

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: WIRELESS SPEAKER

Test Model: ZEALOT-S78

Environmental Conditions

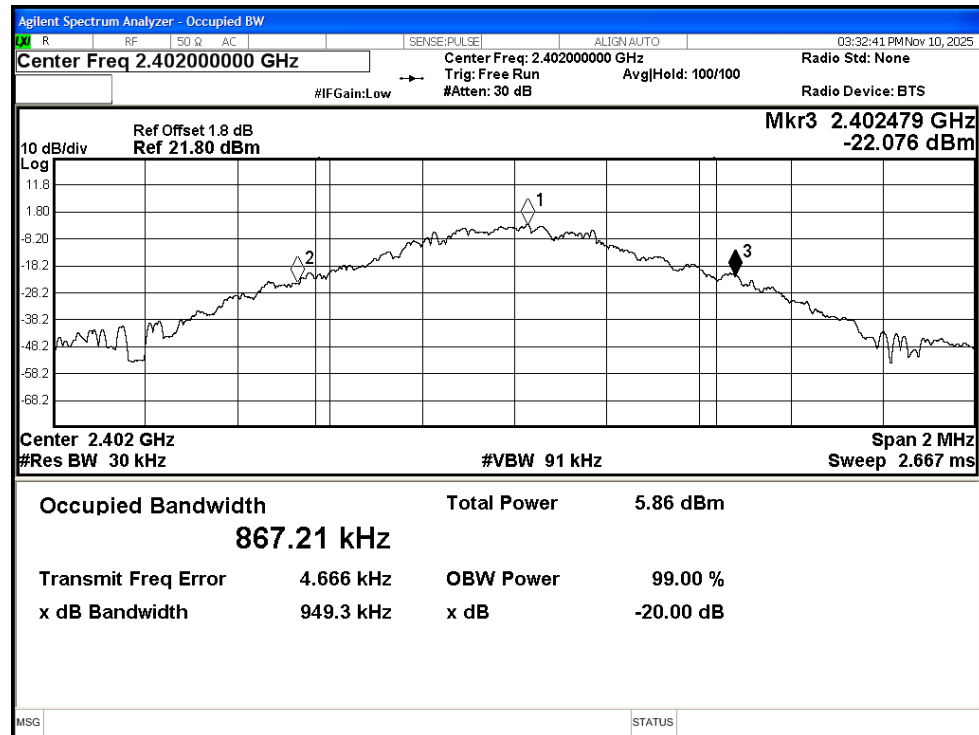
Temperature:	23.8°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 -20dB Bandwidth

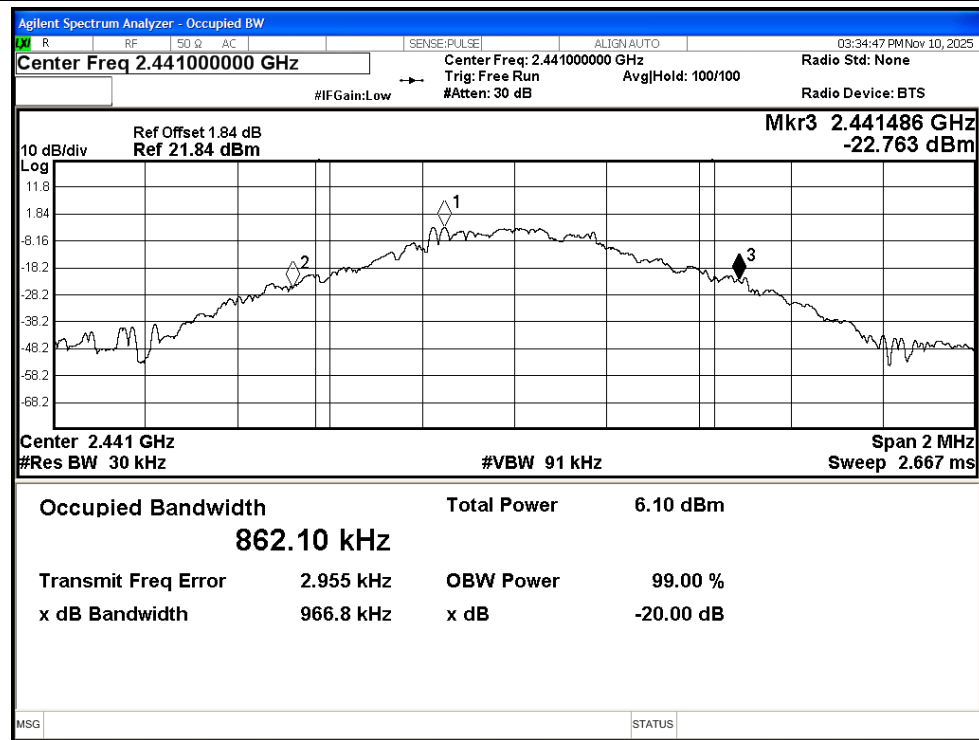
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.949	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.967	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.955	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.285	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.285	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.298	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.296	N/A	Pass

Test Graphs

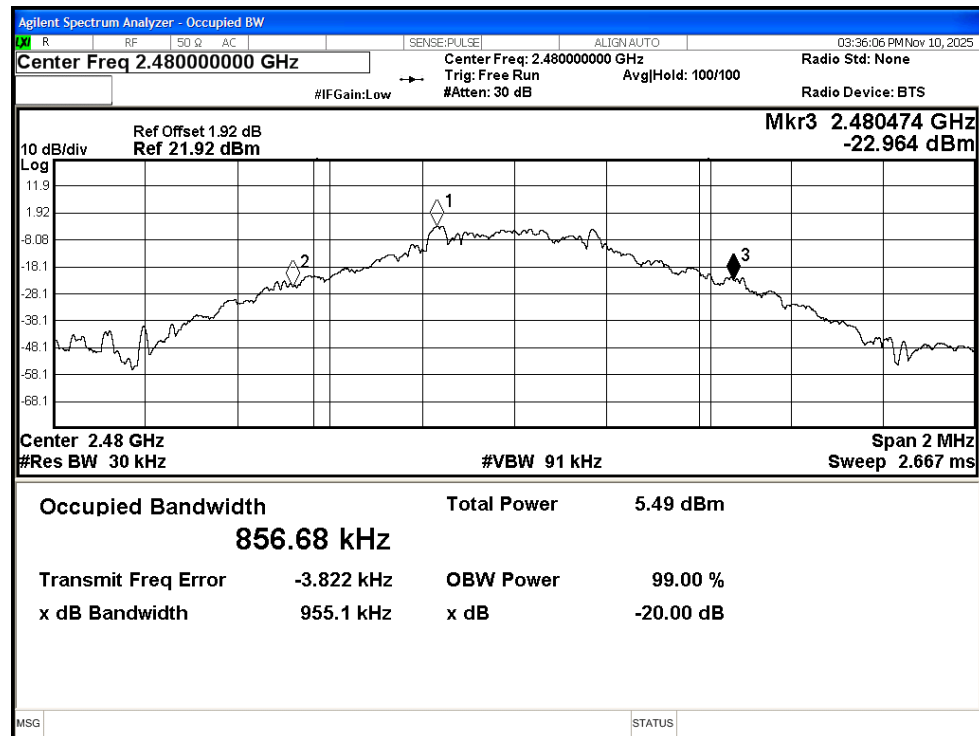
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



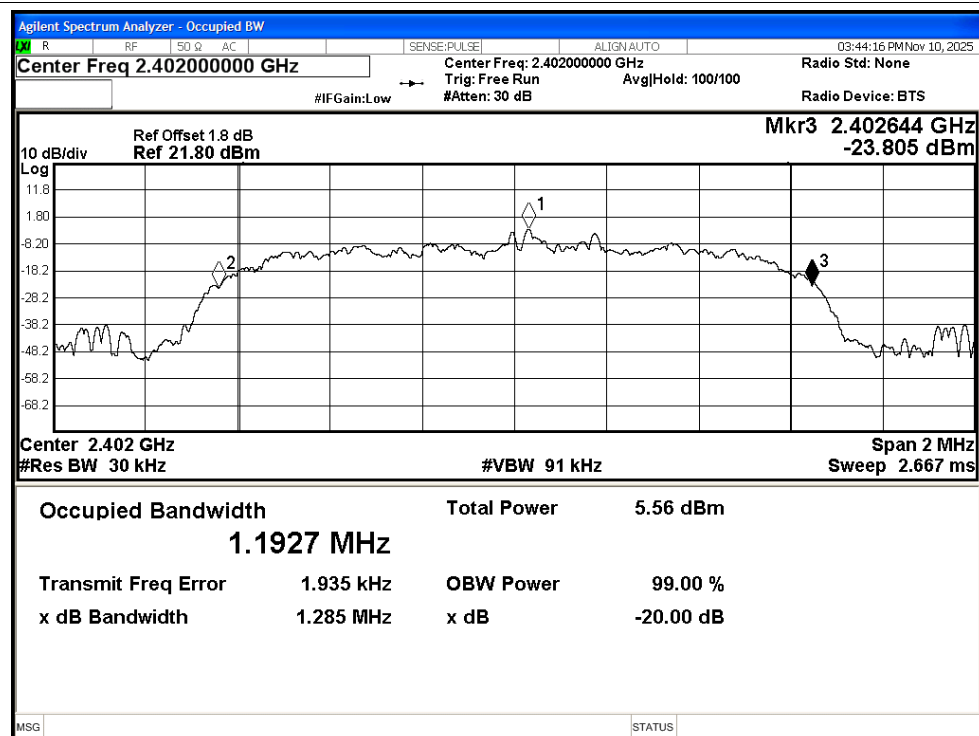
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



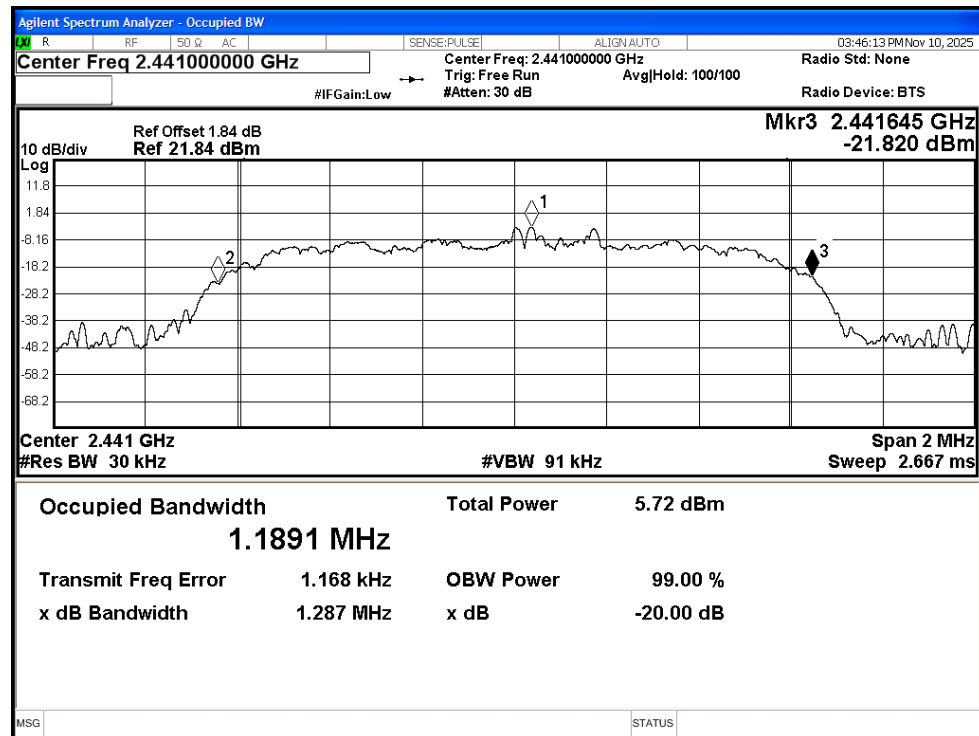
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



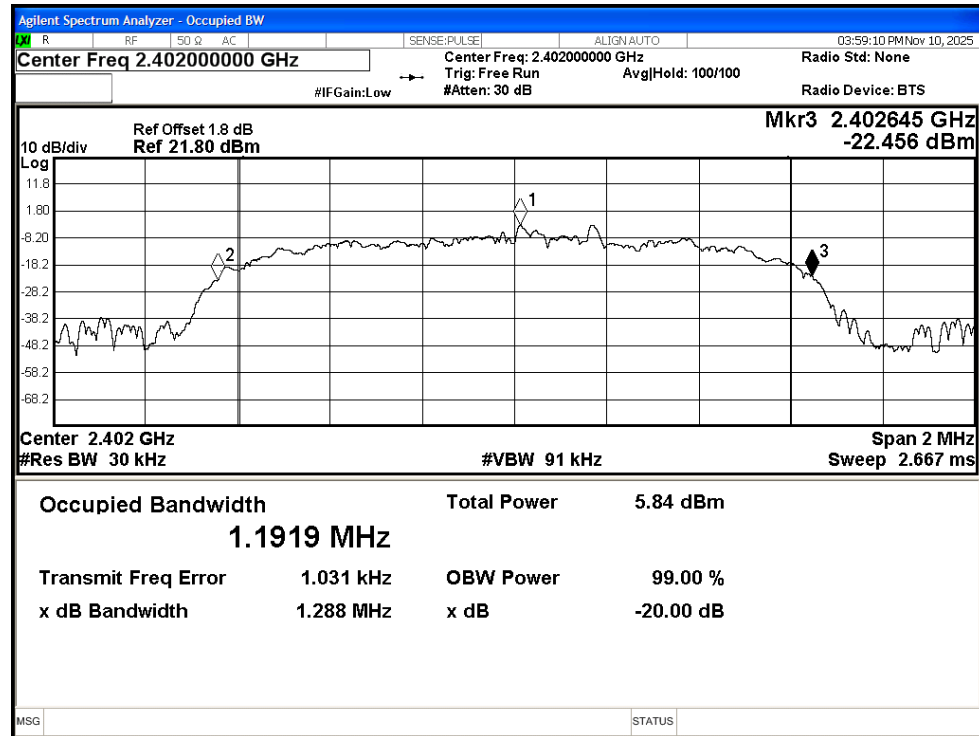
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



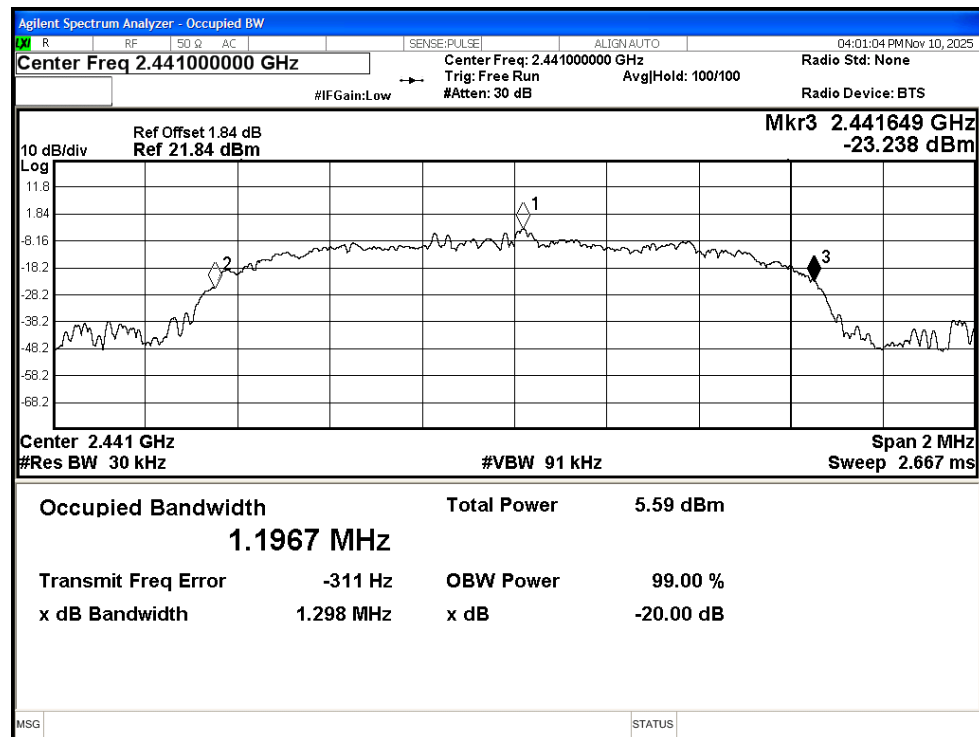
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

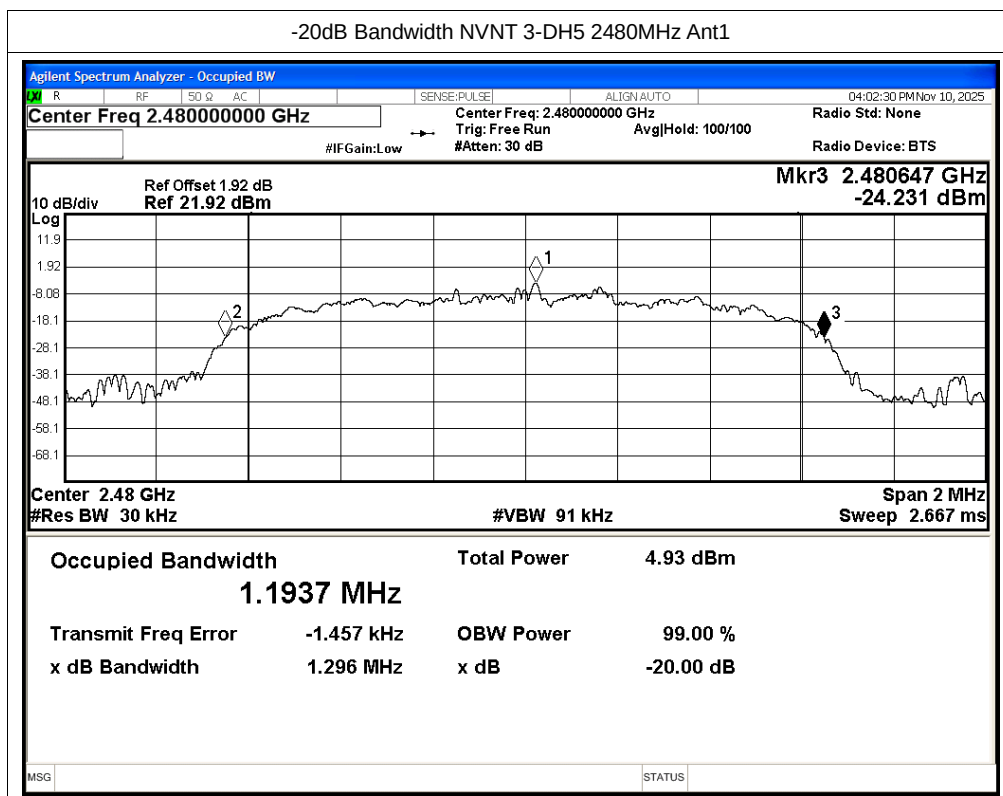


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



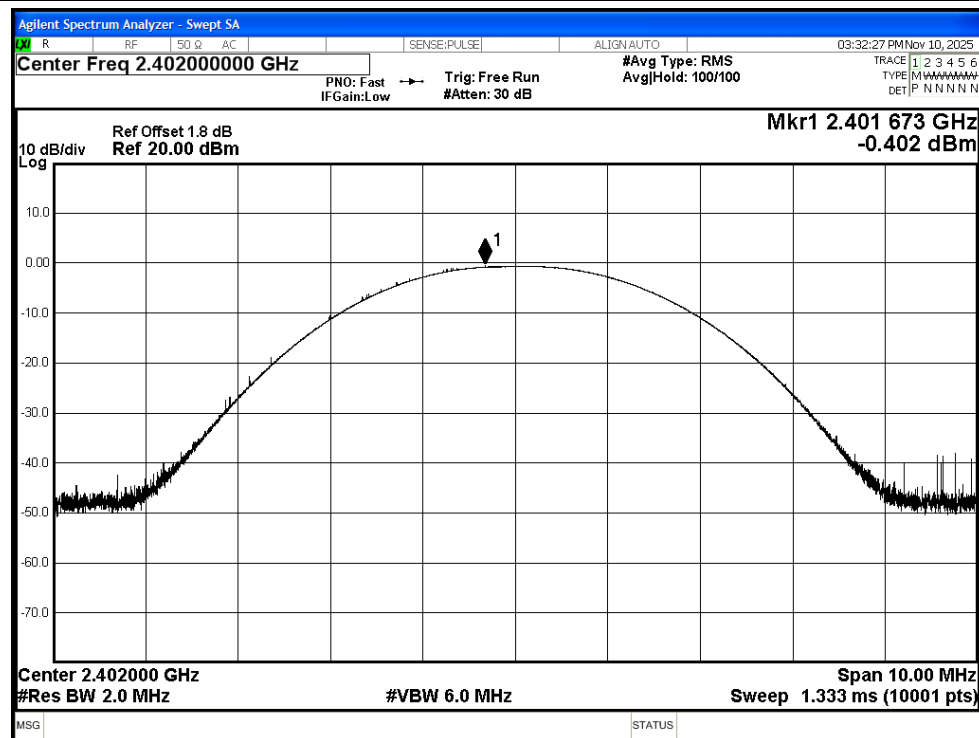


A.2 Maximum Peak Conducted Output Power

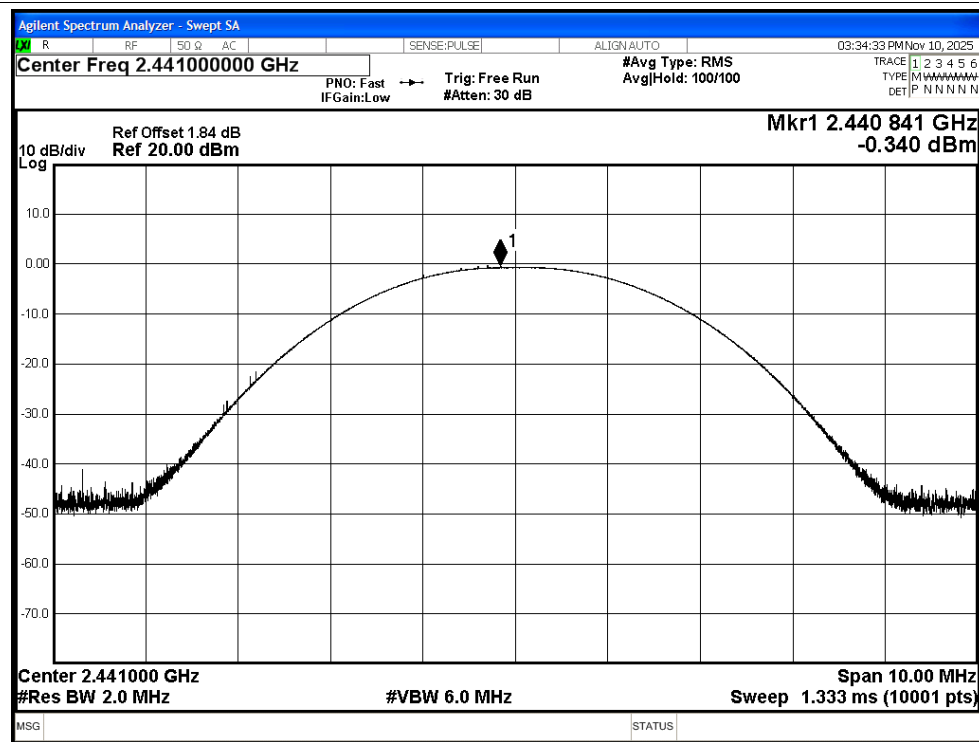
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.4	21	Pass
NVNT	1-DH5	2441	Ant1	-0.34	21	Pass
NVNT	1-DH5	2480	Ant1	-1.1	21	Pass
NVNT	2-DH5	2402	Ant1	1.41	21	Pass
NVNT	2-DH5	2441	Ant1	1.44	21	Pass
NVNT	2-DH5	2480	Ant1	0.61	21	Pass
NVNT	3-DH5	2402	Ant1	1.78	21	Pass
NVNT	3-DH5	2441	Ant1	1.84	21	Pass
NVNT	3-DH5	2480	Ant1	1	21	Pass

Test Graphs

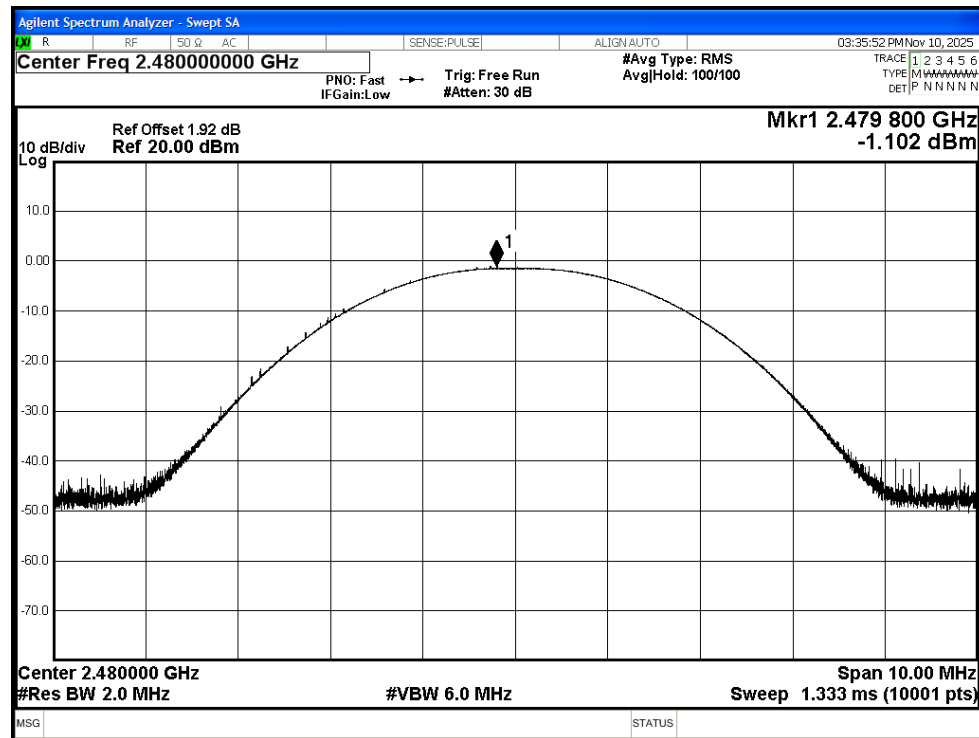
Power NVNT 1-DH5 2402MHz Ant1



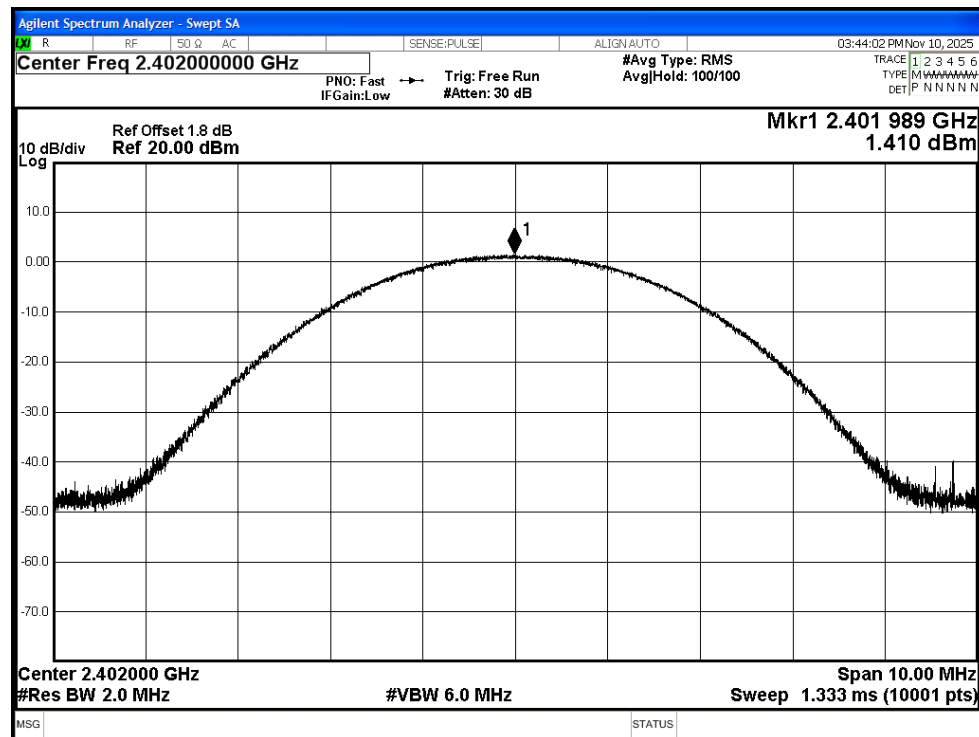
Power NVNT 1-DH5 2441MHz Ant1

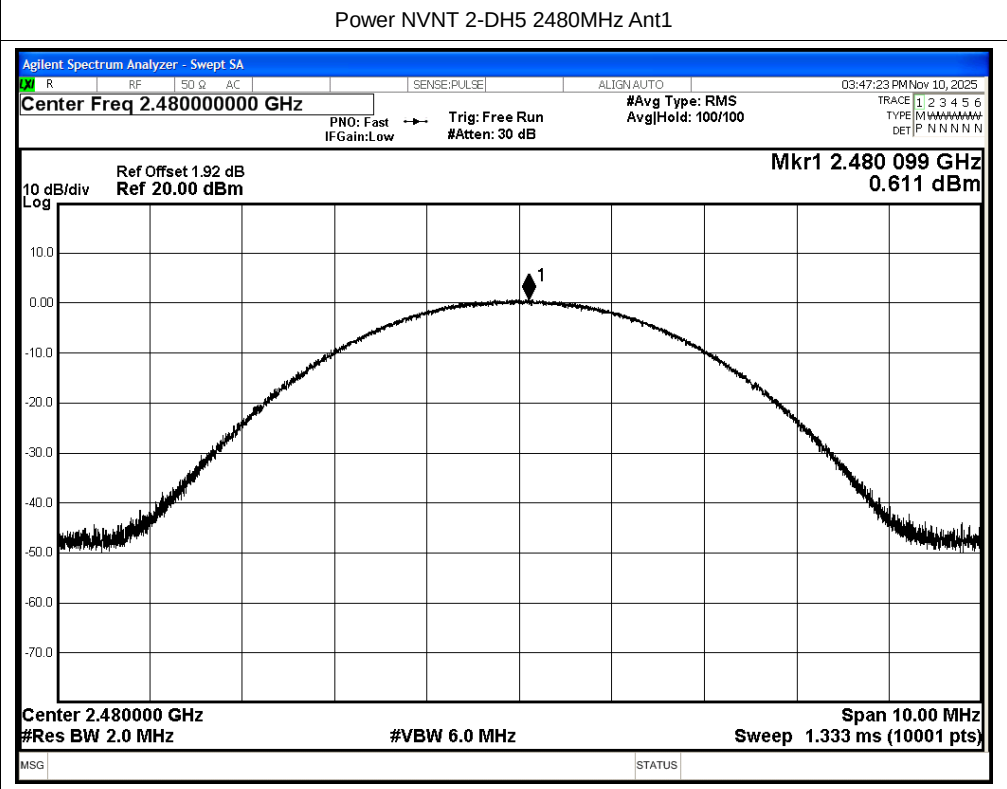
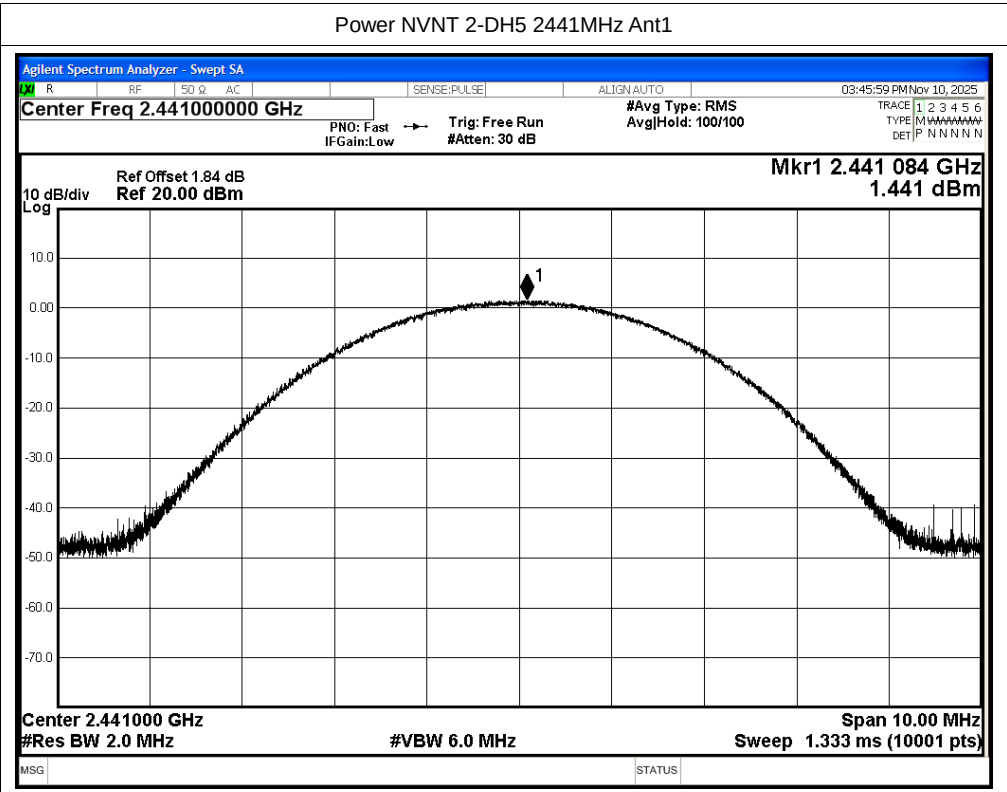


Power NVNT 1-DH5 2480MHz Ant1

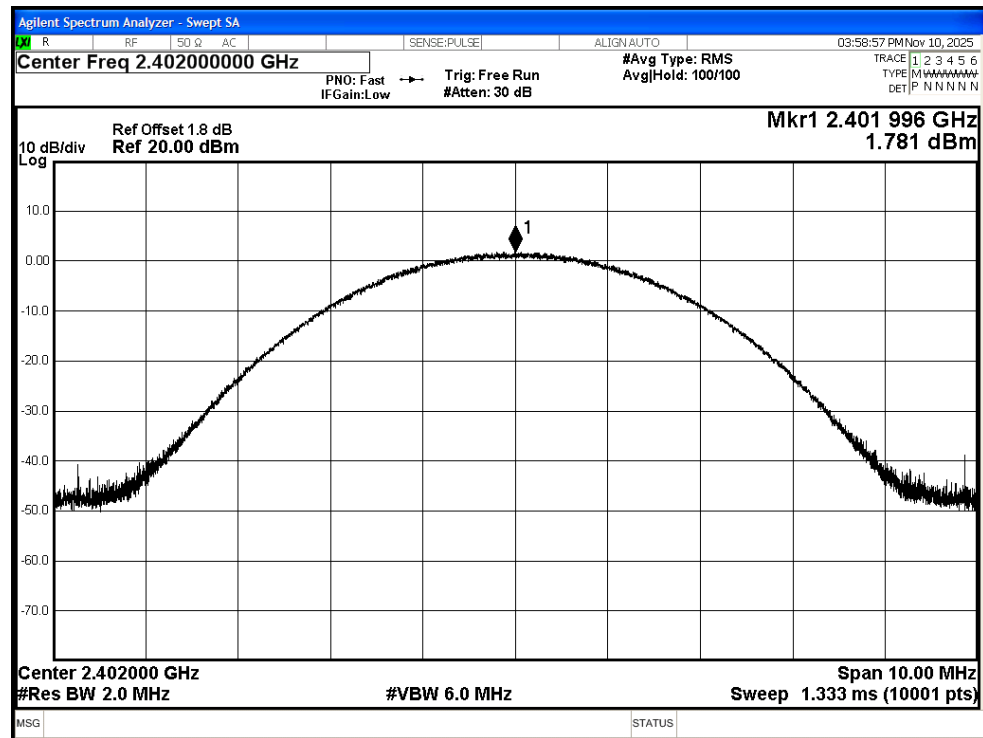


Power NVNT 2-DH5 2402MHz Ant1

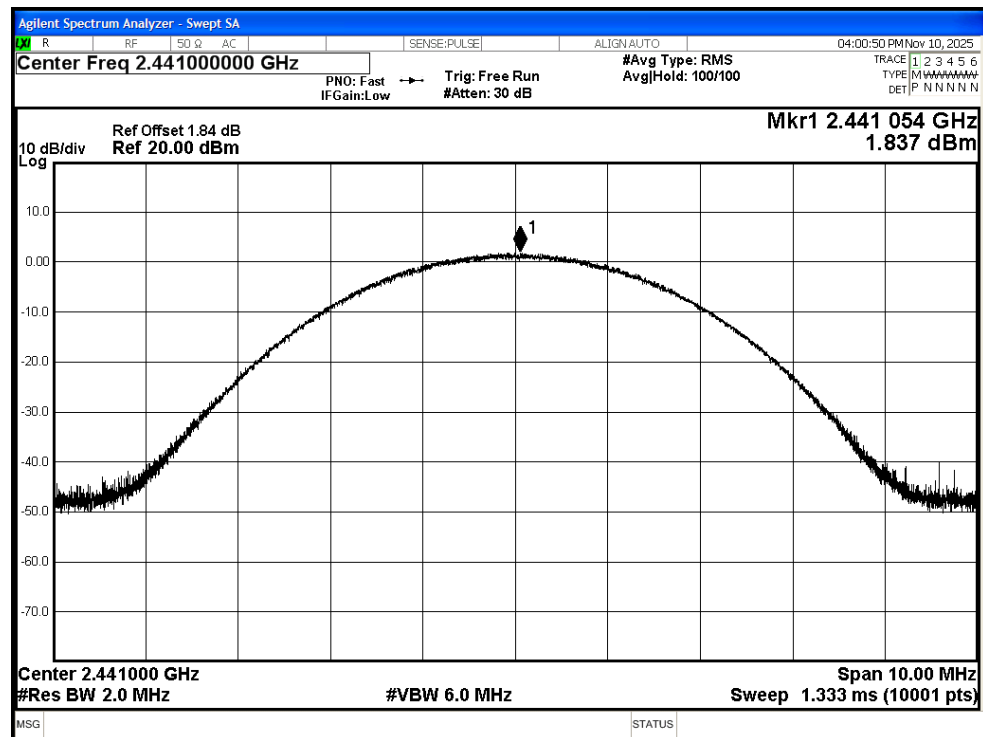


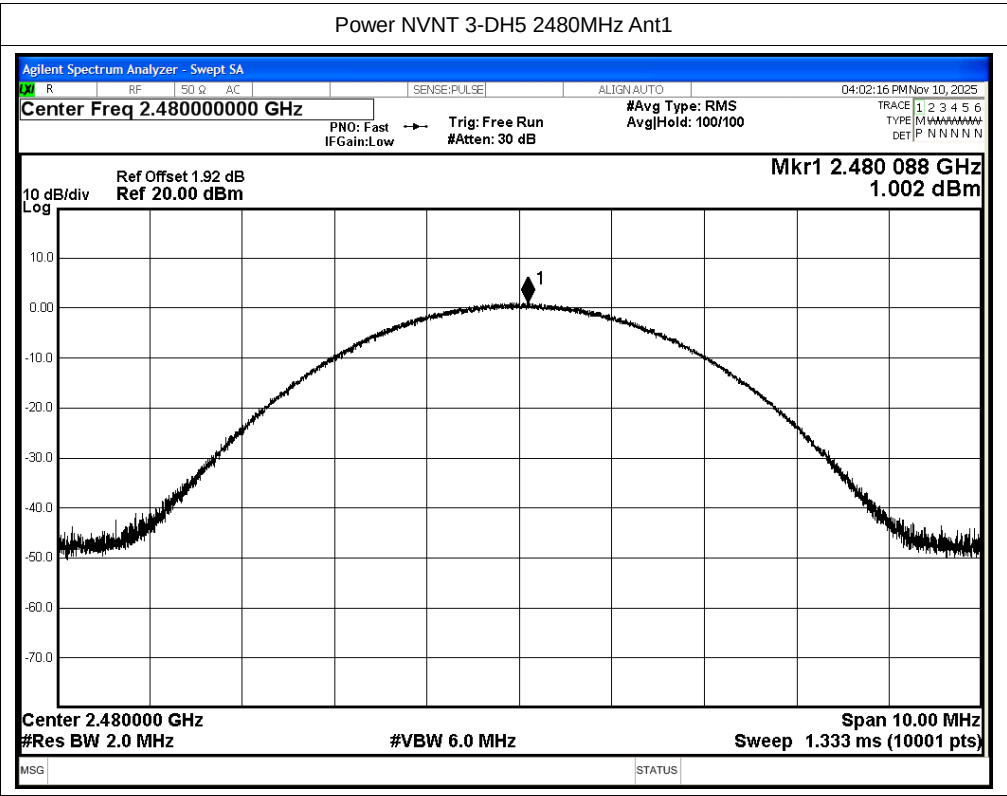


Power NVNT 3-DH5 2402MHz Ant1



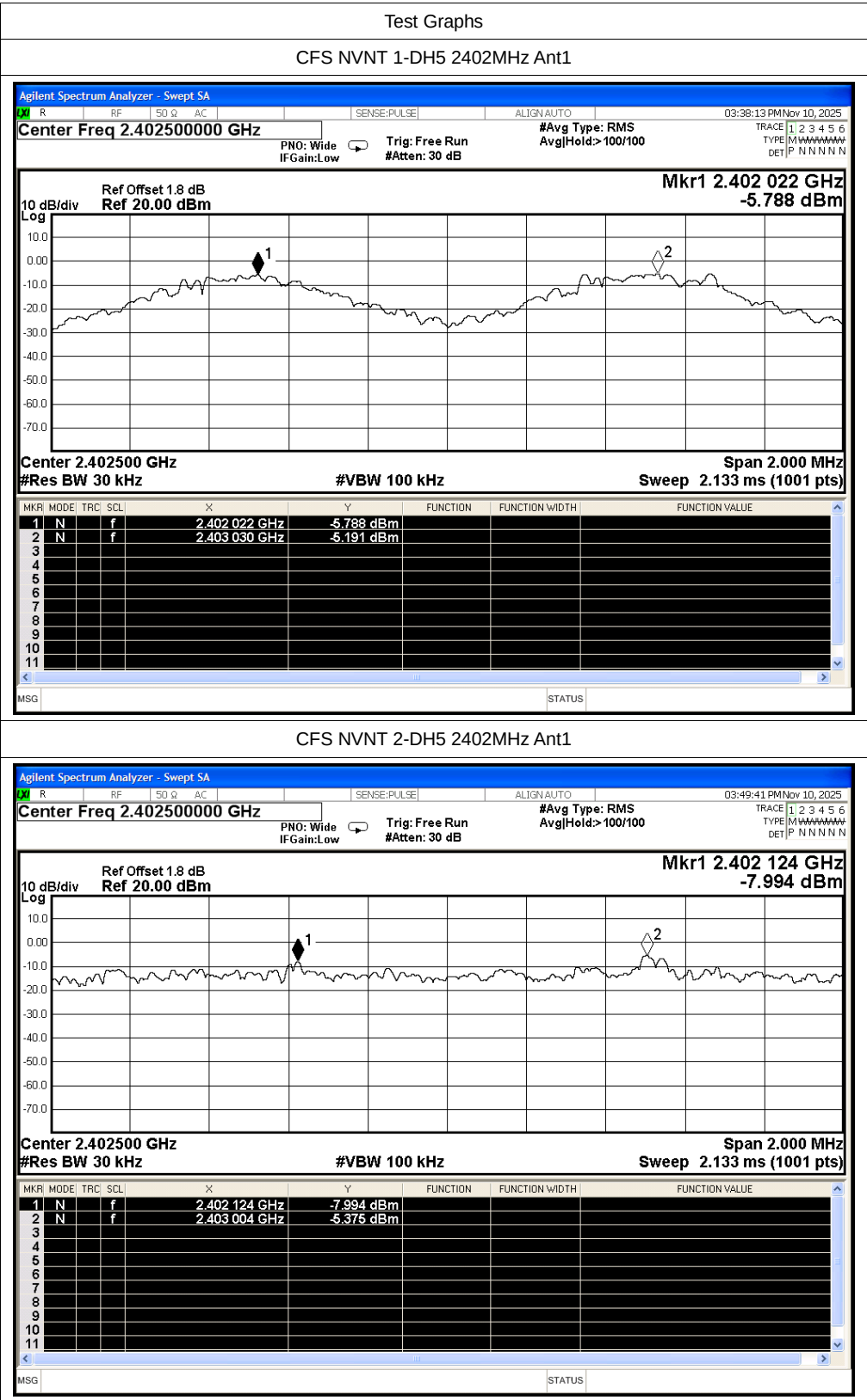
Power NVNT 3-DH5 2441MHz Ant1

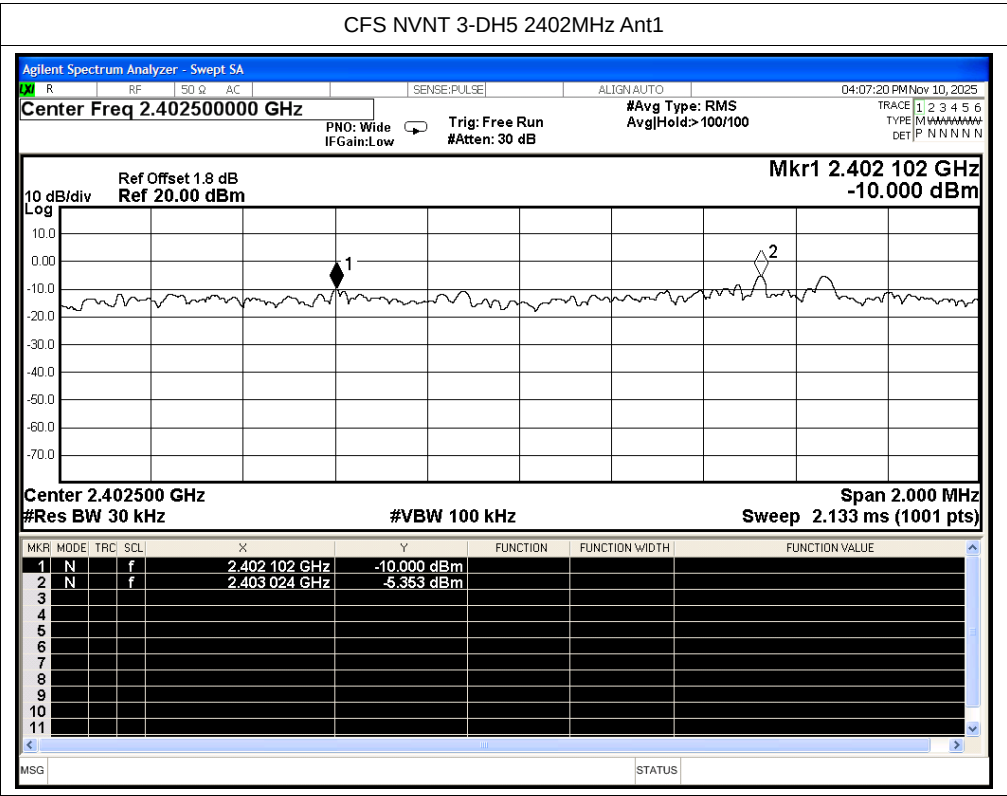




A.3 Carrier Frequencies Separation

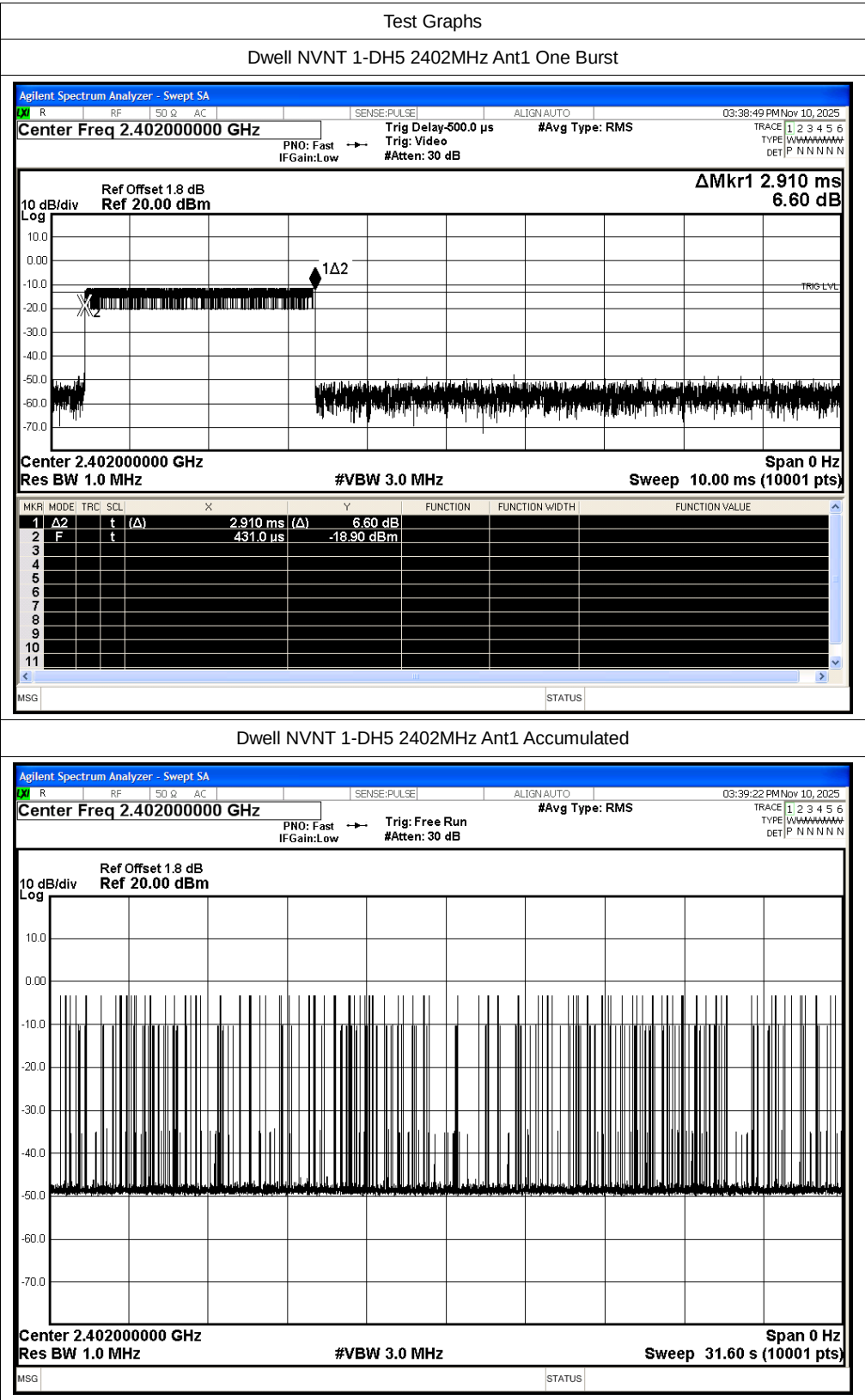
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.022	2403.03	1.008	0.645	Pass
NVNT	2-DH5	Ant1	2402.124	2403.004	0.88	0.858	Pass
NVNT	3-DH5	Ant1	2402.102	2403.024	0.922	0.865	Pass

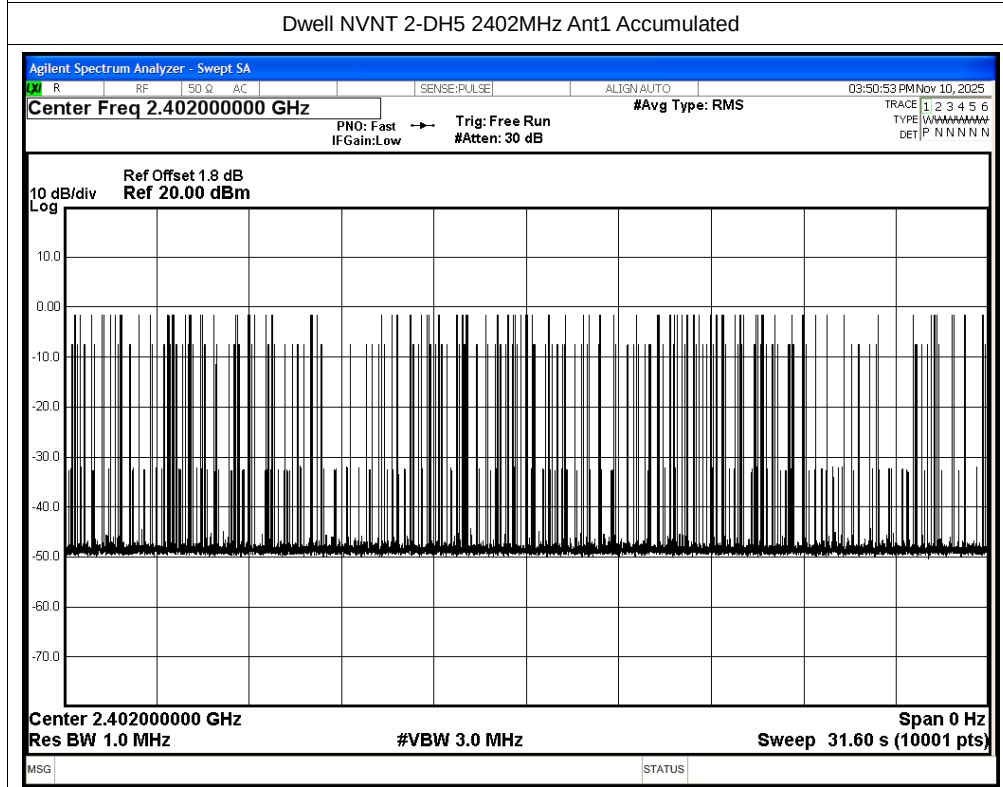
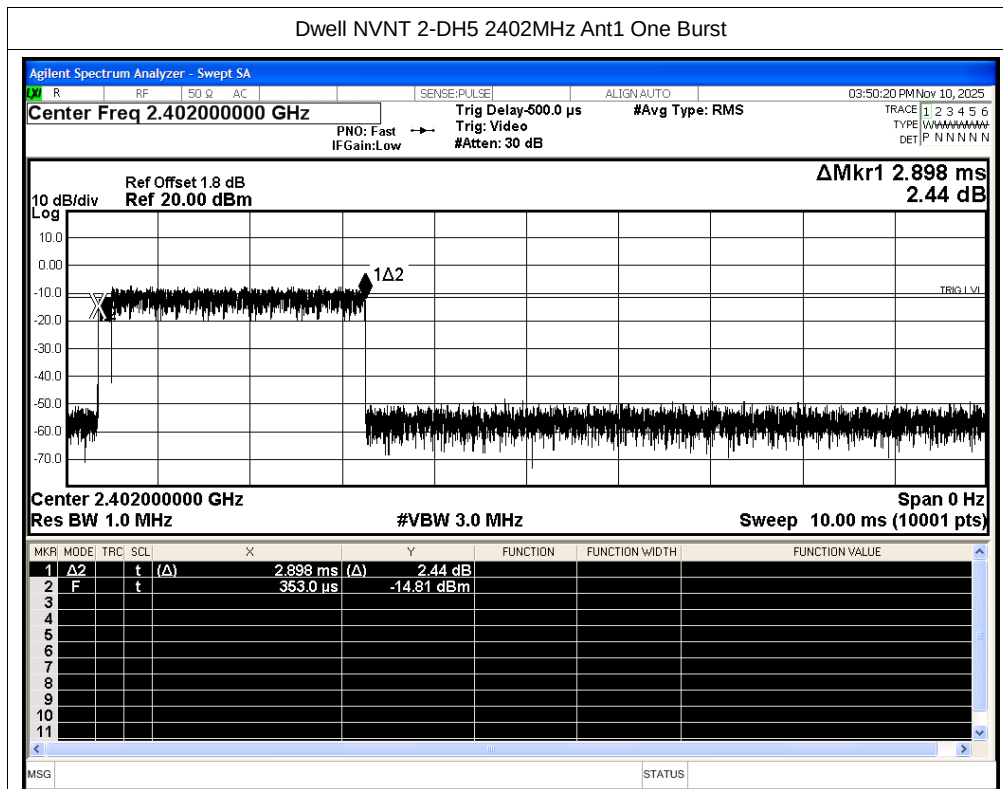




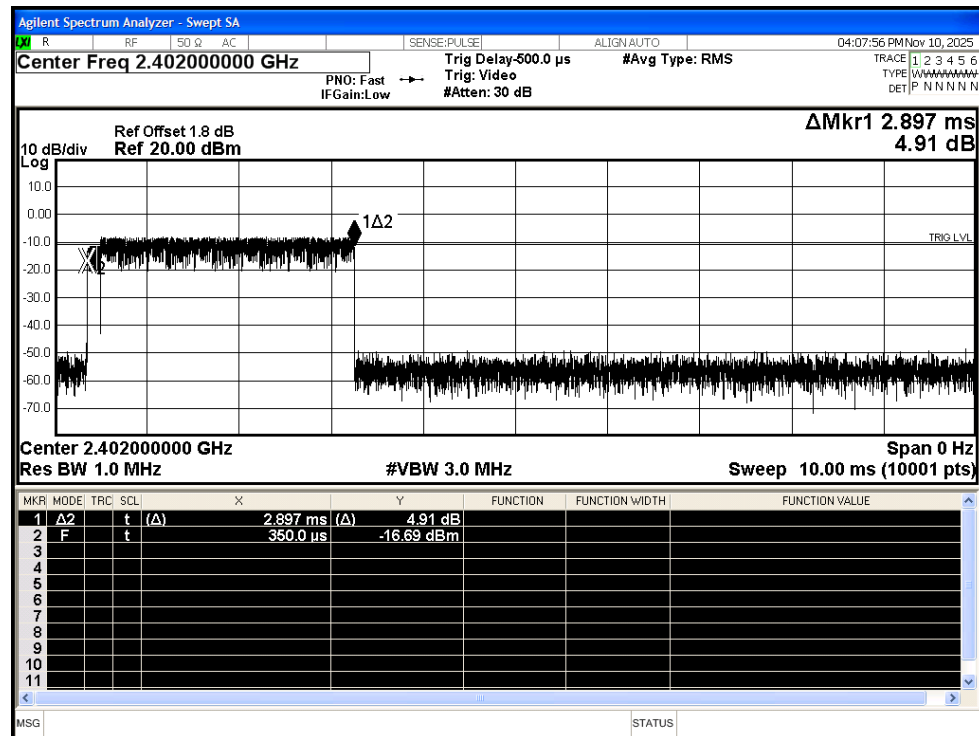
A.4 Dwell Time

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	325.92	112	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	315.882	109	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	295.494	102	31600	400	Pass

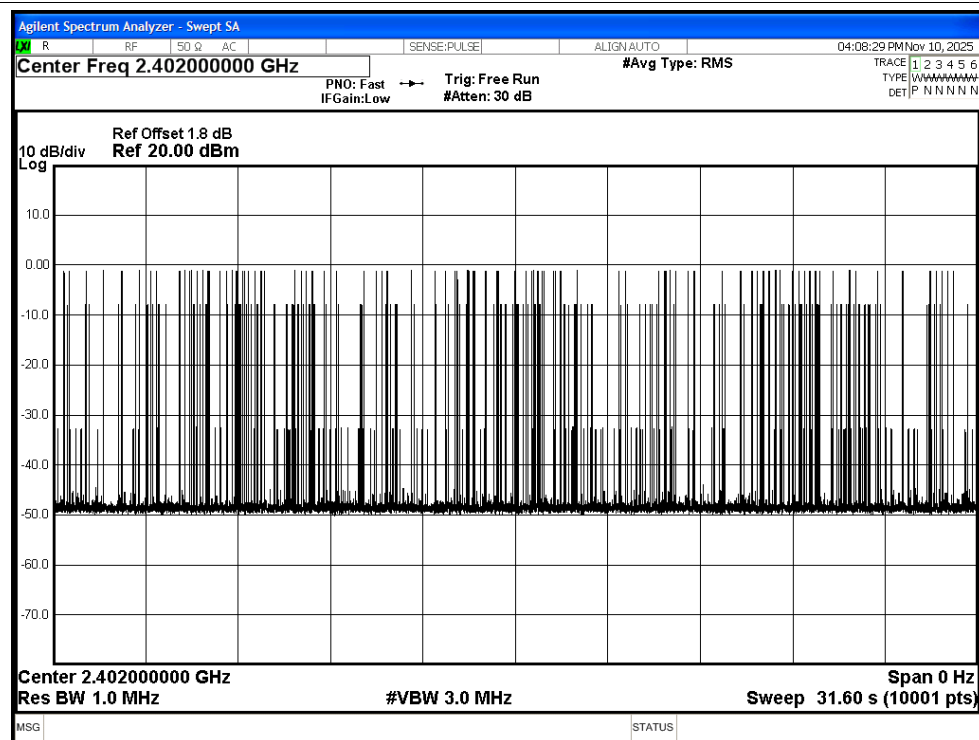




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst

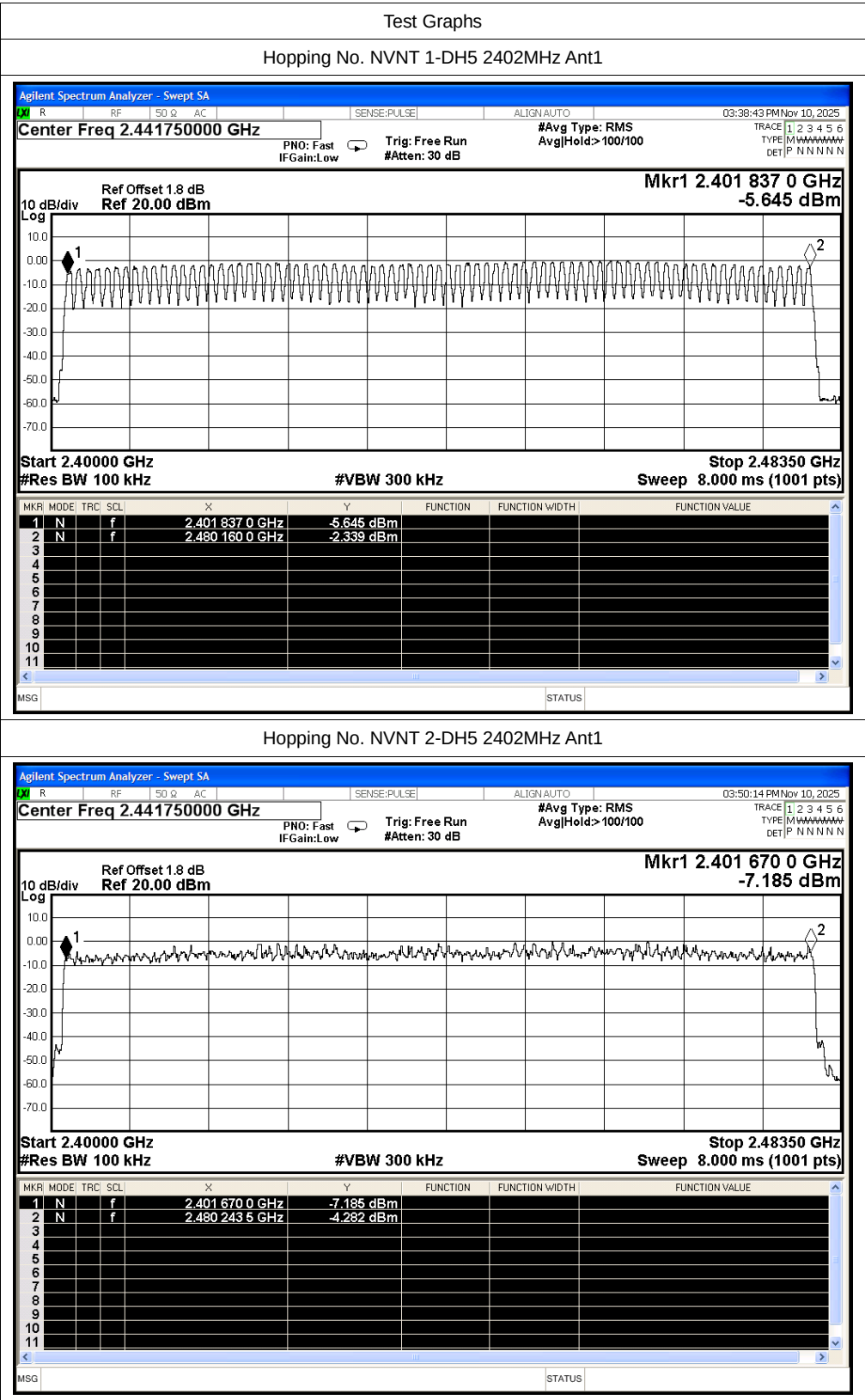


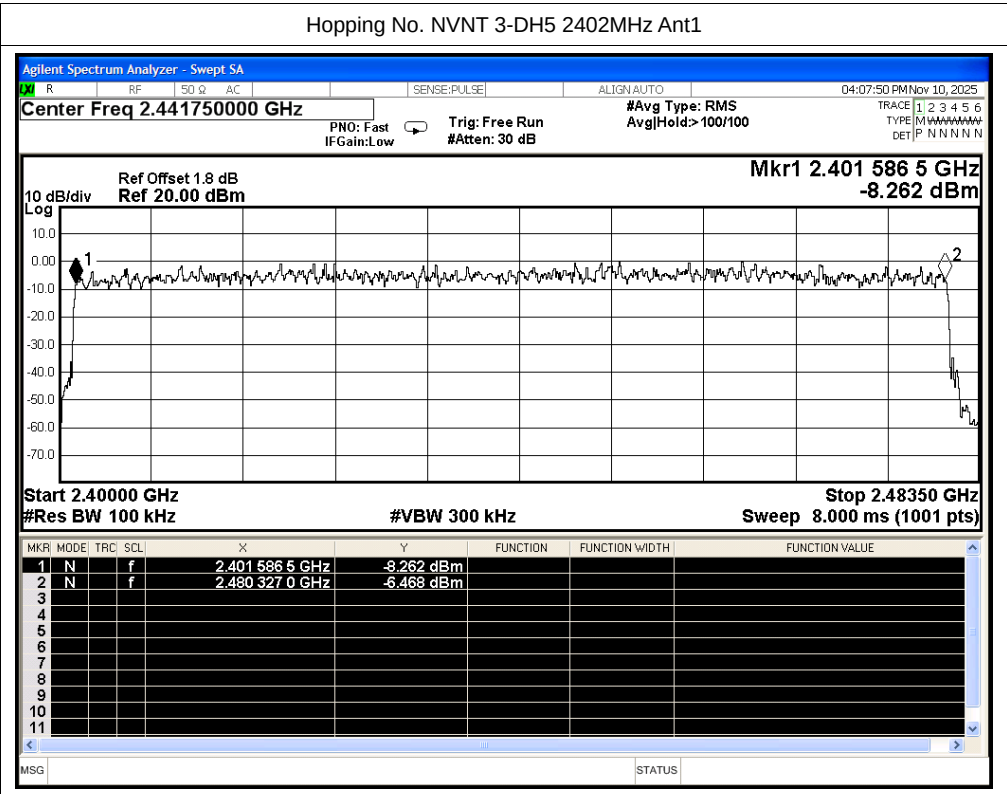
Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated



A.5 Number of Hopping Channel

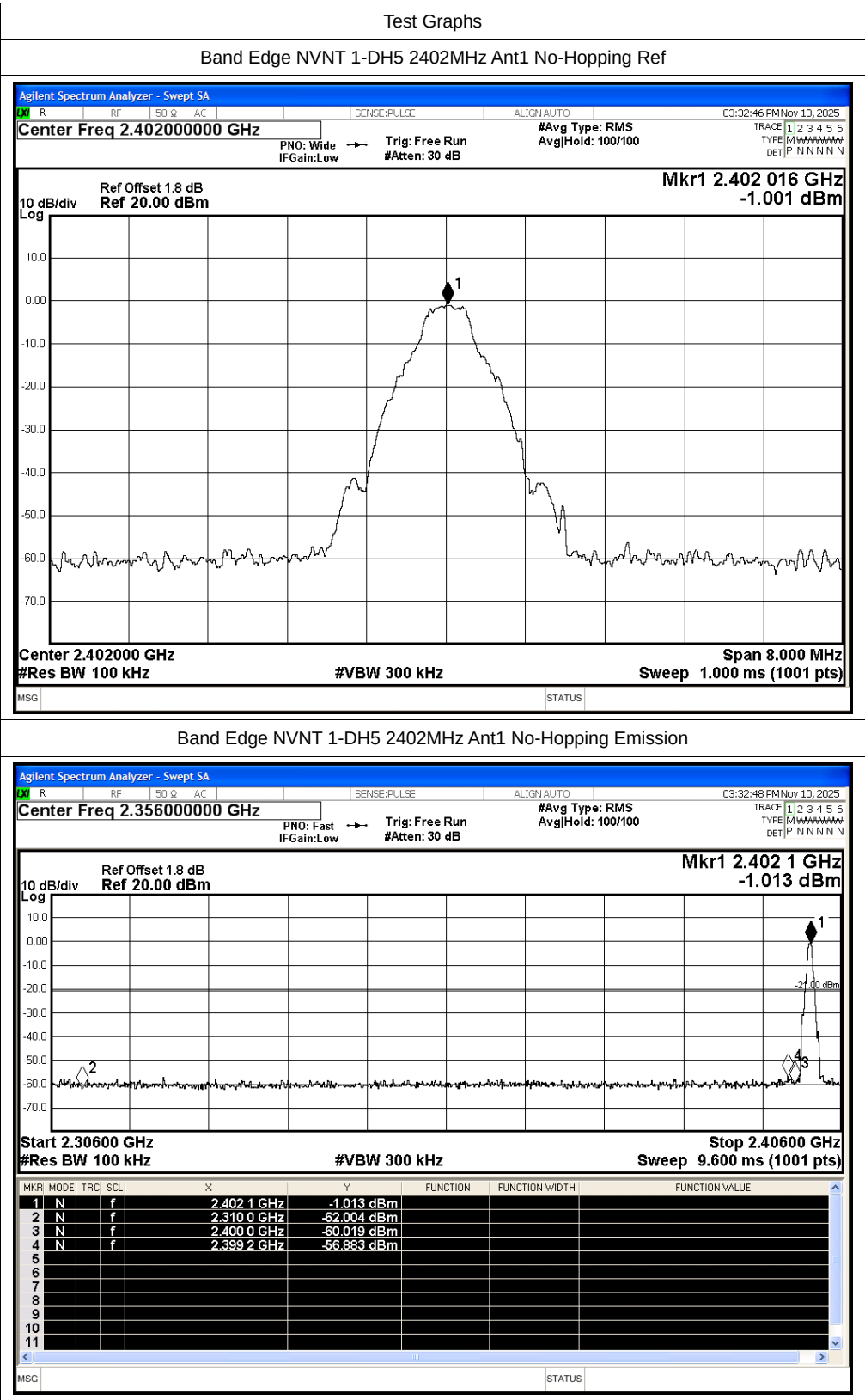
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

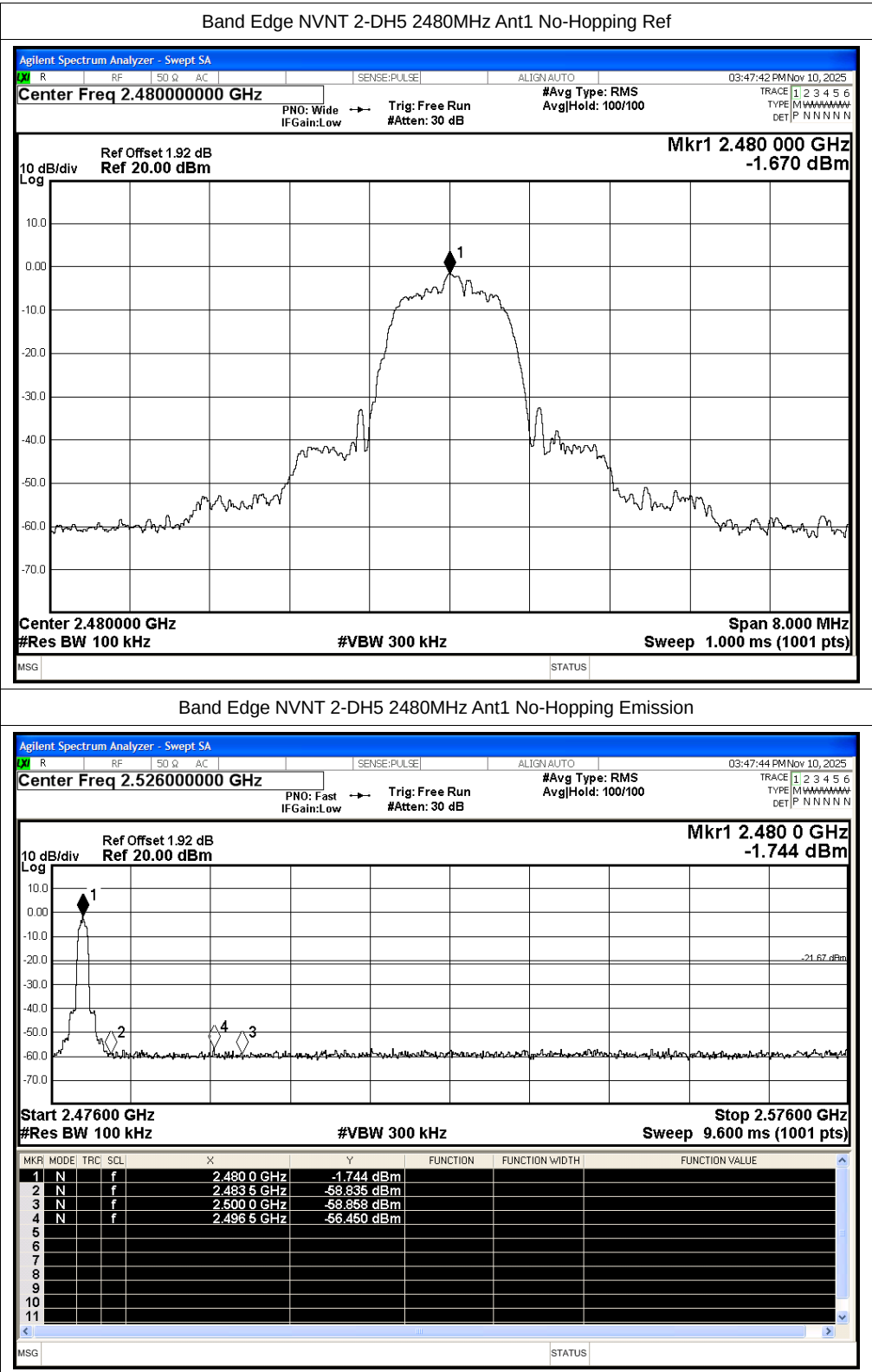


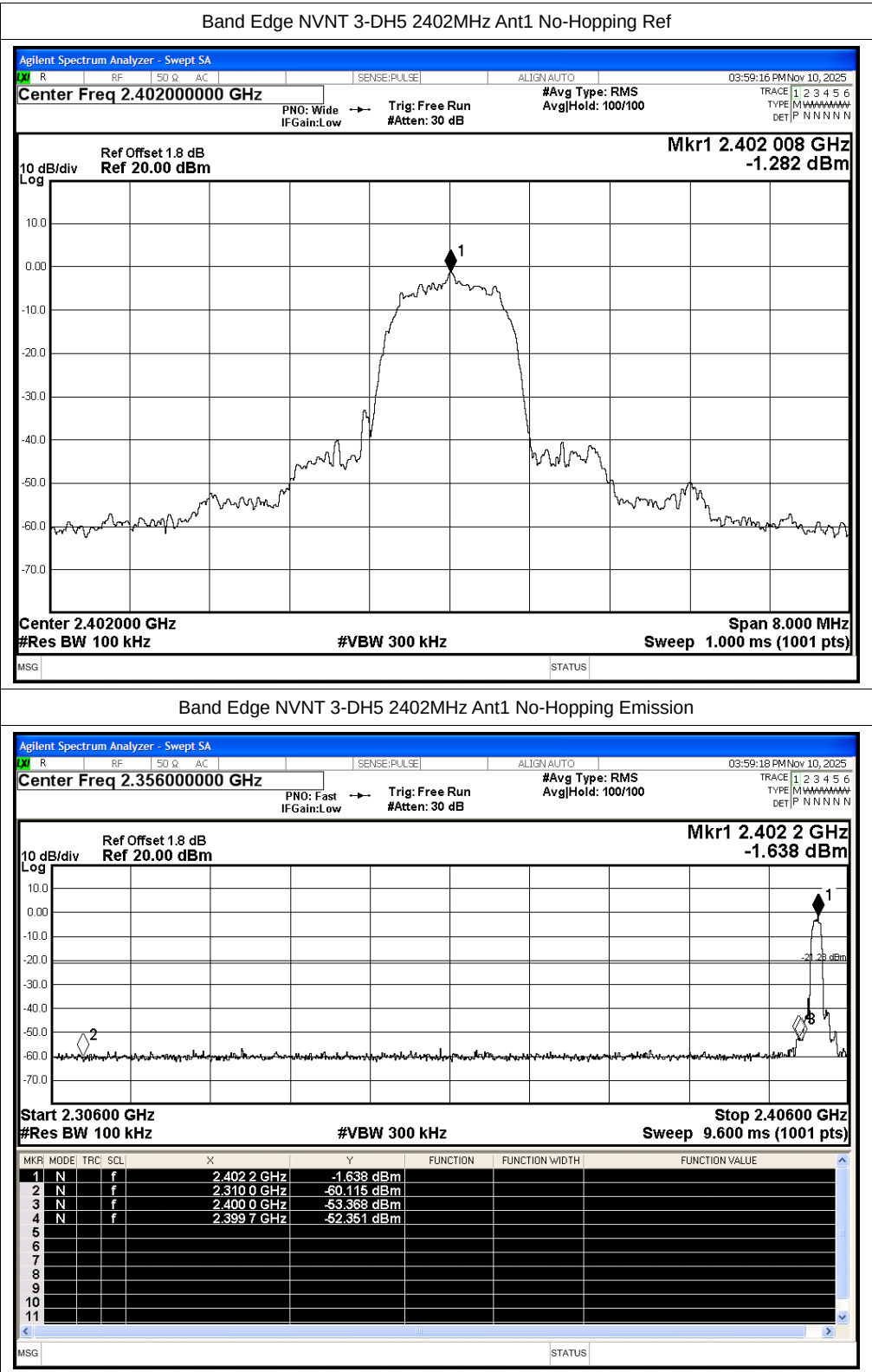


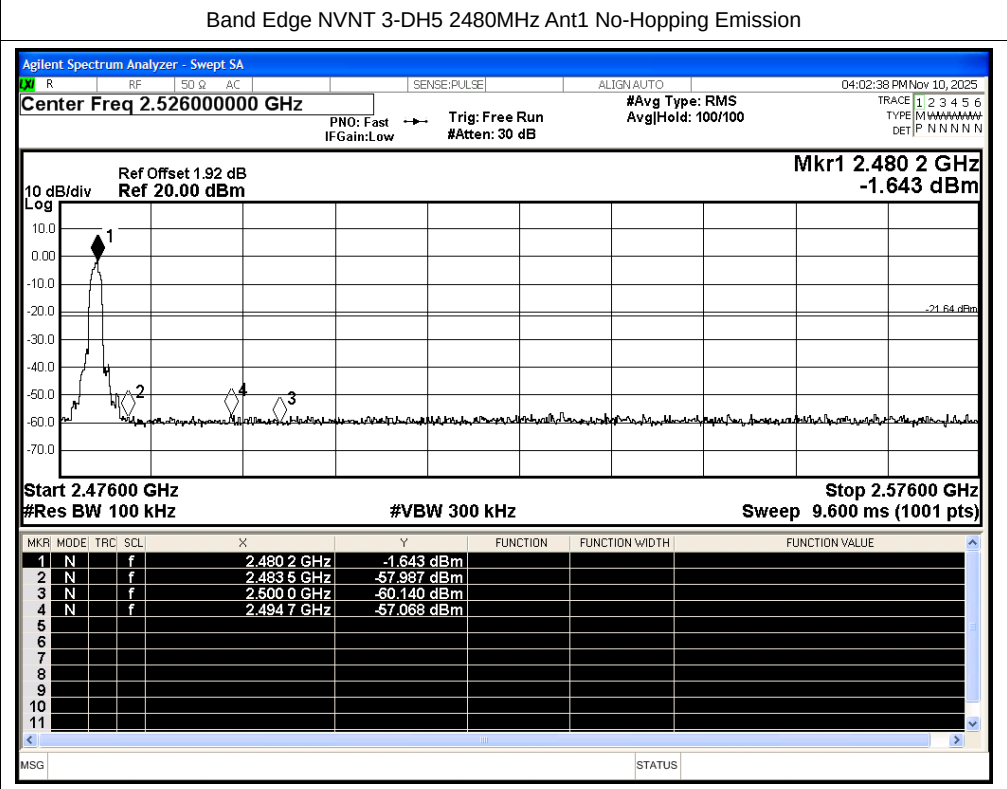
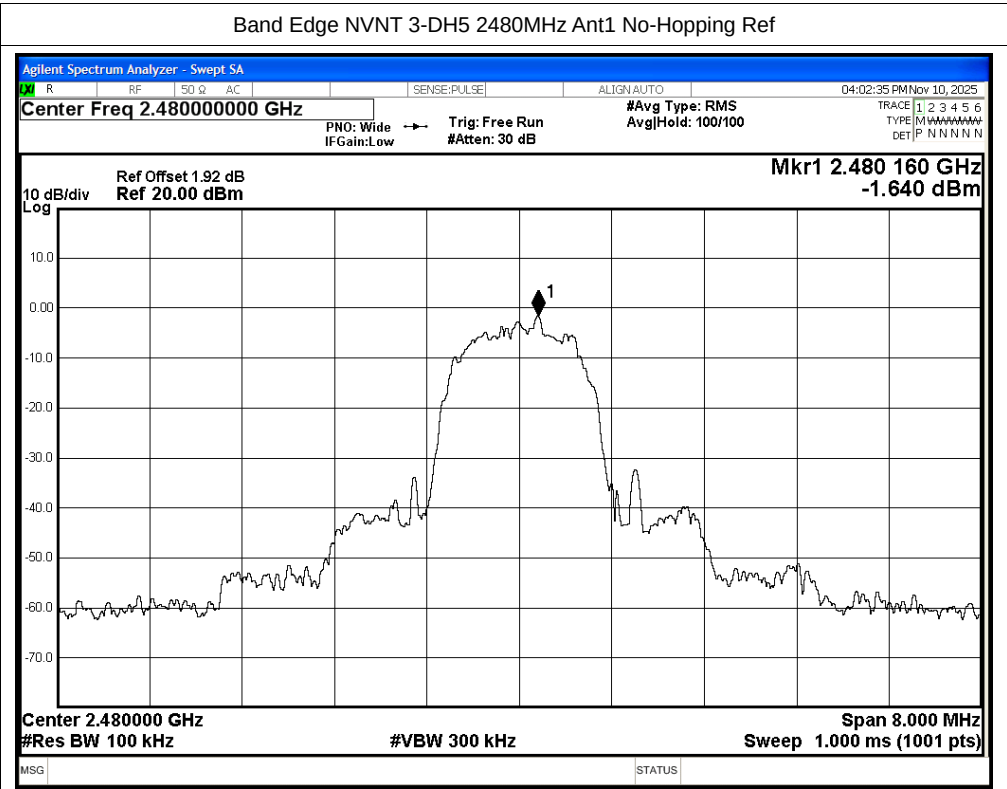
A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.88	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.48	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.04	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.78	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.07	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.43	-20	Pass



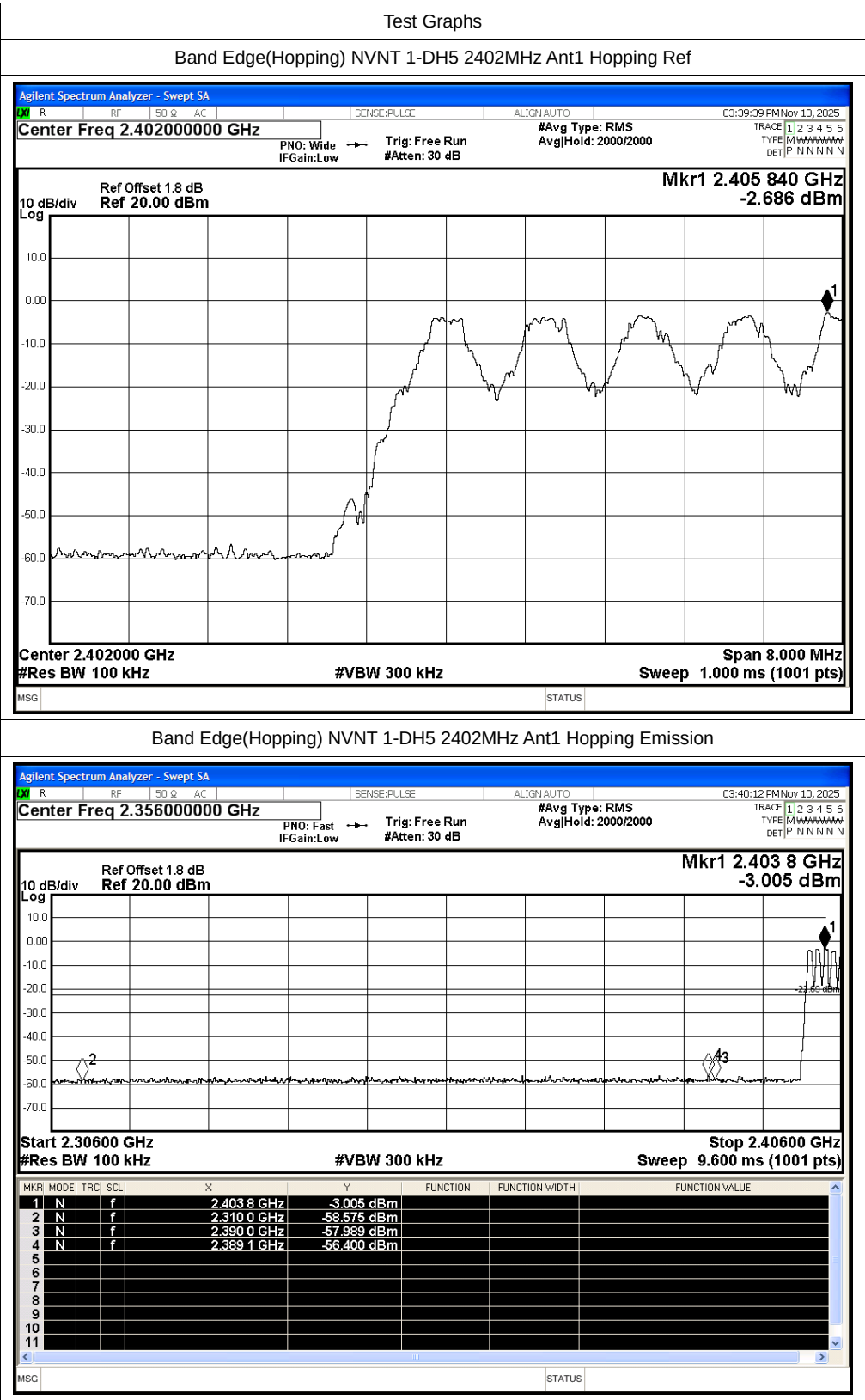


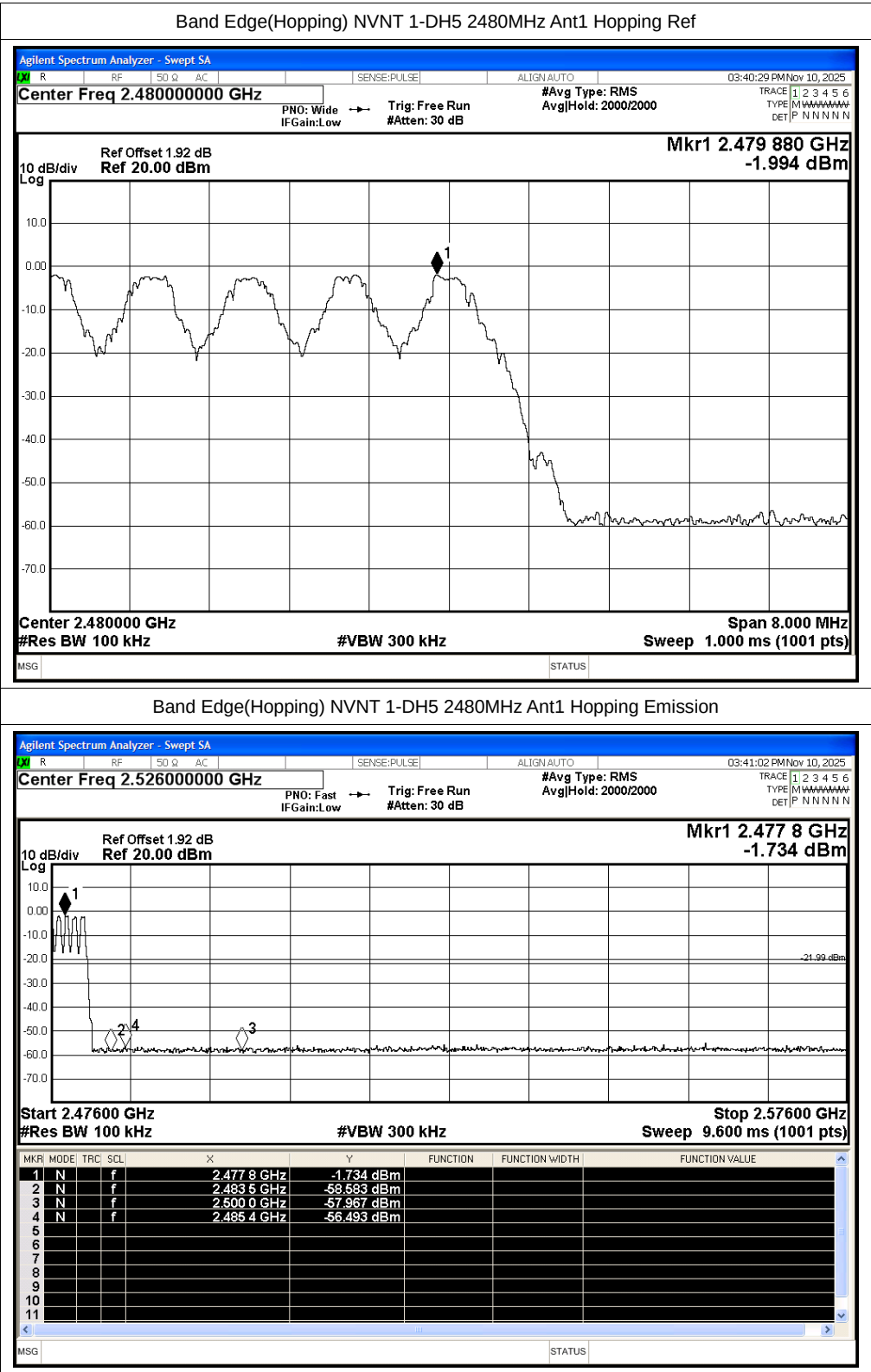


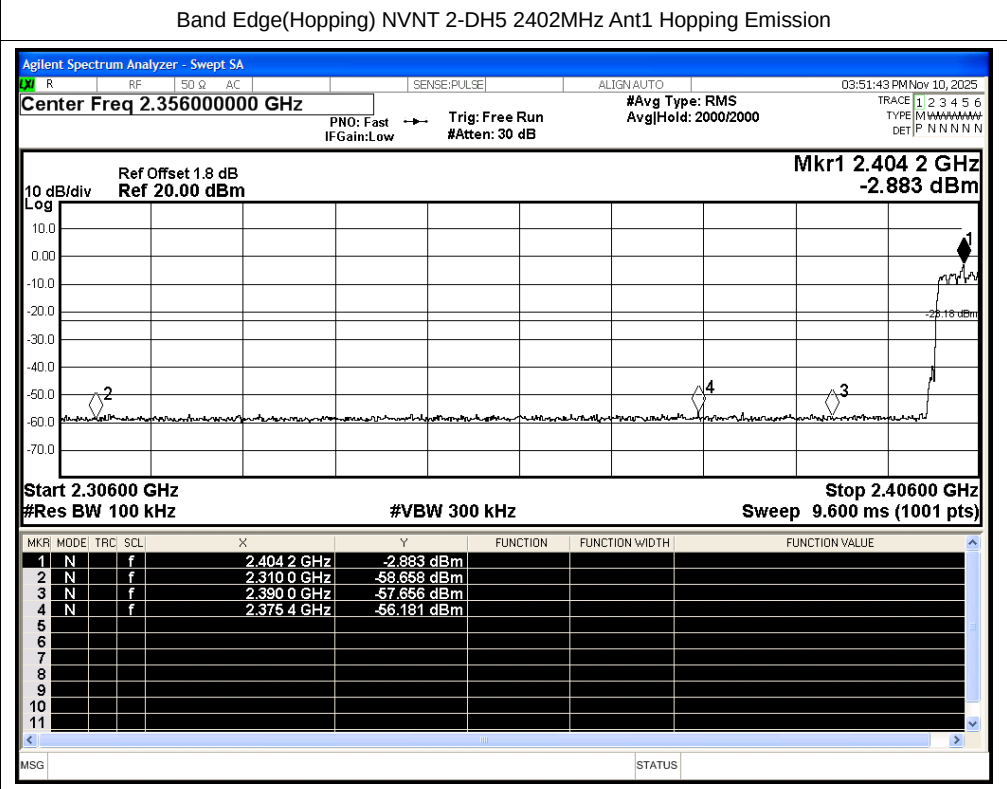
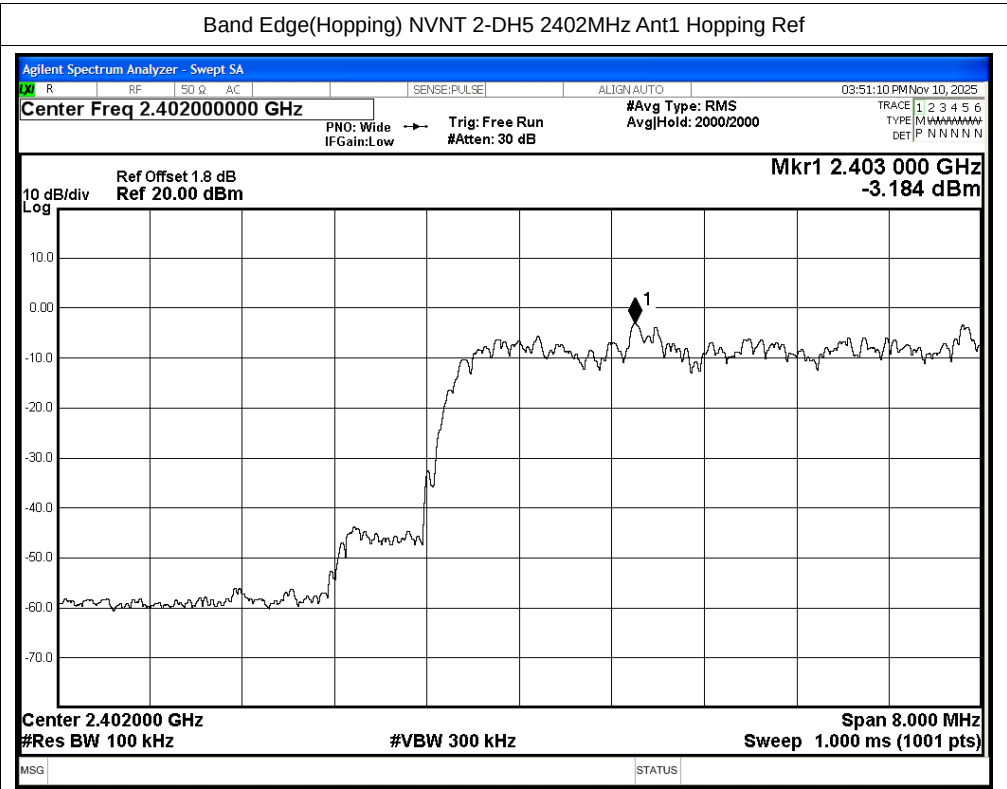


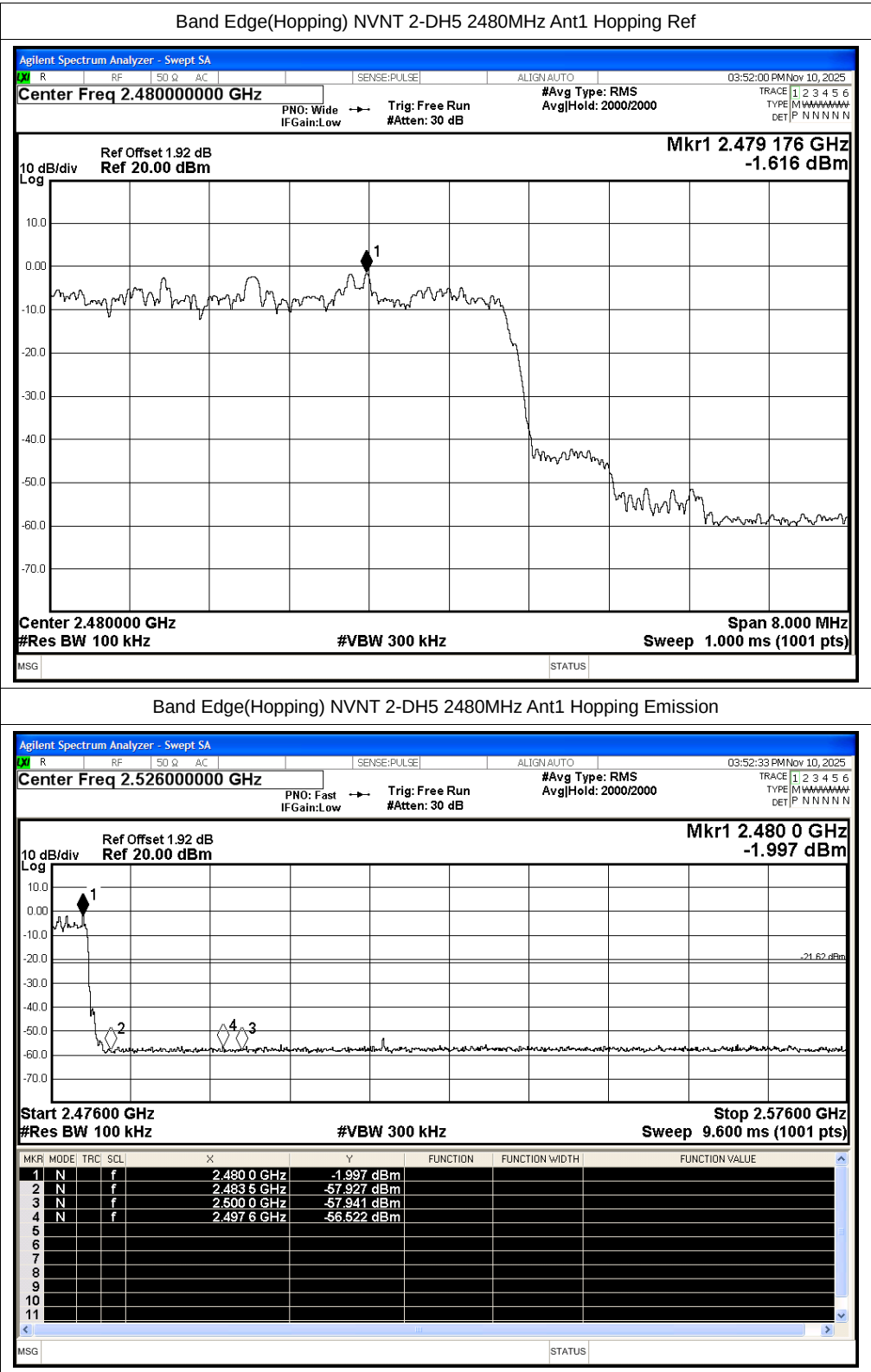
(Hopping)

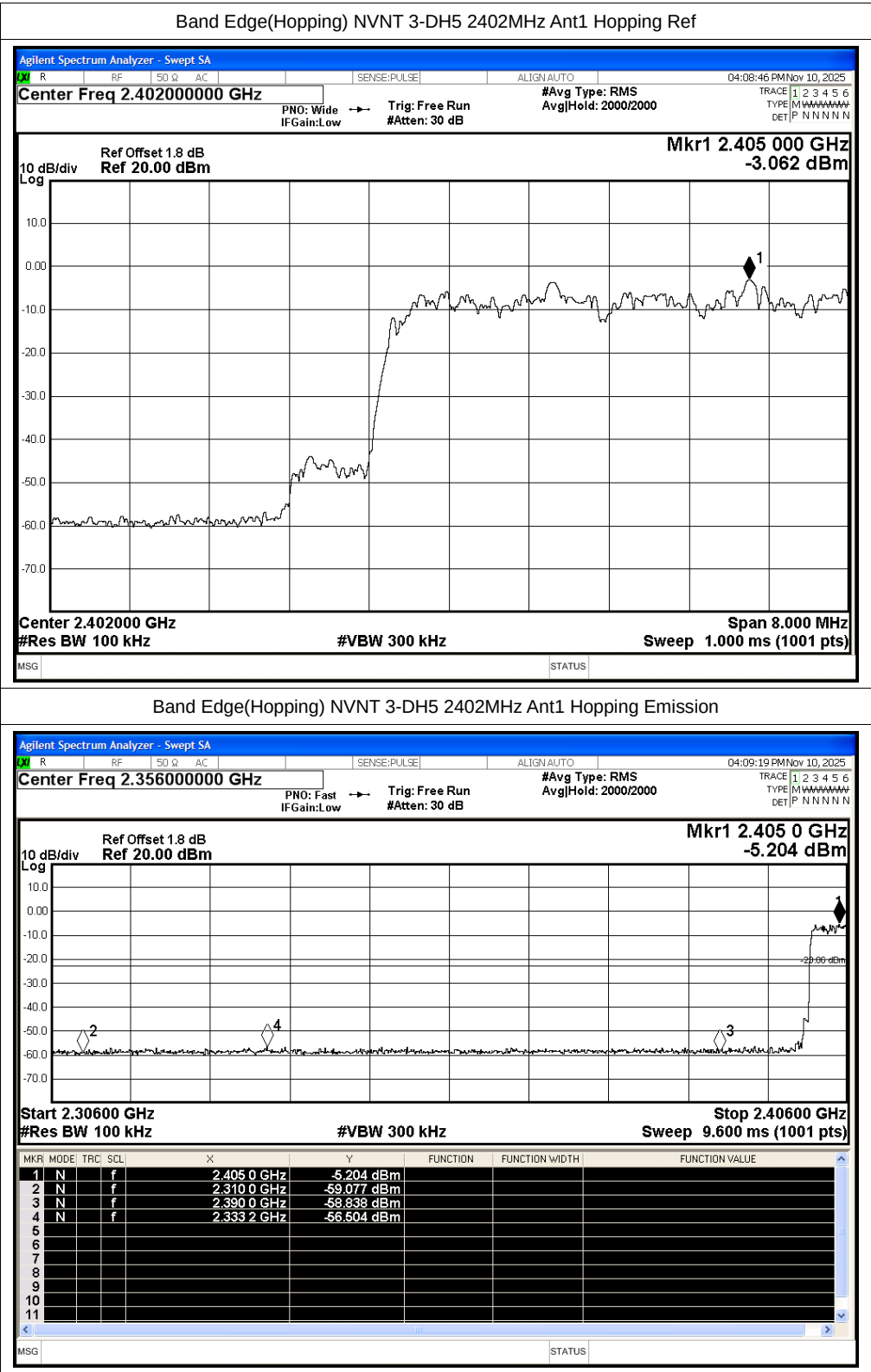
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-53.71	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.5	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.91	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-53.44	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.26	-20	Pass

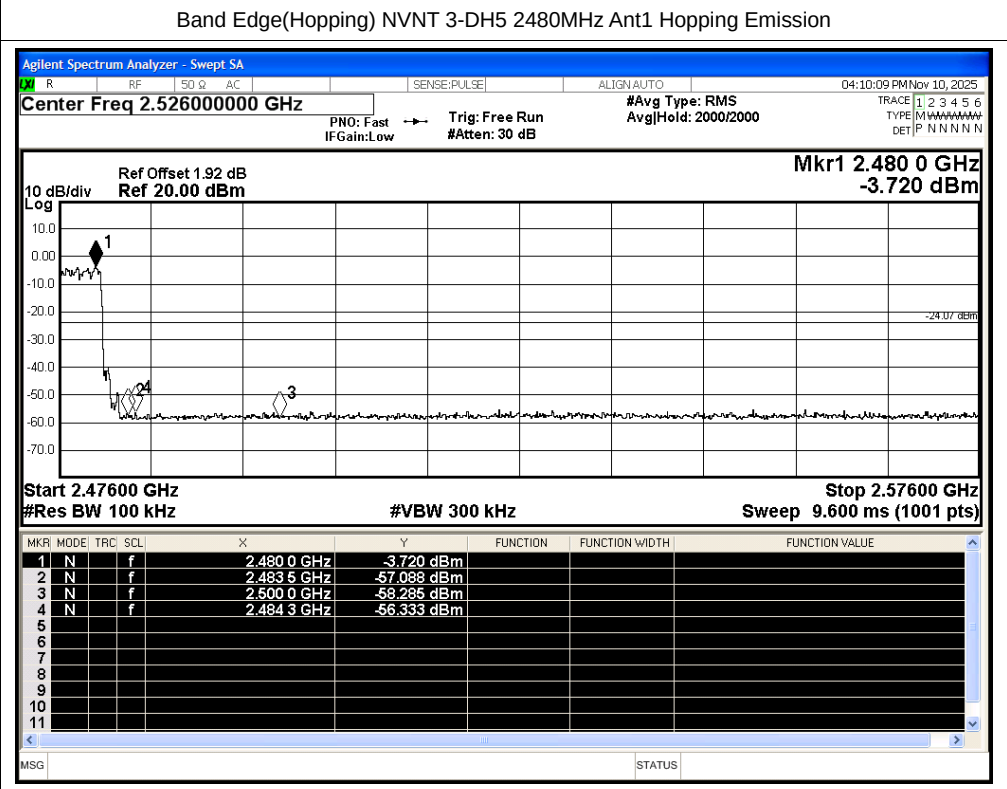
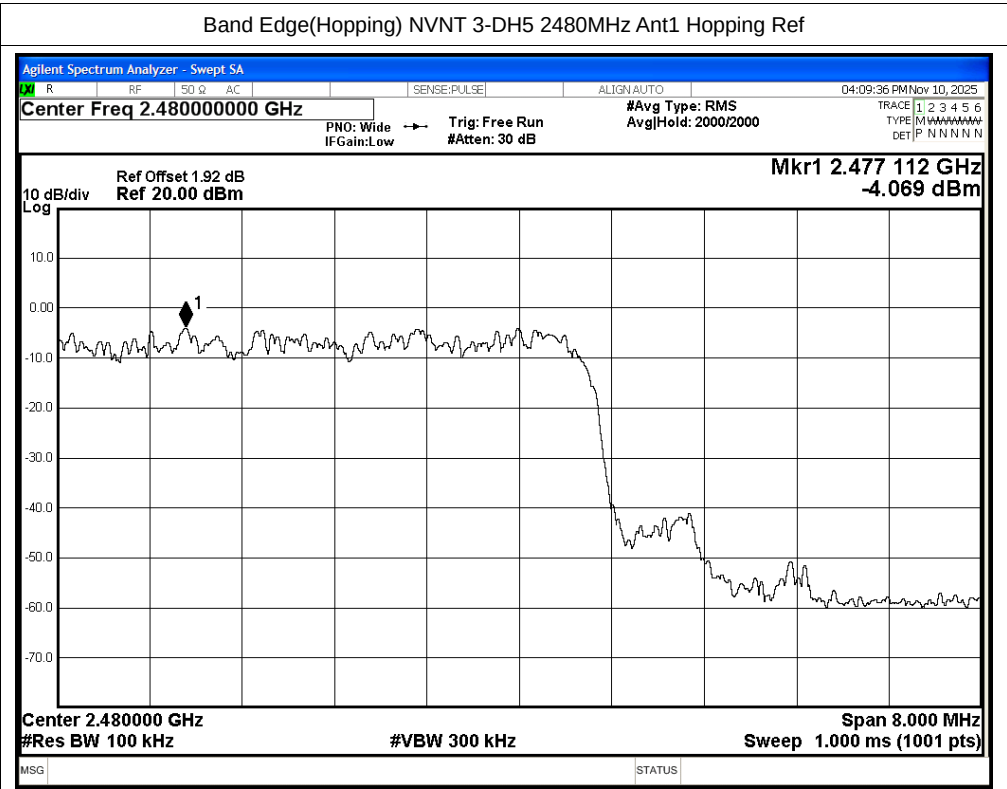






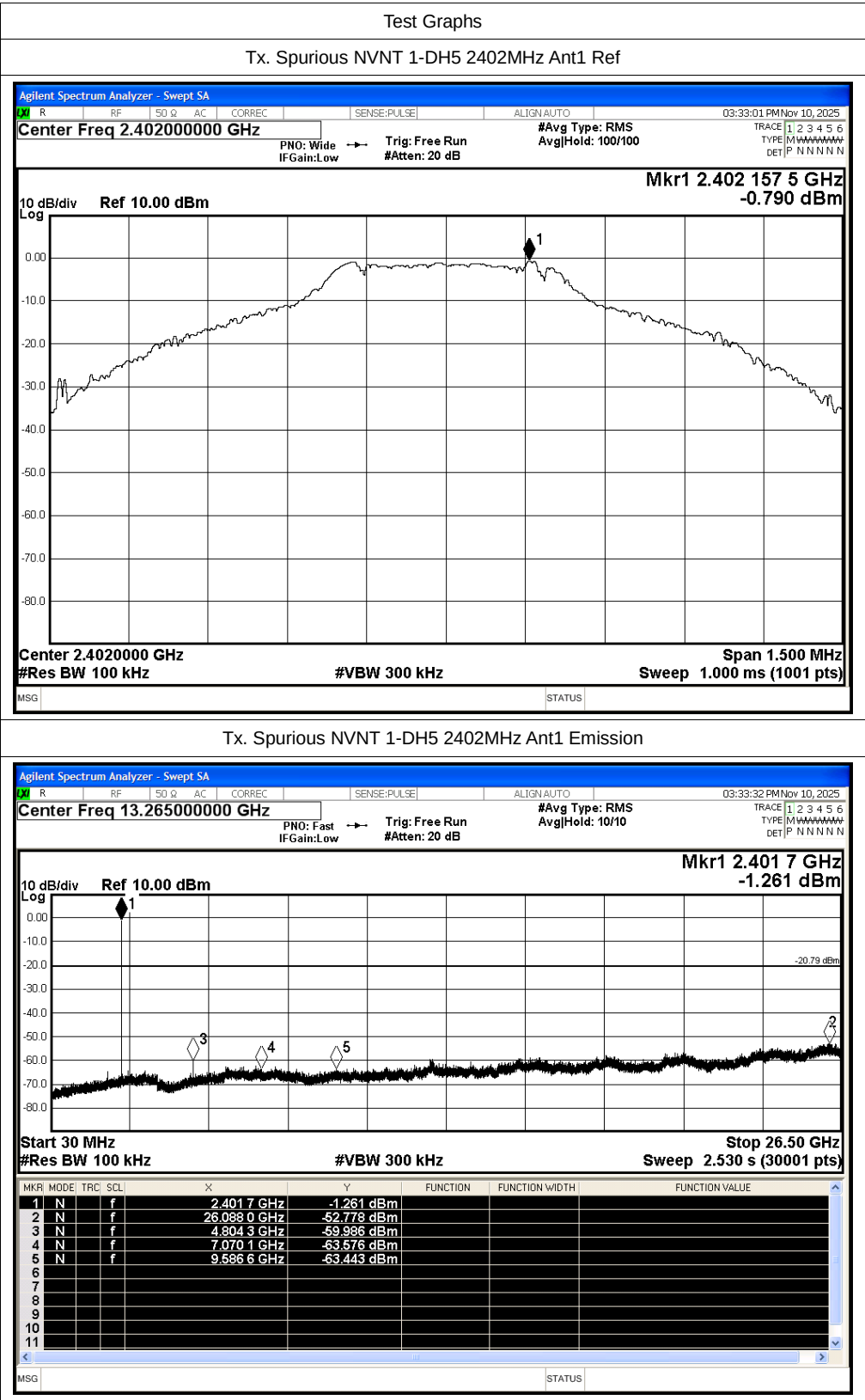


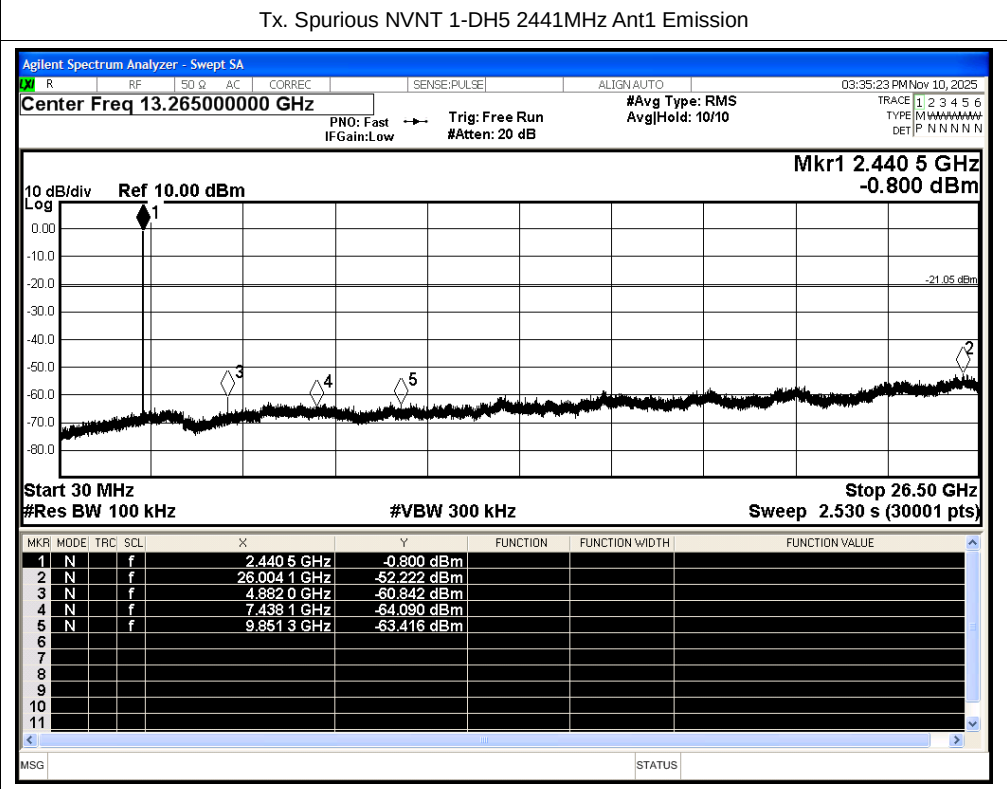
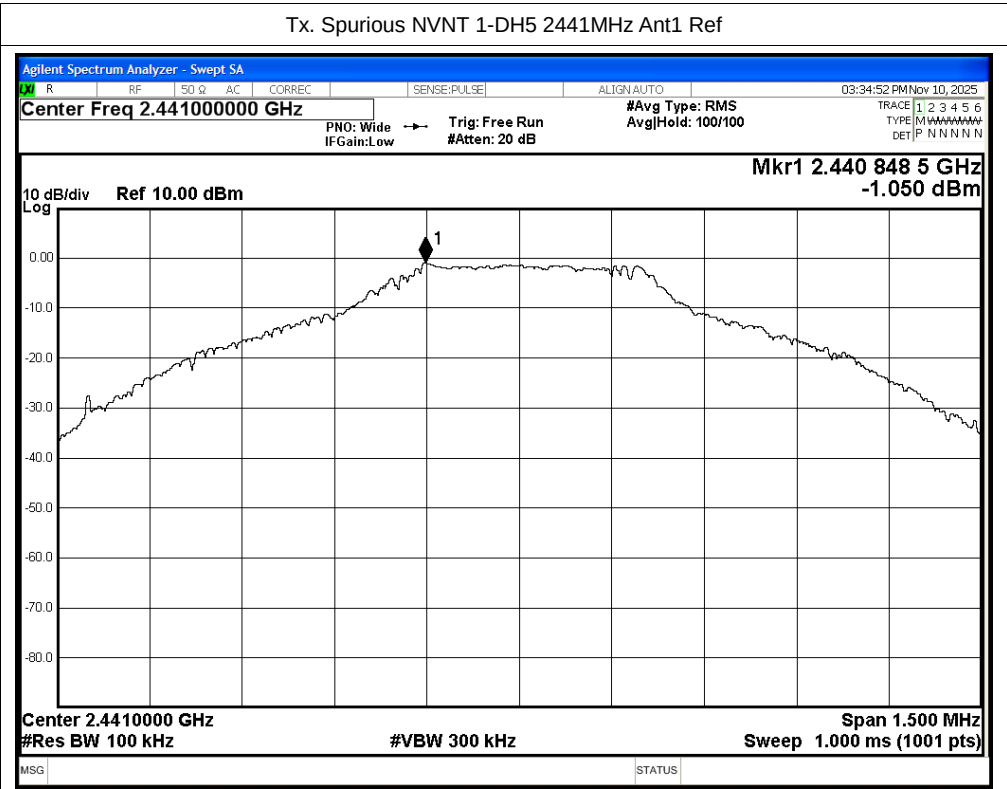


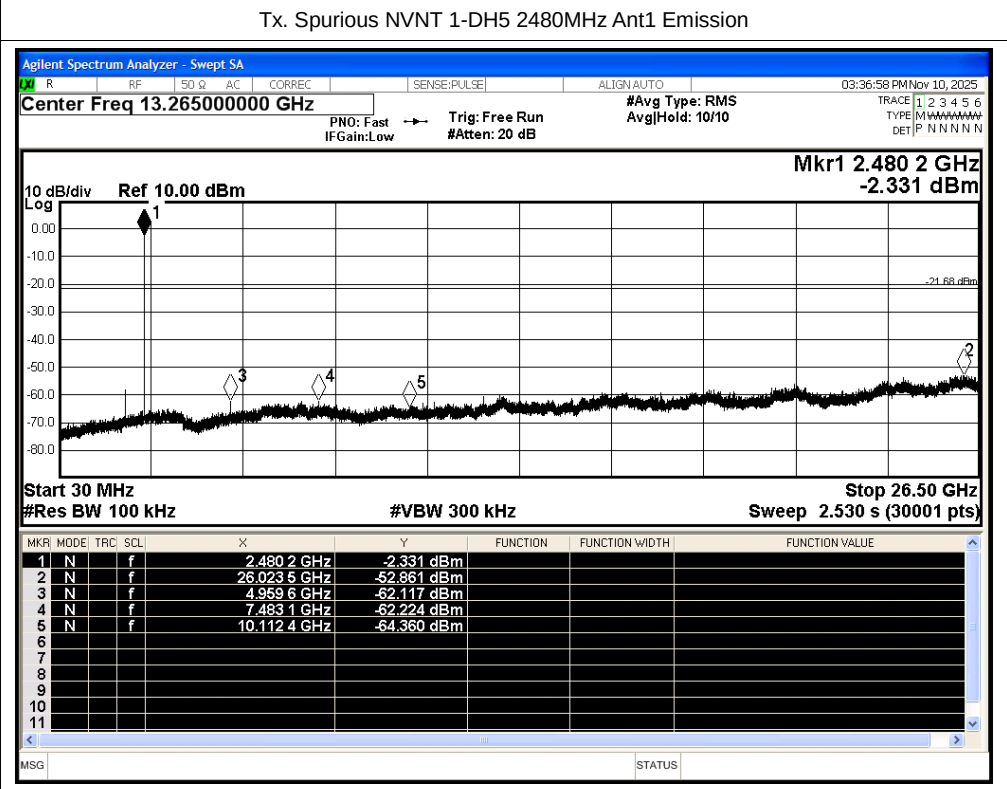
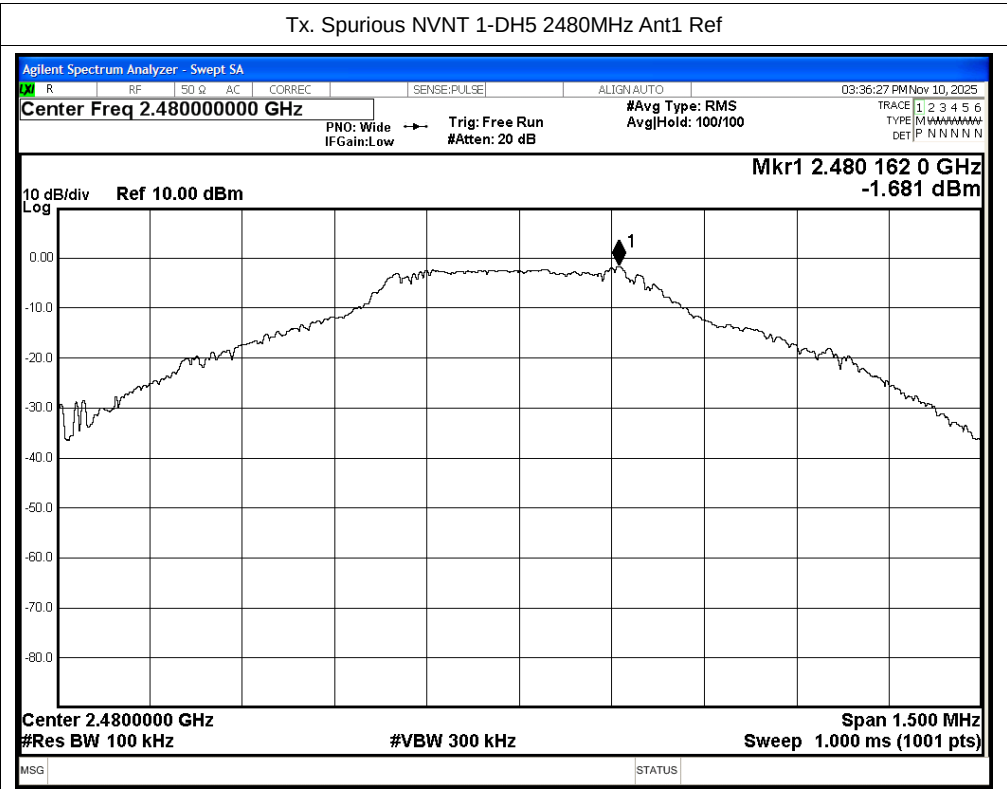


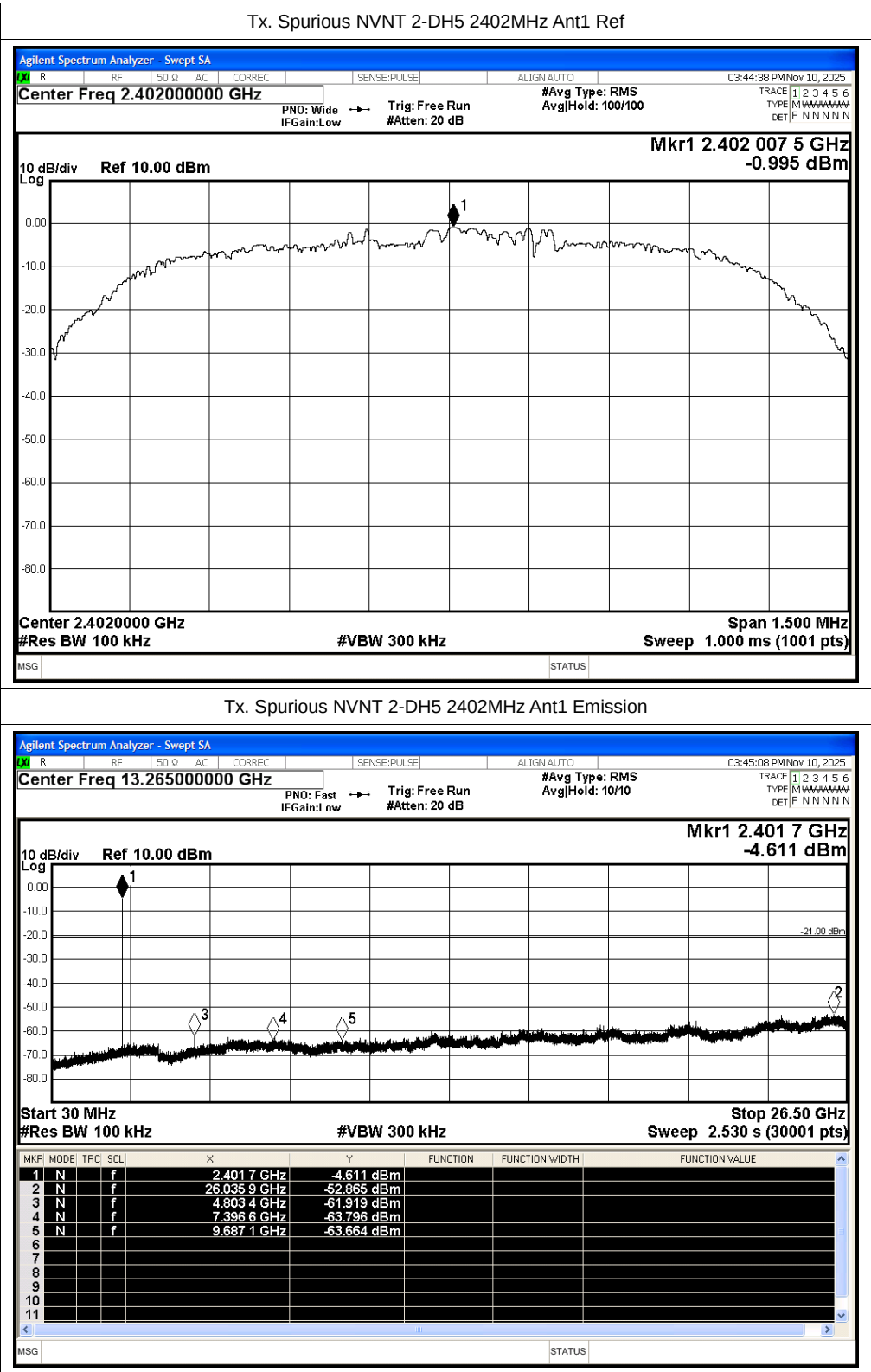
A.7 Conducted RF Spurious Emission

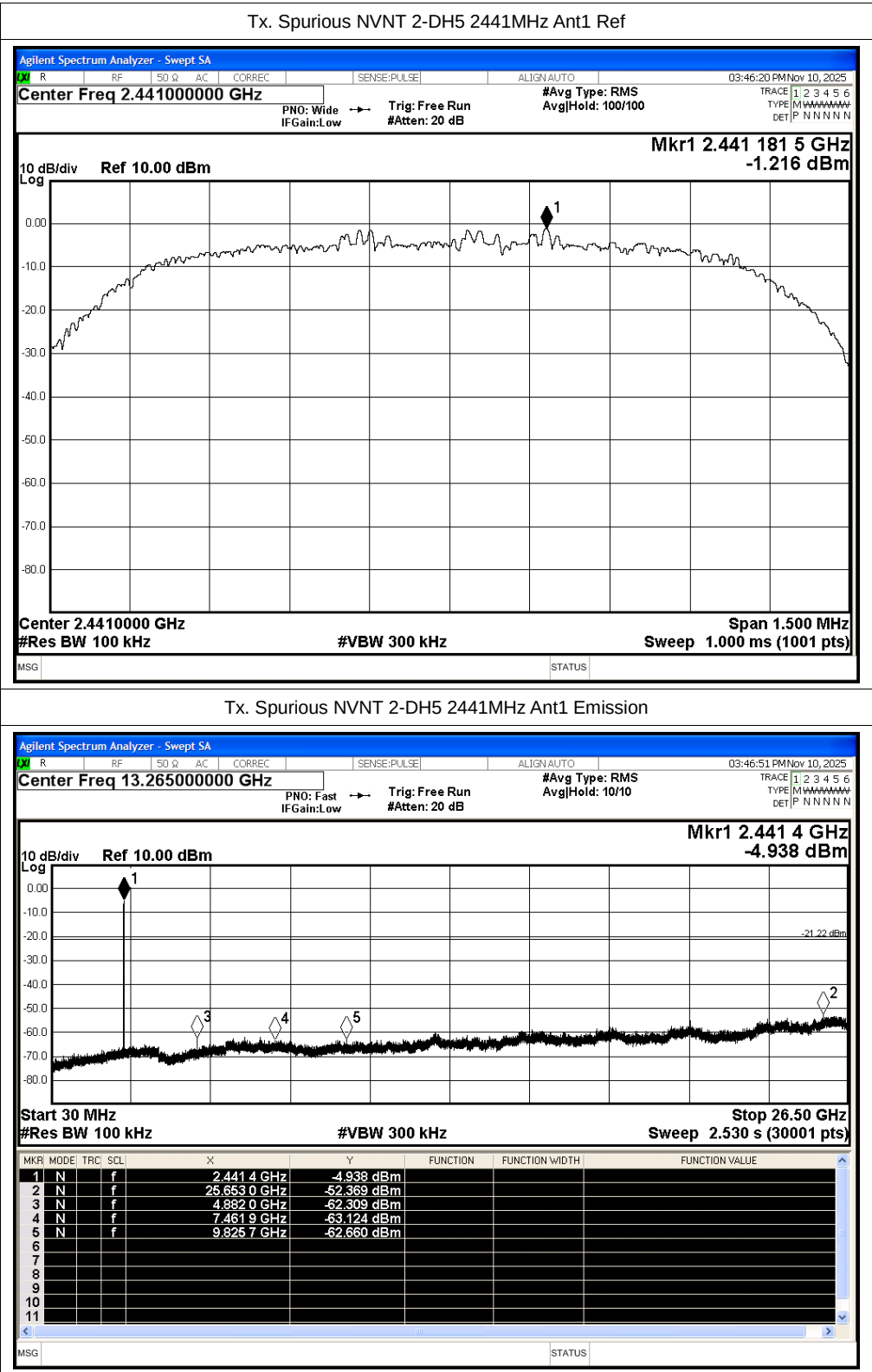
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-51.99	-20	Pass
NVNT	1-DH5	2441	Ant1	-51.17	-20	Pass
NVNT	1-DH5	2480	Ant1	-51.18	-20	Pass
NVNT	2-DH5	2402	Ant1	-51.87	-20	Pass
NVNT	2-DH5	2441	Ant1	-51.15	-20	Pass
NVNT	2-DH5	2480	Ant1	-50.11	-20	Pass
NVNT	3-DH5	2402	Ant1	-50.12	-20	Pass
NVNT	3-DH5	2441	Ant1	-52.27	-20	Pass
NVNT	3-DH5	2480	Ant1	-49.57	-20	Pass

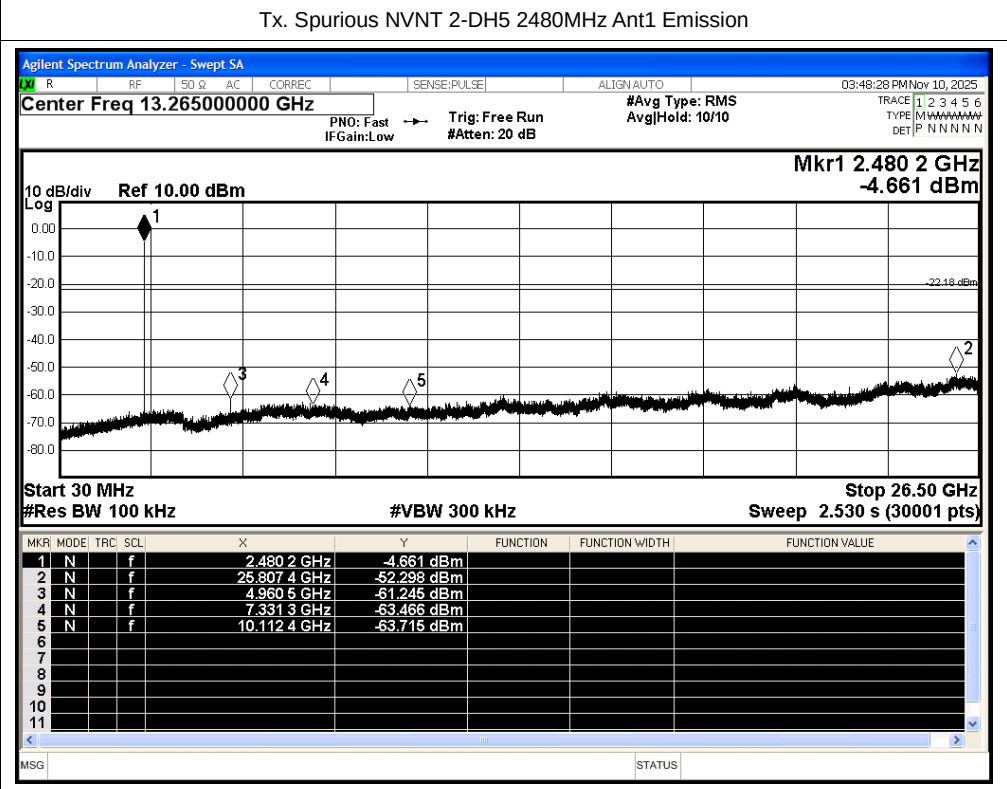
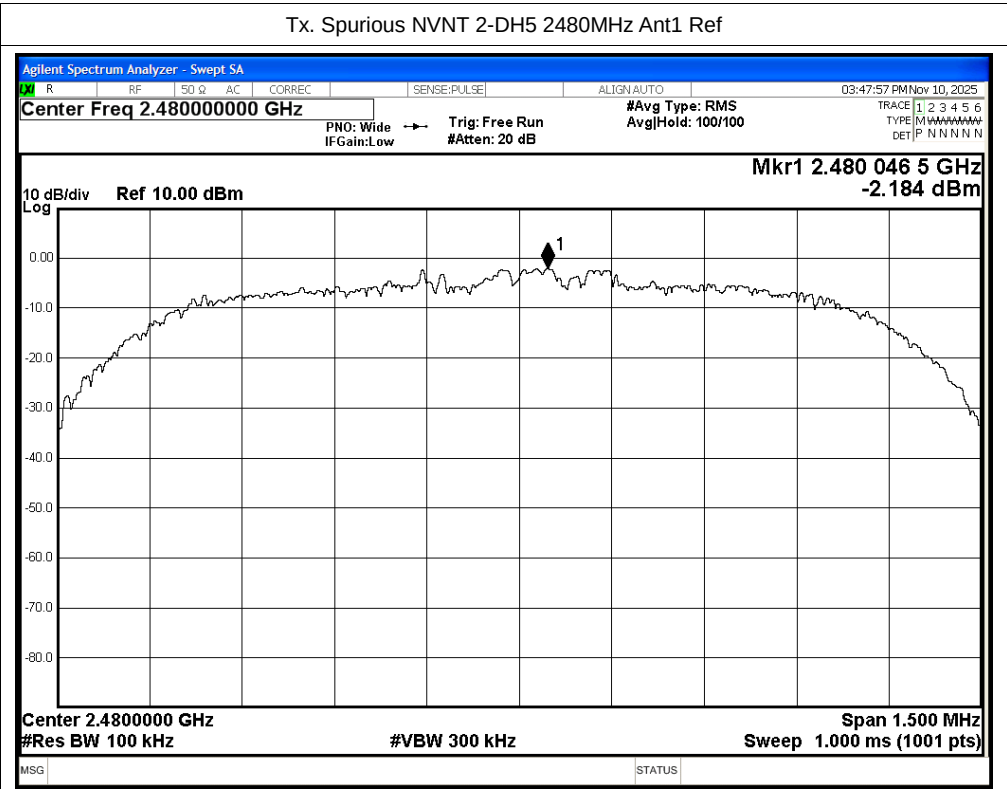


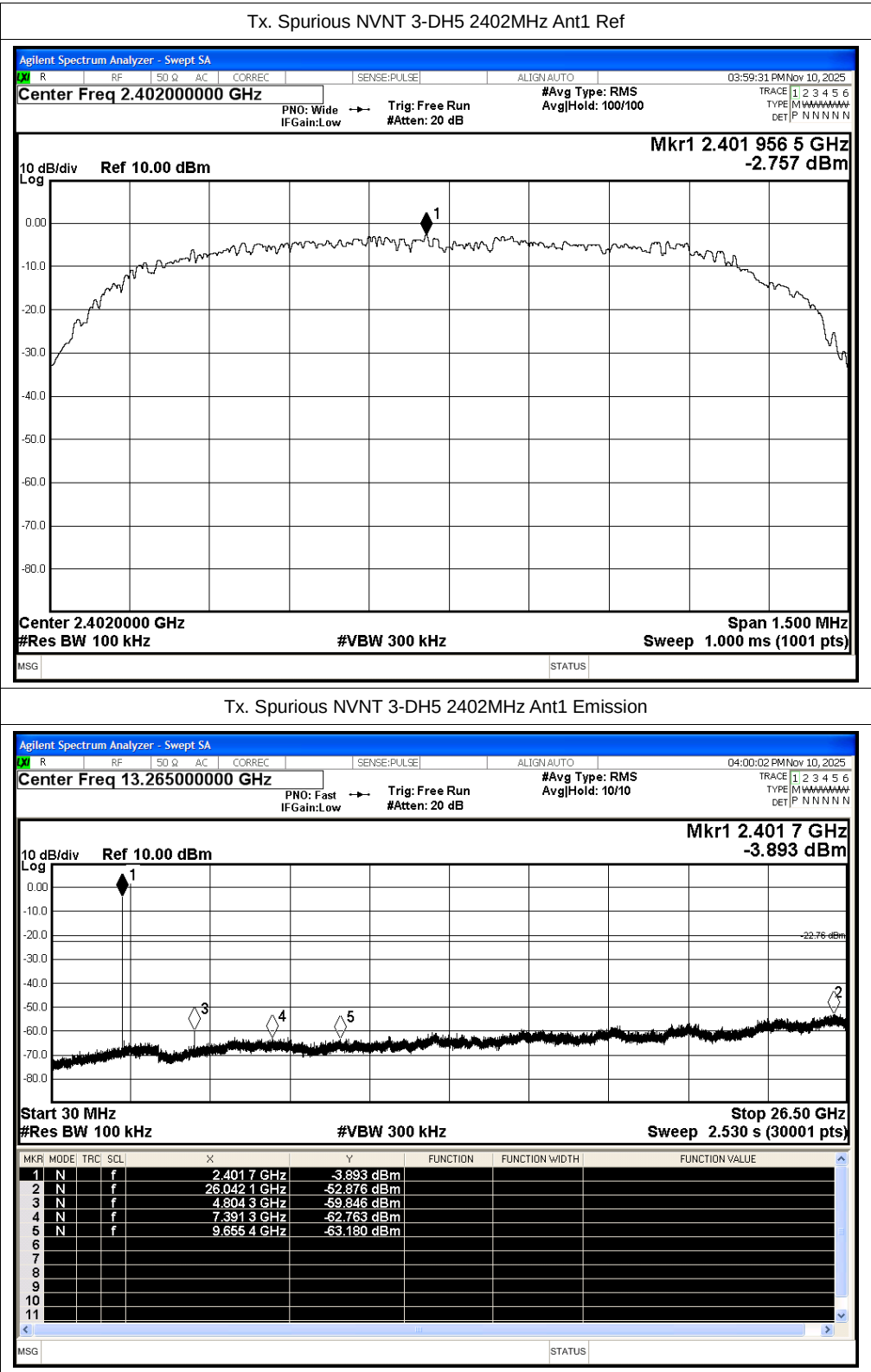


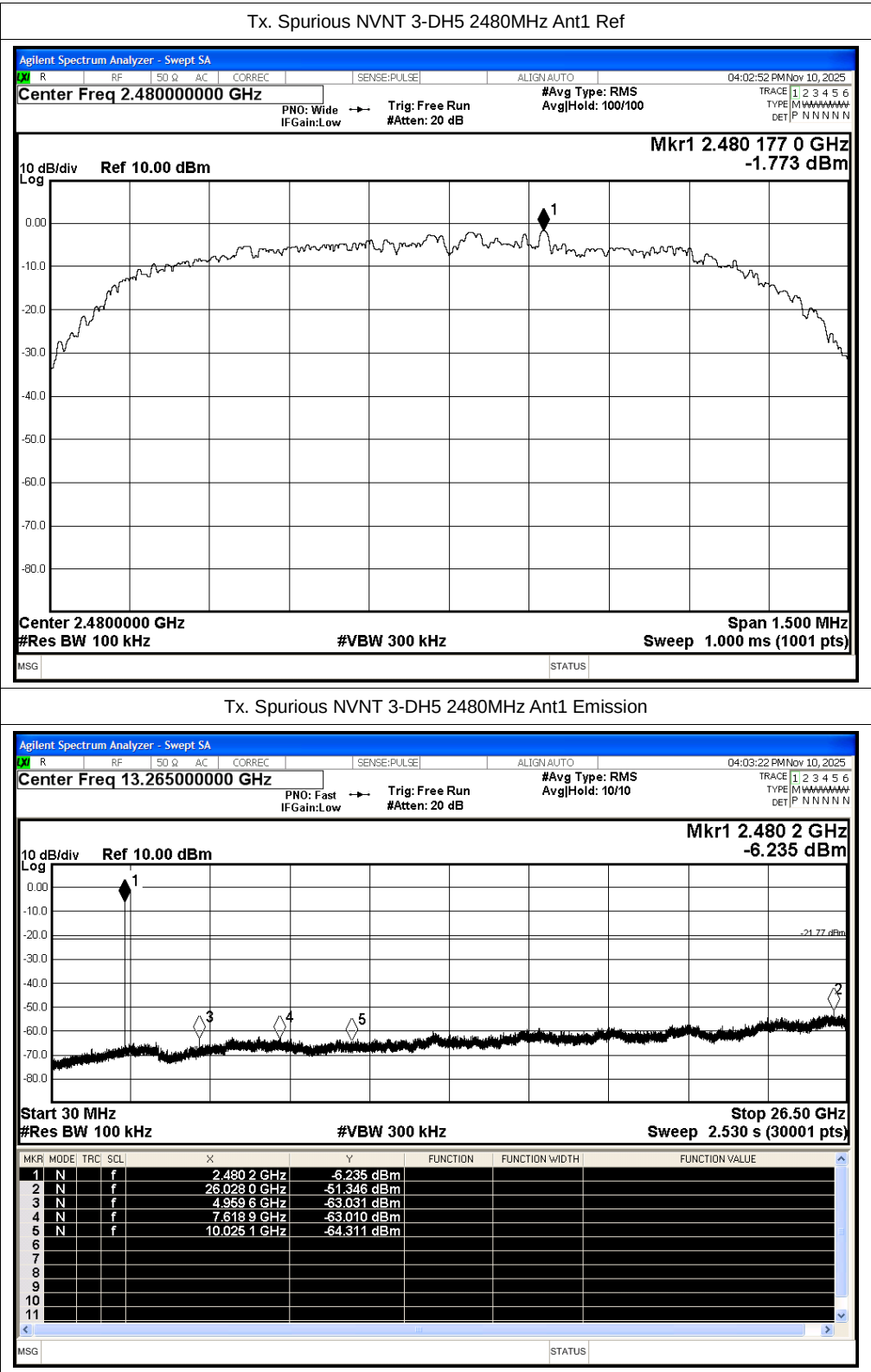






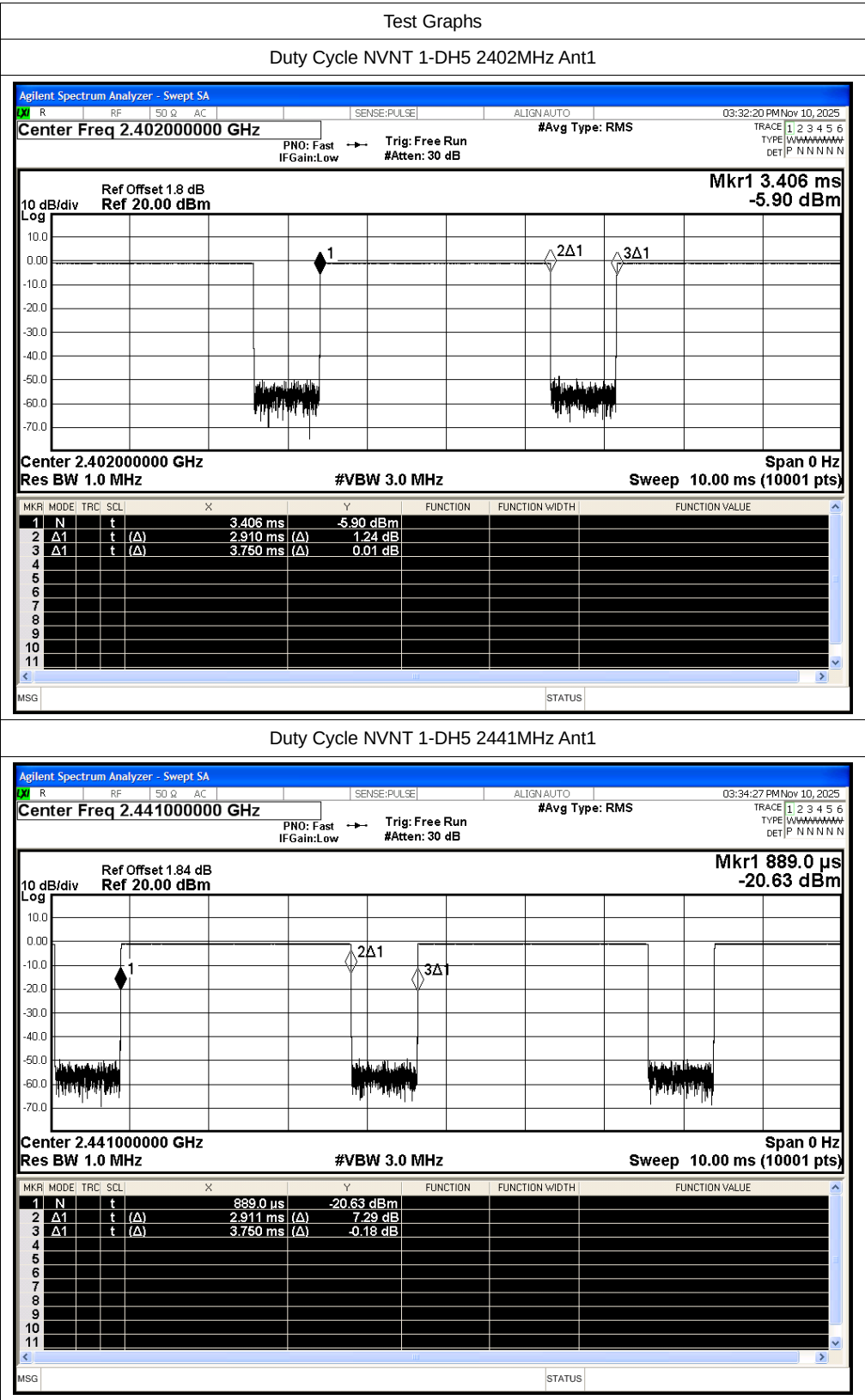


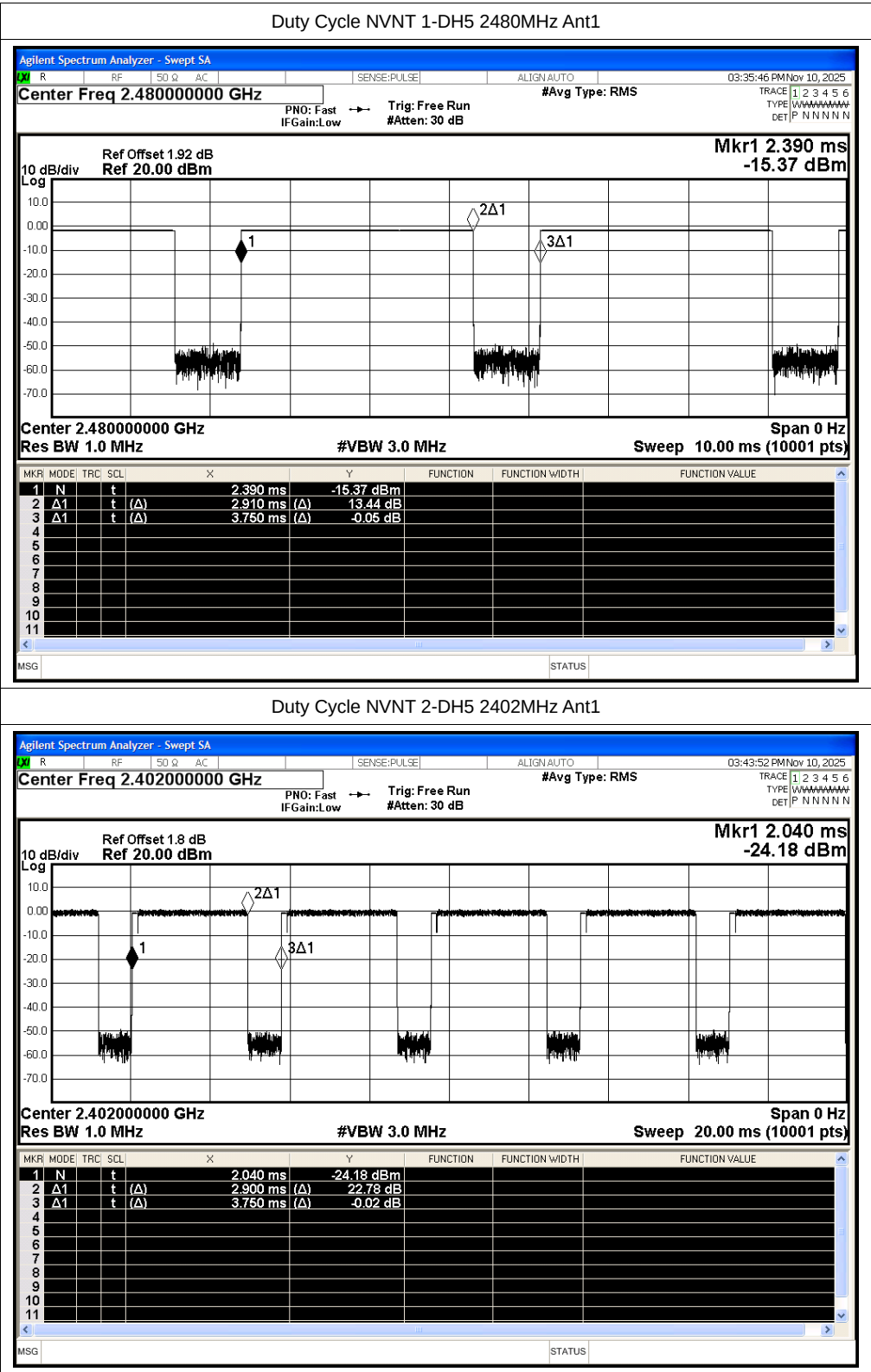




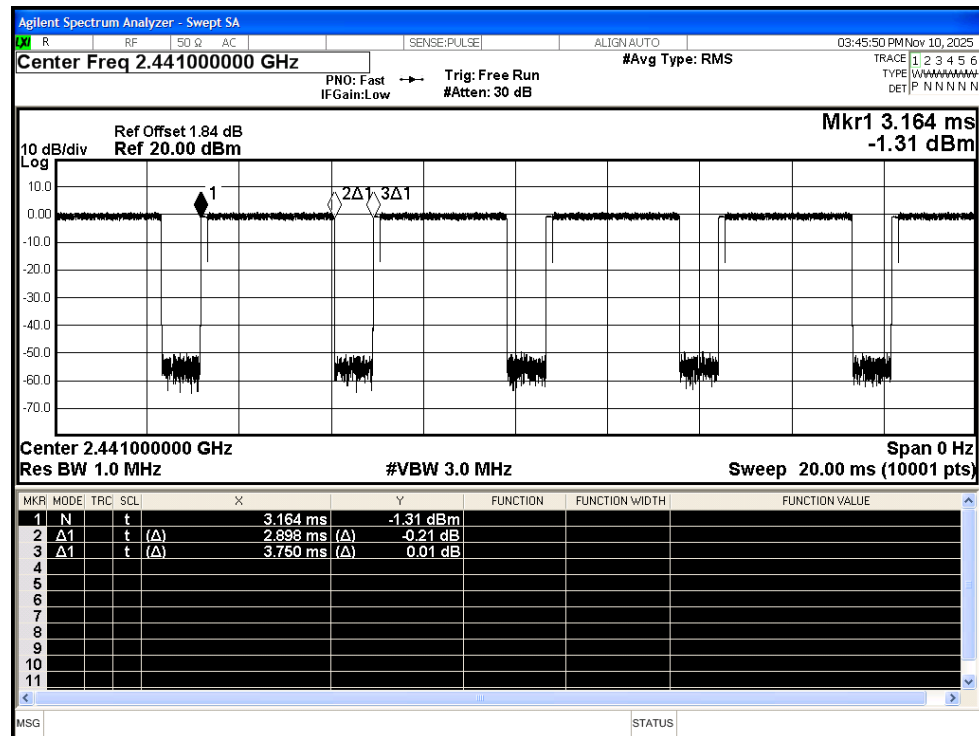
A.8 Duty Cycle

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	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.29	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

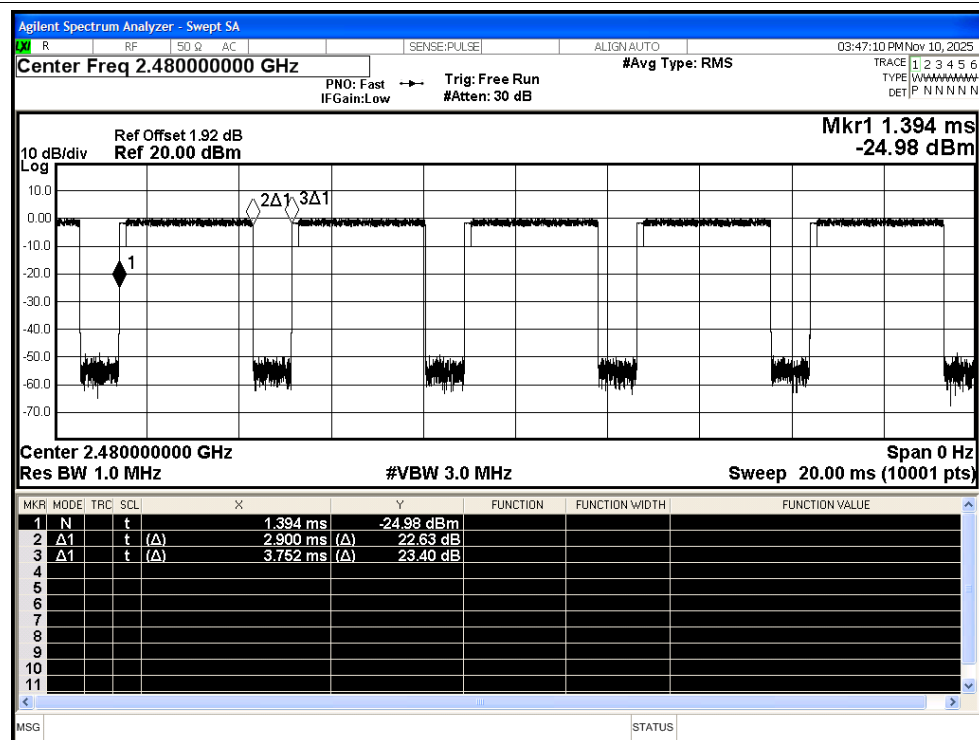


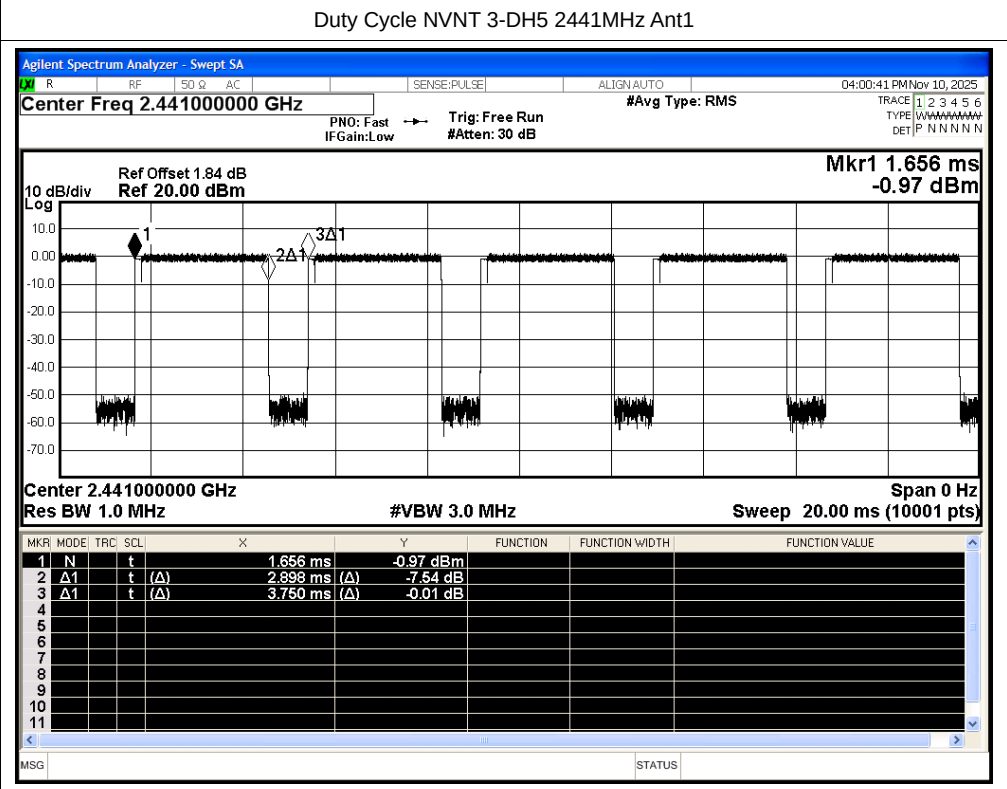
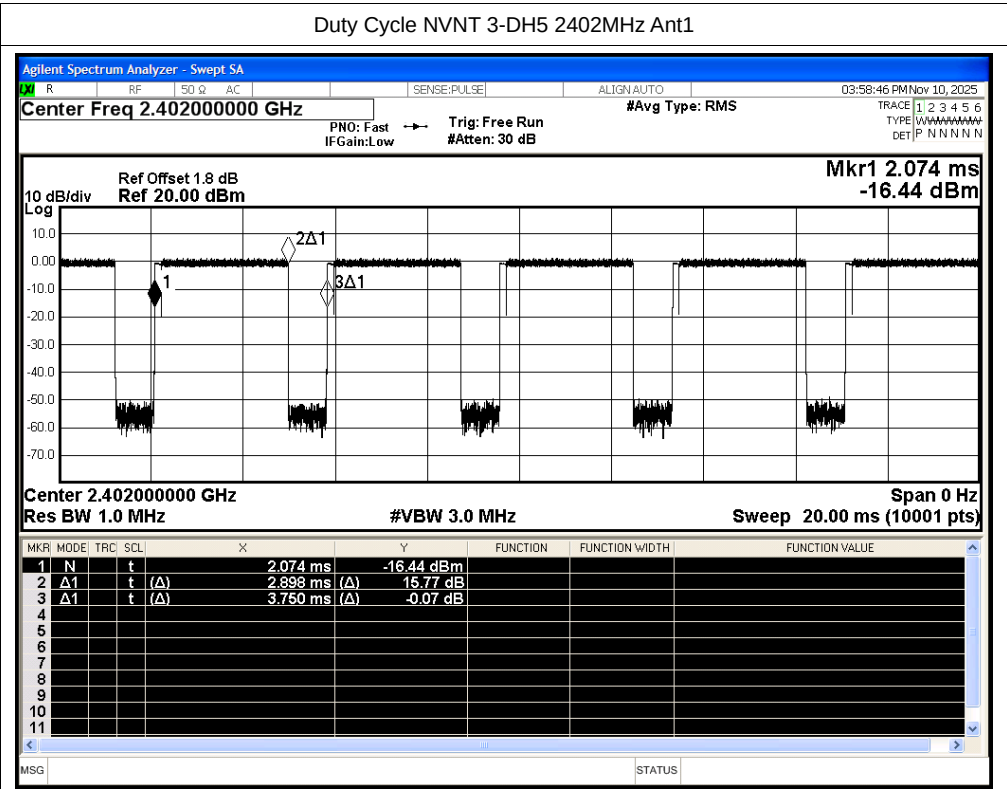


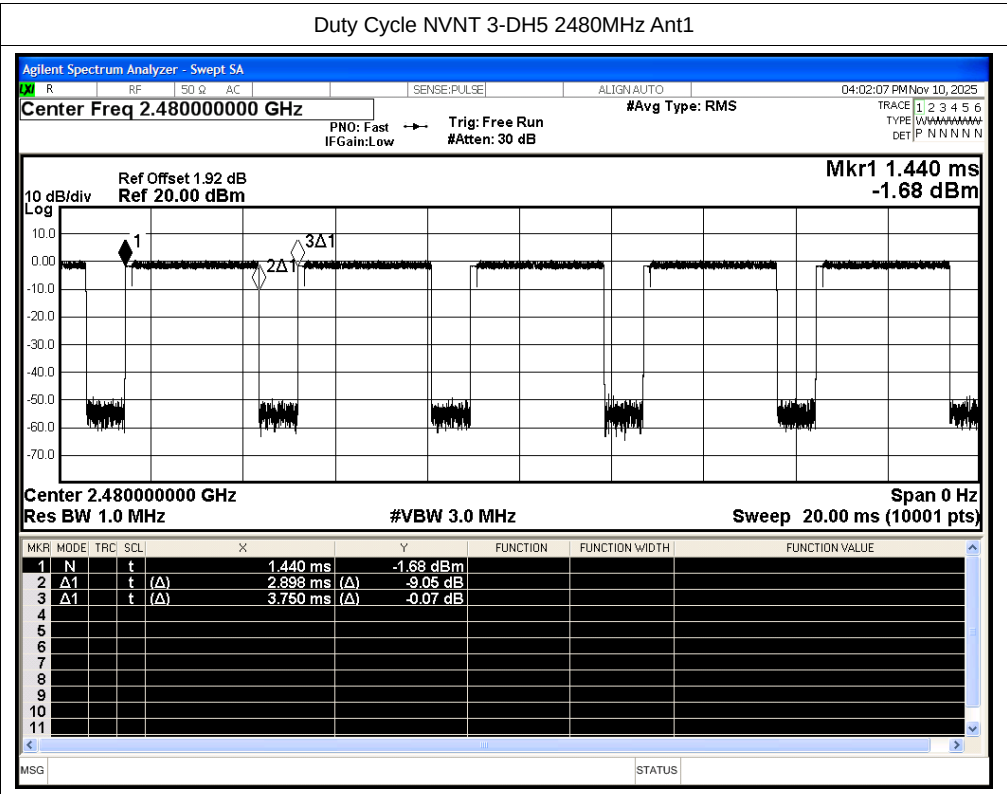
Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1

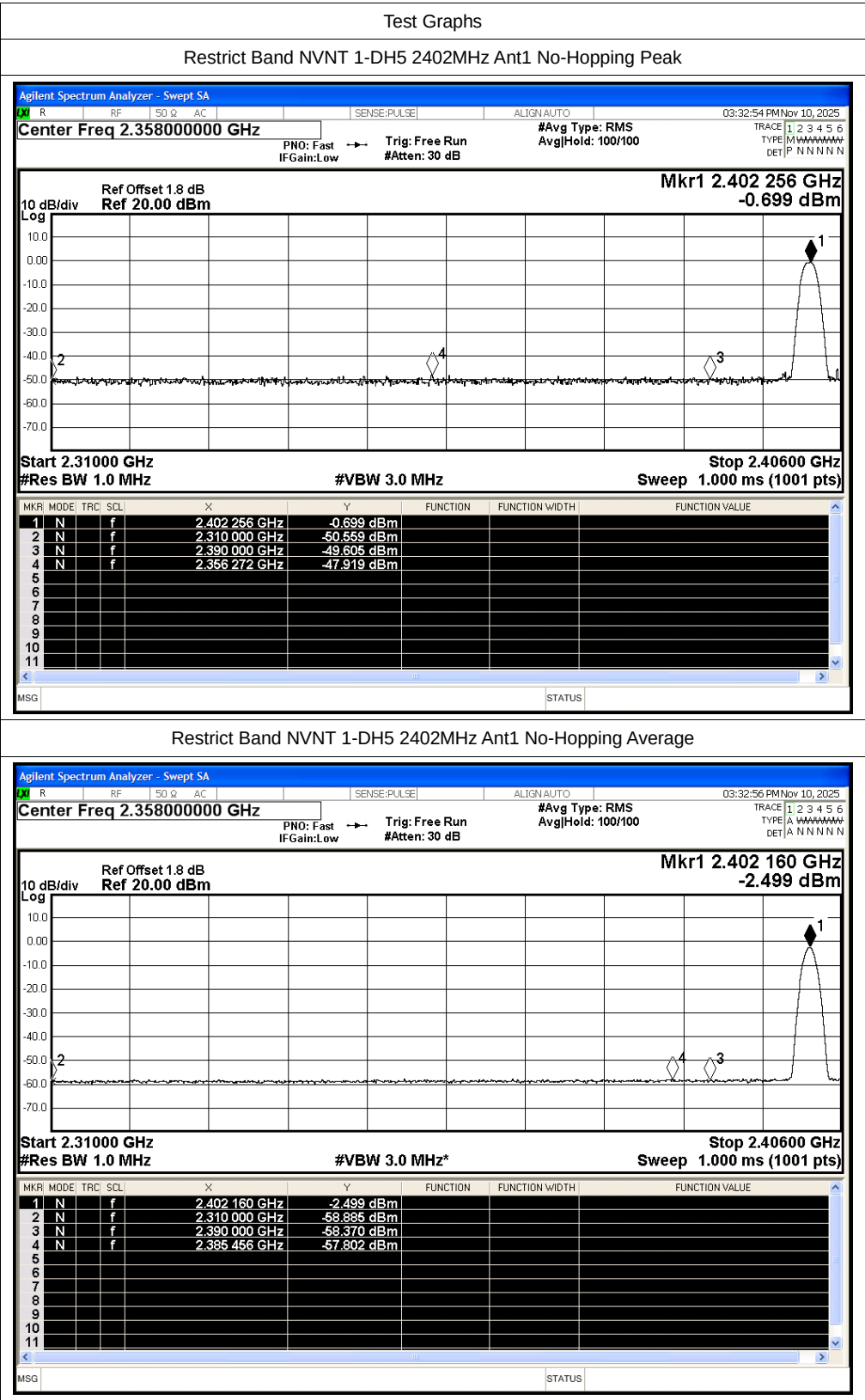






A.9 Restrict Band

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	-50.56	2	-	46.7	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.89	2	1.1	39.47	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2356.272	-47.92	2	-	49.34	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.456	-57.8	2	1.1	40.56	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.61	2	-	47.65	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.37	2	1.1	39.99	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.01	2	-	47.25	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.05	2	1.1	40.31	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2485.624	-46.85	2	-	50.41	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.872	-57.25	2	1.1	41.11	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.06	2	-	46.2	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.48	2	1.1	39.88	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.65	2	-	46.61	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.13	2	1.12	39.25	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2381.424	-47.46	2	-	49.8	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2326.8	-57.8	2	1.12	40.58	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.53	2	-	46.73	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.7	2	1.12	39.68	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.64	2	-	47.62	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.67	2	1.12	40.71	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.144	-46.25	2	-	51.01	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.56	-57.11	2	1.12	41.27	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.1	2	-	47.16	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.07	2	1.12	40.31	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.14	2	-	47.12	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.99	2	1.12	39.39	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2320.08	-48.13	2	-	49.13	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2379.408	-57.67	2	1.12	40.71	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-51.25	2	-	46.01	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.95	2	1.12	39.43	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.01	2	-	49.25	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.35	2	1.12	41.03	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2484.568	-46.83	2	-	50.43	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.704	-57.08	2	1.12	41.3	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.59	2	-	46.67	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.42	2	1.12	39.96	Average	54	Pass



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

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.358000000 GHz

PN0: Fast
IFGain: Low

Trig: Free Run
#Atten: 30 dB

#Avg Type: RMS
AvgHold: 100/100

03:32:56 PM Nov 10, 2025

TRACE 1 2 3 4 5 6
TYPE A A A A A A
DET A N N N N N

10 dB/div
Log

Ref Offset 1.8 dB
Ref 20.00 dBm

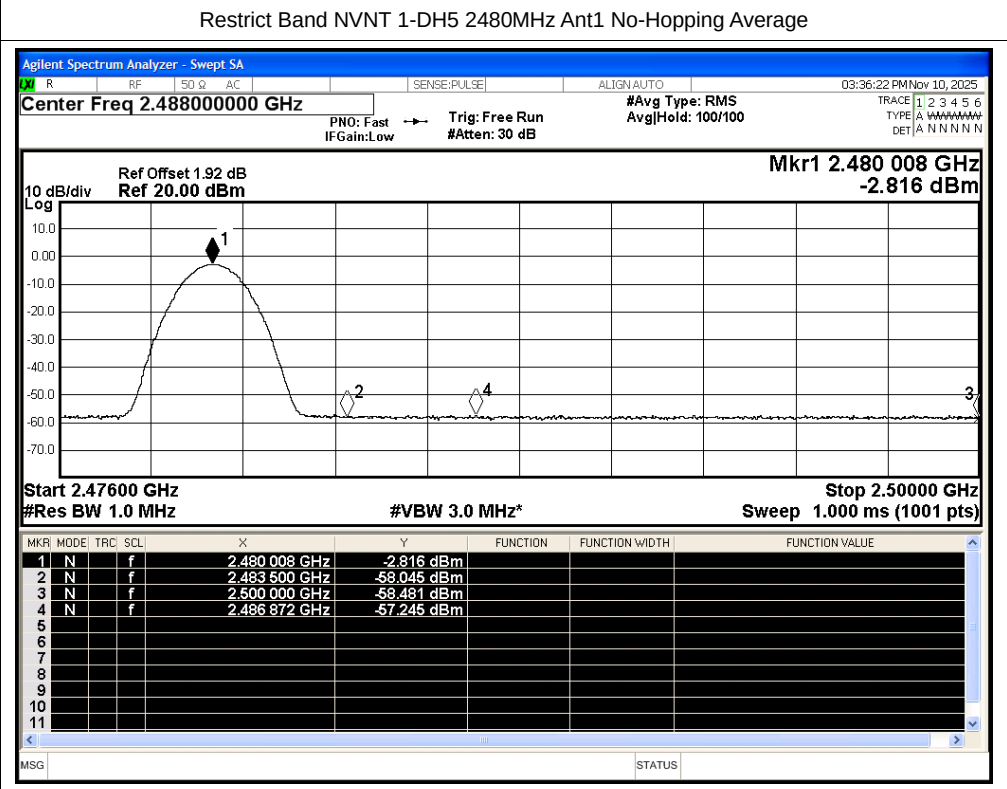
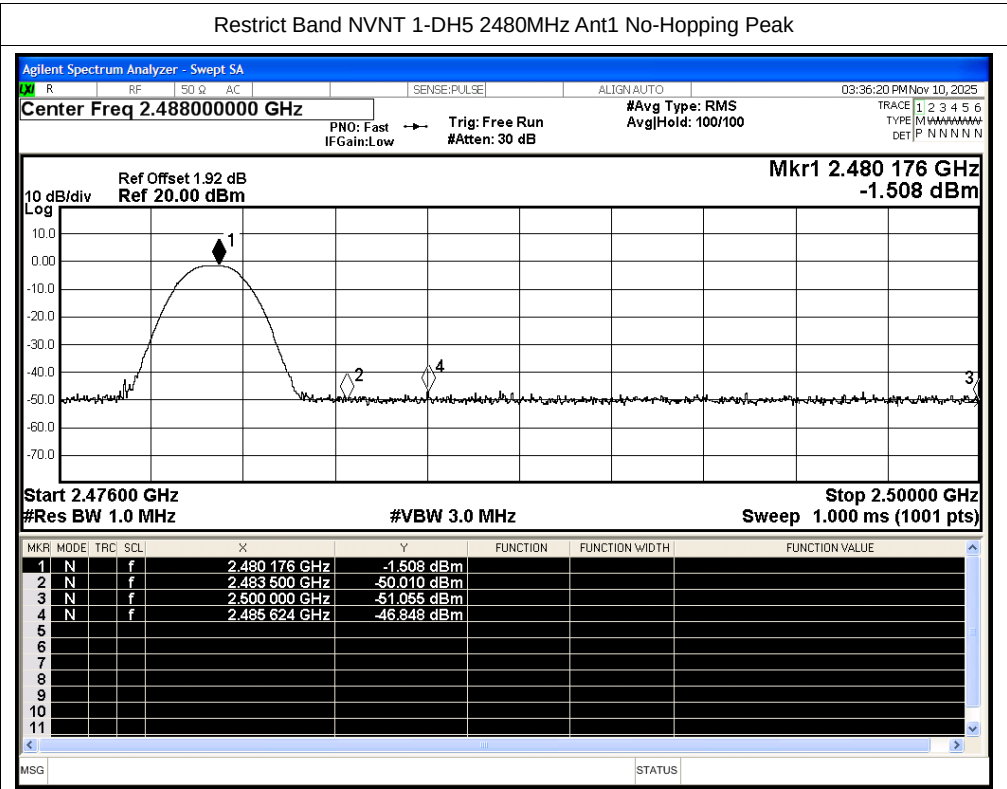
Mkr1 2.402 160 GHz
-2.499 dBm

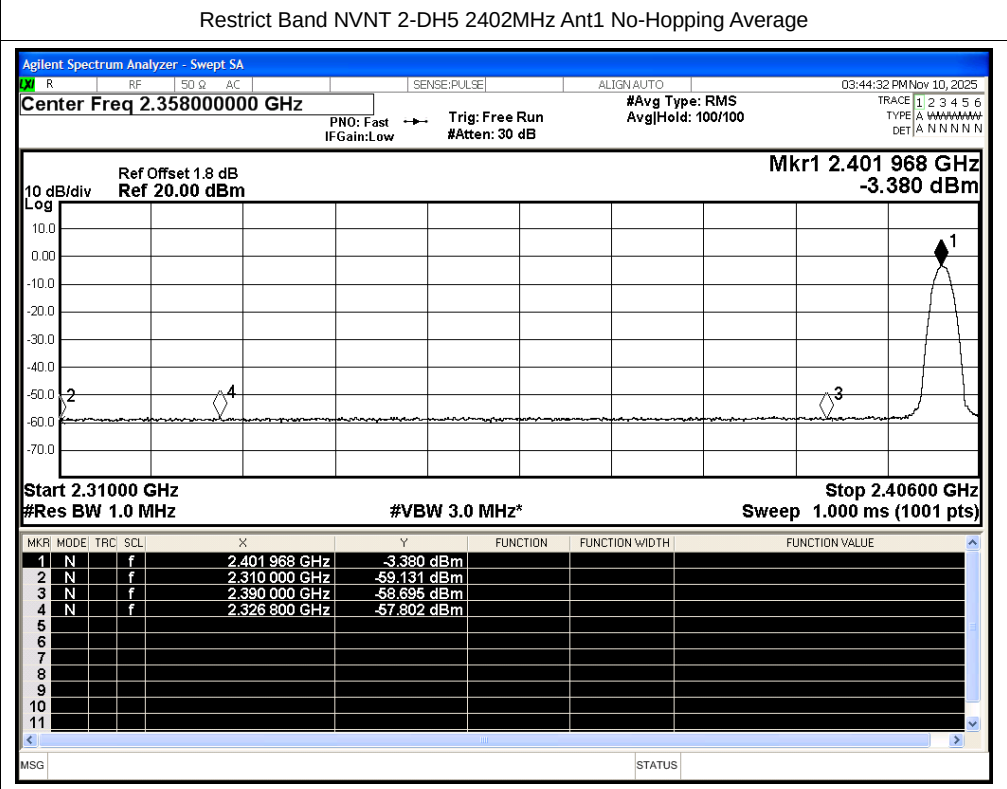
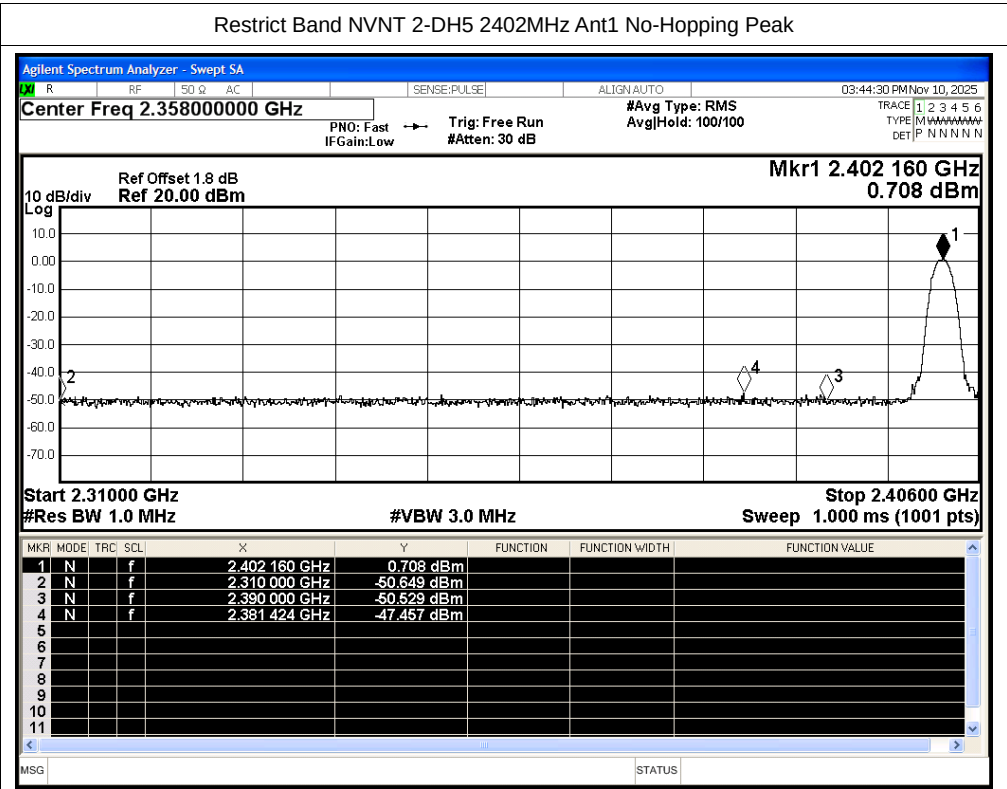
Start 2.31000 GHz
#Res BW 1.0 MHz

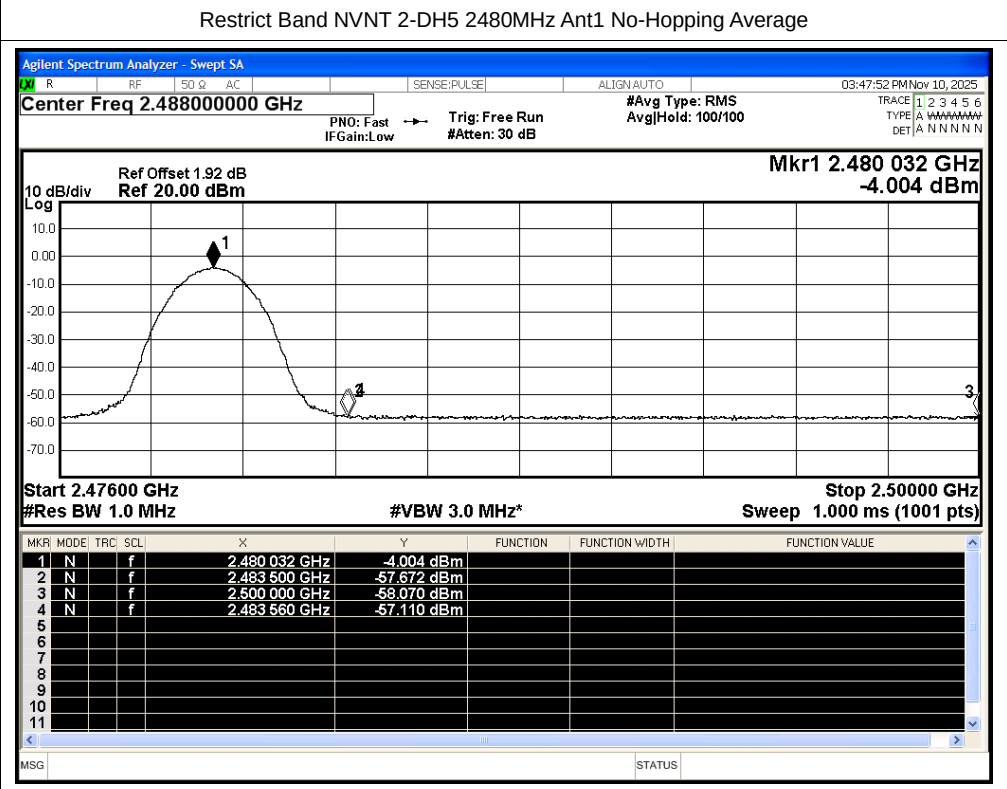
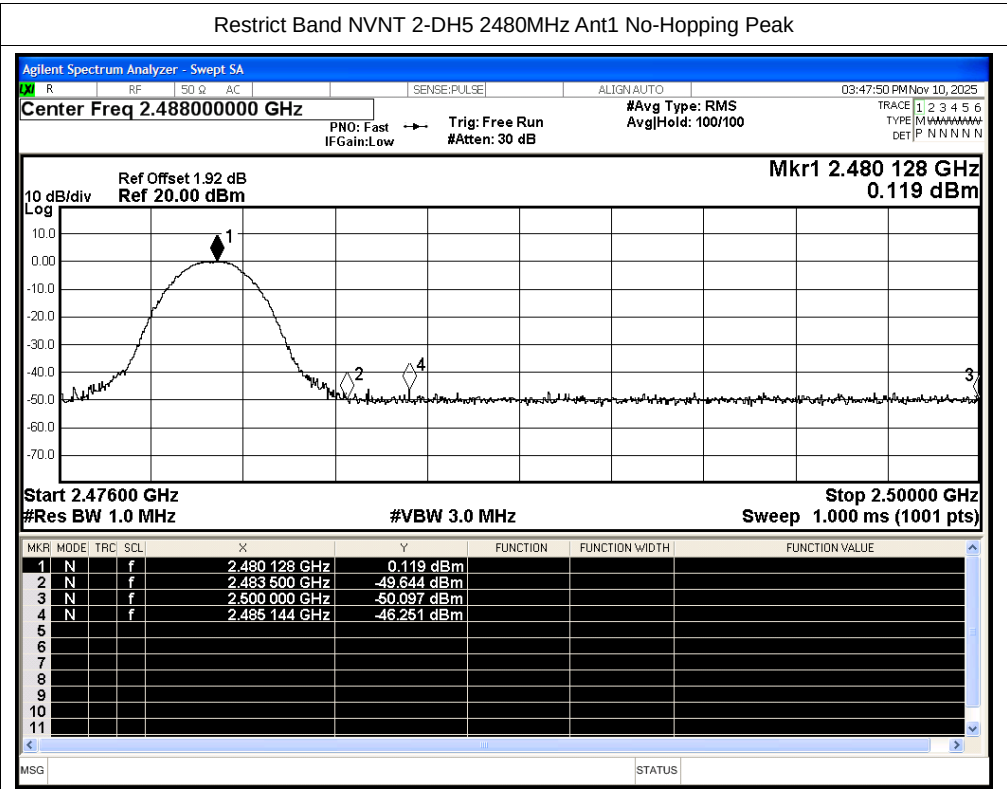
#VBW 3.0 MHz*

Stop 2.40600 GHz
Sweep 1.000 ms (1001 pts)

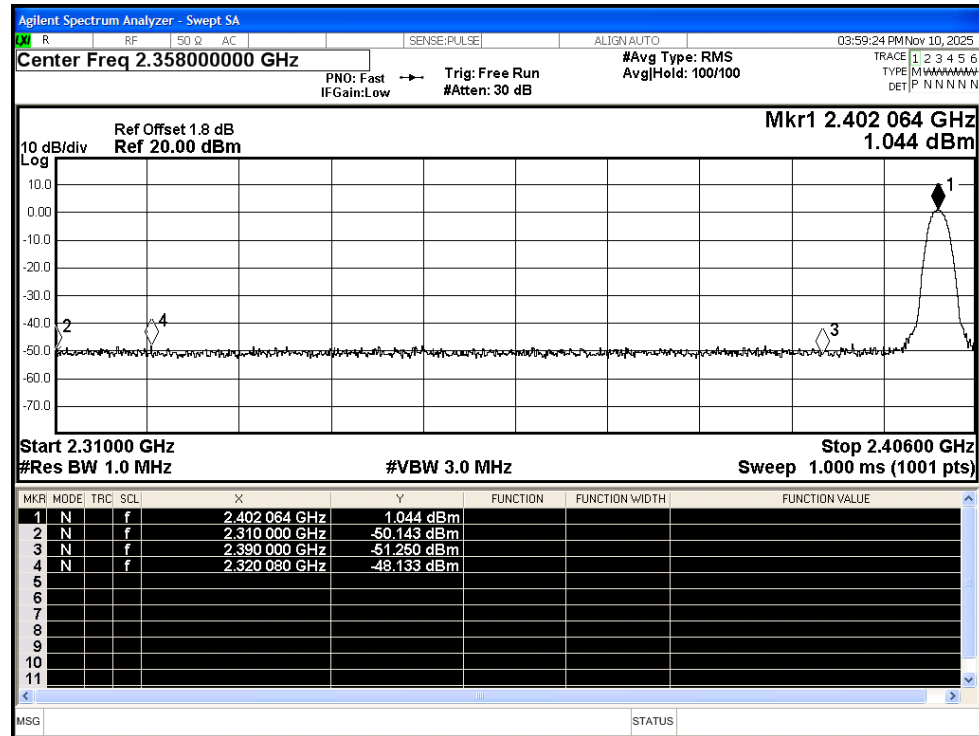
MSG STATUS







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



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

