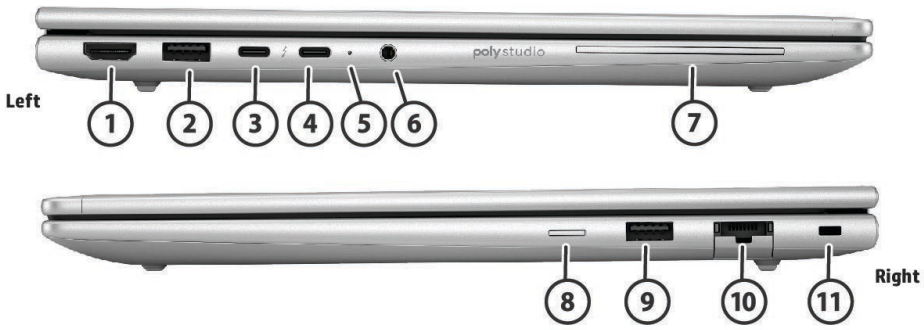
HP EliteBook 6 G1i 14 inch Notebook AI PC

Front

1	Internal Microphone (2)	4	Camera Shutter
2	Webcam LED	5	Touchpad
3	Webcam	6	Near-filed communication (NFC)



Sides

1	HDMI 2.1	8	Nano SIM card slot (Optional)
2	USB Type-A 5Gbps signaling rate (Powered) [1]	9	USB Type-A 5Gbps signaling rate (Powered) [1]
3	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery 3.0, DisplayPort™ 2.1) [1]	10	RJ45 Ethernet port
4	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery 3.0, DisplayPort™ 2.1) [1]	11	Nano Security Slot (Integrated)
5	Power Indicator LED		
6	Headphone/mic combo jack		
7	Smart Card Reader (optional)		

1. Actual throughput may vary.

PRODUCT NAME

HP EliteBook 6 G1i 14 inch Notebook AI PC

OPERATING SYSTEMS

FreeDOS

Windows 11 Home - HP recommends Windows 11 Pro for business [1]

Windows 11 Home Single Language - HP recommends Windows 11 Pro for business [1]

Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) [1]

Windows 11 Pro [1]

Windows 11 Pro Education[1]

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 [2,3,4]	Cores	Number of P-cores	Number of E-cores	Number of LP E-cores	Threads	Smart Cache	Max Turbo Frequency		Intel SIPP/vPro® Enterprise	Integrated Graphics	NPU
							P-cores	E-cores			
Intel® Core™ Ultra7 processor 265H	16 cores	6	8	2	16	24 MB	5.30 GHz	4.50 GHz	X	Intel® Arc™ 140T	13 TOPS
Intel® Core™ Ultra7 processor 255H	16 cores	6	8	2	16	24 MB	5.10 GHz	4.40 GHz		Intel® Arc™ 140T	13 TOPS
Intel® Core™ Ultra5	14 core	6	8	2	14	18 MB	5.00 GHz	4.40 GHz	X	Intel® Arc™ 140T	13 TOPS

processor 235H	s										
Intel® Core™ Ultra5 processor 225H	14 cores	4	8	2	14	18 MB	4.90 GHz	4.30 GHz		Intel® Arc™ 130T	13 TOPS
Intel® Core™ Ultra7 processor 265U	12 cores	4	8	2	14	12 MB	5.30 GHz	4.20 GHz	X	Intel® Graphics	12 TOPS
Intel® Core™ Ultra7 processor 255U	12 cores	2	8	2	14	12 MB	5.20 GHz	4.20 GHz		Intel® Graphics	12 TOPS
Intel® Core™ Ultra5 processor 235U	12 cores	2	8	2	14	12 MB	4.90 GHz	4.10 GHz	X	Intel® Graphics	12 TOPS
Intel® Core™ Ultra5 processor 225U	12 cores	2	8	2	14	12 MB	4.80 GHz	3.80 GHz		Intel® Graphics	12 TOPS

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. Intel's numbering, branding and/or naming is not a measurement of higher performance.
3. Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration.
4. Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third party software may have specific configuration or compatibility requirements. Potential NPU inferencing performance varies by use, configuration, and other factors.

5. For full Intel® vPro® functionality, Windows 10 Pro 64 bit, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See http://intel.com/vpro

GRAPHICS

Integrated

Intel® Graphics

Intel® Arc™ Graphics [6]

Discrete

NVIDIA® GeForce® RTX 3050 4 GB (dedicated) [7]

Supported Protocols

HDMI 2.1

Displays supported (including internal display; dock may be required)

Up to 4

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

6. Intel® Arc™ graphics only available on select Intel® Core™ Ultra H-series processor-powered systems with at least 16GB of system memory in dual channel configuration.

7. NVIDIA® GeForce RTX™ 3050 discrete graphic card is an optional feature that must be configured at the time of purchase. Only available for U.S. region.

DISPLAY

Actual brightness will be lower with touchscreen or HP Sure View.
Availability may vary by country.

Non-Touch

35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, HP Sure View 5 [8]
35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, Anti-Glare, WLED + Low Blue Light, 400 nits, Adobe 100% + DCI-P3 100%
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED + Low Blue Light, 400 nits, Low Power, sRGB 100%
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%

Touch

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

Display Size (Diagonal)

35.6 cm (14.0")

Screen to Body Ratio

88.80%

Aspect Ratio

16:10

Max Hinge Open Angle

177±3°

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

DOCKING (SOLD SEPARATELY)

Docking station model #1	HP Thunderbolt 4 100W G6 Dock
Total number of supported displays (incl. the notebook display)	4
Max. resolutions supported	(4) 4K @60Hz* (2) 4K @ 120Hz* (3) QHD @ 120Hz* (1) QHD @ 360Hz*
Dock Connectors	1x HDMI 2.1, 2x DisplayPort 1.4, 1x Thunderbolt 4
HP Quick Connect Support	Yes
Technical limitations	HP Quick Connect is supported on this platform. *Requires DisplayPort 1.4 support with Display Stream Compression (DSC). Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks. Maximum resolution and display support is dependent on the maximum capability of the notebook. Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt Hosts: Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz Non-Thunderbolt hosts: The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is (1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K single cable + (1) 4K UHD @ 60 Hz in high resolution mode. In multi-function mode the maximum resolution for (3) displays is (2) 5K single cable @ 30Hz + (1) 4K UHD @ 30Hz.
Docking station model #2	HP USB-C™ Dock G5
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	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
Dock Connectors	1x HDMI 2.0, 2x DisplayPort® 1.4
Technical limitations	Maximum resolution and display support is dependent on the maximum capability of the notebook. Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode. Three maximum displays supported are two 5K@ 30 Hz on DP ports plus one 4K UHD@ 30 Hz on HDMI in Multi-function mode The highest resolution for a non-Thunderbolt host in Multi-function mode is a single 5K dual cable (using both DP ports) + (1) 4K on HDMI port.
Docking station model #3	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 Thunderbolt hosts or USB-C hosts DisplayPort 1.4 with Display Stream Compression in High-Resolution Mode
Dock Connectors	2x HDMI 2.0, 2x DisplayPort® 1.4, 1x Thunderbolt™ 4, 1x USB-C™ 3.2 Gen 2 DisplayPort®
Technical limitations	Maximum resolution and display support is dependent on the maximum capability of the notebook. Thunderbolt Hosts: Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host. Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz Non-Thunderbolt hosts: The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is (1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K

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

STORAGE AND DRIVES

All Gen5 SSDs on this system run at Gen4 speed.

For all SSDs, read and write speeds are an average of the maximum values measured under full load conditions. Actual performance may vary +/- 20%.

2 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [9]

1 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [9]

1 TB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 SSD Three Layer Cell [9]

512 GB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [9]

512 GB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 SSD Three Layer Cell [9]

512 GB PCIe® NVMe™ SSD Value [9]

256 GB PCIe® NVMe™ Self Encrypted OPAL2 SSD Value [9]

256 GB PCIe® NVMe™ SSD Value [9]

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

MEMORY

Maximum Memory

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

Memory

64GB DDR5-5600 MT/s (2 x 32 GB)
32GB DDR5-5600 MT/s (1 x 32 GB)
32GB DDR5-5600 MT/s (2 x 16 GB)
24GB DDR5-5600 MT/s (2 x 12 GB)
24GB DDR5-5600 MT/s (1 x 24 GB)
16GB DDR5-5600 MT/s (1 x 16 GB)
16GB DDR5-5600 MT/s (2 x 8 GB)
12GB DDR5-5600 MT/s (1X12GB)
8GB DDR5-5600 MT/s (1 x 8 GB)

Memory Slots

2 SODIMM
System runs at 5600 MT/s[10]
Supports Dual Channel Memory(optional)
Slots are accessible/upgradeable by IT or self-maintainers only

10. Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

NETWORKING /COMMUNICATIONS

Items below may be optional.

Ethernet

Intel® I219-LM (vPro®) GbE PCIe NIC

Intel® I219-V (non-vPro®) GbE PCIe NIC

WLAN

Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 vPro® WW WLAN [11]

Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 non-vPro® WW WLAN [11]

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 vPro® WW WLAN [12,13]

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 non-vPro® WW WLAN [12,13]

WWAN

HP 4G CAT16 [14,15]

LPWAN

Qualcomm 9205 LTE-M (CAT-M1 fSVC) [16,17]

NFC

NFC Mirage WNC XRAV-1

Miracast

Native Miracast Support [18]

11. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows OS, select Intel® processor, and a Wi-Fi 7 router, sold separately. Wi-Fi 7 is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported. The specification for 802.11BE is a draft specification and is not final. If the final specification differs from the draft specification, it may affect the ability of the device to communicate with other 802.11BE devices.

12. 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.

13. 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.
14. 4G LTE module is optional. WWAN-ready configuration must be selected at purchase to add WWAN at a later date. Module requires activation and separately purchased service contract. 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. Available on select models. Module requires activation and 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.
16. LPWAN (also called Mobile Narrowband) support HP Protect & Trace with Wolf Connect service through the subscription term, but do not support mobile broadband use.
17. Cat M1 LPWAN (Mobile Narrowband) cards support select platforms with the HP Protect & Trace with Wolf Connect service, but do not support mobile broadband/Internet use.
18. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.

AUDIO/MULTIMEDIA

Privacy panel is only available on select models.

Audio

Audio by Poly Studio

2 Integrated stereo speakers

2 Integrated dual array microphone

Speaker Power

2W / 4 ohm per speaker

Camera

5MP+Infrared camera

FHD camera

Sensors

Ambient Light Sensor

Fingerprint Sensor (optional)

Hall Effect Sensor

HP Sure Platform

HP Tamper Lock [19]

Thermal Sensor

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

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

HP Standard Keyboard, spill-resistant, backlit, Durakey keyboard.

HP Standard Keyboard, spill-resistant, Privacy, backlit, Durakey keyboard.

HP Standard Keyboard, spill-resistant keyboard.

Pointing Device

Clickpad

Microsoft Precision Touchpad Default Gestures Support

Multi-touch gesture support

Function Keys

ESC – System information

F1 – Display Switching

F2 – Blank or SureView On/Off

F3 – Brightness Down

F4 – Brightness Up

F5 – Blank or Keyboard Backlight

F6 – Audio Mute

F7 – Volume Down

F8 – Volume Up

F9 – Mic Mute

F10 – Play and Pause

F11 – Programmable Key

F12 – HOME

Print Screen

Power Button (with LED)

Insert

Delete

End

Microsoft Copilot [20]

Hidden Function Keys

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

20. Copilot+ in Windows requires Windows 11. Some features require an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Microsoft in Windows is not available, the Copilot key will lead to the Bing search engine. Use of Recall requires customer authentication using Windows Hello Enhanced Sign in Security (ESS) which requires a fingerprint reader or facial recognition camera and may not be supported on all platforms. See http://aka.ms/WindowsAIFeatures

SOFTWARE AND SECURITY

Application Software

Buy Microsoft Office (Sold Separately)

Edge Customization

HP Connection Optimizer

HP Hotkey Support

HP Mac Address Manager

HP Notifications

HP PC Hardware Diagnostics UEFI

HP PC Hardware Diagnostics Windows

HP Privacy Settings

HP Services Scan [21]

HP Smart Support [22]

HP Support Assistant [23]

myHP [24]

HSA Fusion for Commercial

HSA Telemetry for Commercial

Poly Camera Pro

Poly Lens [25]

Manageability Features

HP Client Catalog (download) [26]

HP Client Management Script Library (download) [27]

HP Cloud Recovery [28]

HP Connect for Microsoft Endpoint Manager [29]

HP Driver Packs (download) [30]

HP Image Assistant (download) [31]

HP Manageability Integration Kit (download) [32]

HP Power Manager with Battery Health Manager (download) [33]

Security Management

Secured-Core PC Enable[34]

Windows Hello Enhanced Sign-In Security (ESS)

HP Wolf Security for Business which includes: [35]

HP Sure Admin [36]

HP Sure Click [37]

HP Sure Recover [38]

HP Sure Run [39]

HP Sure Sense [40]

HP Sure Start [41]

HP Tamper Lock [42]

Security- TPM

Model: Nuvoton NPCT760HACYX

Firmware Version: FW 7.2.4.0

TCG TPM 2.0

FIPS 140-2 Compliant: Yes

BIOS

Absolute Persistence Module [43]

Audio Permanent Disable

BIOS Update via Network

HP Bios Recovery

HP BIOSphere [44]

HP DriveLock & Automatic DriveLock

HP Fingerprint Sensor [45]

HP Secure Erase [46]

HP Wake on WLAN

Smartcard Reader

Model number: Alcor AK9563

FIPS 201 Compliant: Yes

IPv6 Support

Yes

FirstNet Certified

Yes

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

UEFI version: 2.7b

HP BIOS UEFI Specification Level version 2.9 supported with BIOS update

Class: 3

21. 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, 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.
22. HP Smart Support requires the HP Insights 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 preinstalled and/or provided thru Windows Update and will check entitlement on each hardware device to determine if an HP Insights agent-enabled service has been purchased, and will download applicable software automatically. 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 is required. For full system requirements or to disable this feature, please visit https://www.hpdaas.com/requirements.
23. HP Support Assistant is available on Windows. For more information, please visit http://www.support.hp.com/help/hp-support-assistant.
24. MyHP requires Windows 10 or higher OS.
25. Poly Lens Desktop requires a Windows OS.
26. HP Client Catalog not preinstalled, however available for download at https://www.hp.com/us-en/solutions/client-management-solutions.html
27. HP Client Management Script Library https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools

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, 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/computer.
29. 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.
30. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.
31. HP Image Assistant not preinstalled, however available for download at https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html
32. HP Manageability Integration Kit not preinstalled, however available for downloaded from https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools
33. HP Power Manager with Battery Health can be downloaded by entering your system information here: https://support.hp.com/in-en/document/ish_4449597-3519507-16
34. 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.
35. 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.
36. 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.
37. HP Sure Click requires Windows 10 and higher. See https://bit.ly/2PrLT6A_SureClick for complete details.
38. HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. HP Sure Recover Gen6 with Embedded Reimaging is an optional feature on select HP PCs which requires Windows 10 or 11 must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data.
39. HP Sure Run is available on select HP PCs
and requires Windows 10 and higher.
40. HP Sure Sense requires Windows 10 and higher. See product specifications for availability. On units with WWAN shipping to China, HP Sure Sense is only available via Softpaq download.
41. HP Sure Start is available on select HP PCs and requires Windows 10 and higher.
42. HP Tamper Lock must be enabled by the customer or your administrator.
43. Absolute Persistence firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit:
https://www.absolute.com/about/legal/agreements/absolute/

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

45. HP Fingerprint Reader is an optional feature that requires Windows 10 or 11 and must be configured at purchase.

46. 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™.

POWER

Power supply availability may vary by country.

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

Power Supply (availability may vary by country)

HP 100W Slim USB Type-C® AC power adapter [47]

HP 65W Standard USB Type-C® AC power adapter [47]

HP 65W Standard USB Type-C® Halogen Free AC power adapter [47]

Power Cord

3-wired plug- 1.0m

Battery

HP Long Life 3 cell, 56Whr Polymer

HP Long Life 3 cell, 48Whr Polymer

Compliant with UL 1642/2054 Standard

Battery Recharge Time

Supports battery HP Fast Charge: approximately 50% in 30 minutes [48]

Battery life

Up to 14 hours 45 minutes with 56whr battery (HP Long Life 3-Cell, 56 Whr Polymer, UMA graphic, Intel Ultra 7 H28, Display set to 250 nits display (on a 400-nit display), 2*8GB DDR5 memory, 256 GB SSD) [49]

Up to 13 hours and 15 minutes with 48whr battery (HP Long Life 3-Cell, 48 Whr Polymer, UMA graphic, Intel Ultra 7 H28, Display set to 250 nits display (on a 400-nit display), 2*8GB DDR5 memory, 256 GB SSD) [49]

Up to 14 hours with 56whr battery (HP Long Life 3-Cell, 56 Whr Polymer, UMA graphic, Intel Ultra 7 U15, Display set to 250 nits display (on a 400-nit display), 2*8GB DDR5 memory, 256 GB SSD) [49]

Up to 12 hours and 45 minutes with 48whr battery (HP Long Life 3-Cell, 48 Whr Polymer, UMA graphic, Intel Ultra 7 U15, Display set to 250 nits display (on a 400-nit display), 2*8GB DDR5 memory, 256 GB SSD) [49]

47. Only available for selected regions and selected configurations.

48. 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.

49. MobileMark 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 http://www.bapco.com for additional details.

WEIGHT & DIMENSIONS

Product Weight

Starting at 1.40 kg (3.09 lb) with 56.00 Wh battery

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

Product Dimensions (w x d x h)

318.60 mm (W) x 224.35 mm (D) x 10.90 mm (front)/ 17.00 mm (rear) (12.54 in (W) x 8.83 in (D) x 0.43 in (front)/ 0.67 in (rear))

Maximum height 19.9mm (Plastic); 20.9mm (Metal)

Front height measurement is near the front edge where the chassis bottom cover taper begins. Back height measurement is near the back edge where the chassis bottom cover taper ends.

Packaging and Pallet Dimensions

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

PORTS/SLOTS

Left side

1 x USB Type-A 5Gbps signaling rate (Powered) [50]

2 x Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery 3.0, DisplayPort™ 2.1) [51]

1 x HDMI 2.1

1 x headphone/mic combo jack

1 x Smart Card Reader (optional)

Right side

1 x USB Type-A 5Gbps signaling rate (Powered) [50]

1 x RJ45 Ethernet port

1 x Nano SIM card slot (Optional)

1 x Nano Security Slot (Integrated)

50. Actual throughput may vary.

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

ENVIRONMENTAL DATA

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration • US ENERGY STAR® • US Federal Energy Management Program (FEMP) • EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO Certified • China Energy Conservation Program (CECP) • China State Environmental Protection Administration (SEPA) • Taiwan Green Mark • Korea Eco-label • Japan PC Green label*
Sustainable Impact Specifications	• Product Carbon Footprint • At least 50% ocean bound plastic in the system fan and 30% in Speakers[1] • At least 20% post-consumer recycled plastic[2] • At least 50% recycled metal[3] • Low Halogen[4] • 100% of HP paper-based packaging is from recycled or certified sustainable sources[5] • Bulk packaging available
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".

Energy Consumption (in accordance with US ENERGY STAR® test method)	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Sort idle)	6.30 W	6.56 W	6.19 W
Normal Operation (Long idle)	N/A	N/A	N/A
Sleep	1.26 W	1.32 W	1.23 W
Off	0.39 W	0.43 W	0.39 W

NOTE: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for

	computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	22 BTU/hr	22 BTU/hr	21 BTU/hr
Sleep	4.3 BTU/hr	5 BTU/hr	4.2 BTU/hr
Off	1.3 BTU/hr	1 BTU/hr	1.3 BTU/hr
	*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	**Sound Power (L_{WAd}, bels)**	**Sound Pressure (L_{pAm}, decibels)**	
Typically Configured – Idle	2.6	13.0	
Fixed Disk – Random writes	2.7	13.3	
Optical Drive – Sequential reads	3.4	26.9	
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the Spare parts are available throughout the warranty period and or for up to "5" years after the end of production.		
Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 93.3% recycle-able when properly disposed of at end of life.		
Packaging Materials	**External:**	PAPER/Corrugated	288 g
		WOOD/wood	20 g
		PAPER/Molded Pulp	100 g

	The plastic packaging material contains at least 0.0% recycled content. The corrugated paper packaging materials contains at least 51.7% recycled content.
RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam. We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve. To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants - may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Bis(2-Ethylhexyl) phthalate (DEHP) • Benzyl butyl phthalate (BBP) • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP) • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries

	• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
Packaging Usage	• HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
End-of-life Management and Recycling	HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: https://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c05403198 or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: HP Product Disassembly Instruction Website. These instructions may be used by recyclers

	and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

HP, Inc. Corporate Environmental Information	For more information about HP's commitment to the environment:
	• Sustainable Impact Report
	  ○ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06040843
	• Eco-label certifications
	  ○ https://www.hp.com/us-en/sustainable-impact/document-reports.html#filters_documents_reports-=document_type-type_energy_star,type_epeat,type_tcoISO
	• ISO 14001 certificates
	  ○ https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04777932

footnotes	1. Percentage of ocean-bound plastic contained in each component varies by product. Ocean Bound plastic is expressed as a percentage of the total weight plastic. Ocean Bound plastic is based on the definition set by the UL2809 standard. 2. Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT standard for computers, IEEE 1680.1-2018 standard. 3. Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams. 4. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen. • HP paper and fiber-based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included. Plastic cushions are made from >90% recycled plastic.

SERVICE AND SUPPORT

1-year warranty and 90 day software limited warranty options depending on country. HP Worldwide Limited Warranty for the battery is aligned with the warranty period of the HP Hardware Product. Refer to http://www.hp.com/support/batterywarranty/ for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/cpc. [52]

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

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	
Nominal Operating Voltage	20.0V
Max Operating Power	UMA 65W
	Discrete W
Temperature	
Operating	0° to 35° C (32° to 95° F) No sustained direct exposure to sunlight, System performance may be reduced above 32°C (89.6°F)
Non-operating	-20° to 60° C (-4° to 140° F) No sustained direct exposure to sunlight, System performance may be reduced above 32°C (89.6°F)
Relative Humidity	
Operating	10% to 90 % (non-condensing)
Non-operating	5% to 95 %, 38.7° C (101.6° F) maximum wet bulb temperature
Shock	
Operating	40 G, 2 ms, half-sine
Non-operating	240 G, 2 ms, half-sine
Random Vibration	
Operating	1.043 grms
Non-operating	3.500 grms
Altitude (unpressurized)	
Operating	3048 m (10000 ft)
Non-operating	12192 m (40000 ft)
Industry Standard Certifications	
Regulatory Model Number	HSN-Q38C
CSA/UL 62368-1	Yes
UL 62368-1	Yes
ENERGY STAR®	Yes [53]
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes
	Related commodity should comply with ISO 9241 Standards.
China CCC/SRRC/CEL	Yes

Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes
Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
EPEAT Gold	EPEAT® Gold in the United States [54]
Low Blue Light	Yes
WW RoHS	Yes
CECP	Yes
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	Yes
SEPA	Yes
MIL-STD Testing	MIL-STD 810H [55]

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

54. 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.

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

DISPLAYS

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

35.6 cm (14") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, Anti-Glare, WLED + Low Blue Light, 400 nits, Adobe 100% + DCI-P3 100%	**Dimensions (W x H)**	306.890 x 197.900 (max)
	Active Area	301.594 x 188.496 (typ)
	Weight	200 g (max)
	Diagonal Size	14.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	2000:1 (typ)
	Refresh Rate	120 (typ)
	Brightness	400 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	2560 x 1600 (2.5K)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	Adobe RGB 100% + DCI-P3 100%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	2.3 (max)/ 2.7 (max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%	**Dimensions (W x H)**	307.590 x 199.150 (max)
	Active Area	301.59 X 188.50(typ)
	Weight	300 (max)
	Diagonal Size	14.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000 : 1 (typ)
	Refresh Rate	60 (typ)
	Brightness	300 (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Aspect Ratio	16:10

	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	1.70 (max)/2.10(max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, Touch, UWVA, Anti-Glare, WLED, 300 nits, Low Power, sRGB 62.5%	Dimensions (W x H)	307.59 x 199.15 (max)
	Active Area	301.590 x 188.500 (typ)
	Weight	300 (max)
	Diagonal Size	14.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	Yes
	Contrast Ratio	1000:1(typ)
	Refresh Rate	60 (typ)
	Brightness	300 (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	1.75 (max) / 2.15 (max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, Low Blue	Dimensions (W x H)	306.890 x 197.900 (max)
	Active Area	301.590 X 188.500 (typ)
	Weight	260 (max)

Light, 800 nits, sRGB 100%, HP Sure View 5	Diagonal Size	14.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1500 : 1 (typ)
	Refresh Rate	60 (typ)
	Brightness	800 (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	1.48 (max)/1.8(max)
35.6 cm (14") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED + Low Blue Light, 400 nits, Low Power, sRGB 100%	Dimensions (W x H)	307.590 x 199.550 (max)
	Active Area	301.590 x 188.500 (typ)
	Weight	210 (max)
	Diagonal Size	14.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000:1(typ)
	Refresh Rate	60 (typ)
	Brightness	400 (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920 x 1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8 bits
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes

Power Consumption	1.29 (max) / 1.66 (max)

STORAGE

All Gen5 SSDs on this system run at Gen4 speed.

For all SSDs, read and write speeds are an average of the maximum values measured under full load conditions. Actual performance may vary +/- 20%.

1 TB PCIe-4x4 2280 NVME Self Encrypted OPAL2 Three Layer Cell Solid State Drive	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%
	Sequential Write	5000 MB/s ±20%
	Logical Blocks	2,000,409,264
	Features	TCG Opal 2.0; TRIM; L1.2 Not all features are available in all versions.
256GB PCIe 2280 NVMe Self Encrypted OPAL2 Value Solid State Drive	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	Value
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	3100 MB/s ±20%
	Sequential Write	1200 MB/s ±20%
	Logical Blocks	500,118,192
	Features	TCG Opal 2.0; TRIM; L1.2 Not all features are available in all versions.
SSD 256GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	Value
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	3100 MB/s ±20%

	Sequential Write	1200 MB/s ±20%
	Logical Blocks	500,118,192
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
SSD 512GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	3100 MB/s ±20%
	Sequential Write	1200 MB/s ±20%
	Logical Blocks	1,000,215,215
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
512GB PCIe-4x4 2280 NVME Self Encrypted OPAL2 Three Layer Cell Solid State Drive	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%
	Sequential Write	3500 MB/s ±20%
	Logical Blocks	1,000,215,216
	Features	TCG Opal 2.0; TRIM; L1.2
		Not all features are available in all versions.
SSD 512GB 2280 PCIe-4x4 NVMe Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	512GB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%

	Sequential Write	3500 MB/s ±20%
	Logical Blocks	1,000,215,215
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
SSD 1 TB 2280 PCIe-4x4 NVMe Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%
	Sequential Write	5000 MB/s ±20%
	Logical Blocks	2,000,409,264
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
2TB PCIe 4x4 NVMe® Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	2TB
	NAND Type	Value
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%
	Sequential Write	5000 MB/s ±20%
	Logical Blocks	500,118,192
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
SSD 2TB 2280 PCIe-4x4 NVMe Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	2 TB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%

	Sequential Write	5000 MB/s ±20%
	Logical Blocks	4,000,797,360
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.
SSD 512GB 2280 PCIe-4x4 NVMe Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	TLC
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Sequential Read	6400 MB/s ±20%
	Sequential Write	3500 MB/s ±20%
	Logical Blocks	1,000,215,216
	Features	Pyrite 2.0; TRIM; L1.2
		Not all features are available in all versions.

NETWORKING / COMMUNICATION

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 vPro WLAN	**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 IEEE 802.11r IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	▪ 802.11b/g/n/ax 2.402 - 2.482 GHz ▪ 802.11a/n/ac/ax 4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz 5.955 - 6.415 GHz 6.435 - 6.515 GHz 6.535 - 6.875 GHz 6.895 - 7.115 GHz
	Data Rates	▪ 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps ▪ 802.11b: 1, 2, 5.5, 11 Mbps ▪ 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum 1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK

Security	▪ 802.1x authentication ▪ AES-CCMP: 128 bit in hardware ▪ IEEE 802.11i ▪ IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only ▪ WAPI ▪ WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. ▪ WPA2 certification ▪ WPA3 (personal) certification
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	▪ 802.11b : +17dBm minimum ▪ 802.11g : +16dBm minimum ▪ 802.11a : +17dBm minimum ▪ 802.11n HT20(2.4GHz) : +14dBm minimum ▪ 802.11n HT40(2.4GHz) : +13dBm minimum ▪ 802.11n HT20(5GHz) : +14dBm minimum ▪ 802.11n HT40(5GHz) : +13dBm minimum ▪ 802.11ac VHT80(5GHz) : +10dBm minimum ▪ 802.11ac VHT160(5GHz) : +10dBm minimum ▪ 802.11ax HE40(2.4GHz) : +12dBm minimum ▪ 802.11ax HE80(5GHz) : +10dBm minimum ▪ 802.11ax HE160(5GHz) : +10dBm minimum
Power Consumption	▪ Transmit mode: 2.0 W ▪ Receive mode : 1.6 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[1]	▪ 802.11b, 1Mbps : -93.5dBm maximum ▪ 802.11b, 11Mbps : -84dBm maximum

	▪ 802.11a/g, 6Mbps : -86dBm maximum ▪ 802.11a/g, 54Mbps : -72dBm maximum ▪ 802.11n, MCS07 : -67dBm maximum ▪ 802.11n, MCS15 : -64dBm maximum ▪ 802.11ac, MCS0(VHT80) : -84dBm maximum ▪ 802.11ac, MCS9(VHT80) : -59dBm maximum ▪ 802.11ac, MCS9(VHT160) : -58.5dBm maximum ▪ 802.11ax, MCS11(HE40): -57dBm maximum ▪ 802.11ax, MCS11(HE80): -54dBm maximum ▪ 802.11ax, MCS11(HE160): -53.5dBm maximum [1]
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	2.30 x 22.00 x 30.00 mm (0.09 x 0.87 x 1.18 inch)
Weight	Type 2230: 2.8 g
Operating Voltage	3.3 v +/- 9 %
Integrated Bluetooth® specifications	
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)
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	Microsoft Windows Bluetooth Software
Supported 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 wireless card
	Channel Selection Algo
	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
	Train Nudging & Interlaced Scan

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 WW WLAN	**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 IEEE 802.11r IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	▪ 802.11b/g/n/ax 2.402 - 2.482 GHz ▪ 802.11a/n/ac/ax 4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz 5.955 - 6.415 GHz 6.435 - 6.515 GHz 6.535 - 6.875 GHz 6.895 - 7.115 GHz
	Data Rates	▪ 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps ▪ 802.11b: 1, 2, 5.5, 11 Mbps ▪ 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum 1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK

Security	▪ 802.1x authentication ▪ AES-CCMP: 128 bit in hardware ▪ IEEE 802.11i ▪ IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only ▪ WAPI ▪ WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. ▪ WPA2 certification ▪ WPA3 (personal) certification
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	▪ 802.11b : +17dBm minimum ▪ 802.11g : +16dBm minimum ▪ 802.11a : +17dBm minimum ▪ 802.11n HT20(2.4GHz) : +14dBm minimum ▪ 802.11n HT40(2.4GHz) : +13dBm minimum ▪ 802.11n HT20(5GHz) : +14dBm minimum ▪ 802.11n HT40(5GHz) : +13dBm minimum ▪ 802.11ac VHT80(5GHz) : +10dBm minimum ▪ 802.11ac VHT160(5GHz) : +10dBm minimum ▪ 802.11ax HE40(2.4GHz) : +12dBm minimum ▪ 802.11ax HE80(5GHz) : +10dBm minimum ▪ 802.11ax HE160(5GHz) : +10dBm minimum
Power Consumption	▪ Transmit mode : 2.0 W ▪ Receive mode : 1.6 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[1]	▪ 802.11b, 1Mbps : -93.5dBm maximum ▪ 802.11b, 11Mbps : -84dBm maximum

	▪ 802.11a/g, 6Mbps : -86dBm maximum ▪ 802.11a/g, 54Mbps : -72dBm maximum ▪ 802.11n, MCS07 : -67dBm maximum ▪ 802.11n, MCS15 : -64dBm maximum ▪ 802.11ac, MCS0(VHT80) : -84dBm maximum ▪ 802.11ac, MCS9(VHT80) : -59dBm maximum ▪ 802.11ac, MCS9(VHT160) : -58.5dBm maximum ▪ 802.11ax, MCS11(HE40): -57dBm maximum ▪ 802.11ax, MCS11(HE80): -54dBm maximum ▪ 802.11ax, MCS11(HE160): -53.5dBm maximum [1]
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	2.30 x 22.00 x 30.00 mm (0.09 x 0.87 x 1.18 inch)
Weight	Type 2230: 2.8 g
Operating Voltage	3.3 v +/- 9 %
Integrated Bluetooth® specifications	
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)
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	Microsoft Windows Bluetooth Software
Supported 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 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
Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 non-vPro WW WLAN	**Wireless LAN Standards**	IEEE 802.11a
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11b
		IEEE 802.11be
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11g
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11k
		IEEE 802.11n
		IEEE 802.11r
		IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	▪ 802.11b/g/n/ax
		2.402 - 2.482 GHz
		▪ 802.11a/n/ac/ax
		4.9 - 4.95 GHz (Japan)
		5.15 - 5.25 GHz
		5.25 - 5.35 GHz
		5.47 - 5.725 GHz
		5.825 - 5.850 GHz
		5.955 - 6.415 GHz
		6.435 - 6.515 GHz
		6.535 - 6.875 GHz
		6.895 - 7.115 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 ▪ 802.11be : MCS0~13, (20MHz, 40MHz, ,80MHz, 160MHz, 320MHz) ▪ 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, 4096QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
Security	▪ 802.1x authentication ▪ AES-CCMP: 128 bit in hardware ▪ IEEE 802.11i ▪ IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only ▪ WAPI ▪ WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. ▪ WPA2 certification ▪ WPA3 (personal) certification
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	▪ 802.11b, 1Mbps : +17dBm minimum ▪ 802.11g, 6Mpbs : +16dBm minimum ▪ 802.11a, 6Mbps : +17dBm minimum ▪ 802.11n, MCS7(HT20) : +14dBm minimum ▪ 802.11n, MCS7(HT40) : +13.5dBm minimum ▪ 802.11ac MCS9(VHT20) : 13.5dBm minimum ▪ 802.11ac MCS9(VHT40) : +13.5dBm minimum ▪ 802.11ac MCS9(VHT80) : +12.5dBm minimum ▪ 802.11ac MCS9(VHT160) : +10.5dBm minimum ▪ 802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum ▪ 802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum ▪ 802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum

	▪ 802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum ▪ 802.11be MCS13(EHT20)(6GHz) : 11.5dBm ▪ 802.11be MCS13(EHT40)(6GHz) : 7.5dBm ▪ 802.11be MCS13(EHT80)(6GHz) : 7.5dBm ▪ 802.11be MCS13(EHT160)(6GHz) : 6.5dBm ▪ 802.11be MCS13(EHT320)(6GHz) : 4.5dBm
Power Consumption	▪ Transmit mode : 3.4 W ▪ Receive mode : 1.8 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[1]	▪ 802.11b, 1Mbps : -93.5dBm maximum ▪ 802.11b, 11Mbps : -85dBm maximum ▪ 802.11a/g, 6Mbps : -90.5dBm maximum ▪ 802.11a/g, 54Mbps : -72.5dBm maximum ▪ 802.11n, MCS0(HT20) : -90dBm maximum ▪ 802.11n, MCS7(HT20) : -71.5dBm maximum ▪ 802.11n, MCS0(HT40) : -88.5dBm maximum ▪ 802.11n, MCS7(HT40) : -68.5dBm maximum ▪ 802.11ac, MCS9(VHT20) : -88.5dBm maximum ▪ 802.11ac, MCS9(VHT40) : -65.5dBm maximum ▪ 802.11ac, MCS9(VHT80) : -60.5dBm maximum ▪ 802.11ac, MCS9(VHT160) : -58.5dBm maximum ▪ 802.11ax, MCS11(HE20)(6GHz) : -59.5dBm maximum ▪ 802.11ax, MCS11(HE40)(6GHz) : -56.5dBm maximum ▪ 802.11ax, MCS11(HE80)(6GHz) : -53.5dBm maximum ▪ 802.11ax, MCS11(HE160)(6GHz) : -51.5dBm maximum ▪ 802.11be, MCS13(EHT20)(6GHz) : -55.5dBm maximum ▪ 802.11be, MCS13(EHT40)(6GHz) : -53.5dBm maximum ▪ 802.11be, MCS13(EHT80)(6GHz) : -51.5dBm maximum ▪ 802.11be, MCS13(EHT160)(6GHz) : -48.5dBm maximum

	▪ 802.11be, MCS13(EHT320)(6GHz) : -45.5dBm maximum [1]
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 with CNVi Interface
Dimensions	30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)
Weight	Type 2230: 3.1 g
Operating Voltage	3.3 v +/- 5 %
Integrated Bluetooth® specifications	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Compliant
Frequency Band	2042 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	Microsoft Windows Bluetooth Software
Supported 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	2Mbps LE

	Supported	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
Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 vPro WW WLAN	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11ac IEEE 802.11ax IEEE 802.11b IEEE 802.11be

	IEEE 802.11d IEEE 802.11e IEEE 802.11g IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11n IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi certified
Frequency Band	▪ 802.11b/g/n/ax 2.402 - 2.482 GHz ▪ 802.11a/n/ac/ax 4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz ▪ 5.825 - 5.850 GHz ▪ 5.955 - 6.415 GHz ▪ 6.435 - 6.515 GHz ▪ 6.535 - 6.875 GHz ▪ 6.895 - 7.115 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 ▪ 802.11be : MCS0~13, (20MHz, 40MHz, ,80MHz, 160MHz, 320MHz) ▪ 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, 4096QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK

Security	▪ 802.1x authentication ▪ AES-CCMP: 128 bit in hardware ▪ IEEE 802.11i ▪ IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only ▪ WAPI ▪ WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. ▪ WPA2 certification ▪ WPA3 (personal) certification
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	▪ 802.11b, 1Mbps : +17dBm minimum ▪ 802.11g, 6Mpbs : +16dBm minimum ▪ 802.11a, 6Mbps : +17dBm minimum ▪ 802.11n, MCS7(HT20) : +14dBm minimum ▪ 802.11n, MCS7(HT40) : +13.5dBm minimum ▪ 802.11ac MCS9(VHT20) : 13.5dBm minimum ▪ 802.11ac MCS9(VHT40) : +13.5dBm minimum ▪ 802.11ac MCS9(VHT80) : +12.5dBm minimum ▪ 802.11ac MCS9(VHT160) : +10.5dBm minimum ▪ 802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum ▪ 802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum ▪ 802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum ▪ 802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum ▪ 802.11be MCS13(EHT20)(6GHz) : 11.5dBm ▪ 802.11be MCS13(EHT40)(6GHz) : 7.5dBm ▪ 802.11be MCS13(EHT80)(6GHz) : 7.5dBm ▪ 802.11be MCS13(EHT160)(6GHz) : 6.5dBm ▪ 802.11be MCS13(EHT320)(6GHz) : 4.5dBm
Power Consumption	▪ Transmit mode : 3.4 W ▪ Receive mode : 1.8 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[1]	▪ 802.11b, 1Mbps : -93.5dBm maximum ▪ 802.11b, 11Mbps : -85dBm maximum ▪ 802.11a/g, 6Mbps : -90.5dBm maximum ▪ 802.11a/g, 54Mbps : -72.5dBm maximum ▪ 802.11n, MCS0(HT20) : -90dBm maximum ▪ 802.11n, MCS7(HT20) : -71.5dBm maximum ▪ 802.11n, MCS0(HT40) : -88.5dBm maximum ▪ 802.11n, MCS7(HT40) : -68.5dBm maximum ▪ 802.11ac, MCS9(VHT20) : -88.5dBm maximum ▪ 802.11ac, MCS9(VHT40) : -65.5dBm maximum ▪ 802.11ac, MCS9(VHT80) : -60.5dBm maximum ▪ 802.11ac, MCS9(VHT160) : -58.5dBm maximum ▪ 802.11ax, MCS11(HE20)(6GHz) : -59.5dBm maximum ▪ 802.11ax, MCS11(HE40)(6GHz) : -56.5dBm maximum ▪ 802.11ax, MCS11(HE80)(6GHz) : -53.5dBm maximum ▪ 802.11ax, MCS11(HE160)(6GHz) : -51.5dBm maximum ▪ 802.11be, MCS13(EHT20)(6GHz) : -55.5dBm maximum ▪ 802.11be, MCS13(EHT40)(6GHz) : -53.5dBm maximum ▪ 802.11be, MCS13(EHT80)(6GHz) : -51.5dBm maximum ▪ 802.11be, MCS13(EHT160)(6GHz) : -48.5dBm maximum ▪ 802.11be, MCS13(EHT320)(6GHz) : -45.5dBm maximum [1]
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 with CNVi Interface
Dimensions	30.00 x 22.00 x 2.30 mm (1.18 x 0.87 x 0.09 inch)
Weight	Type 2230: 3.1 g
Operating Voltage	3.3 v +/- 5 %

Integrated Bluetooth® specifications	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Compliant
Frequency Band	2042 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	Microsoft Windows Bluetooth Software
Supported 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 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

1. 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 CAT16	**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 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)
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
	GPS	Standalone/A-GPS (MS-A, MS-B)
	GPS bands	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	HSPA+: 23.5 dBm
		LTE (all bands except B41): 23.0 dBm (Not support HPUE)
	Maximum power consumption	LTE: 1,300 mA (peak); 1,100 mA (average) HSPA+: 1,100 mA (peak); 800 mA (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	Yes
NFC Mirage WNC XRAV-1	**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
		Jewel and Topaz
	Card Emulation (PICC-VICC) Mode	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 kbps, 212 kbps, 424 kbps, 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.
Intel® I219-LM (vPro®) GbE PCIe NIC	**Connector**	RJ-45
	System Interface	PCI (Intel proprietary) + SMBus

Data rates supported[2]	1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) [2]
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	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling (Hash Mode Only) Jumbo Frame 9K
Power consumption	Cable Disconnection: 25 mW 100Mbps Full Run: 450 mW 1000Mbps Full Run: 1000 mW WoL Enable(S3/S4/S5): 50 mW WoL Disable(S3/S4/S5): 25 mW
Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Management Interface	Auto MDI/MDIX Crossover cable detection
IT Manageability	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
	Security & Manageability	Intel® vPro™ support with appropriate Intel® chipset components
Intel® I219-V (non-vPro) GbE PCIe NIC	**Connector**	RJ-45
	System Interface	PCI (Intel proprietary) + SMBus
	Data rates supported[2]	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) [2]
	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) IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BAE-T
	Performance	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling (Hash Mode only) Jumbo Frame 9K
	Power consumption	Cable Disconnection: 25 mW 100Mbps Full Run: 450 mW 1000Mbps Full Run: 1000 mW WoL Enable(S3/S4/S5): 50 mW WoL Disable(S3/S4/S5): 25 mW
	Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power

		consumption
	Management Interface	Auto MDI/MDIX Crossover cable detection
	IT Manageability	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)) Virtual Cable Doctor for Ethernet cable status Comprehensive diagnostic and configuration software suite
	Security & Manageability	Intel® non-vPro™ support with appropriate Intel® chipset components

2. 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.

Qualcomm 9205 LTE-M (CAT-M1 fSVC)	**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
	Wireless protocol standards	GSM/GPRS/EGPRS: 1800, 1900, 850, 900 MHz 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) 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 (XTRA)
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: 151 mA(peak), 16 mA(average)
Form Factor	M.2
Weight	4.0 g (0.141 oz)
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

POWER

Power supply availability may vary by country.

HP 100W Slim USB Type-C® AC power adapter	Weight	340g(+/-10g) (Not including power cord. Power cord varies by country.)
	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 / 80% load 10ms at 115 Vac input
	Output Over Current Protection	5V/9V/12V/15V<125% max current, 20V<135% max current
	AC Inlet Type	C6
	DC Cable Connector	USB Type C
	DC Cable Material	PVC
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non-operating (storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 to 5000m (0 to 16,400 ft)

	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, IEC 62368-1:2014 and IEC62368-1 : 2018, EN62368-1:2020+A11, UL 62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC, CU(EAC), KCC(Safety+EMC), NOM-001 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC, Ukraine(CoC+DoC+RoHS+ECO)
AC Adapter 65 Watt nPFC Standard USB type C Straight 1.8m	Weight	220g(+/-10g) (Not including power cord. Power cord varies by country.)
	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 Over Current Protection	< 8.0A
	AC Inlet Type	C6
	DC Cable Connector	USB type C

	DC Cable Material	PVC
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non-operating (storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 to 5000m (0 to 16,400 ft)
	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 Standard USB-C Halogen Free Straight AC Power Adapter	Weight	220g(+/-10g) (Not including power cord. Power cord varies by country.)
	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 Over Current Protection	< 8.0A
	AC Inlet Type	C6
	DC Cable Connector	USB type C
	DC Cable Material	Halogen Free
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0°C to 35°C (32°F to 95°F)
	Non-operating (storage) temperature	-20°C to 85°C (-4°F to 185°F)
	Altitude	0 to 5000m (0 to 16,400 ft)
	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

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

RX 48Whr Long Life Polymer	Weight	0.192kg +/- 10g (0.423 lb)

Fast Charge 3 cell Battery	Cells/Type	3cell Lithium-Ion Polymer cell / NCM 565875
	Energy	
	Voltage	11.4V
	Amp-hour capacity	4.285Ah
	Watt-hour capacity	48.84Wh
	Temperature	
	Operating (Charging)	0° to 45° C (32° to 113° F) (Charge Initial Temperature) 0° to 50° C (32° to 122° F) (Continuous Charging)
	Operating (Discharging)	-10° to 60° C (14° to 140° F)
	Optional Travel Battery Available	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	
	Voltage	11.58V
	Amp-hour capacity	4.840Ah
	Watt-hour capacity	56.04Wh
	Temperature	
	Operating (Charging)	0° to 45° C (32° to 113° F) (Charge Initial Temperature) 0° to 50° C (32° to 122° F) (Continuous Charging)
	Operating (Discharging)	-10° to 60° C (14° to 140° F)
	Optional Travel Battery Available	No

AUDIO

Codec	Realtek ALC3247
Audio I/O Ports	3.5mm Headset: CTIA only; Headphone-out
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 24-bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from 16-bit to 24-bit;44.1 kHz to 48.0 kHz
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
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

Category	Description	Part Number
Adapters	HP HDMI to VGA Adapter	H4F02AA
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP USB-C to DisplayPort Adapter G2	8Y8Y1AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
Audio - Earbuds	Poly Voyager Free 60 UC Carbon Black Earbuds +BT700 USB-C Adapter +Basic Charge Case	7Y8H4AA
	Poly Voyager Free 60 UC M Carbon Black Earbuds +BT700 USB-A Adapter +Basic Charge Case	7Y8L7AA
	Poly Voyager Free 60 UC M Carbon Black Earbuds +BT700 USB-C Adapter +Basic Charge Case	7Y8L8AA
	Poly Voyager Free 60/60+ Black Earbuds (2 Pieces)	8L649AA,8L5A6AA
	Poly Voyager Free 60/60+ Microsoft Teams Certified Black Earbuds (2 Pieces)	8L5A8AA
	Poly Voyager Free 60+ UC Carbon Black Earbuds +BT700 USB-C Adapter +Touchscreen Charge Case	7Y8G4AA,7Y8H2AA
	Poly Voyager Free 60+ UC M Carbon Black Earbuds +BT700 USB-C Adapter +Touchscreen Charge Case	7Y8H0AA
Audio - Headset	HP USB G2 Stereo Headset	428K6AA
	Poly Blackwire 3210 Monaural USB-C Headset +USB-C/A Adapter	8X214AA
	Poly Blackwire 3215 Monaural USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X227AA
	Poly Blackwire 3220 Stereo USB-C Headset +USB-C/A Adapter	93S87AA,8X228AA
	Poly Blackwire 3310 Monaural Microsoft Teams Certified USB-C Headset +USB-C/A Adapter	8X216AA
	Poly Blackwire 3310 Monaural USB-C Headset +USB-C/A Adapter	8X215AA
	Poly Blackwire 3315 Monaural Microsoft Teams Certified USB-C	8X218AA

Headset +3.5mm Plug +USB-C/A Adapter	
Poly Blackwire 3315 Monaural USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X217AA
Poly Blackwire 3320 Stereo Microsoft Teams Certified USB-C Headset +USB-C/A Adapter	8X220AA
Poly Blackwire 3320 Stereo USB-C Headset +USB-C/A Adapter	8X219AA
Poly Blackwire 3325 Stereo Microsoft Teams Certified USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X222AA
Poly Blackwire 3325 Stereo USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X221AA
Poly Blackwire 5210 Monaural USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X230AA
Poly Blackwire 5220 Stereo USB-C Headset +3.5mm Plug +USB-C/A Adapter	8X231AA,93S88AA
Poly Blackwire 8225 Stereo Microsoft Teams Certified USB-C Headset +USB-C/A Adapter	8X225AA
Poly Blackwire 8225 Stereo USB-C Headset +USB-C/A Adapter	8X223AA
Poly EncorePro 310 Monaural USB-A Headset	767G1AA
Poly EncorePro 310 Monoaural with Quick Disconnect Headset	77T43AA
Poly EncorePro 310 USB-C Monoaural Headset	760Q8AA
Poly EncorePro 320 Stereo USB-A Headset	767G0AA
Poly EncorePro 320 Stereo USB-C Headset	767F9AA
Poly EncorePro 320 with Quick Disconnect Binaural Headset	77T26AA
Poly EncorePro 510 Monaural Headset +Quick Disconnect	783Q2AA
Poly EncorePro 515 Microsoft Teams Certified Monoaural with USB-A Headset	783R1AA
Poly EncorePro 515 Monoaural with USB-A Headset	783R0AA
Poly EncorePro 520 Binaural Headset +Quick Disconnect	783P7AA
Poly EncorePro 525 Microsoft Teams Certified Stereo with USB-A Headset	783R2AA
Poly EncorePro 525 USB-A Stereo Headset	783R3AA
Poly EncorePro 530 Headset +Quick Disconnect	783P3AA
Poly EncorePro 540 Convertible Headset +Quick Disconnect	783P1AA

Poly EncorePro 715 USB-A Monoaural Headset	783N5AA
Poly EncorePro 720 Binaural Headset +Quick Disconnect	8R707AA
Poly EncorePro 725 USB-A Stereo Headset	783M6AA
Poly EncorePro HW710 Single Ear Headset +Carry Case +Quick Disconnect	8R708AA
Poly Savi 7310 Office DECT 1880-1900 MHz Single Ear Headset (EMEA + APJ)	8D3G3AA
Poly Savi 7310 Office Monaural DECT 1920-1930 MHz Headset (NA)	7S430AA
Poly Savi 7310 UC Monaural DECT 1880-1900 MHz Headset (EMEA + APJ)	8L561AA
Poly Savi 7310 UC Monaural DECT 1920-1930 MHz Headset (NA)	8L570AA
Poly Savi 7310 UC Monaural Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L575AA
Poly Savi 7310 UC Monaural Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L585AA
Poly Savi 7310-M Office DECT 1880-1900 MHz Single Ear Headset (EMEA + APJ)	8D3K7AA
Poly Savi 7310-M Office DECT 1920-1930 MHz Single Ear Headset (NA)	7S439AA
Poly Savi 7320 Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8D3F7AA
Poly Savi 7320 Office Stereo DECT 1893-1906 MHz Headset (Japan)	8D3F8AA
Poly Savi 7320 Office Stereo DECT 1910-1920 MHz Headset (NA)	8D3G0AA
Poly Savi 7320 Office Stereo DECT 1920-1930 MHz Headset (NA)	7S429AA
Poly Savi 7320 UC Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8L545AA
Poly Savi 7320 UC Stereo DECT 1893-1906 MHz Headset (Japan)	8L546AA

Poly Savi 7320 UC Stereo DECT 1920-1930 MHz Headset (NA)	8L549AA
Poly Savi 7320 UC Stereo Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L553AA
Poly Savi 7320 UC Stereo Microsoft Teams Certified DECT 1893-1906 MHz Headset (Japan)	8L555AA
Poly Savi 7320 UC Stereo Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L559AA
Poly Savi 7320-M Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8D3J6AA
Poly Savi 7320-M Office Stereo DECT 1893-1906 MHz Headset (Japan)	8D3K2AA
Poly Savi 7320-M Office Stereo DECT 1910-1920 MHz Headset (NA)	8D3K0AA
Poly Savi 7320-M Office Stereo DECT 1920-1930 MHz Headset (NA)	7S435AA
Poly Savi 7410 Office Monaural DECT 1880-1900 MHz Headset (EMEA + APJ)	8L589AA
Poly Savi 7410 Office Monaural DECT 1893-1906 MHz Headset (Japan)	8L591AA
Poly Savi 7410 Office Monaural DECT 1920-1930 MHz Headset (NA)	8L7D5AA
Poly Savi 7410 Office Monaural Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L593AA
Poly Savi 7410 Office Monaural Microsoft Teams Certified DECT 1893-1906 MHz Headset (Japan)	8L594AA
Poly Savi 7410 Office Monaural Microsoft Teams Certified DECT 1910-1920 MHz Headset (NA)	8L597AA
Poly Savi 7410 Office Monaural Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L7D7AA
Poly Savi 7420 Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8L560AA
Poly Savi 7420 Office Stereo DECT 1893-1906 MHz Headset (Japan)	8L563AA

Poly Savi 7420 Office Stereo DECT 1910-1920 MHz Headset (NA)	8L564AA
Poly Savi 7420 Office Stereo DECT 1920-1930 MHz Headset (NA)	8L567AA
Poly Savi 7420 Office Stereo Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L574AA
Poly Savi 7420 Office Stereo Microsoft Teams Certified DECT 1893-1906 MHz Headset (Japan)	8L576AA
Poly Savi 7420 Office Stereo Microsoft Teams Certified DECT 1910-1920 MHz Headset (NA)	8L579AA
Poly Savi 7420 Office Stereo Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L583AA
Poly Savi 8210 Office DECT 1880-1900 MHz Single Ear Headset (EMEA + APJ)	8D3K5AA
Poly Savi 8210 Office DECT 1910-1920 MHz Single Ear Headset (NA)	8D3K6AA
Poly Savi 8210 Office DECT 1920-1930 MHz Single Ear Headset (NA)	7S445AA
Poly Savi 8210 UC DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3E9AA
Poly Savi 8210 UC DECT 1920-1930 MHz USB-A Headset (NA)	77T29AA
Poly Savi 8210 UC Microsoft Teams Certified DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3F1AA
Poly Savi 8210 UC Microsoft Teams Certified DECT 1920-1930 MHz USB-A Headset (NA)	77T31AA
Poly Savi 8210-M Office DECT 1880-1900 MHz Single Ear Headset (EMEA + APJ)	8D3J8AA
Poly Savi 8210-M Office DECT 1910-1920 MHz Single Ear Headset (NA)	8D3K1AA
Poly Savi 8210-M Office DECT 1920-1930 MHz Single Ear Headset (NA)	7S447AA
Poly Savi 8220 Office Stereo DECT 1880-1890 MHz Headset (EMEA + APJ)	8D3J1AA

Poly Savi 8220 Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8D3J2AA
Poly Savi 8220 Office Stereo DECT 1910-1920 MHz Headset (NA)	8D3J4AA
Poly Savi 8220 Office Stereo DECT 1920-1930 MHz Headset (NA)	7S4B5AA
Poly Savi 8220 Stereo DECT 1880-1900 MHz Top +Charging Cradle (EMEA + APJ)	8Y9C4AA
Poly Savi 8220 UC DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3F2AA
Poly Savi 8220 UC DECT 1920-1930 MHz USB-A Headset (NA)	77T33AA
Poly Savi 8220 UC Microsoft Teams Certified DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3F5AA
Poly Savi 8220 UC Microsoft Teams Certified DECT 1920-1930 MHz USB-A Headset (NA)	77Y82AA
Poly Savi 8220-M Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8D3H8AA
Poly Savi 8220-M Office Stereo DECT 1910-1920 MHz Headset (NA)	8D3J0AA
Poly Savi 8220-M Office Stereo DECT 1920-1930 MHz Headset (NA)	7S4B6AA
Poly Savi 8245 DECT 1880-1900 MHz Headset +USB-A to USB-C Cable +D400 (EMEA + APJ)	8D3H2AA
Poly Savi 8245 Office DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3H1AA
Poly Savi 8245 Office DECT 1920-1930 MHz USB-A Headset (NA)	7W6D1AA
Poly Savi 8245-M Microsoft Teams Certified DECT 1880-1900 MHz USB-A Headset +D200 (EMEA + APJ)	8D3F4AA
Poly Savi 8245-M Office Microsoft Teams Certified DECT 1880-1900 MHz USB-A Headset (EMEA + APJ)	8D3H7AA
Poly Savi 8245-M Office Microsoft Teams Certified DECT 1920-1930 MHz USB-A Headset (NA)	7W069AA

Poly Savi 8410 Office Monaural DECT 1880-1900 MHz Headset (EMEA + APJ)	8L5A7AA
Poly Savi 8410 Office Monaural DECT 1920-1930 MHz Headset (NA)	8L7E6AA
Poly Savi 8410 Office Monaural Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L5A9AA
Poly Savi 8410 Office Monaural Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L7E9AA
Poly Savi 8420 Office Stereo DECT 1880-1900 MHz Headset (EMEA + APJ)	8L5B2AA
Poly Savi 8420 Office Stereo DECT 1920-1930 MHz Headset (NA)	8L7F2AA
Poly Savi 8420 Office Stereo Microsoft Teams Certified DECT 1880-1900 MHz Headset (EMEA + APJ)	8L5B3AA
Poly Savi 8420 Office Stereo Microsoft Teams Certified DECT 1920-1930 MHz Headset (NA)	8L7F5AA
Poly Savi 8445 Office DECT 1880-1900 MHz Convertible Headset (EMEA + APJ)	8L5B4AA
Poly Savi 8445 Office DECT 1920-1930 MHz Convertible Headset (NA)	8L7F8AA
Poly Savi 8445 Office Microsoft Teams Certified DECT 1880-1900 MHz Convertible Headset (EMEA + APJ)	8L5B6AA
Poly Savi 8445 Office Microsoft Teams Certified DECT 1920-1930 MHz Convertible Headset (NA)	8L7F1AA
Poly Voyager 4310 Microsoft Teams Certified Headset +BT700 dongle +Charging Stand	77Y93AA
Poly Voyager 4310 Microsoft Teams Certified USB-A Headset +BT700 dongle	77Y91AA
Poly Voyager 4310 Microsoft Teams Certified USB-C Headset +BT700 dongle	77Y95AA
Poly Voyager 4310 UC Monaural Headset +BT700 USB-A Adapter +Charging Stand	77Y92AA
Poly Voyager 4310 USB-A Headset +BT700 dongle	76U48AA

Poly Voyager 4310 USB-C Headset +BT700 dongle +Charging Stand	77Y96AA
Poly Voyager 4310 USB-C Headset +BT700 dongle	77Y94AA
Poly Voyager 4310-M Microsoft Teams Certified USB-C Headset +BT700 dongle +Charging Stand	77Y97AA
Poly Voyager 4310-M UC Headset +USB-A to USB-C Cable +BT700 dongle	7Y210AA
Poly Voyager 4320 Microsoft Teams Certified Headset +BT700 dongle +Charging Stand	77Z00AA
Poly Voyager 4320 Microsoft Teams Certified USB-A Headset +BT700 dongle	77Y98AA
Poly Voyager 4320 Microsoft Teams Certified USB-C Headset +BT700 dongle	77Z30AA
Poly Voyager 4320 UC Stereo USB-A Headset +BT700 USB-A Adapter +Charging Stand	77Y99AA
Poly Voyager 4320 USB-A Headset +BT700 dongle	76U49AA
Poly Voyager 4320 USB-C Headset +BT700 dongle +Charging Stand	77Z31AA
Poly Voyager 4320 USB-C Headset +BT700 dongle	76U50AA
Poly Voyager 4320-M +USB-A to USB-C Cable +BT700 dongle	7Y211AA
Poly Voyager 4320-M Microsoft Teams Certified Headset +BT700 dongle +Charging Stand	77Z32AA
Poly Voyager Focus 2 Microsoft Teams Certified USB-C-C Headset +USB-C/A Adapter +Charging Stand	9T9J6AA
Poly Voyager Focus 2 USB-C-C Headset +USB-C/A Adapter	9T9J3AA
Poly Voyager Focus 2 USB-C-C Headset +USB-C/A Adapter +Charging Stand	9T9J5AA
Poly Voyager Surround 80 UC Microsoft Teams Certified USB-C Black Headset +USB-C/A Adapter	9D452AA
Poly Voyager Surround 80 UC Microsoft Teams Certified USB-C Headset +USB-C/A Adapter	8H2G3AA,8G7U0AA
Poly Voyager Surround 80 UC Microsoft Teams Certified USB-C Headset +USB-C/A Adapter Demo	9C6W5AA

	Poly Voyager Surround 80 UC USB-C Headset +USB-C/A Adapter	8G7T9AA
	Poly Voyager Surround 85 UC Microsoft Teams Certified USB-C Headset +USB-C/A Adapter +Charging Stand	8G7T8AA
	Poly Voyager Surround 85 UC USB-C Headset +USB-C/A Adapter +Charging Stand	8G7T7AA
Audio - Speaker phone	Poly Sync 10 Microsoft Teams Certified Speakerphone	77P34AA
	Poly Sync 10 Speakerphone +USB-A to USB-C Cable	7S4M6AA
	Poly Sync 10 USB-A USB-C Speakerphone	772C3AA
	Poly Sync 20 Microsoft Teams Certified USB-A Speakerphone	772C8AA
	Poly Sync 20 USB-A Speakerphone	772D2AA
	Poly Sync 20 USB-C Speakerphone	7F0J7AA
	Poly Sync 20+ Microsoft Teams Certified USB-A Speakerphone	772C9AA
	Poly Sync 20+ Microsoft Teams Certified USB-C Speakerphone	772D1AA
	Poly Sync 20+ USB-A Speakerphone	772C6AA
	Poly Sync 20+ USB-C Speakerphone	772D0AA
	Poly Sync 20+M Speakerphone +USB-A to USB-C Cable +BT700 dongle +Pouch	7Y215AA
	Poly Sync 20-M Microsoft Teams Certified USB-C Speakerphone	7F0J8AA
	Poly Sync 20-M Speakerphone +USB-A to USB-C Cable	7S4M1AA
	Poly Sync 40 Microsoft Teams Certified Speakerphone	77P35AA
	Poly Sync 40 USB-A USB-C Speakerphone	772C4AA
	Poly Sync 40+ Microsoft Teams Certified USB-A USB-C Speakerphone +BT700 USB-A Adapter	77P36AA
	Poly Sync 40+ USB-A USB-C Speakerphone +BT700 USB-A Adapter	772C5AA
	Poly Sync 60 Microsoft Teams Certified Speakerphone	77P41AA
	Poly Sync 60 Speakerphone	772C2AA
Camera	HP 435 Webcam	77B10AA
	HP 625 Webcam	6Y7L1AA
	HP USB-A 325 Webcam	53X27AA,53X27UT
Cases	HP 14 Convertible Laptop Backpack Tote	9C2H1AA
	HP 14 Modular Laptop Sleeve	9J499AA

	HP 15.6 Modular Laptop Backpack	9J496AA
	HP 15.6 Modular Laptop Bag	9J497AA
	HP 15.6 Modular Laptop Sleeve	9J498AA
	HP Campus blue Backpack	7K0E5AA
	HP Campus green Backpack	7K0E4AA
	HP Campus XL Marble Stone Backpack	7K0E2AA
	HP Campus XL Tie Dye Backpack	7K0E3AA
	HP Convertible Laptop Stand	9C2H2AA
	HP Everyday 14 odyssey gray Laptop Bag	A08KJAA
	HP Everyday 14 odyssey gray Laptop Briefcase	A08KGAA
	HP Everyday 16 odyssey gray Laptop Backpack	A08KLUT
	HP Everyday 16 odyssey gray Laptop Bag	A08KKAA
	HP Everyday 16 odyssey gray Laptop Briefcase	A08KHUT
	HP Prelude 15.6 Backpack	1E7D6UT,50P32AA
	HP Prelude 15.6 Top Load	1E7D7AA,50P31AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5UT
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Executive 14.1 Laptop Sleeve	6B8Y3AA
	HP Renew Executive 16 Laptop Backpack	6B8Y1AA,6B8Y1UT
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Travel 18 Liter 15.6 iron gray Laptop Backpack	6H2D9AA
	HP Travel 25 Liter 15.6 iron gray Laptop Backpack	6H2D8AA
Commodity	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

Docking	HP Thunderbolt 4 100W G6 Dock	9X472UT
	HP Thunderbolt 4 Ultra 180W G6 Dock	9X481UT
	HP Thunderbolt 4 Ultra 280W G6 Dock	AW5M5UT
	HP USB-C™ 120W G5 Dock	5TW10AA
	HP USB-C™ G5 Essential Dock	72C71AA
	HP USB-C™/A 120W G2 Universal Dock	5TW13AA
	HP Thunderbolt™ 120W G4 Dock	4J0A2AA
	HP Thunderbolt™ 280W G4 Dock w/Combo Cable	4J0G4AA
Hub	HP 4K USB-C Multiport Hub	6G843AA,6G843UT
	HP Universal USB-C Hub and Laptop Charger Combo	9H0H9AA
	HP Universal USB-C Multiport Hub	50H55UT
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C Travel Hub G3	86S97AA,86S97UT
Keyboard	HP 125 Wired Keyboard	266C9AA
	HP 225 Wireless Keyboard	805T1AA,805T1UT
	HP 320K USB Wired Keyboard	9SR37AA,9SR37UT
	HP 405 Multi-Device Backlit Wired Keyboard	7N7C1AA,7N7C1UT
	HP 435 Programmable Wireless Keypad	7N7C3AA
	HP 455 Programmable Wireless Keyboard	4R177AA
	HP 475 Dual-Mode Wireless Keyboard	7N7B9AA,7N7B9UT
	HP 485 Comfort Wired Keyboard	8T6M2AA
	HP 685 Comfort Dual-Mode Keyboard	8T6L9AA,8T6L9UT
	HP 725 Multi-Device Rechargeable Wireless Keyboard	9T5B2AA
	HP 965 black Ergonomic Wireless Keyboard	7E756AA
	HP 975 Dual-Mode USB+Bluetooth Wireless Keyboard	3Z726AA
Keyboard & Mouse Combo	HP 225 Wired Mouse and Keyboard Combo	286J4AA
	HP 225 Wired Mouse and Keyboard Combo White	86J24AA
	HP 655 Wireless Keyboard and Mouse Combo	4R009AA
	HP 655 Wireless Keyboard and Mouse Combo White	860P8AA
	HP 685 Comfort Dual-Mode Keyboard and Mouse Combo	8T6L7UT
	HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo	9T5B0UT
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA,9SR36UT

Mouse	HP 105 Mouse Pad	8X595AA
	HP 125 Wired Mouse	265A9UT
	HP 128 Laser Wired Mouse	265D9AA
	HP 205 Desk Mat	8X597AA
	HP 235 Slim Wireless Mouse	4E407UT
	HP 320M Wired Mouse	9VA80AA
	HP 425 Programmable Wireless Mouse	7M1D5AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5UT
	HP 515 Ultra-Fast Rechargeable Wireless Mouse	9C2F7AA
	HP 685 Comfort Dual-Mode Mouse	8T6M0UT
	HP 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
Power	HP 65W GaN USB-C LC Laptop Charger	9Y3X5AA,9Y3X5UT
	HP 65W LC USB-C AC power adapter	1P3K6AA
	HP 65W GaN USB-C Laptop Charger	600Q8UT
	HP 65W USB-C Laptop Charger	671R3AA,671R3UT
Network and Communications	HP 4G LTE-Advanced Pro Cat16 WWAN	B8BD2AA

CHANGELOG

Date of change	Version History		Description of change
April 3, 2025	V1 to V2	Updated	USB Power Delivery Section
May 7, 2025	V2 to V3	Added	Graphics Disclaimer
May 20, 2025	V3 to V4	Updated	Docking Section
July 17, 2025	V4 to V5	Updated	Power Section
August 6, 2025	V5 to V6	Updated	Software and Security Section
September 17, 2025	V6 to V7	Updated	Software and Security Section
October 3, 2025	V7 to V8	Updated	NET/COMM Section AMO Section
October 17, 2025	V8 to V9	Updated	Processor Section
January 29, 2026	V9 to V10	Updated	Callouts Section Ports Section
March 18, 2025	V10 to V11	Updated	Processor Section
March 30, 2026	V11 to V12	Updated	Memory Section
April 27, 2026	V12 to V13	Updated	Memory Section
September 2, 2026	V13 to V14	Updated	Storage and Drives