

# Third party assesses performance and battery life of HP ZBook Firefly and Power G11 A Mobile Workstation PCs

*Principled Technologies compared performance and battery life on AMD Ryzen CPU-based HP ZBook G11 A mobile workstations to two Intel Core Ultra CPU-based rivals*

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EINPresswire.com/ -- Artificial intelligence (AI) is a hot topic in personal computing—but which mobile workstation and processor combo can best help creative, technical, and on-the-go professionals get projects out the door and embrace new and emerging technologies with better performance? To help buyers make informed choices, Principled Technologies (PT) put two sets of mobile workstations to the test.

In the first comparison, PT tested an AMD Ryzen 7 PRO 8840HS processor-powered 14-inch HP ZBook Firefly G11 A Mobile Workstation PC, an Intel Core Ultra 7 165H processor-powered Dell Precision 3490 Mobile Workstation, and an Intel Core Ultra 7 165H processor-powered Lenovo ThinkPad P14s Gen 5 Mobile Workstation.

The second comparison looked at an AMD Ryzen 9 PRO 8945HS processor-powered 16-inch HP ZBook Power G11 A Mobile Workstation PC, an Intel Core Ultra 9 185H processor-powered Dell



**Get more done with an HP ZBook Firefly G11 A Mobile Workstation PC**

We compared system responsiveness and battery life on an AMD Ryzen 7 PRO 8840HS processor-powered 14-inch HP ZBook Firefly G11 A Mobile Workstation PC to Intel Core Ultra 7 165H processor-based Dell Precision and Lenovo ThinkPad mobile workstations.

While artificial intelligence (AI) is a hot topic in personal computing, it's the neural processing unit (NPU) that's driving innovation behind the scenes in mobile workstations. Smartphones have been using NPUs for years—but AMD® and Intel® have only recently added NPUs to the central processing unit (CPU) and graphics processing unit (GPU) architecture built into many HP, Dell™, and Lenovo® AI laptops and mobile workstations.<sup>(1,2)</sup> While many mobile workstations still rely on integrated GPUs (iGPUs) to handle the bulk of AI workstation tasks, workstation apps that run on the NPU are in development.

Which mobile workstation and processor combo can best help creative and technical professionals get projects out the door and embrace new and emerging AI technologies with better performance now and in the future?

To find out, we used industry-standard benchmarks to compare performance in general and processor-intensive scenarios, measured real-world battery life in a variety of ways, and recorded noise levels under load on three mobile workstations: an HP ZBook Firefly G11 A Mobile Workstation PC powered by an AMD Ryzen™ 7 PRO 8840HS processor; a Dell Precision® 3490 Mobile Workstation powered by Intel vPro® with Intel Core™ Ultra 7 processor 165H; and a Lenovo ThinkPad® P14s Gen 5 Mobile Workstation powered by Intel vPro with Intel Core Ultra 7 processor 165H.

We found that the AMD Ryzen 7 PRO 8840HS processor-powered HP ZBook Firefly G11 A Mobile Workstation PC brought many advantages to the table when compared to Intel vPro with Intel Core™ Ultra 7 processor 165H-powered Dell Precision and Lenovo ThinkPad mobile workstations.

Metric	HP ZBook Firefly G11 A Mobile Workstation PC	Dell Precision 3490 Mobile Workstation	Lenovo ThinkPad P14s Gen 5 Mobile Workstation
Run probability simulations faster	Up to 39.5% higher SPECworkstation® 3.1 Financial Services overall score		
Get answers faster with neural networks	Up to 5.9X higher Geekbench AI Half Precision score		
Work where you want without compromise	Up to 13 hr and 8 min of battery life*		

Get more done with an HP ZBook Firefly G11 A Mobile Workstation PC

\*% Progen™ Battery Life Benchmark results in Windows 11. Best power efficiency power mode. December 2024

Precision 3591 Mobile Workstation, and an Intel Core Ultra 9 185H processor-powered Lenovo ThinkPad P16v Gen 2 Mobile Workstation. In both comparisons, PT used general productivity, content creation, and AI benchmarking tools. PT also ran battery life tests and measured acoustic output under load.

The report for the first comparison states, “In our hands-on tests, we found that the AMD Ryzen 7 PRO 8840HS processor-powered HP ZBook Firefly G11 A Mobile Workstation PC received higher general productivity, content creation, and AI benchmark scores than the Intel vPro with Intel Core Ultra 7 processor 165H-powered Dell Precision 3490 and Lenovo ThinkPad P14s Gen 5 mobile workstations. As an added bonus, the AMD Ryzen 7 PRO 8840HS processor-powered HP ZBook Firefly G11 A Mobile Workstation PC also delivered significantly longer battery life.”

In the second comparison report, PT writes, “Strong CPU, GPU, and NPU performance can help speed workflows and improve system efficiency for on-the-go professionals. In our hands-on tests, we found that the AMD Ryzen 9 PRO 8845HS processor-powered HP ZBook Power G11 A Mobile Workstation PC received comparable or higher general productivity, content creation, and AI benchmark scores than the Intel vPro with Intel Core Ultra 9 processor 185H-powered Dell Precision 3591 and Lenovo ThinkPad P16v Gen 2 mobile workstations. As an added bonus, the AMD Ryzen 9 PRO 8945HS processor-powered HP ZBook Power G11 A Mobile Workstation PC also delivered all-business-day battery life.”

To learn more, read about the first comparison at <https://facts.pt/NJYS7nN>, and the second comparison at <https://facts.pt/XLI8yja>.

About Principled Technologies, Inc.

Principled Technologies, Inc. is the leading provider of technology marketing and learning & development services.

Principled Technologies, Inc. is located in Durham, North Carolina, USA. For more information, please visit [www.principledtechnologies.com](http://www.principledtechnologies.com).

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**Boost productivity with an HP ZBook Power G11 A Mobile Workstation PC**

We compared system responsiveness and battery life on an AMD Ryzen 9 PRO 8945HS processor-powered HP ZBook Power G11 A Mobile Workstation PC to Intel Core Ultra 9 185H processor-based Dell Precision and Lenovo ThinkPad mobile workstations.

Neural processing units (NPUs) have been improving camera performance in smartphones for years—but AMD® and Intel® have only recently added NPUs to the central processing unit (CPU) and graphics processing unit (GPU) architecture built into many HP, Dell™, and Lenovo® AI laptops and mobile workstations.<sup>1,2,3</sup> While many mobile workstations still rely on integrated GPUs to handle the bulk of AI workstation tasks, workstation apps that run on the NPU are in development.

These NPUs can do much more than improve camera performance. In a world powered by AI, they're designed to accelerate workflows and improve power efficiency.<sup>4</sup> But which mobile workstation and processor combo is best for on-the-go professionals now and in the future?

To find out, we used industry-standard benchmarks to compare performance in general and processor-intensive scenarios, measured battery life and power efficiency, and recorded noise levels under load on three 16-inch mobile workstations:

- HP ZBook Power G11 A Mobile Workstation PC powered by an AMD Ryzen™ 9 PRO 8945HS processor
- Dell Precision® 3591 Mobile Workstation powered by Intel vPro® with Intel Core™ Ultra 9 processor 185H
- Lenovo ThinkPad® P16v Gen 2 Mobile Workstation powered by Intel vPro with Intel Core Ultra 9 processor 185H

Read on to learn more about what we found.

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Up to 14.6% higher SPECint\*\_rate for Creo 9 score

**Get insights faster with neural networks**  
Up to 77.2% higher Geekbench AI Half Precision score

**Work unplugged without worry**  
Up to 13 hr and 21 min of battery life\*

This project was commissioned by HP and AMD. \*13. Procyon™ Battery Life Benchmark results in Windows 11. Best power efficiency power mode.

Boost productivity with an HP ZBook Power G11 A Mobile Workstation PC December 2024

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