



HP ZBook Fury G1i 18": Supercharge 3D model creation and manipulation

We compared graphics and AI performance and battery life on HP ZBook Fury G1i 18" and Dell Pro Max 18 Plus mobile workstations

Experience extended unplugged productivity

Almost 6 1/2 hours of real-world battery life based on Procyon® Battery Life Benchmark results

Get actionable data insights in less time

Up to 15.5% higher inference performance based on Procyon AI Computer Vision Benchmark results

Better support high-bandwidth applications

30.0% higher PCIe bandwidth based on 3DMark PCI Express feature test results

3D software has intensive hardware requirements, and modeling, texturing, and animating 3D projects can be time-consuming. This is a challenge for anyone working on a tight deadline or with limited resources. To set yourself up for success, it makes sense to get the most out of your next mobile workstation purchase.

HP ZBook Fury G1i mobile workstations are equipped with Intel® Core™ Ultra 200HX series CPUs and NVIDIA RTX PRO™ Blackwell Generation Laptop GPUs. These professional-grade processors are purpose-built for the next generation of on-the-go creators and promise to deliver groundbreaking AI and graphics performance.^{1,2} But is investing in a mobile workstation with those components enough to supercharge your 3D design efforts?

We compared HP ZBook Fury G1i 18" and Dell Pro Max 18 Plus mobile workstations with identical Intel® vPro® with Intel® Core™ Ultra 9 285HX processors and NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPUs. Then, we ran multiple benchmarks to compare system performance and battery life. You might be surprised by what we found—read on for more.

What we tested

We compared performance and battery life on two Windows 11 Pro mobile workstations with 64 GB of memory, 1 TB of storage, and the same CPU and graphics:

HP ZBook Fury G1i 18" equipped with an Intel® Core™ Ultra 9 285HX processor with Intel vPro®, NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPU, 64 GB of DDR5 5600 SODIMM memory, an 18-inch LED display with a peak resolution of 2,560 x 1,600, and a 99-Wh battery

Dell Pro Max 18 Plus equipped with an Intel Core Ultra 9 285HX processor with Intel vPro, NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPUs, 64 GB of DDR5 6400 CSODIMM memory, an 18-inch LCD display with a peak resolution of 2,560 x 1,600, and a 96-Wh battery

For a wide-ranging performance evaluation, we ran these benchmarks three times and report the median results:

- 3DMark
- Cadalyst Systems Benchmark using AutoCAD 2026
- Procyon AI Computer Vision Benchmark
- Puget Bench for Photoshop
- Revit 2024 RFO Benchmark
- SPECCapc® for Creo 9

We also measured battery life using the Procyon Battery Life Benchmark with the Windows 11 power mode set to Best power efficiency.

About the HP ZBook Fury G1i 18"

The HP ZBook Fury G1i, powered by a desktop-class Intel Ultra HX processor, was designed for creative professionals, product designers, engineers, architects, and data scientists.³ According to HP, it is their "most powerful ZBook workstation laptop," delivering "blazing fast performance...for real-time rendering 3D concepting, simulation, and more."⁴ It incorporates HP Vaporforce Thermals to protect from excessive heat, HP Smart Sense to optimize power and thermal performance, and NVIDIA RTX PRO™ Blackwell Generation Laptop GPUs. The system offers multiple display options; for this comparison, we tested the configuration with the 18-inch diagonal, WQXGA LED UWVA (2,560 x 1,600), 120 Hz, anti-glare for AI 5MP IR Webcam, 500 nits display.

♦ [Learn more](#)

About the Intel Core Ultra 9 285HX processor

This Series 2 processor has 24 (8 performance and 16 efficient) cores with 24 threads, 36 MB Intel® Smart Cache, and a max turbo frequency of 5.5 GHz. It contains Intel® AI Boost NPU architecture for AI acceleration and supports up to 256 GB of DDR5-6400 MT/s memory. It also supports OpenVINO™, WindowsML, DirectML, ONNX RT, and WebNN AI software frameworks.

♦ [Learn more](#)

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.

Experience extended unplugged productivity

Long battery life is a game changer. When you're not constantly worried that your battery's about to die, you can choose the best seat for an important meeting instead of one that's close to an outlet. And you can work on the go, confident that you have multiple hours of battery life at your disposal. **Procyon Battery Life Benchmark** has multiple workload options. We chose the Office Productivity workload, which simulates a typical workday using real-world Microsoft 365 applications.⁵ We found that the HP ZBook Fury G1i 18", with its 55W (99-Whr) battery and LED display delivered 50 percent longer battery life than the Dell Pro Max 18 Plus, with its 55W (96-Whr) battery and LCD display.

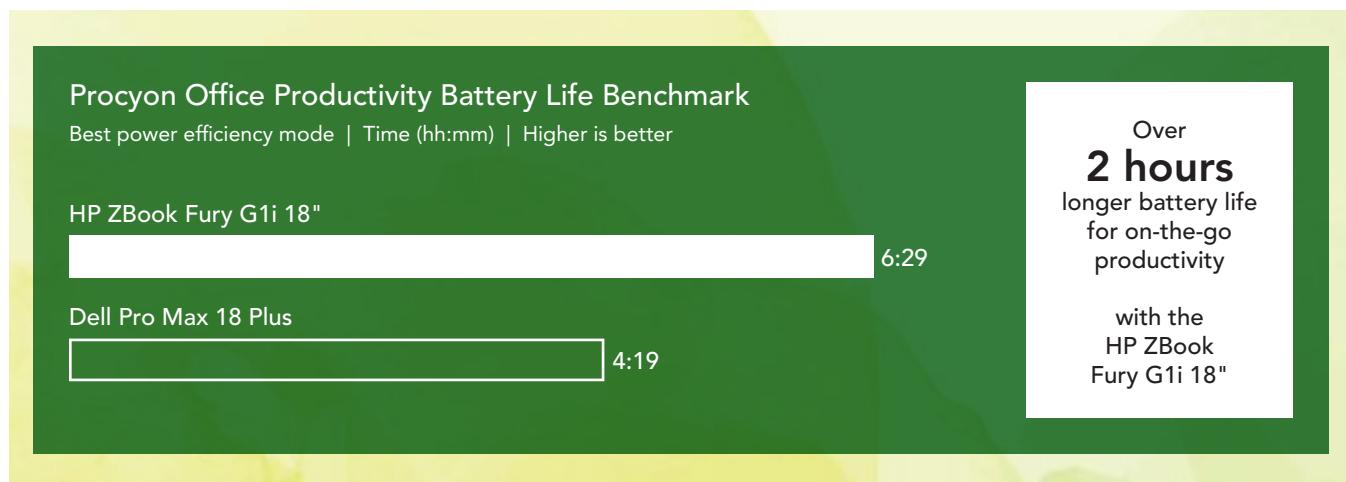


Figure 1: Procyon Battery Life Benchmark results. Source: PT.

Better support data-intensive applications

In addition to processor performance, we need to talk about bandwidth, or how much data each workstation can transmit among components during a given time. Computers achieve this through a PCI Express (PCIe®) interface. The **3DMark PCI Express feature test** measures the gigabits per second (GB/s) available to each workstation's GPU through the system's PCIe interface.⁶ Higher PCIe bandwidth, like what the HP system delivered in our testing, can help accelerate machine learning (ML), 3D rendering, and scientific simulation workflows.⁷

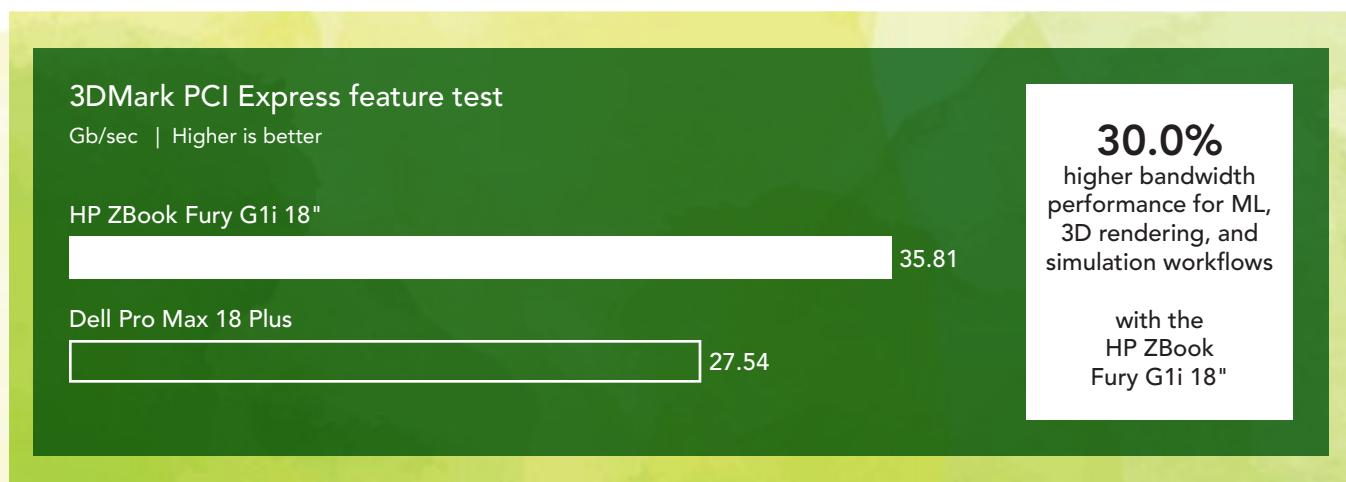


Figure 2: 3DMark PCI Express feature test results. Source: PT.

Get the power you need to tackle bigger projects

Whether you're a mechanical engineer, product designer, or architect, design and drafting are a huge part of your job. So, even though the following benchmarks deal with specific industry-standard software, you can gain insights into your likely performance regardless of your specialty. For example, as an architect or product designer, you might use AutoCAD and Revit® for initial modeling and switch to Adobe Photoshop® for artistic rendering and presentation graphics.^{8,9}

Catalyst System Benchmark 2015 measures 3D graphics, 2D graphics, disk, and CPU performance using AutoCAD 2026 and produces a total index score.¹⁰

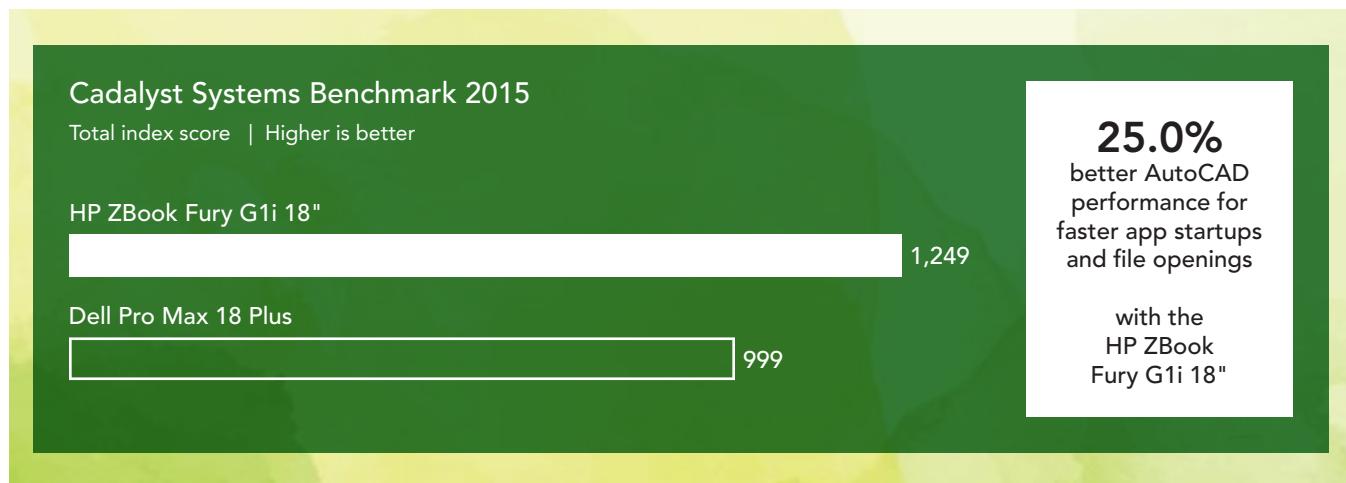


Figure 3: Catalyst Systems Benchmark 2015 results. Source: PT.

Puget Bench for Photoshop measures photo-editing performance using Adobe Photoshop.¹¹ It mostly stresses the CPU and GPU. The overall score, based on how long it takes to complete general and filter tests, gives insight into how the systems under test could perform in production environments.

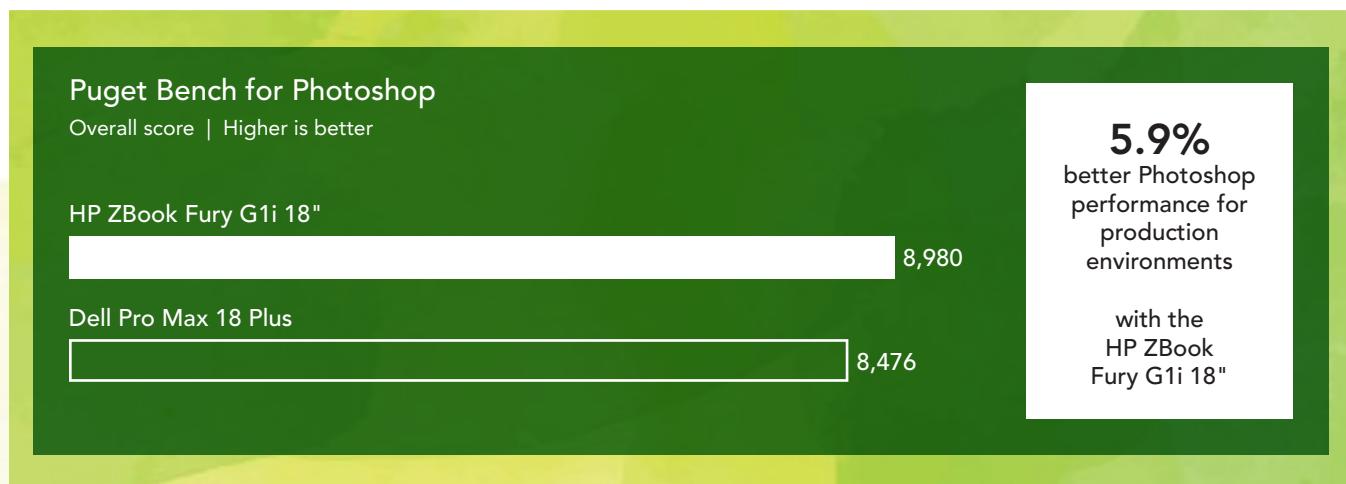


Figure 4: Puget Bench for Photoshop results. Source: PT.

Revit 2024 RFO Benchmark measures model creation, rendering, exporting, and graphics performance when using Autodesk® Revit 2024.¹² According to Autodesk, “the speed at which the CPU sends data to the GPU will impact graphical performance,” as will how quickly the RAM and storage deal with data.¹³ That makes these numbers matter to more than the professionals who use Revit software.

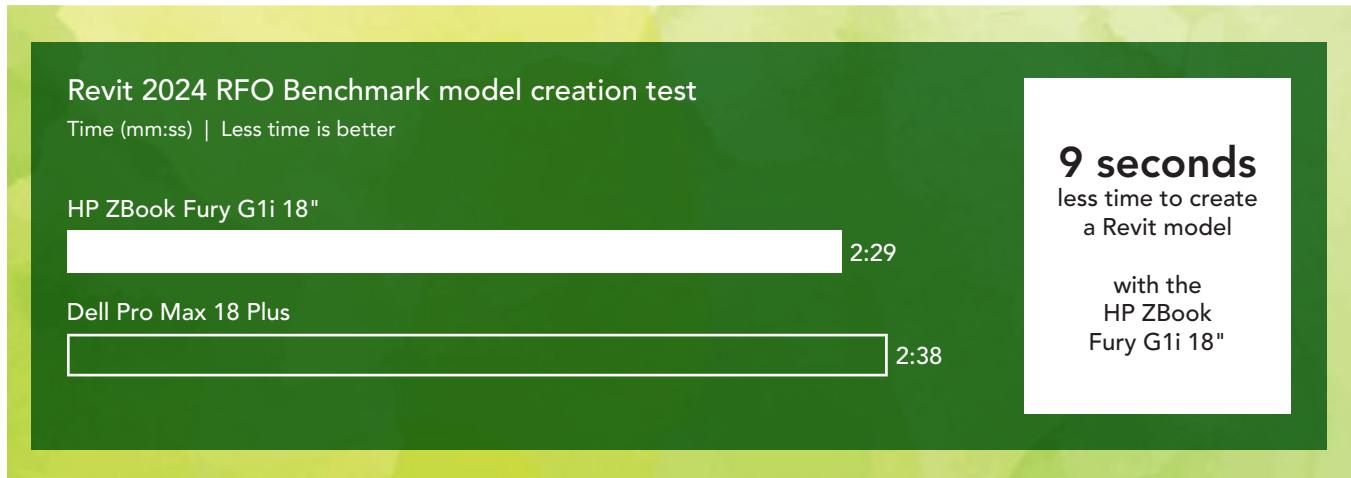


Figure 5: Revit 2024 RFO Benchmark model creation test results. Source: PT.

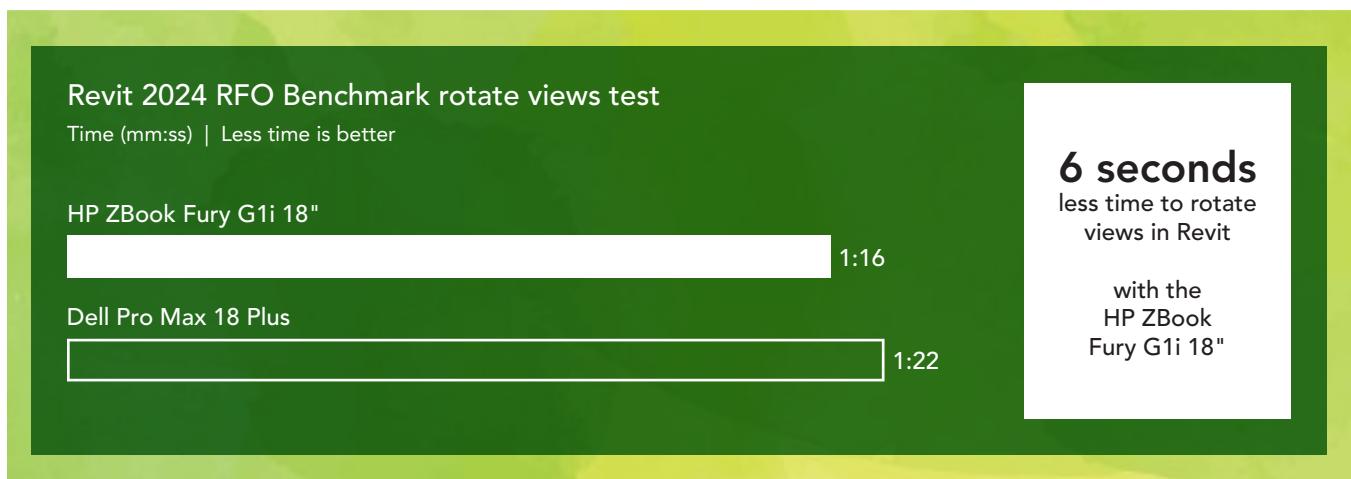


Figure 6: Revit 2024 RFO Benchmark rotate views test results. Source: PT.

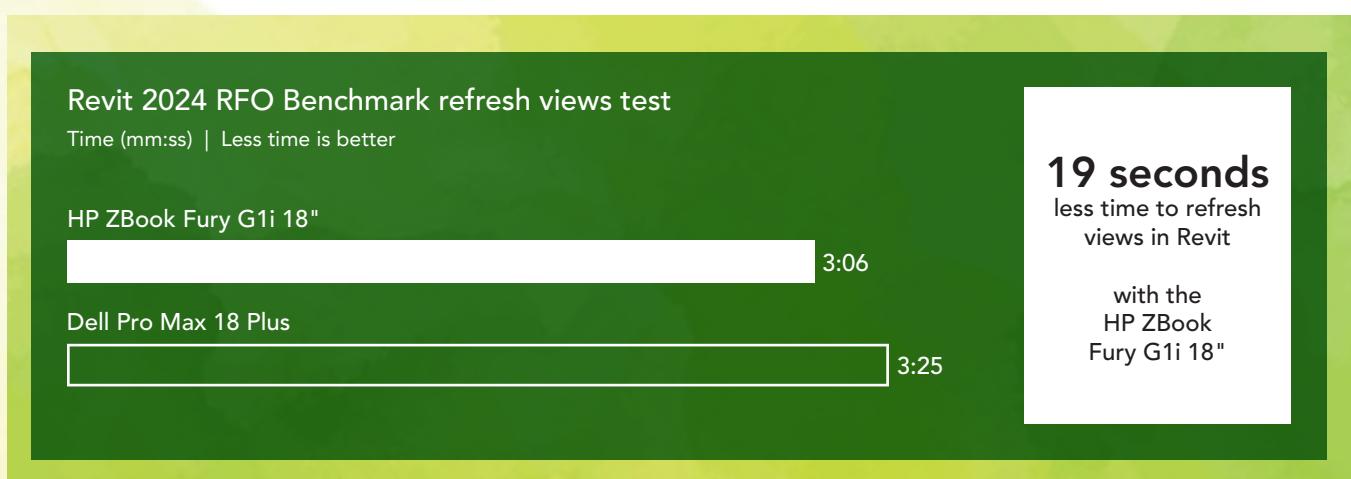


Figure 7: Revit 2024 RFO Benchmark refresh views test results. Source: PT.

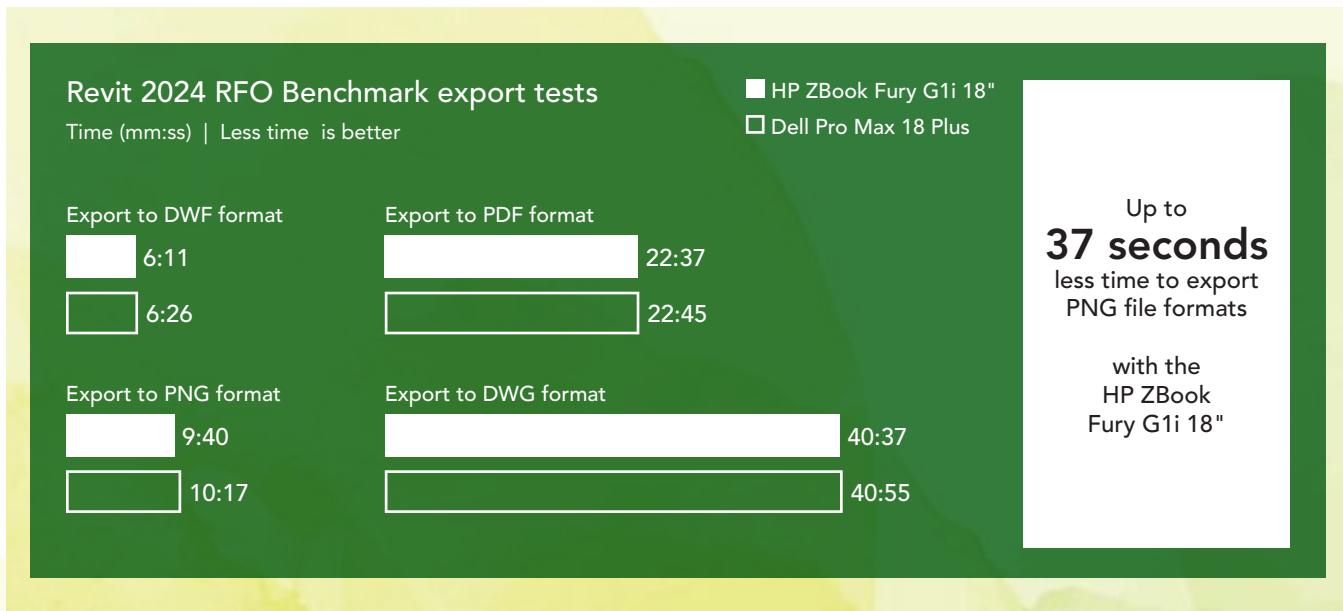


Figure 8: Revit 2024 RFO Benchmark export test results. Source: PT.

SPECapc for Creo 9 measures graphics, CPU, and I/O performance using Creo 9, CAD software for creating 3D models "that [allow] engineers to conceptualize, design, analyze, and validate products."¹⁴ Higher scores here can translate to a more responsive user experience when working on graphics-intensive tasks.

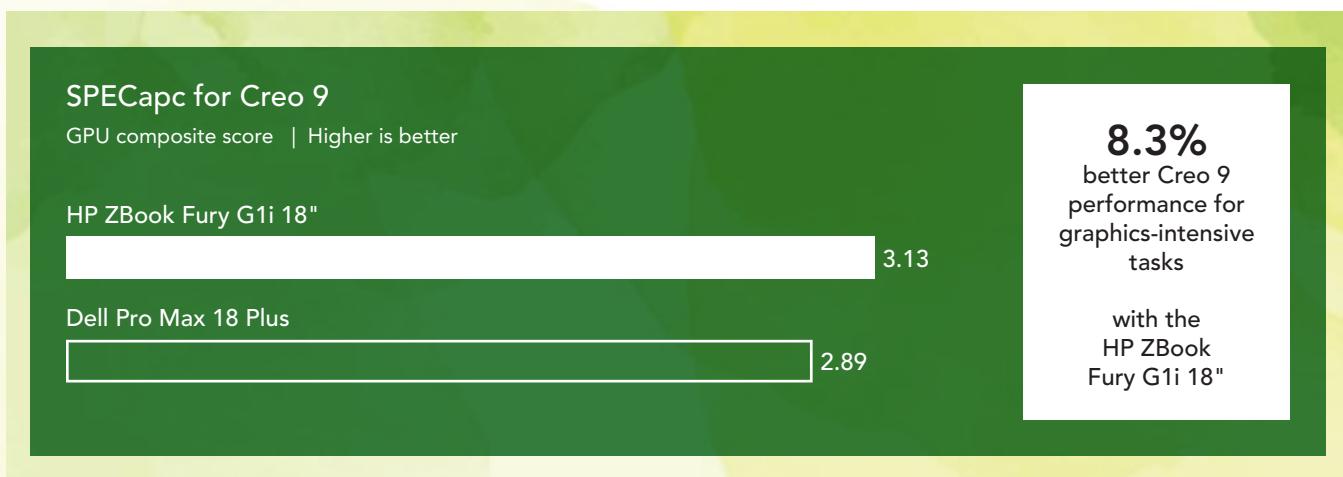


Figure 9: SPECapc for Creo 9 (GPU) benchmark results. Source: PT.

Get actionable data insights in less time

Whether you're using computer vision to convert sketches into 3D CAD models or interpret visual information, the more capably a workstation can handle those AI-enhanced workflows, the better.

We used the Procyon AI Computer Vision Benchmark to measure on-device inference performance, stressing the NVIDIA RTX PRO™ 5000 Blackwell Laptop GPUs at different precision levels.¹⁵ Float32 precision uses 32-bit calculations for situations where high-accuracy data insights are more vital than speed and efficiency. Float16 uses 16-bit calculations to provide data insights in situations where speed and efficiency are more valuable. Int8 is the lowest precision level, ideal for situations where you need to heavily prioritize speed and efficiency over accuracy.

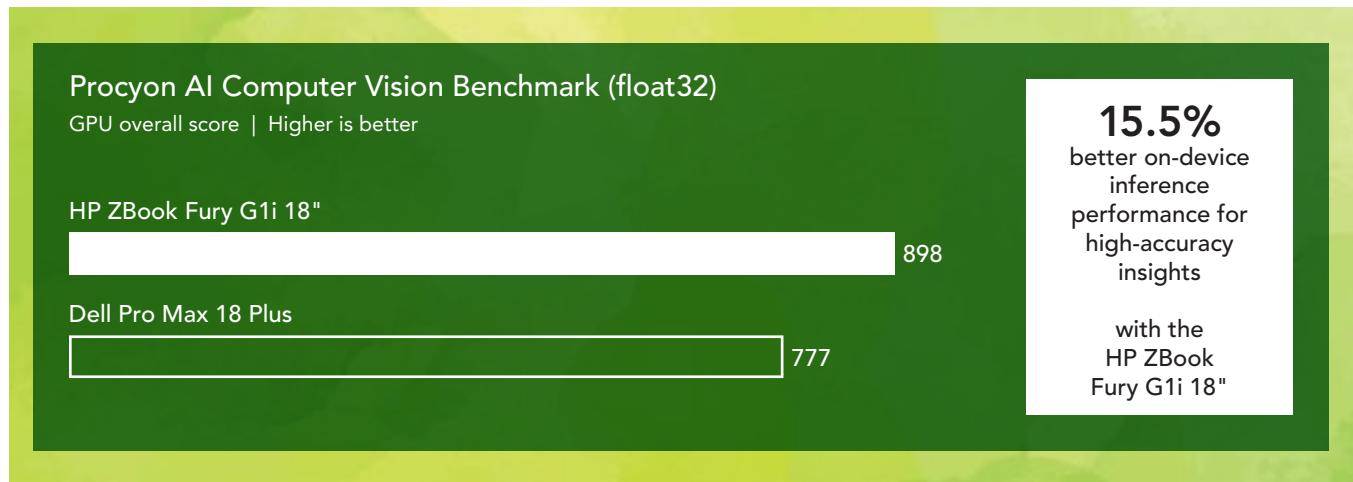


Figure 10: Procyon AI Computer Vision Benchmark (float32) results. Source: PT.

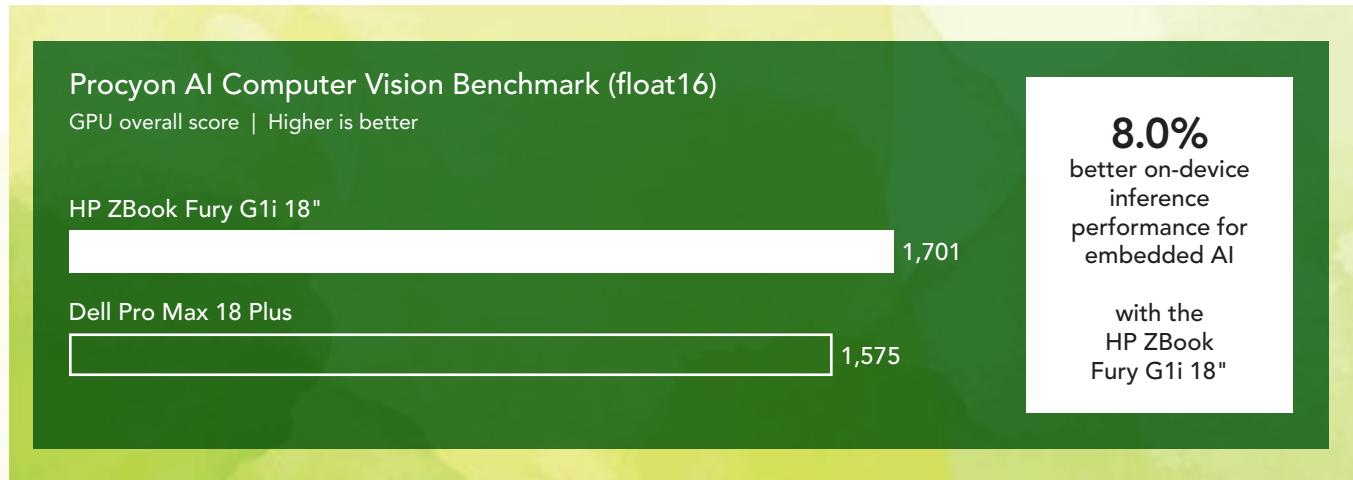


Figure 11: Procyon AI Computer Vision Benchmark (float16) results. Source: PT.

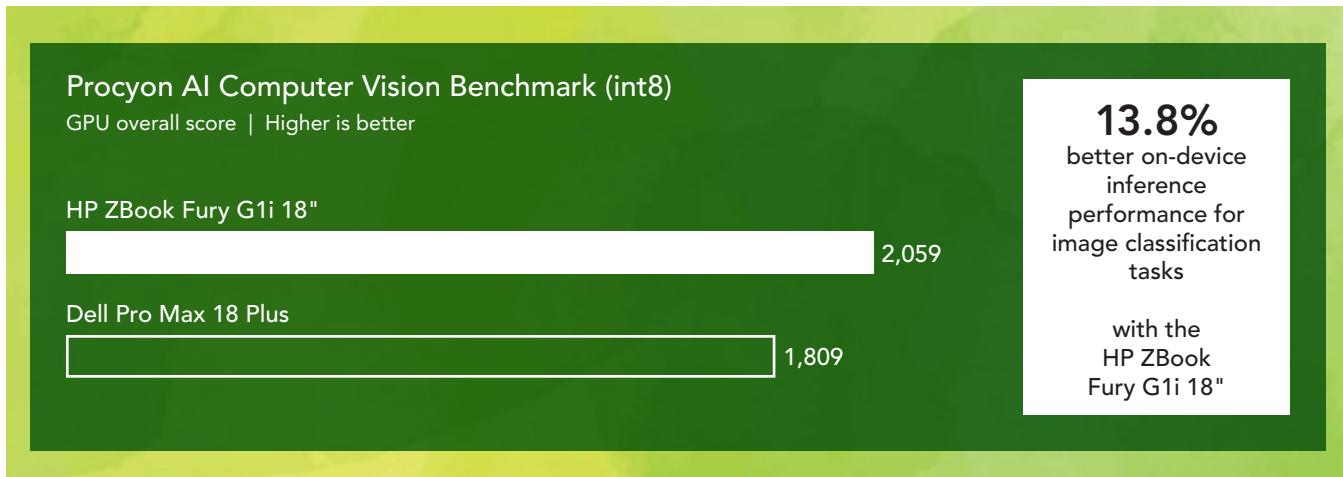


Figure 12: Procyon AI Computer Vision Benchmark (int8) results. Source: PT.

Conclusion

When we tested comparably configured HP ZBook Fury G1i 18" and Dell Pro Max 18 Plus mobile workstations, we found that the HP ZBook system delivered 50 percent longer battery life and received higher scores across multiple industry-standard benchmarks. Longer unplugged productivity lets you work where you want and when you need to, and stronger benchmark performance means you have the potential to projects finish faster and accelerate creative iteration. Think of the possibilities.

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This project was commissioned by HP.