



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: karaoke microphone

Test Model: G50

Environmental Conditions

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





A.1 -20dB Bandwidth

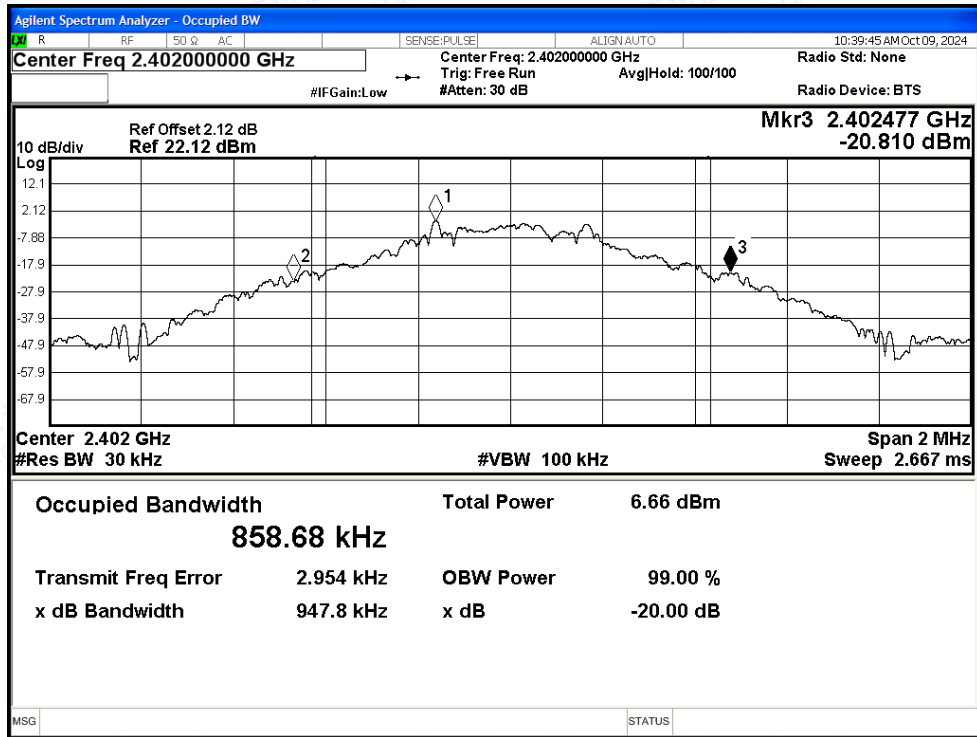
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.948	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.948	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.949	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.279	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.304	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.31	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.293	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.294	N/A	Pass





Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

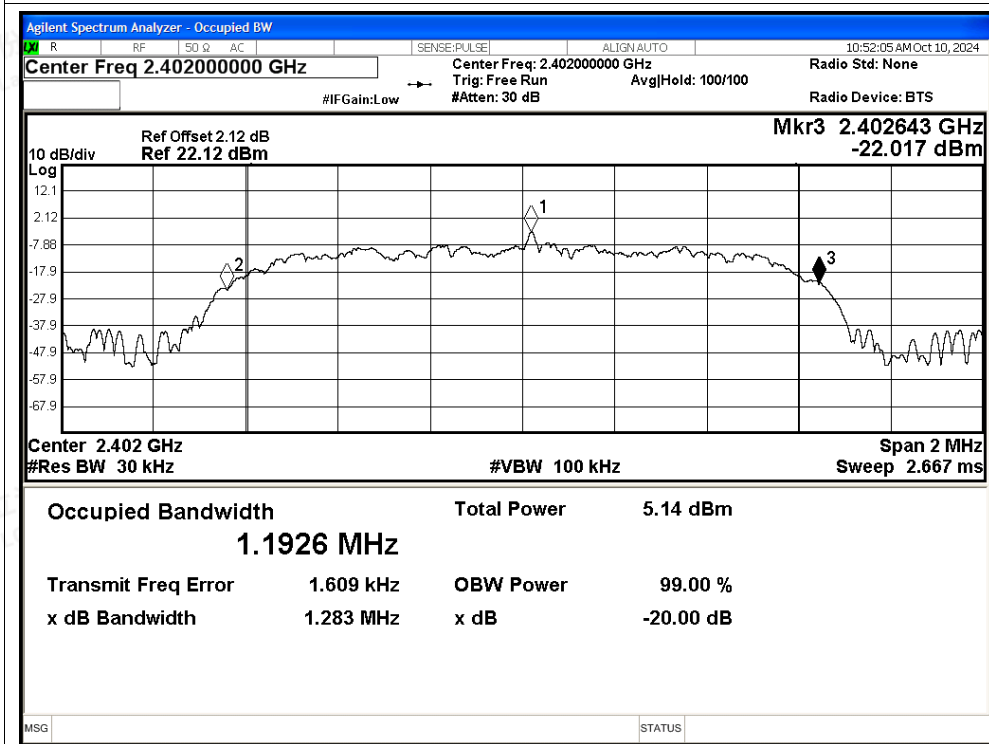




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

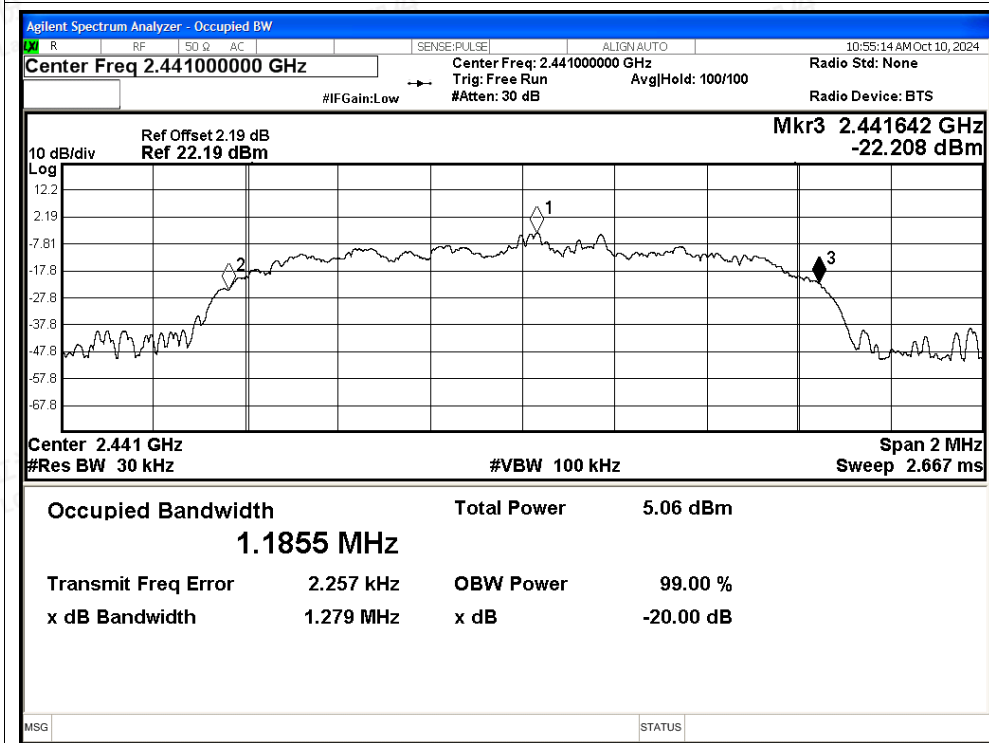


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

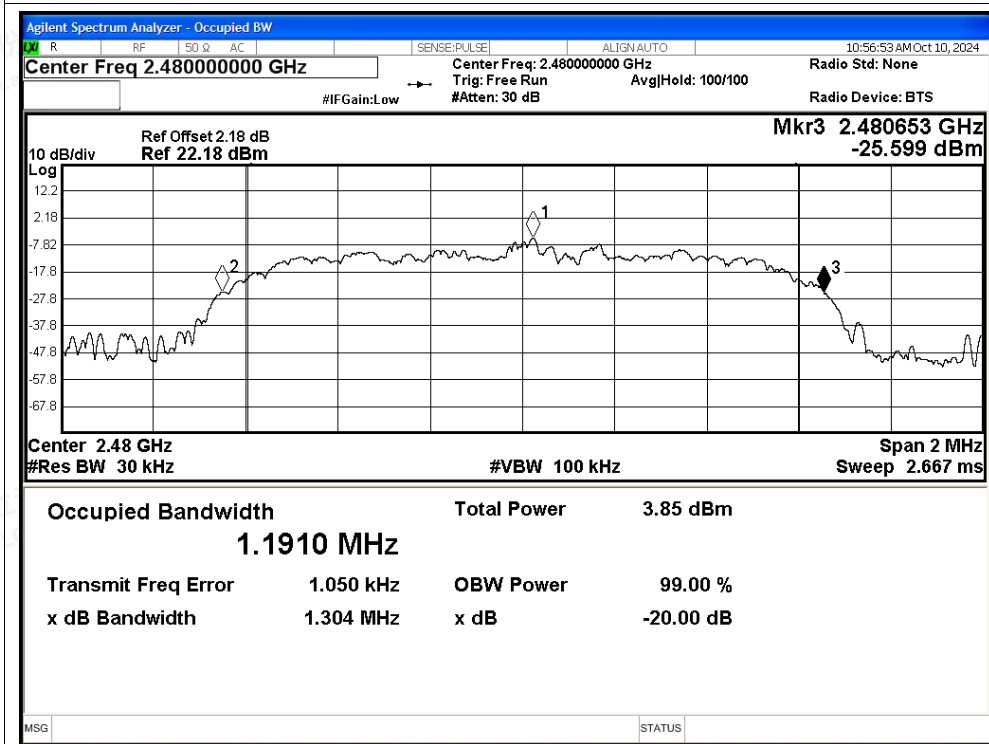




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

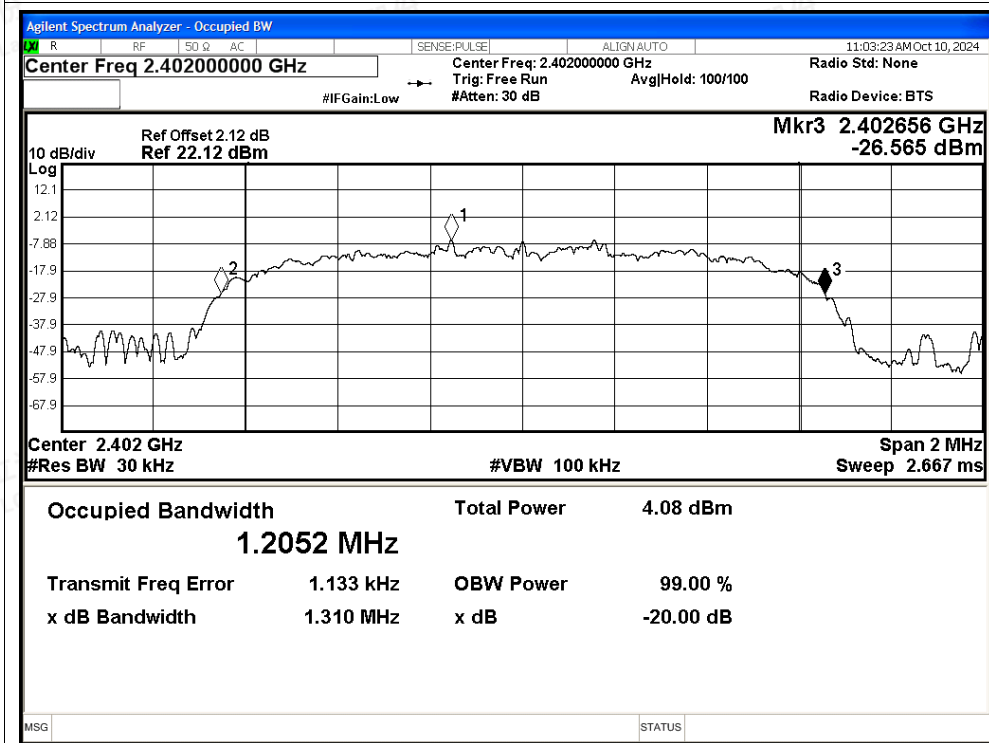


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

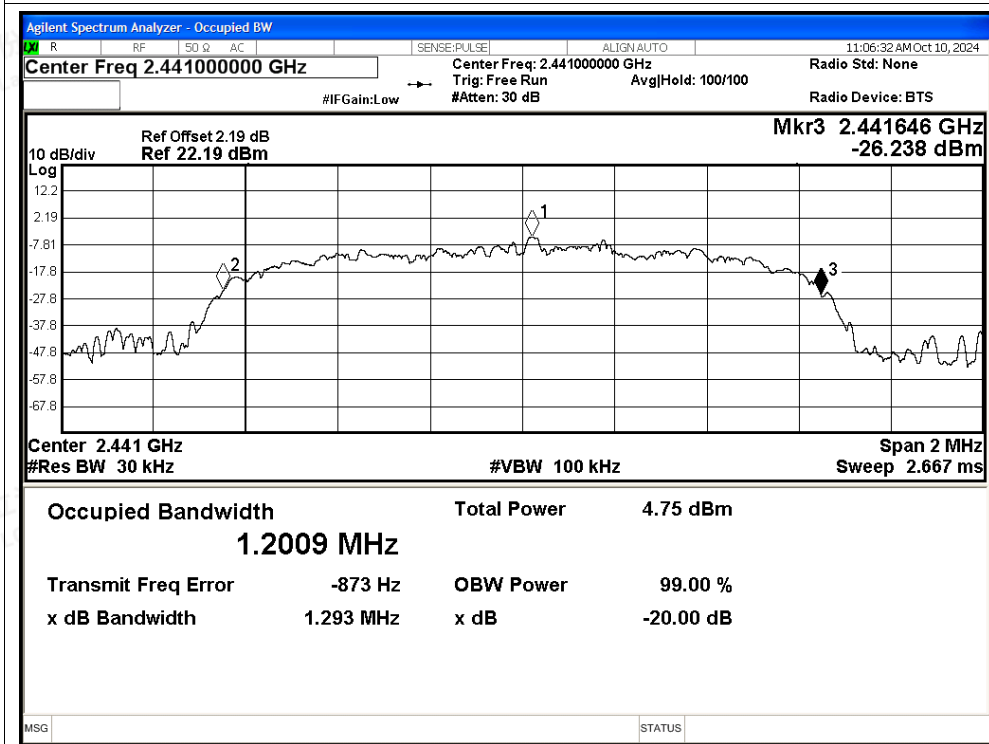


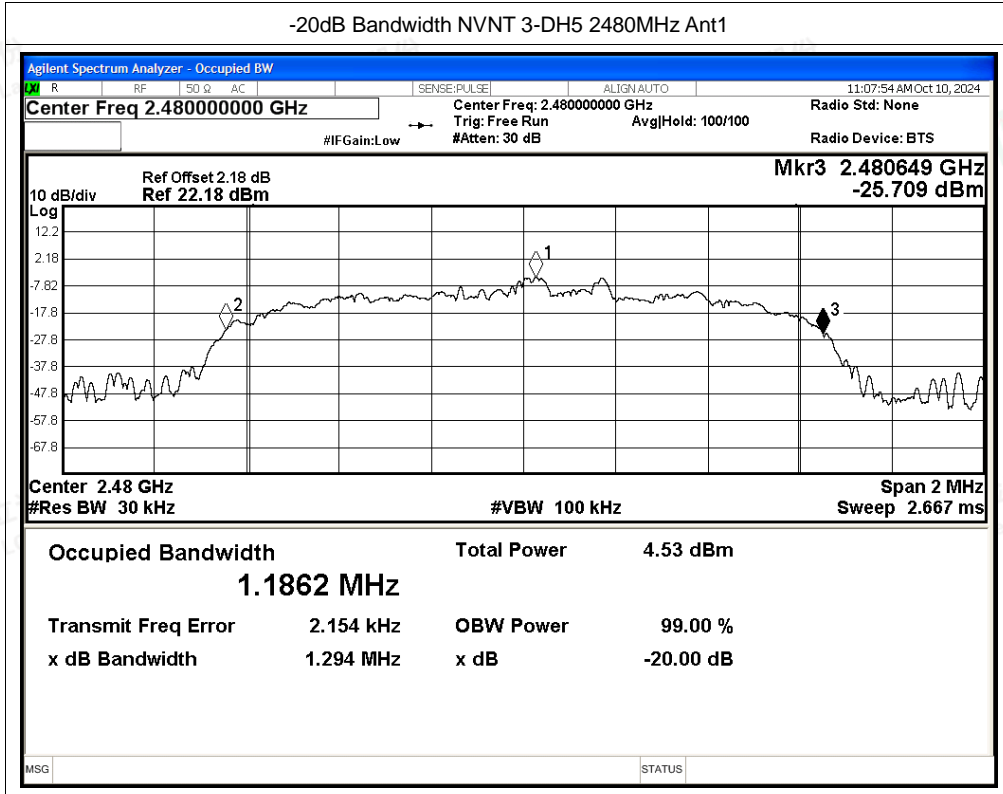


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Maximum Peak Conducted Output Power

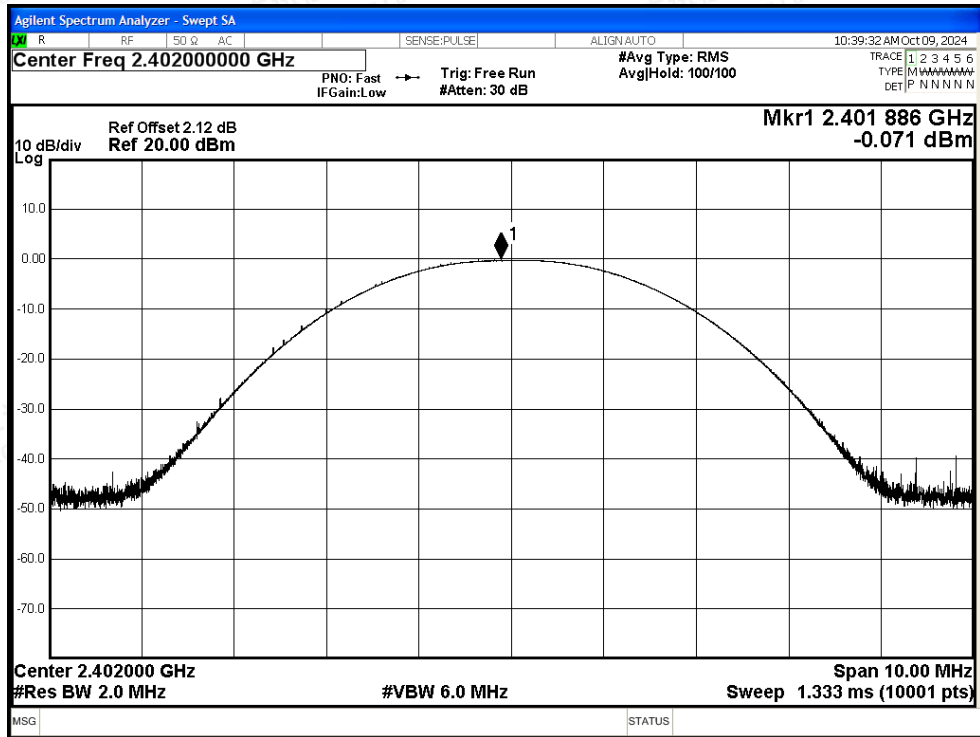
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.07	21	Pass
NVNT	1-DH5	2441	Ant1	-0.29	21	Pass
NVNT	1-DH5	2480	Ant1	1.11	21	Pass
NVNT	2-DH5	2402	Ant1	1.14	21	Pass
NVNT	2-DH5	2441	Ant1	0.49	21	Pass
NVNT	2-DH5	2480	Ant1	-0.31	21	Pass
NVNT	3-DH5	2402	Ant1	0.45	21	Pass
NVNT	3-DH5	2441	Ant1	0.91	21	Pass
NVNT	3-DH5	2480	Ant1	0	21	Pass



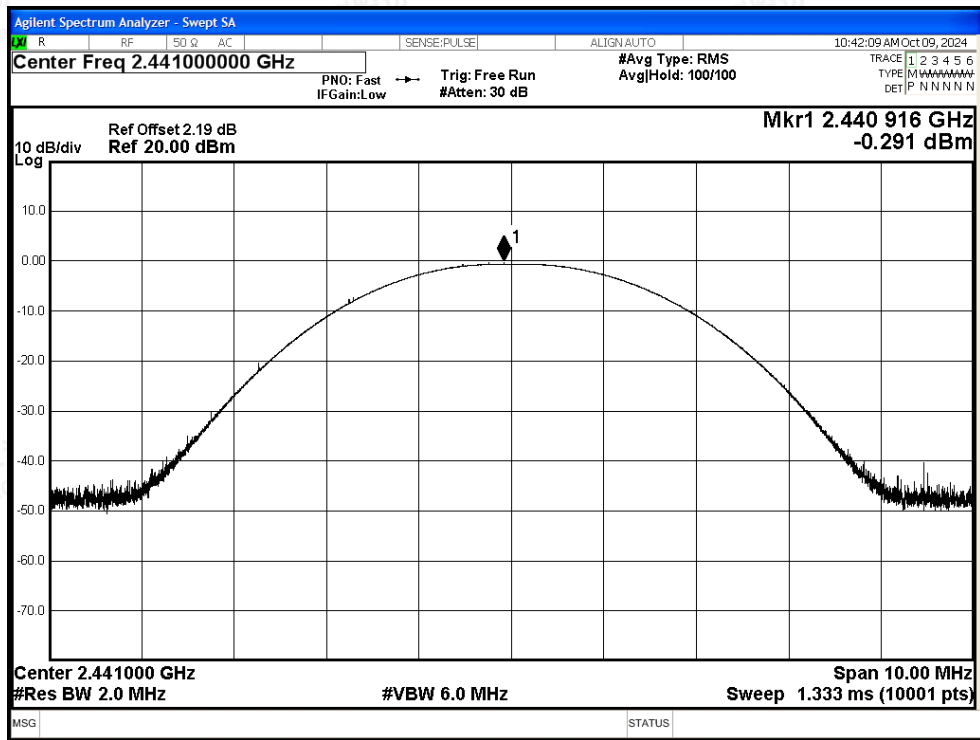


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

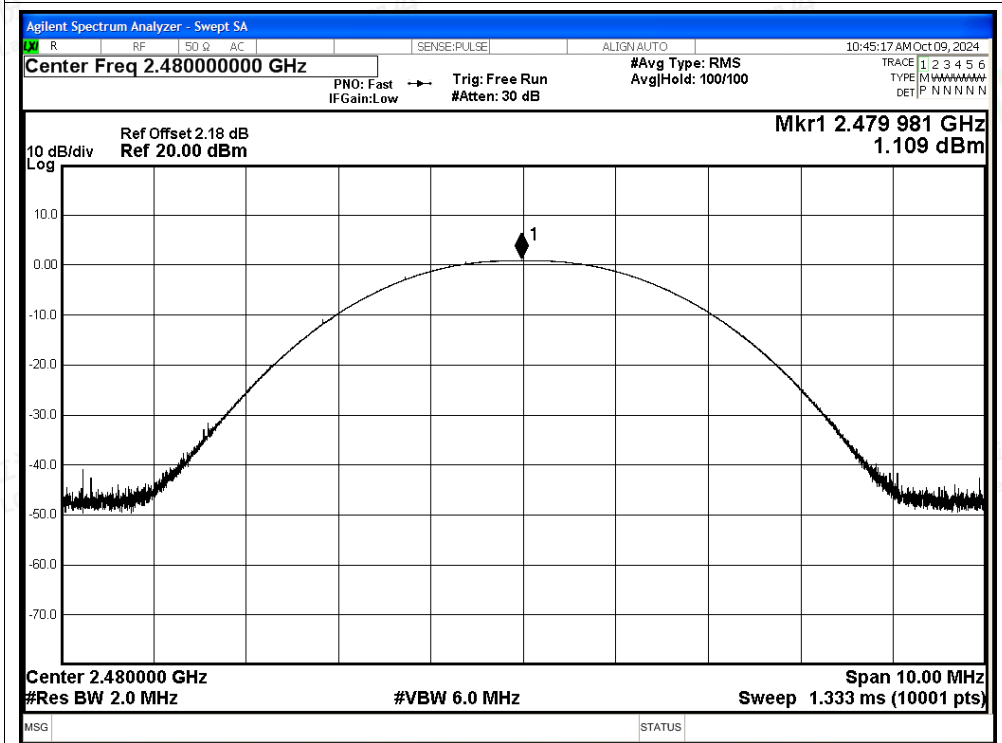


Power NVNT 1-DH5 2441MHz Ant1

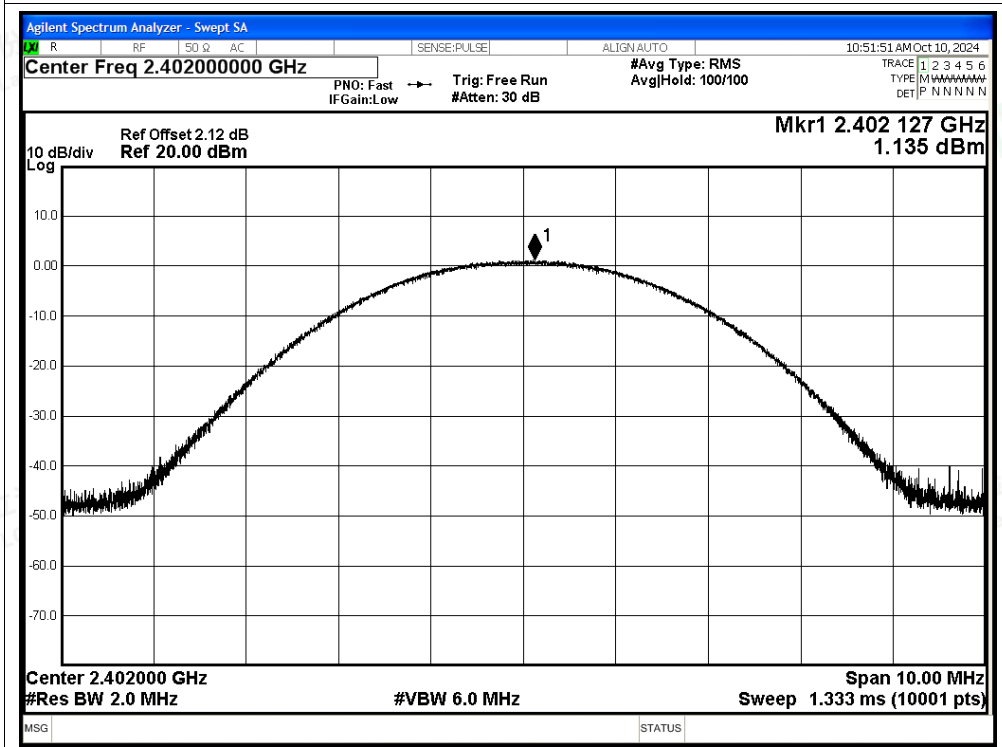


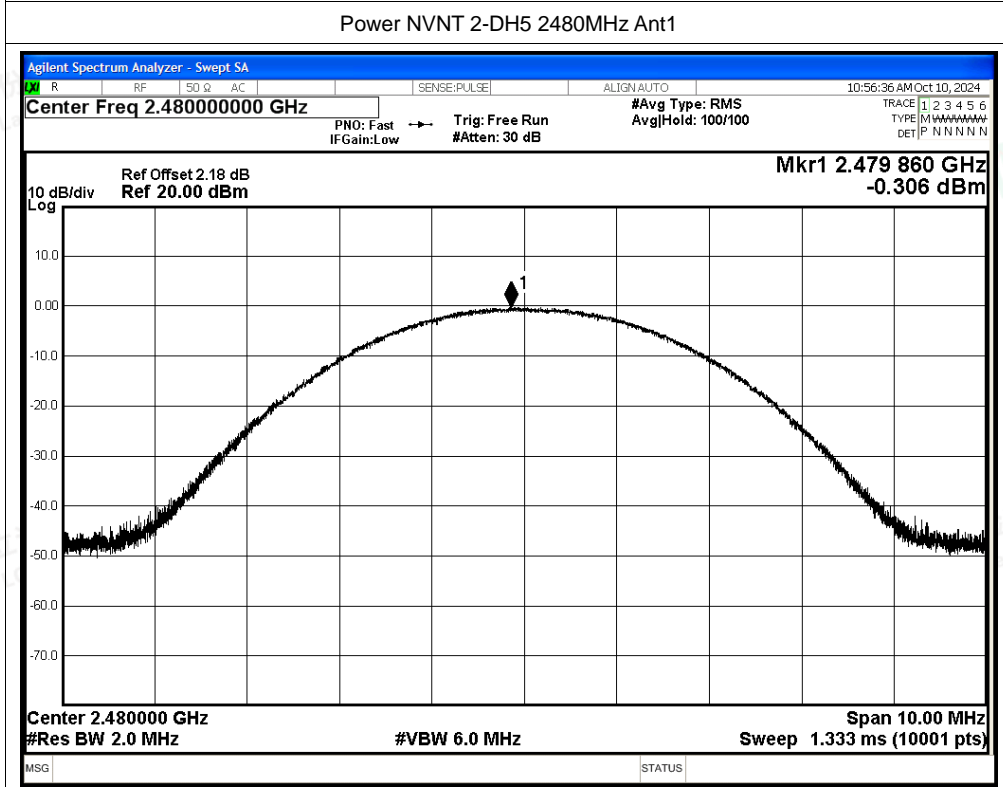
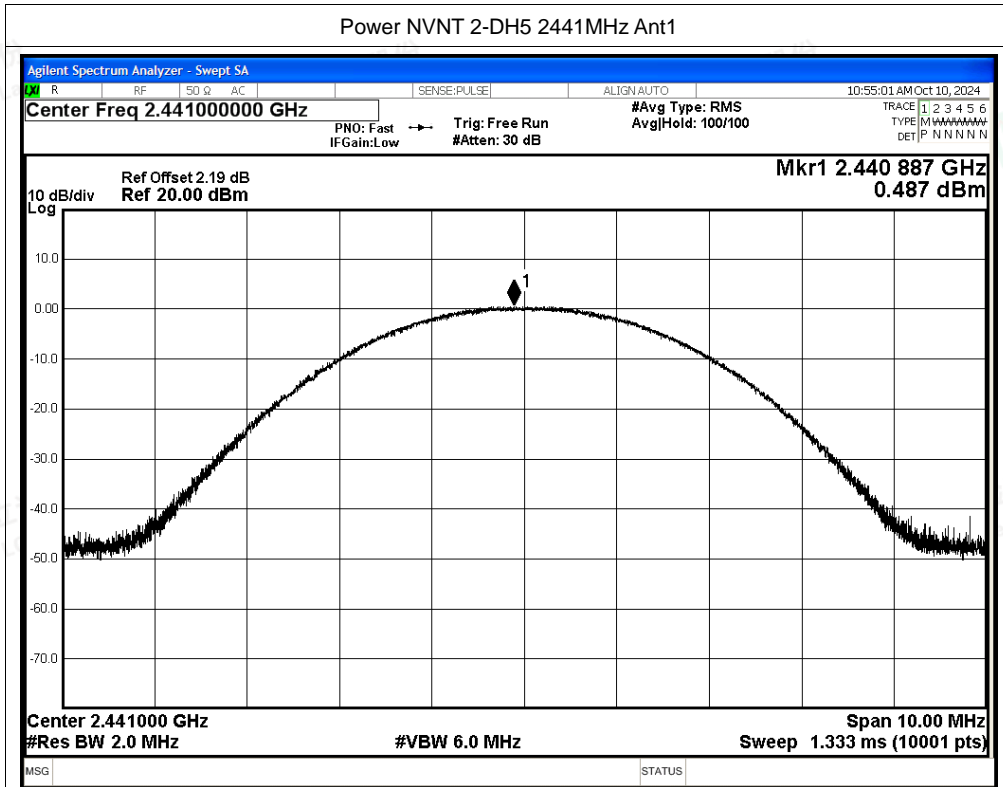


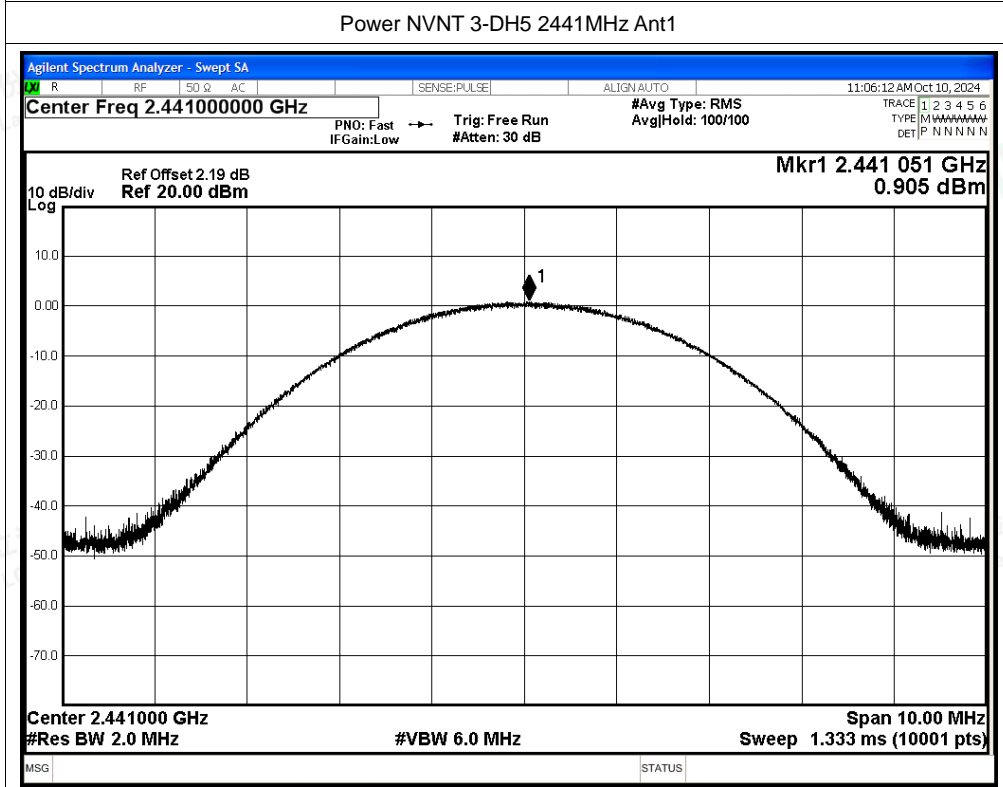
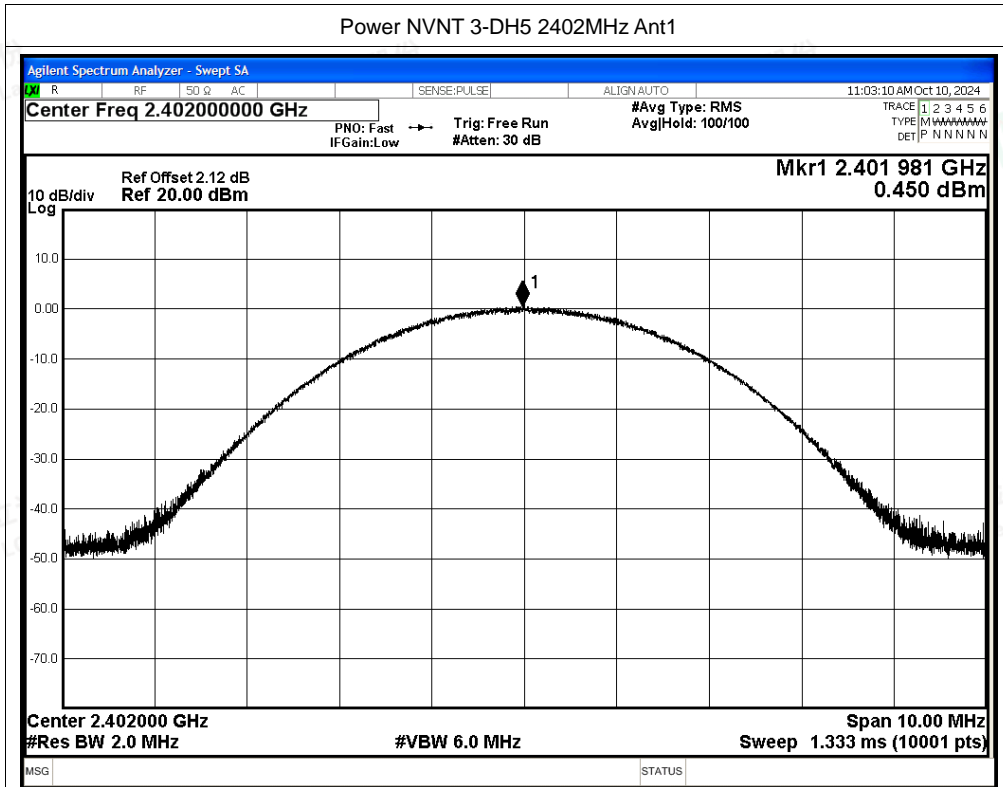
Power NVNT 1-DH5 2480MHz Ant1

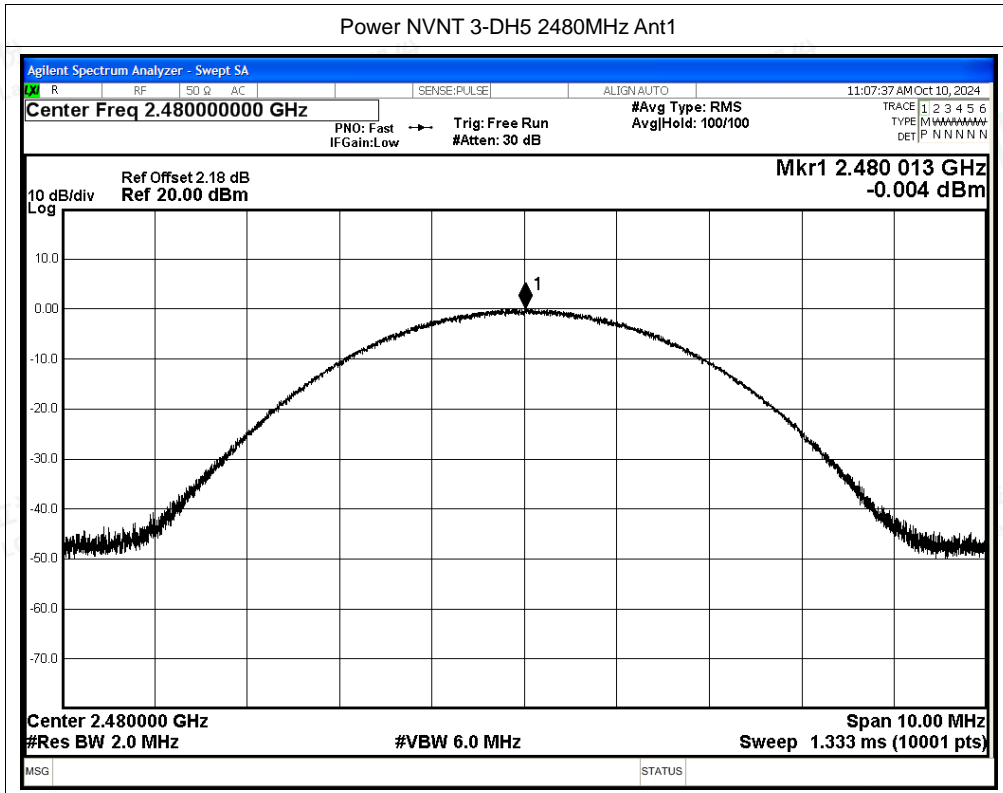


Power NVNT 2-DH5 2402MHz Ant1











A.3 Carrier Frequencies Separation

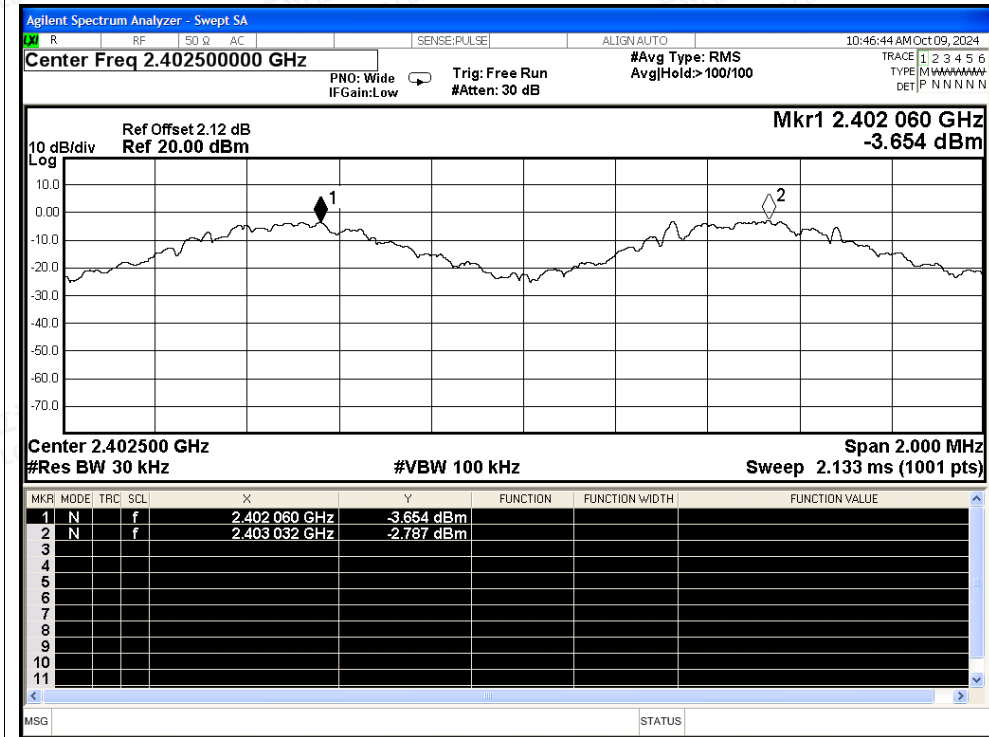
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.06	2403.032	0.972	0.633	Pass
NVNT	2-DH5	Ant1	2402.016	2403.178	1.162	0.869	Pass
NVNT	3-DH5	Ant1	2402.036	2402.992	0.956	0.873	Pass



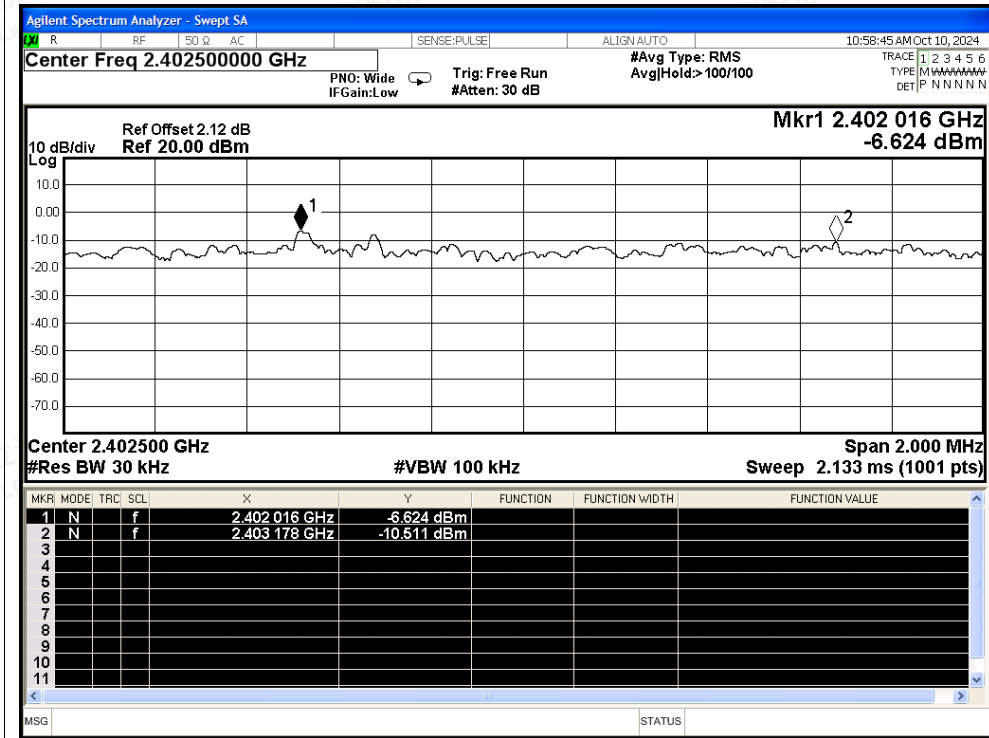


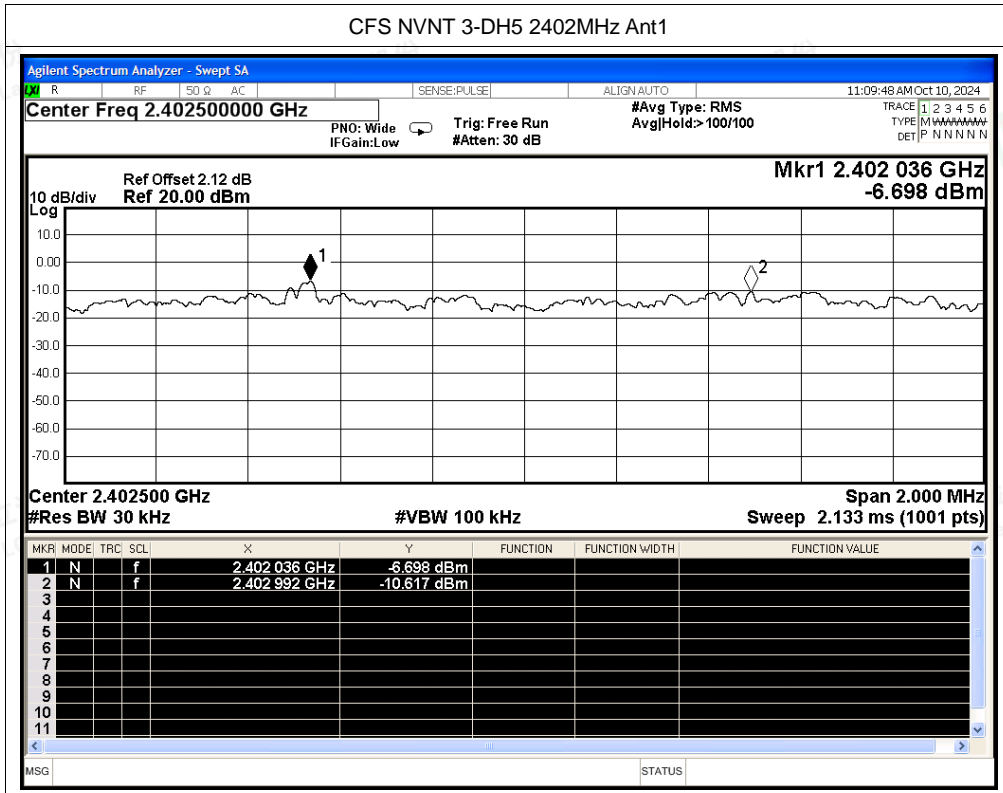
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1







A.4 Dwell Time

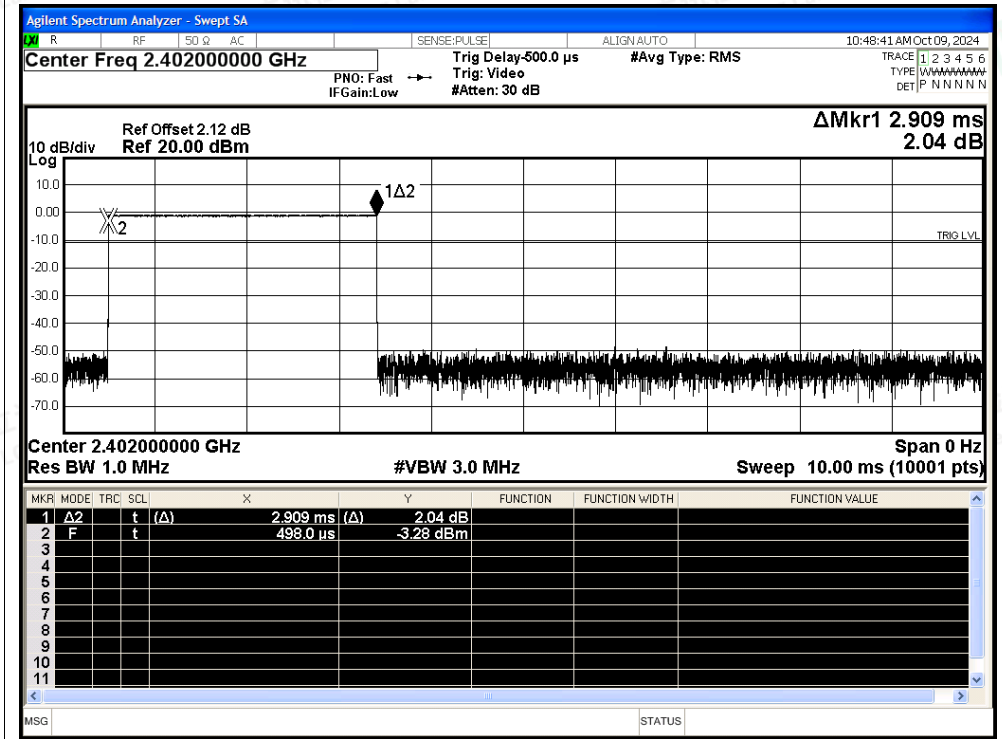
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.909	267.628	92	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	333.385	115	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.898	307.188	106	31600	400	Pass



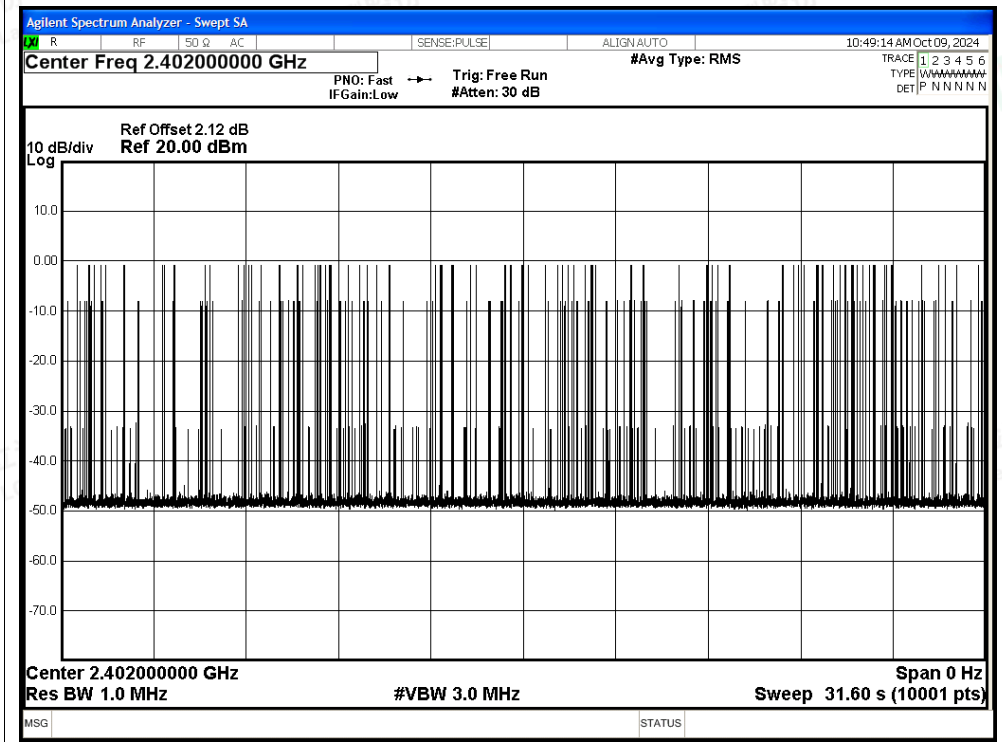


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

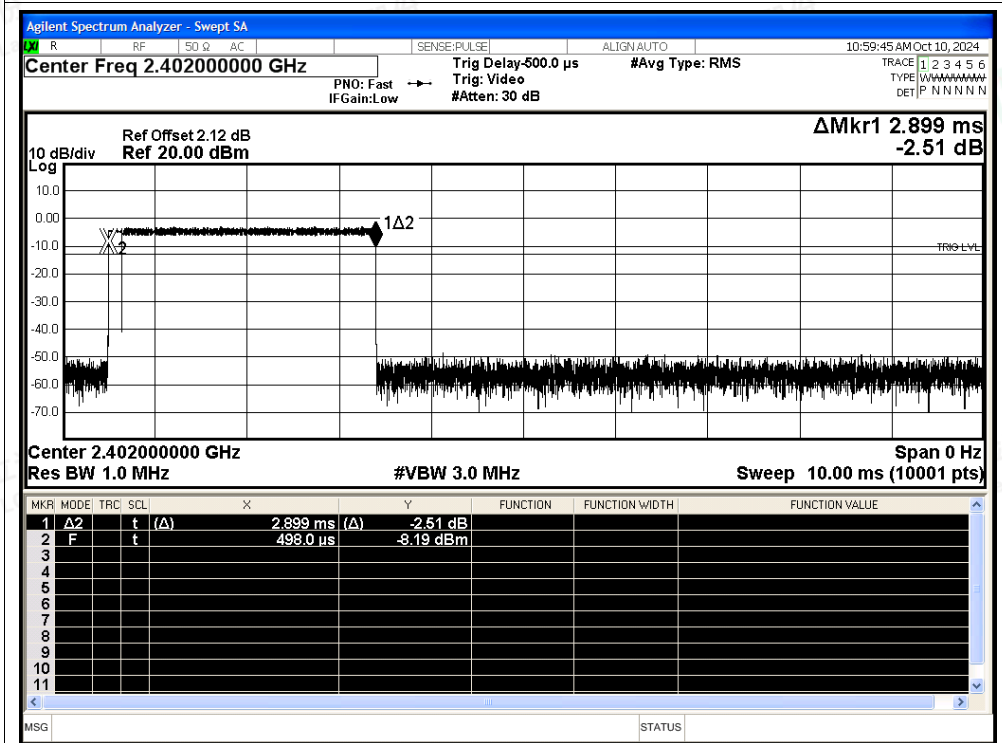


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

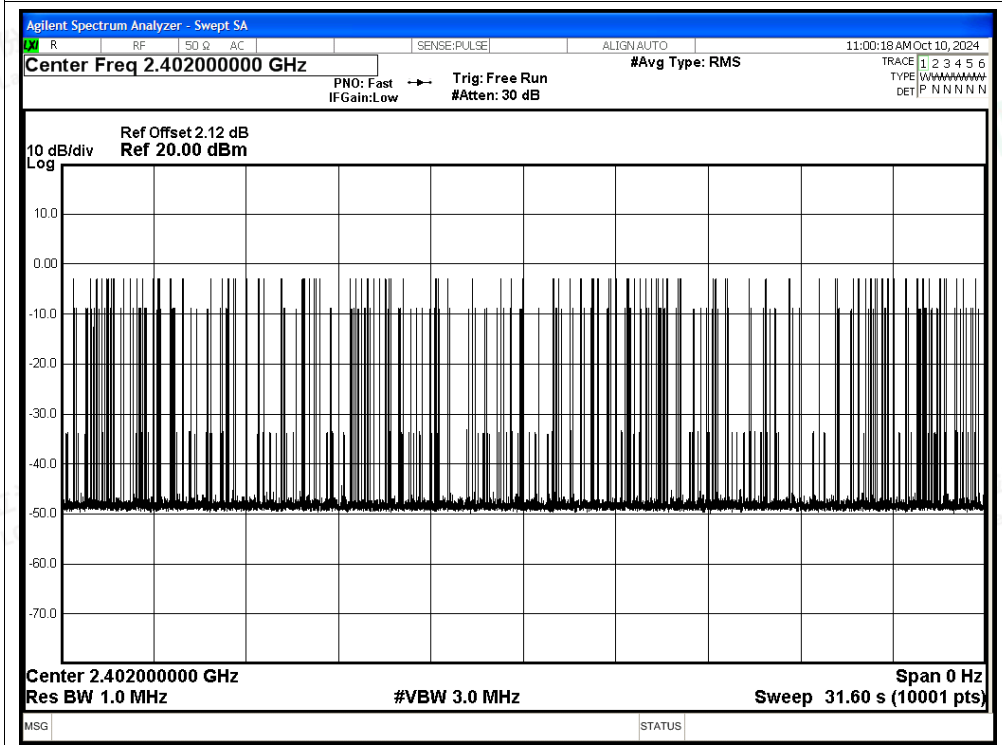




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

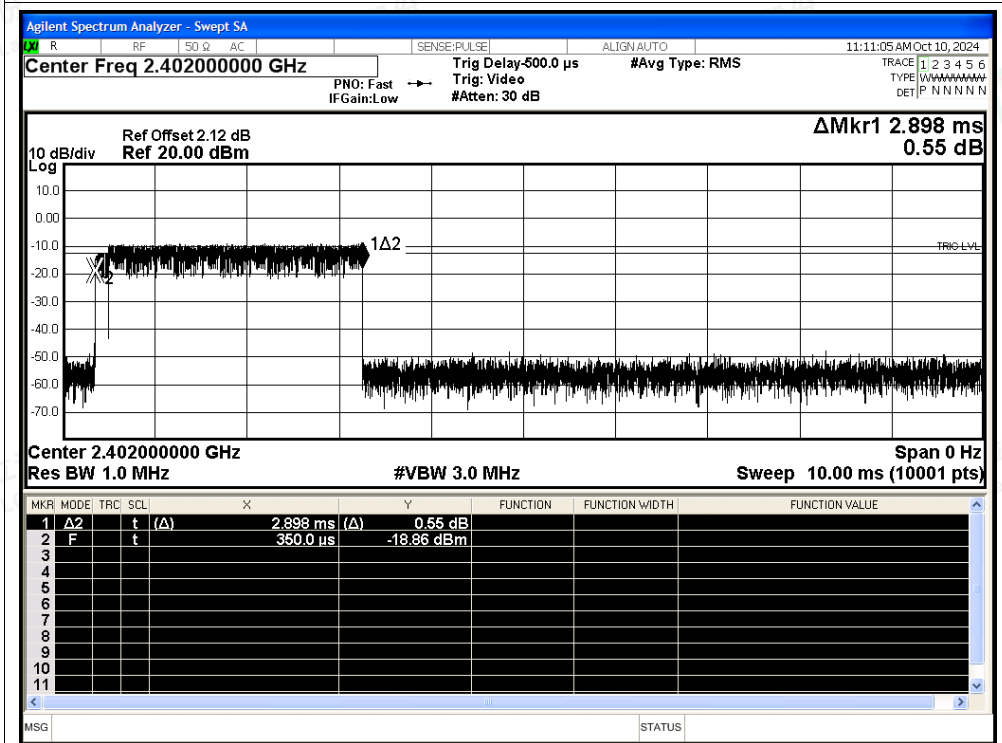


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

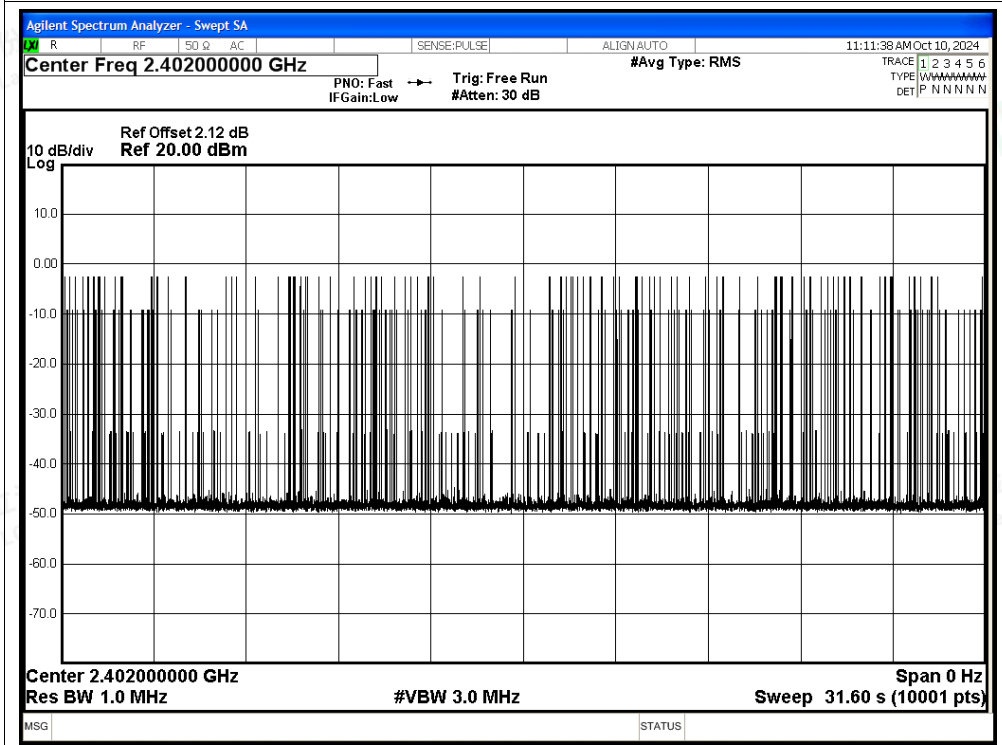




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

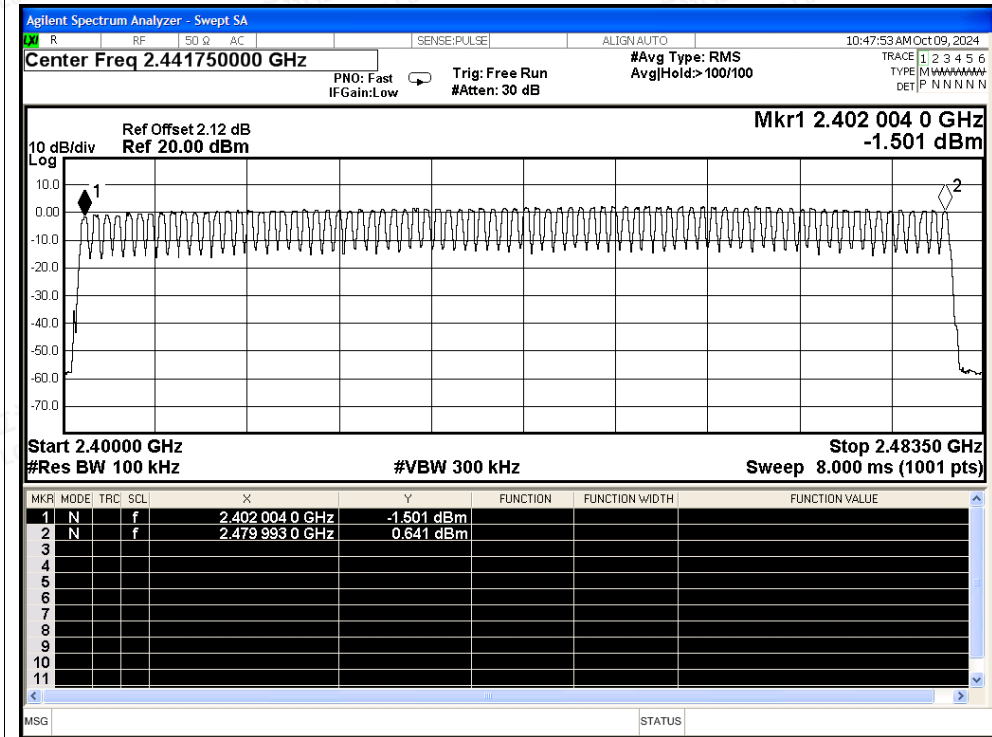
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



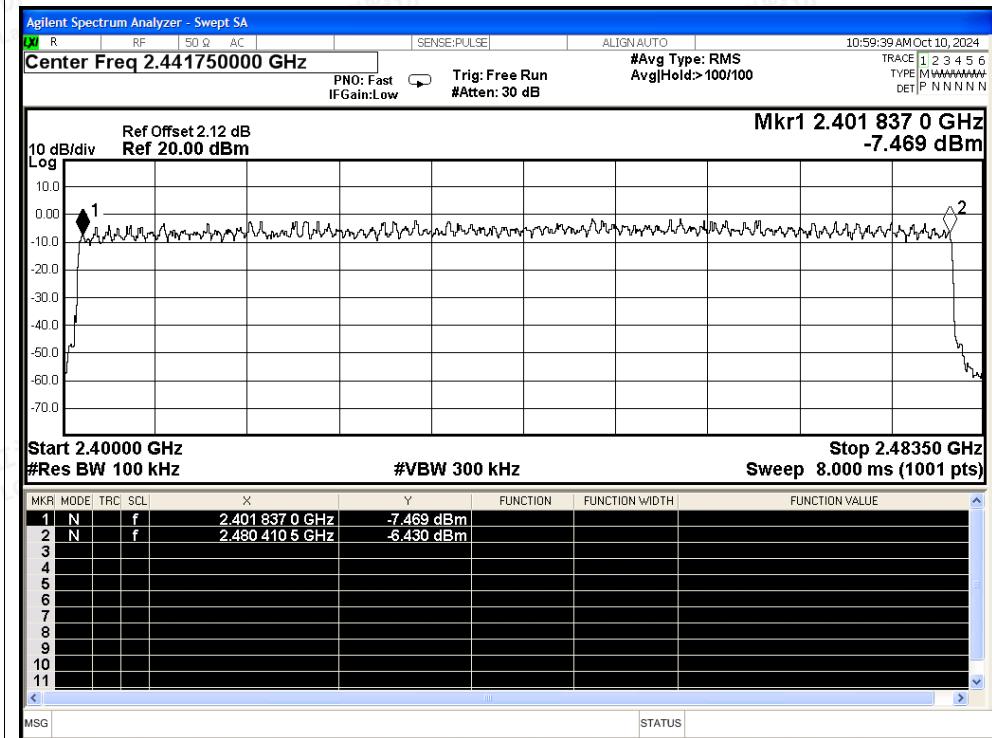


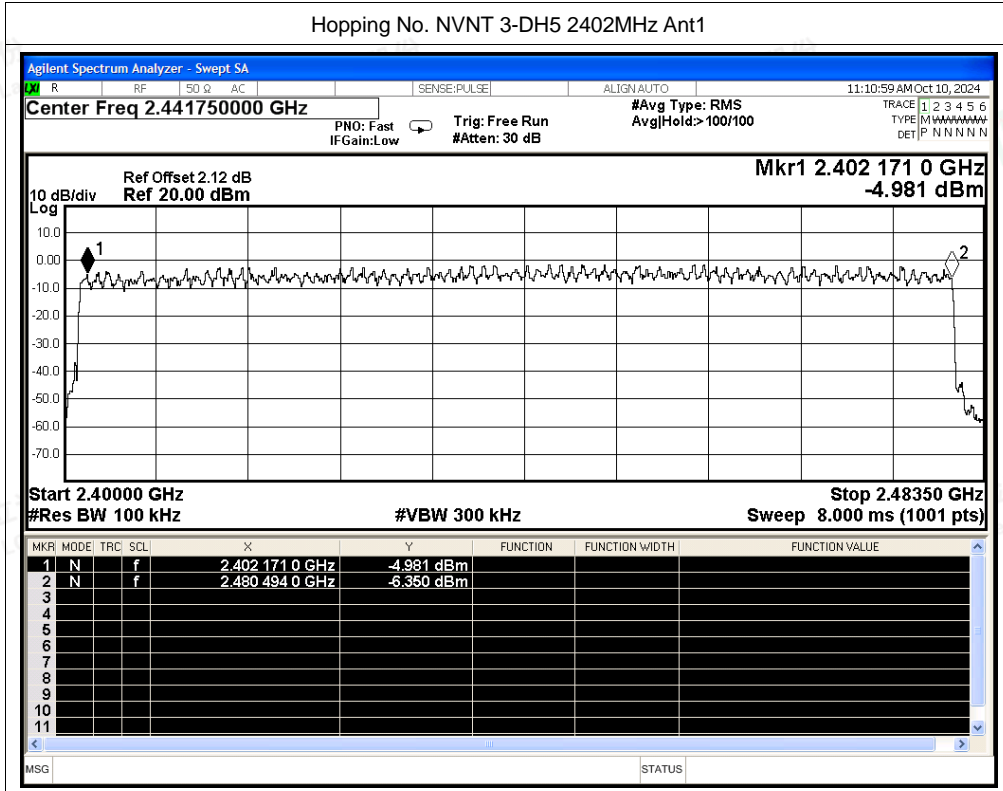
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1







A.6 Band Edge

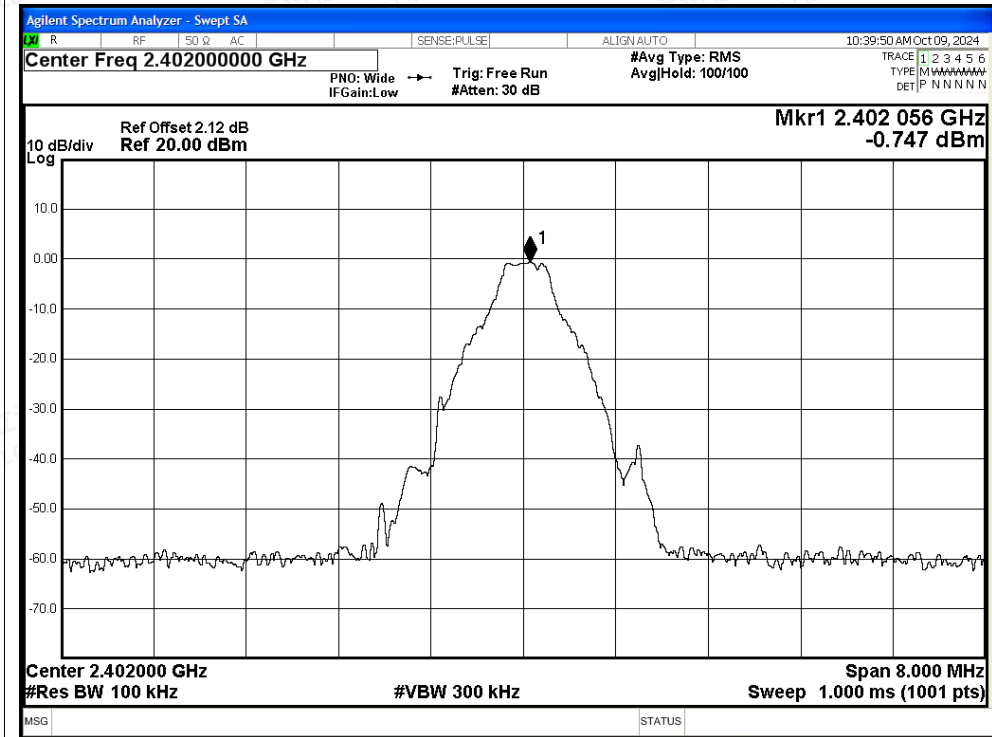
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.15	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.93	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.55	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.87	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.54	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.82	-20	Pass



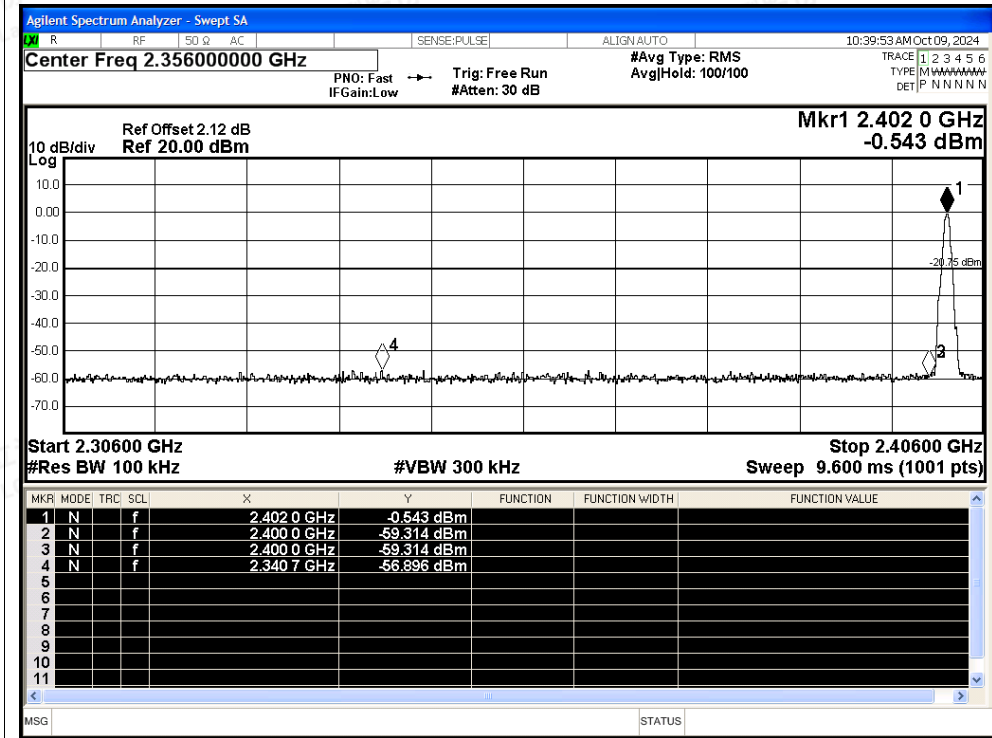


Test Graphs

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

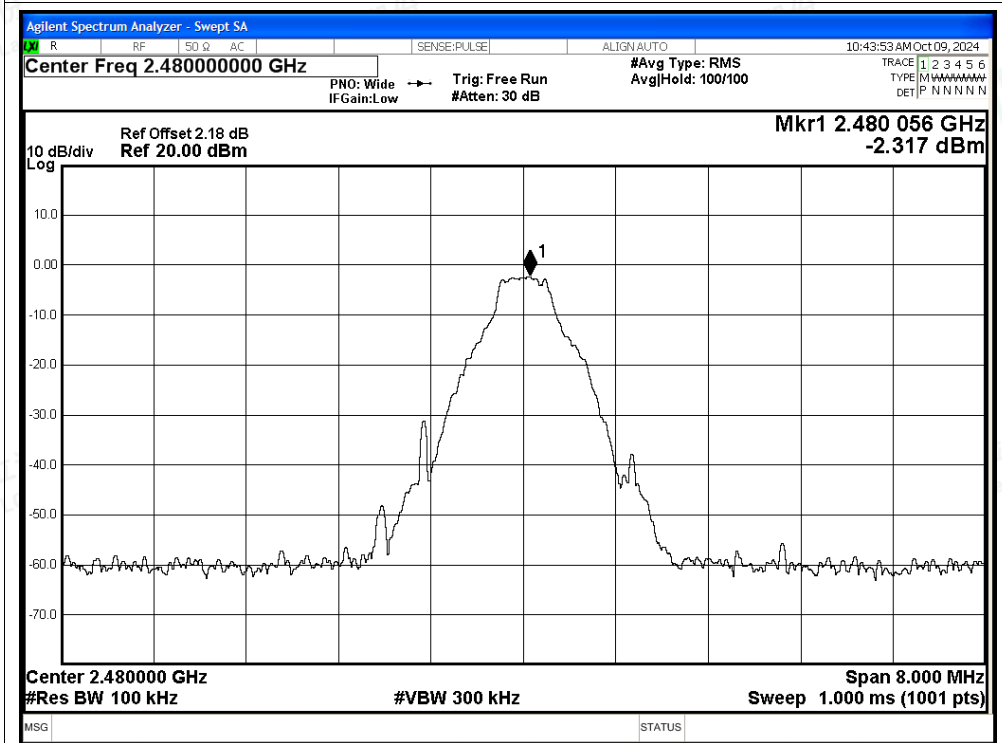


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

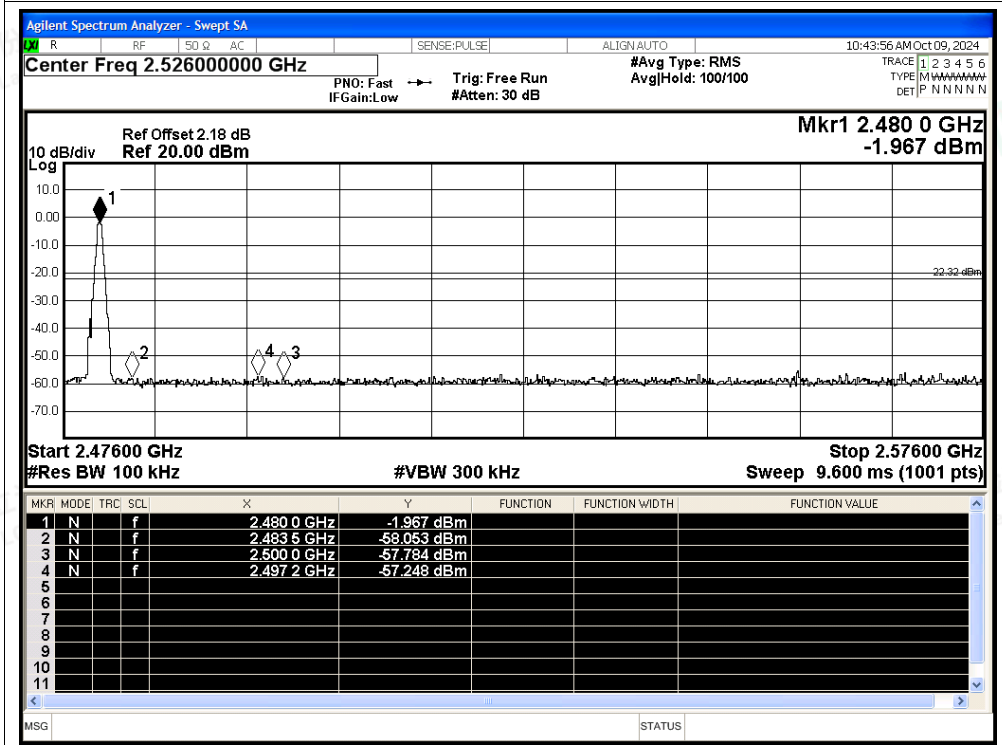




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

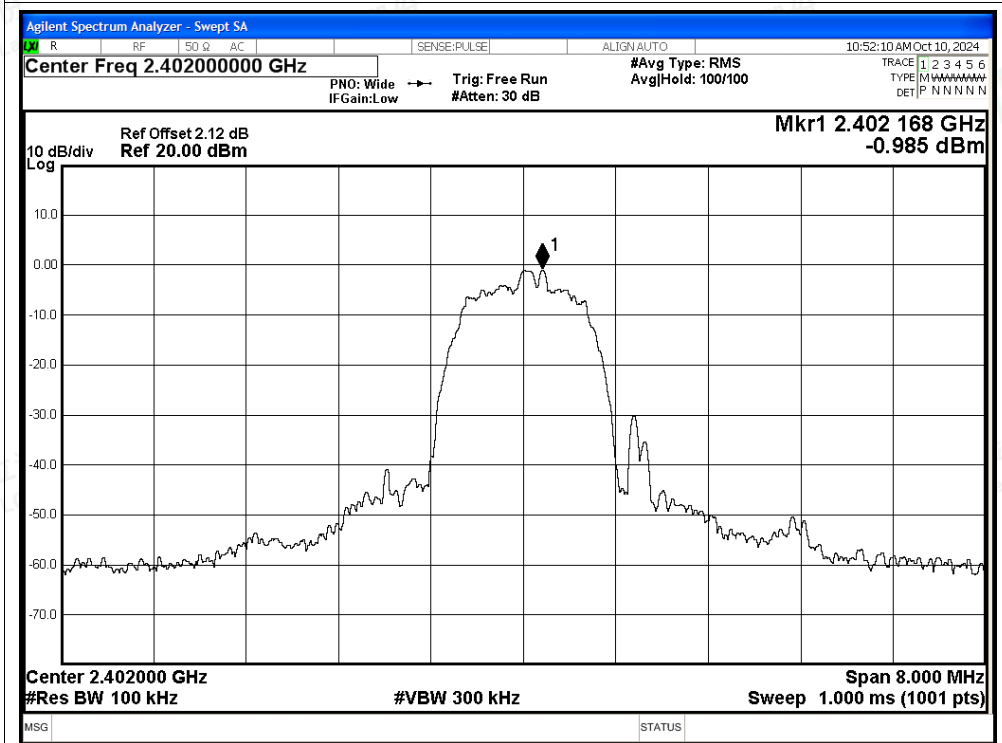


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

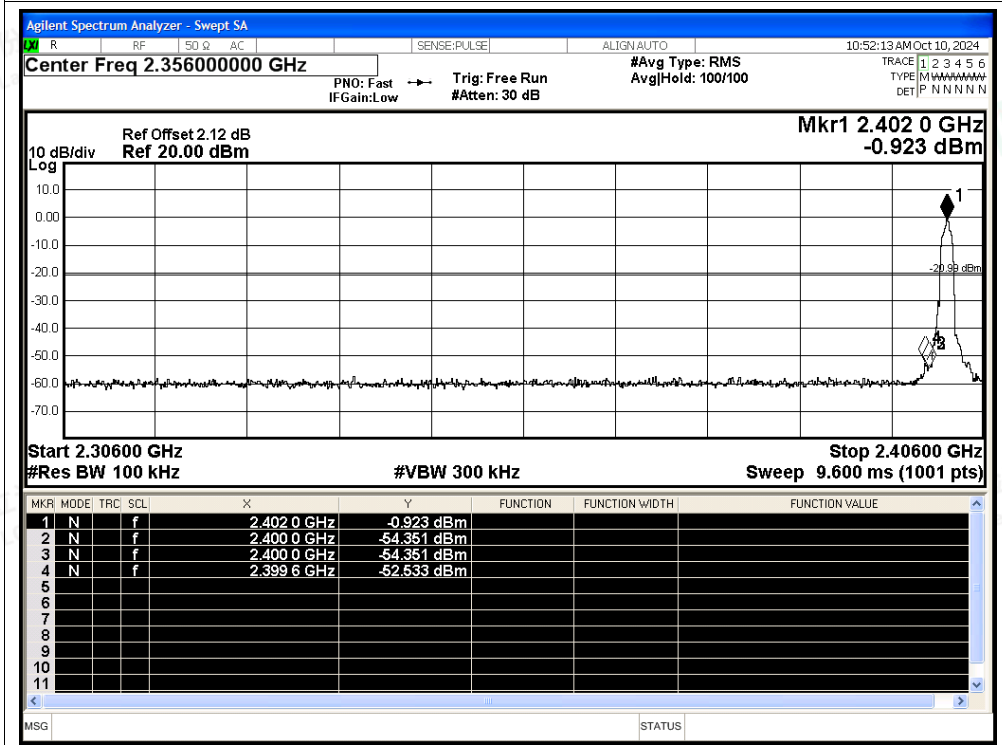




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

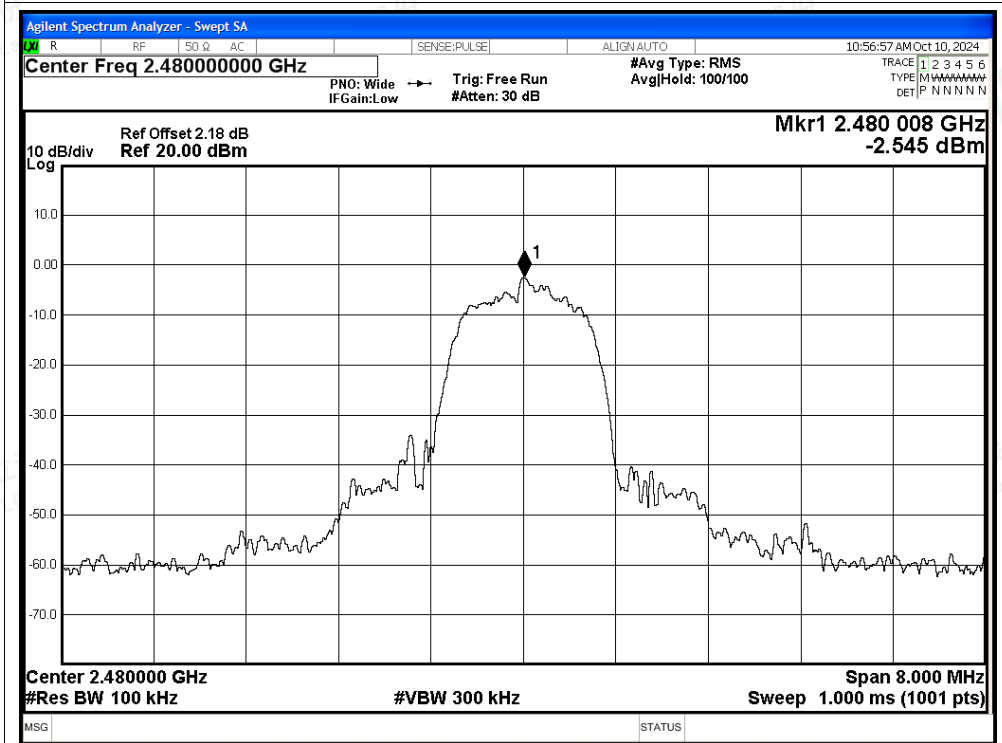


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

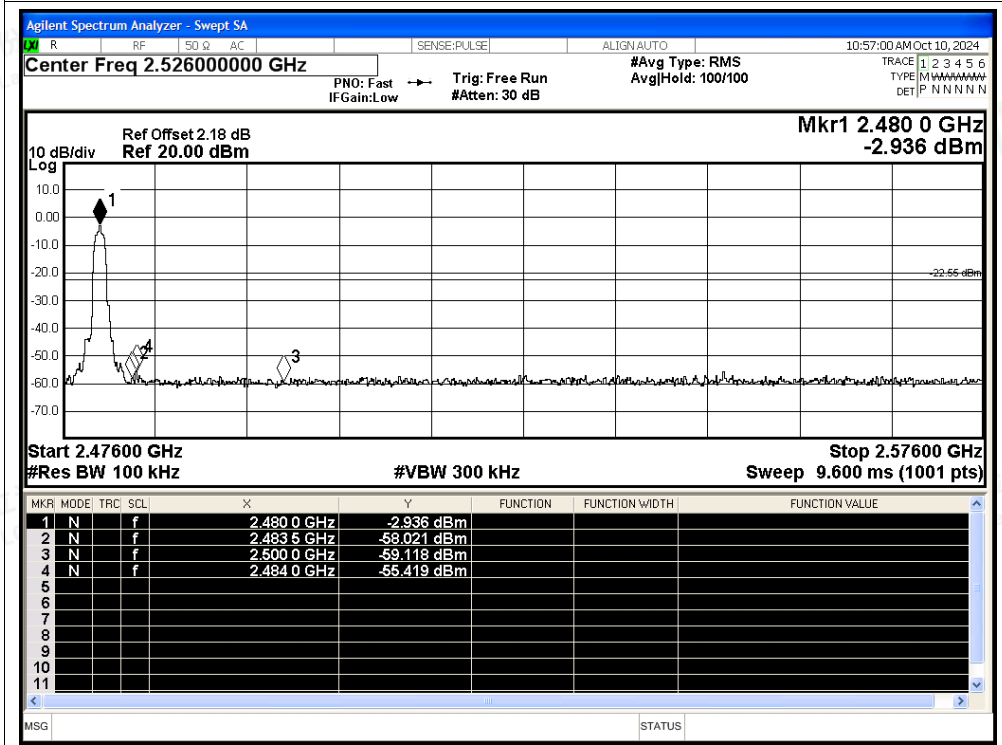




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

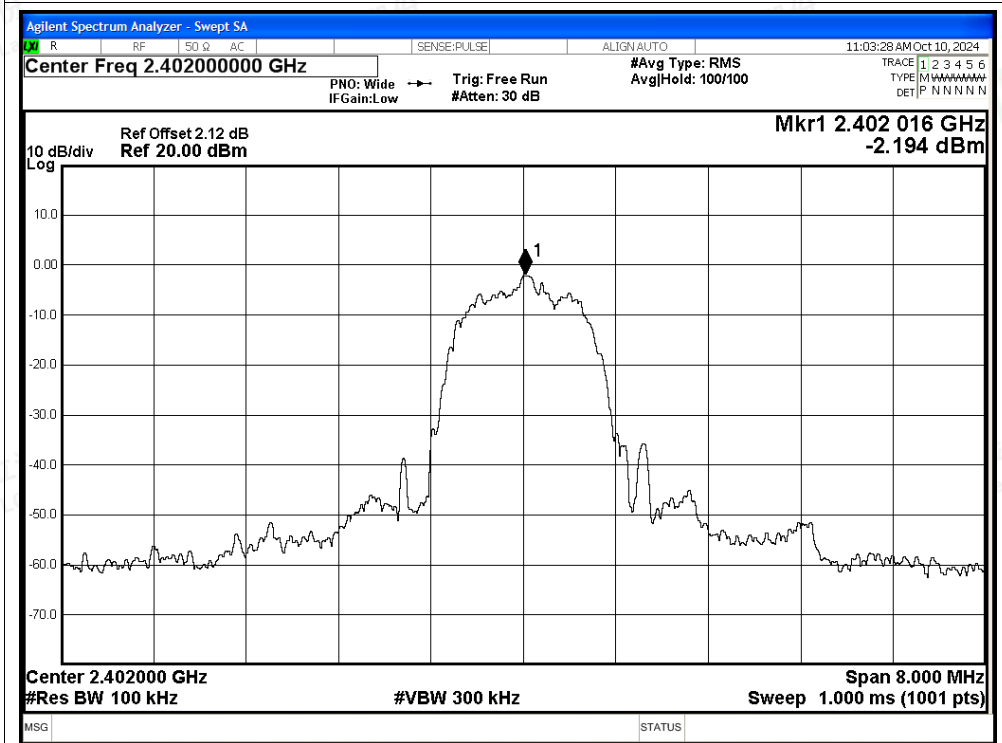


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

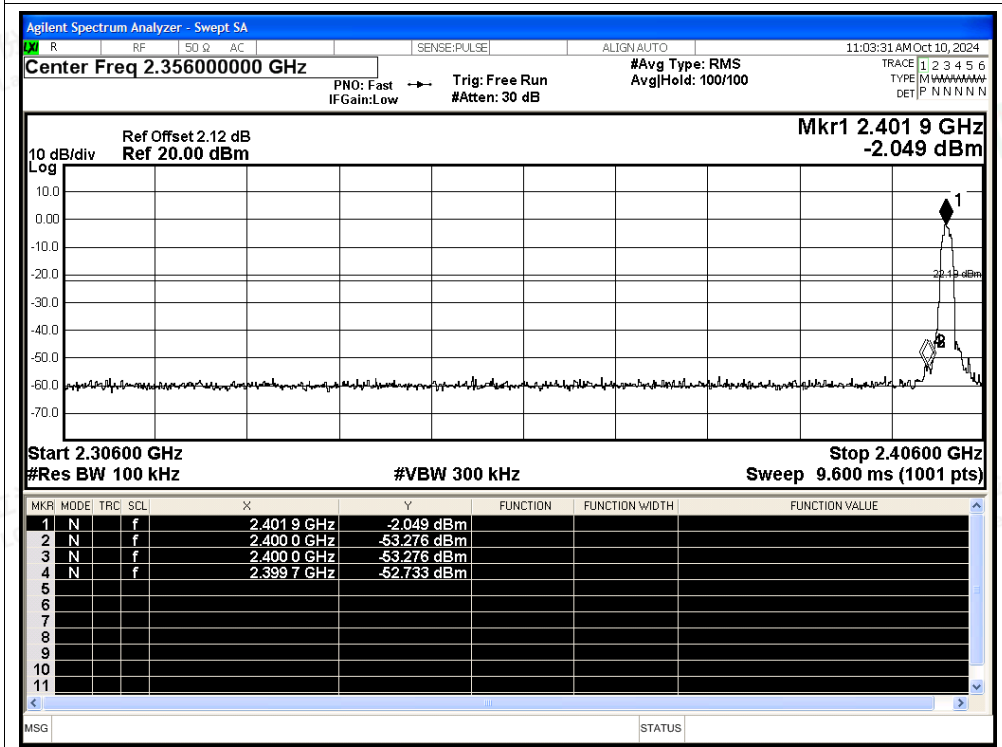




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

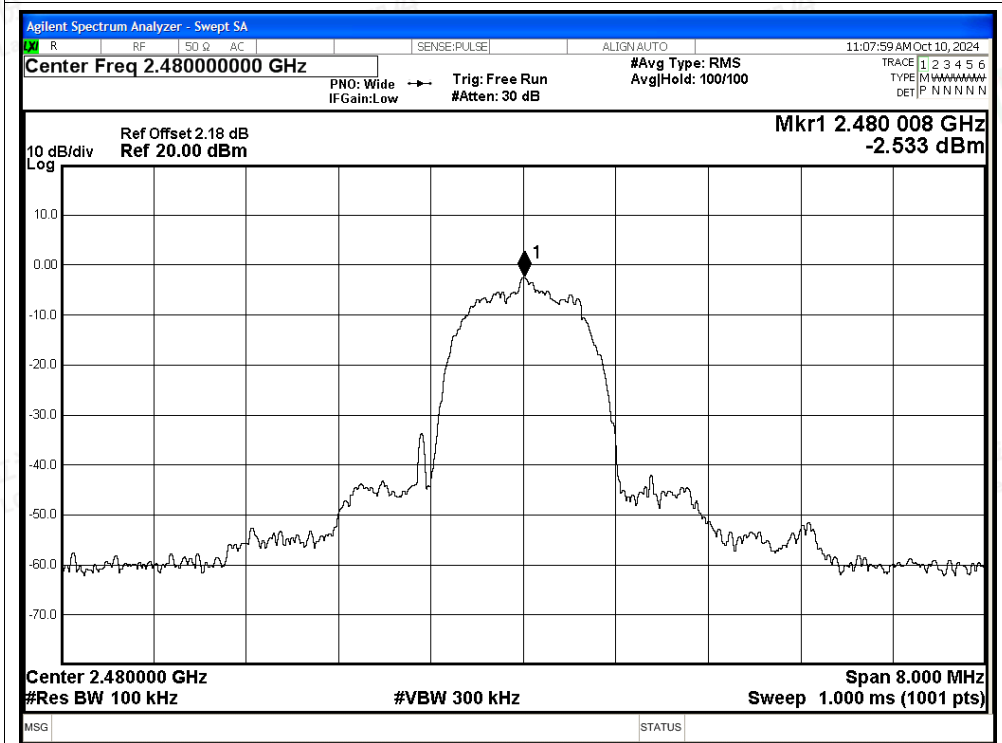


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

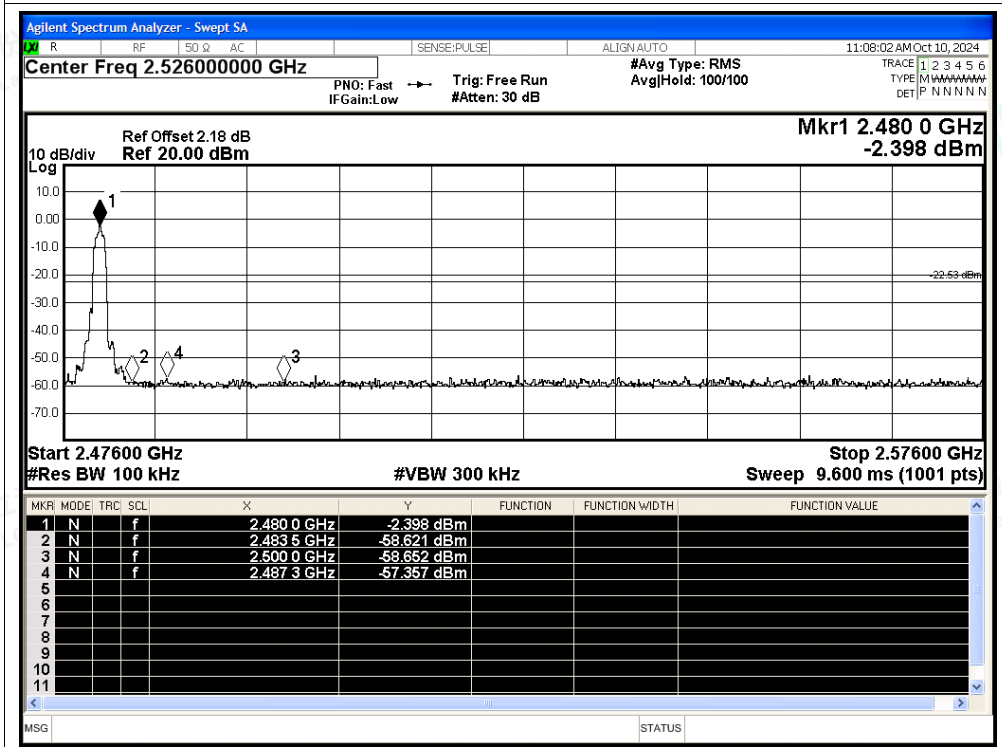




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

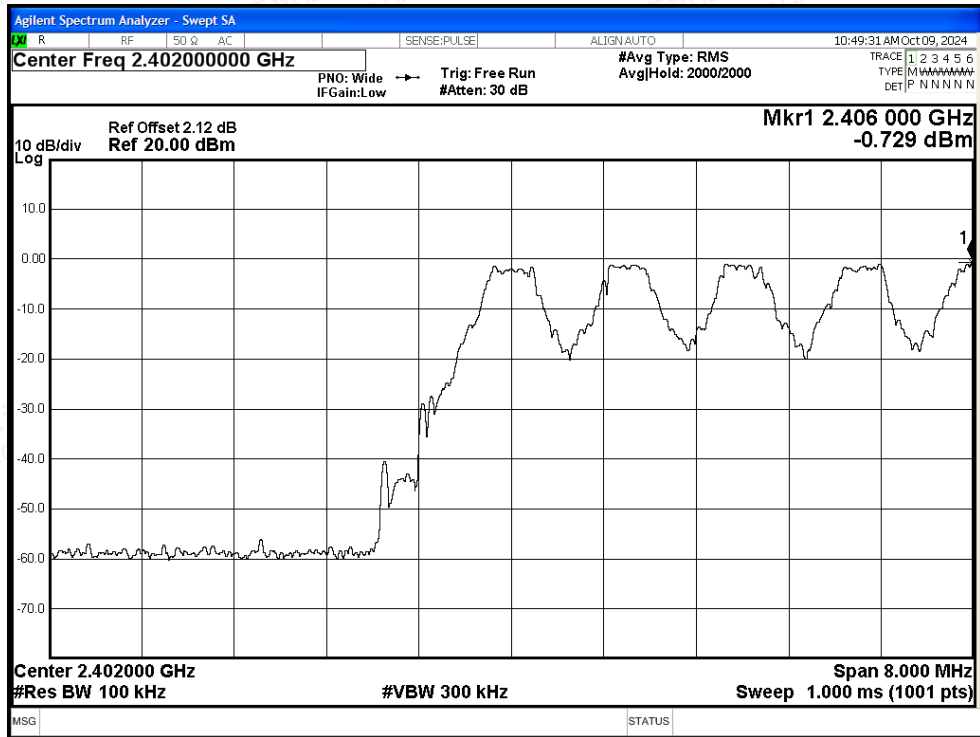
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.05	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.46	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-51.21	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.86	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-51.47	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-53.42	-20	Pass



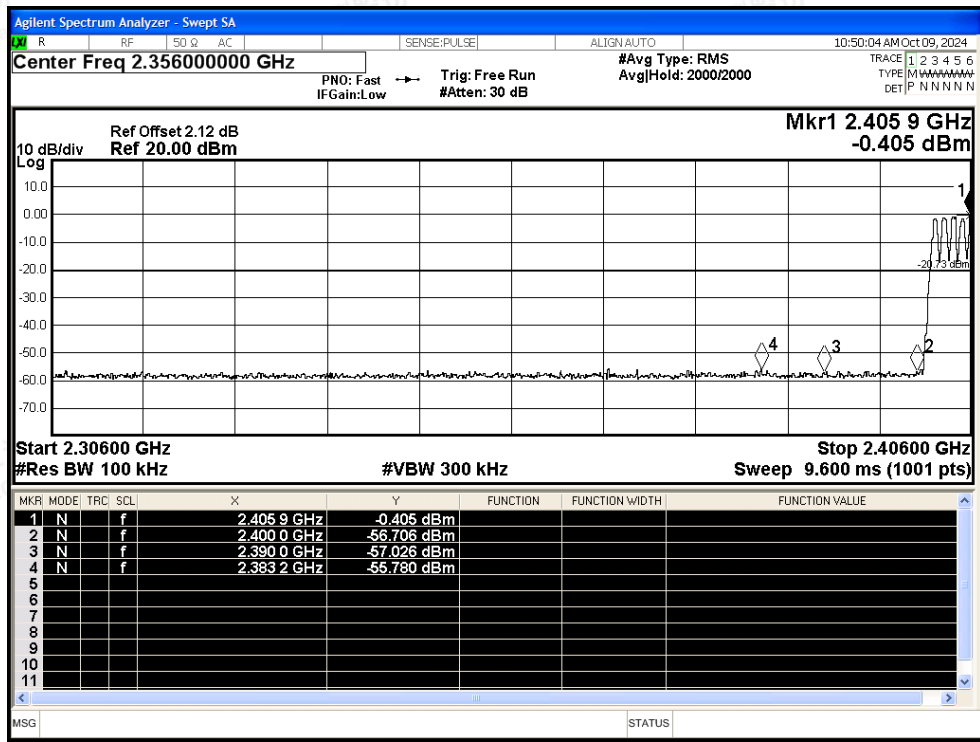


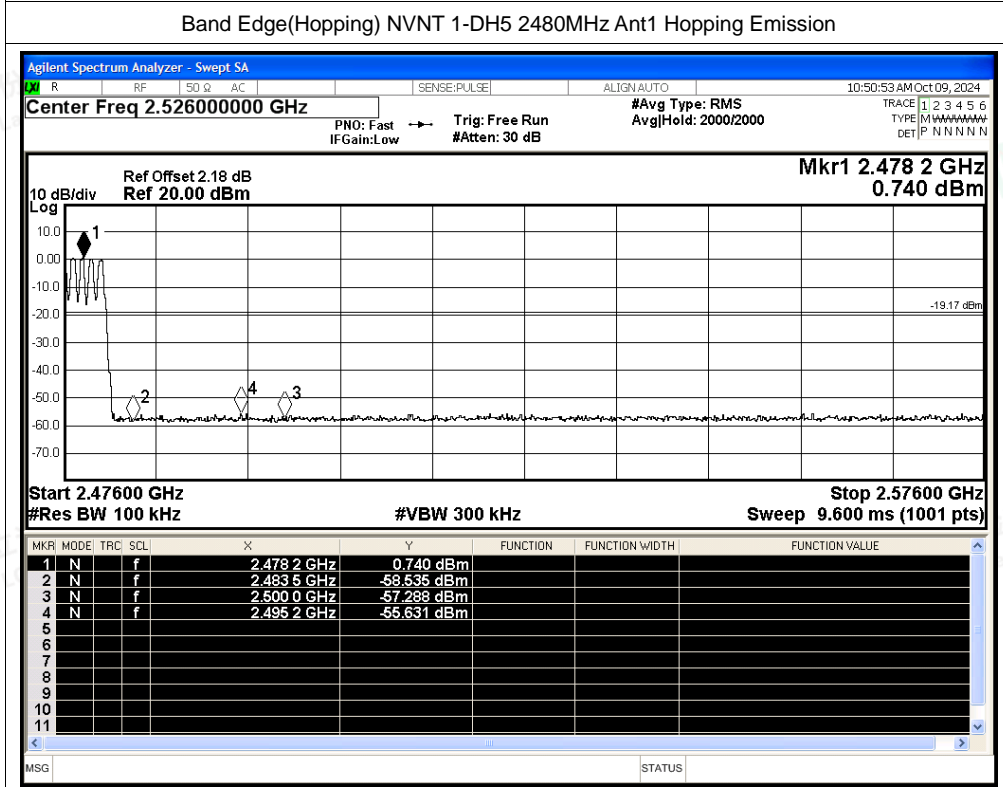
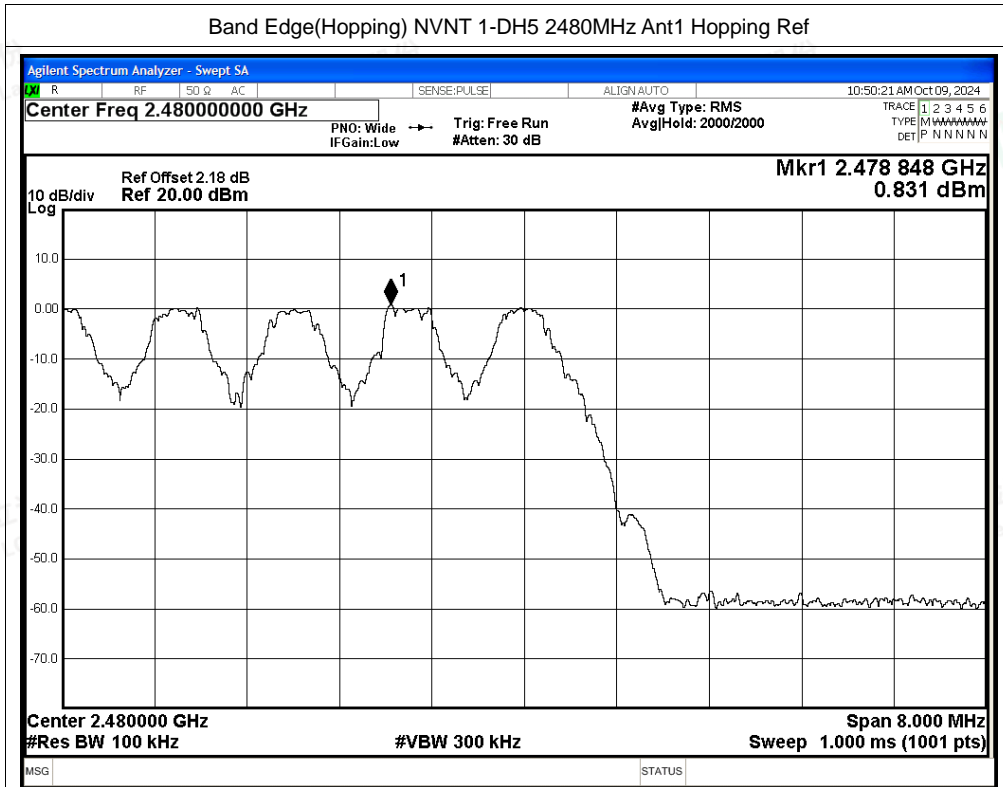
Test Graphs

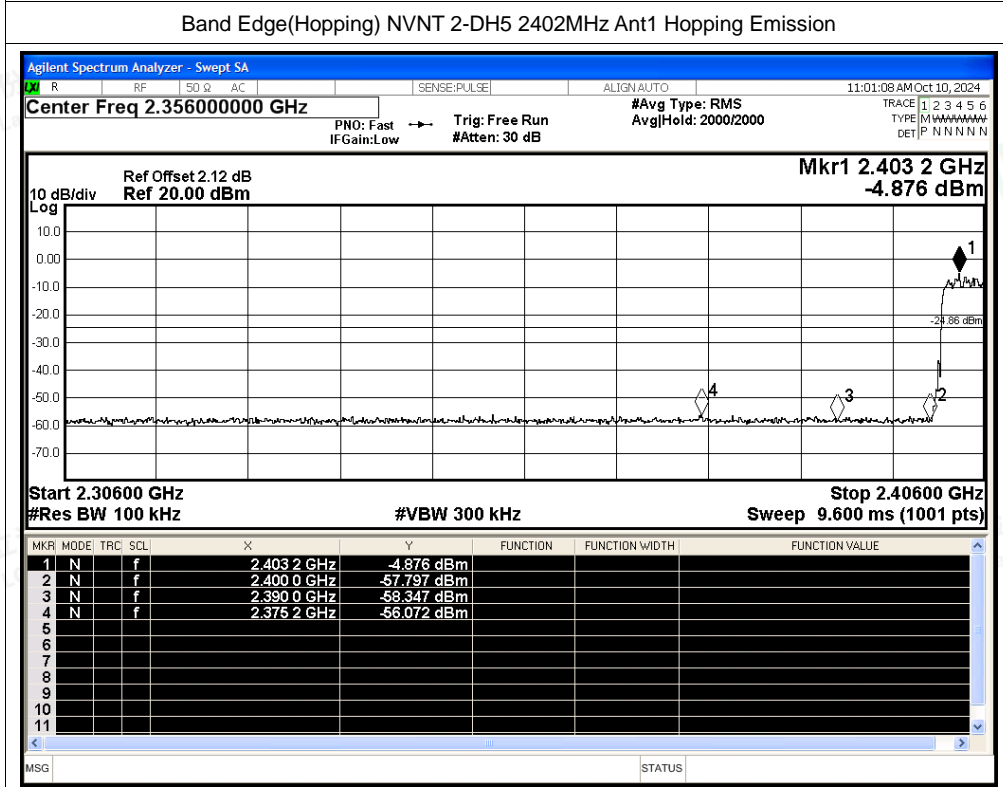
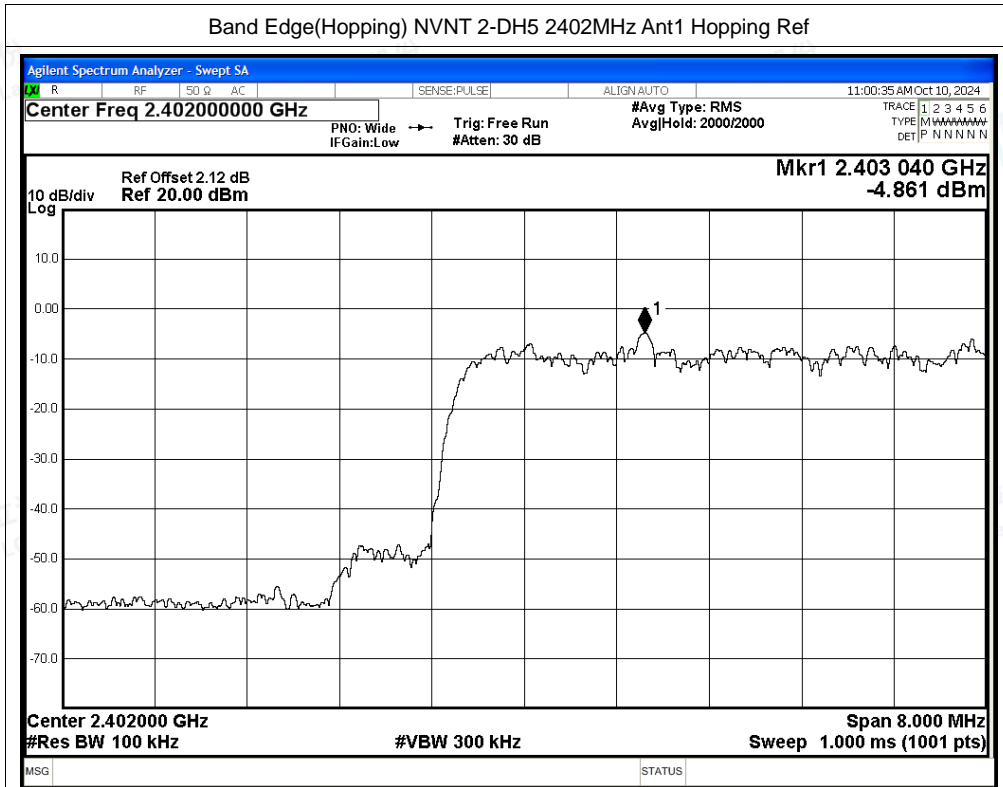
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

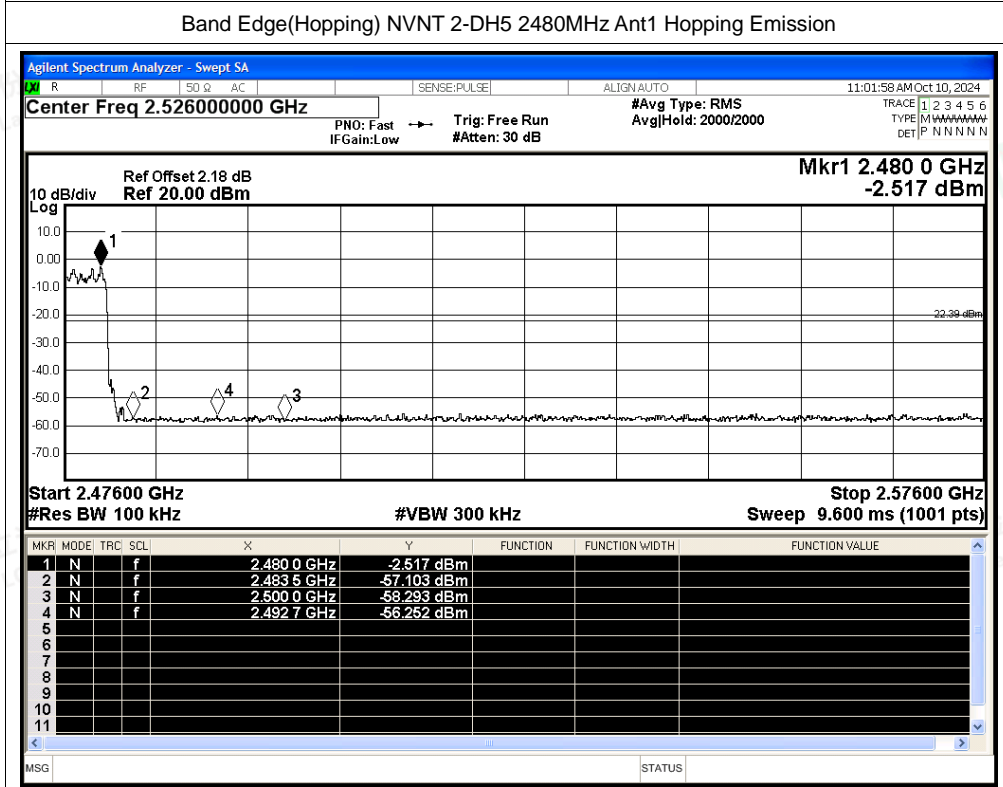
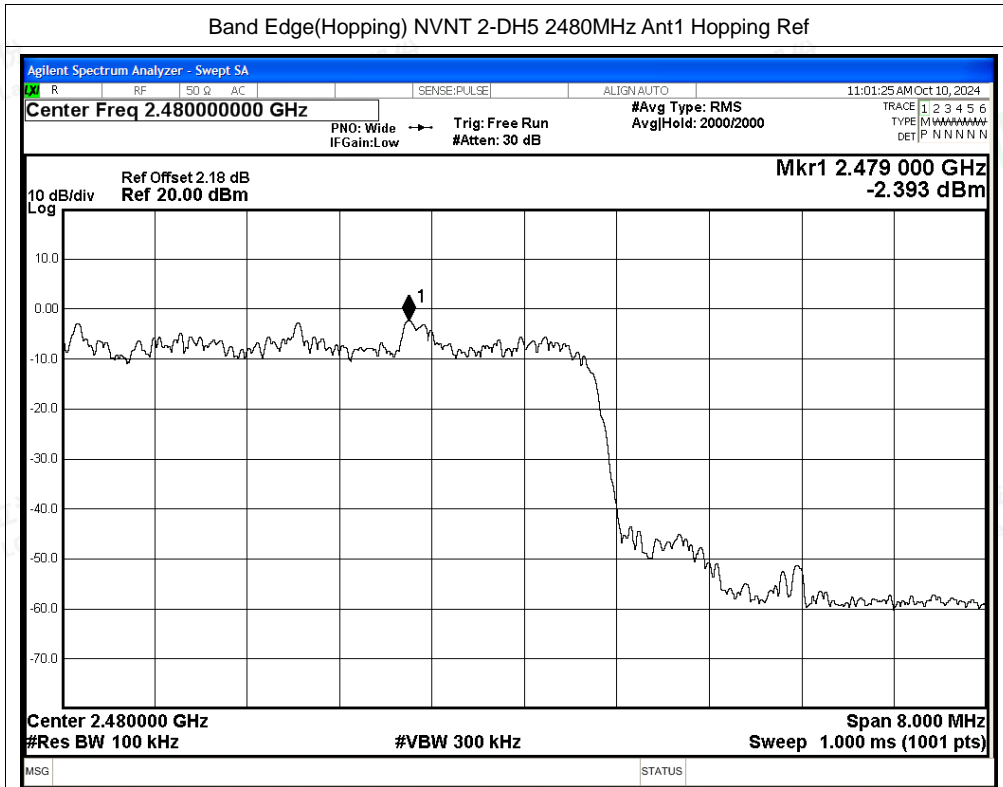


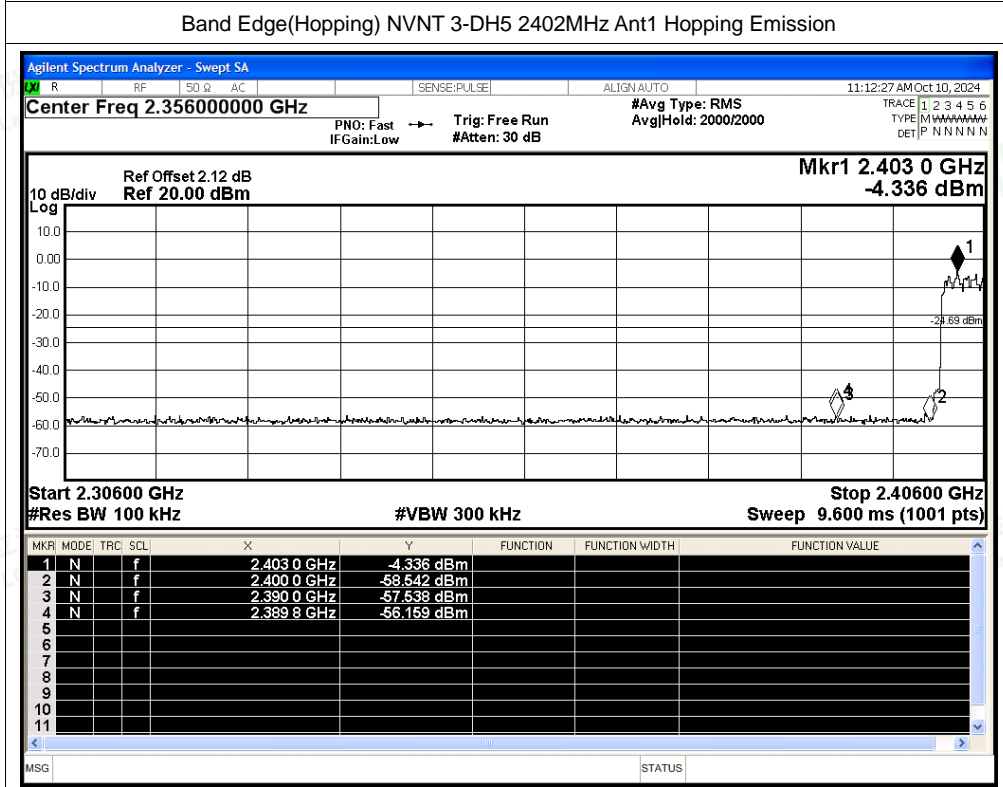
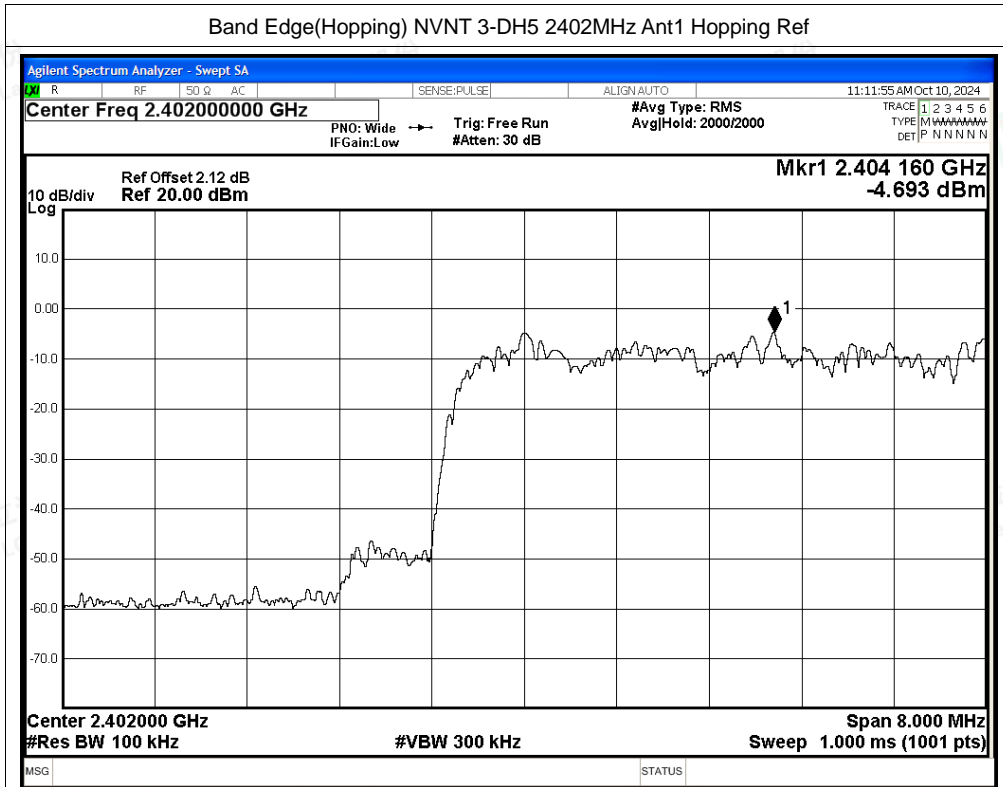
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

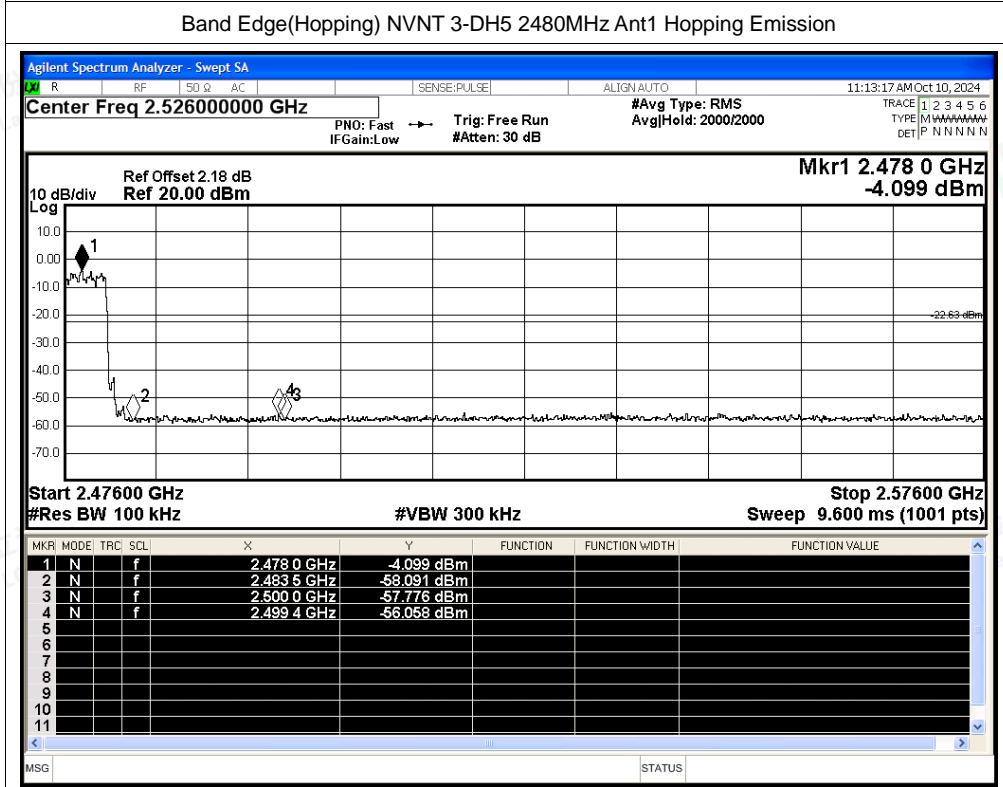
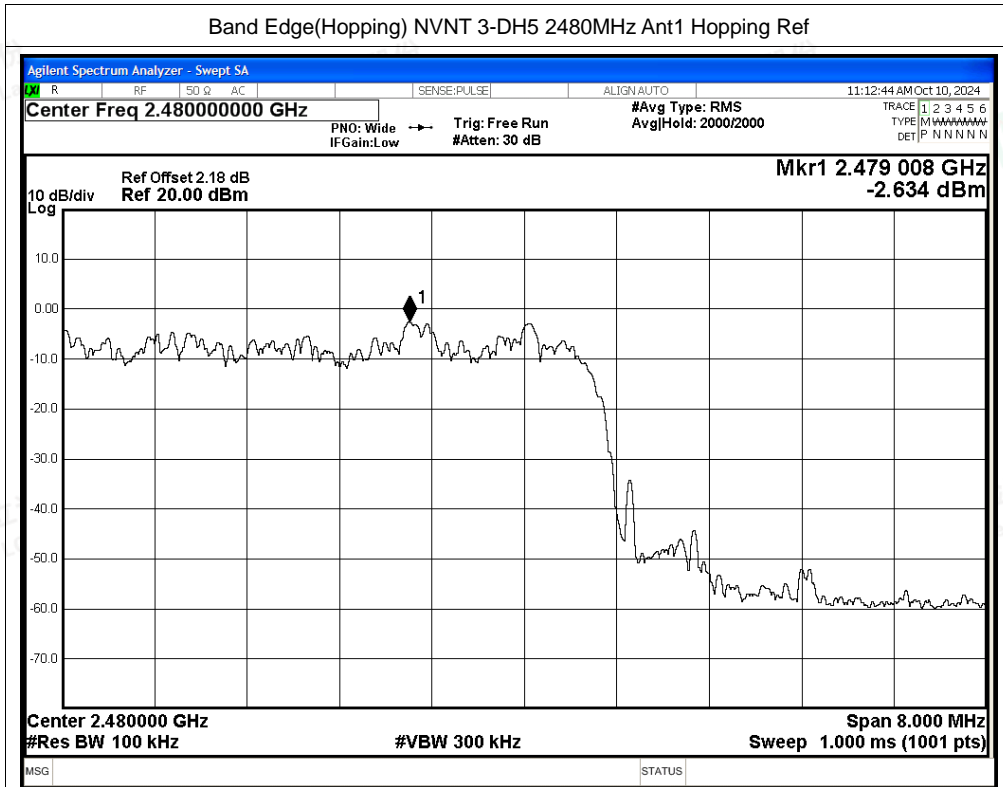














A.7 Conducted RF Spurious Emission

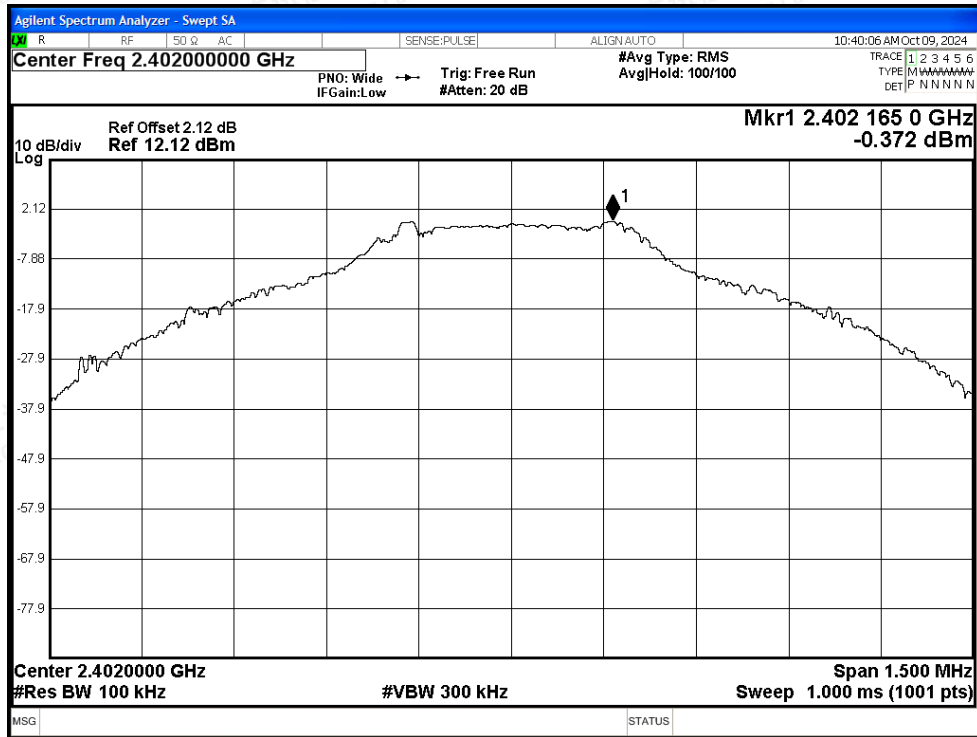
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.32	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.8	-20	Pass
NVNT	1-DH5	2480	Ant1	-52.76	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.88	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.92	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.27	-20	Pass
NVNT	3-DH5	2402	Ant1	-51.09	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.77	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.86	-20	Pass



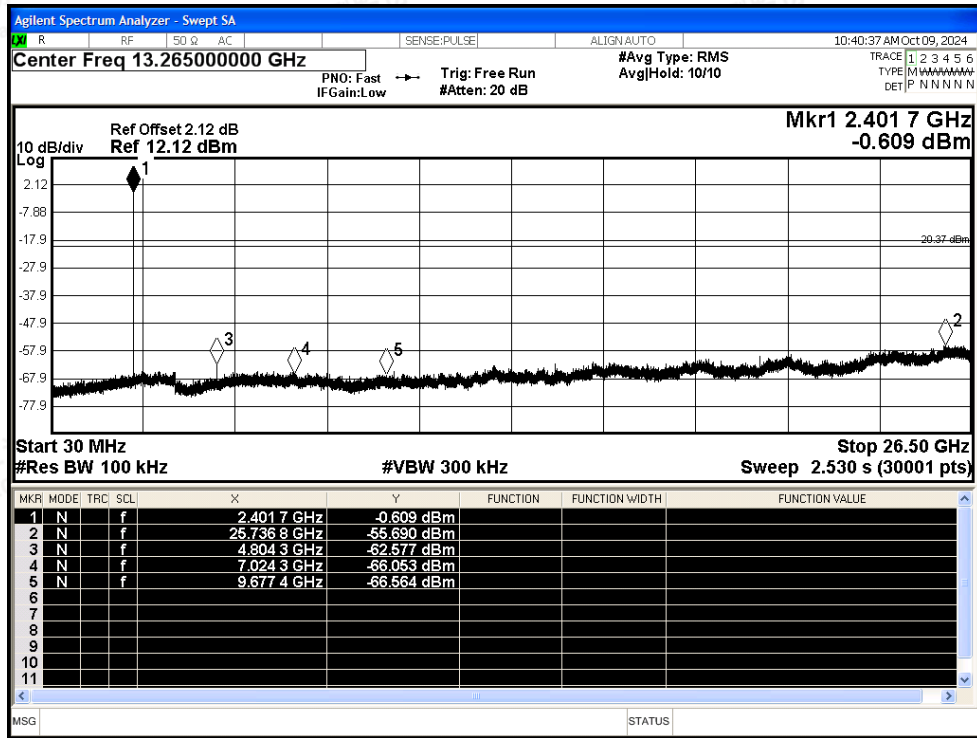


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

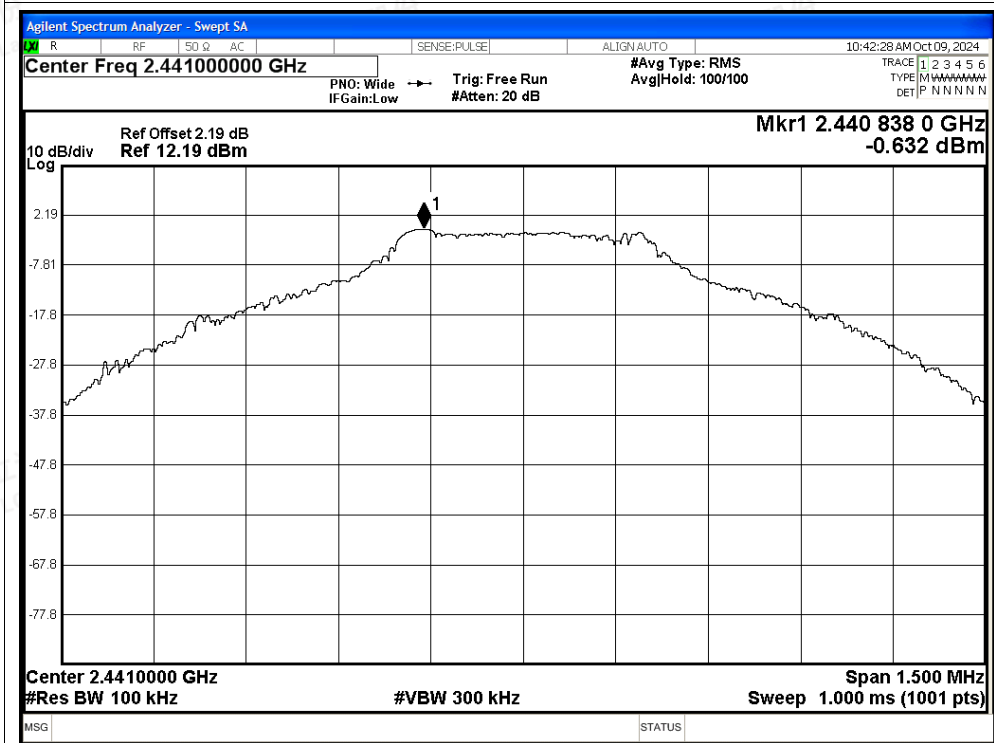


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

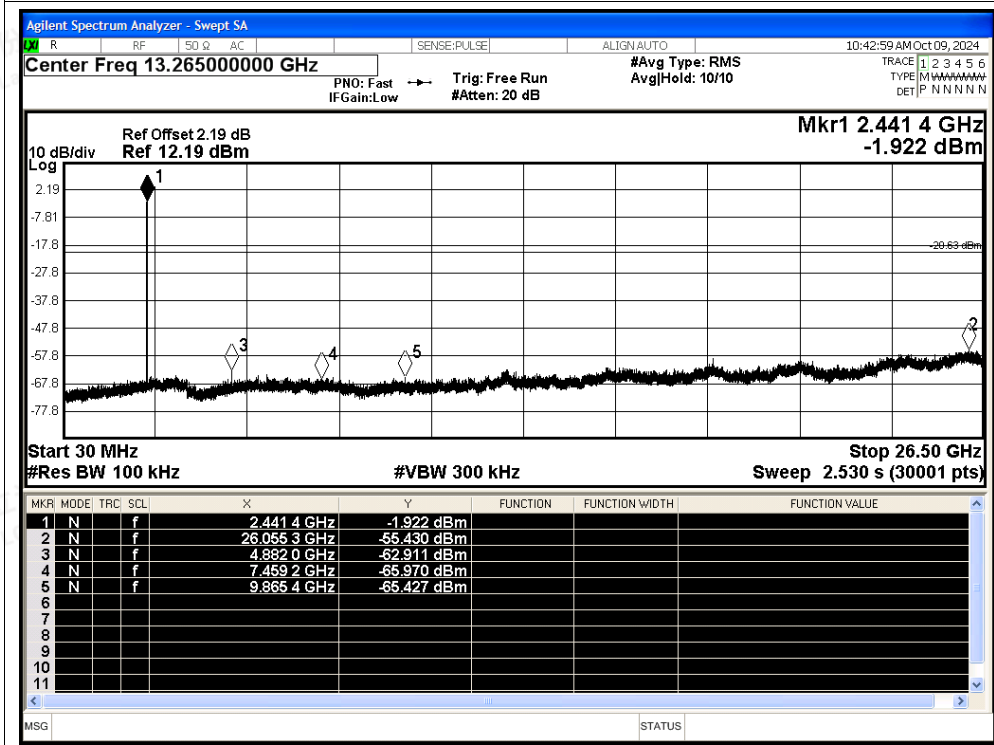




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

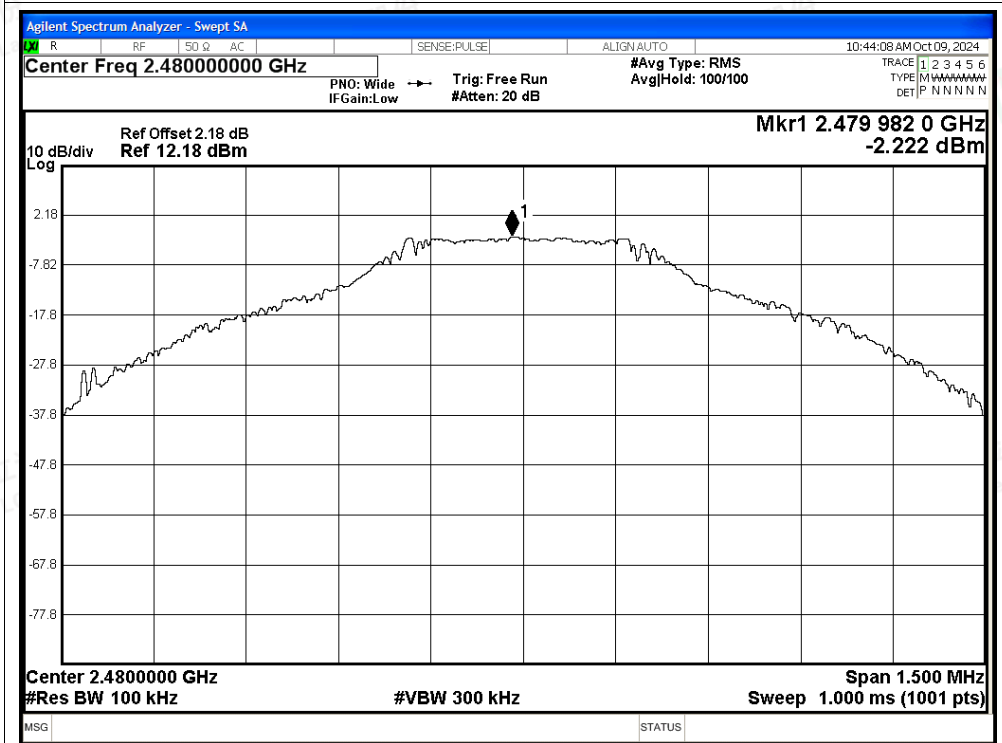


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

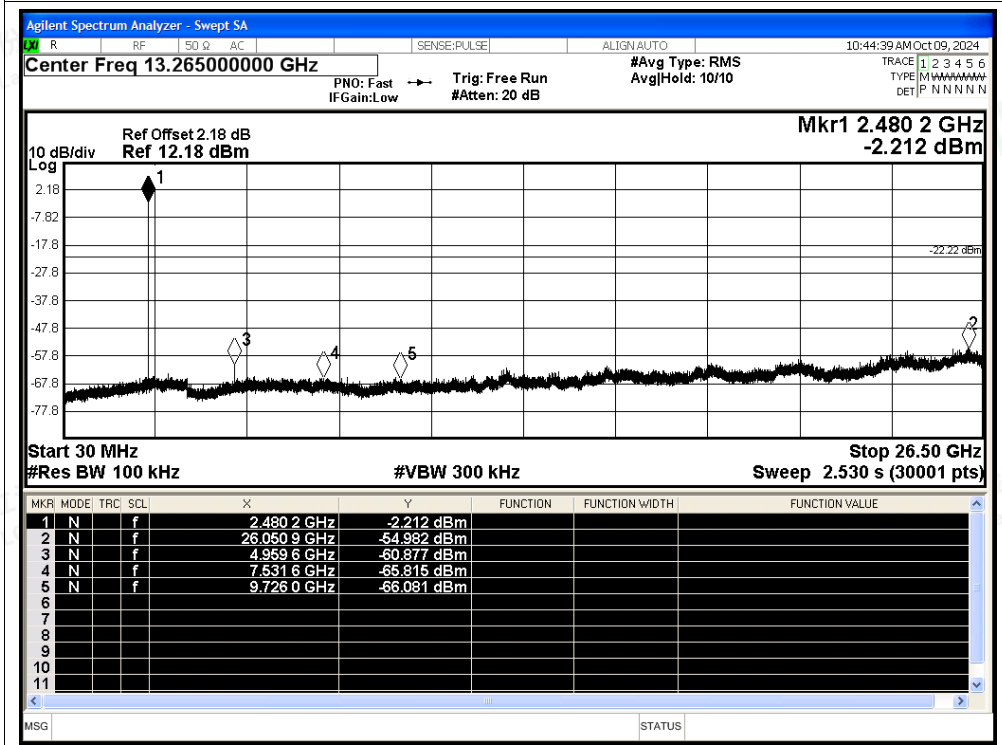




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

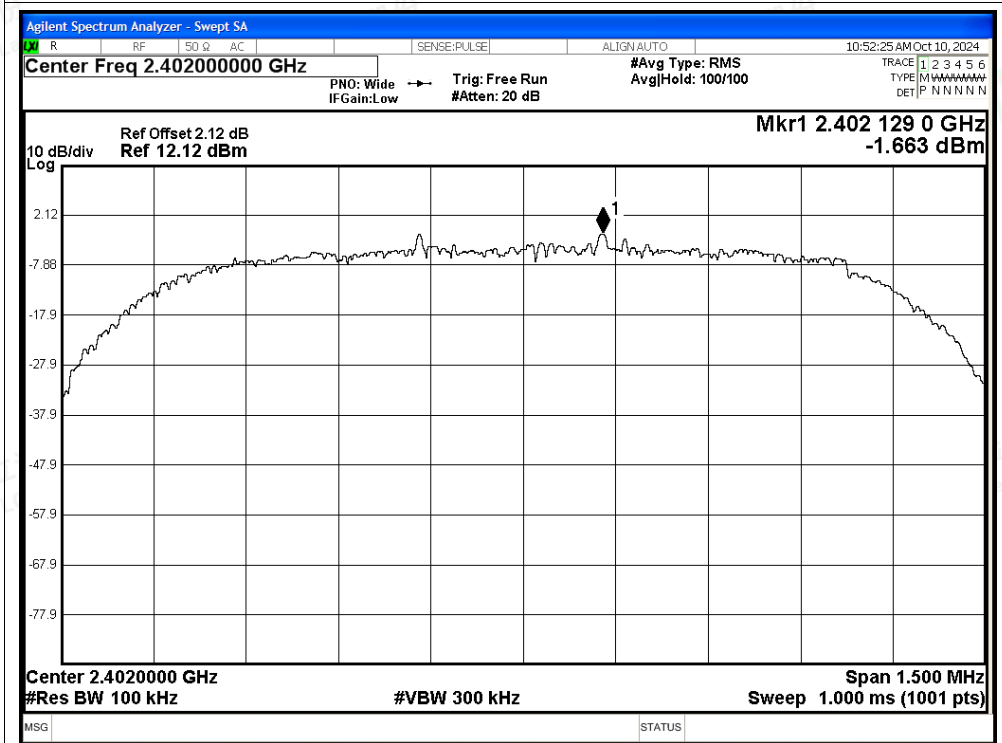


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

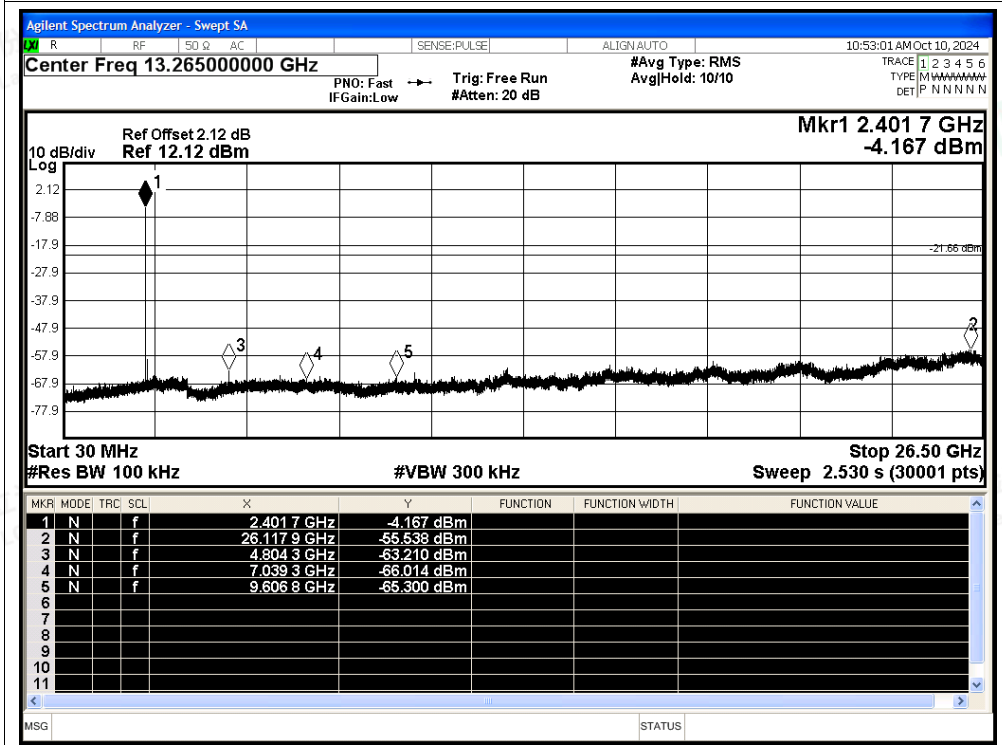




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

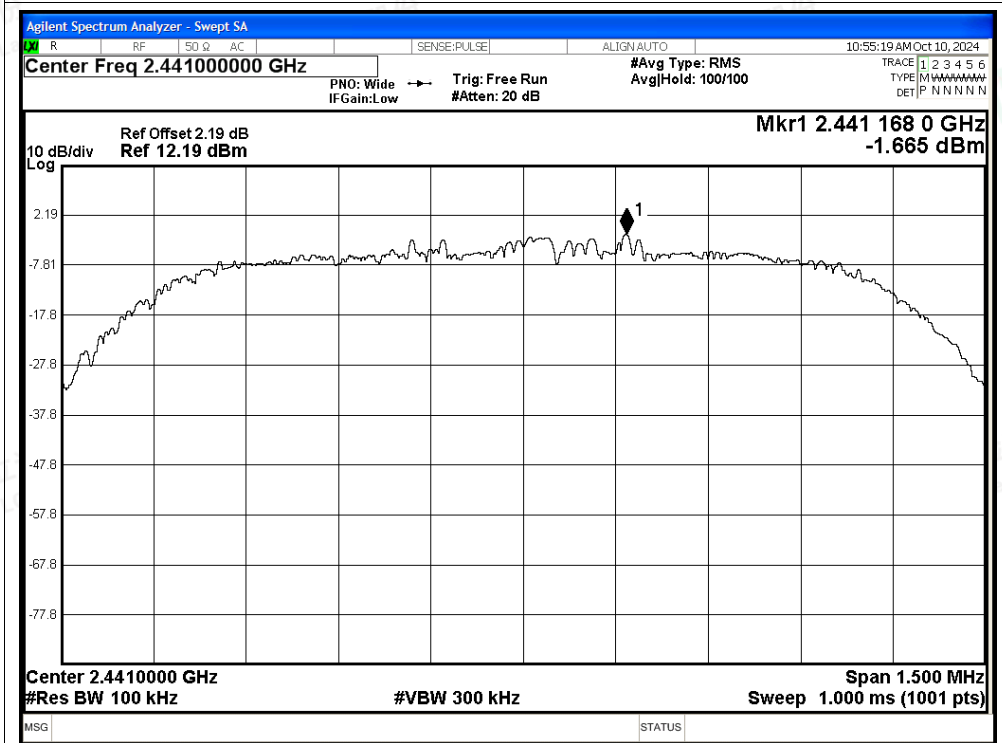


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

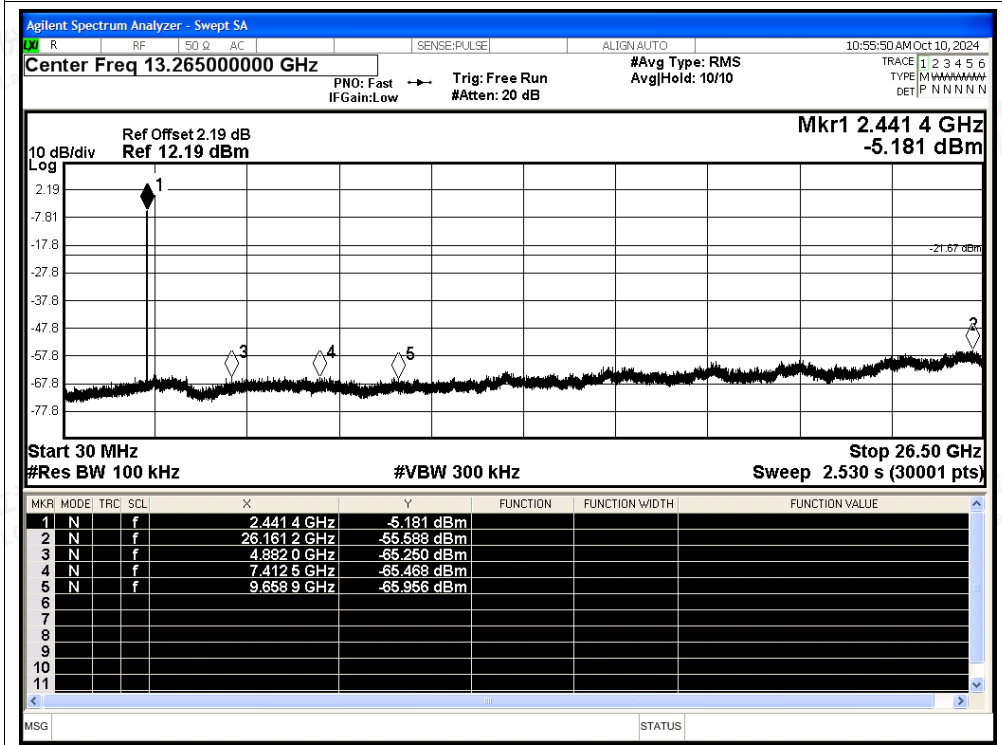




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

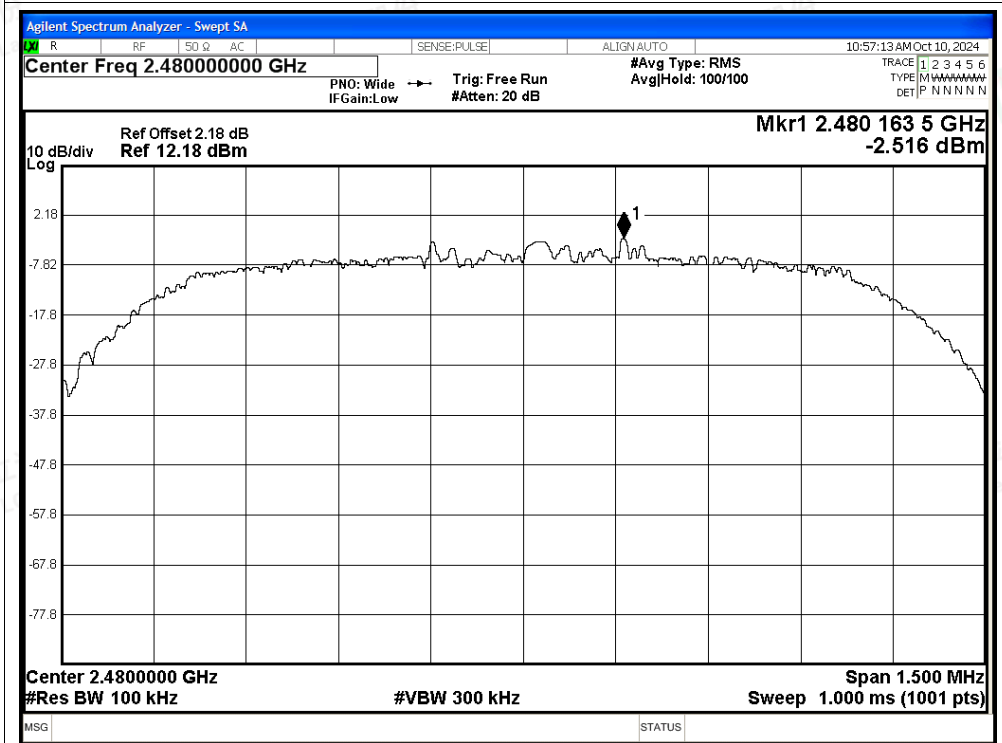


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

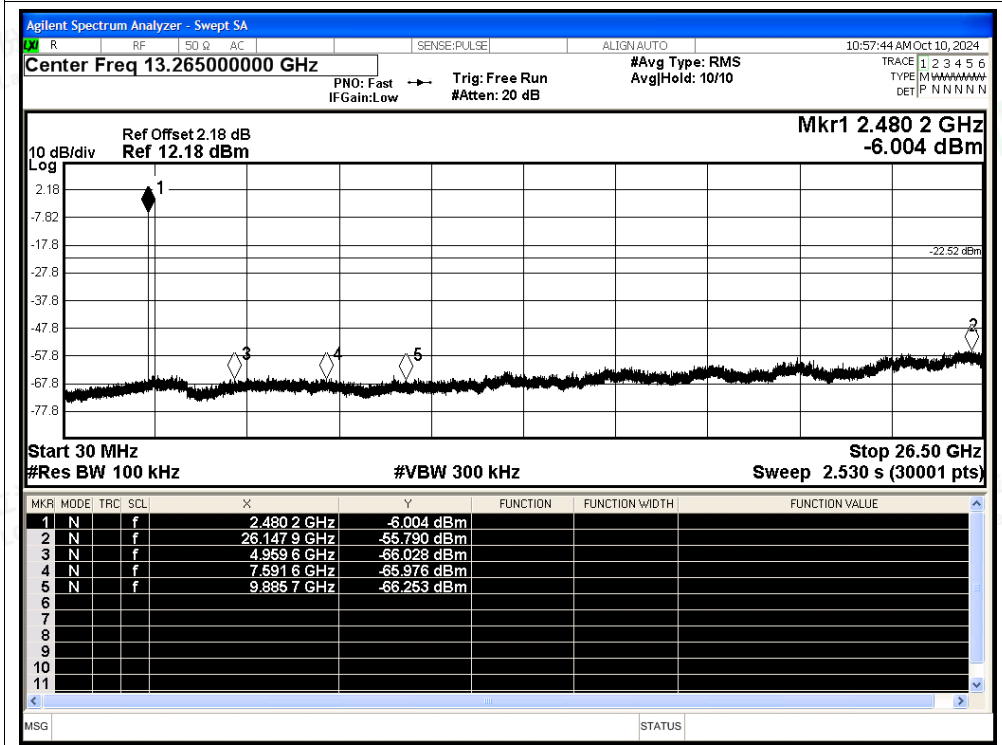




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

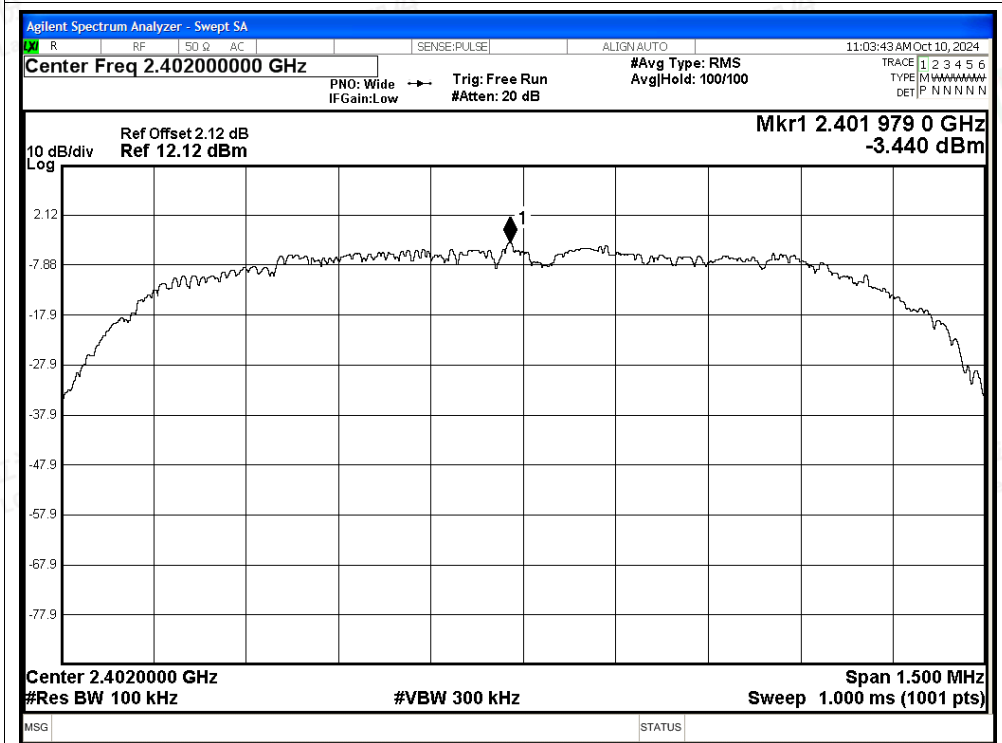


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

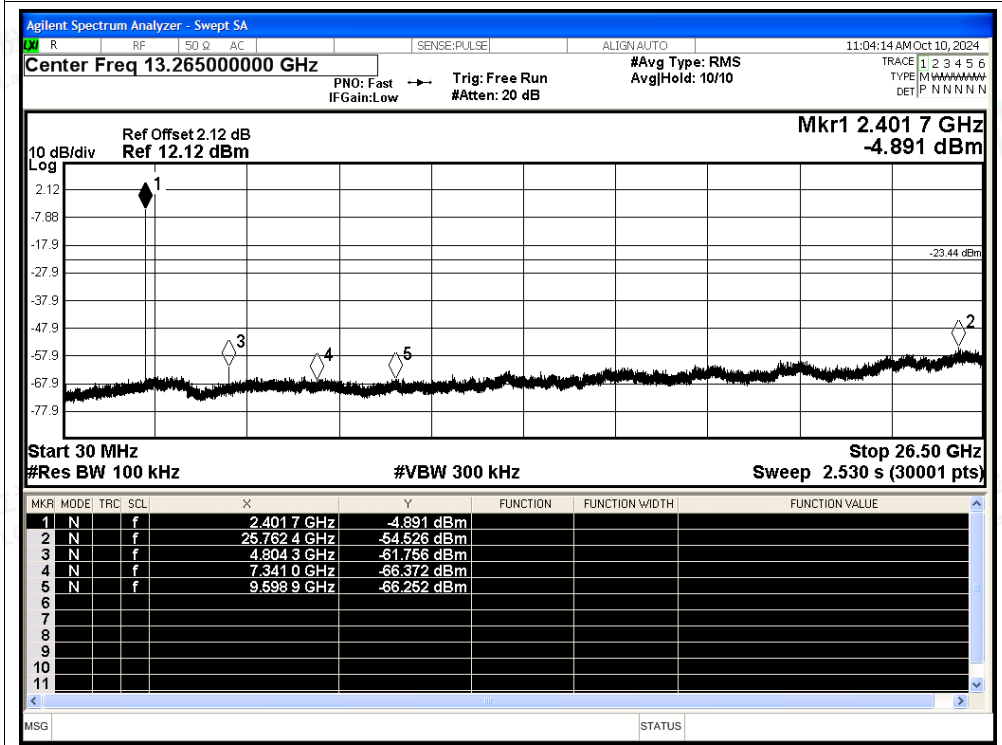




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

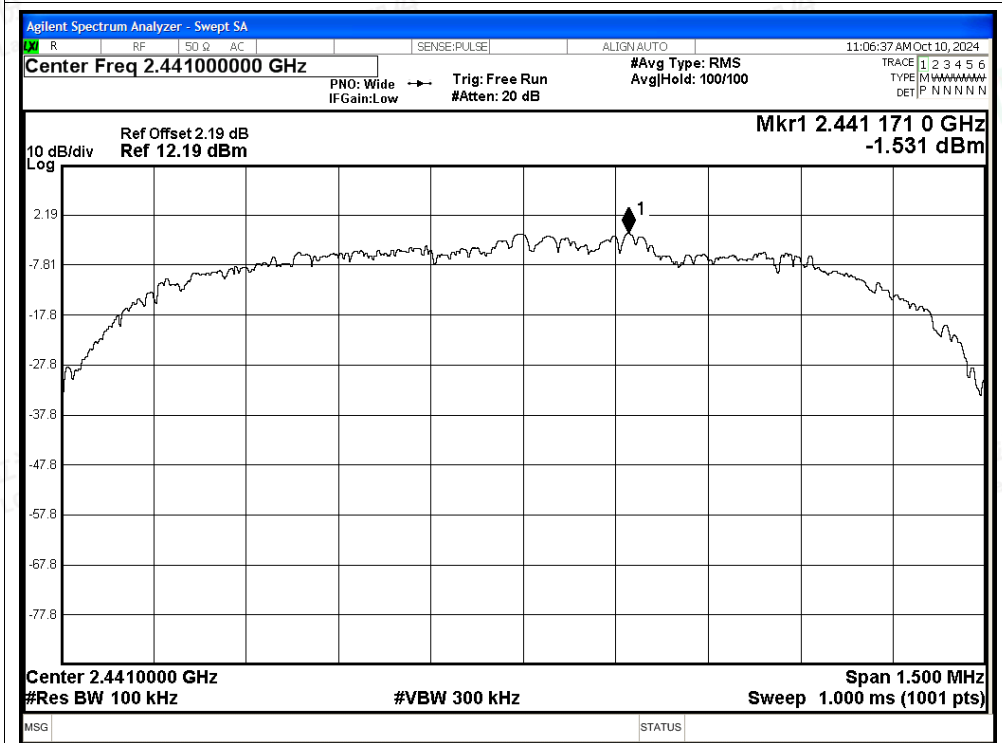


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

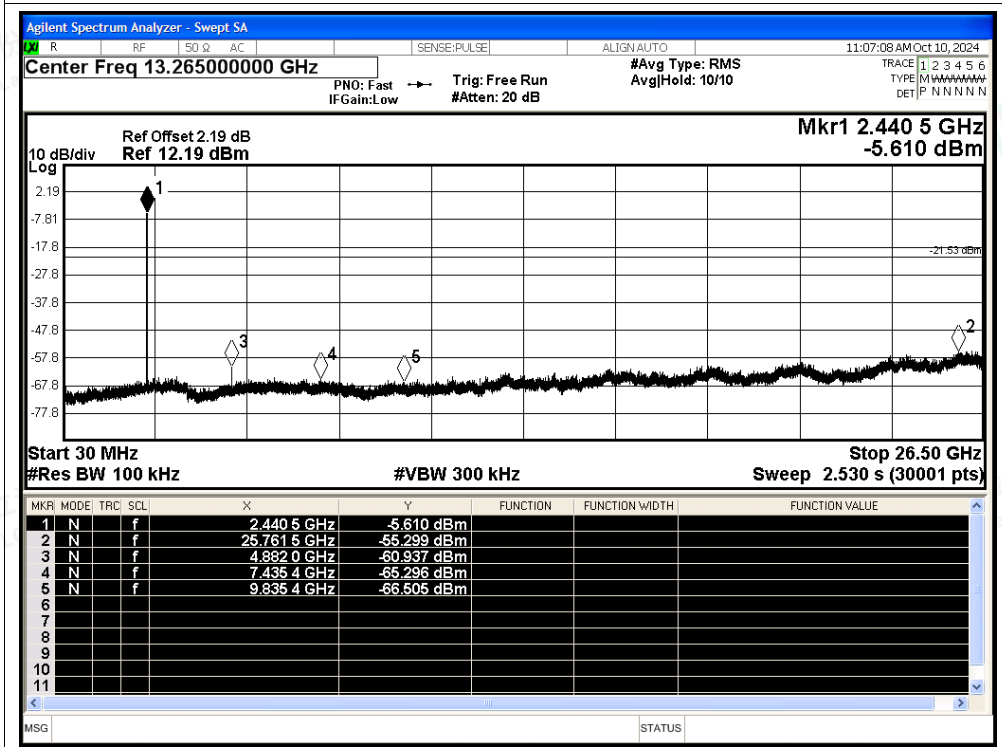




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

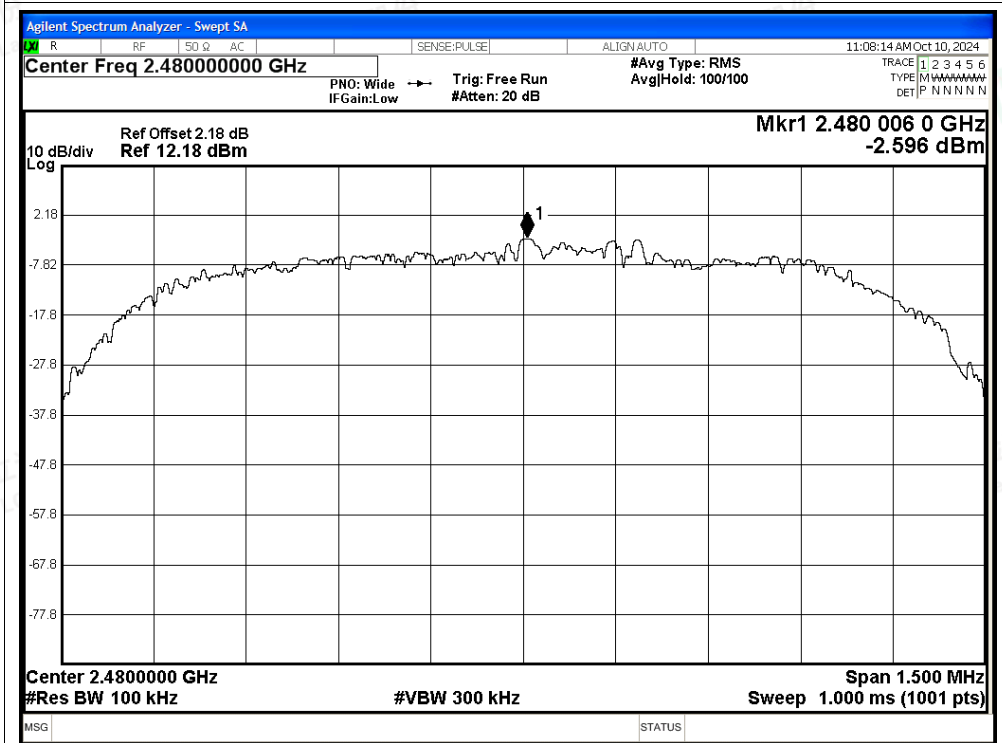


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

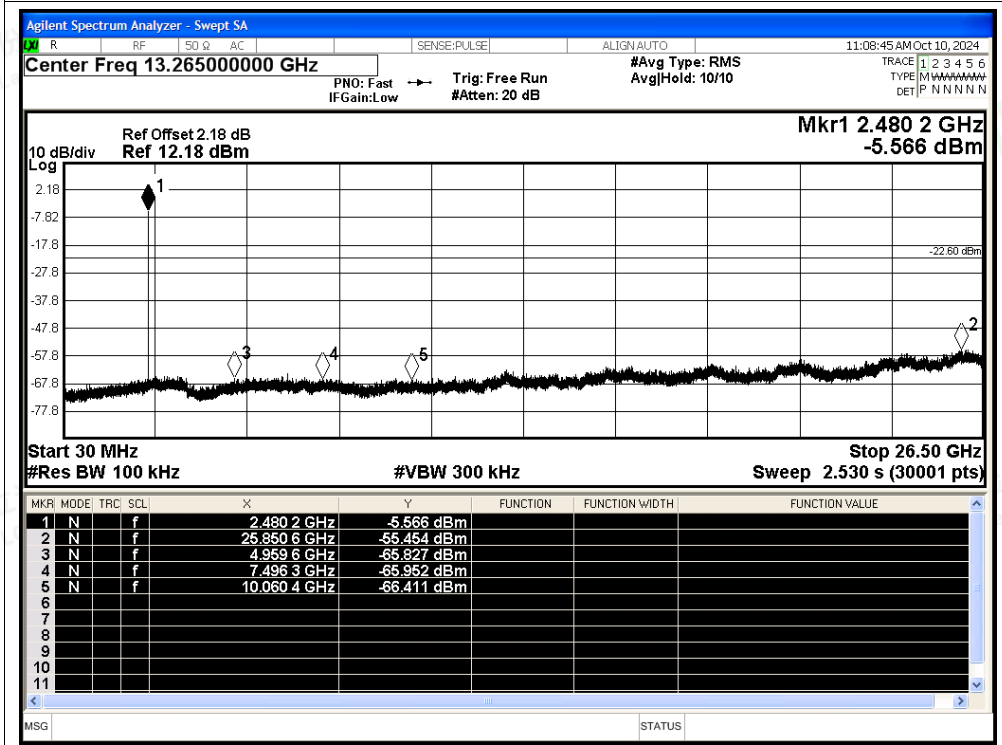




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

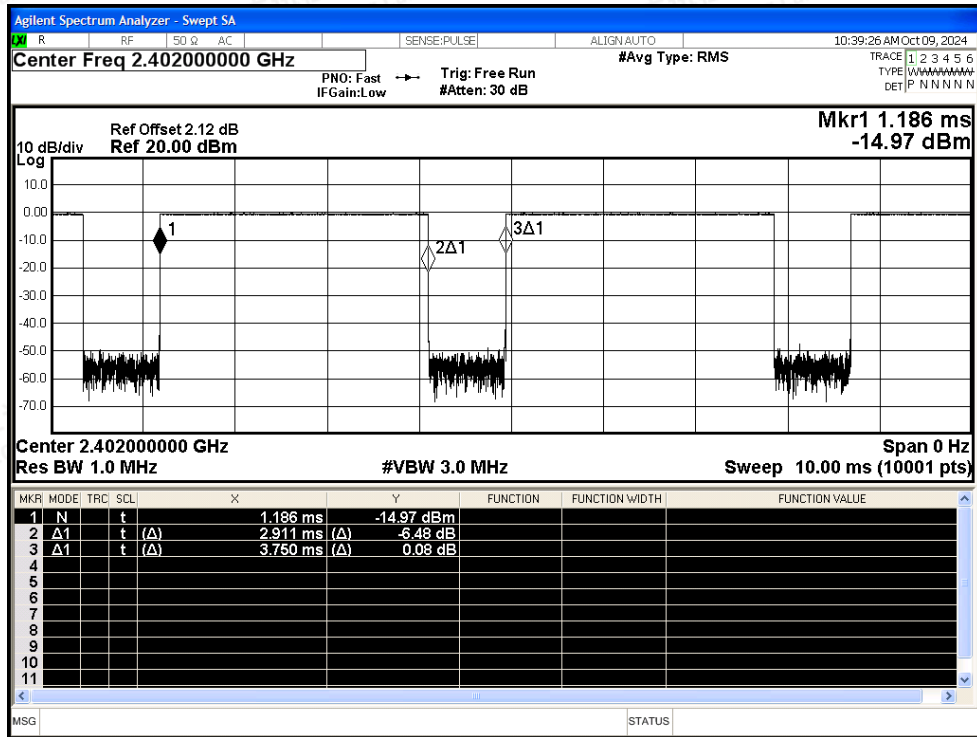
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.63	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2441	Ant1	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35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



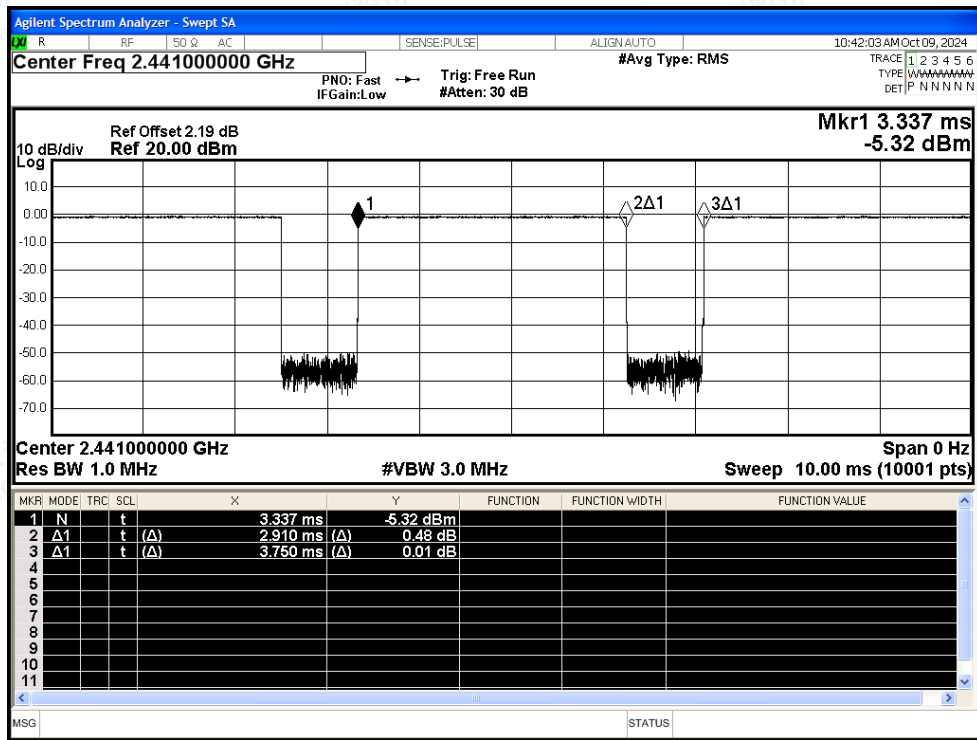


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

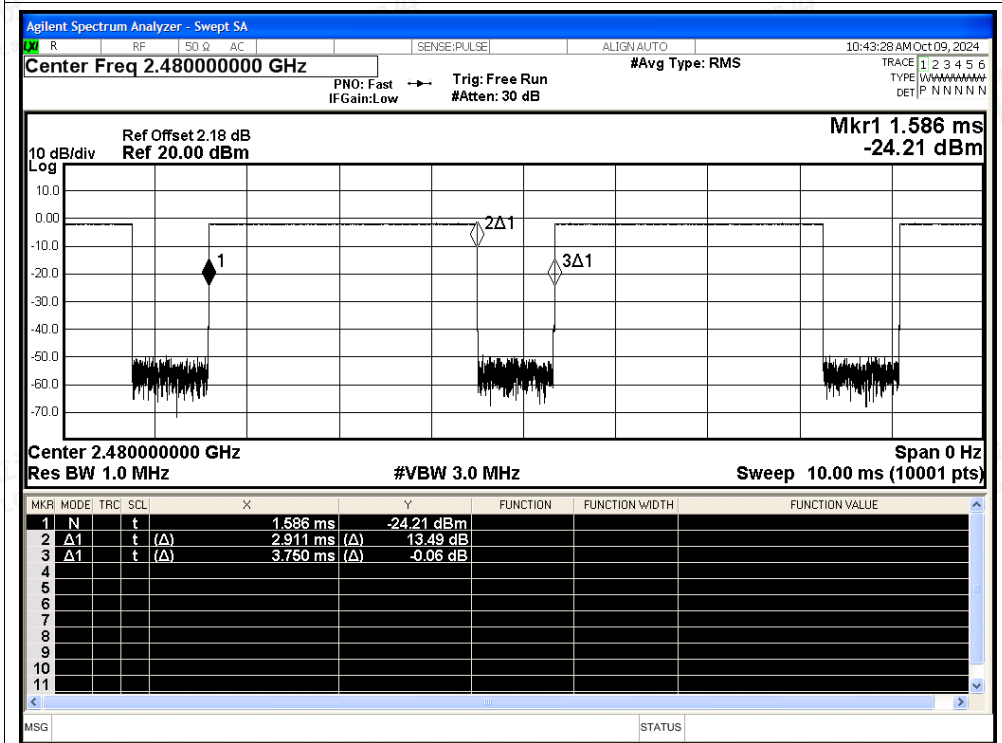


Duty Cycle NVNT 1-DH5 2441MHz Ant1

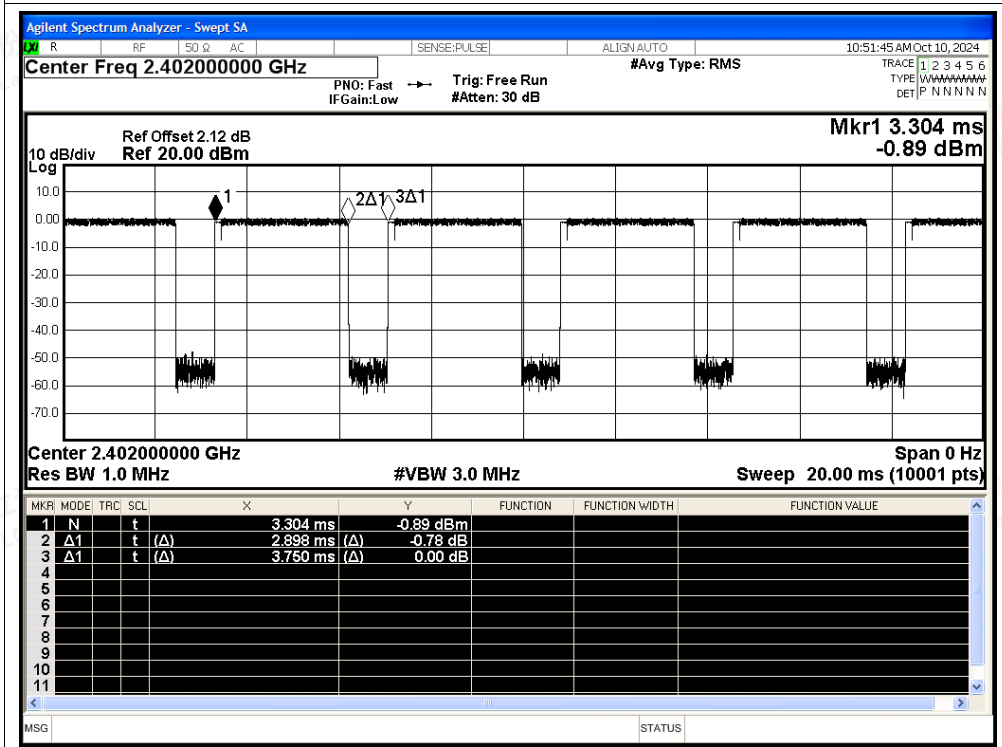




Duty Cycle NVNT 1-DH5 2480MHz Ant1

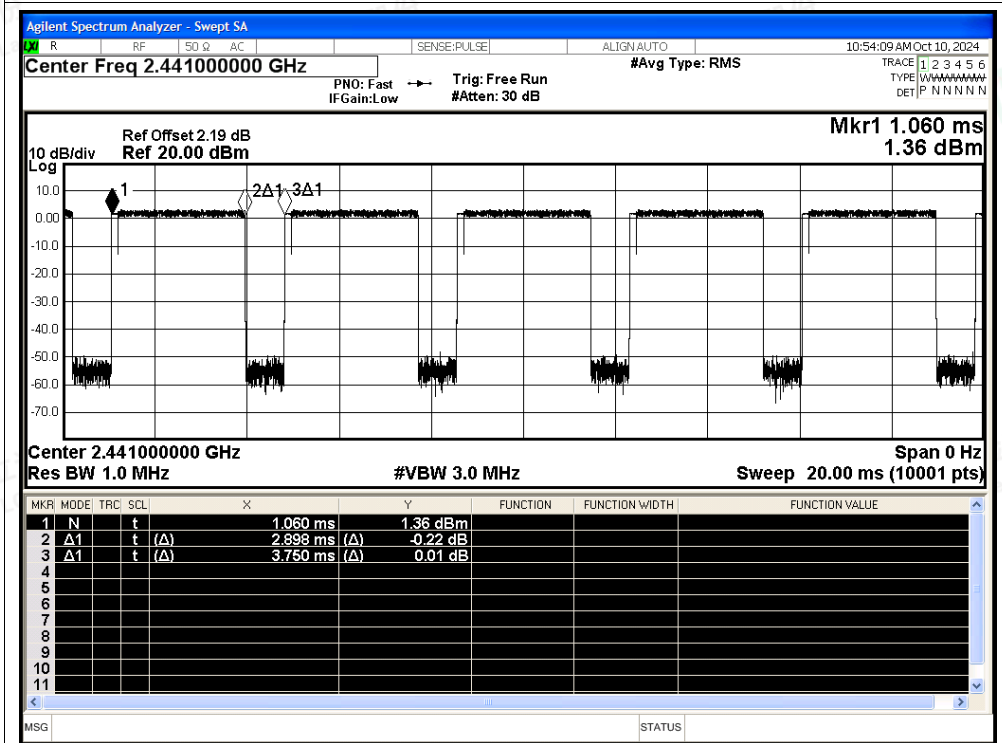


Duty Cycle NVNT 2-DH5 2402MHz Ant1

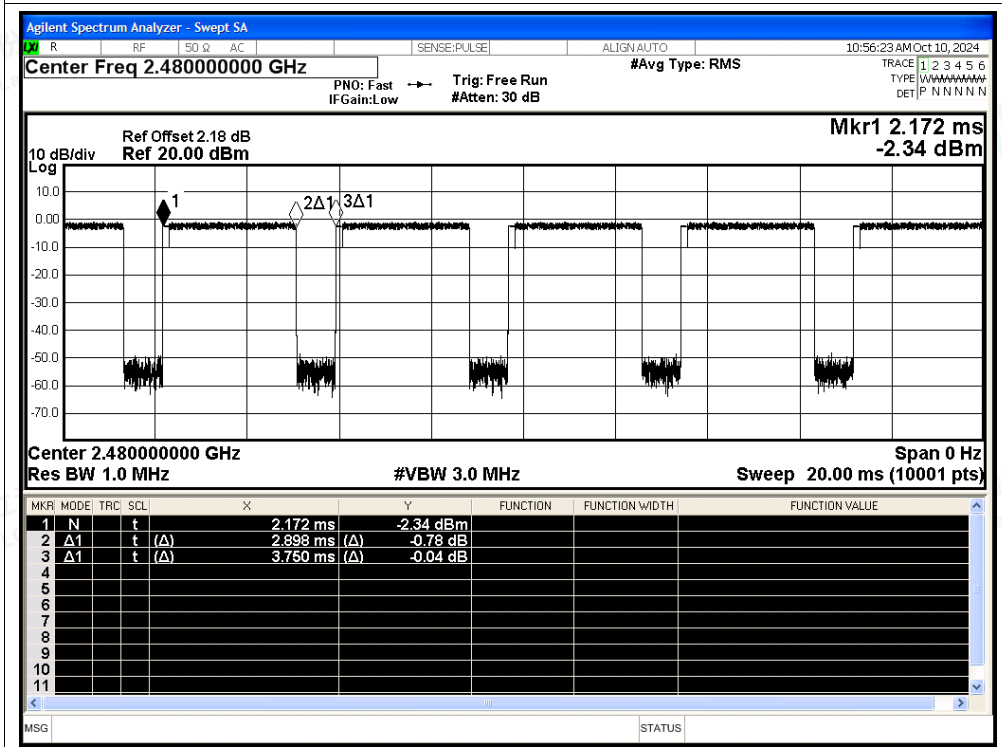




Duty Cycle NVNT 2-DH5 2441MHz Ant1

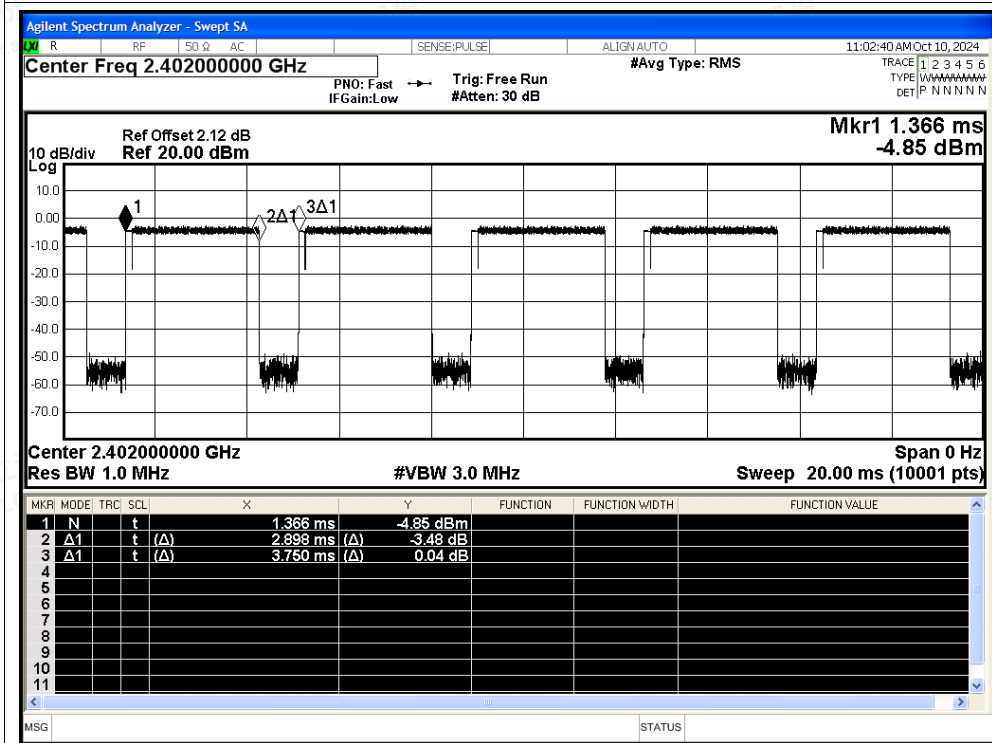


Duty Cycle NVNT 2-DH5 2480MHz Ant1

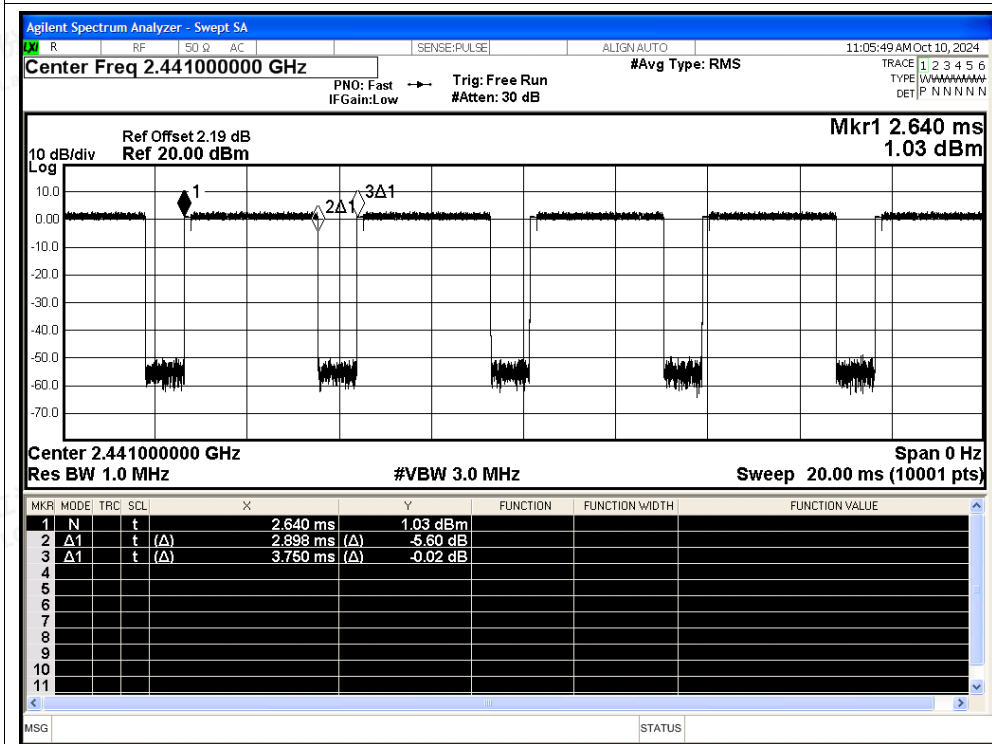


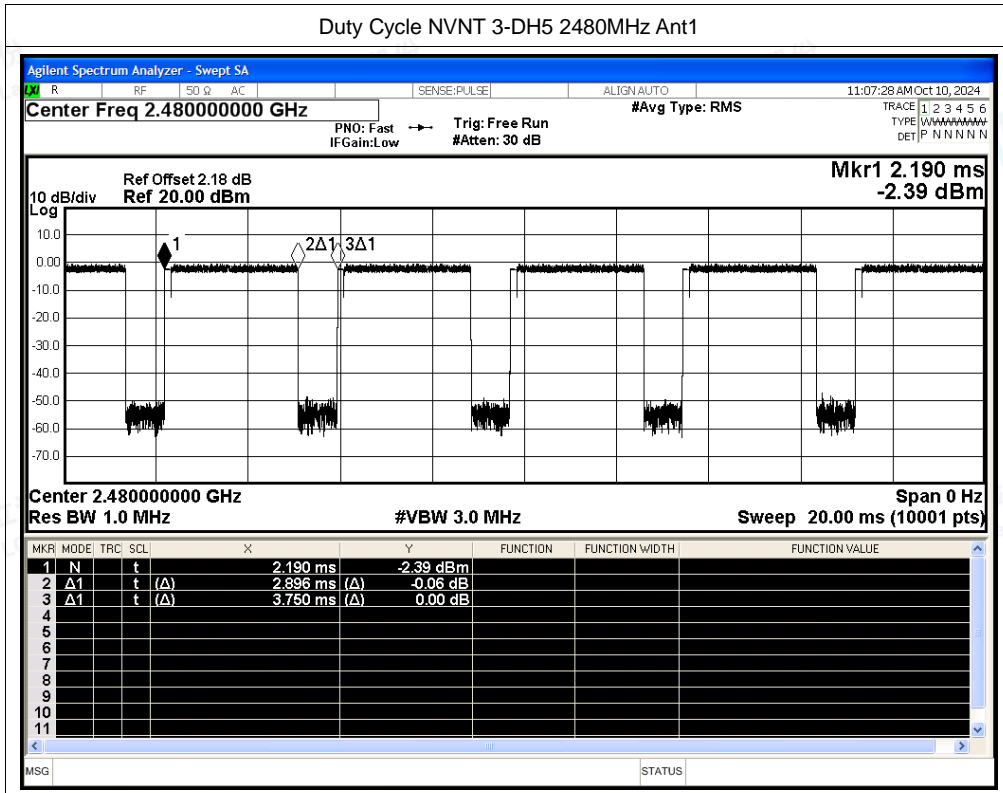


Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1







A.9 Restrict Band

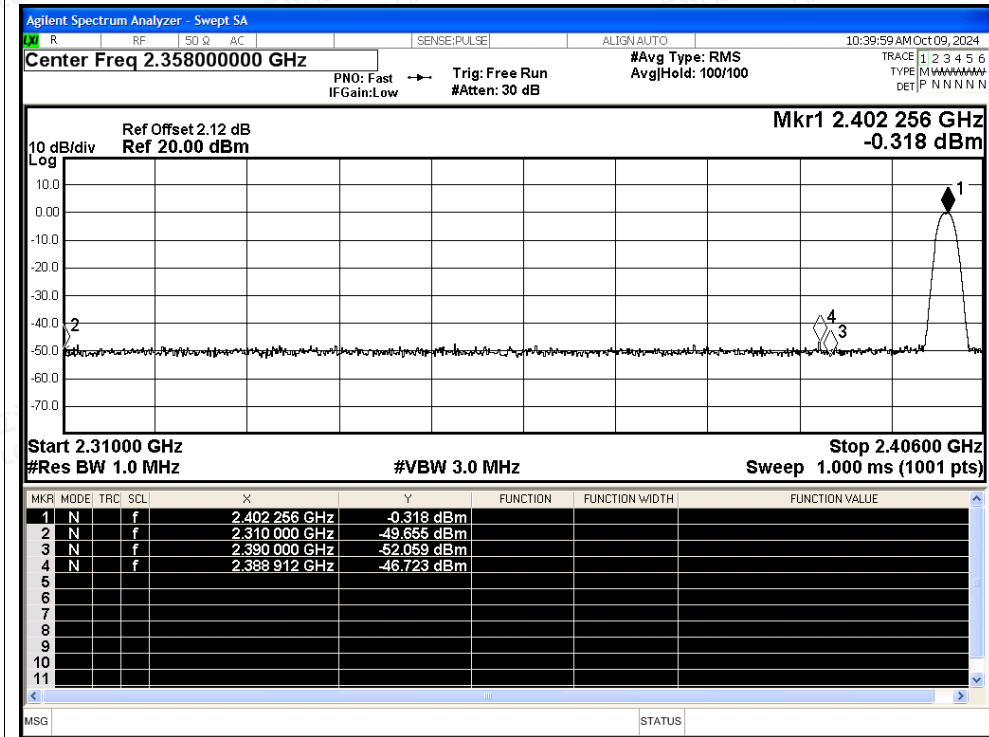
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.66	2	-	47.6	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.44	2	1.1	39.92	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.912	-46.72	2	-	50.54	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2386.224	-57.57	2	1.1	40.79	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-52.06	2	-	45.2	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.79	2	1.1	39.57	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.38	2	-	46.88	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.81	2	1.1	40.55	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2491.816	-46.78	2	-	50.48	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.064	-57.07	2	1.1	41.29	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.01	2	-	47.25	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.75	2	1.1	40.61	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.55	2	-	47.71	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.63	2	1.12	39.75	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2361.936	-47.51	2	-	49.75	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2355.504	-57.61	2	1.12	40.77	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.84	2	-	46.42	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.09	2	1.12	40.29	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.8	2	-	46.46	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.43	2	1.12	40.95	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2494.768	-46.33	2	-	50.93	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.312	-57.09	2	1.12	41.29	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.73	2	-	48.53	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.19	2	1.12	40.19	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.21	2	-	47.05	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.79	2	1.12	39.59	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2314.032	-47.31	2	-	49.95	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2359.152	-57.59	2	1.12	40.79	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.12	2	-	47.14	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.34	2	1.12	40.04	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.71	2	-	48.55	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-56.88	2	1.12	41.5	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.728	-46.64	2	-	50.62	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-56.88	2	1.12	41.5	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.41	2	-	47.85	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.36	2	1.12	40.02	Average	54	Pass



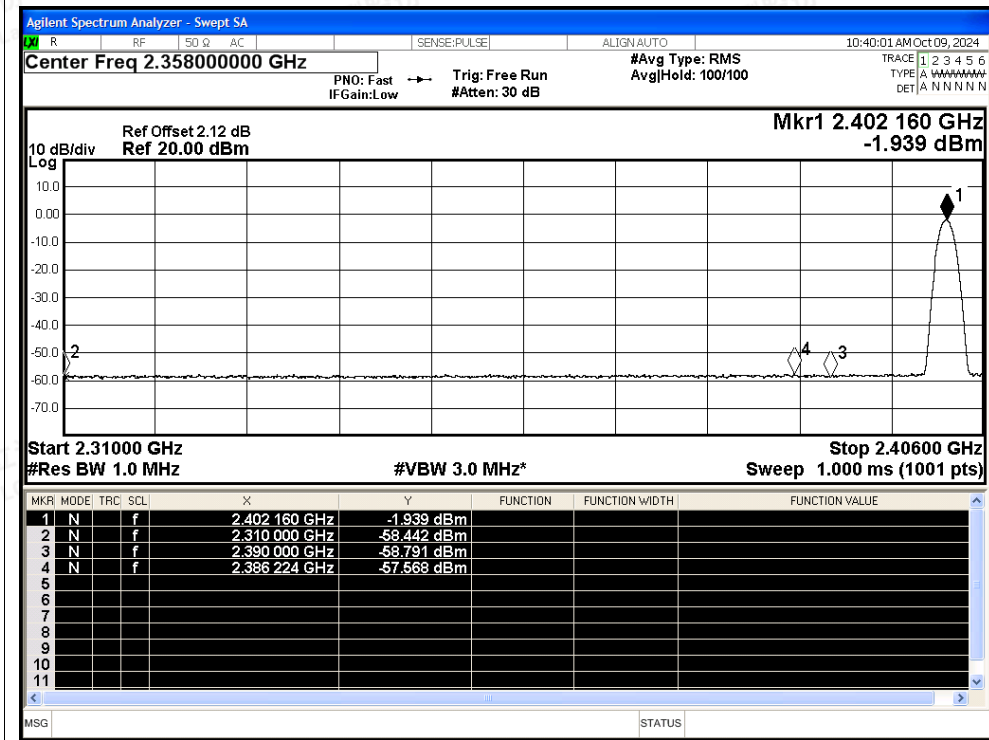


Test Graphs

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

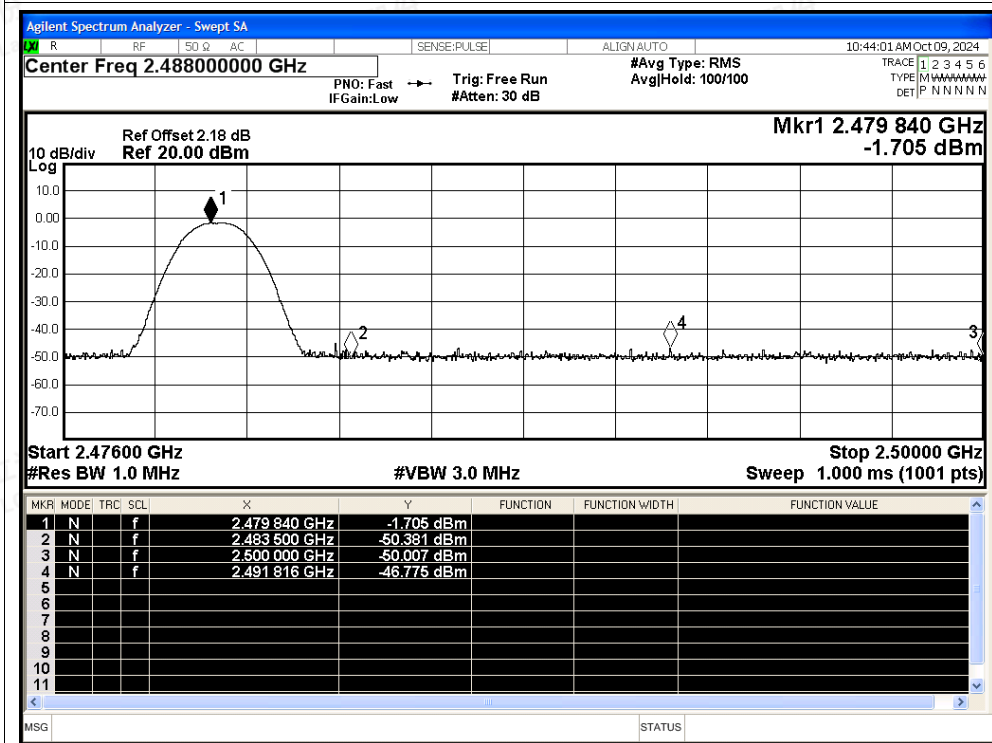


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

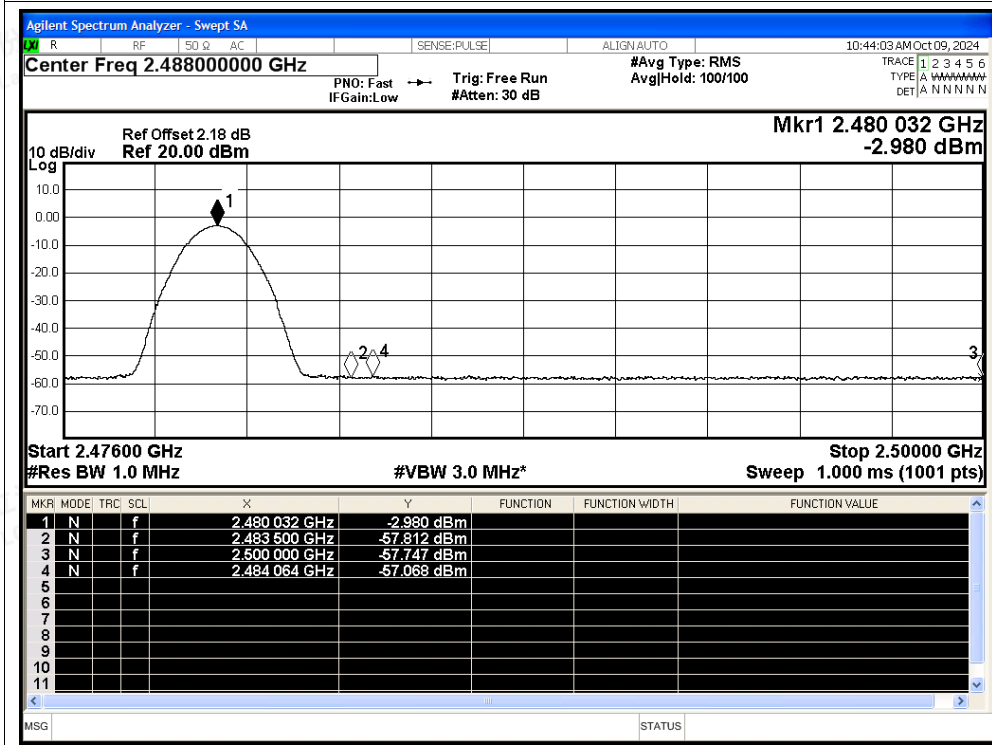




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

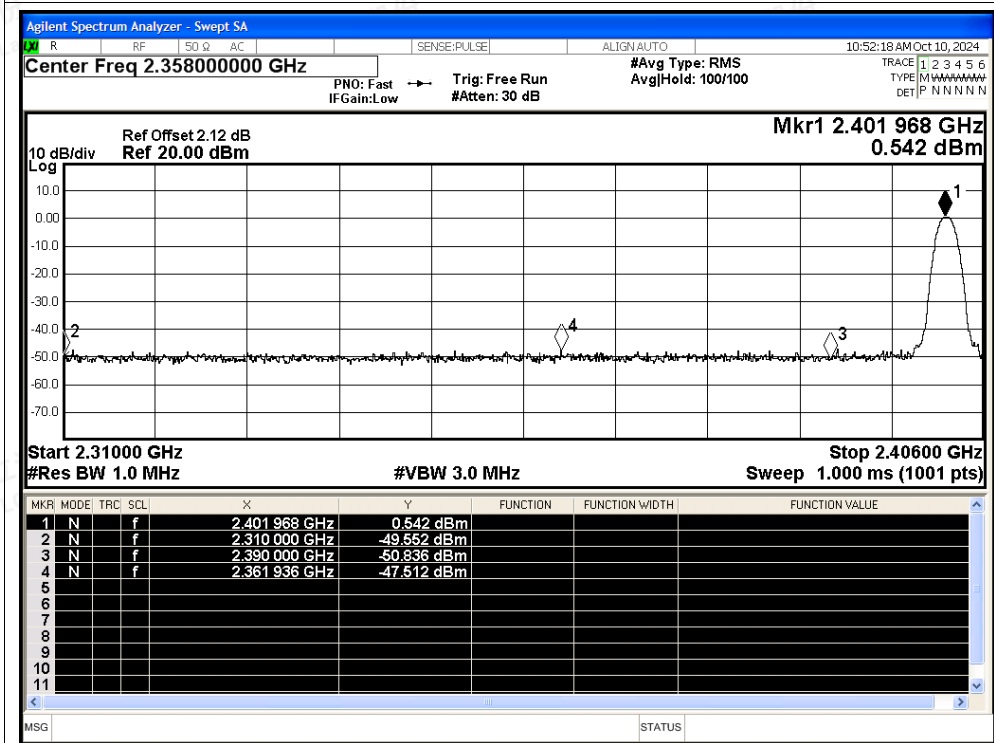


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

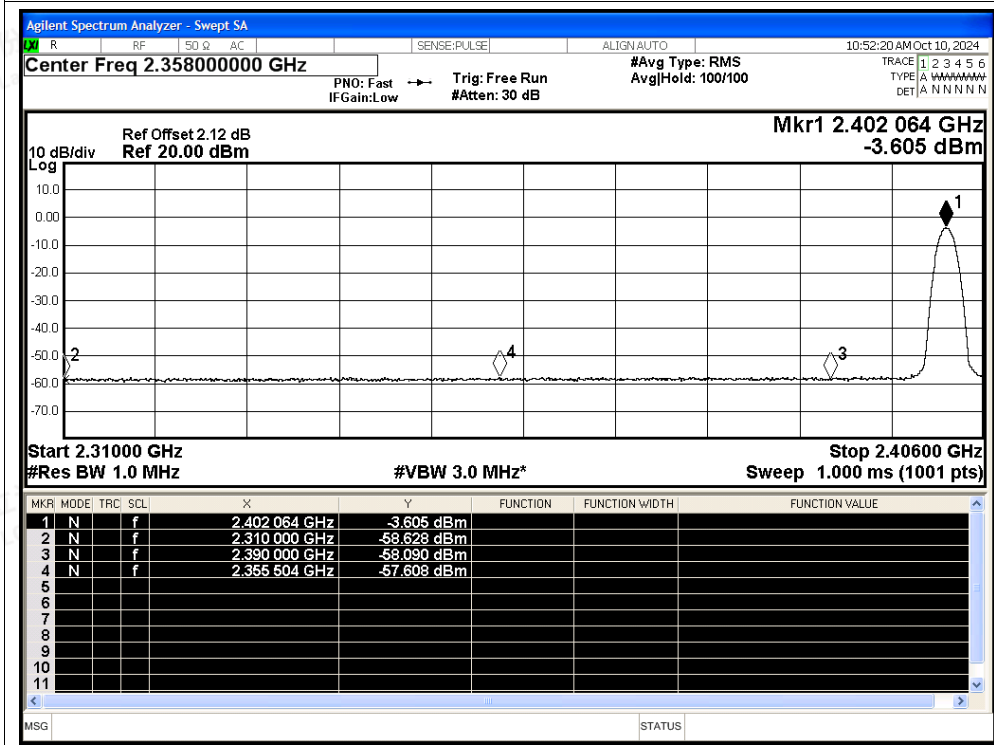




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

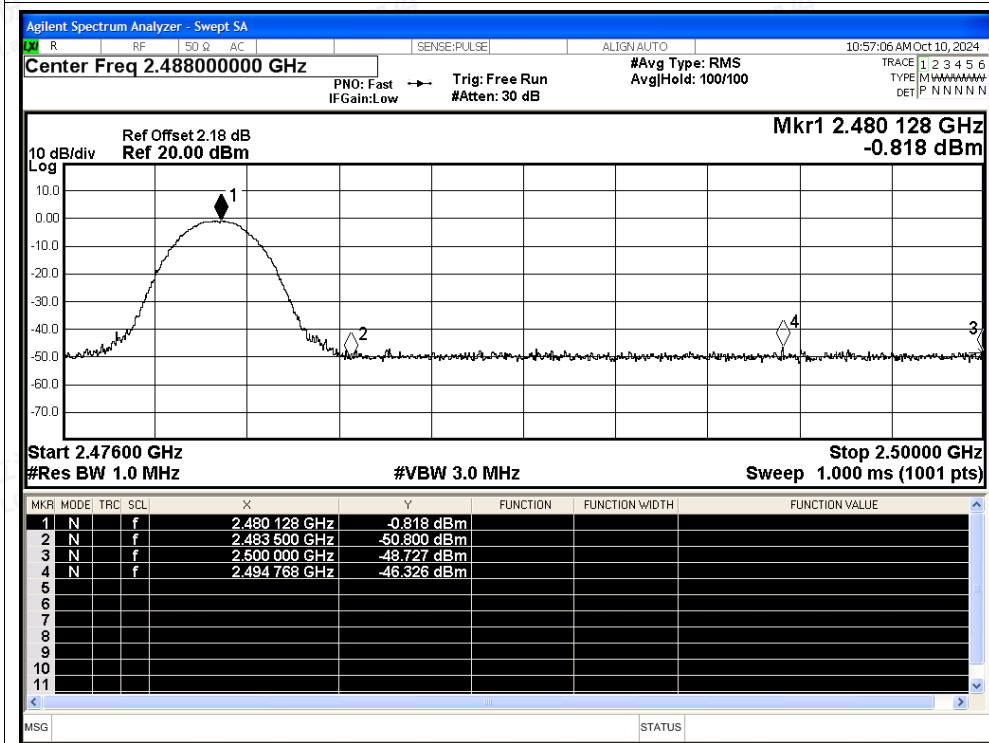


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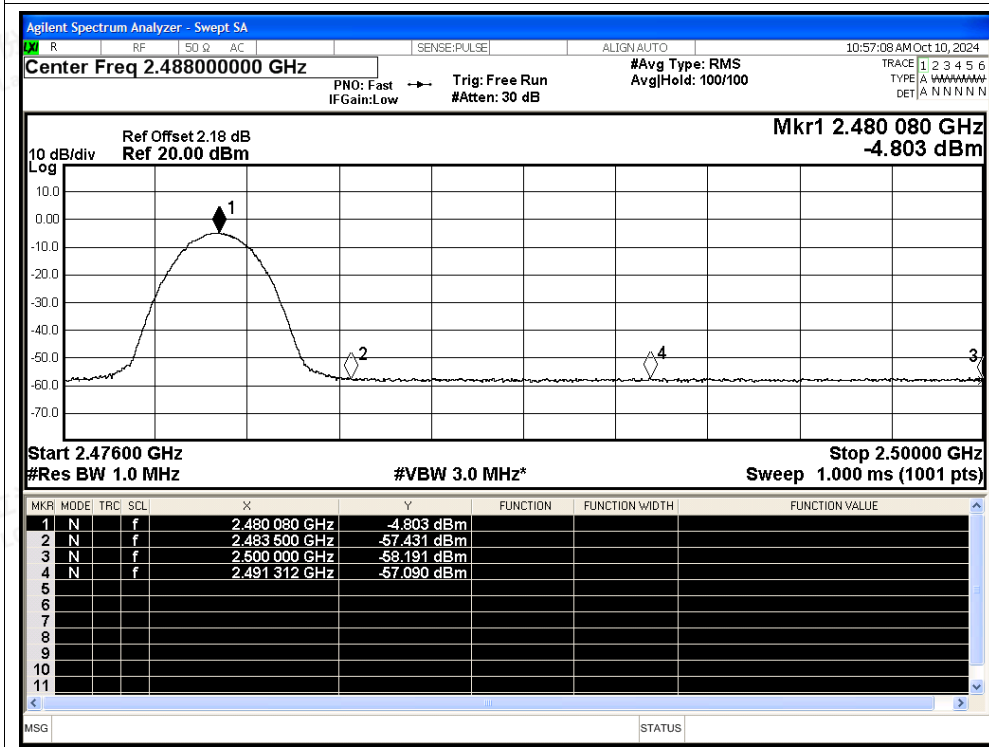




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

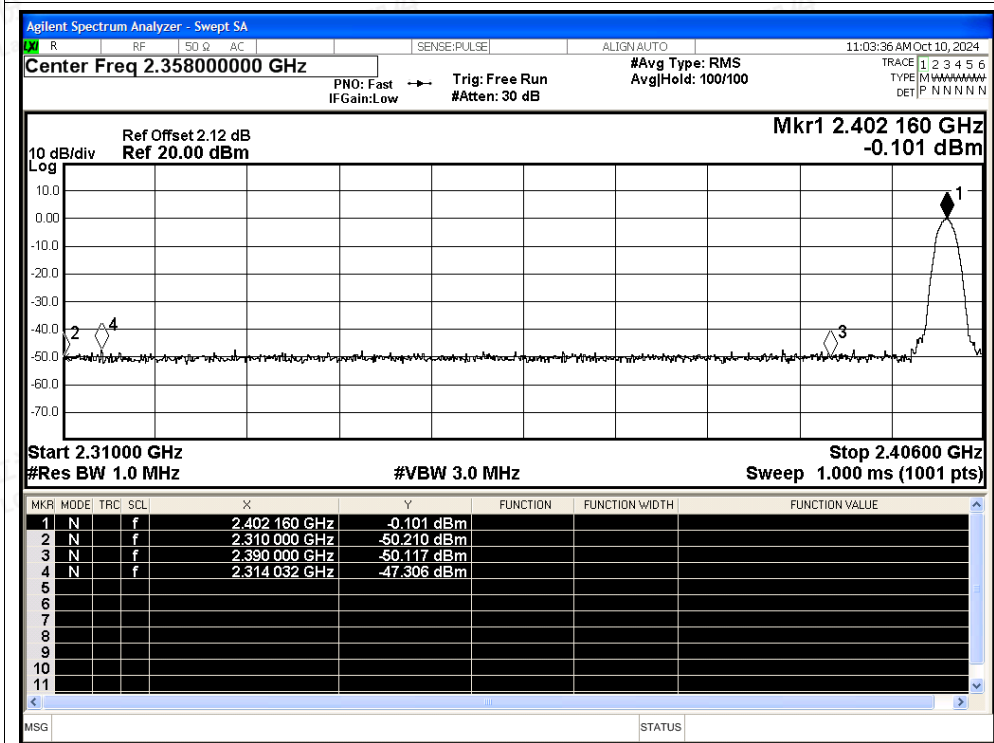


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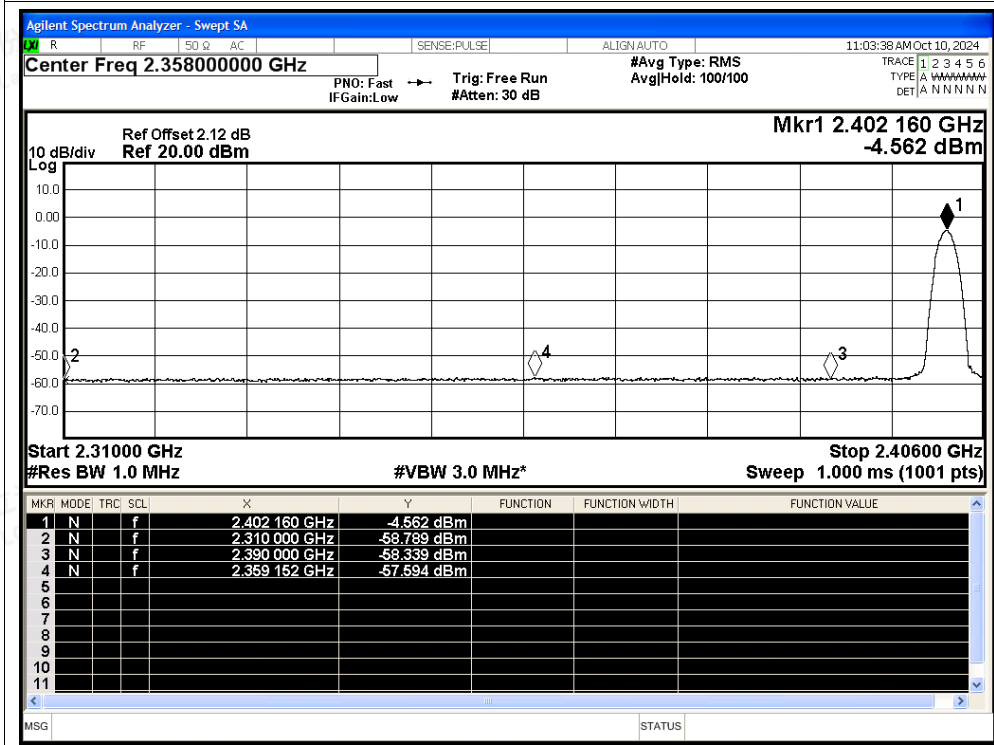




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

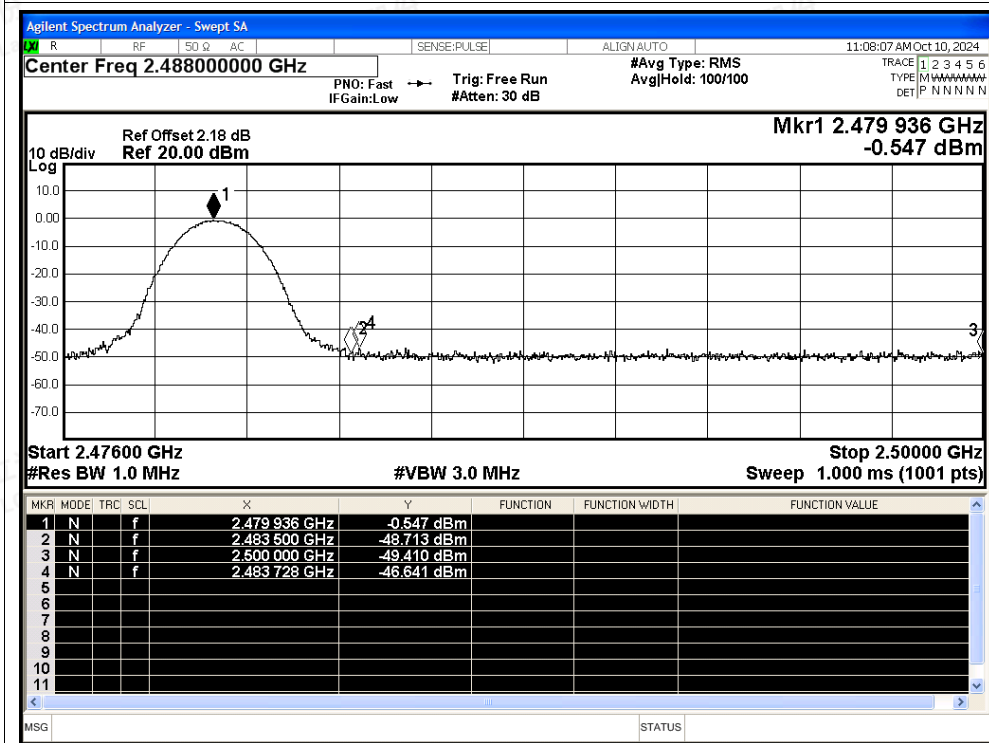


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

