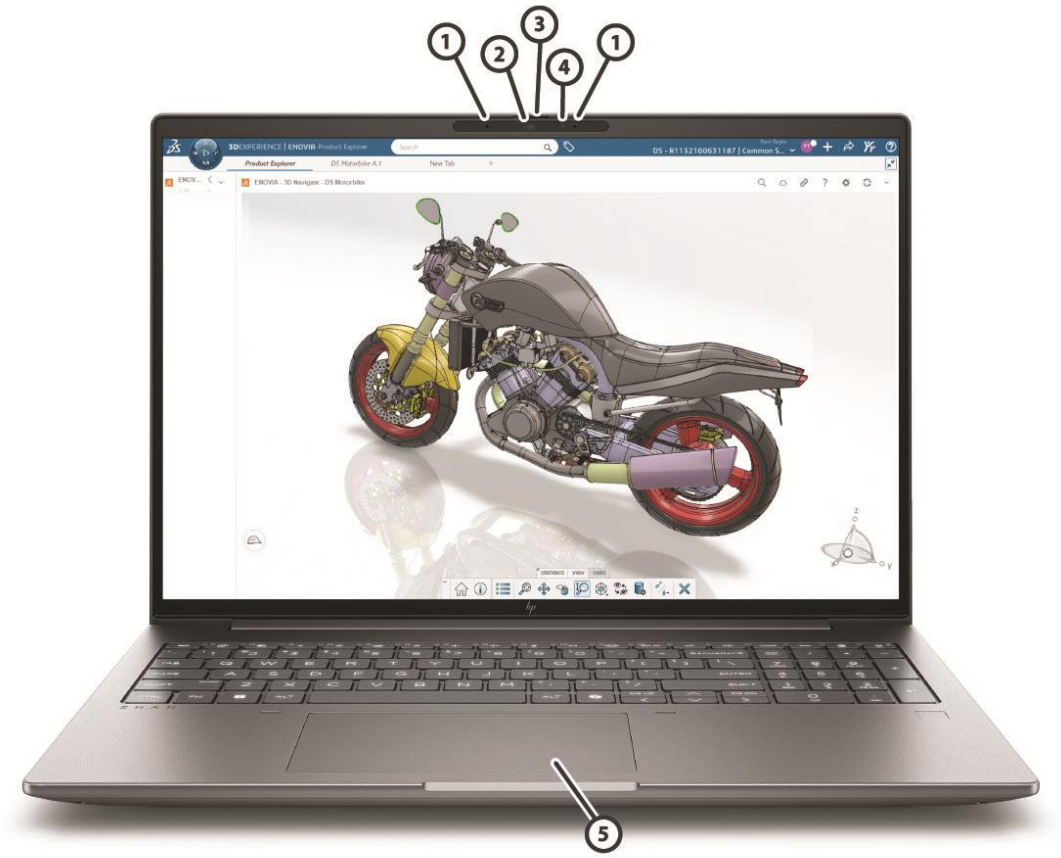
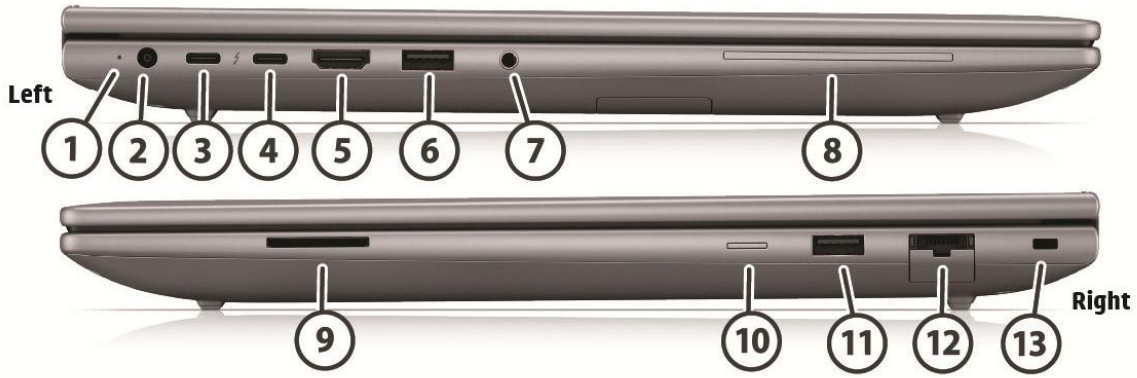
HP ZBook X G2i 16 inch Mobile Workstation PC



Front

1	Internal Microphone (2)	4	Webcam LED
2	Webcam	5	Touchpad
3	Camera Shutter		



Sides

1	Power Indicator LED	9	SD card reader
2	Power connector	10	Nano SIM card slot (optional)
3	Thunderbolt™ 4 with (USB Power Delivery, DisplayPort™ 2.1) [1]	11	USB Type-A 5Gbps signaling rate (Powered)
4	Thunderbolt™ 4 with (USB Power Delivery, DisplayPort™ 2.1) [1]	12	RJ45 Ethernet port
5	HDMI 2.1	13	Nano Security Lock slot
6	USB Type-A 5Gbps signaling rate (Powered)		
7	Headphone/mic combo jack		
8	Smart Card Reader (optional)		

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

PRODUCT NAME

HP ZBook X G2i 16 inch Mobile Workstation PC

OPERATING SYSTEM

Preinstalled
FreeDOS
Ubuntu Linux 24.04
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 [1]
Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) [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	Cores	Number of P-cores	Number of E-cores	Number of LP E-cores	Threads	Smart Cache	Max Turbo Frequency		Intel SIPP/ vPro® Enterprise	NPU
							P-cores	E-cores		
Intel® Core™ Ultra 9 386H processor	16 cores	4	8	4	16	18 MB	4.90 GHz	3.5 Ghz	X	50 TOPS
Intel® Core™ Ultra 7 366H processor [2, 3, 4, 5, 6]	16 cores	4	8	4	16	18 MB	4.80 Ghz	3.4 Ghz	X	50 TOPS
Intel® Core™ Ultra 7 356H processor [2, 3, 5, 6]	16 cores	4	8	4	16	18 MB	4.70 GHz	3.3 Ghz		50 TOPS
Intel® Core™ Ultra 5 336H processor [2, 3, 4, 5, 6]	12 cores	4	4	4	12	18 MB	4.60 GHz	3.2 Ghz	X	47 TOPS

Processor Family
Intel® Core™ Ultra 9 processor
Intel® Core™ Ultra 7 processor
Intel® Core™ Ultra 5 processor

2. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel® numbering, branding, naming are not a measurement of clock speed.
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 (or higher) Pro or Enterprise 64 bit edition, 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
6. In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com

GRAPHICS

Integrated
Intel® Graphics

Discrete IC Chip
NVIDIA® RTX PRO™ 500 Blackwell
NVIDIA® RTX PRO™ 1000 Blackwell
NVIDIA® RTX PRO™ 2000 Blackwell

NVIDIA® RTX PRO™ 3000 Blackwell

Supported protocols
Support HDMI 2.1 (up to 8K 60Hz compressed)
Display supported (including internal display; dock may be required) up to 5

DISPLAY

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

Non-Touch
16.0 inch diagonal, WUXGA (1920 x 1200), 60 Hz IPS anti-glare, 300 nits, sRGB 62.5% eDP 1.2 w/o PSR
16.0 inch diagonal, 2.5K (2560 x 1600), 120 Hz WLED+LBL IPS anti-glare, 400 nits, AD-100
16.0 inch diagonal, WUXGA (1920 x 1200), 60 Hz WLED+LBL IPS anti-glare, 400 nits, sRGB 100% eDP1.5 Low Power
16.0 inch diagonal, WUXGA (1920 x 1200), LBL IPS anti-glare, 800 nits, Sure View 6 sRGB 100% eDP1.5 [7]
16.0 inch diagonal, WQUXGA (3840 x 2400), 120 Hz IPS anti-glare, micro-edge, 500 nits, HP DreamColor DCI-P3 100% eDP 1.4+PSR

Touch
16.0 inch diagonal, WUXGA (1920 x 1200), LCD touch IPS anti-glare, 400 nits, sRGB 62.5% eDP 1.2 w/o PSR

Display Size (Diagonal)
40.6 cm (16.0")

Aspect Ratio
16:10

Screen to Body Ratio
90.60%

Max Hinge Open Angle
170°

7. 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 name
HP Thunderbolt™ 280W G6 Dock

Total number of supported displays (incl.the notebook) display)
4

Max. resolutions supported
(4) 4K @60Hz*
(2) 4K @ 120Hz*
(3) QHD @ 120Hz*
(1) QHD @ 360Hz*

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

Technical limitations
*Requires DisplayPort 1.4 support with Display Stream Compression (DSC).
Bluetooth required for HP Quick Connect. HP Quick Connect available on select HP notebooks.
Maximum resolution and display support is dependent on the maximum capability of the notebook.

Thunderbolt Hosts:
Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host.
Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz
Non-Thunderbolt hosts:
The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is
(1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port
Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K single cable + (1) 4K UHD @ 60 Hz in high resolution mode. In multi-function mode the maximum resolution for (3) displays is (2) 5K single cable @ 30Hz + (1) 4K UHD @ 30Hz.

STORAGE AND DRIVES

Maximum Storage
8 TB

Storage [8]
512GB PCIe Gen5 2280 NVMe Self Encrypted OPAL2 Value Solid State Drive
1TB PCIe-5x4 2280 NVMe Self Encrypted OPAL2 Solid State Drive
2TB PCIe-5x4 2280 NVMe Self Encrypted OPAL2 Solid State Drive

512GB PCIe Gen5 2280 NVMe Value Solid State Drive
1TB PCIe Gen5 2280 NVMe Value Solid State Drive

1TB PCIe 2280 NVMe Value Solid State Drive
1TB PCIe-5x4 2280 NVMe Solid State Drive
2TB PCIe-5x4 2280 NVMe Solid State Drive
4TB PCIe-5x4 2280 NVMe Solid State Drive

Citadel 512 GB PCIe®-3x4 NVMe™ TLC double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive
Citadel 1 TB PCIe®-3x4 2280 NVMe™ TLC double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive
Citadel 2 TB PCIe®-3x4 2280 NVMe™ TLC double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive

Secondary Storage (Not available when the NVIDIA® RTX PRO™ 3000 Blackwell graphics card is chosen)
1TB PCIe-5x4 2280 NVMe 2nd Solid State Drive
2TB PCIe-5x4 2280 NVMe 2nd Solid State Drive
4TB PCIe-5x4 2280 NVMe 2nd Solid State Drive

Storage Slots
2 x M.2 Gen5/Gen4 2280

RAID
RAID: RAID 0, RAID 1 Supported

8. 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
128GB DDR5-6400 MT/s (2 x 64 GB)

RAM Support
RAM Support : 16GB, 24GB, 32GB, 48GB, 64GB, 128GB

Memory [9]
128GB DDR5-6400 MT/s (2 x 64 GB)
64GB DDR5-6400 MT/s (1 x 64 GB)
64GB DDR5-5600 MT/s (2 x 32 GB)
48GB DDR5-5600 MT/s (2 x 24GB)
32GB DDR5-5600 MT/s (2 x 16 GB)
32GB DDR5-5600 MT/s (1 x 32 GB)
24GB DDR5-5600 MT/s (1 x 24GB)
24GB DDR5-5600 MT/s (2 x 12GB)
16GB DDR5-5600 MT/s (2 x 8 GB)
16GB DDR5-5600 MT/s (1 x 16 GB)

Memory Slots
2x SODIMM/CSODIMM
System runs at 5600 MT/s for SODIMM & 6400 MT/s for CSODIMM (with 1x64GB or 128GB)

9. 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 1GbE Vpro Ethernet Controller
Intel® I219-V 1GbE Ethernet Controller

WLAN

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 WW WLAN [12, 13]
Intel® BE211 Wi-Fi 7 Bluetooth® 6.0 non-vPro WW WLAN[11]
Intel® BE211 Wi-Fi 7 Bluetooth® 6.0 vPro WW WLAN[11]

WWAN

HP R15 5G Solution
HP R15 5G HP Go Solution

LPWAN

HP RW220-GL LTE (Low Power) (CAT-1bis) [10]

NFC

NFC Mirage WNC XRAV-1

Miracast

Native Miracast Support[14]

10. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.
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 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. 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. 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
FHD camera
5MP+Infrared camera

Sensors
Ambient Light Sensor (Privacy Panel Only)
Fingerprint Sensor
Hall Effect Sensor
HP Sure Platform
HP Tamper Lock
Thermal Sensor

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard
HP Standard Notebook Keyboard, spill-resistant, Backlit, DuraKeys keyboard.
HP Standard Notebook Keyboard, spill-resistant, Privacy, Backlit, DuraKeys keyboard.

Pointing Device
Clickpad
Microsoft Precision Touchpad Default Gestures Support
Multi-touch gesture support

Function Keys [15]
ESC - System information
F1 - Display Switching
F2 - Blank or Privacy
F3 - Brightness Down
F4 - Brightness Up
F5 - Keyboard Backlight
F6 - Audio Mute
F7 - Volume Down
F8 - Volume Up
F9 - Mic Mute
F10 - Play and Pause
F11 – HP App
F12 - Print Screen
Power Button (with LED)
Insert
Delete
Home
End
Page up
Page down
Microsoft Copilot
Hidden Function Keys
Fn+R - Break, Fn+S - Sys Rq, Fn+C - Scroll Lock

15. Copilot+ in Windows requires Windows 11. Some features require an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Microsoft in Windows is not available, the Copilot key will lead to the Bing search engine. See aka.ms/copilotpluspcs.

SOFTWARE AND SECURITY

Software
Buy Microsoft Office (Sold Separately)[16]
Edge Customization
HP Connection Optimizer
HP Desktop Support Utilities (Desktops Only)
HP Hotkey Support
HP Notifications
HP PC Hardware Diagnostics UEFI
HP PC Hardware Diagnostics Windows
HP Privacy Settings
HP Services Scan [17]
HP Support Assistant [18]
HSA Fusion for Commercial
HSA Telemetry for Commercial
HP app (BNB, MWS, SFF & TWR) or HP app with Multicamera support (AIO & Mini) [19]
Poly Camera Pro
Poly Studio Desktop [20]

Manageability Features
HP Client Catalog (download) [21]
HP Client Management Script Library (download) [22]
HP Cloud Recovery [23]
HP Connect for Microsoft Endpoint Manager [24]
HP Driver Packs (download) [25]
HP Image Assistant (download) [26]
HP Manageability Integration Kit (download) [27]
HP Patch Assistant (download) [28]
HP Power Manager with Battery Health Manager (download) [29] (Notebook Only)

Security Features
HP Secured-Core PC Enable [30]
Windows Hello Enhanced Sign-In Security
HP Wolf Security for Business [31] includes:
HP Sure Admin [32]
HP Sure Click [33]
HP Sure Recover [34]
HP Sure Run [35]
HP Sure Sense [36]
HP Sure Start [37]
HP Tamper Lock [38]

Optional Security Features
HP Wolf Pro Security Edition
HP Wolf Enterprise Security Edition
HP Platform Certificate on device

Security- TPM

Model
Nuvoton NPCT760HAEYX

Firmware Version
7.2.4.1

TCG
TCG TPM 2.0

FIPS 140-3 Compliant
Yes

Model
Model: STMicro ST33KTPM2X32DKG9

Firmware Version
9.257

TCG
TPM 2.0

FIPS 140-3 Compliant
Yes

BIOS
Absolute Persistence Module [39]
HP Bios Recovery
HP BIOS Update via Network
HP BIOSphere [40]
HP Secure Erase [41]
HP DriveLock & Automatic DriveLock
TPM

Smartcard Reader
Model number
Alcorlink AK9563

FIPS 140-2 Compliant
FIPS 201 Compliant:

IPv6 Support
Yes

FirstNet Certified
Yes

Does the BIOS implement the ISO/IEC 19678:2015 (formerly NIST 800-147) guidelines?
Yes
UEFI version
2.9
Class
3

16. Microsoft 365 sold separately and requires Internet access for activation.
17. HP Services Scan automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit http://www.hp.com/smart-support.
18. HP Support Assistant is available on Windows. For more information, please visit http://www.support.hp.com/help/hp-support-assistant
19. HP app with Multicamera support for Mini Desktop PC will only available on 13th processor and beyond.
20. Poly Studio Desktop requires a Windows OS.
21. HP Client Catalog not preinstalled, however available for download at (https://www.hp.com/us-en/solutions/client-management-solutions.html).
22. HP Client Management Script Library (https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools).
23. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail, please refer to: https://support.hp.com/us-en/document/c05115630.
24. 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.
25. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.
26. HP Image Assistant not preinstalled, however available for download at (https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html)
27. HP Manageability Integration Kit can be downloaded from http://www.hp.com/go/clientmanagement.

28. HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html.
29. 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.
30. 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.
31. HP Wolf Security for Business requires Windows 10 or 11(Pro or Home) or higher, includes various HP security features and is available on HP X, Ultra, Pro, Elite, Engage and Workstation products. See product details for included security features.
32. 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
33. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
34. 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.
35. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.
36. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS.
37. HP Sure Start is available on select HP PCs and requires Windows 10 and higher
38. HP Tamper Lock can be Enabled/disabled by customers or IT administrator with administrator authority.
39. 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/.
40. HP BIOSphere features may vary depending on the platform and configuration.
41. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special.

POWER

Power supply availability may vary by country.
Battery is internal and replaceable by customer. Serviceable through warranty.

Power Supply
HP 200W Slim PFC 4.5 mm Smart (3-pin) AC power adapter
HP 150W Slim PFC 4.5 mm Smart (3-pin) AC power adapter
HP 120 W active PFC AC power adapter

Battery
HP Long Life 6 cell, 96Wh Polymer
HP Long Life 3 cell, 62Whr Polymer

Battery Recharge Time
Supports battery HP Fast Charge: approximately 50% in 30 minutes [42]

Power Cord
3-wired plug- 1.0m
3-wired plug- 1.83m

Battery life [43]
UMA: Up to 19 hours
Discrete: Up to 10 hours 30 mins

Battery Weight
Battery Weight (metric)
62Whr Long Life Polymer Fast charge 3 cell Battery
96Wh Long Life Polymer Fast charge 6 cell Battery

Battery Weight (imperial)
62Whr Long Life Polymer Fast charge 3 cell Battery
96Wh Long Life Polymer Fast charge 6 cell Battery

42. 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.
43. Mobile Mark 30 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See http://www.bapco.com for additional details.

WEIGHT & DIMENSIONS

Weight will vary by configuration. Does not include power adapter.
Front height measurement is near the front edge where the mechanical chassis taper begins. Back height measurement is near the rear edge where the mechanical chassis taper ends.

Product Weight
Starting at 1.999 kg (4.407 lb)
Weight will vary by configuration. Does not include power adapter.

Product Dimensions (w x d x h) [44]
Width: 359.40 mm (14.15 in)
Depth: 251.00 mm (9.882 in)
Maximum height: 24.90 mm (0.98 in)

Pallet Dimensions (w x d x h)
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.

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

PORTS/SLOTS

Left side
2 x Thunderbolt™ 4 with (USB Power Delivery, DisplayPort™ 2.1) [45]
1 x USB Type-A 5Gbps signaling rate (Powered)
1 x HDMI 2.1
1 x Power connector
1 x 3.5mm headphone/mic combo jack
1 x Smart Card Reader (optional)

Right side
1 x USB Type-A 5Gbps signaling rate (Powered)
1 x RJ45 Ethernet port
1 x Nano SIM card slot (optional)
1 x Nano Security Lock slot
1 x SD card reader

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

ENVIRONMENTAL DATA

<table>
<tr><td rowspan="3">Environmental Data</td><td>Eco-Label Certifications & Declarations</td><td>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*</td></tr>
<tr><td>Sustainable Impact Specifications</td><td>Product Carbon Footprint
At least 30% ocean bound plastic in the Speaker enclosure and 5% in keyboard button membrane[1]
At least 30% post-consumer recycled plastic[2]
At least 40% recycled metal[3]
External Power Supply 90% Efficiency
Low Halogen[4]
100% of HP paper-based packaging is from recycled or certified sustainable sources[5]
Bulk packaging available</td></tr>
<tr><td>System Configuration

Energy Consumption (in accordance with US ENERGY STAR® test method)</td><td>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

<table>
<tr><th></th><th>115VAC, 60Hz</th><th>230VAC, 50Hz</th><th>100VAC, 50Hz</th></tr>
<tr><td>Normal Operation (Sort idle)</td><td>6.34 W</td><td>6.39 W</td><td>6.25 W</td></tr>
<tr><td>Normal Operation (Long idle)</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td>Sleep</td><td>1.83 W</td><td>1.82 W</td><td>1.68 W</td></tr>
<tr><td>Off</td><td>0.30 W</td><td>0.31 W</td><td>0.30 W</td></tr>
</table>

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.</td></tr>
</table>

	Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
	Normal Operation (Short idle)	22 BTU/hr	22 BTU/hr	21 BTU/hr
	Normal Operation (Long idle)	N/A	N/A	N/A
	Sleep	6 BTU/hr	6 BTU/hr	6 BTU/hr
	Off	1 BTU/hr	1 BTU/hr	1 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	14.1	
	Fixed Disk – Random writes	2.7	14.7	
	Active mode – Sequential reads	3.1	20.9	
	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 http://www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 91.5% recycle-able when properly disposed of at end of life.		
	Packaging Materials	**External:**	PAPER/Corrugated	280 g
			PAPER/Molded Pulp	207 g
			OTHER/other	27 g
		The plastic packaging material contains at least 61% recycled content.		
		The corrugated paper packaging materials contains at least 61% 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. 5. HP paper and fiber-based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included. Plastic cushions are made from >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. [46]

46. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit 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.

Certification and Compliance
ENERGY STAR® certified
EPEAT Gold registered and has attained EPEAT Climate+ in the US, status and tier level varies by country, see http://www.epeat.net.
EPEAT Gold
TCO 10 Certified
RCTA DO-160G
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015
SEPA
GS Mark
Eyesafe Certification – Worldwide

Sustainable Impact Specifications
Recycled Aluminum and Magnesium, 75% PCR w/30% ITE plastics

1. Based on US registration according to EPEAT criteria and EPEAT Climate+, status and tier level varies by country. Visit http://www.epeat.net for more information.
2. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
3. Percentage of ocean-bound plastic contained in each component varies by product.
4. 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.
5. Plastic cushions are made from >90% recycled plastic.
6. Recycled plastic content percentage is based on the definition set in the EPEAT criteria.
7. ITE Derived Closed Loop Plastic percentage is based on the definition set in the EPEAT criteria.
8. Molded pulp cushions made from 100% recycled wood fiber and organic materials.

SYSTEM UNIT

Stand - Alone Power Requirements (AC Power)	
Nominal Operating Voltage	20.0 V
Max Operating Power	UMA < 120 W Discrete < 200 W
Temperature	
Operating	Operating: 0° to 35° C (32° to 95° F) System performance may be reduced above 32°C (89.6°F)
Non - operating	Non-operating: -20° to 60° C (-4° to 140° F) System performance may be reduced above 32°C (89.6°F)
Relative Humidity	
Operating	Operating: 10% to 90% (non-condensing)
Non - operating	Non-operating: 5% to 95%, 38.7° C (101.6° F) maximum wet bulb temperature
Shock	
Operating	Operating: 40 G, 2 ms, half-sine
Non - operating	Non-operating: 240 G, 2 ms, half-sine
Random Vibration	
Operating	Operating: 1.043 grms
Non - operating	Non-operating: 3.500 grms
Altitude(unpressurized)	
Operating	Operating: 3,048 m (10,000 ft)
Non - operating	Non-Operating: 12,192 m (40,000 ft)
Industry Standard Certifications	
Regulatory Model Number	HSN-Q40C
CSA/UL 62368-1	Yes
ENERGY STAR®	Yes
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes. Related commodity should comply with ISO 9241 Standards.
China CCC/SRRC/CEL	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes
Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
EPEAT Gold	Yes
Low Blue Light	Yes
WW RoHS	Yes
CECP [1]	Yes

Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	Yes
SEPA [1]	Yes
MIL - STD Testing	MIL-STD 810H

1. Based on actual government bid request.

DISPLAYS

Availability may vary by country.

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

16.0 inch diagonal, WUXGA (1920 x 1200), LBL IPS anti-glare, 800 nits, Sure View 6 sRGB 100% eDP1.5	**Active Area**	344.680 x 215.420 mm (typ)
	Dimensions (W x H)	349.980 x 224.820 mm (max)
	Weight	310 g (max)
	Diagonal Size	16.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1500:1 (typ)
	Refresh Rate	60 (typ)
	Brightness	800 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@150: 1.8 W (Max)
16.0 inch diagonal, WQUXGA (3840 x 2400), 120 Hz IPS anti-glare, micro-edge, 500 nits, HP DreamColor DCI-P3 100% eDP 1.4+PSR	**Active Area**	344.680 x 215.420 (typ)
	Dimensions (W x H)	349.980 x 225.420 (max)
	Weight	300 (max)
	Diagonal Size	16.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1200:1 (typ)
	Refresh Rate	120 (typ)
	Brightness	500 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	3840x2400 (WQUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	DCI-P3 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	4.98 (max)/ 5.84 (max)

16.0 inch diagonal, WUXGA (1920 x 1200), 60 Hz IPS anti-glare, 300 nits, sRGB 62.5% eDP 1.2 w/o PSR	**Active Area**	344.6784 x 215.424 (typ)
	Dimensions (W x H)	350.680 x 226.070 (max)
	Weight	390 (max)
	Diagonal Size	16.0 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
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	EBL@150: 2.7W (Max) EBL@200: 3.4W (Max)
16.0 inch diagonal, 2.5K (2560 x 1600), 120 Hz WLED+LBL IPS anti-glare, 400 nits, AD-100	**Active Area**	344.6784x215.424 (typ)
	Dimensions (W x H)	349.98 x 224.82 (max)
	Weight	280 (max)
	Diagonal Size	16.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	2000:1 (typ)
	Refresh Rate	120 (typ)
	Brightness	400 (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	2560x1600 (2.5K)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	Adobe RGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	2.5 (max)/ 3.0 (max)
16.0 inch diagonal, WUXGA (1920 x 1200), LCD touch IPS anti-glare, 400 nits, sRGB	**Active Area**	344.680 x 215.420 mm (typ)
	Dimensions (W x H)	350.680 x 226.070 mm (max)
	Weight	400 g (max)

62.5% eDP 1.2 w/o PSR	**Diagonal Size**	16.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	Yes
	Contrast Ratio	1000:1 (typ)
	Refresh Rate	60 (typ)
	Brightness	400 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption	BLU Power consumption 4.864W(Max.)
16.0 inch diagonal, WUXGA (1920 x 1200), 60 Hz WLED+LBL IPS anti-glare, 400 nits, sRGB 100% eDP1.5	**Active Area**	344.678 x 215.424 mm (typ)
	Dimensions (W x H)	349.980 x 224.820 mm (max)
	Weight	380 g (max)
	Diagonal Size	16.0 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1500:1(typ)
	Refresh Rate	60 Hz
	Brightness	400 nits (typ)
	Pixel Resolution	RGB
	Pixel Resolution - Format	1920x1200 (WUXGA)
	Aspect Ratio	16:10
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	EBL@200: 2.4W (Max) EBL@240: 2.9W (Max)

STORAGE

1 TB PCIe® NVMe™ TLC 2280 double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	TLC
	Weight	10 g (0 lb)
	Interface	PCIe Gen3x4 NVMe
	Sequential Read	3000 MB/s ±20%
	Sequential Write	1500 MB/s ±20%
	Logical Blocks	2000409264
	Features	Opal2.0; TRIM; L1.2
2 TB PCIe® NVMe™ TLC 2280 double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	2 TB
	NAND Type	TLC
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen3x4 NVMe
	Sequential Read	3000 MB/s ±20%
	Sequential Write	1500 MB/s ±20%
	Logical Blocks	4000797360
	Features	Opal2.0; TRIM; L1.2
512 GB PCIe® NVMe™ TLC 2280 double-sided Self Encrypted OPAL2 FIPS 140-2 M.2 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	TLC
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen3x4 NVMe
	Sequential Read	1400 MB/s ±20%
	Sequential Write	450 MB/s ±20%
	Logical Blocks	1000215216
	Features	Opal2.0; TRIM; L1.2
1 TB PCIe® Gen5x4 NVMe™ SSD	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	Performance
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	1st SSD: 13000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 9000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)

	Logical Blocks	2000409264
	Features	Pyrite2.0; TRIM; L1.2
2 TB PCIe® Gen5x4 NVMe™ SSD	**Form Factor**	M.2 2280
	Capacity	2 TB
	NAND Type	Performance
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	1st SSD: 13500 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 10000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	4000797360
	Features	Pyrite2.0; TRIM; L1.2
1 TB PCIe® Gen5x4 NVMe™ Self Encrypted OPAL2 SSD	**Form Factor**	M.2 2280
	Capacity	1TB
	NAND Type	Performance
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	1st SSD: 13000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 9000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	2000409264
	Features	Opal2.0; TRIM; L1.2
2 TB PCIe® Gen5x4 NVMe™ Self Encrypted OPAL2 SSD	**Form Factor**	M.2 2280
	Capacity	2 TB
	NAND Type	Performance
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	1st SSD: 13500 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 10000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	4000797360
	Features	Opal2.0; TRIM; L1.2
4 TB PCIe® Gen5x4 NVMe™ SSD	**Form Factor**	M.2 2280
	Capacity	4 TB
	NAND Type	Performance

	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5x4 NVMe
	Sequential Read	1st SSD: 13500 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 10000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	8001573552
	Features	Pyrite2.0; TRIM; L1.2
1 TB PCIe Gen5 NVMe™ Value 2280 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	1TB
	NAND Type	Value
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5 NVMe
	Sequential Read	1st SSD: 9500 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 7000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 6600 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	2000409264
	Features	Pyrite2.0; TRIM; L1.2
1 TB PCIe® NVMe™ M.2 SSD	**Form Factor**	M.2 2280
	Capacity	1TB
	NAND Type	Value
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen4 NVMe
	Sequential Read	1st SSD: 3500 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 3500 MB/s ±20% (in PCIe 4x4 lot)
	Sequential Write	1st SSD: 2700 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 2700 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	2000409264
	Features	Pyrite2.0; TRIM; L1.2
512 GB PCIe Gen5 NVMe™ Value 2280 Self Encrypted OPAL2 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	512GB
	NAND Type	Value
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5 NVMe
	Sequential Read	1st SSD: 9000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 6000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 6000 MB/s ±20% (in PCIe 4x4 slot)

	Logical Blocks	1000215216
	Features	Opal2.0; TRIM; L1.2
512 GB PCIe Gen5 NVMe™ Value 2280 Solid State Drive	**Form Factor**	M.2 2280
	Capacity	512GB
	NAND Type	Value
	Weight	10 g (0.02 lb)
	Interface	PCIe Gen5 NVMe
	Sequential Read	1st SSD: 9000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 7000 MB/s ±20% (in PCIe 4x4 slot)
	Sequential Write	1st SSD: 6000 MB/s ±20% (in PCIe 5x4 slot) 2nd SSD: 6000 MB/s ±20% (in PCIe 4x4 slot)
	Logical Blocks	1000215216
	Features	Pyrite2.0; TRIM; L1.2

NETWORKING / COMMUNICATION

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 WW WLAN[1,2]	**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 802.11n: max 300Mbps 802.11ac : 1733Mbps 802.11ax : max 2.4Gbps
	Modulation	Direct Sequence Spread Spectrum 1024-QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, OFDM, QPSK
	Security	WPA3 personal and enterprise including WPA2 transition mode. 802.1X EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0 -MSCHAPv2 (EAP-SIM, EAP-AKA, EAP-AKA') 128-bit AES-CCMP, 256-bit AES-GCMP
	Network Architecture Models	Ad-hoc (Peer to Peer) 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 802.11 compliant power saving mode
Receiver Sensitivity[3]	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
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(0.099 oz)
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 Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 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	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
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	Advanced Audio Distribution Profile (A2DP) Basic Imaging Profile (BIP) Bluetooth® 4.1 -ESR 5/6/7 Compliance Bluetooth® 4.2 ESR08 Compliance Bluetooth® 5.2 Bluetooth® 5.3 Channel Selection Algo Compliance to the latest Errata Sectipn 12.3 of Bluetooth® 5.3 specification Encryption key size control enhancements ESR 9/10 Compliance FAX Profile (FAX) Hands Free Profile (HFP) Headset Profile (HSP) Host to Controller Encryption Key Control Enhancements LE 2Mbps 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® BE211 Wi-Fi 7 Bluetooth® 6.0 non-vPro WW WLAN[4]	**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/be 2.402 – 2.482 GHz 802.11a/n/ac/ax/be 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 1024-QAM, 16-QAM, 256-QAM, 4096-QAM, 64-QAM, BPSK, CCK, 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 certification
Network Architecture Models	Ad-hoc (Peer to Peer) 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 minimu 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) : +4dBm minimum 802.11be MCS13(EHT40)(6GHz) : +7dBm minimum 802.11be MCS13(EHT80)(6GHz) : +10dBm minimum 802.11be MCS13(EHT160)(6GHz) : +13dBm minimum 802.11be MCS13(EHT320)(6GHz) : +16dBm minimum
Power Consumption	Transmit mode : 3.1 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 802.11 compliant power saving mode
Receiver Sensitivity[3]	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
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: 3.0 g (0.106 oz)
Operating Voltage	3.3 v +/- 9 %
	Integrated Bluetooth® specifications
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 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 Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps,

	voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR.
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	Advanced Audio Distribution Profile (A2DP) Basic Imaging Profile (BIP) Bluetooth® 4.1 -ESR 5/6/7 Compliance Bluetooth® 4.2 ESR08 Compliance Bluetooth® 5.2 Bluetooth® 5.3 Channel Selection Algo Compliance to the latest Errata Sectipn 12.3 of Bluetooth® 5.3 specification Encryption key size control enhancements ESR 9/10 Compliance FAX Profile (FAX) Hands Free Profile (HFP) Headset Profile (HSP) Host to Controller Encryption Key Control Enhancements LE 2Mbps 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® BE211 Wi-Fi 7 Bluetooth® 6.0 vPro WW WLAN[4]	**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/be 2.402 – 2.482 GHz 802.11a/n/ac/ax/be 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 1024-QAM, 16-QAM, 256-QAM, 4096-QAM, 64-QAM, BPSK, CCK, 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 certification
Network Architecture Models	Ad-hoc (Peer to Peer) 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 minimu 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) : +4dBm minimum 802.11be MCS13(EHT40)(6GHz) : +7dBm minimum 802.11be MCS13(EHT80)(6GHz) : +10dBm minimum 802.11be MCS13(EHT160)(6GHz) : +13dBm minimum 802.11be MCS13(EHT320)(6GHz) : +16dBm minimum
Power Consumption	Transmit mode : 3.1 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 802.11 compliant power saving mode
Receiver Sensitivity[3]	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
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: 3.0 g(0.106 oz)
Operating Voltage	3.3 v +/- 9 %
	Integrated Bluetooth® specifications
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 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 Bluetooth® Low Energy : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR.
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	Advanced Audio Distribution Profile (A2DP) Basic Imaging Profile (BIP) Bluetooth® 4.1 -ESR 5/6/7 Compliance Bluetooth® 4.2 ESR08 Compliance Bluetooth® 5.2 Bluetooth® 5.3 Channel Selection Algo Compliance to the latest Errata Sectipn 12.3 of Bluetooth® 5.3 specification Encryption key size control enhancements ESR 9/10 Compliance FAX Profile (FAX) Hands Free Profile (HFP) Headset Profile (HSP) Host to Controller Encryption Key Control Enhancements LE 2Mbps 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
HP 5G NR Sub-6 CAT19 [5]	**Technology Operating Bands**	WCDMA/HSPA+ operating bands: Band 01: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL) Band 02: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL) Band 04: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)

Band 05: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 08: 880 to 915 MHz (UL), 925 to 960 MHz (DL)

LTE FDD/TDD operating bands:
Band 01: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
Band 02: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
Band 03: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
Band 04: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
Band 05: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 07: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
Band 08: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)
Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL)
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
Band 29: 717 to 728 MHz (DL)
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
Band 32: 1452 to 1496 MHz (DL)
Band 34: 2010 to 2025 MHz (UL/DL)
Band 38: 2570 to 2620 MHz (UL/DL)
Band 39: 1880 to 1920 MHz (UL/DL)
Band 40: 2300 to 2400 MHz (UL/DL)
Band 41: 2496 to 2690 MHz (UL/DL)
Band 42: 3400 to 3600 MHz (UL/DL)
Band 43: 3400 to 3800 MHz (UL/DL)
Band 46: 5150 to 5925 MHz (DL)
Band 48: 3550 to 3700 MHz (UL/DL)
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)

5GNR Sub 6GHZ:
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)

	n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL) n30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL) n38: 2570 to 2620 MHz (UL/DL) n40: 2300 to 2400 MHz (UL/DL) n41: 2496 to 2690 MHz (UL/DL) n48: 3550 to 3700 MHz (UL/DL) n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL) n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL) n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL) n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL) n77: 3300 to 4200 MHz (UL/DL) n78: 3300 to 3800 MHz (UL/DL) n79: 4400 to 5000 MHz (UL/DL) n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Wireless Protocol Standards	NR Sub6G rel15 200MHz 2 DLCA, 256 QAM 200MHz 2 ULCA, 256 QAM 15KHz/30KHz SCS for FDD/TDD LTE Rel15 100MHz 5 DLCA, 256 QAM 40MHz 2 ULCA, 256 QAM UMTS Rel8
GPS	Only support L1 C/A
GPS Bands	GPS L1 (1575.42MHz) GLONASS L1 (1602MHz) Beidou B1 (1561.098MHz) Galileo E1 (1575.42MHz) QZSS (1575.42 MHz)
Maximum Data Rates	DC-HSPA+: 42.00 Mbps (Download), 11.50 Mbps (Upload) 5G NSA sub-6 Peak: 4.67 Gbps (Download), 1.25 Gbps (Upload) UE Category DL 19(1.60 Gbps Download), UE Category UL 18(211.00 Mbps Upload)
Maximum Output Power	UMTS: 23.5 dBm Not support HPUE LTE (all bands except B41): 23.0 dBm Support HPUE NR band (except n30=22dBm & n48=21dBm): 23.0 dBm Support HPUE
Maximum Power Consumption	5G Sub 6: 3,500 mA (peak); 1,674 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
HP 5G NR Sub-6 CAT19 HP Go Solution [5]	**Technology Operating Bands**	WCDMA/HSPA+ operating bands: Band 01: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL) Band 02: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL) Band 04: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL) Band 05: 824 to 849 MHz (UL), 869 to 894 MHz (DL) Band 08: 880 to 915 MHz (UL), 925 to 960 MHz (DL) LTE FDD/TDD operating bands: Band 01: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL) Band 02: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL) Band 03: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL) Band 04: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL) Band 05: 824 to 849 MHz (UL), 869 to 894 MHz (DL) Band 07: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL) Band 08: 880 to 915 MHz (UL), 925 to 960 MHz (DL) Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL) Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL) Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL) Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL) Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL) Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL) Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL) Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL) Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL) Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL) Band 29: 717 to 728 MHz (DL) Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL) Band 32: 1452 to 1496 MHz (DL) Band 34: 2010 to 2025 MHz (UL/DL) Band 38: 2570 to 2620 MHz (UL/DL) Band 39: 1880 to 1920 MHz (UL/DL) Band 40: 2300 to 2400 MHz (UL/DL) Band 41: 2496 to 2690 MHz (UL/DL) Band 42: 3400 to 3600 MHz (UL/DL) Band 43: 3400 to 3800 MHz (UL/DL) Band 46: 5150 to 5925 MHz (DL) Band 48: 3550 to 3700 MHz (UL/DL) Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL) Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)

	5GNR Sub 6GHZ: n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL) n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL) n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL) n25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL) n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL) n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL) n30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL) n38: 2570 to 2620 MHz (UL/DL) n40: 2300 to 2400 MHz (UL/DL) n41: 2496 to 2690 MHz (UL/DL) n48: 3550 to 3700 MHz (UL/DL) n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL) n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL) n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL) n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL) n77: 3300 to 4200 MHz (UL/DL) n78: 3300 to 3800 MHz (UL/DL) n79: 4400 to 5000 MHz (UL/DL) n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Wireless Protocol Standards	NR Sub6G rel15 200MHz 2 DLCA, 256 QAM 200MHz 2 ULCA, 256 QAM 15KHz/30KHz SCS for FDD/TDD LTE Rel15 100MHz 5 DLCA, 256 QAM 40MHz 2 ULCA, 256 QAM UMTS Rel8
GPS	Only support L1 C/A
GPS Bands	GPS L1 (1575.42MHz) GLONASS L1 (1602MHz) Beidou B1 (1561.098MHz) Galileo E1 (1575.42MHz) QZSS (1575.42 MHz)
Maximum Data Rates	DC-HSPA+: 42.00 Mbps (Download), 11.50 Mbps (Upload) 5G NSA sub-6 Peak: 4.67 Gbps (Download), 1.25 Gbps (Upload) UE Category DL 19(1.60 Gbps Download), UE Category UL 18(211.00 Mbps Upload)
Maximum Output Power	UMTS: 23.5 dBm Not support HPUE LTE (all bands except B41): 23.0 dBm Support HPUE NR band (except n30=22dBm & n48=21dBm): 23.0 dBm Support HPUE

	Maximum Power Consumption	5G Sub 6: 3,500 mA (peak); 1,674 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 Mode (PCD-VCD)	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 MIFARE 1K MIFARE 4K MIFARE DESFire FeliCa Jewel and Topaz
	Card Emulation Mode (PICC-VICC)	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	0°C to 70°C (32°F to 158°F)

	Storage Temperature	-20°C to 125°C (-4°F to 257°F)
	Humidity	Operating: 10 - 90% Non-Operating: 5 - 95%
	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 1GbE Vpro Ethernet Controller[6]	**Connector**	RJ-45
	System Interface	PCI™ (Intel proprietary) + SMBus
	Data Rates Supported	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) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds Half Duplex operation at 10 & 100 Mbit/s
	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 IEEE 802.3bz 2.5GBASE-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 2500Mbp Full Run: 4500mW 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 1GbE Ethernet Controller[6]	**Connector**	RJ-45
	System Interface	PCI™ (Intel proprietary) + SMBus
	Data Rates Supported	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) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds Half Duplex operation at 10 & 100 Mbit/s
	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 IEEE 802.3bz 2.5GBASE-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 2500Mbp Full Run: 4500mW 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
HP RW220-GL LTE (Low Power) (CAT-1bis)[7]	**Technology/Operating bands**	LTE FDD: 1800 (Band 3), 2100 (Band 1), 700 (Band 12 lower), 700 (Band 28), 800 (Band 20), 850 (Band 18 lower), 850 (Band 19 upper), 850 (Band 26), 850 (Band 5), 900 (Band 8) MHz
	Wireless Protocol Standards	3GPP TS 21.111 V10.0.0: USIM and IC card requirements 3GPP TS 27.005 V10.0.1: Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS) 3GPP TS 27.007 V10.0.8: AT command set for User Equipment (UE) 3GPP TS 31.102 V10.11.0: Characteristics of the Universal Subscriber Identity Module (USIM) application 3GPP TS 31.11 V10.16.0: Universal Subscriber Identity Module (USIM) Application Toolkit (USAT) 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//Galileo/QZSS A-GPS (MS-A, MS-B)
GPS Bands	1575.42 MHz ± 1.023 MHz Galileo E1:1575.42Mhz±1.023Mhz QZSS L1:1575.42Mhz±1.023Mhz Beidou 1561.098 MHz
Maximum Data Rates	LTE FDD: 10.00 Mbps (Download), 5.00 Mbps (Upload)
Maximum Output Power	B1/3: 23 +/-2dBm B5/8/12/18/19/20/26/28: 24 +1.7/-2dBm
Maximum Power Consumption	Peak Current: 290.945mA Average current: 8.035mA
Form Factor	M.2 2242-S3 Key B
Weight	3.9 g (0.138 oz)
Dimensions (Length x Width x Thickness)	42.00 x 22.00 x 2.30 mm (1.65 x 0.87 x 0.09 inch)
Embedded eSIM	Yes

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 6E is supported.
2. 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.
3. 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).
4. Wi-Fi 7 requires a Wi-Fi 7 router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 7 is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 7 is supported. Wi-Fi 7 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.
5. 5G module is optional. WWAN-ready configuration must be selected at purchase to add WWAN at a later date. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.
6. 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.
7. LPWAN (also called Mobile Narrowband) supports HP Protect & Trace with Wolf Connect service through the subscription term, but does not support mobile broadband use.

POWER

Power supply availability may vary by country.

HP 200W Slim PFC 4.5 mm Smart (3-pin) AC power adapter	Weight (DC Cable Included)	530g(+/-10g) (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	88 % at 115 Vac and 89 % at 230Vac
	Input frequency range	47-63 Hz
	Input AC current	Max. 3.0 A at 90 Vac
	Output	
	Output power	200W
	DC output	19.5V
	Hold - up time	100% load 5ms at 115 Vac input
	Output Over Current Protection	< 21.0A
	AC Inlet Type	C14
	DC Cable Connector	4.5mm Barrel Type
	DC Cable Material	PVC
	Connector	
	Connector	C14
	DC Plug	Barrel 4.5 mm
	Environmental Design	
	Operating temperature	32°F to 95°F (0° to 35°C)
	Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC), NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
150W 4.5mm AC power adapter	Weight (DC Cable Included)	0.716 lb (325 g) max (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	88% at 115 Vac and 89% at 230Vac
	Input frequency range	47-63Hz
	Input AC current	Max. 2.7 A at 90 Vac

	Output	
	Output power	150W
	DC output	19.5V
	Hold - up time	100% load 5ms at 115 Vac input
	Output Over Current Protection	< 16.0A
	AC Inlet Type	C6
	DC Cable Connector	4.5mm Barrel Type
	DC Cable Material	PVC
	Connector	
	Connector	C6
	DC Plug	Barrel 4.5 mm
	Environmental Design	
	Operating temperature	32°F to 95°F (0° to 35°C)
	Non - operating(storage) temperature	-4° F to 185°F (-20° to 85°C)
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives *Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1 *Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC), NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
120W 4.5mm AC power adapter	Weight (DC Cable Included)	350g(+/-10g) (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	88 % at 115 Vac and 89 % at 230Vac
	Input frequency range	47-63 Hz
	Input AC current	Max. 1.7 A at 90 Vac
	Output	
	Output power	120W
	DC output	19.5V
	Hold - up time	100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input
	Output Over Current Protection	< 18.0A
	AC Inlet Type	C6
	DC Cable Connector	4.5mm Barrel Type
	DC Cable Material	PVC
	Connector	

	Connector	C6
	DC Plug	Barrel 4.5 mm
	Environmental Design	
	Operating temperature	32°F to 95°F (0° to 35°C)
	Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC

Battery

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

IC 96Wh Long Life Polymer Fast charge 6 cell Battery	Weight	330 g ± 10 g (1.73 lb)
	Cells / Type	6 cell Lithium-Ion Polymer / 695061
	Energy	
	Voltage	11.70 V
	Amp - hour capacity	8.210 Ah
	Watt - hour capacity	96Wh
	Temperature	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 65°C (14°F to 149°F)
	Optional Travel Battery Available	No
MC 62Wh Long Life Polymer Fast charge 3 cell Battery	Weight	292 g ± 10 g (1.64 lb)
	Cells / Type	3 cell Lithium-Ion Polymer / 645974
	Energy	
	Voltage	11.58 V
	Amp - hour capacity	5.355 Ah
	Watt - hour capacity	62Wh.
	Temperature	
	Operating (Charging)	0°C to 45°C (32°F to 113°F)
	Operating (Discharging)	-10°C to 65°C (14°F to 149°F)

Optional Travel Battery Available	No

AUDIO

Privacy panel is only available on select models.

Codec	Realtek ALC3247
Audio I/O Ports	3.5mm Headset: CTIA only; Headphone-out; Combo headphone/microphone jack; Combo audio jack with CTIA
Internal Speaker Amplifier	Audio Codec with class-D
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 Microsoft 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

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 and has attained EPEAT Climate+ 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 speaker[1]
- At least 30% 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 (Short idle)	6.63 W	6.79 W	6.60 W
Normal Operation (Long idle)	N/A	N/A	N/A
Sleep	2.59 W	2.65 W	2.35 W
Off	0.25 W	0.30 W	0.25 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)	23 BTU/hr	23 BTU/hr	23 BTU/hr
Normal Operation (Long idle)	N/A	N/A	N/A
Sleep	8.9 BTU/hr	9 BTU/hr	8 BTU/hr
Off	0.9 BTU/hr	1 BTU/hr	0.9 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	14.1
Fixed Disk – Random writes	2.7	14.7
Optical Drive – Sequential reads	3.1	20.9

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 registered as EPEAT Gold and has attained EPEAT Climate+ in the US, status and tier level varies by country, see http://www.epeat.net.
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product is 93.5% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	417 g
	PAPER/Molded Pulp	125 g
Internal:	PLASTIC/Polyethylene low density – LDPE	10 g

The plastic packaging material contains at least 0.0% recycled content.

The corrugated paper packaging materials contains at least 50% 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.iWe 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

6. 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.
7. Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT criteria for computers.
8. 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.
9. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.
10. 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.

OPTIONS

Container Name	Description	Part Number
Adapters	HP 240W Thunderbolt 4 Cable	BR1W8AA
	HP HDMI to VGA Adapter	H4F02AA, H4F02UT
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA,4Z7Z7UT
	HP USB-C to DisplayPort Adapter G2	8Y8Y1AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA,1WC36UT
	HP USB-C to RJ45 Adapter G2	4Z527AA,4Z527UT
	HP USB-C to USB 3.0 Adapter	N2Z63AA, N2Z63UT
	HP USB-C to USB-C Cable	5AR72AA
	HP USB-C to VGA Adapter	N9K76AA, N9K76UT
Audio - Earbuds	Poly Voyager Free 60/60+ Black Earbuds	8L5A6AA
	Poly Voyager Free 60/60+ Microsoft Teams Certified Black Earbuds	8L5A8AA
	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8G4AA
	Poly Voyager Free 60+ Carbon Black Earbuds	7Y8H0AA
Audio - Headset	HP USB G2 Stereo Headset	428K6AA,428K6UT
	Poly Blackwire 3210 Monaural USB-C Headset	8X214AA
	Poly Blackwire 3215 Monaural USB-C Headset	8X227AA
	Poly Blackwire 3220 Stereo USB-C Headset	8X228AA
	Poly Blackwire 3225 Stereo USB-C Headset	8X229AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X215AA
	Poly Blackwire 3310 Monaural USB-C Headset	8X216AA
	Poly Blackwire 3315 Monaural USB-C Headset	8X217AA
	Poly Blackwire 3315 Monaural USB-C Headset	8X218AA
	Poly Blackwire 3320 Stereo USB-C Headset	8X219AA
	Poly Blackwire 3320 Stereo USB-C Headset	8X220AA
	Poly Blackwire 3325 Stereo USB-C Headset	8X221AA
	Poly Blackwire 3325 Stereo USB-C Headset	8X222AA
	Poly Blackwire 5210 Monaural USB-C Headset	8X230AA
	Poly Blackwire 5220 Stereo USB-C Headset	8X231AA
	Poly Blackwire 8225 Stereo USB-C Headset	8X223AA
	Poly Blackwire 8225 Stereo USB-C Headset	8X225AA
	Poly EncorePro 320 Binaural Headset	77T26AA
	Poly EncorePro 510 Monaural Headset	783Q2AA
	Poly EncorePro 510 Monoaural Headset	783Q1AA
	Poly EncorePro 520 Binaural Headset	783P6AA
	Poly EncorePro 520 Binaural Headset	783P7AA
	Poly EncorePro 530 Discreet Headset	783P2AA
	Poly EncorePro 530 Headset	783P3AA
	Poly EncorePro 540 Convertible Headset	783P0AA
	Poly EncorePro 540 Convertible Headset	783P1AA

Poly EncorePro 720 Binaural Headset	8R707AA
Poly EncorePro HW710 Single Ear Headset	8R708AA
Poly EncorePro Monoaural 310 Headset	77T43AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R0AA
Poly EncorePro Monoaural 515 with USB-A Headset	783R1AA
Poly EncorePro Stereo 525 with USB-A Headset	783R2AA
Poly EncorePro USB-A Convertible 545 Headset	783R4AA
Poly EncorePro USB-A Monoaural 715 Headset	783N5AA
Poly EncorePro USB-A Stereo 525 Headset	783R3AA
Poly EncorePro USB-A Stereo 725 Headset	783M6AA
Poly EncorePro USB-C Monoaural 310 Headset	760Q8AA
Poly Savi 7210 DECT 1880-1900 MHz Single Ear Headset	8D3G9AA
Poly Savi 7210 DECT 1920-1930 MHz Single Ear Headset	7W6D4AA
Poly Savi 7220 Binaural DECT 1880-1900 MHz Headset	8D3G8AA
Poly Savi 7220 Binaural DECT 1920-1930 MHz Headset	7W6D5AA
Poly Savi 7310 DECT 1880-1900 MHz Single Ear Headset	8D3G3AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L561AA
Poly Savi 7310 Monaural DECT 1880-1900 MHz Headset	8L575AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	7S430AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L570AA
Poly Savi 7310 Monaural DECT 1920-1930 MHz Headset	8L585AA
Poly Savi 7310-M DECT 1880-1900 MHz Single Ear Headset	8D3K7AA
Poly Savi 7310-M DECT 1920-1930 MHz Single Ear Headset	7S439AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8D3F7AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L545AA
Poly Savi 7320 Stereo DECT 1880-1900 MHz Headset	8L553AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8D3F8AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L546AA
Poly Savi 7320 Stereo DECT 1893-1906 MHz Headset	8L555AA
Poly Savi 7320 Stereo DECT 1910-1920 MHz Headset	8D3G0AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	7S429AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L549AA
Poly Savi 7320 Stereo DECT 1920-1930 MHz Headset	8L559AA
Poly Savi 7320-M Stereo DECT 1880-1900 MHz Headset	8D3J6AA
Poly Savi 7320-M Stereo DECT 1893-1906 MHz Headset	8D3K2AA
Poly Savi 7320-M Stereo DECT 1910-1920 MHz Headset	8D3K0AA
Poly Savi 7320-M Stereo DECT 1920-1930 MHz Headset	7S435AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3E9AA
Poly Savi 8210 DECT 1880-1900 MHz USB-A Headset	8D3F1AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T29AA
Poly Savi 8210 DECT 1920-1930 MHz USB-A Headset	77T31AA
Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F2AA

	Poly Savi 8220 DECT 1880-1900 MHz USB-A Headset	8D3F5AA
	Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77T33AA
	Poly Savi 8220 DECT 1920-1930 MHz USB-A Headset	77Y82AA
	Poly Savi 8220 Stereo DECT 1880-1900 MHz Top	8Y9C4AA
	Poly Savi 8245 DECT 1880-1900 MHz Headset	8D3H2AA
	Poly Savi 8245 DECT 1880-1900 MHz USB-A Headset	8D3F4AA
	Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A7AA
	Poly Savi 8410 Monaural DECT 1880-1900 MHz Headset	8L5A9AA
	Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E6AA
	Poly Savi 8410 Monaural DECT 1920-1930 MHz Headset	8L7E9AA
	Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B2AA
	Poly Savi 8420 Stereo DECT 1880-1900 MHz Headset	8L5B3AA
	Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F2AA
	Poly Savi 8420 Stereo DECT 1920-1930 MHz Headset	8L7F5AA
	Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B4AA
	Poly Savi 8445 DECT 1880-1900 MHz Convertible Headset	8L5B6AA
	Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F1AA
	Poly Savi 8445 DECT 1920-1930 MHz Convertible Headset	8L7F8AA
	Poly Voyager 4310 Headset	77Y93AA
	Poly Voyager 4310 Monaural Headset	77Y92AA
	Poly Voyager 4310 USB-A Headset	76U48AA
	Poly Voyager 4310 USB-A Headset	77Y91AA
	Poly Voyager 4310 USB-C Headset	77Y94AA
	Poly Voyager 4310 USB-C Headset	77Y95AA
	Poly Voyager 4310 USB-C Headset	77Y96AA
	Poly Voyager 4310-M USB-C Headset	77Y97AA
	Poly Voyager 4320 Headset	77Z00AA
	Poly Voyager 4320 Stereo USB-A Headset	77Y99AA
	Poly Voyager 4320 USB-A Headset	76U49AA
	Poly Voyager 4320 USB-A Headset	77Y98AA
	Poly Voyager 4320 USB-C Headset	76U50AA
	Poly Voyager 4320 USB-C Headset	77Z30AA
	Poly Voyager 4320 USB-C Headset	77Z31AA
	Poly Voyager 4320-M Headset	77Z32AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J3AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J5AA
	Poly Voyager Focus 2 USB-C-C Headset	9T9J6AA
	Poly Voyager Surround 80 USB-C Headset	8G7T9AA
	Poly Voyager Surround 80 USB-C Headset	8G7U0AA
	Poly Voyager Surround 85 USB-C Headset	8G7T7AA
	Poly Voyager Surround 85 USB-C Headset	8G7T8AA
Audio - Speaker phone	Poly Sync 10 Speakerphone	77P34AA

	Poly Sync 40 Speakerphone	77P35AA
	Poly Sync 40+ USB-A USB-C Speakerphone	77P36AA
	Poly Sync 40+ USB-A USB-C Speakerphone	772C5AA
	Poly Sync 60 Speakerphone	772C2AA
	Poly Sync 60 Speakerphone	77P41AA
	Poly Sync USB-A USB-C 10 Speakerphone	772C3AA
	Poly Sync USB-A USB-C 40 Speakerphone	772C4AA
Cases	HP Campus Core 16 blue Laptop Backpack	B9RB4AA
	HP Campus Core 16 green Laptop Backpack	B9RB5AA
	HP Campus XL Marble Stone Backpack	7K0E2AA
	HP Campus XL Tie Dye Backpack	7K0E3AA
	HP Convertible Laptop Stand	9C2H2AA
	HP Everyday 16 odyssey gray Laptop Backpack	A08KLAA, A08KLUT
	HP Everyday 16 odyssey gray Laptop Bag	A08KKAA
	HP Everyday 16 odyssey gray Laptop Briefcase	A08KHAA, A08KHUT
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA,3E2U5UT
	HP Renew Business 17.3 Laptop Bag	3E2U6AA,3E2U6UT
	HP Renew Executive 16 Laptop Backpack	6B8Y1AA,6B8Y1UT
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Travel Plus 22 Liter 16 Laptop Bag	A2CE1AA
	HP Travel Plus 30 Liter 17 Laptop Backpack	A2CE0AA
Commodity	HP 16-inch Widescreen Laptop Privacy Filter	BH0M5AA
	HP Combination Nano Cable Lock	63B28AA,63B28UT
	HP Essential Combination Nano Cable Lock	63B31AA,63B31UT
	HP Nano Keyed Cable Lock	1AJ39AA,1AJ39UT
	HP Nano Master Keyed Cable Lock	1AJ40AA,1AJ40UT
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA,6UW42UT
Docking	HP Thunderbolt™ 280W G6 Dock	AW5M5UT
Hub	HP Portable USB-C Hub	B8SU8AA, B8SU8UT
	HP USB-C to USB-A Hub	Z6A00AA, Z6A00UT
Keyboard	HP 125 G2 Wired Keyboard	AY2Y7AA
	HP 125 Wired Keyboard	266C9AA,266C9UT
	HP 225 Wireless Keyboard	805T1AA,805T1UT
	HP 320K G2 Wired Keyboard	9SR37UT
	HP 320K USB Wired Keyboard	9SR37AA,9SR37UT
	HP 355 Compact Multi-Device Keyboard	692S9AA,692S9UT
	HP 405 Backlit Wired Keyboard	7N7C1AA,7N7C1UT
	HP 435 Programmable Wireless Keypad	7N7C3AA
	HP 475 Dual-Mode Wireless Keyboard	7N7B9AA,7N7B9UT
	HP 485 Comfort Wired Keyboard	8T6M2AA
	HP 495K Multi-Device Keyboard	BD5F5AA, BD5F5UT
	HP 585K Multi-Device Keyboard with Palm Rest	BD5F7AA

	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,3Z726UT
Keyboard & Mouse Combo	HP 225 Antimicrobial Wired Mouse and Keyboard Combo	286K3AA
	HP 225 Wired Mouse and Keyboard Combo	286J4AA,286J4UT
	HP 225 Wired Mouse and Keyboard Combo	AX2Y7AA
	HP 225 Wired Mouse and Keyboard Combo Cashmere White	86J24AA
	HP 225 Wired Mouse and Keyboard Combo Cashmere White	AW5S6AA
	HP 235 Wireless Mouse and Keyboard Combo	1Y4D0AA,1Y4D0UT
	HP 685 Comfort Dual-Mode Keyboard and Mouse Combo	8T6L7AA,8T6L7UT
	HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo	9T5B0AA,9T5B0UT
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C	BE1Q0UT
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo 495C White	BE1M6AA
	HP Multi-Device Dual-Mode Mouse and Keyboard Combo with Palm Rest 585C	BD5F3AA
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA,9SR36UT
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36UT
Monitor	HP Series 7 Pro 24 WUXGA USB-C Monitor	8Y2F7AA
	HP Series 7 Pro 27 4K Conferencing Monitor	8K135AA
	HP Series 7 Pro 27 4K Thunderbolt 4 Monitor	8J9G2AA
	HP Series 7 Pro 27 QHD Thunderbolt 4 Monitor	8J9E6AA,8J9E6UT
	HP Series 7 Pro 31.5 4K Thunderbolt 4 Docking Monitor	B7JM6AA
	HP Series 7 Pro 31.5 4K Thunderbolt 4 Monitor	8Y2K9AA
	HP Series 7 Pro 34 WQHD Conferencing Monitor	8K157AA,8K157UT
	HP Series 7 Pro 37.5 WQHD+ Thunderbolt 4 Monitor	8K167AA
	HP Series 7 Pro 39.7 5K2K Conferencing Monitor	8Y2R2AA
Mouse	HP 105 Black Wired Mouse	822M9AA,822M9UT
	HP 105 Mouse Pad	8X595AA
	HP 125 Wired Mouse	265A9AA,265A9UT
	HP 128 Laser Wired Mouse	265D9AA,265D9UT
	HP 205 Desk Mat	8X597AA
	HP 235 Slim Wireless Mouse	4E407AA,4E407UT
	HP 245 Black Bluetooth Mouse	81S67AA,81S67UT
	HP 255 Dual Wireless Mouse	8R3U1AA,8R3U1UT
	HP 285 Silent Wireless Mouse	6G4E6AA
	HP 320M Wired Mouse	9VA80AA,9VA80UT
	HP 405 Quiet Black Wireless Mouse	AZ7B3AA
	HP 425 Programmable Wireless Mouse	7M1D5AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA,3B4Q5UT

	HP 515 Ultra-Fast Rechargeable Wireless Mouse	9C2F7AA
	HP 685 Comfort Dual-Mode Mouse	8T6M0AA,8T6M0UT
	HP 695 Qi-Charging Wireless Mouse	8F1Y4AA
	HP 705 Rechargeable Wireless Mouse	AZ7B1AA
	HP 715 Rechargeable Multi-Device Bluetooth Mouse	6E6F0AA,6E6F0UT
	HP 925 Ergonomic Vertical Wireless Mouse	6H1A5AA
	HP Tilt Ergonomic Mouse 725M	BH0Z5AA
	HP Travel USB Mouse	G1K28AA
	HP Ultra-Fast Scroll Wireless Mouse 785M	B8YX4AA
Power	330W AC Adapter	BF7A6AA
	HP 150W Smart 4.5 mm AC power adapter	4SC18AA,4SC18UT
	HP 230W Smart AC Adapter	AQ9X8AA
	HP 230W ZBook Slim Smart 4.5 mm AC Adapter	6E6M1AA

CHANGELOG

Date of change	Version History		Description of change
April 2, 2026	V1 to V2	Updated	Display Section
April 10, 2026	V2 to V3	Updated	Environmental Data Section
June 25, 2026	V3 to V4	Updated	Storage And Drives
July 3, 2026	V4 to V5	Updated	Storage And Drives

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