

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart watch

Test Model: J12

Environmental Conditions

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

A.1 -20dB Bandwidth

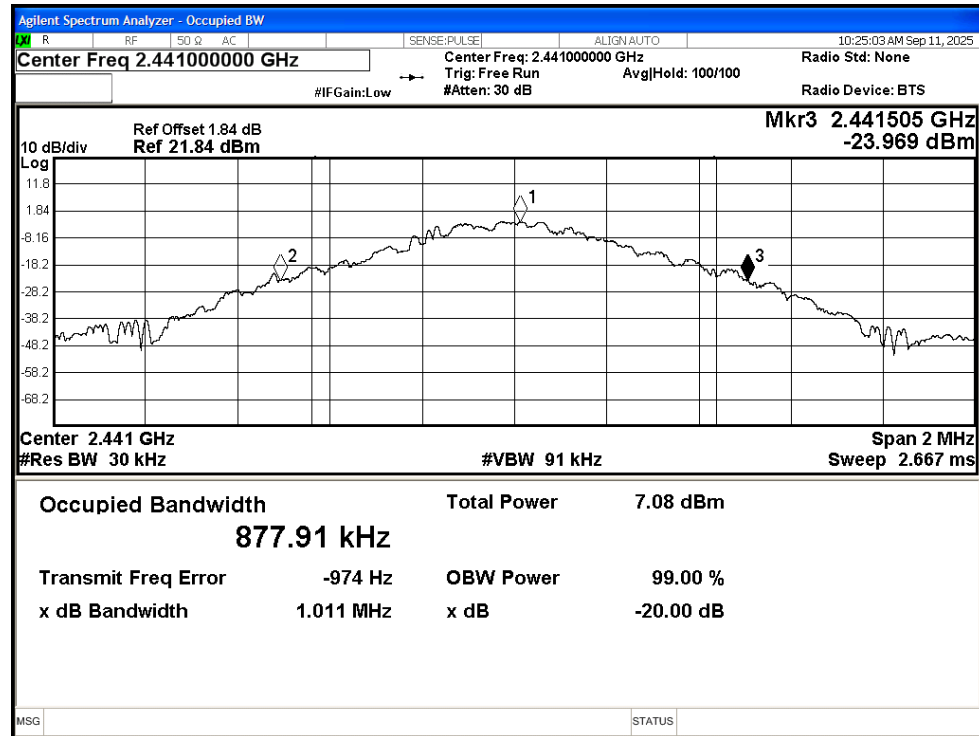
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.011	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.99	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.317	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.275	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.284	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.303	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.3	N/A	Pass

Test Graphs

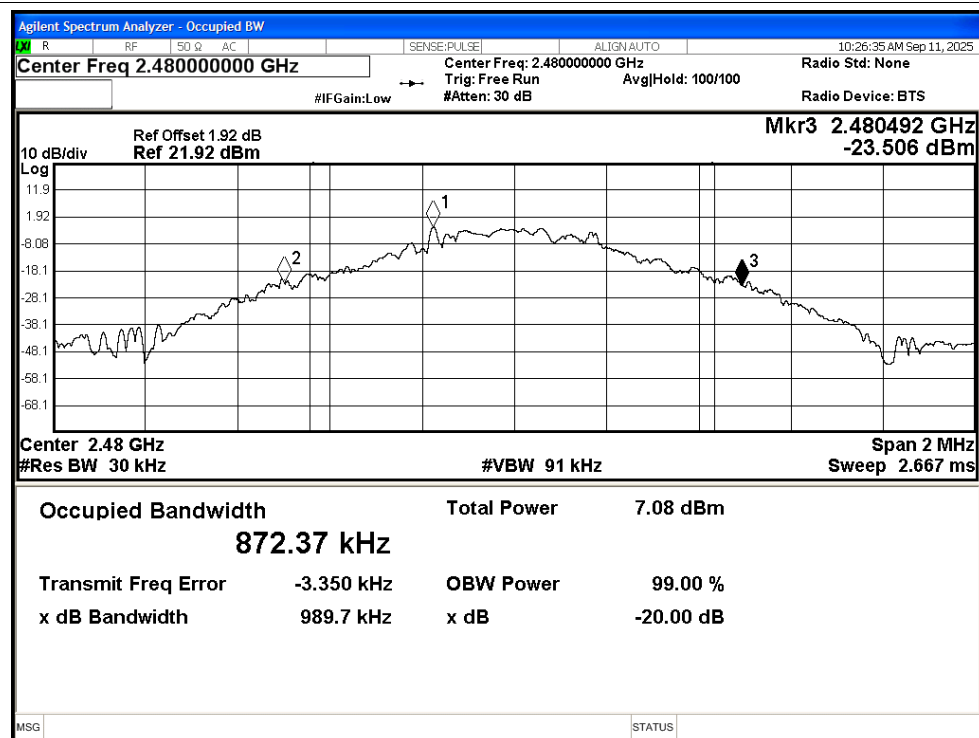
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



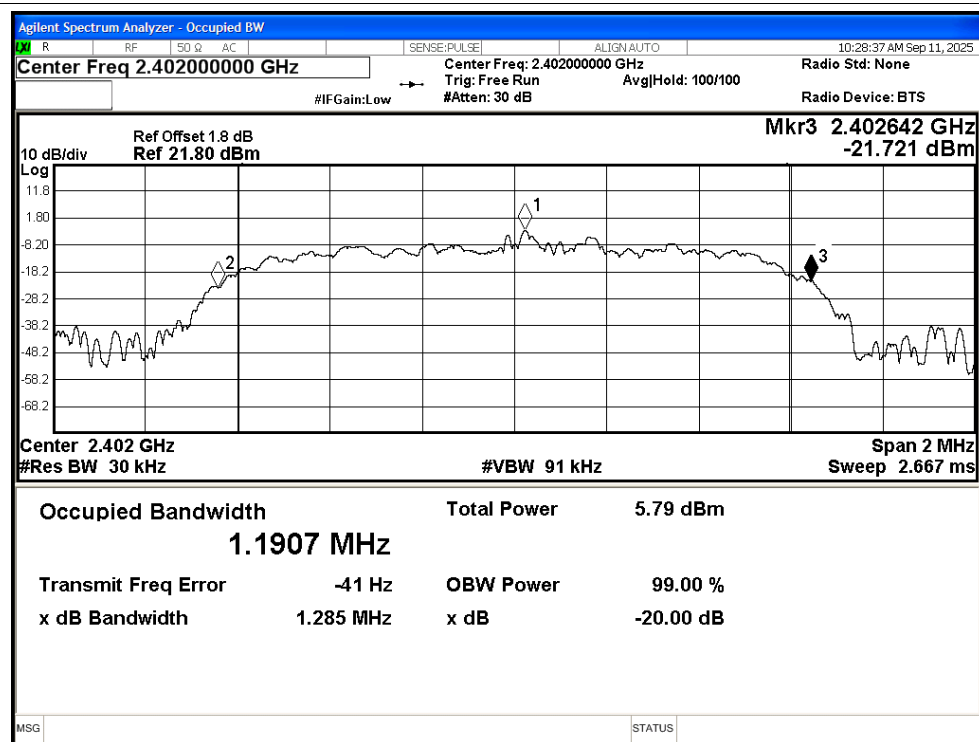
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



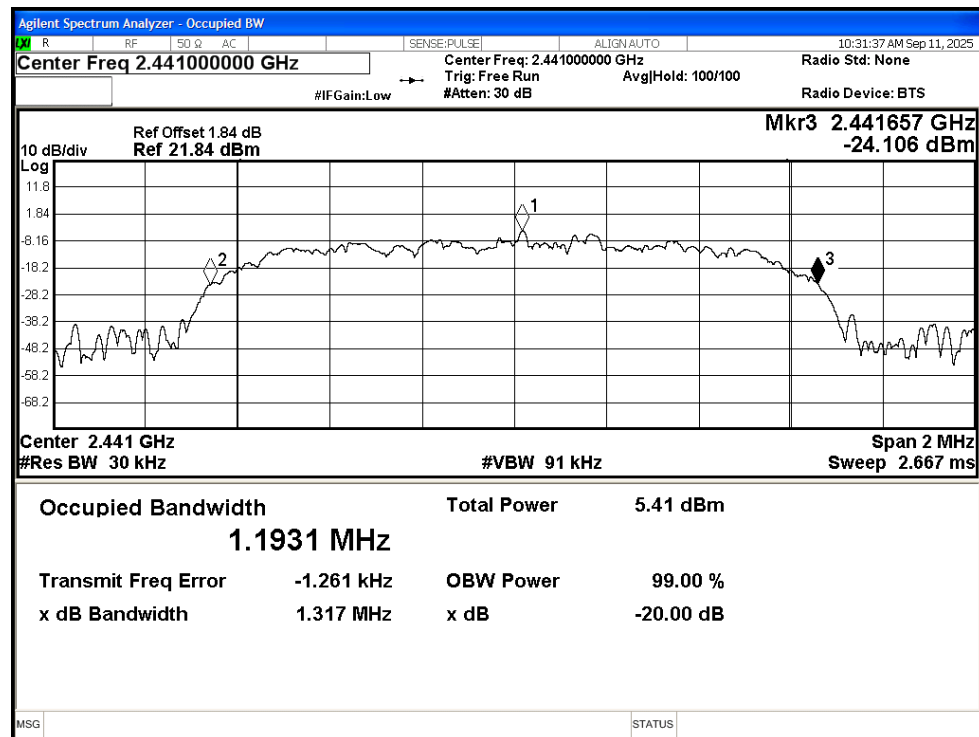
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



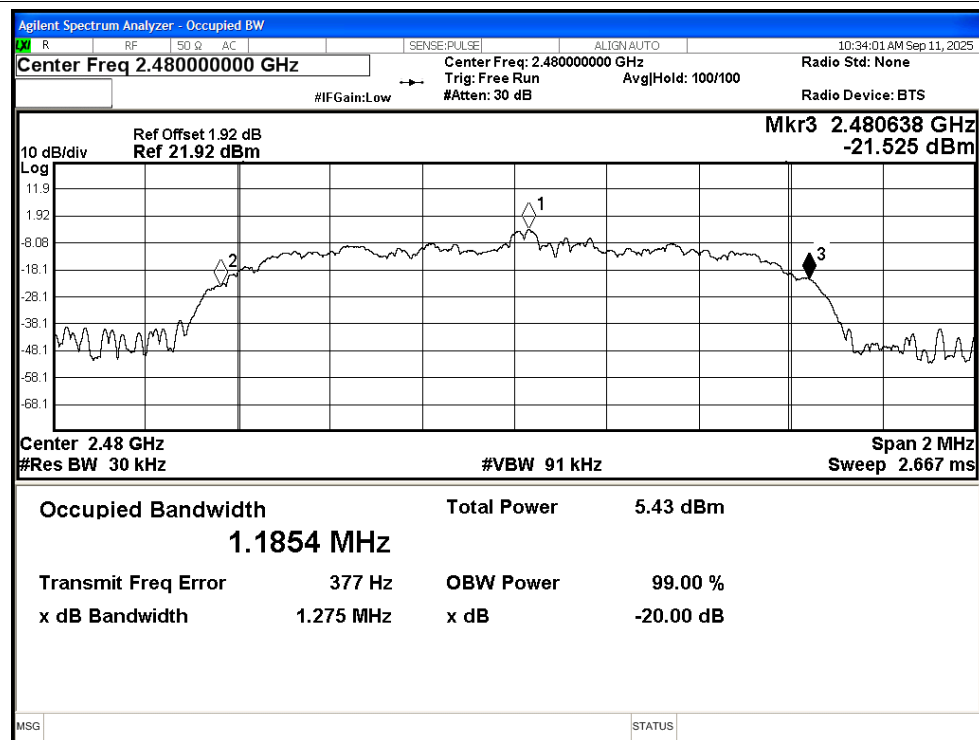
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



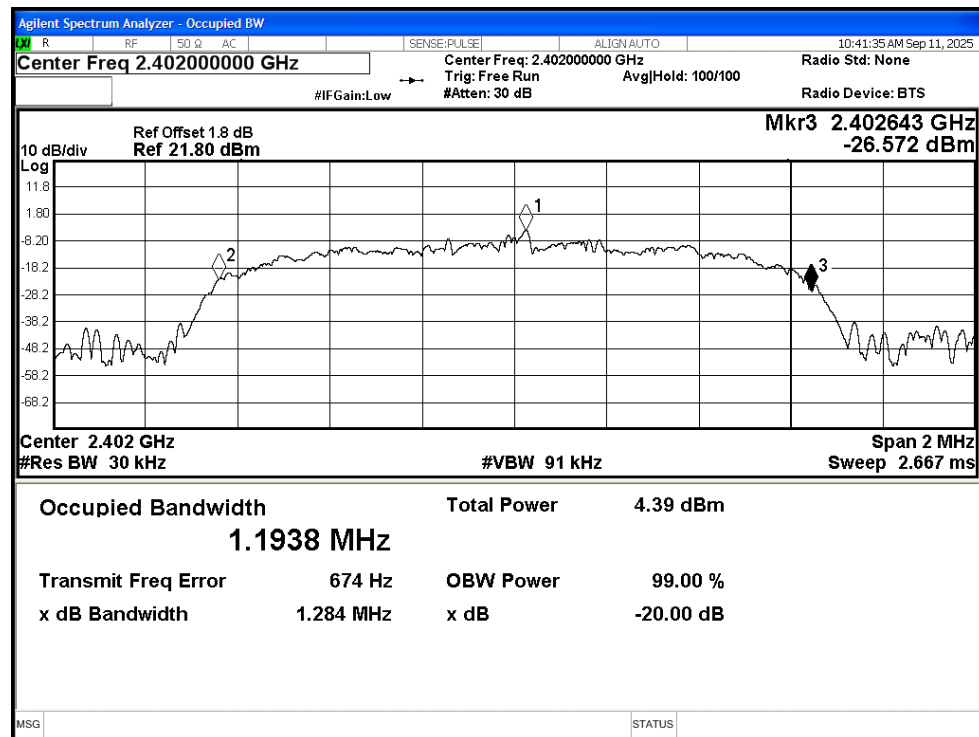
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



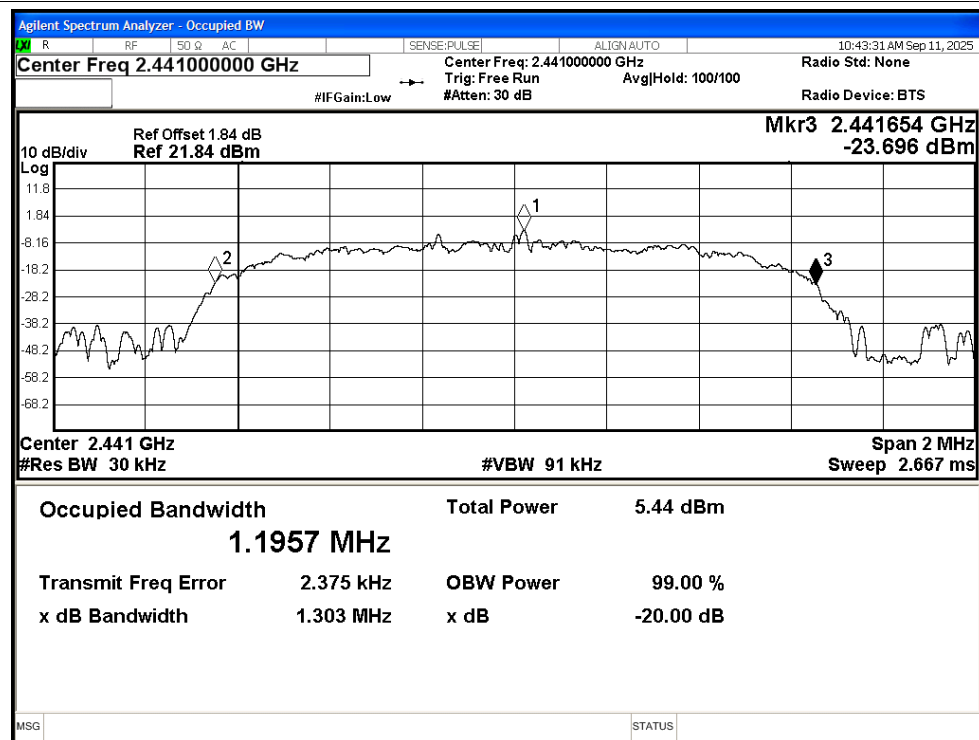
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

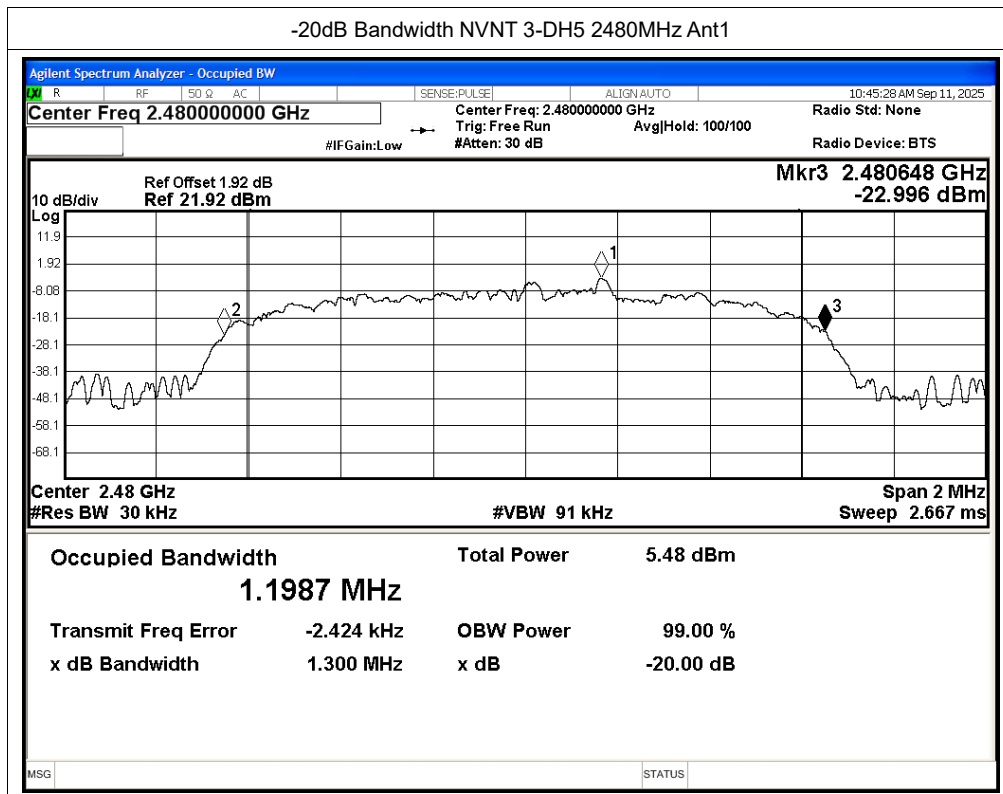


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



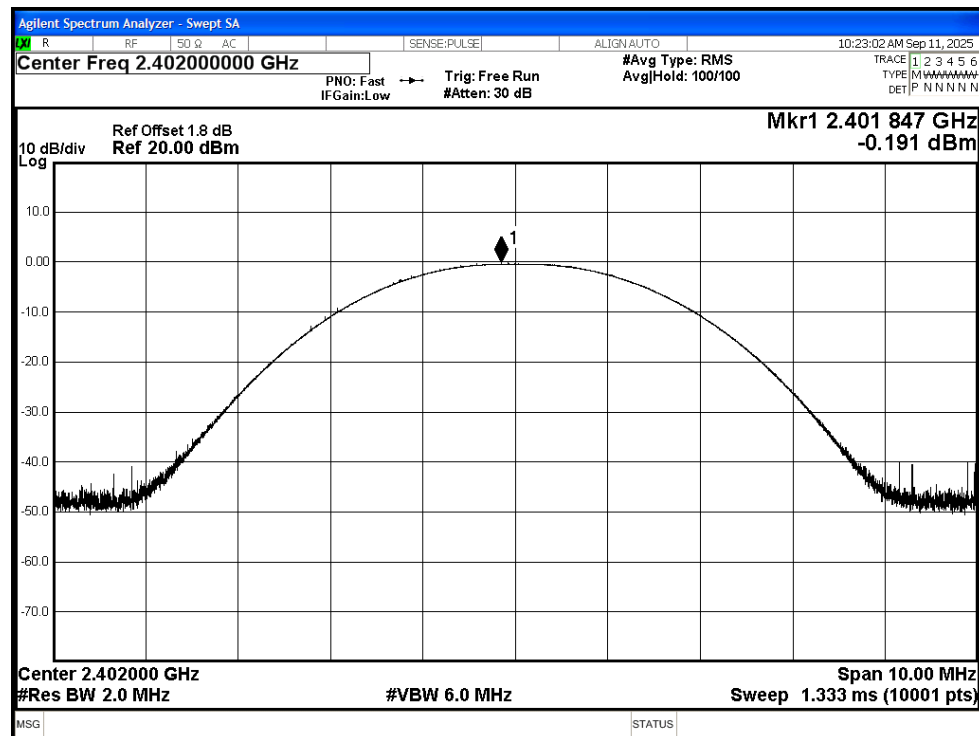


A.2 Maximum Peak Conducted Output Power

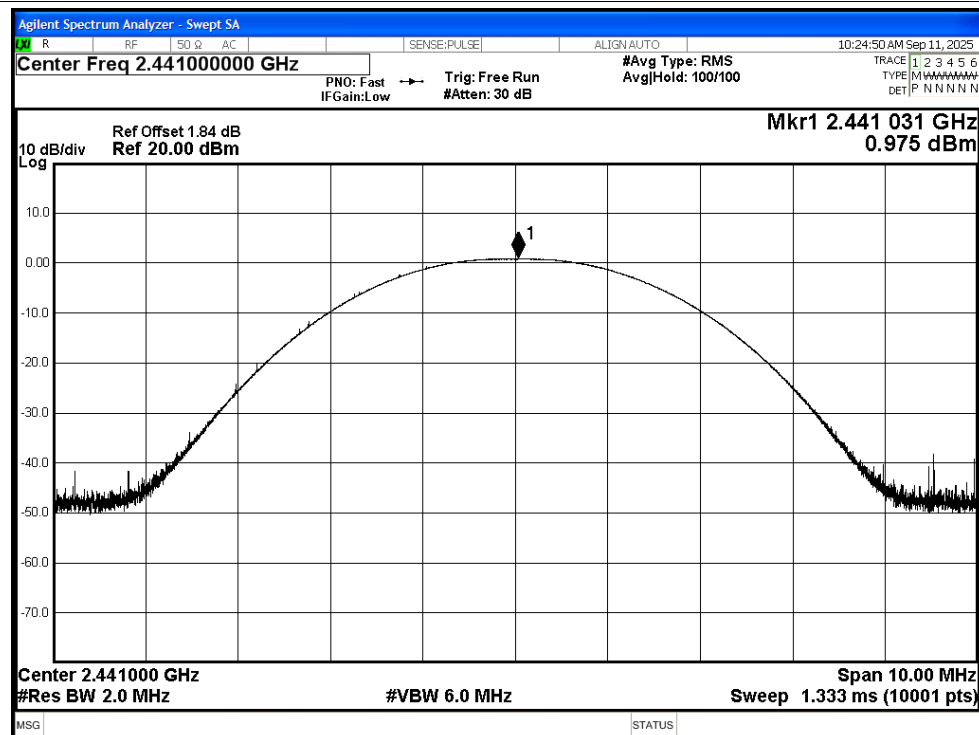
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.19	21	Pass
NVNT	1-DH5	2441	Ant1	0.98	21	Pass
NVNT	1-DH5	2480	Ant1	0.70	21	Pass
NVNT	2-DH5	2402	Ant1	1.34	21	Pass
NVNT	2-DH5	2441	Ant1	1.18	21	Pass
NVNT	2-DH5	2480	Ant1	0.60	21	Pass
NVNT	3-DH5	2402	Ant1	0.09	21	Pass
NVNT	3-DH5	2441	Ant1	1.44	21	Pass
NVNT	3-DH5	2480	Ant1	0.77	21	Pass

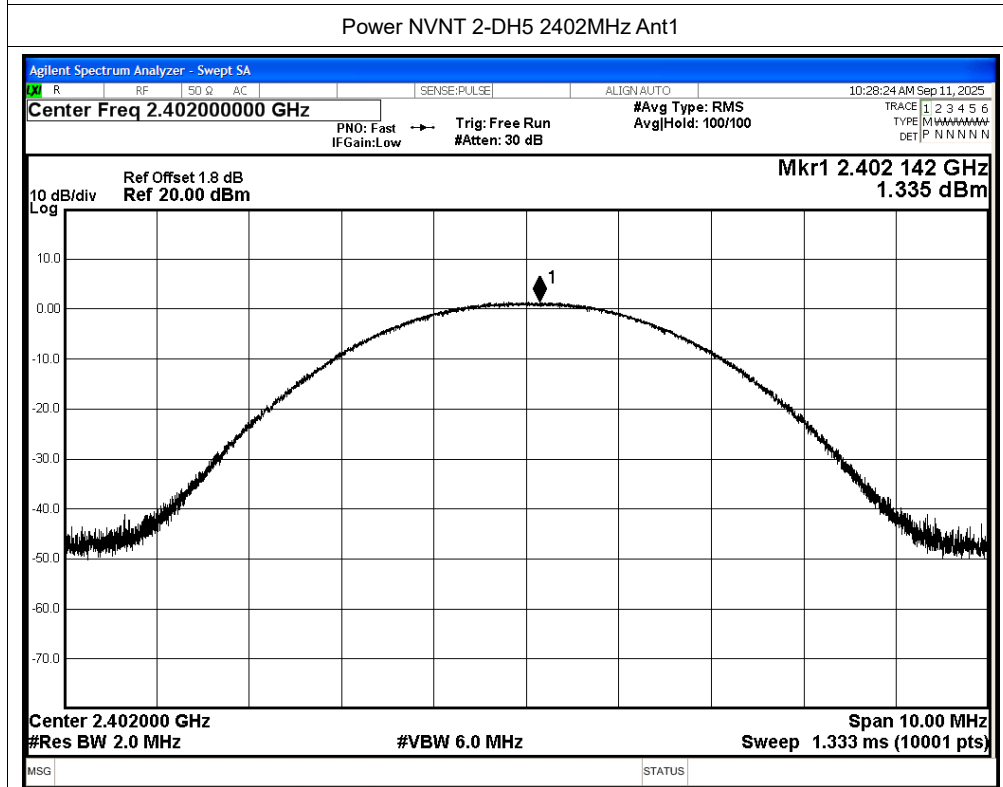
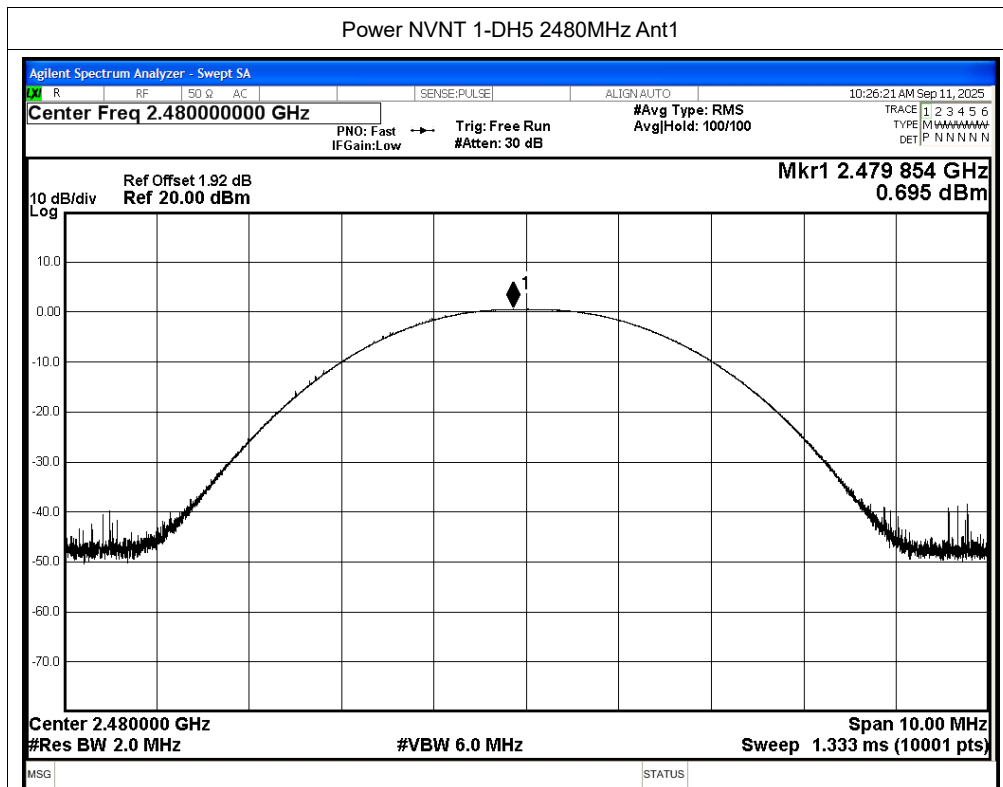
Test Graphs

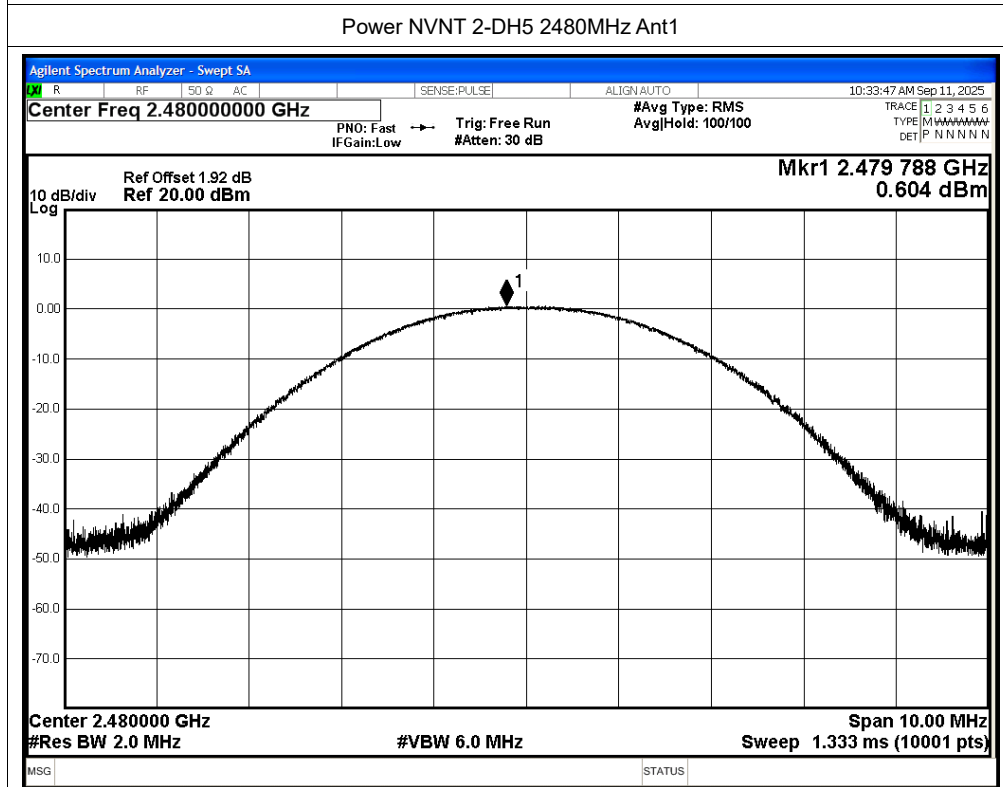
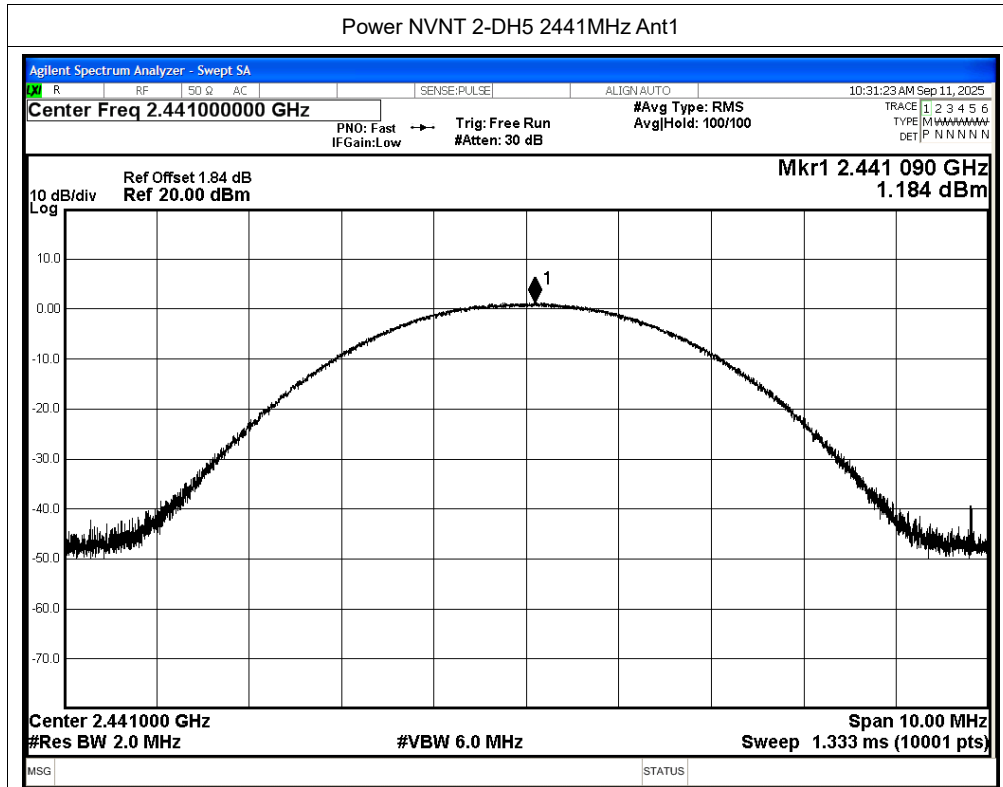
Power NVNT 1-DH5 2402MHz Ant1

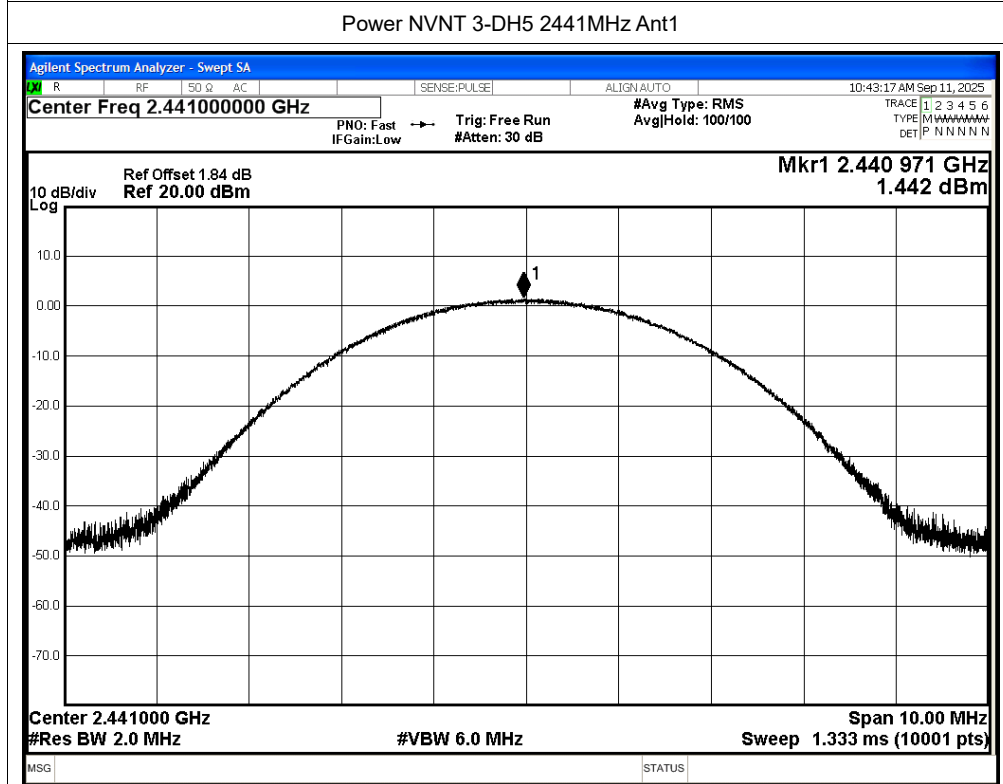
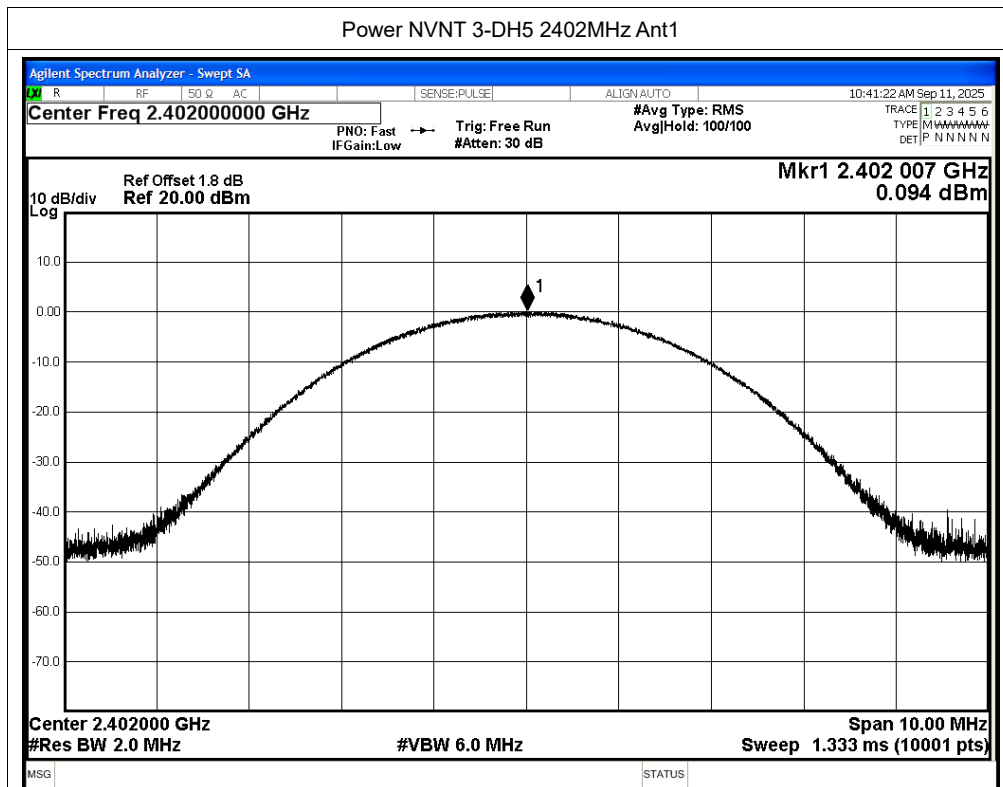


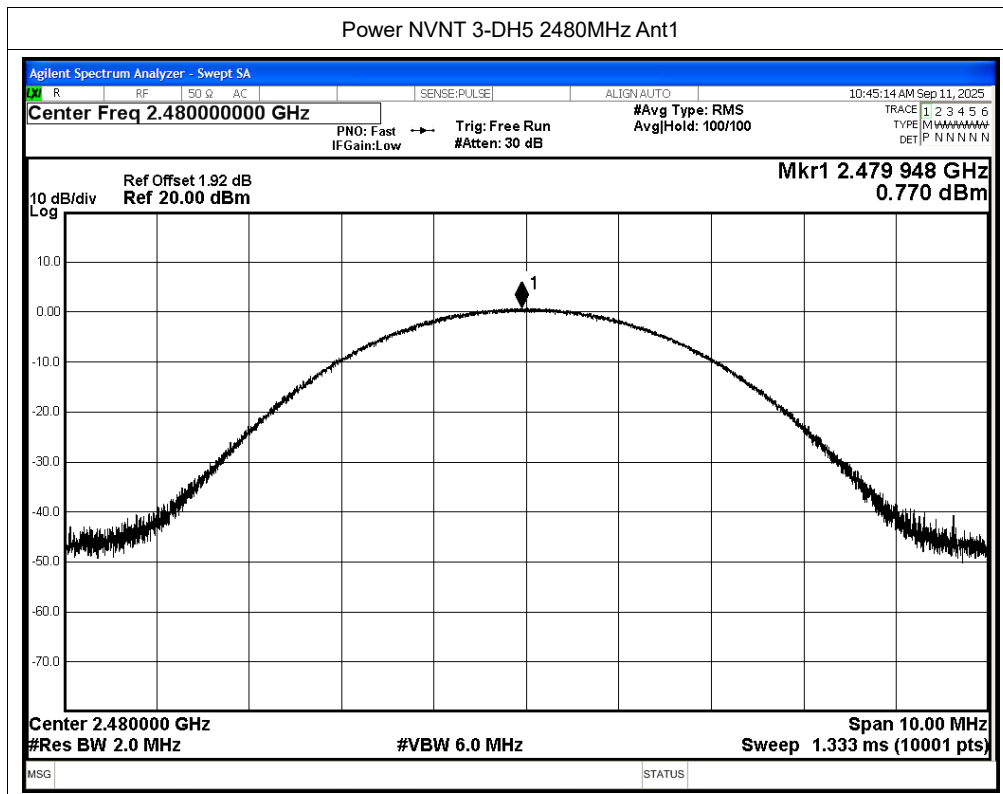
Power NVNT 1-DH5 2441MHz Ant1









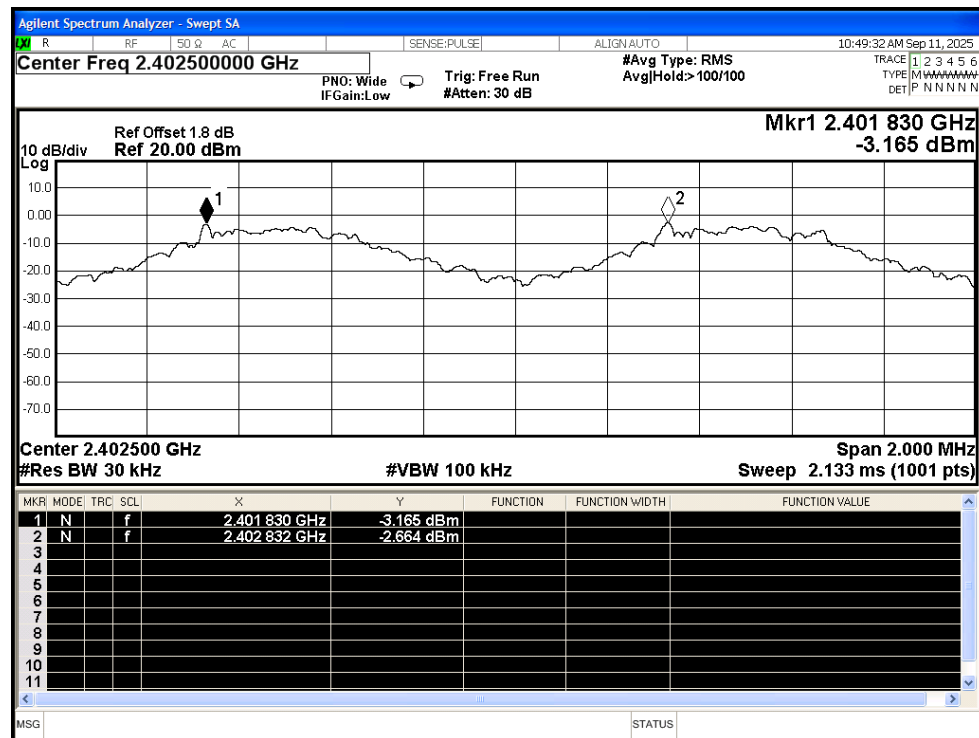


A.3 Carrier Frequencies Separation

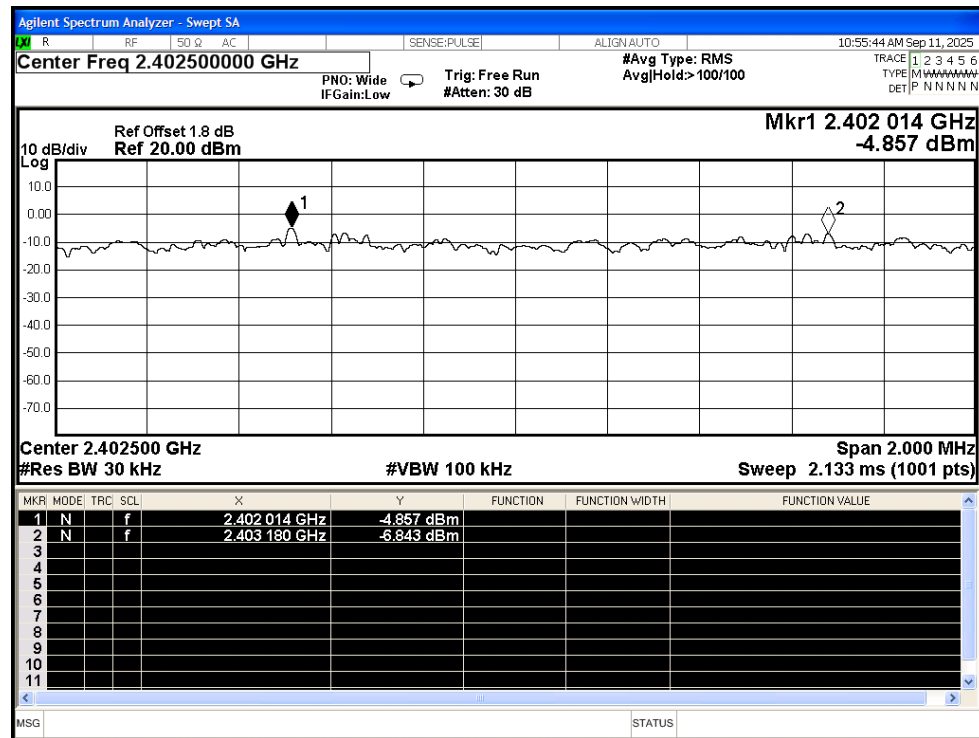
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.83	2402.832	1.002	0.635	Pass
NVNT	2-DH5	Ant1	2402.014	2403.18	1.166	0.857	Pass
NVNT	3-DH5	Ant1	2402.03	2403.03	1	0.856	Pass

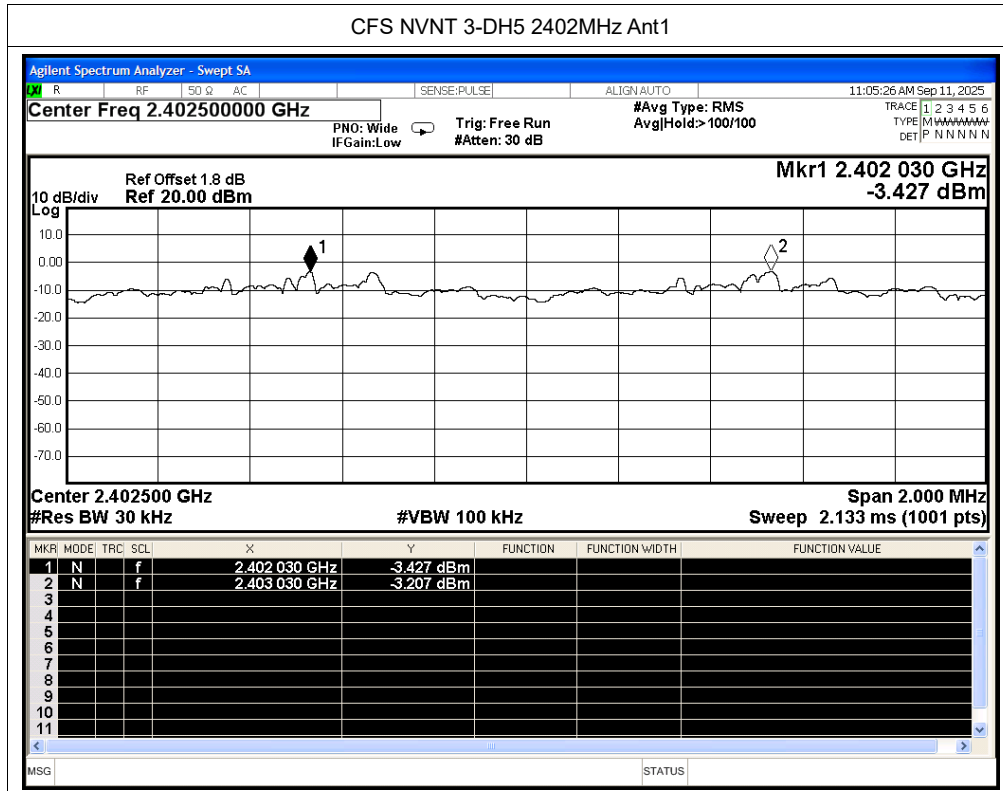
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



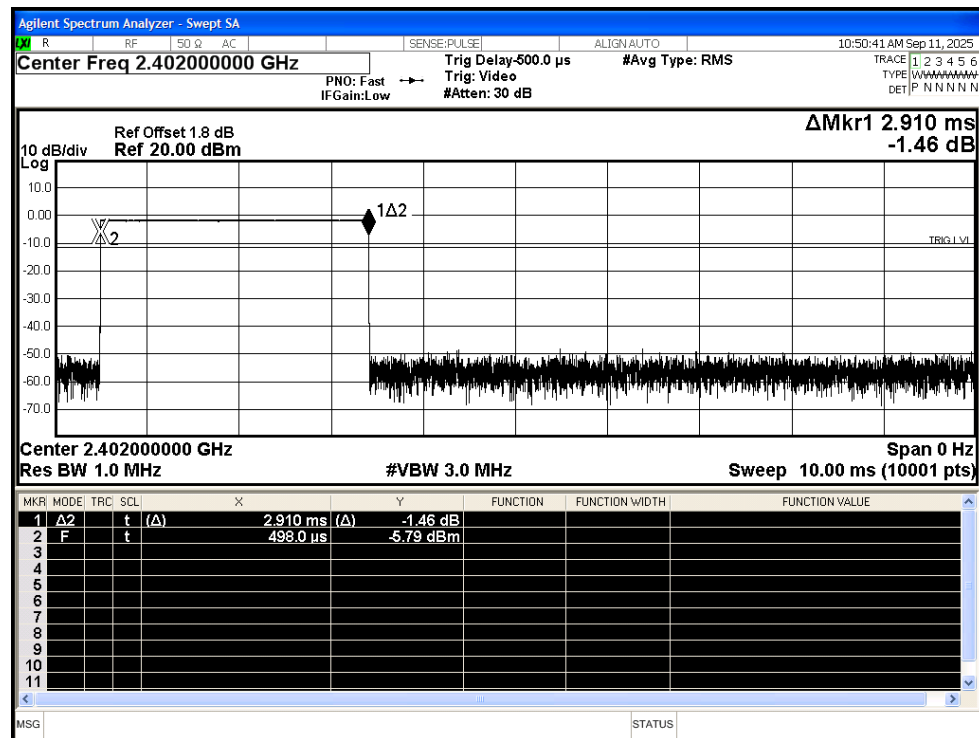


A.4 Dwell Time

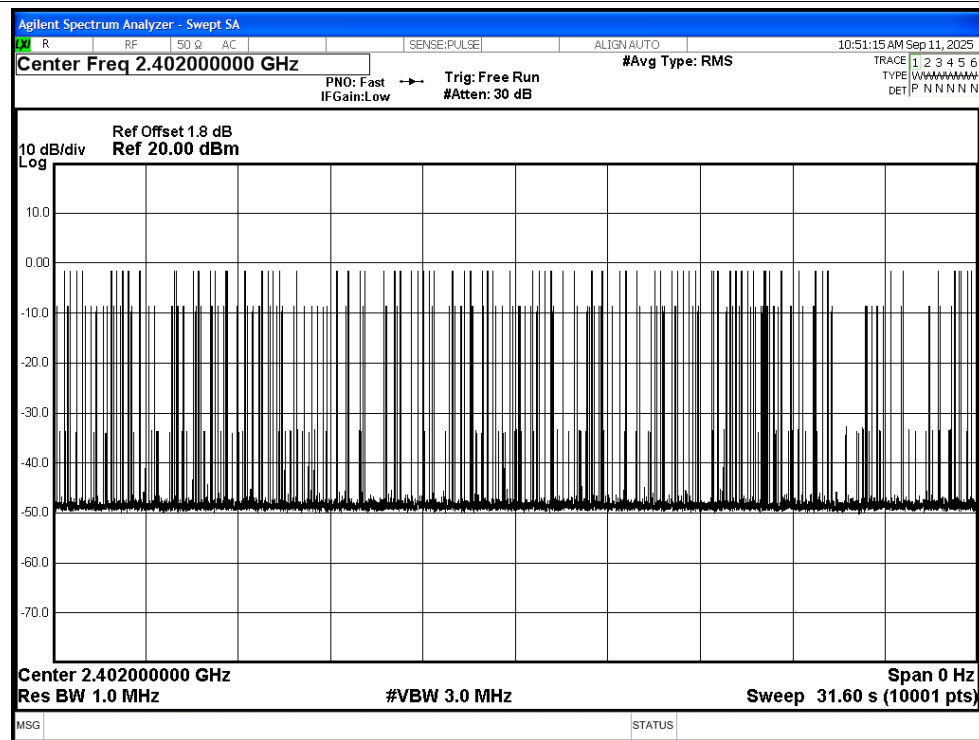
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	302.64	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	298.494	103	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	307.082	106	31600	400	Pass

Test Graphs

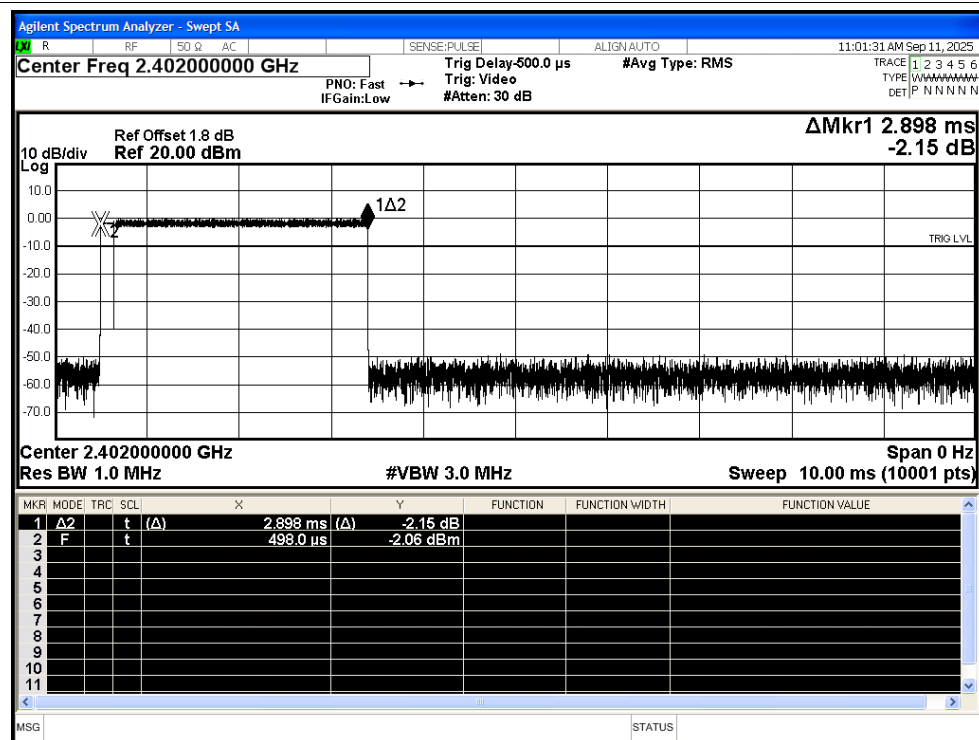
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



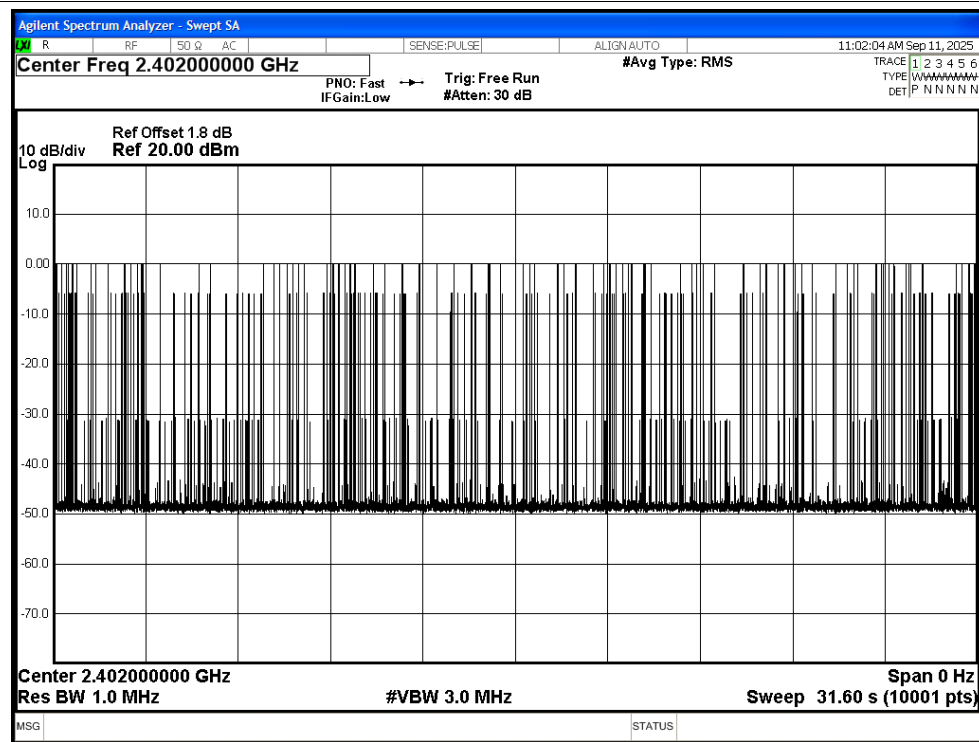
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



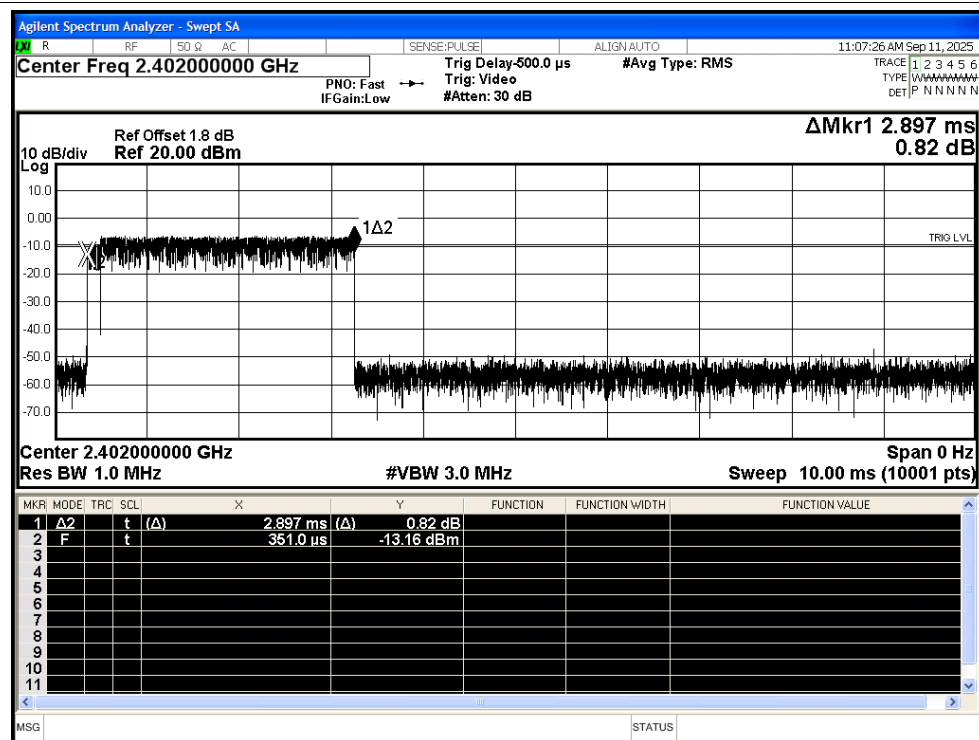
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



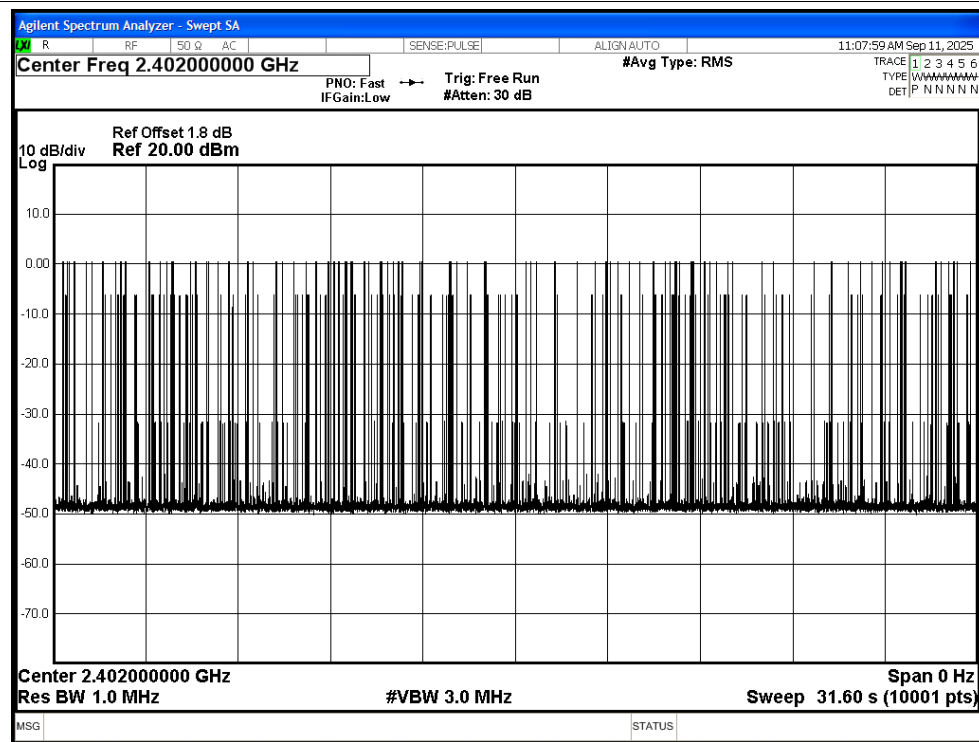
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

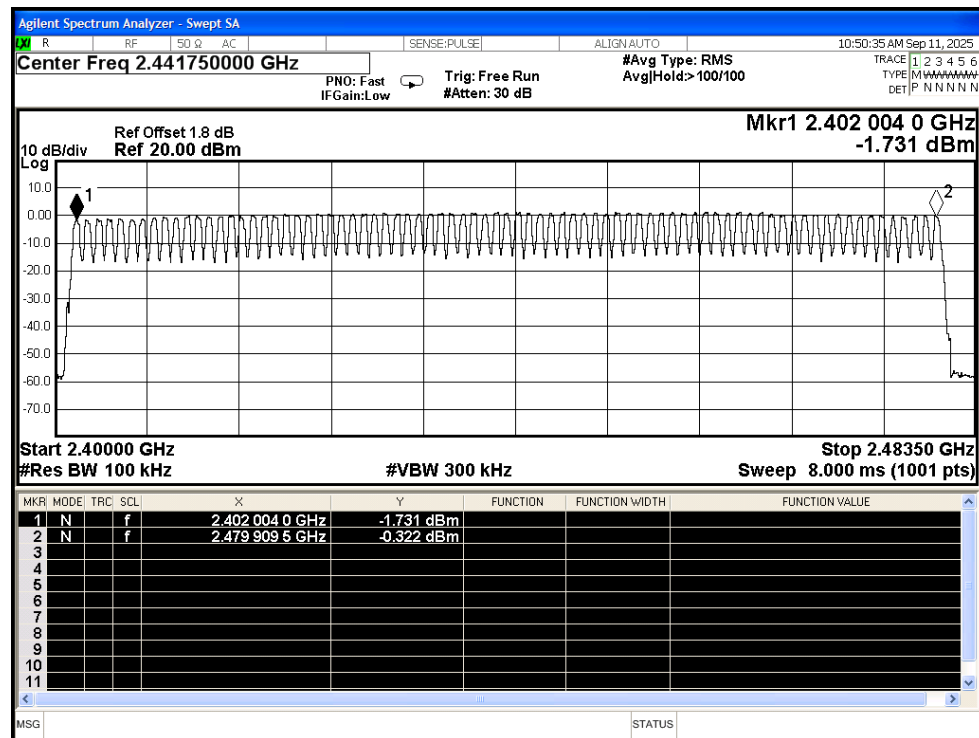


A.5 Number of Hopping Channel

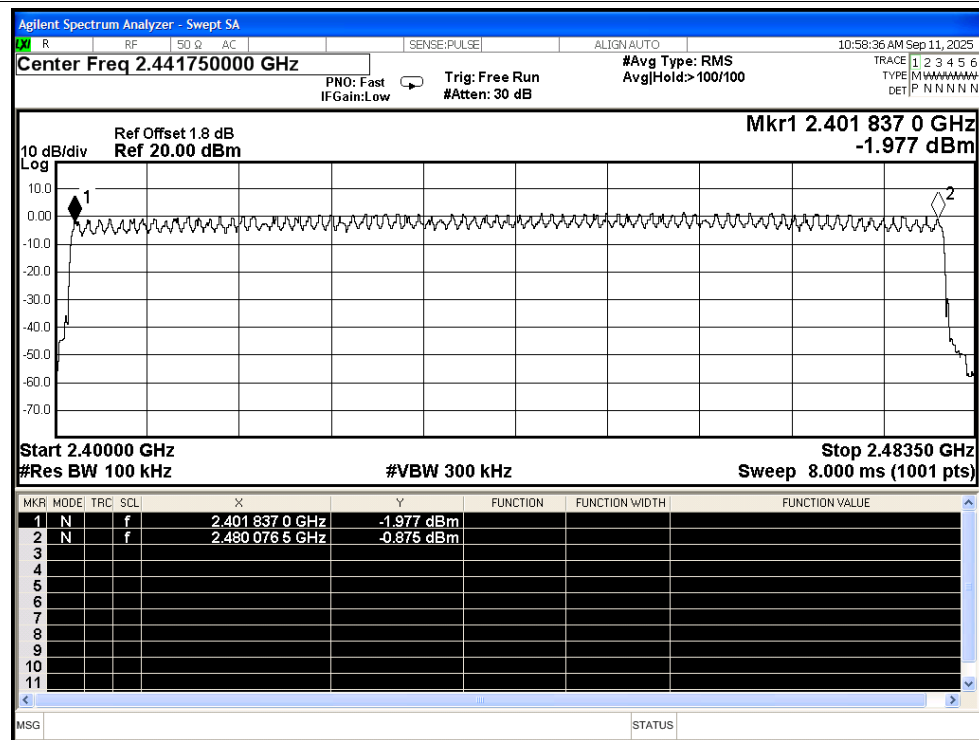
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

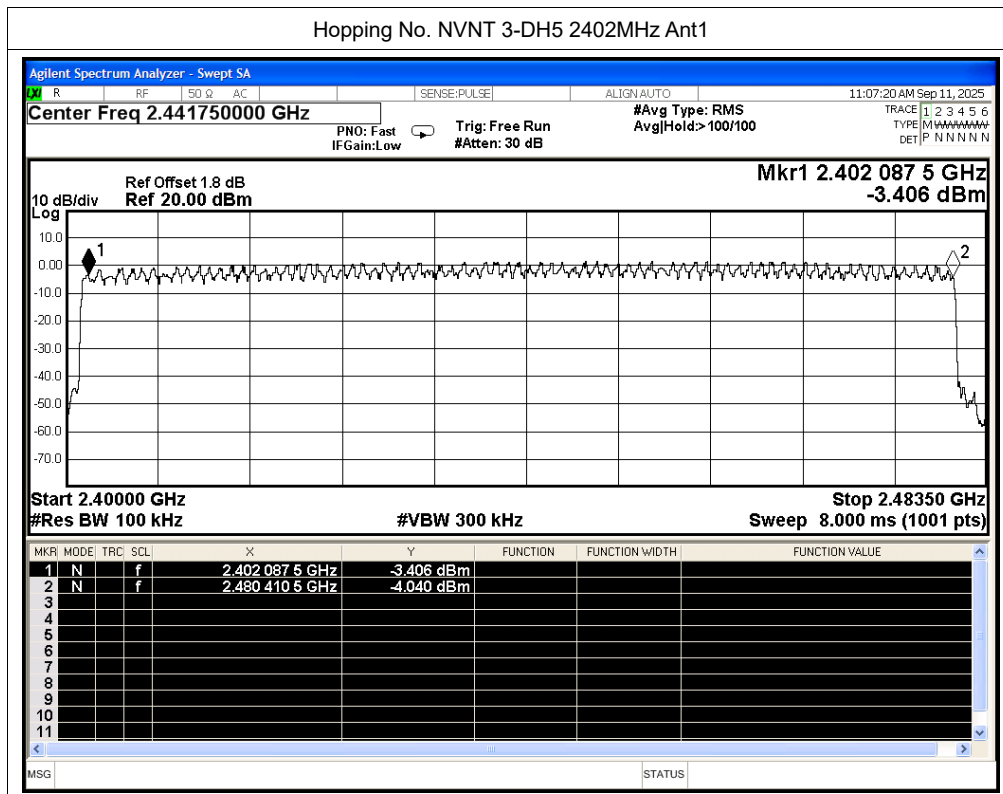
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



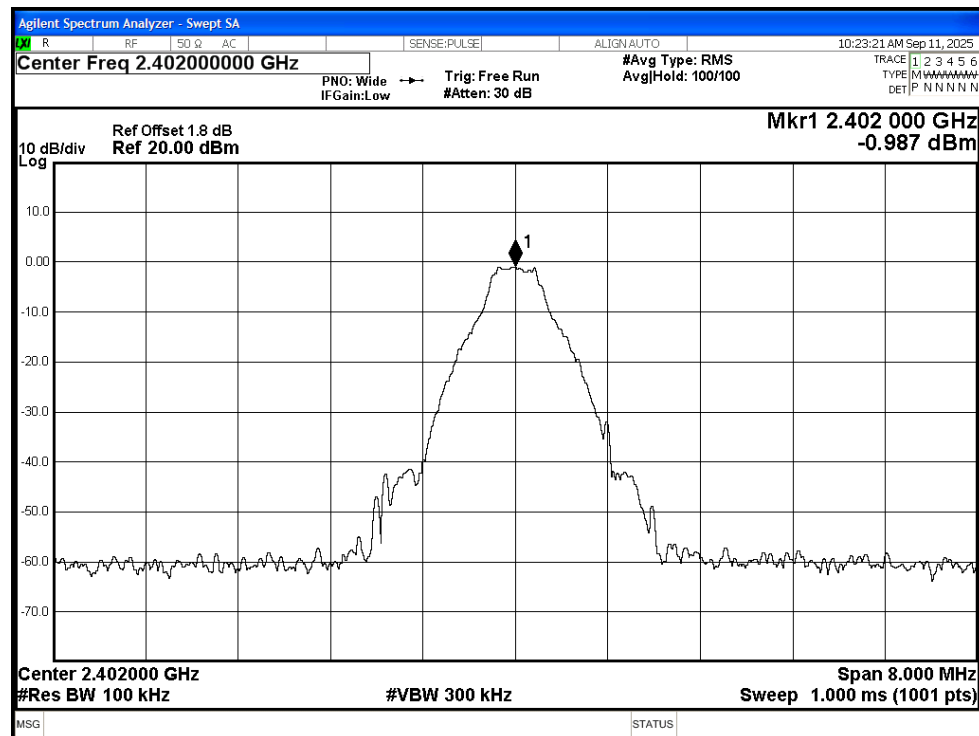


A.6 Band Edge

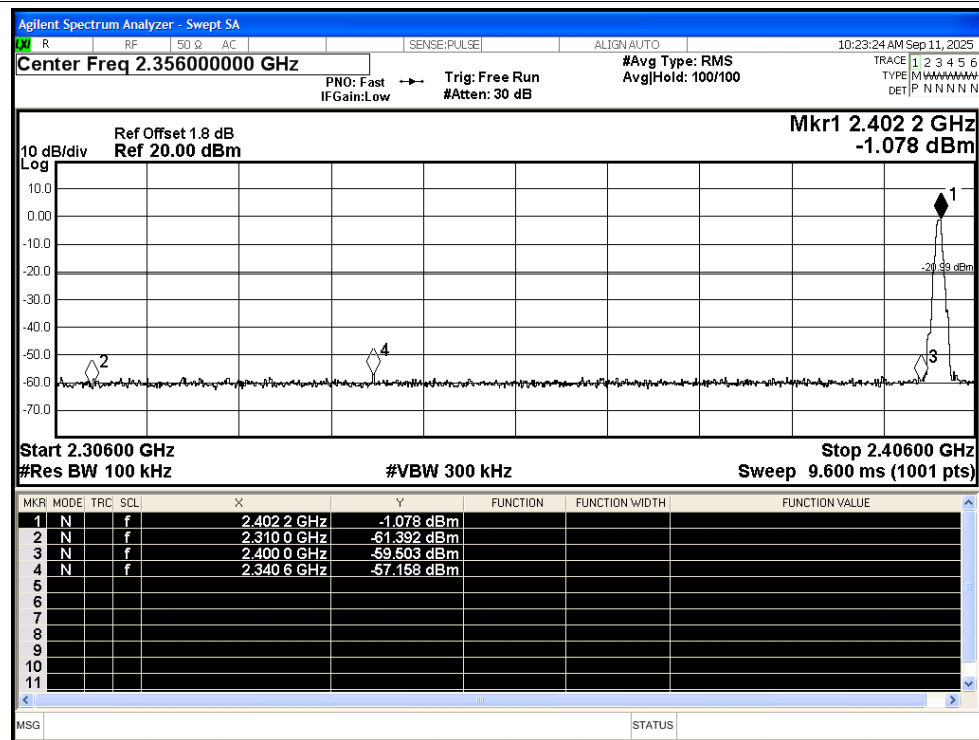
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.17	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.07	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.96	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.27	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.54	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.31	-20	Pass

Test Graphs

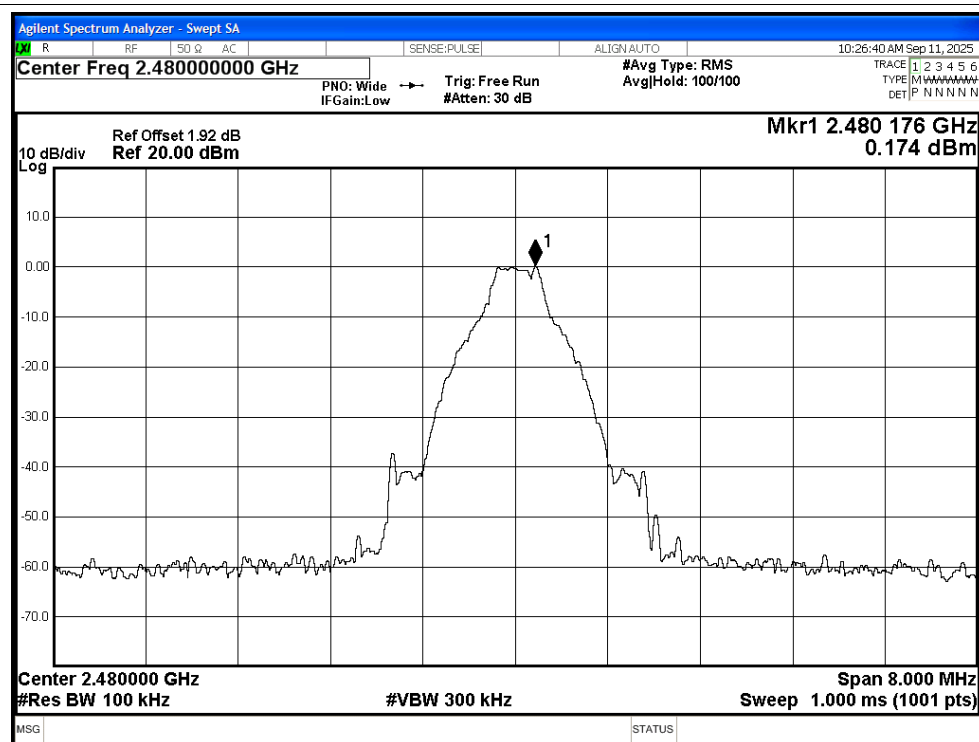
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



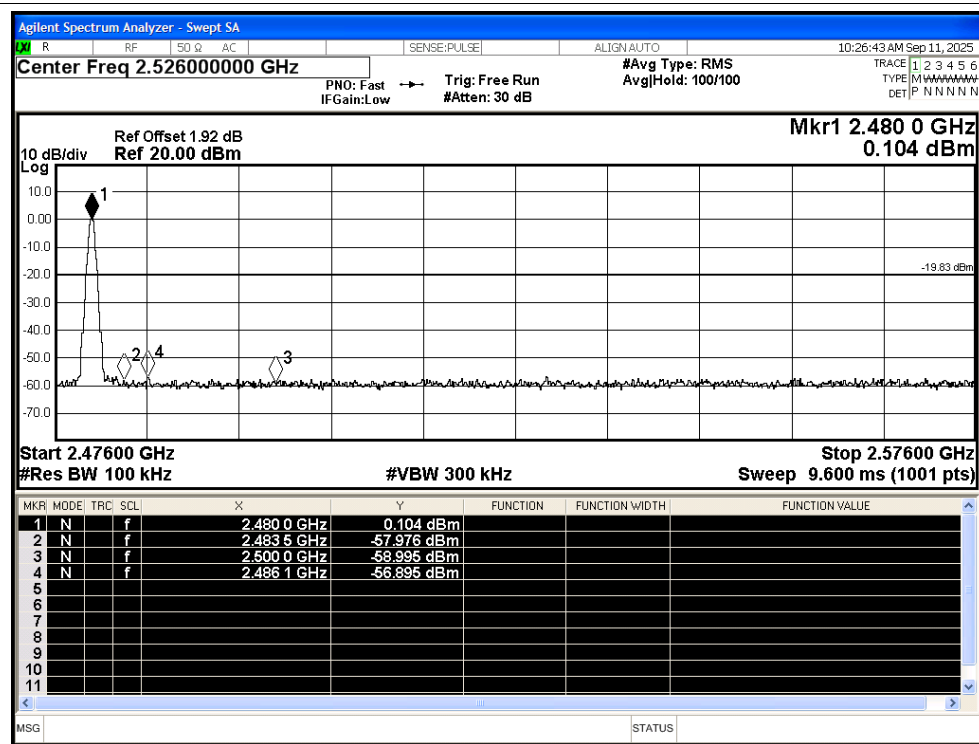
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

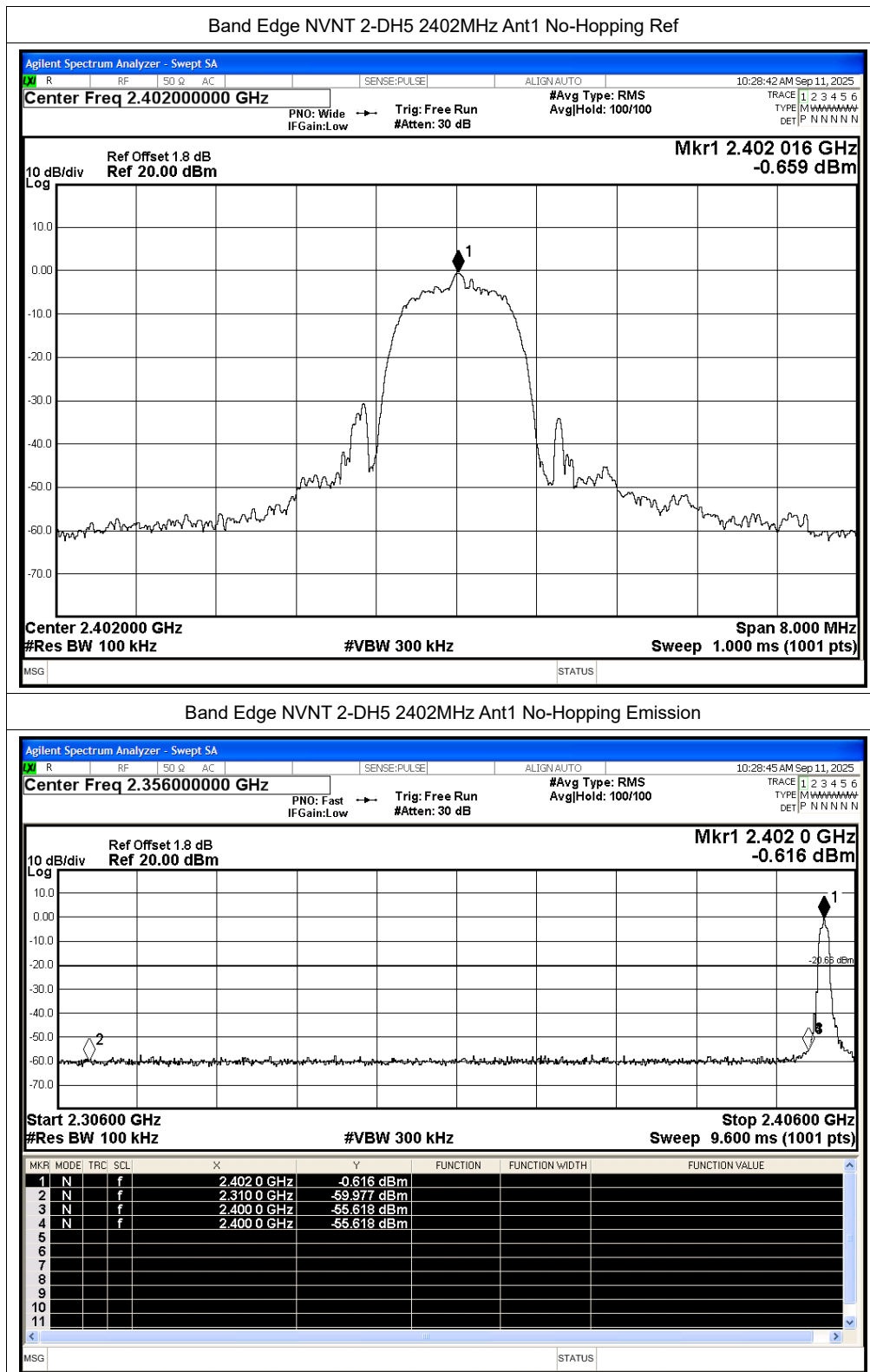


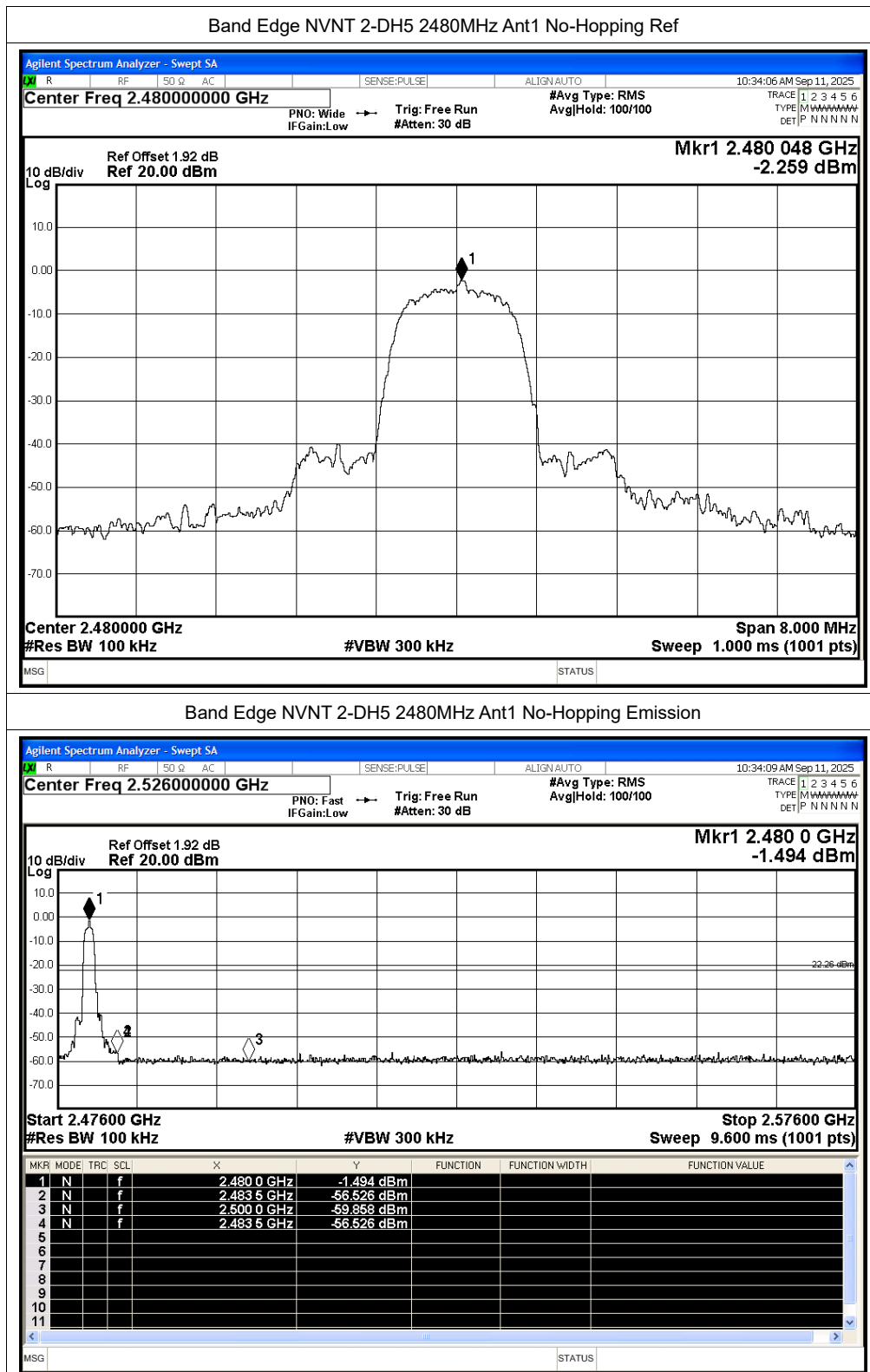
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



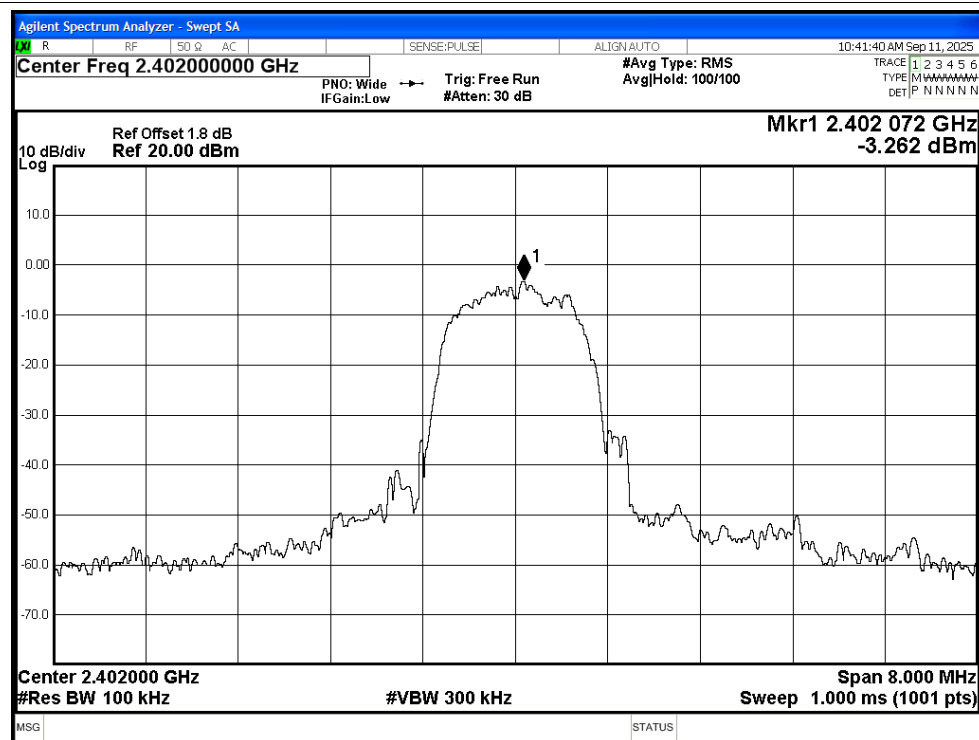
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



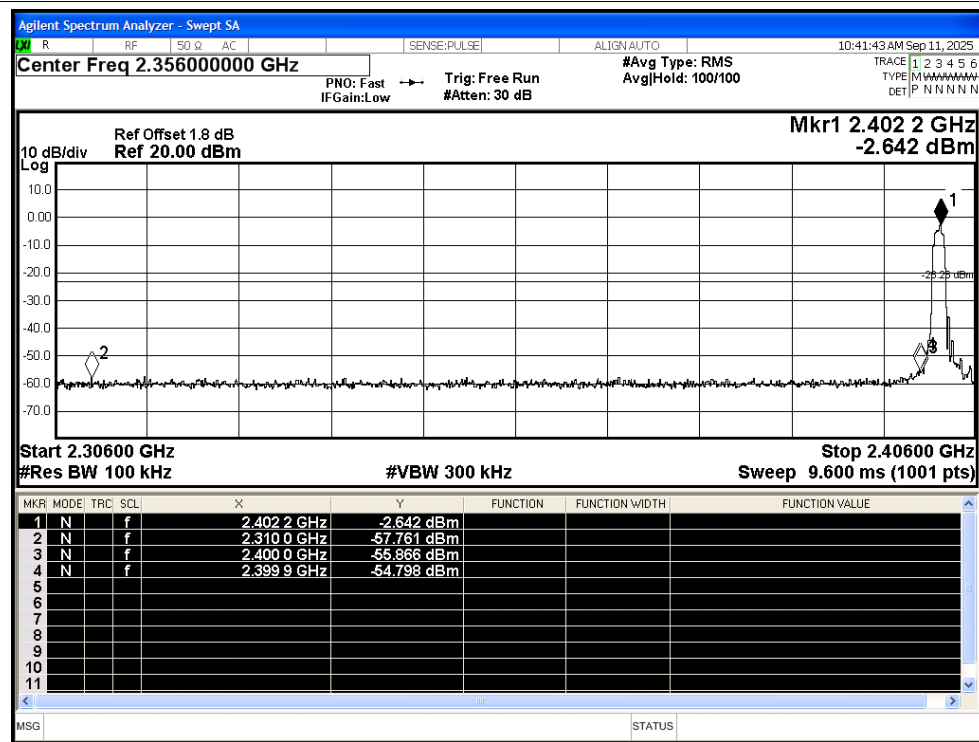




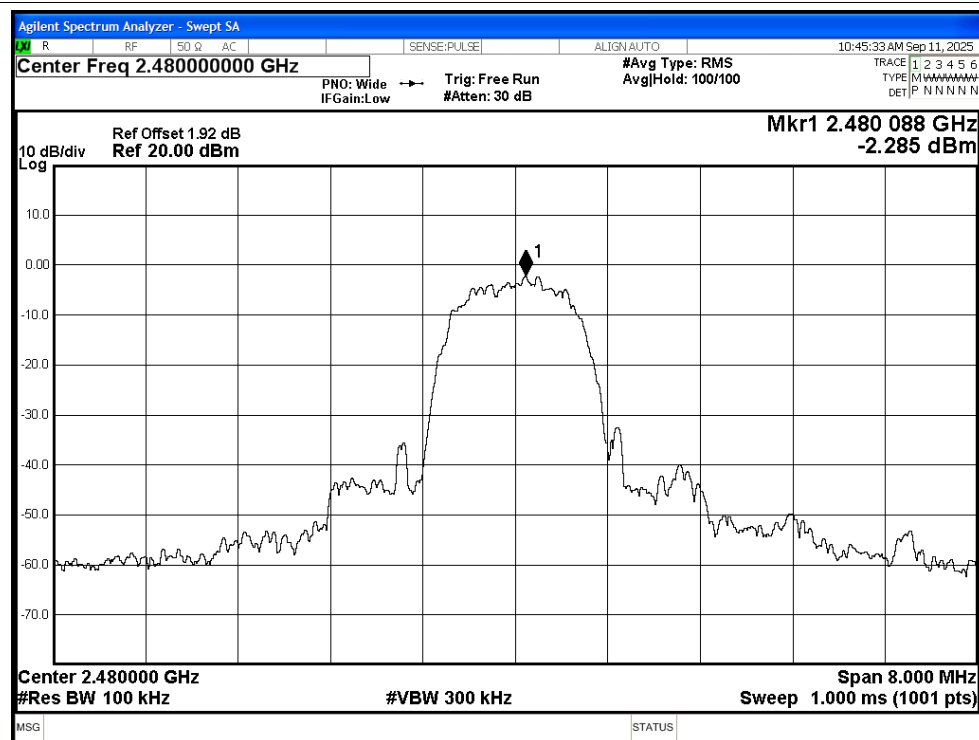
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



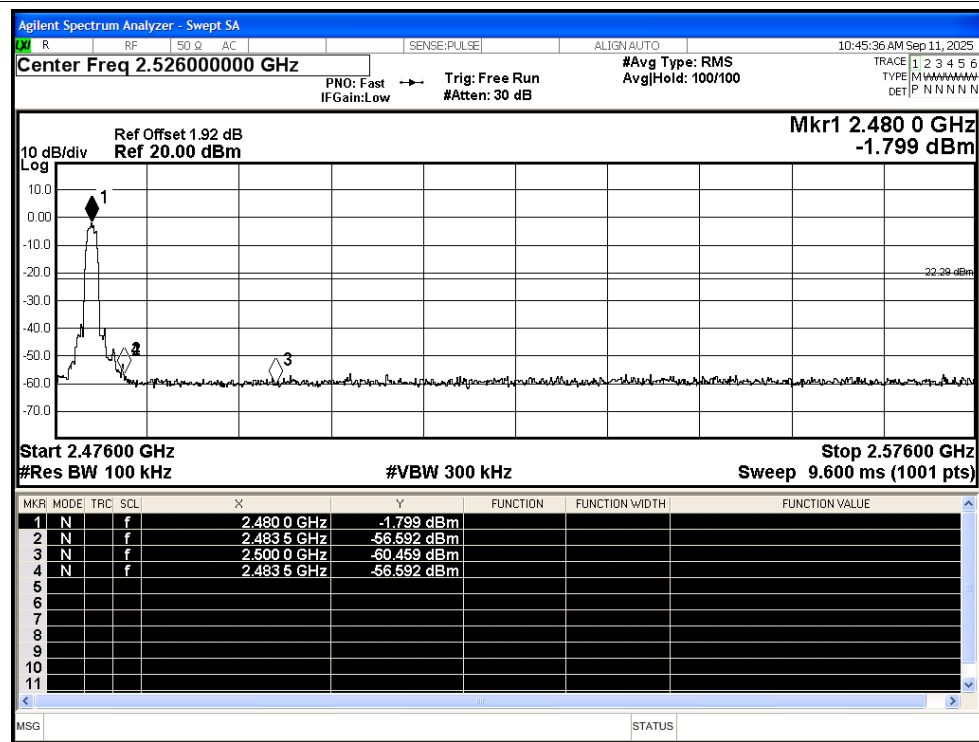
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

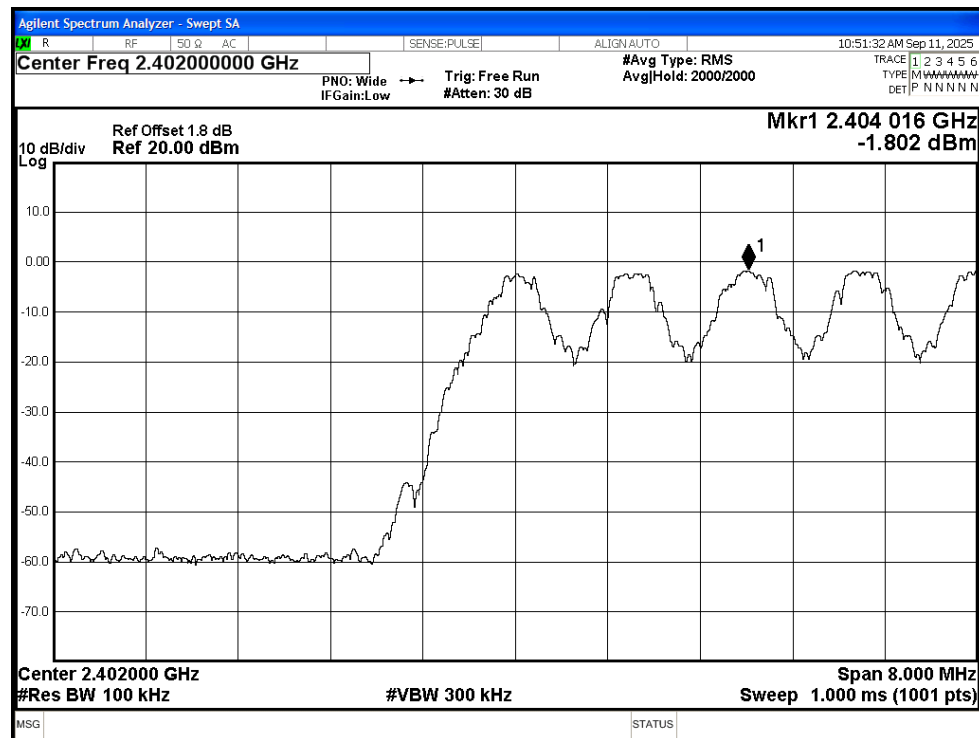


(Hopping)

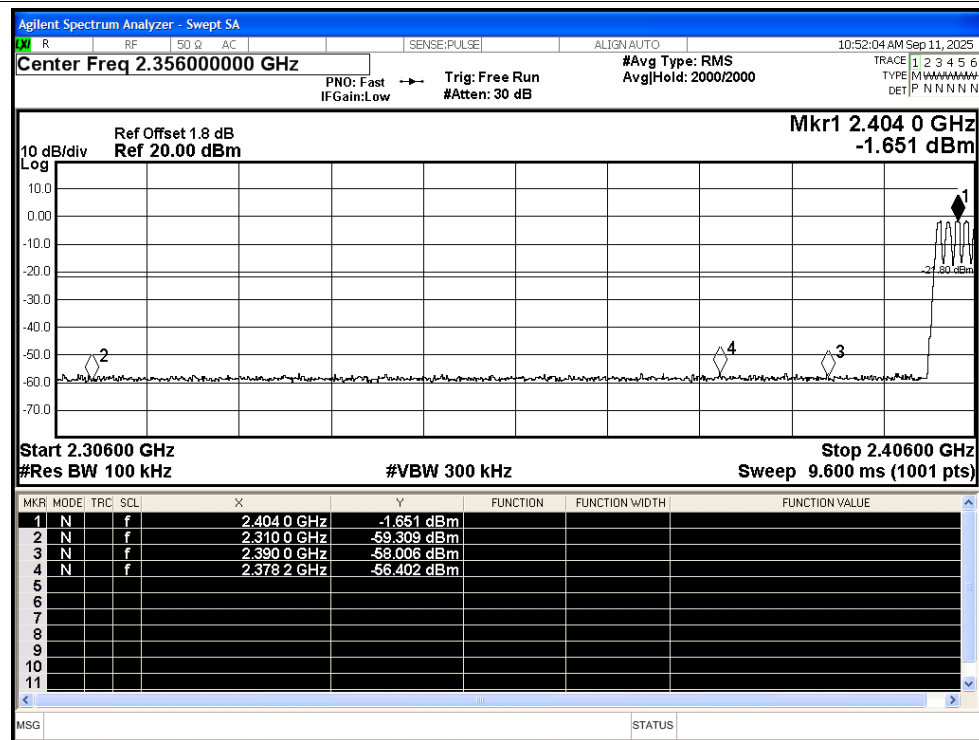
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.6	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.07	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-54.58	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-56.05	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-55	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.25	-20	Pass

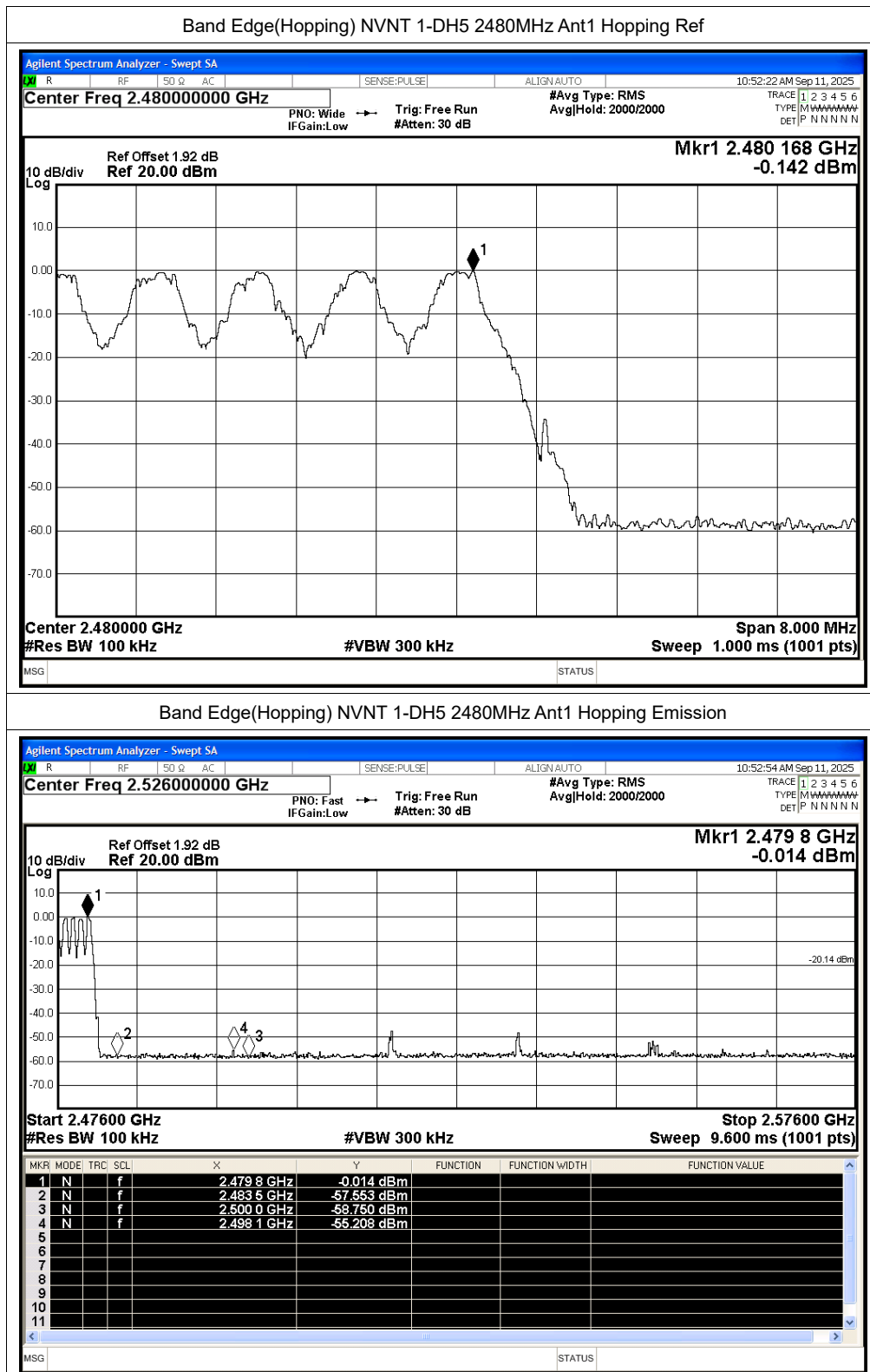
Test Graphs

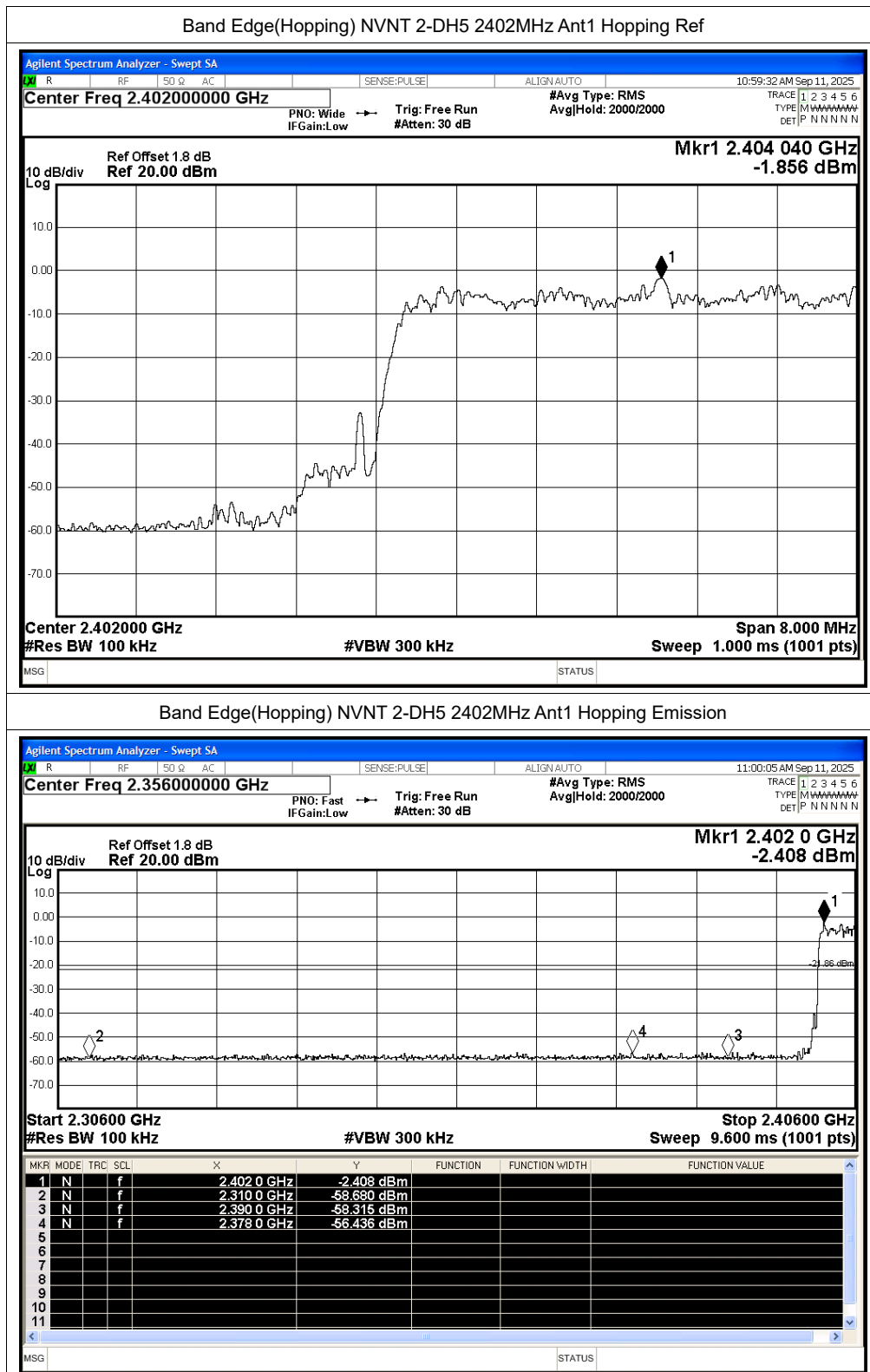
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

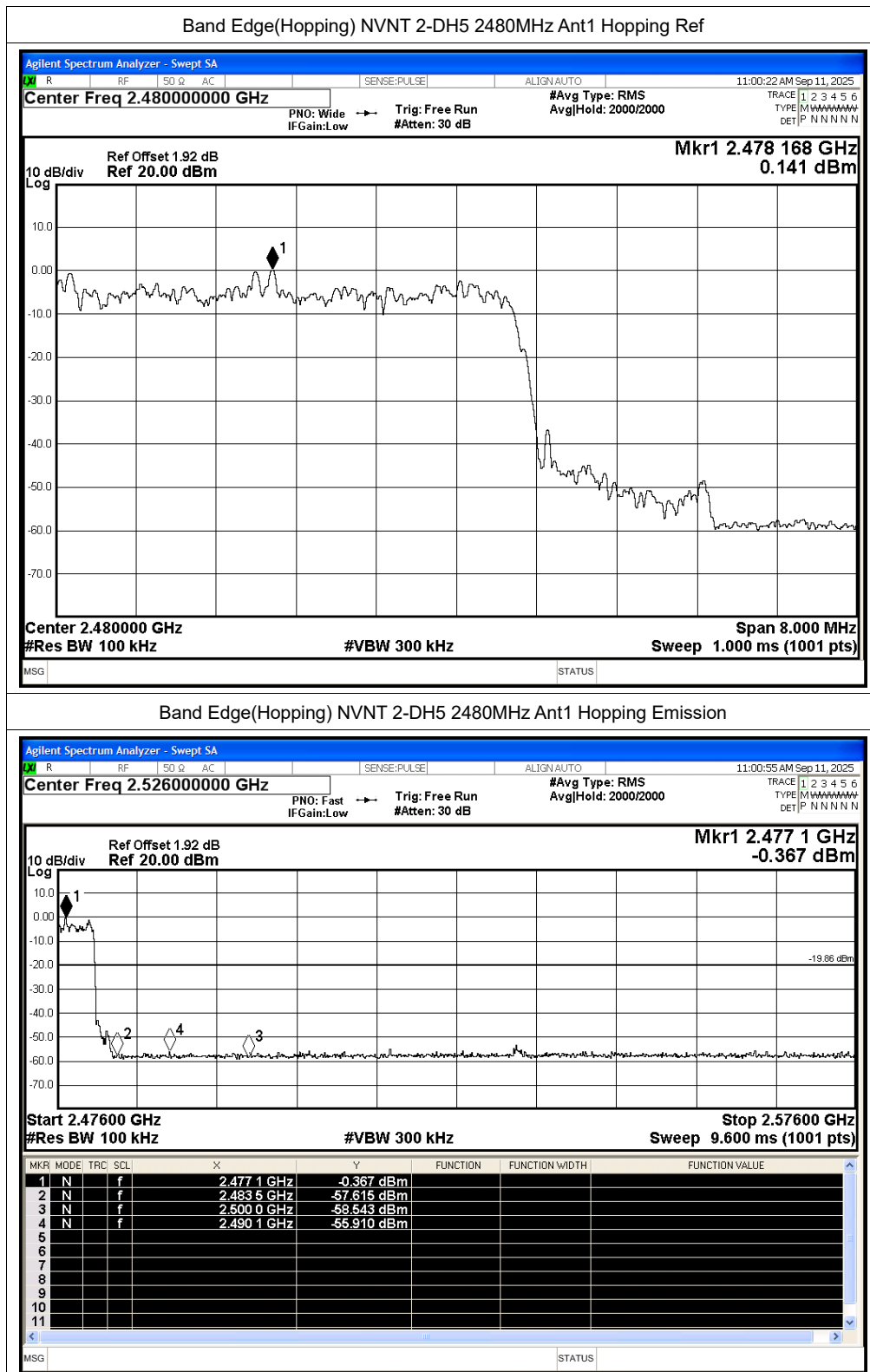


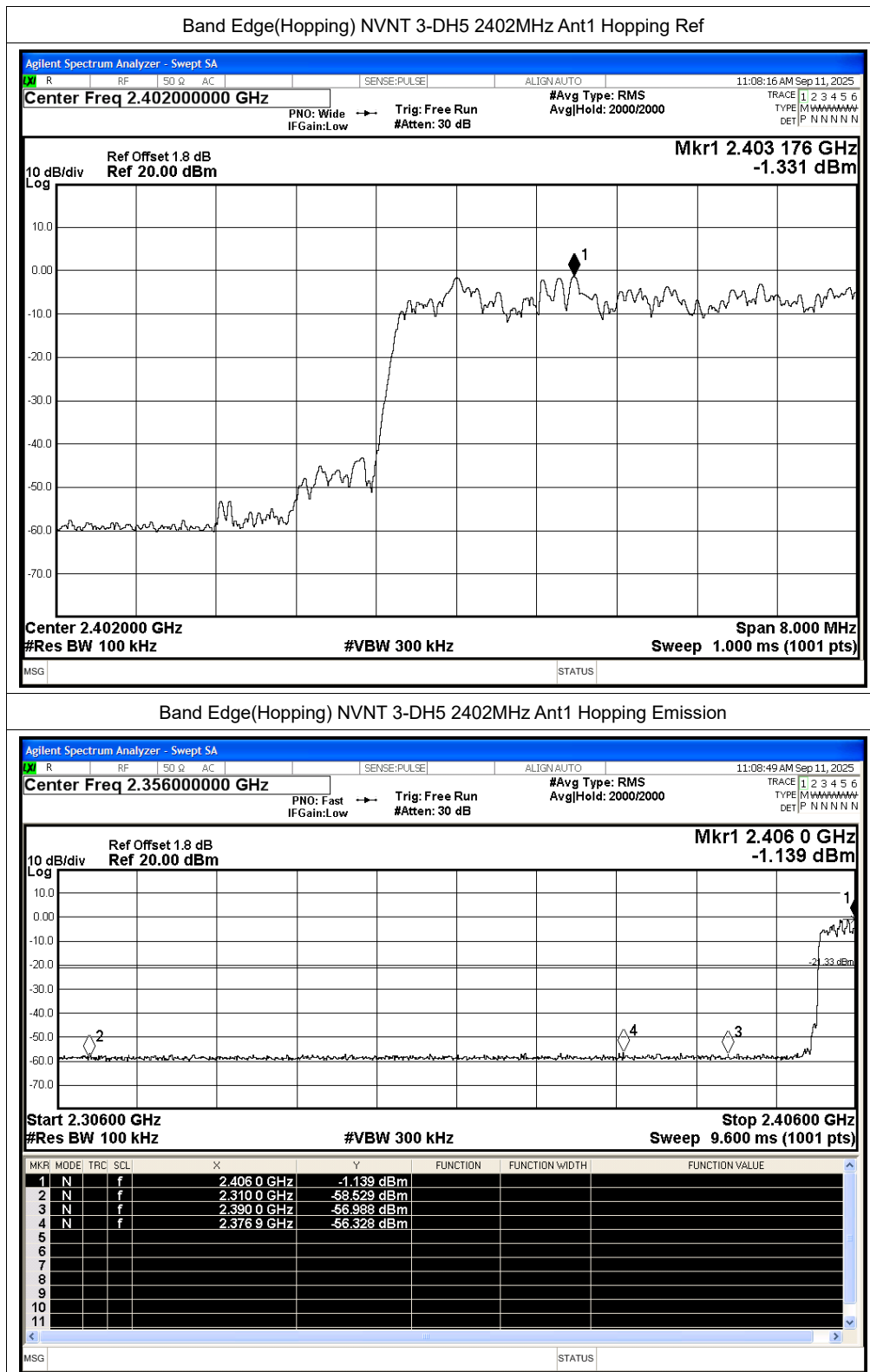
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

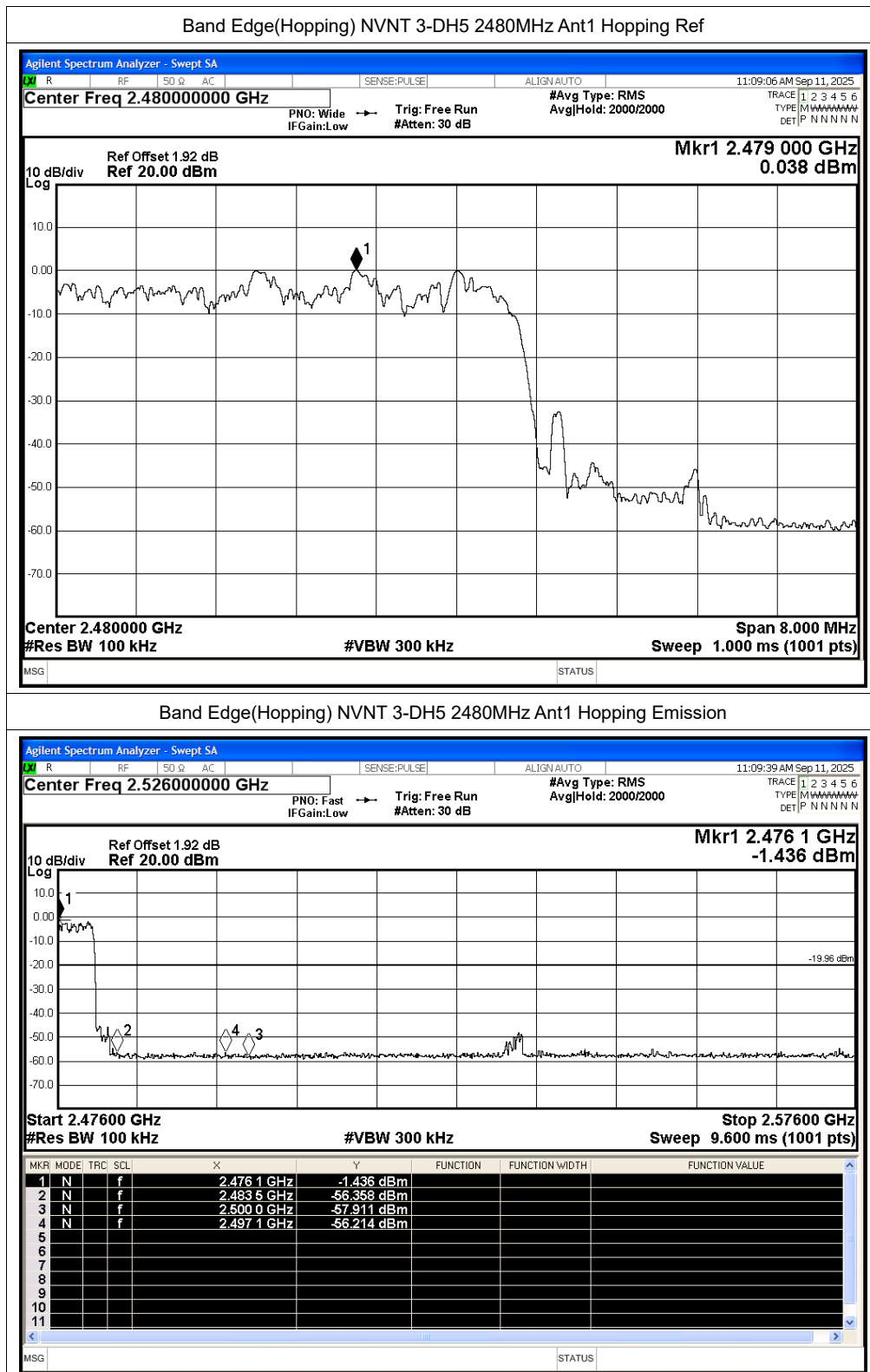










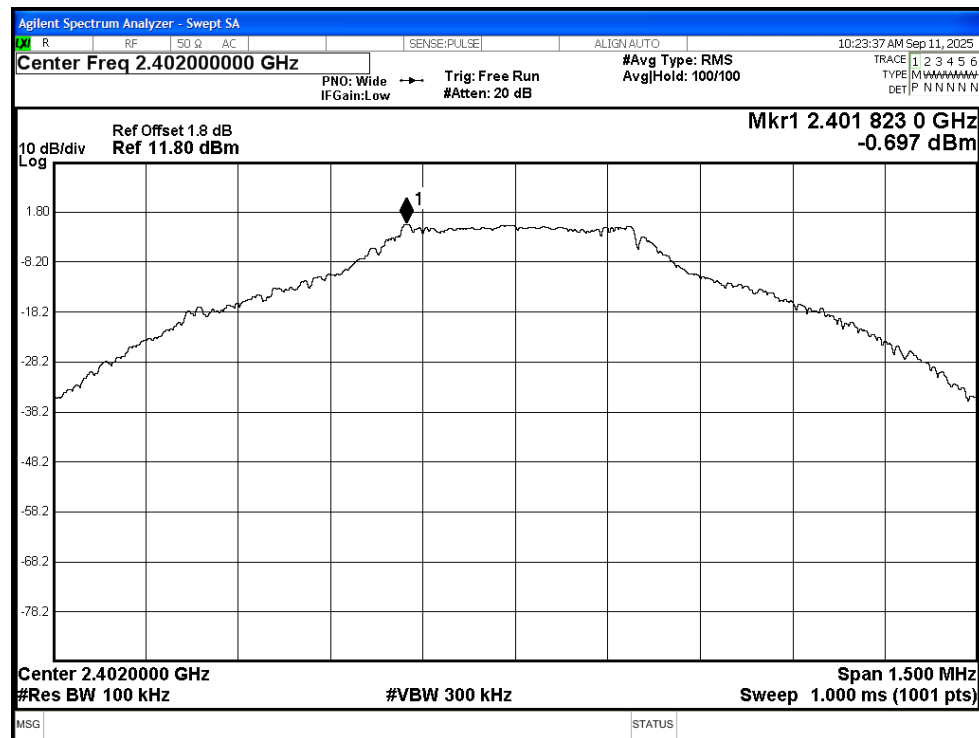


A.7 Conducted RF Spurious Emission

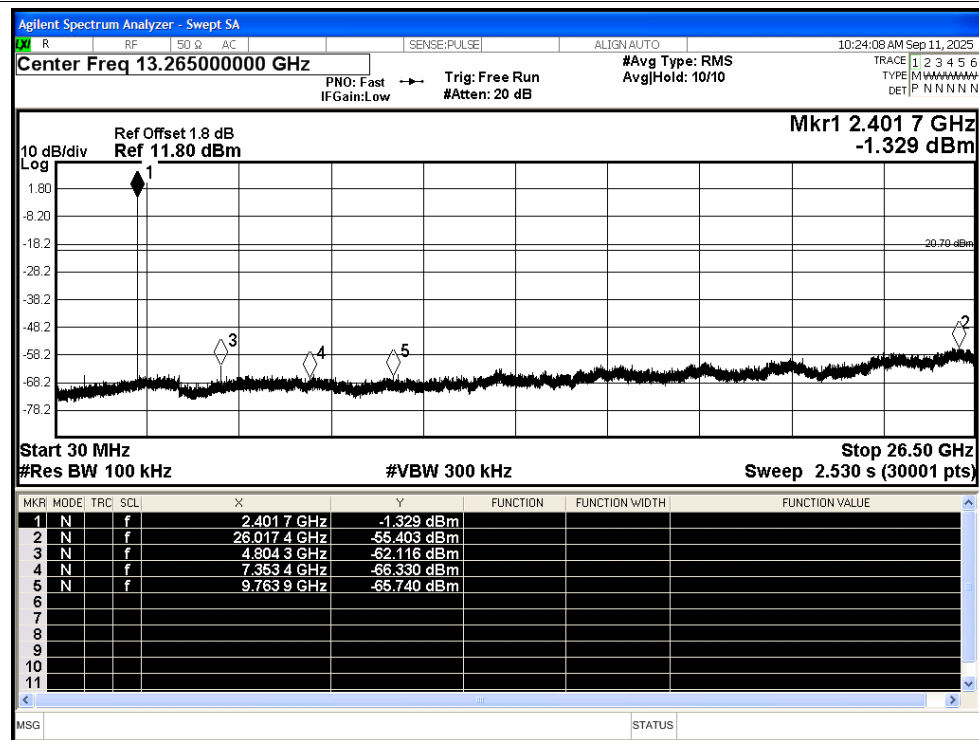
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.71	-20	Pass
NVNT	1-DH5	2441	Ant1	-55.55	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.98	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.13	-20	Pass
NVNT	2-DH5	2441	Ant1	-54.42	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.69	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.45	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.19	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.25	-20	Pass

Test Graphs

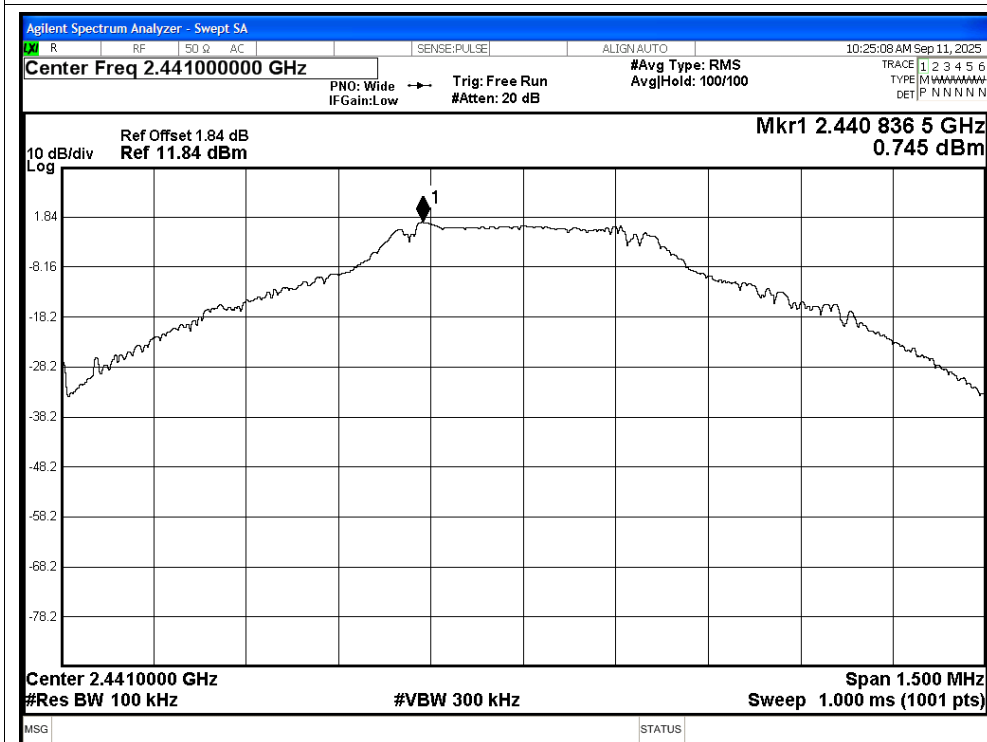
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



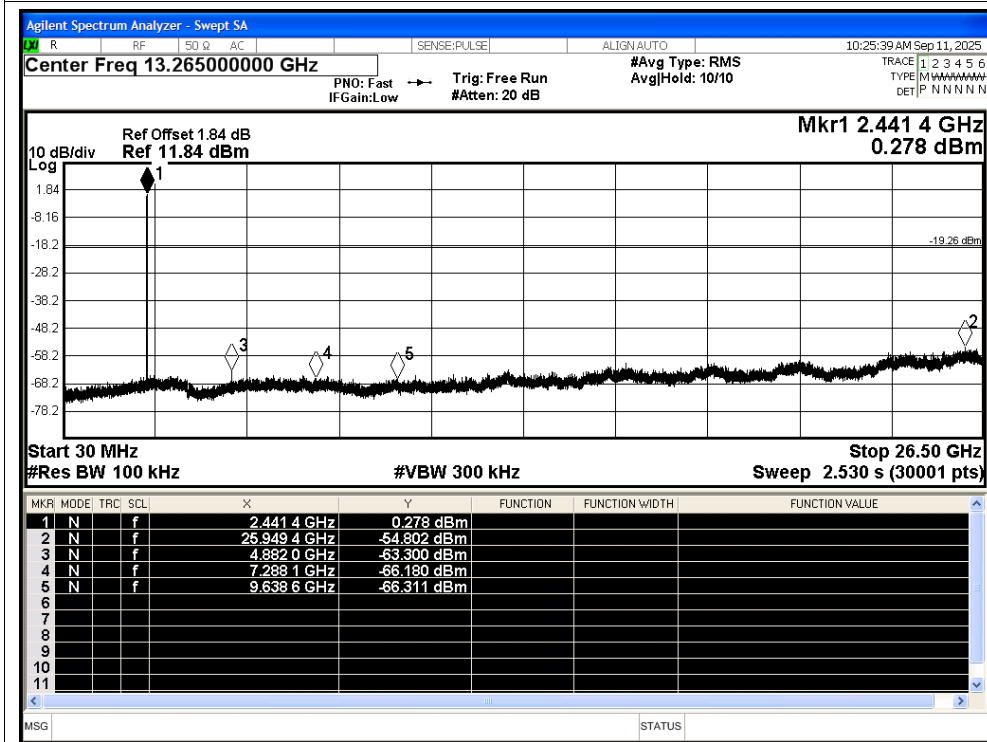
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



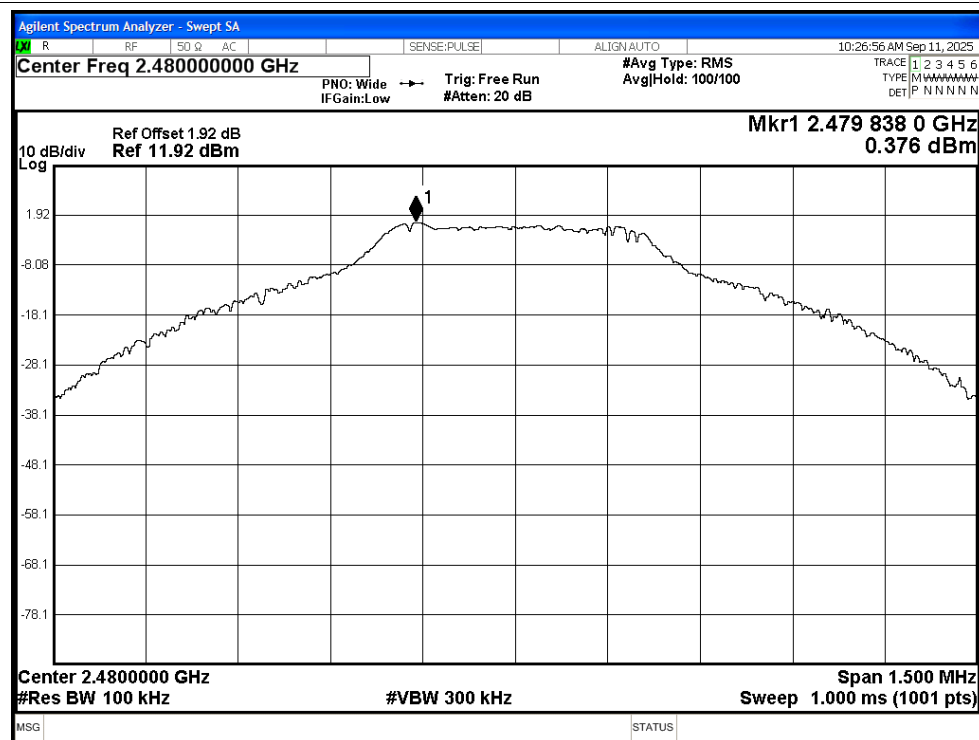
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



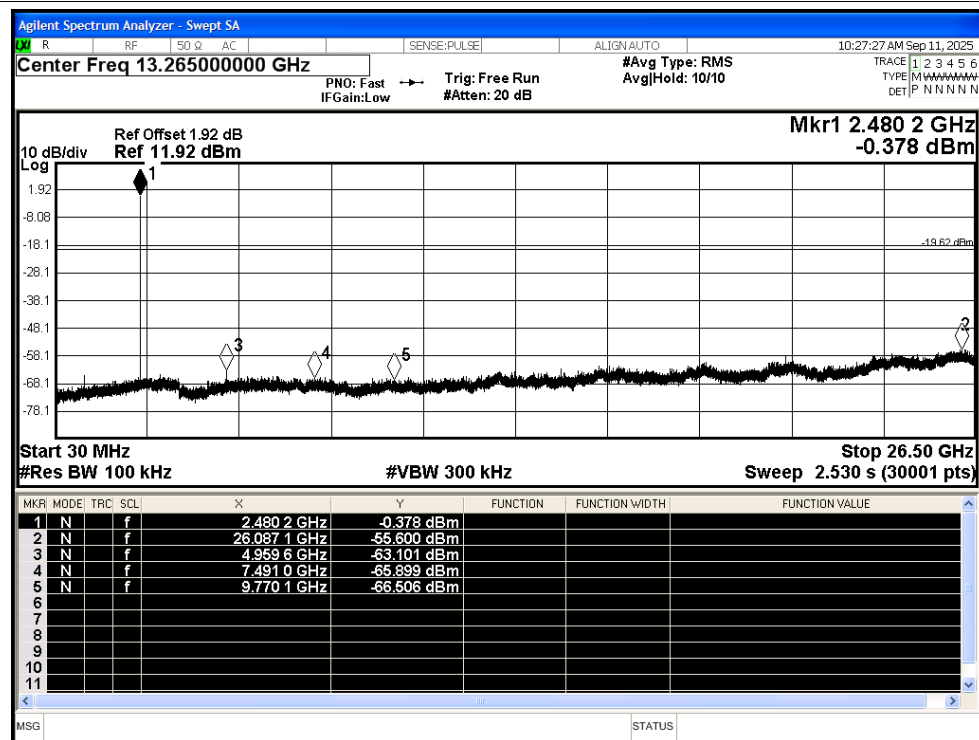
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



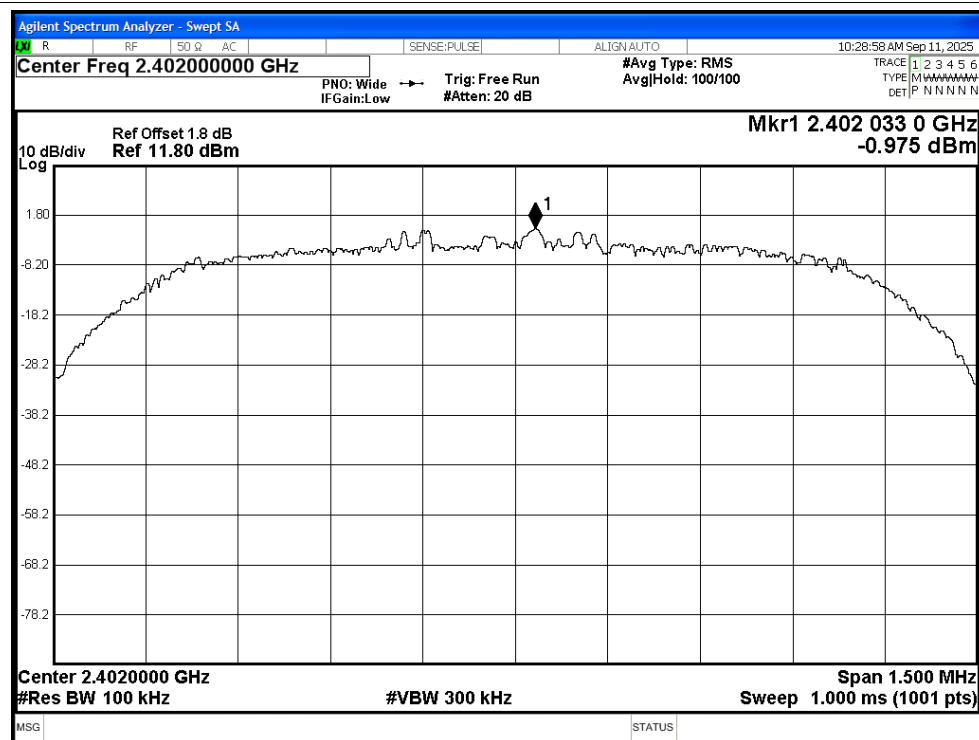
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



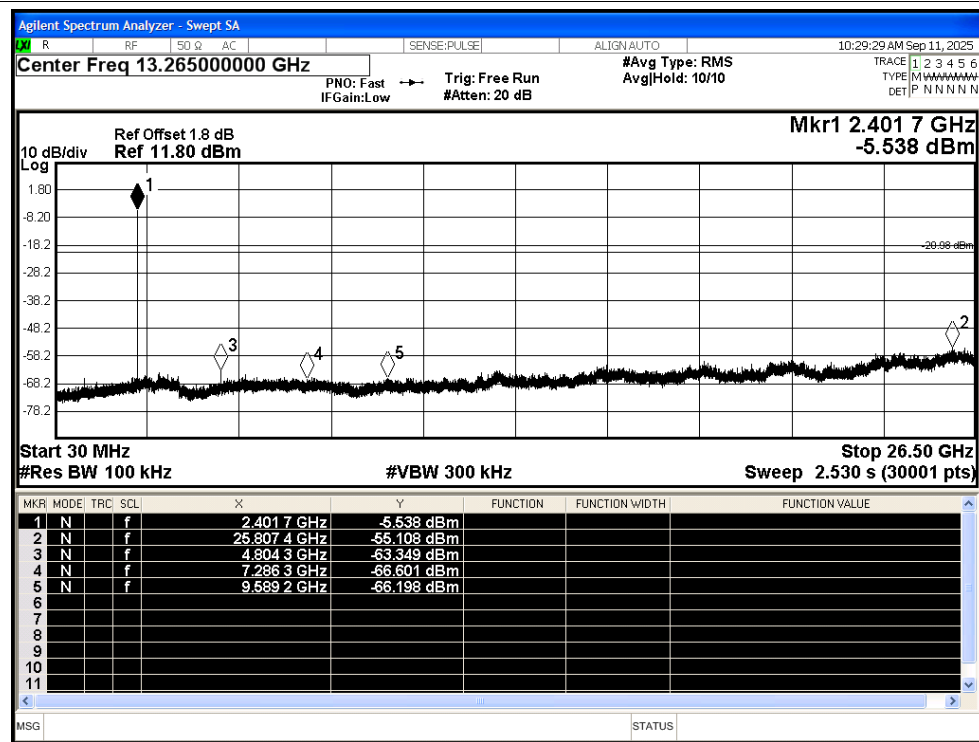
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



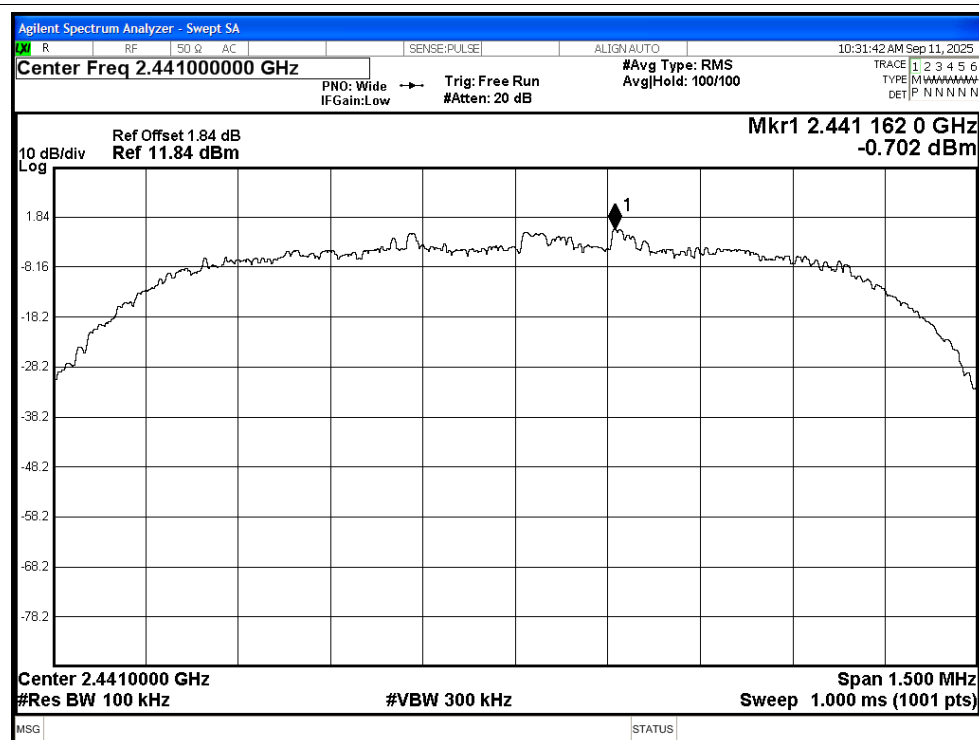
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



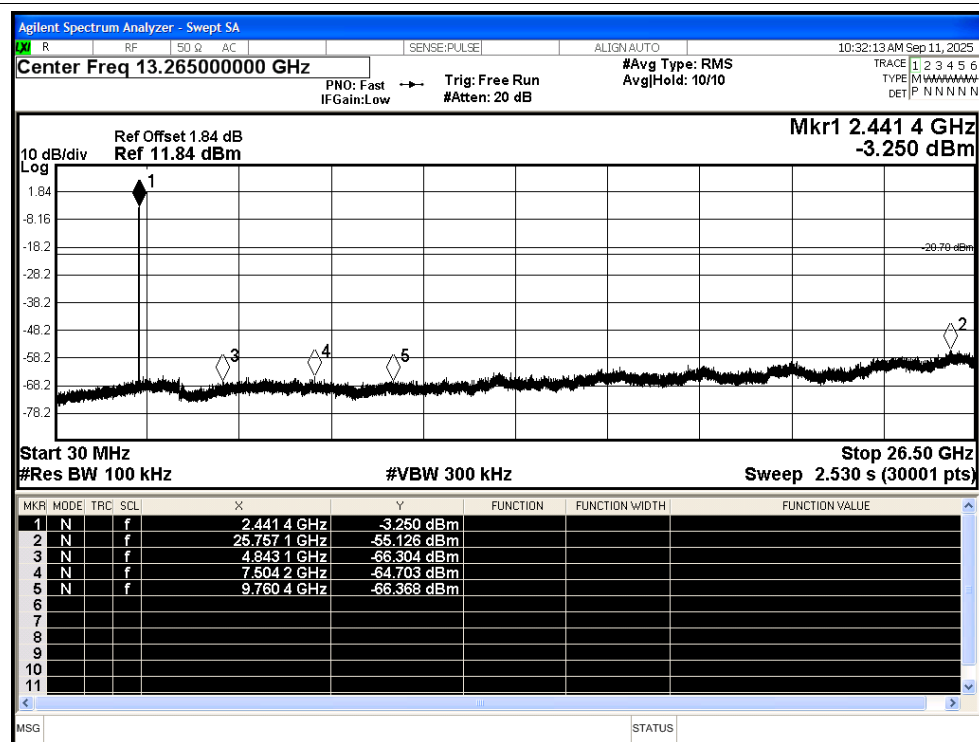
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



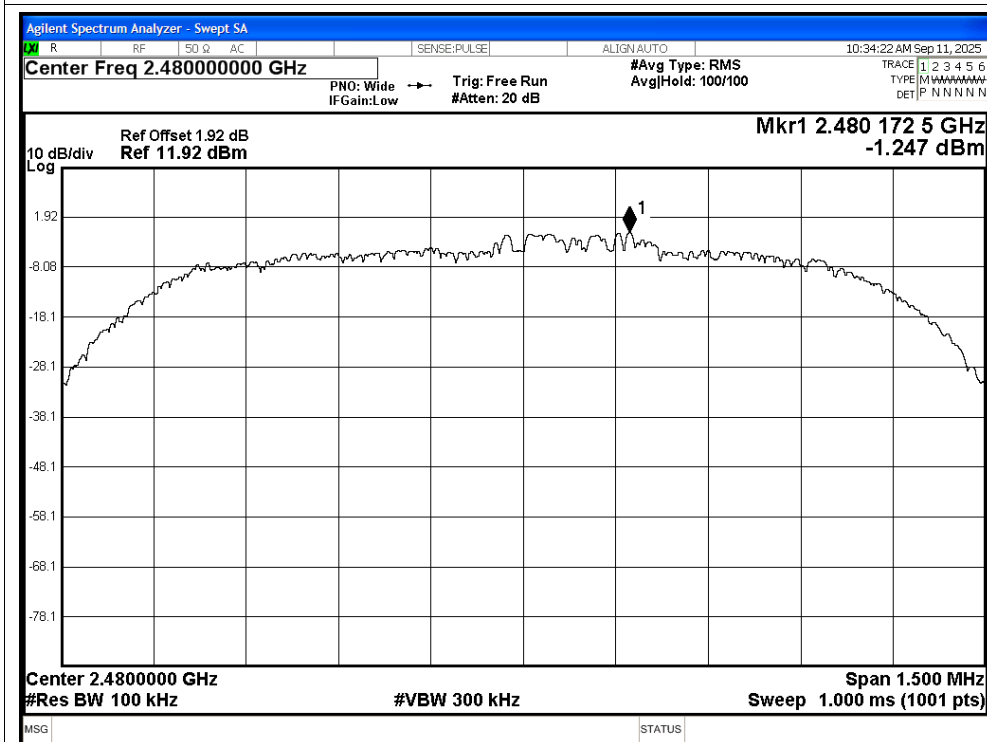
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



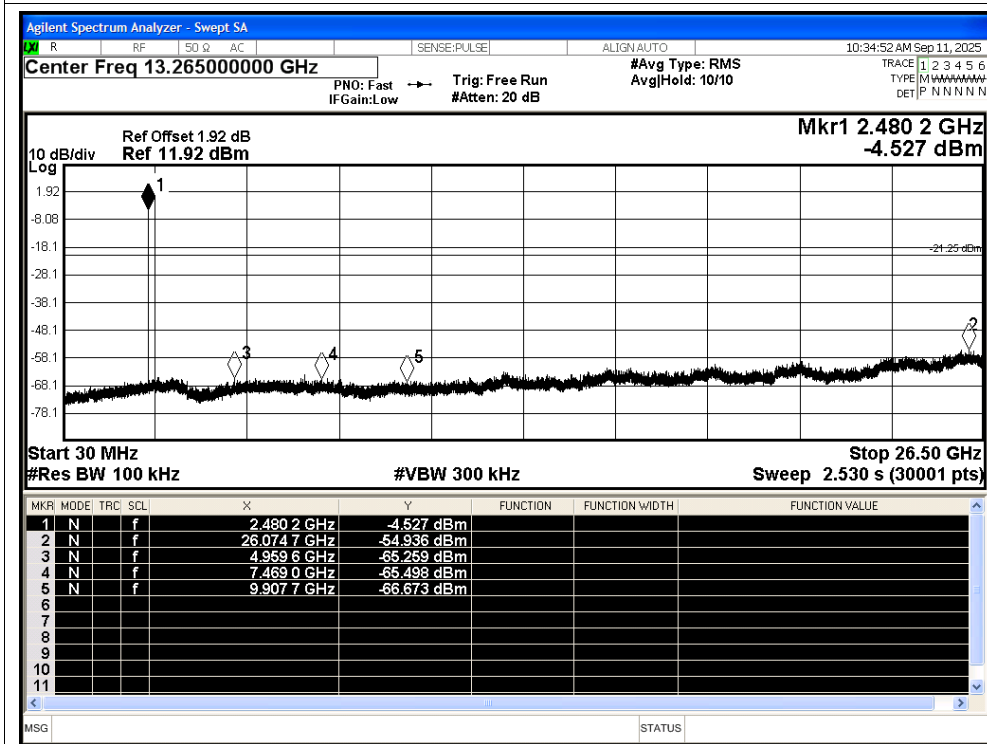
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



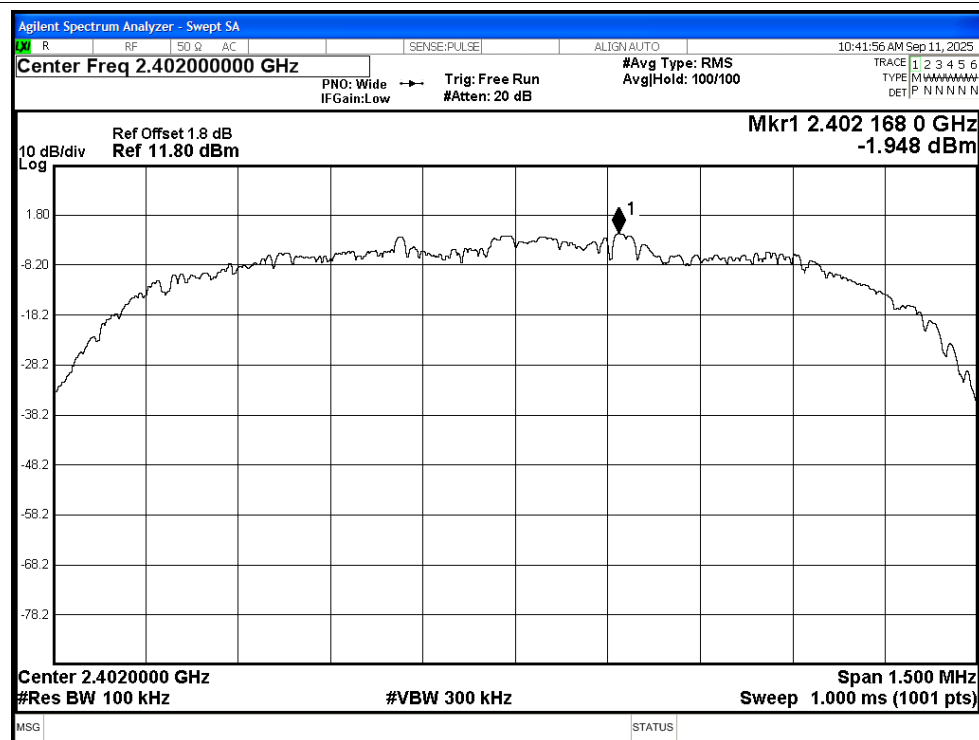
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



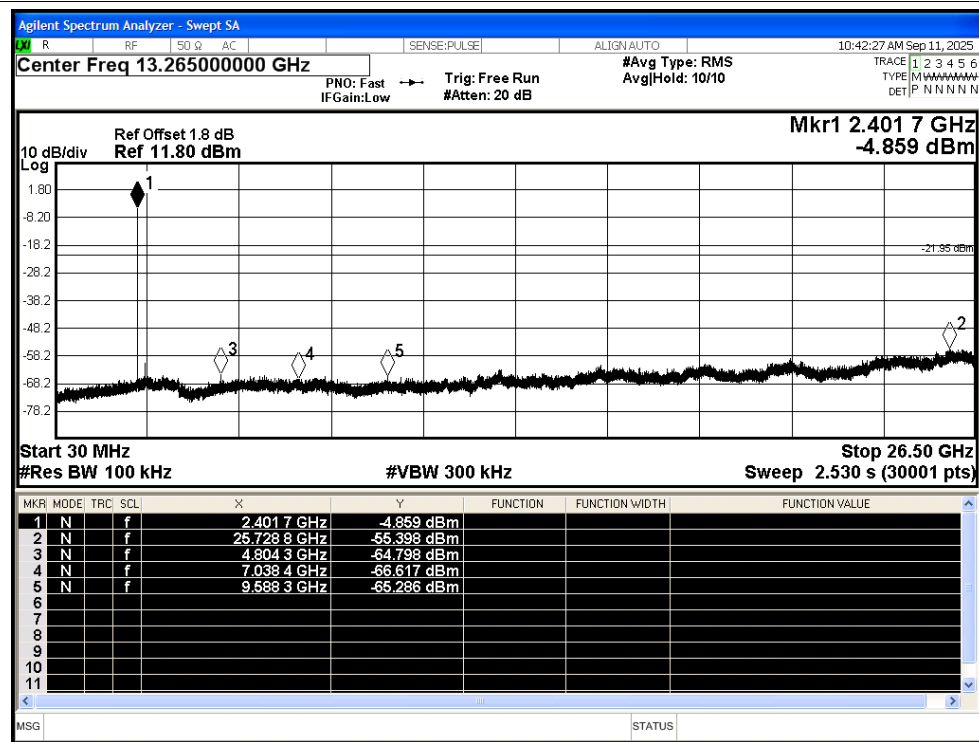
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



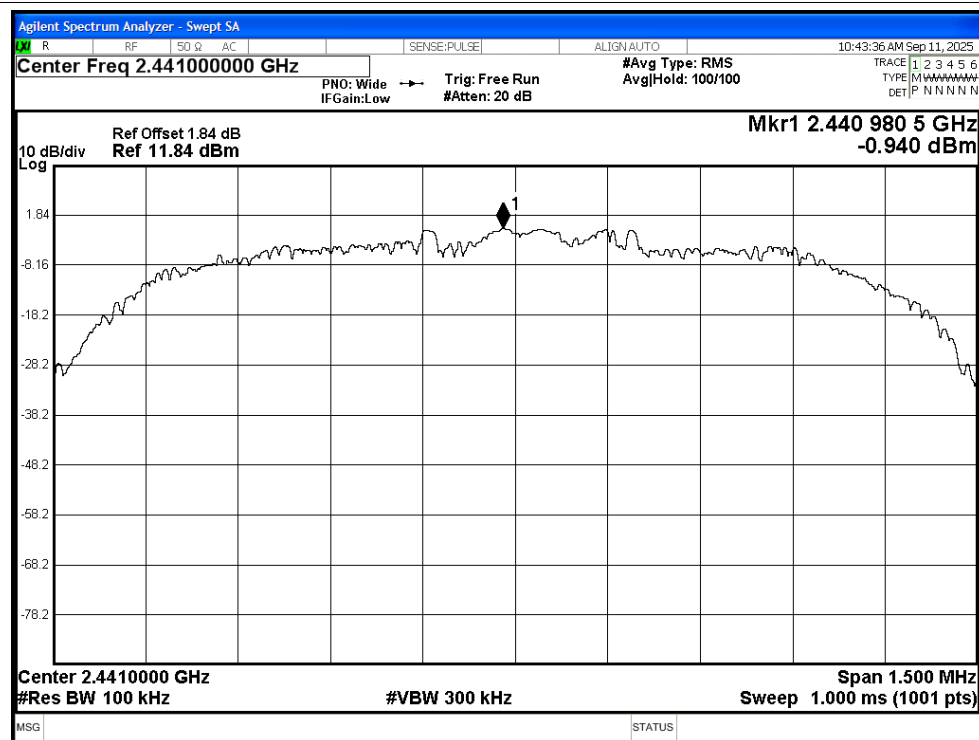
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



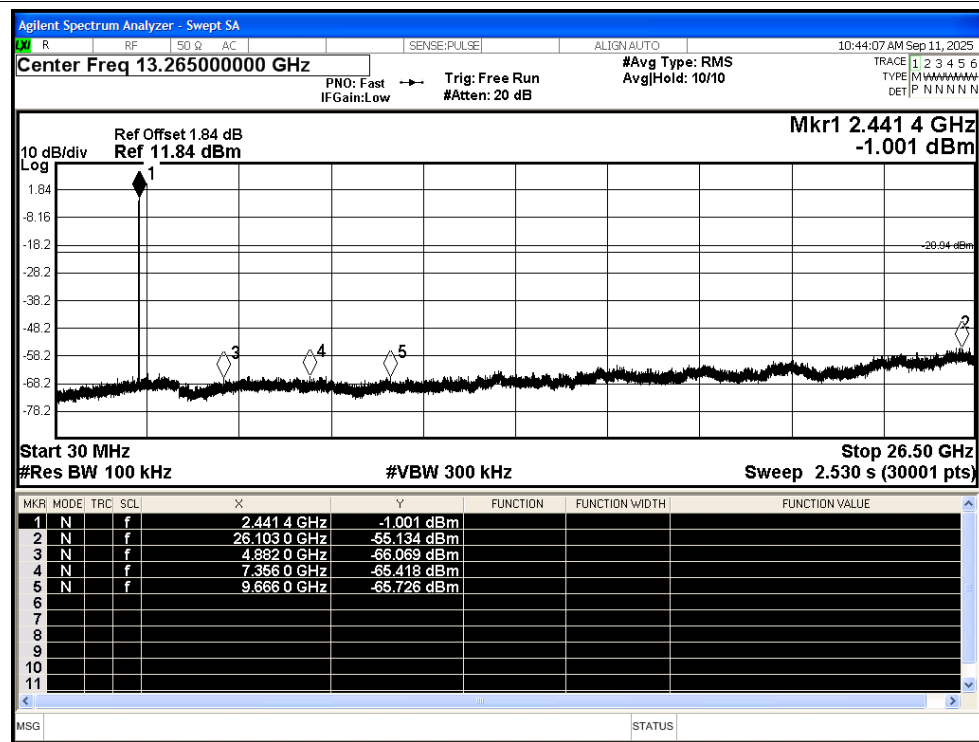
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



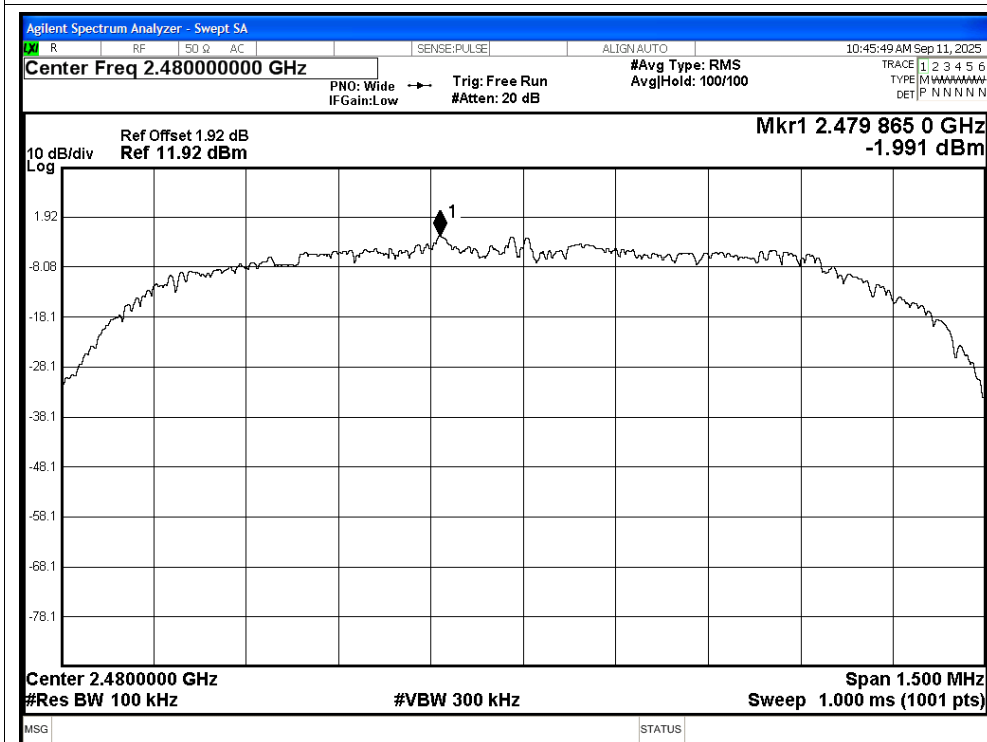
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



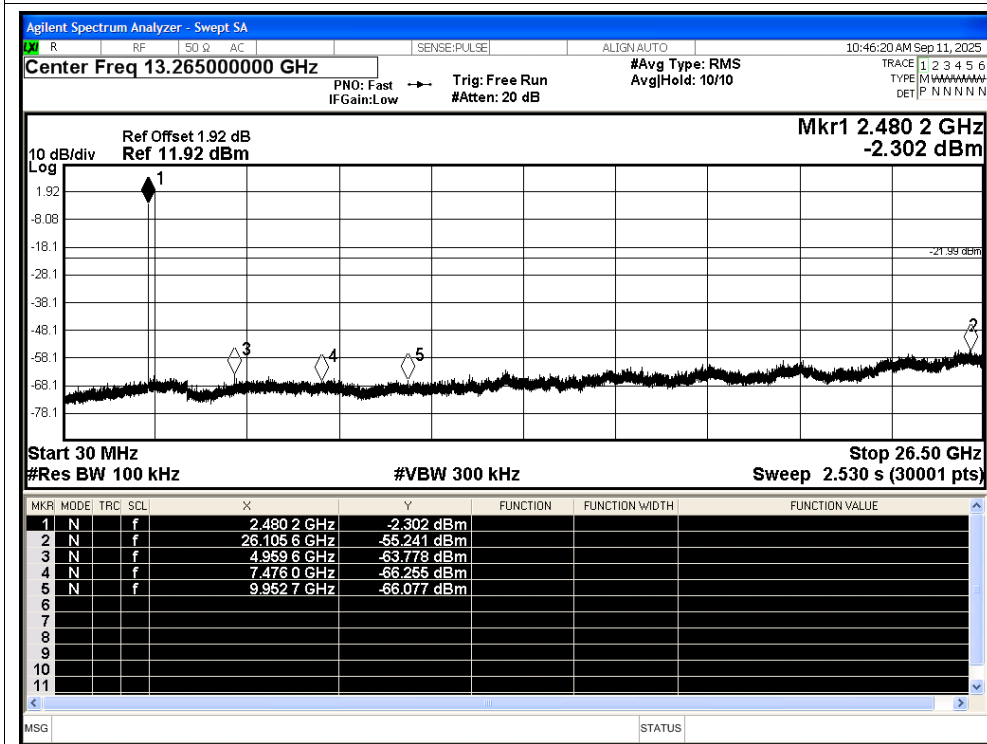
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

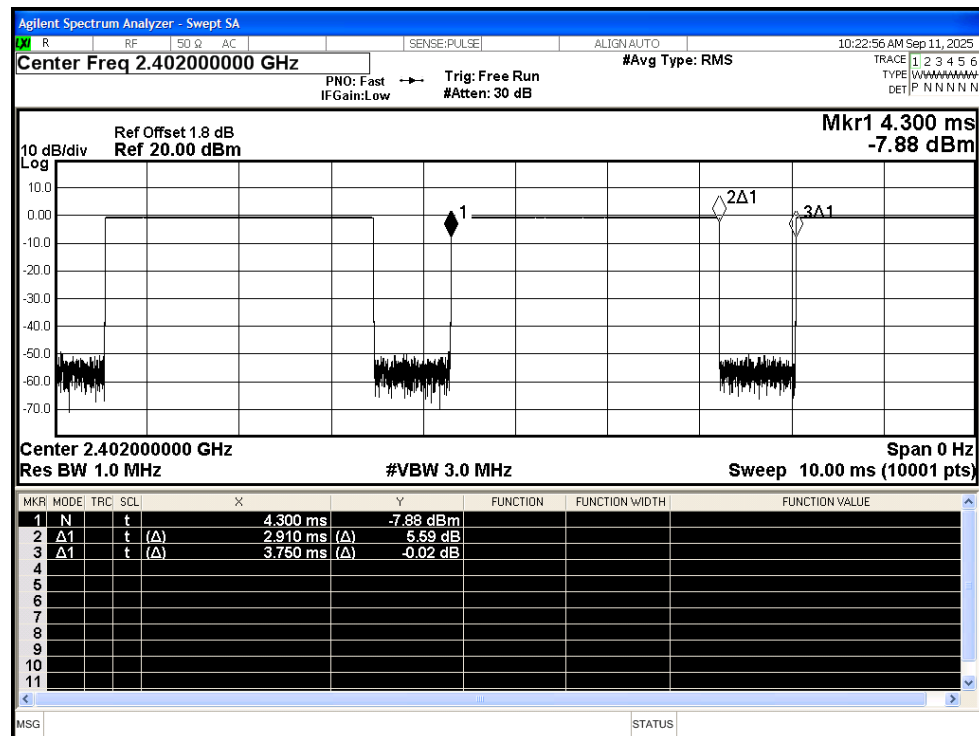


A.8 Duty Cycle

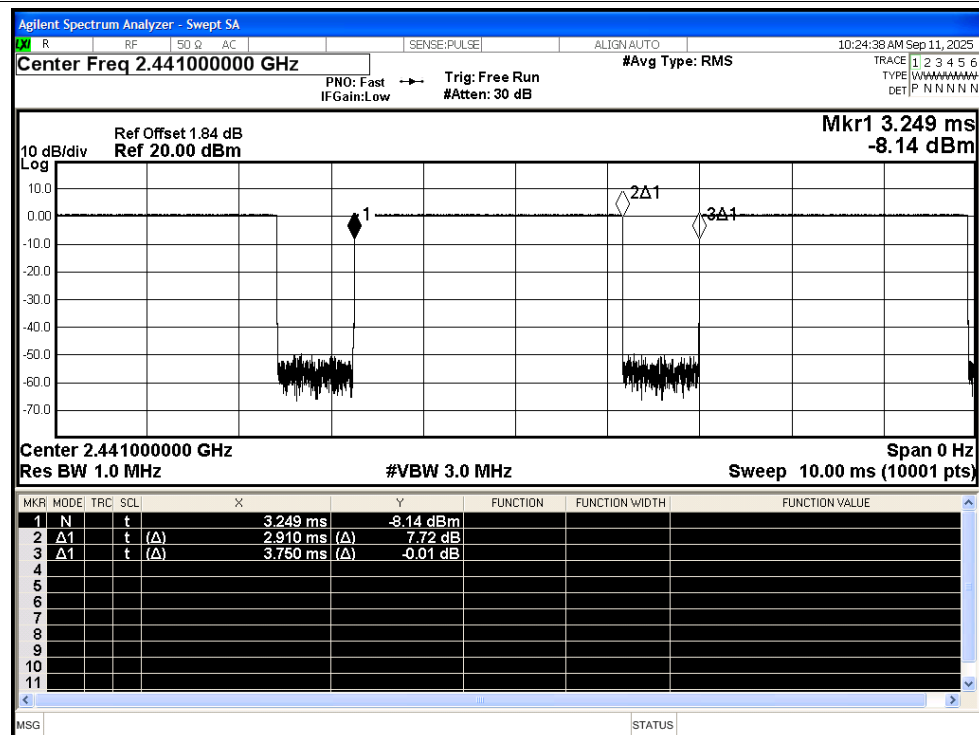
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34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

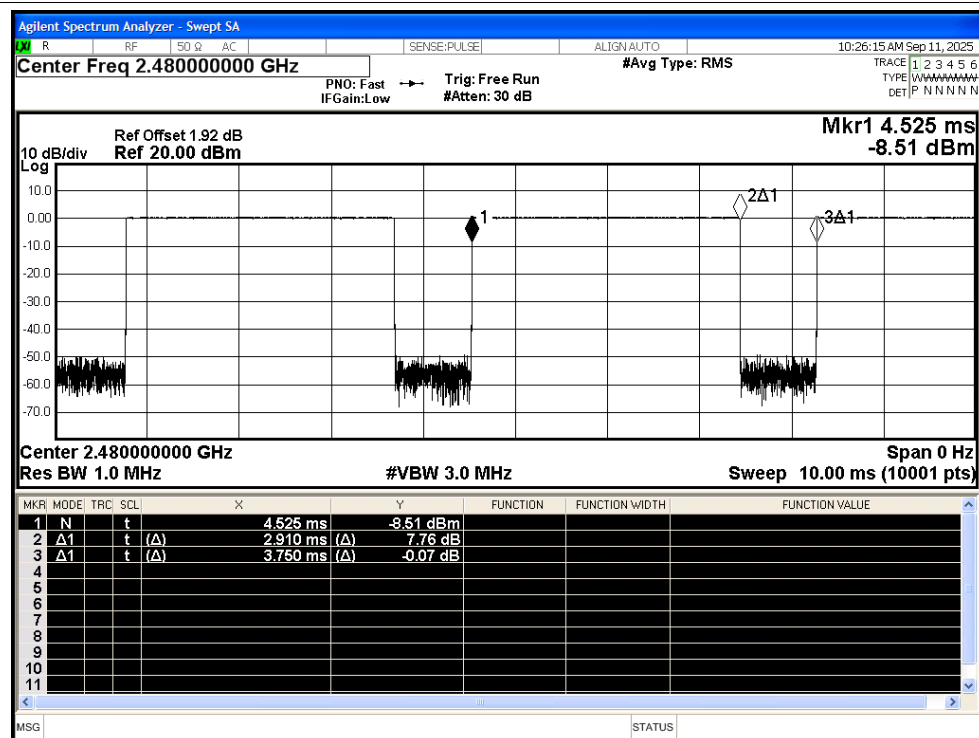
Duty Cycle NVNT 1-DH5 2402MHz Ant1



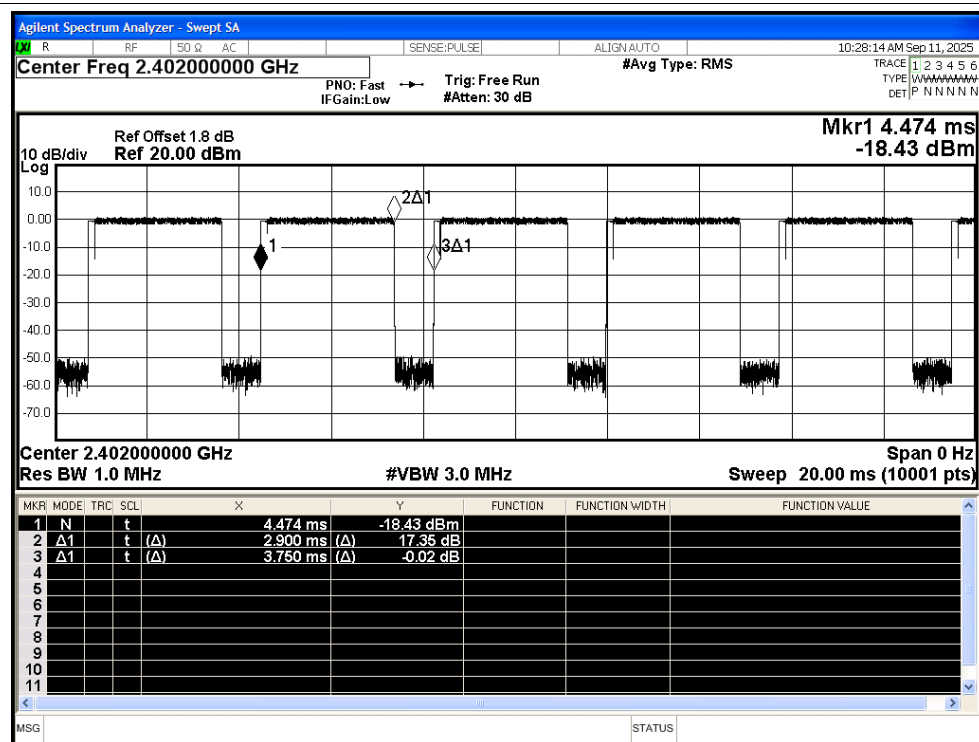
Duty Cycle NVNT 1-DH5 2441MHz Ant1



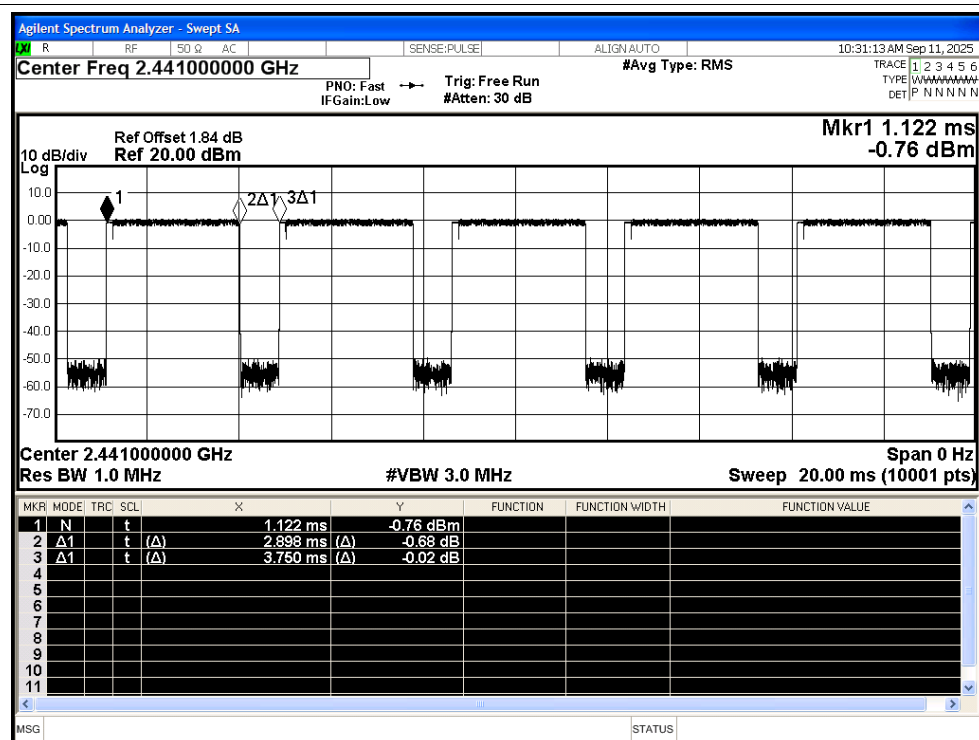
Duty Cycle NVNT 1-DH5 2480MHz Ant1



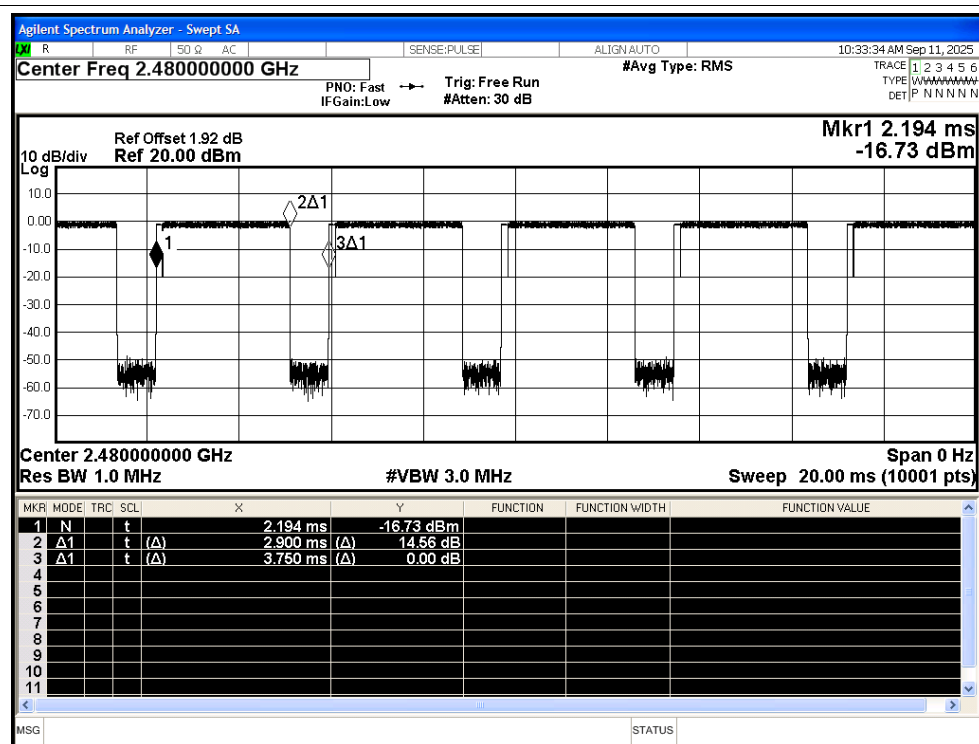
Duty Cycle NVNT 2-DH5 2402MHz Ant1



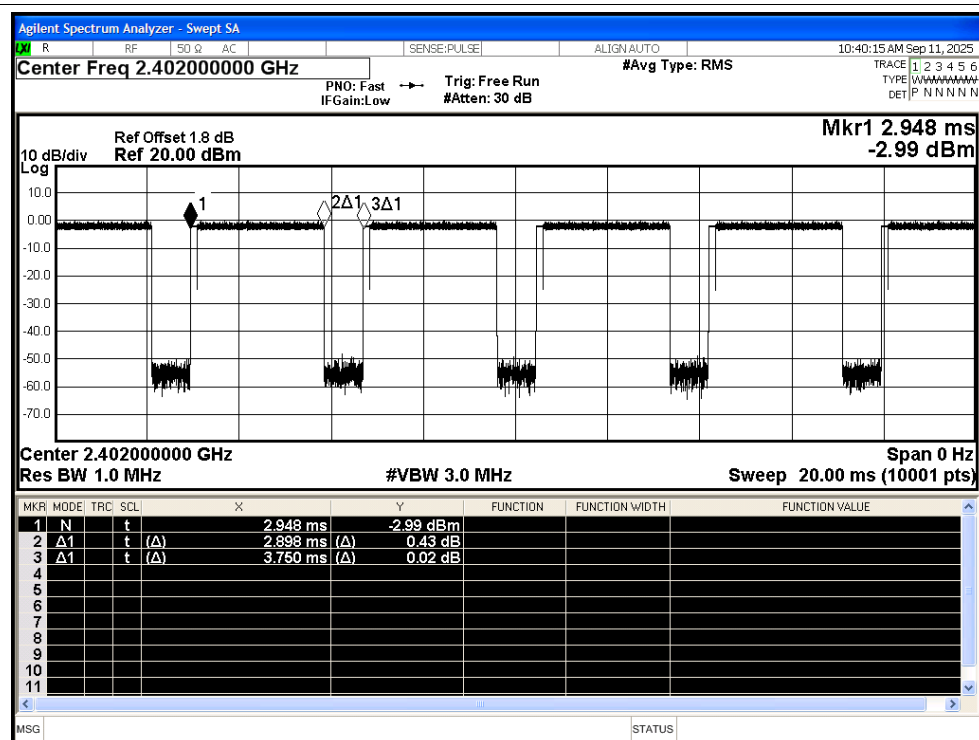
Duty Cycle NVNT 2-DH5 2441MHz Ant1



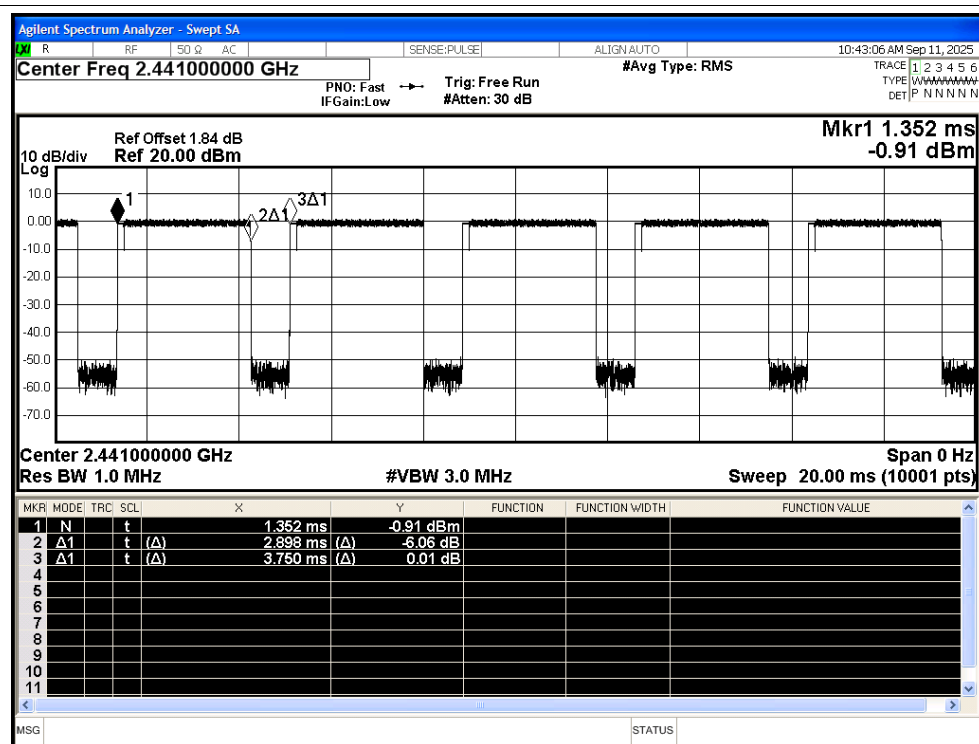
Duty Cycle NVNT 2-DH5 2480MHz Ant1

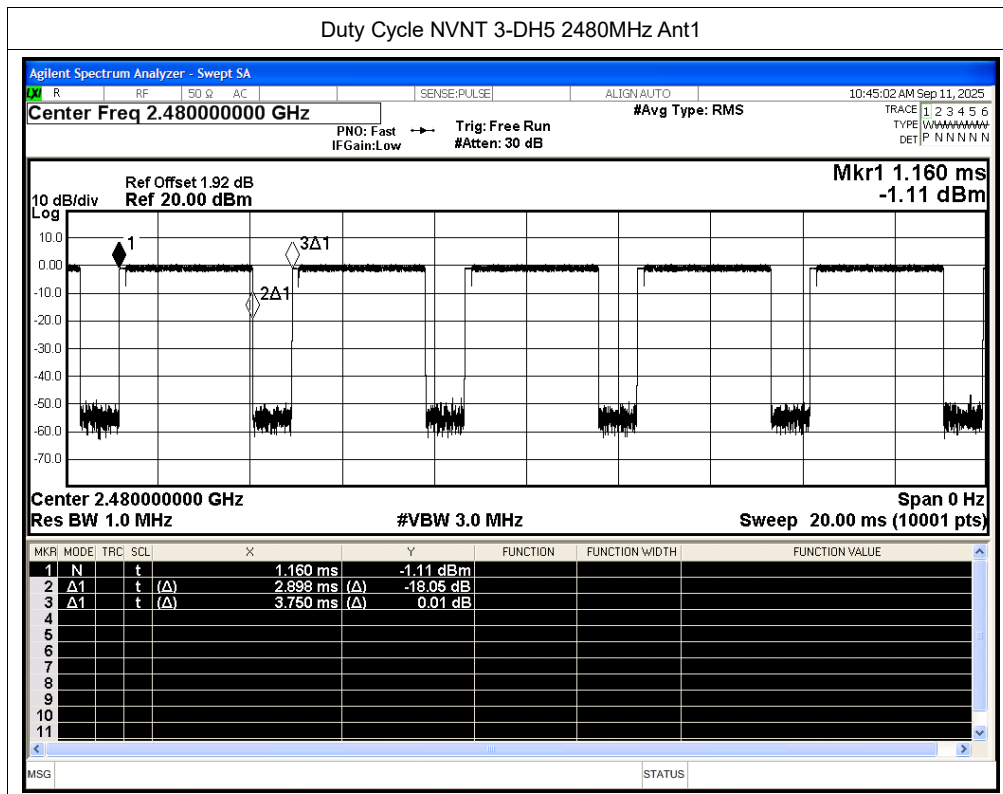


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



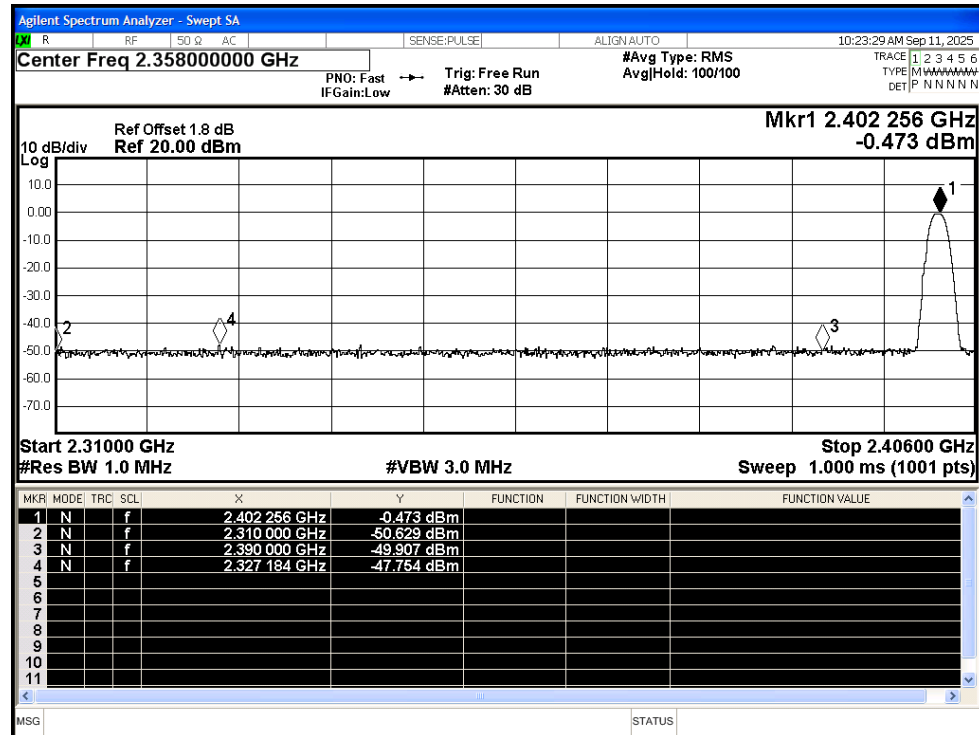


A.9 Restrict Band

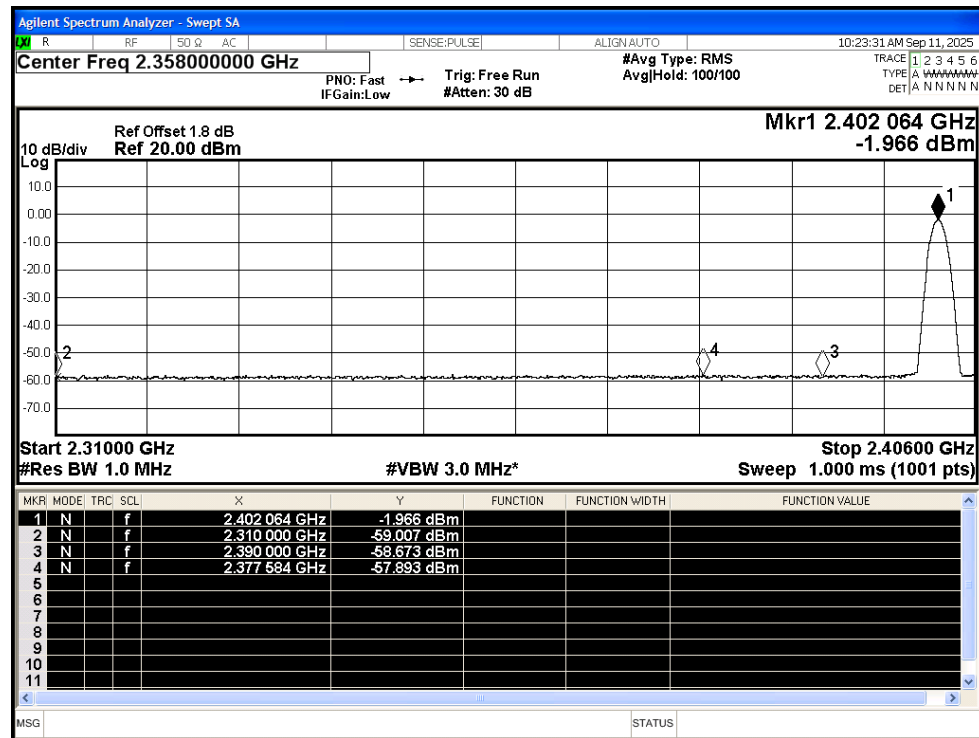
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.63	2	-	46.63	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.01	2	1.1	39.35	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2327.184	-47.75	2	-	49.51	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.584	-57.89	2	1.1	40.47	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.91	2	-	47.35	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.67	2	1.1	39.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.52	2	-	46.74	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.64	2	1.1	40.72	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.632	-45.44	2	-	51.82	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.928	-57.26	2	1.1	41.1	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.76	2	-	47.5	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.58	2	1.1	39.78	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-48.58	2	-	48.68	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.05	2	1.12	39.33	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2365.872	-47.15	2	-	50.11	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.168	-57.77	2	1.12	40.61	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.44	2	-	46.82	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.37	2	1.12	40.01	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-46.82	2	-	50.44	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-56.61	2	1.12	41.77	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.848	-45.18	2	-	52.08	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.704	-56.44	2	1.12	41.94	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.18	2	-	49.08	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.23	2	1.12	40.15	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.02	2	-	46.24	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.95	2	1.12	39.43	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2336.88	-48.01	2	-	49.25	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2349.744	-57.6	2	1.12	40.78	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.43	2	-	46.83	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.73	2	1.12	39.65	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-45.99	2	-	51.27	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-56.16	2	1.12	42.22	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.656	-45.37	2	-	51.89	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.776	-56.02	2	1.12	42.36	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.24	2	-	48.02	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.79	2	1.12	40.59	Average	54	Pass

Test Graphs

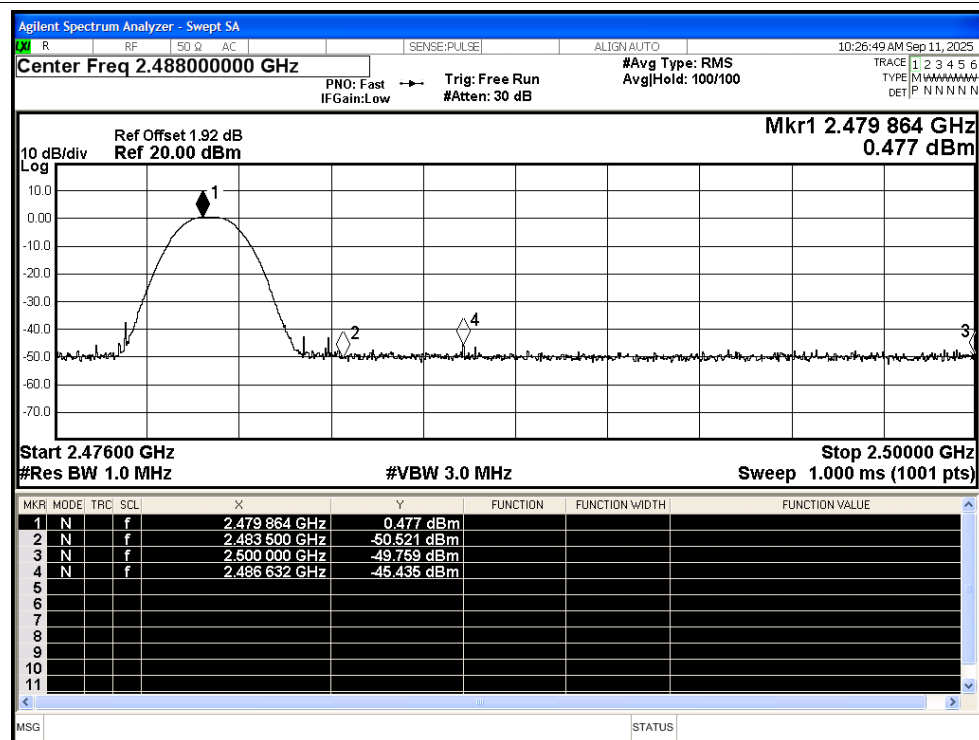
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



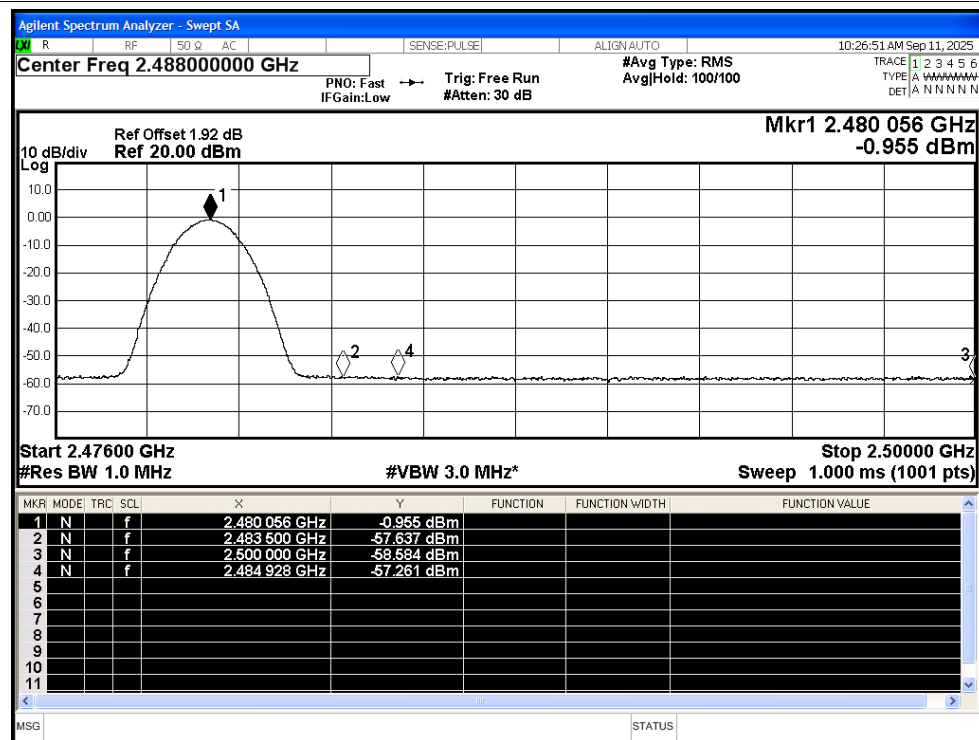
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

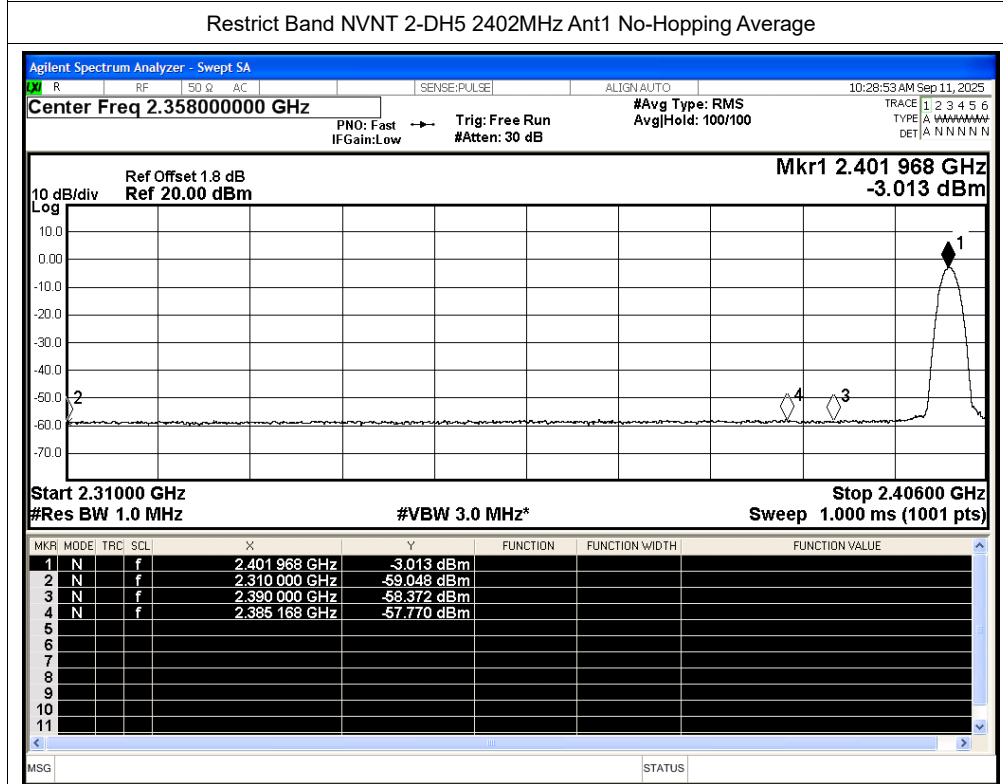
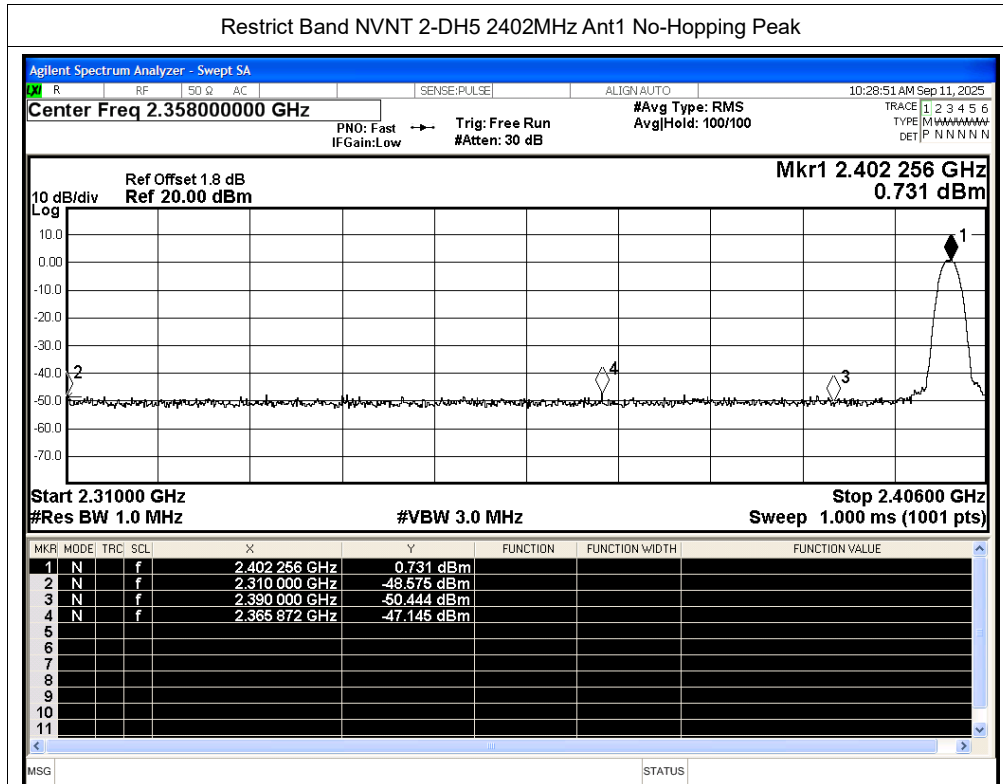


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

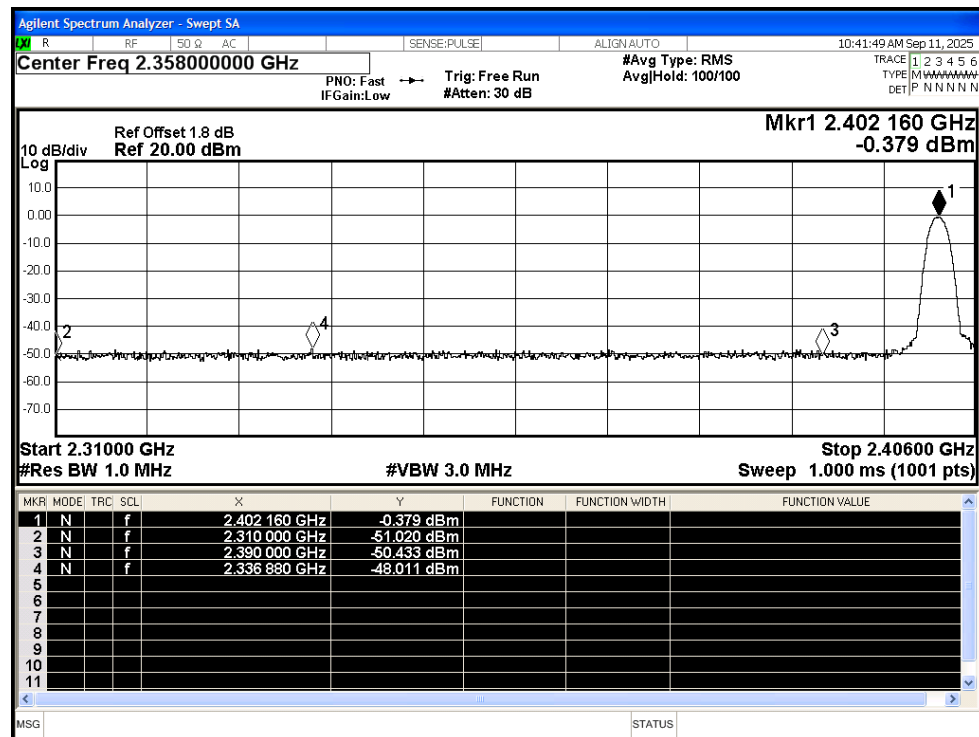


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

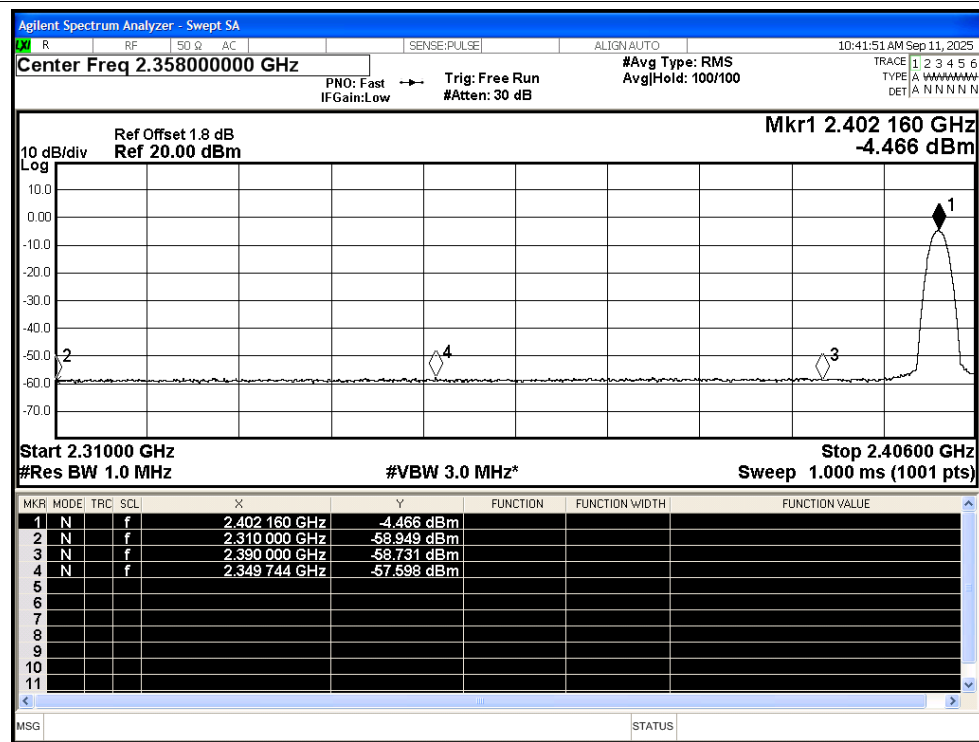




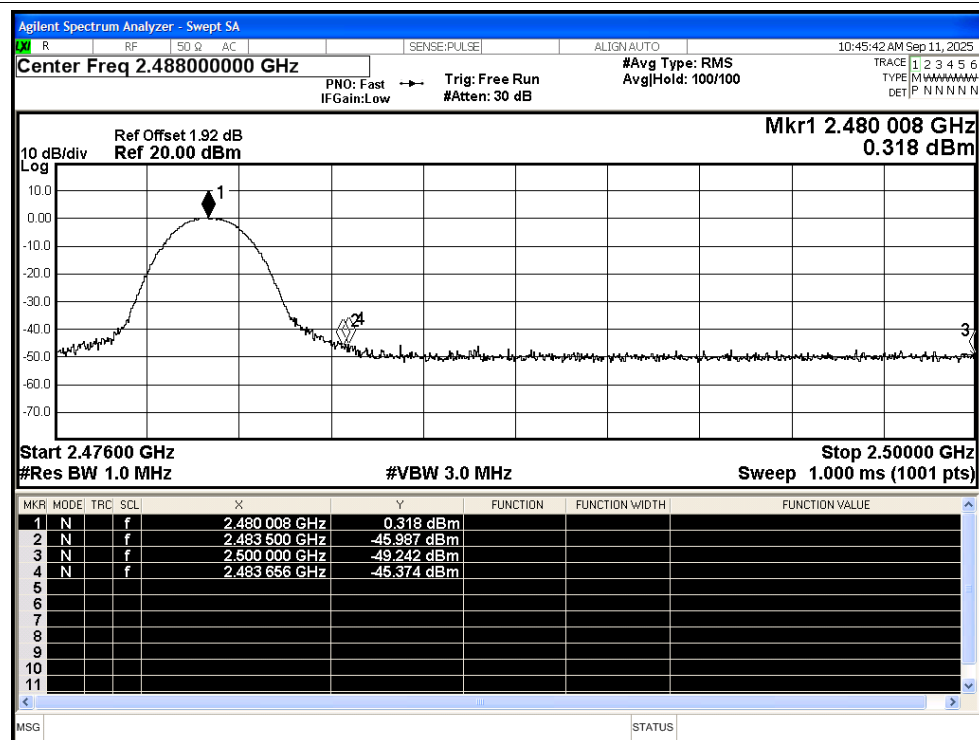
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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

