

Uputstvo za upotrebu (EN)

HP laptop 250 G10 (8X9R0ES)



Tehnoteka je online destinacija za upoređivanje cena i karakteristika bele tehnike, potrošačke elektronike i IT uređaja kod trgovinskih lanaca i internet prodavnica u Srbiji. Naša stranica vam omogućava da istražite najnovije informacije, detaljne karakteristike i konkurentne cene proizvoda.

Posetite nas i uživajte u ekskluzivnom iskustvu pametne kupovine klikom na link:

<https://tehnoteka.rs/p/hp-laptop-250-g10-8x9r0es-akcija-cena/>

Overview

HP 250 G10 Notebook PC



Left

- | | |
|---|--|
| <ul style="list-style-type: none"> 1. Internal Dual Digital Microphone (2) 2. Webcam 3. Camera Shutter 4. Webcam LED 5. Clickpad | <ul style="list-style-type: none"> 6. Audio Combo Jack 7. SuperSpeed USB Type-C® 5Gbps signaling rate¹ (Supports data transfer only and does not support charging or external monitors) 8. HDMI Port (Cable Sold Separately) 9. SuperSpeed USB Type-A 5Gbps signaling rate¹ port (USB 3.2 Gen 1) |
|---|--|

Overview



Right

- | | |
|--------------------|---|
| 1. Power Button | 3. SuperSpeed USB Type-A 5Gbps signaling rate1 port (USB 3.2 Gen 1) |
| 2. Power Connector | 4. Fingerprint Reader (Select Models) |

Overview

At a Glance

- Preinstalled with Windows 11 Pro, Windows Home or FreeDOS
- Choice of 13th generation Intel® Core™, Intel® Pentium®, or Intel® Celeron® processors
- Choice of 39.62 cm (15.6") diagonal HD and Ultra Wide Viewing Angle FHD 300 nit display
- NVIDIA® GeForce® MX550 (2 GB GDDR6 dedicated) (Optional)
- Optimize your video calls with an FHD camera(optional) and temporal noise reduction that adjusts the lighting to your environment.
- Fast dual channel DDR4 SODIMM memory up to 32 GB
- Enhanced security features including discrete TPM 2.0 for RPL, Firmware TPM for ADL-N and optional Fingerprint reader.
- Weight with basic configurations starting at 3.3 lb / 1.52 kg
- Support wireless options for connectivity on the go including gigabit-speed up to Wi-Fi® 6
- Supports fast charging (50% in 45 minutes) with no impact on battery recharge cycles
- Full size, optional backlit keyboard and spill resistant, clickpad with Precision Touchpad Supported certified
- Camera shutter door to ensure privacy
- Undergoes MIL-STD 810H tests¹

1. MIL-STD 810H is not intended to demonstrate fitness of U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

NOTE: See important legal disclosures for all listed specs in their respective features sections.

Technical Specifications

PRODUCT NAME

HP 250 G10 Notebook PC

OPERATING SYSTEMS

- Preinstalled
- Windows 11 Pro¹
Windows 11 Pro Education¹
Windows 11 Home – HP recommends Windows 11 Pro for business¹
Windows 11 Home Single Language – HP recommends Windows 11 Pro for business¹
Windows 11 Home Education – HP recommends Windows 11 Pro for business¹
FreeDOS

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 ^{1,2,3,4}	Cores	Number of P-cores	Number of E-cores	Threads	L3 Cache	Max Turbo Frequency		Base Frequency	
						P-cores	E-cores	P-cores	E-cores
Intel® Core™ i7-1360P	12	4	8	16	18 MB	5.0 GHz	3.7 GHz	2.2 GHz	1.6 GHz
Intel® Core™ i7-1355U	10	2	8	12	12 MB	5.0 GHz	3.7 GHz	1.7 GHz	1.2 GHz
Intel® Core™ i5-1340P	12	4	8	16	12 MB	4.6 GHz	3.4 GHz	1.9 GHz	1.4 GHz
Intel® Core™ i5-1335U	10	2	8	12	12 MB	4.6 GHz	3.4 GHz	1.3 GHz	0.9 GHz
Intel® Core™ i5-1334U	10	2	8	12	12 MB	4.6 GHz	3.4 GHz	1.3 GHz	0.9 GHz
Intel® Core™ i3-1315U	6	2	4	8	10 MB	4.5 GHz	3.3 GHz	1.2 GHz	0.9 GHz

Processor ^{1,2,3,4}	Cores	Threads	L3 Cache	Max Frequency				Base Frequency
				Max 1-core Turbo (GHz)	Max 2-core Turbo (GHz)	Max 4-core Turbo (GHz)	Max 8-core Turbo (GHz)	
Intel® Core™ Core i3-N305	8	8	6 MB	3.8GHz	3.7GHz	3.5GHz	3.0GHz	1.8GHz
Intel® Pentium® N200	4	4	6 MB	3.7GHz	3.6GHz	3.2GHz	N/A	1.0GHz
Intel® Celeron® N100	4	4	6 MB	3.4GHz	3.4GHz	2.9GHz	3.0GHz	0.8GHz

Technical Specifications

3. 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.

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

5. Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.

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

CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated

Intel® Iris® X^e Graphics ^{7,8}

Intel® UHD Graphics⁸

Discrete

NVIDIA® GeForce® MX550 (2 GB DDR6 dedicated) ⁹

Supports

Support HD decode, DX12, HDMI 1.4b ⁸

7. Intel® Iris® X^e Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® X^e Graphics with Intel® Core™ i5 or i7 processors and single channel memory will only function as UHD graphics.

8. HD content required to view HD images.

9. Integrated graphics depends on processor. NVIDIA® Optimus™ technology requires an Intel processor, plus an NVIDIA® GeForce® discrete graphics configuration and is available on Windows 10 Pro OS. With NVIDIA® Optimus™ technology, full enablement of all discrete graphics video and display features may not be supported on all systems (e.g. OpenGL applications will run on the integrated GPU or the APU as the case may be).

Technical Specifications

DISPLAY

Non-Touch

39.6 cm (15.6") diagonal FHD UWVA eDP + PSR anti-glare Low Blue Light, narrow bezel bent, 300 nits, 100% sRGB (1920 x 1080) ^{8,10,11}

39.6 cm (15.6") diagonal FHD UWVA edp anti-glare, narrow bezel bent, 250 nits, 45% NTSC (1920x1080) ^{8,10,11}

39.6 cm (15.6") diagonal FHD SVA edp anti-glare , narrow bezel bent, 250 nits, 45% NTSC (1920x1080) ^{8,10,11}

39.6 cm (15.6") diagonal HD SVA eDP anti-glare, narrow bezel bent, 250 nits, 45% NTSC (1366 x 768) ^{8,10,11}

HDMI

Port supports resolutions up to 1920 x 1200 external resolution @60 Hz

Display Size (Diagonal)

15.6"

39.6 cm (15.6")

8. HD content required to view HD images.

10. Sold separately or as an optional feature.

11. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

STORAGE AND DRIVES

Primary M.2 Storage

1 TB PCIe® NVMe™ M.2 QLC Solid State Drive ¹²

1 TB PCIe® Gen4x4 NVMe™ M.2 SSD TLC ^{12,13}

512 GB PCIe® NVMe™ M.2 QLC Solid State Drive ¹²

256 GB PCIe® NVMe™ M.2 QLC Solid State Drive ¹²

128 GB PCIe® NVMe™ M.2 TLC M.2 Solid State Drive ¹²

12. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10 and 11) is reserved for system recovery software.

13. Available only to HK (Hong Kong), TW(Taiwan) and CN (China).

Technical Specifications

MEMORY

Maximum Memory

32 GB DDR4-3200 MT/s SDRAM ^{14,15}

Memory

32 GB DDR4-3200 MT/s SDRAM (2 X 16 GB) ^{14,15}

16 GB DDR4-3200 MT/s SDRAM (1 X 16 GB) ^{14,15}

16 GB DDR4-3200 MT/s SDRAM (2 X 8 GB) ^{14,15}

8 GB DDR4-3200 MT/s SDRAM (1 x 8 GB) ^{14,15}

8 GB DDR4-3200 MT/s SDRAM (2 x 4 GB) ^{14,15}

4 GB DDR4-3200 MT/s SDRAM ^{14,15}

Memory Slots

2 SODIMM (RPL-Core i 3/5/7) ^{14,15}

All slots are customer non-accessible / non-upgradeable

Support Dual Channel Memory

1 SODIMM (ADL-N i3/Pentium/Celeron) ^{14,15}

Support Single Channel Memory

14. All slots are non-accessible / non-upgradeable.

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

Technical Specifications

NETWORKING/COMMUNICATIONS

WLAN

Realtek 8852BE-VS (1X1) Wi-Fi® 6 Bluetooth® 5.3 WLAN Wireless Card ¹⁶

Realtek 8852BE (2X2) Wi-Fi® 6 Bluetooth® 5.3 WW WLAN Wireless Card ¹⁶

Miracast

Compatible with Miracast-certified devices (For Win11) ¹⁷

16. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs.

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

AUDIO/MULTIMEDIA

Audio

2 Integrated stereo speakers

Integrated Microphone

Camera

720p HD camera with Temporal Noise Reduction ⁸

1080p FHD camera with Temporal Noise Reduction ⁸

8. HD content required to view HD images.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Full Size Textured island-style Keyboard and optional Backlit and spill resistant ¹⁸

Pointing Device

Touchpad with multi-touch gesture support (PTP certified)

Function Keys

F1 - Open "How to get help in Windows 11" webpage

F2 - Brightness Down

F3 - Brightness Up

F4 - Display Switching

F5 - Blank

F6 - Mute

F7 - Volume Down

F8 - Volume Up

F9 - Previous

F10 - Play/Pause

F11 - Next

F12 - Airplane mode

Technical Specifications

18. Backlit keyboard is an optional feature.

SOFTWARE AND SECURITY

Software

Express VPN

Microsoft Office (Microsoft office sold separately. Internet access required for activation)

WPS Office

Dropbox Promotion ¹⁹

HP QuickDrop ²⁰

sMedio True DVD for HP

MyHP

HP Support Assistant ²¹

HP PC Hardware Diagnostics Windows

Manageability Features

HP SSRM (HP Support Sent Recovery Media) ²²

Windows Push Button Reset Recovery²³

Security Management

McAfee® LiveSafe™ ²⁴

19. 100 GB of free Dropbox storage for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at <https://www.dropbox.com/help/space/hp-promotion> . Internet service required and not included.

20. HP Quick Drop requires Internet access and Windows 10 and higher PC preinstalled with HP QuickDrop app and either an Android device (phone or tablet) running Android 7 or higher with the Android HP QuickDrop app, and /or an iOS device (phone or tablet) running iOS 12 or higher with the iOS HP QuickDrop app.

21. HP Sure Admin requires Windows 10 or 11 Pro or higher, HP BIOS, HP Manageability Integration Kit from <http://www.hp.com/go/clientmanagement> and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.

22. Sold separately or as an optional feature.

23. Must activate within 180 days of Windows activation.

24. 30-day McAfee® LiveSafe™ trial included. Internet access required and not included. Subscription required after expiration. See <http://www.McAfee.com> for more details.

Technical Specifications

POWER

Power Supply

HP Smart 65 W External AC power adapter ²⁵

HP Smart 65 W EM External AC power adapter²⁵

HP Smart 45 W External AC power adapter ²⁵

Battery

HP Long Life 3-cell, 41 Wh Li-ion Polymer ^{26,27}

Power Cord

1M (3.28 feet) length power cord

Battery Life

Up to 8 hours and 24 minutes with 41 whr battery(HP Long Life 3-Cell, 41 Whr Polymaer, UMA graphic, Intel U15, display set to 200 nits, 8G memory, 256 GB SSD)²⁸

Battery Weight

1.85 lb

0.407kg

25. Availability may vary by country.

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

27. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.

28. MM18 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.

WEIGHTS & DIMENSIONS

Product Weight

Starting at 3.3 lb ²⁹

Starting at 1.52 kg²⁹

Product Dimensions (W x D x H)

14.17 x 9.29 x 0.73 in

36 x 23.6 x 1.86 cm

Packaging Dimensions (W x D x H) ³⁰

12-15" boxes (305mm height): 1200mm x 1000mm x 1080mm

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

30. Product packaging size varies based on options chosen. Please contact your HP representative for your packaging size details.

Technical Specifications

PORTS/SLOTS

- 2 SuperSpeed USB Type-A 5Gbps signaling rate
- 1 SuperSpeed USB Type-C® 5Gbps signaling rate (Supports data transfer only and does not support charging or external monitors)
- 1 HDMI v1.4b ³¹
- 1 AC Power
- 1 Headphone/microphone combo jack

31. HDMI cable sold separately

SERVICE AND SUPPORT

1-year limited warranties and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty. 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>.³²

32. 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 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.

Technical Specifications

SYSTEM UNIT

**Stand-Alone Power Requirements
(AC Power)**

Nominal Operating Voltage	19V
Average Operating Power	5.69W

Integrated graphics

Discrete Graphics Nvidia MX550 (Selected SKU)

Max Operating Power ADL-N/RPL-U <45W
RPL-P/RPL-U discrete <65W

Temperature

Operating	32° to 95° F (0° to 35° C)
Non-operating	41° to 95° F (5° to 35° C) (writing optical)

Relative Humidity

Operating	10% to 90%, non-condensing
Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature

Shock

Operating	40 G, 2 ms, half-sine
Non-operating	200 G, 2 ms, half-sine

Random Vibration

Operating	1.043 grams
Non-operating	3.5 grams

Altitude (unpressurized)

Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)

**Planned Industry Standard
Certifications**

Regulatory Model Number	TPN-Q286
CSA/UL 62368-1	Yes
ENERGY STAR®	Certified ³³
EPEAT®	EPEAT® Gold in the United States ³⁴
FCC/ICES/CISPR/VCCI	Yes
CE MARKING	Yes
GS Mark	Yes

Related commodity should comply with ISO 9241 Standards.

China CCC/SRRC	Yes
Taiwan BSMI/NCC	Yes
Korea KCC/KC/KES	Yes
Ukraine NSoC/TEC	Yes
EAEU Compliance	Yes
Saudi Arabian Compliance	Yes
TCO	No
WW RoHS	Yes
Low Blue Light	Yes

33. Configurations of the HP 250 G10 Notebook PC that are ENERGY STAR® qualified are identified as HP 250 G10 Notebook PC ENERGY STAR on HP websites and on <http://www.energystar.gov>.

Technical Specifications

34. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit <http://www.epeat.net> for more information.

DISPLAYS

1. Actual brightness will be lower with touchscreen or HP Sure View.
NOTE: All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

15.6 in FHD (1920 x 1080) Anti-Glare UWVA Low Blue Light sRGB NWBZ 300 eDP 1.4+PSR2 100 flat LCD Panel	Outline Dimensions (W x H x D)	350.960 x 215.840 max.
	Active Area	344.160 x 193.590 typ.
	Weight	310g max.
	Diagonal Size	15.6 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1000:1 typ
	Refresh Rate	60Hz
	Brightness	300 nits ¹
	Pixel Resolution - Format	1920 x 1080 (FHD)
	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)	2.69 (max) / 3.4 (max)

Panel LCD 15.6-in FHD (1920x1080) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ ultraslim	Outline Dimensions (W x H)	350.960 x 216.750 max
	Active Area	344.160 x 193.590 typ.
	Weight	360g max
	Diagonal Size	15.6 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	300:1 (typ)
	Refresh Rate	60Hz
	Brightness	250 nits ¹
	Pixel Resolution - Format	1920 x 1080 (FHD)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	6
	Viewing Angle	SVA 45/45/15/30



Technical Specifications

	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.67 max / 3.33 max
Panel LCD 15.6-in FHD (1920x1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ slim	Outline Dimensions (W x H)	350.960 x 216.750 max.
	Active Area	344.160 x 193.590 typ.
	Weight	370g max
	Diagonal Size	15.6 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	600:1 typ
	Refresh Rate	60Hz
	Brightness	250nits ¹
	Pixel Resolution - Format	1920 x 1080 (FHD)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	6
	Viewing Angle	UWVA 85/85/85/85
	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.88 max / 3.54 max
Panel LCD 15.6-in HD (1366x768) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ ultraslim	Outline Dimensions (W x H)	351.030 x 216.750 max
	Active Area	344.230 x 193.540 typ
	Weight	370g max
	Diagonal Size	15.6 inch
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	300:1 typ
	Refresh Rate	60Hz
	Brightness	250nits ¹
	Pixel Resolution - Format	1366 x 768 (HD)
	Backlight	WLED
	Pixel Resolution	RGB
	Color Gamut Coverage	NTSC 45%
	Color Depth	6
	Viewing Angle	SVA 45/45/15/30
	Low Blue Light	No

Technical Specifications

Power Consumption (W, EBL@ 150nits max/ 200nits max)	2.49 max / 2.98 max
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Technical Specifications

STORAGE AND DRIVES

For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10 and 11) is reserved for system recovery software.

SSD 128GB 2230 PCIe NVMe QLC (SSD 128GB 2230 PCIe NVMe QLC)	Form Factor	M.2 2230
	Capacity	128GB
	NAND Type	QLC
	Interface	PCIe NVMe
	Logical Blocks	250,069,680
	Features	Pyrite
SSD 1TB 2280 PCIe NVMe QLC (1TB 2280 PCIe NVMe QLC 2nd Solid State Drive)	Form Factor	M.2 2280
	Capacity	1TB
	NAND Type	QLC
	Interface	PCIe NVMe
	Logical Blocks	2,000,409,264
	Features	Pyrite
SSD 256GB 2280 PCIe NVMe QLC (SSD 256GB 2280 PCIe NVMe QLC)	Form Factor	M.2 2280
	Capacity	256GB
	NAND Type	QLC
	Interface	PCIe NVMe
	Logical Blocks	500,118,192
	Features	Pyrite
SSD 512GB 2280 PCIe NVMe QLC	Form Factor	M.2 2280
	Capacity	512GB
	NAND Type	QLC
	Interface	PCIe NVMe
	Logical Blocks	1,000,215,216
	Features	Pyrite
SSD 1 TB 2280 PCIe NVMe Value	Form Factor	M.2 2280
	Capacity	1TB
	NAND Type	TLC
	Interface	PCIe NVMe Gen4X4
	Maximum Sequential Read	3200 MB/s ±20%
	Maximum Sequential Write	2700 MB/s ±20%
	Logical Blocks	2,000,409,264
	Features	Pyrite 2.0; TRIM; L1.2

1. Available only to HK (Hong Kong), TW (Taiwan) and CN (China).



Technical Specifications

NETWORKING/COMMUNICATIONS

Realtek RTL8852BE 802.11ax 2x2 Wi-Fi + Bluetooth® 5.3 Wireless Card (802.11ax 2x2, supporting gigabit data rate) ¹	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 BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security ²	• 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 Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power ³	• 802.11b : +18.5dBm minimum • 802.11g : +17.5dBm minimum



Technical Specifications

- 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 Sensitivity⁴

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, 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

1. Type 2230 : 2.3 x 22.0 x 30.0 mm
2. Type 1216: 1.67 x 12.0 x 16.0 mm

Weight

1. Type 2230 : 2.8g
2. Type 126: 1.3g

Operating Voltage

3.3v +/- 9%

Temperature

Operating	14° to 158° F (–10° to 70° C)
Non-operating	–40° to 176° F (–40° to 80° C)

Humidity

Operating	10% to 90% (non-condensing)
Non-operating	5% to 95% (non-condensing)

Altitude

Operating	0 to 10,000 ft (3,048 m)
Non-operating	0 to 50,000 ft (15,240 m)

LED Activity

LED Amber – Radio OFF;
LED OFF – Radio ON

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card

Bluetooth Specification4.0/4.1/4.2/5.0/5.1 Compliant/5.2 Compliant/5.3 Compliant

Technical Specifications

Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Signaling Data Rate	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.

1. Wi-Fi 6 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. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs.
2. Check latest software/driver release for updates on supported security features.
3. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
4. 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).

**Realtek RTL8852BE-VS
802.11ax 1x1 Wi-Fi 6+
Bluetooth® 5.3 Wireless
Card (802.11ax 1x1)¹**

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 150Mbps

Technical Specifications

	• 802.11ac : max 433Mbps • 802.11ax : max 600Mbps
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security²	• 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 Power³	• 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 Sensitivity⁴	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, mounted in the display enclosure

Technical Specifications

	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	1. Type 2230 : 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm	
Weight	1. Type 2230 : 2.8g 2. Type 126: 1.3g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating	14° to 158° F (–10° to 70° C)
	Non-operating	–40° to 176° F (–40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED OFF – Radio ON	

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Technology Card

Bluetooth Specification	4.0/4.1/4.2/5.0/5.1 Compliant/5.2 Compliant/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.

1. Wi-Fi 6 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. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs.
2. Check latest software/driver release for updates on supported security features.
3. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
4. 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).

Technical Specifications

POWER

1. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors

HP 65W Smart AC adapter	Dimensions (H x W x D)	3.543 x 2.008 x 1.122 in (9.0 x 5.1 x 2.85 cm)	
	Weight	0.55 lb (250 g) max (Not including power cord. Power cord varies by country.)	
	Input	100-240Vac	
		Input Efficiency	88 % at 115 Vac and 89 % at 230Vac
		Input frequency range	47-63 Hz
		Input AC current	Max. 1.7 A at 90 Vac
	Output	Output power	
		65W	
		DC output	
		19.5V	
	Connector	Hold-up time	
		100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input	
		Output current limit	
		< 11.0A	
	Environmental Design	4.5mm Barrel Type	
		Operating temperature	32°F to 95°F (0°to 35°C)
			Non-operating (storage) temperature
			-4°F to 185°F (-20°to 85°C)
EMI and Safety Certifications		Altitude	
		0 to 16,400 ft (0 to 5000m)	
		Humidity	
		20% to 95%	
		Storage Humidity	
		10% to 95%	
		CE Mark - full compliance with LVD and EMC directives	
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1	
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC	

HP 45W Smart AC adapter	Dimensions (H x W x D)	3.74 x 1.772 x 1.043 in (9.5x4.5x2.65cm)	
	Weight	0.44 lb (200 g) max (Not including power cord. Power cord varies by country.)	
	Input	100-240Vac	
		Input Efficiency	87.74 % at 115 Vac and 88.4 % at 230Vac
		Input frequency range	47-63 Hz
		Input AC current	Max. 1.4 A at 90 Vac
	Output	Output power	
		45W	
		DC output	
		19.5V	
	Connector	Hold-up time	
		100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input	
		Output current limit	
		< 8.0A	
	Environmental Design	4.5mm Barrel Type	
		Operating temperature	32°F to 95°F (0°to 35°C)
			Non-operating (storage) temperature
			-4°F to 185°F (-20°to 85°C)
EMI and Safety Certifications		Altitude	
		0 to 16,400 ft (0 to 5000m)	
		Humidity	
		20% to 95%	
		Storage Humidity	
		10% to 95%	
		CE Mark - full compliance with LVD and EMC directives	
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1	
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC	



Technical Specifications

	Connector	4.5mm Barrel Type
	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%
	EMI and Safety Certifications	Storage Humidity 10% to 95%
		CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC
65W EM Adapter	Dimensions (H x W x D)	4.016 x 2.165 x 1.181 in (10.2x5.5x3cm)
	Weight	0.58 lb (265 g) max (Not including power cord. Power cord varies by country.)
	Input	100-240Vac
		Input Efficiency 88 % at 115 Vac and 89 % at 230Vac
		Input frequency range 47-63 Hz
		Input AC current Max. 1.7 A at 90 Vac
	Output	Output power 65W
		DC output 19.5V
		Hold-up time 100% load 5ms at 115 Vac input/80% load 10ms at 115 Vac input
		Output current limit < 11.0A
	Connector	4.5mm Barrel Type
	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%
	EMI and Safety Certifications	Storage Humidity 10% to 95%
		CE Mark - full compliance with LVD and EMC directives
		Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL62368-1
		Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia GEMS and RCM, BIS, BSMI, UAE, UKCA DoC



Technical Specifications

HP 3-cell Long Life Li-Ion (41 Wh) ¹	Weight	0.185 kg (0.407 lb)	
	Cells/Type	3cell Lithium-Ion Polymer cell / 515974	
	Energy	Voltage	11.25V
		Amp-hour capacity	3.648Ah
		Watt-hour capacity ¹	41.04Wh
	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

HD Stereo Codec	Realtek ALC3247
Audio I/O Ports	Audio Jack at Left. Headset connector supports a CTIA and OMTP style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port
Internal Speaker Amplifier	2W class D amplifier from ALC3247
Multi-streaming Capable	multi-streaming enable
Sampling	streams to be sent to/from the front and rear jacks or integrated speaker.
Wavetable Syntheses	DAC: 24bit, 48KHz ADC: 16bit; 48kHz
Analog Audio	DAC: 24bit, 48KHz ADC: 16bit; 48kHz
# of Channels on Line-Out	2
Internal Speaker	Yes

FINGERPRINT READER

Sensor vendor	ELAN EFSA80SW
Sensor type	Capacitive
DPI resolution	508 DPI
Scan area	80 x 80 pixels
False Rejection Rate	FRR=≤ 3%
False Acceptance Rate	< 1:100K
Mobile Voltage Operation	3.0V to 3.6V
Operating Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Current Consumption	50mA Peak
Image	
Low Latency Wait For Finger	300uA
Capture Rate	50 frame/ sec
ESD Resistance	IEC 61000-4-2 4B (+15KV)
Detection Matrix	508 DPI / 4 mm x 4mm



Technical Specifications

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. • China Energy Conservation Program (CECP) • China State Environmental Protection Administration (SEPA) • Taiwan Green Mark • Korea Eco-label • Japan PC Green label*		
Sustainable Impact Specifications	• Ocean-bound plastic in speaker • 10% post-consumer recycled plastic • Low halogen • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable • Bulk packaging available		
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.		
Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Sort idle)	7.068 W	7.332 W	7.092 W
Normal Operation (Long idle)	1.464 W	1.536 W	1.452 W
Sleep	1.464 W	1.536 W	1.452 W
Off	0.192 W	0.252 W	0.192 W
	NOTE: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.		
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	24.2 BTU/hr	25.1 BTU/hr	24.3 BTU/hr
Normal Operation (Long idle)	5.0 BTU/hr	5.3 BTU/hr	5.0 BTU/hr
Sleep	5.0 BTU/hr	5.3 BTU/hr	5.0 BTU/hr
Off	0.7 BTU/hr	0.9 BTU/hr	0.7 BTU/hr

Technical Specifications

	* 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	2.4		16.1
Fixed Disk – Random writes	2.4		16.1
Optical Drive – Sequential reads	N/A		N/A
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 96.8% recycle-able when properly disposed of at end of life.		
Packaging Materials	External:	PAPER/Corrugated	245 g
		PAPER/Paperboard	50 g
		PAPER/Molded Pulp	56 g
	Internal:	PLASTIC/Polyethylene low density - LDPE	10 g
	The plastic packaging material contains at least 100.0% recycled content.		
	The corrugated paper packaging materials contains at least 35.6% recycled content.		
RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam. We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve.		

Technical Specifications

	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 http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Bis(2-Ethylhexyl) phthalate (DEHP) • Benzyl butyl phthalate (BBP) • Dibutyl phthalate (DBP) • Diisobutyl phthalate (DIBP) • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
End-of-life Management and Recycling	HP offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

Technical Specifications

	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: http://www.hp.com/go/recyclers. 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: Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf
footnotes	• Percentage of ocean-bound plastic contained in each component varies by product • Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. • External power supplies, WWAN modules, power cords, cables and peripherals excluded. • 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. • Fiber cushions made from 100% recycled wood fiber and organic materials. • Plastic cushions are made from >90% recycled plastic.

COUNTRY OF ORIGIN

China

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

Type	Description	Part Number
Audio	HP Wired USB-A Stereo Headset	428K6AA
	HP Wired 3.5mm Stereo Headset	428K7AA
Cases	HP 115 15.6 Laptop Backpack	8DV45AA#ACJ
	HP 215 15.6 Laptop Backpack	35L98AA#ACJ
	HP 225 15.6 Laptop Backpack	2P7U6AA#ACJ
	HP 235 15.6 Laptop Backpack	35M00AA#ACJ
	HP 315 15.6 Laptop Backpack	35L97AA#ACJ
	HP Prelude G2 15.6 Backpack	1E7D6AA
	HP Prelude G2 15.6 Top Load	1E7D7AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
	HP Renew Executive 16 Laptop Backpack	6B8Y1AA
	HP Renew Executive 16 Laptop Bag	6B8Y2AA
	HP Travel 18L 15.6 Iron Gray Laptop Backpack	6H2D9AA
	HP Travel 25L 15.6 Iron Gray Laptop Backpack	6H2D8AA
Adapter	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB 3.0 to Gigabit RJ45 Adapter G2	4Z7Z7AA
	HP HDMI to VGA Adapter	H4F02AA
Keyboard/Combo	HP 125 WD USB Keyboard	266C9AA
	HP 320K WD USB Keyboard	9SR37AA
	HP 155 Wired Mouse and Keyboard Combo	5B8C0AA#ACJ
	HP 225 Antimicrobial Wired Mouse and Keyboard Combo	286K3AA#AB2
	HP 225 Wired Mouse and Keyboard Combo	286J4AA
	HP 235 Wireless Mouse and Keyboard Combo	1Y4D0AA
Mouse	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA
	HP 125 USB-A Wired Mouse	265A9AA
	HP 128 USB Laser Wired Mouse	265D9AA
	HP 155 USB-A Wired Mouse	5B8B7AA#ACJ
	HP 320M USB-A Wired Mouse	9VA80AA
	HP USB-A+Bluetooth Travel Bluetooth Mouse	6SP30AA
	HP USB Premium Wireless Mouse	1JR31AA
	HP 435 Bluetooth 5.0 + Wireless 2.4GHz Multi-Device Wireless Mouse	3B4Q5AA

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

Power	HP 65W 4.5 mm Smart AC Power Adapter	H6Y89AA
Commodity	HP USB DVD-Writer EXT ODD	F2B56AA
Video	HP 325 FHD USB-A Webcam	53X27AA

Change Log

Date of change:	Version History:		Description of change:
March 21, 2023	V1 to V2	Added	Environmental Data and update call out in Overview section
March 30, 2023	V2 to V3	Updated	Ports and Slots section
April 19, 2023	V3 to V4	Updated	At a Glance section
May 18, 2023	V4 to V5	Updated	Storage and Drives section
April 24, 2024	V5 to V6	Updated	Memory Section
April 15, 2024	V6 to V7	Added	Processor Section

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