

# HP ZBook Studio 16 inch G11 Mobile Workstation PC

## Powerfully immersive. Perfectly sized

Powerfully immersive. Perfectly sized. Be ready when inspiration strikes. Packed with professional performance in an incredibly sleek PC that comfortably fits in your bag, the ZBook Studio is engineered to get you in the zone and help you stay focused. Now you can build complex assemblies, render in real-time or visualize data—from anywhere. Be ready when inspiration strikes. Packed with pro-performance in a sleek PC that fits in your bag, the ZBook Studio is engineered to get you in the zone and help you stay focused. Build complex models, render in real-time or crunch data, on the go.

### Power to push the limits

Push your workflow further with up to an Intel® Core™ Ultra 9 CPU with optional Intel vPro®<sup>1,2</sup> NVIDIA RTX™ Ada Laptop GPU or GeForce RTX™ GPU,<sup>3</sup> and 64 GB RAM.<sup>4</sup> From 3D design to machine learning this PC delivers peak performance.

### Immerse in your work

Get complete color accuracy and a 120Hz refresh rate<sup>6</sup> with a 16:10 HP DreamColor display<sup>3</sup> or choose an OLED display for absolute blacks and extreme whites.<sup>3</sup> Customize your keyboard lighting and highlight shortcuts with RGB per-key LED backlighting.<sup>5</sup>

### Create and collaborate everywhere

Follow inspiration wherever it strikes with a thin and light laptop that delivers the power to run the software you need on the go. Work and collaborate effectively with a long-lasting battery<sup>9</sup>, AI Noise Suppression<sup>7</sup> and Wi-Fi 7.<sup>8</sup>



\*Product image may differ from actual product



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## Featuring

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### Create and collaborate everywhere

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### 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>11</sup> and the outer box packaging is 100% sustainably sourced<sup>12</sup>.

### Windows 11

Work without compromising on performance with Windows 11<sup>13</sup> combined with HP's collaboration and security technology.

### Intel® Core™ Ultra Processor<sup>1</sup>

Unleash productivity with a new architecture that delivers power-efficient performance for complex business workloads and is purpose-built for the next era of AI software by sending the right task to the right engine at the right time.

### NVIDIA® Graphics

With up to an NVIDIA RTX 3000 Ada Laptop GPU, accelerate rendering, graphics and compute workflows to unlock new levels of productivity.<sup>3</sup>

### Large Memory Configurations

Accelerate your workflow. Power through projects with up to 64 GB RAM<sup>16</sup> for fast rendering, editing, and visual effects performance.

### 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>3,17</sup>

### Z Command Keyboard

Used to working on a Mac? Now you can choose the Z Command Keyboard, which replicates a Mac layout, for a seamless switch.<sup>18</sup>

### Z Light Space

With Z Light Space software,<sup>19</sup> customize your keyboard lighting with the RGB per-key LED backlighting.<sup>5</sup> For commonly used software apps, like Adobe Photoshop, AutoCAD or SOLIDWORKS,<sup>20</sup> use pre-loaded color-maps or create your own.

### 16:10 Aspect Ratio

The 16:10 aspect ratio reduces the need to scroll by showing 11% more vertical content than a 16:9 aspect ratio display. See more of your project without minimizing program menus or toolbars.

### Easy Battery Management

Manage and monitor your battery's performance and condition and customize charging options with the easy-to-use HP Power Manager dashboard.<sup>21</sup>

### HP Fast Charge

Long battery life gets you through a day of meetings without plugging in. Quickly recharge your PC with HP Fast Charge. You'll get up to 50% battery life in just 30 minutes of charging.<sup>22</sup>

### Battery life

When you're away from the office, this sleek, ultralight PC is ready every step of the way. With long battery life, you can work on complex projects from almost anywhere.



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## Technical specifications

<b>Available Operating Systems</b>	Windows 11 Pro - HP recommends Windows 11 Pro <sup>1</sup> Windows 11 Home - HP recommends Windows 11 Pro for Business <sup>1</sup> FreeDOS 3.0
<b>Processor family</b> <sup>2,3,4,5,6,9,47</sup>	Intel® Core™ Ultra 5 processor Intel® Core™ Ultra 7 processor Intel® Core™ Ultra 9 processor
<b>Available Processors</b> <sup>2,3,4,5,6,9</sup>	Intel® Core™ Ultra 9 185H (Up to 3.8 GHz E-core Max Turbo frequency, up to 5.1 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 22 threads), supports Intel® vPro® Technology Intel® Core™ Ultra 7 165H (Up to 3.8 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 22 threads), supports Intel® vPro® Technology Intel® Core™ Ultra 7 155H (up to 3.8 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 22 threads) Intel® Core™ Ultra 5 135H (Up to 3.6 GHz E-core Max Turbo frequency, up to 4.6 GHz P-core Max Turbo frequency, 18 MB L3 cache, 4 P-cores and 8 E-cores, 18 threads), supports Intel® vPro® Technology
<b>Maximum memory</b>	64 GB DDR5-5600 non-ECC SODIMM; <sup>11</sup> Memory is SODIMM. Supports dual channel memory.
<b>Memory slots</b>	2 SODIMM; supports dual channel <sup>23</sup>
<b>Internal storage</b>	512 GB up to 4 TB PCIe® Gen4 x4 NVMe™ M.2 SSD <sup>10</sup> 512 GB up to 1 TB PCIe® NVMe™ M.2 SED SSD <sup>10</sup> Up to 4 TB
<b>Display size (diagonal)</b>	16"
<b>Display size (diagonal, metric)</b>	40.6 cm (16")
<b>Display</b> <sup>15,16,17,18</sup>	16" diagonal, WQUXGA (3840 x 2400), OLED, touch, BrightView, eDP + PSR, micro-edge, Low Blue Light, 400 nits, 100% DCI-P3; 16" diagonal, WQUXGA (3840 x 2400), 120 Hz, IPS, anti-glare, eDP + PSR, micro-edge, 500 nits, 100% DCI-P3, HP DreamColor; 16" diagonal, WUXGA (1920 x 1200), IPS, anti-glare, eDP + PSR, micro-edge, 400 nits, 100% sRGB; 16" diagonal, WUXGA (1920 x 1200), IPS, anti-glare, eDP + PSR, micro-edge, 1000 nits, 100% sRGB, HP Sure View integrated privacy screen  40.6 cm (16") diagonal, WQUXGA (3840 x 2400), OLED, touch, BrightView, eDP + PSR, micro-edge, Low Blue Light, 400 nits, 100% DCI-P3; 40.6 cm (16") diagonal, WQUXGA (3840 x 2400), 120 Hz, IPS, anti-glare, eDP + PSR, micro-edge, 500 nits, 100% DCI-P3, HP DreamColor; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, anti-glare, eDP + PSR, micro-edge, 400 nits, 100% sRGB; 40.6 cm (16") diagonal, WUXGA (1920 x 1200), IPS, anti-glare, eDP + PSR, micro-edge, 1000 nits, 100% sRGB, HP Sure View integrated privacy screen
<b>Available Graphics</b>	Integrated: Intel® Arc™ Pro Graphics <sup>41</sup> Discrete: NVIDIA® GeForce RTX™ 4070 Laptop GPU (8 GB GDDR6 dedicated); NVIDIA RTX™ 3000 Ada Generation Laptop GPU (8 GB GDDR6 dedicated); NVIDIA RTX™ 2000 Ada Generation Laptop GPU (8 GB GDDR6 dedicated); NVIDIA RTX™ 1000 Ada Generation Laptop GPU (6 GB GDDR6 dedicated) <sup>12,22,32</sup>
<b>Audio</b>	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
<b>Ports and connectors</b>	Left side: 1 power connector; 1 headphone/microphone combo; 2 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4, HP Sleep and Charge) <sup>12</sup> ; Right side: 1 Super Speed USB Type-A 5Gbps signaling rate (charging); 1 SuperSpeed USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) <sup>7,12,58</sup>
<b>Input devices</b>	HP Premium Quiet Keyboard - spill-resistant, full-size, backlit keyboard with drain and DuraKeys; HP RGB Keyboard - Full-size, per-key RGB backlit keyboard; HP RGB Z Command Keyboard - spill-resistant, full-size, backlit keyboard with drain and DuraKeys <sup>24</sup> ; Clickpad with image sensor, supporting multi-touch gestures and taps
<b>Communications</b>	WLAN: Intel® Wi-Fi 7 BE200 (2x2) and Bluetooth® 5.4 wireless card, vPro®; Intel® Wi-Fi 7 BE200 (2x2) and Bluetooth® 5.4 wireless card, non-vPro® <sup>48</sup>
<b>Camera</b>	720p HD IR camera <sup>16,17,20</sup>
<b>Software</b>	Bing search for IE11; Hotkey support; HP Noise Cancellation Software; HP Performance Advisor; HP Support Assistant <sup>36</sup> , Native Miracast support <sup>44</sup> ; HP Connection Optimizer <sup>33</sup> ; myHP; HP Privacy Settings; Data Science Stack <sup>25</sup> ; HP Easy Clean <sup>51</sup> ; HP PC Hardware Diagnostics; Windows 10 Cloud Recovery Client; HP Z Light Space <sup>28</sup> ; HP Camera & Super Resolution Software; HP Services Scan <sup>21</sup> ; Microsoft 365 and Office (sold separately and internet access required for activation); Battery Health Manager <sup>60</sup>
<b>Available software</b>	HP Smart Support <sup>19</sup>
<b>Security management</b>	Absolute Persistence Module <sup>35,8</sup> ; HP Credential Manager; HP Power On Authentication; Master Boot Record security; Pre-boot authentication; Windows Defender; HP Manageability Integration Kit <sup>37</sup> ; HP BIOSphere Gen6 <sup>34</sup> ; HP Sure Start Gen7 <sup>43</sup> ; HP Sure Admin <sup>49</sup> ; HP Image Assistant; Nano Security Lock Slot <sup>38</sup> ; HP Client Security Manager Gen7 <sup>39</sup> ; Trusted Platform Module TPM 2.0; HP Privacy Key
<b>Security Software Licenses</b>	HP Wolf Pro Security Edition <sup>56</sup>
<b>Fingerprint reader</b>	Fingerprint sensor (select models)



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## Technical specifications

<b>Management features</b>	HP Power Manager <sup>13</sup>
<b>Power</b>	HP Slim Smart 150 W External AC power adapter <sup>48</sup>
<b>Battery type</b>	HP Long Life 6-cell, 86 Wh Li-ion polymer <sup>26</sup> ;
<b>Battery recharge time</b>	Supports battery fast charge: approximately 50% in 30 minutes <sup>50</sup>
<b>Dimensions</b>	14.02 x 9.54 x 0.76 in (non-touch); 14.02 x 9.54 x 0.72 in (touch); 35.6 x 24.2 x 1.9 cm (non-touch); 35.6 x 24.2 x 1.8 cm (touch); 21.73 x 2.71 x 13.58 in 552 x 69 x 345 mm (Package)
<b>Weight</b>	Starting at 3.81 lb; Starting at 1.73 kg; (Weight varies by configuration and components.)
<b>Ecolabels</b>	EPEAT® Gold registered in the U.S. <sup>45</sup>
<b>Sustainable impact specifications</b>	Low Halogen <sup>46</sup>



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## Footnotes

### Messaging Footnotes

- <sup>13</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 is automatically updated and 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>14</sup> For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software.
- <sup>15</sup> Optional, configurable feature.
- <sup>16</sup> Up to 64GB memory is an optional, configurable feature.
- <sup>17</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. Intel's numbering, branding and/or naming is not a measurement of higher performance. Optional feature that must be configured at purchase.
- <sup>18</sup> Intel vPro™ requires Windows 10 Pro 64 bit or higher, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd party software in order to run. Features of vPro™ Essentials and Enterprise vary. See <http://intel.com/vpro>.
- <sup>19</sup> Optional feature that must be configured at purchase.
- <sup>20</sup> 64GB Memory is an optional, configurable feature.
- <sup>21</sup> RGB keyboard is an optional feature that must be configured at purchase. Available in the US, UK, Germany and France only.
- <sup>22</sup> All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- <sup>23</sup> AI Noise Suppression is delivered automatically through Windows update or can be downloaded from <https://support.hp.com/us-en/drivers> when available. 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.
- <sup>24</sup> Wi-Fi 6E is an optional feature that must be configured at purchase. 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.
- <sup>25</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://bapco.com/products/mobilemark2018/https://bapco.com/products/mobilemark25/> for additional details.
- <sup>26</sup> Based on US EPEAT™ registration according to IEEE 16801-2018 EPEAT™. EPEAT™ status varies by country. Visit [www.epeat.net](http://www.epeat.net) for more information.
- <sup>27</sup> 100% outer box packaging made from sustainably sourced certified and recycled fibers. Fiber cushions made from 100% recycled wood fiber and organic material. Any plastic cushions are made from >90% recycled plastic.
- <sup>28</sup> All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- <sup>29</sup> Z Command Keyboard is an optional, configurable feature for US only. Available only with the RGB keyboard and in the US, UK, Germany and France only.
- <sup>30</sup> Z Light Space requires Windows 10 or higher.
- <sup>31</sup> Software sold separately.
- <sup>32</sup> HP Power Manager requires Windows 10 and higher and can be downloaded from the Microsoft Store.
- <sup>33</sup> Recharges your battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65 watts is required. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

### 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 is automatically updated and 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> 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>3</sup> Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
- <sup>4</sup> Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost> for more information.
- <sup>5</sup> In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.
- <sup>6</sup> Intel vPro™ requires Windows 10 Pro 64 bit or higher, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd party software in order to run. Features of vPro™ Essentials and Enterprise vary. See <http://intel.com/vpro>.
- <sup>7</sup> SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4
- <sup>8</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>9</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. Intel's numbering, branding and/or naming is not a measurement of higher performance.
- <sup>10</sup> For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software.
- <sup>11</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>12</sup> Multi-Function USB-C port works with Discrete Graphics and Intel® Iris Xe Graphics. Note: For Nvidia Discrete Gfx, it can support HDMI 2.1 except GPU of ON20-P1 SKU(HDMI 2.0 support).
- <sup>13</sup> Manage and monitor your battery's performance and condition and customize charging options with the easy-to-use HP Power Manager dashboard.
- <sup>14</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.
- <sup>15</sup> WUXGA content required to view WUXGA images.
- <sup>16</sup> Resolutions are dependent upon monitor capability, and resolution and color depth settings.
- <sup>17</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. Actual brightness will be lower with touchscreen or Sure View.
- <sup>18</sup> Actual brightness will be lower with touchscreen or Sure View.
- <sup>19</sup> HP Smart Support requires the HP Insights agent to be installed. For Gen 9 and earlier HP commercial devices, customer must manually download at [hp.com/active-care](http://hp.com/active-care) or by providing consent at the time of your hardware's first boot, which enables HP to install the HP Insights Agent to collect information related to the Device. For HP commercial Gen 10 and higher devices, HP Services Scan is provided thru Windows Update 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. To disable this feature, please follow the instructions at <http://www.hpdaas.com/requirements>. The HP Insights agent is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. HP follows stringent GDPR privacy regulations and is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access with connection to portal is required. For full system requirements, please visit <http://www.hpdaas.com/requirements>.
- <sup>20</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>21</sup> HP Services Scan 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.hpdaas.com/requirements>. Not applicable in China.
- <sup>22</sup> GPU configurations may be limited to specific GPU/Memory Configurations
- <sup>23</sup> HP RGB Z Command Keyboard only available in the US, UK, France, and Germany. Not available with Privacy Panel.
- <sup>24</sup> Data Science Stack is available on select skus only.
- <sup>25</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>26</sup> HP Z Light space is an optional feature, requires Windows 10 or higher and must be configured at hardware purchase.
- <sup>27</sup> Others NVIDIA dGPU: Support HD decode, DX12, HDMI 2.1, mDP 1.4, HDCP 2.3 via DP up to 5K@60Hz(W/o DSC) or 8K@60Hz(With DSC and requires 2 display heads) and via HDMI up to 8K @ 60Hz(With DSC and requires 2 display heads)
- <sup>28</sup> HP Connection Optimizer requires Windows 10.
- <sup>29</sup> HP BIOSphere Gen6 features may vary depending on the platform and configuration.
- <sup>30</sup> Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, checked with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/comprace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
- <sup>31</sup> HP Support Assistant requires Windows and Internet access.
- <sup>32</sup> HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement>.
- <sup>33</sup> Security lock for security slot is sold separately.
- <sup>34</sup> HP Client Security Manager Gen7 requires Windows and is available on the select HP Elite and Pro PCs.
- <sup>35</sup> Intel® Graphics capabilities require system to be configured with Intel® Core™ Ultra 5 or Ultra 7 processors and dual channel memory. Single channel memory will only function as Intel® ARC graphics.
- <sup>36</sup> HP Sure Start Gen6 is available on select HP PCs.
- <sup>37</sup> Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.
- <sup>38</sup> Based on US EPEAT™ registration according to IEEE 16801-2018 EPEAT™. EPEAT™ status varies by country. Visit [www.epeat.net](http://www.epeat.net) for more information.
- <sup>39</sup> External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.
- <sup>40</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>41</sup> HP Sure Admin requires Windows 10 or higher, HP BIOS, HP Manageability Integration Kit from <http://www.hp.com/go/clientmanagement> and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.
- <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 Easy Clean requires Windows 10 RS3 and higher and will disable the keyboard, touchscreen, and clickpad only. Ports are not disabled. See user guide for cleaning instructions.
- <sup>44</sup> HP Wolf Pro Security Edition is available preloaded on select SKUs, and, depending on the HP product purchased, includes a license with a term length communicated to you at purchase and in your order confirmation email. The HP Wolf Pro Security Edition software is licensed under the license terms of the HP Wolf Security Software - End-User License Agreement (EULA) that can be found at: [https://support.hp.com/us-en/document/ish\\_3875769-3873014-16](https://support.hp.com/us-en/document/ish_3875769-3873014-16) as that EULA is modified by the following: 7. Term: Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the license for the HP Wolf Pro Security Edition is effective upon 4 months after the date the HP Product was shipped by HP and will continue for the term communicated to you at purchase and in your order confirmation email ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Wolf Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standard versions of HP Sure Click and HP Sure Sense at no additional cost with no future software updates or HP Support. Notwithstanding the foregoing, the license shall expire no later than one year after the fixed term of the subject license ends.
- <sup>45</sup> Thunderbolt™ 4 and USB4™ maximum speed of 40Gbps will be divided between the different data workstreams.
- <sup>46</sup> Depending on the version available for your device and the setting you select, HP Battery Health Manager (BHM) will use a proprietary set of algorithms to optimize battery health during the life of the battery. New Commercial Notebooks come equipped with BHM set to "Let HP Manage My Battery Health" as the default. This setting will reduce charge capacity over time to optimize battery health and mitigate factors that can accelerate battery degradation. As a result of this reduction, battery runtime will decrease over time as available charge capacity is reduced. HP may, at any time, update HP Battery Health Manager to improve available settings, functionality, and performance. Refurbished products may have customized default settings to optimize user experience. For additional information on updating or modifying HP Battery Health Manager settings, please go to [HP.COM/SUPPORT/BATTERY](http://HP.COM/SUPPORT/BATTERY).

