

Executive summary

Up to 2.58x the PassMark overall rating while unplugged*

Choose the HP EliteBook 845 G9 Notebook PC for longer battery life and better performance scores while maintaining cool surface temperatures

vs. the Dell Latitude 7430 laptop and the Dell Latitude 7420 laptop

A portable and powerful laptop can be a great choice for remote, hybrid, or in-office workers. But deciding which system is best suited to users' needs is a more complicated task. Benchmarks can give helpful indications about potential performance, but they can't tell the complete story. And, while users can minimize outward distractions, their devices' noise levels, surface temperatures, or battery warnings could disrupt their focus and productivity.

At PT, we used industry-standard benchmarks to compare two current-generation business-class laptops aimed at enterprise users: an HP EliteBook 845 G9 Notebook PC powered by an AMD Ryzen™ 7 PRO processor and a Dell™ Latitude™ 7430 laptop powered by an Intel® Core™ i7 processor. For a gen-over-gen comparison, we performed the same tests on a previous-gen Dell Latitude 7420 laptop powered by an Intel Core i7 processor. We ran benchmarks both while the devices were connected to AC power and while they used battery power. Not only did the HP EliteBook 845 G9 Notebook PC deliver longer battery life with a smaller battery, but it also achieved higher benchmark scores while plugged-in and unplugged than both Dell Latitude devices. Additionally, we found that it ran cooler to the touch and output similar acoustic levels under Cinebench R23 multi-core workloads compared to the Dell Latitude systems we tested.

Work unplugged for over 10 hours in Windows Balanced Mode**

Over 19°F cooler with better sustained performance***

*Based on PassMark PerformanceTest 10 results

**Based on MobileMark® 25 battery life scores; scores may differ from other published scores due to differences in system settings

***Based on thermals while under CPU load

Results of our testing

Under a sustained Cinebench R23 workload, the HP EliteBook Notebook PC outperformed the other laptops we tested while maintaining surface temperatures as much as 19°F cooler than the Dell Latitude 7430 laptop and 4°F cooler than the Dell Latitude 7420 laptop. This indicates that it could stay cooler while delivering better performance on resource-intensive tasks, making it an appealing option for workers in non-traditional settings.

Even with a smaller battery than the other devices we tested, the HP EliteBook Notebook PC demonstrated longer battery life under a MobileMark 25 workload while running in Microsoft Windows Balanced mode: 36 minutes longer than the Dell Latitude 7430 and over 4 hours longer than the Dell Latitude 7420. Calculating the WHr per minute of battery life, the HP EliteBook achieved better system efficiency.

The more responsive a system is, the less time users have to spend waiting for important work to load, and the more time they have to maintain focus on their work. In unplugged testing with PassMark PerformanceTest 10, the HP EliteBook Notebook PC was significantly more responsive than the other systems.

For full results of the plugged-in, unplugged, acoustic, thermal, and battery life testing we performed, [read the report](#).

Conclusion

When it comes to selecting a laptop for your workforce, looking at performance from multiple angles can give a fuller idea of which device could serve them best. During testing, the HP EliteBook 845 G9 Notebook PC demonstrated longer battery life despite its smaller battery capacity, achieved better benchmark scores, and maintained cooler overall surface temperatures. Considering these results together, the HP EliteBook 845 G9 Notebook PC could be a compelling choice for remote, hybrid, or in-office employees.

Unplugged PassMark PerformanceTest

10 overall rating *Median | Higher is better*

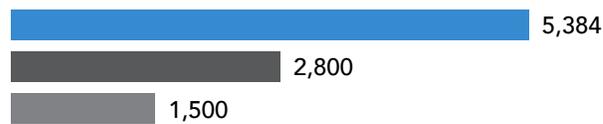


Figure 1: Overall ratings as reported by PassMark PerformanceTest 10 for the three systems we tested while unplugged. Higher is better. Source: Principled Technologies.

Thermal performance during a sustained Cinebench R23 workload

Average | Lower is better

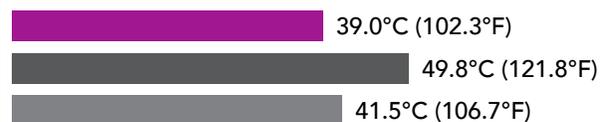


Figure 2: Temperatures under CPU load, in degrees Celsius, at one hot spot on the devices we tested. Lower numbers are better. Source: Principled Technologies.

System efficiency

Minutes per WHr | Median | Normalized | Higher is better

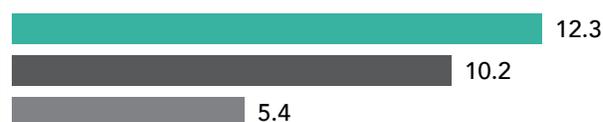


Figure 3: System efficiency of each of the three devices we tested, in minutes of battery life (as measured by the MobileMark 25 benchmark) per WHr. Higher is better. Source: Principled Technologies.

Average Cinebench R23 multi-core scores under a sustained workload

(Higher is better)

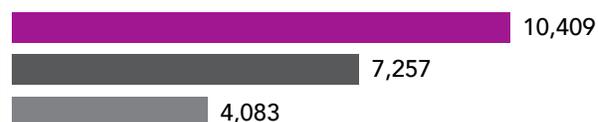


Figure 4: Sustained average Cinebench R23 multi-core scores for the three devices we tested. Higher scores are better. Source: Principled Technologies.



Read the report at <https://facts.pt/yY0TC7p>



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