

Overview

HP ZBook Firefly 14" G11 A Mobile Workstation 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)

Right

8. Glass Clickpad
9. Power Button Key
10. Audio Combo Jack
11. SuperSpeed USB Type-A 5Gbps signaling rate (Charging)
12. Nano Security Lock Slot (Lock sold separately)
13. Nano SIM Card Slot (Optional)
14. Touch Fingerprint Sensor (Select models)

Overview

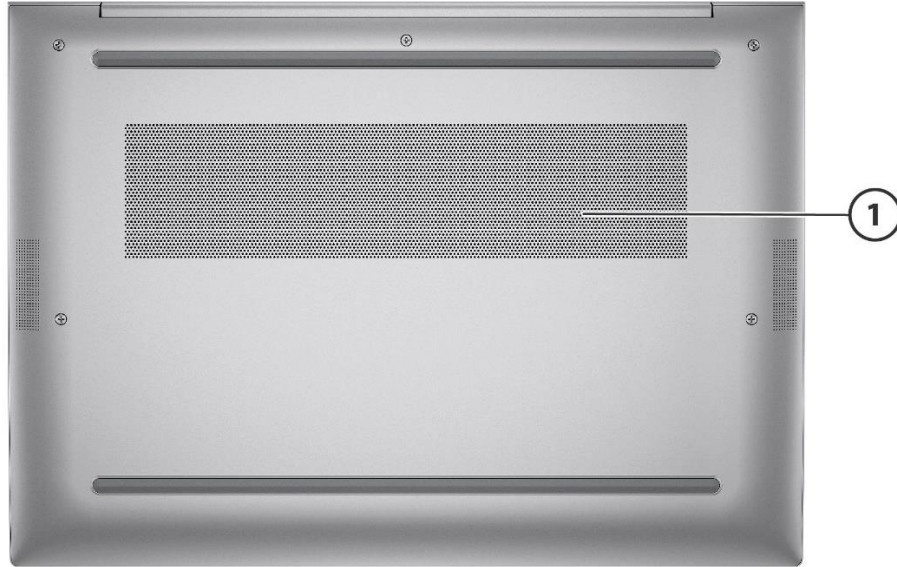


Left

1. HDMI 2.1b Port (Cable not included)
2. SuperSpeed USB Type-A 5Gbps signaling rate
3. Thunderbolt™ 4* with USB4 Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)1
4. Thunderbolt™ 4* with USB4 Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)1
5. LED Indicator
6. Smartcard Reader (Optional)

*SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

Overview



Bottom

1. Fan Venting

Overview

At A Glance

- Premium ultraslim design with precision-crafted all-metal chassis for a premium look and feel
- Latest AMD® Ryzen PRO 8000 HS series processors
- Preinstalled with Windows 11 versions, FreeDOS, or Ubuntu Linux
- Integrated AMD Radeon Graphics w/ Pro Graphics driver
- 16:10 ratio screen reduces the need to scroll by showing more vertical content than 16:9
- 5MP camera (with 88 degree Field of View) with HP Auto Frame allows you to move around without losing viewers' attention during video calls
- DDR5 5600 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, 300 nits, 45% NTSC
 - 35.6cm (14") diagonal WUXGA IPS Anti-Glare On-Cell LED-backlit touch, 300 nits, 45% NTSC
 - 35.6 cm (14") diagonal WUXGA IPS Anti-Glare LED-backlit non-touch 400 nits, 100% sRGB
 - 35.6cm (14") diagonal WUXGA IPS Anti-Glare LED-backlit non-touch, 1000 nits, 100% sRGB with HP Sure View Reflect
 - 35.6cm (14") diagonal WQXGA IPS Anti-Glare LED-backlit non-touch, 500 nits, 100% DCI-P3, DreamColor
- Premium keyboard layout to include easy use of discrete PgUp/Dn, End, and Home keys
- HP Wolf Security for Business creates a hardware-enforced, always-on, resilient defense.⁹
- Large Clickpad surface for easier, more intuitive input
- Connectivity with optional HP 5G/WWAN available world-wide, and Thunderbolt™ Docking (Dock sold separately)
- Undergoes MIL-STD 810H tests¹
- Supports fast charging (50% in 30 minutes) with no impact on battery recharge cycles
- Designed to support all HP docking options including the HP Universal Dock G5

¹MIL-STD 810H 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.

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

Features

OPERATING SYSTEM

Preinstalled OS Windows 11 Pro - HP recommends Windows 11 Pro for business¹
 Windows 11 Pro Education¹
 Windows 11 Home¹
 Windows 11 Home Single Language¹
 FreeDOS 3.0

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>.

NOTE: Your product does not support Windows 8 or Windows 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>. A full list of HP products and the Windows 10 versions tested is available on the HP support website. <https://support.hp.com/us-en/document/c05195282>

PROCESSOR

Name ^{1,2,3,4,5,6}	Cores	Threads	L3 Cache	Max Boost Frequency	Base Frequency	Pro
AMD Ryzen™ 5 PRO 8640HS	6 cores	12	16 MB	4.90 GHz	3.50 GHz	X
AMD Ryzen™ 7 PRO 8840HS	8 cores	16	16 MB	5.10 GHz	3.30 GHz	X
AMD Ryzen™ 9 PRO 8945HS	8 cores	16	16 MB	5.20 GHz	4.00 GHz	X

¹ 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.

² Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost> for more information.

⁴ 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>.

⁵ Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

CHIPSET

Features

Chipset is integrated with processor

GRAPHICS

Integrated

AMD Radeon™ Graphics with Pro Graphics driver^{1,3}

Supports

Support HD decode, DX12, HDMI 2.1b, HDCP 2.3

¹ Both UMA & Discrete configurations support 4 independent displays when on the HP Thunderbolt Dock G4 (120W) (sold separately) - Max. resolution = 2.5K @60Hz (DP1) & 2.5K @60Hz (DP2) & FHD (VGA) OR 4K @60Hz (one DP Port) & 4K @60Hz (Type-C output port using a Type C-to-DP adapter).

² HDMI cable Sold Separately

³ Intel® Iris® Xe Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® Xe Graphics with Intel® Core™ i5 or 7 processors and single channel memory will only function as UHD graphics.

DISPLAY

Non-touch

- 35.6 cm (14") 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^{1,3,4,5}
- 35.6 cm (14") diagonal, WQXGA (2560 x 1600), Bent, LCD, 120Hz, UWVA, anti-glare, WLED, 500 nits, DCI-P3 100%, HP DreamColor^{1,3}
- 35.6 cm (14") diagonal, WUXGA (1920 x 1200), Bent, LCD, UWVA, anti-glare, WLED + Low Blue Light , 400 nits, low power, sRGB 100%^{1,3}
- 35.6 cm (14") diagonal, WUXGA (1920 x 1200), Bent, LCD, UWVA, anti-glare, WLED, 300 nits, NTSC 45%^{1,3}

Touch

- 35.6 cm (14") diagonal, WUXGA (1920 x 1200), Bent, LCD, touch, anti-glare, WLED, 300 nits, NTSC 45%^{1,3,4,5}

Displays support

Supports dual display through the dock

For more information, please reference the following ZBook docking whitepaper:

<https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA5-2657ENW>

Display Size

14"

35.56 cm (14")

¹HD content required to view HD images.

³Resolutions are dependent upon monitor capability, and resolution and color depth settings.

⁴HP Sure View Reflect integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.

⁵Actual brightness will be lower with touchscreen or Sure View.

Features

DOCKING

Docking station model #1	HP Thunderbolt 120W G4 Dock
Total number of supported displays (incl.the notebook display)	4
Max.resolutions supported	Quad 4K @60Hz Dual 8K single cable@30 for TB hosts or USB-C hosts DP 1.4 with DSC in high res mode
Dock Connectors	2xDP, 1xVGA, 1xTB, 1xUSB-C alt-mode
Technical limitations	Thunderbolt Hosts: Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host. Max resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in High Resolution mode @30Hz Non-Thunderbolt hosts: The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is (1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port Non-Thunderbolt hosts support (3) displays with a 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
Technical limitations	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

Features

STORAGE AND DRIVES*

PCIe® NVMe™ M.2 2280 Storage

2 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell

1 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell

1 TB PCIe® NVMe™ SSD Value

512 GB PCIe® Gen4x4 NVMe™ Seld Encrypted OPAL2 SSD Three Layer Cell

512 GB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell

512 GB PCIe® NVMe™ SSD Value

256 GB PCIe® NVMe™ Seld Encrypted OPAL2 SSD Value

256 GB PCIe® NVMe™ SSD Value

* For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB of disk is reserved for system recovery software.

MEMORY

Maximum Memory

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

Memory

64GB DDR5-5600 (2x32GB)

32GB DDR5-5600 (2x16GB)

32GB DDR5-5600 (1x32GB)

16GB DDR5-5600 (2x8GB)

16GB DDR5-5600 (1x16GB)

8GB DDR5-5600 (1x8GB)

Memory Slots

2 SODIMM

System runs at 5600 MT/s

NOTE: 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.

Features

NETWORKING/COMMUNICATIONS

WLAN

Mediatek RZ616 Wi-Fi 6E Bluetooth® 5.3 wireless card AIM-T WLAN¹

¹Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, and Windows 11 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.

WWAN

HP 5G Sub-6 Cat 19 WWAN eSIM^{1,2}

HP 4G LTE-A Pro Cat16 WWAN eSIM¹

¹WWAN 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.

²5G module is optional and must be configured at the factory. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.

LPWAN

Qualcomm® 9205 LTE-M (CAT-M1 fSVC)

Near Field Communication (NFC) module

NFC NXP NPC300¹

¹Sold separately or as an optional feature.

Miracast

Native Miracast Support

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

AUDIO/MULTIMEDIA

Audio

Audio Tuning by Poly Studio

2 Integrated stereo speakers

Discrete Amplifiers

2 Integrated dual array microphone

Speaker Power

1W/8ohm Per speaker

Camera¹

5MP+Infrared camera

5MP camera

Features

Sensors

- ALS (ambient light sensor)
- ACS (Adaptive Color Sensor)
- Hall effect Sensor
- Thermal Sensor
- HP Tamper Lock²
- Fingerprint Sensor

¹ Sold separately or as an optional feature.

² HP Tamper Lock must be enabled by the customer or your administrator.

Features

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard*

HP Premium Keyboard, spill-resistant, Privacy, Backlit, Durakey keyboard.

HP Premium Keyboard, spill-resistant, Backlit, Durakey keyboard.

HP Premium Keyboard, spill-resistant, Durakey keyboard.

Pointing Devices

Clickpad with multi-touch gesture support

Microsoft Precision Touchpad Default Gestures Support

Function Keys

ESC: system information

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

Power Button (with LED)

Hidden Keys

Fn+R - Break

Fn+S - Sys Rq

Fn+C - Scroll Lock

[*Backlit keyboard is an optional feature.](#)

SOFTWARE AND SECURITY

Software

Bing Search for IE11

Buy Microsoft Office (Sold separately)

HP Connection Optimizer¹⁰

HP Easy Clean²

HP Easy Clean Keyboard Driver²

HP Hotkey Support

HP Mac Address Manager

HP Notifications

HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Windows

HP Power Manager

HP Privacy Settings

HP Services Scan³

HP Smart Support³

HP Support Assistant¹

HSA Fusion for Commercial

Miro⁴

myHP

Manageability Features

Features

HP Client Catalog (download)
HP Client Management Script Library (download)
HP Cloud Recovery²⁸
HP Connect for Microsoft Endpoint Manager²⁶
HP Driver Packs (download)
HP Image Assistant Gen5 (download)
HP Manageability Integration Kit (download)¹²
HP Patch Assistant (download)²⁷

Security Management

HP Client Security Manager
HP Sure Admin⁵
HP Sure Click
HP Sure Recover Gen6⁹
HP Sure Run Gen5¹¹
HP Sure Sense
HP Sure Start Gen7¹³
HP Tamper Lock
HP Wolf Security of Business¹⁴
Secured-Core PC Enable¹⁵
Windows Hello Enhanced Sign-In Security (ESS)

Security- TPM

TCG TPM 2.0

BIOS

Absolute Persistence Module⁷
BIOS Update via Network
HP BIOSphere Gen6⁶
HP DriveLock & Automatic DriveLock
HP Fingerprint Sensor³²
HP Secure Erase¹⁷
HP Wake on WLAN

Security TPM

Model: Nuvoton NPCT760HABYX

TCG TPM 2.0

Version : 7.2.3.1

FIPS 140-2 Compliant: Yes

Model: Infineon SLB9672VU2.0 FW15.23

TCG TPM 2.0

Version: 15.23

FIPS 140-2 Compliant: Yes

Smartcard Reader

Model Number: Alcorlink AK9563

FIPS 201 Compliant: Yes

¹ HP Support Assistant - Requires Windows and Internet Access.

² 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.

³ HP Smart Support/ HP Services Scan is preinstalled and/or provided thru Windows Update and checks for service entitlement on each hardware device and downloads the HP Insights 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. Select HP Workforce Solutions require an HP Insights agent for Windows,

Features

Mac, & Android, available for download at <https://admin.hp.com/software>. For full system requirements and services that require the agent, please visit <https://admin.hp.com/requirements>. The agent collects telemetry and analytics around devices and applications that integrate into the Workforce Experience platform and is not sold as a standalone service. Internet access with connection to the Workforce Experience platform is required. HP follows stringent GDPR privacy regulations, and the platform is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Not available in China.

⁴HP 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.

⁵HP 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.

⁶ HP BIOSphere Gen6 is available on select HP Pro, Elite and ZBook PCs. See product specifications for details. Features may vary depending on the platform and configurations.

⁷ Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit:

<http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.

⁸HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. HP Sure Recover Gen6 with Embedded Reimaging is an optional feature on select HP PCs which requires Windows 10 or 11 must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data.

⁹HP Sure Run is available on select HP PCs and requires Windows 10 and higher.

¹⁰ HP Connection Optimizer requires Windows 10 and Windows 11.

¹¹HP Sure Run is available on select HP PCs and requires Windows 10 and higher.

¹² HP Manageability Integration Kit can be downloaded from <https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPMIK.html>.

¹³HP Sure Start is available on select HP PCs and requires Windows 10 and higher.

¹⁴ HP Wolf Security for Business requires Windows 10 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 and OS requirement.

¹⁵Secured-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.

¹⁷ 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™.

²⁶ 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.

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

²⁸ HP 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, 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>.

³² HP Fingerprint Reader is an optional feature that requires Windows 10 IoT and must be configured at purchase.

Features

POWER

Power Supply

HP Standard 65W USB Type-C® adapter²

HP Slim 65W USB Type-C® adapter²

Battery

HP Long Life 3-cell, 56 Whr Polymer^{3,4}

Power Cord

3-wire plug - 1 m

2-wire plug - 1 m

Battery life

UMA

TBD¹

Discrete

TBD¹

¹ MM25 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 for additional details.

² Availability may vary by country.

³ Battery is internal and not replaceable by customer. Serviceable by warranty.

⁴ 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.

Features

WEIGHTS & DIMENSIONS

Dimensions (w x d x h)

12.42 x 8.82 x 0.76 in

31.56 x 22.435 x 1.92 cm

Weights***Product Weight- 56Whr**

Starting at 3.12 lb

Starting at 1.414 kg

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

PORTS/SLOTS

Left side

2 Thunderbolt™ 4 with USB4 Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) *

1 Super Speed USB Type-A® 5Gbps signaling rate Power charging

1 HDMI 2.1**

1 Smart Card Reader (Integrated)

Right side

1 Super Speed USB Type-A® 5Gbps signaling rate Power charging

1 Headphone/microphone combo jack

1 Nano SIM card slot (Integrated)

1 Security lock slot (Integrated)

*SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

**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.. 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>.

¹HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit <http://www.hp.com/go/cpc>. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)**Nominal Operating Voltage** AC 20V**Average Operating Power(idle)** System in idle mode**Integrated graphics** Yes

Features

	Discrete Graphics	N/A
	Max Operating Power	65W
Temperature	Operating	32° to 95° F (0° to 35° C) (No sustained direct exposure to sunlight) (System performance may be reduced above 32°C (89.6°F))
	Non-operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95% (38.7° C (101.6° F) maximum wet bulb temperature; non-condensing)
Shock	Operating	40 G, 2 ms, half-sine
	Non-operating	240 G, 2 ms, half-sine
Random Vibration	Operating	1.043 grms
	Non-operating	3.5 grms
Maximum Altitude (unpressurized)	Operating	10,000 ft (3,048 m)
	Non-operating	40,000 ft (12,192 m)
Planned Industry Standard Certifications	Regulatory Model Number	HSN-I49C-4
	CSA/UL 62368-1	Yes
	ENERGY STAR^{®1}	Yes
	FCC/ICES/CISPR/VCCI	Yes
	CE MARKING	Yes
	GS Mark	Yes
	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
	EPEAT[®]	EPEAT [®] Gold in the United States ²
	Low Blue Light	Yes
	WW RoHS	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes

¹Configurations of the HP ZBook Firefly 14" G11 A Mobile Workstation PC that are ENERGY STAR[®] qualified are identified as HP ZBook Firefly 14" G11 A Mobile Workstation PC ENERGY STAR on HP websites and on <http://www.energystar.gov>.

²Based on US EPEAT[®] registration according to IEEE 1680.1-2018 EPEAT[®]. Status varies by country. Visit www.epeat.net for more information.

Technical Specifications – Displays

DISPLAYS

14 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)	307.29 x 199.25 (max)	
Active Area	301.59 X 188.50 (typ)	
Weight	300 (max)	
Diagonal Size	14	
Thickness	3.0 / 4.8 (max)	
Interface	eDP 1.2	
Surface Treatment	Anti-Glare	
Touch enabled	No	
Contrast Ratio	1000:1 (typ)	
Refresh Rate	60 Hz	
Brightness	300 nits	
Pixel Resolution	Pitch	1920 x 1200 (WUXGA)
	Format	RGB
Backlight	WLED	
Color Gamut Coverage	NTSC 45%	
Color Depth	6+2 FRC	
Viewing Angle	UWVA 89/89/89/89	
Low Blue Light	No	
Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.20 (max) / 2.70 (max)	

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

14 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)	307.29 x 199.25 (max)	
Active Area	301.59 x 188.50 (typ)	
Weight	305g (max)	
Diagonal Size	14	
Thickness	3.0 / 5.0 (max)	
Interface	eDP 1.2	
Surface Treatment	Anti-Glare	
Touch enabled	Yes	
Contrast Ratio	1000:1 (typ)	
Refresh Rate	60 Hz	
Brightness	300 nits	
Pixel Resolution	Pitch	1920 x 1200 (WUXGA)
	Format	RGB
Backlight	WLED	
Color Gamut Coverage	NTSC 45%	
Color Depth	6+2 FRC	
Viewing Angle	UWVA 89/89/89/89	
Low Blue Light	No	

Technical Specifications – Displays

Power Consumption (W, EBL@ 150nits max/ 200nits max) 2.15 (max)/2.65 (max)

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

14 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)	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	Pitch	1920 x 1200 (WUXGA)
	Format	RGB
Backlight	WLED	
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)	

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

14 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)	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	Pitch	1920 x 1200 (WUXGA)
	Format	RGB

Technical Specifications – Displays

Backlight	WLED
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

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

14 in WQXGA DRM (2560 x 1600) Anti-Glare UWVA LED DCI-P3 NB2X 500 eDP 1.4+PSR2 100 120Hz bent LCD Panel	Outline Dimensions (W x H)	307.594 x 199.546 (max)		
	Active Area	301.594 x 188.496 (typ)		
	Weight	230 (max)		
	Diagonal Size	14		
	Thickness	2.0 / 3.8 (max)		
	Interface	eDP 1.4		
	Surface Treatment	Anti-Glare		
	Touch Enabled	No		
	Contrast Ratio	1200:1 (typ)		
	Refresh Rate	120 Hz		
	Brightness	500 nits		
	Pixel Resolution	Pitch	2560 x 1600 (WQXGA)	
		Format	RGB	
		Backlight	WLED	
	Color Gamut Coverage	DCI-P3 100%		
	Color Depth	8 bits		
	Viewing Angle	UWVA 89/89/89/89		
	Low Blue Light	No		
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.88 (max) / 3.44 (max)		

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

Technical Specifications – Storage

STORAGE AND DRIVES

SSD 512GB 2280 PCIe-4x4 NVMe Three Layer Cell	Form Factor	M.2 2280	
	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	
	Performance	Minimum Sequential Read	Minimum Sequential Write
		6400 MB/s ±20%	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	
	NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.		
SSD 1TB 2280 PCIe-4x4 NVMe Three Layer Cell	Form Factor	M.2 2280	
	Capacity	1TB	
	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	
	Performance	Minimum Sequential Read	Minimum Sequential Write
		6400 MB/s ±20%	5000 MB/s ±20%
		Logical Blocks	2,000,409,264
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	Pyrite 2.0; TRIM; L1.2	
	NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.		
SSD 2TB 2280 PCIe-4x4 NVMe Three Layer Cell	Form Factor	M.2 2280	
	Capacity	2TB	
	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	
	Performance	Minimum Sequential Read	Minimum Sequential Write
		6400 MB/s ±20%	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	

Technical Specifications – Storage

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

256GB PCIe 2280 NVMe Self Encrypted OPAL2 Value Solid State Drive

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
Performance	Minimum Sequential Read Minimum Sequential Write
	2000 MB/s ±20% 900 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

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

512GB PCIe-4x4 2280 NVMe Self Encrypted OPAL2 Three Layer Cell Solid State Drive

Form Factor	M.2 2280
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
Performance	Minimum Sequential Read Minimum Sequential Write
	6400 MB/s ±20% 3500 MB/s ±20%
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

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

SSD 1TB 2280 PCIe NVMe Value

Form Factor	M.2 2280
Capacity	1TB
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
Performance	Minimum Sequential Read Minimum Sequential Write
	2200 MB/s ±20% 1600 MB/s ±20%
Logical Blocks	2,000,409,264
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	Pyrite 2.0; TRIM; L1.2

Technical Specifications – Storage

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

SSD 256GB 2280 PCIe NVMe Value

Form Factor	M.2 2280	
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 Gen4X4	
Performance	Minimum Sequential Read	Minimum Sequential Write
	2000 MB/s ±20%	900 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	

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

SSD 512GB 2280 PCIe NVMe Value

Form Factor	M.2 2280	
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 Gen4X4	
Performance	Minimum Sequential Read	Minimum Sequential Write
	2200 MB/s ±20%	1000 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	

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35 GB (for Windows 11) is reserved for system recovery software.

Technical Specifications – Networking

NETWORKING/COMMUNICATION

**Mediatek RZ616 Wi-Fi 6E Wireless LAN Standards
Bluetooth® 5.3 wireless
card AIM-T WLAN ¹**

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 802.11j
IEEE 802.11k
IEEE 802.11mc
IEEE 802.11n
IEEE 802.11r
IEEE 802.11v
IEEE 802.11w

Interoperability

Wi-Fi certified

Frequency Band

- 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

- 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz)
- 802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz)
- 802.11b: 1, 2, 5.5, 11 Mbps
- 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
- 802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)

Modulation

Direct Sequence Spread Spectrum
1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK

Security¹

- 802.1x authentication
- AES-CCMP: 128 bit in hardware
- IEEE 802.11i
- IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
- WAPI
- WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
- WPA2 certification

**Network Architecture
Models**

- WPA3 (personal) certification
- Ad-hoc (Peer to Peer)
- Infrastructure (Access Point Required)

Technical Specifications – Networking

Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	2.4GHz (MIMO, typical): <ul style="list-style-type: none">• 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): <ul style="list-style-type: none">• 802.11a : +13dBm• 802.11n/ac/ax (HT20/VHT20/HE20) : +13.5dBm• 802.11n/ac/ax (HT40/VHT40/HE40) : +12.5dBm• 802.11ac/ax (VHT80/HE80) : +11.5dBm• 802.11ax HE160 : +11.5dBm 6GHz LPI mode (MIMO, typical): <ul style="list-style-type: none">• 802.11a : 0dBm• 802.11ax HE20 : +1dBm• 802.11ax HE40 : +4dBm• 802.11ax HE80 : +7dBm• 802.11ax HE160 : +7.5dBm
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 Sensitivity³	2.4GHz (SISO): <ul style="list-style-type: none">• 802.11b, 11Mbps : -82dBm maximum• 802.11g, 54Mbps : -71dBm maximum• 802.11n, MCS7 : -64dBm maximum• 802.11ac, MCS9 : -52dBm maximum• 802.11ax, MCS11 (HT40): -49dBm maximum 5GHz (SISO): <ul style="list-style-type: none">• 802.11a, 54Mbps : -71dBm maximum• 802.11n, MCS07 : -64dBm maximum• 802.11ac, MCS9 : -52dBm maximum• 802.11ax, MCS11 (HE80/HE160): -46dBm maximum 6GHz (SISO): <ul style="list-style-type: none">• 802.11a, 54Mbps : -71dBm maximum• 802.11n, MCS7 : -64dBm maximum• 802.11ac, MCS9 : -52dBm maximum• 802.11ax, MCS11 (HE160): -46dBm maximum
Antenna Type	High efficiency antenna with spatial diversity, mounted in the display enclosure

Technical Specifications – Networking

	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	Type 2230: 2.8g	
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 White – Radio ON	
HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Technology		
Frequency Band	2402 to 2480 MHz	
Number of Available Channels	Legacy: 0~79 (1 MHz/CH)	
	BLE: 0~39 (2 MHz/CH)	
Data Rates and Throughput	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)	
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)	
	Basic Imaging Profile (BIP)	
	Bluetooth® 4.1-ESR 5/6/7 Compliance	
	Bluetooth® 4.2 ESR08 Compliance	
	Bluetooth® 5.2	
	Bluetooth® 5.3	
	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		

Technical Specifications – Networking

- 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).

HP 5G Sub-6 Cat 19 WWAN eSIM

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)

Technical Specifications – Networking

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 46: 5150 to 5925 MHz (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)
5G NR Sub 6GHz:
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
n38: 2570 to 2620 MHz (UL/DL)
n40: 2300 to 2400 MHz (UL/DL)
n41: 2496 to 2690 MHz (UL/DL)
n48: 3550 to 3700 MHz (UL/DL)
n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
n77: 3300 to 4200 MHz (UL/DL)
n78: 3300 to 3800 MHz (UL/DL)
n79: 4400 to 5000 MHz (UL/DL)
n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)

Wireless protocol standards

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

GPS

GPS bands

GPS only support L1 C/A
GPS L1 (1575.42MHz), GLONASS L1 (1602MHz), Beidou B1 (1561.098MHz), Galileo E1 (1575.42MHz), QZSS (1575.42MHz)

Maximum data rates

Sub-6 SA Peak
DL 4.67Gbps/UL 1.25Gbps
Sub-6 NSA Peak
DL 3.74Gbps/UL 835Mbps
LTE Peak
DL 1.6Gbps (CAT19)/UL 211Mbps (CAT18)
UMTS/HSPA+
DL DC-HSPA+: 42 Mbps (CAT24)/UL 11.5 Mbps (CAT7)

Maximum output power

NR : 23 dBm in all band except (n30 = 22dBm & n48=21dBm & n77=25dBm & n41/n77/n78 = 26dBm)
LTE : 23 dBm in all band except (B30 = 22dBm & B48=21dBm & B41=26dBm)
UMTS : 23.5 dBm

Technical Specifications – Networking

Maximum power consumption	3500 mA (peak); 1674mA (average)
Form Factor	M.2, 3052-S3 Key B
Weight	8.7 g (0.307 oz)
Dimensions (Length x Width x Thickness)	52.00 x 30.00 x 2.30 mm (2.05 x 1.18 x 0.09 inch)
embedded eSIM	Support

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

HP 4G LTE-A Pro Cat16 WWAN eSIM

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)
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Technical Specifications – Networking

Wireless protocol standards	Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL) 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)
GPS	WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
GPS Bands	Standalone, A-GPS (MS-A, MS-B) GPS L1 (1575.42MHz), GLONASS L1 (1602MHz), Beidou B1 (1561.098MHz), Galileo E1 (1575.42MHz), QZSS (1575.42MHz)
Maximum Data Rates	LTE: ue-CategoryDL 16, (DL : 1 Gbps) ue-CategoryUL 18 , (UL: 211Mbps) DC-HSPA+: 42 Mbps (Download), 11.5 Mbps (Upload)
Maximum Output Power	HPUE: Not supported LTE: 23 dBm in all band except (B30= 22dBm& B48= 21dBm) UMTS: 23.5 dBm
Maximum Power Consumption	LTE: 1300 mA (peak); 1100 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
Form Factor	M.2, 3052-S3 Key B
Weight	8.0 g (0.282 oz)
Dimensions (Length x Width x Thickness)	52.00 x 30.00 x 2.30 mm (2.05 x 1.18 x 0.09 inch)
embedded eSIM	Support

*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.

**Gigabit class Category 16 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.

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	Tag Type 1, Type 2, Type3 and Type 4, NFCIP-1 and NFCIP-2

Technical Specifications – Networking

Reader (PCD-VCD Mode(1))	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 MIFARE 1K MIFARE 4K MIFARE DESFire FeliCa Jewel and Topaz
Card Emulation (PICC-VICC) Mode(1)	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, VCC_BOOST = 5V) Mode Power Consumption, Typical VBAT= 3.3V, 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.

Qualcomm® 9205

Technology/Operating bands*

FDD LTE: 1700/2100 (Band 4), 1700/2100 (Band 66), 1800 (Band 3), 1900 (Band 2), 1900 (Band 25), 2100 (Band 1), 700 (Band 12 lower), 700 (Band 13 upper), 700 (Band 14 upper), 700 (Band 28), 700 (band 85), 800 (Band 20), 800 (Band 27), 850 (Band 18 lower), 850 (Band 19 upper), 850 (Band 26), 850 (Band 5), 900 (Band 8) MHz

GSM/GPRS/EGPRS: 1800, 1900, 850, 900 MHz

Wireless protocol standards

3GPP TS 21.111 V10.0.0: USIM and IC card requirements
3GPP TS 27.005 V10.0.1: Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)
3GPP TS 27.007 V10.0.8: AT command set for User Equipment (UE)
3GPP TS 31.102 V10.11.0: Characteristics of the Universal Subscriber Identity Module (USIM) application
3GPP TS 31.11 V10.16.0: Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)

Technical Specifications – Networking

3GPP TS 36.124 V10.3.0: Electro Magnetic Compatibility (EMC) requirements for mobile terminals and ancillary equipment
 3GPP TS 36.521-1 V14.3.0: User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing
 3GPP TS 51.010-1 V10.5.0: Mobile Station (MS) conformance specification; Part 1: Conformance specification
 3GPP TS 51.011 V4.15.0: Specification of the Subscriber Identity Module -Mobile Equipment (SIM-ME) interface

GPS	Standalone GPS/Beidou/Glonass, A-GPS (MS-A, MS-B)
GPS Bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou 1561.098 MHz
Maximum Data Rates	LTE FDD: 375.00 Kbps (Download), 1119.00 Kbps (Upload) GPRS: 107.00 Kbps (Download), 85.60 Kbps (Upload) EGPRS: 296.00 Kbps (Download), 236.80 Kbps (Upload)
Maximum Output Power	LTE (all bands except B41): 21.5 dBm GSM: 34.0 dBm
Maximum Power Consumption	LTE: 147 mA(peak), 18 mA(average)
Form Factor	M.2
Weight	4 g
Dimensions (Length x Width x Thickness)	22.00 x 42.00 x 2.30 mm (0.87 x 1.65 x 0.09 inch)
embedded eSIM	Support

1. LPWAN (also called Mobile Narrowband) does not support mobile broadband use.

AUDIO

HD Stereo Codec	Realtek ALC3315
Audio I/O Ports	3.5mm Headset: CTIA only;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 streams to be sent to/from the front jacks or integrated speaker., Following MSFT Behavior
Sampling	DAC: Supports resolutions from -bit to -bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from -bit to -bit;48.0 kHz to 48.0 kHz
Wavetable Syntheses	N/A
# of Channels on Line-Out	N/A
Internal Speaker	Yes

FINGERPRINT READER

Fingerprint Reader 1st Source	
Sensor vendor	SYNAPTICS

Technical Specifications – Networking

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
Fingerprint Reader 2st Source	
Sensor vendor	ELAN
Sensor type	Capacitive
DPI resolution	508 DPI
Scan area	80 x 80 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 3.000%
Mobile Voltage Operation	2.7 V ~ 3.6 V
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

POWER

AC Adapter 65 Watt nPFC Standard USB type C Straight 1.8m	Dimensions	3.543 x 2.008 x 1.122 in (9.0x5.1x2.85cm)
	Weight	240g ± 10g
	Input	Input Efficiency
		Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec:
		5V : 81.5%
		9V : 86.7%
		12V : 88.0%
		15V : 89.0%
		20V : 89.0%
	Input frequency range	47 ~ 63 Hz
	Input AC current	Max. 1.6 A at 90 Vac
Output	Output power	5V/15W 9V/27W

Technical Specifications – Networking

		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	PVC
Connector	C6	
Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° 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	
HP 65W Slim USB-C Straight AC Power Adapter	Dimensions	3.819 x 2.106 x 0.827 in (9.7x5.35x2.1cm)
	Weight	220g ± 10g
	Input	Input Efficiency
		Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec:
		5V : 81.5%
		9V : 86.7%
		12V : 88.0%
		15V : 89.0%
		20V : 89.0%
		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
		DC Cable Connector USB type C
		DC Cable Material PVC
Connector	C6	

Technical Specifications – Networking

Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° 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	<p>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</p>	

HP 3-cell Long Life Li-Ion (56 WHr)	Dimensions (H x W x L)	251.8*70.3*6.82mm (9.91*2.77*0.27 inch)		
	Weight	0.205kg +/- 10g(0.474 lb)		
	Cells/Type	3cell Lithium-Ion Polymer cell / 586075		
	Energy	Voltage	11.58V	
		Amp-hour capacity	4.84Ah	
		Watt-hour capacity	56.04Wh	
	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			

*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.

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

Type	Description	Part #
Audio/Video	HP USB G2 Stereo Headset	428H5AA
	HP USB G2 Stereo Headset	428K6AA
	HP 3.5mm G2 Stereo Headset	428H6AA
	HP 3.5mm G2 Stereo Headset	428K7AA
	HP 365 BT Speaker	567D3AA
	HP 325 FHD USB-A Webcam	53X27AA
	HP 965 4K Streaming Webcam	695J5AA
	HP 625 FHD Webcam	6Y7L1AA
Cases	HP Prelude 15.6 Backpack (Bulk Qty.15)	1E7D6A6
	HP Prelude Pro Recycle Backpack	1X644AA
	HP Prelude Pro Recycle Top Load	1X645AA
	HP Prelude 15.6 Top Load	1E7D7AA
	HP Prelude 15.6 Top Load	2Z8P4AA
	HP Prelude 15.6 Top Load	50P31AA
	HP Prelude 15.6 Backpack	1E7D6AA
	HP Prelude 15.6 Backpack	2Z8P3AA
	HP Prelude 15.6 Backpack	50P32AA
	HP Prelude Pro Recycled 15.6 Backpack (Bulk Qty.12)	1X644A6
	HP Prelude Pro Recycled 15.6 Top Load (Bulk Qty.12)	1X645A6
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 17.3 Laptop Backpack (Bulk Qty. 6)	3E2U5A6
	HP Renew Business 15.6 Laptop Bag (Bulk Qty.12)	3E5F8A6
	HP Renew Business 14.1 Laptop Bag (Bulk Qty.12)	3E5F9A6
	HP Renew Business 14.1 Sleeve (Bulk Qty. 24)	3E2U7A6
	HP Renew Executive 16 Laptop Backpack	6B8Y1AA
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Renew Executive 14.1 Laptop Sleeve	6B8Y3AA
	HP Travel 25 Liter 15.6 Iron Gray Laptop Backpack	6B8U4AA
	HP Travel 25 Liter 15.6 Iron Gray Laptop Backpack	6H2D8AA
	HP Travel 18 Liter 15.6 Iron Gray Laptop Backpack	6B8U6AA
HP Travel 18 Liter 15.6 Iron Gray Laptop Backpack	6H2D9AA	
Docking station	HP USB-C Dock G5	26D32AA
	HP USB-C Dock G5	5TW10AA
	HP USB-C/A Universal Dock G2	5TW13AA
	HP Thunderbolt 120W G4 Dock	4JOA2AA
	HP Thunderbolt 280W G4 Dock w/Combo Cable	4JOG4AA
	HP USB-C G5 Essential Dock	72C71AA

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

Dongle	HP HDMI to VGA Adapter	H4F02AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP USB-C to VGA Adapter	N9K76AA
	HP USB-C to VGA Adapter	P7Z54AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to HDMI 2.0 Adapter	2PC54AA
	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB-C to RJ45 Adapter G2	4Z534AA
	HP USB 3.0 to Gig RJ45 Adapter G2	4Z7Z7AA
HP USB-C to DisplayPort Adapter G2	8Y8Y1AA	
Hub	HP USB-C Travel Hub G2	7PJ38AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP Universal USB-C Multiport Hub	50H55AA
	HP Universal USB-C Multiport Hub	50H98AA
	HP 4K USB-C Multiport Hub	6G842AA
	HP 4K USB-C Multiport Hub	6G843AA
	HP Universal USB-C Hub and Laptop Charger Combo	9H0H9AA
Keyboard/Combo	HP 320K Wired Keyboard	9SR37AA
	HP 975 USB+BT Dual-Mode Wireless Keyboard	3Z726AA
	HP 455 Programmable Wireless Keyboard	4R177AA
	HP 965 BLK Ergonomic Wireless Keyboard	7E756AA
	HP 475 Dual-Mode Wireless Keyboard	7N7B9AA
	HP 405 Multi-Device Backlit Wired Keyboard	7N7C1AA
	HP 435 Programmable Bluetooth Wireless Keypad	7N7C3AA
	HP Wireless Rechargeable 950MK Mouse and Keyboard	3M165AA
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA
HP 655 Wireless Keyboard and Mouse Combo	4R009AA	
Mouse	HP Wired 320M Mouse	9VA80AA
	HP Premium Wireless Mouse	1JR31AA
	HP Travel Bluetooth Mouse	6SP30AA
	HP Multi-Device 635 Black Wireless Mouse	1D0K2AA
	HP Creator 935 Black Wireless Mouse	1D0K8AA
	HP 235 Slim Wireless Mouse	4E407AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA
	HP 715 Rechargeable Multi-Device Bluetooth Mouse	6E6F0AA
	HP 925 Ergonomic Vertical Wireless Mouse	6H1A5AA
Power	HP 65W USB-C LC Power Adapter	1P3K6AA
	HP 65W USB-C LC Power Adapter	944V0AA

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

	HP 65W Gallium Nitride USB-C Laptop Charger	600Q7AA
	HP 65W Gallium Nitride USB-C Laptop Charger	600Q8AA
	HP 65W USB-C Laptop Charger	671R2AA
	HP 65W USB-C Laptop Charger	671R3AA
	HP 110W USB-C Laptop Charger	8B3Y2AA
Commodity	HP 2TB PCIe-4x4 NVMe TLC M.2 Solid State Drive	6D8L6AA
	HP USB External DVDRW Drive	F2B56AA
	HP USB External DVDRW Drive	Y3T76AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Keyed Cable Lock	1AJ39UT
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP Sure Key Cable Lock	6UW42AA
	HP Nano Combination Cable Lock	63B28AA
	HP Essential Nano Combination Cable Lock	63B31AA

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Date of change:	Version History:		Description of change:
April 24, 2024	From v1 to v2	Changed	WEIGHTS & DIMENSIONS section