

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Portable Speaker

Test Model: Strrao

Environmental Conditions

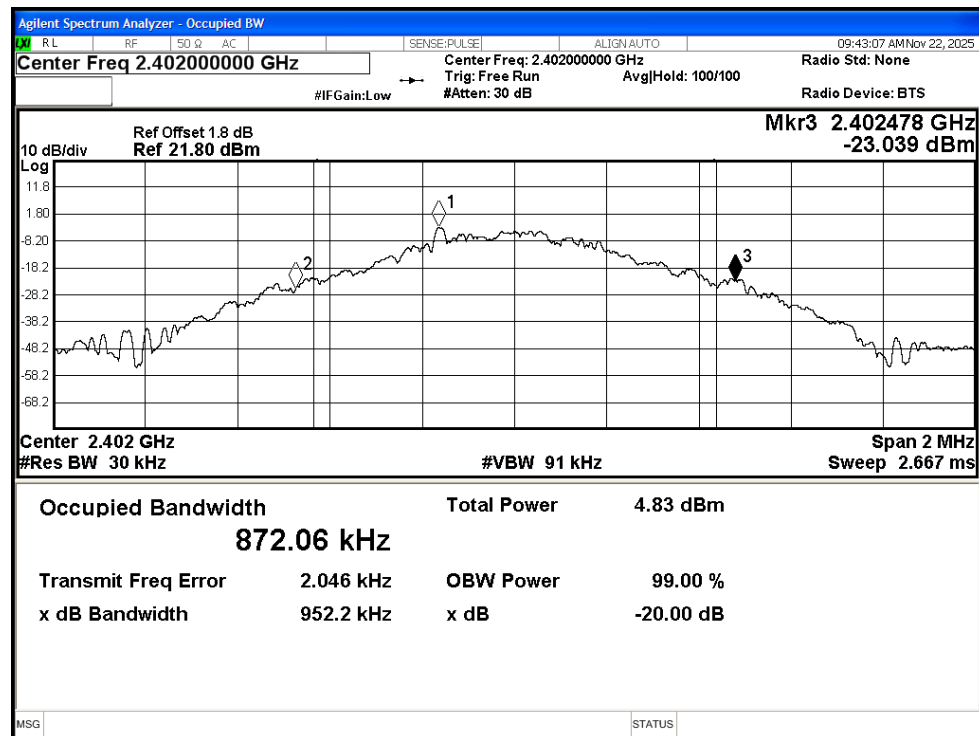
Temperature:	24.1°C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Yan Chen
Supervised by:	Fengliu Tang

A.1 -20dB Bandwidth

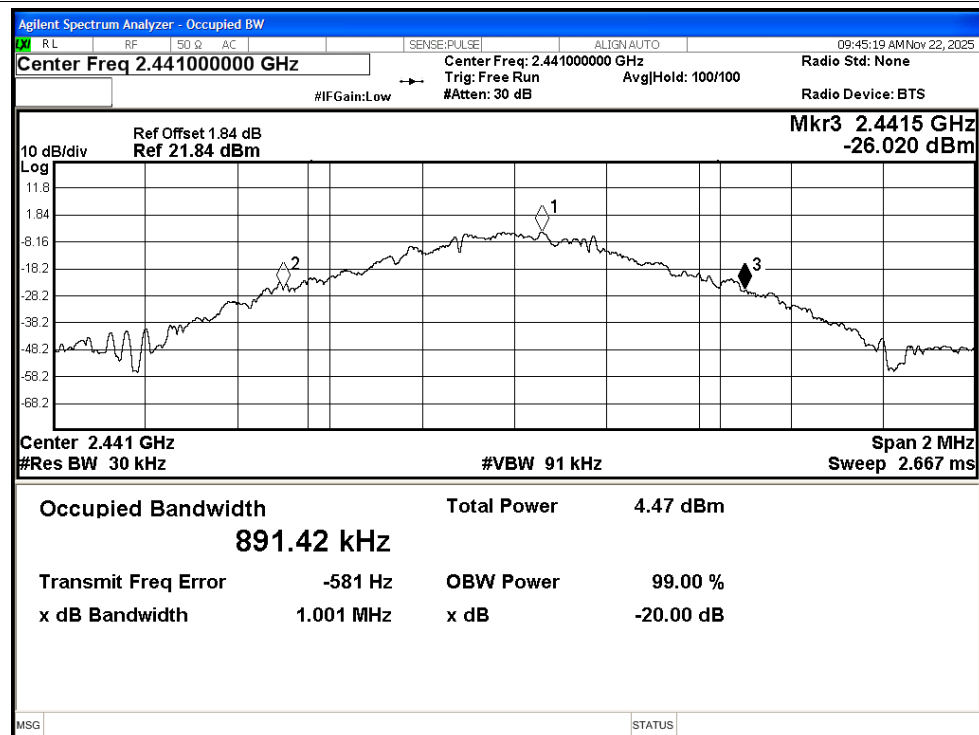
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.952	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.001	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.946	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.311	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.285	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.298	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.297	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.3	N/A	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



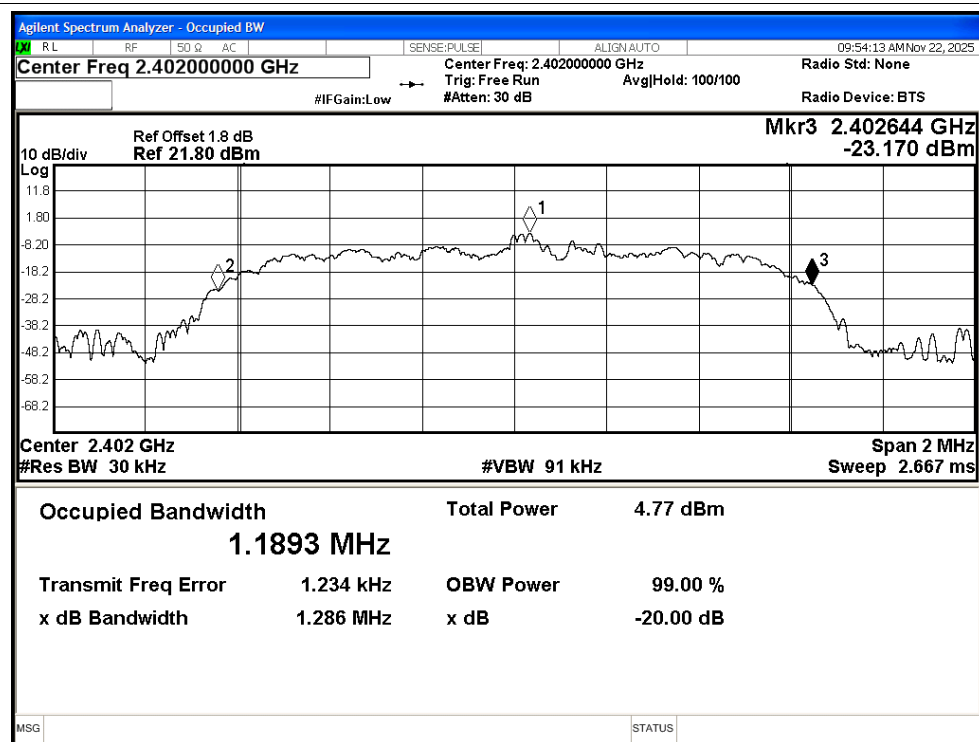
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



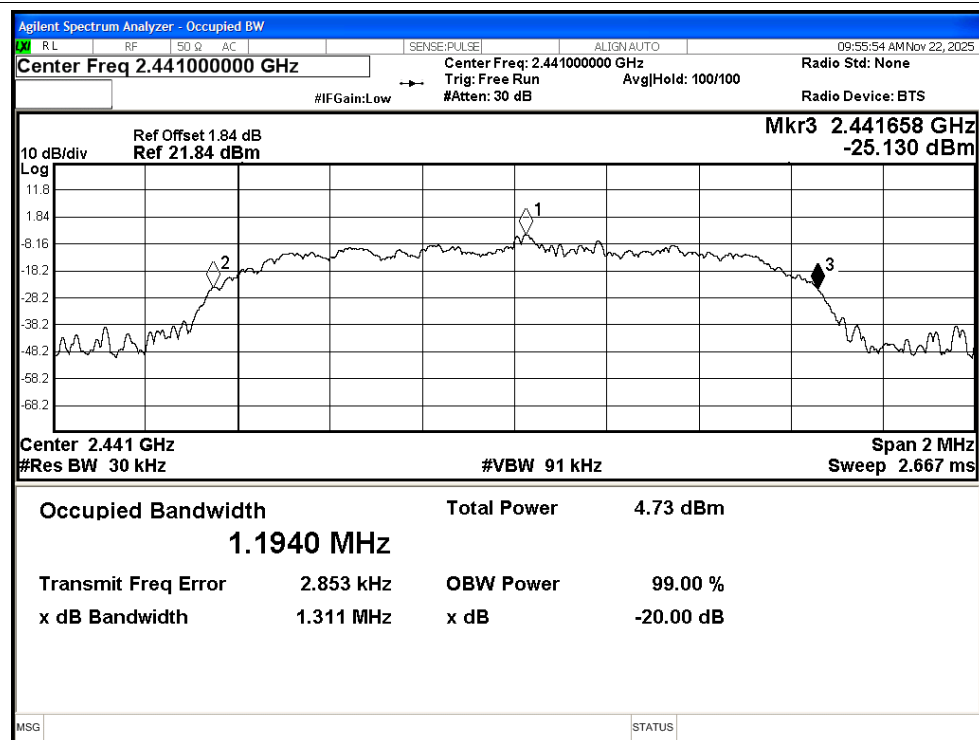
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



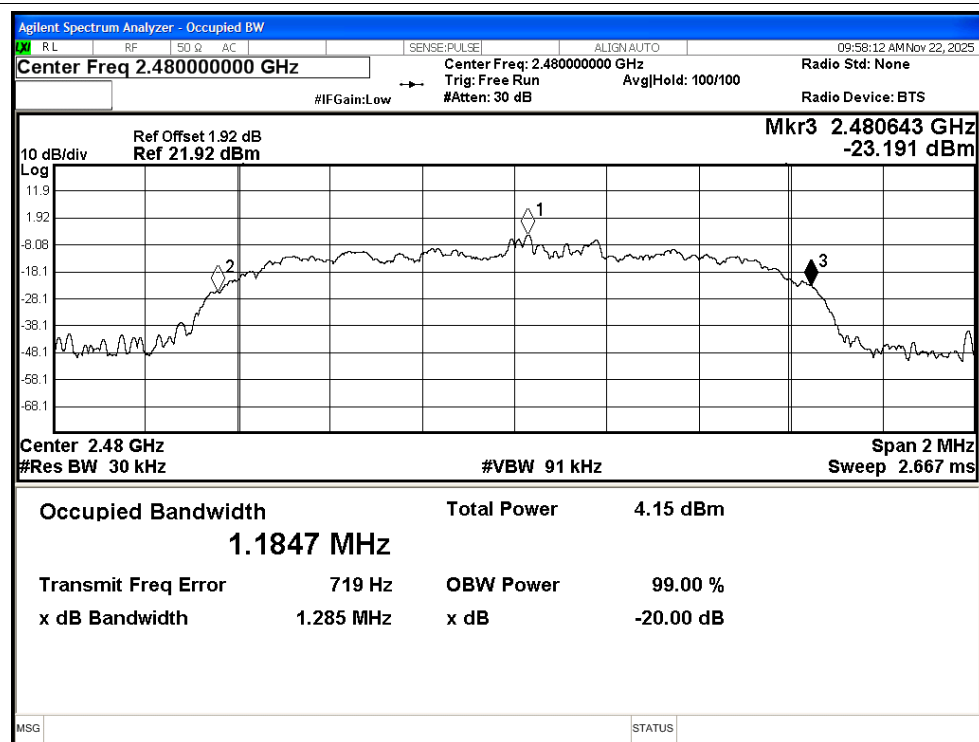
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



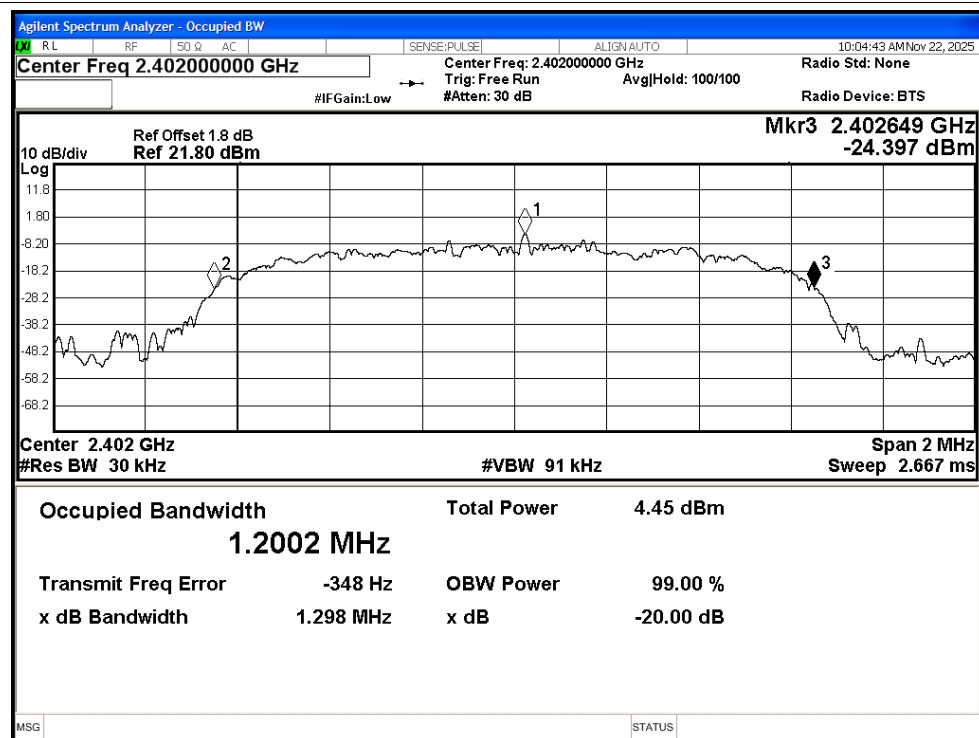
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



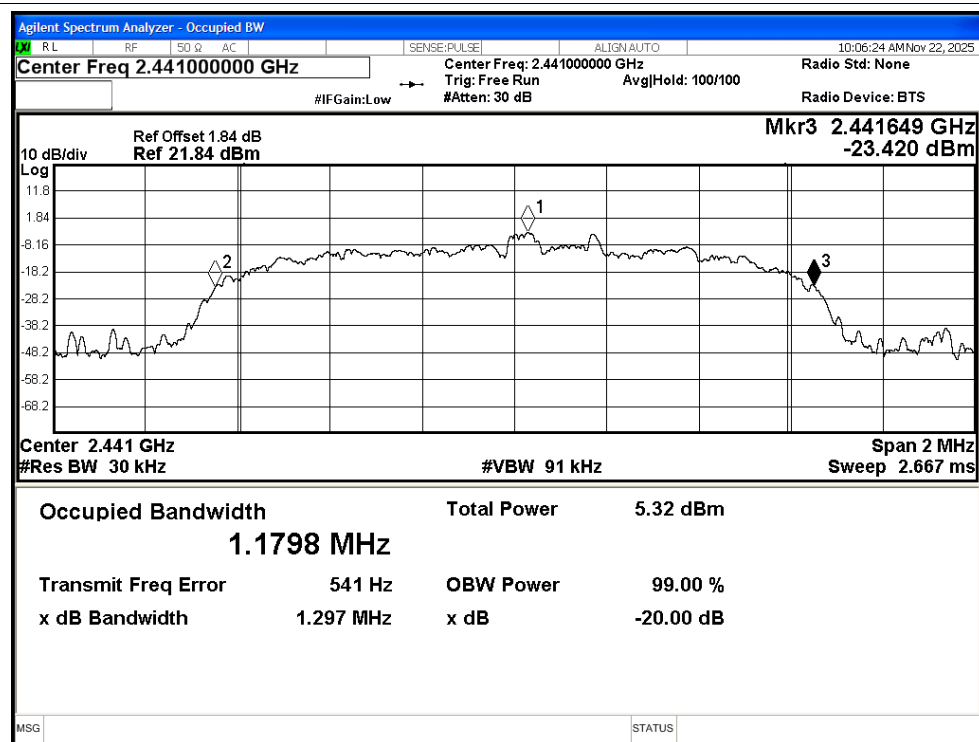
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

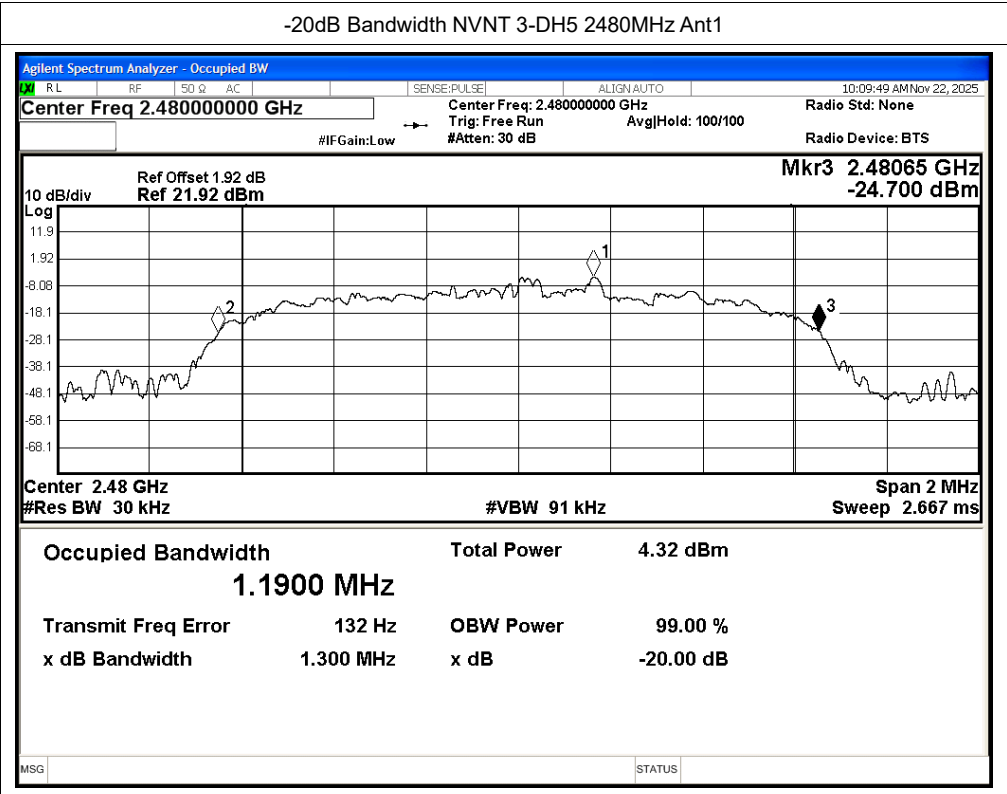


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



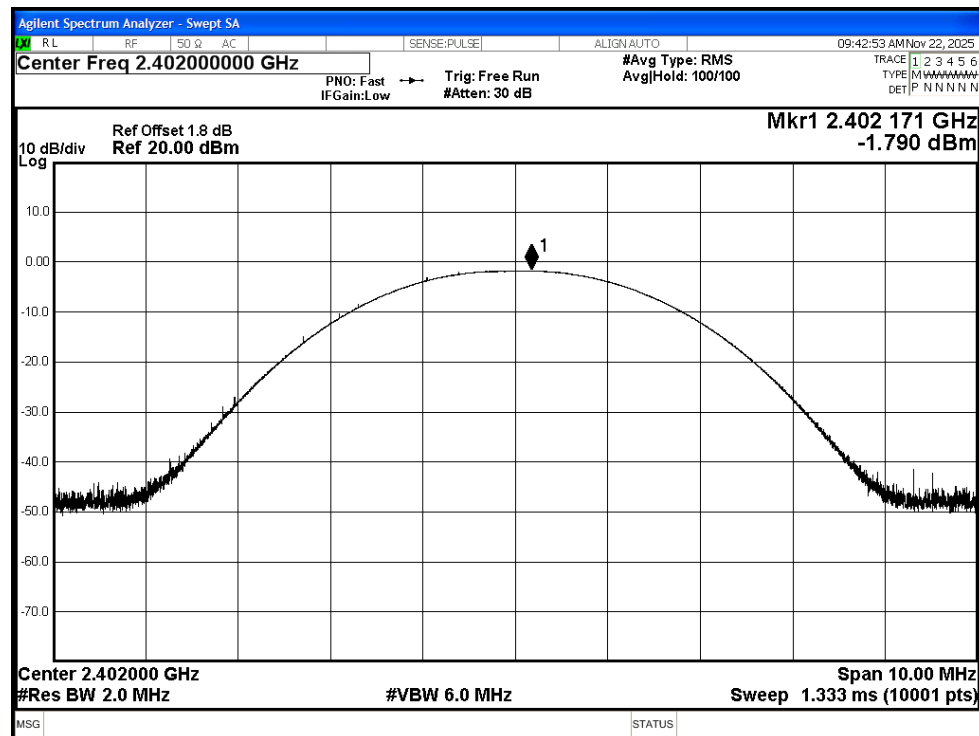


A.2 Maximum Peak Conducted Output Power

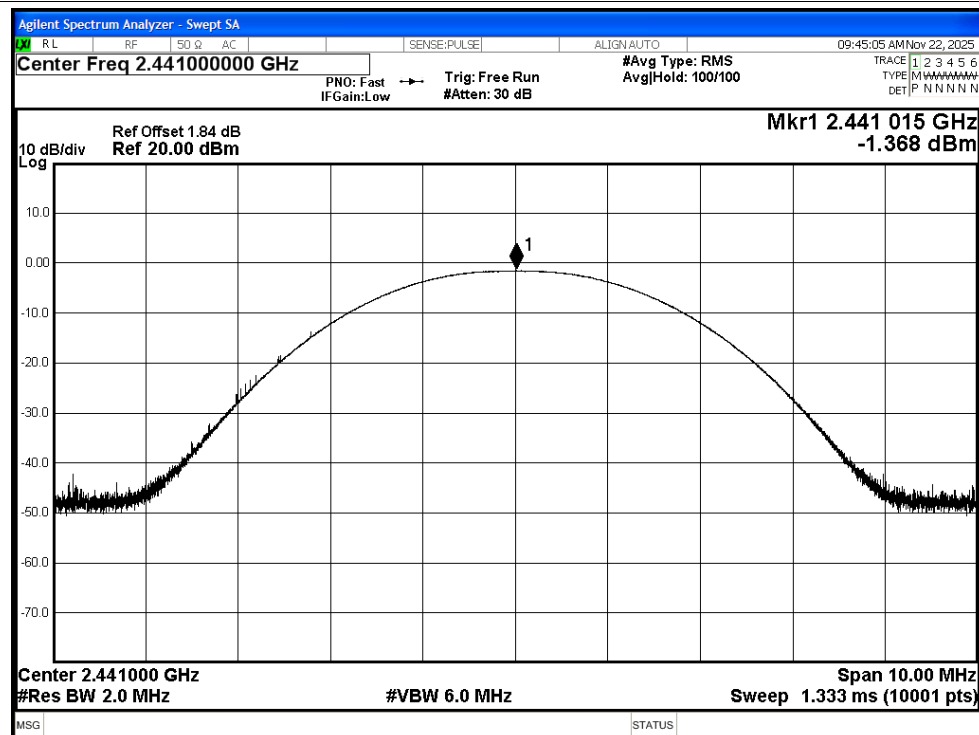
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.79	21	Pass
NVNT	1-DH5	2441	Ant1	-1.37	21	Pass
NVNT	1-DH5	2480	Ant1	-2.22	21	Pass
NVNT	2-DH5	2402	Ant1	0.44	21	Pass
NVNT	2-DH5	2441	Ant1	0.7	21	Pass
NVNT	2-DH5	2480	Ant1	-0.24	21	Pass
NVNT	3-DH5	2402	Ant1	0.84	21	Pass
NVNT	3-DH5	2441	Ant1	1.08	21	Pass
NVNT	3-DH5	2480	Ant1	0.1	21	Pass

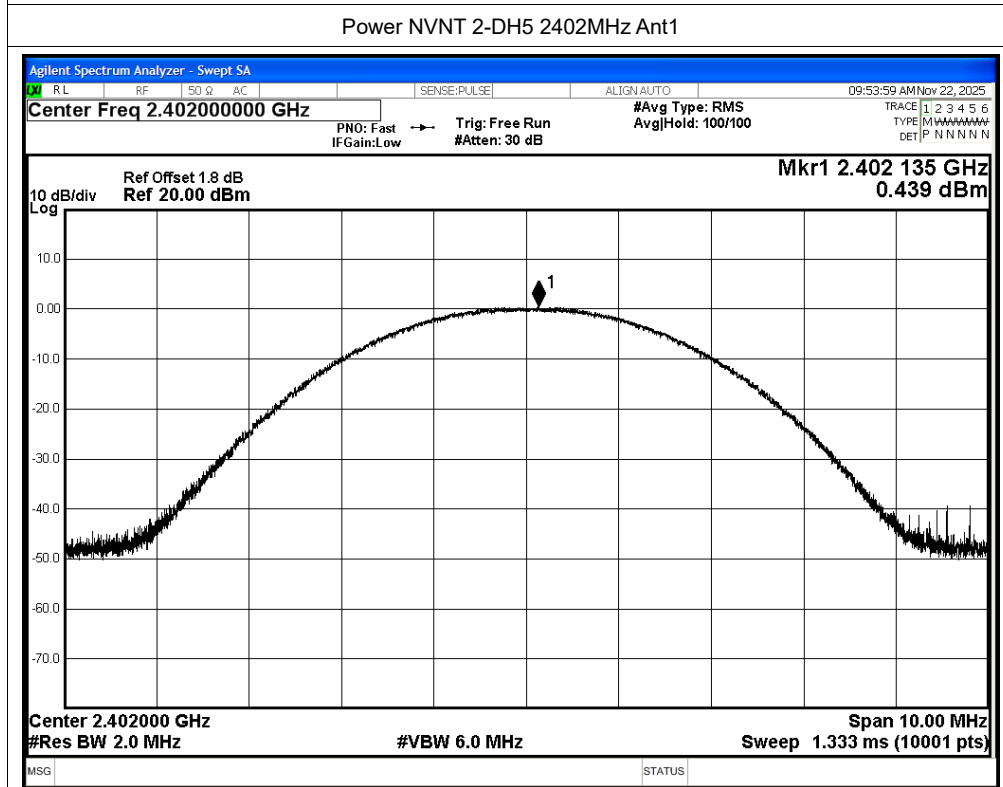
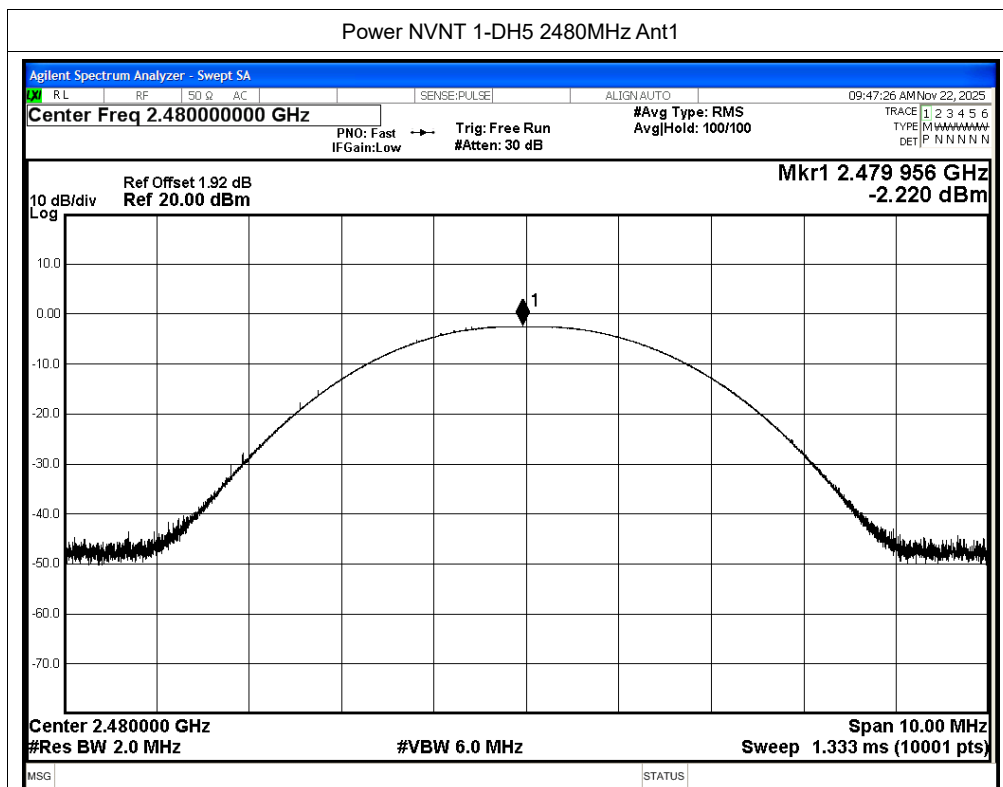
Test Graphs

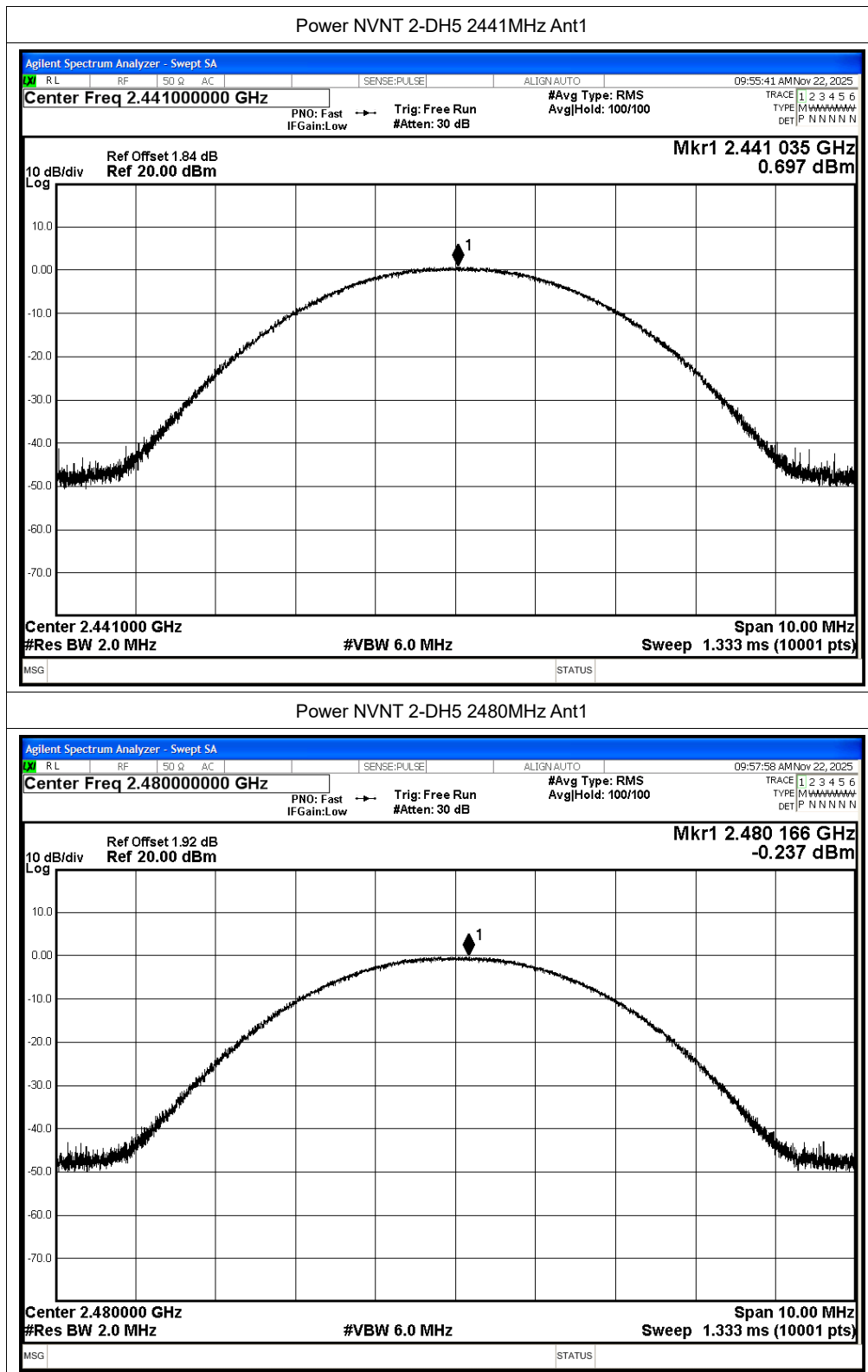
Power NVNT 1-DH5 2402MHz Ant1

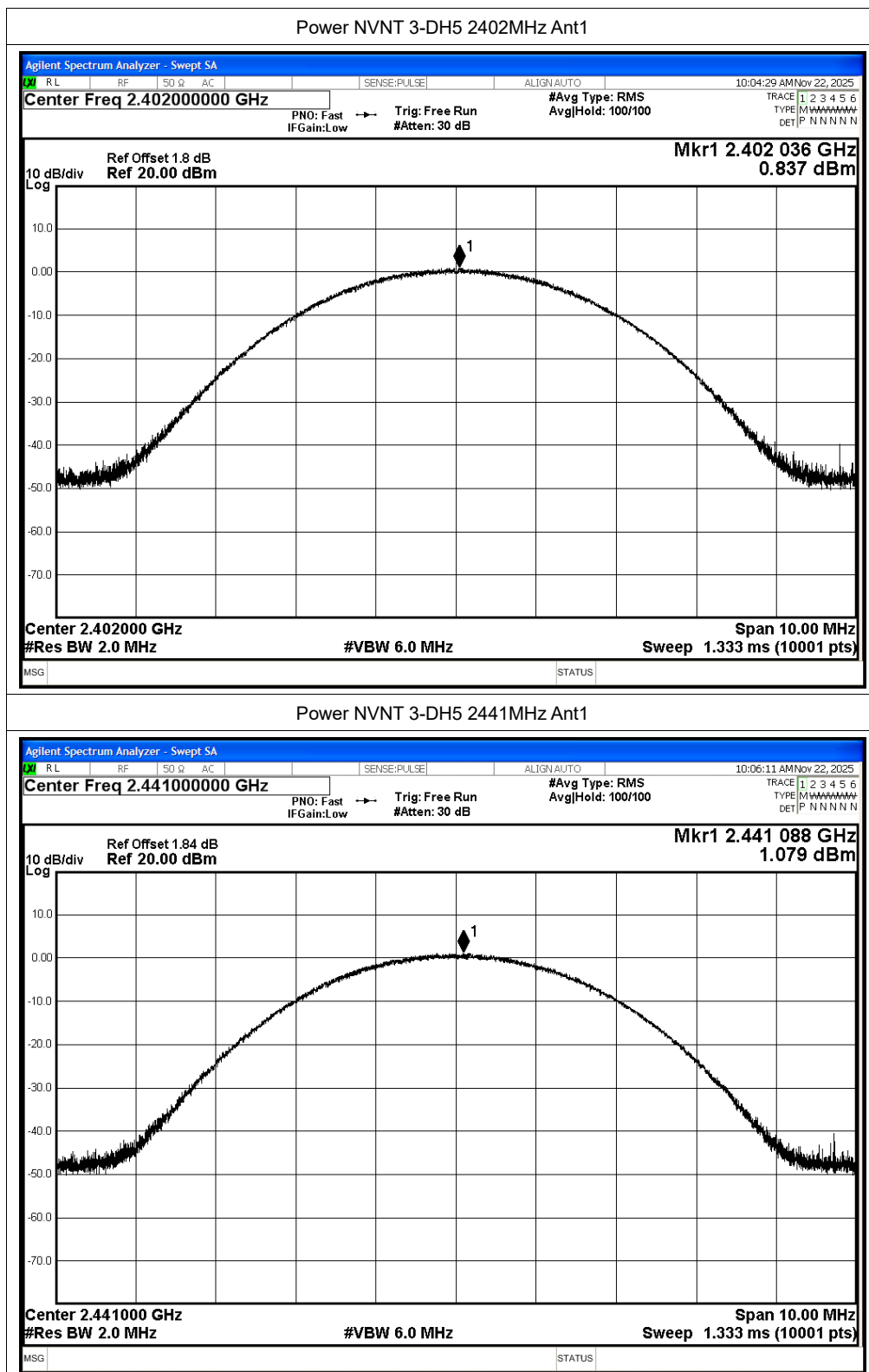


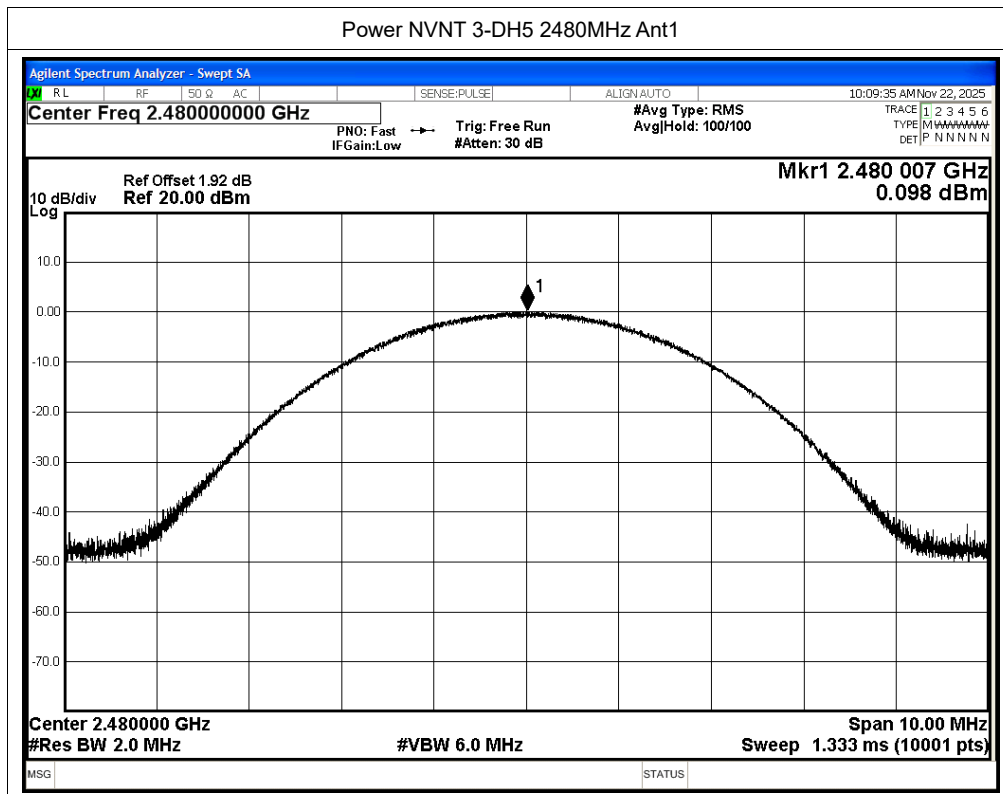
Power NVNT 1-DH5 2441MHz Ant1









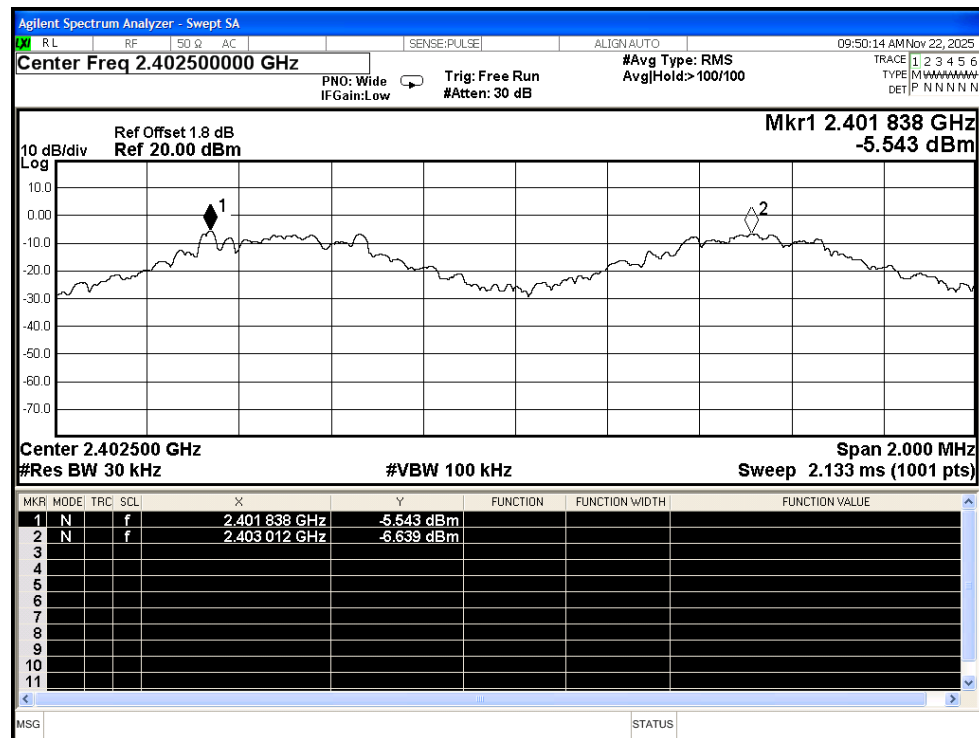


A.3 Carrier Frequencies Separation

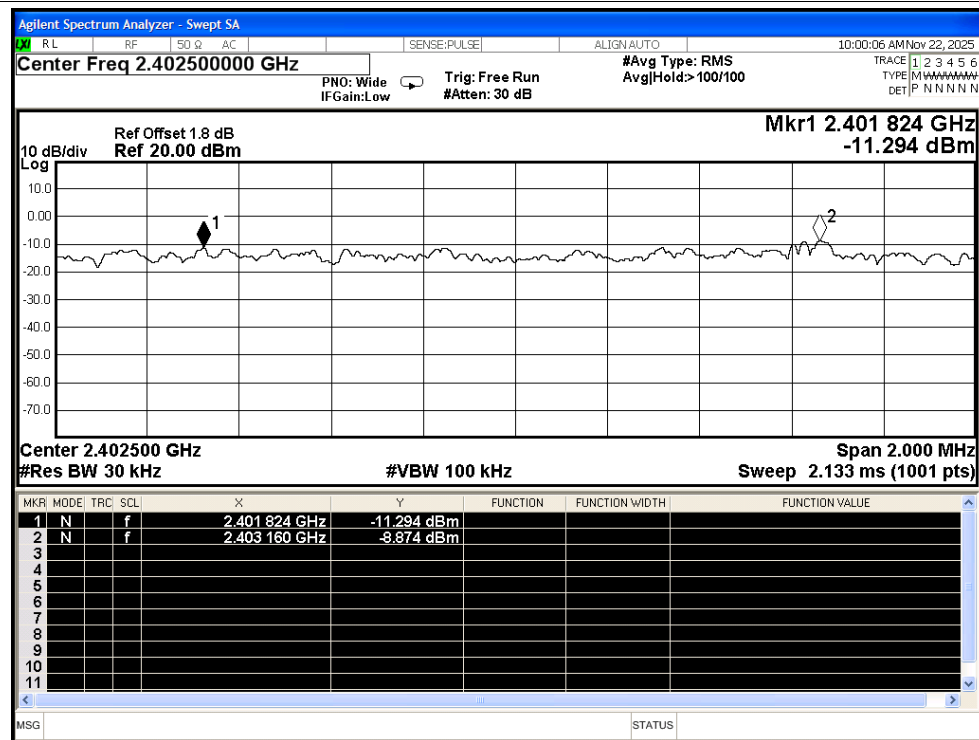
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.838	2403.012	1.174	0.667	Pass
NVNT	2-DH5	Ant1	2401.824	2403.16	1.336	0.874	Pass
NVNT	3-DH5	Ant1	2402.108	2403.162	1.054	0.867	Pass

Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1

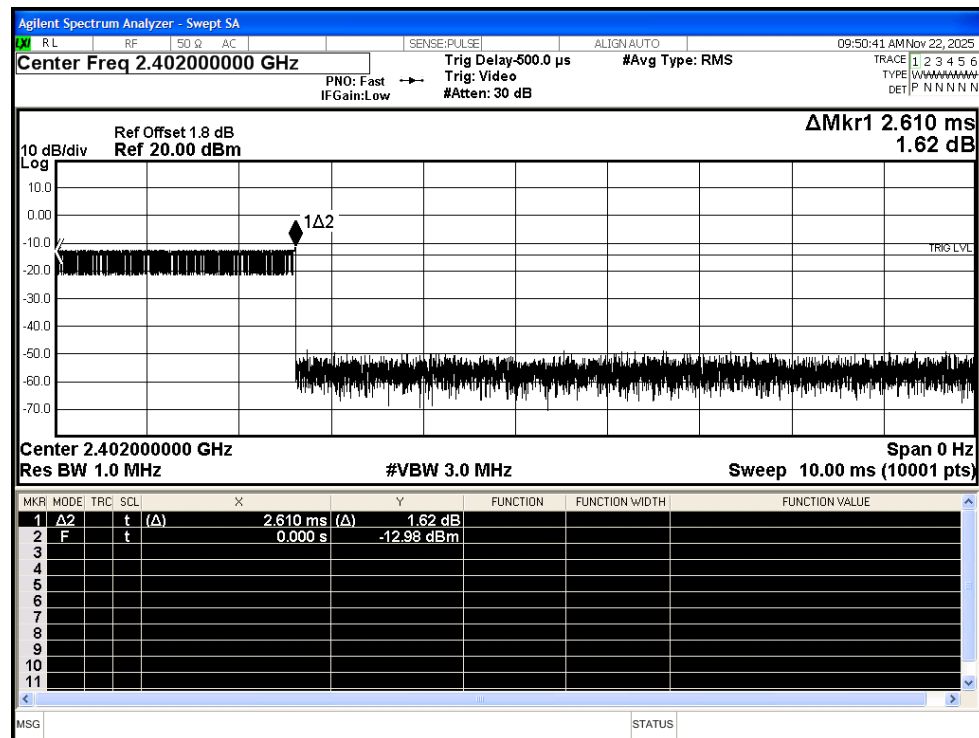


A.4 Dwell Time

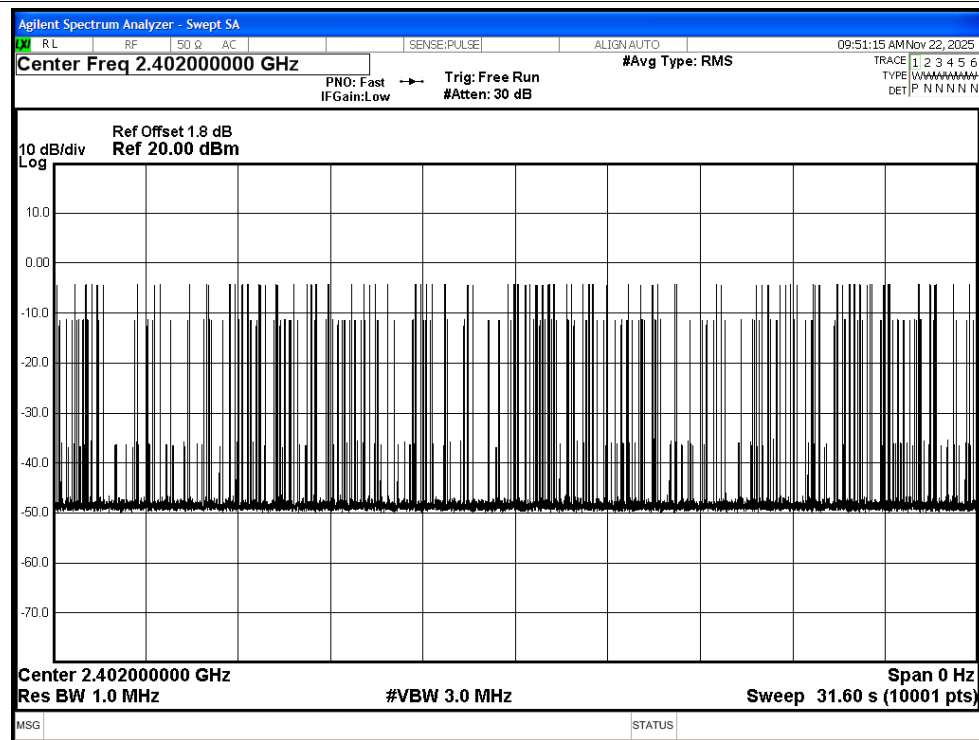
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.61	274.05	105	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	278.208	96	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	315.773	109	31600	400	Pass

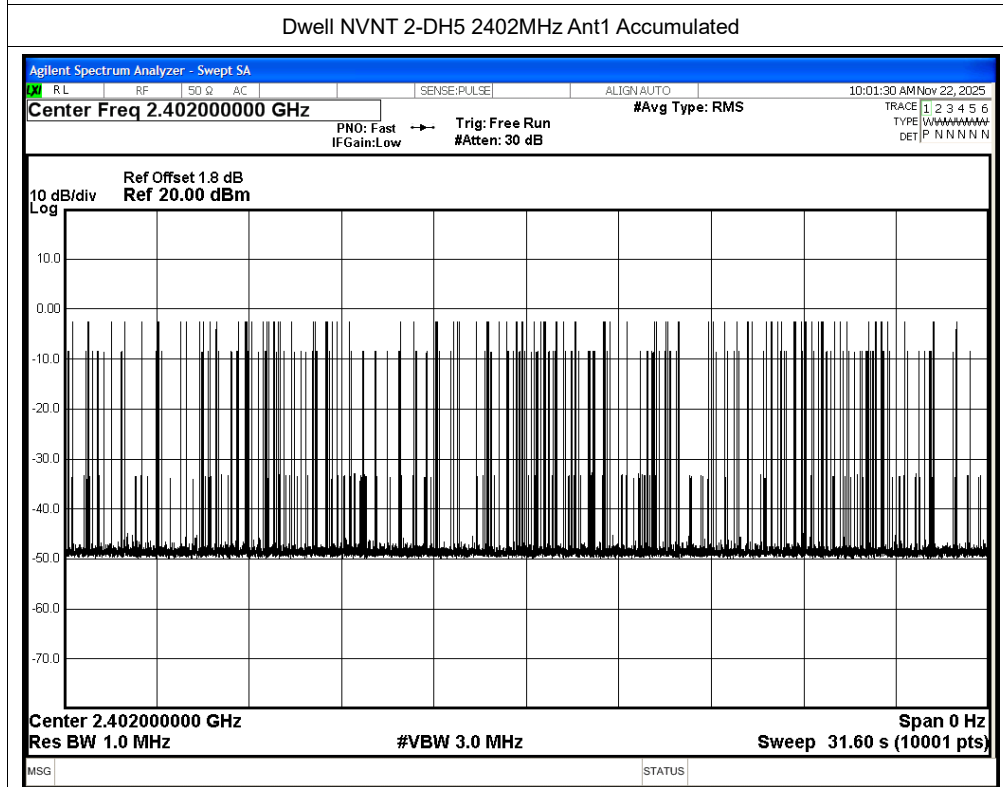
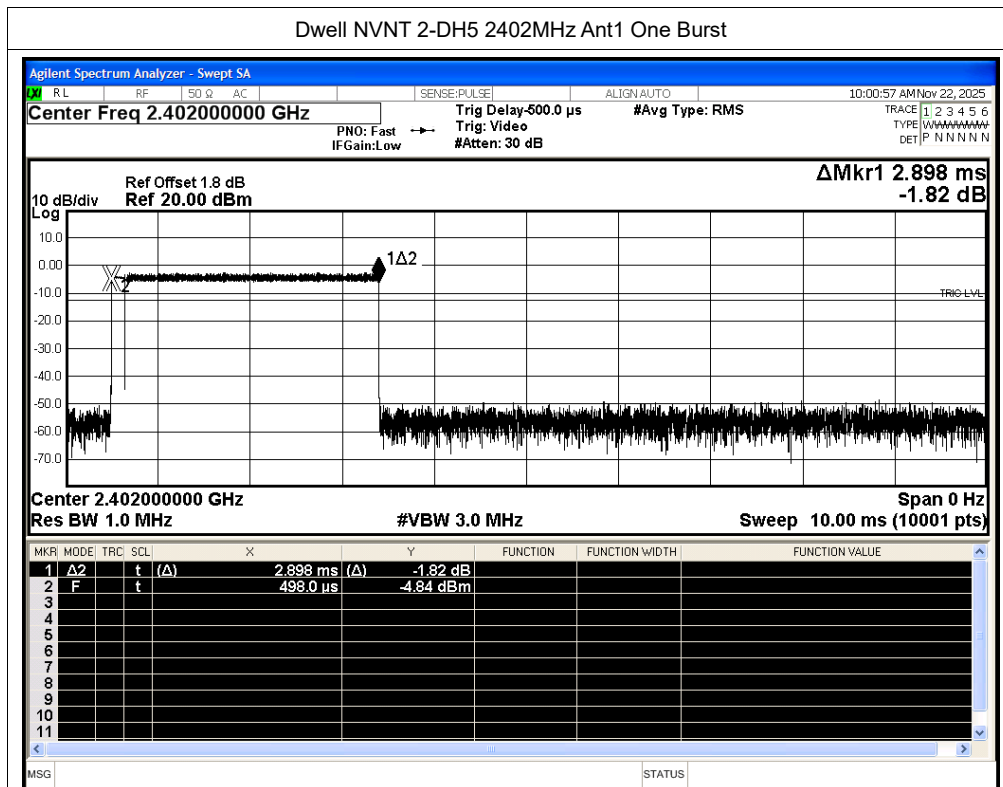
Test Graphs

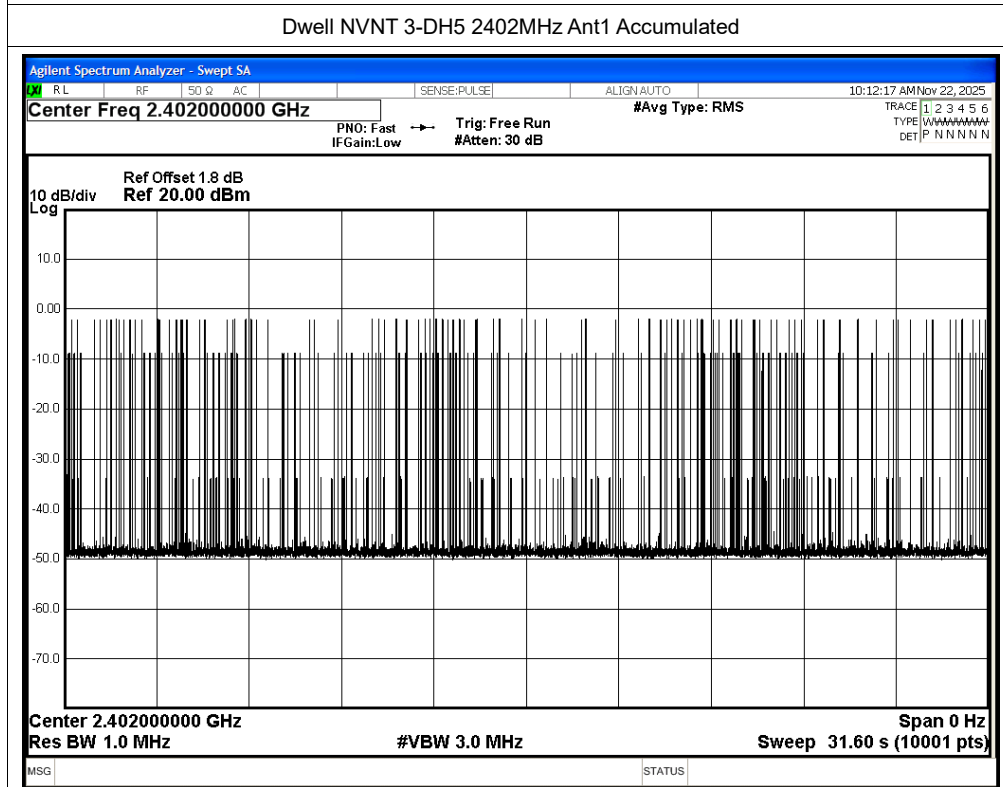
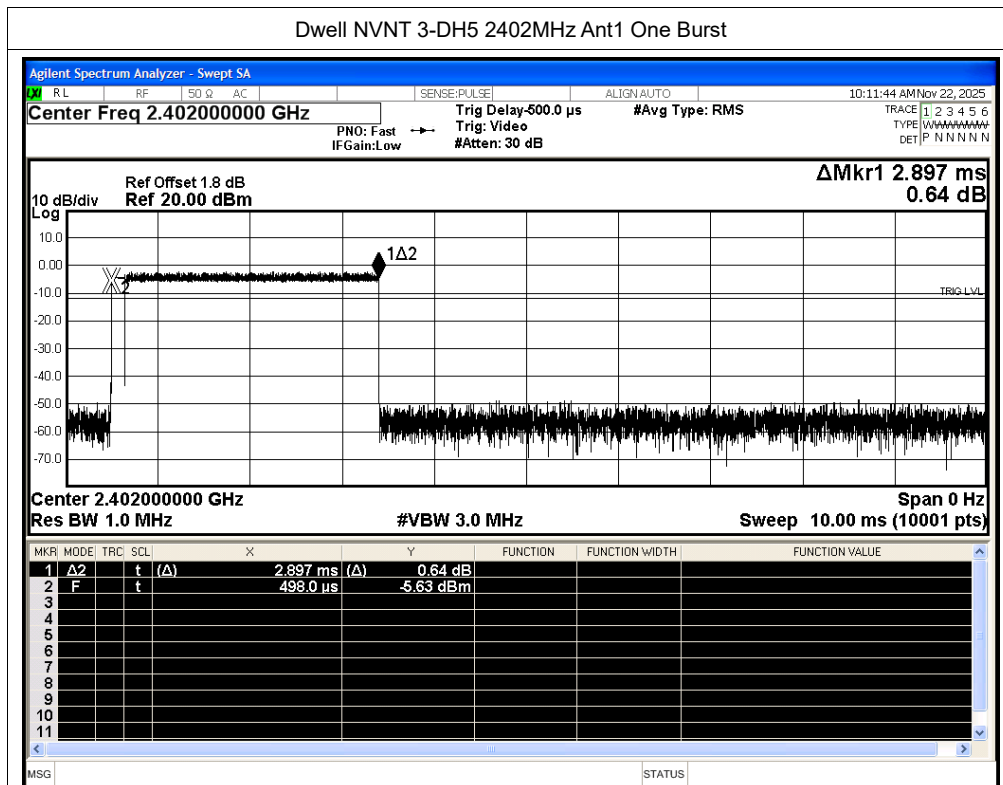
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated





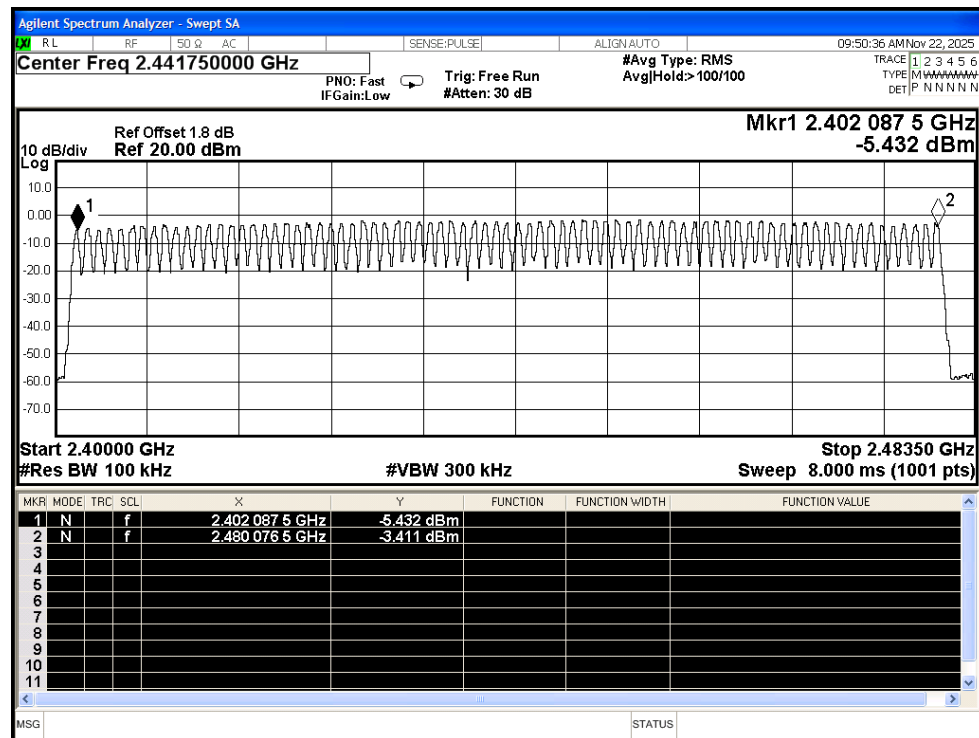


A.5 Number of Hopping Channel

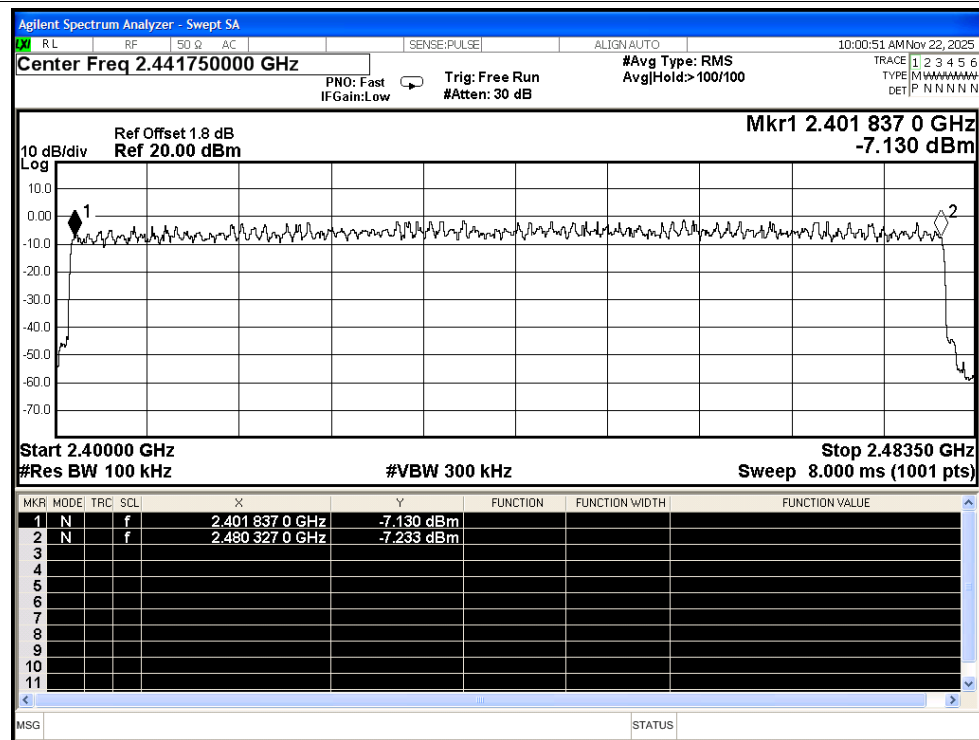
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

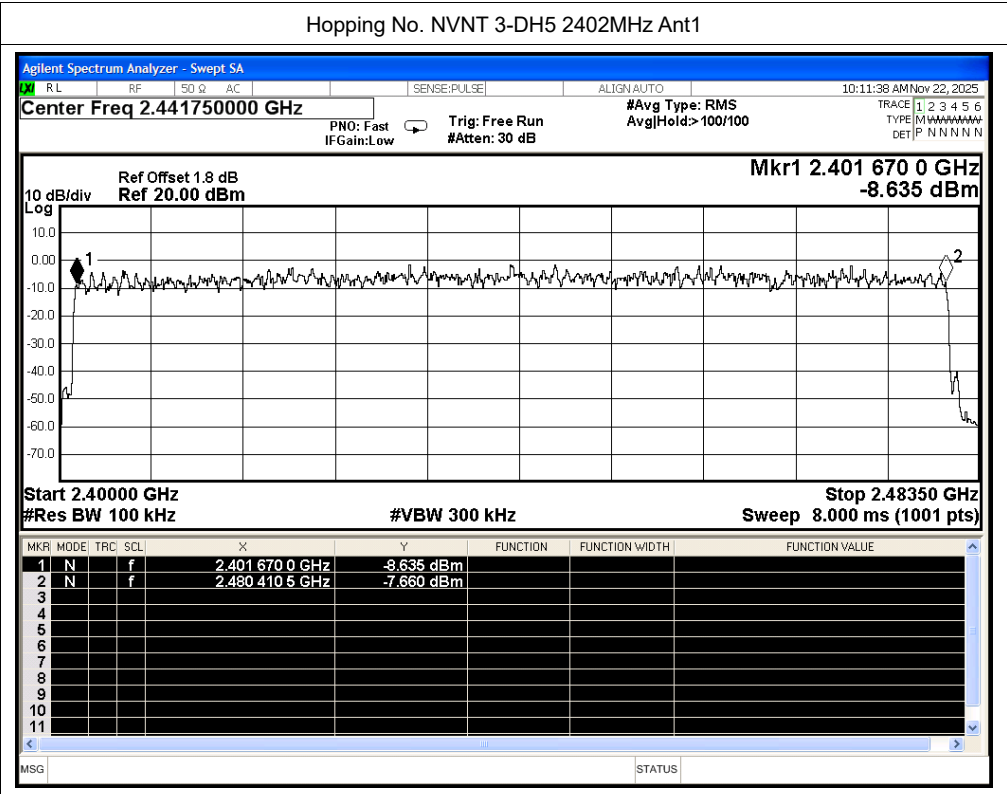
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



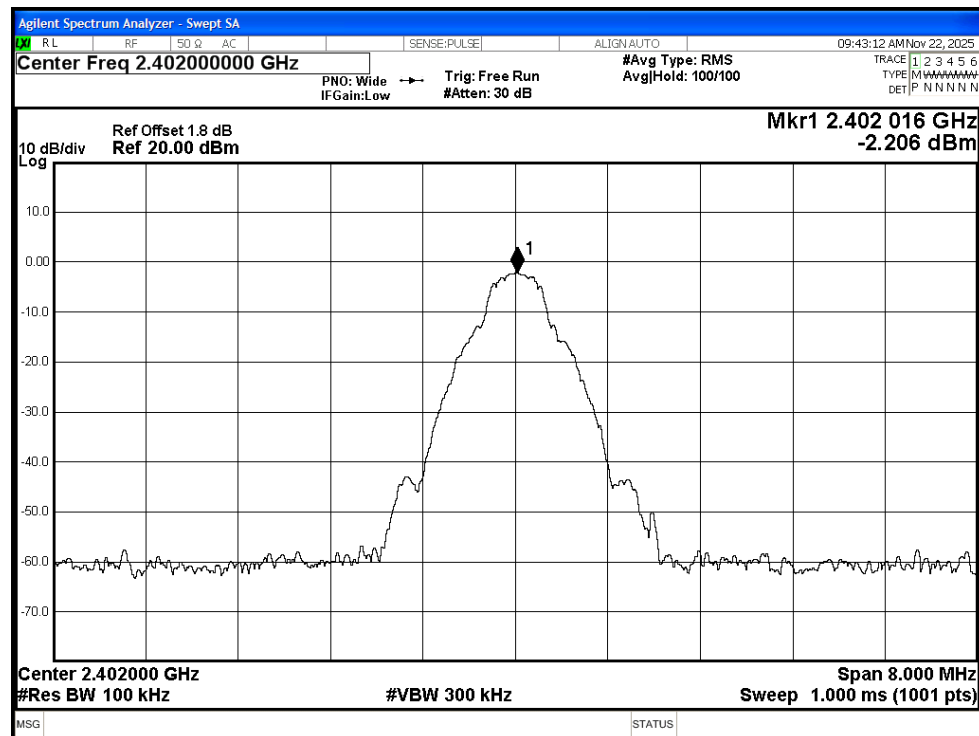


A.6 Band Edge

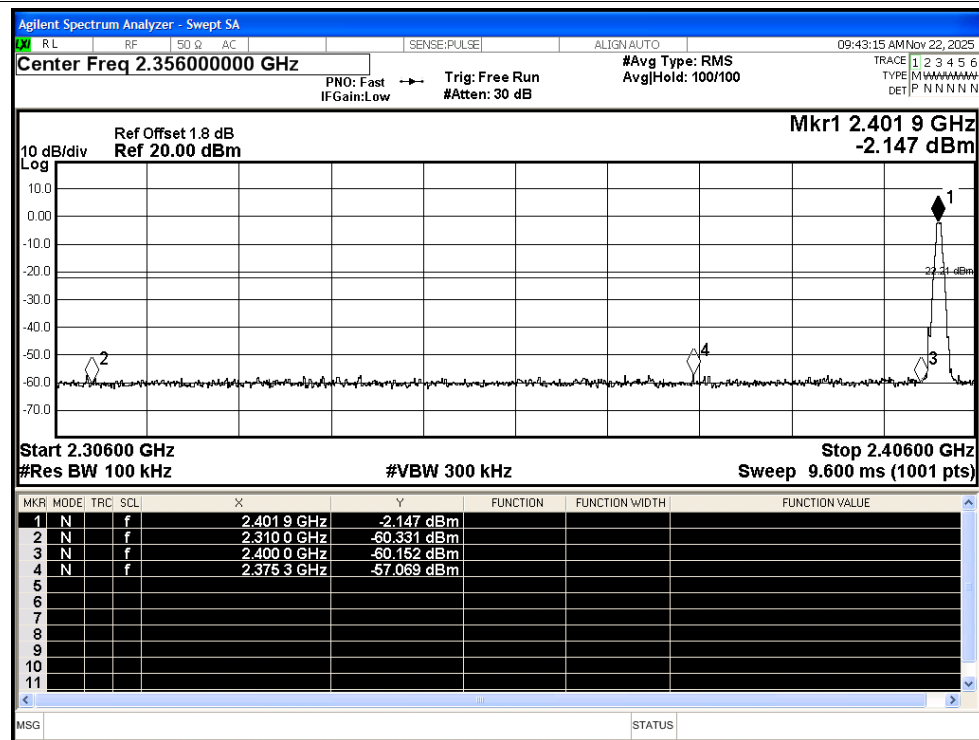
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-54.86	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.95	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.19	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.86	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.4	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.13	-20	Pass

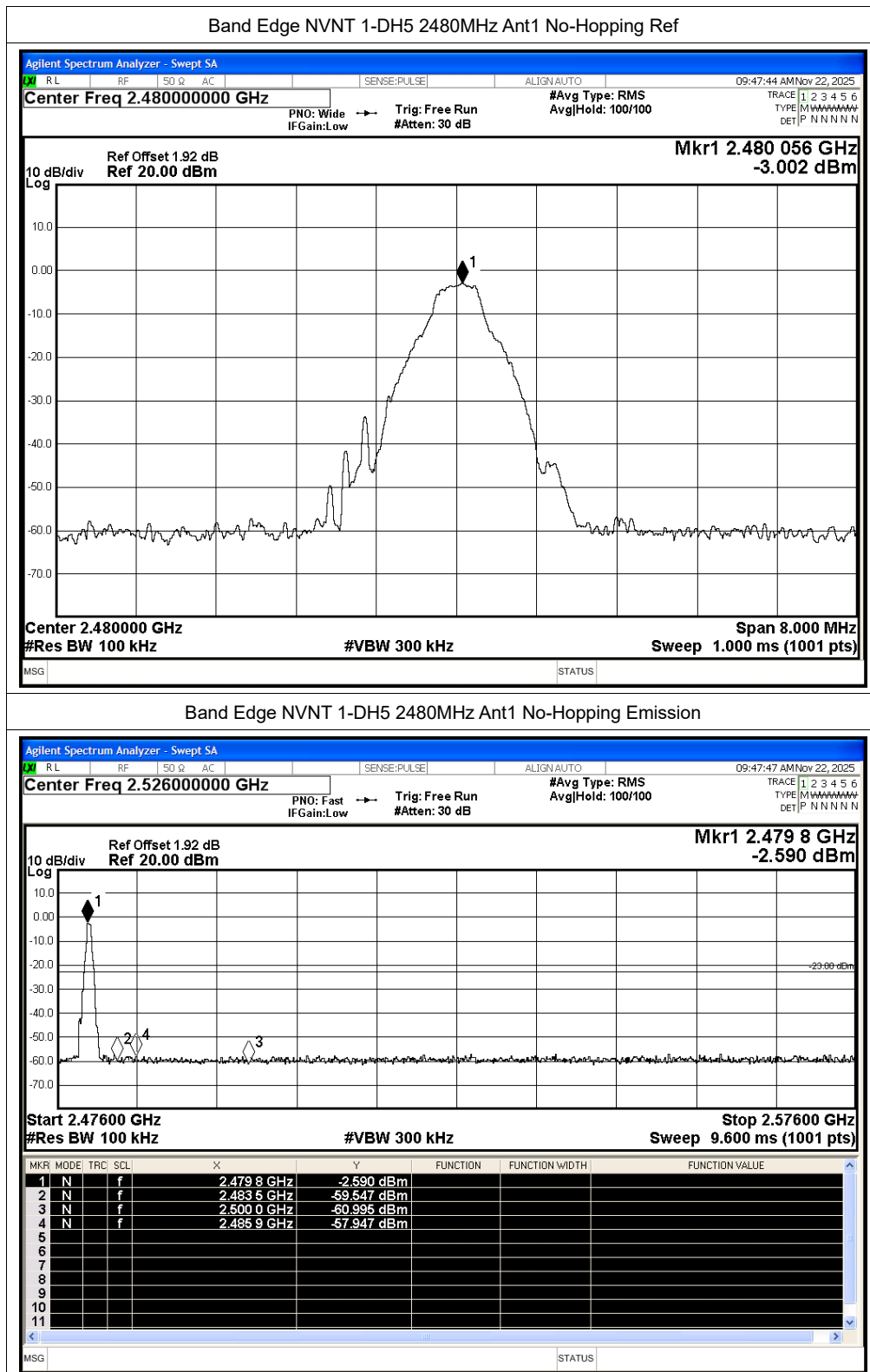
Test Graphs

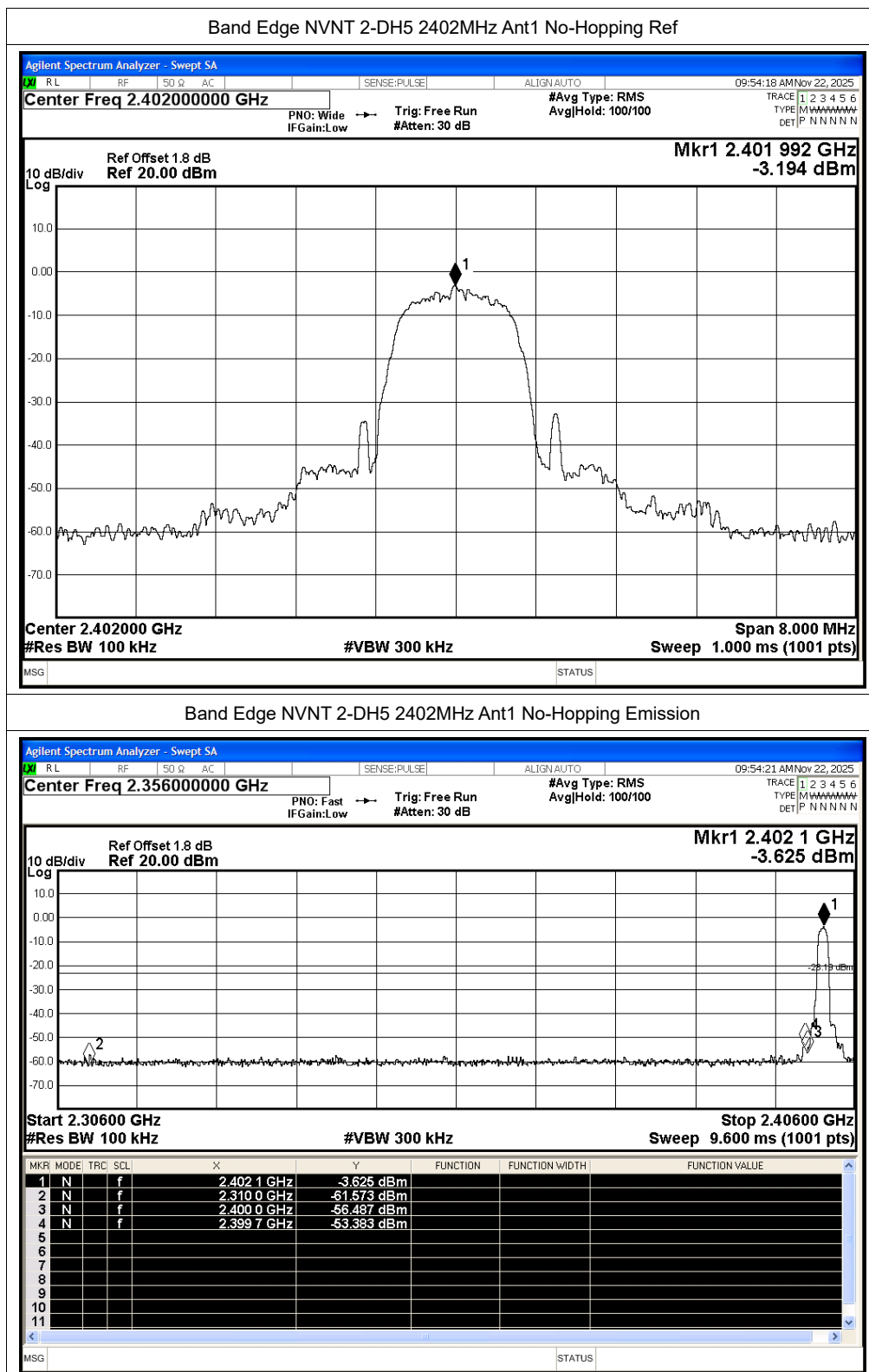
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

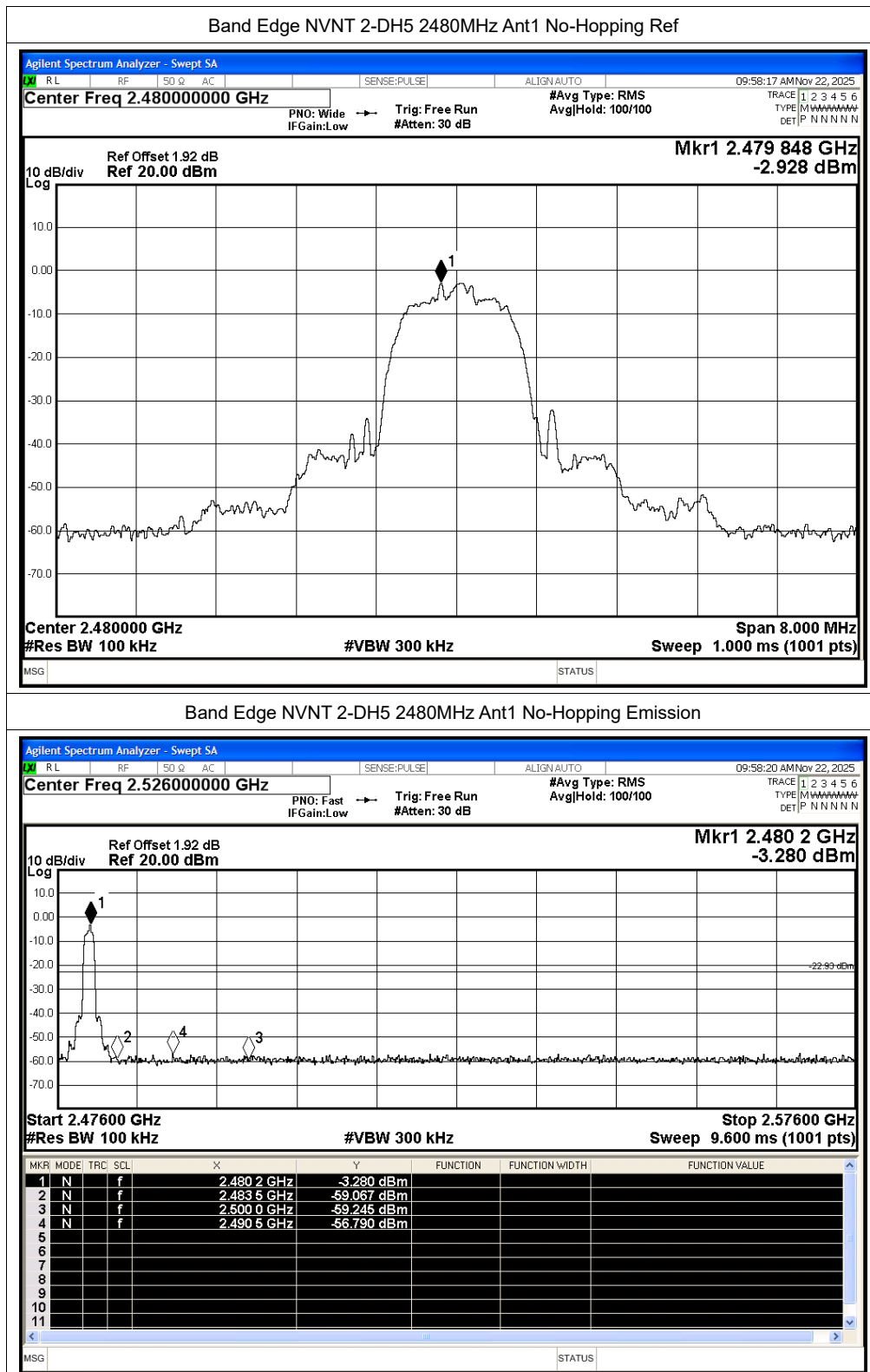


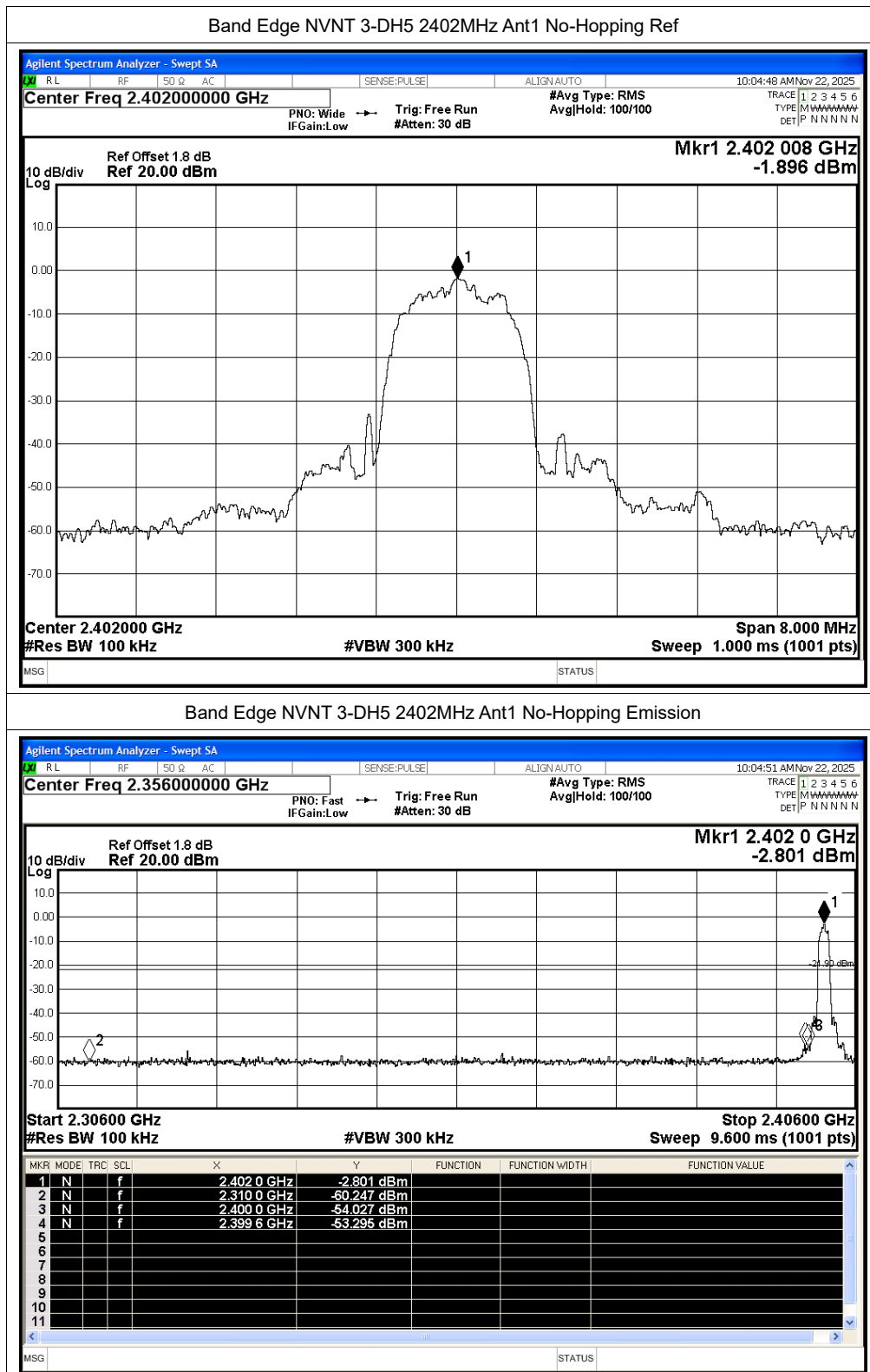
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

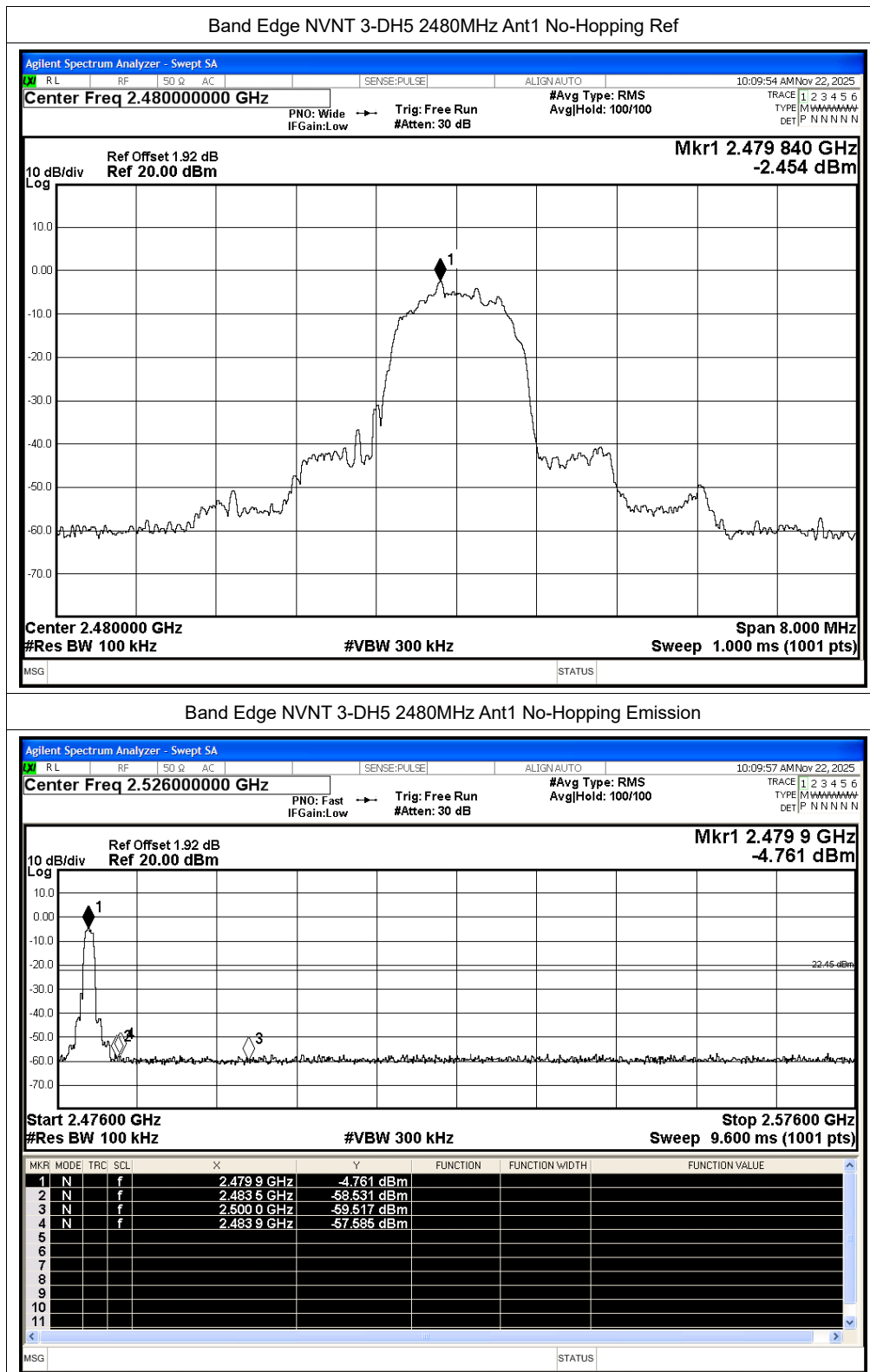










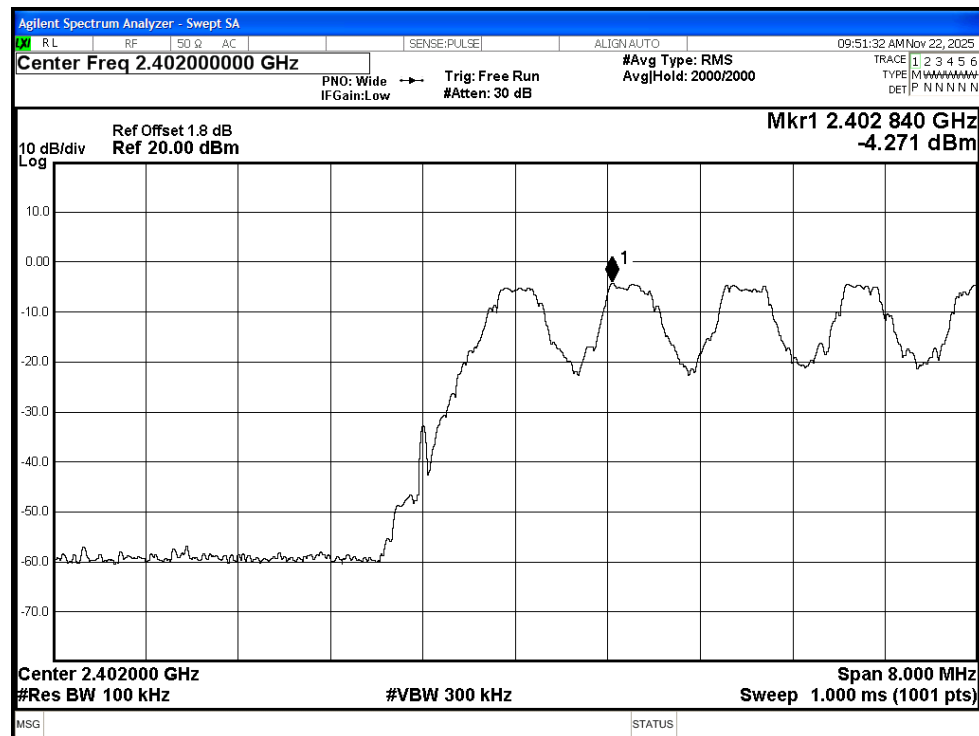


(Hopping)

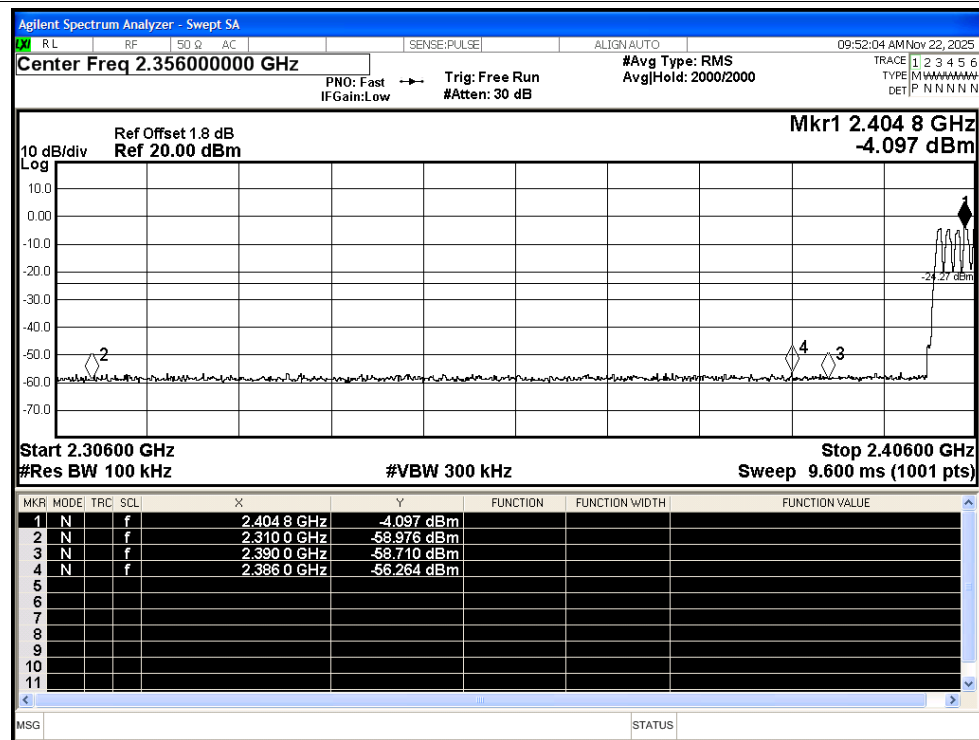
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-51.99	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-52.75	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.25	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.62	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-51.05	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.58	-20	Pass

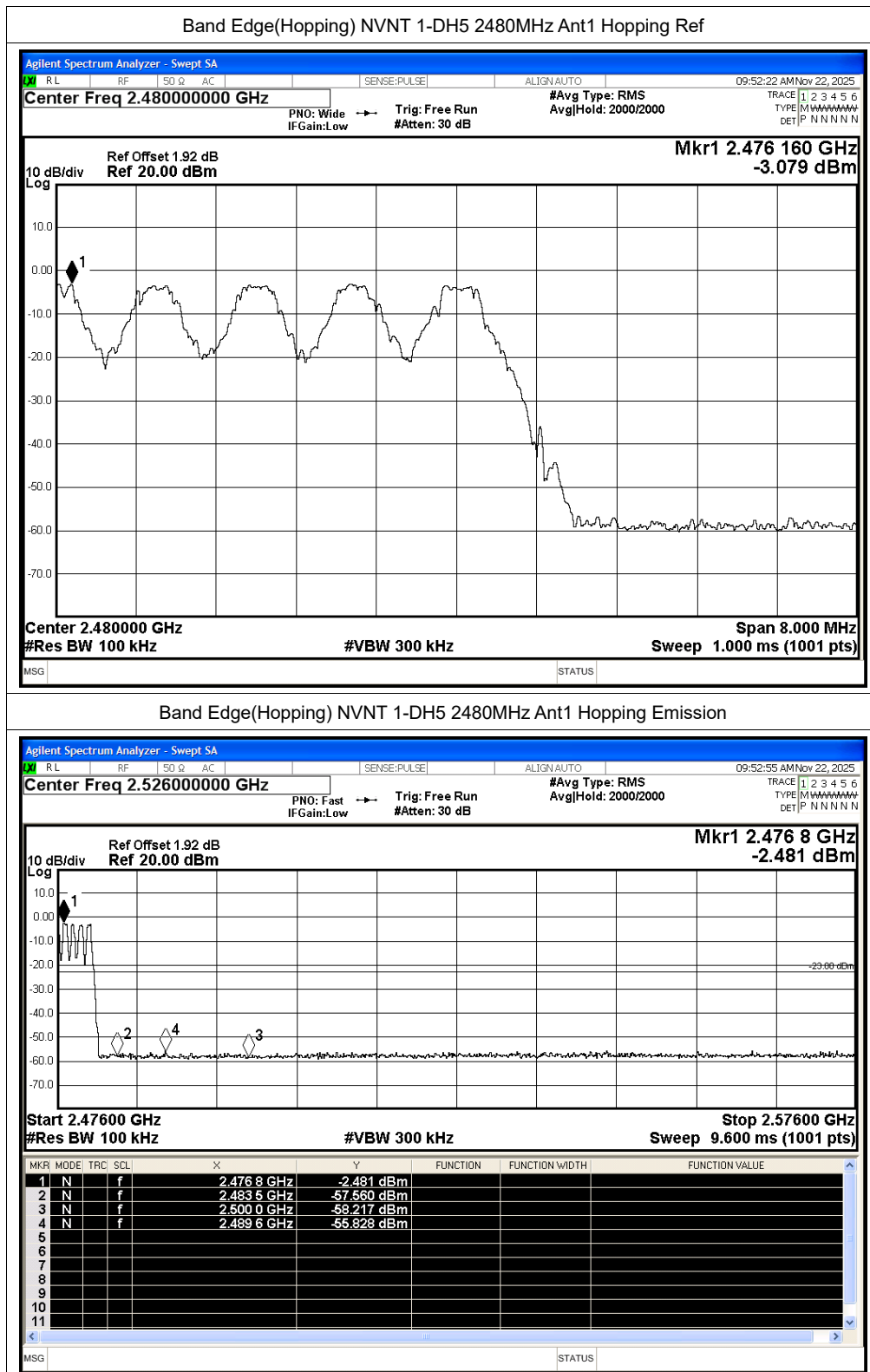
Test Graphs

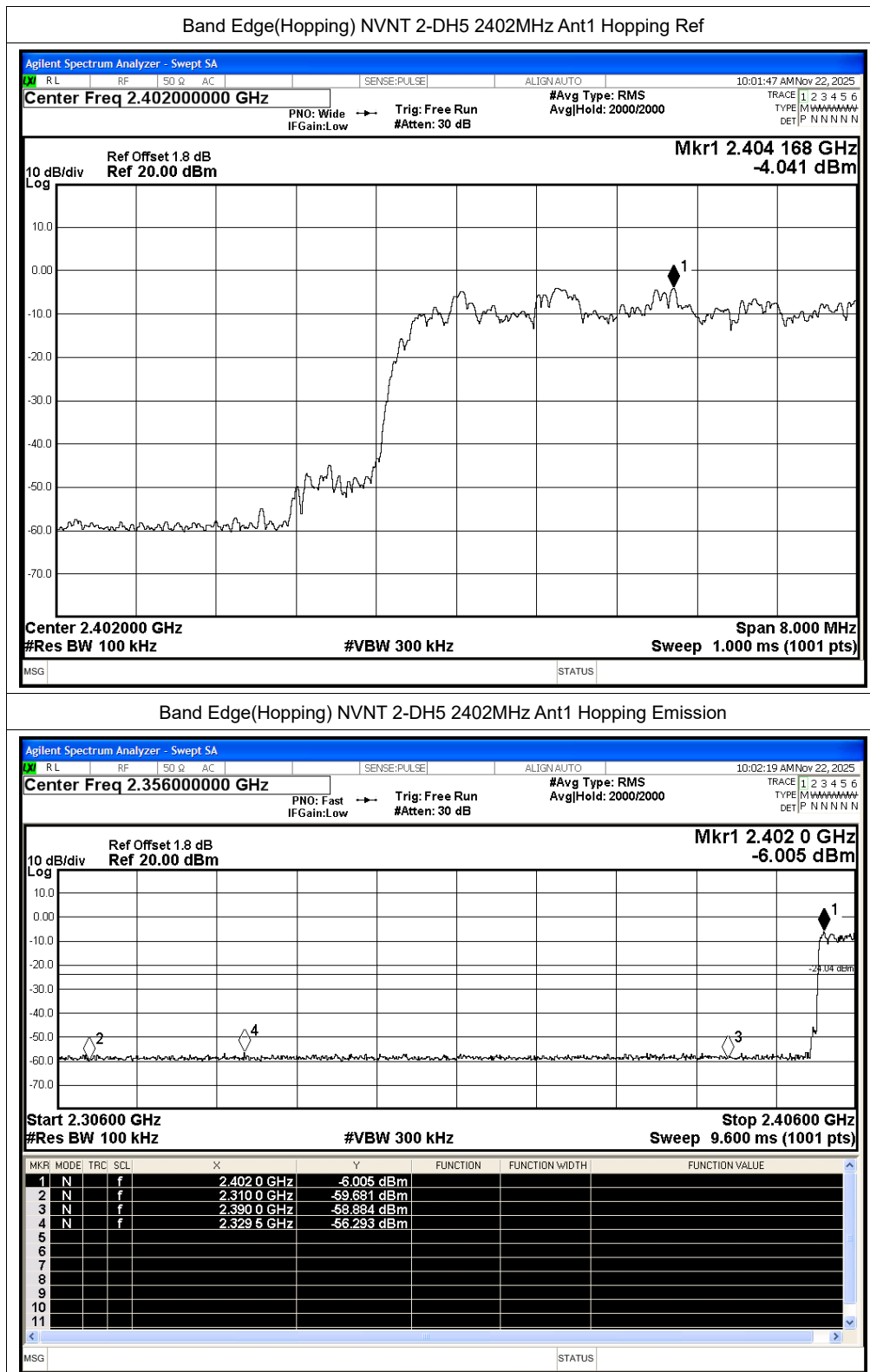
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

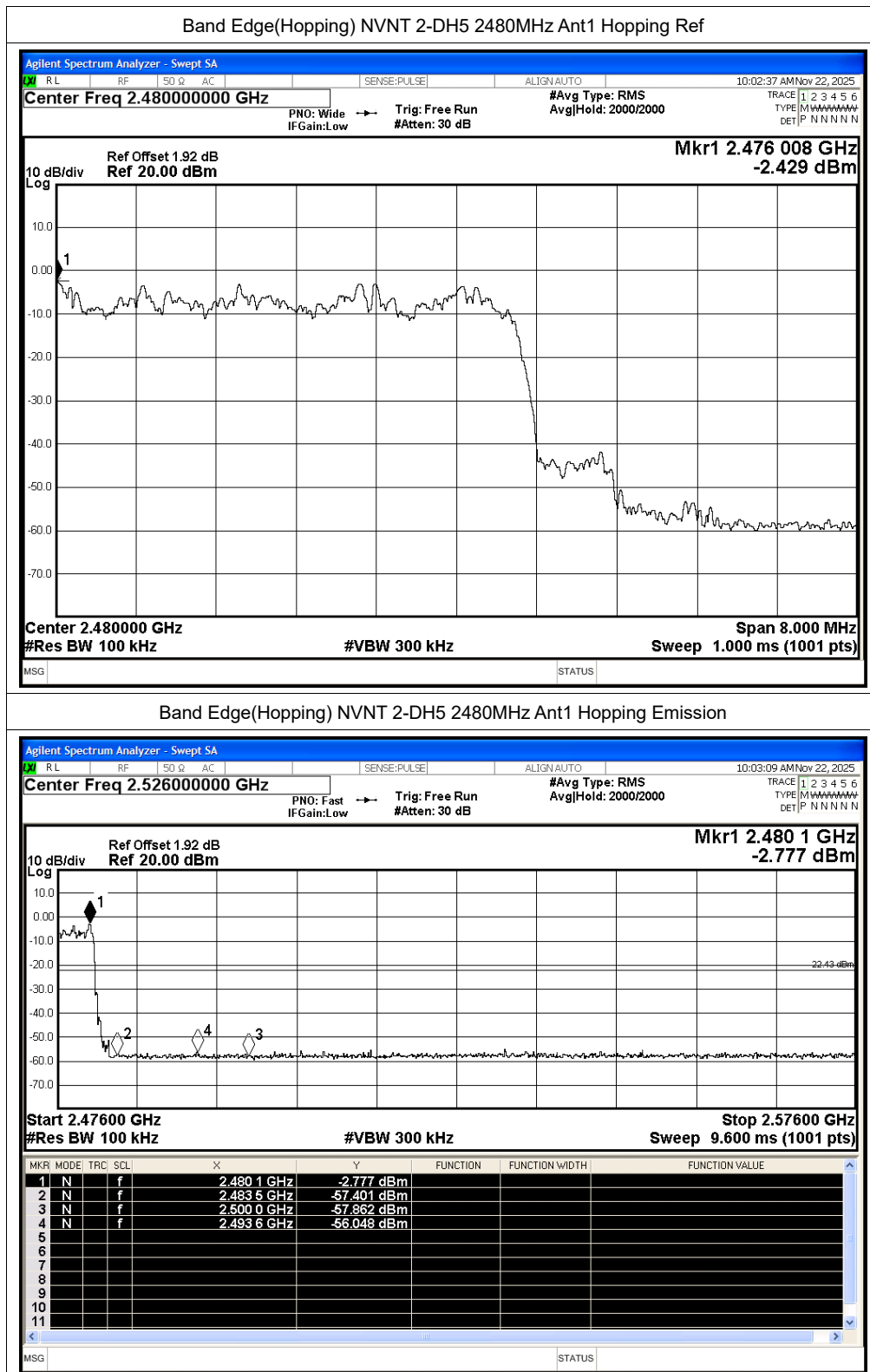


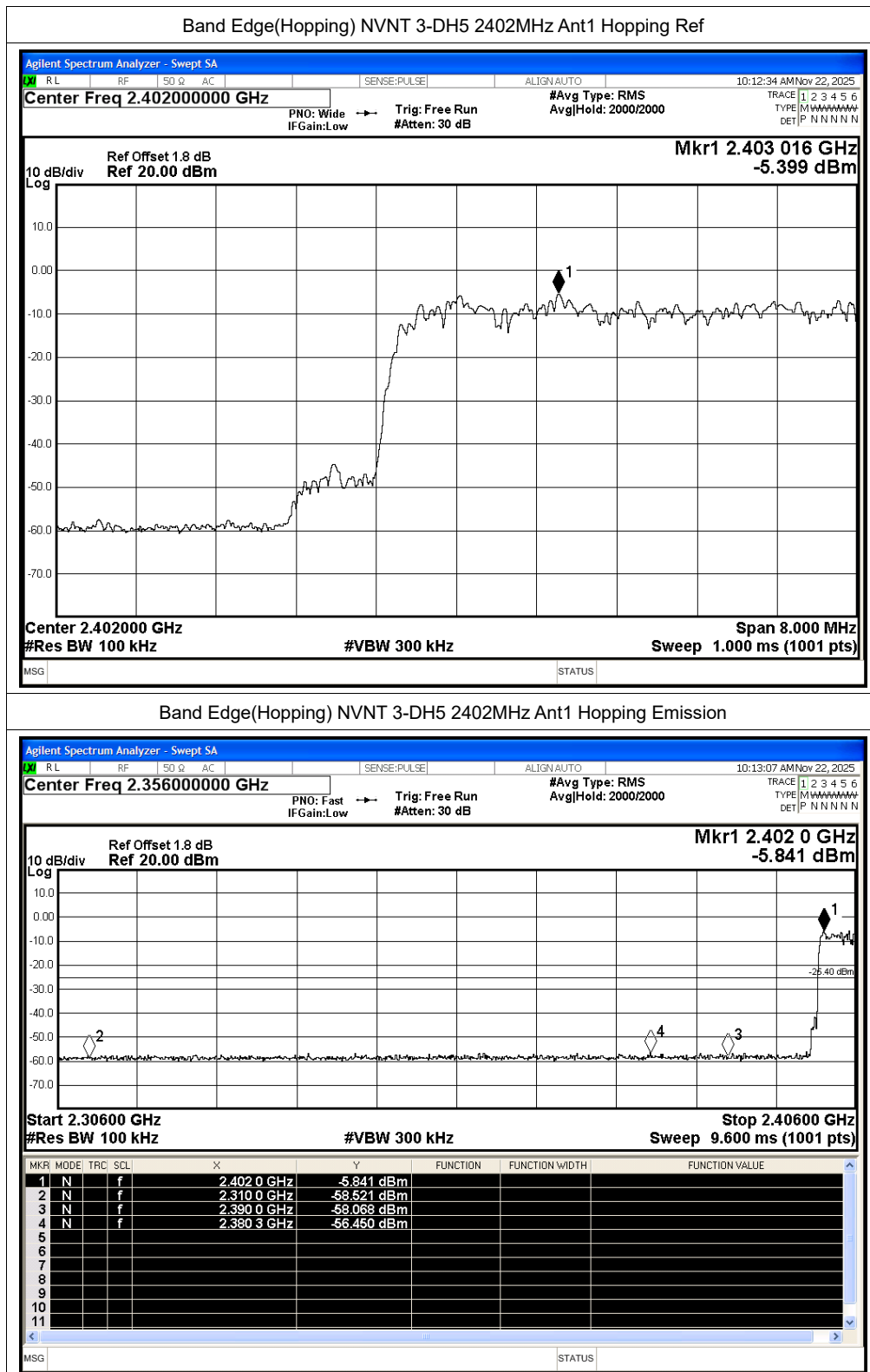
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

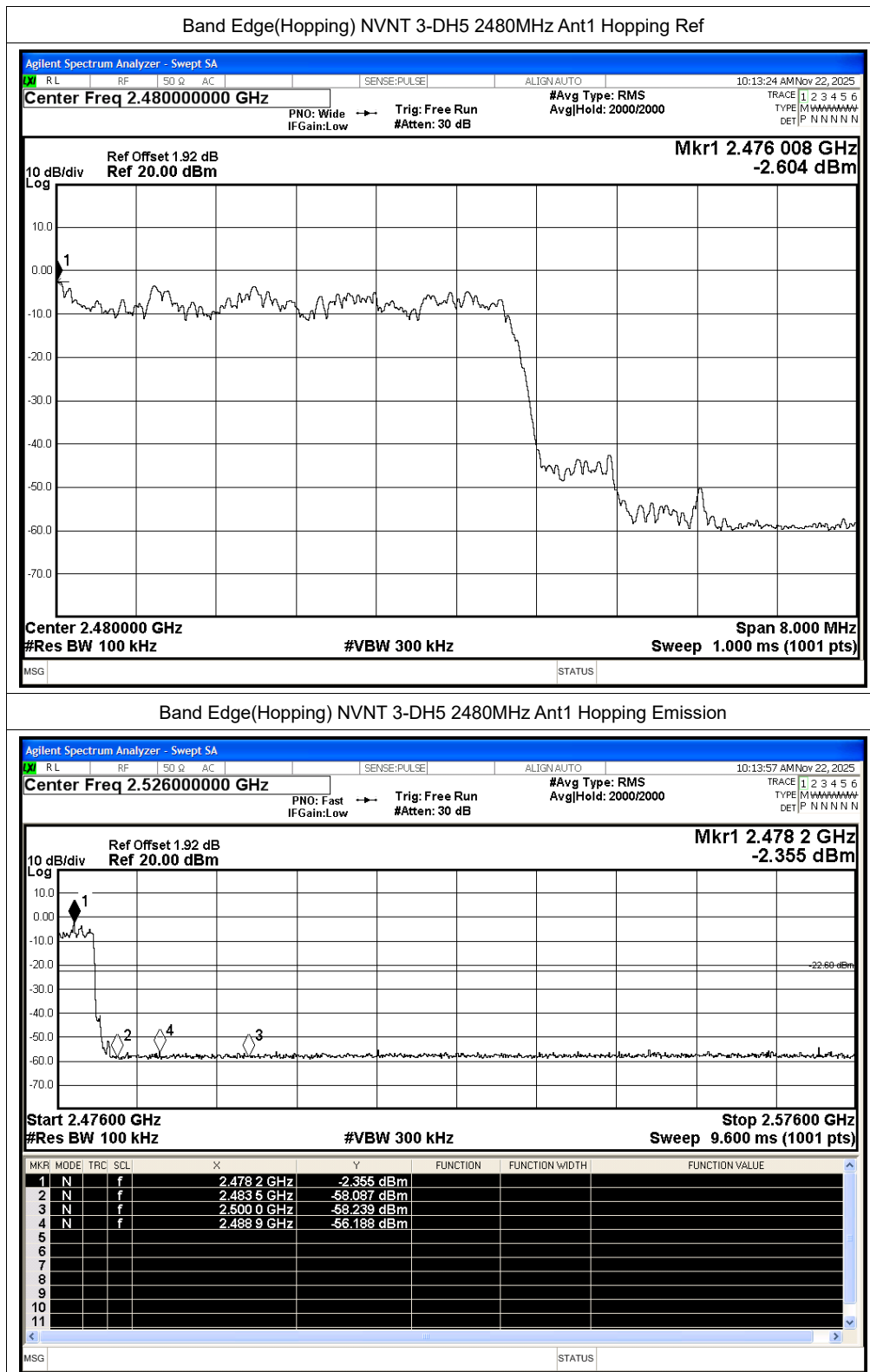










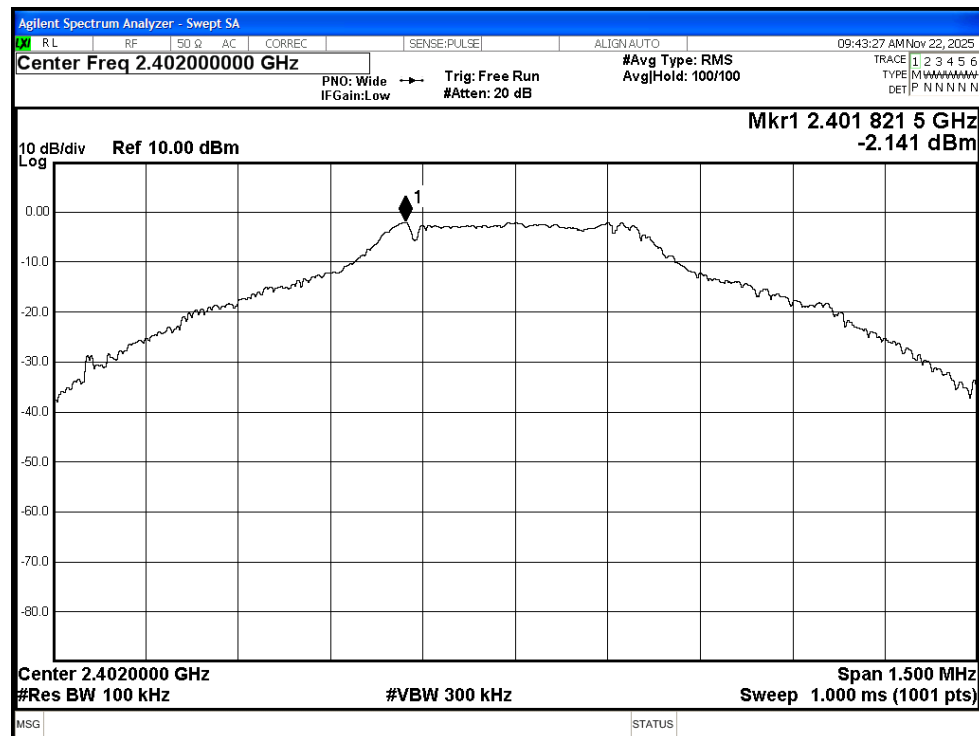


A.7 Conducted RF Spurious Emission

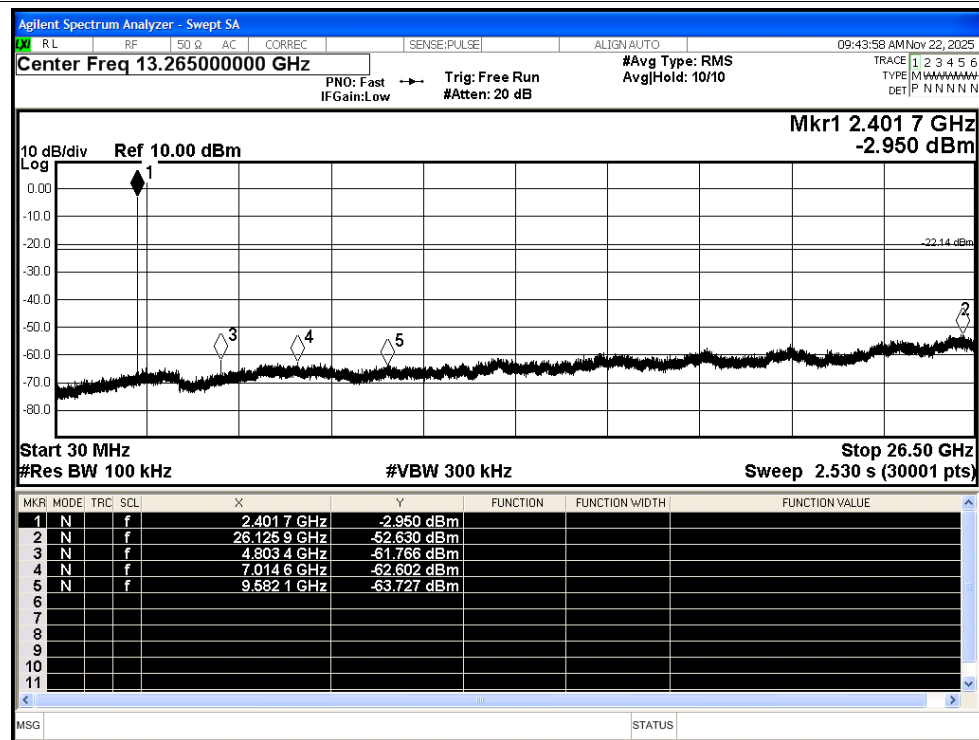
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-50.49	-20	Pass
NVNT	1-DH5	2441	Ant1	-50.94	-20	Pass
NVNT	1-DH5	2480	Ant1	-50.01	-20	Pass
NVNT	2-DH5	2402	Ant1	-50.53	-20	Pass
NVNT	2-DH5	2441	Ant1	-50.12	-20	Pass
NVNT	2-DH5	2480	Ant1	-49.3	-20	Pass
NVNT	3-DH5	2402	Ant1	-51.13	-20	Pass
NVNT	3-DH5	2441	Ant1	-50.71	-20	Pass
NVNT	3-DH5	2480	Ant1	-48.33	-20	Pass

Test Graphs

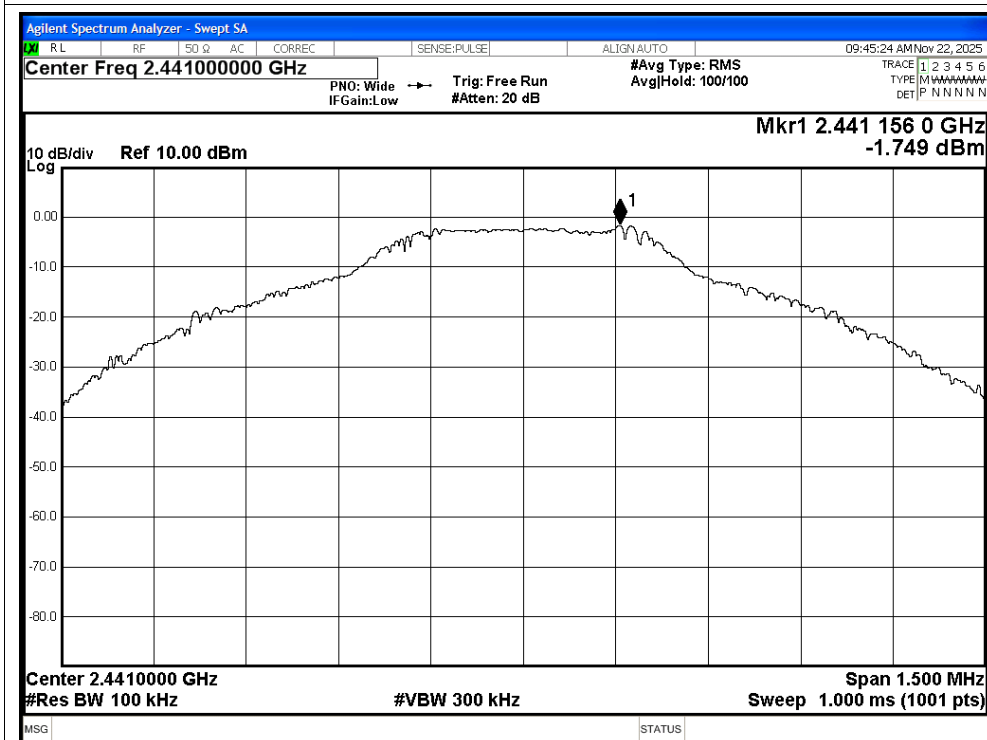
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



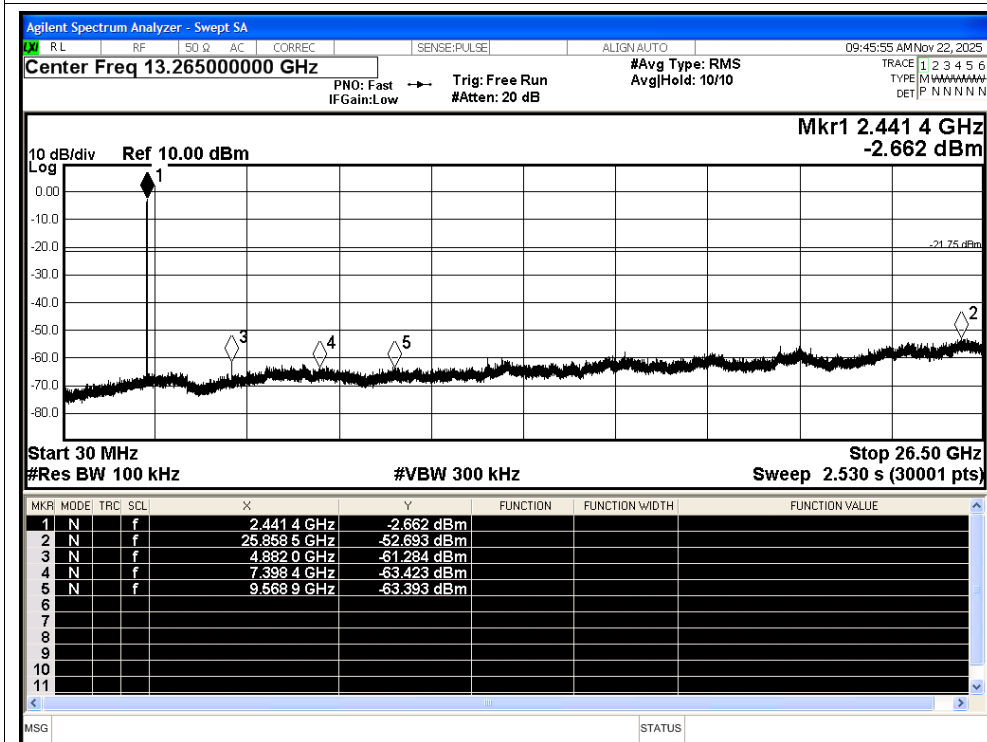
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



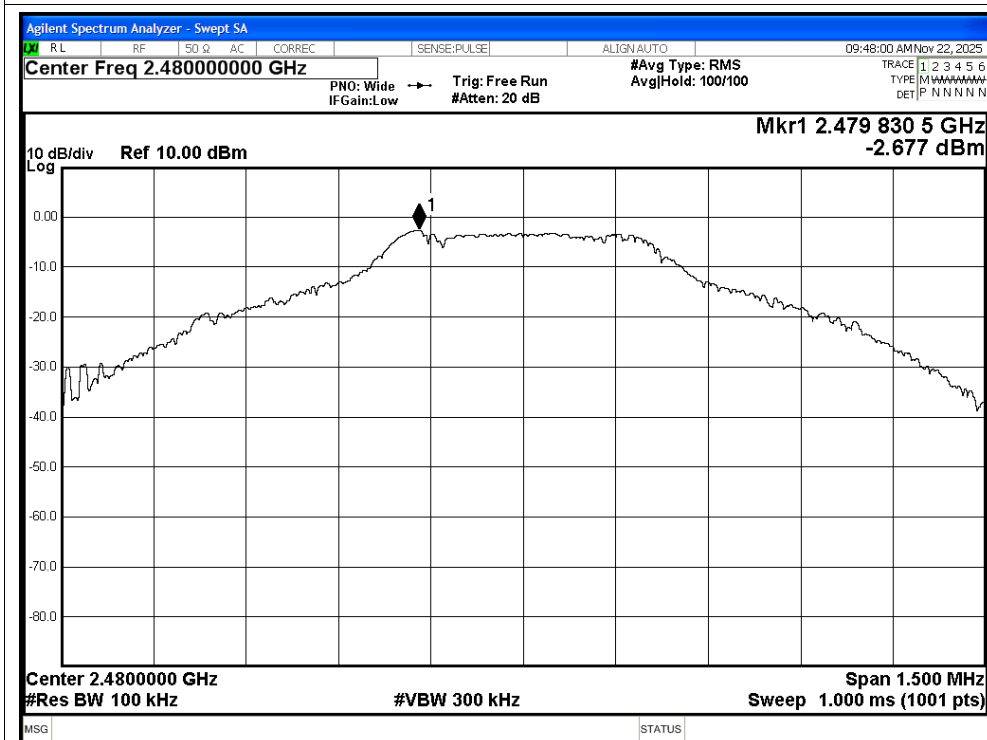
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



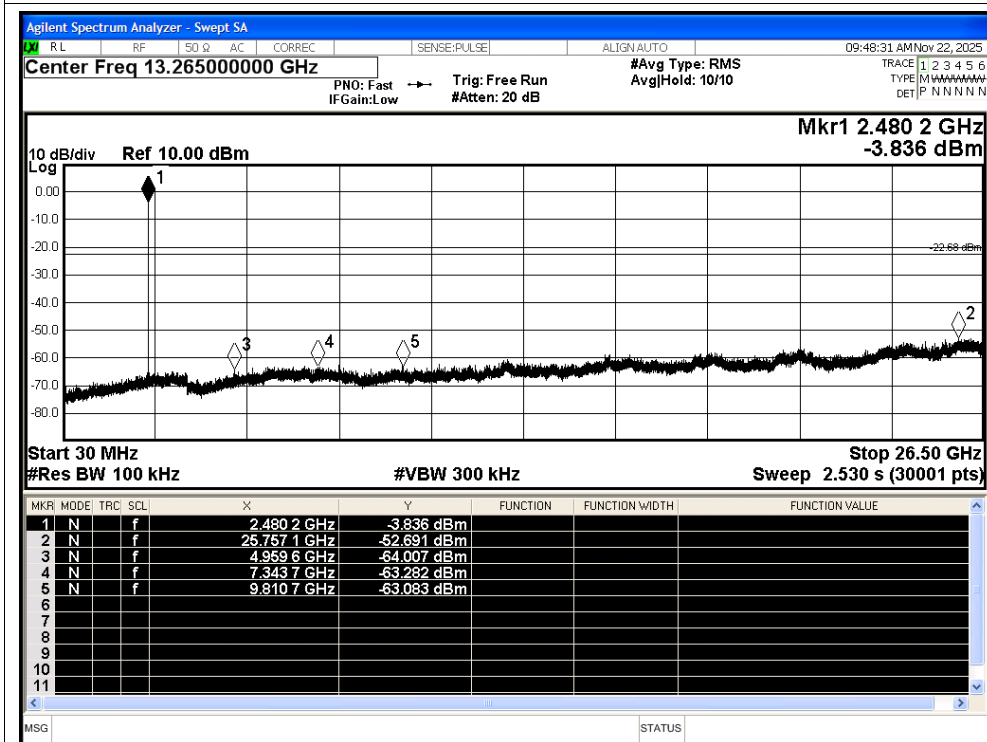
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



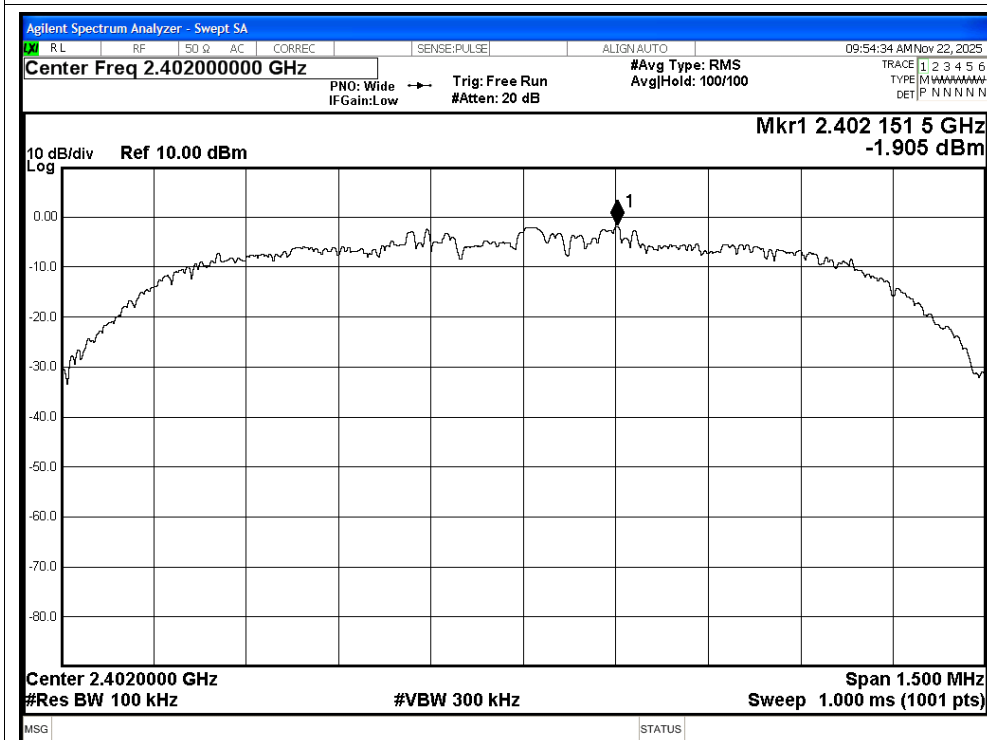
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



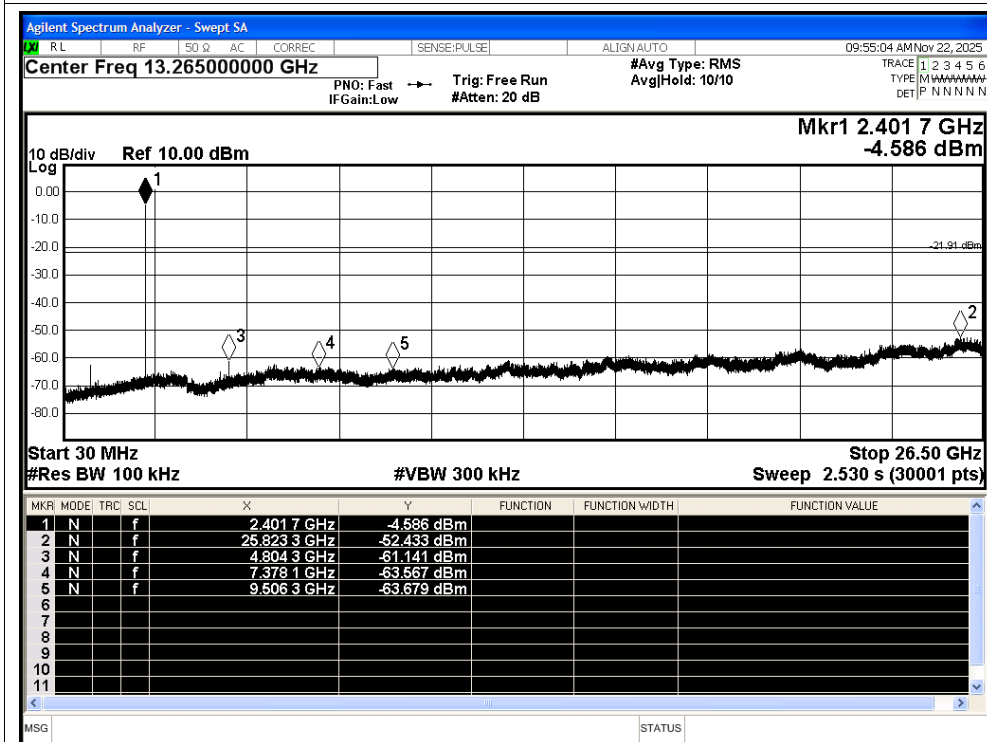
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



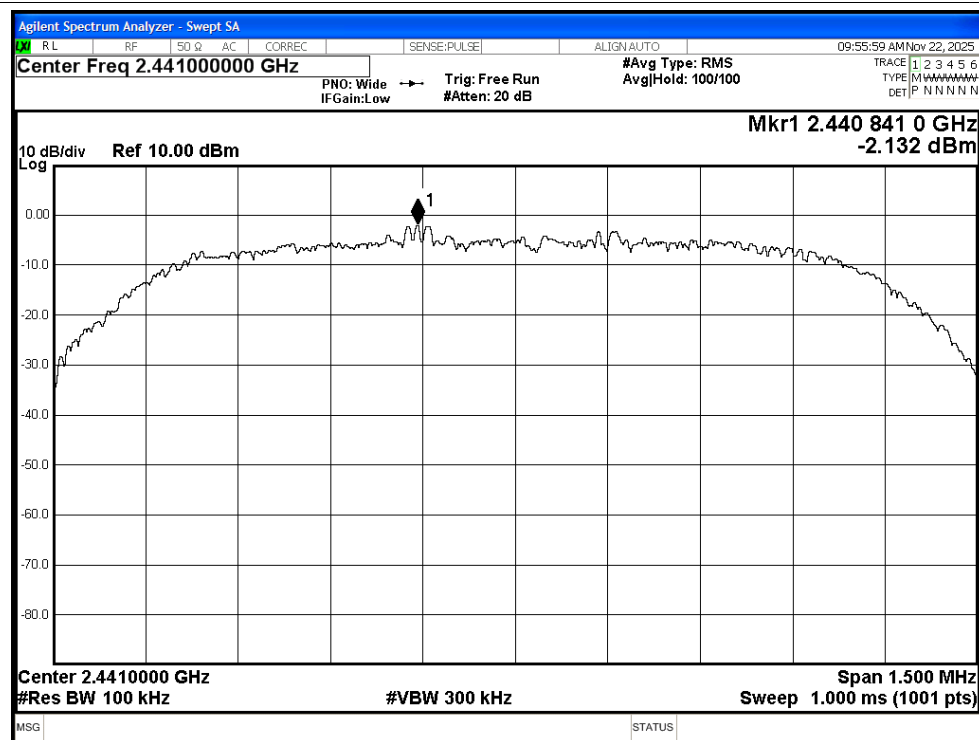
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



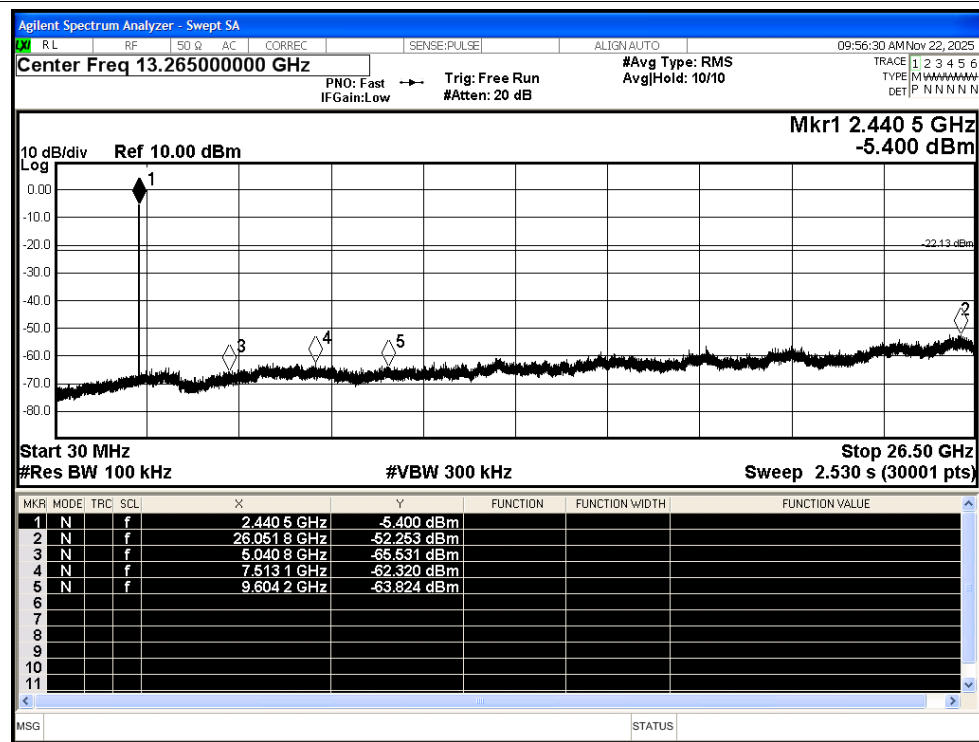
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



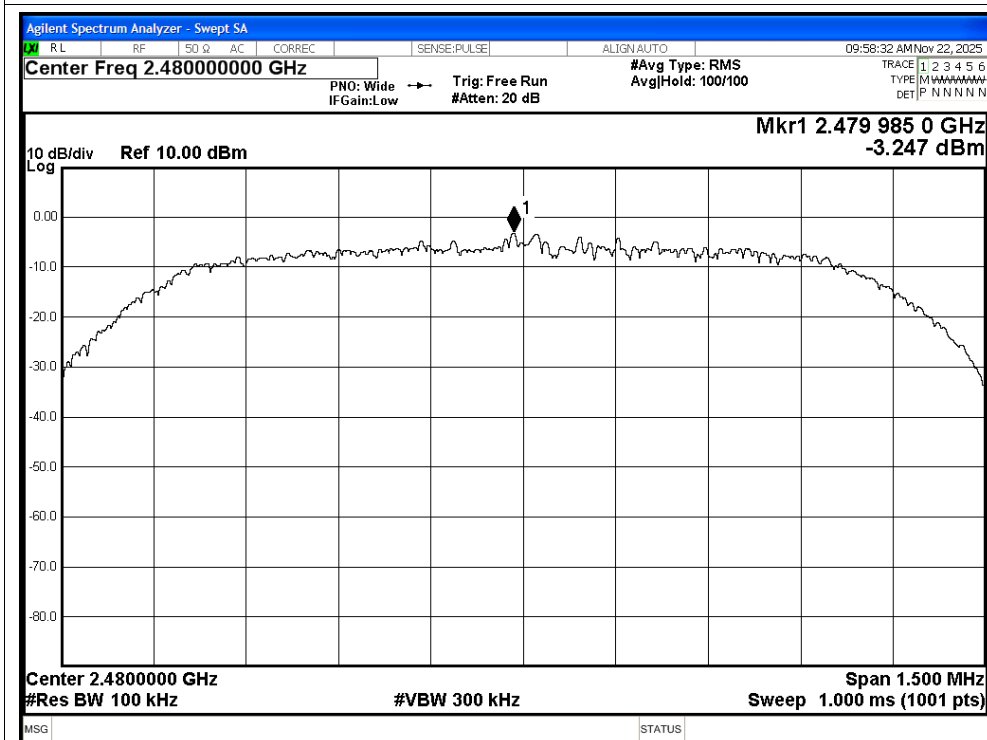
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



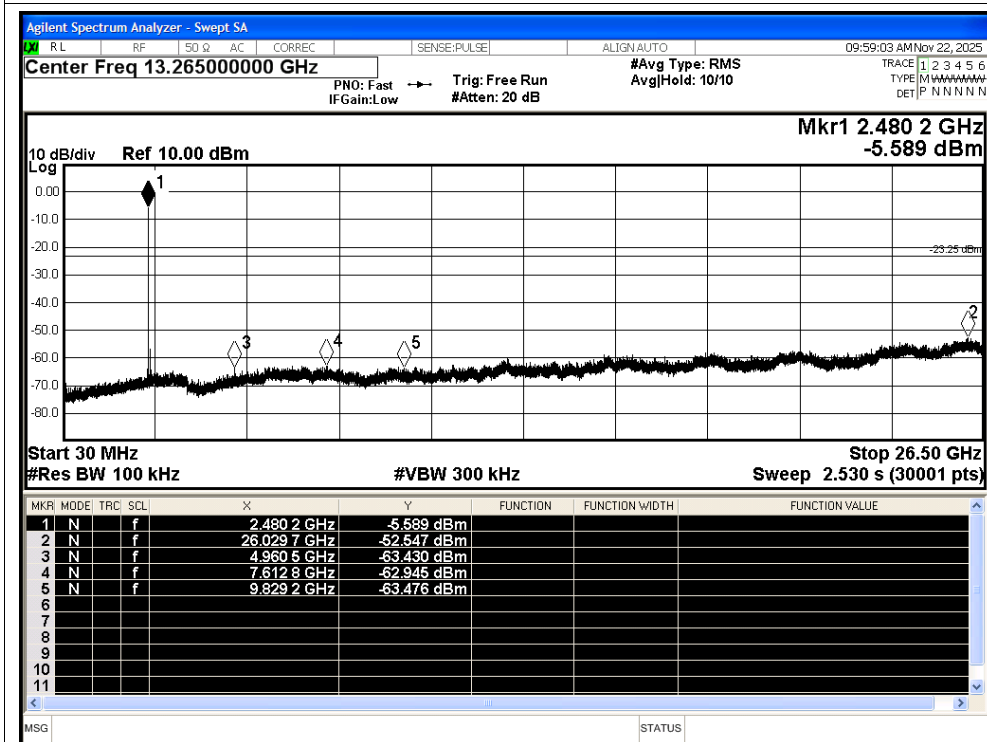
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



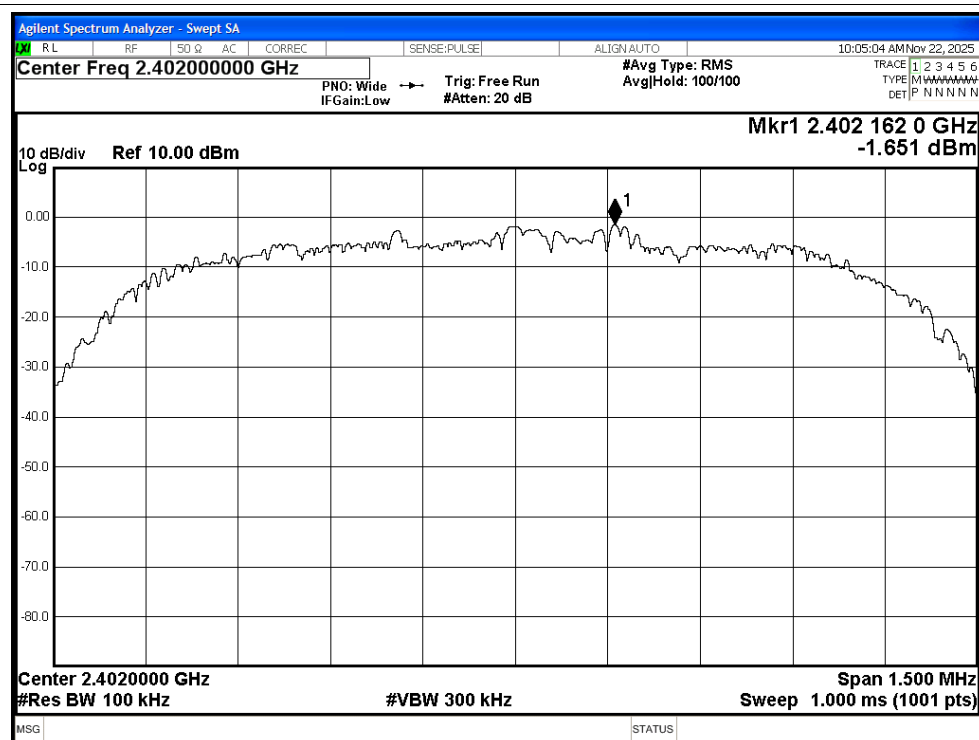
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



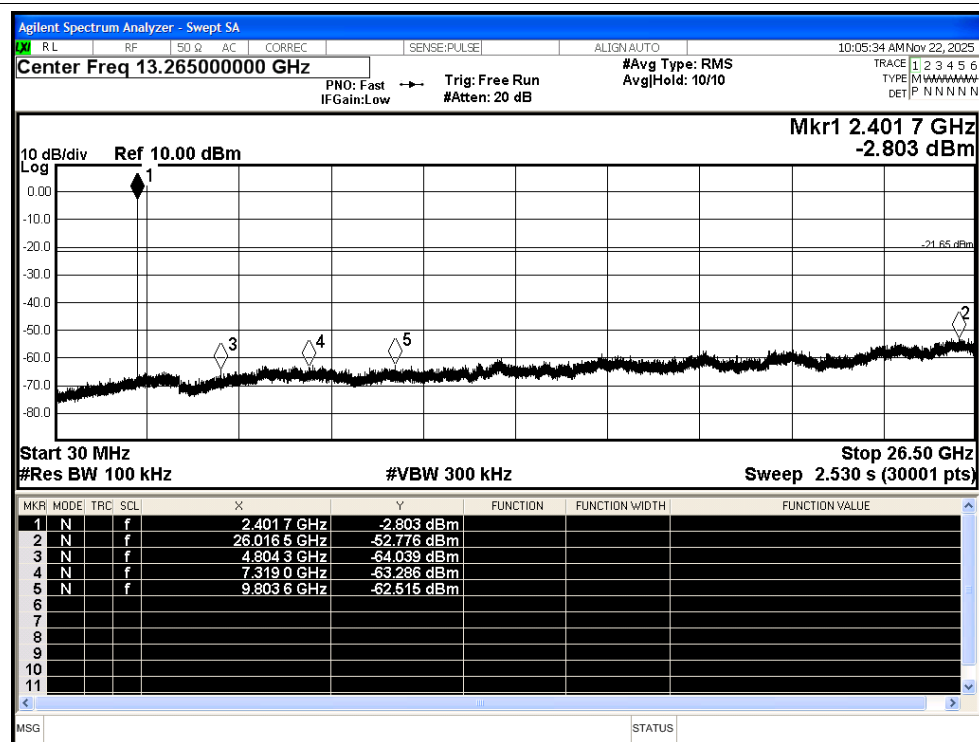
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



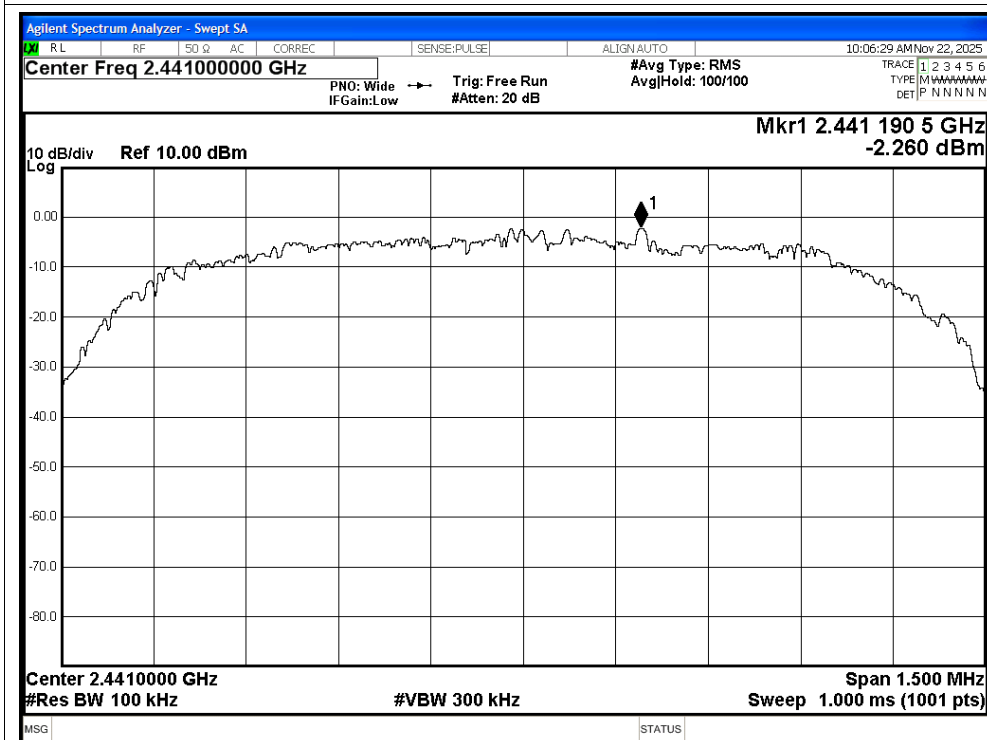
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



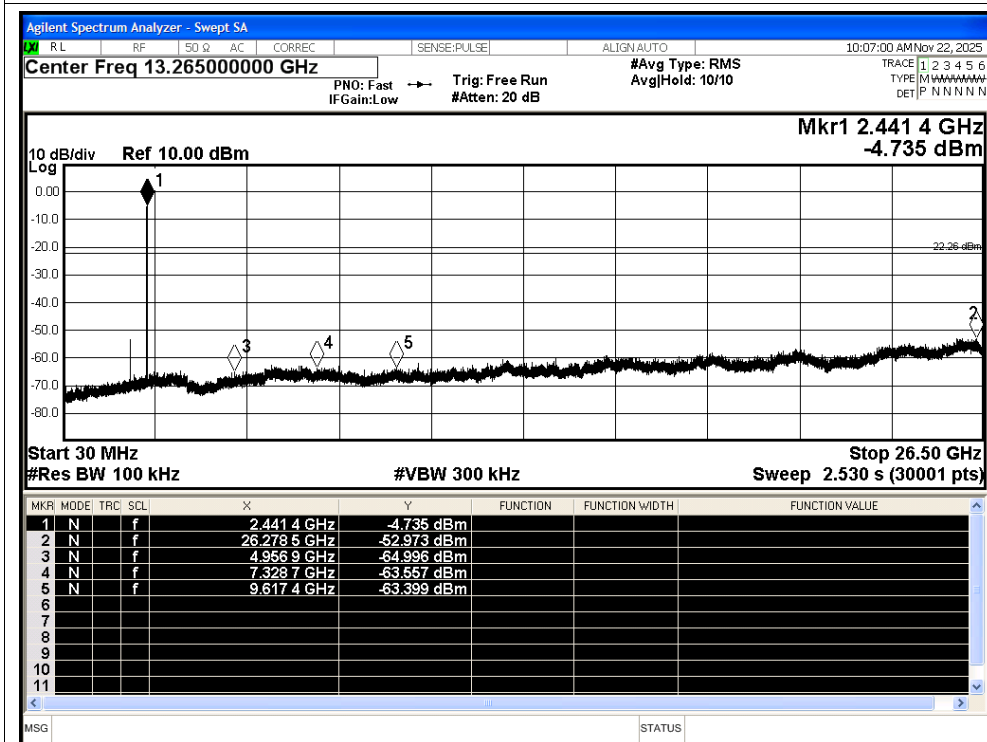
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



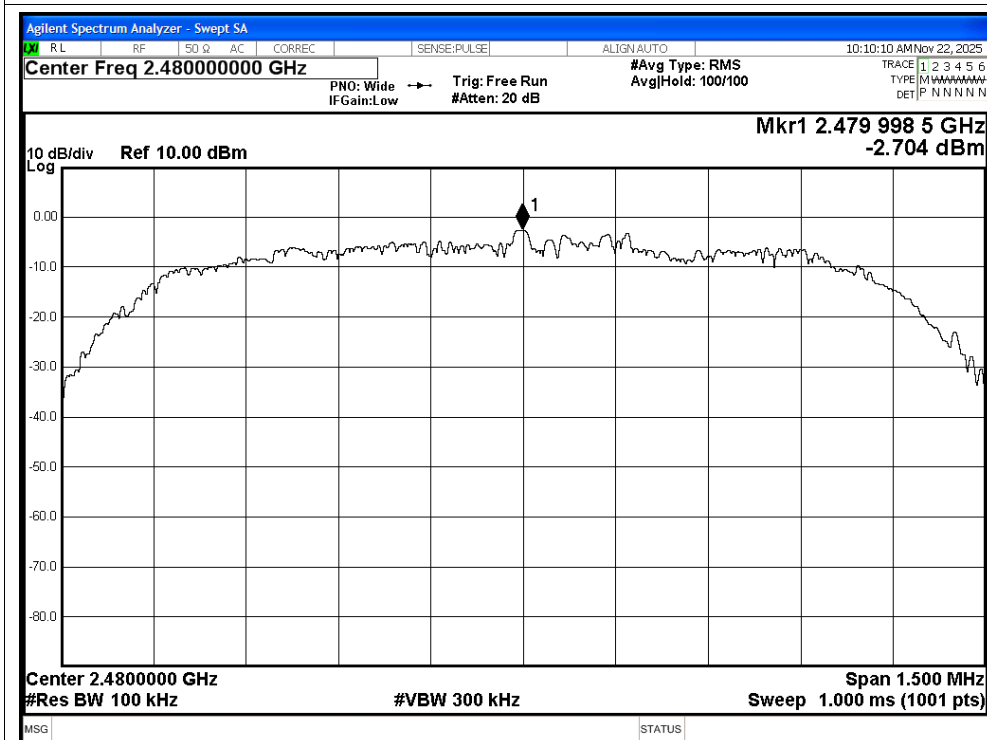
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



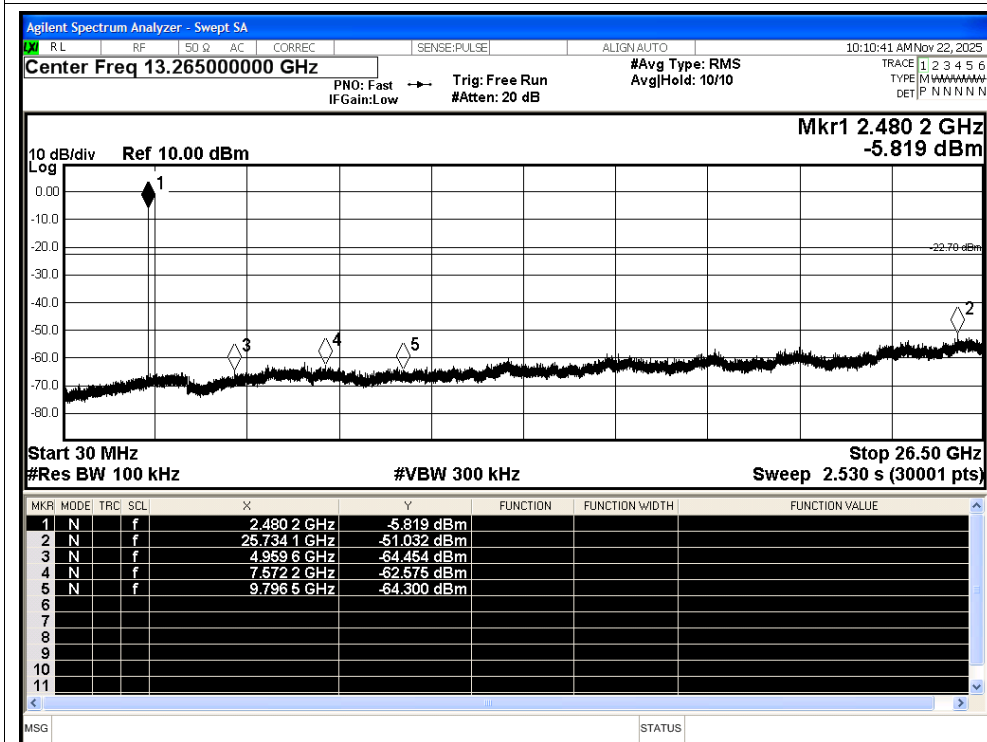
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

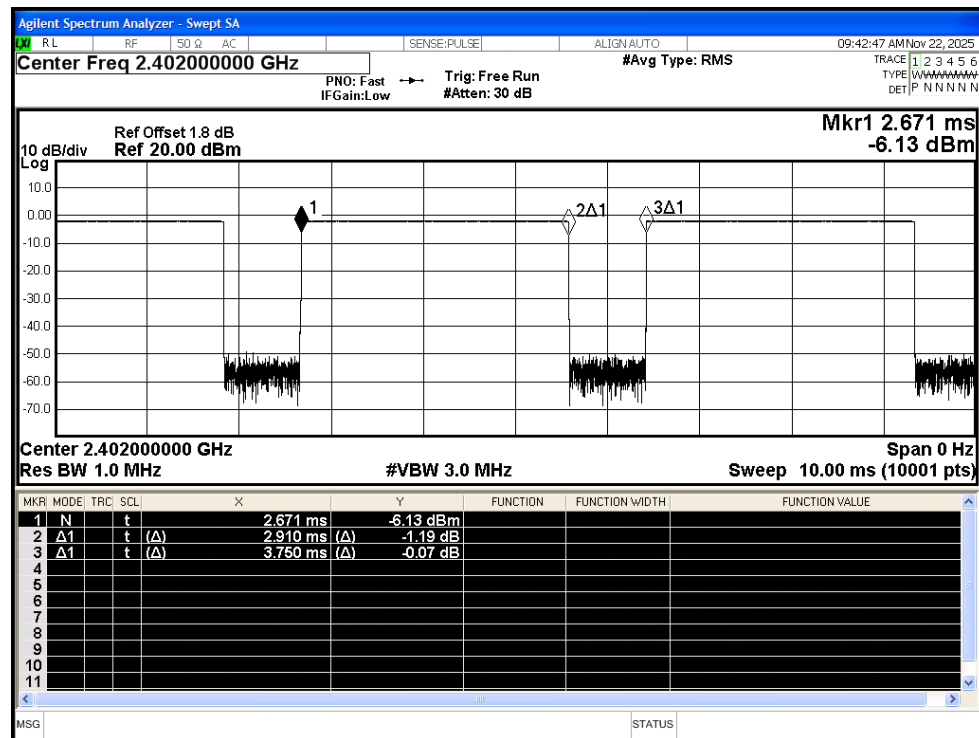


A.8 Duty Cycle

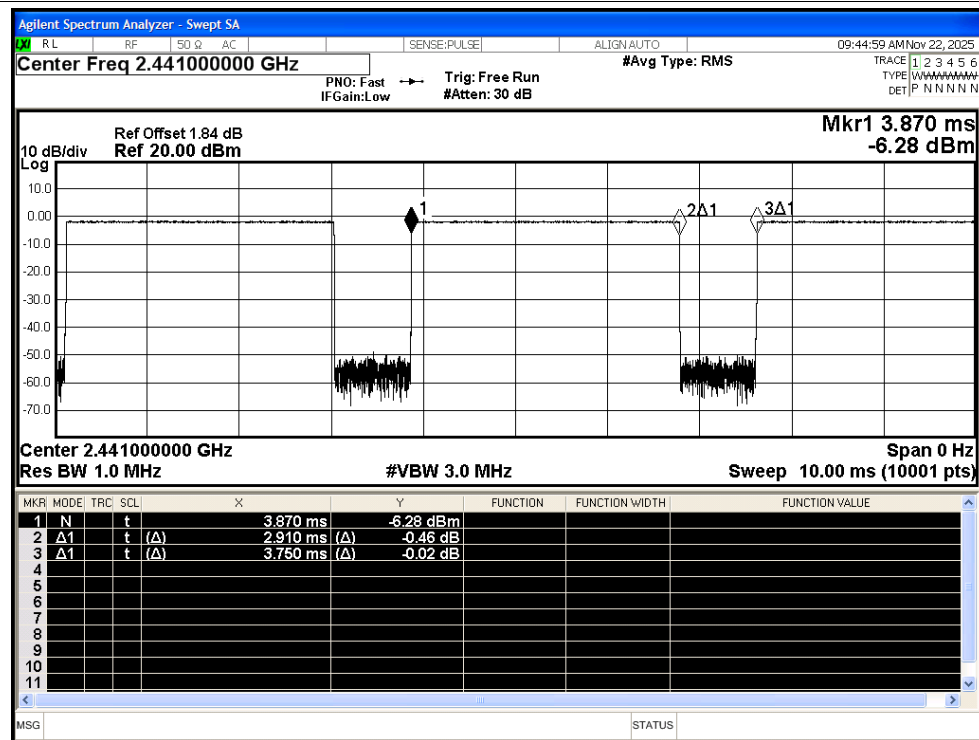
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35
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	77.23	1.12	0.35

Test Graphs

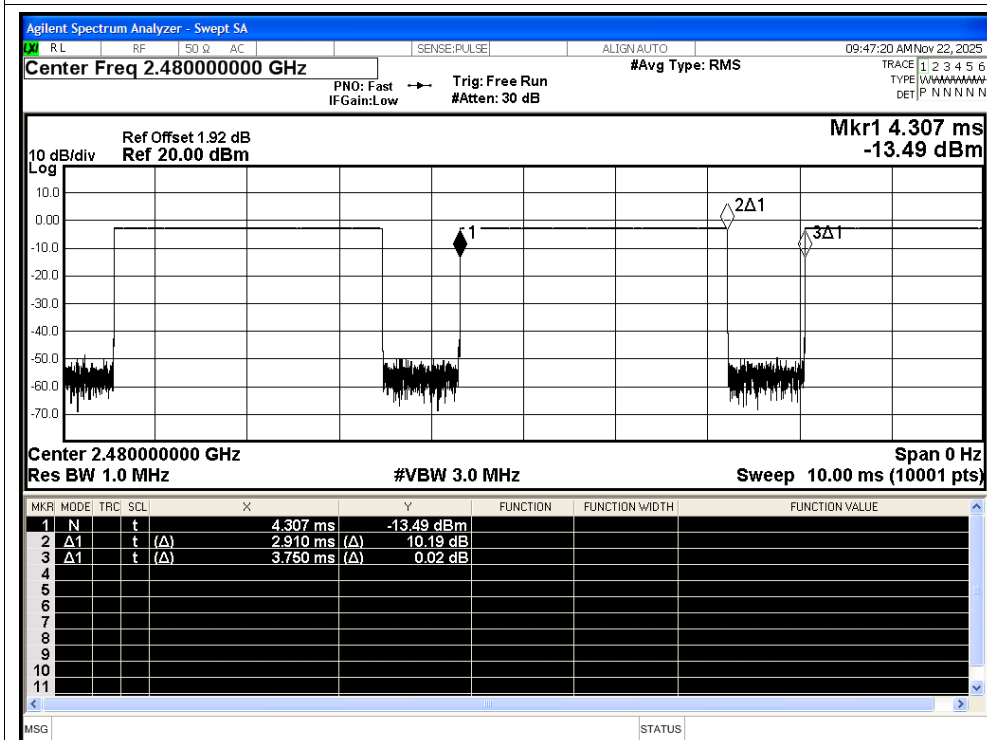
Duty Cycle NVNT 1-DH5 2402MHz Ant1



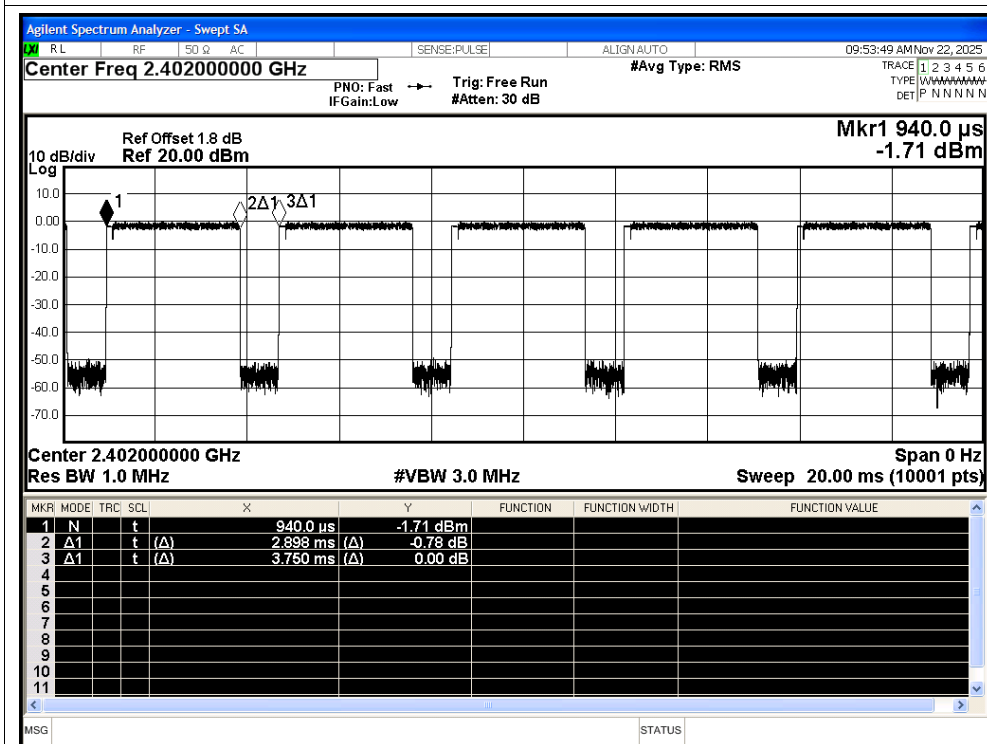
Duty Cycle NVNT 1-DH5 2441MHz Ant1



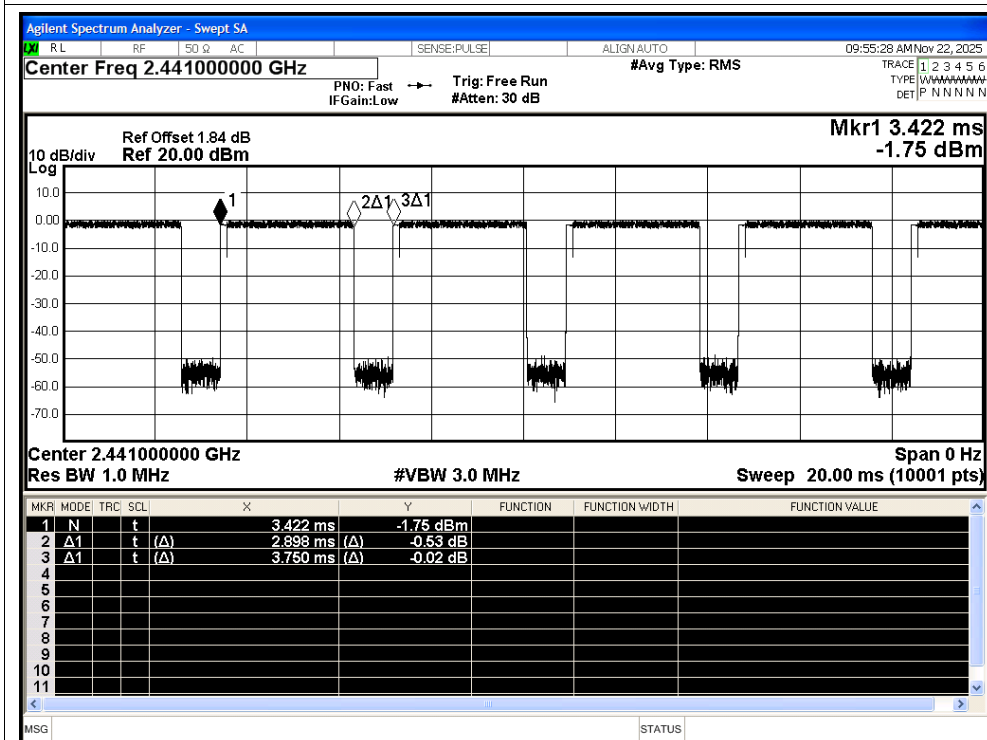
Duty Cycle NVNT 1-DH5 2480MHz Ant1



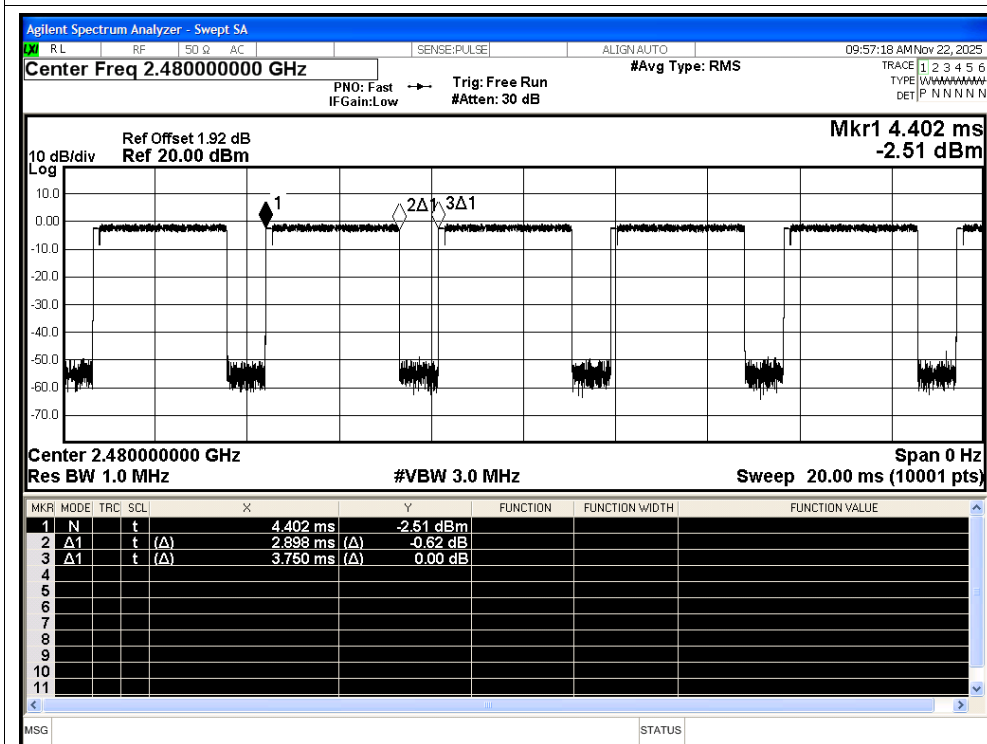
Duty Cycle NVNT 2-DH5 2402MHz Ant1



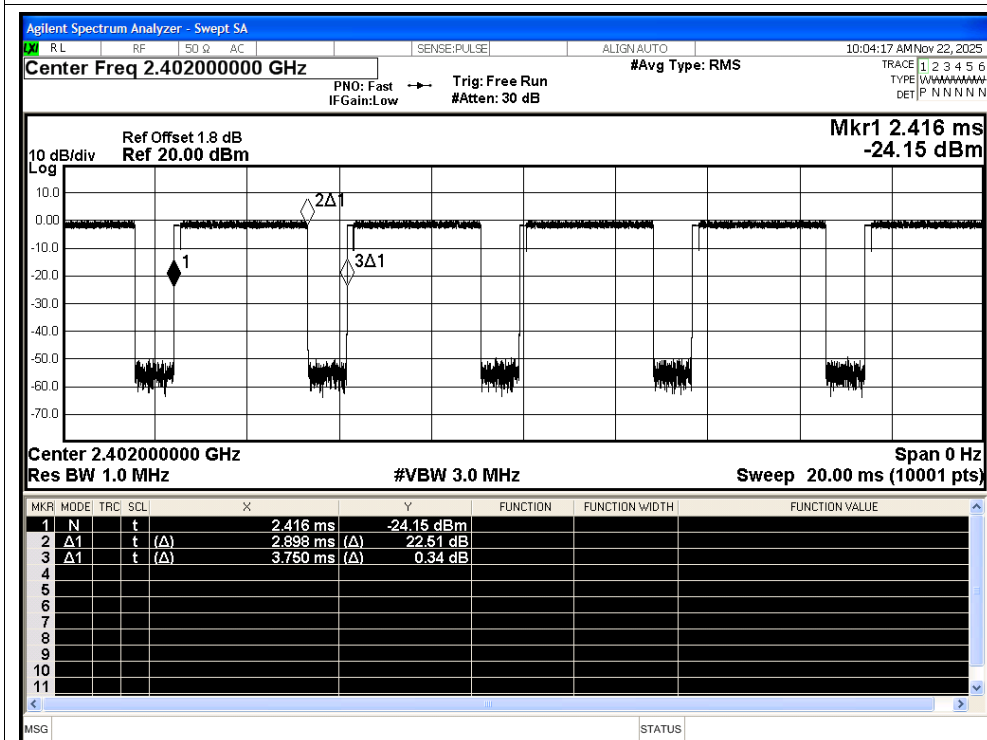
Duty Cycle NVNT 2-DH5 2441MHz Ant1



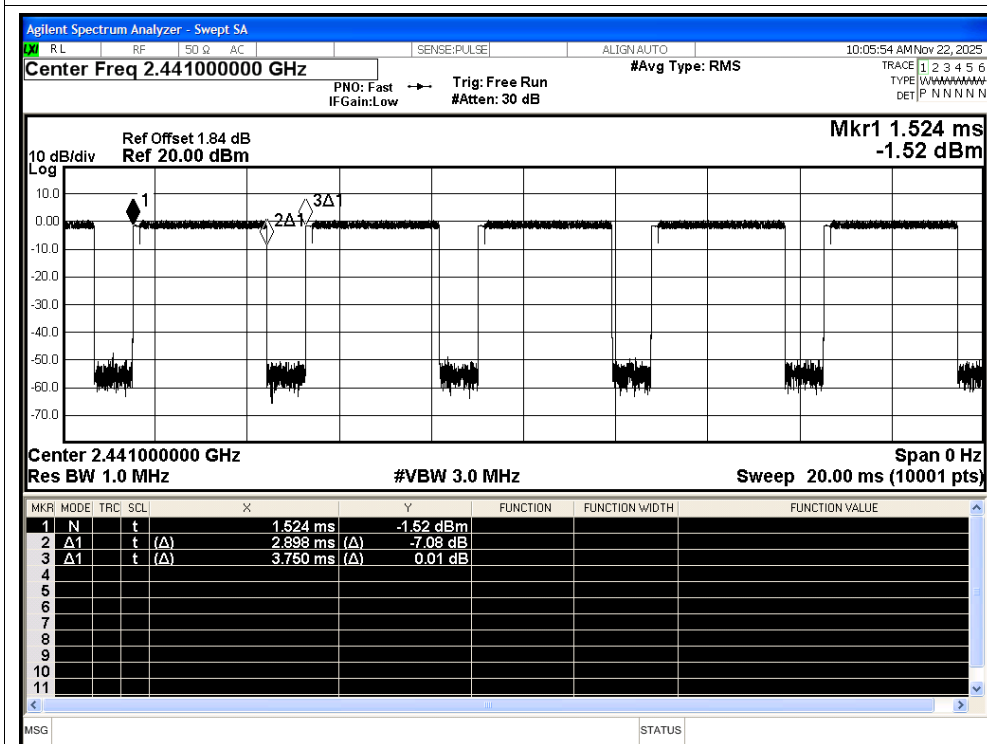
Duty Cycle NVNT 2-DH5 2480MHz Ant1

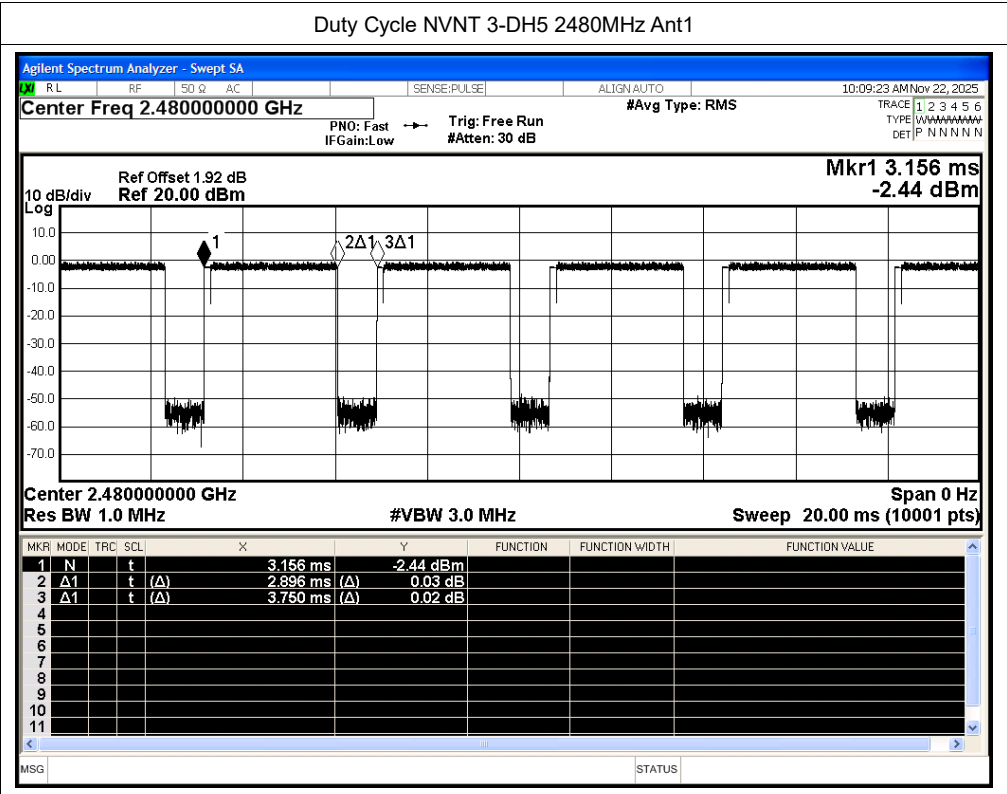


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



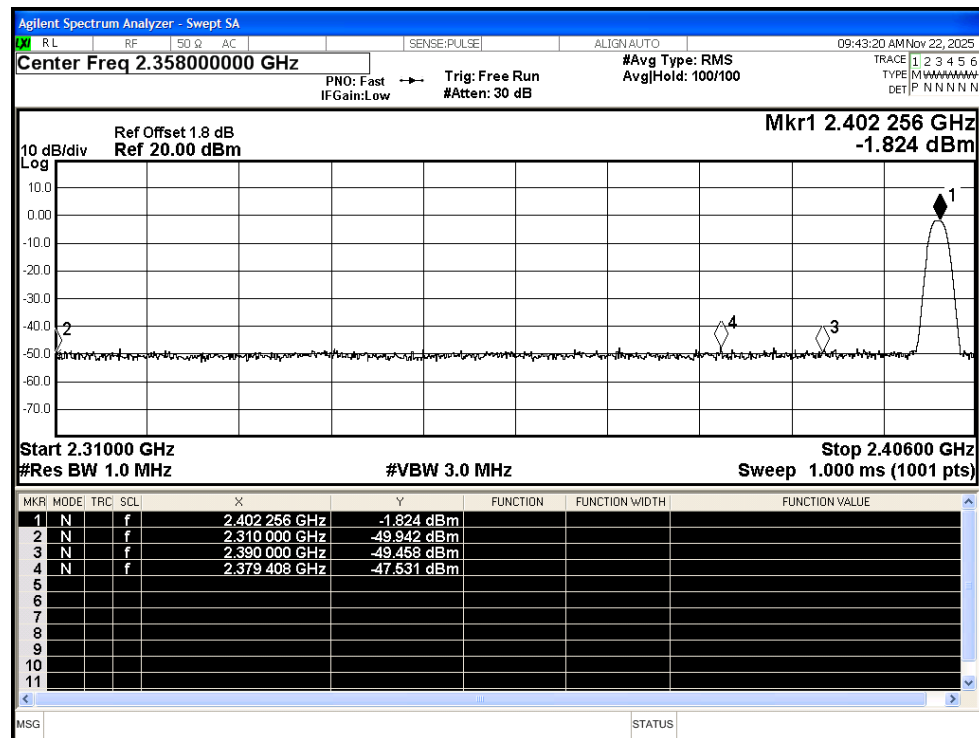


A.9 Restrict Band

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	-49.94	2	-	47.32	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.29	2	1.1	39.07	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2379.408	-47.53	2	-	49.73	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.296	-57.72	2	1.1	40.64	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.46	2	-	47.8	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.7	2	1.1	39.66	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.74	2	-	47.52	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.67	2	1.1	40.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2498.464	-47.52	2	-	49.74	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.928	-57.18	2	1.1	41.18	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.46	2	-	47.8	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	-51.37	2	-	45.89	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.36	2	1.12	39.02	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2380.176	-47.83	2	-	49.43	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2345.136	-57.84	2	1.12	40.54	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.91	2	-	46.35	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.24	2	1.12	40.14	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.34	2	-	48.92	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.42	2	1.12	40.96	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.336	-46.83	2	-	50.43	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.168	-57.09	2	1.12	41.29	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.1	2	-	48.16	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.05	2	1.12	40.33	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.6	2	-	46.66	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.26	2	1.12	39.12	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2381.712	-47.52	2	-	49.74	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.048	-57.8	2	1.12	40.58	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-52	2	-	45.26	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.07	2	1.12	40.31	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.41	2	-	47.85	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.95	2	1.12	40.43	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2495.848	-47.15	2	-	50.11	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.656	-57.43	2	1.12	40.95	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-48.83	2	-	48.43	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.05	2	1.12	40.33	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

