


**The science behind the report:**

# Make the most of your workday with the HP ZBook 8 G2a Mobile Workstation PC

This document describes what we tested, how we tested, and what we found. To learn how these facts translate into real-world benefits, read the report Make the most of your workday with the HP ZBook 8 G2a Mobile Workstation PC.

We concluded our hands-on testing on September 25, 2026. During testing, we determined the appropriate hardware and software configurations and applied updates as they became available. The results in this report reflect configurations that we finalized on July 19, 2026, or earlier. Unavoidably, these configurations may not represent the latest versions available when this report appears.

## Our results

To learn more about how we have calculated the wins in this report, go to https://facts.pt/calculating-and-highlighting-wins. Unless we state otherwise, we have followed the rules and principles we outline in that document.

Table 1: Results of our testing.

| Performance & productivity tests | HP ZBook 8 G2a | HP ZBook 8 G1a |
|---|---|---|
| Procyon® Office Productivity (Office v16.0.20228.20124, Procyon Office Productivity Benchmark v1.6.1426) | | |
| **Overall rating** | 7,154 | 5,858 |
| Word sub-score | 7,291 | 6,585 |
| Excel sub-score | 7,591 | 6,133 |
| PowerPoint sub-score | 8,659 | 6,585 |
| Outlook sub-score | 4,177 | 3,348 |
| 3DMark® v2.32.8874 | | |
| **Steel Nomad overall score** | 696 | 514 |
| FPS | 6.96 | 5.15 |
| **Wild Life overall score** | 22,546 | 19,673 |
| FPS | 135.01 | 117.80 |

| Performance & productivity tests | HP ZBook 8 G2a | HP ZBook 8 G1a |
|---|---|---|
| Puget Bench for Creators: Adobe® Lightroom® Classic Extended (Puget Bench v1.1.0, Adobe Lightroom Classic v15.5) | | |
| **Overall score (Extended)** | 6,687 | 5,991 |
| Overall score (Standard) | 7,318 | 6,354 |
| AI score (Extended) | 58.3 | 57.4 |
| Canon score (Extended) - Average score | 79.3 | 72.3 |
| Nikon score (Extended) - Average score | 58.3 | 52.0 |
| Panasonic score (Extended) - Average score | 67.5 | 55.9 |
| Sony score (Extended) - Average score | 73.3 | 64.2 |
| Canon score (Standard) - Average score | 79.3 | 72.3 |
| Panasonic score (Standard) - Average score | 67.5 | 55.9 |
| Import 250 photos - Canon (sec) (lower is better) | 6.5 | 6.9 |
| Create 100 Smart Previews - Canon (sec) (lower is better) | 29.1 | 32.0 |
| Export 100 JPG - Canon (sec) (lower is better) | 91.4 | 101.7 |
| Export 100 DNG - Canon (sec) (lower is better) | 23.4 | 26.1 |
| Import 250 photos - Panasonic (sec) (lower is better) | 6.6 | 9.7 |
| Create 100 Smart Previews - Panasonic (sec) (lower is better) | 39.2 | 42.0 |
| Export 100 JPG - Panasonic (sec) (lower is better) | 73.8 | 94.0 |
| Export 100 DNG - Panasonic (sec) (lower is better) | 40.5 | 42.9 |
| Import 250 photos - Sony (sec) (lower is better) | 6.8 | 8.8 |
| Create 100 Smart Previews - Sony (sec) (lower is better) | 36.7 | 40.8 |
| Export 100 JPG - Sony (sec) (lower is better) | 84.5 | 97.2 |
| Export 100 DNG - Sony (sec) (lower is better) | 26.4 | 27.0 |
| Import 250 photos - Nikon (sec) (lower is better) | 10.3 | 10.5 |
| Create 100 Smart Previews - Nikon (sec) (lower is better) | 57.6 | 63.8 |
| Export 100 JPG - Nikon (sec) (lower is better) | 67.2 | 87.8 |
| Export 100 DNG - Nikon (sec) (lower is better) | 34.5 | 37.2 |
| AI - Select Sky (4-image average) (sec) (lower is better) | 1.7 | 1.6 |
| AI - Select Subject (4-image average) (sec) (lower is better) | 1.7 | 1.5 |
| AI - Reflection Removal (4-image average) (sec) (lower is better) | 22.3 | 22.7 |
| AI - Denoise (4-image average) (sec) (lower is better) | 70.7 | 76.1 |
| AI - Enhanced Details (4-image average) (sec) (lower is better) | 4.0 | 4.3 |
| AI - Super Resolution (4-image average) (sec) (lower is better) | 12.2 | 13.2 |

Table 2: Results of our battery life testing.

| Battery life tests | **HP ZBook 8 G2a** | **HP ZBook 8 G1a** |
|---|---|---|
| UL Procyon Battery Life Benchmark (Office Productivity) - Best Power Efficiency Mode (Office v16.0.20326.20144, Procyon UI v2.12.2641, benchmark v1.6.1469) | 202 nits | 203 nits |
| **Total duration (hours:min)** | 11:48 | 8:51 |
| Normalized battery life (minutes per Wh) | 10.41 | 8.56 |
| Maximum performance score | 93,000 | 102,000 |
| Minimum performance score | 90,000 | 90,000 |
| Median performance score | 91,000 | 100,000 |
| UL Procyon Battery Life Benchmark (Office Productivity) - Balanced Mode | 202 nits | 203 nits |
| **Total duration (hours:min)** | 11:03 | 8:30 |
| Normalized battery life (minutes per Wh) | 9.75 | 8.23 |
| Maximum performance score | 144,000 | 144,000 |
| Minimum performance score | 85,000 | 88,000 |
| Median performance score | 110,500 | 140,000 |
| UL Procyon Battery Life Benchmark (Office Productivity) - Best Performance Mode | 202 nits | 203 nits |
| **Total duration (hours:min)** | 9:21 | 8:05 |
| Normalized battery life (minutes per Wh) | 8.25 | 7.82 |
| Maximum performance score | 175,000 | 169,000 |
| Minimum performance score | 87,000 | 89,000 |
| Median performance score | 170,000 | 163,000 |

# System configuration information

Table 3: Detailed information on the systems we tested.

| System | HP ZBook 8 G1a 14" | HP ZBook 8 G2a 14" |
|---|---|---|
| Processor | | |
| Vendor | AMD | AMD |
| Model number | Ryzen™ AI 9 HX PRO 375 | Ryzen AI 9 HX PRO 470 |
| Core frequency (GHz) | 2.0 – 5.1 | 2.0 – 5.2 |
| Number of cores | (12) 4 x Zen 5, 8 x Zen 5c | (12) 4 x Zen 5, 8 x Zen 5c |
| Number of threads | 24 | 24 |
| L3 cache (MB) | 24 | 24 |
| AI Engine Capabilities NPU TOPS | 55 | 55 |
| NPU driver | AMD 32.0.203.314 | AMD 32.0.203.329 |
| Memory | | |
| Amount (GB) | 64 | 64 |
| Type | DDR5 | DDR5 |
| Speed (MT/s) | 5,600 | 5,600 |
| Graphics | | |
| Vendor | AMD | AMD |
| Model number | Radeon™ 890M | Radeon 890M |
| Driver | AMD 32.0.22050.1003 | AMD 32.0.22042.34002 |
| Storage | | |
| Model | Micron® MTFDKBA1T0TGD-1BK1AABHA | KIOXIA® KBG80ZNV1T02 |
| Amount | 1 TB | 1 TB |
| Type | PCIe Gen4 NVMe M.2 SSD | PCIe Gen5 NVMe M.2 SSD (operating at PCIe Gen4 x4) |
| Connectivity/expansion | | |
| WLAN | MediaTek® Wi-Fi® 7 MT7925 | MediaTek Wi-Fi 7 MT7925 |
| Bluetooth | 5.4 | 6.0 |
| USB | 2 x Thunderbolt™ 4 with USB Type-C 40Gbps<br>1 x USB Type-A 5Gbps<br>1 x USB Type-C 10Gbps | 2 x Thunderbolt 4 with USB Type-C 40Gbps<br>1 x USB Type-A 5Gbps<br>1 x USB Type-C 10Gbps |
| Video | HDMI 2.1 | HDMI 2.1 |
| Battery/AC adapter | | |
| Type | Lithium-ion | Lithium-ion |
| Rated capacity (Wh) | 62 | 68 |
| Display | | |
| OEM description | WUXGA 400 nits | WUXGA 400 nits |
| Size (inches) | 14 | 14 |
| Resolution | 1,920 x 1,200 | 1,920 x 1,200 |
| Touchscreen | No | No |

| System | HP ZBook 8 G1a 14” | HP ZBook 8 G2a 14” |
|---|---|---|
| Operating system | | |
| Vendor | Microsoft | Microsoft |
| Name | Windows 11 Pro | Windows 11 Pro |
| Build number or version | 25H2 Build 26200.9168 | 25H2 Build 26200.9168 |
| BIOS | | |
| BIOS name and version | HP X84 Ver.01.05.04 (05/18/2026) | HP Y82 Ver.01.01.08 (06/26/2026) |
| Dimensions | | |
| Height (inches) | 0.74 | 0.75 |
| Width (inches) | 12.43 | 12.42 |
| Depth (inches) | 8.74 | 8.74 |
| Weight (pounds) | 3.28 | 3.43 |

# How we tested

## Setting up the systems

### Setting up and updating the OEM image

1. Boot the system.
2. Follow the on-screen instructions to complete installation, using the default selections when appropriate.
3. Set the Windows (plugged in) Power Mode to Best Performance.
4. Set Screen and Sleep options to Never:
    a. Right-click the desktop, and select Display settings.
    b. From the left column, select System.
    c. Click Power & Battery.
    d. For all power options listed under Screen and Sleep, select Never.
5. Disable User Account Control notifications:
    a. Select Windows Start, type UAC, and press the Enter key.
    b. Move the slider control to Never notify, and click OK.
6. Run Windows Update, and install all available updates.
7. Run Support Assistant, and install all recommended BIOS and driver updates available.
8. Verify the date and time are correct, and synchronize the system clock with the time server.
9. Pause automatic Windows Updates:
    a. Click the Windows Start button.
    b. Type Windows Update settings, and press Enter.
    c. From the Pause updates drop-down menu, select Pause for 5 weeks.

### Capturing an image

1. Connect an external HDD to the system.
2. Click the Windows Start button, and type Control Panel in the search bar. Click Control Panel → System and Security → Backup and Restore (Windows 7) → Create a system image.
3. Verify that the external HDD is selected as the save drive, and click Next.
4. Verify that all drives are selected to back up, and click Next.
5. Click Start backup.
6. When you see the prompt to create a system repair disc, select No, and close the dialogs.

### Restoring an image

1. Connect an external HDD to the system.
2. Press and hold the Shift key while restarting the system.
3. Select Troubleshoot.
4. Select Advanced options.
5. Select See more recovery options.
6. Select System image recovery.
7. Select the User account.
8. Enter the system password, and click Continue.
9. At the Restore system files and settings screen, select Next.
10. Verify that the external HDD is selected, and click Next.
11. Once the recovery has completed, click Finish.

## Testing with 3DMark

### Setting up the test

1. Purchase and download 3DMark from https://benchmarks.ul.com/3dmark.
2. To install 3DMark with the default options, double-click the 3DMark installer.exe file.
3. To launch 3DMark, double-click the 3DMark desktop icon.
4. Enter the registration code, and click Register.
5. Exit 3DMark.

### Running the test

1. To launch the benchmark, double-click the 3DMark desktop icon.
2. At the 3DMark Home screen, click More Tests.
3. Select the benchmark you want to run.
4. Move the slider button to turn off the "Include Demo" feature.
5. Click Run.
6. When the benchmark run completes, record the results.
7. Perform steps 1 through 6 two more times for each benchmark, and report the median of the three runs.

## Testing with PugetBench for Creators: Lightroom Classic

We used the following applications:

- Adobe Lightroom Classic
- PugetBench for Creators

### Setting up the test

1. Launch Adobe Lightroom Classic.
2. Click through the Tutorial pop-up tips.
3. Close Adobe Lightroom Classic.
4. Purchase a PugetBench for Creators license from https://www.pugetsystems.com/pugetbench/creators/.
5. Click Download PugetBench for Creators for Windows or Mac.
6. After the download completes, double-click the installation file to install PugetBench.
7. Enter the license key in the license field. Click Activate.
8. Click Download Assets.

### Running the test

1. Boot the system.
2. Open PugetBench for Creators.
3. Select the Lightroom Classic test on the left side of the app.
4. Click Start Test.
5. When the benchmark finishes, record the overall score.
6. Close PugetBench for Creators, and restart the system under test.
7. Wait 30 minutes before performing the next run.
8. Repeat steps 1 through 7 two more times, and record the median results.

## Measuring battery life with the Procyon Office Productivity Battery Life Benchmark

### Setting up the test

1. Boot the system.
2. Verify the following display and power settings:
    a. Right-click the desktop, and select Display settings.
    b. Uncheck the box next to Change brightness automatically when lighting changes, if available.
    c. Uncheck the box next to Change brightness based on content, if available.
    d. In the Scale drop-down menu, select 100%.
    e. From the pane on the left, select System.
    f. Click Power & Battery.
    g. For all power options listed under Screen and Sleep, select Never.
    h. Set Power mode while unplugged to the appropriate setting (Best Performance, Balanced, or Best Power Efficiency).
    i. Under Energy Saver, disable Lower screen brightness when using energy saver.
3. Download and install Procyon.
4. Open Procyon.
5. Click Battery Life Office Productivity Benchmark.
6. Click Register.
7. Enter the license key, and click Register.
8. Click Calibrate.
9. Click Start.
10. Using a nit meter, adjust the screen brightness to as close to 200 nits as possible, and click Next.
11. Fill out the information, and click Save calibration.
12. Close Procyon.
13. Before running the benchmark, make sure to install a licensed version of Microsoft 365; open Word, Excel, PowerPoint, and Outlook applications; and disable tips when possible.

### Running the test

1. Boot the system.
2. Ensure the system is fully charged.
3. Launch Procyon.
4. Select the Procyon Battery Life option.
5. Under the Office Productivity tab, click Run.
6. When prompted, unplug the system.
7. When the benchmark completes, plug in and power up the system.
8. Record the results.
9. Repeat steps 2 through 8 twice more, and report the median result.

## Testing with Procyon Office Productivity Benchmark

### Setting up the test

1. Install a licensed version of Microsoft 365, and verify the system is signed into the following apps: Excel, PowerPoint, and Word.
2. Purchase and download the Procyon Benchmark Suite from https://benchmarks.ul.com/procyon.
3. Install the benchmark.
4. Double-click the installer.
5. Click Next.
6. To agree to the EULA, click Agree, and click Next.
7. Click Next.
8. Launch Procyon.
9. Select Settings, and input the license key.
10. Close Procyon.

## Running the test

1. Launch Procyon.
2. Select the Office Productivity Benchmark.
3. To begin the test, click Run.
4. When the test completes, record the results.
5. Wait 15 minutes before rerunning.
6. Repeat steps 3 through 5 twice more, and report the median result.

This project was commissioned by HP

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**How we created this report**

A PT team, which includes the contributors we've listed and others, created this report and performed the technical work behind it. We used AI to help outline, draft, and proofread this report, as well as to aid in chart creation, image editing, and content layout.

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