Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart wireless stereo bluetooth headset

Test Model: BW03

Environmental Conditions

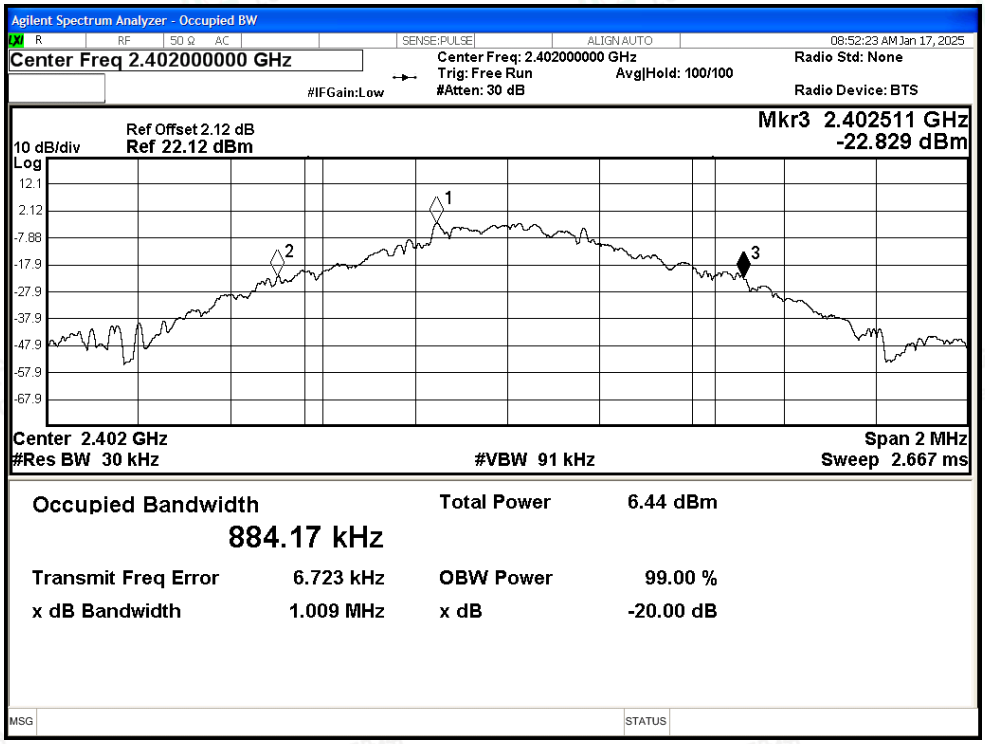
Temperature:	23.6° C
Relative Humidity:	52.5%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

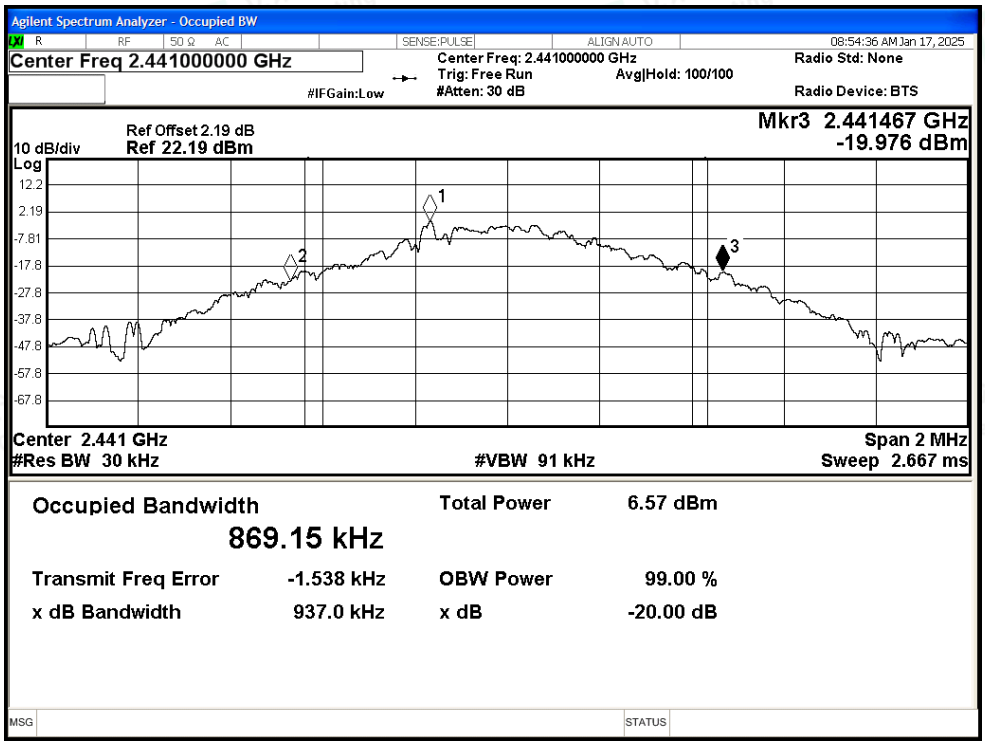
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.009	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.937	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.001	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.312	N/A	Pass

Test Graphs

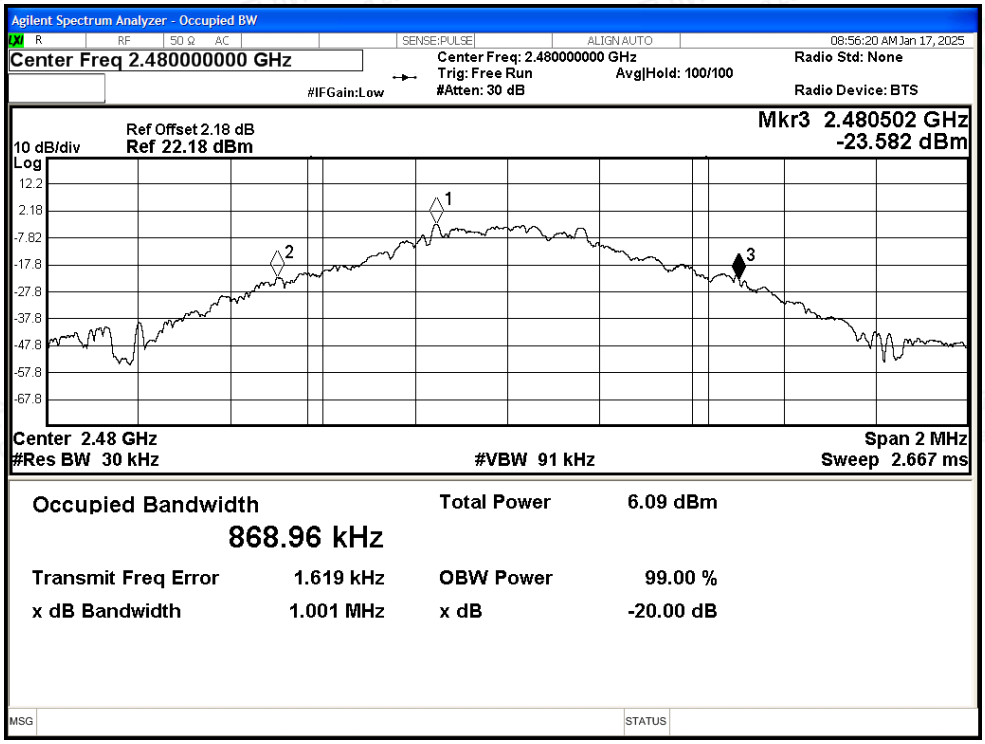
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



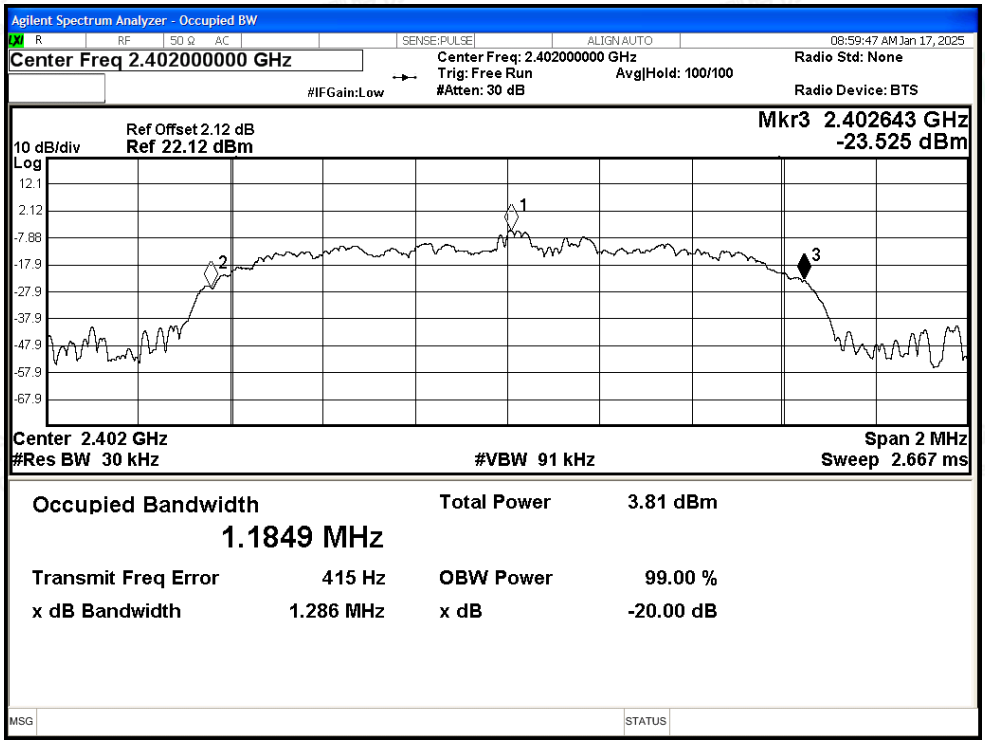
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



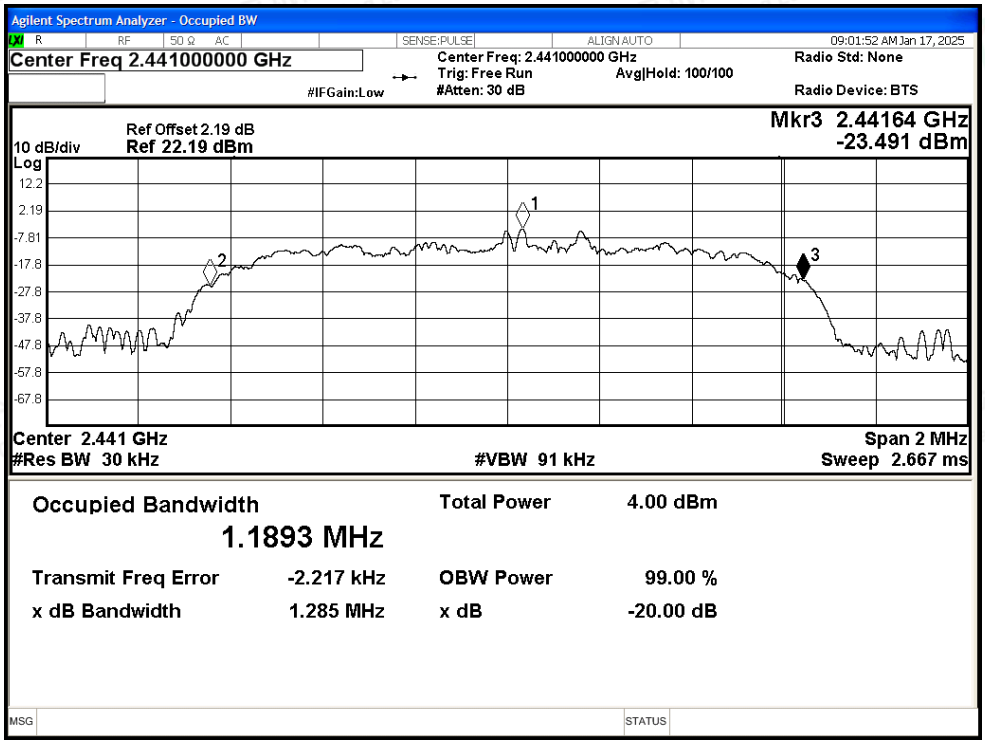
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



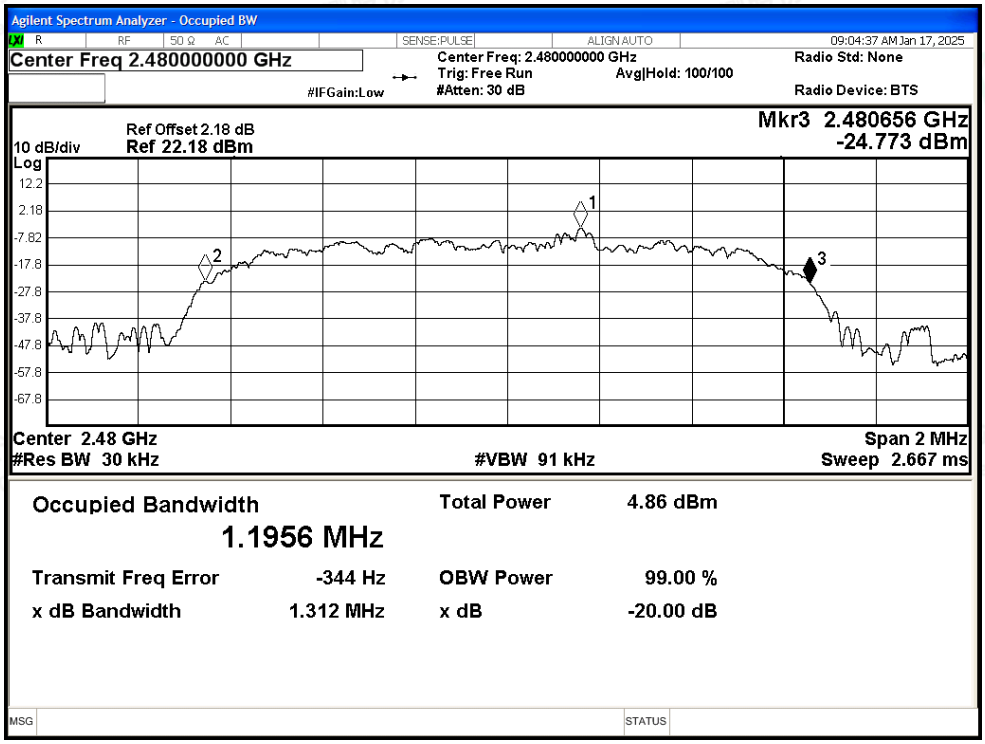
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



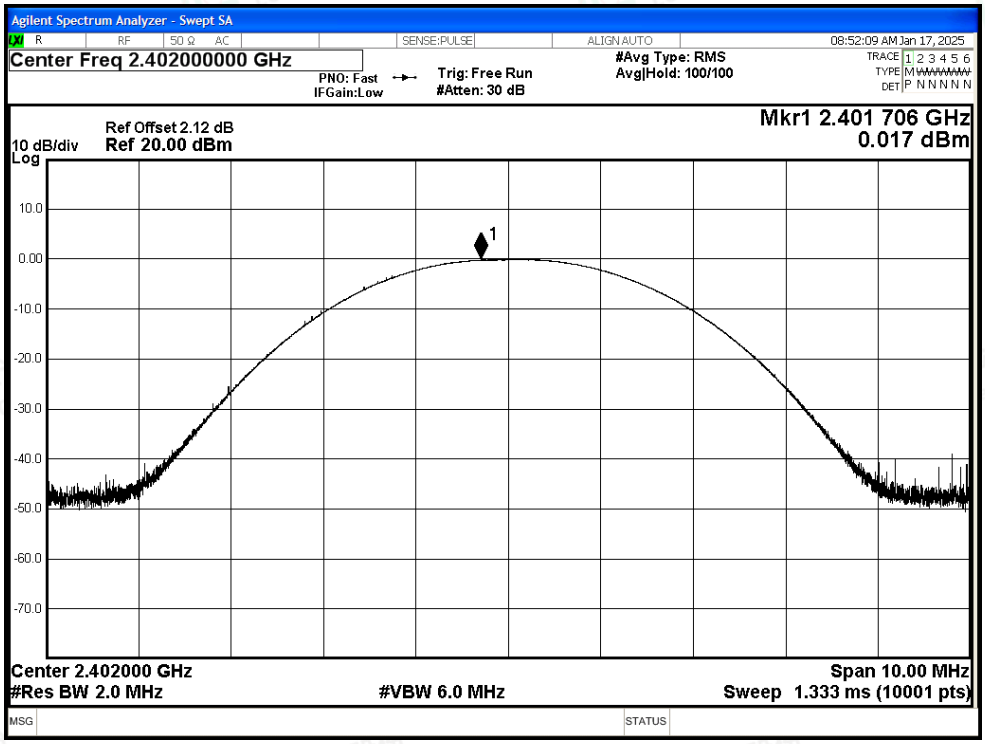
A.2 Maximum Peak Conducted Output Power

Left ear

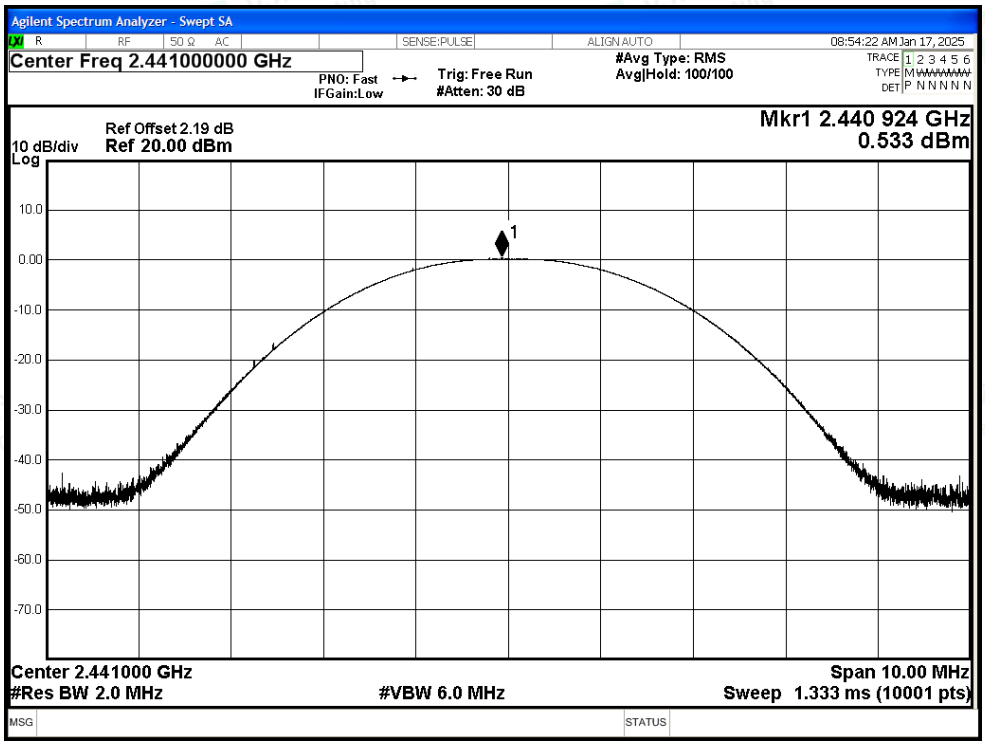
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.02	21	Pass
NVNT	1-DH5	2441	Ant1	0.53	21	Pass
NVNT	1-DH5	2480	Ant1	-0.58	21	Pass
NVNT	2-DH5	2402	Ant1	-0.66	21	Pass
NVNT	2-DH5	2441	Ant1	-0.31	21	Pass
NVNT	2-DH5	2480	Ant1	0.85	21	Pass

Test Graphs

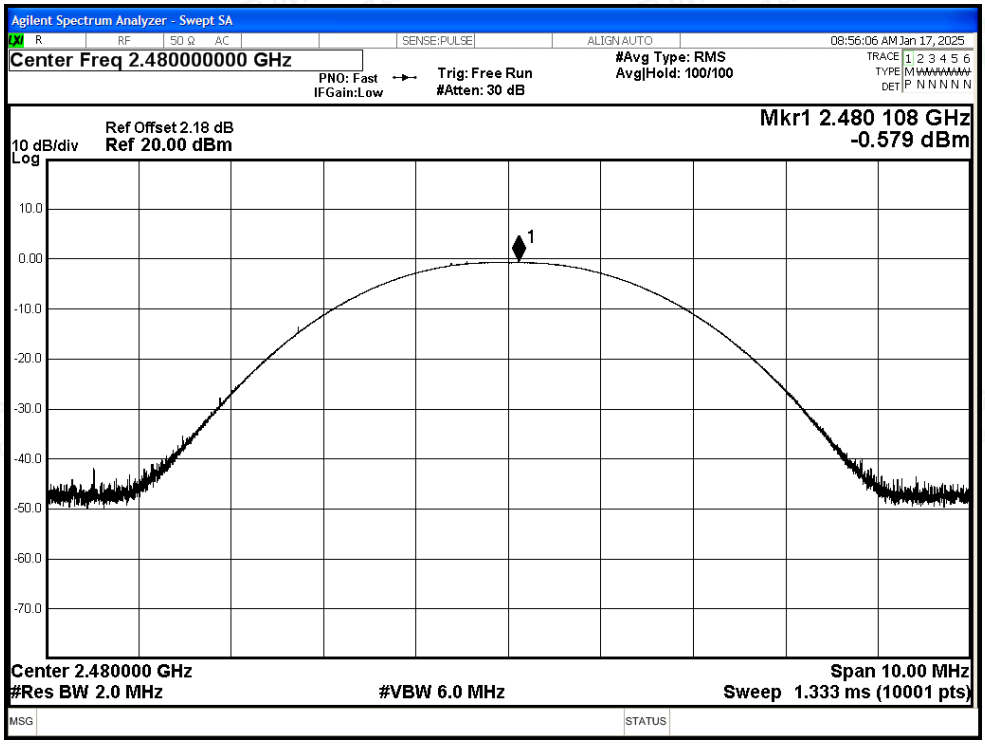
Power NVNT 1-DH5 2402MHz Ant1



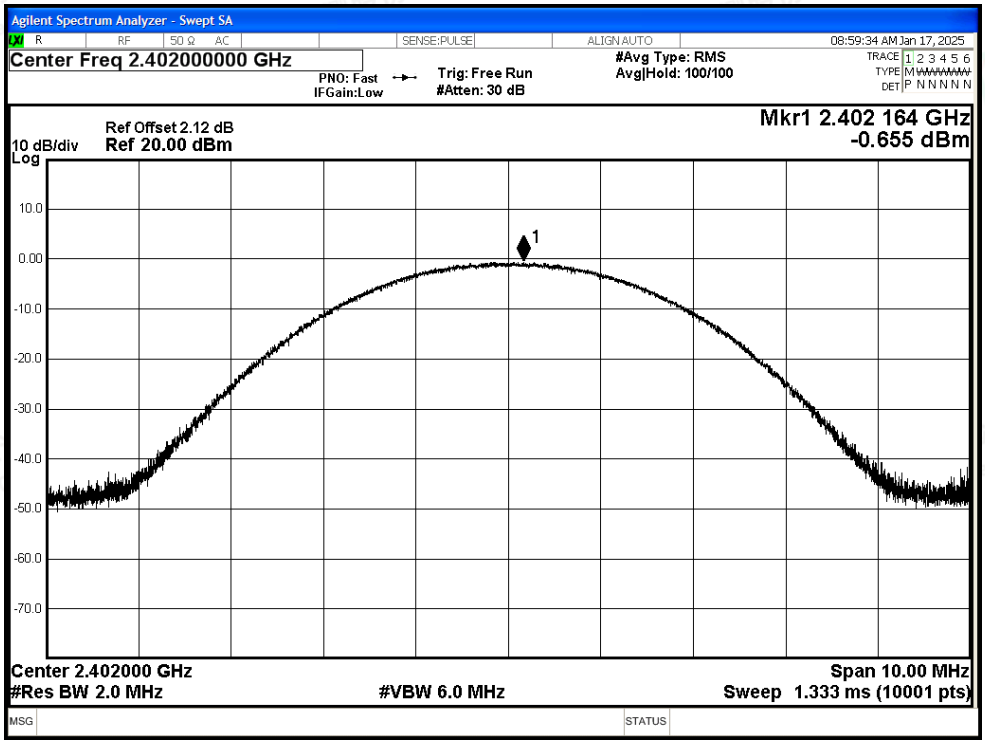
Power NVNT 1-DH5 2441MHz Ant1



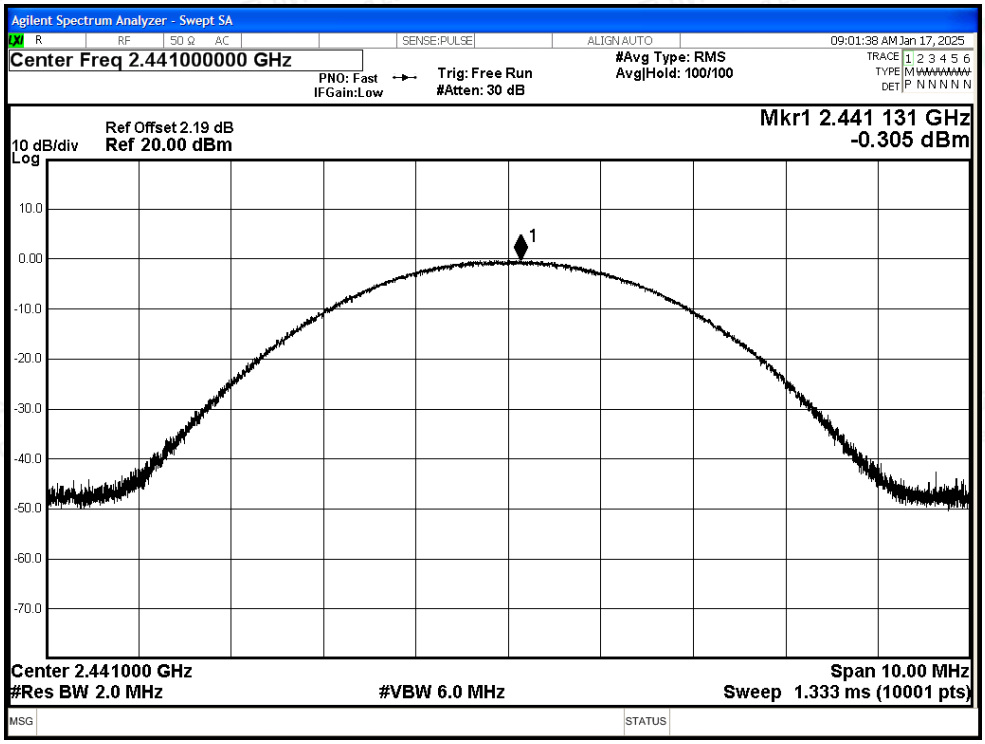
Power NVNT 1-DH5 2480MHz Ant1



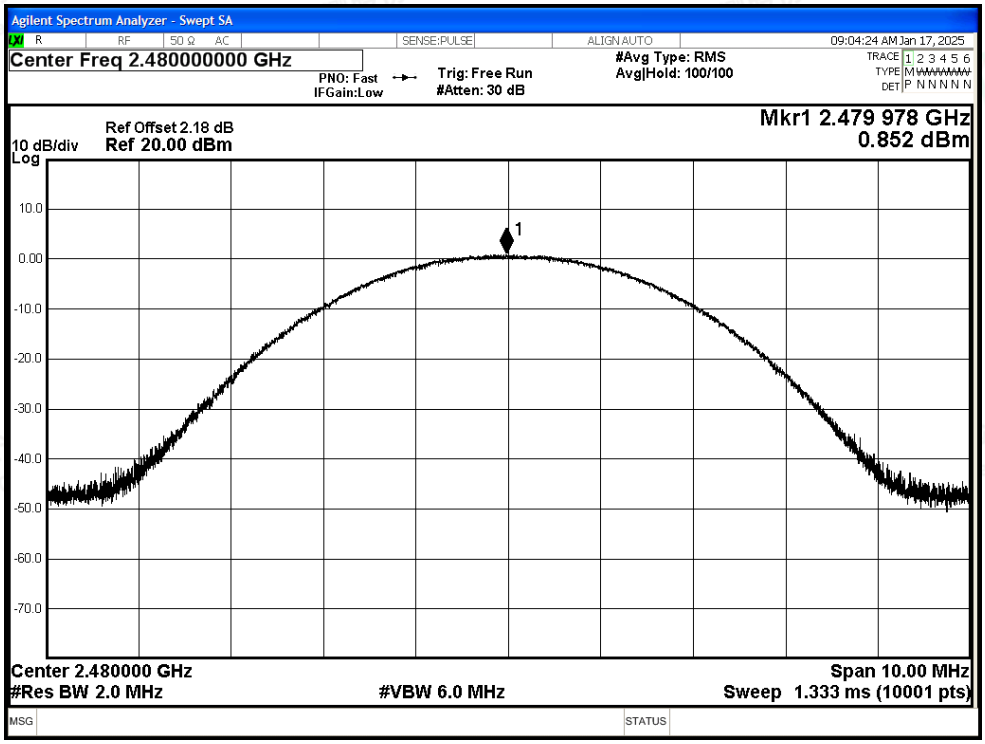
Power NVNT 2-DH5 2402MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1

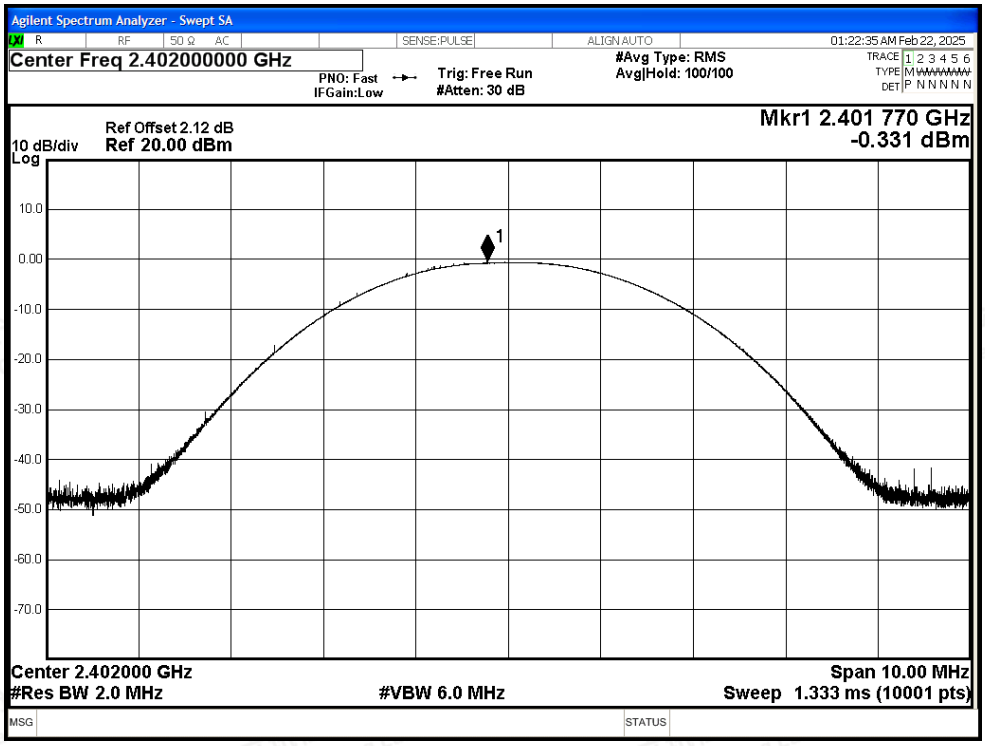


Right ear

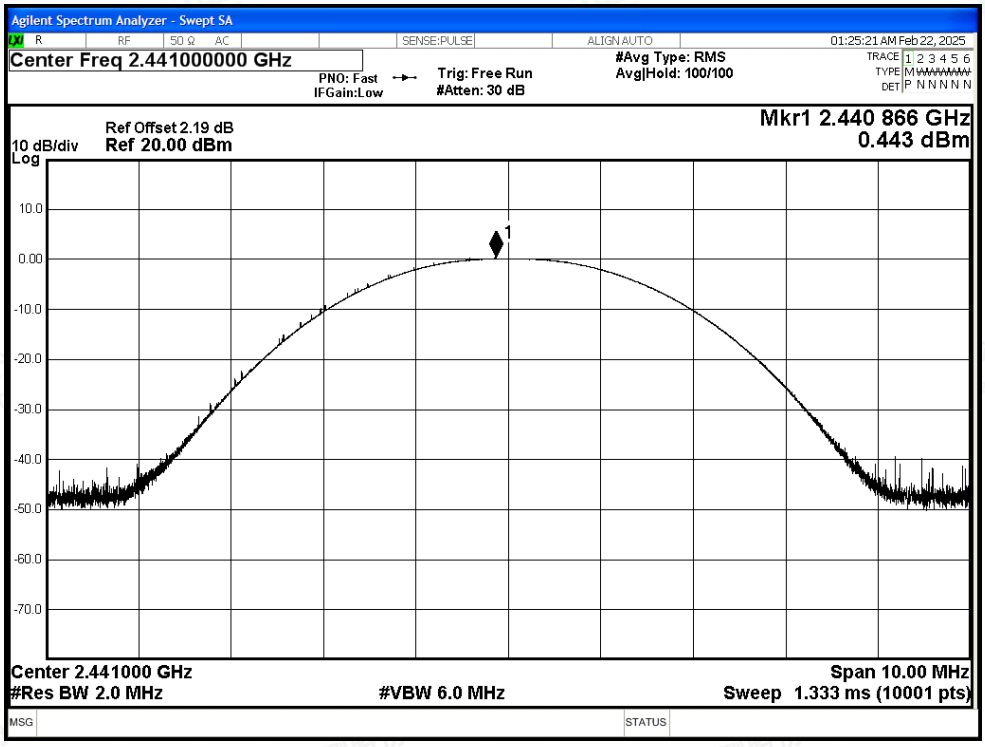
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.33	21	Pass
NVNT	1-DH5	2441	Ant1	0.44	21	Pass
NVNT	1-DH5	2480	Ant1	-0.61	21	Pass
NVNT	2-DH5	2402	Ant1	-0.82	21	Pass
NVNT	2-DH5	2441	Ant1	-0.43	21	Pass
NVNT	2-DH5	2480	Ant1	0.71	21	Pass

Test Graphs

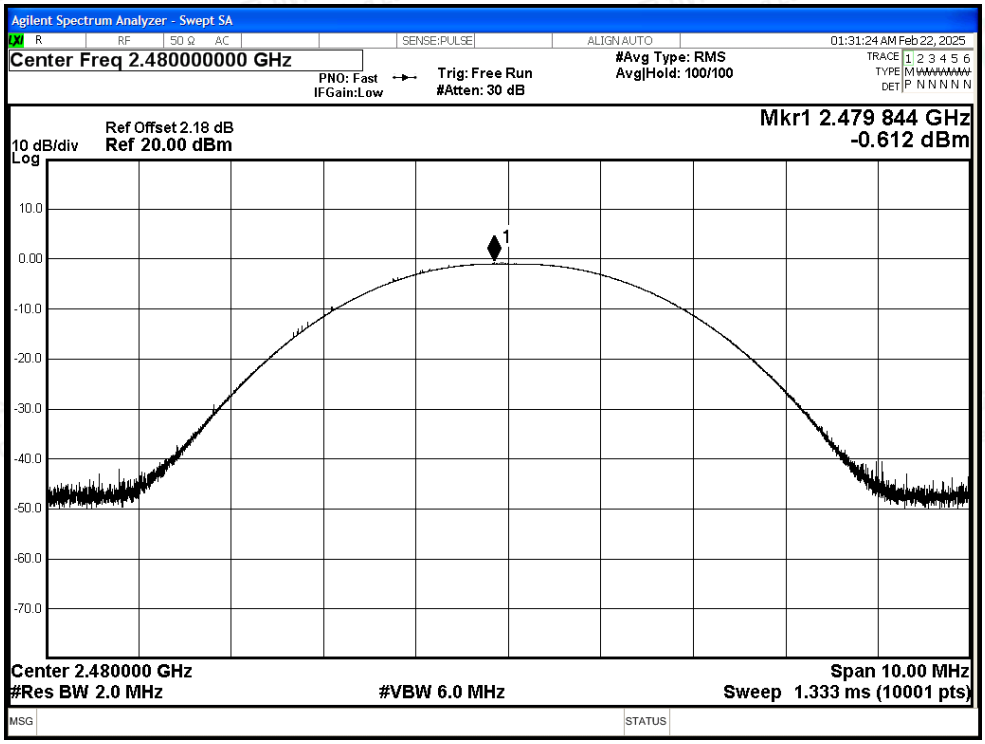
Power NVNT 1-DH5 2402MHz Ant1



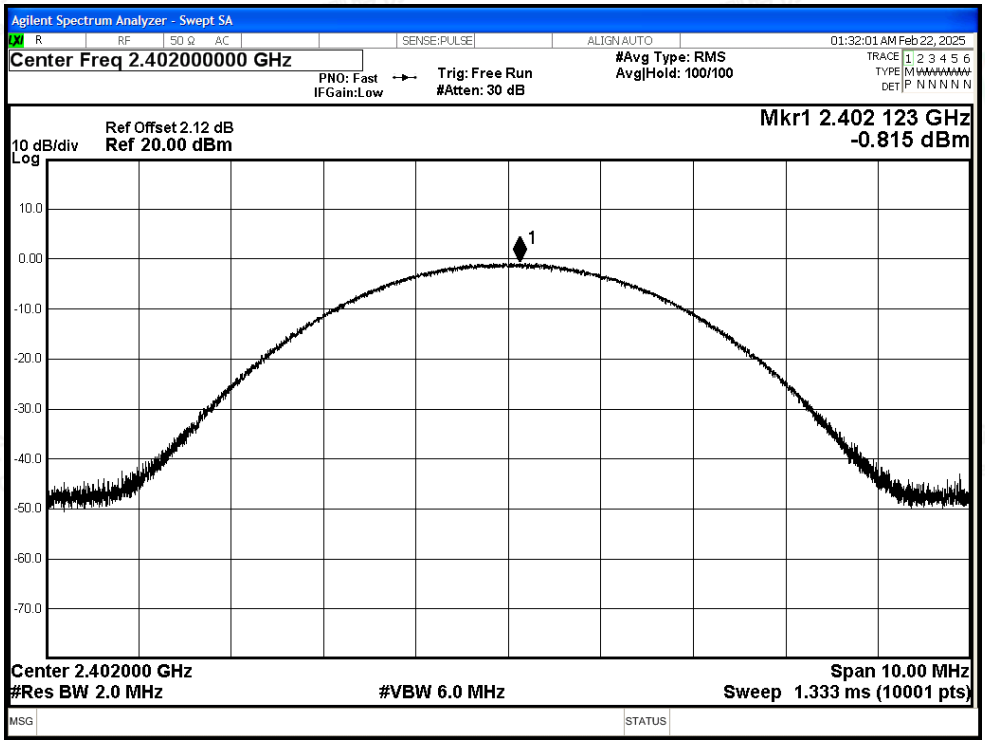
Power NVNT 1-DH5 2441MHz Ant1



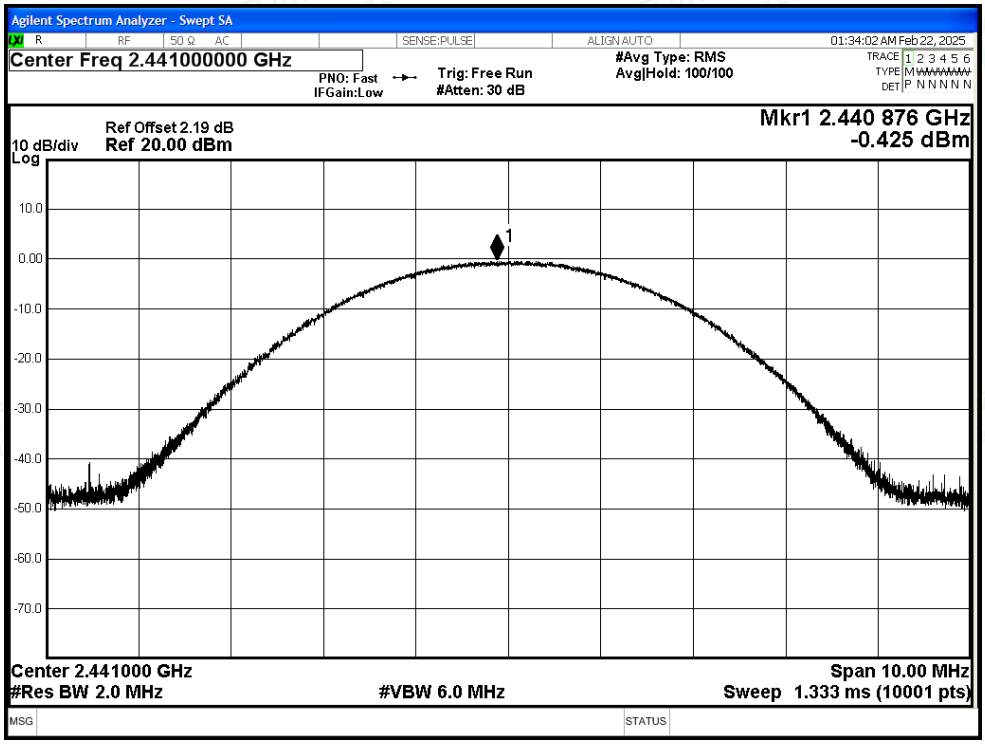
Power NVNT 1-DH5 2480MHz Ant1



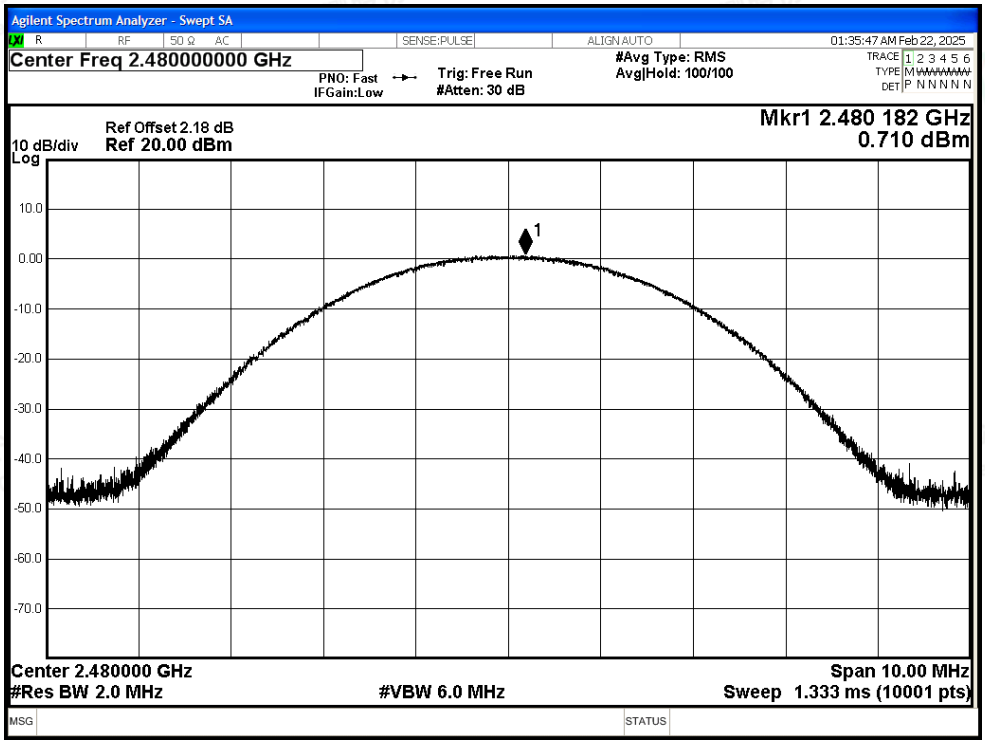
Power NVNT 2-DH5 2402MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1

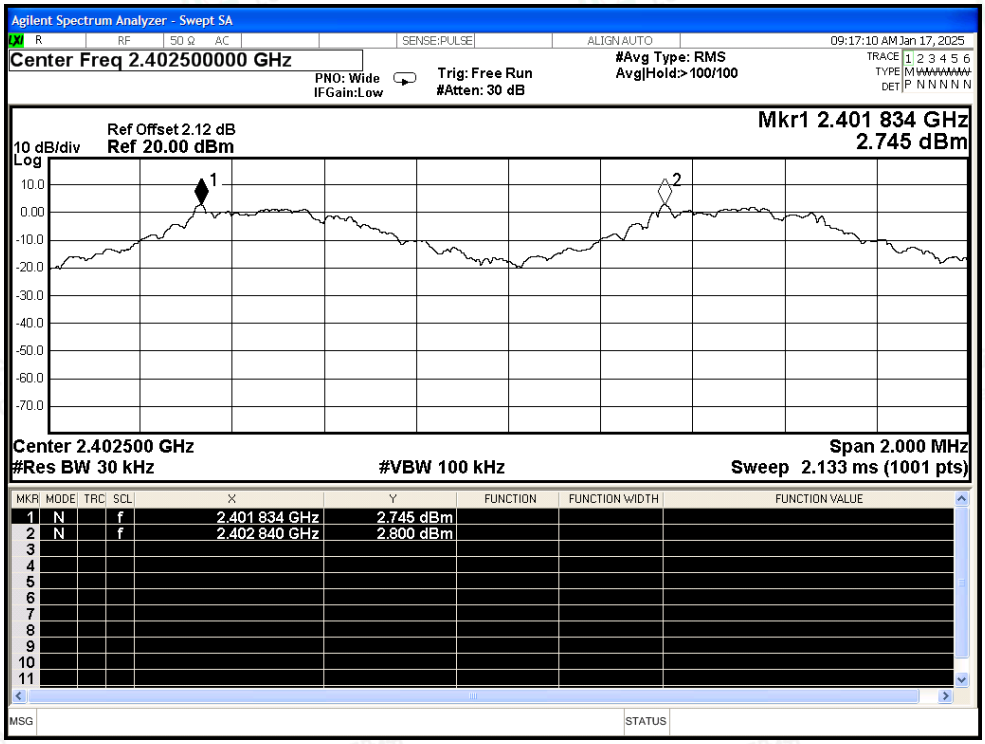


A.3 Carrier Frequencies Separation

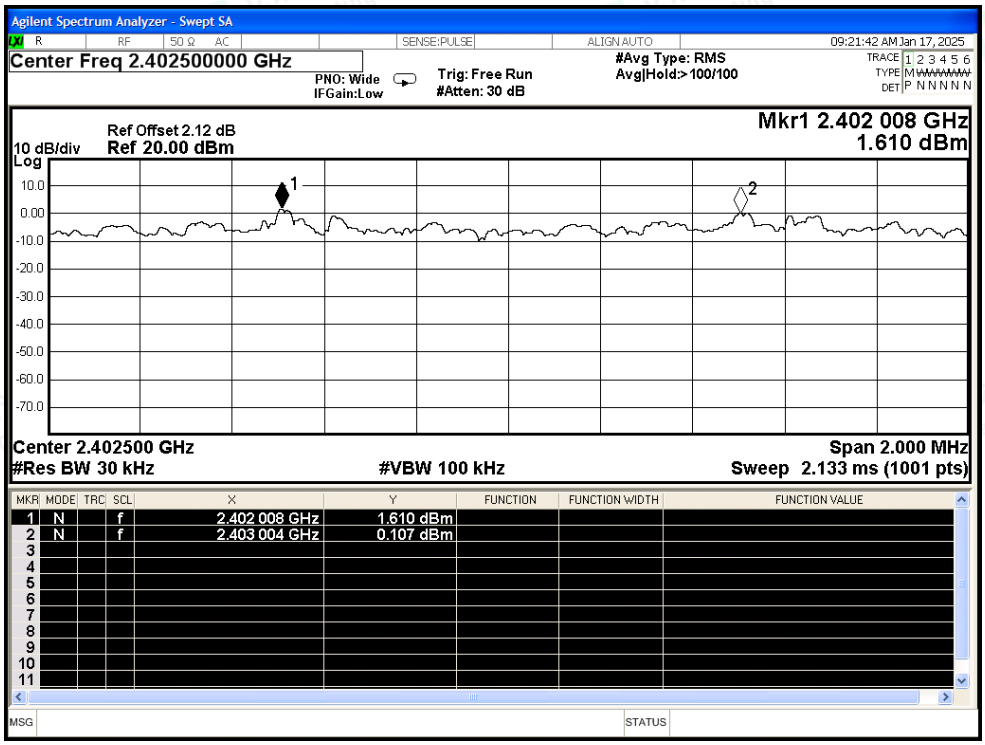
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.834	2402.84	1.006	0.673	Pass
NVNT	2-DH5	Ant1	2402.008	2403.004	0.996	0.875	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

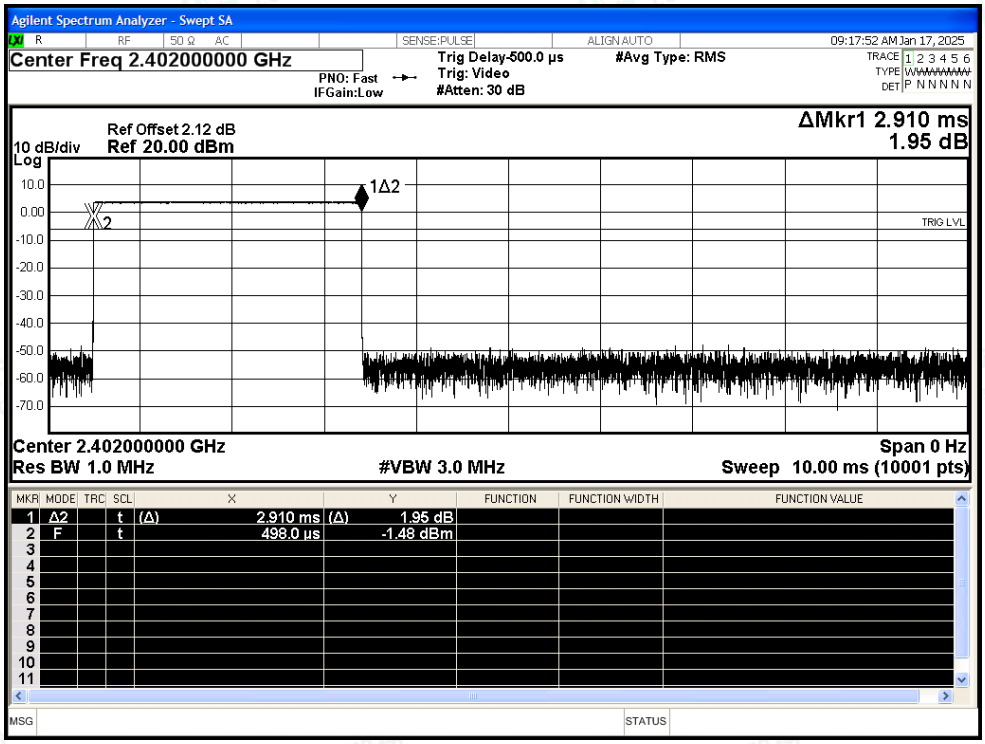


A.4 Dwell Time

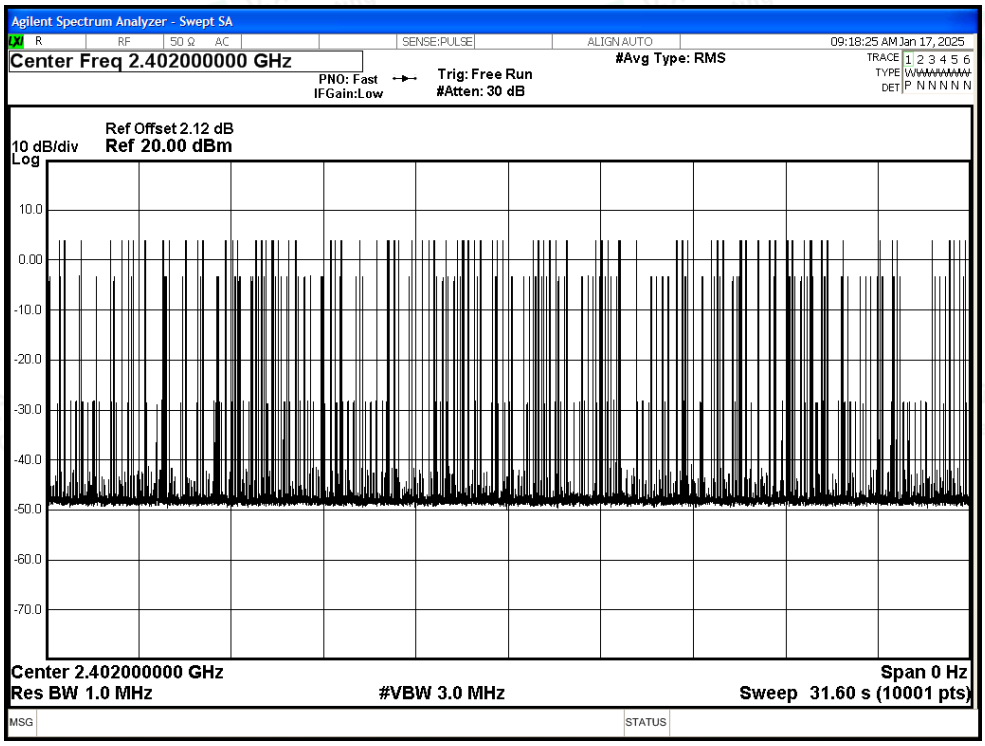
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	317.19	109	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	307.294	106	31600	400	Pass

Test Graphs

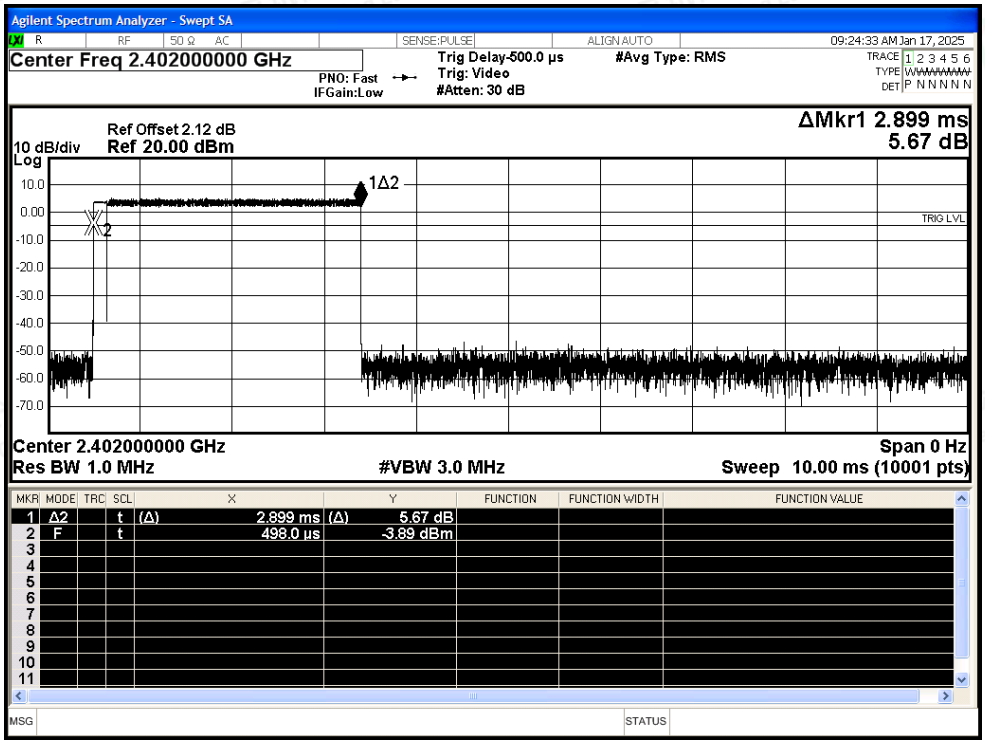
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



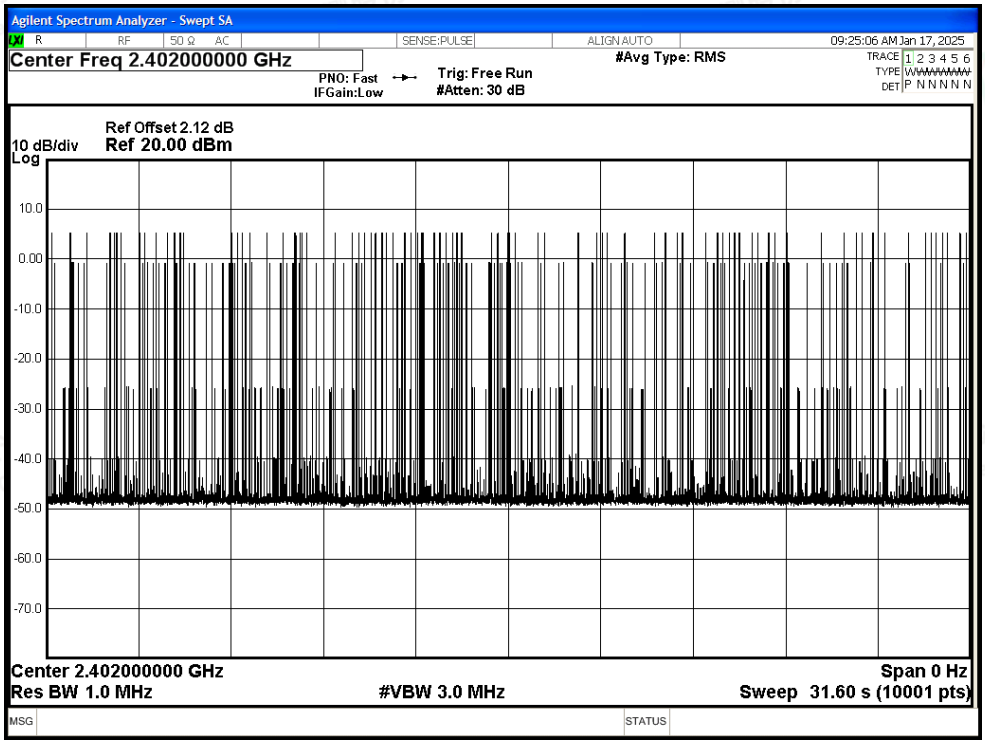
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

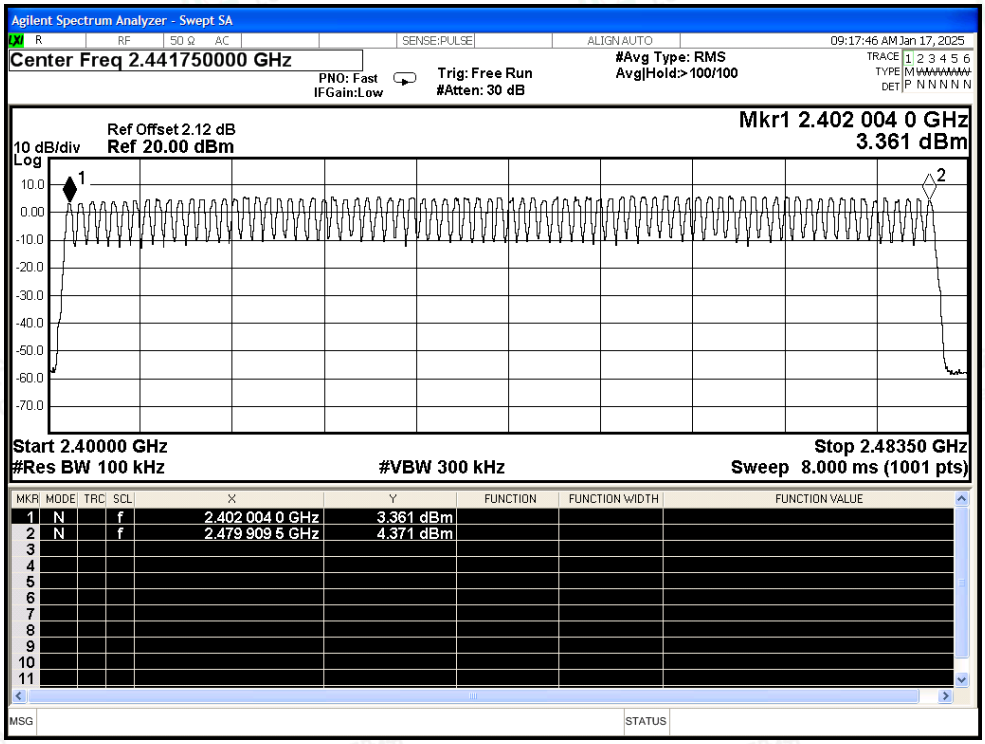


A.5 Number of Hopping Channel

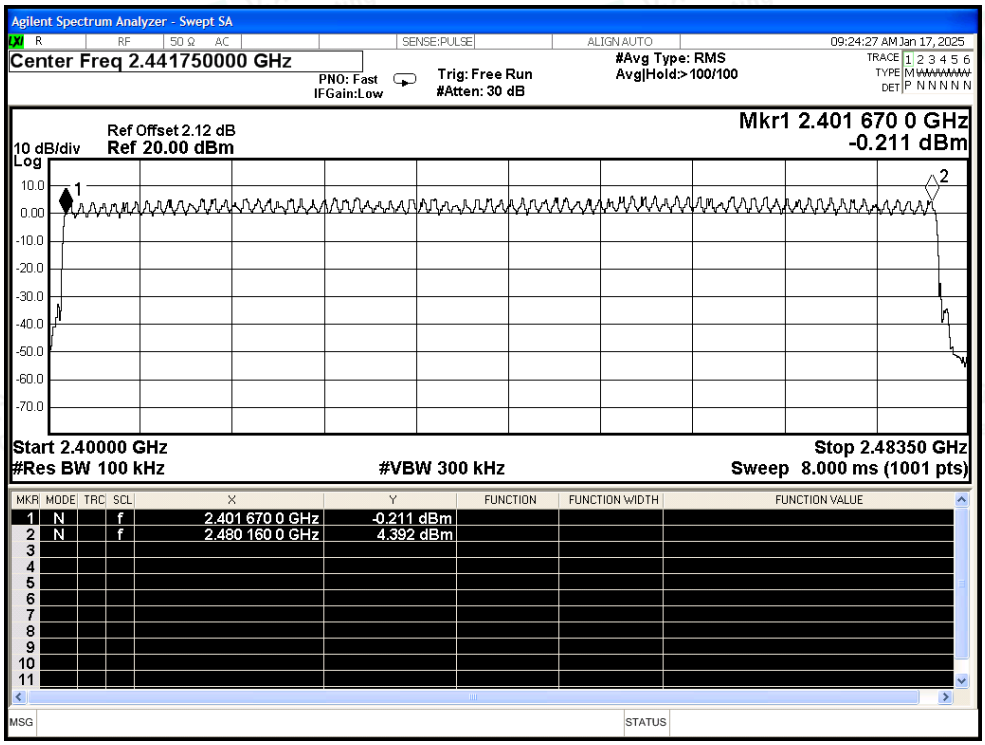
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

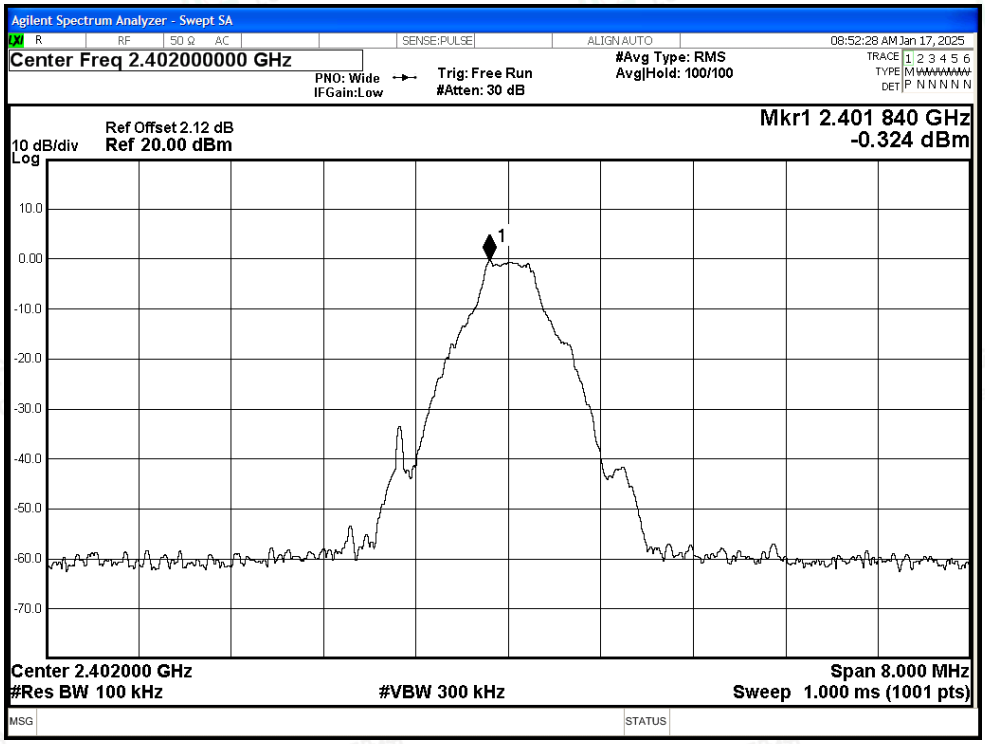


A.6 Band Edge

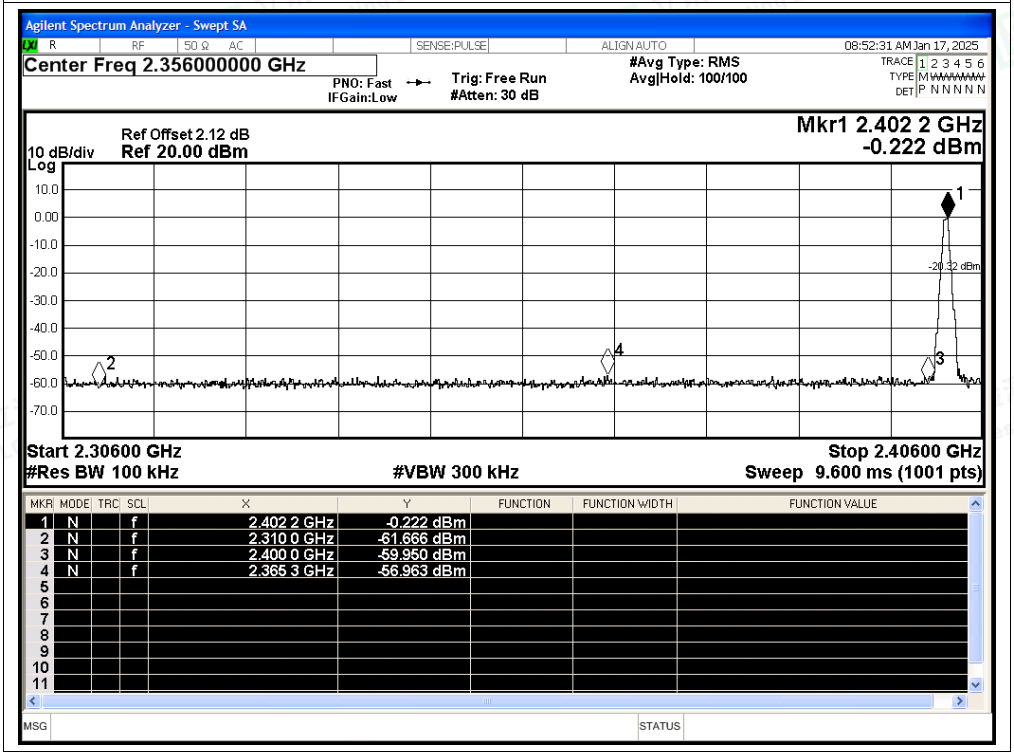
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.64	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.62	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.52	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.19	-20	Pass

Test Graphs

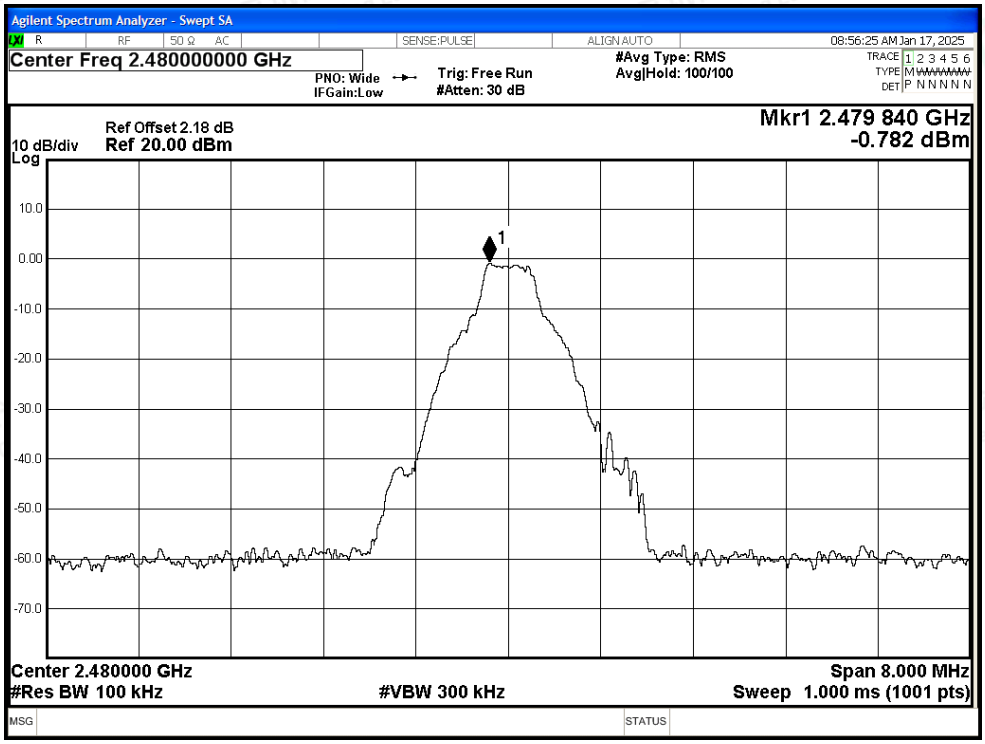
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



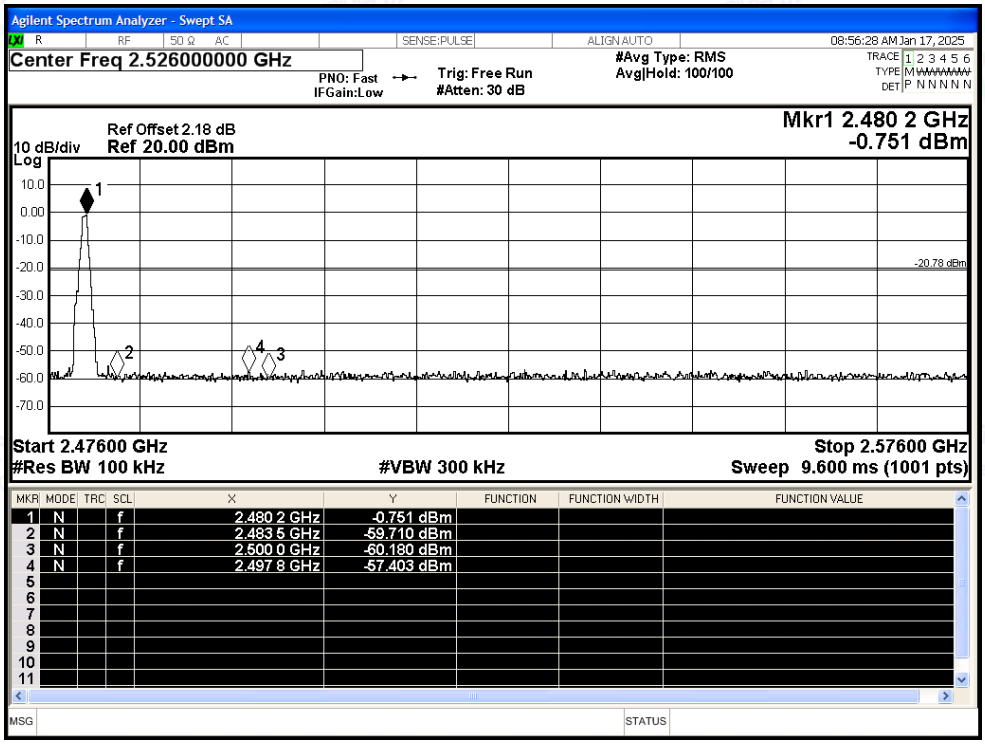
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



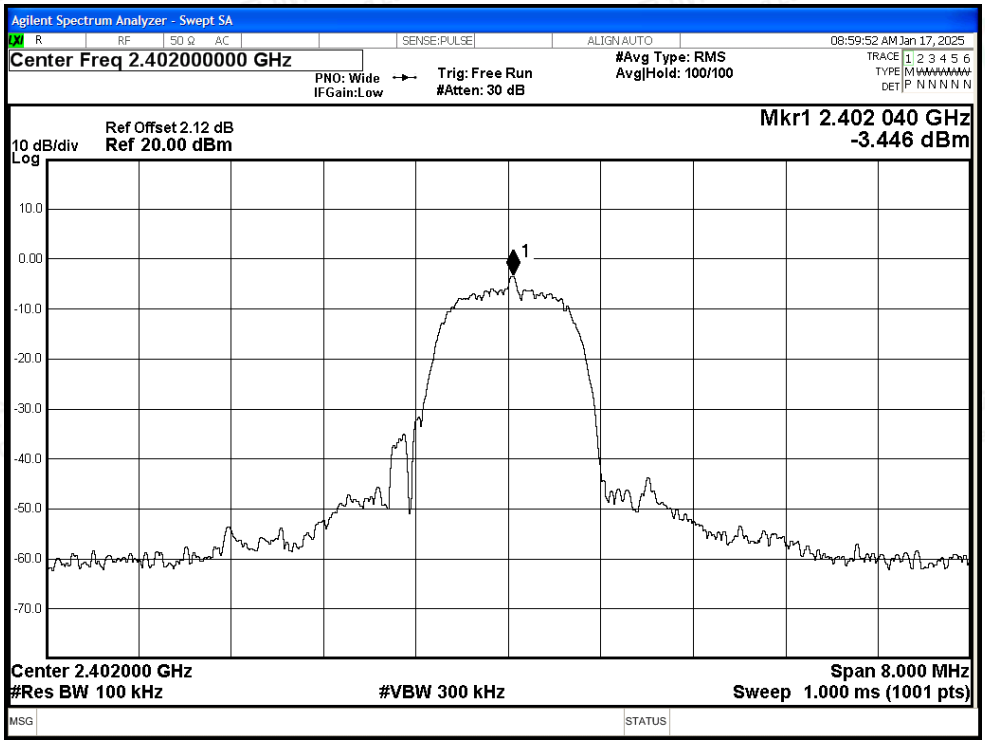
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



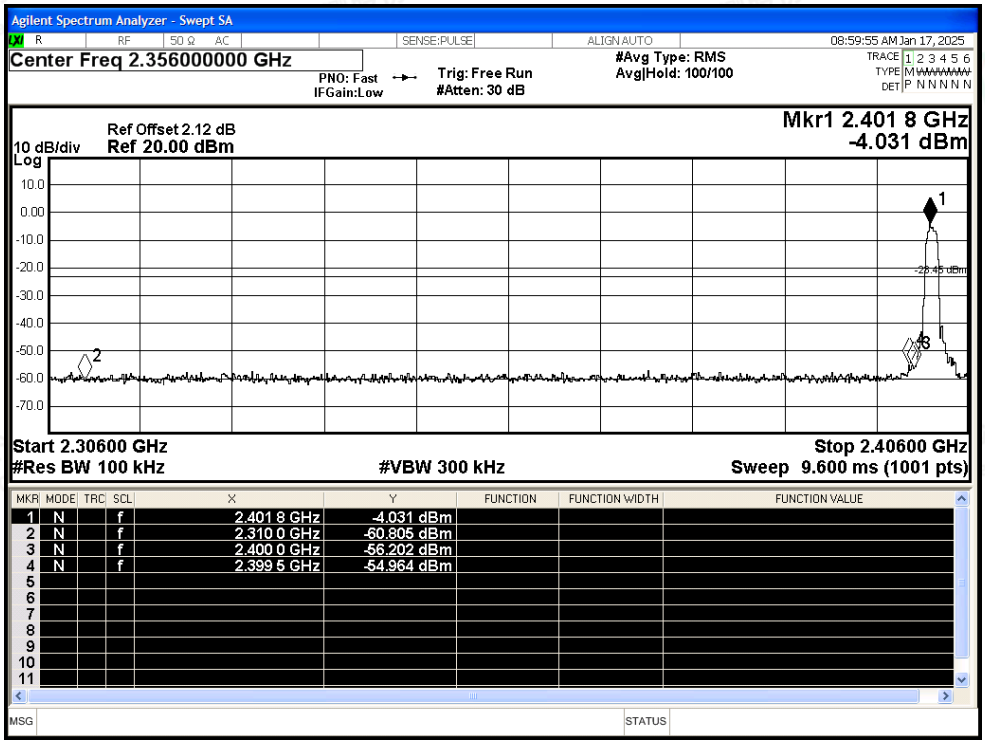
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



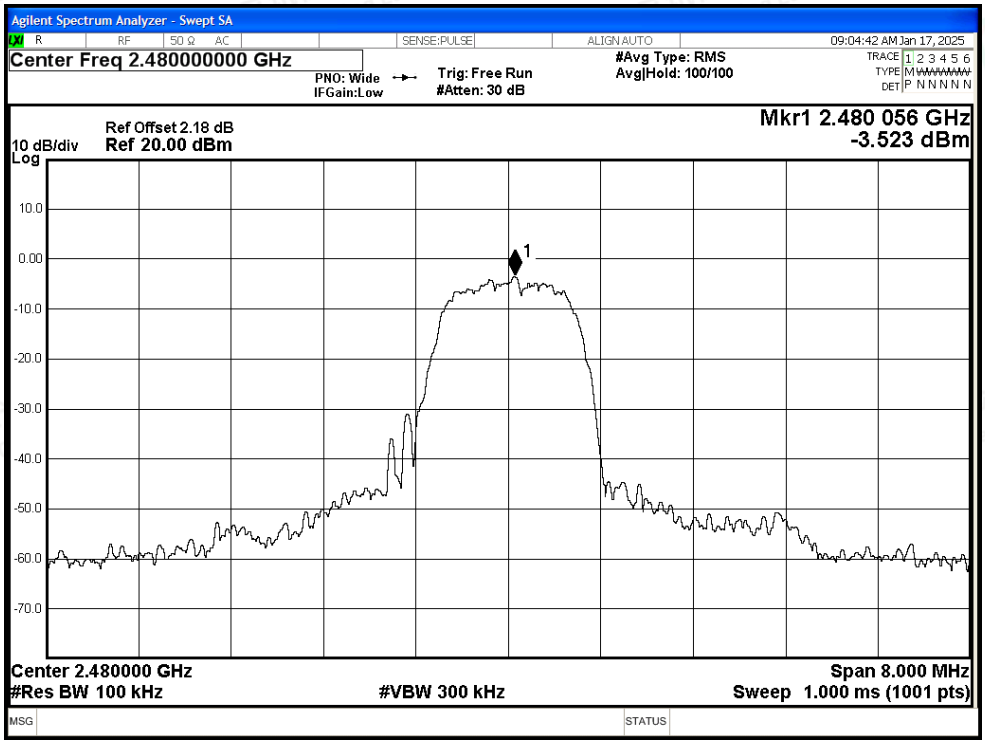
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



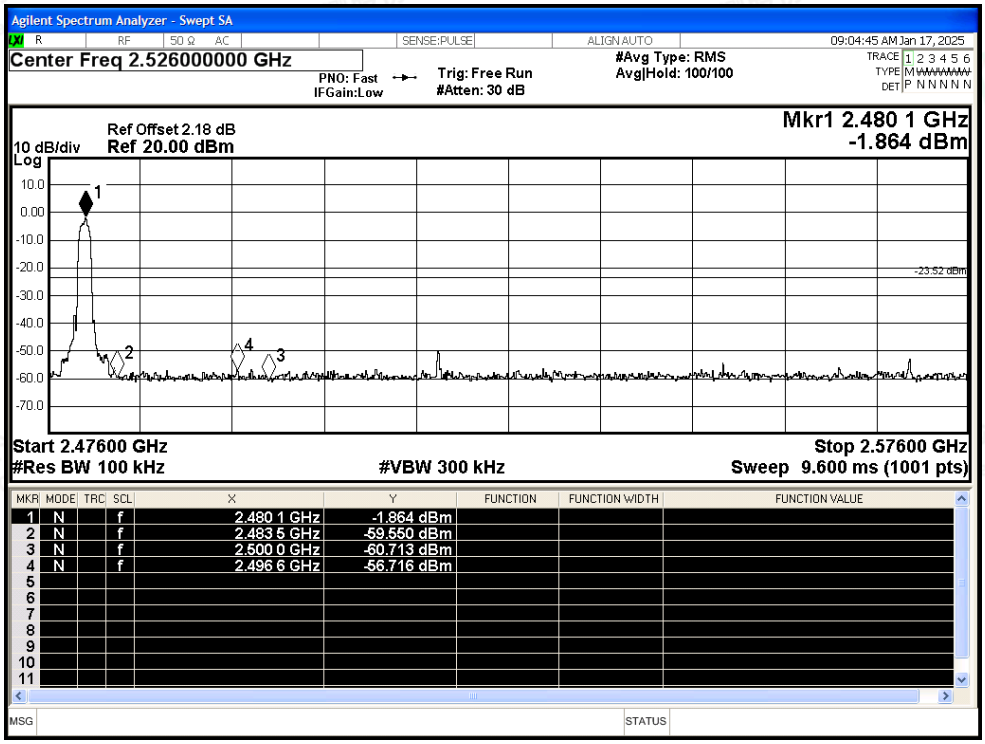
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



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



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

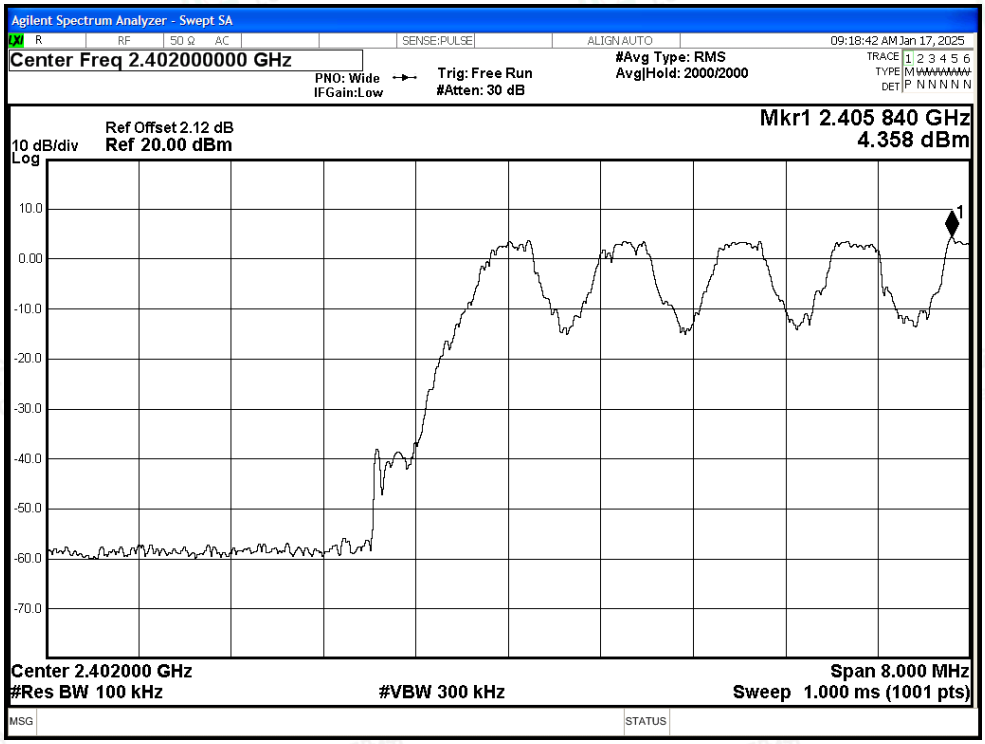


(Hopping)

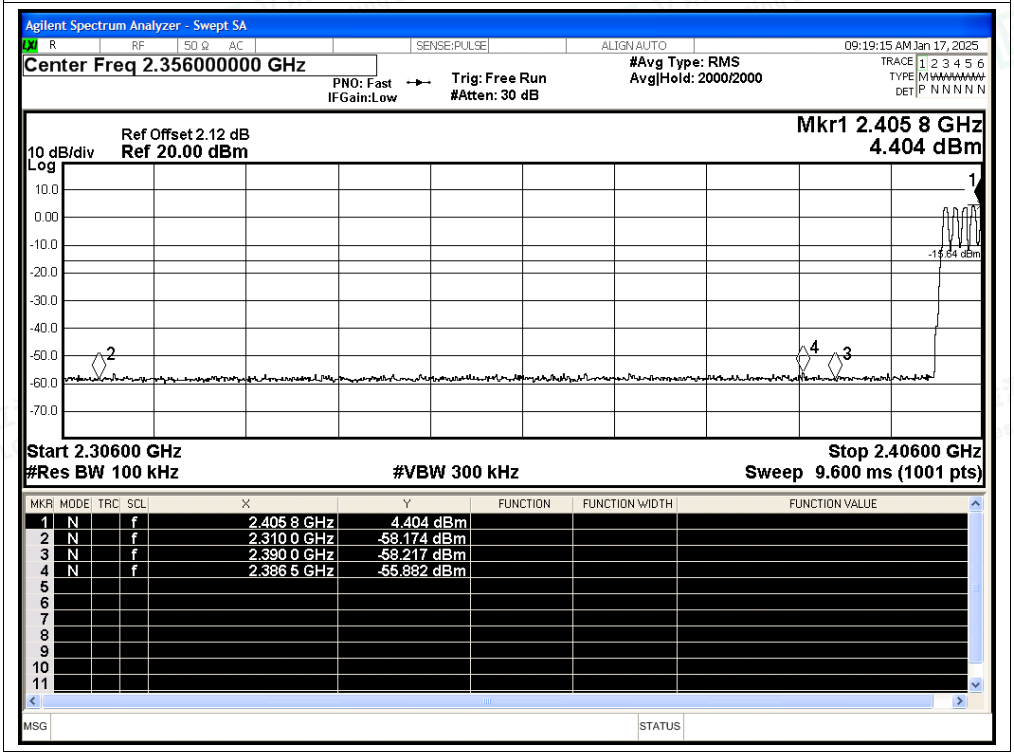
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-60.24	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-59.27	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-59.52	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-58.39	-20	Pass

Test Graphs

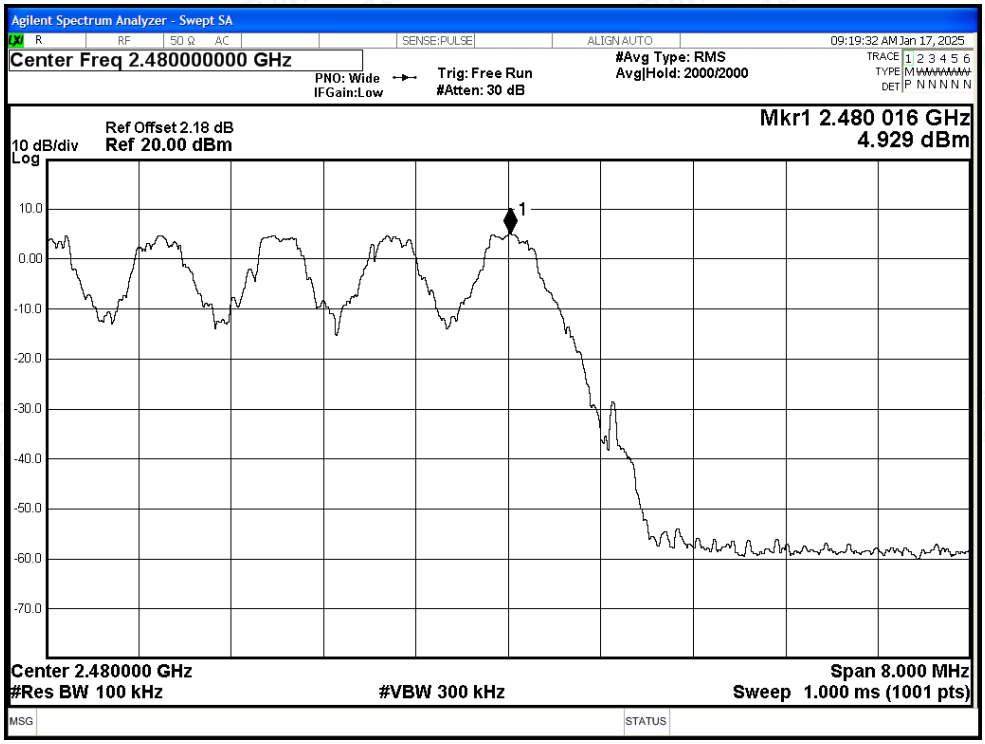
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



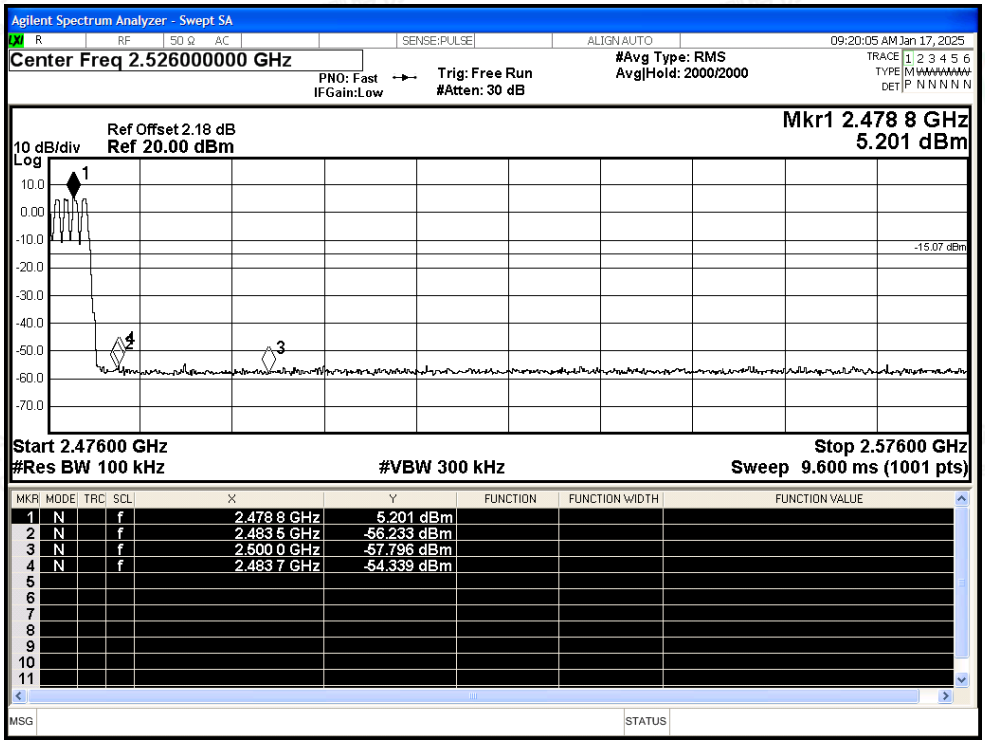
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



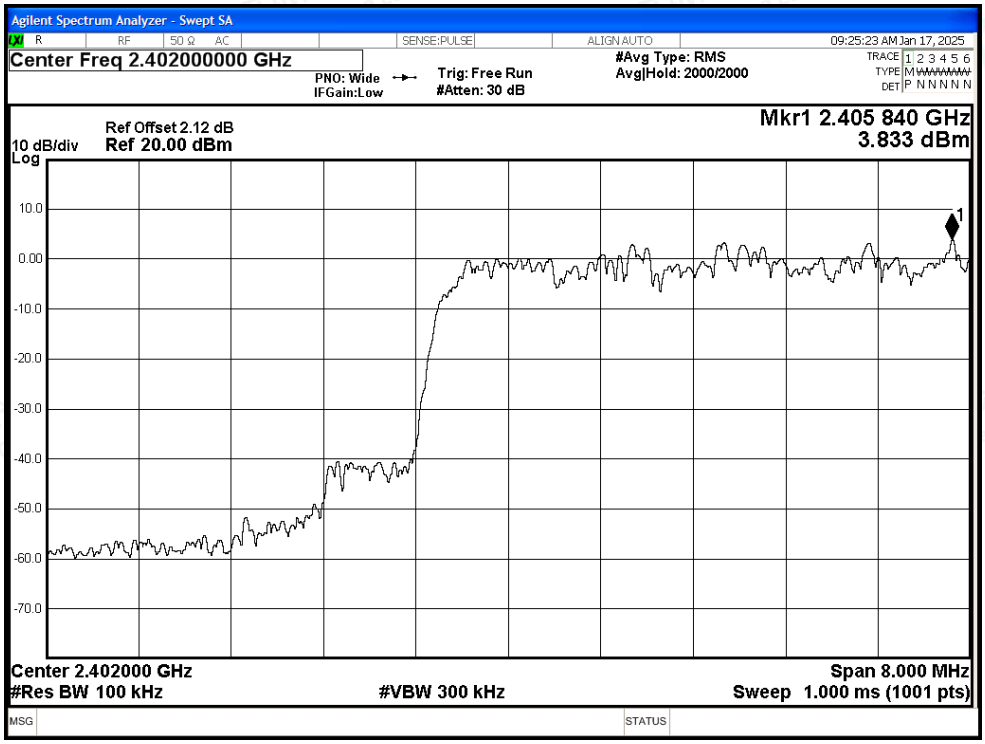
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



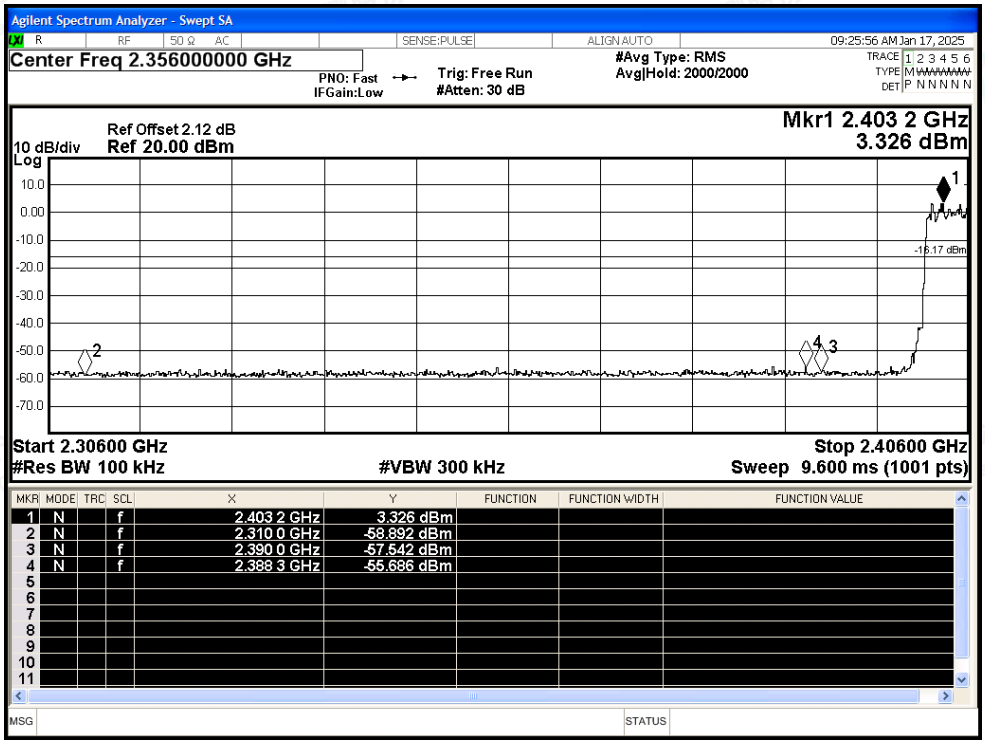
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



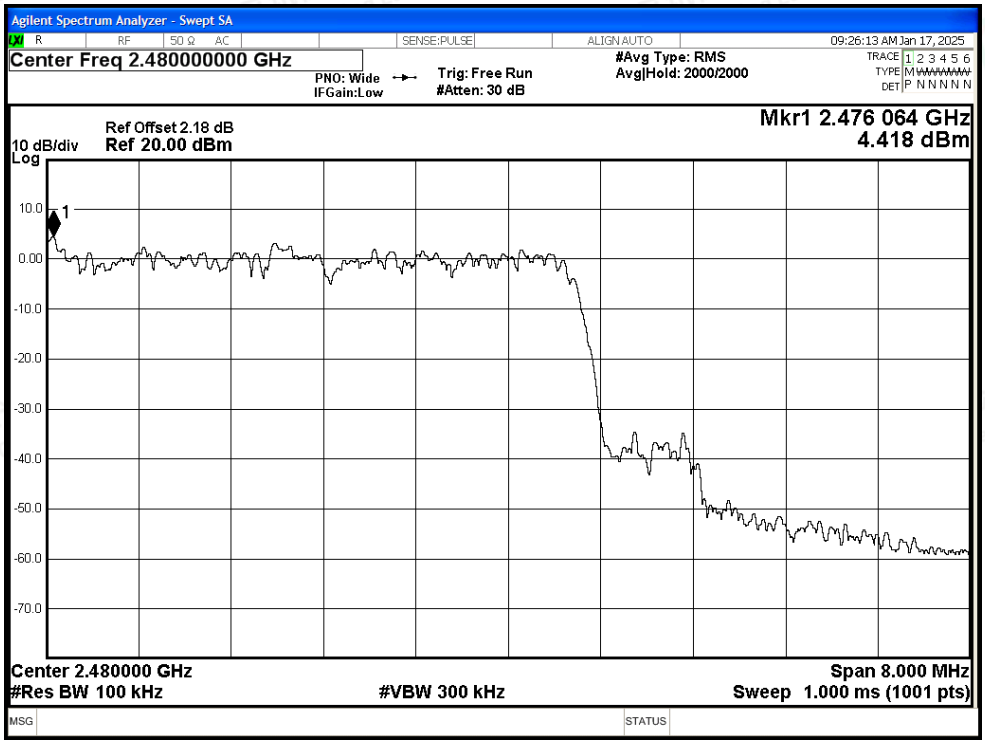
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



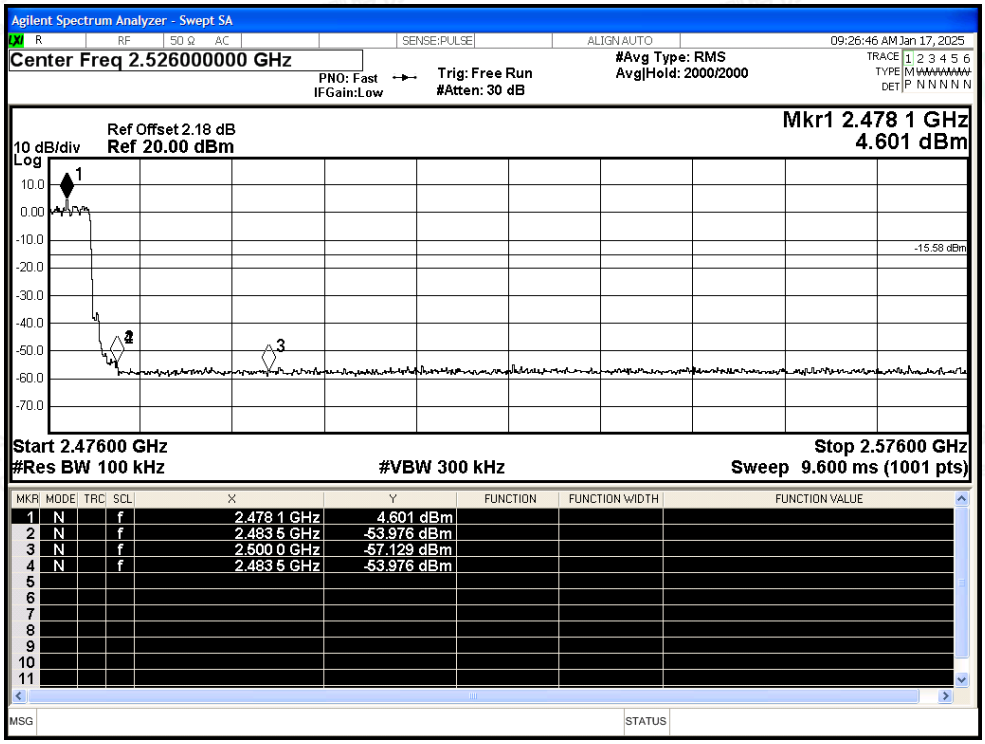
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



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



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

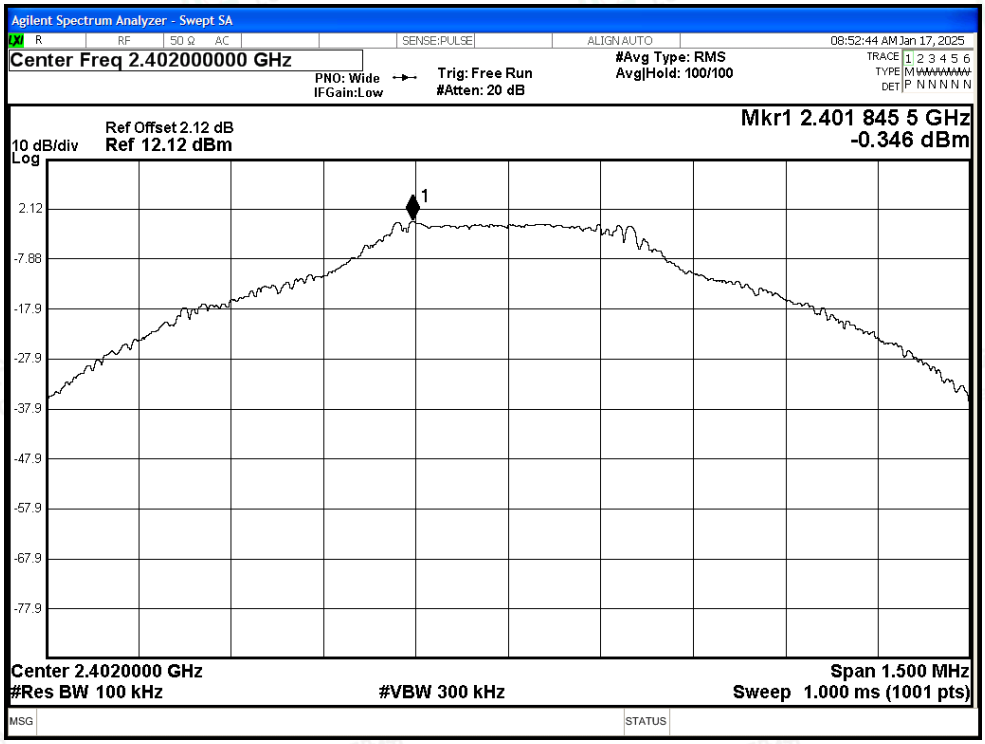


A.7 Conducted RF Spurious Emission

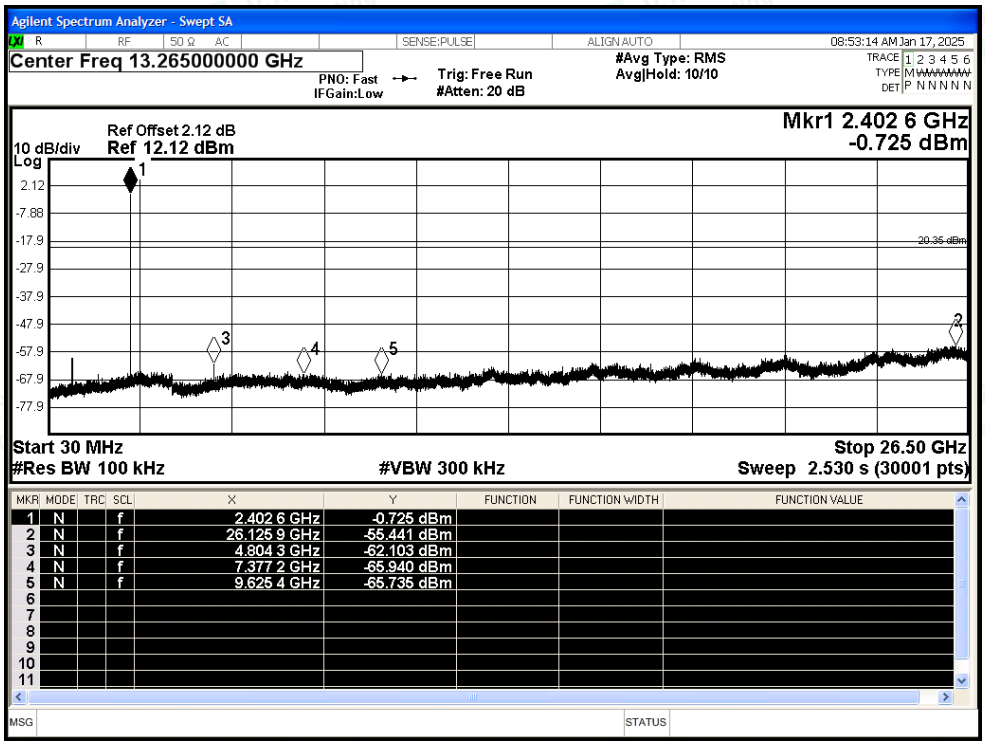
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.1	-20	Pass
NVNT	1-DH5	2441	Ant1	-51.33	-20	Pass
NVNT	1-DH5	2480	Ant1	-54.74	-20	Pass
NVNT	2-DH5	2402	Ant1	-51.76	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.56	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.6	-20	Pass

Test Graphs

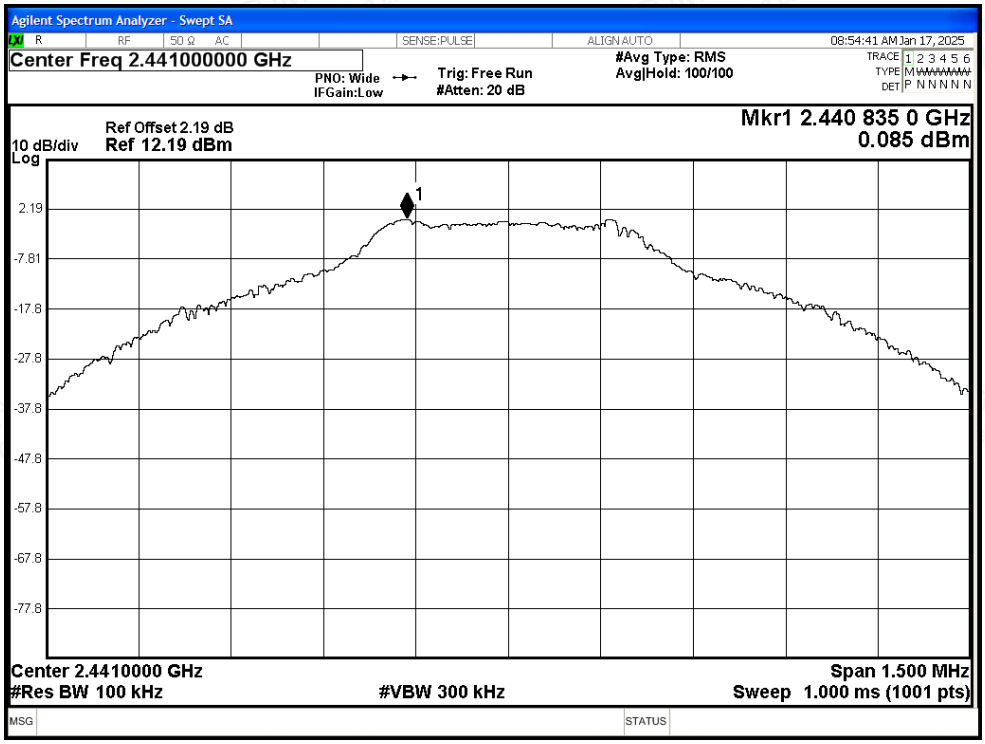
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



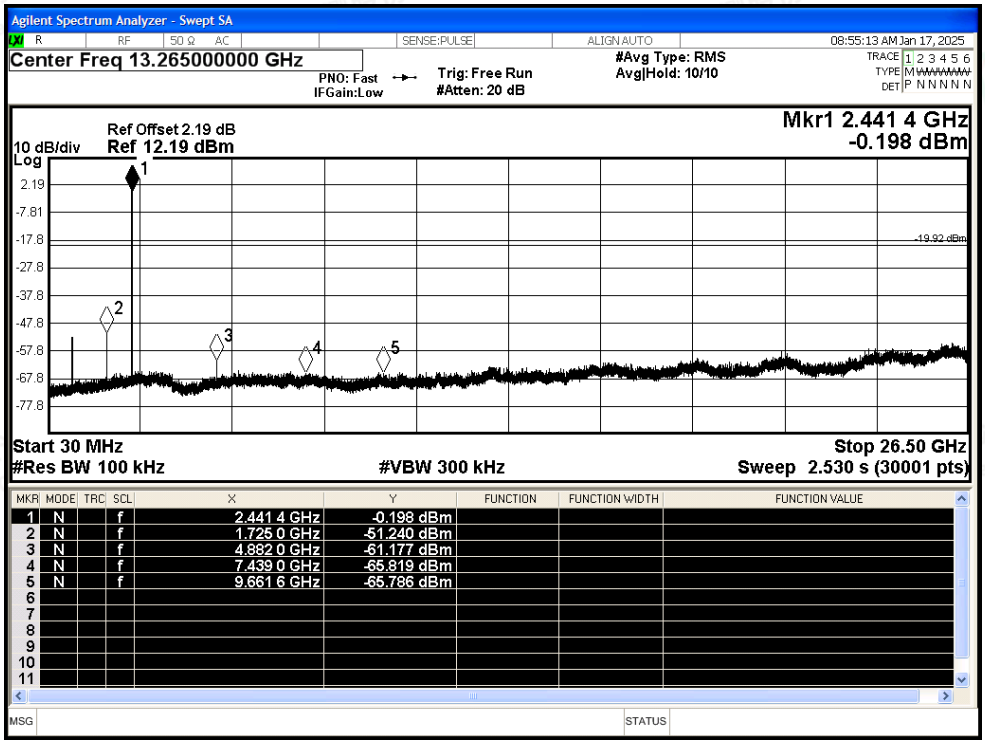
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



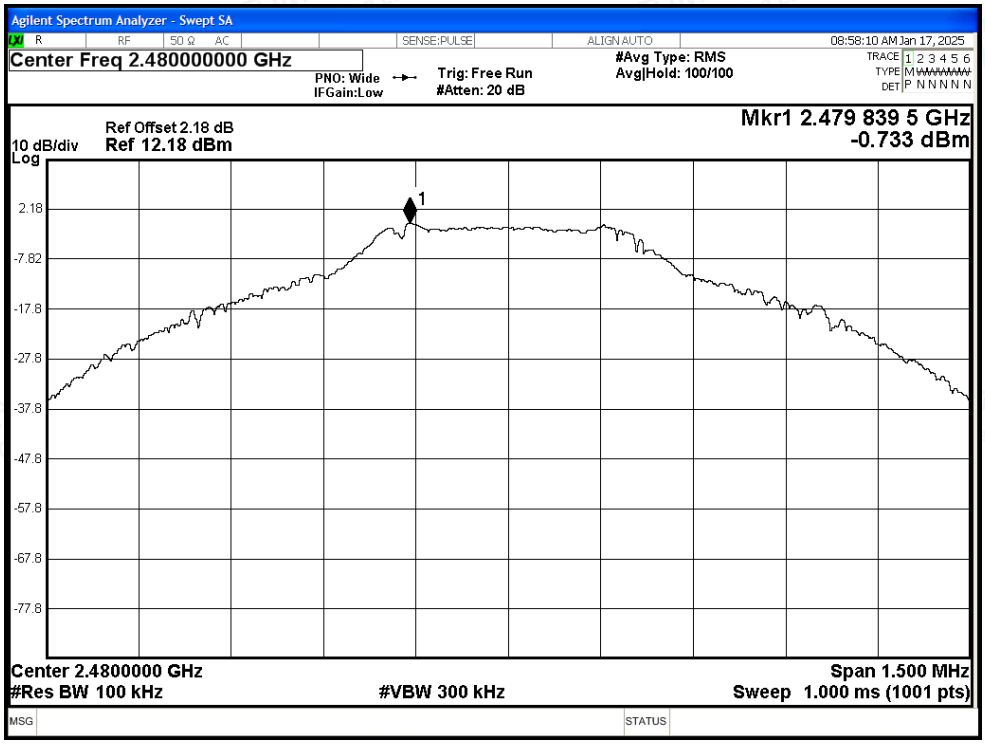
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



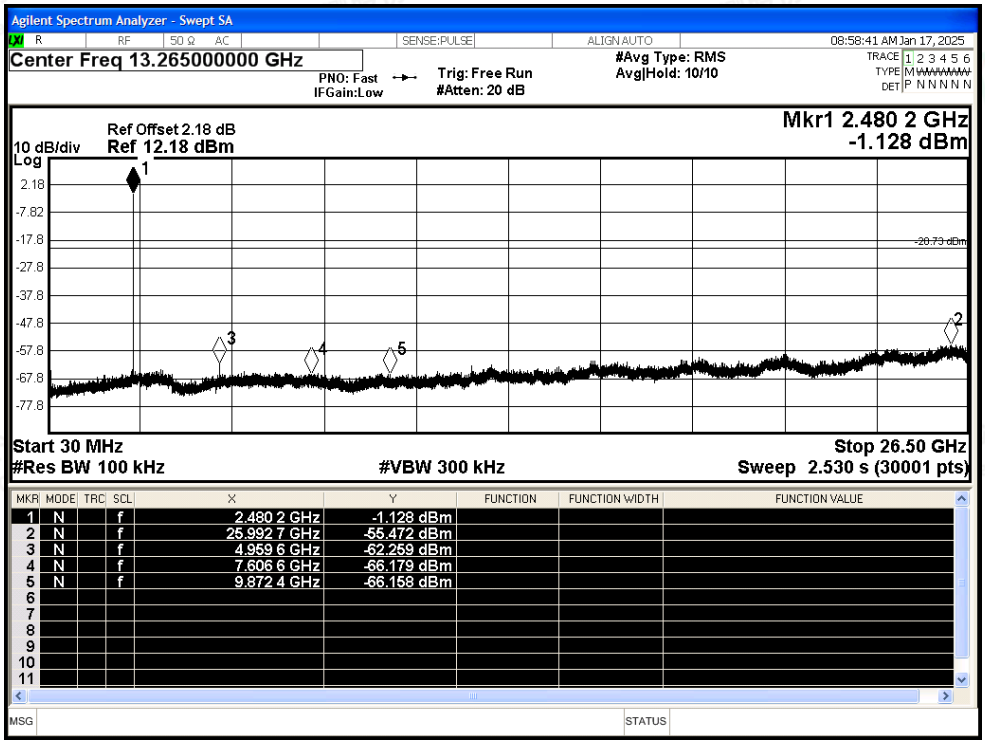
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



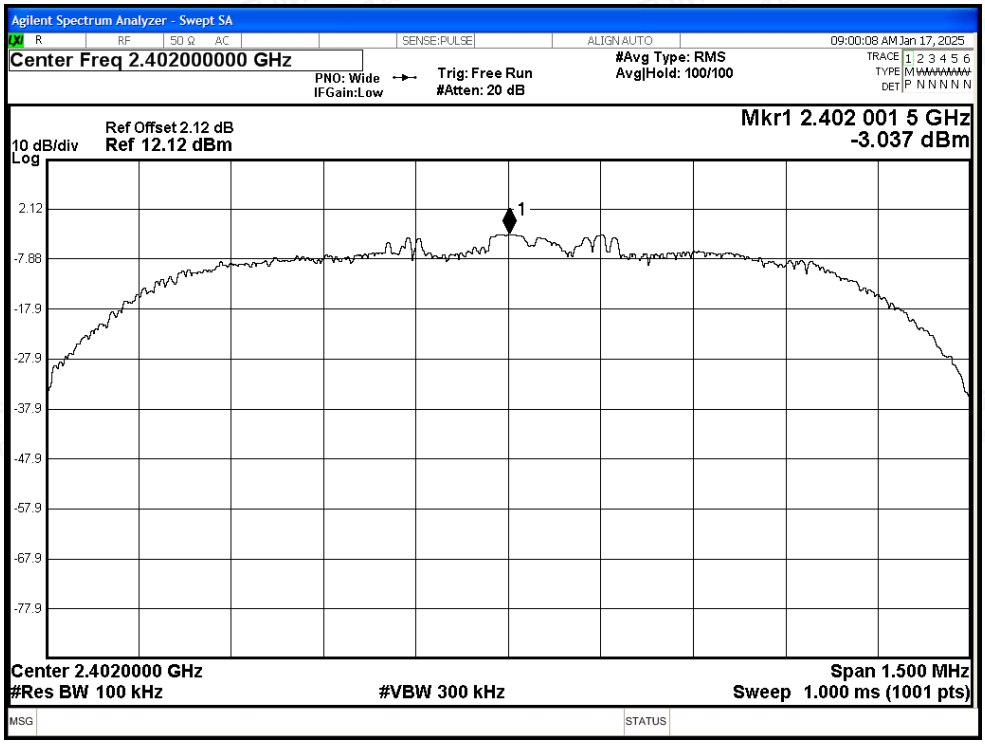
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



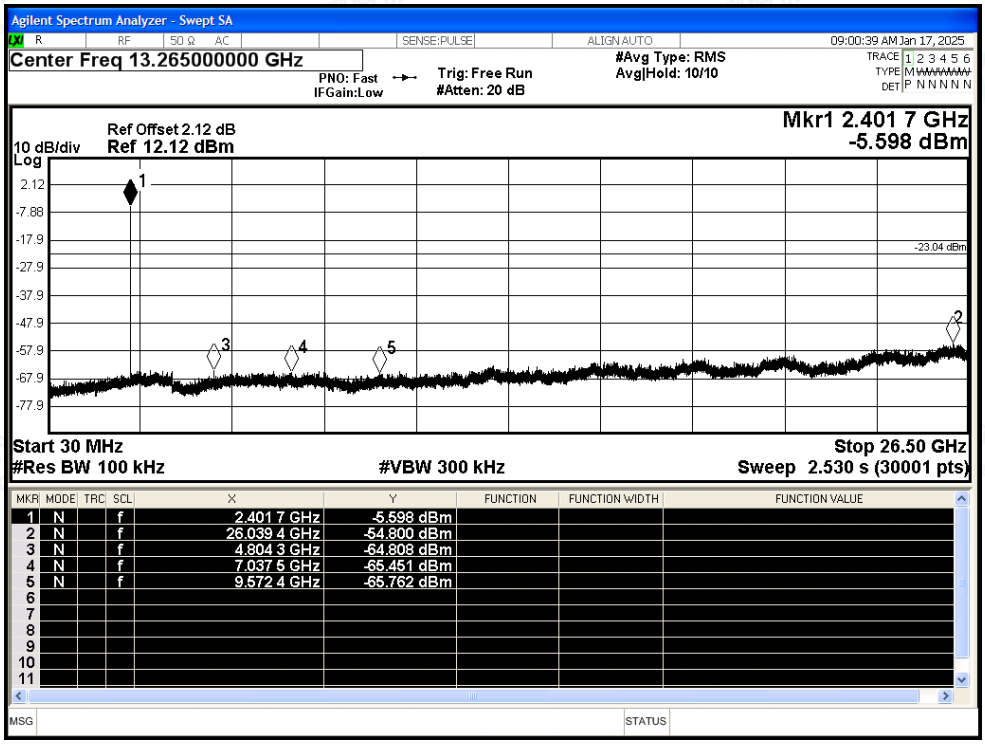
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



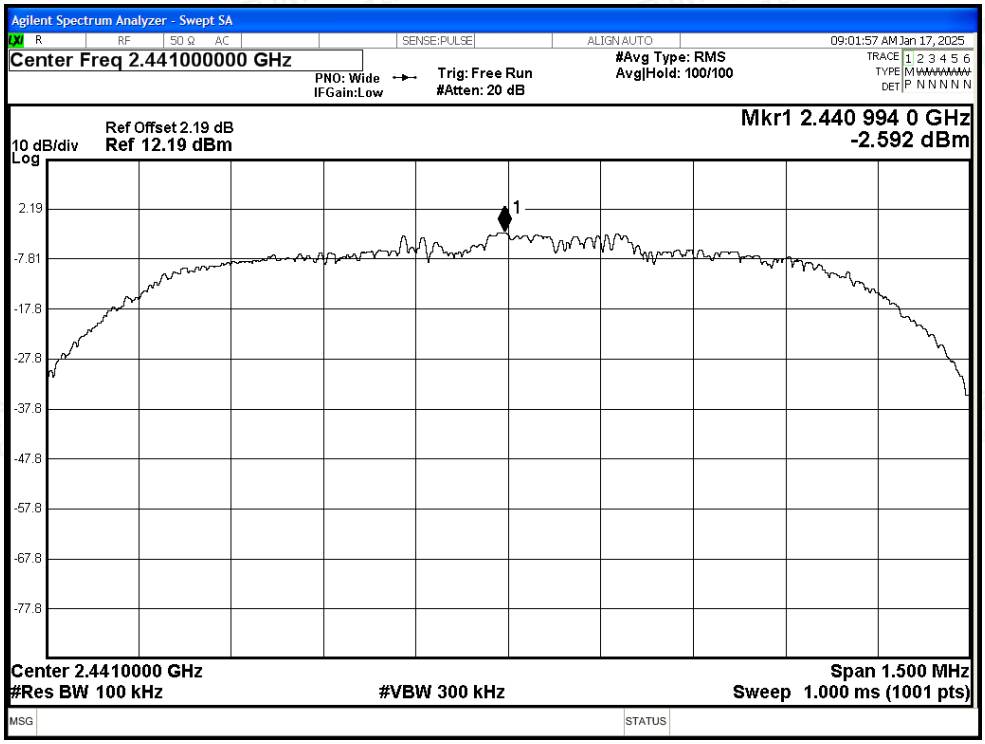
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



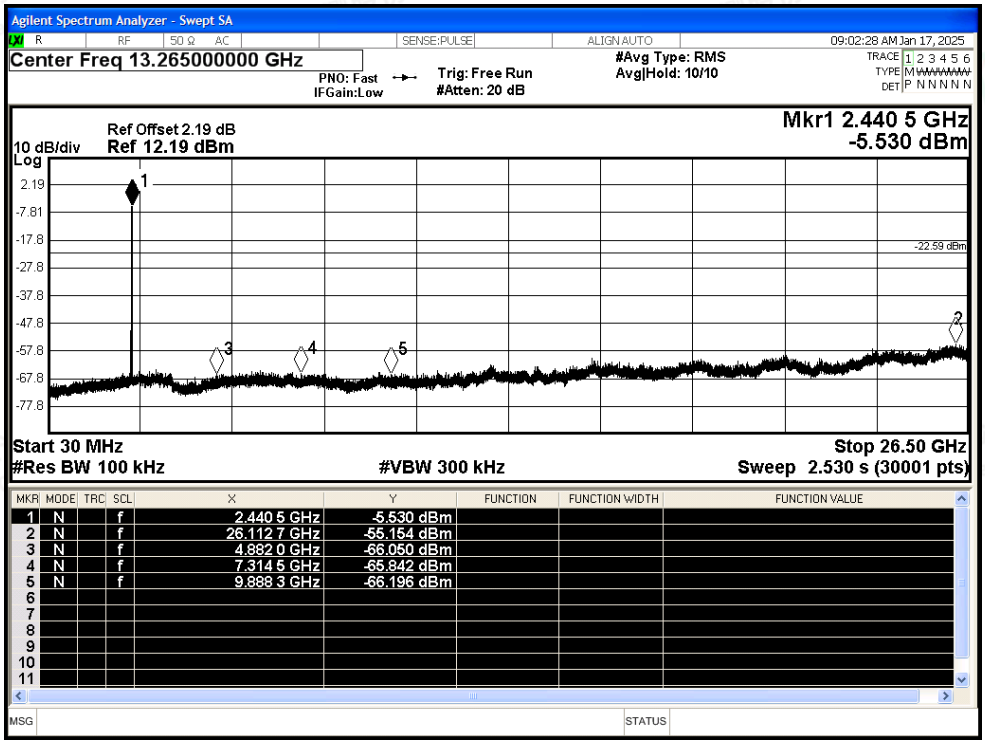
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



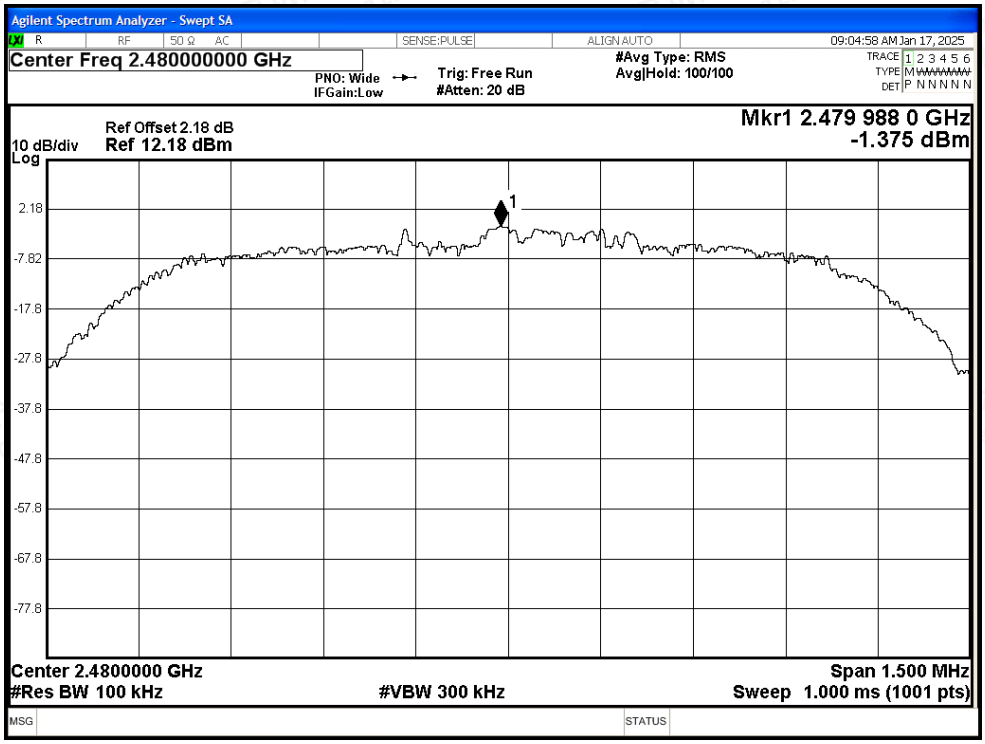
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



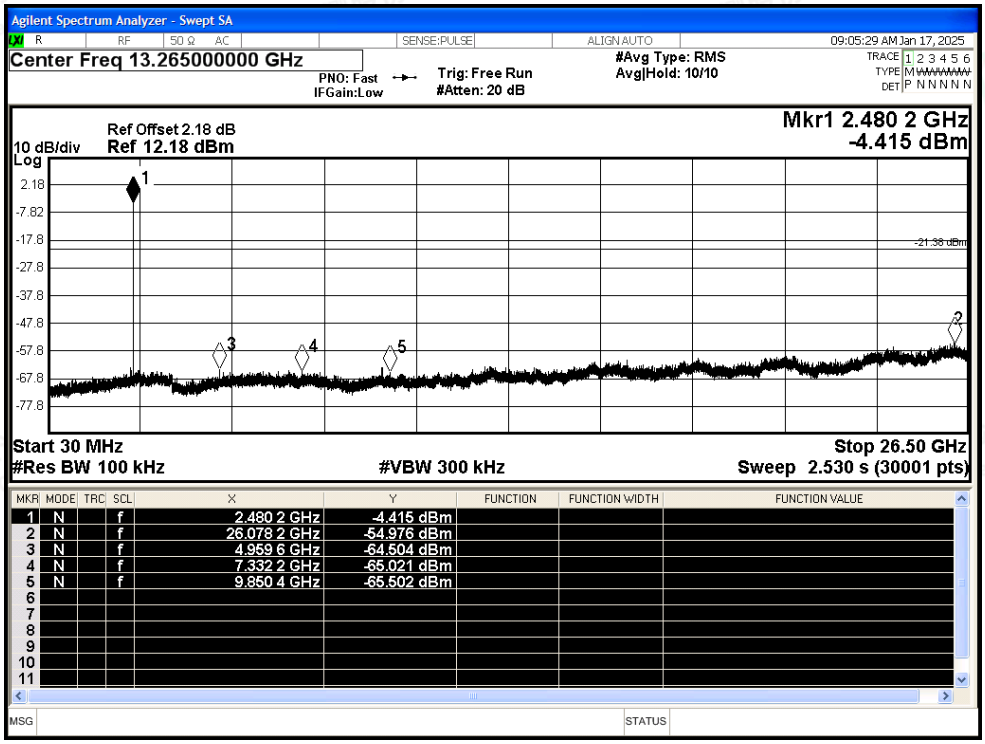
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

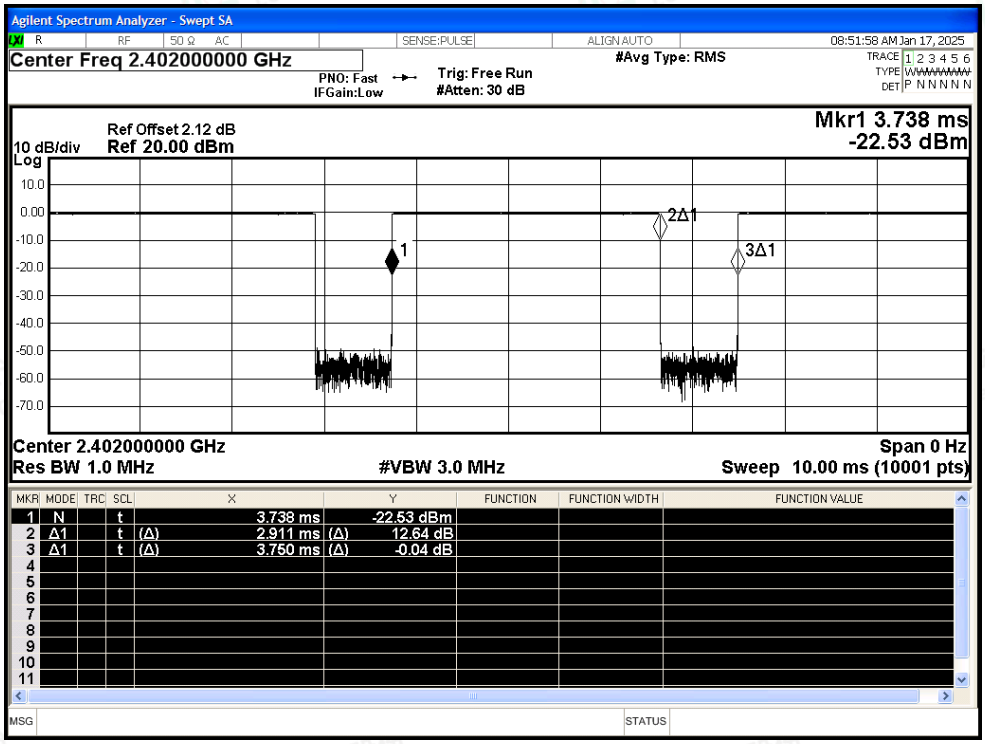


A.8 Duty Cycle

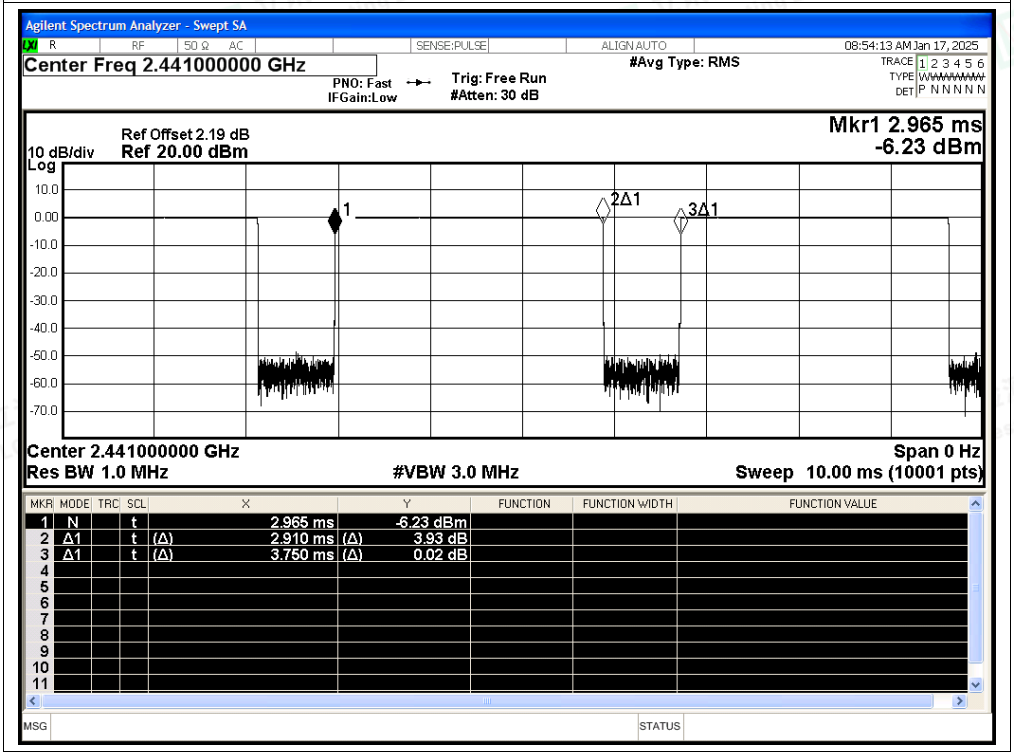
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34

Test Graphs

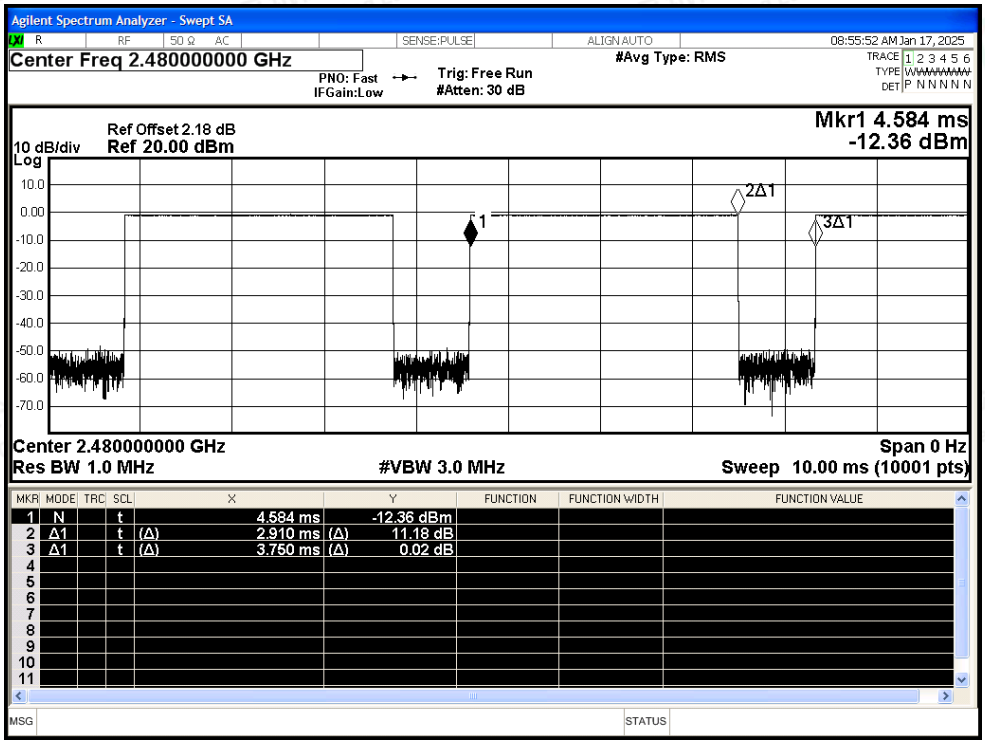
Duty Cycle NVNT 1-DH5 2402MHz Ant1



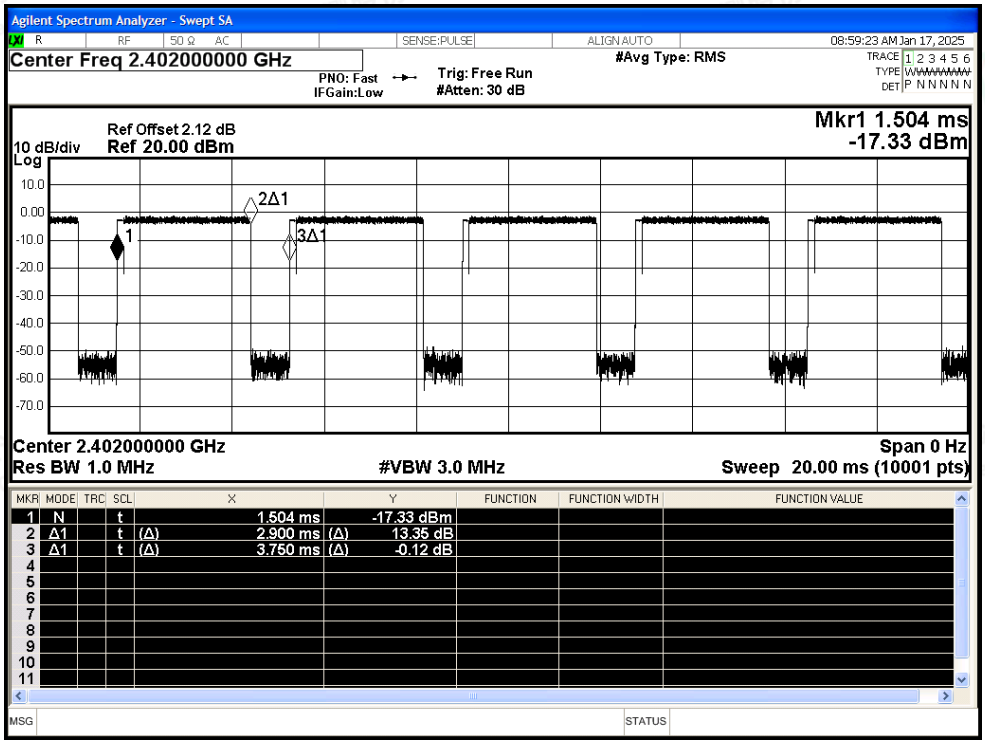
Duty Cycle NVNT 1-DH5 2441MHz Ant1



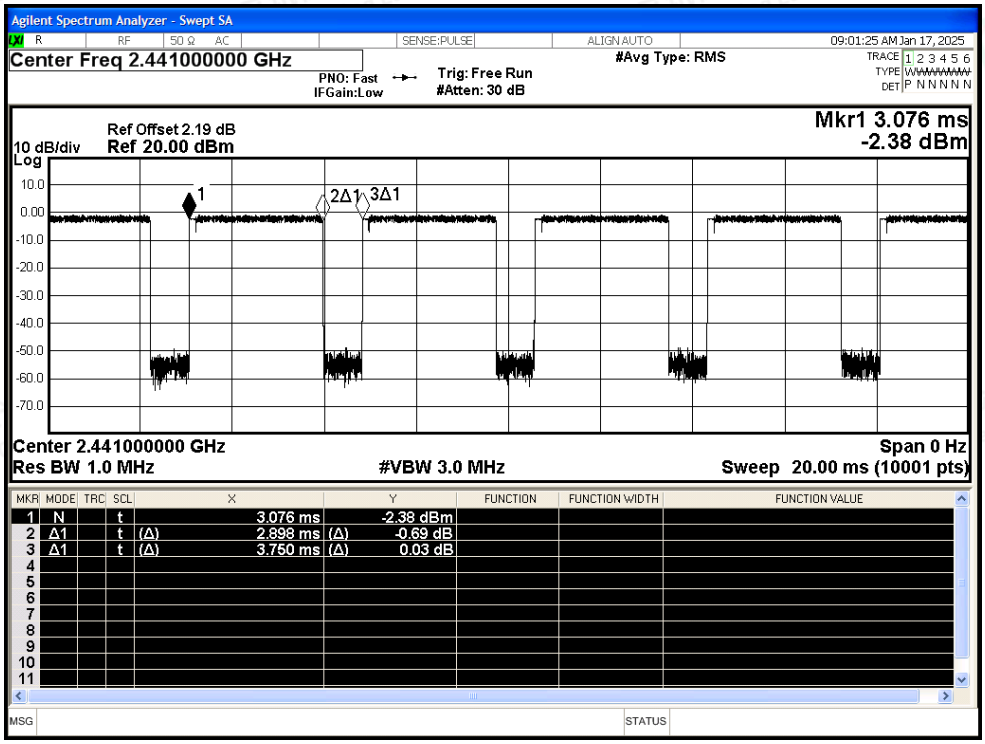
Duty Cycle NVNT 1-DH5 2480MHz Ant1



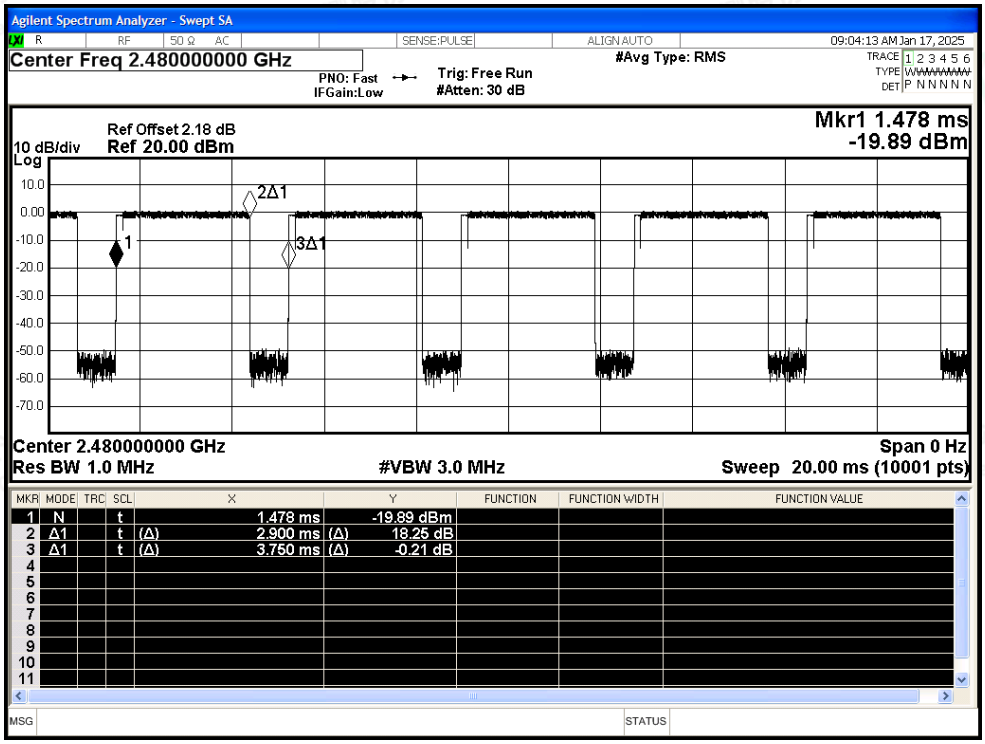
Duty Cycle NVNT 2-DH5 2402MHz Ant1



Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

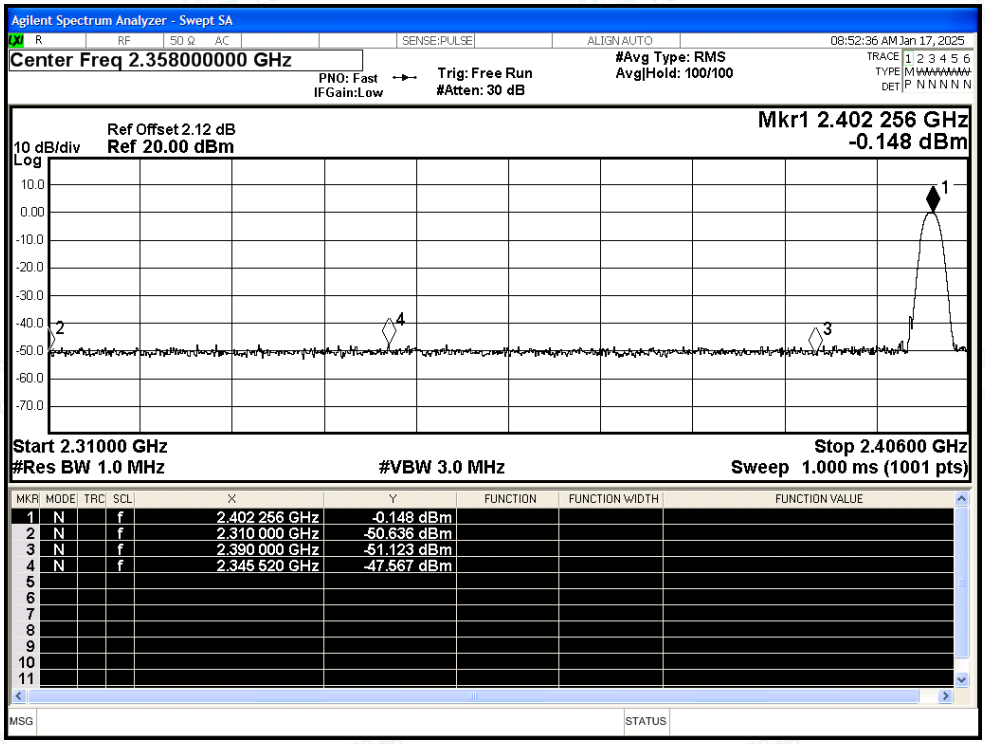


A.9 Restrict Band

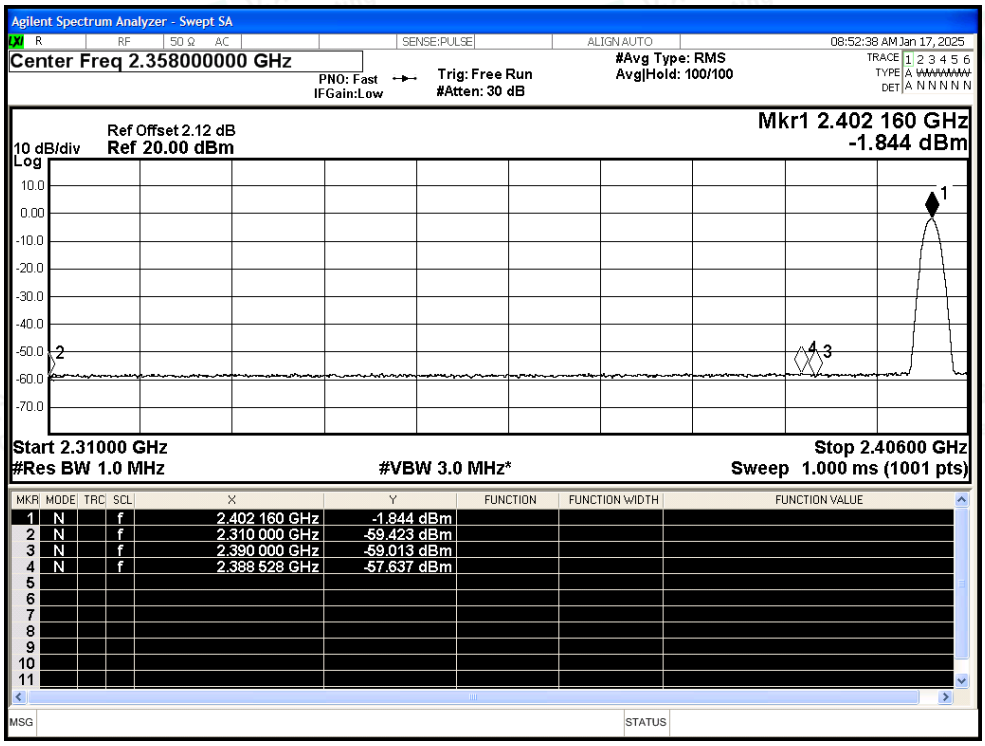
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.64	2	-	46.62	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.42	2	1.1	38.94	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2345.52	-47.57	2	-	49.69	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.528	-57.64	2	1.1	40.72	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.12	2	-	46.14	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-59.01	2	1.1	39.35	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.6	2	-	48.66	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.19	2	1.1	40.17	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2491.432	-46.55	2	-	50.71	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2485.048	-56.9	2	1.1	41.46	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.74	2	-	47.52	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.5	2	1.1	40.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.93	2	-	47.33	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.52	2	1.12	39.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382.768	-47.62	2	-	49.64	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2379.6	-57.58	2	1.12	40.8	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.61	2	-	46.65	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.42	2	1.12	39.96	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-47.95	2	-	49.31	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.99	2	1.12	40.39	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.576	-45.95	2	-	51.31	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.496	-56.83	2	1.12	41.55	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.91	2	-	47.35	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.09	2	1.12	40.29	Average	54	Pass

Test Graphs

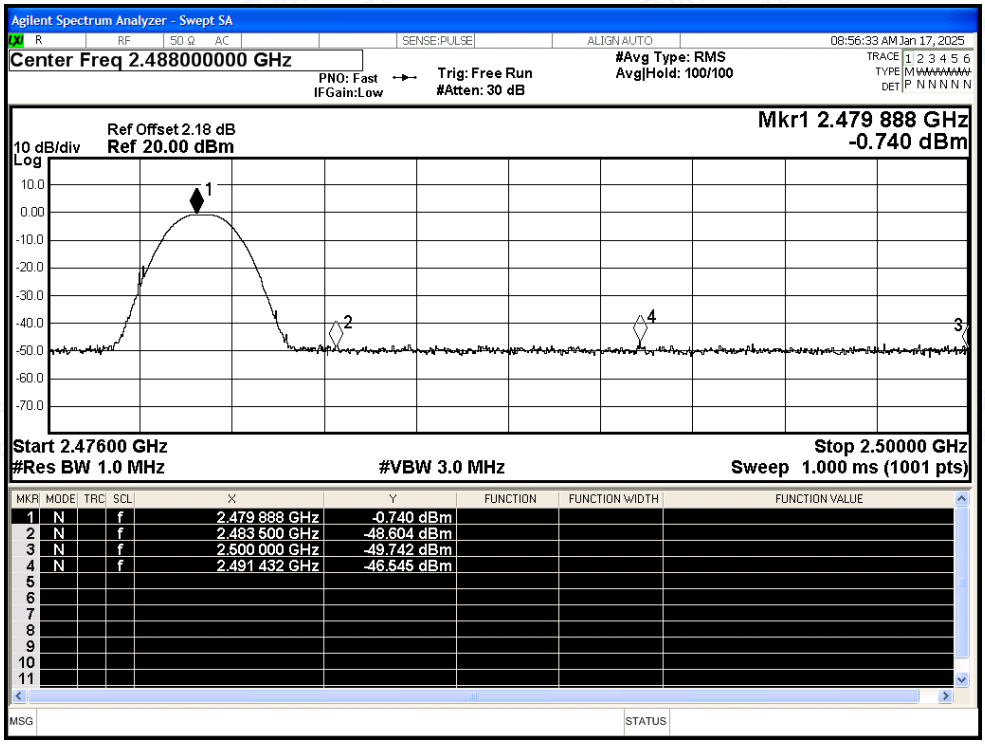
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



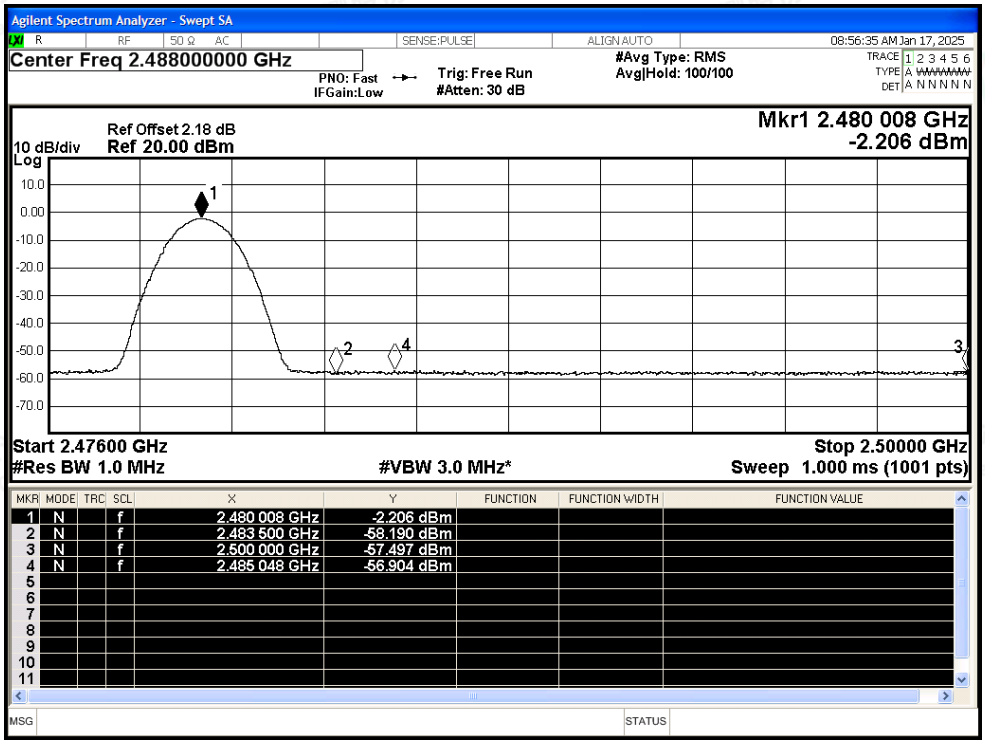
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



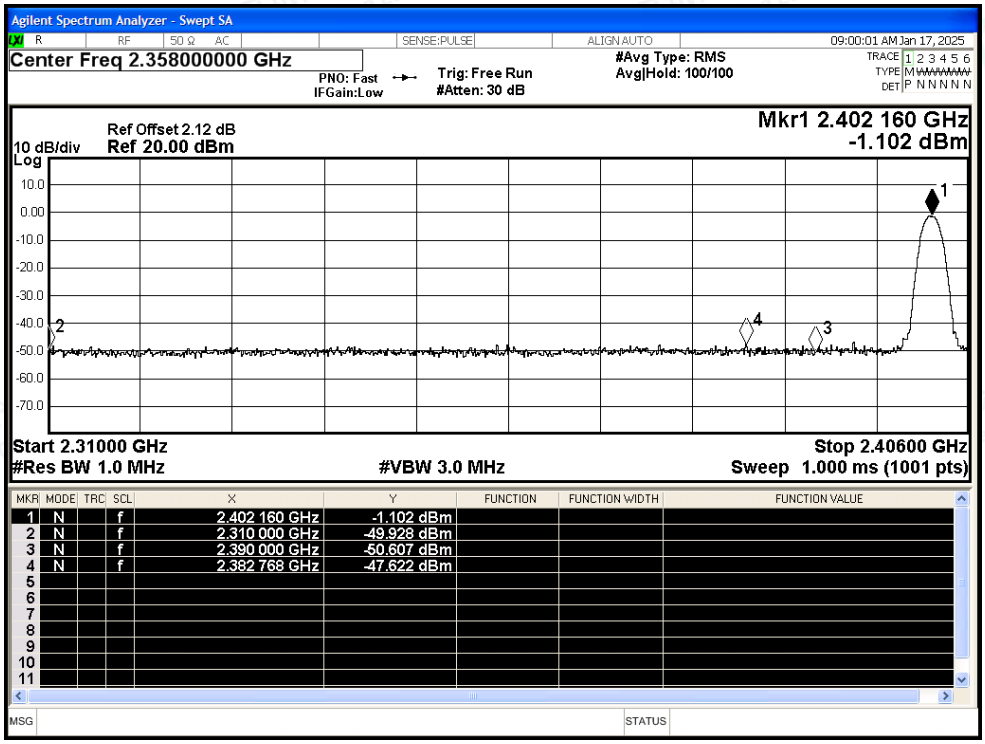
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



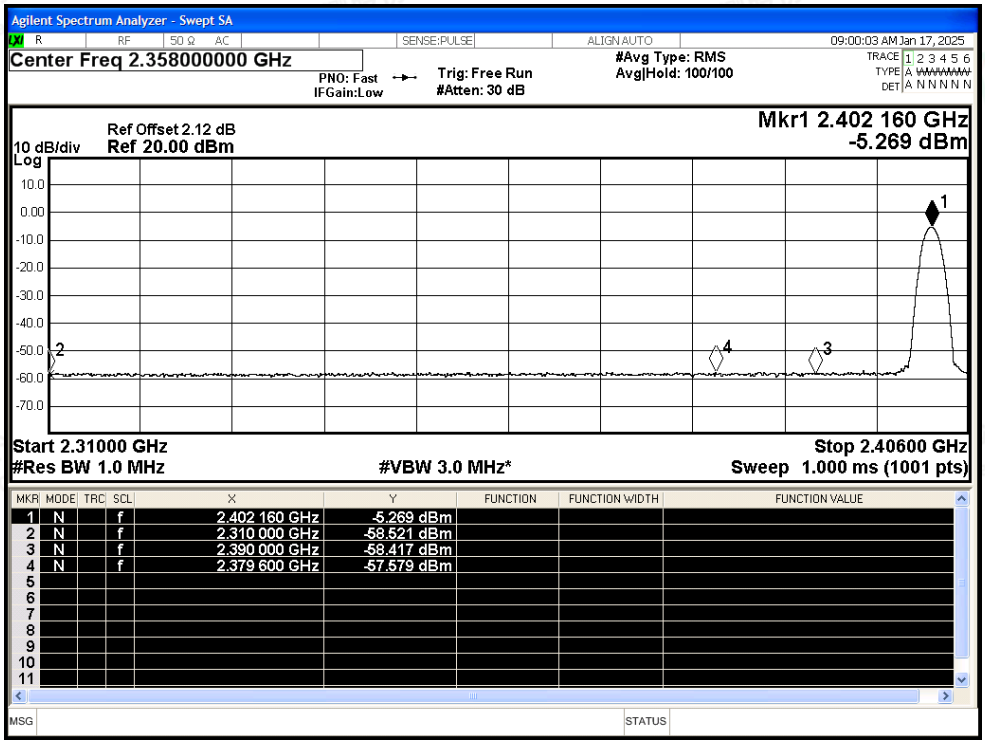
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



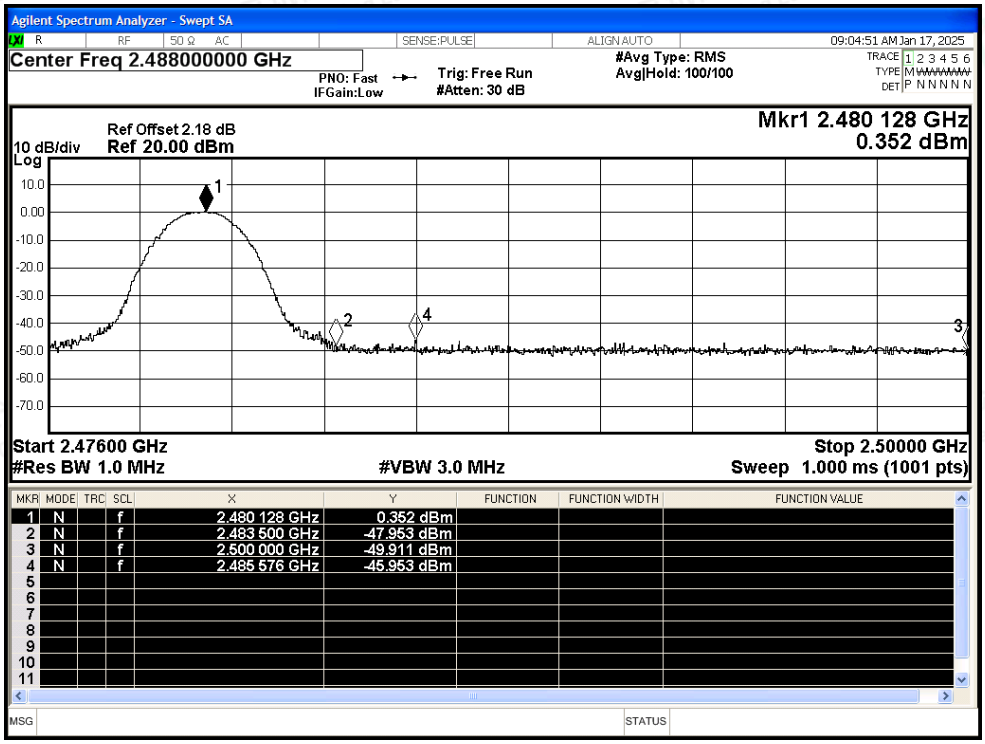
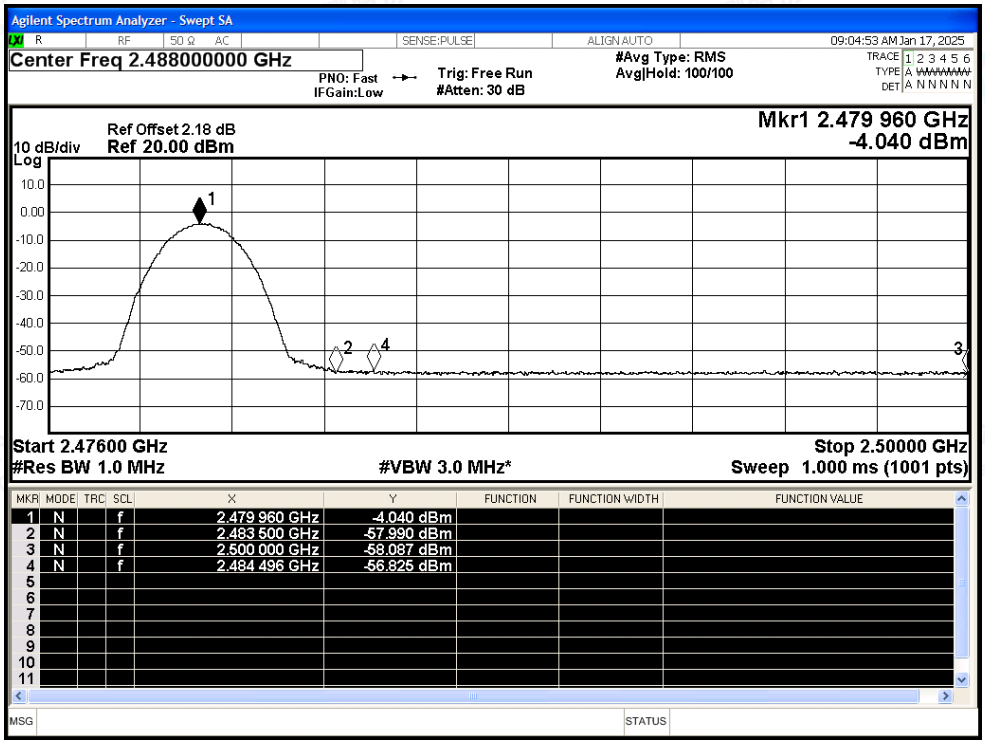
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



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