

# HP ZBook 8 G1ah 14 inch Mobile Workstation PC

Up level performance. Not size.

Pro-level performance combines with true mobility in this sleek and powerful laptop. Review 3D designs, create with AI tools in pro apps, and work across multiple projects wherever you are. Stay productive with a PC that delivers power efficiency and long-lasting battery.<sup>1</sup>

**Upgrade to pro-level components**  
Say goodbye to lags and crashes with fast responsiveness on projects. With up to an AMD Ryzen™ 5 PRO 230 processor<sup>2</sup> and 64GB of memory,<sup>3</sup> open large files and run pro apps simultaneously for speedy multitasking and increased productivity.

**Work all day. Anywhere.**  
The most mobile ZBook, now redesigned, is made to move. With a long-lasting battery<sup>1</sup> this sleek device is small enough to fit in your bag so you can stay productive anywhere. This is high performance workstation power on the go.

**Connect. Communicate. Collaborate.**  
Collaborate effectively wherever you go with the HP ZBook 8. The 5MP camera,<sup>4</sup> AI Noise Suppression software<sup>5</sup> to block background noises and Wi-Fi 7<sup>6,7</sup> or 5G options<sup>8</sup> let you seamlessly connect from almost anywhere.



\*Product image may differ from actual product

## Sustainability in action

**Help protect our shared future with PCs that drive towards increasing sustainability.**  
At HP, we care about the impact our products have on our people, communities, and the planet. That's why this device is EPEAT® Gold registered<sup>9</sup> and the outer box packaging is 100% sustainably sourced.<sup>10</sup>



# HP ZBook 8 G1ah 14 inch Mobile Workstation PC

## Featuring

### Upgrade to pro-level components

Say goodbye to lags and crashes with fast responsiveness on projects. With up to an AMD Ryzen™ 5 PRO 230 processor<sup>2</sup> and 64GB of memory,<sup>3</sup> open large files and run pro apps simultaneously for speedy multitasking and increased productivity.

### Work all day. Anywhere.

The most mobile ZBook, now redesigned, is made to move. With a long-lasting battery<sup>1</sup> this sleek device is small enough to fit in your bag so you can stay productive anywhere. This is high performance workstation power on the go.

### Connect. Communicate. Collaborate.

Collaborate effectively wherever you go with the HP ZBook 8. The 5MP camera,<sup>4</sup> AI Noise Suppression software<sup>5</sup> to block background noises and Wi-Fi 7<sup>6,7</sup> or 5G options<sup>8</sup> let you seamlessly connect from almost anywhere.

### Help protect our shared future with PCs that drive towards increasing sustainability.

At HP, we care about the impact our products have on our people, communities, and the planet. That's why this device is EPEAT® Gold registered<sup>9</sup> and the outer box packaging is 100% sustainably sourced.<sup>10</sup>

### HP Recommends Windows 11 Pro for business with Microsoft Copilot

Work anywhere without compromising on performance with Windows 11 and HP collaboration, security, and connectivity technology. Summarize and rewrite content, get relevant content recommendations, and stay organized with Microsoft Copilot.<sup>11,12</sup>

### AMD Ryzen™ PRO mobile processor

Redefine workstation capabilities with an AMD Ryzen™ 5 PRO 230 processor delivering outstanding CPU capabilities, unified memory, and ISV-certified graphics to power through complex workflows.<sup>2</sup>

### Unified Memory Architecture

Accelerate your workflow with up to 64GB of memory. The unified memory architecture allows you to assign up to 32GB memory exclusively to the GPU for fast editing and design.<sup>3</sup>

### Lightning-fast Storage

Blitz through multiple tasks and ditch external drives with up to 2 TB local NVMe storage.<sup>13</sup>

### HP DreamColor Display

Have confidence in what you see on screen with an optional HP DreamColor Display with 100% DCI-P3 color gamut and a 120Hz refresh rate you get smooth motion for high-speed videos.<sup>14,15</sup>

### HP Smart Sense

HP Smart Sense intelligently optimizes your PC's thermal and power management based on your usage. Select full performance mode when completing demanding tasks to maximize performance.<sup>16</sup>

### Network Connectivity

Stay connected from nearly anywhere with support for various network connectivity options. Choose 5G or Wi-Fi 7, for a fast and reliable connection in wireless environments or with the all new RJ-45 get a smooth, wired Internet experience.<sup>17,18,19</sup>

### HP Power Manager

Manage and monitor your battery's performance and condition and customize charging options with the easy-to-use Battery Manager in the myHP app.<sup>20,4</sup>

### Poly Camera Pro

Look your best on video calls and save some power too. Manage your video controls for internal and external cameras with Poly Camera Pro. Now Auto Frame, Spotlight, Background Blur, and virtual backgrounds save power running on the NPU.<sup>21</sup>

### Protected by HP Wolf Security

HP Wolf Security for Business creates a hardware-enforced, always-on, resilient defense. From the BIOS to the browser, above, in, and below the OS, these constantly evolving solutions help protect your PC from modern threats.<sup>22</sup>



# HP ZBook 8 G1ah 14 inch Mobile Workstation PC

## Technical specifications

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available Operating Systems                | Windows 11 Pro <sup>1</sup><br>Windows 11 Home <sup>1</sup><br>Windows 11 Pro Education <sup>1</sup><br>Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) <sup>1</sup><br>Windows 11 Home Single Language – HP recommends Windows 11 Pro for business <sup>1</sup><br>FreeDOS 3.0<br>Ubuntu 24.04 LTS <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Processor family <sup>51,6</sup>           | AMD Ryzen™ 5 PRO processor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Available Processors <sup>51,3,4,5,6</sup> | AMD Ryzen™ 5 PRO 230 (3.5 GHz base clock, up to 4.9 GHz max boost clock, 16 MB L3 cache, 6 cores, 12 threads) with AMD Radeon™ Graphics and AMD Ryzen™ AI (16 NPU TOPS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Neural Processing Unit                     | AMD Ryzen™ AI <sup>6</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Chipset                                    | AMD integrated SoC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product colour                             | Meteor silver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Maximum memory                             | 64 GB DDR5-5600 MT/s non-ECC; <sup>8</sup><br>Transfer rates up to 5600 MT/s.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Memory slots                               | 2 SODIMM; supports dual channel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Internal storage                           | 512 GB up to 2 TB PCIe® Gen4 x4 NVMe™ M.2 2280 TLC SSD <sup>11</sup><br>up to 512 GB PCIe® Gen4 x4 NVMe™ M.2 2280 TLC SED OPAL 2 SSD <sup>11</sup><br>256 GB up to 1 TB PCIe® Gen4 x4 NVMe™ M.2 2280 SSD <sup>11</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Display size (diagonal, metric)            | 35.6 cm (14")                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Display <sup>24,35,37</sup>                | 35.6 cm (14") diagonal, WUXGA (1920 x 1200), UWVA, anti-glare, 300 nits, low power, 62.5% sRGB; 35.6 cm (14") diagonal, WUXGA (1920 x 1200), touch, UWVA, anti-glare, 300 nits, 62.5% sRGB; 35.6 cm (14") diagonal, WUXGA (1920 x 1200), UWVA, anti-glare, Low Blue Light, 400 nits, 100% sRGB; 35.6 cm (14") diagonal, (2560 x 1600), 120 Hz, UWVA, anti-glare, Low Blue Light, 400 nits, 100% DCI-P3; 35.6 cm (14") diagonal, WQXGA (2560 x 1600), 120 Hz, anti-glare, 500 nits, 100% DCI-P3, HP DreamColor; 35.6 cm (14") diagonal, WUXGA (1920 x 1200), UWVA, anti-glare, Low Blue Light, 800 nits, sRGB 100%, HP Sure View integrated privacy screen; 35.6 cm (14") diagonal, WUXGA (1920 x 1200), touch, UWVA, anti-glare, Low Blue Light, 800 nits, sRGB 100%, HP Sure View integrated privacy screen |
| Available Graphics                         | Integrated: AMD Radeon™ Graphics <sup>20,21,23</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Audio                                      | Audio by Poly Studio, dual stereo speakers, HP World Facing Microphone dual array digital microphones, functions keys for volume up and down, combo microphone/headphone jack, HD audio                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Ports and connectors                       | Left side: 1 HDMI 2.1; 1 headphone/microphone combo; 2 Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1) <sup>12,13,14</sup> ;<br>Right side: 1 security lock slot; 1 RJ-45 Ethernet port; 1 USB Type-A 5Gbps signaling rate (powered); 1 USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) ;<br>Optional Ports: 1 External Nano SIM slot for WWAN                                                                                                                                                                                                                                                                                                                                                                                         |
| Input devices                              | HP Premium Quiet Keyboard – spill-resistant, full-size, backlit keyboard with drain and DuraKeys; Clickpad with multi-touch gesture support, taps enabled as default; Microsoft Precision Touchpad with gesture support                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Communications                             | WLAN: Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card, vPro®; Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card, non-vPro®; Intel® Wi-Fi 7 BE201 (2x2) and Bluetooth® 5.4 wireless card, vPro®; Intel® Wi-Fi 7 BE201 (2x2) and Bluetooth® 5.4 wireless card, non-vPro® <sup>16,17</sup> ;<br>WWAN: HP 5G Sub-6 Cat 19; HP 4G LTE-Advanced Pro Cat 19 <sup>15,18</sup> ;<br>LPWAN: Qualcomm® 9205 LTE Cat-M1 Modem <sup>19</sup> ;<br>Near Field Communication (NFC) module                                                                                                                                                                                                                                                                                                           |
| Camera                                     | IR Camera (optional); 5 MP camera                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Software                                   | Buy Microsoft Office (sold separately); Copilot in Windows with Copilot key <sup>54,61</sup> ; HP Connection Optimizer <sup>59</sup> ; HP Hotkey support; HP MAC Address Manager; HP Notifications; HP UEFI BIOS Certification level 2.7B; HP PC Hardware Diagnostics Windows; HP Privacy Settings; HP Services Scan <sup>40</sup> ; HP Smart Support <sup>55</sup> ; HP Support Assistant <sup>57</sup> ; myHP <sup>36</sup> ; HSA Fusion for Commercial; HSA Telemetry for Commercial; Poly Camera Pro; Poly Lens <sup>58</sup> ; Edge Customization                                                                                                                                                                                                                                                       |
| Security management                        | HP Sure Admin; HP Sure Click <sup>34</sup> ; HP Sure Recover <sup>30</sup> ; HP Sure Run <sup>31</sup> ; HP Sure Sense <sup>42</sup> ; HP Sure Start <sup>32</sup> ; HP Tamper Lock <sup>39</sup> ; Secured-Core PC Enable <sup>33</sup> ; Windows Hello Enhanced Sign-in Security (ESS) Enable <sup>25</sup> ; Absolute Persistence Module <sup>60</sup> ; HP BIOS Recovery <sup>29</sup> ; BIOS Update via Network; HP BIOSphere <sup>44</sup> ; HP DriveLock and Automatic DriveLock; HP Secure Erase <sup>22</sup> ; HP Wake on WLAN; Audio Permanent Disable                                                                                                                                                                                                                                            |
| Security Software Licenses                 | HP Wolf Pro Security Edition <sup>56</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Fingerprint reader                         | Fingerprint reader (select models)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |



# HP ZBook 8 G1ah 14 inch Mobile Workstation PC

## Technical specifications

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management features               | HP Client Catalog (download) <sup>9</sup> ; HP Client Management Script Library (download) <sup>10</sup> ; HP Cloud Recovery <sup>26</sup> ; HP Driver Packs (download) <sup>38</sup> ; HP Image Assistant (download) <sup>52</sup> ; HP Manageability Integration Kit (download) <sup>27</sup> ; HP Power Manager with Battery Health Manager (download) <sup>53</sup> ; HP Connect for Microsoft Endpoint Manager <sup>28</sup> |
| Memory card device                | 1 smart card reader (select models)                                                                                                                                                                                                                                                                                                                                                                                               |
| Power                             | HP Smart 100 W External AC USB Type-C® power adapter; HP Smart 140 W External AC USB Type-C® power adapter                                                                                                                                                                                                                                                                                                                        |
| Battery type                      | HP Long Life 3-cell, 62 Wh Li-ion polymer <sup>41</sup> ;                                                                                                                                                                                                                                                                                                                                                                         |
| Battery recharge time             | Supports battery fast charge: approximately 50% in 30 minutes <sup>43</sup>                                                                                                                                                                                                                                                                                                                                                       |
| Dimensions                        | 31.56 x 22.2 x 1.89 cm; (Dimensions vary by configuration);<br>441 x 274 x 63 mm (Package)                                                                                                                                                                                                                                                                                                                                        |
| Weight                            | Starting at 1.44 kg;<br>(Weight varies by configuration and components.)                                                                                                                                                                                                                                                                                                                                                          |
| Ecolabels                         | EPEAT® registered configurations available <sup>49</sup>                                                                                                                                                                                                                                                                                                                                                                          |
| Energy star certified             | ENERGY STAR® certified                                                                                                                                                                                                                                                                                                                                                                                                            |
| Sustainable impact specifications | Low halogen; Bulk packaging available; External power supply 90% efficiency; Molded paper pulp cushion inside box is 100% sustainably sourced and recyclable; Outside box and corrugated cushions are 100% sustainably sourced and recyclable; 60% post-consumer recycled plastic <sup>45,46,47,48,50</sup>                                                                                                                       |



HP ZBook 8 G1ah 14 inch Mobile Workstation PC

Footnotes

Messaging Footnotes

<sup>1</sup> Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software, or BIOS update to take full advantage of Windows functionality. Windows 11 is automatically updated, which is always enabled. High speed internet and Microsoft account required. ISP fees may apply, and additional requirements may apply over time for updates. See <http://www.windows.com>.

<sup>2</sup> Microsoft Copilot requires Windows 11. Some features require an NPU. Timing and availability will be dependent on Microsoft and varies by market and device. Requires Microsoft account to log in. Where Copilot is not available, the Copilot key will lead to the Bing search engine. See <http://aka.ms/WindowsAIFeatures>.

<sup>3</sup> For hard drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

<sup>4</sup> Color accurate HP DreamColor display is an optional feature that must be configured at purchase.

<sup>5</sup> Battery life will vary depending on the product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See MobileMark25 battery benchmark <https://bpco.com/products/mobilemark2018/> <https://bpco.com/products/mobilemark25/> for additional details.

<sup>6</sup> Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed. Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third-party software may have specific configuration or compatibility requirements. Performance varies by use, configuration, and other factors.

<sup>7</sup> Optional feature that must be configured at purchase.

<sup>8</sup> Requires the myHP application and Windows OS.

<sup>9</sup> AI Noise Suppression is delivered automatically through Windows update or can be downloaded from <https://support.hp.com/us-en/drivers>. Requires Windows 10 or higher, compatible with internal PC speakers, microphone, and analog headsets. The AI Noise Suppression setting can be configured through the Application HP Audio Control. 6. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices.

<sup>10</sup> Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices.

<sup>11</sup> Wi-Fi<sup>®</sup> supporting gigabit data rate is achievable with Wi-Fi 7 (802.11BE) when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 160MHz channels.

<sup>12</sup> Intel<sup>®</sup> 5G module is optional and must be configured at the factory. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.

<sup>13</sup> Based on US EPEAT<sup>®</sup> registration according to IEEE 16801:2018 EPEAT<sup>®</sup>. Status varies by country. Visit [www.epeat.net](http://www.epeat.net) for more information.

<sup>14</sup> HP paper and fiber based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included.

<sup>15</sup> All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

<sup>16</sup> HP Smart Sense requires Windows 10 or higher.

<sup>17</sup> Intel<sup>®</sup> 5G module is optional and must be configured at the factory. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.

<sup>18</sup> Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices.

<sup>19</sup> Wi-Fi<sup>®</sup> supporting gigabit data rate is achievable with Wi-Fi 7 (802.11BE) when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 160MHz channels.

<sup>20</sup> HP Power Manager requires Windows 10 and higher and can be downloaded from the Microsoft Store.

<sup>21</sup> Requires Windows OS.

<sup>22</sup> HP Wolf Security for Business requires Windows 10 or 11 Pro and higher, includes various HP security features and is available on HP Pro, Elite, Workstation, and RPOS products. See product details for included security features.

Specification Footnotes

<sup>1</sup> Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 11 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com>.

<sup>2</sup> Max Boost clock frequency performance varies depending on hardware, software and overall system configuration.

<sup>3</sup> AMD Max Burst frequency performance varies depending on hardware, software and overall system configuration.

<sup>4</sup> Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

<sup>5</sup> Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third-party software may have specific configuration or compatibility requirements. Potential NPU interfering performance varies by use, configuration, and other factors.

<sup>6</sup> Availability may vary by country.

<sup>7</sup> Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

<sup>8</sup> HP Client Catalog not preinstalled, however available for download at <https://www.hp.com/us-en/solutions/client-management-solutions.html>.

<sup>9</sup> HP Client Management Script Library <https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools>.

<sup>10</sup> For storage drives GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 10) is reserved for system recovery software.

<sup>11</sup> Maximum speed requires DisplayPort<sup>™</sup> and PCIe aggregation.

<sup>12</sup> HDMI cable sold separately.

<sup>13</sup> SuperSpeed USB 20Gbps is not available with Thunderbolt<sup>™</sup> 4.

<sup>14</sup> HP 5G module is optional and must be configured at the factory. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.

<sup>15</sup> Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices.

<sup>16</sup> Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

<sup>17</sup> WAN is an optional feature and requires factory configuration and separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products, and in all regions.

<sup>18</sup> Cat M1 LPWAN (Mobile Narrowband) cards support select platforms with the HP Protect & Trace with Wolf Connect service, but do not support mobile broadband/Internet use.

<sup>19</sup> AMD Radeon<sup>™</sup> Graphics on this product comes standard with the AMD Pro Graphics driver.

<sup>20</sup> Support HD decode, DX12, HDMI 1.4, HDCP 2.2 via DP up to 4K @ 60Hz and via HDMI up to 4K @ 30Hz.

<sup>21</sup> HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special Publication 800-88<sup>™</sup> "Clear" sanitation method. HP Secure Erase does not support platforms with Intel<sup>®</sup> Optane<sup>™</sup>.

<sup>22</sup> Shared video memory (UMA) uses part of the total system memory for video performance. System memory dedicated to video performance is not available for other use by other programs.

<sup>23</sup> HD content required to view HD images.

<sup>24</sup> Windows Hello face authentication utilizes a camera specially configured for near infrared (IR) imaging to authenticate and unlock Windows devices as well as unlock your Microsoft Passport.

<sup>25</sup> HP Cloud Recovery is available for 2 by HP, HP Elite and Pro desktops and laptops PCs with Intel<sup>®</sup> or AMD processors and requires an open, network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail please refer to: <https://support.hp.com/us-en/document/c05156530>

<sup>26</sup> End-user Manageability Integration Kit not preinstalled, however available for download from <https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools>.

<sup>27</sup> HP Connect for Microsoft Endpoint Manager is available from the Azure Market Place for HP Pro, Elite, Z and Point-of-Sale PCs managed with Microsoft Endpoint Manager. Subscription to Microsoft Endpoint Manager required and sold separately. Network connection required.

<sup>28</sup> HP Sure Admin requires HP G8 or newer platforms, Windows 10 or higher, HP BIOS, HP Manageability Kit or KMS Service from <http://www.hp.com/go/clientmanagement> and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.

<sup>29</sup> HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. HP Sure Recover Gen6 with Embedded Reimaging is an optional feature on select HP PCs which requires Windows 10 or 11 must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data.

<sup>30</sup> HP Sure Run is available on select HP PCs and requires Windows 10 and higher.

<sup>31</sup> HP Sure Start is available on select HP PCs and requires Windows 10 and higher.

<sup>32</sup> Secured Core PC Enable requires an Intel<sup>®</sup> vPro<sup>®</sup>, AMD Ryzen<sup>™</sup> Pro processor or Qualcomm<sup>®</sup> processor with SD850 or higher and requires 8 GB or more system memory. Secured-core PC is enabled from the factory.

<sup>33</sup> HP Sure Click requires Windows 10 Pro or higher or Enterprise. See <https://bit.ly/2pYLt6A>, SureClick, for complete details.

<sup>34</sup> HP Sure View Reflect integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.

<sup>35</sup> myHP requires Windows OS.

<sup>36</sup> Resolutions are dependent upon monitor capability, and resolution and color depth settings.

<sup>37</sup> HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>.

<sup>38</sup> HP Tamper Lock is an optional feature that must be configured at the factory and requires a supervisor password be established prior to use.

<sup>39</sup> HP Services Station is provided with Windows Update on select products and will check entitlement on each hardware device to determine if an HP TechPulse-enabled service has been purchased, and will download applicable software automatically. HP TechPulse is a telemetry and analytics platform that provides critical data around devices and applications. For full system requirements or to disable this feature, please visit <http://www.hpdocs.com/requirements>. Not applicable in China.

<sup>40</sup> For new batteries, actual battery Watt-hours (Wh) may differ from the design capacity and may have a full charge capacity that differs by up to 10, which is typical for lithium-ion batteries. Battery capacity naturally decreases over time and with use, depending on several factors such as battery health management settings, shelf life, temperature, environment, loaded apps, features, system configuration, and power settings.

<sup>41</sup> HP Sure Sense requires Windows 10 and higher. See product specifications for availability. On units with WWAN shipping to China, HP Sure Sense is only available via Softpaq download.

<sup>42</sup> Recharges up to 50% within 30 minutes when the system is off or in standby mode when used with the power adapter provided with the notebook. Power adapter minimum of 65 watts required for battery capacities 56Whr or less. Power adapter minimum of 100 watts required for battery capacities greater than 56Whr and less than 83Whr. Power adapter minimum of 120 watts required for battery capacities greater than 83Whr and less than 100Whr. After charging has reached 90% capacity, charging speed will return to normal. Charging time may vary +/-10% due to system tolerance.

<sup>43</sup> HP BIOSphere Gen6 features may vary depending on the platform and configuration.

<sup>44</sup> Recycled metal is expressed as a percentage of the total weight of the metal composed to ISO 14021 definitions for metal parts over 25 grams.

<sup>45</sup> Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT standard for computers, IEEE 16801:2018 standard.

<sup>46</sup> HP paper and fiber based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for commercial, personal systems accessories, and spare parts is not included.

<sup>47</sup> Percentage of ocean-bound plastic contained in each component varies by product. Ocean Bound plastic is expressed as a percentage of the total weight plastic. Ocean Bound plastic is based on the definition set by the UL2809 standard.

<sup>48</sup> Based on US EPEAT<sup>®</sup> registration according to IEEE 16801:2018 EPEAT<sup>®</sup>. Status varies by country. Visit [www.epeat.net](http://www.epeat.net) for more information.

<sup>49</sup> External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.

<sup>50</sup> Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.

<sup>51</sup> HP Image Assistant not preinstalled, however available for download at <https://hp.eet.hp.com/pub/caps-softpaq/cmit/HPA.html>.

<sup>52</sup> HP Smart Manager with Battery Health can be downloaded by entering your system information here: [https://support.hp.com/in-en/document/ish\\_4449567-351950716](https://support.hp.com/in-en/document/ish_4449567-351950716).

<sup>53</sup> Copilot+ in Windows requires Windows 11. Some features require an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Microsoft in Windows is not available, the Copilot key will lead to the Bing search engine. See [aka.ms/copilotpluspc](https://aka.ms/copilotpluspc).

<sup>54</sup> HP Smart Support requires the HP Insights agent to be installed. For more information about how to enable or to download HP Smart Support, please visit <http://www.hp.com/smart-support>.

<sup>55</sup> HP Wolf Security for Business requires Windows 10 or 11 Pro or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features.

<sup>56</sup> HP Support Assistant is available on Windows. For more information, please visit <https://www.support.hp.com/help/hp-support-assistant>.

<sup>57</sup> Poly Lens Desktop requires a Windows OS.

<sup>58</sup> HP Connection Optimizer requires Windows 10 and Windows 11.

<sup>59</sup> Absolute Persistence firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: <https://www.absolute.com/about/legal/agreements/absolute/>.

<sup>60</sup> May require Windows Update or app download from the Microsoft Store. Microsoft Copilot is NOT available in China, Russia, Belarus, and embargoed regions Cuba, Iran, North Korea, Crimea.

