

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: WIRELESS SPEAKER

Test Model: ZEALOT-S49

Environmental Conditions

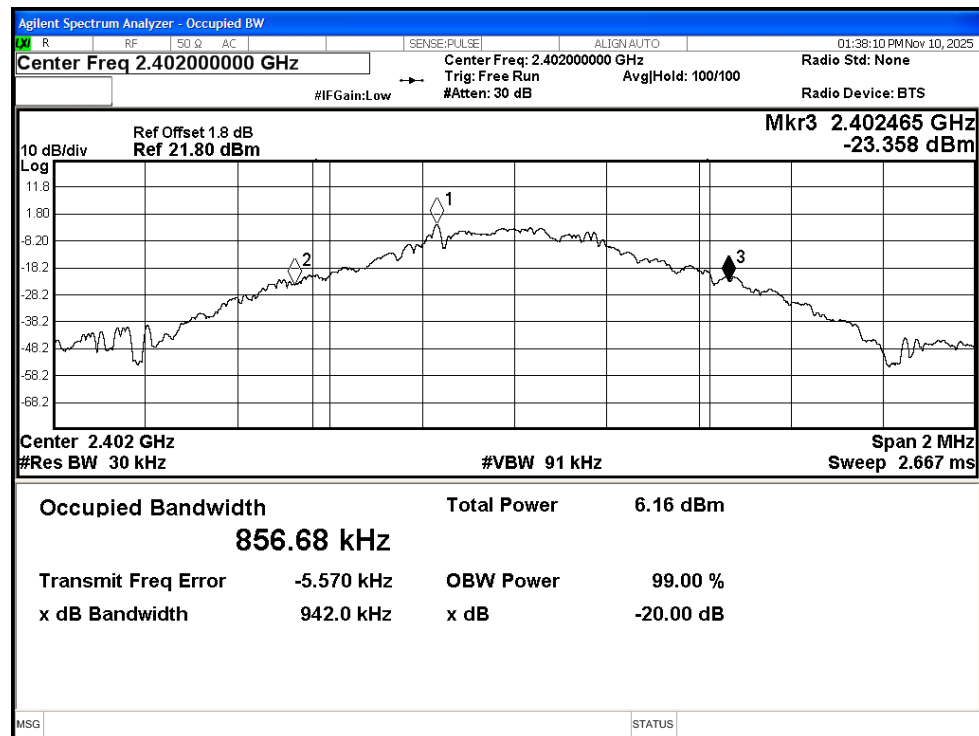
Temperature:	23.8°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 -20dB Bandwidth

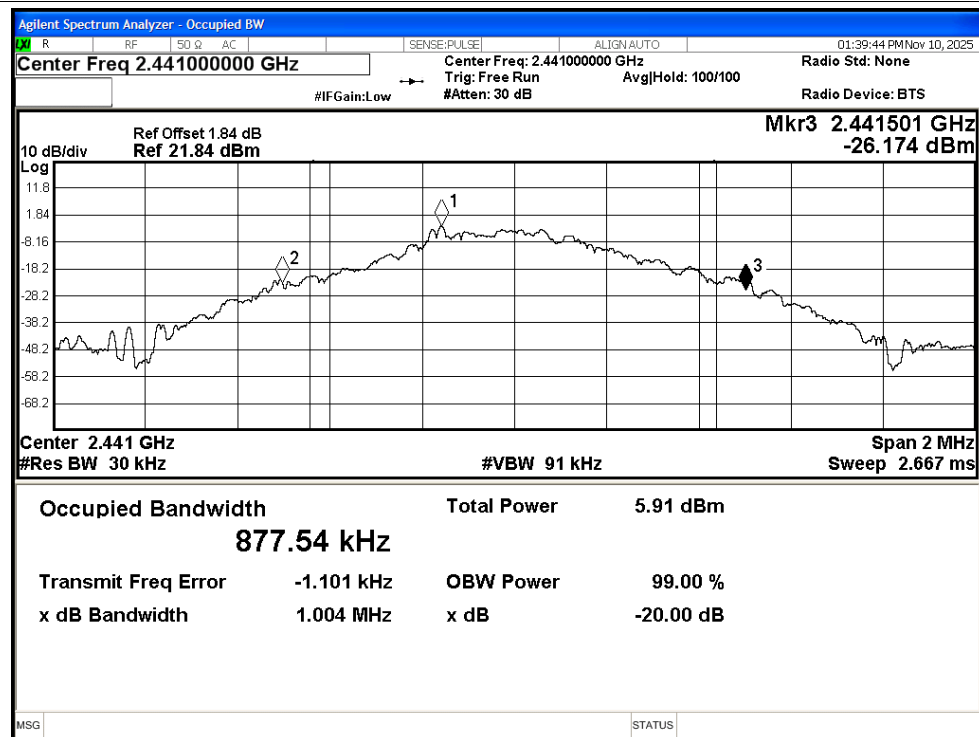
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.942	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.004	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.948	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.279	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.282	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.316	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.298	N/A	Pass

Test Graphs

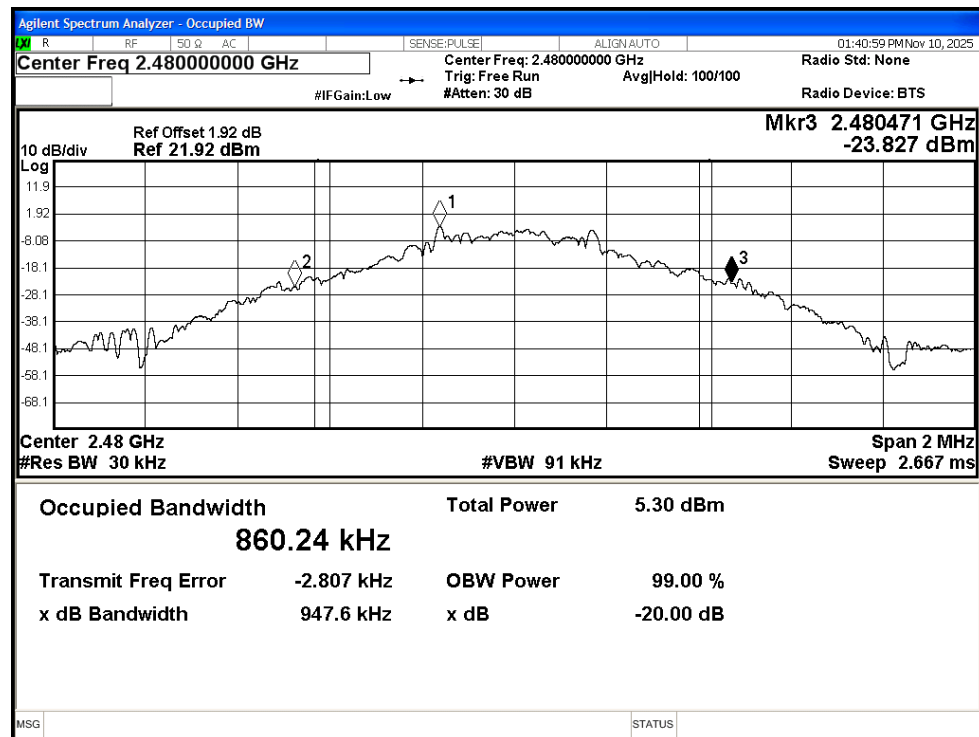
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



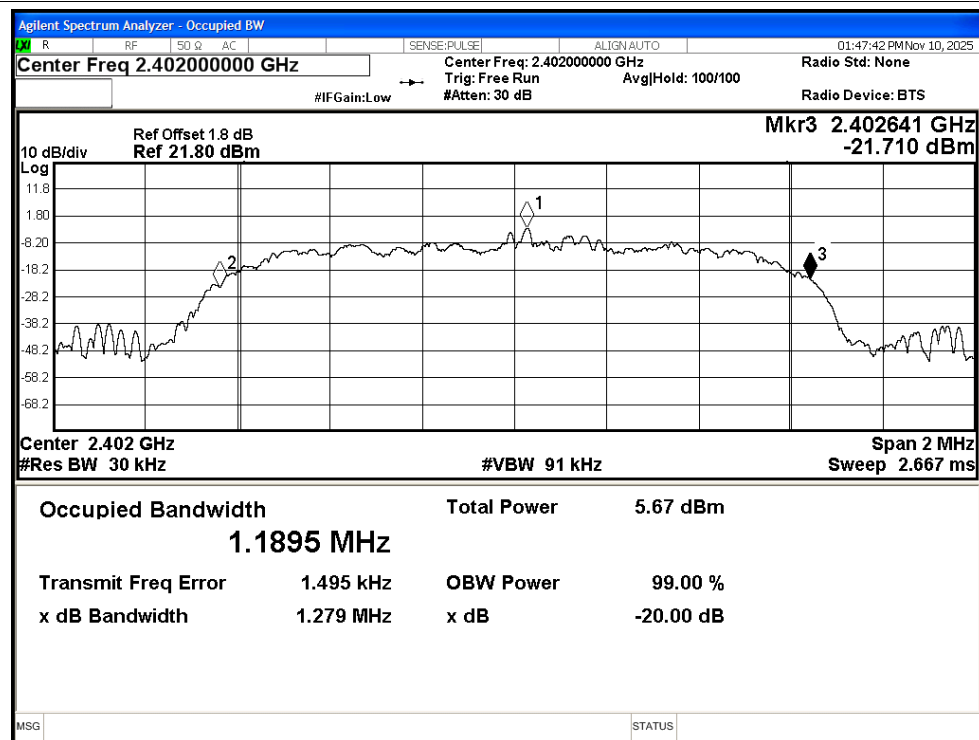
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



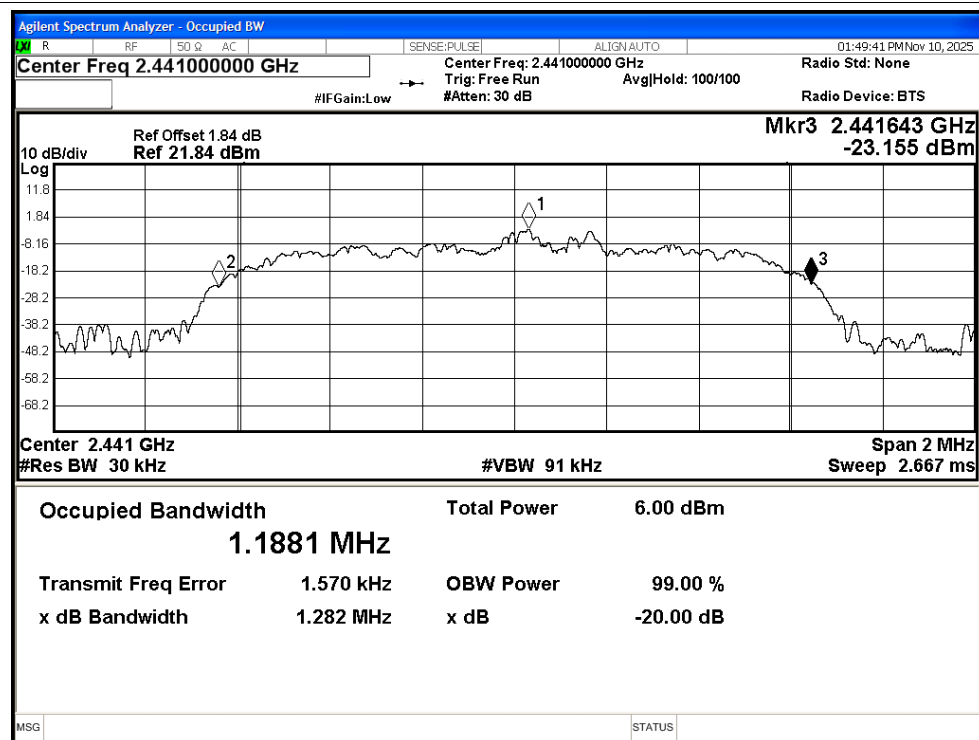
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



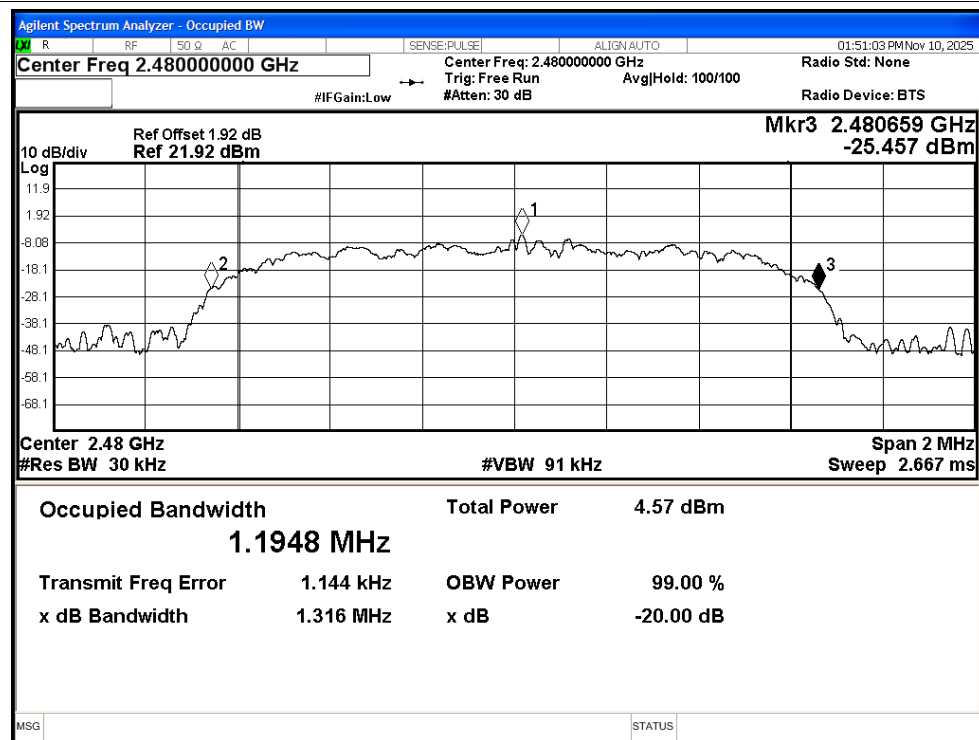
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



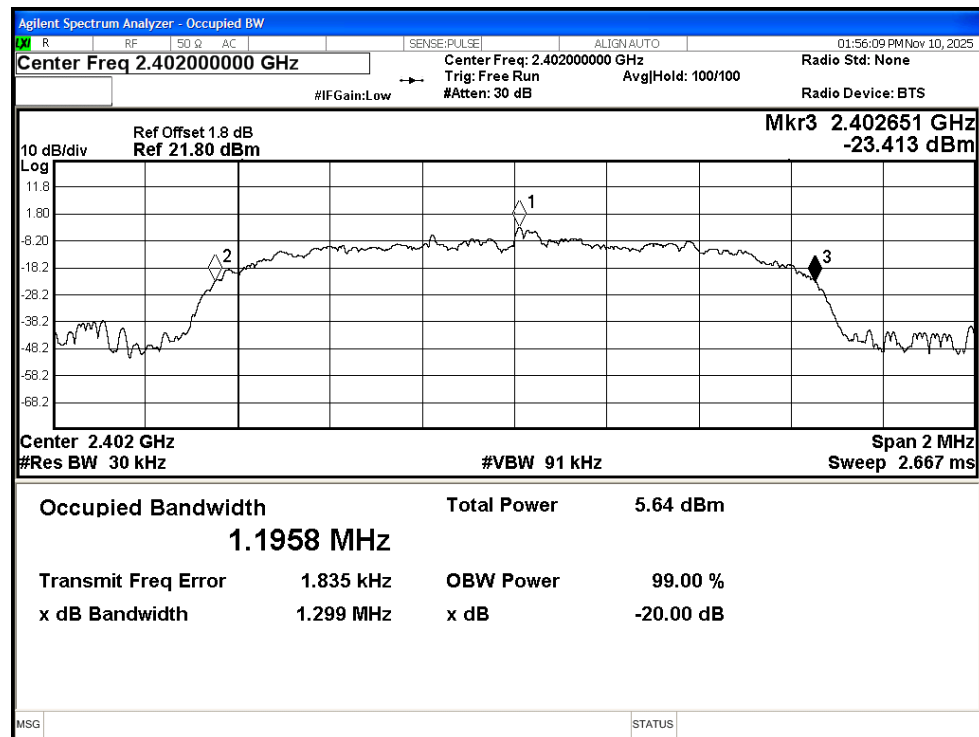
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



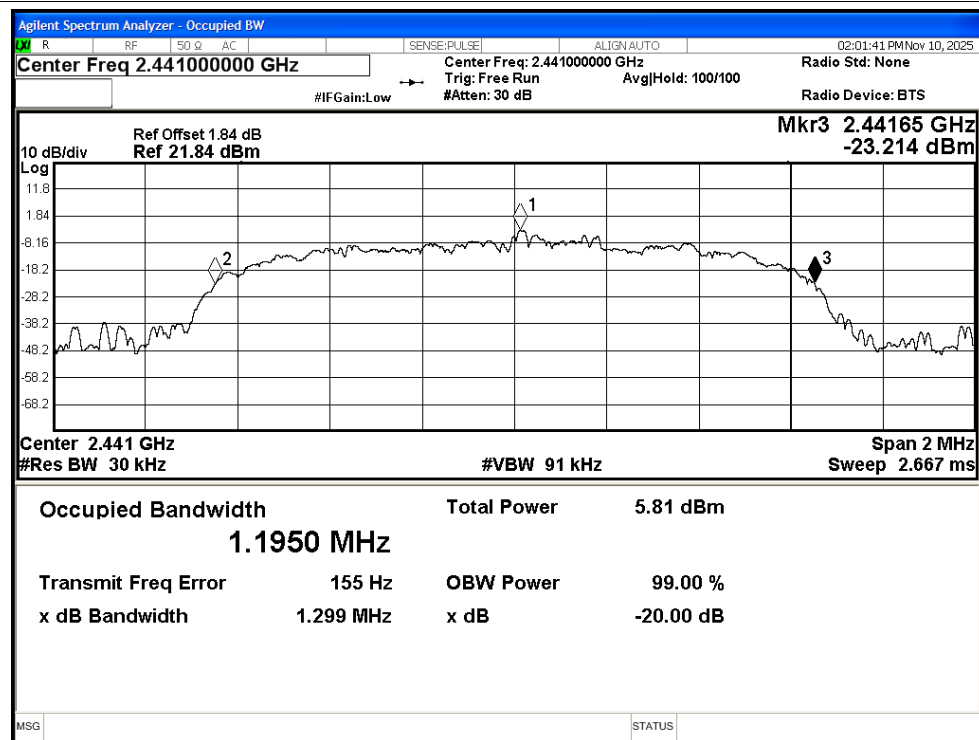
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

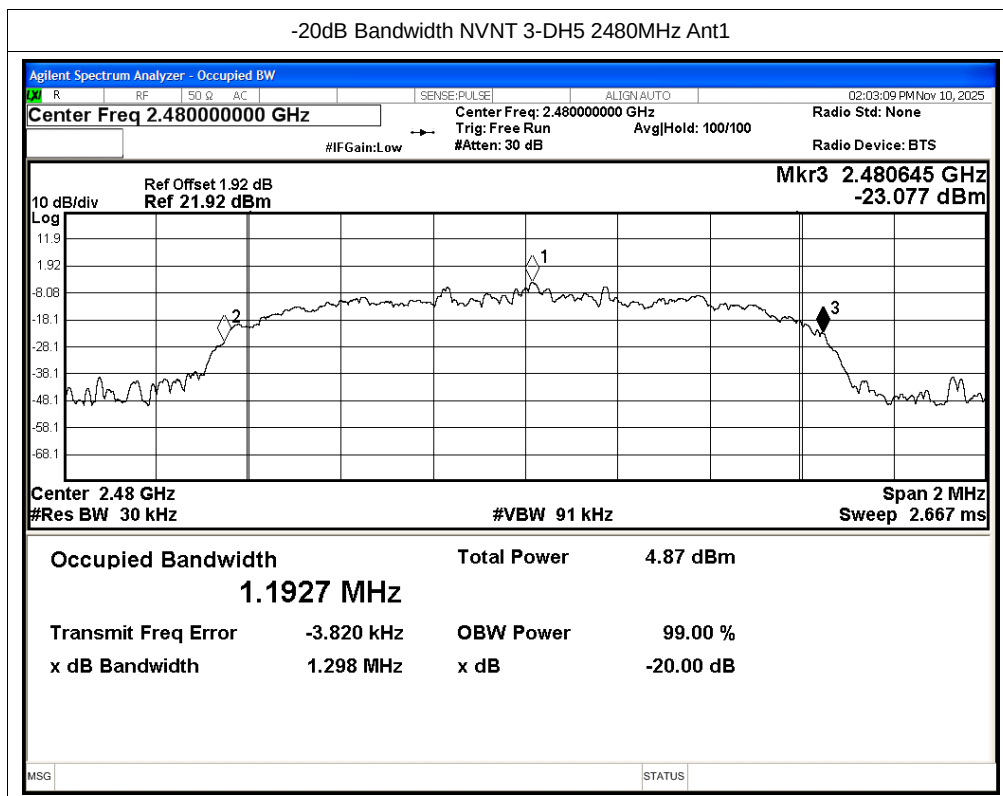


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



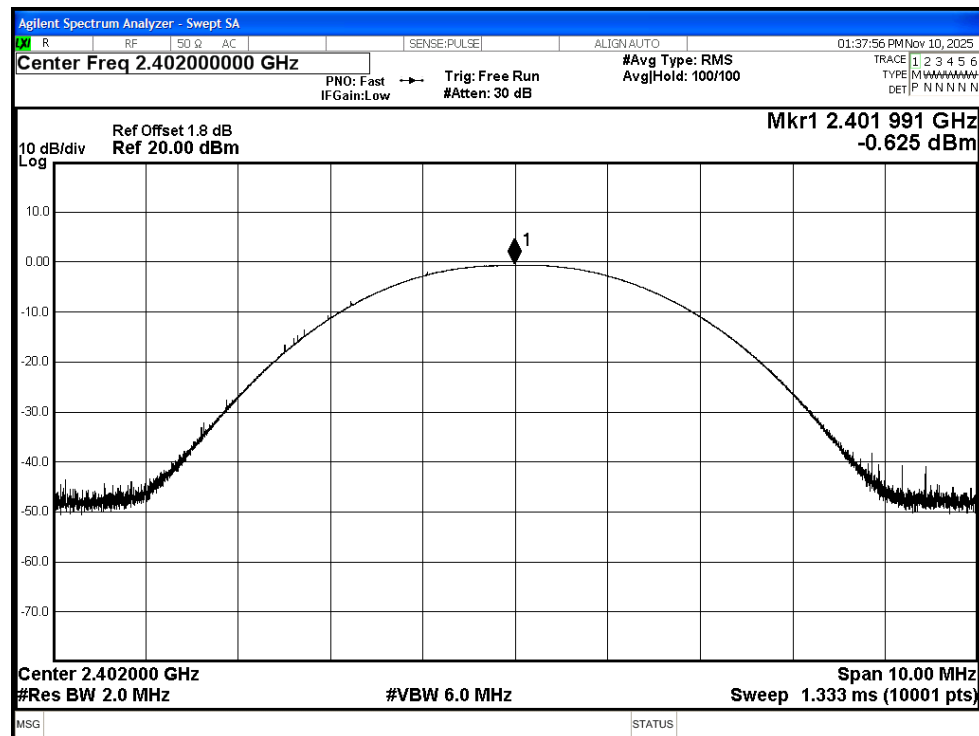


A.2 Maximum Peak Conducted Output Power

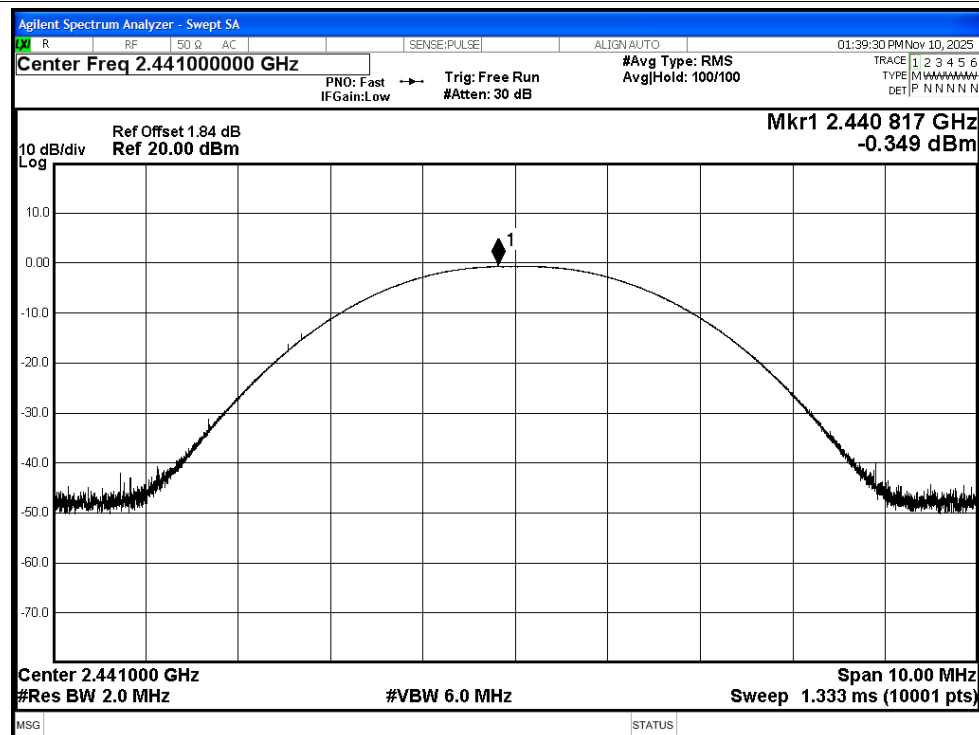
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.63	21	Pass
NVNT	1-DH5	2441	Ant1	-0.35	21	Pass
NVNT	1-DH5	2480	Ant1	-1.16	21	Pass
NVNT	2-DH5	2402	Ant1	1.44	21	Pass
NVNT	2-DH5	2441	Ant1	1.47	21	Pass
NVNT	2-DH5	2480	Ant1	0.64	21	Pass
NVNT	3-DH5	2402	Ant1	1.88	21	Pass
NVNT	3-DH5	2441	Ant1	1.91	21	Pass
NVNT	3-DH5	2480	Ant1	1.04	21	Pass

Test Graphs

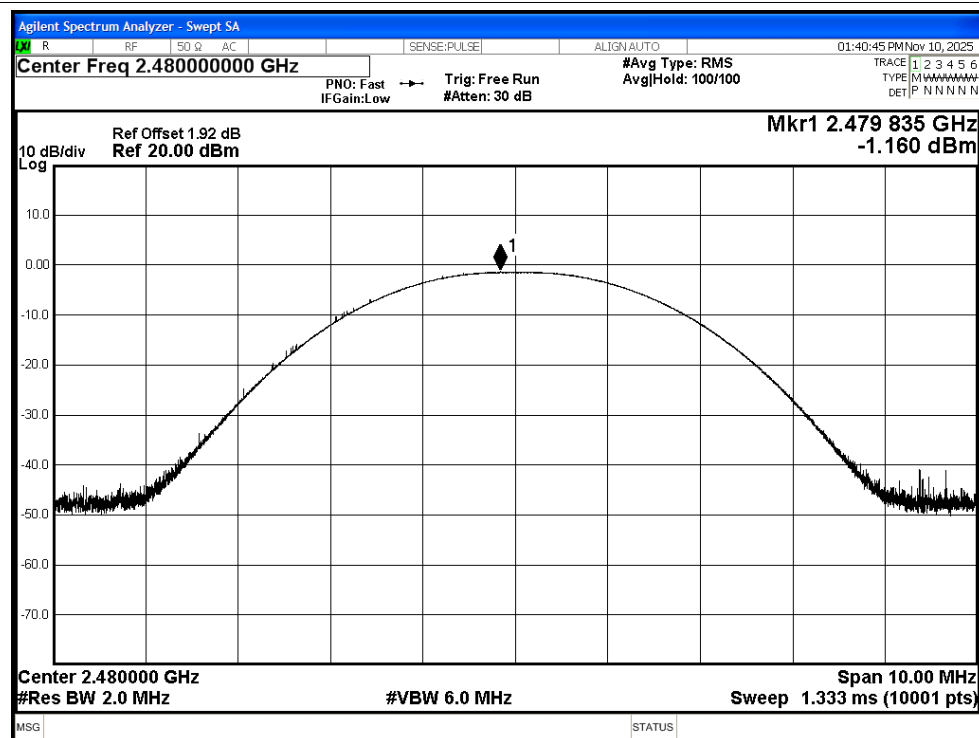
Power NVNT 1-DH5 2402MHz Ant1



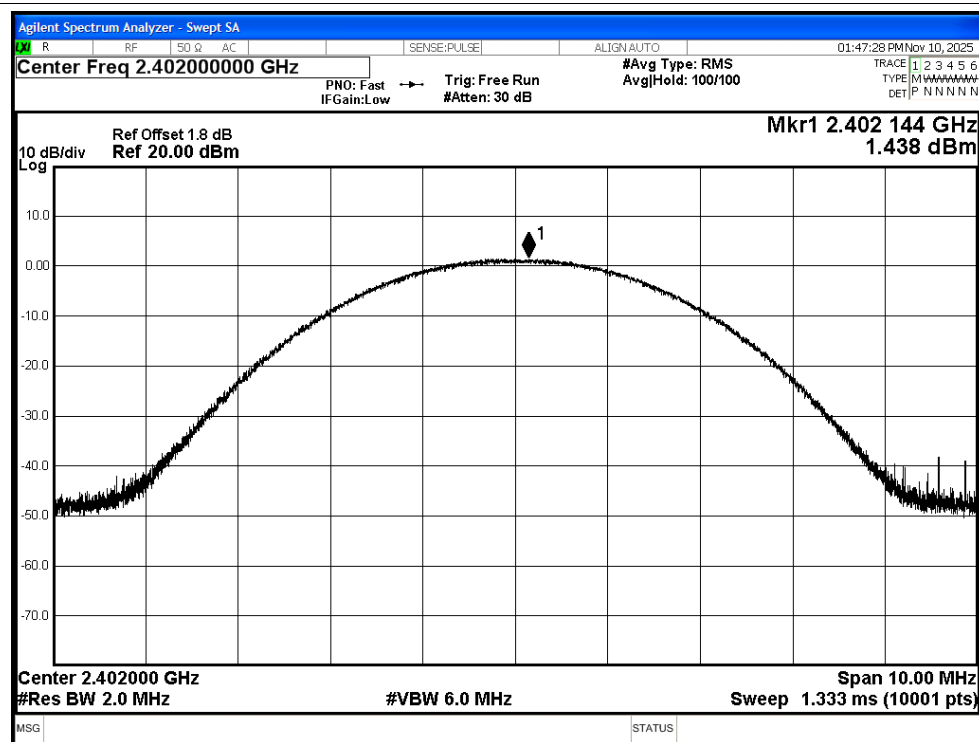
Power NVNT 1-DH5 2441MHz Ant1

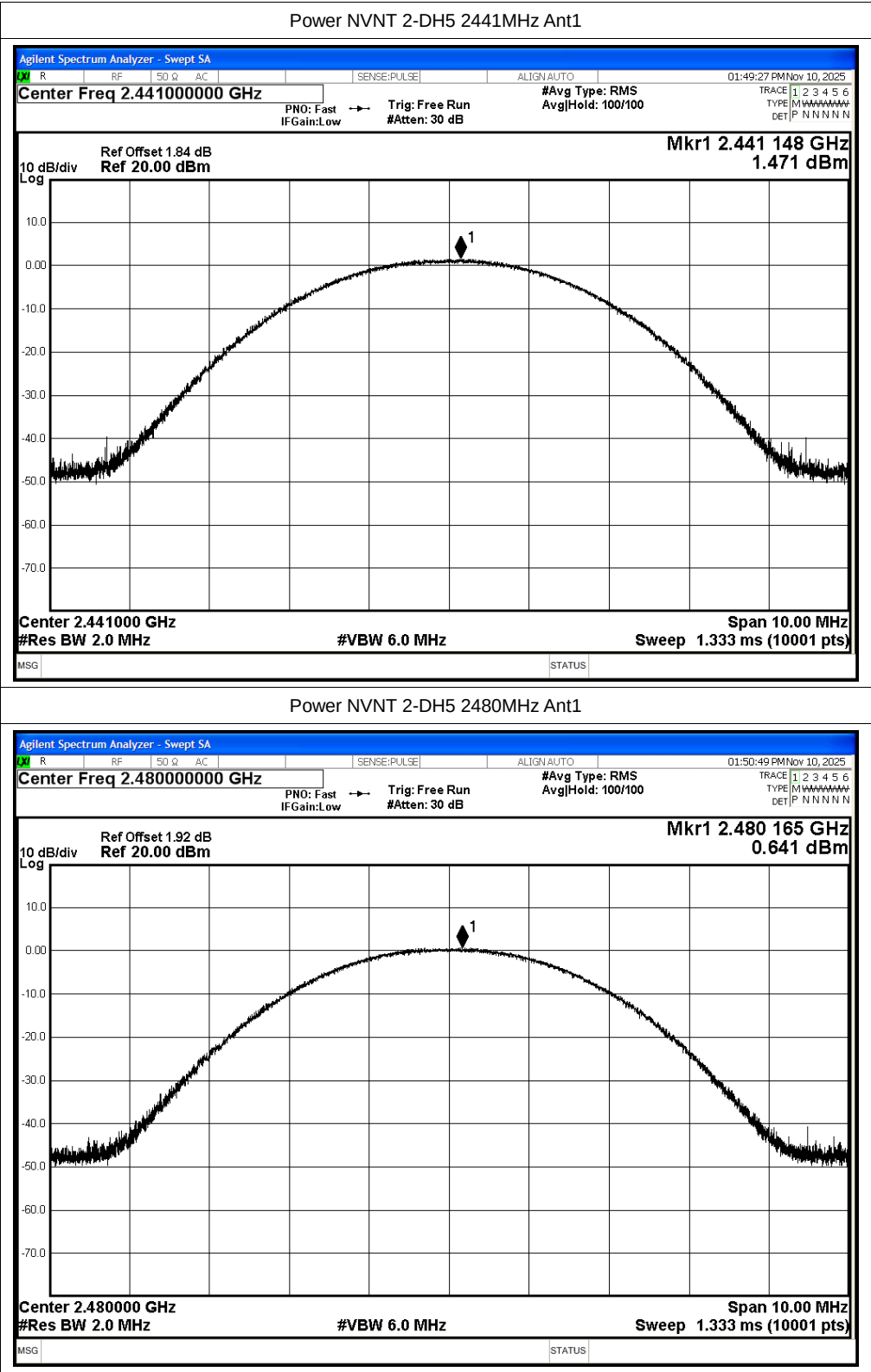


Power NVNT 1-DH5 2480MHz Ant1

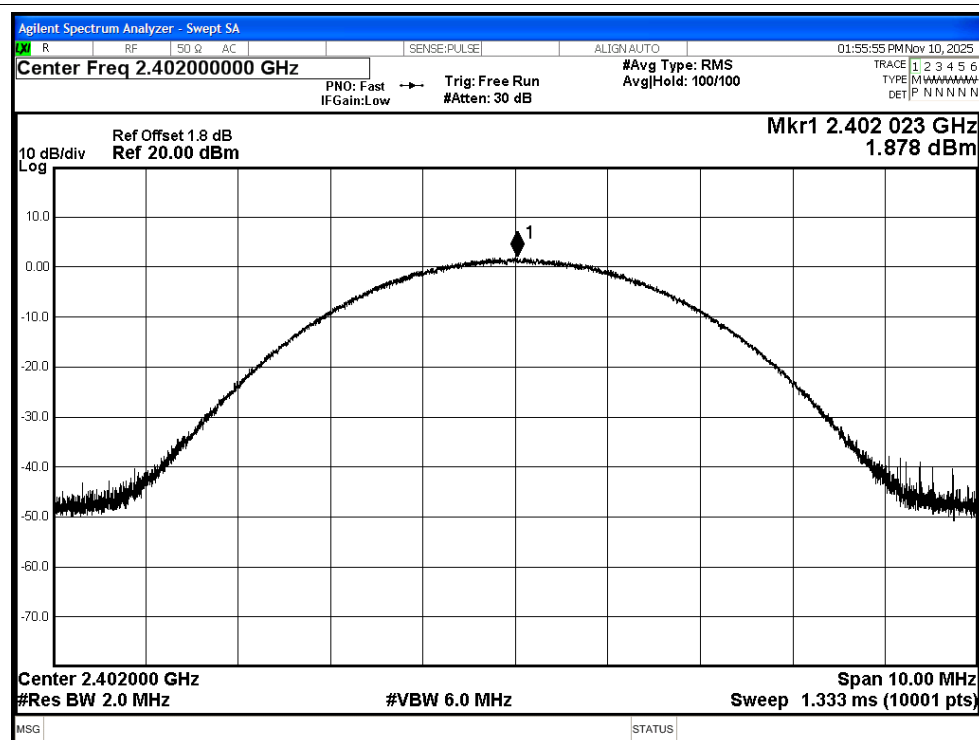


Power NVNT 2-DH5 2402MHz Ant1

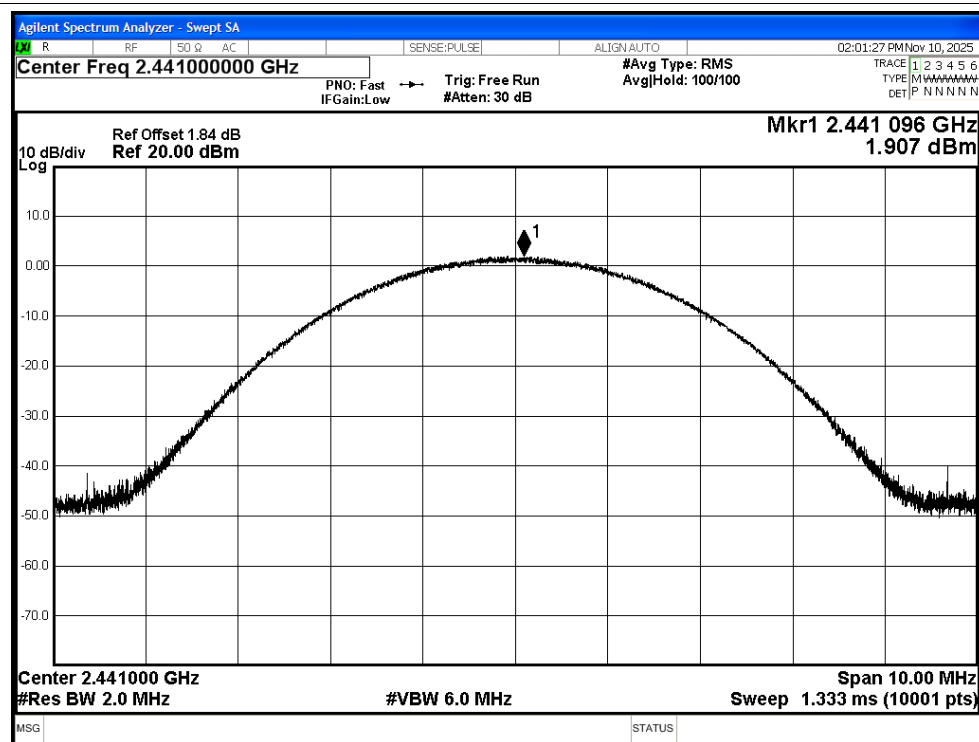


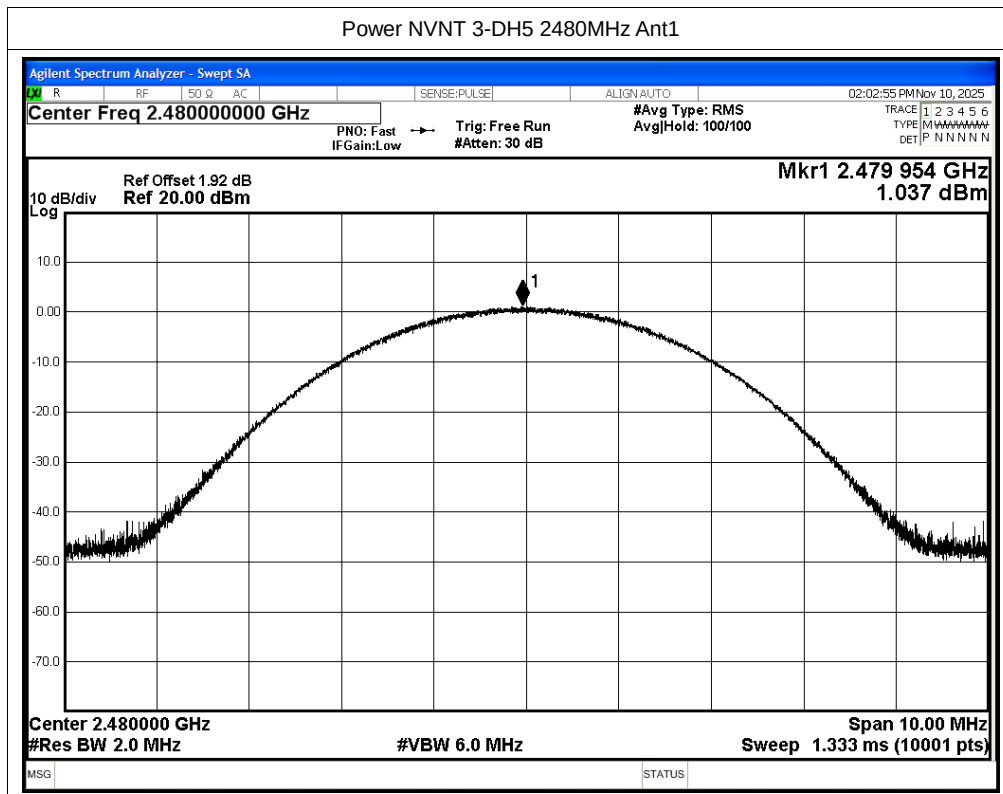


Power NVNT 3-DH5 2402MHz Ant1



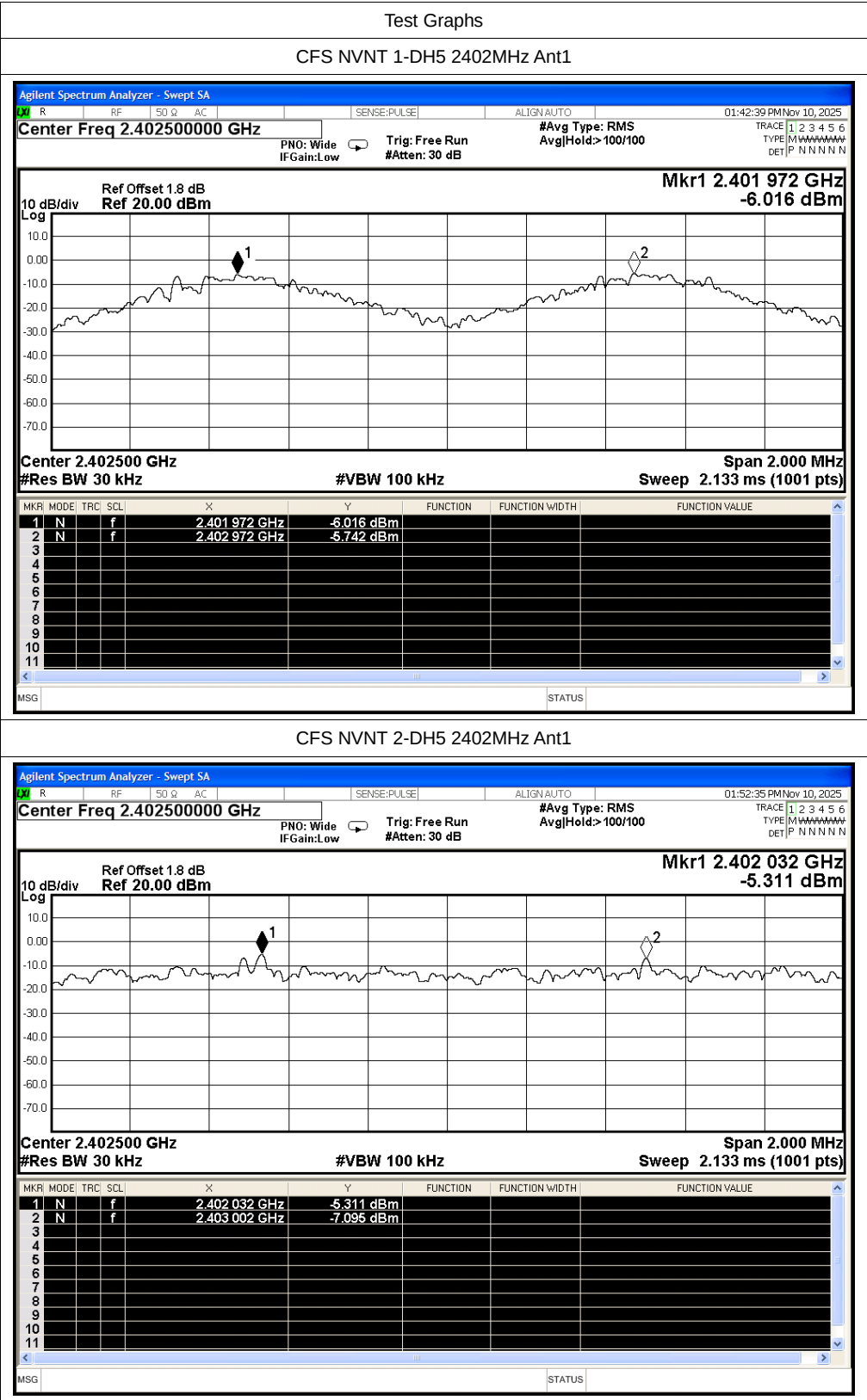
Power NVNT 3-DH5 2441MHz Ant1

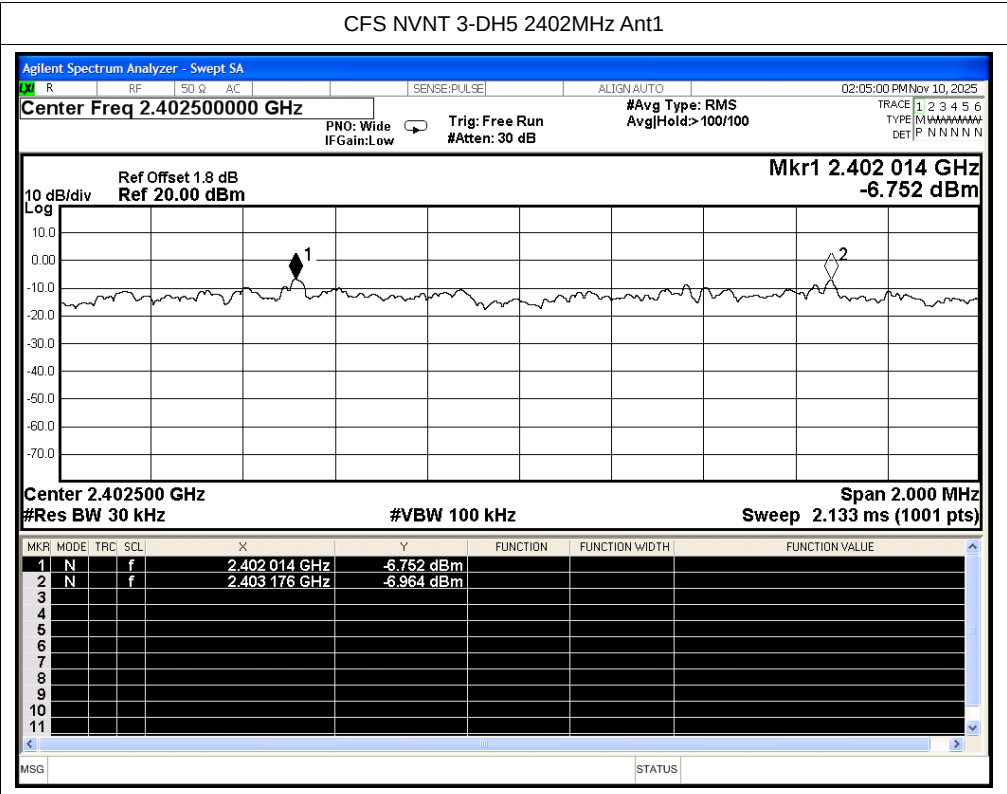




A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.972	2402.972	1	0.669	Pass
NVNT	2-DH5	Ant1	2402.032	2403.002	0.97	0.877	Pass
NVNT	3-DH5	Ant1	2402.014	2403.176	1.162	0.866	Pass

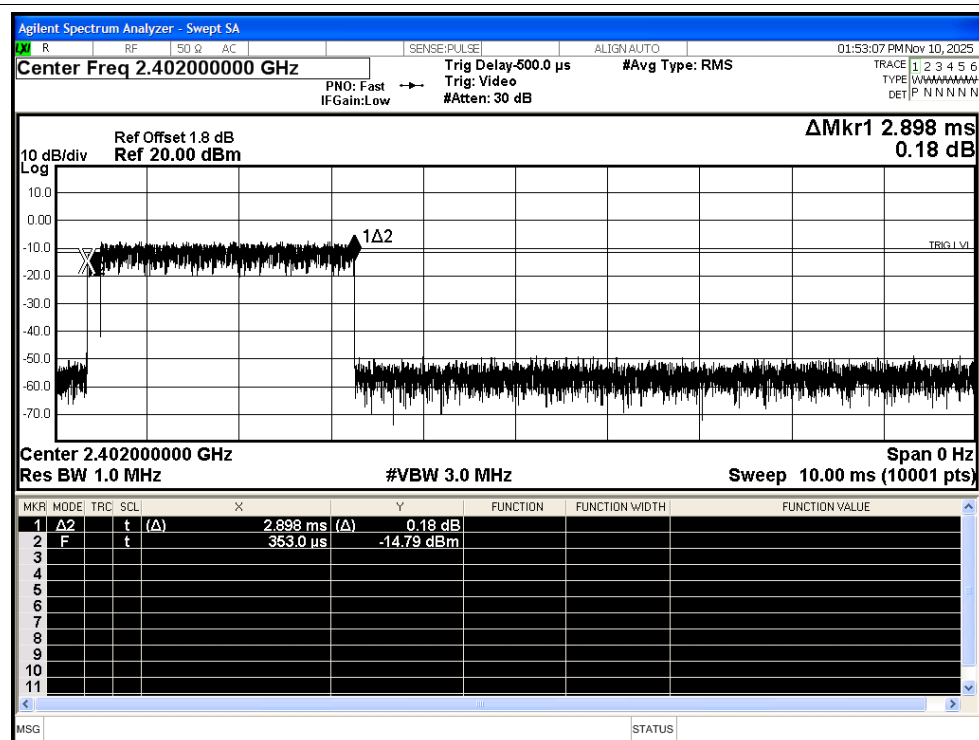




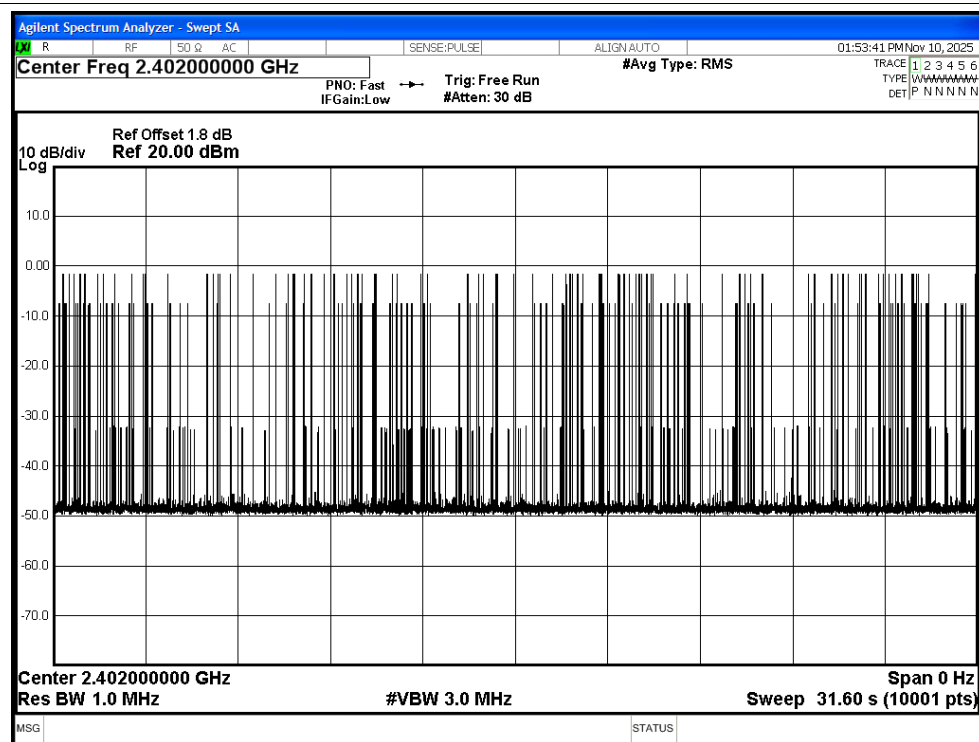
A.4 Dwell Time

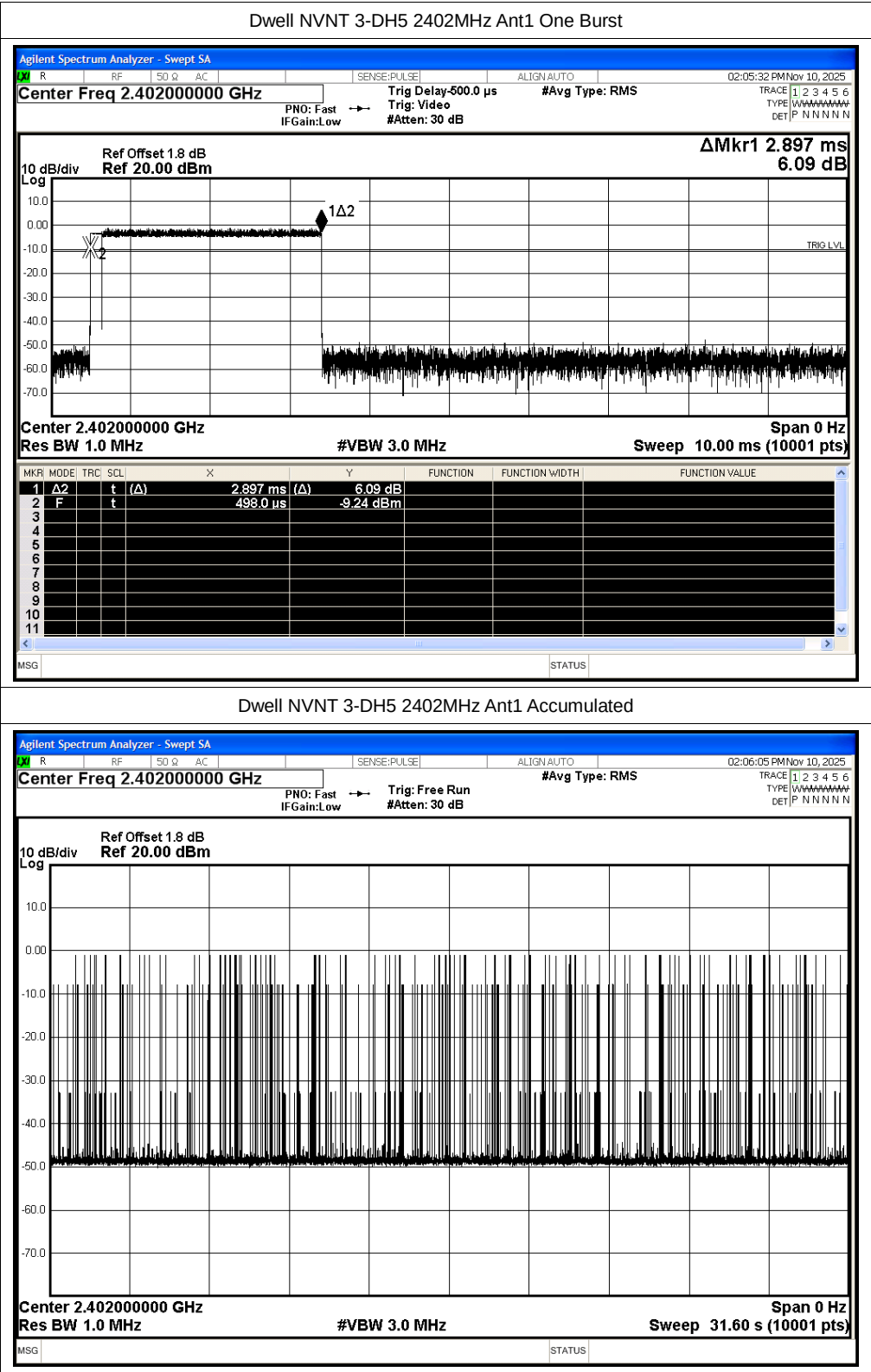
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	299.73	103	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	292.698	101	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	298.391	103	31600	400	Pass

Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



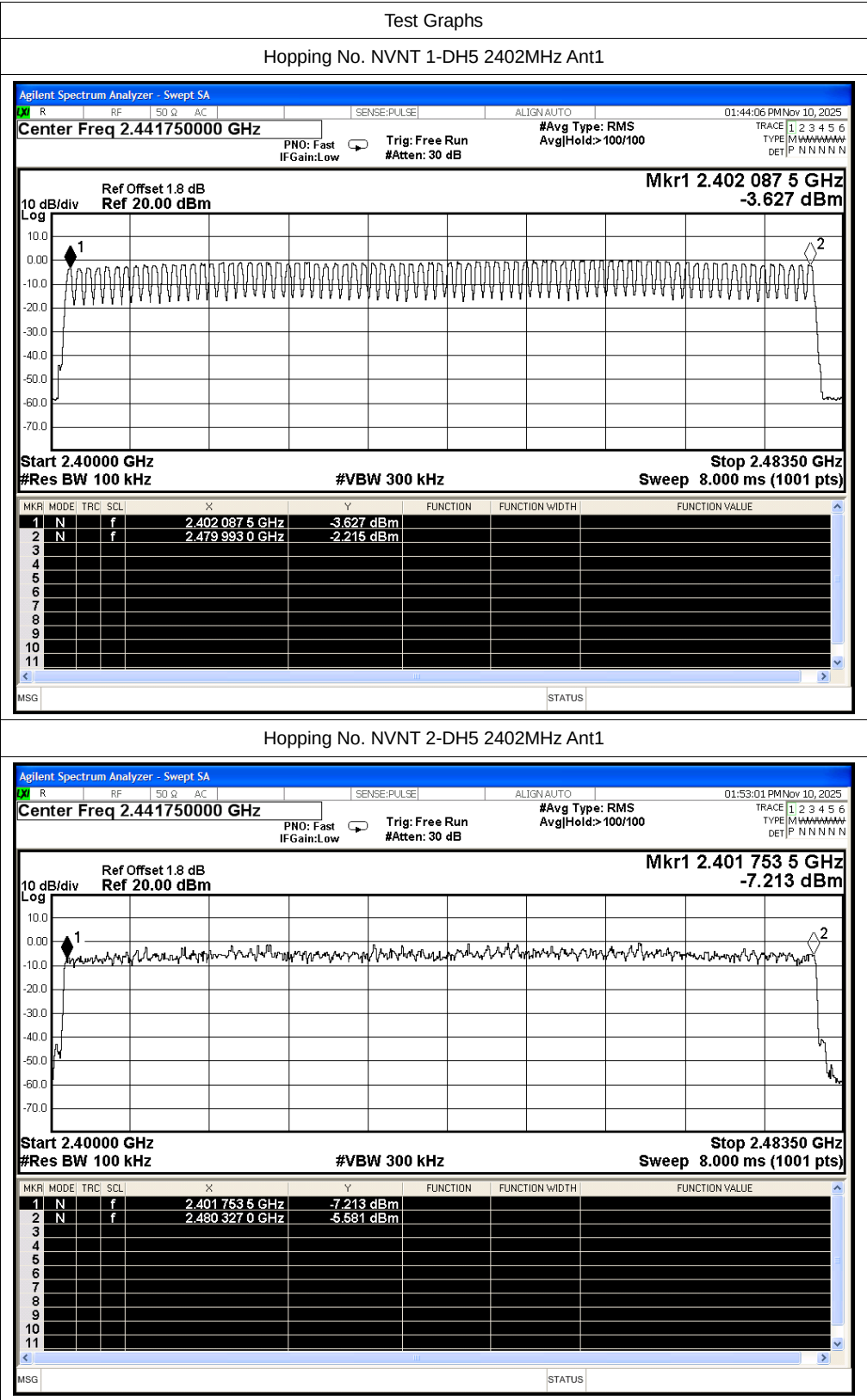
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

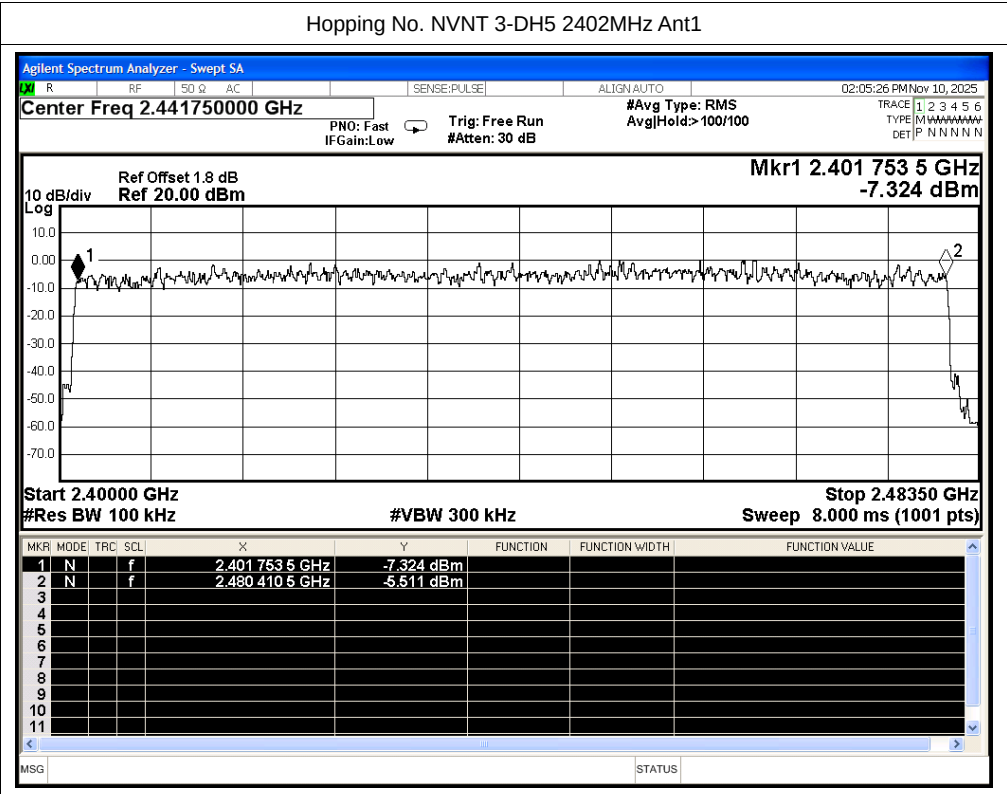




A.5 Number of Hopping Channel

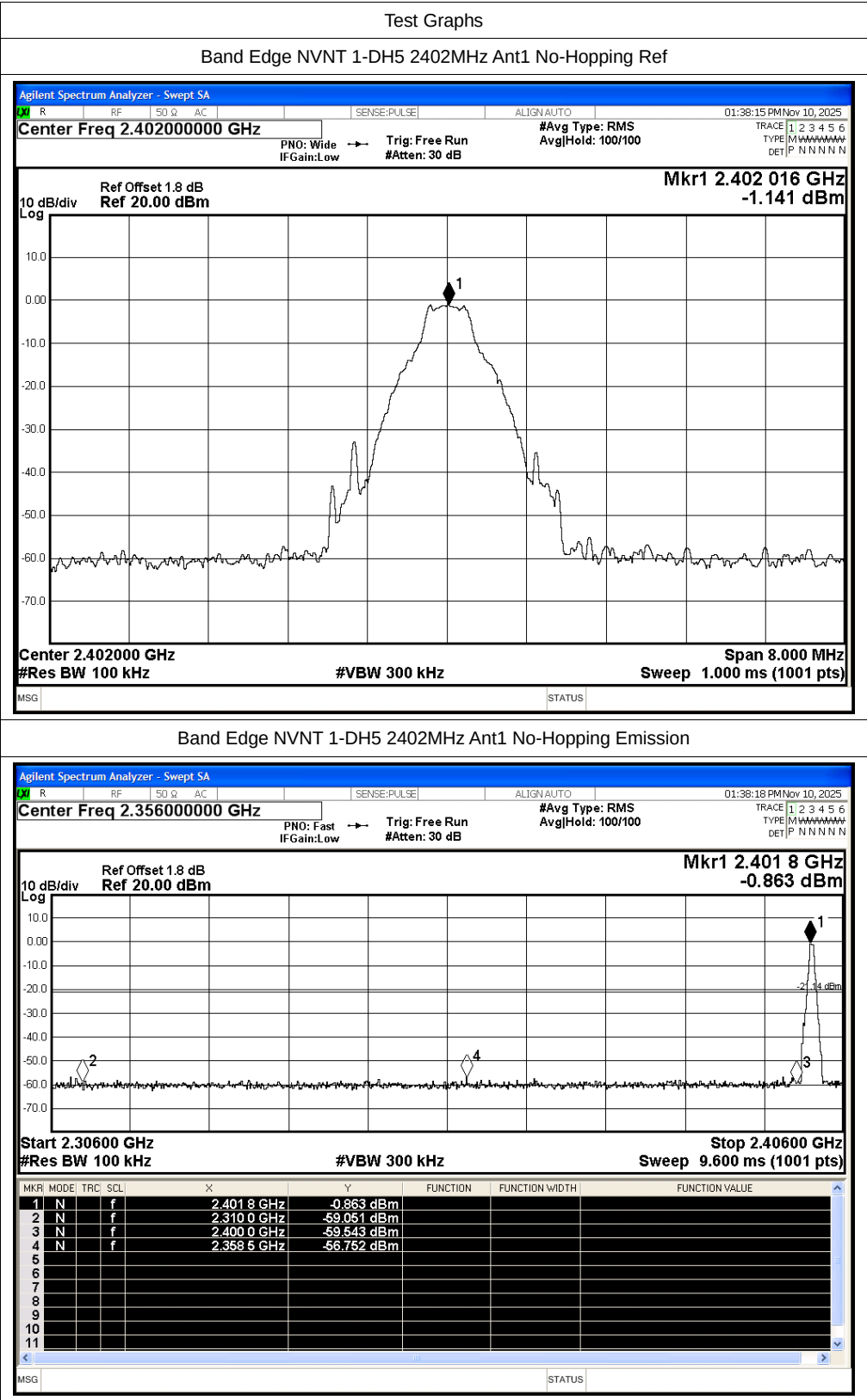
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

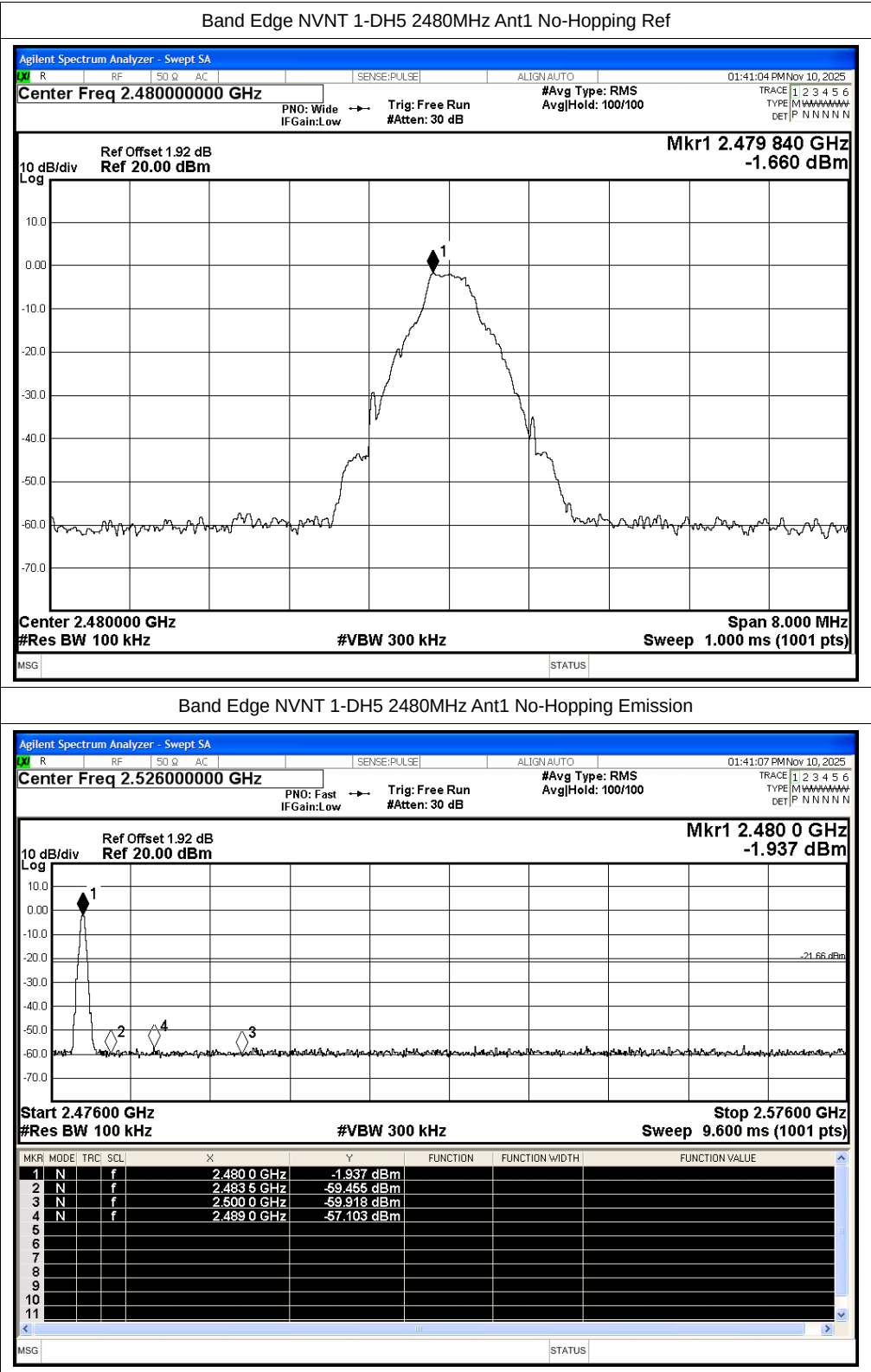


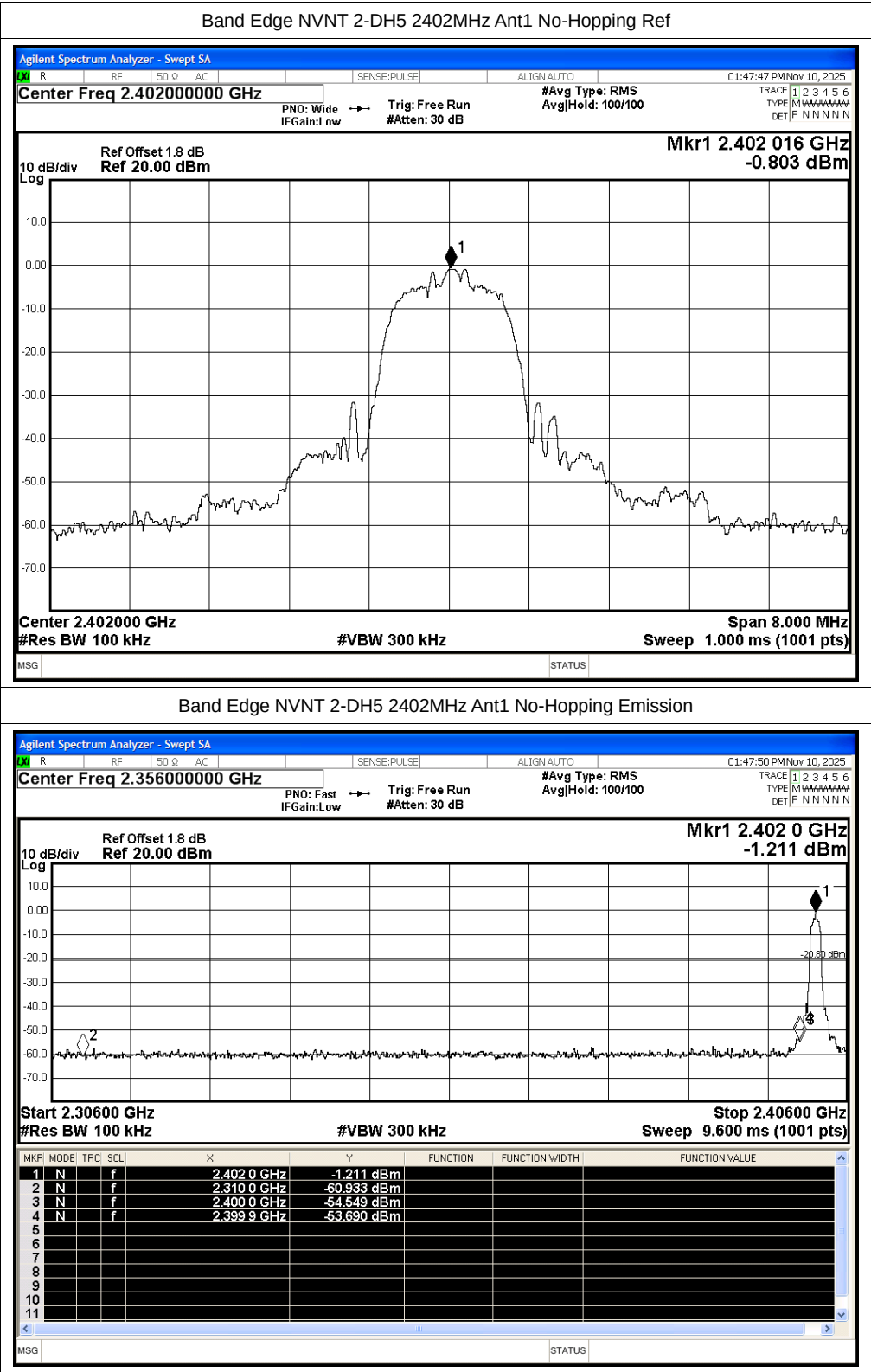


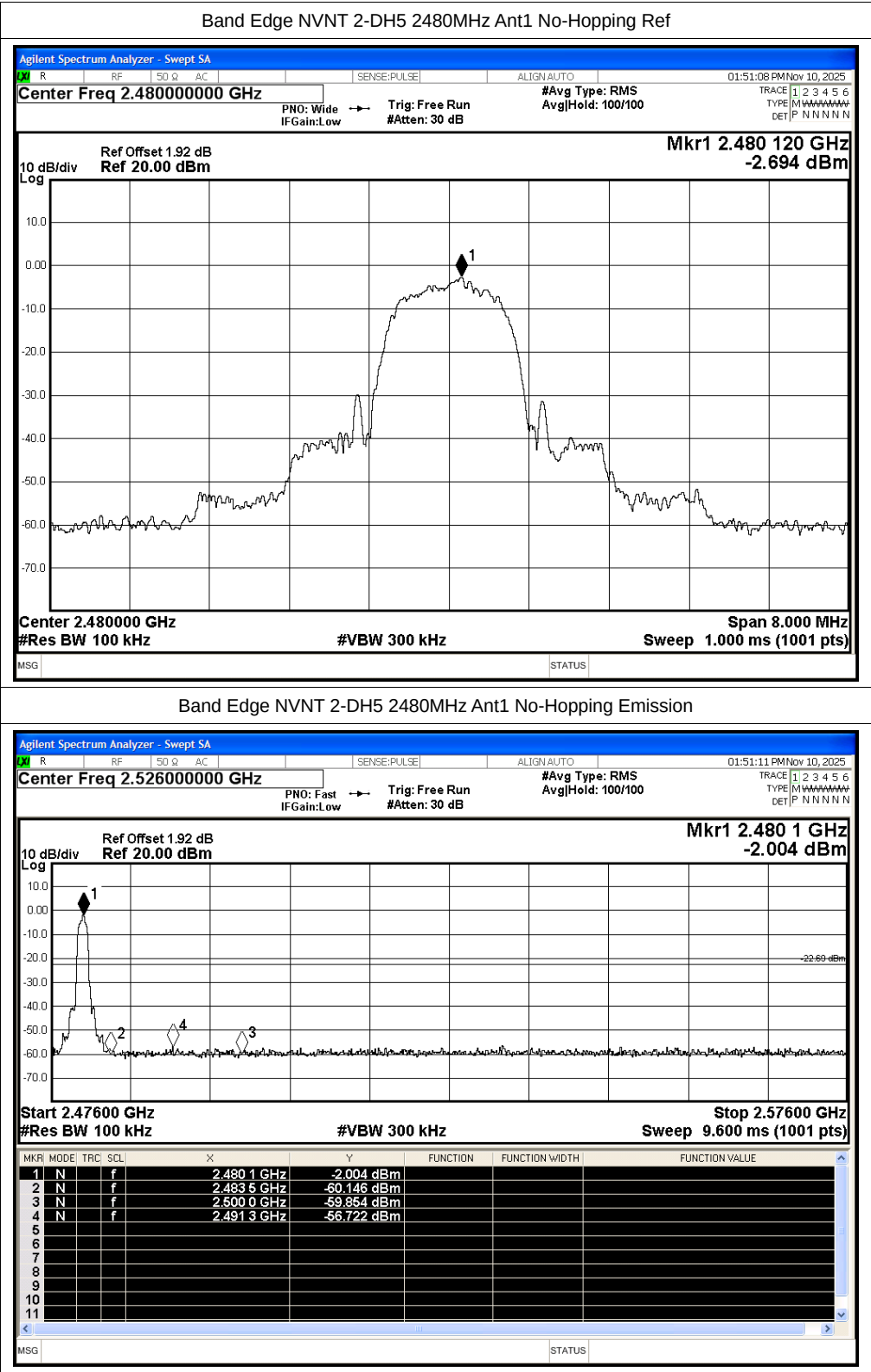
A.6 Band Edge

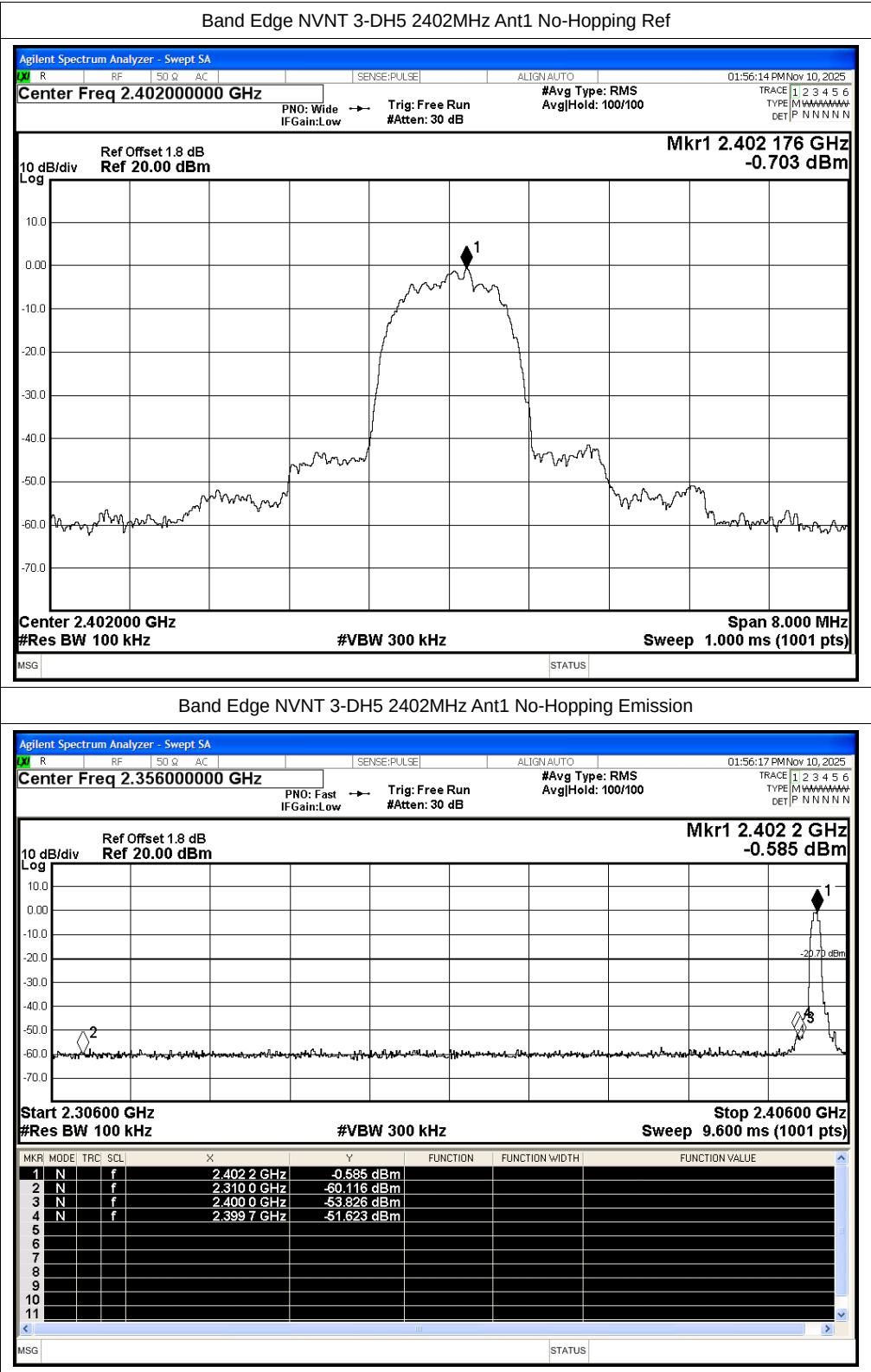
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.61	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.44	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.89	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.03	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.92	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.73	-20	Pass

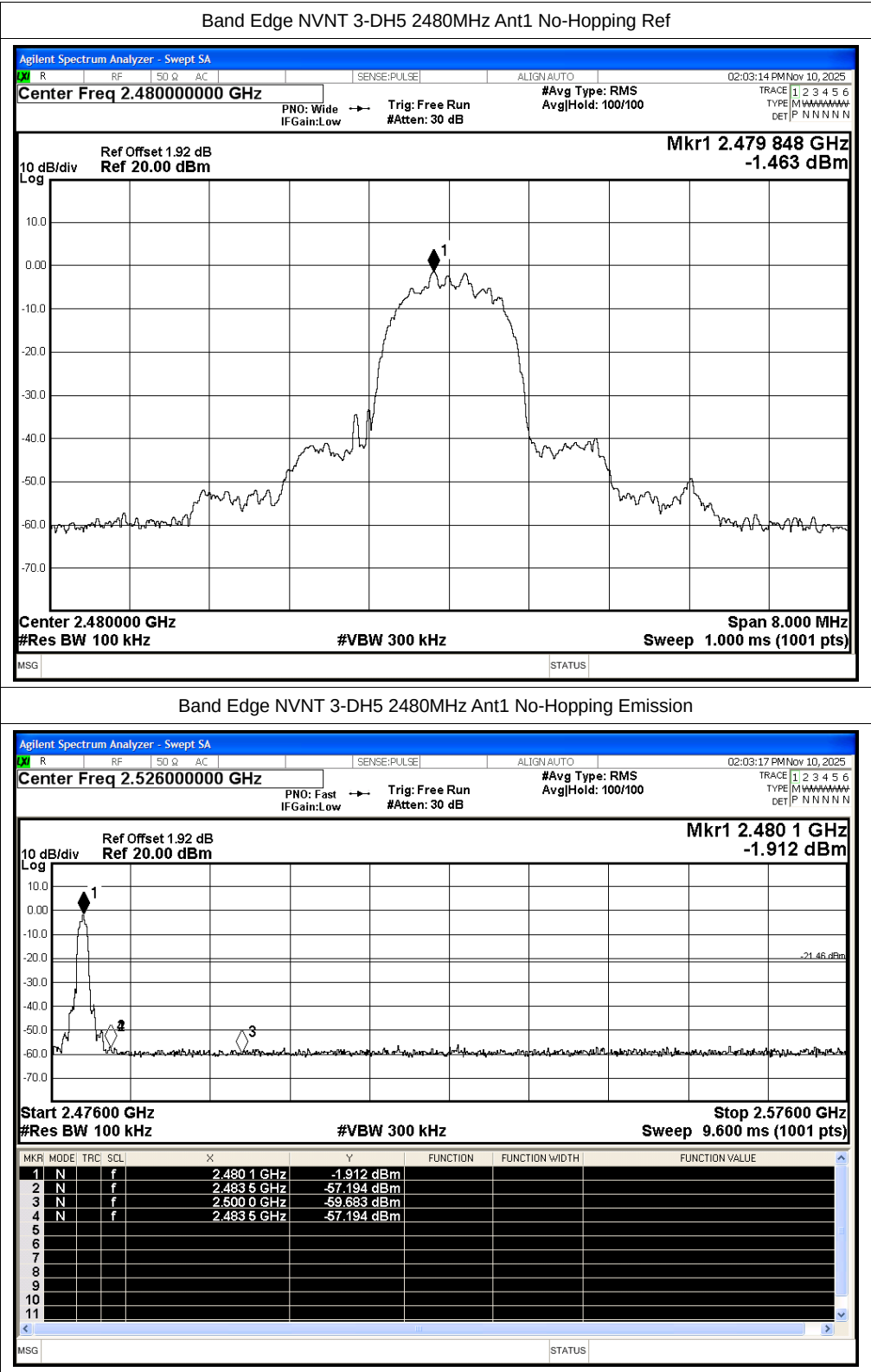






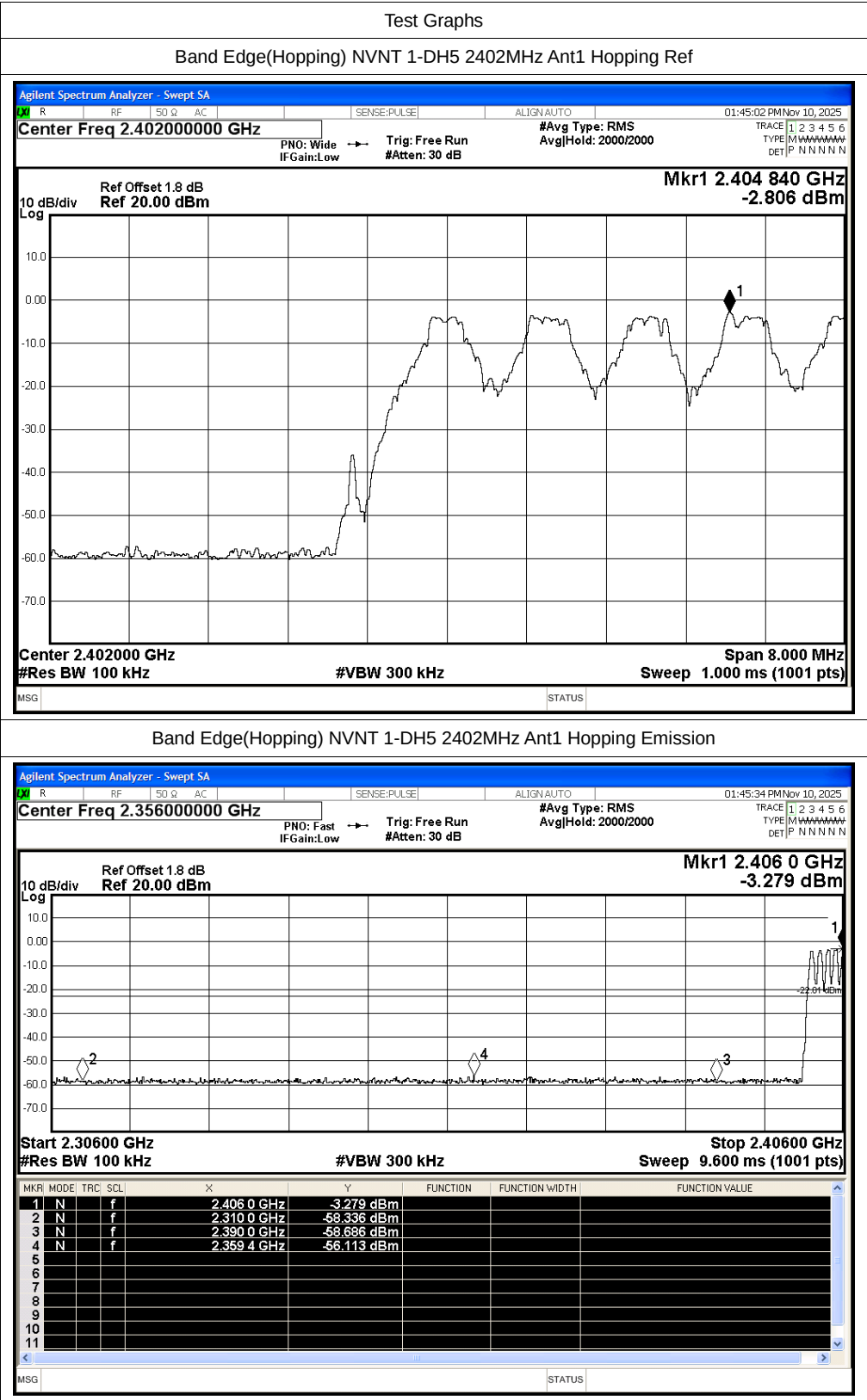


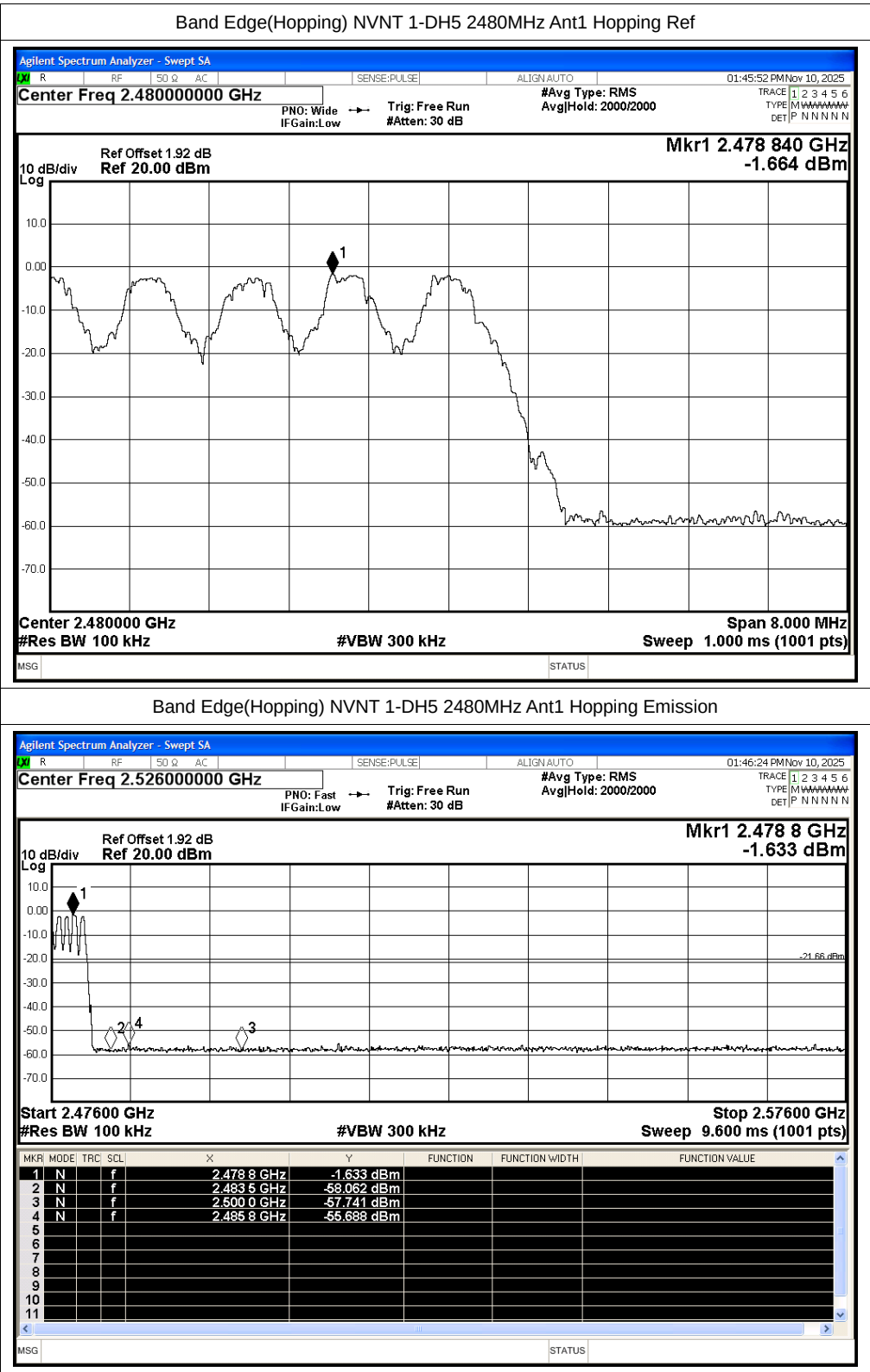


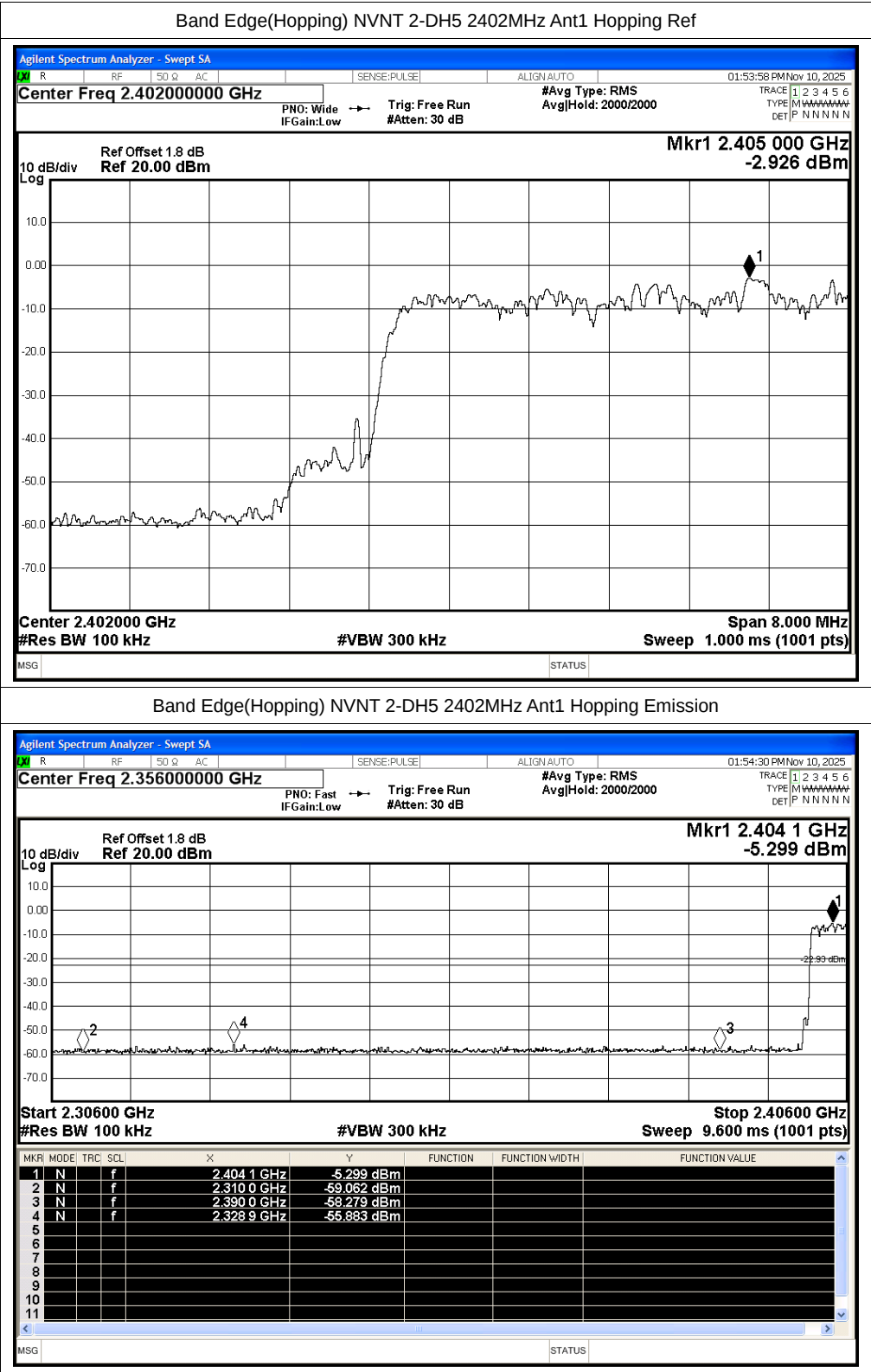


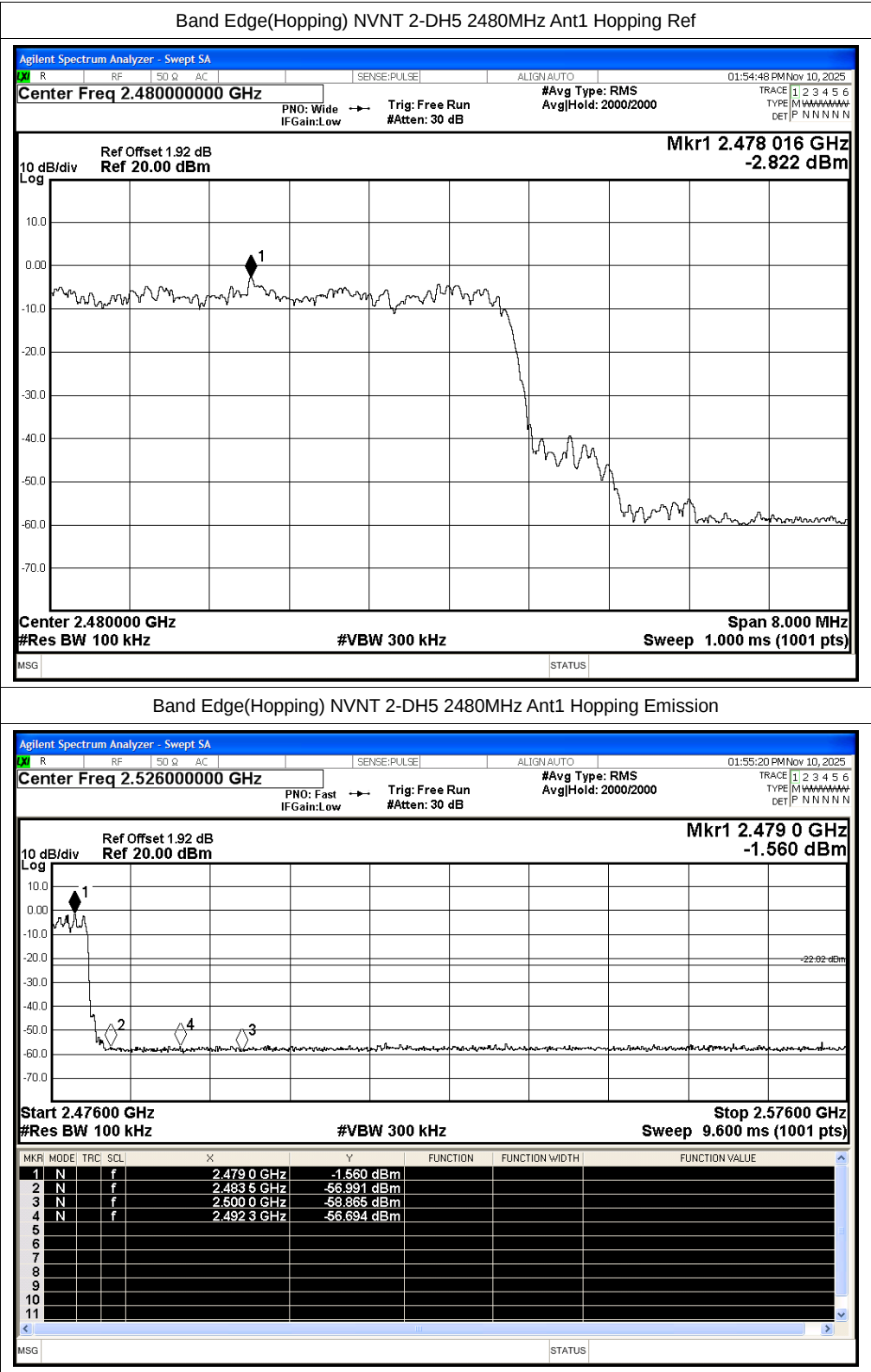
(Hopping)

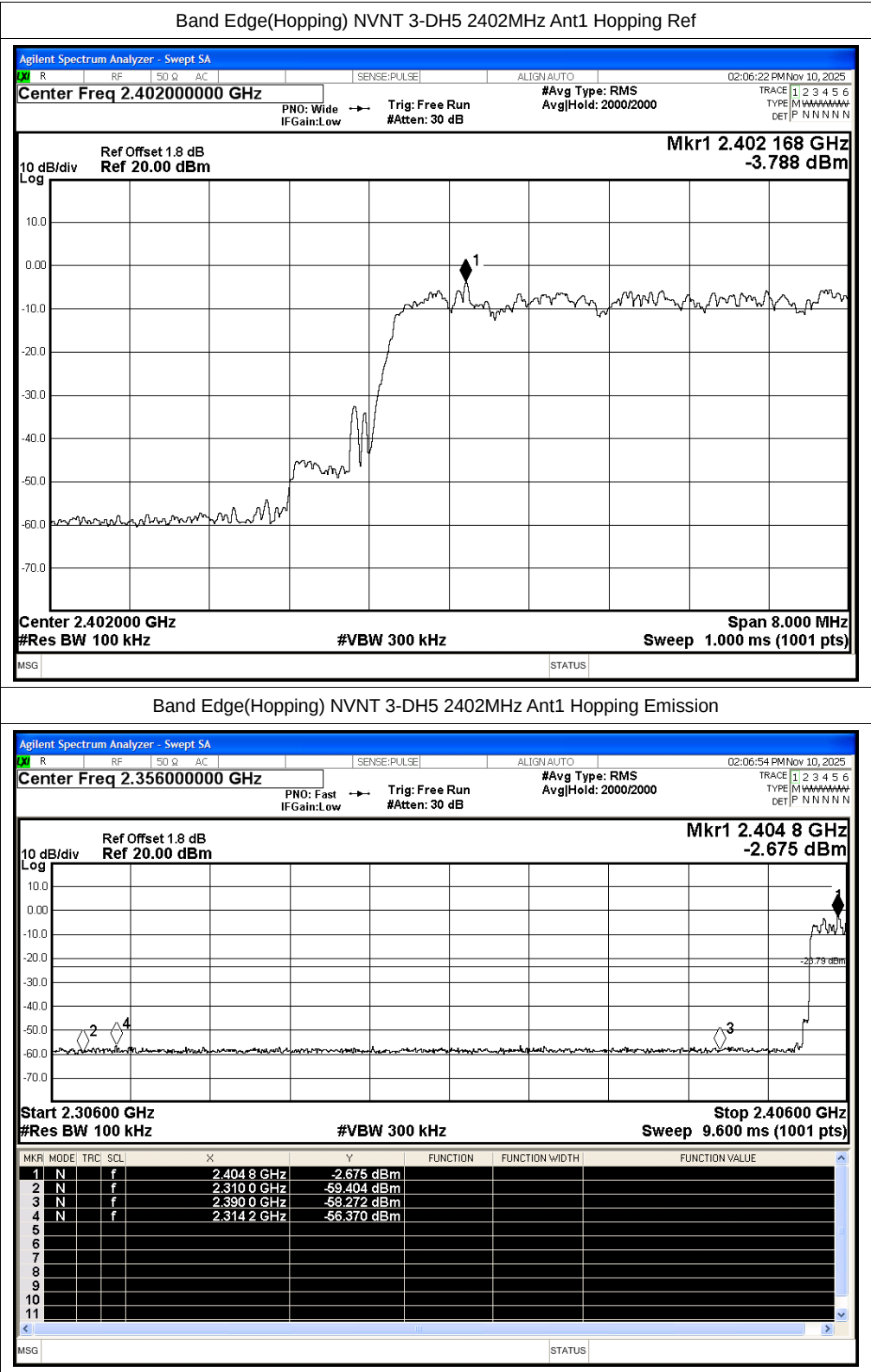
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.31	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.02	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.96	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.87	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.58	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-54.24	-20	Pass

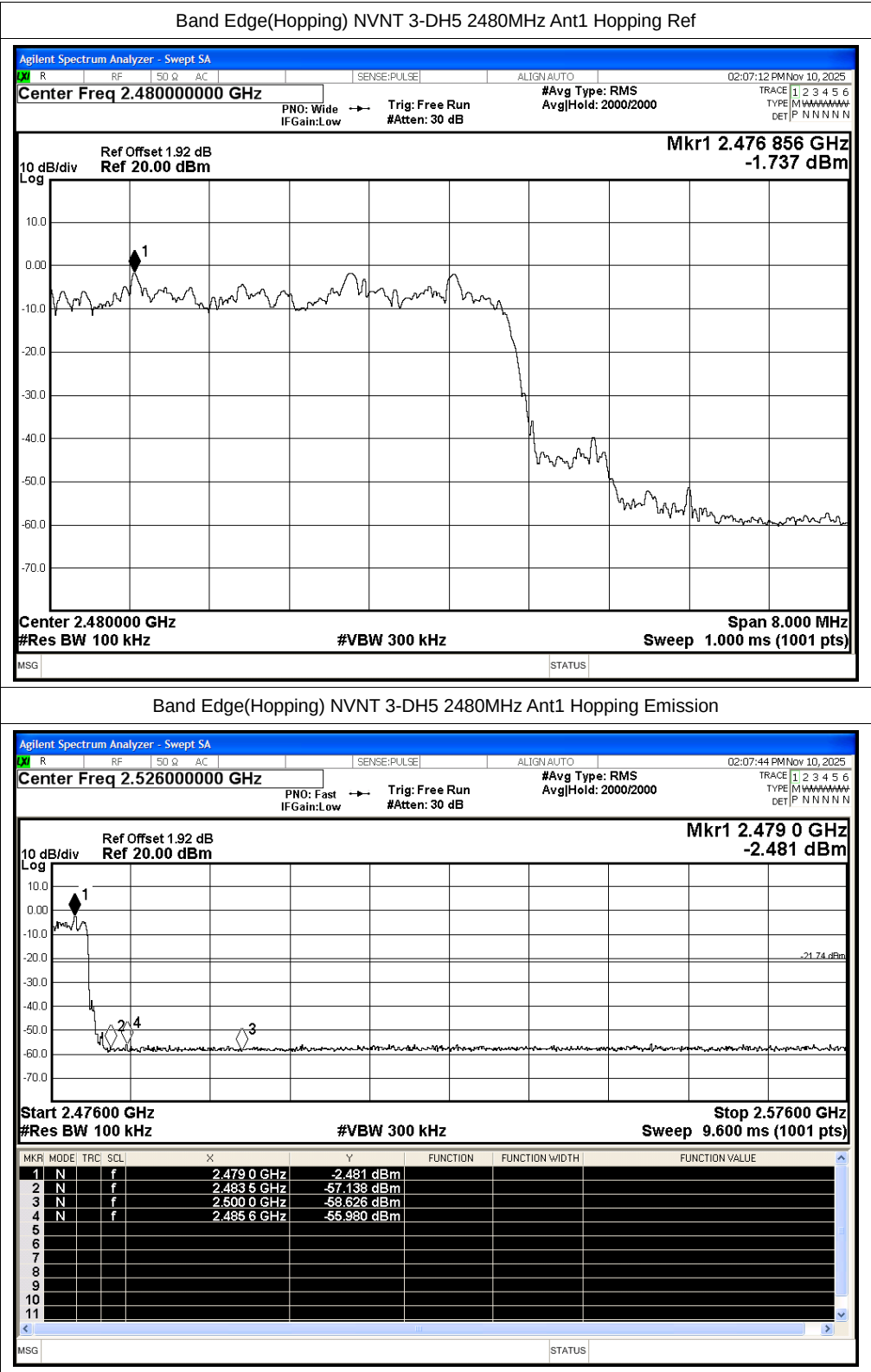






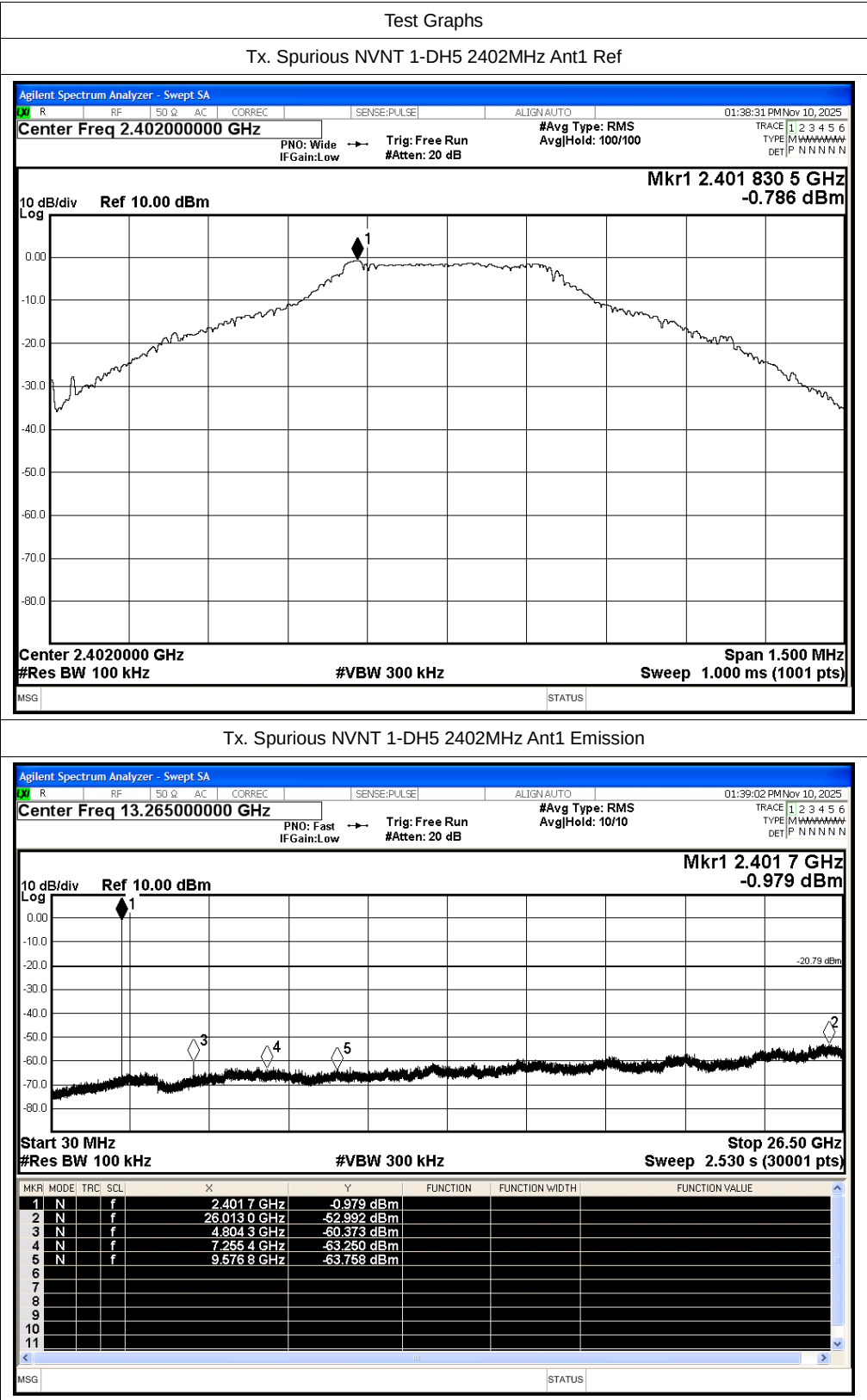


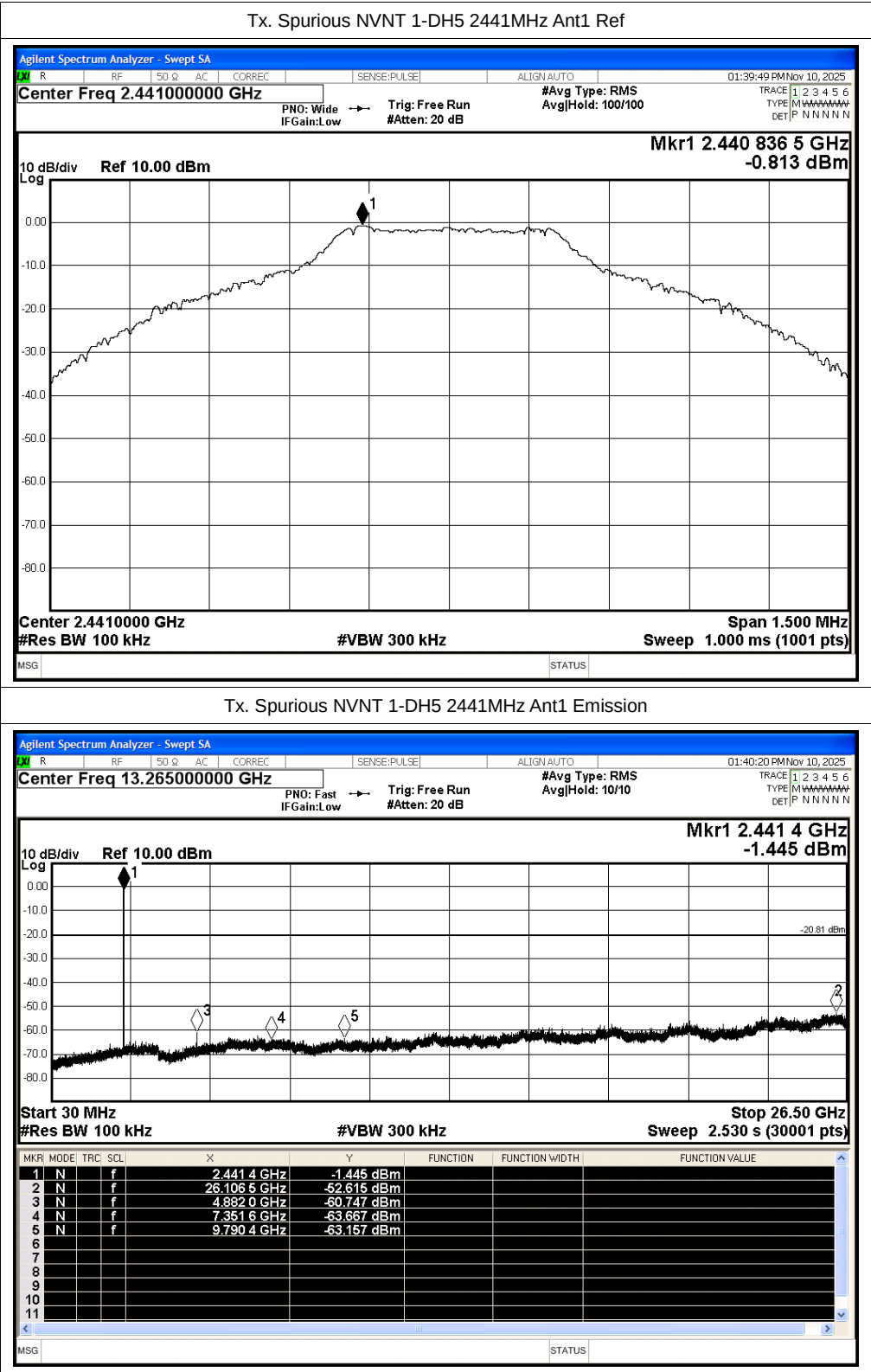


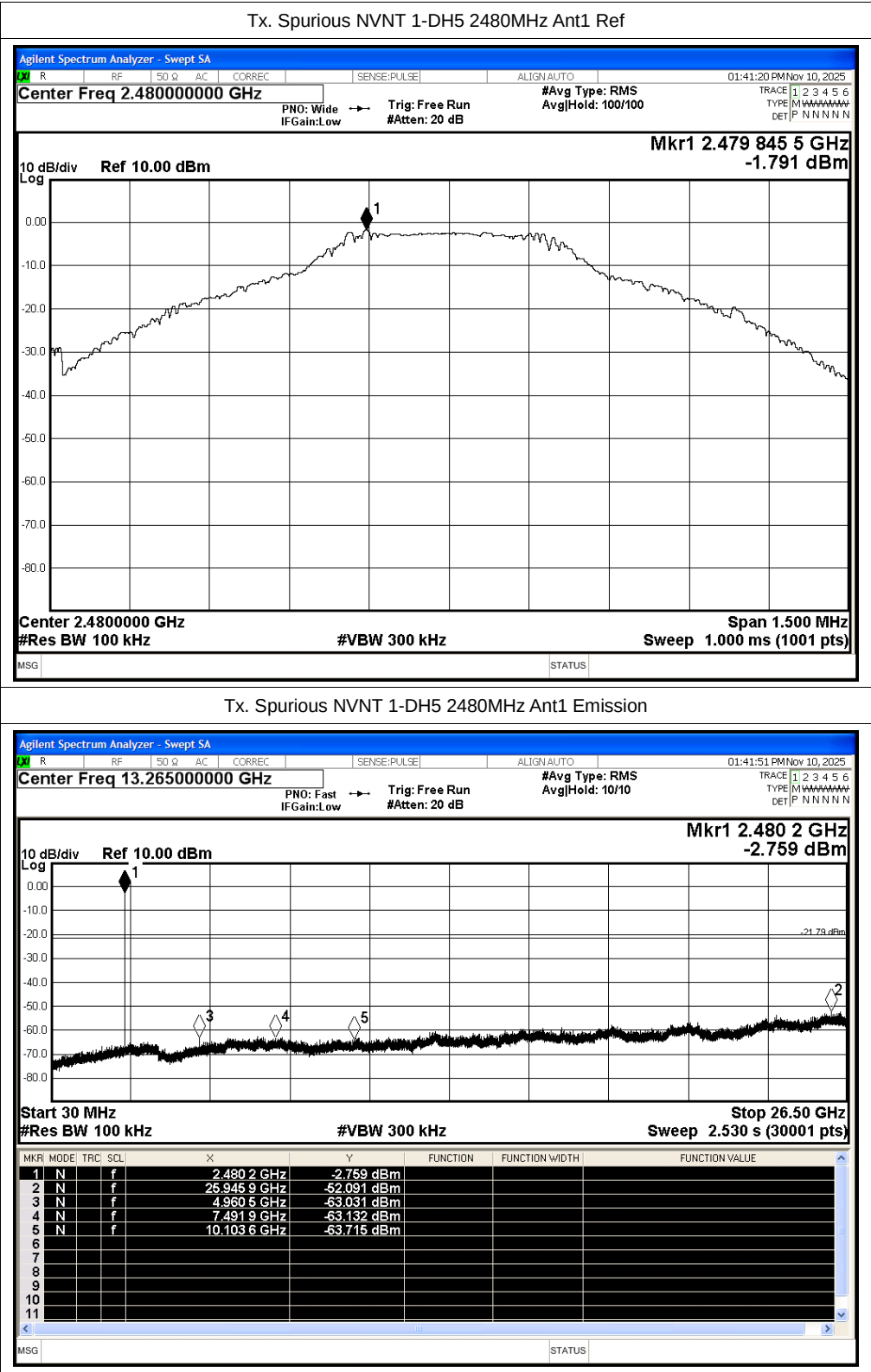


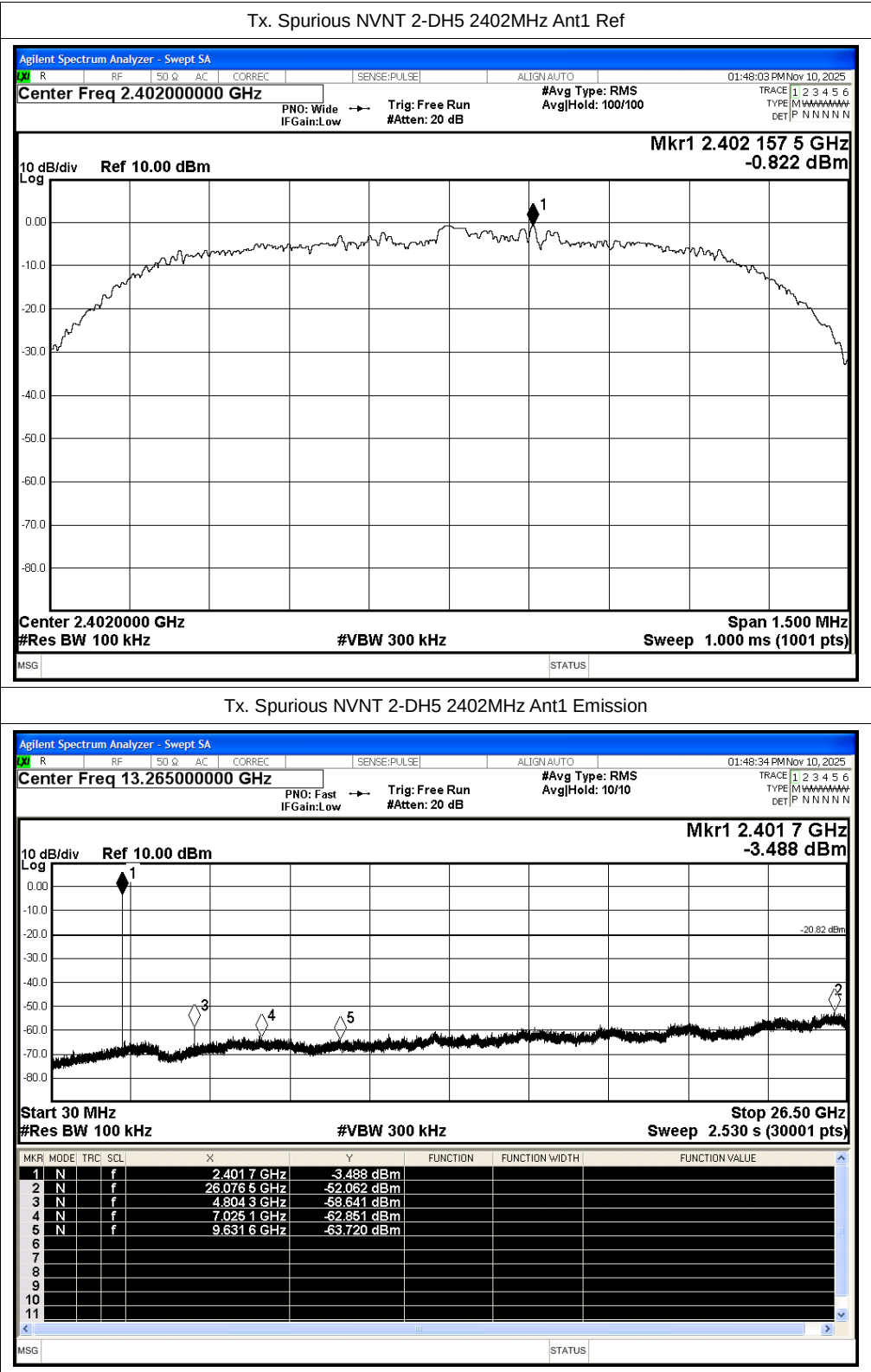
A.7 Conducted RF Spurious Emission

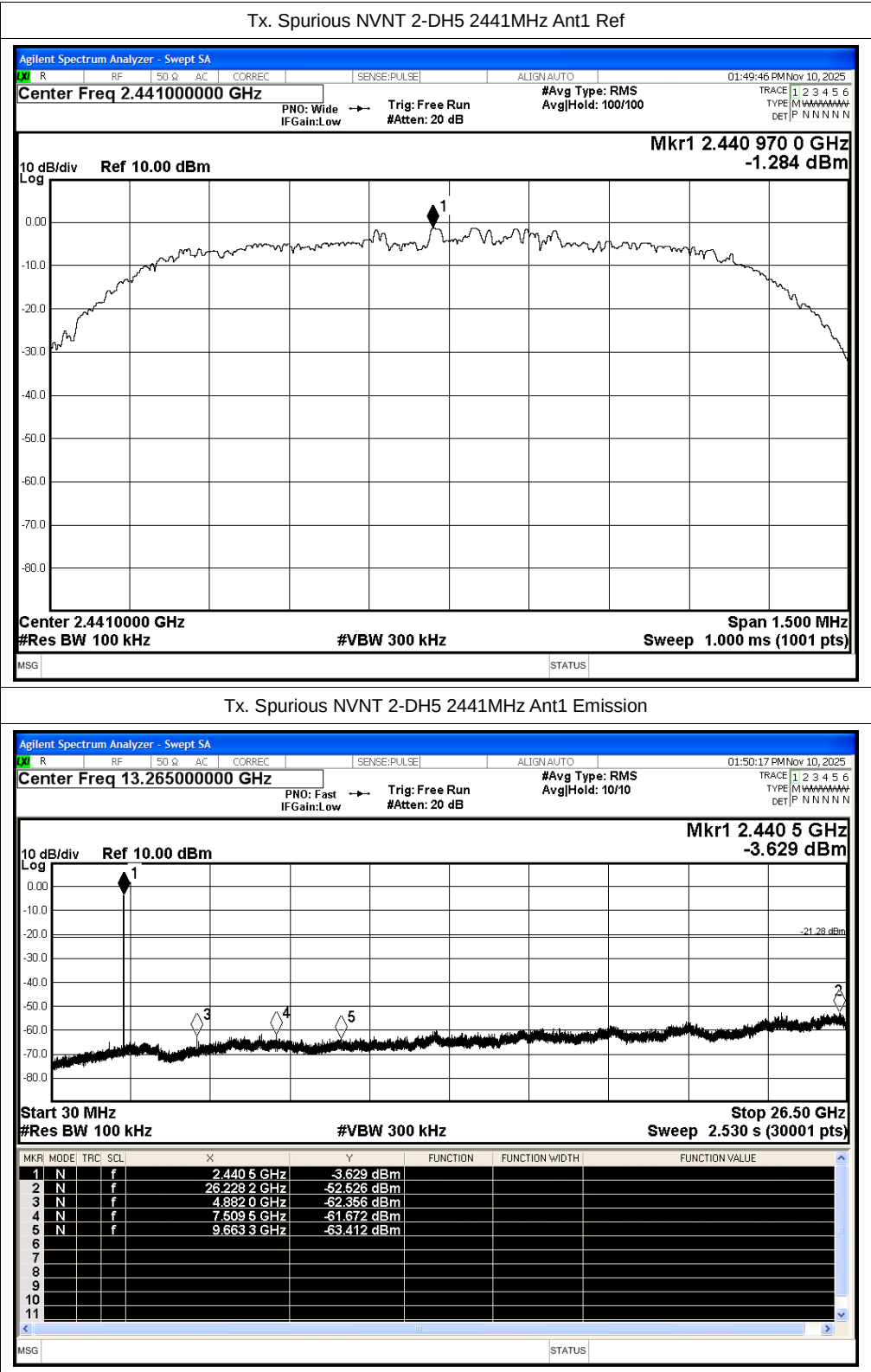
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-52.21	-20	Pass
NVNT	1-DH5	2441	Ant1	-51.8	-20	Pass
NVNT	1-DH5	2480	Ant1	-50.3	-20	Pass
NVNT	2-DH5	2402	Ant1	-51.24	-20	Pass
NVNT	2-DH5	2441	Ant1	-51.24	-20	Pass
NVNT	2-DH5	2480	Ant1	-50.47	-20	Pass
NVNT	3-DH5	2402	Ant1	-50.55	-20	Pass
NVNT	3-DH5	2441	Ant1	-51.5	-20	Pass
NVNT	3-DH5	2480	Ant1	-50.05	-20	Pass

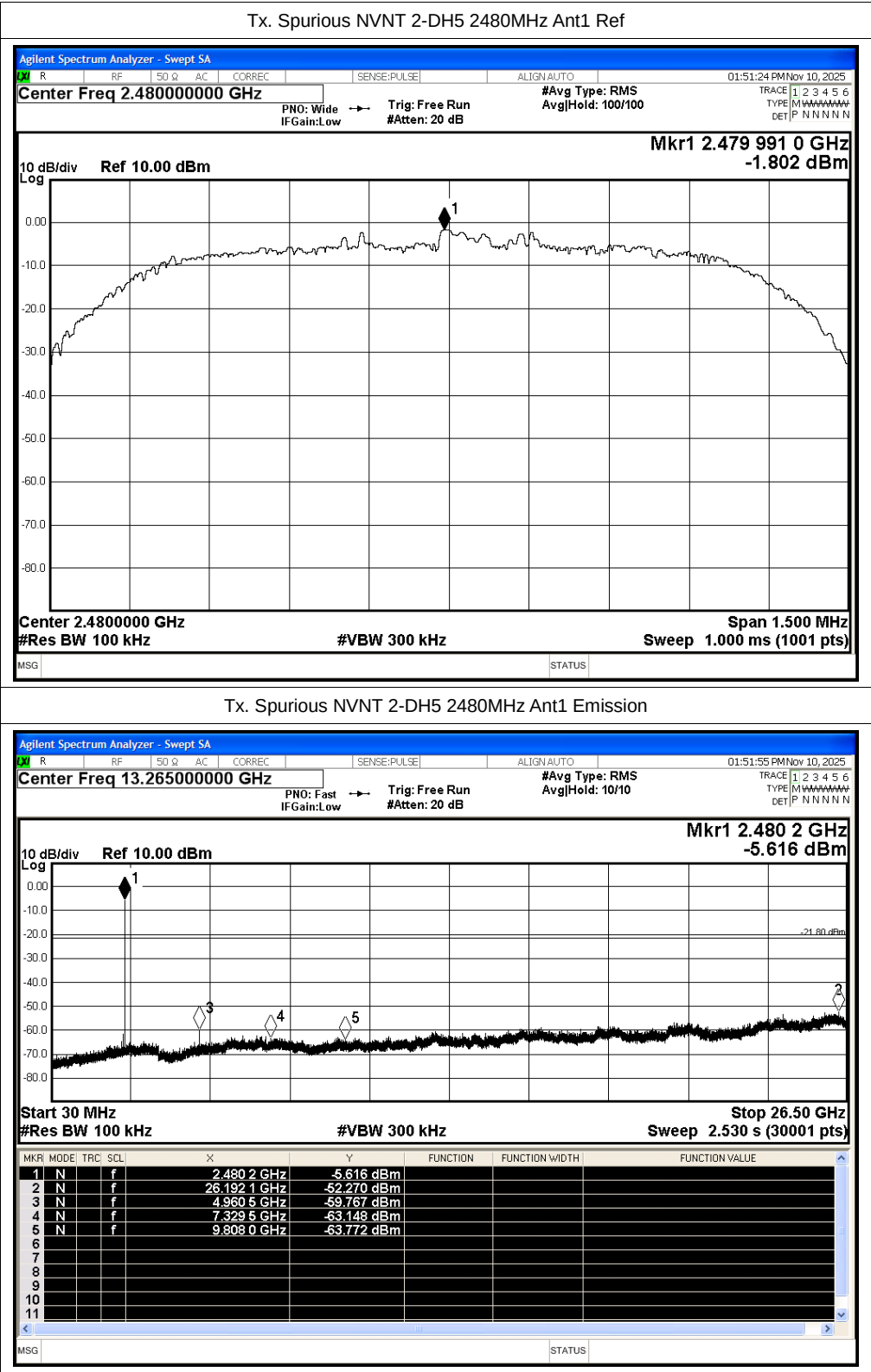


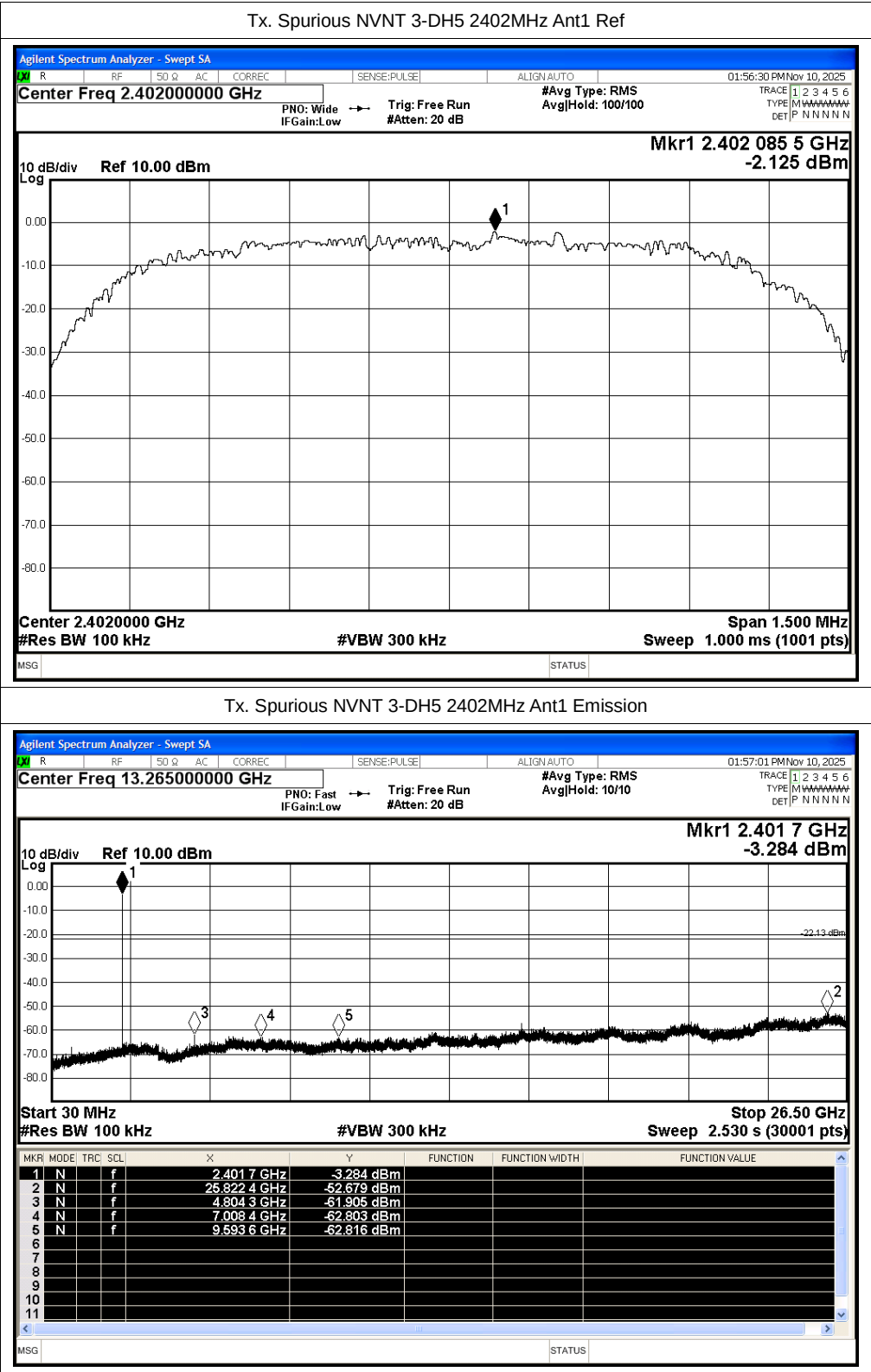


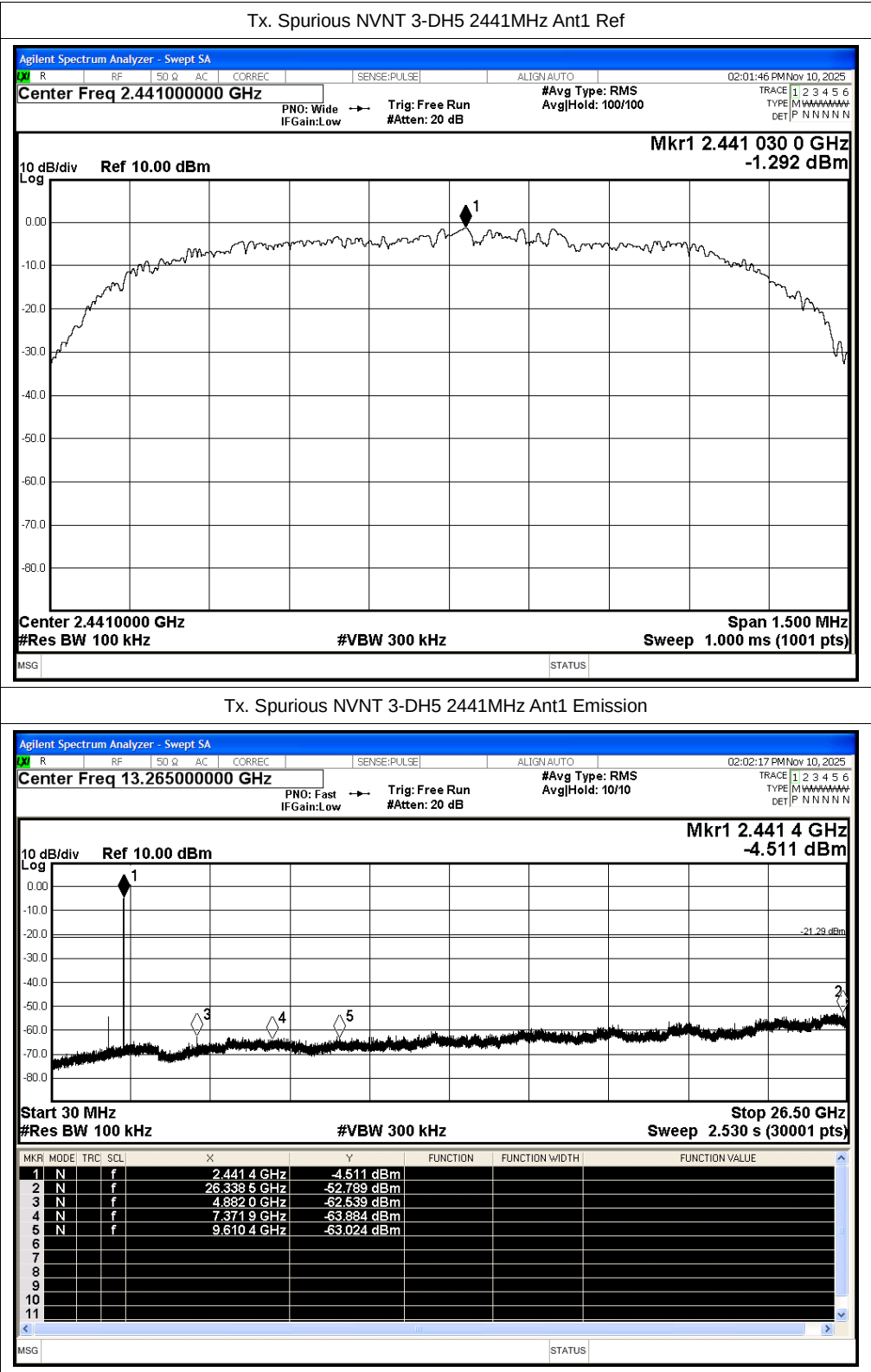


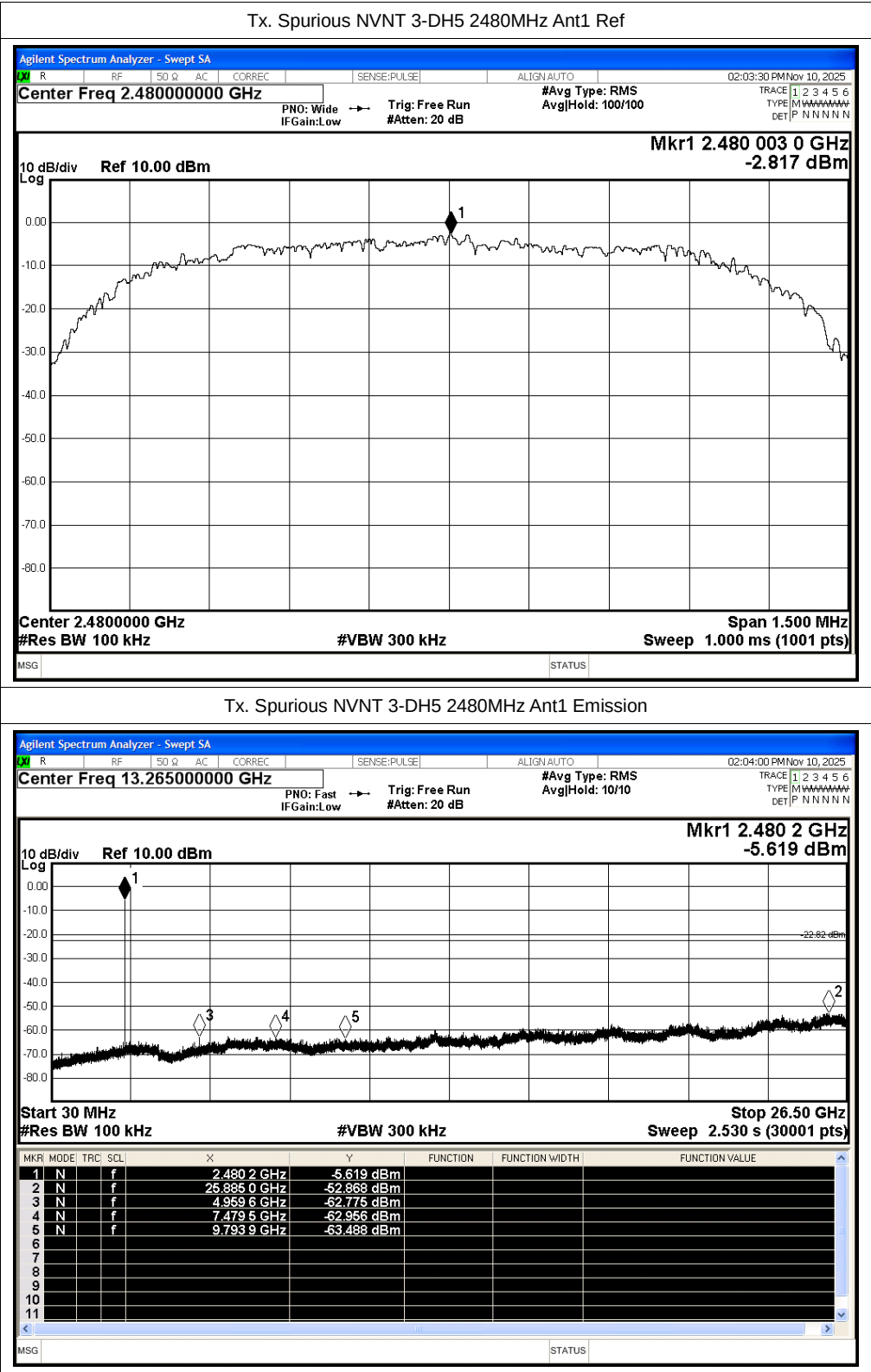






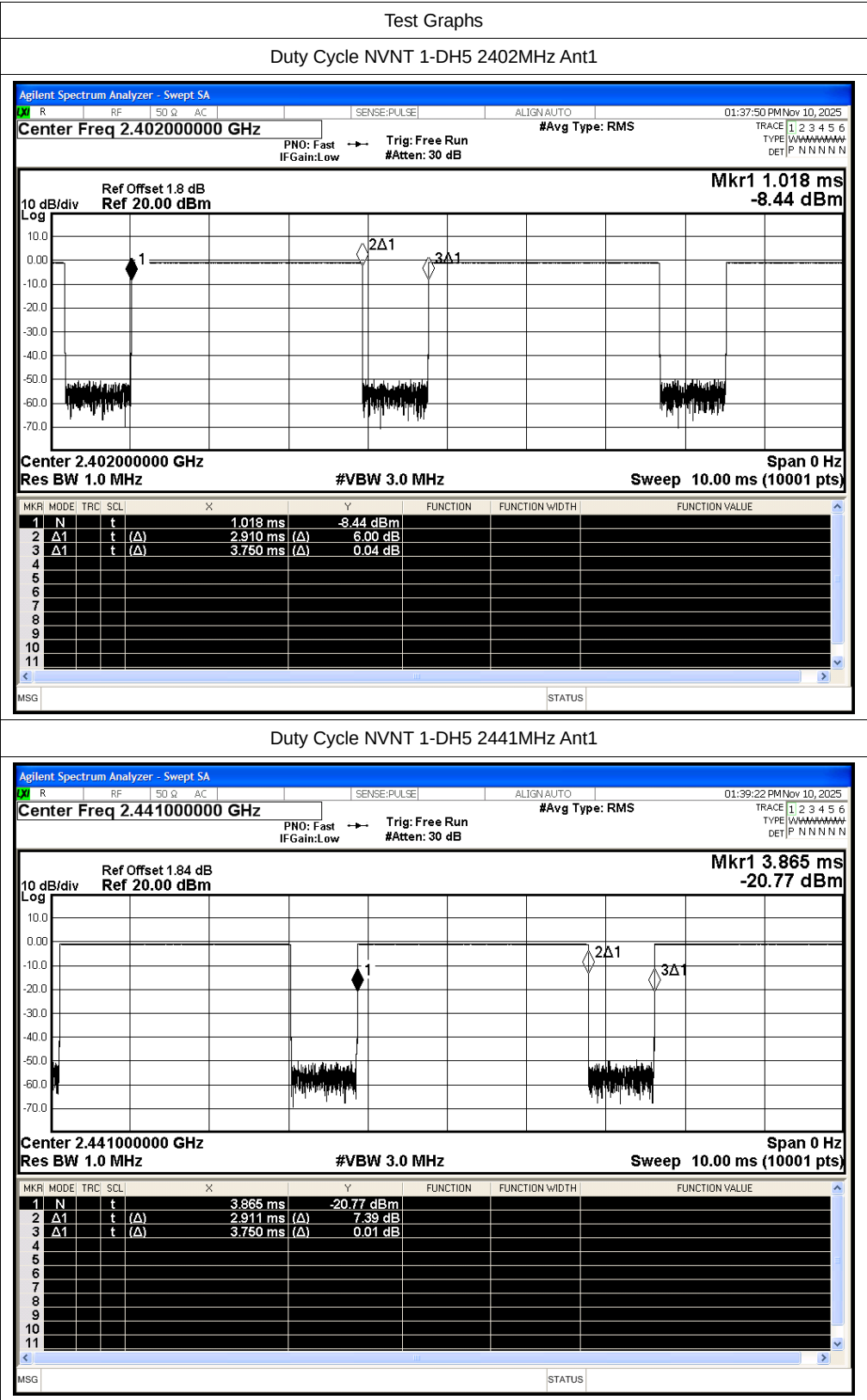


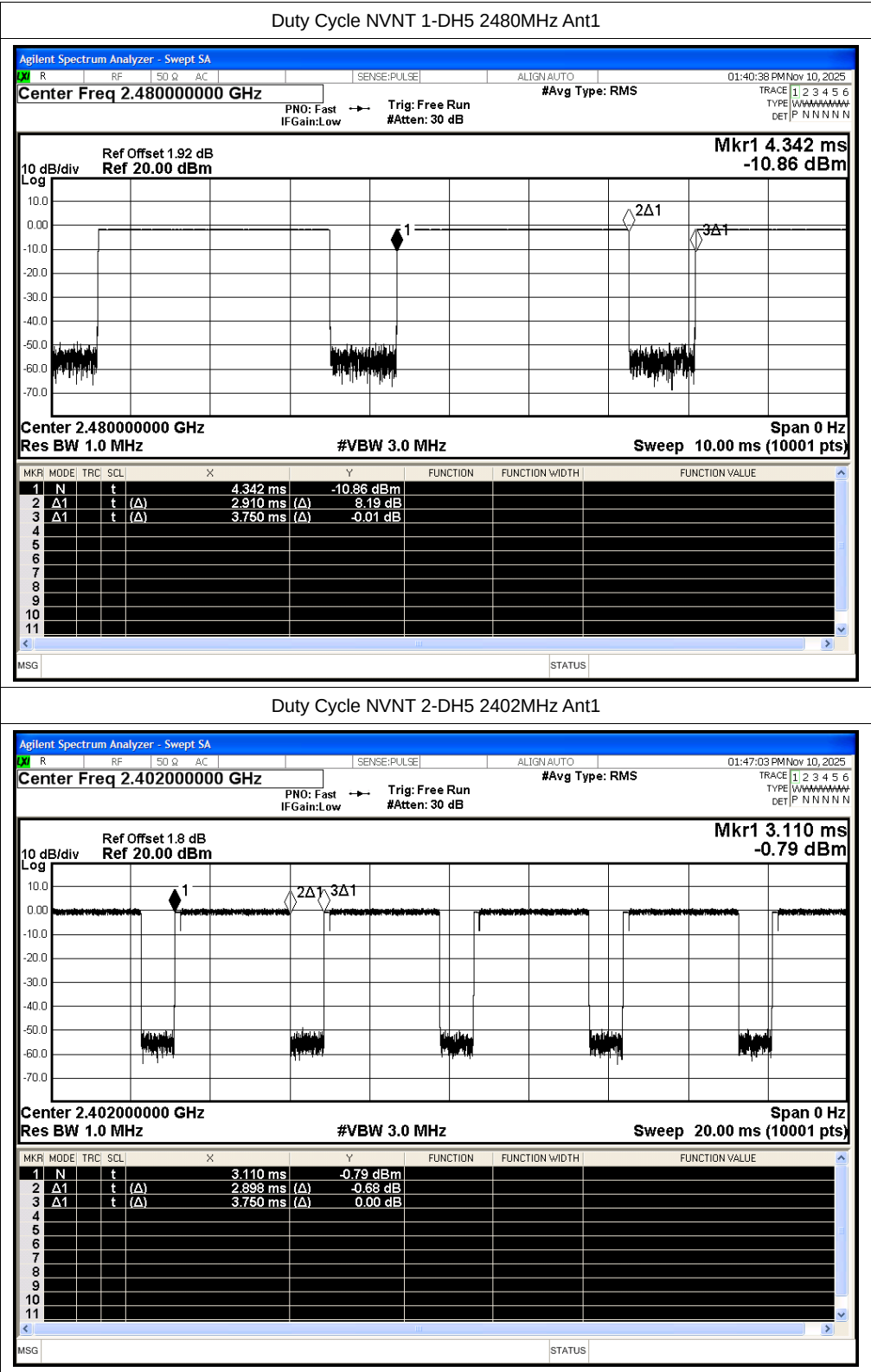


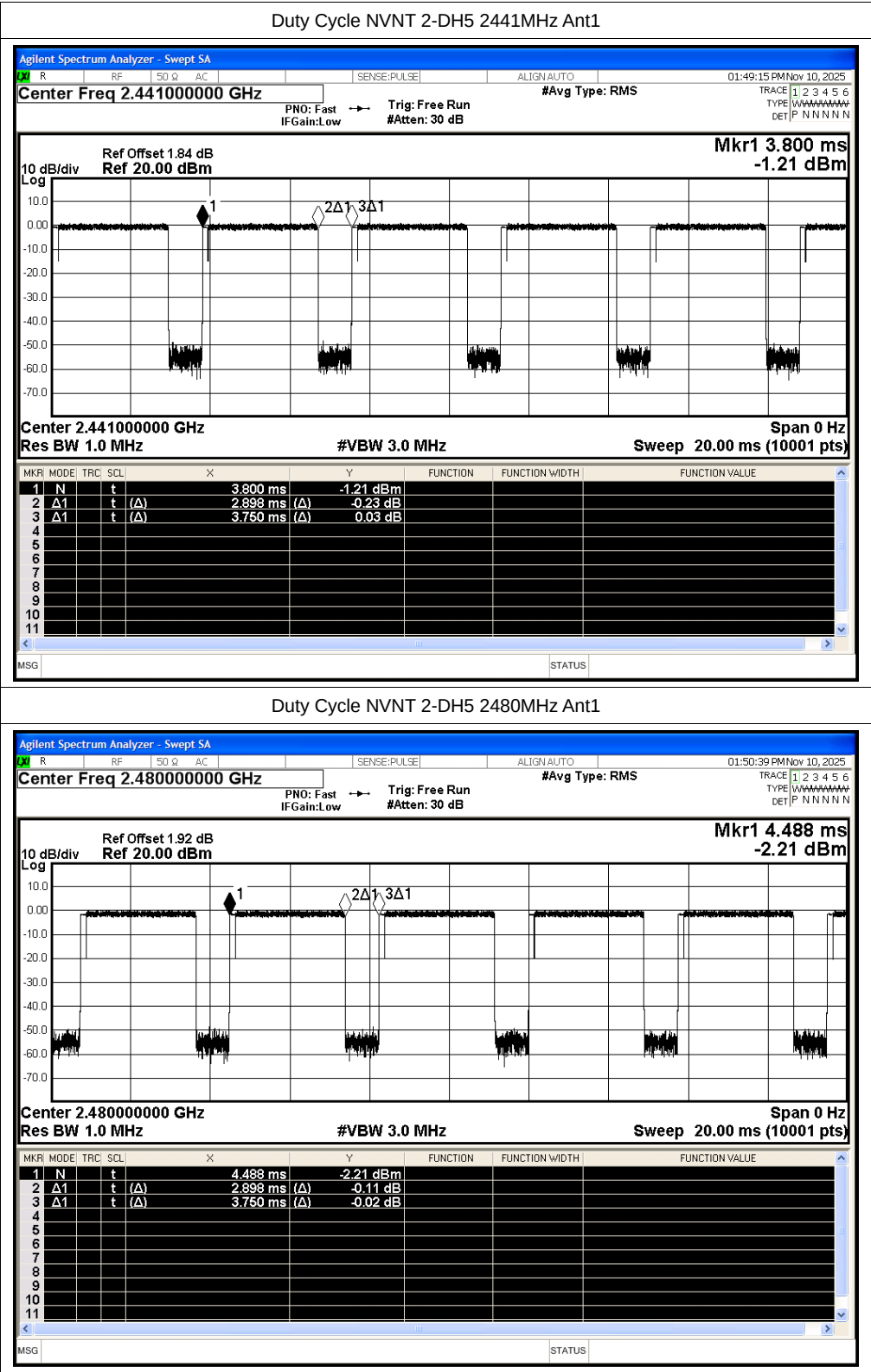


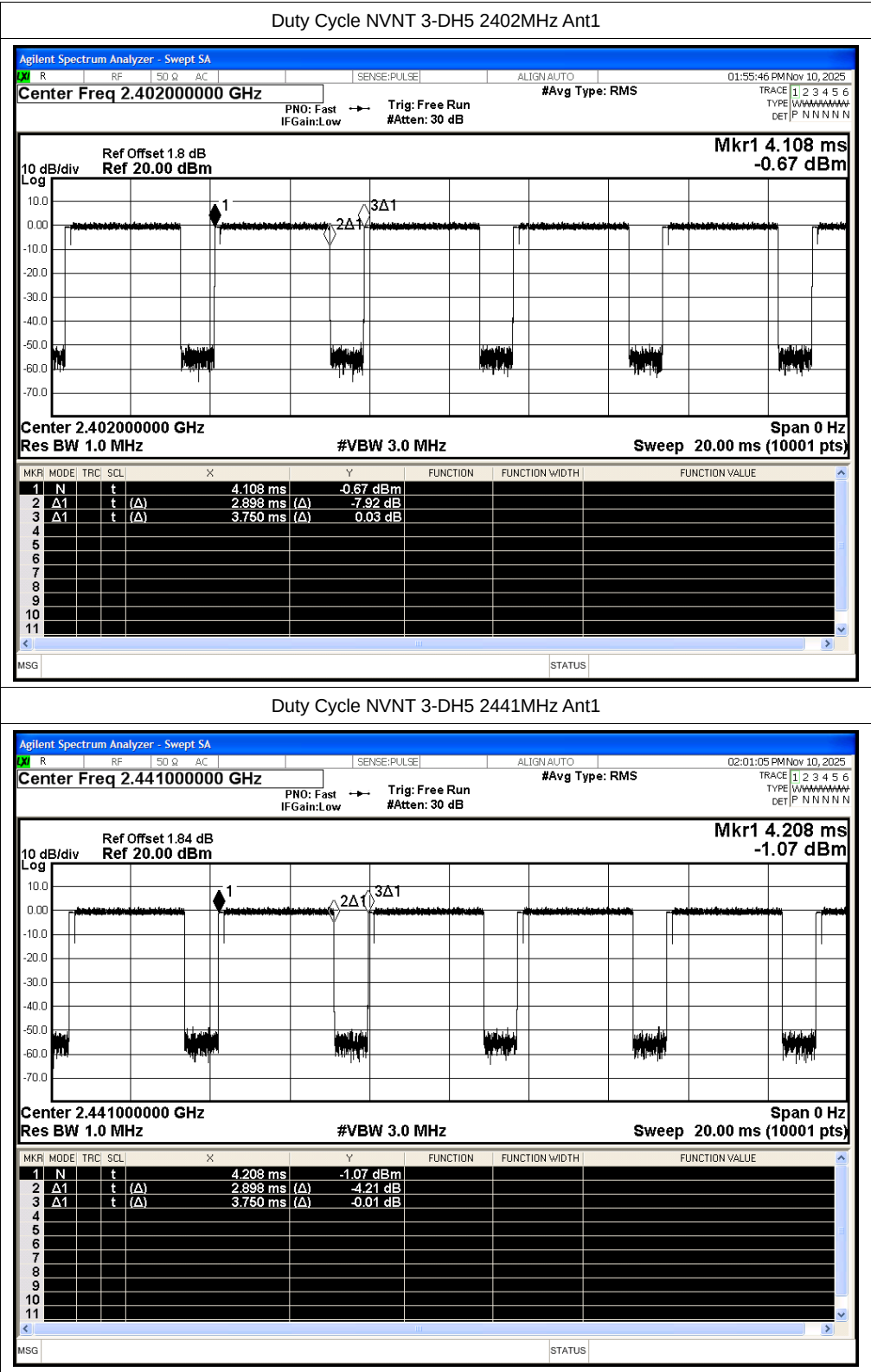
A.8 Duty Cycle

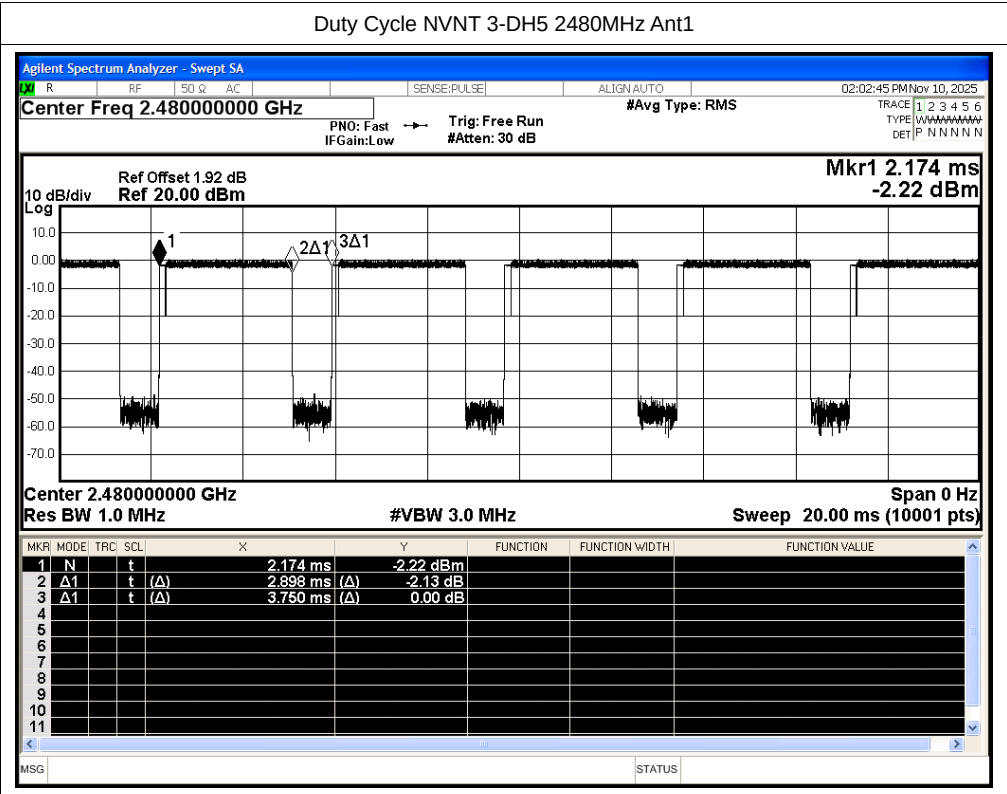
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35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





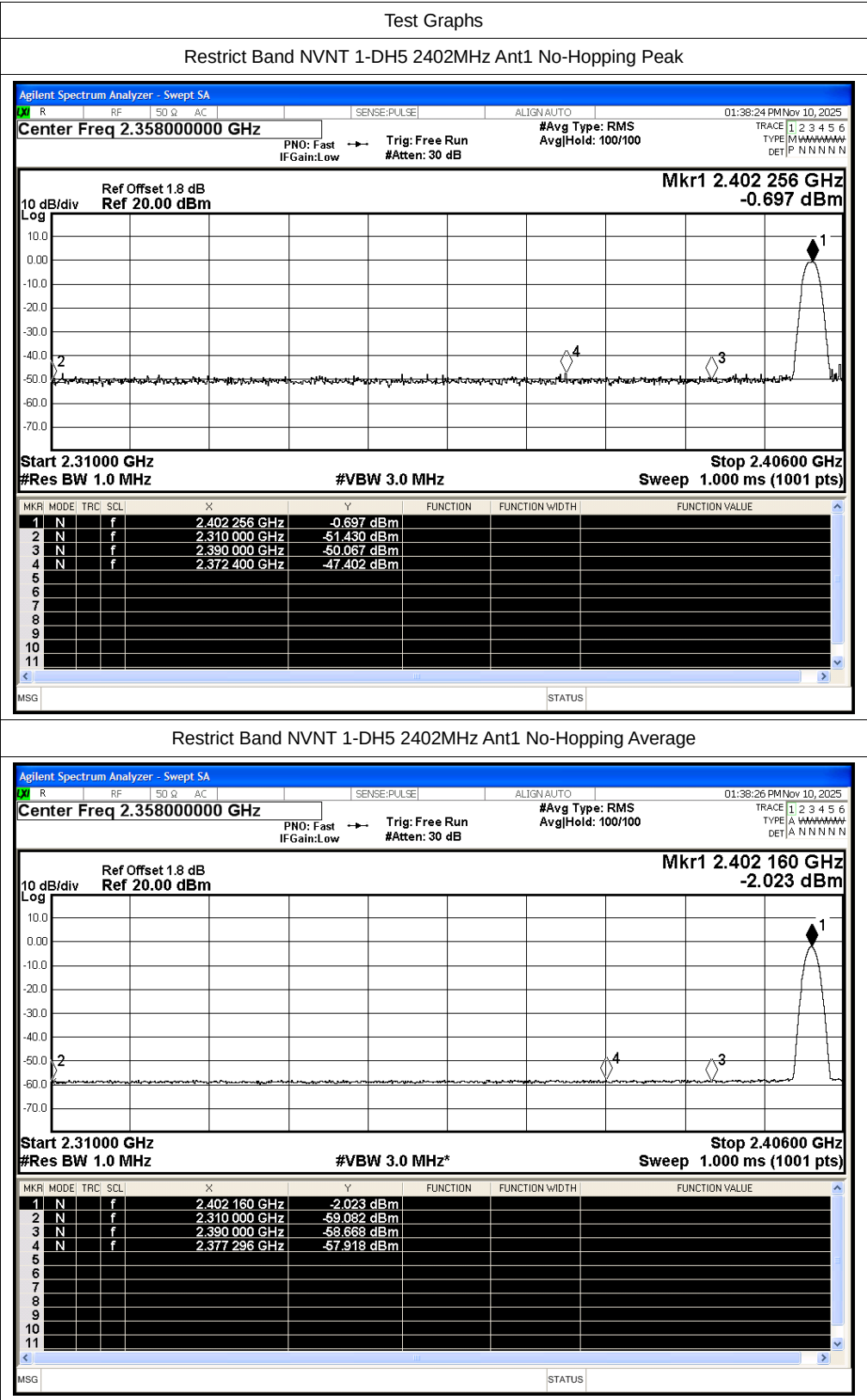


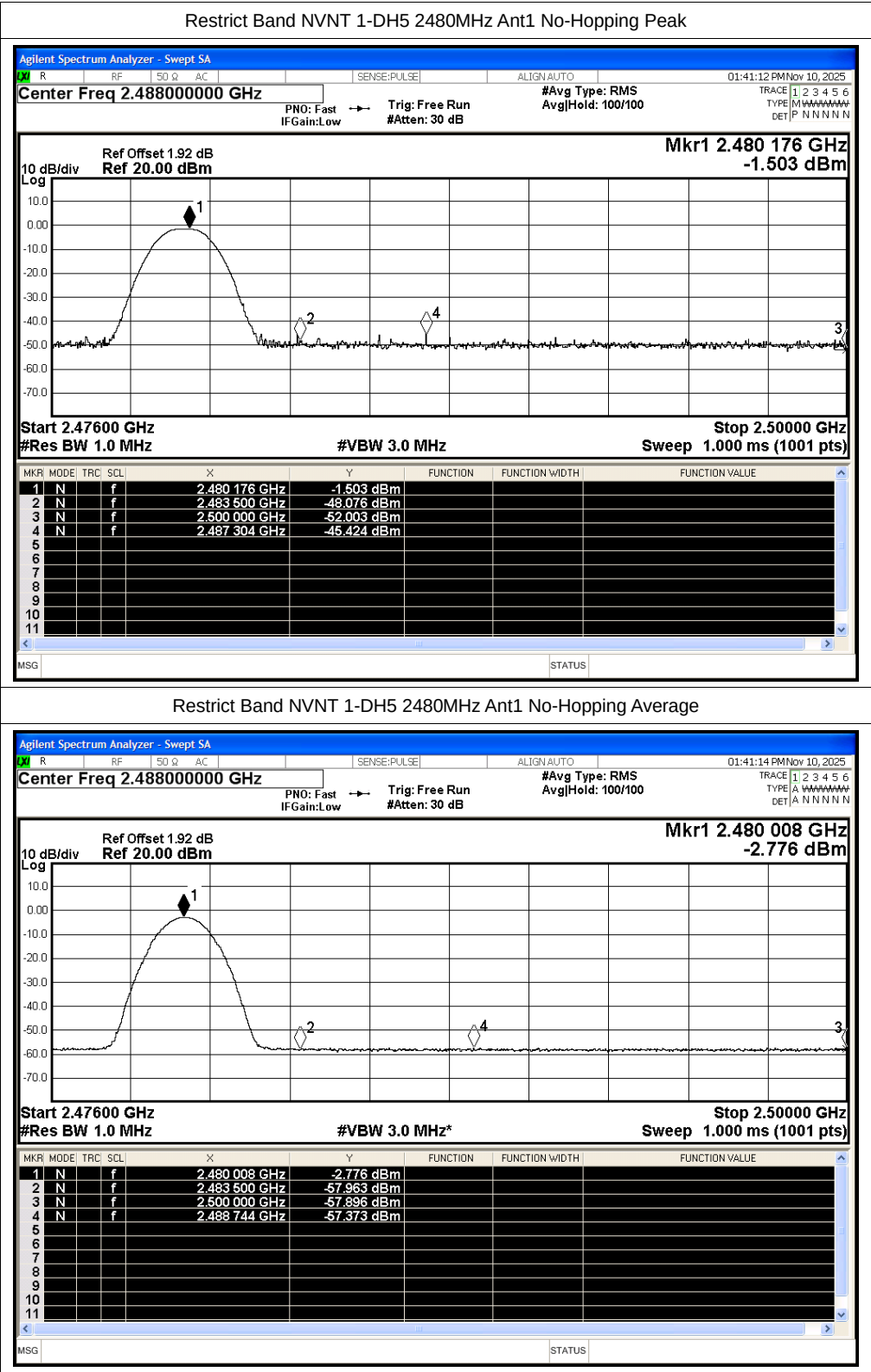




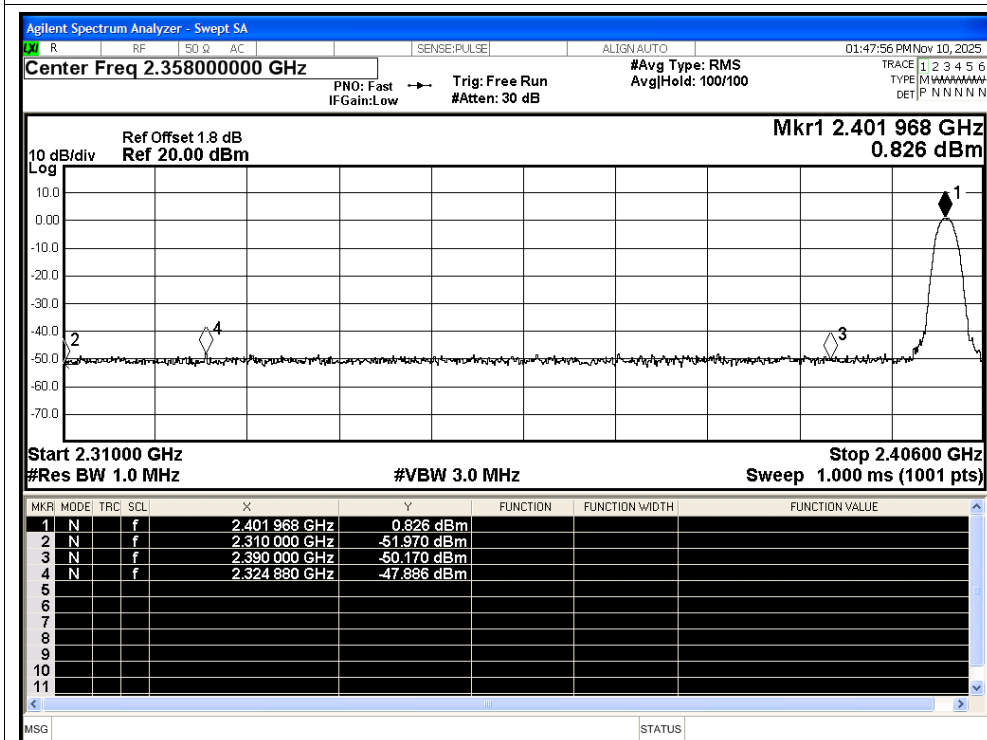
A.9 Restrict Band

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	-51.43	2	-	45.83	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-59.08	2	1.1	39.28	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2372.4	-47.4	2	-	49.86	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.296	-57.92	2	1.1	40.44	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	-58.67	2	1.1	39.69	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.08	2	-	49.18	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.96	2	1.1	40.4	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2487.304	-45.42	2	-	51.84	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2488.744	-57.37	2	1.1	40.99	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-52	2	-	45.26	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.9	2	1.1	40.46	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.97	2	-	45.29	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.06	2	1.12	39.32	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2324.88	-47.89	2	-	49.37	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2388.816	-57.93	2	1.12	40.45	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.17	2	-	47.09	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.86	2	1.12	39.52	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.45	2	-	47.81	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.04	2	1.12	40.34	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2492.128	-47.48	2	-	49.78	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.496	-57.35	2	1.12	41.03	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.14	2	-	47.12	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.1	2	1.12	40.28	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.88	2	-	45.38	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.97	2	1.12	39.41	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2349.264	-47.5	2	-	49.76	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2358.192	-57.89	2	1.12	40.49	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.68	2	-	46.58	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-59.08	2	1.12	39.3	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.3	2	-	47.96	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.22	2	1.12	41.16	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.816	-45.8	2	-	51.46	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.536	-56.47	2	1.12	41.91	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.16	2	-	48.1	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.18	2	1.12	40.2	Average	54	Pass





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



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

