Get more done in less time with an HP ZBook Firefly 14 G10 powered by an Intel Core i7-1370P vPro processor

We compared system performance to that of the same model with an AMD Ryzen 7 PRO 7840HS processor

Investing in powerful mobile workstations can help creative and business professionals create content in less time and embrace cutting-edge technology. We found, through hands-on testing, that an HP ZBook Firefly G10 powered by a 13th Generation Intel® Core™ i7 P-Series processor responded faster than one with a Zen 4 AMD® Ryzen™ 7 processor.

For a multi-faceted look at responsiveness, we ran industry-standard benchmarks and completed taxing content creation workflows on two of the newest HP ZBook Firefly 14 G10 Mobile Workstations: one powered by an Intel Core i7-1370P vPro® processor and one powered by an AMD Ryzen 7 PRO 7840HS processor. We found that the HP ZBook Firefly 14 G10 with an Intel Core i7-1370P processor received higher benchmark scores and completed content creation tasks in less time than the one with an AMD Ryzen 7 PRO 7840HS processor. Read on for more details.

Expect faster system performance

based on higher Geekbench 6 Pro CPU single- and multi-core benchmark scores

Encode video formats in less time

based on faster HandBrake video-encoding results

Create attractive and realistic compositions in less time

based on higher PugetBench for Photoshop benchmark scores and faster Adobe® Photoshop® Photomerge task completion times

How we tested

To determine which model will net better performance for business professionals and creatives using the HP ZBook Firefly 14-inch Mobile Workstation PC, we tested the HP mobile workstation in the best available Intel Core i7 and AMD Ryzen 7 configurations available at the time of testing:

Intel Core i7 processor-powered config:

- 13th Generation Intel Core i7-1370P processor with 14 cores (6 P-cores and 8 E-cores), 20 threads, Intel Thread Director, and 24 MB Intel Smart Cache, operating at 3.9 – 5.2 GHz.[1]
- This model also had integrated Intel Iris® Xe Graphics, 32 GB of DDR5-5200 memory, and 1 TB of PCIe® NVMe™ SSD storage.*

AMD Ryzen 7 processor-powered config:

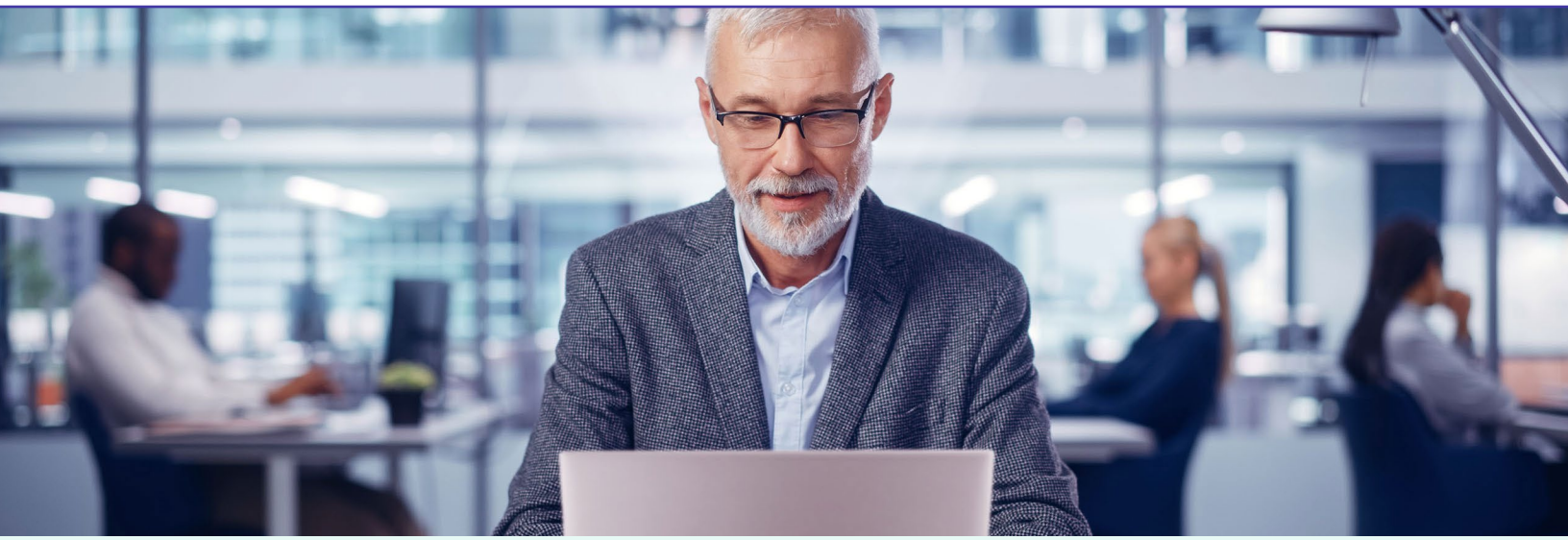
- Zen 4 AMD Ryzen 7 7840HS processor with 8 cores, 16 threads, AMD Simultaneous Multithreading (SMT), and 16 MB L3 cache, operating at 4.1 – 5.4 GHz.[2]
- This model also had integrated AMD Radeon™ 780M graphics, 32 GB of DDR5-5600 memory, and 512 GB of PCIe NVMe SSD storage.*

*Given the benchmarks and tasks we used for our tests, we believe that the storage size difference did not affect system performance in our testing.

To measure processor-intensive performance from many angles, we ran a variety of benchmark tests that used real-world apps and workloads:

- **Geekbench 6 Pro CPU Benchmark** measures a system's single- and multi-core performance.
- **Procyon® Office Productivity Benchmark** measures Microsoft 365 productivity app performance.
- **PugetBench for Photoshop** measures performance using the Adobe Creative Cloud® desktop app.
- **WebXPRT 4** measures browser performance; in our testing, we used the Microsoft Edge browser.

We then hand-timed how long it took each mobile workstation to complete two Photomerge workflows using Photoshop, import 50 photos using Adobe Lightroom® Classic, and finish a HandBrake video-encoding activity.



The benchmark scores and hand-timed content creation results we report reflect the specific configurations we tested. Any difference in the configurations you test, as well as screen brightness, network traffic, or software additions, can affect results. For a deeper dive into our testing parameters and procedures, see the science behind the report.

Why the processor you pick matters

The faster creatives and business professionals can finish tasks or get projects out the door, the shorter the time from conception to execution. And investing in a powerful mobile workstation with a powerful CPU is crucial to those efforts. The CPU you choose could speed (or slow) many processes—including activities such as checking your email, handling large Microsoft 365 files, or creating marketing collateral.

About the HP ZBook Firefly 14 G10

According to HP, the 14-inch ZBook Firefly G10 Mobile Workstation, which comes with either Intel Core or AMD Ryzen processors, combines pro-level performance with portability, a color-accurate display, pro-grade components, and an AI-enhancing webcam, which is "everything you need to collaborate and manage projects from anywhere."[3]

About the Intel Core i7-1365U processor

According to Intel, this 13th Generation Intel Core i7 P-Series mobile processor is optimized for superior business application performance.[4] Intel designed this 14-core processor with 20 threads and 3.9 – 5.2 GHz to "[c]apably handle large data sets and data-intensive apps."[5]

General productivity

The **Procyon Office Productivity Benchmark** uses Microsoft 365 apps to measure aspects of day-to-day performance that can affect the business user experience.[6] While we report only the overall score in Figure 1, the sub-scores show the Intel Core i7-1370P processor-powered HP ZBook Firefly 14 G10 experienced marked acceleration in the Excel and PowerPoint categories versus its AMD Ryzen 7 7840HS processor-powered counterpart, achieving 14 percent and 18 percent higher scores, respectively. The lower Outlook score of the Intel Core i7-1370P processor-powered model (3,342 vs. 4,762) reduced its overall win to five percent. To see all the Procyon Office Productivity Benchmark sub-score results, read the science behind the report. Higher scores could indicate a better user experience with smoother interactions with productivity tools and the ability to process large tasks more quickly.

Procyon Office Productivity Benchmark

Score | Higher is better

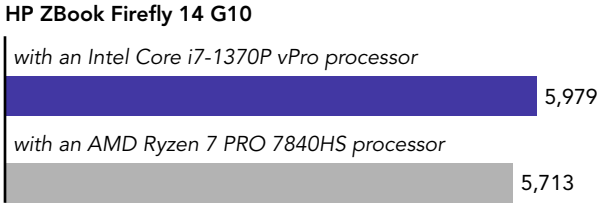


Figure 1: Procyon Office Productivity Benchmark scores. Higher is better. Source: Principled Technologies.

The **WebXPRT 4** browser benchmark simulates common web-browsing activities to show how well different systems handle online tasks. This benchmark uses real-world programming language-based scenarios to compare web-browsing capabilities.[7] Higher scores indicate better performance while loading and displaying web pages as well as a faster browsing experience.

WebXPRT 4

Score | Higher is better

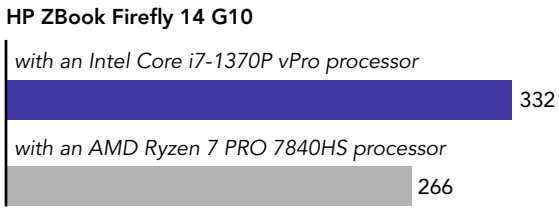


Figure 2: WebXPRT 4 benchmark scores, with both systems running the Microsoft Edge browser. Higher is better. Source: Principled Technologies.

System performance and content creation

The **Geekbench 6 Pro CPU Benchmark** is designed to reflect modern workflows. These CPU-stressing workloads include data compression, image processing, machine learning, and compiling code.[8] Higher scores indicate better CPU performance for operations critical to productivity tasks, including web browsing, data and image compression, and 2D graphics. But it doesn't stop there. Higher scores can also translate to better performance in image synthesis workflows that include ray tracing, object recognition in images and scenes—not to mention helping with developer tasks such as compressing assets, processing text files, and compiling code.

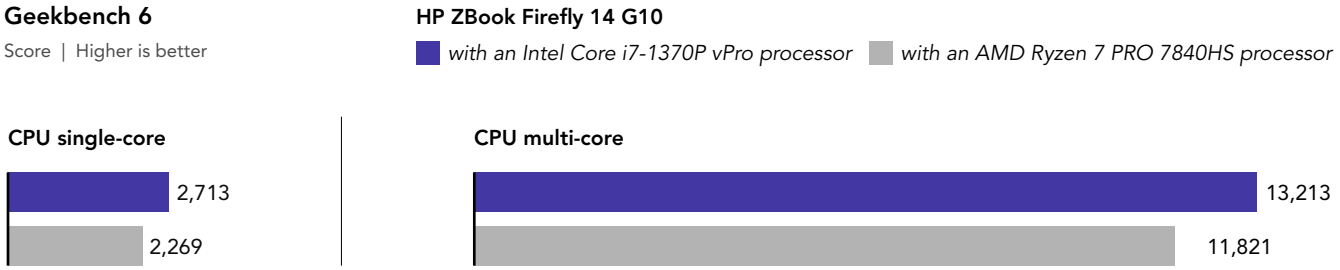


Figure 3: Geekbench 6 Pro CPU Benchmark scores. Higher is better. Source: Principled Technologies.

HandBrake is a tool that converts videos from one format to another. It is not video editing software, but it does allow users to crop and resize videos, upscale old or low-quality videos, and render new videos that require less storage than the original.[9] For this comparison, we converted a 4K video to a 1080p video with the Fast 1080p30 preset and H.264 video encoder. The Intel Core i7-1370P processor-powered HP ZBook Firefly 14 G10 was 21 seconds faster than the AMD Ryzen 7 7840HS processor-powered version.

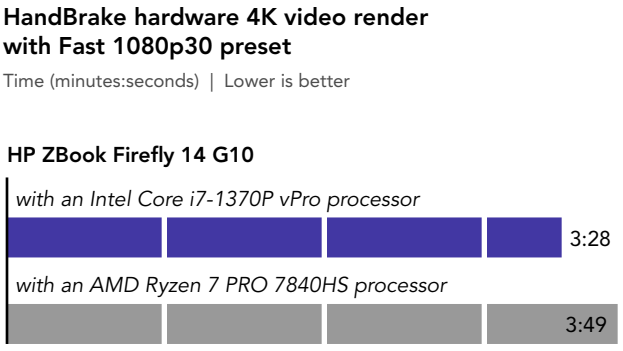


Figure 4: HandBrake hardware 4K video render with Fast 1080p30 preset. Less time is better. Source: Principled Technologies.

The **PugetBench for Photoshop** benchmark uses the Adobe Creative Cloud app Adobe Photoshop to compare photo-editing performance across a broad range of tasks.[10] Higher scores indicate better CPU performance for general Photoshop tasks such as opening and resizing a RAW image, rotating and editing images, and removing unwanted objects from a picture. Higher scores also indicate better CPU performance on filtering tasks such as lens correction, image retouching, and image straightening without distortions.

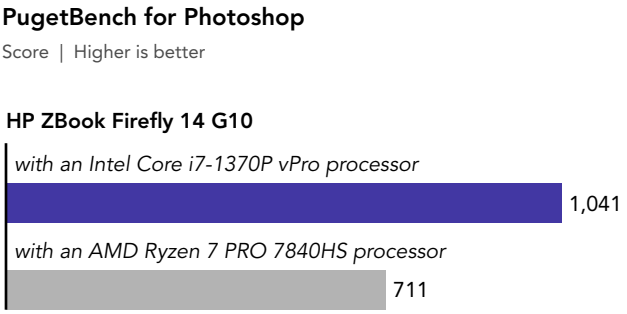


Figure 5: PugetBench for Photoshop benchmark scores. Higher is better. Source: Principled Technologies.

Adobe Photoshop offers a range of tools that help amplify the creative capability of graphic designers and artists. We chose to tax both processors by using the Photomerge tool in hand-timed tests to merge two photos into a single composition. We ran this test with and without the Content Aware option, which synthesizes nearby content for a more seamless final composition.

Create a panoramic 45MP image using Photomerge

Time (seconds) | Lower is better

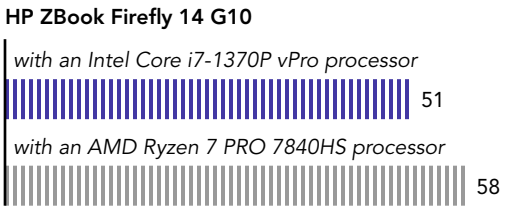


Figure 6: Time to create a panoramic 45MP image using Photomerge. Less time is better. Source: Principled Technologies.

Create a panoramic 45MP image using Photomerge and Content Aware

Time (minutes:seconds) | Lower is better

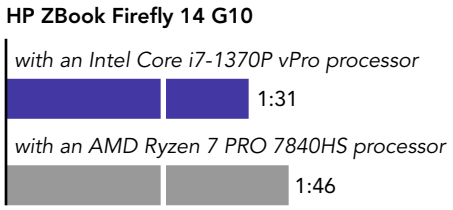


Figure 7: Time to create a panoramic 45MP image using Photomerge with the Content Aware option checked.
Less time is better. Source: Principled Technologies.

Adobe Lightroom Classic is designed for and used by professional photographers to edit, organize, store, and share their work. For another take on a content creation task, we hand-timed how long it took each model to upload 50 photos using the Lightroom Classic app. The faster photographers and graphic designers can acquire images from collaborators or external sources, the quicker they can dive into the project at hand.

Import 50 photos using Adobe Lightroom Classic

Time (seconds) | Lower is better

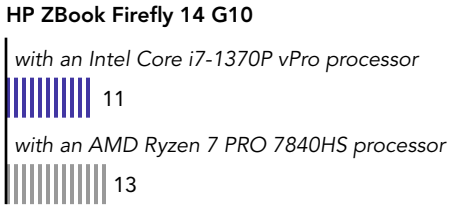


Figure 8: Time to import 50 photos using Adobe Lightroom Classic.
Less time is better. Source: Principled Technologies.

Conclusion

A mobile workstation powered by a high-powered processor can boost productivity and output for both creatives and business professionals. In our hands-on processor comparisons, we found that an Intel Core i7-1370P vPro processor-powered HP ZBook Firefly 14 G10 Mobile Workstation received higher scores on productivity and content creation benchmarks and completed Adobe Photoshop and Lightroom Classic tasks in less time than the same mobile workstation powered by an AMD Ryzen 7 PRO 7840HS processor.

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Read the science behind this report at https://facts.pt/p7raVA3 ▶

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