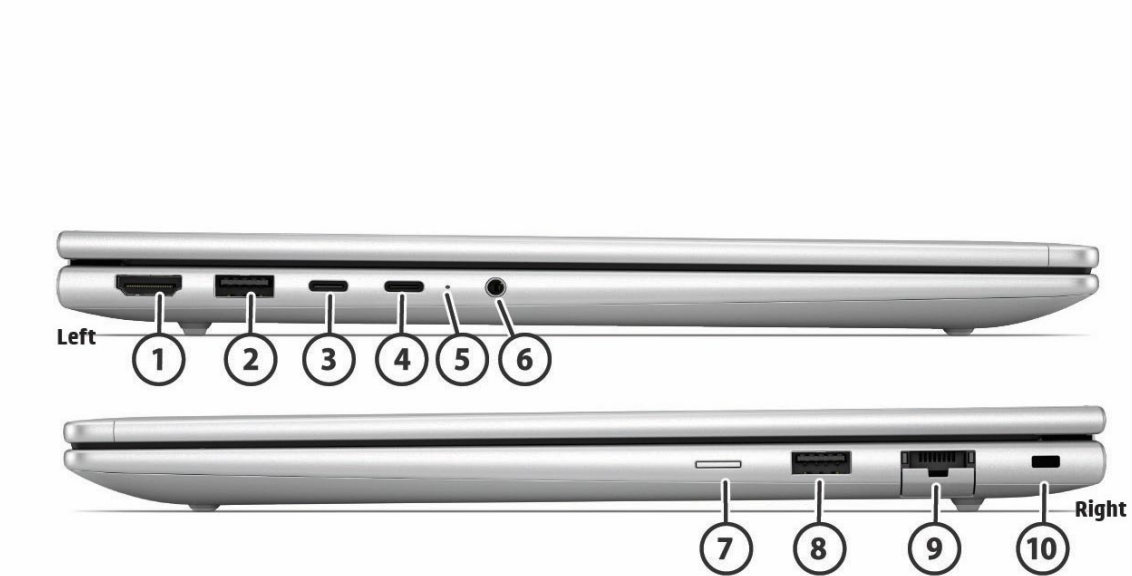


## HP ProBook 4 G2a 14 inch Notebook Next Gen AI PC



### Front

- |   |                         |   |                     |
|---|-------------------------|---|---------------------|
| 1 | Internal Microphone (2) | 4 | Webcam LED          |
| 2 | Webcam                  | 5 | Finger Print Reader |
| 3 | Camera Shutter          | 6 | Touchpad            |



### Sides

- |   |   |    |  |
|---|---|----|--|
| 1 | HDMI 2.1  | 7  | Nano SIM card slot (optional)                          |
| 2 | USB Type-A 5Gbps signaling rate (Powered) <sup>1</sup>                                | 8  | USB Type-A 5Gbps signaling rate (Powered) <sup>1</sup> |
| 3 | USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) <sup>1</sup> | 9  | RJ45 Ethernet port                                     |
| 4 | USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) <sup>1</sup> | 10 | Nano Security Slot                                     |
| 5 | Power Indicator LED   |    |  |
| 6 | Headphone/mic combo jack  |    |  |

1. USB 20Gbps signaling rate is not available with Thunderbolt™ 4. Actual throughput may vary.

**PRODUCT NAME**

HP ProBook 4 G2a 14 inch Notebook Next Gen AI PC

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### OPERATING SYSTEM

#### Preinstalled

FreeDOS

Windows 11 Home - HP recommends Windows 11 Pro for business <sup>1</sup>

Windows 11 Home Single Language - HP recommends Windows 11 Pro for business <sup>1</sup>

Windows 11 Pro <sup>1</sup>

Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) <sup>1</sup>

1. 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>

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### PROCESSORS

Processor <sup>2,3,4,5</sup>	Cores	Threads	L3 Cache	Max Boost Frequency	Base Frequency	Pro	Integrated Graphic	NPU
AMD Ryzen™ AI 7 processor 450	8 cores	16	16 MB	5.10 GHz	2.00 GHz		AMD Radeon™ 860M	50 TOPS
AMD Ryzen™ AI 7 processor 445	6 cores	12	8 MB	4.60 GHz	2.00 GHz		AMD Radeon™ 840M	50 TOPS
AMD Ryzen™ AI 7 processor H 450	8 cores	16	16 MB	5.10 GHz	2.00 GHz		AMD Radeon™ 860M	50 TOPS
AMD Ryzen™ AI 5 processor 435	6 cores	12	8 MB	4.50 GHz	2.00 GHz		AMD Radeon™ 840M	50 TOPS
AMD Ryzen™ AI 5 processor 430	4 cores	8	8 MB	4.50 GHz	2.00 GHz		AMD Radeon™ 840M	50 TOPS

#### Processor Family

AMD Ryzen™ AI 7 processor

AMD Ryzen™ AI 5 processor

2. 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 numbering, branding, naming are not a measurement of clock speed.

3. AMD Max Boost frequency performance varies depending on hardware, software and overall system configuration.

4. 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 inferencing performance varies by use, configuration, and other factors.

5. 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>.



## GRAPHICS

### Integrated

AMD Radeon™ Graphics

### Supported protocols

Support HDMI 2.1 (up to 4K 60Hz)

Display supported (including internal display; dock may be required) up to 3

### Codec

Hardware Acceleration HEVC (H.265) CODEC is an optional feature and must be configured at purchase.

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### DISPLAY

Availability may vary by country.

Actual brightness will be lower with touchscreen or HP Sure View.

#### Non-Touch

35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, , Anti-Glare, WLED+Low Blue Light, 400 nits, Adobe 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), OLED, UWVA, Anti-Glare, OLED+Low Blue Light, 300 nits, DCI-P3 100%

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Low Power, sRGB 100%

#### Touch

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Touch on Panel, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%

#### Display Size (Diagonal)

35.6 cm (14")

#### Aspect Ratio

16:10

#### Screen to Body Ratio

Up to 88.80%

#### Max Hinge Open Angle

177 ± 3°



#### DOCKING (SOLD SEPARATELY)

**Docking station model name**

HP Thunderbolt™ 100W G6 Dock

**Total number of supported displays (incl.the notebook display)**

4

**Max. resolutions supported**

(4) 4K @60Hz\*

(2) 4K @ 120Hz\*

(3) QHD @ 120Hz\*

(1) QHD @ 360Hz\*

**Dock Connectors**

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4

**Technical limitations**

\*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

**Thunderbolt Hosts:**

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz

**Non-Thunderbolt hosts:**

The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is

(1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port

Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K single cable + (1) 4K UHD @ 60 Hz in high resolution mode. In multi-function mode the maximum resolution for (3) displays is (2) 5K single cable @ 30Hz + (1) 4K UHD @ 30Hz.



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**Docking station model name**

HP USB-C™ 100W G6 Dock

**Total number of supported displays (incl.the notebook)  
display)**

3

**Max. resolutions supported**

- (1) 4K @120hz\*
- (2) 4K @120hz\*
- (3) 4K @60hz\*

**Dock Connectors**

1 x HDMI 2.1, 2 x DisplayPort 1.4

**Technical limitations**

\*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode.

Three maximum displays supported are two 5K@ 30 Hz on DP ports plus one 4K UHD@ 30 Hz on HDMI in Multi-function mode

The highest resolution for a non-Thunderbolt host in Multi-function mode is a single 5K dual cable (using both DP ports) + (1) 4K on HDMI port.

**Docking station model name**

HP Thunderbolt™ 180W G6 Dock

**Total number of supported displays (incl.the notebook)  
display)**

4



### Max. resolutions supported

- (4) 4K @ 60Hz\*
- (2) 4K @ 120Hz\*
- (3) QHD @ 120Hz\*
- (1) QHD @ 360Hz\*

### Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4, 1 x USB-C 3.2 Gen 2 DisplayPort

### Technical limitations

\*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Up to 180W of power delivery via Thunderbolt 4 cable to notebooks that support PD 3.1.

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is (2) 8K @ 60Hz running TBT host or running a non-TBT host in high resolution mode @30Hz

### Docking station model name

HP Thunderbolt™ 280W G6 Dock

### Total number of supported displays (incl.the notebook) display)

4

### Max. resolutions supported

- (4) 4K @ 60Hz\*
- (2) 4K @ 120Hz\*
- (3) QHD @ 120Hz\*
- (1) QHD @ 360Hz\*



### Dock Connectors

1 x HDMI 2.1, 2 x DisplayPort 1.4, 1 x Thunderbolt 4, 1 x USB-C 3.2 Gen 2 DisplayPort

### Technical limitations

\*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).

Up to 180W of power delivery via Thunderbolt 4 cable to notebooks that support PD 3.1.

Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.

Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:

Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.

Maximum resolution possible is (2) 8K @ 60Hz running TBT host or running a non-TBT host in high resolution mode @30Hz

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## STORAGE AND DRIVES

### Storage

1 TB PCIe® NVMe™ SSD Value <sup>6</sup>

512 GB PCIe® NVMe™ SSD Value <sup>6</sup>

256 GB PCIe® NVMe™ SSD Value <sup>6</sup>

### Secondary Storage (Optional, select countries only)

Second M.2 slot supports 2230 PCIe® NVMe™ SSD <sup>6</sup>

6. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 32 GB is reserved for system recovery software. If the 3rd party caused a failure, HP would not warrant the event.

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### MEMORY

#### Maximum Memory

64GB DDR5-5600 MT/s (2 x 32 GB)

#### Memory <sup>7</sup>

64GB DDR5-5600 MT/s (2 x 32 GB)

48GB DDR5-5600 MT/s (2 x 24 GB)

32GB DDR5-5600 MT/s (1 x 32 GB)

32GB DDR5-5600 MT/s (2 x 16 GB)

24GB DDR5-5600 MT/s (1 x 24 GB)

24GB DDR5-5600 MT/s (2 x 12 GB)

16GB DDR5-5600 MT/s (1 x 16 GB)

16GB DDR5-5600 MT/s (2 x 8 GB)

12GB DDR5-5600 MT/s (1 x 12 GB)

8GB DDR5-5600 MT/s (1 x 8 GB)

#### Memory Slots

2 SODIMM

System runs at 5600 MT/s

Supports Dual Channel Memory.

Memory is replaceable by customer or customer IT support.

7. 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.



## NETWORKING /COMMUNICATIONS

Items below may be optional.

### Ethernet

RTK GBE Ethernet Controller

### WLAN

Mediatek MT7925 Wi-Fi 7 Bluetooth® 6.0 WW WLAN<sup>8</sup>

Mediatek RZ616 Wi-Fi 6E Bluetooth® 5.3 AIM-T WLAN<sup>9,10</sup>

### WWAN

HP 5G NR Sub-6 CAT19<sup>11</sup>

HP 5G NR Sub-6 CAT19 HP Go Solution<sup>11</sup>

### LPWAN

HP RW220-GL LTE (Low Power) (CAT-1bis)<sup>12</sup>

### Miracast

Native Miracast Support

8. 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 OS, select processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible 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.

9. 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. Available in countries where Wi-Fi 6E is supported.

10. 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.

11. 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.

12. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.

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## AUDIO/MULTIMEDIA

### Audio

Audio by Poly Studio

2 Integrated stereo speakers

2 Integrated dual array microphone

AI noise reduction

### Speaker Power

2W / 4 ohm per speaker

### Camera

FHD HDR camera; 5MP HDR camera with Image Signal Processing (ISP) and AI Presence Detection, IR camera

### Sensors

Fingerprint Sensor (optional)

Hall Effect Sensor

HP Sure Platform

HP Tamper Lock

Thermal Sensor

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### KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

#### Keyboard

HP Standard Keyboard , spill-resistant , Backlit , DuraKey keyboard

HP Standard Keyboard , spill-resistant , DuraKey keyboard

#### Pointing Device

Clickpad

Microsoft Precision Touchpad Default Gestures Support

Multi-touch gesture support, Taps enabled as default, with image sensor and glass surface

#### Function Keys

ESC - system information

F1 - Display Switching

F2 - Blank

F3 - Brightness Down

F4 - Brightness Up

F5 - Blank or Backlit Toggle

F6 - Audio Mute

F7 - Volume Down

F8 - Volume Up

F9 - Mic Mute

F10 - Media

F11 - Programmable key (HP app)

F12 - Home

End

Insert

Delete

Power Button (with LED)

Microsoft Copilot<sup>13</sup>



#### Hidden Function Keys

Fn+R - Break, Fn+S - Sys Rq, Fn+C - Scroll Lock, Fn+Copilot - Context Menu

13. 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/copilotpluspcs](https://aka.ms/copilotpluspcs).

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### SOFTWARE AND SECURITY

#### Application Software

Buy Microsoft Office (Sold Separately)<sup>14</sup>

Edge Customization

HP Connection Optimizer

HP Hotkey Support

HP IQ<sup>15</sup>

HP Mac Address Manager

HP Notifications

HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Windows

HP Privacy Settings

HP Services Scan<sup>16</sup>

HP Support Assistant<sup>17</sup>

HSA Fusion for Commercial

HSA Telemetry for Commercial

HP app<sup>18</sup>

Poly Studio Desktop<sup>19</sup>

#### Manageability Features

HP Client Catalog (download)<sup>20</sup>

HP Client Management Script Library (download)<sup>21</sup>

HP Cloud Recovery<sup>22</sup>

HP Connect for Microsoft Endpoint Manager<sup>23</sup>

HP Driver Packs (download)<sup>24</sup>

HP Image Assistant (download)<sup>25</sup>

HP Manageability Integration Kit (download)<sup>26</sup>

HP Patch Assistant (download)<sup>27</sup>

HP Power Manager with Battery Health Manager (download)<sup>28</sup>



### Security Features

HP Secured-Core PC Enable <sup>29</sup>

Windows Hello Enhanced Sign-In Security (ESS)

HP Wolf Security for Business which includes: <sup>30</sup>

HP Sure Admin <sup>31</sup>

HP Sure Click <sup>32</sup>

HP Sure Recover <sup>33</sup>

HP Sure Run <sup>34</sup>

HP Sure Sense <sup>35</sup>

HP Sure Start <sup>36</sup>

HP Tamper Lock <sup>37</sup>

### Security- TPM

#### Model

Model: ST Micro ST33KTPM2X32DKG9

#### Firmware Version

Firmware Version: 9.257

#### TCG

TCG TPM 2.0

#### FIPS 140-3 Compliant

FIPS 140-3 Compliant: Yes

#### Model

Model: Nuvoton NPCT760HAEYX

#### Firmware Version

Firmware Version: 7.2.4.1



### TCG

TCG TPM 2.0

### FIPS 140-3 Compliant

FIPS 140-3 Compliant: Yes

### BIOS

Absolute Persistence Module <sup>38</sup>

HP BIOS Recovery

BIOS Update via Network

HP BIOSphere <sup>39</sup>

HP DriveLock & Automatic DriveLock

HP Secure Erase <sup>40</sup>

### IPv6 Support

Yes

### FirstNet Certified

Yes

### Does the BIOS implement the ISO/IEC 19678:2015 (formerly NIST 800-147) guidelines?

Yes

### UEFI version

2.9

### Class

3

14. Microsoft 365 sold separately and requires Internet access for activation.

15. HP IQ delivery app is preloaded on select HP PCs; it will be automatically updated to the future featured HP IQ application if you have auto updates enabled in Windows or will be available for download from the Microsoft Store. The future featured HP IQ app uses



artificial intelligence. Features vary by configuration. For complete details see [https://support.hp.com/us-en/document/ish\\_13696672-13696717-16](https://support.hp.com/us-en/document/ish_13696672-13696717-16)

16. HP Services Scan automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit <http://www.hp.com/smart-support>.

17. HP Support Assistant is available on Windows. For more information, please visit [www.support.hp.com/help/hp-support-assistant](http://www.support.hp.com/help/hp-support-assistant).

18. HP app requires Windows 10 or higher OS.

19. Poly Studio Desktop requires a Windows OS.

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

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

22. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® 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/c05115630>.

23. 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.

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

25. HP Image Assistant not preinstalled, however available for download at (<https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html>)

26. HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement>.

27. HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.

28. HP Power Manager with Battery Health can be downloaded by entering your system information here: [https://support.hp.com/in-en/document/ish\\_4449597-3519507-16](https://support.hp.com/in-en/document/ish_4449597-3519507-16).

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

30. 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.

31. 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



- 
32. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See [https://bit.ly/2PrLT6A\\_SureClick](https://bit.ly/2PrLT6A_SureClick) for complete details.
  33. 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.
  34. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.
  35. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS.
  36. HP Sure Start is available on select HP PCs and requires Windows 10 and higher
  37. HP Tamper Lock can be Enabled/disabled by customers or IT administrator with administrator authority.
  38. 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/>.
  39. HP BIOSphere features may vary depending on the platform and configuration.
  40. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special.
- 



### POWER

Power supply availability may vary by country.

Battery is internal and replaceable by customer. Serviceable by warranty.

#### Power Supply

100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter

65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter

65W Standard USB Type-C® GaN AC power adapter

#### Battery

HP Long Life 3 cell, 68Wh Polymer

HP Long Life 3 cell, 56Wh Polymer

Compliant with UL 1642/2054 Standard

#### Battery Recharge Time

Supports battery HP Fast Charge: approximately 50% in 30 minutes <sup>41</sup>

#### Power Cord

3-wired plug- 1.0m for standard type adapter

#### Battery life

TBD <sup>42</sup>

41. Recharges your battery up to 50% within 30 minutes when the system is off or in standby mode. 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 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

42. MobileMark 30 battery life will vary depending on various factors including 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 [www.bapco.com](http://www.bapco.com) for additional details.



### WEIGHT & DIMENSIONS

Weight will vary by configuration. Does not include power adapter.

Front height measurement is near the front edge where the mechanical chassis taper begins. Back height measurement is near the rear edge where the mechanical chassis taper ends.

#### Product Weight

Starting at 1.410 kg (3.11 lb) with 56 Wh battery

#### Product Dimensions (w x d x h)<sup>43</sup>

Width: 318.60 mm (12.54 in)

Depth: 224.30 mm (8.83 in)

Height Front: 11.00 mm (0.43 in) - 11.50 mm (0.45 in)

Height Rear: 17.00 mm (0.67 in) - 17.50 mm (0.69 in)

Maximum height: 19.90 mm (0.78 in) - 20.40 mm (0.80 in)

#### Packaging and Pallet Dimensions

Product packaging size varies based on options chosen. Please contact your HP representative for your packaging size details. For detailed packaging information, access the [HP Commercial Notebooks Packaging Guide](#).

<sup>43</sup>. Typical dimension. Actual dimension may vary +/- 0.5mm. Height may vary based on configuration. Maximum Height does not include Rubber feet.

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## PORTS/SLOTS

### Left side

- 1 x USB Type-A 5Gbps signaling rate (Powered)<sup>44</sup>
- 2 x USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)<sup>44</sup>
- 1 x HDMI 2.1 (Resolution up to 4K/60Hz, bandwidth 6Gbps TMDS mode)
- 1 x headphone/mic combo jack

### Right side

- 1 x USB Type-A 5Gbps signaling rate (Powered)<sup>44</sup>
- 1 x RJ45 Ethernet port
- 1 x Nano SIM card slot (optional)
- 1 x Nano Security slot

<sup>44</sup>. USB 20Gbps signaling rate is not available with Thunderbolt™ 4. Actual throughput may vary.

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#### ENVIRONMENTAL DATA

<b>Environmental Data</b>	<b>Eco-Label Certifications &amp; Declarations</b>	<p>This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:</p> <ul style="list-style-type: none"> <li>• IT ECO declaration</li> <li>• US ENERGY STAR®</li> <li>• US Federal Energy Management Program (FEMP)</li> <li>• EPEAT® Gold registered in the United States. See <a href="http://www.epeat.net">http://www.epeat.net</a> for registration status in your country.</li> <li>• TCO Certified</li> <li>• China Energy Conservation Program (CECP)</li> <li>• China State Environmental Protection Administration (SEPA)</li> <li>• Taiwan Green Mark</li> <li>• Korea Eco-label</li> <li>• Japan PC Green label*</li> </ul>																						
	<b>Sustainable Impact Specifications</b>	<ul style="list-style-type: none"> <li>• <a href="#">Product Carbon Footprint</a></li> <li>• At least 30% ocean bound plastic in the Speaker enclosure and 5% in keyboard button membrane<sup>1</sup></li> <li>• At least 30% post-consumer recycled plastic<sup>2</sup></li> <li>• At least 30% recycled metal<sup>3</sup></li> <li>• External Power Supply 90% Efficiency</li> <li>• Low Halogen<sup>4</sup></li> <li>• 100% of HP paper-based packaging is from recycled or certified sustainable sources<sup>5</sup></li> <li>• Bulk packaging available</li> </ul>																						
	<b>System Configuration</b>  <b>Energy Consumption (in accordance with US ENERGY STAR® test method)</b>	<p>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".</p> <table border="1" data-bbox="636 1444 1565 1808"> <thead> <tr> <th></th> <th>115VAC, 60Hz</th> <th>230VAC, 50Hz</th> <th>100VAC, 50Hz</th> </tr> </thead> <tbody> <tr> <td>Normal Operation (Sort idle)</td> <td>5.18 W</td> <td>5.30 W</td> <td>5.16 W</td> </tr> <tr> <td>Normal Operation (Long idle)</td> <td>1.28 W</td> <td>1.28 W</td> <td>1.29 W</td> </tr> <tr> <td>Sleep</td> <td>1.28 W</td> <td>1.28 W</td> <td>1.29 W</td> </tr> <tr> <td>Off</td> <td>0.42 W</td> <td>0.46 W</td> <td>0.43 W</td> </tr> </tbody> </table>				115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz	Normal Operation (Sort idle)	5.18 W	5.30 W	5.16 W	Normal Operation (Long idle)	1.28 W	1.28 W	1.29 W	Sleep	1.28 W	1.28 W	1.29 W	Off	0.42 W	0.46 W	0.43 W
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	<p>Note: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.</p>		
<b>Heat Dissipation*</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 50Hz</b>
Normal Operation (Short idle)	18 BTU/hr	18 BTU/hr	18 BTU/hr
Normal Operation (Long idle)	4 BTU/hr	4 BTU/hr	4 BTU/hr
Sleep	4 BTU/hr	4 BTU/hr	4 BTU/hr
Off	1 BTU/hr	2 BTU/hr	1 BTU/hr
	<p>*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.</p>		
<b>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</b>	<b>Sound Power (L<sub>WA,d</sub>, bels)</b>		<b>Sound Pressure (L<sub>pAm</sub>, decibels)</b>
Typically Configured - Idle	2.6		14.8
Fixed Disk - Random writes	2.7		16.7
Active mode - Sequential reads	3.8		29.6
<b>Longevity and Upgrading</b>	<p>This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the</p> <p>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.</p>		



	<b>Additional Information</b>	<ul style="list-style-type: none"> <li>This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.</li> <li>This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.</li> <li>This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).</li> <li>This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see <a href="http://www.epeat.net">www.epeat.net</a></li> <li>Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li> <li>This product is 91.7% recycle-able when properly disposed of at end of life.</li> </ul>							
	<b>Packaging Materials</b>	<b>External:</b>	<table border="1"> <tr> <td data-bbox="808 789 1357 840">PAPER/Corrugated</td> <td data-bbox="1357 789 1576 840">251 g</td> </tr> <tr> <td data-bbox="808 840 1357 890">PAPER/Molded Pulp</td> <td data-bbox="1357 840 1576 890">100 g</td> </tr> <tr> <td data-bbox="808 890 1357 940">PAPER/Paper</td> <td data-bbox="1357 890 1576 940">24 g</td> </tr> </table> <p>The plastic packaging material contains at least 53% recycled content.</p> <p>The corrugated paper packaging materials contains at least 53% recycled content.</p>	PAPER/Corrugated	251 g	PAPER/Molded Pulp	100 g	PAPER/Paper	24 g
PAPER/Corrugated	251 g								
PAPER/Molded Pulp	100 g								
PAPER/Paper	24 g								
	<b>RoHS Compliance</b>	<p>HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam.</p> <p>We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products.</p> <p>We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve.</p> <p>To obtain a copy of the HP RoHS Compliance Statement, see <a href="#">HP RoHS position statement</a>.</p>							



	<p><b>Material Usage</b></p>	<p>This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <a href="https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906">https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906</a>):</p> <ul style="list-style-type: none"> <li>• Asbestos</li> <li>• Certain Azo Colorants</li> <li>• Certain Brominated Flame Retardants - may not be used as flame retardants in plastics</li> <li>• Cadmium</li> <li>• Chlorinated Hydrocarbons</li> <li>• Chlorinated Paraffins</li> <li>• Bis(2-Ethylhexyl) phthalate (DEHP)</li> <li>• Benzyl butyl phthalate (BBP)</li> <li>• Dibutyl phthalate (DBP)</li> <li>• Diisobutyl phthalate (DIBP)</li> <li>• Formaldehyde</li> <li>• Halogenated Diphenyl Methanes</li> <li>• Lead carbonates and sulfates</li> <li>• Lead and Lead compounds</li> <li>• Mercuric Oxide Batteries</li> <li>• Nickel - finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li> <li>• Ozone Depleting Substances</li> <li>• Polybrominated Biphenyls (PBBs)</li> <li>• Polybrominated Biphenyl Ethers (PBBEs)</li> <li>• Polybrominated Biphenyl Oxides (PBBOs)</li> <li>• Polychlorinated Biphenyl (PCB)</li> <li>• Polychlorinated Terphenyls (PCT)</li> <li>• Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.</li> <li>• Radioactive Substances</li> <li>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> </ul>
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	<p><b>Packaging Usage</b></p>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> <li>• Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.</li> <li>• Eliminate the use of ozone-depleting substances (ODS) in packaging materials.</li> <li>• Design packaging materials for ease of disassembly.</li> <li>• Maximize the use of post-consumer recycled content materials in packaging materials.</li> <li>• Use readily recyclable packaging materials such as paper and corrugated materials.</li> <li>• Reduce size and weight of packages to improve transportation fuel efficiency.</li> <li>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.</li> </ul>
	<p><b>End-of-life Management and Recycling</b></p>	<p>HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <a href="https://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c05403198">https://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c05403198</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <a href="#">HP Product Disassembly Instruction Website</a>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.</p>

	<p><b>HP, Inc. Corporate Environmental Information</b></p>	<p>For more information about HP's commitment to the environment:</p> <ul style="list-style-type: none"> <li>• Sustainable Impact Report             <ul style="list-style-type: none"> <li>○ <a href="https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06040843">https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06040843</a></li> </ul> </li> <li>• Eco-label certifications             <ul style="list-style-type: none"> <li>○ <a href="https://www.hp.com/us-en/sustainable-impact/document-reports.html#filters_documents_reports=-document_type-type_energy_star,type_epeat,type_tcolSO">https://www.hp.com/us-en/sustainable-impact/document-reports.html#filters_documents_reports=-document_type-type_energy_star,type_epeat,type_tcolSO</a></li> </ul> </li> <li>• ISO 14001 certificates             <ul style="list-style-type: none"> <li>○ <a href="https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04777932">https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04777932</a></li> </ul> </li> </ul>
	<p><b>Footnotes</b></p>	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. 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 1680.1-2018 standard.</li> <li>3. Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams.</li> <li>4. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.</li> <li>5. 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. Plastic cushions are made from &gt;90% recycled plastic.</li> </ol>



### SERVICE AND SUPPORT <sup>45</sup>

1-year warranty and 90 day software limited warranty options depending on country. HP Worldwide Limited Warranty for the battery is aligned with the warranty period of the HP Hardware Product. Refer to <http://www.hp.com/support/batterywarranty/> for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/cpc>.

45. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit <http://www.hp.com/go/cpc>. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

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#### SYSTEM UNIT

##### Stand - Alone Power Requirements (AC

##### Power)

Nominal Operating Voltage	20.0 V
Max Operating Power	UMA < 65 W

##### Temperature

Operating	0° to 35° C (32° to 95° F) No sustained direct exposure to sunlight, System performance may be reduced above 32°C (89.6°F)
Non - operating	-20° to 60° C (-4° to 140° F) No sustained direct exposure to sunlight, System performance may be reduced above 32°C (89.6°F)

##### Relative Humidity

Operating	10% to 90% (non-condensing)
Non - operating	5% to 95%, 38.7° C (101.6° F) maximum wet bulb temperature

##### Shock

Operating	40 G, 2 ms, half-sine
Non - operating	240 G, 2 ms, half-sine

##### Random Vibration

Operating	1.043 grms
Non - operating	3.500 grms

##### Altitude (unpressurized)

Operating	3,048 m (10,000 ft)
Non - operating	12,192 m (40,000 ft)

##### Industry Standard Certifications

Regulatory Model Number	HSN-Q39C-4
CSA/UL 62368-1	Yes
ENERGY STAR® 46	Yes
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes.
	Related commodity should comply with ISO 9241 Standards.
China CCC/SRRC/CEL	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes



Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
EPEAT Gold <sup>47</sup>	Yes
Low Blue Light	Yes
WW RoHS	Yes
CECP	No
	This is related to government bids, and the review is usually handled by HP China closer to the RTP.
	They will confirm whether the application is required at that time.
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	Yes
SEPA	No
	This is related to government bids, and the review is usually handled by HP China closer to the RTP.
	They will confirm whether the application is required at that time.
MIL - STD Testing <sup>48</sup>	MIL-STD 810H

46. Configurations that are ENERGY STAR® qualified are identified as ENERGY STAR on HP websites and on <http://www.energystar.gov>

47. Based on US registration according to EPEAT criteria and EPEAT Climate+, status and tier level varies by country. Visit <http://www.epeat.net> for more information.

48. MIL STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.



### DISPLAYS

Actual brightness will be lower with touchscreen or HP Sure View.

Availability may vary by country

<b>35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, , Anti-Glare, WLED+Low Blue Light, 400 nits, Adobe 100%</b>	<b>Active Area</b>	301.594 x 188.496 mm (typ)
	<b>Dimensions (W x H)</b>	306.890 x 197.900 mm (max)
	<b>Weight</b>	200 g (max)
	<b>Diagonal Size</b>	14 inch
	<b>Surface Treatment</b>	Anti-Glare
	<b>Touch Enabled</b>	No
	<b>Contrast Ratio</b>	2000:1 (typ)
	<b>Refresh Rate</b>	120 (typ)
	<b>Brightness</b>	400 nits (typ)
	<b>Pixel Resolution</b>	RGB
	<b>Pixel Resolution - Format</b>	2560x1600 (2.5K)
	<b>Aspect Ratio</b>	16:10
	<b>Backlight</b>	WLED
	<b>Color Gamut Coverage</b>	AD-100 Not Applicable%
	<b>Color Depth</b>	8
	<b>Viewing Angle</b>	UWVA 89/89/89/89
<b>Low Blue Light</b>	Yes	
<b>Power Consumption</b>	EBL@250: 3.1W (Max)	

<b>35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%</b>	<b>Active Area</b>	301.590 x 188.500 mm (typ)
	<b>Dimensions (W x H)</b>	307.290 x 198.850 mm (max)
	<b>Weight</b>	300 g (max)
	<b>Diagonal Size</b>	14 inch
	<b>Surface Treatment</b>	Anti-Glare
	<b>Touch Enabled</b>	No
	<b>Contrast Ratio</b>	1000:1(typ)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	300 nits (typ)
	<b>Pixel Resolution</b>	RGB



<b>Pixel Resolution - Format</b>	1920x1200 (WUXGA)
<b>Aspect Ratio</b>	16:10
<b>Backlight</b>	WLED
<b>Color Gamut Coverage</b>	sRGB 62.5%
<b>Color Depth</b>	8
<b>Viewing Angle</b>	UWVA 89/89/89/89
<b>Low Blue Light</b>	No
<b>Power Consumption</b>	EBL@150: 1.7W (Max) EBL@200: 2.1W (Max) EBL@250: 2.5W (Max)

**35.6 cm (14") diagonal,  
WUXGA (1920 x 1200), LCD,  
Touch on Panel, UWVA, Anti-  
Glare, WLED, 300 nits, Low  
Power, sRGB 62.5%**

<b>Active Area</b>	301.590 x 188.500 (typ)
<b>Dimensions (W x H)</b>	30.7.59 x 199.15 (max)
<b>Weight</b>	300 (max)
<b>Diagonal Size</b>	14
<b>Surface Treatment</b>	Anti-Glare
<b>Touch Enabled</b>	Yes
<b>Contrast Ratio</b>	1000:1(typ)
<b>Refresh Rate</b>	60 (typ)
<b>Brightness</b>	300 (typ)
<b>Pixel Resolution</b>	RGB
<b>Pixel Resolution - Format</b>	1920 x 1200 (WUXGA)
<b>Aspect Ratio</b>	16:10
<b>Backlight</b>	WLED
<b>Color Gamut Coverage</b>	sRGB 62.5%
<b>Color Depth</b>	8
<b>Viewing Angle</b>	UWVA 89/89/89/89
<b>Low Blue Light</b>	No
<b>Power Consumption</b>	EBL@150: 1.75W (Max) EBL@200: 2.15W (Max)



# QuickSpecs

## HP ProBook 4 G2a 14 inch Notebook Next

### Gen AI PC

<b>35.6 cm (14") diagonal, WUXGA (1920 x 1200), OLED, UWVA, Anti-Glare, OLED+Low Blue Light, 300 nits, DCI-P3 100%</b>	<b>Active Area</b>	301.824 x 188.640 mm (typ)
	<b>Dimensions (W x H)</b>	305.654 x 198.020 mm (max)
	<b>Weight</b>	174 g (max)
	<b>Diagonal Size</b>	14 inch
	<b>Surface Treatment</b>	Anti-Glare
	<b>Touch Enabled</b>	No
	<b>Contrast Ratio</b>	1000000:1 (typ)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	300 nits (typ)
	<b>Pixel Resolution</b>	RGB
	<b>Pixel Resolution - Format</b>	1920x1200 (WUXGA)
	<b>Aspect Ratio</b>	16:10
	<b>Backlight</b>	OLED
	<b>Color Gamut Coverage</b>	DCI-P3 100%
	<b>Color Depth</b>	8
	<b>Viewing Angle</b>	UWVA 89/89/89/89
	<b>Low Blue Light</b>	Yes
	<b>Power Consumption</b>	EBL@200: 3.0W (Max)

<b>35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Low Power, sRGB 100%</b>	<b>Active Area</b>	301.590 x 188.500 mm (typ)
	<b>Dimensions (W x H)</b>	307.590 x 199.550 mm (max)
	<b>Weight</b>	300 g (max)
	<b>Diagonal Size</b>	14 inch
	<b>Surface Treatment</b>	Anti-Glare
	<b>Touch Enabled</b>	No
	<b>Contrast Ratio</b>	1200:1 (typ)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	400 nits (typ)
	<b>Pixel Resolution</b>	RGB
	<b>Pixel Resolution - Format</b>	1920x1200 (WUXGA)
	<b>Aspect Ratio</b>	16:10
	<b>Backlight</b>	WLED
	<b>Color Gamut Coverage</b>	sRGB 100%



# QuickSpecs

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<b>Color Depth</b>	8
<b>Viewing Angle</b>	UWVA 89/89/89/89
<b>Low Blue Light</b>	Yes
<b>Power Consumption</b>	EBL@200: 1.4W (Max) EBL@250: 1.6W (Max)

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#### STORAGE

<b>1 TB PCIe® NVMe™ SSD</b> Value <sup>49</sup>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	1TB
	<b>NAND Type</b>	Value
	<b>Weight</b>	10 g (0.02 lb)
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Sequential Read</b>	3500 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Sequential Write</b>	2700 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Logical Blocks</b>	2000409264
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions

<b>512 GB PCIe® NVMe™ SSD</b> Value <sup>49</sup>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	512GB
	<b>NAND Type</b>	Value
	<b>Weight</b>	10 g (0.02 lb)
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Sequential Read</b>	3500 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Sequential Write</b>	1600 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Logical Blocks</b>	1000215216
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2 Not all features are available in all versions

<b>256 GB PCIe® NVMe™ SSD</b> Value <sup>49</sup>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	256GB
	<b>NAND Type</b>	Value
	<b>Weight</b>	10 g (0.02 lb)
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Sequential Read</b>	3100 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Sequential Write</b>	1200 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Logical Blocks</b>	500118192
	<b>Features</b>	Pyrite 2.0 Not all features are available in all versions



<b>256GB 2230 PCIe® NVMe™ 2nd SSD Value <sup>49</sup></b>	<b>Form Factor</b>	M.2 2230
	<b>Capacity</b>	256 GB
	<b>NAND Type</b>	Value
	<b>Weight</b>	10 g (0.02 lb)
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Sequential Read</b>	3100 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Sequential Write</b>	1200 MB/s ±20% (in PCIe Gen4x4 slot)
	<b>Logical Blocks</b>	500118192
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2

49. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 32 GB is reserved for system recovery software.

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	802.11ax : max 2.4Gbps
	802.11be : max 2.8Gbps (160MHz)
<b>Modulation</b>	Direct Sequence Spread Spectrum
	OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM
<b>Security</b>	802.1x authentication
	AES-CCMP: 128 bit in hardware
	IEEE 802.11i
	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
	WAPI
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
	WPA2 certification
	WPA3 certification
<b>Network Architecture</b>	Ad-hoc (Peer to Peer)
<b>Models</b>	Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power</b>	802.11b, 1Mbps : +17dBm minimum
	802.11g, 6Mbps : +16dBm minimum
	802.11a, 6Mbps : +17dBm minimum
	802.11n, MCS7(HT20) : +14dBm minimum
	802.11n, MCS7(HT40) : +13.5dBm minimum
	802.11ac MCS9(VHT20) : 13.5dBm minimum
	802.11ac MCS9(VHT40) : +13.5dBm minimum
	802.11ac MCS9(VHT80) : +12.5dBm minimum
	802.11ac MCS9(VHT160) : +10.5dBm minimum
	802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum
	802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum
	802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum
	802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum
	802.11be MCS13(EHT20)(6GHz) : +11.5dBm
	802.11be MCS13(EHT40)(6GHz) : +7.5dBm
	802.11be MCS13(EHT80)(6GHz) : +7.5dBm



<b>Power Consumption</b>	802.11be MCS13(EHT160)(6GHz) : +6.5dBm
	Transmit mode 2.7 W
	Receive mode 1.8 W
	Idle mode (PSP) 180 mW (WLAN Associated)
	Idle mode 50 mW (WLAN unassociated)
	Connected Standby 10mW
<b>Power Management</b>	Radio disabled 8 mW
	ACPI and PCI Express compliant power management
<b>Receiver Sensitivity</b> <sup>53</sup>	802.11 compliant power saving mode
	802.11b, 1Mbps : -93.5dBm maximum
	802.11b, 11Mbps : -85dBm maximum
	802.11a/g, 6Mbps : -90.5dBm maximum
	802.11a/g, 54Mbps : -72.5dBm maximum
	802.11n, MCS0(HT20) : -90dBm maximum
	802.11n, MCS7(HT20) : -71.5dBm maximum
	802.11n, MCS0(HT40) : -88.5dBm maximum
	802.11n, MCS7(HT40) : -68.5dBm maximum
	802.11ac, MCS9(VHT20) : -88.5dBm maximum
	802.11ac, MCS9(VHT40) : -65.5dBm maximum
	802.11ac, MCS9(VHT80) : -60.5dBm maximum
	802.11ac, MCS9(VHT160) : -58.5dBm maximum
	802.11ax, MCS11(HE20)(6GHz) : -59.5dBm maximum
	802.11ax, MCS11(HE40)(6GHz) : -56.5dBm maximum
	802.11ax, MCS11(HE80)(6GHz) : -53.5dBm maximum
	802.11ax, MCS11(HE160)(6GHz) : -51.5dBm maximum
	802.11be, MCS13(EHT20)(6GHz) : -55.5dBm maximum
	802.11be, MCS13(EHT40)(6GHz) : -53.5dBm maximum
	802.11be, MCS13(EHT80)(6GHz) : -51.5dBm maximum
802.11be, MCS13(EHT160)(6GHz) : -48.5dBm maximum	
<b>Antenna Type</b>	High efficiency antenna with spatial diversity, mounted in the display enclosure
	Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth



	communications
<b>Form Factor</b>	PCI-Express M.2 MiniCard
<b>Dimensions</b>	30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)
<b>Weight</b>	2.8g (0.099 oz)
<b>Operating Voltage</b>	3.3v +/- 9%
	<b>Integrated Bluetooth® specifications</b>
<b>Bluetooth® Specification</b>	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 Compliant
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR.
<b>Power Consumption</b>	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
<b>Bluetooth® Software</b>	Microsoft Windows Bluetooth Software
<b>Supported Link Topology</b>	Linux/Chrome OS Bluetooth Software.
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Certifications</b>	FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Bluetooth® Profiles</b>	Bluetooth®4.1-ESR 5/6/7 Compliance



### Supported

LE Link Layer Ping  
 LE Dual Mode  
 LE Link Layer  
 LE Low Duty Cycle Directed Advertising  
 LE L2CAP Connection Oriented Channels  
 Train Nudging & Interlaced Scan  
 Bluetooth®4.2 ESR08 Compliance  
 LE Secure Connection- Basic/Full  
 LE Privacy 1.2 –Link Layer Privacy  
 LE Privacy 1.2 –Extended Scanner Filter Policies  
 LE Data Packet Length Extension  
 FAX Profile (FAX)  
 Basic Imaging Profile (BIP)2  
 Headset Profile (HSP)  
 Hands Free Profile (HFP)  
 Advanced Audio Distribution Profile (A2DP)  
 Bluetooth®5.2  
 ESR9/10 Compliance  
 LE Advertisement Extensions  
 Channel Selection Algo  
 Limited High Duty Cycle Non-Connectable Advertising  
 2Mbps LE  
 LE Long Range  
 Bluetooth®5.3  
 Host to Controller Encryption Key Control Enhancements  
 Compliance to the latest Errata Section 12.3 of BT 5.3  
 specification  
 Bluetooth®5.4  
 Bluetooth®6.0

**Mediatek RZ616 Wi-Fi 6E**  
**Bluetooth® 5.3 AIM-T WLAN** <sup>52</sup>

### Wireless LAN Standards

IEEE 802.11a  
 IEEE 802.11ac  
 IEEE 802.11ax

53



	IEEE 802.11b
	IEEE 802.11d
	IEEE 802.11e
	IEEE 802.11g
	IEEE 802.11h
	IEEE 802.11i
	IEEE 802.11j
	IEEE 802.11k
	IEEE 802.11mc
	IEEE 802.11n
	IEEE 802.11r
	IEEE 802.11v
	IEEE 802.11w
<b>Interoperability</b>	Wi-Fi certified
<b>Frequency Band</b>	802.11b/g/n/ax 2.402 - 2.482 GHz
	802.11a/n/ac/ax
	5.15 - 5.25 GHz
	5.25 - 5.35 GHz
	5.47 - 5.725 GHz
	5.825 - 5.850 GHz
	5.925 - 7.125 GHz
<b>Data Rates</b>	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11ac: MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz) 802.11ax: MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz) 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)
<b>Modulation</b>	Direct Sequence Spread Spectrum 1024-QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, OFDM, QPSK
<b>Security</b>	802.1x authentication



	AES-CCMP: 128 bit in hardware
	IEEE 802.11i
	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
	WAPI
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
	WPA2 certification
	WPA3 certification
<b>Network Architecture</b>	Ad-hoc (Peer to Peer)
<b>Models</b>	Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power</b>	2.4GHz (MIMO, typical): 802.11b: +18dBm 802.11g: +16.5dBm 802.11n/ac/ax (HT20/VHT20/HE20): +16dBm 802.11n/ac/ax (HT40/VHT40/HE40): +12.5dBm  5GHz (MIMO, typical): 802.11a: +13dBm 802.11n/ac/ax (HT20/VHT20/HE20): +13.5dBm 802.11n/ac/ax (HT40/VHT40/HE40): +12.5dBm 802.11ac/ax (VHT80/HE80): +11.5dBm 802.11ax HE160: +11.5dBm 6GHz LPI mode (MIMO, typical): 802.11a: 0dBm 802.11ax HE20: +1dBm 802.11ax HE40: +4dBm 802.11ax HE80: +7dBm 802.11ax HE160: +7.5dBm
<b>Power Consumption</b>	Transmit mode : 2.5 W Receive mode : 2.0 W Idle mode (PSP) : 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated)



	<p>Connected Standby/Modern Standby : 10 mW</p> <p>Radio disabled : 8 mW</p>
<b>Power Management</b>	<p>ACPI and PCI Express® compliant power management</p> <p>802.11 compliant power saving mode</p>
<b>Receiver Sensitivity</b> <sup>53</sup>	<p>2.4GHz (SISO):</p> <p>802.11b, 11Mbps : -82dBm maximum</p> <p>802.11g, 54Mbps : -71dBm maximum</p> <p>802.11n, MCS7 : -64dBm maximum</p> <p>802.11ac, MCS9 : -52dBm maximum</p> <p>802.11ax, MCS11(HT40): -49dBm maximum</p> <p>5GHz (SISO):</p> <p>802.11a, 54Mbps : -71dBm maximum</p> <p>802.11n, MCS07 : -64dBm maximum</p> <p>802.11ac, MCS9 : -52dBm maximum</p> <p>802.11ax, MCS11(HE80/HE160): -46dBm maximum</p> <p>6GHz (SISO):</p> <p>802.11a, 54Mbps : -71dBm maximum</p> <p>802.11n, MCS7 : -64dBm maximum</p> <p>802.11ac, MCS9 : -52dBm maximum</p> <p>802.11ax, MCS11(HE160): -46dBm maximum</p>
<b>Antenna Type</b>	<p>High efficiency antenna with spatial diversity, mounted in the display enclosure</p> <p>Two embedded dual band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications</p>
<b>Form Factor</b>	<p>PCI Express® M.2 MiniCard</p>
<b>Dimensions</b>	<p>30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)</p>
<b>Weight</b>	<p>2.8 g (0.099 oz)</p>
<b>Operating Voltage</b>	<p>3.3 v +/- 9 %</p>
<b>Bluetooth® Specification</b>	<p><b>Integrated Bluetooth® specifications</b></p> <p>4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant</p>
<b>Frequency Band</b>	<p>2402 to 2480 MHz</p>



<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH)
	BLE : 0~39 (2 MHz/CH)
<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps
	Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps
	Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
	Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class 1.5 Bluetooth device with a maximum transmit power of + 14 dBm and 10 dBm for BR and EDR, respectively.
<b>Power Consumption</b>	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
<b>Bluetooth® Software Supported Link Topology</b>	Microsoft Windows Bluetooth® Software
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support
<b>Certifications</b>	FCC (47 CFR) Part 15C, Section 15.247 & 15.407 ETS 300 328 Low Voltage Directive CE Mark
<b>Bluetooth® Profiles Supported</b>	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 -Link Layer Privacy



LE Privacy 1.2 -Extended Scanner Filter Policies  
LE Data Packet Length Extension  
FAX Profile (FAX)  
Basic Imaging Profile (BIP)2  
Headset Profile (HSP)  
Hands Free Profile (HFP)  
Advanced Audio Distribution Profile (A2DP)  
BT5.2  
ESR9/10 Compliance  
LE Advertisement Extensions  
Channel Selection Algo  
Limited High Duty Cycle Non-Connectable Advertising  
2Mbps LE  
LE Long Range  
Windows BT profiles support  
BT5.3  
Periodic Advertisement interval  
Encryption key size control enhancements

### HP 5G NR Sub-6 CAT19 <sup>54</sup>

### Technology Operating Bands

WCDMA/HSPA+ operating bands:

Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)

Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)

Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)

Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)

Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)

LTE FDD/TDD operating bands:

Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)

Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)

Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)

Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)

Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)

Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)

Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)



Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)  
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)  
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)  
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)  
Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL)  
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)  
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)  
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)  
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)  
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)  
Band 29: 717 to 728 MHz (DL)  
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)  
Band 32: 1452 to 1496 MHz (DL)  
Band 34: 2010 to 2025 MHz (UL/DL)  
Band 38: 2570 to 2620 MHz (UL/DL)  
Band 39: 1880 to 1920 MHz (UL/DL)  
Band 40: 2300 to 2400 MHz (UL/DL)  
Band 41: 2496 to 2690 MHz (UL/DL)  
Band 42: 3400 to 3600 MHz (UL/DL)  
Band 43: 3400 to 3800 MHz (UL/DL)  
Band 46: 5150 to 5925 MHz (DL)  
Band 48: 3550 to 3700 MHz (UL/DL)  
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)  
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)  
5G NR Sub 6GHz  
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)  
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)  
n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)  
n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)  
n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)  
n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)  
n12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)  
n14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)



	n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
	n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
	n26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
	n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
	n30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
	n38: 2570 to 2620 MHz (UL/DL)
	n40: 2300 to 2400 MHz (UL/DL)
	n41: 2496 to 2690 MHz (UL/DL)
	n48: 3550 to 3700 MHz (UL/DL)
	n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
	n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
	n77: 3300 to 4200 MHz (UL/DL)
	n78: 3300 to 3800 MHz (UL/DL)
	n79: 4400 to 5000 MHz (UL/DL)
<b>Wireless Protocol Standards</b>	NR Sub6G rel15 200MHz 2 DLCA, 256 QAM 200MHz 2 ULCA, 256 QAM 15KHz/30KHz SCS for FDD/TDD LTE Rel15 100MHz 5 DLCA, 256 QAM 40MHz 2 ULCA, 256 QAM UMTS Rel8
<b>GPS</b>	GPS only support L1 C/A
<b>GPS Bands</b>	GPS: L1 (1575.42MHz) GLONASS: L1 (1602MHz) BeidouB1(1561.098MHz) Galileo E1 (1575.42) QZSS(1575.42 MHz)
<b>Maximum Data Rates</b>	Sub-6 SA Peak DL 4.67Gbps/UL 1.25Gbps Sub-6 NSA Peak DL 3.74Gbps/UL 835Mbps LTE Peak



	DL 1.6Gbps (CAT19)/UL 211Mbps (CAT18)
	UMTS/HSPA+
	DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7)
<b>Maximum Output Power</b>	NR :
	23 dBm in all band except (n30 = 22dBm & n48=21dBm & n77=25dBm & n41/n77/n78 = 26dBm)
	LTE:
	23 dBm in all band except (B30 = 22dBm & B48=21dBm & B41=26dBm)
	UMTS:
	23.5 dBm
<b>Maximum Power Consumption</b>	5G Sub 6: 3,500 mA (peak); 1,674 mA (average)
<b>Form Factor</b>	M.2
	3052-S3 Key B
<b>Weight</b>	8.7 g (0.307 oz)
<b>Dimensions (Length x Width x Thickness)</b>	52.00 x 30.00 x 2.30 mm (2.05 x 1.18 x 0.09 inch)
<b>Embedded eSIM</b>	Yes

**HP 5G NR Sub-6 CAT19 HP Go Solution** <sup>54</sup>

<b>Technology Operating Bands</b>	WCDMA/HSPA+ operating bands:
	Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
	Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
	Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
	Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
	Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
	LTE FDD/TDD operating bands:
	Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
	Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
	Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
	Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
	Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
	Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)



Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)  
Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)  
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)  
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)  
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)  
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Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)  
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)  
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)  
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)  
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)  
Band 29: 717 to 728 MHz (DL)  
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)  
Band 32: 1452 to 1496 MHz (DL)  
Band 34: 2010 to 2025 MHz (UL/DL)  
Band 38: 2570 to 2620 MHz (UL/DL)  
Band 39: 1880 to 1920 MHz (UL/DL)  
Band 40: 2300 to 2400 MHz (UL/DL)  
Band 41: 2496 to 2690 MHz (UL/DL)  
Band 42: 3400 to 3600 MHz (UL/DL)  
Band 43: 3400 to 3800 MHz (UL/DL)  
Band 46: 5150 to 5925 MHz (DL)  
Band 48: 3550 to 3700 MHz (UL/DL)  
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)  
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)  
5GNR Sub 6GHZ  
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)  
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)  
n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)  
n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)  
n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)  
n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)  
n12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)



n14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)  
 n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)  
 n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)  
 n26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)  
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 n48: 3550 to 3700 MHz (UL/DL)  
 n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)  
 n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)  
 n77: 3300 to 4200 MHz (UL/DL)  
 n78: 3300 to 3800 MHz (UL/DL)  
 n79: 4400 to 5000 MHz (UL/DL)

### Wireless Protocol Standards

NR Sub6G rel15  
 200MHz 2 DLCA, 256 QAM  
 200MHz 2 ULCA, 256 QAM  
 15KHz/30KHz SCS for FDD/TDD  
 LTE Rel15  
 100MHz 5 DLCA, 256 QAM  
 40MHz 2 ULCA, 256 QAM  
 UMTS Rel8

### GPS

GPS only support L1 C/A

### GPS Bands

GPS: L1 (1575.42MHz)  
 GLONASS: L1 (1602MHz)  
 BeidouB1(1561.098MHz)  
 Galileo E1 (1575.42)  
 QZSS(1575.42 MHz)

### Maximum Data Rates

Sub-6 SA Peak  
 DL 4.67Gbps/UL 1.25Gbps  
 Sub-6 NSA Peak  
 DL 3.74Gbps/UL 835Mbps



		LTE Peak DL 1.6Gbps (CAT19)/UL 211Mbps (CAT18) UMTS/HSPA+ DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7) NR : 23 dBm in all band except (n30 = 22dBm & n48=21dBm & n77=25dBm & n41/n77/n78 = 26dBm) LTE: 23 dBm in all band except (B30 = 22dBm & B48=21dBm & B41=26dBm) UMTS: 23.5 dBm
<b>Maximum Output Power</b>		5G Sub 6: 3,500 mA (peak); 1,674 mA (average)
<b>Maximum Power Consumption</b>		
<b>Form Factor</b>		M.2 3052-S3 Key B
<b>Weight</b>		8.7 g (0.307 oz)
<b>Dimensions (Length x Width x Thickness)</b>		52.00 x 30.00 x 2.30 mm (2.05 x 1.18 x 0.09 inch)
<b>Embedded eSIM</b>		Yes
<b>RTK GBE Ethernet Controller</b>	<b>Connector</b>	RJ-45
	<b>System Interface</b>	PCI™ (Intel proprietary) + SMBus
	<b>Data Rates Supported</b>	1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) Full Duplex Operation at all Speeds Auto-Negotiation (Automatic Speed Selection) Half Duplex operation at 10 & 100 Mbit/s
	<b>IEEE Compliance</b>	IEEE 802.1p QoS (Quality of Service) Support

55



		IEEE 802.1q VLAN support
		IEEE 802.3az EEE (Energy Efficient Ethernet)
		IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
<b>Performance</b>		TCP/IP/UDP Checksum Offload (configurable)
		Protocol Offload (ARP & NS)
		Large send offload and Giant send offload
		Receiving Side Scaling
		Jumbo Frame 9K
<b>Power Consumption</b>		Cable Disconnection: 25 mW
		100Mbps Full Run: 450 mW
		1000Mbps Full Run: 1000 mW
		WoL Enable(S3/S4/S5): 50 mW
		WoL Disable(S3/S4/S5): 25 mW
<b>Power Management</b>		ACPI compliant - multiple power modes
		Situation-sensitive features reduce power consumption
		Advanced link down power saving for reducing link down power consumption
<b>Management Interface</b>		Auto MDI/MDIX Crossover cable detection
<b>IT Manageability</b>		Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame)
		Wake-on-LAN from off (Magic Packet only)
		PXE 2.1 Remote Boot
		Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
		Comprehensive diagnostic and configuration software suite
		Virtual Cable Doctor for Ethernet cable status
<b>Security &amp; Manageability</b>		Non-support
<b>HP RW220-GL LTE (Low Power) (CAT-1bis)</b> <sup>56</sup>	<b>Technology/Operating bands</b>	FDD LTE: 2100 (Band 1), 1800 (Band 3), 850 (Band 5), 900 (Band 8), 700 (Band 12), 850 (Band 18), 850 (Band 19), 800 (Band 20), 850 (Band 26), 700 (Band 28)
		WiFi Scan : 802.11b



<b>Wireless Protocol Standards</b>	<p>3GPP TS 51.010-1 V12.9.0: Mobile Station (MS) conformance specification; Part 1: Conformance specification</p> <p>3GPP TS 36.521-1 V13.3.0: User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing</p> <p>3GPP TS 21.111 V10.0.0: USIM and IC card requirements</p> <p>3GPP TS 51.011 V4.15.0: Specification of the Subscriber Identity Module -Mobile Equipment (SIM-ME) interface</p> <p>3GPP TS 31.102 V10.11.0: Characteristics of the Universal Subscriber Identity Module (USIM) application</p> <p>3GPP TS 31.111 V10.16.0: Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)</p> <p>3GPP TS 36.124 V13.2.0: Electro Magnetic Compatibility (EMC) requirements for mobile terminals and ancillary equipment</p> <p>3GPP TS 27.007 V10.0.8: AT command set for User Equipment (UE)</p> <p>3GPP TS 27.005 V10.0.1: Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)</p>
<b>GPS</b>	GPS, Galileo, BeiDou, QZSS, AGPS-MS-B
<b>GPS Bands</b>	<p>GPS L1:1575.42Mhz±1.023Mhz,</p> <p>BDS B1:1561.098Mhz±2.046Mhz</p> <p>Galileo E1:1575.42Mhz±1.023Mhz</p> <p>QZSS L1:1575.42Mhz±1.023Mhz</p>
<b>Maximum Data Rates</b>	<p>Downlink: 10Mbps</p> <p>Uplink: 5Mbps</p>
<b>Maximum Output Power</b>	<p>B1/3: 23 +/-2dBm</p> <p>B5/8/12/18/19/20/26/28: 24 +1.7/-2dBm</p>



<b>Maximum Power</b>	290.945 mA(peak), 8.035 mA(average)
<b>Consumption</b>	
<b>Form Factor</b>	M.2
<b>Weight</b>	3.9 g (0.138 oz)
<b>Dimensions (Length x Width x Thickness)</b>	42.00 x 22.00 x 2.30 mm (1.65 x 0.87 x 0.09 inch)
<b>Embedded eSIM</b>	Yes

50. 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 OS, select Intel® processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible 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.

51. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

52. 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. Available in countries where Wi-Fi 6E is supported.

53. 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.

54. 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.

55. The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

56. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.



### POWER

Power supply availability may vary by country.

<b>100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter</b>	Weight (DC Cable Included)	106 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C
		90.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 5.00 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	<b>Output</b>	
	Output power	20.00 V / 100.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current	5.40 A (max)
	Protection	
	AC Inlet Type	Fixed 2 Prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	<b>Connector</b>	
	Connector	Fixed 2 Prong
	<b>Environmental Design</b>	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
Storage Humidity	10 % to 95 %	
EML and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS	



and RCM, BIS, BSMI, UAE, UKCA DoC

<b>100W Wall Mount USB Type-C® GaN Halogen Free AC power adapter</b>	Weight (DC Cable Included)	250 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 90.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 5.00 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	<b>Output</b>	
	Output power	20.00 V / 100.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current	5.40 A (max)
	Protection	
	AC Inlet Type	Foldable for 2 prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	<b>Connector</b>	
	Connector	Foldable for 2 prong
	<b>Environmental Design</b>	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
Humidity	20 % to 95 %	
Storage Humidity	10 % to 95 %	
EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC	



<b>65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter</b>	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	<b>Output</b>	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current	5.40 A (max)
	Protection	
	AC Inlet Type	Foldable for 2 prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	<b>Connector</b>	
	Connector	Foldable for 2 prong
	<b>Environmental Design</b>	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
Storage Humidity	10 % to 95 %	
EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC	



<b>65W Wall Mount USB Type-C® GaN Halogen Free AC power adapter</b>	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	<b>Output</b>	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current	5.50 A (max)
	Protection	
	AC Inlet Type	Fixed 2 Prong
	DC Cable Connector	USB Type-C
	DC Cable Material	Halogen Free
	<b>Connector</b>	
	Connector	Fixed 2 Prong
	<b>Environmental Design</b>	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
Storage Humidity	10 % to 95 %	
EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC	



<b>65W Standard USB Type-C® GaN AC power adapter</b>	Weight (DC Cable Included)	185 g ± 10 g
	Input	100 Vac ~ 240 Vac
	Input Efficiency	USB-C 89.00 % min at 115 Vac/ 230 Vac @ 20.00 V/ 3.25 A
	Input frequency range	47 Hz ~ 63 Hz
	Input AC current	Max 1.60 A at 90 Vac input
	<b>Output</b>	
	Output power	20.00 V / 65.00 W
	DC output	+ 20.00 V
	Hold - up time	5 ms at 115 Vac input
	Output Over Current	5.40 A (max)
	Protection	
	AC Inlet Type	C6
	DC Cable Connector	USB Type-C
	DC Cable Material	Low Halogen
	<b>Connector</b>	
	Connector	C6
	<b>Environmental Design</b>	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non - operating(storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 m to 5000 m (0 ft to 16404.2 ft)
	Humidity	20 % to 95 %
	Storage Humidity	10 % to 95 %
	EMI and Safety Certifications	Worldwide safety standards - IEC60950-1 and IEC62368-1: 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC



#### Battery

Battery is internal and replaceable by customer. Serviceable by warranty.

<b>PM 68Whr Long Life Polymer</b>	Weight	236 g ± 10 g (0.52 lb)
<b>Fast charge 3 cell Battery</b>	Cells / Type	3 cell Lithium-Ion Polymer / 636076
	<b>Energy</b>	
	Voltage	11.67 V
	Amp - hour capacity	5.830 Ah
	Watt - hour capacity	68Wh
	<b>Temperature</b>	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 65°C (14°F to 149°F)
	Optional Travel Battery Available	No
<b>RX 56Whr Long Life Polymer</b>	Weight	208 g ± 10g (0.459 lb)
<b>Fast Charge 3 cell Battery</b>	Cells / Type	3cell Lithium-Ion Polymer cell / 586075
	<b>Energy</b>	
	Voltage	11.58V
	Amp - hour capacity	4.840Ah
	Watt - hour capacity	56.04Wh
	<b>Temperature</b>	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 60°C (14°F to 140°F)
	Optional Travel Battery Available	No



#### AUDIO

<b>Codec</b>	Realtek ALC3247
<b>Audio I/O Ports</b>	3.5mm Headset: CTIA only
<b>Multi-streaming Capable</b>	Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front jacks or integrated speaker.
<b>Sampling</b>	DAC: Supports resolutions from 16-bit to 24-bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from 16-bit to 24-bit;44.1 kHz to 48.0 kHz
<b>Internal Speaker</b>	Yes

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#### FINGERPRINT READER

<b>Sensor vendor</b>	ELAN
<b>Sensor type</b>	Capacitive
<b>DPI resolution</b>	508 DPI
<b>Scan area</b>	80 x 80 pixels
<b>False Rejection Rate</b>	< 3%
<b>False Acceptance Rate</b>	< 0.001%
<b>Mobile Voltage Operation</b>	2.7 V ~ 3.6 V
<b>Operating Temperature</b>	-20°C ~ 80°C (-4°F ~ 176°F)
<b>Current Consumption Image</b>	35 mA max
<b>Low Latency Wait For Finger</b>	300 uA
<b>Capture Rate</b>	50 frames/sec
<b>ESD Resistance</b>	IEC 61000-4-2 4B (+15KV)
<b>Detection Matrix</b>	508 dpi / 4.0 x 4.0 mm sensor area

<b>Sensor vendor</b>	SYNAPTICS
<b>Sensor type</b>	Capacitive
<b>DPI resolution</b>	363 DPI
<b>Scan area</b>	104 x 86 pixels
<b>False Rejection Rate</b>	< 3%
<b>False Acceptance Rate</b>	< 0.001%
<b>Mobile Voltage Operation</b>	2.7 V ~ 3.6 V
<b>Operating Temperature</b>	0°C ~ 60°C (32°F ~ 140°F)
<b>Current Consumption Image</b>	100 mA max
<b>Low Latency Wait For Finger</b>	260 uA
<b>Capture Rate</b>	frames/sec
<b>ESD Resistance</b>	IEC 61000-4-2 4B (+15KV)
<b>Detection Matrix</b>	363 dpi / 7.4 x 6.0 mm sensor area



#### OPTIONS

Container Name	Description	Part Number
<b>Adapters</b>	HP 240W Thunderbolt 4 Cable	BR1W8AA
	HP HDMI to VGA Adapter	H4F02AA
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP USB-C to DisplayPort Adapter G2	8Y8Y1AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
<b>Audio - Earbuds</b>	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8G4AA
	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8H0AA
<b>Audio - Headset</b>	HP Poly Focus 620 Fold Headset + Wireless Charge Stand	C56XZAA
	HP Poly Focus 620 Fold Stereo Bluetooth Headset	C56XSAA
	HP Poly Focus 620 Headset + Wireless Charge Stand	C56XXAA
	HP Poly Focus 625 Stereo Bluetooth Headset	C56XPAA
	HP Poly Mission 415 Monaural USB Wired Headset Classic	C01A9AA
	HP Poly Mission 425 Stereo USB Wired Headset Classic	C01B3AA
	HP Poly Mission 615 Monaural	C01F4AA
	HP Poly Mission 615 Monaural USB Wired Headset	C01C3AA
	HP Poly Mission 625 Stereo	C01F6AA
	HP Poly Mission 625 Stereo USB Wired Headset	C01C6AA
	HP Poly Mission 815 Monaural USB Wired Headset	C01F8AA
	HP Poly Mission 825 Stereo USB Wired Headset	C01FCAA
	HP USB G2 Stereo Headset	428K6AA
	Poly Blackwire 3210 Monaural USB-C Headset	8X214AA
	Poly Blackwire 3215 Monaural USB-C Headset	8X227AA
	Poly Blackwire 3220 Stereo USB-C Headset	8X228AA
	Poly Blackwire 3225 Stereo USB-C Headset	8X229AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X215AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X216AA
	Poly Blackwire 3315 Monaural USB-C Headset	8X217AA



Poly Blackwire 3315 Monaural USB-C Headset	8X218AA
Poly Blackwire 3320 Stereo USB-C Headset	8X219AA
Poly Blackwire 3320 Stereo USB-C Headset	8X220AA
Poly Blackwire 3325 Stereo USB-C Headset	8X221AA
Poly Blackwire 3325 Stereo USB-C Headset	8X222AA
Poly Blackwire 5210 Monaural USB-C Headset	8X230AA
Poly Blackwire 5220 Stereo USB-C Headset	8X231AA
Poly Blackwire 8225 Stereo USB-C Headset	8X223AA
Poly Blackwire 8225 Stereo USB-C Headset	8X225AA
Poly EncorePro 320 Binaural Headset	77T26AA
Poly EncorePro 510 Monaural Headset	783Q2AA
Poly EncorePro 510 Monoaural Headset	783Q1AA
Poly EncorePro 520 Binaural Headset	783P6AA
Poly EncorePro 520 Binaural Headset	783P7AA
Poly EncorePro 530 Discreet Headset	783P2AA
Poly EncorePro 530 Headset	783P3AA
Poly EncorePro 540 Convertible Headset	783P0AA
Poly EncorePro 540 Convertible Headset	783P1AA
Poly EncorePro 720 Binaural Headset	8R707AA
Poly EncorePro HW710 Single Ear Headset	8R708AA
Poly EncorePro Monoaural 310 Headset	77T43AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R0AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R1AA
Poly EncorePro Stereo 525 with USB-A Headset	783R2AA
Poly EncorePro USB-A Monoaural 715 Headset	783N5AA
Poly EncorePro USB-A Stereo 525 Headset	783R3AA
Poly EncorePro USB-A Stereo 725 Headset	783M6AA
Poly EncorePro USB-C Monoaural 310 Headset	760Q8AA
Poly Savi 7310 DECT 1880-1900 MHz Single Ear Headset	8D3G3AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L561AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L575AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	7S430AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L570AA



Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L585AA
Poly Savi 7310-M DECT 1880-1900 MHz Single Ear Headset	8D3K7AA
Poly Savi 7310-M DECT 1920-1930 MHz Single Ear Headset	7S439AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8D3F7AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L545AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L553AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8D3F8AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L546AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L555AA
Poly Savi 7320 Stereo DECT 1910-1920 MHz Headset	8D3G0AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	7S429AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L549AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L559AA
Poly Savi 7320-M Stereo DECT 1880-1900 MHz Headset	8D3J6AA
Poly Savi 7320-M Stereo DECT 1893-1906 MHz Headset	8D3K2AA
Poly Savi 7320-M Stereo DECT 1910-1920 MHz Headset	8D3K0AA
Poly Savi 7320-M Stereo DECT 1920-1930 MHz Headset	7S435AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3E9AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3F1AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T29AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T31AA
Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F2AA
Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F5AA
Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77T33AA
Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77Y82AA
Poly Savi 8220 Stereo DECT 1880-1900 MHz Top	8Y9C4AA
Poly Savi 8245 DECT 1880-1900 MHz Headset	8D3H2AA
Poly Savi 8245 DECT 1880-1900 MHz USB-A Headset	8D3F4AA
Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A7AA
Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A9AA
Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E6AA
Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E9AA
Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B2AA



Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B3AA
Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F2AA
Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F5AA
Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B4AA
Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B6AA
Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F1AA
Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F8AA
Poly Voyager 4310 Headset	77Y93AA
Poly Voyager 4310 Monaural Headset	77Y92AA
Poly Voyager 4310 USB-A Headset	76U48AA
Poly Voyager 4310 USB-A Headset	77Y91AA
Poly Voyager 4310 USB-C Headset	77Y94AA
Poly Voyager 4310 USB-C Headset	77Y95AA
Poly Voyager 4310 USB-C Headset	77Y96AA
Poly Voyager 4310-M USB-C Headset	77Y97AA
Poly Voyager 4320 Headset	77Z00AA
Poly Voyager 4320 Stereo USB-A Headset	77Y99AA
Poly Voyager 4320 USB-A Headset	76U49AA
Poly Voyager 4320 USB-A Headset	77Y98AA
Poly Voyager 4320 USB-C Headset	76U50AA
Poly Voyager 4320 USB-C Headset	77Z30AA
Poly Voyager 4320 USB-C Headset	77Z31AA
Poly Voyager 4320-M Headset	77Z32AA
Poly Voyager Focus 2 USB-C-C Headset	9T9J3AA
Poly Voyager Focus 2 USB-C-C Headset	9T9J5AA
Poly Voyager Focus 2 USB-C-C Headset	9T9J6AA
Poly Voyager Legend 50 Headset UC	AT9M9AA,AT9M9UT
Poly Voyager Legend 50-M Headset UC	AJ8V4AA,AJ8V4UT
Poly Voyager Surround 80 USB-C Headset	8G7T9AA
Poly Voyager Surround 80 USB-C Headset	8G7U0AA
Poly Voyager Surround 85 USB-C Headset	8G7T7AA
Poly Voyager Surround 85 USB-C Headset	8G7T8AA
<b>Audio - Speaker phone</b>	Poly Sync 10 Speakerphone
	77P34AA



#### Cases

Poly Sync 20 Speakerphone USB-C/A Adapter	B95VJUT
Poly Sync 20+ Speakerphone	B95VCAA
Poly Sync 20+M Speakerphone USB-C/A Adapter	B95VLAA
Poly Sync 20-M Speakerphone USB-C/A Adapter	B95VMUT
Poly Sync 40 Speakerphone	77P35AA
Poly Sync 40+ USB-A USB-C Speakerphone	77P36AA
Poly Sync 40+ USB-A USB-C Speakerphone	772C5AA
Poly Sync 60 Speakerphone	772C2AA
Poly Sync 60 Speakerphone	77P41AA
Poly Sync USB-A USB-C 10 Speakerphone	772C3AA
Poly Sync USB-A USB-C 40 Speakerphone	772C4AA
HP 115 15.6 Laptop Backpack	8DV45AA
HP 14 Convertible Laptop Backpack Tote	9C2H1AA
HP 14 Modular Laptop Sleeve	9J499AA
HP 15.6 Modular Laptop Backpack	9J496AA
HP 15.6 Modular Laptop Bag	9J497AA
HP 15.6 Modular Laptop Sleeve	9J498AA
HP 215 15.6 Laptop Backpack	35L98AA,35L98UT
HP 225 15.6 Laptop Backpack	2P7U6AA,2P7U6UT
HP 235 15.6 Laptop Backpack	35M00AA
HP 315 15.6 Laptop Backpack	35L97AA
HP Campus blue Backpack	7K0E5AA
HP Campus Core 16 blue Laptop Backpack	B9RB4AA
HP Campus Core 16 green Laptop Backpack	B9RB5AA
HP Campus green Backpack	7K0E4AA
HP Campus XL Marble Stone Backpack	7K0E2AA
HP Campus XL Tie Dye Backpack	7K0E3AA
HP Convertible Laptop Stand	9C2H2AA
HP Everyday 14 odyssey gray Laptop Bag	A08KJAA
HP Everyday 14 odyssey gray Laptop Briefcase	A08KGAA
HP Everyday 16 odyssey gray Laptop Backpack	A08KLUT
HP Everyday 16 odyssey gray Laptop Bag	A08KKAA
HP Everyday 16 odyssey gray Laptop Briefcase	A08KHUT



	HP Modern 14-inch moonless Night Laptop Briefcase	CJ8D0AA
	HP Modern 14-inch navy blazer Laptop Briefcase	CJ8F8AA
	HP Prelude 15.6 Backpack	1E7D6AA,1E7D6UT,50P32AA
	HP Prelude 15.6 Top Load	1E7D7AA,50P31AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Protective 13-14 atmospheric blue Laptop Sleeve	C3TR3UT
	HP Protective 13-14 meteor silver Laptop Sleeve	C3TR2UT
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5UT
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Executive 14.1 Laptop Sleeve	6B8Y3AA
	HP Renew Executive 16 Laptop Backpack	6B8Y1UT
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Travel 18 Liter 15.6 iron gray Laptop Backpack	6H2D9AA
	HP Travel 25 Liter 15.6 iron gray Laptop Backpack	6H2D8AA
	HP Travel Plus 15 Liter 14 Laptop Bag	A2CE2AA
	HP Travel Plus 22 Liter 16 Laptop Bag	A2CE1AA
	HP Travel Plus 30 Liter 17 Laptop Backpack	A2CE0AA
<b>Commodity</b>	HP USB DVD-Writer External ODD	F2B56AA
	HP 14-inch Widescreen Laptop Privacy Filter	BH0M6AA
	HP Combination Nano Cable Lock	63B28AA
	HP Essential Combination Nano Cable Lock	63B31AA
	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA
<b>Docking</b>	HP Thunderbolt™ 100W G6 Dock	9X472AA,9X472UT
	HP Thunderbolt™ 180W G6 Dock	9X481AA,9X481UT
	HP Thunderbolt™ 280W G6 Dock	AW5L5AA,AW5M5UT
	HP USB-C™ 100W G6 Dock	9X3V1AA,9X3V1UT
<b>Hub</b>	HP 4K USB-C Multiport Hub	6G843AA



#### Keyboard

HP Portable USB-C 4K HDMI Hub	BR1U0UT
HP Portable USB-C Hub	B8SU8UT
HP Universal USB-C Hub and Laptop Charger Combo	9H0H9AA
HP Universal USB-C Multiport Hub	50H55UT
HP USB-C to USB-A Hub	Z6A00AA
HP USB-C Travel Hub G3	86S97UT
HP 125 G2 Wired Keyboard	AY2Y7AA
HP 125 Wired Keyboard	266C9AA
HP 225 Wireless Keyboard	805T1AA
HP 320K G2 Wired Keyboard	9SR37UT
HP 320K USB Wired Keyboard	9SR37UT
HP 355 Compact Multi-Device Keyboard	692S9AA
HP 405 Backlit Wired Keyboard	7N7C1AA,7N7C1UT
HP 435 Programmable Wireless Keypad	7N7C3AA
HP 455 Programmable Wireless Keyboard	4R177AA
HP 475 Dual-Mode Wireless Keyboard	7N7B9AA,7N7B9UT
HP 485 Comfort Wired Keyboard	8T6M2AA
HP 495K Multi-Device Keyboard	BD5F5UT
HP 585K Multi-Device Keyboard with Palm Rest	BD5F7AA
HP 685 Comfort Dual-Mode Keyboard	8T6L9UT
HP 725 Multi-Device Rechargeable Wireless Keyboard	9T5B2AA
HP 965 black Ergonomic Wireless Keyboard	7E756AA
HP 975 Dual-Mode USB+Bluetooth Wireless Keyboard	3Z726AA
<b>Keyboard &amp; Mouse Combo</b>	
HP 225 Wired Mouse and Keyboard Combo G2	AX2Y7AA
HP 225 Wired Mouse and Keyboard Combo Cashmere White G2	AW5S6AA
HP 235 Wireless Mouse and Keyboard Combo	1Y4D0UT
HP 685 Comfort Dual-Mode Keyboard and Mouse Combo	8T6L7UT
HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo	9T5B0UT
HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C	BE1Q0UT
HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C White	BE1M6AA
HP Multi-Device Dual-Mode Mouse and Keyboard Combo with	BD5F3AA



	Palm Rest 585C	
<b>Mouse</b>	HP Wired Desktop 320MK Mouse and Keyboard	9SR36UT
	HP 105 Black Wired Mouse	822M9UT
	HP 105 Mouse Pad	8X595AA
	HP 125 Wired Mouse	265A9UT
	HP 128 Laser Wired Mouse	265D9AA
	HP 205 Desk Mat	8X597AA
	HP 235 Slim Wireless Mouse	4E407UT
	HP 245 Black Bluetooth Mouse	81S67AA,81S67UT
	HP 255 Dual Wireless Mouse	8R3U1AA,8R3U1UT
	HP 285 Silent Wireless Mouse	6G4E6AA
	HP 320M Wired Mouse	9VA80AA
	HP 425 Programmable Wireless Mouse	7M1D5AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5UT
	HP 515 Ultra-Fast Rechargeable Wireless Mouse	9C2F7AA
	HP 685 Comfort Dual-Mode Mouse	8T6M0UT
	HP 695 Qi-Charging Wireless Mouse	8F1Y4AA
	HP 705 Rechargeable Wireless Mouse	AZ7B1AA
	HP 715 Rechargeable Multi-Device Bluetooth Mouse	6E6F0AA
	HP 925 Ergonomic Vertical Wireless Mouse	6H1A5AA
	HP Tilt Ergonomic Mouse 725M	BH0Z5AA
HP Travel USB Mouse	G1K28AA	
HP Ultra-Fast Scroll Wireless Mouse 785M	B8YX4AA	
<b>Power</b>	HP 110W USB-C Laptop Charger	8B3Y2UT
	HP 140W USB-C Laptop Charger	B7NK0AA
	HP 65W Gallium Nitride USB-C LC Laptop Charger	9Y3X5AA,9Y3X5UT
	HP 65W LC USB-C AC power adapter	1P3K6AA
	HP 65W LC USB-C AC power adapter	AJ7X5AA
	HP 65W Gallium Nitride USB-C Laptop Charger	600Q8UT
	HP 65W USB-C Laptop Charger	671R3UT
	HP 56Wh Replaceable Laptop Battery	BF8G6AA



#### CHANGELOG

Date of change	Version History		Description of change
April 6, 2026	V1 to V2	Added	Environmental Section
April 22, 2026	V2 to V3	Updated	Memory Section
April 27, 2026	V3 to V4	Updated	Images
April 28, 2026	V4 to V5	Updated	Power Section

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