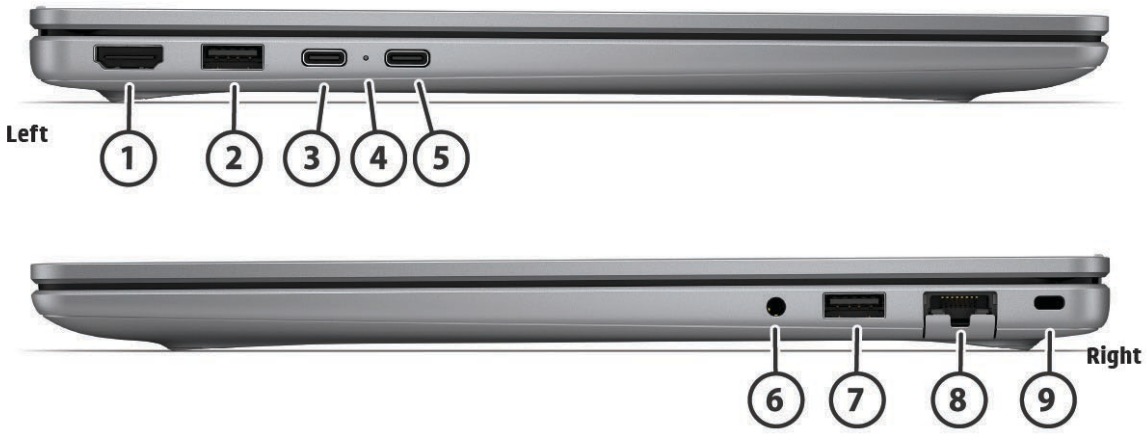
HP 200 G2i 14 inch Notebook PC



Front

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



Sides

1	HDMI 1.4b	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 G2i 14 inch Notebook PC

OPERATING SYSTEM

Preinstalled

FreeDOS

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

Windows 11 Home Education [1]

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

Windows 11 Pro [1]

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

PROCESSORS

Processor [2,3,4,5]	Cores	Number of P-cores	Number of E-cores	Number of LP E-cores	Threads	Smart Cache	Max Turbo Frequency		Integrated Graphics	NPU
							P-cores	E-cores		
Intel® Core™ 7 processor 240H	10 cores	6	4	0	16	24 MB	5.20 GHz	3.90 GHz	Intel® Graphics	N/A
Intel® Core™ 5 processor 220H	12 cores	4	8	0	16	18 MB	4.90 GHz	3.70 GHz	Intel® Graphics	N/A
Intel® Core™ 5 processor 220U	10 cores	2	8	0	12	12 MB	5.00 GHz	3.80 GHz	Intel® Graphics	N/A
Intel® Core™ 7 processor 150U	10 cores	2	8	0	12	12 MB	5.40 GHz	4.00 GHz	Intel® Graphics	N/A
Intel® Core™ 5 processor 120U	10 cores	2	8	0	12	12 MB	5.00 GHz	3.80 GHz	Intel® Graphics	N/A
Intel® Core™ 3 processor 100U	6 cores	2	4	0	8	10 MB	4.70 GHz	3.50 GHz	Intel® Graphics	N/A
Intel® Core™ 3 processor N355	8 cores	0	8	0	8	6 MB		3.90 GHz	Intel® Graphics	N/A
Intel® processor N250	4 cores	0	4	0	4	6 MB		3.80 GHz	Intel® Graphics	N/A
Intel® processor N150	4 cores	0	4	0	4	6 MB		3.60 GHz	Intel® Graphics	N/A

Processor Family

Intel® Core™ 7 processor

Intel® Core™ 5 processor

Intel® Core™ 3 processor

Intel® 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. Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration.

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

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

GRAPHICS

Integrated

Intel® Graphics

DISPLAY

Availability may vary by country.

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

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

512 GB PCIe® NVMe™ SSD Value

256 GB PCIe® NVMe™ SSD Value

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 DDR5-5200 MT/s	32GB LPDDR5-5200 MT/s
Available memory configurations	8GB (1 x 8GB) DDR5-5200 MT/s 12GB (1 x 12GB) DDR5-5200 MT/s 16GB (1 x 16GB) DDR5-5200 MT/s 16GB (2 x 8GB) DDR5-5200 MT/s 24GB (1 x 24GB) DDR5-5200 MT/s 24GB (2 x 12GB) DDR5-5200 MT/s 32GB (1 x 32GB) DDR5-5200 MT/s	8GB LPDDR5-4800 MT/s 16GB LPDDR5-5200 MT/s 32GB LPDDR5-5200 MT/s
Notes	System runs at 5200 MT/s Supports Dual Channel Memory (optional) Memory is replaceable by customer or customer IT support.	System runs at 5200 MT/s System runs at 4800 MT/s Memory is non-accessible / non-upgradeable.

NETWORKING /COMMUNICATIONS

Items below may be optional.

Ethernet

RTK GBE Ethernet Controller [7]

WLAN

Realtek 8852BE-VT 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
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 Features

Absolute Persistence Module [14]

Security- TPM

Model

NPCT760HACYX

Firmware Version

7.2.4.0

FIPS 140-2 Compliant

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

BIOS

HP Secure Erase [15]

Smartcard Reader

FIPS 140-2 Compliant

No Smartcard Reader

IPv6 Support

Yes

FirstNet Certified

No

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

Yes

UEFI version

2.8

Class

3

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 Polymer [16]

HP Long Life 3 cell, 41Wh Polymer [16]

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 with 41 Wh battery (Intel TWL 15W, UMA graphic, brightness set to 250nits on a WUXGA 300nits LCD display, 8GB LPDDR5 memory, 256GB SSD) Up to 11 hours and 15 minutes with 60 Wh battery (Intel TWL 15W, UMA graphic, brightness set to 250nits on a WUXGA 300nits LCD display, 8GB LPDDR5 memory, 256 GB SSD)

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

WEIGHT & DIMENSIONS

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

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

Product Weight

Starting at 1.38 kg (3.04 lb)

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

2 x USB Type-C® 10Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4)

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

1 x HDMI 1.4b

Right side

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

1 x headphone/mic combo jack

1 x RJ45 Ethernet port

1 x Nano Security Slot

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	15V, 20V
Max Operating Power	UMA<45W (U/N series CPU/40W battery)
	UMA<65W (U series CPU/60W battery)
	UMA<100W (H series CPU/60W battery)
Temperature	
Operating	32° to 95° F (0° to 35° C) (not writing optical)
	41° to 95° F (5° to 35° C) (writing optical)
Non - operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	
Operating	10% to 90%, non-condensing
Non - operating	5% to 95%
Shock	
Operating	40 G, 2 ms, half-sine
Non - operating	240 G, 2 ms duration, half-sine
Random Vibration	
Operating	1.043 grms
Non - operating	3.5 grms
Altitude(unpressurized)	
Operating	-15 m to 3048 m (-50 ft to 10000 ft)
Non - operating	-15 m to 12192 m (-50 ft to 40000 ft)
Industry Standard Certifications	
Regulatory Model Number	TPN-I149
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 request so far (TBC)
Medical EMC: IEC 60601-1-2:2014 EN60601-1-2: 2015	No
SEPA	No request so far (TBC)
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	0.673611111111111
	Backlight	WLED
	Color Gamut Coverage	sRGB 62.5%
	Color Depth	8 bit
	Viewing Angle	typ. 89/89/89/89
	Low Blue Light	No
	Power Consumption	Power (B/L w/ Driver @ VBL=12V) 2.5Wmax
		Power (Circuit @ 32x32 mosaic) 0.54Wmax
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	**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	0.673611111111111
	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" WUXGA (1920 x 1200) BV UWVA OLED+LBL DCI-P3 95 300 eDP 1.2 w/o PSR CR 60Hz ben	**Active Area**	301.824 x 188.640
	Dimensions (W x H)	305.654 x 198.02mm
	Weight	174g(Max)
	Diagonal Size	14 inch
	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	0.673611111111111
	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	Ad-hoc (Peer to Peer)
Models	Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	802.11b : +17dBm minimum 802.11g : +16dBm minimum 802.11a : +17dBm minimum 802.11n HT20(2.4GHz) : +14dBm minimum 802.11n HT40(2.4GHz) : +13dBm minimum 802.11n HT20(5GHz) : +14dBm minimum 802.11n HT40(5GHz) : +13dBm minimum 802.11ac VHT80(5GHz) : +10dBm minimum 802.11ax 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%
	Integrated Bluetooth® specifications
Bluetooth® Specification	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

		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
Realtek 8852BE-VT 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 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%
	Integrated Bluetooth® specifications
Bluetooth® Specification	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
	Integrated Bluetooth® specifications
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4/6.0 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps 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 Disconnetion: 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 Protection	< 5.0A
	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)
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 Protection	< 8.0A
	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 Protection	115%-135%
	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 Battery Section
April 14, 2026	V2 to V3	Updated	Ports/ Slots
April 21, 2026	V3 to V4	Updated	Processors
May 14, 2026	V4 to V5	Updated	Processor Section
June 4, 2026	V5 to V6	Updated	Memory Section
June 26, 2026	V6 to V7	Updated	Keyboard Section Power Section
August 14, 2026	V7 to V8	Updated	Memory Section
September 29, 2026	V8 to V9	Updated	Memory Section

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