Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: BLUETOOTH FM Speaker

Test Model: V26

Environmental Conditions

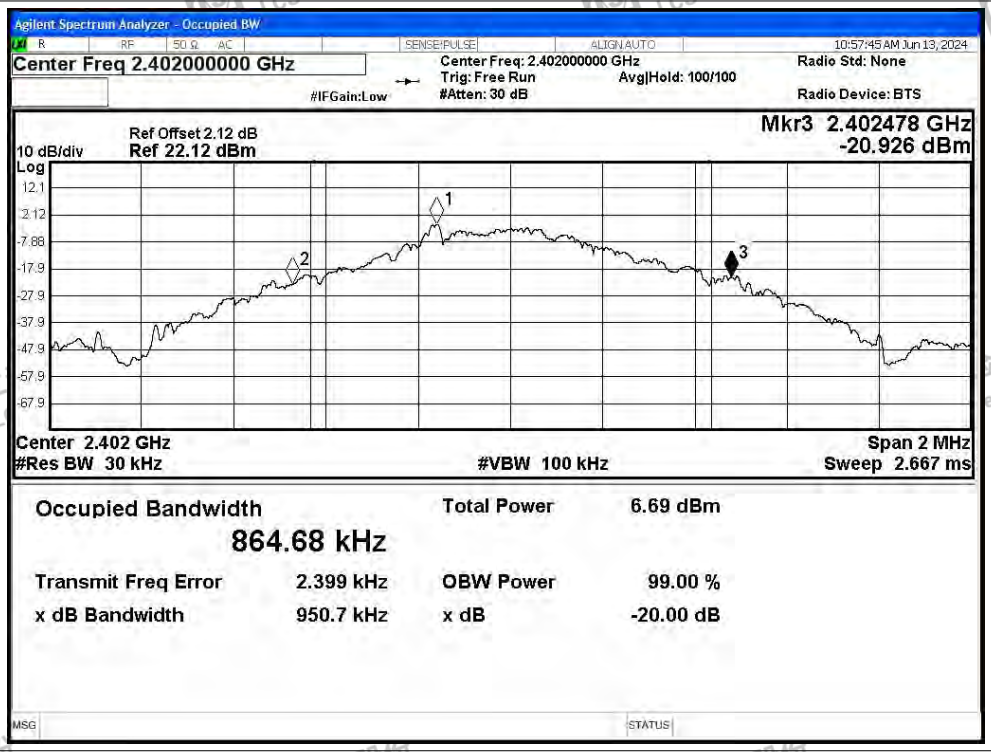
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Summer Wu
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

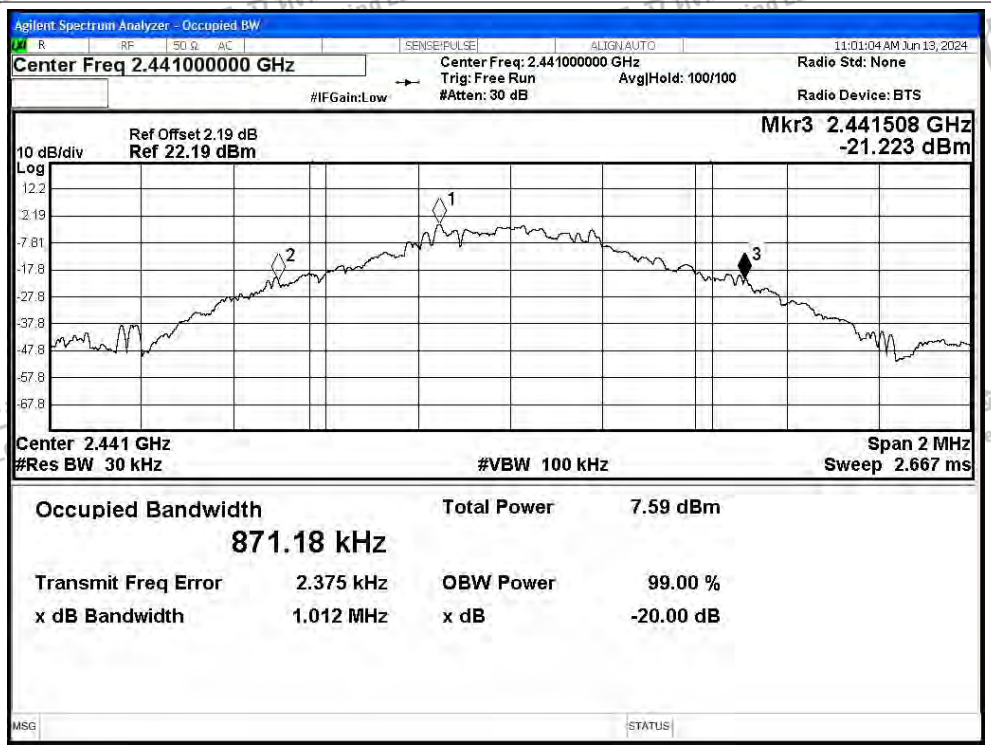
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.951	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.012	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.003	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.289	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.318	N/A	Pass

Test Graphs

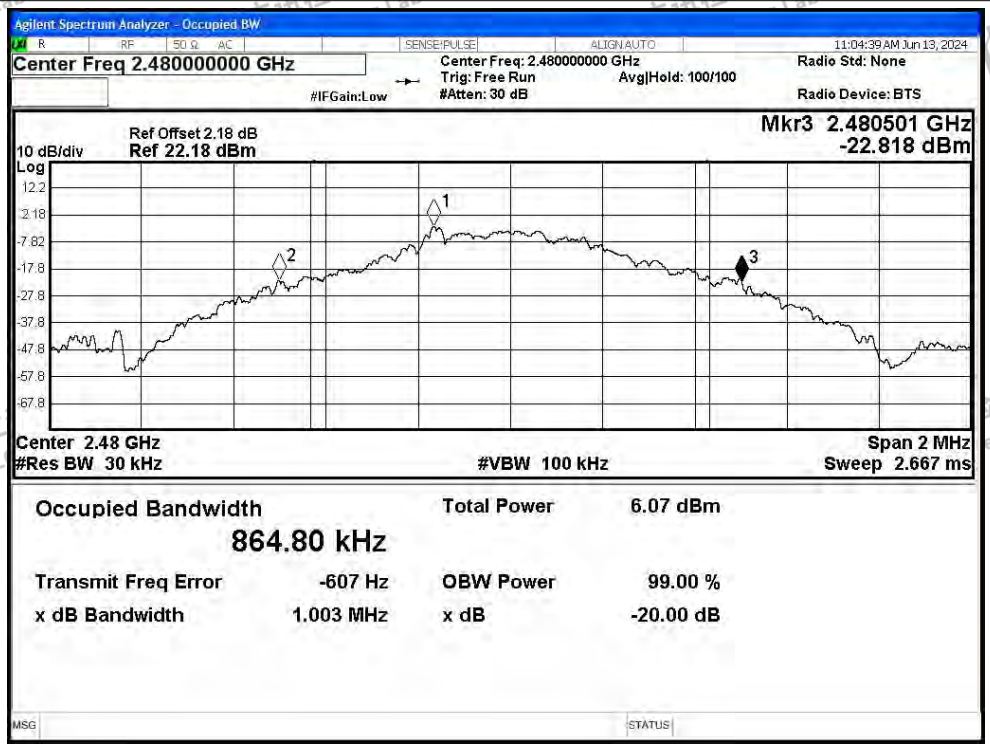
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



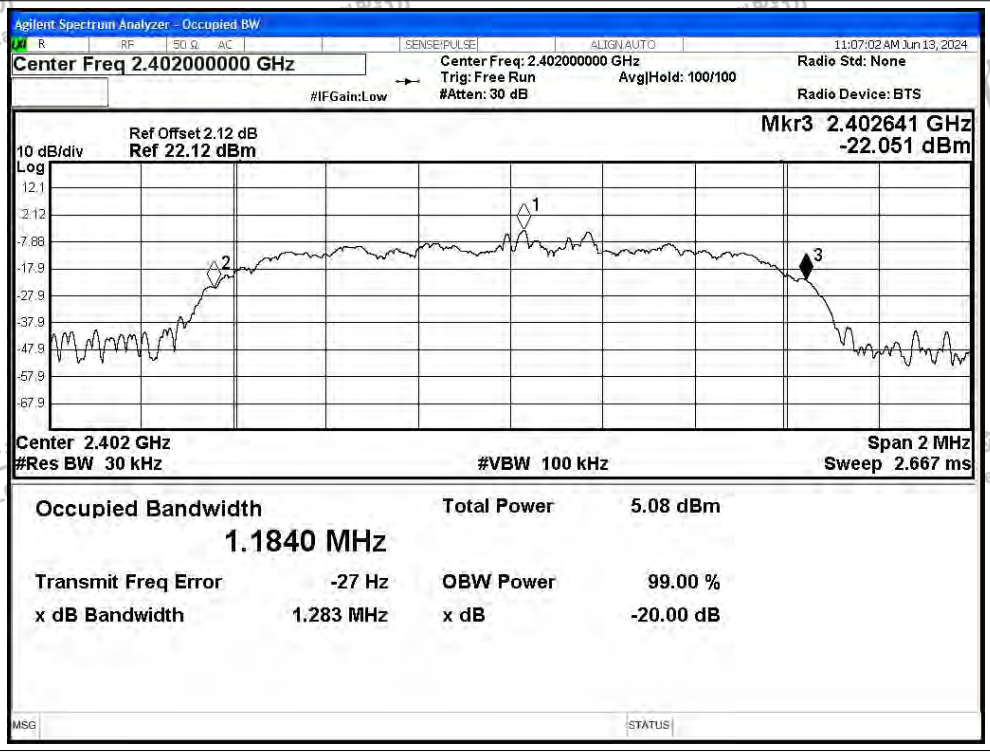
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



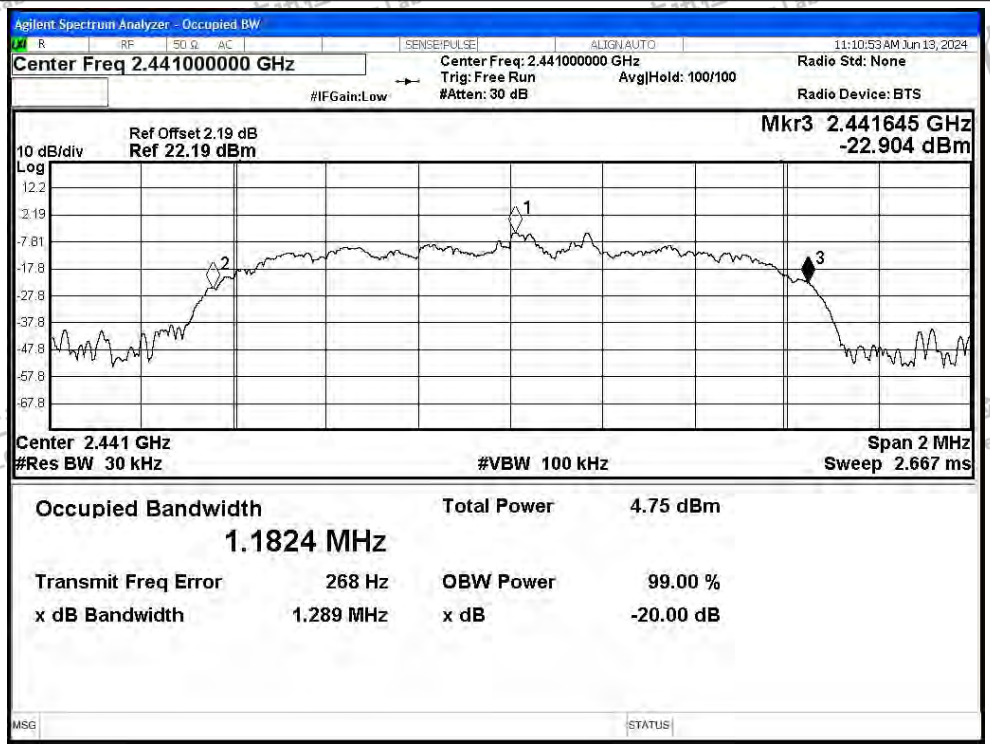
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



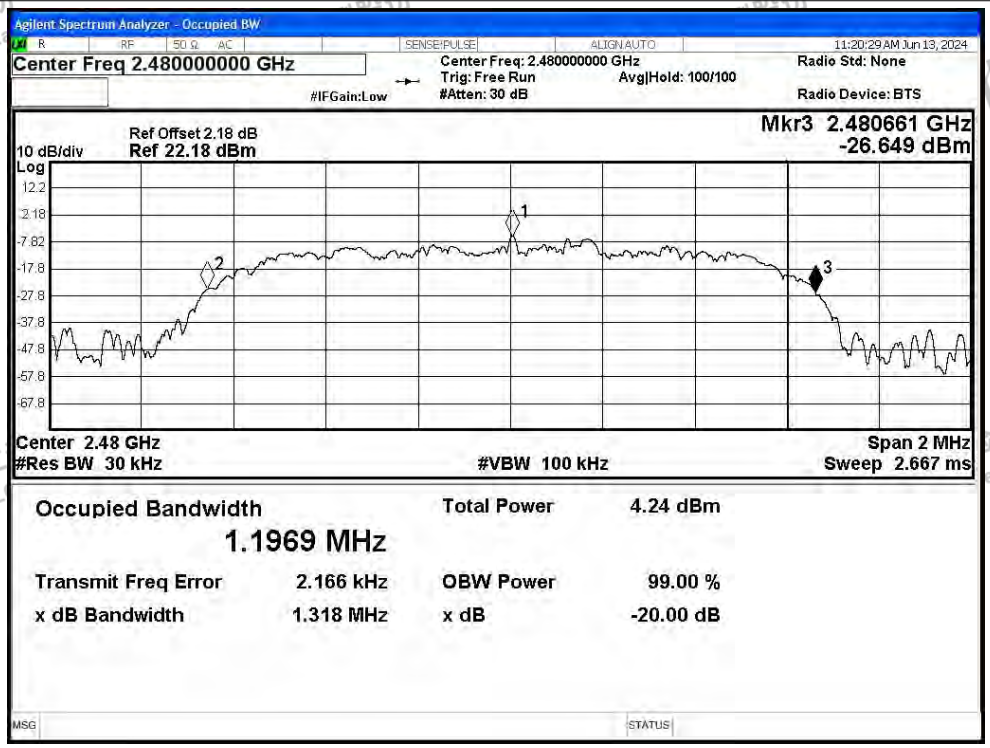
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

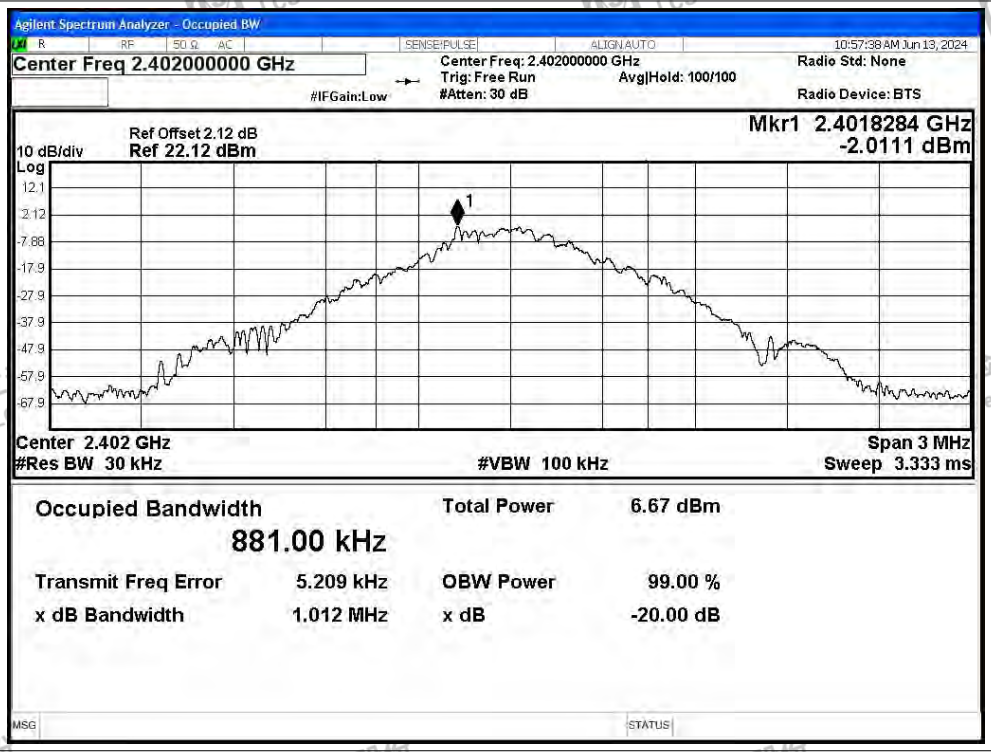


A.2 Occupied Channel Bandwidth

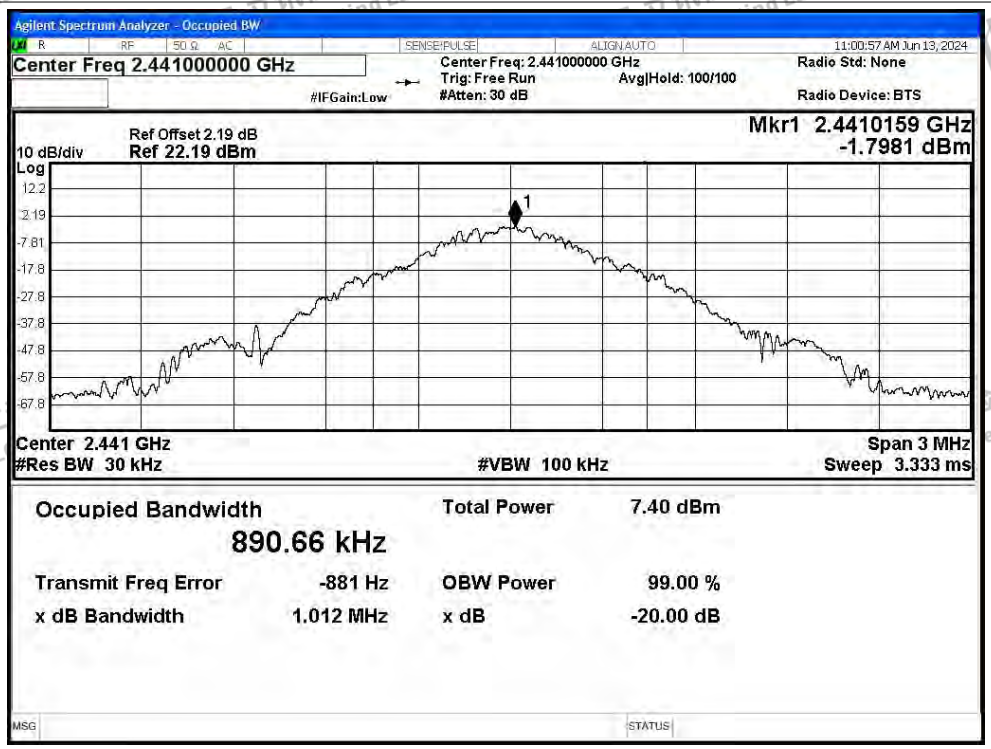
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.881
NVNT	1-DH5	2441	Ant1	0.891
NVNT	1-DH5	2480	Ant1	0.867
NVNT	2-DH5	2402	Ant1	1.191
NVNT	2-DH5	2441	Ant1	1.193
NVNT	2-DH5	2480	Ant1	1.197

Test Graphs

OBW NVNT 1-DH5 2402MHz Ant1

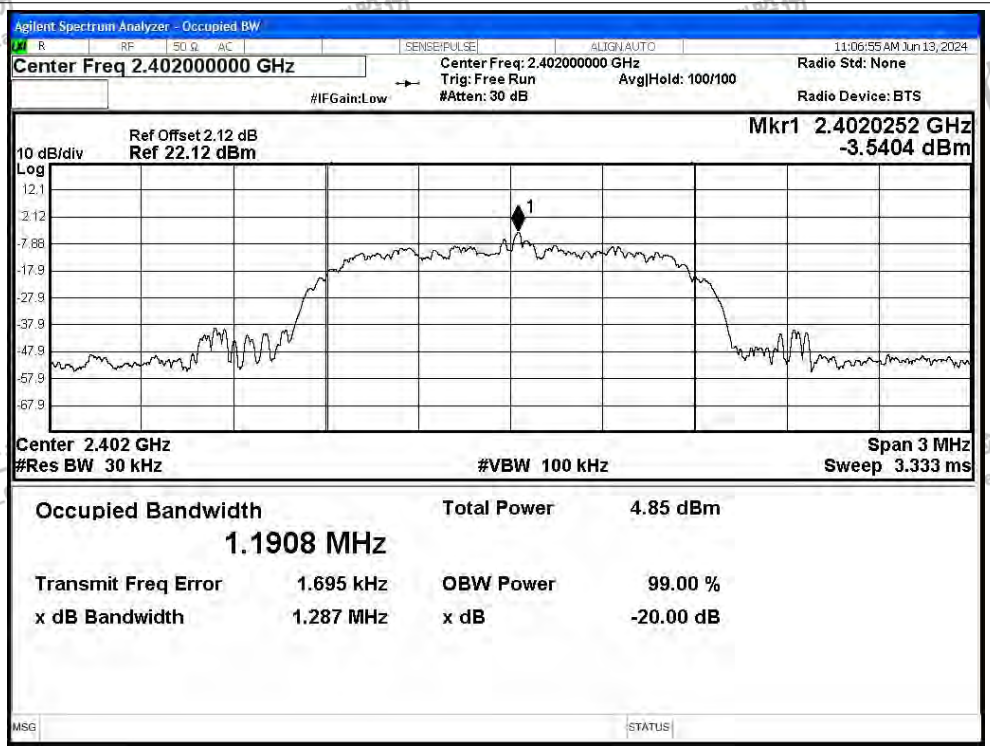


OBW NVNT 1-DH5 2441MHz Ant1

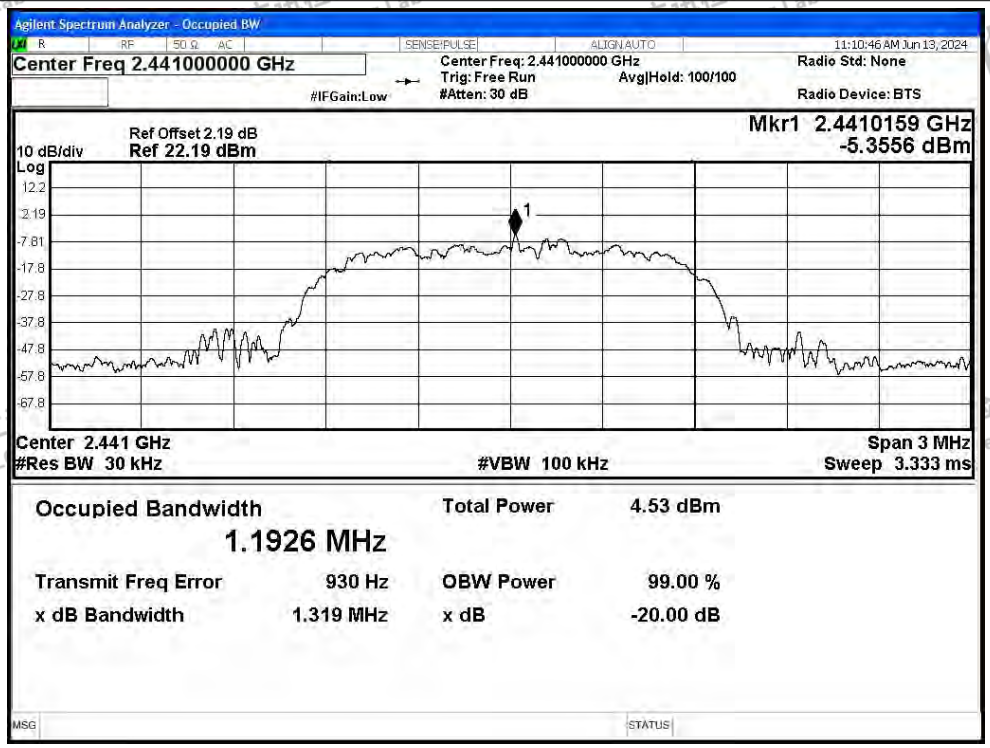


OBW NVNT 1-DH5 2480MHz Ant1

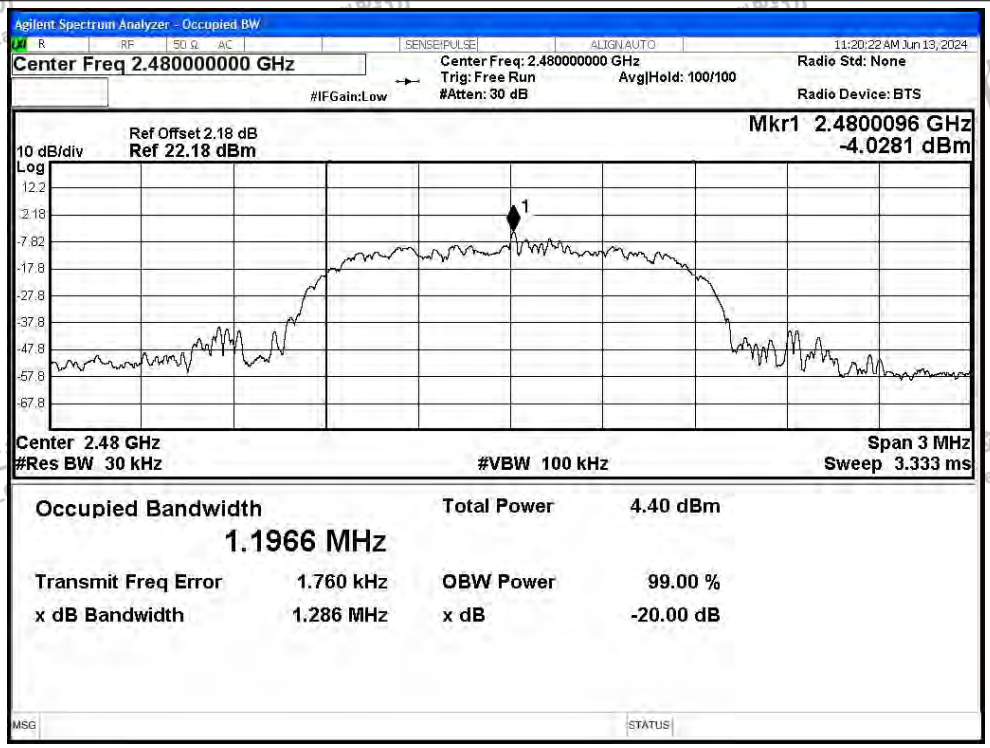
OBW NVNT 2-DH5 2402MHz Ant1



OBW NVNT 2-DH5 2441MHz Ant1



OBW NVNT 2-DH5 2480MHz Ant1



A.3 Maximum Conducted Output Power

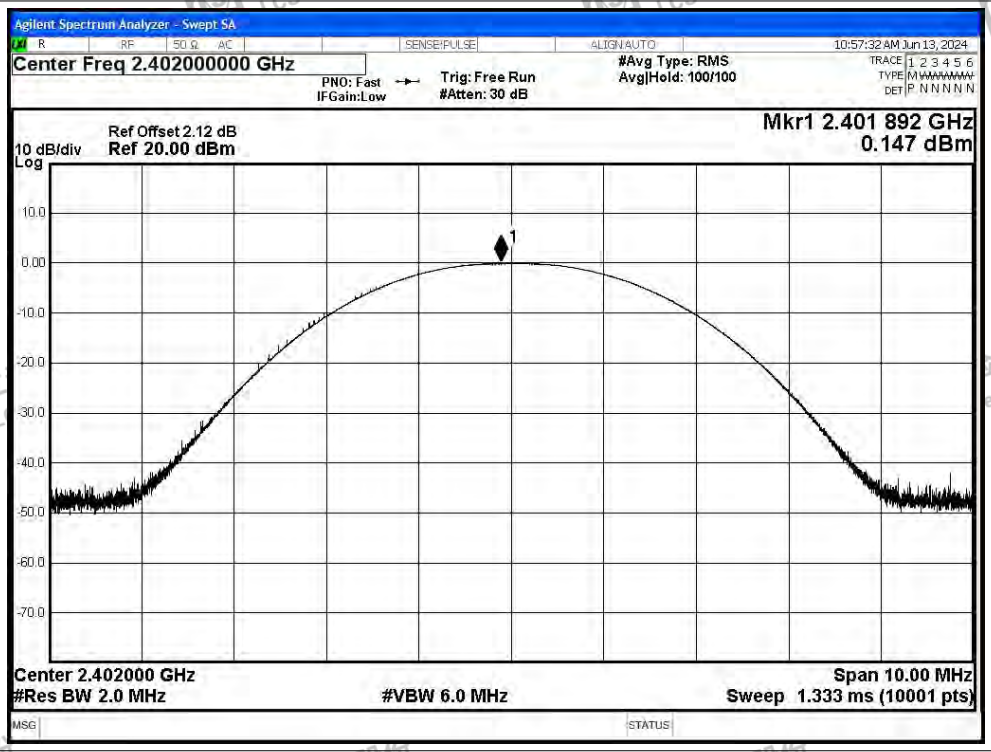
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.15	21	Pass
NVNT	1-DH5	2441	Ant1	0	21	Pass
NVNT	1-DH5	2480	Ant1	-0.63	21	Pass
NVNT	2-DH5	2402	Ant1	0.55	21	Pass
NVNT	2-DH5	2441	Ant1	0.15	21	Pass
NVNT	2-DH5	2480	Ant1	0.09	21	Pass

EIRP

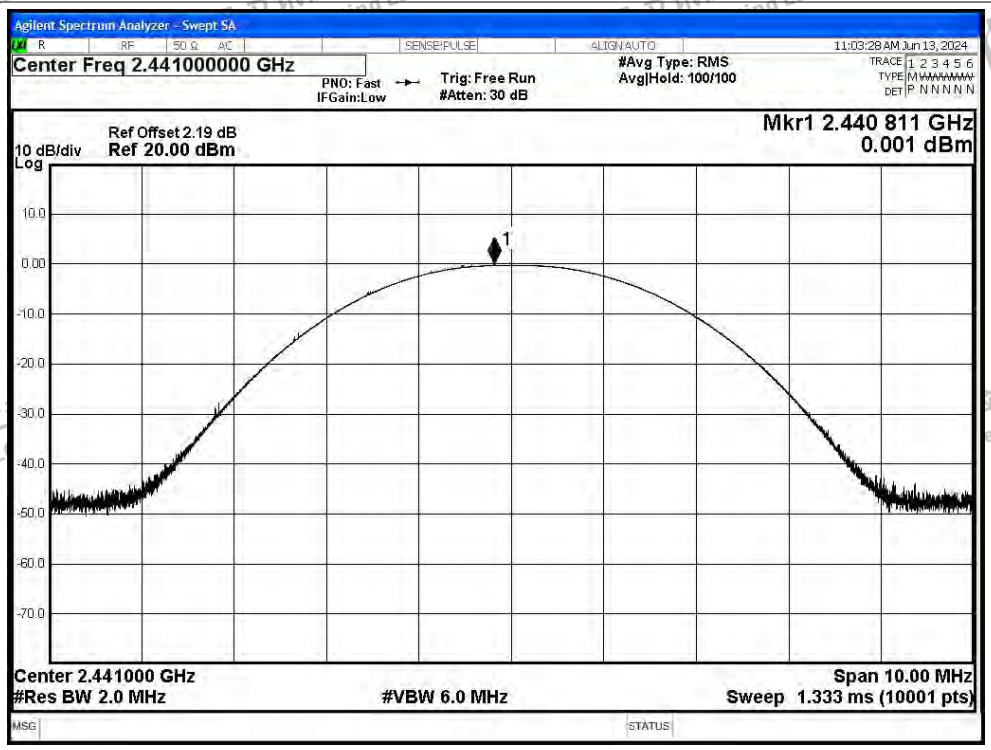
Condition	Mode	Frequency (MHz)	Antenna Gain(dBi)	EIRP (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	-0.58	-0.43	36	Pass
NVNT	1-DH5	2441	-0.58	-0.58	36	Pass
NVNT	1-DH5	2480	-0.58	-1.21	36	Pass
NVNT	2-DH5	2402	-0.58	-0.03	36	Pass
NVNT	2-DH5	2441	-0.58	-0.43	36	Pass
NVNT	2-DH5	2480	-0.58	-0.49	36	Pass

Test Graphs

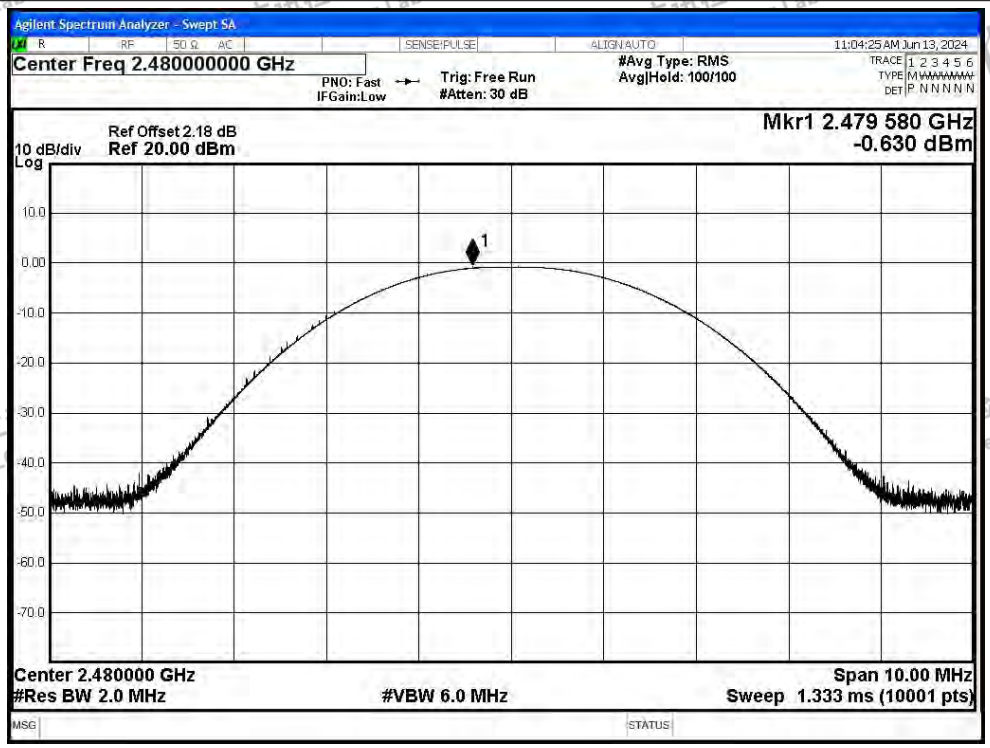
Power NVNT 1-DH5 2402MHz Ant1



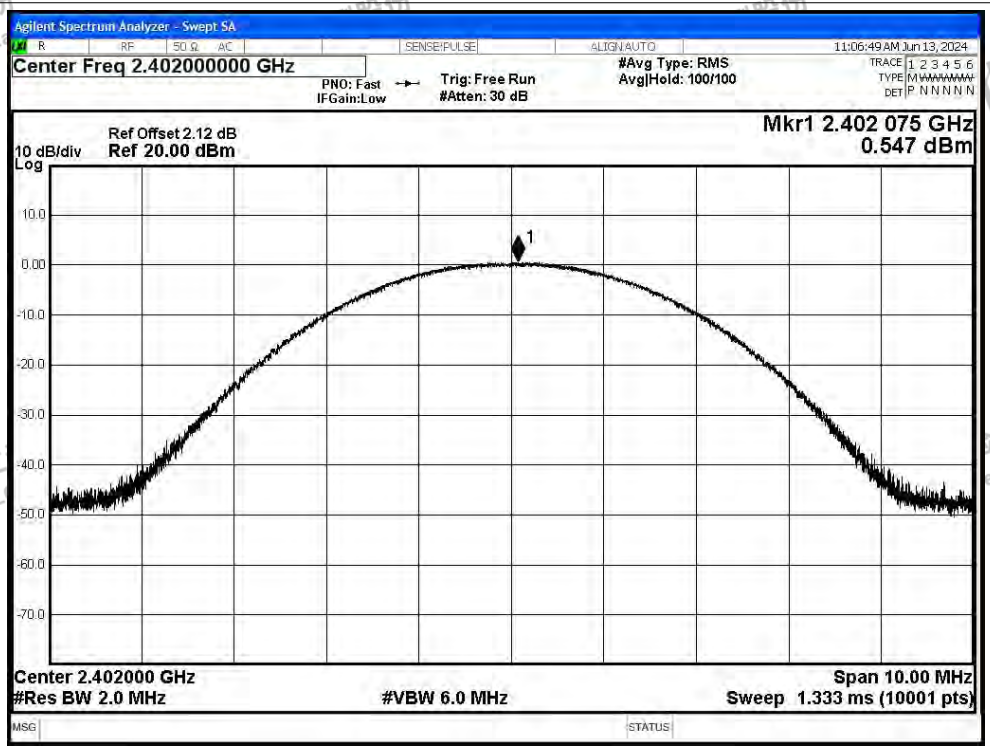
Power NVNT 1-DH5 2441MHz Ant1



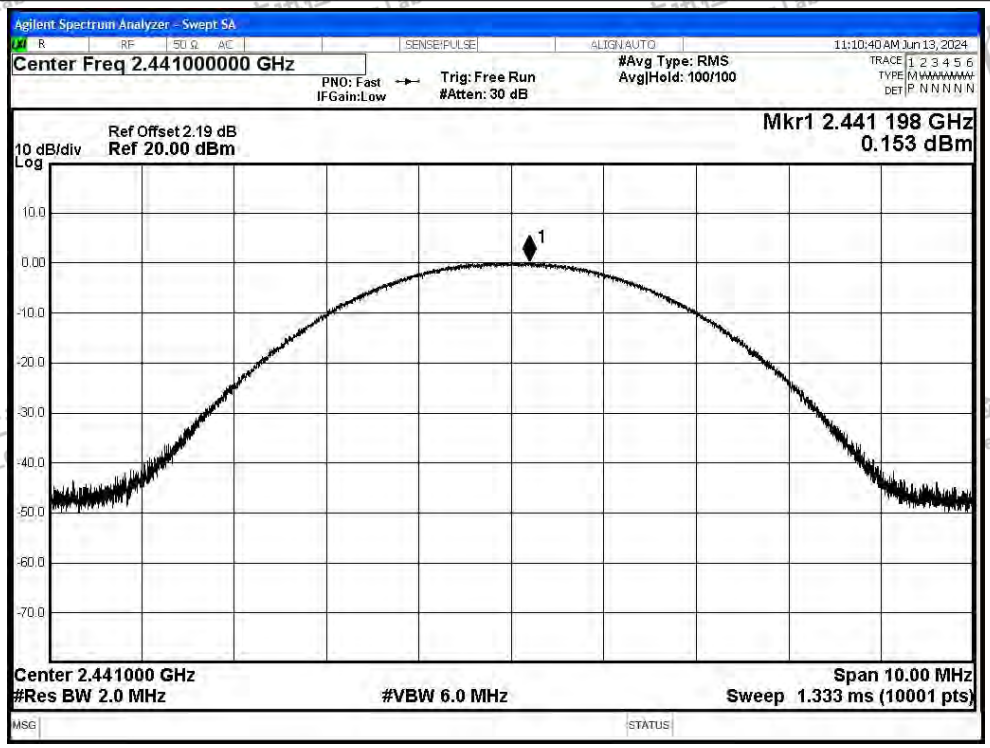
Power NVNT 1-DH5 2480MHz Ant1



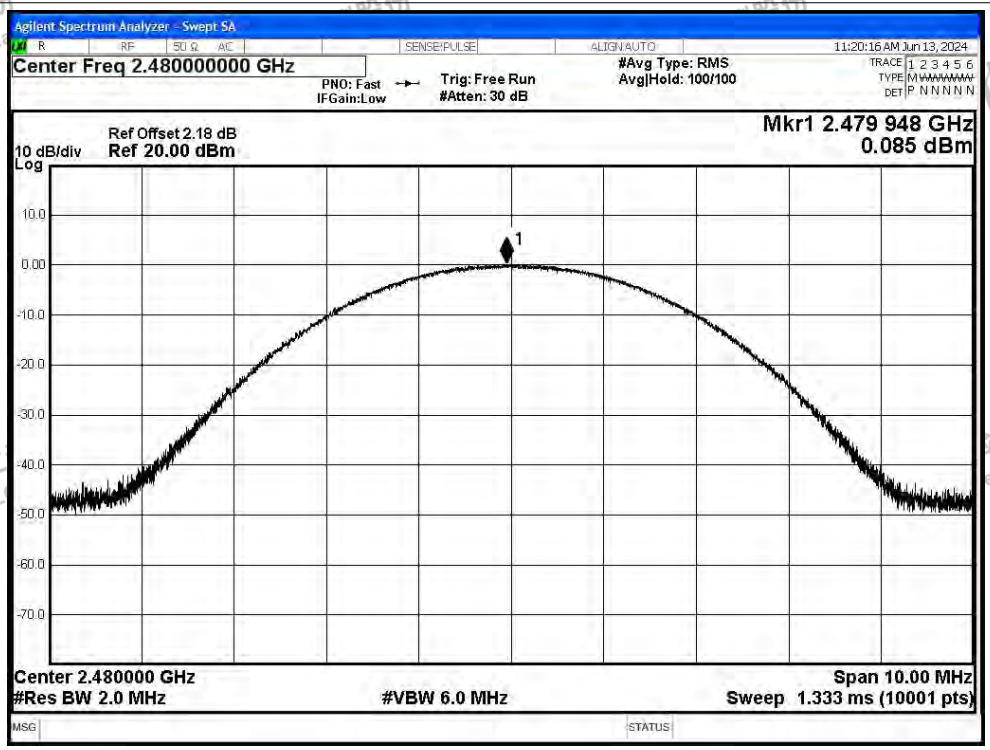
Power NVNT 2-DH5 2402MHz Ant1



Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1

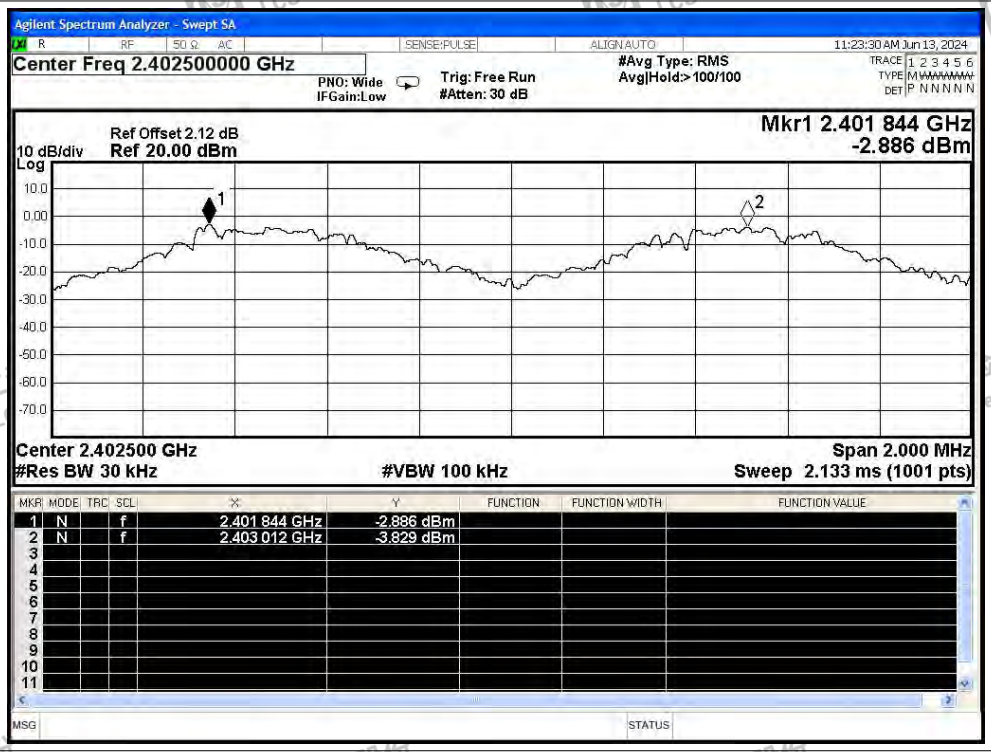


A.4 Carrier Frequencies Separation

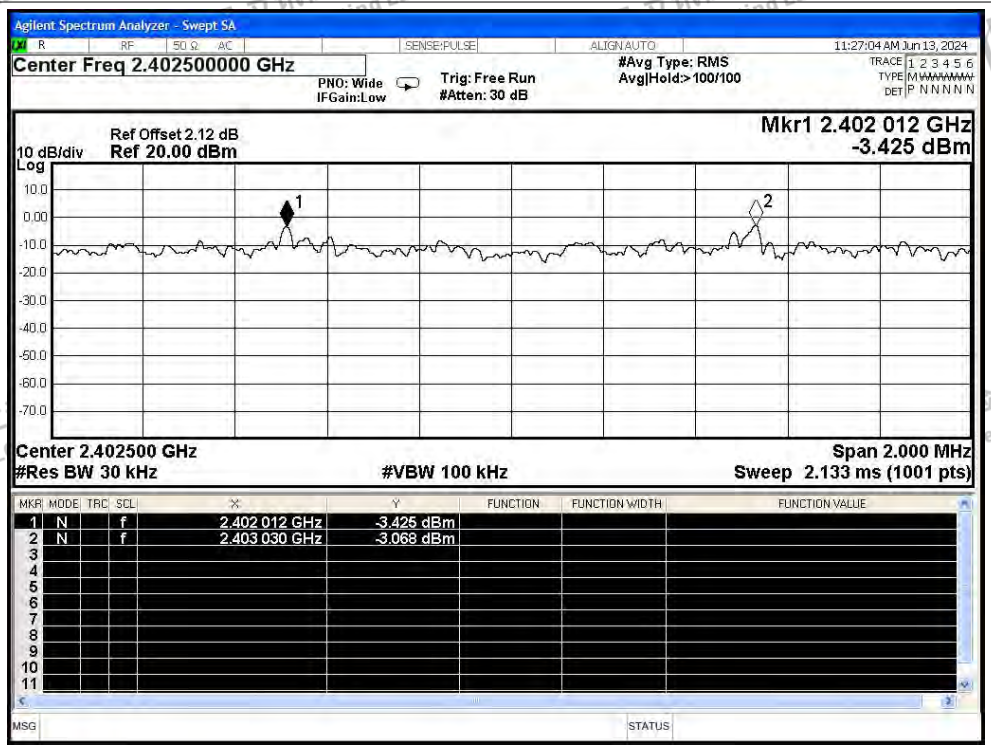
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.844	2403.012	1.168	0.675	Pass
NVNT	2-DH5	Ant1	2402.012	2403.03	1.018	0.879	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

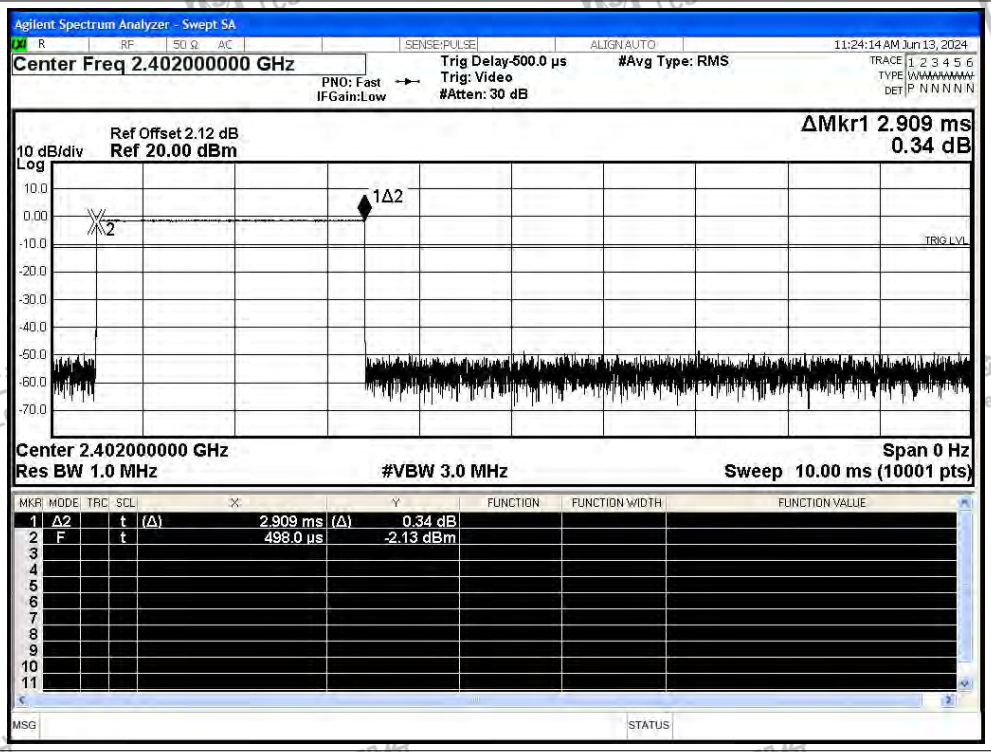


A.5 Dwell Time

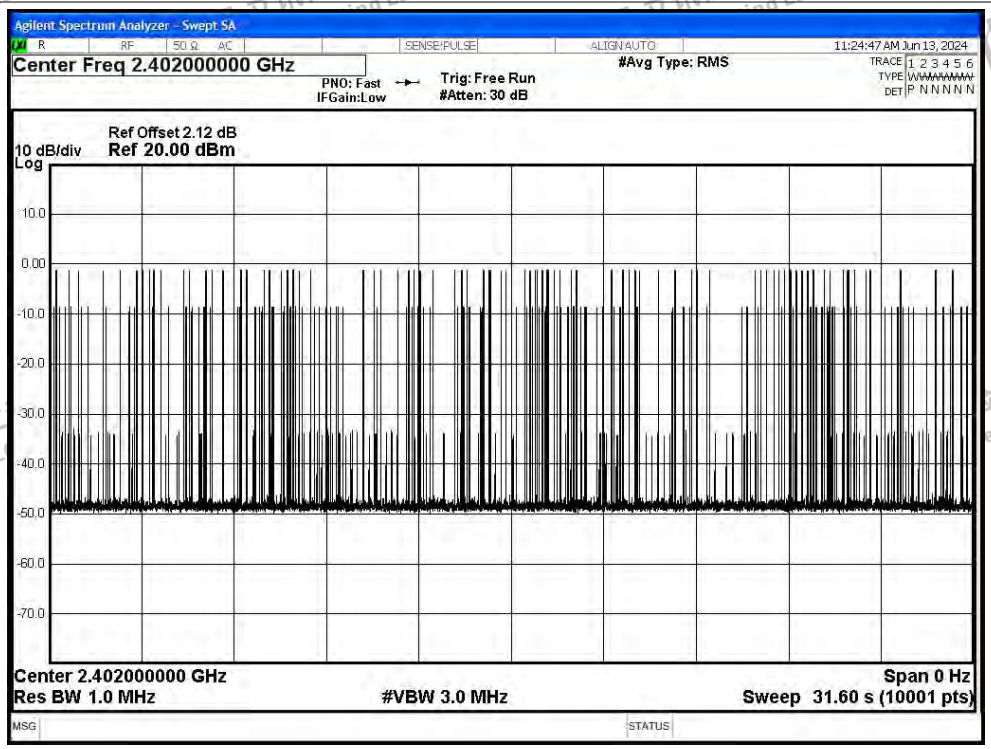
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	287.991	99	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	278.208	96	31600	400	Pass

Test Graphs

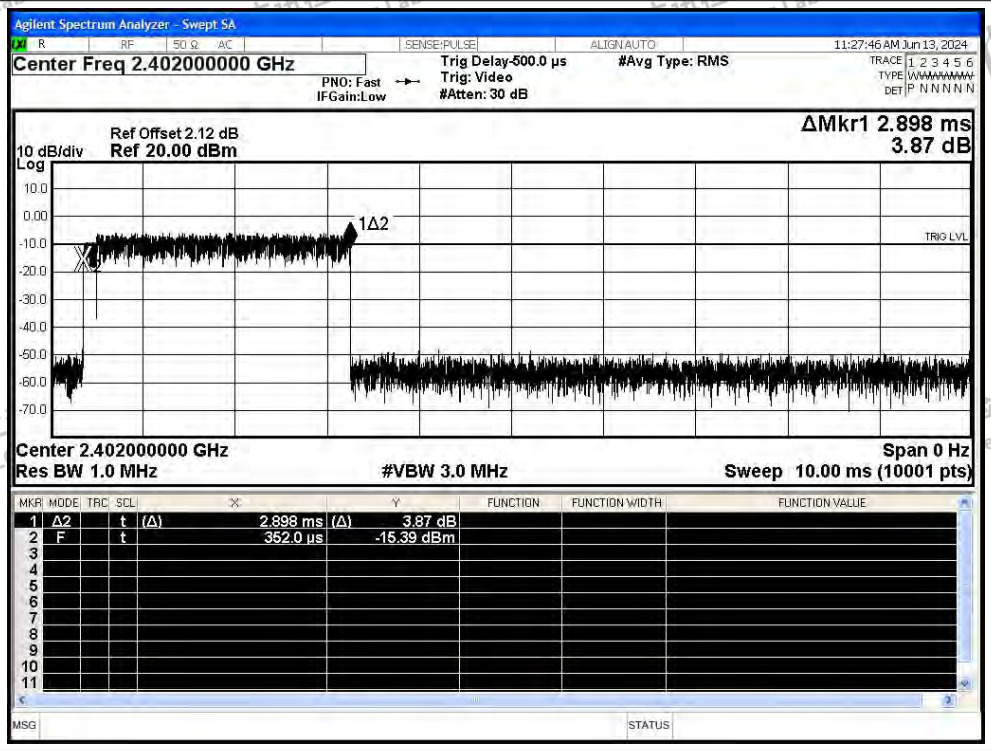
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



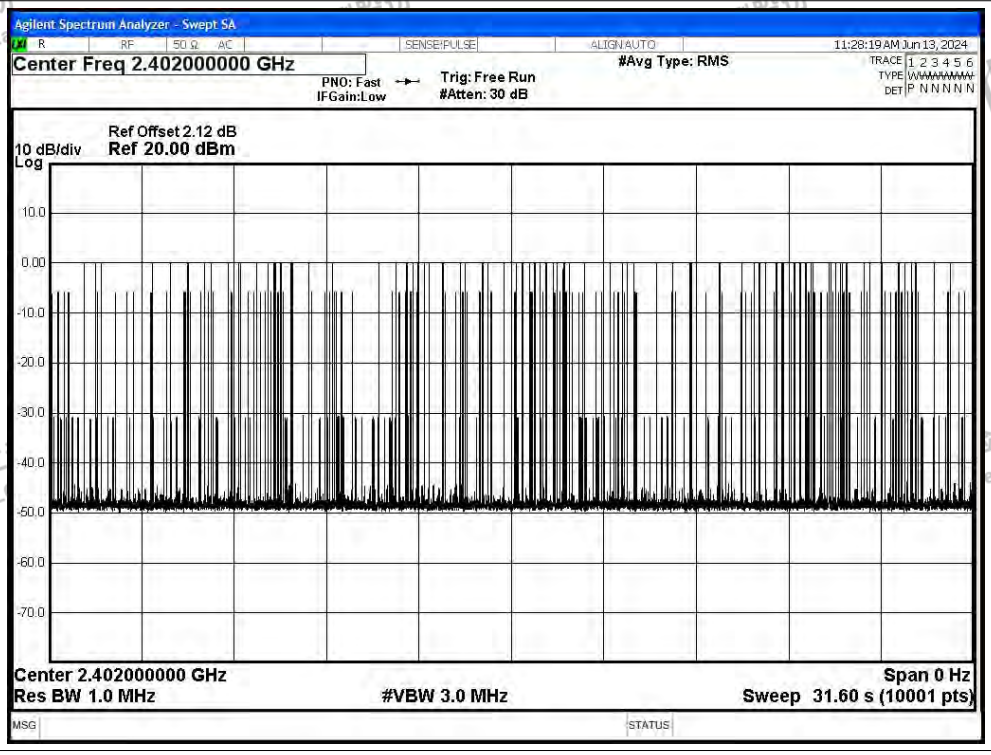
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

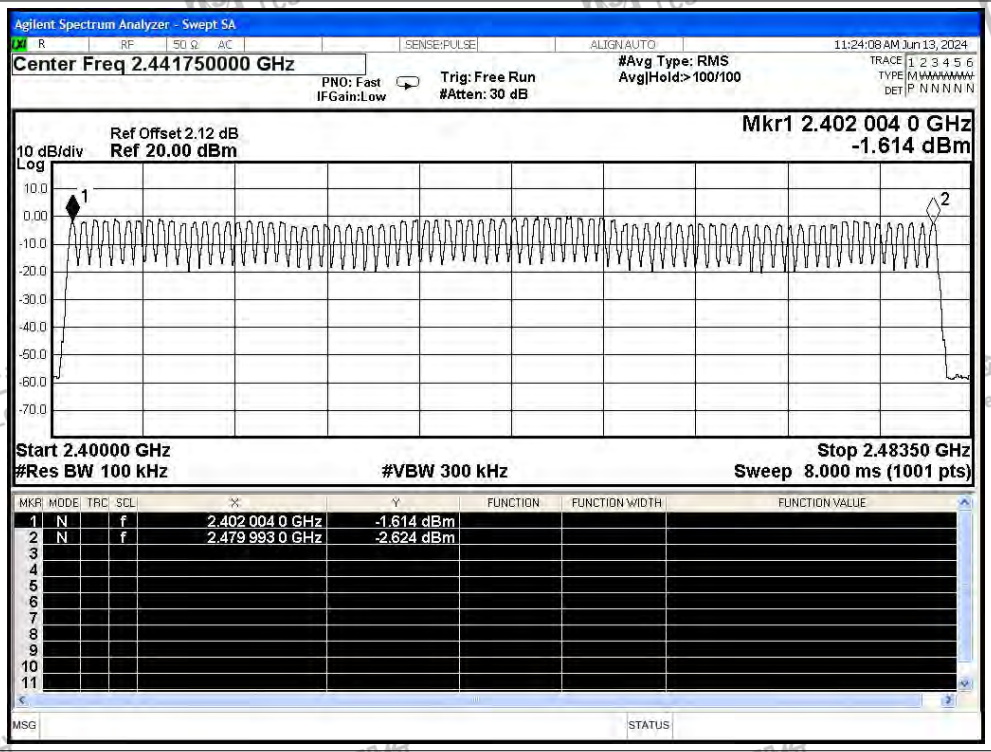


A.6 Number of Hopping Channel

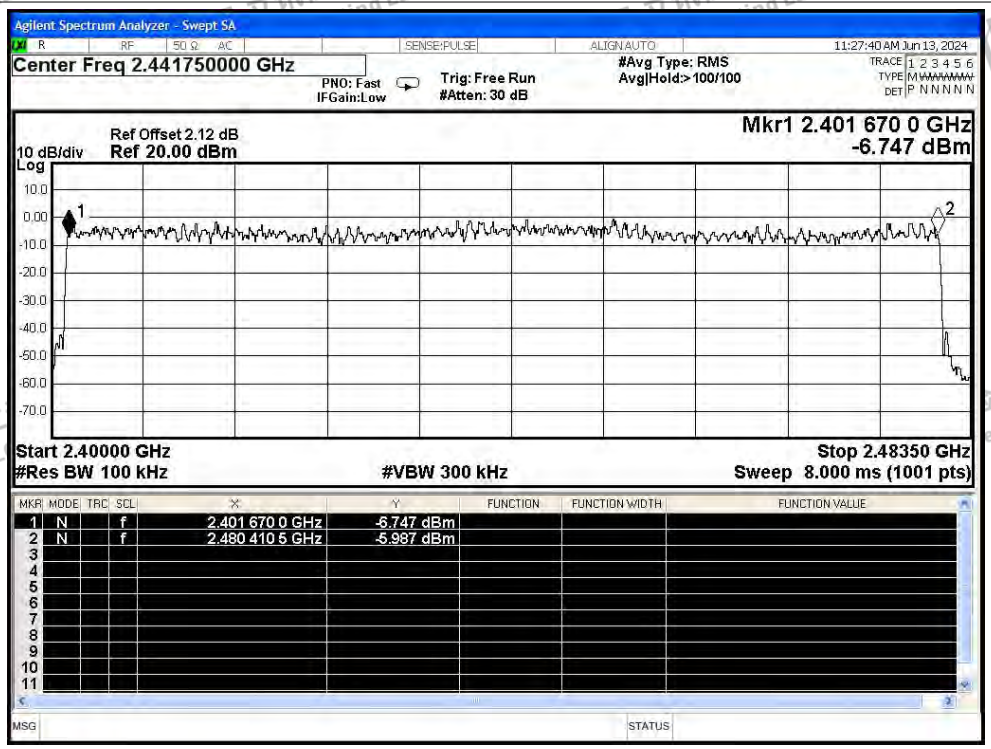
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

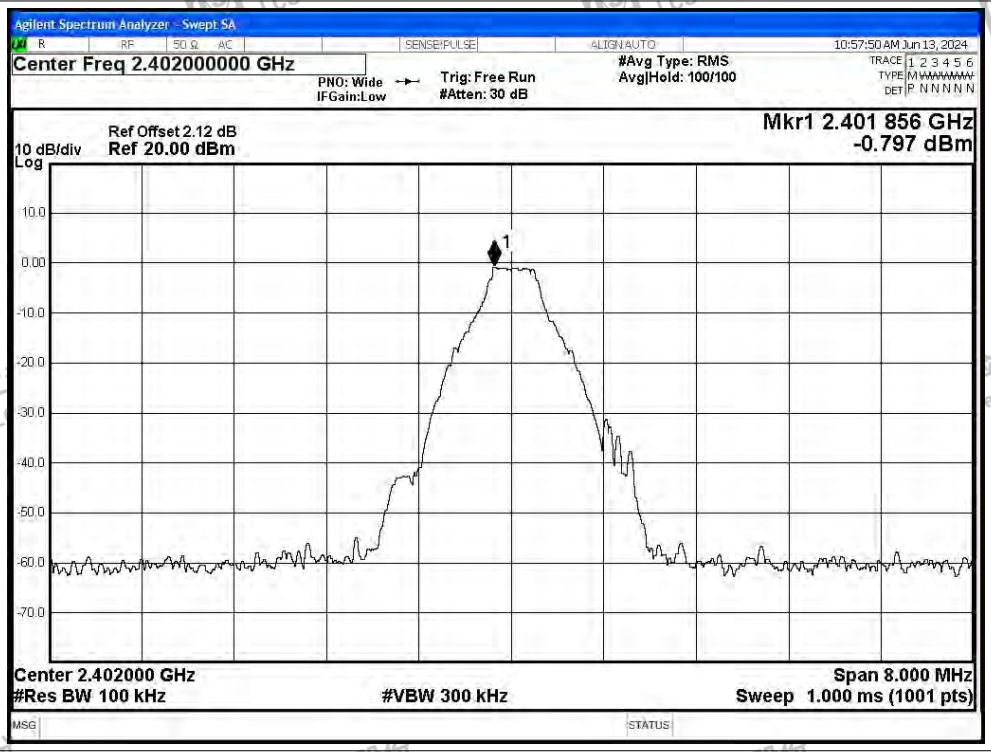


A.7 Band Edge

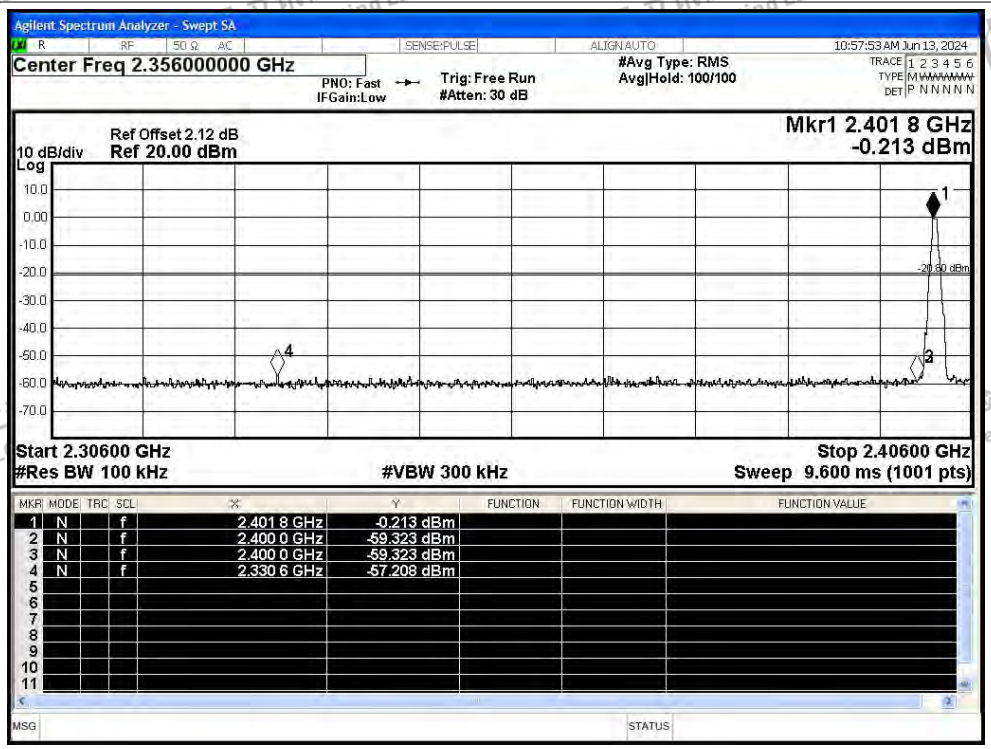
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.41	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.28	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.65	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-55.02	-20	Pass

Test Graphs

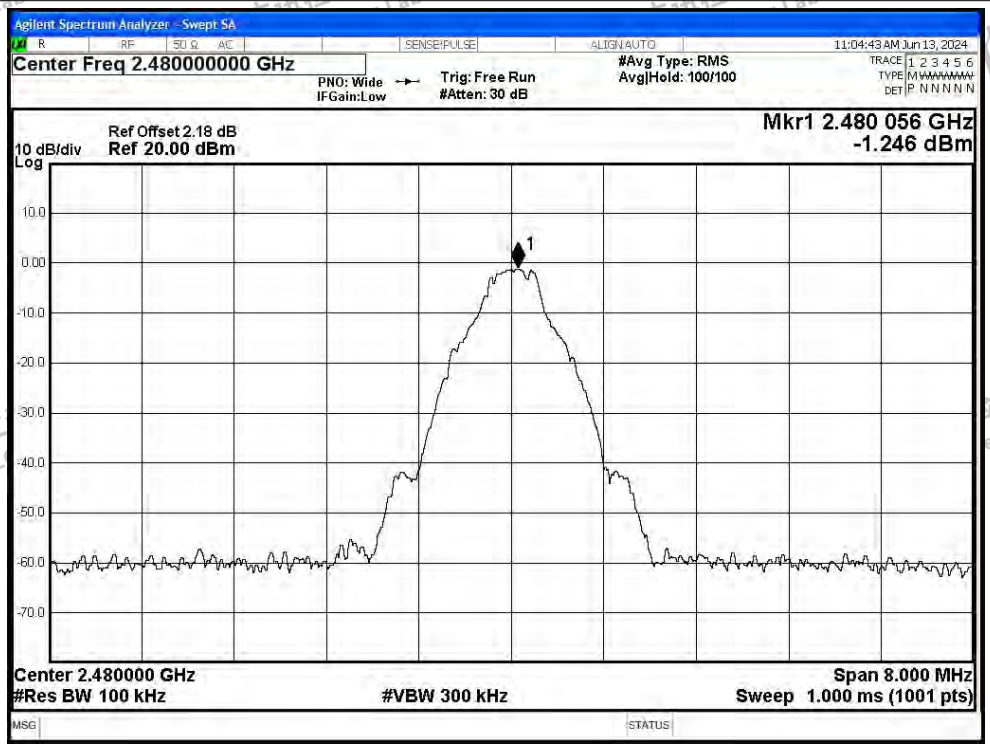
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



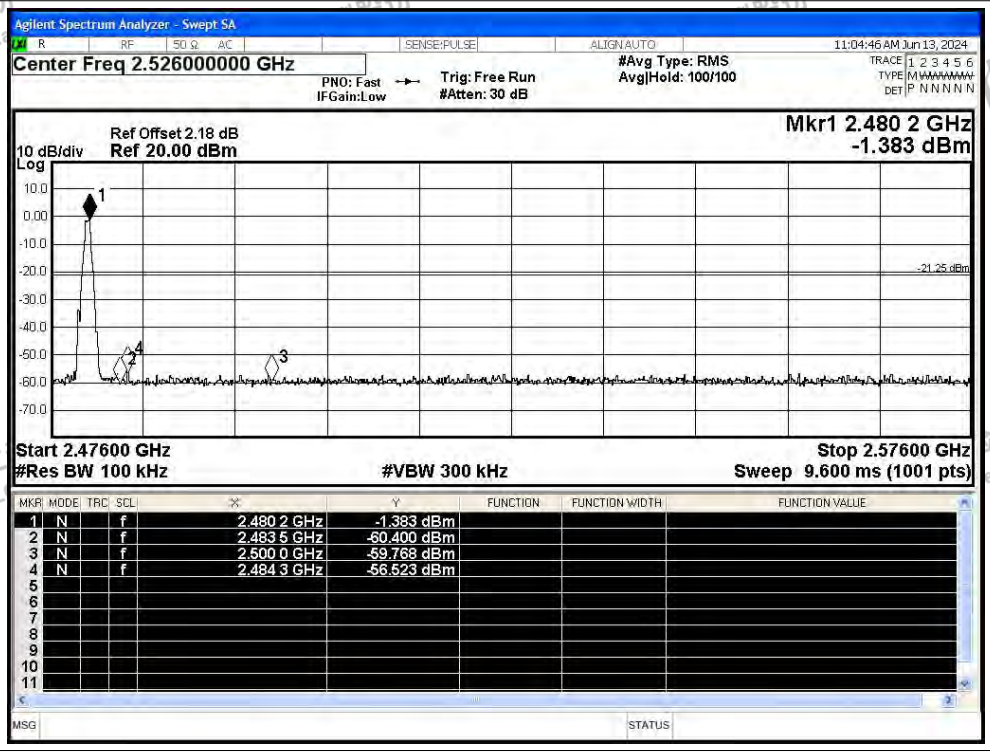
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



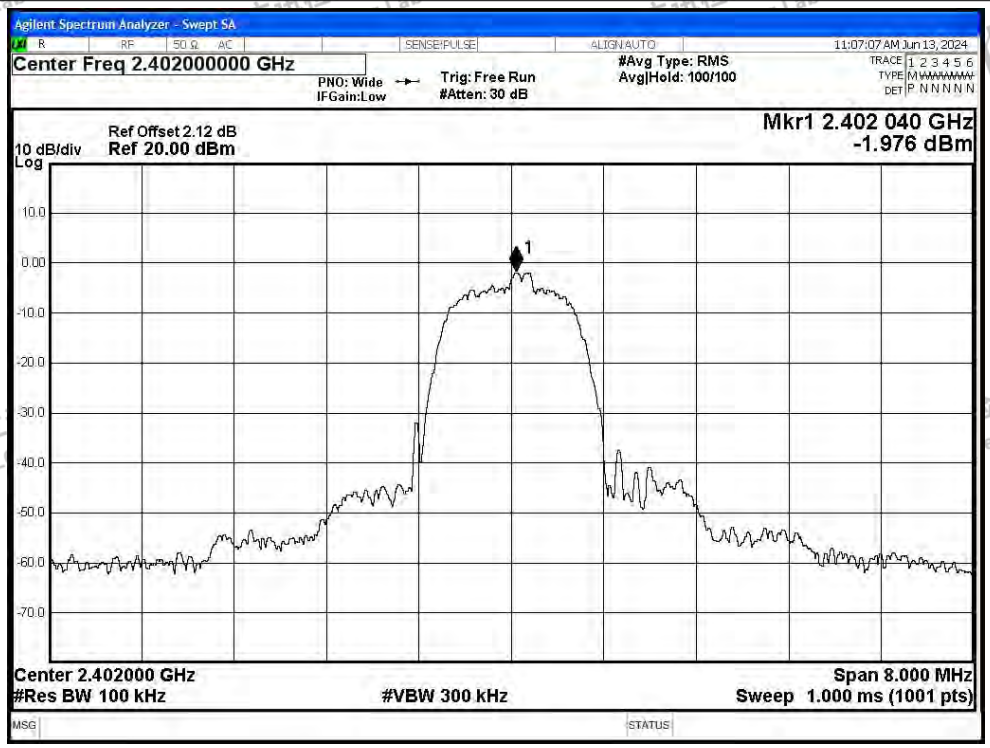
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



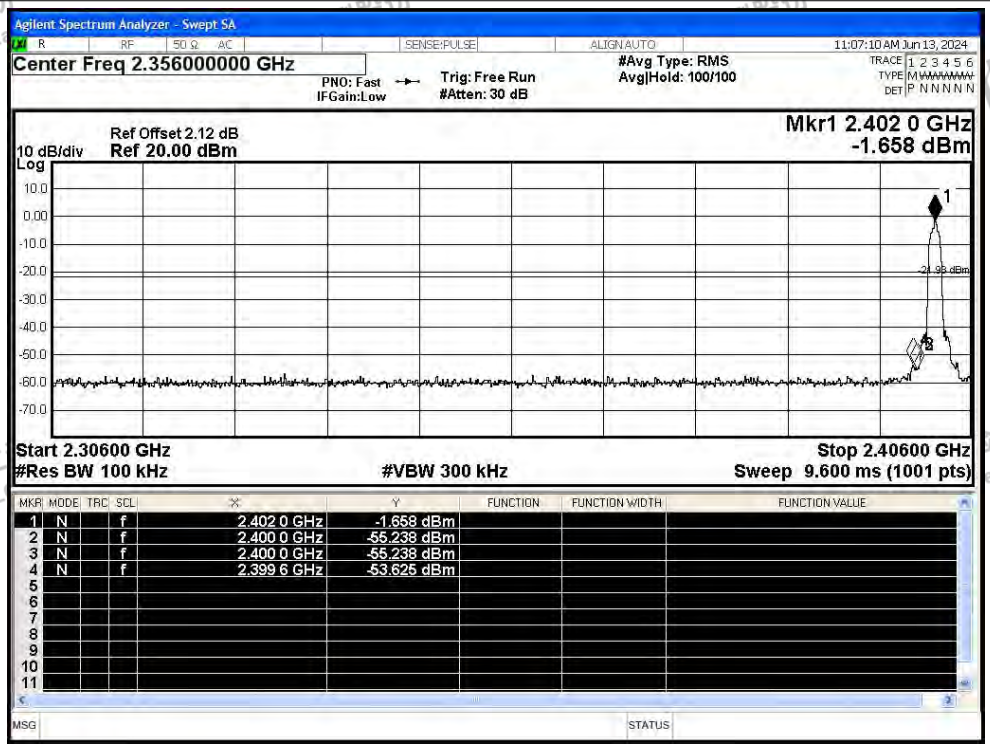
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



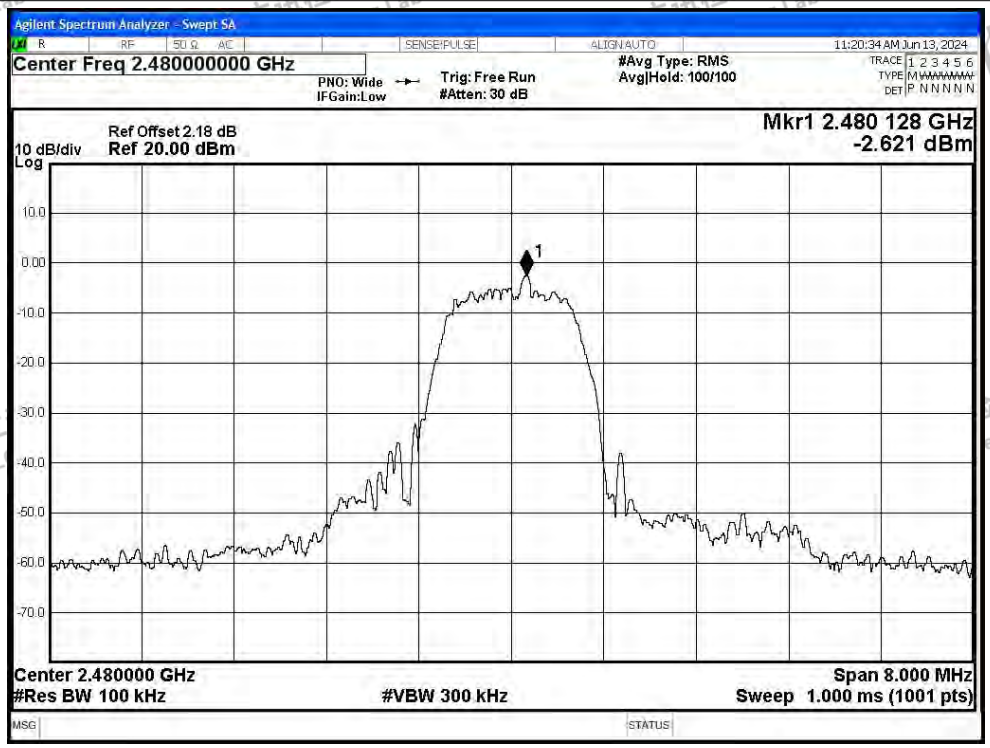
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



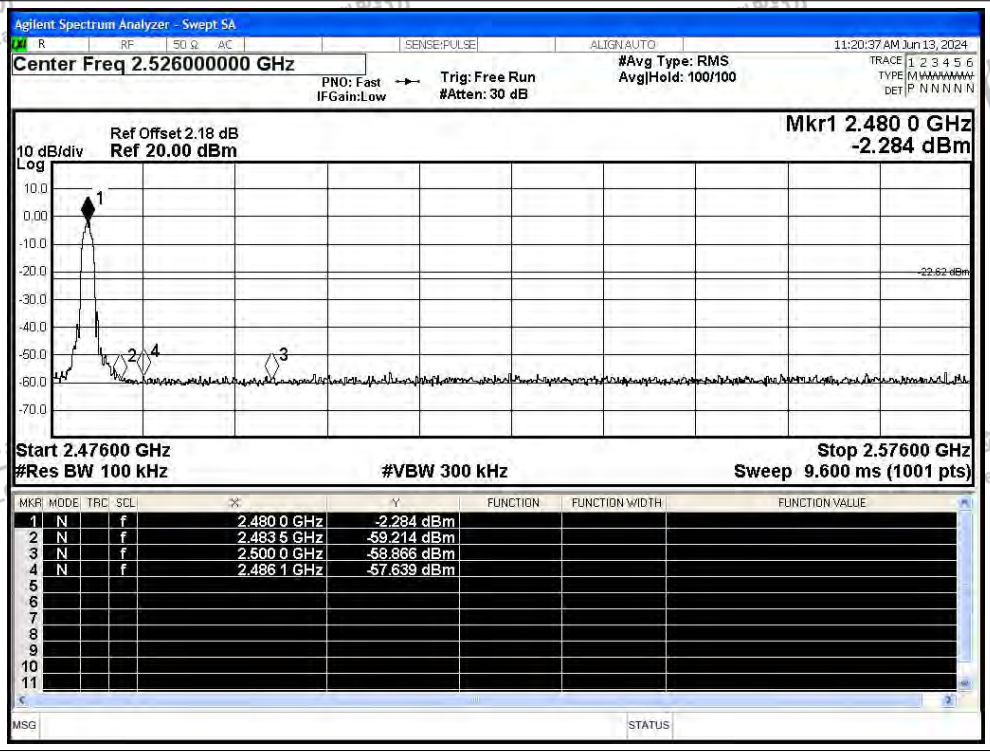
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



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



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

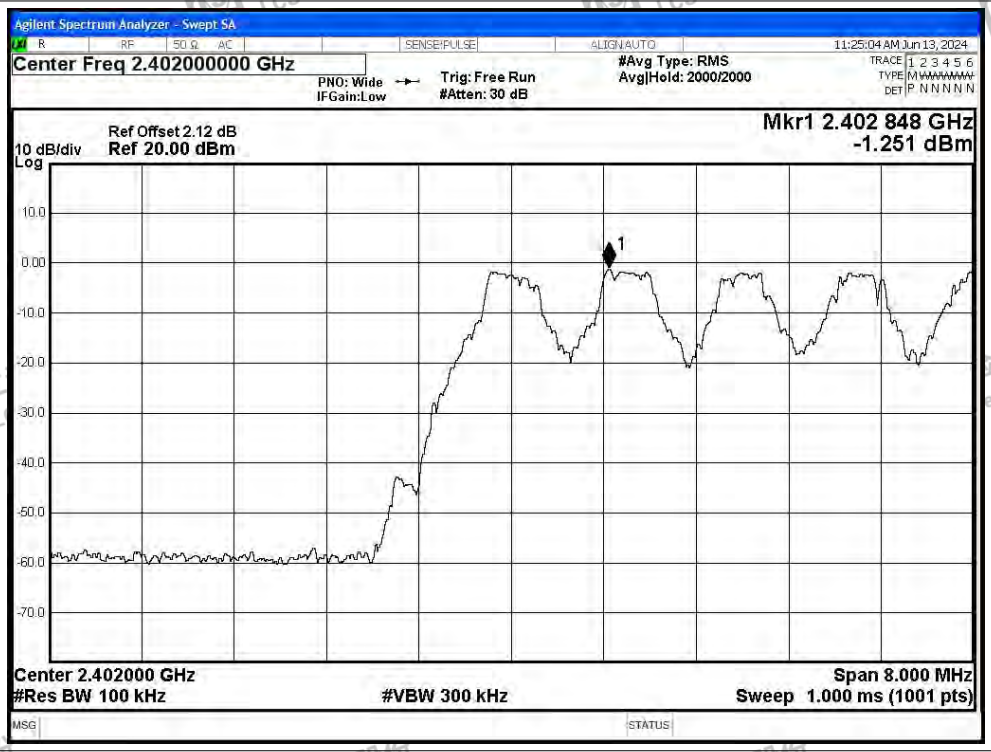


(Hopping)

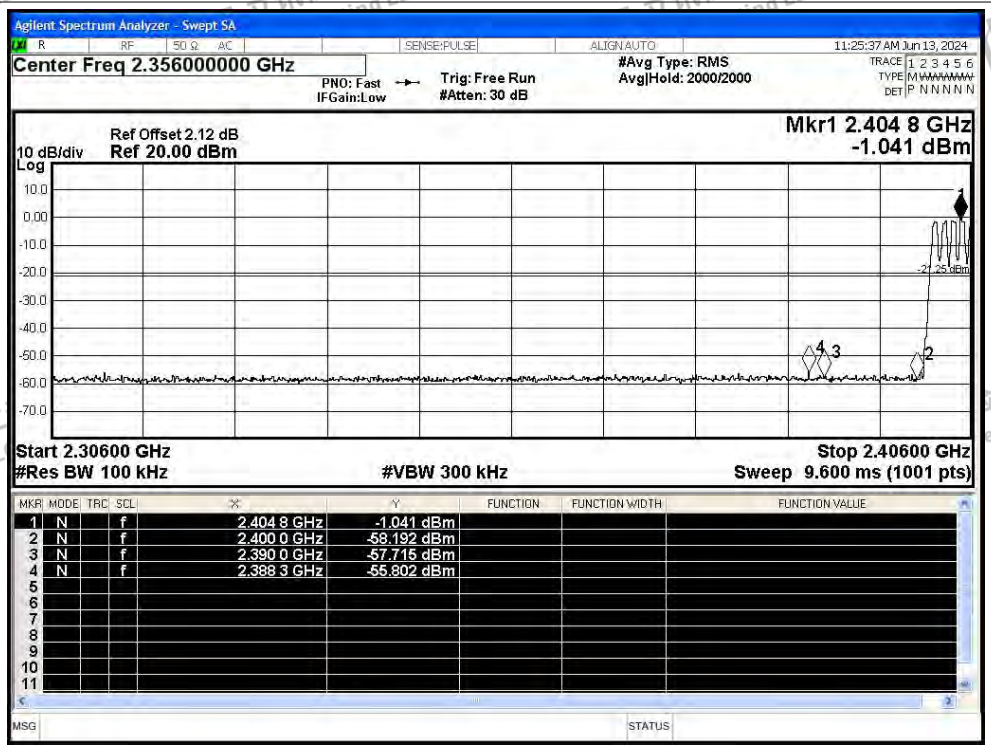
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.55	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.35	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.11	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.6	-20	Pass

Test Graphs

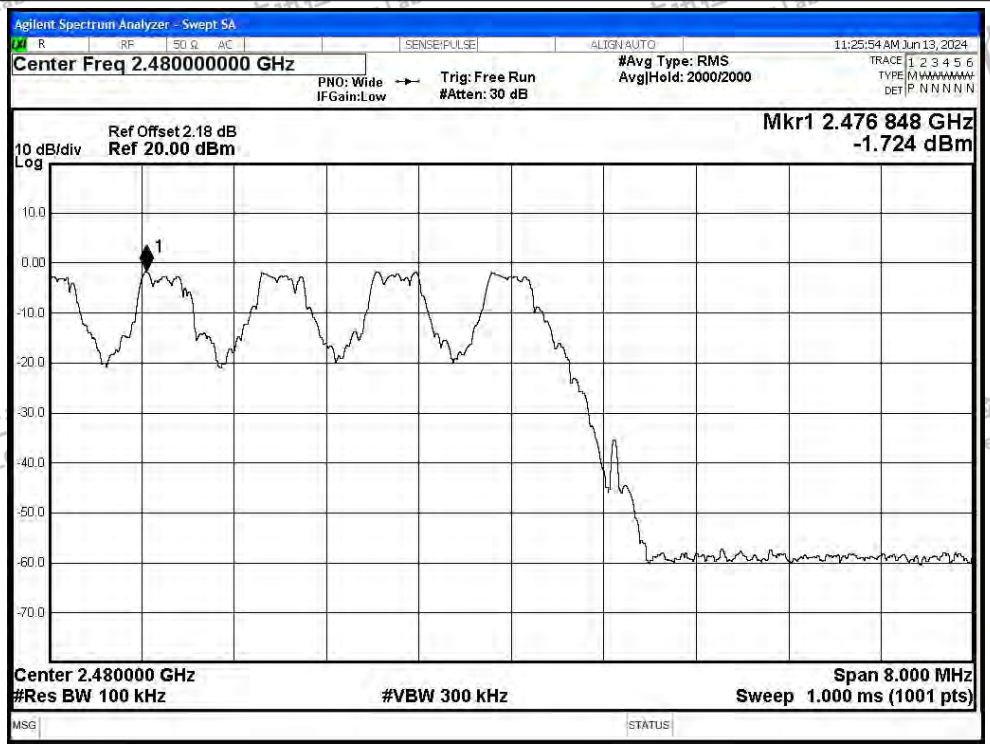
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



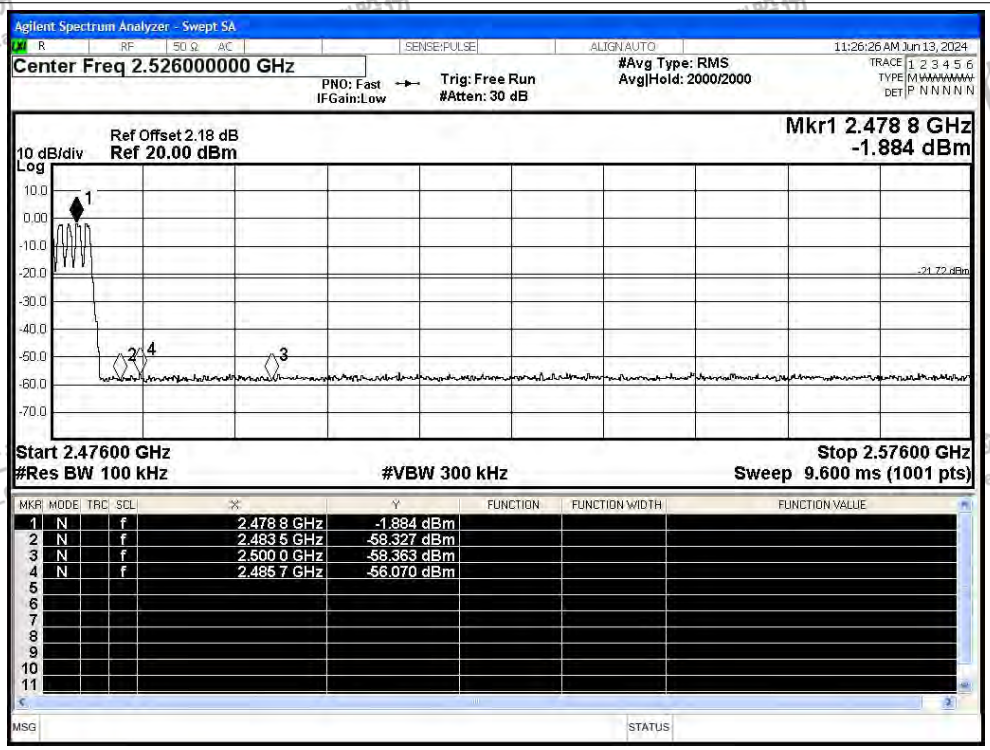
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



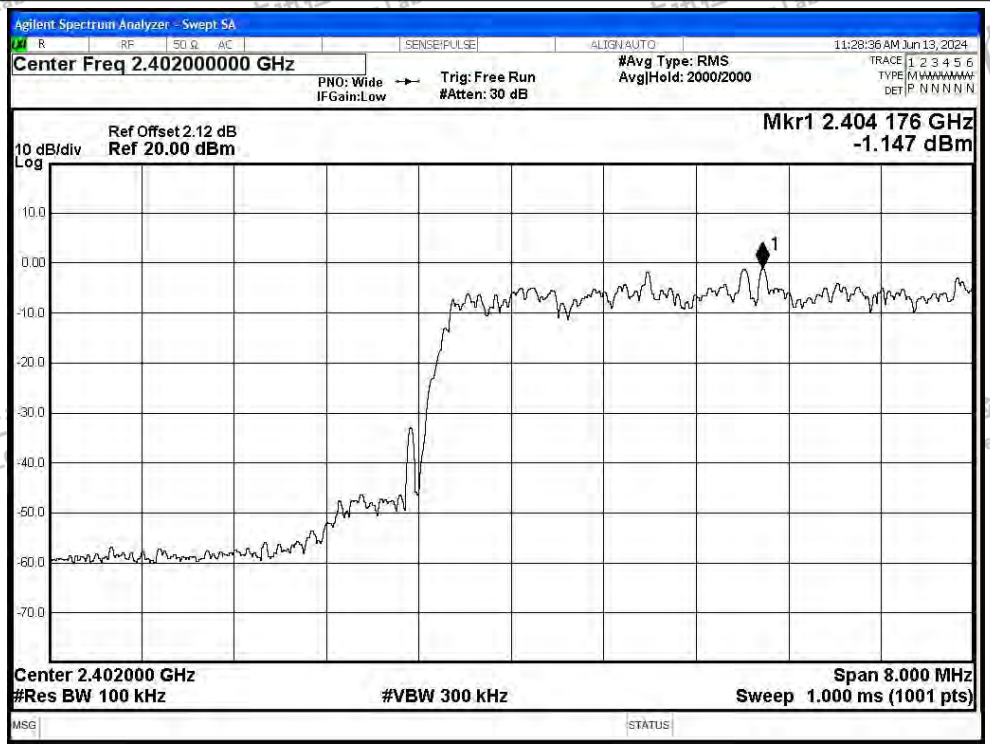
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



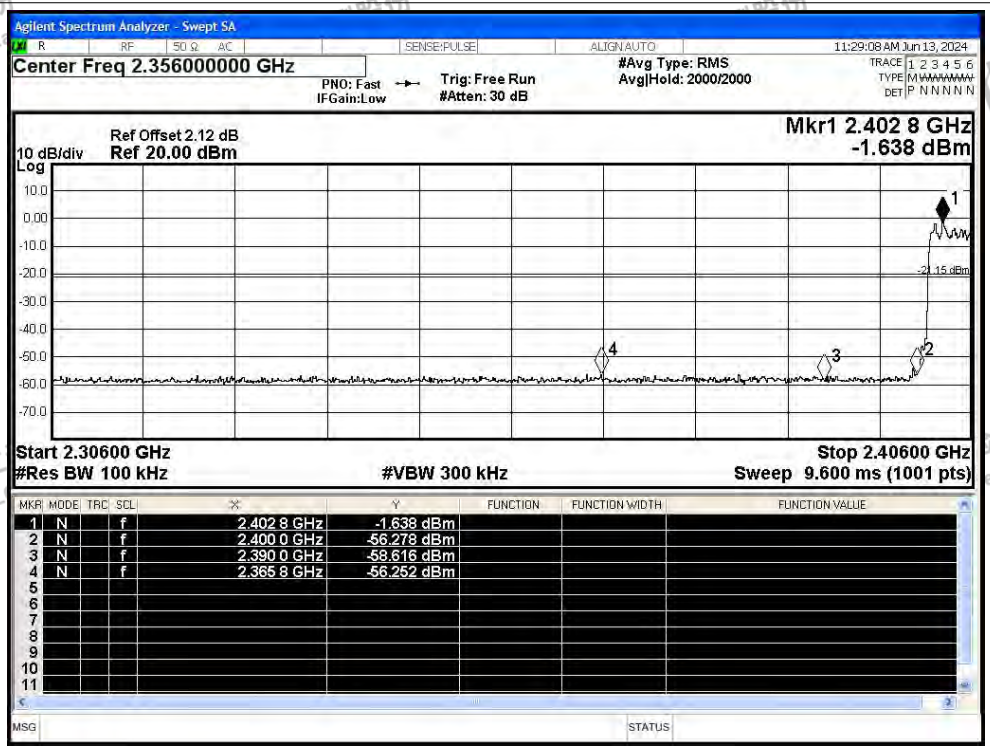
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



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

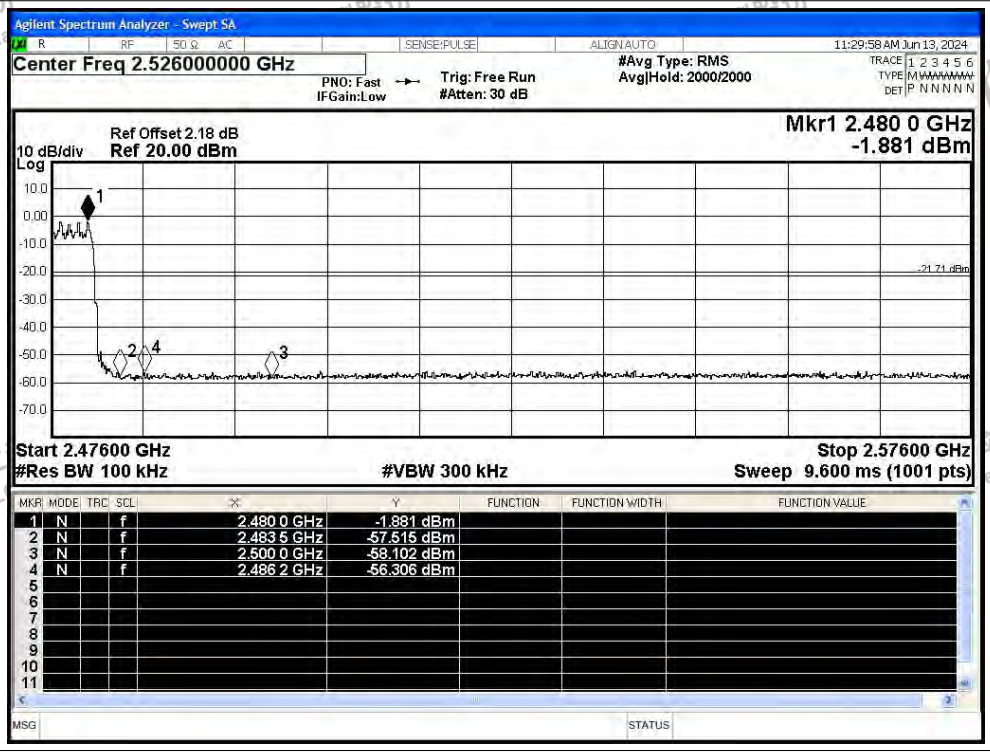


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



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

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



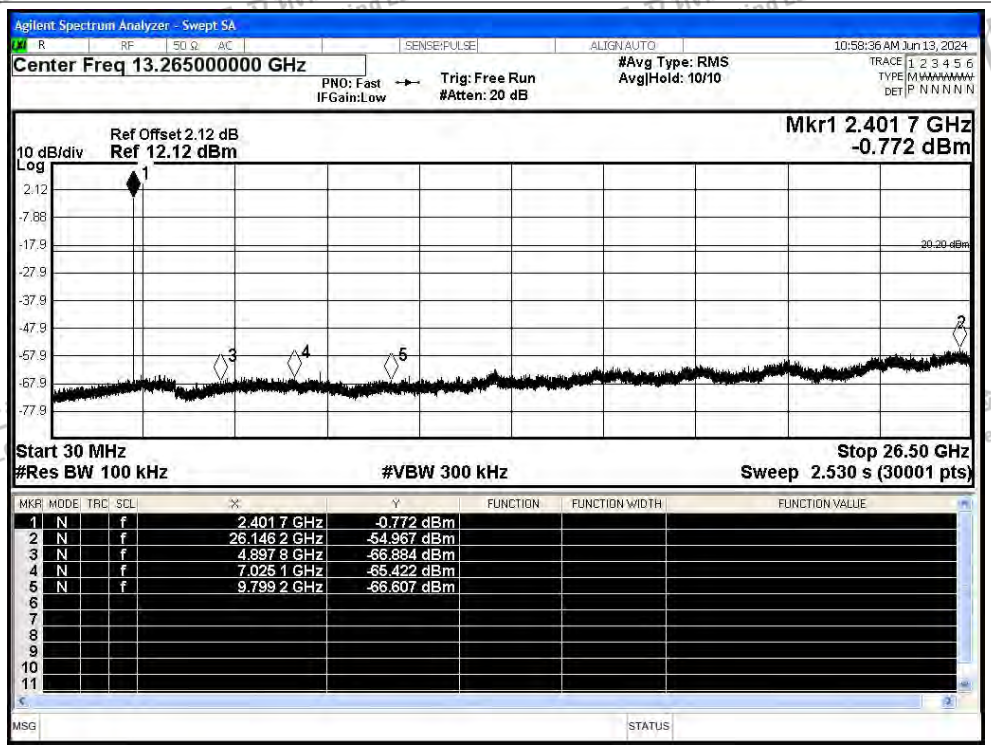
A.8 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.77	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.96	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.57	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.56	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.52	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.02	-20	Pass

Test Graphs

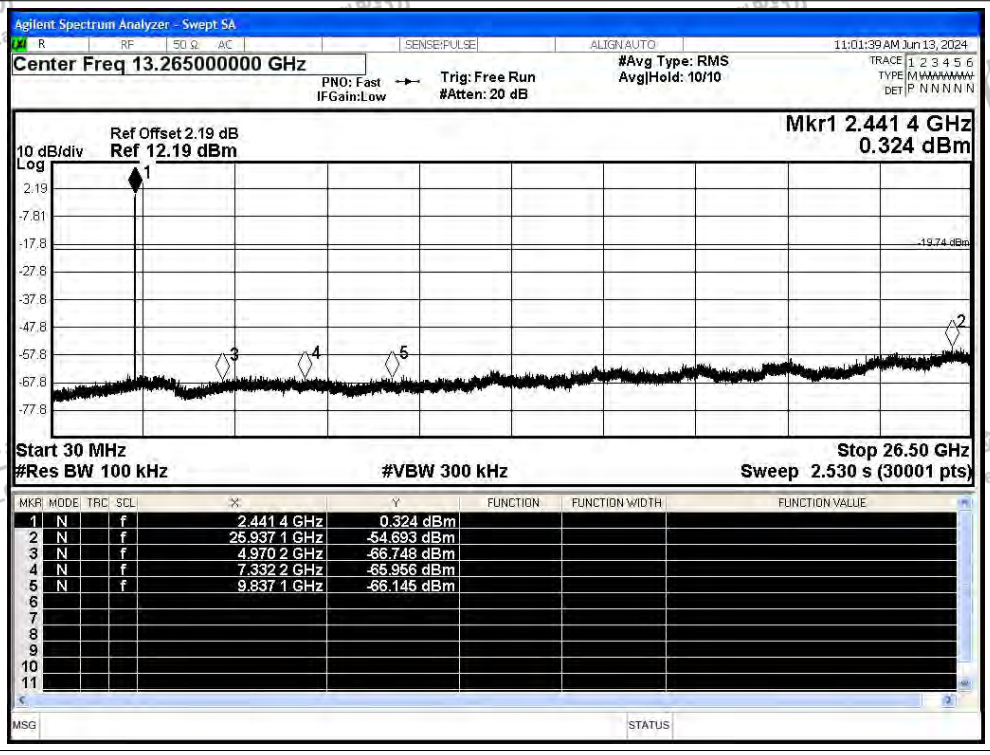
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



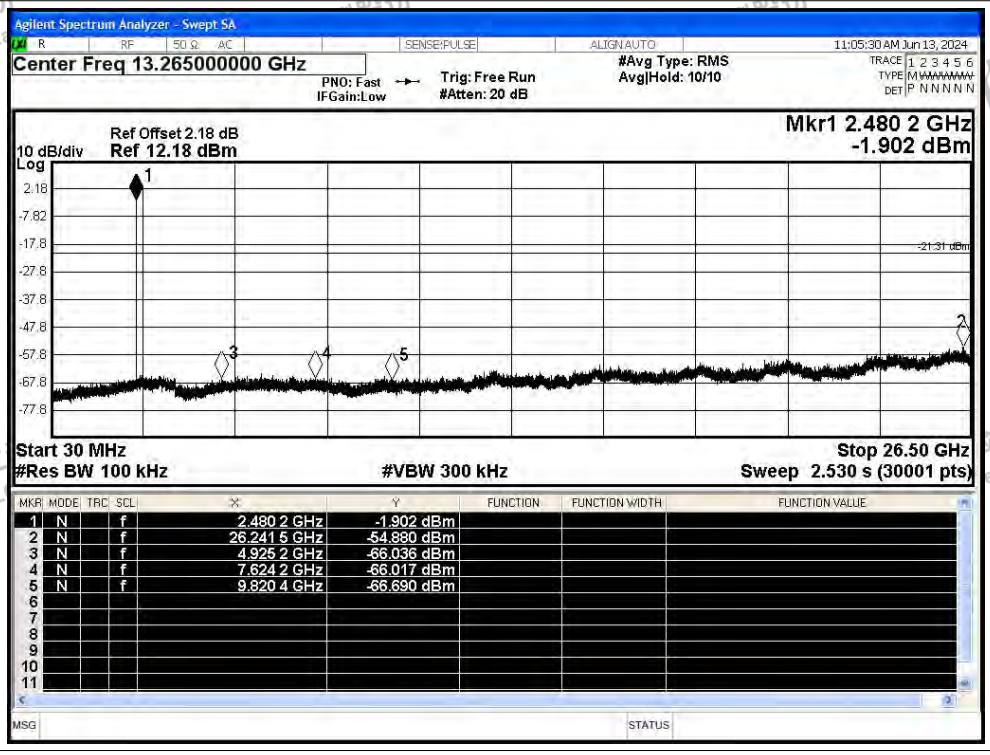
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



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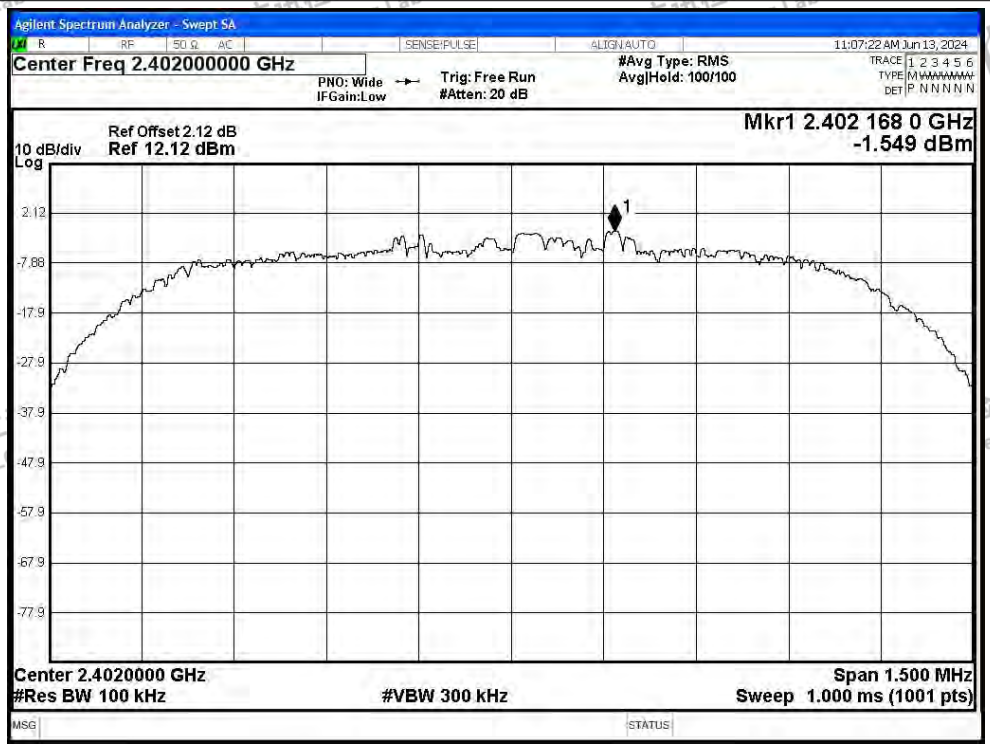
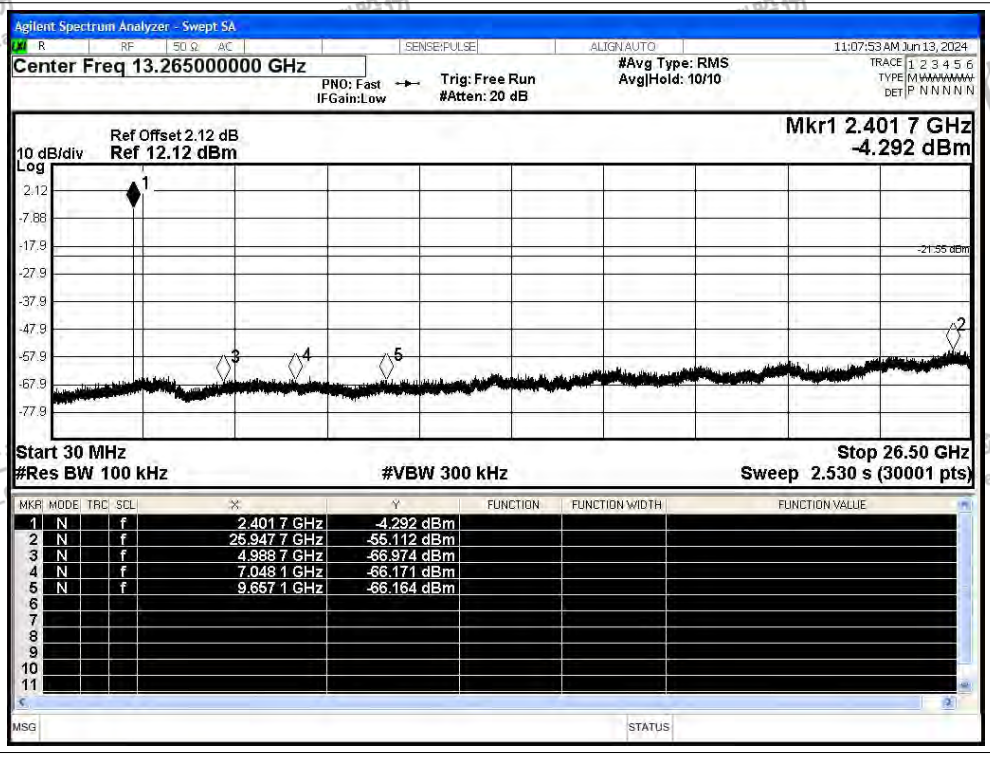
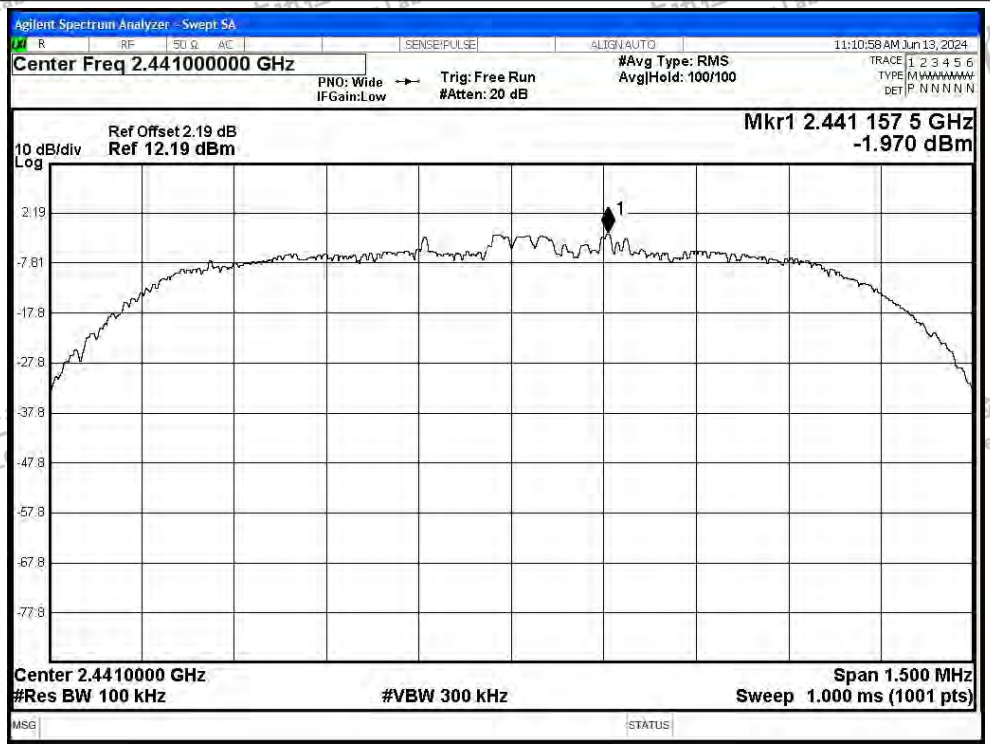


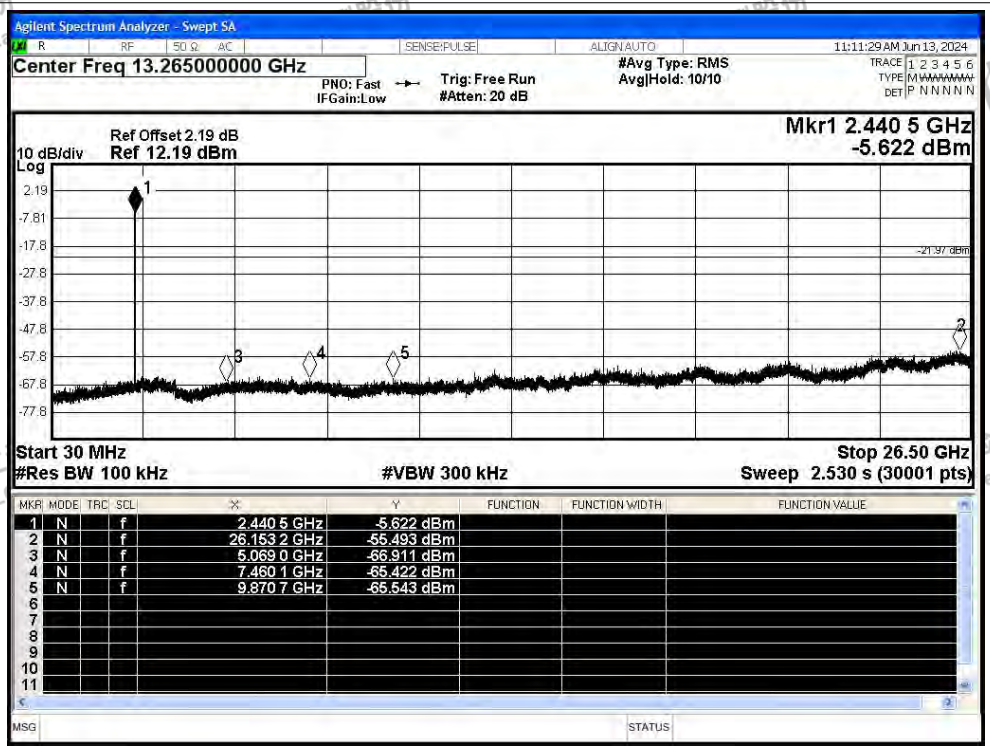
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



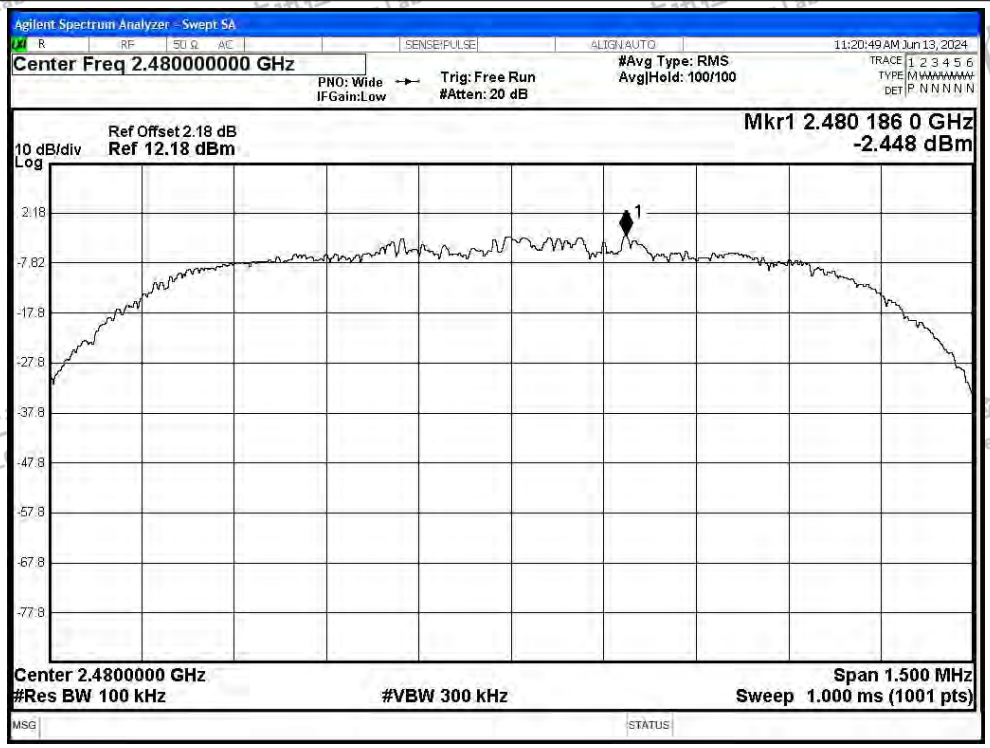
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



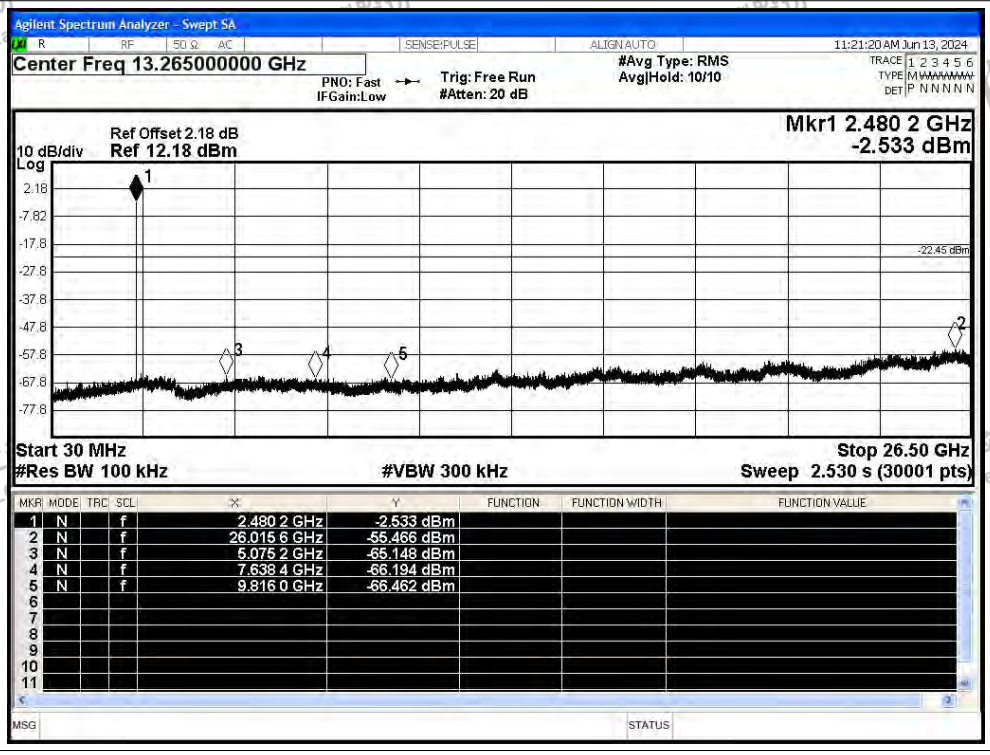
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

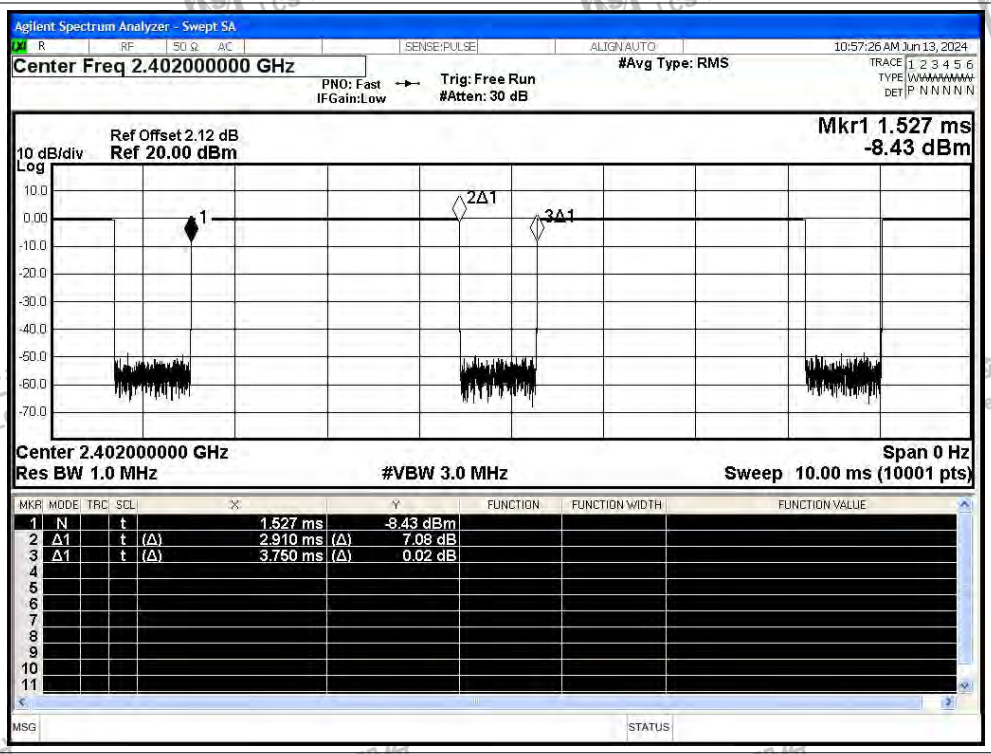


A.9 Duty Cycle

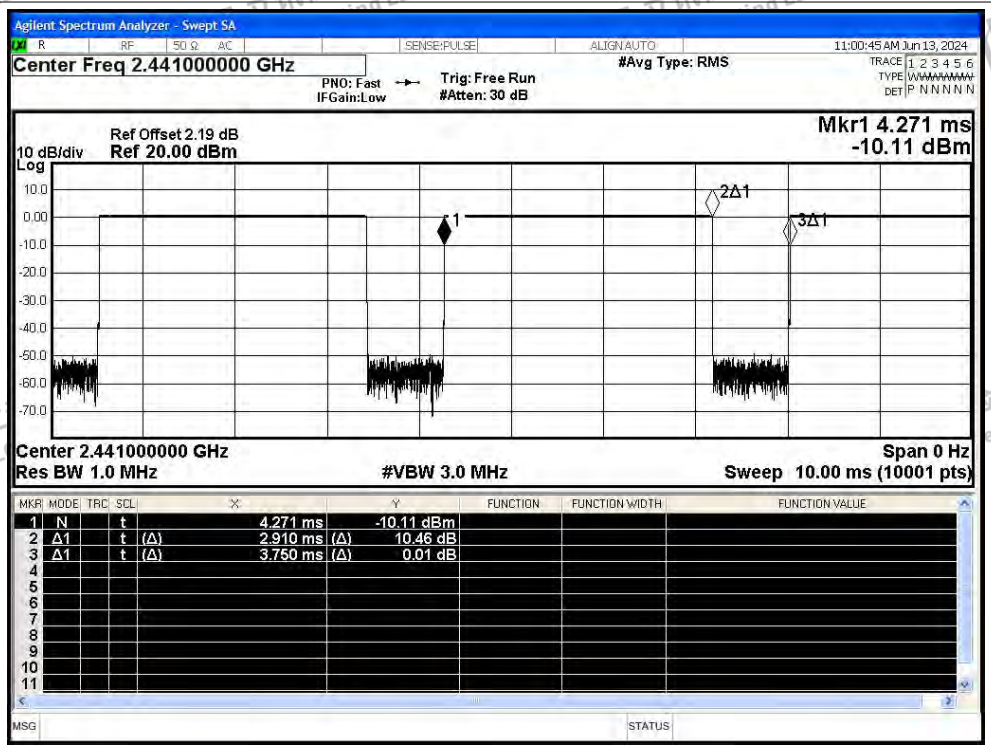
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	76.41	1.17	0.36
NVNT	2-DH5	2441	Ant1	76.41	1.17	0.36
NVNT	2-DH5	2480	Ant1	76.41	1.17	0.36

Test Graphs

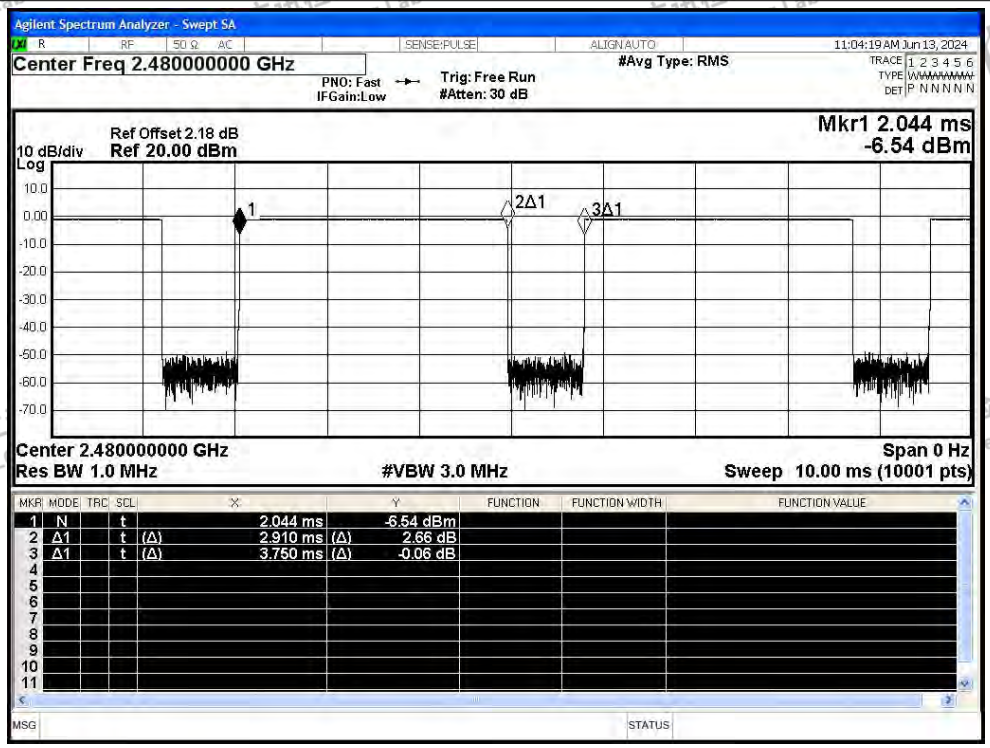
Duty Cycle NVNT 1-DH5 2402MHz Ant1



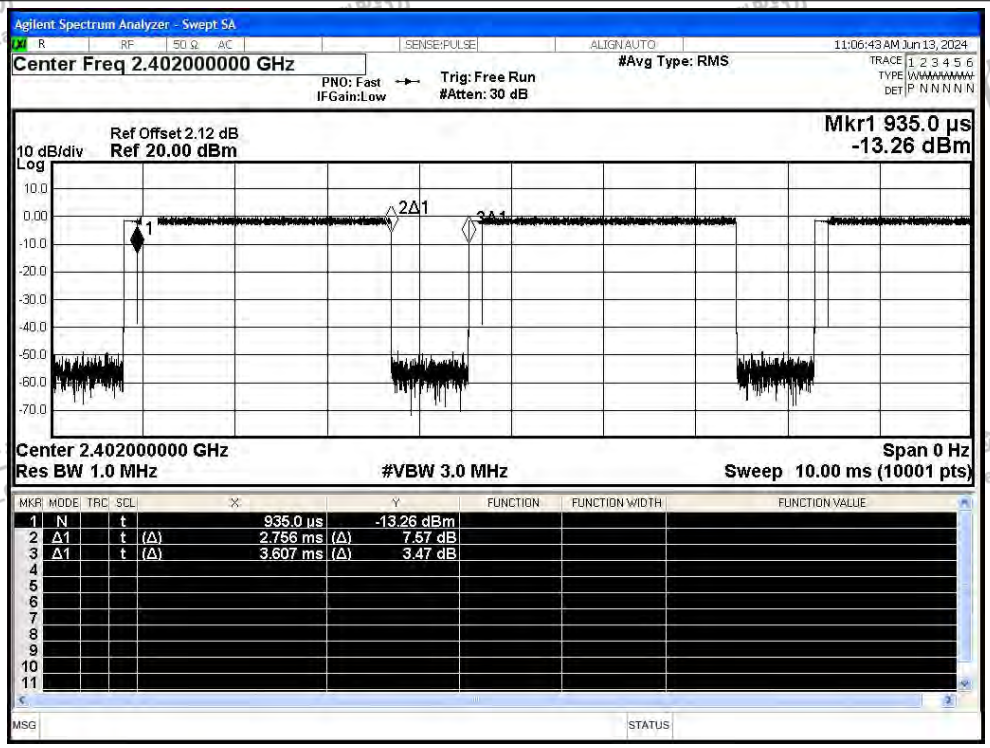
Duty Cycle NVNT 1-DH5 2441MHz Ant1



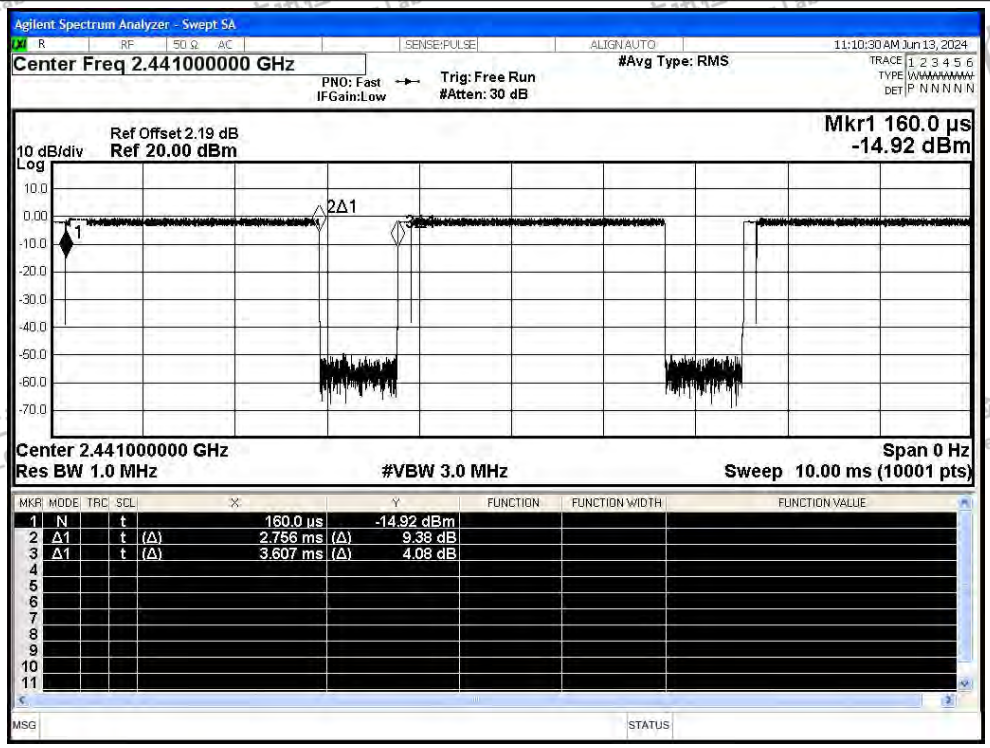
Duty Cycle NVNT 1-DH5 2480MHz Ant1



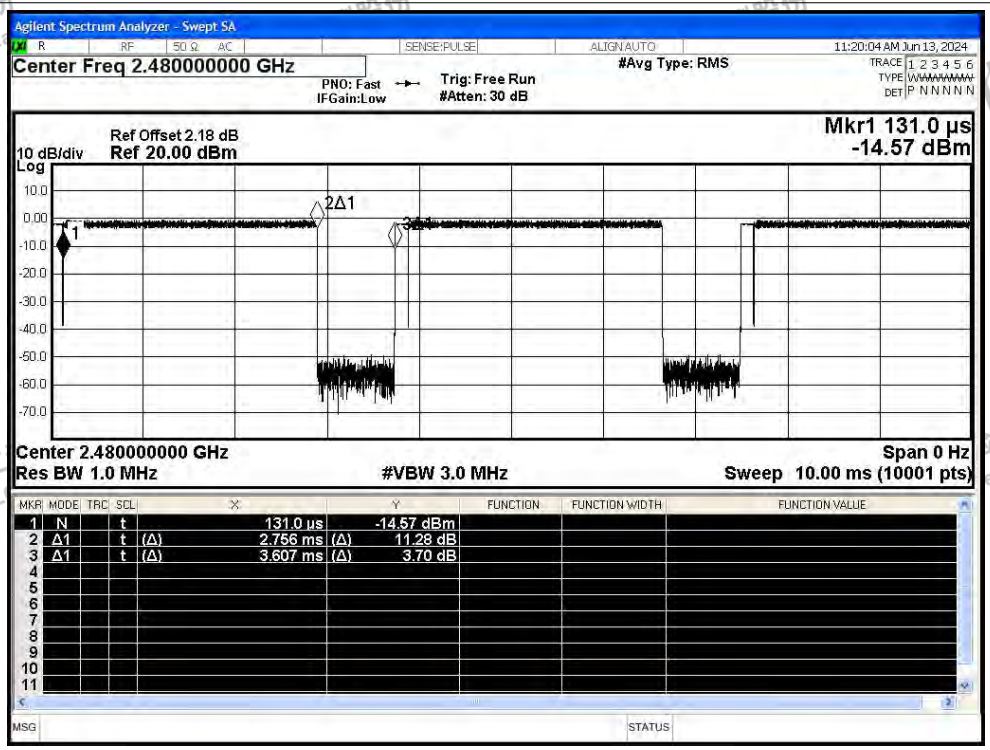
Duty Cycle NVNT 2-DH5 2402MHz Ant1



Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

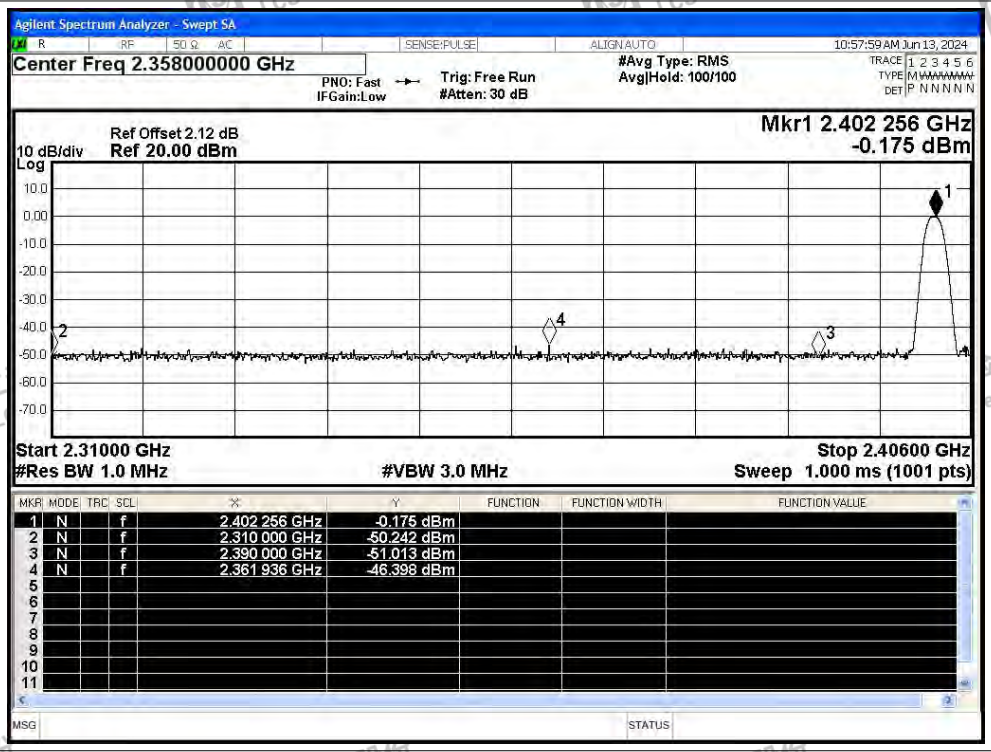


A.10 Restrict Band

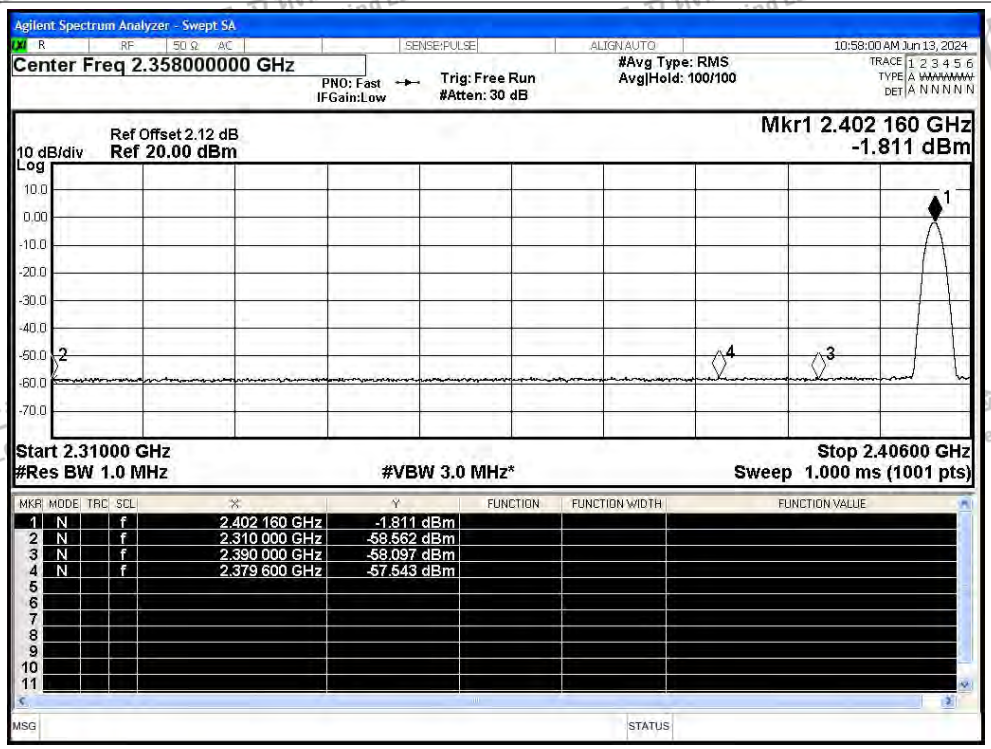
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.24	2	-	47.02	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.56	2	1.1	39.8	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2361.936	-46.4	2	-	50.86	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2379.6	-57.54	2	1.1	40.82	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.01	2	-	46.25	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.1	2	1.1	40.26	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-51.03	2	-	46.23	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.36	2	1.1	41	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.112	-46.67	2	-	50.59	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.88	-57.09	2	1.1	41.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.56	2	-	47.7	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.05	2	1.1	40.31	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.86	2	-	47.4	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.44	2	1.17	39.99	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2339.664	-47.68	2	-	49.58	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2342.064	-57.69	2	1.17	40.74	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.86	2	-	48.4	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.65	2	1.17	39.78	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.67	2	-	48.59	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.15	2	1.17	41.28	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.936	-46.6	2	-	50.66	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-57.15	2	1.17	41.28	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.29	2	-	46.97	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.68	2	1.17	40.75	Average	54	Pass

Test Graphs

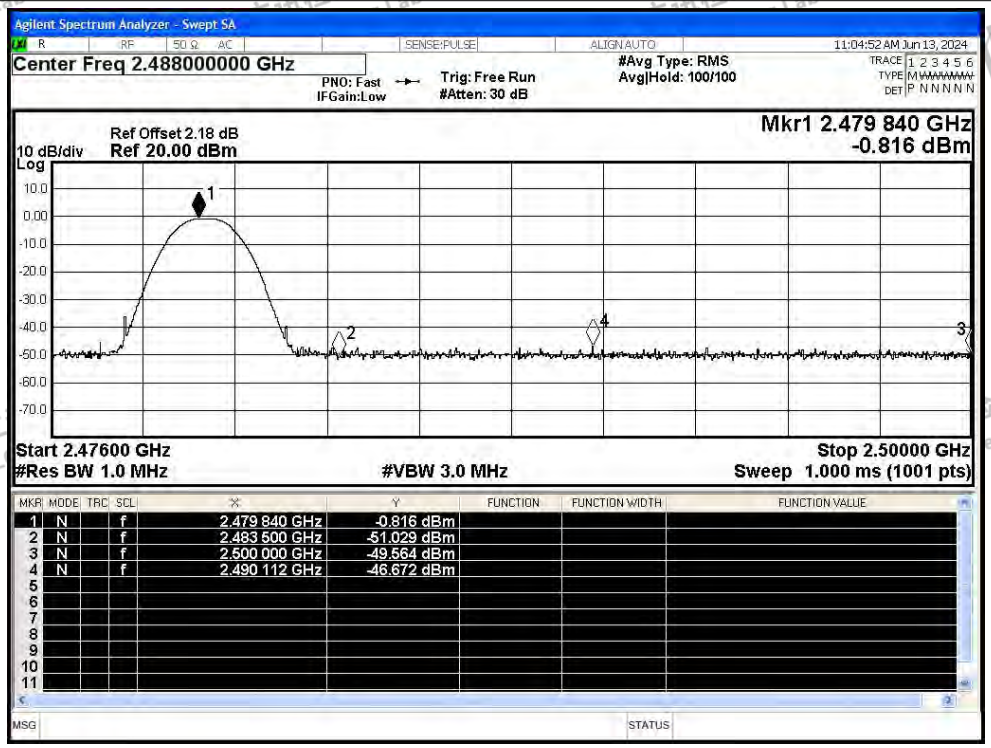
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



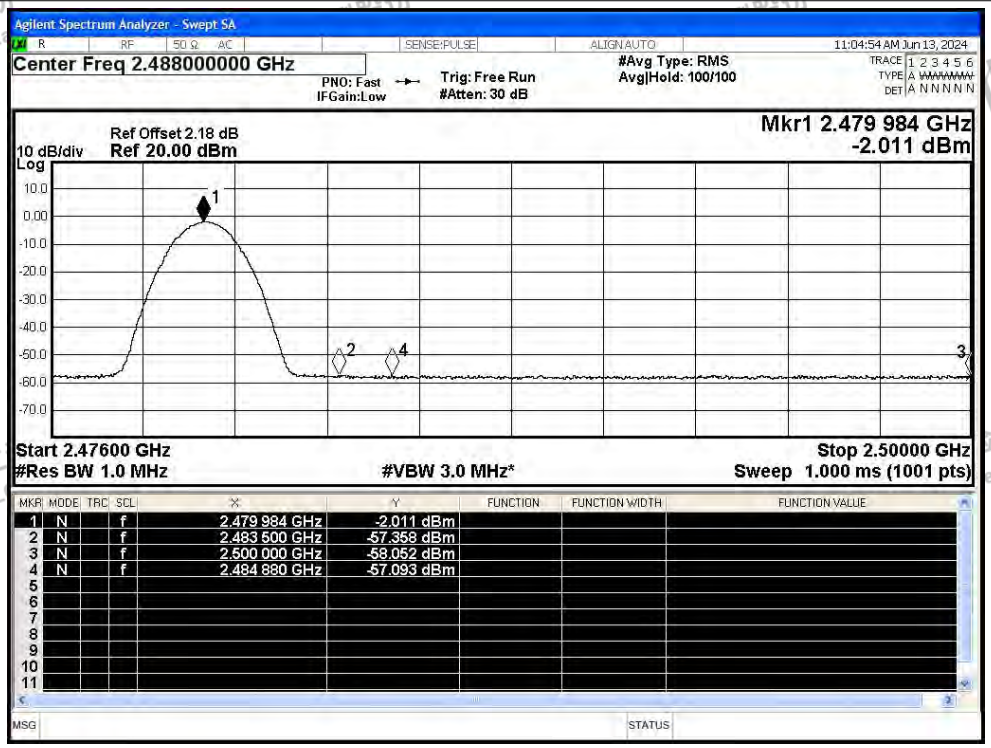
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



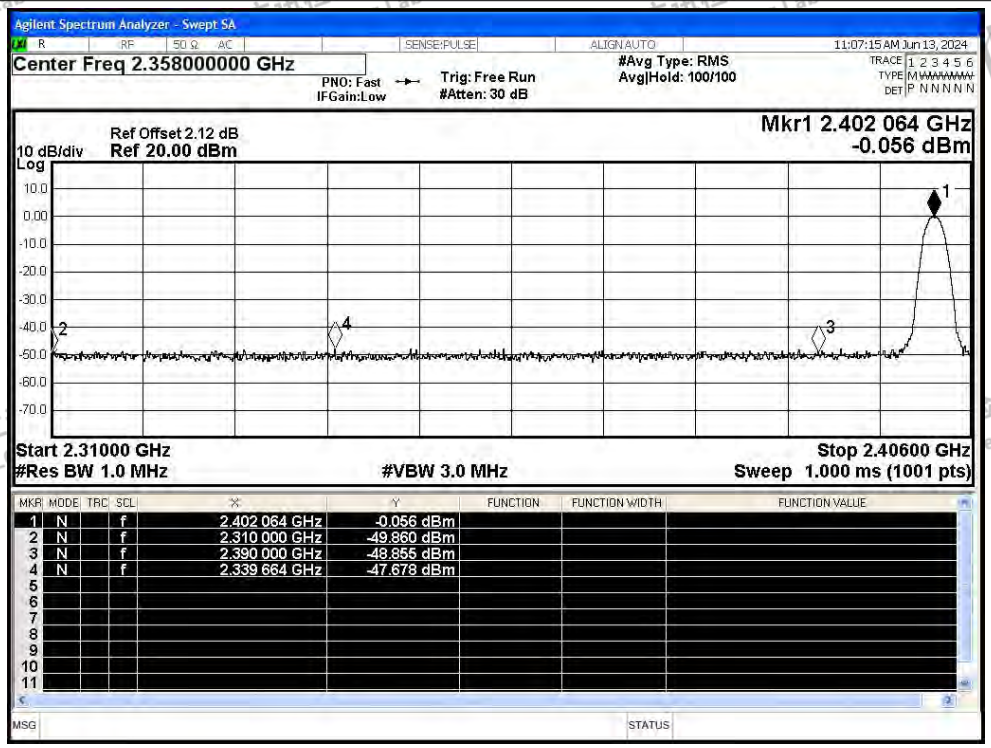
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



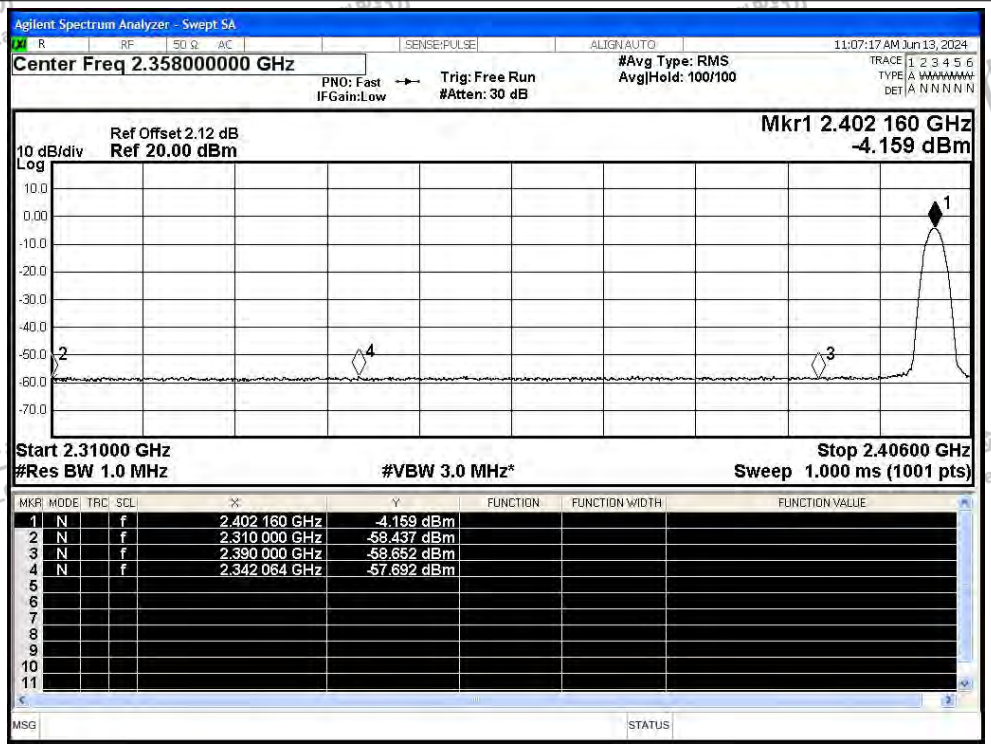
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



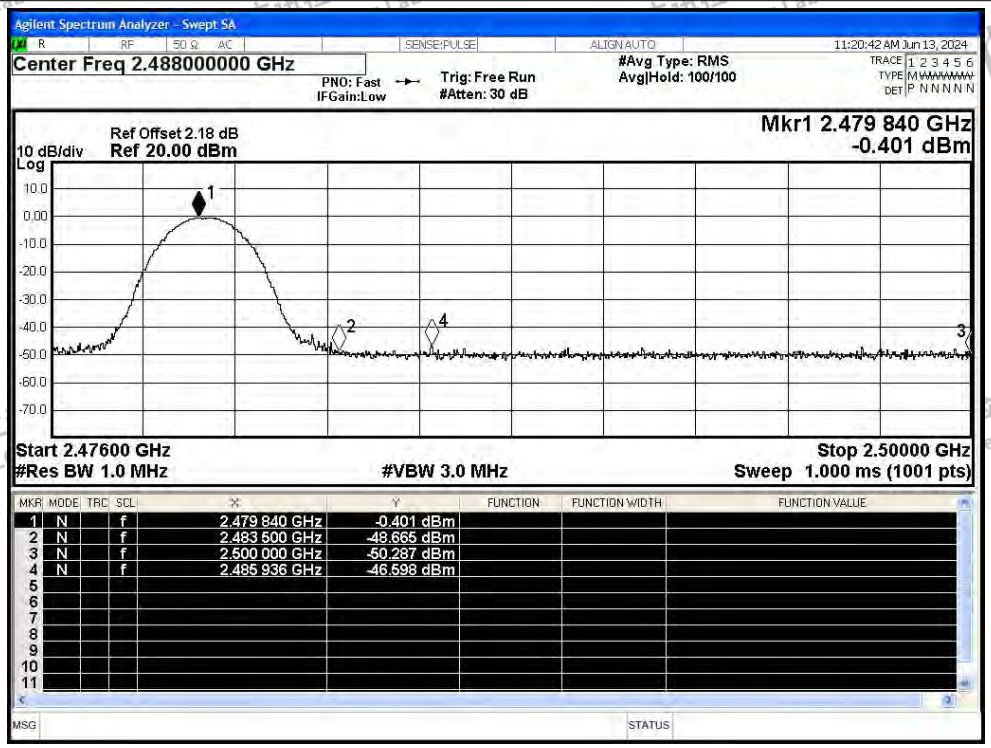
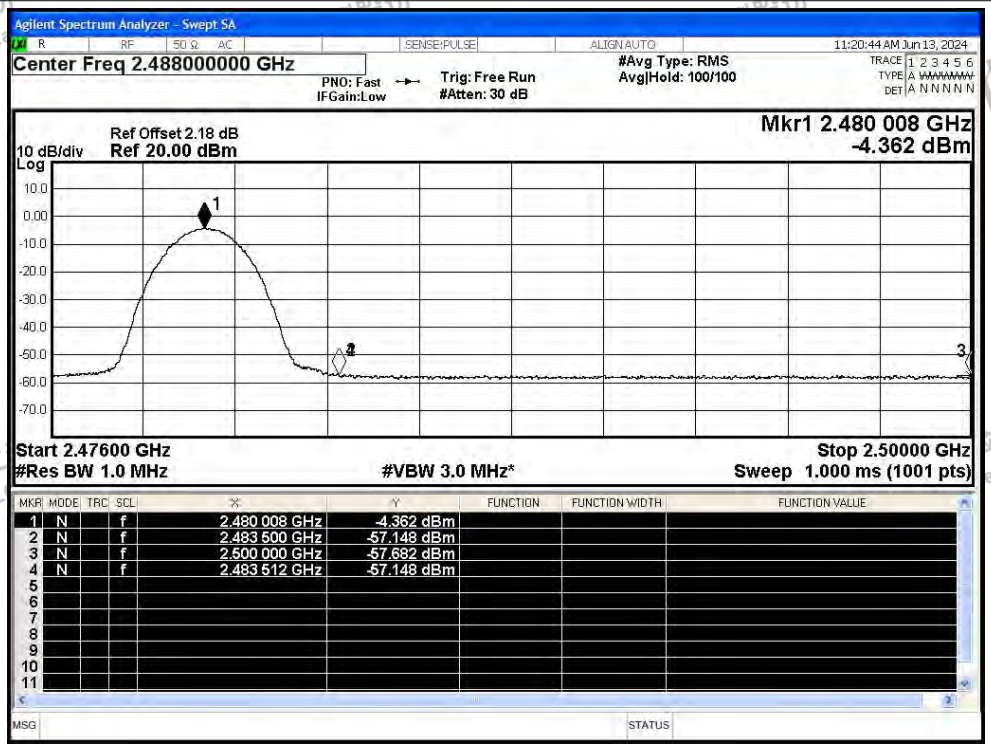
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



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