The science behind the report:

Fast-track your advanced workflows with the space-efficient HP Z2 SFF G1i AI workstation

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 Fast-track your advanced workflows with the space-efficient HP Z2 SFF G1i AI workstation.

We concluded our hands-on testing on October 22, 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 September 30, 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 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: Median results of our benchmark testing. Higher benchmark scores, more samples per minute, and less time for task completion are better.

Test / Subtest	HP Z2 SFF G1i	Dell™ Pro Max Slim
Amuse 3.1 AI art creation (sec.)		
Time to generate an image	6:26	6:30
Time to generate a 2-second video	2:22	2:31
Blender benchmark (samples per minute)		
Classroom	114.44	108.61
Monster	256.68	238.55
The Junk Shop	162.74	149.54
SPECapc® for Maya		
CPU Composite score	10.33	9.69

Test / Subtest	HP Z2 SFF G1i	Dell™ Pro Max Slim
SPECworkstation® 4.0		
AI & Machine Learning	2.43	2.36
Financial Services	1.95	1.74
Life Sciences	2.82	2.47
Product Design	2.35	2.27
Productivity & Development	1.33	1.29
Media & Entertainment	2.65	2.48
Energy	2.47	2.28

System configuration information

Table 2: Detailed information on the systems we tested.

System configuration information	HP Z2 SFF G1i	Dell Pro Max Slim
Processor		
Vendor	Intel®	Intel®
Model number	Core™ Ultra 9 285K	Core™ Ultra 9 285K
Core frequency (GHz)	3.7 – 5.7	3.7 – 5.7
Number of cores	24	24
Number of threads	24	24
Cache (MB)	36	36
Memory module(s)		
Amount (GB)	64	64
Type	DDR5 UDIMM	DDR5 UDIMM
Speed (MT/s)	5,600	5,600
Graphics		
Vendor	NVIDIA®	NVIDIA
Model number	RTX™ 4000 SFF Ada Generation	RTX 4000 SFF Ada Generation
Driver	NVIDIA v32.0.15.7260	NVIDIA v32.0.15.7260
Storage controller		
Amount (TB)	1	1
Type	M.2 2280 NVMe PCIe Gen 4 x4	M.2 2280 NVMe PCIe Gen 4 x4
Connectivity/expansion		
Communications	LAN: Intel Ethernet Connection I219-LM WLAN: Intel Wi-Fi 7 BE200 320MHz	LAN: Intel Ethernet Connection I219-LM WLAN: Intel Wi-Fi 7 BE200 320MHz
Bluetooth	5.4	5.4
USB	2 x USB Type-C 20Gbps 4 x USB Type-A 10Gbps 2 x USB Type-A 5Gbps 3 x USB Type-A 480Mbps	1 x USB Type-C 20Gbps 2 x USB Type-C 10Gbps 3 x USB Type-A 5Gbps 4 x USB Type-A 480Mbps
Video	2 x DisplayPort 1.4	3 x DisplayPort 1.4
Display		
Size (in.)	27	27
Type	Dell P2715Q	Dell P2715Q
Resolution	1,920 x 1,200	1,920 x 1,200

System configuration information	HP Z2 SFF G1i	Dell Pro Max Slim
Operating system		
Vendor	Microsoft	Microsoft
Name	Windows 11 Pro	Windows 11 Pro
Build number or version	24H2 Build 26100.4652	24H2 Build 26100.6584
BIOS		
BIOS name and version	HP X50 Ver.01.04.03 (04/25/2025)	Dell Inc. 1.8.1 (08/15/2025)

How we tested

Setting up the system

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 Power Mode to Best Performance.
4. Set Screen and Sleep options to Never:
   a. Right-click the desktop, and select Display settings.
   b. Select System from the left column.
   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 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.

Amuse 3.1 testing

Setting up the test

1. Download the Amuse application from https://www.amuse-ai.com/.
2. Using all the defaults, run the installer, and install the application.

Running the test

1. Launch Amuse.
2. In the prompt type `A cute raccoon playing guitar on the beach.`
3. Select Image and set the following parameters:

   - Image Count = 4
   - Aspect Ratio = Landscape (v3.0.1=768 x 512). (v3.1.0=1280x768)
   - Performance slider = Quality (Note: If the system is an AMD system and supports AMD XDNA Super Resolution, allow the toggle to be enabled [default setting].)

4. Select Create new variant each generation:
5. Click Generate Images. If prompted to, download needed model files. Accept the license agreement ,and click Download.
6. After the image generation has completed, record the elapsed time.
7. Wait 5 minutes, repeat steps 2 through 6 twice, and report the median result from the three runs.
8. In the prompt type `A cute raccoon playing guitar on the beach.`
9. Select Video, and set the following parameters:

   - Video Count = 4
   - Aspect Ratio = Landscape (704 x 448)
   - Performance slider = Quality (Note: If the system is an AMD system and supports AMD XDNA Super Resolution, allow the toggle to be enabled [default setting].)
   - Video Length = 2 seconds

10. Select Create new variant each generation:
11. Click Generate Videos. If prompted to, download needed model files. Accept the license agreement, and click Download.
12. After the image generation has completed, record the elapsed time.
13. Wait 5 minutes repeat steps 8 through 12 twice, and report the median result from the three runs.

Blender testing

Setting up the test

1. Download the Blender Benchmark from https://opendata.blender.org/.

Running the test

1. Launch the Blender Benchmark.
2. At the Welcome screen, click Next.
3. Select Blender version 4.3.0, and click Next.
4. At the Benchmark Scenes screen, click Next.
5. At the Benchmark Device screen, select either the CPU or GPU option, and click Start Benchmark.
6. Record the results.
7. Wait 15 minutes before performing the next run.
8. Repeat steps 1 through 7 twice, and report the median result from the three runs

SPECapc Maya 2024 testing

Setting up the test

1. Purchase and install a full license of Maya 2024 from https://www.autodesk.com/products/maya/overview?term=1-YEAR&tab=subscription.
2. Purchase and download the vendor license of the benchmark from https://gwpg.spec.org/benchmarks/benchmark/specapc-maya-2024/.
3. To extract installation files, ,click SPECapcMaya2024-1.01.exe.
4. To install the benchmark, click SPECapc_Maya2024_combined.exe.
5. Set the DPI scaling to 100%:

   - Right-click the desktop, and select Display settings.
   - From the Scale drop-down menu, select 100%.

6. Shut down the system.

Running the test

1. Launch the SPECapc Maya benchmark.
2. Click Run Benchmark.
3. When the test is complete, record the results.
4. Repeat steps 1 through 3 twice, and report the median result from the three runs.

SPECworkstation 4.0 testing

Setting up the test

1. Purchase, and download the vendor license of the benchmark from
   https://gwpg.spec.org/benchmarks/benchmark/specworkstation-4_0/.
2. To install, click the SPECworkstation-Setup-4.0.0.exe.
3. Turn off Windows Defender Firewall.
4. Click Windows Menu button.
5. In the search bar, type `Firewall`.
6. Select Windows Defender Firewall.
7. In the left-hand column select Turn Windows Defender Firewall on or off.
8. Under both Private and Public network settings, choose Turn off Windows Defender Firewall, and click OK.

Running the test

1. Launch SPECworkstation.
2. Click Run.
3. Record results.
4. Reboot the system
5. Repeat steps 1 through 4 twice, and report the median result from the three runs.

Read the report ▶

This project was commissioned by HP.