

Dell Latitude 7430 Outperforms HP EliteBook 840 G9 and Lenovo T14s Gen 3

Source: Strategic Thermal Labs: Notebook Thermodynamics Part 1/2

Business-class notebook shakedown: Intel Alder Lake

On-the-go professionals want their laptops to perform well, remain cool and quiet, and provide all-day battery life. In a recent study, Strategic Thermal Labs tested comparable Dell, HP, and Lenovo PCs for application and battery performance, temperature, and sound output¹. The study found that The Dell Latitude 7430 fared better than HP EliteBook 840 G9 across the board and better than Lenovo T14s Gen 3 in battery life and temperature benchmarks.

Application Performance

When tested for application performance, the Dell Latitude 7430 outperformed HP EliteBook 840 G9 in every benchmark. The Latitude 7430 activates a temporary power increase during heavy workloads that drastically improves performance in common software applications. The HP EliteBook 840 G9 restricts the upper power limit on the CPU and prevents opportunistic Turbo Mode from kicking in, so it remains stuck at a maximum CPU power of 20 Watts. While Lenovo T14s Gen 3 effectively competes in this category, it does so at the expense of surface temperature with some tests showing 56 degrees C/132.8 F maximum surface temperature.

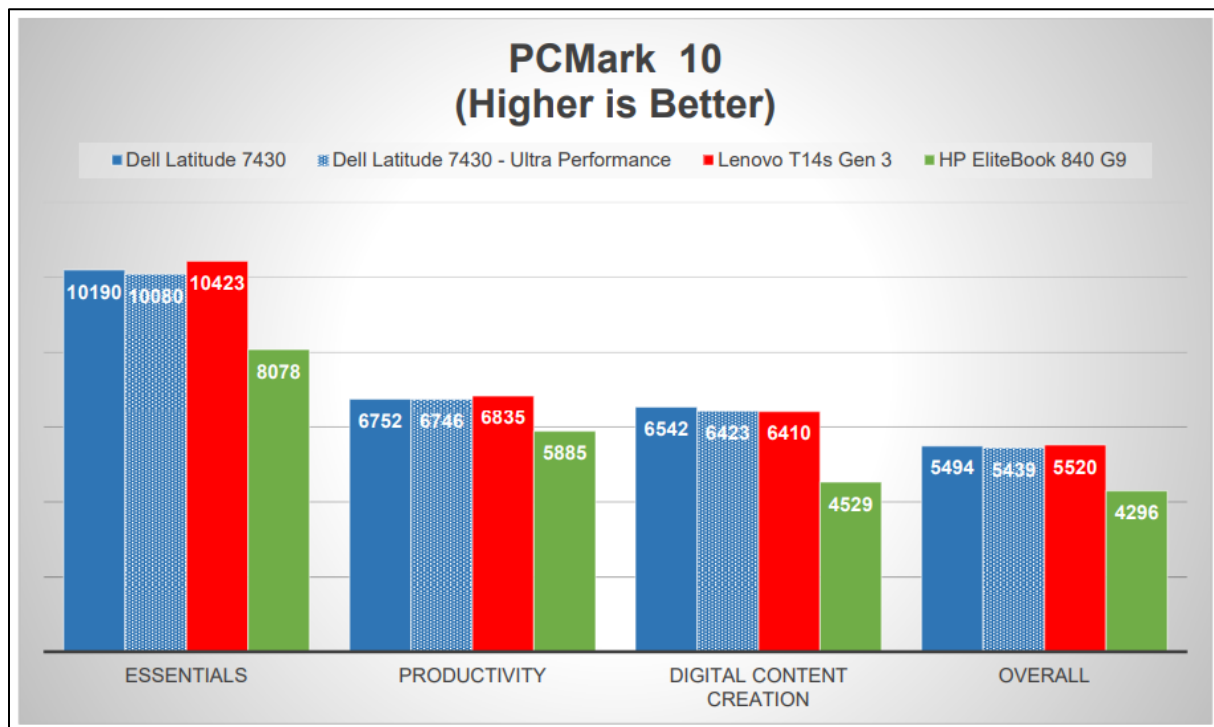


Figure 1. PCMark 10 Office application performance benchmark.

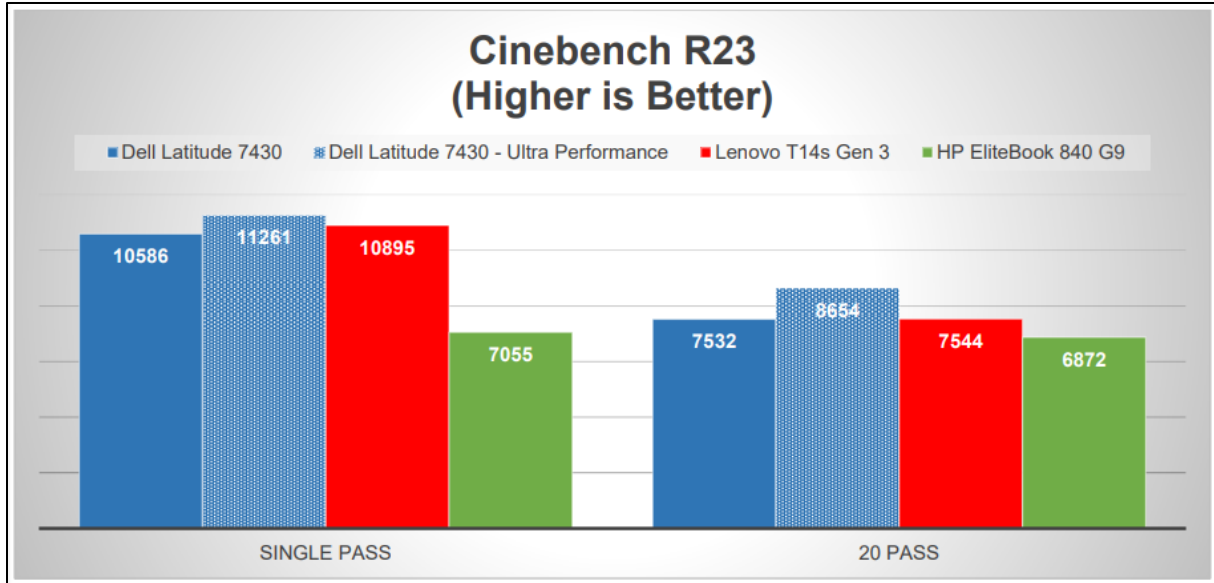


Figure 2. Cinebench R23 rendering performance benchmark.

Battery Performance

The PCMark 10 Modern Office test measures how much time users can remain productive while unplugged. The Dell Latitude 7430 dominates the battery life test providing nearly 12 hours of runtime. The Lenovo T14s Gen 3 with nearly the same capacity battery dies five hours sooner, and the HP EliteBook 840 G9 lasts three hours less than Latitude 7430.

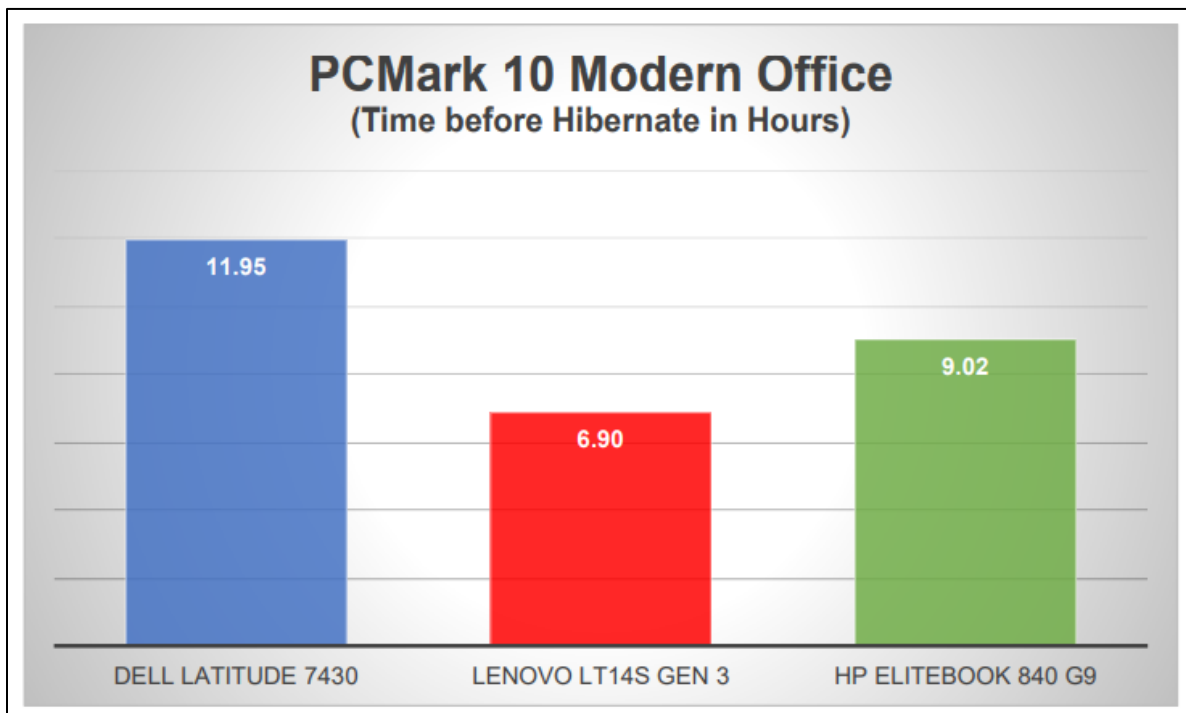


Figure 3. PCMark 10 Modern Office benchmark runtime – hours before hibernation from fully charged battery.

Skin Temperature

Skin temperature refers to how hot the surface is to the touch, and no one likes for their laptop to run hot while it's sitting on their legs. Dell Latitude 7430 stayed cooler than Lenovo T14s Gen 3 in all application benchmarks during the skin temperature test. While the HP EliteBook 840 G9 offers slightly cooler temperatures, it does so at the expense of application performance and has the loudest fan by a large margin.

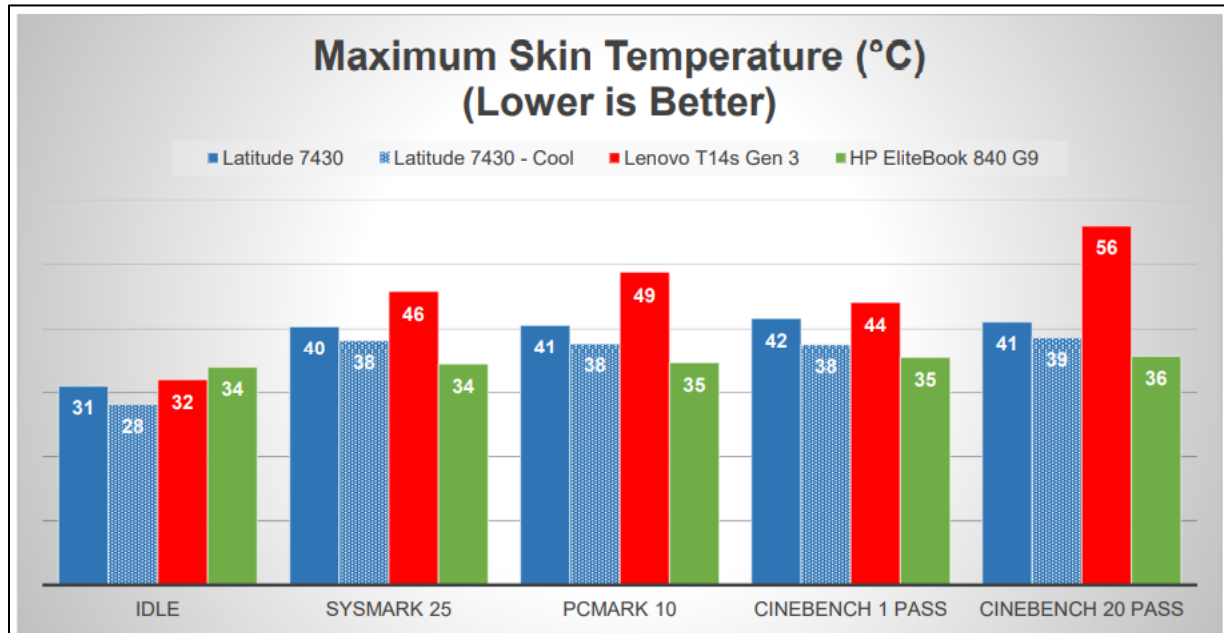


Figure 4. Maximum skin temperature on each of the tested notebooks while running all the application benchmarks.

Sound Output

Sound output refers to how loud the system is under various conditions. Dell Latitude 7430 outperformed HP EliteBook 840 G9 in most benchmarks, and it allows users to adjust system performance to any of these three modes:

- Cool mode makes the skins cooler to the touch
- Quiet mode makes the system fans spin slower
- Ultra-Performance allows extra rendering performance for those who need to get the job done faster

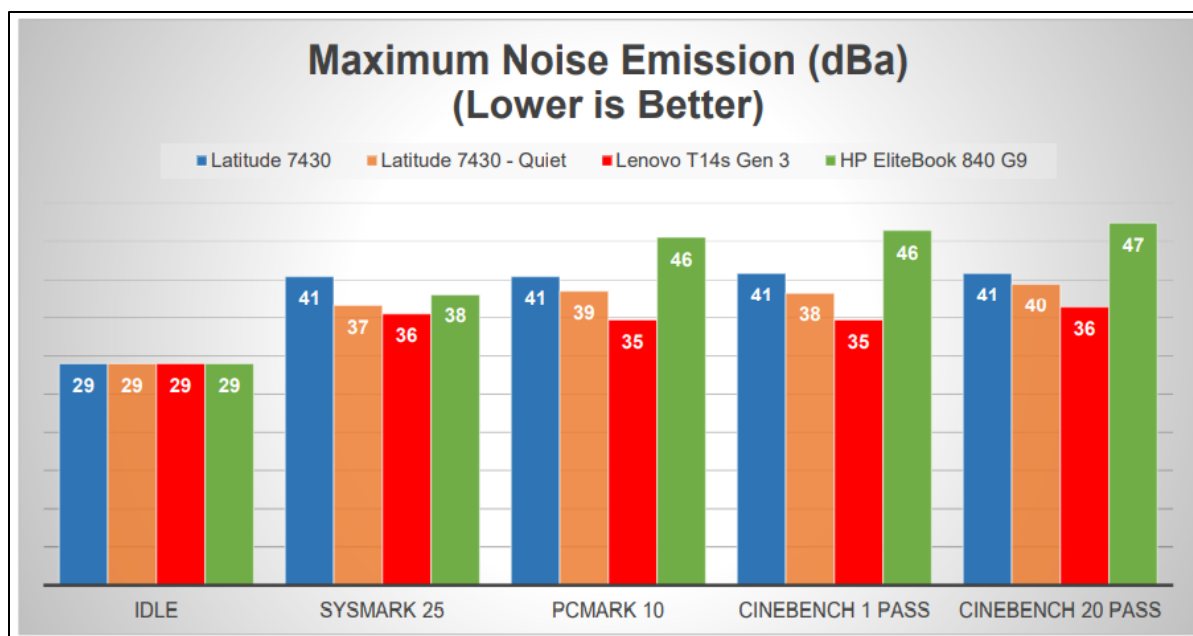


Figure 5. Maximum noise emission on each of the tested notebooks while running all the application benchmarks.

For More Information

As the Strategic Thermal Labs study demonstrates, the Dell Latitude 7430 performs consistently high across all four Thermal Performance Indicators. The HP EliteBook 840 G9 does not offer any quantifiable reasons to choose it over the [Dell Latitude 7430](#). See the detailed report here:

- [Full Report: Dell Latitude 7430 vs. HP EliteBook 840 G9 and Lenovo T14s Gen 3](#)



About the author: Andrew Glinka is Vice President, Competitive Intelligence at Dell Technologies. Andrew is an 11-year Dell Technologies veteran and brings over 23 years of experience in technology sales, management, and operations. Prior to assuming his current role, Andrew served as Global Director of Sales Strategy for the Data Protection Solutions Division. He has also managed the Global Software Sales team as well as other sales teams in the Data Protection Solutions Division. Prior to joining Dell through the EMC acquisition, Andrew owned and operated an IT Managed Services business in Virginia for over 8 years before successfully selling the company.

¹ Based on “Notebook Thermodynamics Business-class notebook shakedown: Intel Alder Lake,” a Strategic Thermal Labs report, October 2022

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