

Overview

EliteBook x360 1040 G5



Right

1. Touch fingerprint sensor
2. Volume up/down
3. USB Type-C™ with Thunderbolt™
4. USB Type-C™ with Thunderbolt™
5. HDMI port (Cable not included)
6. USB 3.1 Gen 1 charging port

Overview



Left

1. Internal microphones
2. IR/FHD Cameras
3. Webcam LED
4. Glass clickpad
5. WWAN SIM (Nano)
6. Nano Security lock slot (Lock sold separately)
7. Power button
8. Audio combo jack
9. USB 3.1 Gen 1 charging port

Overview

At a Glance

- All metal CNC Aluminum chassis that is .67 inches (1.69 cm) thin and with a starting weight of 2.99 lbs (1.36 Kg)³
 - A 360° convertible notebook with 4 usage modes
Laptop mode, Tablet mode, Tent mode, and Media mode.
 - Choice of 8th Generation Intel® Core™ i5, i7 Processors with integrated Intel® HD 620 Graphics
 - Display choices include 35.56 cm (14.0") diagonal IPS FHD touch screen or UHD touch screen. Brightness choices up to 700 Nits
Optional Anti-glare screen available. Get added protection in open or public places with the optional HP Sure View integrated
privacy screen. Ambient Light Sensor (ALS) standard.
 - Ultimate connectivity with 4G/LTE WWAN (up to Cat16), WLAN, USB Type-C™, USB Type-A (2), HDMI, and Thunderbolt™
Docking
 - Innovative world-facing third mic improves inbound ambient noise cancellation
 - Engage teams, clients, and vendors with the crystal-clear audio by Bang & Olufsen and the high-performance HP Premium
Collaboration Keyboard
 - The new optional HP Rechargeable Active Pen
 - Never forget your password with your choice of simple authentication methods, including the IR camera for face recognition
and Touch Fingerprint Sensor for Windows Hello
 - Choice of solid state drives up to 2 TB
 - DDR4 Memory up to 32 GB
 - Up to 17 hours of battery life¹
 - Preinstalled with Windows 10 versions
 - Passed MIL-STD 810g testing²
 - Instant on/instant off with Modern Connected Standby
1. Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded application 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.
 2. MIL-STD 810G testing is pending and is conducted on select HP products. Testing 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
 3. Weight will vary by configuration.

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

Technical Specifications

PRODUCT NAME

HP EliteBook x360 1040 G5 Notebook PC

OPERATING SYSTEMS

Preinstalled

Windows 10 Pro 64 - HP recommends Windows 10 Pro¹
Windows 10 Pro 64 (National Academic only)^{1,2}
Windows 10 Home 64¹
Windows 10 Home Single Language 64¹
FreeDOS 2.0

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always available. Updates may require additional software to apply and additional requirements may apply over time for updates. See <http://www.windows.com/>
 2. Some devices for academic use will automatically be updated to Windows 10 Pro Education with the Windows 10 Anniversary Update. See <https://aka.ms/ProEducation> for Windows 10 Pro Education feature information.
-

PROCESSORS

Intel® Core™ i7-8650U vPro™ processor with Intel® UHD graphics 620 (1.9 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, up to 8 MB cache, 4 cores)^{3,4,5,6}

Intel® Core™ i7-8550U with Intel® UHD graphics 620 (1.8 GHz base frequency, up to 4 GHz with Intel® Turbo Boost Technology, up to 8 MB cache, 4 cores)^{3,4,5,6}

Intel® Core™ i5-8350U vPro™ processor with Intel® UHD Graphics 620 (1.7 GHz base frequency, up to 3.6 GHz with Intel® Turbo Boost Technology, up to 6 MB cache, 4 cores)^{3,4,5,6}

Intel® Core™ i5-8250U with Intel® UHD Graphics 620 (1.6 GHz base frequency, up to 3.4 GHz with Intel® Turbo Boost Technology, up to 6 MB cache, 4 cores)^{3,4,5,6}

Processor Family

8th Generation Intel® Core™ i7 processor (i7-8650U and i7-8550U models)⁶

8th Generation Intel® Core™ i5 processor (i5-8350U and i5-8250U models)⁶

3. Multicore is designed to improve performance of certain software products. Not all customers or software applications will need this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configuration. Performance 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/turbo for more information.
 6. NOTE: In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>
-

Technical Specifications

CHIPSET

Integrated with processor

GRAPHICS

Integrated

Intel® UHD graphics 620⁷

7. HD content required to view HD images.

DISPLAY

Touch UHD (4K)

35.56 cm (14") diagonal 4K IPS eDP + PSR BrightView WLED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 500 nits for WWAN (3840 x 2160)^{7,8,10}

Touch FHD Privacy Panel

HP Sure View Integrated Privacy Screen 35.56 cm (14") diagonal FHD IPS eDP + PSR anti-glare LED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 700 cd/m², 100% sRGB (1920 x 1080)^{7,8,9,10}

HP Sure View Integrated Privacy Screen 35.56 cm (14") diagonal FHD IPS eDP + PSR LED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 700 cd/m², 100% sRGB for WWAN (1920 x 1080)^{7,8,9,10}

HP Sure View Integrated Privacy Screen 35.56 cm (14") diagonal FHD IPS eDP + PSR LED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 700 cd/m², 100% sRGB (1920 x 1080)^{7,8,9,10}

Touch FHD

35.56 cm (14") diagonal FHD IPS eDP + PSR anti-glare LED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 400 nits for WWAN (1920 x 1080)^{7,8,10}

35.56 cm (14") diagonal FHD IPS eDP + PSR anti-glare LED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 400 nits (1920 x 1080)^{7,8,10}

35.56 cm (14") diagonal FHD IPS eDP + PSR BrightView WLED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 400 nits, 100% sRGB for WWAN (1920 x 1080)^{7,8,10}

35.56 cm (14") diagonal FHD IPS eDP + PSR BrightView WLED-backlit touch screen direct bonded with Corning® Gorilla® Glass 5, 400 nits, 100% sRGB (1920 x 1080)^{7,8,10}

Display Size

35.56 cm (14")

7. HD content required to view HD images.

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

9. HP Sure View integrated privacy screen is an optional feature that must be configured at purchase and functions in landscape orientation.

10. Sold separately or as an optional feature.

Technical Specifications

STORAGE AND DRIVES

Primary M.2 Storage

- 2 TB PCIe® Gen3x4 NVMe™ SS TLC ¹¹
- 1 TB PCIe® Gen3x4 NVMe™ SS TLC ¹¹
- 512 GB PCIe® Gen3x4 NVMe™ SS TLC Opal 2 ¹¹
- 512 GB PCIe® Gen3x4 NVMe™ SS TLC ¹¹
- 256 GB SATA-3 SED TLC Opal 2 ¹¹
- 256 GB PCIe® Gen3x4 NVMe™ SS TLC ¹¹
- 256 GB PCIe® NVMe™ SS Value ¹¹
- 128 GB SATA-3 SS TLC ^{11,12}
- 118 GB PCIe® Gen3x2 NVMe™ SS (Intel® Optane™) ^{11,12,13}

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

12. Not available with eMMC Base Units.

13. Intel® Optane™ SSD is sold separately. Intel® Optane™ SSD system acceleration does not replace or increase the DRAM in your system. HP commercial desktops and notebooks and for select HP workstations and requires a SATA HDD, 7th Gen or higher Intel® Core™ processor Xeon® processor E3-1200 V6 product family or higher, BIOS version with Intel® Optane™ supported, Windows 10 version 1703 or higher, S1-B-M connector on a PCH Remapped PCIe Controller and Lanes in a x2 or x4 configuration with B-M keys that meet NVMe™ Spec 1.1 Storage Technology (Intel® RST) 15.5 driver.

MEMORY

- 32 GB DDR4-2400 SDRAM
- 16 GB DDR4-2400 SDRAM
- 8 GB DDR4-2400 SDRAM

Maximum Memory

- 32 GB DDR4-2400 SDRAM

Memory Slots

- Runs at 2400 under
- Memory soldered down (Customer non-accessible)
- Supports Dual Channel Memory for 16 GB & 32 GB, Single Channel Memory for 8 GB

NETWORKING/COMMUNICATIONS

Technical Specifications

Broadband Wireless (WWAN)

WLAN

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, vPro™ 10,14

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, non-vPro™ 10,14

Support for Miracast 16

Supports WLAN/LAN /WWAN switching

Support HP Connection Optimizer with Wi-Fi® Load balancing

Support for DYNAMIC WiFi SAR in BIOS

WWAN

HP lt4132 LTE/HSPA+ 4G, Mobile Broadband Module Cat 4 10,15

Intel® XMM™ 7360 LTE-Advanced 10,15,17

Intel® XMM™ 7560 LTE-Advanced 10,15,17

NFC

NXP NPC300 Near Field Communication Module

Ethernet

No direct Ethernet Support - Ethernet via accessories

10. Sold separately or as an optional feature.

14. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the notebook to communicate with other 802.11ac WLAN devices.

15. WWAN module is optional, must be configured at the factory and requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors available on all products, in all regions.

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

17. Gigabit class 4G LTE module is optional and must be configured at the factory. The full utilization of this module's Gigabit function requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. 4G LTE not available on all products, in all regions.

AUDIO/MULTIMEDIA

Technical Specifications

Audio

Bang & Olufsen
4 Premium Stereo Speakers; 1609 x 2pcs, 4013 x 2pcs
Microphones (Multi Array including World-Facing 3rd Mic)
4 Discrete Amplifiers

Camera

1080p FHD camera ⁷

Webcam

IR Camera ¹⁸

Sensors

Accelerometer
Magnetometer
Gyroscope
Ambient light sensor
Hall Sensor

7. HD content required to view HD images.

18. Internet access required.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

HP Premium Collaboration Keyboard
Backlit, Spill-resistant, with HP Dura Keys

Function Keys

F1 - Display Switching
F2 - Sure View (blank if not supported)
F3 - Brightness Down
F4 - Brightness up
F5 - Audio Mute
F6 - Volume Down
F7 - Volume Up
F8 - Mic Mute
F9 - Kybd Backlight
F10 - NumLock
F11 - Wireless
F12 - Calendar
Share/Present
Pick Up/Accept/ Answer/Hold
Hang Up/Decline/ Reject
Delete
FN key lock

Hidden Function Keys

Fn+R = Break
Fn+S = Sys Rq
Fn+C = Scroll Lock
Fn+E = Insert

Technical Specifications

Fn+W = Pause

Clickpad Requirements

Glass Clickpad

Microsoft Precision Touchpad Default Gestures Support

FW PTP with Filter Driver

Hybrid Mode Support

SOFTWARE AND SECURITY

Preinstalled Software

BIOS

HP BIOSphere Gen4 ¹⁹

HP Drive Lock & Automatic Drive Lock

BIOS Update via Network

Master Boot Record Security

Power On Authentication

Secure Erase ²⁰

Absolute Persistence Module ²¹

Pre-boot Authentication

HP Wireless Wakeup

Software

HP Native Miracast Support ¹⁶

HP LAN-Wireless Protection

HP Velocity

HP Collaboration Keyboard Software

HP ePrint Driver + JetAdvantage ²²

HP Hotkey Support - CMIT

HP Recovery Manager

HP Jumpstart

HP Support Assistant ²³

HP Noise Cancellation Software

HP PhoneWise ³⁰

Buy Office (sold separately)

Manageability Features

HP Driver Packs ²⁴

HP System Software Manager (SSM)

HP BIOS Config Utility (BCU)

HP Client Catalog

HP Manageability Integration Kit Gen2 ²⁵

Ivanti Management Suite ²⁶

Client Security Software

HP Client Security Suite Gen4 ²⁷ including:

HP Security Manager ²⁸ (including Credential Manager, HP Password Manager, HP Spare Key)

HP Fingerprint Sensor

HP Device Access Manager

HP Power On Authentication

Microsoft Defender ²⁹

Security Management

Secure Erase ²⁰

Technical Specifications

- TPM 2.0 Embedded Security Chip shipped with Windows 10 (Common Criteria EAL4+ Certified)
- SATA 0,1 port disablement (viaBIOS)
- RAID configurations ³²
- Serial, USB enable/disable (viaBIOS)
- Power-on password (viaBIOS)
- Setup password (viaBIOS)
- Support for chassis padlocks and cable lock devices
- Integrated hood sensor
- HP Sure Click ³³
- HP Sure Start Gen4 ³¹
- HP Sure Run ³⁴
- HP Sure Recover ³⁵

16. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.
19. HP BIOSphere Gen4 features may vary depending on the PC platform and configurations requires 8th Gen Intel® processors.
20. Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" security standard.
21. Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can range from 1 to 3 years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-a>. Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
22. HP ePrint Driver requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible documents and image types and other HP ePrint details, see <http://www.hp.com/go/eprintcenter> Print times and connection speed vary by printer and network conditions).
23. HP Support Assistant requires Windows and Internet access.
24. HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>
25. HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement>
26. Ivanti Management Suite subscription required.
27. HP Client Security Manager Gen4 requires Windows and Intel® or AMD 8th generation processors.
28. HP Password Manager requires Internet Explorer or Chrome or FireFox. Some websites and applications may not be supported. Users must enable or allow the add-on / extension in the internet browser.
29. Microsoft Defender Opt in and internet connection required for updates.
30. For supported platforms and HP PhoneWise system requirements see <http://www.hp.com/go/HPPhoneWise>. Download the HP PhoneWise app from Google Play store or Apple App Store.
31. HP Sure Start Gen4 is available on HP Elite and HP Pro 600 products equipped with 8th generation Intel® or AMD processors.
32. RAID configuration is optional and does require a second hard drive.
33. HP Sure Click is available on most HP PCs and supports Microsoft® Internet Explorer and Chromium™. Supported attachments include Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office or Adobe Acrobat are installed.
34. HP Sure Run is available on HP Elite products equipped with 8th generation Intel® or AMD® processors.
35. HP Sure Recover is available on HP Elite PCs with 8th generation Intel® or AMD processors and requires an open, wired network connection available on platforms with multiple internal storage drives, Intel® Optane™. You must back up important files, data, photos, videos to avoid loss of data.

POWER

Technical Specifications

Power Supply

65 W USB Type-C™ adapter ³⁶
Supports HP Fast Charging (Up to 50% in 30 minutes) ³⁸

Primary Battery

HP Long Life 4-cell, 56.2 Wh Li-ion polymer ³⁷
100%; Supports HP Fast Charging (Up to 50% in 30 minutes) ³⁸

Power Cord

Duckhead power cord (C5NS), 1.0 m, Sticker, Premium Black (For Hades+) ³⁶

Battery Life

Up to 17 hours (With FHD panel)³⁹
Up to 11 hours 15 mins (With 4K panel) ³⁹

36. Availability may vary by country.

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

38. Recharges the battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65W is required. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

39. Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and use. Visit www.bapco.com for additional details.

WEIGHTS & DIMENSIONS

Weight

Starting at 2.99 lb ⁴⁰
Starting at 1.35 kg ⁴⁰

Dimensions (w x d x h)

12.65 x 8.46 x 0.66 in
32.14 x 21.5 x 1.69 cm

40. Weight will vary by configuration.

PORTS/SLOTS

2 Thunderbolt™ (USB Type-C™ connector)⁴¹
2 USB 3.1 Gen 1 (charging)
1 HDMI 1.4
1 External Nano SIM slot for WWAN
1 headphone-out

41. Cables are not included.

SERVICE AND SUPPORT

Technical Specifications

HP Services offers 1-year limited warranties and 90 day software limited warranty options depending on country. Batteries have a one year limited warranty except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. For additional battery information, visit <http://www.hp.com/support/batterywarranty/>. On-site service and extended coverage is available through HP Care Pack Services. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/cpc> ⁴²

42. 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 HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights applicable to local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty for HP Product.

ENVIRONMENTAL & INDUSTRY

HP elitebook x360 1040 G5

Eco-Label Certifications & declarations	<p>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:</p> <ul style="list-style-type: none"> • IT ECO declaration • US ENERGY STAR® • EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO or TCO Certified Edge 		
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, 60Hz
Normal Operation (Short idle)	5.29 W	4.98 W	5.10 W
Normal Operation (Long idle)	2.20 W	2.08 W	2.35 W
Sleep	0.82 W	0.89 W	0.80 W
Off	0.32 W	0.34 W	0.48 W
	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, 60Hz
Normal Operation (Short idle)	18 BTU/hr	17 BTU/hr	17 BTU/hr

Technical Specifications

Normal Operation (Long idle)	8 BTU/hr	7 BTU/hr	8 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	1 BTU/hr	1 BTU/hr	2 BTU/hr
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		19
	Fixed Disk - Random writes		26
Longevity and Upgrading	<p>This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:</p> <ul style="list-style-type: none"> • 3 USB ports • 1 PC card slot (type I/II) • 1 ExpressCard/54 slot • 1 IEEE 1394 Port • 2 SODIMM memory slots • Optional expansion base docking station • 1 multi-bay II storage port • Interchangeable HDD <p>Spare parts are available throughout the warranty period and or for up to "5"? years after the end of production.</p>		
Batteries	<p>This battery(s) in this product comply with EU Directive 2006/66/EC</p> <p>Batteries used in the product do not contain:</p> <p>Mercury greater the1ppm by weight</p> <p>Cadmium greater than 20ppm by weight</p> <p>Battery size: CR2032 (coin cell)</p> <p>Battery type: lithium/manganese dioxide</p>		
Additional Information	<ul style="list-style-type: none"> • 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 http://www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains 3% post-consumer recycled plastic (by wt.) • This product is 94.5% recycle-able when properly disposed of at end of life. 		
Packaging Materials	External:	PAPER/Corrugated	286 g
	Internal:	PLASTIC/EPE (Expanded Polyethylene)	37 g
		PLASTIC/Polyethylene low density	15 g

Technical Specifications

	PLASTIC/Polypropylene - PP	4 g
Material Usage	<p>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/pdf/gse.pdf):</p> <ul style="list-style-type: none"> • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants - may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • 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	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> • 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	<p>HP Inc. 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.</p> <p>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.</p>	
HP Inc. Corporate Environmental Information	<p>For more information about HP's commitment to the environment:</p> <p>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://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf and</p>	

Technical Specifications

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	AC 15V
	Average Operating Power	Win 10
	Integrated Graphics	Yes
	Discrete Graphics	N/A
	Max Operating Power	UMA<65W
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical)
	Non-operating	41° to 95° F (5° to 35° C) (writing optical)
Relative Humidity	Operating	32° to 95° F (0° to 35° C) (not writing optical)
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperatu
Shock	Operating	40 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	1.043 grms
	Non-operating	3.5 grms
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	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Yes
	EPEAT®	Yes
	ICES	Yes
	Australia / NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes
UKRSERTCOMPUTER	Yes	

Technical Specifications

DISPLAYS

Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA 72percent cg 700nits eDP 1.3+PSR ultraslim Narrow Bezel Privacy	Outline Dimensions (W x H x D)	315.91 x 186.69 max. (FPC folding included)
	Active Area	309.31 x 173.99
	Weight	245g max.
	Diagonal Size	14 (inch)
	Thickness	2.0mm / 3.9mm (PCB) max.
	Interface	eDP1.4a + PSR (4lane)
	Surface Treatment	Anti-Glare (AG)
	Touch Enabled	Yes
	Contrast Ratio	Sharing mode: 600:1 (typ.) Privacy mode: 150:1 (typ.) 110:1 (min)
	Refresh Rate	120Hz
	Brightness	Sharing mode: 700nits Privacy mode: 350nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB strip
	Backlight	LED
	Color Gamut Coverage	72%
	Color Depth	8bits
Viewing Angle	Sharing mode, CR >10, L/R/U/D, 85/85/85/85 (typ.) Privacy mode CR>2, L/R/U/D, 50/50/85/85 (typ.)	

Panel LCD 14 inch FHD (1920x1080) BrightView WLED UWVA 72percent cg 400nits eDP 1.3+PSR ultraslim NB bent	Outline Dimensions (W x H x D)	315.31 x 185.43 max. (FPC folding included)
	Active Area	309.37 X 174.02
	Weight	200g max.
	Diagonal Size	14 (inch)
	Thickness	2.0mm / 4.0mm (PCB) max.
	Interface	eDP 1.3 + PSR (2 lane)
	Surface Treatment	Anti-Glare (AG)
	Touch Enabled	Yes
	Contrast Ratio	1200:1 (typ.)
	Refresh Rate	60Hz
	Brightness	400nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB strip
	Backlight	LED
	Color Gamut Coverage	72%
	Color Depth	6bits
Viewing Angle	UWVA 85/85/85/85	

Technical Specifications

Panel LCD 14 inch UHD (3840x2160) BrightView WLED UWVA 72percent cg 500nits eDP 1.3+PSR ultraslim NB bent	Outline Dimensions (W x H x D)	315.31 x 186.55 max. (FPC folding included)
	Active Area	309.31 X 173.99
	Weight	210g max.
	Diagonal Size	14 (inch)
	Thickness	2.0mm / 4.0mm (PCB) max.
	Interface	eDP 1.4 + PSR (4 lane)
	Surface Treatment	Anti-Glare (AG)
	Touch Enabled	Yes
	Contrast Ratio	1200:1 (typ.)
	Refresh Rate	60Hz
	Brightness	500nits
	Pixel Resolution	3840 x 2160 (UHD)
	Format	RGB strip
	Backlight	LED
	Color Gamut Coverage	72%
	Color Depth	8bits
	Viewing Angle	UWVA 85/85/85/85

STORAGE AND DRIVES

Hard Drives

SSD 128GB 2280 M2 SATA-3 TLC	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	ATA-8, SATA 3.0
	Maximum Sequential Read	540 MB/s~ 560 MB/s
	Maximum Sequential Write	500 MB/s~ 530 MB/s
	Logical Blocks	250,069,680
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	DIPM; TRIM; DEVSLP

Technical Specifications

SSD 1TB 2280 PCIe-3x4 NVMe Three Layer Cell single-sided

Form Factor	M.2 2280
Capacity	1 TB
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	Up To 2800 MB/s
Maximum Sequential Write	Up To 1600 MB/s
Logical Blocks	2,000,409,264
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security (Option); TRIM; L1.2

SSD 256GB 2280 M2 PCIe-3x4 SS NVMe TLC

Form Factor	M.2 2280
Capacity	256 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	2580 MB/s~ 2600 MB/s
Maximum Sequential Write	900 MB/s~ 1000 MB/s
Logical Blocks	500,118,192
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security (Option); TRIM; L1.2

SSD 256GB 2280 M2 SATA-3 Self Encrypted OPAL2 Three Layer Cell

Form Factor	M.2 2280
Capacity	256 GB
NAND Type	TLC
Height	0.09 in (2.3 mm)
Width	0.87 in (22 mm)
Weight	0.02 lb (10 g)
Interface	ATA-8, SATA 3.0
Maximum Sequential Read	530 MB/s~ 560 MB/s
Maximum Sequential Write	500 MB/s~ 530 MB/s
Logical Blocks	500,118,192
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security; TCG OPAL 2.0;DIPM; TRIM; DEVSLP

Technical Specifications

SSD 2TB 2280 PCIe-3x4 NVMe Three Layer Cell single-sided	Form Factor	M.2 2280
	Capacity	2 TB
	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	Up To 3000 MB/s
	Maximum Sequential Write	Up To 2100 MB/s
	Logical Blocks	3,907,029,168
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security; TCG OPAL 2.0;DIPM; TRIM; DEVSLP	

SSD 512GB 2280 M2 PCIe-3x4 SS NVMe TLC	Form Factor	M.2 2280
	Capacity	512 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	2800 MB/s~ 2900 MB/s
	Maximum Sequential Write	1000 MB/s~ 1800 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security (Option); TRIM; L1.2	

SSD 512GB 2280 PCIe-3x4 NVMe Self Encrypted OPAL2 Three Layer Cell	Form Factor	M.2 2280
	Capacity	512 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	2800 MB/s~ 2900 MB/s
	Maximum Sequential Write	1000 MB/s~ 1800 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security (Option); TCG Opal 2.0; TRIM; L1.2	

Technical Specifications

SSD 118GB 2280 PCIe-3x2 NVMe 3D Xpoint	Form Factor	M.2 2280
	Capacity	118 GB
	NAND Type	3D Xpoint
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X2
	Maximum Sequential Read	1200 MB/s
	Maximum Sequential Write	600 MB/s
	Logical Blocks	231,270,400
	Operating Temperature	0° to 85°C [ambient temp]
	Features	Not Support

NETWORKING/COMMUNICATIONS

Wireless LAN Standards

IEEE 802.11a
 IEEE 802.11b
 IEEE 802.11g
 IEEE 802.11n
 IEEE 802.11ac

Interoperability

Wi-Fi certified

Frequency Band

802.11b/g/n

- 2.402 - 2.482 GHz

802.11a/n

- 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, 80MHz)

Modulation

Direct Sequence Spread Spectrum
 BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM

Security

- IEEE and WiFi compliant 64 / 128 bit WEP encryption mode only AES-CCMP: 128 bit in hardware
- 802.1x authentication
- WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP
- WPA2 certification
- IEEE 802.11i
- Cisco Certified Extensions, all versions through CCX Lite
- WAPI

Network Architecture Models

Ad-hoc (Peer to Peer)
 Infrastructure (Access Point Required)

Technical Specifications

Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 Sensitivity³	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
Antenna type	High efficiency antenna with spatial diversity, mounted in the display Two embedded dual band 2.4/5 GHz antennas are provided to the ca 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%
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 White - Radio ON

POWER

Technical Specifications

AC Adapter 65 Watt nPFC USB Type C™ Straight 1.8m C6NS (Hades+)	Dimensions (H x W x D)	74x74x28.5mm	
	Weight	245g +/- 10g	
	Input	100 to 240 VAC	
	Output	Input Efficiency	81.5% min at 115 Vac/ 230Vac @ 5W 86.7% min at 115 Vac/ 230Vac @ 9W 88% min at 115 Vac/ 230Vac @ 10W 88% min at 115 Vac/ 230Vac @ 12W 89% min at 115 Vac/ 230Vac @ 15W 89% min at 115 Vac/ 230Vac @ 20W
		Input frequency range	47 ~ 63 Hz
		Input AC current	1.7 A at 90 VAC and maximum load
		Output power	65W
		DC output	5V/9V/10V/12V/15V/20V
		Hold-up time	5 ms at 115 VAC input
		Output current limit	<8.0A
	Connector	Non-Standard C6	
	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		5% to 95%	
EMI and Safety Certifications	Storage Humidity	5% to 95%	
	CE Mark - full compliance with LVD and EMC directives		
	Worldwide safety standards - IEC60950, EN60950, UL60950, Class 1 approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class 1 CCC, NOM-1 NYCE.		
		MTBF - over 100,000 hours at 25°C ambient condition.	

Battery BL 4 Cell WHr 56 Long Life -PL Fast Charge	Dimensions (H x W x L)	5.55 x 280.4 x 84.12 mm (0.219 x 11.039 x 3.312 inch)	
	Weight	0.247kg (0.545 lb)	
	Cells/Type	4cell Lithium-Ion Polymer cell / 446872	
	Energy	Voltage	7.7V
		Amp-hour capacity	7.3Ah
		Watt-hour capacity	56Wh
	Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F (-10° to 60° C)
	Fuel Gauge LED	NA	
	Optional Travel Battery Available	No	

Technical Specifications

Country of Origin

China

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

Type	Description	Part Number
Cases	HP Slim Ultrabook Top Load	F3W15AA
	HP Exec Midnight 15.6" Backpack	1KM16AA
	HP Business Top Load	2SC66AA
Docking	HP Thunderbolt Dock 120W G2	2UK37AA#xxx
	HP TB Dock G2 w/ Combo Cable	3TR87AA#xxx
	HP TB Dock 120W G2 w/ Audio	3YE87AA#xxx
	HP Thunderbolt Dock Audio Module	3AQ21AA
	HP TB Dock 120W G2 cable	3XB94AA
	HP TB Dock G2 combo cable	3XB96AA
	HP USB-C Universal Dock	1MK33AA#xxx
	HP USB-C Universal Dock NF	3DV65AA#xxx
	HP USB-C Dock G4	3FF69AA#xxx
	HP USB-C Mini Dock	1PM64AA#xxx
	HP USB Travel Dock	T0K30AA#xxx
	HP Elite 90W Thunderbolt 3 Dock	1DT93AA#xxx
	HP Hot Desk Stand (up to 32" monitor)	W3Z73AA#xxx
	HP Hot Desk Stand Monitor Arm (for use with W3Z73AA; supports two 24" monitors)	W3Z74AA#xxx
	Input/Output	HP Slim Wireless Keyboard and Mouse
HP Slim USB Keyboard and Mouse		T6T83AA#xxx
HP Wireless (Link-5) Keyboard		T6U20AA#xxx
HP USB Essential Keyboard and Mouse		H6L29AA#xxx
HP Conferencing Keyboard		K8P74AA#xxx
HP USB Collaboration Keyboard		Z9N38AA#xxx
HP Wireless Collaboration Keyboard		Z9N39AA#xxx
HP Comfort Grip Wireless Mouse		H2L63AA#xxx
HP X4000b Bluetooth Mouse		H3T50AA#xxx
HP 3-Button USB Laser Mouse		H4B81AA#xxx
HP USB Travel Mouse		G1K28AA#xxx
HP Ultra Mobile Wireless Mouse		H6F25AA#xxx
HP Slim Bluetooth Mouse		F3J92AA#xxx
HP Wireless Premium Mouse		1JR31AA#xxx
HP USB Premium Mouse		1JR32AA#xxx
HP Stereo 3.5mm Headset		T1A66AA#xxx
HP Stereo USB Headset		T1A67AA#xxx
HP Elite Presenter Mouse		2CE30AA#xxx
HP USB-C to USB 3.0 Adapter		N2Z63AAA#xxx
HP USB-C to USB-A Hub		Z6A00AA#xxx
HP USB-C to DP		N9K78AA#xxx
HP USB-C to VGA		N9K76AA#xxx
HP to HDMI 2.0		1WC36AA
HP USB-C to RJ45 Adapter FD	V7W66AA	
HP USB-C to RJ45 Adapter	V7W66AA	
HP HDMI to DVI	F5A28AA#xxx	

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

	HP HDMI to VGA	H4F02AA#xxx
	HP USB 3.0 to Gigabit Adapter	N7P47AA#xxx
	HP Active Pen G2	TBD
Power	HP 65W USB-C Power Adapter	1HE08AA#xxx
	HP 65W USB-C Slim Power Adapter w/USB-A port	3PN48AA
	HP USB-C Notebook Power Bank	2NA10AA#xxx
Storage	HP USB External DVDRW Drive	F2B56AA#xxx
Security	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Dual-Head Keyed Cable Lock	1AJ41AA
UCC	HP UC Wireless Mono Headset	W3K08AA#xxx
	HP UC Wireless Duo Headset	W3K09AA#xxx
	HP UC Speaker Phone	K7V16AA#xxx
	HP UC Wired Headset	K7V17AA#xxx
Displays	HP EliteDisplay S340c 34-inch Curved Micro Edge Monitor	V4G46AA
	HP EliteDisplay S270N 27-inch 4K Micro Edge Monitor	2PD37AA
	HP EliteDisplay S240n 24-inch Micro Edge Monitor	W9A88AA
	HP EliteDisplay E243 23.8-inch Monitor	1FH47AA

Change Log

Date of change:	Version History:	Description of change:
November 2, 2018	From V1 to V2	At a glance Passed MIL-STD
December 10, 2018	From V2 to V3	Memory section
December 17, 2018	From V3 to V4	Environmental Section

Copyright © 2018 HP Development Company, L.P. The only warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Bluetooth is a trademark of its proprietor and used by HP Inc. under license. Intel, Core, Celeron, Optane and Intel vPro are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries. USB Type-C™ and USB-C™ are trademarks of USB Implementers Forum. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.