

### Overview

#### HP EliteBook 665 16 inch G11 Notebook PC

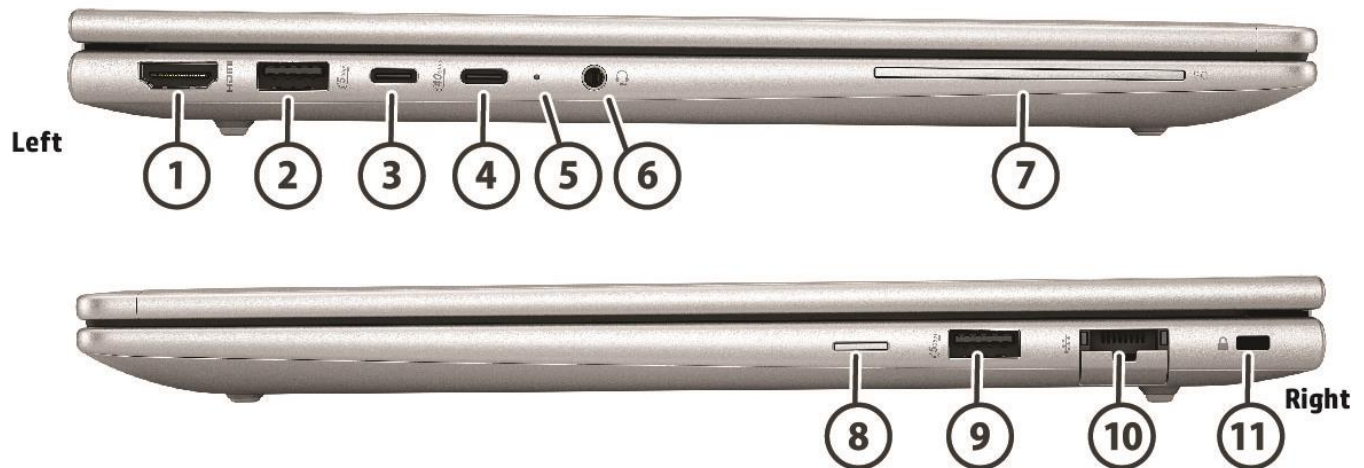


**Front**

- |                            |                                     |
|----------------------------|-------------------------------------|
| 1. Internal Microphone (2) | 4. Camera Shutter                   |
| 2. Webcam LED              | 5. Touchpad                         |
| 3. Webcam                  | 6. Near-field communication (NFC) * |

\* Select product only.

### Overview



### Sides

- |   |  |
|---|--|
| 1. HDMI 2.1   | 8. Nano SIM card slot (Optional)                         |
| 2. Super Speed USB Type-A 5Gbps signaling rate Power charging | 9. Super Speed USB Type-A 5Gbps signaling rate Data only |
| 3. USB4™ Type-C® 40 Gbps USB Power Delivery DisplayPort™ 1.4  | 10. RJ45 Ethernet port                                   |
| 4. USB4™ Type-C® 40 Gbps USB Power Delivery DisplayPort™ 1.4  | 11. Security lock slot (Integrated)                      |
| 5. Power Indicator LED  |  |
| 6. Headphone/mic combo jack                                   |  |
| 7. Smart Card Reader (Optional)                               |  |

Technical Specifications

PRODUCT NAME

HP EliteBook 665 16 inch G11 Notebook PC

OPERATING SYSTEMS

- Preinstalled
- 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 Education <sup>1</sup>

Windows 11 Pro (Windows 11 Enterprise or Windows 10 Enterprise available with a Volume Licensing Agreement) <sup>1</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>.

PROCESSORS

Processor <sup>2,3,4</sup>	Cores	Threads	L3 Cache	Max Turbo Frequency <sup>5</sup>	Base Frequency	Pro
AMD Ryzen™ 7 PRO 7735U	8 cores	16	16 MB	4.75 GHz	2.70 GHz	X
AMD Ryzen™ 7 7735U	8 cores	16	16 MB	4.75 GHz	2.70 GHz	
AMD Ryzen™ 5 PRO 7535U	6 cores	12	16 MB	4.55 GHz	2.90 GHz	X
AMD Ryzen™ 5 7535U	6 cores	12	16 MB	4.55 GHz	2.90 GHz	
AMD Ryzen™ 3 PRO 7335U	4 cores	8	8 MB	4.30 GHz	3.00 GHz	X
AMD Ryzen™ 3 7335U	4 cores	8	8 MB	4.30 GHz	3.00 GHz	

Processor Family

- AMD Ryzen™ 7 PRO processor
- AMD Ryzen™ 7 processor
- AMD Ryzen™ 5 PRO processor
- AMD Ryzen™ 5 processor
- AMD Ryzen™ 3 PRO processor
- AMD Ryzen™ 3 processor

## Technical Specifications

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's numbering is not a measurement of clock speed.
3. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
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. Performance varies by use, configuration, and other factors.
5. AMD Max Boost frequency performance varies depending on hardware, software and overall system configuration.

## GRAPHICS

### Integrated

AMD Radeon™ Graphics

### Supports

UMA: Support HDMI 2.1

Hardware acceleration for CODEC H.265/HEVC (High Efficiency Video Coding) is disabled on this platform.

## DISPLAY

### Non-Touch

40.6 cm (16") diagonal, WUXGA (1920 x 1200), Bent, LCD, UWVA, anti-glare, WLED, 300 nits, NTSC 45%<sup>6,7</sup>

40.6 cm (16") diagonal, WUXGA (1920 x 1200), Bent, LCD, UWVA, anti-glare, WLED + Low Blue Light, 400 nits, low power, sRGB 100%<sup>6,7</sup>

40.6 cm (16") diagonal, WUXGA (1920 x 1200), Bent, LCD, UWVA, anti-glare, WLED + Low Blue Light, 1000 nits, sRGB 100%, HP Sure View reflect integrated privacy screen<sup>6,7</sup>

### Touch

40.6 cm (16") diagonal, WUXGA (1920 x 1200), Bent, LCD, touch, UWVA, anti-glare, WLED, 300 nits, NTSC 45%<sup>6,7,8,9</sup>

### Display Size (Diagonal)

40.6 cm (16.0")

### Screen to Body Ratio

90.60%

### Aspect Ratio

16.10

### Max Hinge Open Angle

177±3°

6. HD content required to view HD images.

7. Sold separately or as an optional feature.

8. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

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

DOCKING (Sold Separately)

Docking station model #1	HP USB-C Dock G5
Docking station model #2	HP Thunderbolt™ 120W G4 Dock
Docking station model #3	HP USB-C G5 Essential Dock
Docking station model #4	HP USB-C/A G2 Universal Dock

For additional aftermarket options and docking specs please see page 35.

STORAGE AND DRIVES

Primary Storage

- 2 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell <sup>10</sup>
- 1 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell <sup>10</sup>
- 1 TB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 Three Layer Cell <sup>10</sup>
- 512 GB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 SSD Three Layer Cell <sup>10</sup>
- 512 GB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell <sup>10</sup>
- 512 GB PCIe® Gen4x4 NVMe™ SSD Value <sup>10</sup>
- 256 GB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 SSD Value <sup>10</sup>
- 256 GB PCIe® Gen4x4 NVMe™ SSD Value <sup>10</sup>

10. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB of disk is reserved for system recovery software.

MEMORY

Maximum Memory

64GB DDR5-4800 (2 x 32 GB) MT/s RAM <sup>11</sup>

Memory

- 64GB DDR5-4800 (2 x 32 GB) MT/s RAM <sup>11</sup>
- 32GB DDR5-4800 (2 x 16 GB) MT/s RAM <sup>11</sup>
- 32GB DDR5-4800 (1 x 32 GB) MT/s RAM <sup>11</sup>
- 16GB DDR5-4800 (2 x 8 GB) MT/s RAM <sup>11</sup>
- 16GB DDR5-4800 (1 x 16 GB) MT/s RAM <sup>11</sup>
- 8GB DDR5-4800 (1 x 8 GB) MT/s RAM <sup>11</sup>

Memory Slots

- 2 SODIMM
- System runs at 4800 MT/s
- Supports Dual Channel Memory <sup>11</sup>

11. 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.



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Technical Specifications

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**NETWORKING/COMMUNICATIONS****Ethernet**

Realtek RTL8111EPP 1GbE Ethernet Controller <sup>12</sup>

Realtek RTL8111HSH 10/100/1000 Integrated NIC <sup>12</sup>

**WLAN**

Realtek 8852CE Wi-Fi 6E Bluetooth® 5.3 wireless card WLAN <sup>13</sup>

Mediatek RZ616 Wi-Fi 6E Bluetooth® 5.3 wireless card AIM-T WLAN <sup>13</sup>

**WWAN**

HP 4G LTE-A Pro Cat16 WWAN eSIM <sup>14</sup>

**NFC**

NFC Mirage WNC XRAV-1

**Miracast**

Native Miracast Support <sup>15</sup>

12. 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.

13. 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.

14. Gigabit-class 4G LTE module is optional and must be configured at the factory. Module designed for up to 1 Gbps download speeds as carriers deploy 5 carrier aggregation and 100Mhz channel bandwidth, requires activation and separately purchased service contract. Backwards compatible to HSPA 3G technologies. Check with service provider for coverage and availability in your area. Connection, upload, and download speeds will vary due to network, location, environment, network conditions, and other factors. 4G LTE not available on all products, in all regions.

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

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### Technical Specifications

#### AUDIO/MULTIMEDIA

##### Audio

Audio by Poly Studio  
2 Integrated stereo speakers  
Discrete Amplifiers  
2 Integrated dual array microphones

##### Speaker Power

2W/4ohm per speaker

##### Camera

5MP+Infrared camera <sup>16,17</sup>  
FHD camera <sup>16,17</sup>

##### Sensors

Ambient Light Sensor <sup>18</sup>  
Hall Effect Sensor  
Thermal Sensor  
HP Tamper Lock

<sup>16</sup>. HD content required to view HD images.

<sup>17</sup>. Sold separately or as an optional feature.

<sup>18</sup>. Select product only (Privacy panel SKU)

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

##### Keyboard

HP Standard Keyboard with numeric keypad, spill-resistant, backlit, DuraKey keyboard. <sup>19</sup>  
HP Standard Keyboard with numeric keypad, spill-resistant, Privacy, backlit, DuraKey keyboard. <sup>19</sup>  
HP Standard Keyboard with numeric keypad, spill-resistant keyboard.

##### Pointing Device

Clickpad with multi-touch gesture support  
Microsoft Precision Touchpad Default Gestures Support

##### Function Keys

ESC: System Information  
F1 - Emoji  
F2 - Brightness Down  
F3 - Brightness Up  
F4 - Backlight Keyboard  
F5 - Audio Mute  
F6 - Volume Down  
F7 - Volume Up  
F8 - Mic Mute  
F9 - Play and Pause  
F10 - Home  
F11 - End

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F12 – Programmable Key

Screen Shot

Power Button

Delete

Microsoft Copilot <sup>20</sup>

### Hidden Function Keys

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

19. Backlit keyboard is an optional feature.

20. Requires Windows 11 and an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Copilot in Windows is not available, the Copilot key will lead to the Bing search engine. See <http://aka.ms/WindowsAIFeatures>

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## SOFTWARE AND SECURITY

### Software

Adobe Offer <sup>21</sup>

Bing Search for IE11

Buy Microsoft Office (Sold separately)

HP Connection Optimizer

HP Easy Clean<sup>22</sup>

HP Easy Clean Keyboard Driver

HP Hotkey Support

HP Mac Address Manager

HP Notifications

HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Windows

HP Power Manager with Battery Health Manager<sup>23</sup>

HP Privacy Settings

HP Services Scan <sup>24</sup>

HP Smart Support <sup>25</sup>

HP Support Assistant <sup>26</sup>

HSA Fusion for Commercial

HSA Telemetry for Commercial

Miro Offer <sup>27</sup>

myHP <sup>28</sup>

Poly Lens <sup>29</sup>

### Manageability Features

HP Client Catalog (download) <sup>30</sup>

HP Client Management Script Library (download) <sup>31</sup>

HP Cloud Recovery <sup>32</sup>

HP Connect for Microsoft Endpoint Manager <sup>33</sup>

HP Driver Packs (download) <sup>34</sup>

HP Image Assistant (download) <sup>35</sup>

HP Manageability Integration Kit (download) <sup>36</sup>

HP Patch Assistant (download) <sup>37</sup>

### Security Management

Secured-Core PC Enable <sup>38</sup>

Windows Hello Enhanced Sign-In Security (ESS)





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**HP Wolf Security for Business which includes:**<sup>39</sup>

HP Sure Admin <sup>40</sup>  
HP Sure Click <sup>41</sup>  
HP Sure Recover <sup>42</sup>  
HP Sure Run <sup>43</sup>  
HP Sure Sense  
HP Sure Start <sup>44</sup>  
HP Tamper Lock

**Security- TPM**

Model: Nuvoton NPCT760HABYX  
TCG TPM 2.0  
Firmware Version: 7.2.3.1  
FIPS 140-2 Compliant: Yes

Model: Infineon SLB9672VU2.0 FW15.23  
TCG TPM 2.0  
Firmware Version: 15.23  
FIPS 140-2 Compliant: Yes

**BIOS**

Absolute Persistence Module <sup>45</sup>  
BIOS Update via Network  
HP BIOSphere Gen6 <sup>46</sup>  
HP DriveLock & Automatic DriveLock  
HP Fingerprint Sensor <sup>47</sup>  
HP Secure Erase <sup>48</sup>  
HP Wake on WLAN

**Smartcard Reader**

Model number: Alcor AK9563  
FIPS 201 Compliant: Yes

**IPv6 Support**

Yes

**FirstNet Certified**

Does the BIOS implement the ISO/IEC 19678:2015 (formerly NIST 800-147) guidelines?: Yes  
UEFI version: 2.7  
Class: 3

21. Click on Adobe icon in the start menu to take advantage of a 30 day trial membership of select Adobe software. The software is tied to the device and is not transferrable. You may also choose to enter your payment details to auto-renew and continue to use the software beyond the 30 day trial. See Adobe for complete details.

22. 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.

23. HP Power Manager requires Windows 10 and higher and can be downloaded from the Microsoft Store. Depending on what version of HP Battery Health Manager (BHM) is available for your device, HP BHM may look at a number of factors to determine how to adjust battery charging over time to optimize battery health. HP BHM is preset to "Let HP Manage my Battery Charging" to allow the system to balance charging between battery health and battery duration. As Let HP Manage My Battery Charging adjusts charge capacity, the amount of run-time on battery will be reduced over time. HP may utilize BIOS updates to adjust BHM settings on select systems to optimize battery health and reduce exposure to those factors that can accelerate battery

## Technical Specifications

degradation. To update or change HP BHM settings and for complete details, see [https://support.hp.com/us-en/document/ish\\_4449597-3519507-16](https://support.hp.com/us-en/document/ish_4449597-3519507-16)

24. HP Services Scan is preinstalled and/or provided thru Windows Update and checks for service entitlement on each hardware device and downloads the applicable software agent automatically. To disable this feature, please follow the instructions at <http://www.hpdaas.com/requirements>. The HP Insights agent is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. HP follows stringent GDPR privacy regulations and is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access with connection to the HP Insights agent is required. For full system requirements, please visit <http://www.hpdaas.com/requirements>. Not available in China.

25. HP Smart Support requires the HP agent to be installed. For more information about how to enable or to download HP Smart Support, please visit <http://www.hp.com/smart-support>. HP Services Scan is provided thru Windows Update and will check entitlement on each hardware device to determine if an HP agent-enabled service has been purchased, and will download applicable software automatically. The HP agent is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. HP follows stringent GDPR privacy regulations and is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access is required. For full system requirements or to disable this feature, please visit <http://www.hpdaas.com/requirements>.

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

27. HP customers qualify for a 90 day trail of Miro, this offer ends September 2025. Complete terms and conditions are provided by Miro when accepting the offer.

28. MyHP Requires Windows 10 or higher OS.

29. Poly Lens Desktop requires a Windows OS

30. HP Client Catalog can be downloaded from <https://www.hp.com/us-en/solutions/client-management-solutions.html>

31. HP Client Management Script Library can be downloaded from <https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools>

32. 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://apps.microsoft.com/detail/9mtks9pr7r3n?hl=en-US&gl=US>.

33. 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.

34. HP Driver Packs can be downloaded from <https://www.hp.com/us-en/solutions/client-management-solutions/drivers-pack.html>

35. HP Image Assistant can be downloaded from <https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html>

36. HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.

37. 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>.

38. 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.

39. 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.

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

41. HP Sure Click requires Windows 10 or 11 Pro or higher. See [https://bit.ly/2PrLT6A\\_SureClick](https://bit.ly/2PrLT6A_SureClick) for complete details.

42. 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. Network based recovery using Wi-Fi is only available on select PCs.

### Technical Specifications

- 43. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.
- 44. HP Sure Start is available on select HP PCs and requires Windows 10 and higher
- 45. 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/>
- 46. HP BIOSphere Gen6 features may vary depending on the platform and configuration.
- 47. HP Fingerprint Reader is an optional feature that requires Windows 10 or 11 and must be configured at purchase.
- 48. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special Publication 800-88r "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.

## Technical Specifications

### POWER

#### Power Supply

HP Standard 65W USB Type-C® adapter <sup>49</sup>

HP Standard 65W USB Type-C® Halogen Free adapter <sup>49</sup>

#### Battery

HP Long Life 3 cell 56Whr Polymer <sup>50,51</sup>

HP Long Life 3 cell, 48Whr Polymer <sup>52</sup>

#### Battery Recharge Time

Supports battery HP Fast Charge: approximately 50% in 30 minutes <sup>53</sup>

#### Power Cord

3-wire plug - 1m <sup>49</sup>

#### Battery Life<sup>54</sup>

Up to 13 hours 15 mins with 56Whr battery (Benchmark: MobileMark25)

Up to 12 hours with 48Whr battery (Benchmark: MobileMark25)

49. Availability may vary by country.

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

51. 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.

52. Only available for selected regions and selected configurations.

53. 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. Upon initial startup, it is necessary to use an minimum 45 W adapter.

54. Mobile Mark 25 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.

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#### WEIGHTS & DIMENSIONS

##### Product Weight

Starting at 1.748 kg (3.86 lb) with 56 Whr battery <sup>55</sup>  
Weight will vary by configuration. Does not include power adapter.

##### Product Dimensions (W x D x H)

359.4 mm (W) x 251.0 mm (D) x 10.9mm (front)/17.0mm (rear)  
(14.15 in x 9.88 in x 0.43 in (Front)/ 0.67 in (rear)

##### Pallet Dimensions (W x D x H)

16" to 17" boxes (345mm height): 1200mm x 1000mm x 1200mm<sup>56</sup>

<sup>55</sup>. Weight will vary by configuration. Does not include power adapter.

<sup>56</sup>. 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](#).

#### PORTS/SLOTS

##### Left Side

- 1 HDMI 2.1 <sup>57</sup>
- 1 Super Speed USB Type-A 5Gbps signaling rate Power charging
- 2 USB4™ Type-C® 40 Gbps rate USB Power Delivery DisplayPort™ 1.4
- 1 Headphone/mic combo jack
- 1 Smart Card Reader (Integrated)

##### Right side

- 1 Security lock slot (Integrated)
- 1 RJ45 Ethernet port
- 1 Super Speed USB Type-A 5Gbps signaling rate Data only
- 1 Nano SIM card slot (Optional)

<sup>57</sup>. HDMI cable sold separately.

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#### SERVICE AND SUPPORT

1-year warranty and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty. 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>58</sup>

58. 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](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	20.0V
Max Operating Power	UMA 65W

**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 grams
Non-operating	3.500 grams

**Altitude (unpressurized)**

Operating	3048 m (10000 ft)
Non-operating	12192 m (40000 ft)

**Planned Industry Standard  
Certifications**

Regulatory Model Number	HSN-Q39C-6
CSA/UL 62368-1	Yes
ENERGY STAR®	Yes <sup>59</sup>
EPEAT®	EPEAT® Gold in the United States <sup>60</sup>
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes
	Related commodity should comply with ISO 9241 Standards.
China CCC/SRRC	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes
Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
WW RoHS	Yes
Low Blue Light	Yes
MIL-STD 810H Testing	Yes <sup>61</sup>

59. Configurations of the HP EliteBook 665 G11 that are ENERGY STAR® qualified are identified as HP EliteBook 665 G11 ENERGY STAR on HP websites and on <http://www.energystar.gov>.

60. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit <http://www.epeat.net> for more information.

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61. MIL STD 810H 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

1. Actual brightness will be lower with touchscreen or HP Sure View.  
**NOTE:** All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

<b>16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA WLED+LBL sRGB NB2Y 1000 eDP 1.3+PSR 100 PrivacyG4 Plus bent LCD Panel</b>	<b>Outline Dimensions (W x H)</b>	349.980 x 225.420 (max)
	<b>Active Area</b>	344.680 x 215.420 (typ)
	<b>Weight</b>	310 (max)
	<b>Diagonal Size</b>	16
	<b>Surface Treatment</b>	Anti-Glare
	<b>Touch Enabled</b>	No
	<b>Contrast Ratio</b>	1500:1 (typ)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	1000 nits <sup>1</sup>
	<b>Pixel Resolution - Format</b>	1920 x1200 (WUXGA)
	<b>Backlight</b>	WLED
	<b>Pixel Resolution</b>	RGB
	<b>Color Gamut Coverage</b>	sRGB 100%
	<b>Color Depth</b>	8
	<b>Viewing Angle</b>	UWVA 85/85/85/85
	<b>Low Blue Light</b>	Yes

<b>16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA WLED+LBL sRGB NB2Y 400 eDP 1.4+PSR2 Low-Power 100 bent LCD Panel</b>	<b>Outline Dimensions (W x H)</b>	350.680 x 226.470 (max)
	<b>Active Area</b>	344.678 x 215.424 (typ)
	<b>Weight</b>	330g (max)
	<b>Diagonal Size</b>	16
	<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>	400 nits <sup>1</sup>
	<b>Pixel Resolution - Format</b>	1920 x 1200 (WUXGA)
	<b>Backlight</b>	WLED
	<b>Pixel Resolution</b>	RGB
	<b>Color Gamut Coverage</b>	sRGB 100%
	<b>Color Depth</b>	8
	<b>Viewing Angle</b>	UWVA 89/89/89/89
	<b>Low Blue Light</b>	Yes



Technical Specifications

	Power Consumption (W, EBL@ 150nits max/ 200nits max))	1.60 (max)/ 1.95 (max)
16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA LED NTSC 45 NB2X 300 eDP 1.2 w/o PSR bent LCD Panel	Outline Dimensions (W x H)	350.680 x 226.470 (max)
	Active Area	344.6784x215.424 (typ)
	Weight	390 (max)
	Diagonal Size	16
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000:1(typ)
	Refresh Rate	60 Hz
	Brightness	300 nits <sup>1</sup>
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	6 bits + 2FRC
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max))	2.7 (max)/3.4 (max)
16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA LED NTSC 45 NB2X 300 TOP eDP 1.2 w/o PSR bent LCD Panel	Outline Dimensions (W x H)	350.680 x 226.470 (max)
	Active Area	344.6784x215.424 (typ)
	Weight	390 (max)
	Diagonal Size	16
	Surface Treatment	Anti-Glare
	Touch Enabled	Yes
	Contrast Ratio	1000:1 (typ)
	Refresh Rate	60 Hz
	Brightness	300 nits <sup>1</sup>
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	6 bits + 2FRC
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No

## Technical Specifications

## 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.

<b>SSD 512GB 2280 PCIe-4x4 NVMe Three Layer Cell</b>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	512GB
	<b>NAND Type</b>	TLC
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Maximum Sequential Read</b>	6400 MB/s $\pm$ 20%
	<b>Maximum Sequential Write</b>	3500 MB/s $\pm$ 20%
	<b>Logical Blocks</b>	1,000,215,215
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2

<b>SSD 1TB 2280 PCIe-4x4 NVMe Three Layer Cell</b>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	1TB
	<b>NAND Type</b>	TLC
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Maximum Sequential Read</b>	6400 MB/s $\pm$ 20%
	<b>Maximum Sequential Write</b>	5000 MB/s $\pm$ 20%
	<b>Logical Blocks</b>	2,000,409,264
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2

<b>SSD 2TB 2280 PCIe-4x4 NVMe Three Layer Cell</b>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	2TB
	<b>NAND Type</b>	TLC
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Maximum Sequential Read</b>	6400 MB/s $\pm$ 20%
	<b>Maximum Sequential Write</b>	5000 MB/s $\pm$ 20%
	<b>Logical Blocks</b>	4,000,797,360
	<b>Features</b>	Pyrite 2.0; TRIM; L1.2

<b>256GB PCIe 2280 NVMe Self Encrypted OPAL2 Value Solid State Drive</b>	<b>Form Factor</b>	M.2 2280
	<b>Capacity</b>	256GB
	<b>NAND Type</b>	TLC
	<b>Interface</b>	PCIe NVMe Gen4X4
	<b>Maximum Sequential Read</b>	2000 MB/s $\pm$ 20%
	<b>Maximum Sequential Write</b>	900 MB/s $\pm$ 20%
	<b>Logical Blocks</b>	500,118,192
	<b>Features</b>	TCG Opal 2.0; TRIM; L1.2

Technical Specifications

512GB PCIe-4x4 2280 NVME Self Encrypted OPAL2 Three Layer Cell Solid State Drive	Form Factor	M.2 2280
	Capacity	512GB
	NAND Type	TLC
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	6400 MB/s ±20%
	Maximum Sequential Write	3500 MB/s ±20%
	Logical Blocks	1,000,215,215
	Features	TCG Opal 2.0; TRIM; L1.2

SSD 256GB 2280 PCIe NVMe Value	Form Factor	M.2 2280
	Capacity	256 GB
	NAND Type	TLC
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	2000 MB/s ±20%
	Maximum Sequential Write	900 MB/s ±20%
	Logical Blocks	500,118,192
	Features	Pyrite 2.0; TRIM; L1.2

SSD 512GB 2280 PCIe NVMe Value	Form Factor	M.2 2280
	Capacity	512 GB
	NAND Type	TLC
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	2200 MB/s ±20%
	Maximum Sequential Write	1000 MB/s ±20%
	Logical Blocks	1,000,215,215
	Features	Pyrite 2.0; TRIM; L1.2

1TB PCIe-4x4 2280 NVME Self Encrypted OPAL2 Three Layer Cell Solid State Drive	Form Factor	M.2 2280
	Capacity	1 TB
	NAND Type	TLC
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	6400 MB/s ±20%
	Maximum Sequential Write	5000 MB/s ±20%
	Logical Blocks	2,000,409,264
	Features	Pyrite 2.0, TRIM; L1.2

NETWORKING/COMMUNICATIONS

Technical Specifications

Realtek RTL8852CE 802.11ax 2x2 Wi-Fi 6E Bluetooth®5.3 wireless card (802.11ax 2x2, supporting gigabit data rate) <sup>1</sup>	Wireless LAN Standards	IEEE 802.11a IEEE 802.11ac IEEE 802.11ax IEEE 802.11b IEEE 802.11d IEEE 802.11e IEEE 802.11g IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11n
	Interoperability	Wi-Fi certified
	Frequency Band	<ul style="list-style-type: none"><li>• 802.11b/g/n/ax 2.402 – 2.482 GHz</li><li>• 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 5.955 – 6.415 GHz 6.435 – 6.515 GHz 6.535 – 6.875 GHz 6.895 – 7.115 GHz</li></ul>
	Data Rates	<ul style="list-style-type: none"><li>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li><li>• 802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz)</li><li>• 802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz)</li><li>• 802.11b: 1, 2, 5.5, 11 Mbps</li><li>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li><li>• 802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)</li></ul>
	Modulation	Direct Sequence Spread Spectrum 1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
	Security <sup>2</sup>	<ul style="list-style-type: none"><li>• 802.1x authentication</li><li>• AES-CCMP: 128 bit in hardware</li><li>• IEEE 802.11i</li><li>• IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only</li><li>• WAPI</li><li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li><li>• WPA2 certification</li><li>• WPA3 (personal) certification</li></ul>
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power <sup>3</sup>	<ul style="list-style-type: none"><li>• 802.11b : +17dBm minimum</li><li>• 802.11g : +16dBm minimum</li><li>• 802.11a : +17dBm minimum</li><li>• 802.11n HT20(2.4GHz) : +14dBm minimum</li><li>• 802.11n HT40(2.4GHz) : +13dBm minimum</li></ul>

Technical Specifications

	<ul style="list-style-type: none"><li>• 802.11n HT20(5GHz) : +14dBm minimum</li><li>• 802.11n HT40(5GHz) : +13dBm minimum</li><li>• 802.11ac VHT80(5GHz) : +10dBm minimum</li><li>• 802.11ac VHT160(5GHz) : +10dBm minimum</li><li>• 802.11ax HE40(2.4GHz) : +12dBm minimum</li><li>• 802.11ax HE80(5GHz) : +10dBm minimum</li><li>• 802.11ax HE160(5GHz) : +10dBm minimum</li><li>• 802.11ax HE80(6GHz) : +10dBm minimum</li><li>• 802.11ax HE160(6GHz) : +10dBm minimum</li></ul>
Power Consumption	<ul style="list-style-type: none"><li>• Transmit mode : 2.5 W</li><li>• Receive mode : 2.0 W</li><li>• Idle mode (PSP) : 180 mW (WLAN Associated)</li><li>• Idle mode: 50 mW (WLAN unassociated)</li><li>• Connected Standby/Modern Standby : 10 mW</li><li>• Radio disabled : 8 mW</li></ul>
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity <sup>4</sup>	<ul style="list-style-type: none"><li>• 802.11b, 1Mbps : -93.5dBm maximum</li><li>• 802.11b, 11Mbps : -84dBm maximum</li><li>• 802.11a/g, 6Mbps : -86dBm maximum</li><li>• 802.11a/g, 54Mbps : -72dBm maximum</li><li>• 802.11n, MCS07 : -67dBm maximum</li><li>• 802.11n, MCS15 : -64dBm maximum</li><li>• 802.11ac, MCS0(VHT80) : -84dBm maximum</li><li>• 802.11ac, MCS9(VHT80) : -59dBm maximum</li><li>• 802.11ac, MCS9(VHT160) : -58.5dBm maximum</li><li>• 802.11ax, MCS11(HE40): -57dBm maximum</li><li>• 802.11ax, MCS11(HE80): -54dBm maximum</li><li>• 802.11ax, MCS11(HE160): -53.5dBm maximum</li></ul>
Antenna type	High efficiency antenna with spatial diversity Two embedded tri-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	30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)
Weight	1. Type 2230: 2.8 g 2. Type 1216: g
Operating Voltage	3.3 v +/- 5 %
HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Signaling Data Rate	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)

Technical Specifications

	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.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth® Software Supported	Microsoft Windows Bluetooth® Software
Link Topology	
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
Bluetooth® Profiles Supported	2Mbps LE Advanced Audio Distribution Profile (A2DP) Bluetooth® 4.1-ESR 5/6/7 Compliance Bluetooth® 4.2 ESR08 Compliance Bluetooth® 5.2 Bluetooth® 5.3 Wireless Card Channel Selection Algo Encryption key size control enhancements ESR9/10 Compliance Hands Free Profile (HFP) LE Advertisement Extensions LE Data Packet Length Extension LE Dual Mode LE L2CAP Connection Oriented Channels LE Link Layer LE Link Layer Ping LE Long Range LE Low Duty Cycle Directed Advertising LE Privacy 1.2 –Extended Scanner Filter Policies LE Privacy 1.2 –Link Layer Privacy LE Secure Connection- Basic/Full Limited High Duty Cycle Non-Connectable Advertising Periodic Advertisement interval Train Nudging & Interlaced Scan Windows Bluetooth® profiles support

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).

Wireless LAN Standards    IEEE 802.11a

Technical Specifications

MediaTek RZ616 Wi-Fi 6E Bluetooth® 5.3 wireless card (802.11ax 2x2, AMD AIM-T) <sup>1</sup>	IEEE 802.11ac IEEE 802.11ax 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
Interoperability	Wi-Fi certified
Frequency Band	<ul style="list-style-type: none"><li>• 802.11b/g/n/ax 2.402 – 2.482 GHz</li><li>• 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</li></ul>
Data Rates	<ul style="list-style-type: none"><li>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li><li>• 802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz)</li><li>• 802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz)</li><li>• 802.11b: 1, 2, 5.5, 11 Mbps</li><li>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li><li>• 802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)</li></ul>
Modulation	Direct Sequence Spread Spectrum 1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
Security <sup>2</sup>	<ul style="list-style-type: none"><li>• 802.1x authentication</li><li>• AES-CCMP: 128 bit in hardware</li><li>• IEEE 802.11i</li><li>• IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only</li><li>• WAPI</li><li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li><li>• WPA2 certification</li><li>• WPA3 (personal) certification</li></ul>
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power <sup>3</sup>	2.4GHz (MIMO, typical): <ul style="list-style-type: none"><li>• 802.11b : +18dBm</li><li>• 802.11g : +16.5dBm</li><li>• 802.11n/ac/ax (HT20/VHT20/HE20) : +16dBm</li><li>• 802.11n/ac/ax (HT40/VHT40/HE40) : +12.5dBm</li></ul>

Technical Specifications

	5GHz (MIMO, typical): <ul style="list-style-type: none"><li>• 802.11a : +13dBm</li><li>• 802.11n/ac/ax (HT20/VHT20/HE20) : +13.5dBm</li><li>• 802.11n/ac/ax (HT40/VHT40/HE40) : +12.5dBm</li><li>• 802.11ac/ax (VHT80/HE80) : +11.5dBm</li><li>• 802.11ax HE160 : +11.5dBm</li></ul>
	6GHz LPI mode (MIMO, typical): <ul style="list-style-type: none"><li>• 802.11a : 0dBm</li><li>• 802.11ax HE20 : +1dBm</li><li>• 802.11ax HE40 : +4dBm</li><li>• 802.11ax HE80 : +7dBm</li><li>• 802.11ax HE160 : +7.5dBm</li></ul>
Power Consumption	Transmit mode : 2.5 W Receive mode : 2.0 W Idle mode (PSP) : 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connected Standby/Modern Standby : 10 mW Radio disabled : 8 Mw
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity <sup>4</sup>	2.4GHz (SISO): <ul style="list-style-type: none"><li>•802.11b, 11Mbps : -82dBm maximum</li><li>• 802.11g, 54Mbps : -71dBm maximum</li><li>• 802.11n, MCS7 : -64dBm maximum</li><li>• 802.11ac, MCS9 : -52dBm maximum</li><li>•802.11ax, MCS11(HT40): -49dBm maximum</li></ul> 5GHz (SISO): <ul style="list-style-type: none"><li>• 802.11a, 54Mbps : -71dBm maximum</li><li>• 802.11n, MCS07 : -64dBm maximum</li><li>• 802.11ac, MCS9 : -52dBm maximum</li><li>•802.11ax, MCS11(HE80/HE160): -46dBm maximum</li></ul> 6GHz (SISO): <ul style="list-style-type: none"><li>• 802.11a, 54Mbps : -71dBm maximum</li><li>• 802.11n, MCS7 : -64dBm maximum</li><li>• 802.11ac, MCS9 : -52dBm maximum</li><li>•802.11ax, MCS11(HE160): -46dBm maximum</li></ul>
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	30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)
Weight	1. Type 2230: 2.8 g 2. Type 1216: g
Operating Voltage	3.3v +/- 9%



## Technical Specifications

## HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology

<b>Bluetooth® Specification</b>	4.0/4.1/4.2/5.0/5.1/5.2/5.3 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>Signaling Data Rate</b>	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)
<b>Transmit Power</b>	The Bluetooth® component shall operate as a Class II Bluetooth® device with a maximum transmit power of + 4 dBm for BR and EDR.
<b>Power Consumption</b>	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
<b>Bluetooth® Software Supported</b>	Microsoft Windows Bluetooth® Software
<b>Link Topology</b>	
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support
<b>Certifications</b>	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
<b>Bluetooth® Profiles Supported</b>	2Mbps LE Advanced Audio Distribution Profile (A2DP) Basic Imaging Profile (BIP) Bluetooth® 4.1-ESR 5/6/7 Compliance Bluetooth® 4.2 ESR08 Compliance Bluetooth® 5.2 Bluetooth® 5.3 Wireless Card Channel Selection Algo Encryption key size control enhancements ESR9/10 Compliance FAX Profile (FAX) Hands Free Profile (HFP) Headset Profile (HSP) LE Advertisement Extensions LE Data Packet Length Extension LE Dual Mode LE L2CAP Connection Oriented Channels LE Link Layer LE Link Layer Ping LE Long Range LE Low Duty Cycle Directed Advertising LE Privacy 1.2 –Extended Scanner Filter Policies LE Privacy 1.2 –Link Layer Privacy LE Secure Connection- Basic/Full Limited High Duty Cycle Non-Connectable Advertising Periodic Advertisement interval Train Nudging & Interlaced Scan Windows Bluetooth® profiles support

## Technical Specifications

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).

### HP 4G LTE-A Pro Cat16 WWAN eSIM<sup>1</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 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 2: 1850 to 1910 MHz (UL), 1930 to 1990 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 3: 1710 to 1785 MHz (UL), 1805 to 1880 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 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (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 48: 3550 to 3700 MHz (UL/DL)  
 Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)  
 Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)  
 Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)  
 Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)  
 Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)

### Wireless protocol standards

#### 3GPP LTE Rel15

LTE Specification, 100MHz 5 DLCA, 256 QAM, DL 1.0Gbps (CAT16)/ 40MHz  
 2 ULCA, 256 QAM, UL 211Mbps (CAT18)

WCDMA 3GPP Release 8 UMTS Specification, DL UMTS: 384 kbps/UL 384  
 kbp, DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7)

WCDMA R99,

3GPP Release 5, 6, 7 and 8 UMTS Specification

Technical Specifications

<b>GPS</b>	Standalone/A-GPS (MS-A, MS-B)
<b>GPS bands</b>	GPS L1 (1575.42MHz), GLONASS L1 (1602MHz), Beidou B1 (1561.098MHz), Galileo E1 (1575.42MHz), QZSS (1575.42MHz)
<b>Maximum data rates</b>	DC-HSPA+: 42.00 Mbps(Download), 11.50 Mbps(Upload)
<b>Maximum output power</b>	HSPA+: 23.5 dBm LTE (all bands except B41): 23.0 dBm
<b>Maximum power consumption</b>	LTE: 1,300 mA (peak); 1,100 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
<b>Form Factor</b>	M.2, 3052-S3 Key B
<b>Weight</b>	8.0 g (0.282 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>	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.

Technical Specifications

NFC NXP NPC300	Dimensions (L x W x H)	17.00 x 10.00 x 2.00 mm (0.67 x 0.39 x 0.08 inch)
	Chipset	NPC300
	System interface	I2C
	NFC RF standards	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	Type 1, Type 2, Type 3 / Type 4, NFCIP-1 / NFCIP-2
	Reader (PCD-VCD) Mode	ISO/IEC 14443 A
		ISO/IEC 14443 B
		ISO/IEC 15693
		MIFARE 1K
		MIFARE 4K
		MIFARE DESFire
		FeliCa
	Card Emulation (PICC-VICC) Mode	Jewel and Topaz
		ISO/IEC 14443 A
		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	Operating: 0 °C to 70 °C (32 °F to 158 °F)
		Storage: -20 °C to 125 °C (-4 °F to 257 °F)
	Humidity	Operating: 10% - 90% (non-condensing)
		Non-Operating: 5% - 95% (non-condensing)
	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	Total 288.8 mA
		Net Module 241.8 mA
	Detected Test Tag Type 3	Total 287.7 mA
		Net Module 240.7 mA
	Detected Test Tag Type 4	Total 282.3 mA
		Net Module 235.3 mA
	Antenna	Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.

## Technical Specifications

<b>Realtek RTL8111HSH 10/100/1000 Integrated NIC</b>	<b>Connector</b>	RJ-45
	<b>System Interface</b>	PCIe + SMBus
	<b>Data rates supported</b>	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
	<b>IEEE Compliance</b>	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet)
	<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: 25mW 100Mbps Full Run: 450mW 1000bp Full Run: 1000mW WoL Enable(S3/S4/S5): 50mW WoL Disable(S3/S4/S5): 25mW
	<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>Realtek RTL8111EPP 1GbE Ethernet Controller</b>	<b>Connector</b>	RJ-45
	<b>System Interface</b>	PCI (Intel proprietary) + SMBus
	<b>Data rates supported</b>	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)

Technical Specifications

IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet)
Performance	IEEE 802.1p QoS (Quality of Service) Support, IEEE 802.1q VLAN support, IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32 configurable), IEEE 802.3az EEE (Energy Efficient Ethernet)
Power consumption	Cable Disconnection: 25 mW 100Mbps Full Run: 450 mW 1000Mbps Full Run: 1000 mW
Power Management	WoL Enable(S3/S4/S5): 50 mW WoL Disable(S3/S4/S5): 25 mW ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Management Interface IT Manageability	Auto MDI/MDIX Crossover cable detection 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))
Security & Manageability	Support DASH 1.1 compliant/Software KVM ASF 2.0

Technical Specifications

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 65 Watt nPFC Standard USB type C Straight 1.8m	Weight	240g ± 10g
	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V 86.70% min at 115 Vac/ 230 Vac @9.00V 88.00% min at 115 Vac/ 230 Vac @12.00V 89.00% min at 115 Vac/ 230 Vac @15.00V 89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	Output power 5V/15W 9V/27W 12V/60W 15V/65W 20V/65W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input
	Output current limit	< 8.0A
	AC Inlet Type	C6
Connector	DC Cable Connector	USB type C
	DC Cable Material	PVC
	C6	
Environmental Design	Operating temperature	32° F to 95° F (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	20% to 95%
	Storage Humidity	10% to 95%
EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives	
	Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1 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 RCM, BIS, BSMI, UAE, UKCA DoC	



Technical Specifications

HP 65W Standard USB-C Straight AC Power Adapter HF	Weight	240g ± 10g		
	Input	100-240Vac		
	Output	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V 86.70% min at 115 Vac/ 230 Vac @9.00V 88.00% min at 115 Vac/ 230 Vac @12.00V 89.00% min at 115 Vac/ 230 Vac @15.00V 89.00% min at 115 Vac/ 230 Vac @20.00V	
		Input frequency range	47-63Hz	
		Input AC current	Max. 1.6 A at 90 Vac	
		Output power	5V/15W 9V/27W 12V/60W 15V/65W 20V/65W	
		DC output	5V/9V/12V/15V/20V	
		Hold-up time	100% load 5ms at 115 Vac input	
		Output current limit	< 8.0A	
		AC Inlet Type	C6	
		DC Cable Connector	USB type C	
		DC Cable Material	Halogen Free	
		Connector	C6	
		Environmental Design	Operating temperature	32° F to 95° F (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		20% to 95%	
	Storage Humidity		10% to 95%	
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1 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 RCM, BIS, BSMI, UAE, UKCA DoC		



Technical Specifications

RX 48Whr Long Life Polymer Fast Charge 3 cell Battery	Weight	0.192kg +/- 10g (0.423 lb)
	Cells/Type	3cell Lithium-Ion Polymer cell / NCM 565875
	Energy	<b>Voltage</b> 11.4V
		<b>Amp-hour capacity</b> 4.285Ah
		<b>Watt-hour capacity<sup>1</sup></b> 48.84Wh
		<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C) 32° to 122° F (0° to 50° C)
	Temperature	<b>Operating (Discharging)</b> 14° to 140° F (10° to 60° C)
		<b>Optional Travel Battery Available</b> No
RX 56Whr Long Life Polymer Fast Charge 3 cell Battery	Weight	0.208kg +/- 10g (0.459 lb)
	Cells/Type	3cell Lithium-Ion Polymer cell / 586075
	Energy	<b>Voltage</b> 11.58V
		<b>Amp-hour capacity</b> 4.840Ah
		<b>Watt-hour capacity<sup>1</sup></b> 56.04Wh
		<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C) 32° to 122° F (0° to 50° C)
	Temperature	<b>Operating (Discharging)</b> 14° to 140° F (-10° to 60° C)
		<b>Optional Travel Battery Available</b> No

AUDIO

HD Stereo Codec	ALC3247
Audio I/O Ports	3.5mm Headset: CTIA only; Headphone-out
Internal Speaker Amplifier	Integrate in ALC3247
Multi-streaming Capable	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., Following MSFT Behavior
Sampling	DAC: Supports resolutions from 16-bit to 16-bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from 16-bit to 16-bit;48.0 kHz to 48.0 kHz
Wavetable Syntheses	Yes - Uses OS soft wavetable
Internal Speaker	Yes

FINGERPRINT READER

Sensor vendor	ELAN
Sensor type	Capacitive
DPI resolution	508 DPI
Scan area	80 x 80 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.7 V ~ 3.6 V

Technical Specifications

Operating Temperature	-20°C ~ 80°C (-4°F ~ 176°F)
Current Consumption	
Image	35 mA max
Low Latency Wait For	
Finger	300 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	508 dpi / 4.0 x 4.0 mm sensor area

Sensor vendor	SYNAPTICS
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	104 x 86 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.7 V ~ 3.6 V
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Current Consumption	
Image	100 mA max
Low Latency Wait For	
Finger	260 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	363 dpi / 7.4 x 6.0 mm sensor area

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

**DOCKING (Sold Separately)**

<b>Docking station model #1</b>	HP USB-C Dock G5
<b>Total number of supported displays (incl. the notebook display)</b>	3
<b>Max. resolutions supported</b>	Multi-Function Mode: (2) 5k @ 30Hz and (1) 4k UHD @ 30Hz on any port High-Resolution Mode: (2) 5k @ 60Hz on DisplayPort ports and (1) 4k UHD @ 60Hz on HDMI port
<b>Dock Connectors</b>	1x HDMI 2.0, 2x DisplayPort 1.4
<b>Technical limitations</b>	<b>Maximum resolution and display support is dependent on the maximum capability of the notebook.</b>  <b>Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode.</b> 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.
<b>Docking station model #2</b>	HP Thunderbolt™ 120W G4 Dock
<b>Total number of supported displays (incl. the notebook display)</b>	4
<b>Max. resolutions supported</b>	Quad 4K @60Hz. Dual 8K single cable@30 for Thunderbolt hosts or USB-C hosts DisplayPort 1.4 with Display Stream Compression in High-Resolution Mode.
<b>Dock Connectors</b>	2 x HDMI 2.0, 1 x USB-C Alt Mode, 1 x Thunderbolt 4, 2 x DisplayPort 1.4
<b>Technical limitations</b>	<b>Maximum resolution and display support is dependent on the maximum capability of the notebook.</b>  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: <b>The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is</b> (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.
<b>Docking station model #3</b>	HP USB-C G5 Essential Dock
<b>Total number of supported displays (incl. the notebook display)</b>	3
<b>Max. resolutions supported</b>	Multi-Function Mode: (2) 5k @ 30Hz and (1) 4k UHD @ 30Hz on any port High-Resolution Mode: (2) 5k @ 60Hz on DisplayPort ports and (1) 4k UHD @ 60Hz on HDMI port

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

Dock Connectors	1x HDMI 2.0, 2x DisplayPort 1.4
Technical limitations	<b>Maximum resolution and display support is dependent on the maximum capability of the notebook.</b>  <b>Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode.</b> 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. HP USB-C/A Universal Dock G2
Docking station model #4	
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	Multi-Function Mode: (3) 4K DCI @ 30Hz on any port High-Resolution Mode: (3) 4K DCI @ 30Hz on any port
Dock Connectors	1x HDMI 2.0, 2x DisplayPort 1.2
Technical limitations	<b>Maximum resolution and display support is dependent on the maximum capability of the notebook.</b>  <b>The best resolution for dual or triple displays is 4K UHD@ 60Hz.</b> 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.

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

Type	Description	Part Number
<b>Adapter</b>	HP HDMI to VGA Adapter	H4F02AA
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP USB-C to DisplayPort Adapter	6M148AA
	HP USB-C to DisplayPort Adapter G2	8Y8Y1AA, 8Y8Y2AA
	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>Cases</b>	HP Campus XL Marble Stone Backpack	7K0E2AA
	HP Campus XL Tie Dye Backpack	7K0E3AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Executive 16 Laptop Backpack	6B8Y1AA
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
<b>Commodity</b>	HP USB DVD-Writer External ODD	F2B56AA
	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™ 120W G4 Dock	4J0A2AA
	HP USB-C™ 120W G5 Dock	5TW10AA
	HP USB-C™ G5 Essential Dock	72C71AA
	HP USB-C™/A 120W G2 Universal Dock	5TW13AA
<b>Hub</b>	HP 4K USB-C Multiport Hub	6G843AA
	HP Universal USB-C Hub and Laptop Charger Combo	9H0H9AA
	HP Universal USB-C Multiport Hub	50H55AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C Travel Hub G3	86S97AA
<b>Keyboard/Combo</b>	HP 655 Wireless Keyboard and Mouse Combo	4R009AA
	HP 655 Wireless Keyboard and Mouse Combo (Blk Qty.10)	4R009A6
	HP 655 Wireless Keyboard and Mouse Combo White	860P8AA
	HP Wireless Rechargeable 950MK Mouse and Keyboard	3M165AA
	HP 405 Multi-Device Backlit Wired Keyboard	7N7C1AA

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

	HP 455 Programmable Wireless Keyboard	4R177AA
	HP 455 Programmable Wireless Keyboard (Bulk Qty.12)	4R177A6
	HP 475 Dual-Mode Wireless Keyboard	7N7B9AA
	HP 965 black Ergonomic Wireless Keyboard	7E756AA
	HP 975 Dual-Mode USB+ Bluetooth® Wireless Keyboard	3Z726AA
<b>Mouse</b>	HP 125 Wired Mouse	265A9AA
	HP 125 Wired Mouse (Bulk Qty.120)	265A9A6
	HP 128 Laser Wired Mouse	265D9AA
	HP 128 Laser Wired Mouse (Bulk Qty.120)	265D9A6
	HP 320M Wired Mouse	9VA80AA
	HP 425 Programmable Wireless Mouse	7M1D5AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA
	HP 715 Rechargeable Multi-Device Bluetooth® Mouse	6E6F0AA
	HP 925 Ergonomic Vertical Wireless Mouse	6H1A5AA
	HP Creator Black 935 Wireless Mouse	1D0K8AA
	HP Multi-Device Black 635 Wireless Mouse	1D0K2AA
	HP Premium Wireless Mouse	1JR31AA
<b>Power</b>	HP 110W USB-C Laptop Charger	8B3Y2AA
	HP 65W GaN USB-C Laptop Charger	600Q8AA
	HP 65W USB-C Laptop Charger	671R3AA
	HP 65W USB-C LC AC Power Adapter	1P3K6AA
<b>Video</b>	HP USB-A 325 Webcam	53X27AA
	HP Streaming 965 Webcam	695J5AA
	HP 625 Webcam	6Y7L1AA
	HP 435 Webcam	77B10AA

Change Log

Date of change:	Version History:		Description of change:
June 10, 2024	V1 to V2	Added	System unit Section
June 11, 2024	V2 to V3	Added	Display Section
June 17, 2024	V3 to V4	Added	Graphics Section
July 9, 2024	V4 to V5	Added	Display Section
July 15, 2024	V5 to V6	Updated	Weight and Dimensions Section

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