



The science behind the report:

# Spend less for faster web browsing and strong everyday performance

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 [Spend less for faster web browsing and strong everyday performance](#).

We concluded our hands-on testing on October 10, 2023. 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 October 4, 2023 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: Results of our testing.

	HP EliteBook 1040 G10 Notebook PC	Apple MacBook® Pro® 14"
<b>WebXPRT 4 overall scores</b>		
Chrome web browser	325	279
Native web browsers (Microsoft Edge for the HP system, Safari for the Apple system)	333	276
<b>CrossMark ratings</b>		
Overall	1,829	1,756
Productivity	1,678	1,537
Creativity	2,146	2,226
Responsiveness	1,466	1,288

## System configuration information

Table 2: Detailed information on the systems we tested.

System configuration information	HP EliteBook 1040 G10 Notebook PC	Apple MacBook Pro 14"
Processor		
Vendor	Intel®	Apple
Name	Core™ i7-1370P	M2 Max
Core frequency (GHz)	3.9 – 5.2	3.68
Number of cores	14	12
Logical processors	20	N/A
Memory		
Amount (GB)	32	32
Type	LPDDR5-5200MHz	Unified
Graphics		
Vendor	Intel	Apple
Model number	Intel Iris® Xe Graphics	M2 Max 38-core GPU
Storage		
Amount (GB)	512	512
Type	SSD	SSD
Connectivity/expansion		
Wireless internet	Intel Wi-Fi 6E AX211	Wi-Fi 6E (802.11ax)
Bluetooth	5.3	5.3
USB	2x Thunderbolt™ 4 ports 2x USB-A 3.2 ports	1x MagSafe3 port 1x SDXC card 3x Thunderbolt 4 ports
Battery		
Type	Integrated lithium-polymer	Integrated lithium-polymer
Rated capacity (mAh)	51	70
Display		
Size (in.)	14	14.2
Resolution	1920 x 1200	3024 x 1964
Operating system		
Vendor	Microsoft	Apple
Name	Windows 11 Pro	macOS® Sonoma
Build number or version	22H2 Build 22621.2361	14.0
BIOS		
BIOS name and version	HP V70 Ver.01.01.08	10151.1.1

System configuration information	HP EliteBook 1040 G10 Notebook PC	Apple MacBook Pro 14"
Dimensions		
Height (in)	0.71	0.61
Width (in)	12.43	12.31
Depth (in)	8.89	8.71
Weight (lbs.)	2.75	3.58

## How we tested

### Setting up and updating the OEM image (Windows)

1. Boot the system.
2. To complete installation, follow the on-screen instructions, 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:
  - Right-click the desktop, and select Display settings.
  - From the left column, select System.
  - Click Power & Battery.
  - For all power options listed under Screen and Sleep, select Never.
5. Disable User Account Control notifications:
  - Select Windows Start, type UAC, and press the Enter key.
  - Move the slider control to Never notify, and click OK.
6. Run Windows Update, and install all updates available.
7. Run the HP Support Assistant, and install all HP updates available.
8. Verify the date and time are correct, and synchronize the system clock with the time server.
9. Pause Automatic Windows Updates:
  - Click the Windows Start button.
  - Type Windows Update settings, and press the Enter key.
  - From the Pause updates drop-down menu, select Pause for 5 weeks.

### Setting up and updating the OEM image (macOS)

1. Boot the system.
2. To complete installation, follow the on-screen instructions, using the default selections when appropriate.
3. Set Screen and Sleep options to Never:
  - Select System Settings.
  - Select Screensaver.
  - Set Lock Screen Settings to Never.
4. Disable automatically adjust brightness:
  - Select System Settings.
  - Select Display.
  - Disable Automatically adjust brightness.
5. Run Software Update, and install all updates available.
6. Verify the date and time are correct.
7. Enable automatic log in:
  - Select System Settings.
  - Click Users & Groups.
  - Next to the Automatically log in setting, select the drop-down menu, and select the User account.
8. Disable automatic Mac updates:
  - Select System Settings.
  - Click General.
  - Click Software Update.
  - Next to Automatic updates, click the information icon.
  - Disable Check for updates.

## Testing performance with WebXPRT 4 (Windows and macOS)

### Running the WebXPRT 4 test on native browsers

1. Open the system's native browser (Microsoft Edge for Windows and Safari for macOS), and go to <https://www.pricedtechnologies.com/benchmarkxpert/webxpert/>.
2. Click Run WebXPRT 4.
3. At the Ready to test your browser screen, click Continue.
4. Click Start.
5. When the test completes, record the results.
6. Click Run Again, and to rerun WebXPRT, click Start. Record the results.
7. Repeat step 6 one more time, and report the median result.

### Running the WebXPRT 4 test on Chrome

Download and install the latest version of Google Chrome web browser from <https://www.google.com/chrome/dr/download/>.

1. Open the Chrome web browser under test, and go to <https://www.pricedtechnologies.com/benchmarkxpert/webxpert/>.
2. Click Run WebXPRT 4.
3. At the Ready to test your browser screen, click Continue.
4. Click Start.
5. When the test completes, record the results.
6. Click Run Again, and to rerun WebXPRT, click Start. Record the results.
7. Repeat step 6 one more time, and report the median result.

## Testing performance with BAPCo CrossMark (Windows and macOS)

### Setting up the CrossMark test

Download and install CrossMark from the Microsoft Store or Apple App Store.

### Running the CrossMark test

1. Launch CrossMark.
2. Click Settings.
3. For Number of Iterations, choose 1.
4. Enter a valid email address, and click Back.
5. Click Run Benchmark.
6. Record the result.
7. Repeat steps 1 through 6 two more times.

Read the report at <https://facts.pt/CGoAui9>



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