Features

HP ZBook 8 G1i 16 Mobile Workstation

1	ACS & ALS Sensor	
2	Microphone (2)	
3	IR Camera (optional)	
4	Webcam	
5	Camera Shutter	
6	IR LEDS (optional)	
7	Webcam LED	
8	Nano SIM card slot (Optional)	

Left

9	LED Indicator
10	USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)
11	USB Type-A 5Gbps signaling rate (Powered)
12	RJ45 Ethernet port (standard)
13	Security lock slot (Integrated)
14	Fingerprint reader / Power button
15	Touchpad

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 1

Features

Right

1	HDMI 2.1	4	Power Indicator LED
2	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1)	5	Headphone/mic combo jack
3	Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1)	6	Smart Card Reader (Optional)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 2

Features

PRODUCT NAME

HP ZBook 8 G1i 16 Mobile Workstation

OPERATING SYSTEM

Preinstalled OS
FreeDOS
Windows 11 Home - HP recommends Windows 11 Pro for business [1]
Windows 11 Home Single Language - HP recommends Windows 11 Pro for business [1]
Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement) [1]
Windows 11 Pro [1]
Linux Ubuntu 24.04

[1] Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com.

NOTE: Your product does not support Windows 8 or Windows 7. In accordance with Microsoft's support policy, HP does not support the Windows® 8 or Windows 7 operating system on products configured with Intel® and AMD® 7th generation and forward processors or provide any Windows® 8 or Windows 7 drivers on http://www.support.hp.com. A full list of HP products and the Windows 10 versions tested is available on the HP support website. https://support.hp.com/us-en/document/c05195282

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 3

Features

PROCESSOR

Name[1,2,3,4,5,7]	Cores	Number of P-cores	Number of E-cores	Number Of LP E-core	Threads	Smart Cache	Max Turbo Frequency		Intel SIPP/vPro® Enterprise	NPU	NPU TOPs
							P-cores	**E-cores**			
Intel® Core™ Ultra9 processor 285H	16 cores	6	8	2	16	24 MB	5.40 GHz	4.5 GHz	X	Intel® AI Boost	13
Intel® Core™ Ultra7 processor 265H	16 cores	6	8	2	16	24 MB	5.30 GHz	4.50 GHz	X	Intel® AI Boost	13
Intel® Core™ Ultra7 processor 255H	16 cores	6	8	2	16	24 MB	5.10 GHz	4.40 GHz		Intel® AI Boost	13
Intel® Core™ Ultra5 processor 235H	14 cores	4	8	2	14	18 MB	5.00 GHz	4.40 GHz	X	Intel® AI Boost	13
Intel® Core™ Ultra5 processor 225H	14 cores	4	8	2	14	18 MB	4.90 GHz	4.30 GHz		Intel® AI Boost	13
Intel® Core™ Ultra7 processor 265U	12 cores	2	8	2	14	12 MB	5.30 GHz	4.20 GHz	X	Intel® AI Boost	12
Intel® Core™ Ultra7 processor 255U	12 cores	2	8	2	14	12 MB	5.20 GHz	4.20 GHz		Intel® AI Boost	12
Intel® Core™ Ultra5 processor 235U	12 cores	2	8	2	14	12 MB	4.90 GHz	4.10 GHz	X	Intel® AI Boost	12
Intel® Core™ Ultra5 processor 225U	12 cores	2	8	2	14	12 MB	4.80 Ghz	3.80 GHz		Intel® AI Boost	12

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

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

[3] Intel vPro® requires Windows 10 Pro 64 bit or higher, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd party software in order to run. Features of vPro® Essentials and Enterprise vary. See http://intel.com/vpro

[4] In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com.

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

[7] Features and software that require a NPU may require software purchase, subscription or enablement by a software or platform provider, and third party software may have specific configuration or compatibility requirements. Performance varies by use, configuration, and other factors.

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 4

QuickSpecs

Features
CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated
Intel® Graphics (U Series Processors)
Intel® Arc™ 140T GPU (Ultra 7/9 H Series Processors)
Intel® Arc™ 130T GPU (Ultra 5 H Series Processors)

Discrete
NVIDIA RTX™ 500 Ada Laptop GPU (4 GB GDDR6 dedicated)

Supports
Support HDMI 2.1

DISPLAY

Non-Touch
40.6 cm (16") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, Low Blue Light, 800 nits, sRGB 100%, HP Sure View 5 [6]
35.6 cm (14") diagonal, WQXGA (3840 x 2400), Bent, LCD, 120Hz, UWVA, anti-glare, WLED, 500 nits, DCI-P3 100%, HP DreamColor
40.6 cm (16") diagonal, 2.5K (2560 x 1600), LCD, 120Hz (VRR), UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Adobe 100% + DCI-P3 100%
40.6 cm (16") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED+Low Blue Light, 400 nits, Low Power, sRGB 100%
40.6 cm (16") diagonal, WUXGA (1920 x 1200), LCD, UWVA, Anti-Glare, WLED, 300 nits, sRGB 62.5%

Touch
40.6 cm (16") diagonal, WUXGA (1920 x 1200), LCD, Touch, UWVA, Anti-Glare, WLED, 300 nits, sRGB 62.5%

DisplayPort™ 1.4
HDMI 2.0 Support resolution up to 4K @60 Hz

Displays support
Supports dual display through the dock

Display Size
16.0"
40.6 cm

Features

Docking (Sold Separately)

Docking station model #1	HP Thunderbolt 4 Ultra 180W G6 Dock
Total number of supported displays (incl.the notebook) display)	4
Max.resolutions supported	(4) 4K @60Hz* (2) 4K @ 120Hz* (3) QHD @ 120Hz* (1) QHD @ 360Hz*
Dock Connectors	1x HDMI 2.1, 2x DisplayPort 1.4, 1x Thunderbolt 4, 1x USB-C 3.2 Gen 2 DisplayPort
HP Quick Connect Support	Yes
Extended Power Range Support	Yes
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.
Docking station model #2	HP Thunderbolt™ 120W G4 Dock
Total number of supported displays (incl.the notebook) display)	4
Max.resolutions supported	Quad 4K @60Hz Dual 8K single cable@30 for Thunderbolt hosts or USB-C hosts DisplayPort 1.4 with Display Stream Compression in High-Resolution Mode
Dock Connectors	2x HDMI 2.0, 2x DisplayPort 1.4, 1x Thunderbolt 4, 1x USB-C 3.2 Gen 2 DisplayPort
Technical limitations	Maximum resolution and display support is dependent on the maximum capability of the notebook. Thunderbolt Hosts: Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host. Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz

Features

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

Primary M.2 Storage
2 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [6]
1 TB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [6]
1 TB PCIe® NVMe™ SSD Value [6]
512 GB PCIe® Gen4x4 NVMe™ SSD Three Layer Cell [6]
512 GB PCIe® Gen4x4 NVMe™ Self Encrypted OPAL2 SSD Three Layer Cell [6]
512 GB PCIe® NVMe™ SSD Value [6]
256 GB PCIe® NVMe™ Self Encrypted OPAL2 SSD Value [6]
256 GB PCIe® NVMe™ SSD Value [6]

MEMORY

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

64GB DDR5-5600 MT/s (2 x 32 GB) Memory
32GB DDR5-6400 MT/s (2 x 16 GB) Memory
32GB DDR5-5600 MT/s (1 x 32 GB) Memory
32GB DDR5-5600 MT/s (2 x 16 GB) Memory
16GB DDR5-6400 MT/s (1 x 16 GB) Memory
16GB DDR5-5600 MT/s (1 x 16 GB) Memory
16GB DDR5-5600 MT/s (2 x 8 GB) Memory

Memory Slots
2 SODIMM
System runs at up to 6400 MT/s
Supports Dual Channel Memory(optional).
The memory is accessible/upgradeable by IT or self-maintainers only

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 7

Features

NETWORKING /COMMUNICATIONS

WLAN
Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 vPro® WW WLAN
Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 non-vPro® WW WLAN
Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 vPro® WW WLAN
Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 WW WLAN

WWAN
HP 5G Sub-6 CAT19
HP 4G CAT19

LPWAN
Qualcomm 9205 LTE-M (CAT-M1 fSVC) [12]

NFC
NFC Mirage WNC XRAV-1

Miracast
Native Miracast Support

Ethernet
Intel® I219-LM (vPro®) GbE PCIe NIC

AUDIO/MULTIMEDIA

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

Speaker Power
1W / 8 ohm per speaker

Camera
5MP + Infrared camera
5MP camera
Webcam

Features

Sensors
Ambient Light Sensor
Color Sensor with Ambient Light Sensing
Fingerprint Sensor (optional)
Hall Effect Sensor
HP Sure Platform
HP Tamper Lock [14]
Motion Sensor (select models)
Thermal Sensor

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

HP Premium NB Keyboard, spill-resistant, backlit, Durakey keyboard.
HP Premium NB Keyboard, spill-resistant, Privacy, backlit, Durakey, keyboard.

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

Function Keys
ESC - System information
F1 - Display Switching
F2 - Blank or Privacy
F3 - Brightness Down
F4 - Brightness Up
F5 - Blank or Keyboard Backlight
F6 - Audio Mute
F7 - Volume Down
F8 - Volume Up
F9 - Mic Mute
F10 - Play and Pause
F11 – Programmable Key
F12 - HOME
Power Button (with LED)
Insert
Delete
End
Page up
Page down
Microsoft Copilot [15]

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

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 9

QuickSpecs

Features

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 10

Features

SOFTWARE AND SECURITY

Application Software
Buy Microsoft Office (Sold separately)
HP Connection Optimizer
Edge Customization
HP Hotkey Support
HP Mac Address Manager
HP Notifications
HP PC Hardware Diagnostics UEFI
HP PC Hardware Diagnostics Windows
HP Privacy Settings
HP Services Scan [15]
HP Smart Support [16]
HP Support Assistant [17]
myHP
HSA Fusion for Commercial
HSA Telemetry for Commercial
Poly Lens [18]
Poly Camera Pro
Ubuntu Data Science Stack

Manageability Features
HP Client Catalog (download) [19]
HP Client Management Script Library (download) [20]
HP Cloud Recovery [21]
HP Connect for Microsoft Endpoint Manager
HP Driver Packs (download) [22]
HP Image Assistant (download) [23]
HP Manageability Integration Kit (download) [24]
HP Power Manager with Battery Health Manager (download) [25]

Security Management
Secured-Core PC Enable [26]
Windows Hello Enhanced Sign-In Security (ESS)
HP Wolf Security for Business which includes: [27]
HP Tamper Lock
HP Sure Admin [28]
HP Sure Click [29]
HP Sure Recover [30]
HP Sure Run [31]
HP Sure Sense [32]

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 11

Features
HP Sure Start [33]

BIOS
Absolute Persistence Module [34]
Audio Permanent Disable
HP BIOS Recovery
HP Fingerprint Sensor [35]
BIOS Update via Network
HP BIOSphere Gen6 [36]
HP DriveLock & Automatic DriveLock
HP Secure Erase [37]
HP Wake on WLAN

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

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

17. HP Support Assistant is available on Windows. For more information, please visit https://support.hp.com/us-en/help/hp-support-assistant.18. Poly Lens Desktop requires a Windows OS.

19. HP Client Catalog not preinstalled, however available for download at (https://www.hp.com/us-en/solutions/client-management-solutions.html).

20. HP Client Management Script Library (https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools).

21. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail please refer to: https://support.hp.com/us-en/computer.

22. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.

23. HP Image Assistant not preinstalled, however available for download at (https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html),

24. HP Manageability Integration Kit not preinstalled, however available for downloaded from https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools.

25. 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.

26. 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.

27. HP Wolf Security for Business requires Windows 10 or 11 Pro or higher, includes various HP security features and is available on HP Pro,

Features

Elite, RPOS and Workstation products. See product details for included security features.

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

29. HP Sure Click requires Windows 10 and higher. See https://bit.ly/2PrLT6A_SureClick for complete details.

30. 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.

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

32. HP Sure Sense requires Windows 10 and higher. See product specifications for availability. On units with WWAN shipping to China, HP Sure Sense is only available via Softpaq download.

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

34. 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/.

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

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

37. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special Publication 800-88r "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.

Not all configuration components are available in all regions/countries.   Page 13

c09133729 — Worldwide — Version 5 — August 4, 2025

Features

POWER

HP 140W Slim USB Type-C® AC power adapter
HP 100W Slim USB Type-C® AC power adapter
HP 65W Standard USB Type-C® AC power adapter
HP 65W Slim USB Type-C® AC power adapter
HP 65W Standard USB Type-C® Halogen Free AC power adapter

Battery
HP Long Life 3 cell, 62Whr Polymer
HP Long Life 8 cell, 77Whr Polymer

Power Cord
3-wired plug- 1.0m

Battery life[1]
UMA
Up to 16 hours 15 minutes with 77Whr battery (Intel ARL i7 , UMA graphic, brightness set to 250nits on a 16-inch WUXGA 400nits LP LCD display, 2x8GB DDR5 memory, 256GB SSD)

Discrete
Up to 8 hours 45 minutes with 77Whr battery (Intel Core Ultra7 Processor 265H , DIS graphic, brightness set to 250nits on a 16-inch WUXGA 400nits LP LCD display, 2x8GB DDR5 memory, 256GB SSD)

[1]Mobile Mark 25 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See www.bapco.com for additional details.

WEIGHT & DIMENSIONS

Weight
Product Weight- 62Whr
Starting at 1.72 kg
Starting at 3.79 lb

Product Weight- 77Whr
TBD

Product Dimensions (w x d x h)*
359.0 (W) x 250 (D) x 11.55 (front) x 15.50 (rear), 14.13 in (W) x 9.84 in (D) x .45 in (front) x .61 in (rear)
Maximum height 18.95 mm (0.75) (U Series Configurations)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 14

QuickSpecs

Features

Maximum height 22.9 mm (0.90) (H Series Configurations)

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

Not all configuration components are available in all regions/countries.

Page 15

c09133729 — Worldwide — Version 5 — August 4, 2025

Features

PORTS/SLOTS

Left Side
2 x Thunderbolt™ 4 with USB Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 2.1) [40]
1 x HDMI 2.1
1 x headphone/mic combo jack
1 x Smart Card Reader (Optional)

Right Side
1 x USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)
1 x USB Type-A 5Gbps signaling rate (Powered)
1 x RJ45 Ethernet port (Optional)
1 x Nano SIM card slot (Optional)
1 x Security lock slot (Integrated)

SERVICE AND SUPPORT

1-year warranty and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty except for HP Long Life batteries which will follow the one or three year warranty of the platform. Refer to http://www.hp.com/support/batterywarranty/ for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/cpc. [53]

Certification and Compliance

CSA/UL 62368-1
ENERGY STAR®
FCC/ICES/CISPR/VCCI
CE MARKING
GS Mark
China CCC/SRRC
Taiwan BSMI/NCC
Korea KCC/KC/KES
Ukraine NSoC/TEC
EAEU Compliance
Saudi Arabian Compliance
TCO
EPEAT® Gold [1]
Low Blue Light

[1]EPEAT® registered where applicable. EPEAT ® registration varies by country. See www.epeat.net for registration status by country.

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 16

Technical Specifications – System Unit

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)

Nominal Operating Voltage	20.0V
Average Operating Power	
Integrated graphics	Intel® Graphics / Intel® Arc™ Pro Graphics
Discrete Graphics	NVIDIA® RTX 500 Ada
Max Operating Power	Discrete < 140W
	UMA < 100W
Temperature	
Operating	0° to 35° C (32° to 95° F)
	System performance may be reduced above 32°C (89.6°F)
Non-operating	-20° to 60° C (-4° to 140° F)
	System performance may be reduced above 32°C (89.6°F)
Relative Humidity	
Operating	10% to 90 % (non-condensing)
Non-operating	5% to 95 %, 38.7° C (101.6° F) maximum wet bulb temperature
Shock	
Operating	40 G, 2 ms, half-sine
Non-operating	240 G, 2 ms, half-sine
Random Vibration	
Operating	1.043 grms
Non-operating	3.500 grms
Altitude (unpressurized)	
Operating	3048 m (10000 ft)
Non-operating	12192 m (40000 ft)
Planned Industry Standard Certifications	
Regulatory Model Number	HSN-I62C-6

Technical Specifications – Displays

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

16.0 in 2.5K (2560 x 1600)
Anti-Glare UWVA WLED+LBL
AD-100 400 eDP 1.4+PSR2
120Hz (VRR) bent LCD Panel

Outline Dimensions (W x H x D)	349.98 x 224.82 (max)
Active Area	344.6784x215.424 (typ)
Weight	280 (max)
Diagonal Size	16
Thickness	2.3 / 4.1 (max)
Interface	eDP1.4
Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	2000:1 (typ)
Refresh Rate	120 (typ)
Brightness	400 (typ)
Pixel Resolution - Format	2560 x 1600 (2.5K)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	Adobe RGB 100% + DCI-P3 100%
Color Depth	8
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	Yes
Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.5 (max)/ 3.0 (max)

16.0 in WUXGA (1920 x 1200)
Anti-Glare UWVA LED sRGB
62.5 8bit 300 eDP 1.2 w/o PSR
60Hz bent LCD Panel

Outline Dimensions (W x H x D)	350.680 x 226.070 (max)
Active Area	344.6784 x 215.424 (typ)
Weight	390 (max)
Diagonal Size	16
Thickness	3.0 / 4.8 (max)
Interface	eDP 1.2
Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	1000:1(typ)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 18

Technical Specifications – Displays

Refresh Rate	60 (typ)
Brightness	300 (typ)
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 62.5%
Color Depth	8
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	No
Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.7 (max) / 3.4 (max)

16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA LED sRGB 62.5 8bit 300 TOP eDP 1.2 w/o PSR 60Hz bent LCD Panel

Outline Dimensions (W x H x D)	350.680 x 226.070 (max)
Active Area	344.680 x 215.420 (typ)
Weight	400 (max)
Diagonal Size	16
Thickness	3 / 4.8 (max)
Interface	eDP1.2
Surface Treatment	Anti-Glare
Touch Enabled	Yes
Contrast Ratio	1000 : 1(typ.)
Refresh Rate	60 (typ)
Brightness	300 (typ)
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 62.5%
Color Depth	8
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	NO
Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.43 (max) / 3.03 (max)

16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA Low Blue Light sRGB 100 800 eDP 1.4+PSR+IOL Sure View 5 bent LCD Panel

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 19

Technical Specifications – Displays

Outline Dimensions (W x H x D)	349.980 x224.82 (max)
Active Area	344.680 x215.420 (typ)
Weight	310 (max)
Diagonal Size	16
Thickness	2.3/4.1 (max)
Interface	eDP 1.4
Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	1500 : 1 (typ)
Refresh Rate	60 (typ)
Brightness	800 (typ)
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 100%
Color Depth	8
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	Yes
Power Consumption (W, EBL@ 150nits max/ 200nits max)	1.93(max)/2.38(max)

16.0 in WUXGA (1920 x 1200) Anti-Glare UWVA WLED+LBL sRGB NB2Y 400 eDP 1.4+PSR2 Low-Power 100 bent LCD Panel

Outline Dimensions (W x H x D)	350.680 x 226.470 (max)
Active Area	344.678 x 215.424 (typ)
Weight	330 (max)
Diagonal Size	16
Thickness	2.6 / 4.6 (max)
Interface	eDP1.4
Surface Treatment	Anti-Glare
Touch Enabled	No
Contrast Ratio	1000:1 (typ)
Refresh Rate	60 (typ)
Brightness	400 (typ)
Pixel Resolution - Format	1920 x 1200 (WUXGA)
Backlight	WLED
Pixel Resolution	RGB
Color Gamut Coverage	sRGB 100%
Color Depth	8
Viewing Angle	UWVA 89/89/89/89
Low Blue Light	Yes

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 20

Technical Specifications – Displays

	Power Consumption (W, EBL@ 150nits max/ 200nits max)	1.60 (max)/ 1.95 (max)

16.0 in WQUXGA DRM (3840 x 2400) Anti-Glare UWVA LED DCI-P3 NB2Y 500 eDP1.4 w/o PSR 100 120Hz bent LCD Panel

	Outline Dimensions (W x H x D)	349.980 x 225.420 (max)
	Active Area	344.680 x 215.420 (typ)
	Weight	300 (max)
	Diagonal Size	16
	Thickness	2.3 / 4.1(max)
	Interface	eDP1.4
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1200:1 (typ)
	Refresh Rate	120 (typ)
	Brightness	500 (typ)
	Pixel Resolution - Format	3840 x 2400 (WQUXGA)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	DCI-P3 100%
	Color Depth	8
	Viewing Angle	UWVA 89/89/89/89
	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	4.98 (max)/ 5.84 (max)

Technical Specifications – Storage

STORAGE

SSD 2TB 2280 PCIe-4x4 NVMe Three Layer Cell

Form Factor	M.2 2280
Capacity	2TB
NAND Type	TLC
Height	0.09 in (2.3 mm)
Width	0.87 in (22 mm)
Weight	0.02 lb (10 g)
Interface	PCIe NVMe Gen4X4
Maximum Sequential Read	6400 MB/s ±20%
Maximum Sequential Write	5000 MB/s ±20%
Logical Blocks	4000797360
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	Pyrite 2.0; TRIM; L1.2

SSD 1TB 2280 PCIe-4x4 NVMe Three Layer Cell

Form Factor	M.2 2280
Capacity	1TB
NAND Type	TLC
Height	0.09 in (2.3 mm)
Width	0.87 in (22 mm)
Weight	0.02 lb (10 g)
Interface	PCIe NVMe Gen4X4
Maximum Sequential Read	6400 MB/s ±20%
Maximum Sequential Write	5000 MB/s ±20%
Logical Blocks	2000409264
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	Pyrite 2.0; TRIM; L1.2

SSD 512GB 2280 PCIe-4x4 NVMe Three Layer Cell

Form Factor	M.2 2280
Capacity	512GB
NAND Type	TLC
Height	0.09 in (2.3 mm)
Width	0.87 in (22 mm)
Weight	0.02 lb (10 g)
Interface	PCIe NVMe Gen4X4
Maximum Sequential Read	6400 MB/s ±20%

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 22

Technical Specifications – Storage

	Maximum Sequential Write	3500 MB/s ±20%
	Logical Blocks	1000215215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2

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

	Form Factor	M.2 2280
	Capacity	512GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	6400 MB/s ±20%
	Maximum Sequential Write	3500 MB/s ±20%
	Logical Blocks	1000215215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TCG Opal 2.0; TRIM; L1.2

SSD 1TB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	1TB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	3500 MB/s ±20%
	Maximum Sequential Write	2700 MB/s ±20%
	Logical Blocks	2000409264
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	Pyrite 2.0; TRIM; L1.2

SSD 512GB 2280 PCIe NVMe Value

	Form Factor	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 23

Technical Specifications – Storage

Weight	0.02 lb (10 g)
Interface	PCIe NVMe Gen4X4
Maximum Sequential Read	3500 MB/s ±20%
Maximum Sequential Write	1600 MB/s ±20%
Logical Blocks	1000215215
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	Pyrite 2.0; TRIM; L1.2

SSD 256GB 2280 PCIe NVMe Value

Form Factor	M.2 2280
Capacity	256 GB
NAND Type	Value
Height	0.09 in (2.3 mm)
Width	0.87 in (22 mm)
Weight	0.02 lb (10 g)
Interface	PCIe NVMe Gen4X4
Maximum Sequential Read	3100 MB/s ±20%
Maximum Sequential Write	1200 MB/s ±20%
Logical Blocks	500118192
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	Pyrite 2.0; TRIM; L1.2

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 24

Technical Specifications – Networking

NETWORKING / COMMUNICATION

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 vPro® WLAN [1]	Wireless LAN Standards	IEEE 802.11a
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11b
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11g
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11k
		IEEE 802.11n
		IEEE 802.11r
		IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n/ax
		2.402 – 2.482 GHz
		802.11a/n/ac/ax
		4.9 – 4.95 GHz (Japan)
		5.15 – 5.25 GHz
		5.25 – 5.35 GHz
		5.47 – 5.725 GHz
		5.825 – 5.850 GHz
		5.955 – 6.415 GHz
		6.435 – 6.515 GHz
		6.535 – 6.875 GHz
		6.895 – 7.115 GHz
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11b: 1, 2, 5.5, 11 Mbps
		802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum
		1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
	Security	802.1x authentication
		AES-CCMP: 128 bit in hardware
		IEEE 802.11i
		IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
		WAPI
		WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
		WPA2 certification
		WPA3 (personal) certification

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 25

Technical Specifications – Networking

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
Receiver Sensitivity[2]	• 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	1. Type 2230: 2.8 g
	2. Type 1216: g
Operating Voltage	3.3 v +/- 9 %
Subtitle	Integrated Bluetooth sepcifications

Technical Specifications – Networking

Bluetooth Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH)
	BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW
	Peak (Rx): 230 mW
	Selective Suspend: 17 mW
Bluetooth Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
Bluetooth Profiles Supported	2Mbps LE
	Advanced Audio Distribution Profile (A2DP)
	Basic Imaging Profile (BIP)
	Bluetooth 4.1 -ESR 5/6/7 Compliance
	Bluetooth 4.2 ESR08 Compliance
	Bluetooth 5.2
	Bluetooth 5.3 wireless card
	Channel Selection Algo
	ESR9/10 Compliance
	FAX Profile (FAX)
	Hands Free Profile (HFP)
	Headset Profile (HSP)
	LE Advertisement Extensions
	LE Data Packet Length Extension
	LE Dual Mode
	LE L2CAP Connection Oriented Channels
	LE Link Layer
	LE Link Layer Ping
	LE Long Range
	LE Low Duty Cycle Directed Advertising
	LE Privacy 1.2 –Extended Scanner Filter Policies
	LE Privacy 1.2 –Link Layer Privacy
	LE Secure Connection- Basic/Full

Technical Specifications – Networking

Limited High Duty Cycle Non-Connectable Advertising

Train Nudging & Interlaced Scan

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.

Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately.

2. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Intel® AX211 Wi-Fi 6E Bluetooth® 5.3 WW WLAN [1]	**Wireless LAN Standards**	IEEE 802.11a
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11b
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11g
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11k
		IEEE 802.11n
		IEEE 802.11r
		IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n/ax
		2.402 – 2.482 GHz
		802.11a/n/ac/ax
		4.9 – 4.95 GHz (Japan)
		5.15 – 5.25 GHz
		5.25 – 5.35 GHz
		5.47 – 5.725 GHz
		5.825 – 5.850 GHz
		5.955 – 6.415 GHz
		6.435 – 6.515 GHz
		6.535 – 6.875 GHz
		6.895 – 7.115 GHz
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11b: 1, 2, 5.5, 11 Mbps
		802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
	Modulation	Direct Sequence Spread Spectrum
		1024QAM, 16-QAM, 256-QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
	Security	802.1x authentication
		AES-CCMP: 128 bit in hardware

Technical Specifications – Networking

	IEEE 802.11i
	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
	WAPI
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
	WPA2 certification
	WPA3 (personal) certification
Network Architecture 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
Receiver Sensitivity[2]	• 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

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 29

Technical Specifications – Networking

	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	1. Type 2230: 2.8 g
	2. Type 1216: g
Operating Voltage	3.3 v +/- 9 %
Subtitle	Integrated Bluetooth sepcifications
Bluetooth Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH)
	BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW
	Peak (Rx): 230 mW
	Selective Suspend: 17 mW
Bluetooth Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
Bluetooth Profiles Supported	2Mbps LE
	Advanced Audio Distribution Profile (A2DP)
	Basic Imaging Profile (BIP)
	Bluetooth 4.1 -ESR 5/6/7 Compliance
	Bluetooth 4.2 ESR08 Compliance
	Bluetooth 5.2
	Bluetooth 5.3 wireless card
	Channel Selection Algo
	Encryption key size control enhancements
	ESR9/10 Compliance
	FAX Profile (FAX)
	Hands Free Profile (HFP)
	Headset Profile (HSP)
	LE Advertisement Extensions
	LE Data Packet Length Extension

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 30

Technical Specifications – Networking

LE Dual Mode
LE L2CAP Connection Oriented Channels
LE Link Layer
LE Link Layer Ping
LE Long Range
LE Low Duty Cycle Directed Advertising
LE Privacy 1.2 –Extended Scanner Filter Policies
LE Privacy 1.2 –Link Layer Privacy
LE Secure Connection- Basic/Full
Limited High Duty Cycle Non-Connectable Advertising
Periodic Advertisement interval
Train Nudging & Interlaced Scan
Windows Bluetooth profiles support

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately.
2. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 non-vPro® WW WLAN [1]	**Wireless LAN Standards**	IEEE 802.11a
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11b
		IEEE 802.11be
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11g
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11k
		IEEE 802.11n
		IEEE 802.11r
		IEEE 802.11v
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n/ax
		2.402 – 2.482 GHz
		802.11a/n/ac/ax
		4.9 – 4.95 GHz (Japan)
		5.15 – 5.25 GHz
		5.25 – 5.35 GHz
		5.47 – 5.725 GHz
		5.825 – 5.850 GHz

Not all configuration components are available in all regions/countries.

Page 31

c09133729 — Worldwide — Version 5 — August 4, 2025

Technical Specifications – Networking

		5.955 – 6.415 GHz
		6.435 – 6.515 GHz
		6.535 – 6.875 GHz
		6.895 – 7.115 GHz
	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz)
		802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz)
		802.11b: 1, 2, 5.5, 11 Mbps
		802.11be : MCS0~13, (20MHz, 40MHz, ,80MHz, 160MHz, 320MHz)
		802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
		802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)
	Modulation	Direct Sequence Spread Spectrum
		1024QAM, 16-QAM, 256-QAM, 4096QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK
	Security[3]	802.1x authentication
		AES-CCMP: 128 bit in hardware
		IEEE 802.11i
		IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
		WAPI
		WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
		WPA2 certification
		WPA3 (personal) certification
	Network Architecture Models	Ad-hoc (Peer to Peer)
		Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power[2]	• 802.11b, 1Mbps : +17dBm minimum
		• 802.11g, 6Mpbs : +16dBm minimum
		• 802.11a, 6Mbps : +17dBm minimum
		• 802.11n, MCS7(HT20) : +14dBm minimum
		• 802.11n, MCS7(HT40) : +13.5dBm minimum
		• 802.11ac MCS9(VHT20) : 13.5dBm minimum
		• 802.11ac MCS9(VHT40) : +13.5dBm minimum
		• 802.11ac MCS9(VHT80) : +12.5dBm minimum
		• 802.11ac MCS9(VHT160) : +10.5dBm minimum
		• 802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum
		• 802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum
		• 802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum
		• 802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum
		• 802.11be MCS13(EHT20)(6GHz) : 11.5dBm
		• 802.11be MCS13(EHT40)(6GHz) : 7.5dBm
		• 802.11be MCS13(EHT80)(6GHz) : 7.5dBm
		• 802.11be MCS13(EHT160)(6GHz) : 6.5dBm
		• 802.11be MCS13(EHT320)(6GHz) : 4.5dBm

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 32

Technical Specifications – Networking

Power Consumption	Transmit mode : 3.4 W
	Receive mode : 1.8 W
	Idle mode (PSP) : 180 mW (WLAN Associated)
	Idle mode: 50 mW (WLAN unassociated)
	Connected Standby/Modern Standby : 10 mW
	Radio disabled : 8 mW
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity[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	1. Type 2230: 3.1 g
	2. Type 1216: 0.8 g
Operating Voltage	3.3 v +/- 5 %
Subtitle	Integrated Bluetooth sepcifications
Bluetooth Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Compliant
Frequency Band	2042 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH)
	BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 33

QuickSpecs

HP ZBook 8 G1i 16 Mobile Workstation

Technical Specifications – Networking

	Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW
	Peak (Rx): 230 mW
	Selective Suspend: 17 mW
Bluetooth Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
Bluetooth Profiles Supported	2Mbps LE
	Advanced Audio Distribution Profile (A2DP)
	Basic Imaging Profile (BIP)
	Bluetooth 4.1 -ESR 5/6/7 Compliance
	Bluetooth 4.2 ESR08 Compliance
	Bluetooth 5.2
	Bluetooth 5.3 wireless card
	Channel Selection Algo
	Encryption key size control enhancements
	ESR9/10 Compliance
	FAX Profile (FAX)
	Hands Free Profile (HFP)
	Headset Profile (HSP)
	LE Advertisement Extensions
	LE Data Packet Length Extension
	LE Dual Mode
	LE L2CAP Connection Oriented Channels
	LE Link Layer
	LE Link Layer Ping
	LE Long Range
	LE Low Duty Cycle Directed Advertising
	LE Privacy 1.2 –Extended Scanner Filter Policies
	LE Privacy 1.2 –Link Layer Privacy
	LE Secure Connection- Basic/Full
	Limited High Duty Cycle Non-Connectable Advertising
	Periodic Advertisement interval
	Train Nudging & Interlaced Scan
	Windows Bluetooth profiles support

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 34

Technical Specifications – Networking

1.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.

2. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Intel® BE201 Wi-Fi 7 Bluetooth® 5.4 vPro® WW WLAN [1]	Wireless LAN Standards	IEEE 802.11a IEEE 802.11ac IEEE 802.11ax IEEE 802.11b IEEE 802.11be IEEE 802.11d IEEE 802.11e IEEE 802.11g IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11n IEEE 802.11r IEEE 802.11v
	Interoperability	Wi-Fi certified

	Frequency Band	802.11b/g/n/ax
		   2.402 – 2.482 GHz
		802.11a/n/ac/ax
		   4.9 – 4.95 GHz (Japan)
		   5.15 – 5.25 GHz
		   5.25 – 5.35 GHz
		   5.47 – 5.725 GHz
		   5.825 – 5.850 GHz
		   5.955 – 6.415 GHz
		   6.435 – 6.515 GHz
		   6.535 – 6.875 GHz
		   6.895 – 7.115 GHz

	Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11ac : MCS0 ~ MCS9, (20MHz, 40MHz, 80MHz, 160MHz) 802.11ax : MCS0 ~ MCS11, (20MHz, 40MHz, 80MHz, 160MHz) 802.11b: 1, 2, 5.5, 11 Mbps 802.11be : MCS0~13, (20MHz, 40MHz, ,80MHz, 160MHz, 320MHz) 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, 40MHz)
	Modulation	Direct Sequence Spread Spectrum 1024QAM, 16-QAM, 256-QAM, 4096QAM, 64-QAM, BPSK, CCK, Direct Sequence Spread Spectrum, OFDM, QPSK

Technical Specifications – Networking

Security	802.1x authentication
	AES-CCMP: 128 bit in hardware
	IEEE 802.11i
	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only
	WAPI
	WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.
	WPA2 certification
	WPA3 (personal) certification
Network Architecture 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 minimum
	• 802.11ac MCS9(VHT20) : 13.5dBm minimum
	• 802.11ac MCS9(VHT40) : +13.5dBm minimum
	• 802.11ac MCS9(VHT80) : +12.5dBm minimum
	• 802.11ac MCS9(VHT160) : +10.5dBm minimum
	• 802.11ax MCS11(HE20)(6GHz) : +11.5dBm minimum
	• 802.11ax MCS11(HE40)(6GHz) : +7.5dBm minimum
	• 802.11ax MCS11(HE80)(6GHz) : +7.5dBm minimum
	• 802.11ax MCS11(HE160)(6GHz) : +7.5dBm minimum
	• 802.11be MCS13(EHT20)(6GHz) : 11.5dBm
	• 802.11be MCS13(EHT40)(6GHz) : 7.5dBm
	• 802.11be MCS13(EHT80)(6GHz) : 7.5dBm
	• 802.11be MCS13(EHT160)(6GHz) : 6.5dBm
	• 802.11be MCS13(EHT320)(6GHz) : 4.5dBm
Power Consumption	Transmit mode : 3.4 W
	Receive mode : 1.8 W
	Idle mode (PSP) : 180 mW (WLAN Associated)
	Idle mode: 50 mW (WLAN unassociated)
	Connected Standby/Modern Standby : 10 mW
	Radio disabled : 8 mW
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity[2]	• 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

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 36

Technical Specifications – Networking

	• 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	1. Type 2230: 3.1 g
	2. Type 1216: 0.8 g
Operating Voltage	3.3 v +/- 5 %
Subtitle	Integrated Bluetooth sepcifications
Bluetooth Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Compliant
Frequency Band	2042 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH)
	BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW
	Peak (Rx): 230 mW
	Selective Suspend: 17 mW
Bluetooth Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 37

Technical Specifications – Networking

	Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407; ETSI 300 328, ETSI 301 893, ETSI 303 687
	Bluetooth Profiles Supported	2Mbps LE
		Advanced Audio Distribution Profile (A2DP)
		Basic Imaging Profile (BIP)
		Bluetooth 4.1 -ESR 5/6/7 Compliance
		Bluetooth 4.2 ESR08 Compliance
		Bluetooth 5.2
		Bluetooth 5.3 wireless card
		Channel Selection Algo
		Encryption key size control enhancements
		ESR9/10 Compliance
		FAX Profile (FAX)
		Hands Free Profile (HFP)
		Headset Profile (HSP)
		LE Advertisement Extensions
		LE Data Packet Length Extension
		LE Dual Mode
		LE L2CAP Connection Oriented Channels
		LE Link Layer
		LE Link Layer Ping
		LE Long Range
		LE Low Duty Cycle Directed Advertising
		LE Privacy 1.2 –Extended Scanner Filter Policies
		LE Privacy 1.2 –Link Layer Privacy
		LE Secure Connection- Basic/Full
		Limited High Duty Cycle Non-Connectable Advertising
		Periodic Advertisement interval
		Train Nudging & Interlaced Scan
		Windows Bluetooth profiles support

1.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.
2. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

HP 5G Sub-6 CAT19 [1]	**Technology/Operating bands**	WCDMA/HSPA+ operating bands:
		Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
		Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
		Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
		Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 38

Technical Specifications – Networking

		Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
		LTE FDD/TDD operating bands:
		Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
		Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
		Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
		Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
		Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
		Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
		Band 8: 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 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)
Wireless protocol standards		5GNR Air Interface
		3GPP Rel15 5G NR sub-6
		LTE Rel15
		3GPP Release 8 UMTS Specification
GPS		Standalone/A-GPS (MS-A, MS-B)
GPS bands		GPS L1 (1575.42MHz), GLONASS L1 (1602MHz), Beidou B1 (1561.098MHz), Galileo E1 (1575.42MHz), QZSS (1575.42MHz)
Maximum data rates		SA 5G/NR sub-6 Peak: 4.67 Gbps(Download), 1.25 Gbps(Upload)
Maximum output power		HSPA+: 23.5 dBm
		LTE (all bands except B41): 23.0 dBm (Not support HPUE)
		NR (all band except n41, n77, n78, n79): 23.0 dBm (Not support

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 39

Technical Specifications – Networking

	HPUE)
	NR n41, n77, n78, n79 HPUE: 26.0 dBm (Support HPUE)
Maximum power consumption	5G Sub 6: 3,500 mA
	LTE: 2,500 mA (peak); mA (average)
Form Factor	M.2; 3052-S3 Key B
Weight	8.6 g (0.303 oz)
Dimensions (Length x Width x Thickness)	30.00 x 52.00 x 2.30 mm (1.18 x 2.05 x 0.09 inch)
embedded eSIM	Yes

1. 5G module is optional and must be configured at the factory. Module designed for 5G NR NSA (non-standalone) networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP. Module requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Data connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select platforms and select countries, where carrier supported.

HP 4G CAT19 [1]	**Technology/Operating bands**	WCDMA/HSPA+ operating bands:
		Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
		Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
		Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
		Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
		Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
		LTE FDD/TDD operating bands:
		Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
		Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
		Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
		Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
		Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
		Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
		Band 8: 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)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 40

Technical Specifications – Networking

		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)
	Wireless protocol standards	LTE Rel15
		3GPP Release 8 UMTS Specification
	GPS	Standalone/A-GPS (MS-A, MS-B)
	GPS bands	GPS L1 (1575.42MHz), GLONASS L1 (1602MHz), Beidou B1 (1561.098MHz), Galileo E1 (1575.42MHz), QZSS (1575.42MHz)
	Maximum data rates	UE Category DL 19 (1.6 Gbps Download) , UE Category UL 18 (211 Mbps Upload)
	Maximum output power	LTE (all bands except B41): 23.0 dBm (Not support HPUE)
	Maximum power consumption	
		LTE: 2,500 mA (peak)
	Form Factor	M.2; 3052-S3 Key B
	Weight	8.4 g (0.296 oz)
	Dimensions (Length x Width x Thickness)	30.00 x 52.00 x 2.30 mm (1.18 x 2.05 x 0.09 inch)
	embedded eSIM	Yes

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

NFC Mirage WNC XRAV-1	**Dimensions (L x W x H)**	17.00 x 10.00 x 2.00 mm (0.67 x 0.39 x 0.08 inch)
	Chipset	NPC300
	System interface	I2C
	NFC RF standards	ISO/IEC 14443 A
		ISO/IEC 14443 B
		ISO/IEC 15693
		ISO/IEC 18092
		ECMA-340 NFCIP-1 Target and Initiator
		ECMA-320 NFCIP-2
	NFC Forum Support	Type 1, Type 2, Type 3 / Type 4, NFCIP-1 / NFCIP-2
	Reader (PCD-VCD) Mode	ISO/IEC 14443 A
		ISO/IEC 14443 B

Not all configuration components are available in all regions/countries.
Page 41

c09133729 — Worldwide — Version 5 — August 4, 2025

Technical Specifications – Networking

		ISO/IEC 15693
		MIFARE 1K
		MIFARE 4K
		MIFARE DESFire
		FeliCa
		Jewel and Topaz
	Card Emulation (PICC-VICC) Mode	ISO/IEC 14443 A
		ISO/IEC 14443 B and B'
		MIFARE
		FeliCa
	Frequency	13.56 MHz
	NFC Modes Supported	Reader/Writer, Peer-to-Peer
	Raw RF Data Rates	106 kbps, 212 kbps, 424 kbps, 848 kbps
	Operating temperature	Operating: 0 ℃ to 70 ℃ (32 °F to 158 °F)
		Storage: -20 ℃ to 125 ℃ (-4 °F to 257 °F)
	Storage temperature	Operating: 10% - 90% (non-condensing)
		Non-Operating: 5% - 95% (non-condensing)
	Humidity	Operating: 10% - 90% (non-condensing)
		Non-Operating: 5% - 95% (non-condensing)
	Supply Operating voltage	4.35 to 5.25 Volts
	I/O Voltage	1.8V or 3.3V
	Power Consumption (Booster enable, VBAT= 3.3V, VCC_BOOST = 5V)	Booster enable, VBAT= 3.3V, VCC_BOOST = 5V
	Mode	Power Consumption, Typical
	Polling	7.3 mA
	Detected Test Tag Type 1	Total 283.8 mA
		Net Module 236.8 mA
	Detected Test Tag Type 2	Total 288.8 mA
		Net Module 241.8 mA
	Detected Test Tag Type 3	Total 287.7 mA
		Net Module 240.7 mA
	Detected Test Tag Type 4	Total 282.3 mA
		Net Module 235.3 mA
	Antenna	Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.
Intel® I219-LM (vPro®) GbE PCIe NIC	**Connector**	RJ-45
	System Interface	PCI (Intel proprietary) + SMBus
	Data rates supported	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)

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 42

Technical Specifications – Networking

		10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
	IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support
		IEEE 802.1q VLAN support
		IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
		IEEE 802.3az EEE (Energy Efficient Ethernet)
	Performance	TCP/IP/UDP Checksum offload (configurable)
		Protocol offload (ARP & NS)
		Large send offload and Giant send offload
		Receiving Side Scaling (Hash Mode Only)
		Jumbo Frame 9K
	Power consumption	Cable Disconnection: 25 mW
		100Mbps Full Run: 450 mW
		1000Mbps Full Run: 1000 mW
		WoL Enable(S3/S4/S5): 50 mW
		WoL Disable(S3/S4/S5): 25 mW
	Power Management	ACPI compliant – multiple power modes
		Situation-sensitive features reduce power consumption
		Advanced link down power saving for reducing link down power consumption
	Management Interface	Auto MDI/MDIX Crossover cable detection
	IT Manageability	Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame)
		Wake-on-LAN from off (Magic Packet only)
		PXE 2.1 Remote Boot
		Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
		Comprehensive diagnostic and configuration software suite
		Virtual Cable Doctor for Ethernet cable status
	Security & Manageability	Intel® vPro™ support with appropriate Intel® chipset components
Intel® I219-LM (vPro®) GbE PCIe NIC	**Connector**	RJ-45
	System Interface	PCI(Intel proprietary) + SMBus
	Data rates supported	1. 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
		2. 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)
		3. 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)
		4. 2.5 Gbit/s operation(2.5GBASE-T; IEEE 802.3bz Clause 126)
		5. Auto-Negotiation (Automatic Speed Selection)
		Full Duplex Operation at all Speeds, Half Duplex operation at 10& 100 Mbit/s

Technical Specifications – Networking

	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 802.3i 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: 25mW
		100Mbps Full Run: 450mW
		1000Mbp Full Run: 1000mW
		2500Mbp Full Run: 4500mW
		WoL Enable(S3/S4/S5): 50mW
		WoL Disable(S3/S4/S5): 25mW
	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® non-vPro™ support with appropriate Intel® chipset components
Qualcomm 9205 LTE-M (CAT-M1 fSVC) [1]	**Technology/Operating bands**	FDD LTE: 1700/2100 (Band 4), 1700/2100 (Band 66), 1800 (Band 3), 1900 (Band 2), 1900 (Band 25), 2100 (Band 1), 700 (Band 12 lower), 700 (Band 13 upper), 700 (Band 14 upper), 700 (Band 28), 700 (band 85), 800 (Band 20), 800 (Band 27), 850 (Band 18 lower), 850 (Band 19 upper), 850 (Band 26), 850 (Band 5), 900 (Band 8) MHz
		GSM/GPRS/EGPRS: 1800, 1900, 850, 900 MHz

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 44

Technical Specifications – Networking

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 36.124 V10.3.0: Electro Magnetic Compatibility (EMC) requirements for mobile terminals and ancillary equipment
	3GPP TS 36.521-1 V14.3.0: User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Conformance testing
	3GPP TS 51.010-1 V10.5.0: Mobile Station (MS) conformance specification; Part 1: Conformance specification
	3GPP TS 51.011 V4.15.0: Specification of the Subscriber Identity Module -Mobile Equipment (SIM-ME) interface
GPS	Standalone GPS/Beidou/GLONASS/A-GPS (XTRA)
GPS bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou 1561.098 MHz
Maximum data rates	LTE FDD: 375.00 Kbps(Download), 1119.00 Kbps(Upload)
	GPRS: 107.00 Kbps(Download), 85.60 Kbps(Upload)
	EGPRS: 296.00 Kbps(Download), 236.80 Kbps(Upload)
Maximum output power	LTE (all bands except B41): 21.5 dBm
	GSM: 34.0 dBm
Maximum power consumption	LTE: 151 mA(peak), 16 mA(average)
Form Factor	M.2
Weight	4.0 g (0.141 oz)
Dimensions (Length x Width x Thickness)	22.00 x 42.00 x 2.30 mm (0.87 x 1.65 x 0.09 inch)
embedded eSIM	Support

1. LPWAN (also called Mobile Narrowband) support HP Protect & Trace with Wolf Connect service through the subscription term, but do not support mobile broadband use.

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 45

Technical Specifications – Power
POWER

Power supply availability may vary by country.

HP 100W Slim USB-C Straight AC Power Adapter Mario II	**Dimensions**	5.354 x 2.362 x 0.866 in (13.6x6.0x2.2cm)
	Weight	340g ± 10g (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		88.00% min at 115 Vac/ 230 Vac @12.00V
		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		12V/60W
		15V/75W
		20V/100W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input
	Output current limit	5V/9V/12V/15V<125% max current, 20V<135% max current
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1, IEC 62368-1:2014 and IEC62368-1 : 2018, EN62368-1:2020+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC, CU(EAC), KCC(Safety+EMC), NOM-001 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC, Ukraine(CoC+DoC+RoHS+ECO)

Technical Specifications – Power

AC Adapter 65 Watt nPFC Standard USB type C Straight 1.8m (Ceto)		
	Dimensions	3.543 x 2.008 x 1.122 in (9.0x5.1x2.85cm)
	Weight	220g ± 10g (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		88.00% min at 115 Vac/ 230 Vac @12.00V
		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		12V/60W
		15V/65W
		20V/65W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input
	Output current limit	< 8.0A
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 47

Technical Specifications – Power

HP 65W GaN USB-C nPFC Straight AC Power Adapter Cappy		
	Dimensions	2.68 x 2.1 x 0.875 in (6.8x5.3x2.2cm)
	Weight	105g ± 10g (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		15V/65W
		20V/65W
	DC output	5V/9V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input
	Output current limit	115%-125%
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC
HP 65W Slim USB-C Straight AC Power Adapter Taroko II	**Dimensions**	3.819 x 2.106 x 0.827 in (9.7x5.35x2.1cm)
	Weight	200g ± 10g (Not including power cord. Power cord varies by country.)

Technical Specifications – Power

	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		88.00% min at 115 Vac/ 230 Vac @12.00V
		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		12V/60W
		15V/65W
		20V/65W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input
	Output current limit	< 8.0A
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC
HP 65W Standard USB-C Halogen Free Straight AC Power Adapter Ceto+	**Dimensions**	3.543 x 2.008 x 1.122 in (9.0x5.1x2.85cm)
	Weight	220g ± 10g (Not including power cord. Power cord varies by country.)
	Input	100-240Vac

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 49

Technical Specifications – Power

	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		88.00% min at 115 Vac/ 230 Vac @12.00V
		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.6 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		12V/60W
		15V/65W
		20V/65W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	100% load 5ms at 115 Vac input
	Output current limit	< 8.0A
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC
HP 140W Slim USB-C Straight AC Power Adapter Daisy II	**Dimensions**	5.433 x 2.578 x 1.122 in (13.8x6.55x2.85cm)
	Weight	415g(+/-10g) (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	81.50% min at 115 Vac/ 230 Vac @5.00V
		86.70% min at 115 Vac/ 230 Vac @9.00V
		88.00% min at 115 Vac/ 230 Vac @12.00V

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 50

Technical Specifications – Power

		89.00% min at 115 Vac/ 230 Vac @15.00V
		89.00% min at 115 Vac/ 230 Vac @20.00V
		89.00% min at 115 Vac/ 230 Vac @28.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 2.5 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		12V/60W
		15V/75W
		20V/100W
		28V/140W
	DC output	5V/9V/12V/15V/20V/28V
	Hold-up time	100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input
	Output current limit	5V/9V/12V/15V/20V<125% max current, 28V<135% max current
	Output Over Current Protection	
	Connector	
	Connector	C6
	Environmental Design	
	Operating temperature	0° to 35° C (32° to 95° F)
	Non-operating (storage) temperature	-20° to 85° C (-4° to 185° F)
	Altitude	0 to 5,000 m (0 to 16,400 ft)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1, IEC 62368-1:2014 and IEC62368-1 : 2018, EN62368-1:2020+A11, UL 62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC, CU(EAC), KCC(Safety+EMC), NOM-001 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC, Ukraine(CoC+DoC+RoHS+ECO)
MC 62Whr Long Life Polymer Fast charge 3 cell Battery	**Dimensions (H x W x L)**	L 255.8 mm* W 67.8mm* T 7.4mm
	Weight	Max 236.0g
	Cells/Type	3cell Lithium-Ion Polymer cell
	Energy	
	Voltage	11.58V
	Amp-hour capacity	5355mAh / 5086mAh
	Watt-hour capacity	62Whr

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 51

Technical Specifications – Power

	Temperature	
	Operating (Charging)	0° C ~ 40° C
	Operating (Discharging)	-10° C ~ 40° C
	Fuel Gauge LED	
	Warranty	
	Optional Travel Battery Available	No

MW 77Whr Long Life Polymer Fast charge 8 cell Battery	**Dimensions (H x W x L)**		L 268 mm* W 73 mm* T 10.06 mm
	Weight		Max 300g
	Cells/Type		8cell Lithium-Ion Polymer cell
	Energy		
	Voltage		15.44V
	Amp-hour capacity		4988mAh / 4738mAh
	Watt-hour capacity		77Whr
	Temperature		
	Operating (Charging)		0° C ~ 40° C
	Operating (Discharging)		-10° C ~ 40° C
	Fuel Gauge LED		
	Warranty		
	Optional Travel Battery Available		No

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 52

Technical Specifications – Audio

AUDIO

HD Stereo Codec	Realtek ALC3315
Audio I/O Ports	3.5mm Headset: CTIA only;Headphone-out
Internal Speaker Amplifier	Cirrus Logic High-Efficiency Boosted Class D Amplifier
Multi-streaming Capable	Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front jacks or integrated speaker., Following MSFT Behavior
Sampling	DAC: Supports resolutions from 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

Technical Specifications – Fingerprint Reader

FINGERPRINT READER

Sensor vendor	SYNAPTICS
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	104 x 86 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.7 V ~ 3.6 V
Operating Temperature	5℃ ~ 60℃ (41°F ~ 140°F)
Current Consumption Image	100 mA max
Low Latency Wait For Finger	260 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	363 dpi / 7.4 x 6.0 mm sensor area
Fingerprint Reader	**Second Source**
Sensor vendor	ELAN
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	56 x 56 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.8 V ~ 3.6 V
Operating Temperature	-20℃ ~ 80℃ (-4°F ~ 176°F)
Current Consumption Image	100 mA max
Low Latency Wait For Finger	300 uA
Capture Rate	50 frames/sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	363 dpi / 4.0 x 4.0 mm sensor area

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 54

Technical Specifications – Environmental

ENVIRONMENTAL DATA

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- US Federal Energy Management Program (FEMP)
- EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country.
- TCO Certified
- China Energy Conservation Program (CECP)
- China State Environmental Protection Administration (SEPA)
- Taiwan Green Mark
- Korea Eco-label
- Japan PC Green label*

Sustainable Impact Specifications

- Product Carbon Footprint
- At least 25% post-consumer recycled plastic[2]
- At least 80% 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)	3.80 W	4.06 W	3.77 W
Normal Operation (Long idle)	N/A	N/A	N/A
Sleep	2.27 W	2.23 W	2.26 W
Off	0.38 W	0.39 W	0.38 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

Technical Specifications – Environmental

Normal Operation (Short idle)	13 BTU/hr	14 BTU/hr	13 BTU/hr
Normal Operation (Long idle)	N/A	N/A	N/A
Sleep	7.8 BTU/hr	8 BTU/hr	7.7 BTU/hr
Off	1.3 BTU/hr	1 BTU/hr	1.3 BTU/hr

*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L_{Wad}, bels)	Sound Pressure (L_{pAm}, decibels)
Typically Configured – Idle	2.6	14.5
Fixed Disk – Random writes	2.7	14.5
Optical Drive – Sequential reads	3.1	26.4

Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the Spare parts are available throughout the warranty period and or for up to "5" years after the end of production.
Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 94.5% recycle-able when properly disposed of at end of life.

Packaging Materials	**External:**	PAPER/Corrugated	314 g
		PAPER/Molded Pulp	28 g
		PAPER/Paper	169 g

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

The corrugated paper packaging materials contains at least 51.8% 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

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 56

Technical Specifications – Environmental

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)

Not all configuration components are available in all regions/countries.

c09133729 — Worldwide — Version 5 — August 4, 2025

Page 57

Technical Specifications – Environmental

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

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.

Not all configuration components are available in all regions/countries.
c09133729 — Worldwide — Version 5 — August 4, 2025

Page 58

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

OPTIONS

Category	Description	Part Number
Audio/Video	TBD	TBD
Cases	TBD	TBD
Docking	HP Thunderbolt 4 Ultra 180W G6 Dock	9X481UT
Hub	TBD	TBD
Adapter	TBD	TBD
Keyboard/Combo	TBD	TBD
Mouse	TBD	TBD
Power	TBD	TBD
Commodity	TBD	TBD

Not all configuration components are available in all regions/countries.
Page 59

c09133729 — Worldwide — Version 5 — August 4, 2025

Date of change	Version History		Description of change
April 4, 2025	From v1 to v2	Changed	ENVIRONMENTAL DATA section
May 16, 2025	From v2 to v3	Changed	Format page 1
July 23, 2025	From v3 to v4	Changed	Docking (Sold Separately), WEIGHT & DIMENSIONS sections
August 4, 2025	From v4 to v5	Changed	POWER section