

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Speaker

Test Model: COBALTPITCH

Environmental Conditions

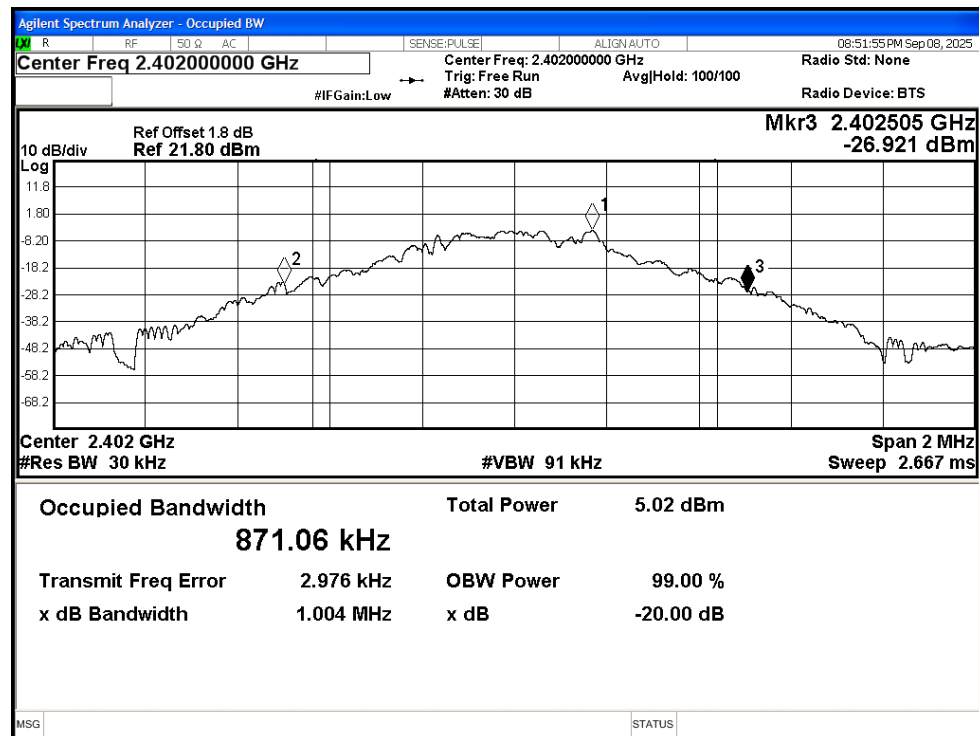
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jone Lee
Supervised by:	Fengliu Tang

A.1 -20dB Bandwidth

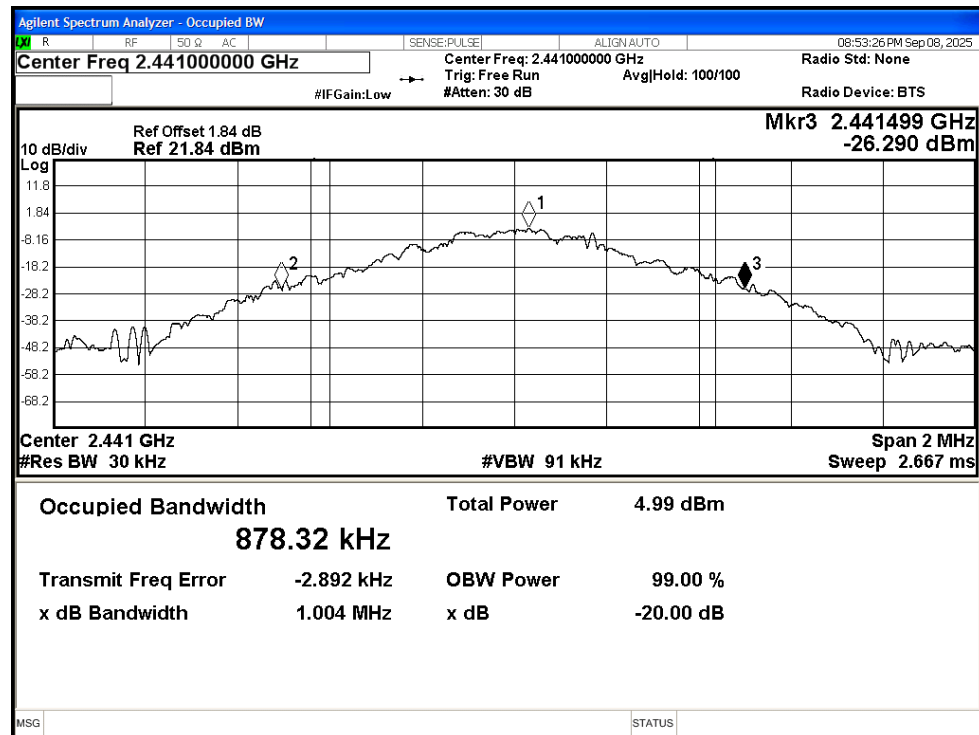
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.004	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.004	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.009	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.279	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.328	N/A	Pass

Test Graphs

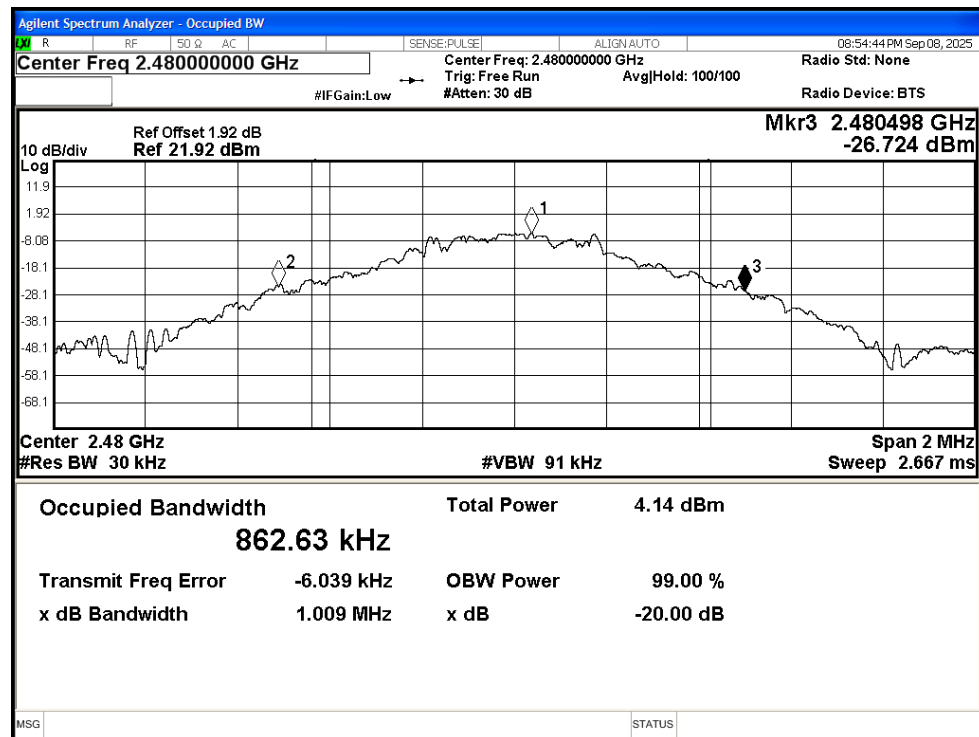
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



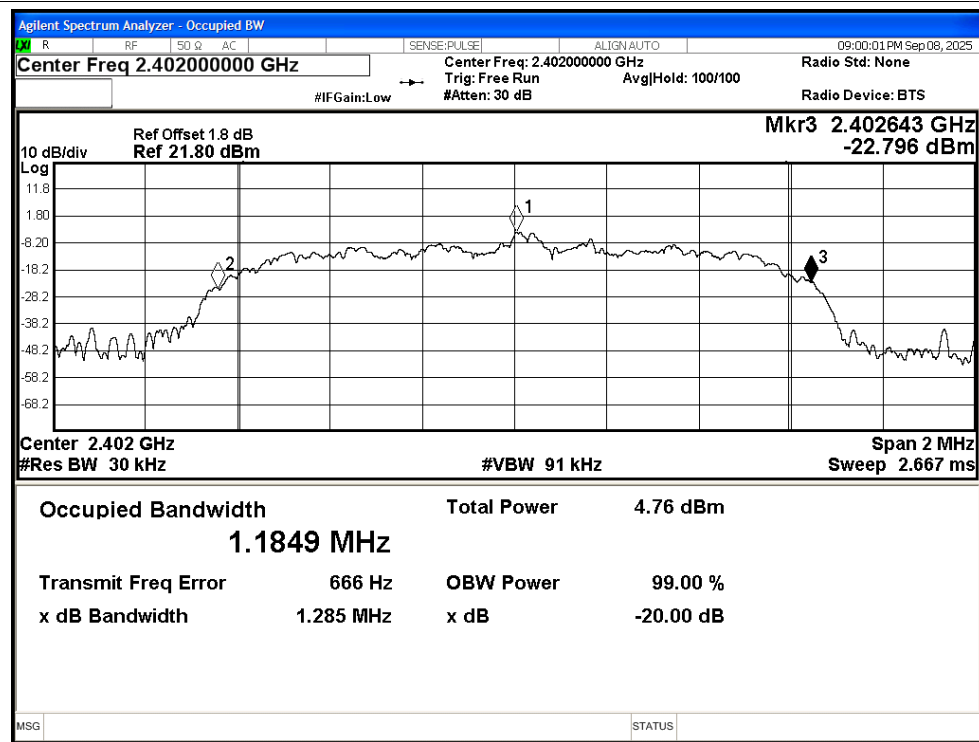
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



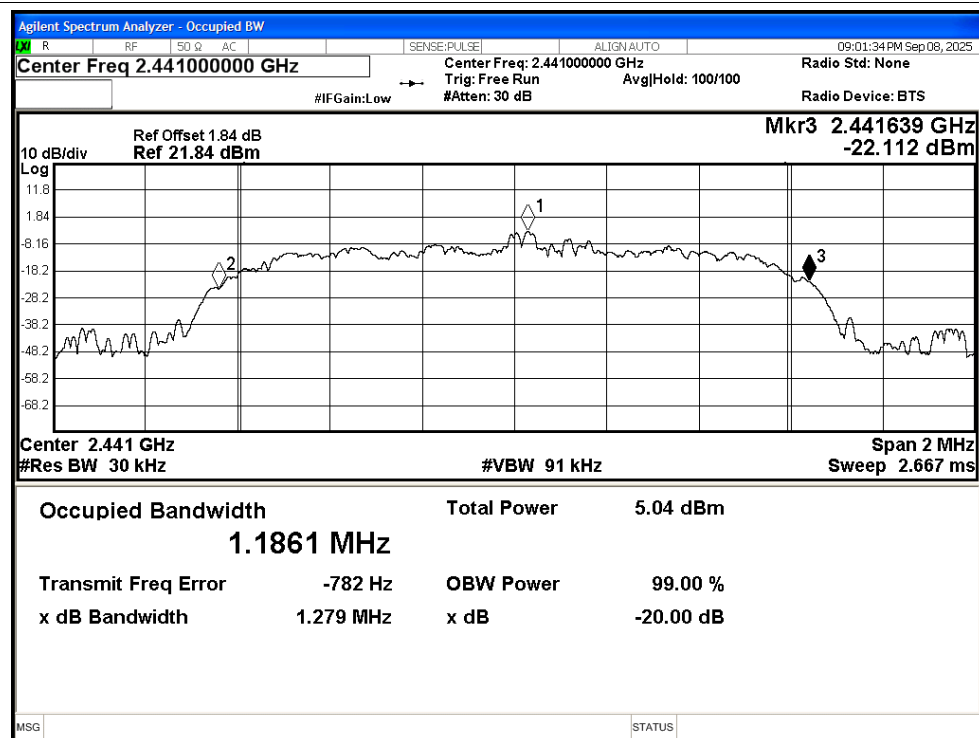
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



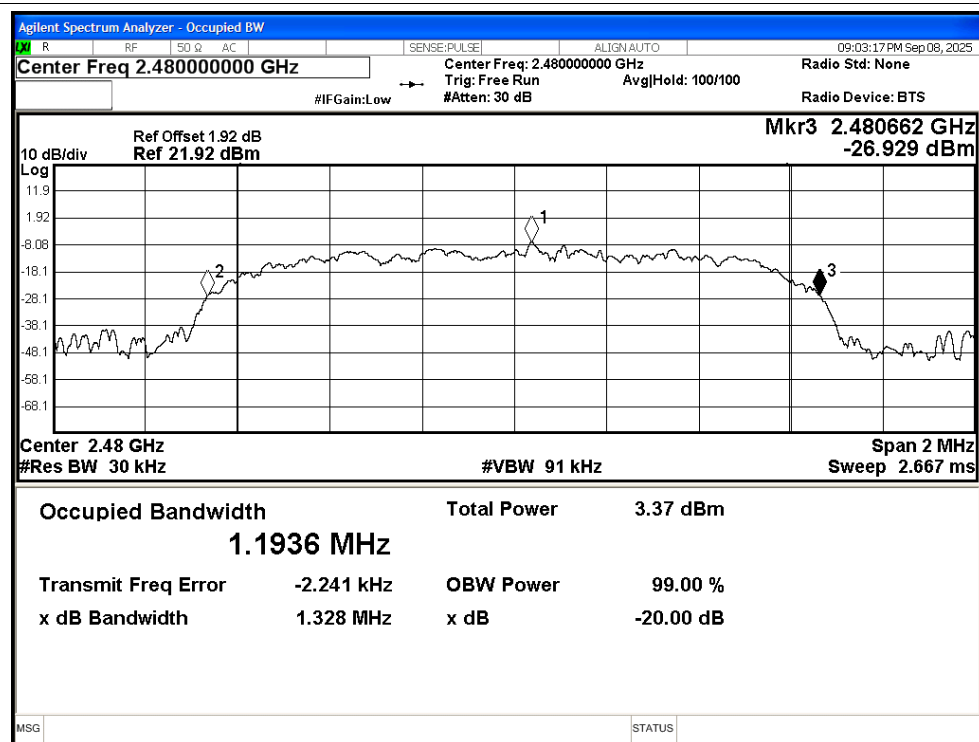
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

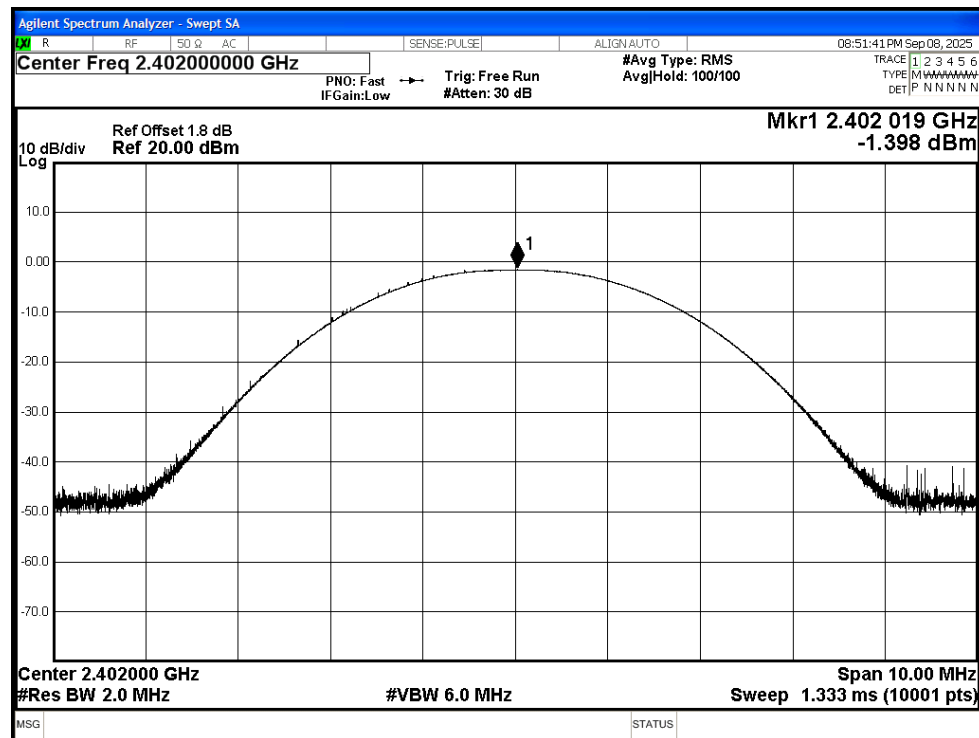


A.2 Maximum Peak Conducted Output Power

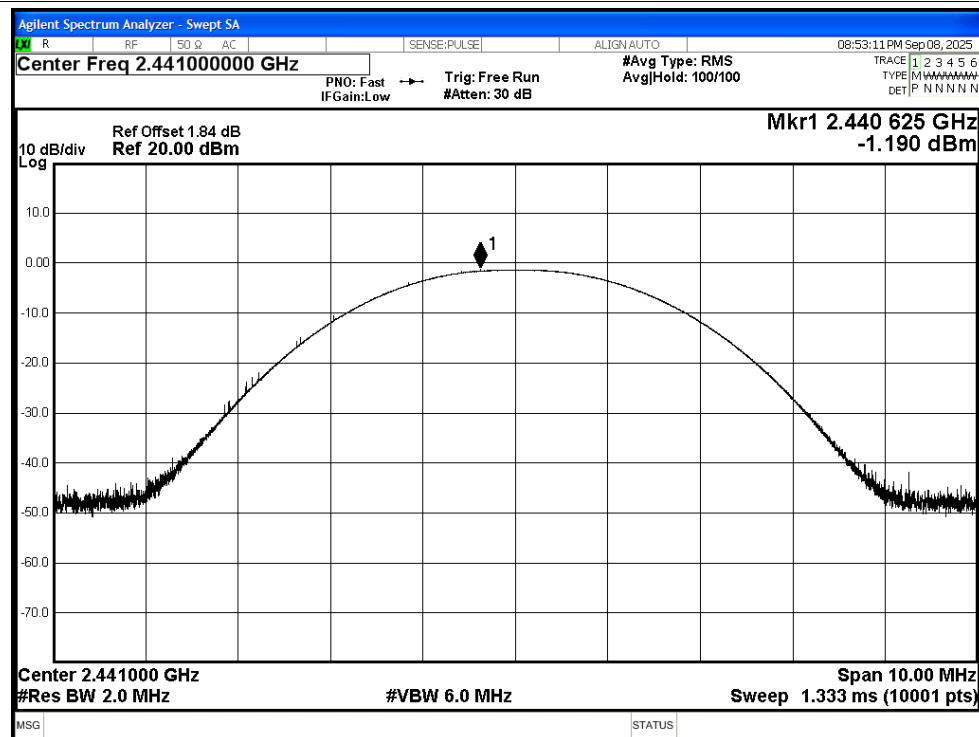
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.40	21	Pass
NVNT	1-DH5	2441	Ant1	-1.19	21	Pass
NVNT	1-DH5	2480	Ant1	-2.40	21	Pass
NVNT	2-DH5	2402	Ant1	0.46	21	Pass
NVNT	2-DH5	2441	Ant1	0.73	21	Pass
NVNT	2-DH5	2480	Ant1	-0.31	21	Pass

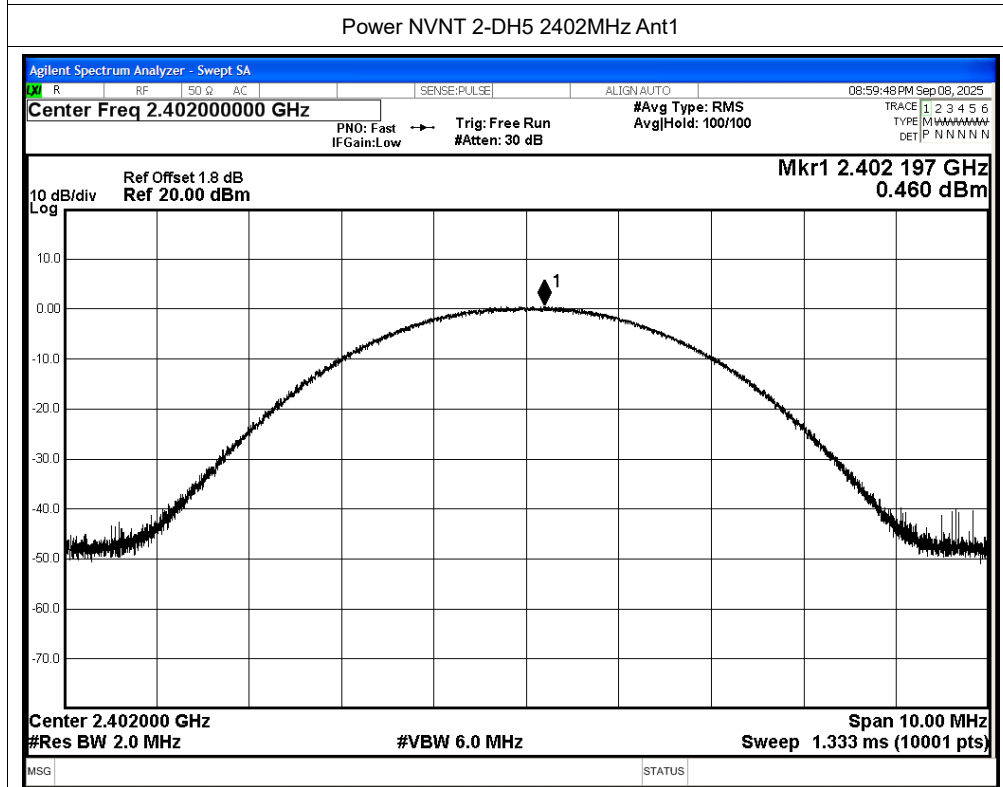
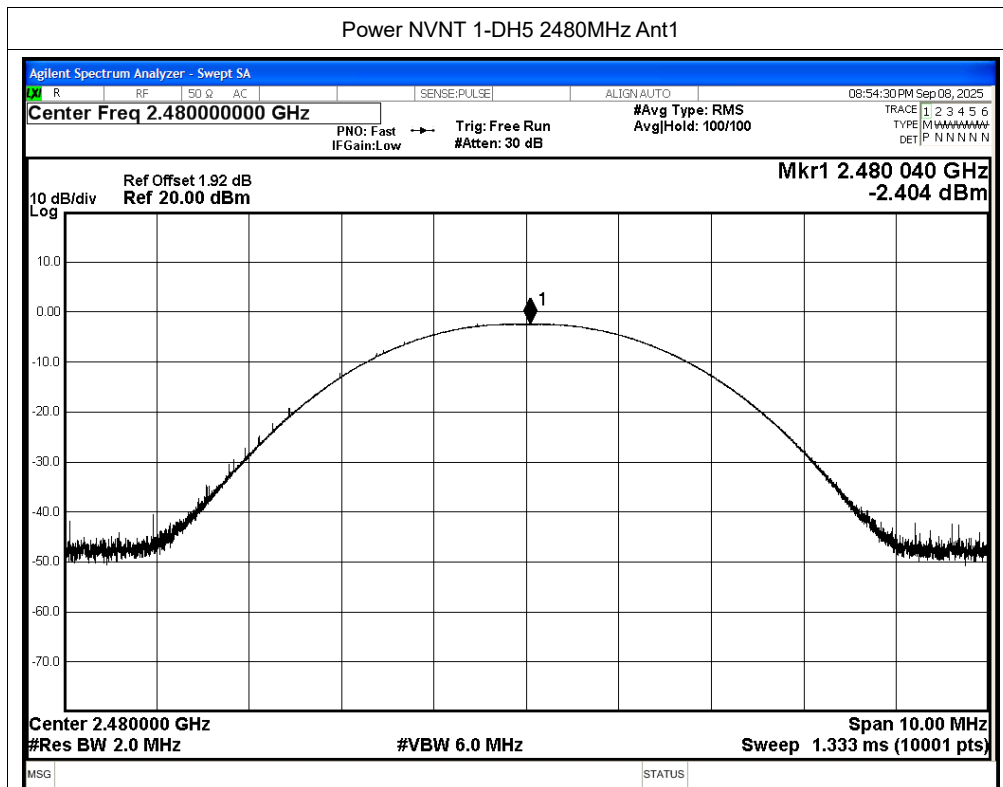
Test Graphs

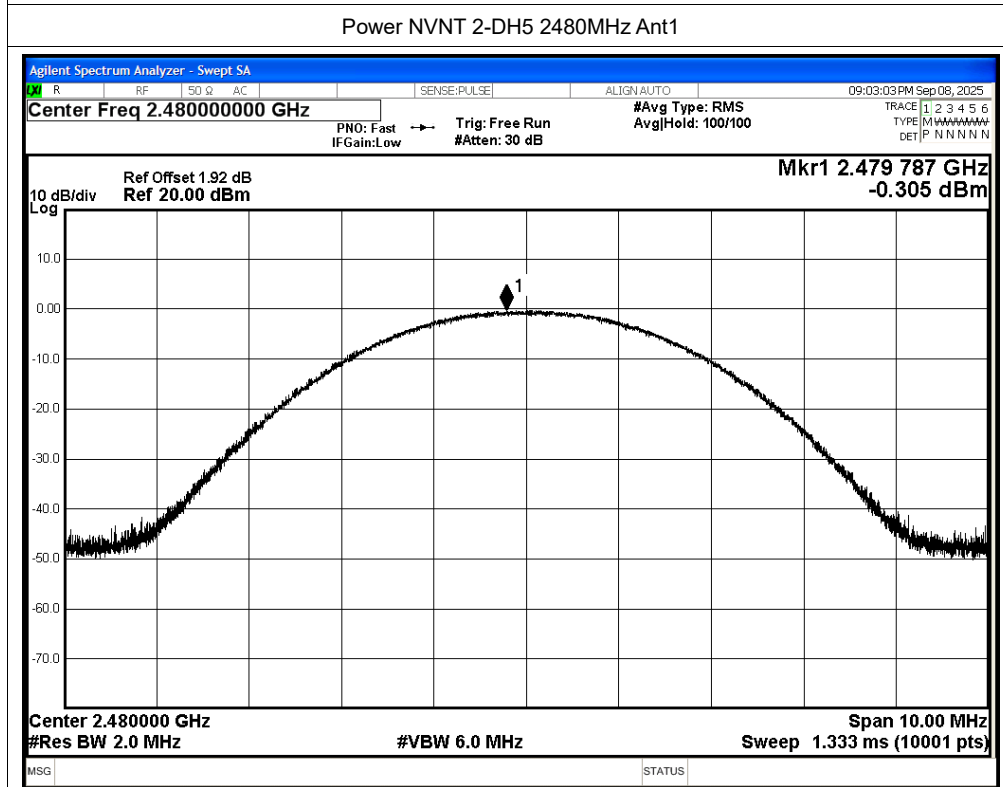
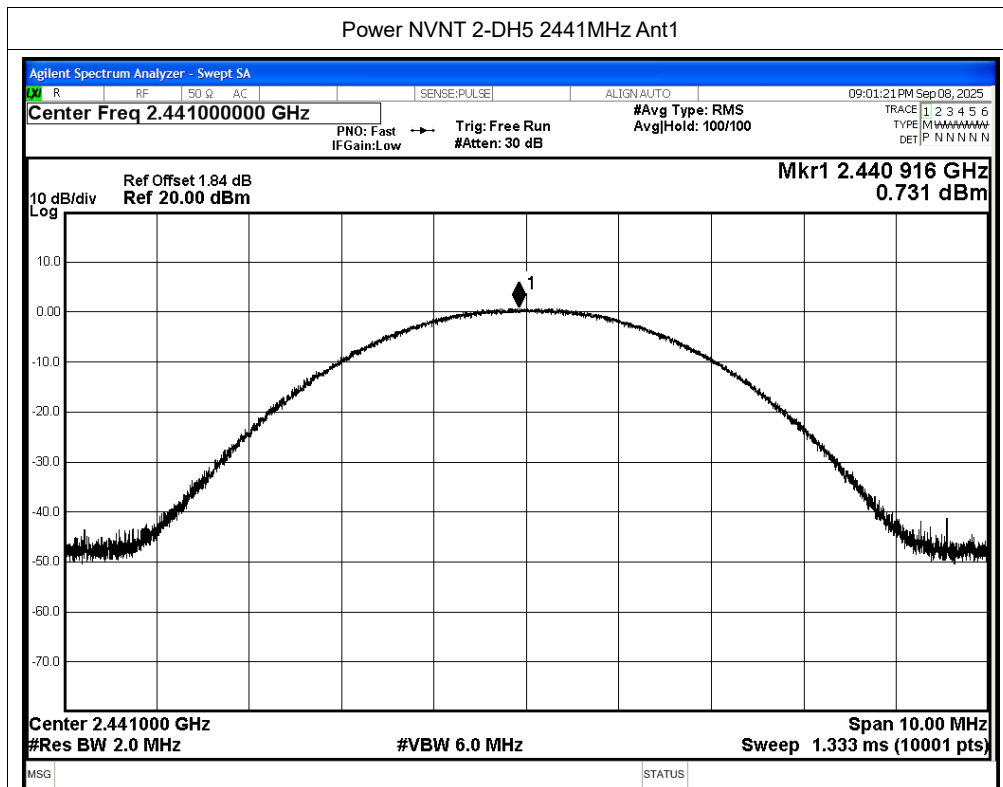
Power NVNT 1-DH5 2402MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1





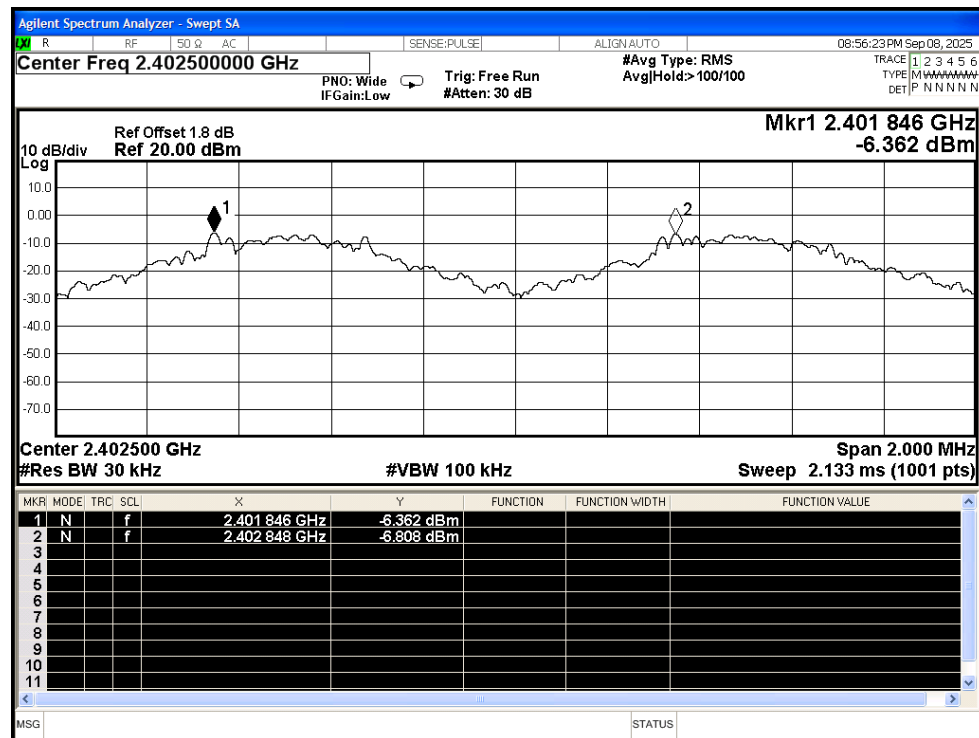


A.3 Carrier Frequencies Separation

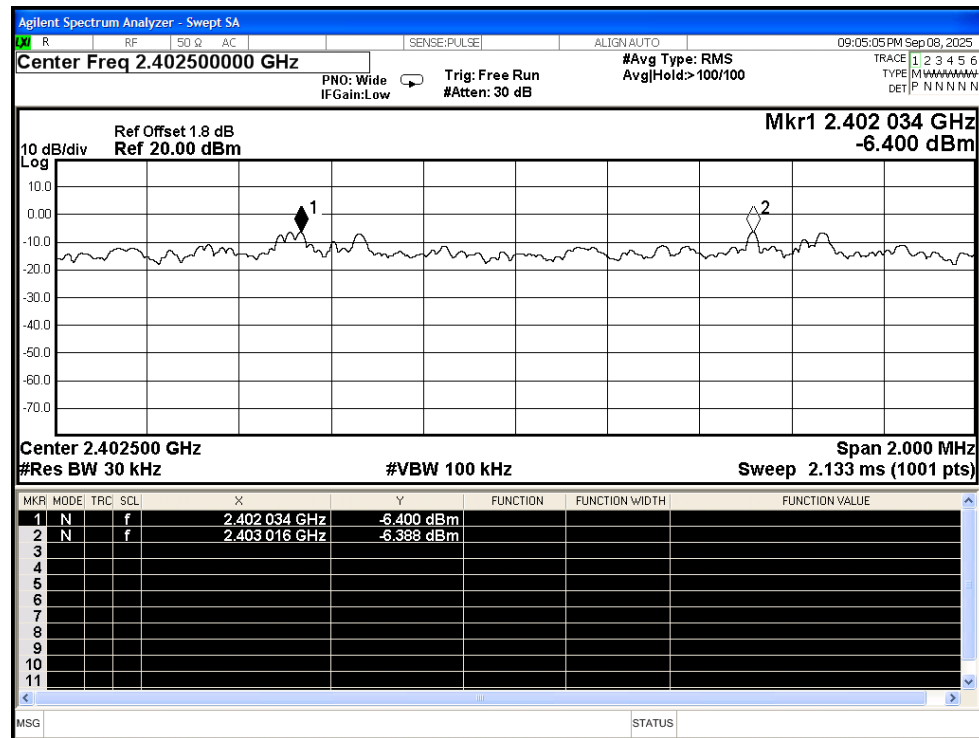
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.846	2402.848	1.002	0.669	Pass
NVNT	2-DH5	Ant1	2402.034	2403.016	0.982	0.857	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

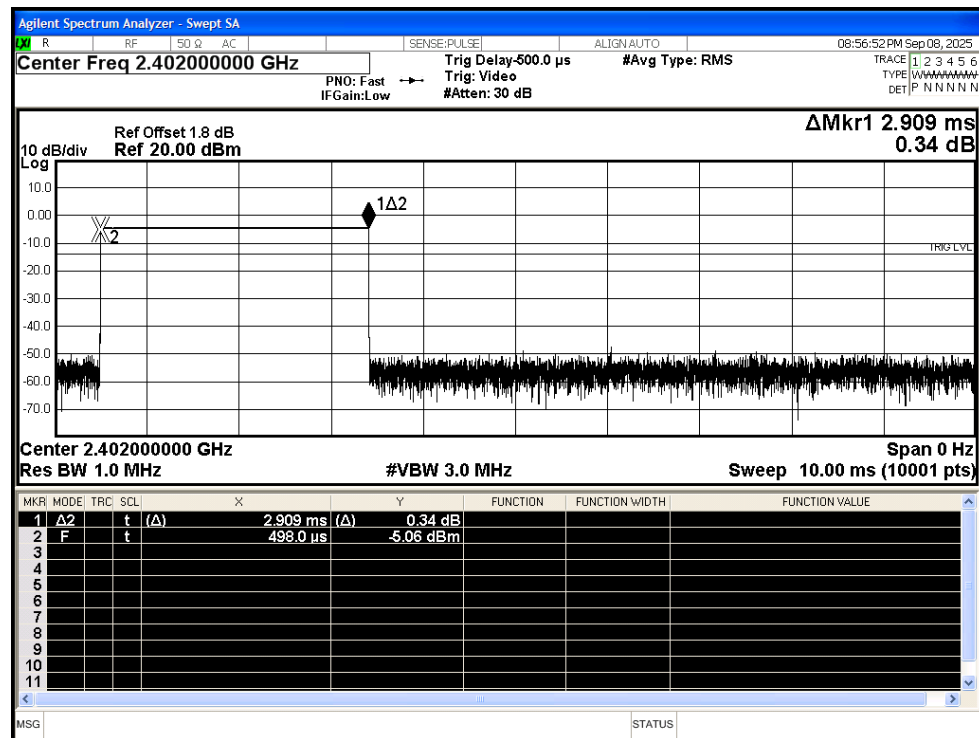


A.4 Dwell Time

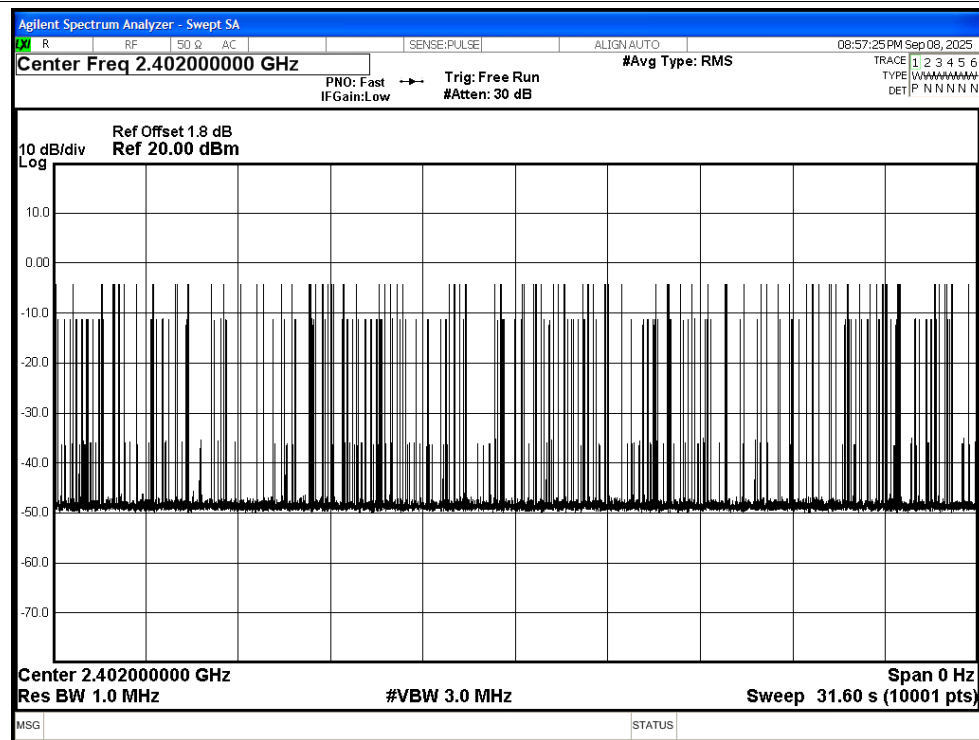
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	287.991	99	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	327.474	113	31600	400	Pass

Test Graphs

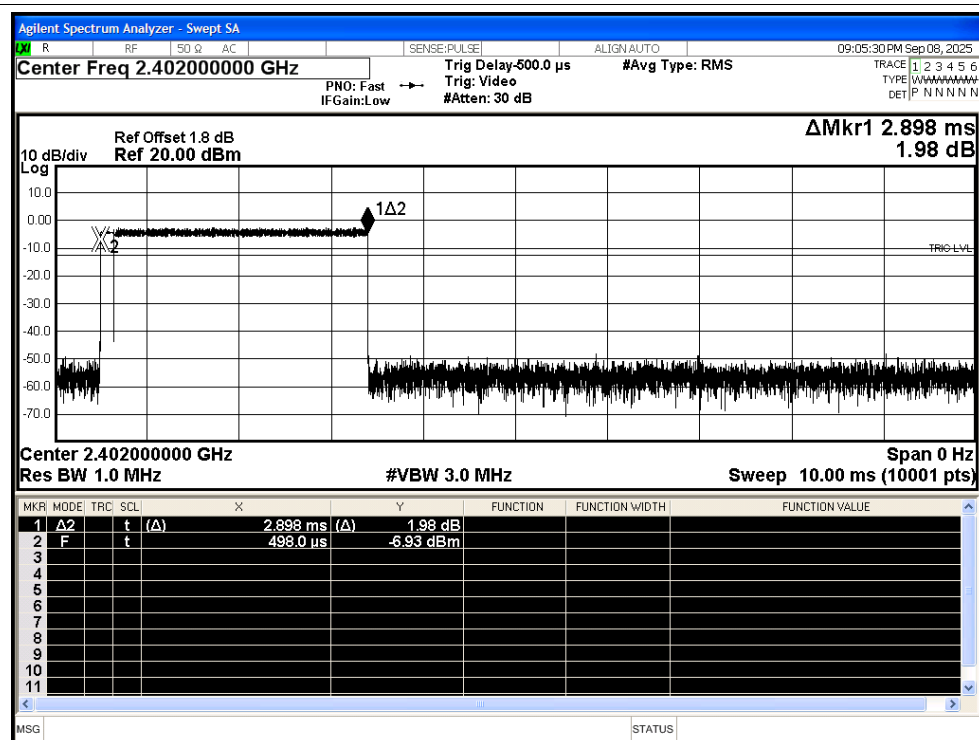
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



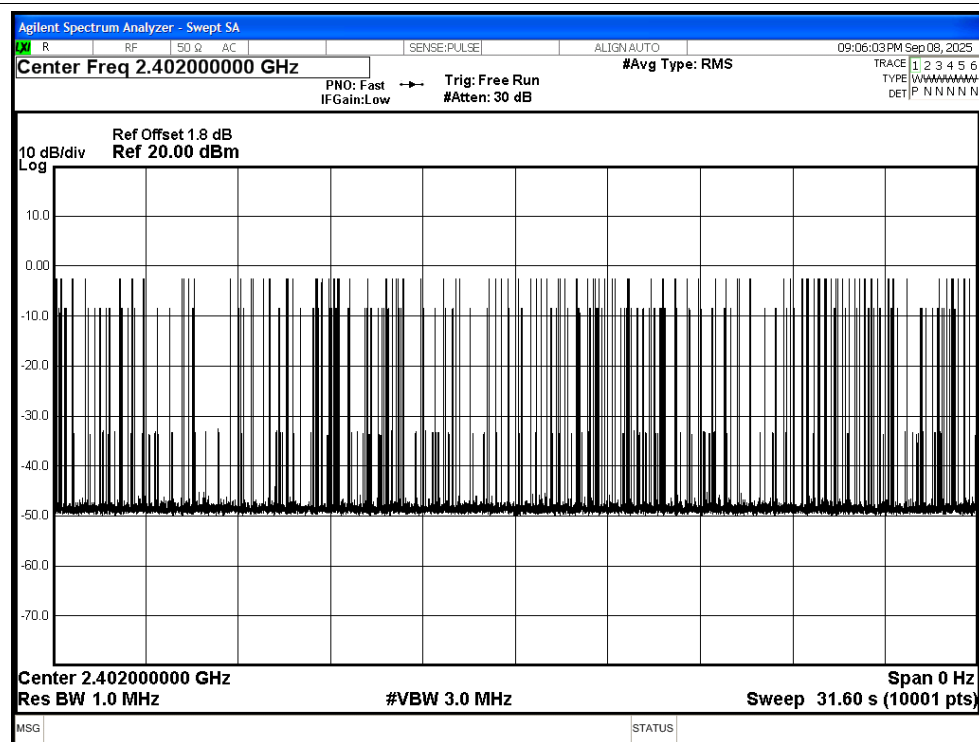
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

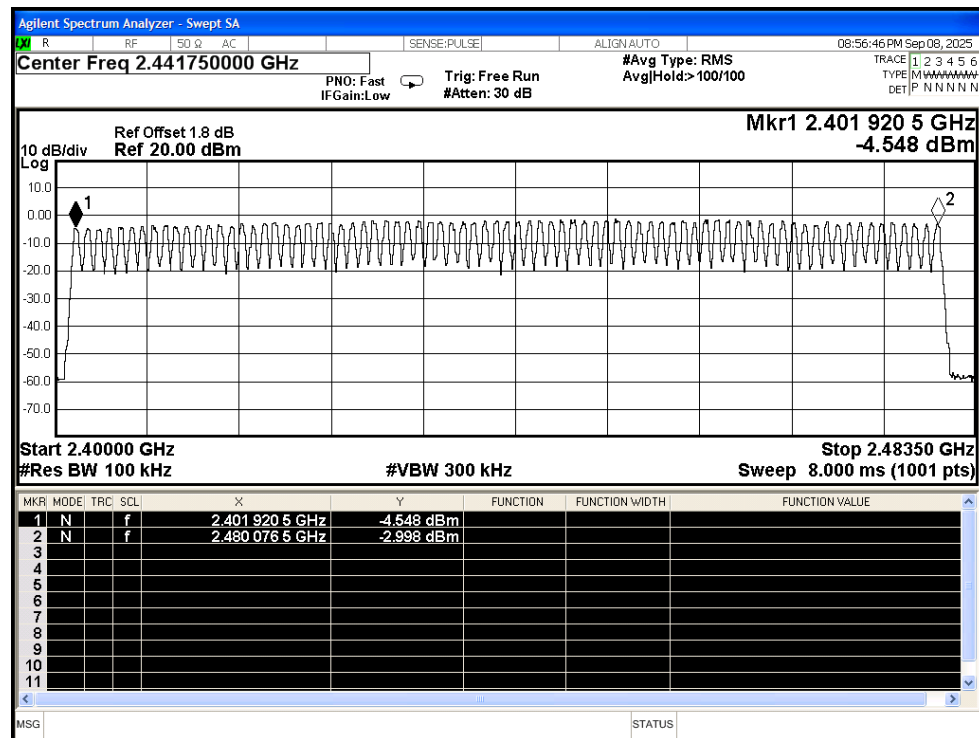


A.5 Number of Hopping Channel

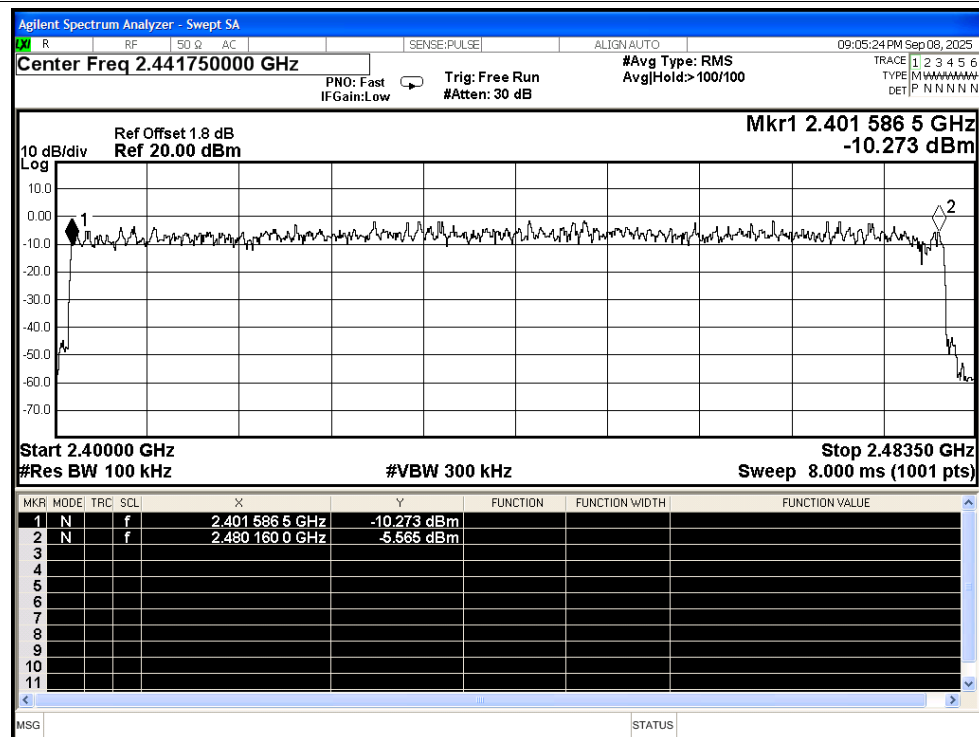
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass

Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1

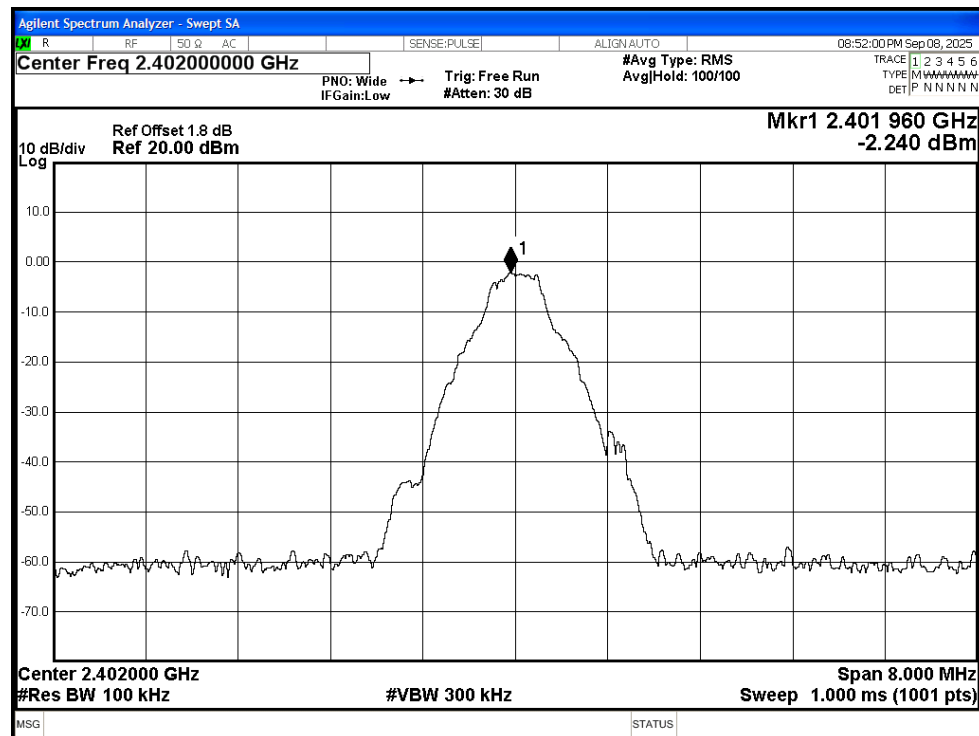


A.6 Band Edge

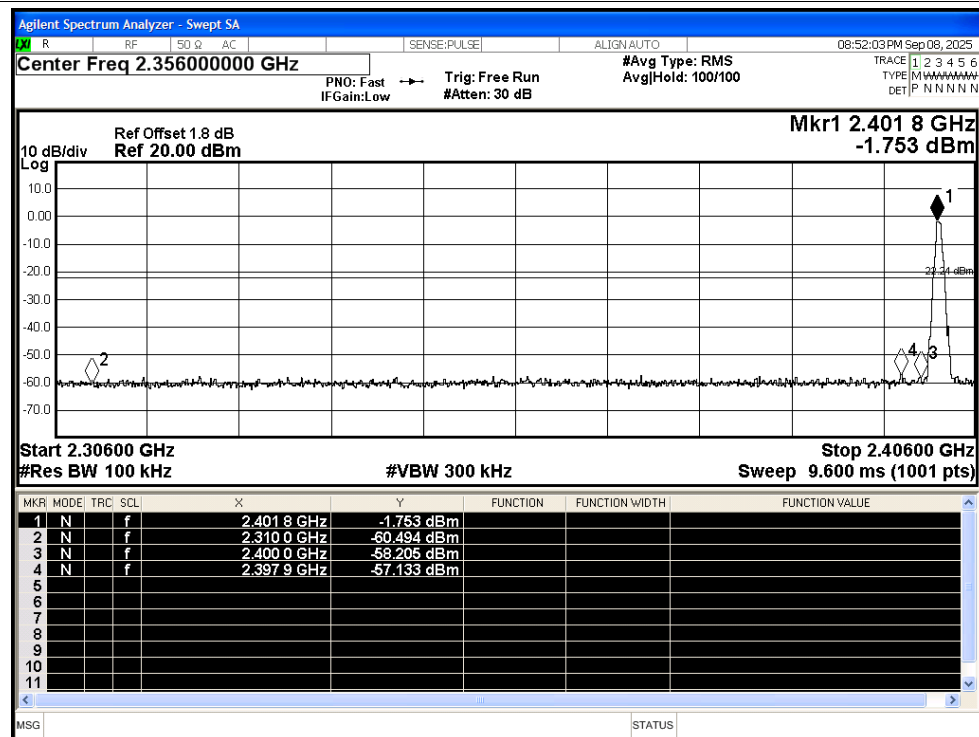
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.89	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-53.79	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.09	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.33	-20	Pass

Test Graphs

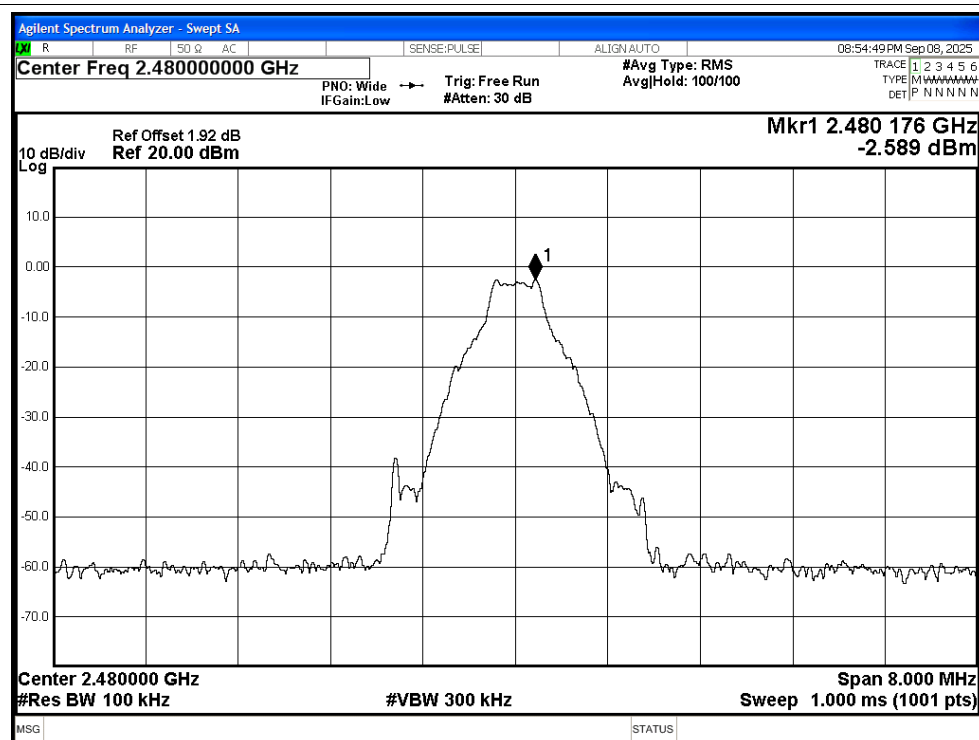
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



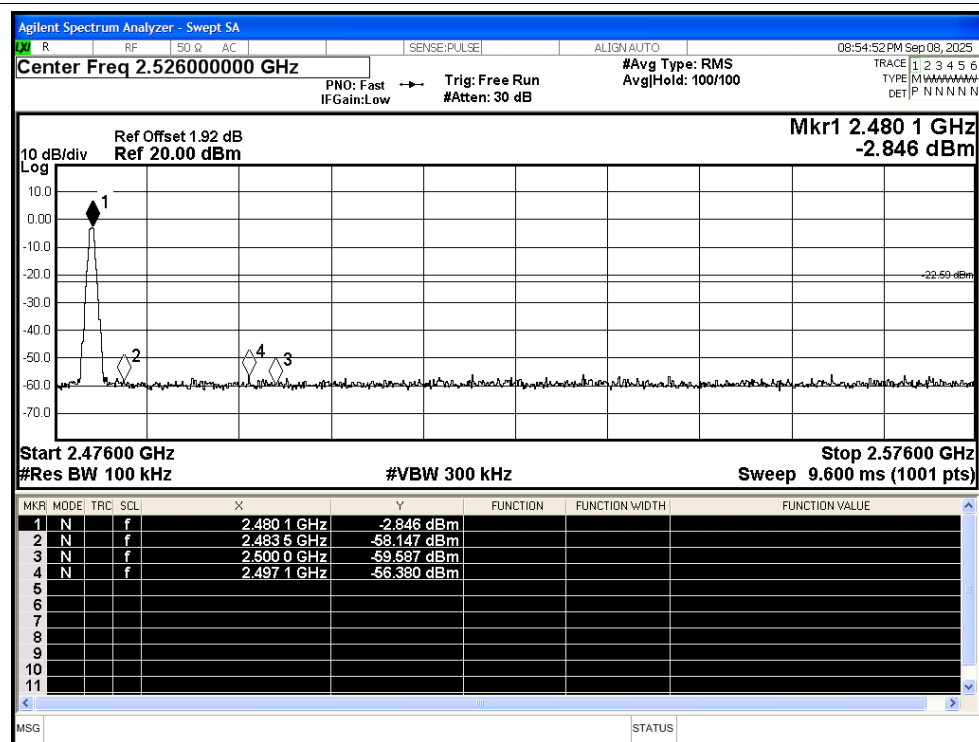
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



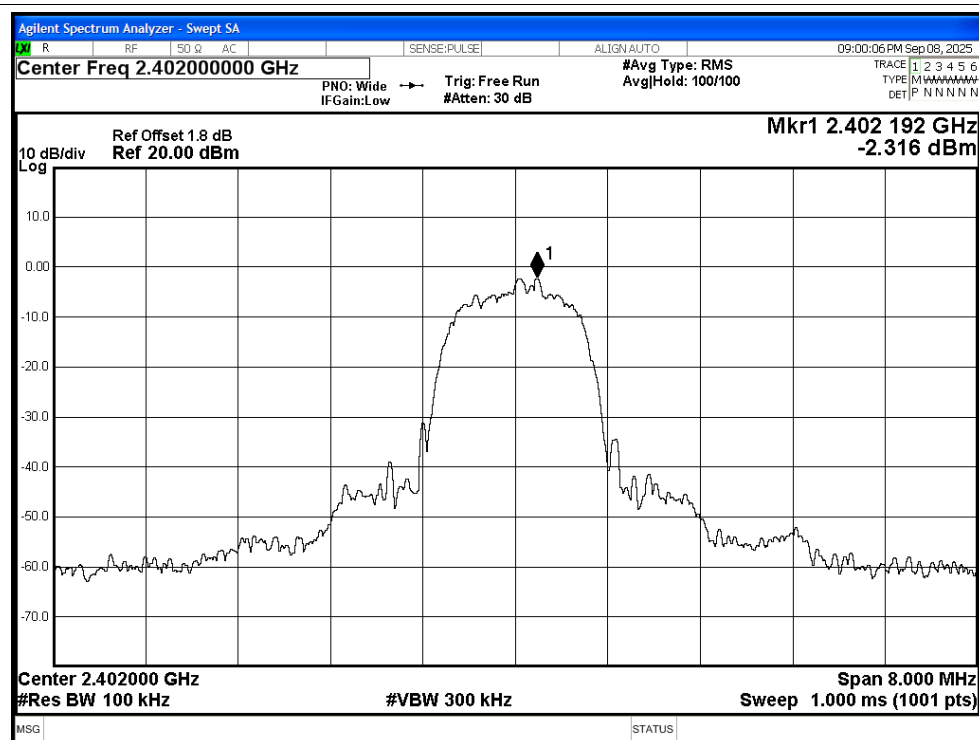
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



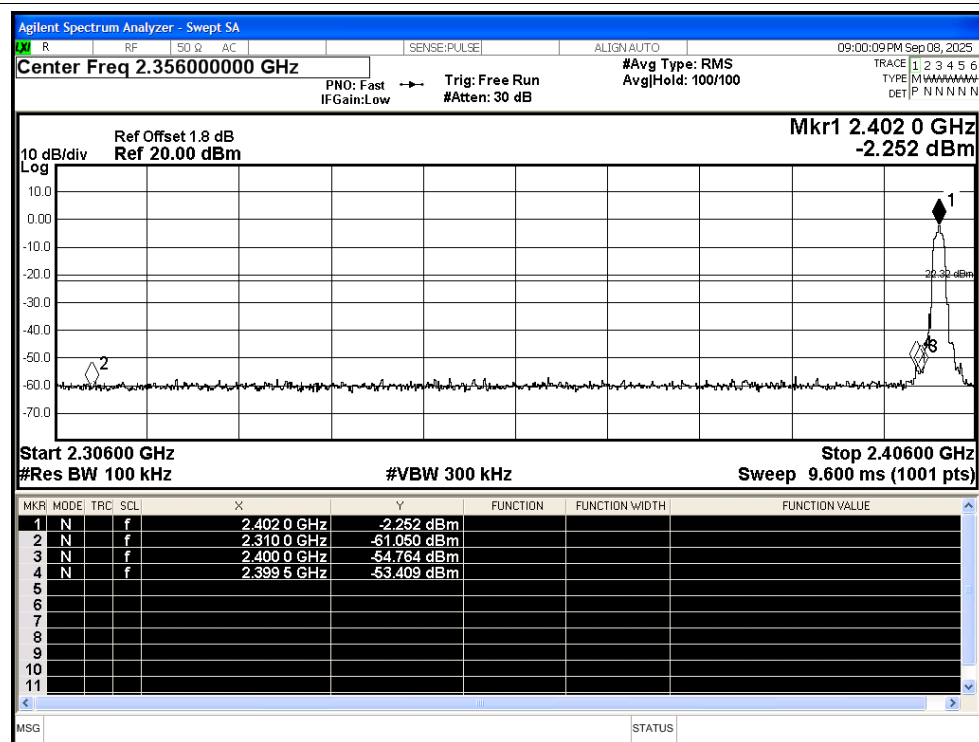
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

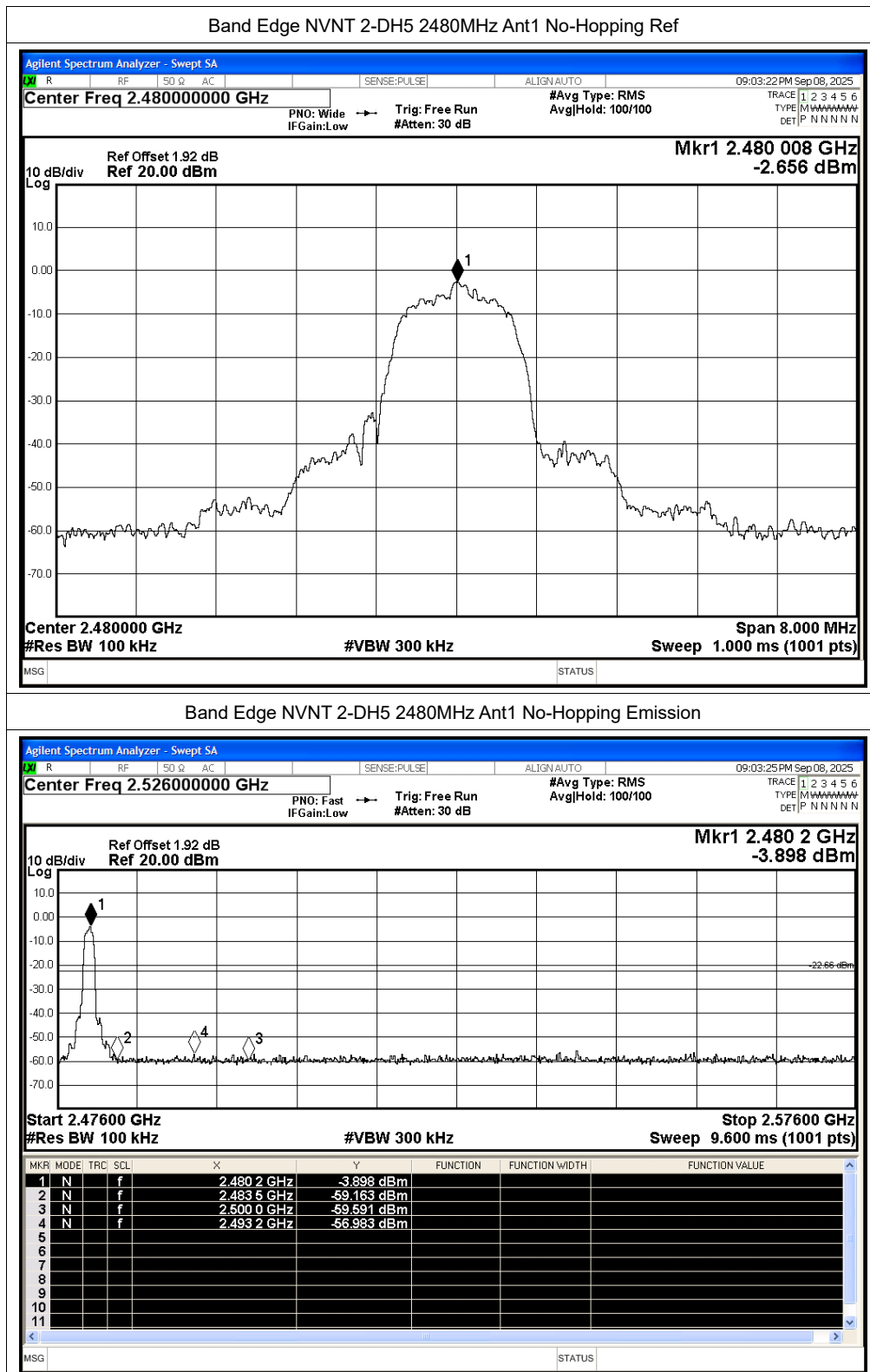


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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



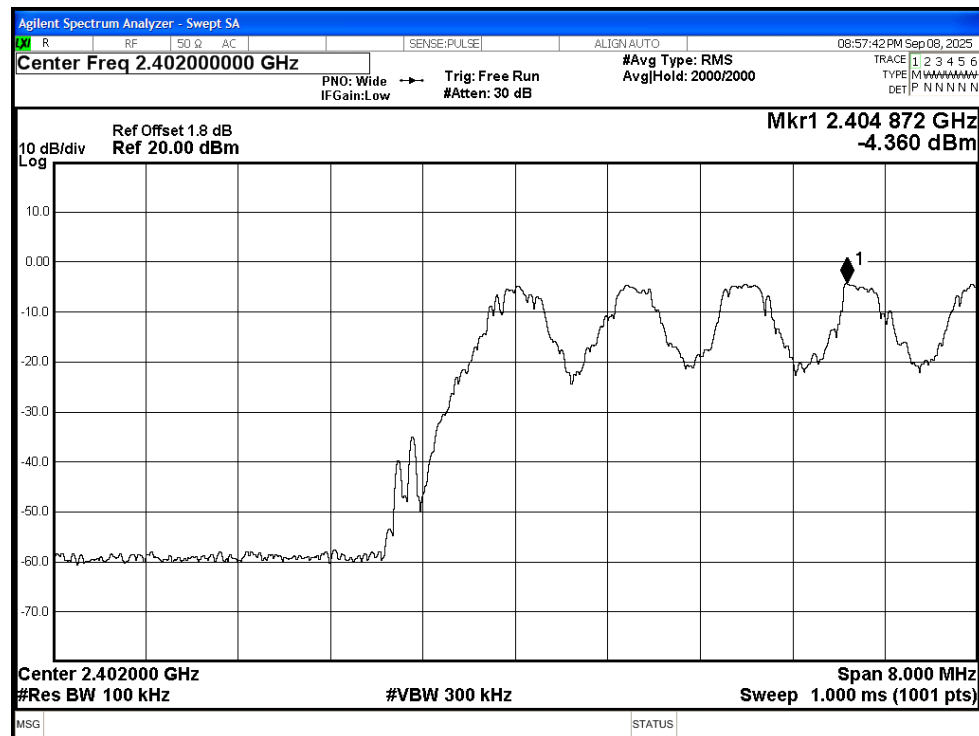


(Hopping)

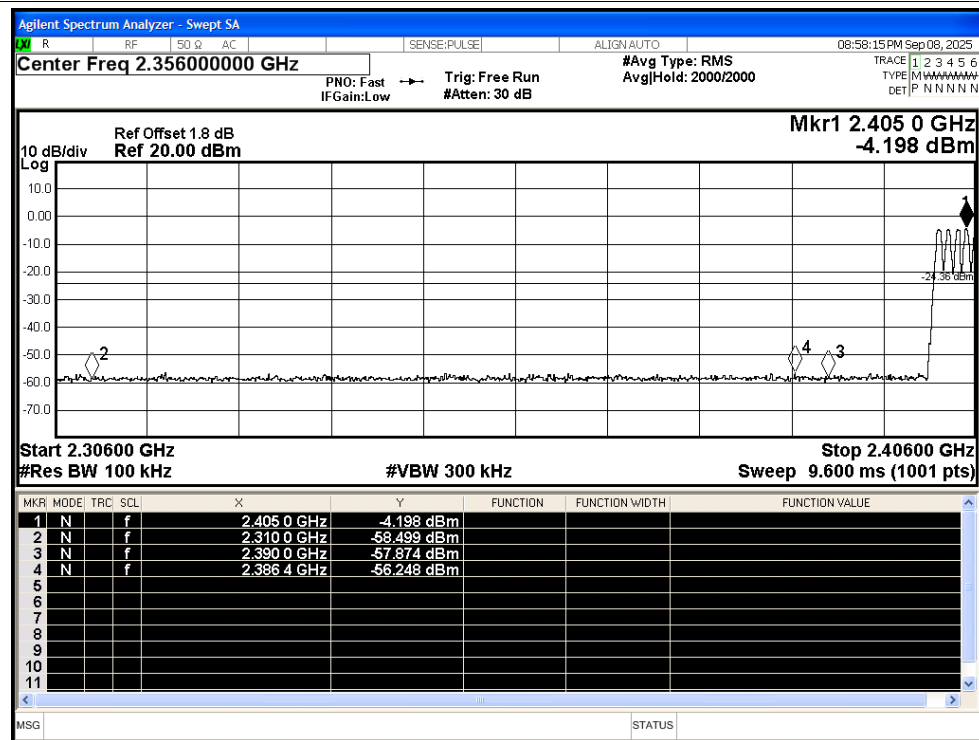
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-51.89	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.01	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-51.96	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.69	-20	Pass

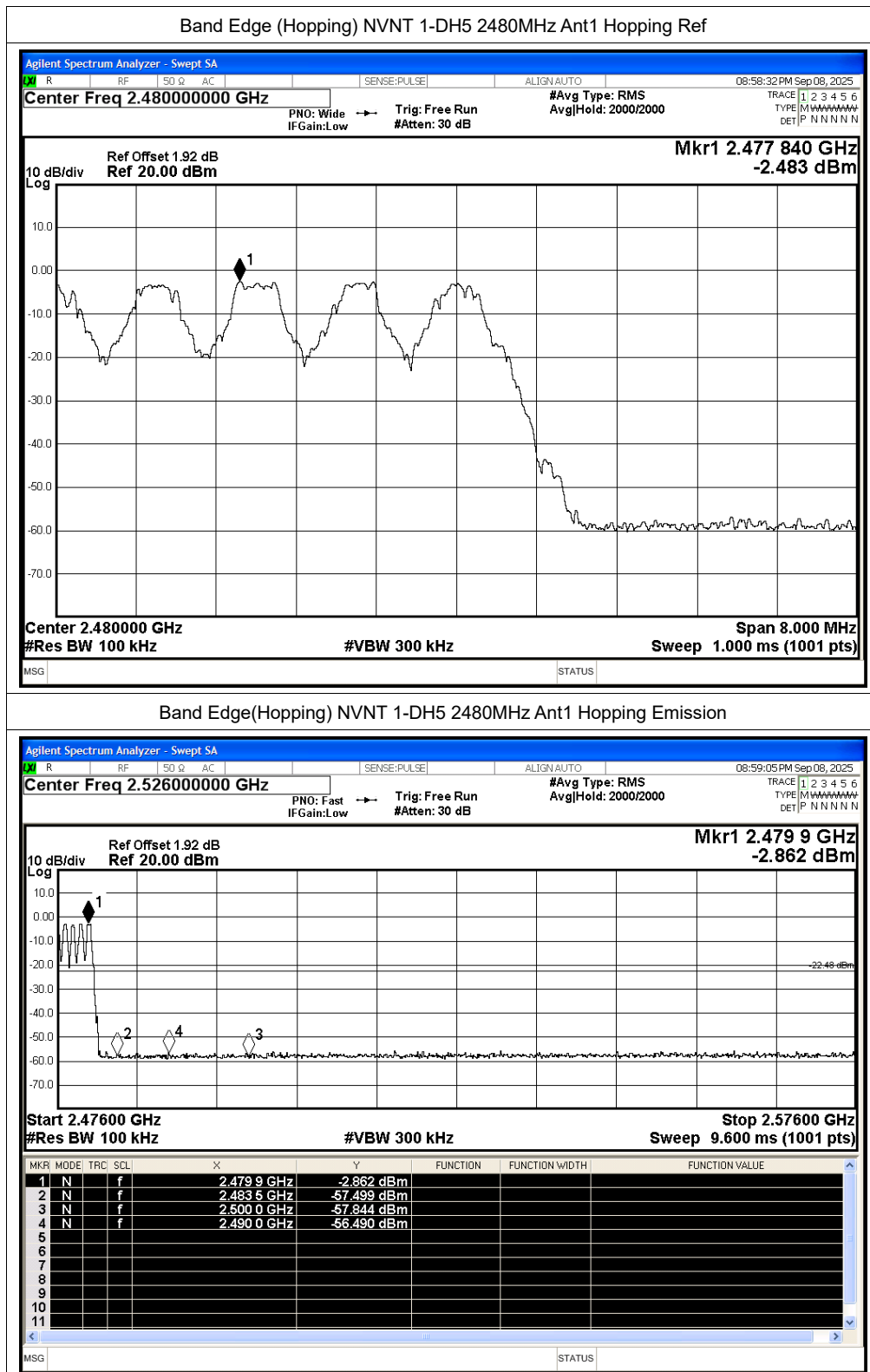
Test Graphs

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

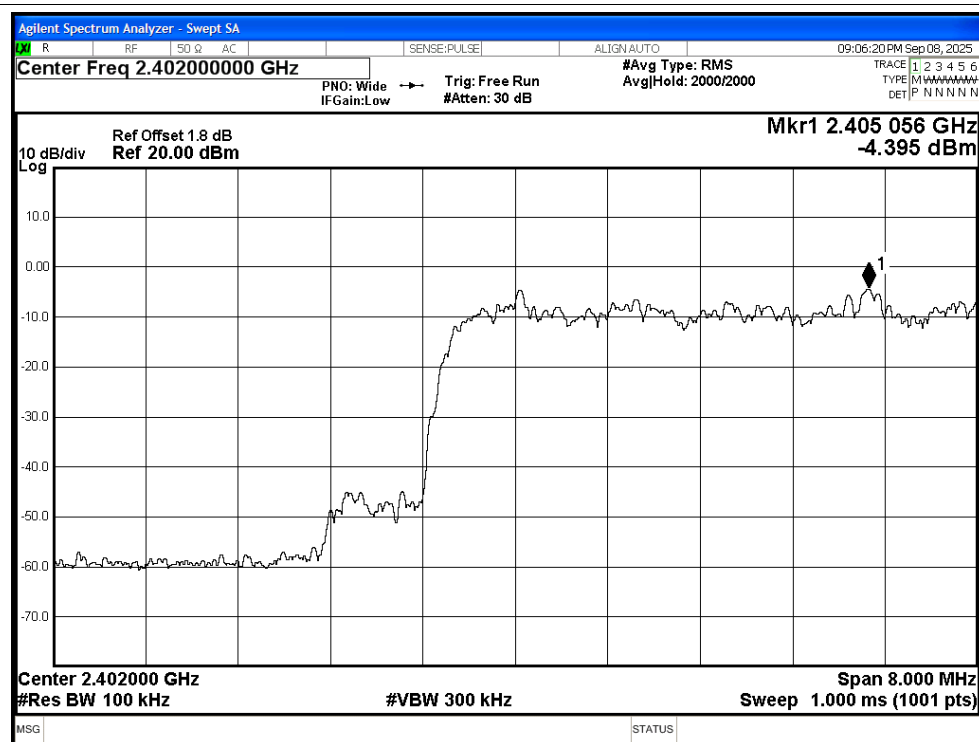


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

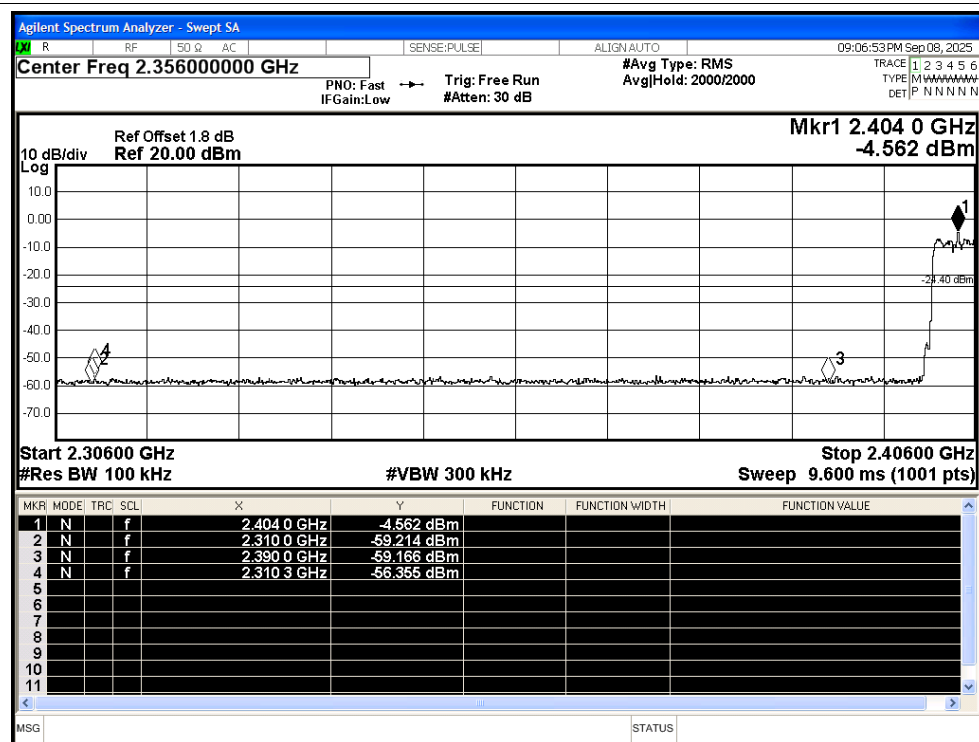


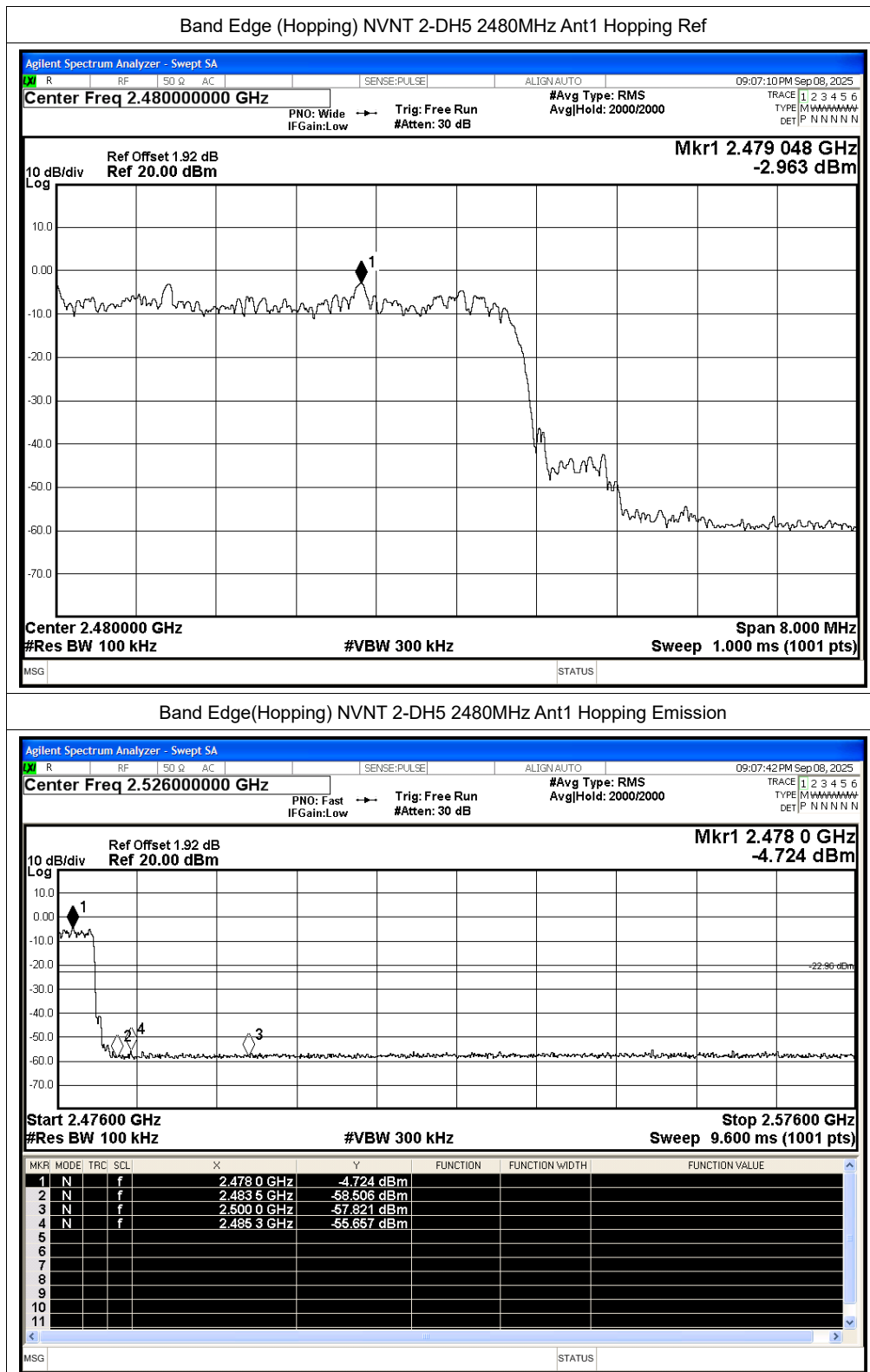


Band Edge (Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



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



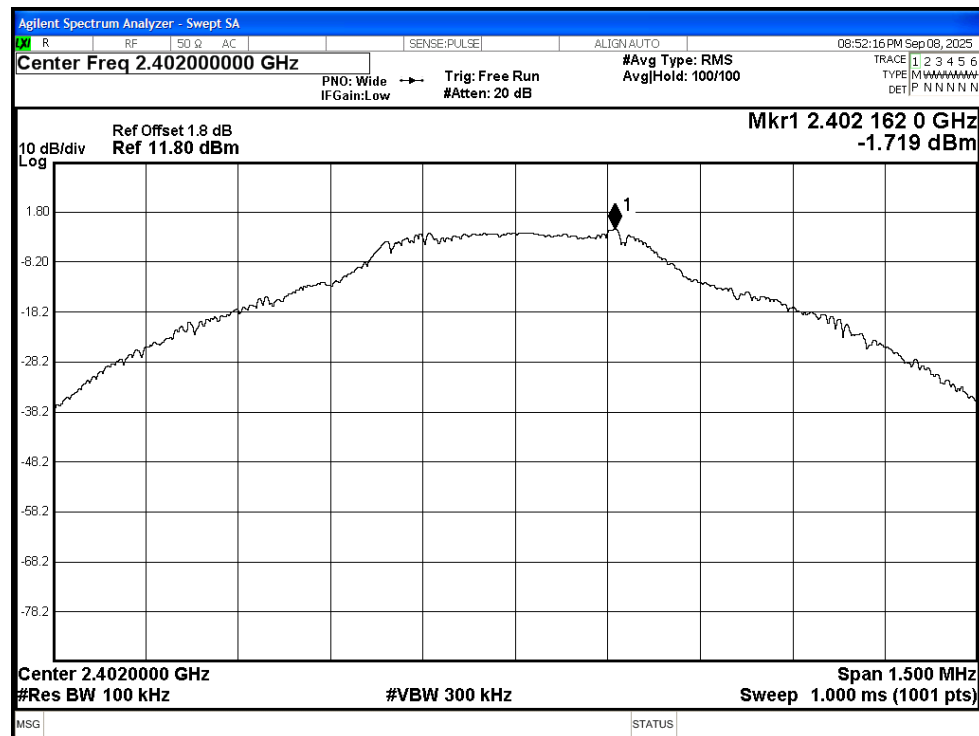


A.7 Conducted RF Spurious Emission

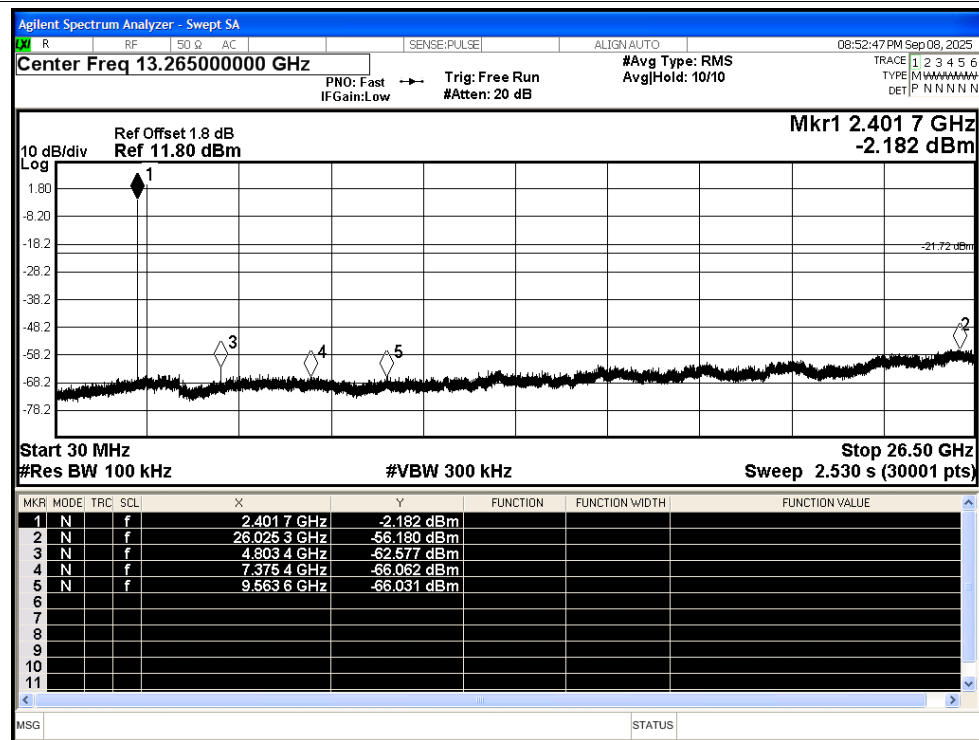
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.46	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.05	-20	Pass
NVNT	1-DH5	2480	Ant1	-51.76	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.86	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.75	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.01	-20	Pass

Test Graphs

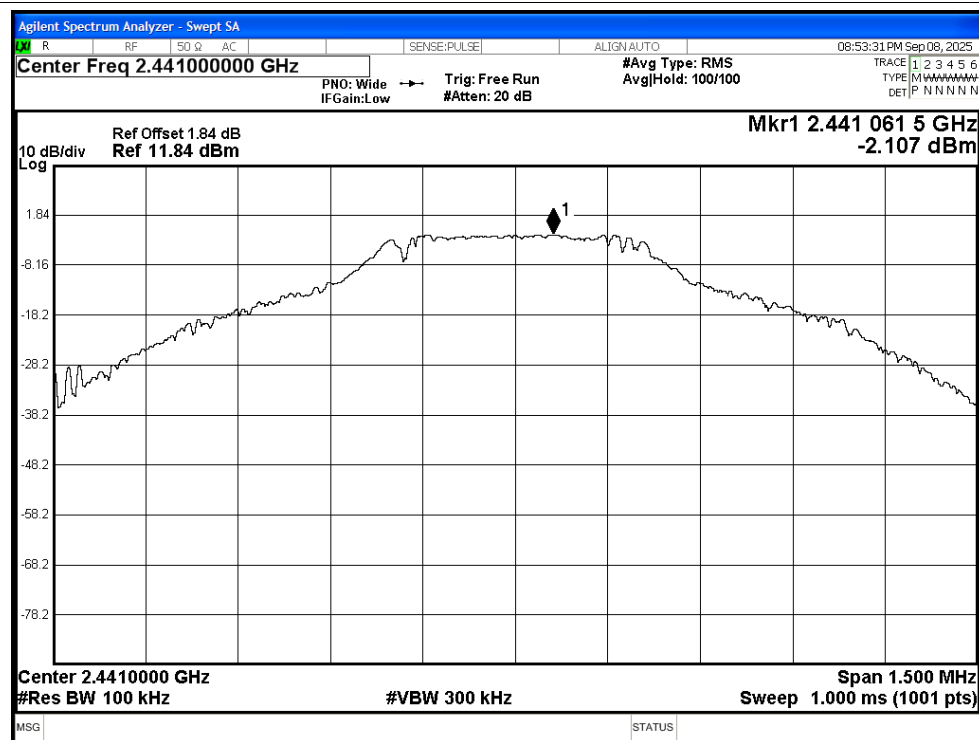
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



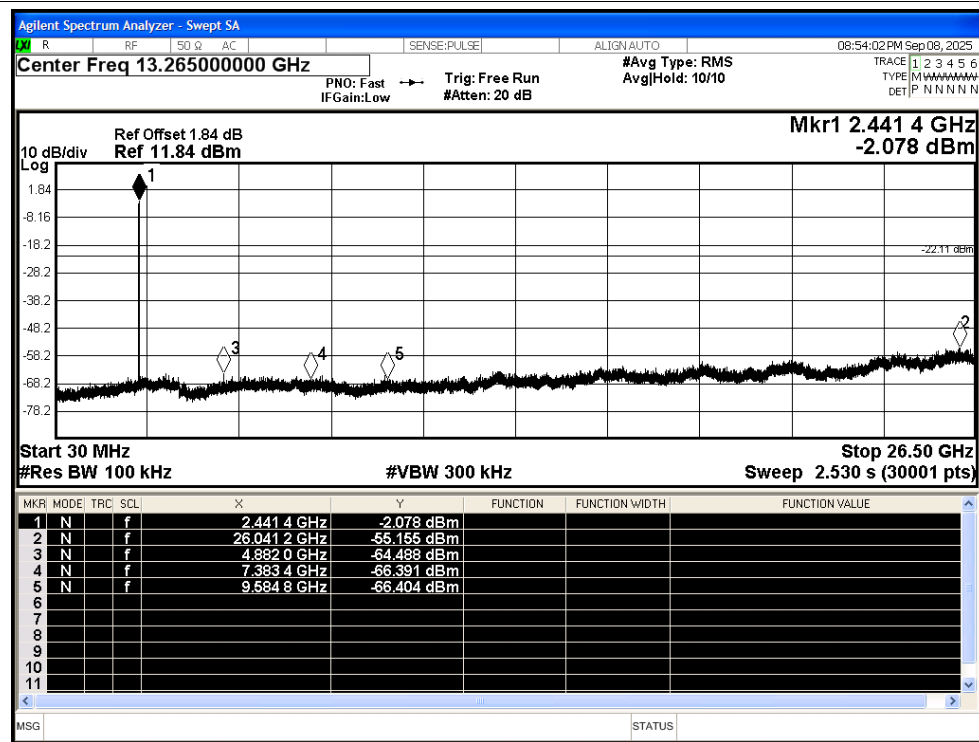
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



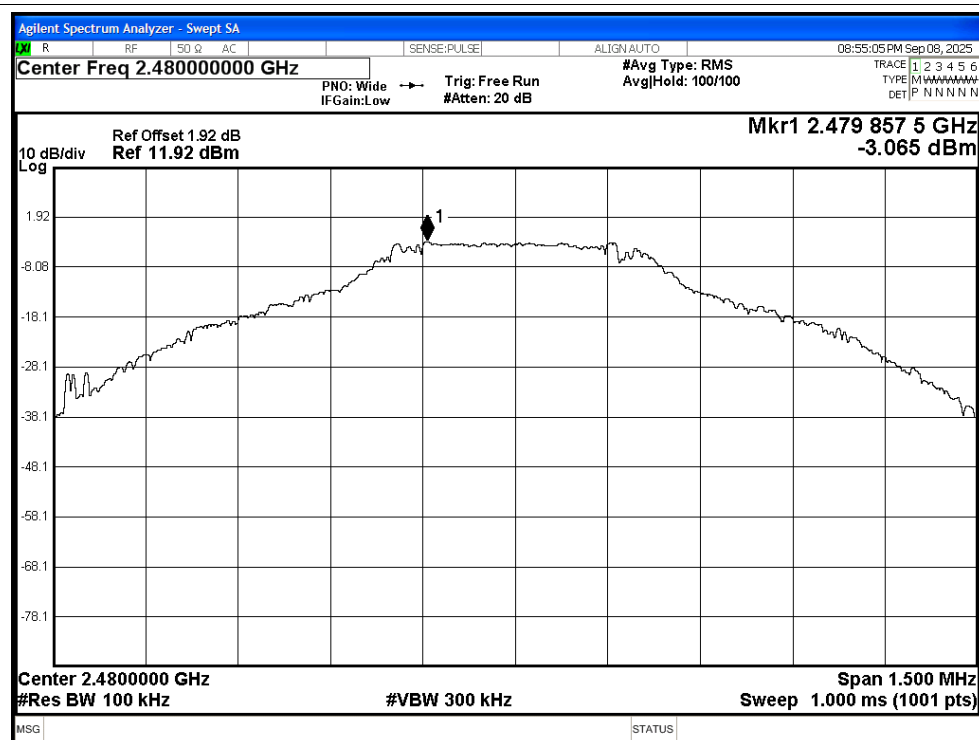
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



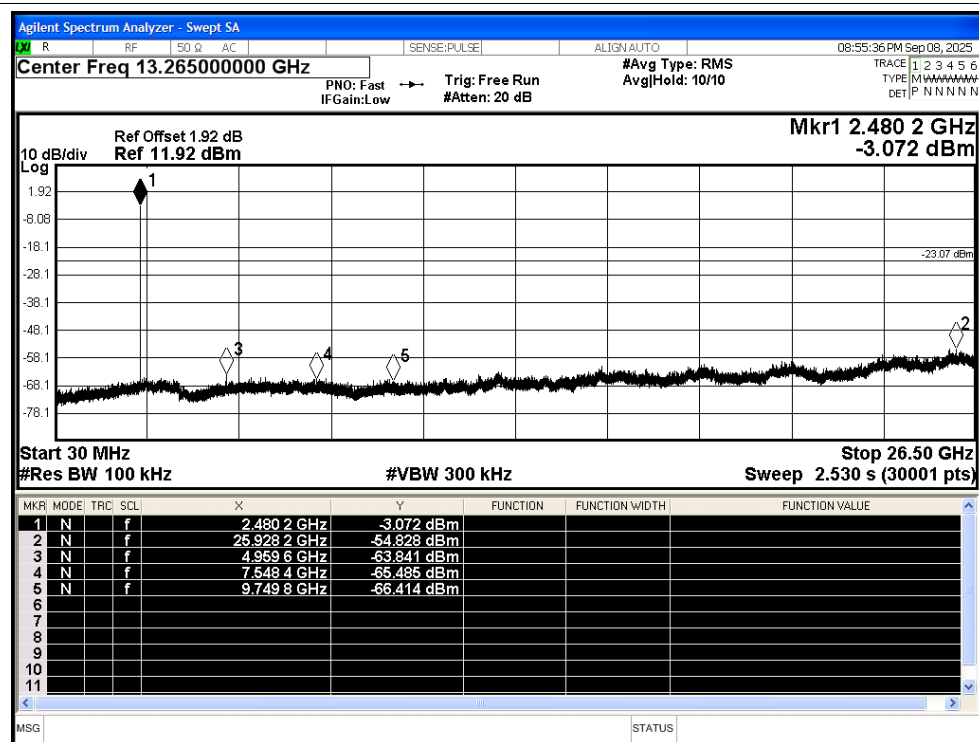
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



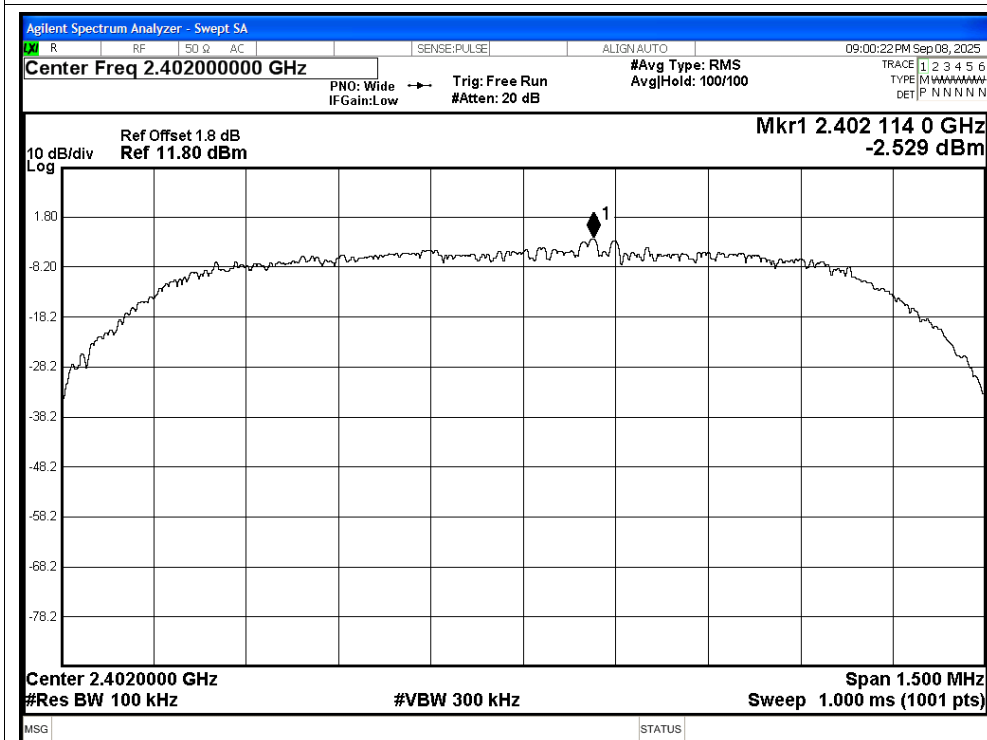
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



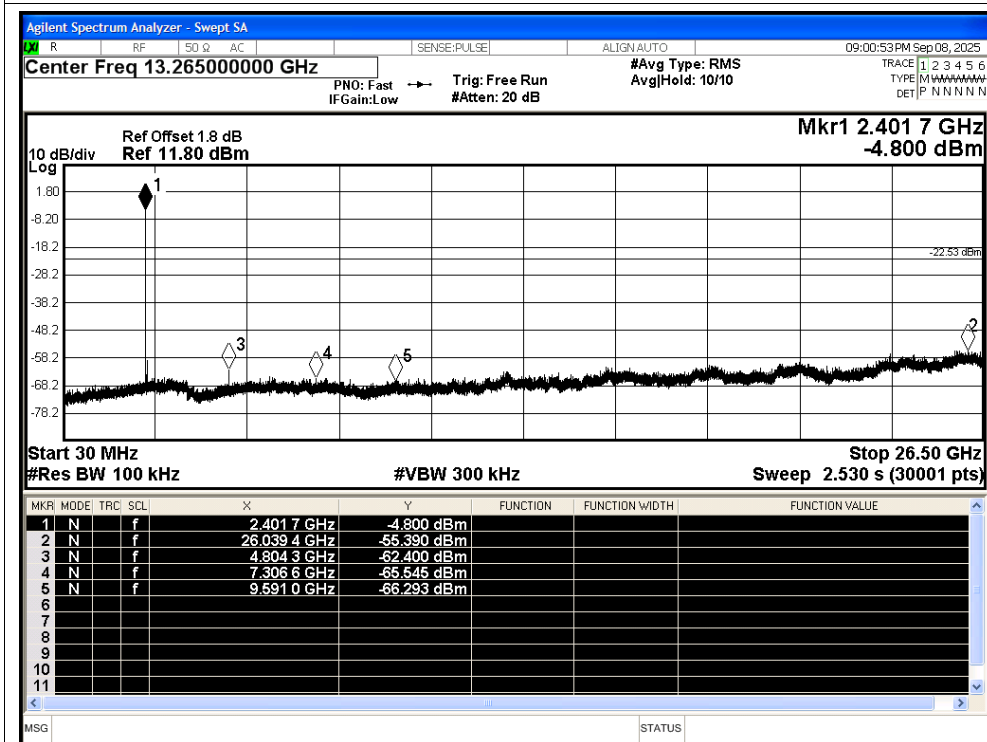
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



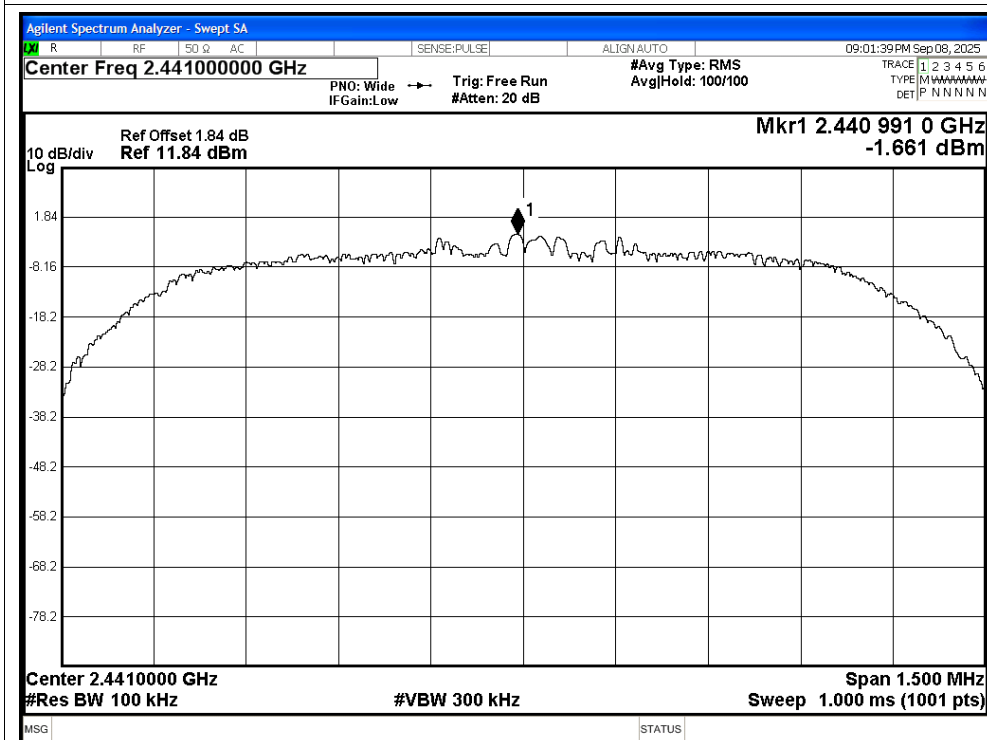
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



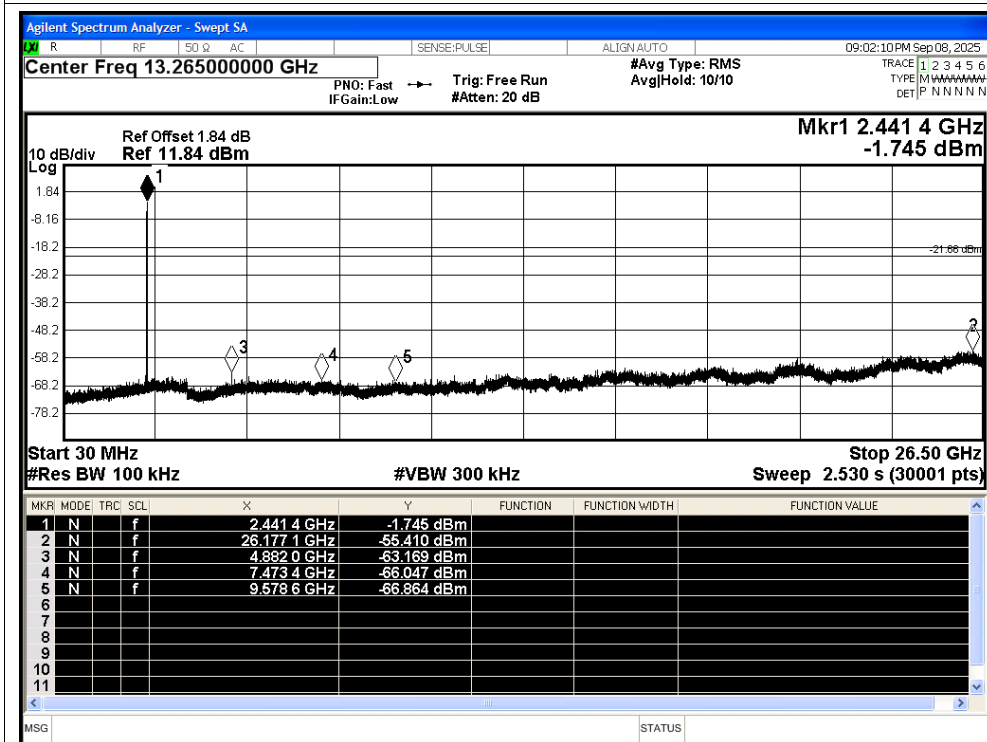
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



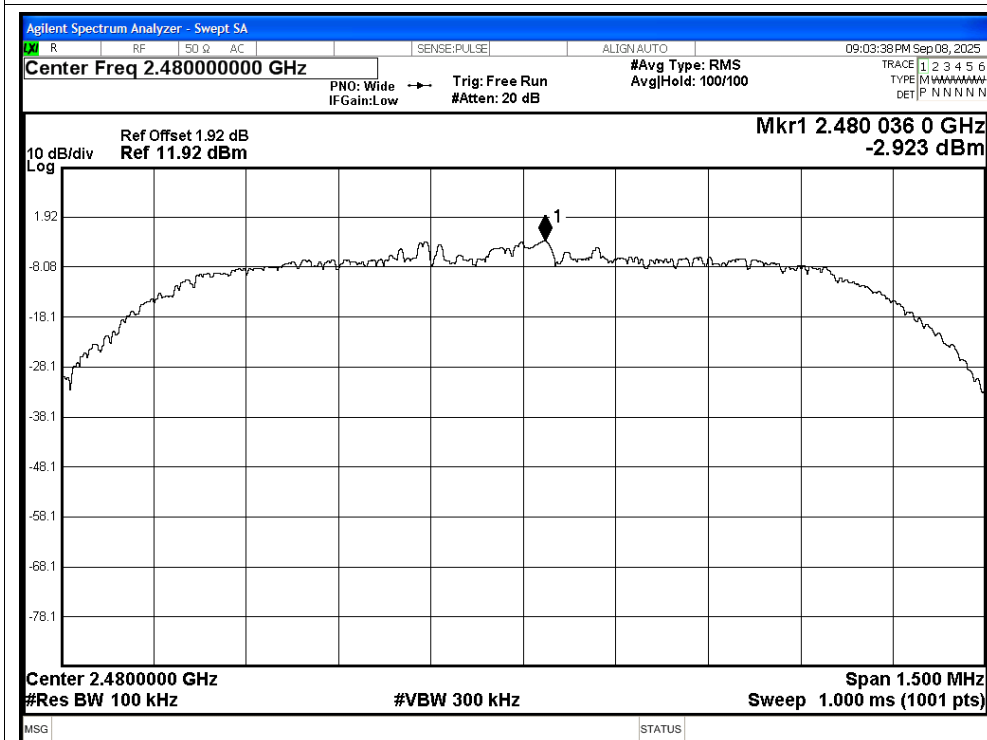
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



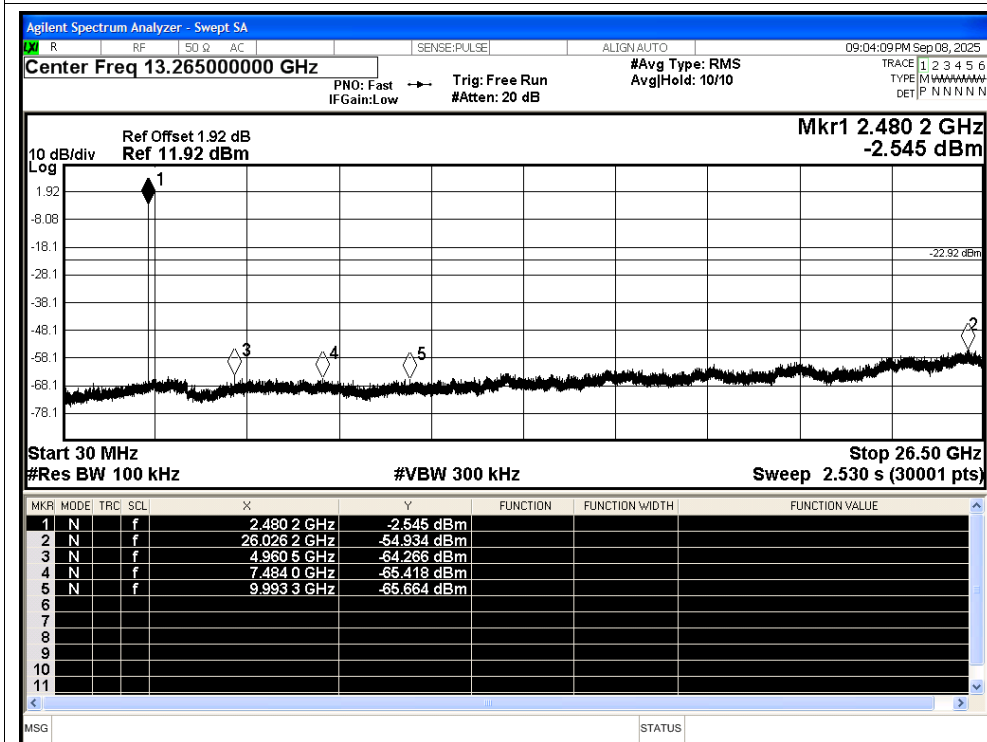
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

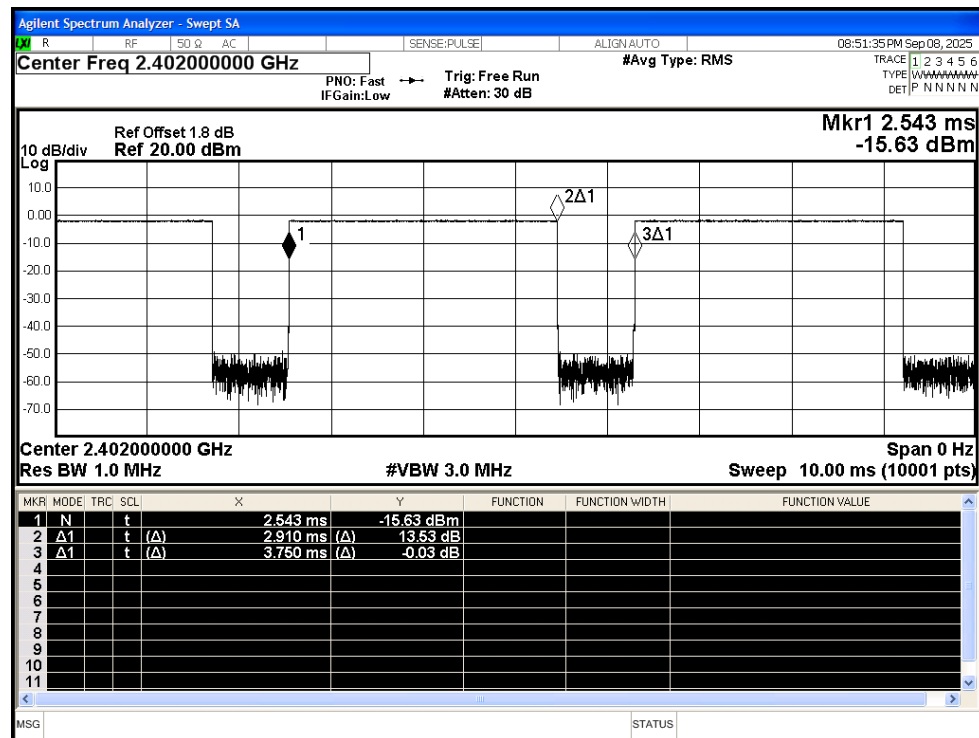


A.8 Duty Cycle

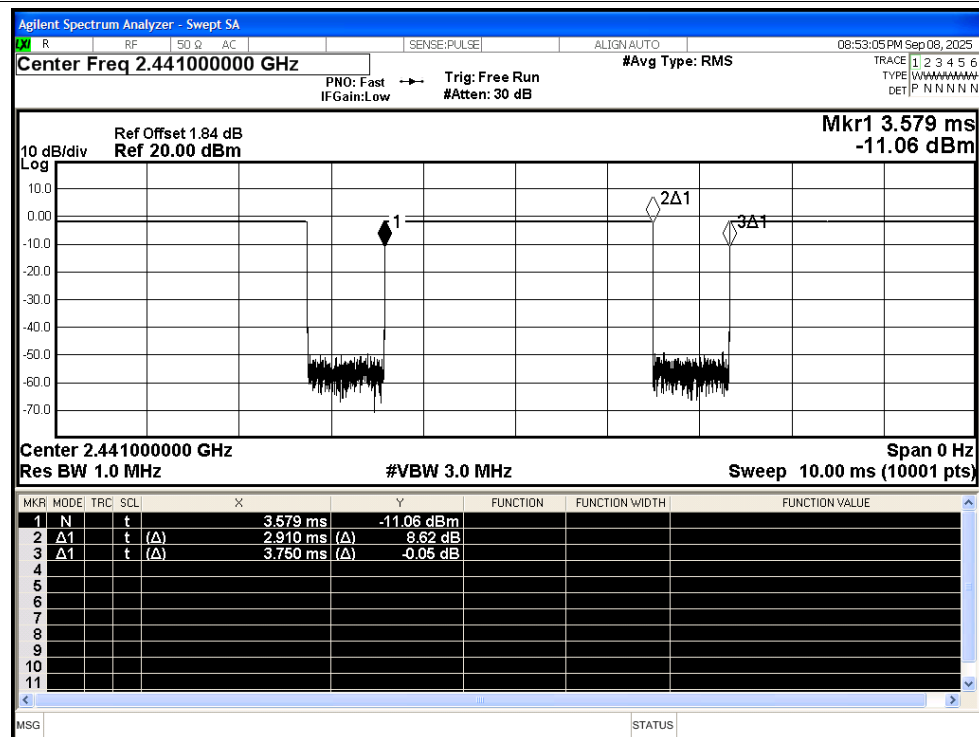
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34

Test Graphs

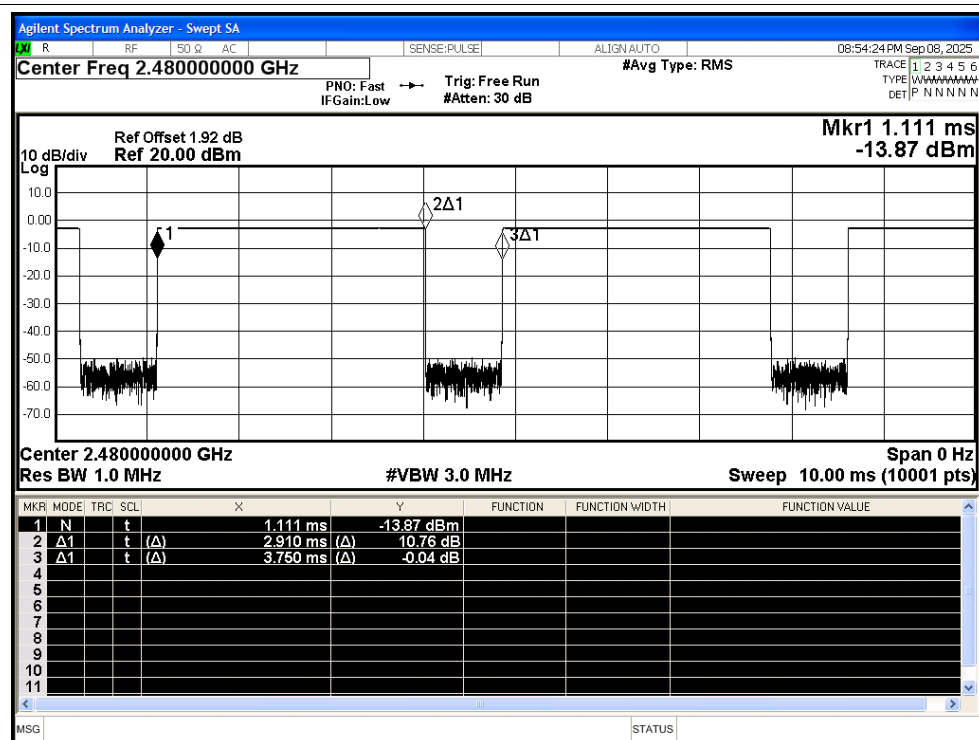
Duty Cycle NVNT 1-DH5 2402MHz Ant1



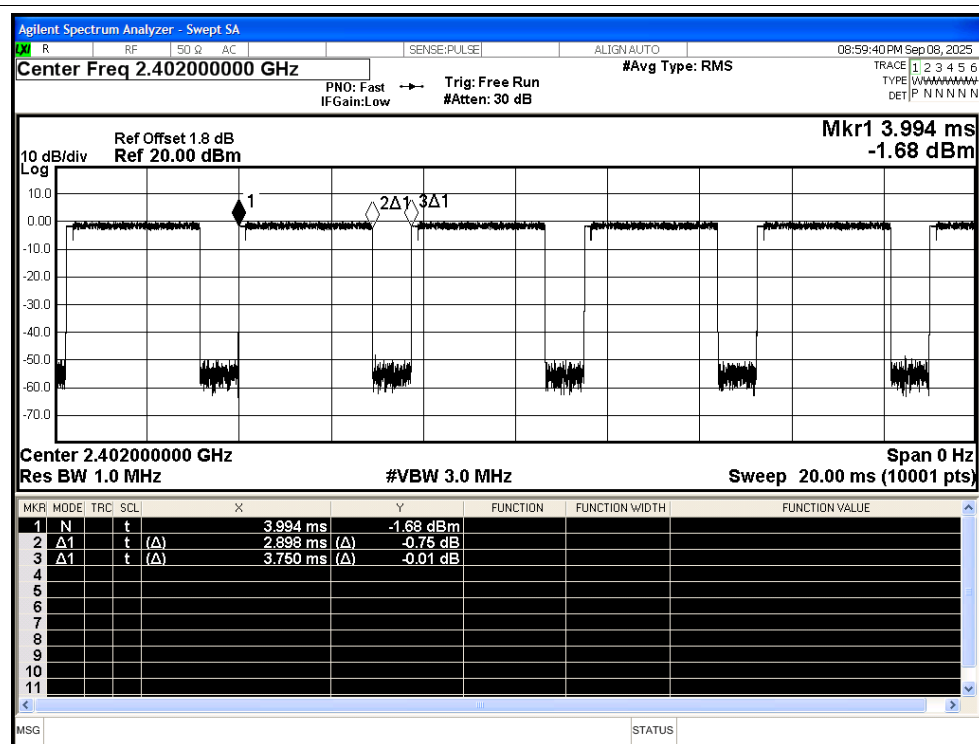
Duty Cycle NVNT 1-DH5 2441MHz Ant1



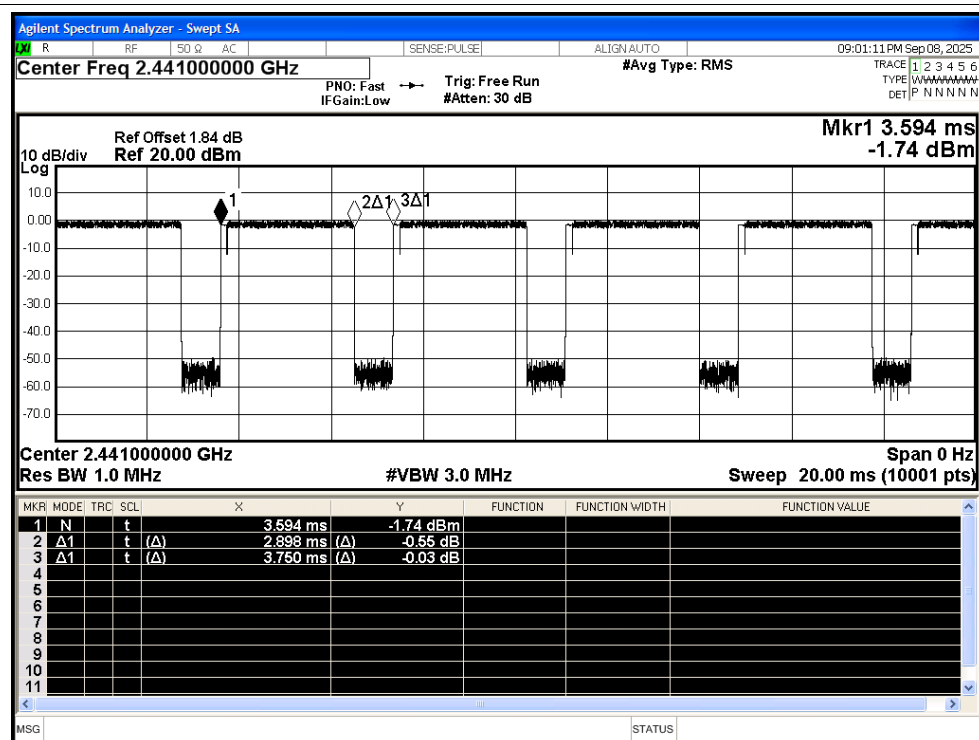
Duty Cycle NVNT 1-DH5 2480MHz Ant1



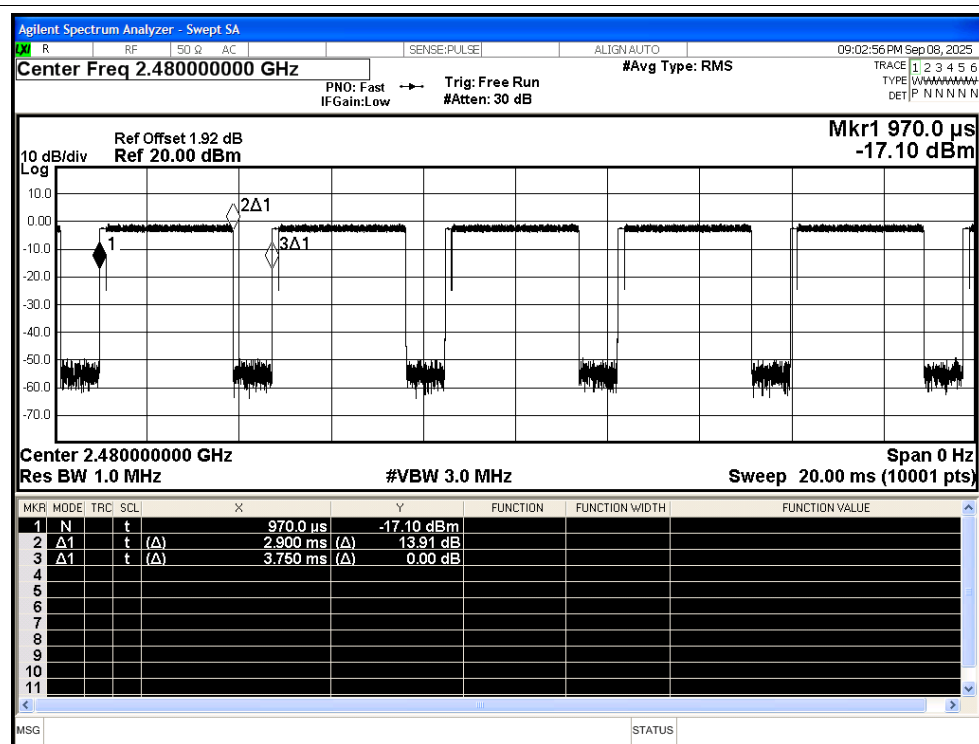
Duty Cycle NVNT 2-DH5 2402MHz Ant1



Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

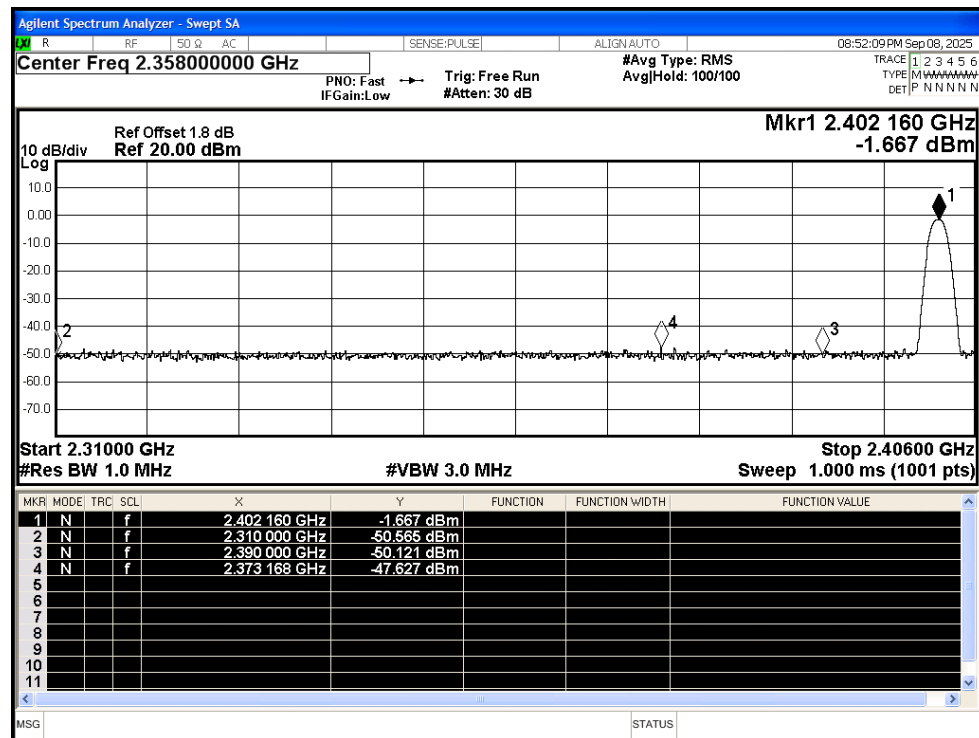


A.9 Restrict Band

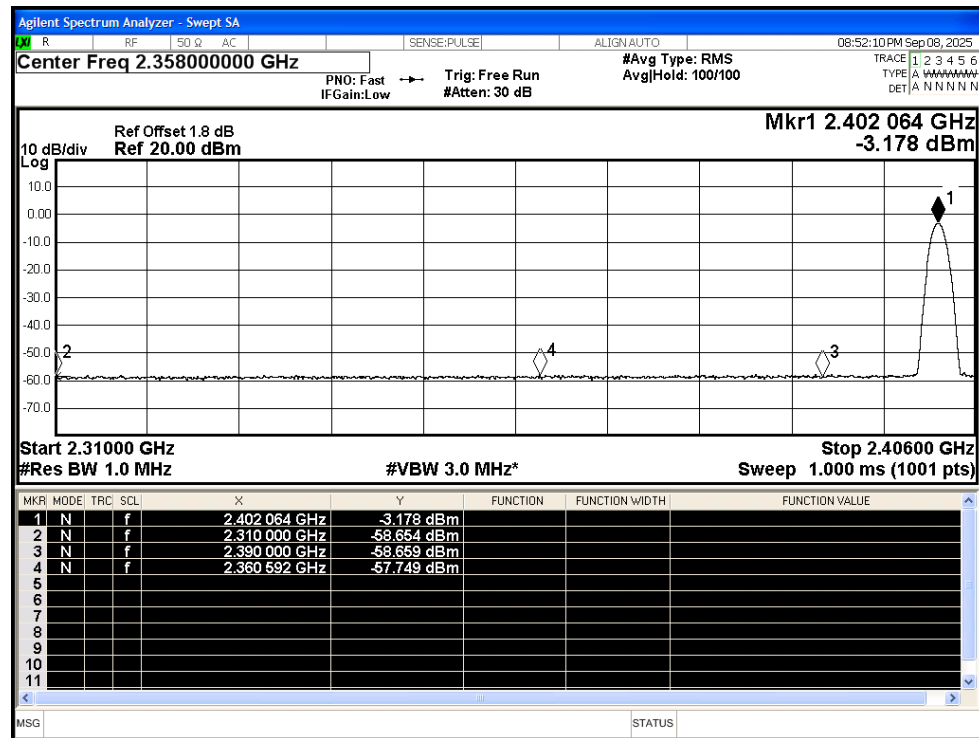
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.57	2.00	-	45.774	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.65	2.00	1.1	38.794	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2373.168	-47.63	2.00	-	48.714	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2360.592	-57.75	2.00	1.1	39.694	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.12	2.00	-	46.224	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.66	2.00	1.1	38.784	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-47.57	2.00	-	48.774	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.59	2.00	1.1	38.854	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.992	-46.62	2.00	-	49.724	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.76	-57.3	2.00	1.1	40.144	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.74	2.00	-	45.604	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.92	2.00	1.1	39.524	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.49	2.00	-	44.854	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.94	2.00	1.12	38.524	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2312.112	-46.87	2.00	-	49.474	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2363.28	-57.86	2.00	1.12	39.604	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.21	2.00	-	45.134	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.24	2.00	1.12	39.224	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.13	2.00	-	47.214	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.45	2.00	1.12	40.014	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2493.28	-47.22	2.00	-	49.124	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.4	-57.24	2.00	1.12	40.224	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.98	2.00	-	45.364	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.82	2.00	1.12	38.644	Average	54	Pass

Test Graphs

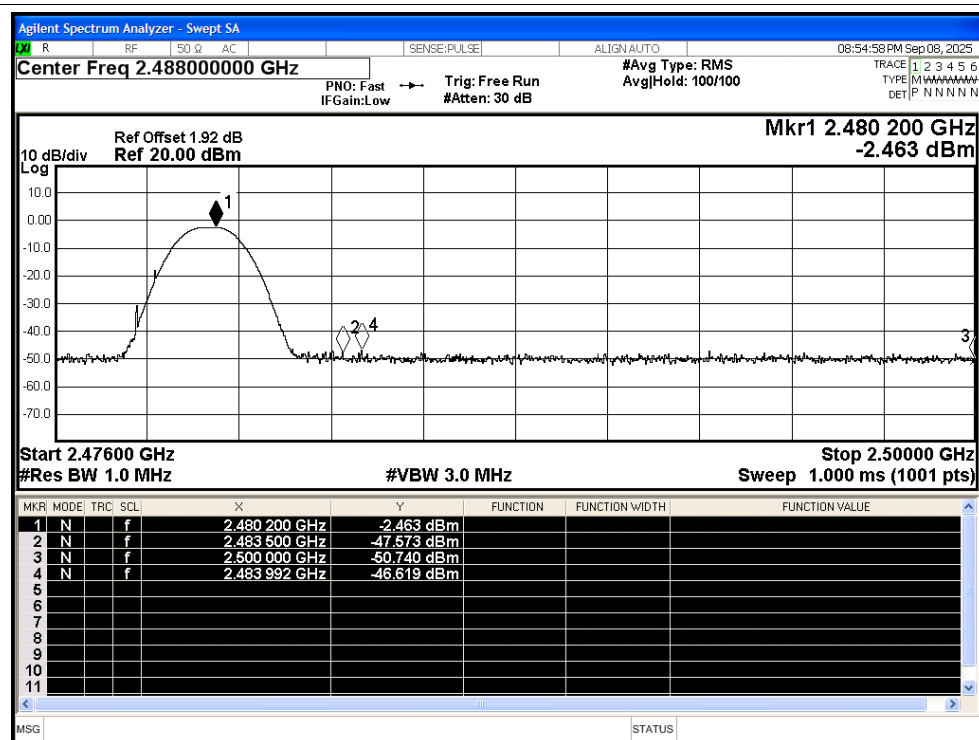
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



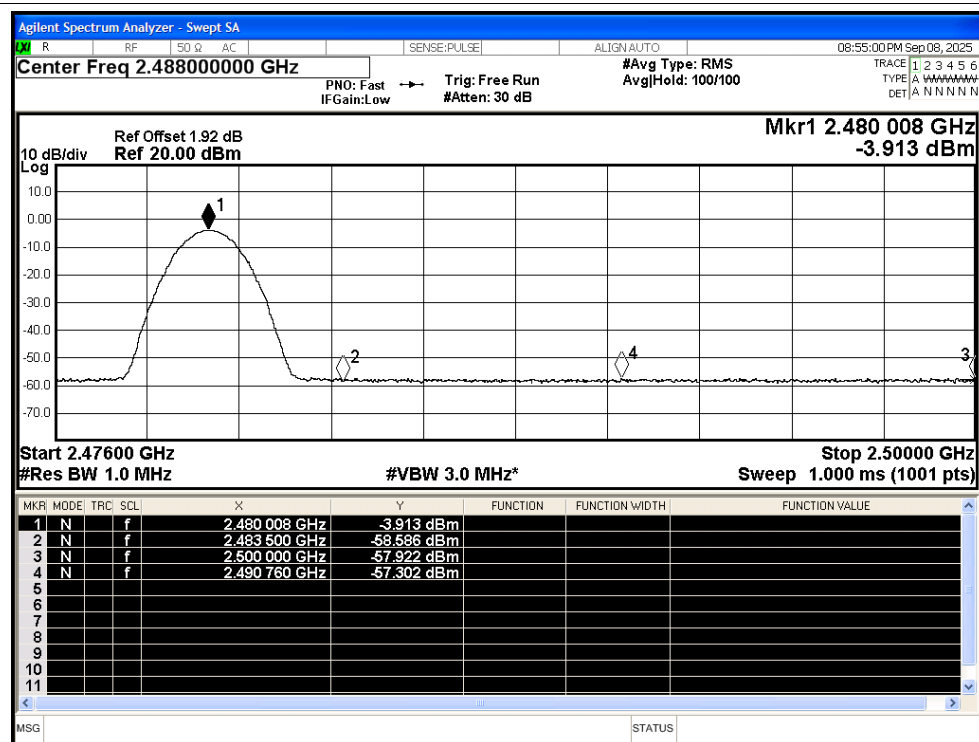
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

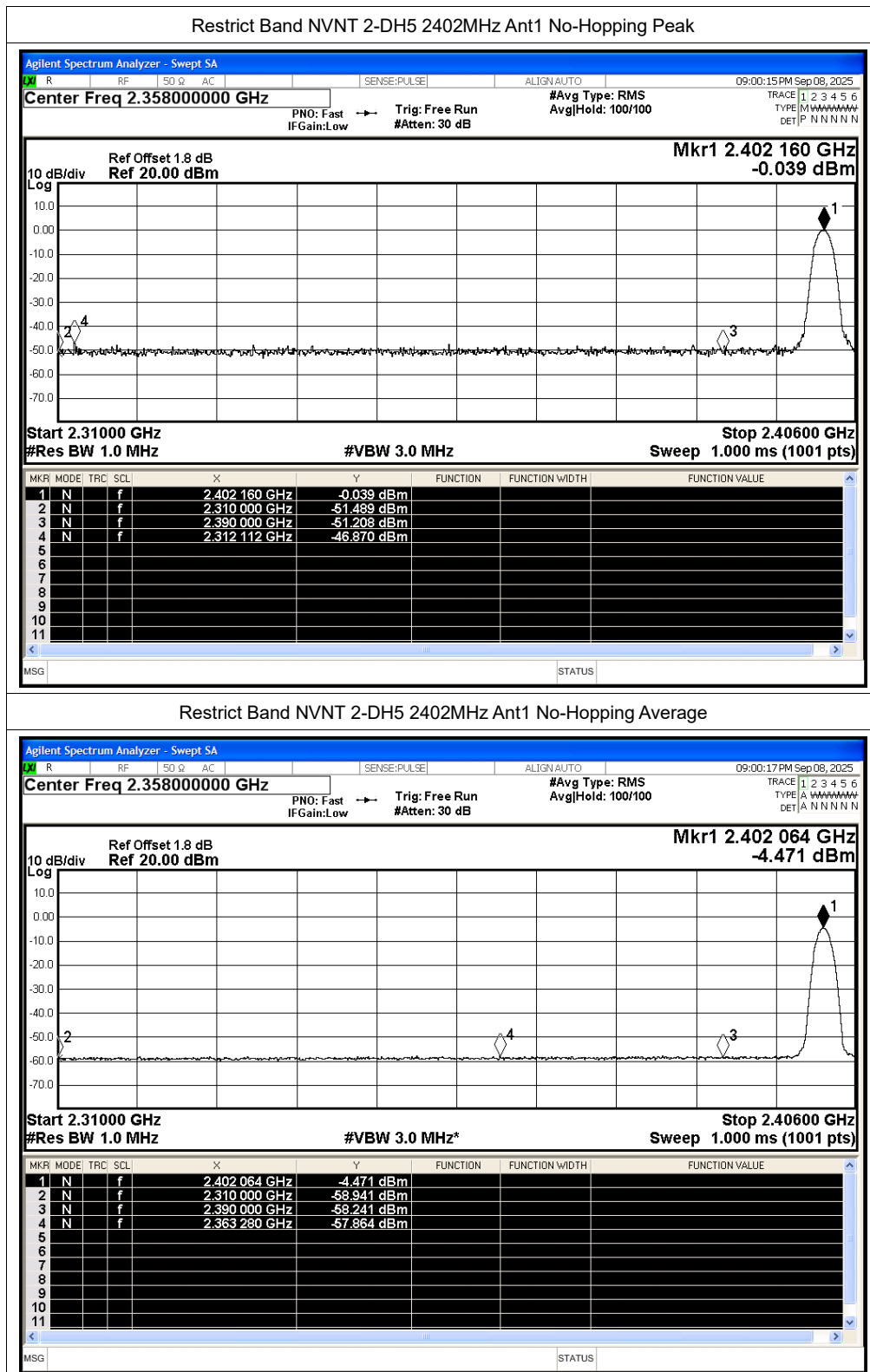


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

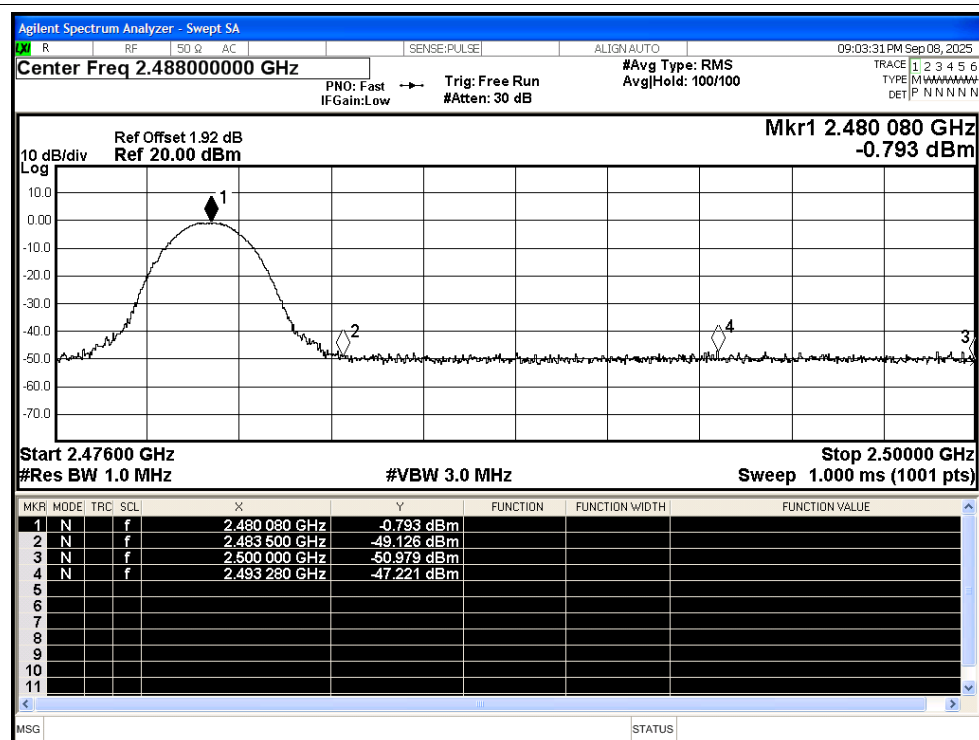


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average





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



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

