



## Keep your always-on workflow powered and uninterrupted with the HP ZBook X G1i

Compared to an identically configured Dell Pro Max 16 Premium, the HP ZBook X G1i lasted a full hour longer unplugged while delivering similar or better performance

### An hour longer battery life

7 hr 50 min vs. 6 hr 50 min based on the Procyon® Office Productivity Battery Life Benchmark

### Equivalent or better performance

Based on over 10 content creation, AI, bandwidth, and general performance comparisons

Intel® Core™ Ultra 200H series mobile processors and NVIDIA RTX PRO™ Blackwell Generation Laptop GPUs deliver professional-grade performance to accelerate AI workloads, empower mobile creativity, and enable advanced generative AI (GenAI) tools.<sup>1,2</sup> But is simply investing in mobile workstations with these components enough to give you uninterrupted productivity and true mobility?

To find out, we equipped an HP ZBook X G1i AI workstation and a Dell™ Pro Max 16 Premium mobile workstation with Intel® Core™ Ultra 9 285H processor with Intel vPro®, NVIDIA RTX PRO™ 2000 Blackwell Generation Laptop GPU, 64 GB of memory, and 1 TB of storage. We then measured battery life and compared performance from multiple angles.

The most significant differences between the workstations were their displays and batteries. While both 16-inch displays delivered a peak resolution of 3,840 x 2,400, the HP ZBook X G1i screen was LED and the Dell Pro Max 16 Premium screen was LCD. The HP ZBook X G1i also had a much smaller battery, 83-Whr, versus the 96-Whr battery in the Dell Pro Max 16 Premium.

## Finish more work in your day with longer battery life

We all want our devices to “just work,” so long battery life is key for on-the-go professionals who move from conference room to office to coffee shop over the course of their work day. But many mobile workstations, particularly ones that pack a lot of compute power, can’t handle heavy workloads for a full workday. A powerful AI workstation with a full day of battery life is a hidden advantage, one that can keep you productive while your colleagues interrupt their workflow to search for an outlet.

We tested both workstations’ battery life with the Procyon Battery Life Benchmark, using the Office Productivity workload to simulate a standard workday using real Microsoft 365 applications. The 83-Whr battery on the HP ZBook X G1i lasted an entire hour longer than the 96-Whr battery in the Dell Pro Max 16 Premium—delivering almost 8 hours of battery life. If your average day includes a few meetings or brainstorming sessions where you’re never cracking the lid on your workstation, the HP ZBook X G1i could keep you productive for an entire day even when you’ve accidentally left your charger at home.

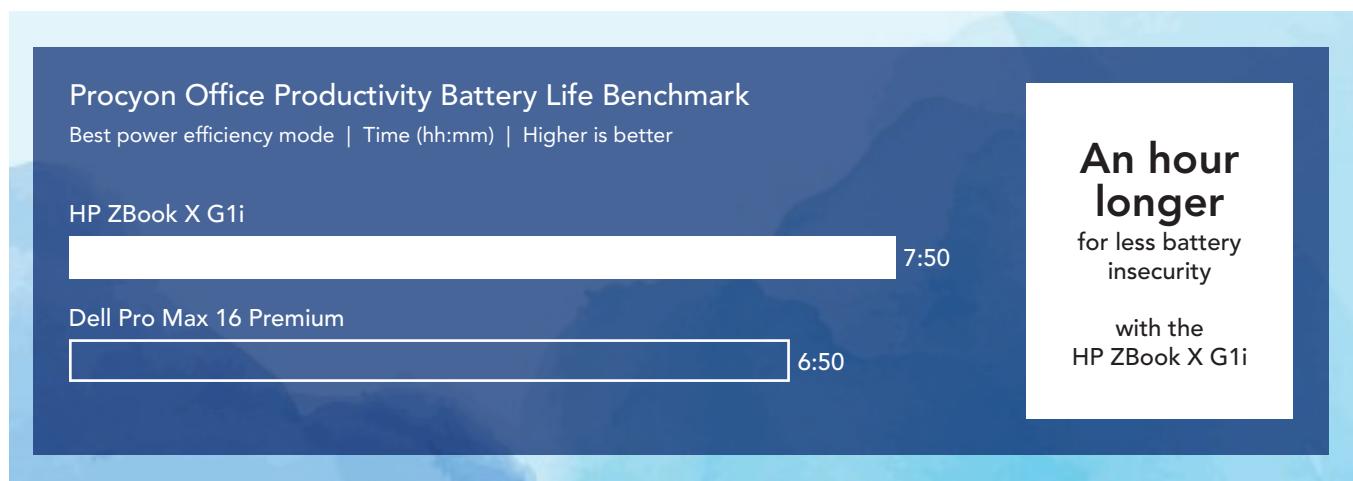


Figure 1: Procyon Office Productivity Battery Life Benchmark results. Source: PT.

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.

## Achieve equivalent or better performance on more workloads

It's valuable for a mobile workstation to have a long battery life, but if it doesn't also deliver strong performance, it may not be the right system for you. That's why we also compared performance on the HP and Dell mobile workstations with a range of benchmarks and tools, including:

- **Component communication test:** 3DMark® PCI Express feature test
- **General performance benchmarks:** PassMark PerformanceTest 11 and PCMark 10
- **AI-assisted content creation benchmark:** Procyon AI Image Generation Benchmark
- **GenAI content creation tool:** Amuse 3.1 art generation tool
- **Graphics-intensive benchmarks:** Chaos V-Ray, Cinebench 2024, Geekbench 6 Pro, Puget Bench for Photoshop®, Revit® 2024 RFO, SPECCapc® for Creo 9, and SPECCapc for Solidworks® 2024

In all of these comparisons, the HP ZBook X G1i delivered the same or slightly better performance than the Dell Pro Max 16 Premium. Some notable standouts were in bandwidth, general and graphics-intensive performance, and an on-device GenAI-assisted content creation task. We discuss those key wins in the next section, and you can see the complete results in the [science behind the report](#).

### About the HP ZBook X G1i

The HP ZBook X G1i, powered by an Intel® Core™ Ultra processor, offers NVIDIA RTX PRO™ Blackwell Generation Laptop GPU, up to 8 TB storage, and up to 64 GB of RAM to give you the power you need for resource-intensive workflows.<sup>3</sup> HP describes it as "perfect for CAD and drafting workflows" and "great for construction planning, documentation, and BIM," while its portability makes it a strong choice for students and professionals on the go.<sup>4</sup>

★ [Learn more](#)

### About the Intel Core Ultra 9 285H processor

This Series 2 processor has 16 cores (6 performance-cores, 8 efficient-cores, and 2 low power efficient-cores) with 16 threads, 24 MB Intel® Smart Cache, and a max turbo frequency of 5.4 GHz. It contains Intel® AI Boost NPU architecture for AI acceleration and supports up to 128 GB of DDR5-6400 MT/s memory. It also supports OpenVINO™, WindowsML, DirectML, ONNX RT, and WebNN AI software frameworks.

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## Performance standouts

How much data a workstation can transmit among components at a given time, or bandwidth, is a contributing factor in the overarching performance story. The **3DMark PCI Express feature test** measures the bandwidth (Gb/sec) available to the GPU through the workstation's PCIe interface. With higher bandwidth—delivered by the HP ZBook X G1i in our testing—applications can move data more efficiently, users enjoy shorter load times, and the workstation is better equipped to manage demanding workloads.

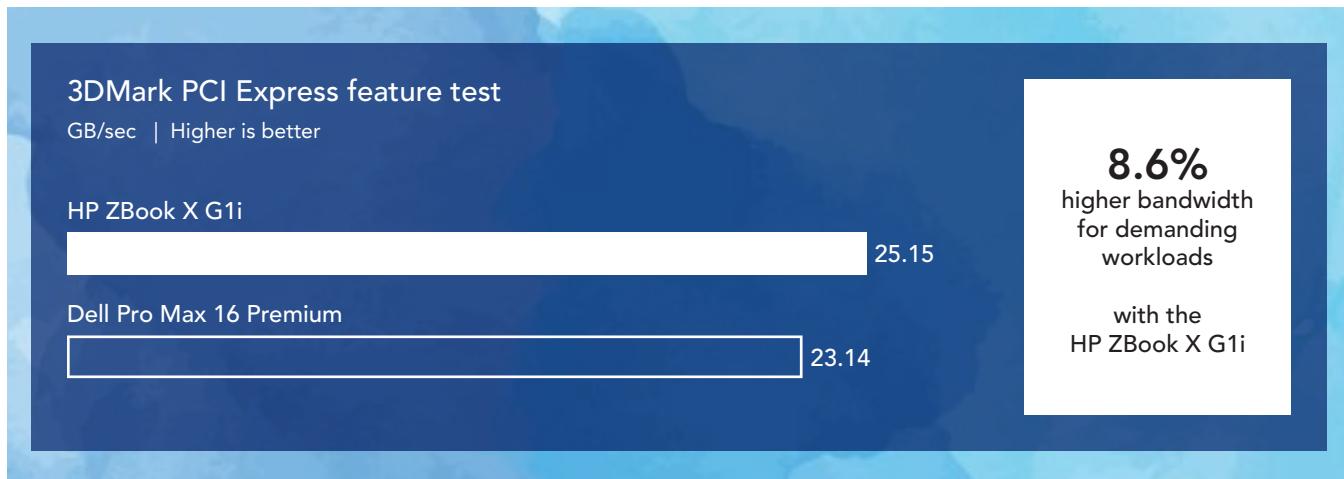


Figure 2: 3DMark PCI Express feature test results. Source: PT.

The **PassMark PerformanceTest 11** benchmark provides a comprehensive assessment of system performance measuring CPU, 2D and 3D graphics, disk speed, and memory capabilities to deliver an overall performance rating.<sup>5</sup> A higher PassMark rating hints at smoother performance for professionals running lots of applications together—think CAD, AI tools, video editing, and data analysis.

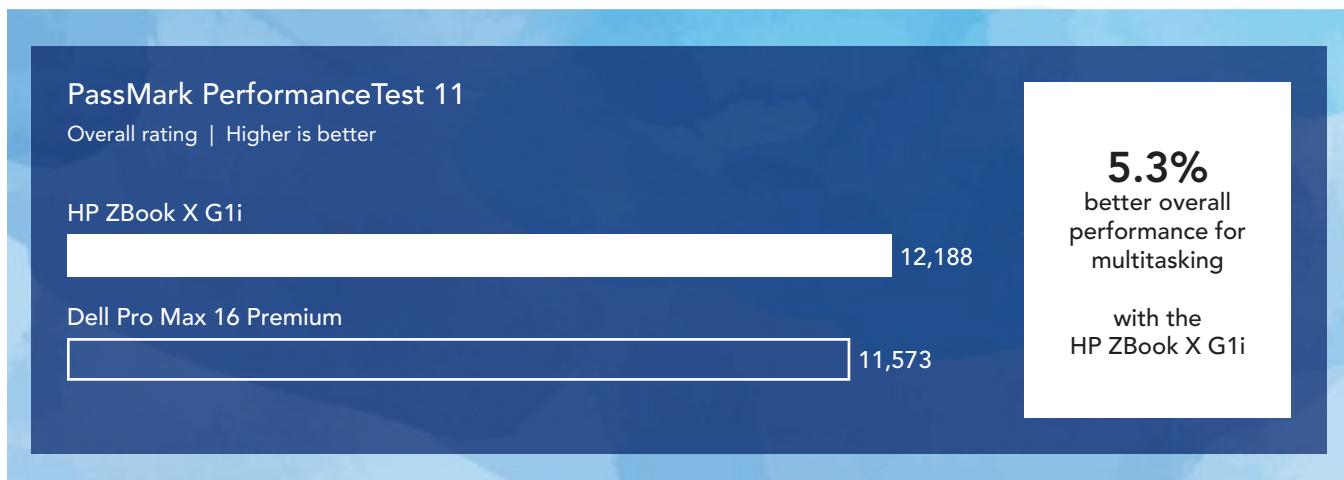


Figure 3: PassMark PerformanceTest 11 benchmark results. Source: PT.

The **Cinebench 2024** benchmark utilizes the Maxon Redshift render engine, Cinema 4D's default engine, to test a system's hardware capabilities.<sup>6</sup> Higher CPU single-core scores translate to improved performance in lightly threaded tasks, such as code compilation, light photo editing, and basic modeling.



Figure 4: Cinebench 2024 benchmark results. Source: PT.

**Amuse 3.1** is a locally run AI art generation tool which uses Stable Diffusion models optimized for fine-grained detail and photorealism.<sup>7</sup> Speedier art generation encourages experimentation with concepts, styles, and variations, keeping the creative process flowing.



Figure 5: Time to generate a high-res image using the Amuse 3.1 art creation tool. Source: PT.

Beyond these performance wins, we also saw a number of very small performance wins with the HP ZBook X G1i as well as areas of equivalent performance, which isn't surprising given how similarly the two mobile workstations were configured. You can explore those results in the [science behind the report](#).

## Conclusion

When we measured battery life and performance on HP ZBook X G1i and Dell Pro Max 16 Premium mobile workstations with near-identical configurations, the HP ZBook X G1i pulled ahead in a few areas. First, the 83-Whr battery in the HP ZBook X G1i delivered almost 8 hours of unplugged battery life. That's an hour longer than the higher-capacity 96-whr battery on the Dell Pro Max 16 Premium. Plus, the HP ZBook X G1i performed better in bandwidth and graphics-intensive performance benchmarks than its Dell Pro Max 16 Premium competitor. The HP ZBook X G1i even generated a high-res image in almost a minute less time using the Amuse 3.1 art creation tool.

Our testing proves that when you choose the HP ZBook X G1i instead of the Dell Pro Max 16 Premium, you can get the same or better performance with an entire extra hour of battery life. No downsides here.

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