



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: WIRELESS SPEAKER

Test Model: ZEALOT-S67

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





A.1 -20dB Bandwidth

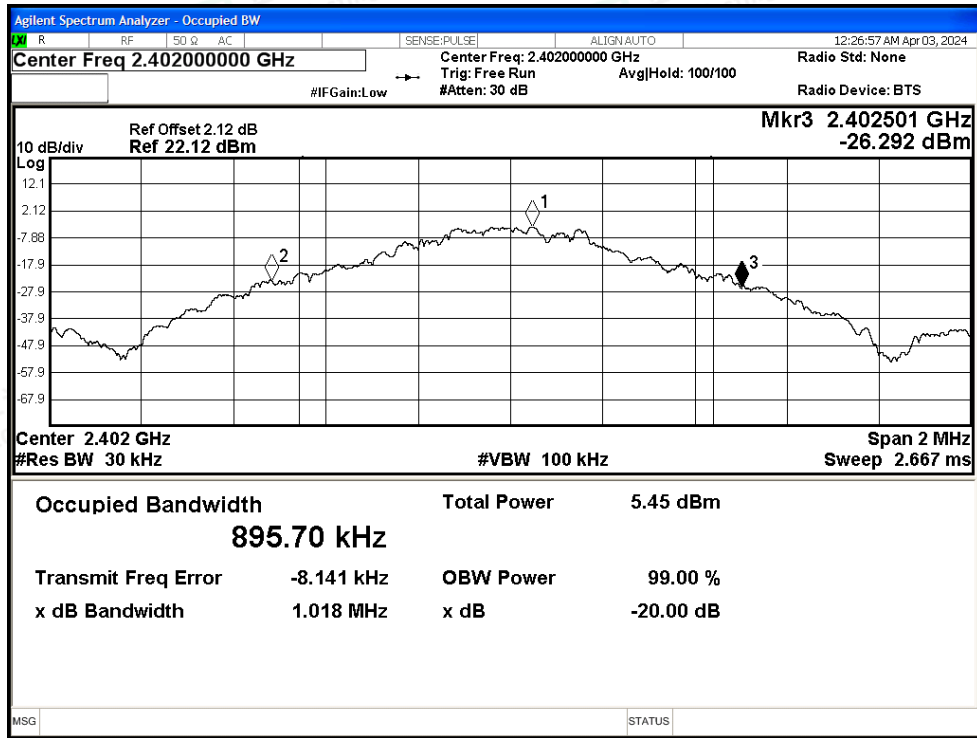
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant	1.018	N/A	Pass
NVNT	1-DH5	2441	Ant	0.966	N/A	Pass
NVNT	1-DH5	2480	Ant	0.983	N/A	Pass
NVNT	2-DH5	2402	Ant	1.279	N/A	Pass
NVNT	2-DH5	2441	Ant	1.312	N/A	Pass
NVNT	2-DH5	2480	Ant	1.285	N/A	Pass
NVNT	3-DH5	2402	Ant	1.291	N/A	Pass
NVNT	3-DH5	2441	Ant	1.282	N/A	Pass
NVNT	3-DH5	2480	Ant	1.306	N/A	Pass



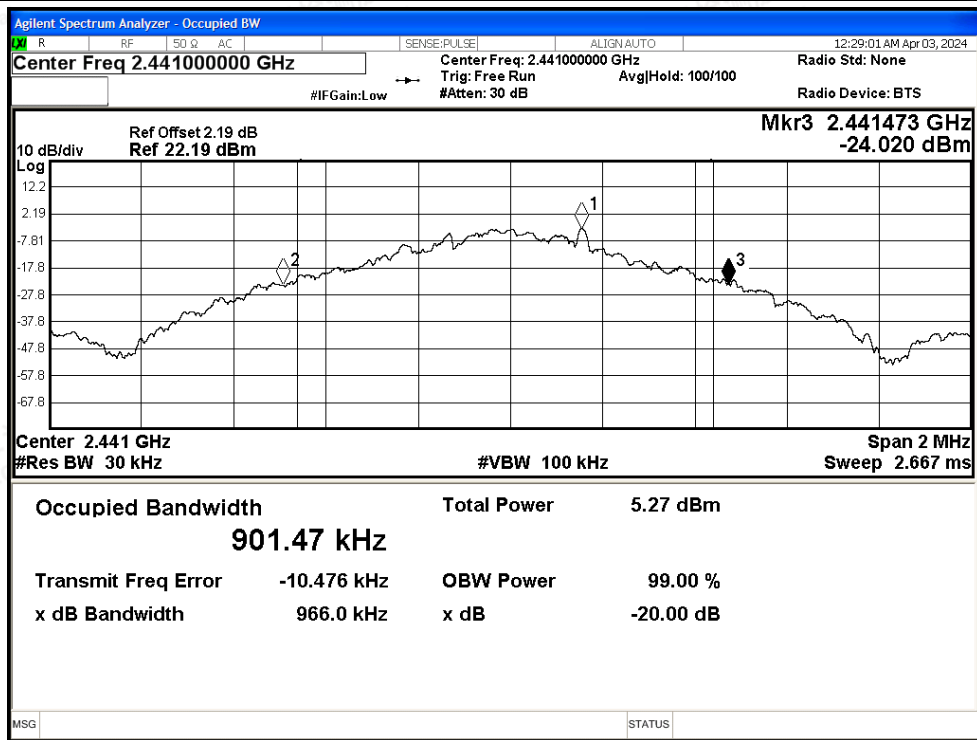


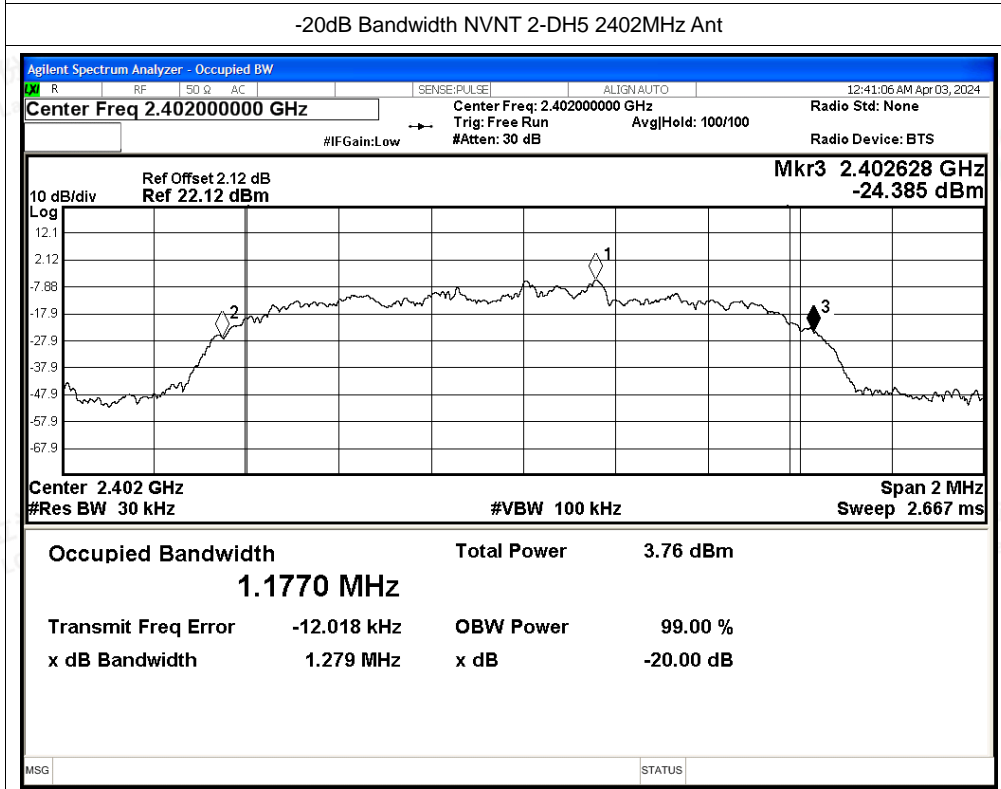
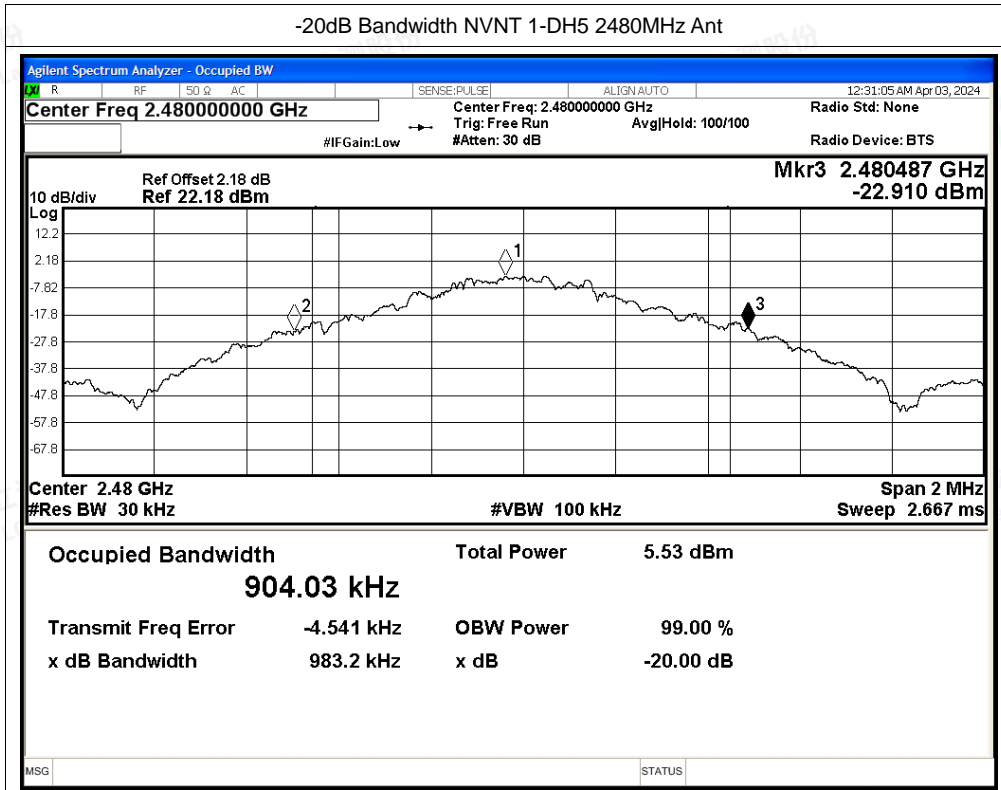
Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant



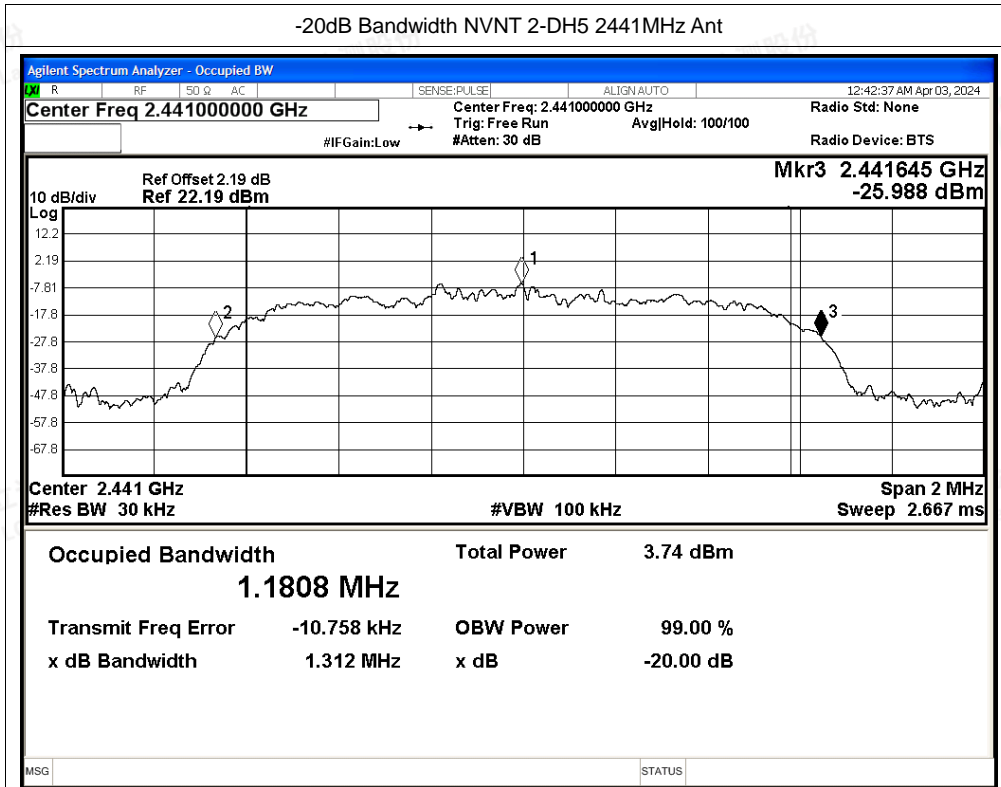
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant



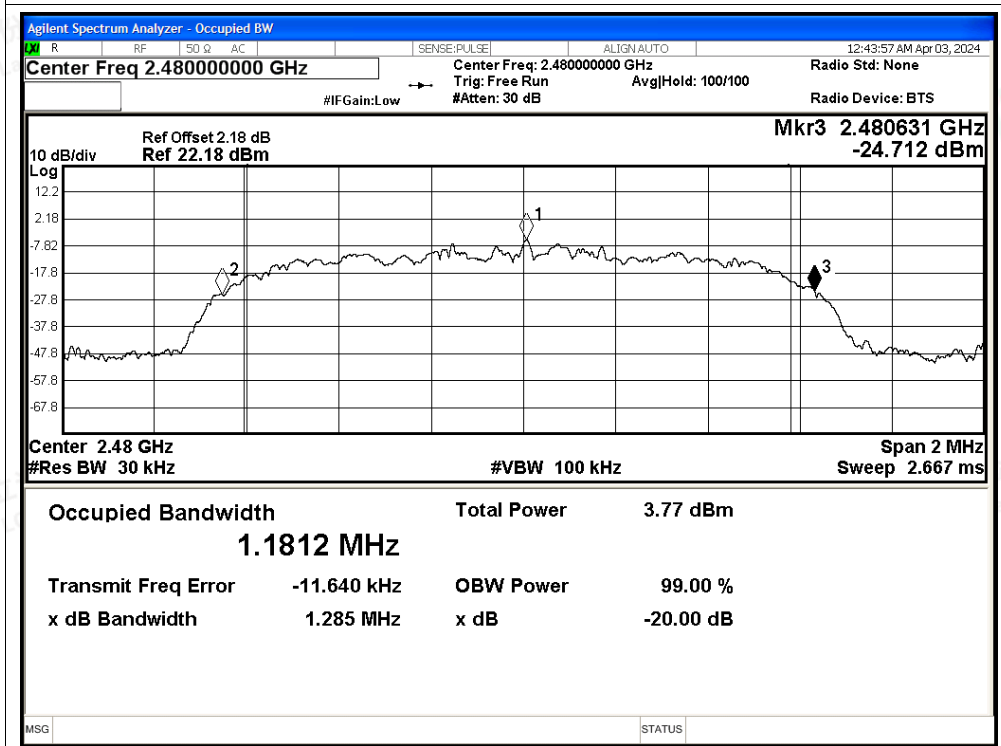


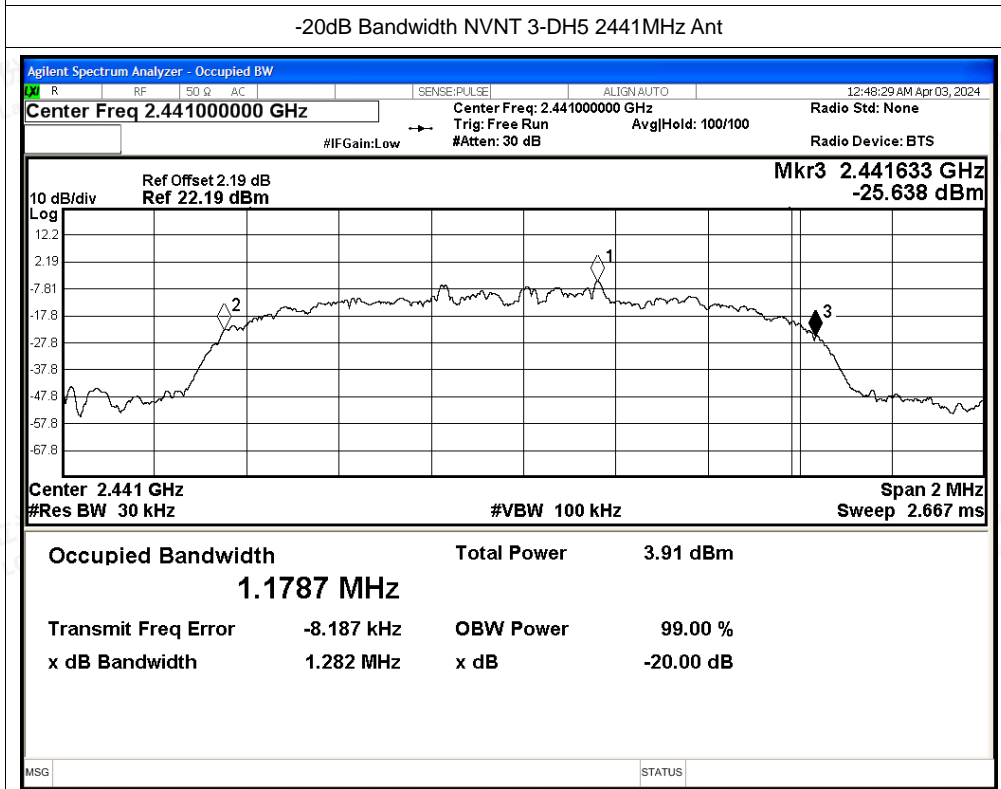
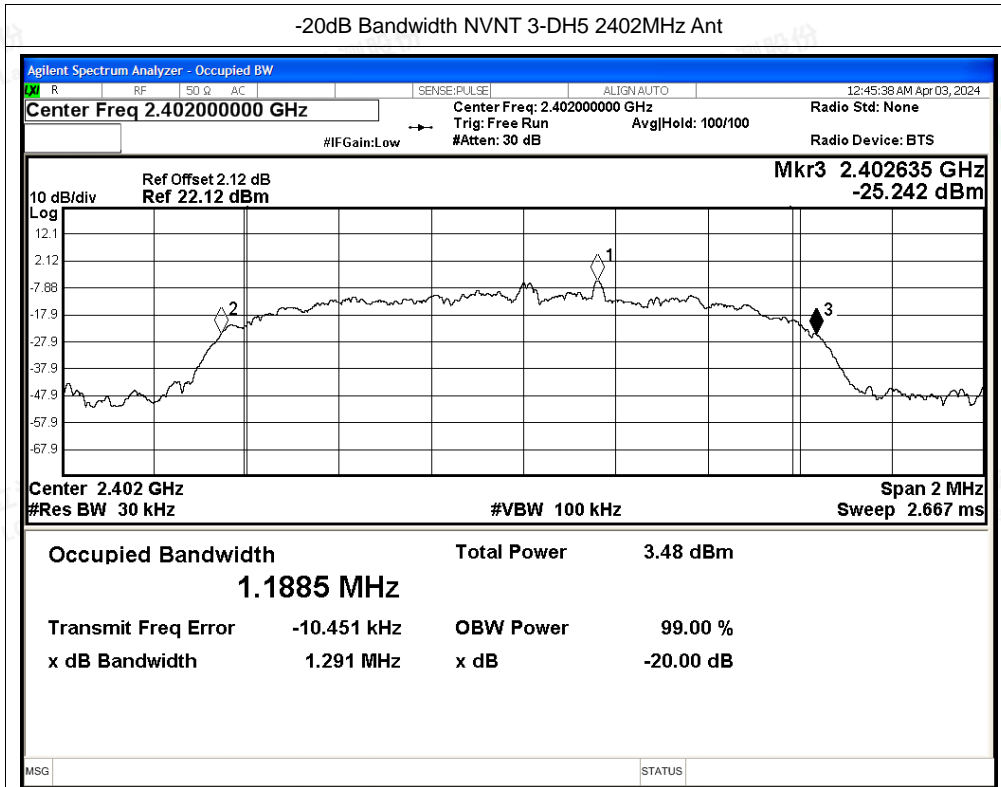


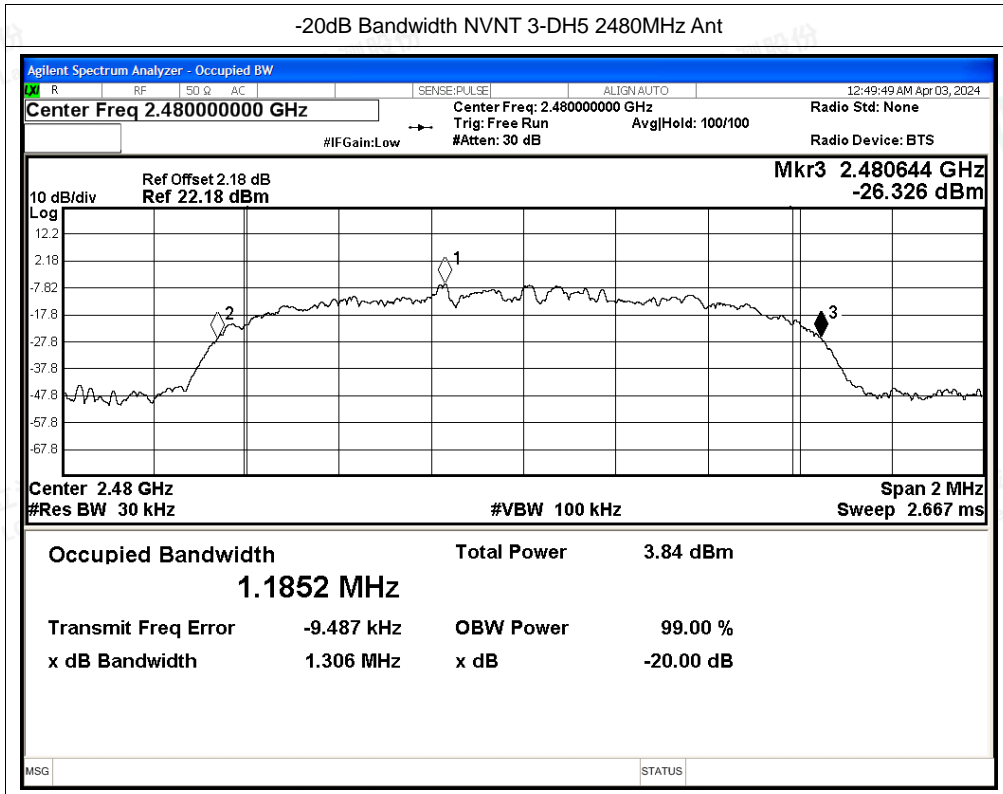
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant









A.2 Maximum Conducted Output Power

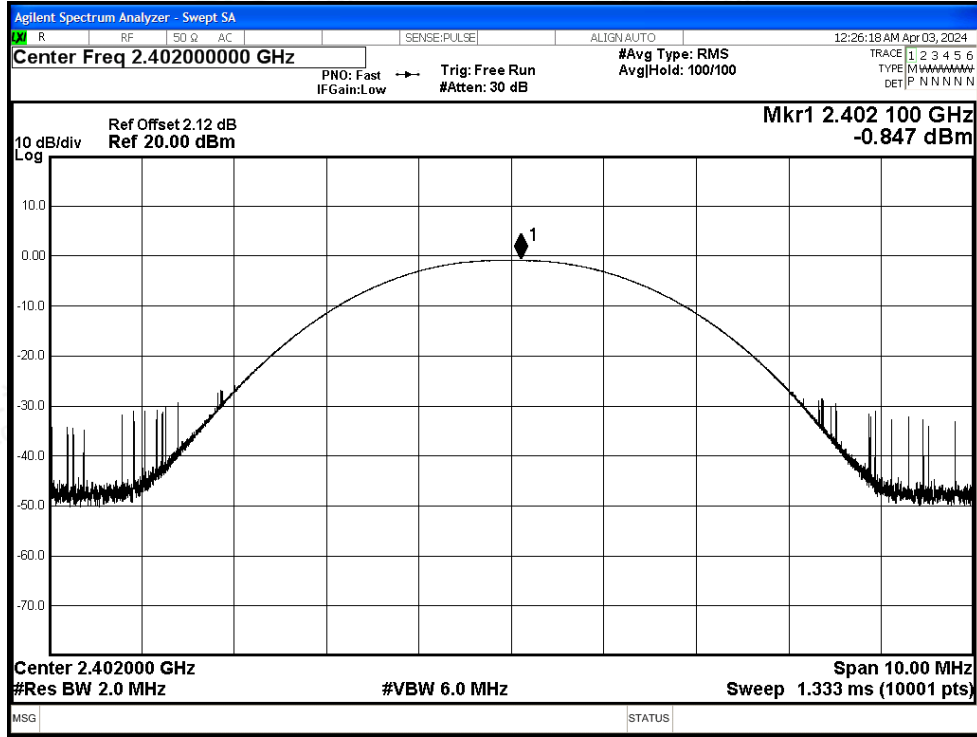
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant	-0.85	21	Pass
NVNT	1-DH5	2441	Ant	-0.63	21	Pass
NVNT	1-DH5	2480	Ant	-0.51	21	Pass
NVNT	2-DH5	2402	Ant	-0.97	21	Pass
NVNT	2-DH5	2441	Ant	-0.77	21	Pass
NVNT	2-DH5	2480	Ant	-0.73	21	Pass
NVNT	3-DH5	2402	Ant	-0.98	21	Pass
NVNT	3-DH5	2441	Ant	-0.7	21	Pass
NVNT	3-DH5	2480	Ant	-0.64	21	Pass



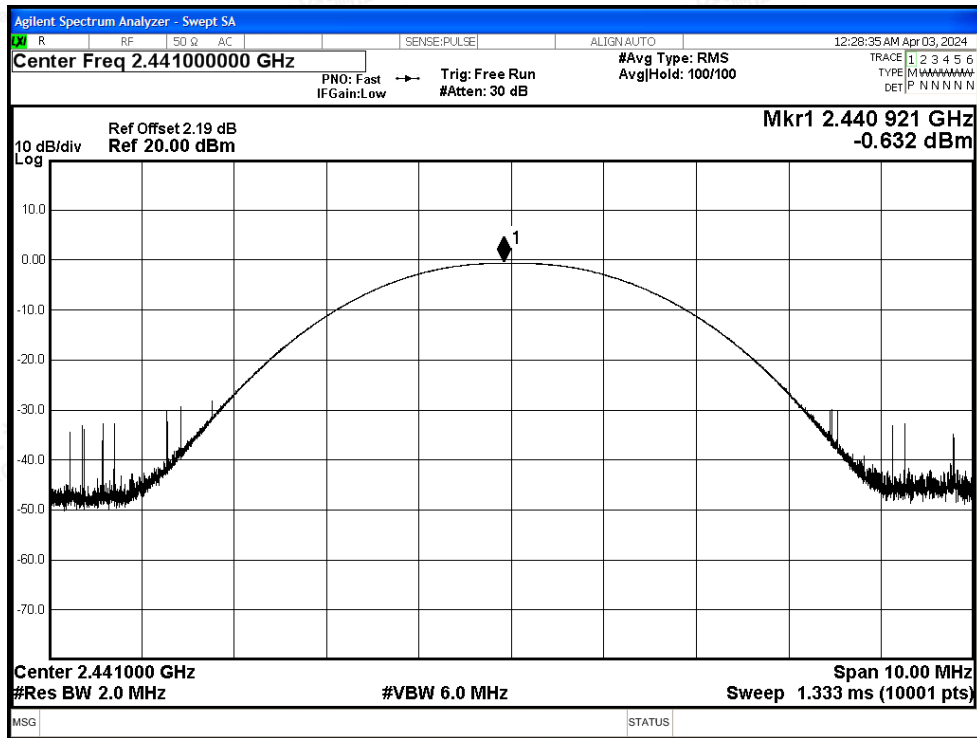


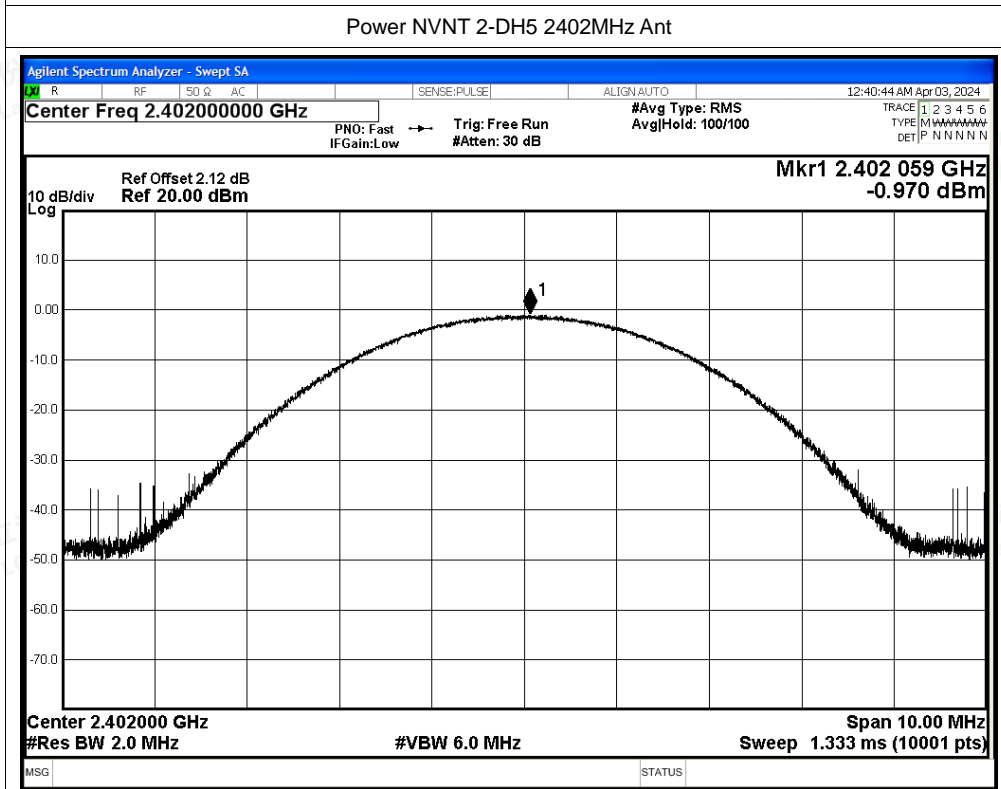
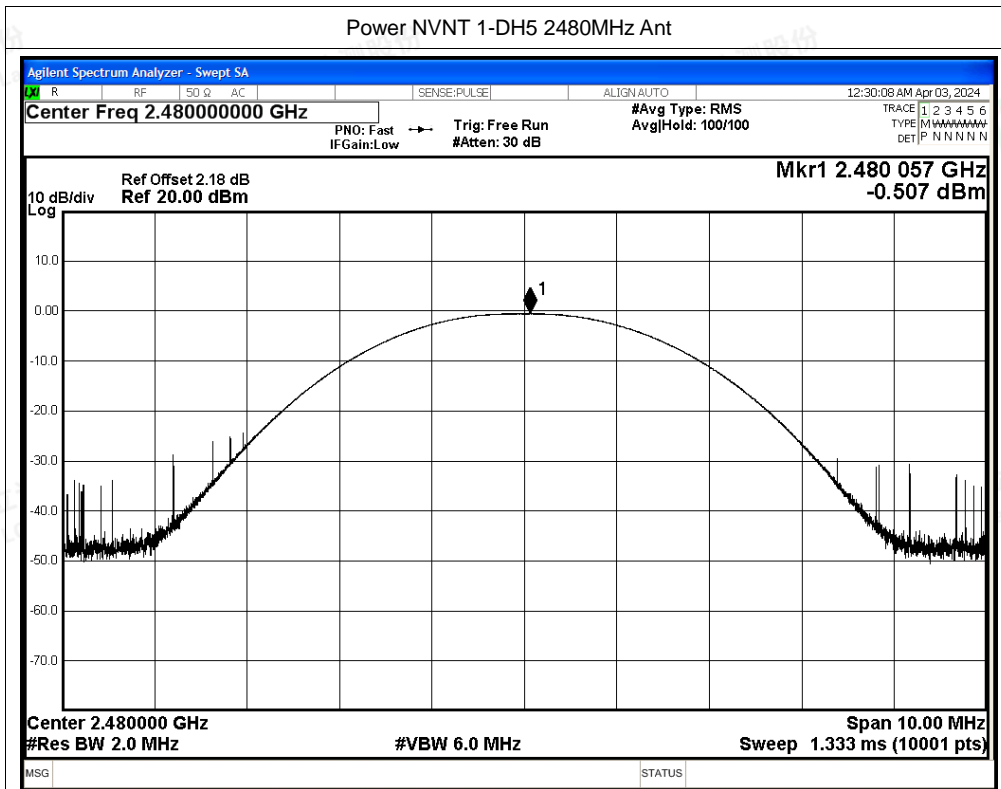
Test Graphs

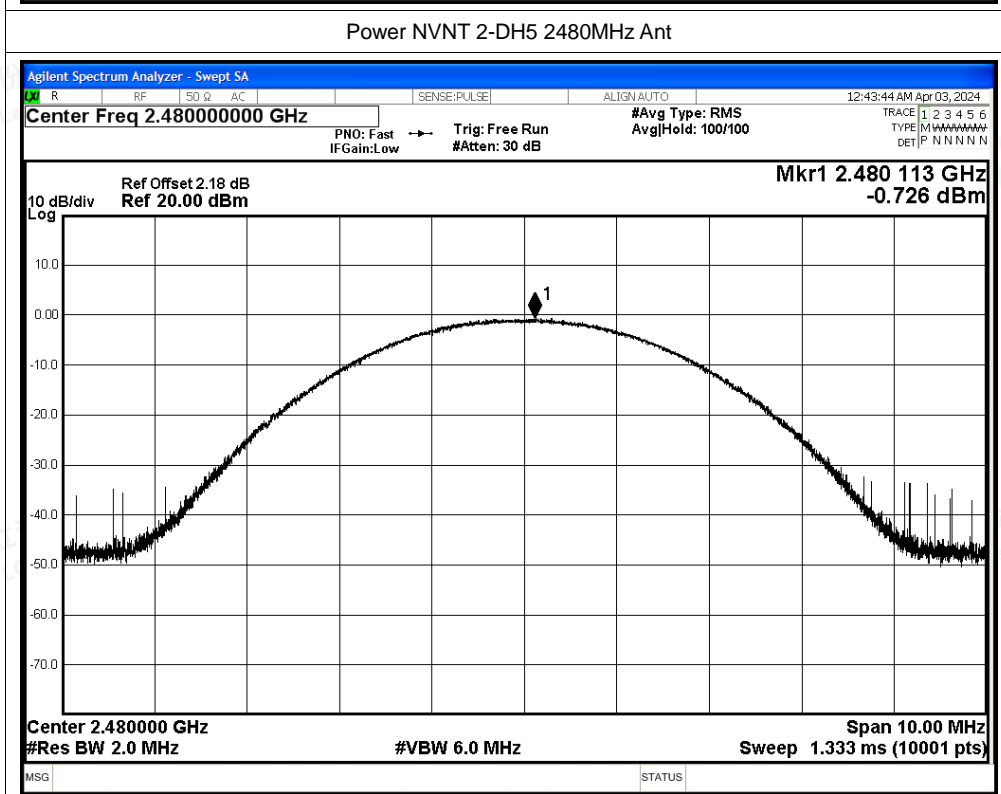
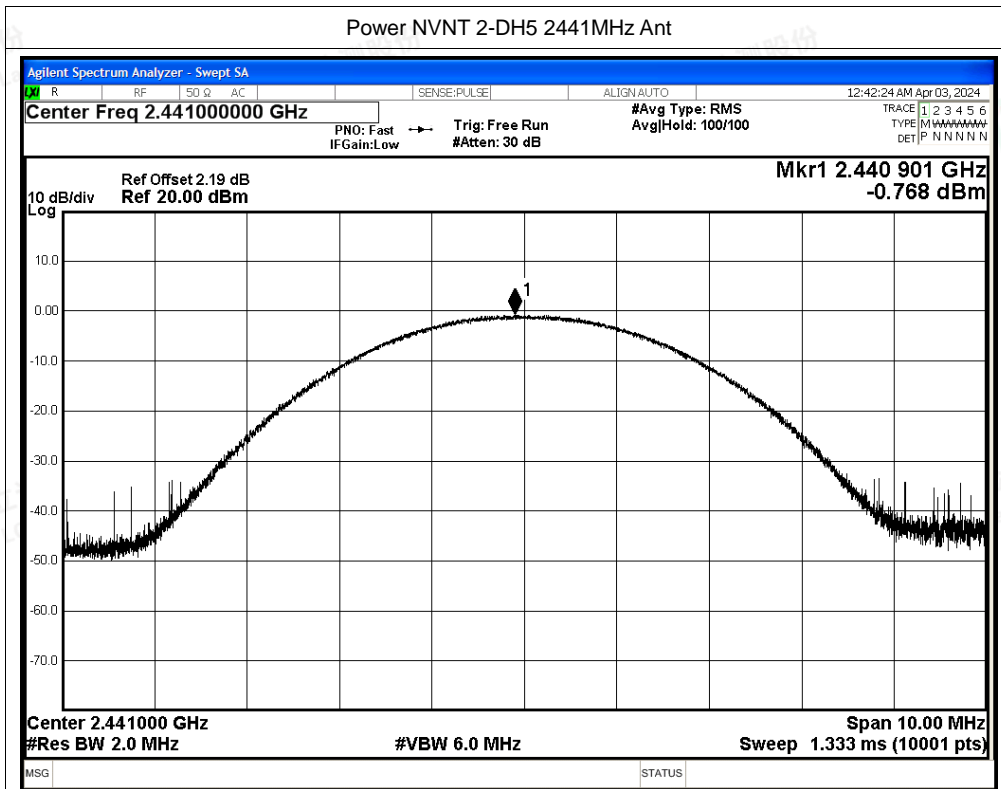
Power NVNT 1-DH5 2402MHz Ant

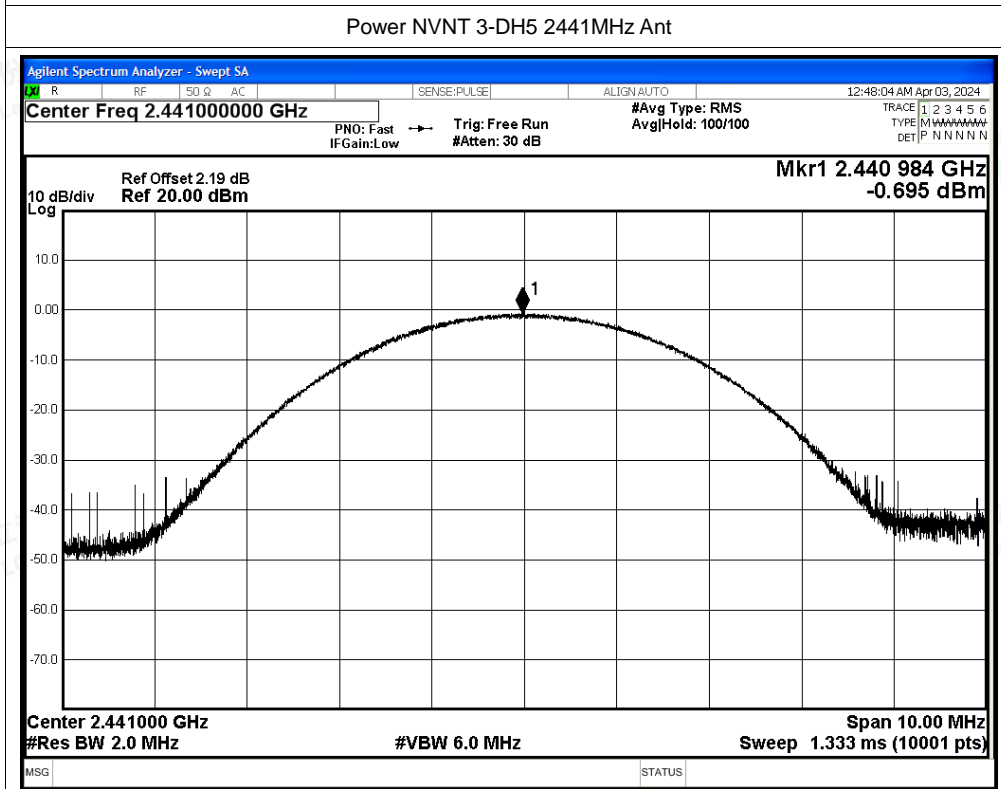
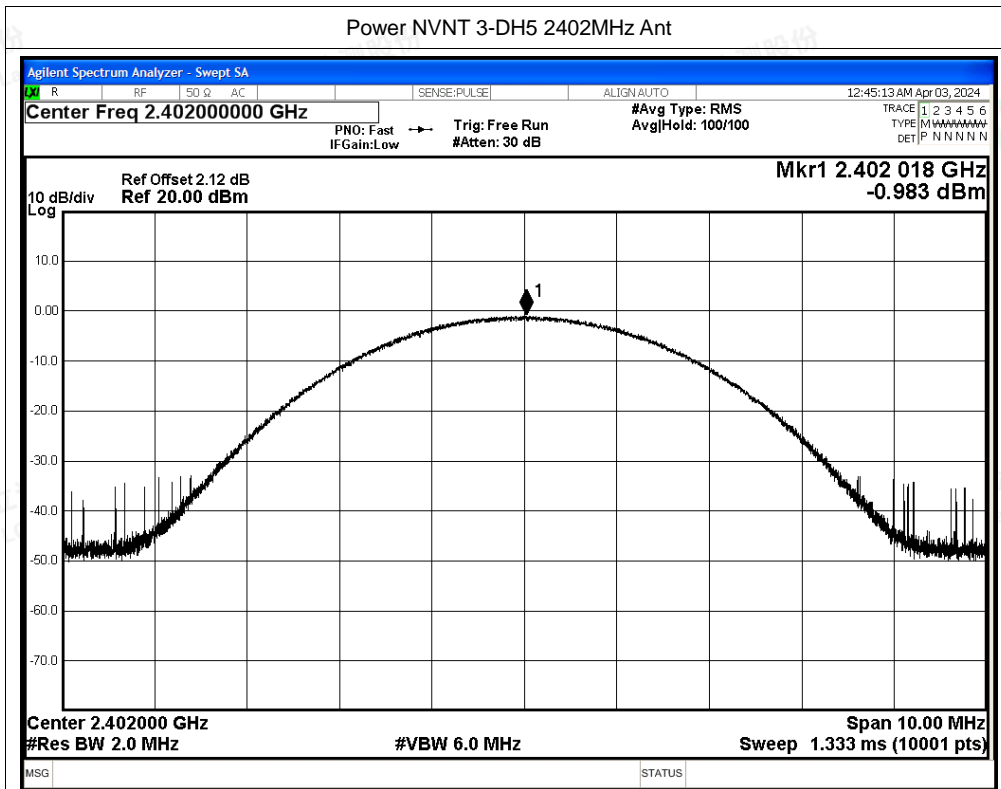


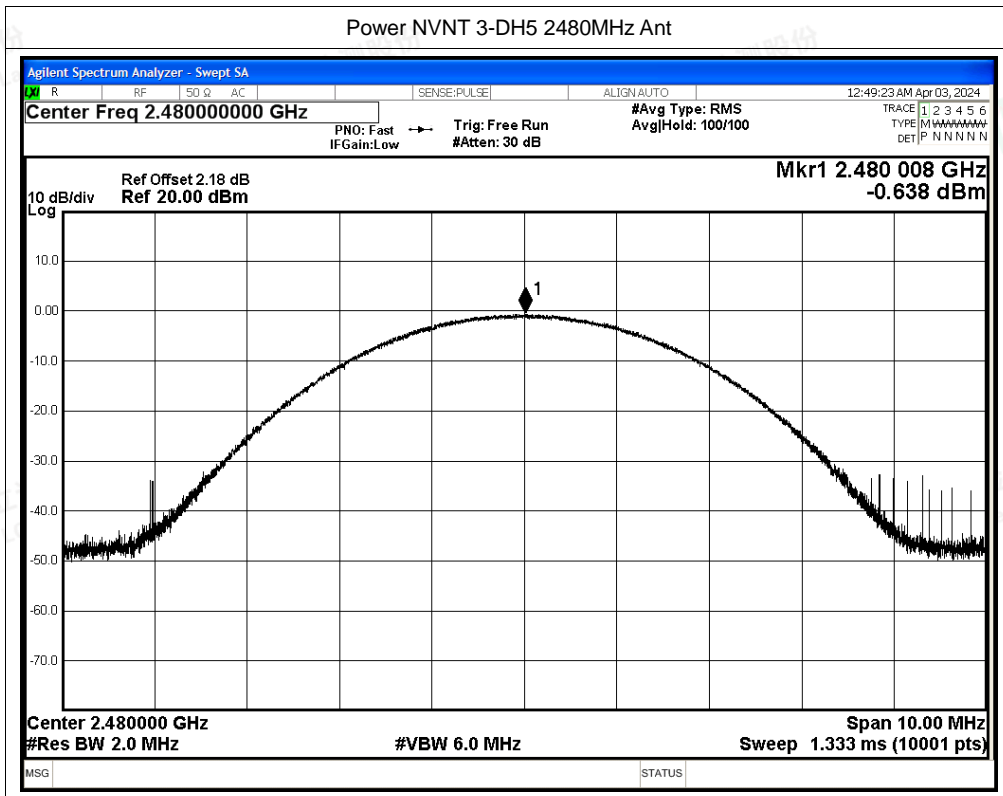
Power NVNT 1-DH5 2441MHz Ant













A.3 Carrier Frequencies Separation

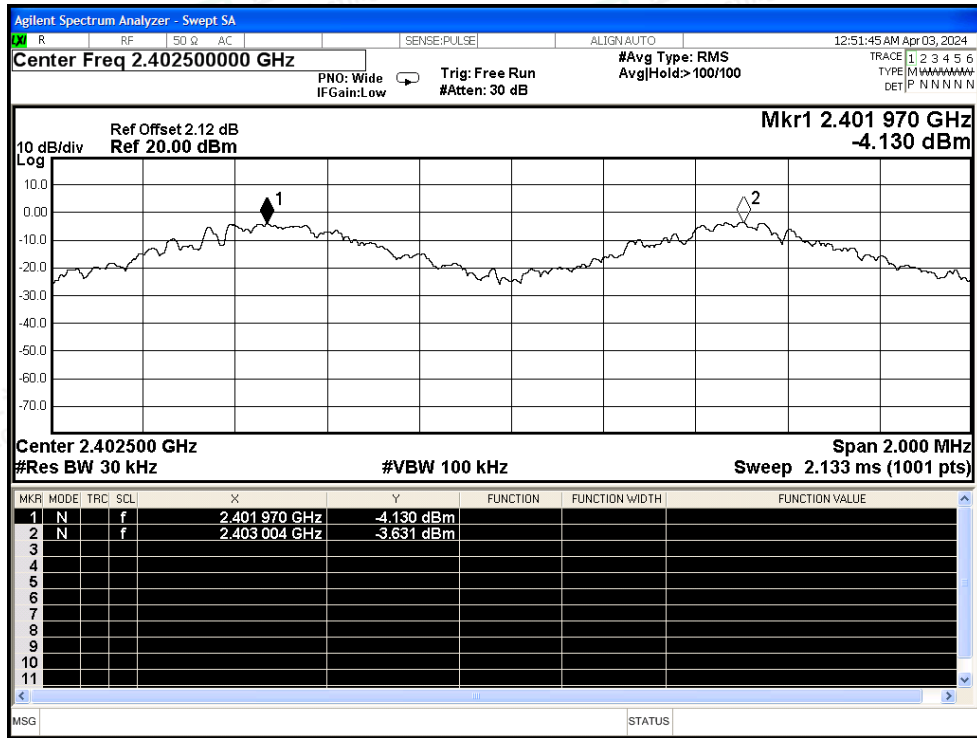
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant	2401.97	2403.004	1.034	0.679	Pass
NVNT	2-DH5	Ant	2401.996	2403.158	1.162	0.875	Pass
NVNT	3-DH5	Ant	2402.15	2403.15	1	0.871	Pass



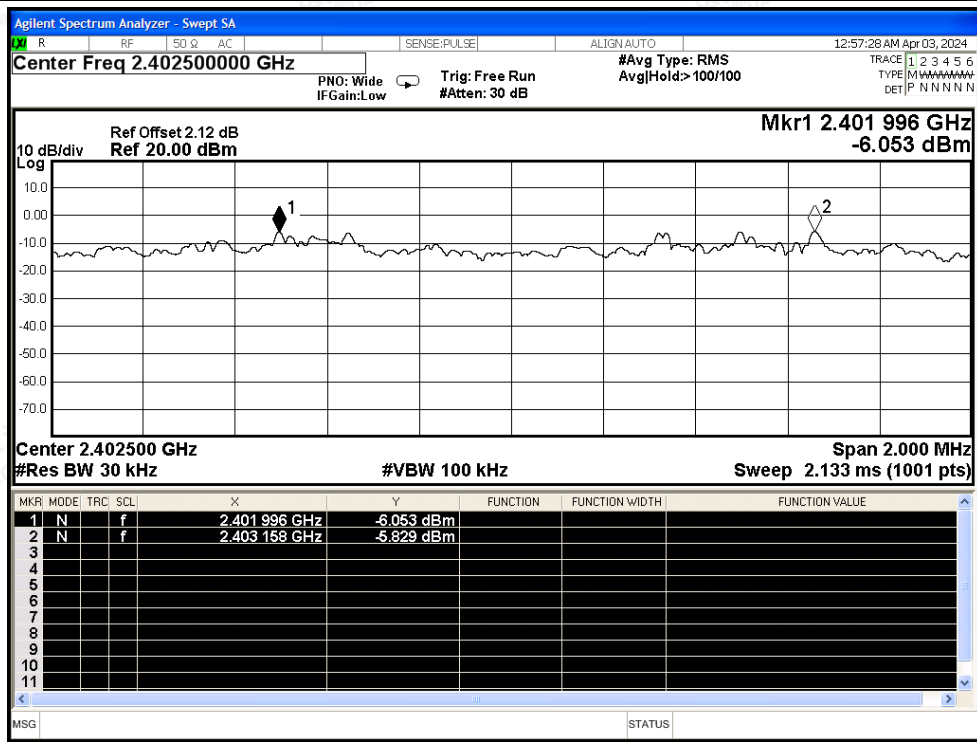


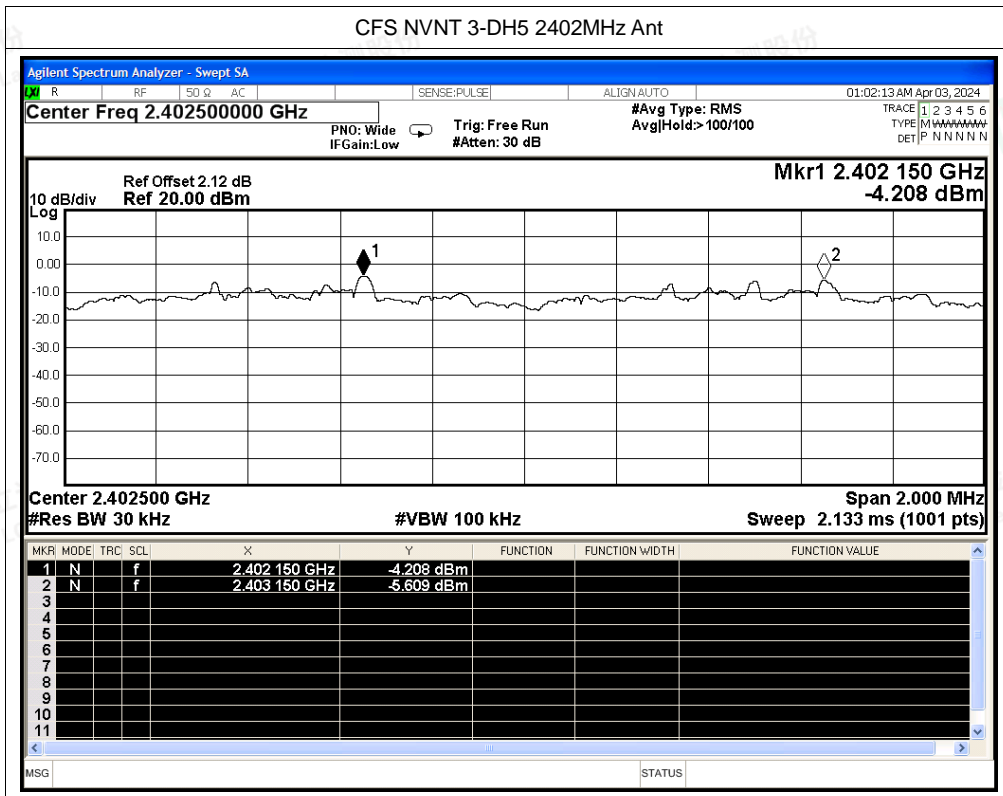
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant



CFS NVNT 2-DH5 2402MHz Ant







A.4 Dwell Time

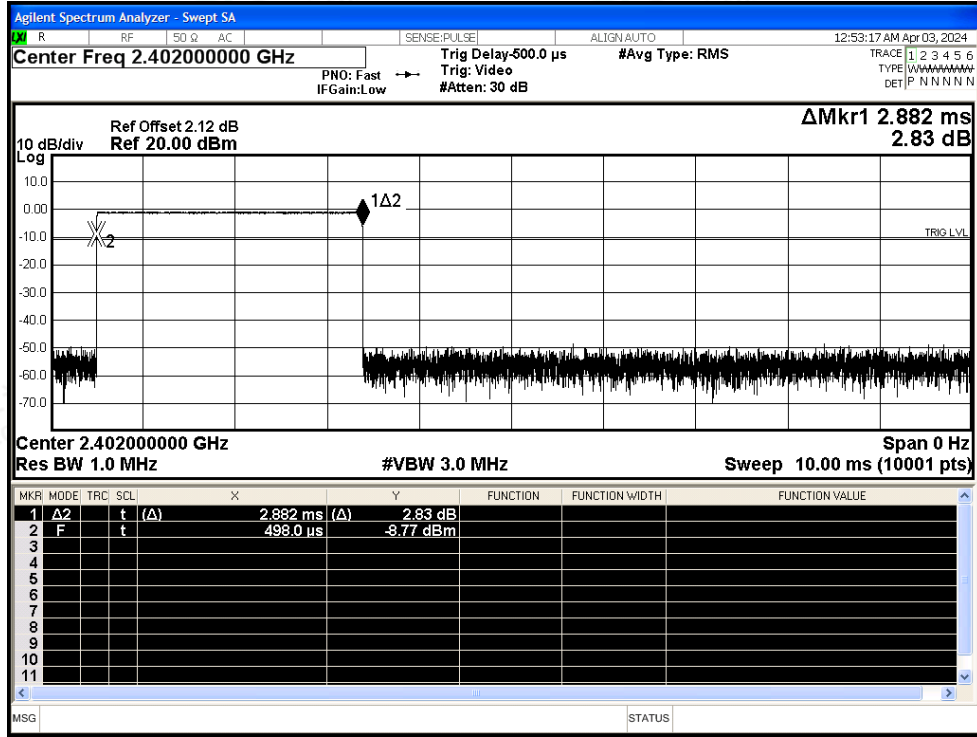
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant	2.882	299.728	104	31600	400	Pass
NVNT	2-DH5	2402	Ant	2.881	288.1	100	31600	400	Pass
NVNT	3-DH5	2402	Ant	2.887	291.587	101	31600	400	Pass



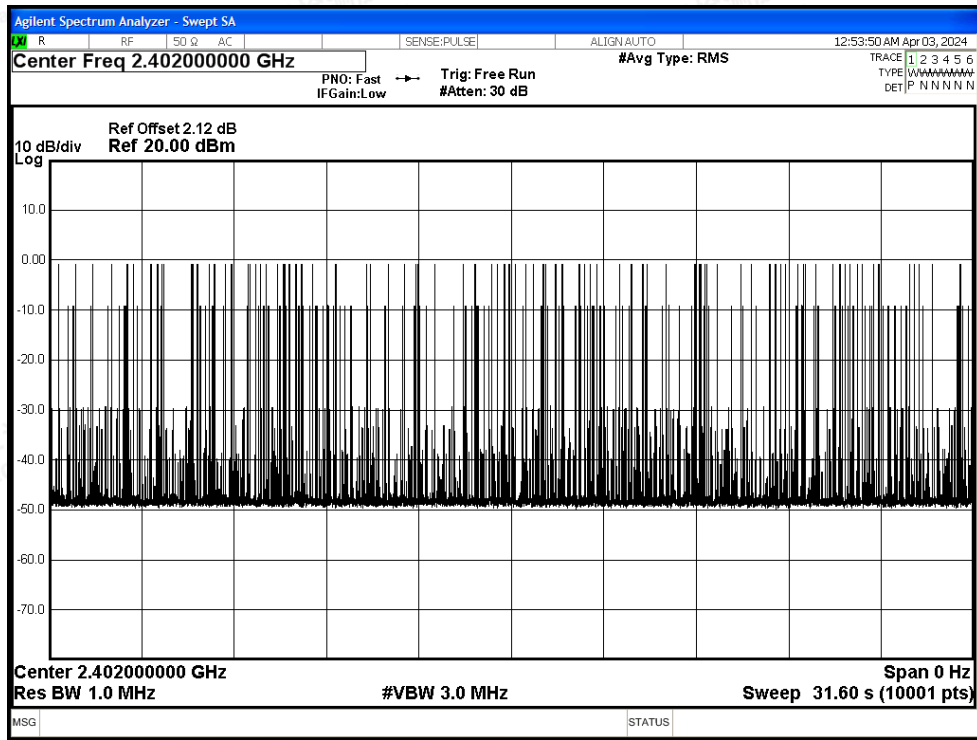


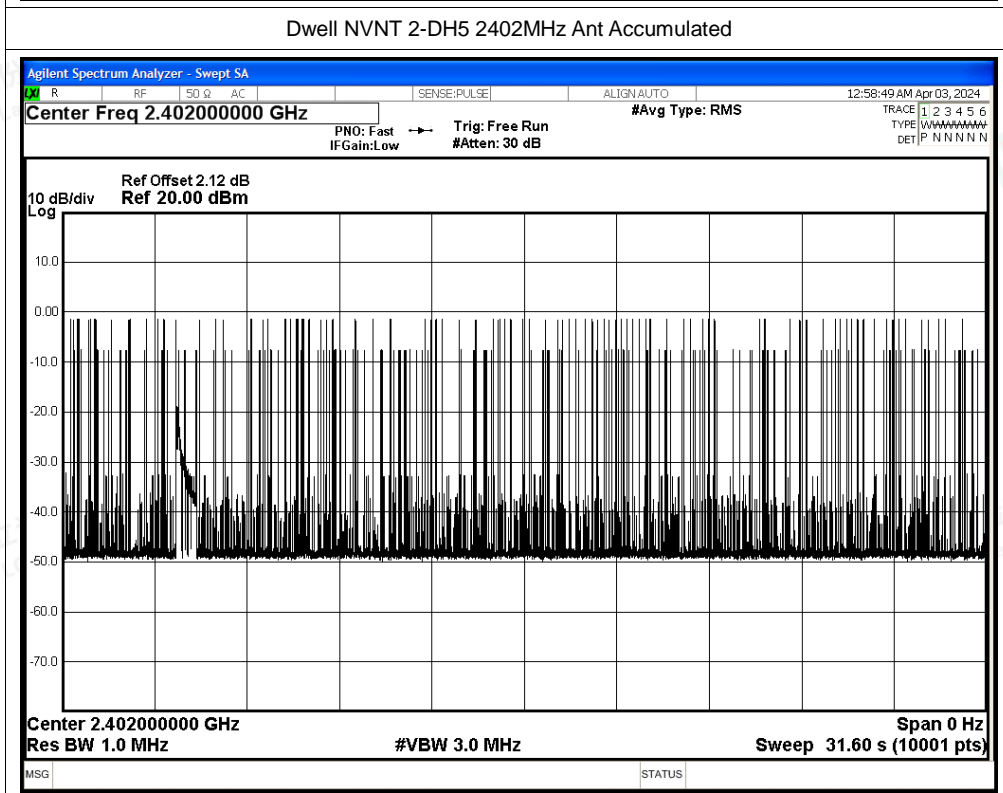
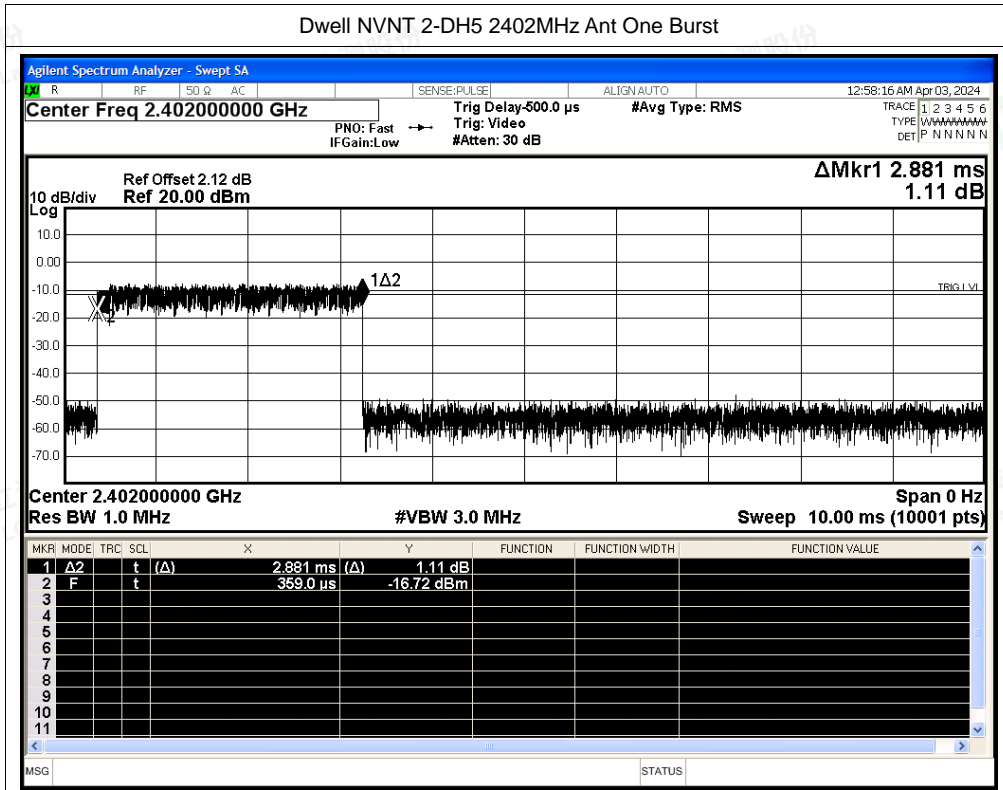
Test Graphs

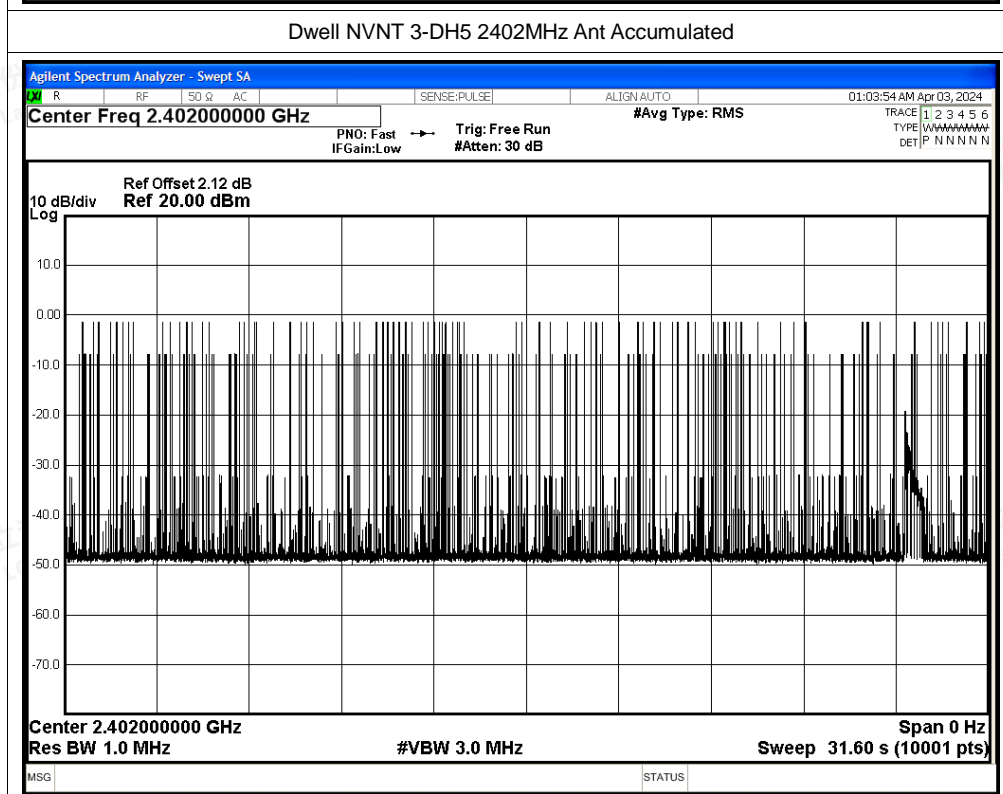
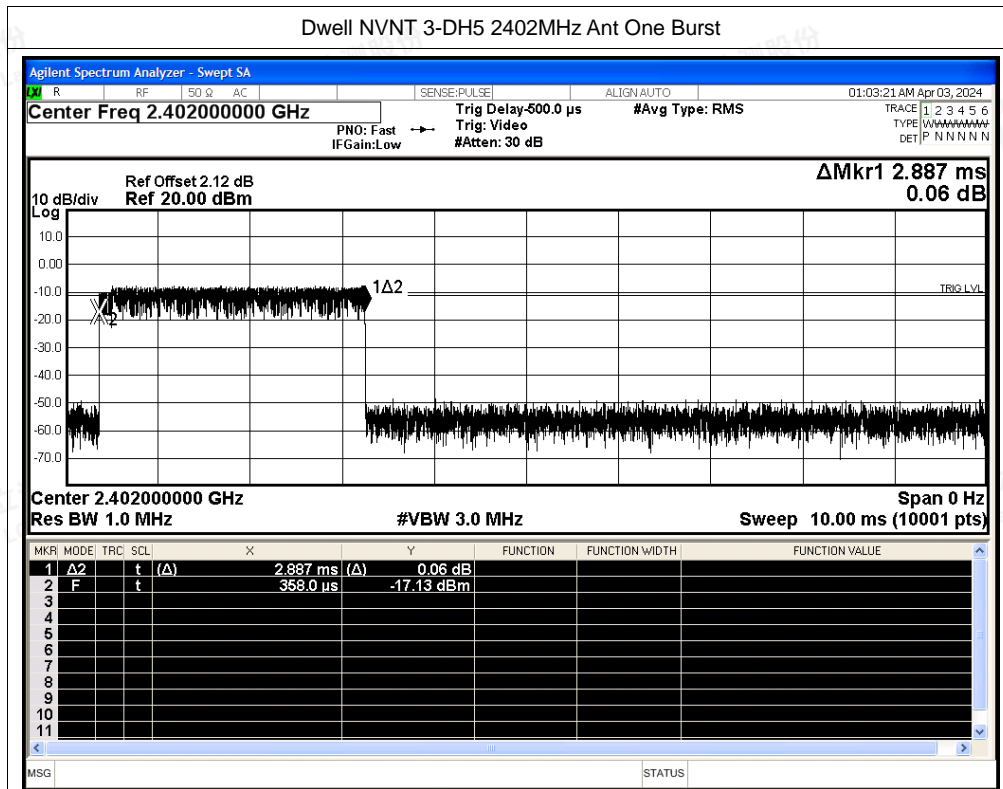
Dwell NVNT 1-DH5 2402MHz Ant One Burst



Dwell NVNT 1-DH5 2402MHz Ant Accumulated









A.5 Number of Hopping Channel

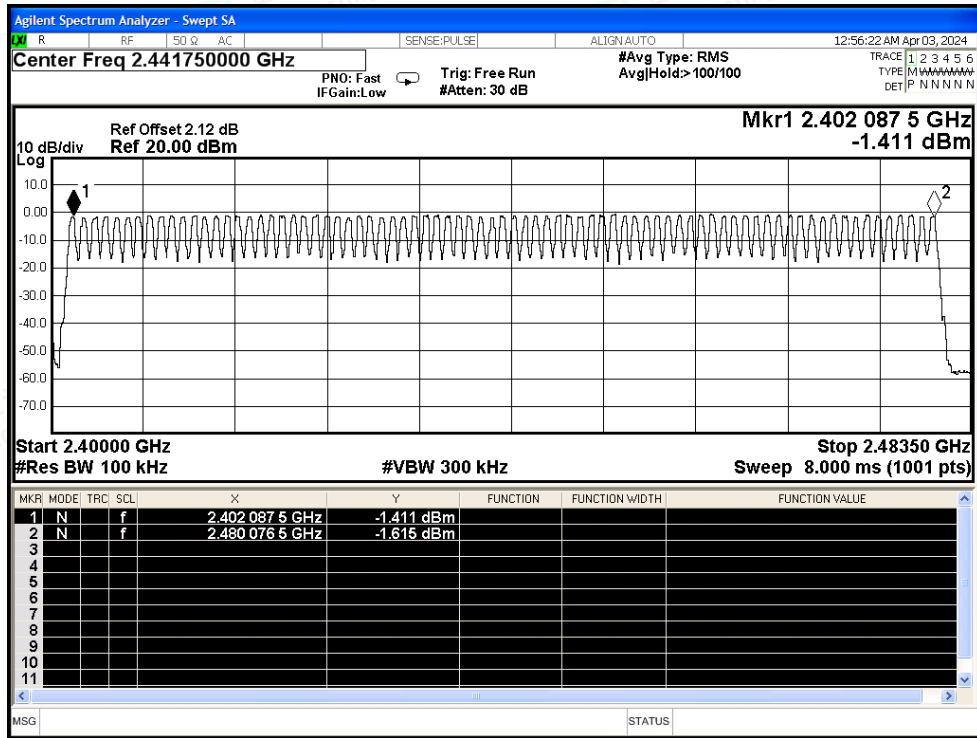
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant	79	15	Pass
NVNT	2-DH5	Ant	79	15	Pass
NVNT	3-DH5	Ant	79	15	Pass



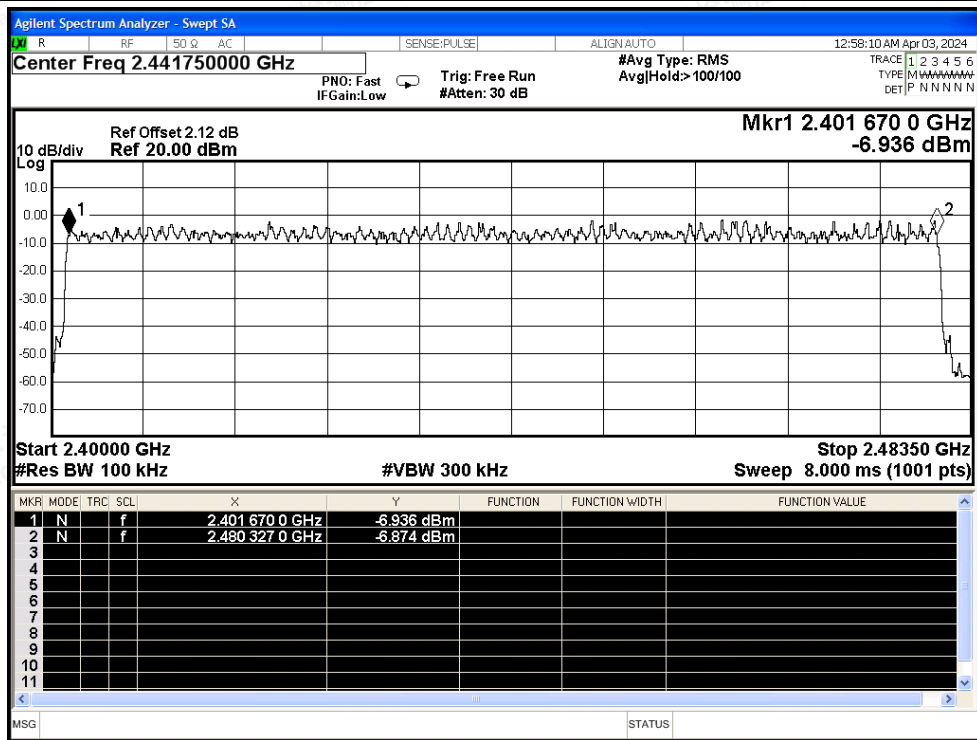


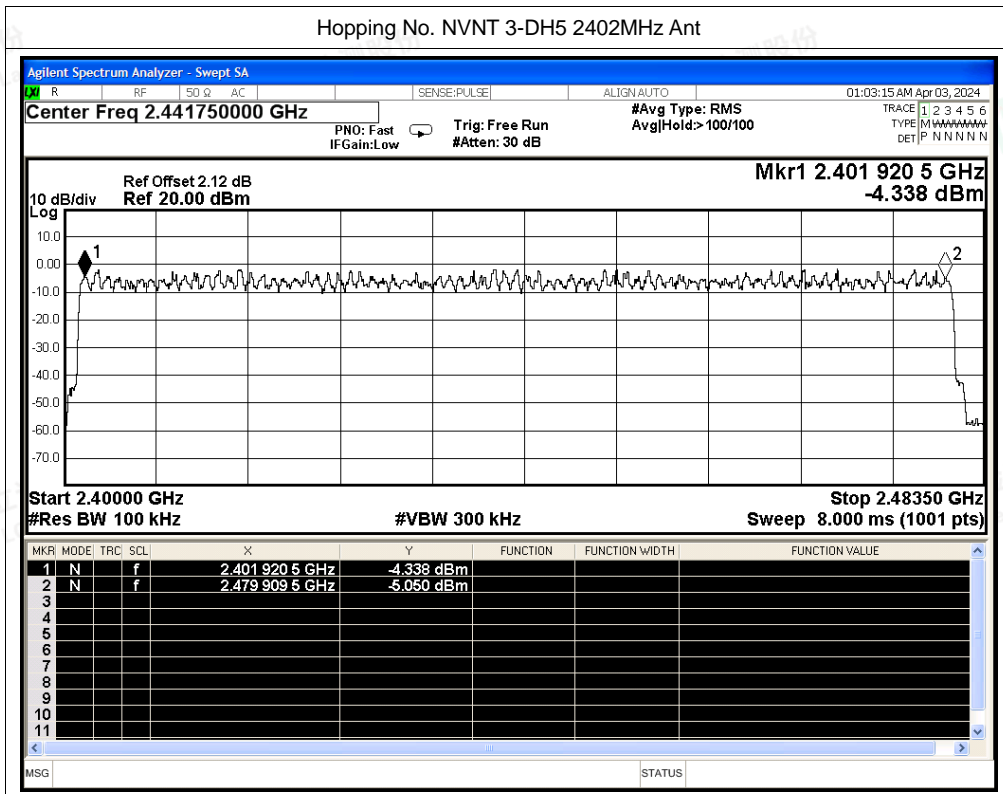
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant



Hopping No. NVNT 2-DH5 2402MHz Ant







A.6 Band Edge

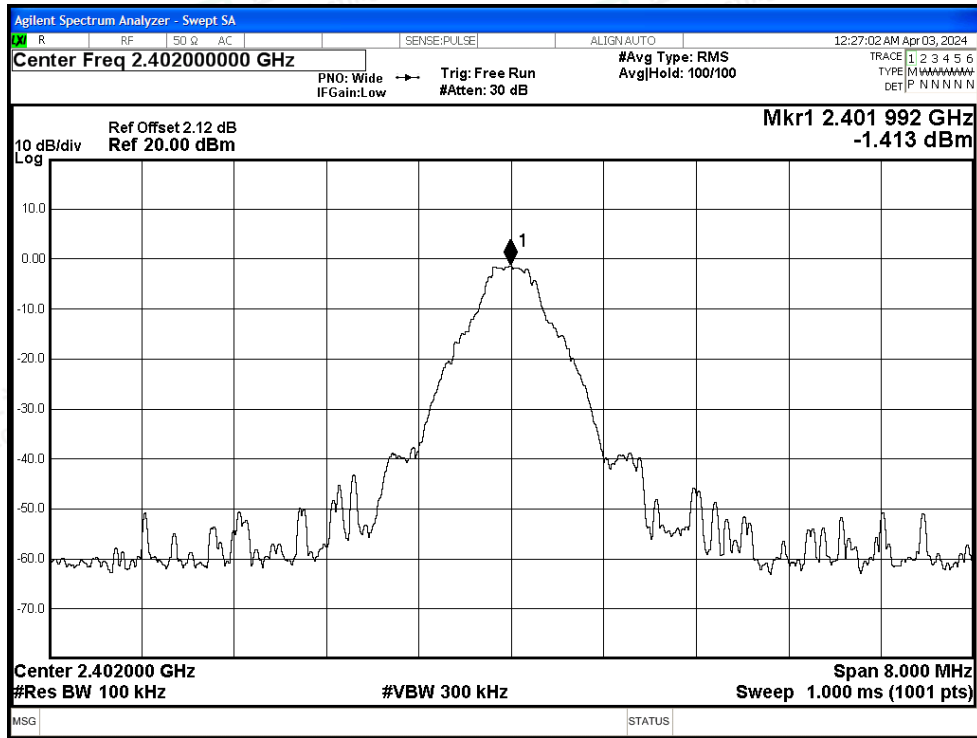
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	No-Hopping	-49.84	-20	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	-55.61	-20	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	-50.46	-20	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	-51.67	-20	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	-50.6	-20	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	-50.77	-20	Pass



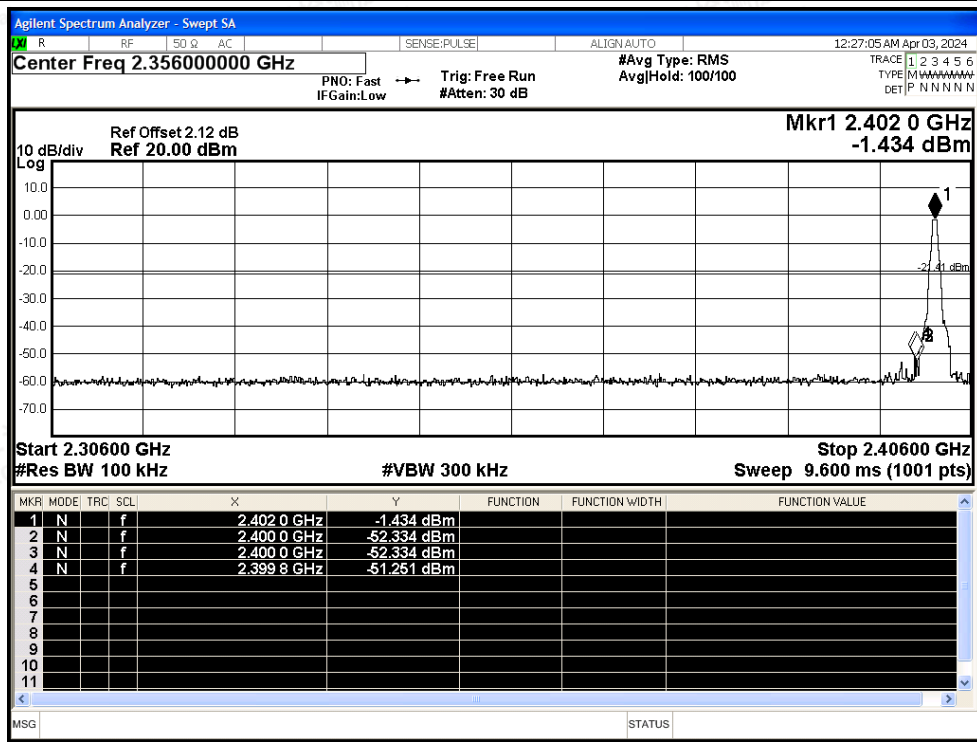


Test Graphs

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

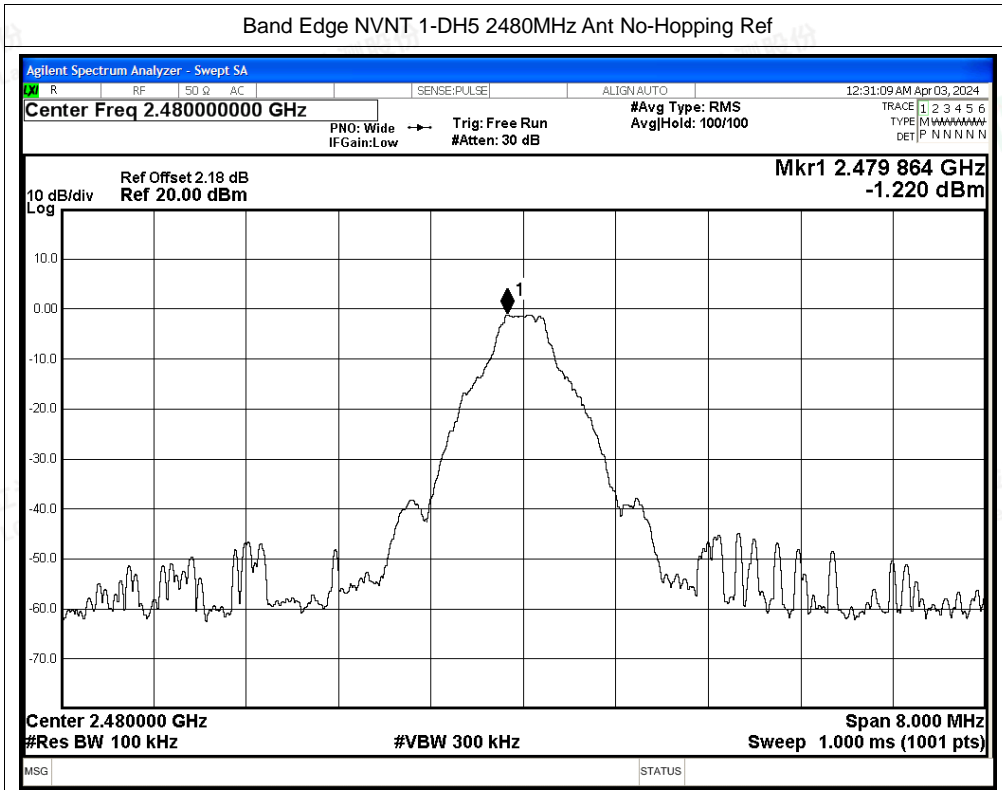


Band Edge NVNT 1-DH5 2402MHz Ant No-Hopping Emission

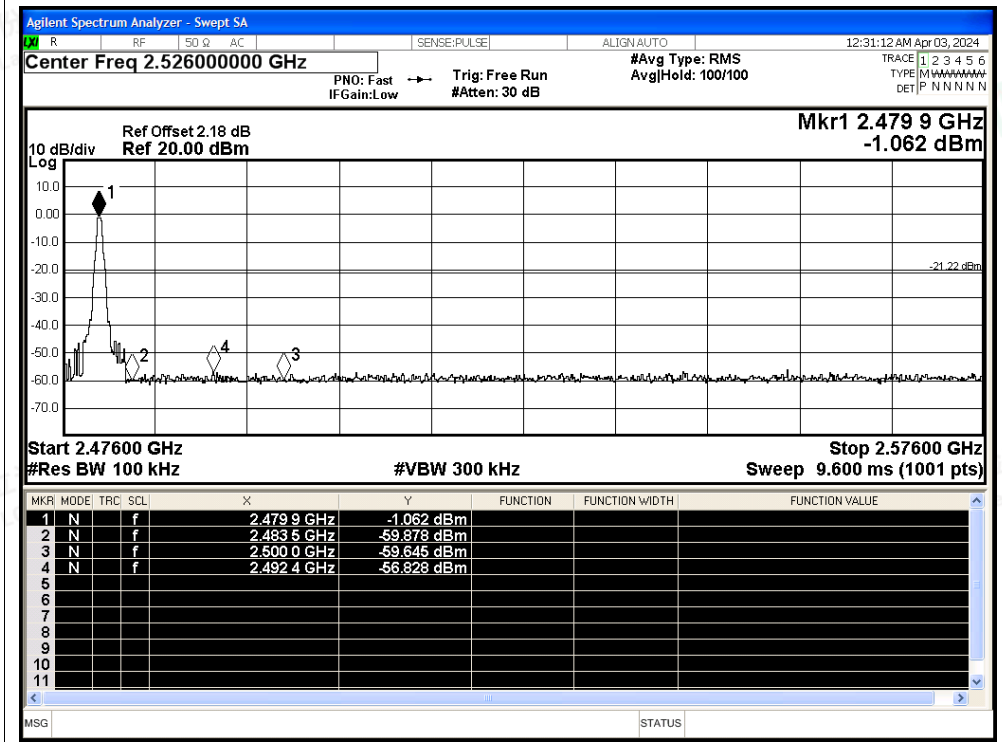




Band Edge NVNT 1-DH5 2480MHz Ant No-Hopping Ref

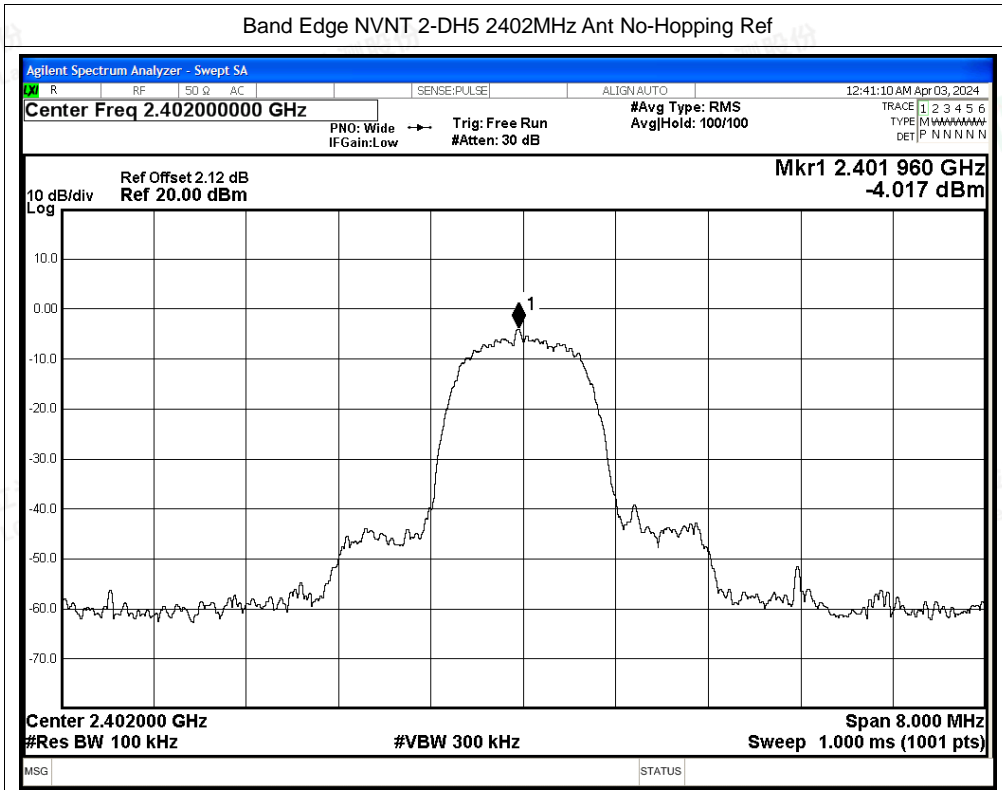


Band Edge NVNT 1-DH5 2480MHz Ant No-Hopping Emission

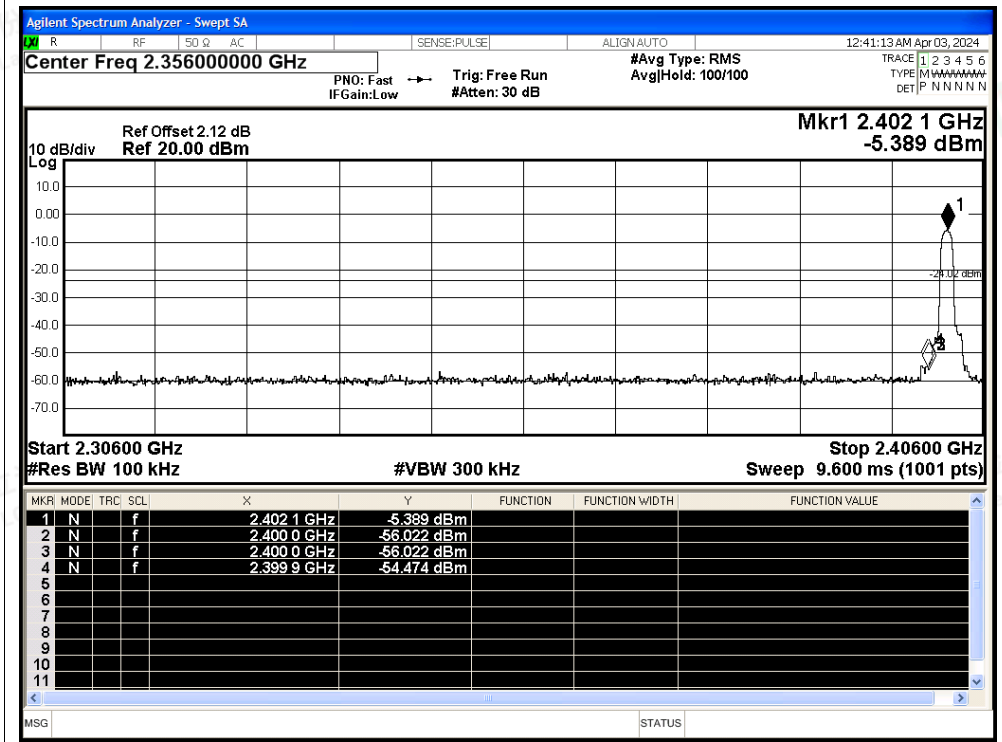




Band Edge NVNT 2-DH5 2402MHz Ant No-Hopping Ref

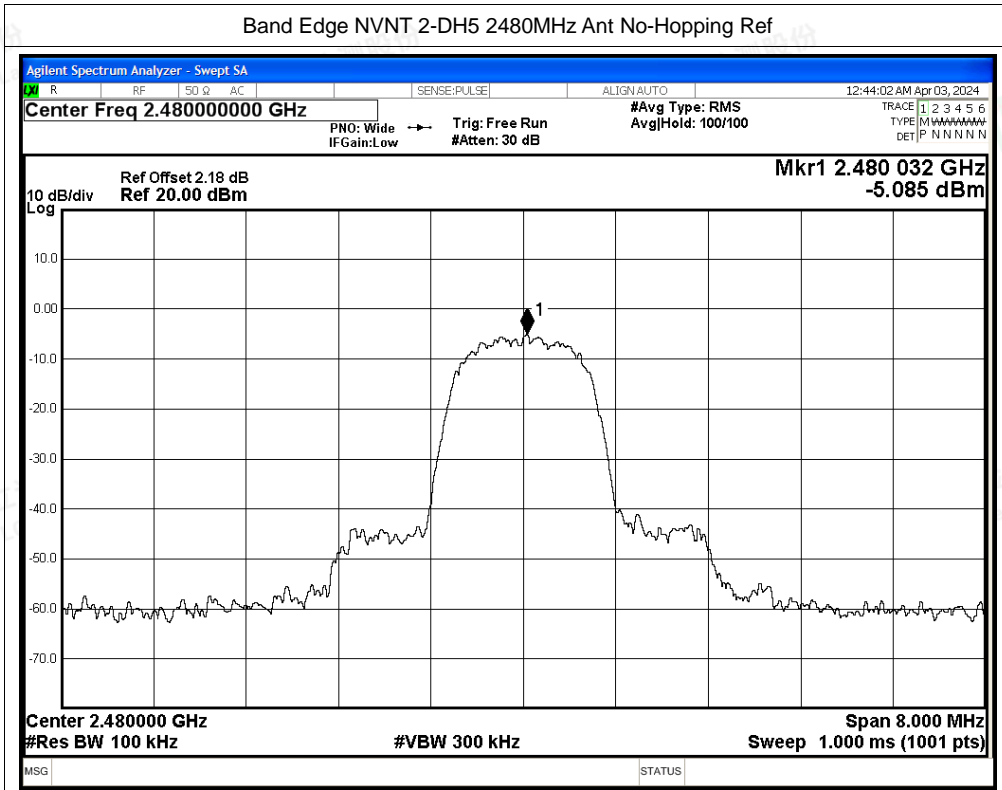


Band Edge NVNT 2-DH5 2402MHz Ant No-Hopping Emission

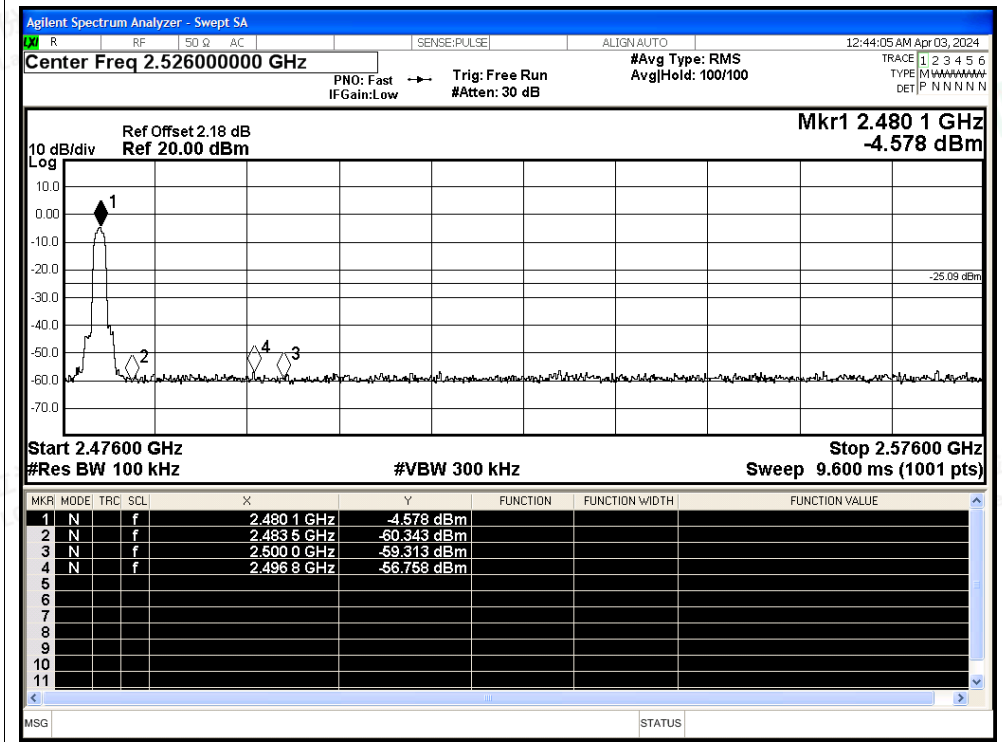




Band Edge NVNT 2-DH5 2480MHz Ant No-Hopping Ref

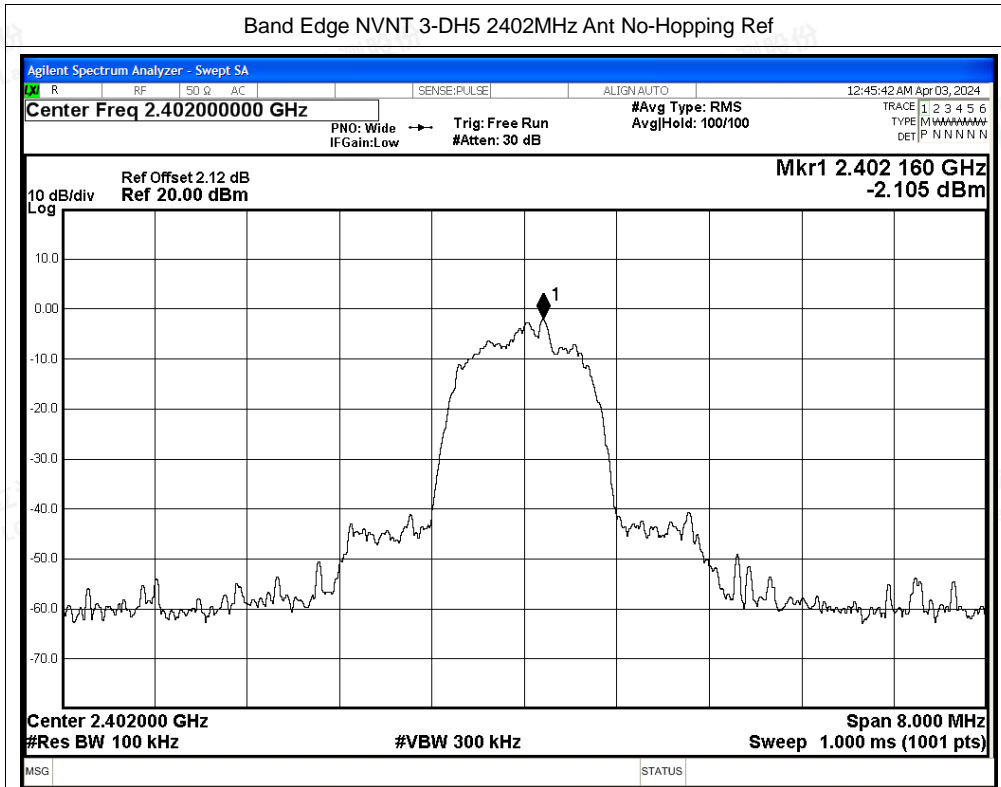


Band Edge NVNT 2-DH5 2480MHz Ant No-Hopping Emission

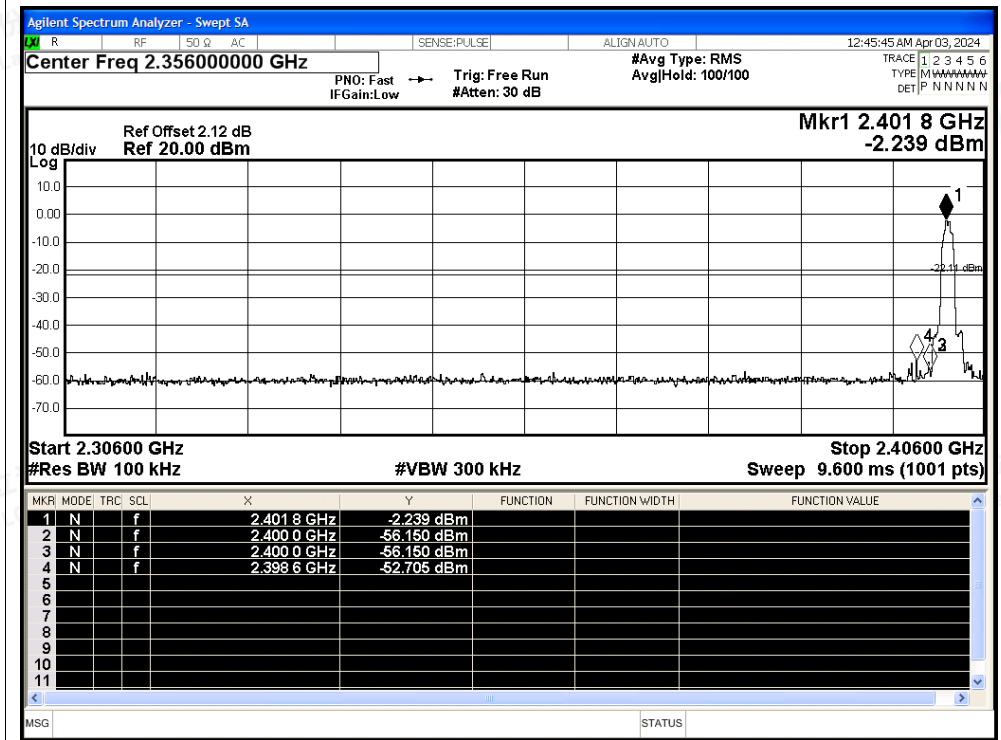




Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Ref

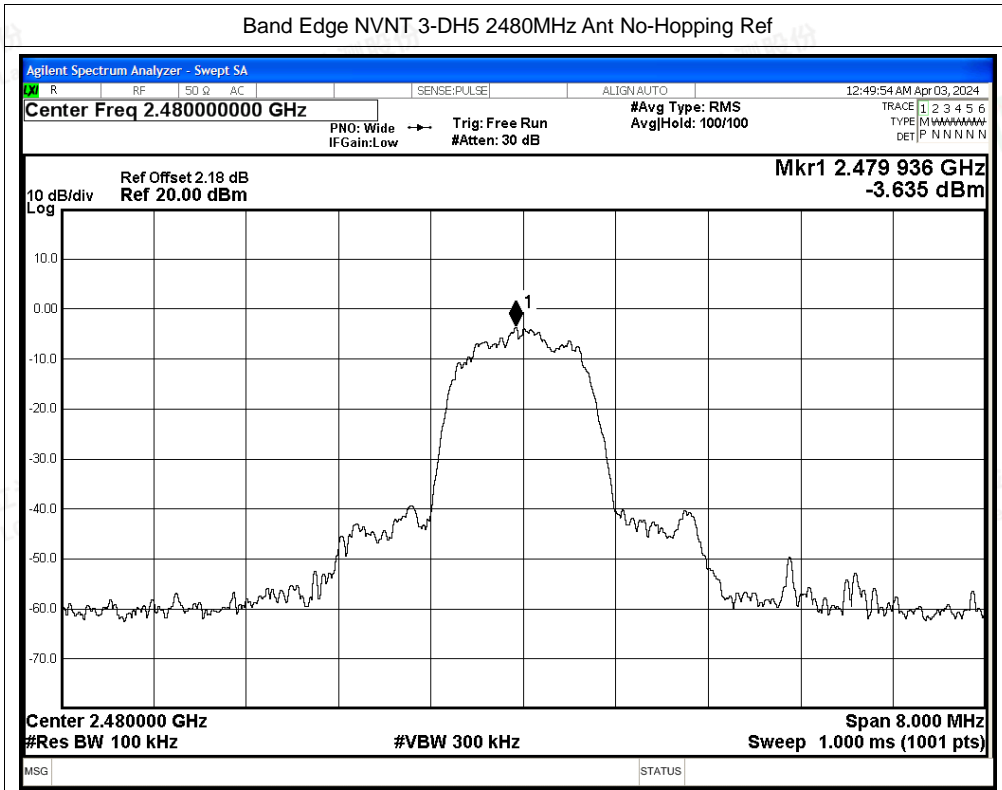


Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Emission

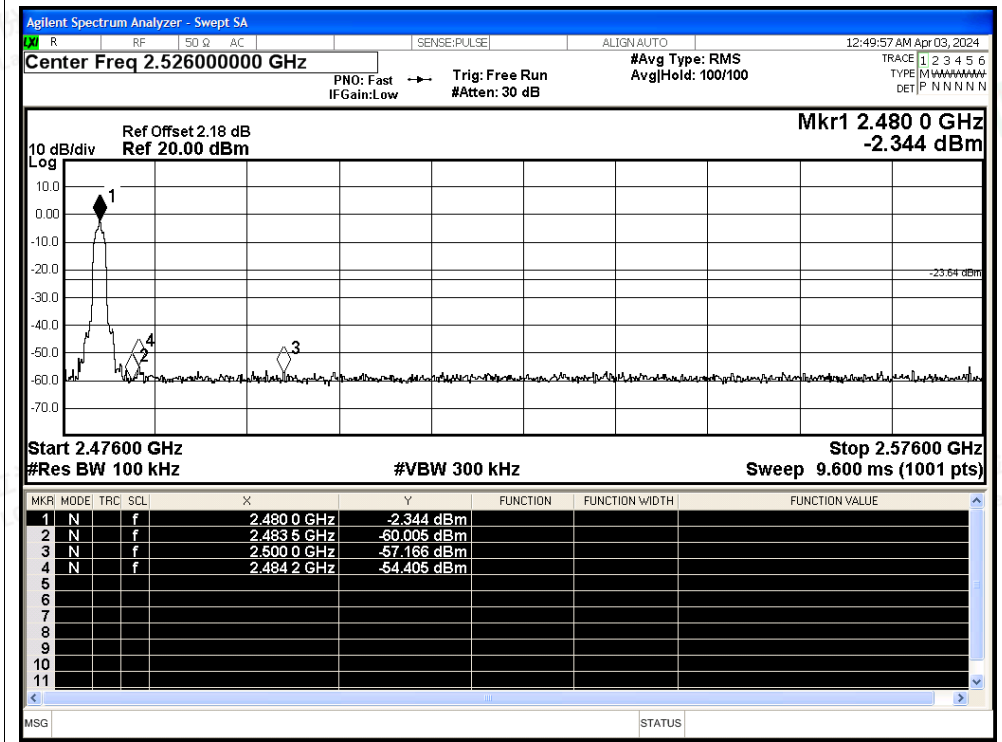




Band Edge NVNT 3-DH5 2480MHz Ant No-Hopping Ref



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





(Hopping)

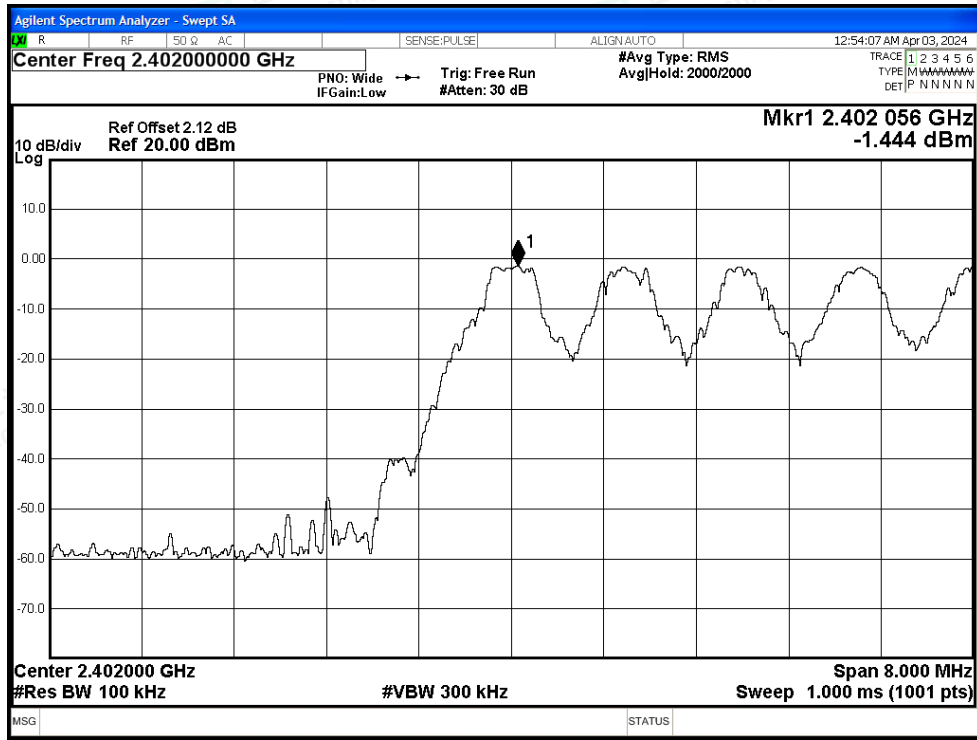
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	Hopping	-54.67	-20	Pass
NVNT	1-DH5	2480	Ant	Hopping	-52.18	-20	Pass
NVNT	2-DH5	2402	Ant	Hopping	-53.79	-20	Pass
NVNT	2-DH5	2480	Ant	Hopping	-53.95	-20	Pass
NVNT	3-DH5	2402	Ant	Hopping	-52.16	-20	Pass
NVNT	3-DH5	2480	Ant	Hopping	-53.48	-20	Pass



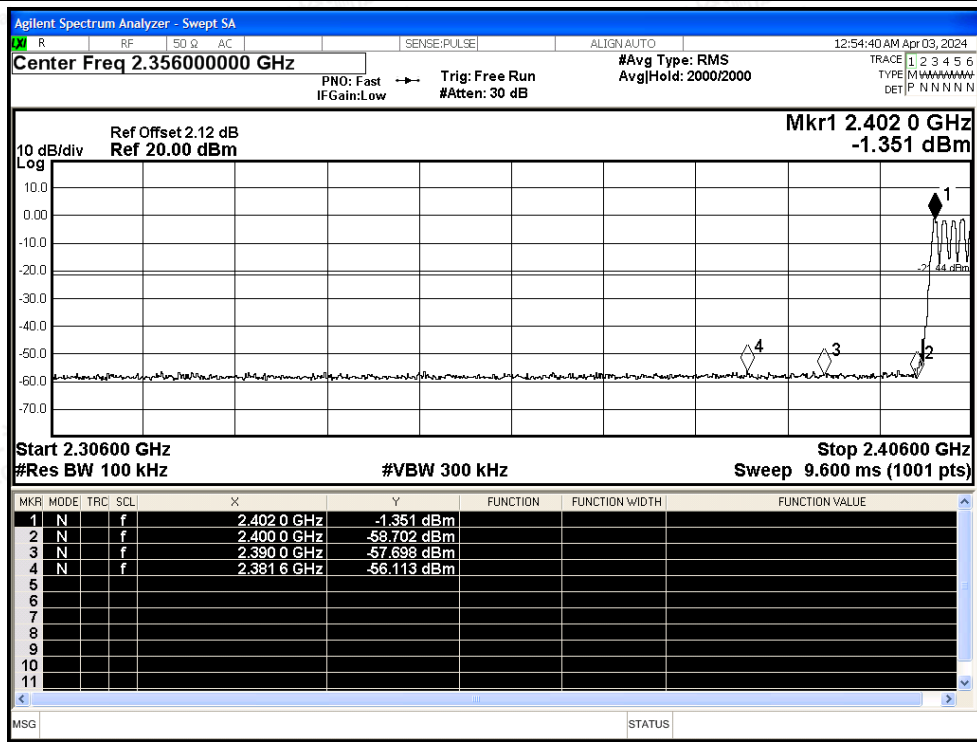


Test Graphs

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

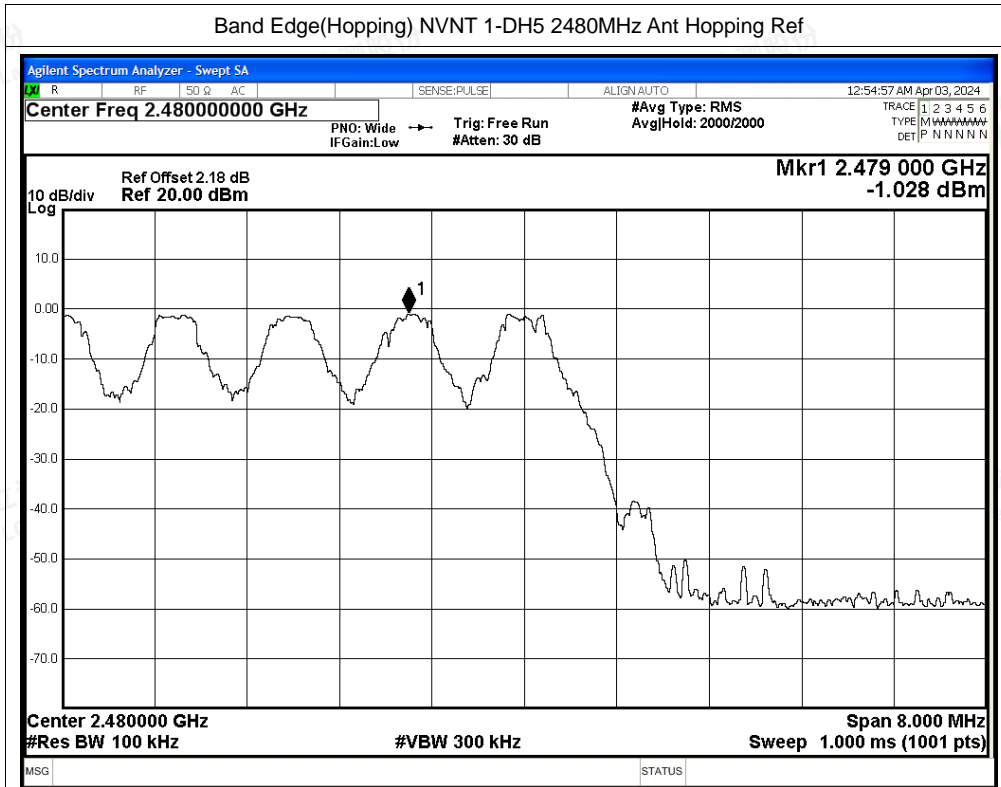


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant Hopping Emission

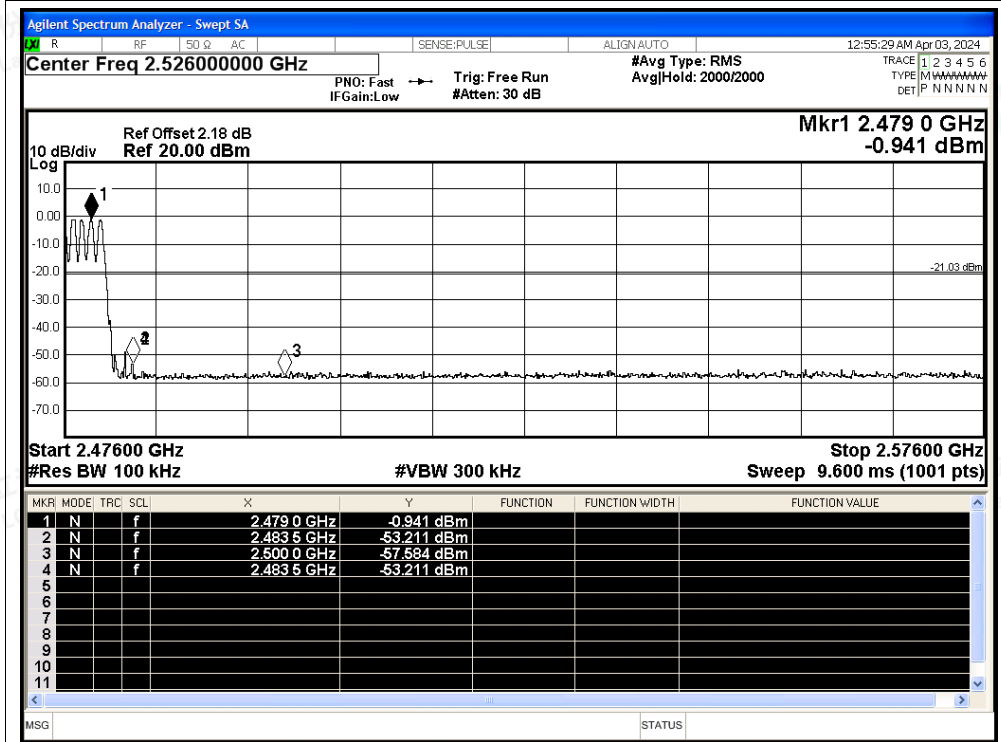


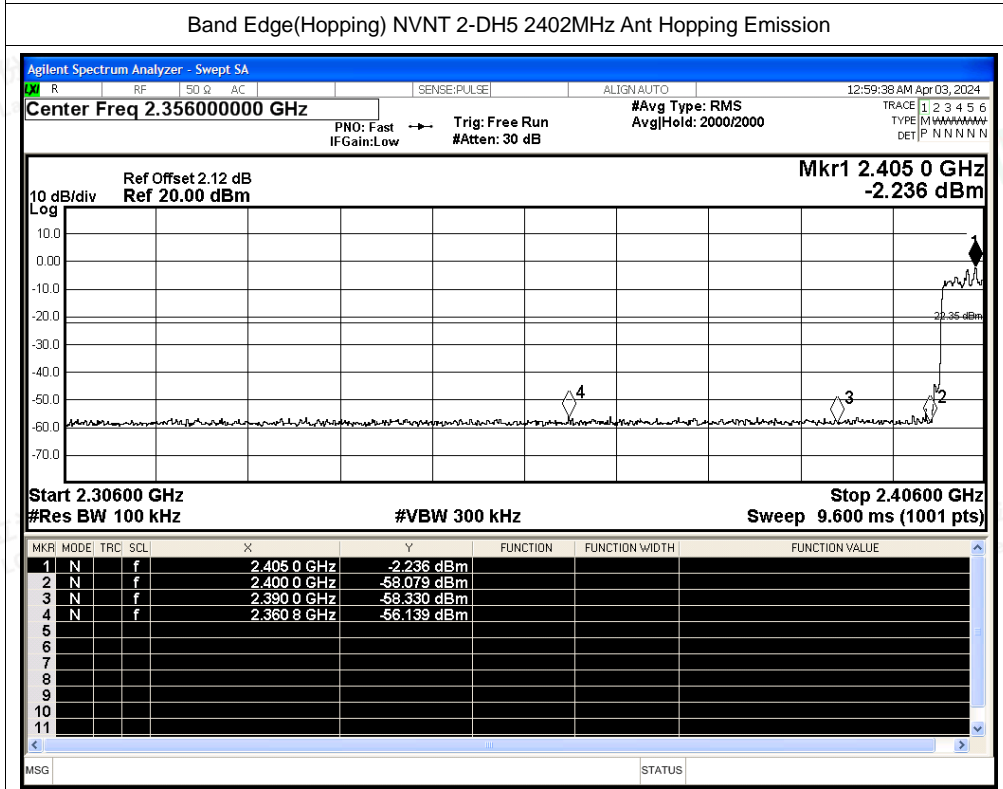
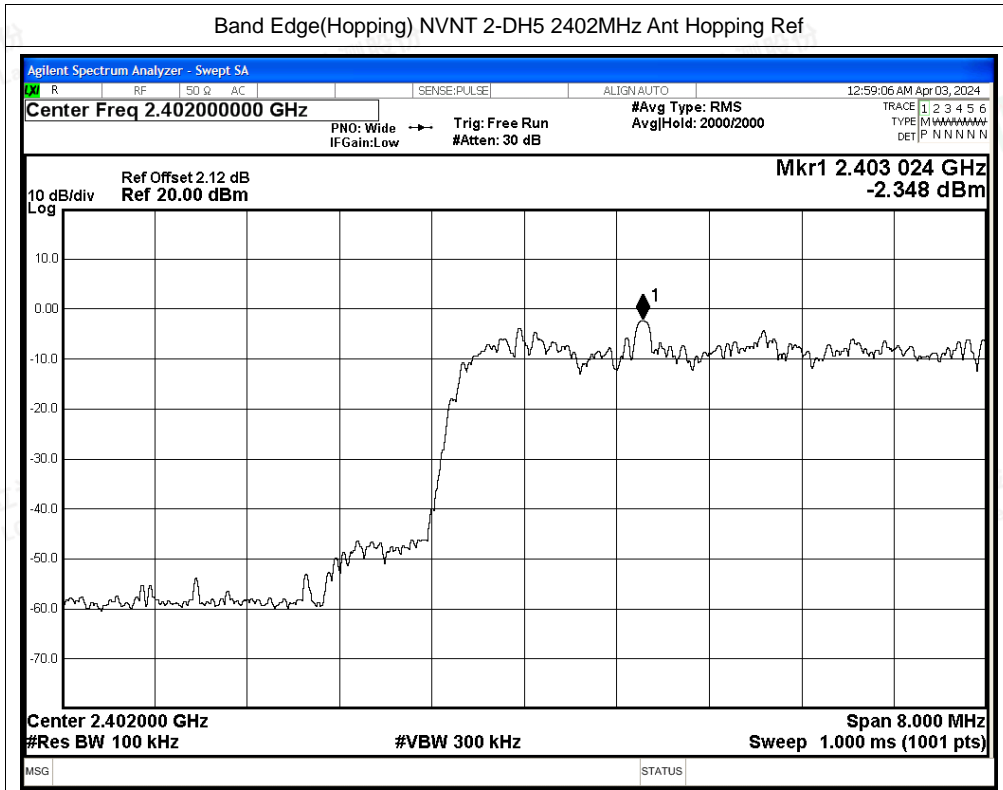


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Ref



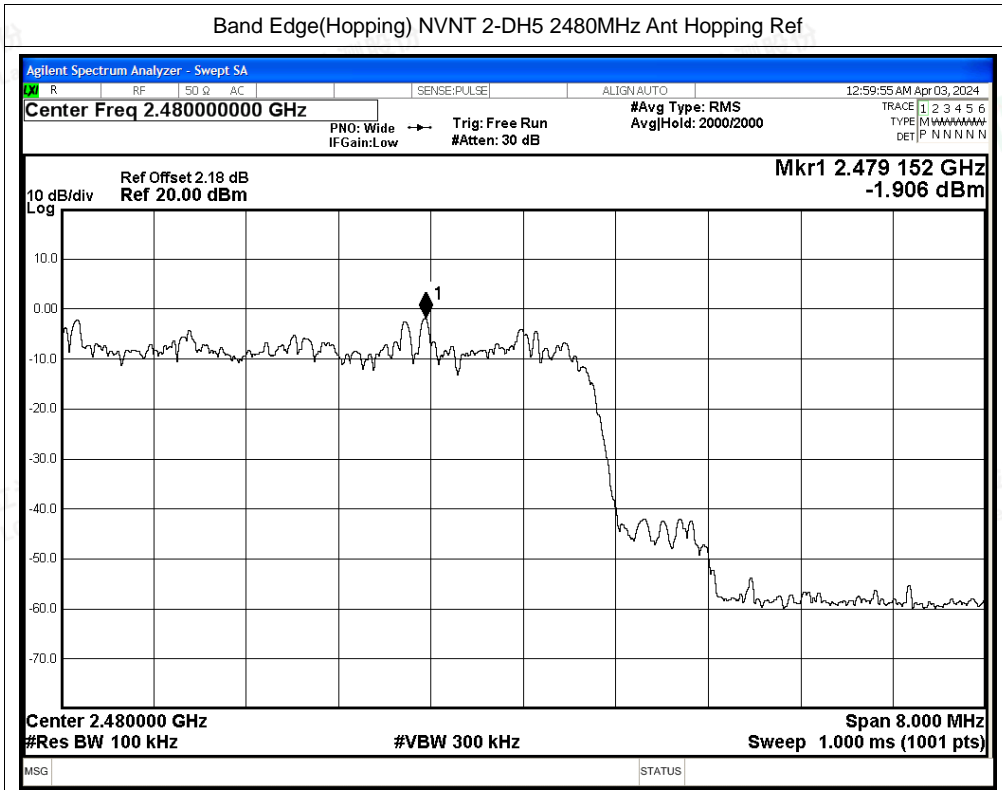
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Emission



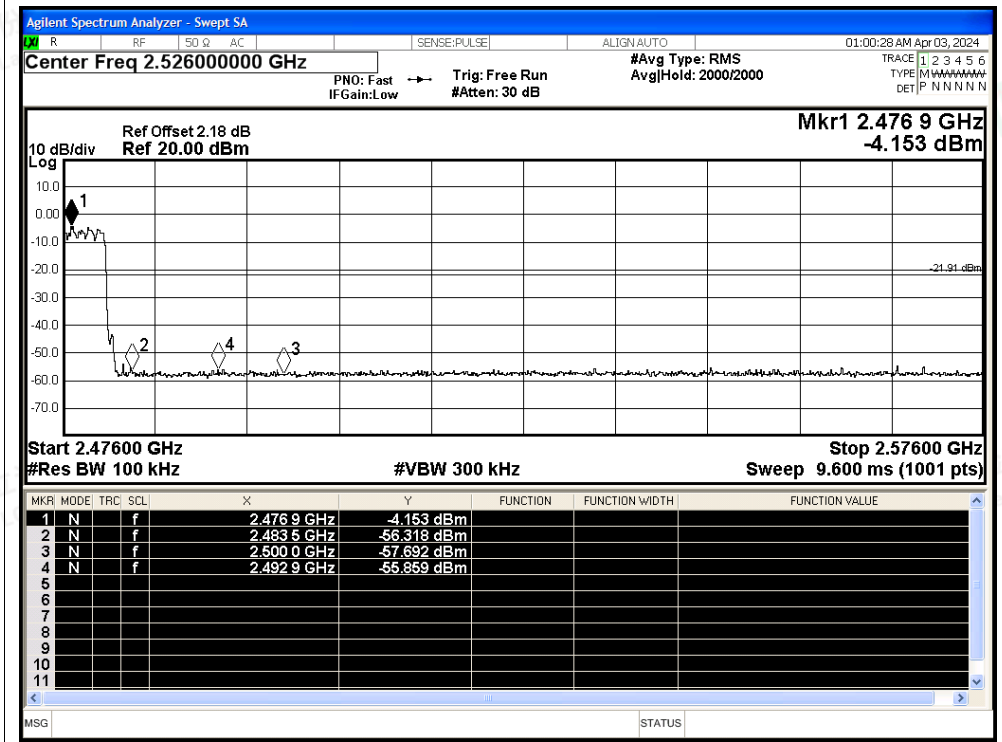


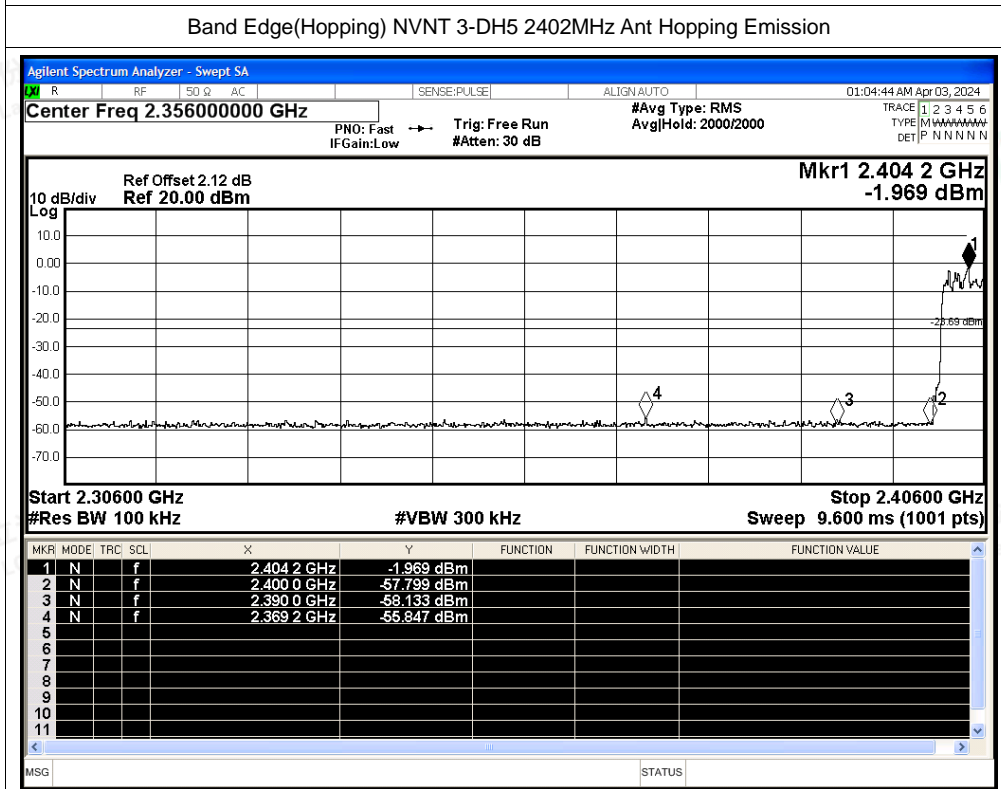
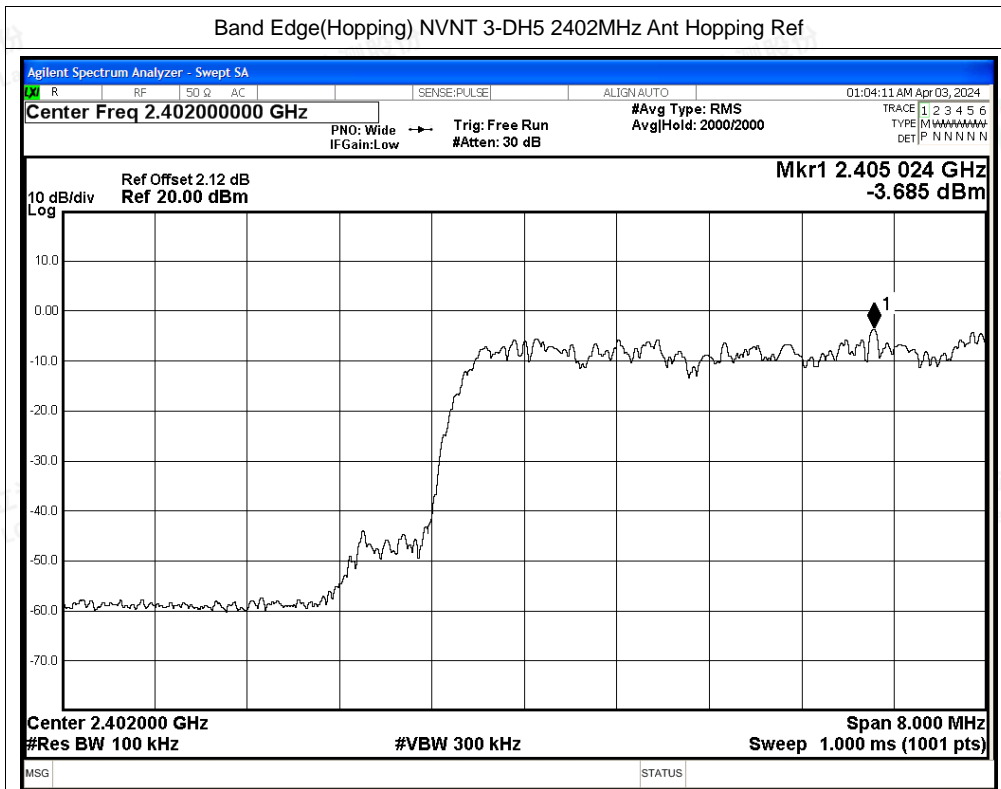


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Ref



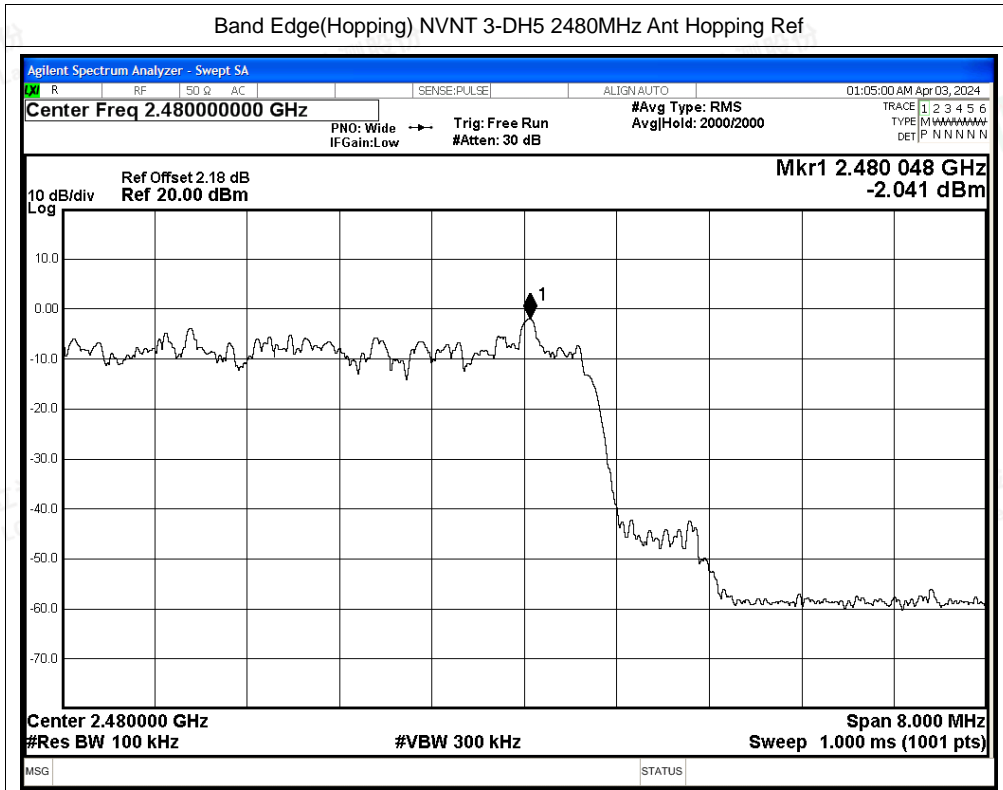
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Emission



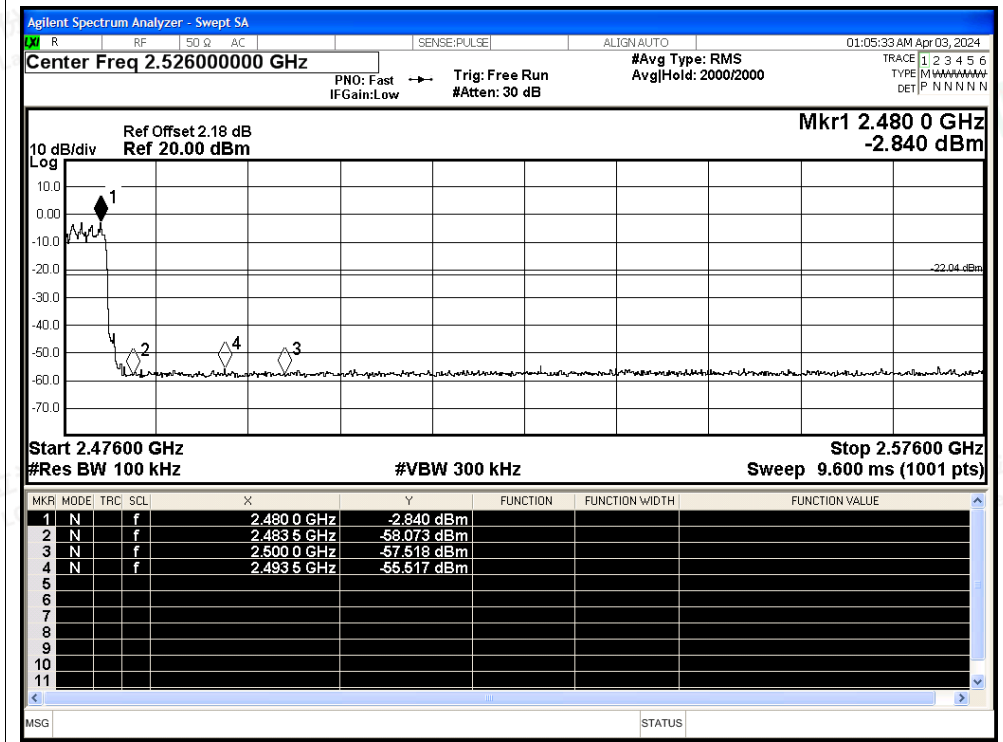




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant Hopping Emission





A.7 Conducted RF Spurious Emission

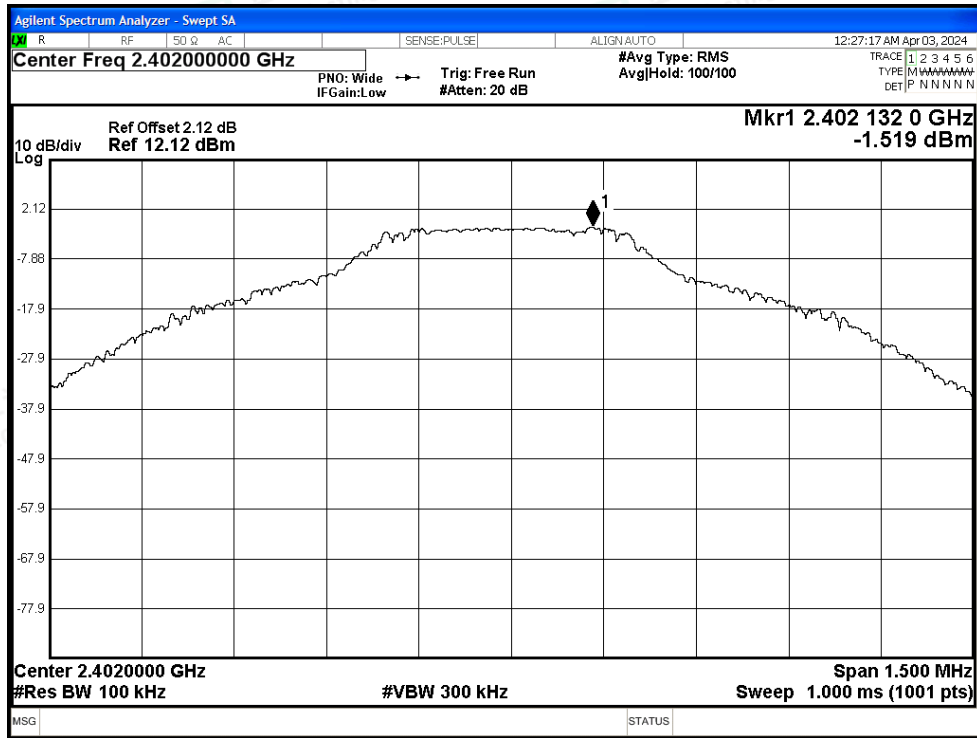
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	-53.97	-20	Pass
NVNT	1-DH5	2441	Ant	-55	-20	Pass
NVNT	1-DH5	2480	Ant	-54.61	-20	Pass
NVNT	2-DH5	2402	Ant	-53.74	-20	Pass
NVNT	2-DH5	2441	Ant	-52.85	-20	Pass
NVNT	2-DH5	2480	Ant	-52.66	-20	Pass
NVNT	3-DH5	2402	Ant	-52.9	-20	Pass
NVNT	3-DH5	2441	Ant	-53.81	-20	Pass
NVNT	3-DH5	2480	Ant	-53.34	-20	Pass



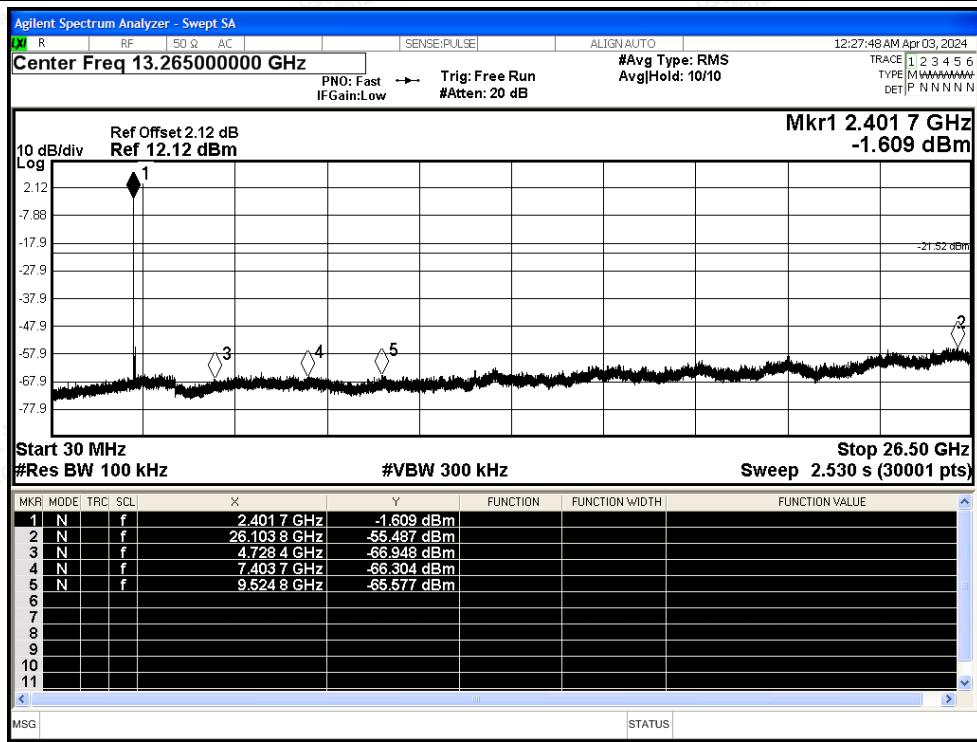


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant Ref

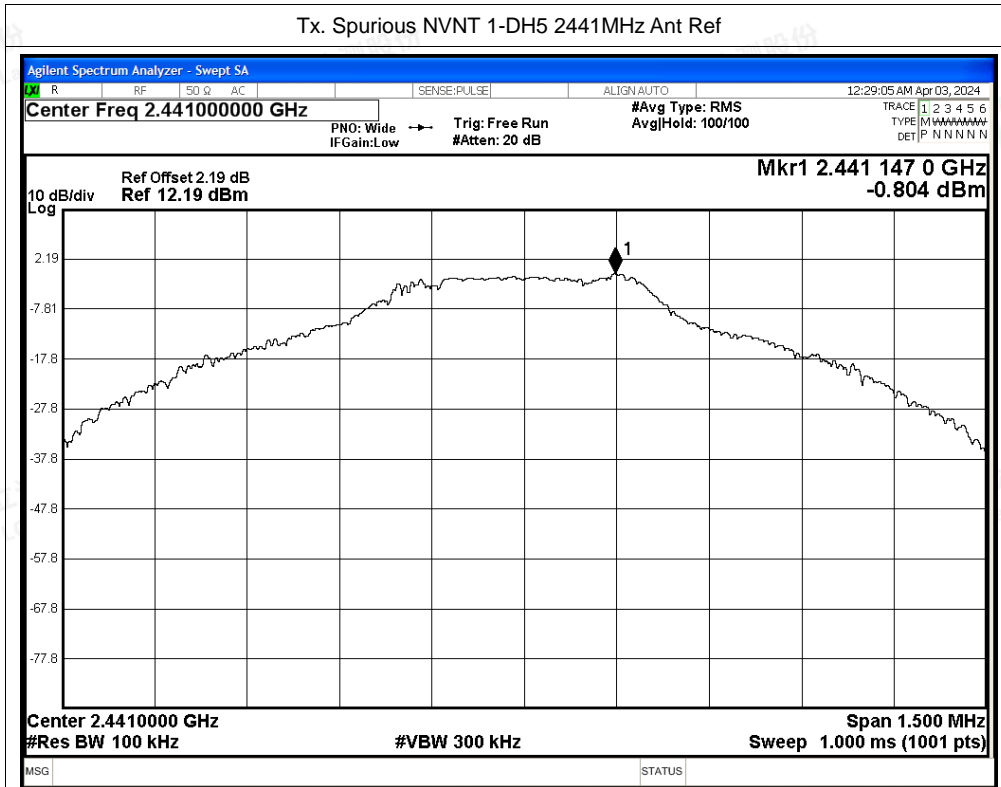


Tx. Spurious NVNT 1-DH5 2402MHz Ant Emission

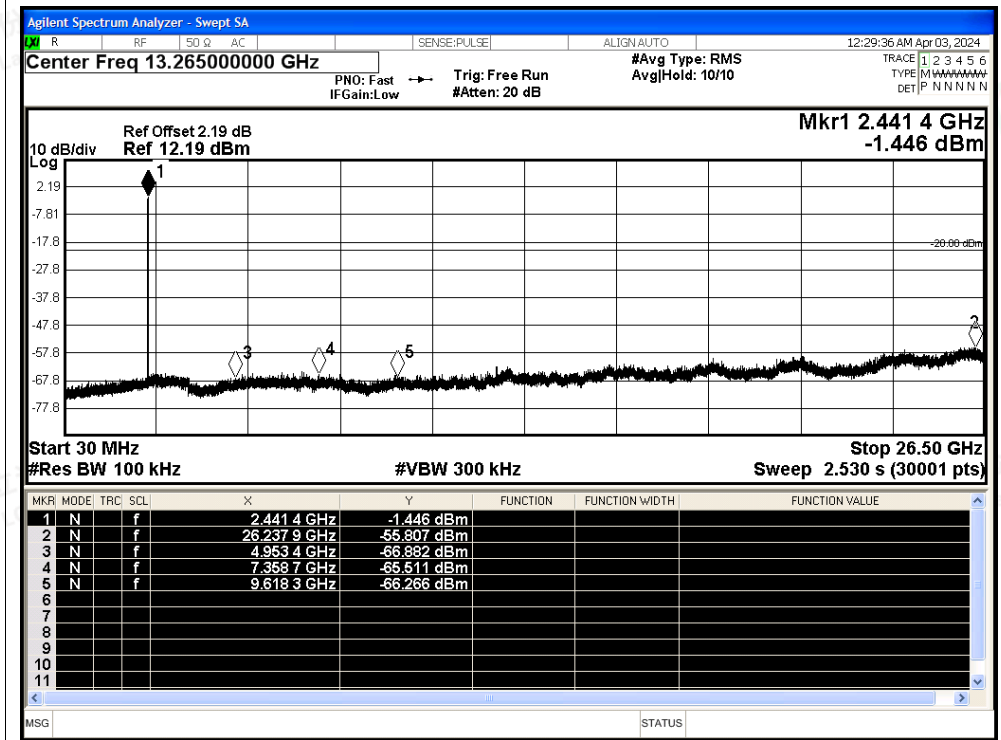




Tx. Spurious NVNT 1-DH5 2441MHz Ant Ref

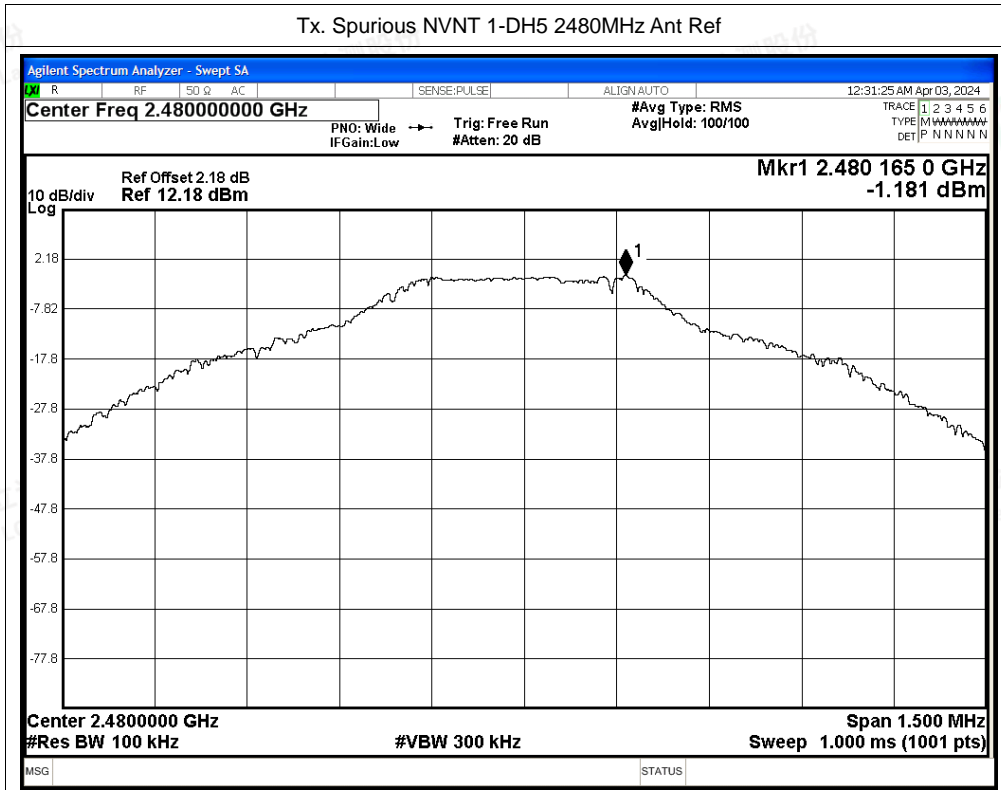


Tx. Spurious NVNT 1-DH5 2441MHz Ant Emission

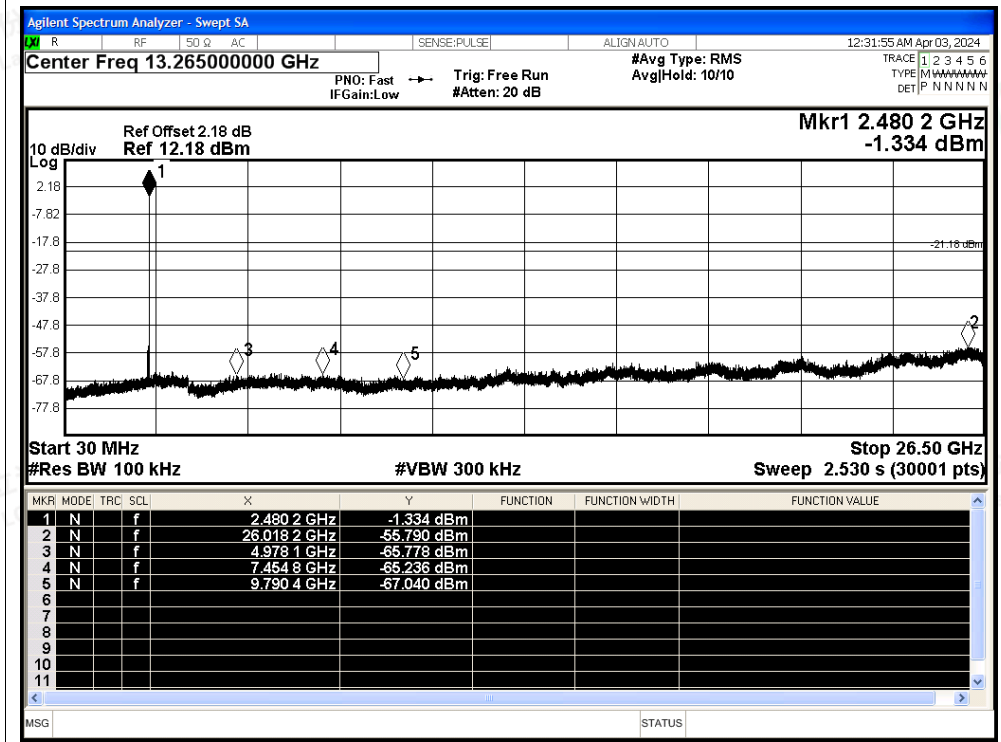




Tx. Spurious NVNT 1-DH5 2480MHz Ant Ref

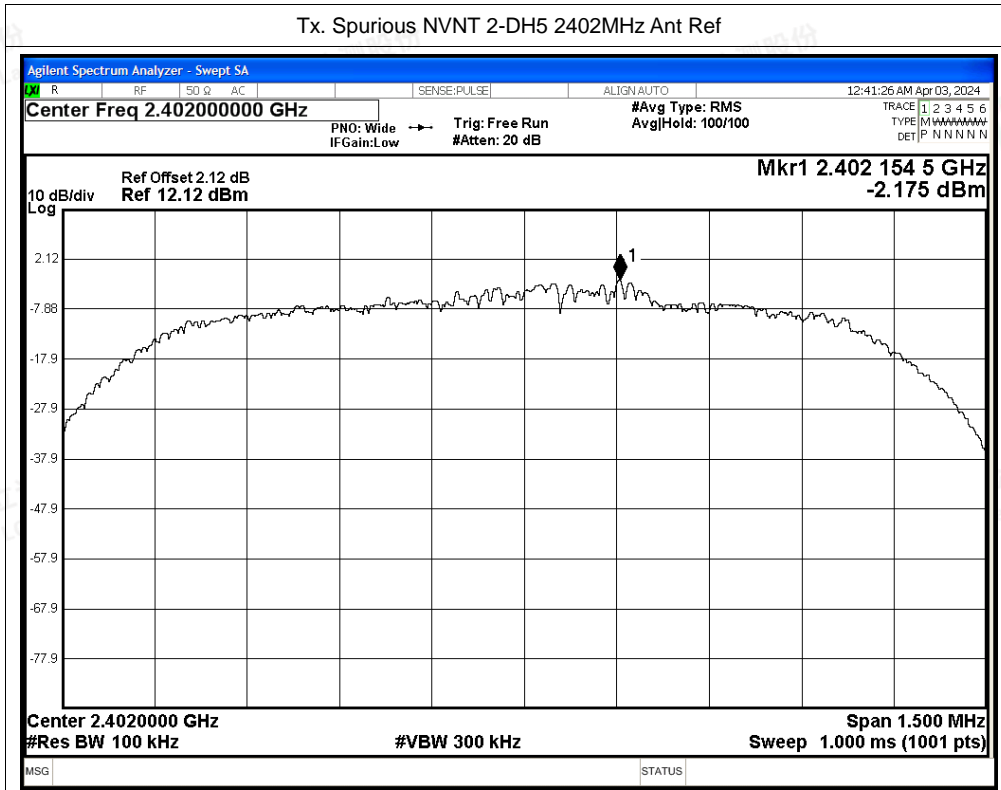


Tx. Spurious NVNT 1-DH5 2480MHz Ant Emission

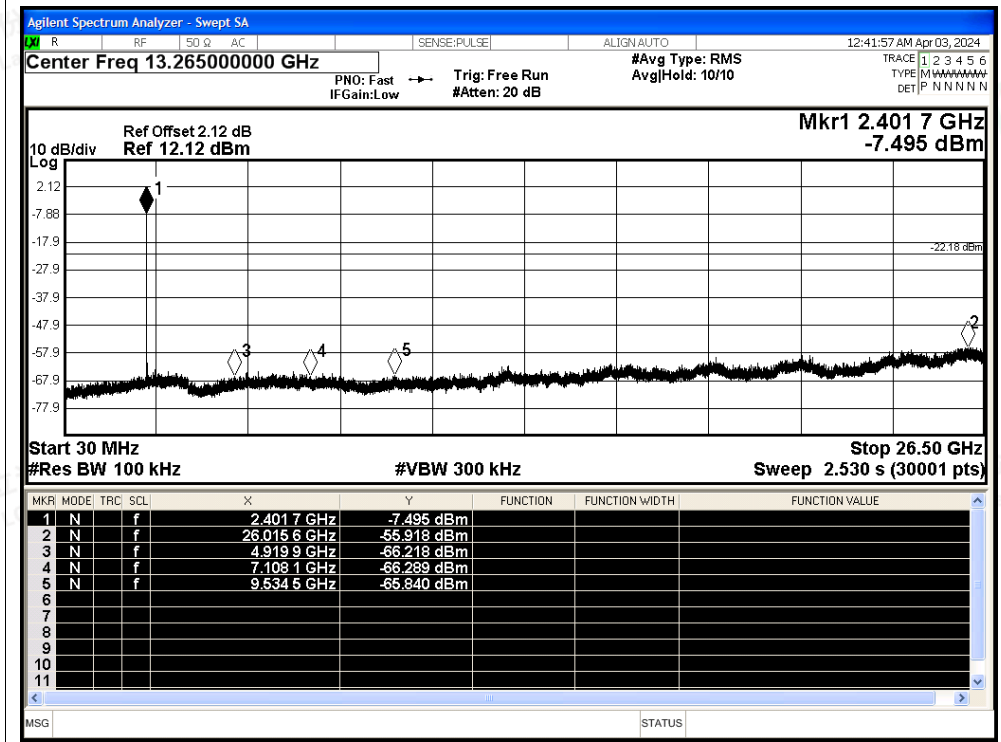




Tx. Spurious NVNT 2-DH5 2402MHz Ant Ref

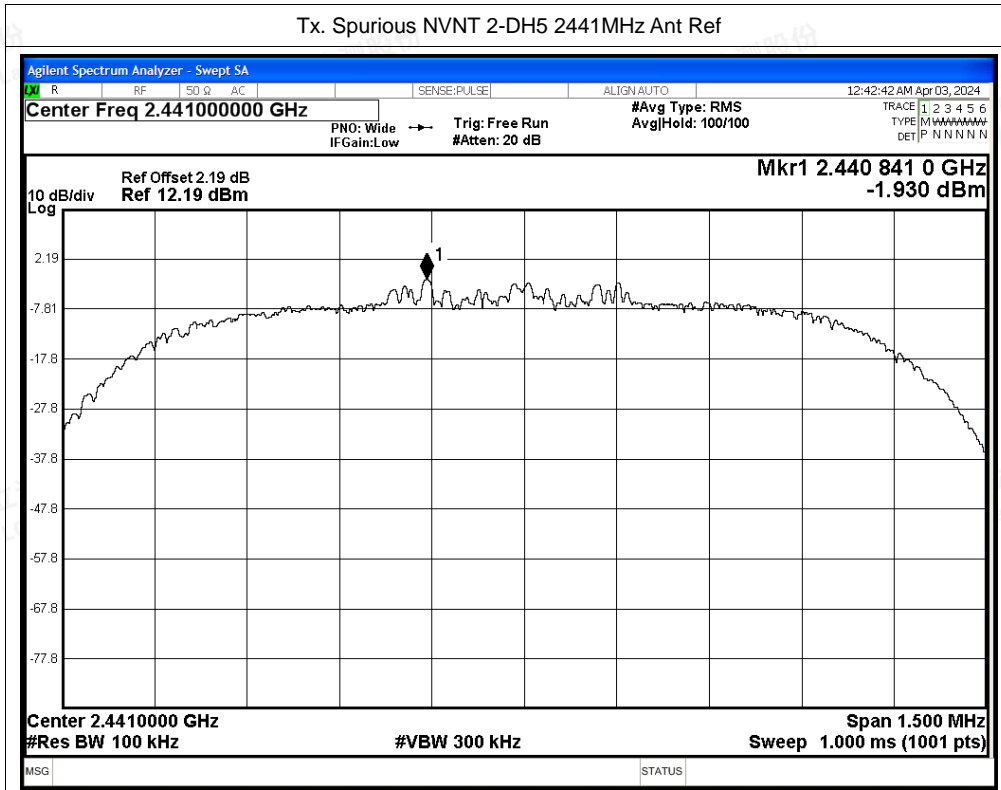


Tx. Spurious NVNT 2-DH5 2402MHz Ant Emission

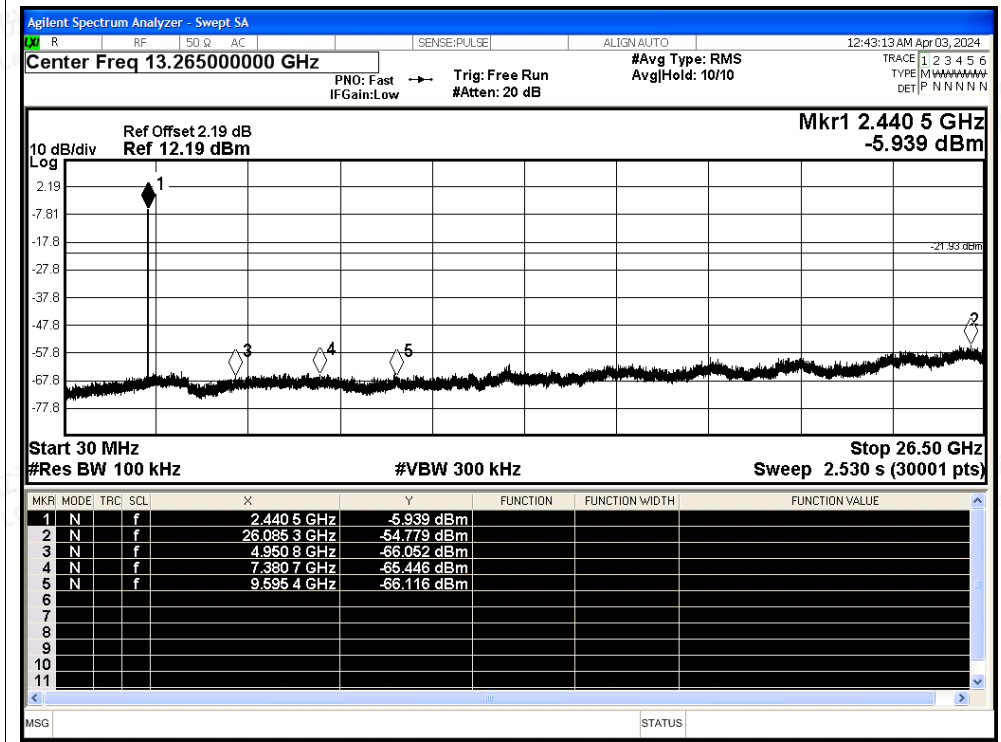




Tx. Spurious NVNT 2-DH5 2441MHz Ant Ref

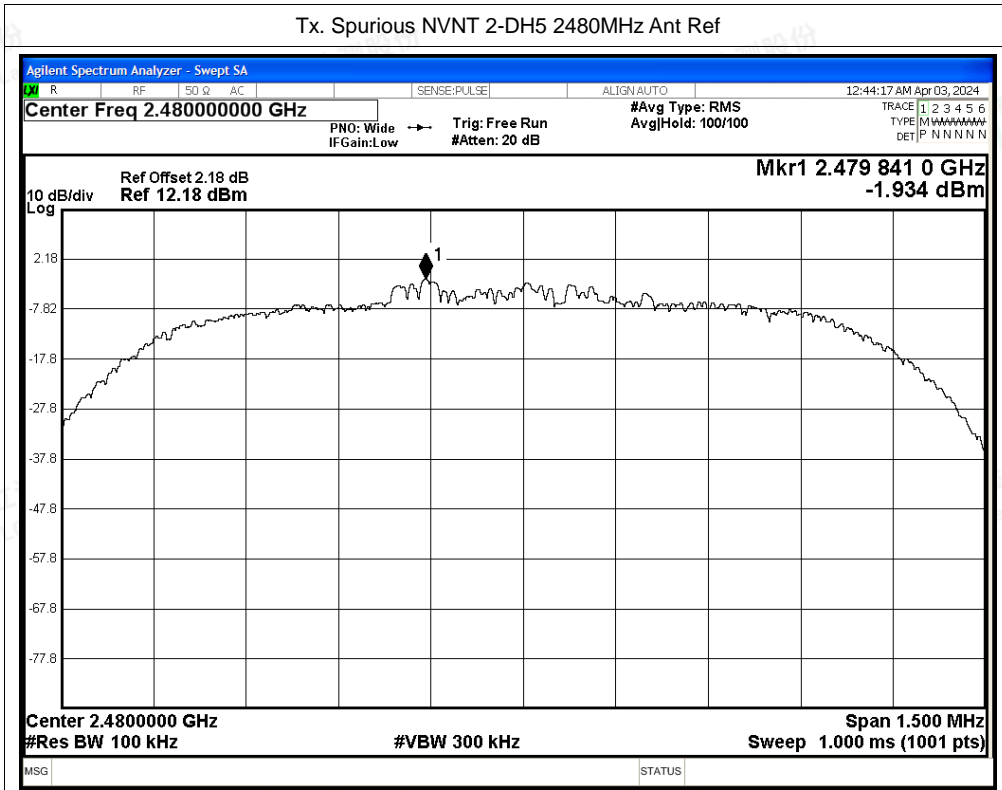


Tx. Spurious NVNT 2-DH5 2441MHz Ant Emission

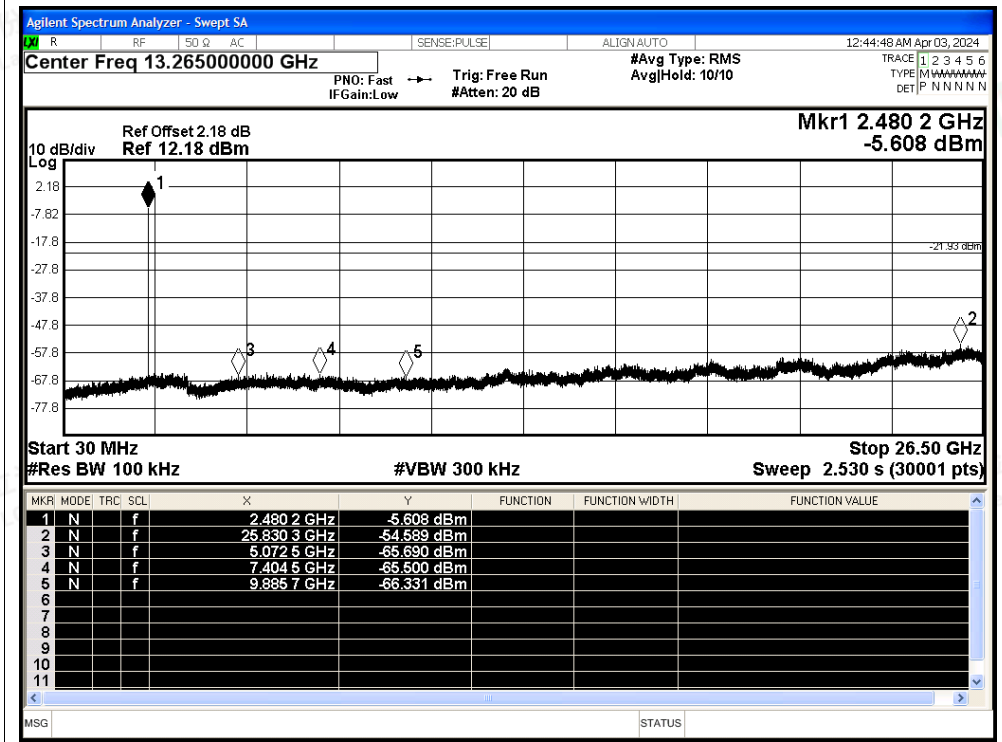




Tx. Spurious NVNT 2-DH5 2480MHz Ant Ref

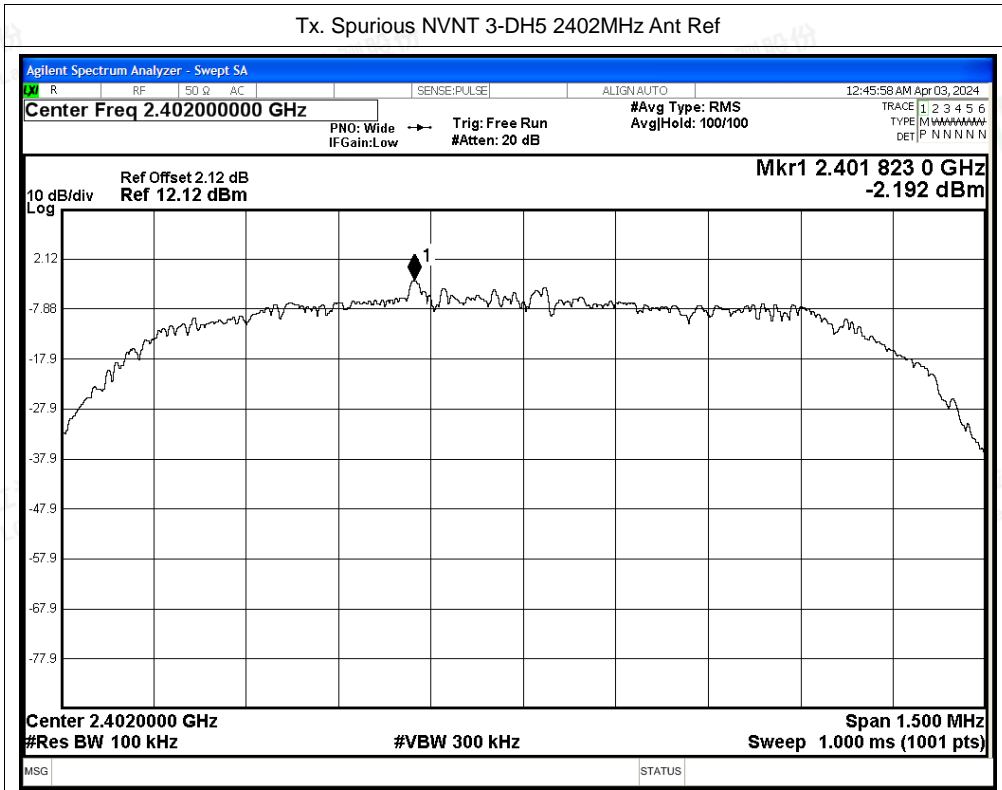


Tx. Spurious NVNT 2-DH5 2480MHz Ant Emission

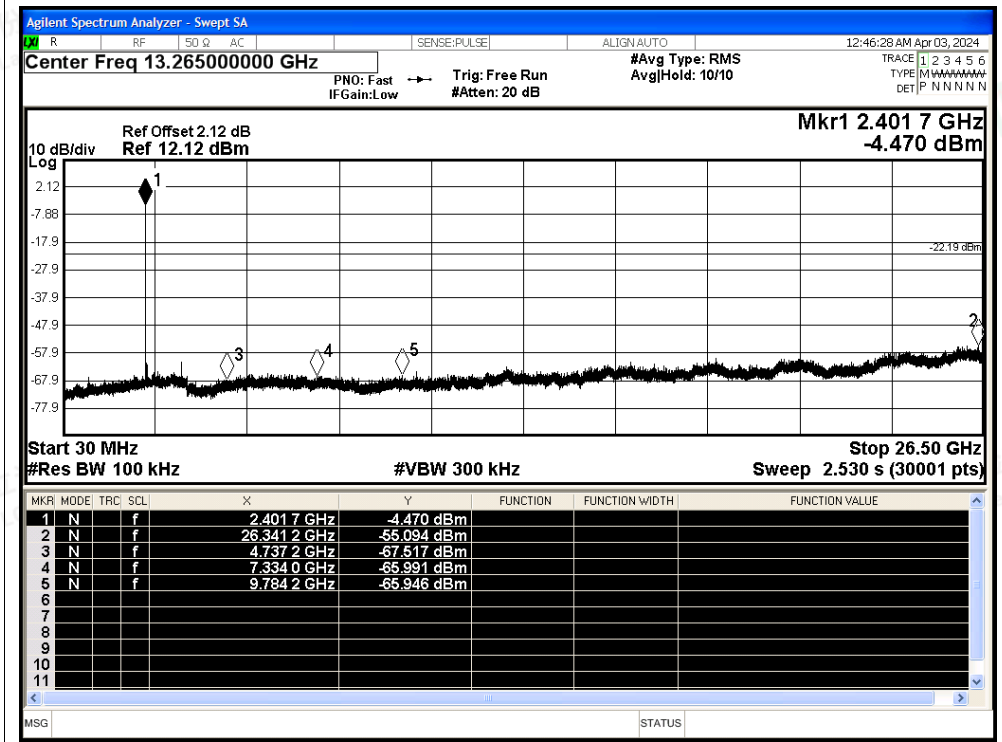




Tx. Spurious NVNT 3-DH5 2402MHz Ant Ref

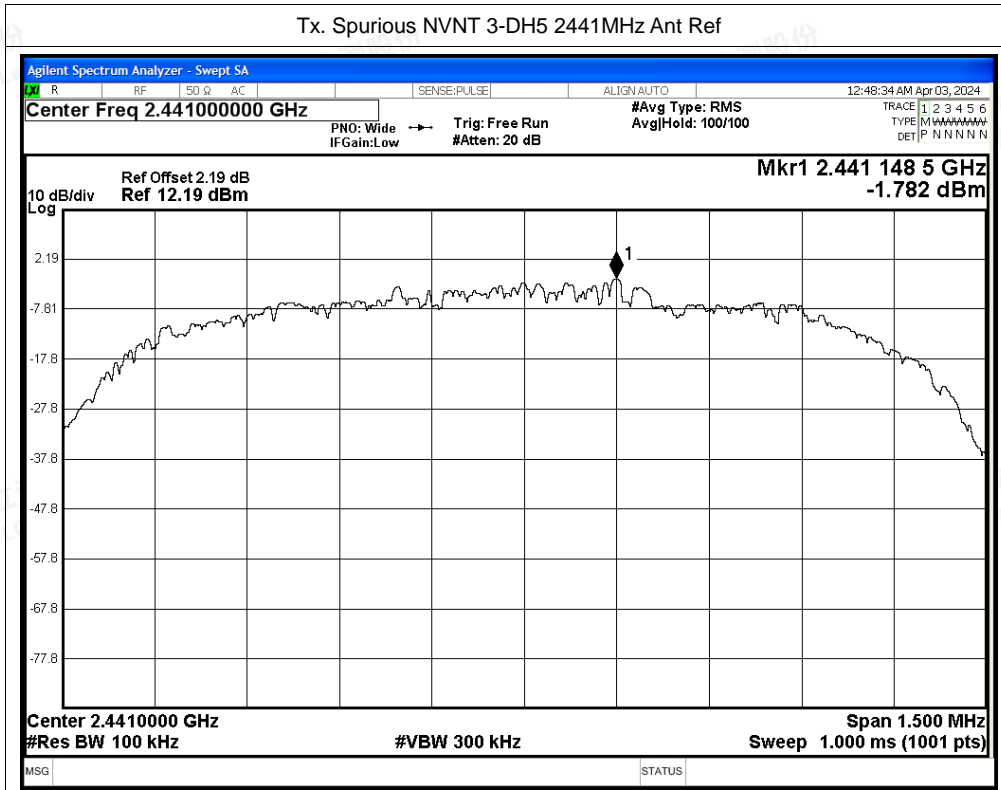


Tx. Spurious NVNT 3-DH5 2402MHz Ant Emission

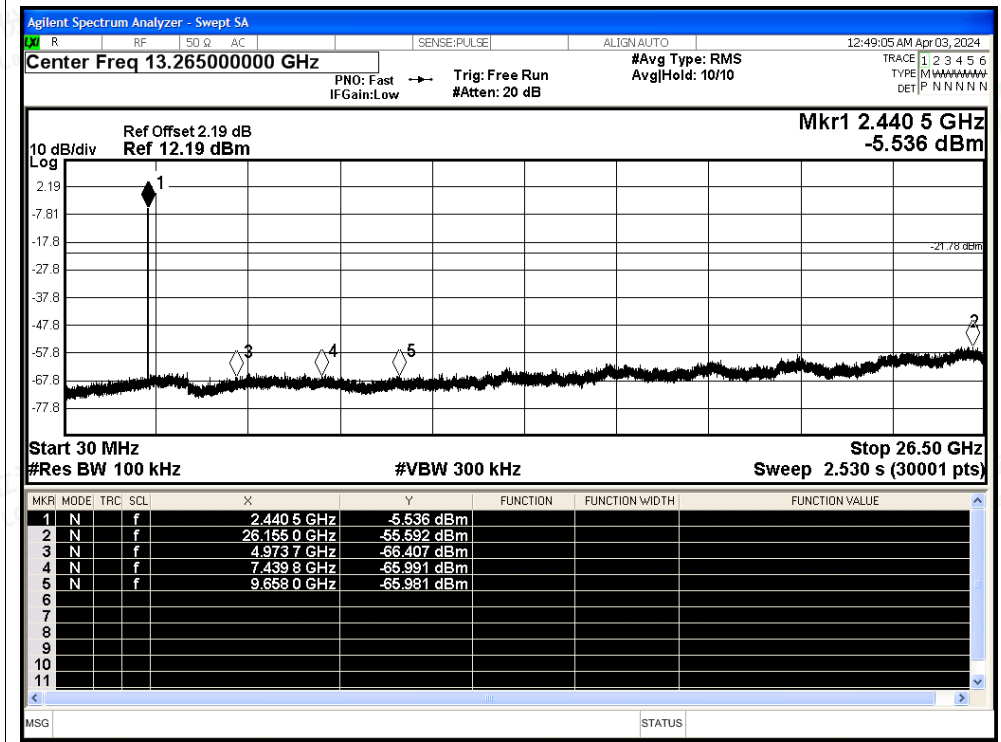




Tx. Spurious NVNT 3-DH5 2441MHz Ant Ref

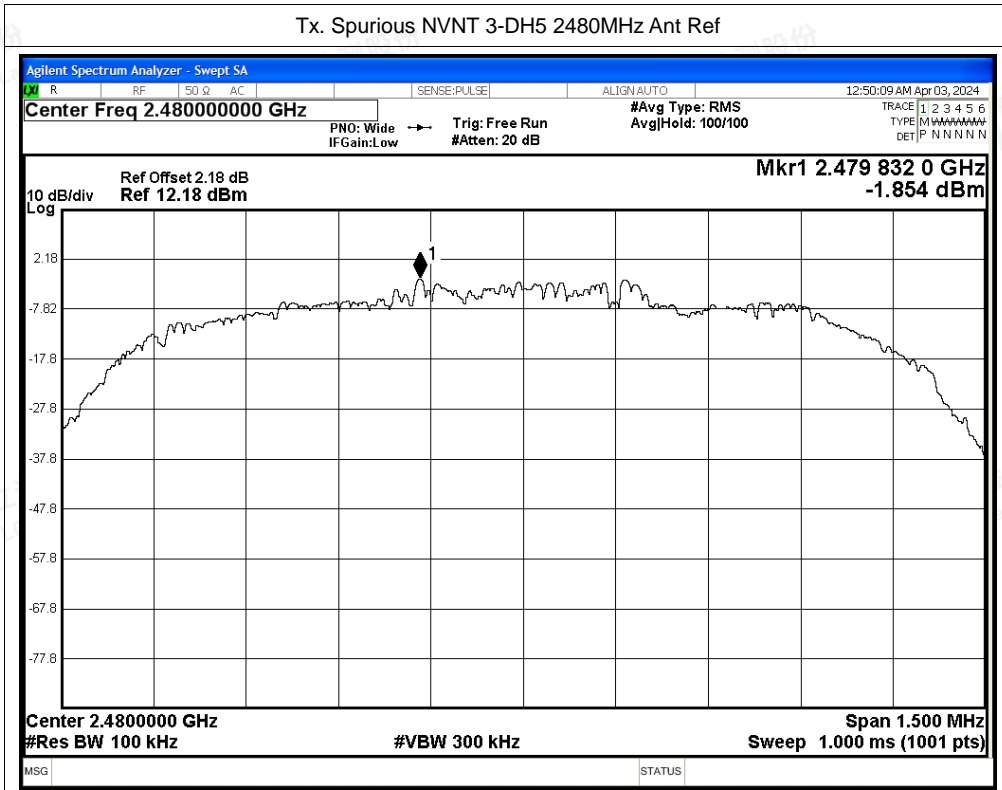


Tx. Spurious NVNT 3-DH5 2441MHz Ant Emission

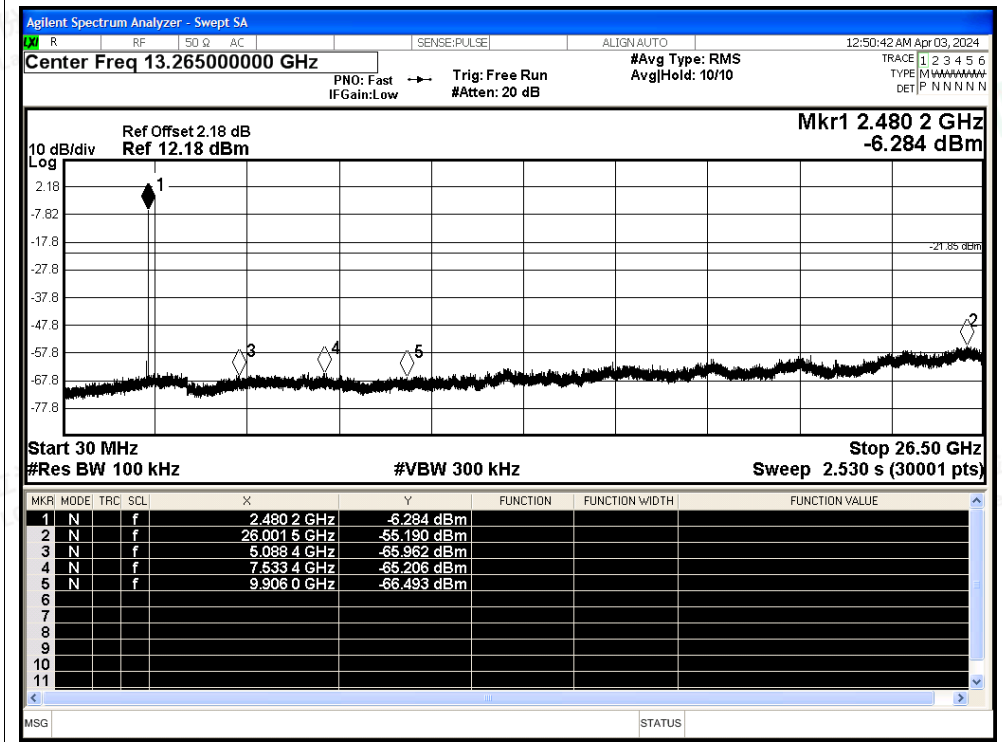




Tx. Spurious NVNT 3-DH5 2480MHz Ant Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant Emission





A.8 Duty Cycle

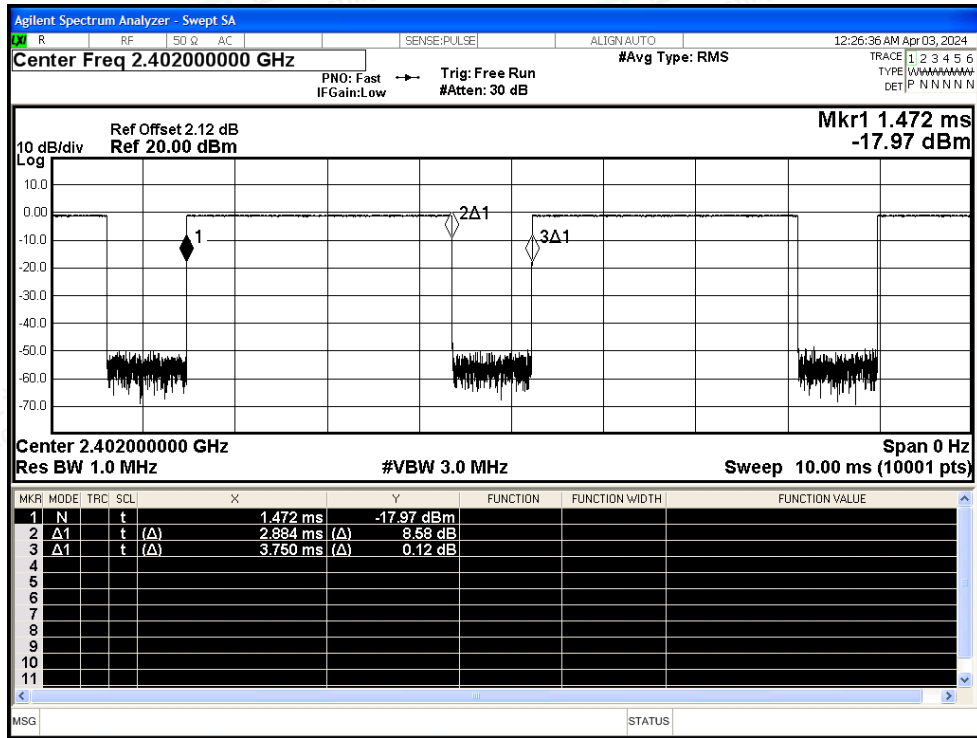
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant	76.91	1.14	0.35
NVNT	1-DH5	2441	Ant	76.85	1.14	0.35
NVNT	1-DH5	2480	Ant	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant	76.99	1.14	0.35
NVNT	2-DH5	2441	Ant	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant	76.96	1.14	0.35
NVNT	3-DH5	2402	Ant	77.07	1.13	0.35
NVNT	3-DH5	2441	Ant	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant	77.07	1.13	0.35



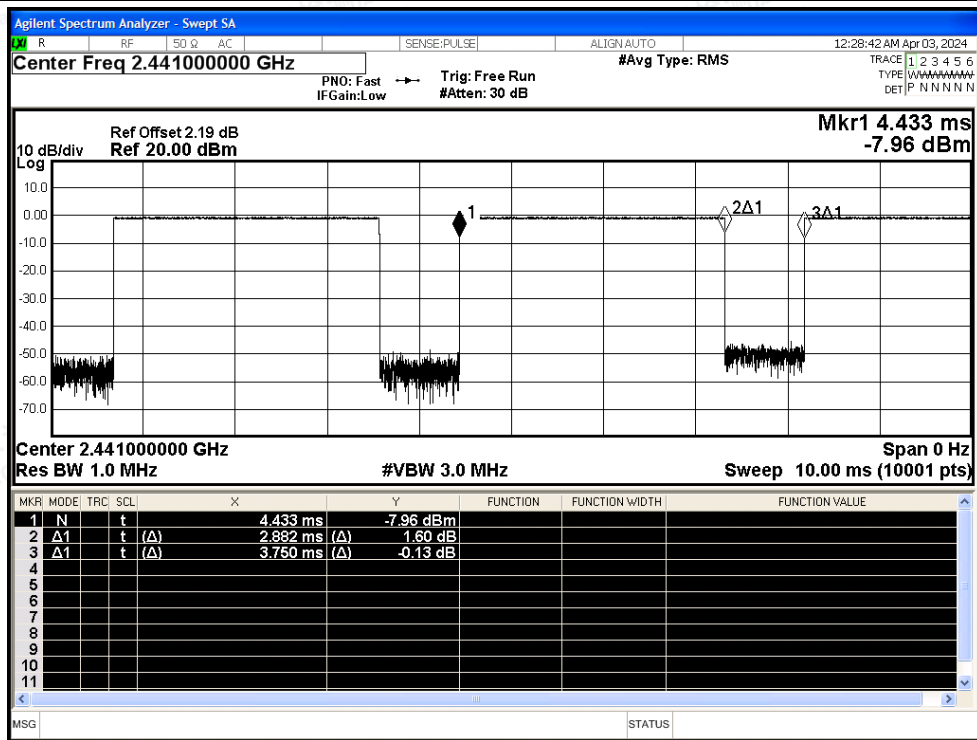


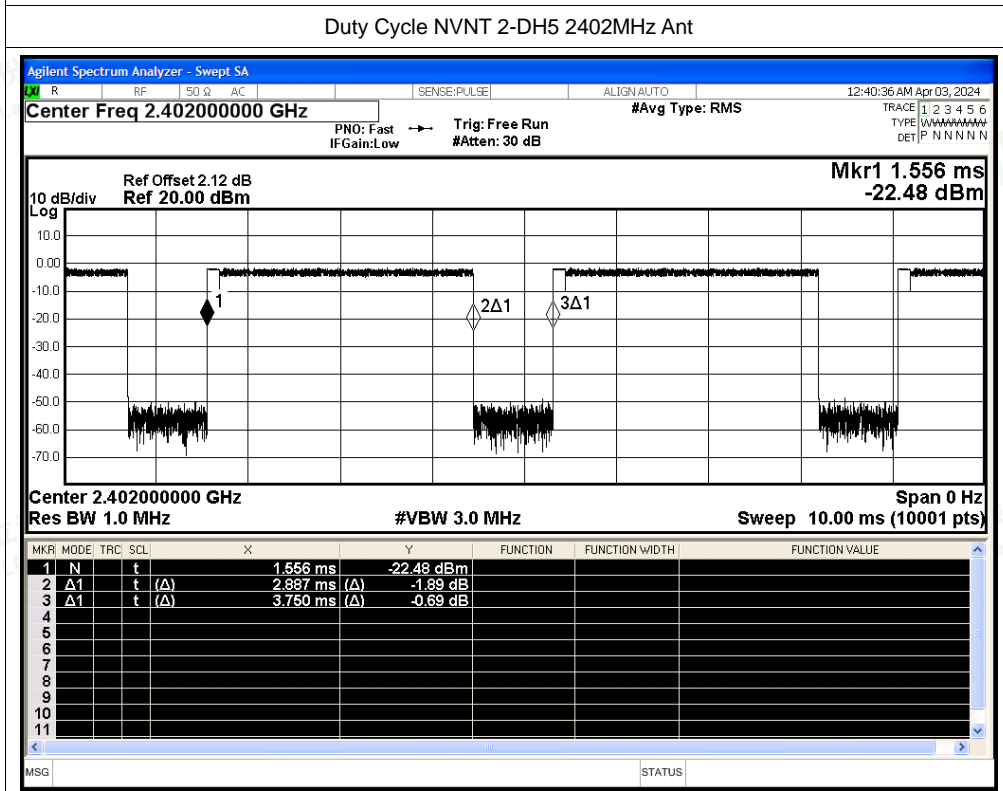
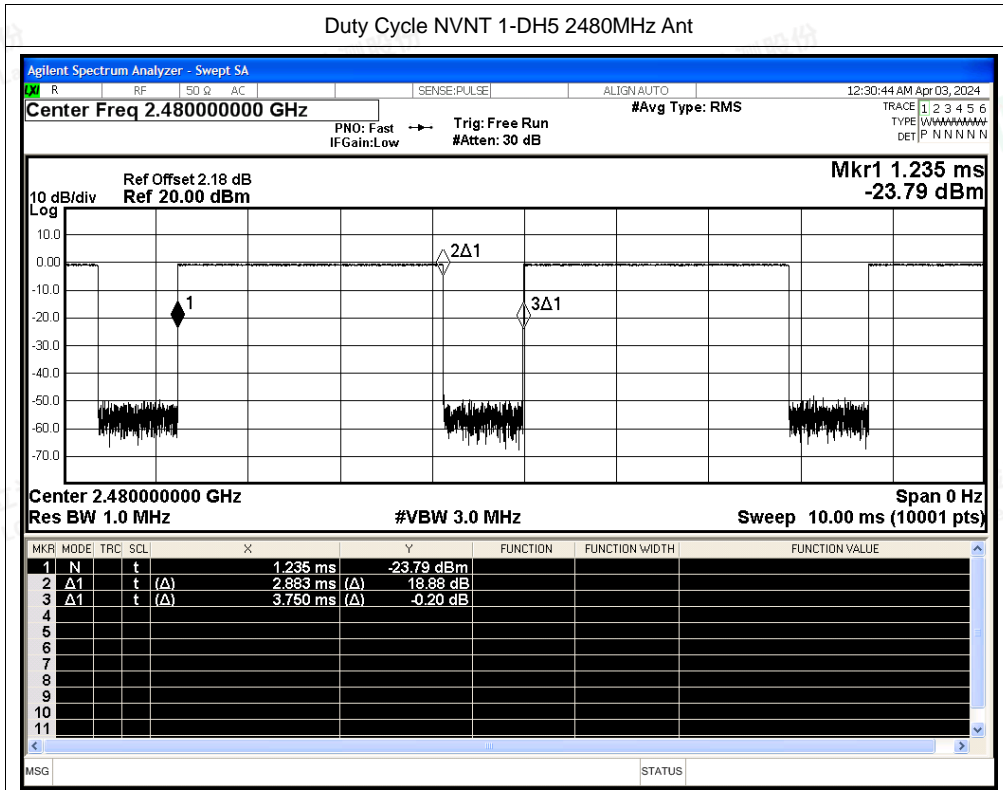
Test Graphs

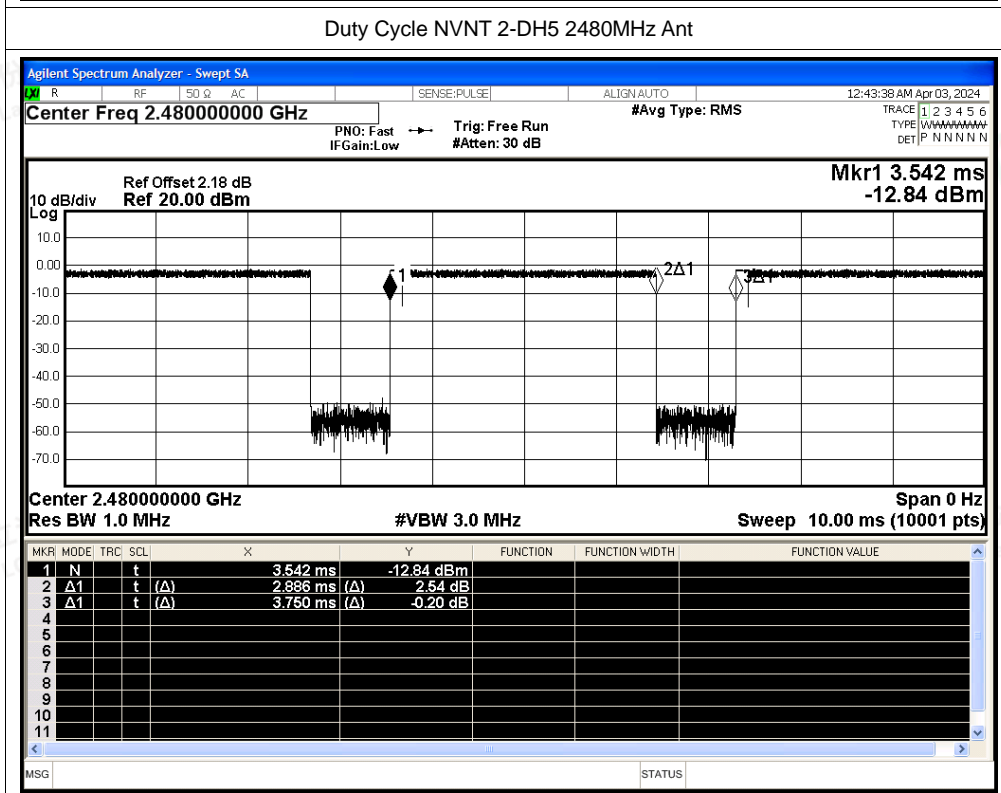
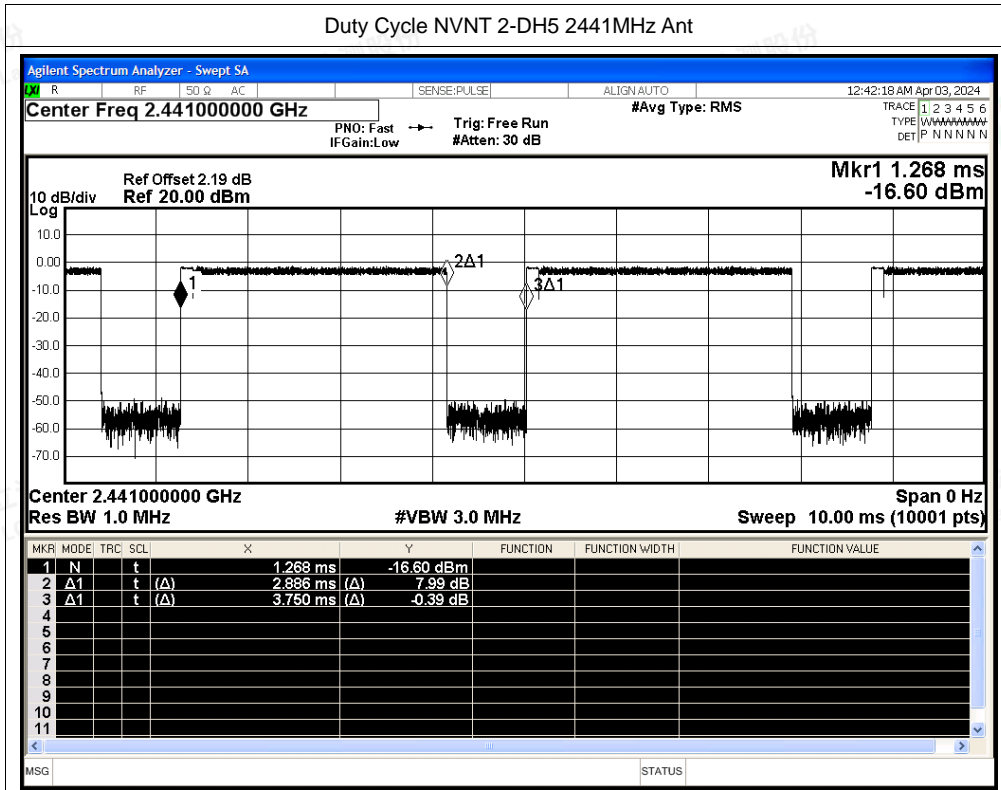
Duty Cycle NVNT 1-DH5 2402MHz Ant

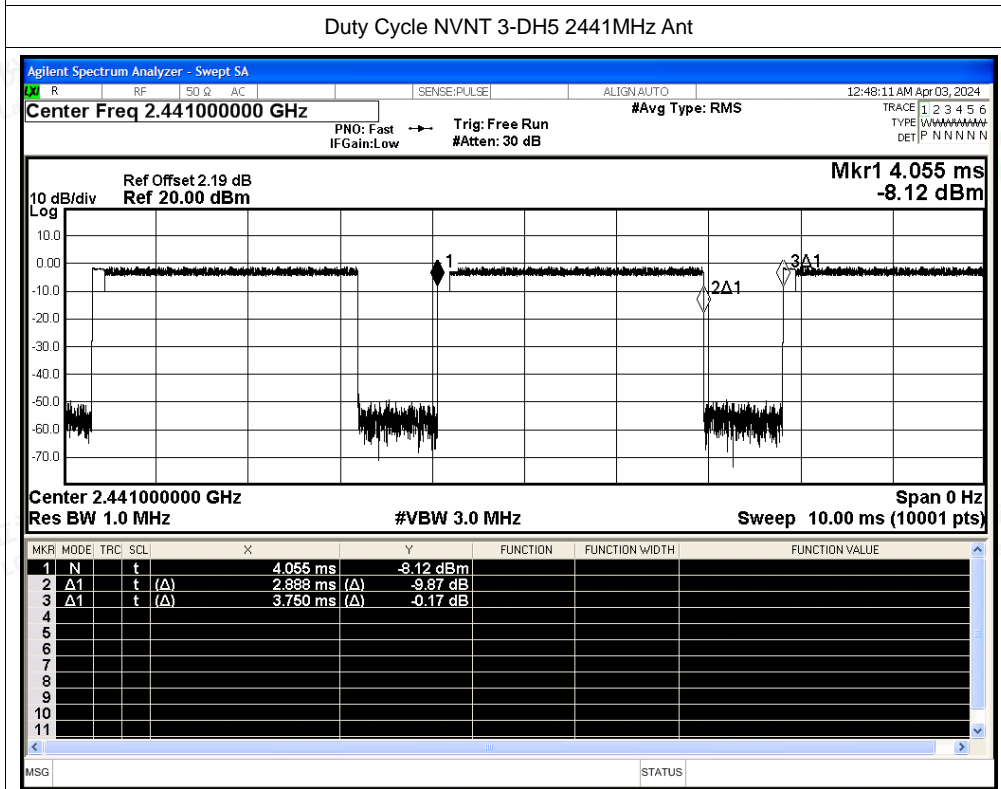
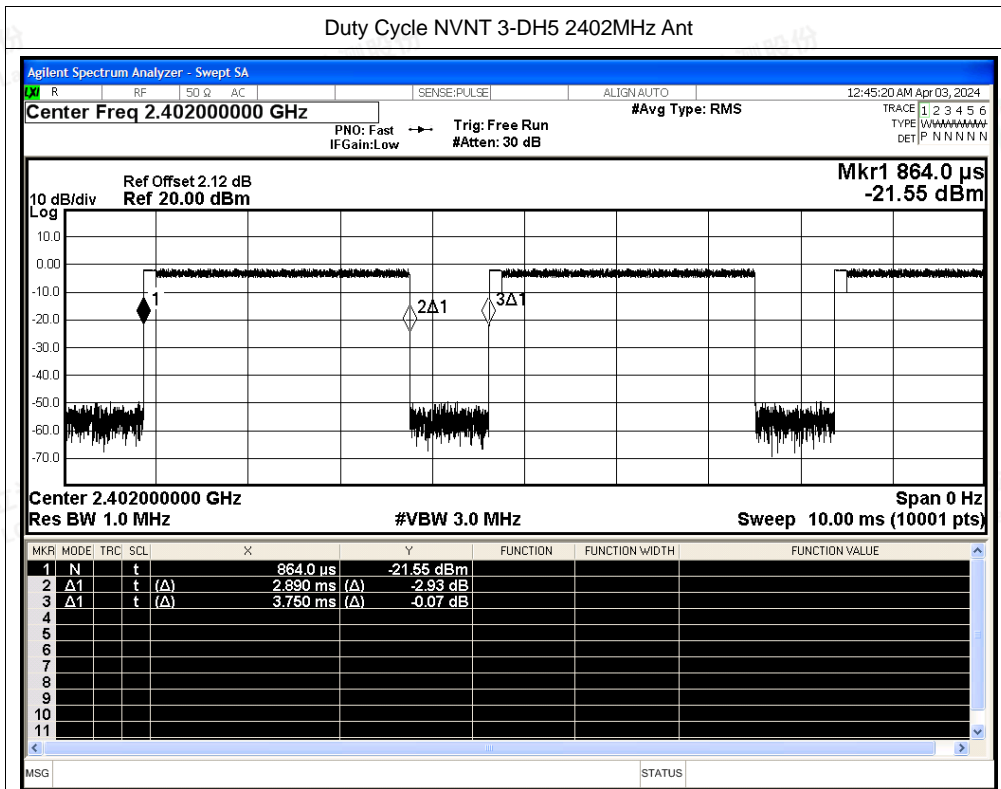


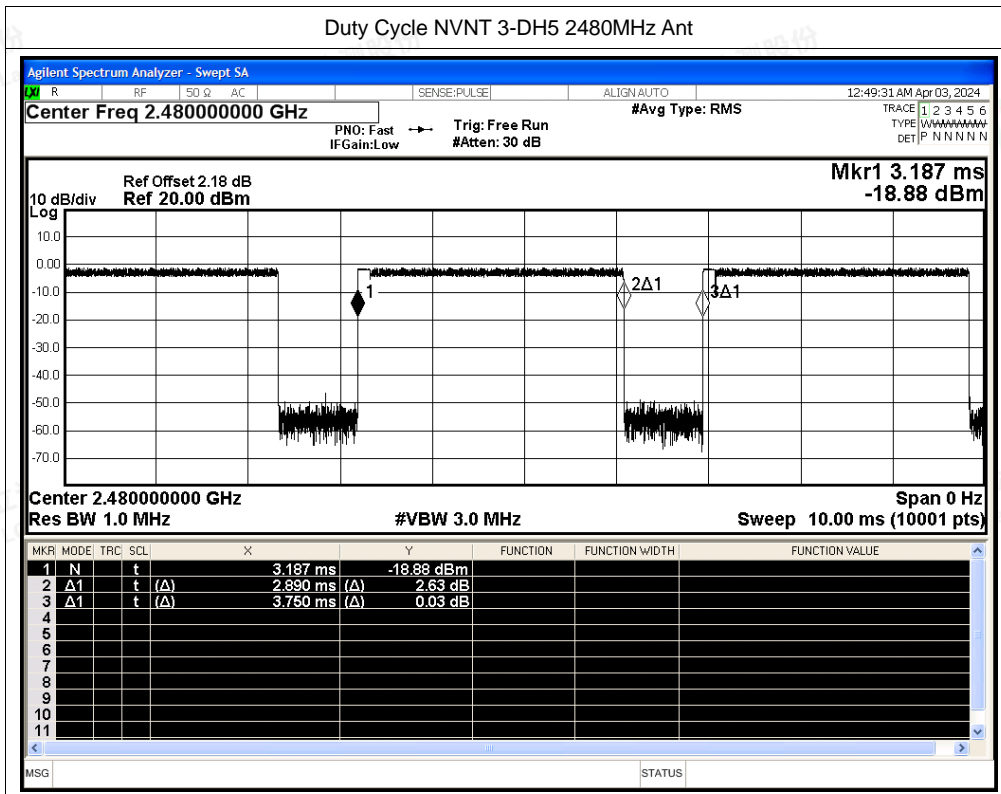
Duty Cycle NVNT 1-DH5 2441MHz Ant













A.9 Restrict Band

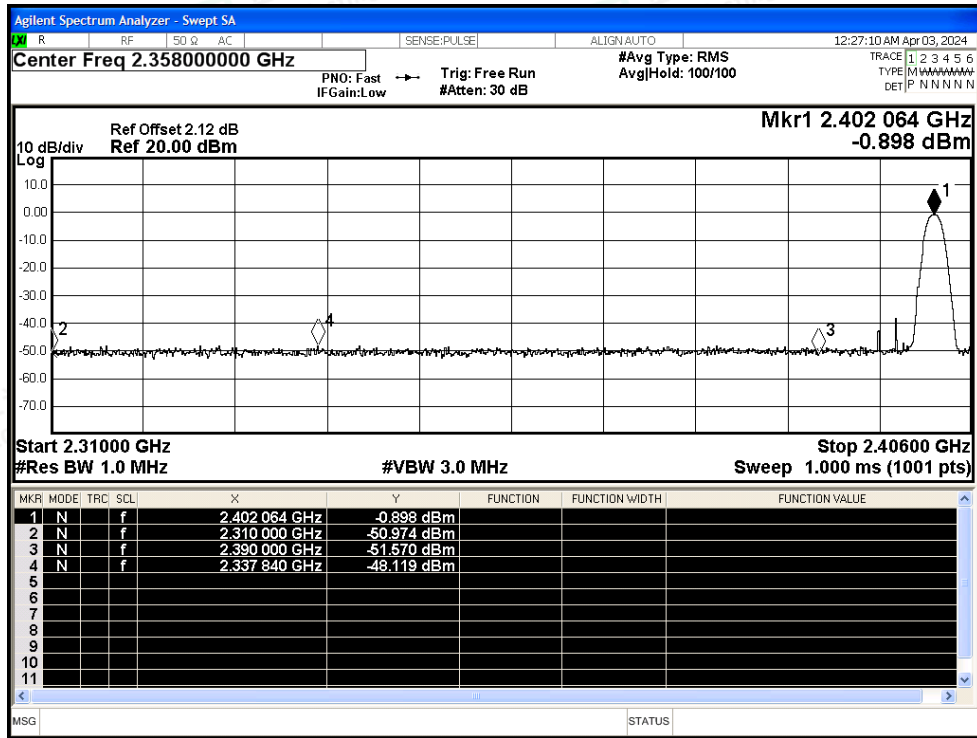
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant	No-Hopping	2310	-50.97	2	-	46.29	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2310	-58.59	2	1.14	39.81	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2337.84	-48.12	2	-	49.14	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2354.736	-57.48	2	1.14	40.92	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-51.57	2	-	45.69	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-58.13	2	1.14	40.27	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-48.94	2	-	48.32	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-57.57	2	1.14	40.83	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.896	-36.81	2	-	60.45	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2485.888	-56.95	2	1.14	41.45	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-47.92	2	-	49.34	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-58.16	2	1.14	40.24	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-50.79	2	-	46.47	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-58.76	2	1.14	39.64	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2363.088	-47.65	2	-	49.61	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2380.752	-57.57	2	1.14	40.83	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-50.84	2	-	46.42	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-58.51	2	1.14	39.89	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-50.34	2	-	46.92	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-57.92	2	1.14	40.48	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2485.144	-44.26	2	-	53	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2484.328	-56.92	2	1.14	41.48	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-49.26	2	-	48	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-57.78	2	1.14	40.62	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-51.12	2	-	46.14	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-58.78	2	1.13	39.61	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2354.064	-48.05	2	-	49.21	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2375.376	-57.44	2	1.13	40.95	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-50.77	2	-	46.49	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-57.98	2	1.13	40.41	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-49.16	2	-	48.1	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-49.56	2	1.13	48.83	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.944	-39.56	2	-	57.7	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2487.304	-45.57	2	1.13	52.82	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-50.26	2	-	47	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-58.53	2	1.13	39.86	Average	54	Pass



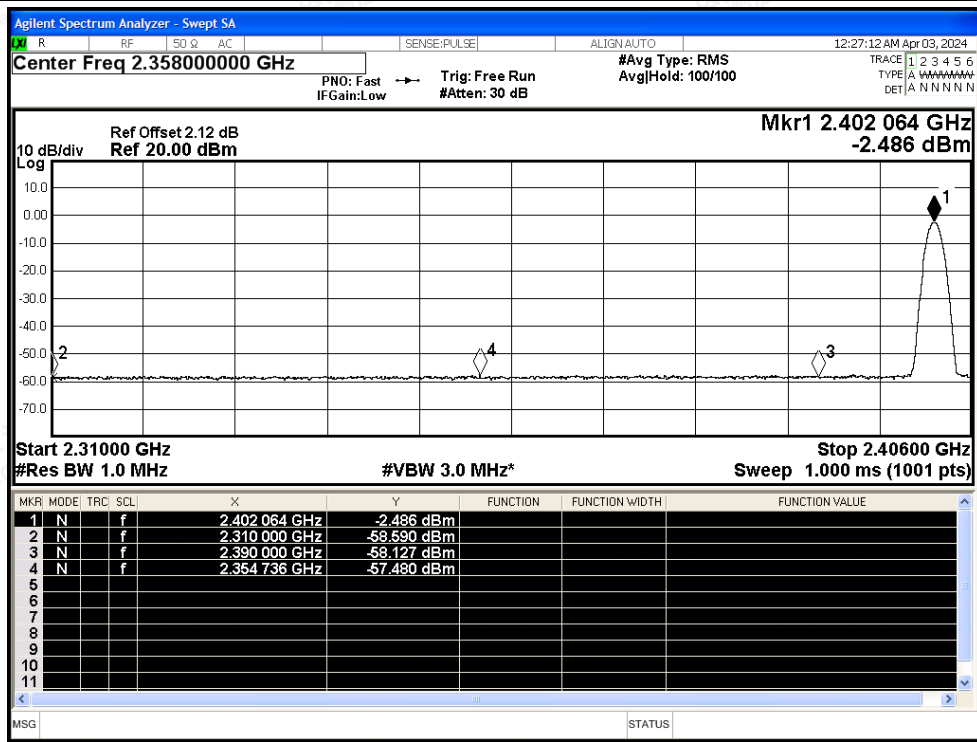


Test Graphs

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

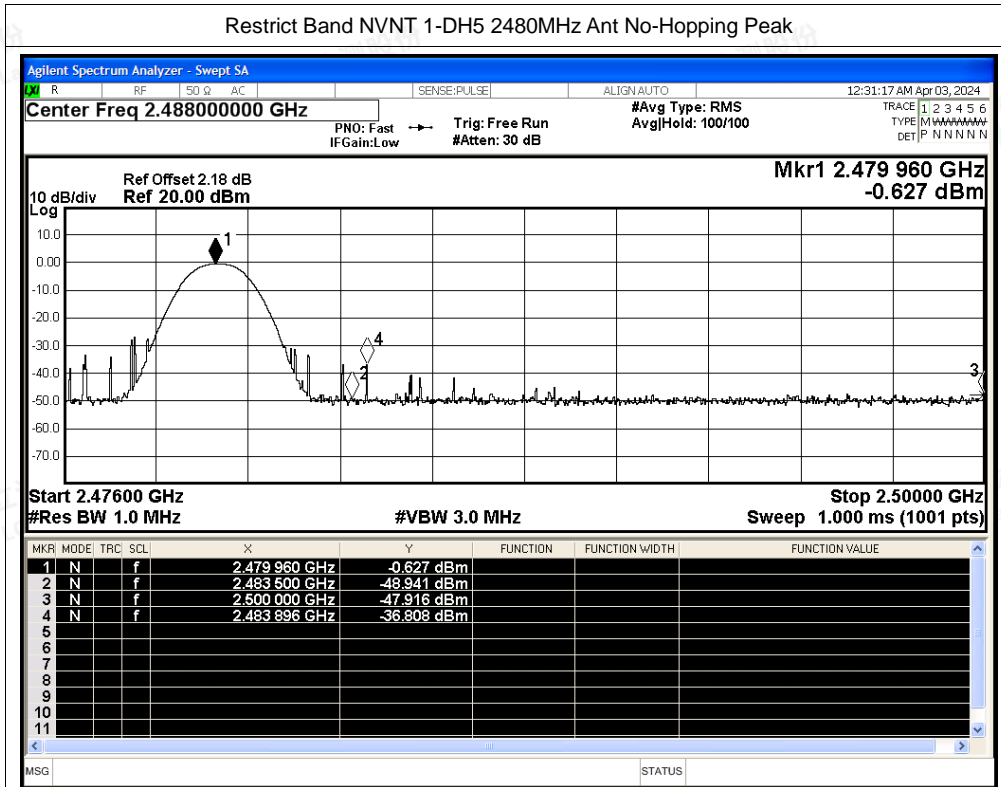


Restrict Band NVNT 1-DH5 2402MHz Ant No-Hopping Average

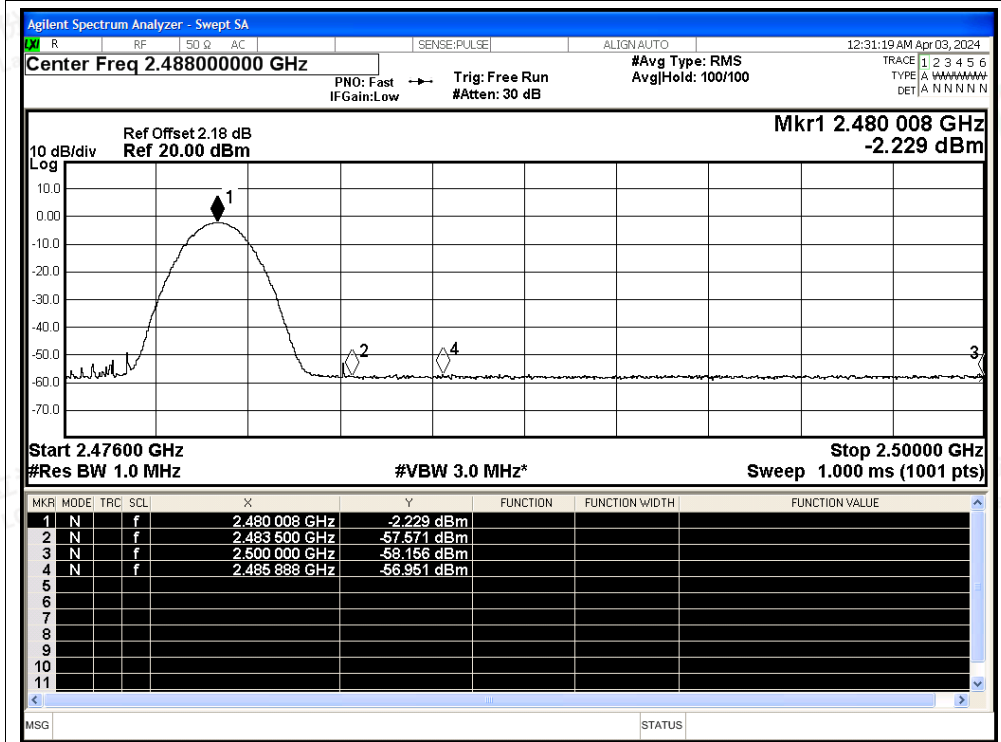




Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Peak

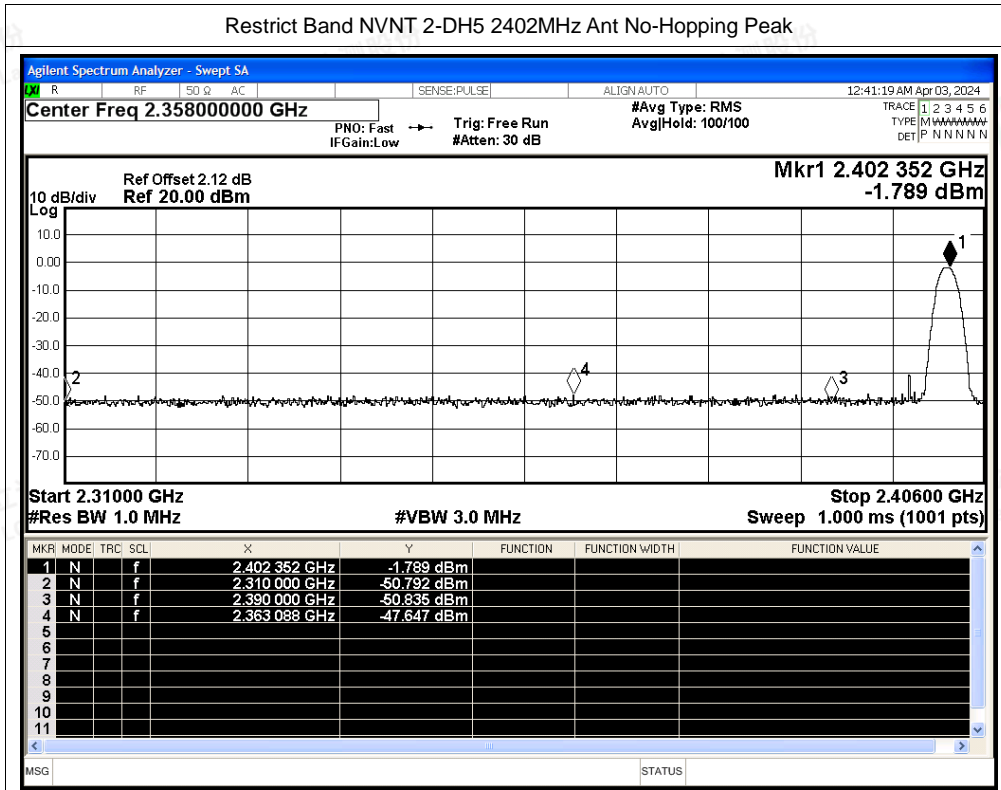


Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Average

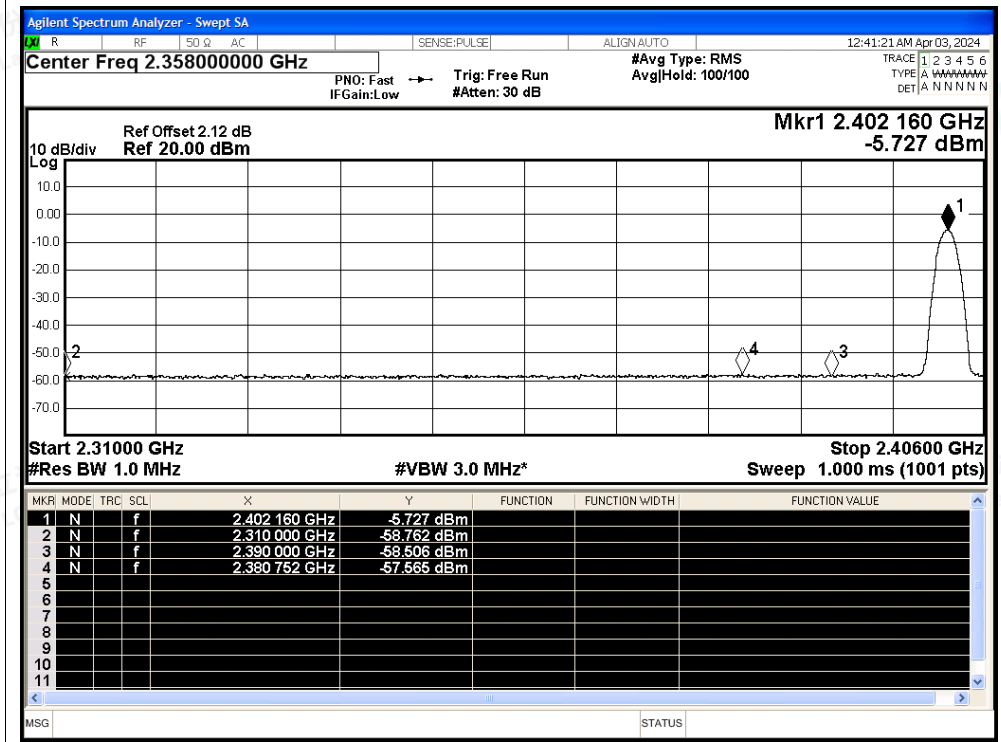




Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Peak

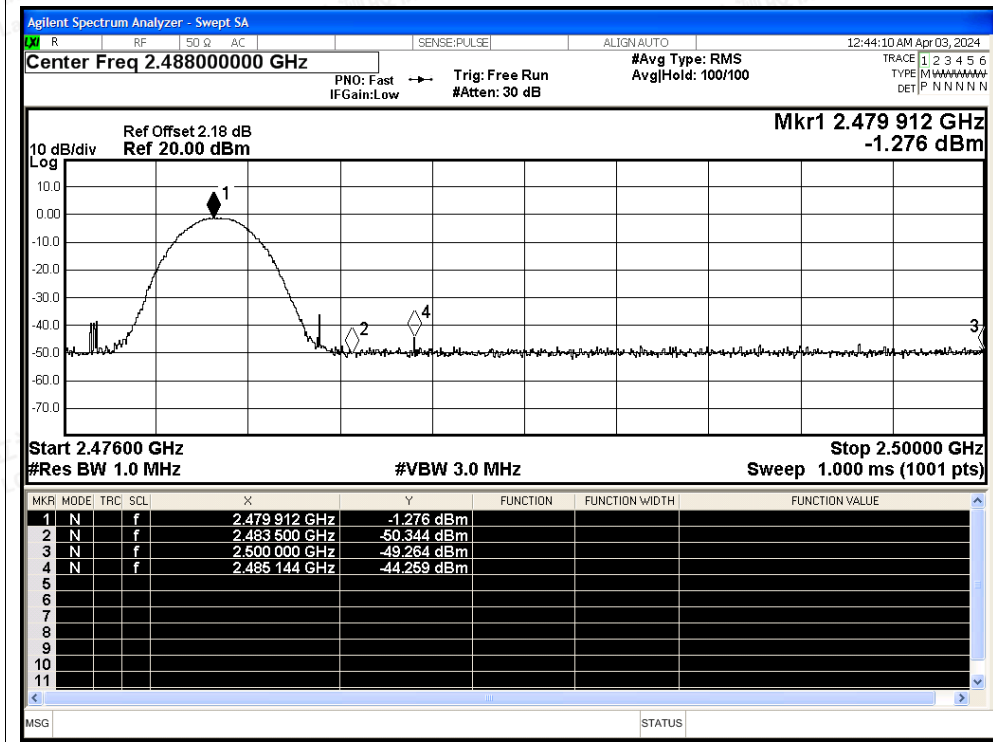


Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Average

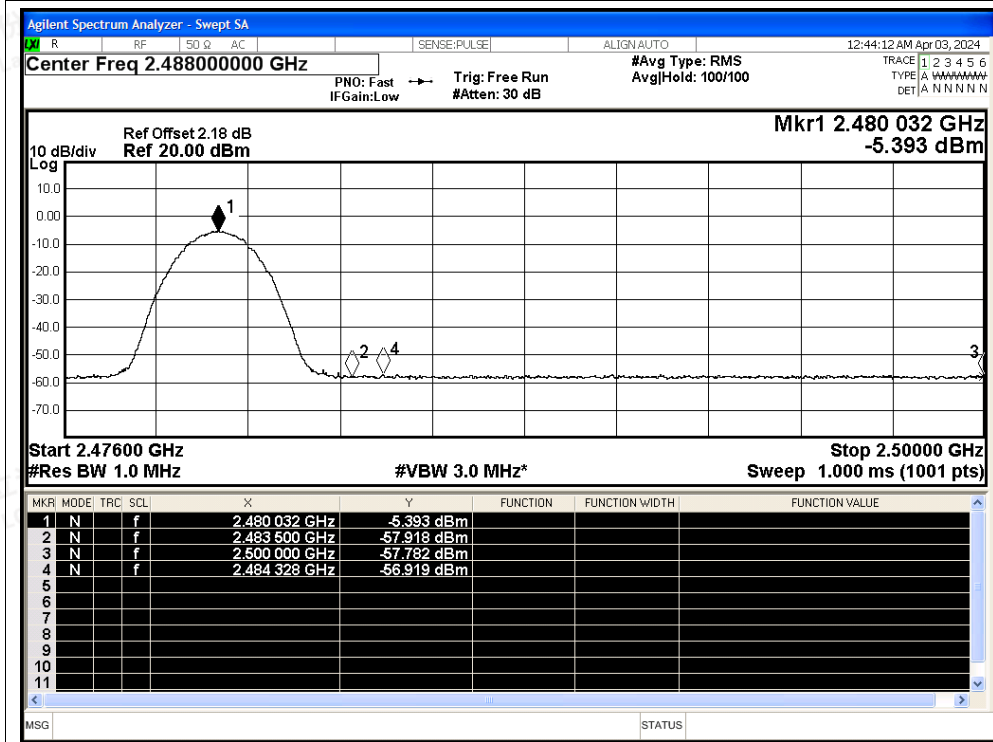




Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Peak

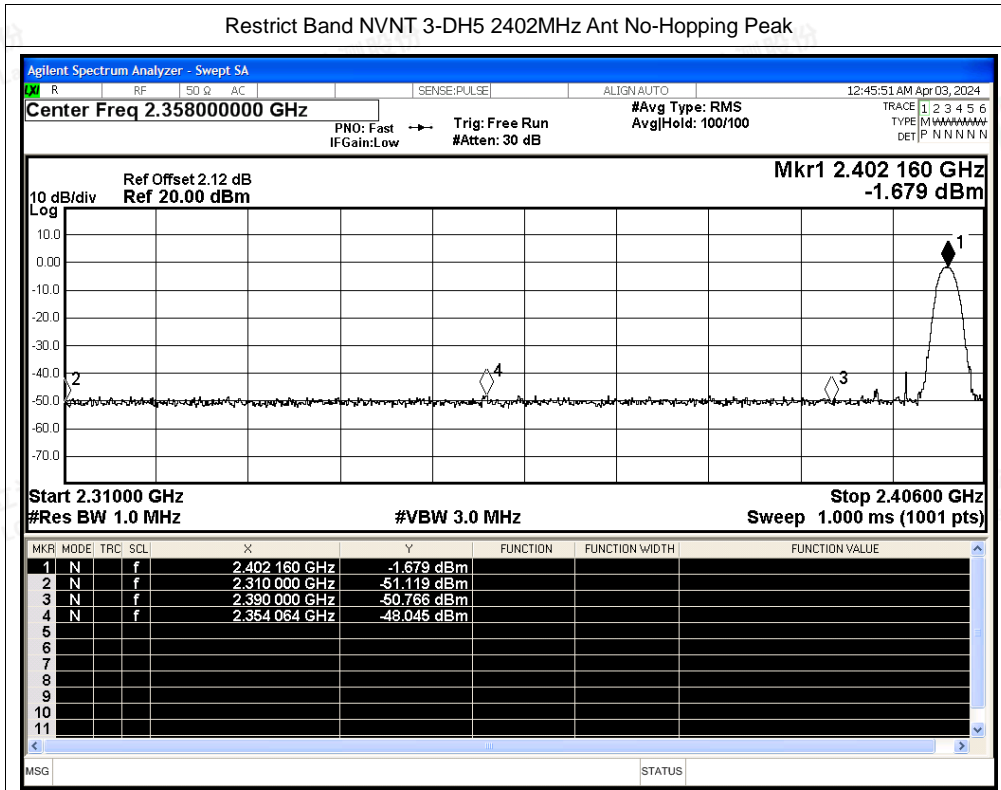


Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Average

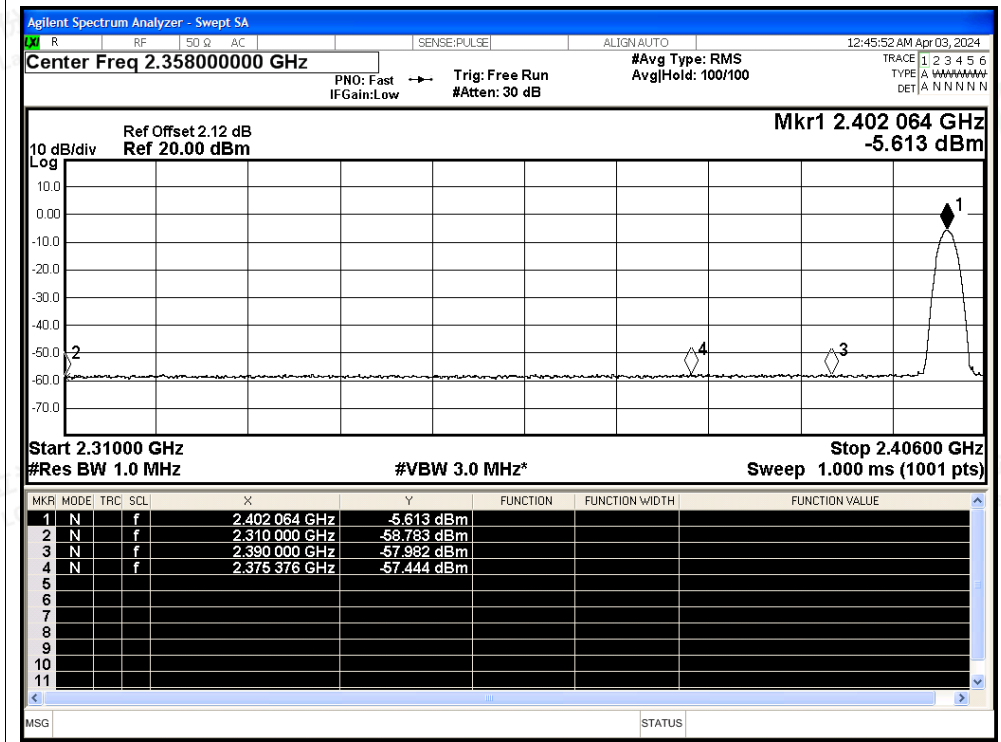




Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Peak

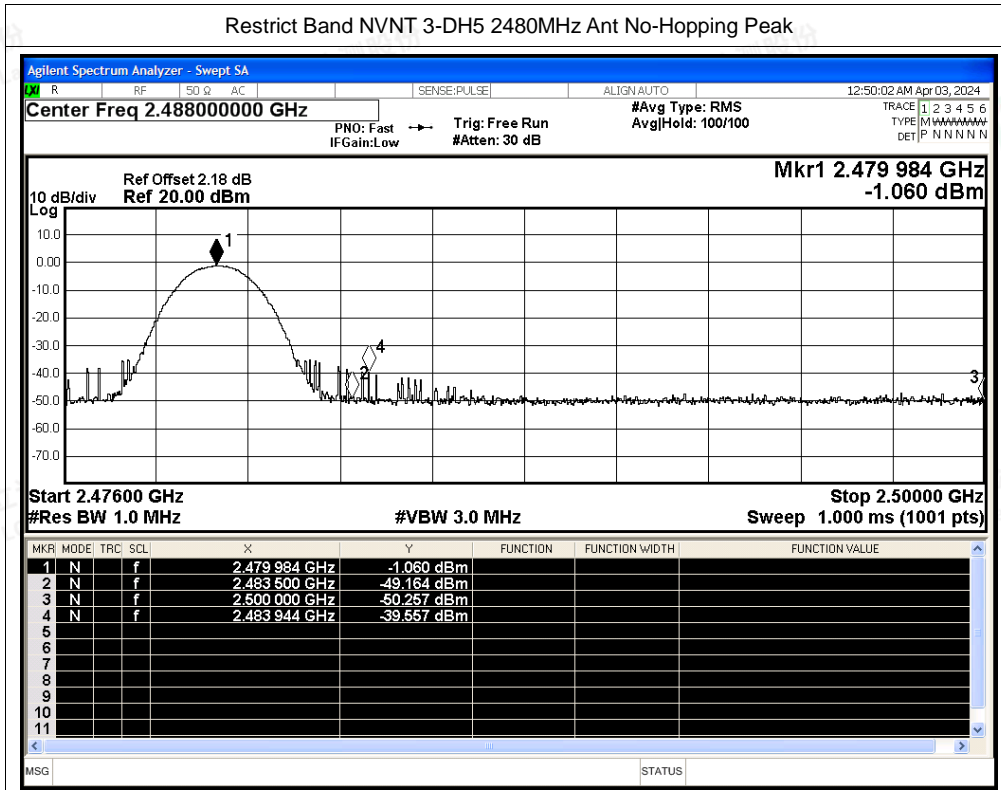


Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Average





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



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

