Cross the finish line first with the HP ZBook Fury G1i 16"

We compared performance and battery life on HP ZBook Fury G1i 16" and Dell Pro Max 16 Plus mobile workstations powered by identical Intel Core Ultra 9 285HX processors and NVIDIA RTX PRO 5000 Blackwell laptop graphics

Transfer data to the GPU more quickly

With 28.9% higher bandwidth based on 3DMark® PCI Express feature test results

Win when every minute unplugged matters

Get 79 more minutes of battery life in a real-world office productivity scenario

Think outside the box with GenAI tools

Save over 5 minutes when generating a high-res image using Amuse 3.1

No one remembers who came second. In a world where every minute counts and every hour unplugged can decide a project's fate, the difference between finishing first and finishing at all comes down to persistence, speed, and flawless execution.

Intel® Core™ Ultra 200HX series CPUs and NVIDIA RTX PRO™ Blackwell Generation Laptop GPUs are professional-grade processors designed to speed traditional AI workloads, elevate mobile creativity, and support generative AI tools.[1,2] But is purchasing a top-tier mobile workstation with those components enough to give you the real-world edge you need to win?

To find out, we equipped an HP ZBook Fury G1i 16" mobile workstation and a Dell Pro Max 16 Plus with Intel® Core™ Ultra 9 285HX processors and NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPUs. Then, we compared battery life and performance metrics from multiple angles. Read on to see what we discovered.

What we tested

We compared two mobile workstations with 64 GB of memory, 1 TB of storage, and the same CPU and graphics:

HP ZBook Fury G1i 16" equipped with an Intel® Core™ Ultra 9 285HX processor with Intel vPro®, an NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPU, 64 GB of DDR5-5600 MT/s SODIMM, a 16-inch LED display with a peak resolution of 3,840 x 2,400, and a 99-Whr battery

Dell Pro Max 16 Plus equipped with an Intel® Core™ Ultra 9 285HX processor with Intel vPro®, an NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPU, 64 GB of DDR5-6400 MT/s CSoDIMM memory, a 16-inch LCD display with a peak resolution of 3,840 x 2,400, and a 96-Whr battery

To see who crossed the finish line first in a variety of contests, we utilized benchmarks that measure everything from general productivity to content creation, generative AI (GenAI) capabilities, 3D design and engineering tasks, and timed collateral exports:

- 3DMark
- Amuse 3.1
- PCMark 10
- Procyon Video Editing Benchmark
- Puget Bench for Photoshop
- Revit 2024 RFO Benchmark
- SPECapc for Solidworks 2024

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

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.

About the HP ZBook Fury G1i

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 "our 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™ Laptop GPUs. The system is available with multiple display options; for this comparison, we tested the configuration with the 16-inch diagonal, WQXGA (3,840 x 2,400), 120 Hz, anti-glare, 500 nits, HP DreamColor 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

When every hour unplugged matters

Your goal is focusing on your work, not looking for an available outlet. Whether you're grabbing the best seat for an important meeting or sharing your ideas on the spur of the moment, knowing that your battery isn't going to conk out at a critical moment is a game changer. **Procyon Battery Life Benchmark** results are relatable because the office productivity benchmark simulates a typical workday using real-world Microsoft 365 applications.[5] We found that the HP ZBook Fury G1i 16" delivered an hour and 19 minutes more battery life in an office productivity scenario than a Dell Pro Max 16 Plus.
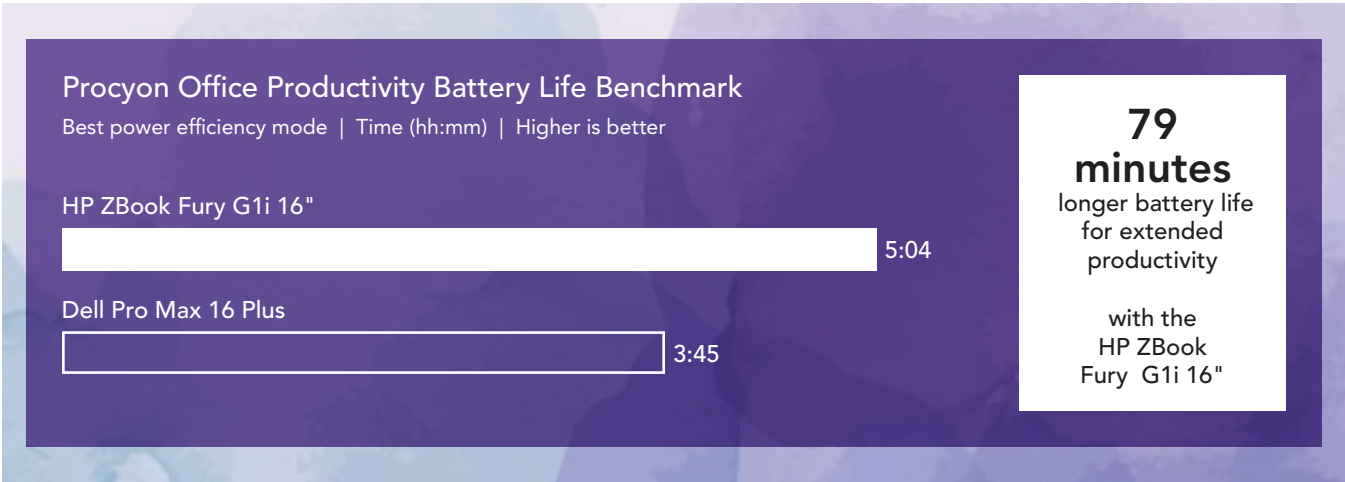
Procyon Office Productivity Battery Life Benchmark
Best power efficiency mode | Time (hh:mm) | Higher is better

HP ZBook Fury G1i 16"
5:04

Dell Pro Max 16 Plus
3:45

79 minutes longer battery life for extended productivity

with the HP ZBook Fury G1i 16"

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

The important role component communication plays

Before we dive into our workload-based system performance results, we need to talk about a contributing factor in the overarching performance story: How much data each workstation can transmit between components at any given time. It's called bandwidth, and computers achieve this through a PCI Express (PCIe®) interface. The **3DMark PCI Express feature test** measures the bandwidth (GB/sec) available to your GPU through the system's PCIe interface.[6] With higher bandwidth—which the HP system delivered in our testing—programs can transfer more data, users experience reduced load times, and the workstation itself can handle more complex scenes.[7]
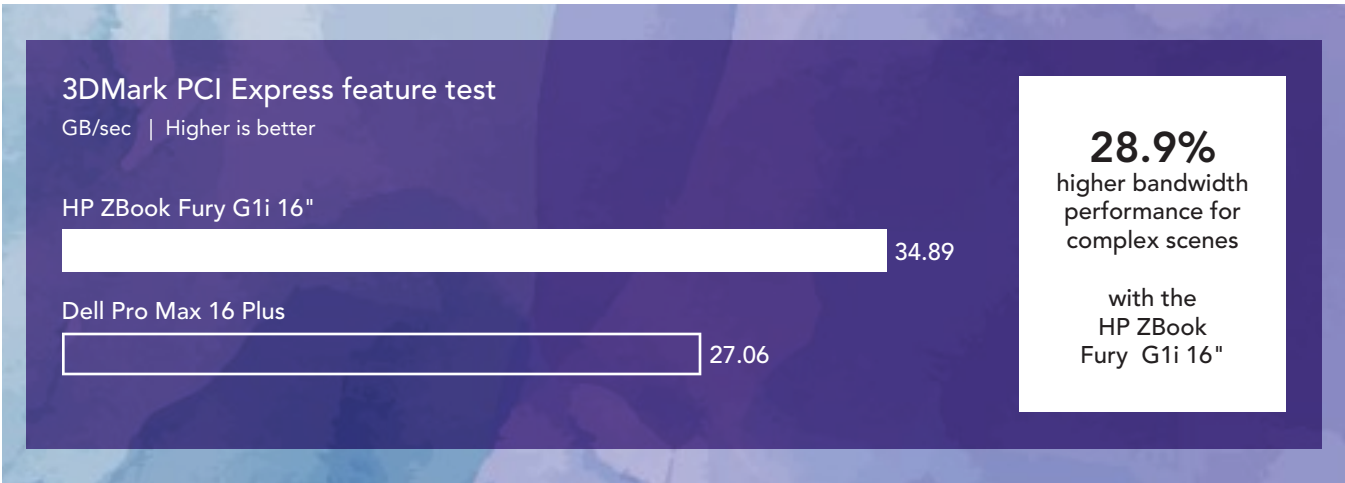
3DMark PCI Express feature test
GB/sec | Higher is better

HP ZBook Fury G1i 16"
34.89

Dell Pro Max 16 Plus
27.06

28.9% higher bandwidth performance for complex scenes

with the HP ZBook Fury G1i 16"

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

Don't let day-to-day activities slow you down

PCMark 10 Applications measures general performance when using Microsoft 365 applications.[8] It primarily stresses the CPU and RAM. Technical professionals should pay attention to these sub-scores: With 9.0 percent higher Excel and 7.1 percent higher PowerPoint sub-scores, the ZBook Fury G1i 16" proved itself more capable of handling complex calculations, making it easier to crunch through large datasets.

PCMark 10 Applications
Score | Higher is better

■ HP ZBook Fury G1i 16"
□ Dell Pro Max 16 Plus

Overall score
- 18,866
- 18,113

Excel sub-score
- 35,709
- 32,731

Word sub-score
- 10,034
- 9,930

PowerPoint sub-score
- 17,539
- 16,369

4.1% better productivity app performance for complex calculations
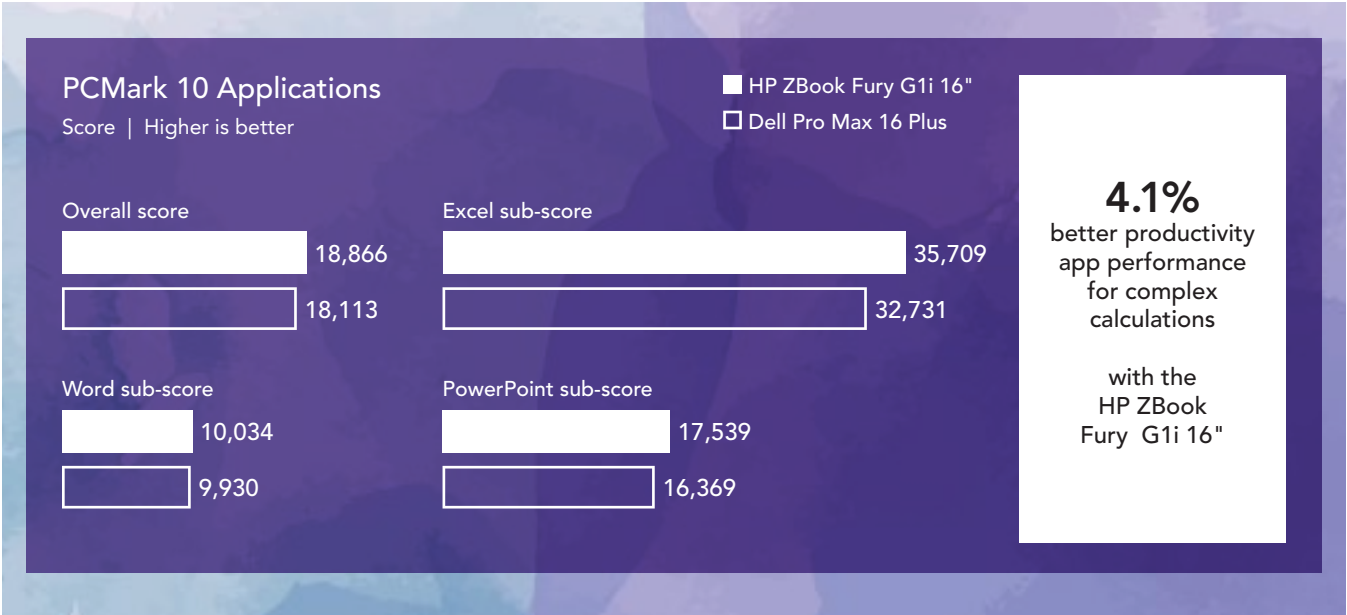
with the HP ZBook Fury G1i 16"

Figure 3: PCMark 10 Applications results. Source: PT.

While the following content creation benchmark results were close, it's important to recognize that even a small performance gain can boost productivity. When you factor in the number of times someone completes a single task or workflow over the course of a day, a week, or even a month, every second saved can make a long-term impact.

Procyon Video Editing Benchmark measures video-editing performance using Adobe® Premiere® Pro.[9] The overall score is based on the time it takes to export four videos, with performance based on how well the CPU, GPU, and storage work together.[10] These results are pertinent to anyone who routinely exports large files, handles large datasets, or runs simulations.

Procyon Video Editing Benchmark
Overall score | Higher is better

HP ZBook Fury G1i 16"
- 63,615

Dell Pro Max 16 Plus
- 63,031

0.9% better video-editing performance for creator workflows
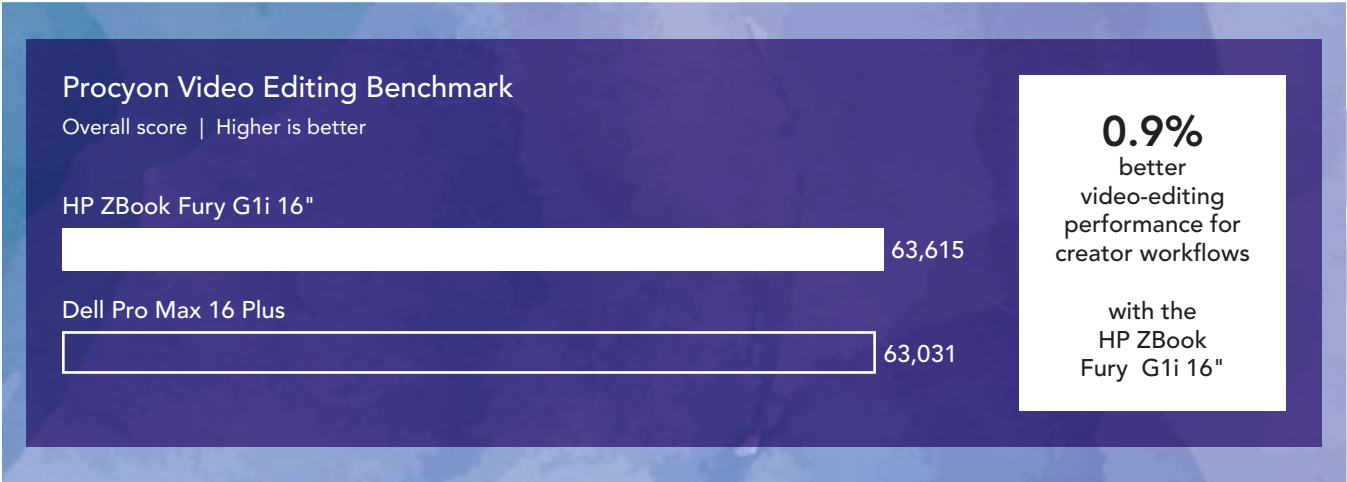
with the HP ZBook Fury G1i 16"

Figure 4: Procyon Video Editing Benchmark results. Source: PT.

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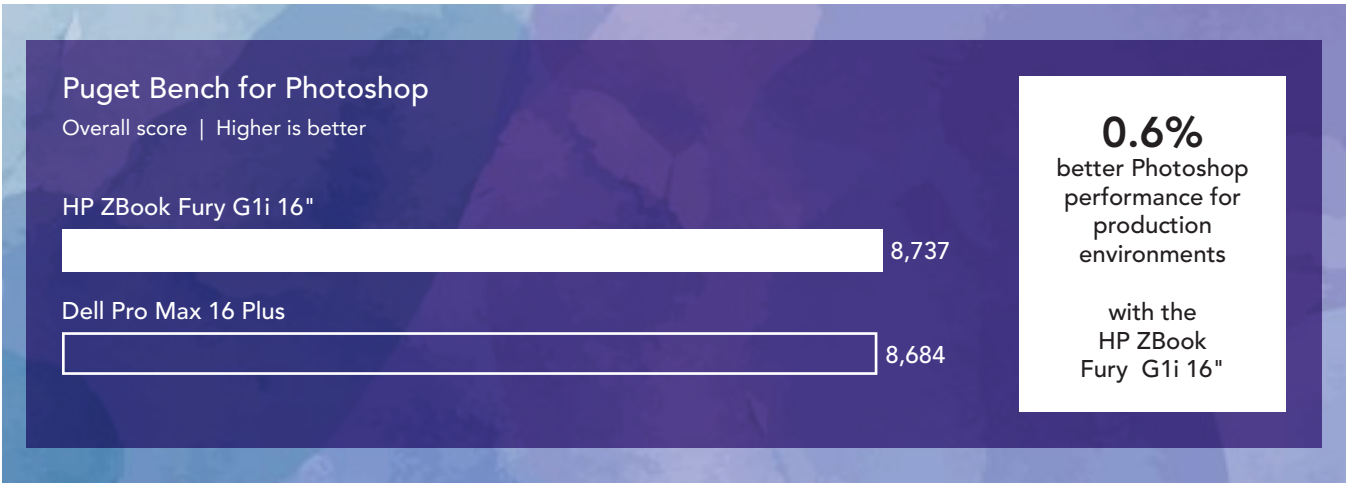
Puget Bench for Photoshop

Overall score | Higher is better

HP ZBook Fury G1i 16"
8,737

Dell Pro Max 16 Plus
8,684

0.6% better Photoshop performance for production environments

with the HP ZBook Fury G1i 16"

Figure 5: Puget Bench for Photoshop results. Source: PT.

Power your 3D design and engineering workflows

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" and how quickly the RAM and storage deal with data will also affect Revit performance.[13] Because Revit projects typically go through multiple iterations and require input from various shareholders, we measured times for multiple tasks. That makes these numbers matter to more than the professionals who use this particular software.
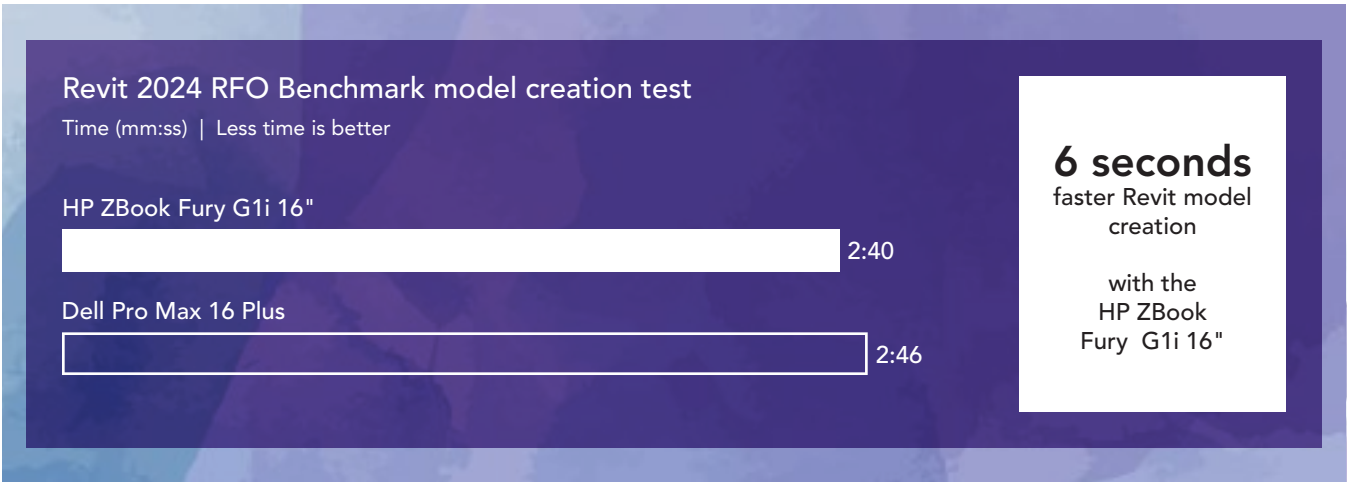
Revit 2024 RFO Benchmark model creation test

Time (mm:ss) | Less time is better
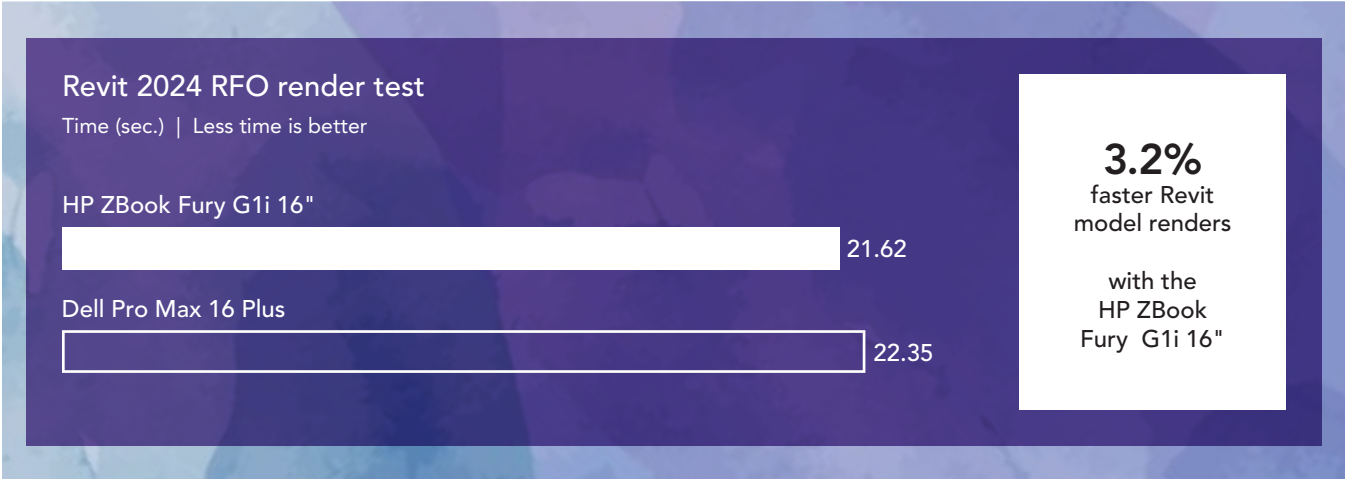
HP ZBook Fury G1i 16"
2:40

Dell Pro Max 16 Plus
2:46

6 seconds faster Revit model creation

with the HP ZBook Fury G1i 16"

Figure 6: Revit 2024 RFO Benchmark model creation test results. Source: PT.

Revit 2024 RFO render test

Time (sec.) | Less time is better

HP ZBook Fury G1i 16"

21.62

Dell Pro Max 16 Plus

22.35

3.2%
faster Revit
model renders

with the
HP ZBook
Fury G1i 16"

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

Revit 2024 RFO Benchmark export tests

Time (mm:ss) | Less time is better

■ HP ZBook Fury G1i 16"
☐ Dell Pro Max 16 Plus

Export to DWF format

6:24

6:29

Export to PDF format

22:58

23:07

Export to PNG format

9:51

10:12

Export to DWG format

40:56

41:11

Up to
21 seconds
less time to export
PNG file formats

with the
HP ZBook
Fury G1i 16"
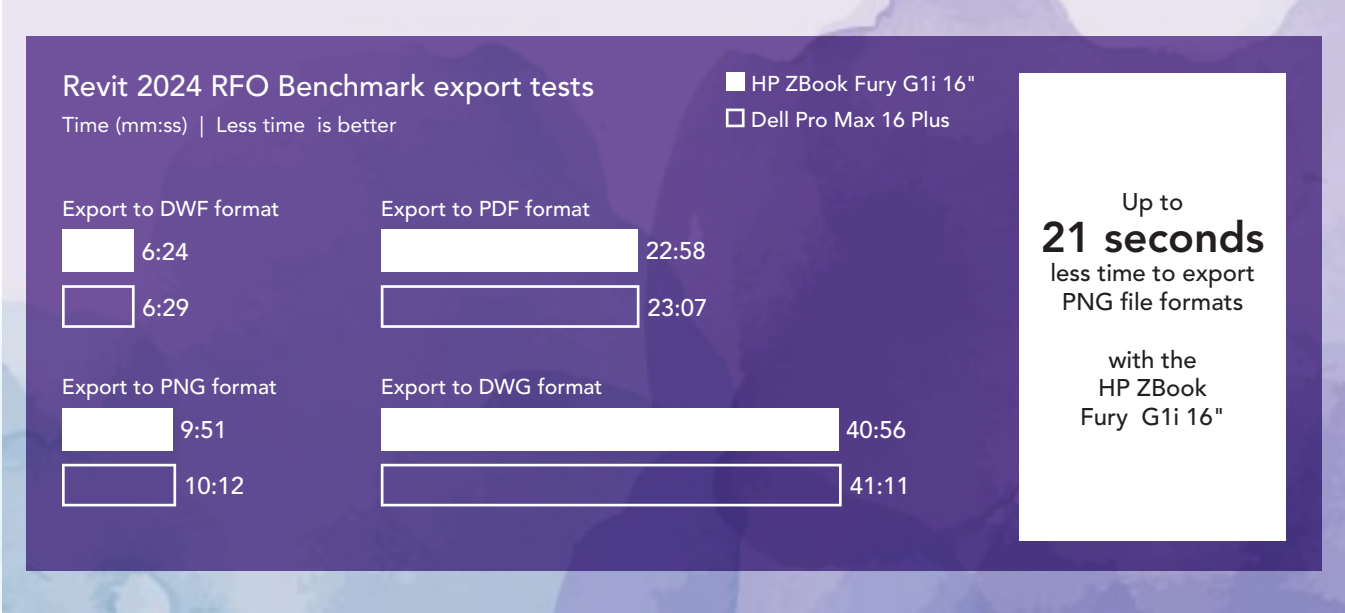
Figure 8: Revit 2024 RFO Benchmark export test results. Source: PT.

Revit 2024 RFO activate first view test

Time (sec.) | Less time is better

HP ZBook Fury G1i 16"

16.46

Dell Pro Max 16 Plus

18.16

2 seconds
less time to
load the initial
Revit view
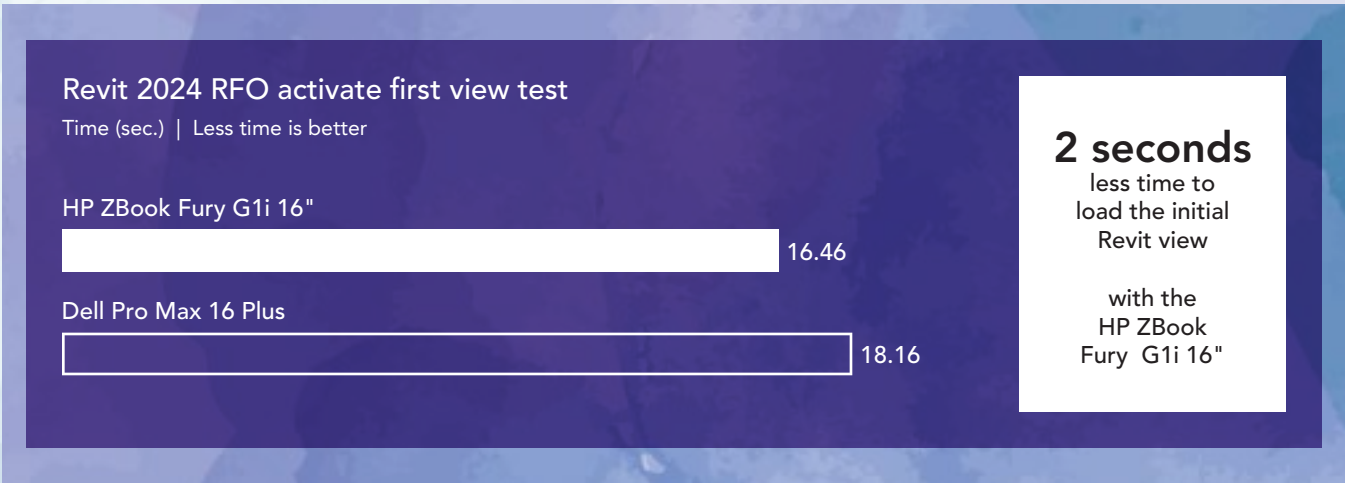
with the
HP ZBook
Fury G1i 16"

Figure 9: Revit 2024 RFO Benchmark activate first view test results. Source: PT.

SPECapc for Solidworks 2024 measures rendering, simulation, and rebuilding performance when using Solidworks 2024.[14] The benchmark includes CPU tests that perform rebuild, simulation, conversion, and visualize CPU rendering on in-memory models that range in size from 392 MB to 2.3 GB.[15] These results are compelling for anyone who uses CAD software, scientific applications, and 3D rendering engines.

SPECapc for Solidworks 2024
CPU composite score | Higher is better

HP ZBook Fury G1i 16"
2.90

Dell Pro Max 16 Plus
2.81

3.2%
better CPU performance for 3D modeling, rendering, and simulation tasks
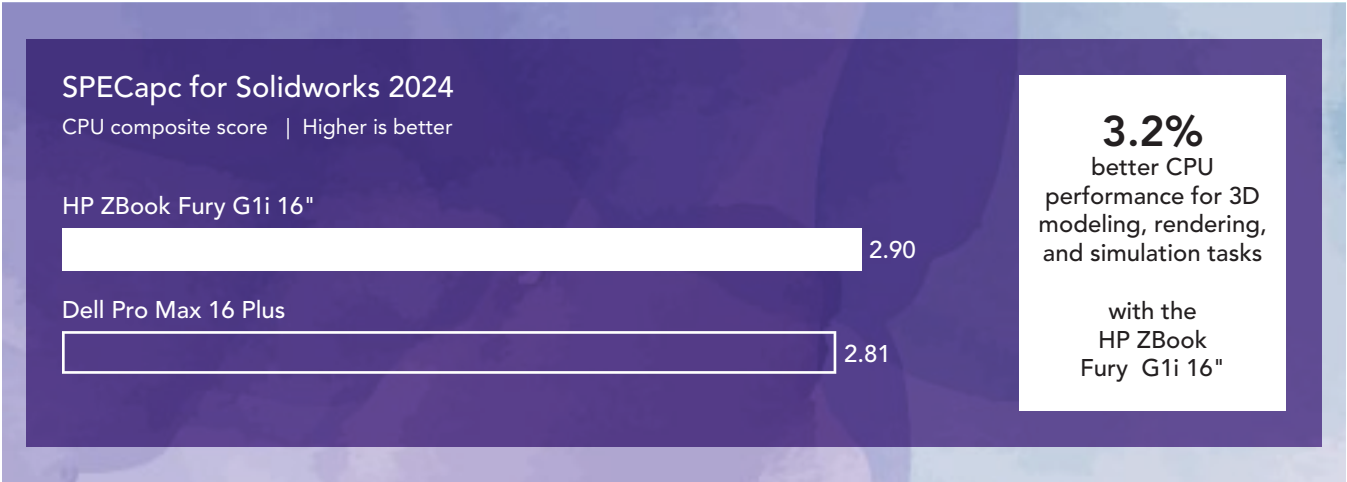
with the
HP ZBook
Fury G1i 16"

Figure 10: SPECapc for Solidworks 2024 (CPU) benchmark results. Source: PT.

Think outside the box with GenAI tools

To measure the speed and efficiency of each laptop's handling of resource-intensive GenAI tasks, we generated images and videos with the AI art creation tool, **Amuse 3.1**.[16] Amuse 3.1 uses stable diffusion models to generate images and videos using prompts.[17] In our testing, the image generation times were longer than the video generation times because for images, Amuse 3.1 uses a model optimized for fine-grained detail and photorealism;[18] for videos, it uses a model optimized for speed.[19]

Creating AI art with Amuse 3.1
Time (mm:ss) | Less time is better

■ HP ZBook Fury G1i 16"
□ Dell Pro Max 16 Plus

Time to generate an image
55:40
60:57

Time to generate a 2-second video
26:22
28:43

Save over
5 minutes
when generating a
high-res image

Save over
2 minutes
when generating a
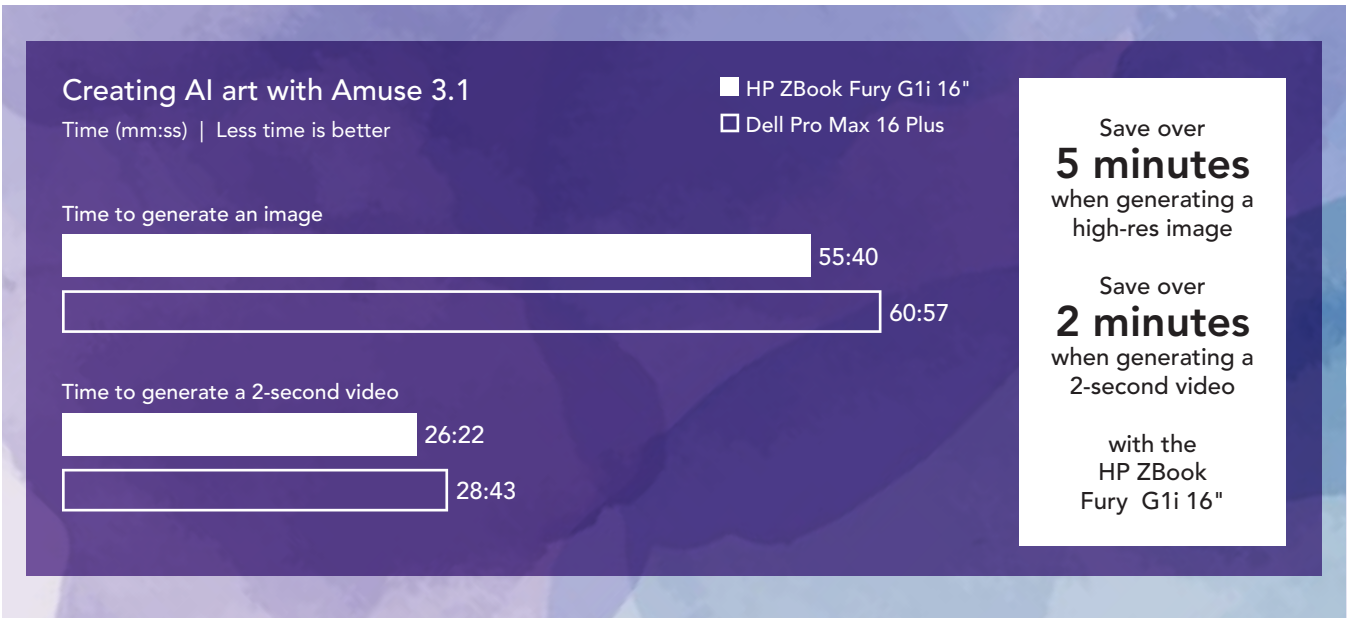2-second video

with the
HP ZBook
Fury G1i 16"

Figure 11: Image and video creation times using Amuse 3.1. Source: PT.

Conclusion

When we tested HP ZBook Fury G1i 16" and Dell Pro Max 16 Plus mobile workstations with identical Intel® Core™ Ultra 9 285HX processors and NVIDIA RTX PRO™ 5000 Blackwell Generation Laptop GPUs, we found that the HP ZBook Fury G1i 16" lasted 35 percent longer unplugged and received consistently stronger general productivity and content creation benchmark scores. Yes, some of the results were very close—but you'd expect that from mobile workstations equipped with the same processors, graphics, memory, and storage. What's more interesting is what you can accomplish with even the slightest advantage at your fingertips.

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