

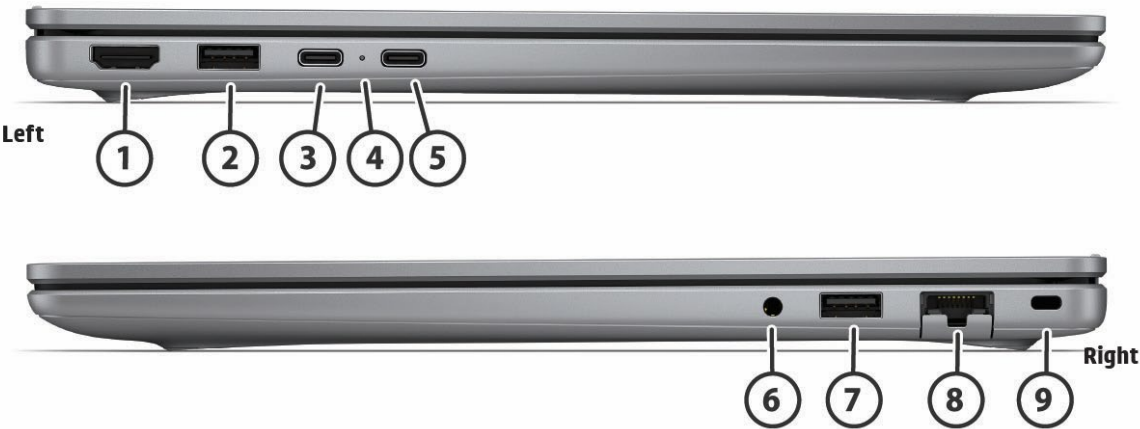
HP 200 G2a 14 inch Notebook PC



Front

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





Sides

- | | | | |
|---|--|---|---|
| 1 | HDMI 2.1 | 6 | Headphone/mic combo jack |
| 2 | USB Type-A 5Gbps signaling rate (Powered) | 7 | USB Type-A 5Gbps signaling rate (Powered) |
| 3 | USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) | 8 | RJ45 Ethernet port |
| 4 | Power Indicator LED | 9 | Nano Security Slot |
| 5 | USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) | | |

PRODUCT NAME

HP 200 G2a 14 inch Notebook PC



OPERATING SYSTEM

Preinstalled

FreeDOS

Windows 11 Home - HP recommends Windows 11 Pro for business¹

Windows 11 Home Education¹

Windows 11 Home Single Language - HP recommends Windows 11 Pro for business¹

Windows 11 Pro¹

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



PROCESSORS

Processor ^{2,3,4,5}	Cores	Threads	L3 Cache	Max Boost Frequency	Base Frequency	Integrated Graphics	NPU
AMD Ryzen™ 7 H processor 255	8 cores	16	16 MB	4.90 GHz	3.80 GHz	AMD Radeon™ 780M	N/A
AMD Ryzen™ 7 processor 250	8 cores	16	16 MB	5.10 GHz	3.30 GHz	AMD Radeon™ 780M	16 TOPS
AMD Ryzen™ 5 processor 220	6 cores	12	16 MB	4.90 GHz	3.20 GHz	AMD Radeon™ 740M	N/A
AMD Ryzen™ 3 processor 210	6 cores	12	8 MB	4.70 GHz	3.00 GHz	AMD Radeon™ 740M	N/A
AMD Ryzen™ 5 processor 40	4 cores	8	4 MB	4.30 GHz	2.80 GHz	AMD Radeon™ 740M	N/A
AMD Ryzen™ 3 processor 30	4 cores	8	4 MB	4.10 GHz	2.40 GHz	AMD Radeon™ 610M	N/A
AMD Athlon™ Gold processor 20	2 cores	4	2 MB	3.70 GHz	2.40 GHz	AMD Radeon™ 610M	N/A
AMD Athlon™ Silver processor 10	2 cores	2	2 MB	3.50 GHz	2.40 GHz	AMD Radeon™ 610M	N/A

Processor Family

- AMD Ryzen™ 7 H processor
- AMD Ryzen™ 7- processor
- AMD Ryzen™ 5- processor
- AMD Ryzen™ 3- processor
- AMD Athlon™ Gold processor
- AMD Athlon™ Silver processor

2. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD’s numbering is not a measurement of clock speed.

3. AMD Max Boost frequency performance varies depending on hardware, software and overall system configuration.

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



GRAPHICS

Integrated

AMD Radeon™ Graphics



DISPLAY

Availability may vary by country.

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

Non-Touch

35.6 cm (14") diagonal, 2.2K (2240 x 1400), LCD, UWVA, Anti-Glare, Low Blue Light, 300 nits, sRGB 100%

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

35.6 cm (14") diagonal, WUXGA (1920 x 1200), OLED, UWVA, BrightView, OLED+Low Blue Light, 300 nits, DCI-P3 95%

Display Size (Diagonal)

35.6 cm (14")

Aspect Ratio

16:10

Screen to Body Ratio

Up to 86%

Max Hinge Open Angle

135°



STORAGE AND DRIVES

Storage

1 TB PCIe® NVMe™ SSD Value ⁶

512 GB PCIe® NVMe™ SSD Value ⁶

256 GB PCIe® NVMe™ SSD Value ⁶

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



MEMORY

Only one memory type option can be selected in a single unit.

HP branded SODIMM memory is recommended to ensure compatibility. If two SODIMM memory modules with different speeds are installed, the system will perform at the lower memory speed.

Option	Option 1	Option 2
Memory slots	Two SODIMM slot	Onboard memory, no memory slots
Memory type	DDR5	LPDDR5x
Maximum supported memory	32GB DDR5-5600 MT/s	32GB LPDDR5-6400 MT/s
Available memory configurations	8GB (1 x 8GB) DDR5-5600 MT/s 16GB (1 x 16GB) DDR5-5600 MT/s 16GB (2 x 8GB) DDR5-5600 MT/s 24GB (1 x 24GB) DDR5-5600 MT/s 32GB (1 x 32GB) DDR5-5600 MT/s	8GB LPDDR5-5500 MT/s 16GB LPDDR5-5500 MT/s 16GB LPDDR5-6400 MT/s 32GB LPDDR5-6400 MT/s
Notes	System runs at 5600 MT/s. Memory is non-accessible / non-upgradeable. Supports Dual Channel Memory.	System runs at 5500 MT/s System runs at 6400 MT/s Memory is non-accessible / non-upgradeable.

NETWORKING /COMMUNICATIONS

Items below may be optional.

Ethernet

RTK GBE Ethernet Controller ⁷

WLAN

Mediatek MT7920 Wi-Fi 6 Bluetooth® 5.4 WW WLAN ^{9,10}

Realtek 8922AE-VS Wi-Fi 7 Bluetooth® 6.0 WW WLAN ^{8,10}

Miracast ¹¹

Compatible with Miracast-certified devices (For Win11)

7. The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

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

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

10. 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).

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



AUDIO/MULTIMEDIA

Privacy panel is only available on select models.

Audio

Audio by Poly Studio

2 Integrated stereo speakers

2 Integrated dual array microphone

AI noise reduction

Speaker Power

2W / 4 ohm per speaker

Camera

FHD HDR camera

FHD HDR camera, IR camera

Sensors

Fingerprint Sensor



KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

HP Standard Notebook Keyboard, spill-resistant, backlit keyboard

HP Standard Notebook Keyboard, spill-resistant keyboard

Pointing Device

Clickpad

Function Keys

F1 - Display Switching

F2 - Screen Capture

F3 - Brightness Down

F4 - Brightness Up

F5 - Play and Pause

F6 - Audio Mute

F7 - Volume Down

F8 -Volume Up

F9 - Mic Mute

F10 - Blank or Backlit Toggle

F11 - Programmable Key

F12 -Calculator

Hidden Function Keys

Fn+R - Break

Fn+S - Sys Rq

Fn+C - Scroll Lock



SOFTWARE AND SECURITY

Application Software

Buy Microsoft Office (Sold Separately)

HP Connection Optimizer

HP PC Hardware Diagnostics Windows

HP Privacy Settings

HP Support Assistant ¹²

HP app ¹³

Manageability Features

HP Cloud Recovery

Security- TPM

Model

Model: Nuvoton NPCT760HACYX

Firmware Version

Firmware Version: 7.2.4.0

FIPS 140-2 Compliant

No. It is FIPS 140-3 Level 1 Compliant.

BIOS

Absolute Persistence Module ¹⁴

HP Secure Erase ¹⁵

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

Yes

UEFI version

2.



Class

3 (HPT)

2 (MDN)

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

13. HP app requires Windows 10 or higher OS. Multicamera support for Mini Desktop PC only available on 13th processor and beyond.

14. 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/>.

15. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special.



POWER

Power supply availability may vary by country.

Battery is internal and replaceable by customer.

Higher wattage adapter is recommended for best performance and fastest charging.

Using lower-capacity third-party USB Type-C® power cables may reduce power delivery.

Power Supply

HP 100W Wall Mount USB Type-C® Gallium Nitride AC power adapter

HP 65W Wall Mount USB Type-C® Gallium Nitride AC power adapter

HP 65W Standard USB Type-C® Gallium Nitride AC power adapter

HP 45W Standard USB Type-C® Gallium Nitride AC power adapter

Battery

HP Long Life 3 cell, 60Wh Polymer¹⁶

HP Long Life 3 cell, 41Wh Polymer¹⁶

Battery Recharge Time

Supports battery HP Fast Charge: approximately 50% in 45 minutes

Power Cord

3-wired plug- 1.0m

USB Type-C® Power Cable- 2.0m for wall mount adapter

Battery life

Up to 8 hours and 45 minutes with 41 Wh battery (AMD Athlon, UMA graphic, brightness set to 250nits on a WUXGA 300nits LCD display, 8GB LPDDR5 memory, 256 GB SSD)

Up to 12 hours and 45 minutes with 60 Wh battery (AMD Athlon, UMA graphic, brightness set to 250nits on a WUXGA 300nits LCD display, 8GB LPDDR5 memory, 256 GB SSD)

16. MobileMark 25 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See <http://www.bapco.com> for additional details.



WEIGHT & DIMENSIONS

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

Front height measurement is near the front edge where the mechanical chassis taper begins. Back height measurement is near the rear edge where the mechanical chassis taper ends.

Product Weight

Starting at 1.38 kg (3.04 lb) with 41.00 Wh battery

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

Product Dimensions (w x d x h)¹⁷

314.50 mm (W) x 226 mm (D) x 11.18 mm (H front) / 16.24 mm (H rear)

(12.38 in (W) x 8.9 in (D) x 0.44 in (H front) / 0.64 in (H rear))

Maximum height 17.45 mm (0.69 in)

Pallet Dimensions (w x d x h)

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

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



PORTS/SLOTS

Left side

- 1 x USB Type-A 5Gbps signaling rate (Powered)
- 2 x USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)
- 1 HDMI 2.1 (Resolution up to 4K/60Hz, bandwidth 6Gbps TMDS mode)

Right side

- 1 x USB Type-A 5Gbps signaling rate (Powered)
 - 1 x RJ45 Ethernet port
 - 1 x Nano Security Slot
 - 1 x headphone/mic combo jack
-



SERVICE AND SUPPORT

Warranty

1-year warranty and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty. 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>¹⁸

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



SYSTEM UNIT

Stand - Alone Power Requirements

(AC Power)

Nominal Operating Voltage	20V
Max Operating Power	UMA<45W (MDC 15W/HPT 15W with 41W battery) UMA<65W (MDC 15W/HPT 15W with 60W battery) UMA<100W (HPT H255 series/60W battery)

Shock

Operating	40 G, 2 ms, half-sine
Non - operating	240 G, 2 ms duration, half-sine

Industry Standard Certifications

Regulatory Model Number	TPN-I150
CSA/UL 62368-1	Yes, UL 62368-1
ENERGY STAR®	Yes ¹
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	No
China CCC/SRRC/CEL	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes
Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	Yes
EPEAT Gold	Yes
Low Blue Light	Yes
WW RoHS	Yes
CECP	No
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	No
SEPA	No
MIL - STD Testing	Yes

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



DISPLAYS

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

94180 - 16:10 flat 14.0" WUXGA (1920 x 1200) - 300nits/62.5% SRGB	Active Area	301.59 x 188.50
	Dimensions (W x H)	307.29±0.3 x 198.15±0.3 mm (W/O PCB)
		307.29±0.3 x 206.15±0.5 mm (W PCB)
	Weight	300g max
	Diagonal Size	14 inch
	Surface Treatment	AG
	Touch Enabled	No
	Contrast Ratio	1000:1 typ
	Refresh Rate	60Hz
	Brightness	300nits
	Pixel Resolution - Format	1920 x 1200 RGB
	Aspect Ratio	0.6736111111111111
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8 bit
	Viewing Angle	typ. 89/89/89/89
75246- 14.0 in 2.2K (2240 x 1400) Anti-Glare UWVA Low Blue Light sRGB NB2Y 300 eDP 1.4+PSR2 100 flat LCD Panel	Low Blue Light	No
	Power Consumption	Power (B/L w/ Driver @ VBL=12V) 2.5Wmax Power (Circuit @ 32x32 mosaic) 0.54Wmax
	Active Area	301.824 x 188.640
	Dimensions (W x H)	306.55±0.3 x 196.97±0.3 w/o PCB
		306.55±0.3 x 204.47±0.5 w/ PCB
	Weight	220g max.
	Diagonal Size	14 inch
	Surface Treatment	AG
	Touch Enabled	No
	Contrast Ratio	1200:1 typ
	Refresh Rate	60Hz
	Brightness	300nits

	Pixel Resolution - Format	1920 x 1200 RGB
	Aspect Ratio	0.6736111111111111
	Backlight	WLED
	Color Gamut Coverage	sRGB 100%
	Color Depth	8 bit
	Viewing Angle	typ. 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	Power (B/L w/ Driver @ VBL=12V) 3.5W max Power (Circuit @ 32x32 mosaic) 0.77W max
94178 - 16:10 bent 14.0"	Active Area	301.824 x 188.640
WUXGA (1920 x 1200) BV	Dimensions (W x H)	305.654 x 198.02mm
UWVA OLED+LBL DCI-P3 95	Weight	174g(Max)
300 eDP 1.2 w/o PSR CR	Diagonal Size	14 inch
60Hz ben	Surface Treatment	BV
	Touch Enabled	No
	Contrast Ratio	1,000,000:1
	Refresh Rate	60Hz
	Brightness	300nits
	Pixel Resolution - Format	1920 x 1200 OLED
	Aspect Ratio	0.6736111111111111
	Backlight	No
	Color Gamut Coverage	DCI-P3 95%
	Color Depth	8 bit
	Viewing Angle	typ. 89/89/89/89
	Low Blue Light	Yes
	Power Consumption	Max 5.0W



STORAGE

1 TB PCIe® NVMe™ M.2 SSD	Form Factor	M.2 2280
	Capacity	1TB
	NAND Type	TLC/QLC
	Weight	0 ~ 15.0 g (0 ~ 0.03 lb)
	Interface	PCIe NVMe
	Sequential Read	Up to 3500 MB/s
	Sequential Write	Up to 2700 MB/s
	Logical Blocks	2000409264
	Features	Pyrite 2.0; TRIM; L1.2
512 GB PCIe® NVMe™ M.2 SSD	Form Factor	M.2 2280
	Capacity	512GB
	NAND Type	TLC/QLC
	Weight	0 ~ 15.0 g (0 ~ 0.03 lb)
	Interface	PCIe NVMe
	Sequential Read	Up to 3500 MB/s
	Sequential Write	Up to 1600 MB/s
	Logical Blocks	1000215216
	Features	Pyrite 2.0; TRIM; L1.2
256 GB PCIe® NVMe™ M.2 SSD	Form Factor	M.2 2280
	Capacity	256GB
	NAND Type	TLC
	Weight	0 ~ 15.0 g (0 ~ 0.03 lb)
	Interface	PCIe NVMe
	Sequential Read	Up to 3100 MB/s
	Sequential Write	Up to 1200 MB/s
	Logical Blocks	500118192
	Features	Pyrite 2.0; TRIM; L1.2

NETWORKING / COMMUNICATION

Mediatek MT7920 Wi-Fi® 6 Bluetooth® 5.4 WW WLAN	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k
	Interoperability	Wi-Fi certified modules
	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
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: max 300Mbps 802.11ac : max 866.7Mbps 802.11ax : max 1201Mbps
	Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM

Security	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification WPA3 certification IEEE 802.11i WAPI EAP
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 802.11ax HE40(2.4GHz) : +12dBm minimum 802.11ax HE80(5GHz) : +10dBm minimum
Power Consumption	Transmit mode:2.5 W Receive mode:2 W Idle mode (PSP)180 mW(WLAN Associated) Idle mode:50 mW(WLAN unassociated) Connected Standby/Modern Standby: 10mW Radio disabled: 8 mW



Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity	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 : -84dBm maximum 802.11ac, MCS9 : -59dBm maximum 802.11ax, MCS11(HE40): -57dBm maximum 802.11ax, MCS11(HE80): -54dBm maximum
Antenna Type	High efficiency antenna. One embedded dual band 2.4/5 GHz antenna is provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230: 2.3 x 22.0 x 30.0 mm
Weight	Type 2230: 2.8g
Operating Voltage	3.3v +/- 9%
Bluetooth® Specification	Integrated Bluetooth® specifications 4.0/4.1/4.2/5.0/5.1 Compliant/5.2 Compliant/5.3 Compliant /5.4 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 ETSI 300 328, ETSI 301 893
Bluetooth® Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan



Realtek 8852BE-VT Wi-Fi® 6
Bluetooth® 5.4 WW WLAN

Wireless LAN Standards

- BT4.2 ESR08 Compliance
- LE Secure Connection- Basic/Full
- LE Privacy 1.2 -Link Layer Privacy
- LE Privacy 1.2 -Extended Scanner Filter Policies
- LE Data Packet Length Extension
- FAX Profile (FAX)
- Basic Imaging Profile (BIP)2
- Headset Profile (HSP)
- Hands Free Profile (HFP)
- Advanced Audio Distribution Profile (A2DP)
- BT5.2
- ESR9/10 Compliance
- LE Advertisement Extensions
- Channel Selection Algo
- Limited High Duty Cycle Non-Connectable Advertising
- 2Mbps LE
- LE Long Range
- Windows BT profiles support
- BT5.3
- Encryption key size control enhancements

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n
- IEEE 802.11ac
- IEEE 802.11ax
- IEEE 802.11d
- IEEE 802.11e
- IEEE 802.11h
- IEEE 802.11i
- IEEE 802.11k
- IEEE 802.11r
- IEEE 802.11v



Interoperability	Wi-Fi certified modules
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
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: max 300Mbps 802.11ac : max 866.7Mbps 802.11ax : max 1201Mbps
Modulation	Direct Sequence Spread Spectrum, OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification WPA3 certification IEEE 802.11i WAPI
Network Architecture	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)



Roaming	IEEE 802.11 compliant roaming between access points
Output Power	802.11b : +18.5dBm minimum 802.11g : +17.5dBm minimum 802.11a : +18.5dBm minimum 802.11n HT20(2.4GHz) : +15.5dBm minimum 802.11n HT40(2.4GHz) : +14.5dBm minimum 802.11n HT20(5GHz) : +15.5dBm minimum 802.11n HT40(5GHz) : +14.5dBm minimum 802.11ac VHT80(5GHz) : +11.5dBm minimum 802.11ax HE40(2.4GHz) : +10dBm minimum 802.11ax HE80(5GHz) : +10dBm minimum
Power Consumption	Transmit mode:2.5 W Receive mode:2 W Idle mode (PSP)180 mW(WLAN Associated) Idle mode:50 mW(WLAN unassociated) Connected Standby/Modern Standby: 10mW Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity	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 : -84dBm maximum 802.11ac, MCS9 : -59dBm maximum 802.11ax, MCS11(HE40): -57dBm maximum 802.11ax, MCS11(HE80): -54dBm maximum



Antenna Type	High efficiency antenna with spatial diversity. Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230: 2.4 x 22.0 x 30.0 mm
Weight	Type 2230: 2.8g
Operating Voltage	3.3v +/- 9%
Bluetooth® Specification	Integrated Bluetooth® specifications 4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 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 ETSI 300 328, ETSI 301 893
Bluetooth® Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) BT5.1 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising



		2Mbps LE
		LE Long Range
Realtek 8922AE-VS Wi-Fi 7 Bluetooth® 6.0 WW WLAN	Wireless LAN Standards	IEEE 802.11a
		IEEE 802.11b
		IEEE 802.11g
		IEEE 802.11n
		IEEE 802.11ac
		IEEE 802.11ax
		IEEE 802.11be
		IEEE 802.11d
		IEEE 802.11e
		IEEE 802.11h
		IEEE 802.11i
		IEEE 802.11j
		IEEE 802.11k
		IEEE 802.11mc
		IEEE 802.11r
		IEEE 802.11v
		IEEE 802.11w
Interoperability		Wi-Fi certified modules
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
		5.955-6.415GHz
		6.435-6.515GHz
		6.535-6.875GHz



	6.895-7.115GHz
	5.925-7.125GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps ▪ 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) ▪ 802.11ac: MCS0 ~ MCS9, (20MHz, 40MHz, ,80MHz & 160MHz) ▪ 802.11ax: MCS0 ~ MCS11, (20MHz, 40MHz, ,80MHz & 160MHz) ▪ 802.11be: MCS0 ~ MCS11, (20MHz, 40MHz, ,80MHz & 160MHz)
Modulation	Direct Sequence Spread Spectrum, OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security	IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification WPA3 certification IEEE 802.11i WAPI EAP
Network Architecture Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	802.11b: +20dBm 802.11g: +20dBm



- 802.11a : +18dBm
- 802.11n HT20(2.4GHz) : +20dBm
- 802.11n HT40(2.4GHz) : +20dBm
- 802.11n HT20(5GHz) : +18dBm
- 802.11n HT40(5GHz) : +17dBm
- 802.11ac VHT80(5GHz) : +16dBm
- 802.11ac VHT160(5GHz) : +15dBm
- 802.11ax HE40(2.4GHz) : +17dBm
- 802.11ax HE80(5GHz) : +14dBm
- 802.11ax HE160(5GHz) : +13dBm
- 802.11ax HE80(6GHz) : +13dBm
- 802.11ax HE160(6GHz) : +12dBm

Power Consumption

- Transmit mode:3.1 W
- Receive mode:1.8 W
- Idle mode (PSP)180 mW(WLAN Associated)
- Idle mode:50 mW(WLAN unassociated)
- Connected Standby/Modern Standby: 10mW
- Radio disabled: 8 mW

Power Management

- ACPI and PCI Express compliant power management
- 802.11 compliant power saving mode

Receiver Sensitivity

- 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

Antenna Type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm
Weight	Type 2230 : 2.8g
Operating Voltage	3.15 ~3.6V
Bluetooth® Specification	Integrated Bluetooth® specifications 4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps 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 I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support compliant power management 802.11 compliant power saving mode
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407 ETSI 300 328, ETSI 301 893, ETSI 303 687
Bluetooth® Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 -Link Layer Privacy LE Privacy 1.2 -Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP)



		Hands Free Profile (HFP)
		Advanced Audio Distribution Profile (A2DP)
		BT5.2
		ESR9/10 Compliance
		LE Advertisement Extensions
		Channel Selection Algo
		Limited High Duty Cycle Non-Connectable Advertising
		2Mbps LE
		LE Long Range
		Windows BT profiles support
		BT5.3
		Compliance to the latest errata spetipn 12.3 of bluetooth 5.3 specification
		ESR 9/10 compliance
		Host to controller Encryption key control enhancements
RTK GBE Ethernet Controller	Connector	RJ-45
	System Interface	PCIe + SMBus
	Data Rates Supported	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
	IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)

	IEEE 802.3az EEE (Energy Efficient Ethernet)
Performance	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling Jumbo Frame 9K
Power Consumption	Cable Disconnection: 25mW 100Mbps Full Run: 450mW 1000bp Full Run: 1000mW 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 standby and hibernation (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



POWER

Power supply availability may vary by country.

Battery is internal and replaceable by customer.

Higher wattage adapter is recommended for best performance and fastest charging.

Using lower-capacity third-party USB Type-C® power cables may reduce power delivery.

HP CALI 45W	Weight (DC Cable Included)	185g(+/-5g) (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
	Input Efficiency	81.76% min at 115 Vac/ 230 Vac @5.00V
		87.3% min at 115 Vac/ 230 Vac @9.00V
		88.85% min at 115 Vac/ 230 Vac @15.00V
		88.85% min at 115 Vac/ 230 Vac @20.00V
	Input frequency range	47-63Hz
	Input AC current	Max. 1.4 A at 90 Vac
	Output	
	Output power	5V/15W
		9V/27W
		15V/45W
		20V/2.25A
	DC output	5V/9V/15V/20V
	Hold - up time	100% load 5ms at 115 Vac input
	Output Over Current	< 5.0A
	Protection	
	AC Inlet Type	C6
	DC Cable Connector	USB type C
	DC Cable Material	PVC
	Environmental Design	
	Operating temperature	32°F to 95°F (0° to 35°C)
	Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%

EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC, USB-IF, Ukraine(CoC+DoC+RoHS+ECO)
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HP Luna 65W

Weight (DC Cable Included)	220g(+/-10g) (Not including power cord. Power cord varies by country.)
Input	100-240Vac
Input Efficiency	81.84% min at 115 Vac/ 230 Vac @5.00V 87.3% min at 115 Vac/ 230 Vac @9.00V 88.85% 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/15V/20V
Hold - up time	100% load 5ms at 115 Vac input
Output Over Current	< 8.0A
Protection	
AC Inlet Type	C6
DC Cable Connector	USB type C
DC Cable Material	PVC
Environmental Design	
Operating temperature	32°F to 95°F (0° to 35°C)



Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
Altitude	0 to 16,400 ft (0 to 5000m)
Humidity	20% to 95%
Storage Humidity	10% to 95%
EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC

HP Kinopio 65W

Weight (DC Cable Included)	180g(+/-10g) (Not including Duck Head. Duck Head varies by country.)
Input	100-240Vac
Input Efficiency	81.84% min at 115 Vac/ 230 Vac @5.00V 87.3% min at 115 Vac/ 230 Vac @9.00V 88.85% 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 Over Current	115%-135%
Protection	
AC Inlet Type	Foldable or Fixed type
DC Cable Connector	USB type C



DC Cable Material	Halogen Free (2.0 Meters)
Environmental Design	
Operating temperature	32°F to 95°F (0° to 35°C)
Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
Altitude	0 to 16,400 ft (0 to 5000m)
Humidity	20% to 95%
Storage Humidity	10% to 95%
EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1 Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC

HP Koopa 100W

Weight (DC Cable Included)	255g(+/-5g) (Not including power cord. Power cord varies by country.)
Input	100-240Vac
Input Efficiency	81.76% min at 115 Vac/ 230 Vac @5.00V 87.3% 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/75W 20V/100W
DC output	5V/9V/15V/20V
Hold - up time	100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac



	input
Output Over Current Protection	5V/9V : 125%~135%; 15V/20V: 5.4A
AC Inlet Type	Foldable or Fixed type
DC Cable Connector	USB type C
DC Cable Material	Halogen Free (2M)
Environmental Design	
Operating temperature	32°F to 95°F (0° to 35°C)
Non - operating(storage) temperature	-4°F to 185°F (-20° to 85°C)
Altitude	0 to 16,400 ft (0 to 5000m)
Humidity	20% to 95%
Storage Humidity	10% to 95%
EMI and Safety Certifications	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950-1, 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)



Battery

HP 3-cell Long Life Li-Ion (41 WHr)	Weight	0.175 kg (0.377 lb)
	Cells / Type	3cell Lithium-Ion Polymer cell / 515974
	Energy	
	Voltage	11.25V
	Amp - hour capacity	3.648Ah
	Watt - hour capacity	41WH
	Temperature	
	Operating (Charging)	32° to 113° F (0° to 45° C)
	Operating (Discharging)	14° to 122° F (-10° to 60° C)
	Optional Travel Battery Available	No

HP 3-cell Long Life Li-Ion (60 WHr)	Weight	0.21 kg (0.452 lb)
	Cells / Type	3cell Lithium-Ion Polymer cell / 595974
	Energy	
	Voltage	11.67V
	Amp - hour capacity	5.14Ah
	Watt - hour capacity	60WH
	Temperature	
	Operating (Charging)	32° to 113° F (0° to 45° C)
	Operating (Discharging)	14° to 122° F (-10° to 60° C)
	Optional Travel Battery Available	No

AUDIO

Privacy panel is only available on select models.

Codec	Realtek ALC3247
Audio I/O Ports	3.5mm Headset: CTIA only; Headphone-out
Multi-streaming Capable	Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front jacks or integrated speaker., Following Microsoft behavior.
Sampling	DAC: Supports resolutions from 16-bit to 24-bit;48.0 kHz to 48.0 kHz ADC: Supports resolutions from 16-bit to 24-bit;44.1 kHz to 48.0 kHz
Internal Speaker	Yes



FINGERPRINT READER

Sensor vendor	Synaptics (FS7605)
Sensor type	Capacitive
DPI resolution	363 DPI
Scan area	104 x 86 pixels
False Rejection Rate	< 3%
False Acceptance Rate	< 0.001%
Mobile Voltage Operation	2.7 V ~ 3.6 V
Operating Temperature	0°C ~ 60°C (32°F ~ 140°F)
Current Consumption Image	100 mA max
Low Latency Wait For Finger	60 uA
Capture Rate	58.8 frames/sec
ESD Resistance	IEC 61000-4-2 4B (±15KV)
Detection Matrix	363 dpi / 7.4 x 6.0 mm sensor area



CHANGELOG

Date of change	Version History		Description of change
February 12, 2026	V1 to V2	Updated	Software and Security Section
March 27, 2026	V2 to V3	Added	Software and Security Section
April 14, 2026	V3 to V4	Updated	Ports/ Slots
April 21, 2026	V4 to V5	Updated	System Unit
May 14, 2026	V5 to V6	Updated	Processor Section
May 29, 2026	V6 to V7	Updated	System Unit
June 4, 2026	V7 to V8	Updated	Memory Section
June 26, 2026	V8 to V9	Updated	Keyboard Section Power Section

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