Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Portable speaker

Test Model: ABS-4111(Cantando C2)

Environmental Conditions

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

A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.935	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.974	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.941	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.29	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.278	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.334	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.286	N/A	Pass

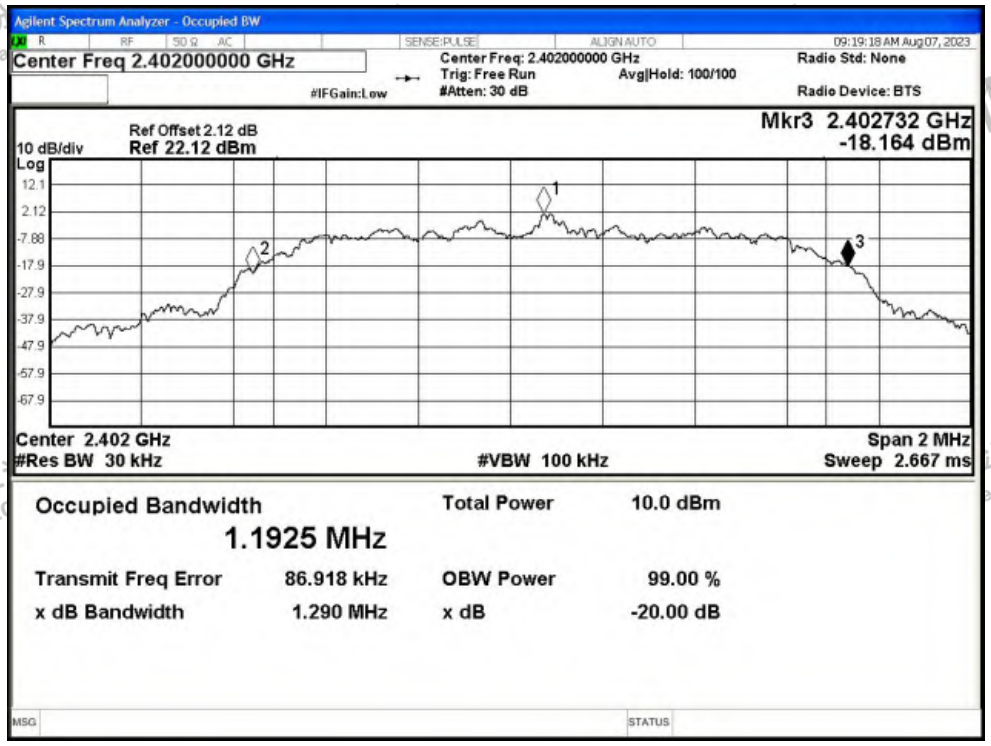
Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

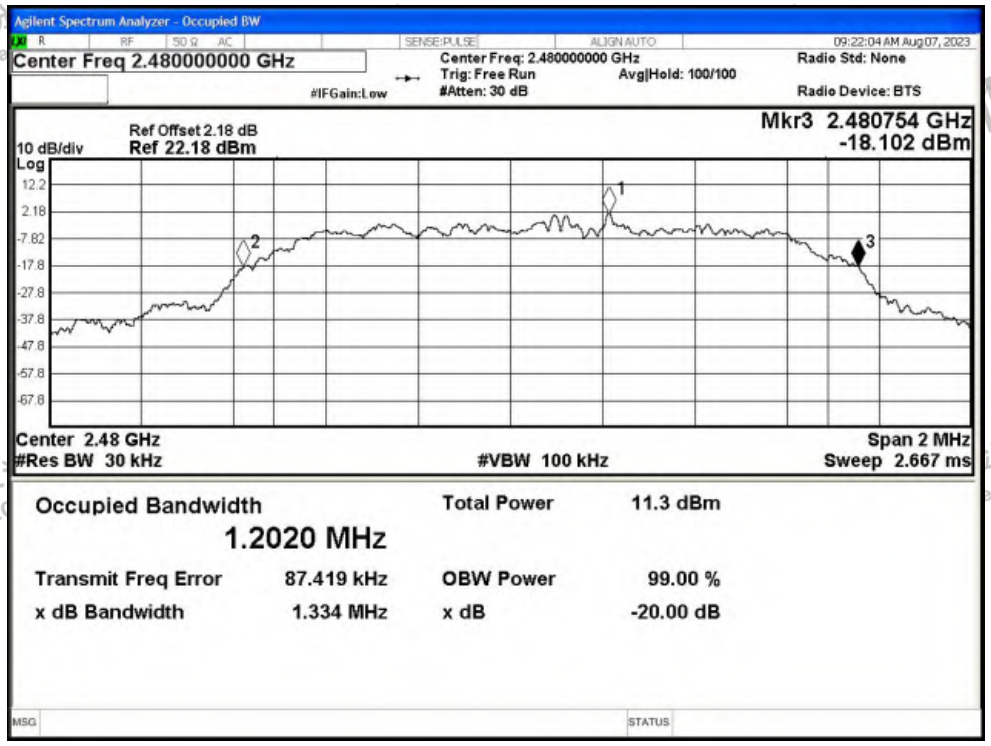
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

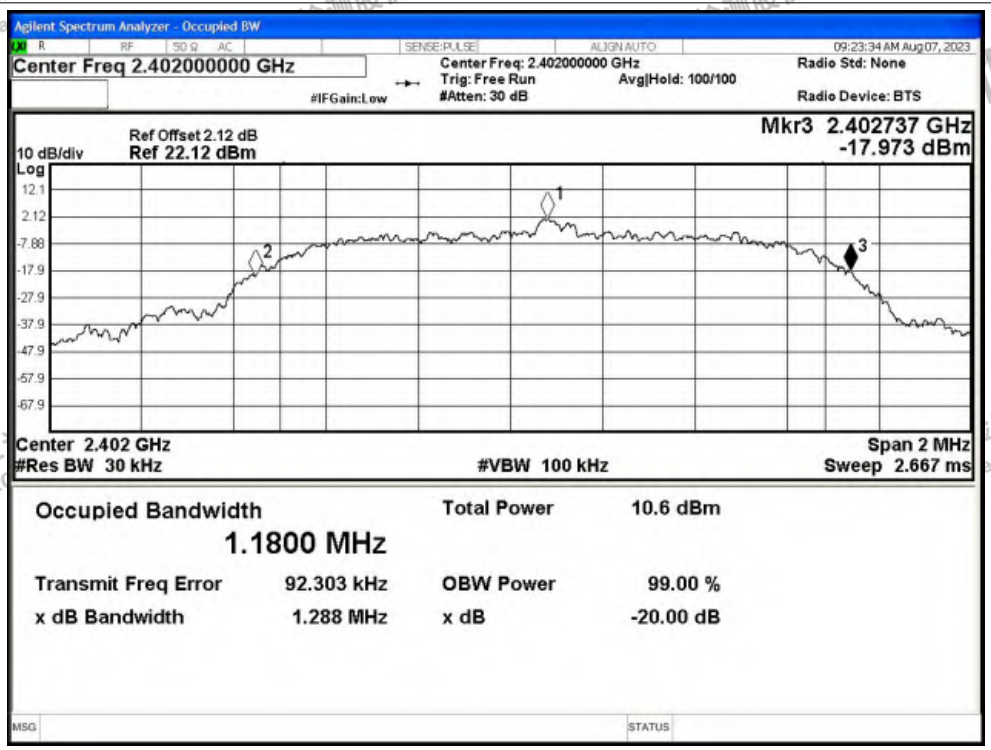


-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

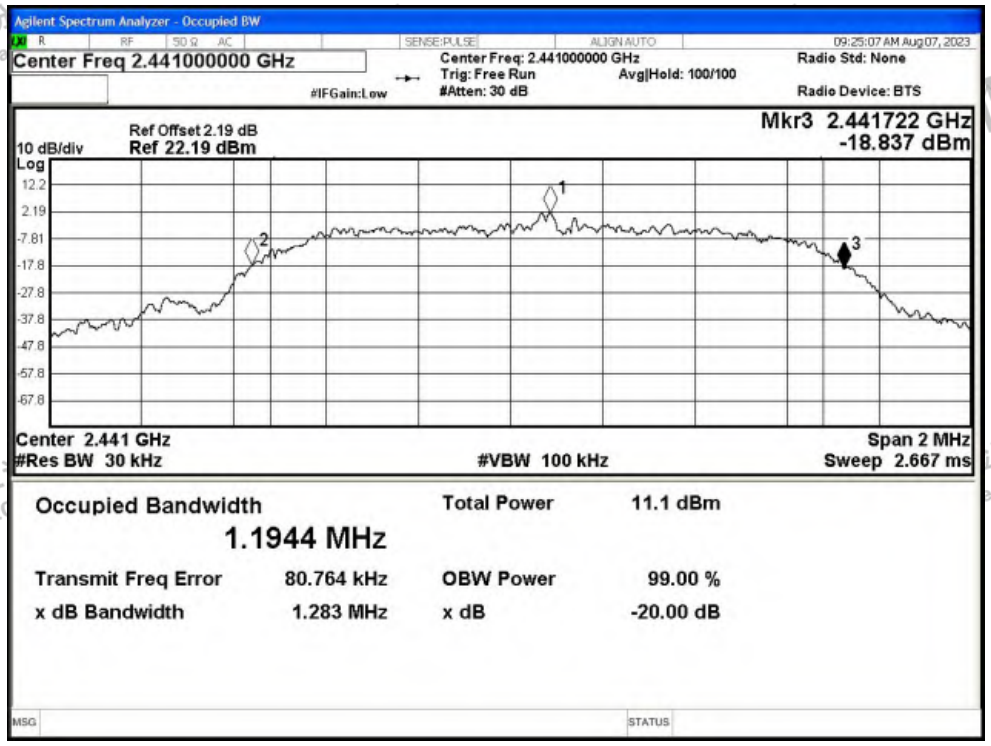
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



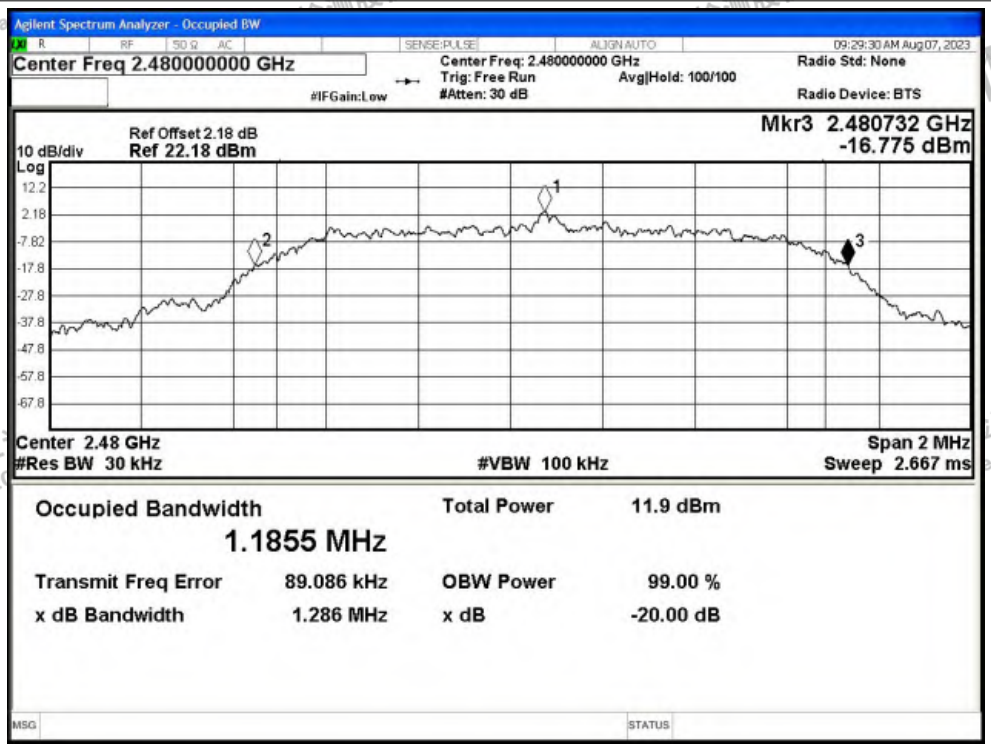
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

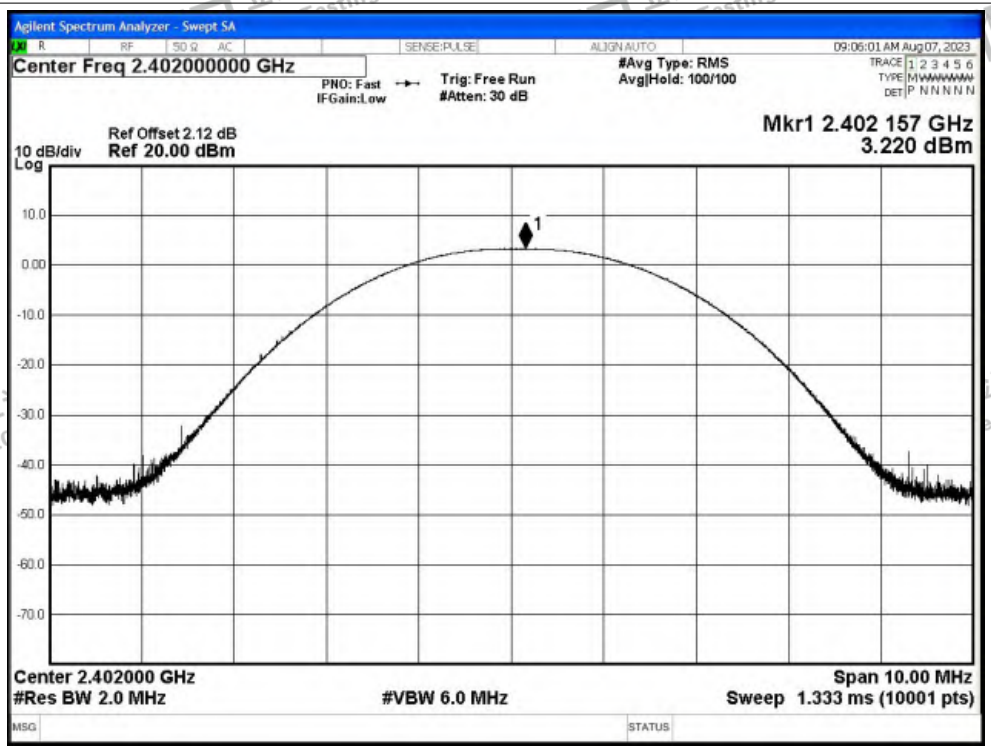


A.2 Maximum Conducted Output Power

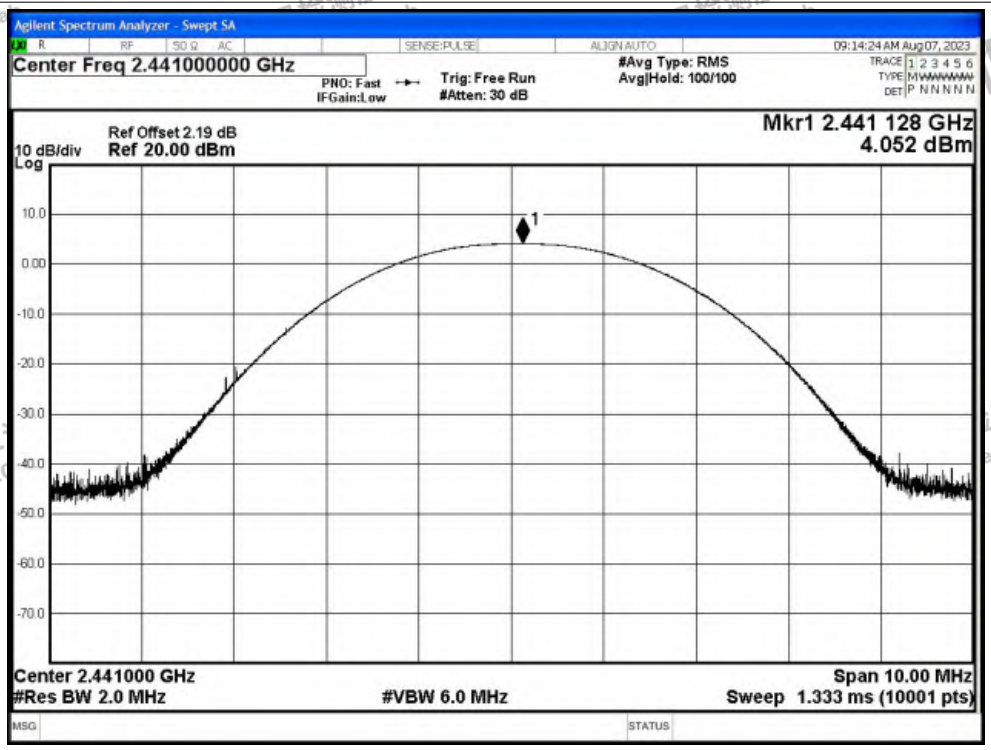
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	3.22	21	Pass
NVNT	1-DH5	2441	Ant1	4.05	21	Pass
NVNT	1-DH5	2480	Ant1	4.8	21	Pass
NVNT	2-DH5	2402	Ant1	5.55	21	Pass
NVNT	2-DH5	2441	Ant1	6.45	21	Pass
NVNT	2-DH5	2480	Ant1	7.2	21	Pass
NVNT	3-DH5	2402	Ant1	6.04	21	Pass
NVNT	3-DH5	2441	Ant1	6.92	21	Pass
NVNT	3-DH5	2480	Ant1	7.64	21	Pass

Test Graphs

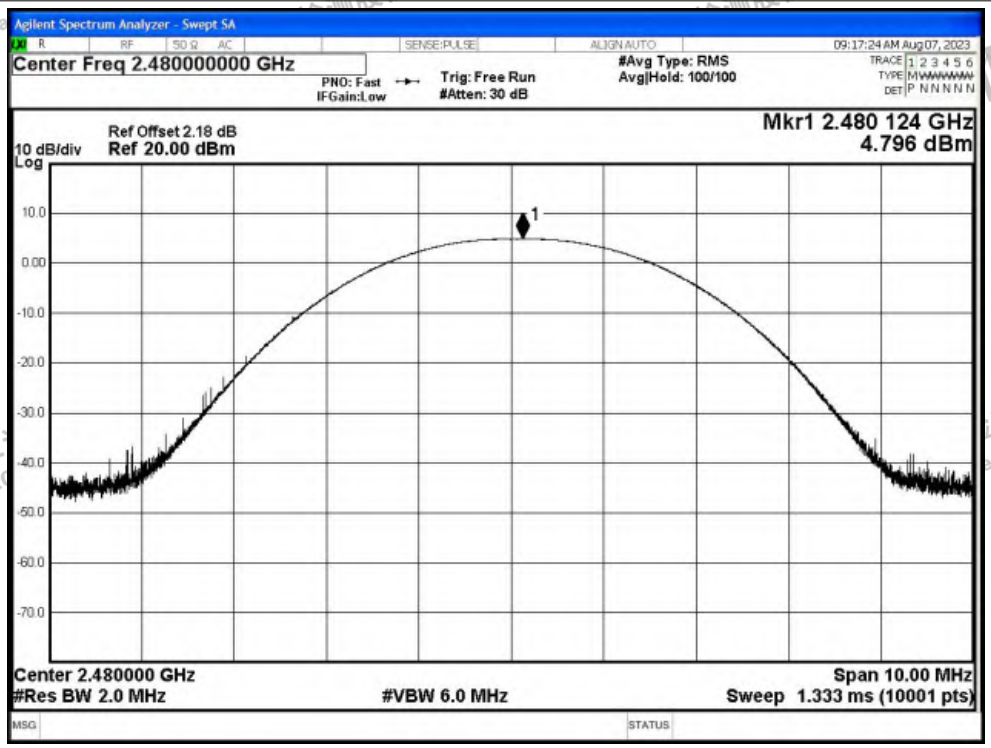
Power NVNT 1-DH5 2402MHz Ant1



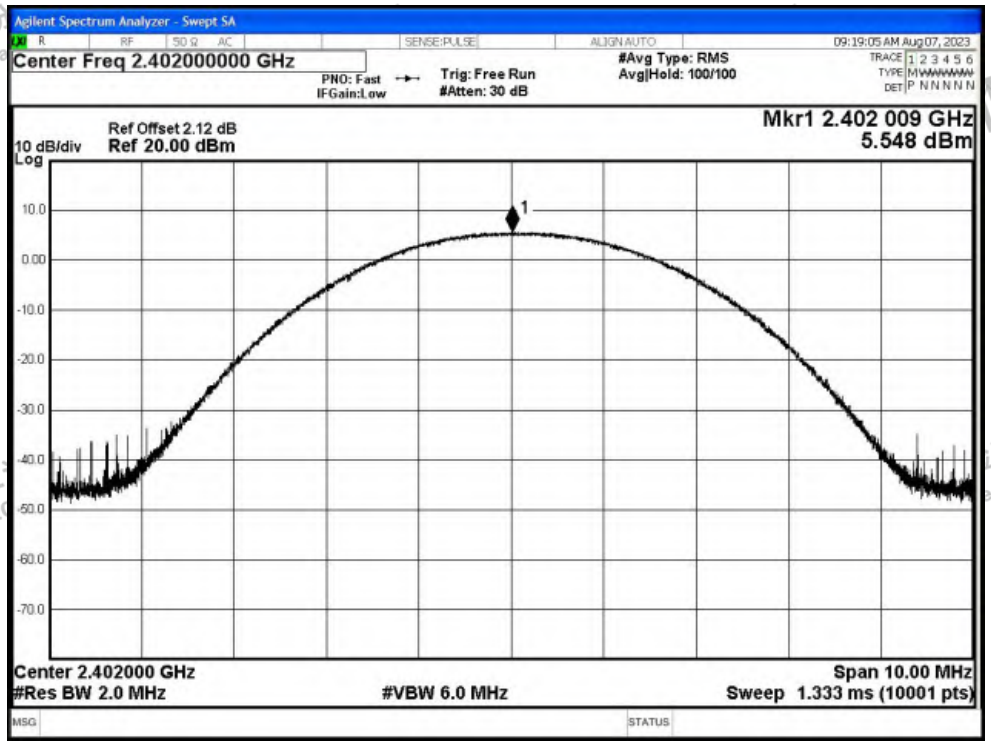
Power NVNT 1-DH5 2441MHz Ant1



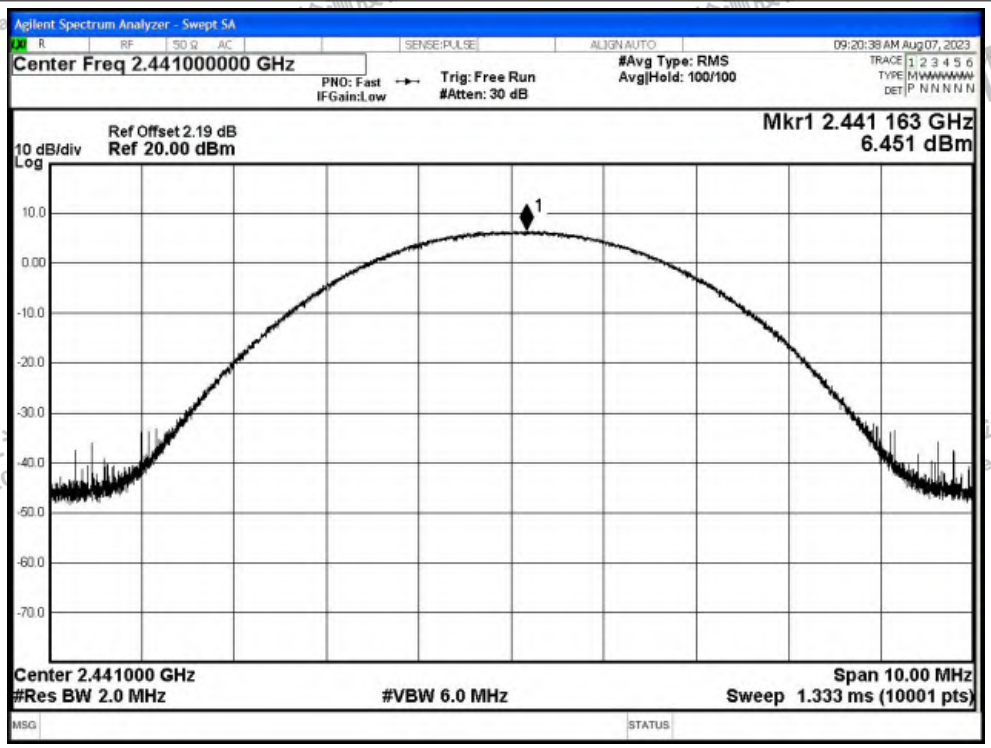
Power NVNT 1-DH5 2480MHz Ant1



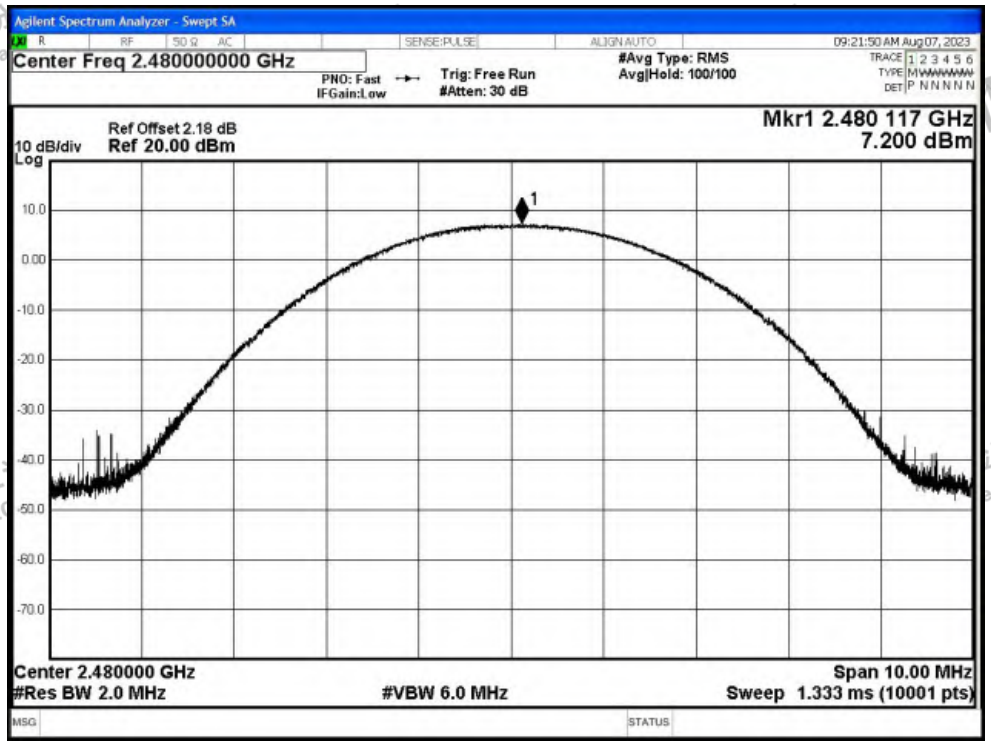
Power NVNT 2-DH5 2402MHz Ant1



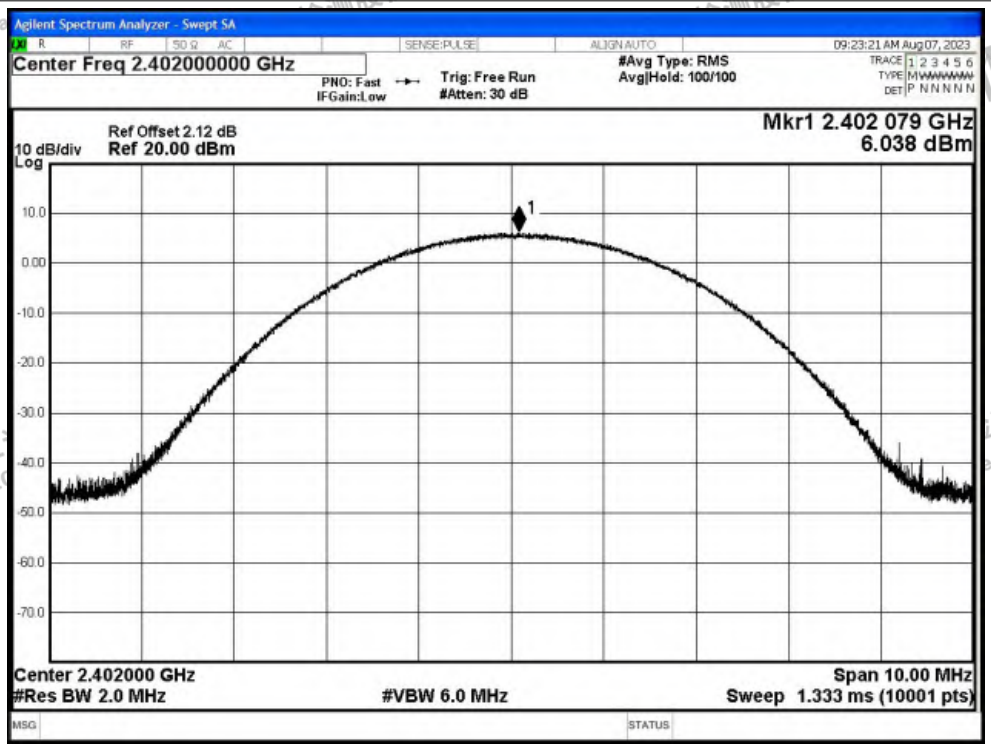
Power NVNT 2-DH5 2441MHz Ant1



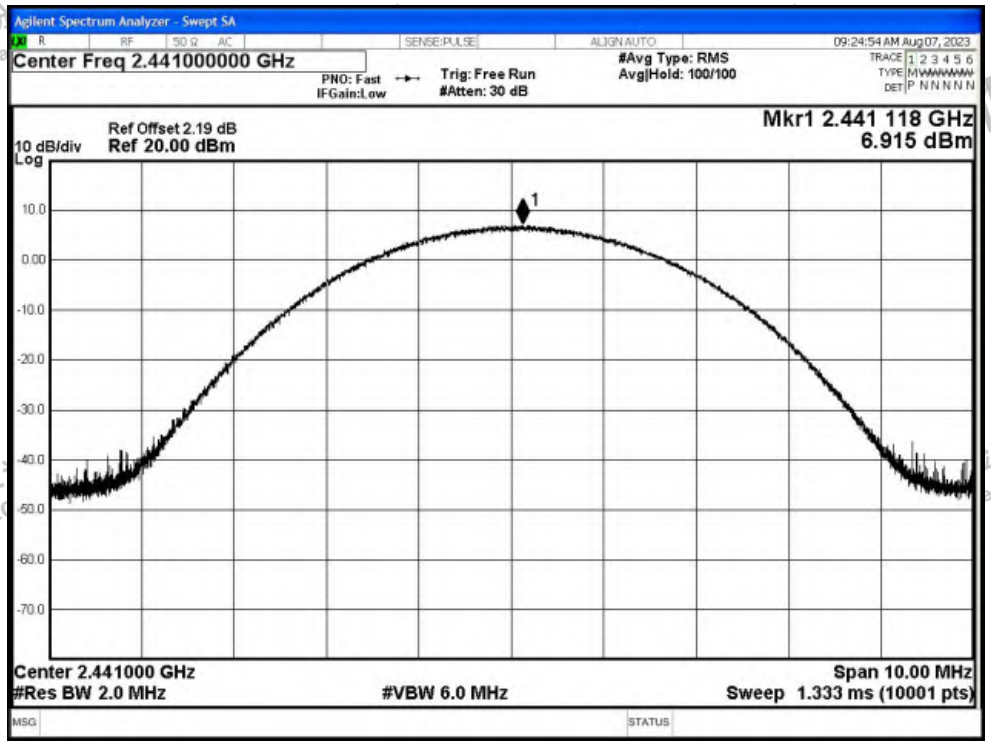
Power NVNT 2-DH5 2480MHz Ant1



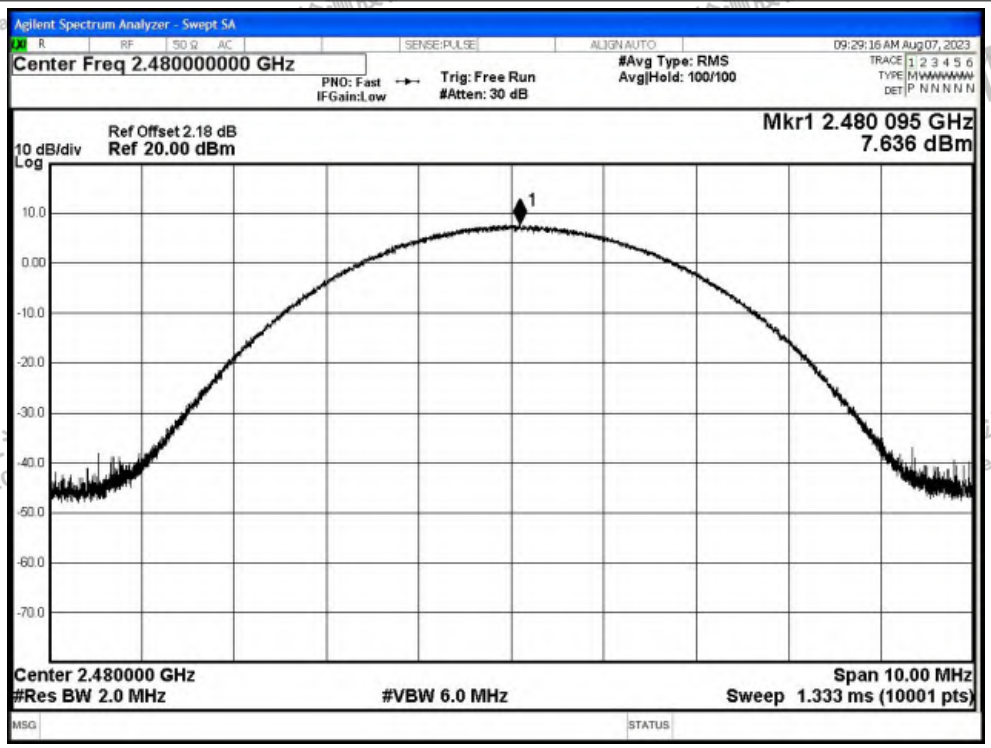
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

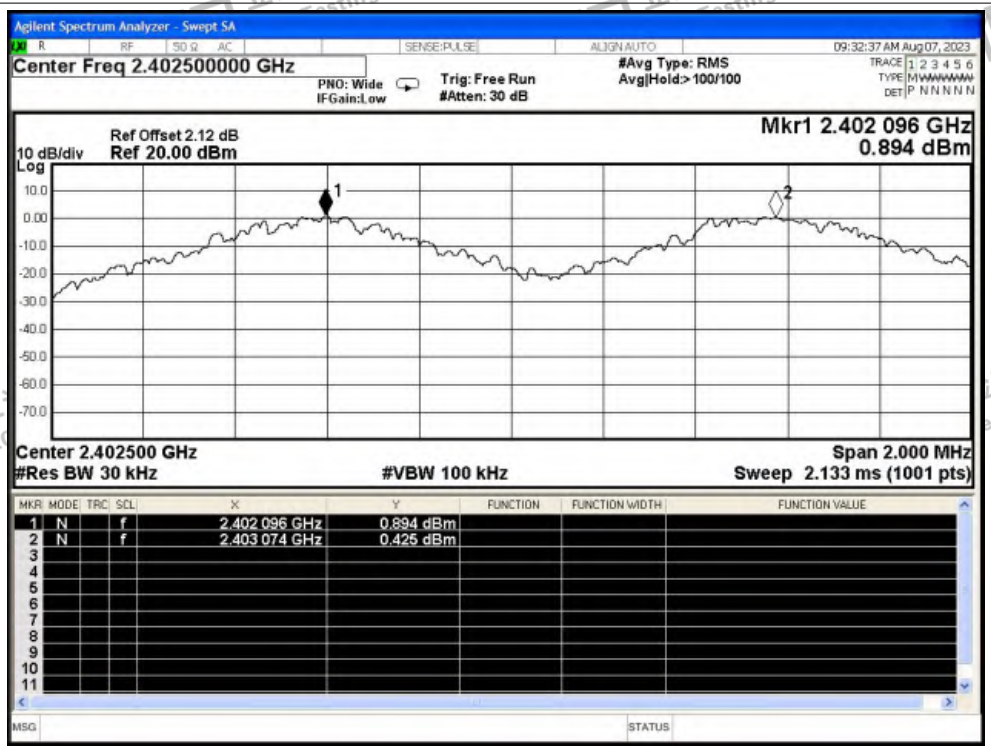


A.3 Carrier Frequencies Separation

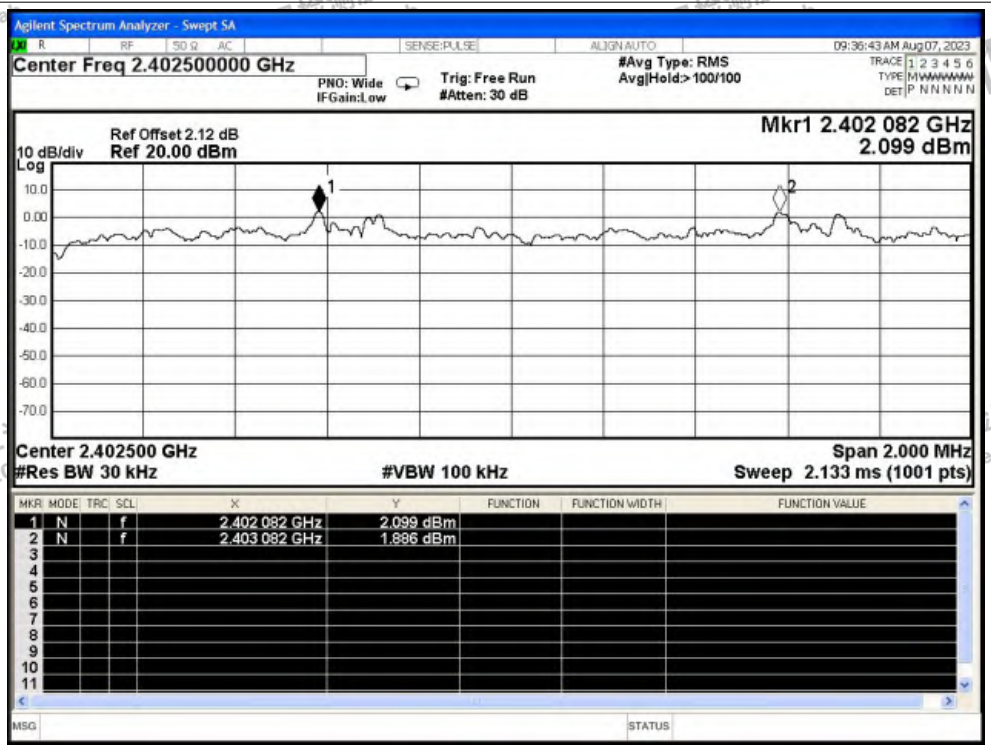
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.096	2403.074	0.978	0.649	Pass
NVNT	2-DH5	Ant1	2402.082	2403.082	1	0.889	Pass
NVNT	3-DH5	Ant1	2402.078	2403.082	1.004	0.859	Pass

Test Graphs

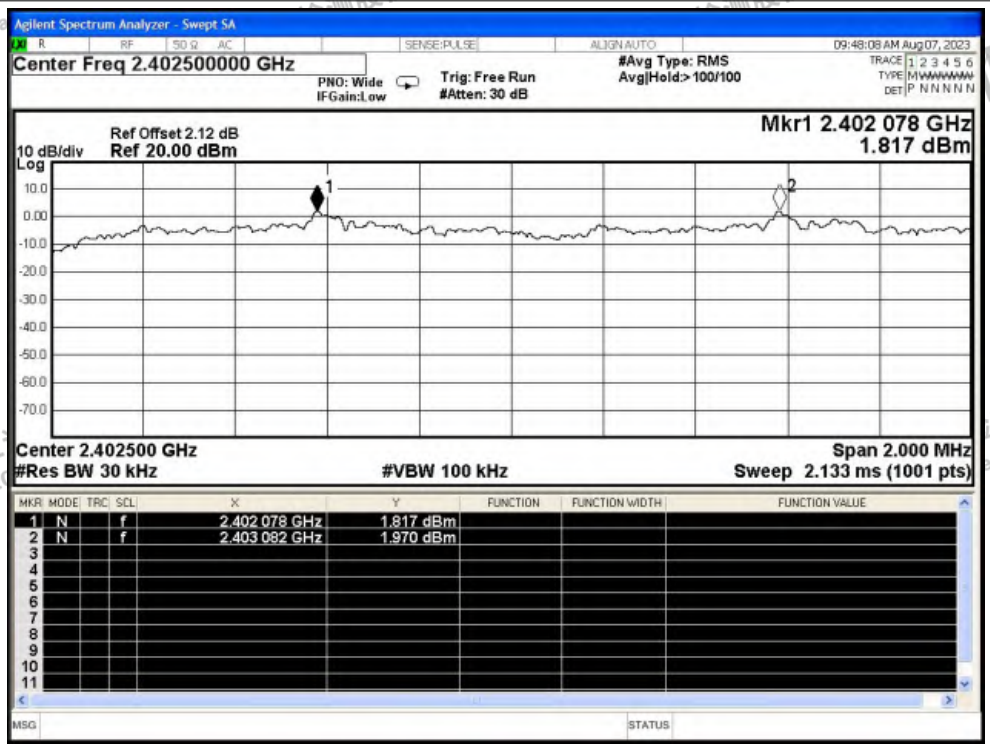
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

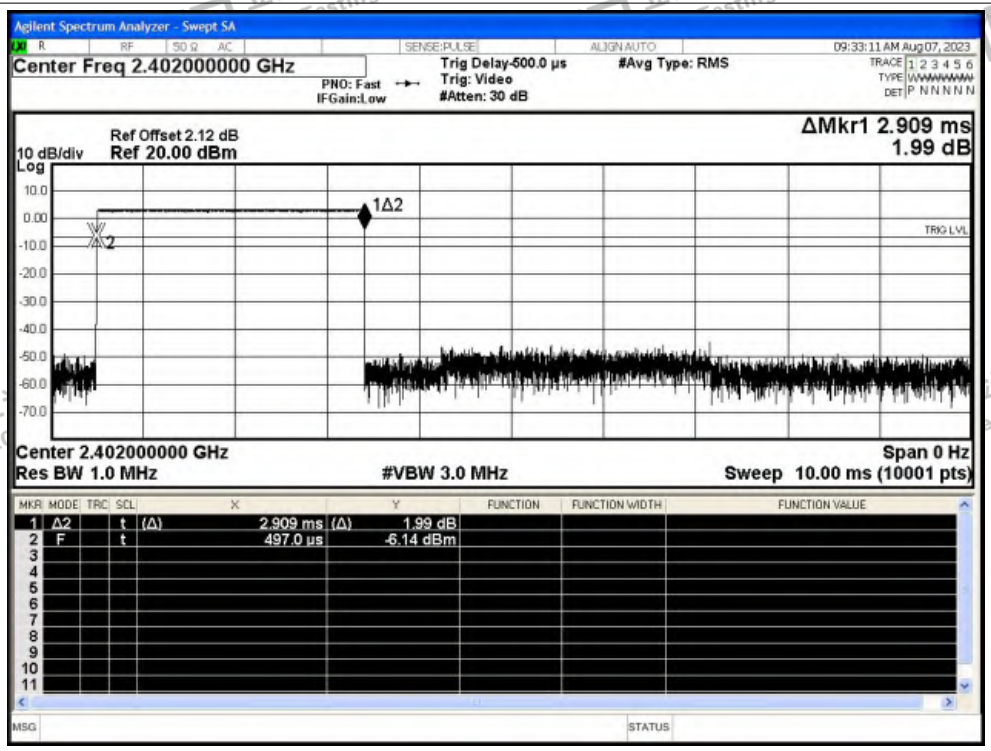


A.4 Dwell Time

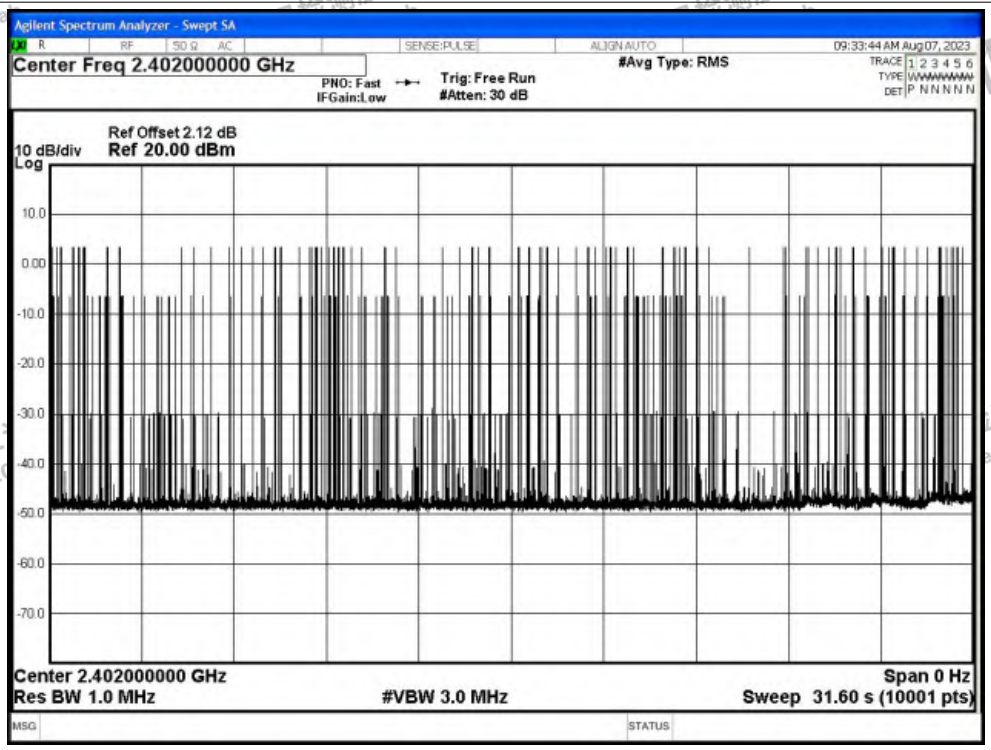
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	290.9	100	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.913	311.691	107	31600	400	Pass
NVNT	3-DH5	2402	Ant1	0.622	64.688	104	31600	400	Pass

Test Graphs

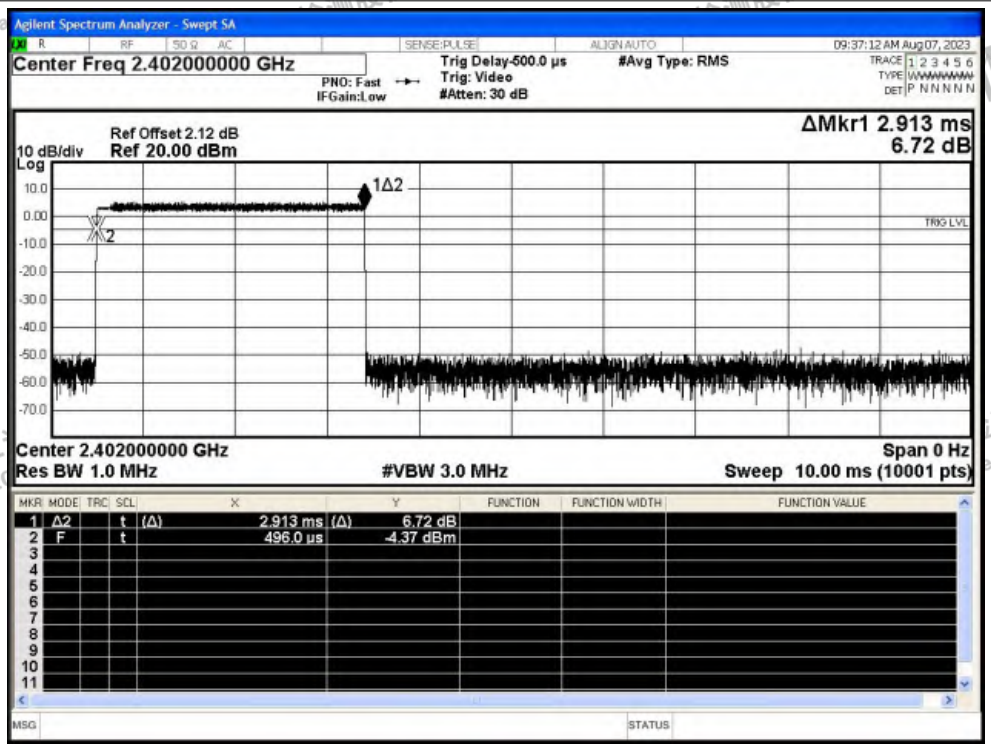
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



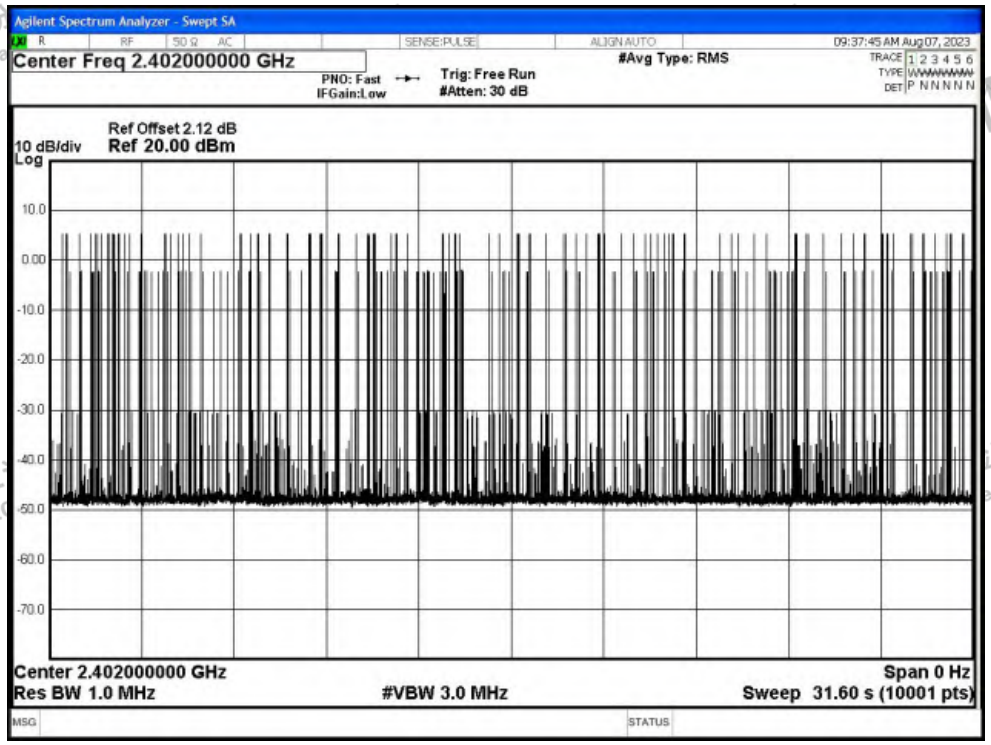
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



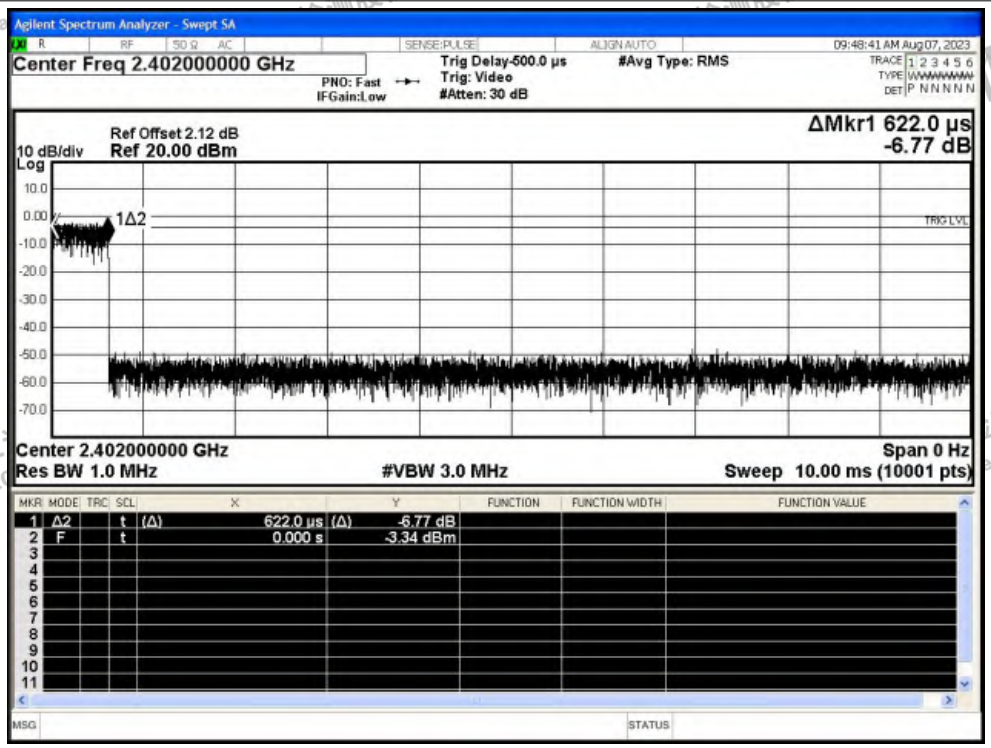
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



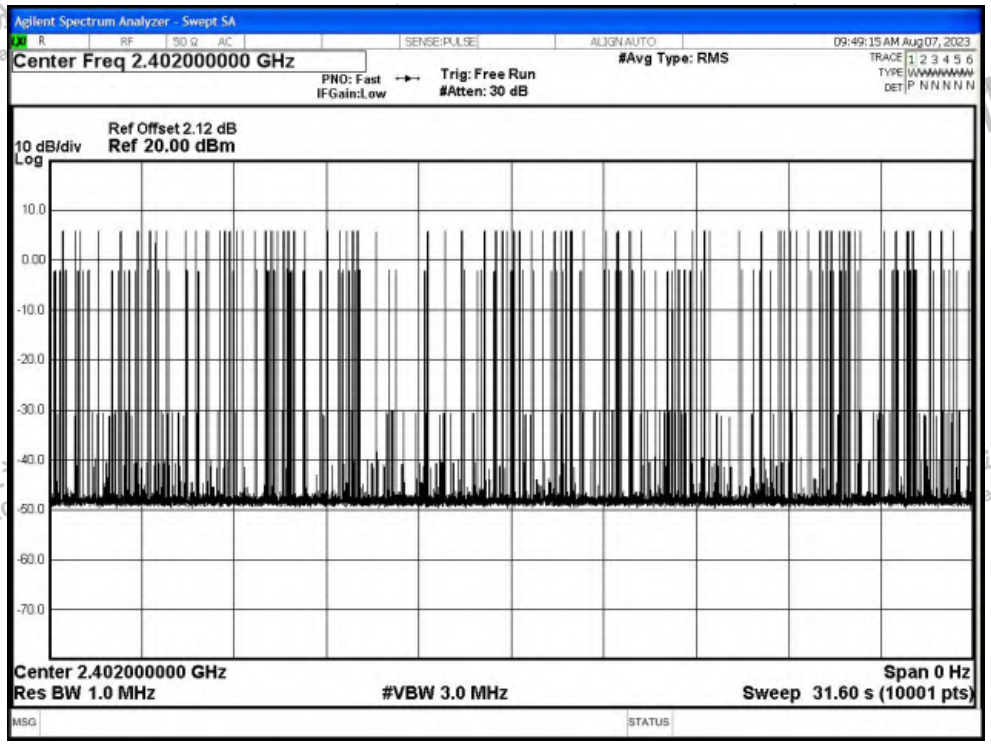
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

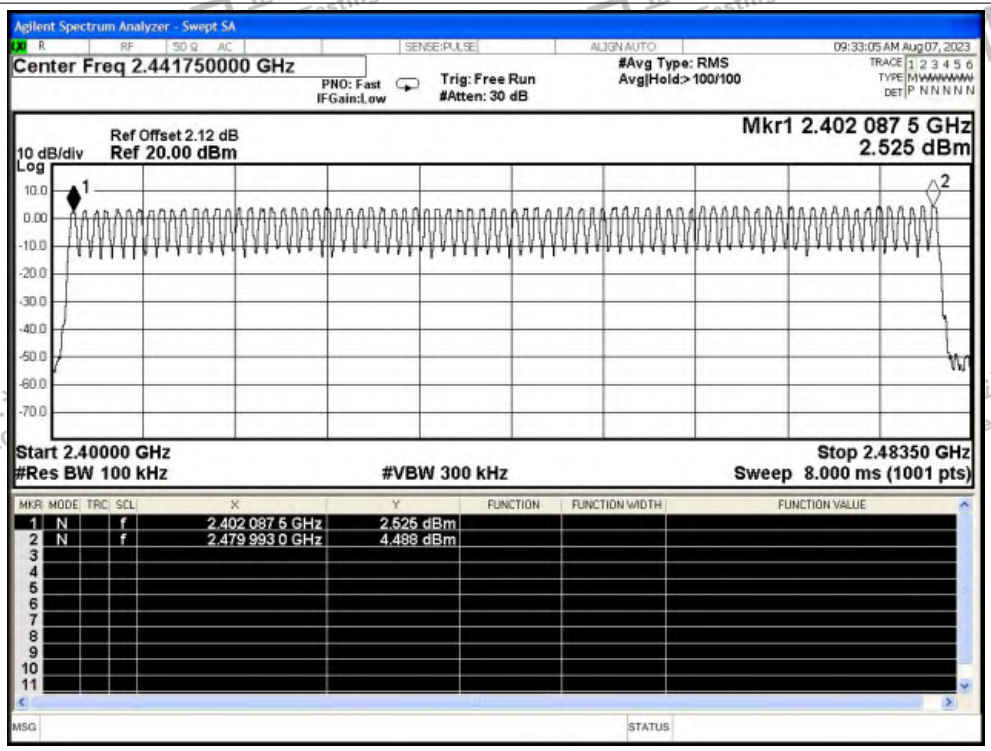


A.5 Number of Hopping Channel

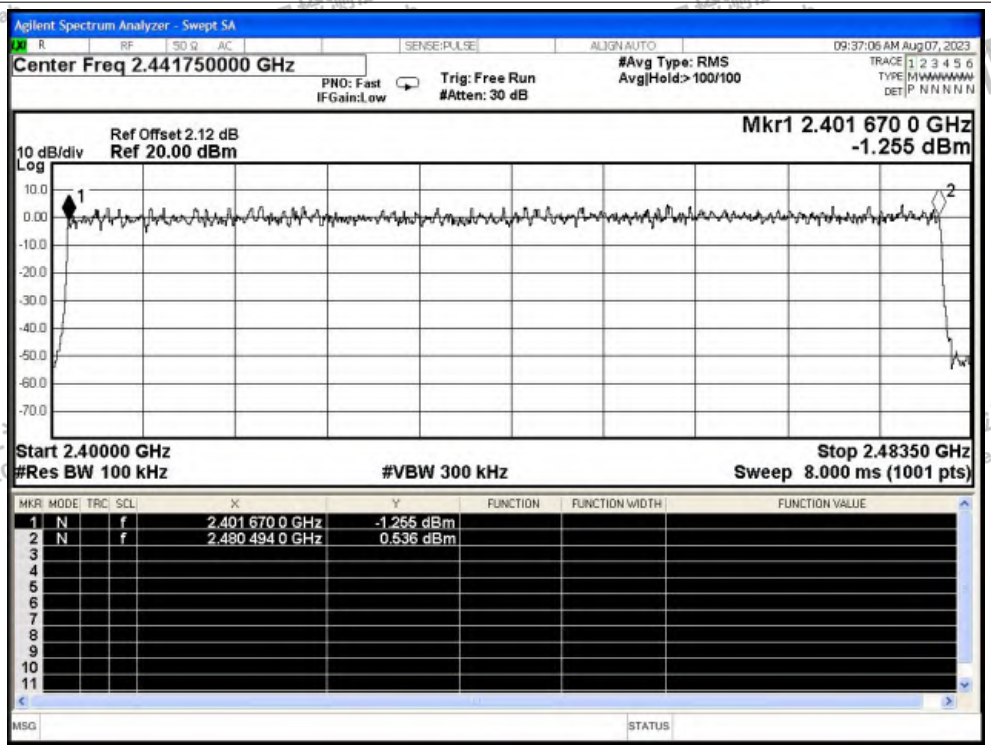
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

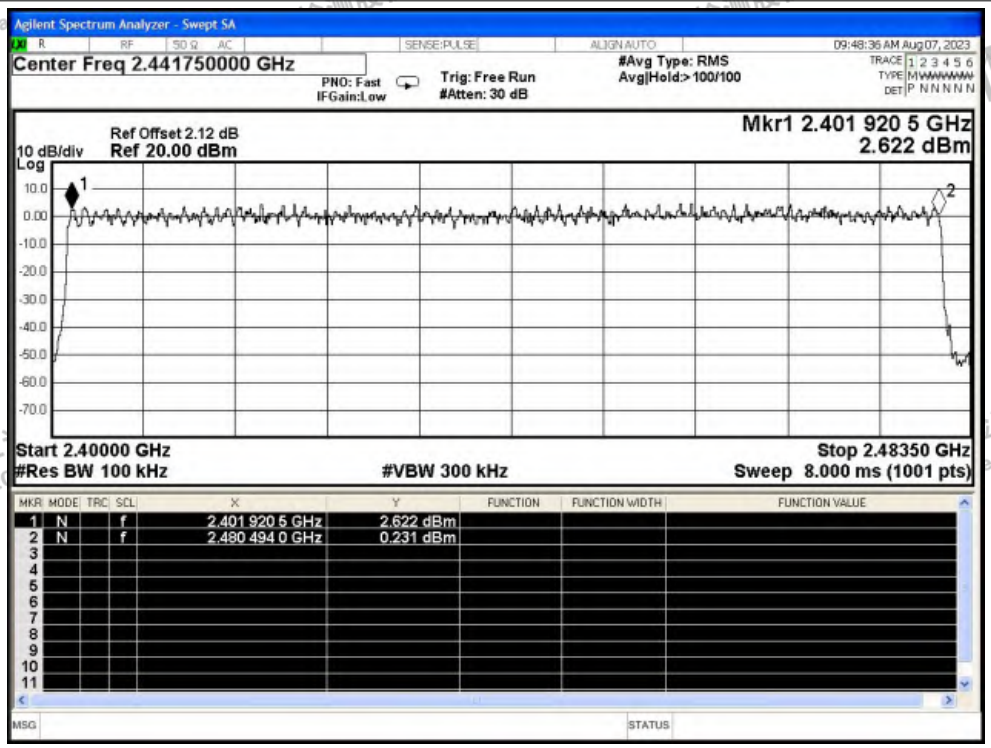
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

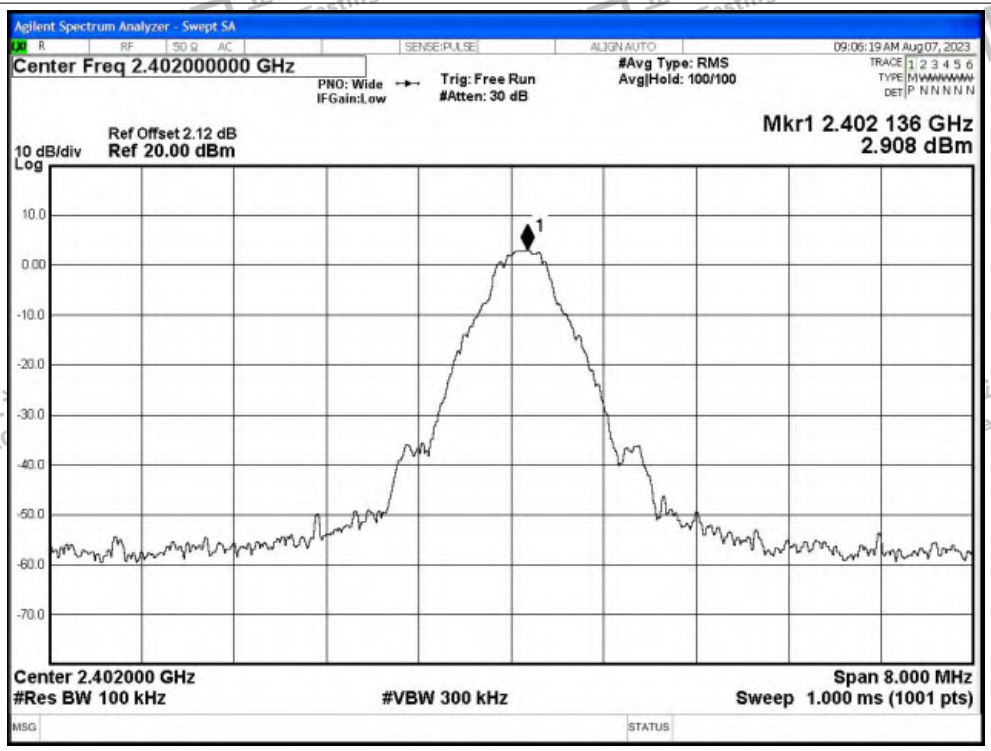


A.6 Band Edge

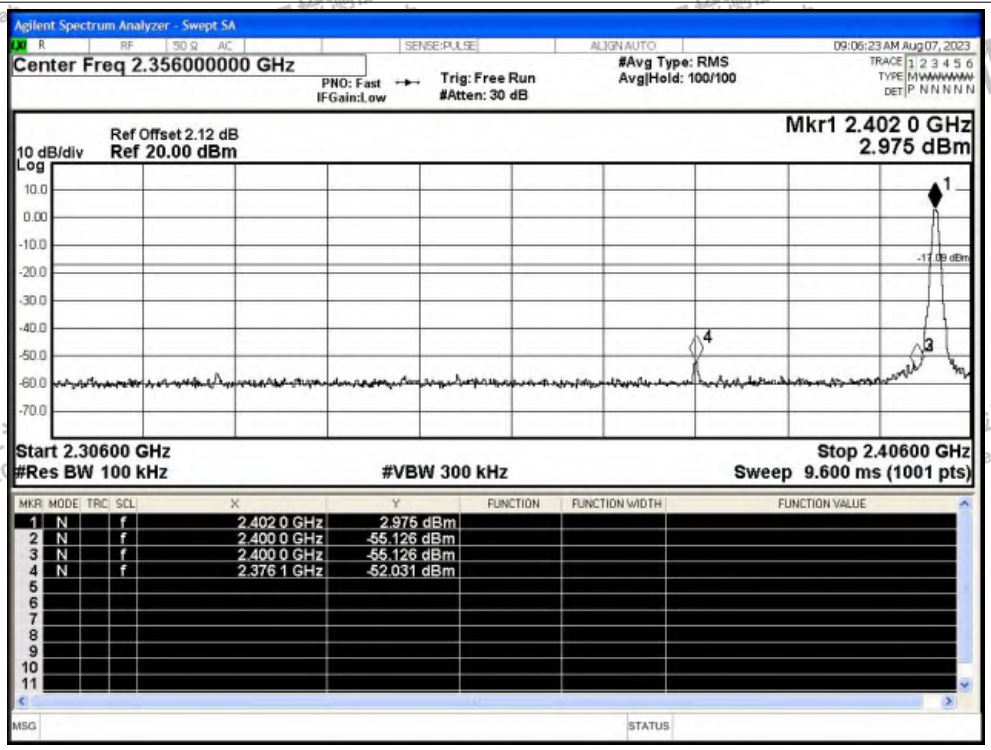
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.94	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.23	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-49.8	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-58.55	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-53.96	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-59.26	-20	Pass

Test Graphs

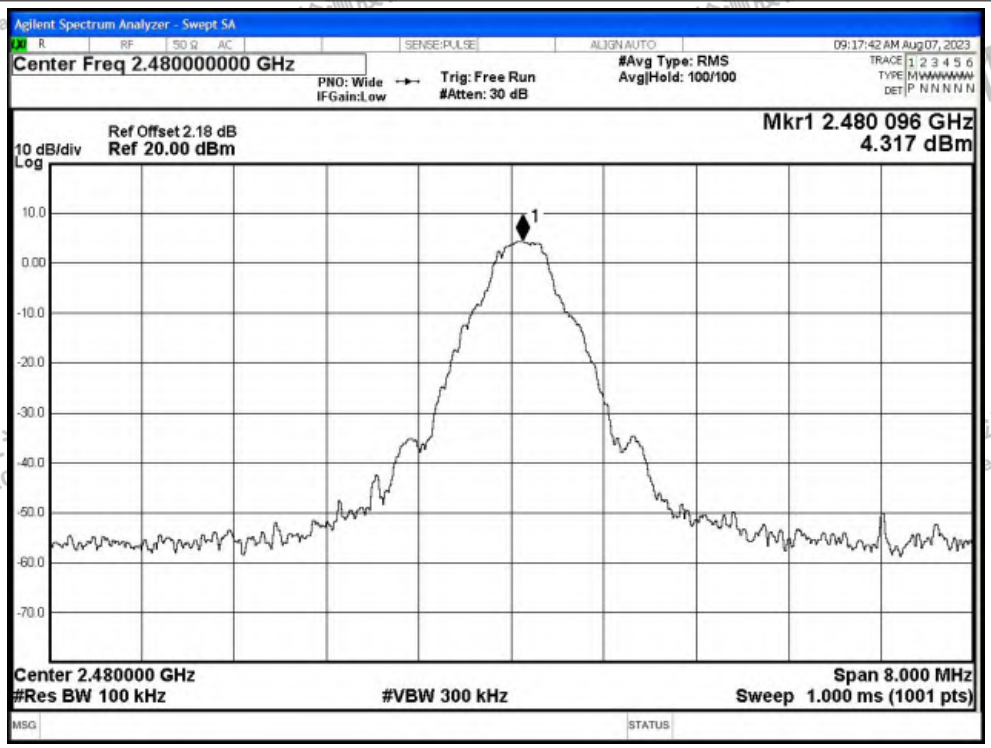
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



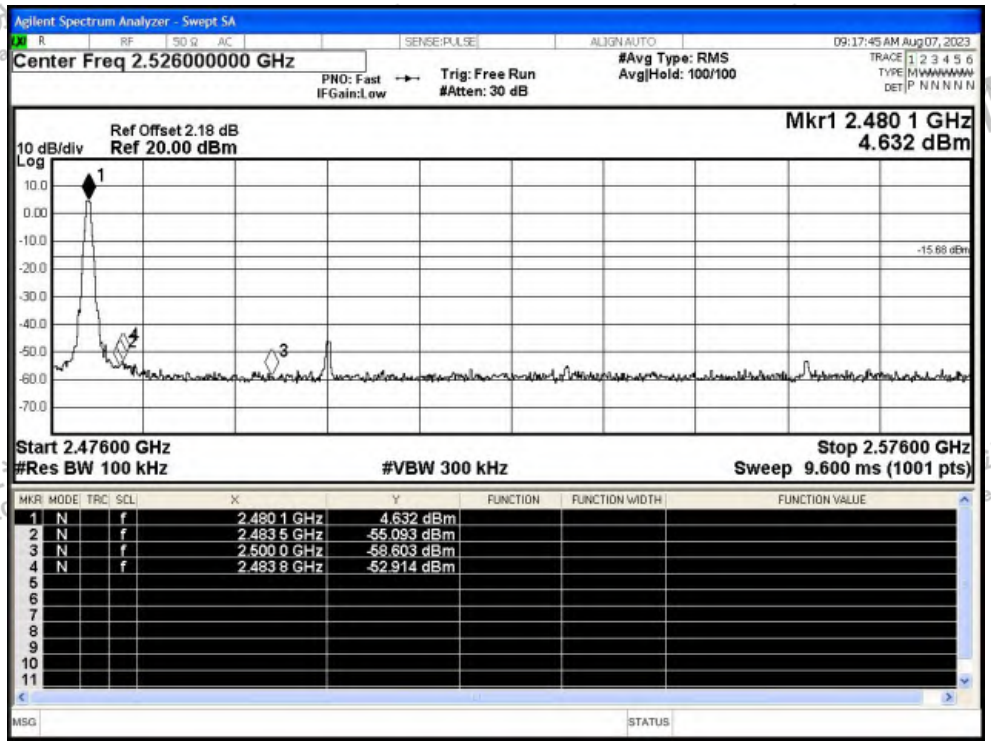
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



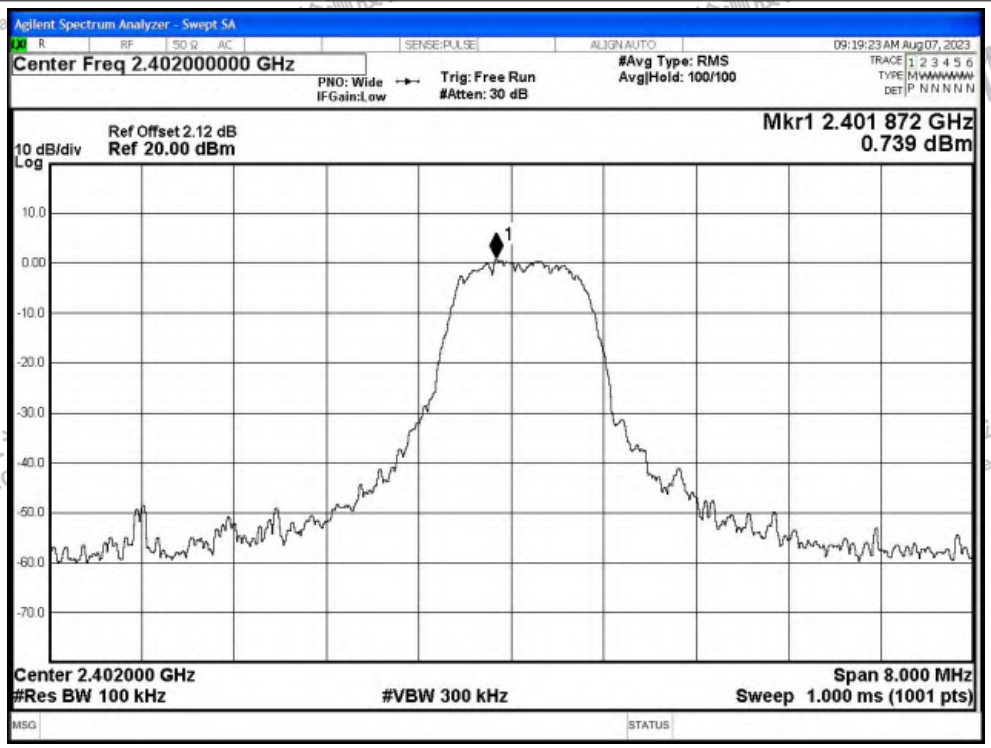
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



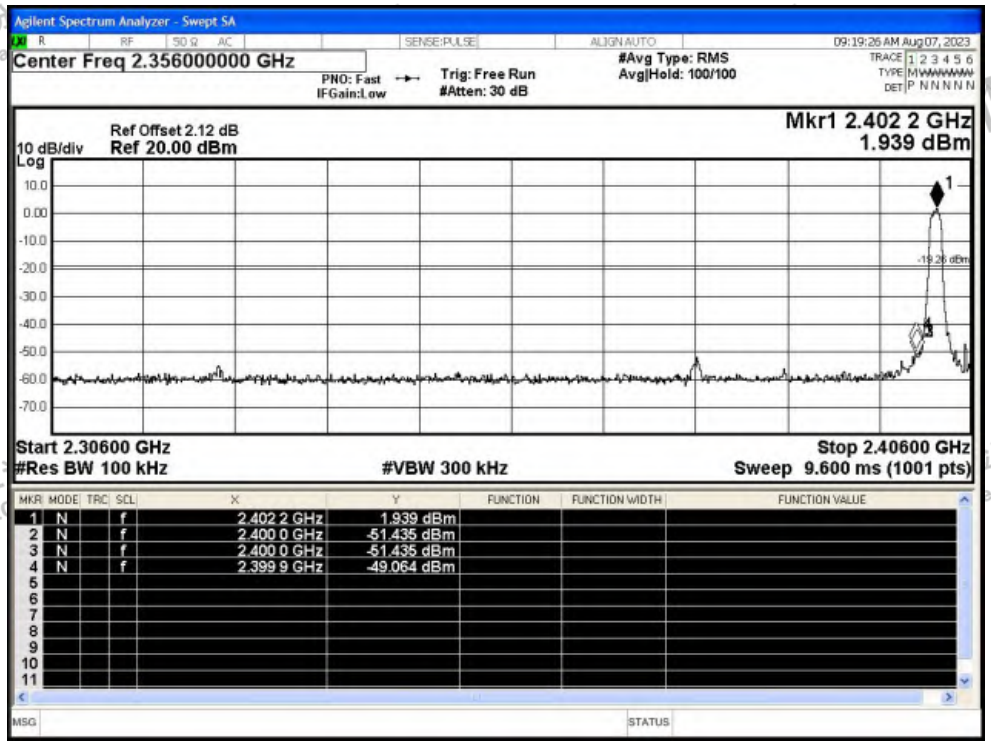
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



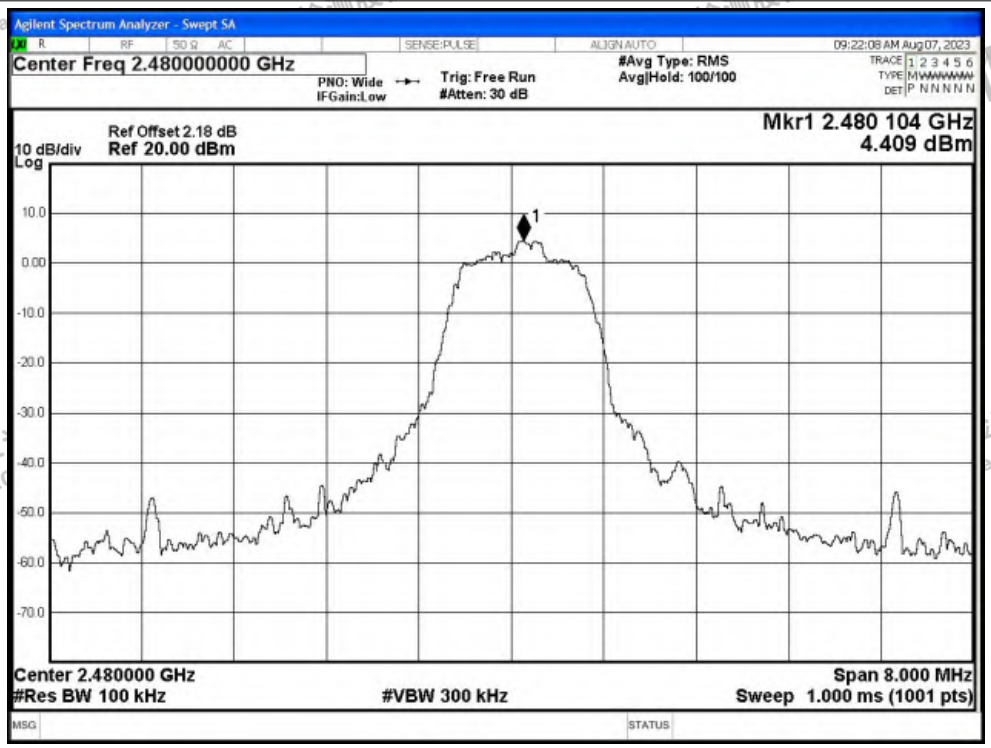
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



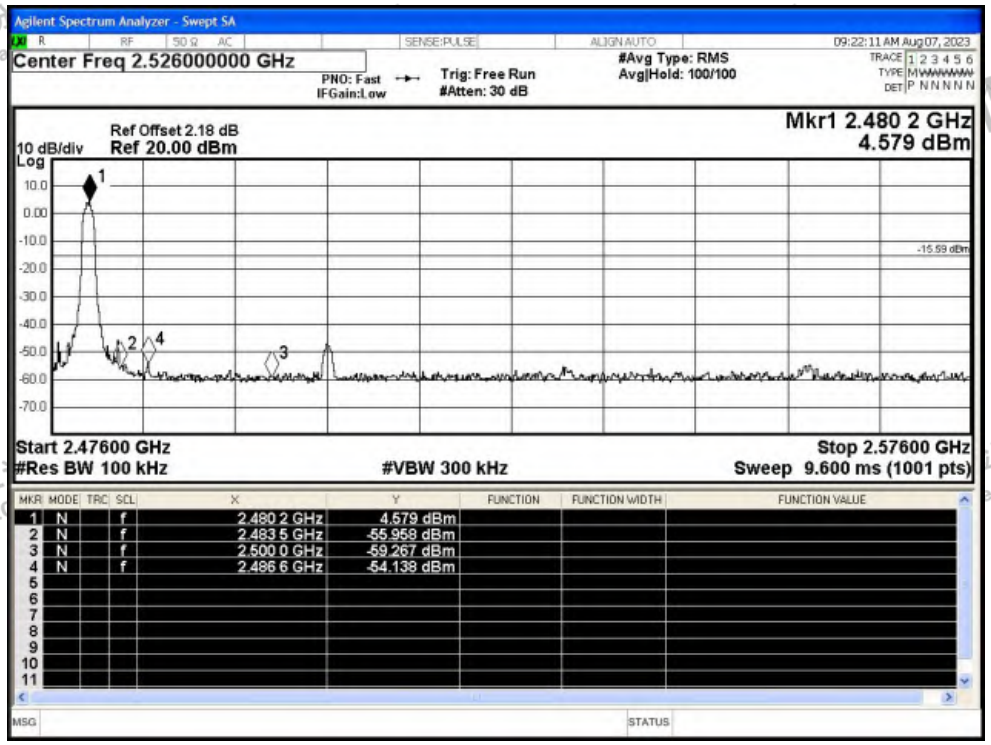
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



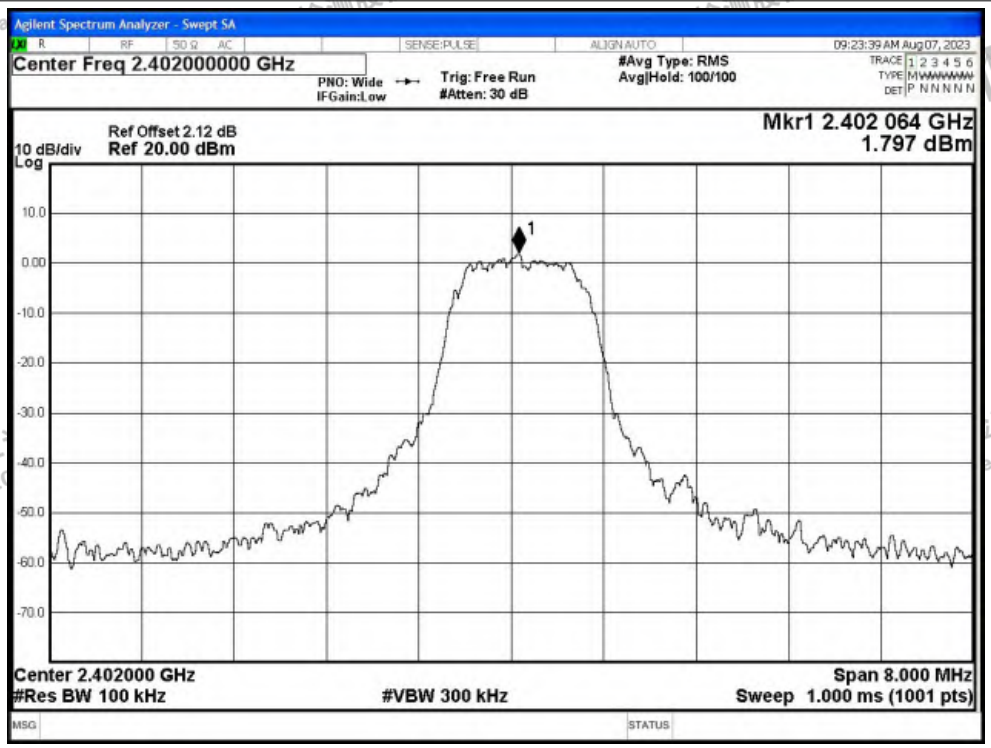
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



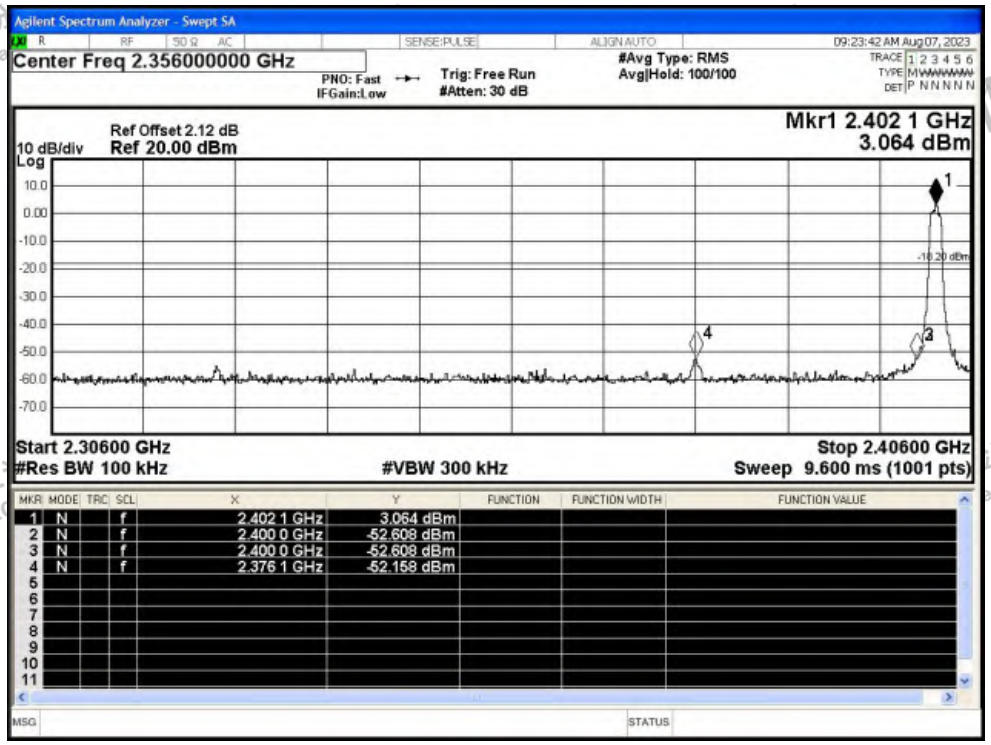
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



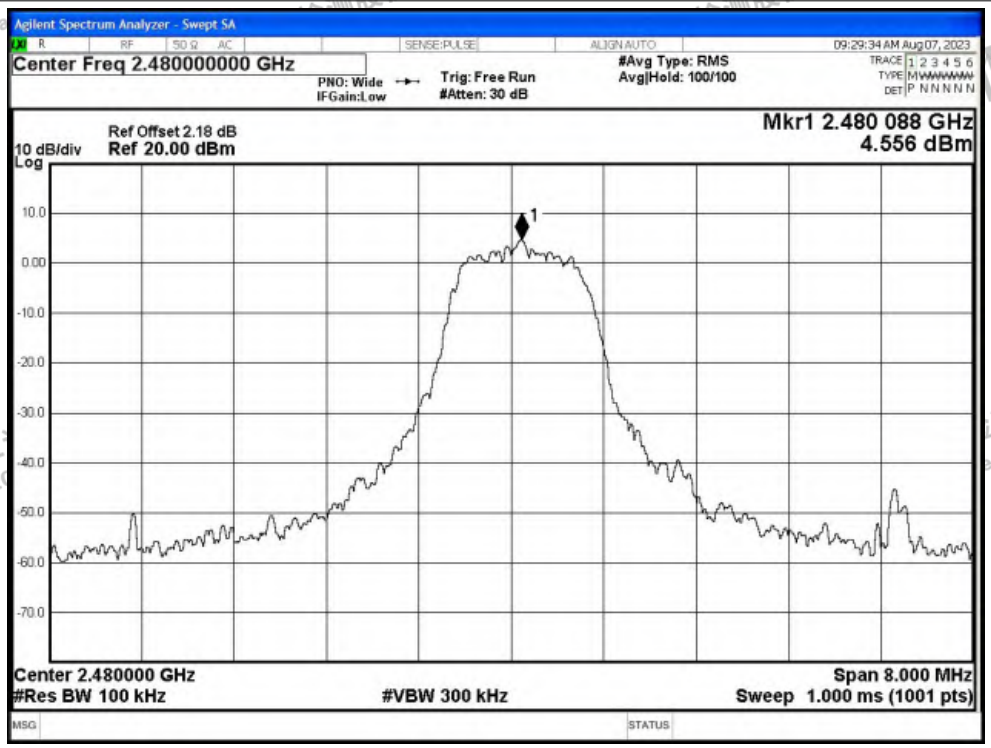
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



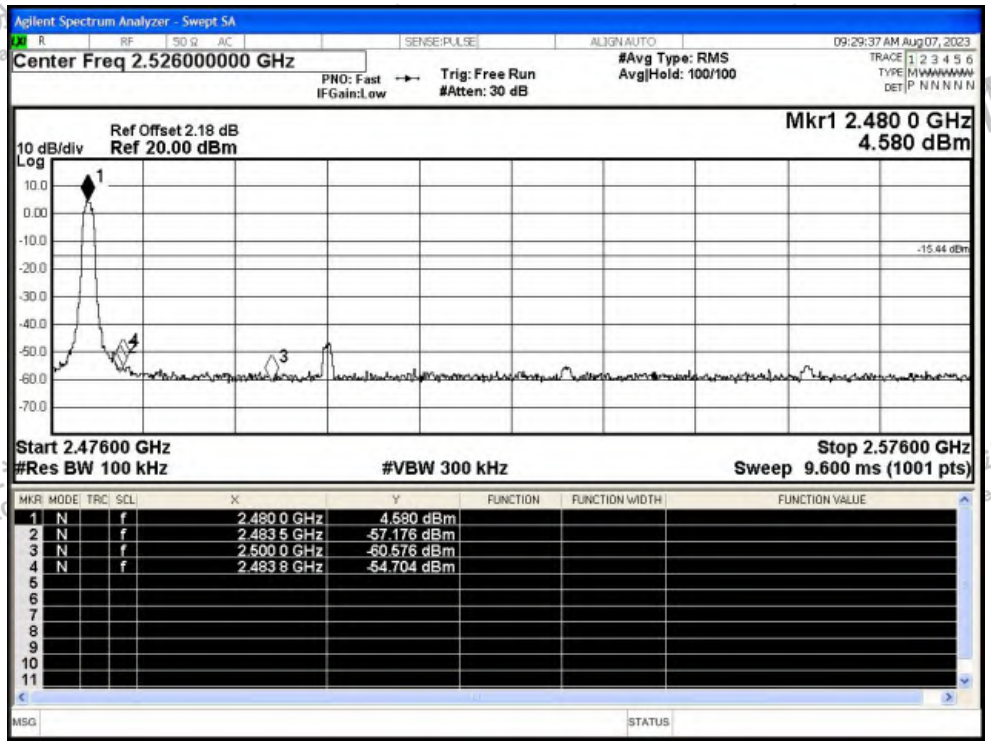
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

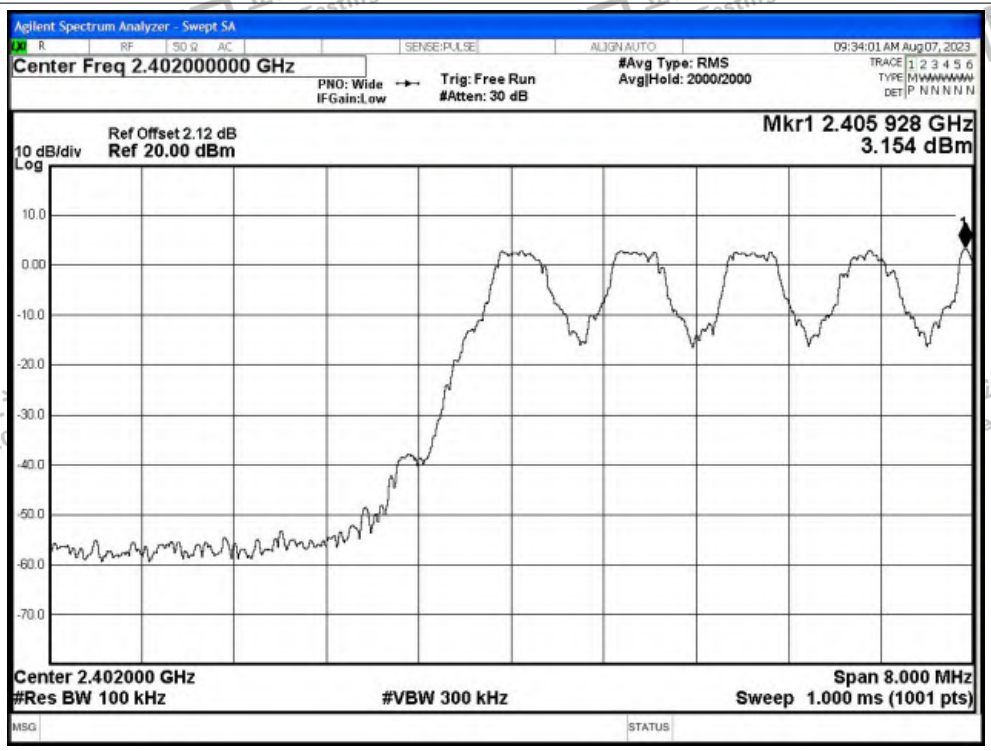


(Hopping)

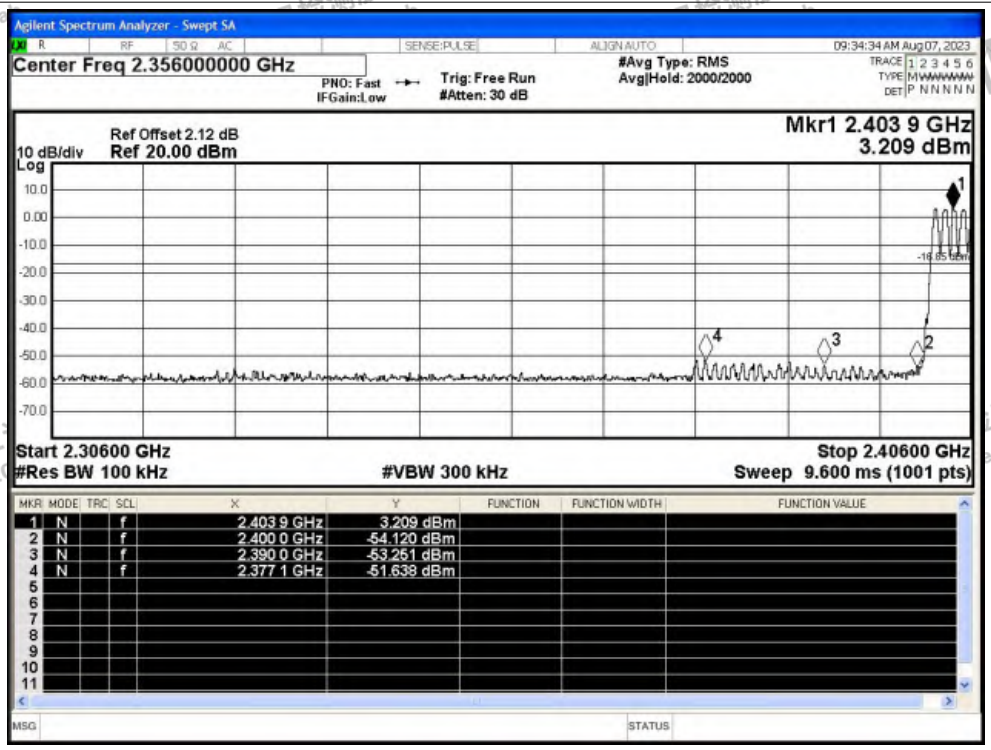
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.79	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-50.9	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-56.6	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-50.81	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-56.51	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-51.17	-20	Pass

Test Graphs

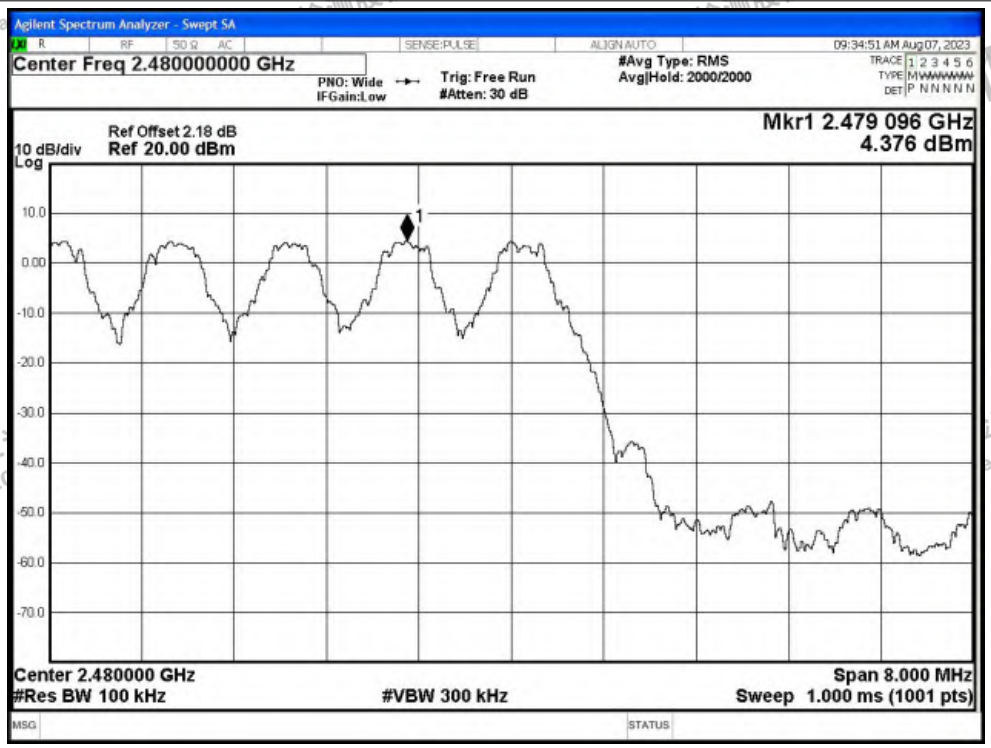
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



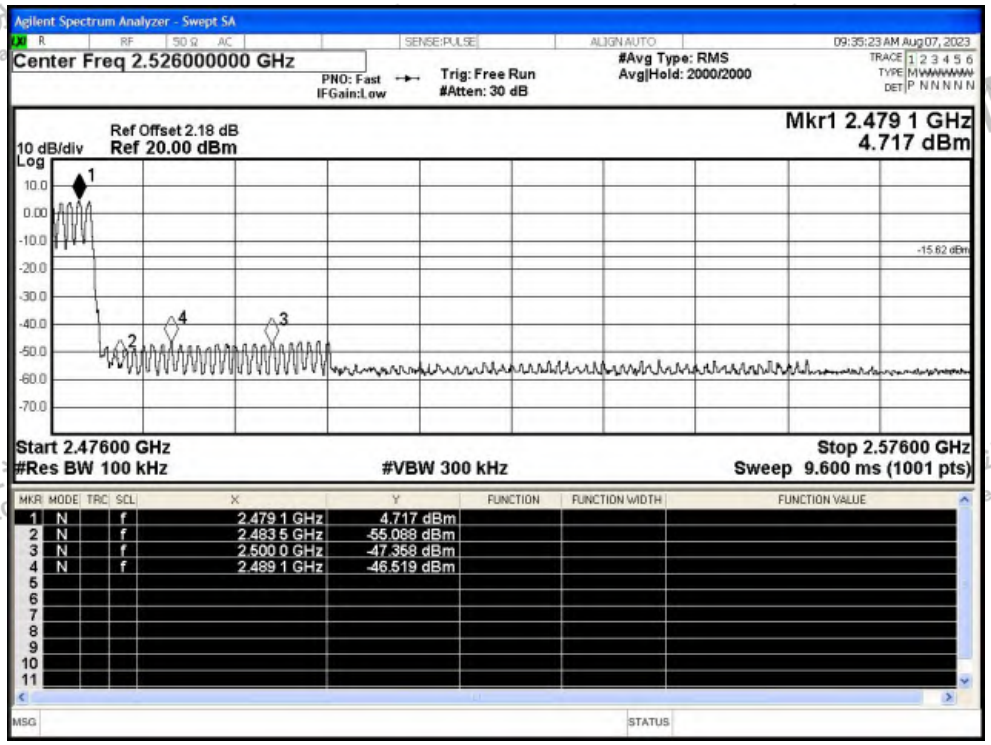
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



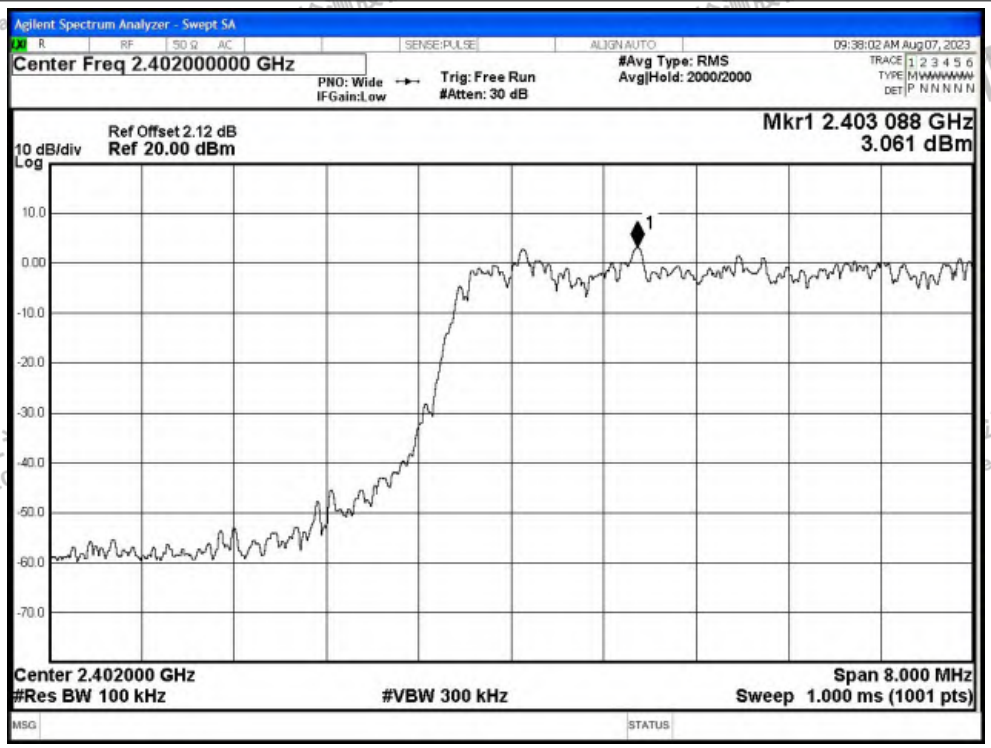
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



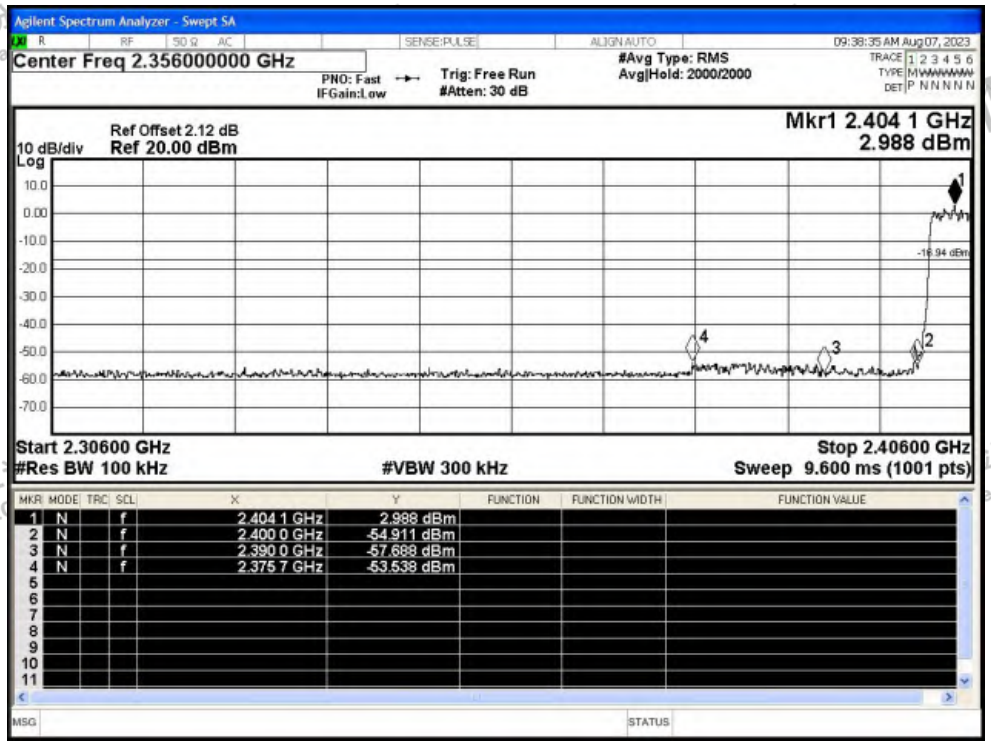
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



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

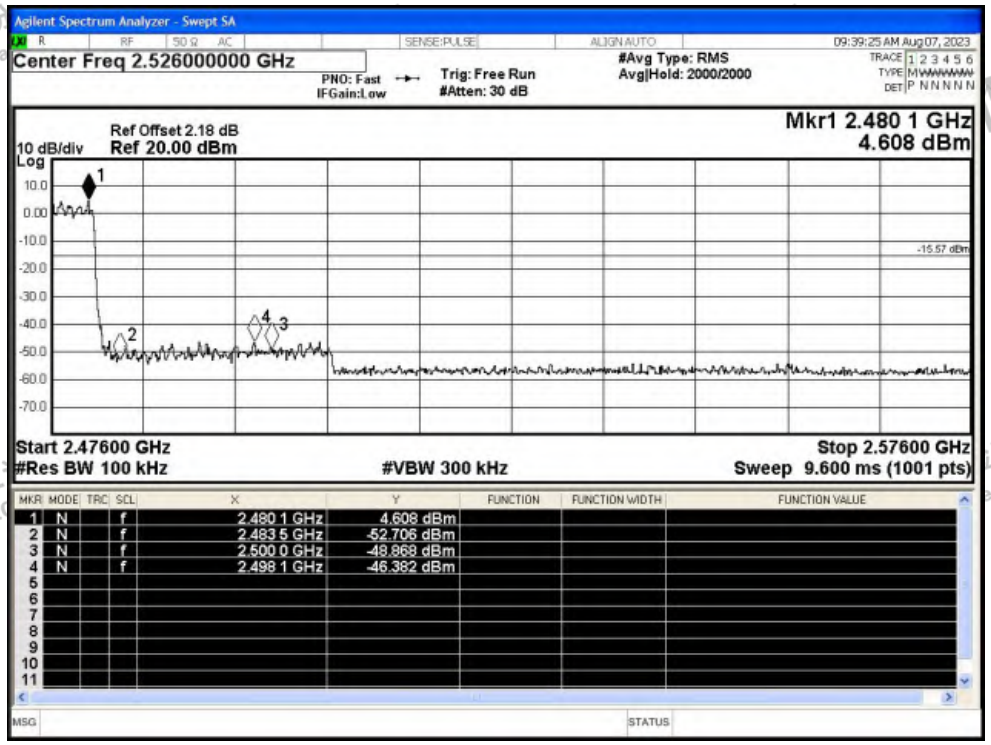


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



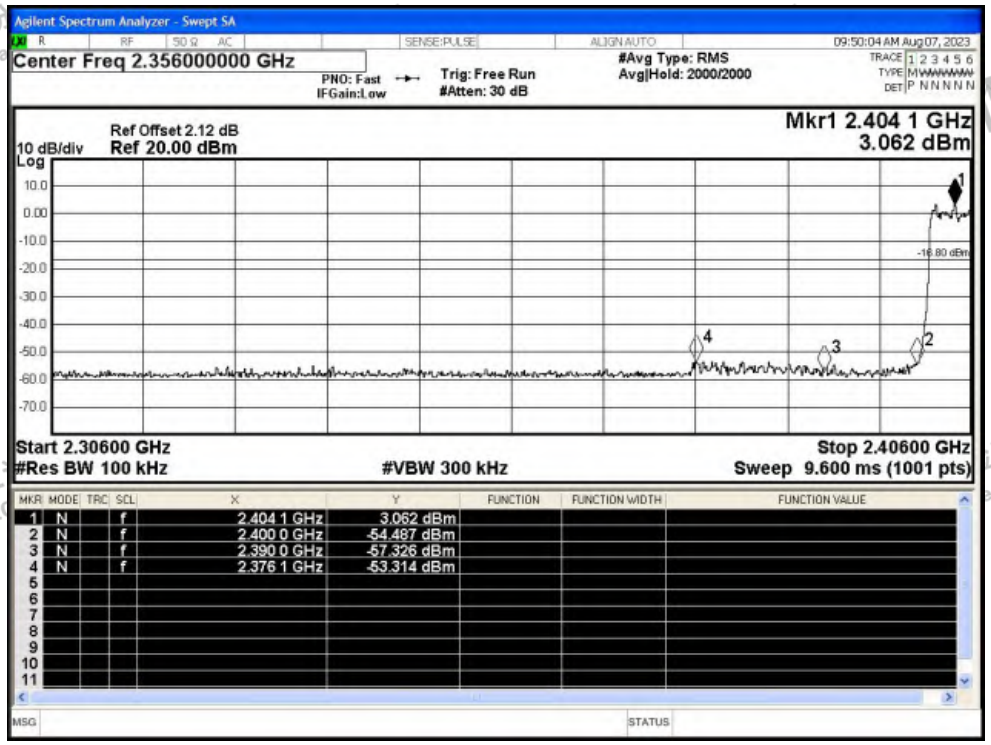
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

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

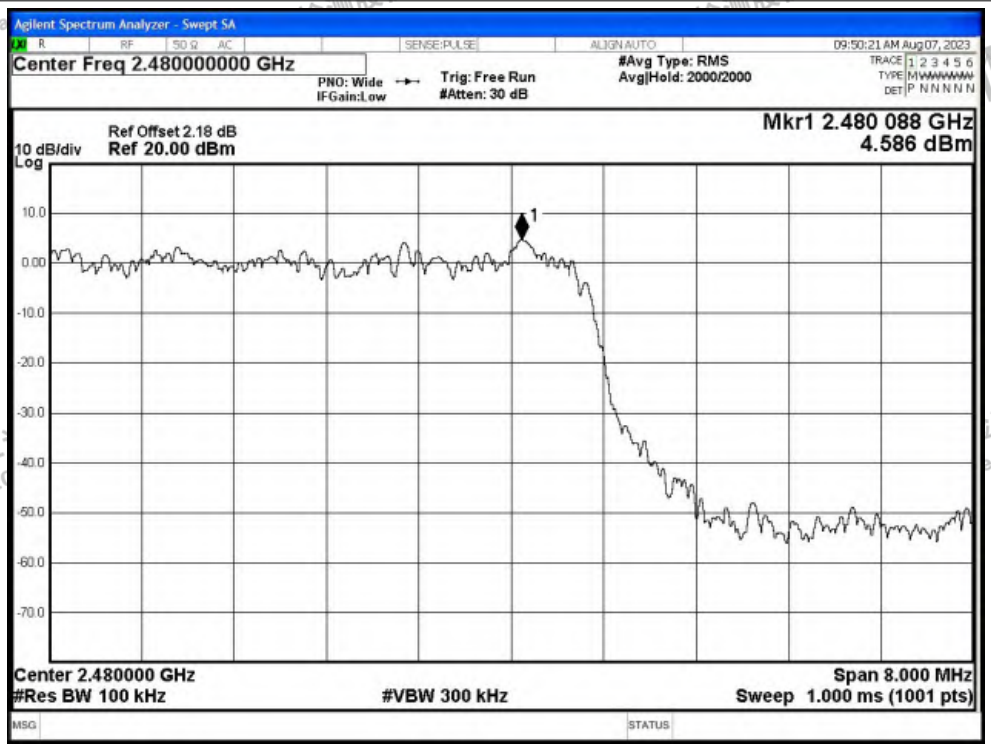


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

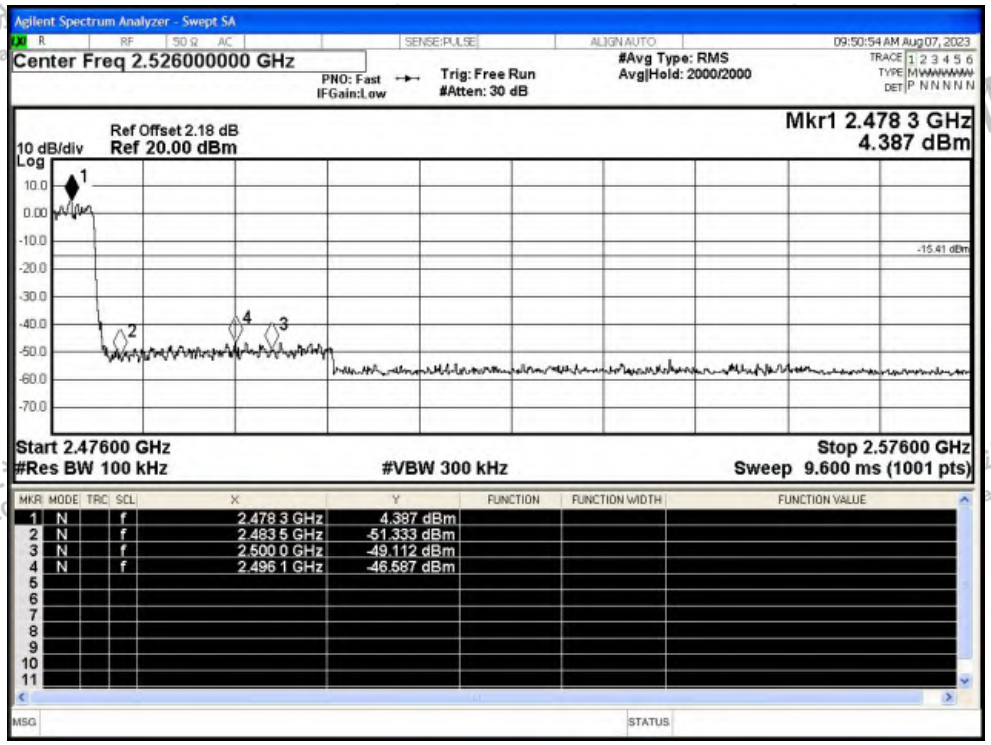
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

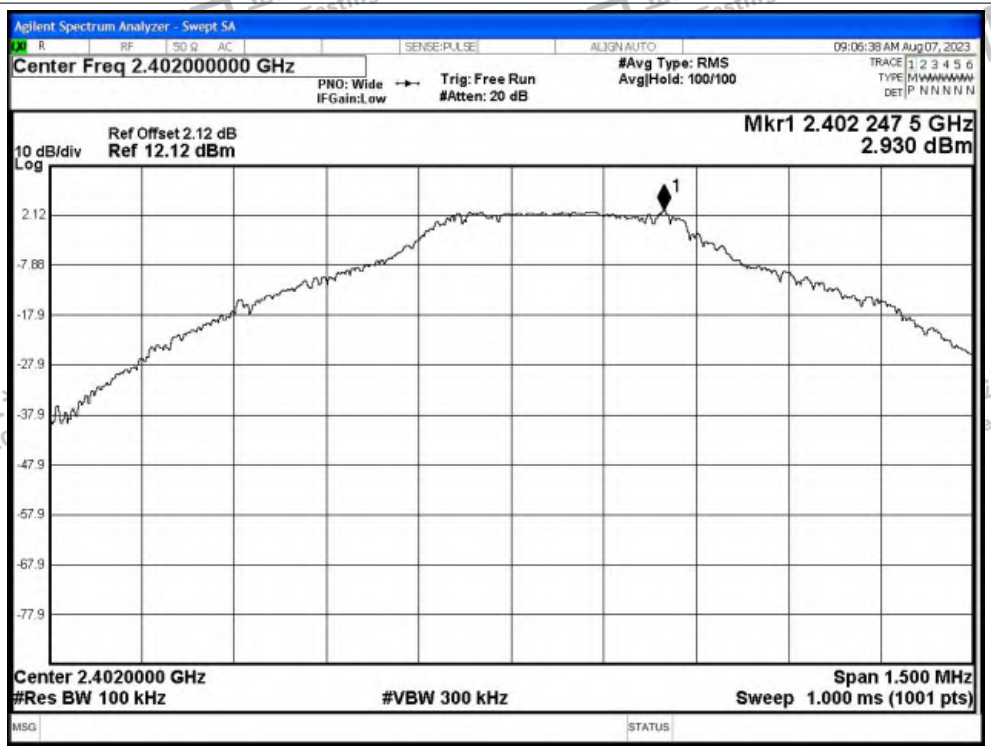


A.7 Conducted RF Spurious Emission

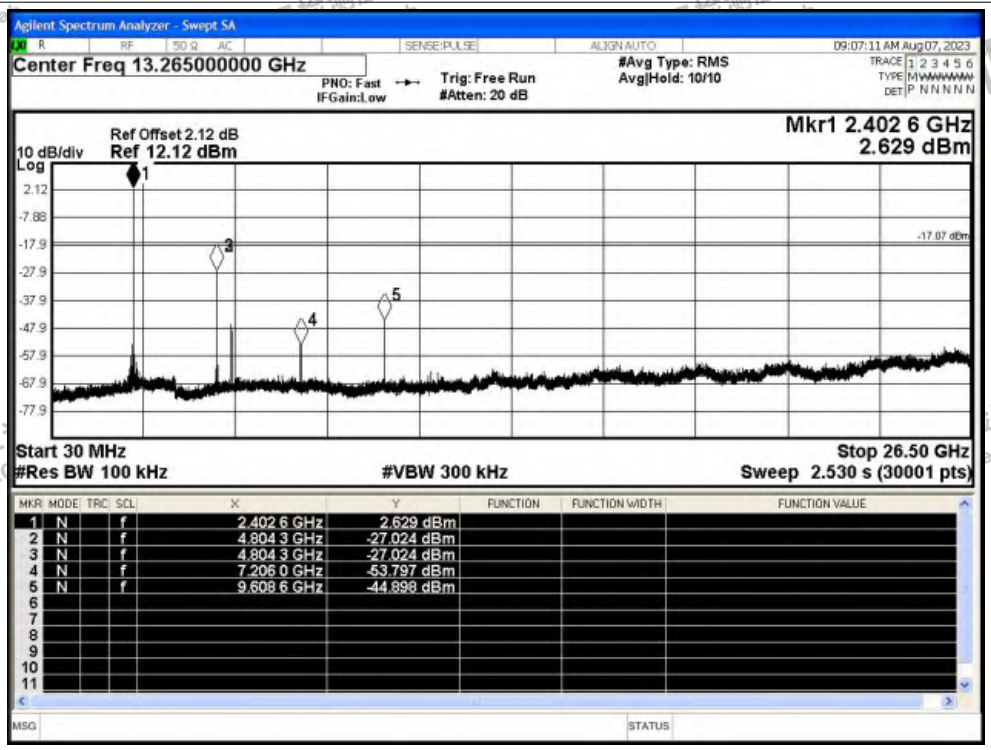
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-29.95	-20	Pass
NVNT	1-DH5	2441	Ant1	-30.93	-20	Pass
NVNT	1-DH5	2480	Ant1	-29.85	-20	Pass
NVNT	2-DH5	2402	Ant1	-31.54	-20	Pass
NVNT	2-DH5	2441	Ant1	-31.29	-20	Pass
NVNT	2-DH5	2480	Ant1	-30.65	-20	Pass
NVNT	3-DH5	2402	Ant1	-31.25	-20	Pass
NVNT	3-DH5	2441	Ant1	-30.17	-20	Pass
NVNT	3-DH5	2480	Ant1	-32.23	-20	Pass

Test Graphs

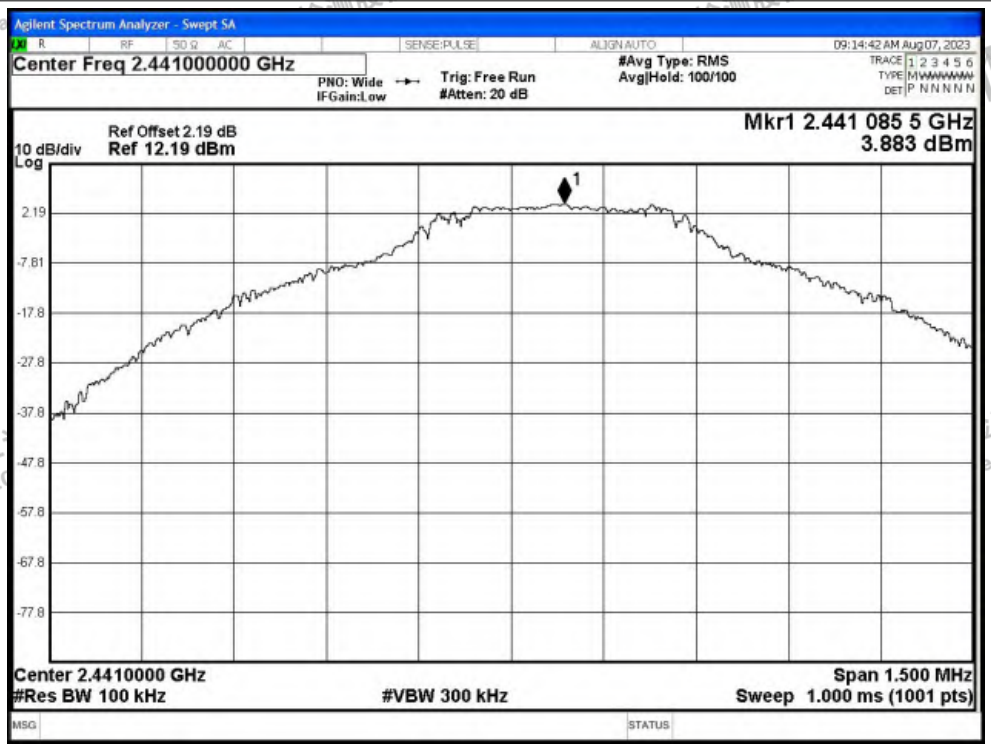
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



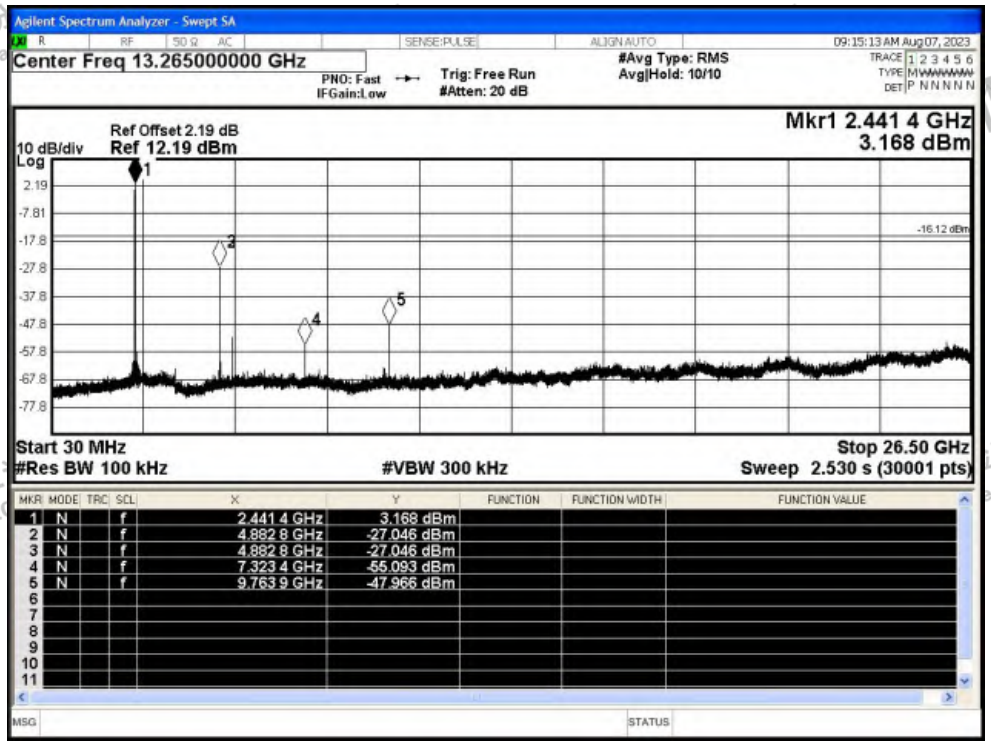
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



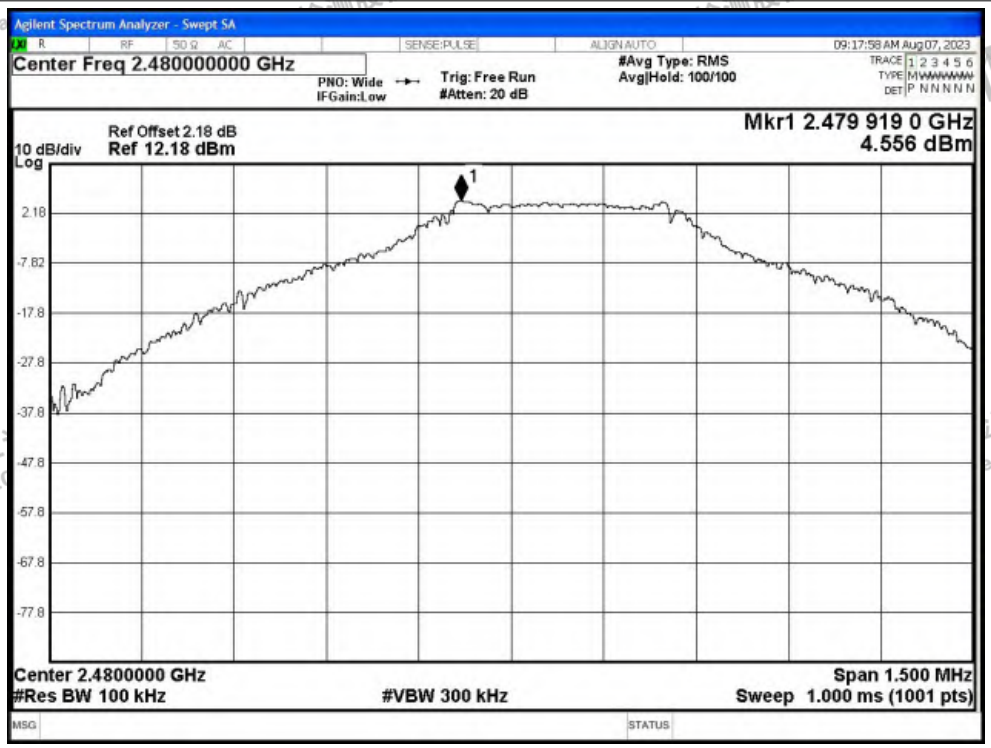
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



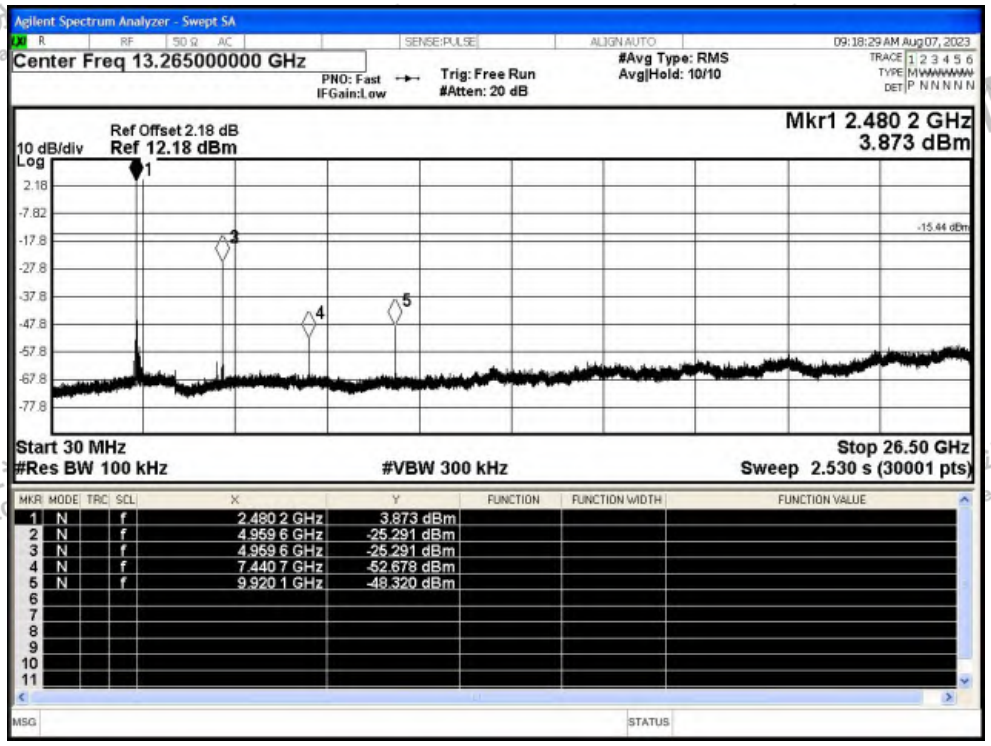
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



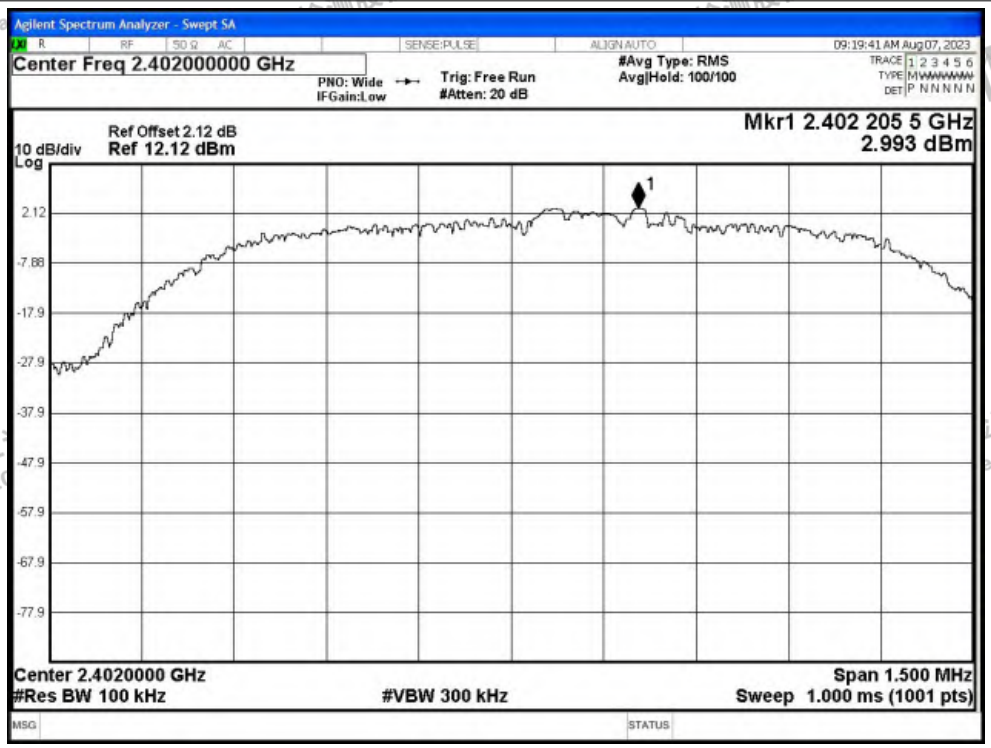
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



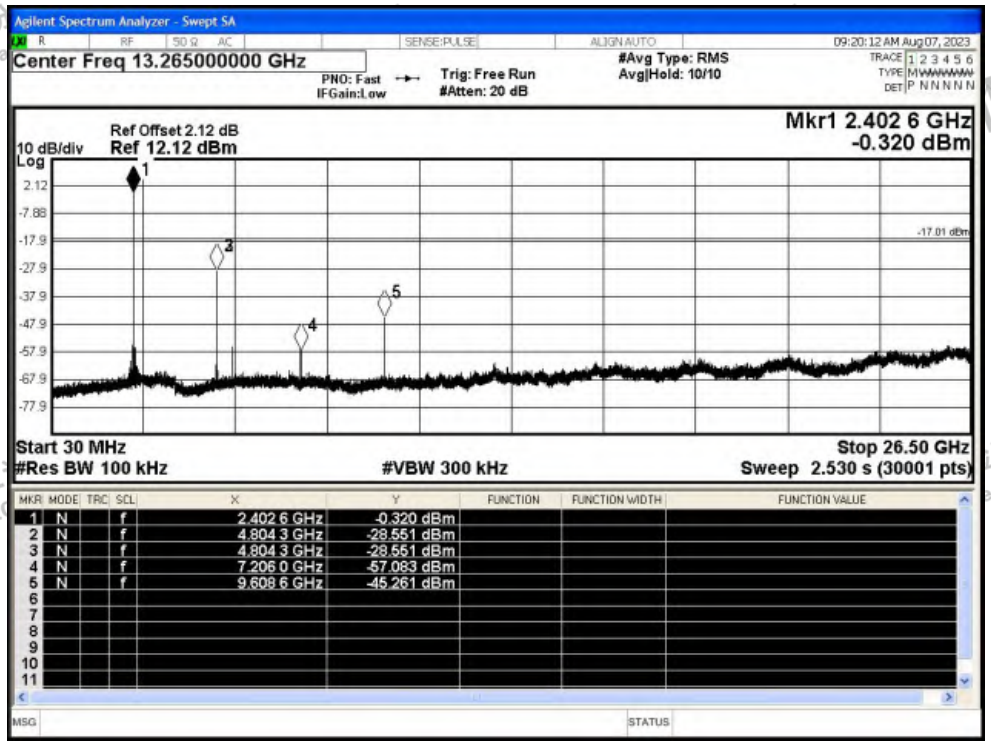
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



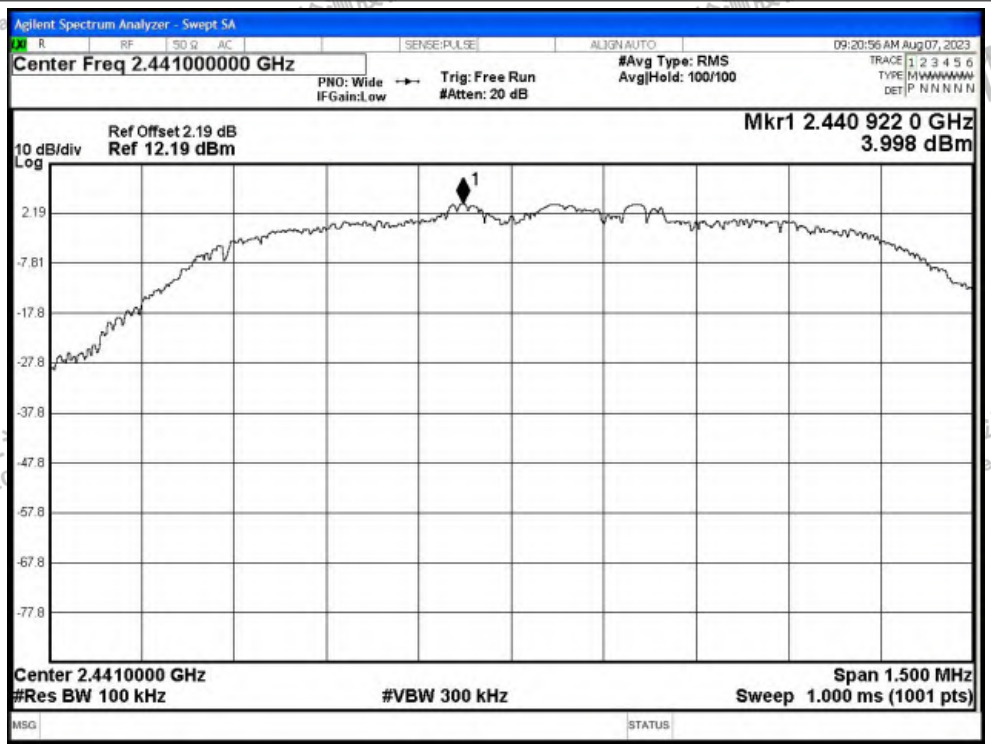
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



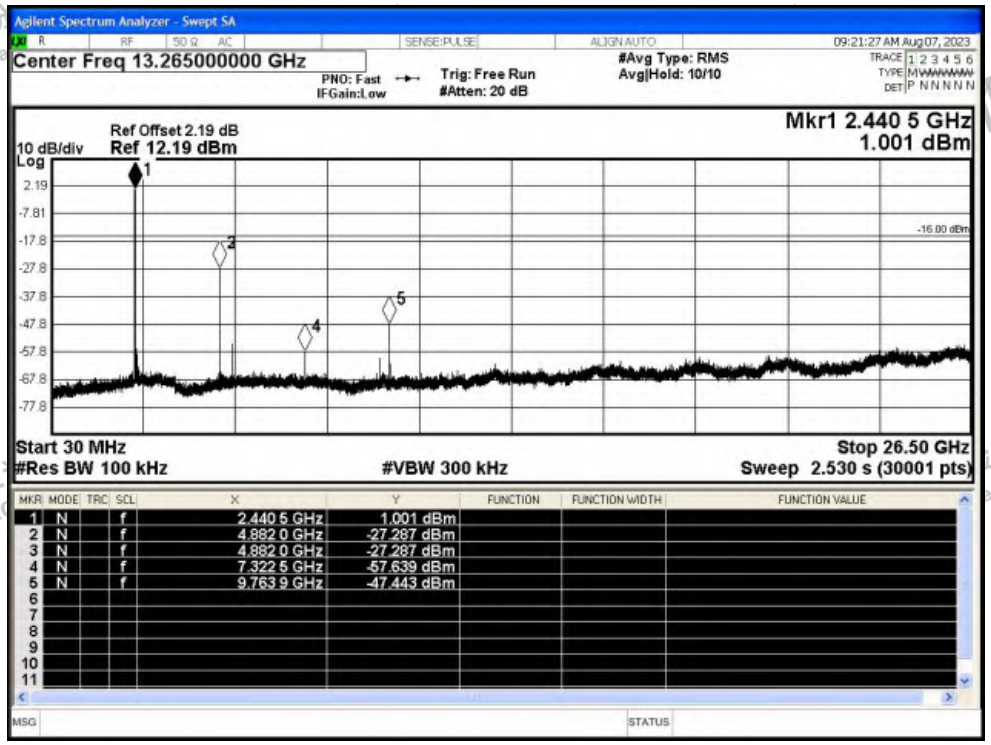
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



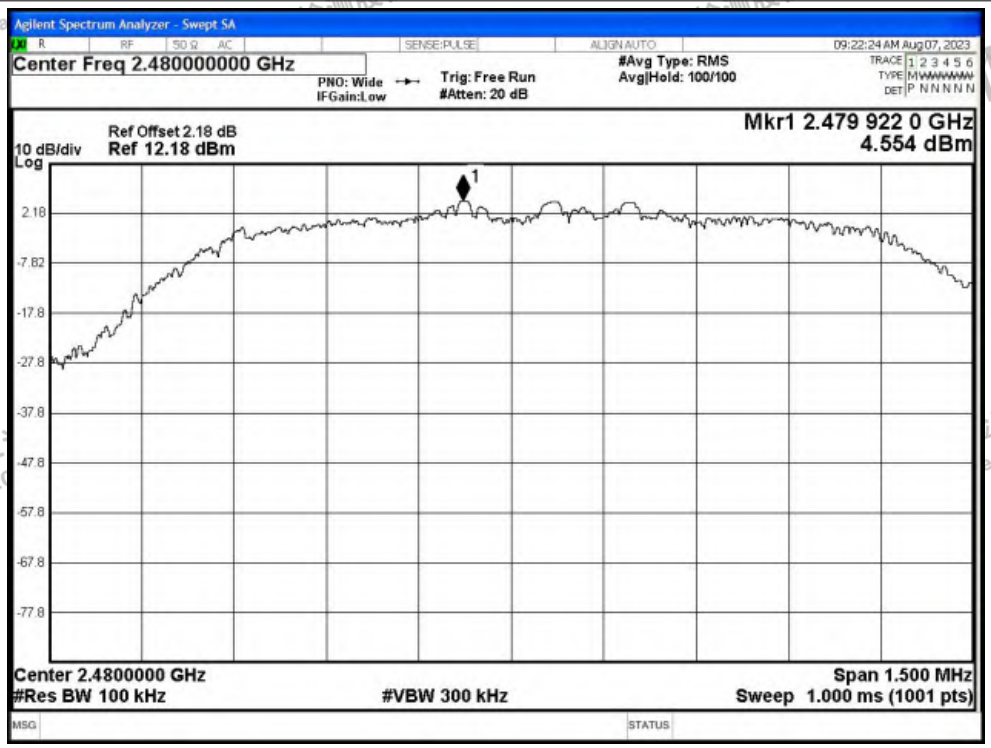
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



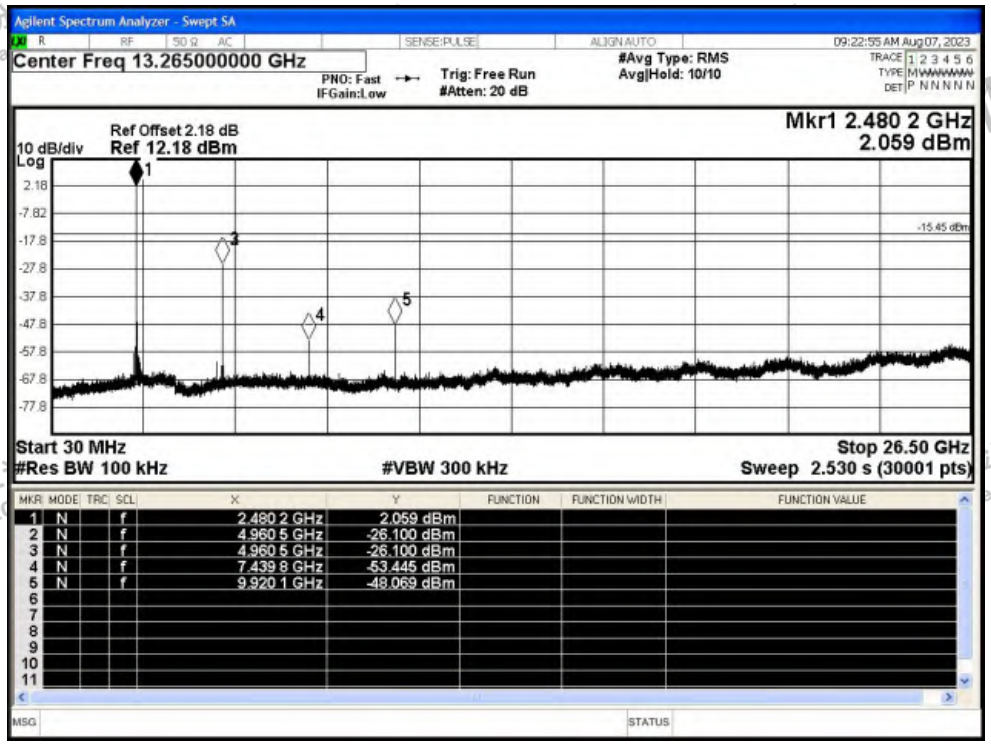
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



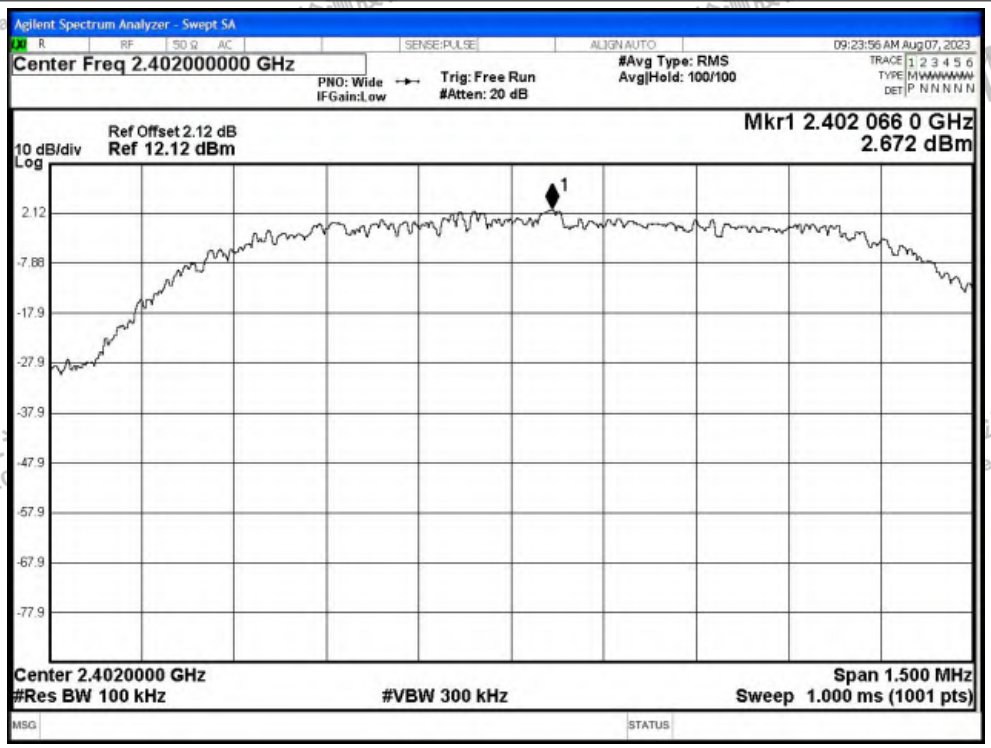
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



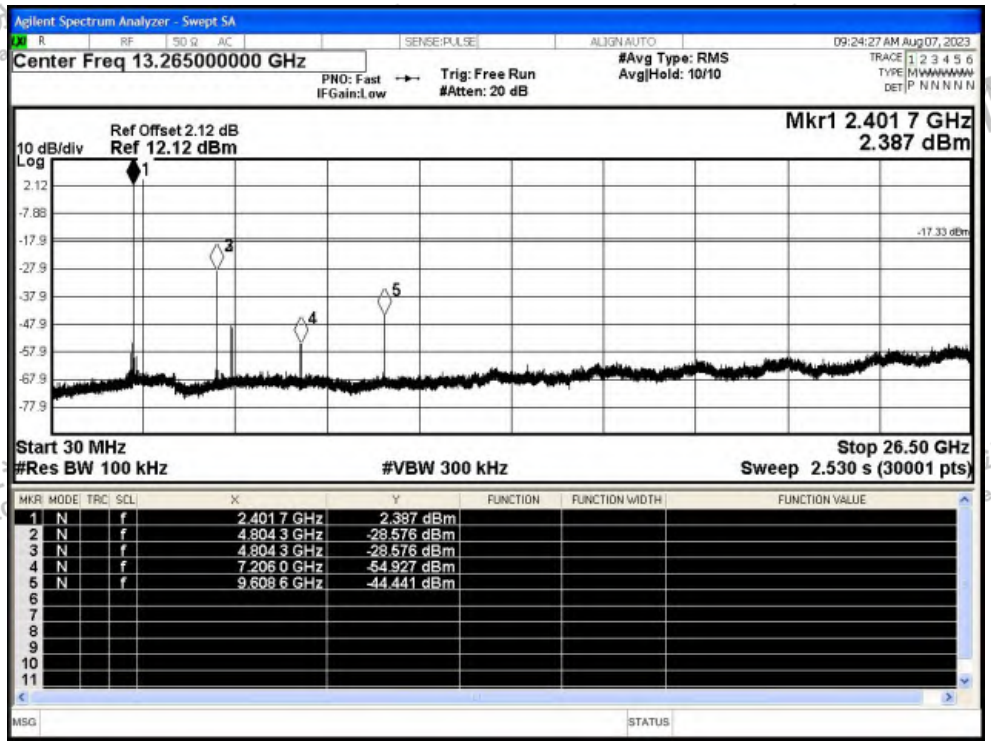
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



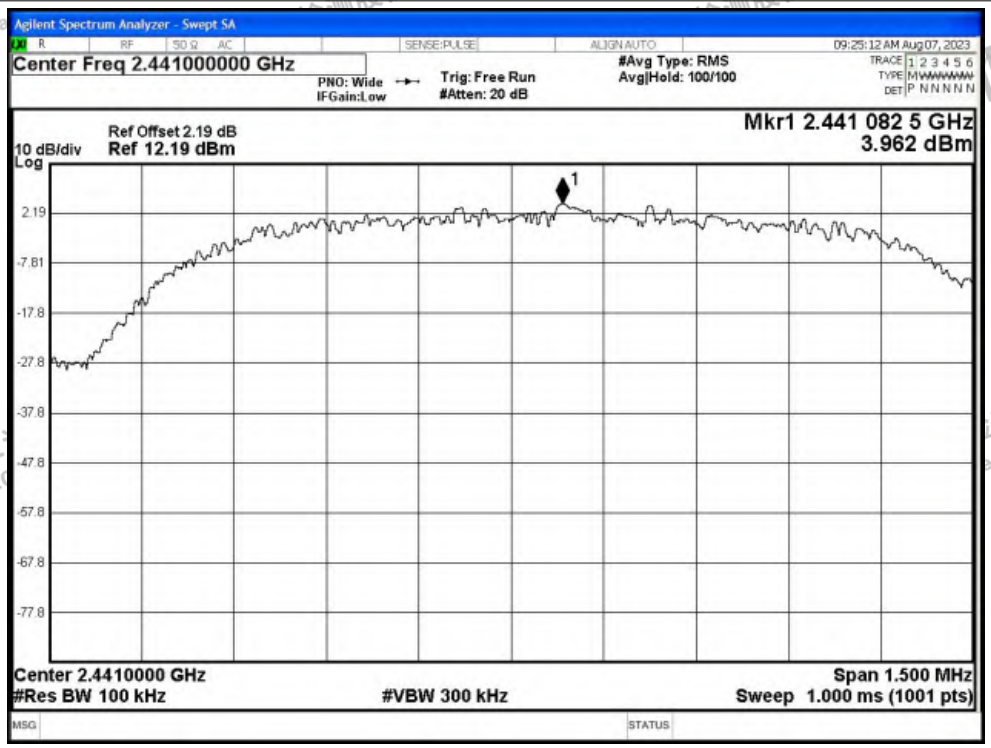
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



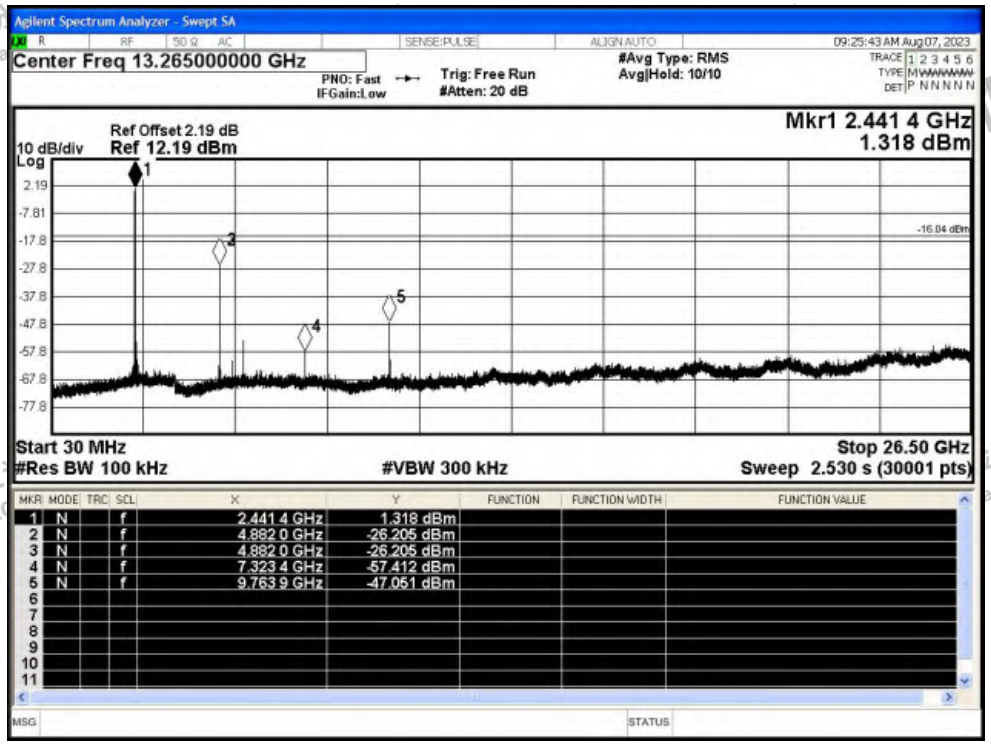
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



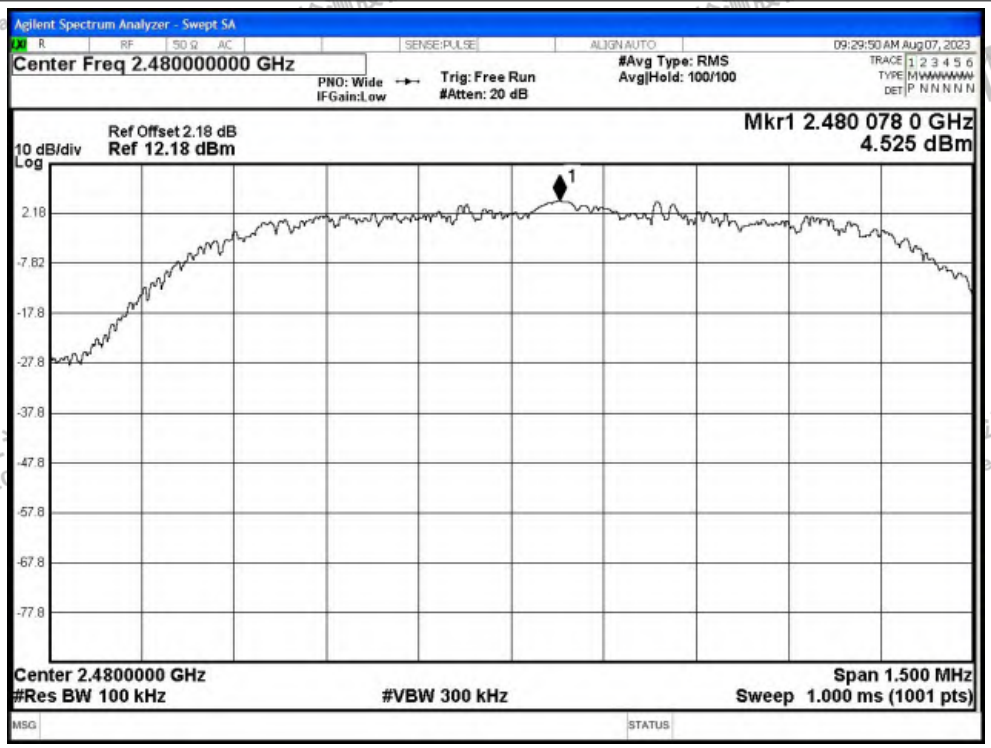
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



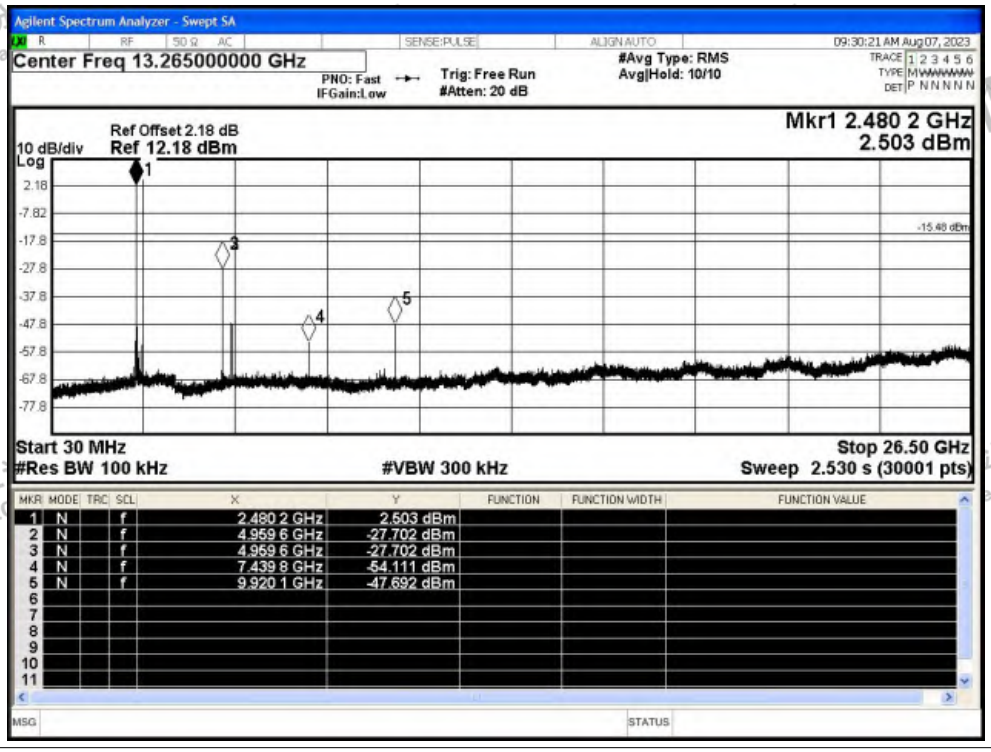
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

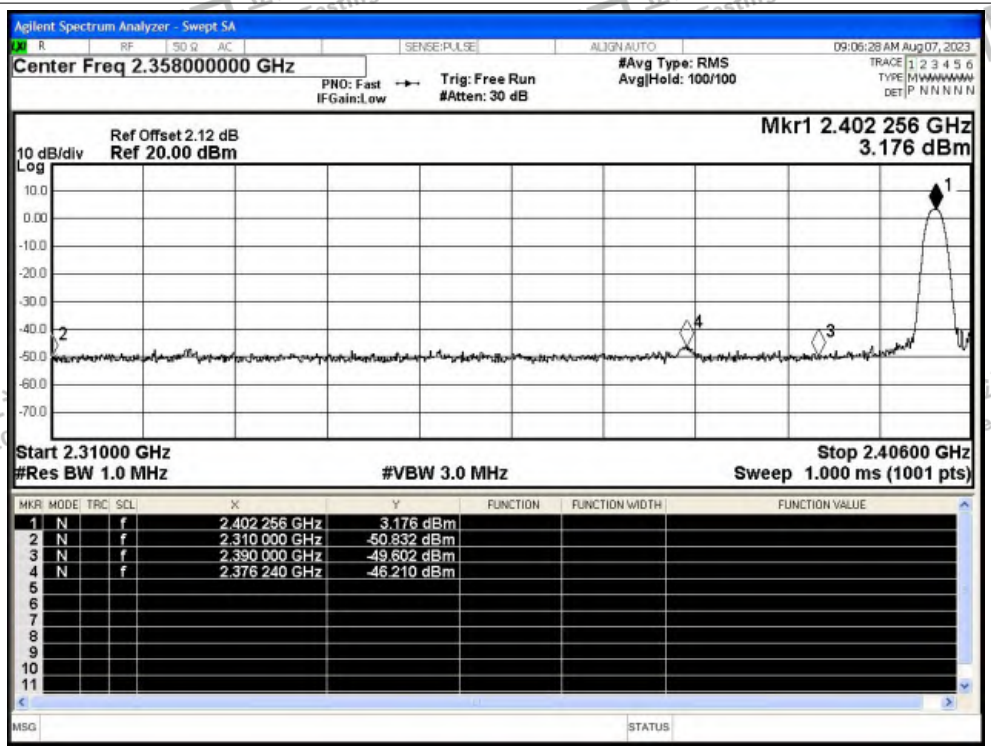


A.8 Restrict Band

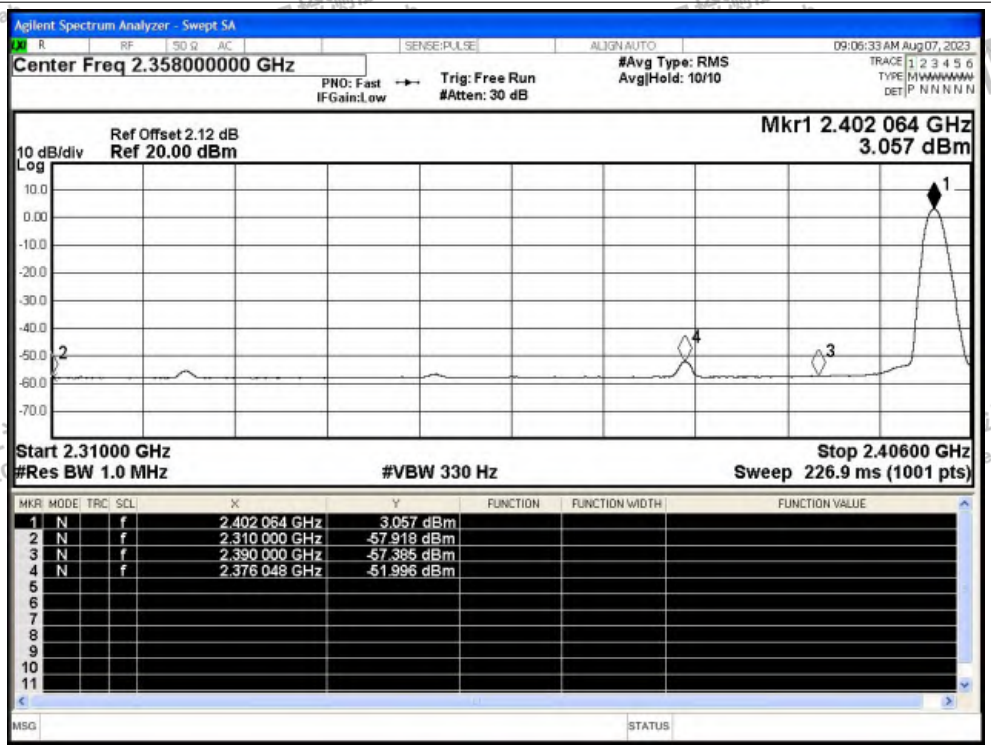
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.83	2	46.43	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-57.92	2	39.34	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2376.24	-46.21	2	51.05	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2376.048	-52	2	45.26	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.6	2	47.66	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.39	2	39.87	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-44.88	2	52.38	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.78	2	46.48	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.632	-40.12	2	57.14	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-50.78	2	46.48	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.09	2	47.17	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.04	2	40.22	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.52	2	46.74	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-57.77	2	39.49	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2375.856	-44.68	2	52.58	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2376.048	-52.6	2	44.66	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.32	2	46.94	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.2	2	40.06	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-46.02	2	51.24	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.89	2	47.37	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.92	-37.65	2	59.61	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-49.89	2	47.37	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.36	2	47.9	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.04	2	40.22	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.89	2	46.37	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-57.89	2	39.37	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.432	-46.05	2	51.21	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.048	-52.52	2	44.74	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.21	2	47.05	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.16	2	40.1	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-39.94	2	57.32	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.32	2	47.94	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-39.94	2	57.32	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-49.32	2	47.94	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.37	2	47.89	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.13	2	40.13	Average	54	Pass

Test Graphs

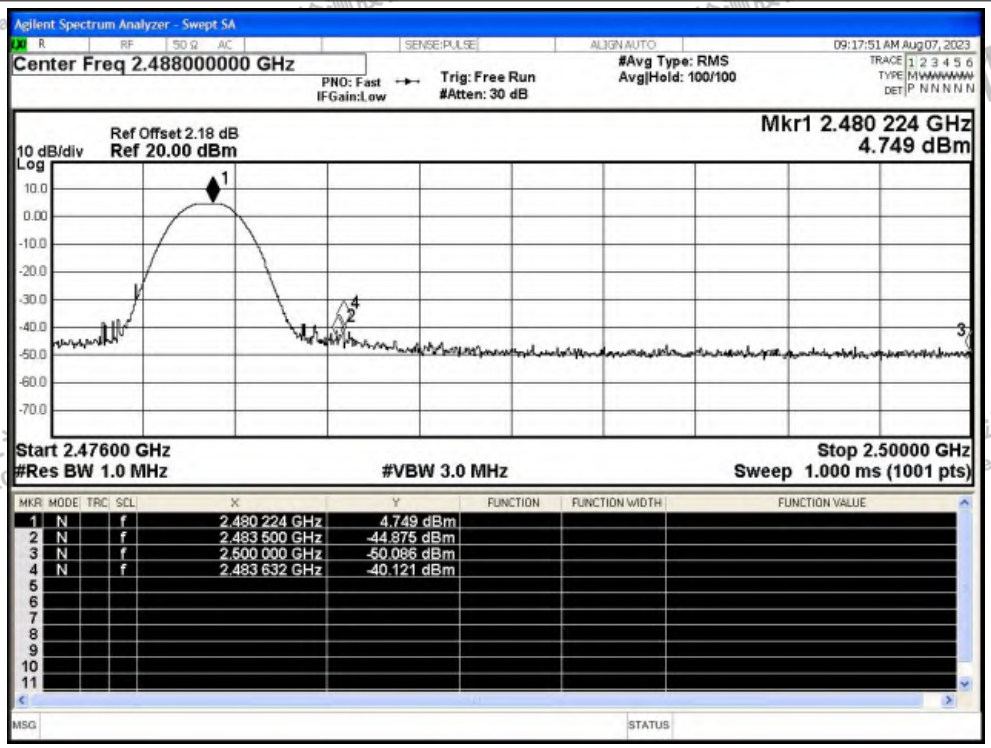
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



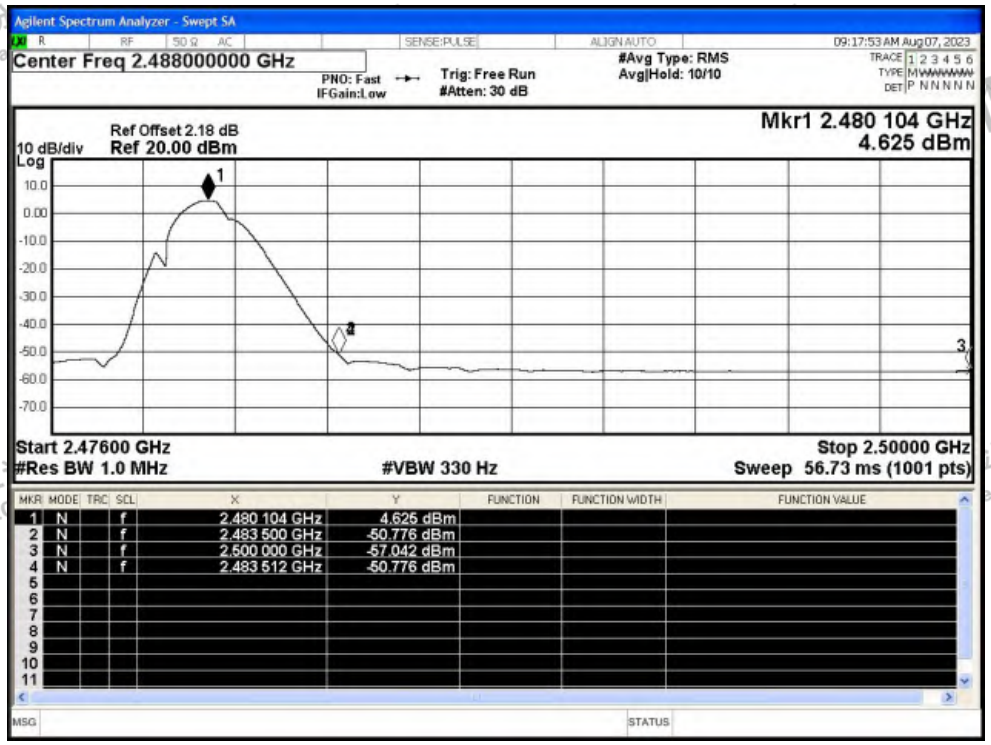
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



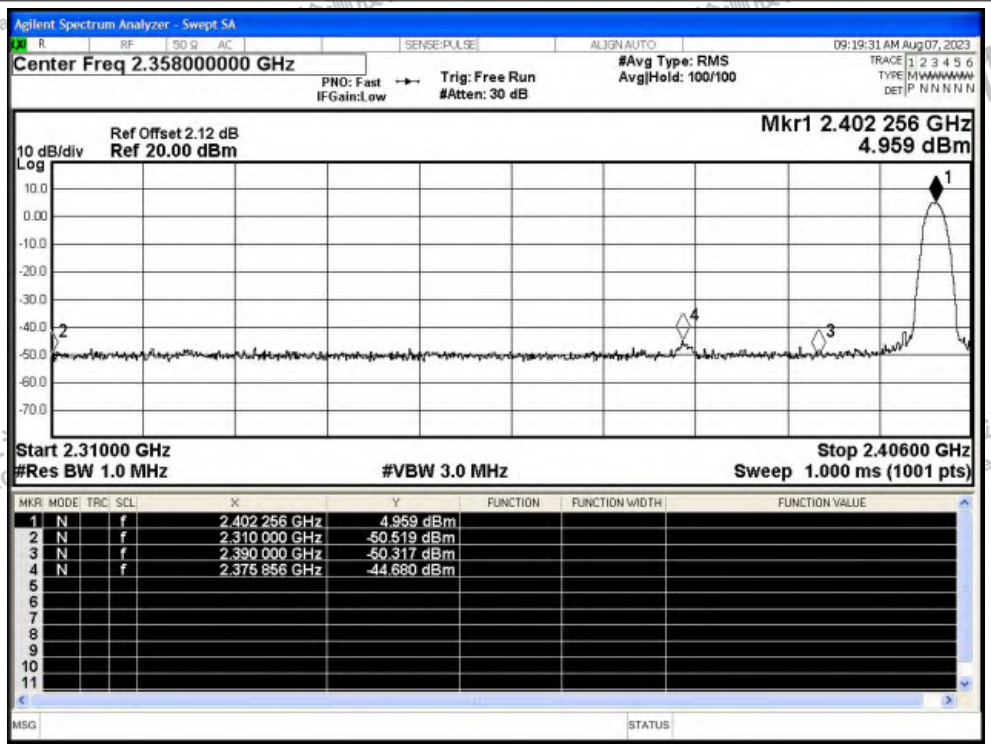
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



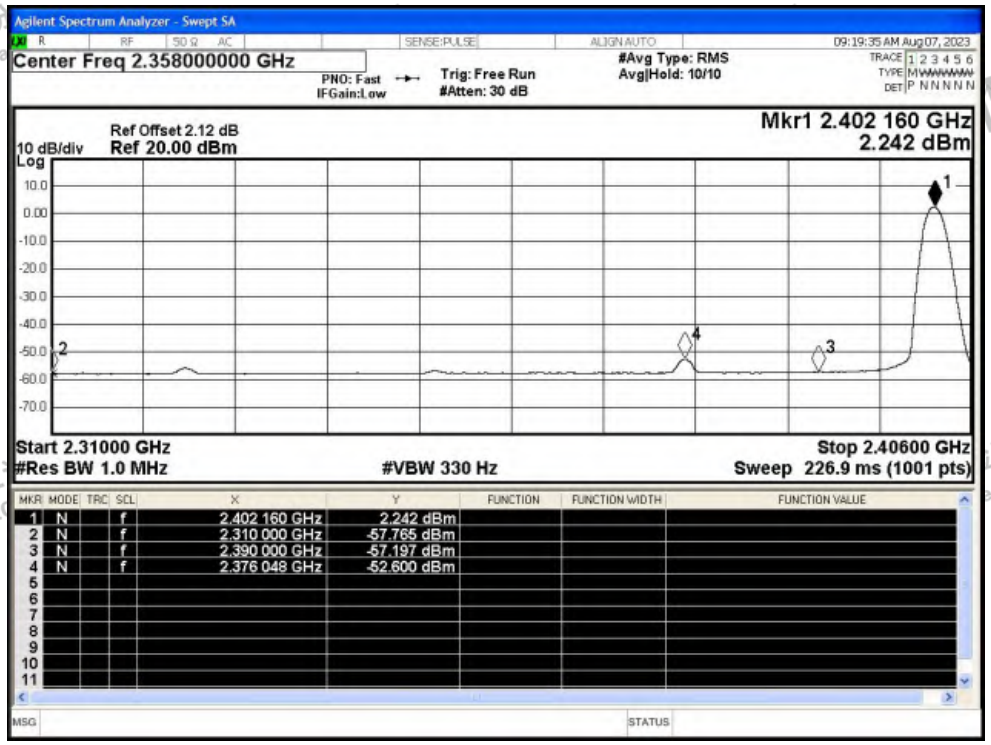
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



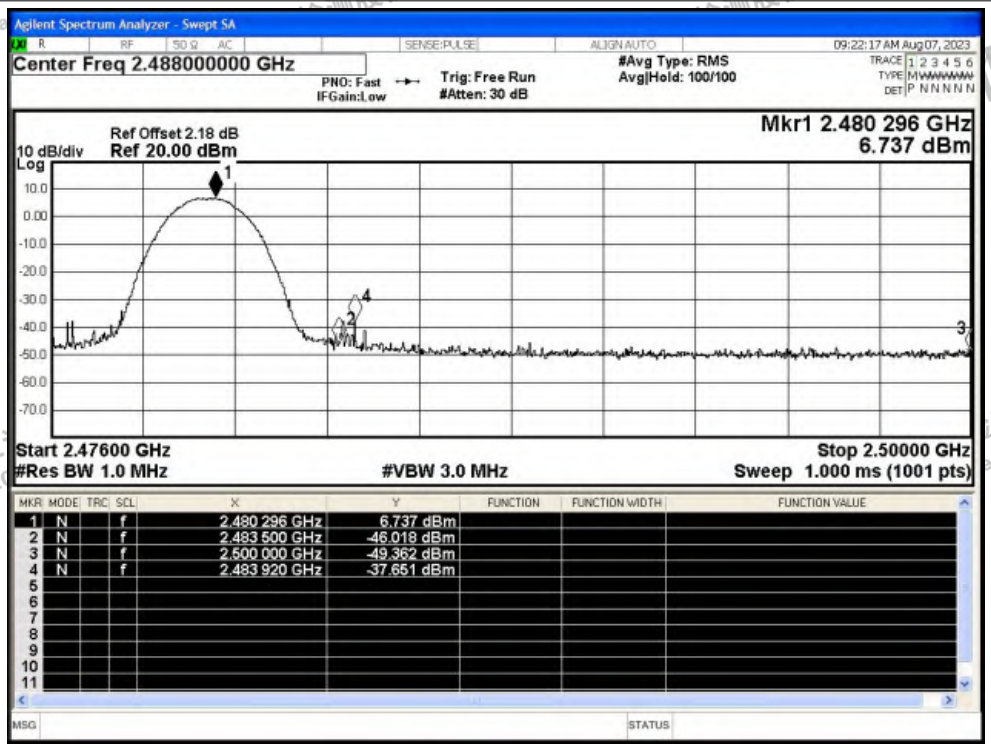
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



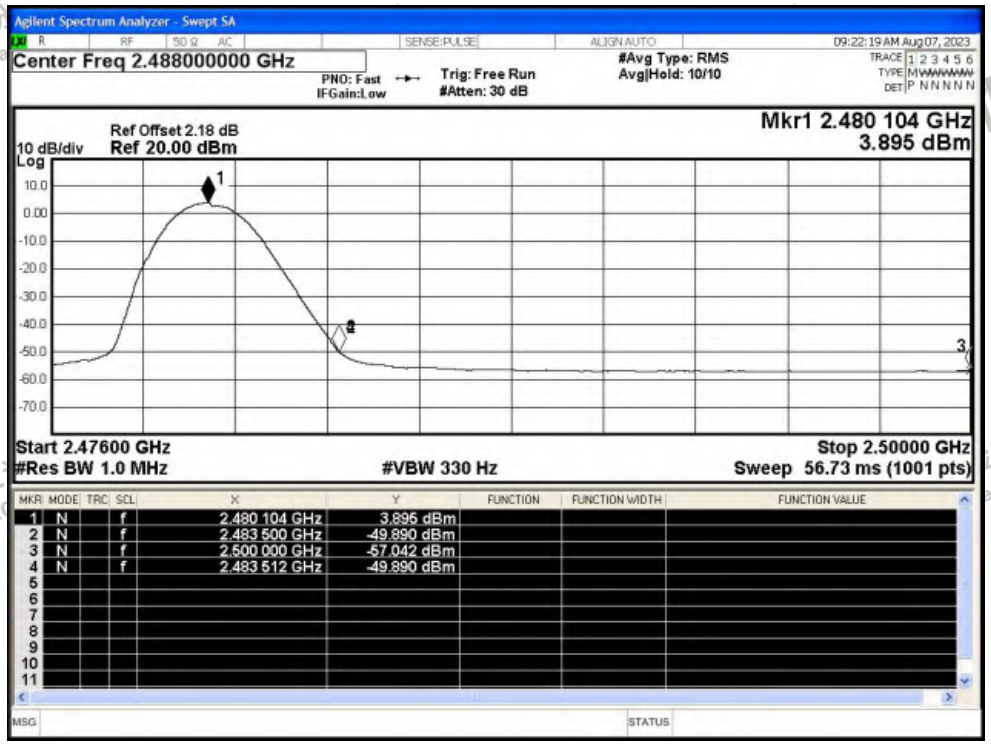
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



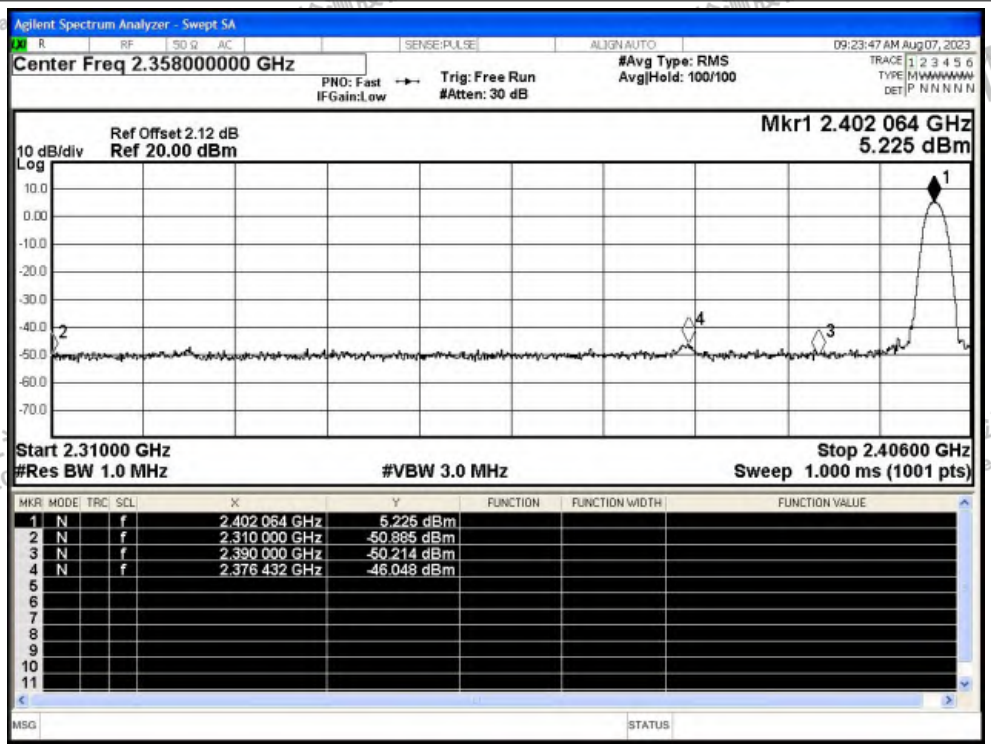
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



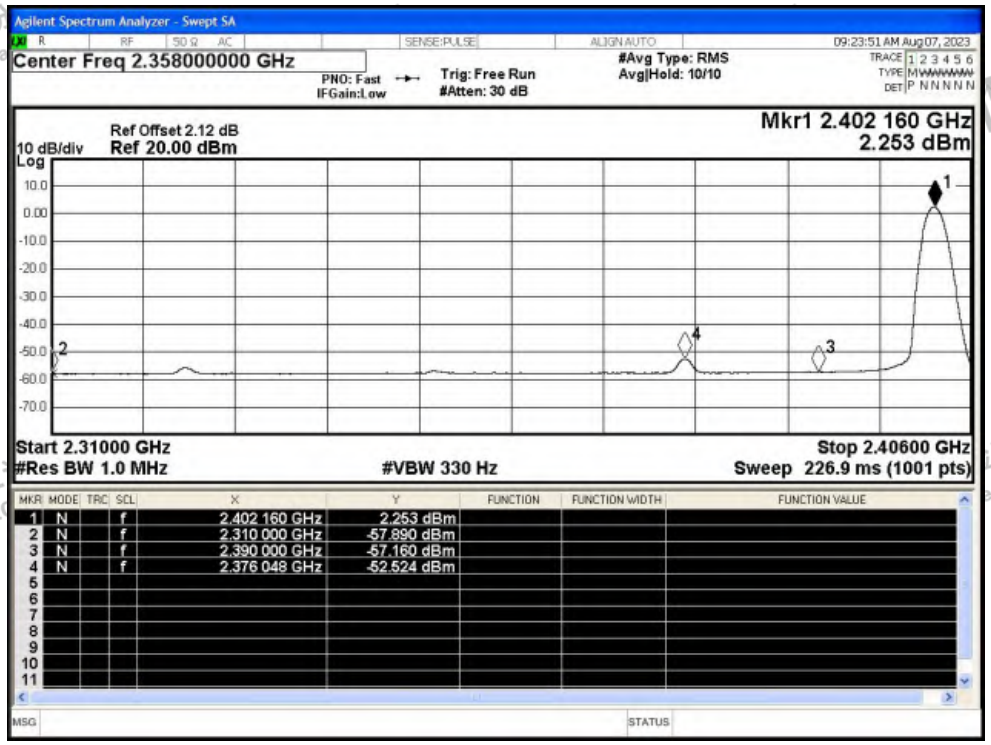
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



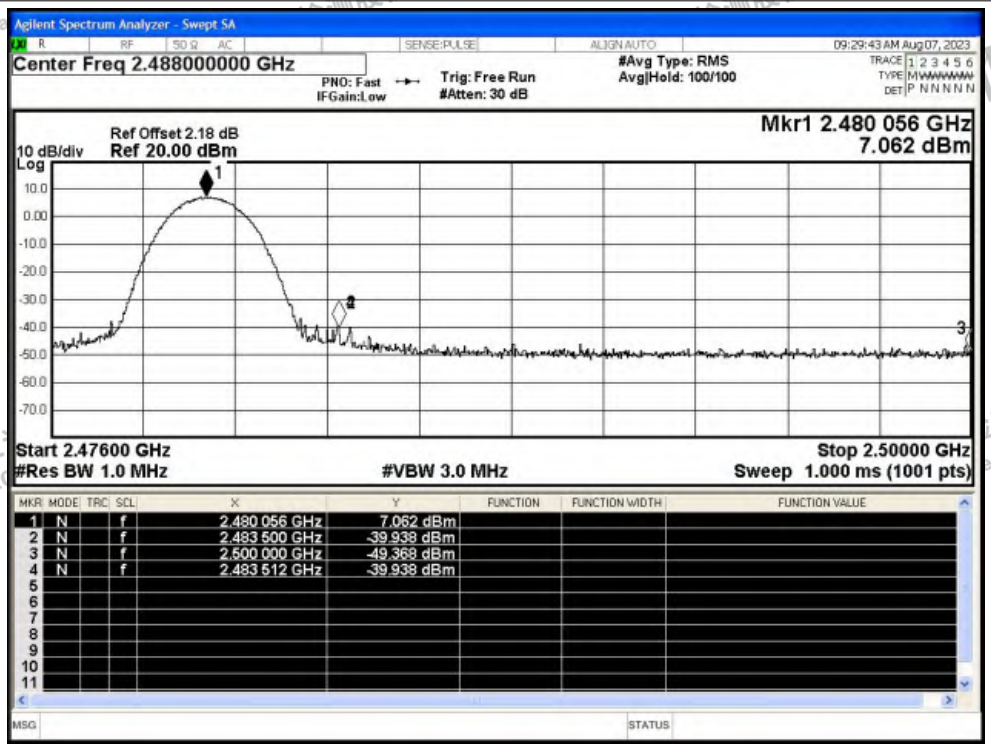
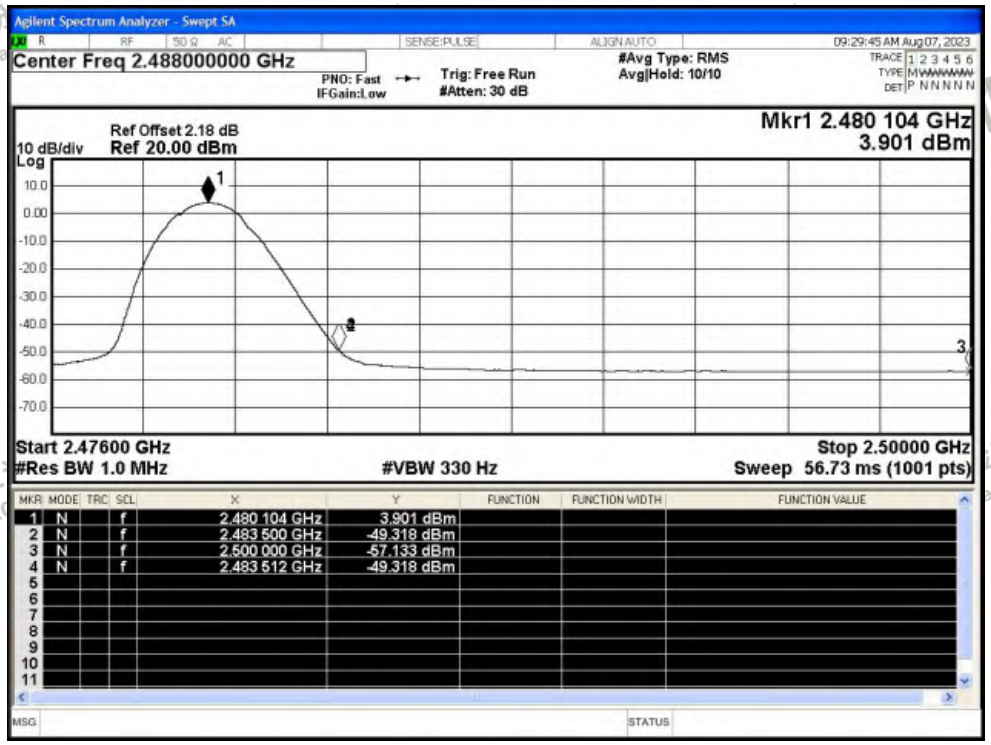
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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