

Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Microphone

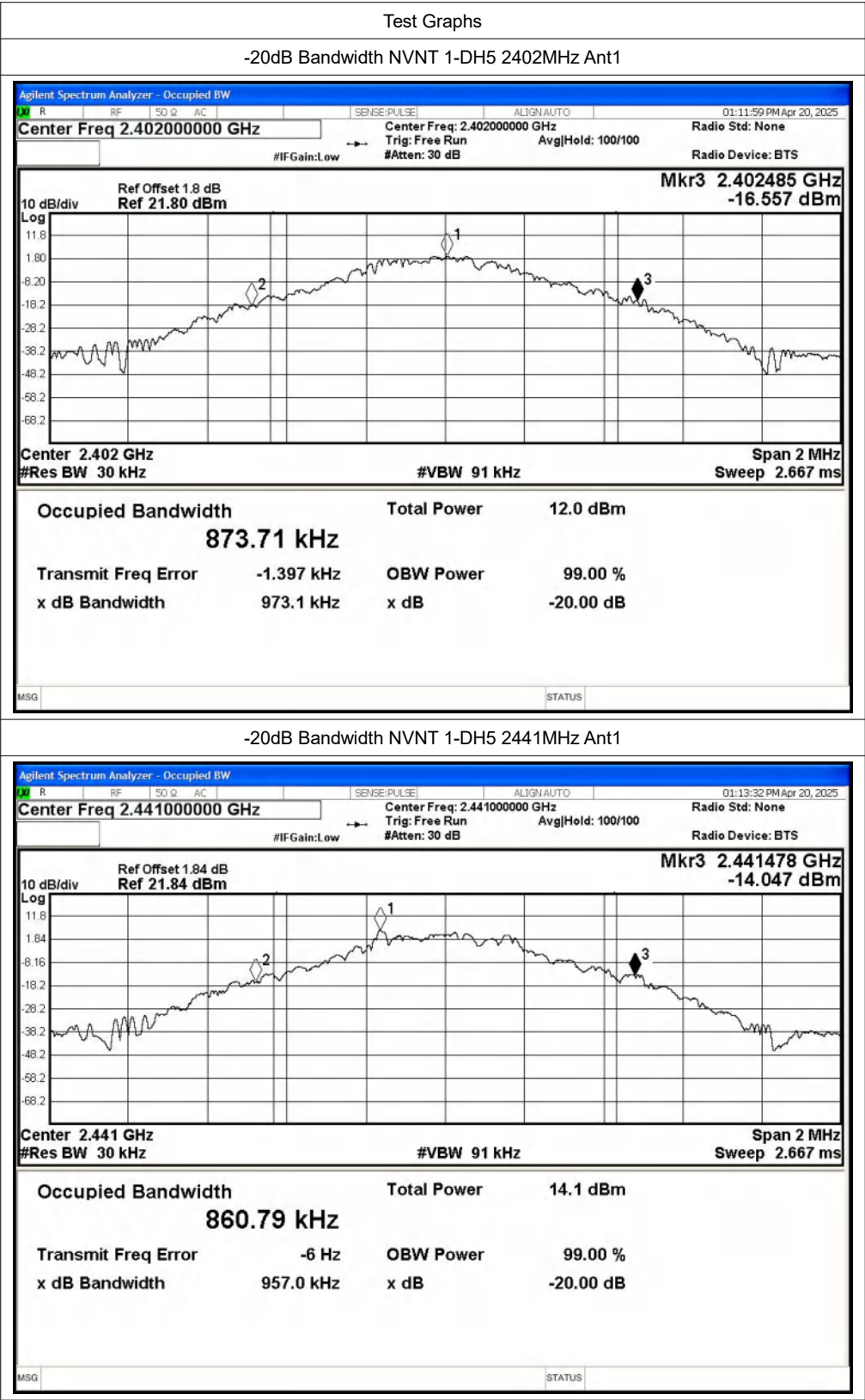
Test Model: KM23

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Yan Chen
Supervised by:	Fengliu Tang

A.1 -20dB Bandwidth

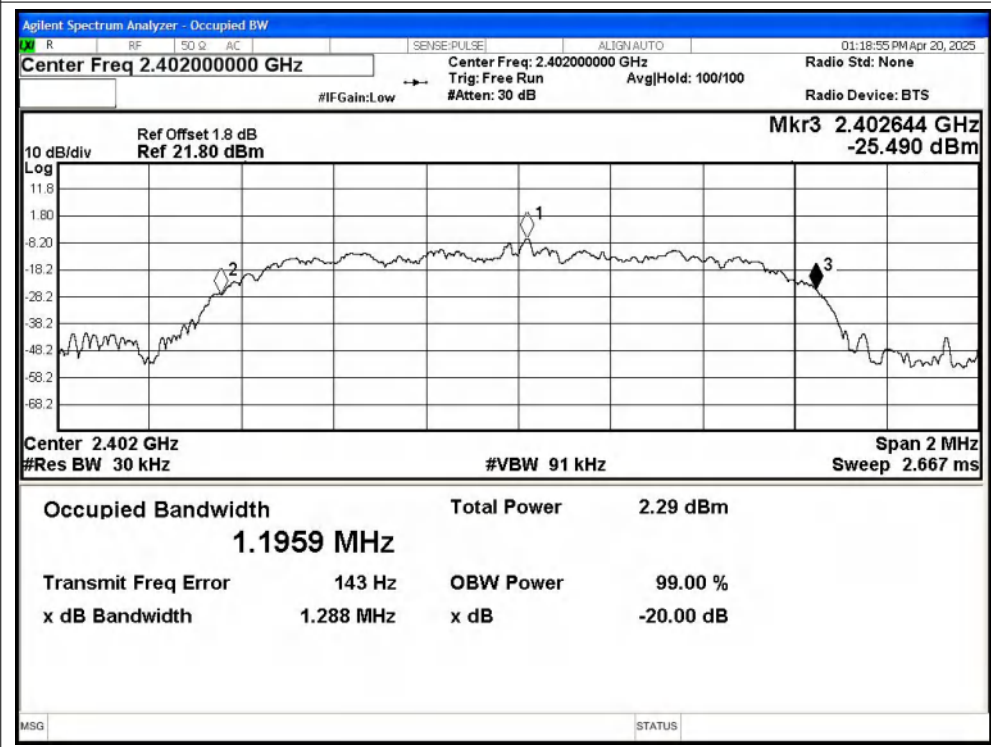
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.973	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.957	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.008	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.288	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.288	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.325	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.299	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.298	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.293	N/A	Pass



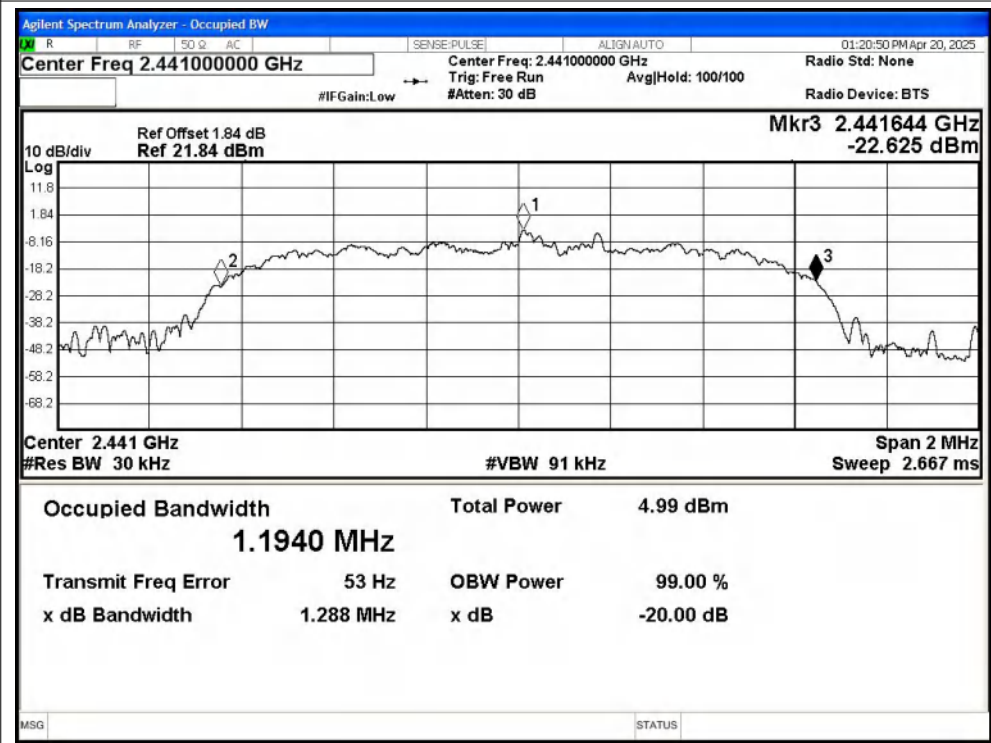
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



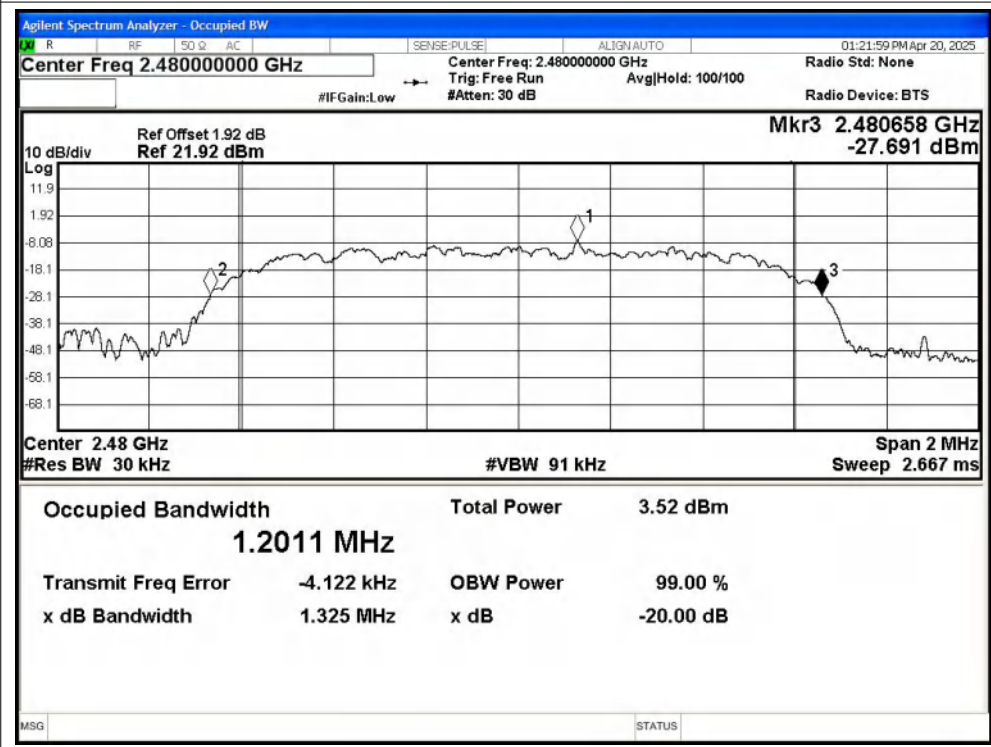
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

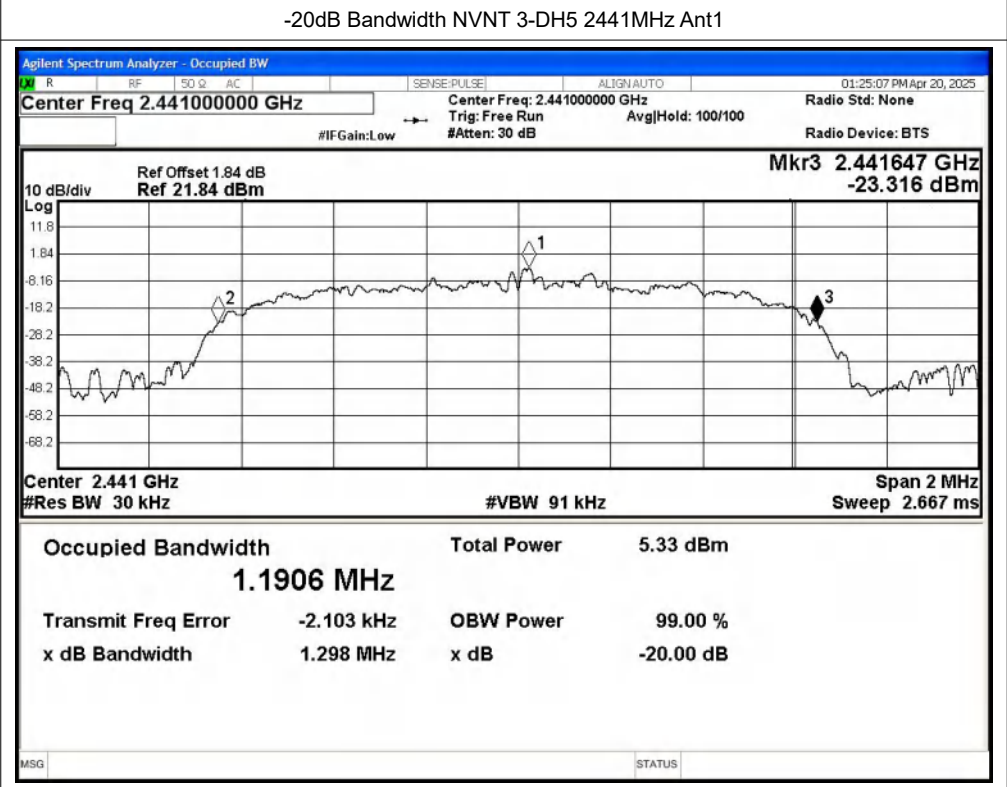
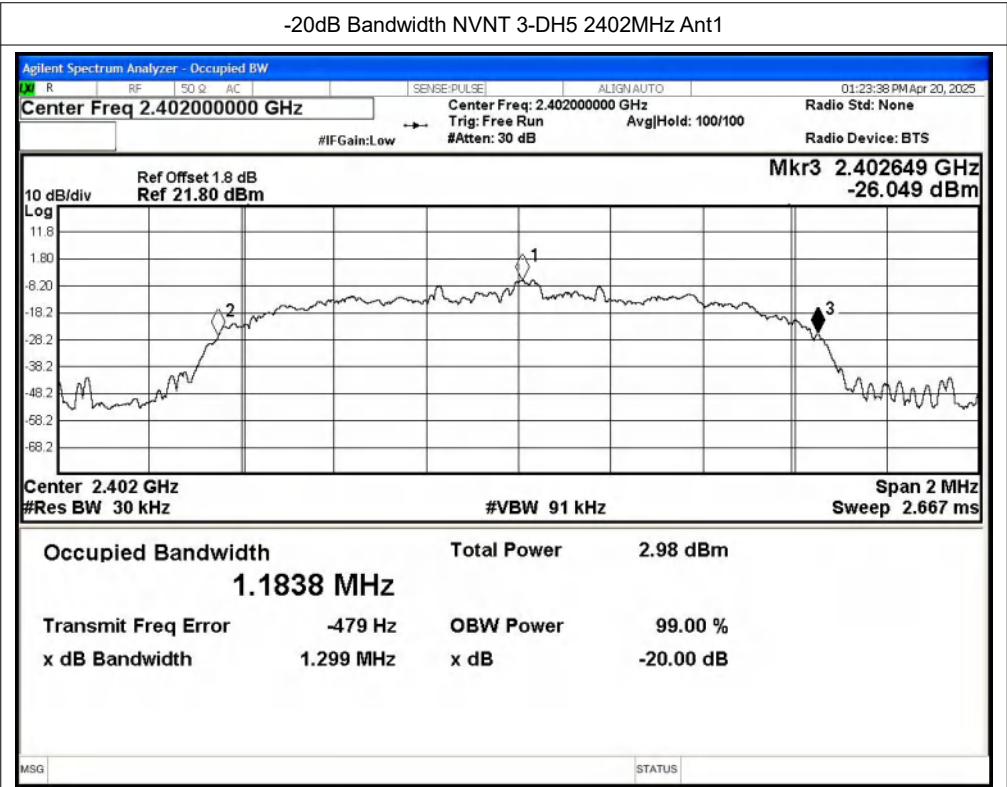


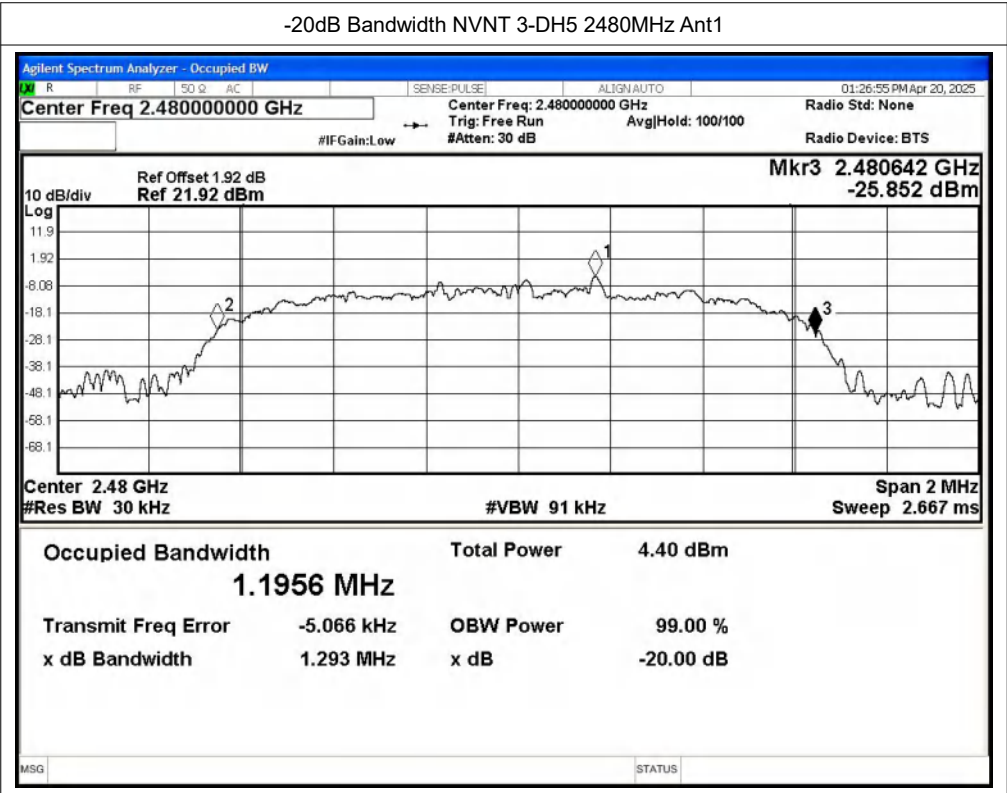
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





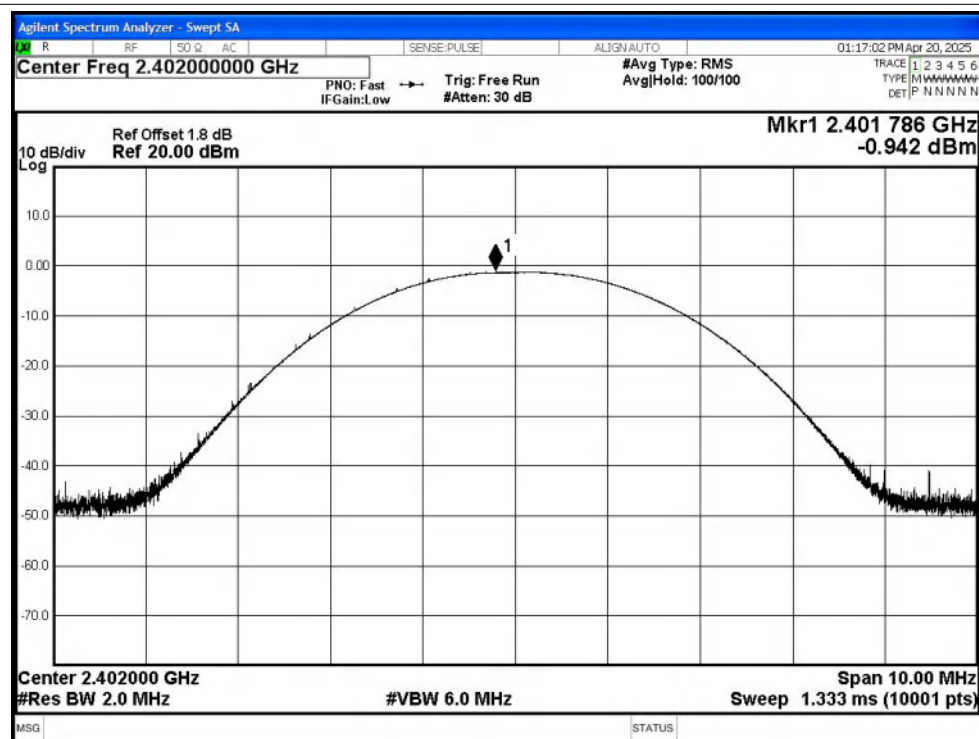


A.2 Maximum Peak Conducted Output Power

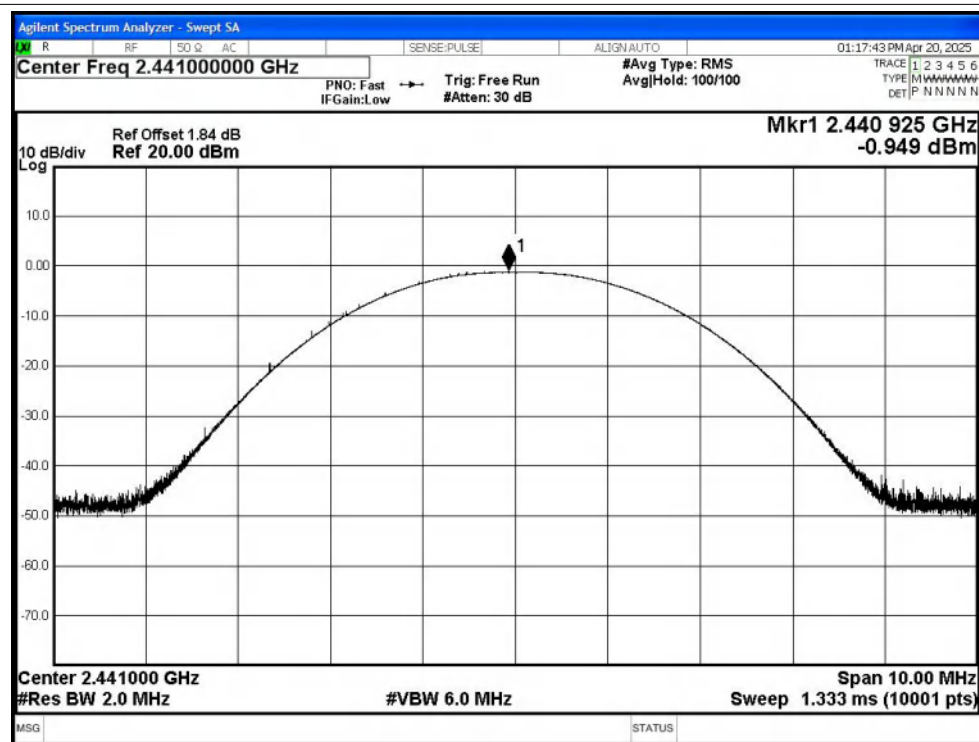
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.94	21	Pass
NVNT	1-DH5	2441	Ant1	-0.95	21	Pass
NVNT	1-DH5	2480	Ant1	-1.80	21	Pass
NVNT	2-DH5	2402	Ant1	-1.75	21	Pass
NVNT	2-DH5	2441	Ant1	0.81	21	Pass
NVNT	2-DH5	2480	Ant1	0.01	21	Pass
NVNT	3-DH5	2402	Ant1	-1.36	21	Pass
NVNT	3-DH5	2441	Ant1	1.19	21	Pass
NVNT	3-DH5	2480	Ant1	0.40	21	Pass

Test Graphs

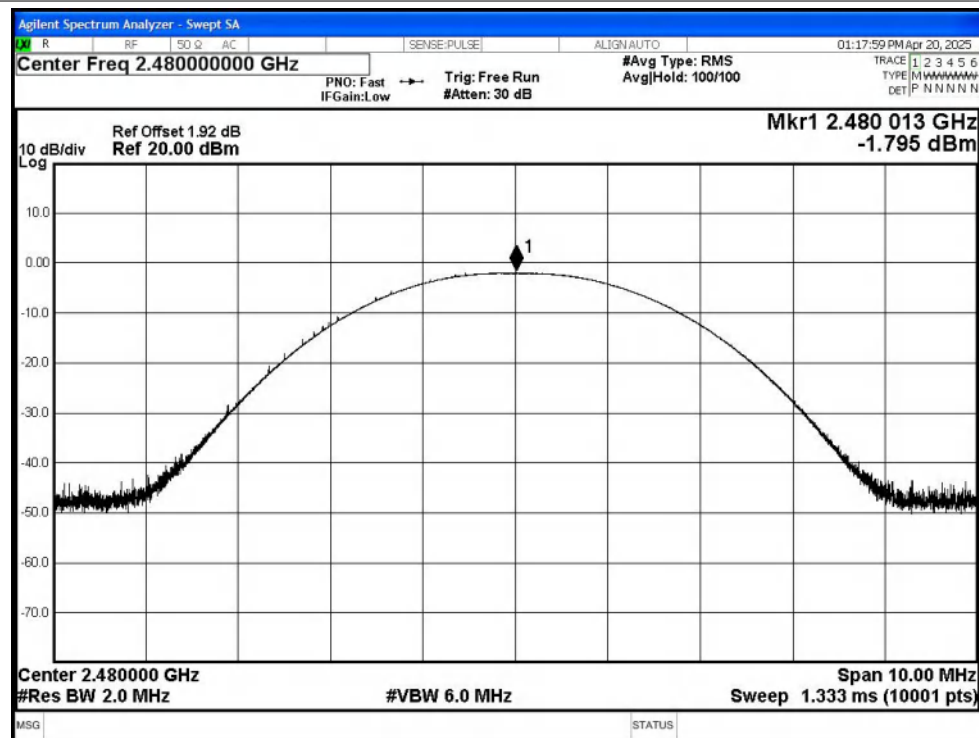
Power NVNT 1-DH5 2402MHz Ant1



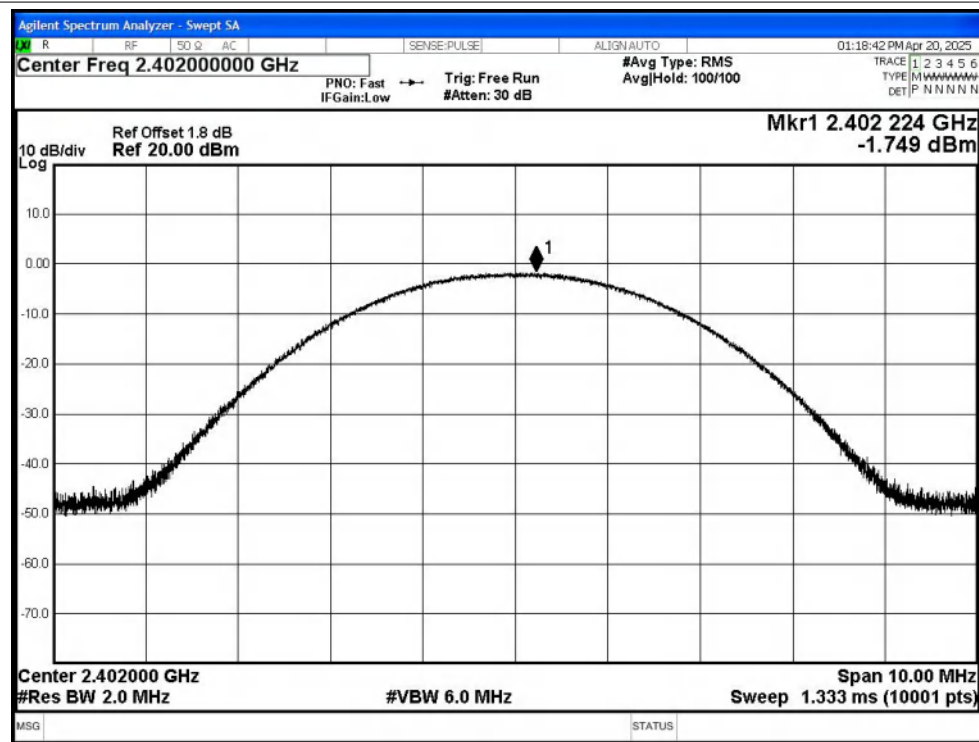
Power NVNT 1-DH5 2441MHz Ant1



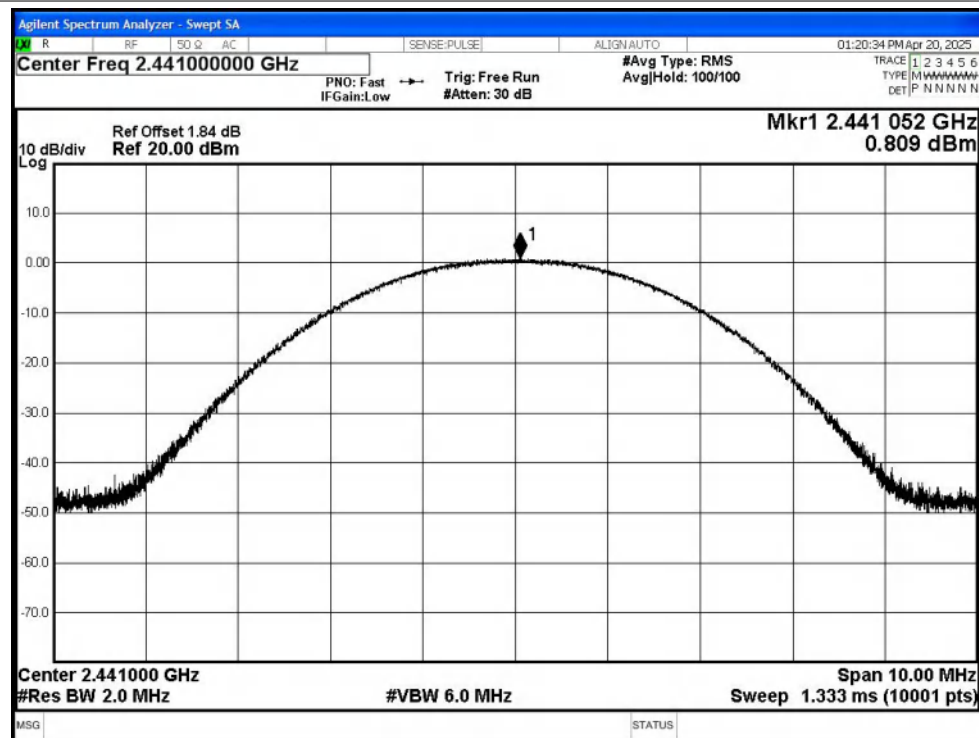
Power NVNT 1-DH5 2480MHz Ant1



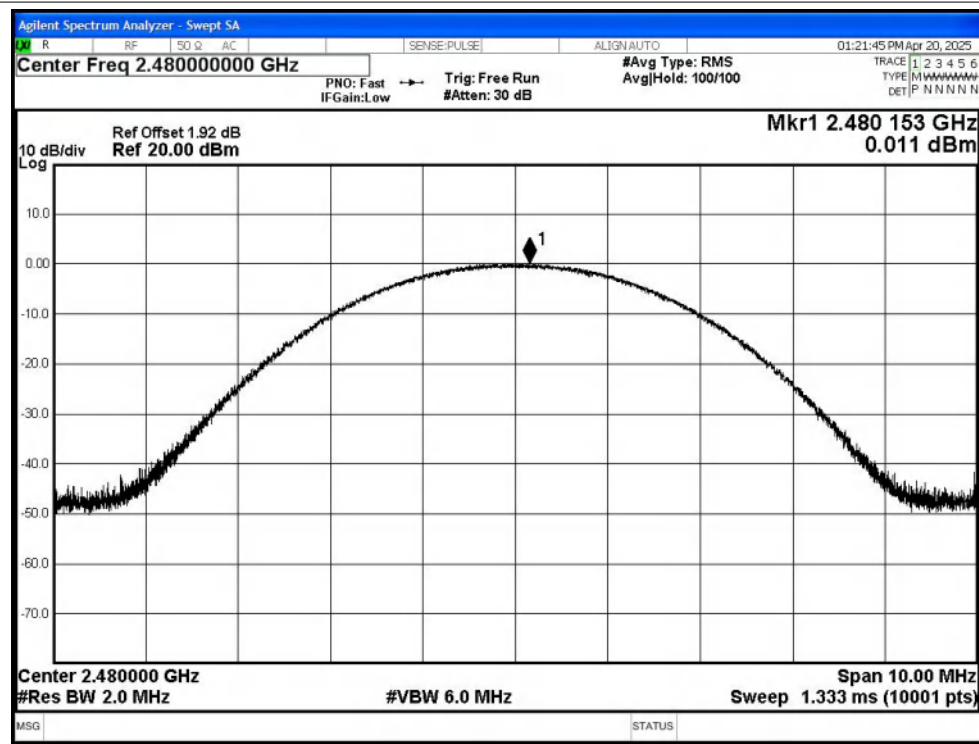
Power NVNT 2-DH5 2402MHz Ant1



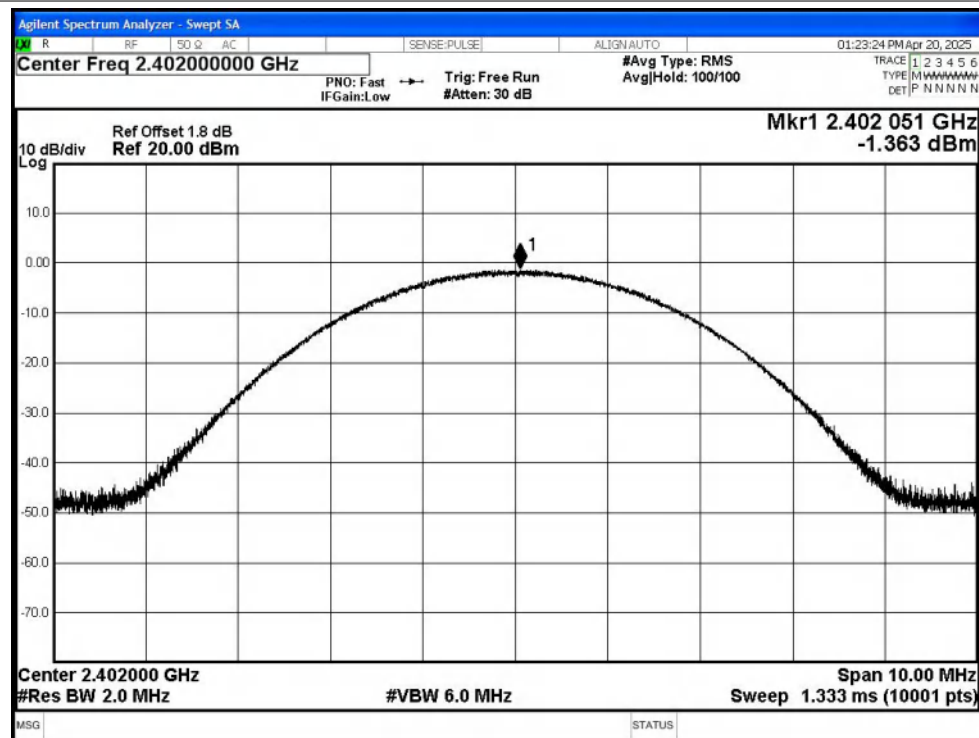
Power NVNT 2-DH5 2441MHz Ant1



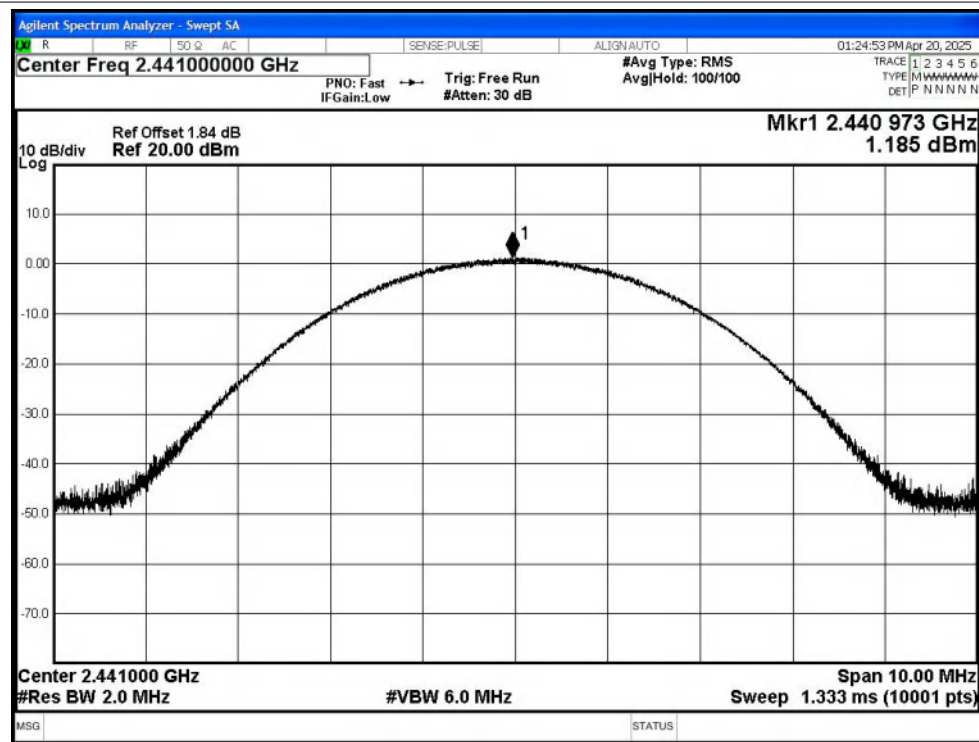
Power NVNT 2-DH5 2480MHz Ant1

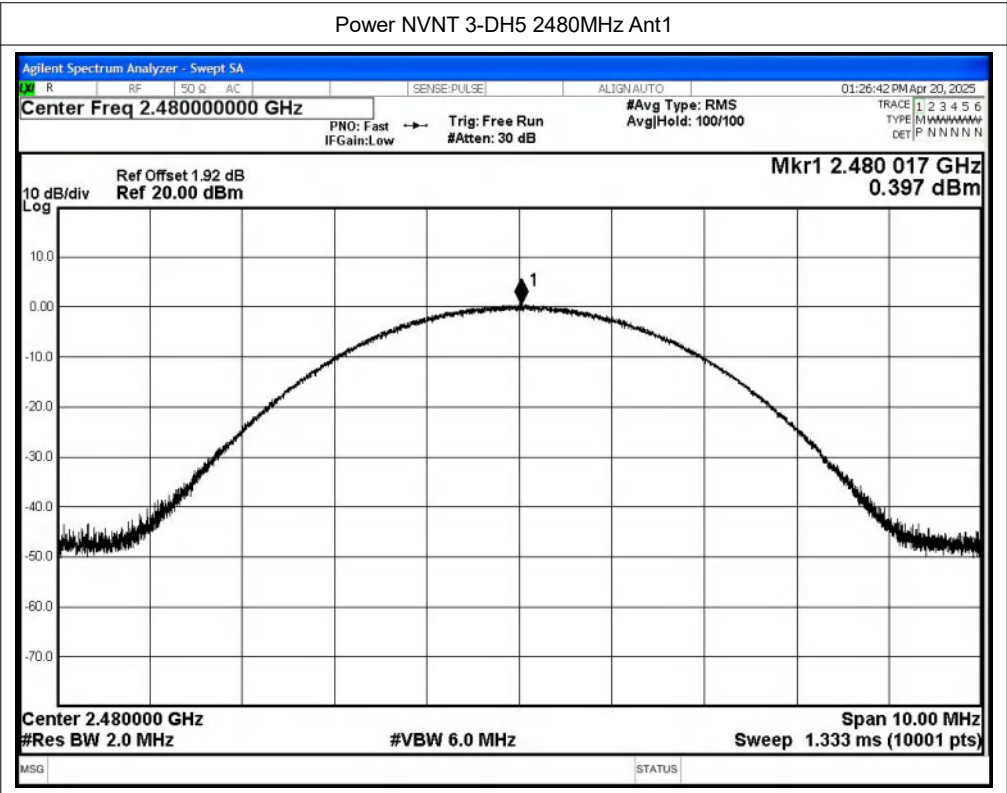


Power NVNT 3-DH5 2402MHz Ant1



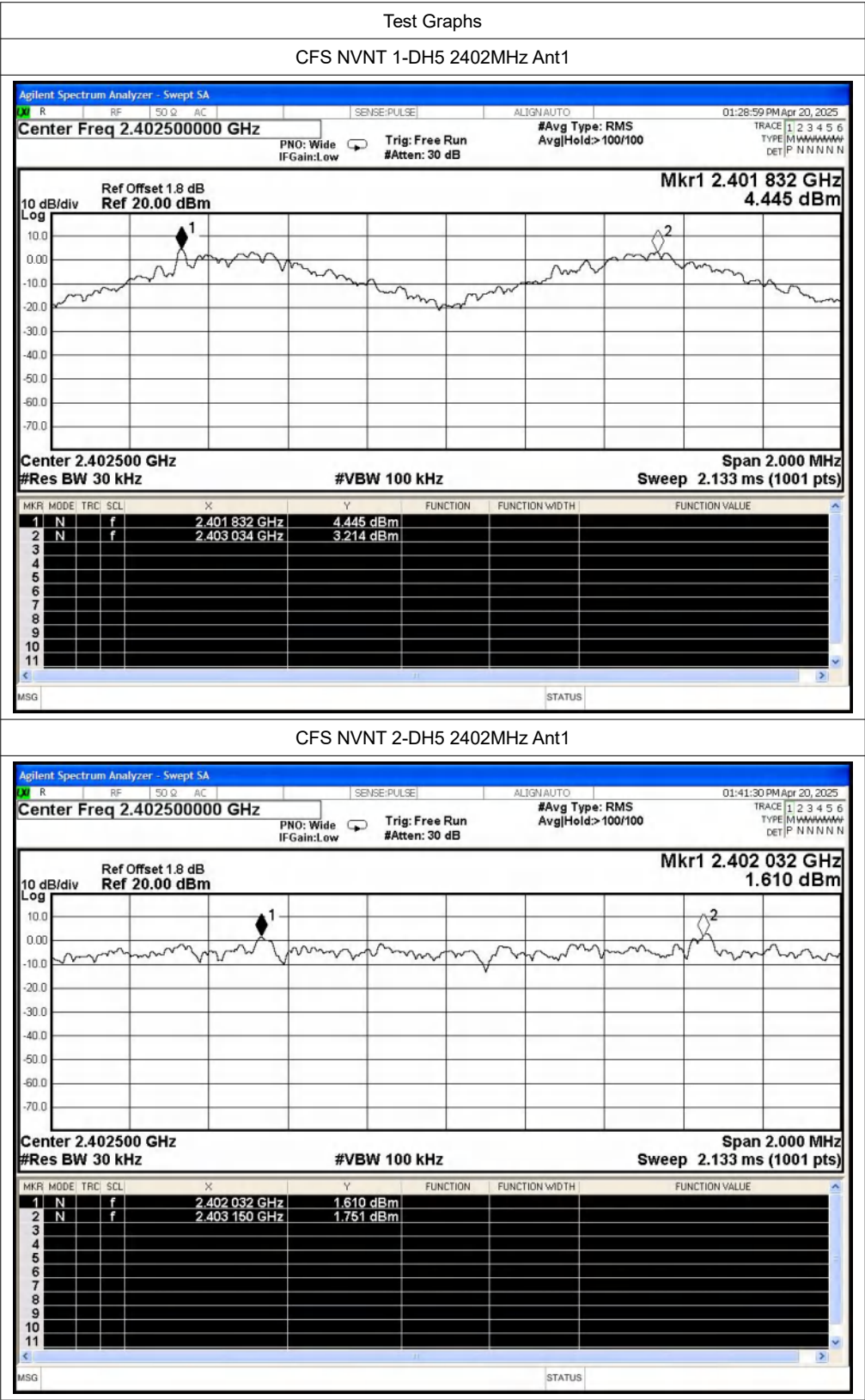
Power NVNT 3-DH5 2441MHz Ant1

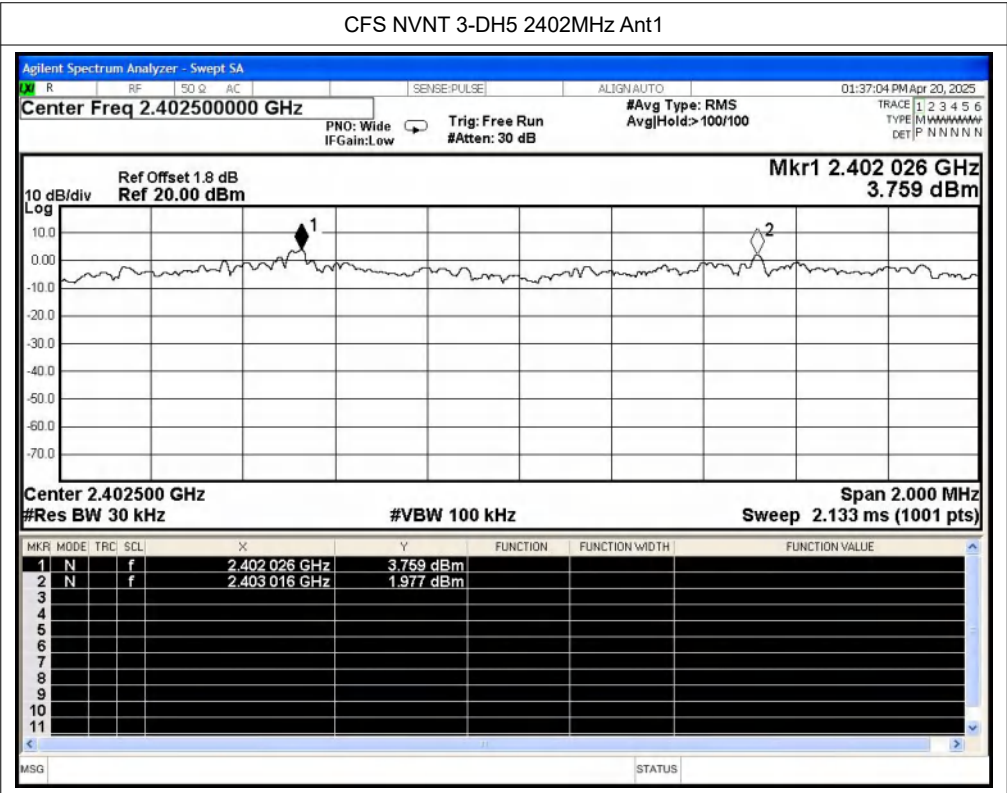




A.3 Carrier Frequencies Separation

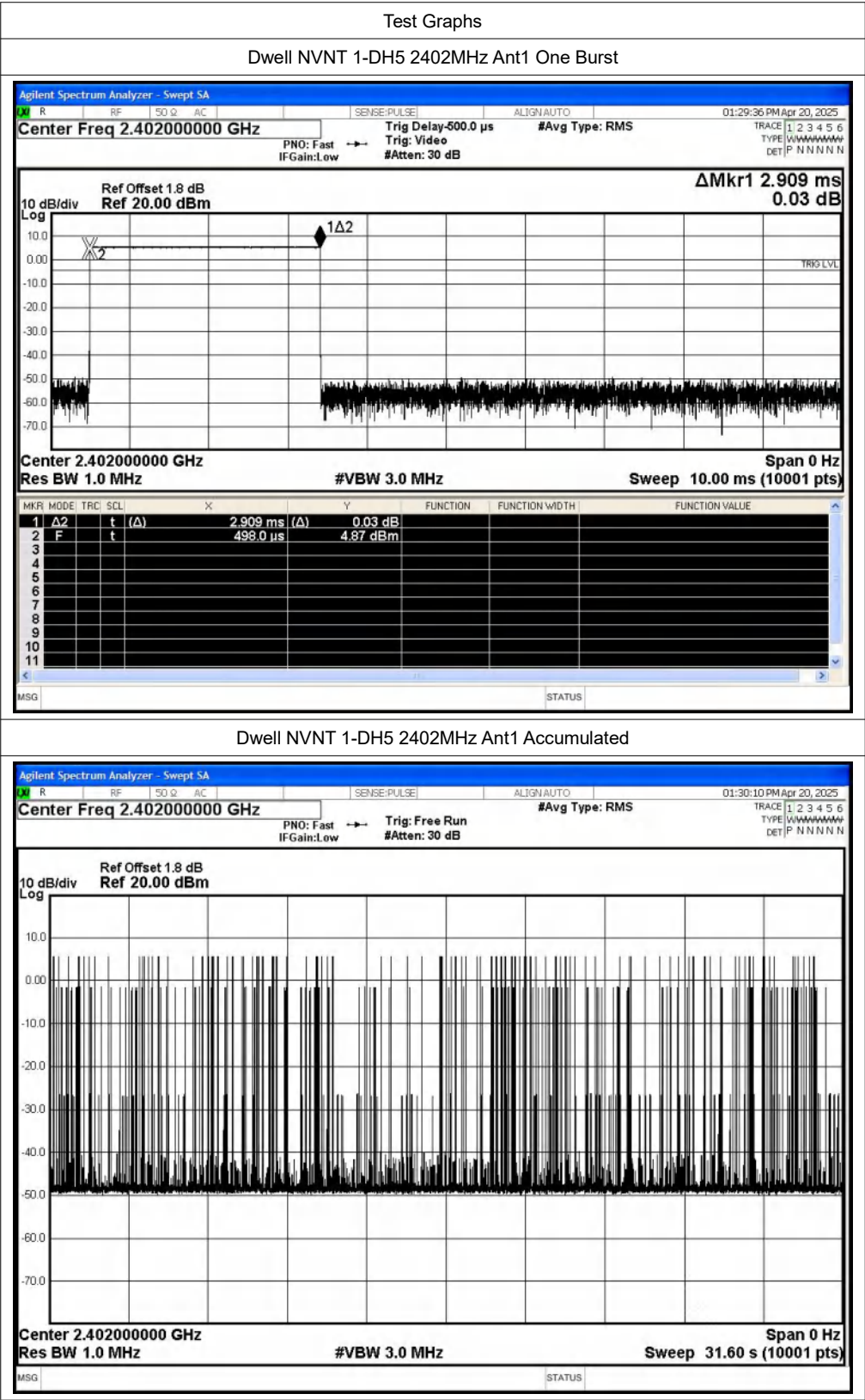
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.832	2403.034	1.202	0.672	Pass
NVNT	2-DH5	Ant1	2402.032	2403.15	1.118	0.883	Pass
NVNT	3-DH5	Ant1	2402.026	2403.016	0.99	0.866	Pass



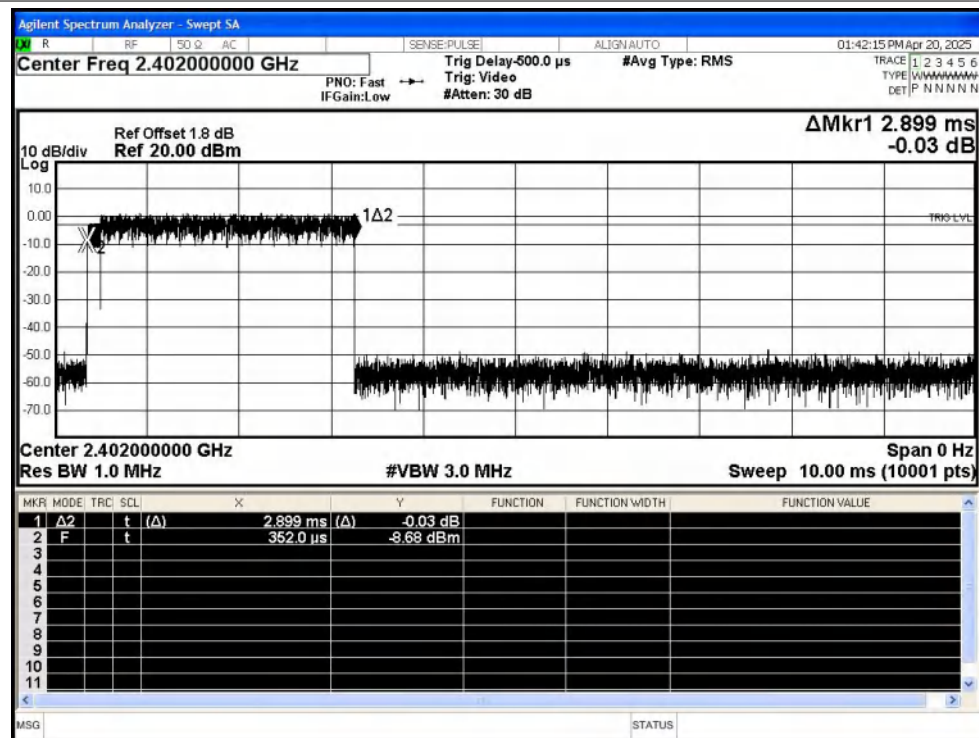


A.4 Dwell Time

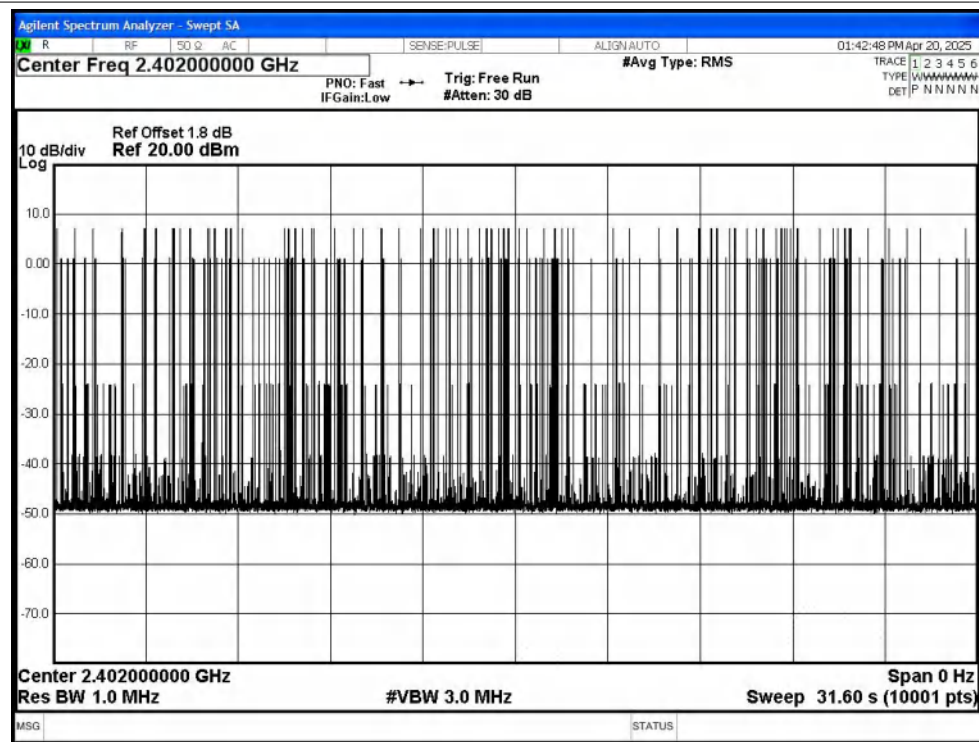
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	325.808	112	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	278.304	96	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	341.846	118	31600	400	Pass

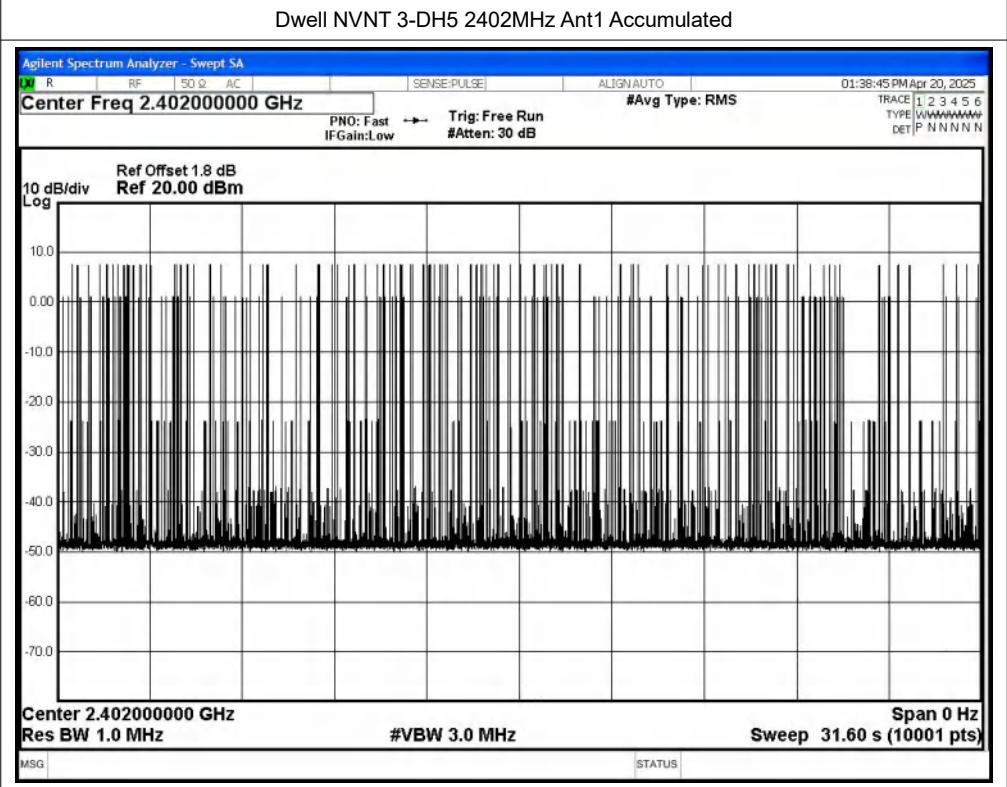
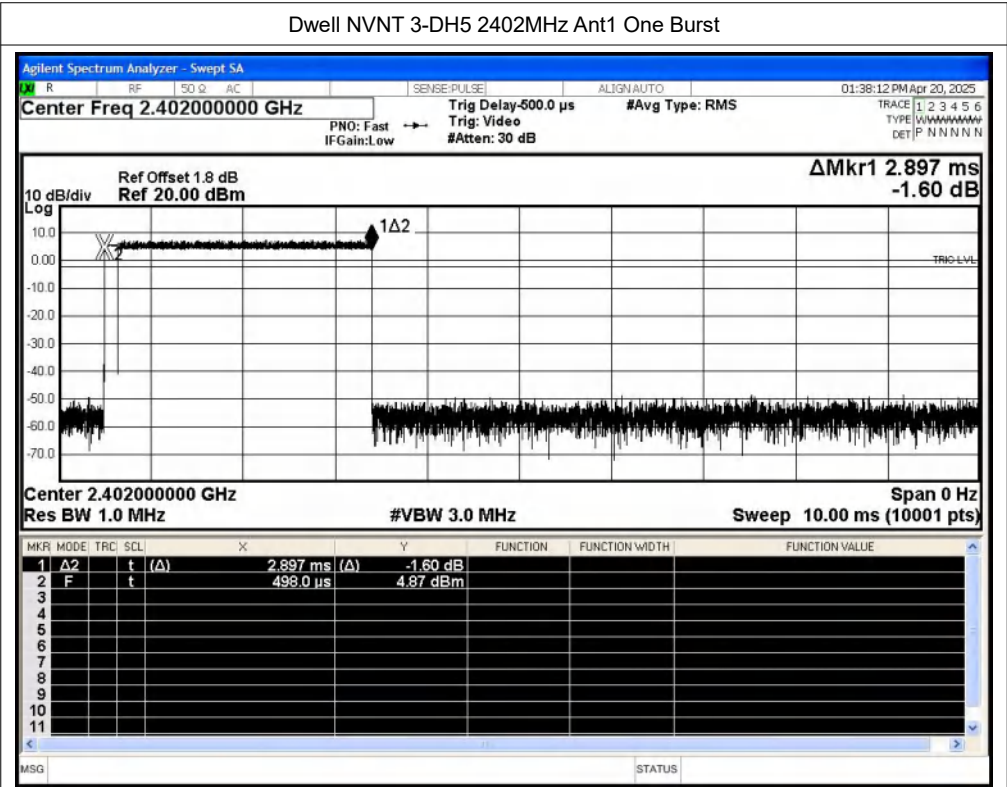


Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



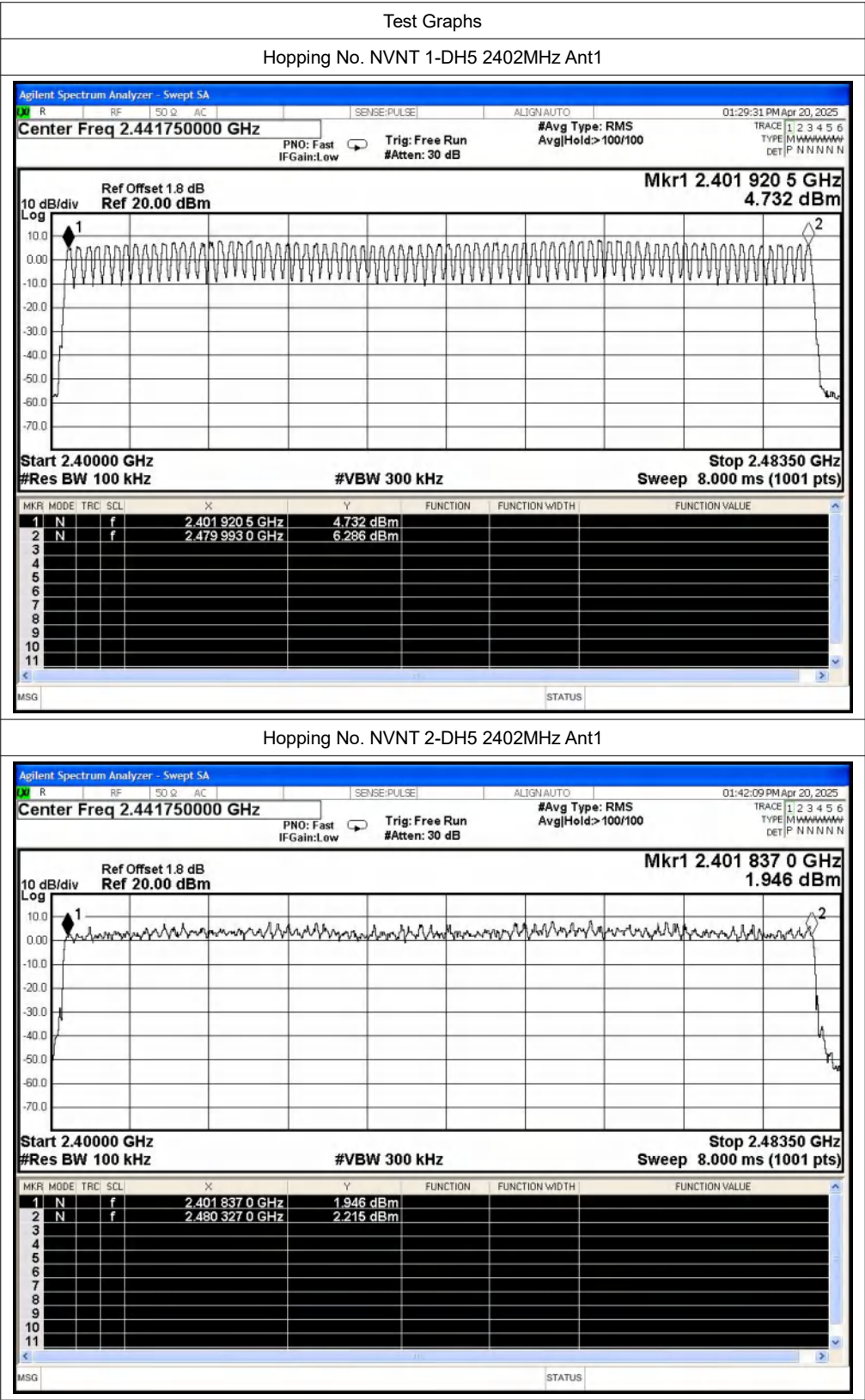
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

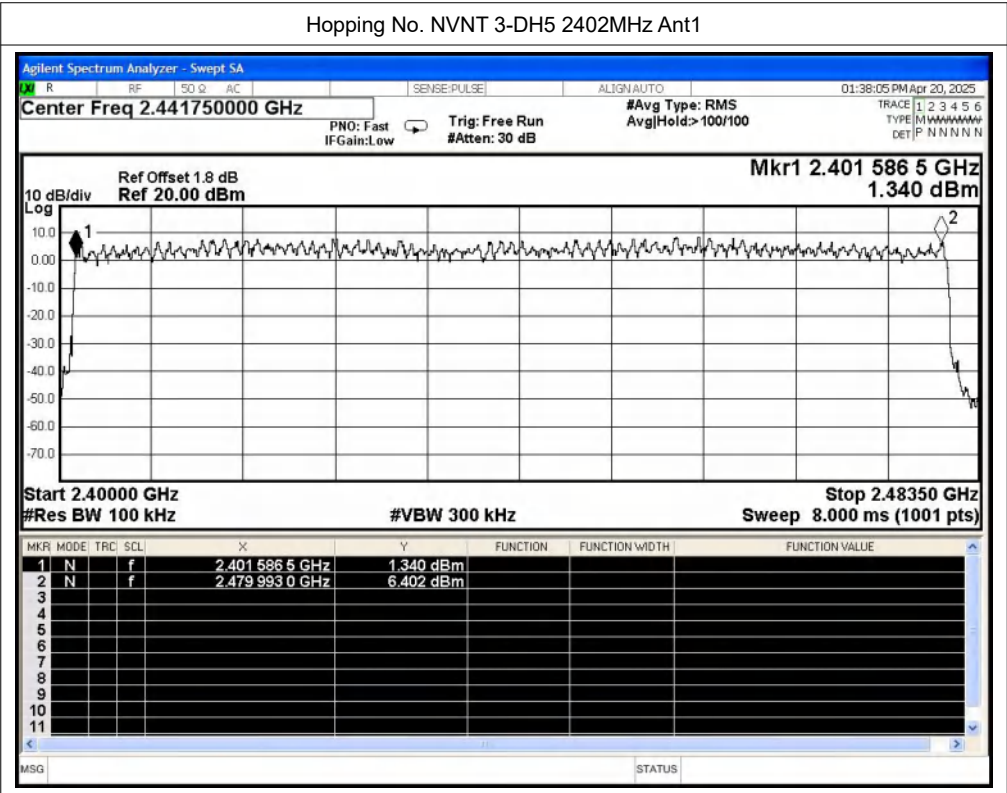




A.5 Number of Hopping Channel

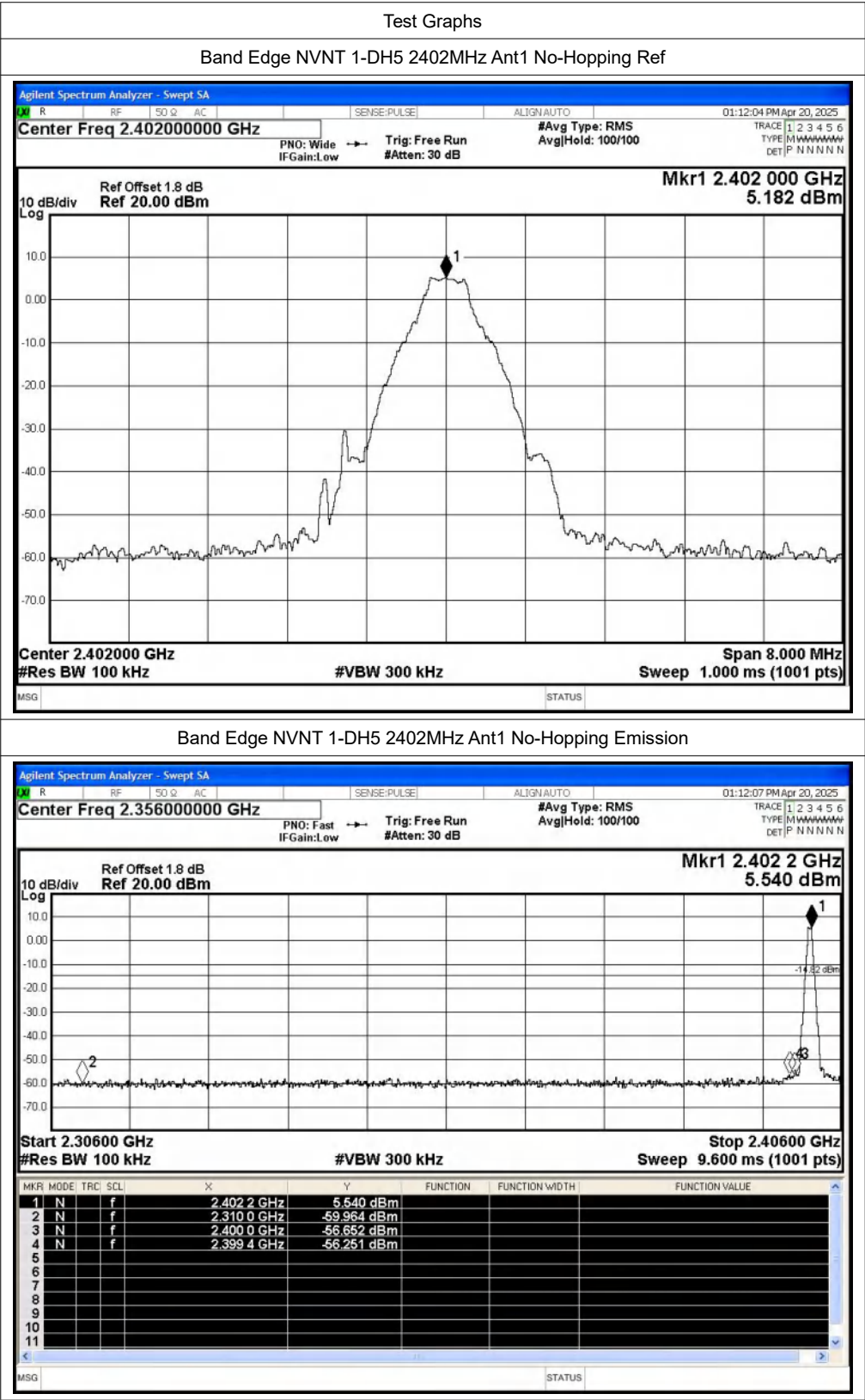
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

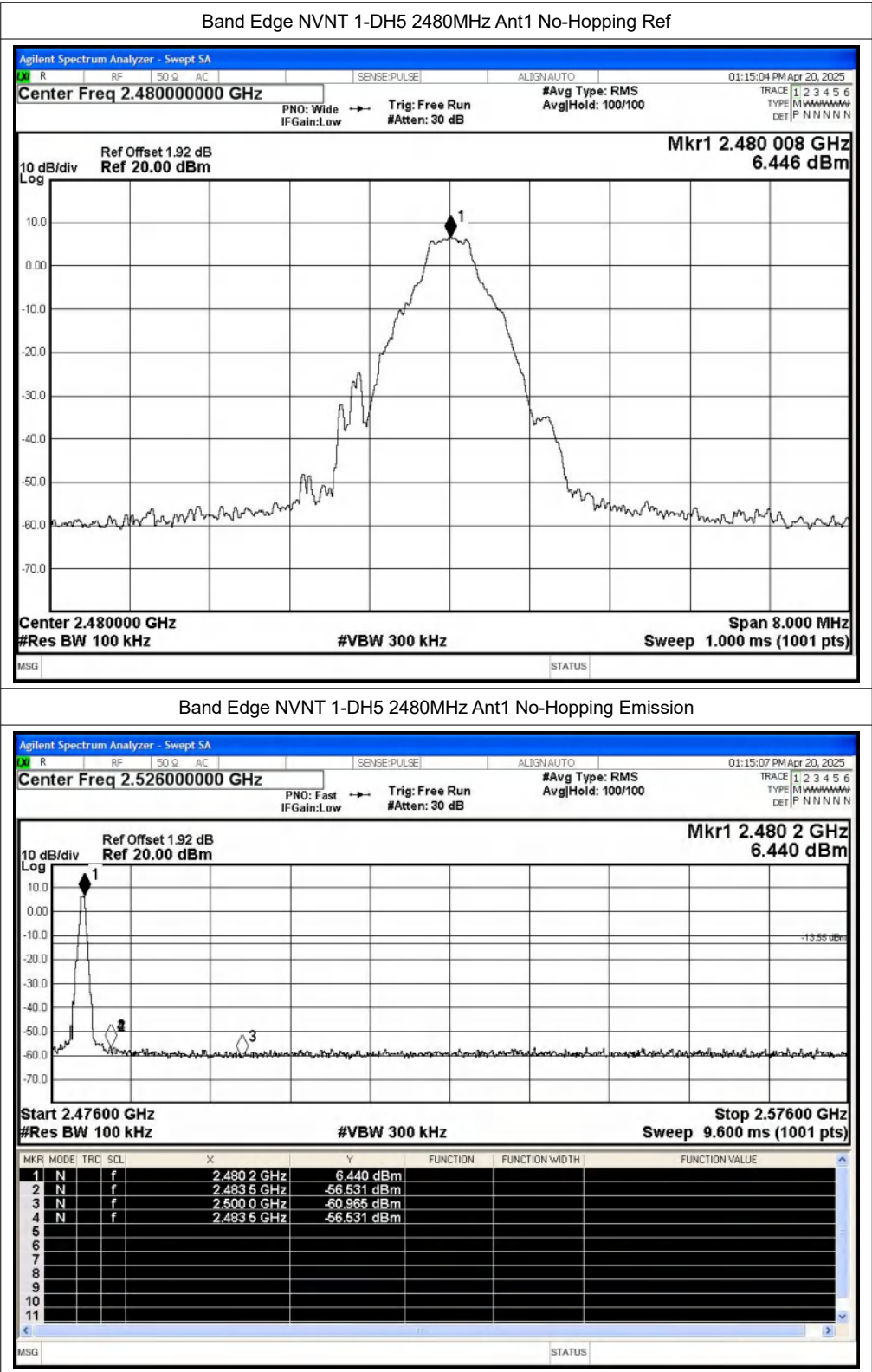




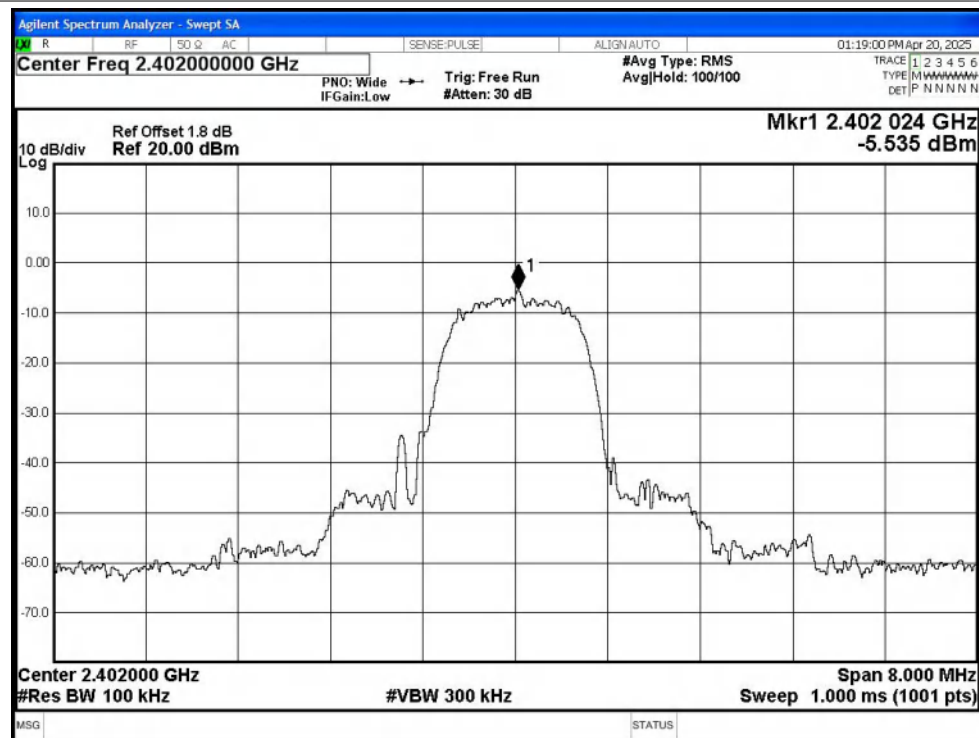
A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-61.43	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-62.98	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.25	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.32	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-48.28	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.69	-20	Pass

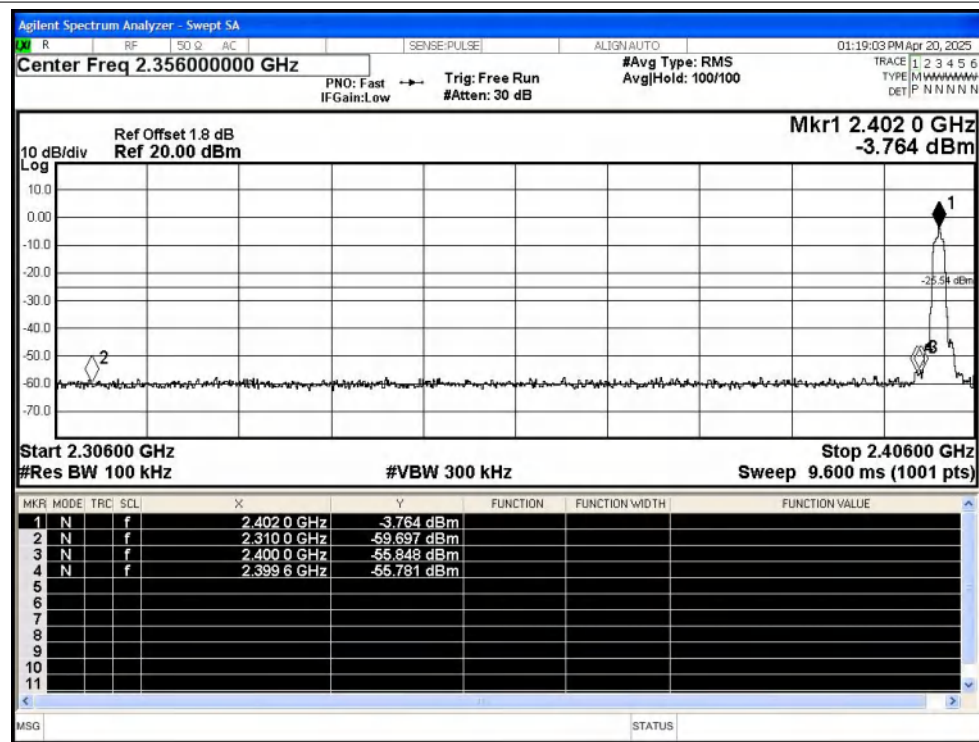


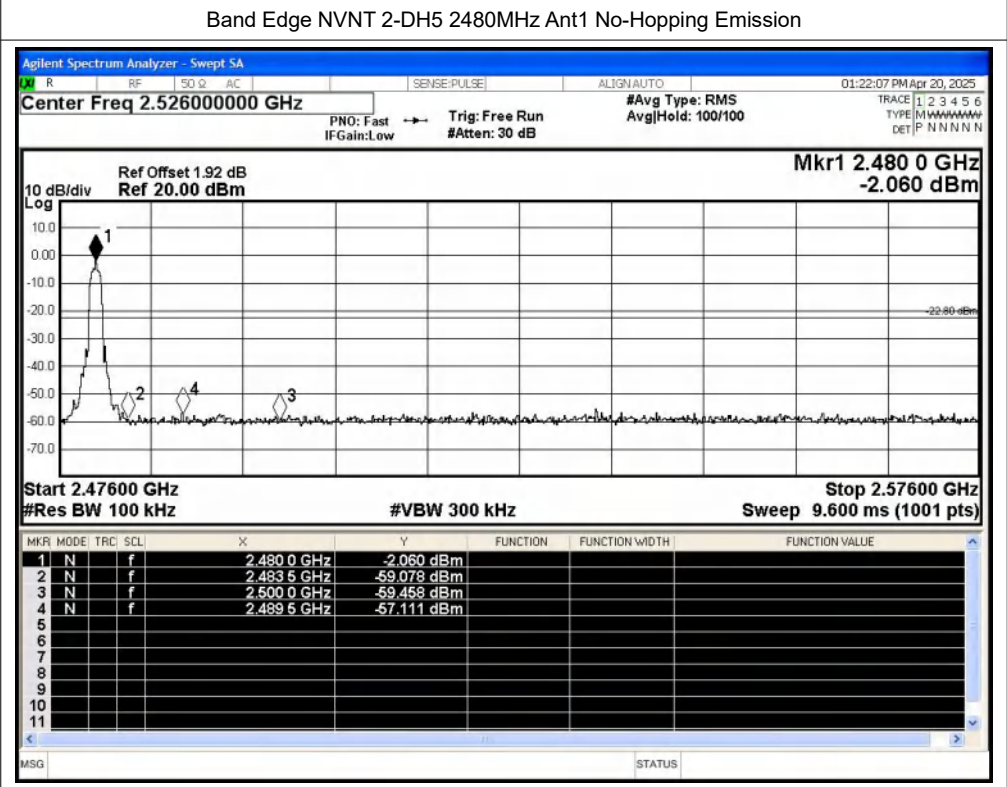
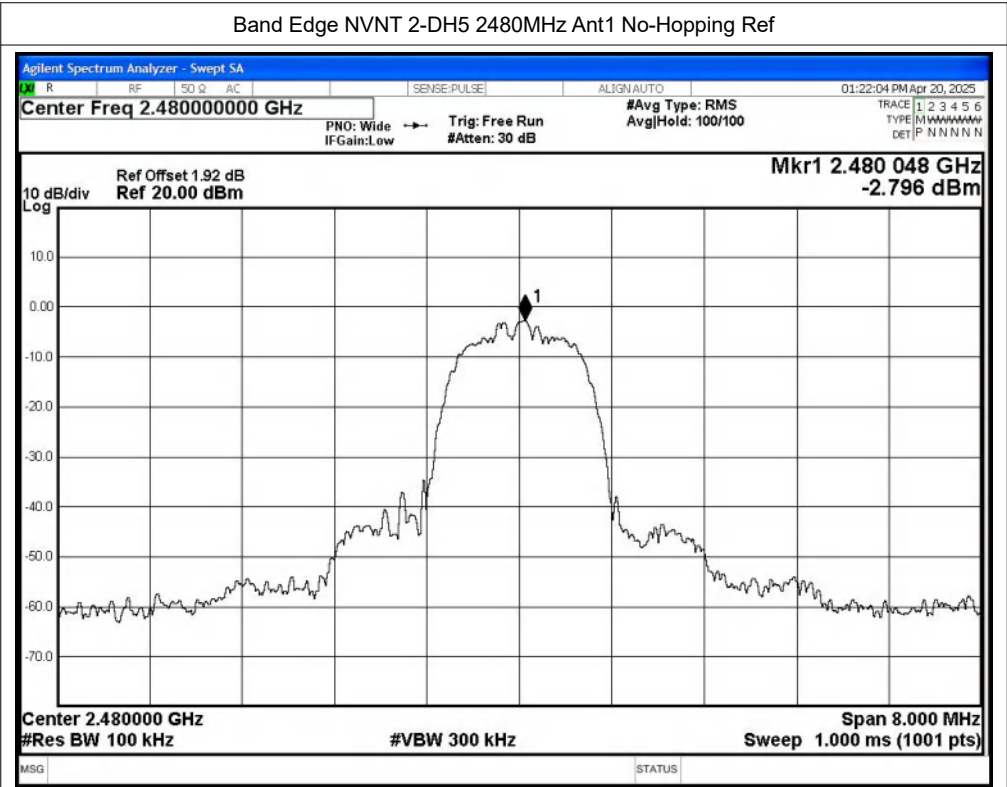


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

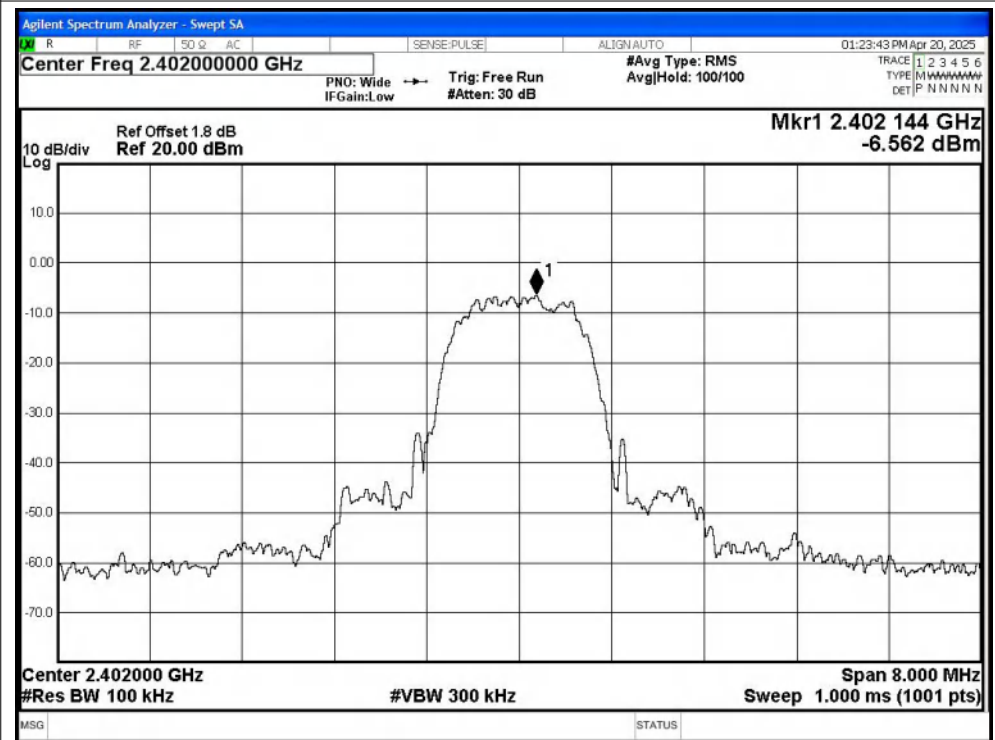


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

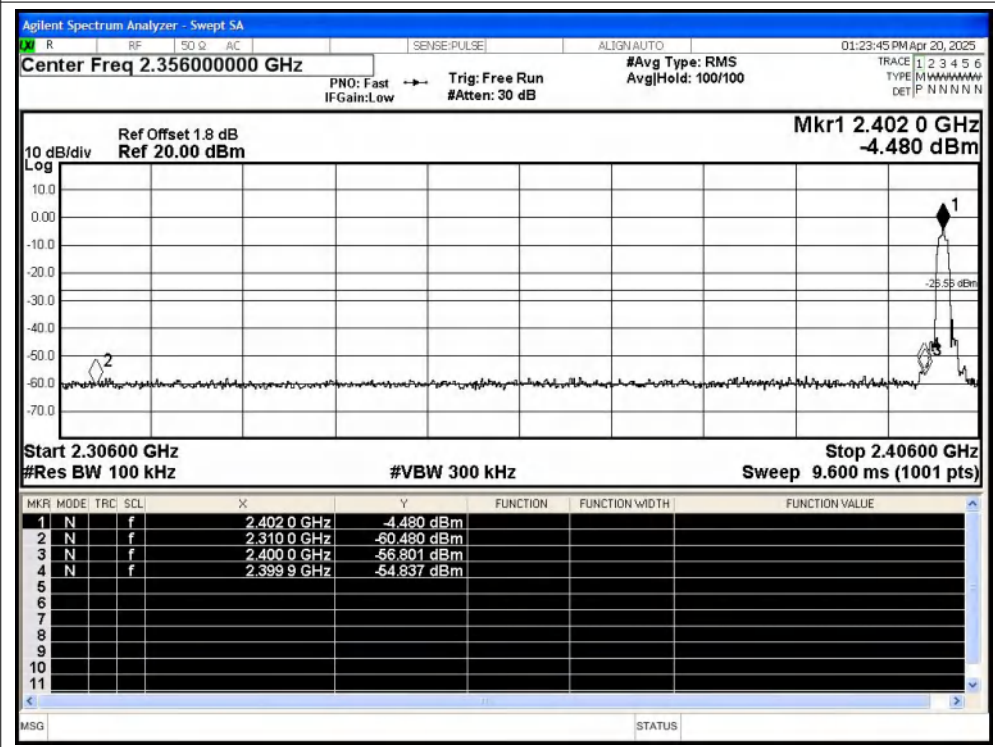




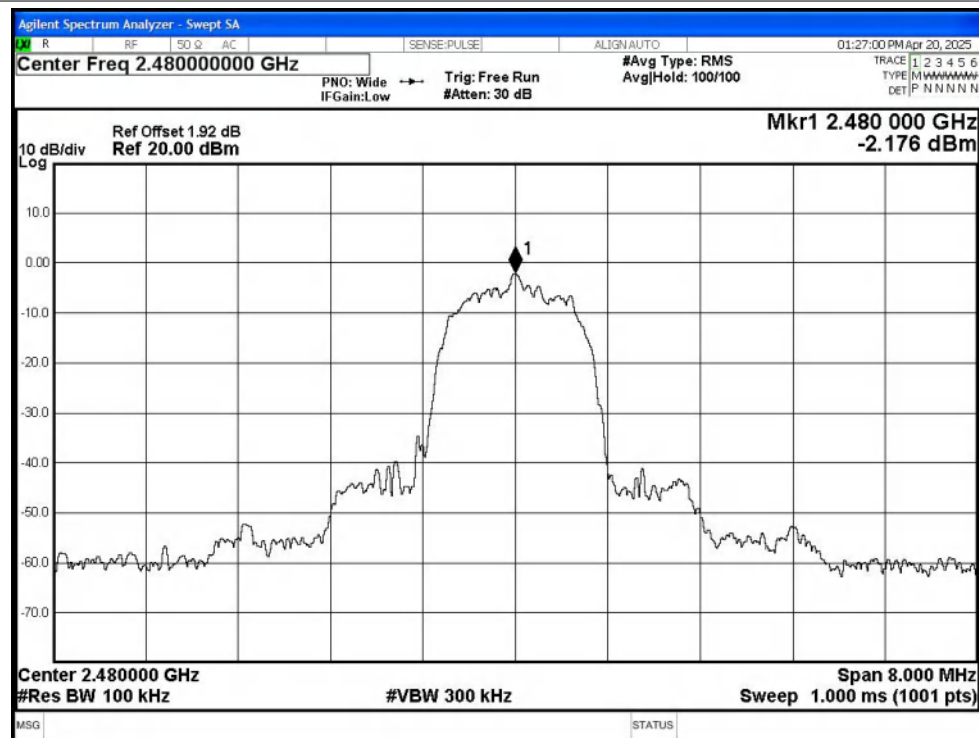
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



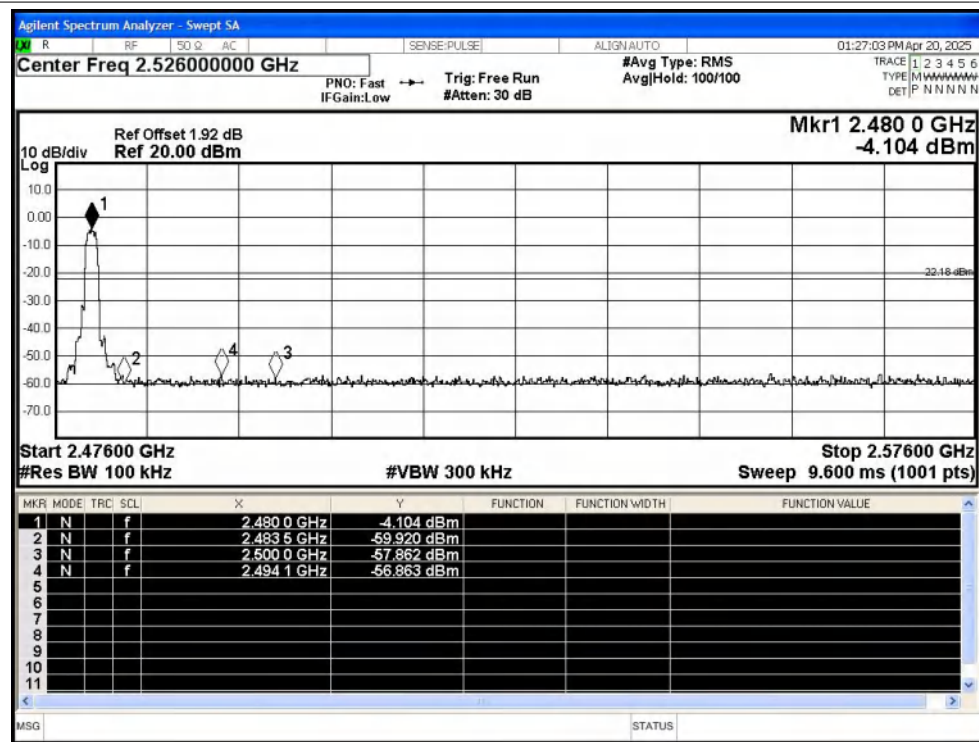
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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

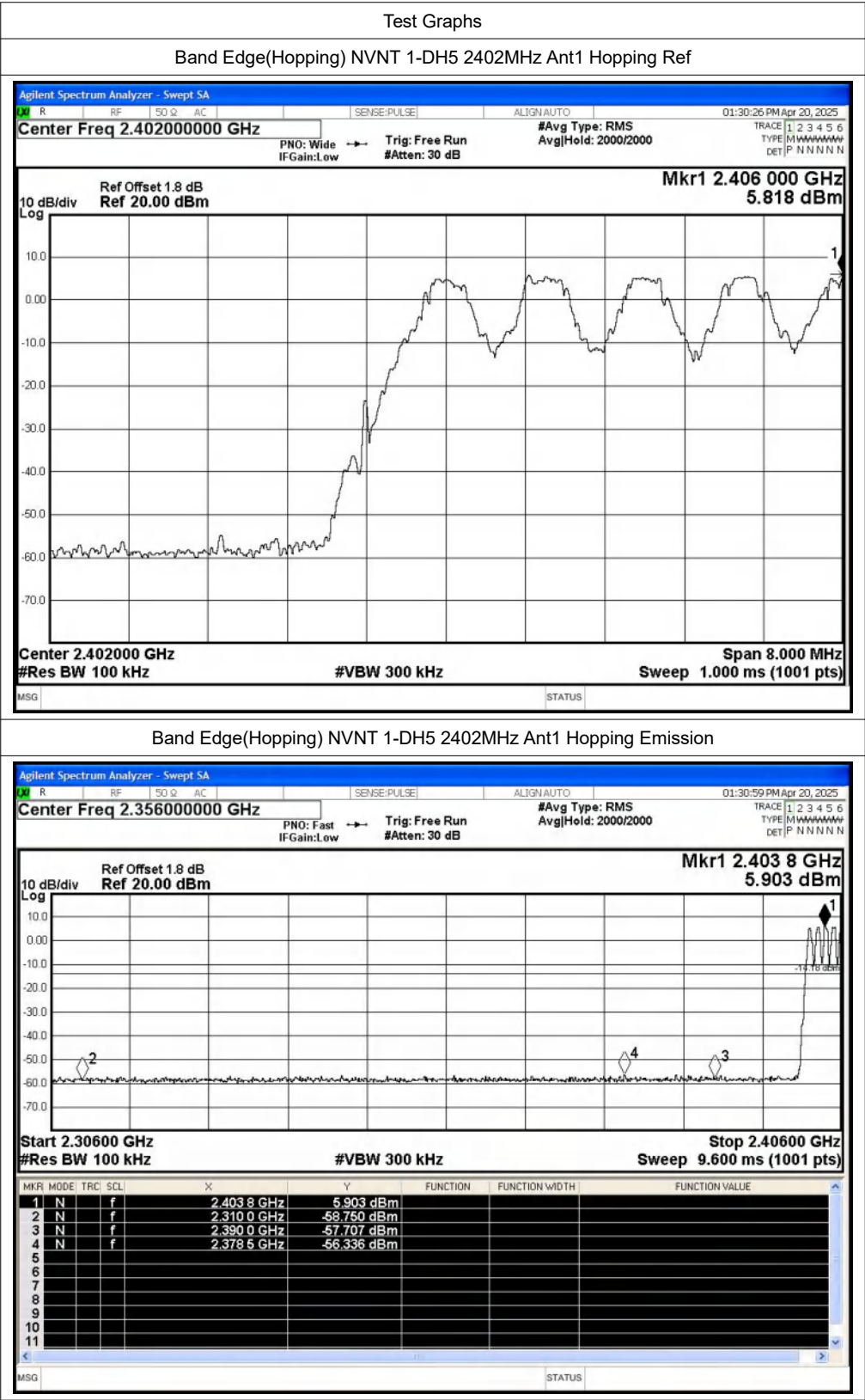


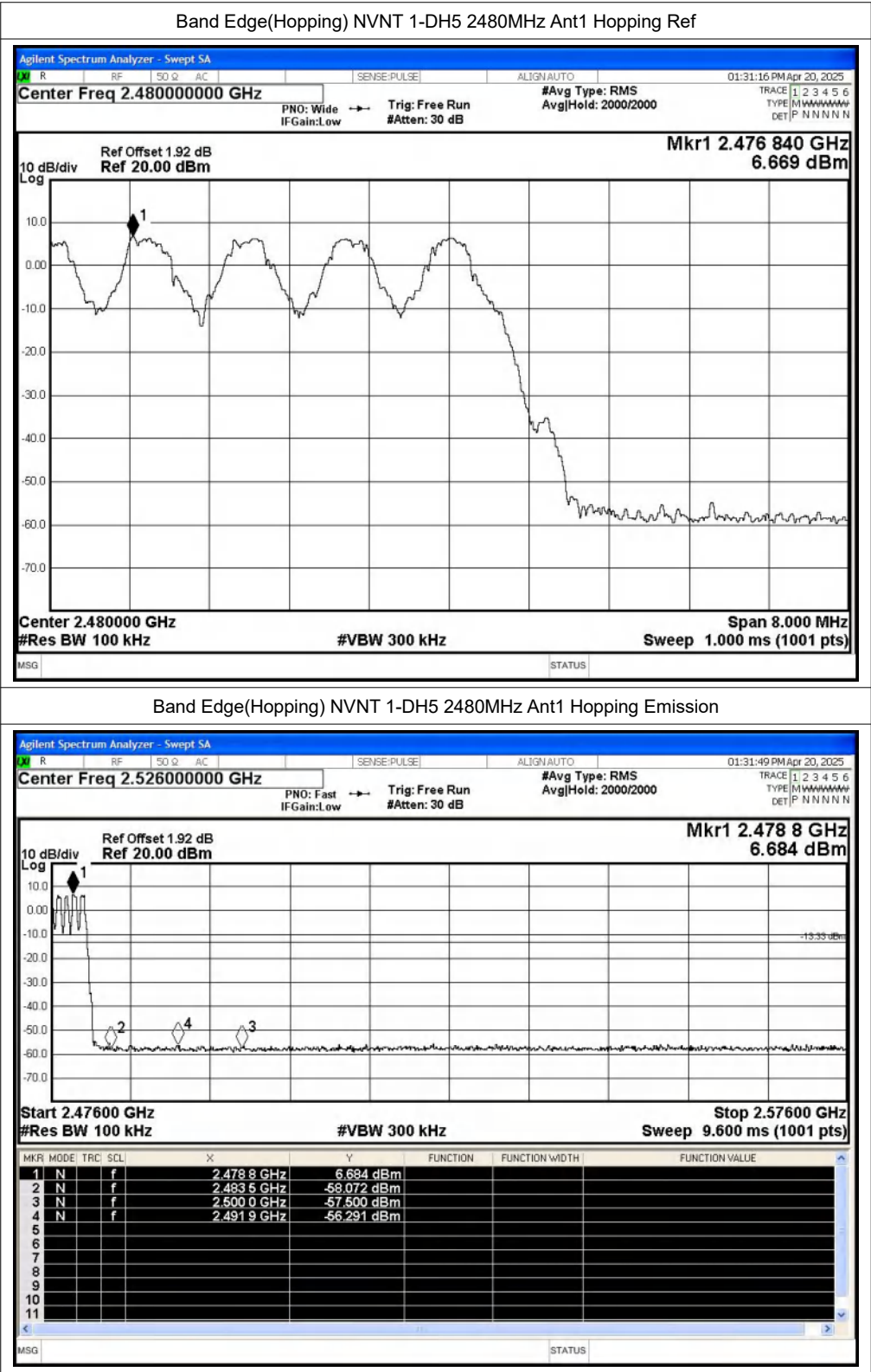
Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission

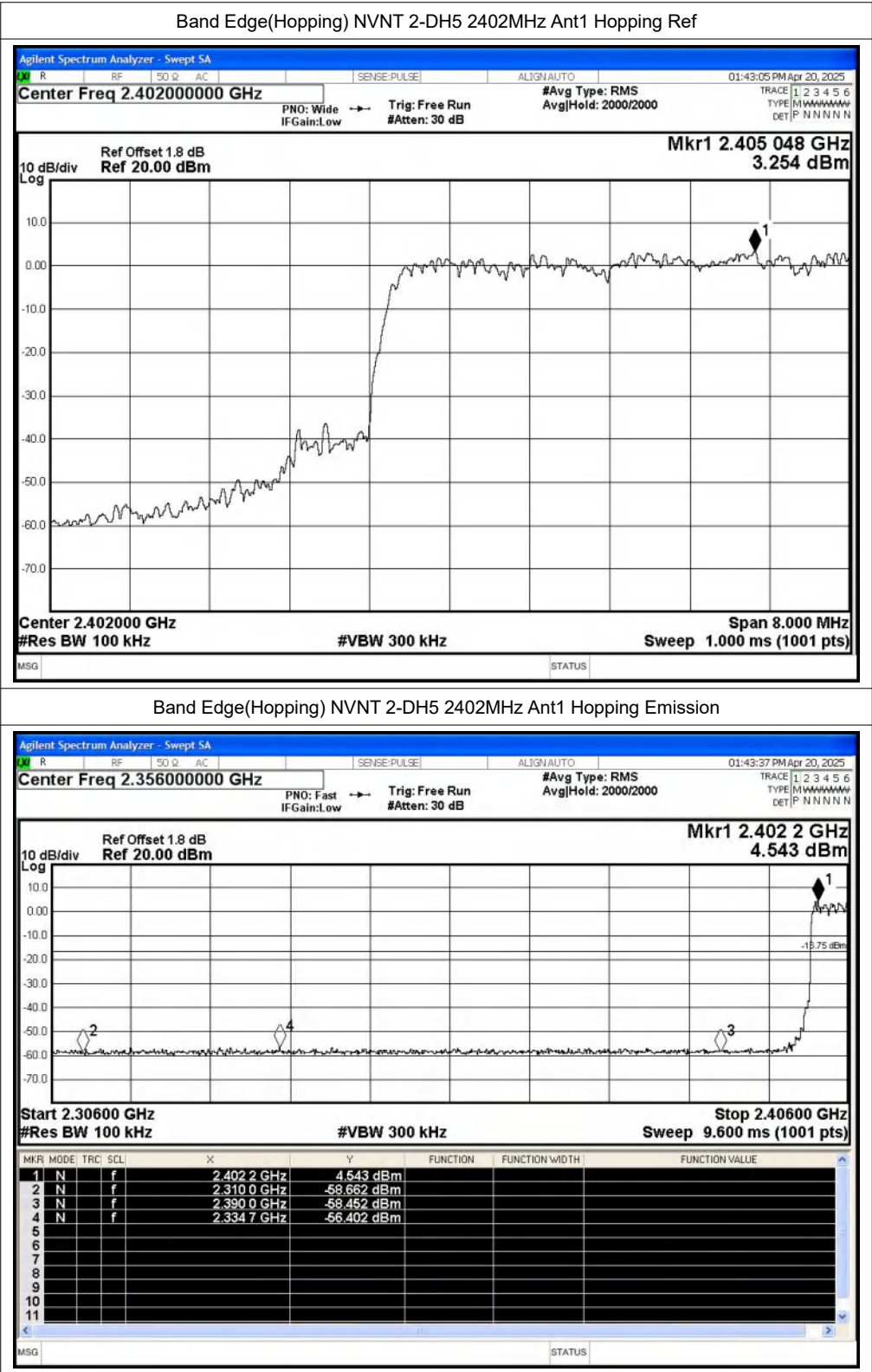


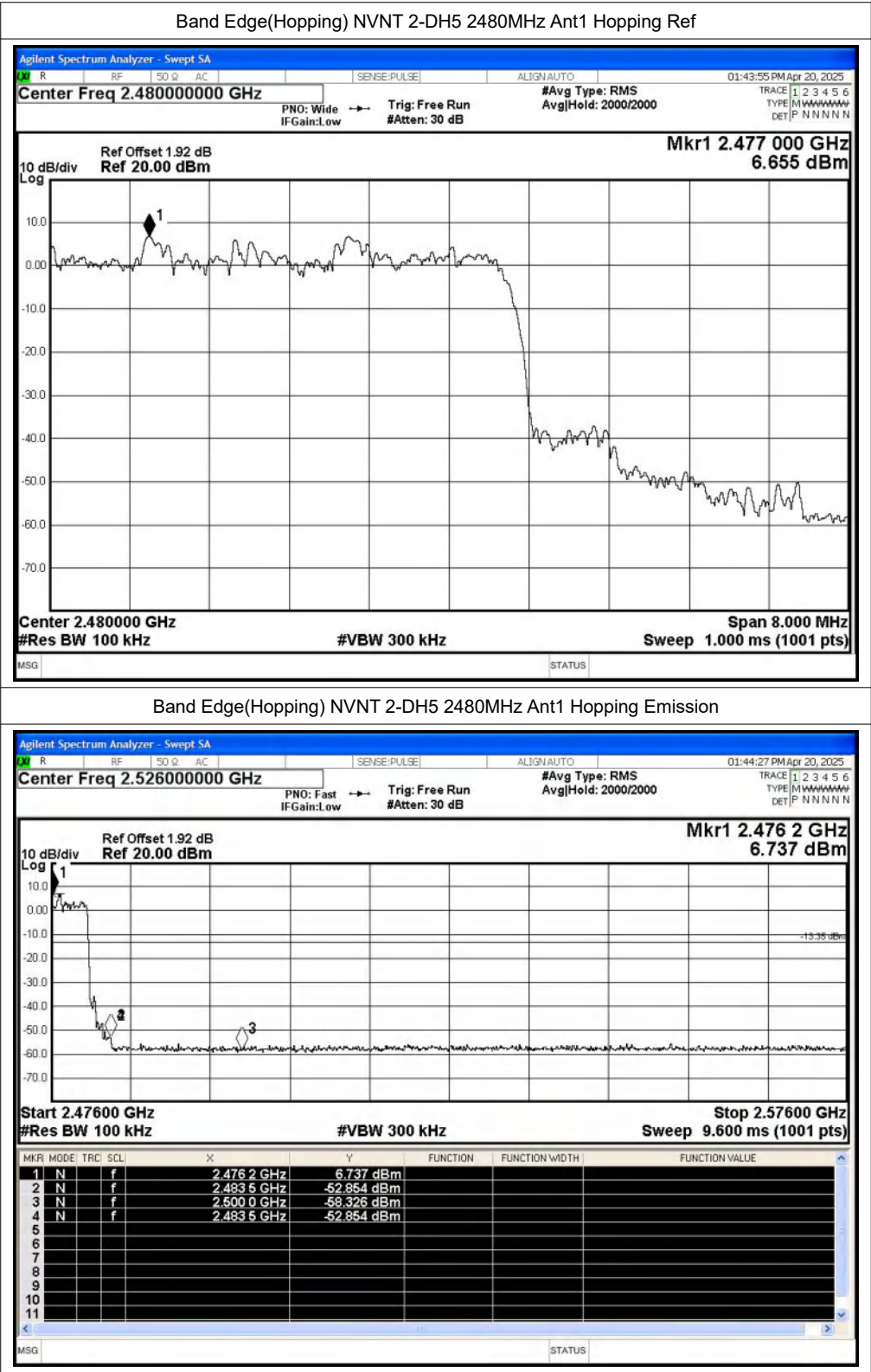
(Hopping)

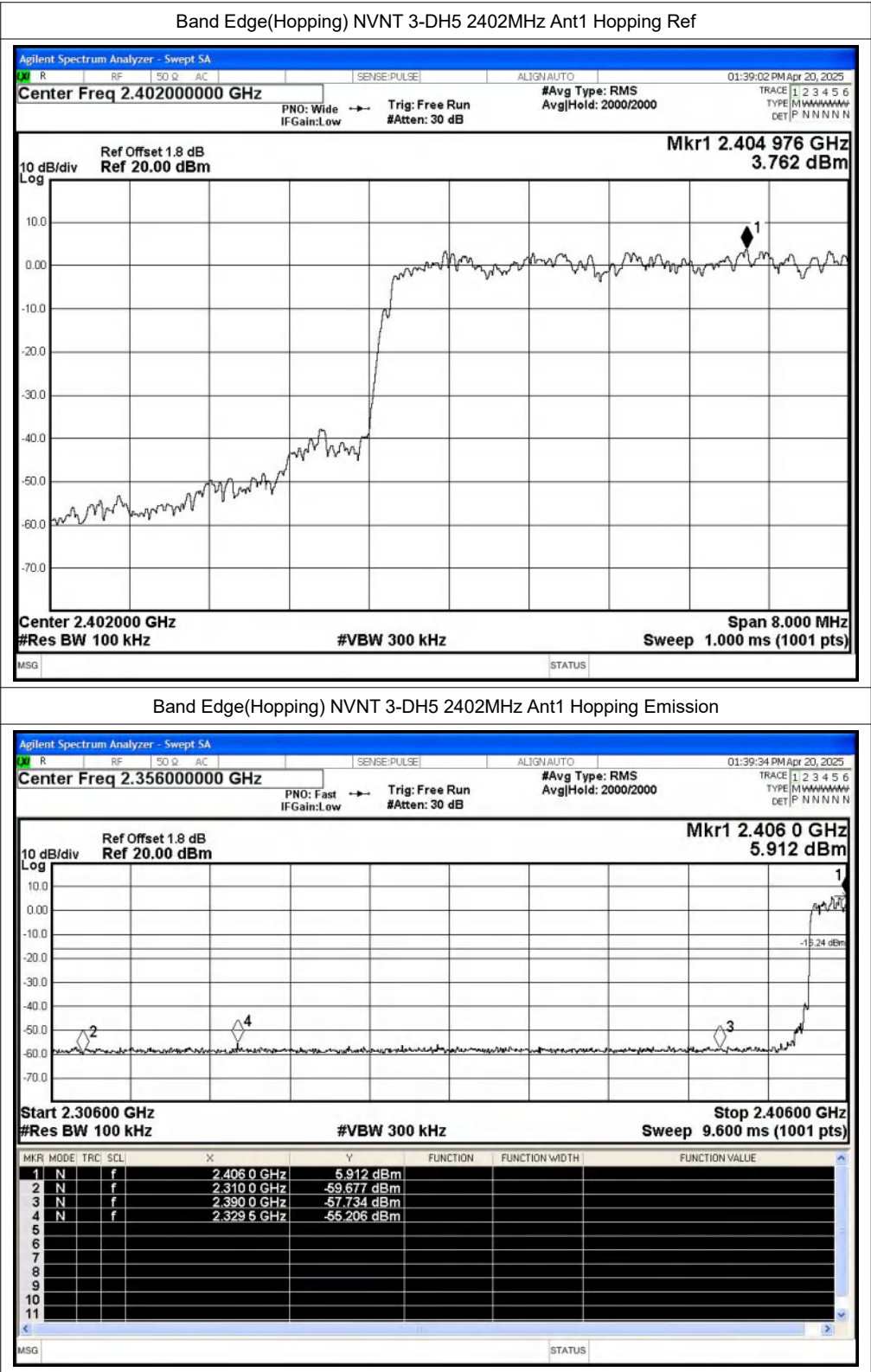
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-62.15	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-62.96	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-59.66	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-59.51	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-58.97	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-59.33	-20	Pass

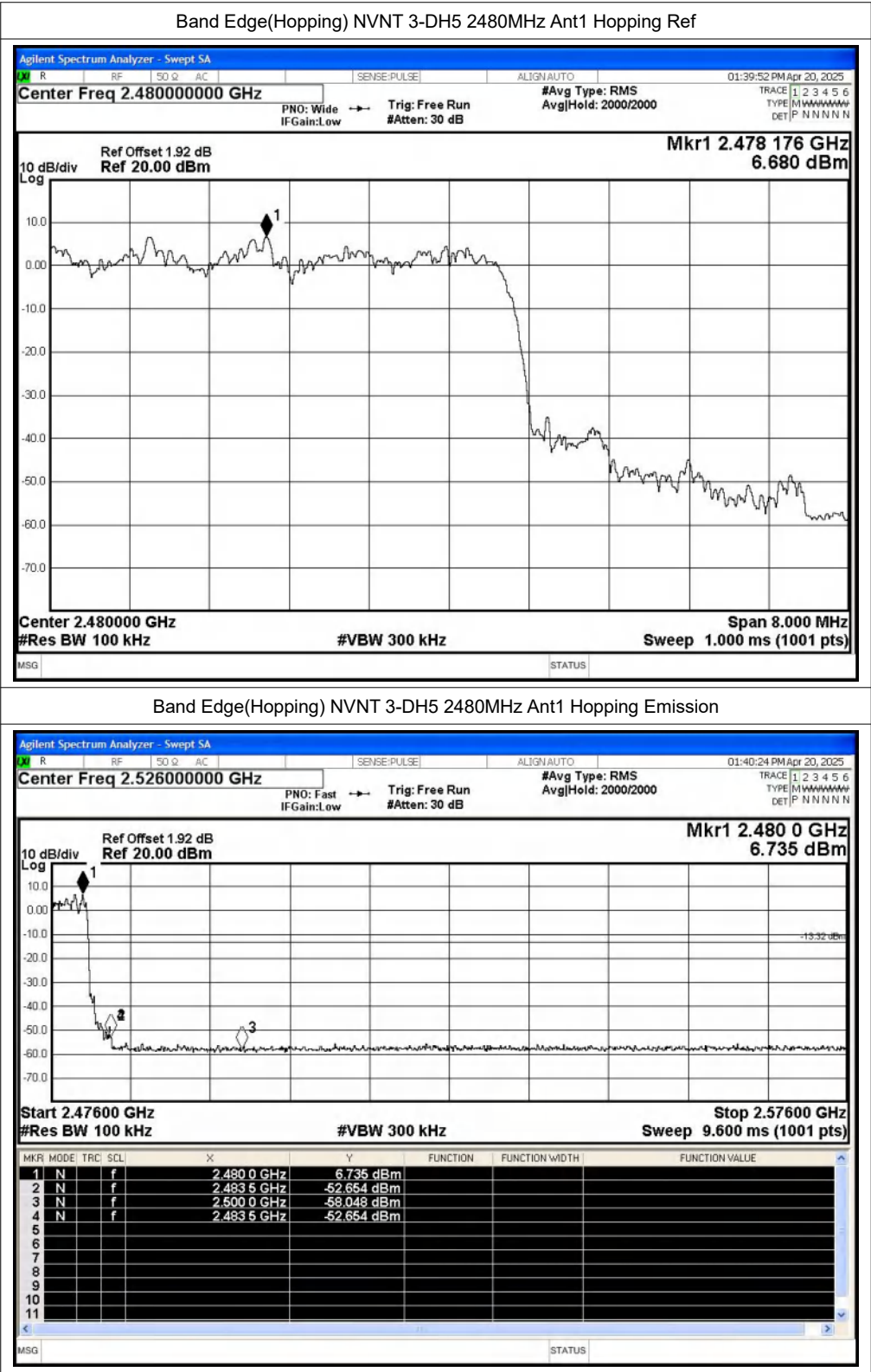






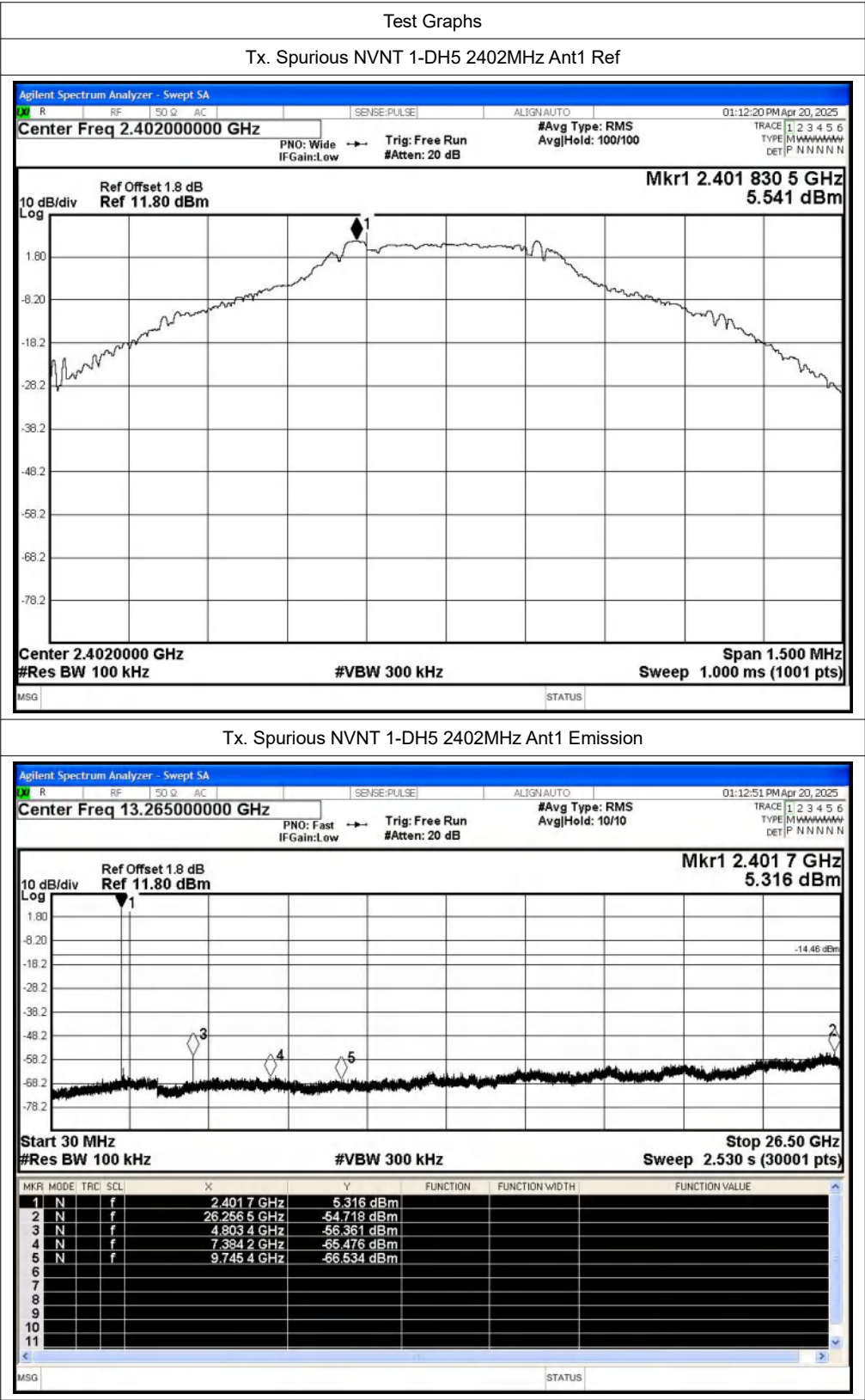




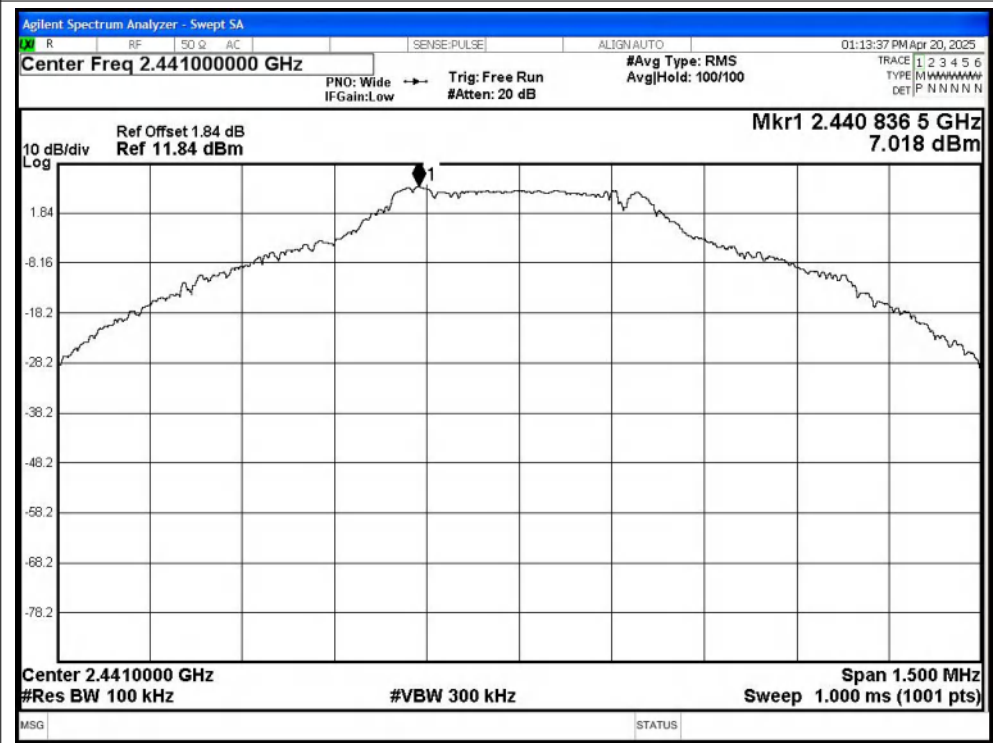


A.7 Conducted RF Spurious Emission

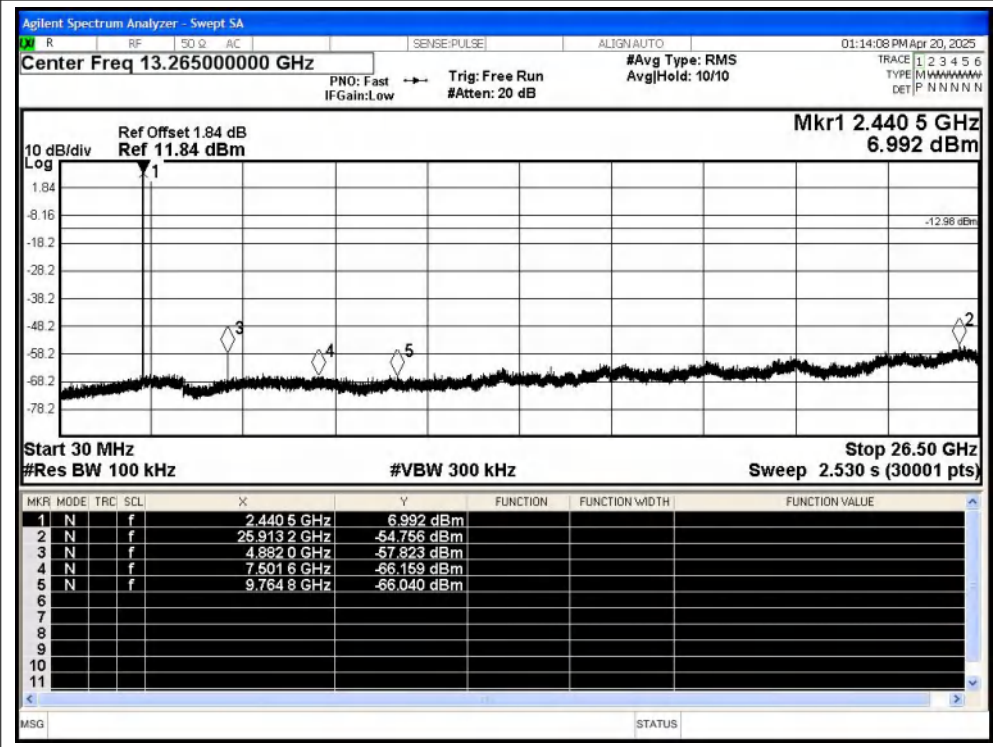
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-60.26	-20	Pass
NVNT	1-DH5	2441	Ant1	-61.77	-20	Pass
NVNT	1-DH5	2480	Ant1	-62.06	-20	Pass
NVNT	2-DH5	2402	Ant1	-51.38	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.64	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.99	-20	Pass
NVNT	3-DH5	2402	Ant1	-51.58	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.9	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.28	-20	Pass



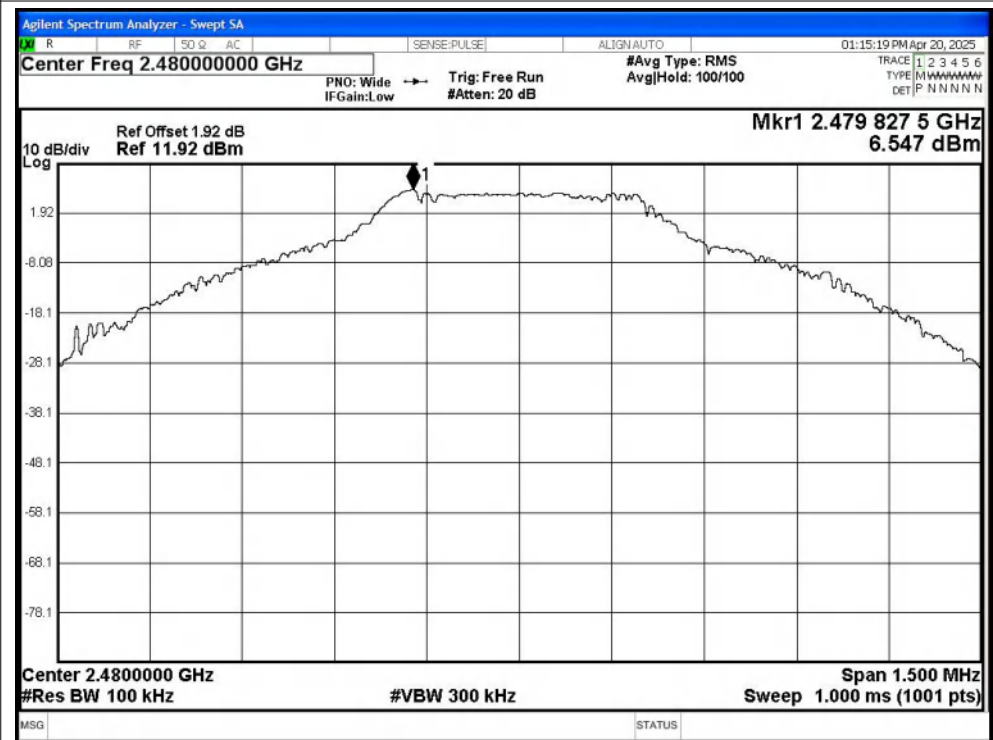
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



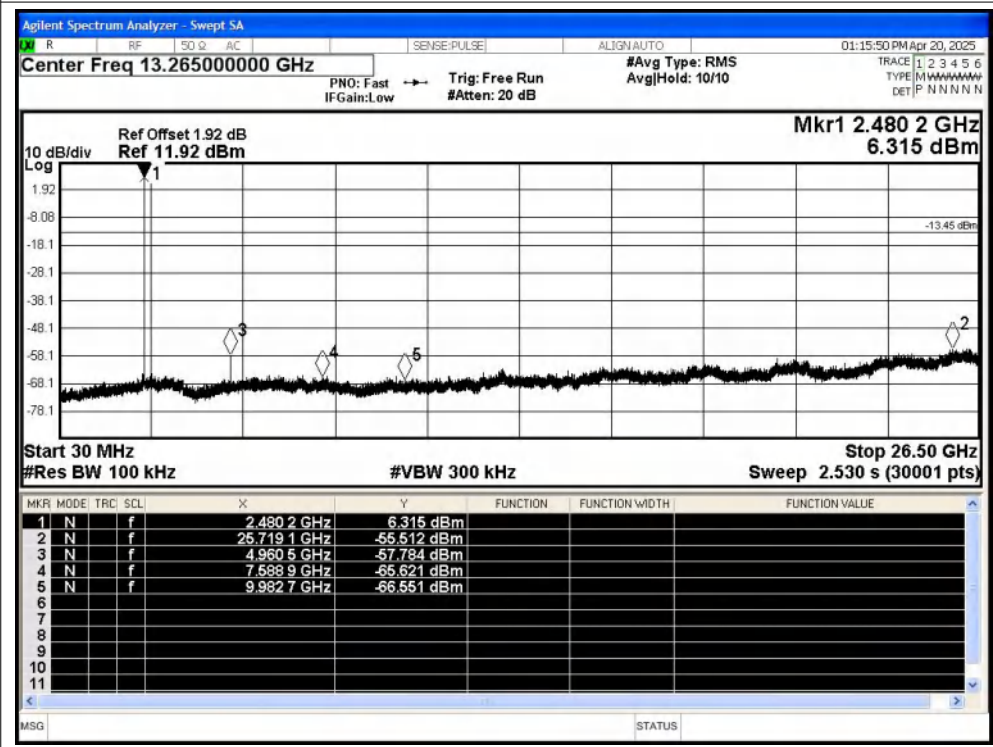
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



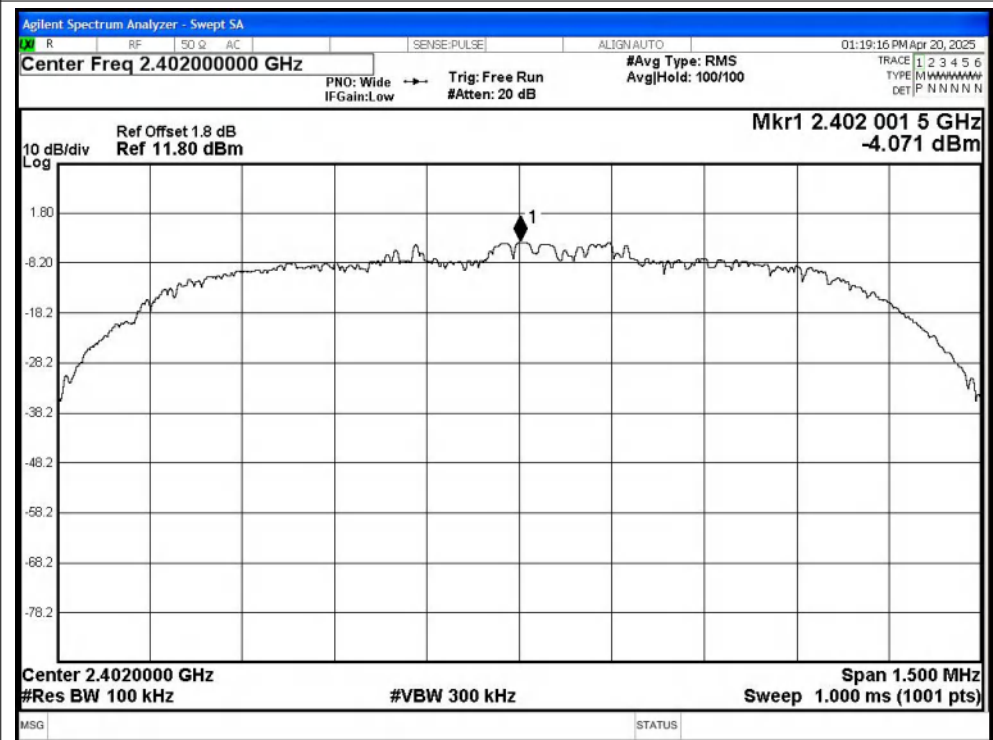
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



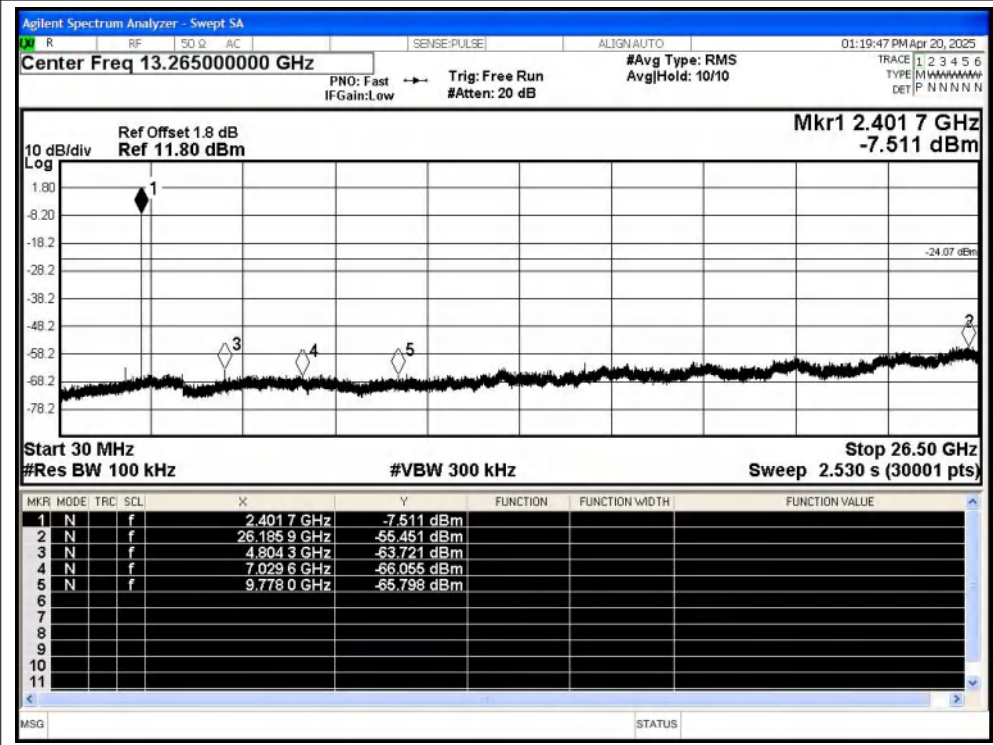
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



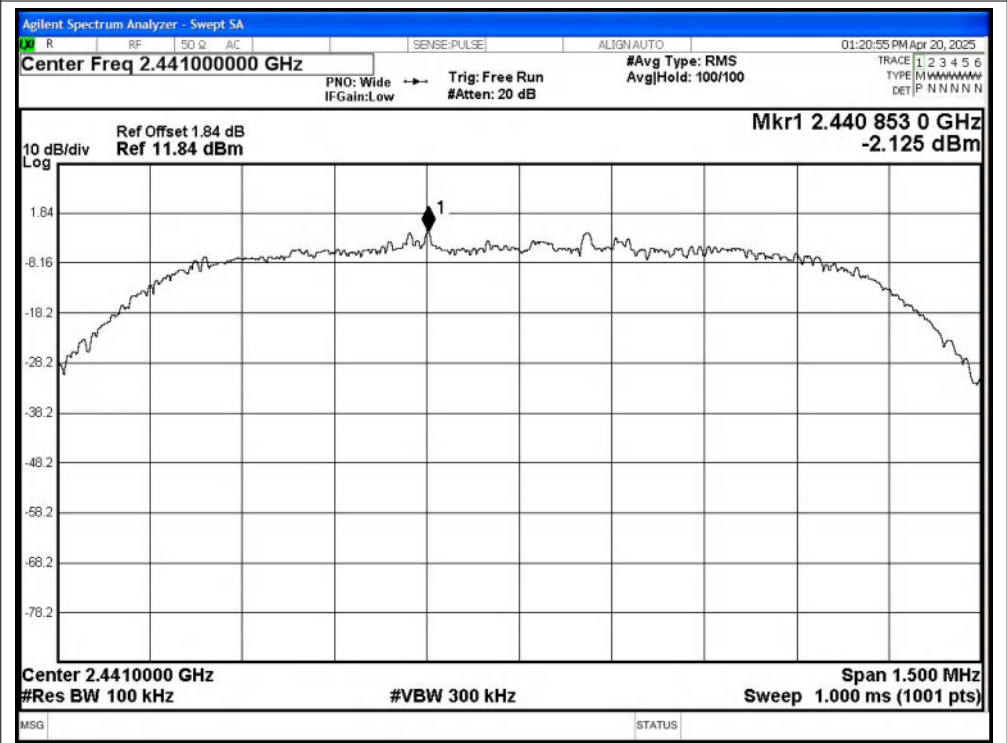
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



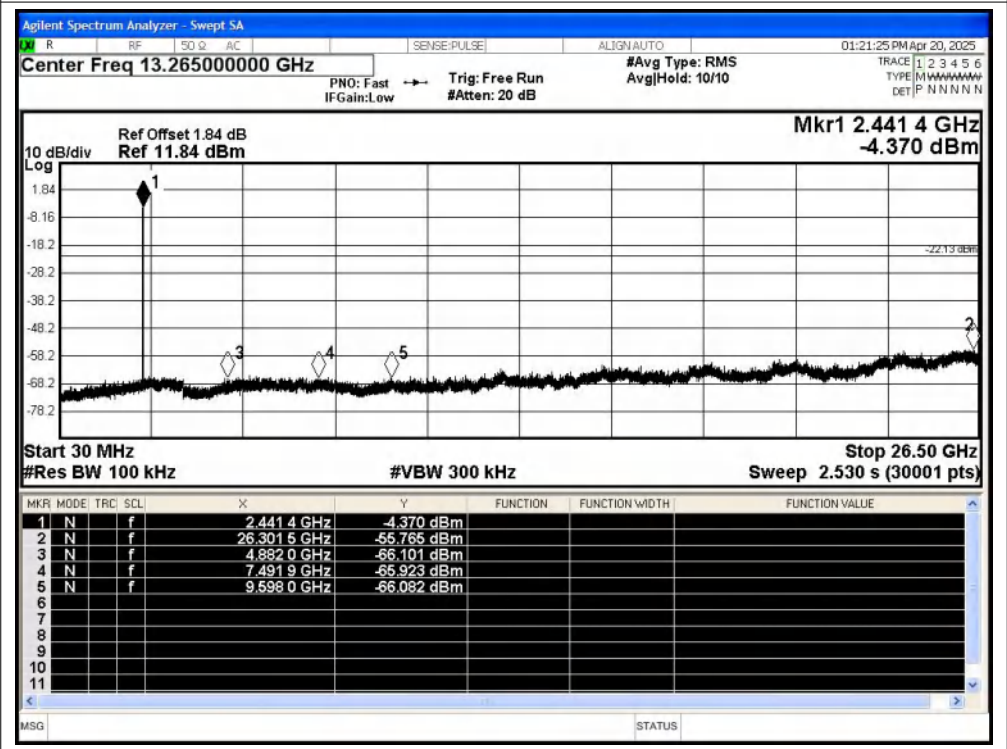
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



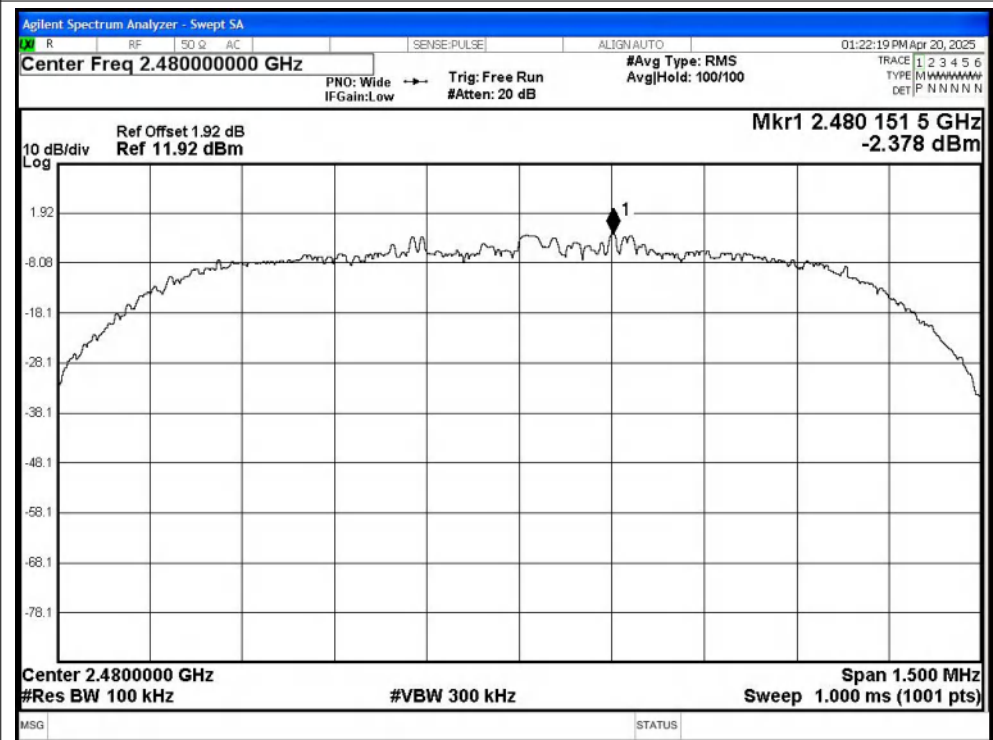
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



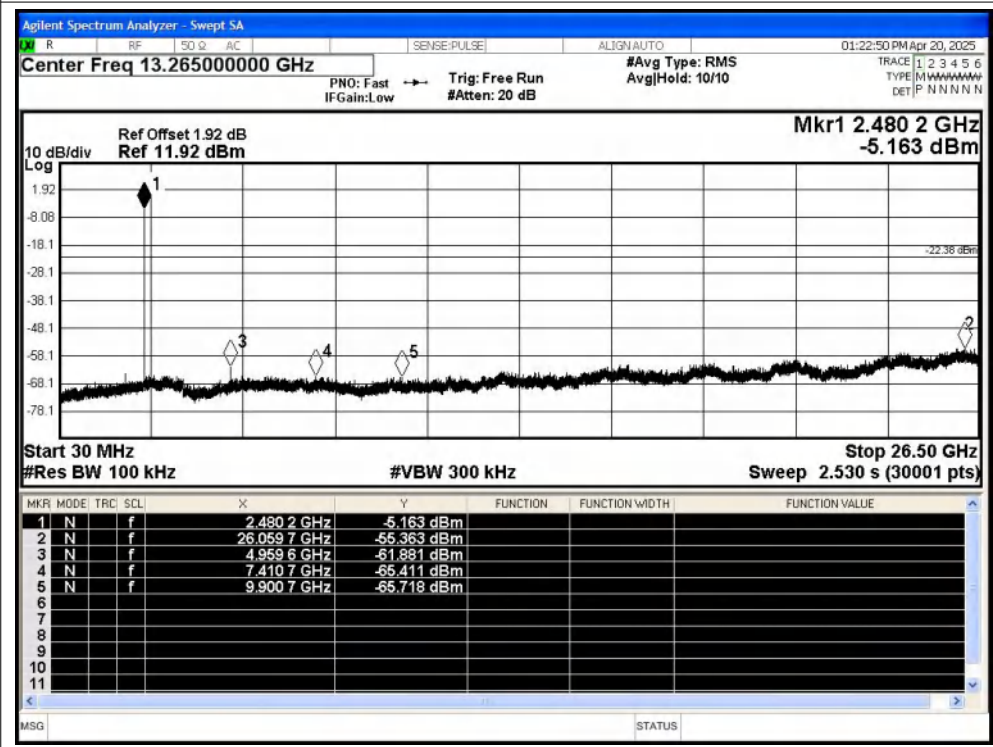
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



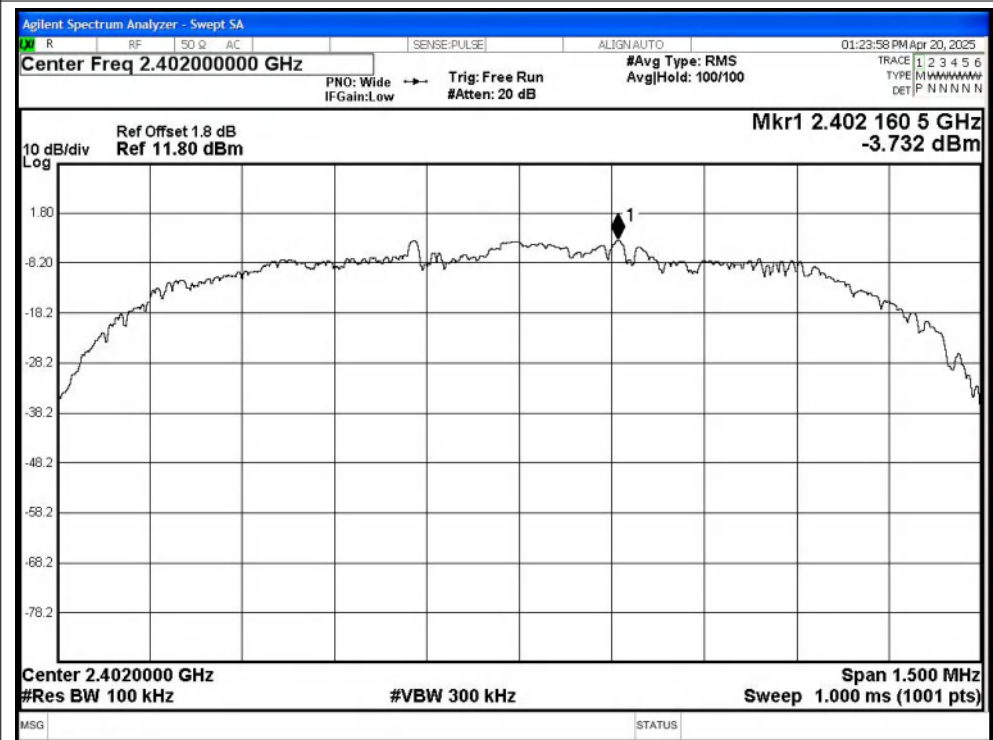
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



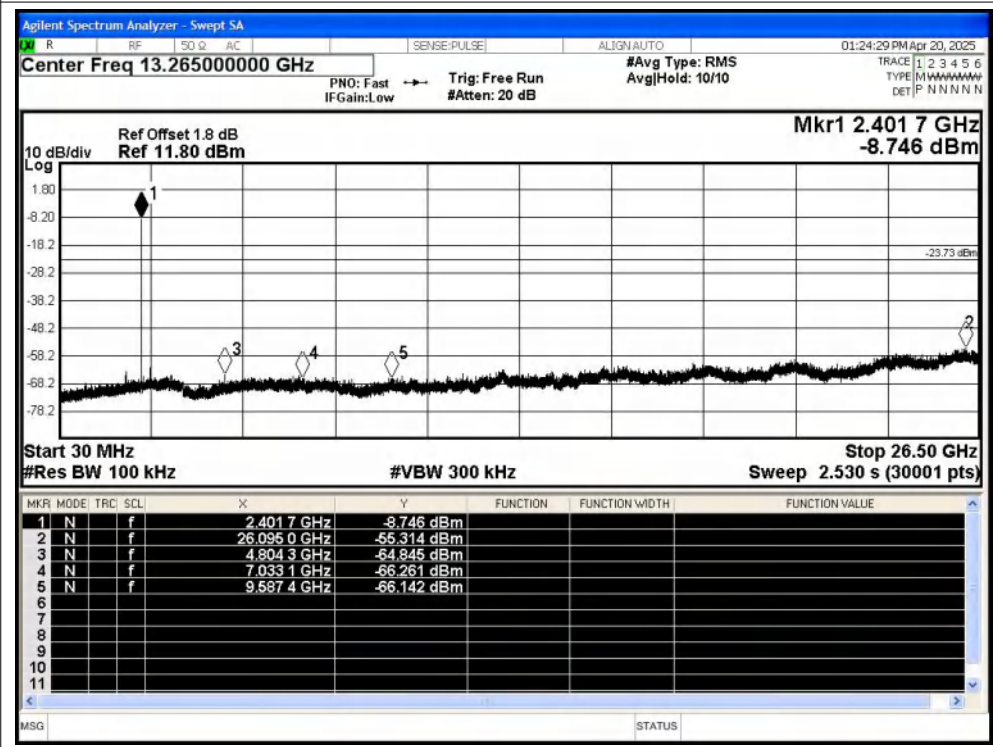
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



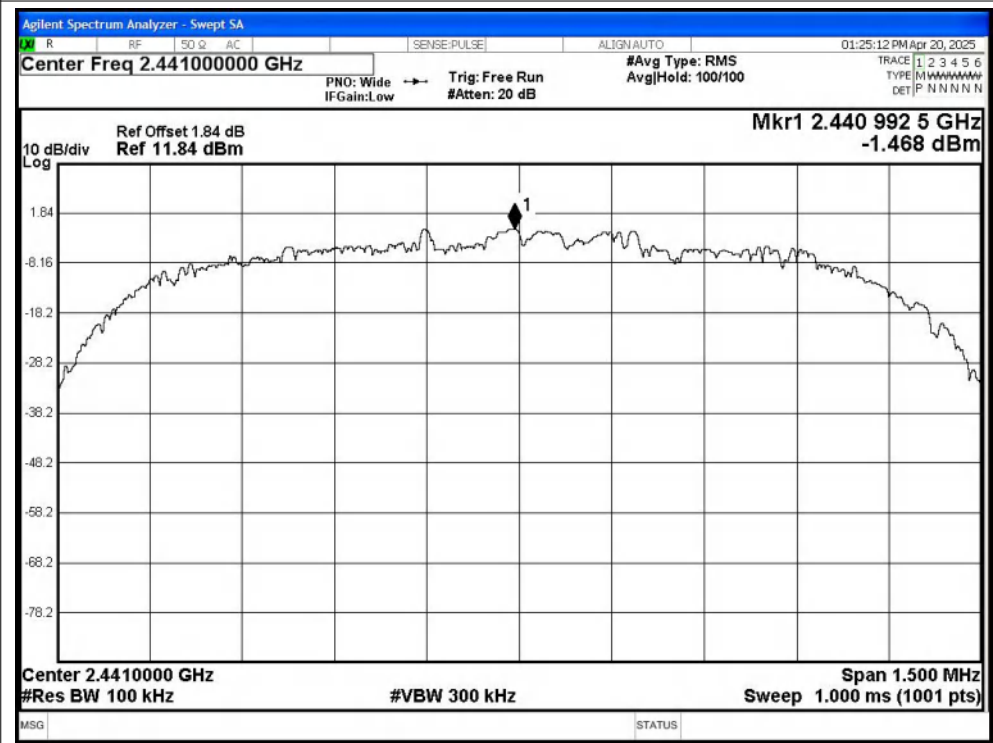
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



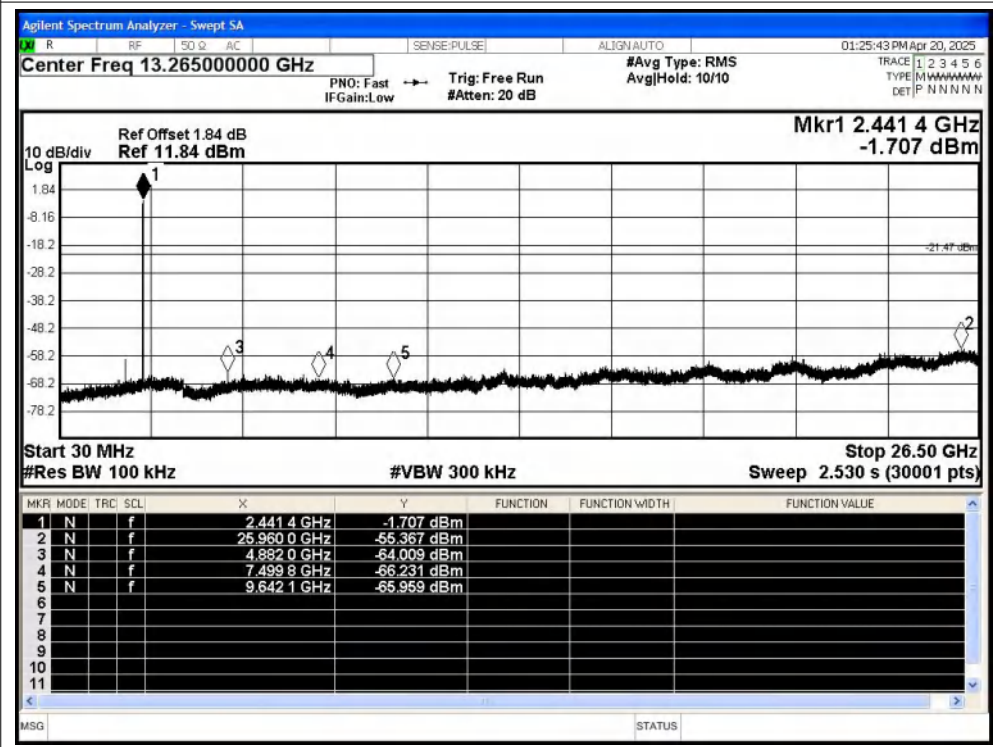
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



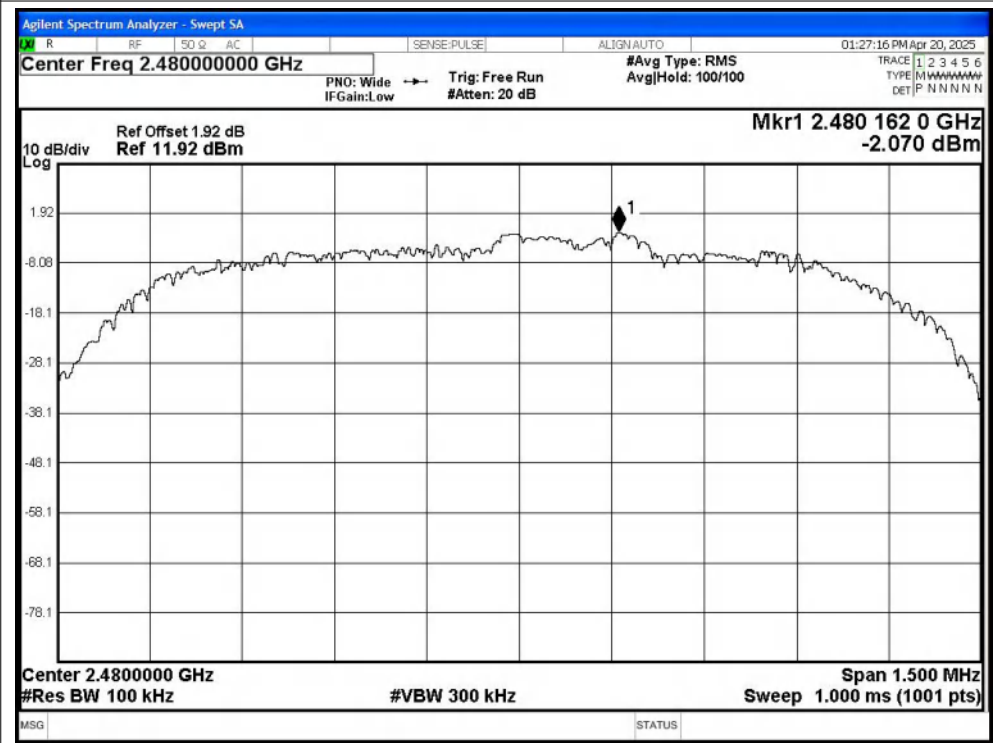
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



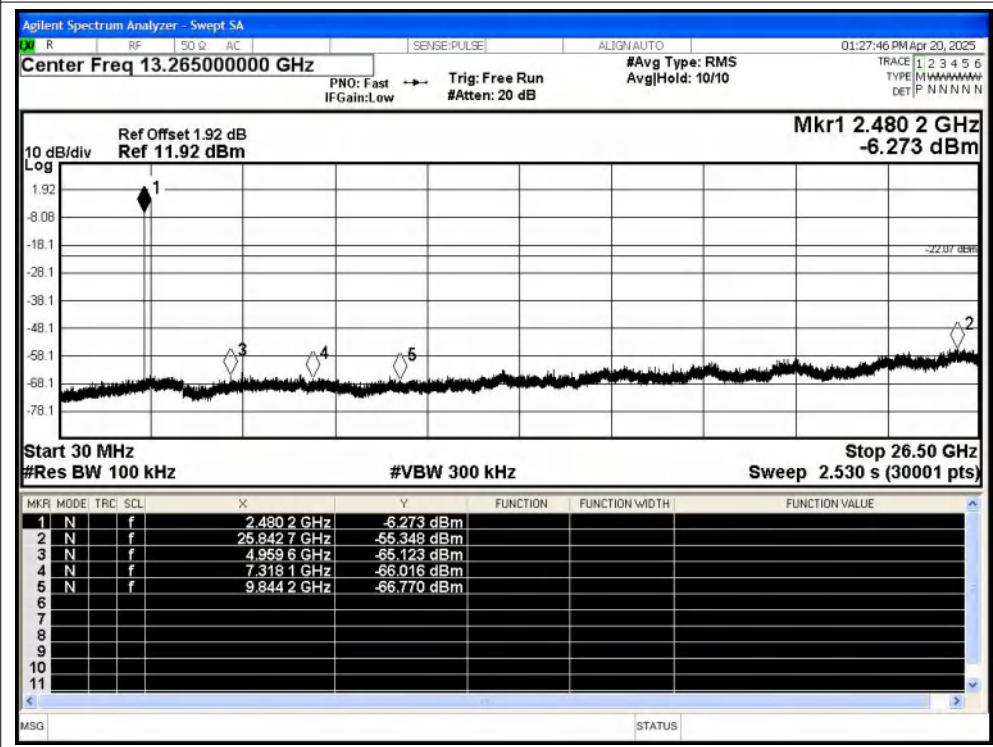
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

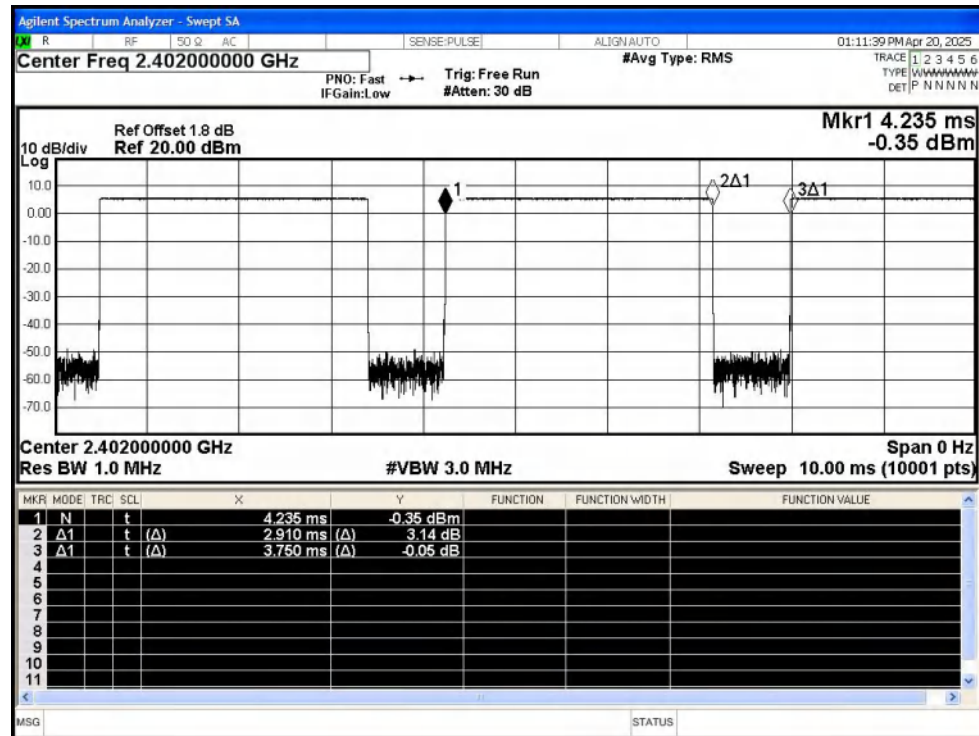


A.8 Duty Cycle

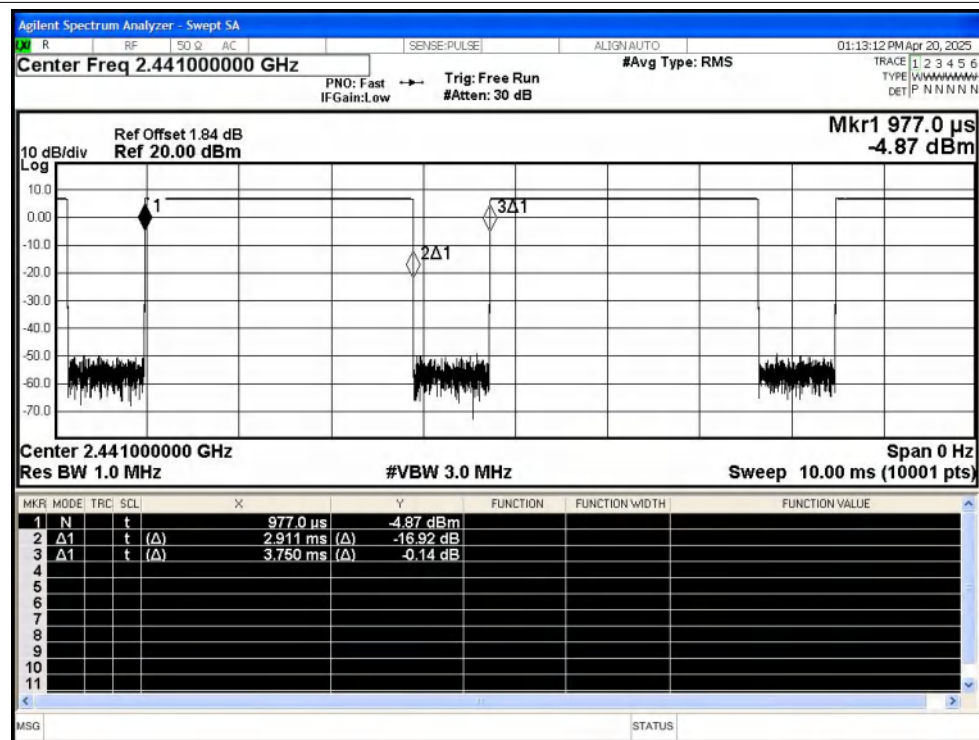
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.63	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35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

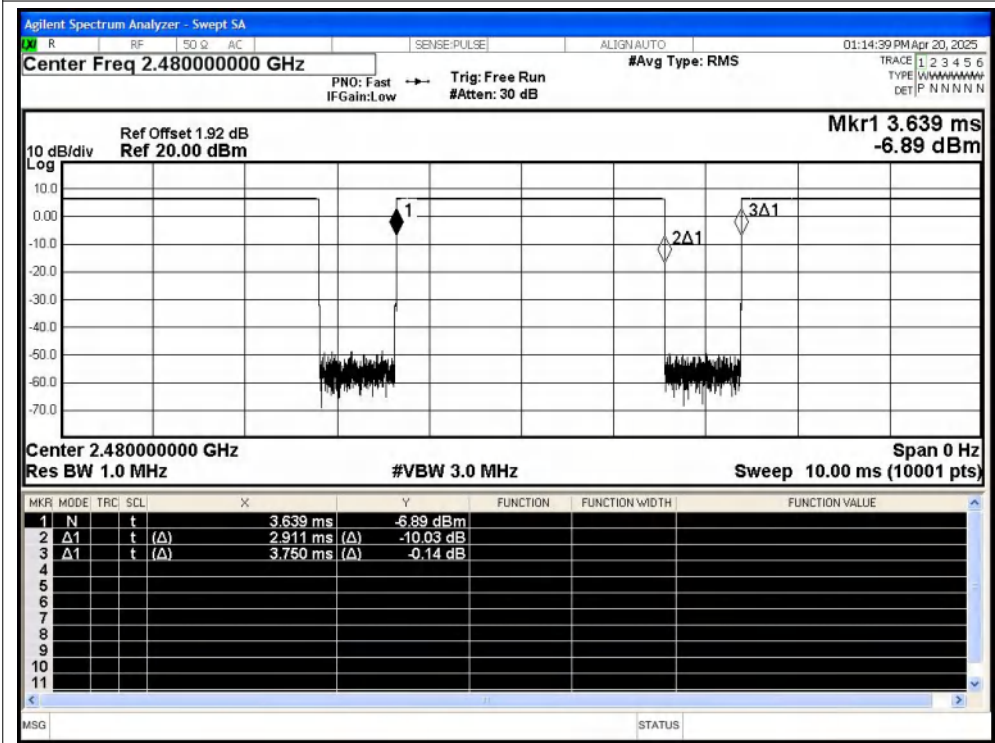
Duty Cycle NVNT 1-DH5 2402MHz Ant1



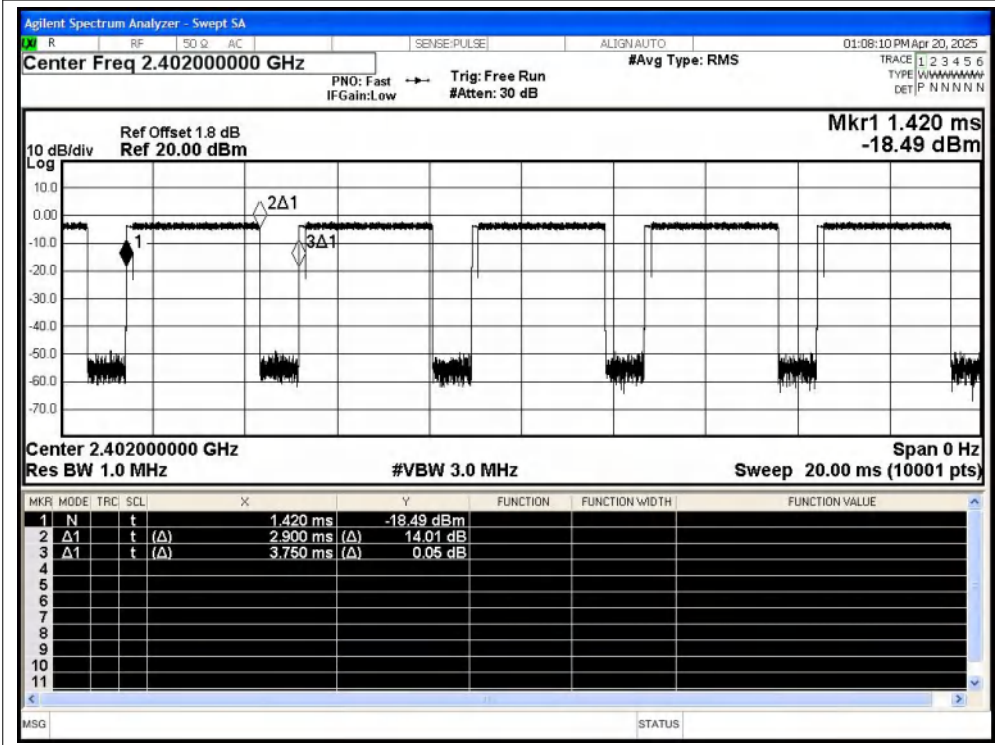
Duty Cycle NVNT 1-DH5 2441MHz Ant1



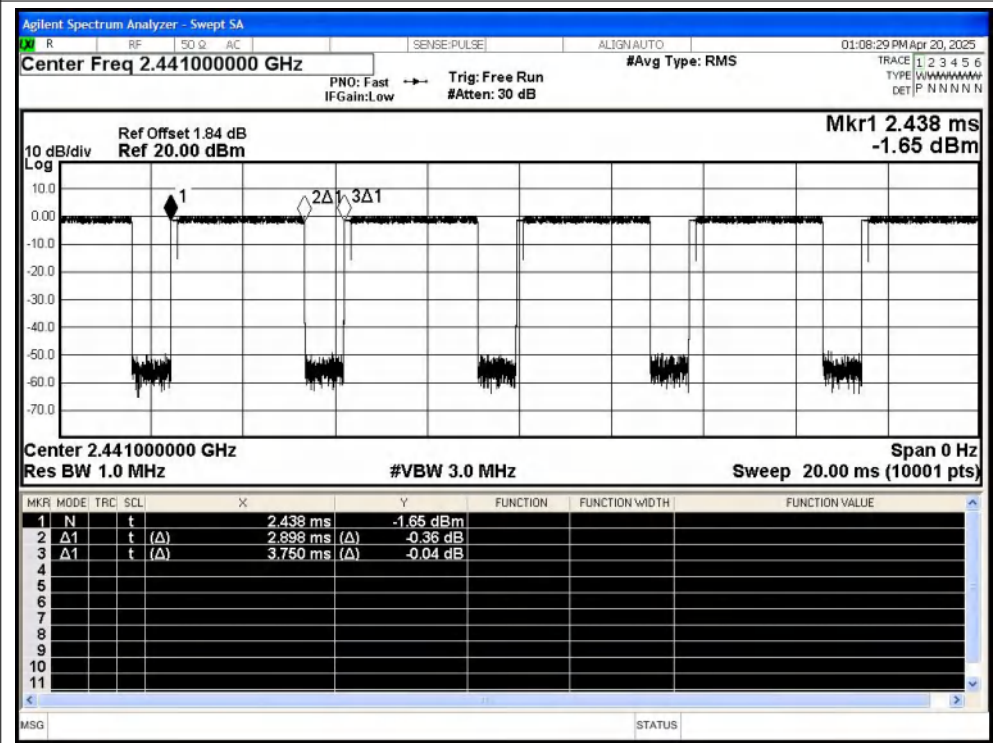
Duty Cycle NVNT 1-DH5 2480MHz Ant1



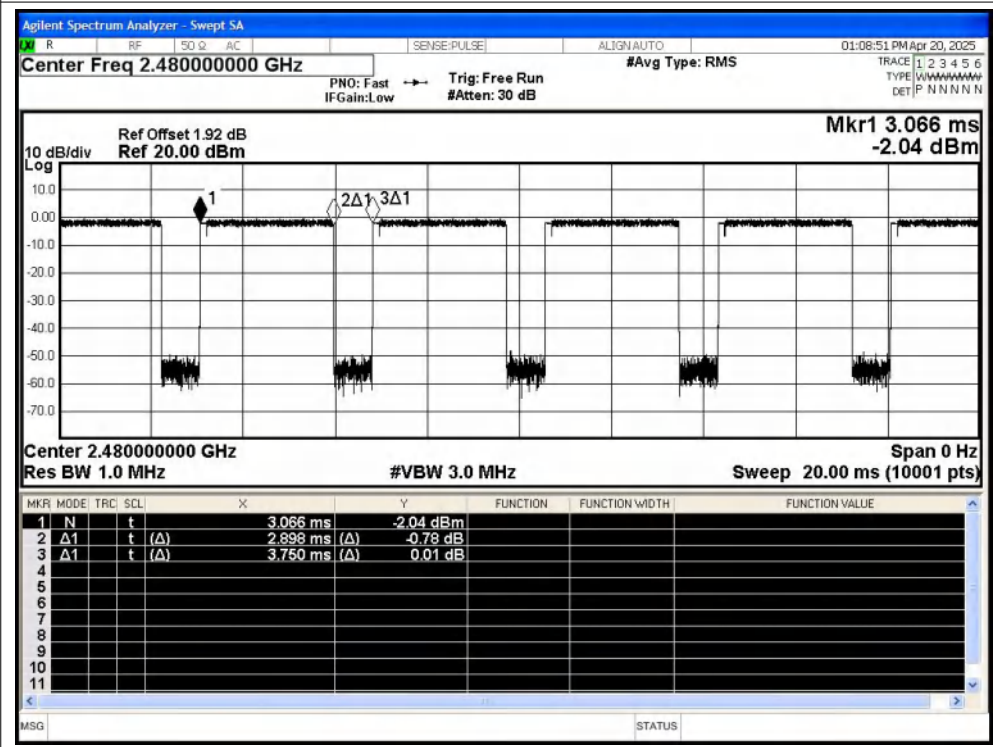
Duty Cycle NVNT 2-DH5 2402MHz Ant1



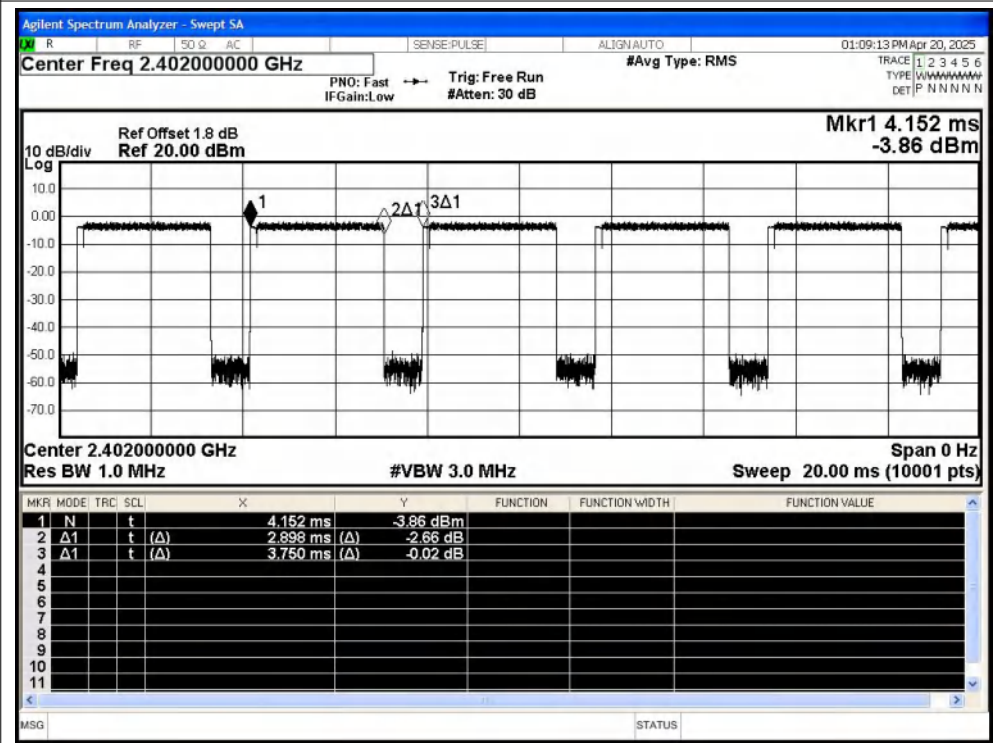
Duty Cycle NVNT 2-DH5 2441MHz Ant1



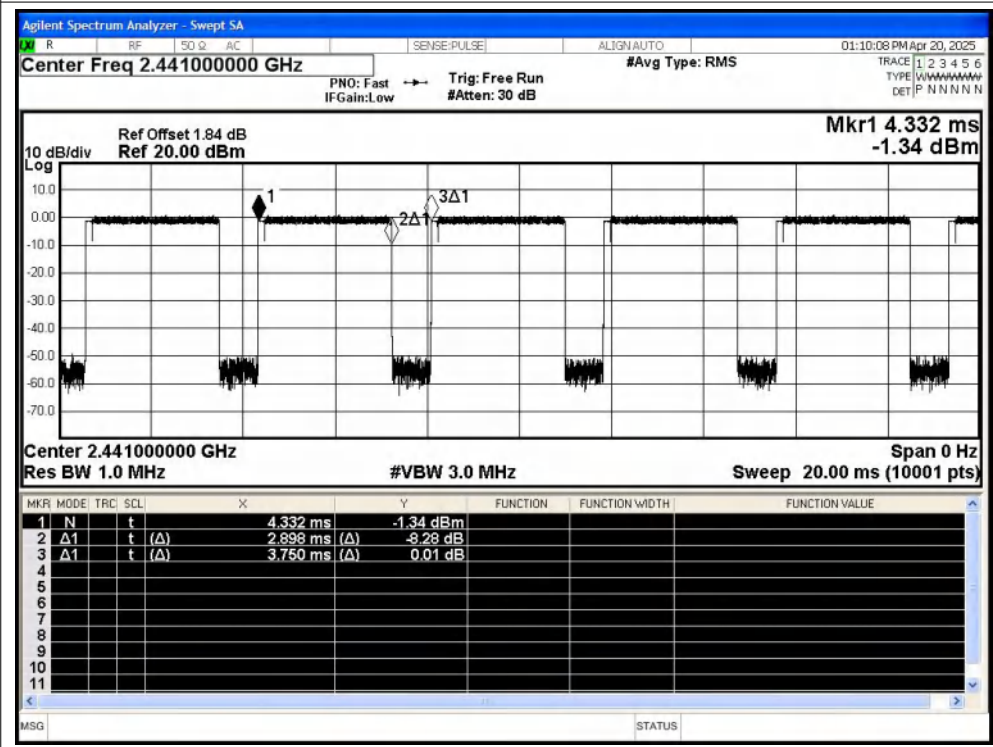
Duty Cycle NVNT 2-DH5 2480MHz Ant1

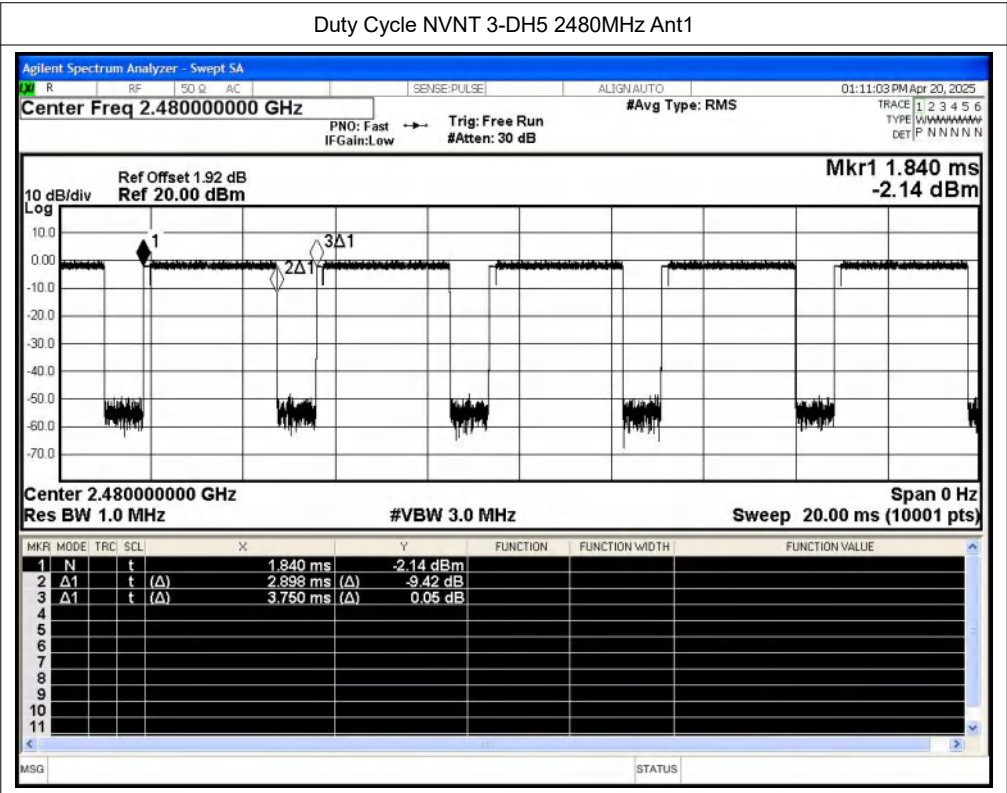


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



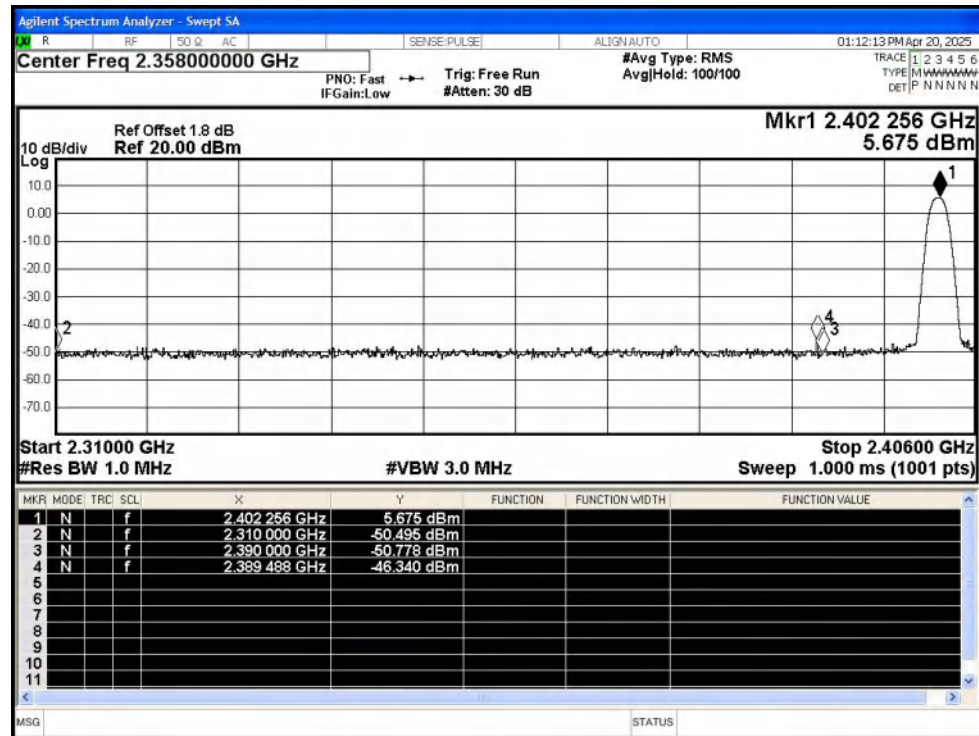


A.9 Restrict Band

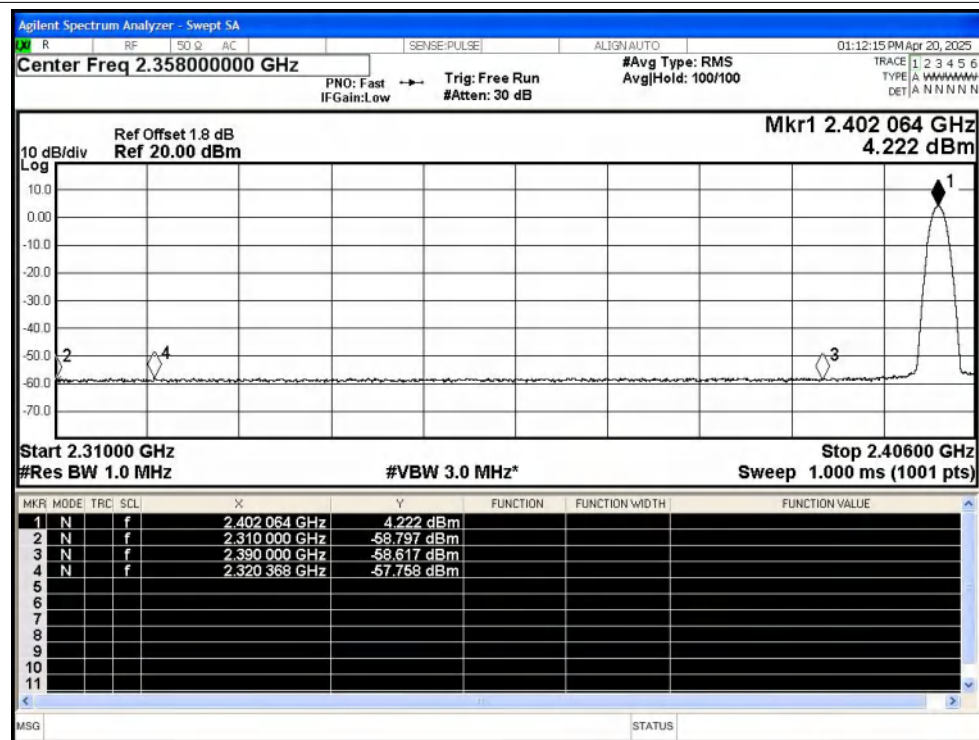
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.5	2	-	46.76	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.8	2	1.1	39.56	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2389.488	-46.34	2	-	50.92	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2320.368	-57.76	2	1.1	40.6	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.78	2	-	46.48	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.62	2	1.1	39.74	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-47.61	2	-	49.65	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-56.22	2	1.1	42.14	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.64	-41.22	2	-	56.04	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.992	-55.87	2	1.1	42.49	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.51	2	-	46.75	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.09	2	1.1	40.27	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.46	2	-	47.8	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.49	2	1.12	38.89	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2384.112	-47.38	2	-	49.88	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2386.032	-57.77	2	1.12	40.61	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.74	2	-	48.52	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.48	2	1.12	39.9	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.54	2	-	47.72	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.48	2	1.12	40.9	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.448	-46.2	2	-	51.06	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2488.624	-57.18	2	1.12	41.2	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.13	2	-	47.13	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.45	2	1.12	39.93	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-52.23	2	-	45.03	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-59.31	2	1.12	39.07	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2365.008	-47.96	2	-	49.3	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.912	-57.84	2	1.12	40.54	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.51	2	-	47.75	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.41	2	1.12	39.97	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.06	2	-	49.2	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.75	2	1.12	40.63	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2496.736	-46.95	2	-	50.31	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2490.904	-57.06	2	1.12	41.32	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.85	2	-	46.41	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.25	2	1.12	40.13	Average	54	Pass

Test Graphs

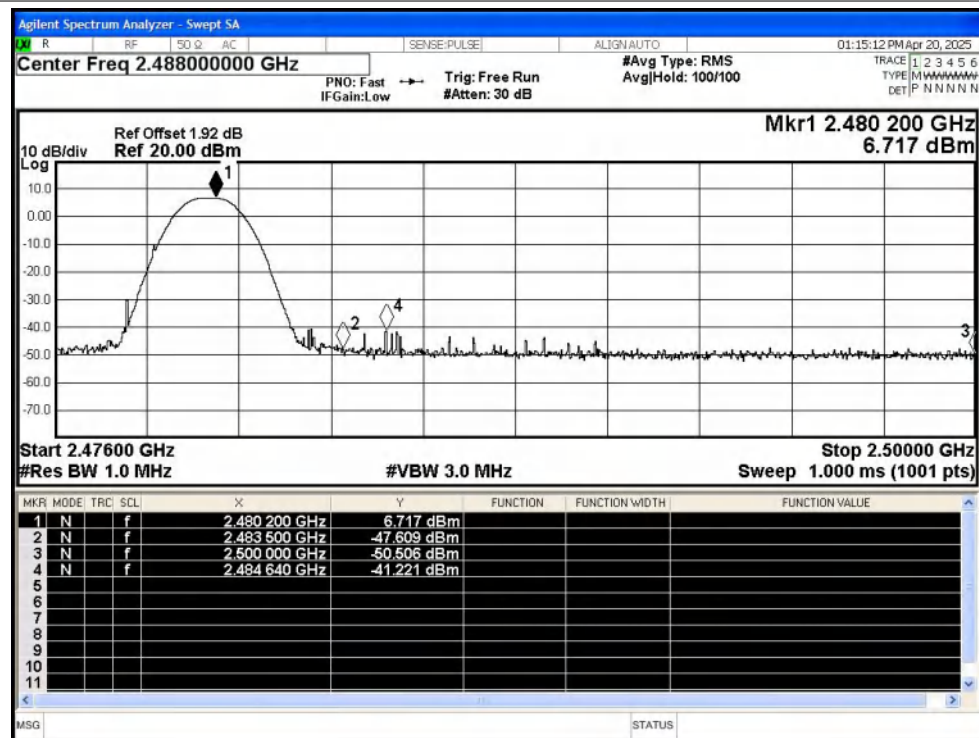
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



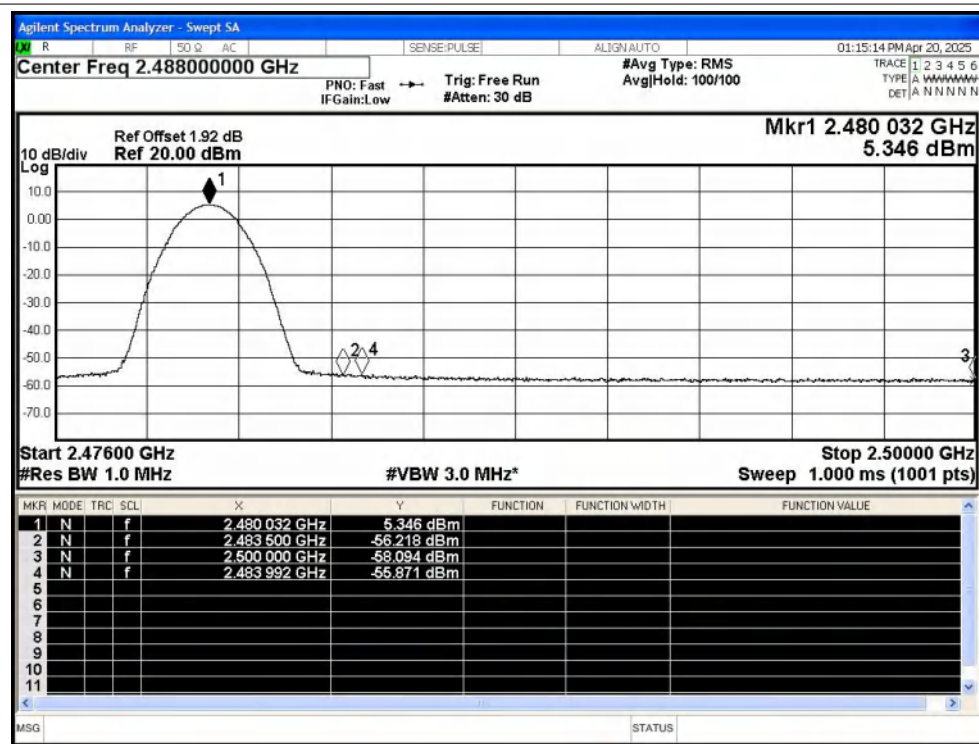
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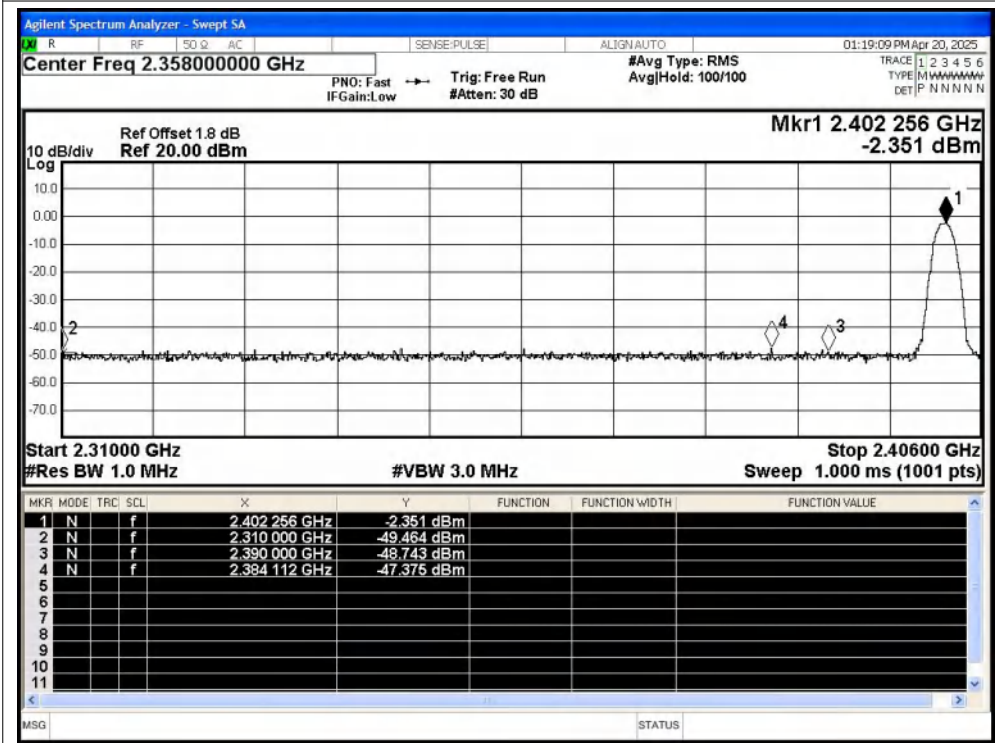
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



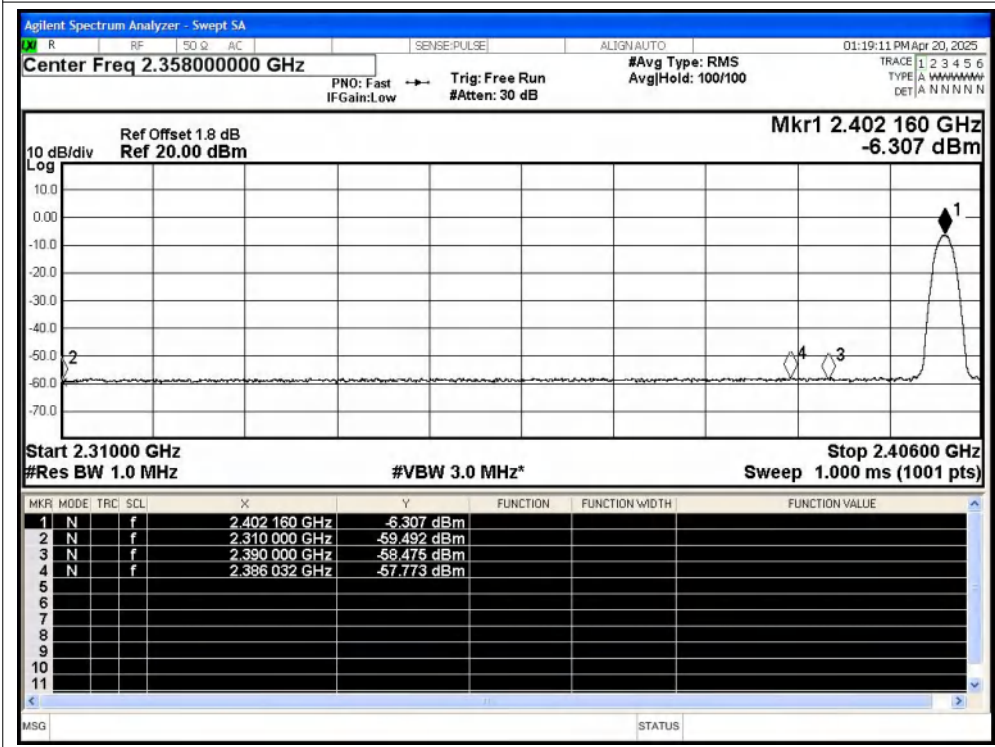
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

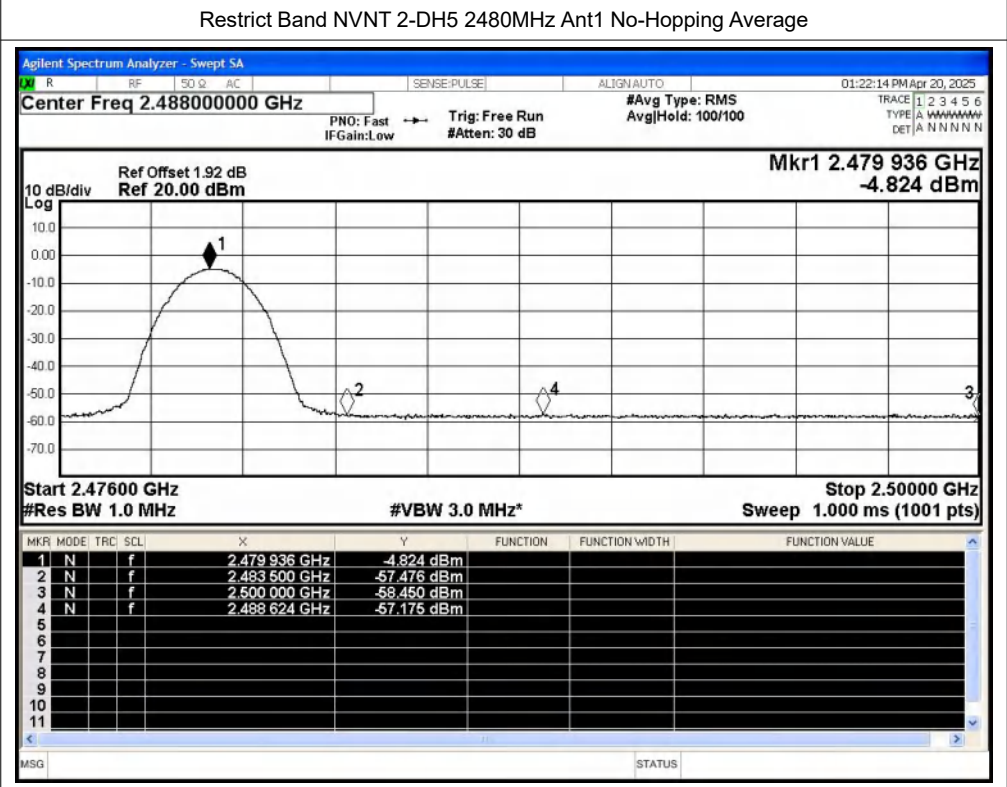
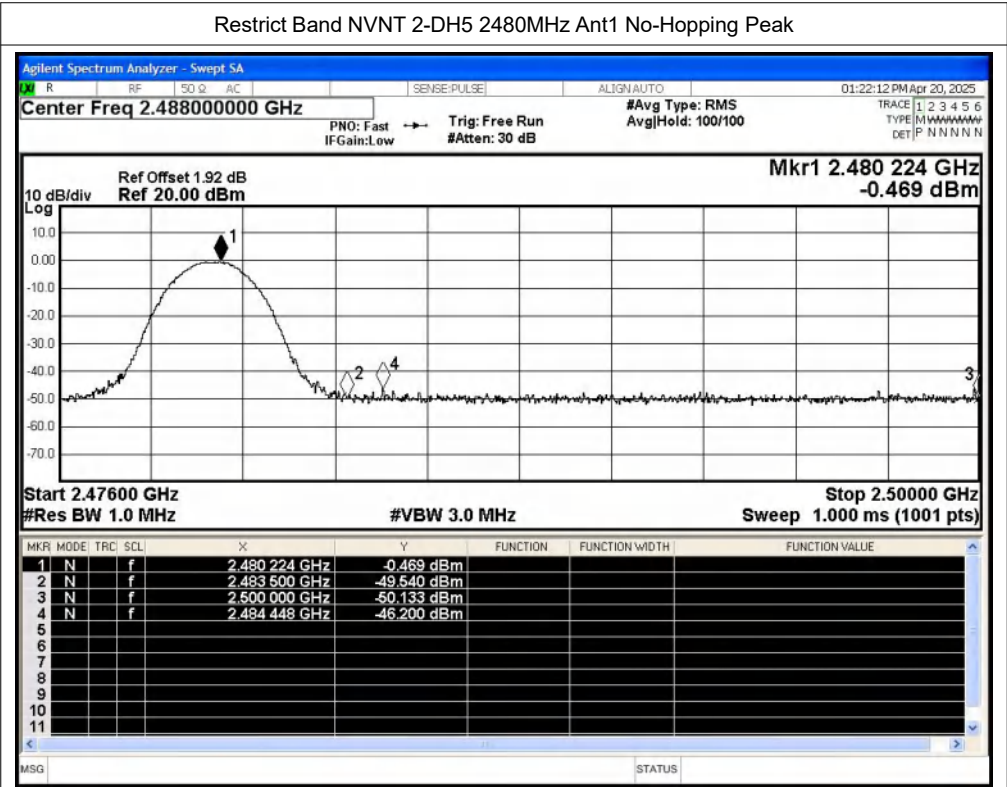


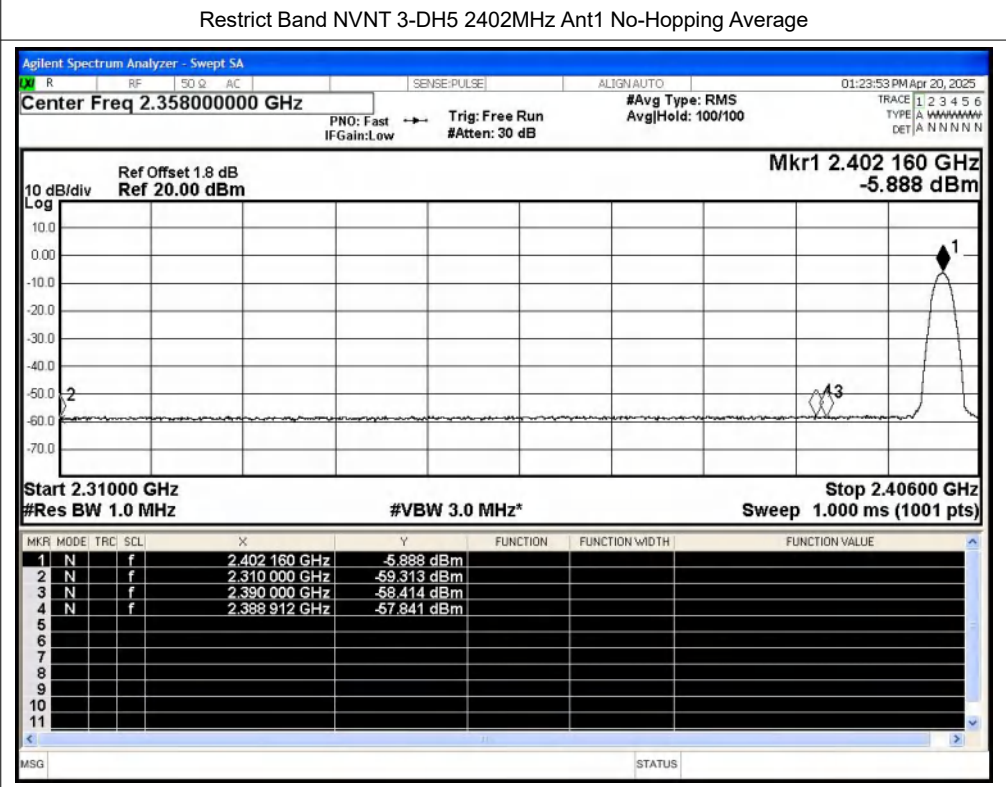
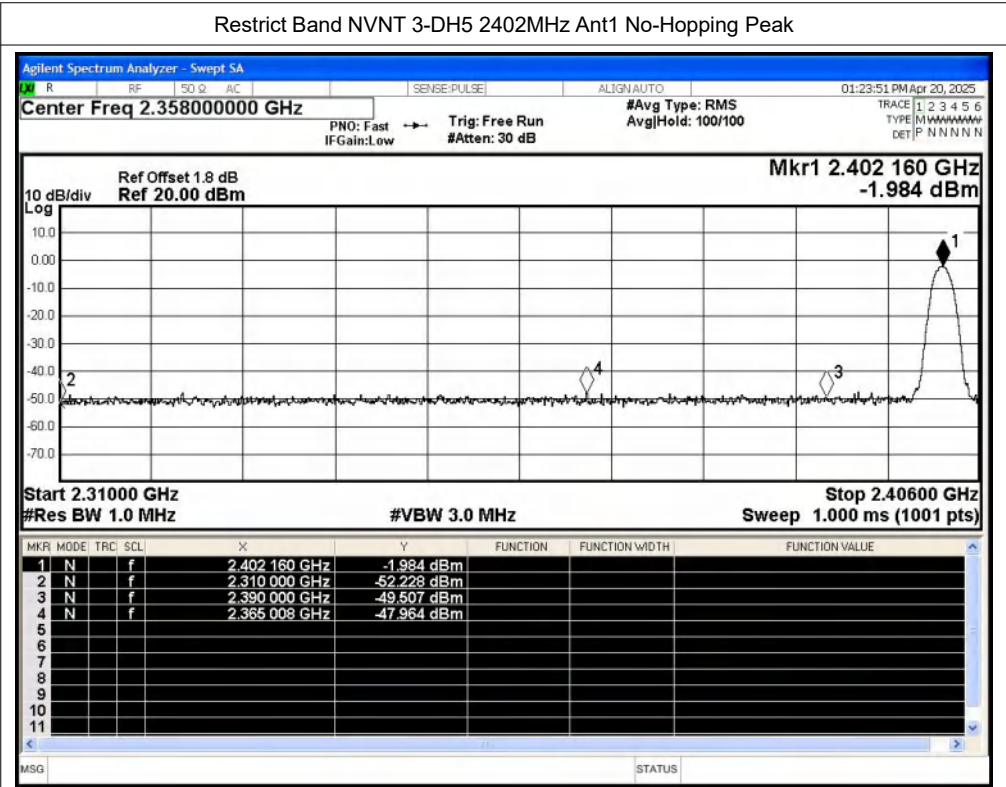
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



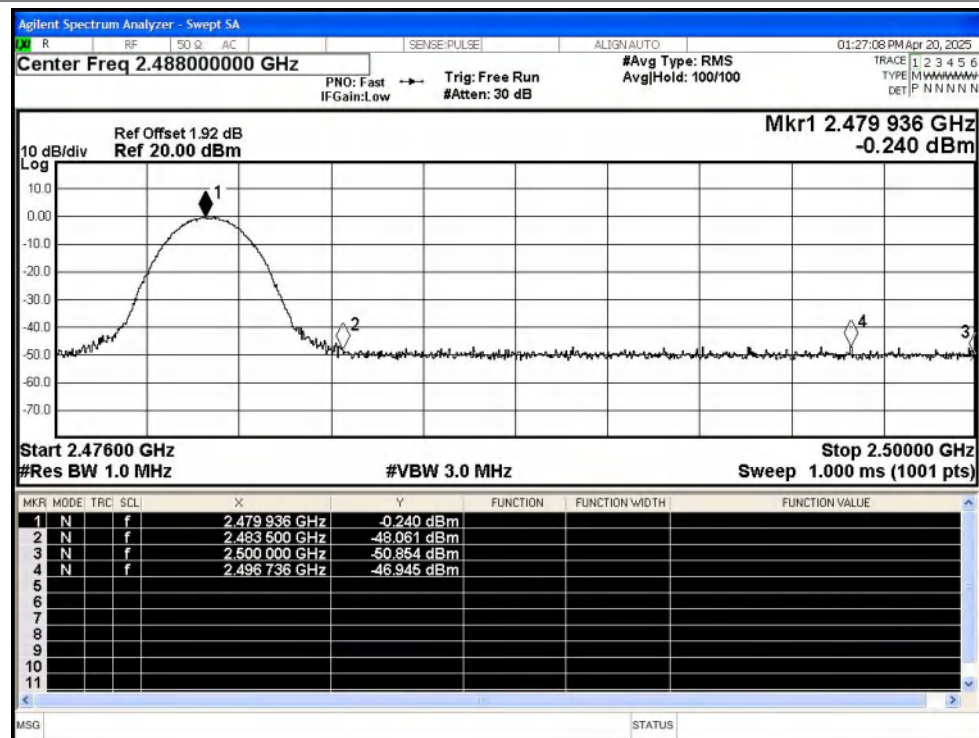
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average







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



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

