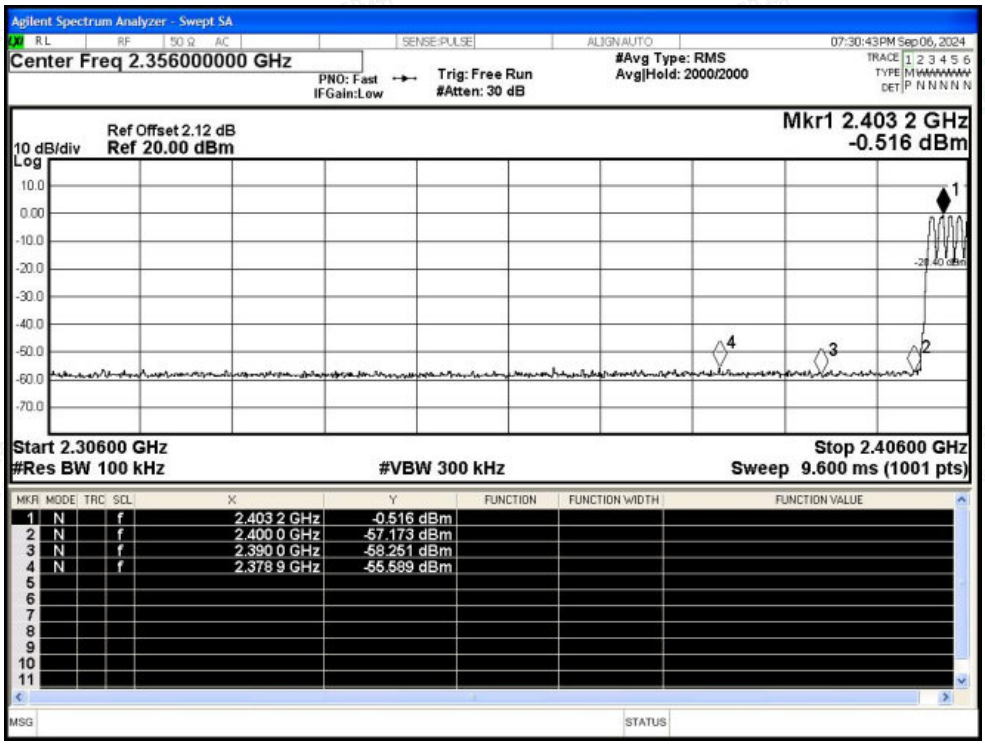
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.19	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.8	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.42	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.75	-20	Pass

Test Graphs

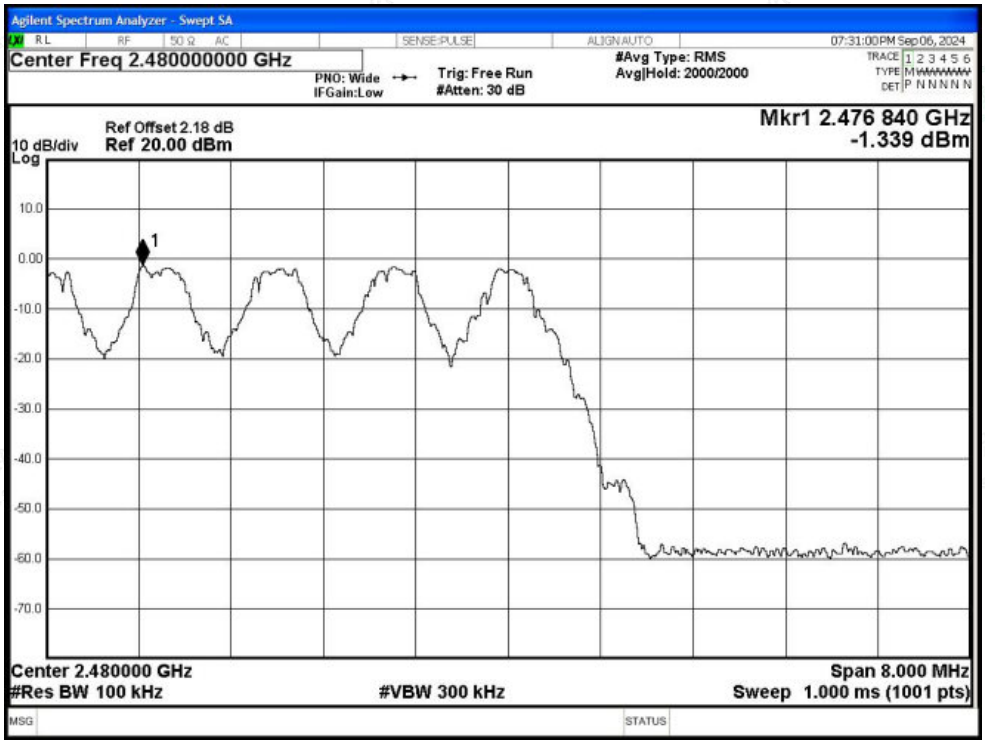
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



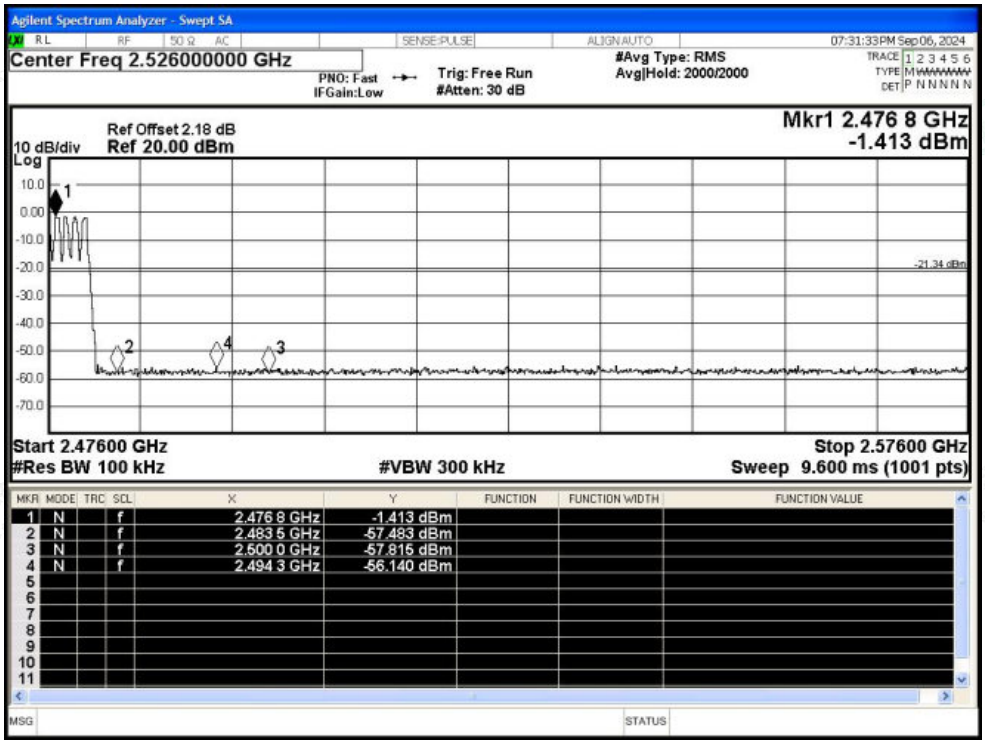
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



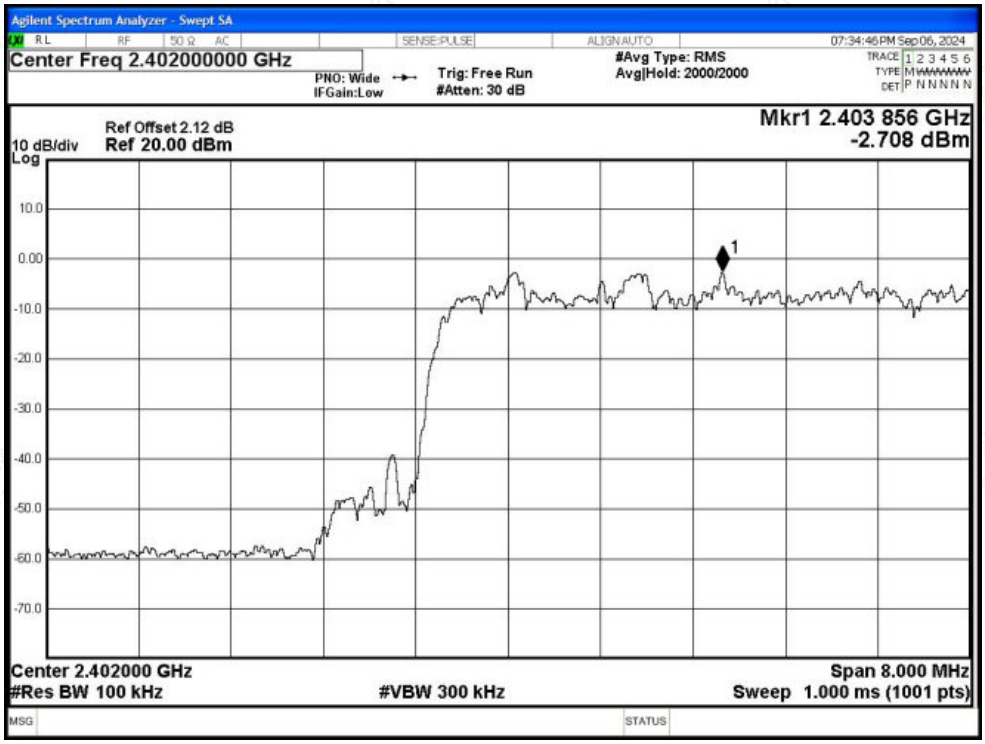
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



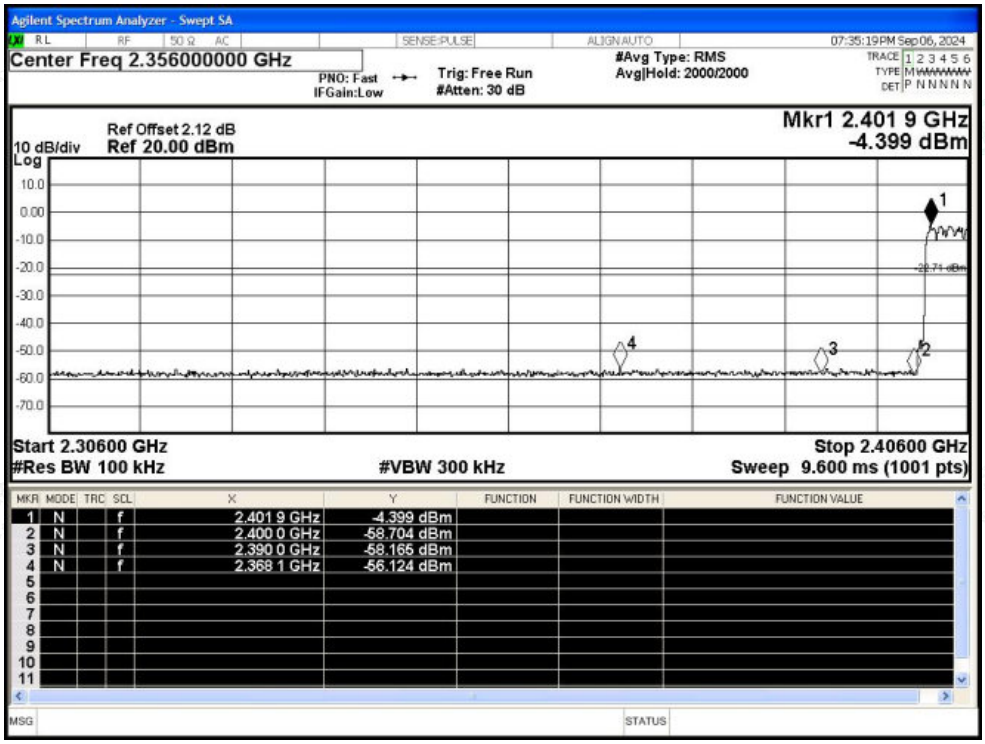
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



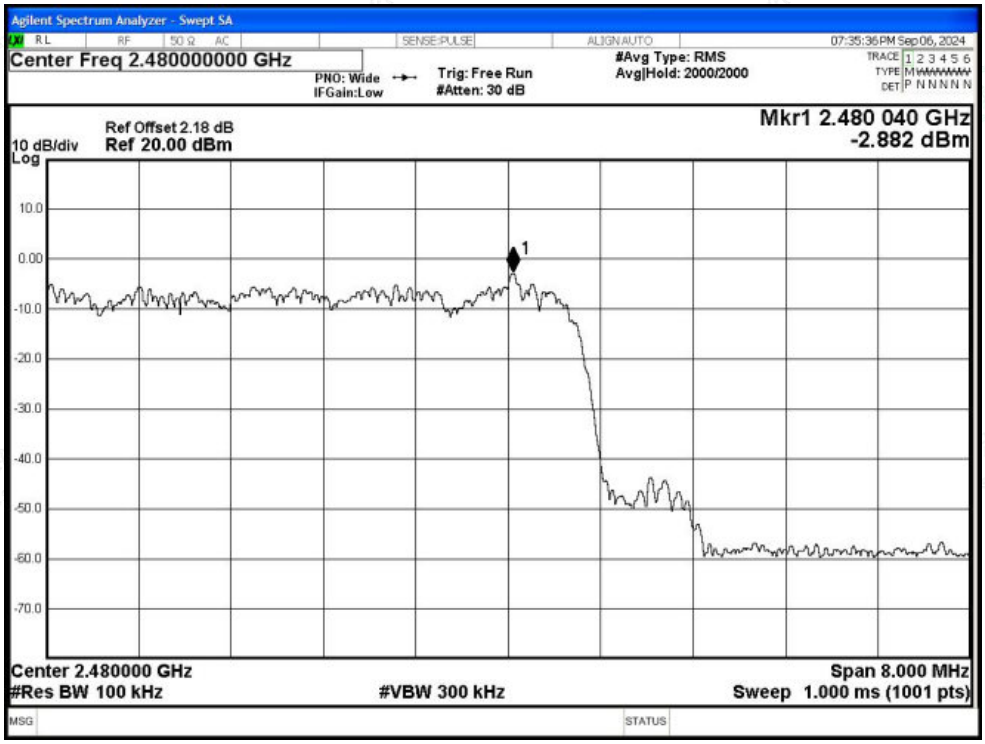
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



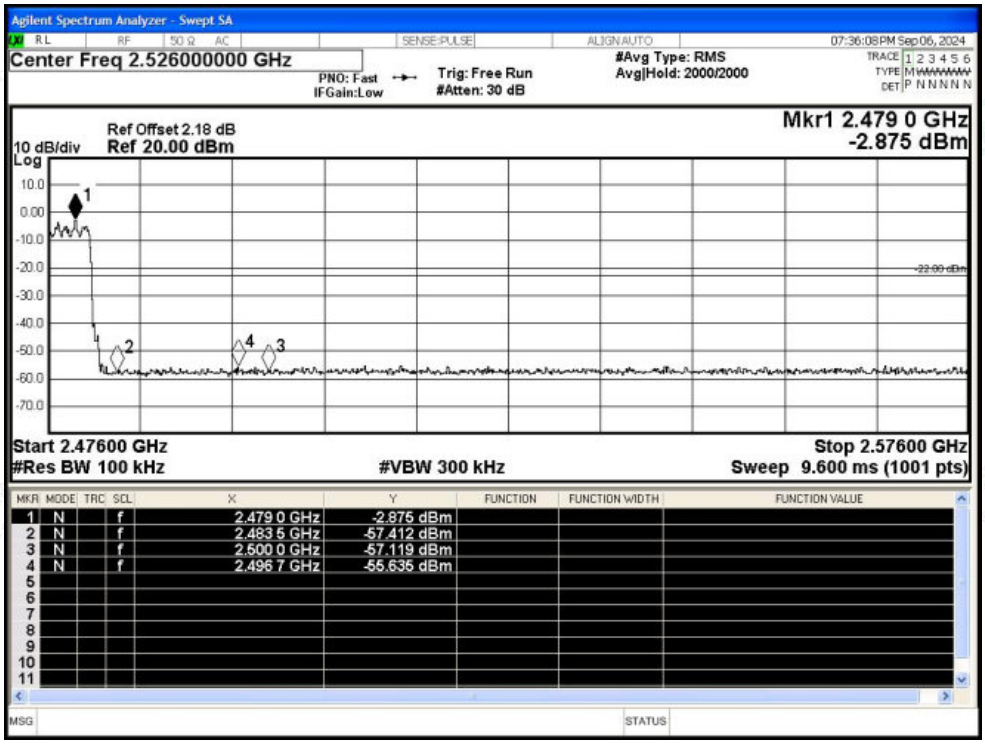
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



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



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

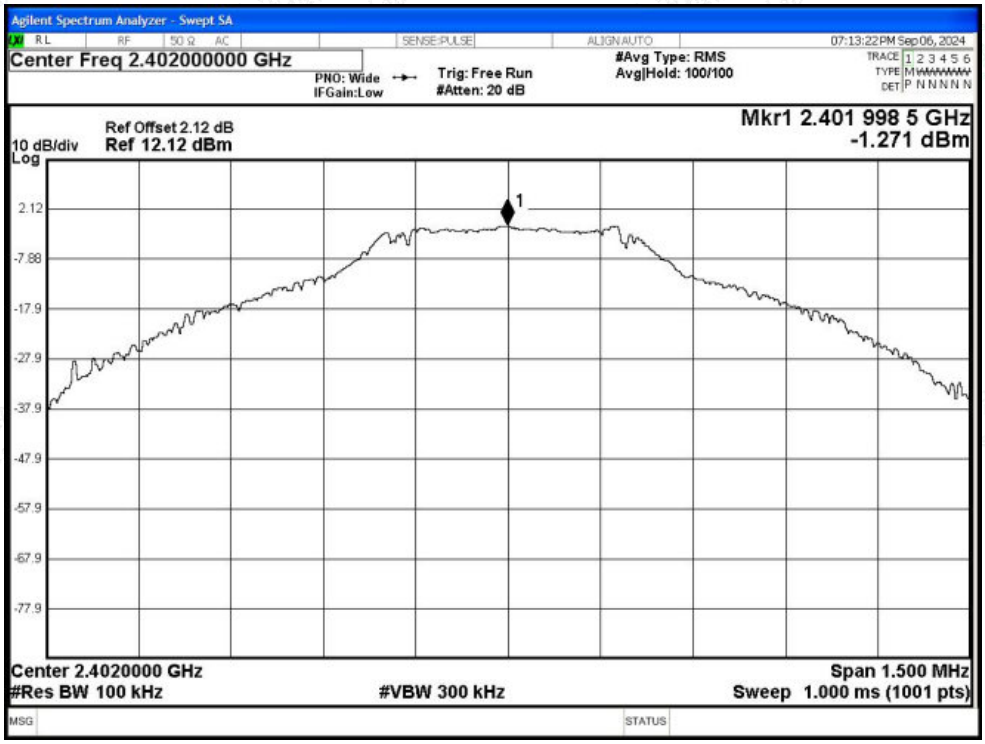


A.7 Conducted RF Spurious Emission

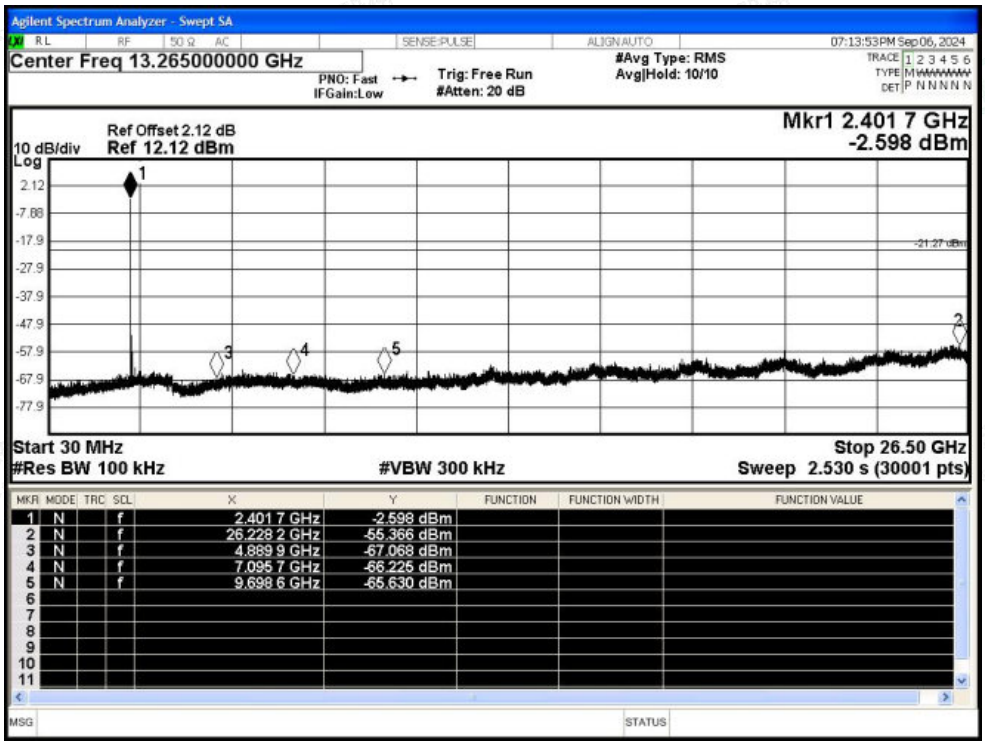
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.1	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.92	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.39	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.29	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.41	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.51	-20	Pass

Test Graphs

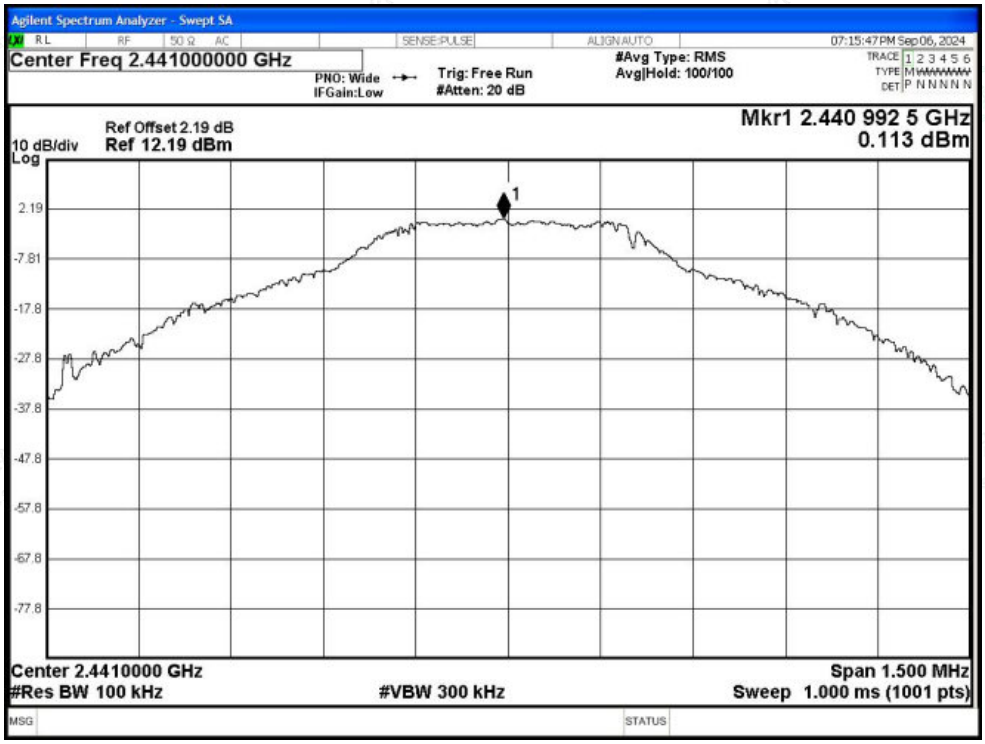
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



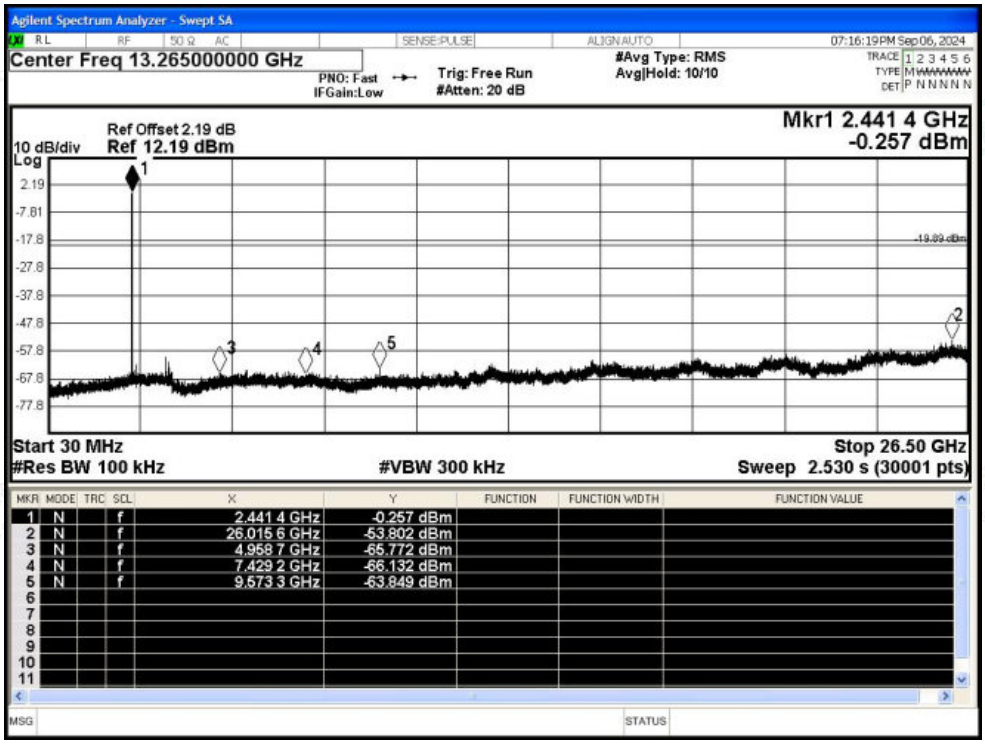
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



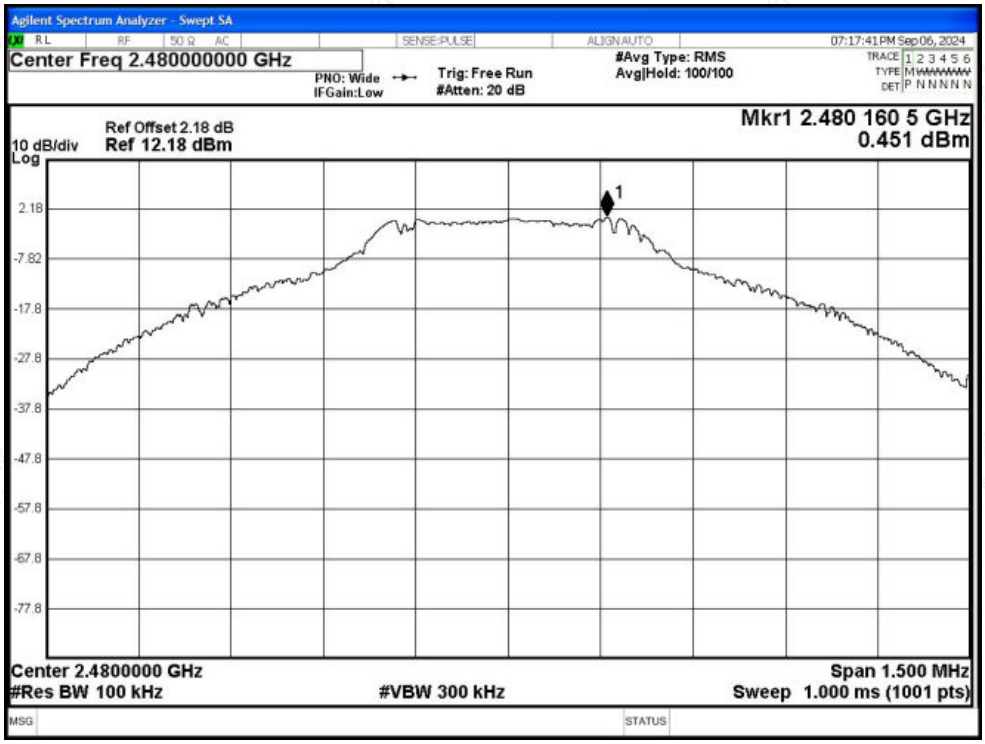
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



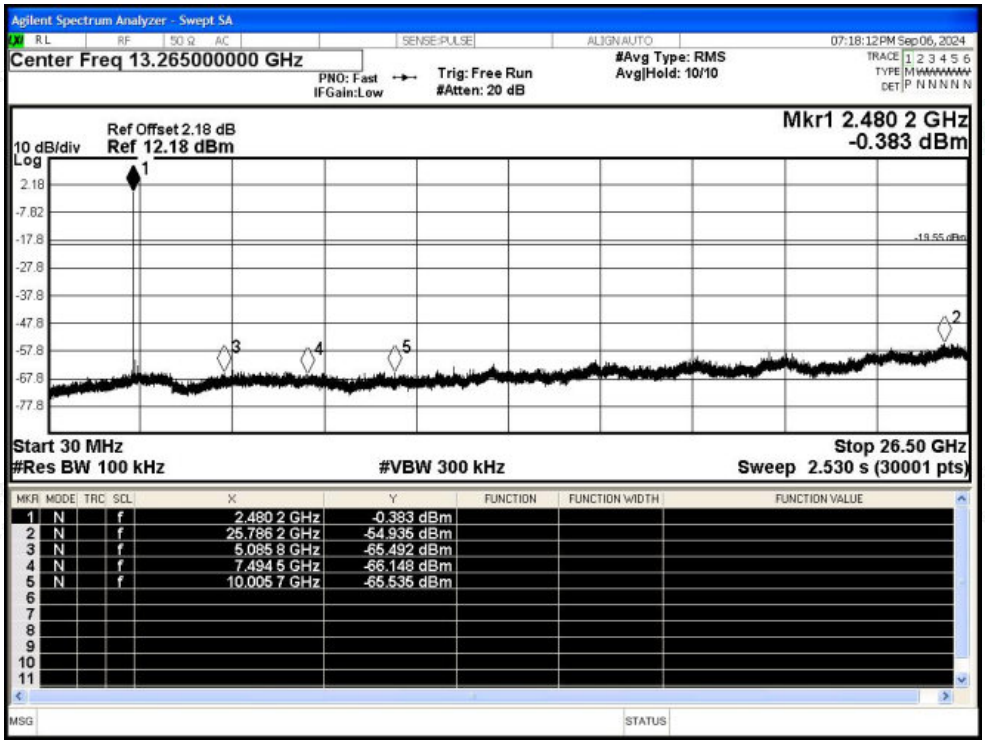
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



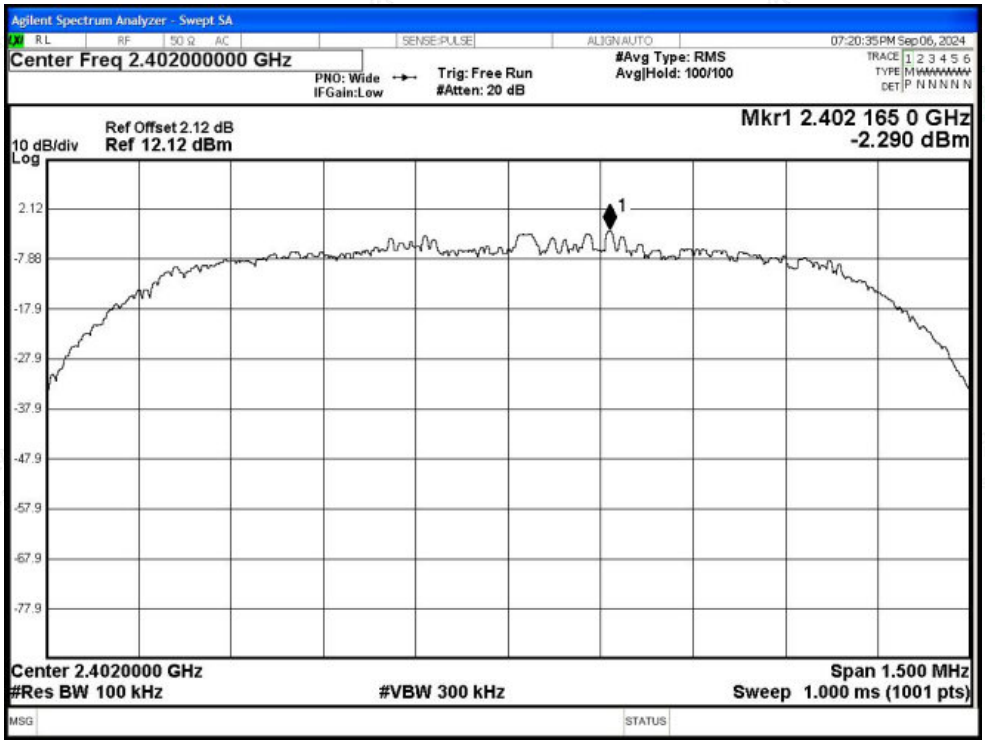
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



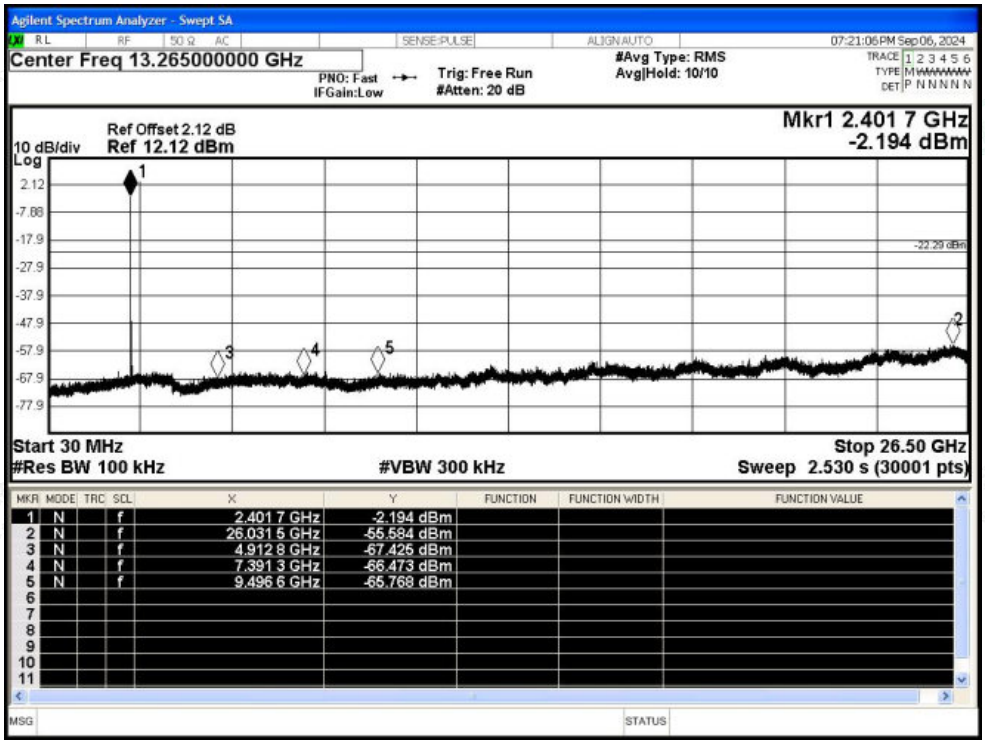
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



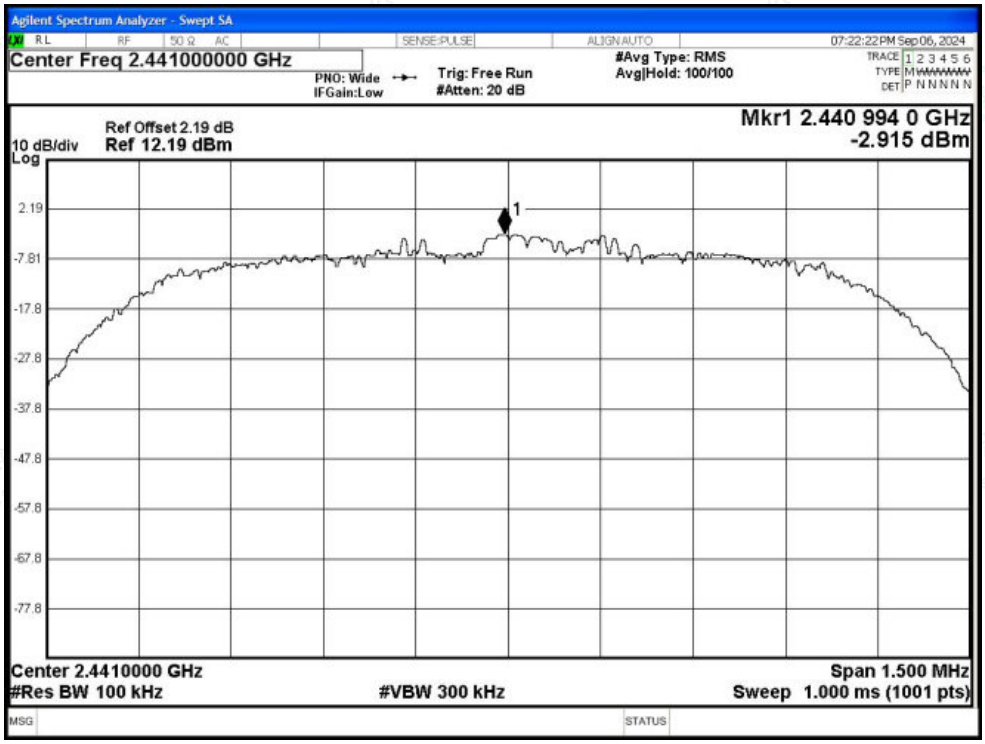
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



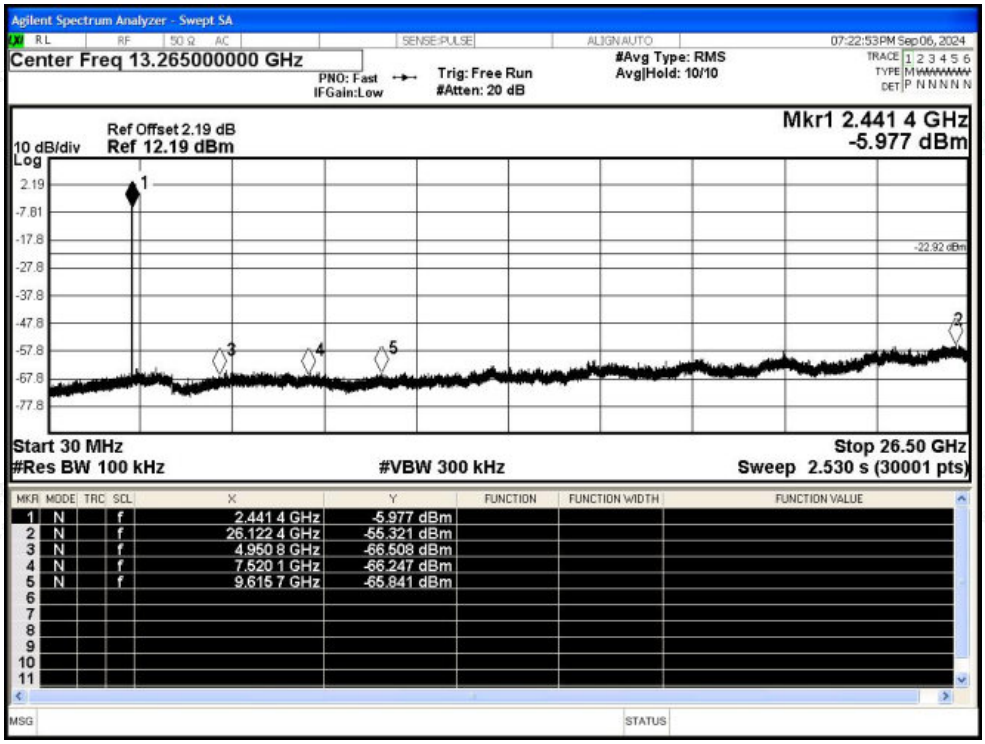
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



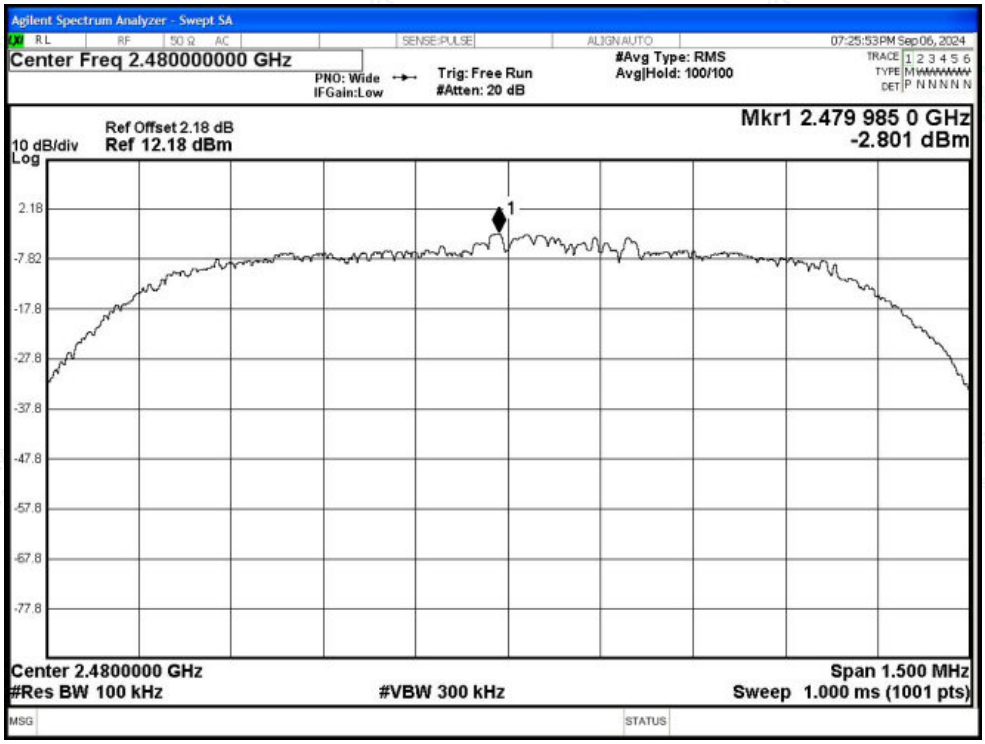
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



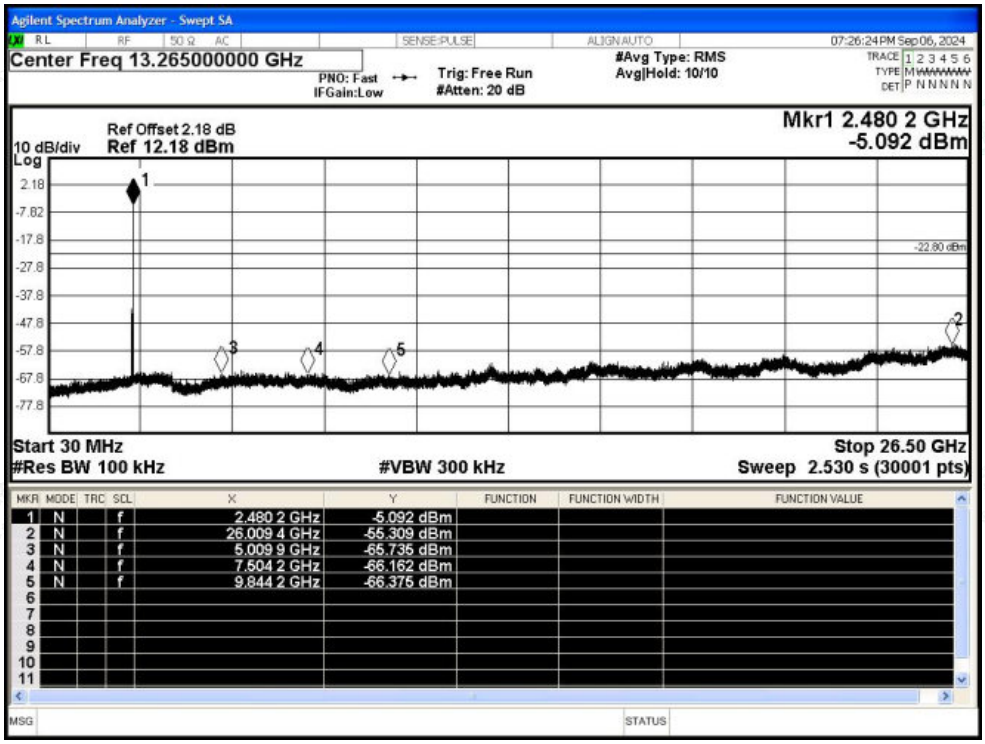
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

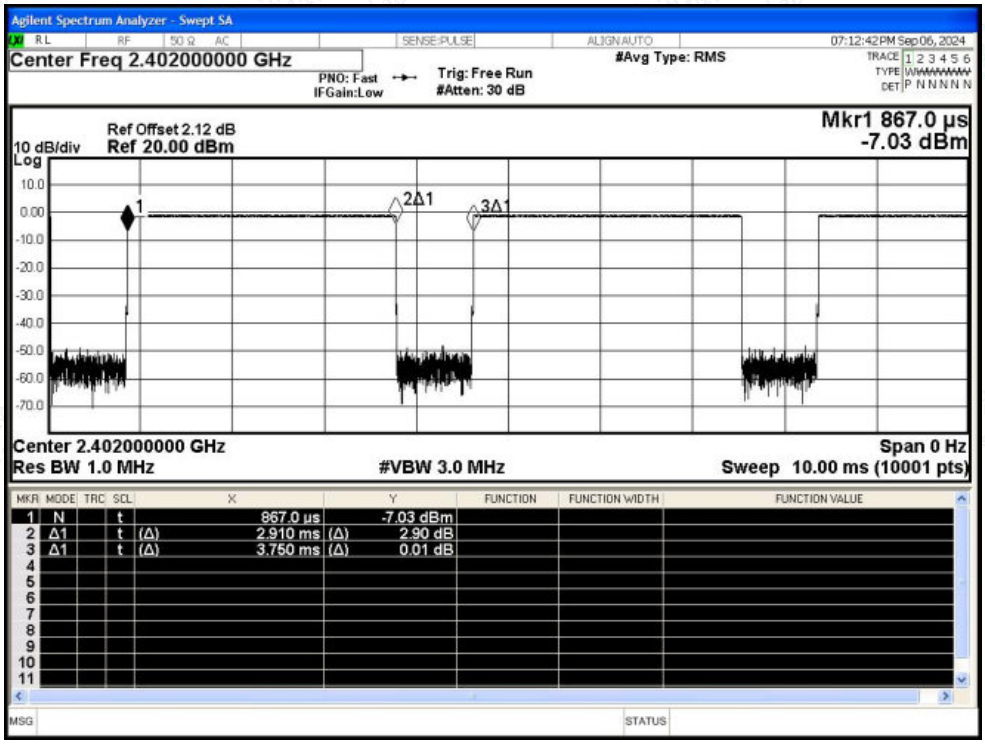


A.8 Duty Cycle

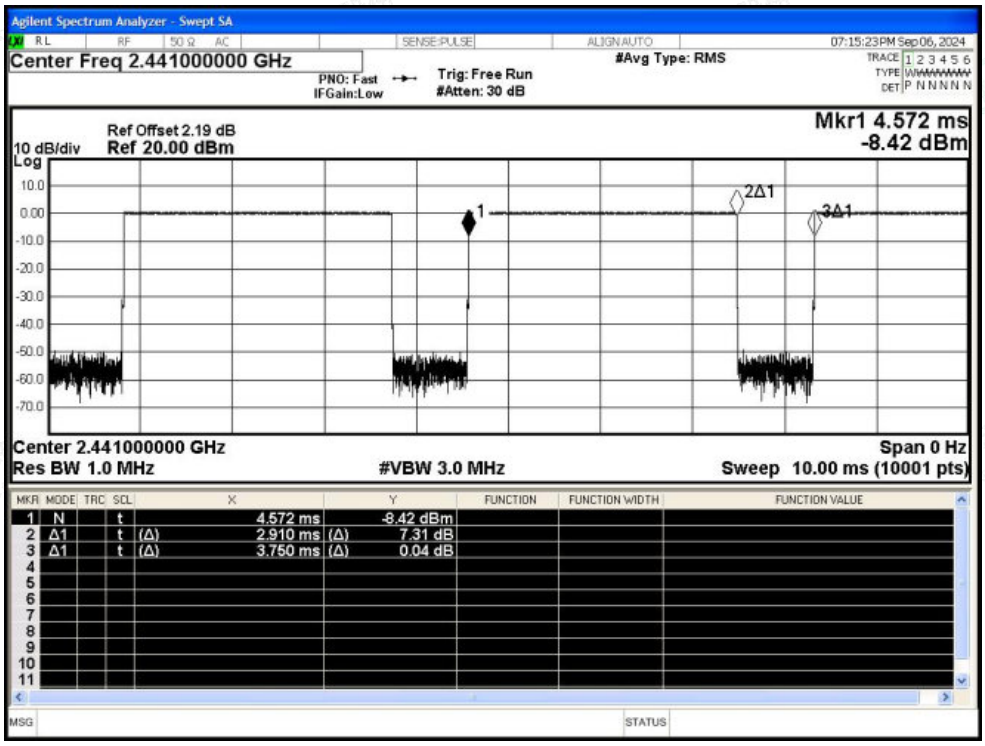
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35

Test Graphs

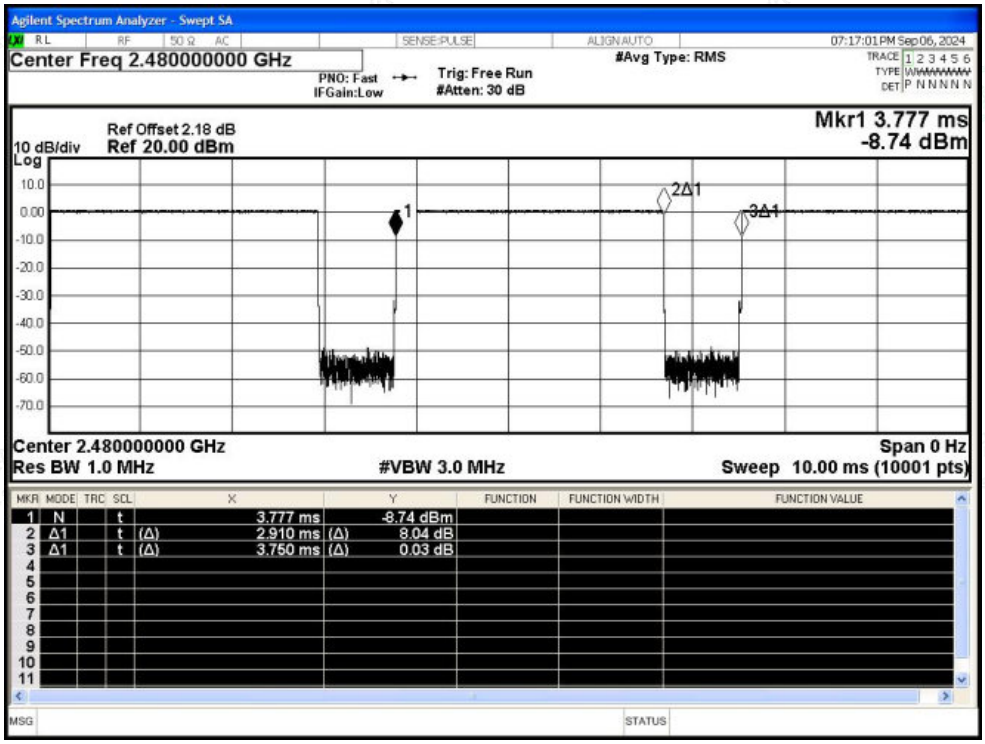
Duty Cycle NVNT 1-DH5 2402MHz Ant1



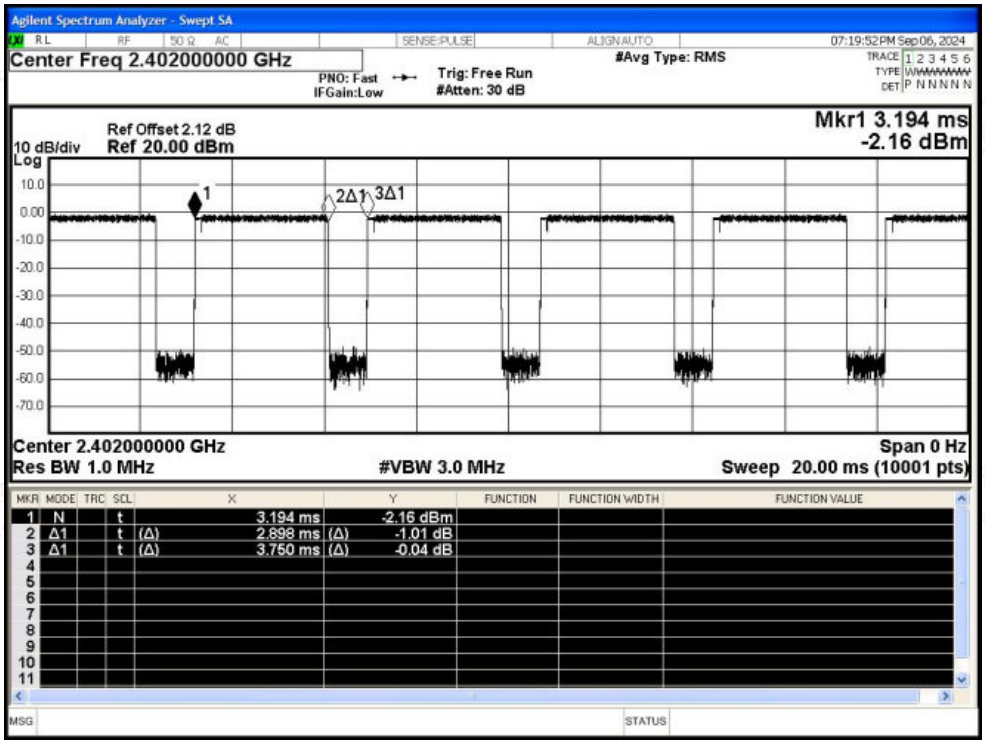
Duty Cycle NVNT 1-DH5 2441MHz Ant1



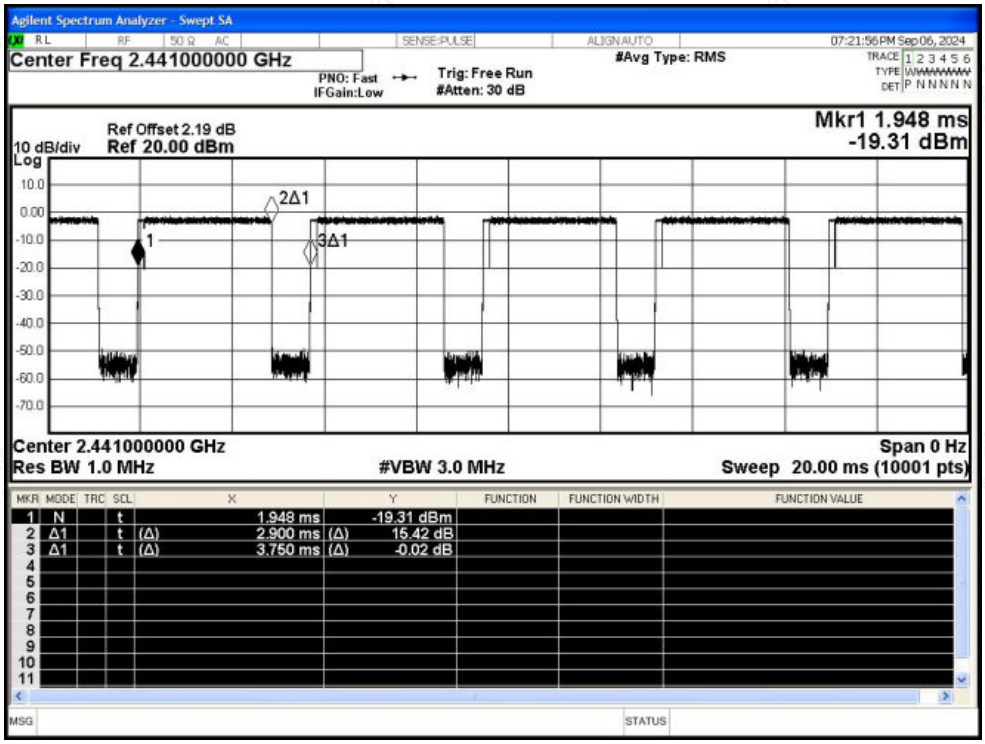
Duty Cycle NVNT 1-DH5 2480MHz Ant1



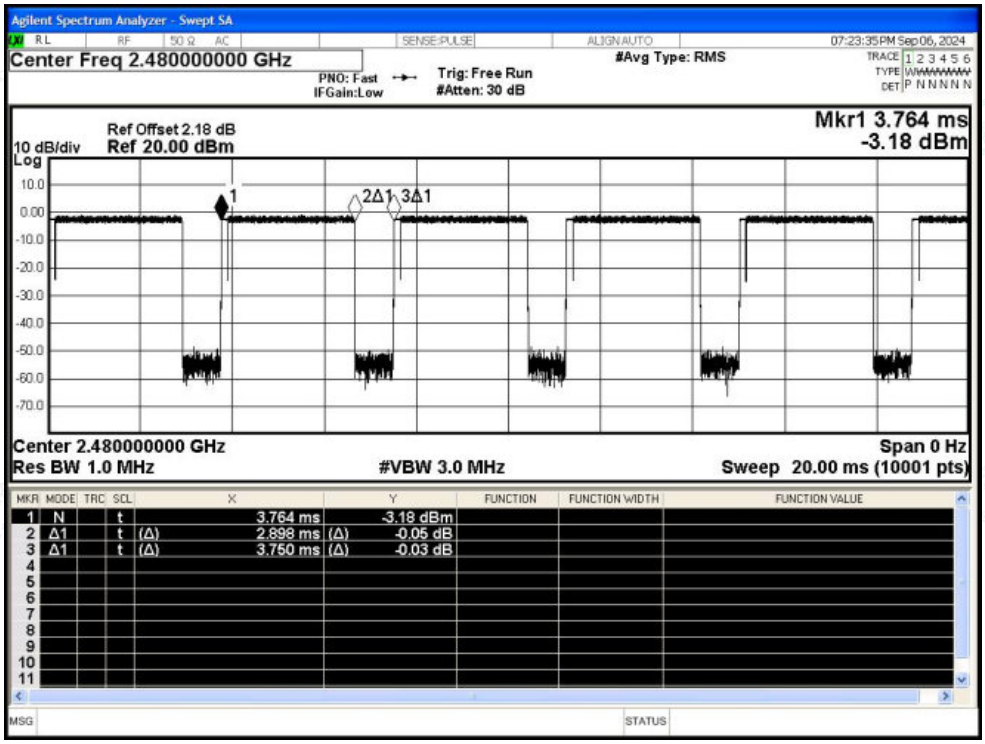
Duty Cycle NVNT 2-DH5 2402MHz Ant1



Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

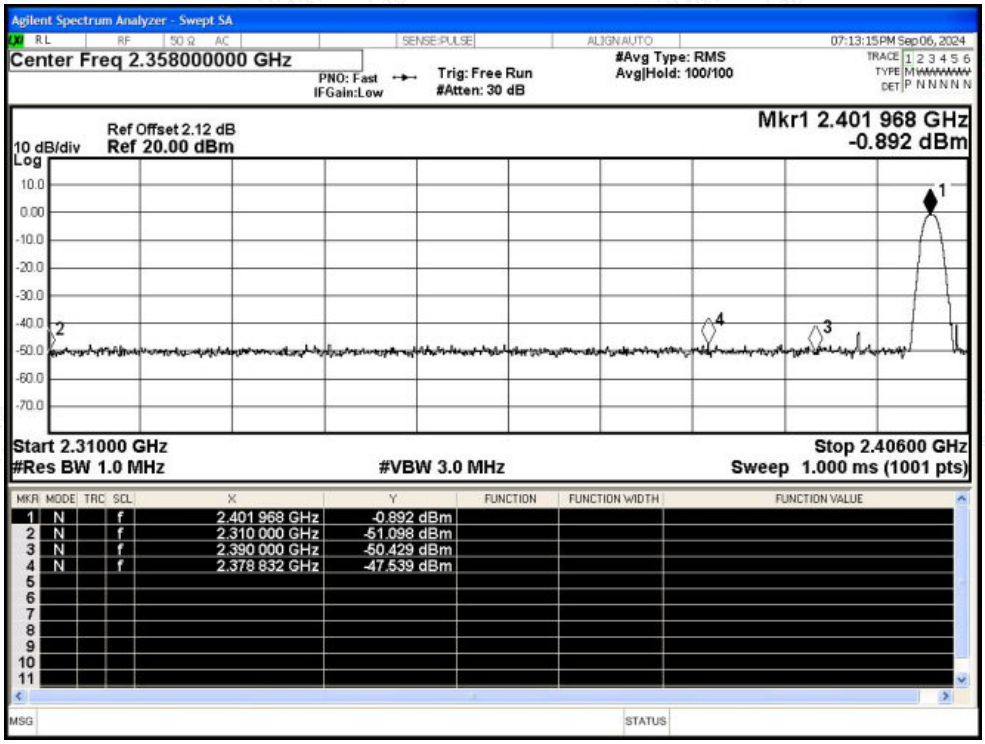


A.9 Restrict Band

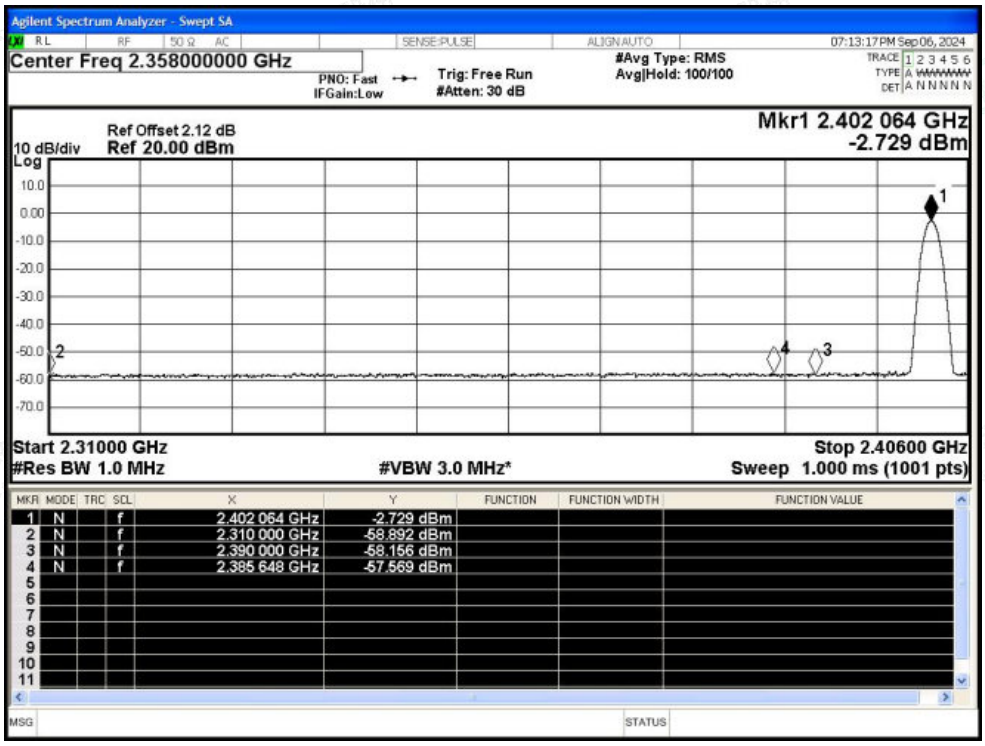
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.1	2	-	46.16	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.89	2	1.1	39.47	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2378.832	-47.54	2	-	49.72	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.648	-57.57	2	1.1	40.79	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.43	2	-	46.83	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.16	2	1.1	40.2	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.65	2	-	47.61	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.5	2	1.1	40.86	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.536	-47.34	2	-	49.92	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.064	-56.95	2	1.1	41.41	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.21	2	-	47.05	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.96	2	1.1	40.4	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.47	2	-	45.79	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.8	2	1.12	39.58	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2330.832	-47.6	2	-	49.66	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382	-57.32	2	1.12	41.06	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.2	2	-	46.06	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.71	2	1.12	39.67	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50	2	-	47.26	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.79	2	1.12	40.59	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.632	-41.07	2	-	56.19	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.88	-57.13	2	1.12	41.25	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.31	2	-	48.95	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.88	2	1.12	40.5	Average	54	Pass

Test Graphs

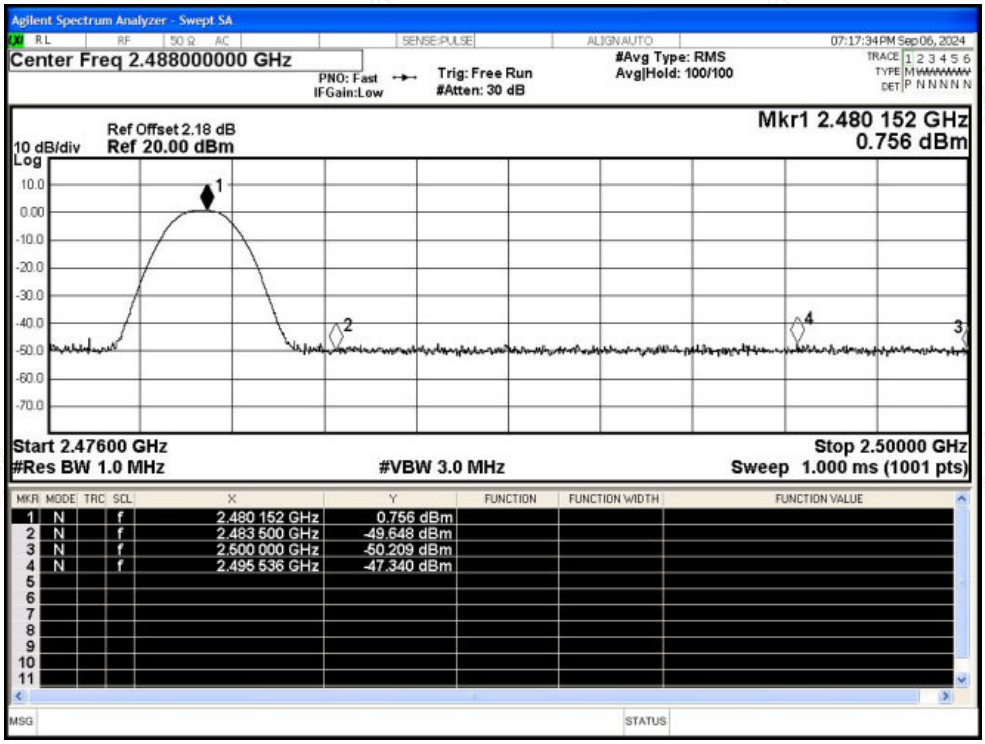
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



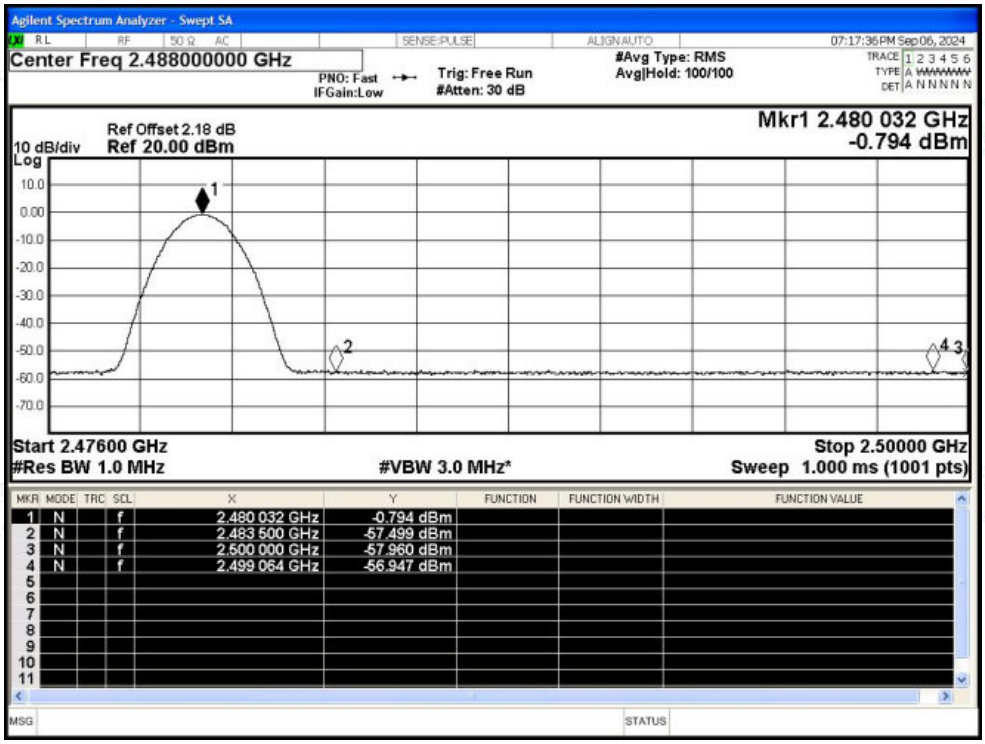
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



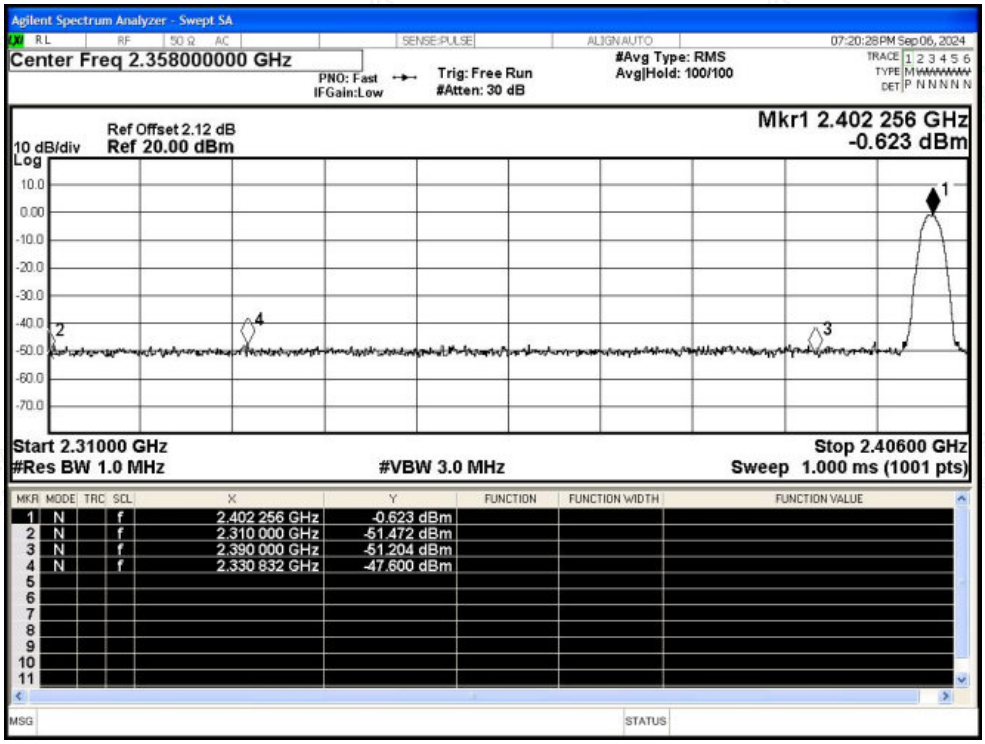
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



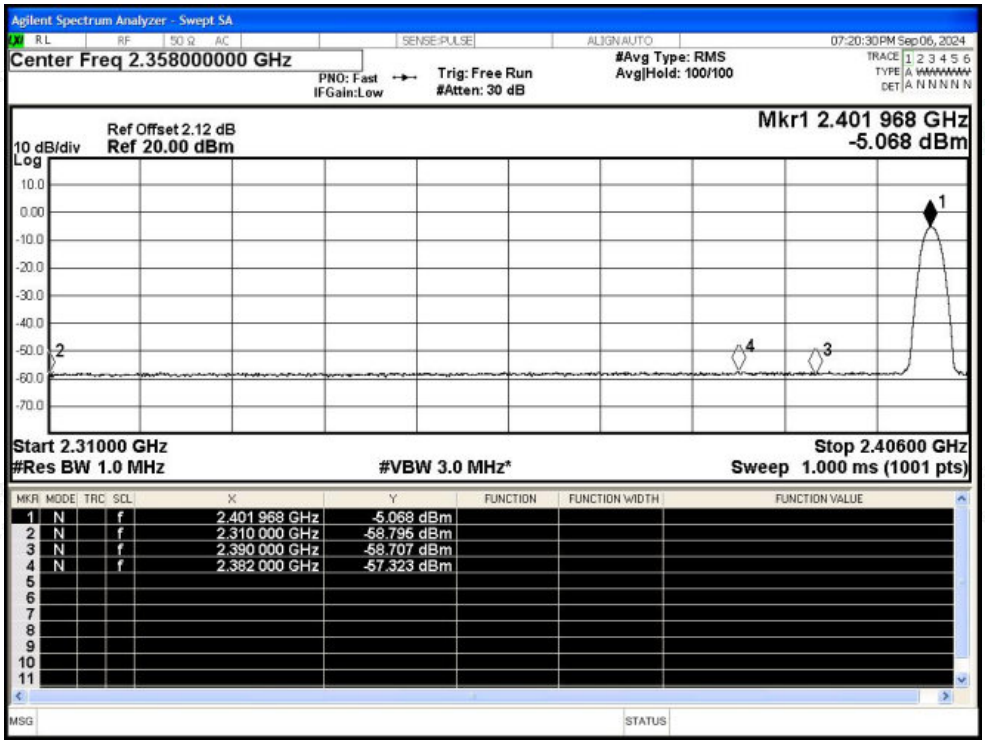
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



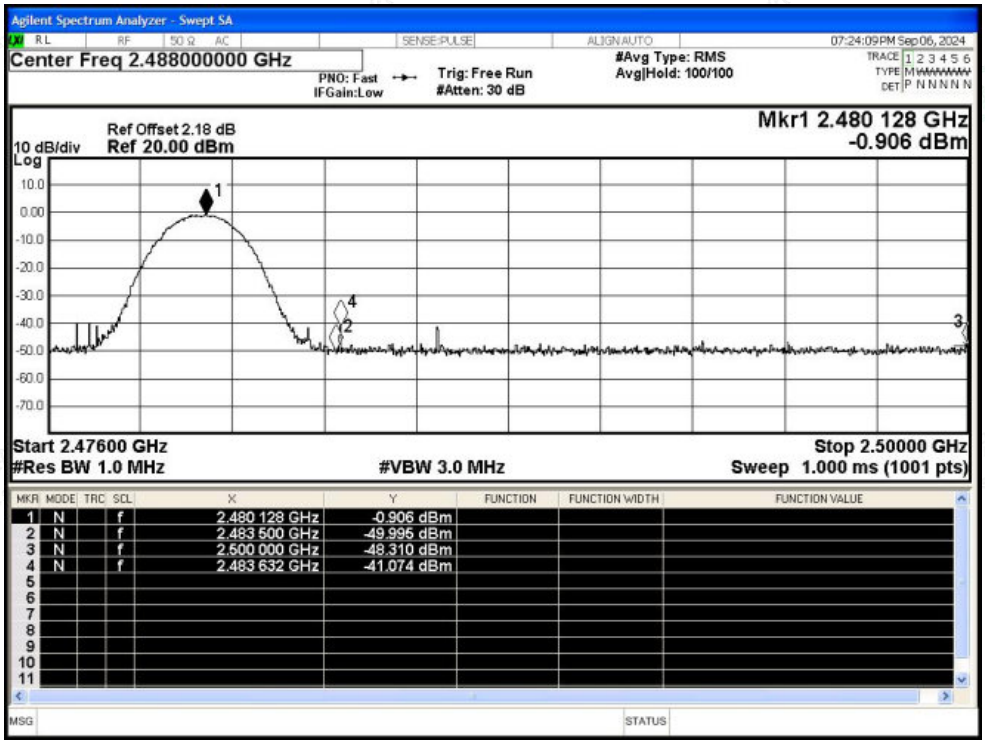
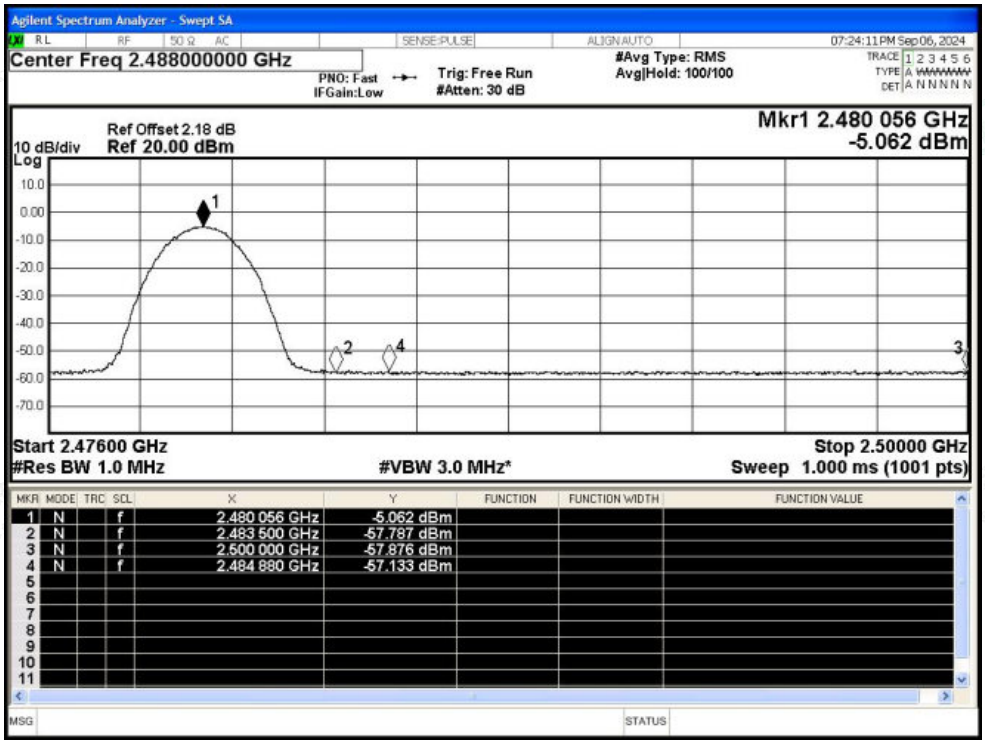
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



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