

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Multifunctional Light and Sound Power Supply

Test Model: FL9-A

Environmental Conditions

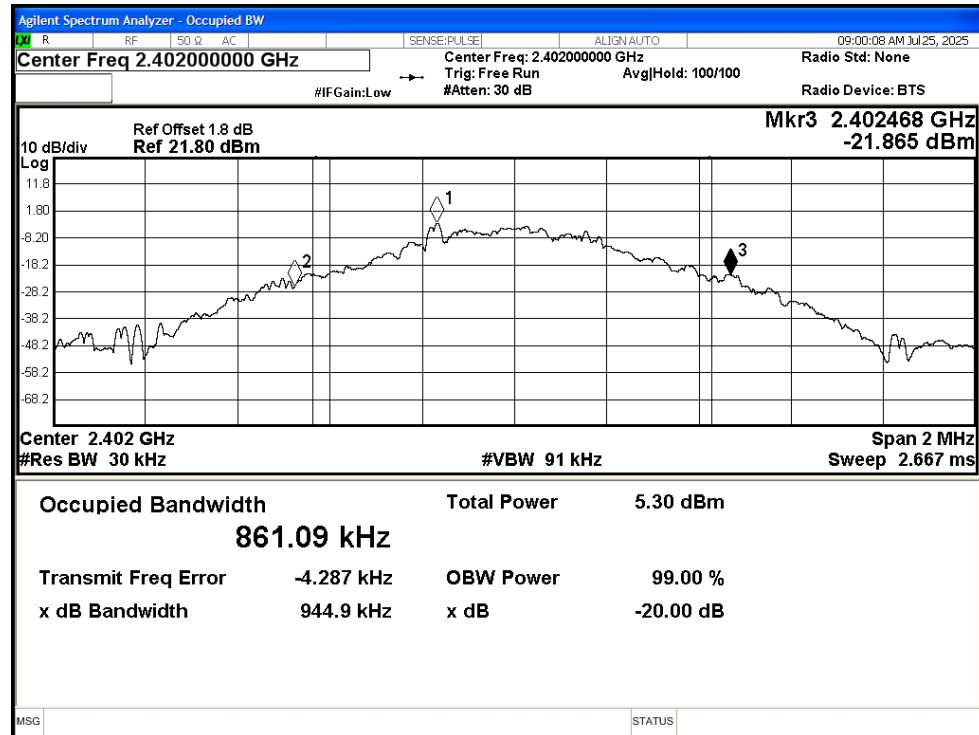
Temperature:	23.8°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.945	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.018	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.279	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.31	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.291	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.303	N/A	Pass

Test Graphs

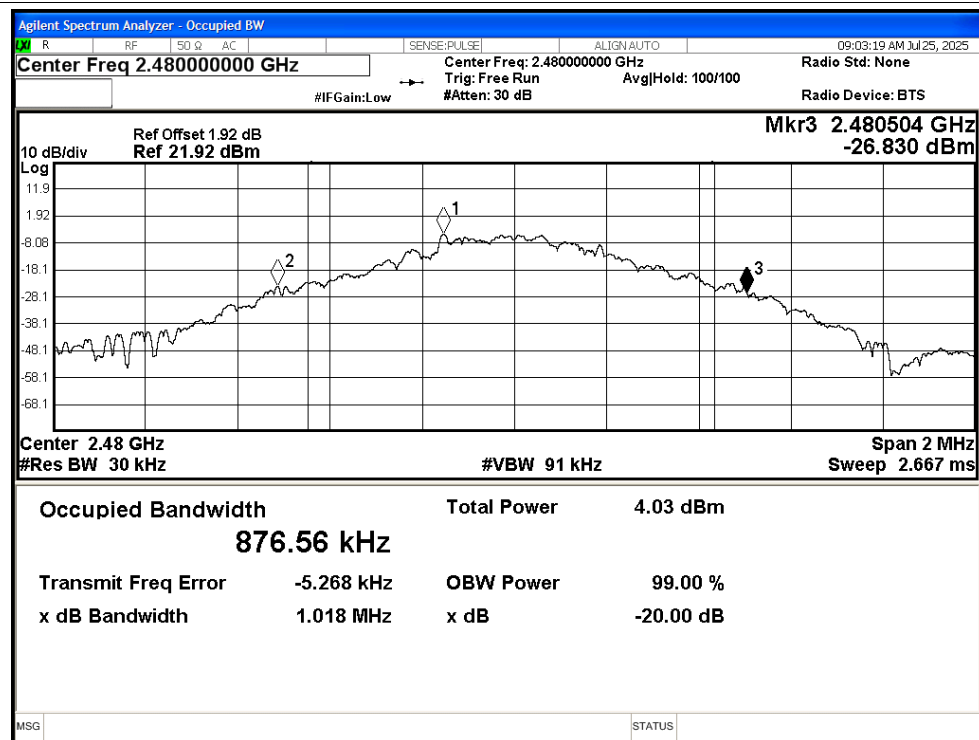
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



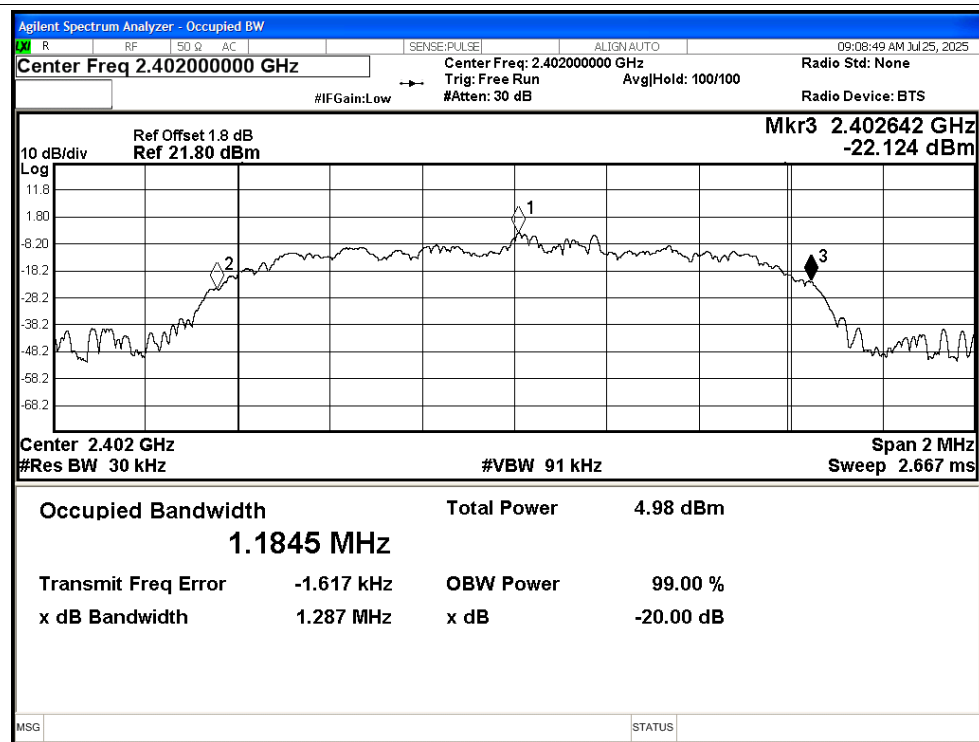
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



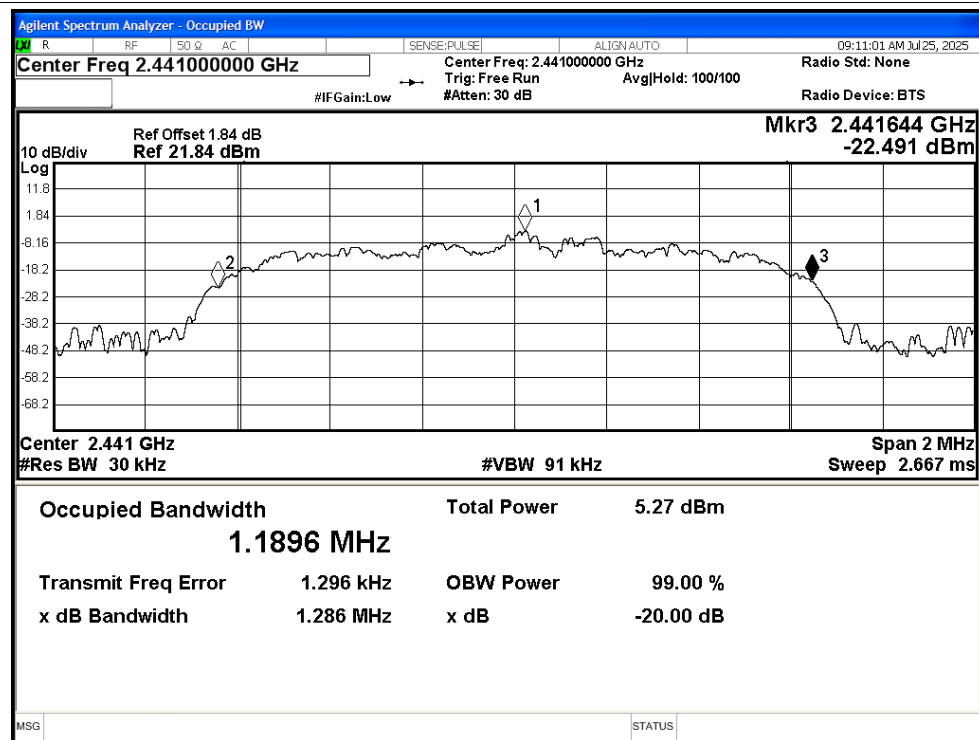
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



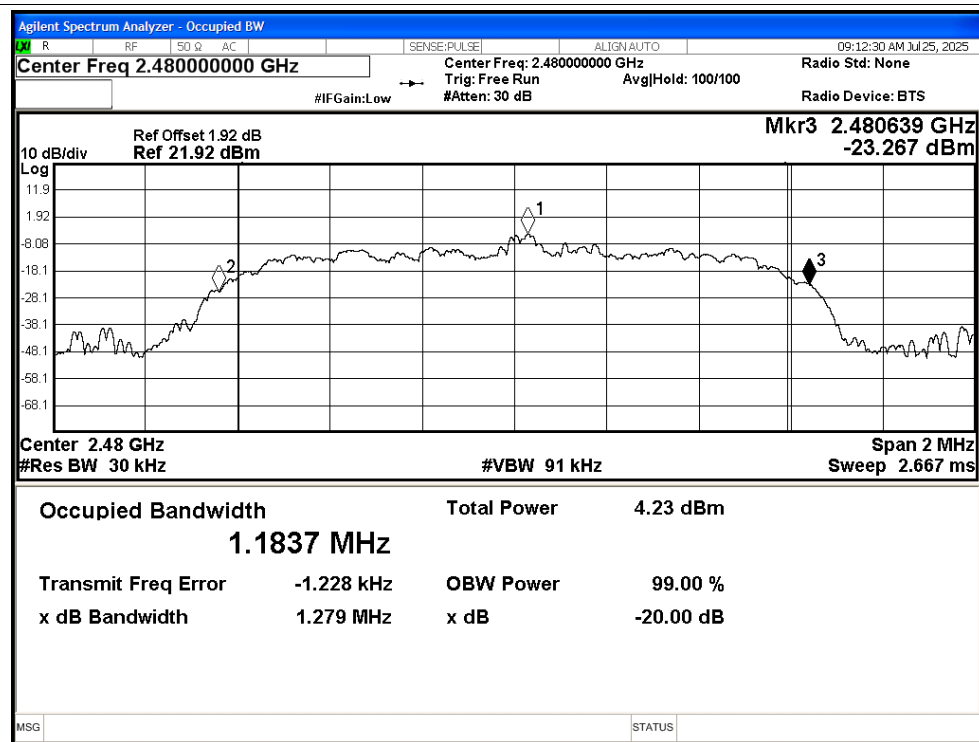
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



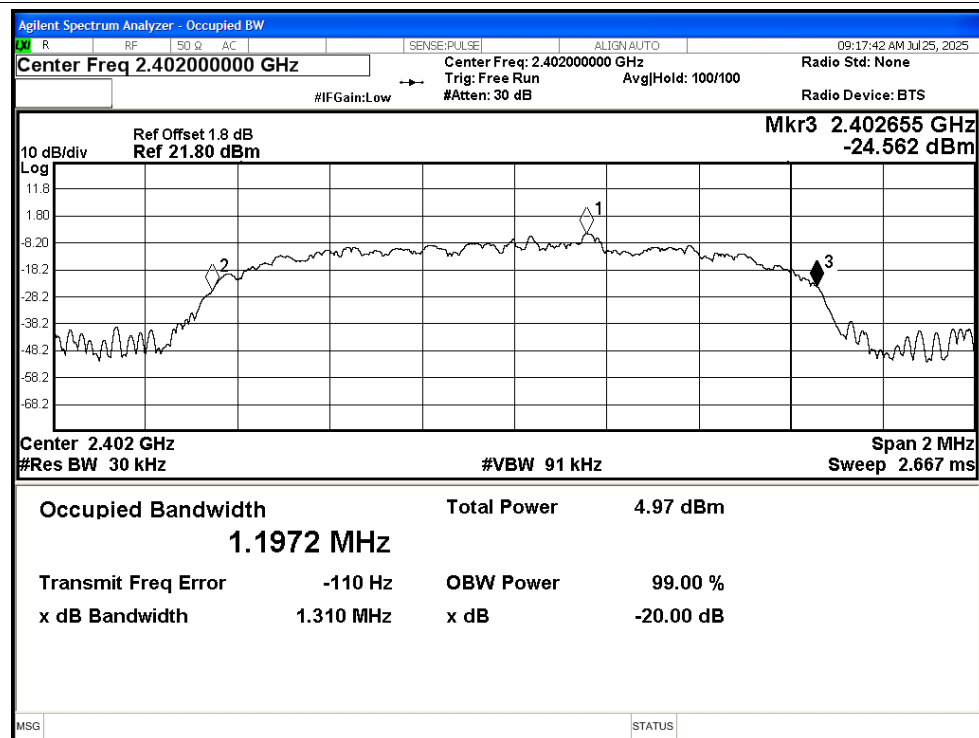
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



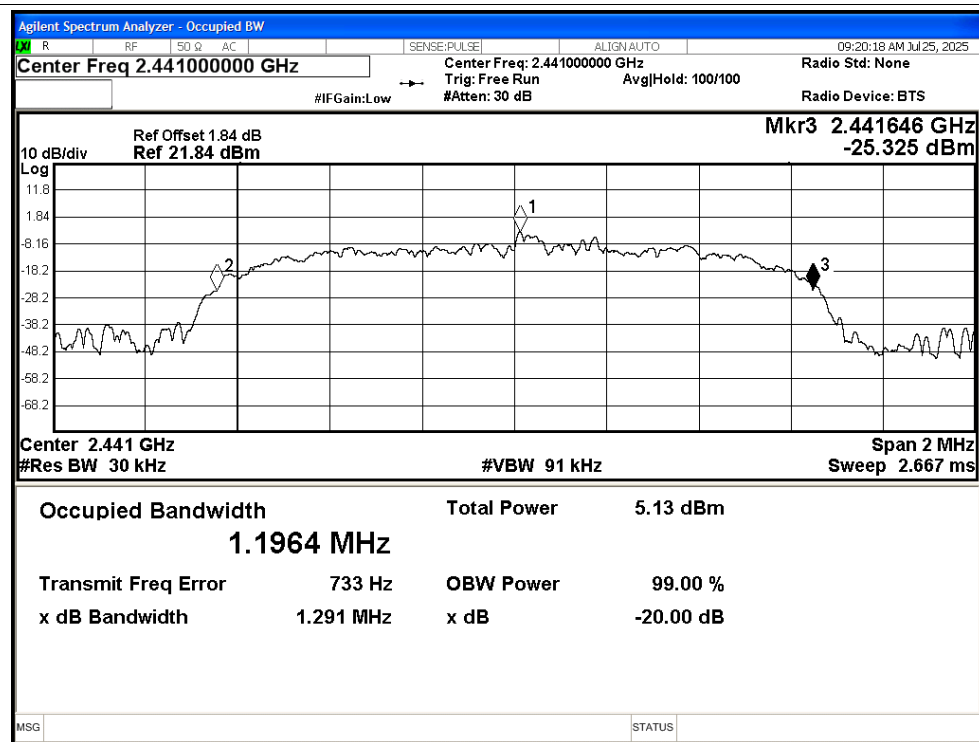
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

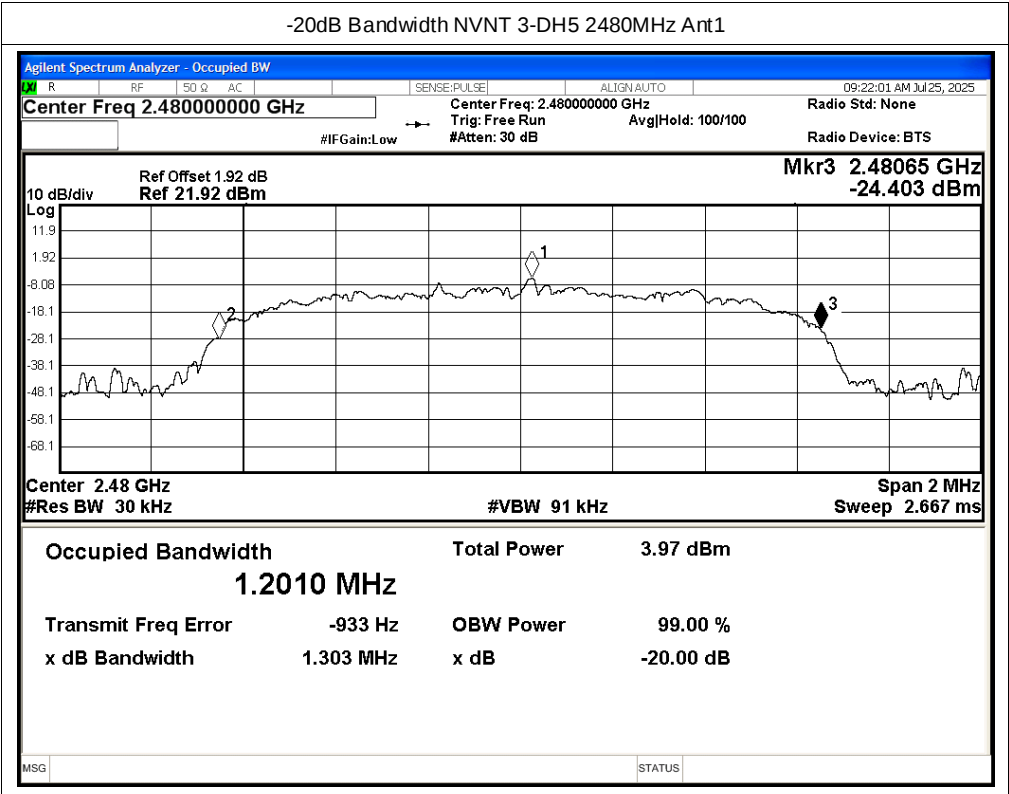


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



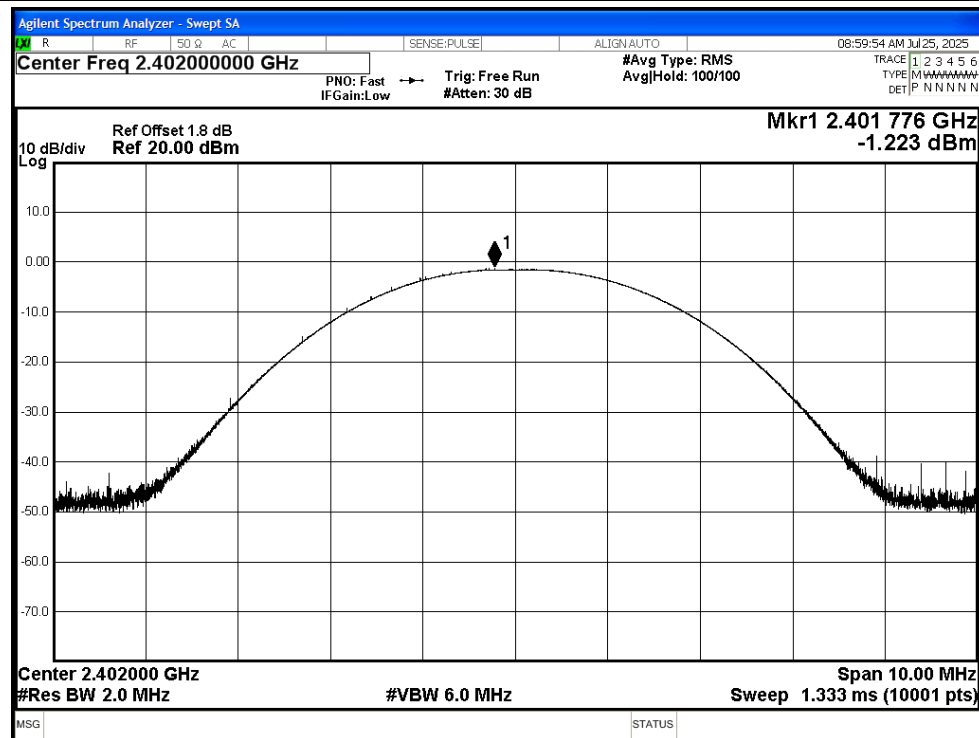


A.2 Maximum Peak Conducted Output Power

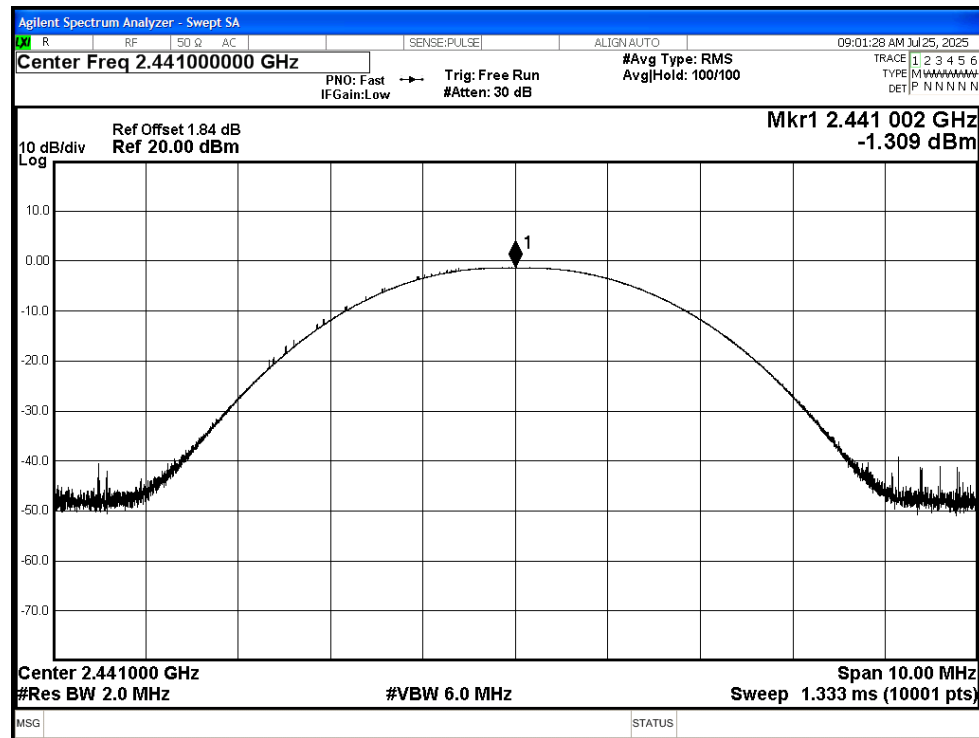
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.22	21	Pass
NVNT	1-DH5	2441	Ant1	-1.31	21	Pass
NVNT	1-DH5	2480	Ant1	-1.99	21	Pass
NVNT	2-DH5	2402	Ant1	0.63	21	Pass
NVNT	2-DH5	2441	Ant1	0.93	21	Pass
NVNT	2-DH5	2480	Ant1	-0.17	21	Pass
NVNT	3-DH5	2402	Ant1	1.11	21	Pass
NVNT	3-DH5	2441	Ant1	1.39	21	Pass
NVNT	3-DH5	2480	Ant1	0.32	21	Pass

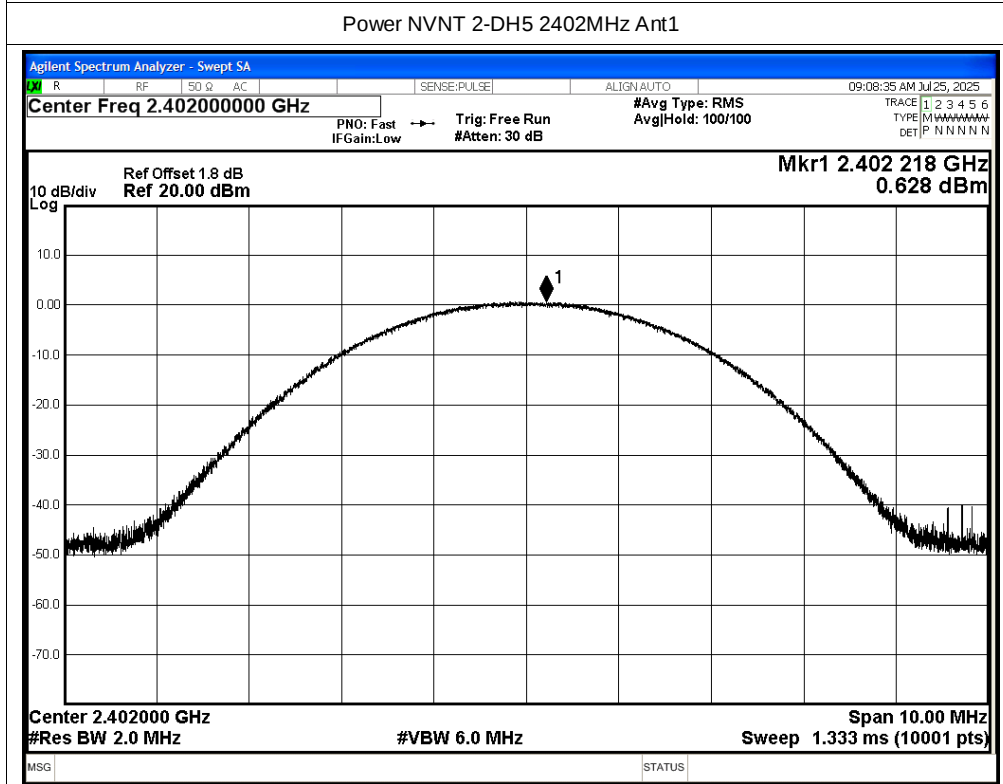
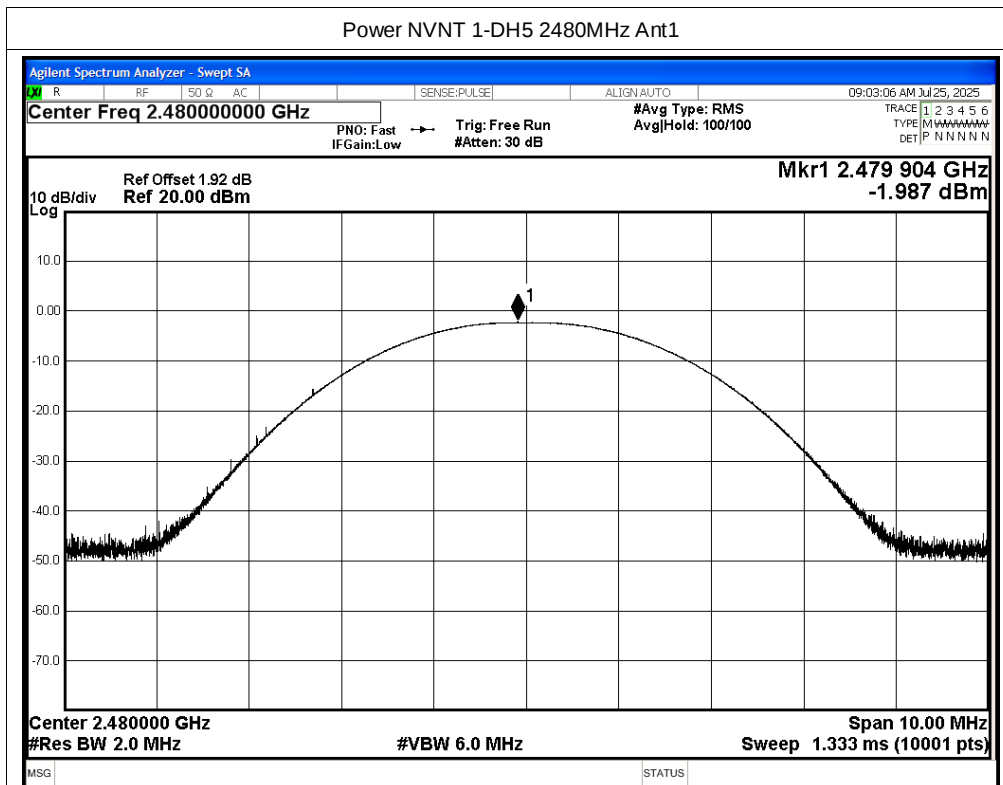
Test Graphs

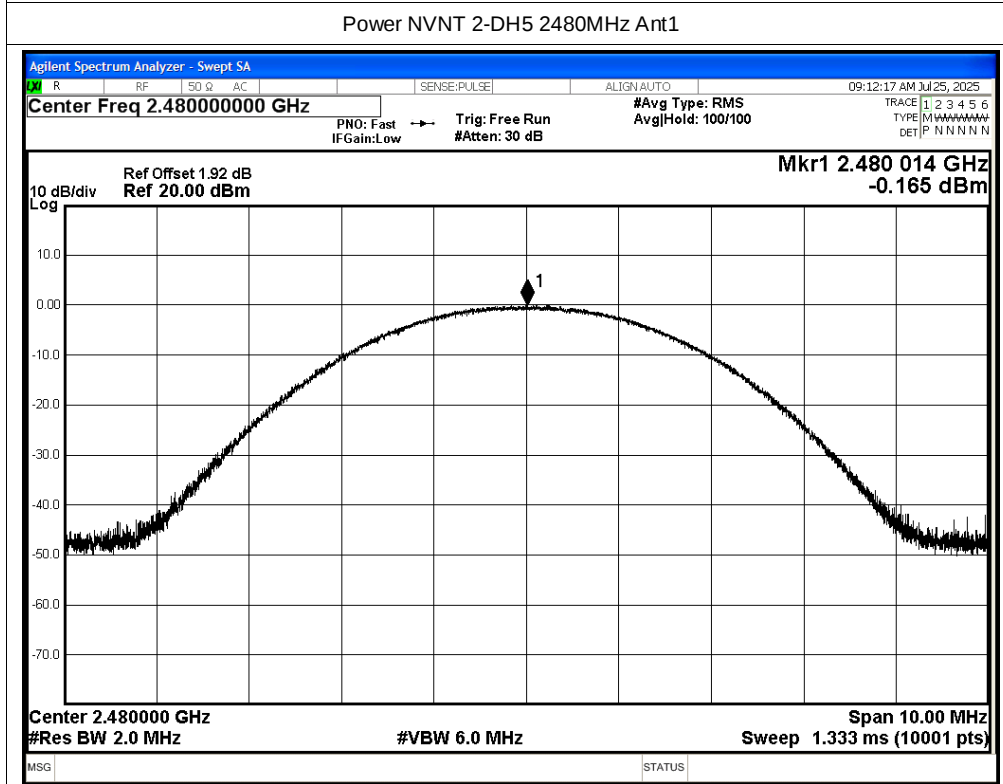
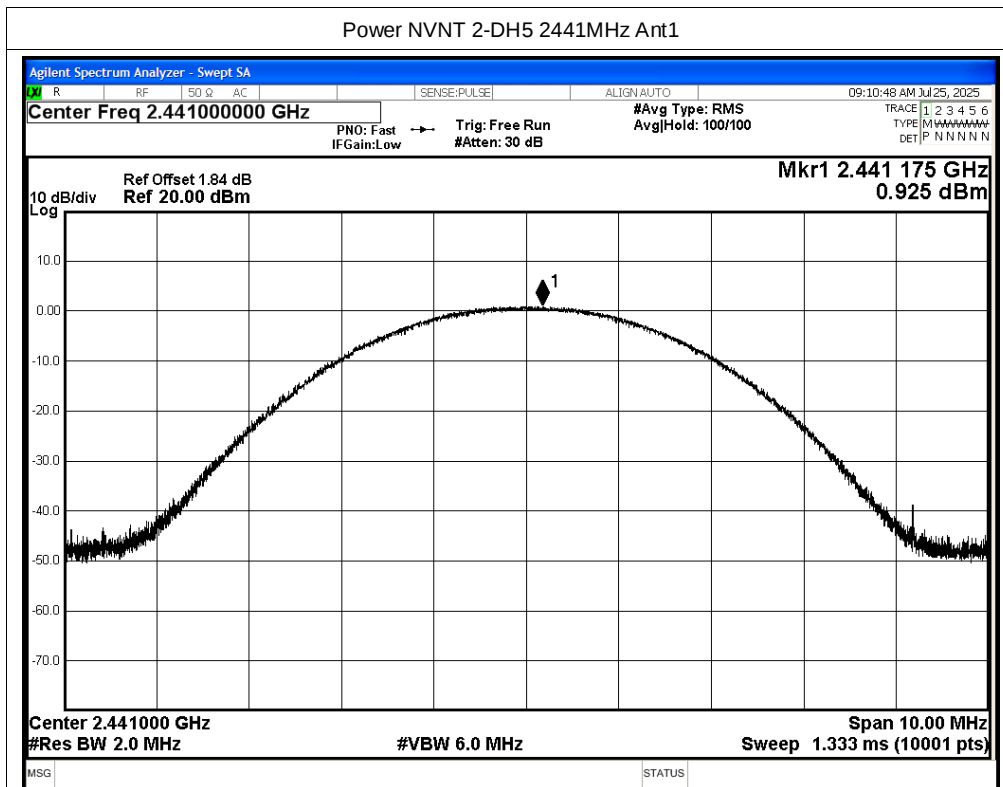
Power NVNT 1-DH5 2402MHz Ant1

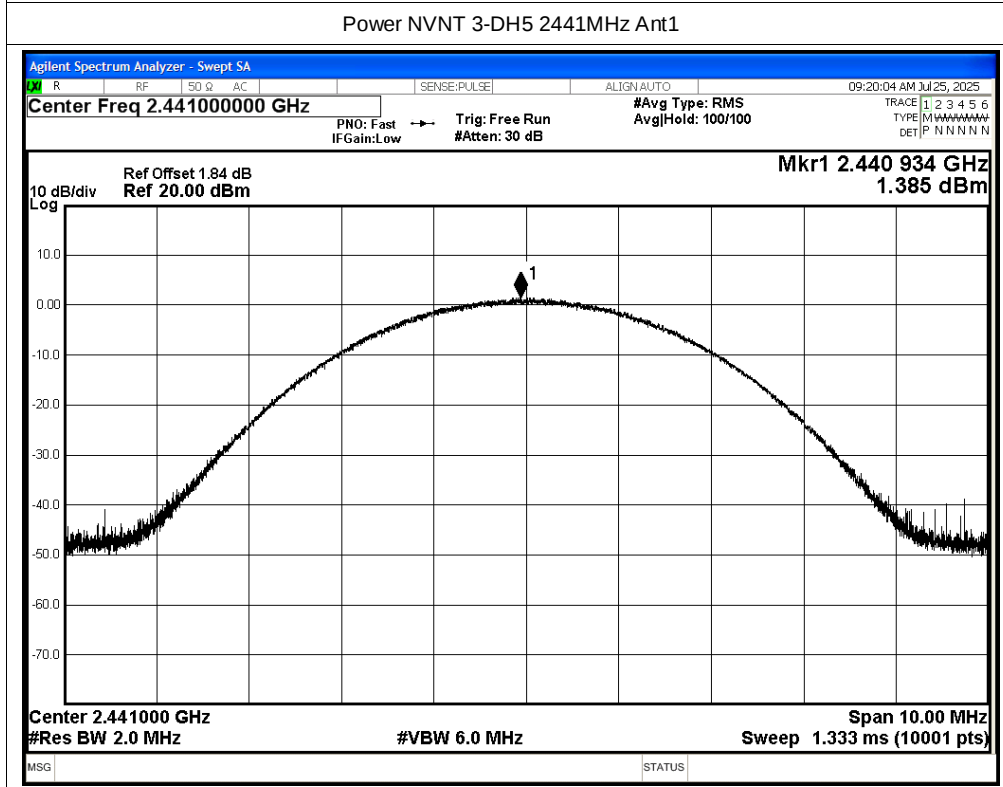
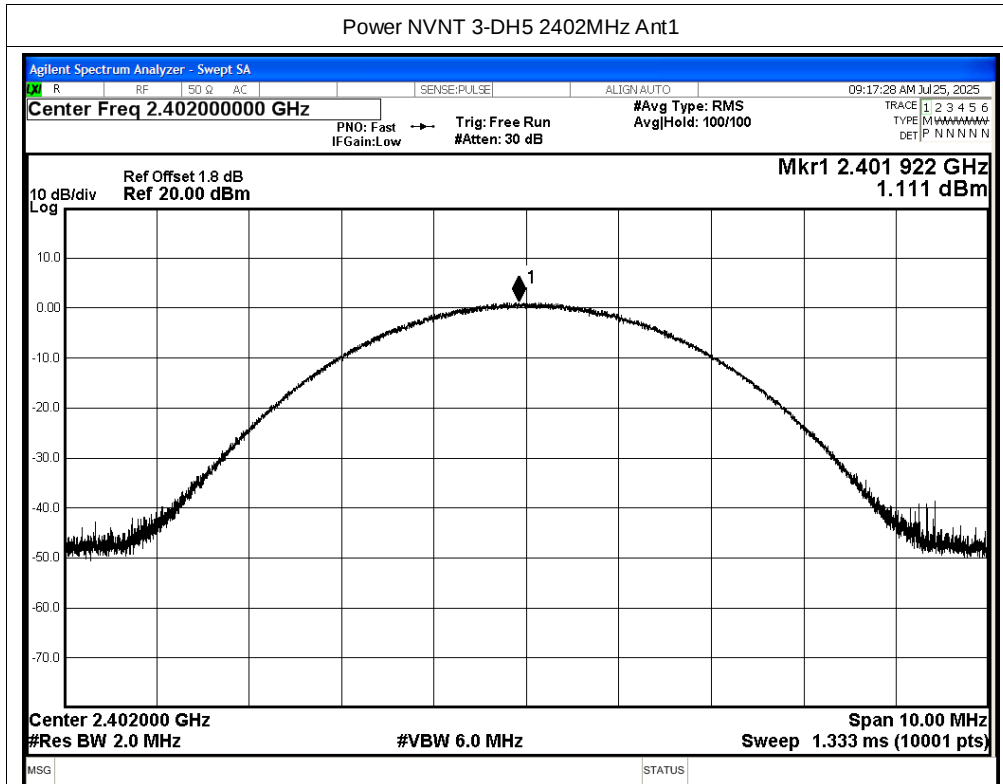


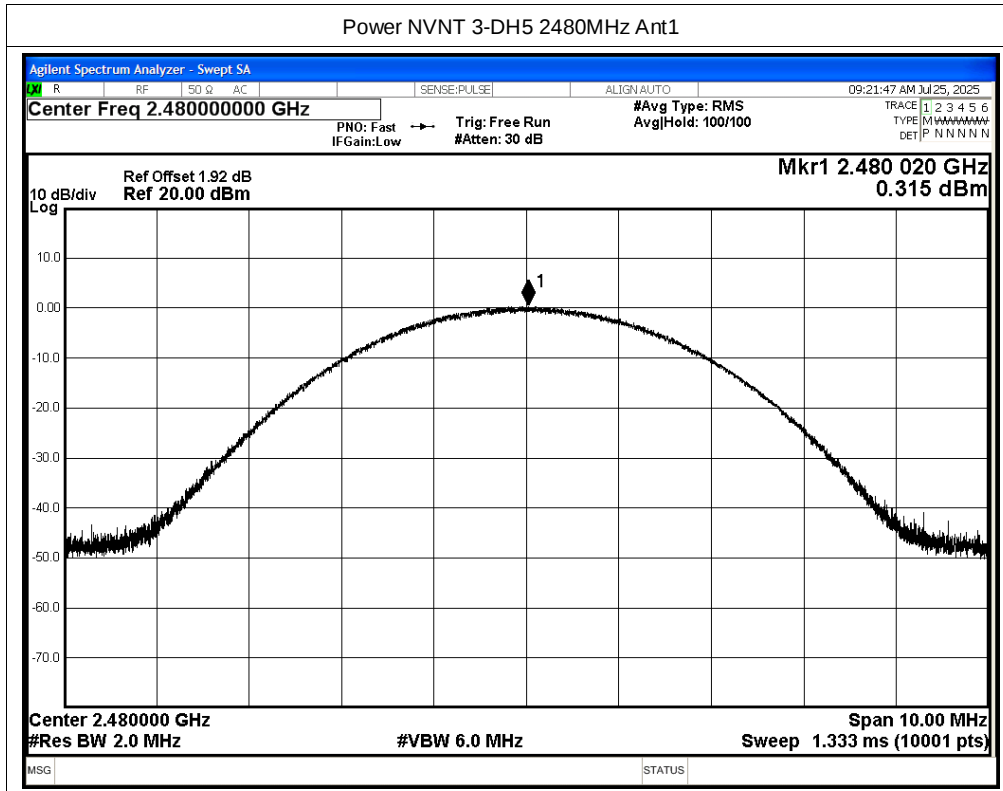
Power NVNT 1-DH5 2441MHz Ant1









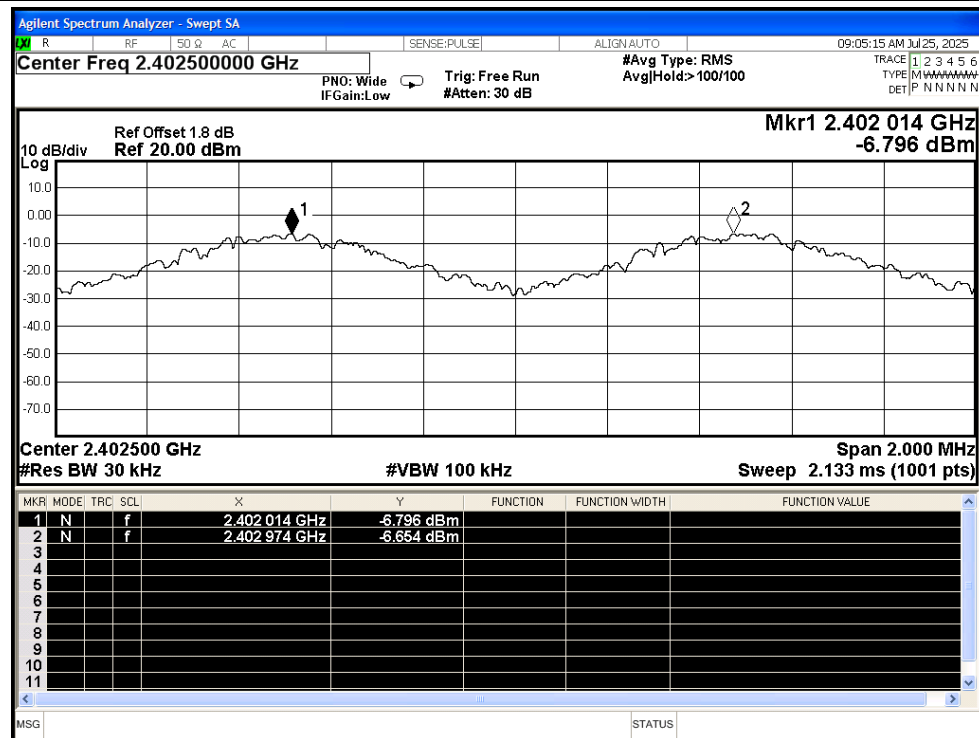


A.3 Carrier Frequencies Separation

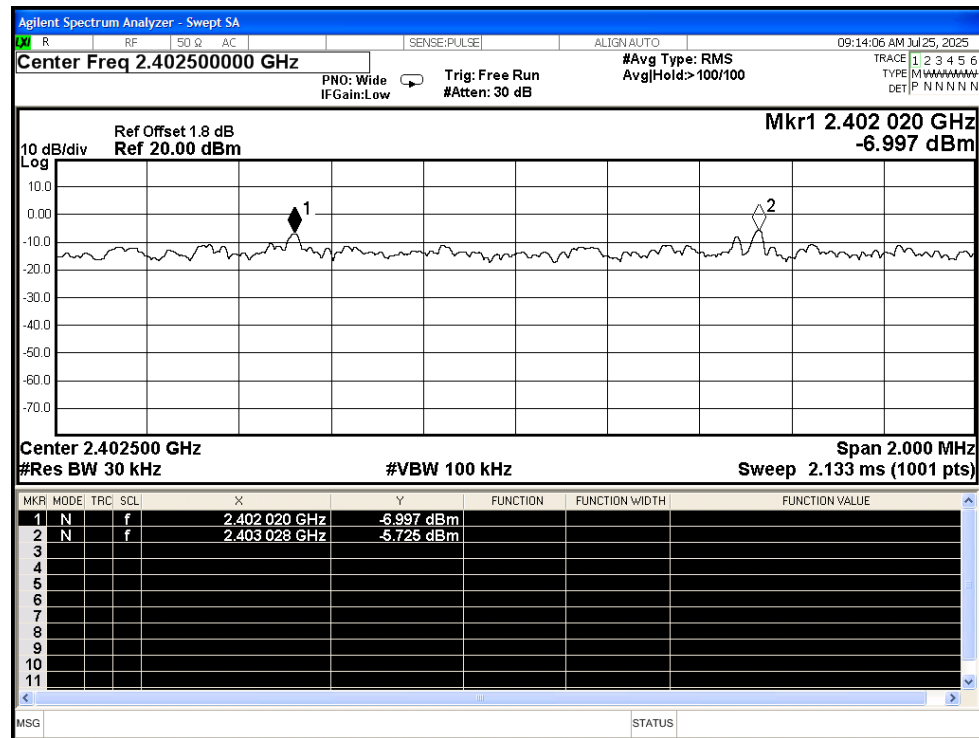
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.014	2402.974	0.96	0.679	Pass
NVNT	2-DH5	Ant1	2402.02	2403.028	1.008	0.858	Pass
NVNT	3-DH5	Ant1	2402.028	2403.008	0.98	0.873	Pass

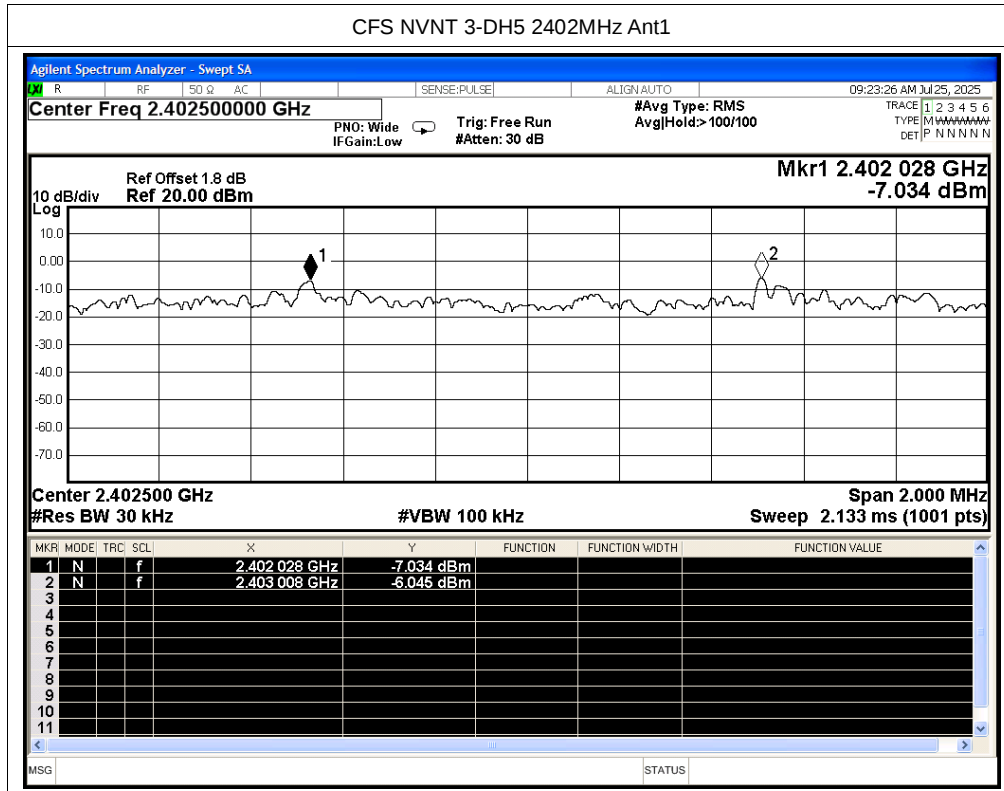
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



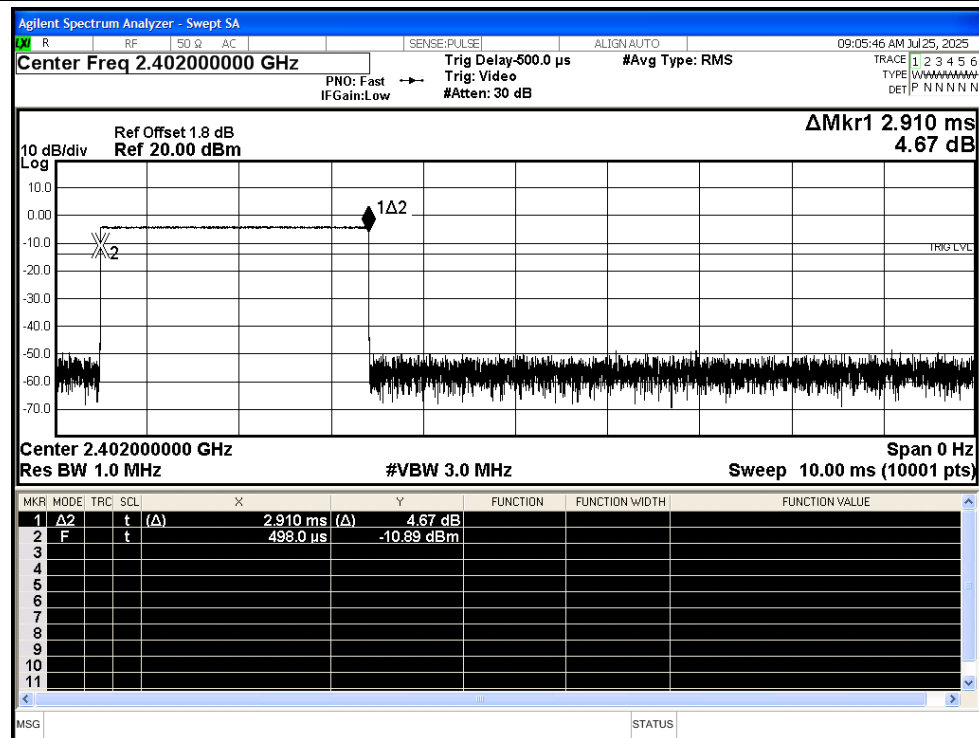


A.4 Dwell Time

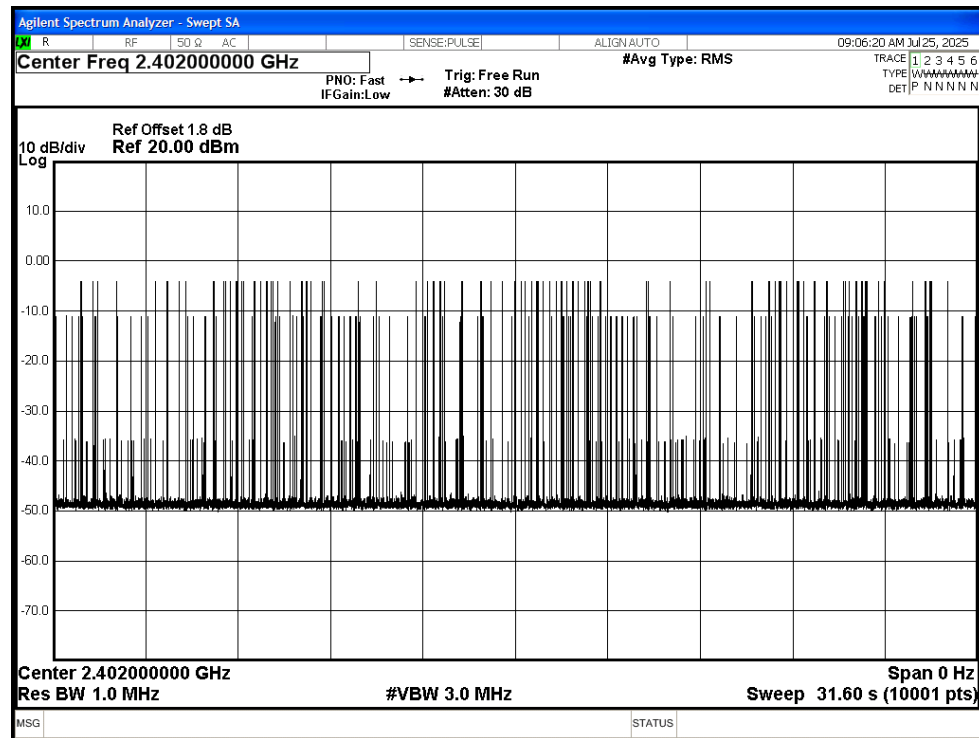
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	288.09	99	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	286.902	99	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	324.464	112	31600	400	Pass

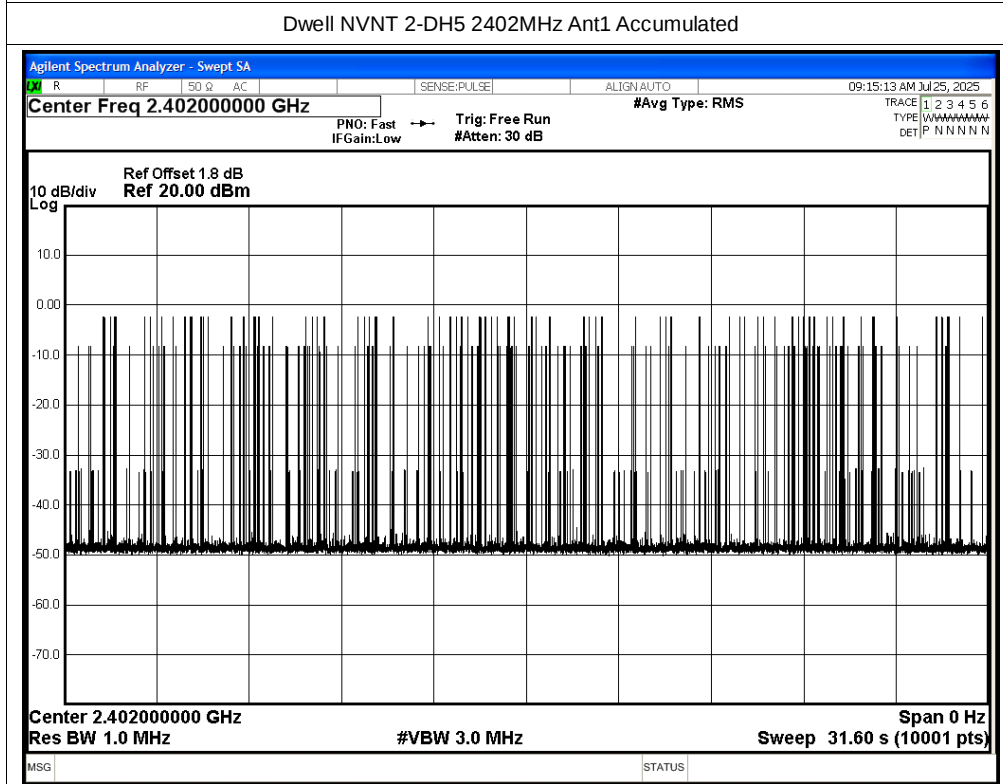
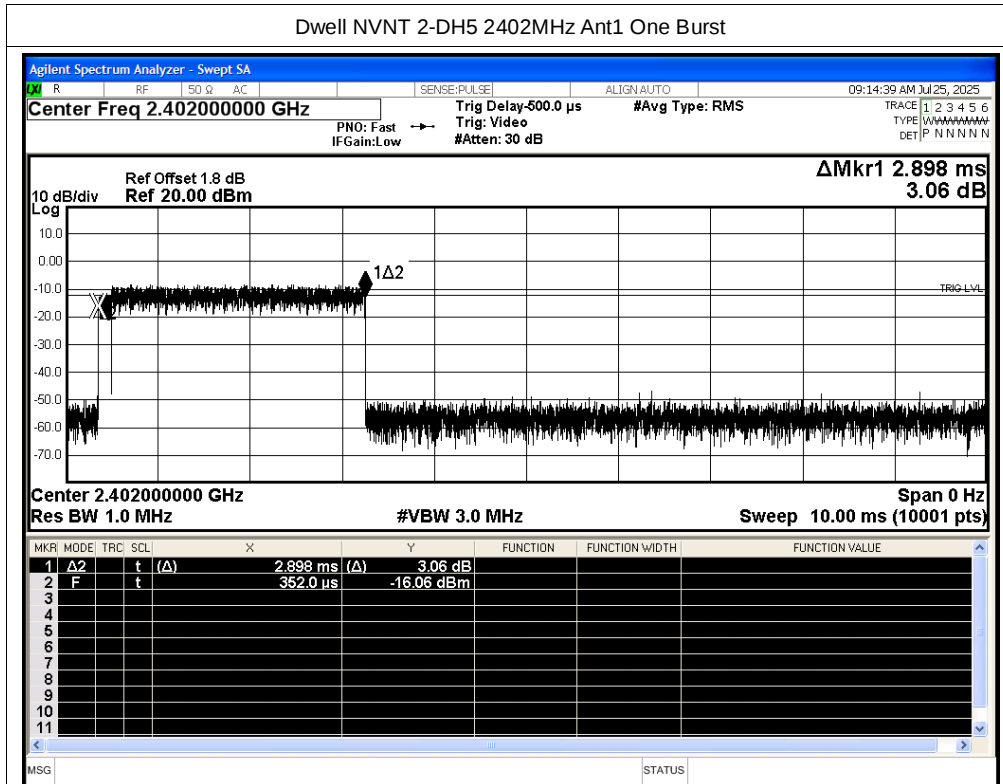
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

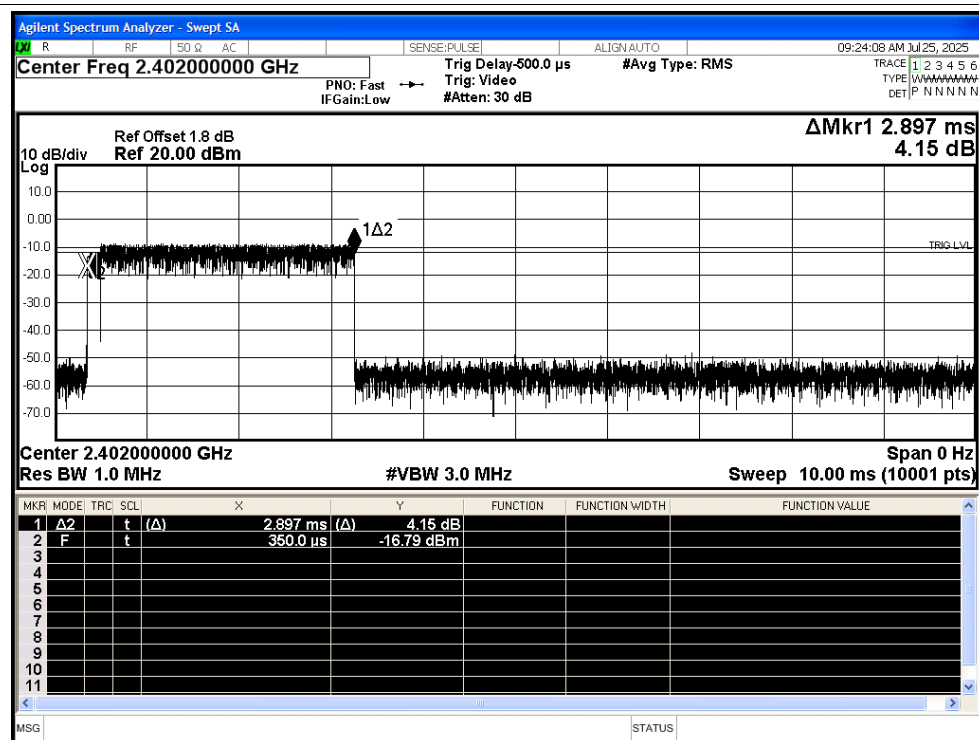


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

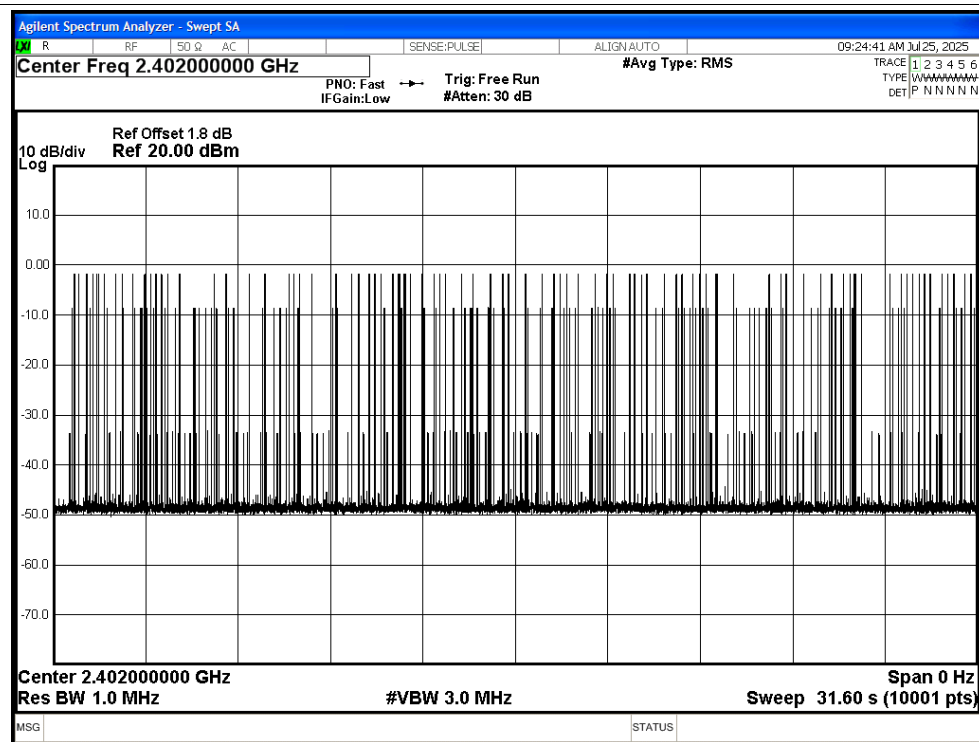




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

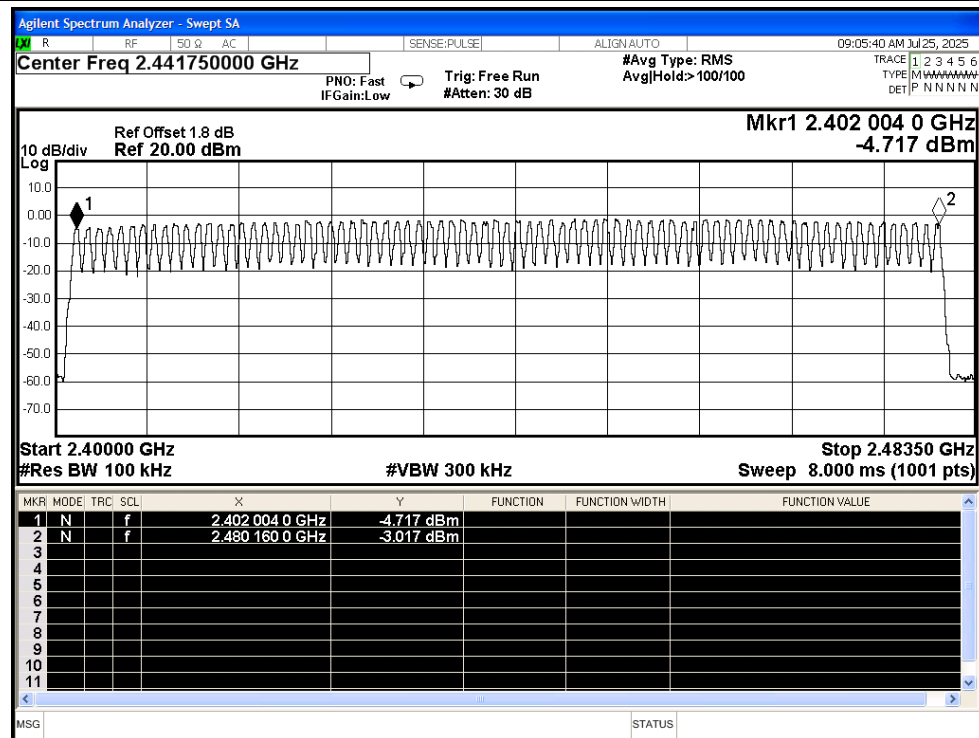


A.5 Number of Hopping Channel

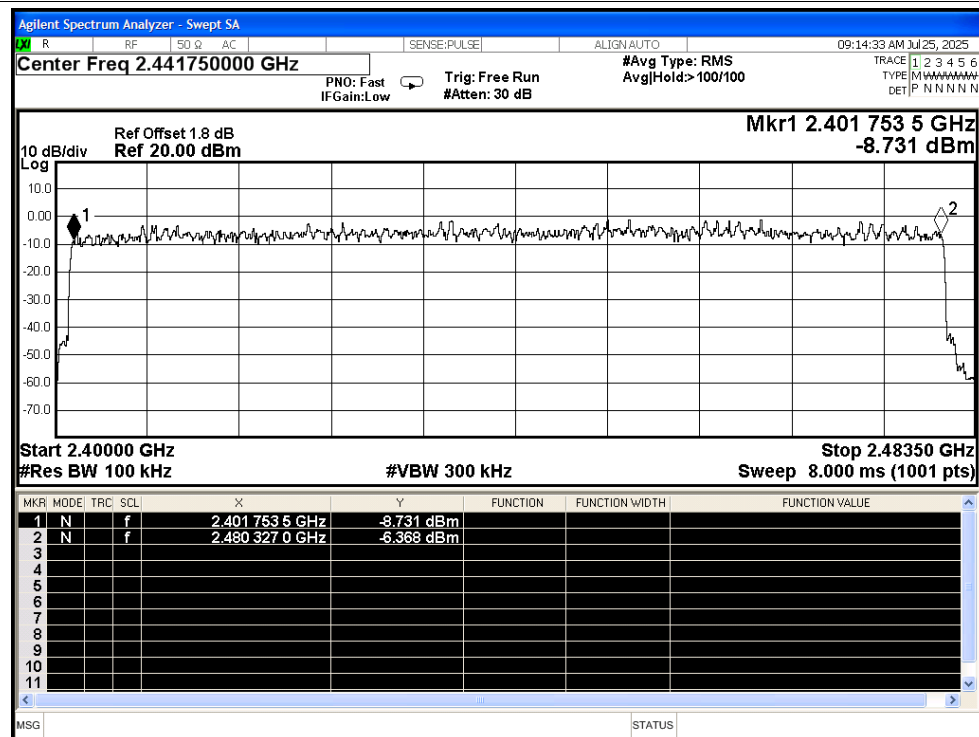
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

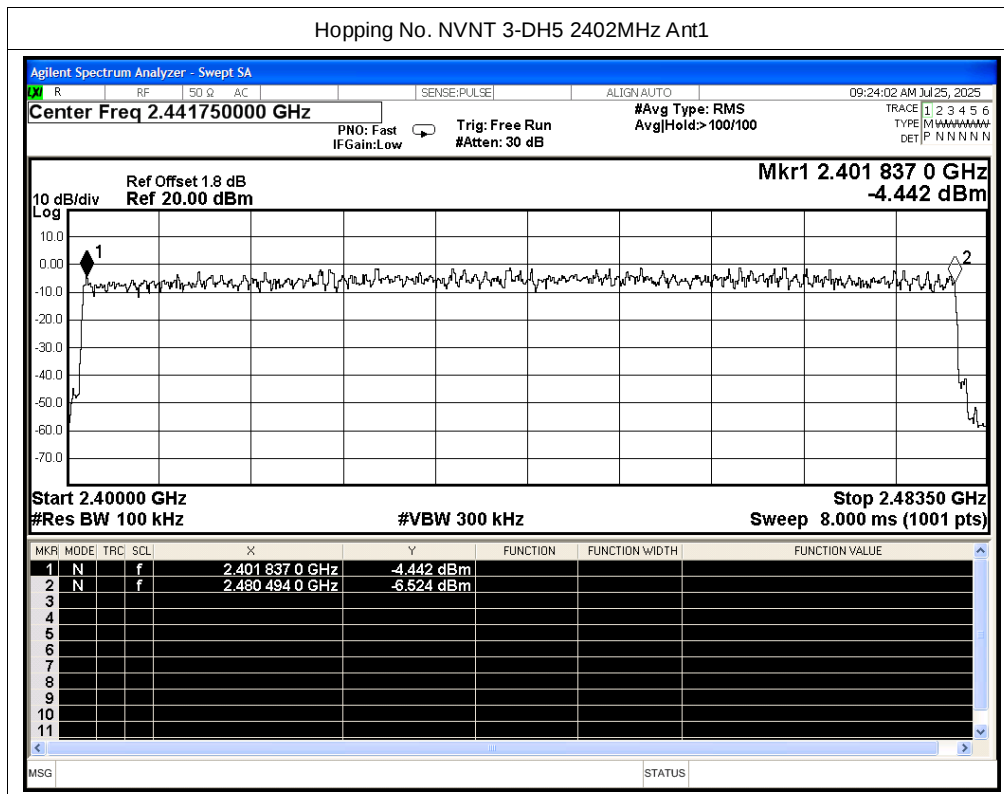
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



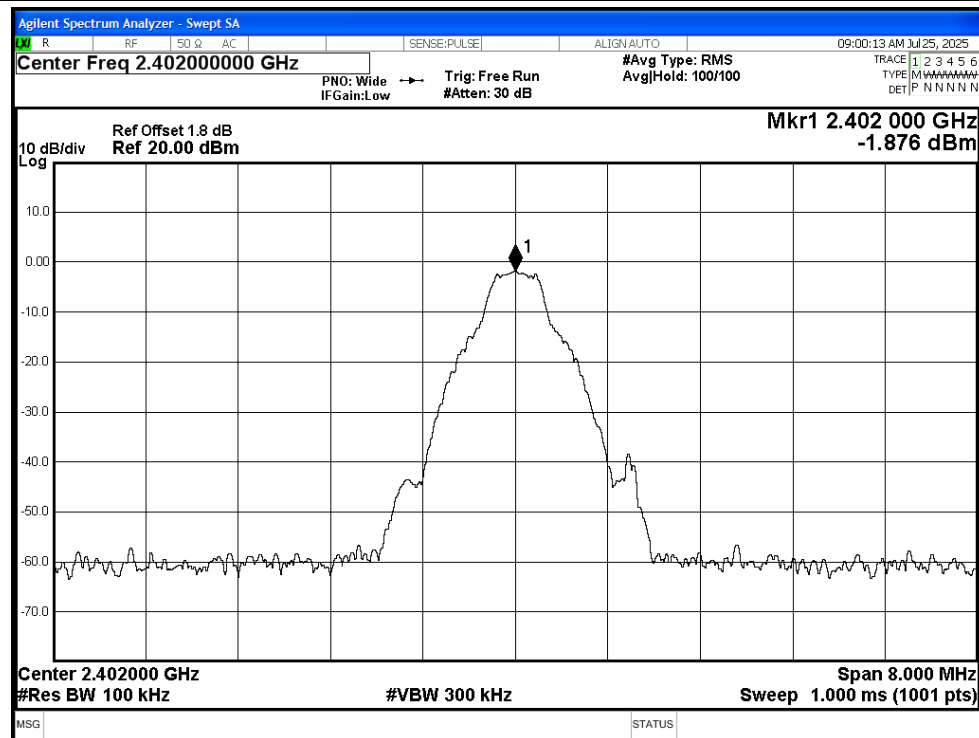


A.6 Band Edge

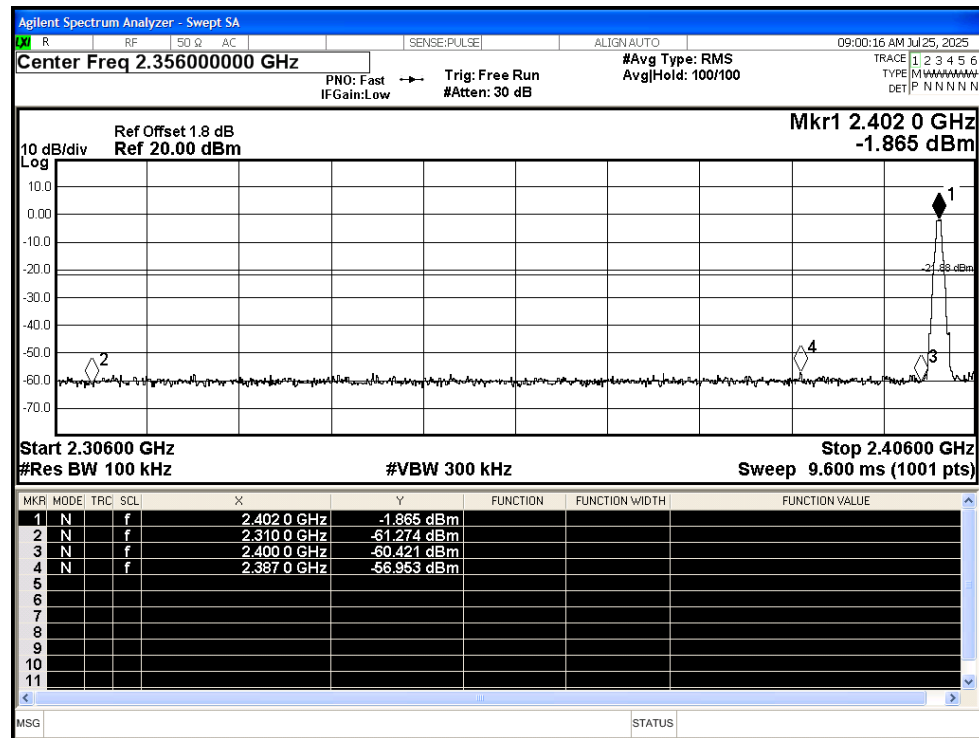
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.08	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.85	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.88	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.66	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.62	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.97	-20	Pass

Test Graphs

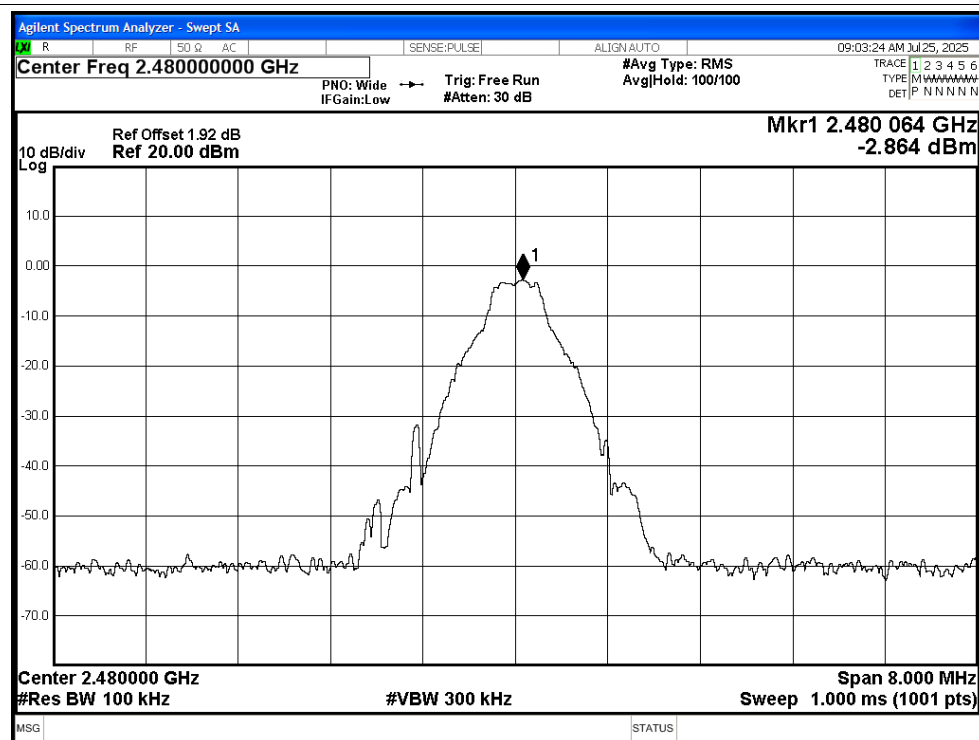
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



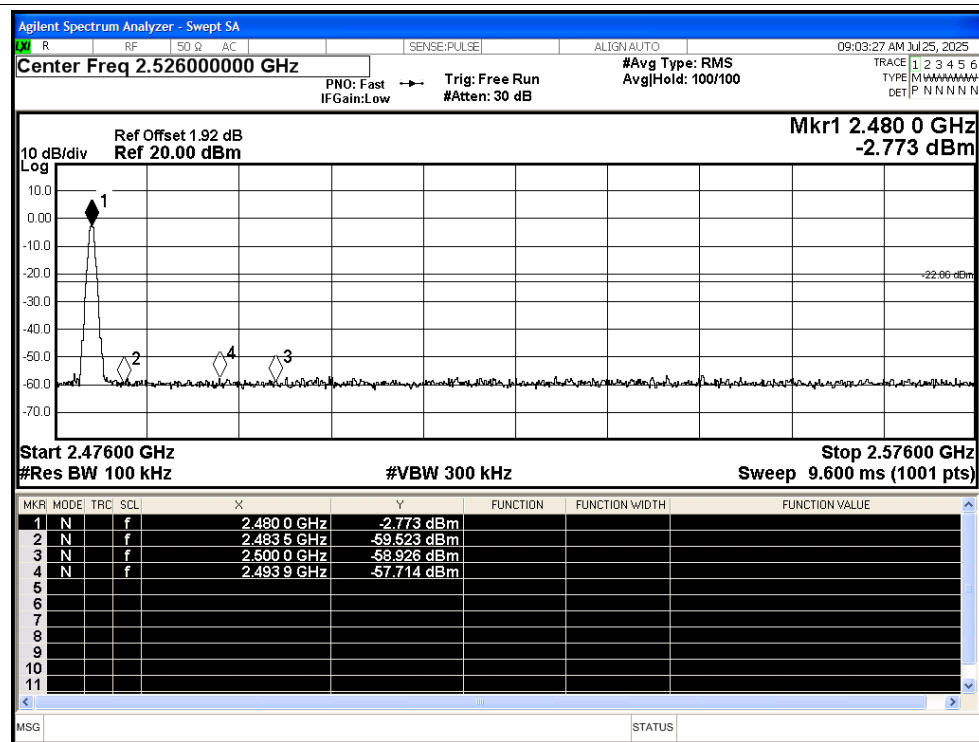
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

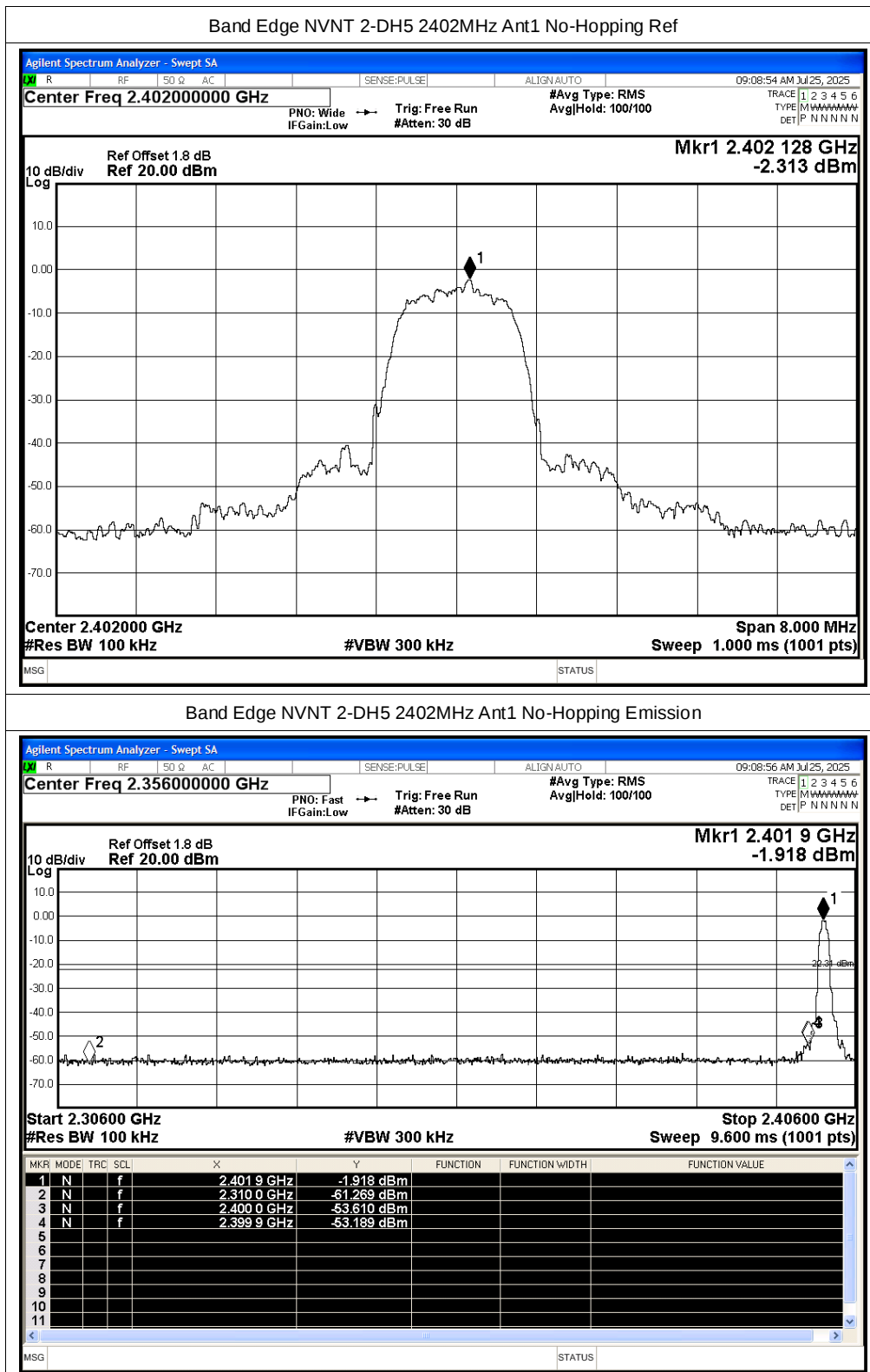


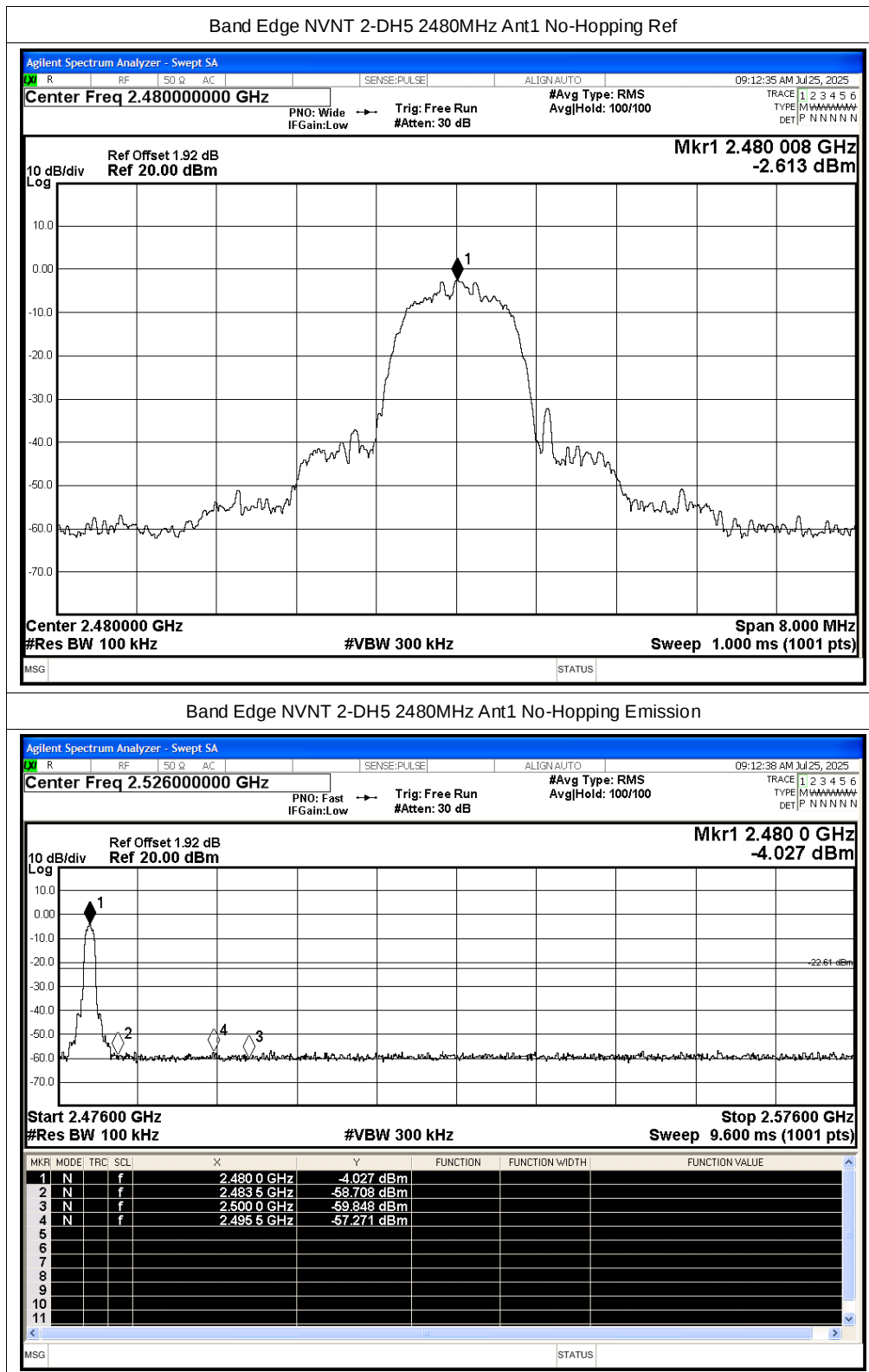
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

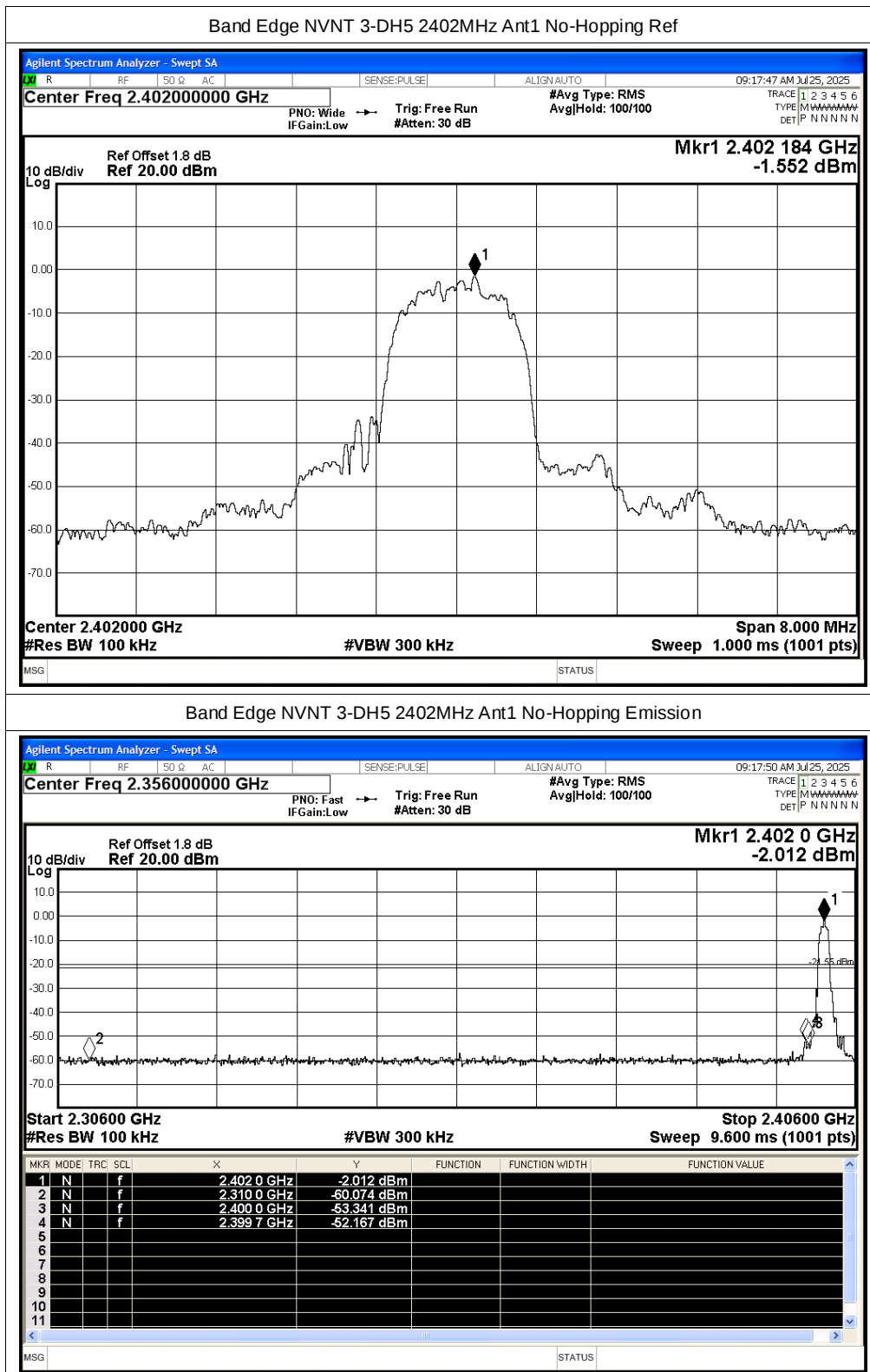


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

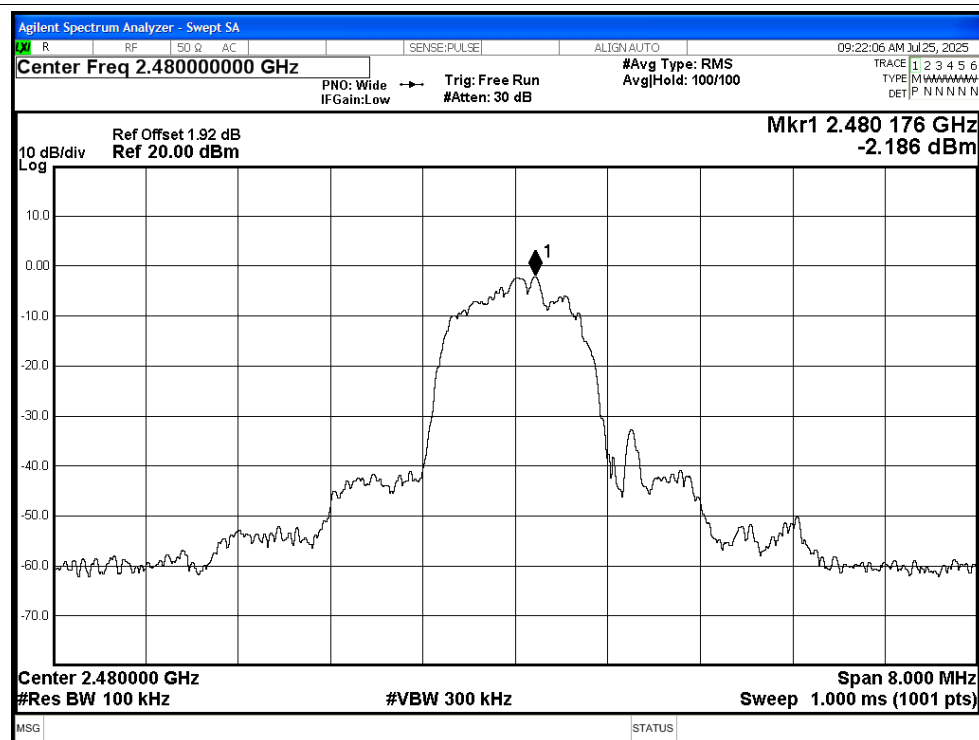




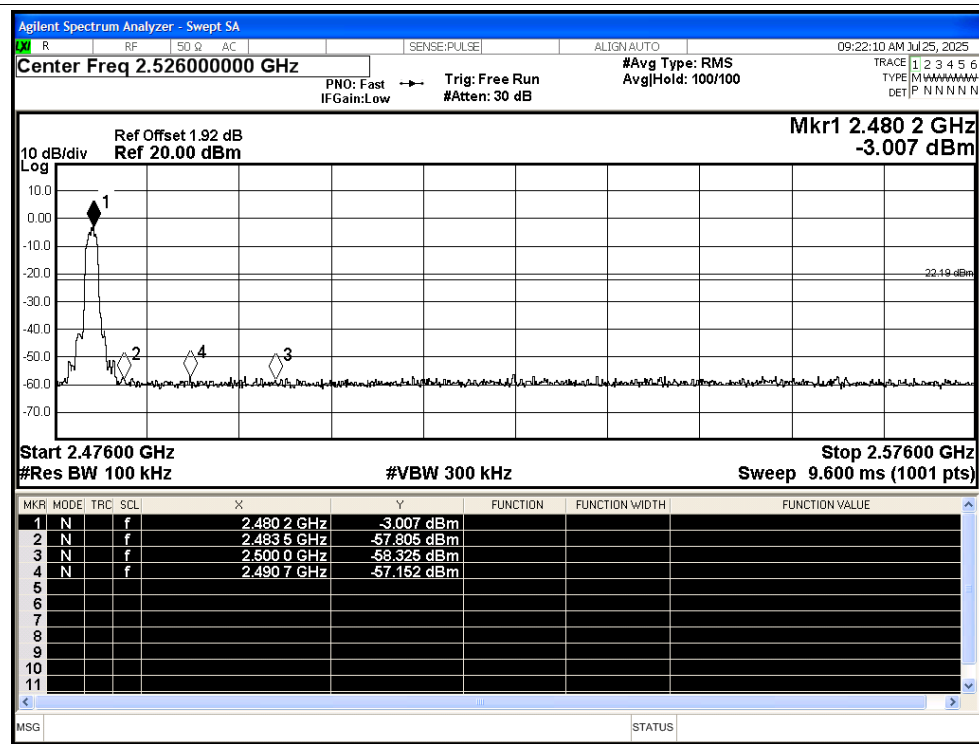




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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

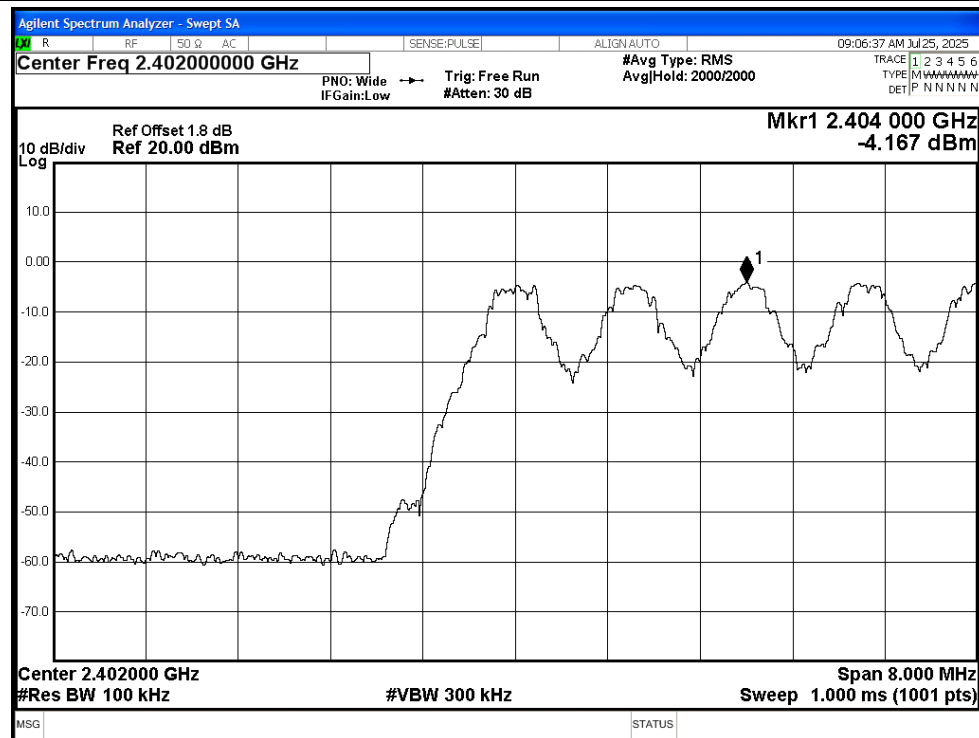


(Hopping)

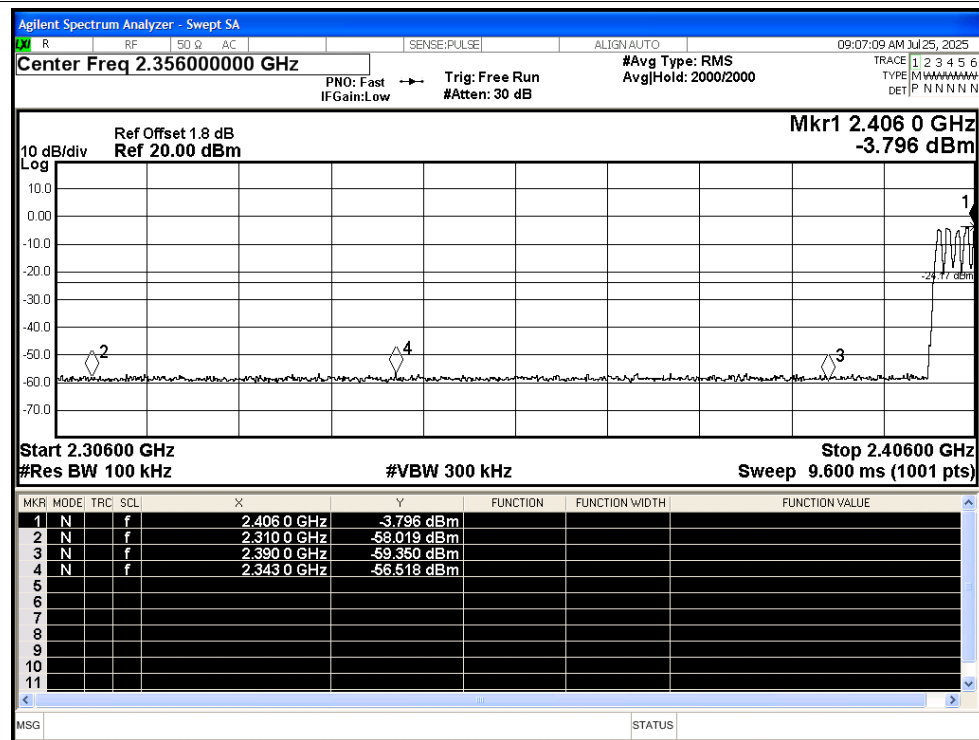
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.35	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.28	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.64	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.08	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.5	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.85	-20	Pass

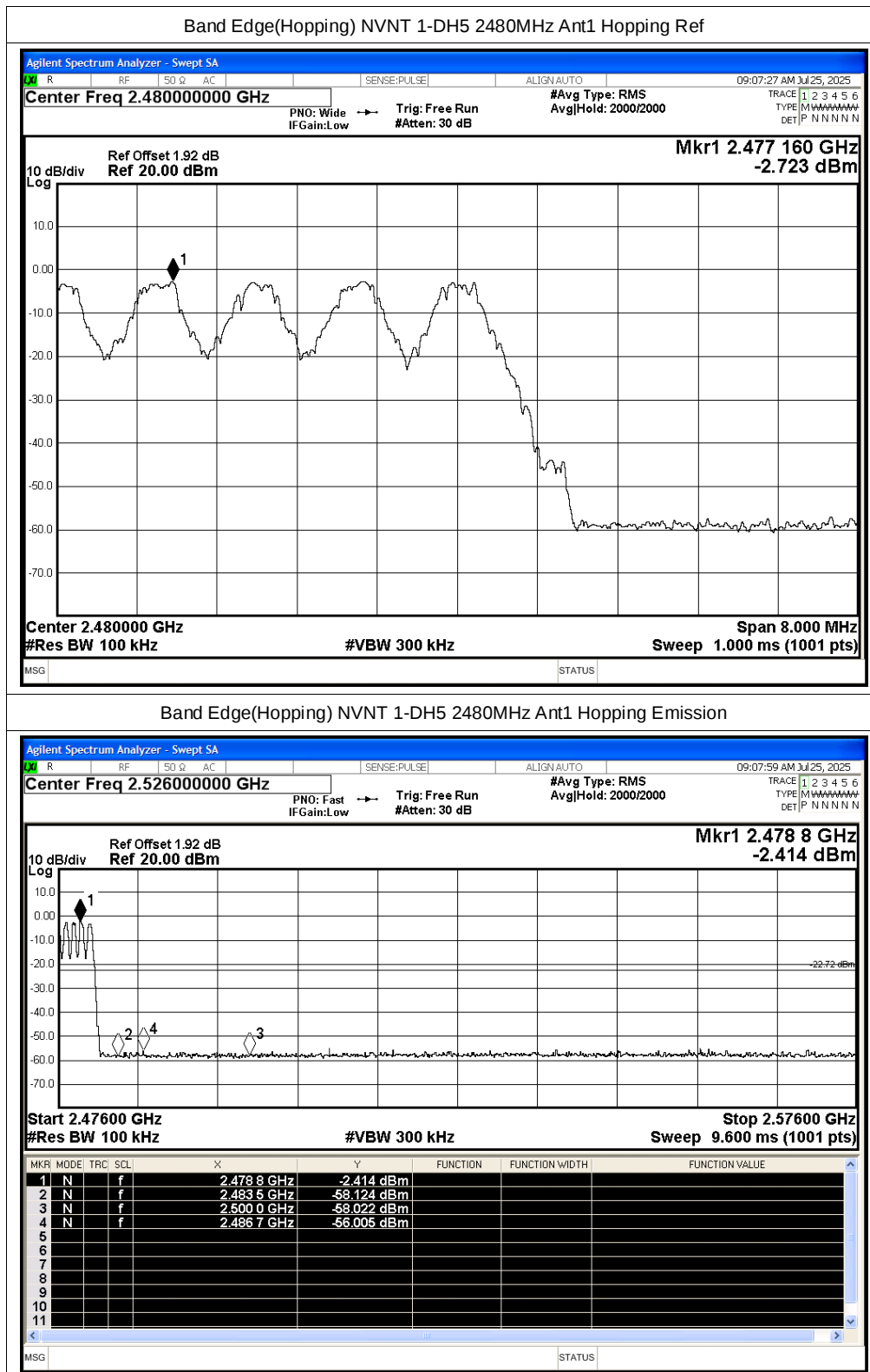
Test Graphs

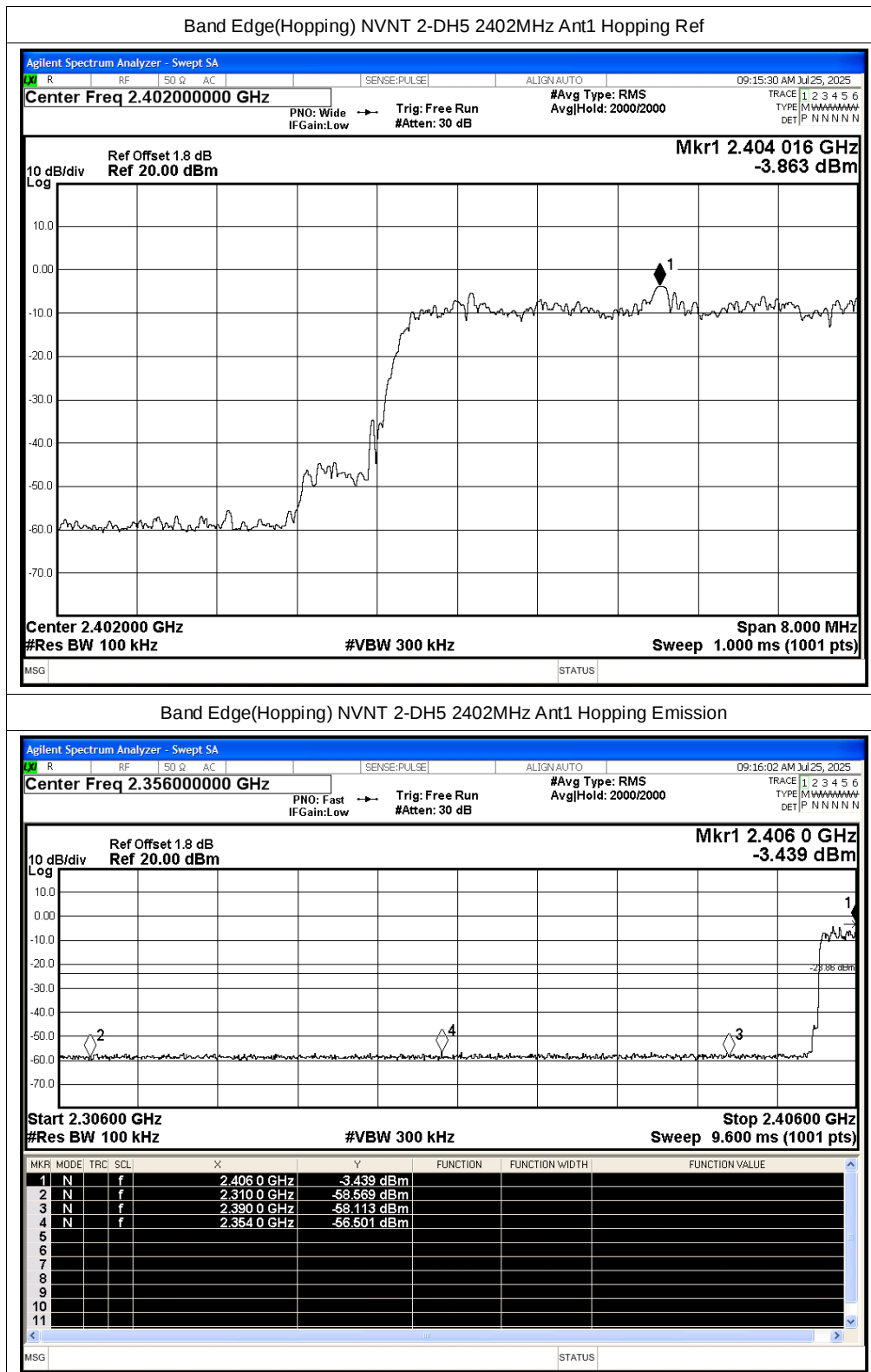
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

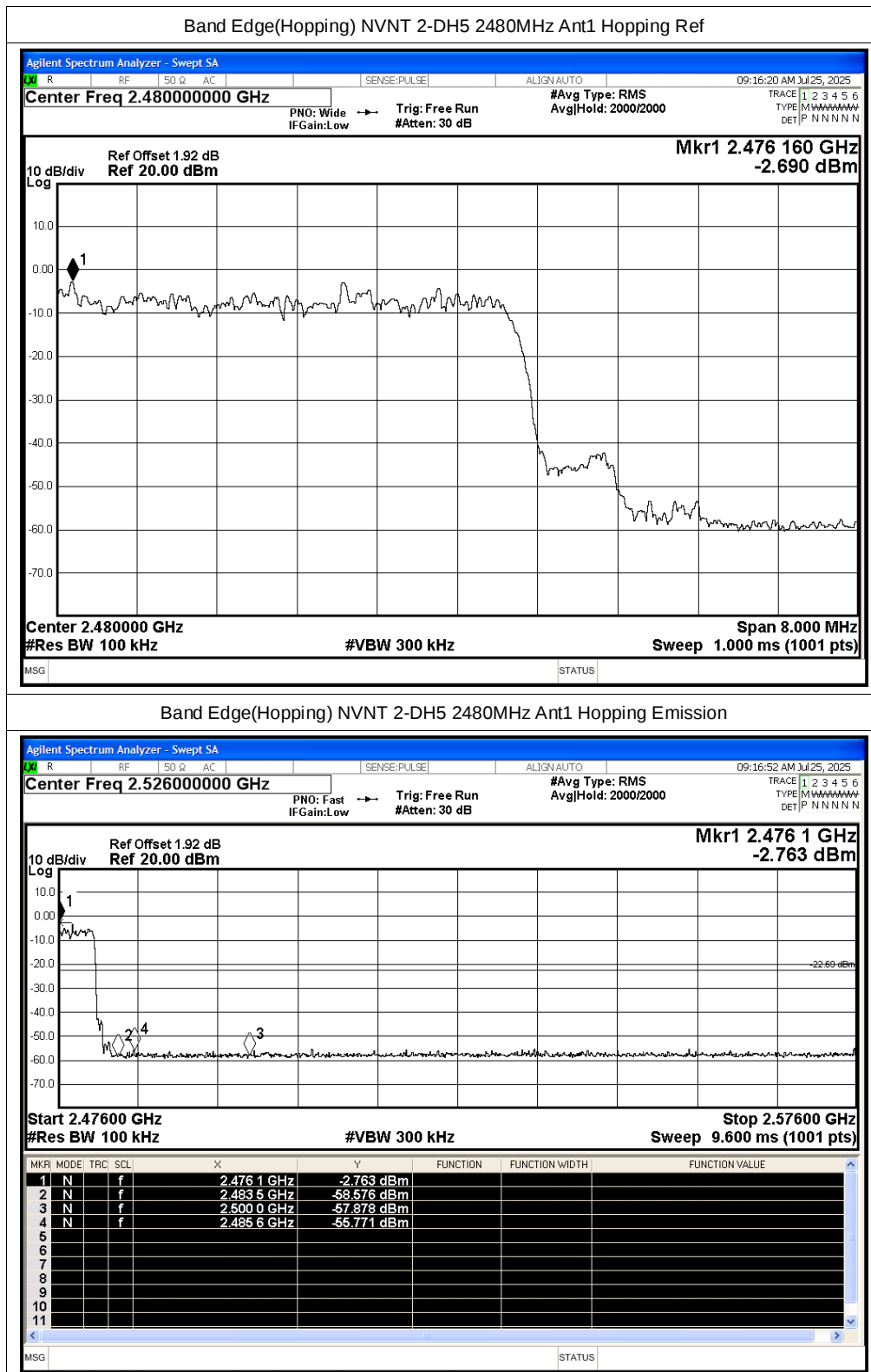


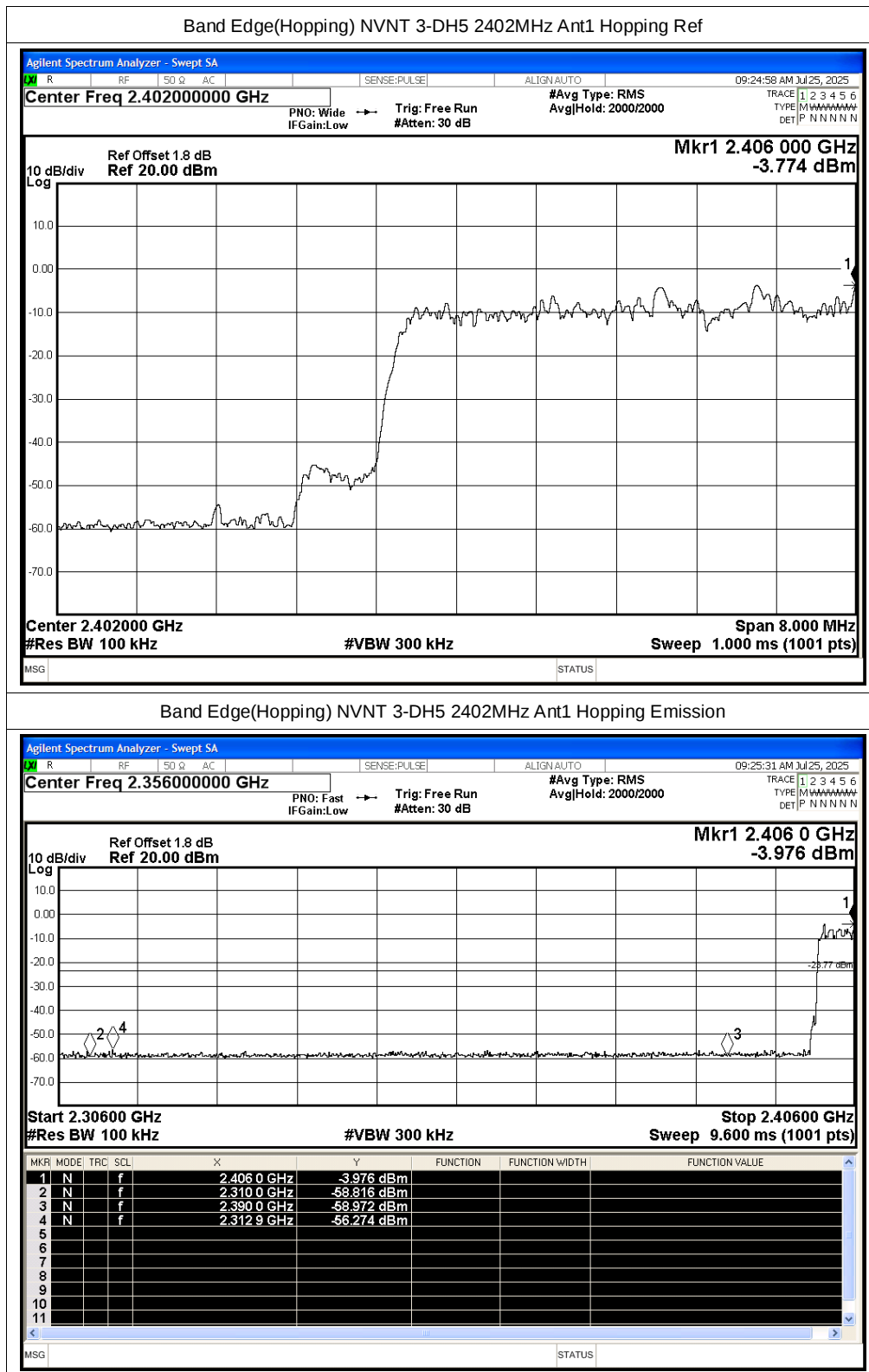
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

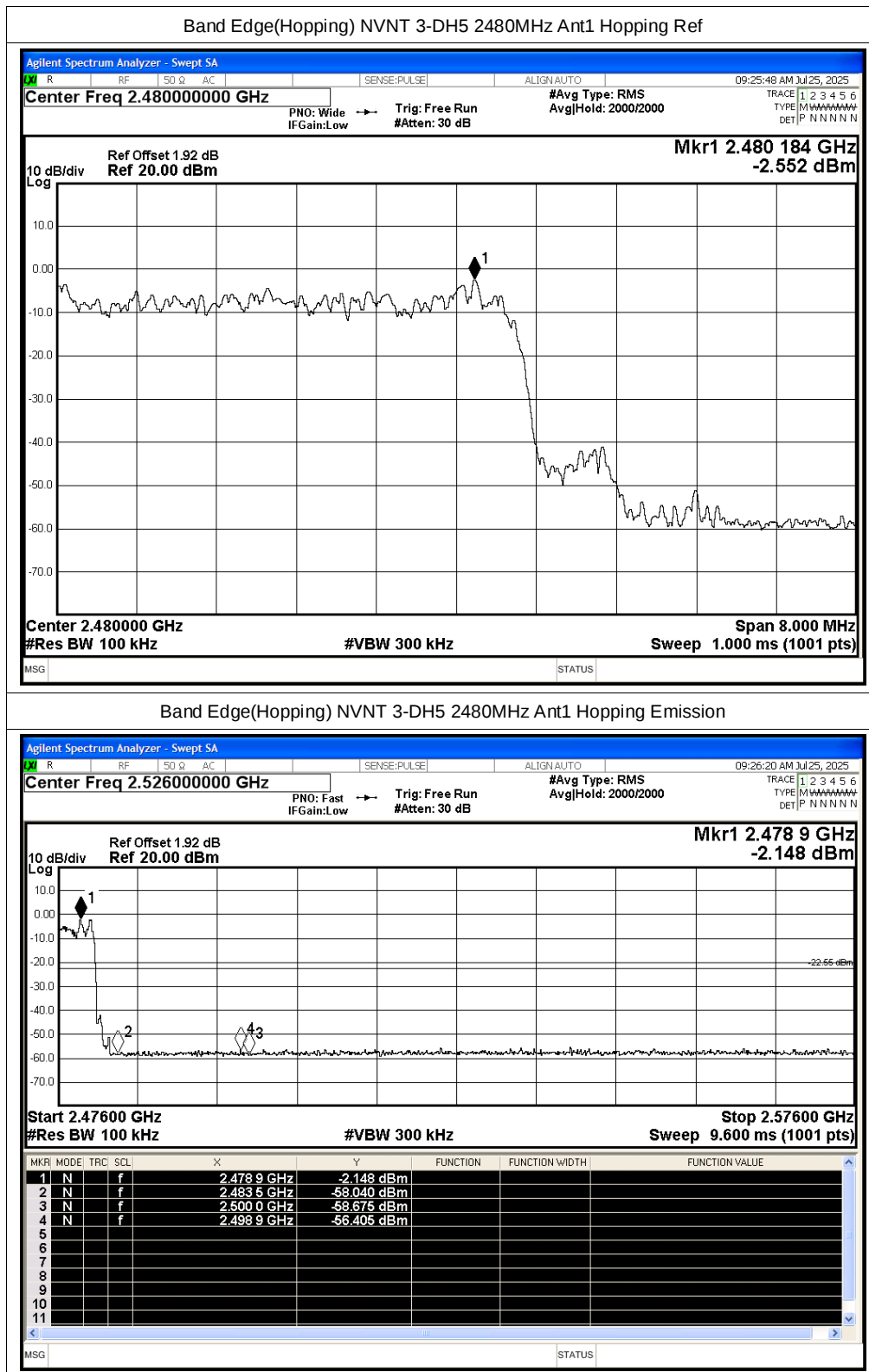










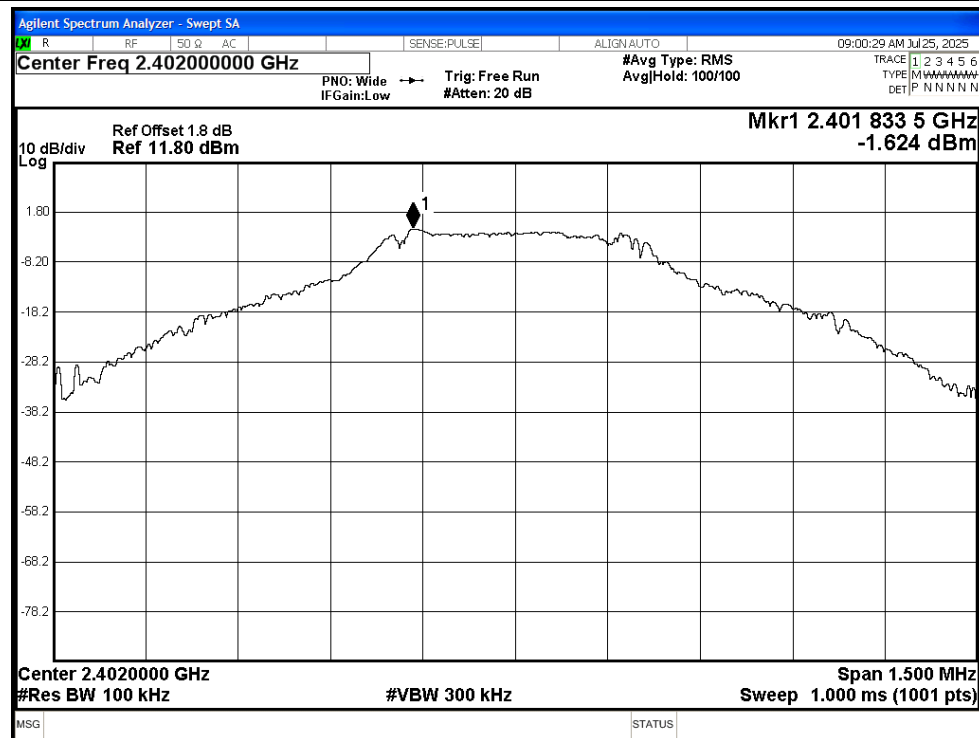


A.7 Conducted RF Spurious Emission

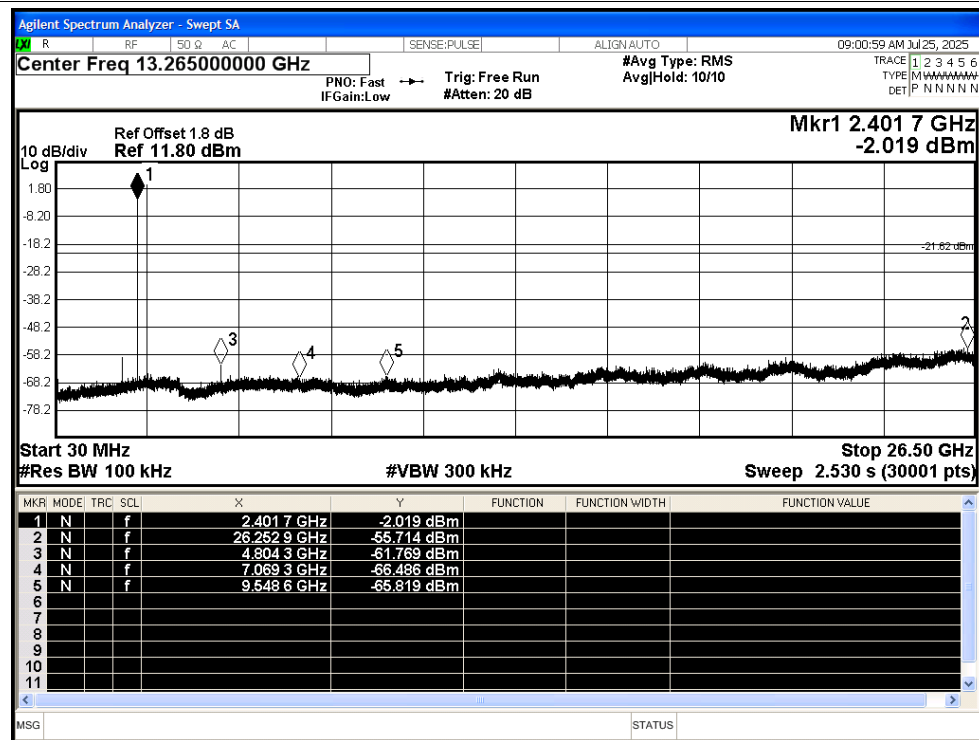
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.09	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.17	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.12	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.09	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.85	-20	Pass
NVNT	2-DH5	2480	Ant1	-51.83	-20	Pass
NVNT	3-DH5	2402	Ant1	-46.6	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.81	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.83	-20	Pass

Test Graphs

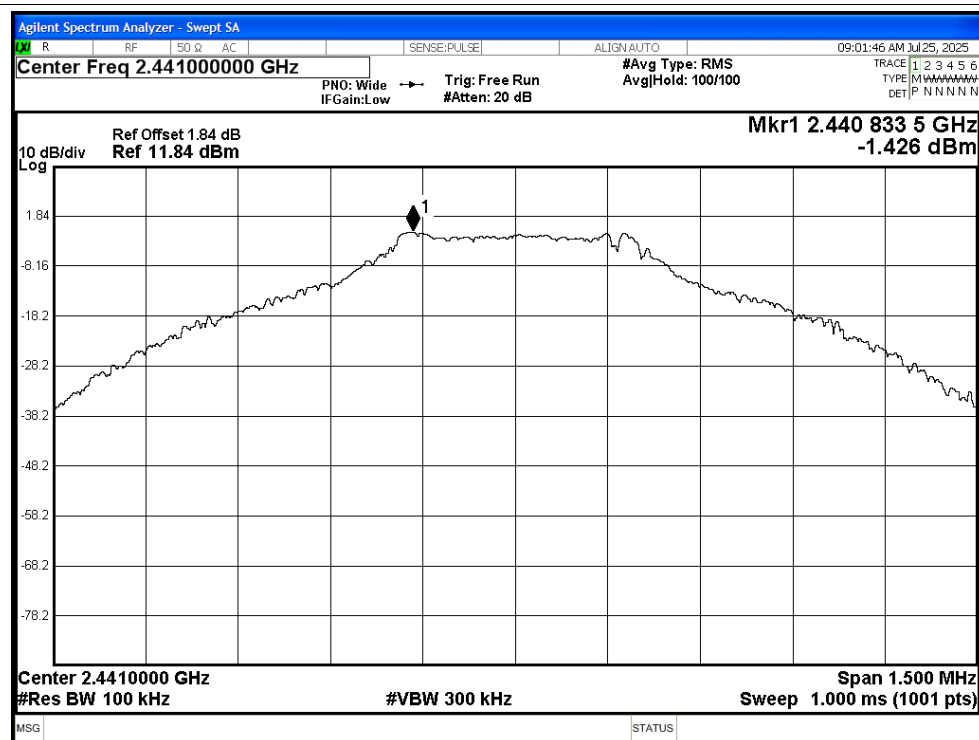
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



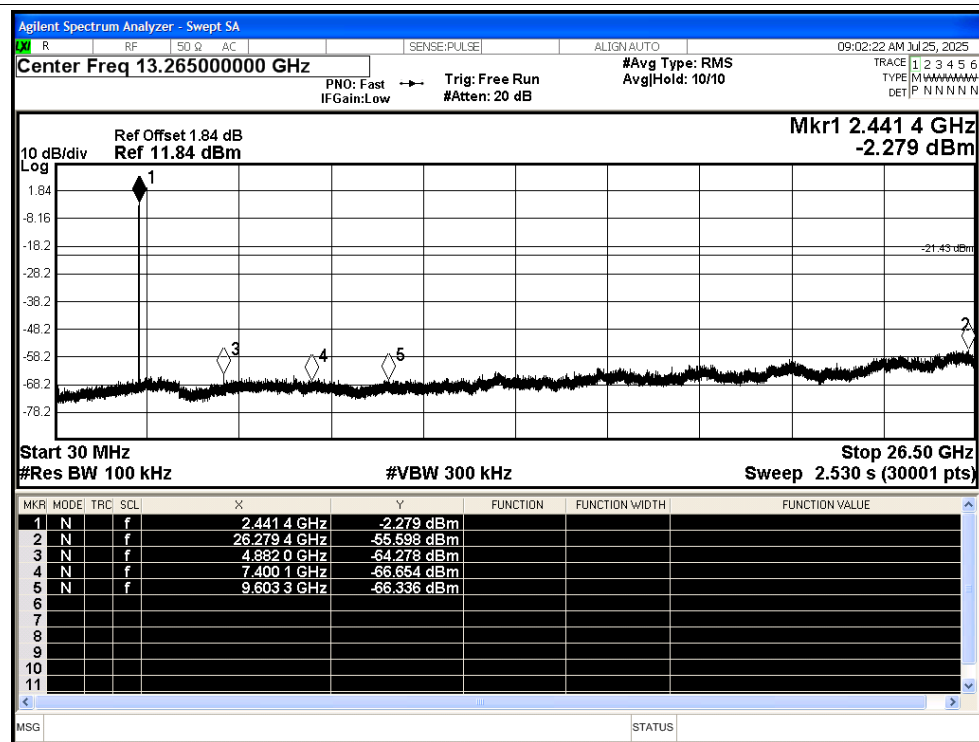
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



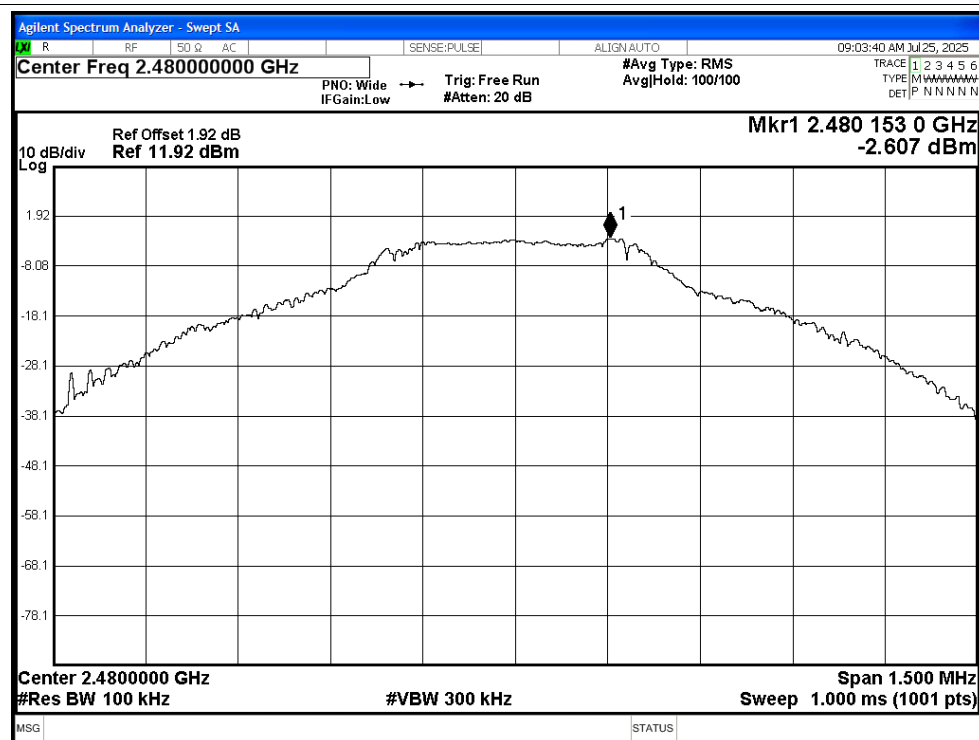
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



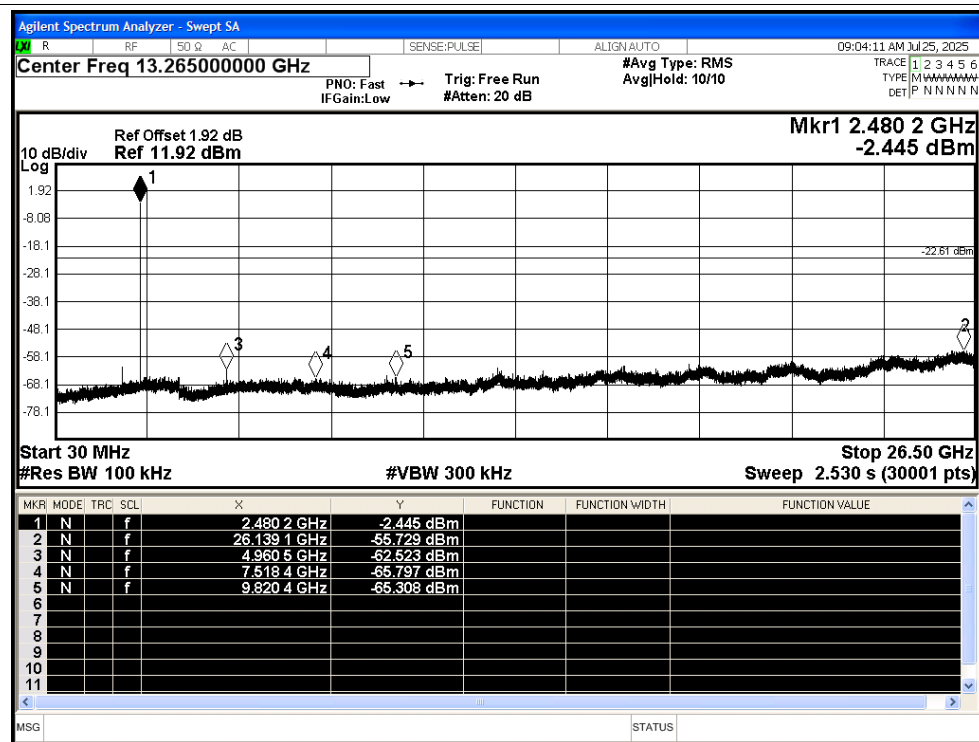
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



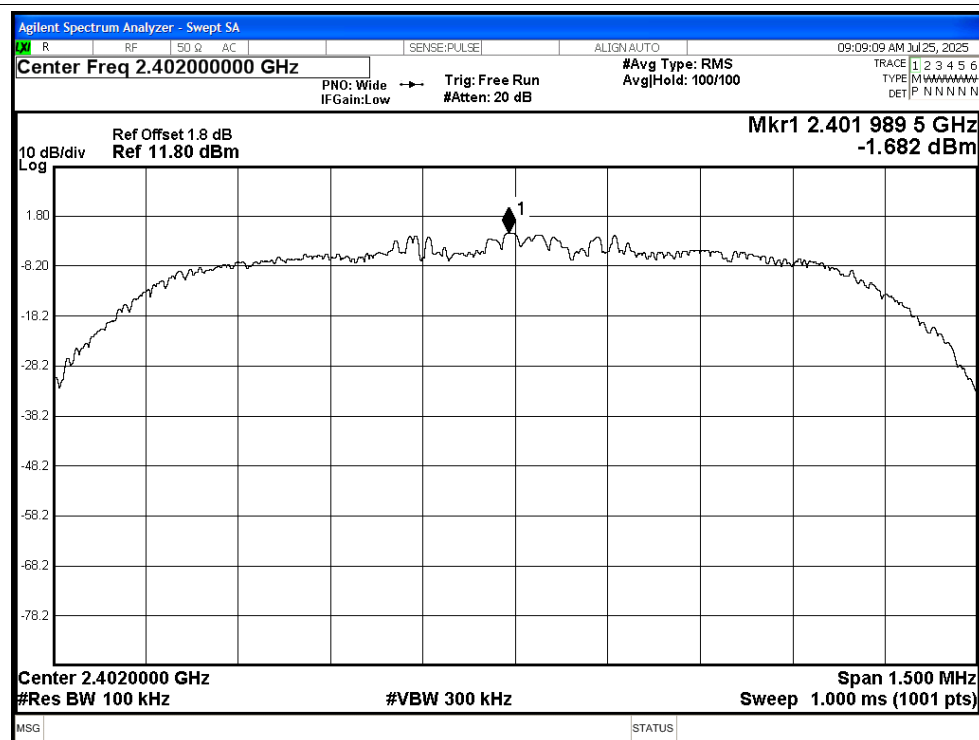
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



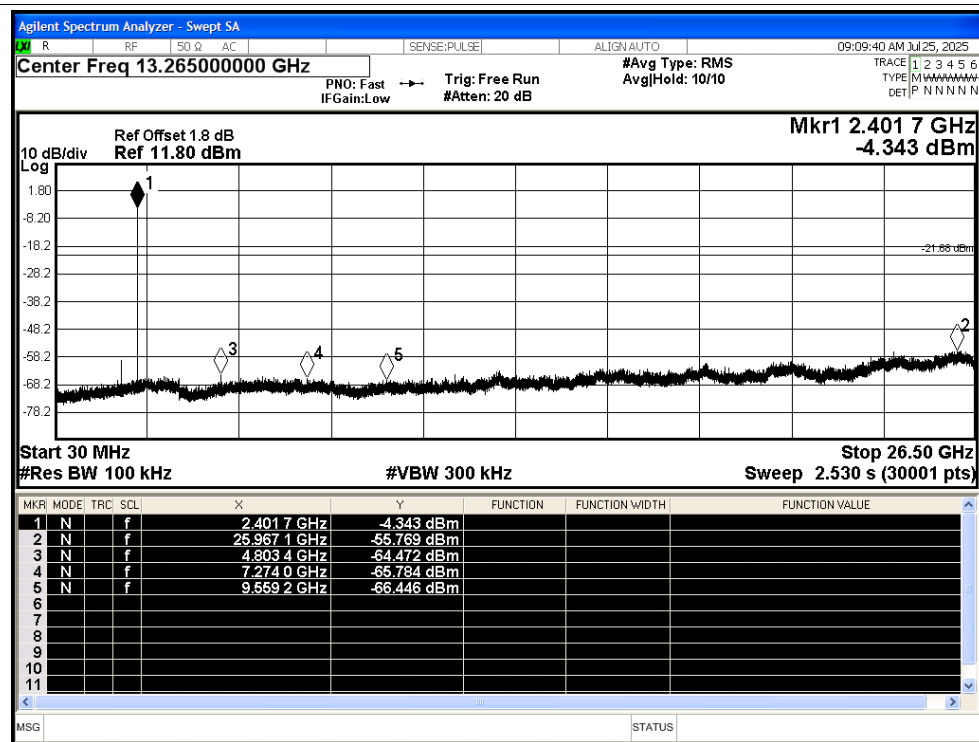
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



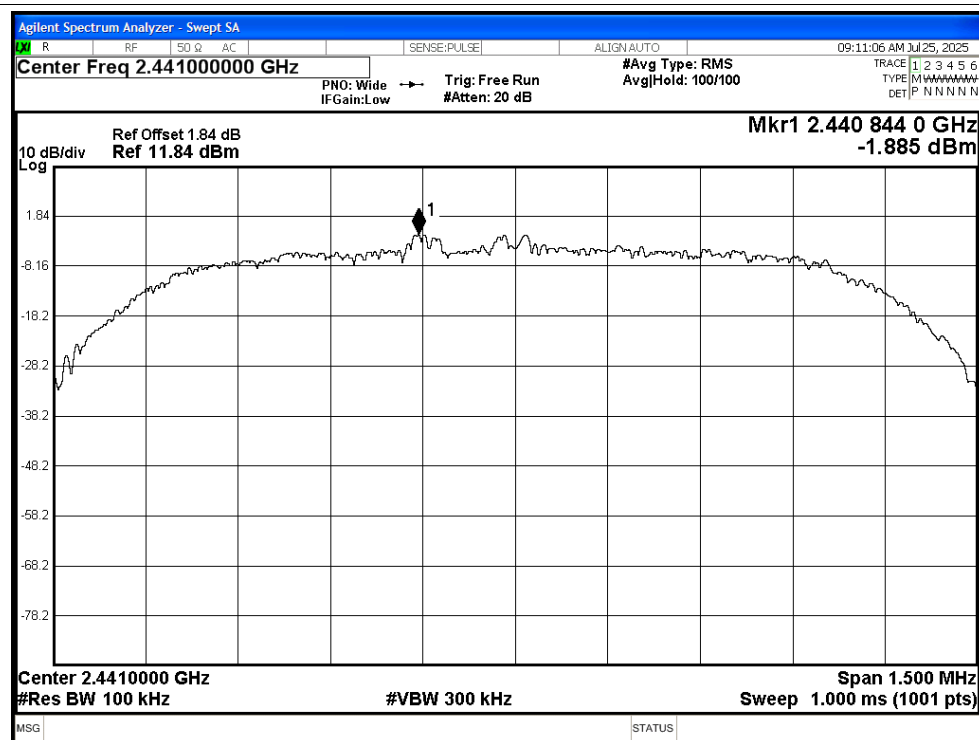
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



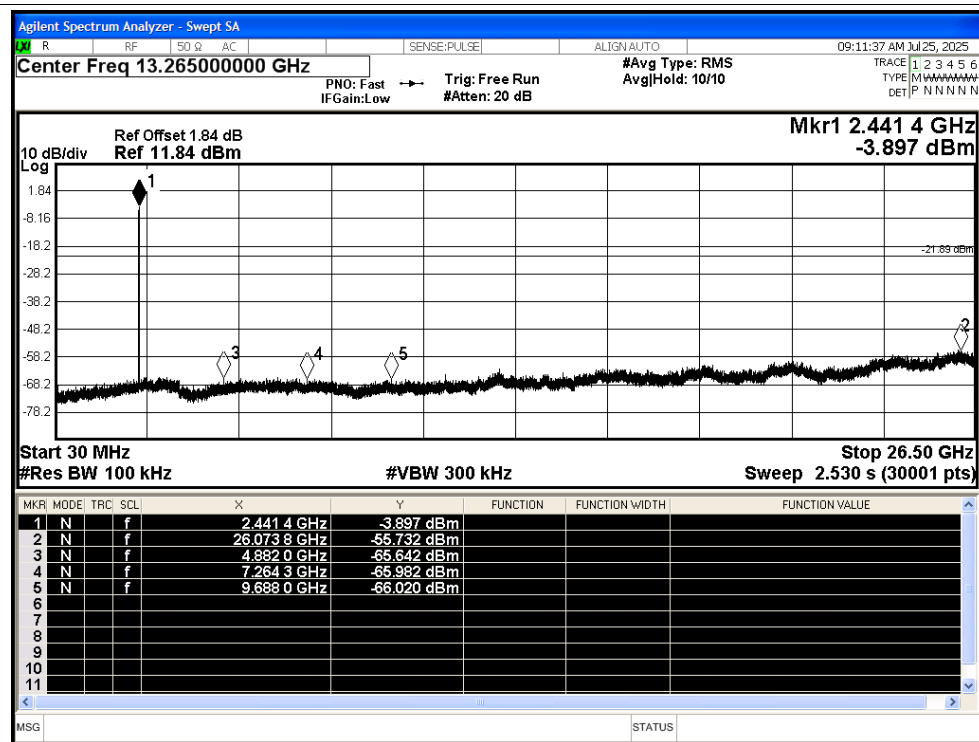
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



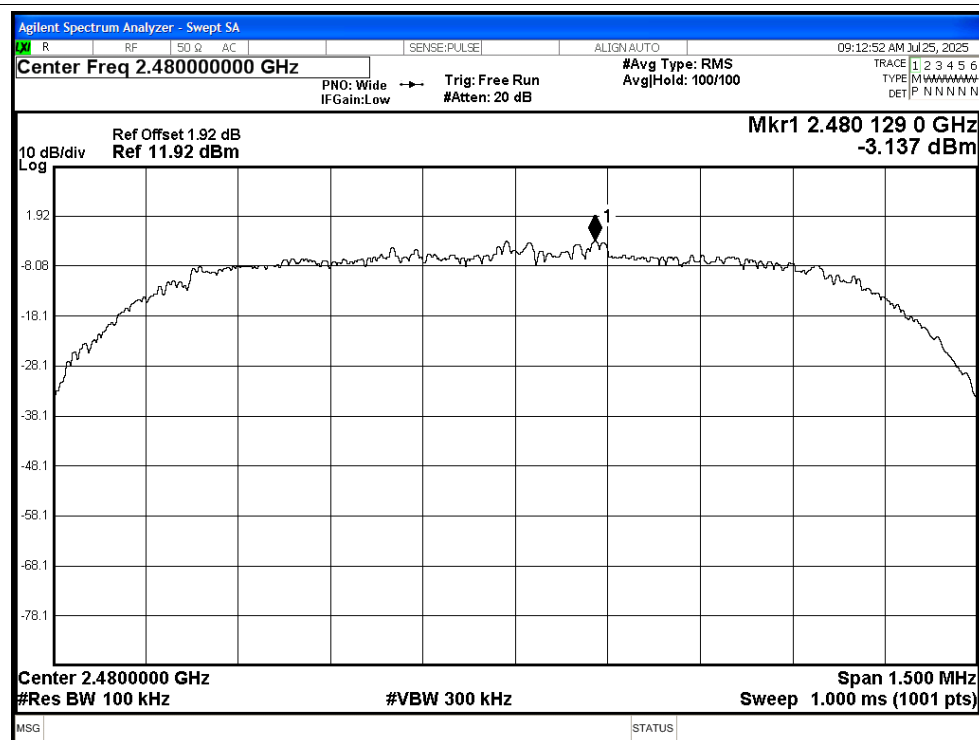
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



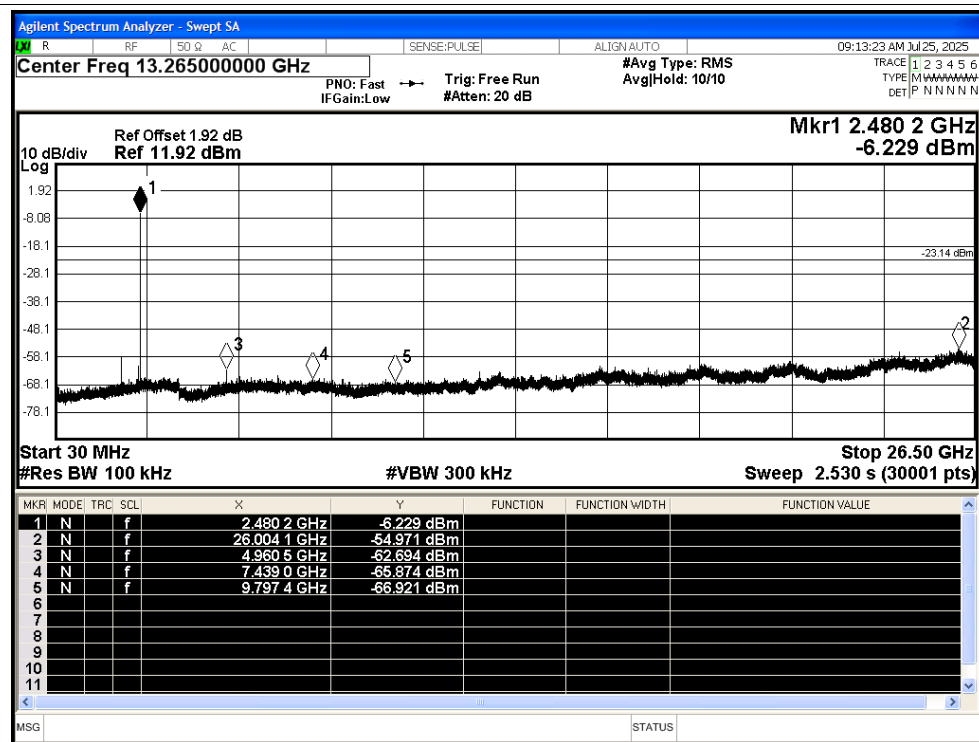
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



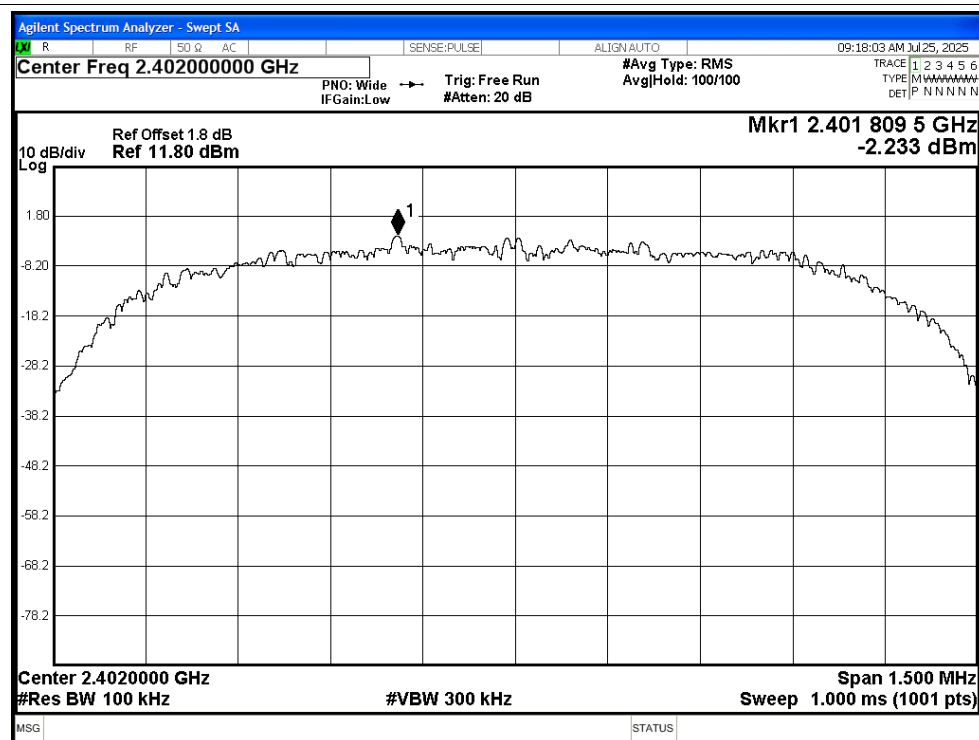
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



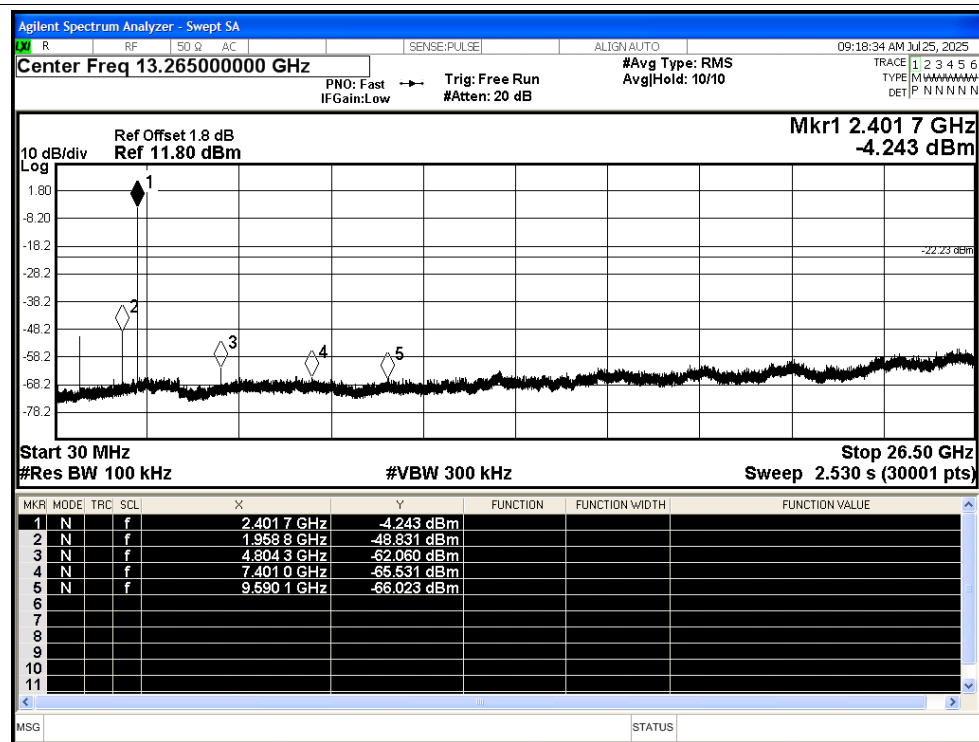
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



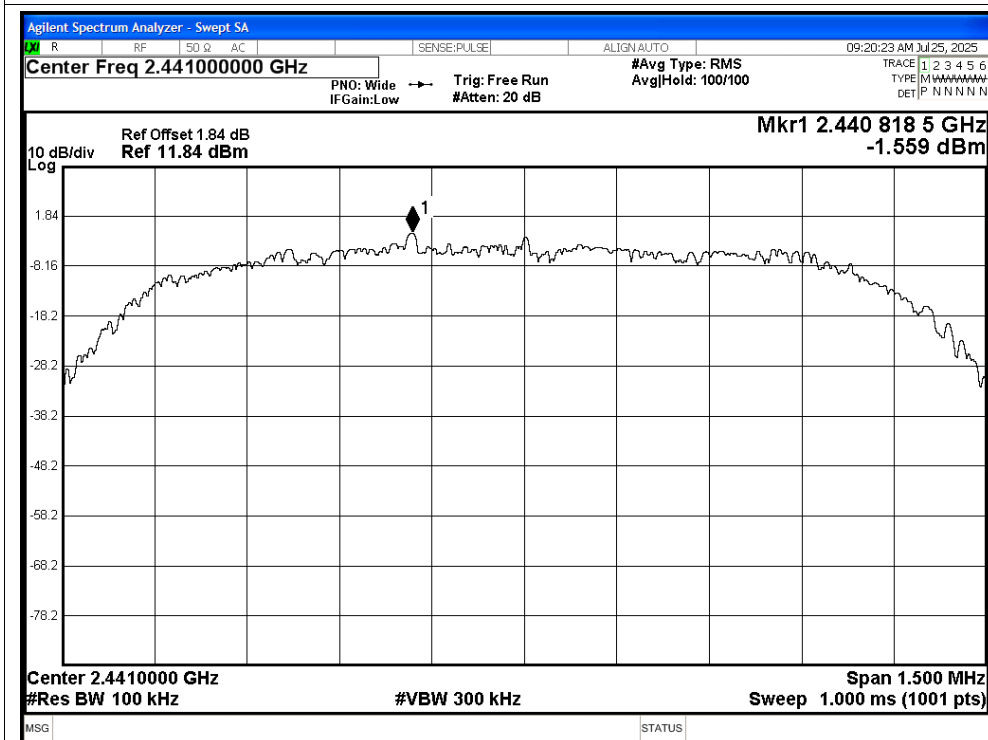
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



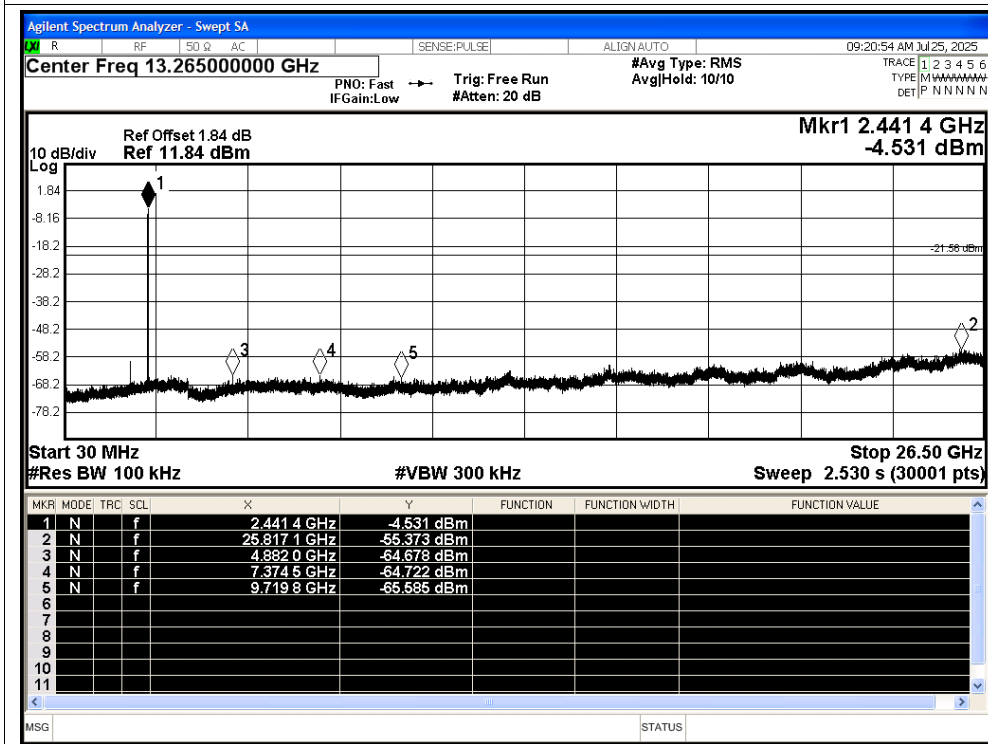
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



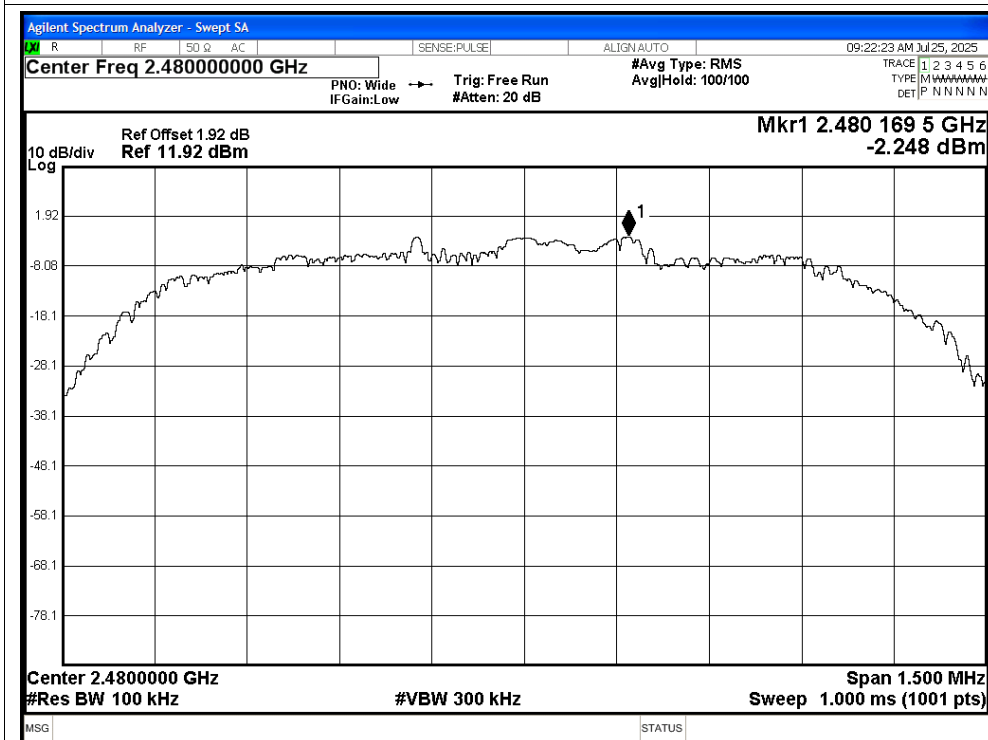
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



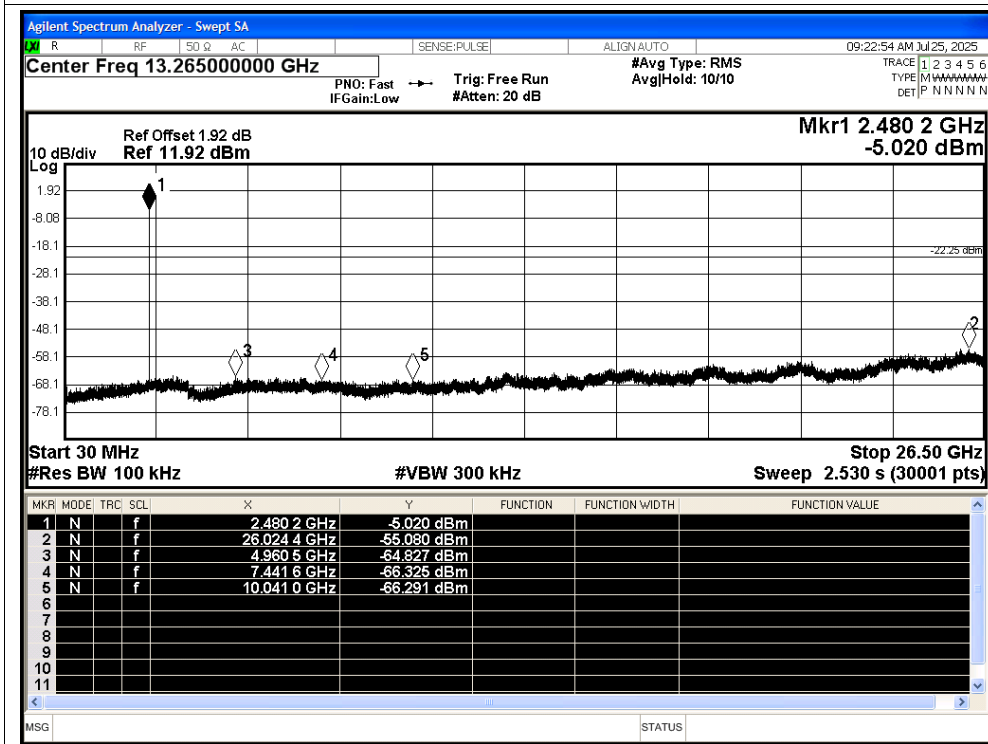
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

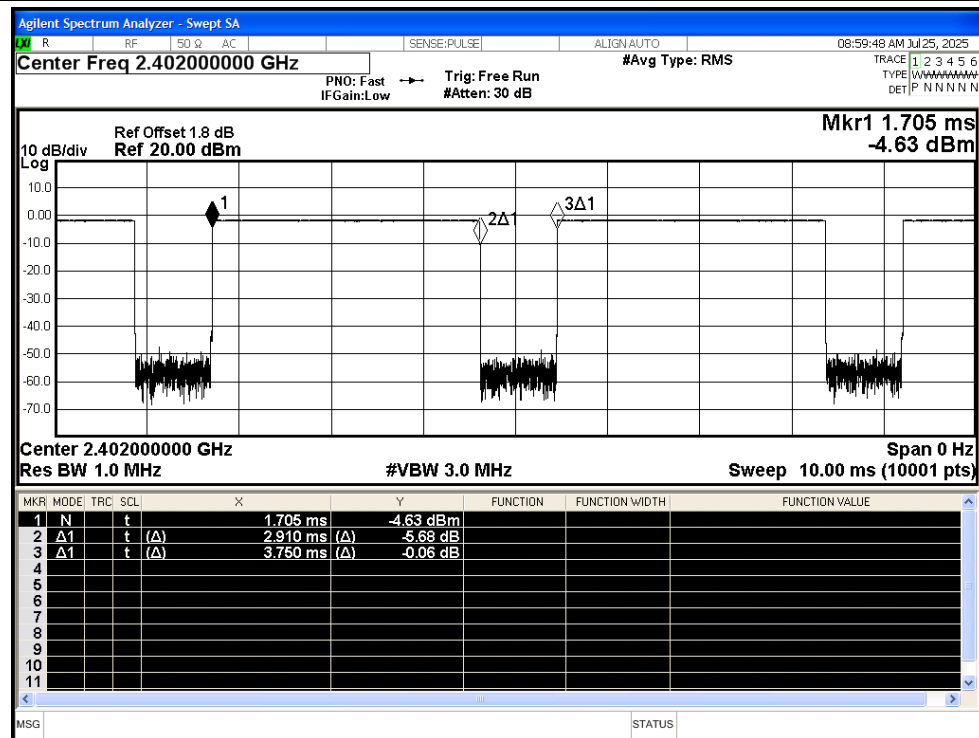


A.8 Duty Cycle

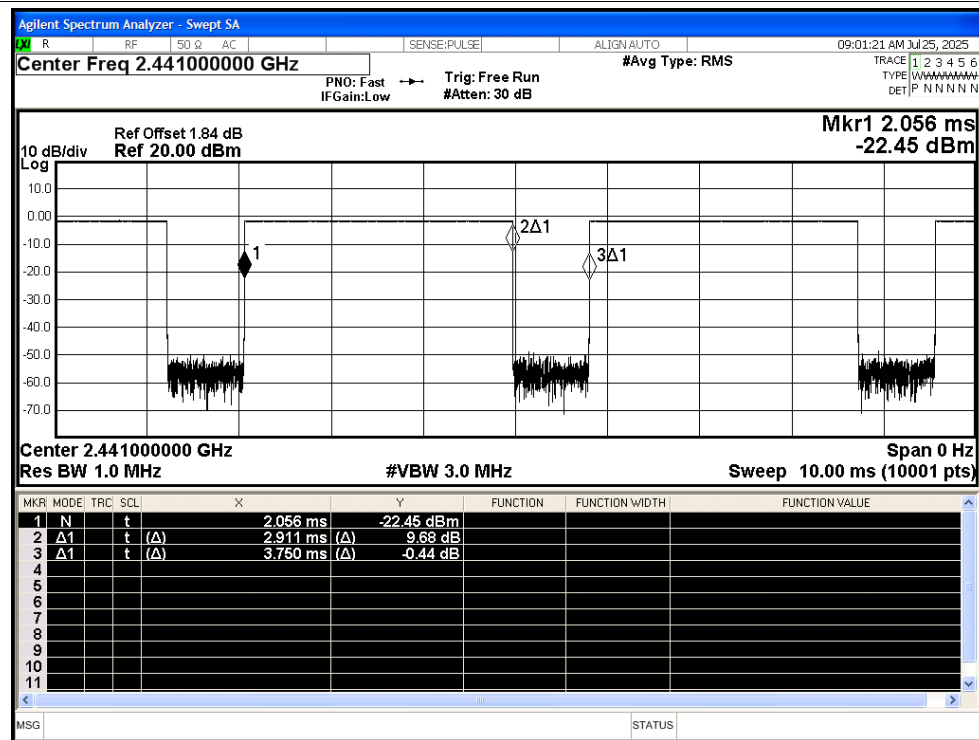
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35
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

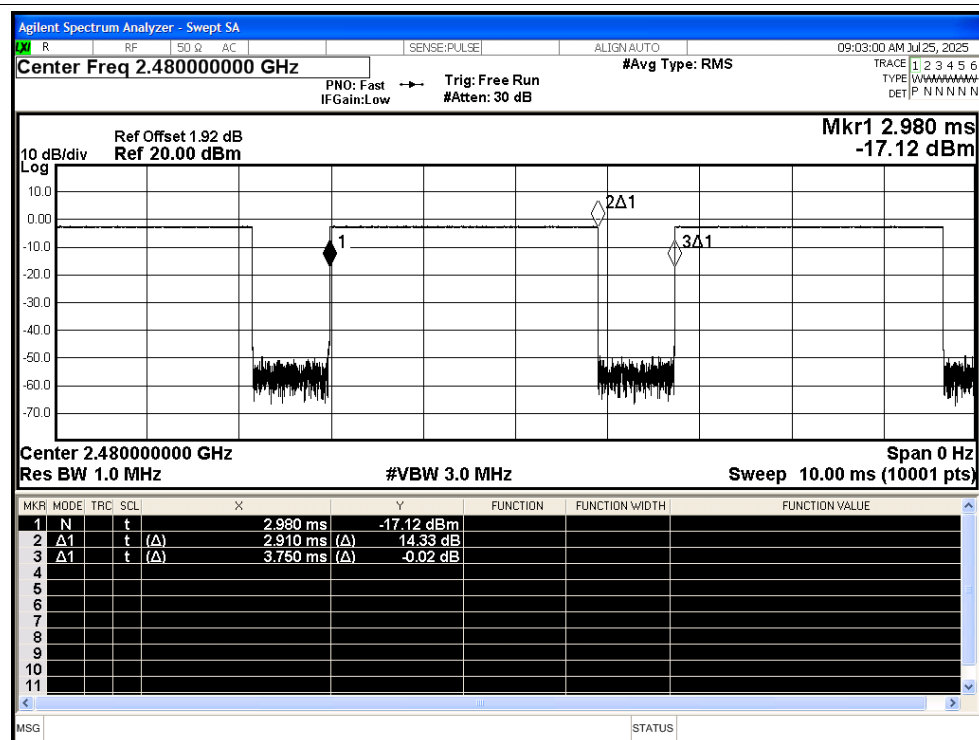
Duty Cycle NVNT 1-DH5 2402MHz Ant1



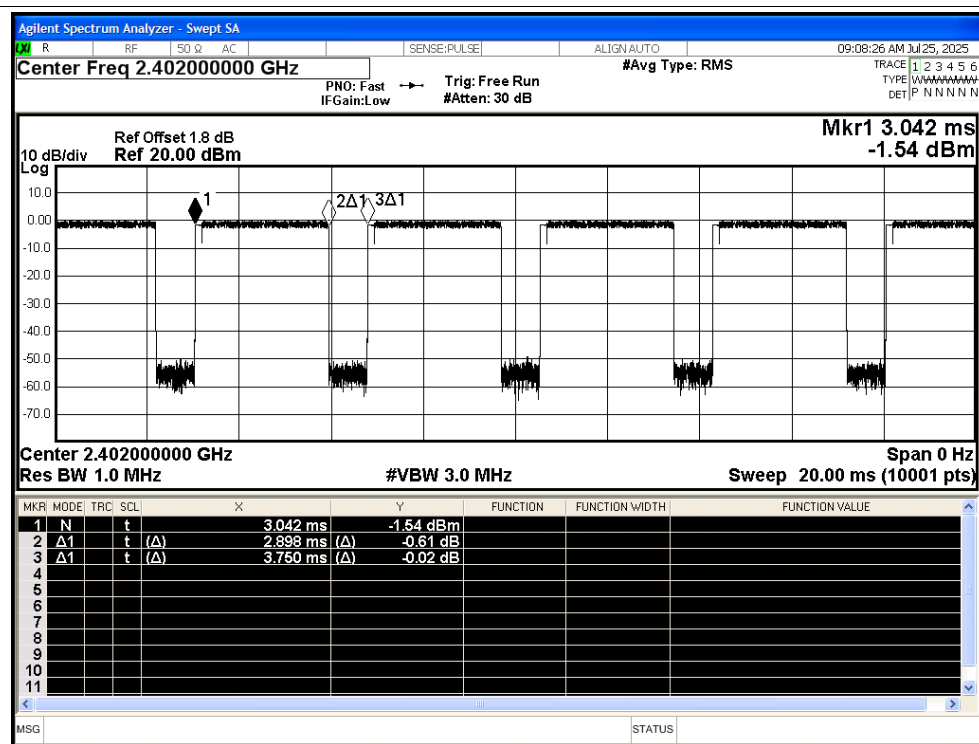
Duty Cycle NVNT 1-DH5 2441MHz Ant1



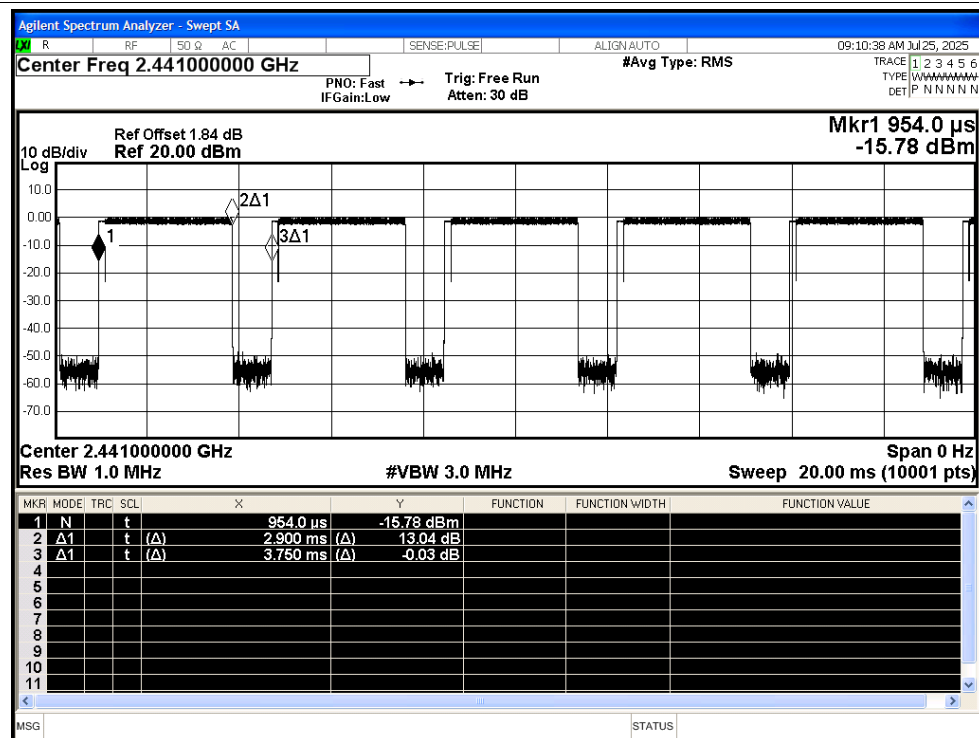
Duty Cycle NVNT 1-DH5 2480MHz Ant1



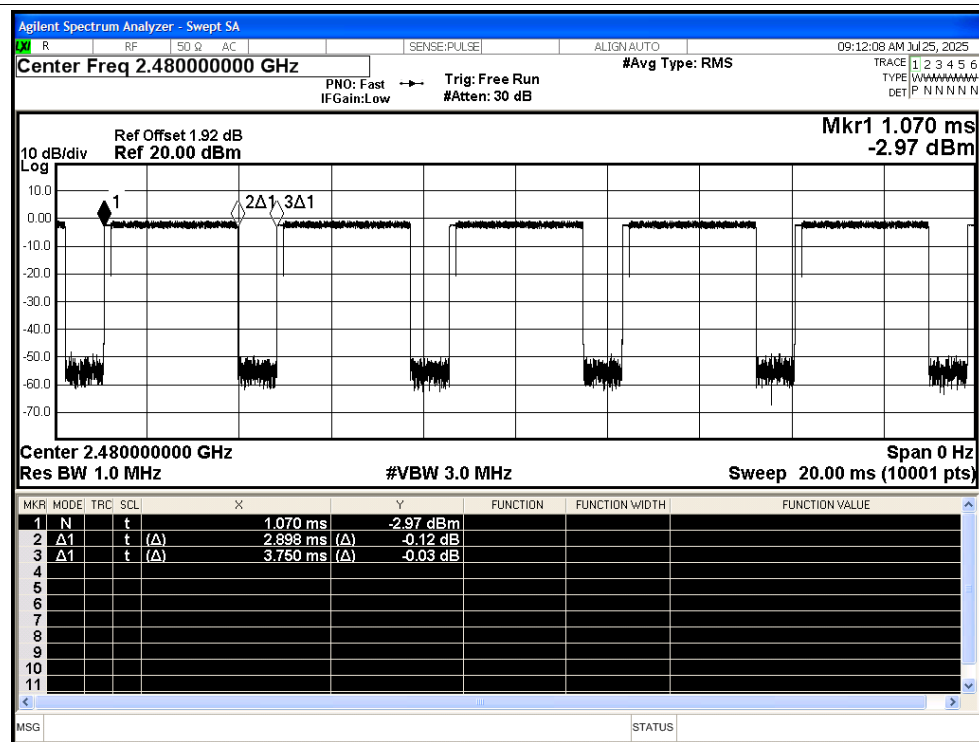
Duty Cycle NVNT 2-DH5 2402MHz Ant1



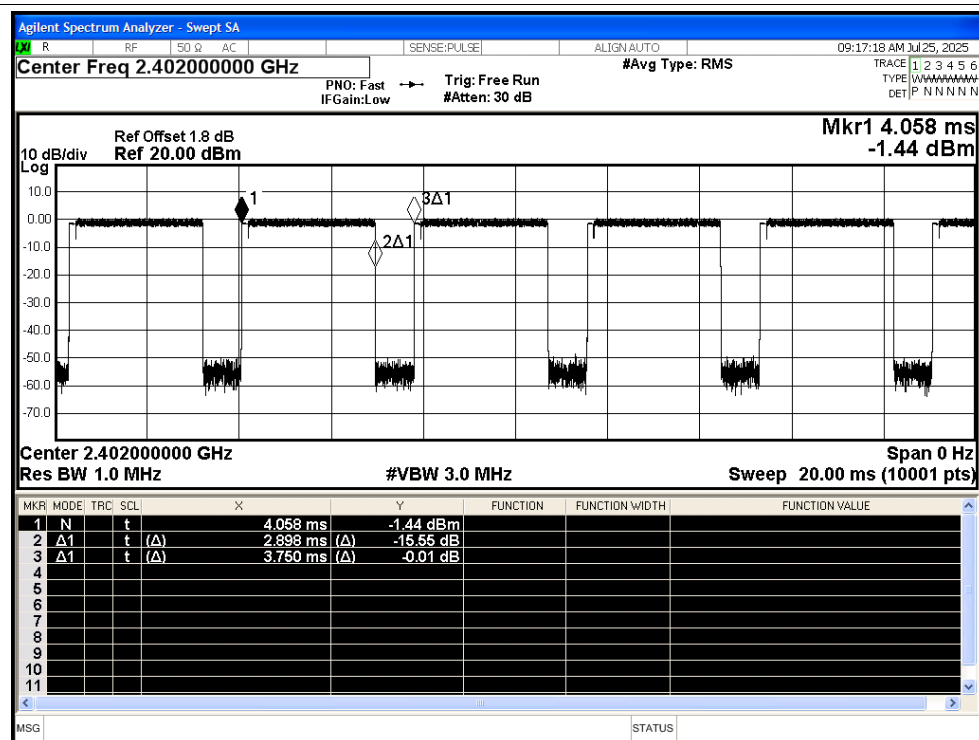
Duty Cycle NVNT 2-DH5 2441MHz Ant1



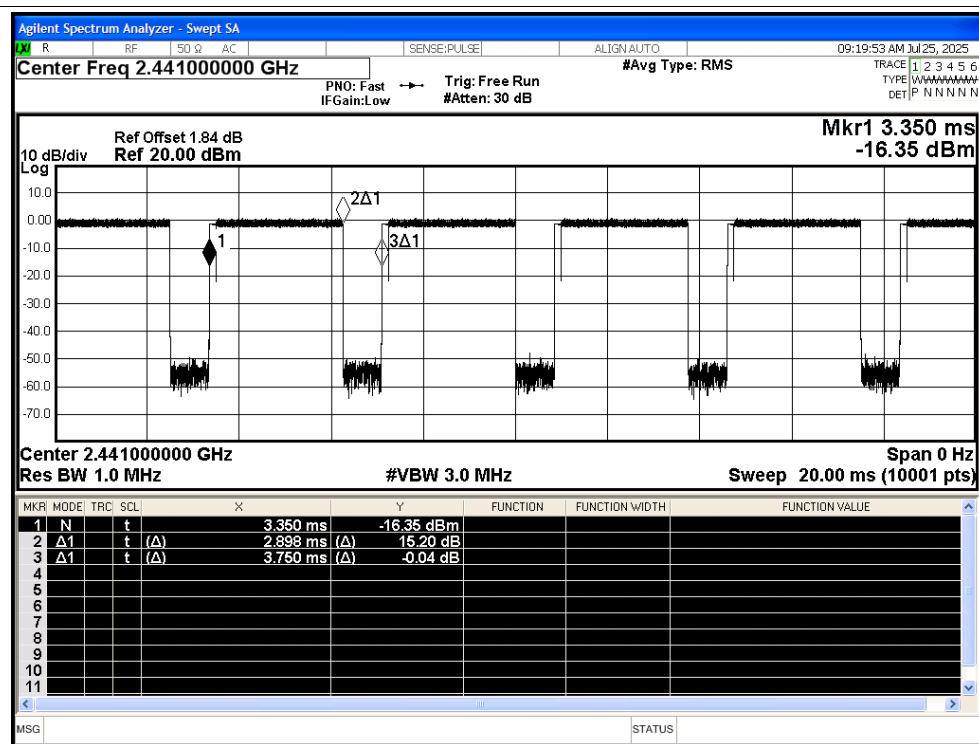
Duty Cycle NVNT 2-DH5 2480MHz Ant1

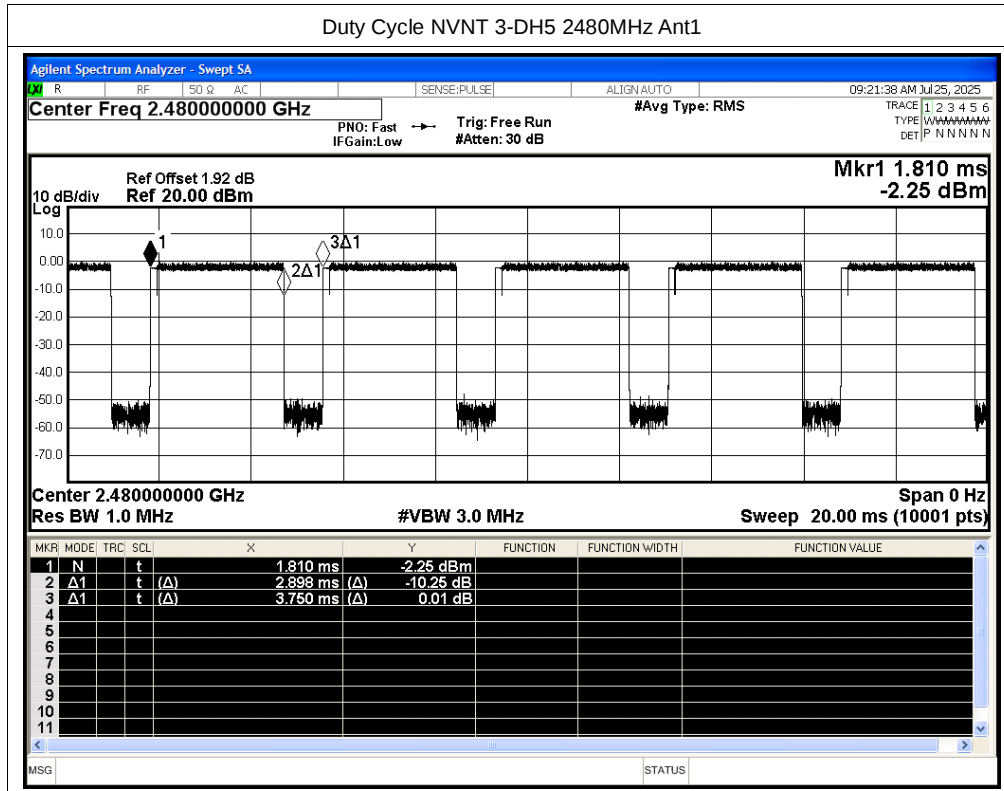


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



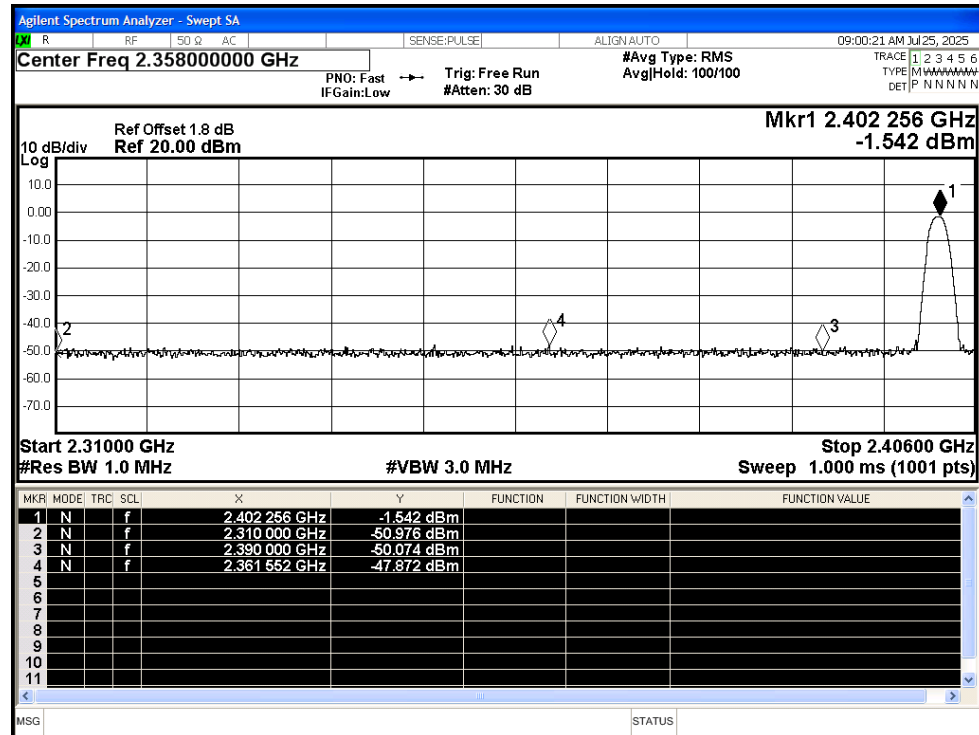


A.9 Restrict Band

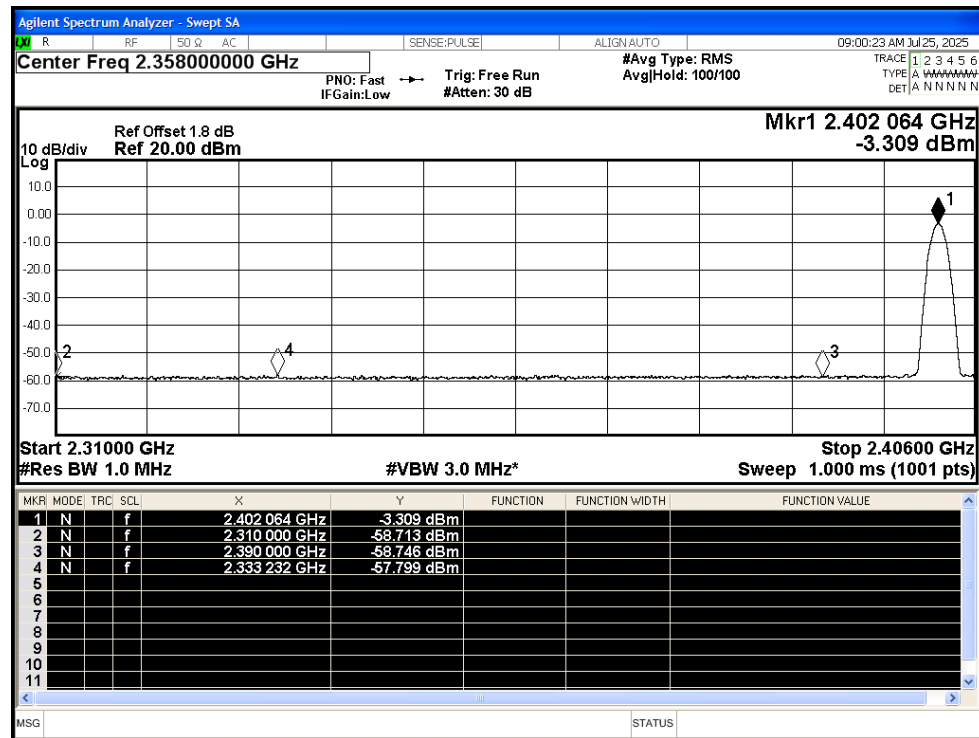
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.98	2	-	46.28	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.71	2	1.1	39.65	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2361.552	-47.87	2	-	49.39	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2333.232	-57.8	2	1.1	40.56	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.07	2	-	47.19	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.75	2	1.1	39.61	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.04	2	-	49.22	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.93	2	1.1	40.43	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.448	-46.65	2	-	50.61	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.16	-57.45	2	1.1	40.91	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.93	2	-	46.33	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.94	2	1.1	40.42	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.7	2	-	47.56	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.08	2	1.12	39.3	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2369.04	-47.12	2	-	50.14	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382.768	-57.84	2	1.12	40.54	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.02	2	-	46.24	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.49	2	1.12	39.89	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-47.19	2	-	50.07	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.14	2	1.12	40.24	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.768	-46.12	2	-	51.14	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.848	-57.32	2	1.12	41.06	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.4	2	-	48.86	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.01	2	1.12	40.37	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.92	2	-	47.34	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.33	2	1.12	39.05	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2387.088	-45.8	2	-	51.46	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2382.672	-57.72	2	1.12	40.66	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-51.32	2	-	45.94	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.28	2	1.12	40.1	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.47	2	-	48.79	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.36	2	1.12	41.02	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.288	-46.13	2	-	51.13	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2490.832	-57.26	2	1.12	41.12	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.75	2	-	47.51	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.95	2	1.12	40.43	Average	54	Pass

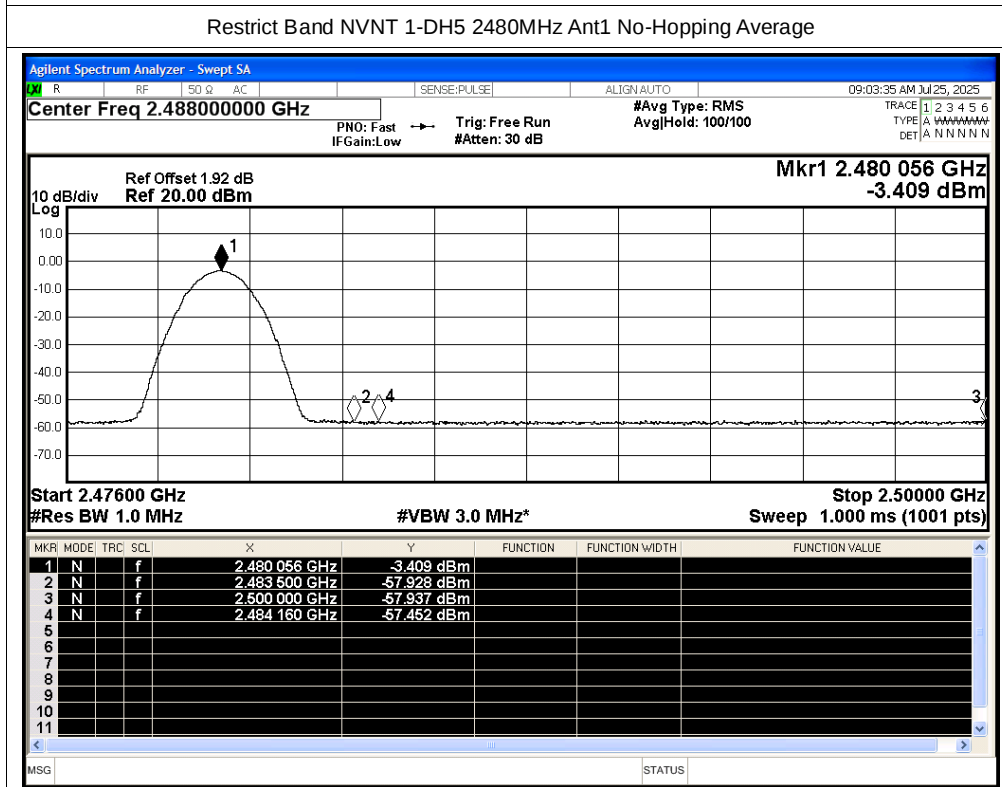
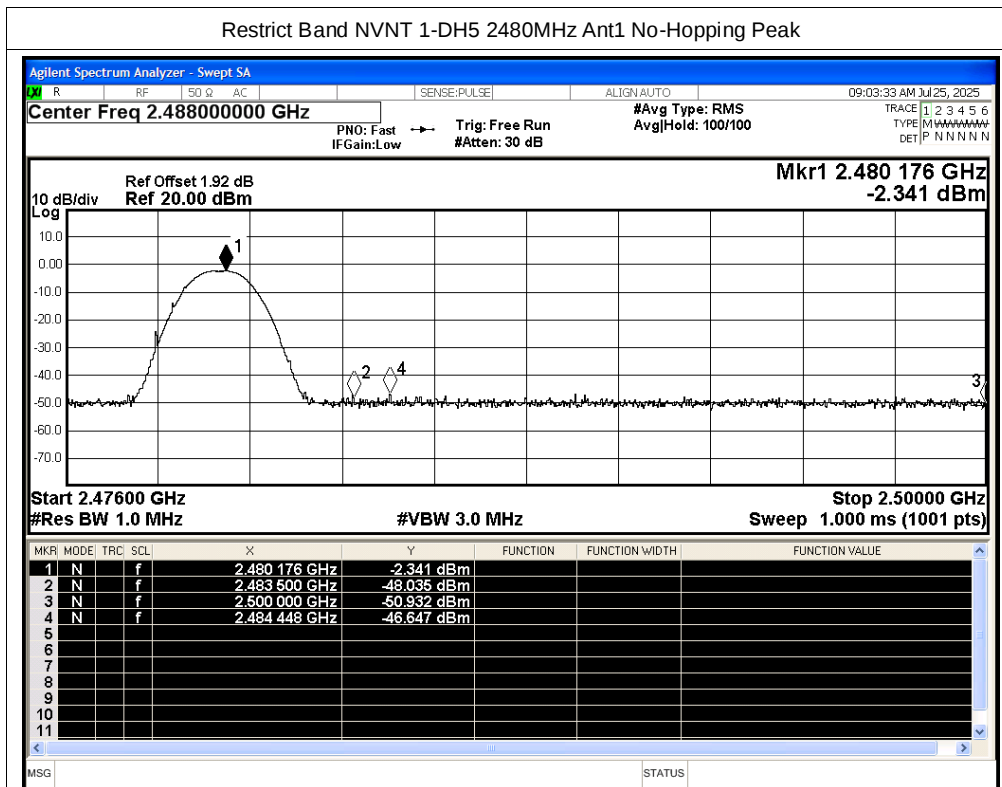
Test Graphs

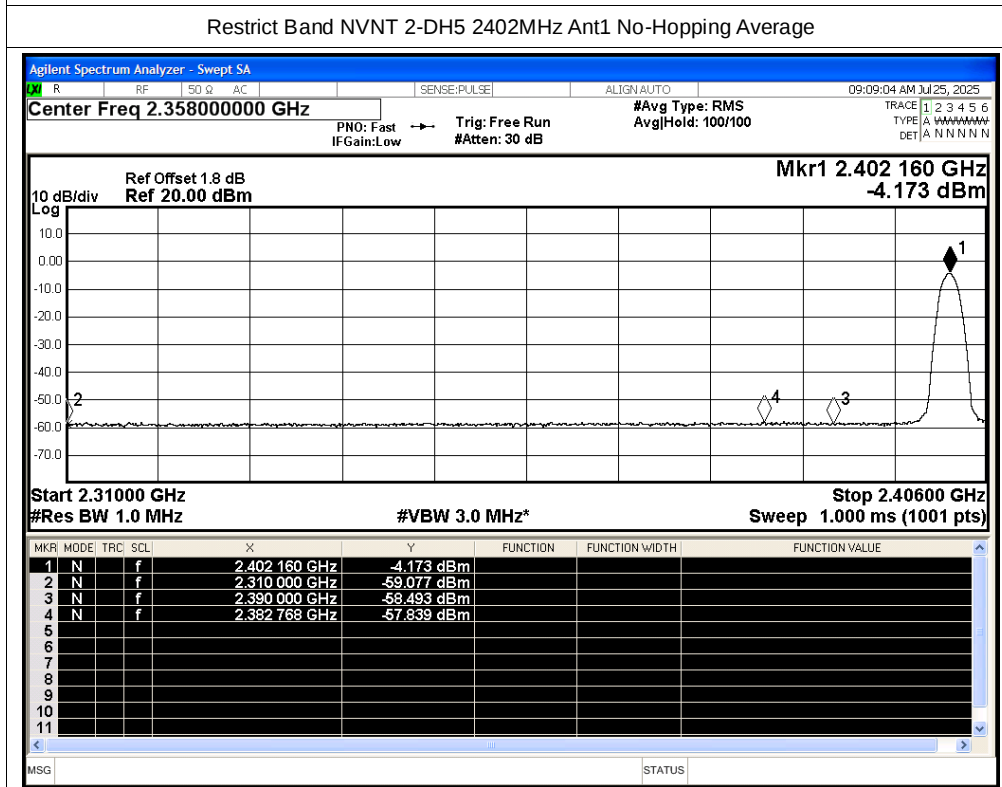
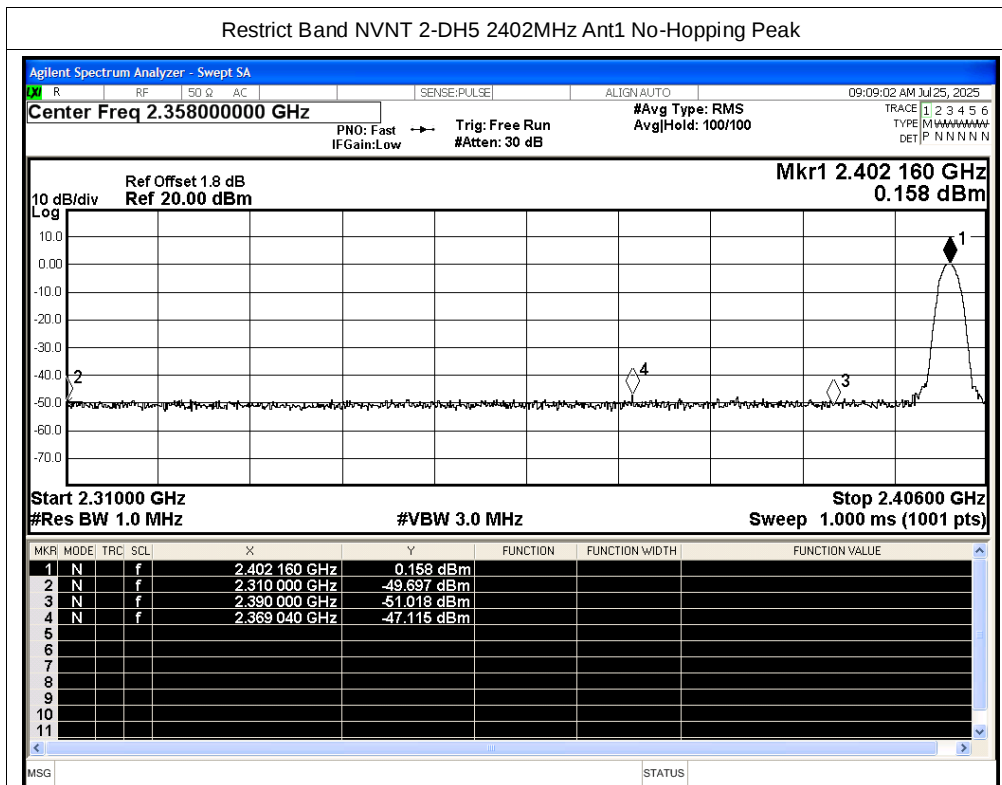
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



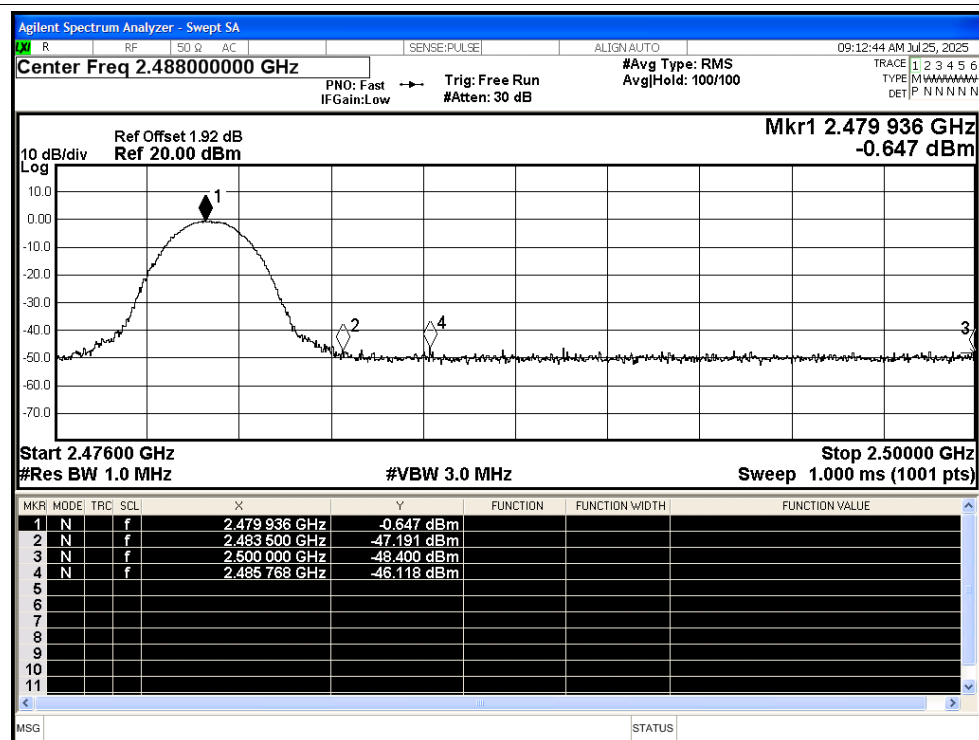
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average







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



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

