# Overview

# HP EliteBook 845 14 inch G9 Notebook PC



- 1. Ambient Light Sensor (Optional)
- **2.** Internal Microphones (2)
- 3. Webcam LED (Optional)
- 4. Webcam
- 5 Camera Shutter
- 6. IR Camera (Optional)
- 7. IR Camera LEDs (Optional)

#### Left

- 8. Clickpad
- 9. Smartcard Reader (Optional)
- 10. LED Indicator
- USB4<sup>™</sup> Type-C<sup>®</sup> 40Gbps signaling rate (USB Power Delivery, DisplayPort<sup>™</sup> 1.4)
- USB4<sup>™</sup> Type-C<sup>®</sup> 40Gbps signaling rate (USB Power Delivery, DisplayPort<sup>™</sup> 1.4)
- **13.** SuperSpeed USB Type-A 5Gbps signaling rate (USB 3.2 Gen 1)
- 14. HDMI 2.0b Port (Cable not included)



# QuickSpecs

# **Overview**



## Right

- 1. Power Button Key
- **2.** Audio Combo Jack
- 3. SuperSpeed USB Type-A 5Gbps signaling rate (Charging) (USB 3.2 Gen 1)
- 4. Nano Security Lock Slot (Lock sold separately)
- 5. SIM Card Slot (Optional)
- 6. Touch Fingerprint Sensor (Select models)



# QuickSpecs

# Overview

# At a Glance

- Preinstalled with Windows 11 versions or FreeDOS
- New premium ultraslim design with precision-crafted all-metal chassis for a premium look and feel
- Latest AMD<sup>®</sup> Ryzen PRO and non-PRO 6000 U and HS series processors
- New 16:10 ratio screen reduces the need to scroll by showing more vertical content than 16:9
- Optional ultrabright displays with HP Eye Ease, ambient light and ambient color sensors
- New 5MP camera<sup>1</sup> with HP Auto Frame<sup>2</sup> allows you around a little without losing viewers' attention during video calls
- New DDR5 memory and PCI Gen4 SSDs provide fast access to your work.
- Choice of displays: 35.6 cm (14") diagonal WUXGA IPS Anti-Glare LED-backlit, 250 nits, 45% NTSC 35.6 cm (14") diagonal WUXGA IPS Anti-Glare On-Cell LED-backlit touch, 250 nits, 45% NTSC 35.6 cm (14") diagonal WUXGA IPS Anti-Glare LED-backlit non-touch 400 nits, 100% sRGB with HP Eye Ease 35.6 cm (14") diagonal WUXGA IPS Anti-Glare LED-backlit non-touch, 1000 nits, 100% sRGB with HP Sure View Reflect with HP Eye Ease
- Redesigned keyboard layout to include easy use of discrete PgUp/Dn, End, and Home keys
- Choose from 38Whr or 51Whr battery options
- HP Wolf Security for Business creates a hardware-enforced, always-on, resilient defense<sup>3</sup>
- Larger Clickpad surface for easier, more intuitive input
- Connectivity with optional 4G LTE WWAN available, and USB-C Docking (Dock sold separately)
- Undergoes MIL-STD 810H tests<sup>4</sup>
- Supports fast charging (50% in 30 minutes) with no impact on battery recharge cycles <sup>5</sup>

1. Optional feature that must be configured at the time of purchase.

2. Requires the myHP application and Windows OS.

3. HP Wolf Security for Business requires Windows 10 and higher, includes various HP security features and is available on HP Pro, Elite, Workstation, and RPOS products. See product details for included security features and OS requirements.

4. MIL-STD 810GH is not intended to demonstrate fitness of 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.

5. Recharges your battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65 and 100 watts is required. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

## NOTE: See important legal disclosures for all listed specs in their respective features sections.

## **PRODUCT NAME**

HP EliteBook 845 14 inch G9 Notebook PC

## **OPERATING SYSTEMS**

Pr	ein	sta	lled	
••		5.0	uucu	

Windows 11 Pro<sup>1</sup> Windows 11 Pro Education<sup>1</sup> 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 (Windows 11 Enterprise or Windows 10 Enterprise available with a Volume Licensing Agreement)<sup>1</sup> Windows 11 Pro (preinstalled with Windows 10 Pro Downgrade)<sup>1,2</sup> FreeDOS

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.

2. This system is preinstalled with Windows 10 Pro software and also comes with a license for Windows 11 Pro software and provision for recovery software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

## PROCESSORS

AMD Ryzen™ 9 PRO 6950HS APU (3.3 GHz base clock, up to 4.9 GHz max boost clock, 20 MB L2+L3 cache, 8 cores) Available in May 2022 <sup>3,4,5,6</sup>

AMD Ryzen<sup>™</sup> 7 PRO 6850HS APU (3.2 GHz base clock, up to 4.7 GHz max boost clock, 20 MB L2+L3 cache, 8 cores) <sup>3,4,5,6</sup> AMD Ryzen<sup>™</sup> 7 PRO 6850U APU (2.7 GHz base clock, up to 4.7 GHz max boost clock, 20 MB L2+L3 cache, 8 cores) <sup>3,4,5,6</sup> AMD Ryzen<sup>™</sup> 5 PRO 6650U APU (2.9 GHz base clock, up to 4.5 GHz max boost clock, 19 MB L2+L3 cache, 6 cores) <sup>3,4,5,6</sup> AMD Ryzen<sup>™</sup> 7 6800U APU (2.7 GHz base clock, up to 4.7 GHz max boost clock, 20 MB L2+L3 cache, 8 cores) <sup>3,4,5,6</sup> AMD Ryzen<sup>™</sup> 7 6800U APU (2.9 GHz base clock, up to 4.7 GHz max boost clock, 20 MB L2+L3 cache, 8 cores) <sup>3,4,5,6</sup> AMD Ryzen<sup>™</sup> 5 6600U APU (2.9 GHz base clock, up to 4.5 GHz max boost clock, 19 MB L2+L3 cache, 6 cores) <sup>3,4,5,6</sup>

## **Processor Family**

AMD Ryzen<sup>™</sup> processor <sup>7</sup>

3. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.

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

Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.
 Max Boost clock frequency performance varies depending on hardware, software and overall system configuration.



7. 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.

## CHIPSET

Chipset is integrated with processor

## GRAPHICS

#### Integrated

AMD Radeon™ Graphics

#### Supports

Support HW decode, DX12, HDMI 2.0, HDCP 2.3 <sup>8</sup>

8. HD content required to view HD images.

## DISPLAY

#### Non-Touch

35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC (1920 x 1200) <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for WWAN (1920 x 1200) <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP camera for WWAN (1920 x 1200) <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP+IR camera for WWAN (1920 x 1200) 8,9,10 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP+IR camera (1920 x 1200) <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP camera (1920 x 1200) <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC, no microphone (1920 x 1200) 8,9,10 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP+PSR, 400 nits, 100% sRGB, Low Power, Ambient Light Sensor for 5MP Camera (1920 x 1200) with HP Eve Ease <sup>8,9,10</sup> 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP+PSR, 400 nits, 100% sRGB, Low Power, Ambient Light Sensor for 5MP+IR Camera (1920 x 1200) with HP Eye Ease 8,9,10 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP+PSR, 400 nits, 100% sRGB, Low Power, Ambient Light Sensor for 5MP+IR Camera for WWAN (1920 x 1200) with HP Eye Ease 8,9,10 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP1.3+PSR, 1000 nits, 100% sRGB with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor for 5MP camera (1920 x 1200) with HP Eye Ease 8,9,10,11,12 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP1.3+PSR, 1000 nits, 100% sRGB with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor for 5MP+IR camera (1920 x 1200) with HP Eye Ease 8,9,10,11,12 35.56 cm (14") diagonal WUXGA Bent, Low Blue Light, anti-glare UWVA eDP1.3+PSR, 1000 nits, 100% sRGB with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor 5MP+IR camera for WWAN (1920 x 1200) with HP Eye Ease 8,9,10,11,12

#### Touch

35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP+IR camera Touch on Panel (1920 x 1200) <sup>8,9,10,11,12</sup>

35.56 cm (14") diagonal WUXGA Bent, anti-glare UWVA, 250 nits, 45% NTSC for 5MP+IR camera for WWAN Touch on Panel (1920 x 1200) <sup>8,9,10,11,12</sup>



### DisplayPort ™ 1.2

Support HW decode, DX12, HDMI 2.0, HDCP 2.3 via HDMI/DP up to 4K@60Hz.

## **Displays Support**

Supports 4 independent displays through the dock.

## Display Size (Diagonal)

14" 35.56 cm (14")

8. HD content required to view HD images.
9. Sold separately or as an optional feature.
10. Resolutions are dependent upon monitor capability, and resolution and color depth settings.
11. HP Sure View Reflect integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.
12. Actual brightness will be lower with touchscreen or HP Sure View.

## **DOCKING (Sold Separately)**

Docking station model #1
Docking station model #2
Docking station model #3

HP Thunderbolt Dock G2 HP USB-C Dock G5 HP USB-C/A Universal Dock G2

For additional aftermarket options and docking specs please see page 39.

## **STORAGE AND DRIVES**

#### Primary M.2 Storage

2 TB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> M.2 SSD TLC <sup>13</sup> 1 TB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> M.2 SSD TLC <sup>13</sup> 512 GB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> M.2 SSD TLC <sup>13</sup> 512 GB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> SED TLC OPAL2 <sup>13</sup> 512 GB PCIe<sup>®</sup> NVMe<sup>™</sup> Value M.2 SSD <sup>13</sup> 256 GB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> SED TLC OPAL2 <sup>13</sup> 256 GB PCIe<sup>®</sup> Gen4x4 NVMe<sup>™</sup> SED TLC OPAL2 <sup>13</sup> 256 GB PCIe<sup>®</sup> NVMe<sup>™</sup> Value M.2 SSD <sup>13</sup>

13. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows) is reserved for system recovery software.



## MEMORY

Maximum Memory 64GB DDR5-4800 <sup>14</sup>

### Memory

64GB DDR5-4800 (2x32GB) <sup>14</sup> 32GB DDR5-4800 (2x16GB) <sup>14</sup> 32GB DDR5-4800 (1x32GB) <sup>14</sup> 16GB DDR5-4800 (2x8GB) <sup>14</sup> 16GB DDR5-4800 (1x16GB) <sup>14</sup> 8GB DDR5-4800 (1x8GB) <sup>14</sup>

### **Memory Slots**

2 SODIMM DDR5 SODIMMS, system runs at 4800 <sup>14</sup> Supports Dual Channel Memory

14. 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**

#### WLAN

Qualcomm<sup>®</sup> Fast Connect 6900 Wi-Fi 6E +Bluetooth<sup>®</sup> 5.2 M.2 2230 160MHz PCI-e+USB WLAN Wireless Card<sup>15</sup> Realtek 8852BE Wi-Fi 6 + Bluetooth<sup>®</sup> 5.3 M.2 2230 PCI-e+ USB WLAN Wireless Card <sup>16</sup>

#### WWAN

Intel<sup>®</sup> XMM<sup>™</sup> 7560 R+ LTE-Advanced Pro (Cat 16) WWAN <sup>17</sup>

#### NFC

NFC Mirage WNC XRAV-1

#### Miracast

Native Miracast Support 18

15. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported. For systems with Windows 10, Wi-Fi 6E does not operate under the 6GHz band. The product is compatible with 6GHz and other routers, sold separately, which have capability to and will operate in 2.4Ghz and 5GHz bands. The actual throughput depends on network condition and router configuration

16. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs.

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

18. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.



## AUDIO/MULTIMEDIA

### Audio

Audio by Bang & Olufsen 2 Integrated stereo speakers Integrated dual array microphone

### Speaker Power

2W/4ohm Per speaker

### Camera

Dual Array Digital Microphone 5MP USB2 Narrow Field of View Integrated Camera Dual Array Digital Microphone 5MP USB2 Infrared Narrow Field of View Integrated Camera

#### Sensors

ALS (ambient light sensor) Hall Sensor Thermal Sensor

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

### Keyboard

HP Premium Keyboard, spill resistant with optional Backlit keyboard <sup>19</sup>

#### **Pointing Device**

Clickpad with multi-touch gesture support, taps enabled as default Microsoft Precision Touchpad Default Gestures Support

#### **Function Keys**

F1 - Display Switching
F2 - Blank or Privacy
F3 - Brightness Down
F4 - Brightness Up
F5 - Audio Mute
F6 - Volume Down
F7 - Volume Up
F8 - Mic Mute
F9 - Blank or Backlit Toggle
F10 - Insert
F11 - Airplane Mode
F12 - HP Command Center (Programmable Key)
Print Screen
Power Button (with LED)

#### **Hidden Function Keys**

Fn+R - Break Fn+S - Sys Rq Fn+C - Scroll Lock



19. Backlit keyboard is an optional feature.

## SOFTWARE AND SECURITY

#### Software

HP Quick Touch HP Quick Drop <sup>20</sup> HP Easy Clean <sup>21</sup> HP PC Hardware Diagnostics Windows myHP HP Smart Support <sup>22</sup> HP Connection Optimizer HP Hotkey Support HP Support Assistant <sup>23</sup> HP Notifications HP Privacy Settings HP Power Manager Buy Microsoft Office (Sold separately)

#### **Manageability Features**

HP Image Assistant Gen5 (download) HP Manageability Integration Kit (download) <sup>24</sup> HP Client Management Script Library (download) HP Driver Packs (download) HP Cloud Recovery <sup>25</sup> HP Client Catalog (download) DASH manageability (AIM-T feature) support by AMD Ryzen PRO APU and HP Windows OS, and BIOS version 01.02.01 <sup>26</sup>

**NOTE:** To enhance brightness, level go to the Intel<sup>®</sup> Graphics Command Center app, click on System and turn off the Display Power Savings function.

## Security Management

HP Wolf Security of Business<sup>27</sup> includes: HP Sure Click <sup>28</sup> HP Sure Sense <sup>29</sup> HP Sure Run Gen5 <sup>30</sup> HP Sure Recover Gen5 <sup>31</sup> HP Sure Start Gen7 <sup>32</sup> HP Tamper Lock HP Sure Admin <sup>33</sup>

#### BIOS

HP BIOSphere Gen6 <sup>35</sup> HP Secure Erase <sup>36</sup> Absolute Persistence Module <sup>37</sup> HP DriveLock & Automatic DriveLock BIOS Update via Network HP Wake on WLAN

HP Client Security Manager Gen7 34



# QuickSpecs

# **Technical Specifications**

HP Fingerprint Sensor <sup>38</sup> Secured-Core PC Enable <sup>39</sup> TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified)

### Security

трм

Model: Infineon SLB9670 Version: 7.85 Revision: TPM 2.0 FIPS 140-2 Compliant: Yes

## **Smartcard Reader**

Model number: Alcor AU9560 FIPS 201 Compliant: Yes

IPv6 Support

Yes

## **FirstNet Certified**

Yes

## Is the BIOS on this notebook ISO/IEC 19678:2015 (formerly NIST 800-147) compliant?: Yes

UEFI version: 2.7 Class: Class 3

20. HP Quick Drop requires Internet access and Windows 10 or higher PC preinstalled with HP QuickDrop app and either an Android device (phone or tablet) running Android 7 or higher with the Android HP QuickDrop app, and /or an iOS device (phone or tablet) running iOS 12 or higher with the iOS HP QuickDrop app.

21. HP Easy Clean requires Windows 10 RS3 and higher and will disable the keyboard, touchscreen, and clickpad only. Ports are not disabled. See user guide for cleaning instructions.

22. HP Smart Support 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.

23. HP Support Assistance requires Windows and Internet Access

24. HP Manageability Integration Kit can be downloaded from

http://www8.hp.com/us/en/ads/clientmanagement/overview.html.

25. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel<sup>®</sup> or AMD processors and requires an open, wired 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.

26. AIM-T user guide can be found here: www.amd.com/DASH, under the Downloads section. Only support with:

Qualcomm Fast Connect 6900 Wi-Fi 6E AIM-T 160 MHz +Bluetooth 5.3 WW WLAN

27. HP Wolf Security for Business requires Windows 10 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 and OS requirement.

28. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A\_SureClick for complete details.
29. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise 0S.

30. HP Sure Run Gen5 is available on select HP PCs and requires Windows 10 and higher.



31. HP Sure Recover Gen5 with Embedded Reimaging is an optional feature which requires Windows 10 and higher must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Network based recovery using Wi-Fi is only available on PCs with Intel Wi-Fi Module

32. HP Sure Start Gen7 is available on select HP PCs and requires Windows 10 and higher

33. HP Sure Admin requires Windows 10 or higher, HP BIOS, HP Manageability Integration Kit from

http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store

34. HP Client Security Manager Gen7 requires Windows and is available on the select HP Elite and Pro PCs.

35. HP BIOSphere Gen6 features may vary depending on the platform and configuration.

36. HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-

88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.

37. Absolute 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/

38. HP Fingerprint sensor is an optional feature that must be configured at purchase.

39. Secured-Core PC Enable requires an Intel<sup>®</sup> vPro<sup>®</sup>, AMD Ryzen<sup>™</sup> Pro processor or Qualcomm<sup>®</sup> processor with SD850 or hi9her and requires 8 GB or more system memory. Secured-core PC is enabled from the factory.

## POWER

### **Power Supply**

HP Smart 65 W USB Type-C adapter <sup>40</sup> HP Smart 45 W USB Type-C adapter <sup>40</sup>

#### Battery

HP Long Life 3-cell, 38 Wh Polymer <sup>41,42</sup> HP Long Life 3-cell, 51 Wh Polymer <sup>41,42</sup> Compliant with UL 1642 Standard

#### **Power Cord**

3-wire plug - 1m 2-wire plug - 1m

## **Battery Life**

Up to 13 hours 45 minutes (38Wh battery) <sup>43</sup> Up to 18 hours 45 minutes (51Wh battery) <sup>43</sup>

#### 40. Availability may vary by country.

41. Battery is internal and not replaceable by customer. Serviceable by warranty.

42. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.

43. MM18 battery life will vary depending on various factors including product model, configuration, loadedapplications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See http://www.bapco.com for additional details.



## **WEIGHTS & DIMENSIONS**

**Product Weight** <sup>44</sup> Starting at 3.10 lb Starting at 1.40 kg

## Product Dimensions (W x D x H)

12.42 x 8.82 x 0.76 in 31.56 x 22.40 x 1.92 cm

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

## **PORTS/SLOTS**

2 USB4<sup>™</sup> Type-C<sup>®</sup> 40Gbps signaling rate (USB Power Delivery, DisplayPort<sup>™</sup> 1.4) 2 Super Speed USB Type-A 5Gbps signaling rate (1 charging) (USB 3.2 Gen 1)

1 HDMI 2.0 45

1 Headphone/microphone combo jack

45. HDMI cable sold separately.



## **SERVICE AND SUPPORT**

1-year warranty and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty except for HP Long Life batteries which will follow the one or three year warranty of the platform. 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.<sup>46</sup>

46. 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 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.



## SYSTEM UNIT

STSTEMUNIT	
Stand-Alone Power Requirements (AC Power)	Type-C Adapter
Nominal Operating Voltage	AC 20V
Average Operating Power	
Integrated graphics	Yes
Discrete Graphics	N/A
Max Operating Power	UMA<65W
Temperature	
Operating	32° to 95° F (0° to 35° C)
Non-operating	41° to 95° F (5° to 35° C) (writing optical)
Relative Humidity	
Operating	10% to 90%, non-condensing
Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	
Operating	40 G, 2 ms, half-sine
Non-operating	200 G, 2 ms, half-sine
Random Vibration	
Operating	0.75 grams
Non-operating	1.50 grams
Altitude (unpressurized)	5
Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard	
Certifications	
Regulatory Model Number	HSN-145C-3
UL	Yes
CSA	Yes
FCC Compliance	Yes
ENERGY STAR <sup>®</sup>	Certified <sup>47</sup>
EPEAT <sup>®</sup>	EPEAT <sup>®</sup> Gold in United States <sup>48</sup>
ICES	Yes
Australia /	Yes
NZ A-Tick Compliance	Yes
ССС	Yes
Japan VCCI Compliance	Yes
КС	Yes
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	Yes
CIT	Yes
GOST	Yes
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes



47. Configurations of the HP EliteBook 845 14 inch G9 Notebook PC that are ENERGY STAR<sup>®</sup> qualified are identified as HP EliteBook 845 14 inch G9 Notebook PC ENERGY STAR on HP websites and on http://www.energystar.gov.
48. Based on US EPEAT<sup>®</sup> registration according to IEEE 1680.1-2018 EPEAT<sup>®</sup>. EPEAT<sup>®</sup> status varies by country. Visit http://www.epeat.net for more information.

## DISPLAYS

**NOTE:** All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

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

14.0 in WUXGA	Outline Dimensions (W x H x D)	307.590 x 199.550 (max)
(1920 x 1200) Anti-Glare UWVA LED NTSC NB2X 250	Active Area	301.590 X 188.500 (typ)
	Weight	300 (max)
eDP 1.2 w/o PSR 45 bent LCD Panel	Diagonal Size	14
	Thickness	3.0 / 5.0 (max)
	Interface	eDP 1.2
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000:1(typ)
	Refresh Rate	60 Hz
	Brightness	250 nits
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89
	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.20 (max) / 2.70 (max)

14.0 in WUXGA
(1920 x 1200) Anti-Glare
UWVA LED NTSC NB2X 250
TOP eDP 1.2 w/o PSR 45
bent LCD Panel

Outline Dimensions (W x H x D)	307.590 x 199.550 (max)
Active Area	301.590 x 188.500 (typ)
Weight	300 (max)
Diagonal Size	14
Thickness	3.0 / 5.0 (max)
Interface	eDP 1.2
Surface Treatment	Anti-Glare
Touch Enabled	Yes <sup>1</sup>
Contrast Ratio	1000:1(typ)



Refresh Rate	60 Hz
Brightness	250 nits <sup>1</sup>
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	NTSC 45%
Color Depth	8 bits
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	No
Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.10 (max) / 2.60 (max)

14.0 in WUXGA
(1920 x 1200) Anti-Glare
UWVA WLED+LBL sRGB
NB2X 400 eDP 1.4+PSR2
Low-Power 100 bent LCD
Panel

Outline Dimensions (W x H x D)	307.590 x 199.550 (max)
Active Area	301.590 X 188.500 (typ)
Weight	210 (max)
Diagonal Size	14
Thickness	2.0 / 3.8 (max)
Interface	eDP 1.4
Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	1000:1(typ)
Refresh Rate	60 Hz
Brightness	400 nits
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 100%
Color Depth	8 bits
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	Yes
Power Consumption (W, EBL@ 150nits max/ 200nits max)	1.29 (max) / 1.66 (max)

14.0 in WUXGA
(1920 x 1200) Anti-Glare
UWVA WLED+LBL sRGB
NB2Y 1000 eDP 1.3+PSR
100 PrivacyG4 Plus bent
LCD Panel

Outline Dimensions (W x H x D)	307.600 x 199.550 (typ)
Active Area	301.680 x 188.500 (typ)
Weight	238 (max)
Diagonal Size	14
Thickness	2.2 / 3.9 (max)
Interface	eDP 1.3



Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	1500:1(typ)
Refresh Rate	60 Hz
Brightness	1000 nits
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 100%
Color Depth	8 bits
Viewing Angle	UWVA 85/85/85/85
Low Blue Light	Yes
Power Consumption (W, EBL@ 150nits max/ 200nits max)	N/A



## **STORAGE AND DRIVES**

For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10 and 11) is reserved for system recovery software.

is reserved for system recove		N 2 2200		
SSD 256GB 2280 PCIe-4x4 NVMe Three Layer Cell	Form Factor	M.2 2280		
·····	Capacity	256GB		
	NAND Type	TLC		
	Height	0.09 in (2.3 mm)		
	Width	0.87 in (22 mm)		
	Weight	0.02 lb (10 g)		
	Interface	PCIe NVMe Gen4X4		
	Maximum Sequential Read	4000 MB/s ±20%		
	Maximum Sequential Write	2000 MB/s ±20%		
	Logical Blocks	500,118,192		
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]		
	Features	Pyrite 2.0; TRIM; L1.2		
SSD 512GB 2280 PCIe-4x4	Form Factor	M.2 2280		
NVMe Three Layer Cell	Capacity	512GB		
	NAND Type	TLC		
	Height	0.09 in (2.3 mm)		
	Width	0.87 in (22 mm)		
	Weight	0.02 lb (10 g)		
	Interface	PCIe NVMe Gen4X4		
	Maximum Sequential Read	6400 MB/s ±20%		
	Maximum Sequential Write	3500 MB/s ±20%		
	Logical Blocks	1,000,215,215		
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]		
	Features	Pyrite 2.0; TRIM; L1.2		
SSD 1TB 2280 PCIe-4x4	Form Factor	M.2 2280		
NVMe Three Layer Cell		M.2 2280 1TB		
·····	Capacity			
	NAND Type			
	Height	0.09 in (2.3 mm)		
	Width	0.87 in (22 mm)		
	Weight	0.02 lb (10 g)		
	Interface	PCIe NVMe Gen4X4		
	Maximum Sequential Read	6400 MB/s ±20%		
	Maximum Sequential Read Maximum Sequential Write Logical Blocks	5000 MB/s ±20% 2,000,409,264		

h

	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2
SD 2TB 2280 PCIe-4x4	Form Factor	M.2 2280
IVMe Three Layer Cell	Capacity	2TB
····· <b>,</b> ·····	NAND Type	TLC
		0.09 in (2.3 mm)
	Height Width	0.87 in (22 mm)
	Weight	
	Interface	0.02 lb (10 g) PCle NVMe Gen4X4
	Maximum Sequential Read	6400 MB/s ±20%
	Maximum Sequential Write	5000 MB/s ±20%
	Logical Blocks	4,000,797,360
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2
56GB PCIe-4x4 2280 NVME	Form Factor	M.2 2280
elf Encrypted OPAL2	Capacity	256GB
hree Layer Cell Solid State prive	NAND Type	TLC
rive	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	4000 MB/s ±20%
	Maximum Sequential Write	2000 MB/s ±20%
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TCG Opal 2.0; TRIM; L1.2
12GB PCIe-4x4 2280 NVME	Form Factor	M.2 2280
Self Encrypted OPAL2	Capacity	512GB
hree Layer Cell Solid State	NAND Type	TLC
rive	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	O.O2 (D (TO G) PCle NVMe Gen4X4
	Maximum Sequential Read	6400 MB/s ±20%
	Maximum Sequential Write	3500 MB/s ±20%

(IP)

Not all configuration components are available in all regions/countries. c08098771 — DA17020 — Worldwide — Version 9 — March 2, 2023

	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TCG Opal 2.0; TRIM; L1.2
SSD 256GB 2280 PCIe NVMe	Form Factor	M.2 2280
Value	Capacity	256 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	1500 MB/s ±20%
	Maximum Sequential Write	750 MB/s ±20%
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2
SSD 512GB 2280 PCIe NVMe	Form Factor	M.2 2280
Value	Capacity	512 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	1500 MB/s ±20%
	Maximum Sequential Write	750 MB/s ±20%
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2

## **NETWORKING/COMMUNICATIONS**

Realtek RTL8852BE 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3 (802.11ax 2x2, supporting gigabit data rate) Wireless Card <sup>1</sup>	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11i IEEE 802.11r IEEE 802.11v
	Interoperability	Wi-Fi certified modules
	Frequency Band	•802.11b/g/n/ax 2.402 – 2.482 GHz •802.11a/n/ac/ax 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz
	Data Rates	<ul> <li>802.11b: 1, 2, 5.5, 11 Mbps</li> <li>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11n: max 300Mbps</li> <li>802.11ac : max 866.7Mbps</li> <li>802.11ax : max 1201Mbps</li> </ul>
	Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security <sup>2</sup>	<ul> <li>IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only</li> <li>AES-CCMP: 128 bit in hardware</li> <li>802.1x authentication</li> <li>WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>WPA2 certification</li> <li>WPA3 certification</li> <li>IEEE 802.11i</li> <li>WAPI</li> </ul>
	Network Architecture	Ad-hoc (Peer to Peer)
	Models	Infrastructure (Access Point Required)
	Roaming Output Power <sup>3</sup>	IEEE 802.11 compliant roaming between access points • 802.11b : +18.5dBm minimum • 802.11g : +17.5dBm minimum • 802.11a : +18.5dBm minimum • 802.11n HT20(2.4GHz) : +15.5dBm minimum • 802.11n HT40(2.4GHz) : +14.5dBm minimum



# QuickSpecs

#### **Technical Specifications** 802.11n HT20(5GHz) : +15.5dBm minimum 802.11n HT40(5GHz): +14.5dBm minimum 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ax HE40(2.4GHz) : +10dBm minimum • 802.11ax HE80(5GHz) : +10dBm minimum • Transmit mode :2.5 W **Power Consumption** Receive mode :2 W • Idle mode (PSP) 180 mW (WLAN Associated) Idle mode :50 mW (WLAN unassociated) Connected Standby/Modern Standby: 10mW • Radio disabled: 8 mW **Power Management** ACPI and PCI Express compliant power management 802.11 compliant power saving mode **Receiver Sensitivity<sup>4</sup>** •802.11b. 1Mbps : -93.5dBm maximum •802.11b, 11Mbps : -84dBm maximum •802.11a/g, 6Mbps : -86dBm maximum •802.11a/g, 54Mbps : -72dBm maximum •802.11n, MCS07 : -67dBm maximum •802.11n. MCS15 : -64dBm maximum •802.11ac, MCS0 : -84dBm maximum •802.11ac, MCS9 : -59dBm maximum •802.11ax, MCS11(HE40): -57dBm maximum •802.11ax, MCS11(HE80): -54dBm maximum High efficiency antenna with spatial diversity, mounted in the display Antenna type enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications Form Factor PCI-Express M.2 MiniCard Dimensions 1. Type 2230: 2.3 x 22.0 x 30.0 mm Weight 1. Type 2230: 2.8q **Operating Voltage** 3.3v +/- 9% Temperature Operating 14° to 158° F (-10° to 70° C) **Non-operating** -40° to 176° F (-40° to 80° C) Humidity Operating 10% to 90% (non-condensing) **Non-operating** 5% to 95% (non-condensing) Altitude Operating 0 to 10,000 ft (3,048 m) **Non-operating** 0 to 50,000 ft (15,240 m) **LED Activity** LED Amber – Radio OFF; LED OFF – Radio ON HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Bluetooth Specification 4.0/4.1/4.2/5.0/5.1 Compliant/5.2/5.3 Compliant **Frequency Band** 2402 to 2480 MHz Number of Available Legacy : 0~79 (1 MHz/CH) Channels BLE: 0~39 (2 MHz/CH) **Data Rates and** Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps



Throughput	BLE : 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)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.

1. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs. Wi-Fi 6™ 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.

2. Check latest software/driver release for updates on supported security features.

3. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.

4. 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).



Qualcomm® Fast Connect 6900 Wi-Fi 6E + Bluetooth® 5.2 (802.11ax 2x2, AMD AIM-T AME, supporting gigabit file transfer speeds) Wireless Card <sup>1</sup>		IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v IEEE 802.11v IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	•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
	Data Rates	<ul> <li>802.11b: 1, 2, 5.5, 11 Mbps</li> <li>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, ,80MHz &amp; 160MHz)</li> <li>802.11ax : MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, ,80MHz &amp; 160MHz)</li> </ul>
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM
	Security <sup>2</sup>	<ul> <li>AES-CCMP: 128 bit in hardware</li> <li>802.1x authentication</li> <li>WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>WPA2 certification</li> <li>IEEE 802.11i</li> </ul>
	Network Architecture Models	Wi-Fi Direct in Win10 for peer-to-peer connection. Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power <sup>3</sup>	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):



	• 802.11n/ac/ax	(HT20/VHT20/HE20) : +13.5dBm (HT40/VHT40/HE40) : +12.5dBm HT80/HE80) : +11.5dBm 0 : +11.5dBm MIMO, typical):: n : +1dBm : +4dBm : : +7dBm
Power Consumption	<ul> <li>Transmit mode: 3.0 W</li> <li>Receive mode: 2.0 W</li> <li>Idle mode (WLAN associated): 300mW</li> <li>Idle mode (WLAN unassociated): 100mW</li> <li>Modern Connected Standby: 10mW</li> <li>Radio disabled: 8 mW</li> </ul>	
Power Management		ress compliant power management t power saving mode
Receiver Sensitivity <sup>4</sup>	<ul> <li>802.11g, 54Mb</li> <li>802.11n, MCS7</li> <li>802.11ac, MCS1</li> <li>5GHz (SISO):</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11ac, MCS1</li> <li>6GHz (SISO):</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11a, 54Mb</li> <li>802.11a, MCS7</li> <li>802.11ac, MCS5</li> <li>802.11ac, MCS1</li> </ul>	os : -82dBm maximum ps : -71dBm maximum : -64dBm maximum 9 : -52dBm maximum 1(HT40): -49dBm maximum ps : -71dBm maximum 9 : -52dBm maximum 1(HE80/HE160): -46dBm maximum ps : -71dBm maximum : -64dBm maximum 1(HE160): -46dBm maximum 1(HE160): -46dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications	
Form Factor	PCI-Express M.2 MiniCard	
Dimensions	Type 2230: 2.3 x 22.0 x 30.0 mm	
Weight	Type 2230: 3g	
Operating Voltage	3.3 +/ 0.165v	
Temperature	Operating Non-operating	–10° to 60° C –40° to 85°C
Humidity	Operating Non-operating	10% to 60% (non-condensing) 5% to 95% (non-condensing)



	Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
	LED Activity	N/A	
HP Integrated Module wit	h Bluetooth 4.0/4.1/4.2/5.0	0/5.1/5.2 Wireless	s Card
	<b>Bluetooth Specification</b>	4.0/4.1/4.2/5.0/	5.1/5.2 Compliant
	Frequency Band	2402 to 2480 MH	łz
	Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH) Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 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)	
	Data Rates and Throughput		
	Transmit Power		omponent shall operate as a Class 1.5 Bluetooth device transmit power of + 14 dBm and 10 dBm for BR and EDR,

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

2. Check latest software/driver release for updates on supported security features.

3. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.

4. 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).

Intel® XMM™ 7560 R+ LTE-Advanced Pro¹	Technology/Operating bands	FDD LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3), 1700/2100 (Band 4), 850 (Band 5), 2600 (Band 7), 900 (Band 8), 700 (Band 12 lower), 700 (Band 13 upper), 700 (Band 14 upper), 700 (Band 17 lower), 850 (Band 18 lower), 850 (Band 19 upper), 800 (Band 20), 1900 (Band 25), 850 (Band 26), 700 (Band 28), 700 (Band 29 RX only), 2300 (Band 25), 850 (Band 26), 700 (Band 28), 700 (Band 29 RX only), 2300 (Band 30), 1700/2100 (Band 66), 600 (band 71). TDD LTE: 2100 (Band 34), 2600 (Band 38), 1900 (Band 39), 2400 (Band 40), 2500 (Band 41), 3500 (Band 42), 3700 (Band 43), 3700 (band 48), 5200 (Band 46 RX only) MHz; HSPA+: 2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4)
	Wireless protocol standards	2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 900 (Band 8) MHz 3GPP Release 12 LTE Specification DL-CAT.16, DL 100MHz BW throughput up to 978Mbps; UL-CAT.13 40MHz throughput up to 150Mbps WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
	GPS	Standalone GPS/Beidou/Glonass, A-GPS (MS-A, MS-B)
	GPS bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou
	Maximum data rates	1561.098 MHz LTE: 978 Mbps (Download), 150 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
	Maximum output power	LTE: 23 dBm in all band except B41 LTE B41 HPUE = 26dBm HSPA+: 23.5 dBm
	Maximum power	LTE: 1,200 mA (peak); 900 mA (average)
	consumption	HSPA+: 1,100 mA (peak); 800 mA (average)
	Form Factor	M.2, 3042-S3 Key B
	Weight	6 g
	Dimensions	42 x 30 x 2.3 mm
	(Length x Width x Thickness)	
	eSIM	Support

1. Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

Near Field Communications Controller (optional) Dimensions (L x W x H)ModChipsetNPCSystem interfaceI2CNFC RF standardsISO,ISO,ISO,ISO,ISO,

Module 25 mm by 10 mm by 2.0 mm NPC100 I2C ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 ISO/IEC 18092

ECMA-340 NFCIP-1 Target and Initiator



	ECMA-320 NFCIP-2
NFC Forum Support	Tag Type 1, Type 2, Type3 and Type 4, NFCIP-1 and NFCIP-2
Reader (PCD-VCD) Mode	ISO/IEC 14443 A
	ISO/IEC 14443 B
	ISO/IEC 15693
	MIFARE 1K MIFARE 4K
	MIFARE DESFire
	FeliCa
	Jewel and Topaz cards
Card Emulation (PICC-	ISO/IEC 14443 A
VICC) Mode	ISO/IEC 14443 B and B' MIFARE
	FeliCa
Frequency	13.56 MHz
NFC Modes Supported	Reader/Writer, Peer-to-Peer
Raw RF Data Rates	106, 212, 424, 848 kbps
Operating temperature	0°C to 70°C
Storage temperature	-20°C to 125°C
Humidity	10-90% operating
	5-95% non-operating
Supply Operating voltage	4.35 to 5.25 Volts
I/O Voltage	1.8V or 3.3V
Power Consumption	
(Booster enable, VBAT= 3.3V, VCC_BOOST = 5V)	
Mode	Power Consumption, Typical
Polling	7.3 mA
Detected Test Tag Type 1	Total 283.8 mA
	Net Module 236.8 mA
Detected Test Tag Type 2	
	Net Module 241.8 mA
Detected Test Tag Type 3	Total 287.7 mA Net Module 240.7 mA
Detected Test Tag Type 4	
	Net Module 235.3 mA
Antenna	Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.



## POWER

1. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors

AC Adapter 45 Watt nPFC	Dimensions (H x W x D)	94.0mm x 40.0mm x 26.5mm		
Standard USB type C	Weight	192.5g +/-10%		
Straight 1.8m	Input	Input Efficiency	Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec: 5V: 81.5% 9V: 86.7% 12V: 87.41% 15V: 87.8%	
		Input frequency range	47 ~ 63Hz	
		Input AC current	Max. 1.4 A at 90 Vac	
	Output	Output power	5V/15W 9V/27W 12V/36W 15V/45W	
		DC output	5V/9V/12V/15V	
		Hold-up time	5ms at 115 Vac input	
		Output current limit	<5.0A	
	Connector	C6		
	Environmental Design	Operating temperature	32°F to 95°F (0° to 35° C)	
		Non-operating (storage) temperature	-4ºFto 185ºF (-20ºto 85ºC)	
		Altitude	0 to 16,400 ft (0 to 5000m)	
		Humidity	20% to 95%	
		Storage Humidity	10% to 95%	
	EMI and Safety Certifications	Eg: *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950-1 and/or IEC62368- EN60950-1 and/or EN62368-1, UL60950-1 and/or UL62368- SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class Class B, CISPR32 Class B, CCC, NOM-001 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.		

Technical Specifi	cations				
AC Adapter 65 Watt nPFC	Dimensions (H x W x D)	88 x 53.5 x 21 mm			
Slim USB type C Straight	Weight	unit: 220g +/- 10g			
1.8m	Input	Input Efficiency	81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A		
		Input frequency range	47 ~ 63 Hz		
		Input AC current	1.6 A at 90 VAC and maximum load		
	Output	Output power	65W		
		DC output	5V/9V/12V/15V/20V		
		Hold-up time	5ms at 115 Vac input		
		Output current limit	<8.0A		
	Connector	C6			
	Environmental Design	Operating temperature	32°F to 95oF (0° to 35° C)		
		Non-operating (storage) temperature	-4°F to 185°F (-20° to 85°C)		
		Altitude	0 to 16,400 ft (0 to 5000m)		
		Humidity	5% to 95%		
		Storage Humidity	5% to 95%		
	EMI and Safety Certifications	Eg: *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950-1 and/or IEC62368-1, EN60950-1 and/or EN62368-1, UL60950-1 and/or UL62368-1, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC, NOM-001 NYCE. * MTBF - over 200,000 hours at 25°C ambient condition.			
AC Adapter 65 Watt nPFC	Dimensions (H x W x D)	90.0 mm x 51.0 mm x 28.	5 mm		
Standard USB type C Straight 1.8m	Weight	250g +/-10%			
	Input	Input Efficiency	Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec:		

# Tochnical Enocifications



Output

**Input frequency range** 

**Input AC current** 

**Output power** 

5V:81.5% 9V:86.7% 12V:88% 15V:88% 20V:89%

47~63Hz

5V/15W 9V/27W

Max. 1.6 A at 90 Vac

# QuickSpecs

#### **Technical Specifications** 12V/60W 15V/60W 20V/65W **DC output** 5V/9V/12V/15V/20V Hold-up time 5ms at 115 Vac input **Output current limit** <8.0A Connector C6 **Environmental Design** Operating 32°F to 95oF (0° to 35° C) temperature **Non-operating (storage)** -4°F to 185°F (-20° to 85°C) temperature Altitude 0 to 16,400 ft (0 to 5000m) Humidity 20% to 95% **Storage Humidity** 10% to 95% **EMI and Safety** Ea: Certifications \*CE Mark - full compliance with LVD and EMC directives \* Worldwide safety standards - IEC60950-1 and/or IEC62368-1. EN60950-1 and/or EN62368-1, UL60950-1 and/or UL62368-1, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC, NOM-001 NYCE. \* MTBF - over 200,000 hours at 25°C ambient condition. HP 3-cell Long Life Li-Ion Dimensions (H x W x D) 251.8 x 66.1 x 6.82mm (9.91 x 2.6 x 0.27 inch)

(38 Wh) <sup>1</sup> Weight 0.184kg +/- 10g (0.406 lb)				
	Cells/Type	3cell Lithium-Ion Polymer cell / 564975		
	Energy	Voltage	11.58V	
		Amp-hour capacity	3.283Ah	
		Watt-hour capacity	38Wh	
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)	
		Operating (Discharging)	14° to 140° F (-10° to 60° C)	
	Fuel Gauge LED	NA		
	Warranty	Follow product spec		
	Optional Travel Battery Available	No		



HP 3-cell Long Life Li-Ion (51 Wh) <sup>1</sup>	Dimensions (H x W x D) Weight Cells/Type	251.8 x 70.3 x 6.82mm (9 0.229kg +/- 10g (0.505 lb 3cell Lithium-Ion Polymer	)
	Energy	Voltage	11.58V
		Amp-hour capacity	4.431Ah
		Watt-hour capacity	51.3Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (-10° to 60° C)
	Fuel Gauge LED	NA	
	Warranty	Follow product spec	
	Optional Travel Battery Available	No	



## AUDIO

HD Stereo Codec	Realtek ALC3315
Audio I/O Ports	Headset: CTIA only and Headphone-out
Internal Speaker Amplifier	Cirrus Logic High-Efficiency Boosted Class D Amplifier
Multi-streaming Capable	Playback multi-streaming can be enabled in the audio control panel to allow independent audio. Following MSFT Behaviour
Sampling	DAC: 44.1k/48kHz
Wavetable Syntheses	ADC: 48kHz
Analog Audio	Support 3.5mm Headset: CTIA only and Headphone-out
# of Channels on Line-Out	
Internal Speaker	Yes

## **FINGERPRINT READER**

Sensor vendor	Synaptics FS7604
Sensor type	Capacitive
DPI resolution	363DPI
Scan area	7.4x6mm sensor area
False Rejection Rate	<1%
False Acceptance Rate	1:50K FAR
Mobile Voltage Operation	3.0V to 3.6V
Operating Temperature	0~60°C
Current Consumption Image	100mA Max
Low Latency Wait For Finger	260 uA
Capture Rate	<30msec per image
ESD Resistance	IEC 61000-4-2 4B (+/-15KV)
<b>Detection Matrix</b>	363 dpi / 7.4x6mm sensor area



## **ENVIRONMENTAL DATA**

Eco-Label Certifications &	This product has received	or is in the process of being	certified to the following approvals and may			
declarations			certified to the following approvats and may			
uectaracions	be labeled with one or more of these marks:					
	IT ECO declaration					
	US ENERGY STAR					
	US Federal Energy	y Management Program (FE	MP)			
	EPEAT <sup>D</sup> Gold regis	stered in the United States.	See http://www.epeat.net for registration			
	status in your cou	intry.				
	TCO Certified					
	China Energy Con	servation Program (CECP)				
		onmental Protection Admin	istration (SEPA)			
	Taiwan Green Ma					
	Korea Eco-label					
	Japan PC Green la					
Sustainable Impact	Ocean-bound plastic in S					
Specifications	<ul> <li>60% post-consumer recy</li> </ul>	/cled plastic				
	<ul> <li>Low halogen</li> </ul>					
	Outside Box and corruga	ted cushions are 100% sust	ainably sourced and recyclable			
	Molded Paper Pulp Cushi	on inside box is 100% susta	ainably sourced and recyclable			
	Bulk packaging available					
System Configuration	<b>The configuration used for the Energy Consumption and Declared Noise Emissions data for</b> Notebook model is based on a "Typically Configured Notebook".					
Energy Consumption						
(in accordance with US						
ENERGY STAR <sup>®</sup> test						
method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz			
Normal Operation (Sort	1157AC, 0012	ZJUVAC, JUIIZ	1004AC, 50112			
idle)	5.42 W	5.64 W	5.76 W			
	5.42 W	5.04 W	5.70 W			
Normal Operation (Long	1.22.14	1 22 14	1.05 W			
idle)	1.32 W	1.32 W	1.05 W			
Sleep	1.32 W	1.32 W	1.05 W			
Off	0.46 W	0.47 W	0.46 W			
	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 <sup>®</sup> 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 <sup>®</sup> operating system.					
		5-9				
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz			
Normal Operation (Short	,	, >				
idle)	18.5 BTU/hr	19.3 BTU/hr	19.7 BTU/hr			
Normal Operation (Long			13.7 510/11			
idle)	4.5 BTU/hr	4.5 BTU/hr	3.6 BTU/hr			
Sleep	4.5 BTU/hr	4.5 BTU/hr	3.6 BTU/hr			



Off	1.6 BT	U/hr	1.6 BT	U/hr		1.6 BTU/hr	
	* <b>NOTE:</b> Heat attained for o	-	calculated bas	ed on the me	easured watts, as	suming the service level is	
Declared Noise Emissions		Sound Power			Sound P	Pressure	
(in accordance with		(L <sub>WAd</sub> , bels)			(L <sub>pAm</sub> , de		
ISO 7779 and ISO 9296)		(=whu, 0 010)					
Typically Configured – Idle		2.6			19	19.0	
Fixed Disk – Random writes		4.1		34.0			
Optical Drive – Sequential reads		N/A			N/	/Α	
Longevity and Upgrading	-		ded, possibly e its contained ir	-	useful life by seve	eral years. Upgradeable	
	Spare parts a production.	ire available t	hroughout the	warranty pe	riod and or for up	to "5" years after the end of	
Additional Information Packaging Materials	<ul> <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 www.epeat.net</li> <li>Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li> <li>This product is 93.6% recycle-able when properly disposed of at end of life.</li> </ul>				al and Electronic Equipment tate of California; Safe dard at the Gold level, see marked per ISO11469 and at end of life. 269 g 108 g		
		PAPER/Pap	er			3 g	
	Internal:		olyethylene hig			13 g	
	The plastic packaging material contains at least 0.0% recycled content.						
	The corrugated paper packaging materials contains at least 59.1% recycled content.						
RoHS Compliance	<ul> <li>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.</li> <li>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.</li> <li>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</li> </ul>						
	and electroni We met our v	ics products. voluntary obje	ctive to achiev	e worldwide	compliance with t	the new EU F	



	scope of the commitment to include further restricted substances as regulations continue to evolve.
	To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.
Material Usage	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 http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):
	<ul> <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> </ul>
	<ul> <li>Chlorinated Paraffins</li> <li>Bis(2-Ethylhexyl) phthalate (DEHP)</li> <li>Benzyl butyl phthalate (BBP)</li> <li>Dibutyl phthalate (DBP)</li> </ul>
	<ul> <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> </ul>
	<ul> <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>Delubrominated Bishemula (DBBs)</li> </ul>
	<ul> <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> </ul>
	<ul> <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>
Packaging Usage	<ul> <li>HP follows these guidelines to decrease the environmental impact of product packaging:         <ul> <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> </ul> </li> </ul>
	<ul> <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>



End-of-life Management and Recycling	<ul> <li>HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</li> <li>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: http://www.hp.com/go/recyclers.</li> <li>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.</li> </ul>
HP, Inc. Corporate	For more information about HP's commitment to the environment:
Environmental	
Information	Global Citizenship Report
	http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
	Eco-label certifications
	http://www8.hp.com/us/en/hp-information/environment/ecolabels.html
	ISO 14001 certificates:
	http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842
	and
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf
footnotes	Percentage of ocean-bound plastic contained in each component varies by product
	<ul> <li>Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.</li> </ul>
	• External power supplies, WWAN modules, power cords, cables and peripherals excluded.
	• 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.
	• Fiber cushions made from 100% recycled wood fiber and organic materials.

## **COUNTRY OF ORIGIN**

China



# Options and Accessories (Sold separately and availability may vary by country)

DOCKING (Sold Separately)	
Docking station model #1	HP Thunderbolt Dock G2
Total number of supported displays (incl. the notebook display)	4
Max. resolutions supported	Dual 4K @30Hz or dual 4K UHD @ 60Hz is supported Single 8K@ 30Hz (multiple tiles) for Thunderbolt hosts Non-TBT hosts DP 1.4 in high res mode(1) 8K video single cable@30Hz
Dock Connectors	2xDP, 1xVGA, 1xTB, 1xUSB-C alt-mode
Technical limitations	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 max 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.
Docking station model #2	HP USB-C Dock G5
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	Dual 5K@ 30Hz + (1) 4K UHD (multi-function mode
Dock Connectors	1xHDMI, 2xDP
<b>Technical limitations</b>	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 #3	HP USB-C/A Universal Dock G2
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	Triple 4K UHD@ 60Hz
Dock Connectors	1xHDMI, 2xDP
Technical limitations	The best resolution for dual or triple displays is 4K UHD@ 60Hz.
	For use with the USB-A adapter that comes in the box the maximum number of displays supported is (2) 4k x 60 Hz on the Type-A Gen 1 connection from the host



# QuickSpecs

# Options and Accessories (Sold separately and availability may vary by country)

Туре	Description	Part Number
Cases	HP Executive 15.6 Backpack	6KD07AA
	HP Executive 15.6 Top Load	6KD06AA
	HP Executive Slim 14.1 Top Load	6KD04AA
	HP Prelude G2 15.6 Backpack	1E7D6AA
	HP Prelude G2 15.6 Top Load	1E7D7AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
Docking	HP Thunderbolt 120W G2 Dock	2063788
DUCKING	HP Thunderbolt 120W G2 Dock w/Audio	3YE87AA
	HP Thunderbolt 230W G2 Dock w/Combo Cable	3TR87AA
	HP USB-C 120W G5 Dock	STW10AA
	HP USB-C/A 120W G2 Universal Dock	5TW13AA
		514415/01
Hub	HP USB-C Mini Dock	1PM64AA
	HP Universal USB-C Multiport Hub	50H55AA
	HP USB-C Travel Dock G2	7PJ38AA
	HP USB-C to USB-A Hub	Z6A00AA
Adapter	HP USB-C to RJ45 Adapter G2	4Z527AA
mapter	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP HDMI to DVI Adapter	F5A28AA
	HP HDMI to VGA Adapter	H4F02AA
	HP USB to Gigabit RJ45 Adapter	N7P47AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter	V7W66AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
Keyboard/Combo	HP 125 WD USB Keyboard	266C9AA
	HP 320K WD USB Keyboard	9SR37AA
	HP 225 Wired Mouse and Keyboard Combo	286J4AA
	HP 235 Wireless Mouse and Keyboard Combo	1Y4D0AA



# QuickSpecs

# Options and Accessories (Sold separately and availability may vary by country)

		0500544
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA
	HP Wireless Rechargeable 950MK Mouse and Keyboard	3M165AA
	HP 975 USB+BT Dual-Mode Wireless Keyboard	3Z726AA
	HP 455 Programmable Wireless Keyboard	4R177AA
	HP 655 Wireless Keyboard and Mouse Combo	4R009AA
Mouse	HP USB Premium Wireless Mouse	1JR31AA
	HP 125 USB-A Wired Mouse	265A9AA
	HP 128 USB Laser Wired Mouse	265D9AA
	HP 320M USB-A Wired Mouse	9VA80AA
	HP Creator USB-A+Bluetooth 935 Wireless Mouse Black	1D0K8AA
	HP USB-A+Bluetooth Multi-Device 635 Wireless Mouse Black	1D0K2AA
	HP USB-A+Bluetooth Travel Bluetooth Mouse	6SP30AA
Power	HP 45W USB-C G2 Zeus AC Power Adapter	1HE07AA
	HP 45W USB-C LC Dali AC Power Adapter	1MZ01AA
	HP 65W USB-C Hades AC Power Adapter	1HE08AA
	HP 65W USB-C LC AC Power Adapter	1РЗК6АА
Commodity	HP USB DVD-Writer EXT ODD	F2B56AA
	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA



# Change Log

Date of change:	Version History:		Description of change:	
May 6, 2022	V1 to V2	Added	Environmental Data	
June 15, 2022	V2 to V3	Added	Added note in Manageability Feature	
August 30, 2022	V3 to V4	Added	DASH Manageability	
October 19, 2022	V4 to V5	Updated	Bluetooth version	
November 11, 2022	V5 to V6	Added	DASH Manageability disclaimer	
December 7, 2022	V6 to V7	Updated	Windows OS	
January 20, 2023	V7 to V8	Updated	Operating Systems	
March 2, 2023	V8 to V9	Updated	Networking and communication section	
	V9 to V10			

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