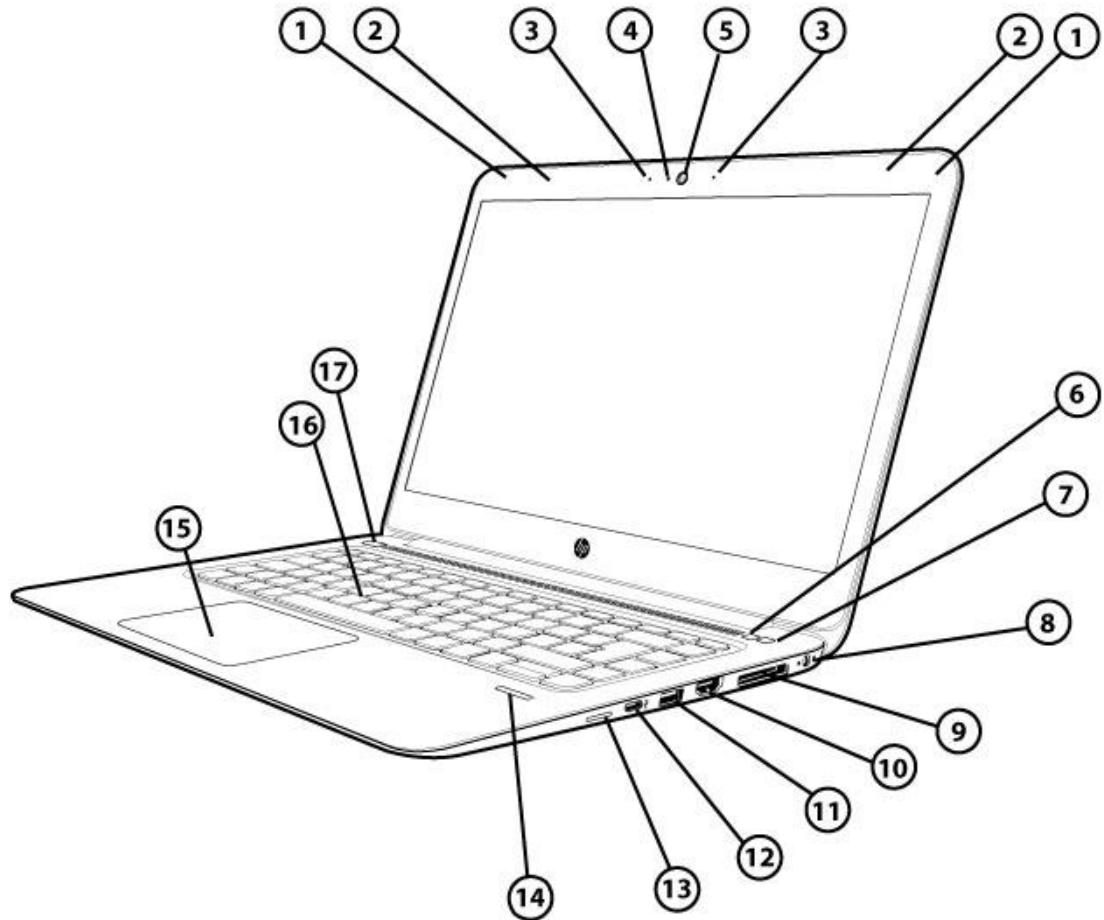


Overview

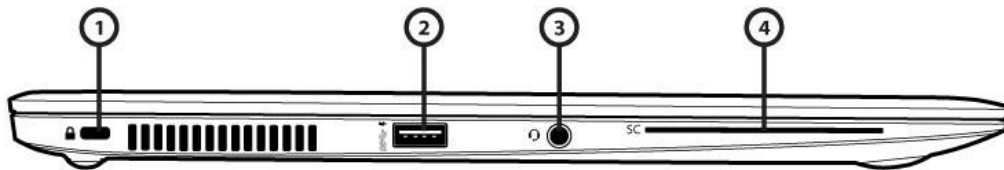
HP EliteBook 1040 G3 Notebook PC



Front Side View

- | | |
|--|--|
| 1. WLAN antennas (2) | 10. HDMI 1.4 port |
| 2. WWAN antennas (2) (select models) | 11. USB charging port |
| 3. Internal microphones (2) | 12. USB-Type C™ charging port |
| 4. Webcam LED (select models) | 13. WWAN SIM with plug (Plug is removable only for units with optional WWAN) |
| 5. Optional 720p HD webcam | 14. Fingerprint reader |
| 6. Wireless on/off button with LED indicator | 15. ClickPad™ |
| 7. Speaker mute button with LED indicator | 16. Backlit keys |
| 8. Power connector | 17. Power button |
| 9. Docking connector | |

Overview



Side View

1. Security lock slot
2. USB 3.0 charging port
3. Headphone/microphone combo
4. Smart card reader

At A Glance

- Weight starting at 3.15 lbs (1.43 kg) for Non-Touch or 3.40 lbs (1.54 kg) for Touch
- Height starting at of 15.8 mm (16.5 mm with Touchscreen)
- CNC Aluminum chassis with diamond cut design, wear-resistant “meteorite” HP DuraFinish, HP DisplaySafe frame, HP DuraKeys high durability keyboard finish, aluminum alloy keyboard deck, precision aluminum drop hinge
- Choice of 6th Generation Intel® Core™ i5, i7 Processors with integrated Intel® HD Graphics
- Supports wireless LAN and wireless WAN options for connectivity on the go
- Integrated docking connector and optional HP Ultralim Docking Station provide quick transition to a desktop setting
- Enhanced security features including HP Sure Start self-healing BIOS, HP Client Security, HP BIOSphere, and hardware security options like an HP Fingerprint Reader, optional VPro and integrated smart card reader
- Full-sized spill-resistant backlit keyboard with drain keeps you productive in low-light settings
- New Clickpad for both basic and advanced touch gestures
- 14.0” diagonal QHD (2560 x 1440) Touch, QHD (2560 x 1440) or FHD (1920 x 1080) Non-Touch Displays
- HP 6-cell (45.6 WHr) Long Life battery for battery life up to 11 hours and 30 minutes
- Up to 512 GB Solid State Drives
- Up to 16 GB total system memory
- 720p HD webcam with dual-microphone array for video conferencing
- Audio by Bang & Olufsen for precise sound
- Windows 10, Windows 7 Professional 64, FreeDOS 2.0
- Passed 12 MIL STD tests¹

1. Testing was not intended to demonstrate fitness for Department of Defense contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.

Overview

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

Technical Specifications

PRODUCT NAME

HP EliteBook 1040 G3 Notebook PC

OPERATING SYSTEM

Preinstalled Windows 10 Pro 64¹
Windows 10 Home 64¹
FreeDOS 2.0

Web-only Support Windows 10 Enterprise¹

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.microsoft.com>.
2. This system is preinstalled with Windows 7 Professional software and also comes with a license and media for Windows 10 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data
3. 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. See <http://www.microsoft.com>.

PROCESSOR

Intel® Core™ i7-6600U with Intel HD Graphics 520 (2.6 GHz, up to 3.4 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores)¹

Intel® Core™ i7-6500U with Intel HD Graphics 520 (2.5 GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores)¹

Intel® Core™ i5-6300U with Intel HD Graphics 520 (2.4 GHz, up to 3 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores)¹

Intel® Core™ i5-6200U with Intel HD Graphics 520 (2.3 GHz, up to 2.8 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores)¹

1. 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 is not a measurement of higher performance.

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

CHIPSET

Integrated with processor

GRAPHICS

Integrated:

Intel® HD Graphics 520

Technical Specifications

DISPLAY

Non-Touch

- 14.0" diagonal LED-backlit FHD¹ Anti-glare SVA (1920 x 1080), 300 nits
- 14.0" diagonal LED-backlit FHD¹ Anti-glare SVA (1920 x 1080), 300 nits with WWAN
- 14.0" diagonal LED-backlit FHD¹ Anti-glare SVA (1920 x 1080), 300 nits with camera
- 14.0" diagonal LED-backlit FHD¹ Anti-glare SVA (1920 x 1080), 300 nits with camera and WWAN

- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits
- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits with WWAN
- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits with camera
- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits with camera and WWAN

HP Sure View

Integrated Privacy Screen

- 14.0" diagonal LED backlight FHD Slim eDP SVA Anti-glare (1920 x 1080)

Touch²

- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits with camera
- 14.0" diagonal LED-backlit QHD¹ UWVA (2560 x 1440), 340 nits with camera and WWAN

HP Sure View

Integrated Privacy Screen

- 14.0" diagonal LED backlight FHD Slim eDP SVA (1920 x 1080) Touch
- 14.0" diagonal LED backlight FHD Slim eDP SVA (1920 x 1080) Touch with camera

Note: Touch panel has chemically-strengthened Corning® Gorilla® Glass 3 top cover

1. HD content required to view HD images.

External

Up to 32-bit per pixel color depth

HDMI

HDMI 1.4 (Cable not included)

Docking Station	Number of Displays supported
Optional UltraSlim Docking Station ¹	3

1. Sold separately or as an optional feature.

NOTE: Resolutions are dependent upon monitor capability, and resolution and color depth settings. HDMI1.4 up to “3840×2160p@24 Hz/25 Hz/30Hz or 4096×2160p@24 Hz” or Displayport1.2 up to “4096X2304 60Hz”. The HDMI is via the HDMI port on the unit and the Displayport is through the dock.

STORAGE AND DRIVES

Primary Storage

Solid State Drives

Supports M.2 (NGFF) 2280 Solid State Drive
128 GB SATA-3 TLC SSD

Technical Specifications

180 GB SATA-3 MLC SSD
180 GB SATA-3 Self-Encrypting Drive (Opal 2) MLC SSD
240 GB SATA-3 MLC SSD
256 GB PCIe-3x4 NVMe SSD
256 GB SATA-3 Self-Encrypting Drive (Opal 2) MLC SSD
256 GB SATA-3 TLC SSD
512 GB SATA-3 TLC SSD

1. For solid state drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) and up to 30 GB (for Windows 8.1 and 10) of system disk is reserved for the system recovery software.

NOTE: Internal component upgrades such as storage are not available after factory configuration.

MEMORY

Standard

DDR4 PC4 – 2133 (Transfer rates up to 2133 MT/s)
Memory soldered down (No sockets)
Supports Dual Channel Memory

Standard memory

8192 MB Total System Memory ((512 M x 16, Qty 8)
16384 MB Total System Memory (512 M x 16 x 2, Qty 8)

Maximum

16 GB Total System¹

NOTE: Internal component upgrades to memory are not available after factory configuration.

1. Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

NETWORKING/COMMUNICATIONS

Broadband Wireless (WWAN)

HP lt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module^{1,2}
HP 3110 HSPA+ Mobile Broadband Module^{1,2}

NOTE: WWAN modules are only available if preconfigured. WWAN connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.
Not available with Ubuntu.

Wireless LAN (WLAN)

Intel® Dual Band Wireless AC-8260 802.11 a/b/g/n ac (2x2) Bluetooth® 4.2 Combo^{1,2}

1. Wireless access point and Internet service is required and is not included.
Availability of public wireless access points limited.
2. Sold separately or as an optional feature.

Communications

Intel® Ethernet Connection I218LM 10/100/1000 Ethernet, with iAMT
Optional Near Field Communication (NFC) with Secure Element ^{2,3}

Technical Specifications

1. The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.
2. NFC ships enabled by default on Windows 8.1 and is disabled by default on Windows 7.
3. Sold separately or as an option.

AUDIO/WEBCAM

Audio

Audio by Bang & Olufsen

Two integrated stereo speakers

Integrated dual-array microphone

Button for speaker mute; function keys for volume up and down

Headphone/Microphone combo port

Intel® Smart Sound Technology (Windows 8.1 and Windows 10)

1. Works only with Windows.

Webcam

720p HD² webcam

1. HD format (widescreen)
2. Supports videoconferencing and still image capture
3. High quality fixed focus lens
4. Video capture at various resolutions up to 1280 x 720 resolution (720p) and up to 30fps
5. M-JPEG compression supports higher frame rates for video capture and videoconferencing
6. Improved low light sensitivity
7. Improved dynamic range

1. Sold separately as an optional feature.
2. HD content required to view HD images.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Spill-resistant with drain

Backlit

HP Dura Keys

Buttons and Function Keys

Discrete buttons provide easy access to the following features:

F1 - Sleep

F2 - Blank

F3 - Backlit Keyboard

F4 - Display Switching

F5 - Brightness Down

F6 - Brightness Up

F7 - Blank

F8 - Volume Down

F9 - Volume Up

F10 - Mic Mute

F11 - Blank

F12 - Num Lock

Technical Specifications

TouchPad

ClickPad™

Glass with chemical etched surface

Taps enabled as default

Gestures enabled by default

2 Finger Scrolling

2 Finger Zoom (Pinch)

SOFTWARE AND SECURITY

Preinstalled with Windows Operating System

BIOS

HP BIOSphere¹

HP Sure Start with Dynamic Protection

HP DriveLock | HP Automatic DriveLock

HP BIOS Protection²

BIOS Update via Network

HP Sparekey¹⁵

Master Boot Record Security

Power On Authentication

Pre-Boot Security

Secure Erase³

Hybrid Boot

Measure Boot

Secure Boot

Pre-boot Authentication

Multi Media

Cyberlink Power DVD, BD

Cyberlink YouCam BE (Windows 7 only)

Communication

HP GPS and Location (Windows 7 only)⁵

HP Connection Manager with support for HP Mobile Connect Pro (Windows 7 only)⁶

HP Mobile Connect Pro (Windows 8.1 and Windows 10 only)⁶

Intel® Wireless Display (WiDi) Software for Windows⁷

Native Miracast Support⁸

HP Value Add Software

HP ePrint Driver⁹

HP Hotkey Support

HP Recovery Manager

HP Recovery Disc Creator

HP Registration App (Windows 8.1 only)

Technical Specifications

HP Support Assistant

HP Noise Reduction Software

3rd Party

Foxit PhantomPDF Express for HP

Microsoft Products

Buy Office

Bing Search

Skype for business certified ¹⁰

Manageability

HP Driver Packs¹¹

HP SoftPaq Download Manager (SDM)

HP System Software Manager (SSM)¹¹

HP BIOS Config Utility (BCU)¹¹

HP Client Catalog¹¹

HP CIK for Microsoft SCCM¹¹

LANDESK Management¹²

HP Image Assistant¹¹

For more information on HP Client Management Solutions refer to: <http://www.hp.com/go/clientmanagement>.

Client Security Software

HP Client Security

- HP Security Manager (including Credential Manager and Password Manager)
- HP Drive Lock
- HP Fingerprint Sensor
- HP Password Manager
- Absolute Persistence Module⁴
- Power On Authentication

Microsoft Security Essentials¹³

Microsoft Defender¹³

Security

Trusted Platform Module (TPM) 1.2 Embedded Security Chip (Common Criteria EAL4+ Certified or FIPS 140-2). Field upgradeable to TPM 2.0¹⁴

Security lock slot (Cable not included)

Fingerprint Reader

Integrated Smart Card Reader

For more information on HP Client Security Software Suite, refer to <http://www.hp.com/go/clientsecurity>.

1. Available only on business PCs with HP BIOS.
2. May require a manual recovery step if all copies of BIOS are compromised or deleted
3. For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.
4. Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for

Technical Specifications

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-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete 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.

5. GPS access requires an unobstructed path to multiple satellites. Performance may be affected if/when used inside of buildings, bridges or heavily congested metropolitan areas. Requires separately purchased GPS navigation software available from multiple GPS applications.

6. HP Mobile Connect Pro is only available on preconfigured devices with WWAN. For geographic availability refer to <http://www.hp.com/go/mobileconnect>

7. Integrated Intel Wi-Di feature is available on select configurations only and requires separately purchased projector, TV or computer monitor with an integrated or external Wi-Di receiver. External Wi-Di receivers connect to the projector, TV or computer monitor via a standard HDMI cable, also sold separately.

8. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>

9. Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see <http://www.hp.com/go/eprintcenter>). Requires optional broadband module. Broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Separately purchased data plans or usage fees may apply. Print times and connection speeds may vary.

10. Skype is not offered in China.

11. Not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>

12. Subscription required.

13. Opt in and internet connection required for updates.

14. This product ships with TPM 1.2 with option to upgrade to TPM 2.0. Upgrade utility is expected to be available by the second half of 2016 via HP Customer Support.

15. Requires initial user set up.

POWER

Power Supply/AC Adapters

45W 2-prong AC Adapter

45W Smart AC Adapter

65W Smart EM AC Adapter

65W Slim Travel AC Adapter

Power cord included is 3.2 ft / 1 m long.

Optional: 1.8 m long power cord (5.9 ft)

Primary Battery

HP 6-Cell (45.6 Whr) polymer long life battery

NOTE: Battery is internal and not replaceable by customer.

Battery Life

Up to 11 hours and 30 minutes (With FHD display)¹

Up to 10 hours (With QHD display)¹

System Standby Time

Up to TBD

1. Windows 10/MM14 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.

Technical Specifications

WEIGHTS & DIMENSIONS

Weight

Starting at 3.15 lbs (1.43 kg) for Non-Touch¹

Starting at 3.40 lbs (1.54 kg) for Touch¹

1. Weight varies by configuration and components.

Dimensions (w x d x h)

Non-Touch

13.27 x 9.23 x 0.62 in (Front)

33.7 x 23.45 x 1.58 cm (Front)

Touch

13.27 x 9.23 x 0.65 in (Front)

33.7 x 23.45 x 1.65 cm (Front)

PORTS/CONNECTORS

Ports

Input / Output

(2) USB 3.0 charging port

(1) USB-Type C™ charging port (15W)

(1) Docking connector

(1) HDMI 1.4

(1) Headphone/microphone combo

(1) Multi-Pin AC port (4.5mm)

Note: Cables not included.

SERVICE AND SUPPORT

HP Services offers a 1-year limited warranty. Batteries have a default one year limited warranty same as the platform. On-site service and extended coverage is also available. HP Care Pack Services^{1,2} 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>.

1. Sold separately or as an optional feature.
2. Service levels and response times for HP Care Services 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

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)

Nominal Operating Voltage
Average Operating Power

19.5 V
Windows 10 (64-bit)

Technical Specifications

	Integrated graphics	12.9 W
Temperature	Max Operating Power	UMA < 65W
	Operating	32° to 95° F (0° to 35° C) (not writing optical)
Relative Humidity	Non-operating	41° to 95° F (5° to 35° C) (writing optical)
		-4° to 140° F (-20° to 60° C)
		10% to 90%, non-condensing
Shock	Operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	Non-operating	40 G, 2 ms, half-sine
Random Vibration	Operating	200 G, 2 ms, half-sine
	Non-operating	0.75 grms
Altitude (unpressurized)	Operating	1.50 grms
	Non-operating	-50 to 10,000 ft (-15.24 to 3,048 m)
Planned Industry Standard	UL	-50 to 15,000 ft (-15.24 to 12,192 m)
	CSA	Yes
Certifications	FCC Compliance	Yes
	EPEAT®	Registered Gold in United States*
	ICES	Yes
	Australia / NZ RCM Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	CIT	Yes
	EAC	Yes
	Saudi Arabian Compliance (SASO)	Yes
	SABS	Yes
	UKRSERTCOMPUTER	Yes

* EPEAT registration varies by country. See <http://www.epeat.net> for registration status by country. EPEAT status listed above applies to U.S.

For accessibility information on HP products, please visit: <http://www.hp.com/accessibility>.

Displays

14.0" diagonal LED-backlit FHD Anti-glare SVA (1920 x 1080)	Active Area (W x H)	308.851 (H) x 173.729 (V) mm
	Diagonal Size	14.0"
	Surface Treatment	Anti-Glare
	Contrast Ratio	500:1 (typical)
	Refresh Rate	60Hz
	Brightness	300nit (typical, @5point)
	Pixel Resolution	1920 x 1080
	Backlight	WLED
	PPI	157
	Viewing Angle	SVA 45/45/20/45

Technical Specifications

14.0" diagonal LED-backlit QHD UWVA (2560 x 1440)	Active Area (W x H)	309.504 (H) x 174.096 (V) mm
	Diagonal Size	14.0"
	Surface Treatment	Anti-Glare
	Contrast Ratio	600:1 (typical)
	Refresh Rate	60Hz
	Brightness	340nit (typical, @5point)
	Pixel Resolution	2560 x 1440
	Backlight	WLED
	PPI	210
	Viewing Angle	UWVA 85/85/85/85
14.0" diagonal LED backlight FHD Slim eDP SVA Anti-glare (1920 x 1080) Integrated Privacy Screen	Outline Dimensions (W x H x D)	320.9 x 205.6 (max) x 3.6(max) mm
	Active Area	309.14x173.89
	Weight	<305 max
	Diagonal Size	14"
	Surface Treatment	AG
	Contrast Ratio	200:1 (typ) - AG
	Refresh Rate	60Hz
	Response time	16ms typ.
	Pixel Per Inch (PPI)	157
	Brightness	Privacy 85nits (system) Sharing 275nits (system)
	Pixel Resolution	Format
	Interface	Configuration
	LCD Mode	eDP 1.2 (2 lane)
	Viewing Angle	TN Sharing 45/45/15/30 (CR>10) Privacy 40/40/15/30 (CR>10)
	14.0" diagonal LED-backlit QHD UWVA (2560 x 1440), 340 nits with camera- Touch	Outline Dimensions (W x H x D)
Active Area		309.504 (H) x 174.096 (V) mm
Weight		360g max (w/LCD)
Diagonal Size		14.0"
Touch enabled		Yes
Contrast Ratio		600:1 (typical)
Refresh Rate		60Hz
Brightness		340nit (typical, @5point)
Pixel Resolution		2560 x 1440
Interface		eDP 1.3+PSR (4 lane)
LCD Mode		IPS
PPI		210
Viewing Angle	UWVA 85/85/85/85	

Technical Specifications

14.0" diagonal LED backlight FHD Slim eDP SVA (1920 x 1080) Touch Integrated Privacy Screen	Outline Dimensions (W x H x D)	320.9 x 205.6 (max) x 3.6(max) mm		
	Active Area	309.14x173.89		
	Weight	<305 max		
	Diagonal Size	14"		
	Contrast Ratio	200:1 (typ)		
	Refresh Rate	60Hz		
	Response time	16ms typ.		
	Pixel Per Inch (PPI)	157		
	Brightness	Privacy 85nits (system) Sharing 275nits (system)		
	Pixel Resolution	Format	1920 x 1080 (FHD)	
	Interface	Configuration	RGB Stripe	
	LCD Mode	eDP 1.2 (2 lane)		
	Viewing Angle	TN		

STORAGE AND DRIVES

128 GB M2 2280 SATA-3 TLC SSD	Drive Weight	0.019lb ~ 0.022lb		
	Capacity	128 GB		
	Height	0.09 in (2.3 mm)		
	Width	0.87 in (22 mm)		
	Interface	ATA-8, SATA 3.0		
	Performance	Maximum Sequential Read	Maximum Sequential Write	
		Up to 540 MB/s	Up to 300 MB/s	
	Logical Blocks	250069680		
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]			
Features	DIPM; TRIM; DEVSLP			
Security Features	ATA security			

180 GB M2 2280 SATA-3 MLC SSD	Drive Weight	0.022 lb (<10 g)		
	Capacity	180 GB		
	Height	0.09 in (2.23 mm)		
	Width	0.87 in (22 mm)		
	Interface	ATA-8, SATA 3.0, ACS-3, SATA 3.2		
	Performance	Maximum Sequential Read	Maximum Sequential Write	
		Up to 540 MB/s	UP to 490 MB/s	

Technical Specifications

Logical Blocks	351651888
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	DIPM; TRIM; DEVSLP
Security Features	ATA Security

180 GB M2 2280 SATA-3 Self-Encrypting Drive (Opal 2) MLC SSD

Drive Weight	0.022 lb (<10 g)
Capacity	180 GB
Height	0.09 in (2.23 mm)
Width	0.87 in (22 mm)
Interface	ATA-8, SATA 3.0, ACS-3, SATA 3.2
Performance	Maximum Sequential Read Maximum Sequential Write
	Up to 540 MB/s UP to 490 MB/s
Logical Blocks	351651888
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Security Features	ATA Security, TCG OPAL 2.x

240 GB M2 2280 SATA-3 MLC SSD

Drive Weight	0.022 lb (<10 g)
Capacity	240 GB
Height	0.14 in (3.58 mm)
Width	0.87 in (22 mm)
Interface	ACS-3, SATA 3.2
Performance	Maximum Sequential Read Maximum Sequential Write
	Up to 540 MB/s UP to 490 MB/s
Logical Blocks	468862128
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	DIPM; TRIM; DEVSLP
Security Features	ATA Security

256 GB M2 2280 PCIe-3x4 NVMe SSD

Drive Weight	0.022 lb. (<10 g)
Capacity	256 GB
Height	0.09 in (23mm)
Width	0.87 in (22.1mm)
Interface	PCIe GEN3X4
Performance	Maximum Sequential Read Maximum Sequential Write
	Up to 2260 MB/s Up to 1260 MB/s
Logical Blocks	500,118,192
Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
Features	ATA Security; TRIM; L1.2

256 GB M2 2280 SATA-3 Self-Encrypting Drive (Opal 2) MLC SSD

Drive Weight	0.02 lb (<10 g)
Capacity	256 GB
Height	0.14 in (3.58 mm) ~ 0.09 in (2.23 mm)
Width	0.87 in (22 mm)

Technical Specifications

	Interface	ATA-8, SATA 3.0	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		Up to 540 MB/s	UP to 460 MB/s
	Logical Blocks	500,118,192	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	DIPM; TRIM; DEVSLP	
	Security Features	ATA Security; TCG Opal 2.0	
256 GB M2 2280 SATA-3 TLC SSD	Drive Weight	0.019 lb (8.5 g) ~ 0.022 lb (10 g)	
	Capacity	256 GB	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	ATA-8, SATA 3.0	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		Up to 540 MB/s	Up to 455 MB/s
	Logical Blocks	500118192	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	DIPM; TRIM; DEVSLP	
	Security Features	ATA Security	
512 GB M2 2280 SATA-3 TLC SSD	Drive Weight	0.019 lb (8.5 g) ~ 0.02 lb (10 g)	
	Capacity	512 GB	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	ATA-8, SATA 3.0	
	Performance	Maximum Sequential Read	Maximum Sequential Write
		Up to 540 MB/s	UP to 500 MB/s
	Logical Blocks	1000215216	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	DIPM; TRIM; DEVSLP	
	Security Features	ATA Security	

NETWORKING/COMMUNICATIONS

	HP lt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module
Technology/Operating bands	LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3), 1700/2100 (Band 4), 850 (Band 5), 2600 (Band 7), 900 (Band 8), 700 (Band 12 lower), 700 (Band 13 upper), 700 (Band 17 lower), 800 (Band 20), 700 (Band 28). HSPA+: 2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 900 (Band 8) MHz EV-DO: 850 (BC0), 1900 (BC1) MHz (Only work with Verizon network) E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz

Technical Specifications

Wireless protocol standards	3GPP Release 10 LTE Specification CAT.4, 20MHz BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification 1xEVDO Release 0, A and B. E-GPRS: Class B, Multi-slot class 12, coding schemes CS1 - CS4 and MSC1 - MSC9
GPS	Standalone, A-GPS (MS-A, MS-B and XTRA)
GPS bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
Maximum data rates	LTE: 150 Mbps (Download), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload) CDMA 1xRTT: 153.6 kbps (Download), 153.6 kbps (Upload) EVDO Rel.A: 3.1 Mbps (Download), 1.8 Mbps (Upload) EVDO Rel.B: 14.7 Mbps (Download), 5.4Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
Maximum output power	LTE: 23 dBm HSPA+: 23.5 dBm 1xRTT/EVDO: 24dBm E-GPRS 1900/1800: 26 dBm E-GPRS 900/850: 27 dBm GPRS 1900/1800: 29.5 dBm GPRS 900/850: 32.5 dBm
Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average) 1xRTT/EVDO: 1,000 mA (peak); 700 mA (average) E-GPRS: 2,800 mA (peak); 500 mA (average)
Form Factor	M.2, 3042-S3 Key B
Weight	6.2 g
Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

Technology/Operating bands	HP hs3110 HSPA+ Intel® Mobile Broadband Module* HSPA+: 2100 (Band1), 1900 (Band 2), 1700 (Band 4), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 MHz (Band 5), 900 (Band 8) MHz
Wireless protocol standards	WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification E-GPRS: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9
GPS	Standalone, A-GPS
GPS bands	1575.42 MHz ± 1.023 MHz
Maximum data rates	HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload) E-GPRS: 296 kbps (Download), 236.8 kbps (Upload) GPRS: 107 kbps (Download), 85.6 kbps (Upload)
Maximum output power	HSPA+: 24 dBm E-GPRS 1800/1900: 26 dBm

Technical Specifications

	E-GPRS 850/900: 27 dBm GPRS 1800/1900: 30 dBm GPRS 850/900: 33 dBm
Maximum power consumption	HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,800 mA (peak); 700 mA (average)
Form Factor	M.2, 3042-S3 Key B
Weight	6 g
Dimensions (Length x Width x Thickness)	1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)

* Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.

Intel® Dual Band Wireless AC-8260 802.11 a/b/g/n ac (2x2) Bluetooth® 4.2 Combo

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 <ul style="list-style-type: none"> 2.402 – 2.482 GHz <p>Note: The FCC has declared as of January 1, 2015 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.</p>
	802.11a/n <ul style="list-style-type: none"> 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 <p>Note: Indonesia no support this band)</p>
Data Rates	<ul style="list-style-type: none"> 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, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security¹	<ul style="list-style-type: none"> IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication

Technical Specifications

	<ul style="list-style-type: none"> • WPA, WPA2: 802.1x, WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • IEEE 802.11i • Cisco Certified Extensions, all versions through CCX4 and CCX Lite • WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	<ul style="list-style-type: none"> • 802.11b : +16dBm minimum • 802.11g : +14dBm minimum • 802.11a : +14dBm minimum • 802.11n HT20(2.4GHz) : +14dBm minimum • 802.11n HT40(2.4GHz) : +12dBm minimum • 802.11n HT20(5GHz) : +14dBm minimum • 802.11n HT40(5GHz) : +12dBm minimum
Power Consumption	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW (WLAN+BT) Radio disabled: 5 mW
Power Management	ACPI and PCI Express compliant power management
Receiver Sensitivity³	802.11 compliant power saving mode 802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -88dBm maximum 802.11a, 54Mbps : -74dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm maximum 802.11ac, 1SS, MCS-0 : -86dBm maximum 802.11ac, 1SS, MCS-9 : -61dBm maximum 802.11ac, 2SS, MCS-0 : -83dBm maximum 802.11ac, 2SS, MCS-9 : -58dBm 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 Dimensions	PCI-Express M.2 MiniCard Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm
Weight	Type 2230 : 2.8g Or Type 1630 : 2g
Operating Voltage Temperature	3.3v +/- 9%
	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)

Technical Specifications

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	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. 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).

HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology

Bluetooth Specification	4.0/4.1/4.2 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.

Receiver Sensitivity

Legacy

Modulation	0.01% BER	0.001% BER
GFSK	-80 dBm	-70 dBm
$\pi/4$ -DQPSK	-80 dBm	-70 dBm
8DPSK	-80 dBm	-70 dBm

Power Consumption

Peak (Tx) 330 mW
Peak (Rx) 230 mW
Selective Suspend 17 mW
Legacy Up to 33 ft (10 m)
BLE Up to 99 ft (30 m)

Range

Electrical Interface

Bluetooth Software Supported Link Topology

USB 2.0 compliant
Microsoft Windows Bluetooth Software

Electrical Interface

Bluetooth Software Supported Security

Point to Point, Multipoint Pico Nets up to 7 slaves
Full support of Bluetooth Security Provisions

Power Management Certifications

Microsoft Windows ACPI, and USB Bus Support
Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff

Security

Certifications

Bluetooth Profiles Supported

All necessary regulatory approvals for supported countries, including:
FCC (47 CFR) Part 15C, Section 15.247 & 15.249

Power Management

Certifications

ETS 300 328, ETS 300 826
Low Voltage Directive IEC950

Certifications

UL, CSA, and CE Mark

Technical Specifications

Bluetooth Profiles Supported

Serial Port Profile (SPP)¹
 Service Discovery Application Profile (SDAP)
 Dial-Up Networking (DUN)^{1,2}
 Generic Object Exchange Profile (GOEP)^{1,2}
 Object Push Profile (OPP)^{1,2}
 Hard Copy Cable Replacement (HCRP)^{1,2}
 Personal Area Networking Profile (PAN)^{1,2}
 Human Interface Device Profile (HID)^{1,2}
 Hands Free Profile (HFP)
 Advanced Audio Distribution Profile (A2DP)
 Audio Video Remote Control Profile (AVRCP)

Bluetooth V4.1/V4.2 support feature

V4.1: ESR5/6/7 compliant

V4.2: ESR8 compliant, LE Secure Connection – Basic.

POWER

45W 2-prong AC Adapter	Dimensions	95mm x 40mm mm x 26.5 mm	
	Input	90 to 265 VAC	
		Input Efficiency	'87.74% min at 115V/230V
		Input frequency range	47 to 63 Hz
	Output	Input AC current	1.4 A at 90 VAC
		Output power	45W
		DC output	19.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<8.0A
		Connector	2 pin/non-grounded, mates with Smart ID DC connector
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
Storage Humidity		10% to 95%	
EMI and Safety Certifications	CE Mark - 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.		
45W Smart AC Adapter	Dimensions	3.74 x 1.57 x 1.04 in (9.5 x 4.0 x 2.65 cm)	
	Weight	0.386 lb (175g) max	
	Input	90 to 265 VAC	
		Input Efficiency	'87.74% min at 115V/230V
		Input frequency range	47 to 63 Hz

Technical Specifications

Output	Input AC current	1.4 A at 90 VAC
	Output power	45W
	DC output	19.5V
	Hold-up time	5 msec at 115 VAC input
	Output current limit	<8.0A
Connector	3 pin/grounded, mates with interchangeable cords	
Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
	Altitude	0 to 16,400 ft (0 to 5,000 m)
	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, 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.		

65W Smart EM AC Adapter

Dimensions	4.98 x 1.97 x 1.18 in (12.65 x 5.0 x 3.0 cm)	
	Weight	0.62 lb (290g) max
Input	90 to 265 VAC	
	Input Efficiency	87% min at 115 VAC
Output	Input frequency range	47 to 63 Hz
	Input AC current	1.7 A at 90 VAC
	Output power	65W
	DC output	19.5V
	Hold-up time	5 msec at 115 VAC input
	Output current limit	<11.0A
	Connector	3 pin/grounded, mates with interchangeable cords
Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
	Altitude	0 to 16,400 ft (0 to 5,000 m)
	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, 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.		

Technical Specifications

65W Slim Travel AC Adapter	Dimensions	120mm x 57.6mm x 16.7mm		
	Weight	0.55 lb (250g) max		
	Input	90 to 265 VAC		
		Input Efficiency	'87% min at 115V/230V	
		Input frequency range	47 to 63 Hz	
		Input AC current	1.7 A at 90 VAC	
	Output	Output power	65W	
		DC output	19.5V	
		Hold-up time	5 msec at 115 VAC input	
		Output current limit	< 11A	
	Connector	3 pin/grounded, mates with Smart ID DC connector		
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)	
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)	
		Altitude	0 to 16,400 ft (0 to 5,000 m)	
		Humidity	20% to 95%	
Storage Humidity		10% to 95%		
EMI and Safety Certifications	*CE Mark - 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 6-Cell (45.6 Whr) polymer long life battery	Dimensions (H x W x L)	268mm x 108.1mm x 7.85mm		
	Weight	0.49lb+/-0.02lb (0.221kg+/-0.010kg)		
	Cells/Type	COSLIGHT CA295386HV/LISHEN SP295380SE		
	Energy	Voltage	11.4V	
		Amp-hour capacity	4.02Ah	
		Watt-hour capacity	45.6Wh	
	Temperature	Operating (Charging)	0°C~ 45°C	
		Operating (Discharging)	-10°C~ 60°C	
		Non-operating	-20°C~ 60°C	1 month
			-20°C~ 45°C	3 month
	-20°C~ 30°C		6 month	
	Battery Re-Charge Time	System in OFF or Standby Mode	System off within 3 hours	
Fuel Gauge LED	No			
Warranty	1 years			
Optional Travel Battery Available	No			

Technical Specifications

ENVIRONMENTAL

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
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.

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”.

Heat Dissipation*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	28 BTU/hr	28 BTU/hr	27 BTU/hr
Normal Operation (Long idle)	9 BTU/hr	9 BTU/hr	9 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 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	2.6	14
Fixed Disk – Random writes	2.8	18

Longevity and Upgrading

This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:

- 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

Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.

Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC

Batteries used in the product do not contain:
Mercury greater the 1ppm by weight
Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)

Battery type: Lithium

Battery size: 6-cell high capacity Lithium-Ion battery (optional 8 cell available)

Battery type:

Technical Specifications

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 contains 0% post-consumer recycled plastic (by wt.)
- This product is 97.2% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	337.2 g
Internal:	PLASTIC/EPE (Expanded Polyethylene)	21.7 g
	PLASTIC/Polyester	20 g

The plastic packaging material contains at least 0% recycled content.

The corrugated paper packaging materials contains at least 80% recycled content.

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/pdf/gse.pdf>):

- 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)

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

Hewlett-Packard 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.

Hewlett-Packard 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>

COUNTRY OF ORIGIN

China

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

Type	Description	Part Number
Cases	HP Business Slim Top Load (up to 14.1" x .75" thick)	H5M91AA
	HP Executive Leather Messenger (up to 14.0" x 1")	K0A31AA
	HP Slim Ultrabook Messenger (up to 15.6" x .88"/22/5mm)	F3W14AA
	HP Slim Ultrabook Top Load (up to 15.6" x .88"/22/5mm)	F3W15AA
	HP Slim Ultrabook Backpack (up to 15.6" x .88"/22/5mm)	F3W16AA
Stands	HP Adjustable Dual Monitor Stand	AW664AA#xxx
	HP Display and Notebook Stand II	E8G00AA#xxx
Docking	HP UltraSlim Docking Station	D9Y32AA
Input Devices	HP Wireless Mobile Mouse	H2L63AA
	HP X4000b Bluetooth Mouse	H3T50AA#xxx
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP USB Travel Mouse	G1K28AA
	HP Stylish Wireless KB/Mouse	H4B79AA
Adapters	USB Graphics Adapter (DBU PL)	NL571AA/AT
	HP Dock Connector to Ethernet/VGA Adapter	G7U78AA
	HP Wireless Display Adapter	J1V25AA#xxx
Power Adapters	HP 45W Smart AC Adapter (4.5mm) (PL MP only)	H6Y88AA#xxx
	HP 65W Smart AC Adapter (4.5mm)	H6Y89AA#xxx
	HP 65W Slim AC Adapter	H6Y82AA#xxx
	HP 65W Smart Travel AC Adapter	JOE43AA#xxx
Security	HP Keyed Cable Lock 10mm	T1A62AA
Storage	HP External USB Optical Drive	F2B56AA
Monitors	HP EliteDisplay S270c	
	HP EliteDisplay E272q	K1M38AA
	HP EliteDisplay E240c	M1P04AA
	HP EliteDisplay S140u	M1P00AA
	HP EliteDisplay S240ml	G8R65AA F4M47AA

Summary of Changes

Date of change	Version History		Description of change:
November 6, 2017	V1 to V2	Added	Footnote added to Primary battery on Power section
September 12, 2018	V2 to V3	Removed	Operating system section Windows 7 and 8.1
November 15, 2018	V3 to V4	Removed	Energy Star

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