

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: LED PROJECTOR

Test Model: L018AQ

Environmental Conditions

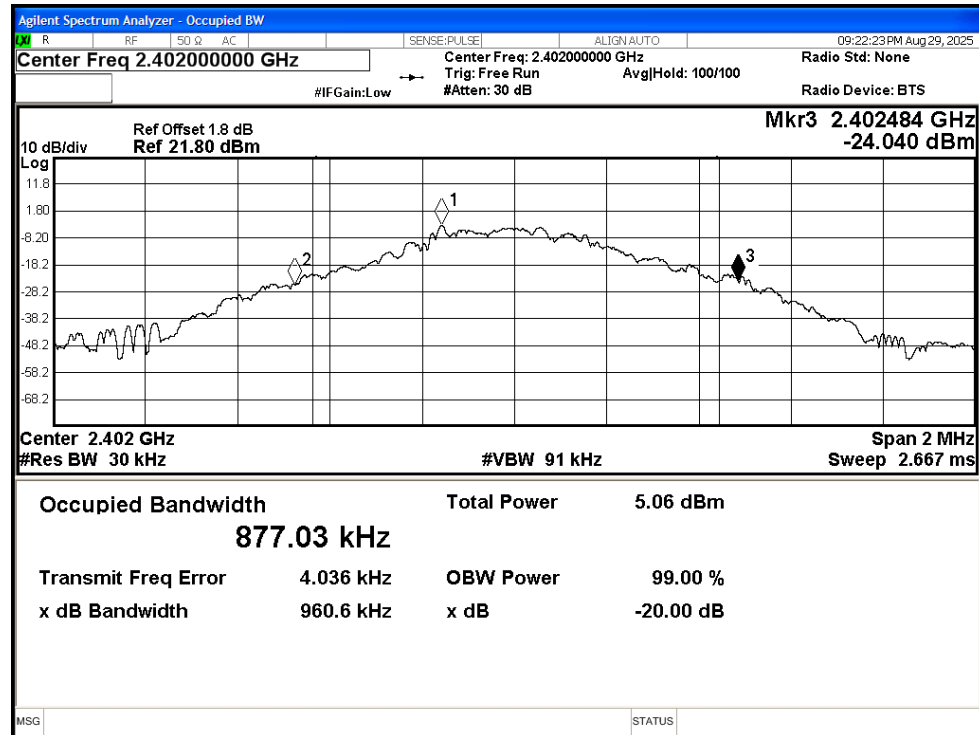
Temperature:	23.6°C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.961	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.01	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.31	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.286	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.298	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.295	N/A	Pass

Test Graphs

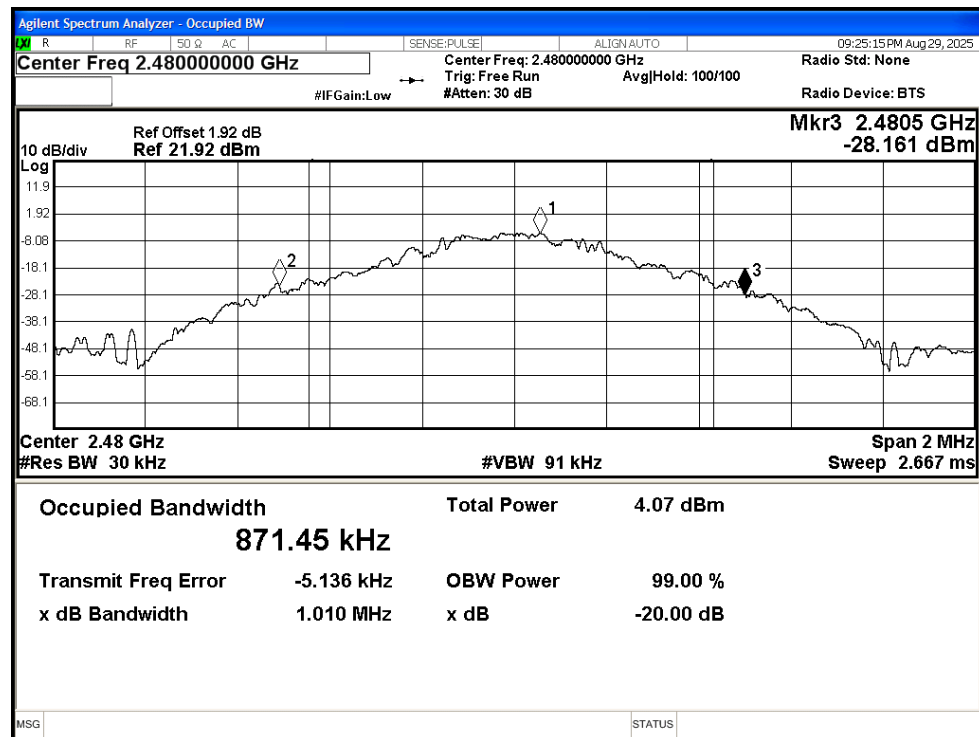
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



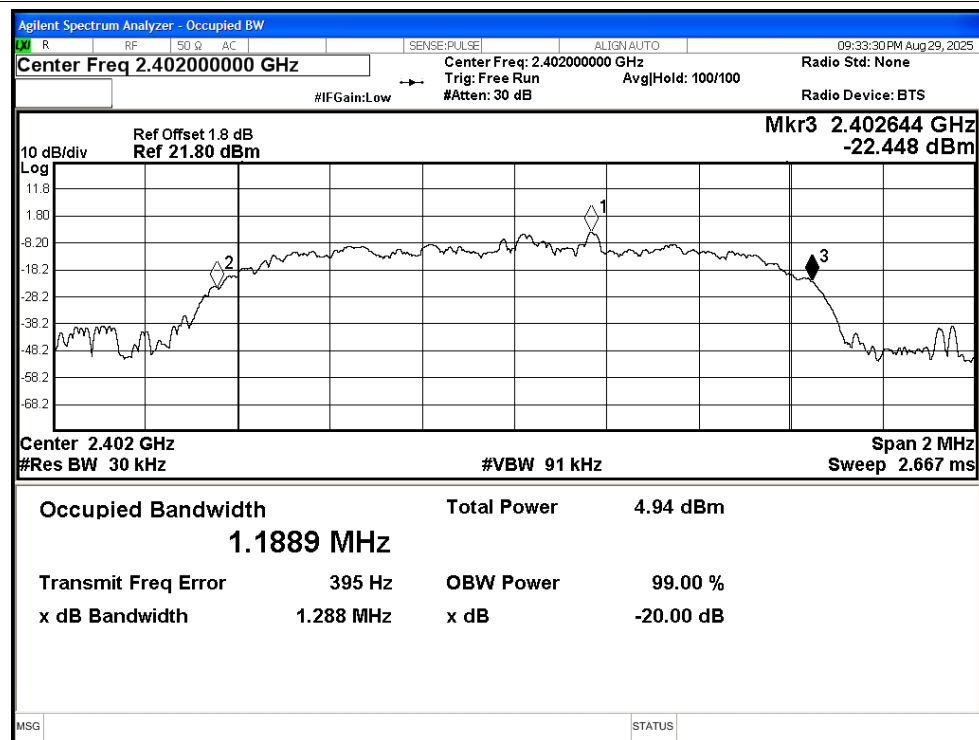
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



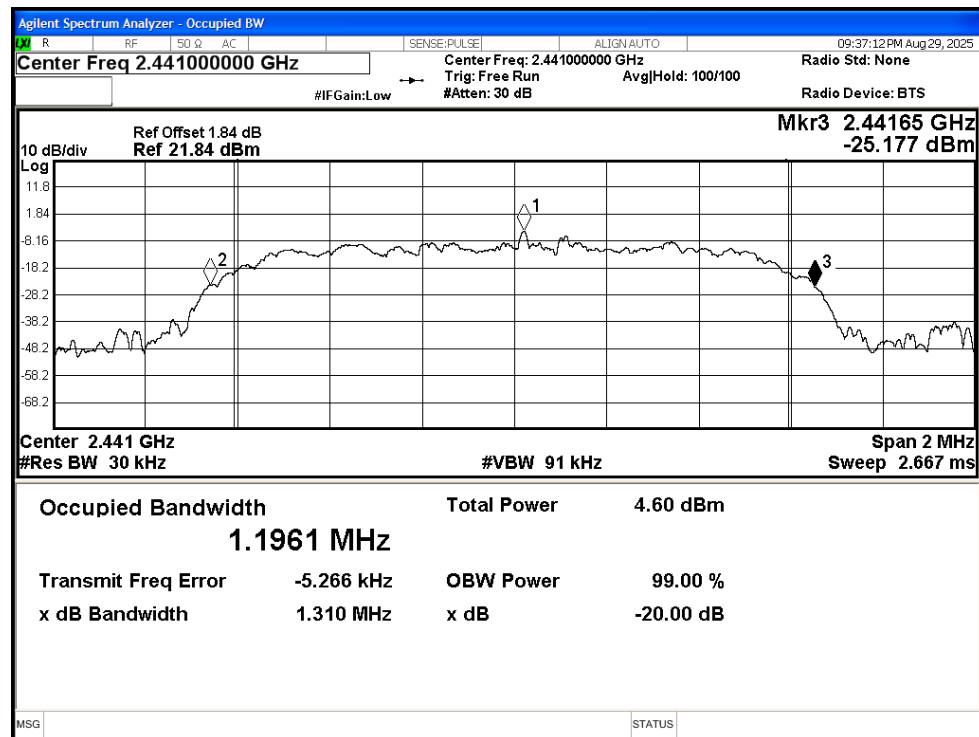
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



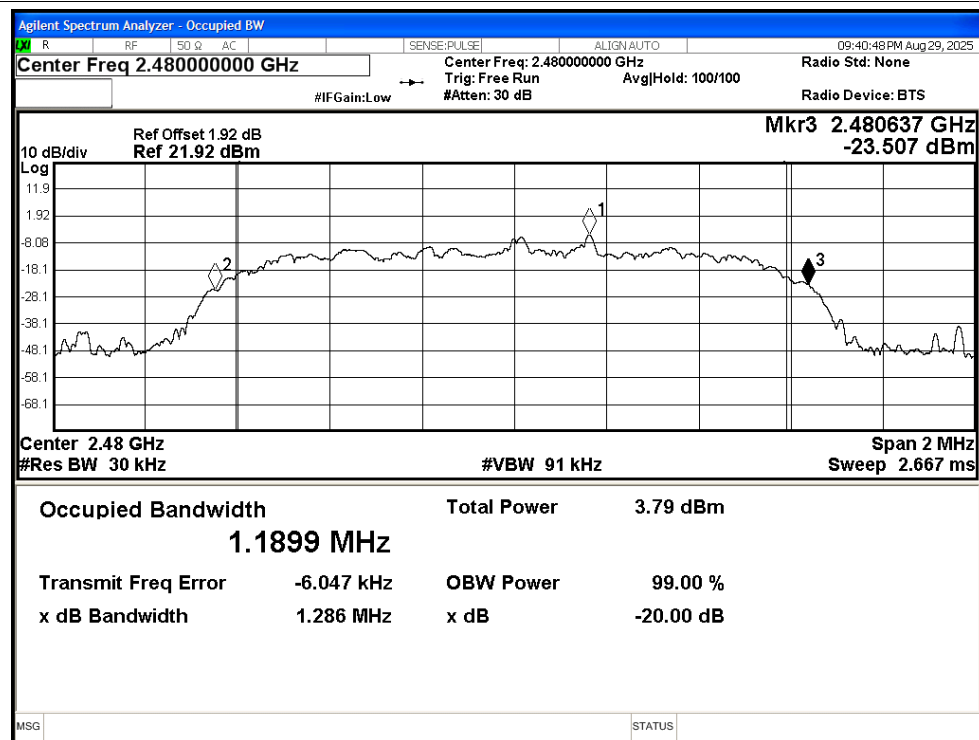
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



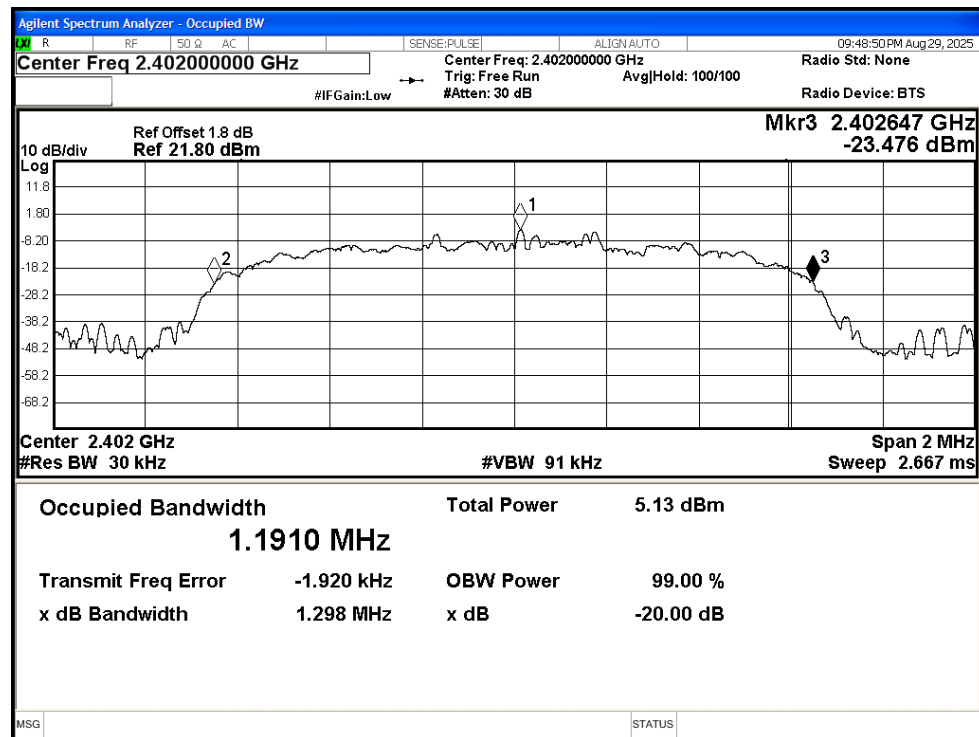
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



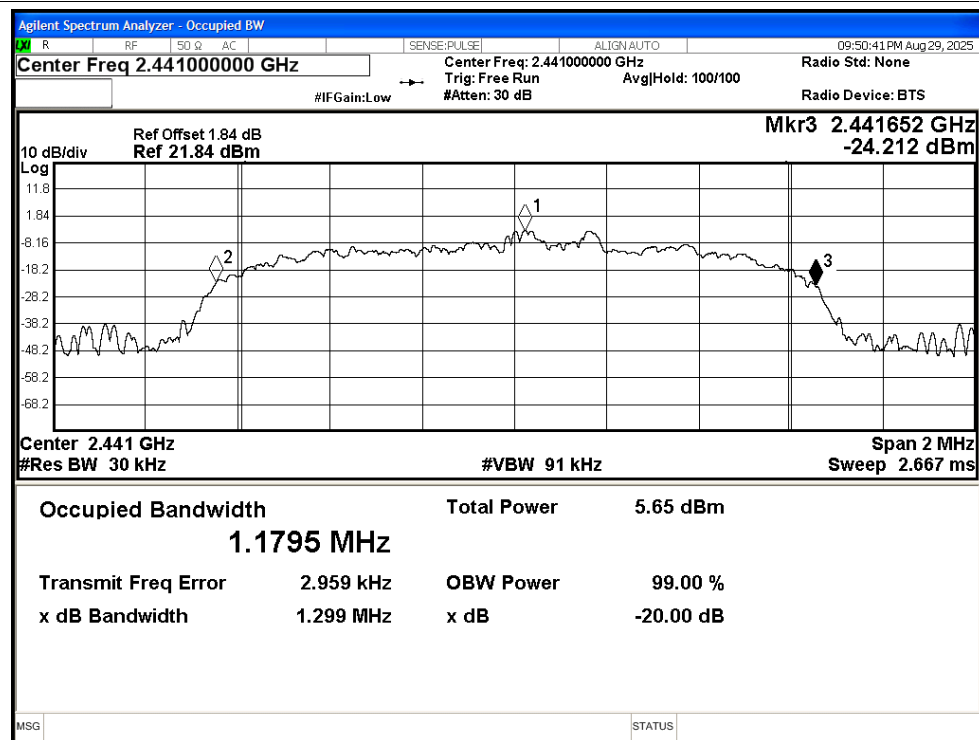
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

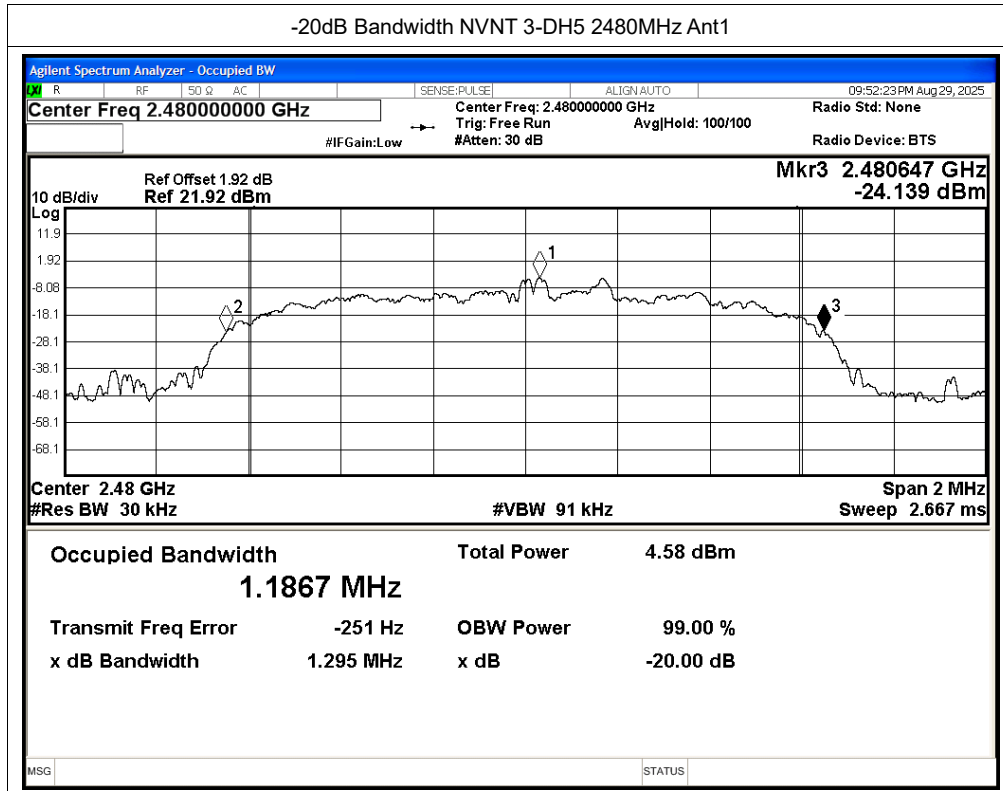


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



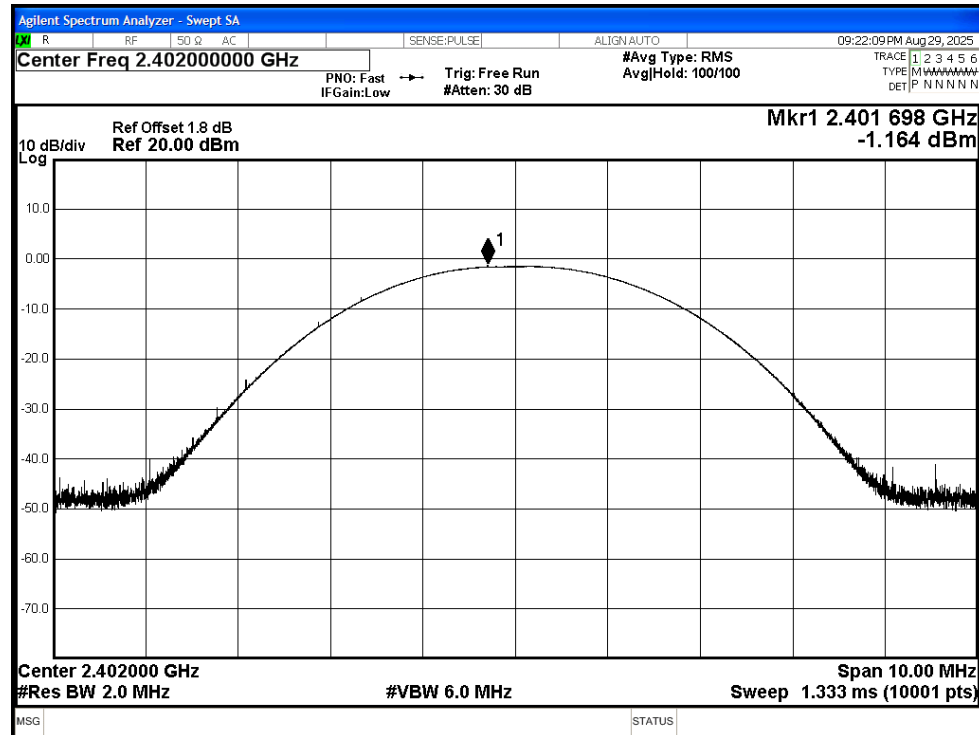


A.2 Maximum Peak Conducted Output Power

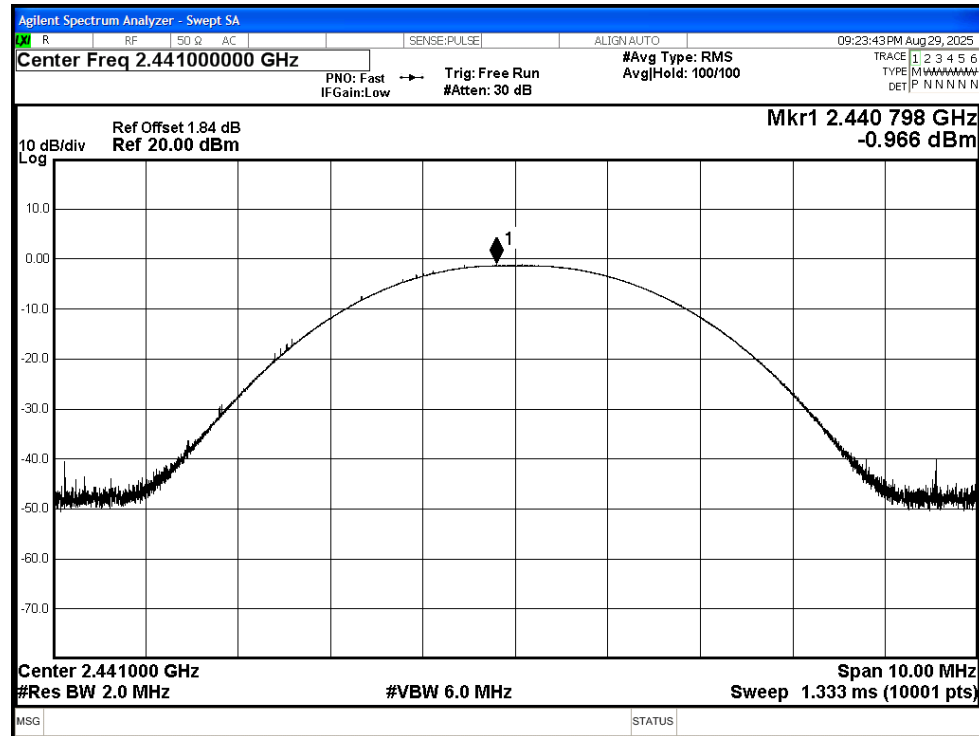
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.16	21	Pass
NVNT	1-DH5	2441	Ant1	-0.97	21	Pass
NVNT	1-DH5	2480	Ant1	-1.98	21	Pass
NVNT	2-DH5	2402	Ant1	0.74	21	Pass
NVNT	2-DH5	2441	Ant1	0.81	21	Pass
NVNT	2-DH5	2480	Ant1	-0.26	21	Pass
NVNT	3-DH5	2402	Ant1	1.2	21	Pass
NVNT	3-DH5	2441	Ant1	1.41	21	Pass
NVNT	3-DH5	2480	Ant1	0.31	21	Pass

Test Graphs

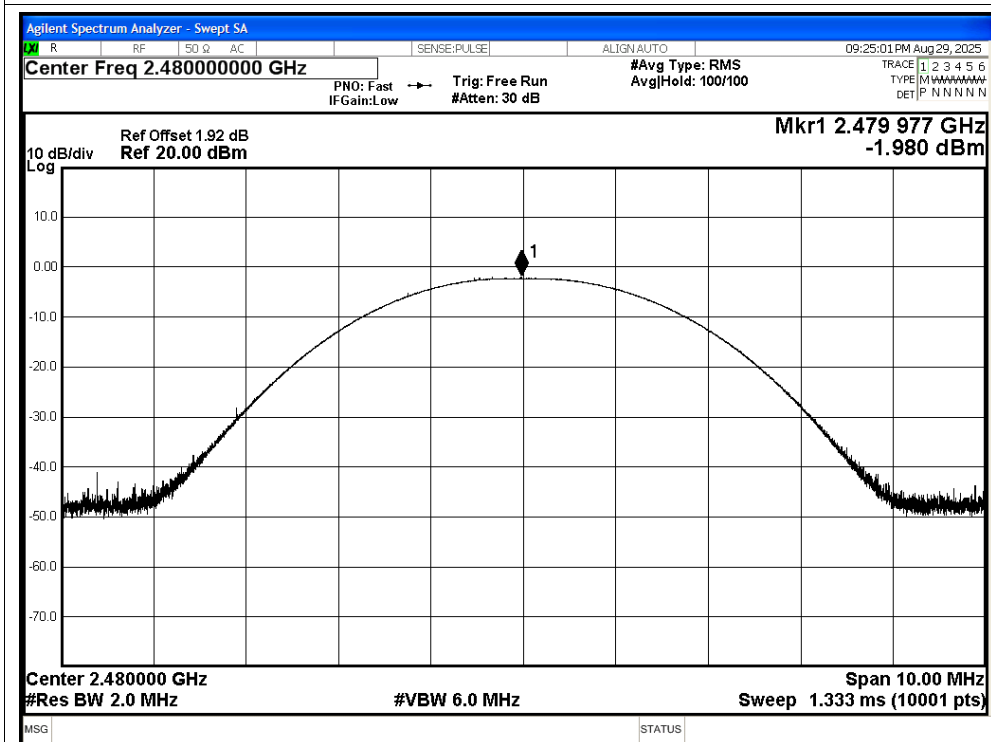
Power NVNT 1-DH5 2402MHz Ant1



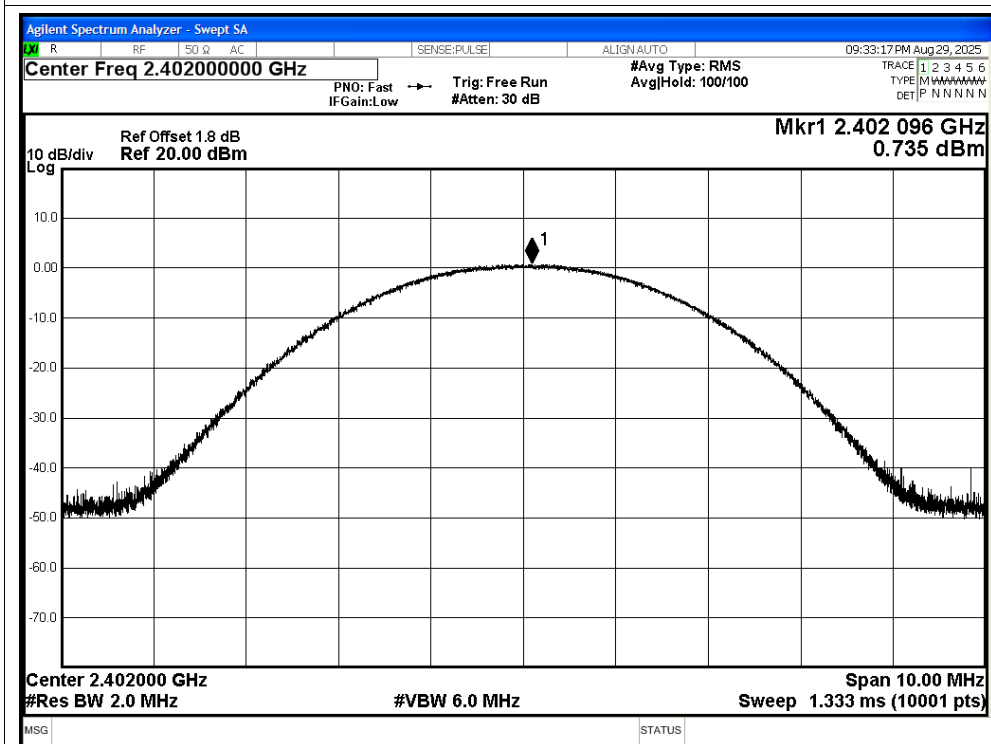
Power NVNT 1-DH5 2441MHz Ant1



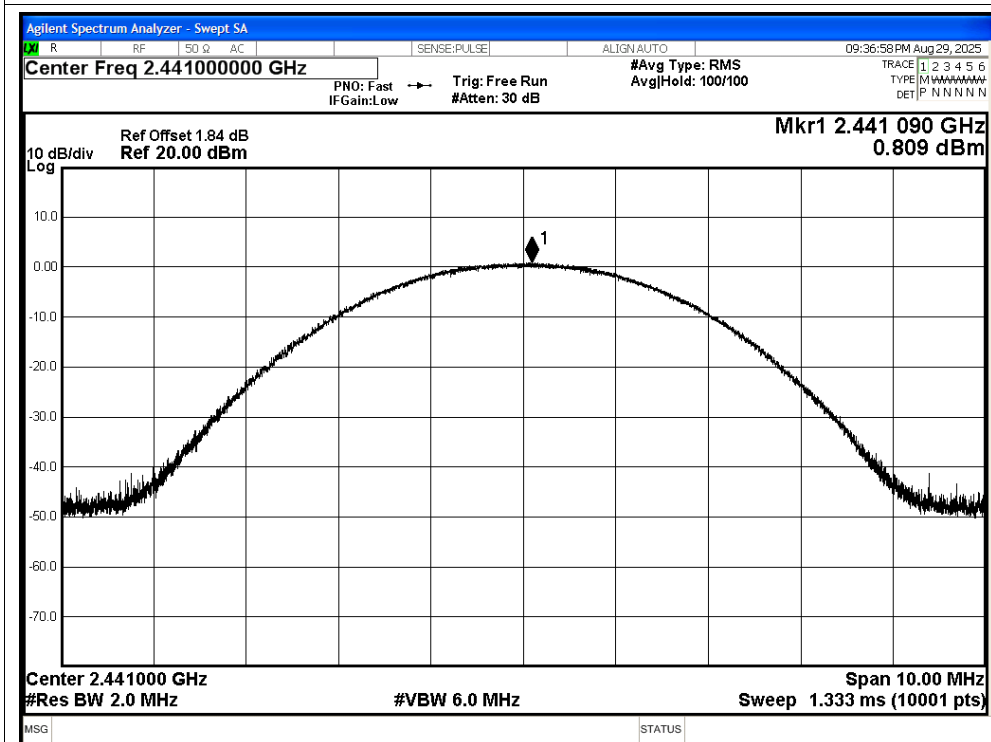
Power NVNT 1-DH5 2480MHz Ant1



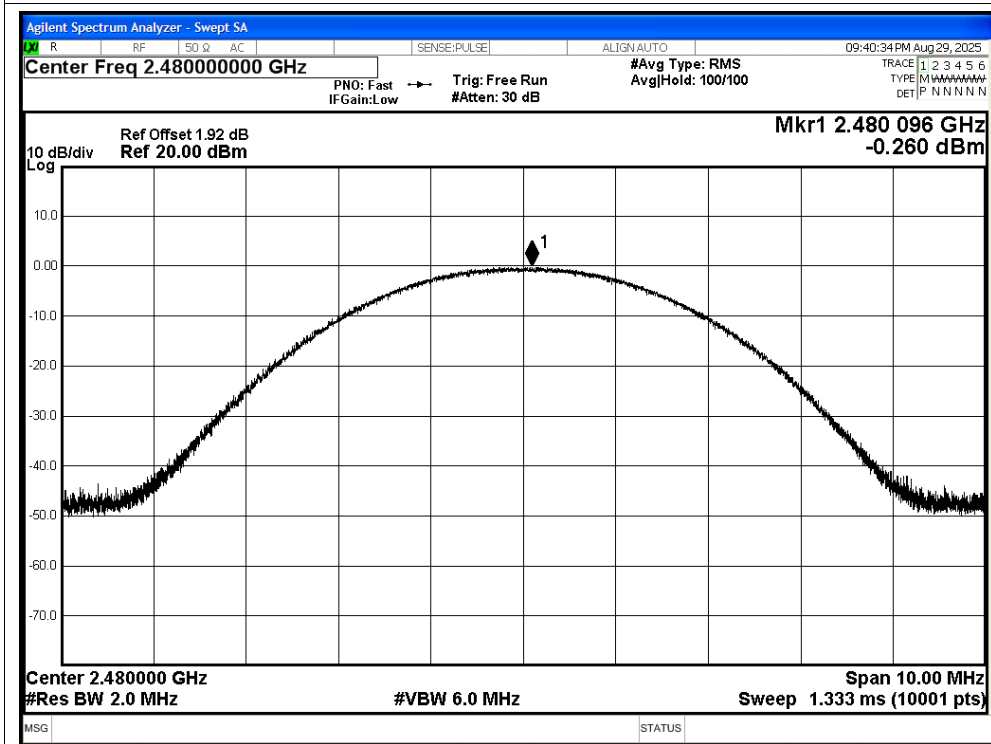
Power NVNT 2-DH5 2402MHz Ant1

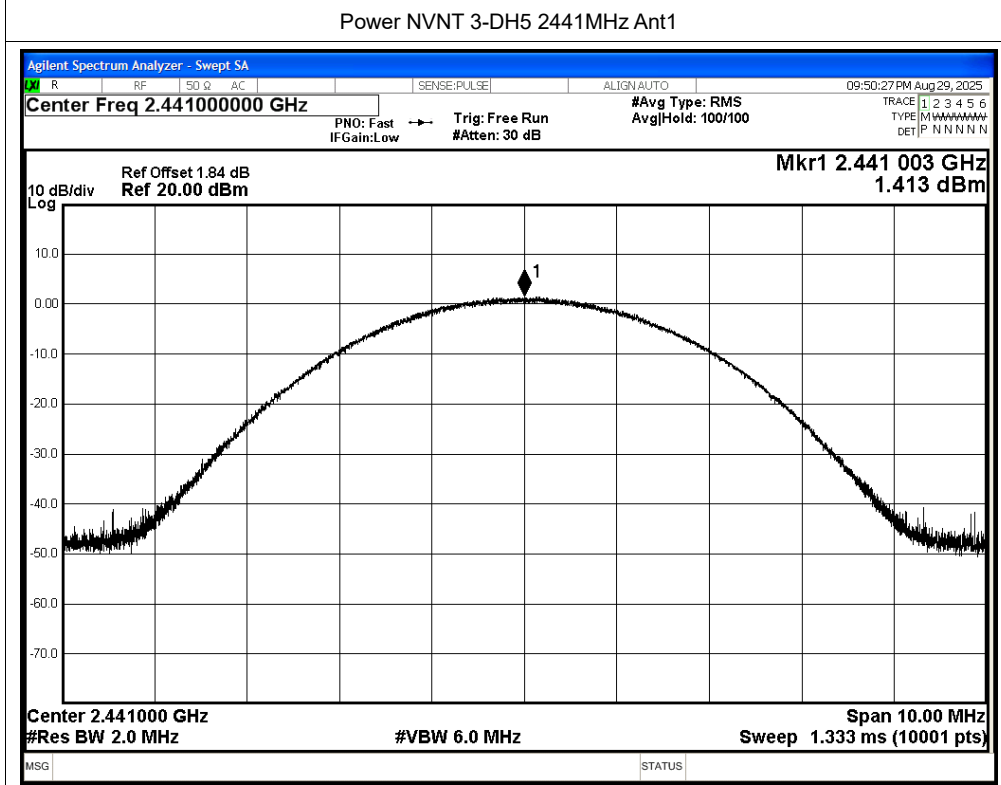
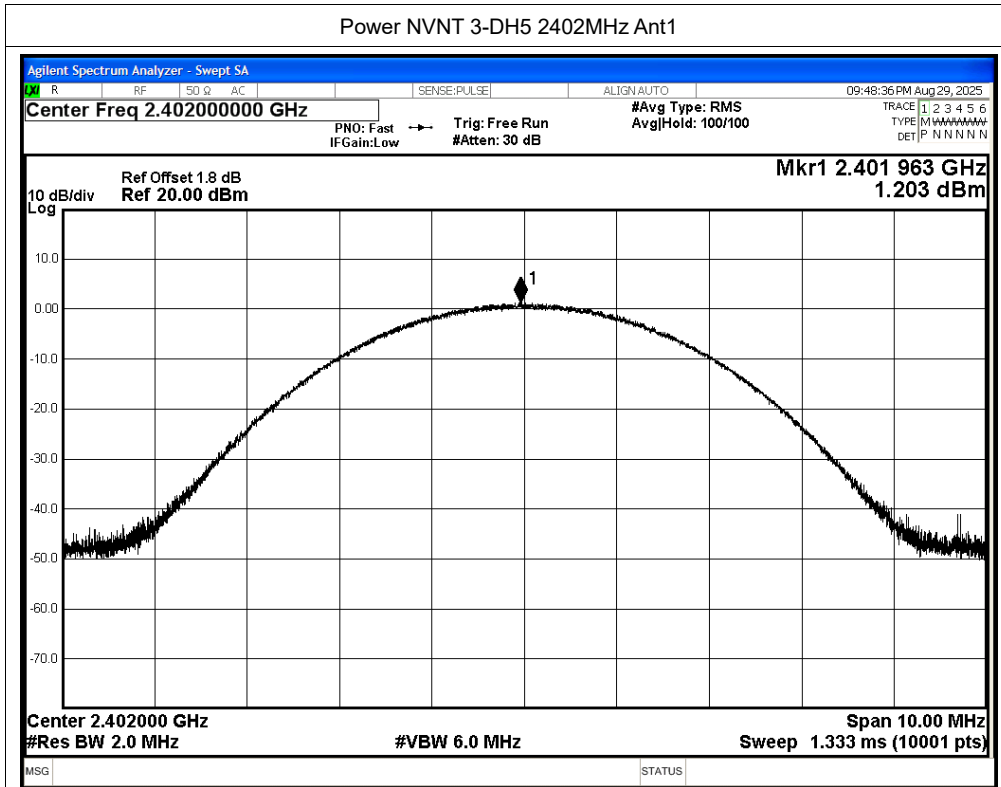


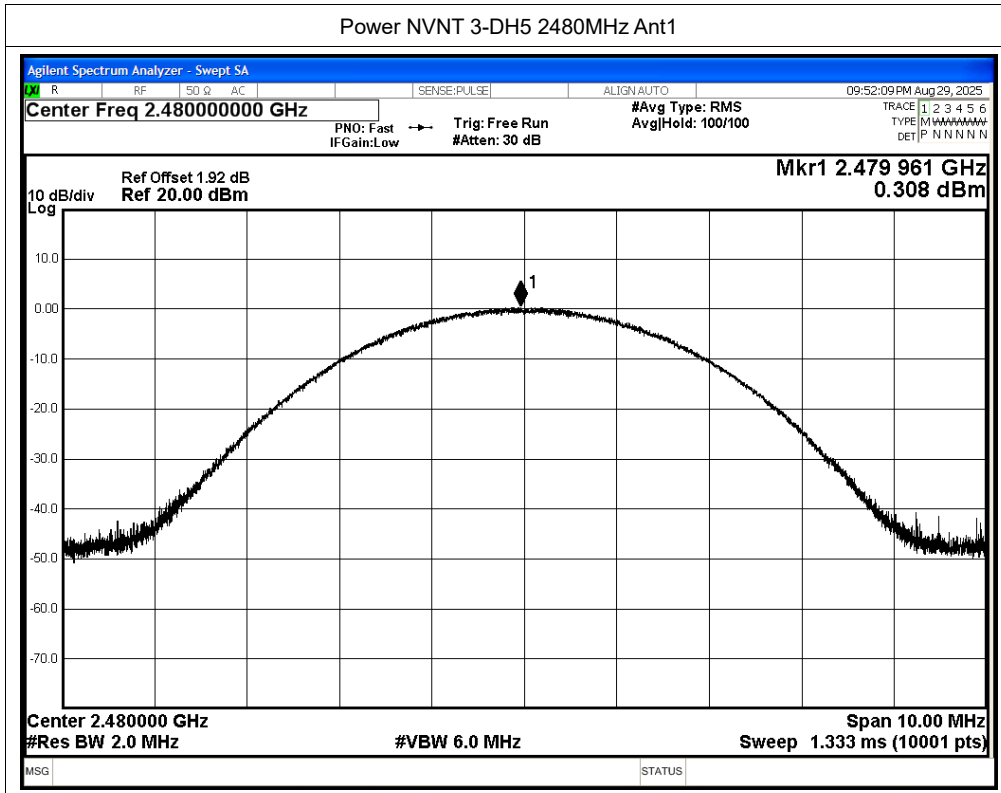
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1





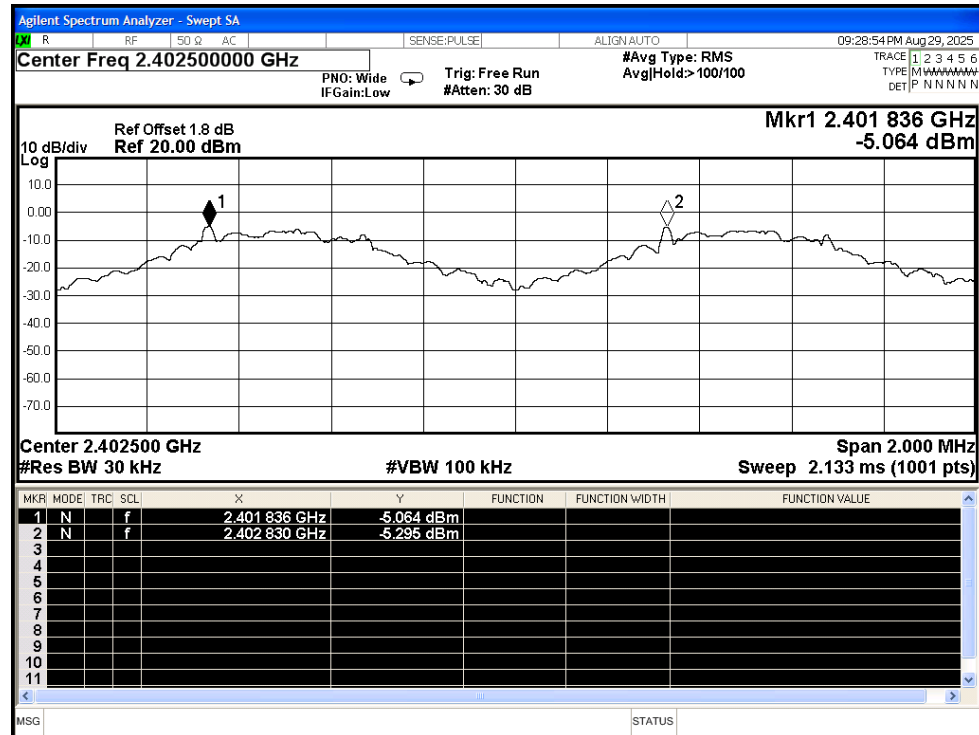


A.3 Carrier Frequencies Separation

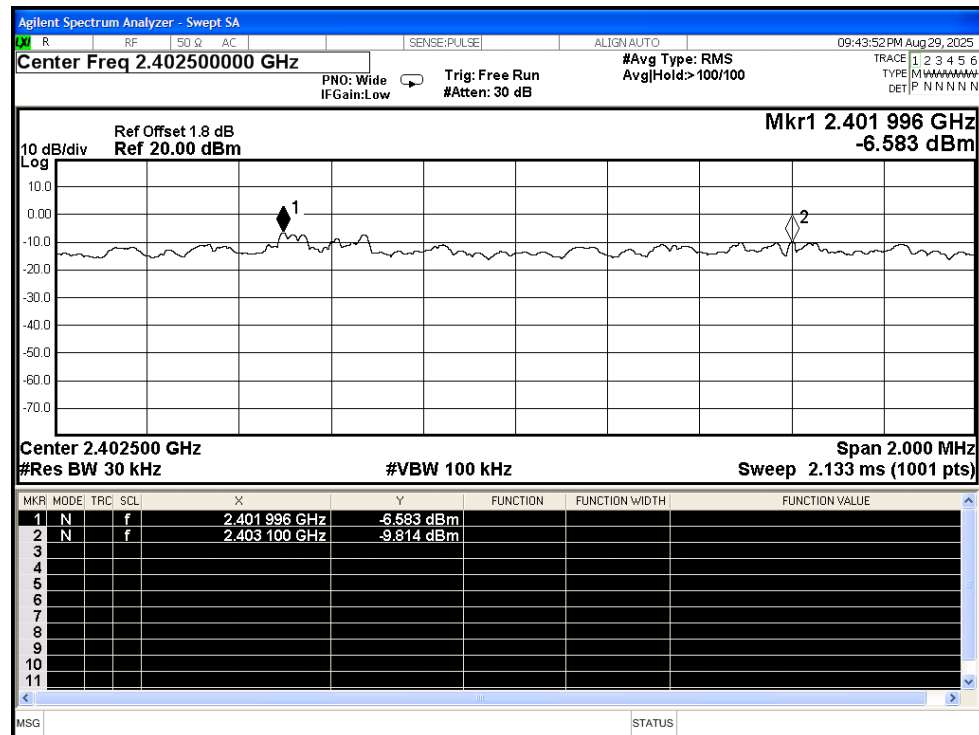
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.836	2402.83	0.994	0.673	Pass
NVNT	2-DH5	Ant1	2401.996	2403.1	1.104	0.873	Pass
NVNT	3-DH5	Ant1	2402.016	2403.018	1.002	0.866	Pass

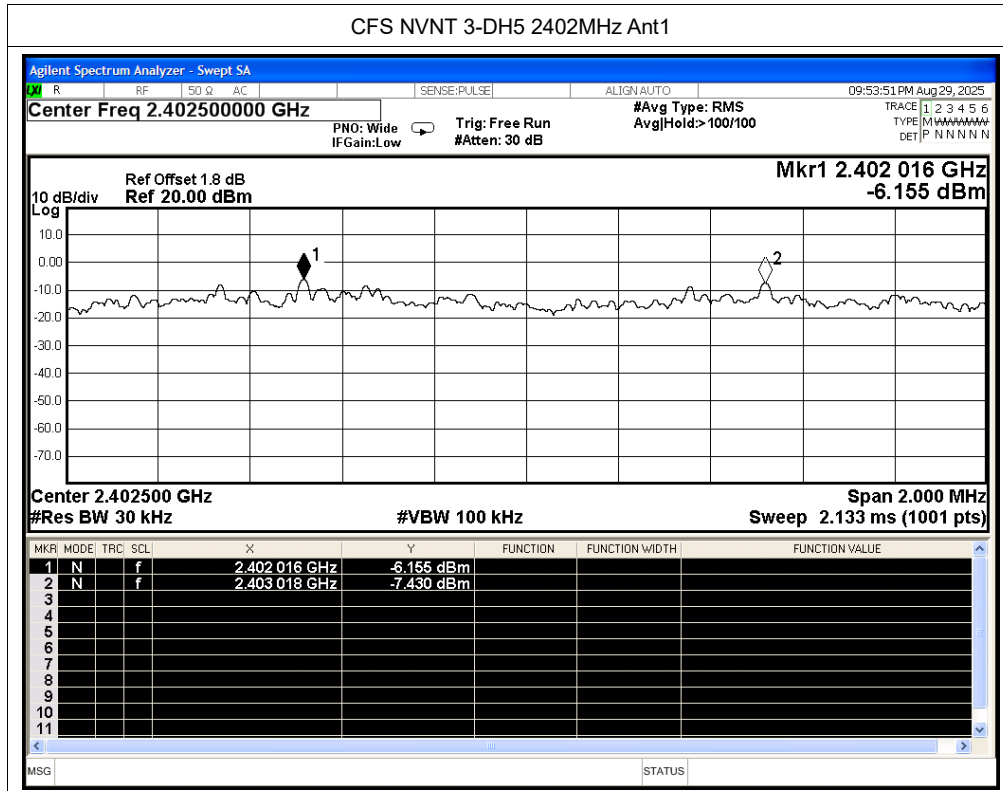
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



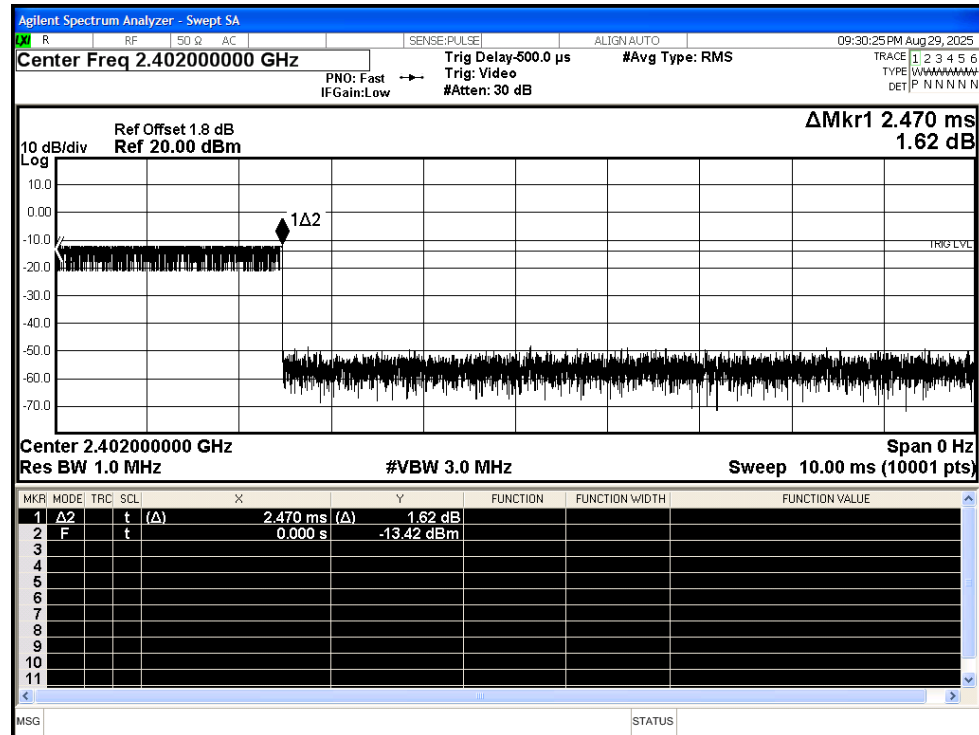


A.4 Dwell Time

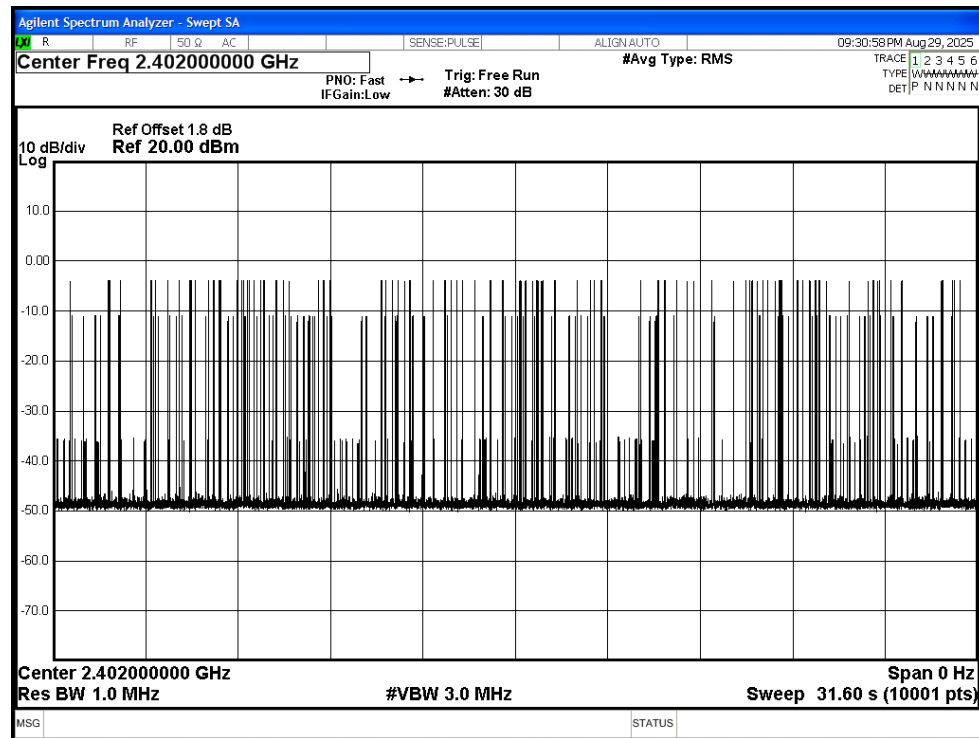
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.47	256.88	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.897	324.464	112	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	301.288	104	31600	400	Pass

Test Graphs

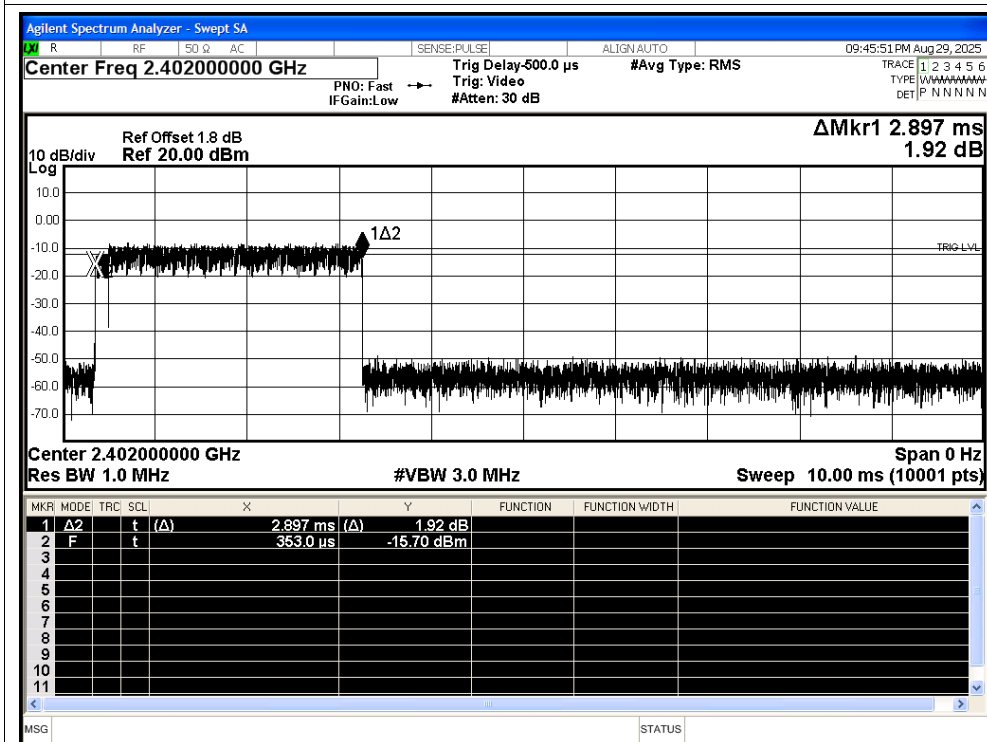
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



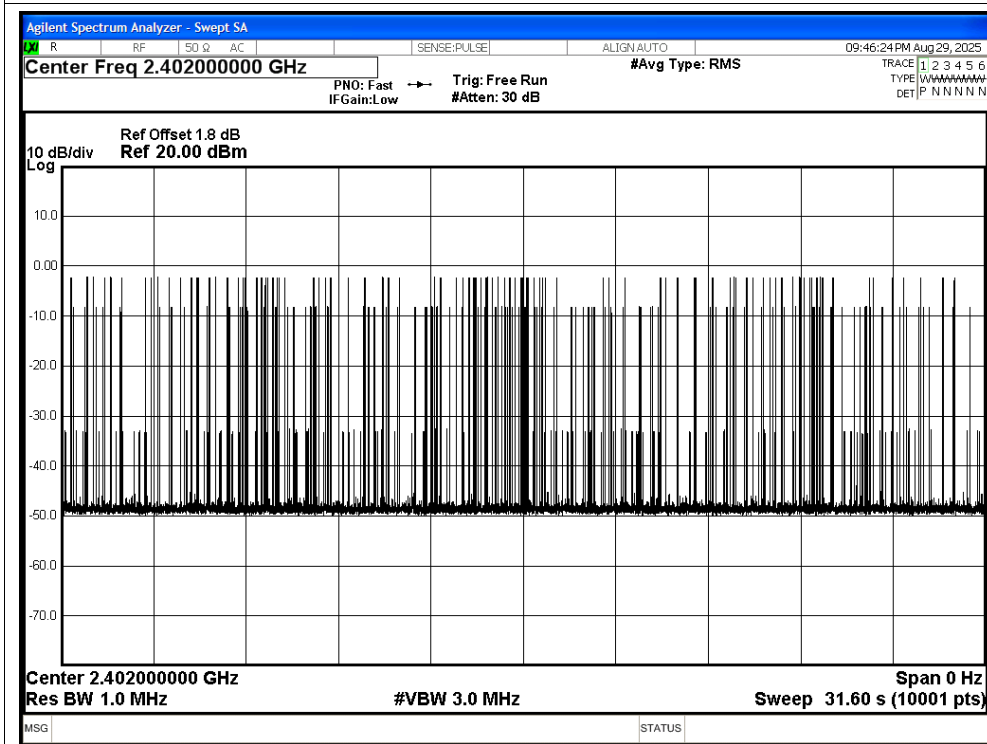
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



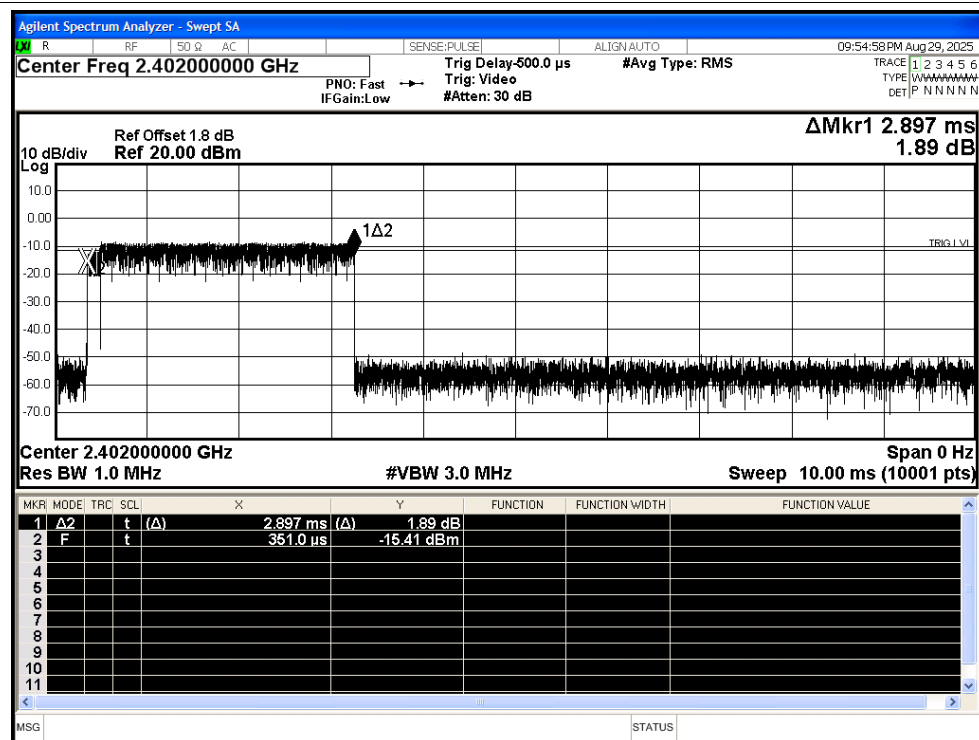
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



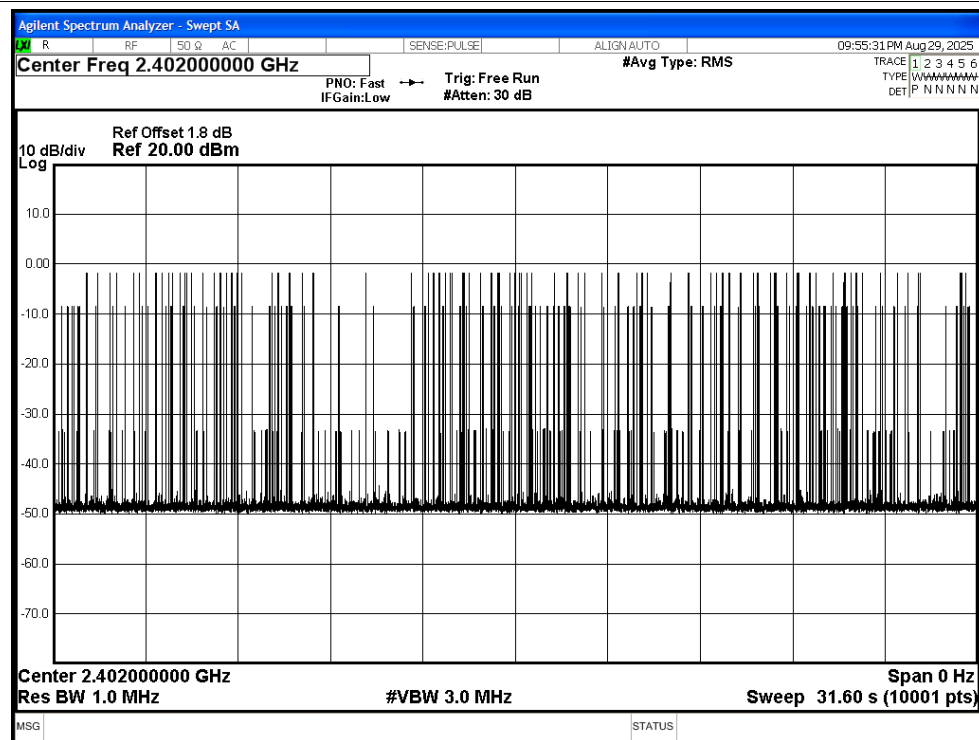
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

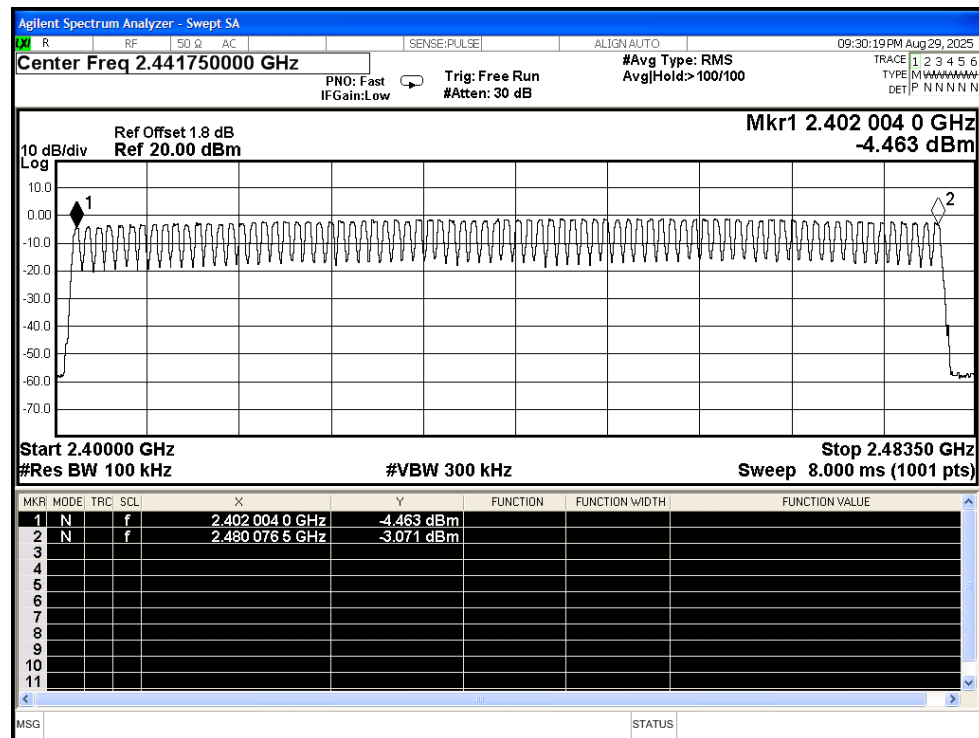


A.5 Number of Hopping Channel

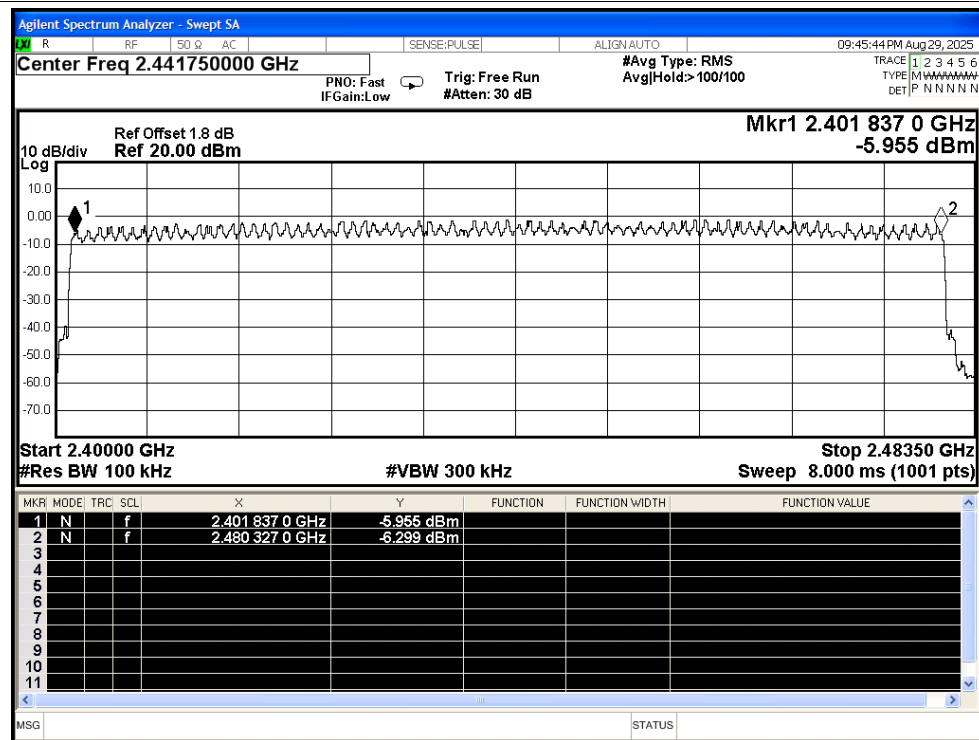
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

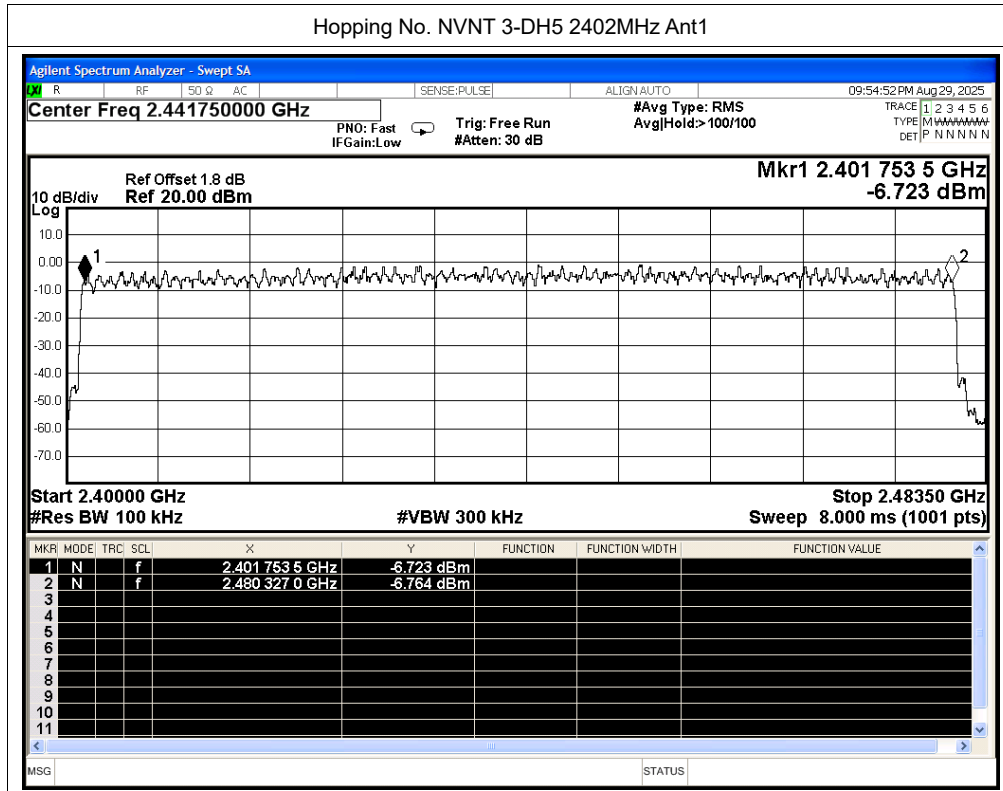
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



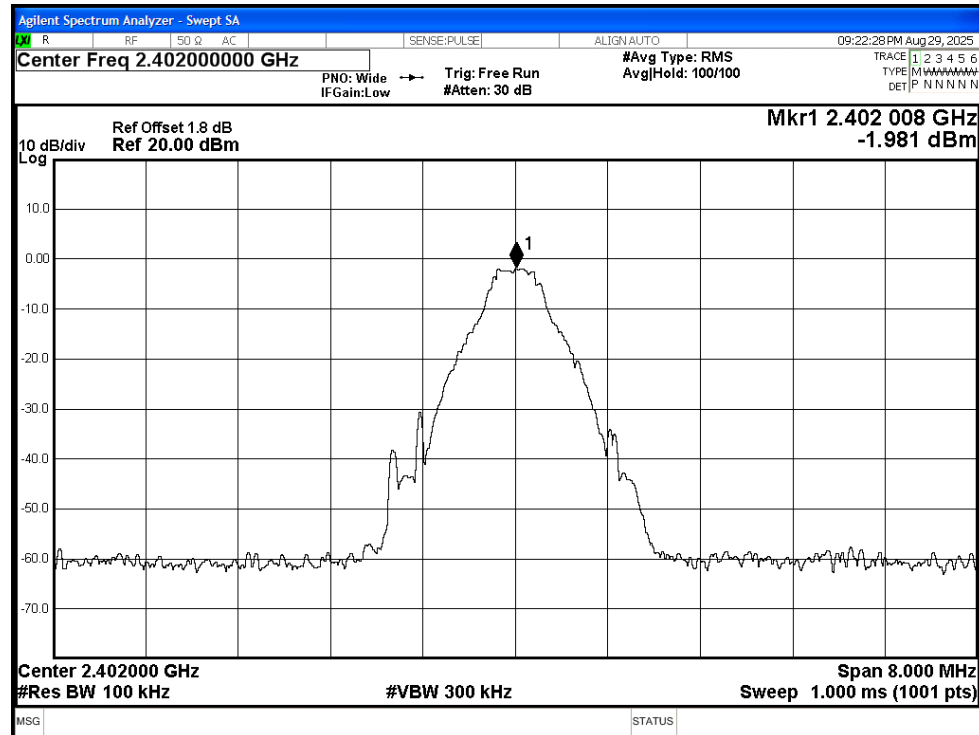


A.6 Band Edge

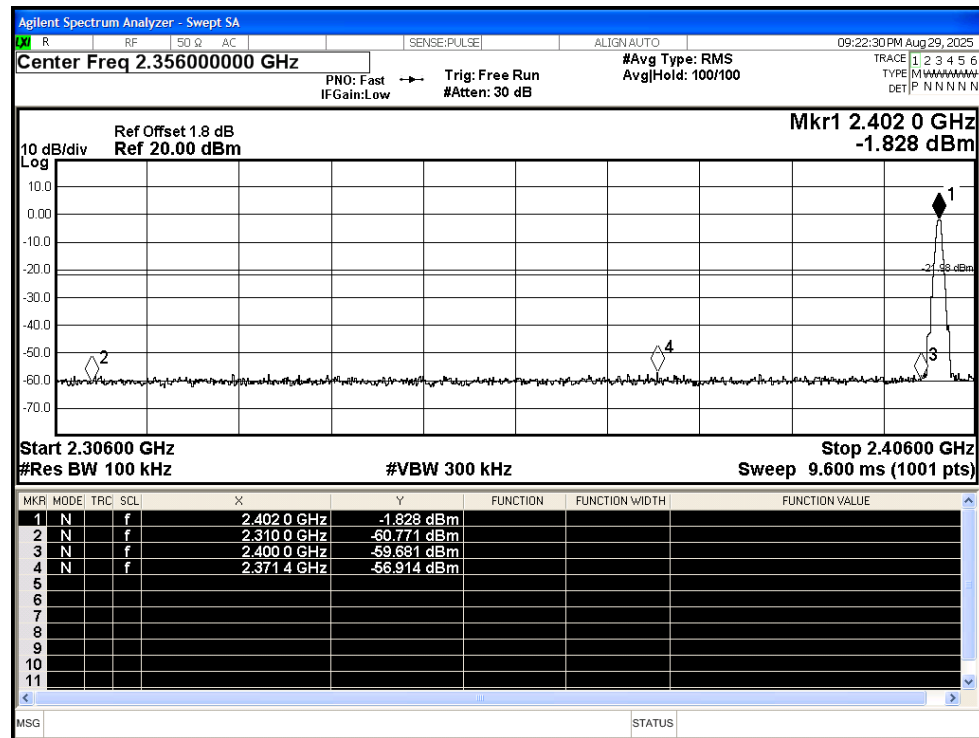
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.93	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.23	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-48.06	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.98	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.18	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.61	-20	Pass

Test Graphs

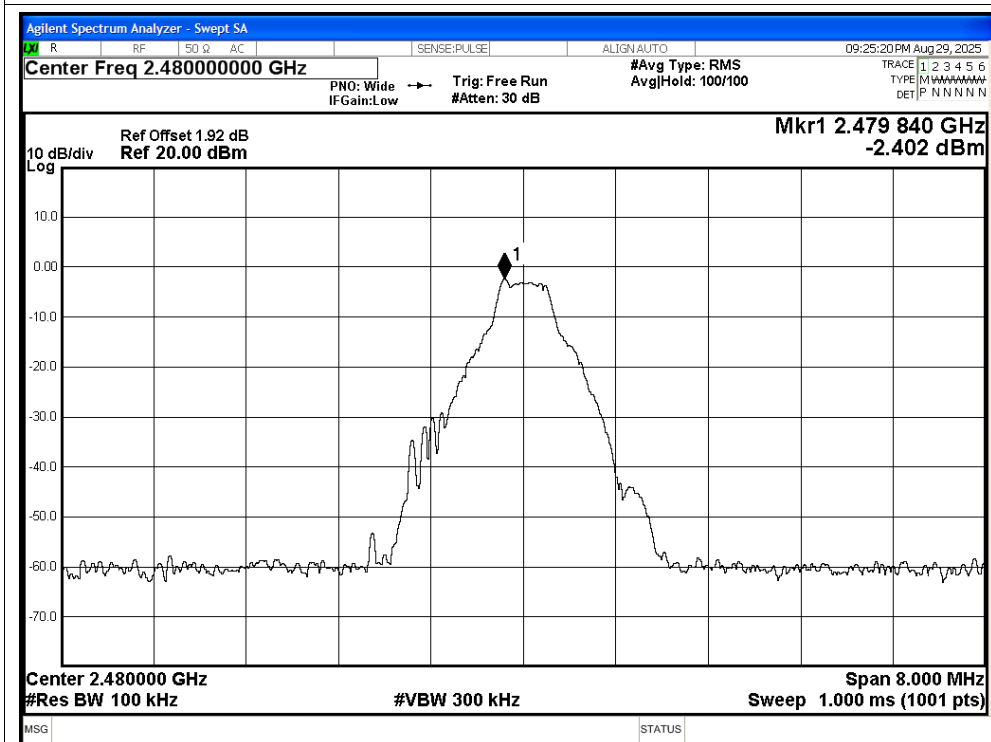
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



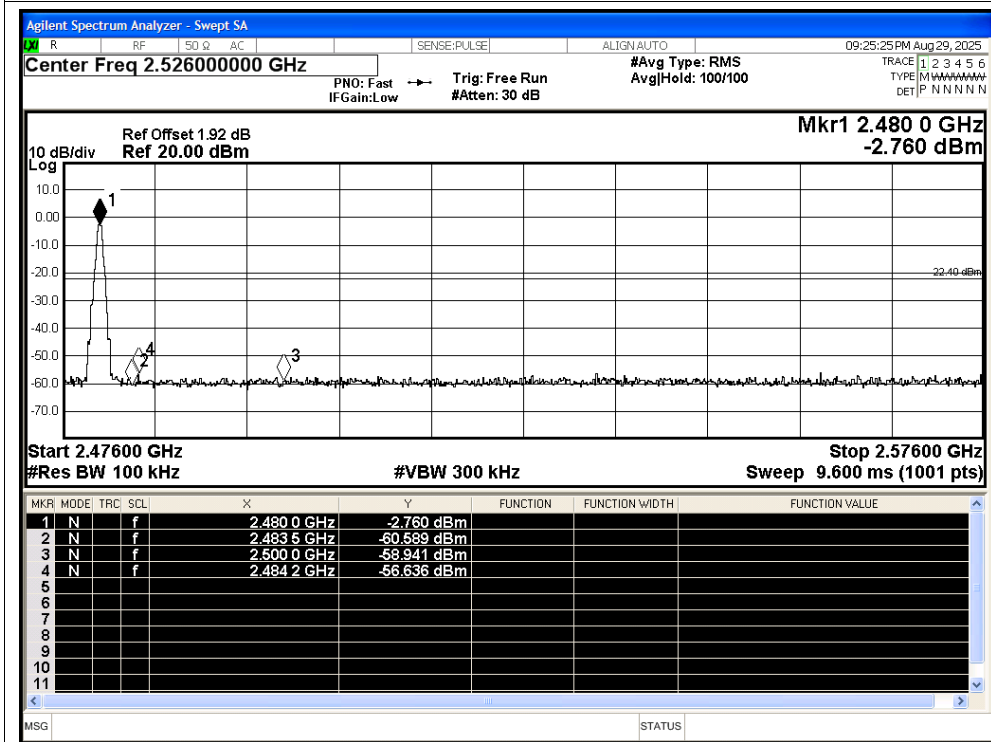
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

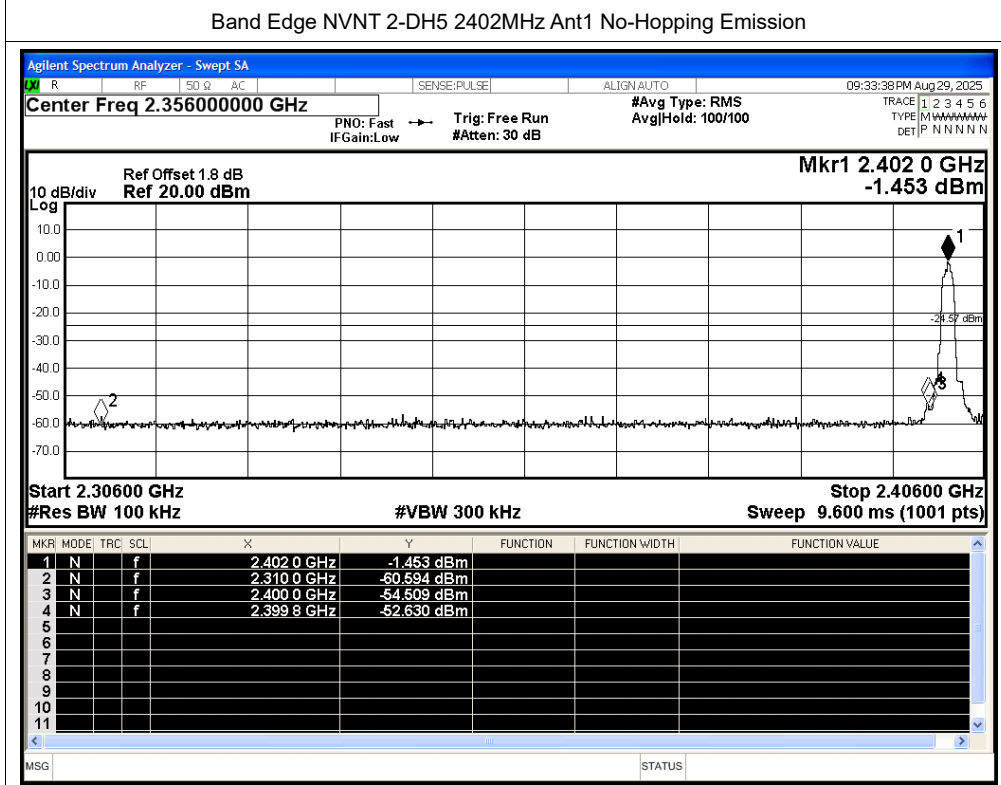
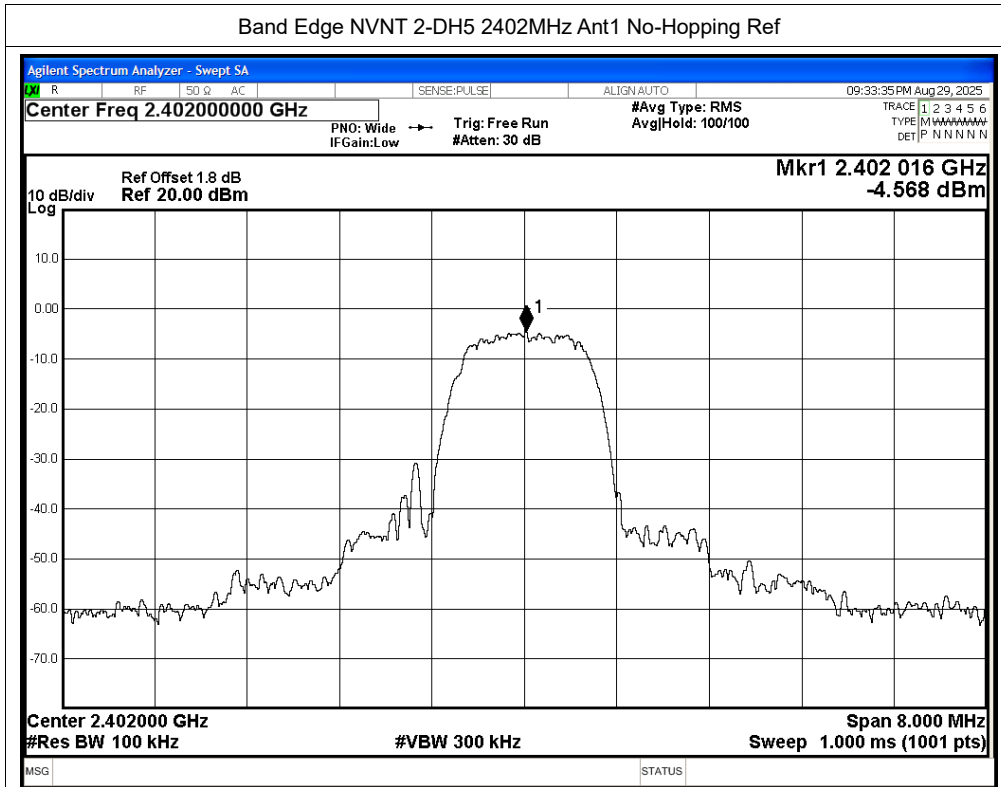


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

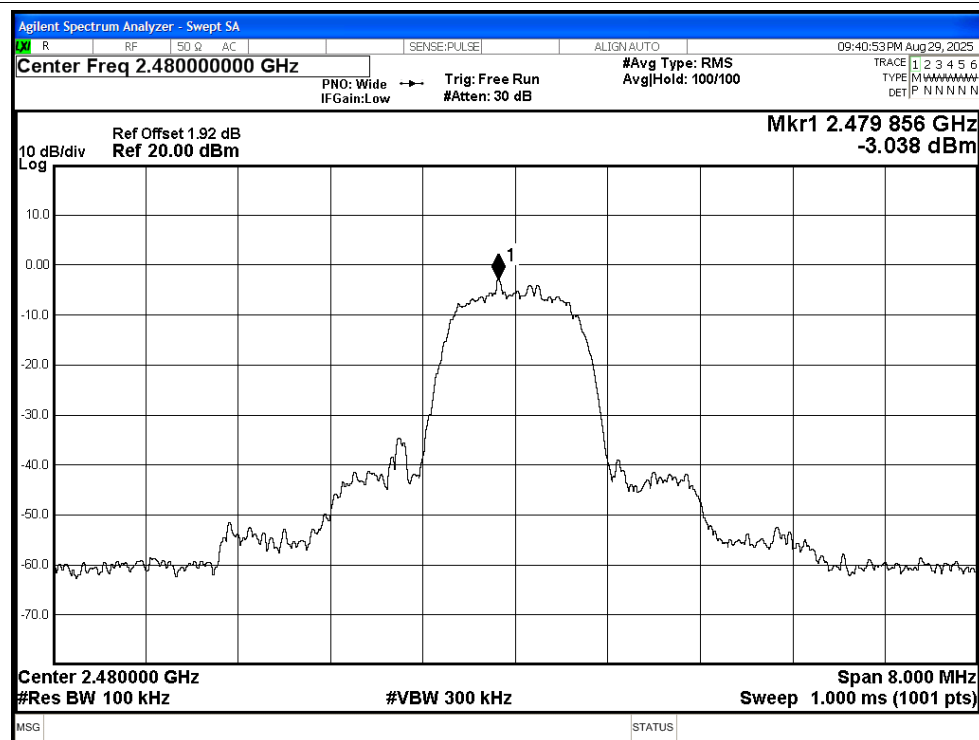


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

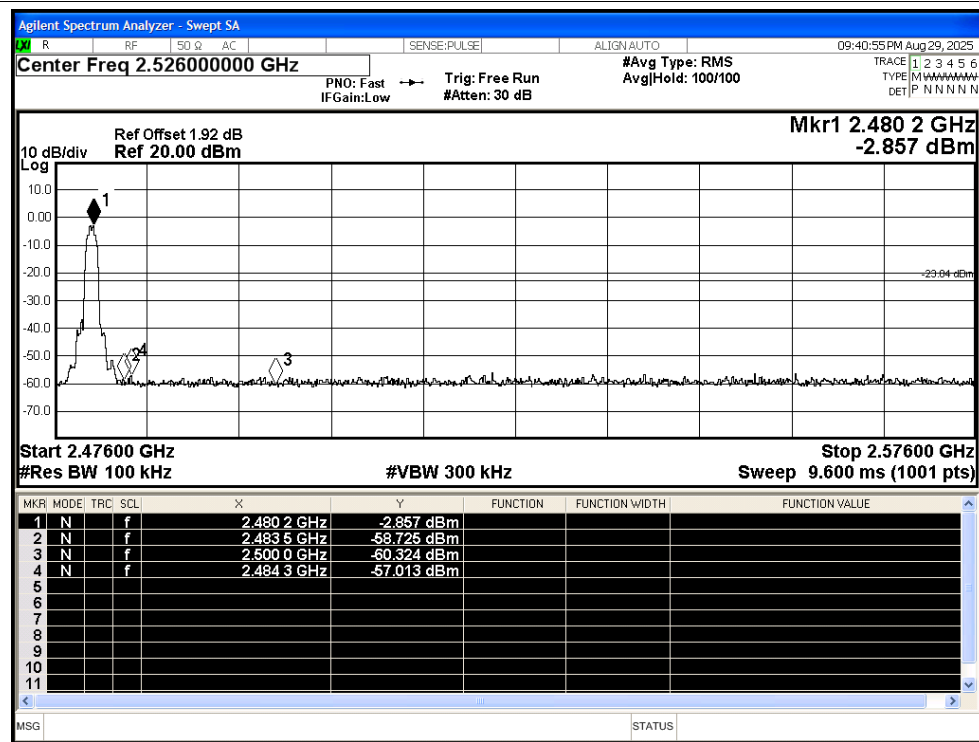


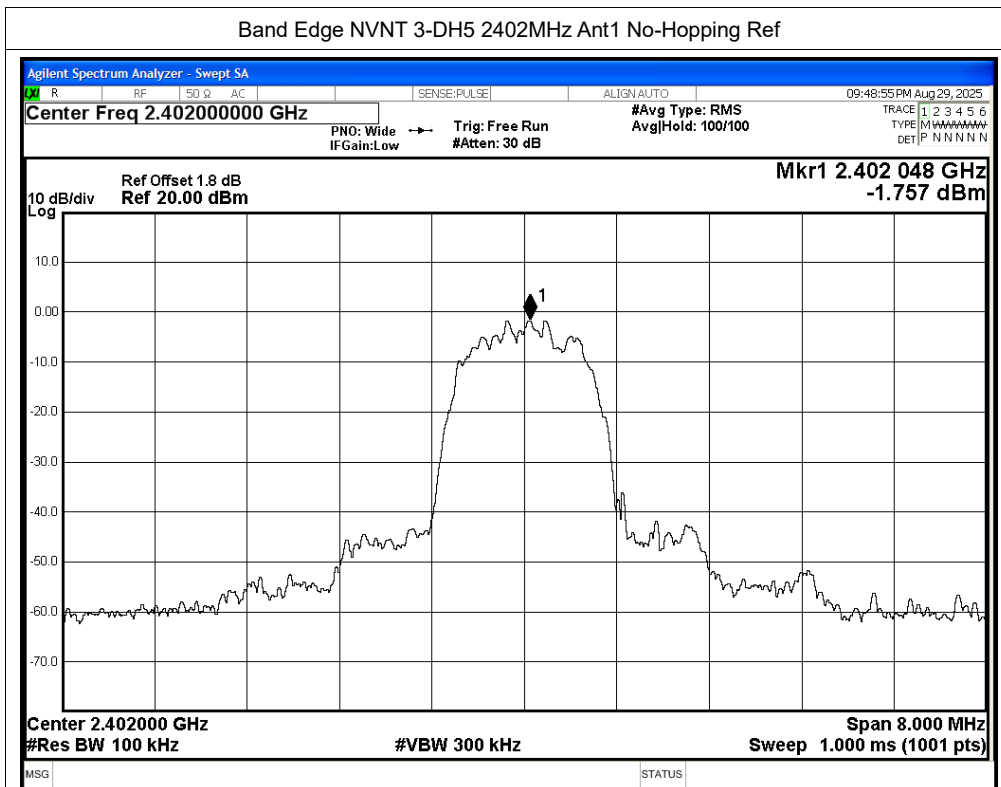


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

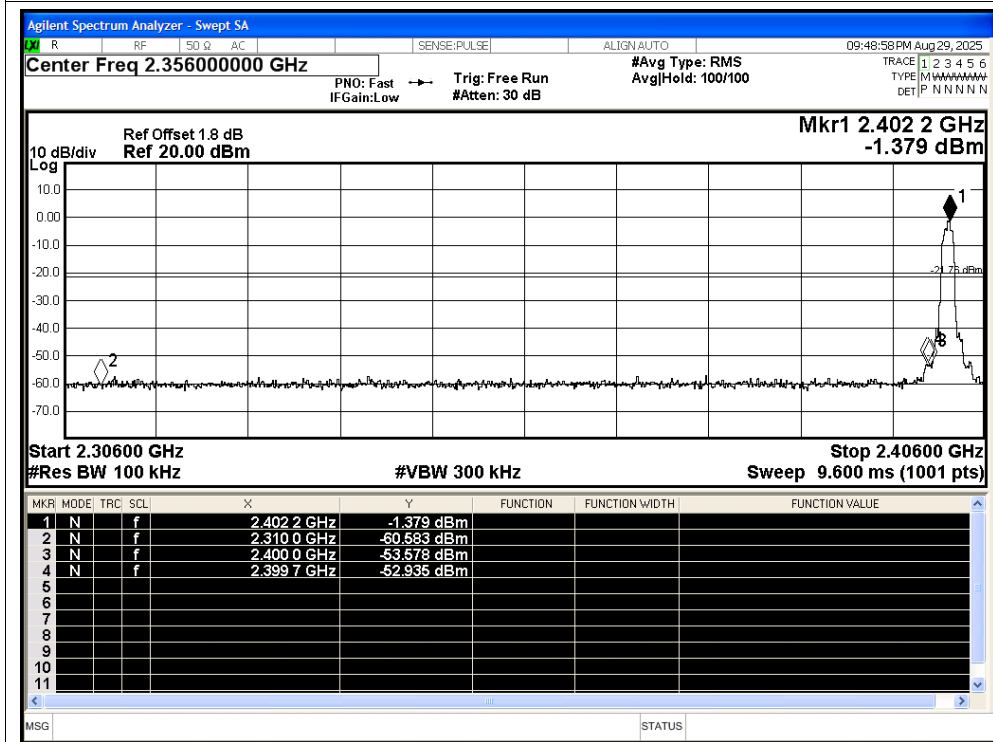


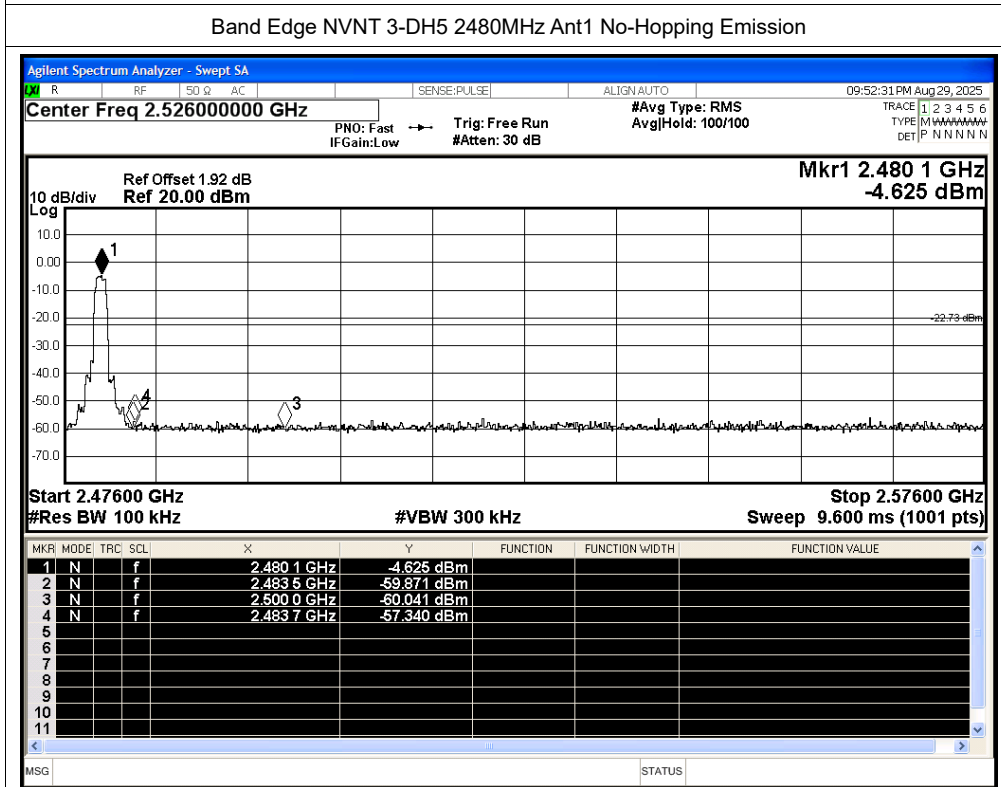
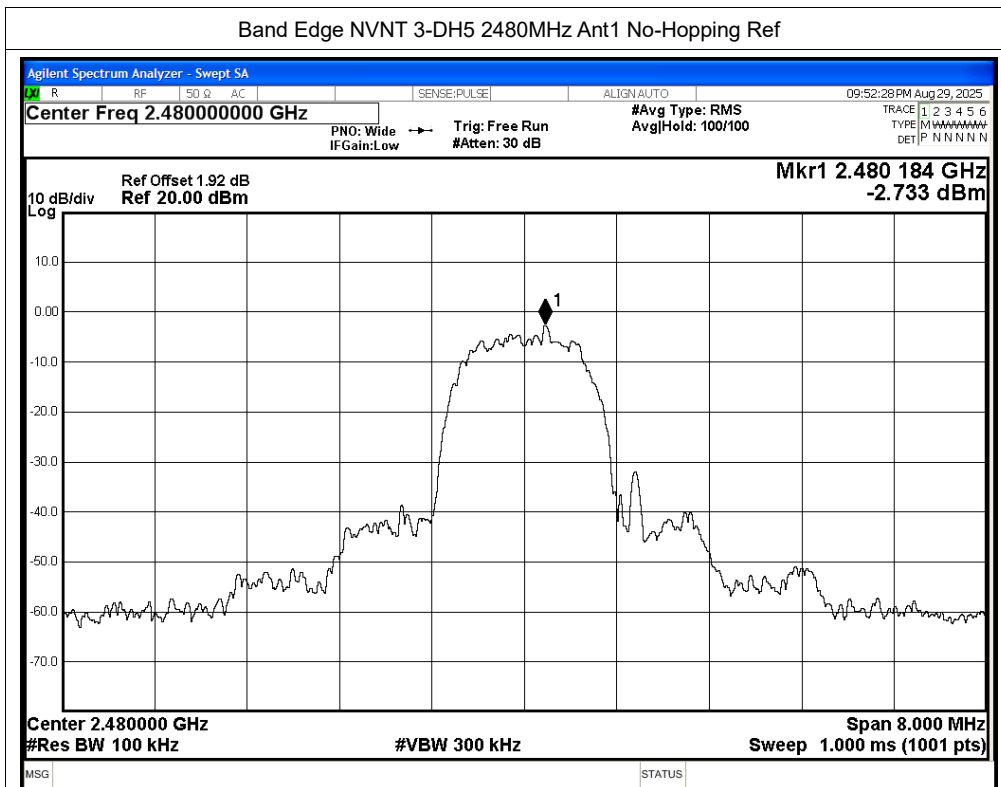
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission





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



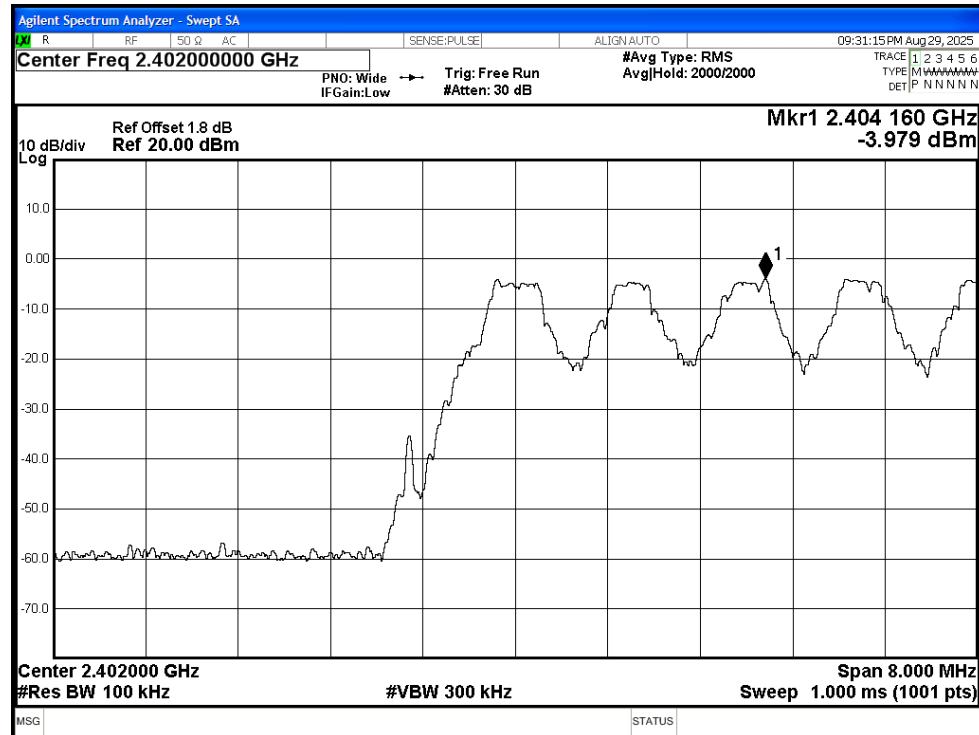


(Hopping)

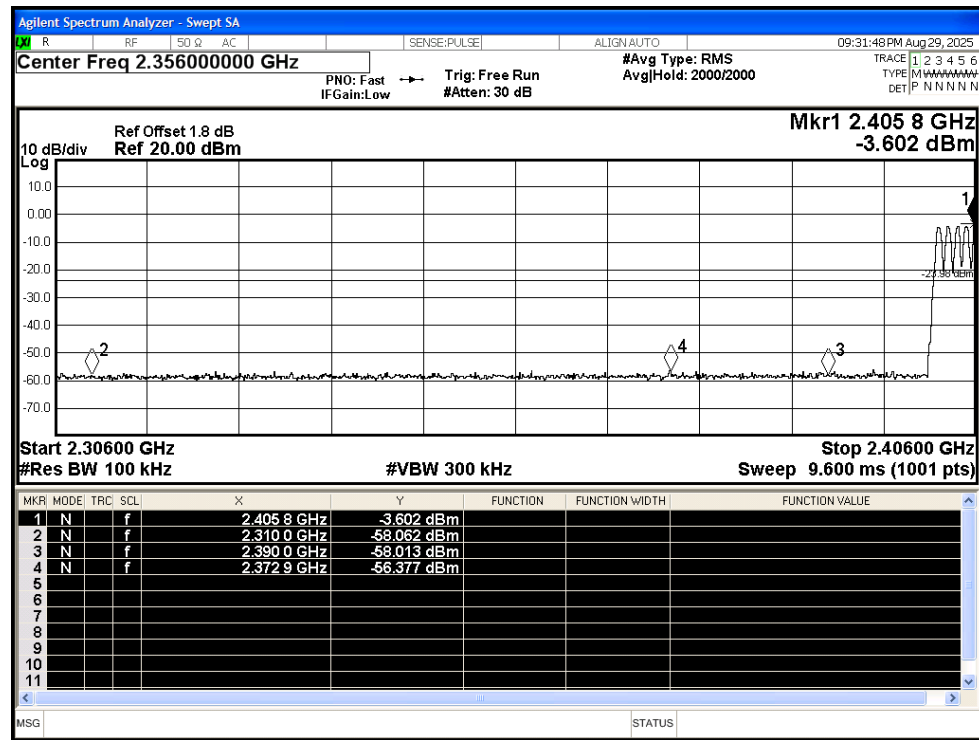
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.4	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.44	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-50.05	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.78	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.77	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.53	-20	Pass

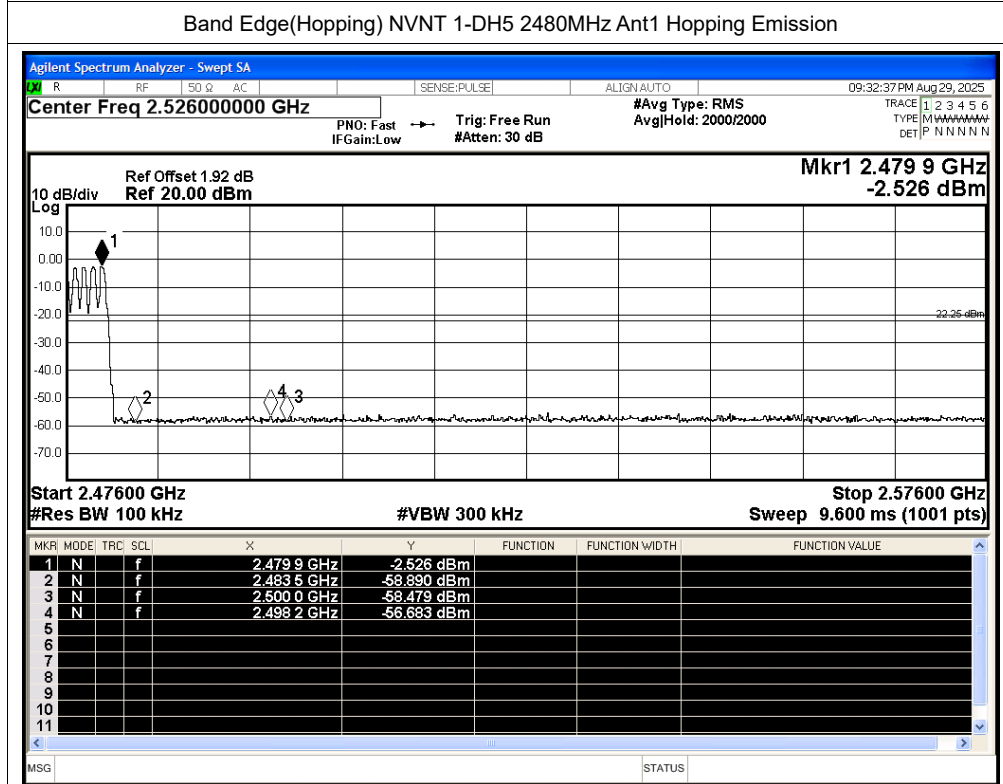
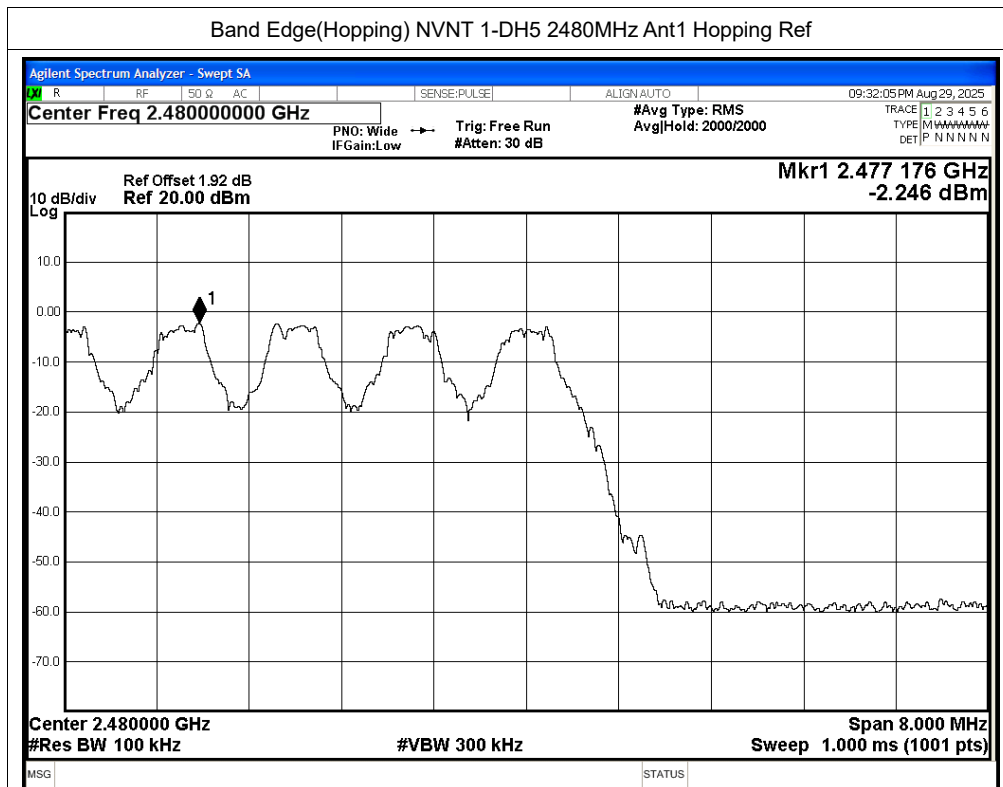
Test Graphs

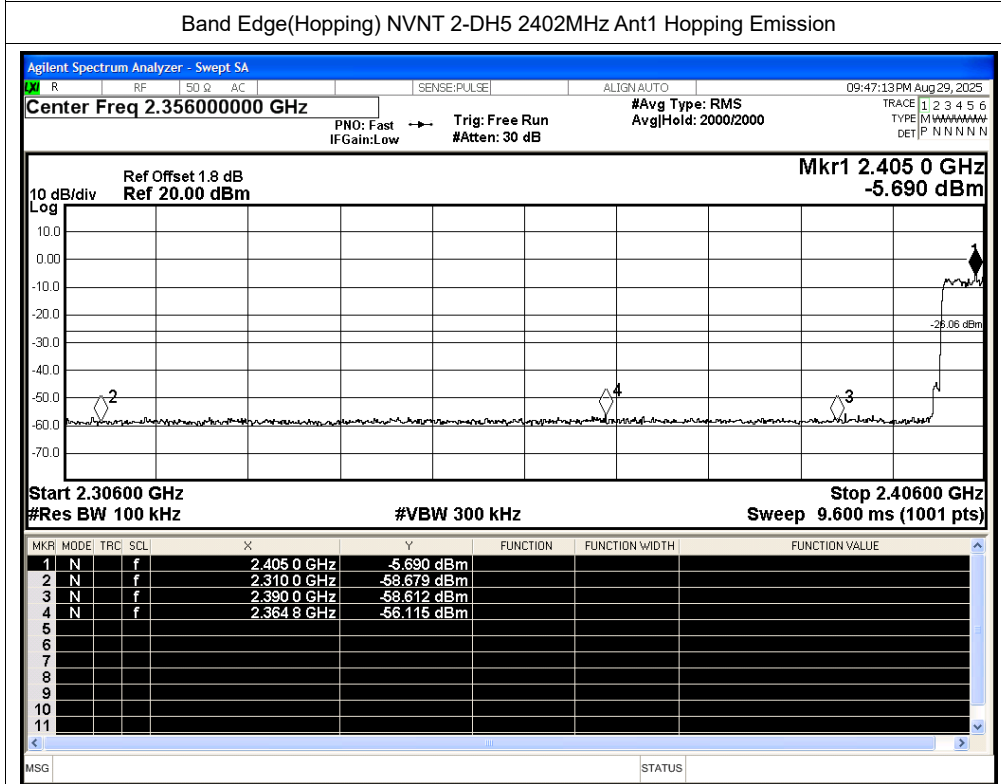
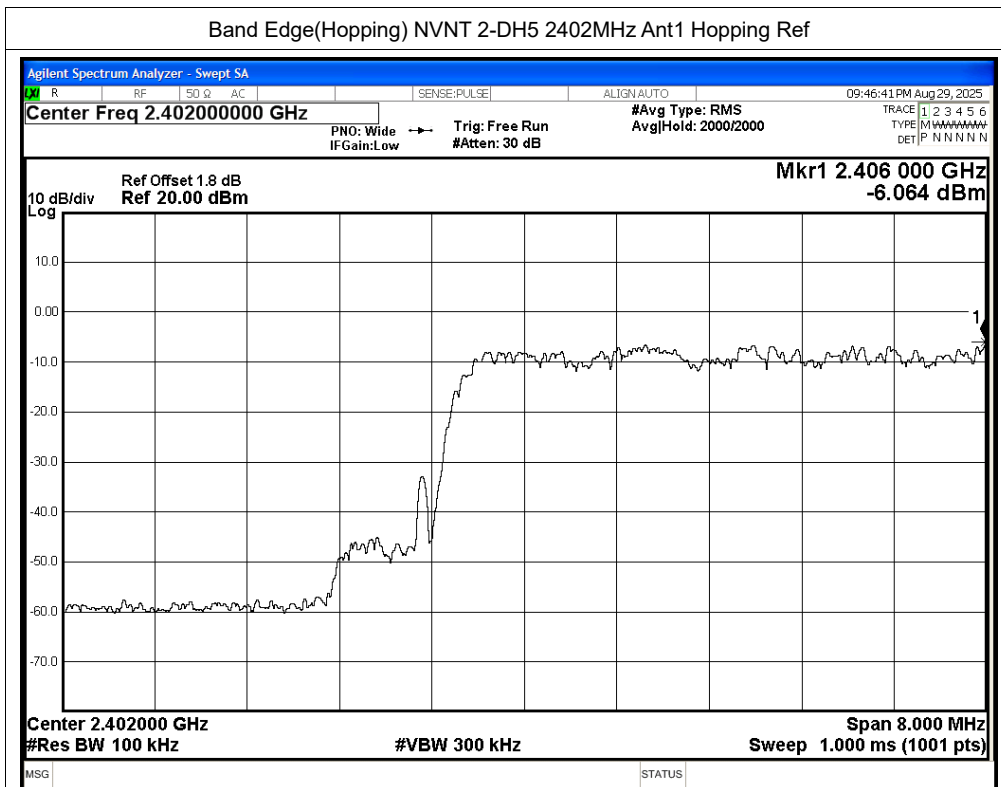
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

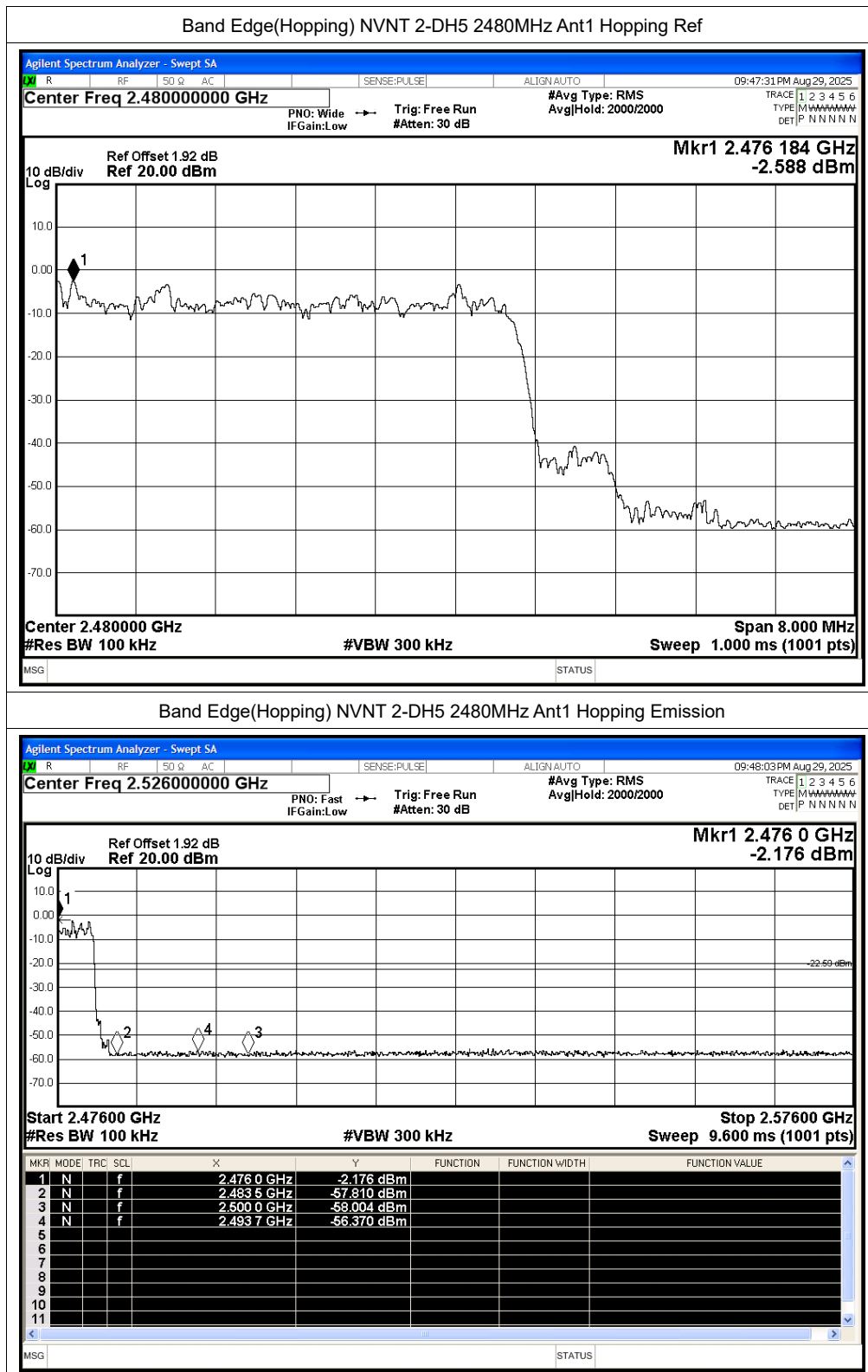


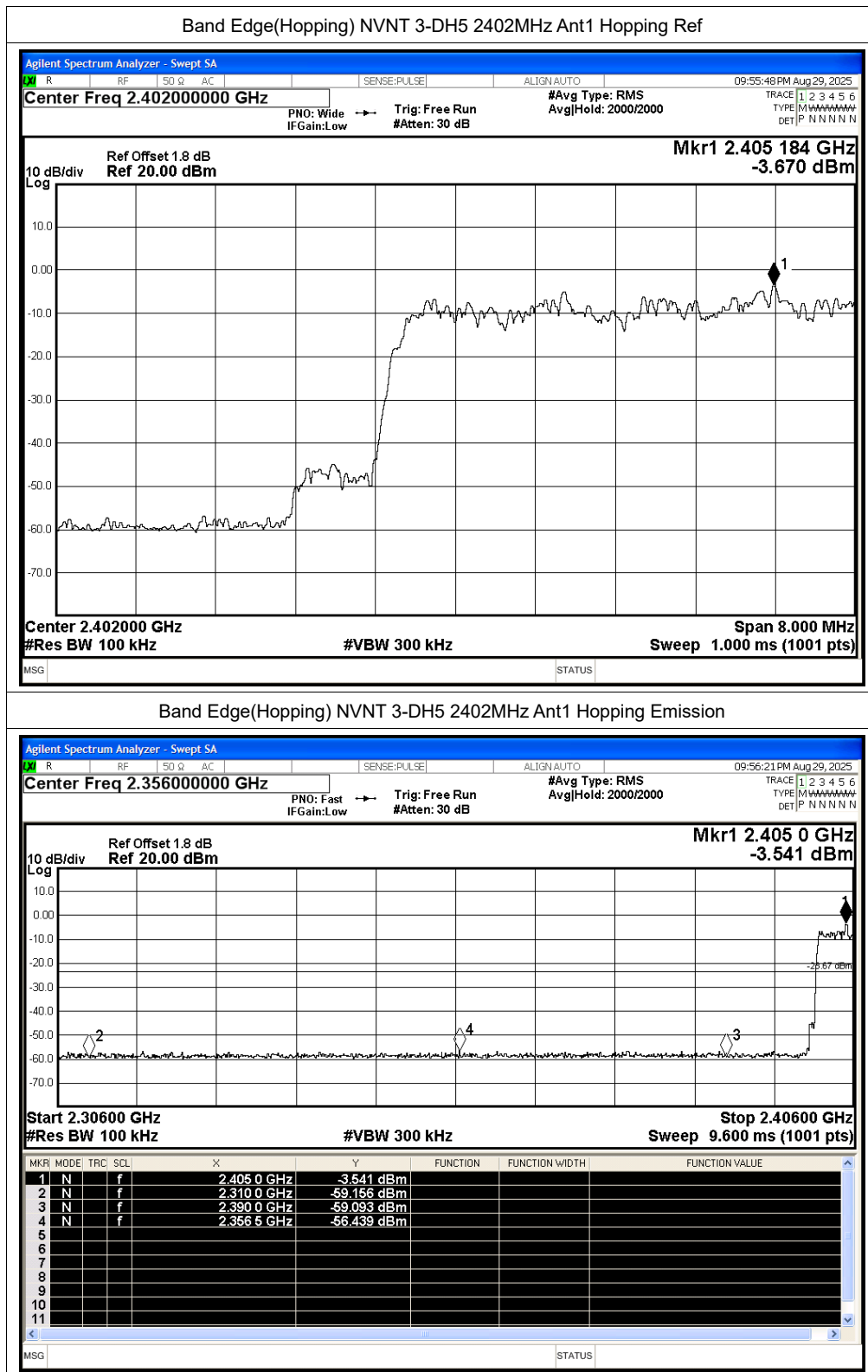
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

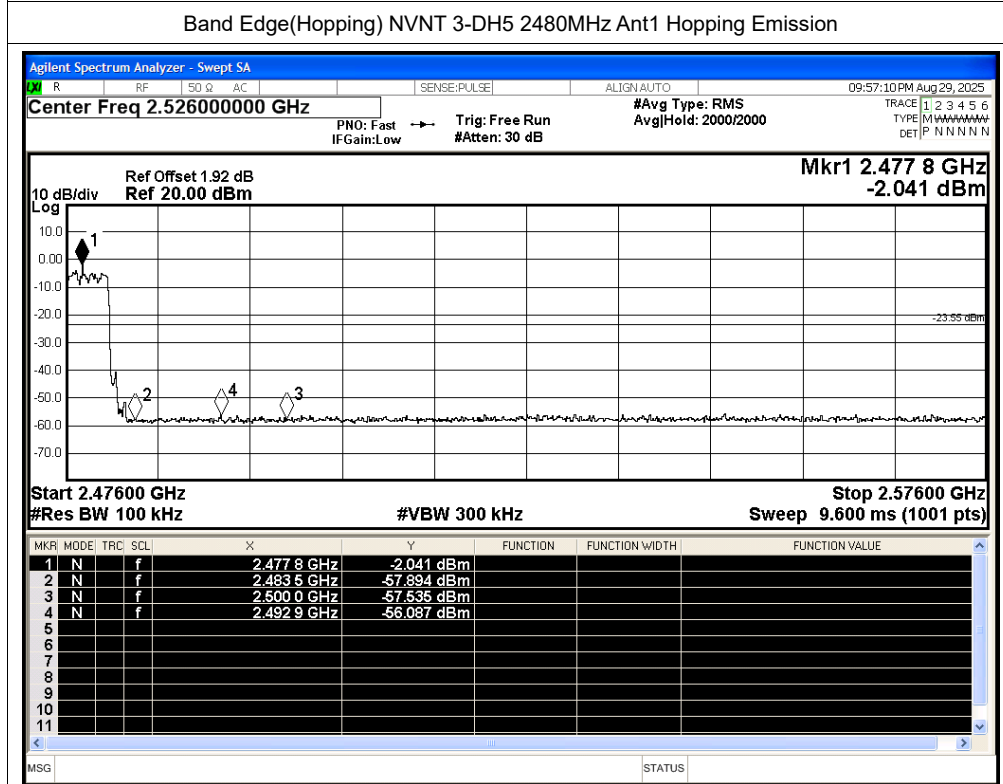
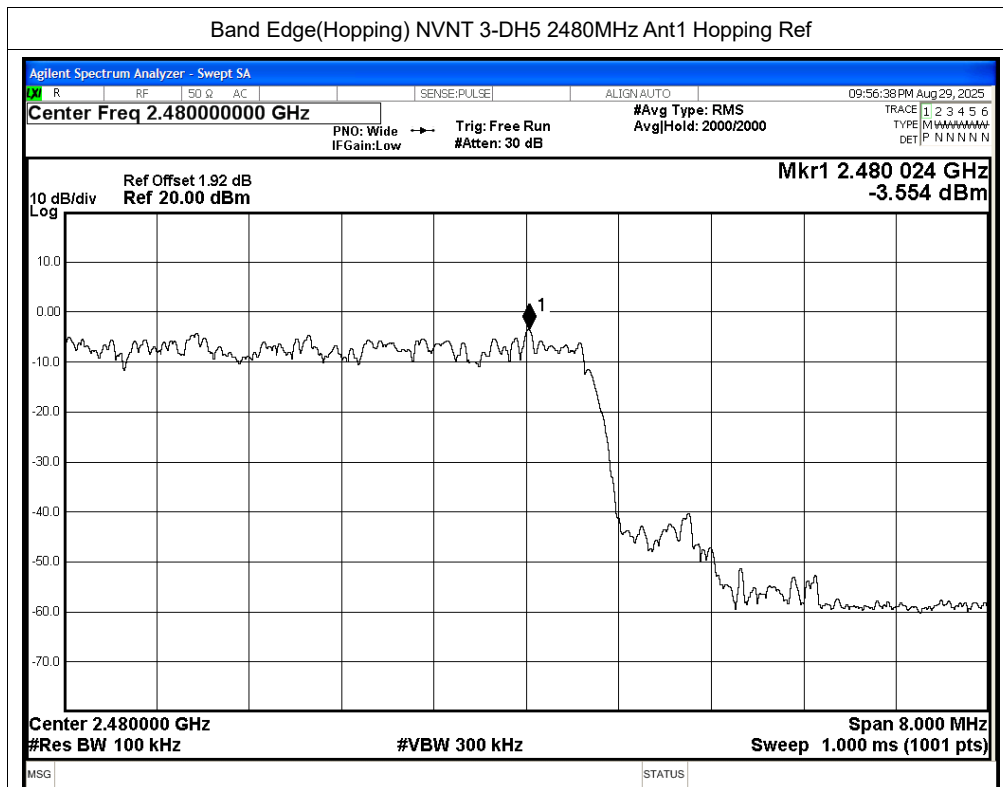










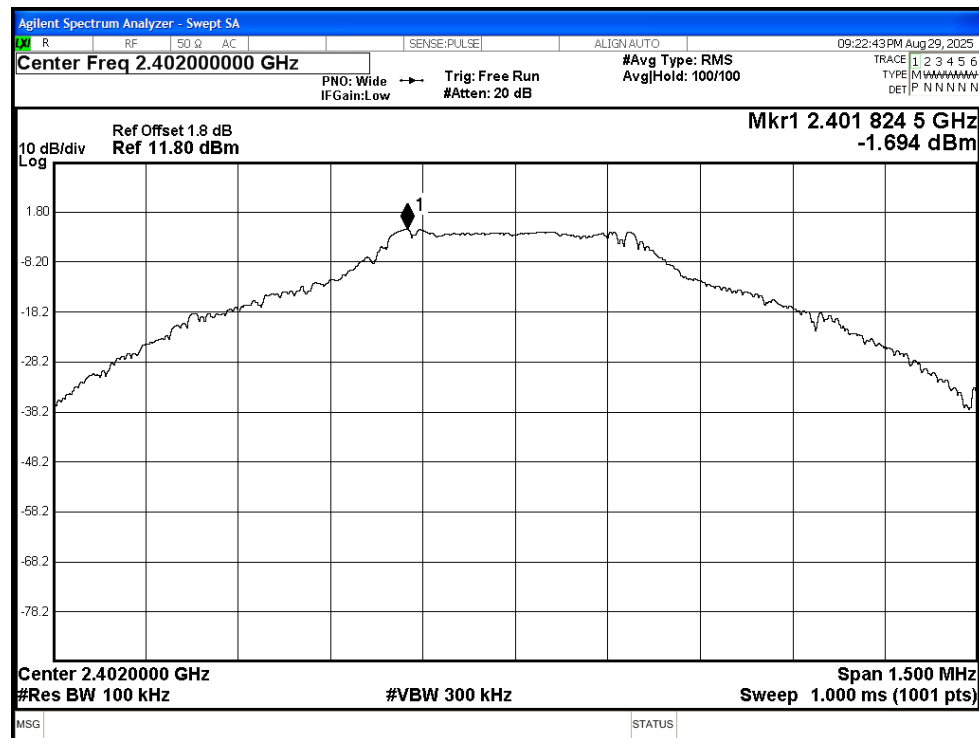


A.7 Conducted RF Spurious Emission

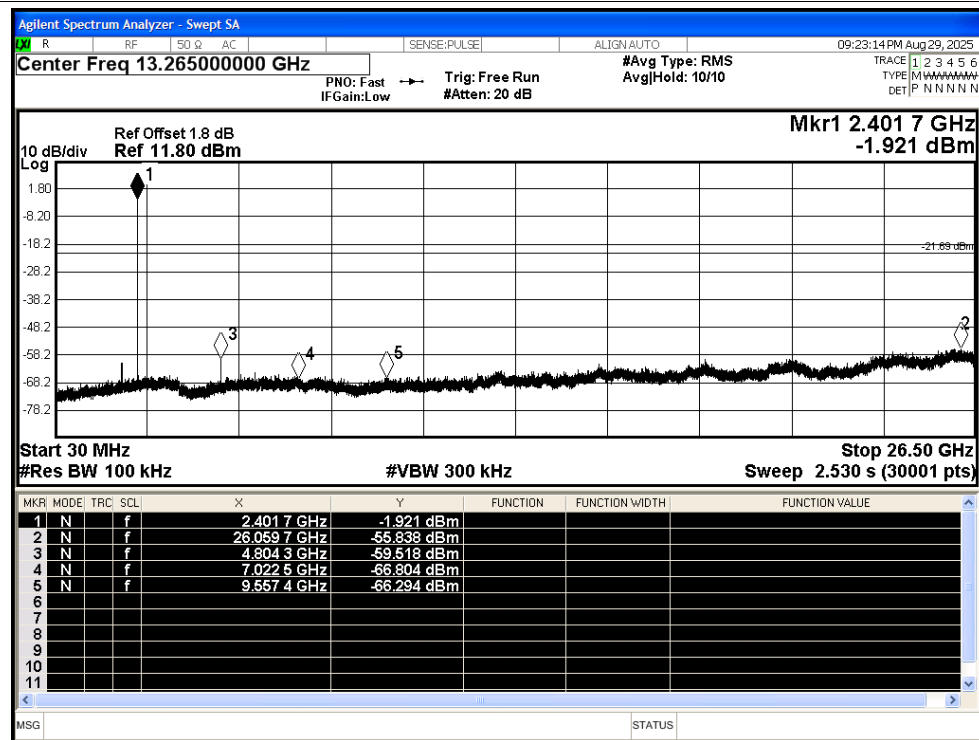
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.14	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.73	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.16	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.43	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.14	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.72	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.85	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.83	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.95	-20	Pass

Test Graphs

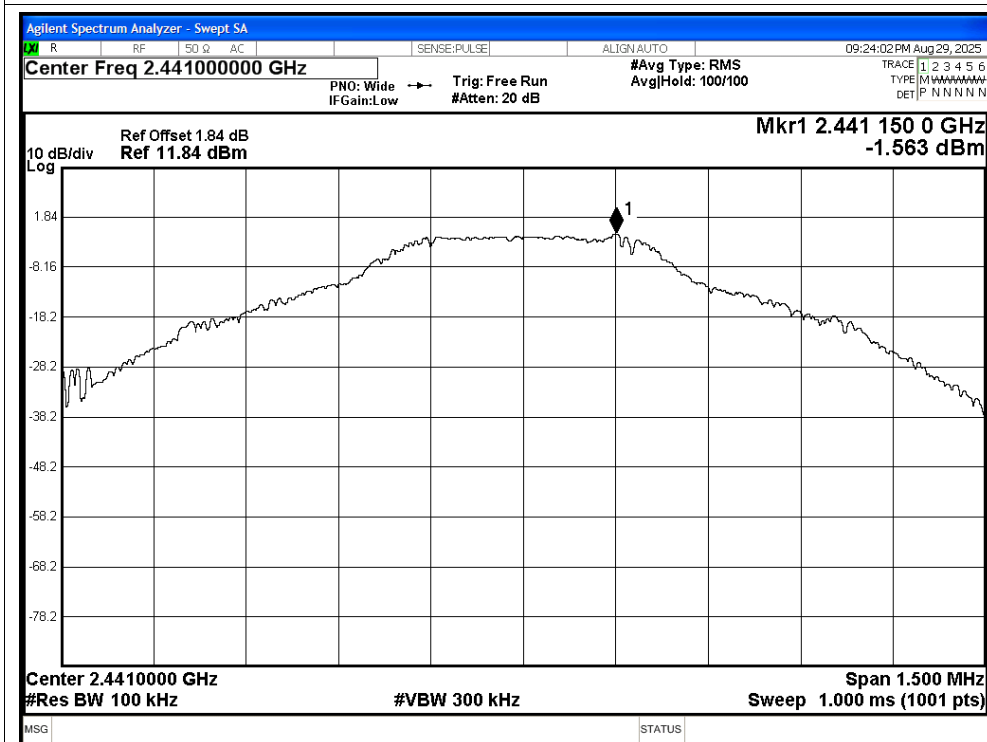
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



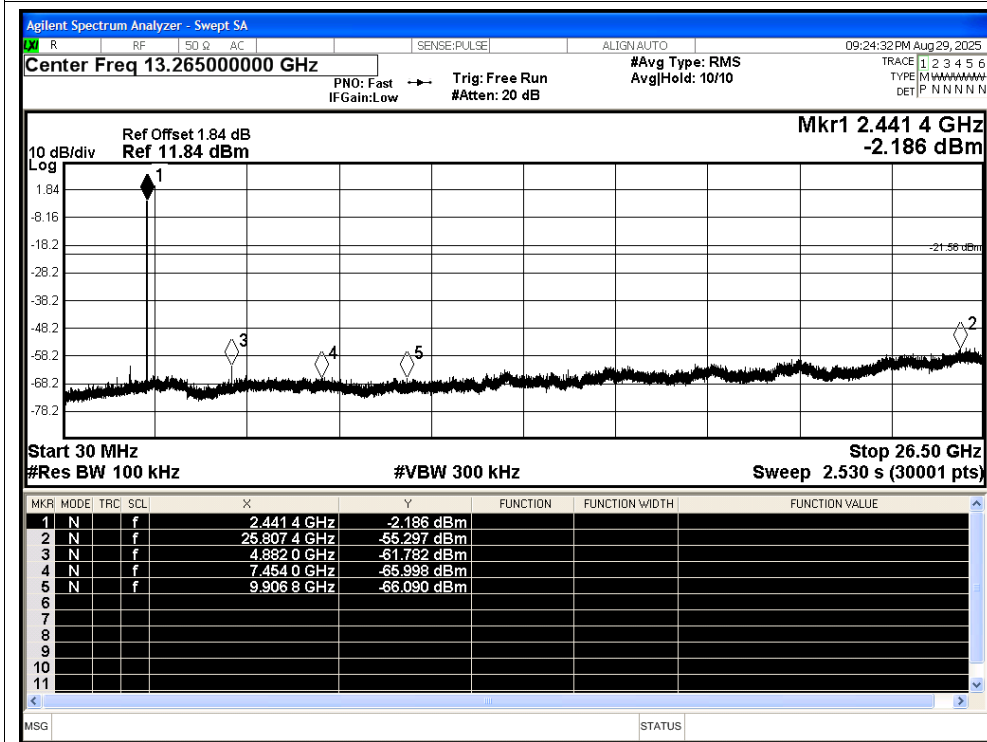
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



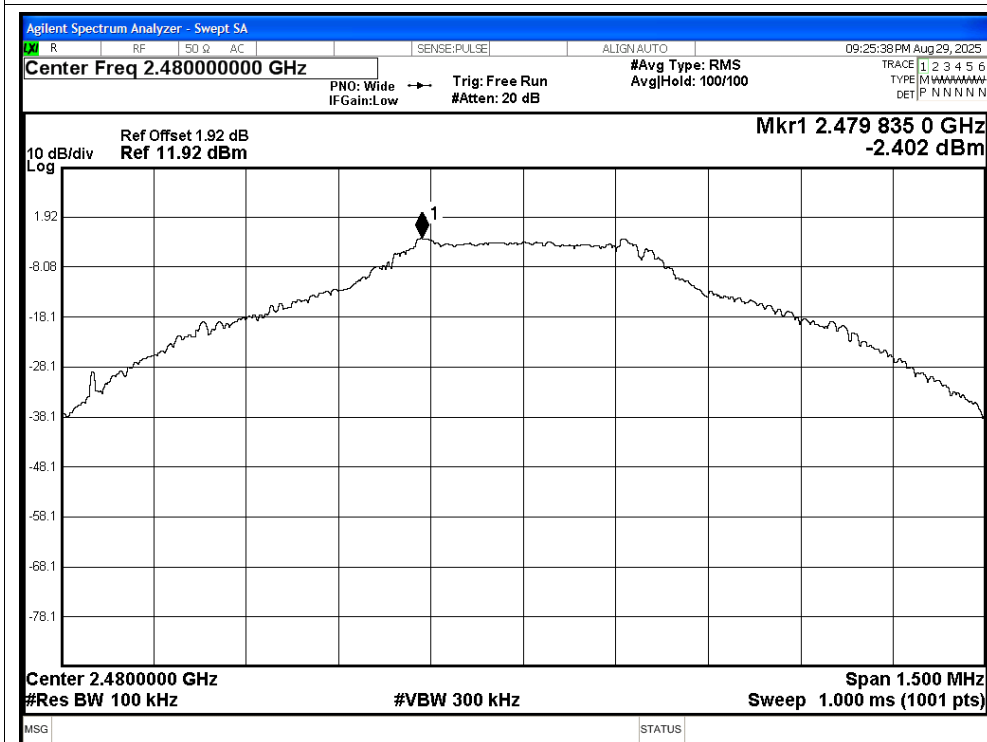
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



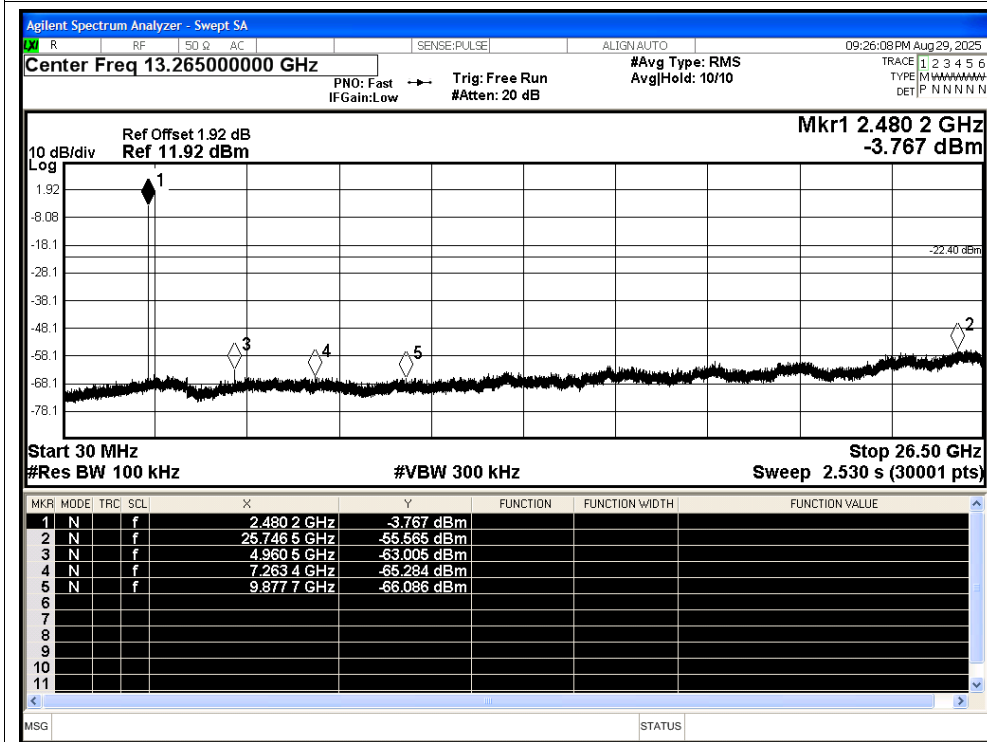
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



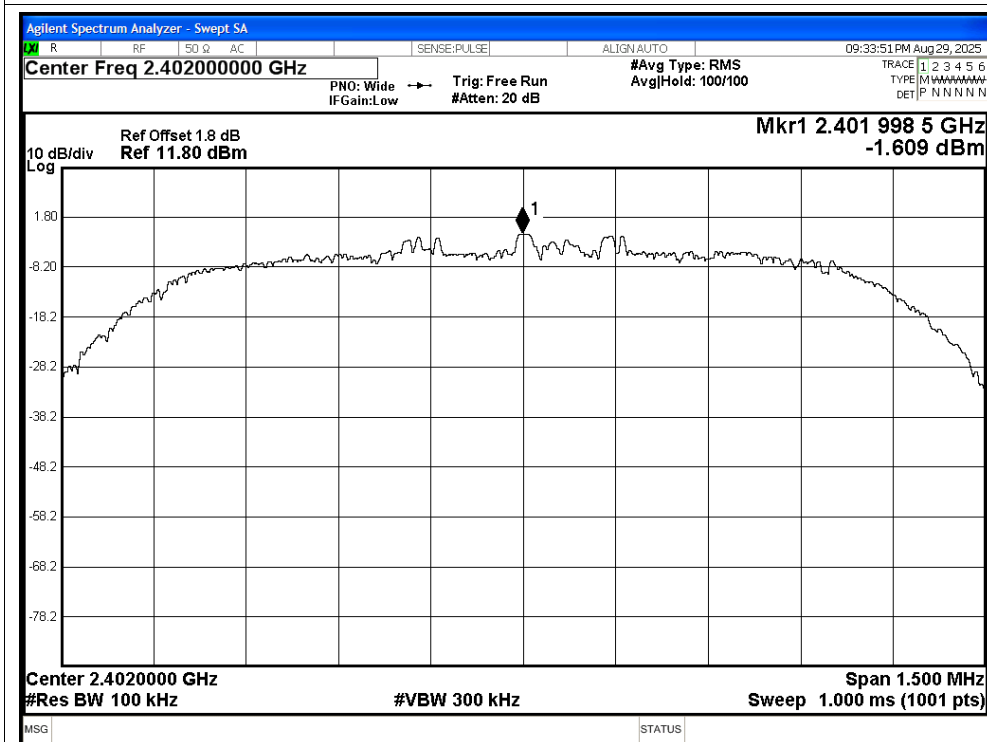
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



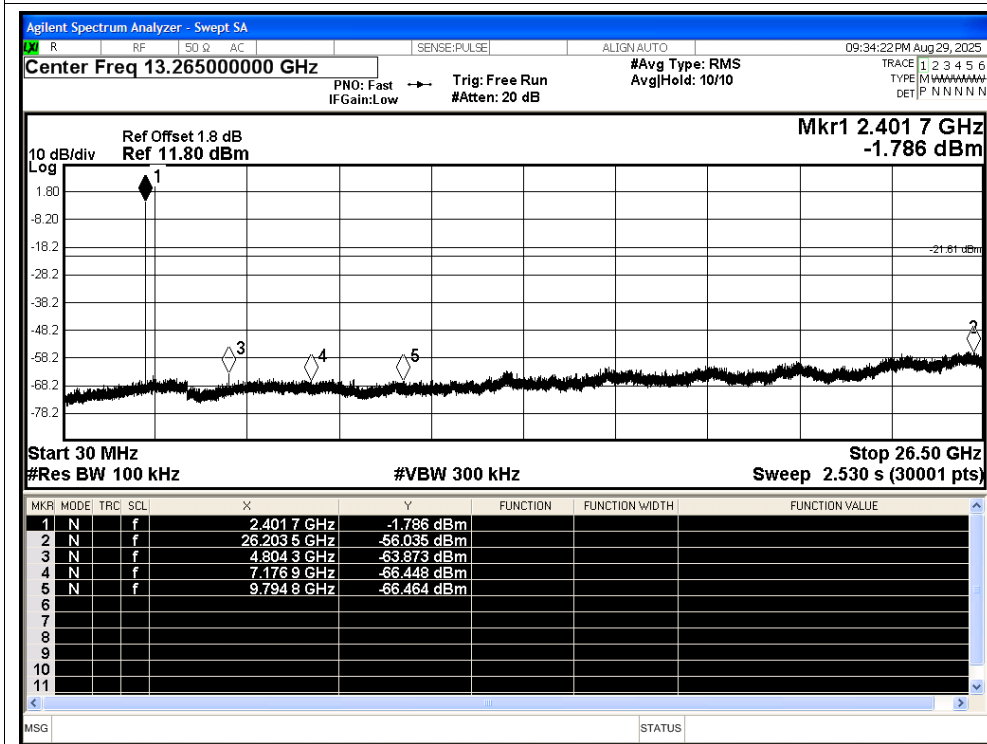
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



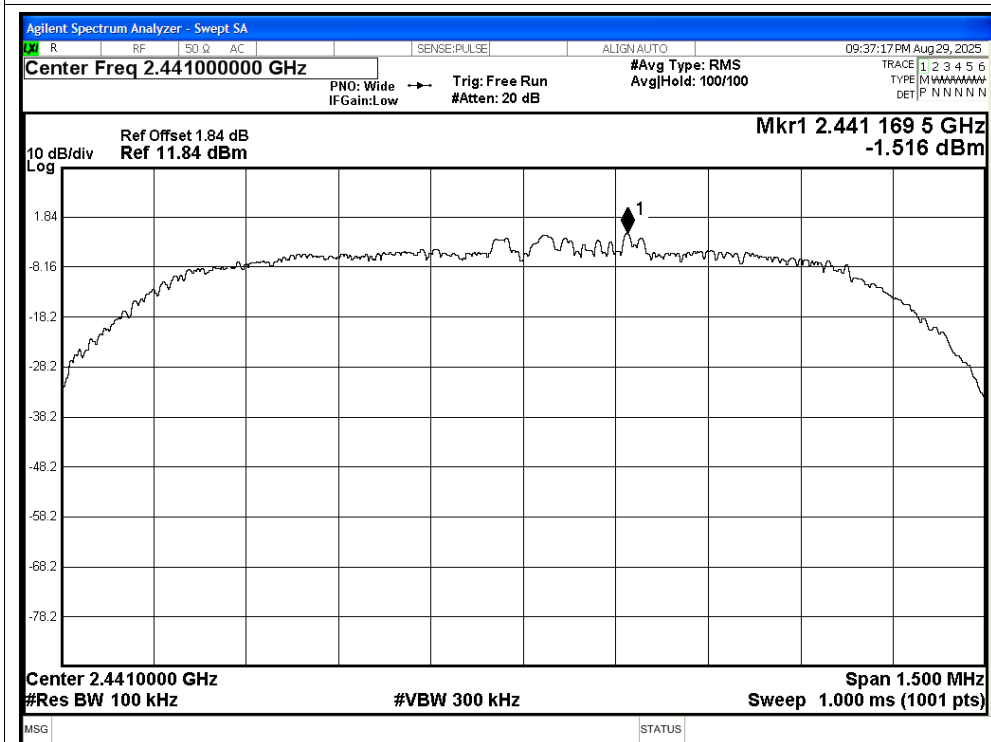
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



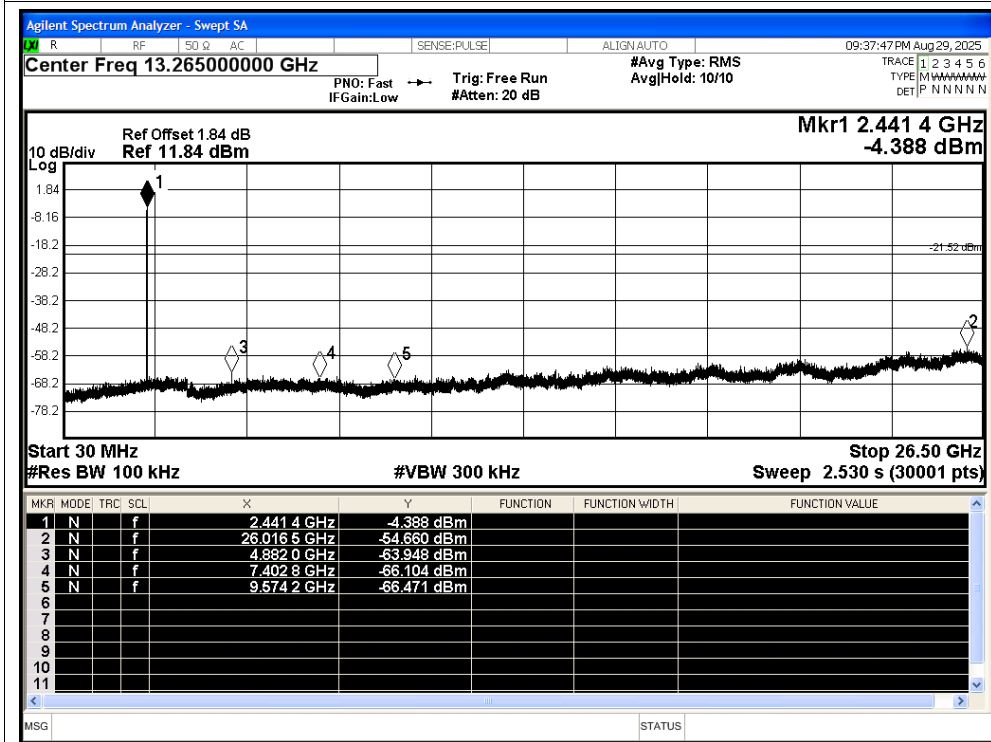
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



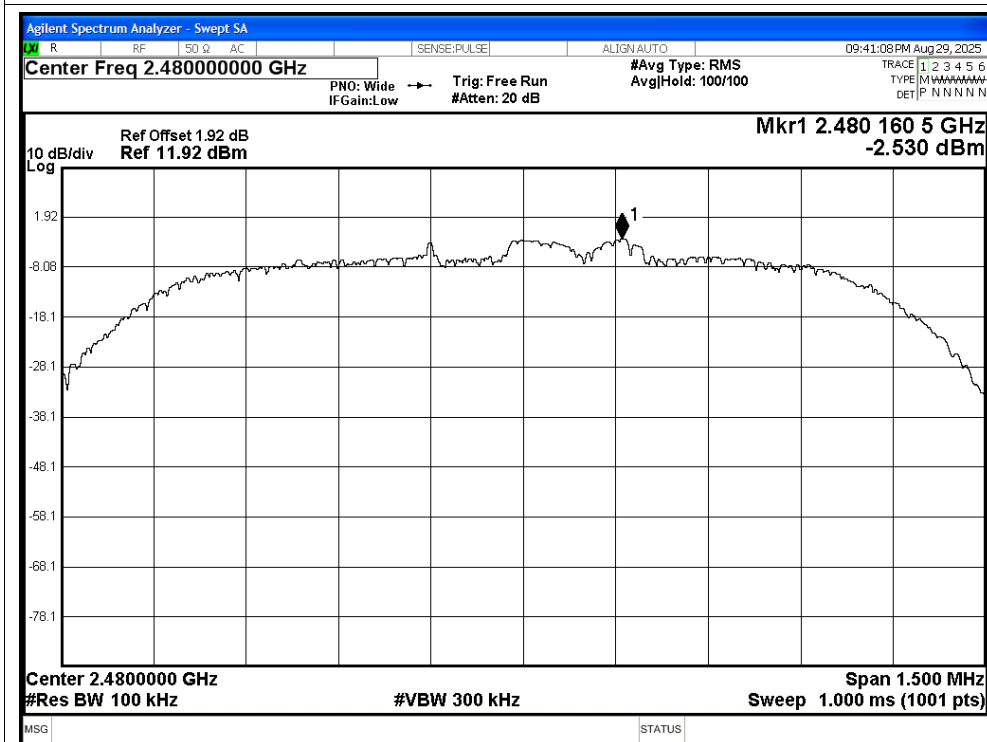
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



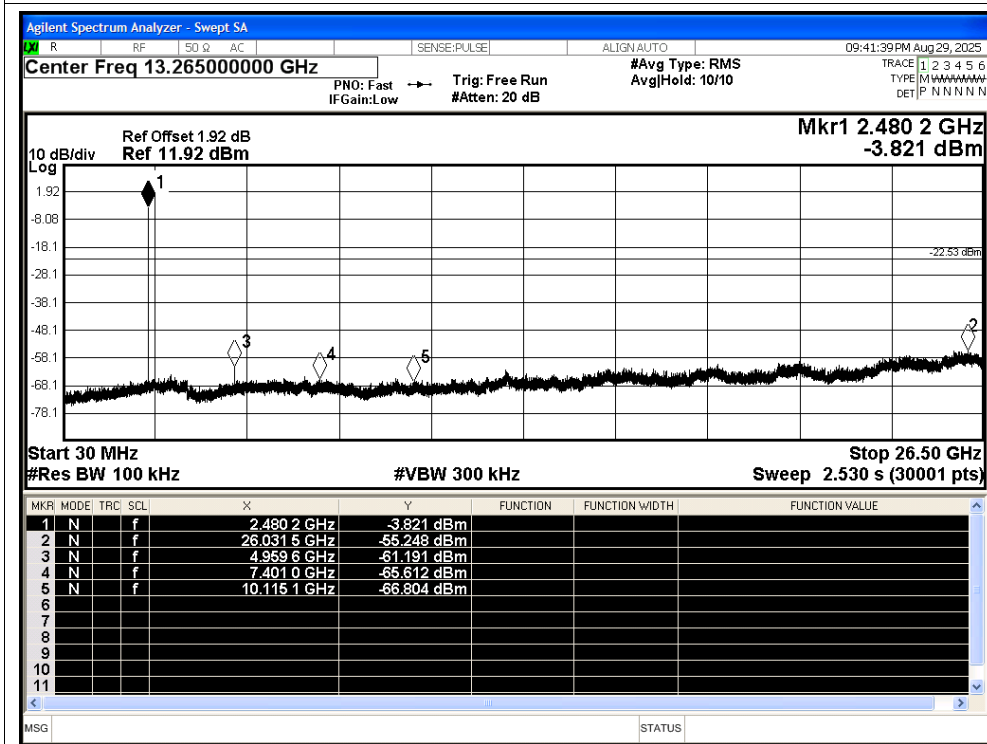
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



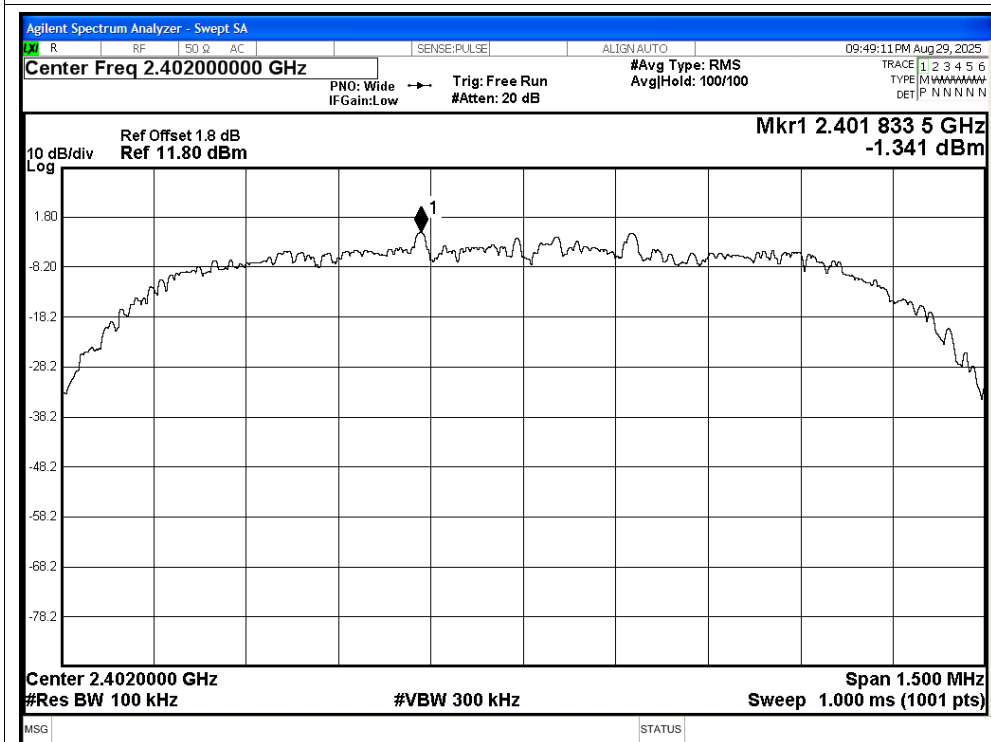
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



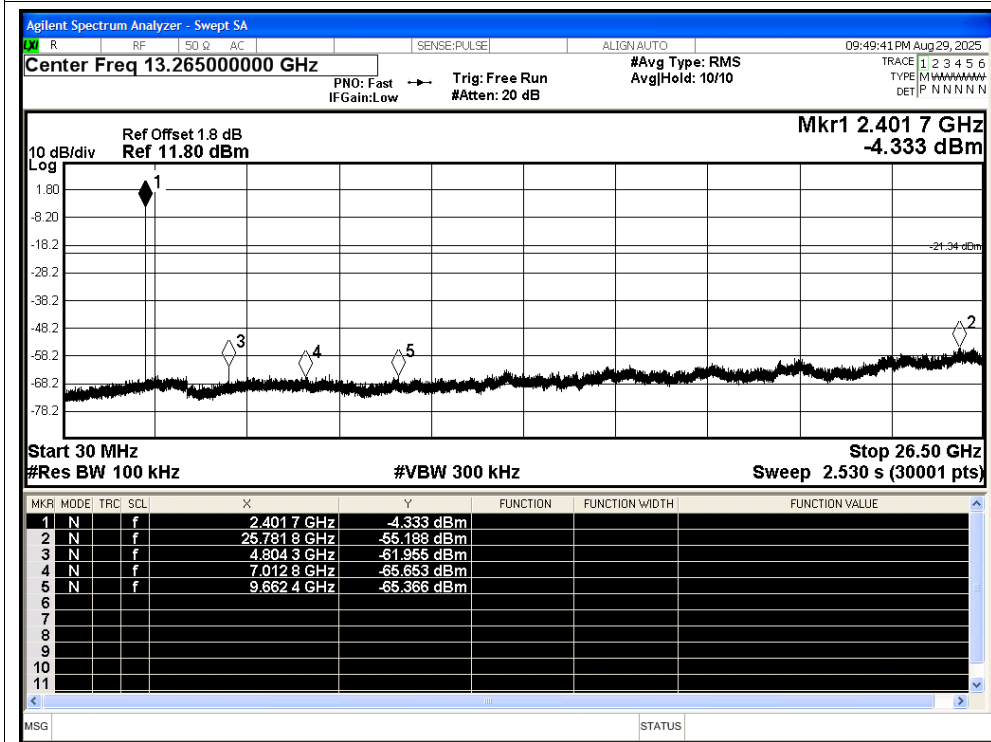
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



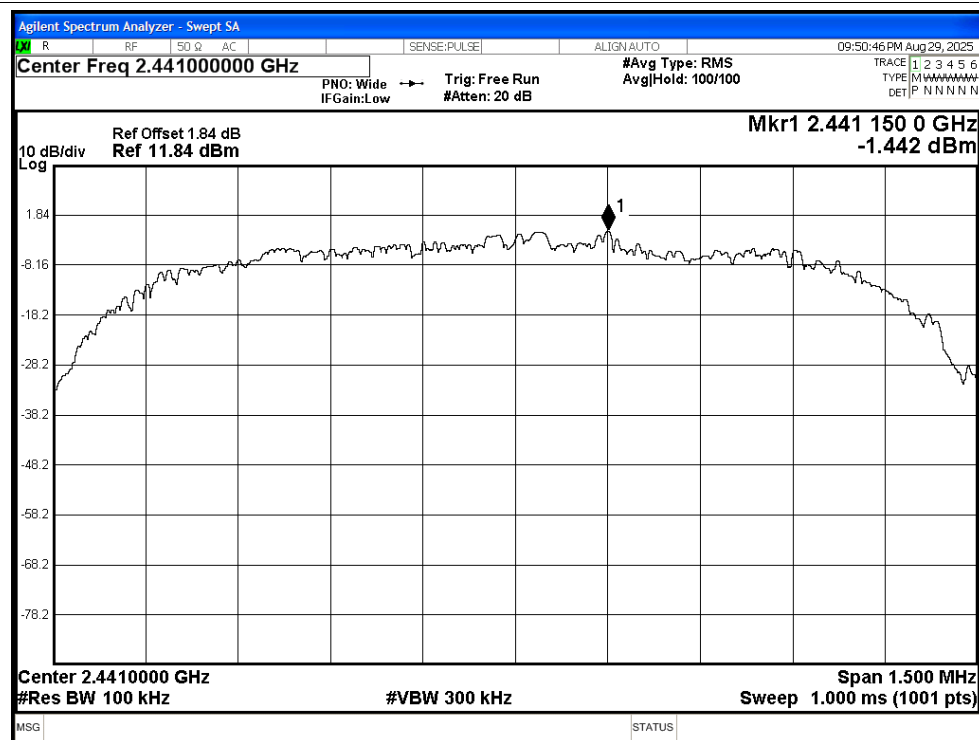
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



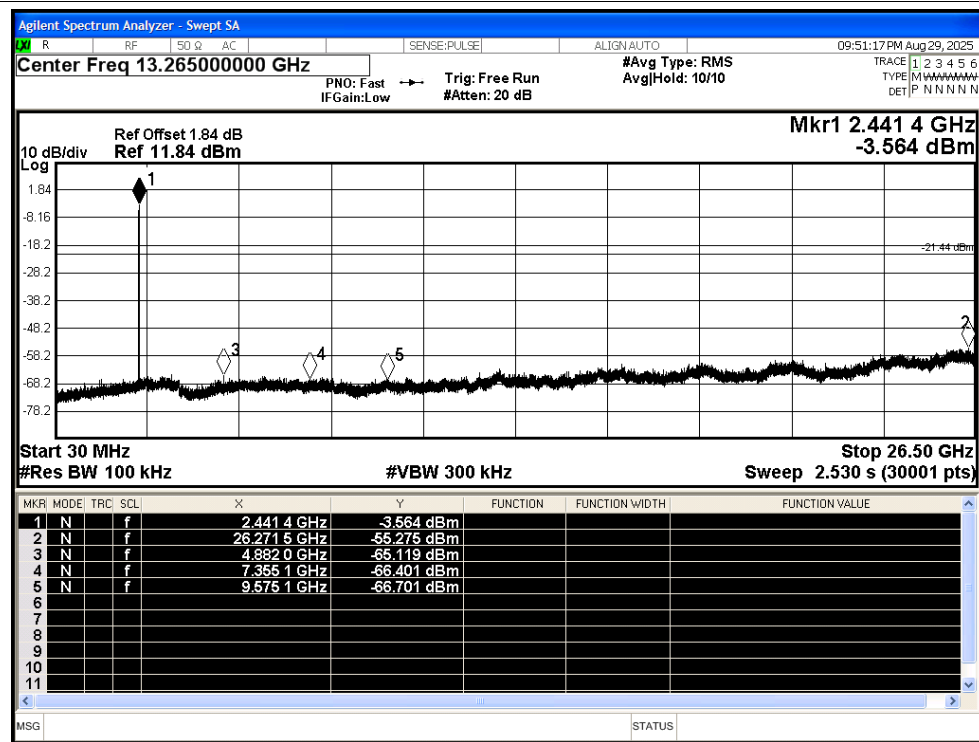
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



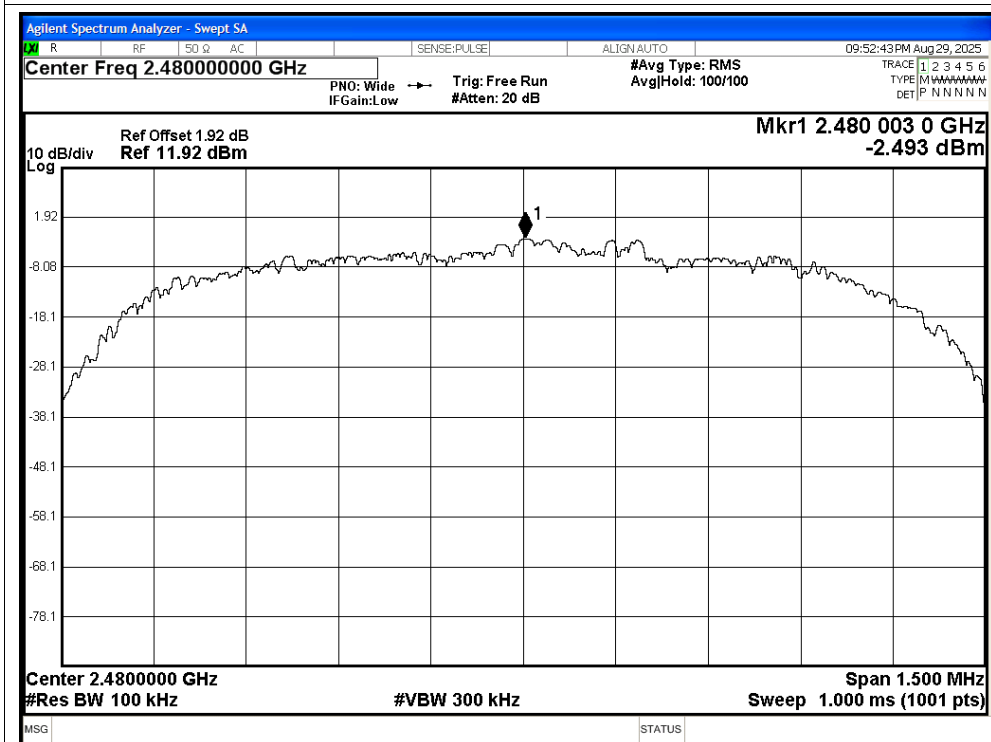
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



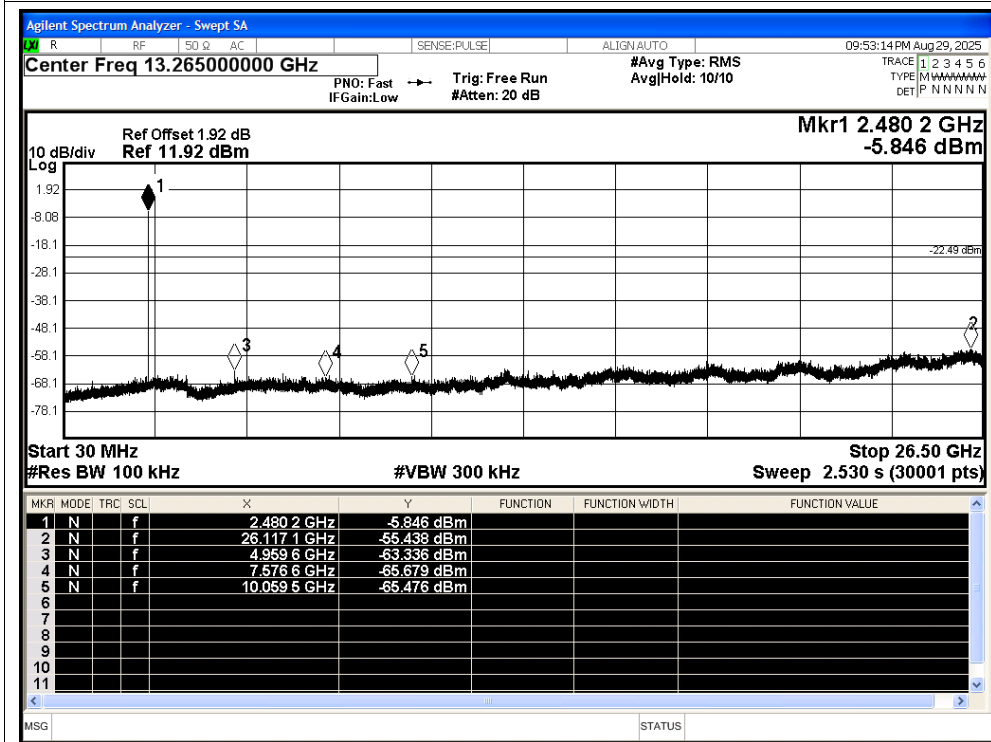
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

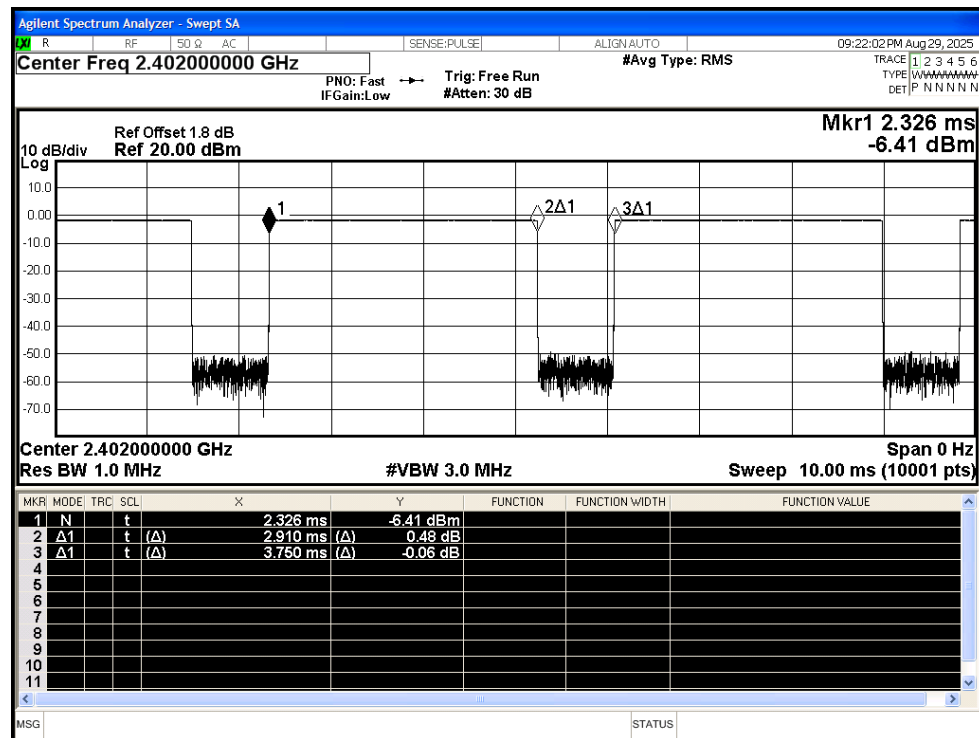


A.8 Duty Cycle

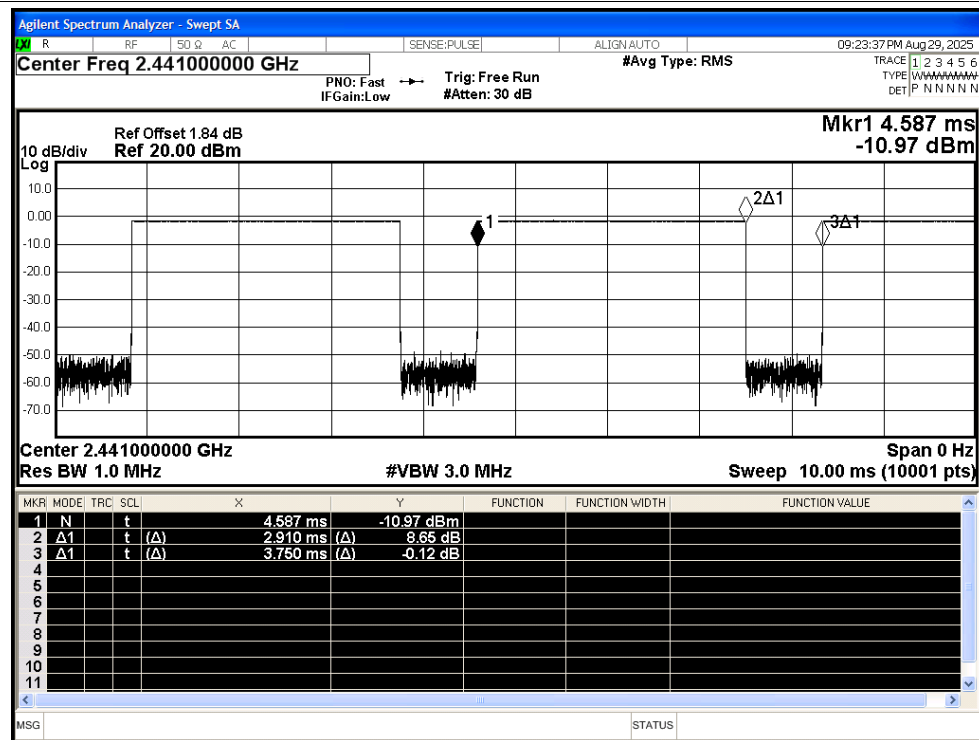
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35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

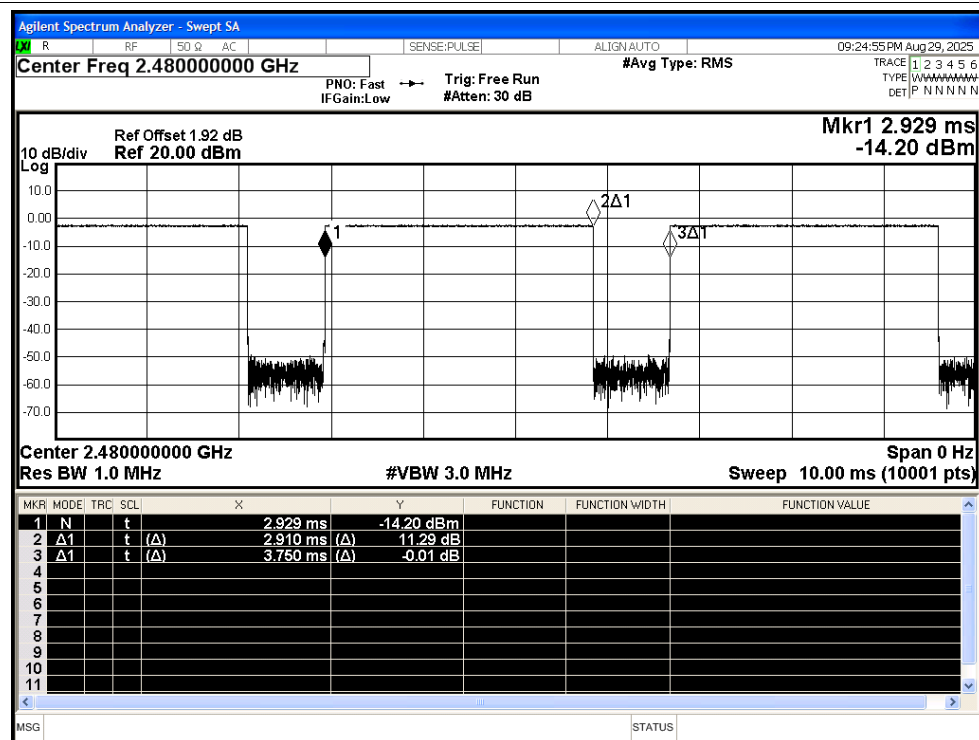
Duty Cycle NVNT 1-DH5 2402MHz Ant1



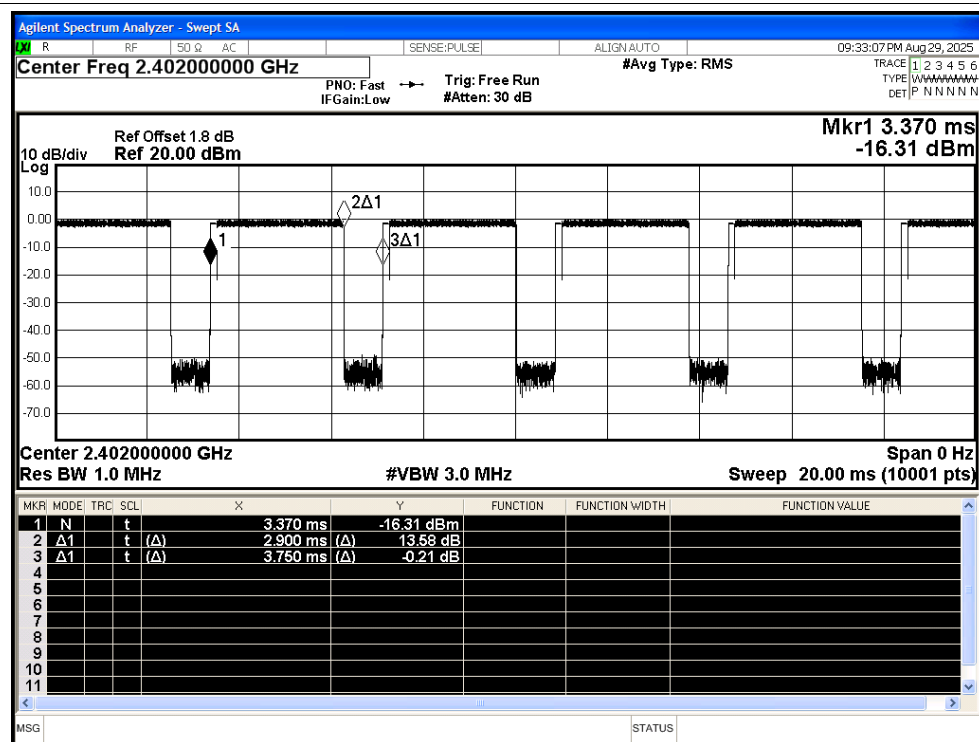
Duty Cycle NVNT 1-DH5 2441MHz Ant1



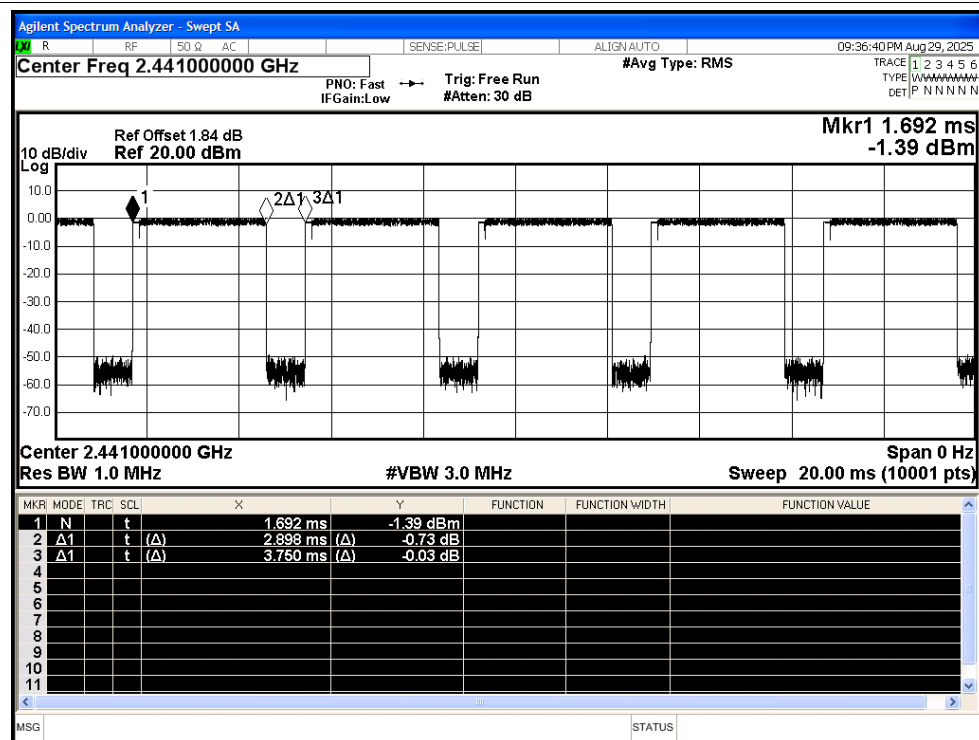
Duty Cycle NVNT 1-DH5 2480MHz Ant1



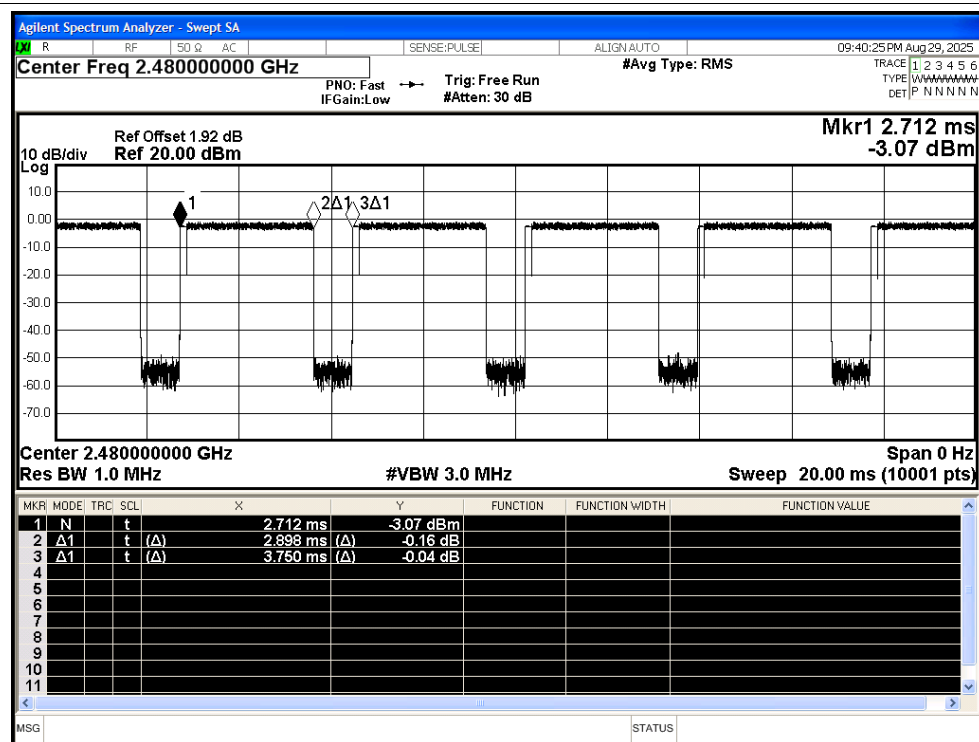
Duty Cycle NVNT 2-DH5 2402MHz Ant1



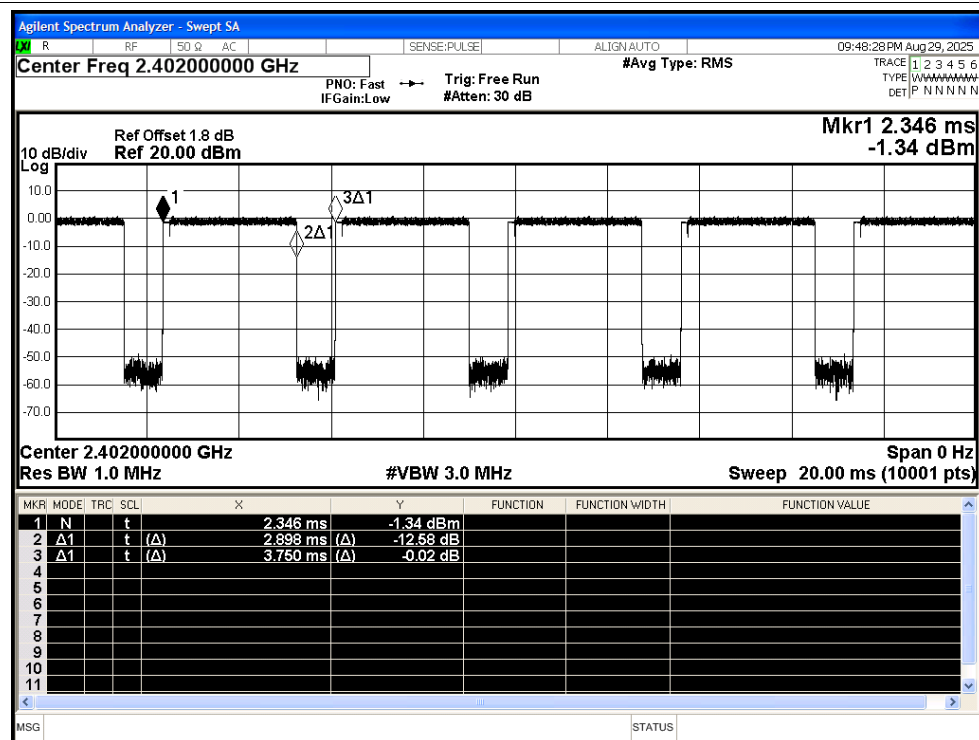
Duty Cycle NVNT 2-DH5 2441MHz Ant1



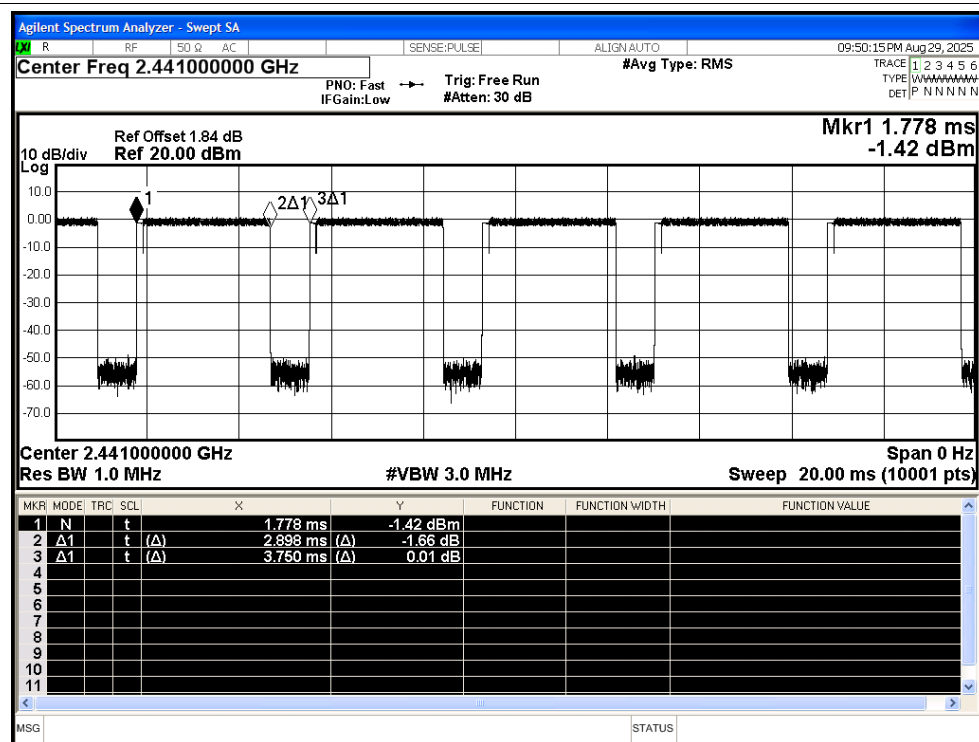
Duty Cycle NVNT 2-DH5 2480MHz Ant1

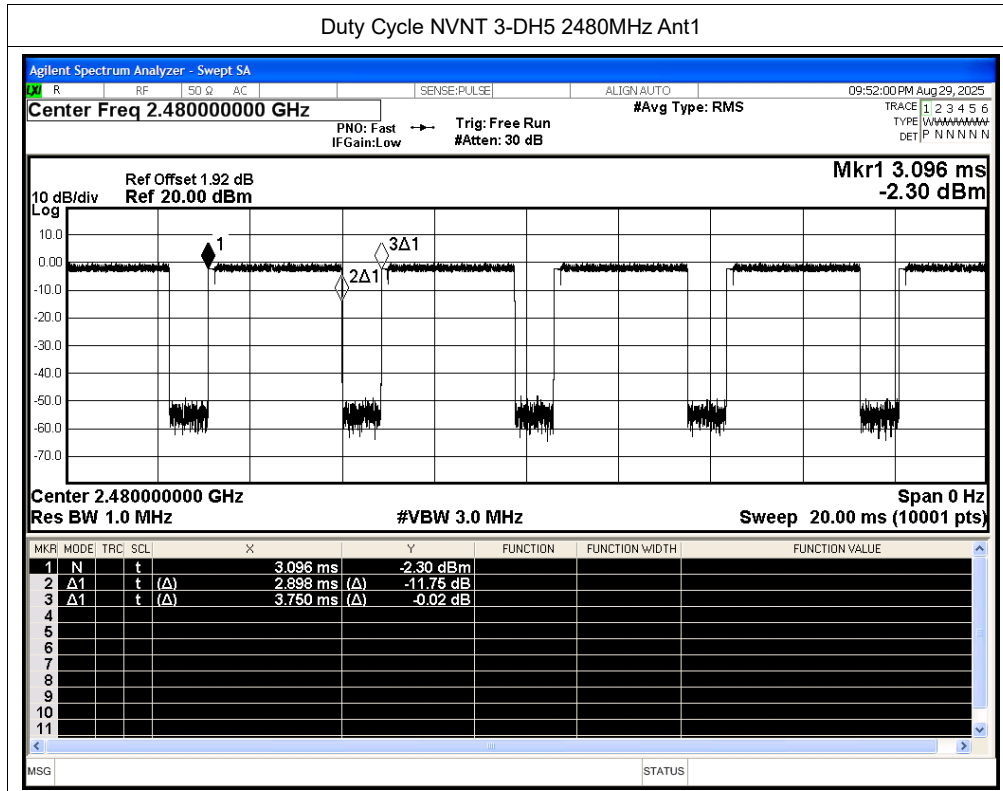


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



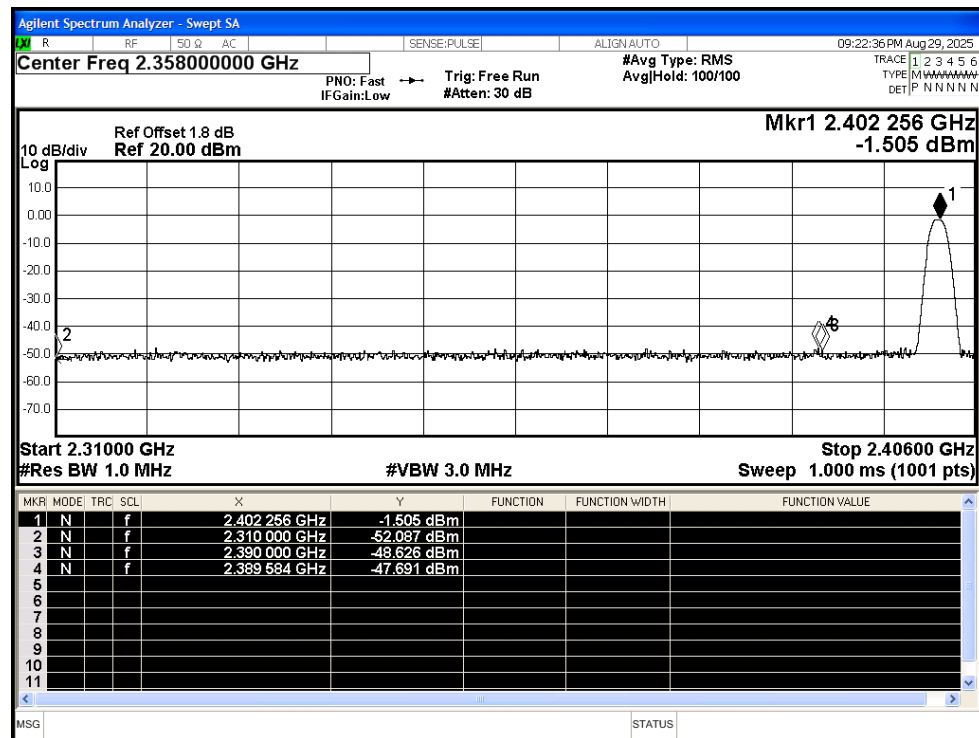


A.9 Restrict Band

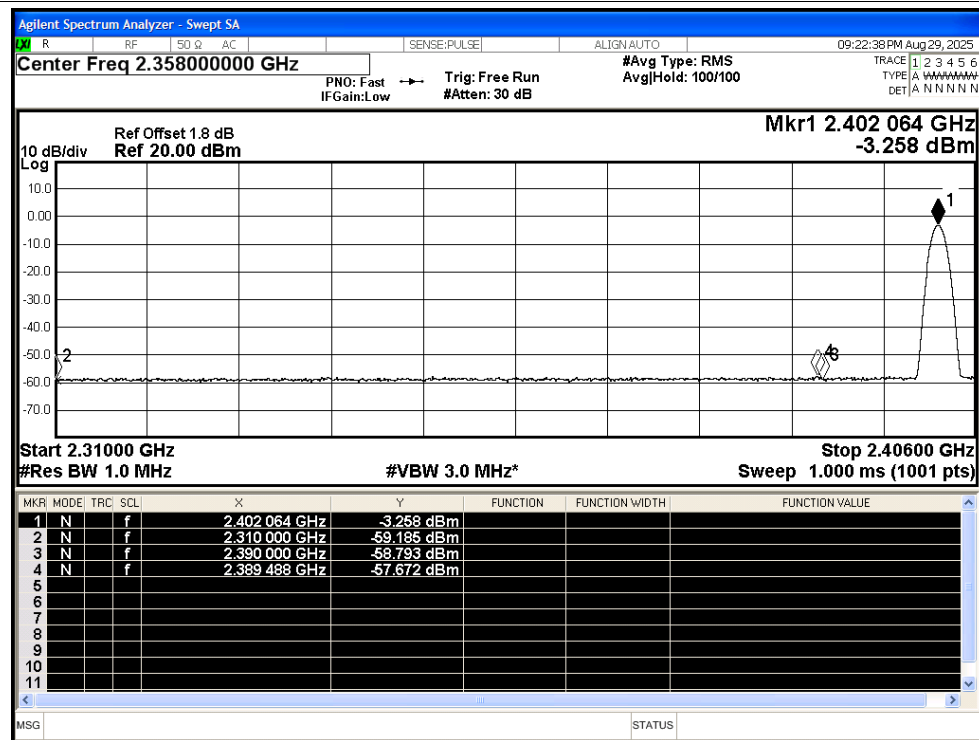
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-52.09	2.7	-	45.87	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.19	2.7	1.1	39.87	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.584	-47.69	2.7	-	50.27	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.488	-57.67	2.7	1.1	41.39	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-48.63	2.7	-	49.33	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.79	2.7	1.1	40.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.49	2.7	-	47.47	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.77	2.7	1.1	41.29	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2485.672	-46.97	2.7	-	50.99	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2498.104	-57.28	2.7	1.1	41.78	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.89	2.7	-	48.07	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.66	2.7	1.1	40.40	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.08	2.7	-	48.88	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.08	2.7	1.12	40.00	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2374.992	-47.62	2.7	-	50.34	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382.576	-57.83	2.7	1.12	41.25	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.85	2.7	-	48.11	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.09	2.7	1.12	40.99	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.63	2.7	-	47.33	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.89	2.7	1.12	41.19	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.736	-47.36	2.7	-	50.60	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2493.52	-57.25	2.7	1.12	41.83	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.6	2.7	-	47.36	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.85	2.7	1.12	41.23	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.82	2.7	-	47.14	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.17	2.7	1.12	39.91	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2351.088	-46.98	2.7	-	50.98	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2374.32	-57.67	2.7	1.12	41.41	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.87	2.7	-	48.09	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.35	2.7	1.12	40.73	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.83	2.7	-	48.13	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.95	2.7	1.12	41.13	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.096	-46.65	2.7	-	51.31	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.536	-57.11	2.7	1.12	41.97	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.88	2.7	-	47.08	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.05	2.7	1.12	41.03	Average	54	Pass

Test Graphs

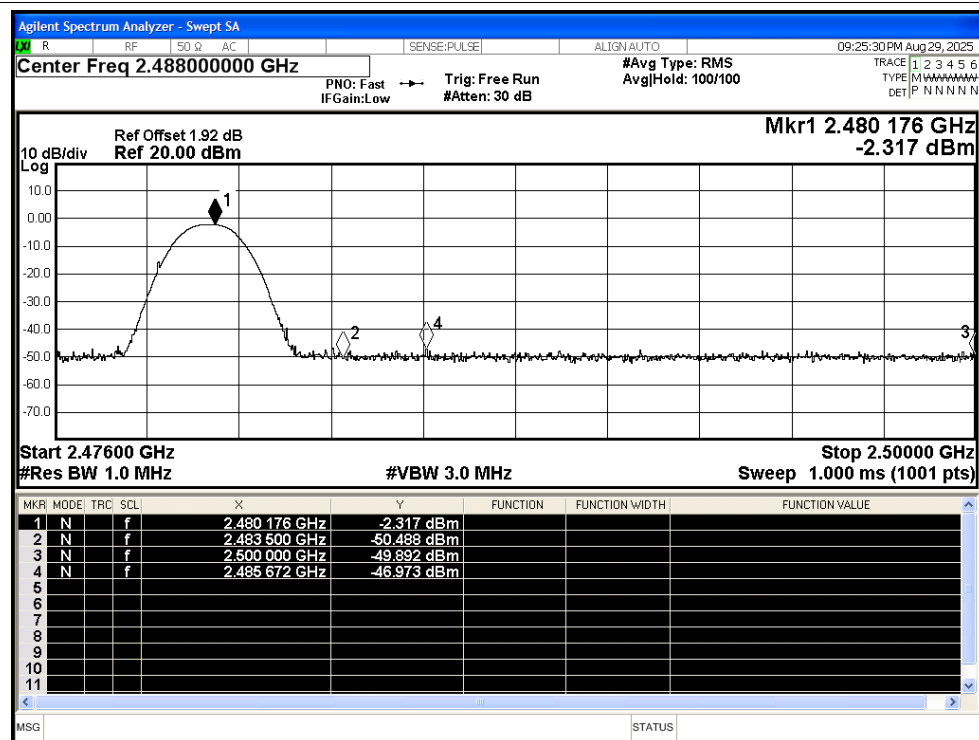
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



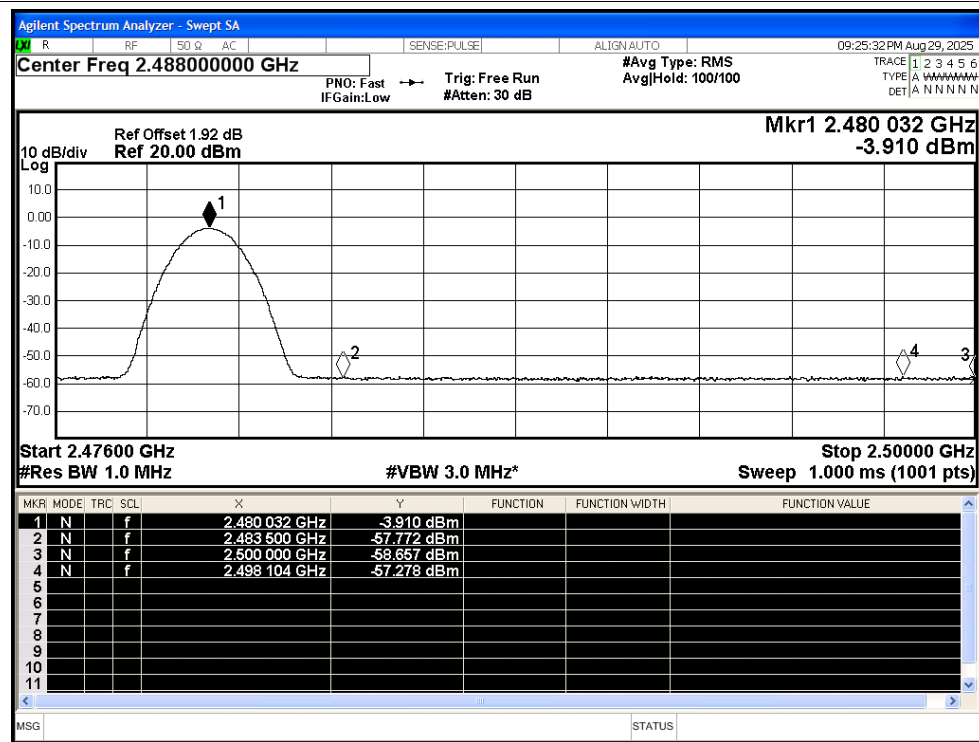
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



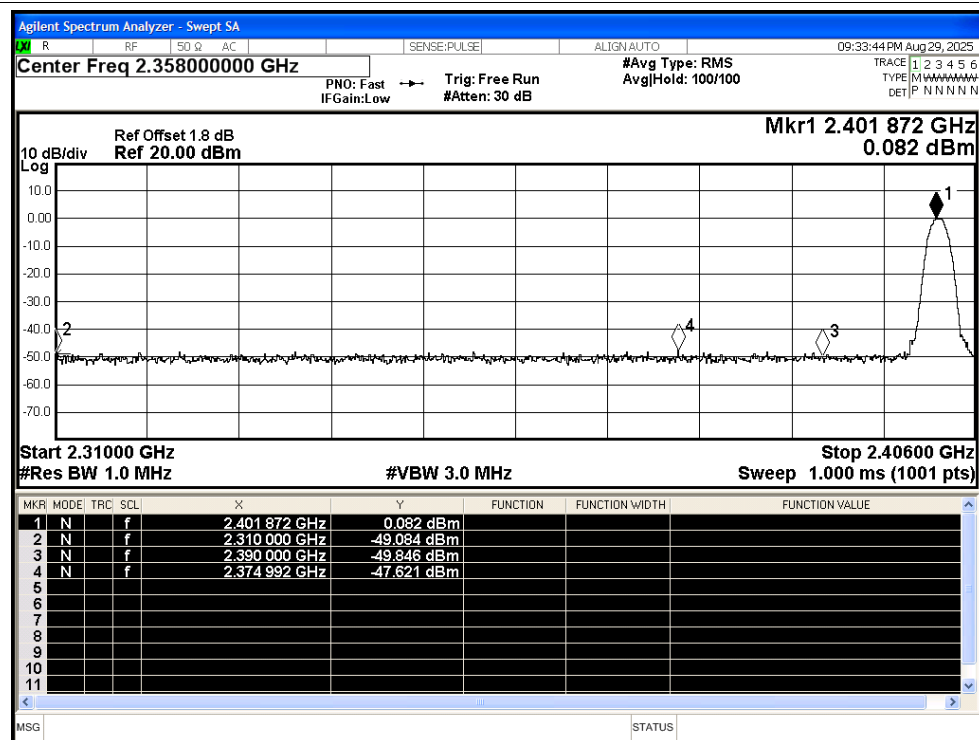
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



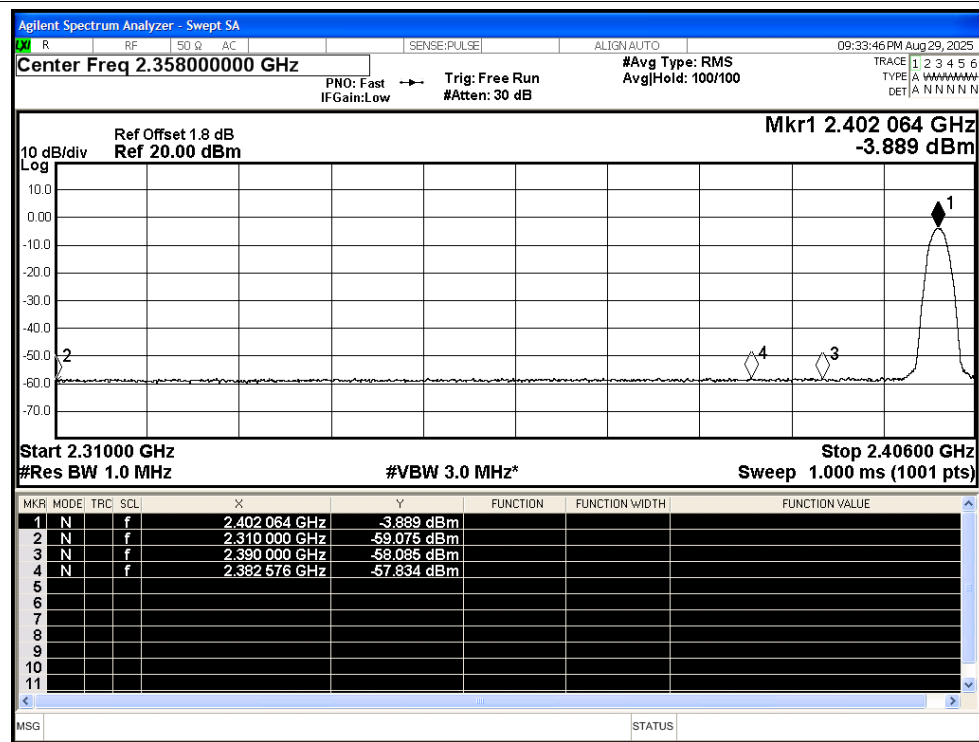
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

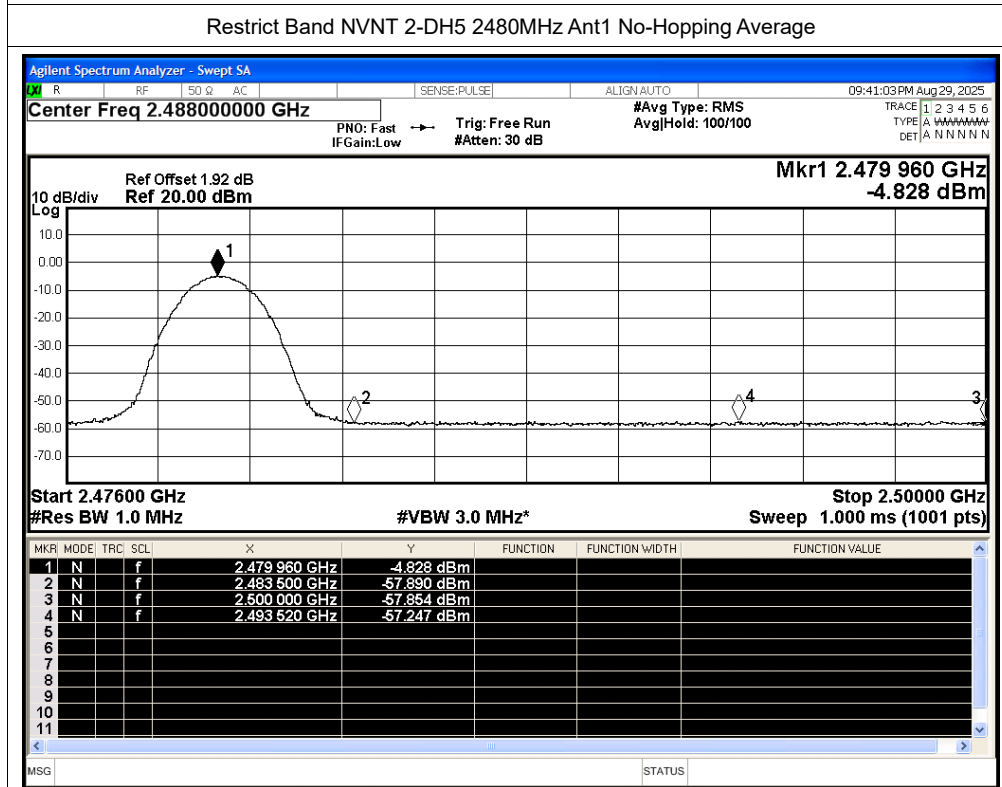


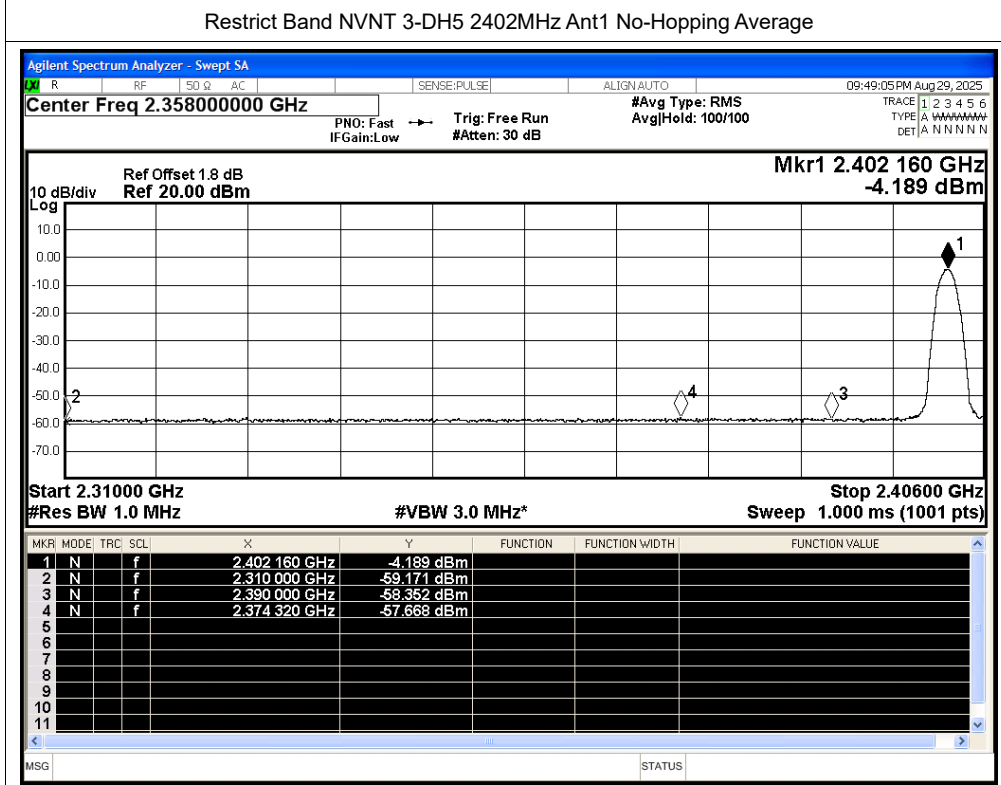
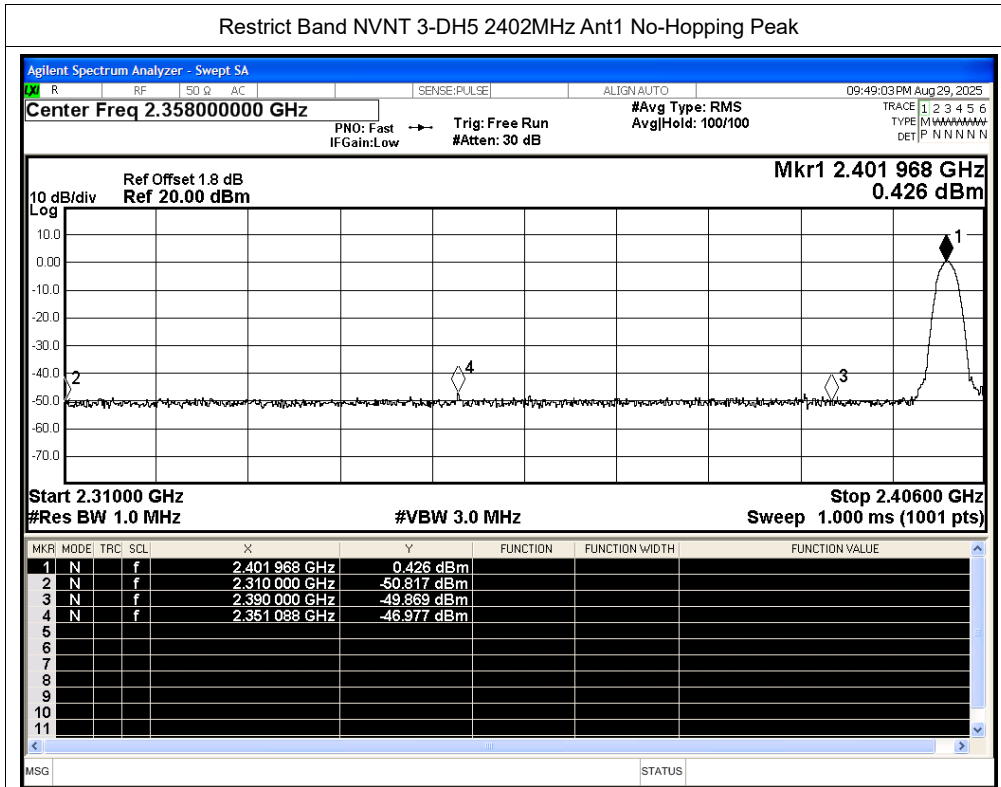
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



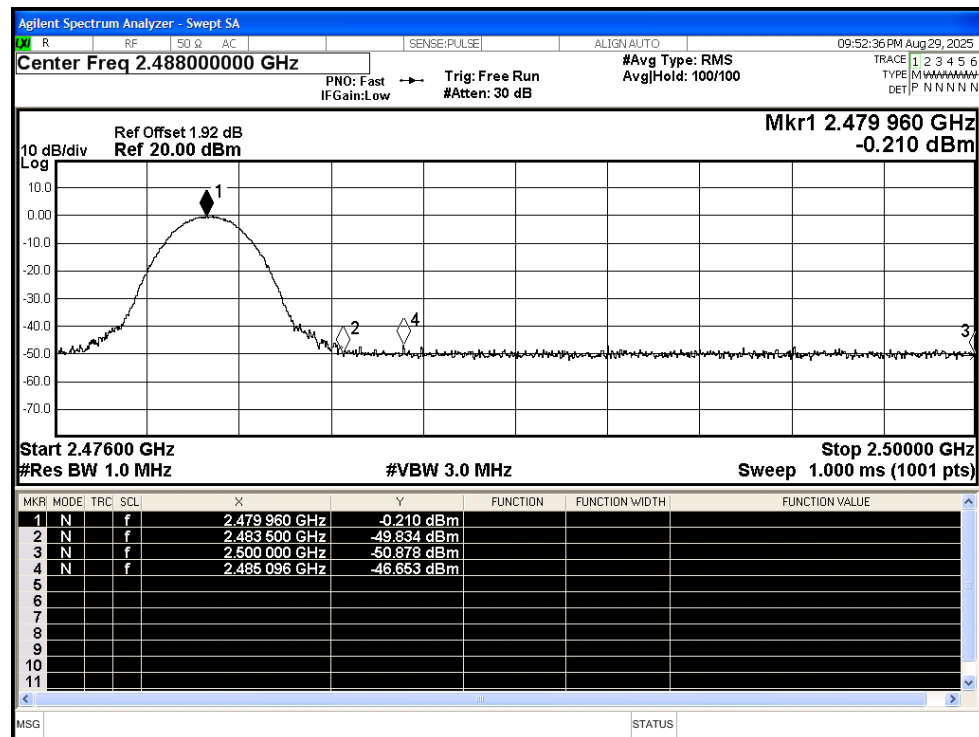
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average







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



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

