



Improve productivity on everyday tasks

Based on up to 51.6% better performance on PassMark PerformanceTest 11

Get better performance for demanding workloads

Based on up to 25.9% better performance on Procyon Video Editing Benchmark

Work where you want, with up to 3 extra hours of battery life

Based on MobileMark 25 tests

Give your workforce stronger system performance and longer battery life with the HP EliteBook 845 G10 Notebook PC

Comparing the HP EliteBook 845 G10 with AMD Ryzen 7 PRO 7840HS processor to the Dell Latitude 7440 laptop

Laptops must deliver strong performance to enable productivity, and they are meant to be mobile—so why settle for systems that have your employees running to find a desk and plug back in? Systems with top performance and longer battery life can empower employees to work where and when they want.

At PT, we used industry-standard benchmarks to compare multiple types of performance and battery life on an HP EliteBook 845 G10 Notebook PC powered by an AMD Ryzen™ 7 PRO 7840HS processor and a Dell™ Latitude™ 7440 laptop powered by an Intel® Core™ i7-1370P vPro processor. We found that on most tests, the HP EliteBook 845 G10 Notebook PC powered by an AMD Ryzen™ 7 PRO 7840HS processor outperformed the Dell Latitude 7440 laptop powered by an Intel Core i7-1370P processor, including up to 51.6 percent better performance on PassMark PerformanceTest 11. Plus, on MobileMark® 25 Best Battery Life tests, the HP EliteBook 845 G10 extended battery life by as much as 3 hours compared to the Dell Latitude 7440 laptop.

What we tested

Before we started testing, we set both 14-inch business laptops to “best performance” power mode. For the MobileMark battery life tests, we conducted both “best performance” and “best power efficiency” power mode comparisons. We also set screen brightness to 200 nits for the MobileMark 2018 battery life tests and 250 nits for the MobileMark 25 battery life tests. Other than making and verifying those changes, we used out-of-box OEM performance settings.



HP EliteBook 845 G10 Notebook PC

AMD Ryzen™ 7 PRO 7840HS processor
(3.8 – 5.1 GHz) with AMD Radeon™ graphics
32 GB of dual-channel DDR5 memory
512 GB of PCIe® NVMe® SSD storage
51WHr battery



Dell Latitude 7440 laptop

Intel® Core™ i7-1370P vPro processor
(1.9 – 5.2 GHz) with Iris Xe graphics
32 GB of dual-channel DDR5 memory
512 GB of PCIe NVMe SSD storage
57WHr battery

In addition to the battery life tests, we ran the following performance-based benchmark tests three times and report the median score:

- PassMark PerformanceTest 11
- Cinebench R23
- 3Dmark® Fire Strike
- 3DMark Time Spy
- Procyon® Video-Editing Benchmark
- Procyon Photo-Editing Benchmark
- SPEC®viewperf2020 v3.1
- PugetBench

The benchmark and battery life results we report reflect the specific configurations we tested. Any difference in the configurations you test, as well as screen brightness, network traffic, and software additions, can affect these results. For a deeper dive into our testing parameters and procedures, see the [science behind the report](#).

About the HP EliteBook 845 G10 Notebook PC

This 14-inch HP laptop is purpose-built for enterprise use. According to HP, this customizable model includes conferencing features, enterprise-ready security, and AMD PRO manageability so remote and hybrid teams can collaborate with confidence.¹

To learn more about the HP EliteBook 845 G10 Notebook PC, visit the HP website: hp.com/amd.

About the AMD Ryzen™ 7 PRO 7840HS processor

A member of the Ryzen™ PRO 7000 Series, the AMD Ryzen™ 7 PRO 7840HS processor is built on Zen 4 architecture. The PRO designation provides access to additional enterprise-level security, manageability, and reliability features for employees, professional users, and workstation environments.² The AMD Ryzen™ 7 PRO 7840HS model has 8 cores, 16 threads, and a max boost clock speed of up to 5.1Ghz. It includes integrated AMD Radeon™ graphics, with a graphics core count of 12 and makes available AMD Ryzen™ AI.³

Improving productivity for your workforce with higher-performing laptops

Investing in tools that help employees complete their work faster makes good business sense. By outfitting your mobile workforce with stronger-performing laptops, you can ensure that they aren't waiting needlessly on their systems to complete tasks or experiencing the frustration that comes with using sluggish technology.

On a variety of industry-standard performance benchmarks we tested, the HP EliteBook 845 G10 with AMD Ryzen™ 7 PRO 7840HS processor achieved higher test scores than the Dell Latitude 7440 with Intel Core i7-1370P vPro processor.



Assessing general productivity using PassMark Performance Test 11.0

A key industry-standard productivity benchmark, PassMark PerformanceTest 11.0 combines CPU, disk, memory, and 2D/3D graphics performance metrics into an Overall PassMark rating. Higher PassMark rating numbers indicate a faster system.¹⁰

Figure 1 compares the PassMark PerformanceTest 11.0 ratings that each of the systems achieved in our tests. The HP EliteBook 845 G10 with AMD Ryzen™ 7 PRO 7840HS processor surpassed the score of the Dell Latitude 7440 laptop with Intel Core i7-1370P vPro processor by 51 percent.

Key takeaways

- The HP EliteBook 845 G10 achieved higher scores on the benchmarks we tested, including up to 51.6% better performance on PassMark PerformanceTest 11.
- HP EliteBook 845 G10 outperformed the Dell Latitude 7440 on benchmarks comparing demanding tasks, such as the 25.9% higher score it achieved on the Procyon Video Editing Benchmark.

PassMark PerformanceTest

Performance score | Higher is better

HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

7,467.8

Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

4,924.0

51.6% better performance

Figure 1: PassMark Performance Test 11.0 benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.

Looking at general system performance with Cinebench 23

The Cinebench R23 benchmark measures general hardware performance by completing common Cinema 4D tasks that tax multiple CPU cores and modern processor features.¹¹ As Figure 2 shows, the HP EliteBook 845 G10 again delivered stronger benchmark performance than the Dell Latitude 7440 laptop did, with a performance increase of 11 percent.

Cinebench R23 multi-core benchmark

Performance score | Higher is better

HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

14,572

Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

13,062

11.5% better performance

Figure 2: Cinebench R23 benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.

Comparing graphics- and CPU-heavy performance with 3Dmark

Some workers do more than general office tasks, so assessing other types of performance can give you a more complete understanding about which systems will suit your workers' needs. 3DMark is an industry-standard benchmark that focuses on 3D graphic rendering and heavy CPU performance, and includes the following tests:

- **3DMark Fire Strike** is a DirectX 11 benchmark that "... includes two graphics tests, a physics test and a combined test that stresses the CPU and GPU." Fire Strike Extreme is similar, but increases the rendering load.⁵
- **3DMark Time Spy** is a DirectX 12 test "that supports new API features like asynchronous compute, explicit multi-adapter, and multi-threading, Time Spy is the ideal test for benchmarking the latest graphics cards." Time Spy Extreme is similar, but uses 4K Ultra HD rendering resolution.⁶

As Figures 3 and 4 show, the HP EliteBook 845 G10 Notebook PC with AMD Ryzen™ 7 PRO 7840HS processor outperformed the Dell Latitude 7440 laptop with Intel Core i7-1370P vPro processor by as much as 51 percent on these graphics-heavy benchmark tests.

3DMark Fire Strike benchmark

Performance score | Higher is better

Up to 31.5%
better performance

Fire Strike DX11 Overall Score



Fire Strike Extreme Overall Score

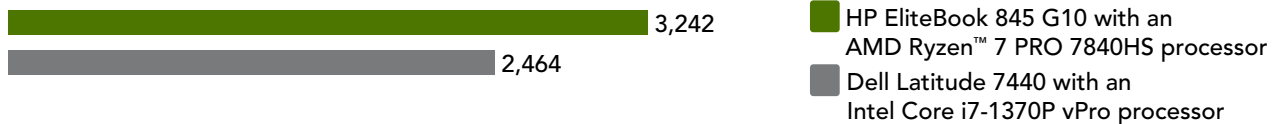


Figure 3: 3DMark benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440, on Fire Strike tests. Higher numbers are better. Source: Principled Technologies.

3DMark Time Spy benchmark

Performance score | Higher is better

Up to 51.7%
better performance

Time Spy DX11 Overall Score



Time Spy Extreme Overall Score

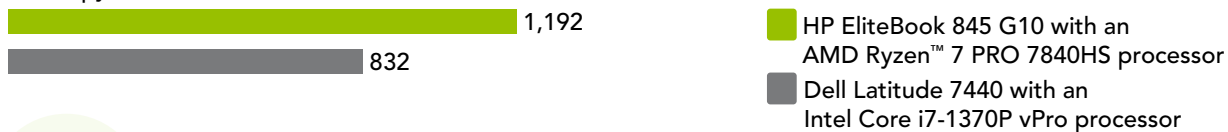


Figure 4: 3DMark benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440, on Time Spy tests. Higher numbers are better. Source: Principled Technologies.

Measuring performance on demanding graphics and video tasks

Anyone creating, rendering, and editing graphics or video requires more powerful laptop hardware than your average office worker. To assess performance on these types of tasks, we used two Procyon benchmarks: the Procyon Video Editing Benchmark and the Procyon Photo Editing Benchmark. The Video Editing Benchmark “uses Adobe Premiere Pro in a typical video editing workflow. Using relevant apps ensures that the benchmark score reflects the real-world performance of the whole system.”⁸

As Figure 5 shows, the HP EliteBook 845 G10 Notebook PC with AMD Ryzen™ 7 PRO 7840HS processor achieved a 25 percent higher Procyon Video Editing score than the Dell Latitude 7440 laptop with Intel Core i7-1370P vPro processor did.

Procyon Video Editing Benchmark

Performance score | Higher is better

25.9% better performance

HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

3,178

Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

2,523

Figure 5: Procyon Video Editing benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.

The Procyon Photo Editing Benchmark measures performance for “professional users who need relevant, standardized tools for assessing the photo editing performance of PCs and workstations for content creators.”⁹

The HP EliteBook 845 G10 Notebook PC with AMD Ryzen™ 7 PRO 7840HS processor achieved a 6 percent higher Procyon Photo Editing score than the Dell Latitude 7440 laptop with Intel Core i7-1370P vPro processor did (see Figure 6).

Procyon Photo Editing Benchmark

Performance score | Higher is better

6.5% better performance

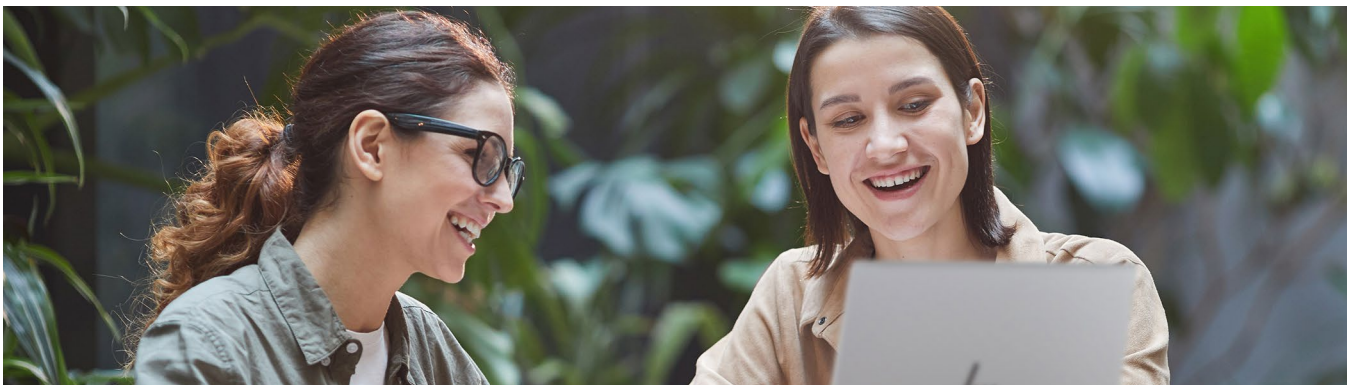
HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

5,587

Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

5,242

Figure 6: Procyon Photo Editing benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.



Benchmarking graphics performance with SPEC®viewperf2020 v3.1

According to SPEC®, “The SPEC®viewperf 2020 v3.1 benchmark enables hardware and software vendors and consumers to measure the 3D graphics performance of systems running under the OpenGL and DirectX application programming interfaces. Unlike most application performance benchmarks, the SPECviewperf 2020 benchmark utilizes workloads, called viewsets, that accurately represent the real-world graphics content and behavior of professional applications, eliminating the need to install the applications themselves.”¹²

Figure 7 shows the SPEC®viewperf2020 results for the various viewsets it includes. Across the viewsets we tested, the HP EliteBook 845 G10 significantly outperformed the Dell Latitude 7440 laptop, with score increases ranging from 82 percent to nearly 19x.

SPECviewperf2020 v3.1

Composite scores | Higher is better

Up to 19X better performance

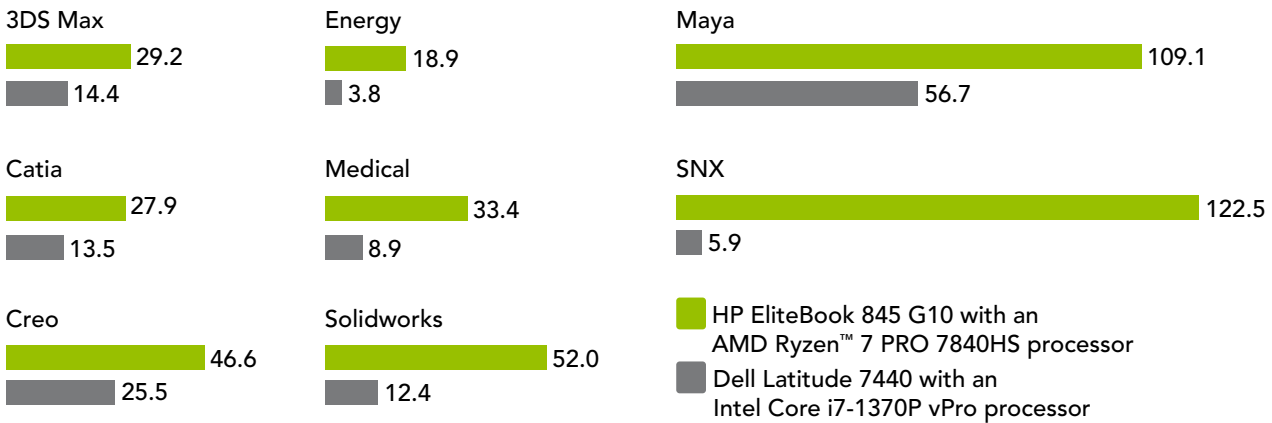


Figure 7: SPEC®viewperf2020 v3.1 benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.



PugetBench

Graphic designers, photographers, and other creatives use popular applications such as those from the Adobe® Creative Suite. PugetBench offers several benchmarks that “are designed to test many popular professional applications using real-world projects and workflows.”¹³ We tested three of its benchmarks: PugetBench for Premiere Pro, PugetBench for After Effects, and PugetBench for DaVinci Resolve.

As Figure 8 shows, the HP EliteBook 845 G10 with AMD Ryzen™ 7 PRO 7840HS processor achieved up to 46 percent better performance on these creative benchmarks than the Dell Latitude 7440 laptop with Intel Core i7-1370P vPro processor did.

PugetBench

Higher is better

Adobe Premiere Pro



Adobe After Effects



DaVinci Resolve



■ HP EliteBook 845 G10 with an AMD Ryzen 7 PRO 7840HS processor

■ Dell Latitude 7440 with an Intel Core i7-1365U vPro processor

Up to 46.5%
better performance

Figure 8: PugetBench benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.



Stay unplugged up to 3 hours longer with better battery life

When an employee's laptop has strong battery life, they don't have to worry about finding a place to plug in. That flexibility to be ultra mobile can improve their day and their ability to be productive along with it.

For battery life testing, we used two different benchmarks. First, we used MobileMark 2018, which measures battery life and performance at the same time. It uses real applications, workloads, and data sets to quantify how overall system performance affects the user experience.¹⁴ Then, we ran MobileMark 25 which uses scenarios based on the real-world applications and activities business users encounter every day.¹⁵ We ran both benchmarks two times each; once optimized for best battery life and the second time optimized for best performance, because each user has different priorities depending on their personal workflows and how long they want to stay unplugged.

As Figures 9 and 10 show, the HP EliteBook 845 G10 with AMD Ryzen™ 7 PRO 7840HS processor, which had 10 percent lower rated raw battery capacity, offered generally better battery life than did the Dell Latitude 7440 with Intel Core i7-1370P vPro processor, especially when we prioritized battery life. On three of the four of the tests, the HP EliteBook 845 G10 extended battery life over the Dell Latitude 7440 by at least 2 hours and as much as 3 hours. When running tests set to Best Performance, the HP EliteBook 845 G10 improved battery life but had slightly lower performance qualification/ DC performance scores than the Dell Latitude 7440 laptop did.

Key takeaways about battery life

- Prioritizing Best Battery Life on MobileMark 25, the HP EliteBook 845 G10 with AMD Ryzen™ 7 PRO 7840HS processor extended battery life by just over 3 hours compared to the Dell Latitude 7440 with Intel Core i7-1370P vPro processor.
- The HP EliteBook 845 G10 delivered up to 33% longer battery life than the Dell Latitude 7440 did.

MobileMark 2018

Higher is better

Best Battery Life

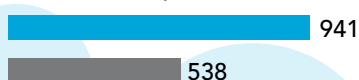
Battery life (hr:min)



Minutes per WHr



Performance qualification score



Best Performance

Battery life (hr:min)



Minutes per WHr



Performance qualification score



HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

Figure 9: MobileMark 2018 battery life benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.

MobileMark 25

Higher is better

Best Battery Life

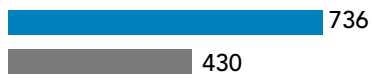
Battery life (hr:min)



Minutes per WHr



DC performance score



MobileMark 25 index



Over 3 hours longer battery life

Best Performance

Battery life (hr:min)



Minutes per WHr



DC performance score



MobileMark 25 index



■ HP EliteBook 845 G10 with an AMD Ryzen™ 7 PRO 7840HS processor

■ Dell Latitude 7440 with an Intel Core i7-1370P vPro processor

Figure 10: MobileMark 25 battery life benchmark result comparison for the HP EliteBook 845 G10 and Dell Latitude 7440. Higher numbers are better. Source: Principled Technologies.



Conclusion

Strong system performance coupled with long battery life makes for a system that your entire employee base can feel happy about, no matter what type of work they use their laptop for. In our hands-on testing, we found that the HP EliteBook 845 G10 Notebook PC with AMD Ryzen™ 7 PRO 7840HS processor offered consistently stronger system performance across a number of industry-standard benchmarks targeting different types of workflows. In addition, the HP EliteBook 845 G10 offered significantly longer battery life than the Dell Latitude 7440, which could give employees the flexibility to work where they want to without fear of an impending laptop shutdown.



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Read the science behind this report at <https://facts.pt/Os9WU8v> ▶



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