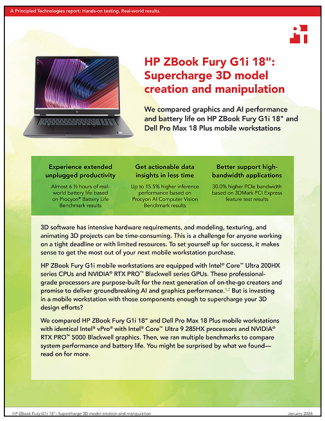

The science behind the report:

HP ZBook Fury G1i 18": Supercharge 3D model creation and manipulation

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 HP ZBook Fury G1i 18": Supercharge 3D model creation and manipulation.

We concluded our hands-on testing on October 15, 2025. 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 August 21, 2025 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 http://facts.pt/calculating-and-highlighting-wins. Unless we state otherwise, we have followed the rules and principles we outline in that document.

Table 1: Median results of our benchmark testing. Longer battery life, higher bandwidth, higher benchmark scores, and lower task completion times are better.

Test / Subtest	HP ZBook Fury G1i 18"	Dell™ Pro Max 18 Plus
Procyon® Office Productivity Battery Life		
Office Productivity (hh:mm)	6:29	4:19
3DMark® PCI Express feature test		
Bandwidth (Gb/sec)	35.81	27.54
Cadalyst Systems Benchmark 2015		
Total index score	1,249	999
Puget Bench for Photoshop		
Overall score	8,980	8,476
Revit 2024 RFO Benchmark — model creation		
Model creation time (sec)	149.78	158.65

Test / Subtest	HP ZBook Fury G1i 18"	Dell™ Pro Max 18 Plus
Revit 2024 RFO Benchmark — rotate views		
Rotate views time (sec)	76.75	82.19
Revit 2024 RFO Benchmark — refresh views		
Refresh views time (sec)	186.79	205.49
Revit 2024 RFO Benchmark — export tests		
Export to DWF (sec)	371.25	386.65
Export to DWG (sec)	2,437.64	2,455.35
Export to PDF (sec)	1,357.56	1,365.09
Export to PNG (sec)	580.10	617.87
SPECapc® for Creo 9		
GPU composite score	3.13	2.89
Procyon AI Computer Vision Benchmark		
Float32 — GPU overall score	898	777
Float16 — GPU overall score	1,701	1,575
Int8 — GPU overall score	2,059	1,809

System configuration information

Table 2: Detailed information on the systems we tested.

System configuration information	HP ZBook Fury G1i 18"	Dell Pro Max 18 Plus
Processor		
Vendor	Intel	Intel
Model number	Core™ Ultra 9 285HX, vPro®	Core™ Ultra 9 285HX, vPro®
Core frequency (GHz)	2.8 – 5.5	2.8 – 5.5
Number of cores	24	24
Number of threads	24	24
Cache (MB)	36	36
AI Engine capabilities (overall TOPS)	Up to 36	Up to 36
AI Engine capabilities (NPU TOPS)	Up to 13	Up to 13
Memory		
Amount (GB)	64 (2 x 32)	64 (2 x 32)
Type	DDR5 SODIMM	DDR5 CSoDIMM
Speed (MT/s)	5600	6400
Graphics		
Vendor	NVIDIA®	NVIDIA®
Model number	RTX PRO™ 5000 Blackwell Generation Laptop GPU	RTX PRO™ 5000 Blackwell Generation Laptop GPU
Driver	NVIDIA v32.0.15.8097	NVIDIA v32.0.15.7349
Storage		
Amount (TB)	1	1
Type	NVMe® PCIe Gen 4 x4	NVMe PCIe Gen 4 x4
Connectivity/expansion		
Wireless internet	Intel® Wi-Fi 7 BE200	Intel® Wi-Fi 7 BE200
Bluetooth	5.4	5.4
USB	2 x Thunderbolt™ 5 with USB Type-C® 80Gbps 1xThunderbolt 4 with USB Type-C 40Gbps 1 x USB Type-A 10Gbps	2xThunderbolt 5 with USB Type-C 80Gbps 1xThunderbolt 4 with USB Type-C 40Gbps 2 x USB Type-A 5Gbps
Video	1 x HDMI® 2.1	1 x HDMI 2.1
Battery		
Type	Lithium-polymer	Lithium-polymer
Rated capacity (Whr)	99	96

System configuration information	HP ZBook Fury G1i 18"	Dell Pro Max 18 Plus
Display		
Size (in.)	18	18
Resolution	2,560 x 1,600	2,560 x 1,600
Touchscreen	No	No
Operating system		
Vendor	Microsoft	Microsoft
Name	Windows 11 Pro	Windows 11 Pro
Build number or version	24H2 Build 26100.6585	24H2 Build 26100.4946
BIOS		
BIOS name and version	HP X96 v01.01.10 07/01/2025	Dell v1.2.7 07/04/2025
Dimensions		
Height (in.)	1.10	0.71 – 0.77
Width (in.)	15.88	15.83
Depth (in.)	11.41	11.02
Weight (lbs)	7.78	7.17

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 updates available.
7. Run the HP/Dell/Lenovo Support Assistant utilities, 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 the Enter key.
    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 Menu button, and type `Control Panel` in the search bar. Click Control Pane l → 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.

3DMark PCI Express feature testing

Setting up the test

1. Download 3DMark from http://www.futuremark.com/benchmarks/3dmark/all.
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 the More Tests button.
3. Select the PCI Express feature test.
4. Click Run.
5. When the benchmark run completes, record the results.
6. Perform steps 1 through 5 two more times for each benchmark, and report the median result of the three runs.

Cadalyst System Benchmark using AutoCAD 2026 testing

Setting up the test

1. Download the Cadalyst Benchmark vC2015_v5.5b_JULY_2018.ZIP from https://info.cadalyst.com/cad-benchmark-test
2. Extract the zip file to C:\benchmark\C2015_v5.5b_updated_JULY_2018.
3. Purchase, download, and install AutoCAD 2026 from https://www.autodesk.com/products/autocad.
4. Launch Autocad, and sign in to your Autodesk account.
5. Click New.
6. In the command terminal at the bottom of the screen, type `OPTIONS`. If it is not available, press CTRL + 9.
7. Under the Files tab, select Support File Search Path and click Add and enter the test folder location C:\benchmark\C2015_v5.5b_updated_JULY_2018\..
8. For trusted locations, click Add, and enter the test folder location C:\benchmark\C2015_v5.5b_updated_JULY_2018\..
9. On the System tab, click Graphics Performance.
10. Verify that Hardware Acceleration is on and that all 3D Display Settings are enabled.
11. Close the Options menu.
12. Using the command terminal, set the following parameters:
    - Type `SDI`, press Enter, type `1`, the press Enter.
    - Type `STARTMODE`, press Enter, type `0`, then press Enter.
13. Close Autocad.
14. On the desktop, right-click, and click New → Shortcut.
15. For location, enter the executable path for acad.exe. The default location is "C:\Program Files\Autodesk\AutoCAD 2026\acad.exe".
16. Click Next, then Finish.
17. Right-click the executable, and click Properties.
18. For Start in, change the location to the location that contains the benchmark files including the C2015_go.lsp file. We used ""C:\benchmark\C2015_v5.5b_updated_July_2018\".) Click Apply.(
19. Close all programs, and restart the system.

Running the test

1. Double-click the new desktop shortcut to open Autocad.
2. Maximize the autocad Window.
3. In the Command terminal, type `APPLOAD` and press Enter.
4. In the Look In dialog box, browse to the test folder located in C:\benchmark\C2015_v5.5b_updated_JULY_2018\.
5. Click the C2015_go.lsb file, and click Load.
6. Click Close.
7. Once the C22015 Benchmark menu appears, enter your system configuration.
8. Leave Test Functions as 3D/2D/Other and Number of Test Loops as 1.
9. To start the test, click OK.
10. Record the results, and close Autocad.
11. Wait 15 minutes and repeat steps 1 through 10 twice. Record the median result of the three results.

Procyon AI Computer Vision Benchmark testing

Setting up the test

1. Purchase and download the Procyon AI Computer Vision benchmark from https://benchmarks.ul.com/procyon.
2. Install the Procyon benchmark.
3. Double-click the installer.
4. Click Next.
5. Click to agree to the EULA, and click Next.
6. Click Next.
7. Launch Procyon.
8. Select Settings, and input the Procyon AI Computer Vision license key.
9. Close Procyon.

Running the test

1. Launch Procyon.
2. Select the Computer Vision test.
3. For the Float32 and Float16 tests, select the Windows ML tab.
4. Choose the GPU, and select Float32.
5. To begin the test, click Run.
6. When the test completes, record the results, and wait 15 minutes before re-running.
7. When three runs are complete, complete three runs of GPU and Float16.
8. For the Integer test, choose the AMD Ryzen AI tab.
9. Choose NPU and Integer.
10. To begin the test, click Run.
11. When the test completes, record the results, and wait 15 minutes before re-running.
12. Complete three runs, and record the median results.

Procyon Battery Life Benchmark testing

Setting up the test

1. Boot the system.
2. Verify the following display and power settings:
   - Right-click the desktop, and select Display settings.
   - Uncheck the box next to Change brightness automatically when lighting changes, if available.
   - Uncheck the box next to Change brightness based on content, if available.
   - In the Scale drop-down menu, select 100%.
   - Select System from the left-hand pane.
   - Click Power & Battery.
   - For all power options listed under Screen and Sleep, select Never.
3. Download and install Procyon.
4. Open Procyon.
5. Click Battery Life Office Productivity Benchmark.
6. Click Register.
7. Enter the license key for the Office Productivity Battery Life Benchmark, and click Register.
8. Click Calibrate screen.
9. Using a nit meter, adjust the screen brightness to as close to 200 nits as possible.
10. Close Procyon.
11. Before running the benchmark, make sure to install a licensed version of Microsoft 365 and open Word, Excel, and PowerPoint applications and disable tips when possible.

Running the test

1. Boot the system.
2. Ensure the system is fully charged.
3. Go to the Windows Start Menu.

4. Type `CMD` to bring up command prompt.
5. Type `cd C:\Program Files\UL\Procyon`
6. To start the test, type `ProcyonCMD.exe -d "custom_definitions/office_productivity_mp_batterylife.def" -o "<Export_folder>/resultfilename.procyon-result"`
7. When prompted, unplug the system.
8. When the benchmark completes, plug in the system and power up the system.
9. Record the results.
10. Repeat steps 2 through 9 twice, and report the median result of the three runs.

Puget Bench for Photoshop testing

Setting up the test

1. Launch Adobe Photoshop.
2. Click through the Tutorial pop-up tips.
3. Close Adobe Photoshop.
4. Purchase a PugetBench for Creators license from https://www.pugetsystems.com/pugetbench/creators/.
5. Click the 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 Photoshop 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 twice, and record the median result of the three runs.

Revit 2024 RFO Benchmark testing

Setting up the test

1. Purchase, download and install Revit 2025 from https://www.autodesk.com/products/revit/overview.
2. Launch Revit 2025, and sign in with the account information.
3. At the Tutorial screen, click Don't show this again.
4. Close Revit 2025.
5. Download the Revit 2025 RFO Benchmark Tool from https://www.revitforum.org/forum/revit-all-flavors/hardware-and-infrastructure/36875-rfo-benchmark-v3-updated-for-2025.
6. Extract the Revit 2025 RFO Benchmark Tool.

Running the test

1. Open the Extracted Revit 2025 RFO Benchmark Tool directory.
2. To launch the benchmark, click _RFO Benchmark – Full_Expanded shortcut.
3. When the benchmark finishes, record the results.
4. Wait 15 minutes before performing the next run.
5. Repeat steps 1 through 3 twice, and record the median result of the three runs.

SPECapc for Creo 9 testing

Setting up the test

1. Purchase a license for Creo 9.
2. To log into your PTC account, use the Welcome email, and designate a site administrator. (Note: For valid SPECapc for Creo 9 results to be submitted, Creo 9 v9.0.4.0 must be used for testing. Download the Win64 Creo 9.0.4.0 installer from here https://support.ptc.com/appserver/auth/it/esd/product.jsp?prodFamily=ENG.)

3. Extract the Creo 9.0.4.0 zip file.
4. Inside the extracted file, copy the install_license_server.exe onto a separate Windows system.
5. On a separate Windows system, run install_license_server.exe.
6. In the Creo Installation Assistant – Creo 9.0.4.0 Window, select Install License Server, and click Next.
7. Accept the Software License Agreement, and click Next.
8. On the License Identification screen, select Simple license entry, and click Next.
9. Next to License Generation for Server Install, expand the drop-down menu, and select Simple License entry.
10. Enter the sales order number located on your purchase order, and click Install License.
11. In the new window, log into PTC.com with your credentials.
12. Click Finish.
13. To verify that the license server is running, browse to the server IP and port 8090 or [server_ip]:8090.
14. Log in with the default credentials, admin/admin, enter a new password, and verify that the license server is running with
15. available licenses.
16. On the system under test, copy the Creo Installation folder above to the target system.
17. Run Setup.exe.
18. At the Introduction screen, click Next.
19. At the Software License Agreement screen, accept the agreement, export the agreement, and click Next.
20. Add the license server using 7788@[ip_of_license server]. Select the License server, and click Next.
21. At the Application Selection screen, accept the Defaults, and click Next.
22. At the Customize Application screen, confirm that Creo Render Studio is selected, and click Install.
23. Once the installation completes, click Finish.
24. Launch Creo Parametric, and close any prompts.
25. Download SPECapc for Creo 9 from https://gwpg.spec.org/benchmarks/benchmark/specapc-ptc-creo-9/.
26. Extract and complete the installation, using all default options.

Running the test

1. Open SPECapc for Creo 9.
2. Click Run.
3. Record the results.
4. Repeat steps 1 and 2 twice, and record the median result of the three runs.

Read the report ▶

This project was commissioned by HP.