

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth speaker

Test Model: TS800

Environmental Conditions

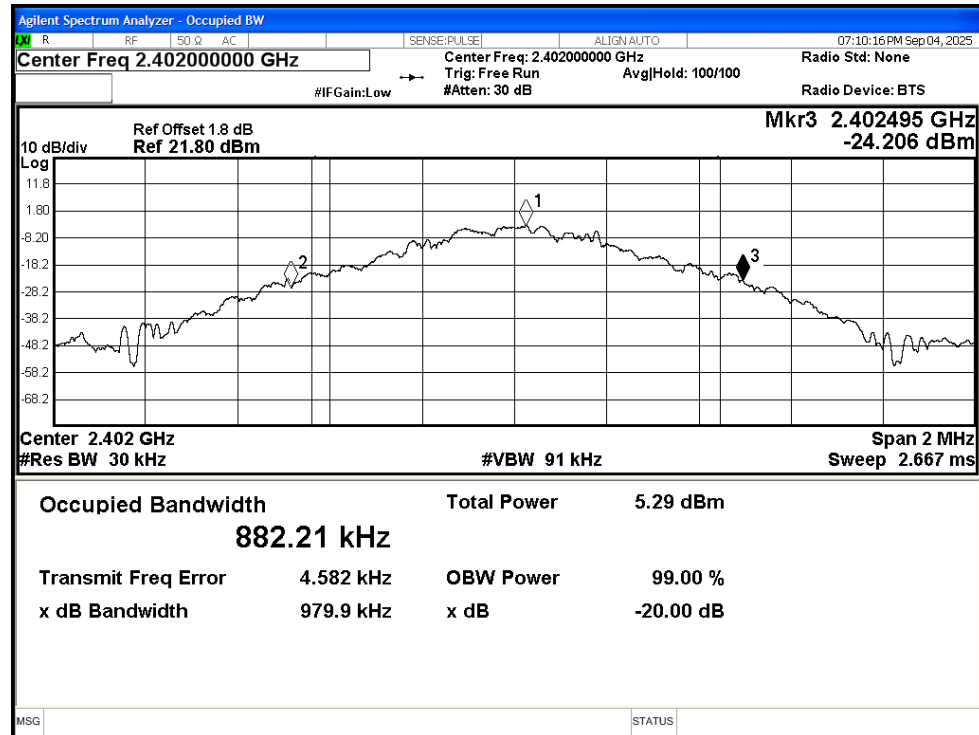
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jone Lee
Supervised by:	Fengliu Tang

A.1 -20dB Bandwidth

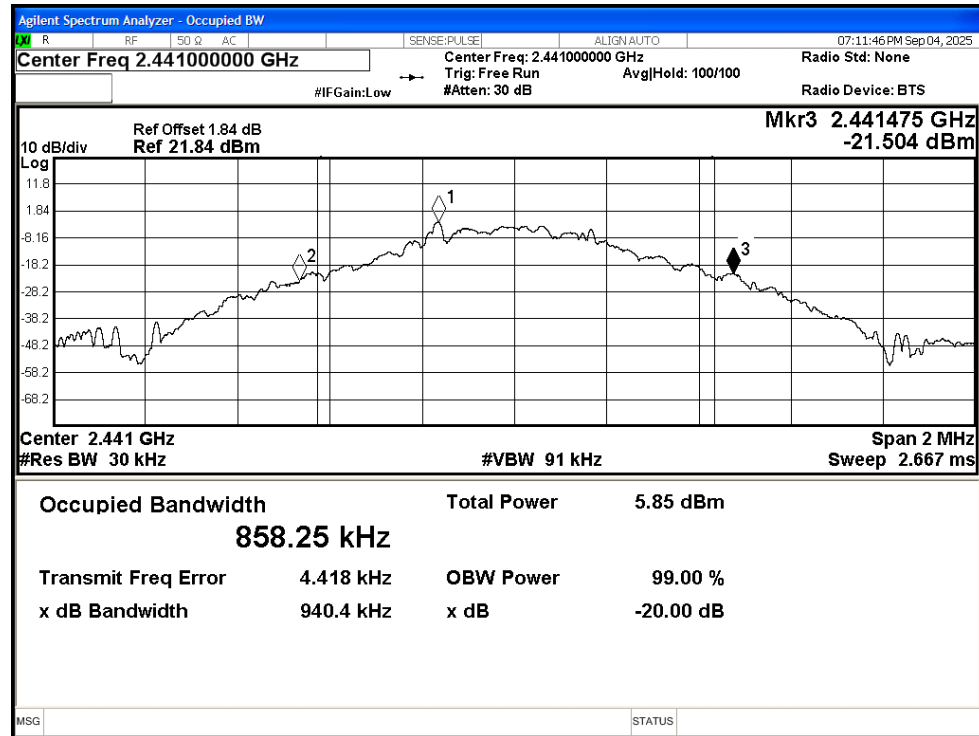
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.98	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.94	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.001	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.306	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.288	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.314	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.301	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.302	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.311	N/A	Pass

Test Graphs

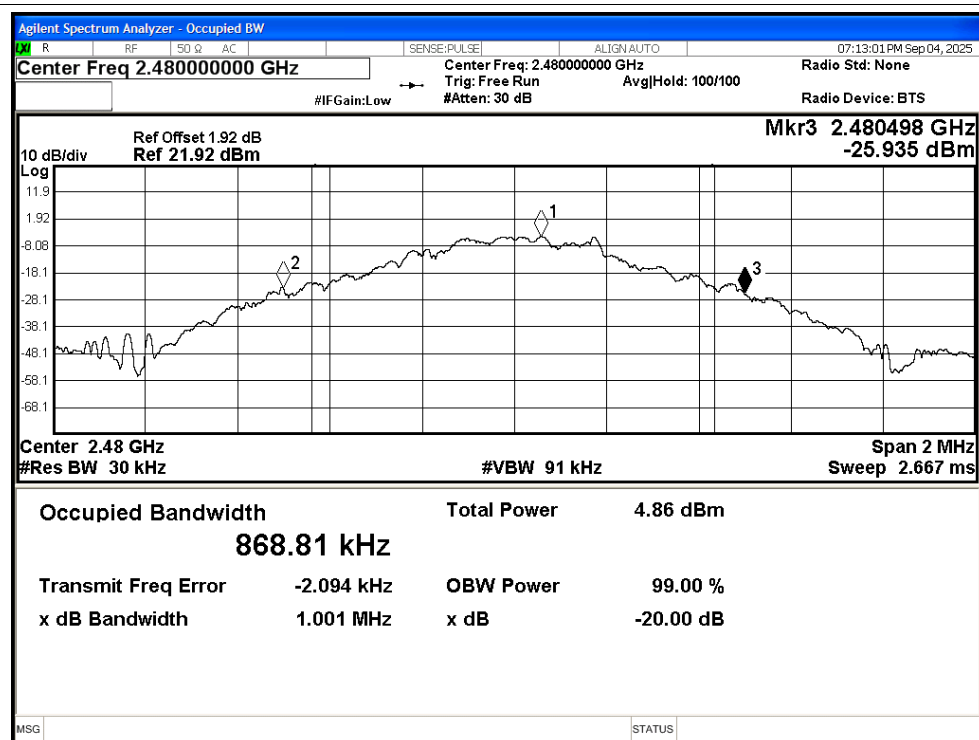
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



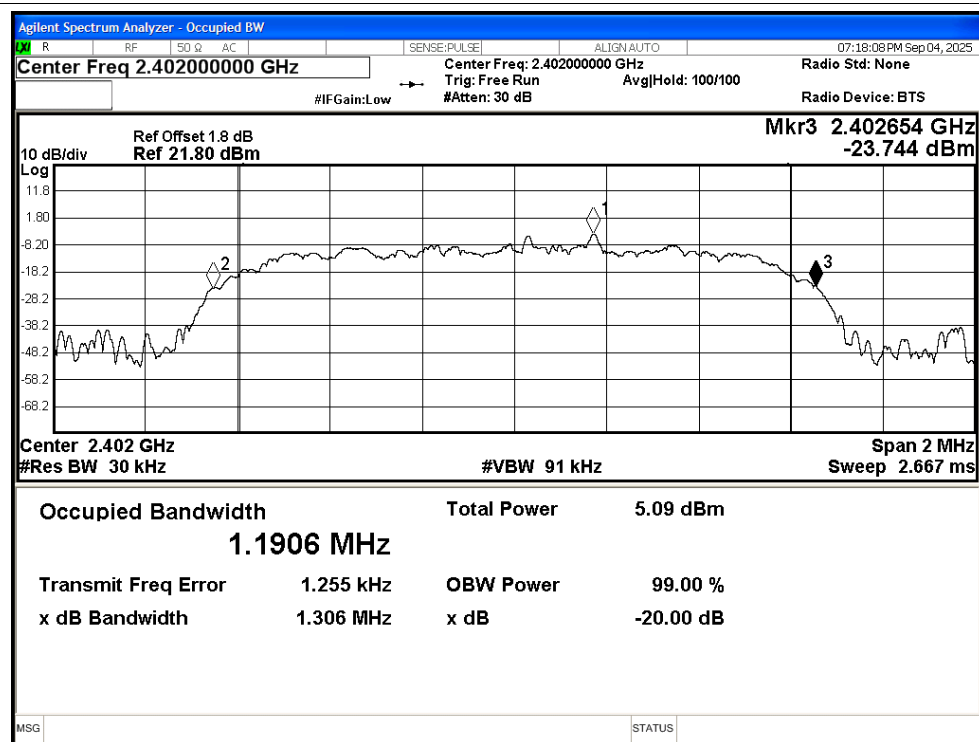
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



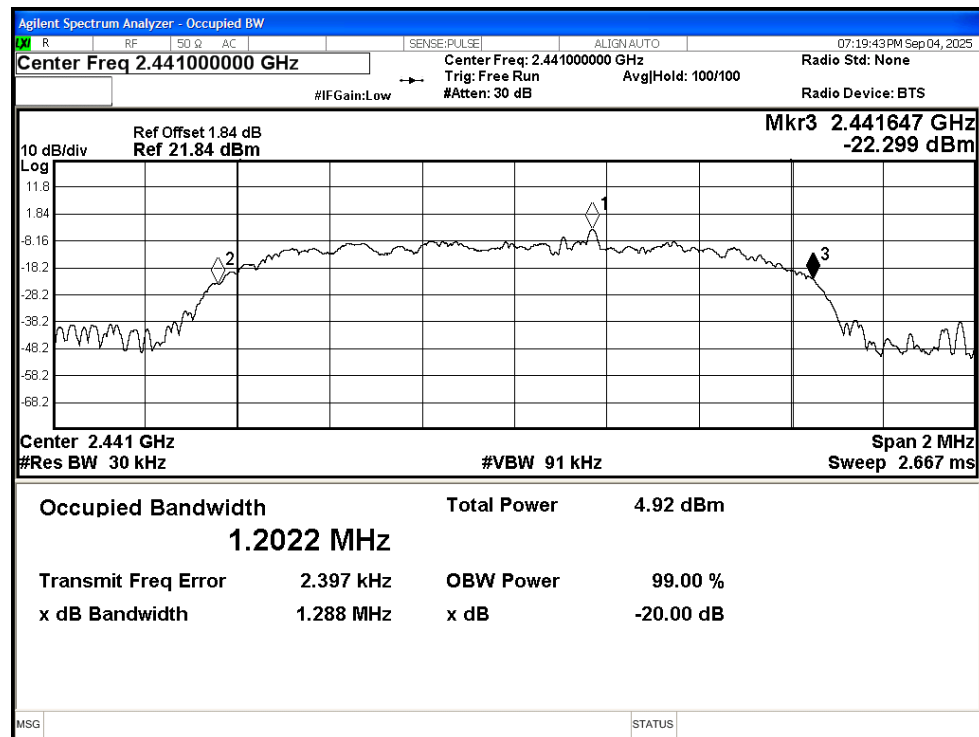
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



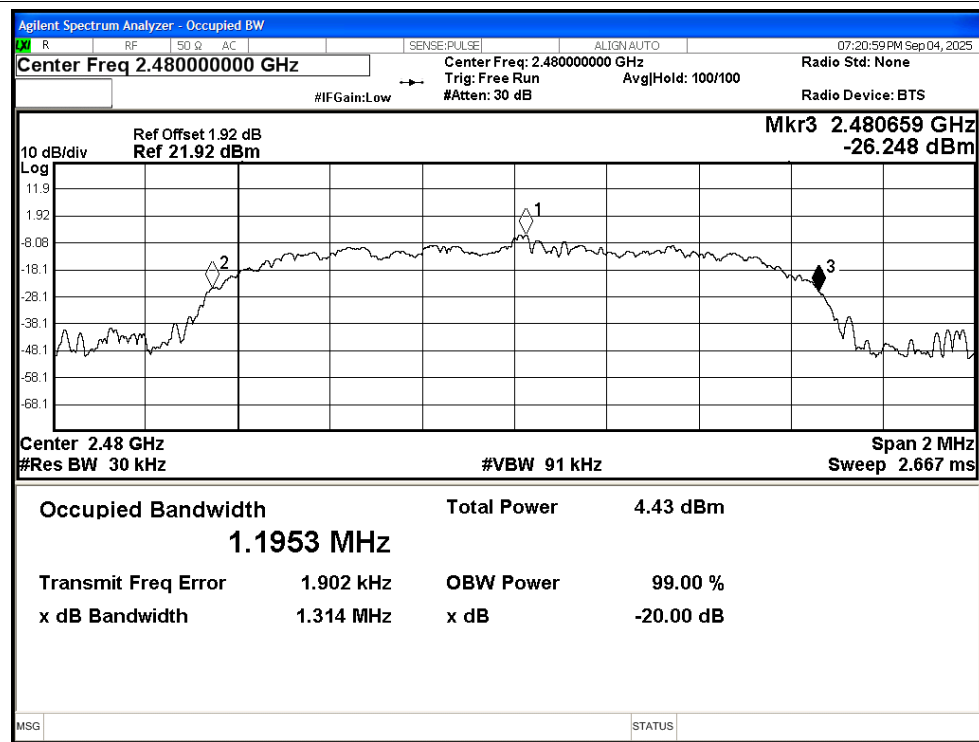
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



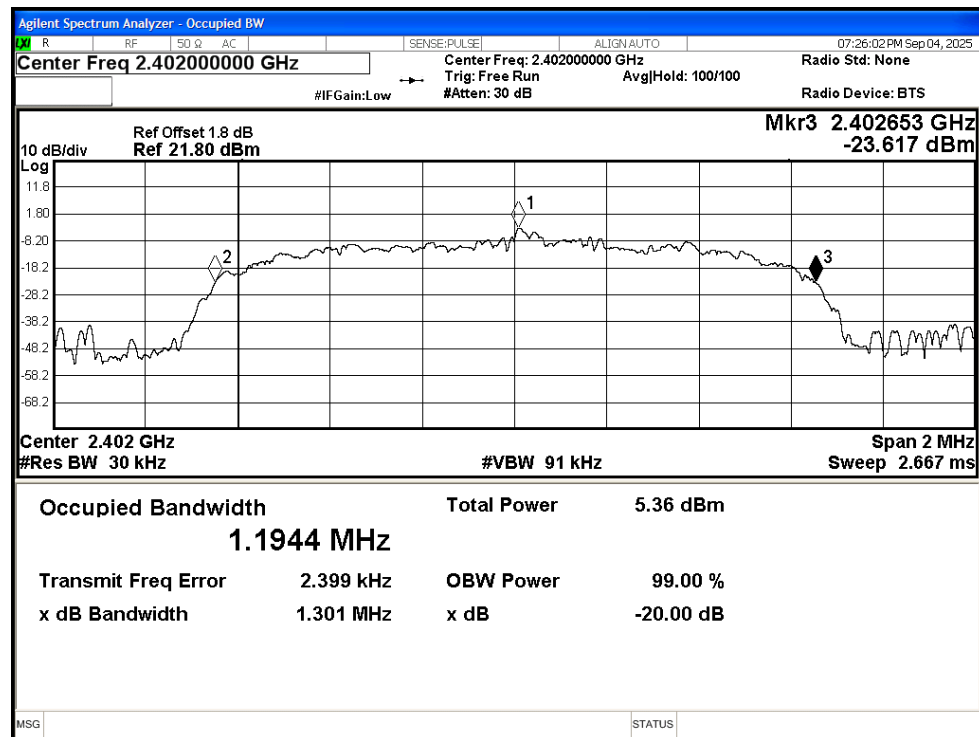
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



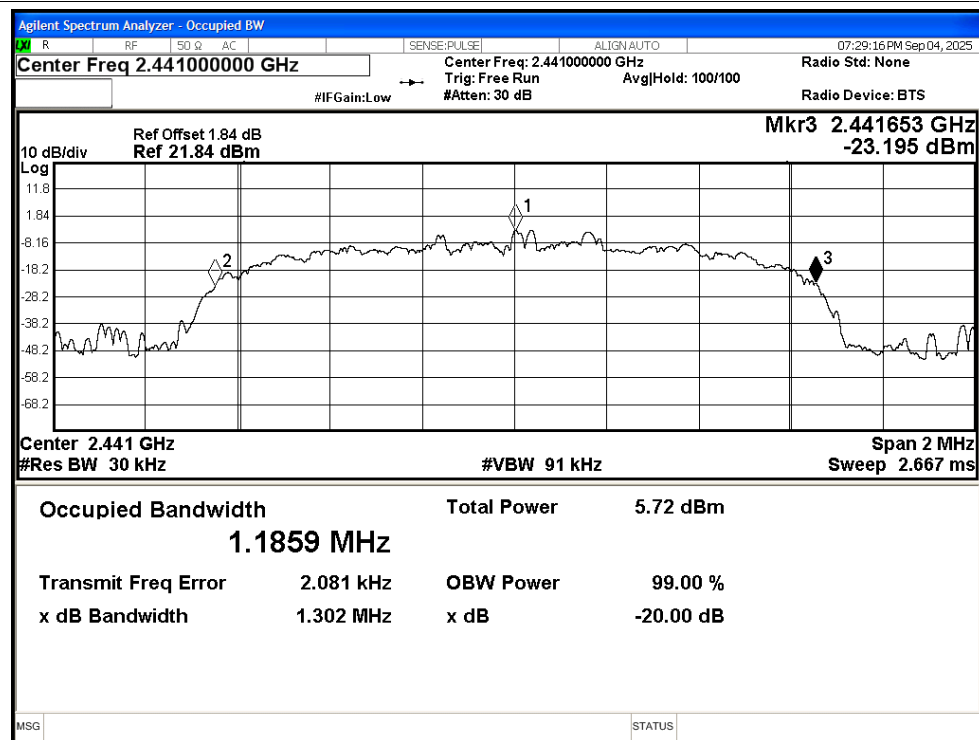
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

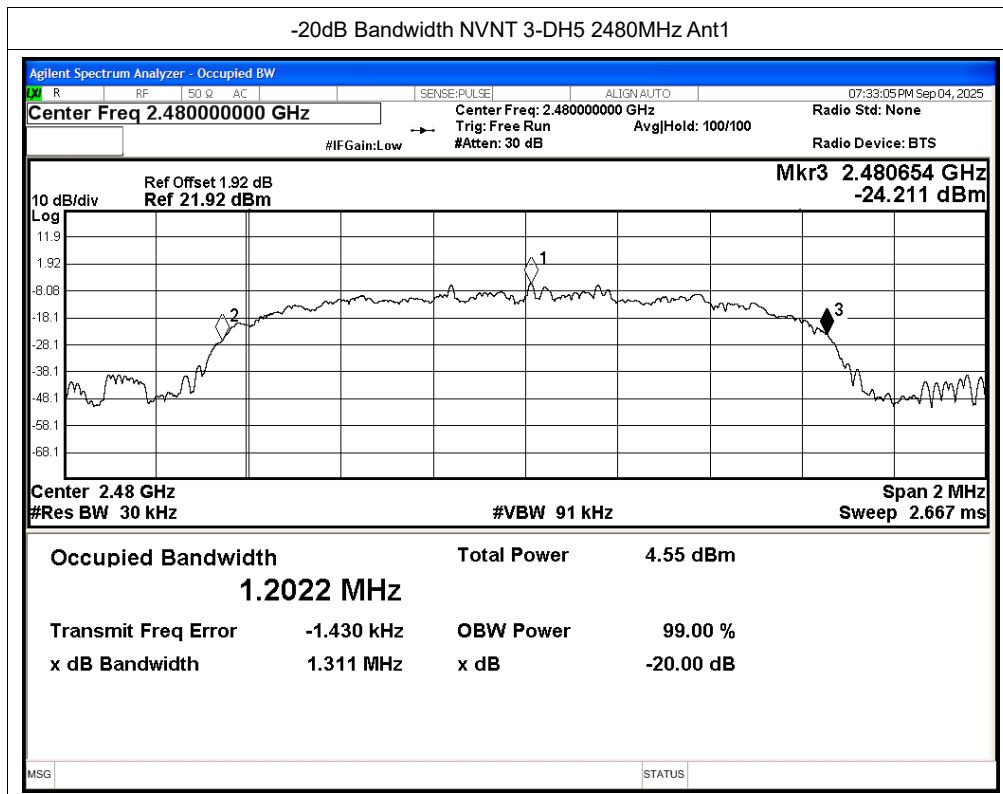


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



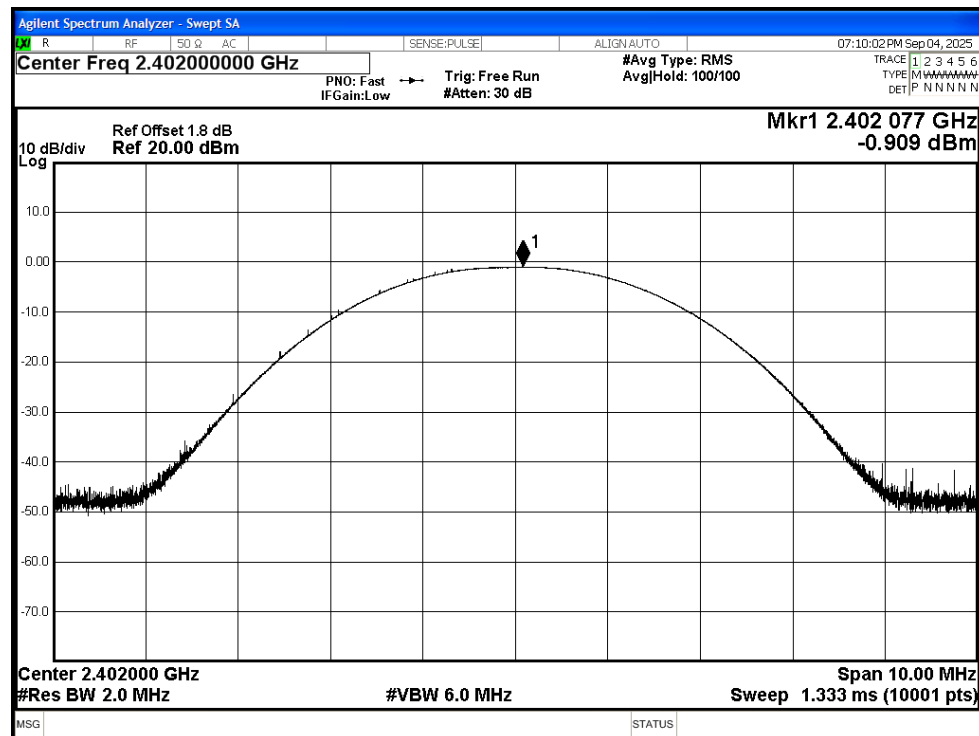


A.2 Maximum Peak Conducted Output Power

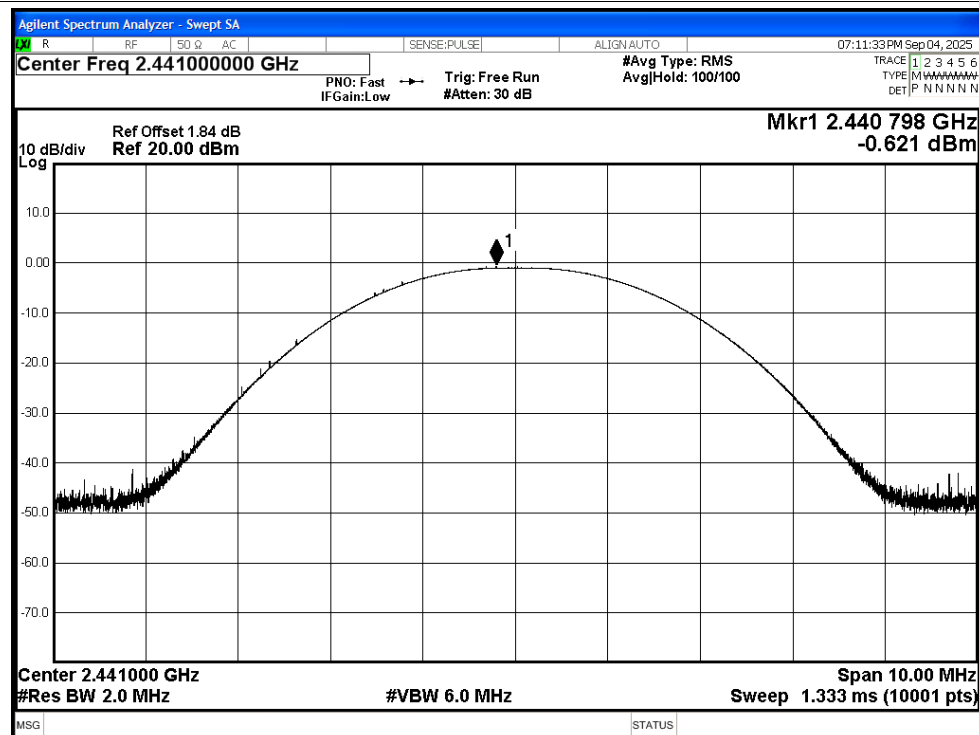
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.91	21	Pass
NVNT	1-DH5	2441	Ant1	-0.62	21	Pass
NVNT	1-DH5	2480	Ant1	-1.38	21	Pass
NVNT	2-DH5	2402	Ant1	1.01	21	Pass
NVNT	2-DH5	2441	Ant1	1.05	21	Pass
NVNT	2-DH5	2480	Ant1	0.30	21	Pass
NVNT	3-DH5	2402	Ant1	1.35	21	Pass
NVNT	3-DH5	2441	Ant1	1.44	21	Pass
NVNT	3-DH5	2480	Ant1	0.66	21	Pass

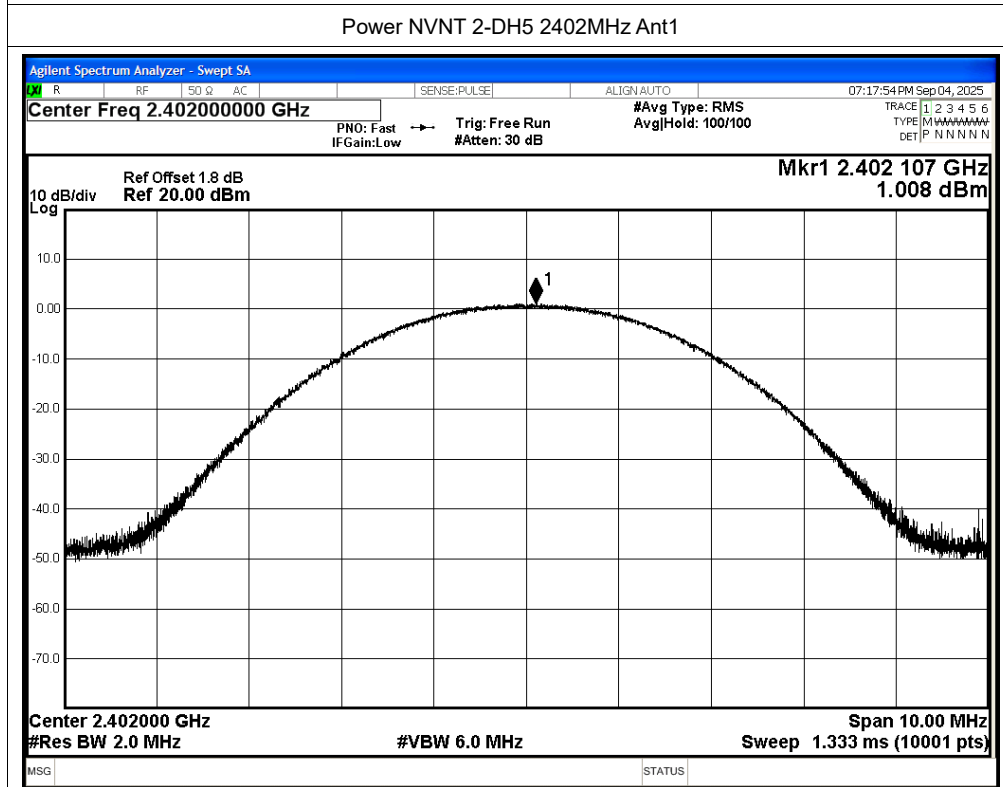
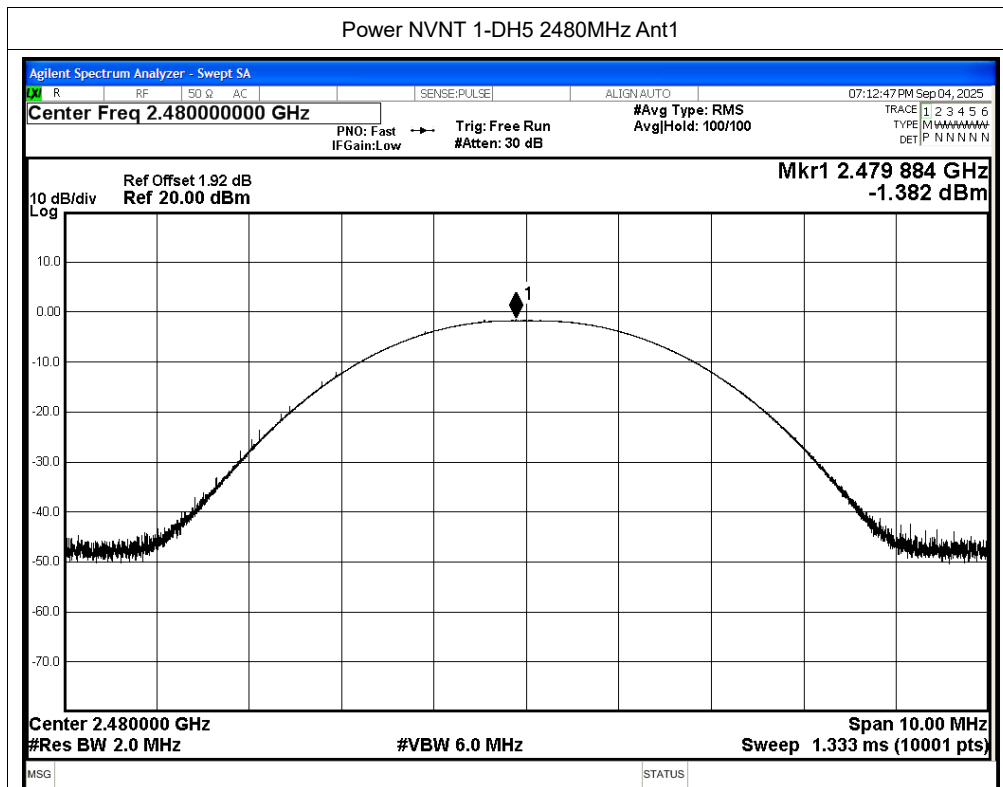
Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

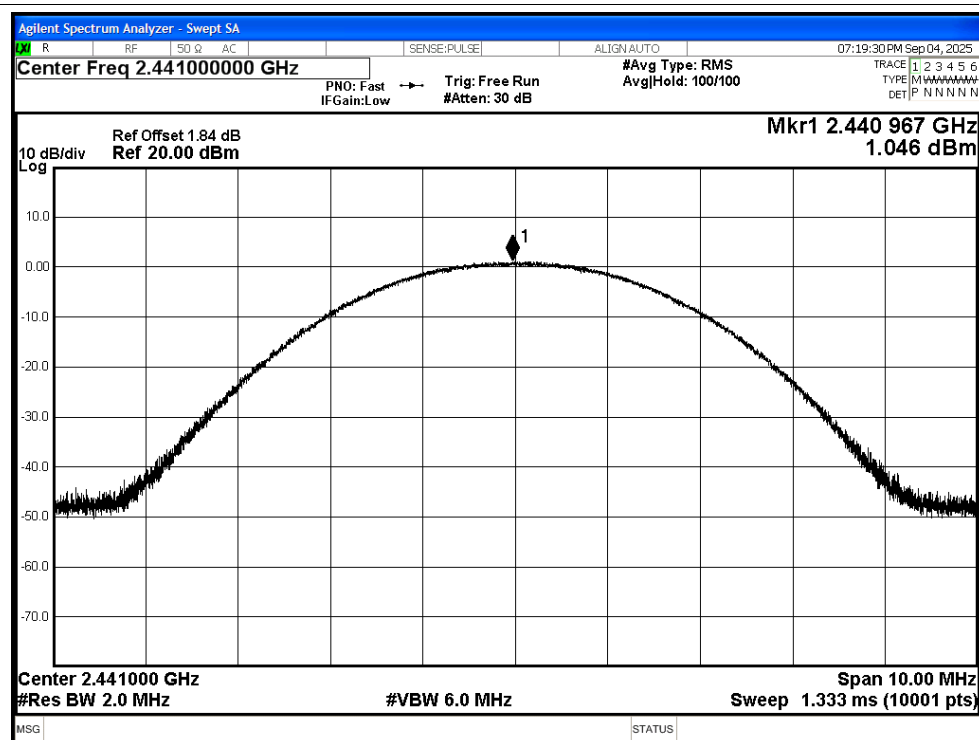


Power NVNT 1-DH5 2441MHz Ant1

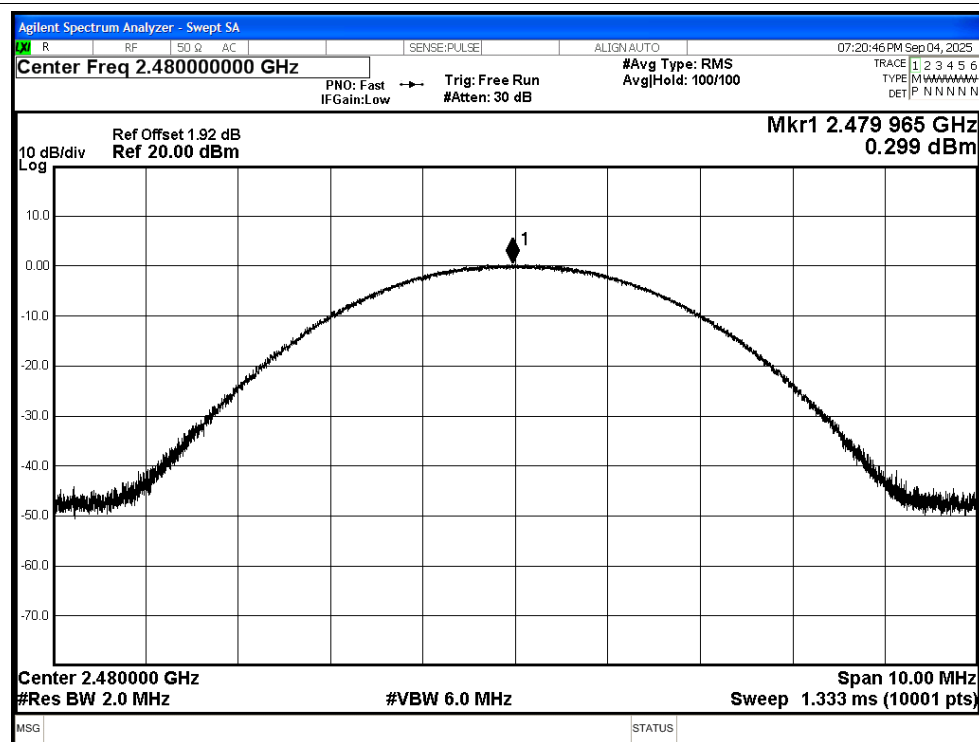


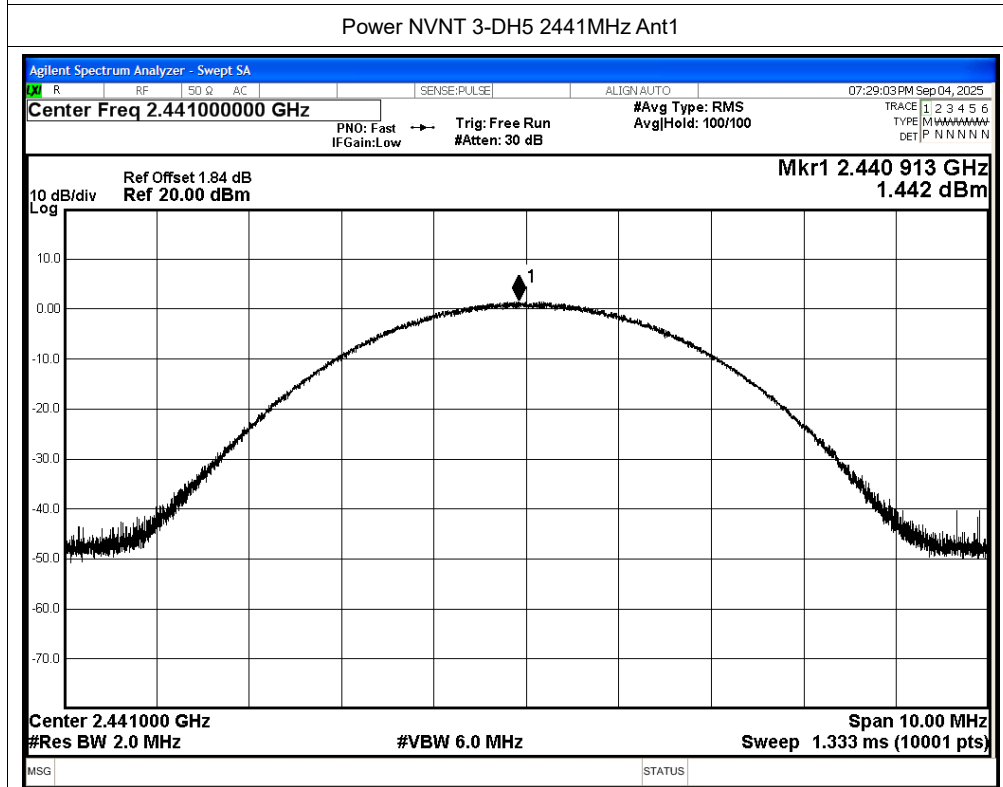
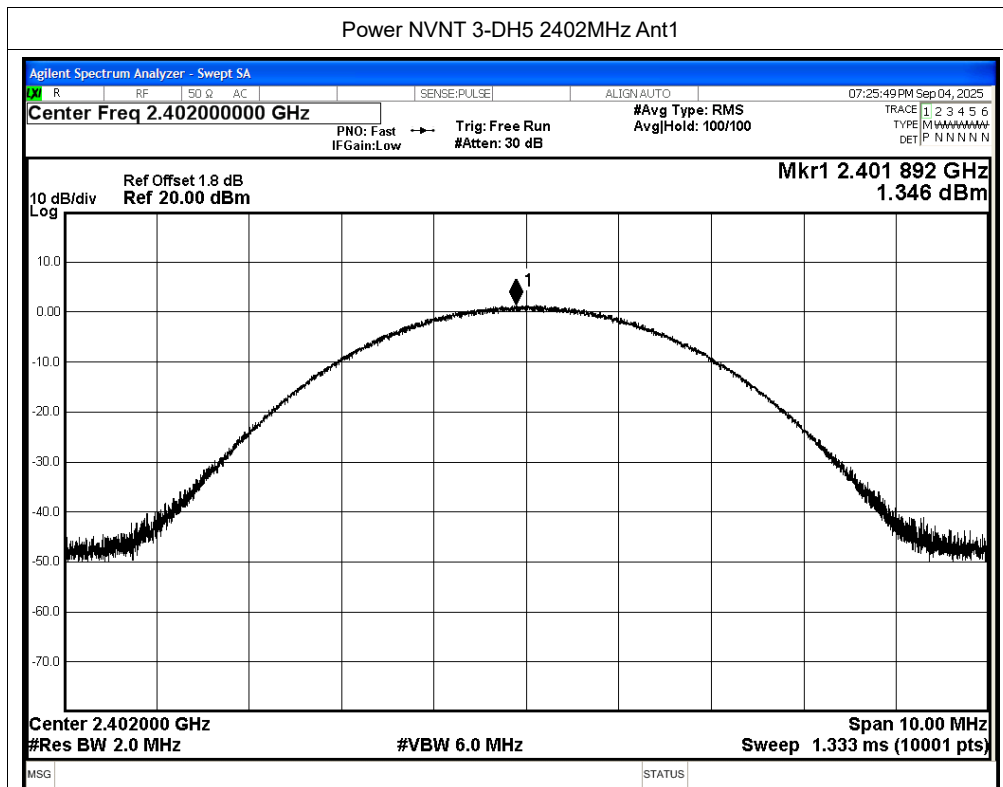


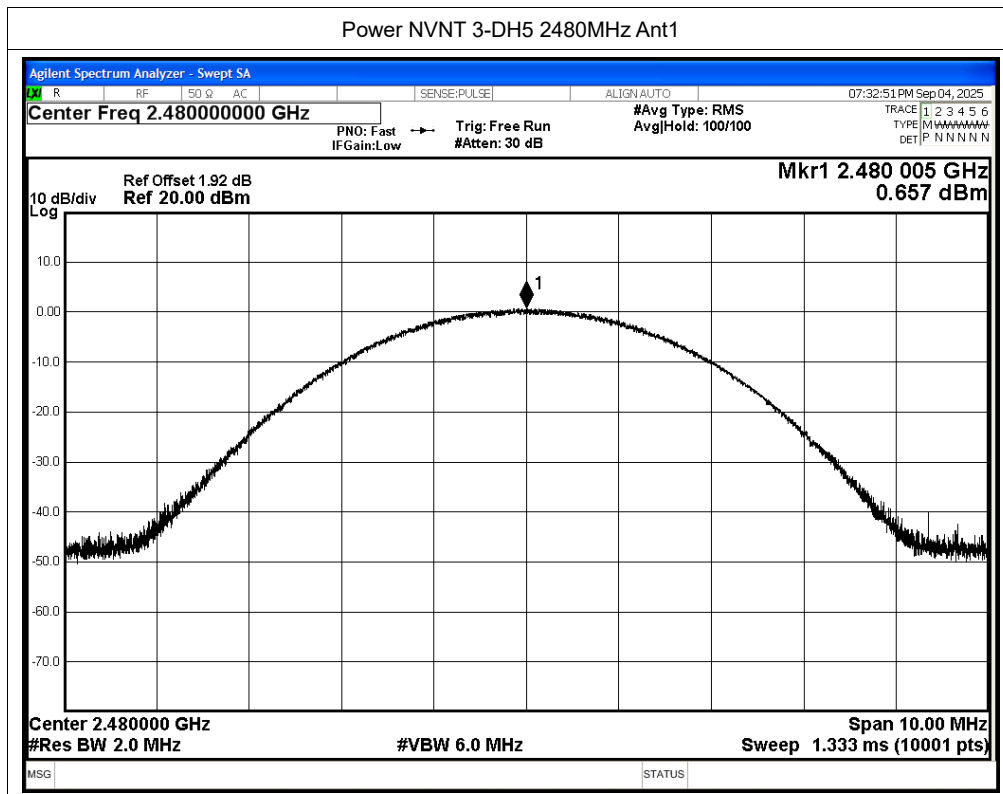
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1





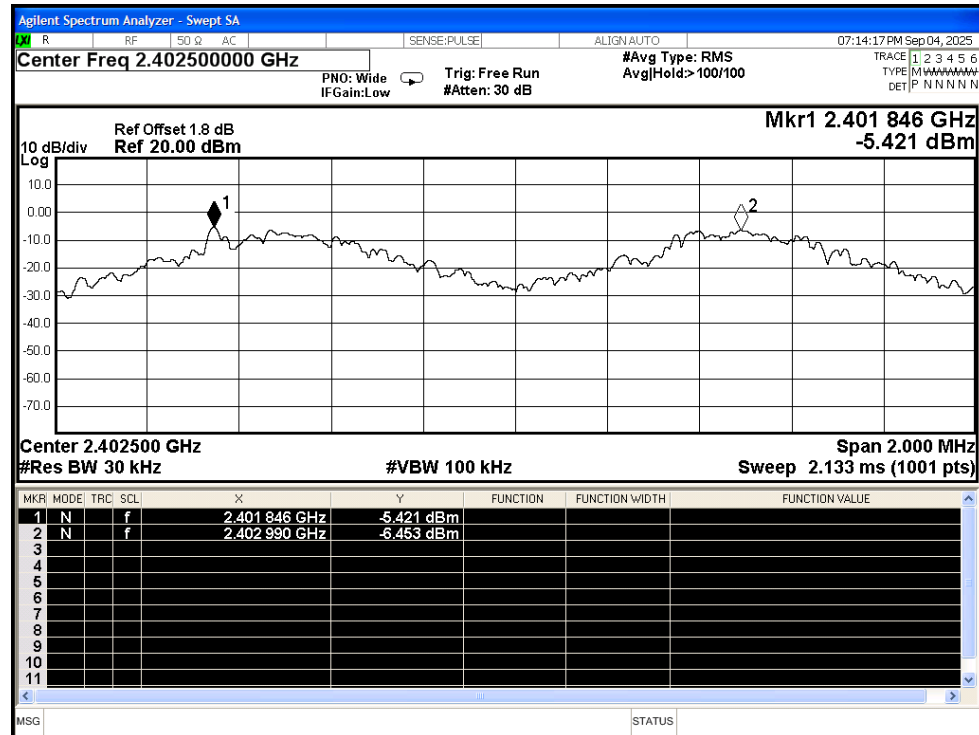


A.3 Carrier Frequencies Separation

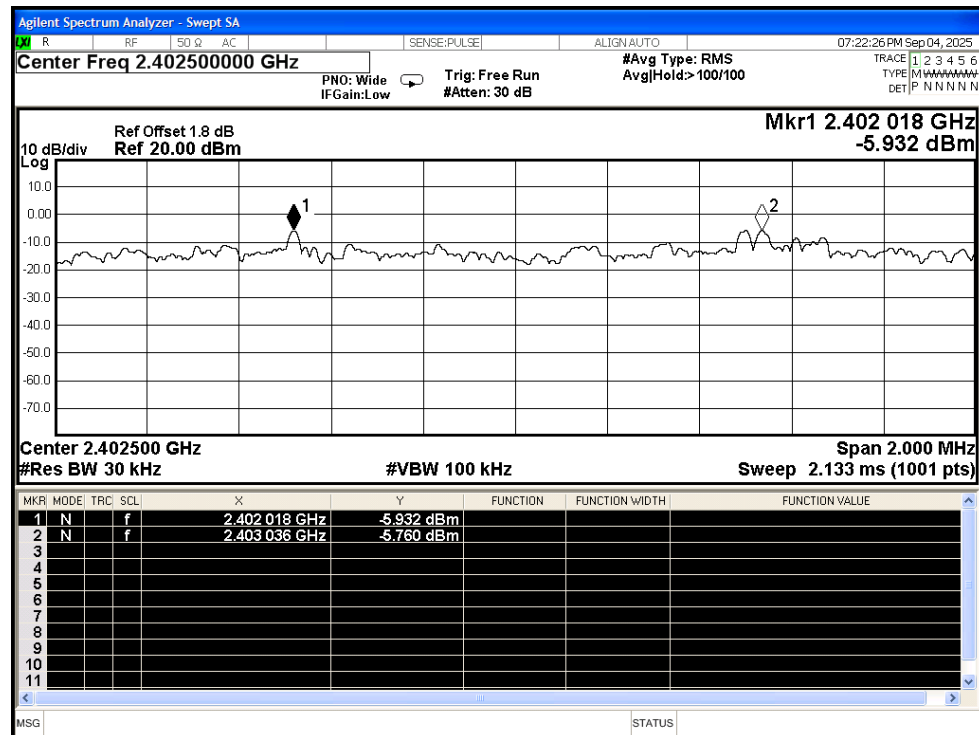
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.846	2402.99	1.144	0.653	Pass
NVNT	2-DH5	Ant1	2402.018	2403.036	1.018	0.871	Pass
NVNT	3-DH5	Ant1	2401.996	2402.996	1	0.867	Pass

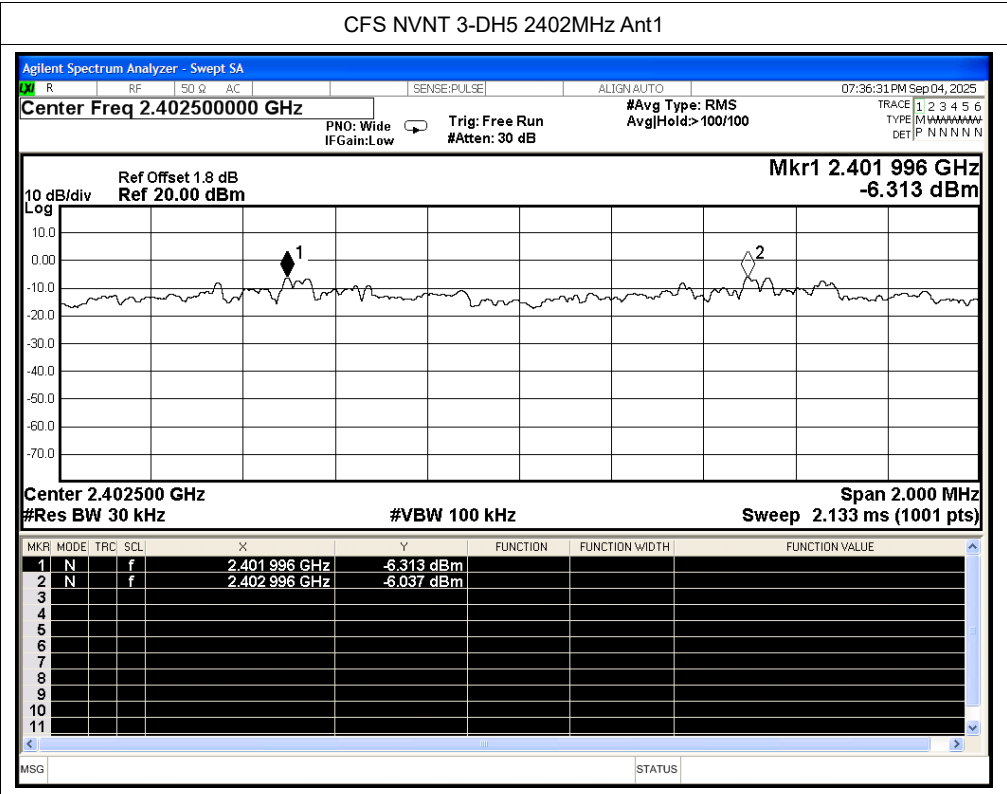
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



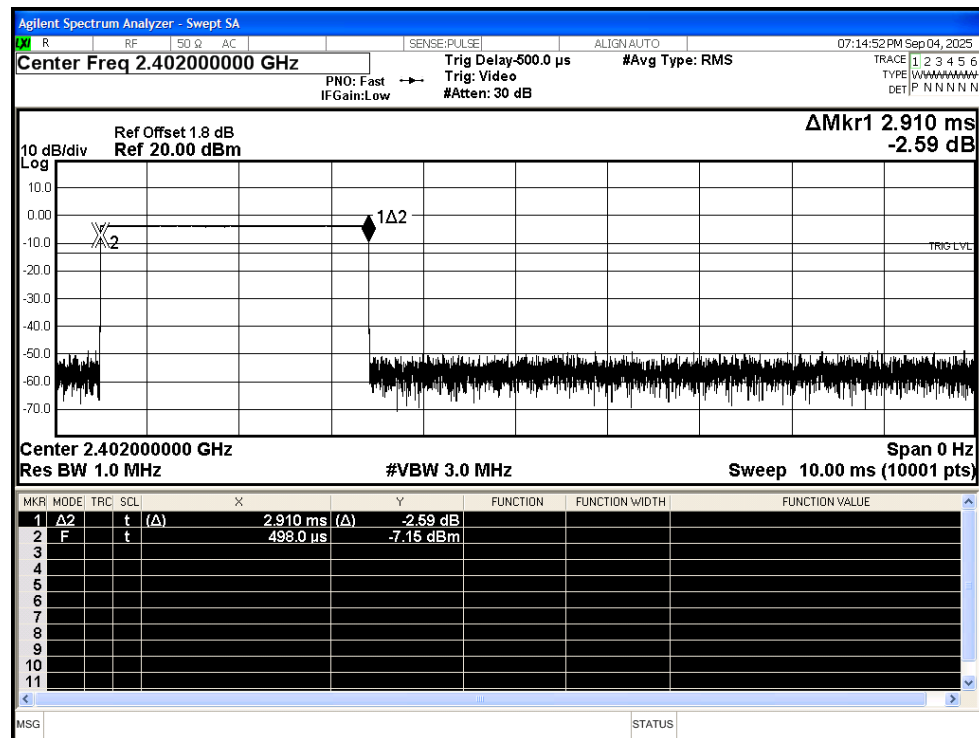


A.4 Dwell Time

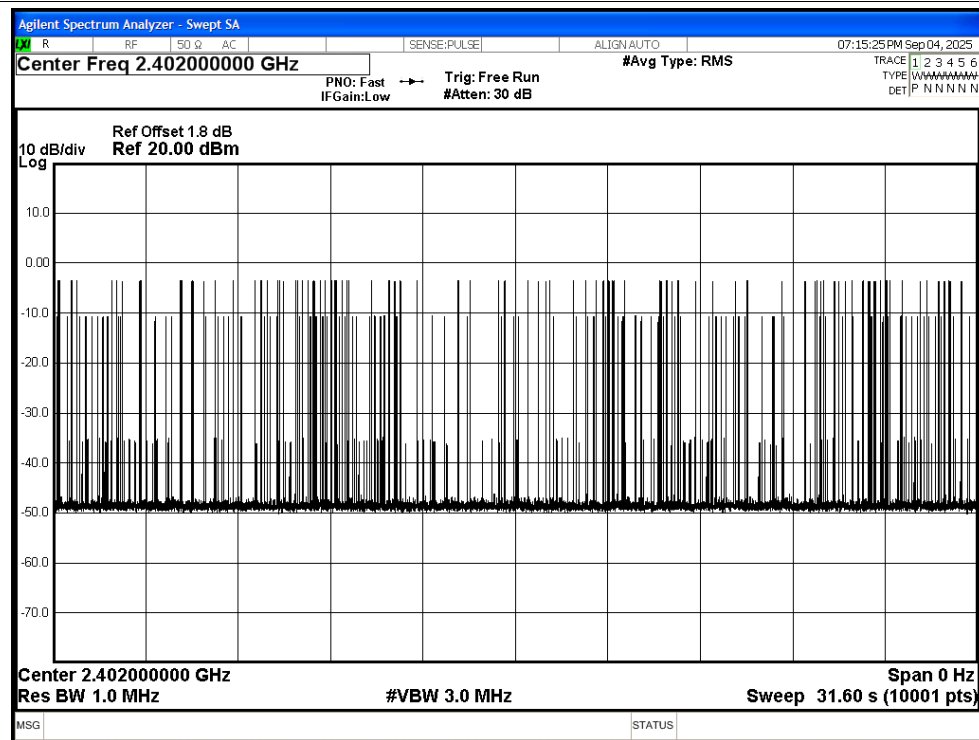
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	308.46	106	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	278.304	96	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	309.979	107	31600	400	Pass

Test Graphs

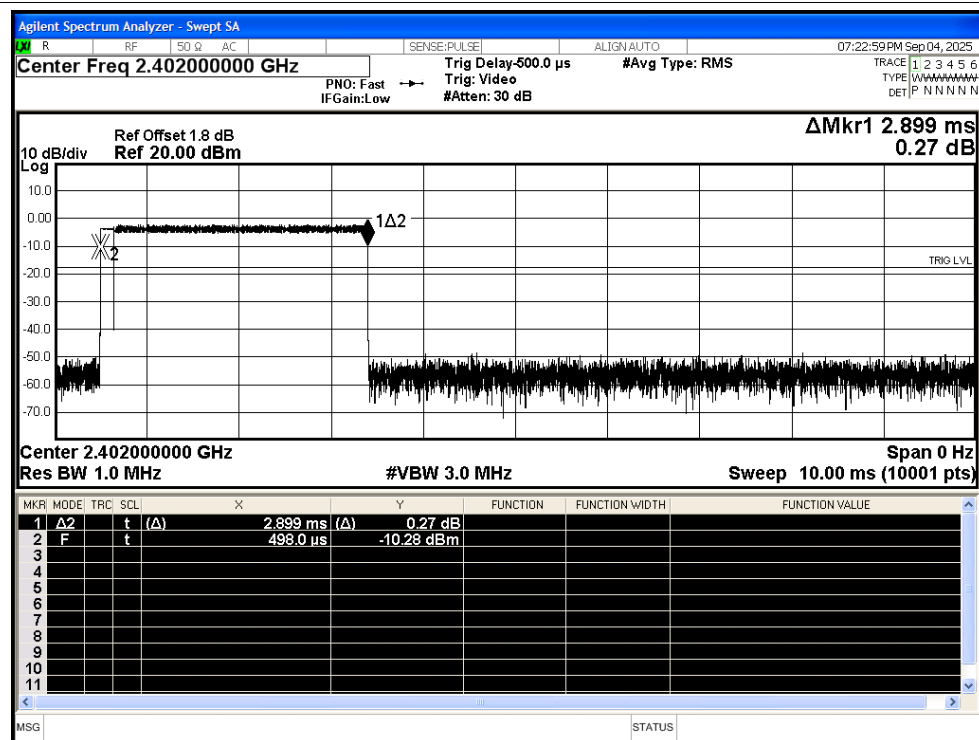
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



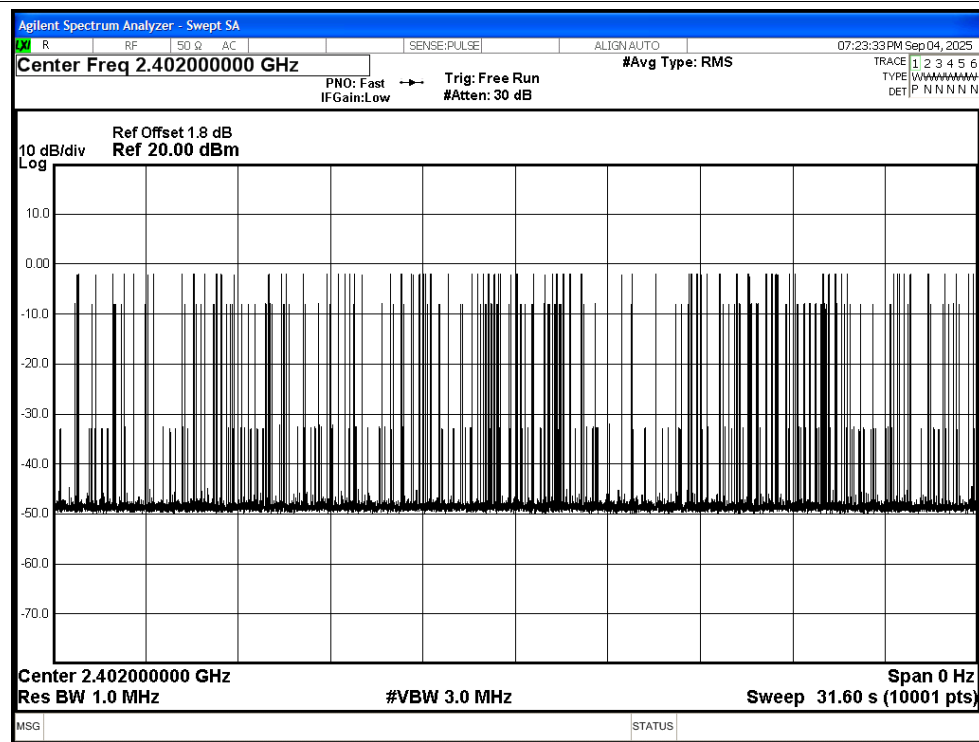
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



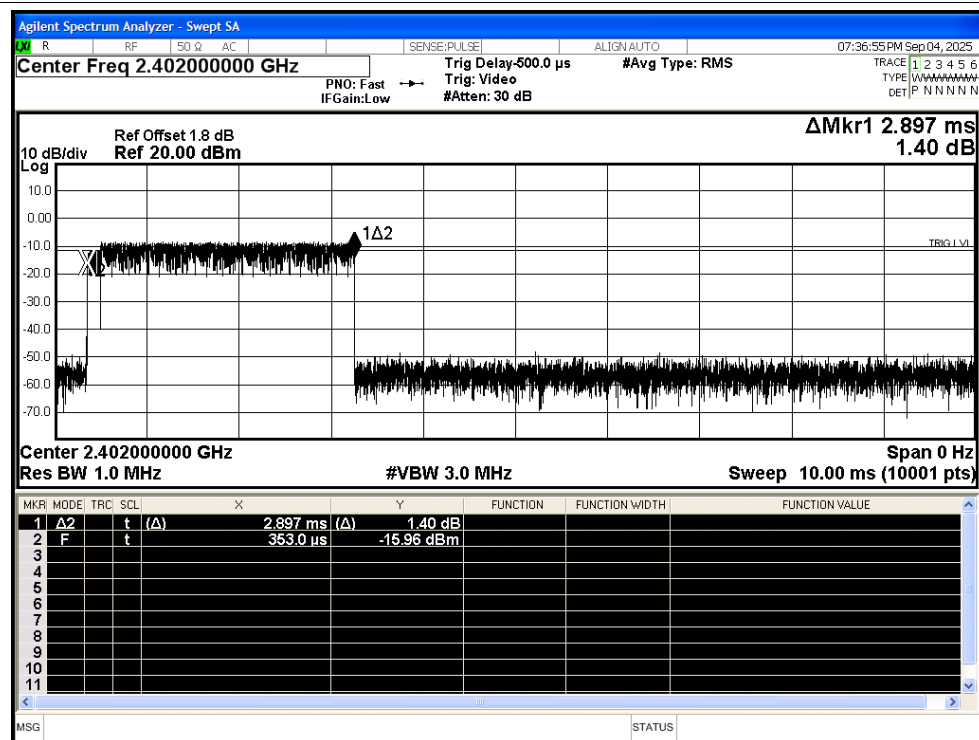
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



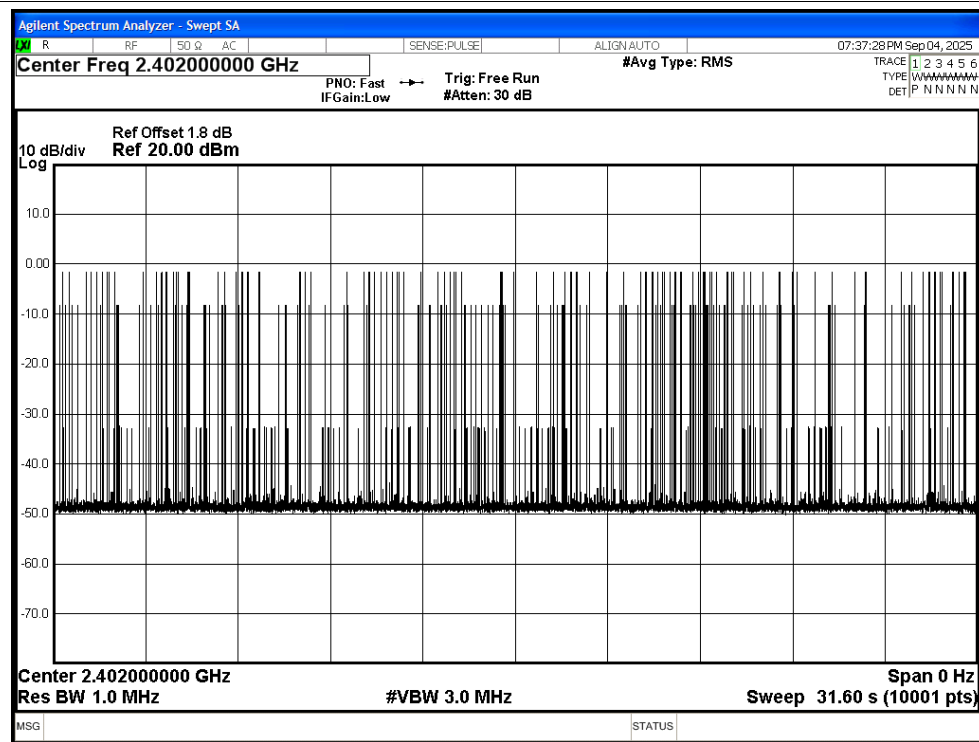
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

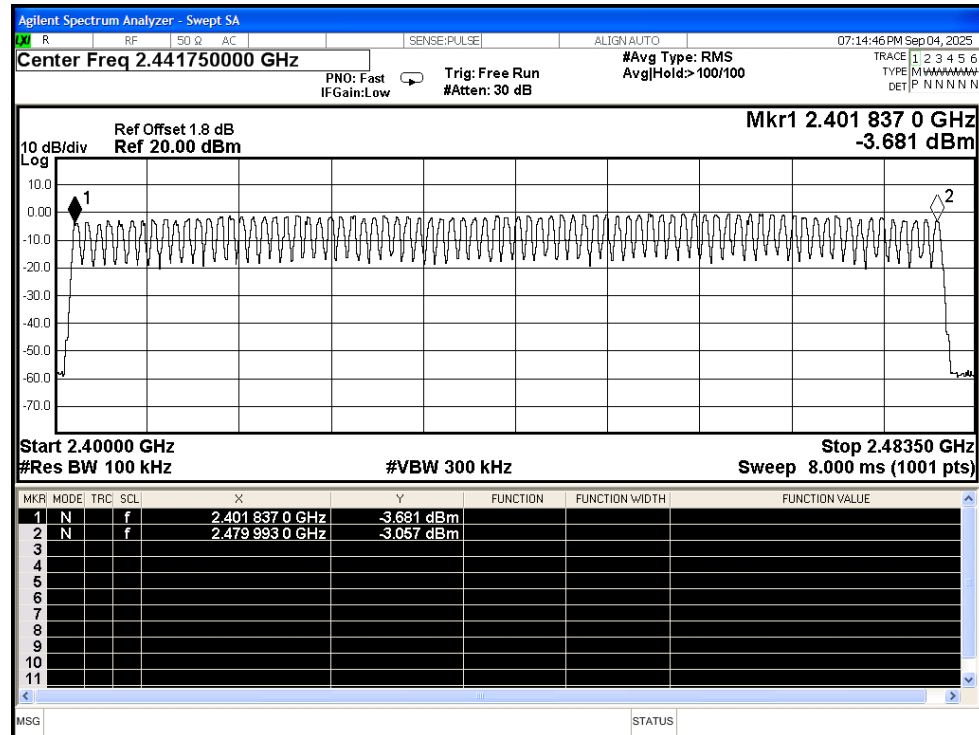


A.5 Number of Hopping Channel

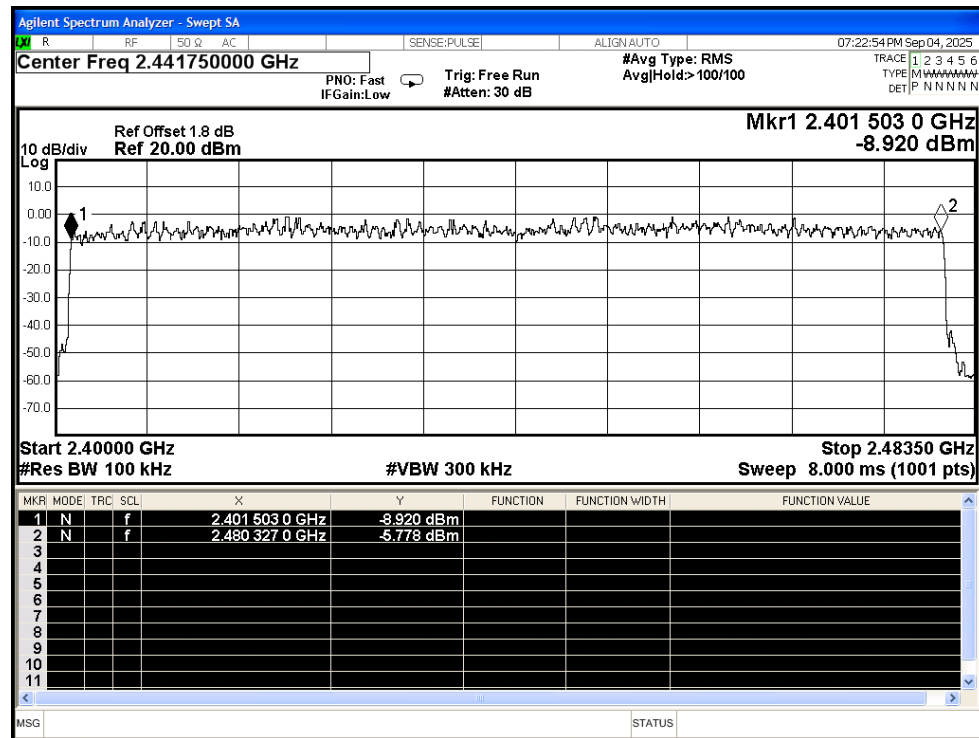
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

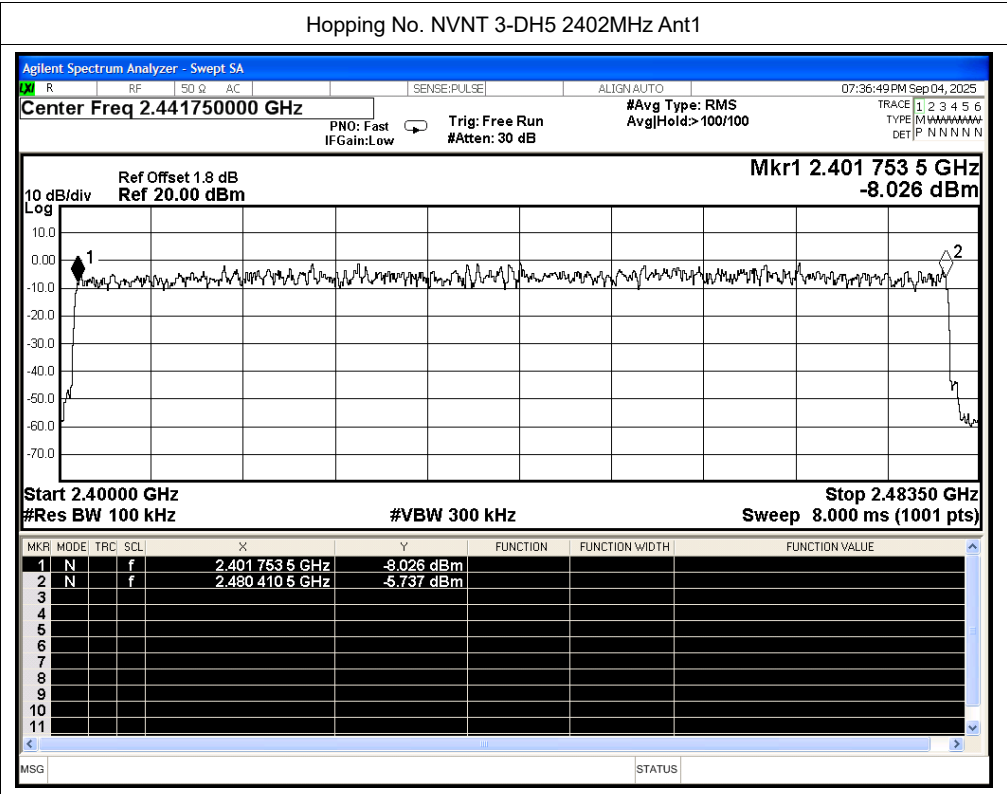
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



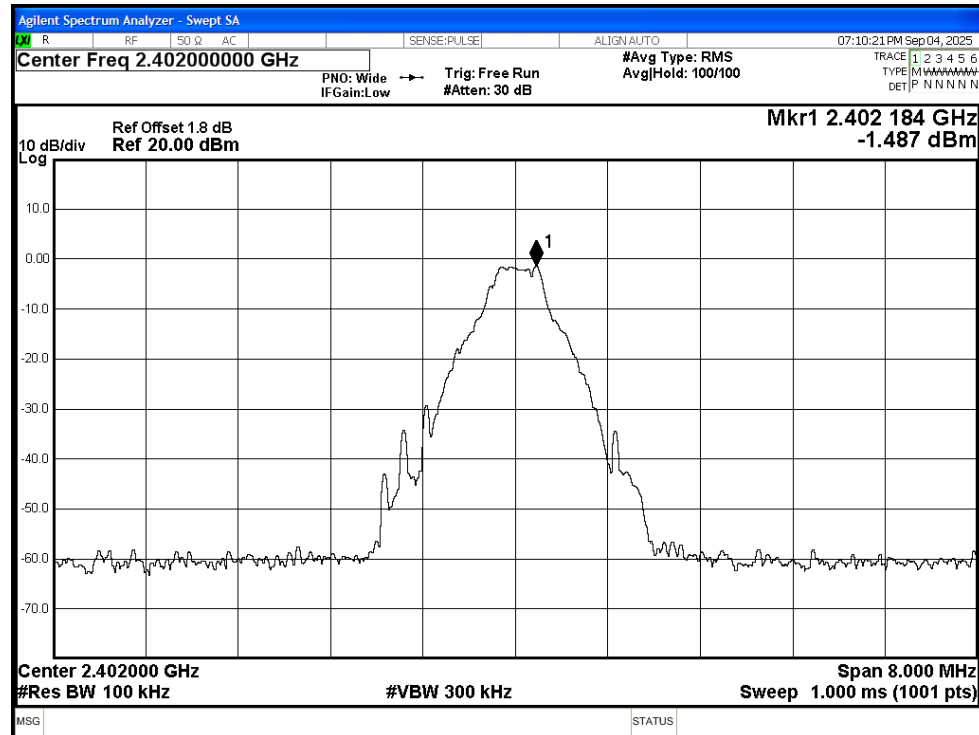


A.6 Band Edge

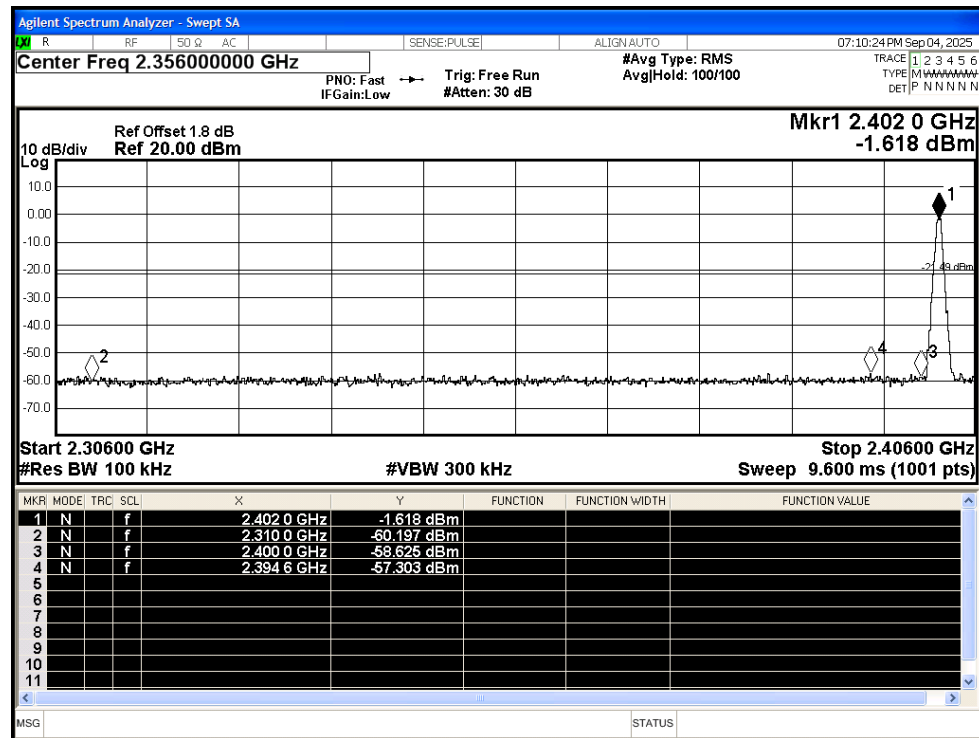
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.82	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.39	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.6	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.87	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.2	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.72	-20	Pass

Test Graphs

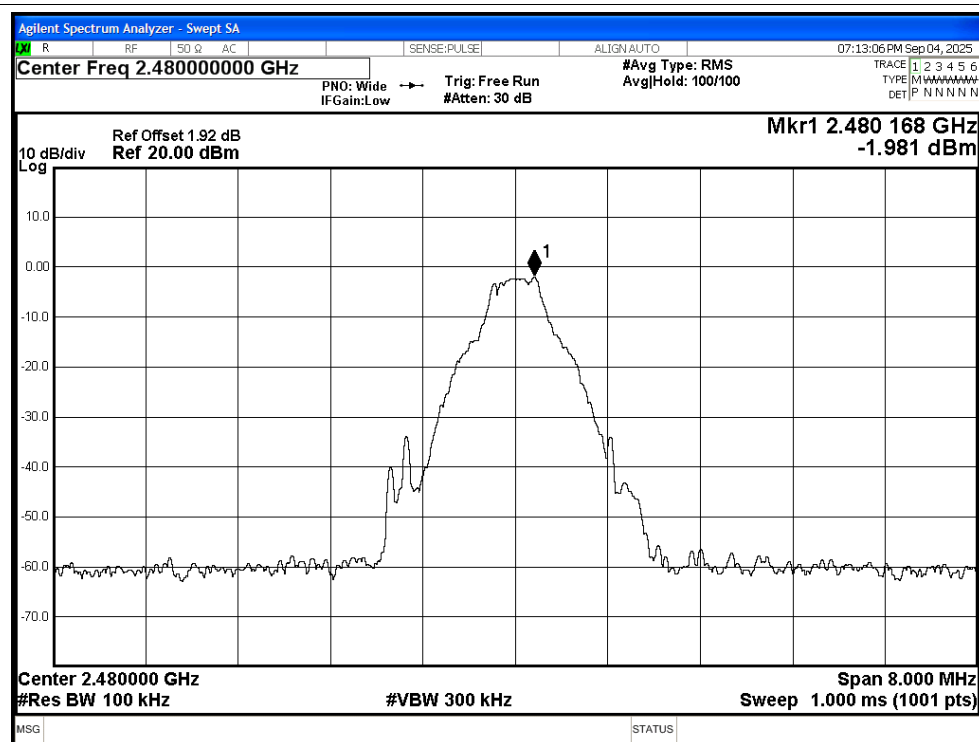
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



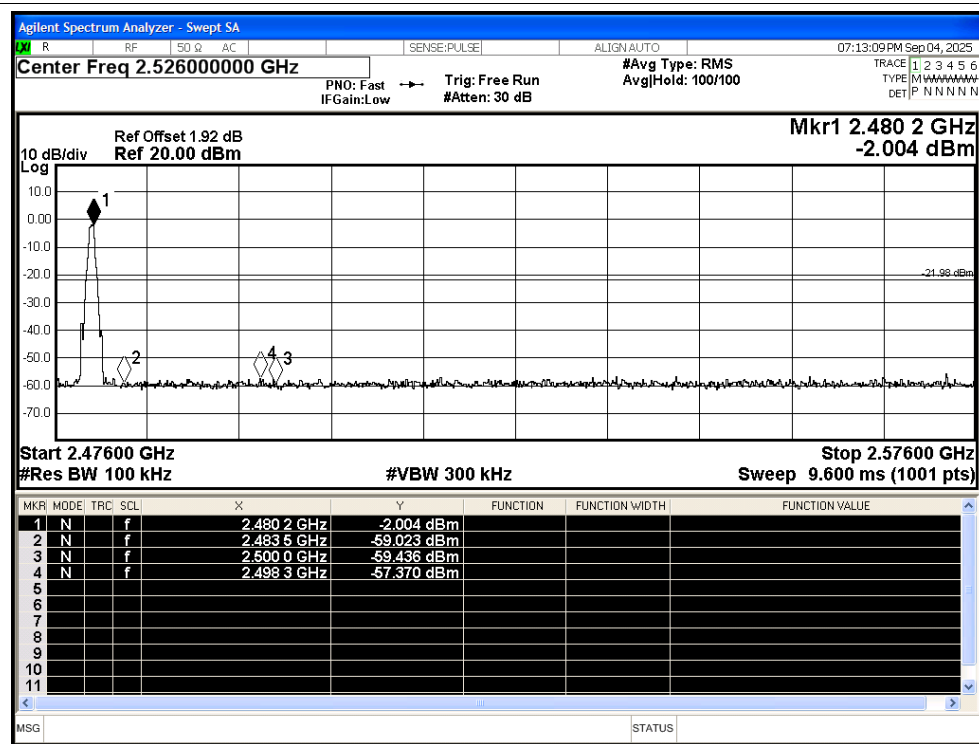
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

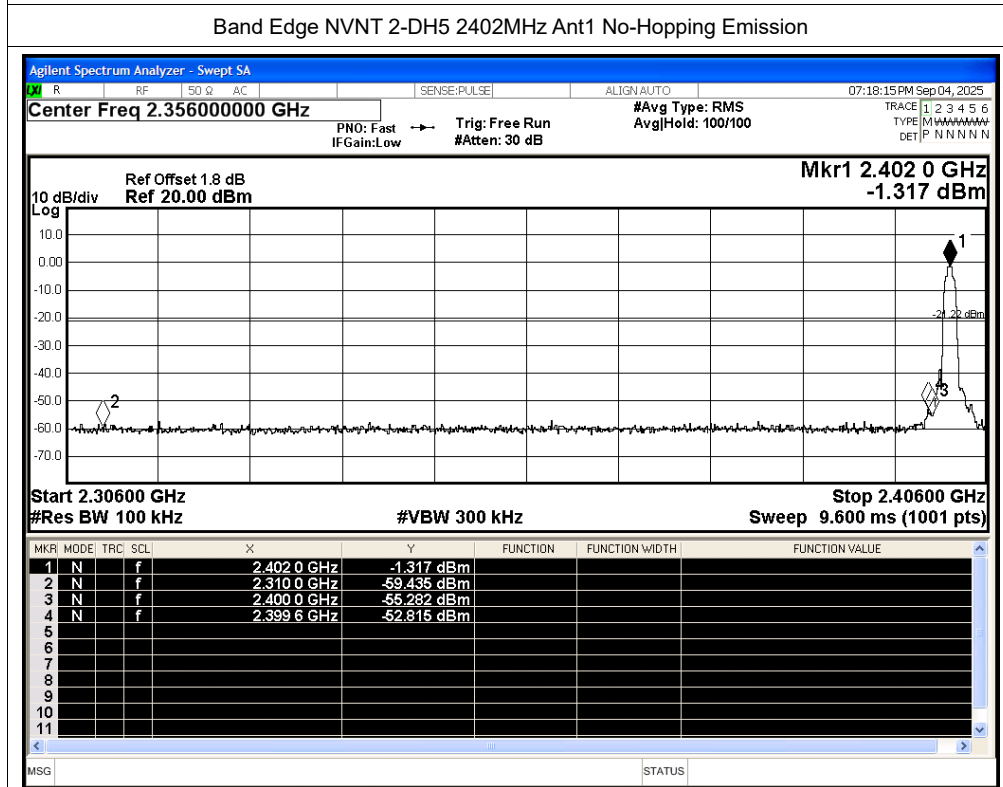
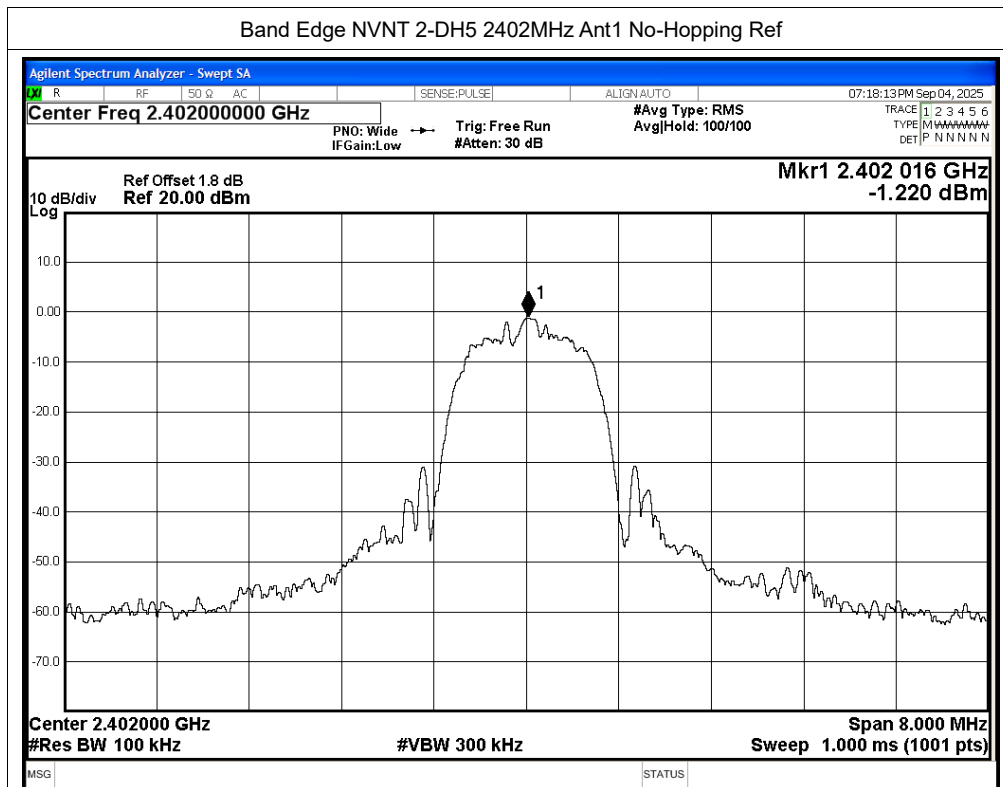


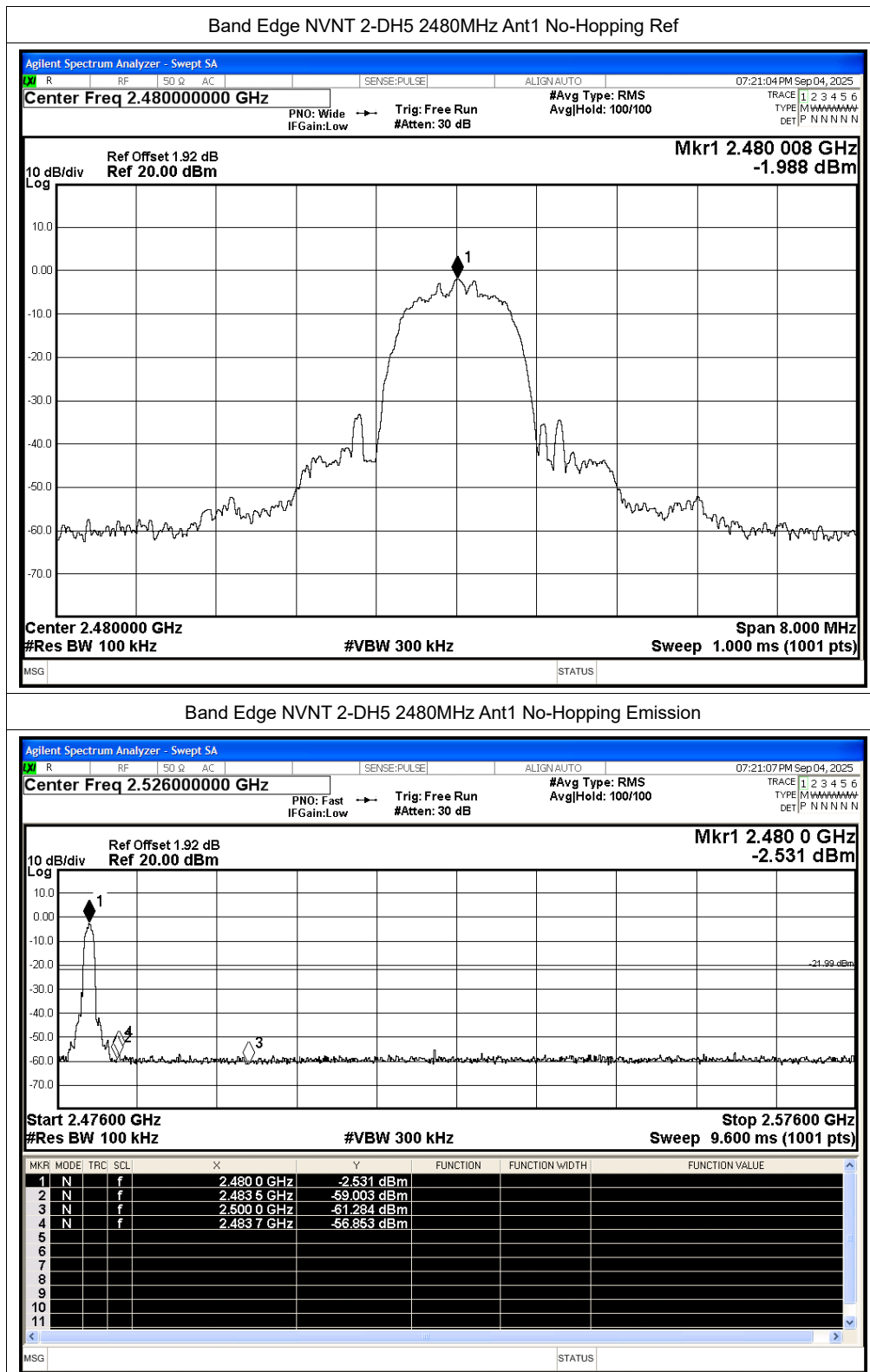
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



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



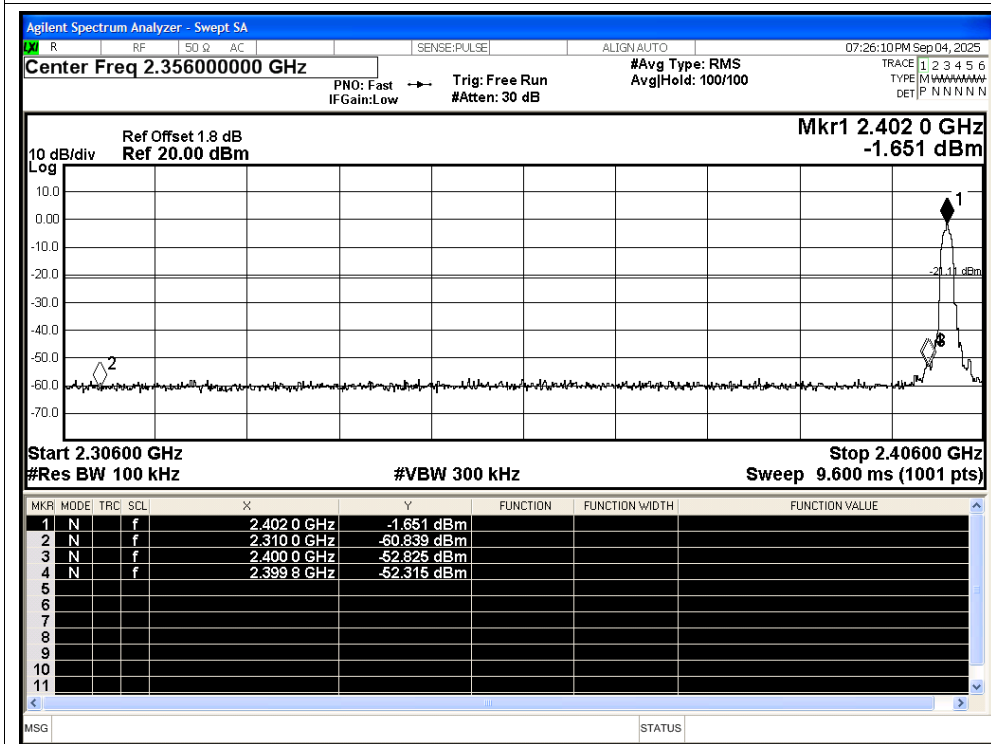


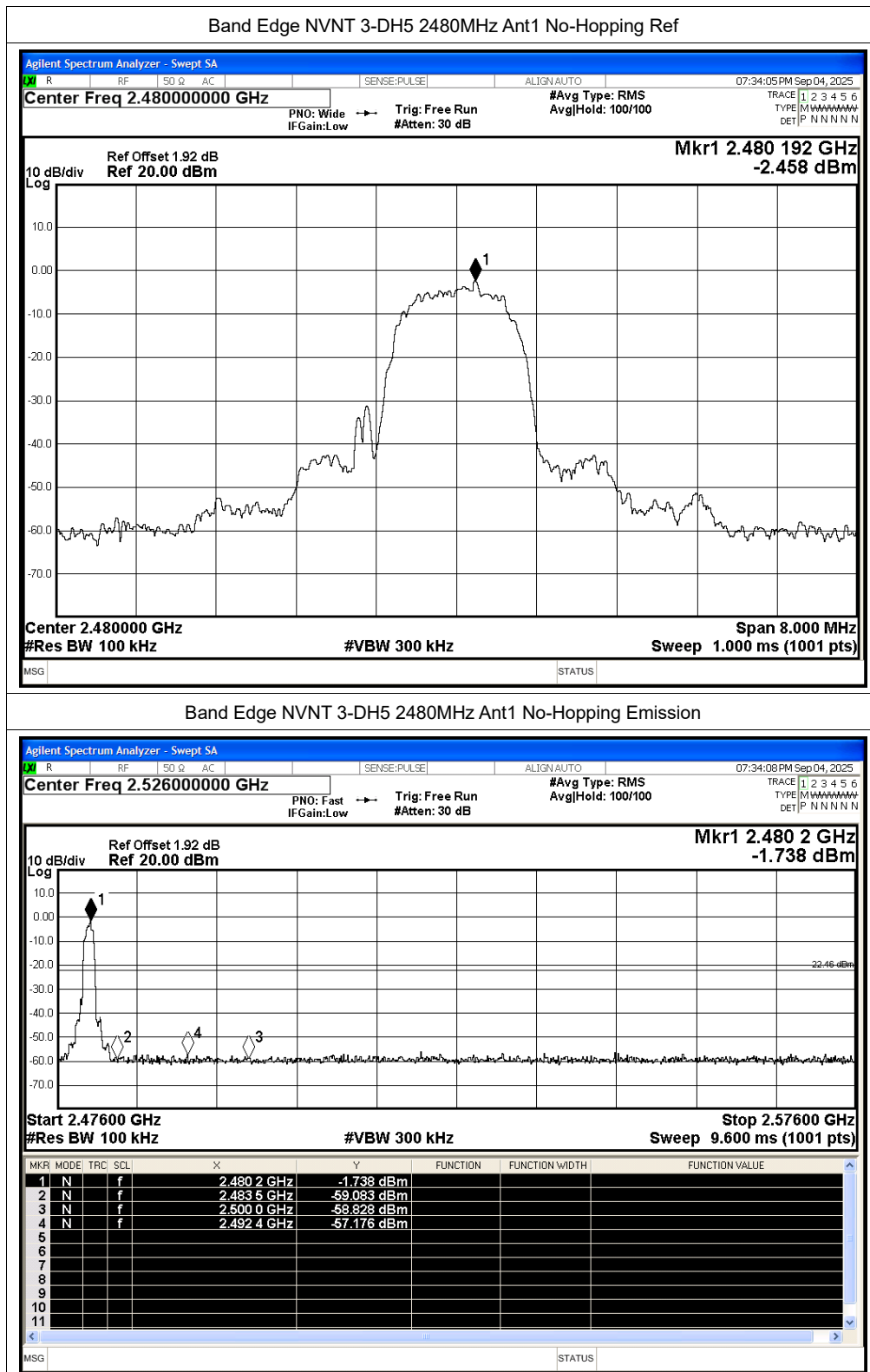


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



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



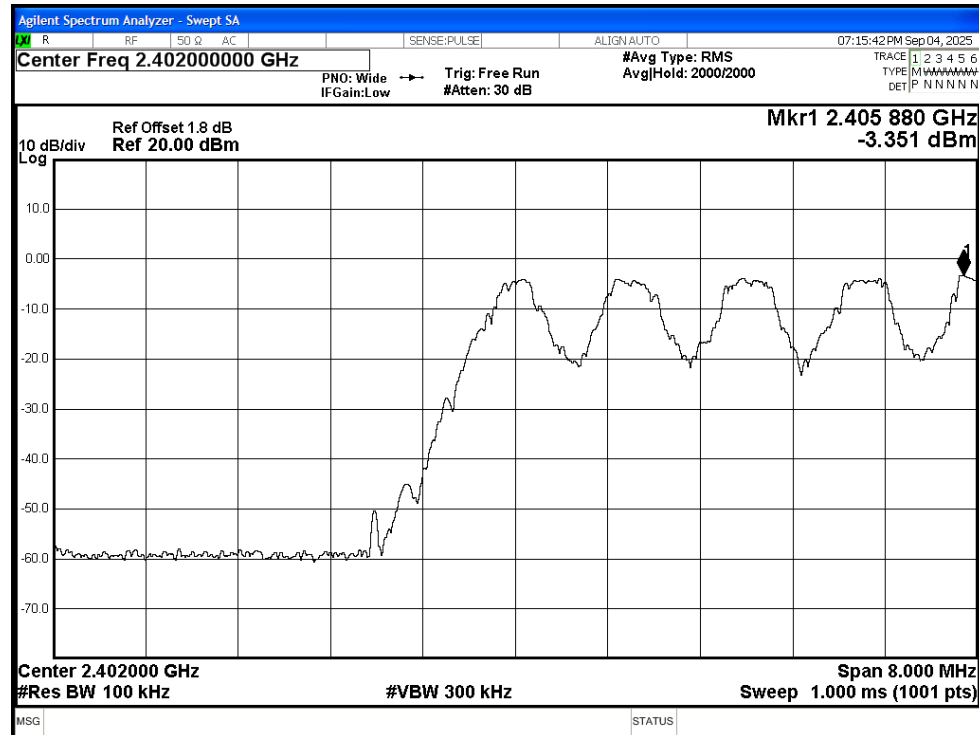


(Hopping)

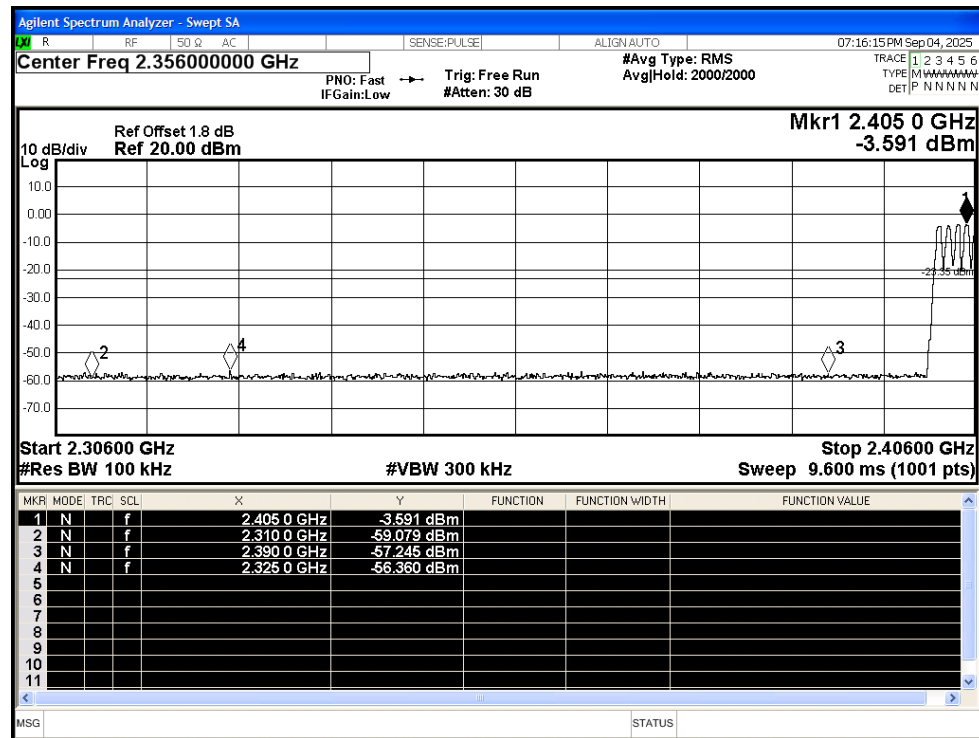
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.01	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.2	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-50.51	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.62	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.71	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-54.1	-20	Pass

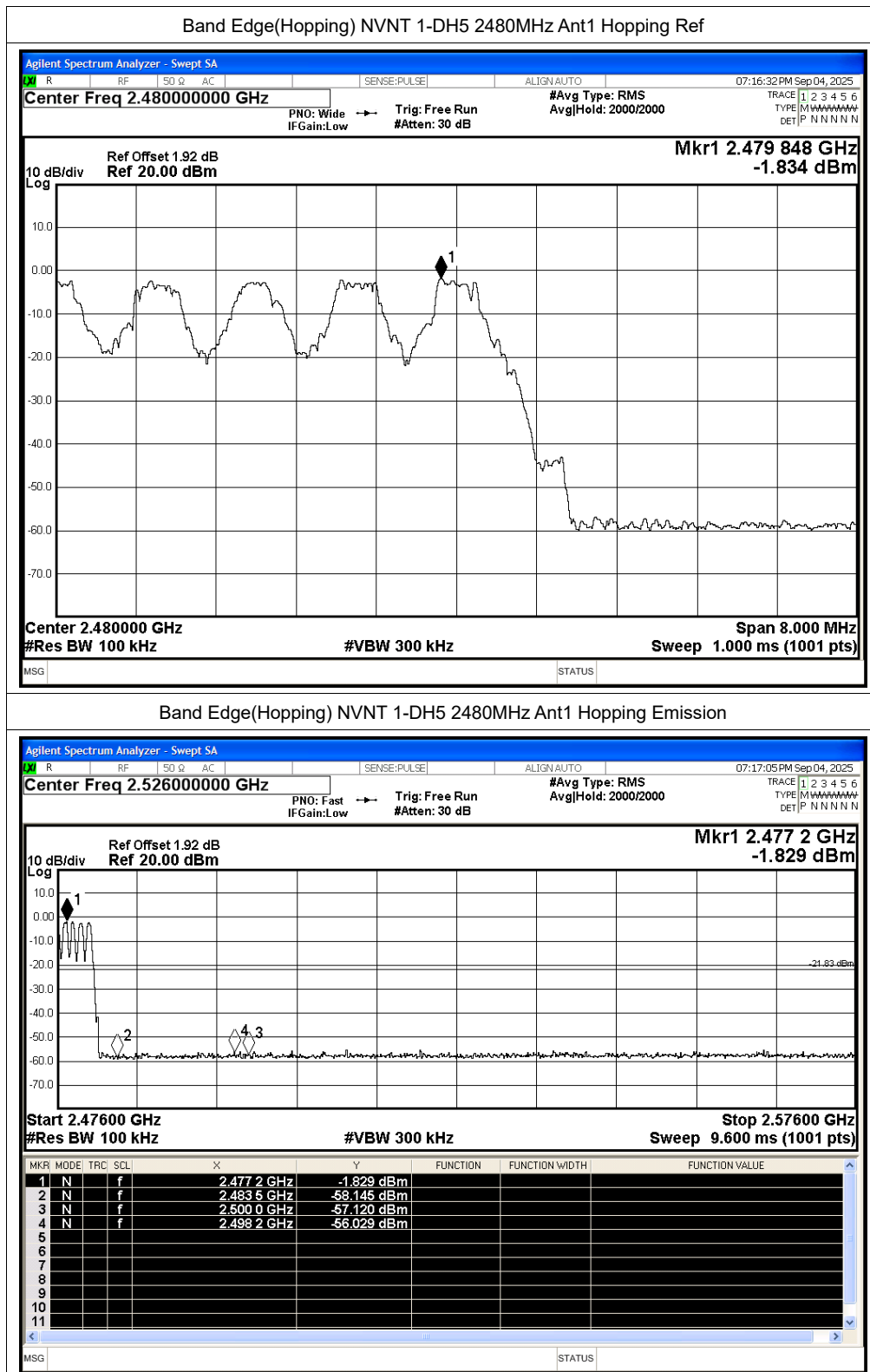
Test Graphs

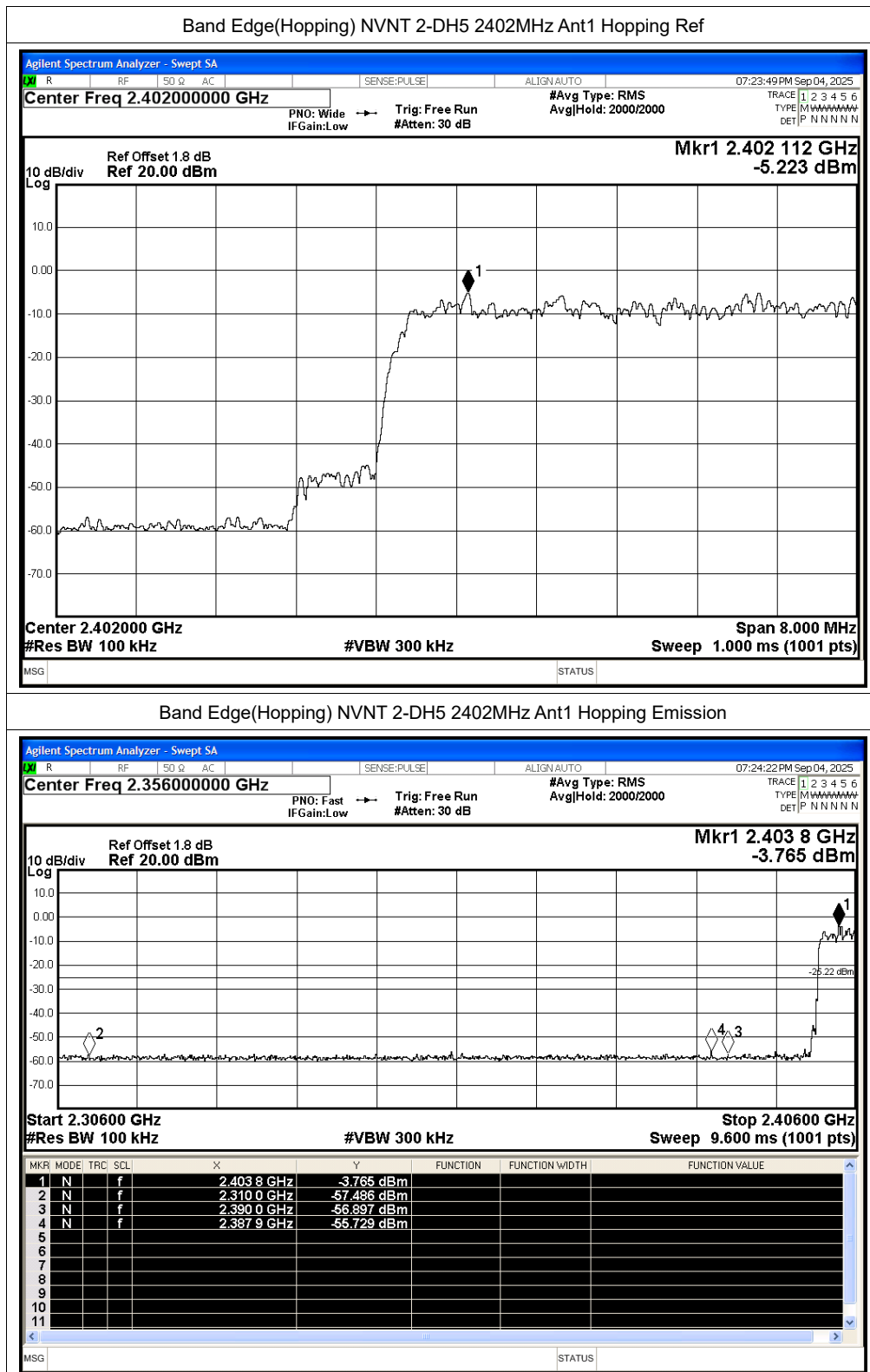
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

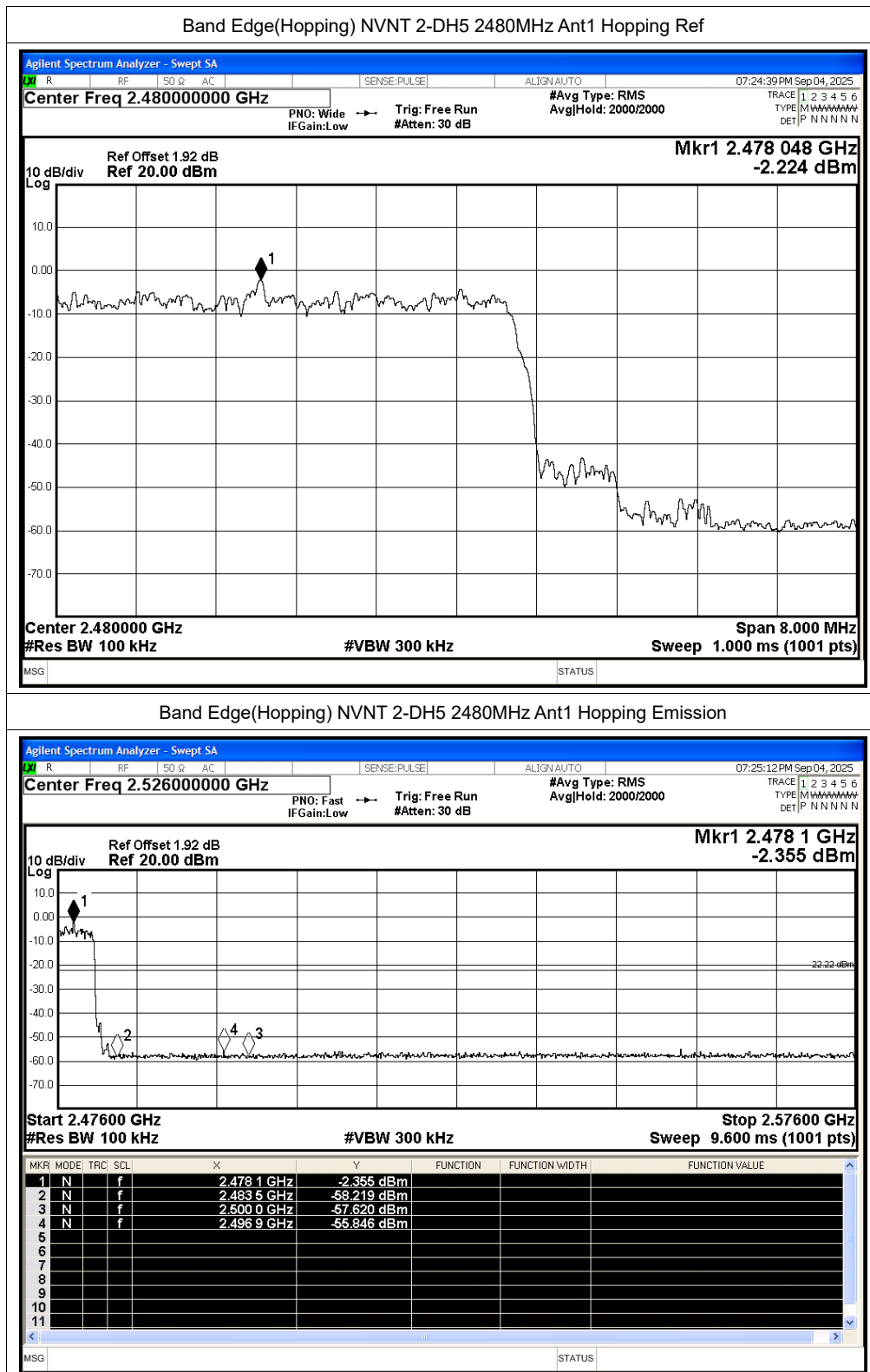


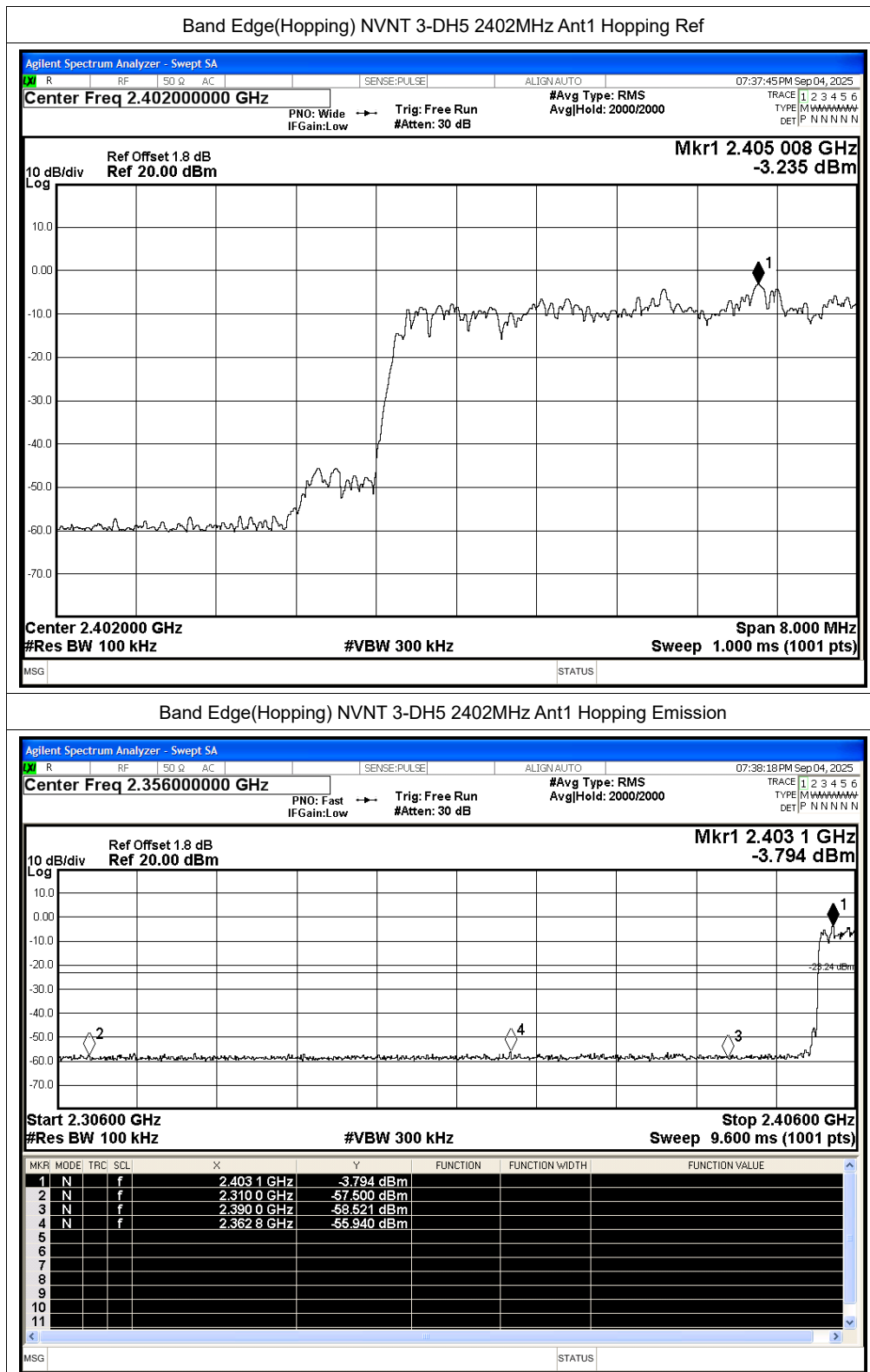
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

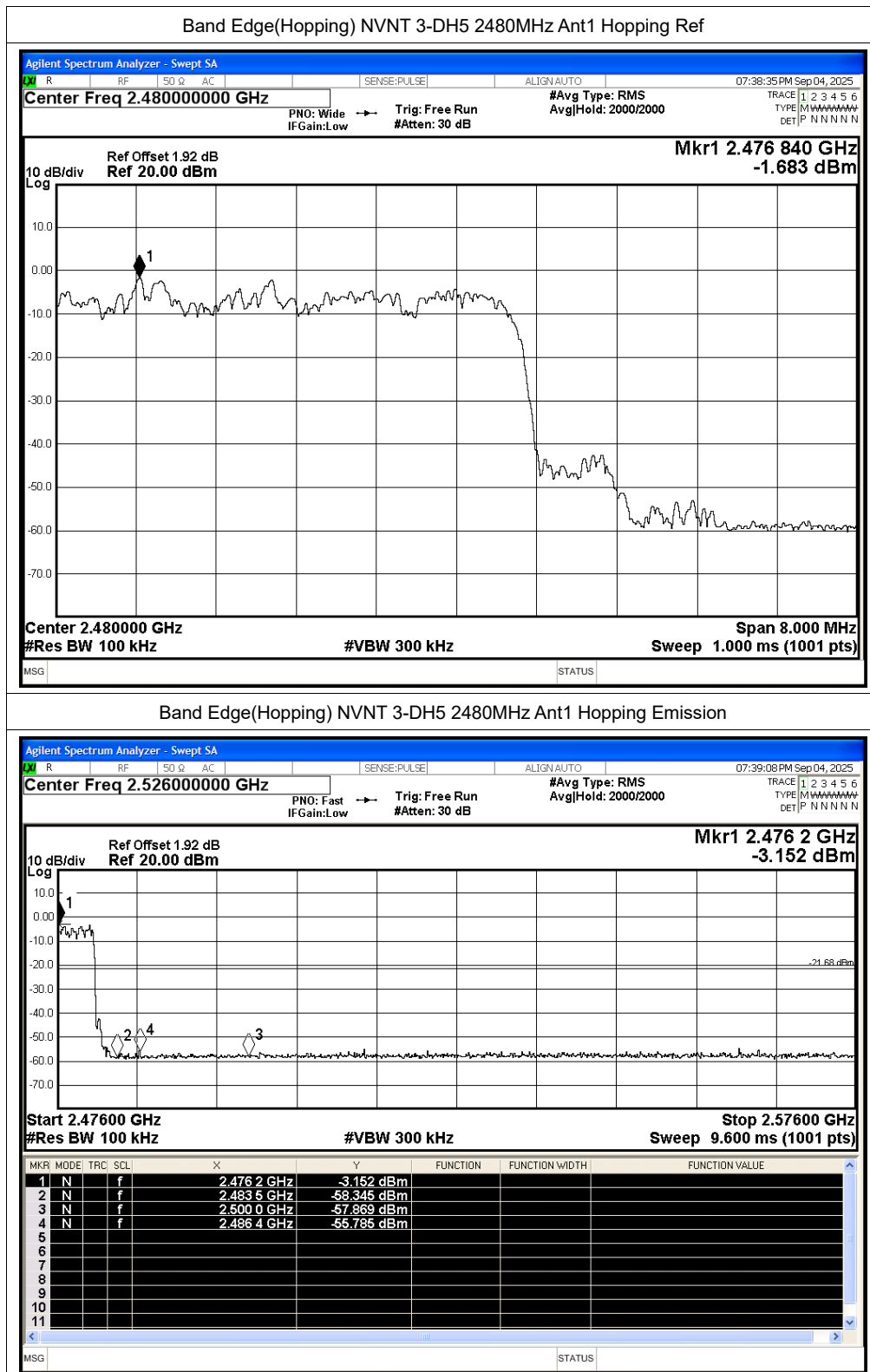










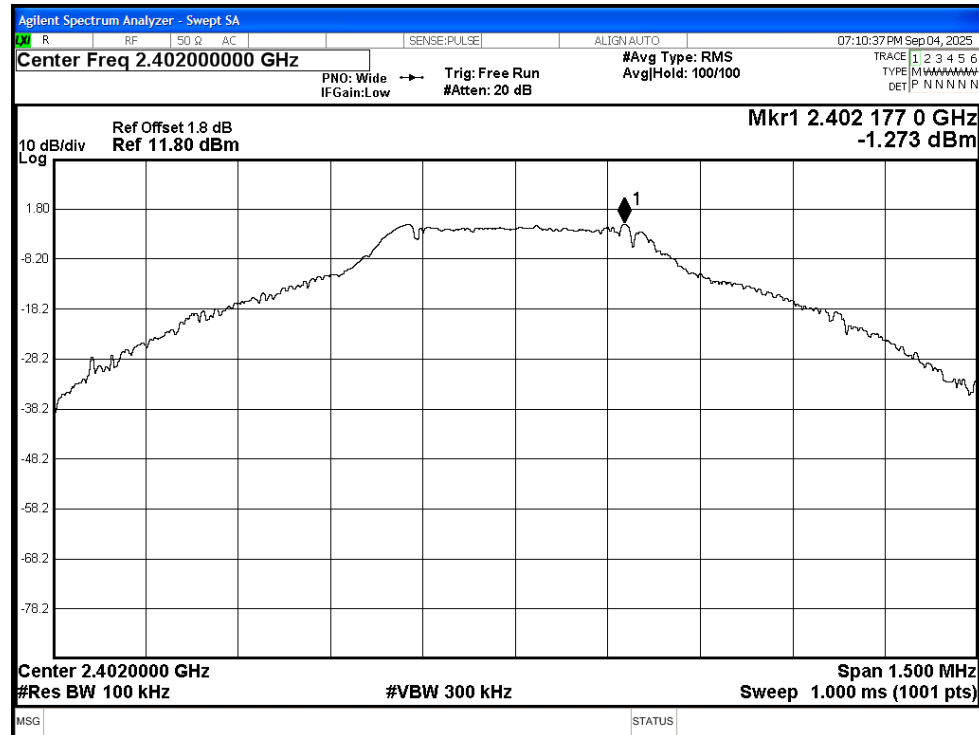


A.7 Conducted RF Spurious Emission

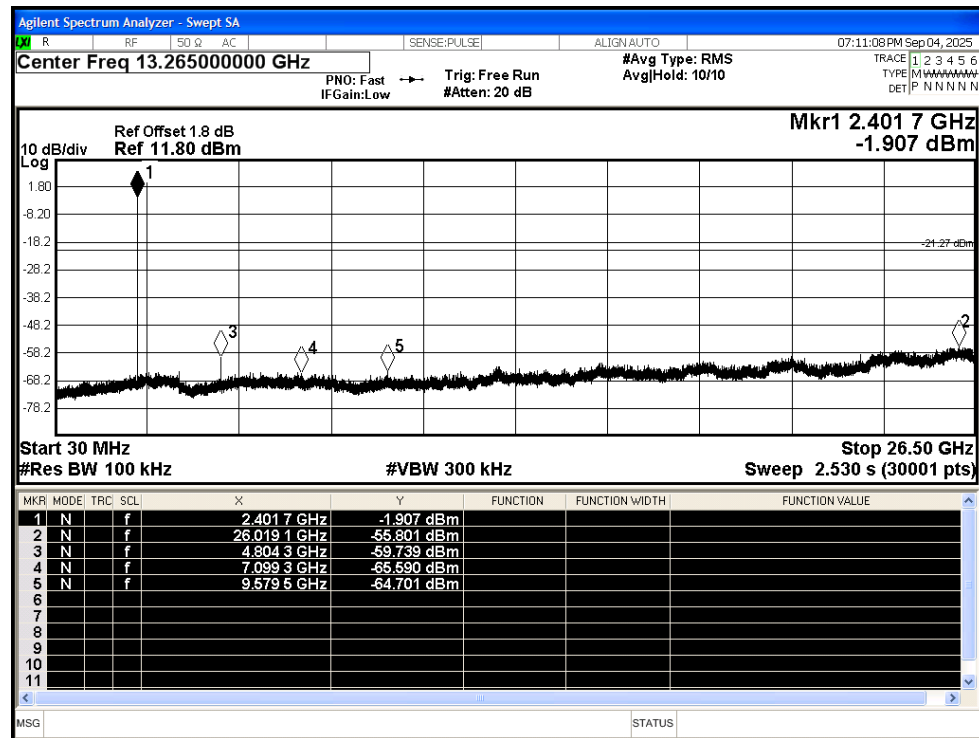
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.53	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.22	-20	Pass
NVNT	1-DH5	2480	Ant1	-52.42	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.22	-20	Pass
NVNT	2-DH5	2441	Ant1	-54.42	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.56	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.57	-20	Pass
NVNT	3-DH5	2441	Ant1	-52.19	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.33	-20	Pass

Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



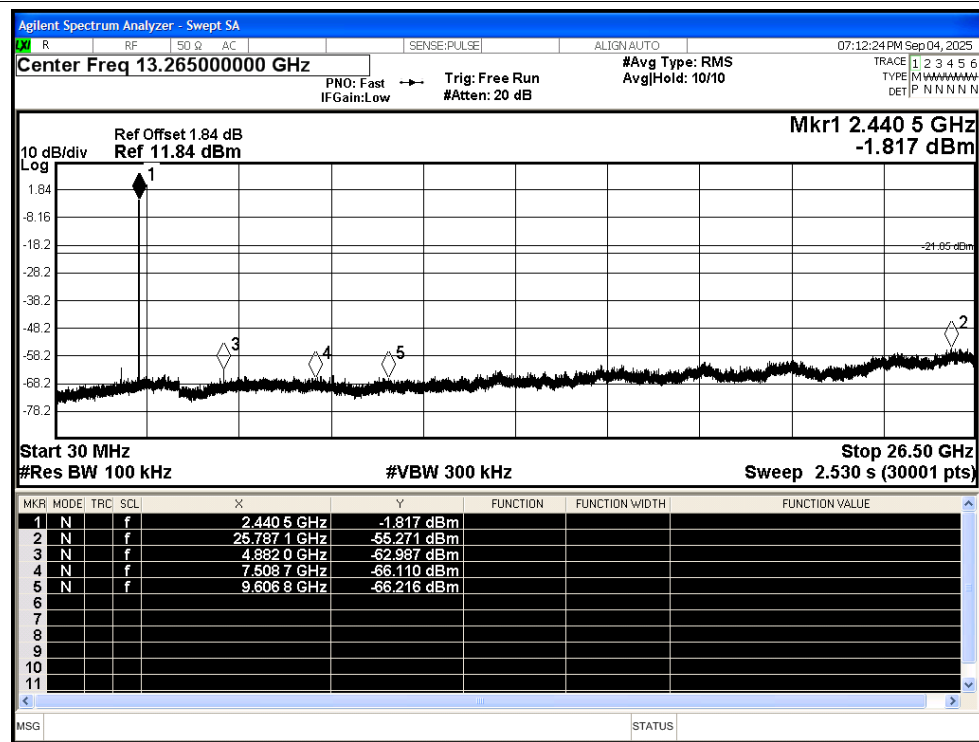
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



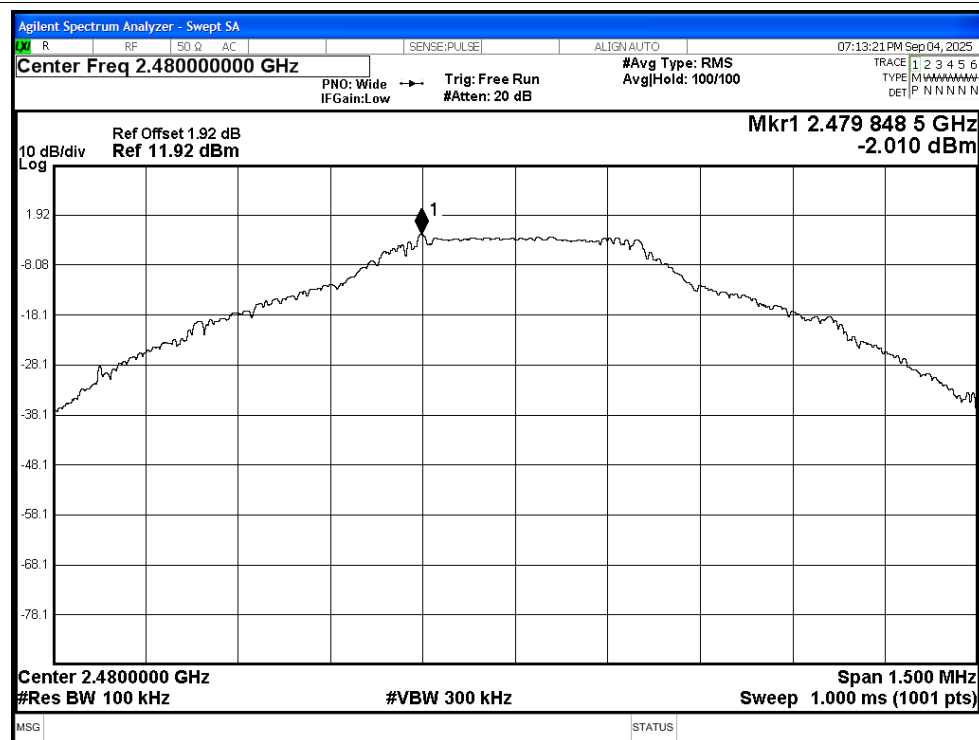
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



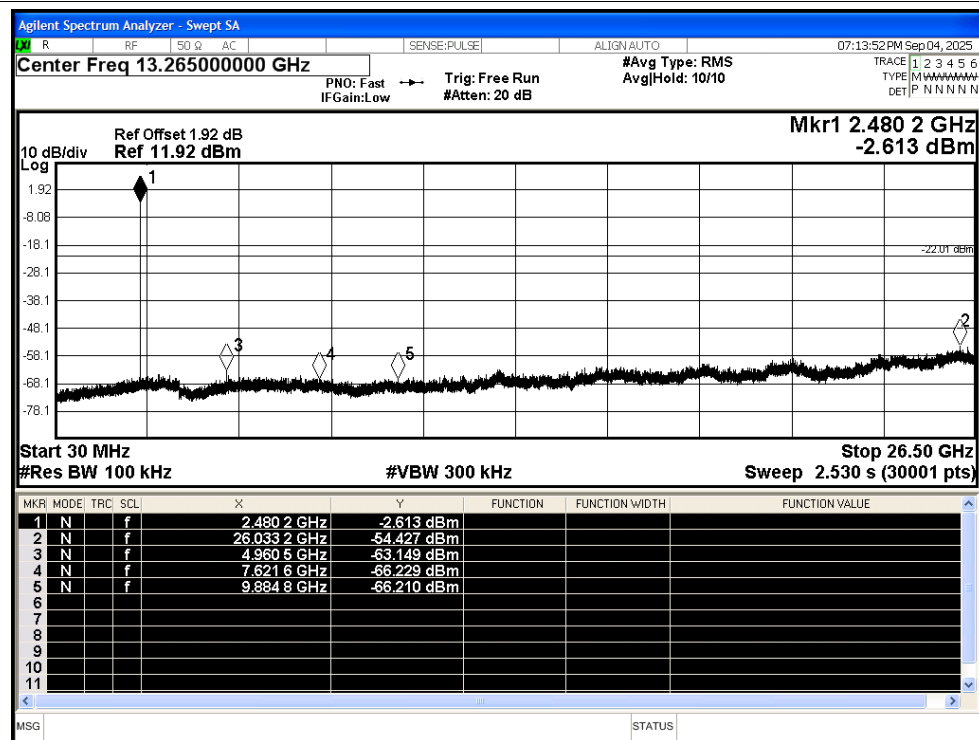
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



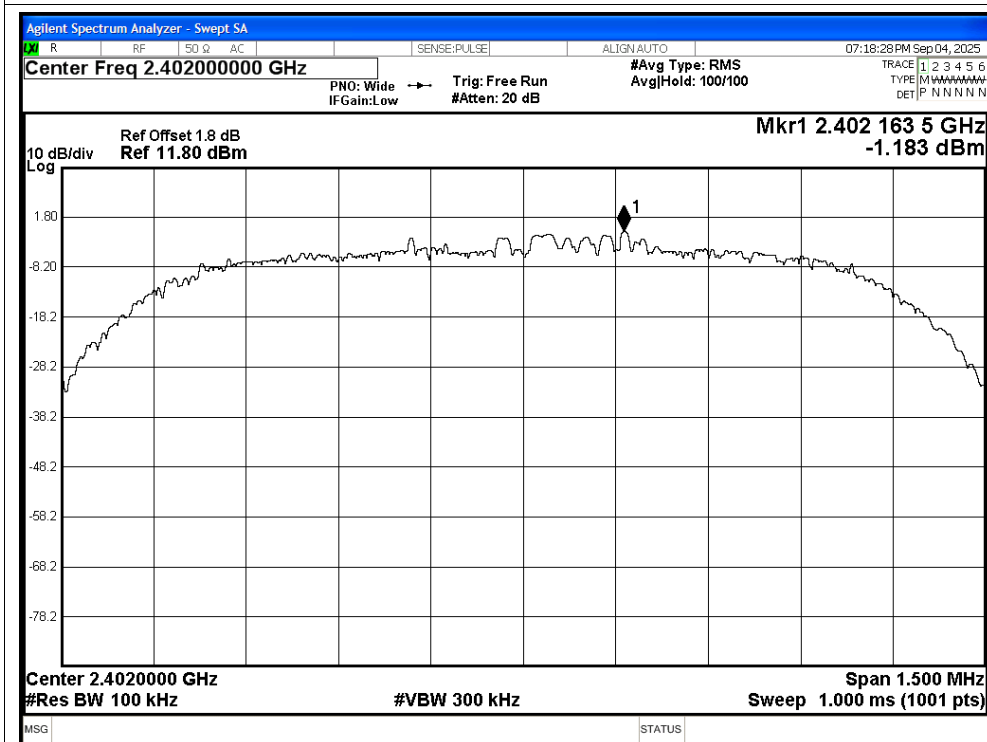
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



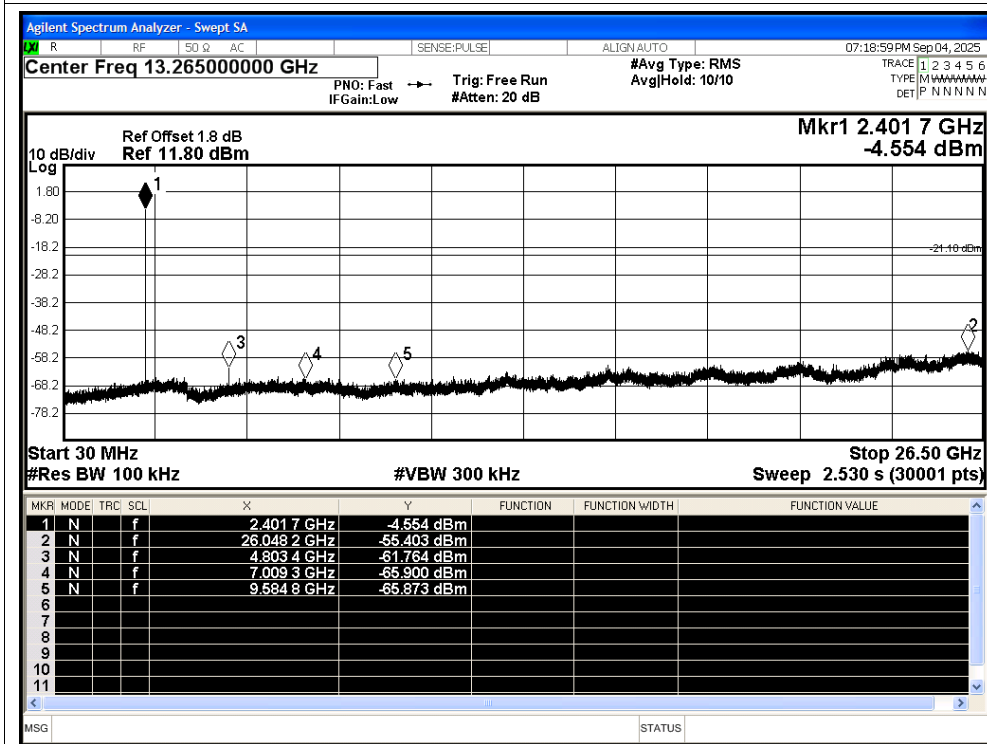
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



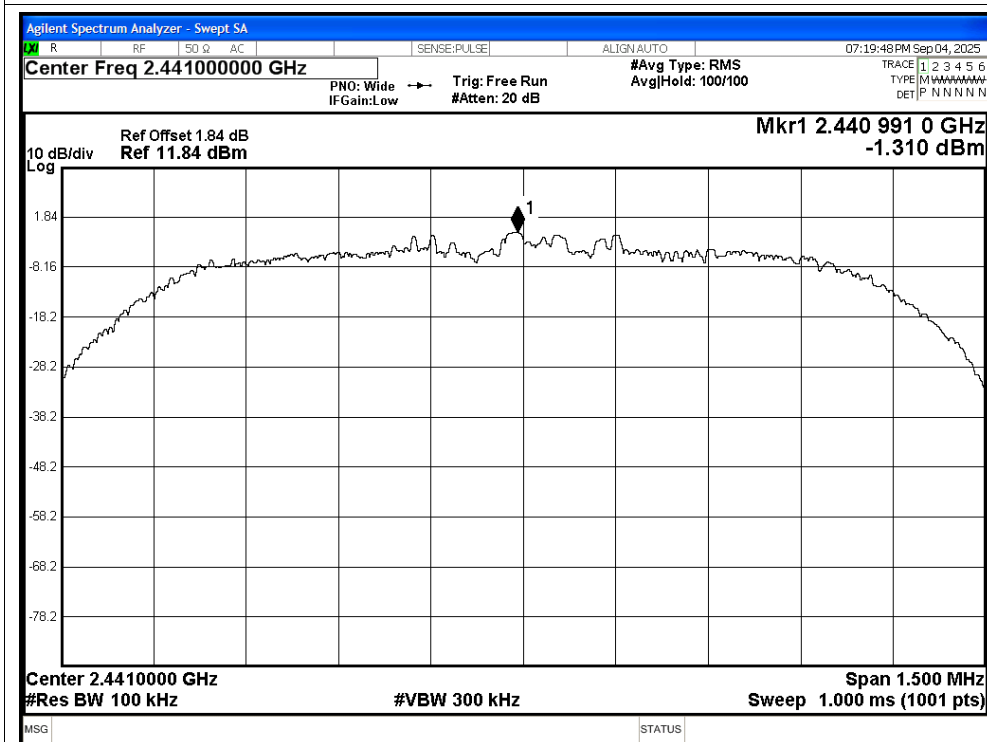
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



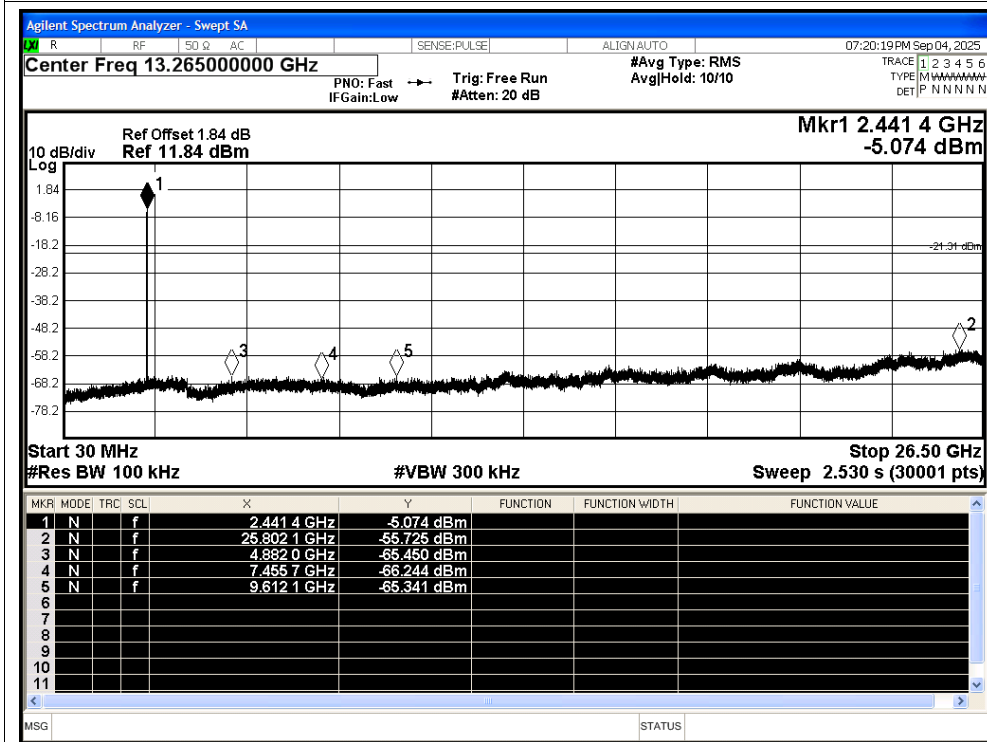
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



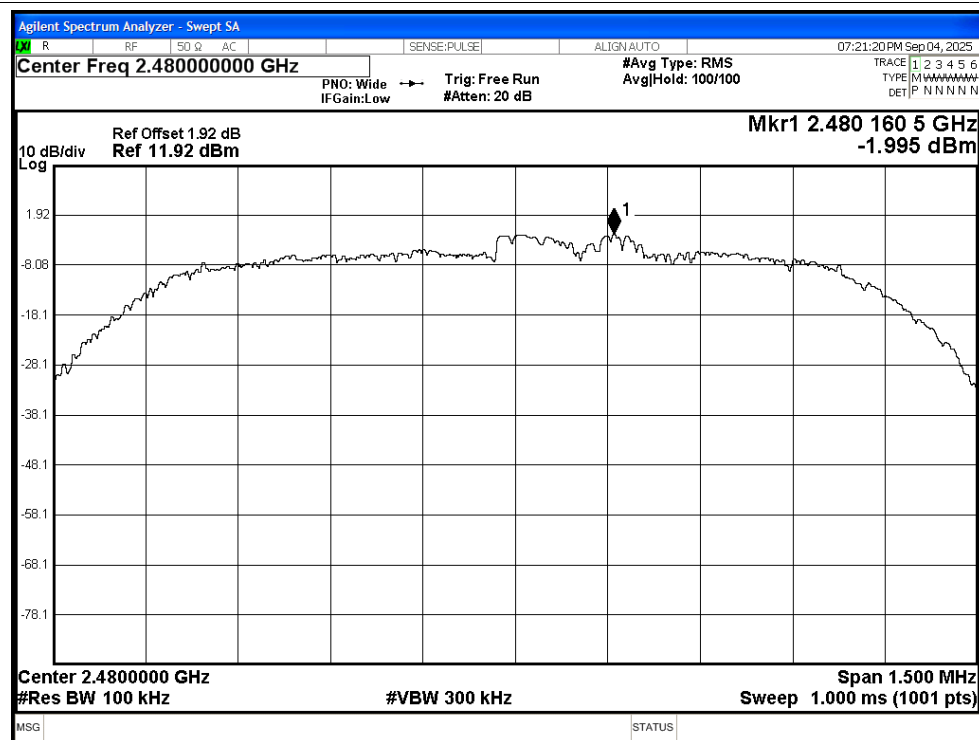
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



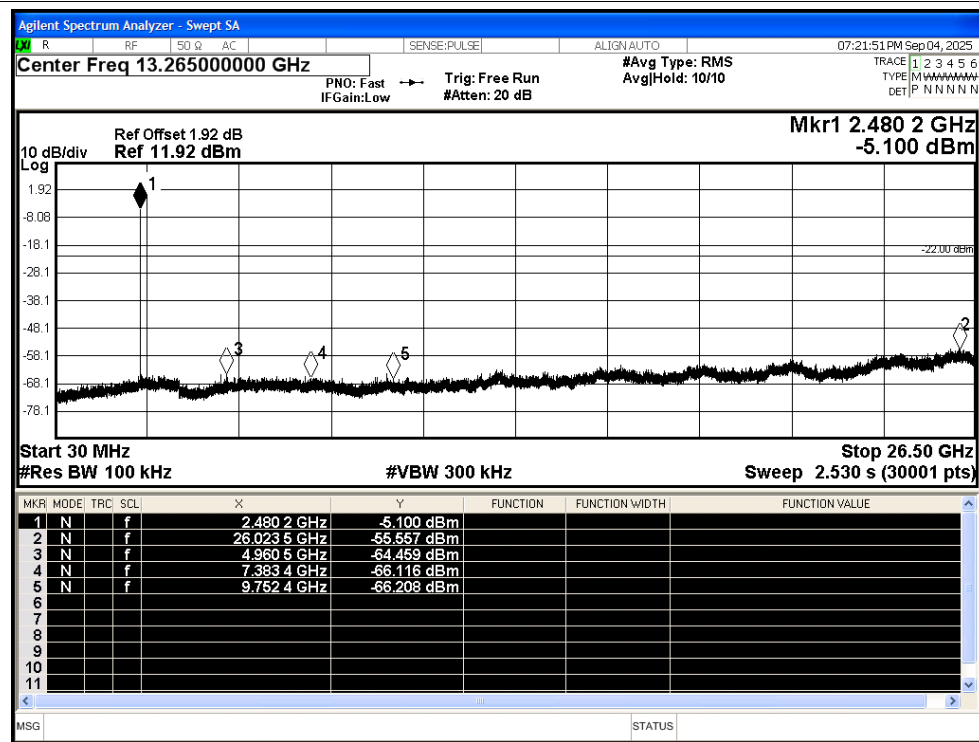
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



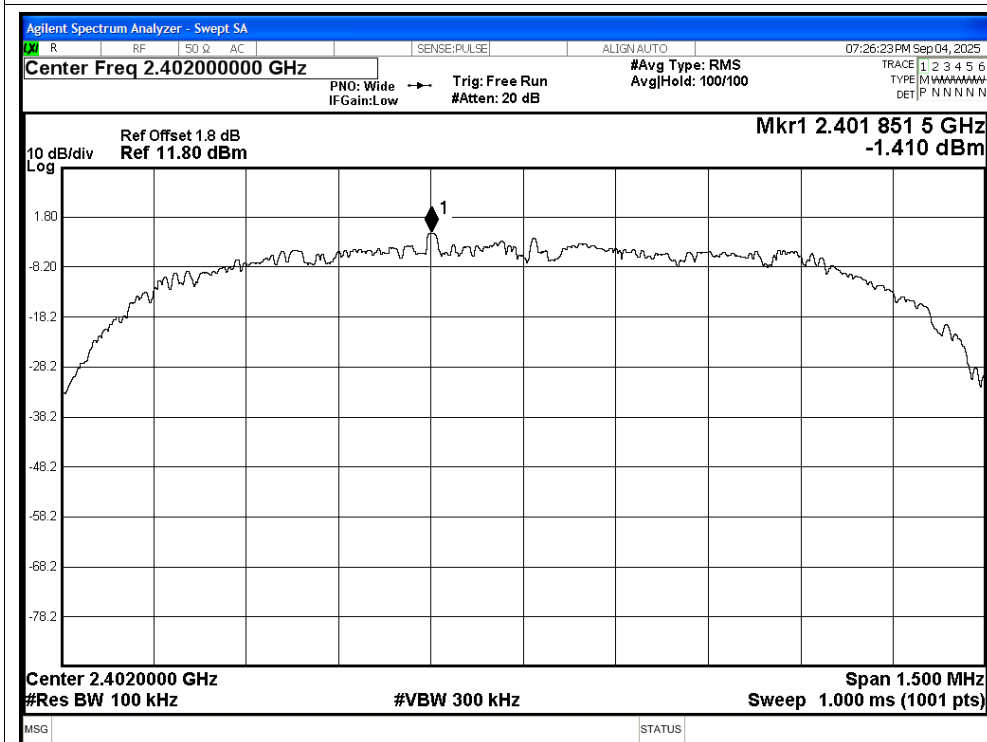
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



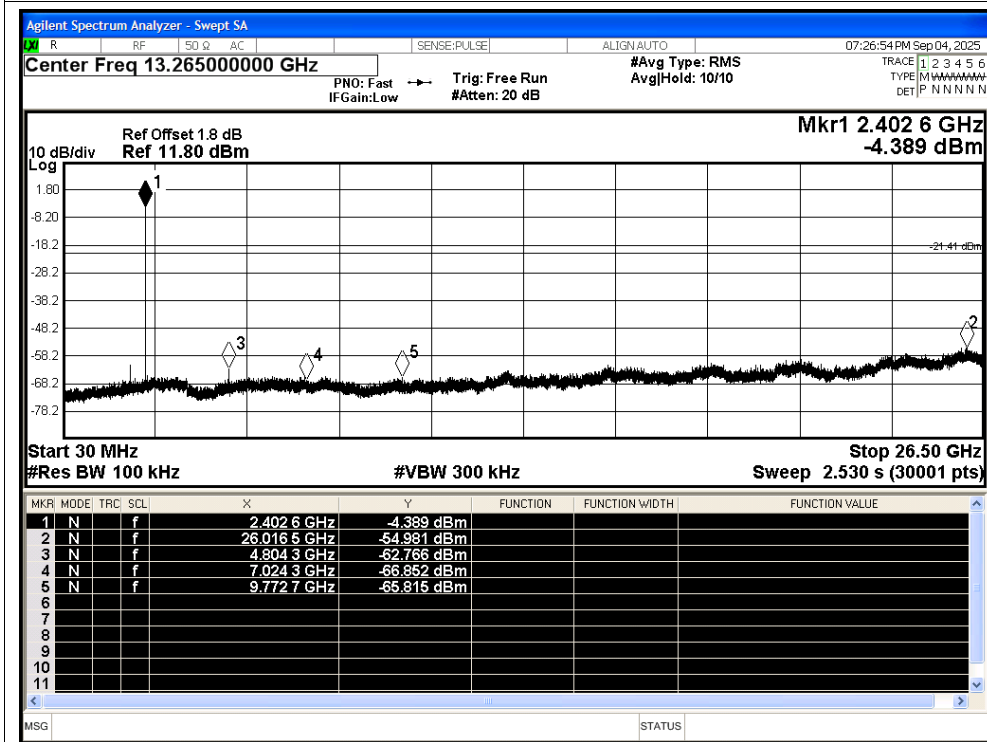
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



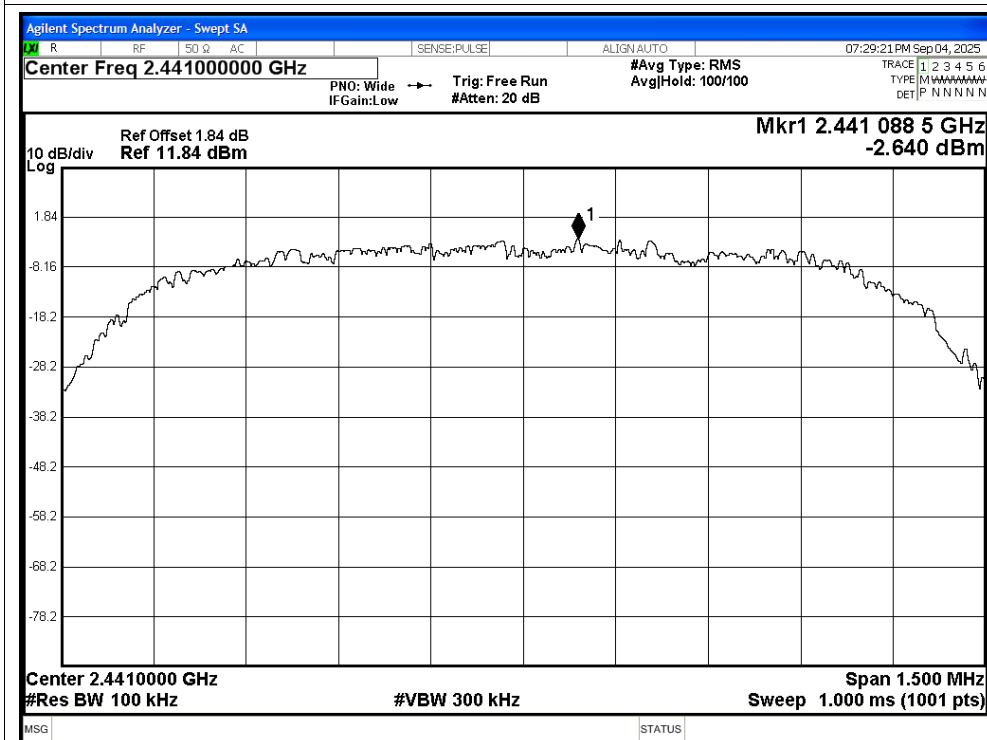
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



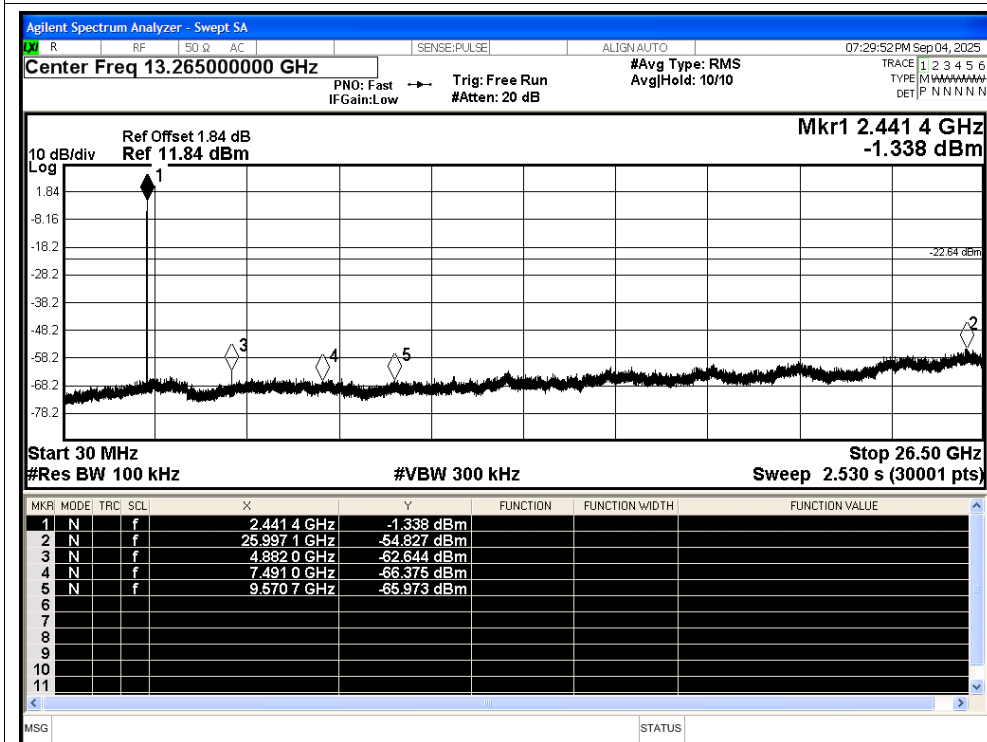
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



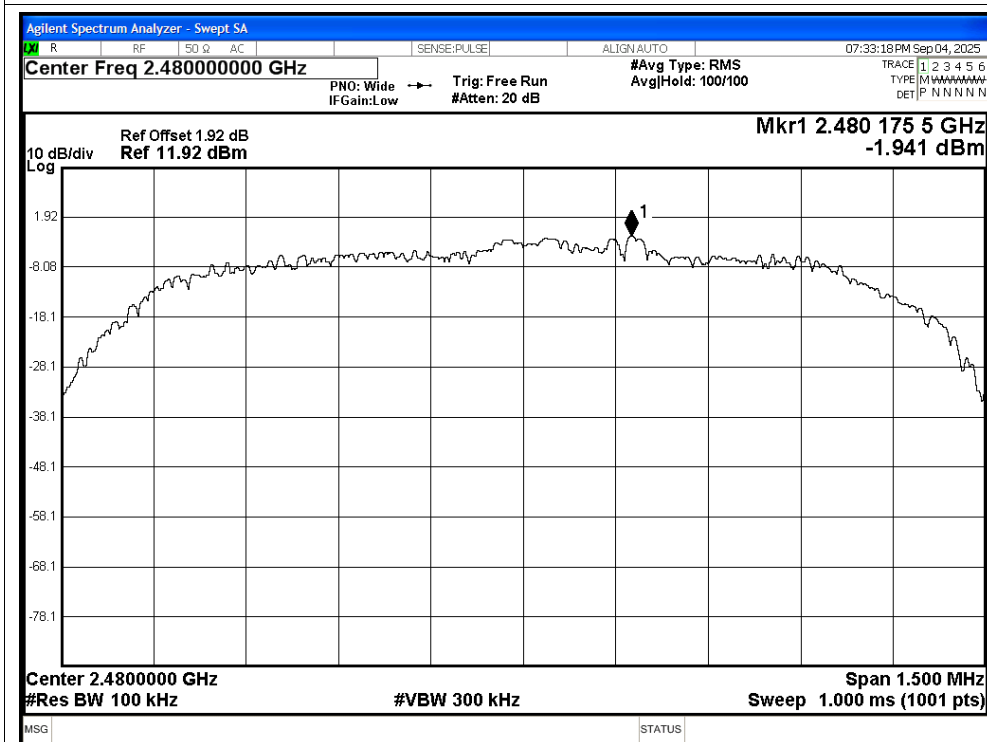
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



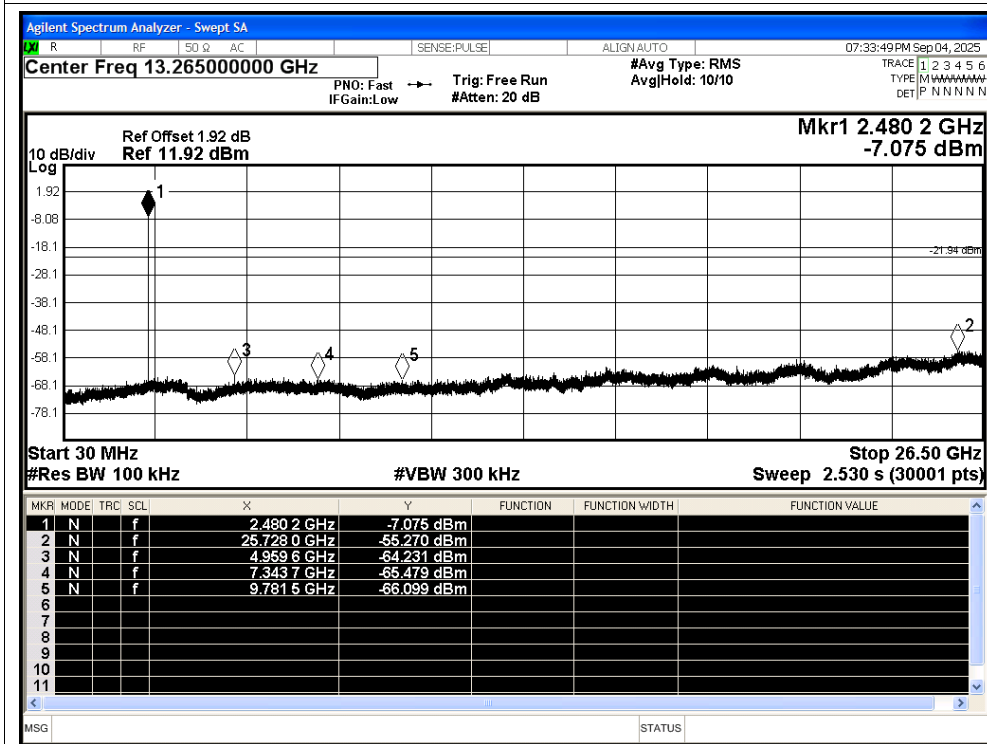
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

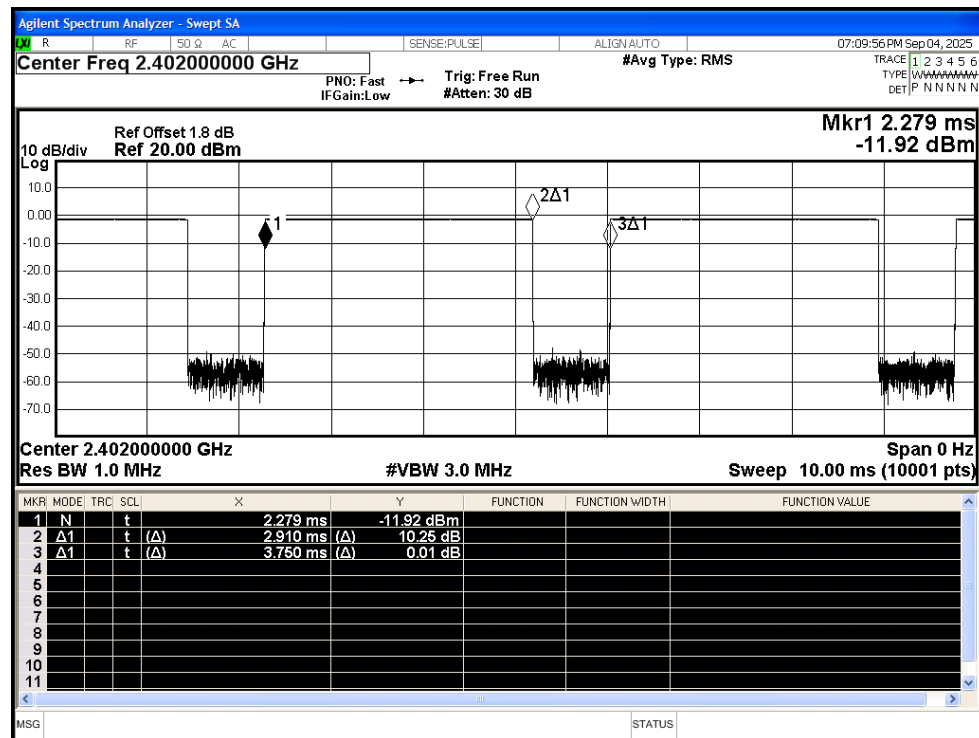


A.8 Duty Cycle

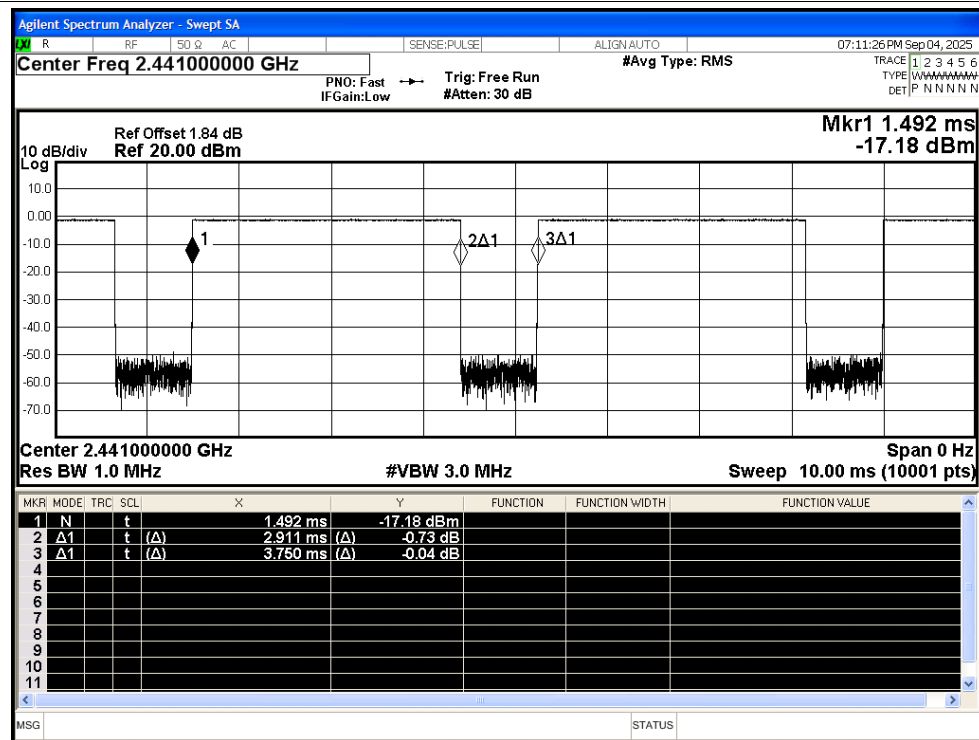
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.63	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	3-DH5	2480	Ant1	77.28	1.12	0.35

Test Graphs

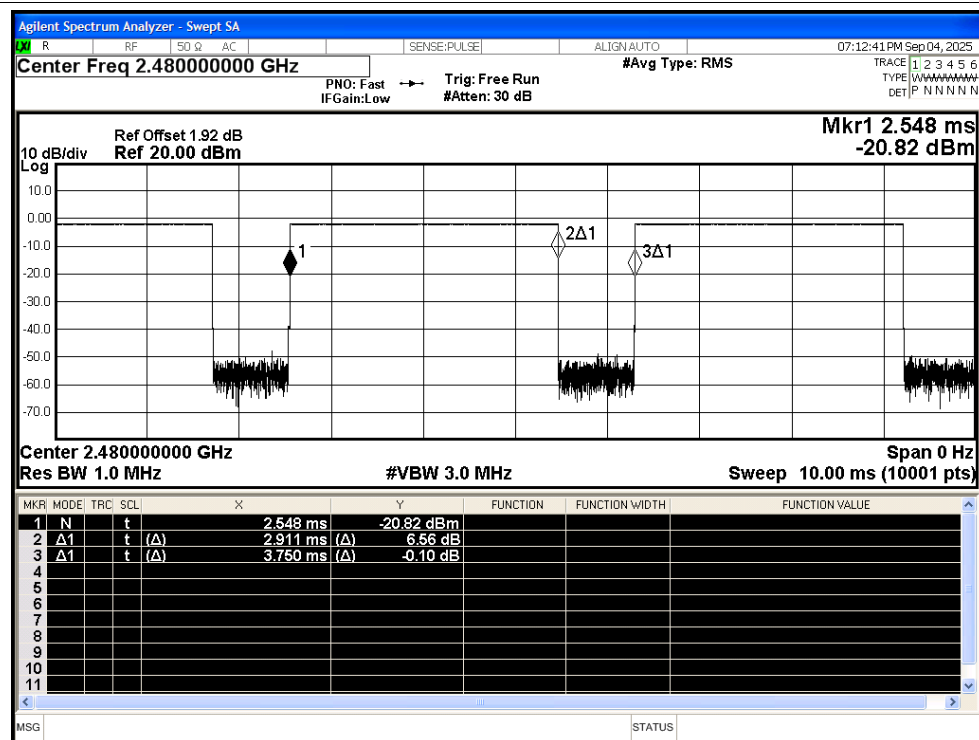
Duty Cycle NVNT 1-DH5 2402MHz Ant1



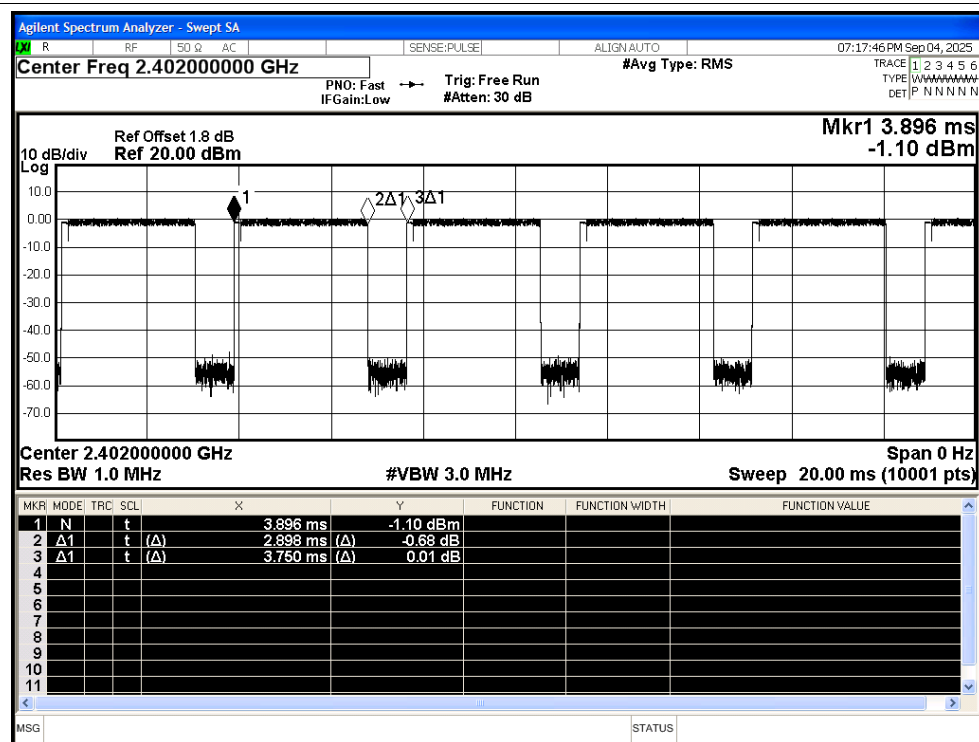
Duty Cycle NVNT 1-DH5 2441MHz Ant1



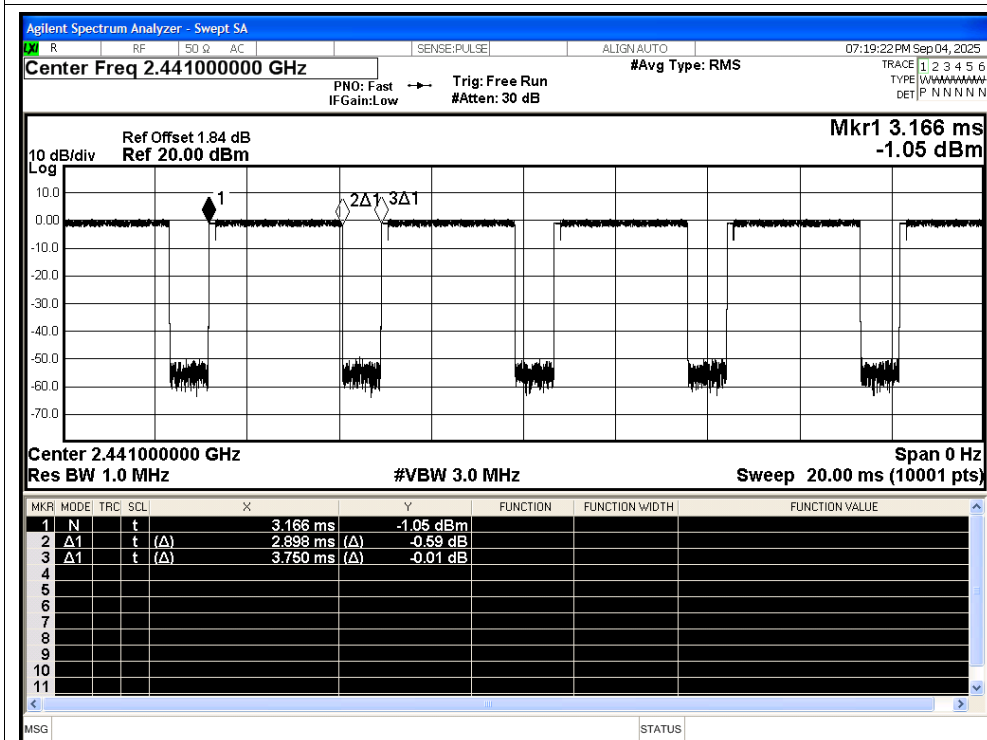
Duty Cycle NVNT 1-DH5 2480MHz Ant1



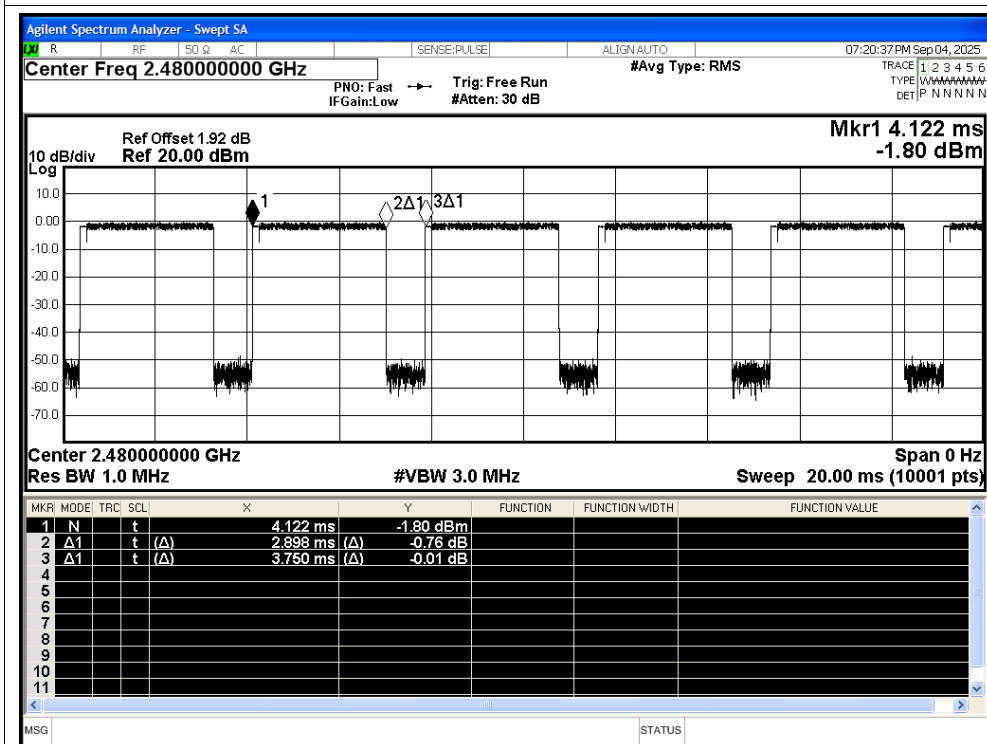
Duty Cycle NVNT 2-DH5 2402MHz Ant1



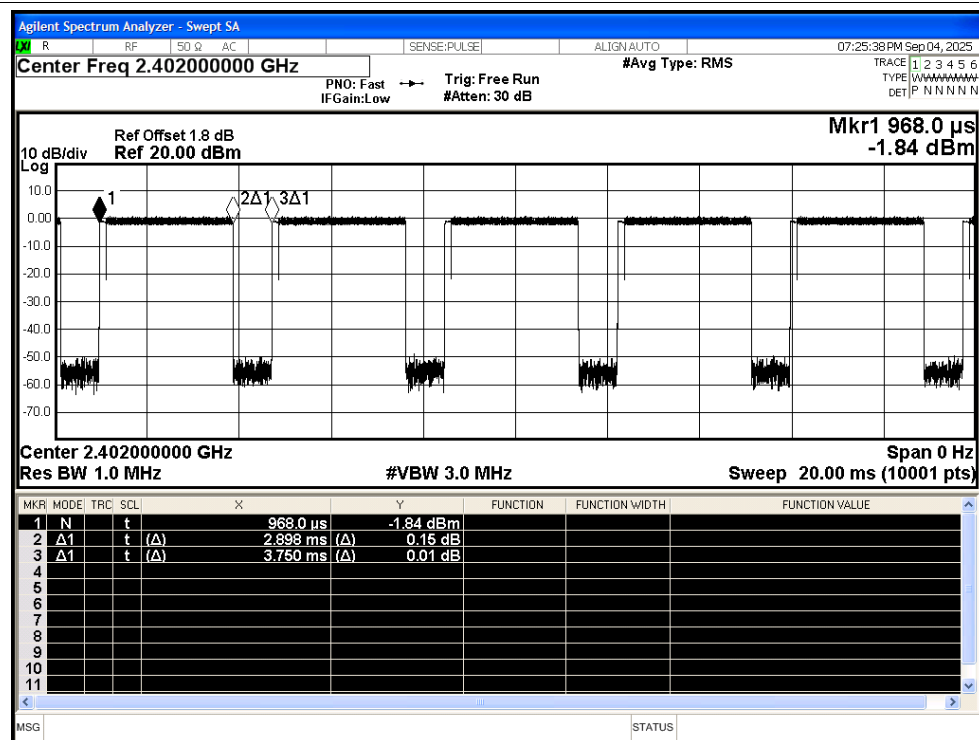
Duty Cycle NVNT 2-DH5 2441MHz Ant1



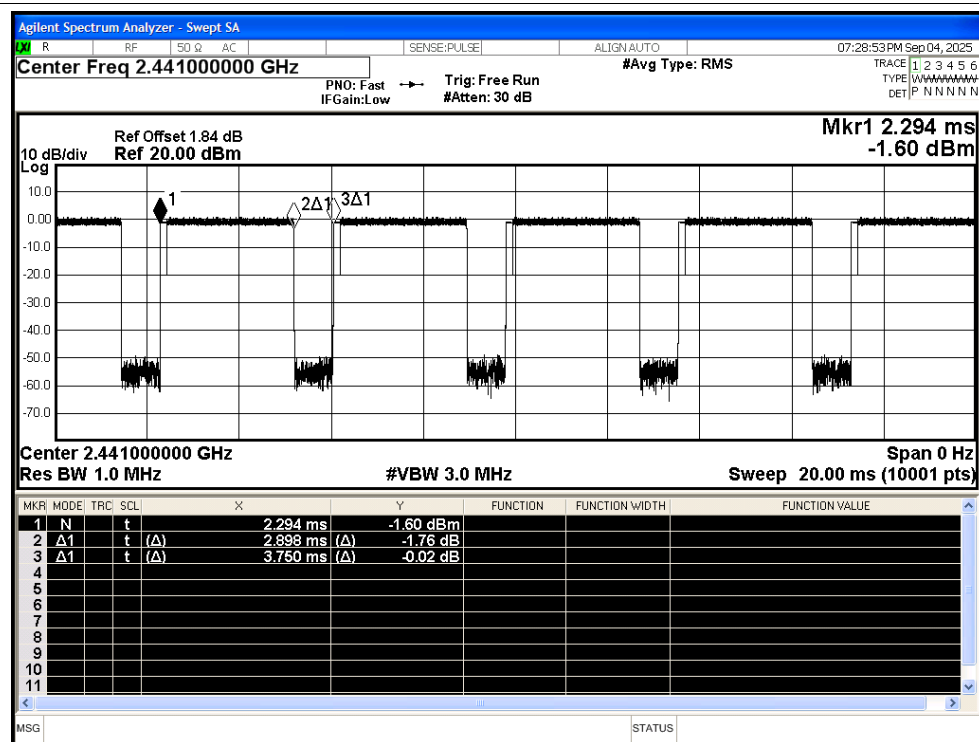
Duty Cycle NVNT 2-DH5 2480MHz Ant1

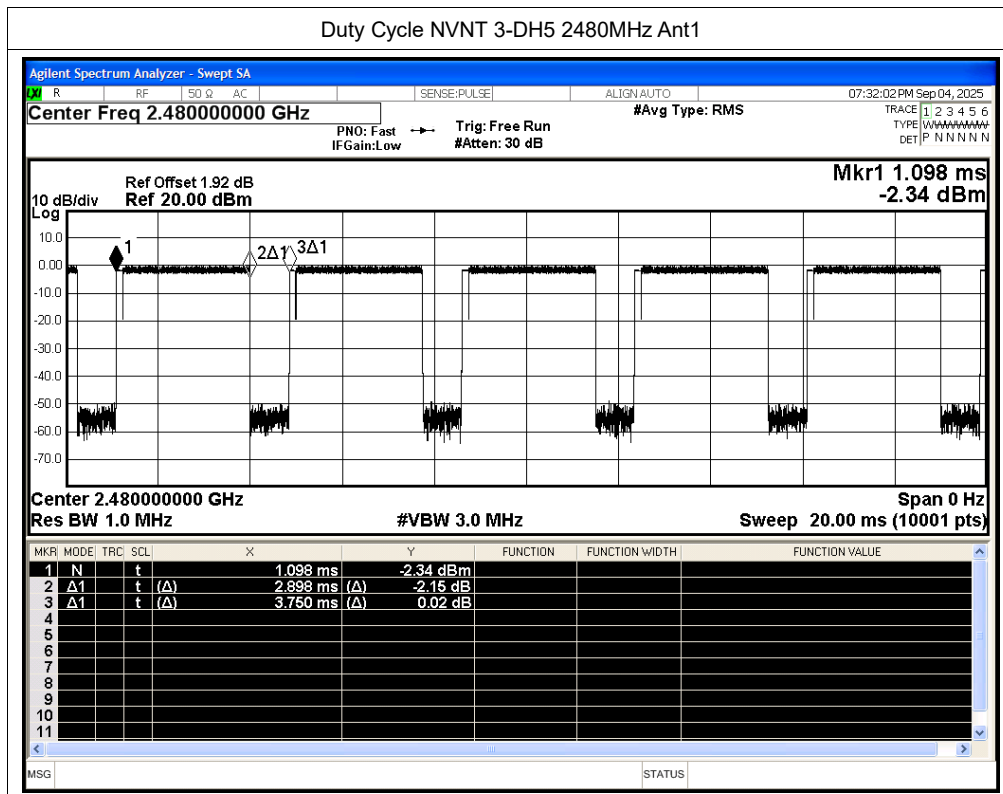


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



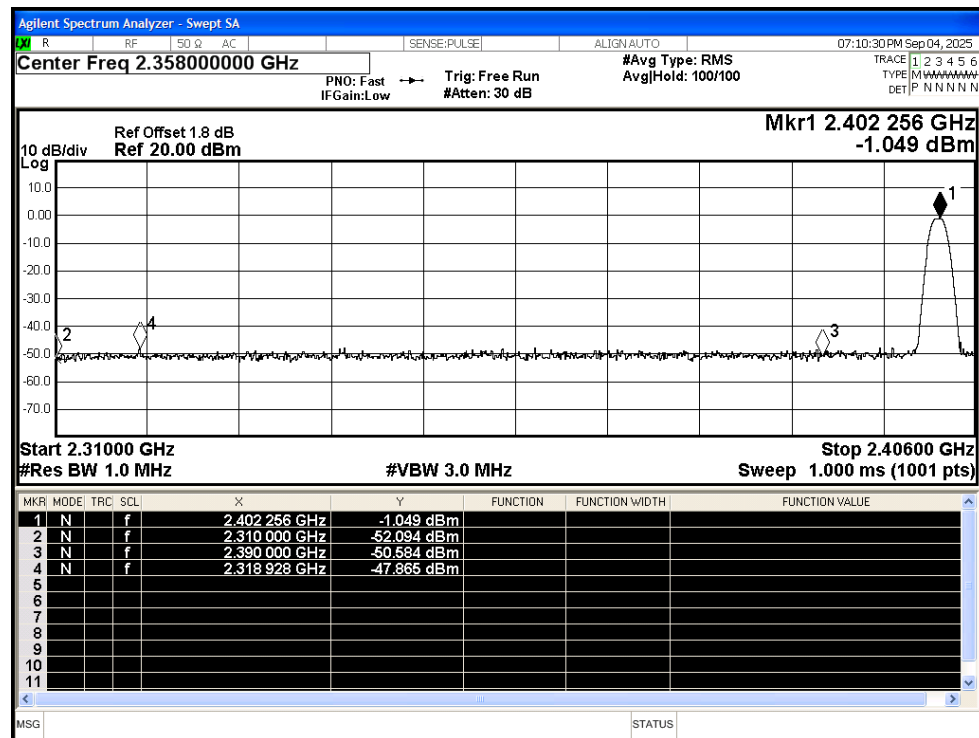


A.9 Restrict Band

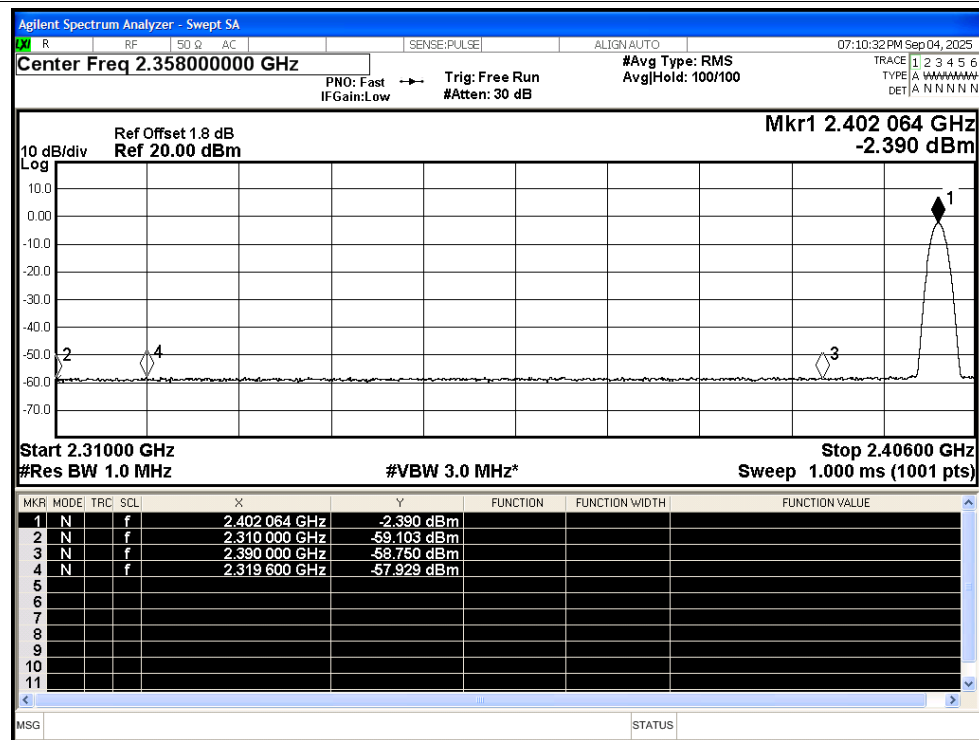
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-52.09	2.499	-	45.67	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.1	2.499	1.1	39.76	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2318.928	-47.87	2.499	-	49.89	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2319.6	-57.93	2.499	1.1	40.93	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.58	2.499	-	47.18	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.75	2.499	1.1	40.11	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.28	2.499	-	48.48	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.42	2.499	1.1	40.44	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2498.896	-47.15	2.499	-	50.61	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.352	-57.29	2.499	1.1	41.57	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.02	2.499	-	46.74	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.01	2.499	1.1	40.85	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.37	2.499	-	46.39	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.84	2.499	1.12	40.04	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2357.136	-46.95	2.499	-	50.81	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2376.048	-57.83	2.499	1.12	41.05	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.46	2.499	-	47.30	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.81	2.499	1.12	40.07	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.15	2.499	-	48.61	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.64	2.499	1.12	41.24	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.808	-46.9	2.499	-	50.86	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.712	-57.41	2.499	1.12	41.47	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.12	2.499	-	47.64	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.51	2.499	1.12	41.37	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.16	2.499	-	47.60	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.22	2.499	1.12	39.66	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2325.456	-47.51	2.499	-	50.25	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2381.808	-57.84	2.499	1.12	41.04	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.87	2.499	-	46.89	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.83	2.499	1.12	40.05	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.1	2.499	-	49.66	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.92	2.499	1.12	40.96	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.536	-47.1	2.499	-	50.66	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2493.64	-57.25	2.499	1.12	41.63	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.42	2.499	-	48.34	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.22	2.499	1.12	40.66	Average	54	Pass

Test Graphs

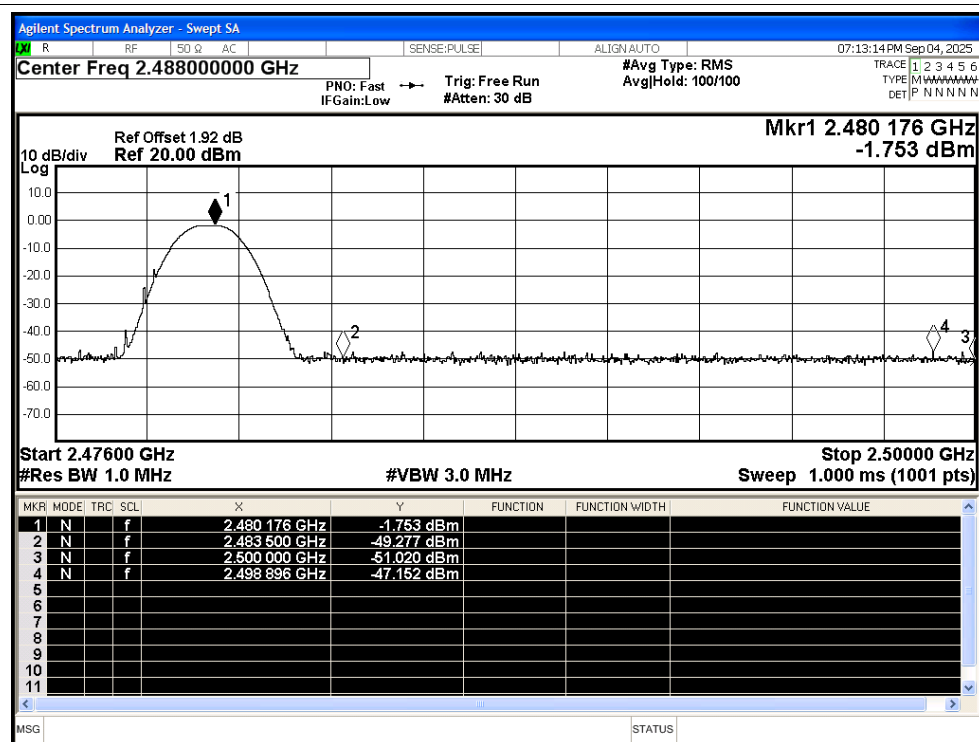
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



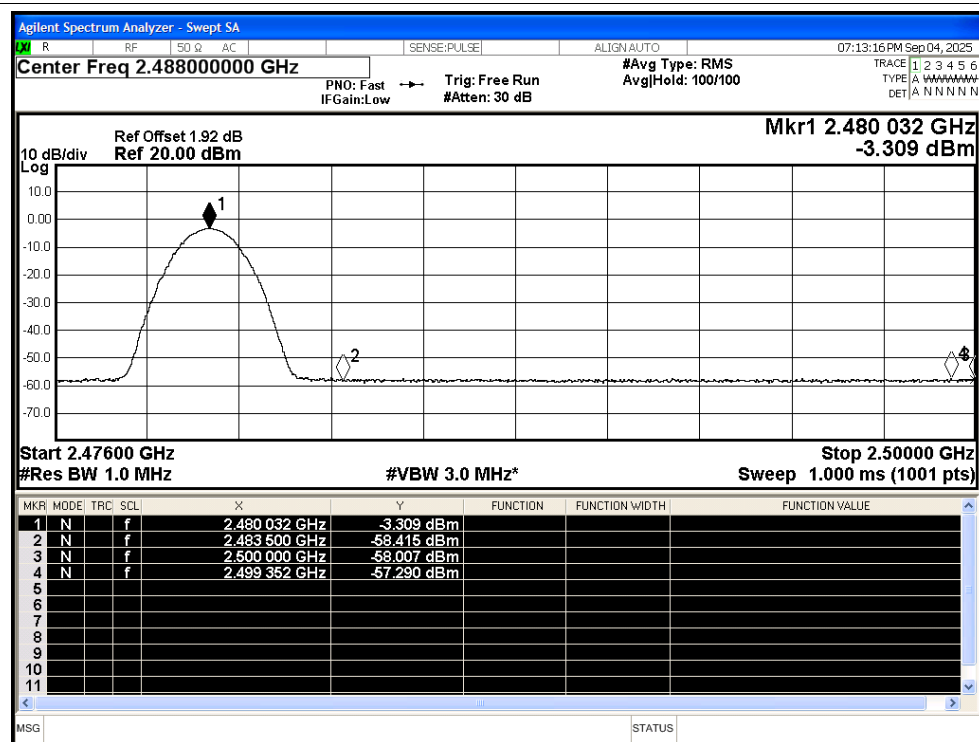
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



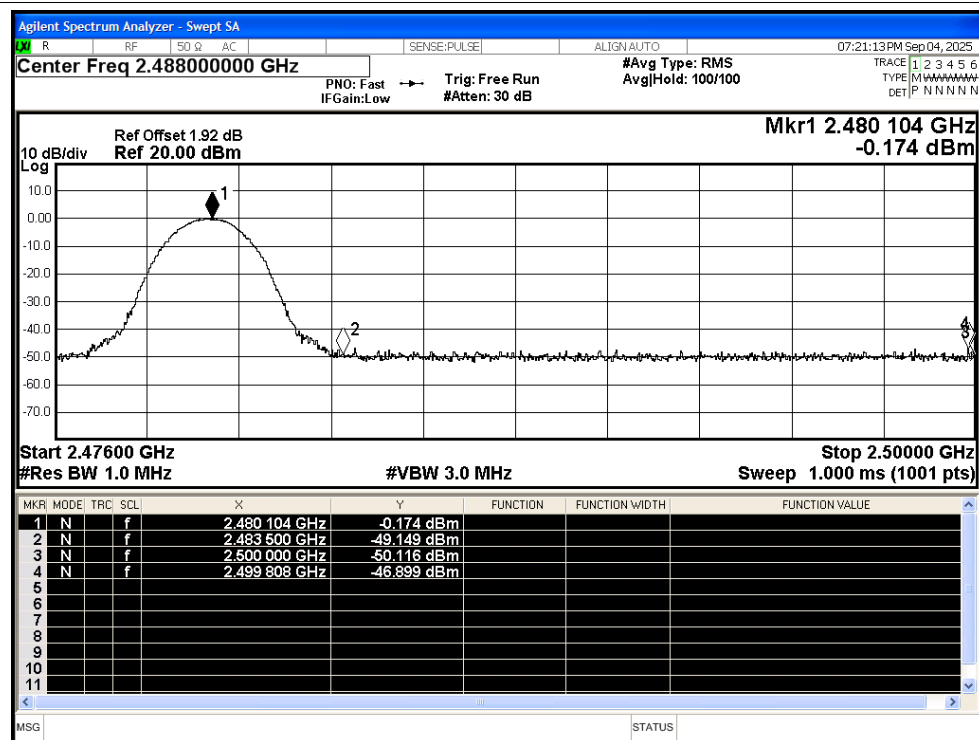
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



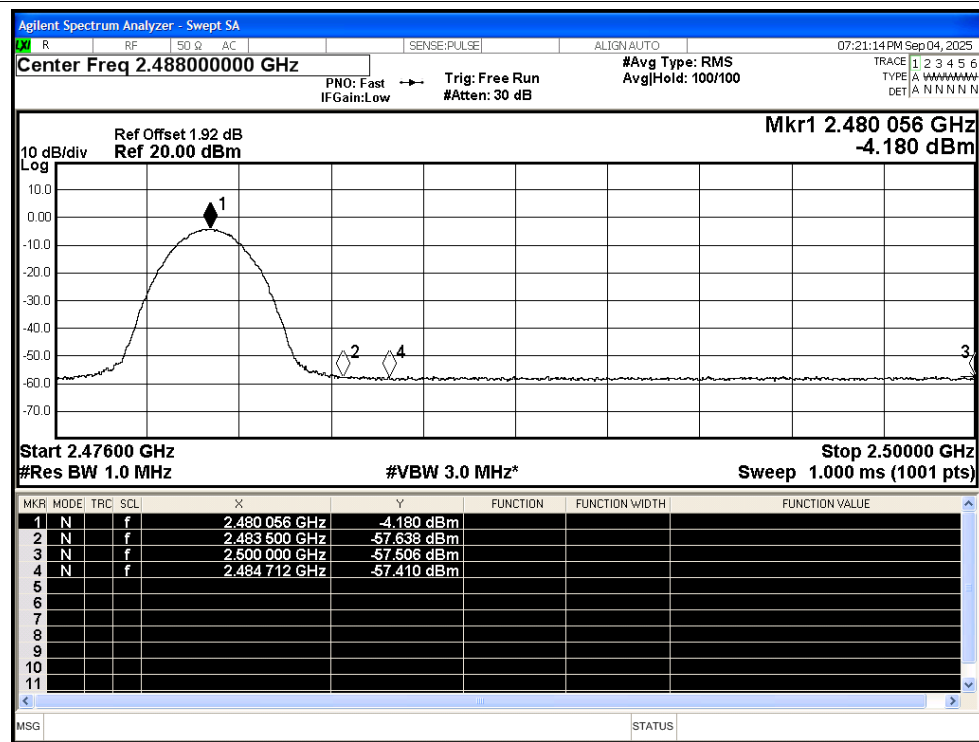
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

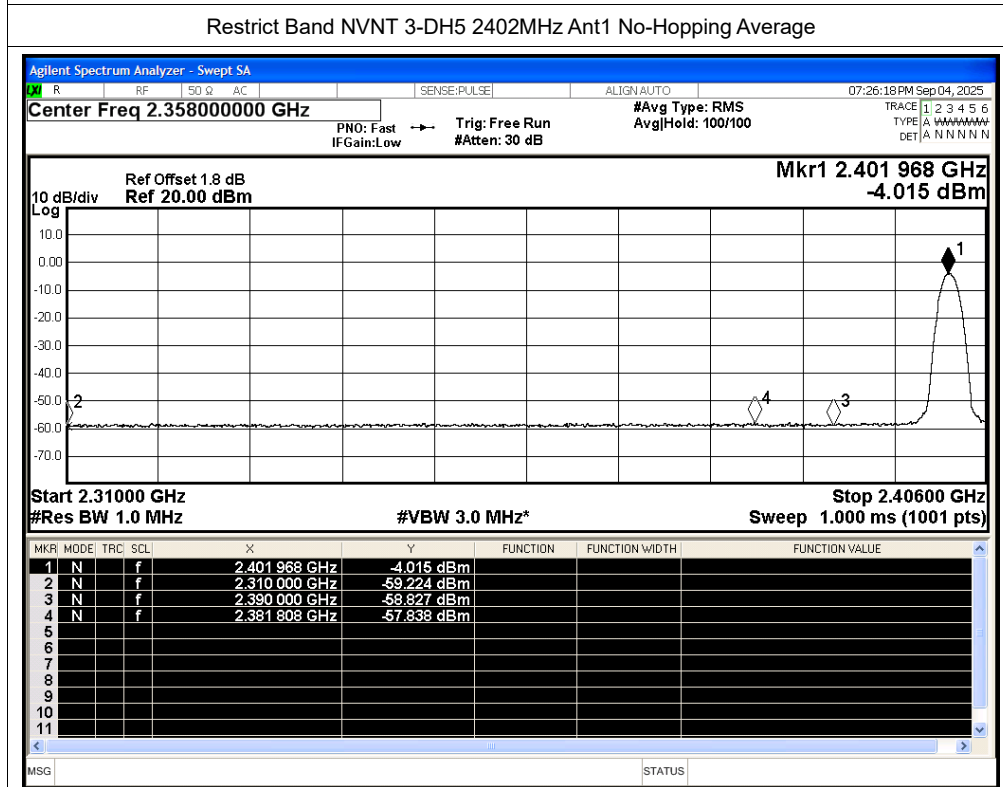
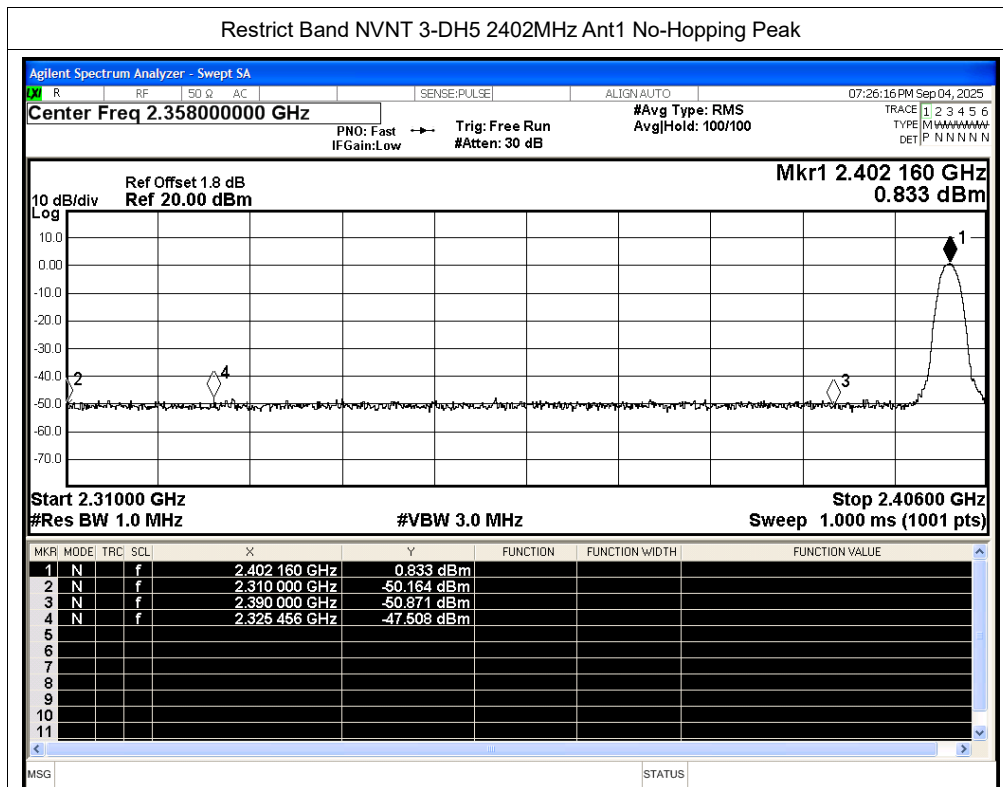


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

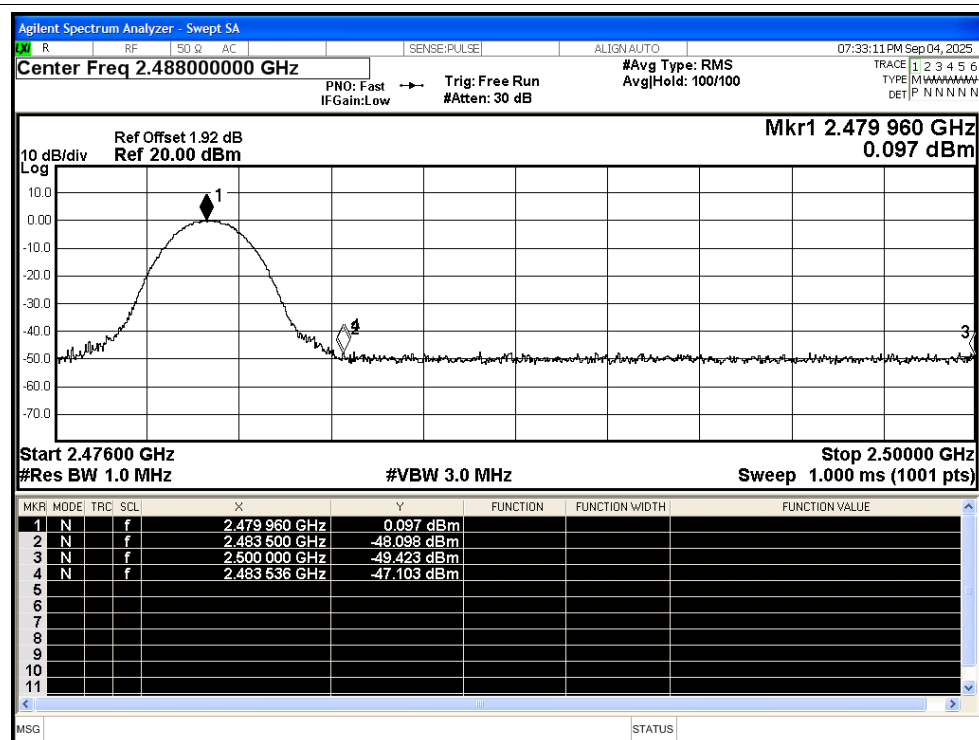


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average





Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

