Overview

HP 470 G8 Notebook PC

Left

1. Internal Microphone
2. Webcam LED
3. Webcam
4. Internal Microphone
5. Clickpad
6. Headphone/microphone combo jack
7. SuperSpeed USB Type-C® 5Gbps signaling rate (Data Transfer Only)
8. HDMI 1.4 (Cable sold separately)
9. SuperSpeed USB Type-A 5Gbps signaling rate

Overview

Right

1. Power Button
2. Power Connector
3. SuperSpeed USB Type- A 5Gbps signaling rate
4. Hard Drive LED
5. Power LED
6. Touch Fingerprint Sensor (Select models)

Overview

At a Glance

- A new compact design with lift-anywhere edge and configurable all metal chassis
- Choice of 10th and 11th generation Intel® Core™ i7, i5 and i3 processors
- Preinstalled with Windows 10 versions or FreeDOS
- NVIDIA® GeForce® MX450 (2 GB DDR5 dedicated); NVIDIA® GeForce® MX330 (2 GB DDR5 dedicated)
- Fast and upgradeable dual channel DDR4 SODIMM memory up to 16 GB
- Choice of 17.3" diagonal HD, Ultra Wide Viewing Angle FHD, Non-Touch screen
- Features redesigned quiet and responsive HP Keyboard with the HP Programmable key and backlit options
- Choice of solid state drives up to 1TB
- TPM2.0, Touch Fingerprint reader
- Supports wireless options for connectivity on the go including gigabit-data rate Wi-Fi 6
- Battery Life up to 8 hours 30 minutes[1]

1. Windows 10 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 http://www.bapco.com for additional details.

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

Technical Specifications

PRODUCT NAME

HP 470 G8 NOTEBOOK PC

OPERATING SYSTEMS

Preinstalled

Windows 10 Pro 64 – HP recommends Windows 10 Pro for business[1]
Windows 10 Home 64[1]
Windows 10 Home Single Language 64[1]
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 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com/.

PROCESSORS

Intel® Core™ i7-1065G7 processor (1.3 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores) [2,3,4,5]
Intel® Core™ i7-1165G7 processor (Up to 4.7 GHz with Intel® Turbo Boost Technology, 12 MB L3 cache, 4 cores) [2,3,4,5]
Intel® Core™ i5-1035G1 with Intel® UHD Graphics (1.0 GHz base frequency, up to 3.6 GHz with Intel® Turbo Boost Technology, 6 MB L3 cache, 4 cores) [2,3,4,5]
Intel® Core™ i5-1135G7 (2.4 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores) [2,3,4,5]
Intel® Core™ i3-1005G1 with Intel® UHD Graphics (1.2 GHz base frequency, up to 3.4 GHz with Intel® Turbo Boost Technology, 4 MB L3 cache, 2 cores) [2,3,4,5]
Intel® Core™ i3-1115G4 with Intel® UHD Graphics (up to 4.1 GHz with Intel® Turbo Boost Technology, 6 MB L3 cache, 2 cores) [2,3,4,5]
Intel® Core™ i3-1125G4 with Intel® UHD Graphics (2.0 GHz base frequency, up to 3.7 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores) [2,3,4,5]

Processors Family

11th Generation Intel® Core™ i7 processor
10th Generation Intel® Core™ i7 processor
11th Generation Intel® Core™ i5 processor
10th Generation Intel® Core™ i5 processor
11th Generation Intel® Core™ i3 processor
10th Generation Intel® Core™ i3 processor

2. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
3. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

Technical Specifications

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

Integrated with processor

GRAPHICS

Integrated
Intel® UHD Graphics [6]
Intel® Iris Plus Graphics [6]
Intel® Iris Xe Graphics [6,7]

Discrete
NVIDIA® GeForce® MX450 (2 GB DDR5 dedicated)
NVIDIA® GeForce® MX330 (2 GB DDR5 dedicated)

Supports
Support HD decode, DX12, HDMI 1.4b

6. HD content required to view HD images.
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).
7. Intel® Iris® Xe Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® Xe Graphics with Intel® Core™ i5 or 7 processors and single channel memory will only function as UHD graphics.

DISPLAYS

Internal
Non-Touch
43.9 cm (17.3") diagonal, HD+ (1600 x 900), Anti-Glare LED SVA, 250 nits, 60% NTSC, eDP 1.2 w/o PSR [6,8]
43.9 cm (17.3") diagonal, FHD (1920 x 1080), Anti-Glare LED UWVA, 250 nits, 45% NTSC, eDP 1.2 w/o PSR [6,8]
43.9 cm (17.3") diagonal FHD (1920 x 1080), Anti-Glare WLED UWVA, 300 nits, 72% UWVA eDP 1.4+PSR2 slim 60Hz Narrow Bezel [6,7]

Displays Support
HDMI v1.4b up to 1920x1080 60Hz

Display Size
17.3"

43.9 cm (17.3")

6. HD content required to view HD images.
8. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

STORAGE AND DRIVES

Primary Storage
512 GB Intel® PCIe® NVMe™ QLC M.2 SSD with 32 GB Intel® Optane™ memory H10[9]
256 GB Intel® PCIe® NVMe™ QLC M.2 SSD with 16 GB Intel® Optane™ memory H10[9]
256 GB up to 1 TB PCIe® NVMe™ M.2 Value SSD TLC
128 GB PCIe® NVMe™ M.2 SSD TLC
128 GB PCIe® M.2 SSD + 1 TB 5400 rpm SATA [10]
256 GB PCIe® SSD + 1 TB 5400 rpm SATA [10]
512 GB PCIe® SSD + 1 TB 5400 rpm SATA [10]
500 GB up to 2 TB 5400 rpm SATA

NOTE: All slots are customer non-accessible / non-upgradeable

9. Intel® Optane™ memory system acceleration does not replace or increase the DRAM in your system. Requires 8th Gen or higher Intel® Core™ processor, BIOS version with Intel® Optane™ supported, Windows 10 64-bit, and an Intel® Rapid Storage Technology (Intel® RST) driver
10. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.

Technical Specifications

MEMORY

Maximum Memory
16 GB DDR4-3200 SDRAM [11]

Memory
16 GB DDR4-3200 SDRAM (2 x 8 GB) [11]
16 GB DDR4-2666 SDRAM (2 x 8 GB) [11]
12 GB DDR4-3200 SDRAM (1 x 8 + 1 x 4GB) [11]
12 GB DDR4-2666 SDRAM (1 x 8 + 1 x 4GB) [11]
8 GB DDR4-3200 SDRAM (1 x 8 GB) [11]
8 GB DDR4-2666 SDRAM (1 x 8 GB) [11]
8 GB DDR4-3200 SDRAM (2 x 4 GB) [11]
8 GB DDR4-2666 SDRAM (2 x 4 GB) [11]
4 GB DDR4-3200 SDRAM (1 x 4 GB) [11]
4 GB DDR4-2666 SDRAM (1 x 4 GB) [11]

Memory Slots
2 SODIMM
Both slots are customer non-accessible / non-upgradeable
Supports Dual Channel Memory

NOTE: All slots are customer non-accessible / non-upgradeable

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

NETWORKING/COMMUNICATIONS

WLAN
Intel® AX201 Wi-Fi 6 (2x2) and Bluetooth® 5 Combo, vPro™ [12]
Realtek 802.11a/b/g/n/ac (2x2) Wi-Fi® with Bluetooth® 5 Combo [13]

12. 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. The specifications for Wi-Fi 6 (802.11ax) are draft and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ax devices.
13. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with prior 802.11 specs.

Technical Specifications

AUDIO/MULTIMEDIA

Audio
HP Far-field Cortana support
HP Audio Center
Support Alexa
Dual Speakers
Integrated dual array microphone

Camera
HP TrueVision HD webcam + Dual array digital microphone

Webcam
720p HD camera [6]

6. HD content required to view HD images.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard
Island-style ash silver backlit keyboard with numeric keypad and touchpad with image sensor [14]
Island-style ash silver keyboard with numeric keypad and Touchpad with image sensor

Pointing Device
Touchpad with multi-touch gesture support

Function Keys
ESC
F1 – help
F2 – Brightness Down
F3 - Brightness Up
F4 - Backlight Toggle
F5 - Audio Mute
F6 – Volume Down
F7 – Volume Up
F8 - Plays the previous track of an audio CD or the previous section of a DVD or a Blu-ray Disc (BD).
F9 - Starts, pauses, or resumes playback of an audio CD, a DVD, or a BD
F10 - Plays the next track of an audio CD or the next section of a DVD or a BD
F11 – Display Switching
F12 - Insert

14. Backlit keyboard is an optional feature.

Technical Specifications

SOFTWARE AND SECURITY

Software
HP Support Assistant[15]
Native Miracast Support[16]

Security Management
TPM2.0[17]
Fingerprint Reader
Windows Defender[18]

15. HP Support Assistant requires Windows and Internet access.
16. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.
17. Firmware TPM is version 2.0. Hardware TPM is v1.2, which is a subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).
18. Windows Defender Opt In, Windows 10, and internet connection required for updates.

POWER

HP Smart 65 W External AC power adapter [19]
HP Smart 45 W External AC power adapter [19]

Primary Battery
HP Long Life 3-cell, 41 Wh Li-ion [20, 21, 28]

Power Cord
1M length Power Cord

Battery Life
Up to 8 hours 30 minutes[21]

19. Availability may vary by country.
20. Battery is internal and not replaceable by customer. Serviceable by warranty.
21. Windows 10 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 http://www.bapco.com for additional details.
28. 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.

Technical Specifications

WEIGHTS & DIMENSIONS

Product Weight
Starting at 4.6 lb [22]
Starting at 2.085 kg [22]

Product Dimensions (w x d x h)
15.77 x 10.14 x 0.78 in
40.07 x 25.78 x 1.99cm

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

PORTS/SLOTS

Ports
2 SuperSpeed USB Type-A 5Gbps signaling rate[23]
1 HDMI 1.4 [24]
1 SuperSpeed USB Type-C® 5Gbps signaling rate[23]
1 AC power
1 Headphone/microphone combo jack

Expansion Slots
Push-Pull Insertion/Removal

23. SuperSpeed USB 20Gbps is not available.
24. HDMI cable sold separately.

SERVICE AND SUPPORT

HP Services offers 1-year limited warranties and 90-day software support 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.[25]

25. 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.

Technical Specifications

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	
Nominal Operating Voltage	19.5V
Average Operating Power	
Integrated graphics	7.69 W
Discrete Graphics	N/A (Switchable graphics design)
Max Operating Power	Discrete < 65W UMA < 45W
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 duration, 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)
Planned Industry Standard Certifications	
UL	Yes
CSA	No
FCC Compliance	Yes
ENERGY STAR®	ENERGY STAR® 8.0[26]
EPEAT®	EPEAT® [27]
ICES	Yes
Australia	No
NZ A-Tick Compliance	No
CCC	Yes
Japan VCCI Compliance	No
KC	No
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	No
CIT	No

Technical Specifications

GOST	No
Saudi Arabian Compliance (ICCP)	No
SABS	No
UKRSERTCOMPUTER	No

26. Configurations of the HP 470 G8 Notebook PC that are ENERGY STAR® qualified are identified as HP 470 G8 Notebook PC ENERGY STAR on HP websites and on http://www.energystar.gov.

27. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit www.epeat.net for more information.

DISPLAYS

17.3 in FHD (1920 x 1080) Anti-Glare LED UWVA NTSC 45% 250nits	**Outline Dimensions (W x H x D)**	389.89 +/- 0.3mm x238.31 +/- 0.5mm (W/ PCB) 389.89 +/- 0.3mm x227.01 +/- 0.3mm (W/O PCB)
	Active Area	381.89 x 214.81
	Weight	500g max
	Diagonal Size	17.3 (inch)
	Thickness	3.5 (mm) max
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	No
	Contrast Ratio	800:1 - AG
	Refresh Rate	60 Hz
	Brightness	250 nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB
	Backlight	LED
	Color Gamut Coverage	45%
	Color Depth	8 bits
	Viewing Angle	UWVA 85/85/85/85
17.3 in HD+ (1600 x 900) Anti-Glare LED SVA NTSC 60% 250nits	**Outline Dimensions (W x H x D)**	389.88±0.3 (H)*227.02±0.3(V) (W/O PCB)*3.5 (Max) 389.88±0.3(H)*236.52±0.5(V) (W/PCB)*3.5(Max)
	Active Area	382.08 +/- 0.1 (H) x214.92 +/- 0.1(V)
	Weight	480 g max.
	Diagonal Size	17.3 (inch)
	Thickness	3.5 (mm) max.
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	No
	Contrast Ratio	500:1 - AG
	Refresh Rate	60 Hz
	Brightness	250 nit
	Pixel Resolution	1600 x 900 (HD+)

Technical Specifications

	Format	RGB
	Backlight	LED
	Color Gamut Coverage	60%
	Color Depth	6 bits
	Viewing Angle	45/45/20/40
17.3 in FHD (1920 x 1080) Anti-Glare WLED UWVA 72% cg 300nits	**Outline Dimensions (W x H x D)**	399.95 x 251.01 mm max. (including PCB & bracket)
	Active Area	381.888 x 214.812
	Weight	550 g max.
	Diagonal Size	17.3 (inch)
	Thickness	4.0 mm max
	Interface	eDP 1.4
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	No
	Contrast Ratio	600:1 - AG
	Refresh Rate	60 Hz
	Brightness	300 nit
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB
	Backlight	LED
	Color Gamut Coverage	72%
	Color Depth	6 bits+Hi-FRC
	Viewing Angle	UWVA 85/85/85/85

Technical Specifications

STORAGE AND DRIVES

500 GB 5400 rpm SATA Hard Drive	**Drive Weight**	0.21 lbs (95 g)
	Rotation speed	5400 rpm
	Cache Buffer	Up to 128 MB
	Height	0.28 in (7 mm)
	Width	2.75 in (69.85 mm)
	Interface	ATA-8, SATA 3.0
	Transfer Rate	600 MB/s
	Seek Time	Single Track: 1.5 ms Average: 13 ms Maximum: 32 ms
	Logical Blocks	976,773,168
	Operating Temperature	0° to 60°C [Case temperature]
	Security Features	ATA Security
	Features	S.M.A.R.T., NCQ, Ultra DMA
1 TB 5400 rpm SATA Hard Drive	**Drive Weight**	0.21 lbs (95 g)
	Rotation speed	5400 rpm
	Cache Buffer	Up to 128 MB
	Height	0.28 in (7 mm)
	Width	2.75 in (69.85 mm)
	Interface	ATA-8, SATA 3.0
	Transfer Rate	600 MB/s
	Seek Time	Single Track: 1.5 ms Average: 13 ms Maximum: 32 ms
	Logical Blocks	1,953,525,168
	Operating Temperature	0° to 60°C [Case temperature]
	Security Features	ATA Security
	Features	S.M.A.R.T., NCQ, Ultra DMA
2 TB 5400 rpm SATA Hard Drive	**Drive Weight**	0.21 lbs (95g)
	Rotation speed	5400 rpm
	Cache Buffer	Up to 128 MB
	Height	0.28 in (7 mm)
	Width	2.75 in (69.85 mm)
	Interface	ATA-8, SATA 3.0
	Transfer Rate	600 MB/s
	Seek Time	Single Track: 1.5 ms

Technical Specifications

		Average: 13 ms Maximum: 32 ms
	Logical Blocks	3,907,029,168
	Operating Temperature	0° to 60°C [Case temperature]
	Security Features	ATA Security
	Features	S.M.A.R.T., NCQ, Ultra DMA
SSD 1TB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	1 TB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3x4
	Maximum Sequential Read	Up to 3500 MB/s
	Maximum Sequential Write	Up to 3100 MB/s
	Logical Blocks	2,000,409,264
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option)
SSD 256GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up to 3400 MB/s
	Maximum Sequential Write	Up to 2000 MB/s
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option)
SSD 256GB 2280 PCIe-3x2x2 NVMe+SSD 16GB 3D Xpoint	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	QLC+3D XPoint
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)

Technical Specifications

	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X2X2
	Maximum Sequential Read	Up to 1450 MB/s
	Maximum Sequential Write	Up to 500 MB/s
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security
SSD 512GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up to 3500 MB/s
	Maximum Sequential Write	Up to 3000 MB/s
	Logical Blocks	1,000,215,216
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option)
SSD 512GB 2280 PCIe-3x2x2 NVMe+SSD 32GB 3D Xpoint	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	QLC+3D XPoint
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X2X2
	Maximum Sequential Read	Up to 2400 MB/s
	Maximum Sequential Write	Up to 1300 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security

Technical Specifications

SSD 128GB 2280 PCIe-3x2 Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	128 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	1400-2100
	Maximum Sequential Write	800-1200
	Logical Blocks	250,069,680
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option)

Technical Specifications

NETWORKING/COMMUNICATIONS

Intel® Wi-Fi 6 AX201 + Bluetooth® 5 (802.11ax 2x2 supporting gigabit data rate) (non-vPro®)[1,5]	**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™
	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: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, ,80MHz & 160MHz) • 802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, ,80MHz & 160MHz)
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security[3]	• IEEE and WiFi compliant 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

Technical Specifications

Output Power[2]	• 802.11b : +17dBm minimum • 802.11g : +16dBm minimum • 802.11a : +17dBm minimum • 802.11n HT20(2.4GHz) : +14dBm minimum • 802.11n HT40(2.4GHz) : +13dBm minimum • 802.11n HT20(5GHz) : +14dBm minimum • 802.11n HT40(5GHz) : +13dBm minimum • 802.11ac VHT80(5GHz) : +10dBm minimum • 802.11ac VHT160(5GHz) : +10dBm minimum • 802.11ax HE40(2.4GHz) : +12dBm minimum • 802.11ax HE80(5GHz) : +10dBm minimum • 802.11ax HE160(5GHz) : +10dBm minimum
Power Consumption	• Transmit mode 2.0 W • Receive mode 1.6 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode 50 mW (WLAN unassociated) • Connected Standby 10mW • Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	• 802.11b, 1Mbps: -93.5dBm maximum • 802.11b, 11Mbps: -84dBm maximum • 802.11a/g, 6Mbps: -86dBm maximum • 802.11a/g, 54Mbps: -72dBm maximum • 802.11n, MCS07: -67dBm maximum • 802.11n, MCS15: -64dBm maximum • 802.11ac, MCS0(VHT80): -84dBm maximum • 802.11ac, MCS9(VHT80): -59dBm maximum • 802.11ac, MCS9(VHT160): -58.5dBm maximum • 802.11ax, MCS11(HE40): -57dBm maximum • 802.11ax, MCS11(HE80): -54dBm maximum • 802.11ax, MCS11(HE160): -53.5dBm maximum
Antenna type	High efficiency antenna with spatial diversity, 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 with CNVi Interface
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: 2.8 g 2. Type 126: 1.3 g
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)

Technical Specifications

Humidity	**Operating** **Non-operating**	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	**Operating** **Non-operating**	0 to 10,000 ft (3,048 m) 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 Wireless Technology

Bluetooth Specification	4.0/4.1/4.2/5.0/5.1 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 + 9.5 dBm for BR and EDR.

1. 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. The specifications for Wi-Fi 6 (802.11ax) are draft and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ax devices. Only available in countries where 802.11ax is supported.
2. 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.
3. Check latest software/driver release for updates on supported security features.
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).
5. Wi-Fi 5 or 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.

Realtek RTL8822CE 802.11ac 2x2 Wi-Fi® + Bluetooth® 5[1]	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r

Technical Specifications

	IEEE 802.11v
Interoperability	Wi-Fi® certified modules
Frequency Band	• 802.11b/g/n 2.402 – 2.482 GHz • 802.11a/n/ac 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: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz & 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security[3]	• 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[2]	• 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
Power Consumption	• Transmit mode: 2.0 W • Receive mode:1.6 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode: 50 mW (WLAN unassociated) • Connected Standby/Modern Standby: 10mW • Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	• 802.11b, 1Mbps: -93.5dBm maximum

Technical Specifications

	• 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"	
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: 2.8 g 2. Type 126: 1.3 g	
Operating Voltage	3.3v +/- 9%	
Temperature	**Operating** **Non-operating**	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	**Operating** **Non-operating**	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	**Operating** **Non-operating**	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF LED Off – Radio ON	

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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. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with prior 802.11 specs.
2. 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.

3. Check latest software/driver release for updates on supported security features.
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

HP 65W AC Adapter 65 Watt Smart nPFC Standard Barrel 4.5mm Right Angle 1.0 m	**Dimensions (H x W x D)**	3.54x2.0x1.12in (9.0x5.1x2.85cm)	
	Weight	0.5lbs(230g)	
	Input	100 to 240 VAC	
		Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230Vac
		Input frequency range	47 ~ 63 Hz
		Input AC current	Max. 1.7 A at 90 VAC
	Output	**Output power**	65 W
		DC output	19.5 V
		Hold-up time	5 msec at 115 V input
		Output current limit	<11.0A Over voltage protection- 29V max automatic shutdown
	Connector	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords	
	Environmental Design	**Operating temperature**	32°F to 95°F (0°C to 35°C)
		Non-operating (storage) temperature	-4°F to 185°F (-20°C to 85°C)
		Altitude	1 to 16,400 ft (0 to 5000 m)
		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, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. MTBF - over 200,000 hours at 25°C ambient condition.	

45 W AC adapter AC Adapter 45 Watt Smart nPFC Standard Barrel 4.5mm Right Angle 1.0 m	**Dimensions**	3.74x1.77x1.05in (9.5x4.5x2.68cm)	
	Weight	0.44lbs(200g)	
	Input	100 to 240 VAC	
		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**	45 W
		DC output	19.5 V
		Hold-up time	5 ms at 115 VAC input
		Output current limit	<11.0A Over voltage protection- 29V max automatic shutdown
	Connector	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords	
	Environmental Design	**Operating temperature**	32°F to 95°F (0° to 35°C)

Technical Specifications

	Non-operating (storage) temperature	-4°F to 185°F (-20° to 85°C)
	Altitude	1 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, EN60950, UL60950, Class1, SELV; Agency approvals – C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. MTBF – over 200,000 hours at 25°C ambient condition.

HP 3-cell Long Life Li-Ion (41 Wh)	**Dimensions**	6 x 186.85 x 90.2 mm (0.236 x 7.35 x 3.55 inch)
	Weight	0.175 kg (0.38 lb)
	Cells/Type	3cell Lithium-Ion Polymer cell / 515974
	Voltage	11.28V /11.34V
	Amp-hour capacity	3.635Ah / 3.62Ah
	Watt-hour capacity	41 Wh[1]
	Operating (Charging)	32˚ to 113˚ F (0˚ to 45˚C)
	Operating (Discharging)	14˚ to 122˚ F (-10˚ to 60˚C)
	Fuel Gauge LED	N/A
	Warranty	1-year
	Optional Travel Battery Available	No

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.

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® Silver, registered in the United States. See http://www.epeat.net for registration status in your country. • TCO -N/A • 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 (part(s)) • 5% post-consumer recycled plastic • External Power Supply 90% Efficiency • 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)	5.13 W	5.04 W	5.27 W
Normal Operation (Long idle)	0.69 W	0.67 W	0.66 W
Sleep	0.69 W	0.67 W	0.66 W
Off	0.29 W	0.30 W	0.29 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.		

Technical Specifications

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	17 BTU/hr	17 BTU/hr	17 BTU/hr
Normal Operation (Long idle)	2 BTU/hr	2 BTU/hr	2 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr
	*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L_{WAd}, bels)	Sound Pressure (L_{pAm}, decibels)
Typically Configured – Idle	1.8	17.5
Fixed Disk – Random writes	1.8	18
Optical Drive – Sequential reads	1.8	17.8

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 silver level, see http://www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product is 96.6% recycle-able when properly disposed of at end of life.

Packaging Materials	**External:**	PAPER/Corrugated	326 g
	Internal:	PLASTIC/polypropylene	5 g
		PLASTIC/Polyethylene low density	17 g
		PAPER/Molded pulp	201 g
	The plastic packaging material contains at least 0% recycled content.		
	The corrugated paper packaging materials contains at least 55.6% 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.

Technical Specifications

	We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve. To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at 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)

Technical Specifications

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. 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.

Technical Specifications

FINGERPRINT READER[1]

Model: Elan eFSA80ST touch sensor
Mobile Voltage Operation: 2.65V to 3.6V
Operating Temperature: 32° to 95° F (0° to 35° C)
Current Consumption Image: 50mA peak
Low Latency Wait For Finger: <900 uA
Capture Rate: 20cm/sec
ESD Resistance: IEC 61000-4-2 (+15KV)
Detection Matrix: 508 dpi / 4x4mm sensor area
FRR (False Reject Rate) / FAR (False Acceptance Rate): FRR ~ 2% @ 1:50K FAR

1. HP Fingerprint Sensor is as an optional feature.

Country of Origin

China

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

Type	Description	Part Number
Cases	HP Executive 17.3 Backpack	6KD05AA
	HP Executive 17.3 Top Load	6KD08AA
	Renew Business 17" Backpack BULK	3E2U5A6
	Renew Business 17" Backpack	3E2U5AA
	Renew Business 17" Bag	3E2U6AA
Docks	HP USB-C/A 120W G2 Universal Dock	5TW13AA, 5TW13ET, 5TW13UT
	HP Wireless USB Premium Keyboard	Z9N41AA, Z9N41AT
	HP Wireless Rechargeable 950MK Mouse and Keyboard	3M165AA, 3M165UT
	HP 235 WL Mouse and Keyboard Combo	1Y4D0AA, 1Y4D0UT
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA, 9SR36UT, 9SR36ET
	HP Wired Desktop 320K Keyboard	9SR37AA, 9SR37UT, 9SR37ET
	HP Wired Desktop 320M Mouse	9VA80AA, 9VA80UT, 9VA80ET
	HP 125 Wired Keyboard	266C9AA, 266C9UT, 266C9ET
	HP 225 Wired Mouse and Keyboard Combo	286J4AA, 286J4UT, 286J4ET
	HP Wired Mouse	265A9AA, 265A9UT, 265A9ET
	HP LSR Wired Mouse	265D9AA, 265D9UT, 265D9UT
	HP Bluetooth Fingerprint Reader USB Mouse	4TS44AA,4TS44UT,4TS44ET
	HP Bluetooth Travel Bluetooth Mouse	6SP30AA,6SP30UT,6SP30ET
	HP Comfort Grip USB Wireless Mouse	H2L63AA, H2L63UT
	HP Presenter Bluetooth 4.2 Bluetooth Mouse	2CE30AA,2CE30UT,2CE30ET
	HP USB 320M Wired Mouse	9VA80AA,9VA80UT,9VA80ET
	HP USB Premium USB Mouse	1JR32AA#ABA,1JR32UT
	HP USB Premium Wireless Mouse	1JR31AA,1JR31UT
	HP USB Travel USB Mouse	G1K28AA, G1K28ET
	HP Multi-Device 635 Black Wireless Mouse	1D0K2AA
	HP Creator 935 Black Wireless Mouse	1D0K8AA
	HP HDMI to VGA Adapter	H4F02AA, H4F02UT, H4F02ET
	HP USB-C to RJ45 Adapter	V8Y76AA, V7W66AA, V7W66UT
	HP USB-C to USB-A Adapter	N2Z63AA, N2Z63UT
	HP 4.5 mm and USB-C Dock Adapter G2	6LX61AA
	HP USB-C to HDMI 2.0 Adapter	2PC54AA,1WC36UT,1WC36AA
	HP USB-C to RJ45 Adapter	V8Y76AA, V7W66AA, V7W66UT
	HP USB-C to DisplayPort Adapter	N9K78AA, N9K78UT
	HP USB-C to VGA Adapter	P7Z54AA, N9K76AA, N9K76UT
	HP USB-C to 4.5mm Adapter	4ST73AA
	HP USB 3.0 to Gigabit Adapter	N7P47AA
	HP HDMI to DVI Adapter	F5A28AA
Input/Output Adapters	HP USB to Gig RJ45 Adapter	N7P47AA
	HP USB-C to RJ45 Adapter	V7W66AA

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

Power	HP 65W 4.5 mm wDongle 7.4 mm Slim AC Power Adapter	H6Y82AA, H6Y82UTH6Y89AA,
	HP 65W Smart Power Adapter (w/ 4.5mm to 7.5mm DC dongle)	H6Y89UT, H6Y89ET
	HP 65W 4.5 mm Smart AC Power Adapter	H6Y89AA, H6Y89UT, H6Y89ET
Storage	HP USB DVD-Writer EXT ODD	Y3T76AA, F2B56AA, F2B56UT, F2B56ET

Summary of Changes

Date of change:	Version History:		Description of change:
April 20, 2021	From V1 to V2	Add	Environmental Data/Input and Output features
July 6, 2021	From V2 to V3	Add	Battery disclaimer
	From V3 to V4		

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