



**Complete
day-to-day tasks
in less time**

With **43% or higher**
system performance*



**Minimize user
frustration**

With **7.8% or better**
multitasking performance†



**Reduce battery
anxiety**

With up to **9 hrs and 39
min of battery life** vs.
under 8 hrs and 30 min
of battery life††

* Based on PassMark PerformanceTest 11.0 results

† While running Procyon Office Productivity Benchmark in the foreground and conducting a 10-person Microsoft Teams video-conferencing meeting in the background.

†† Based on MobileMark 30 (Best power efficiency mode) battery life results

This project was commissioned by HP and AMD.

Gain a competitive edge with HP ProBook 4 G1a 14-inch Notebook AI PCs

We compared performance, battery life, and other key usability metrics of an AMD Ryzen™ 7 processor-powered HP AI PC to that of Intel Core Ultra 7 processor-based Dell and Lenovo AI PCs

As you plan your next fleet refresh, the strategic investment you make in 2026 could have a large effect on whether your business struggles or thrives. Choosing AI PCs that deliver superior system performance in addition to AI capabilities helps ensure you maximize every benefit from this upgrade. This report offers essential performance-based insights to help you make your decision.

We put three AI PCs to the test. First up was the HP ProBook 4 G1a 14-inch Notebook AI PC powered by an AMD Ryzen™ 7 250 processor. The Dell™ Pro 14 AI-capable laptop and Lenovo® ThinkPad® L14 Gen 6 AI PC we also tested both had an Intel® Core™ Ultra 7 255U processor. We found that the AMD Ryzen™ 7 processor-powered HP ProBook edged out both Intel Core Ultra 7 processor-based Dell Pro 14 and Lenovo ThinkPad L14 systems in general performance, multitasking, battery life, and more. Intrigued? Read on.

What and how we tested

Any knowledgeable individual or IT decision-maker has likely done thorough research and has a pretty good idea about what they need. So, we focused on the real-world performance details of these three Windows 11 Pro AI PCs, all equipped with integrated CPU, GPU, and neural processing units (NPUs) capable of processing trillions of operations per second (TOPS), 32 GB of DDR5 memory, and 512 GB of PCIe® NVMe® SSD storage:*

HP ProBook 4 G1a 14-inch AI PC • AMD Ryzen™ 7 250 (CPU) • AMD Radeon™ 780M graphics (GPU) • AMD Ryzen™ AI (NPU) at up to 16 TOPS • 56-Whr battery	Dell Pro 14 Laptop • Intel Core Ultra 7 255U (CPU) • Intel Graphics (GPU) • Intel AI Boost (NPU) at up to 12 TOPS • 55-Whr battery	Lenovo ThinkPad L14 Gen 6 • Intel Core Ultra 7 255U (CPU) • Intel Graphics (GPU) • Intel AI Boost (NPU) at up to 12 TOPS • 57-Whr battery
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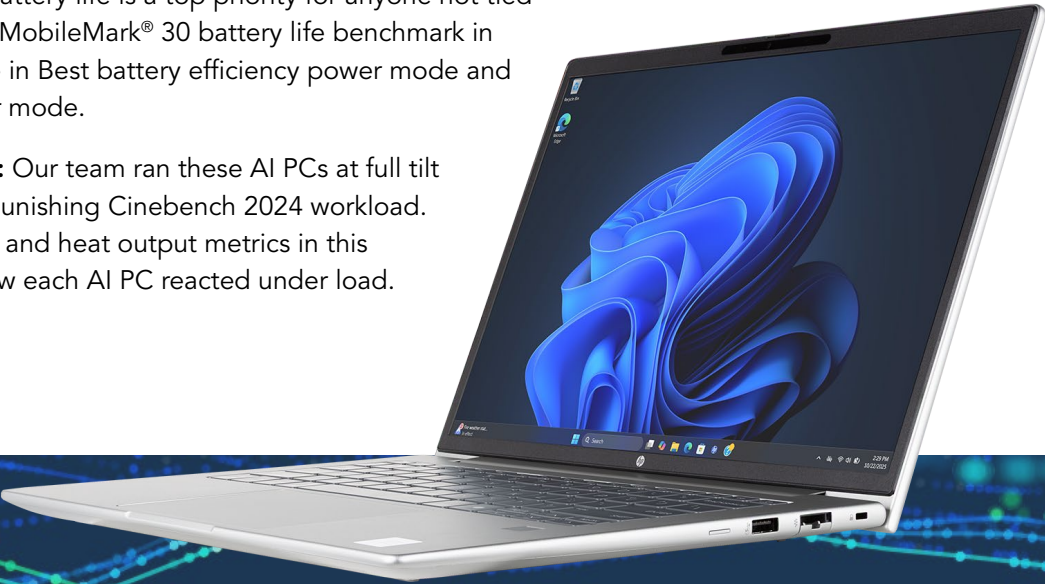
*The results we report reflect the specific configurations we tested. Any difference in the configurations—as well as screen brightness, network traffic, and software additions—can affect these results. For a deeper dive into our testing parameters and procedures, see the [science behind the report](#).

System performance: To help you better understand the productivity-based similarities and differences on each AI PC, we ran Cinebench 2024, Geekbench 6, PassMark PerformanceTest 11, and Procyon® Office Productivity Benchmark.

Multitasking performance: To see what users juggling many tasks at once could expect from each AI PC, we ran the Procyon Office Productivity Benchmark in the foreground and conducted a Microsoft Teams video-conferencing meeting in the background. These are two very resource-intensive tasks, and running them simultaneously tested the AI PCs’ ability to handle multiple key tasks at once.

Battery performance: Battery life is a top priority for anyone not tied to a desk, so we ran the MobileMark® 30 battery life benchmark in two configurations: once in Best battery efficiency power mode and again in Balanced power mode.

Sustained performance: Our team ran these AI PCs at full tilt for 30 minutes under a punishing Cinebench 2024 workload. The system performance and heat output metrics in this section will show you how each AI PC reacted under load.



Note: The graphs in this report use different scales to keep a consistent size. Please be mindful of each graph’s data range as you compare.

System performance: Enhance productivity and efficiency

To evaluate processor performance for resource-intensive tasks, we used Cinebench 2024. Cinebench 2024 renders a 3D scene with CPU-intensive Redshift for Cinema 4D software.¹ To stress the processors from another angle, we ran the Geekbench 6 benchmark. Geekbench 6 executes multiple CPU-intensive tasks simultaneously.² For a more general overview, we employed PassMark PerformanceTest 11, which combines CPU, 2D and 3D graphics, storage, and memory test performance metrics into an overall PassMark rating.³ To round out the system performance picture, we ran the Procyon Office Productivity Benchmark. This benchmark uses Microsoft 365 applications to evaluate how effectively the system under test handles general productivity tasks. In all of these benchmark tests, higher scores are better.

In these system performance evaluations, we found that the AMD Ryzen™ 7 250 processor-powered HP ProBook 4 G1a came out ahead of the two Intel Core Ultra 7 255U processor-powered AI PCs we tested. The HP AI PC received notably higher scores in the Cinebench 2024 and PassMark PerformanceTest 11 comparisons. These higher system performance scores indicate that investing in AMD Ryzen™ 7 250 processor-powered HP ProBook 4 G1a AI PCs would help users complete day-to-day tasks in less time than the Intel Core Ultra processor-based AI PCs we tested.

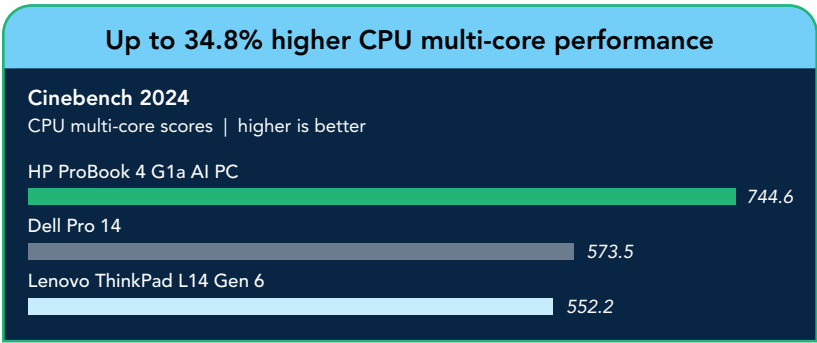


Figure 1: Cinebench 2024 CPU multi-core scores. Source: PT.

About the AMD and Intel processors

The AMD Ryzen™ 7 250 processor is part of the AMD Ryzen™ 200 Series. It has 8 CPU cores and 16 threads, a max clock speed of 5.1 GHz, and integrated AMD Radeon™ 780M graphics. The AMD Ryzen™ 7 250 processor also includes an AMD Ryzen™ AI engine with the ability to process up to 16 NPU TOPS.⁴

The Intel Core Ultra 7 255U processor is part of the Intel Core Ultra Series 2 product collection. It has 12 CPU cores and 14 threads, a max turbo frequency of 5.2 GHz, and integrated Intel graphics. The Intel Core Ultra 7 255U also contains Intel AI Boost, which has the ability to process up to 12 NPU Peak TOPS.⁵

About the AI PCs

The HP ProBook 4 G1a Notebook AI PC is a Windows 11 Pro PC powered by AMD Ryzen™ AI processors. It comes with a 14-inch diagonal, anti-glare WUXGA display, an integrated 1,080p FHD or 5MP IR webcam, up to 48 GB of DDR5-5600 SO-DIMM memory, and up to 1 TB of PCIe® NVMe® storage.⁶

The Dell Pro 14 Laptop is an AI-capable Windows 11 Pro PC powered by Intel Core Ultra processors. 14-inch models come with a non-touch, anti-glare FHD display, an FHD IR webcam, up to 16 GB of DDR5-5600 memory, and up to 512 GB of SSD storage.⁷

The Lenovo ThinkPad L14 Gen 6 is a Windows 11 Pro AI PC powered by Intel Core Ultra processors. It comes with a 14-inch anti-glare WUXGA display you can get with or without a touchscreen, an optional infrared camera, up to 64 GB of DDR5-5600 memory, and up to 2 TB of SSD storage.⁸

Up to 23.51% higher CPU multi-core performance

Geekbench 6

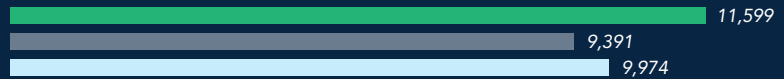
Higher is better

■ HP ProBook 4 G1a AI PC

■ Dell Pro 14

■ Lenovo ThinkPad L14 Gen 6

CPU multi-core scores



Single-core scores



Figure 2: Geekbench 6 CPU scores. Source: PT.

Up to 46.17% higher system performance

PassMark PerformanceTest 11.0

Rating | higher is better

HP ProBook 4 G1a AI PC



Dell Pro 14



Lenovo ThinkPad L14 Gen 6

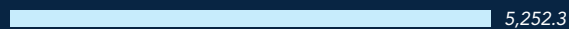


Figure 3: PassMark PerformanceTest 11.0 overall ratings. Source: PT.

Up to 8.3% higher productivity performance

Procyon Office Productivity Benchmark

Rating | higher is better

HP ProBook 4 G1a AI PC



Dell Pro 14



Lenovo ThinkPad L14 Gen 6

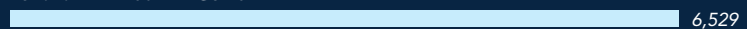


Figure 4: Procyon Office Productivity Benchmark overall ratings. Source: PT.

Multitasking performance: Minimize user frustration

To see what users juggling many tasks at once could expect from each AI PC, we ran the Procyon Office Productivity Benchmark in the foreground while conducting a 10-person Microsoft Teams video-conferencing meeting in the background. We chose Procyon Office Productivity Benchmark because this benchmark leaves Microsoft 365 apps “running in the background as the focus moves from one task to another.”⁹ These are two very resource-intensive tasks, and running them simultaneously helped push the AI PCs to handle more strenuous work. While the results were close, there was still one obvious winner.

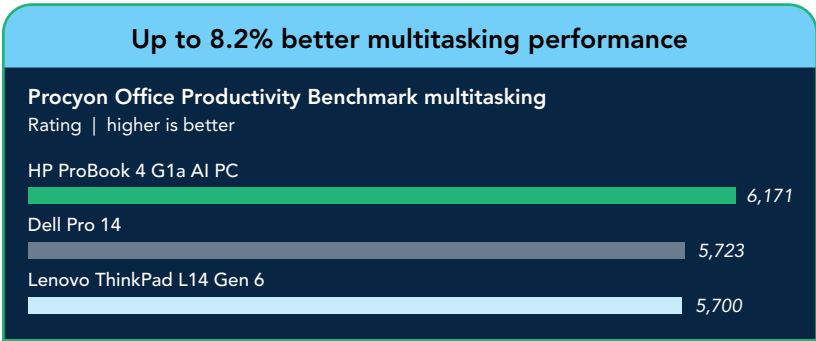


Figure 5: Procyon Office Productivity Benchmark overall rating while multitasking. Source: PT.





Battery performance: Reduce battery anxiety

Battery life is priority one for anyone not tied to a desk, so we ran the MobileMark 30 battery life benchmark on all three Windows 11 Pro PCs in both the default (Balanced) and Best power efficiency modes:

HP ProBook 4 G1a 14-inch AI PC

- AMD Ryzen™ 7 250 processor
- 56-Whr battery

Dell Pro 14 Laptop

- Intel Core Ultra 7 255U
- 55-Whr battery

Lenovo ThinkPad L14 Gen 6

- Intel Core Ultra 7 255U processor
- 57-Whr battery

Unlike some other battery life benchmarks, MobileMark 30 uses unmodified versions of real applications to measure both battery life and performance and present results based on actual use cases.¹⁰ In addition to Best power efficiency and Balanced battery life results, we include three important MobileMark 30 performance metrics. Higher minutes per watt-hour (Whr) scores indicate better energy efficiency. Higher DC performance scores indicate better system performance on battery. Higher MobileMark Index scores indicate a better balance of performance and battery life while working unplugged.

In addition to delivering significantly longer battery life, the HP ProBook 4 G1a powered by the AMD Ryzen™ 7 processor achieved better performance metrics in both scenarios.

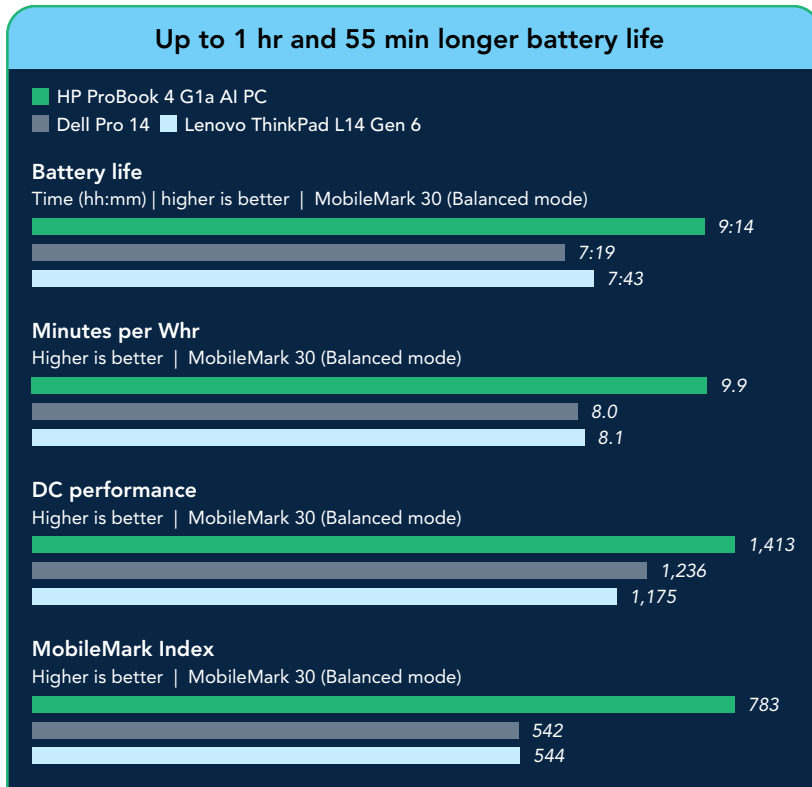


Figure 6: MobileMark 30 (Balanced mode) benchmark results. Source: PT.

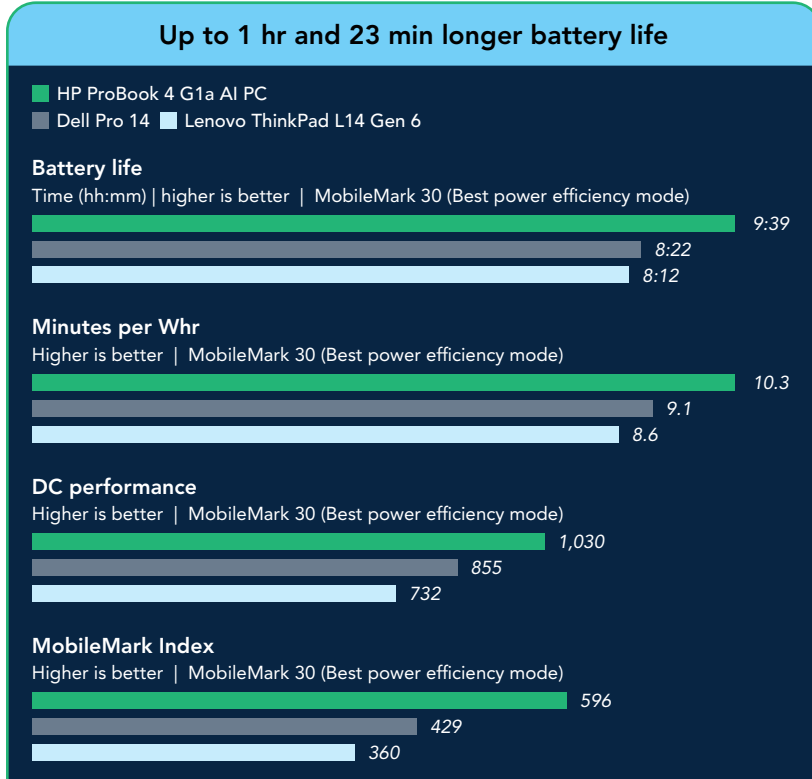


Figure 7: MobileMark 30 (Best power efficiency mode) benchmark results. source: PT.

Sustained performance: Keeping cool under load

We plugged in these AI PCs and ran a resource-intensive Cinebench 2024 workload for 30 minutes. We also measured temps on the undersides of the chassis, where it would touch someone's lap.

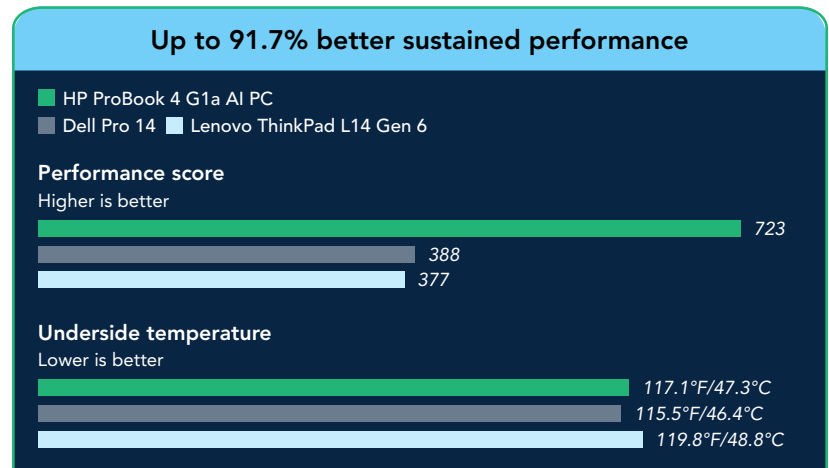


Figure 8: Median performance scores and temps while the AI PCs were plugged in and running the Cinebench 2024 benchmark for 30 minutes. Source: PT.

While the underside temps were very close under load, the AMD Ryzen™ 7 250 processor-based HP ProBook 4 G1a delivered significantly better sustained performance than either Intel Core Ultra processor-based AI PC.



Conclusion

In our system, multitasking, battery, and sustained performance comparisons, a HP ProBook 4 G1a 14-inch Notebook AI PC powered by an AMD Ryzen™ 7 250 processor edged out two Intel Core Ultra 7 255U processor-based AI PCs: a Dell Pro 14 Laptop and a Lenovo ThinkPad L14 Gen 6. With higher benchmark scores, better battery performance metrics, and better multitasking performance, the AMD Ryzen™ 7 processor-powered HP ProBook 4 G1a offers a compelling choice for businesses seeking to maximize productivity and efficiency in their 2026 fleet refresh.

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Read the science behind this report ►



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This project was commissioned by HP and AMD.