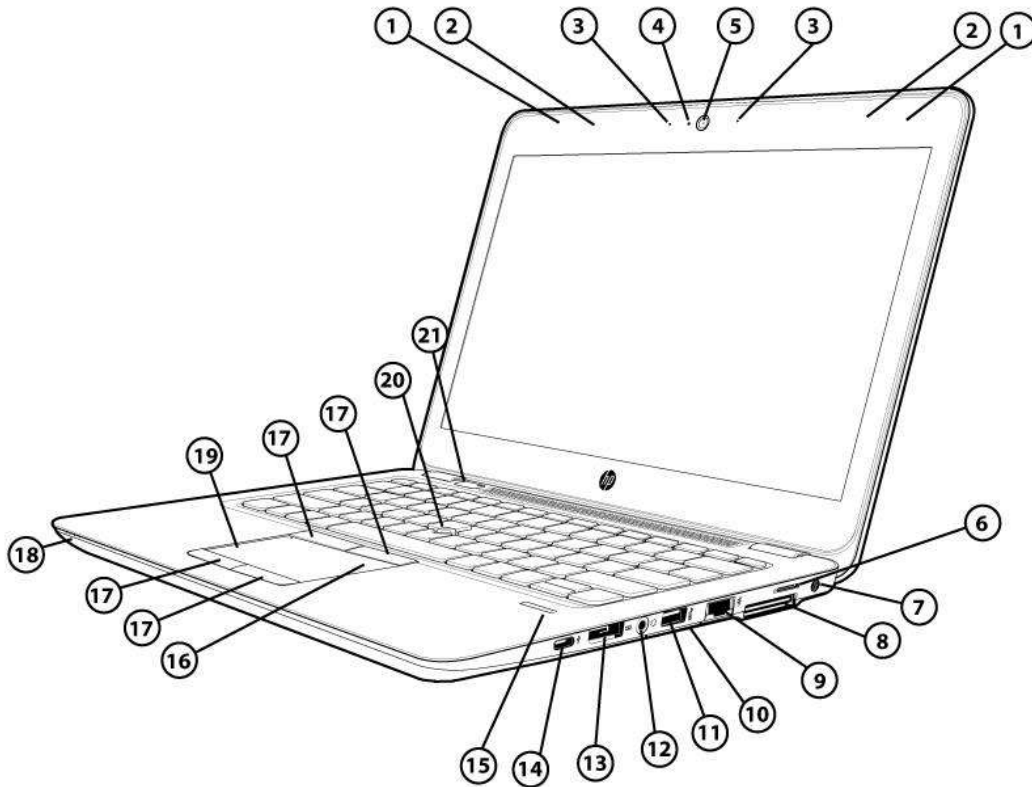


QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

HP EliteBook 820 G3 Notebook PC



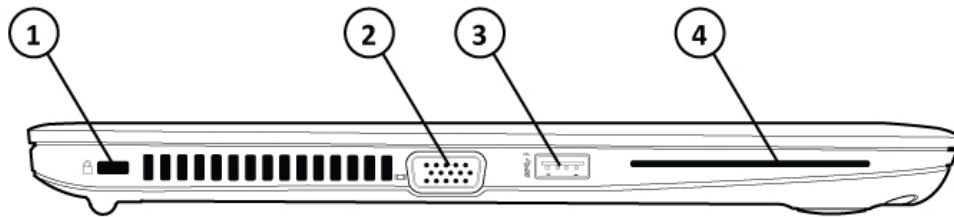
Front / Right

- | | |
|---------------------------------------|--|
| 1. WLAN antennas (2) | 13. DisplayPort 1.2 |
| 2. WWAN antennas (2) (select models) | 14. USB-C™ port |
| 3. Internal microphones (2) | 15. Fingerprint reader (select models) |
| 4. Webcam LED (select models) | 16. Touchpad |
| 5. Webcam (select models) | 17. Touchpad buttons (4) |
| 6. SIM card slot | 18. Indicator LEDs: Wireless Light, Power Light, AC Adapter/Battery Light, Storage Usage Light |
| 7. Power connector | 19. NFC (select models) |
| 8. Docking connector | 20. Pointstick |
| 9. Ethernet port | 21. Power button |
| 10. SD Card Slot | |
| 11. USB 3.0 Port | |
| 12. Microphone/ headphones combo jack | |



QuickSpecs

Features



Left

- 1. Security lock slot
- 2. VGA port
- 3. USB 3.0 Charging port
- 4. Smart Card Reader

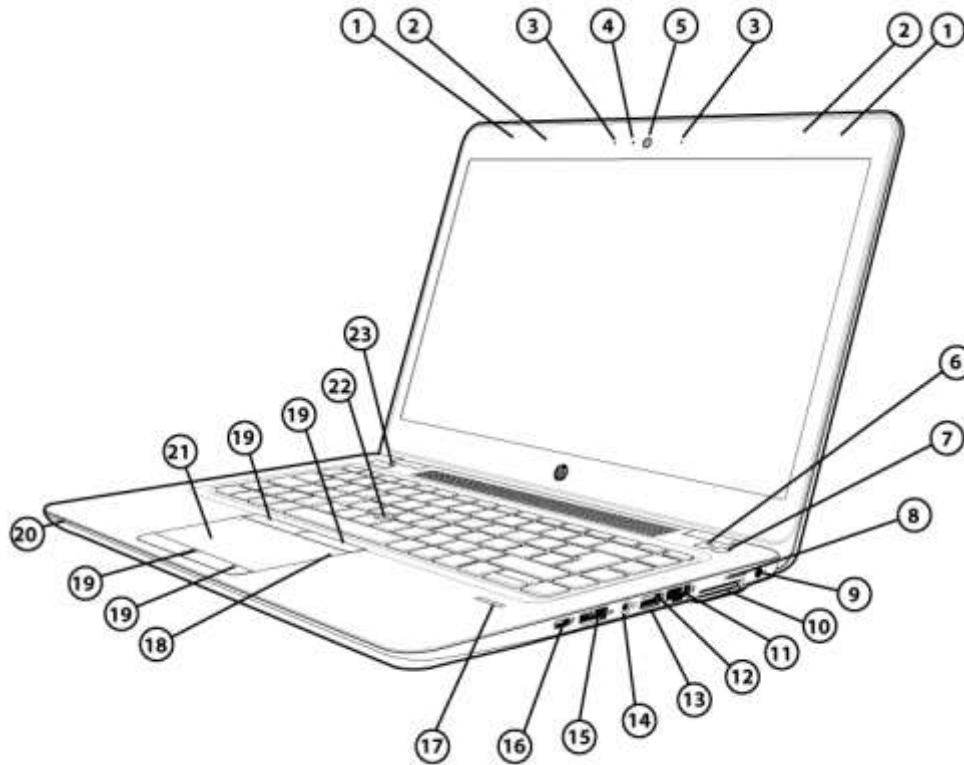


QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

HP EliteBook 840 G3 Notebook PC



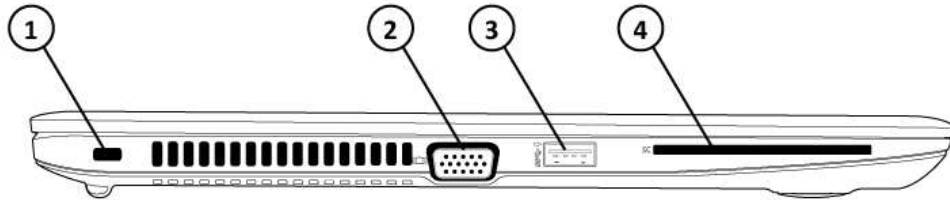
Front / Right

- | | |
|--------------------------------------|--|
| 1. WLAN antennas (2) | 13. SD card slot |
| 2. WWAN antennas (2) (select models) | 14. Microphone/ headphones combo jack |
| 3. Internal microphones (2) | 15. DisplayPort 1.2 |
| 4. Webcam LED (select models) | 16. USB-C™ port |
| 5. Webcam (select models) | 17. Fingerprint reader (select models) |
| 6. Wireless on/off button | 18. Touchpad |
| 7. Speaker mute button | 19. Touchpad buttons (4) |
| 8. SIM card slot | 20. Indicator LEDs: Wireless Light, Power Light, AC Adapter/Battery Light, Storage Usage Light |
| 9. Power connector | 21. NFC (select models) |
| 10. Docking connector | 22. Pointstick |
| 11. Ethernet port | 23. Power button |
| 12. USB 3.0 port | |



QuickSpecs

Features



Left

- 1. Security lock slot
- 2. VGA port
- 3. USB 3.0 Charging port
- 4. Smart Card Reader

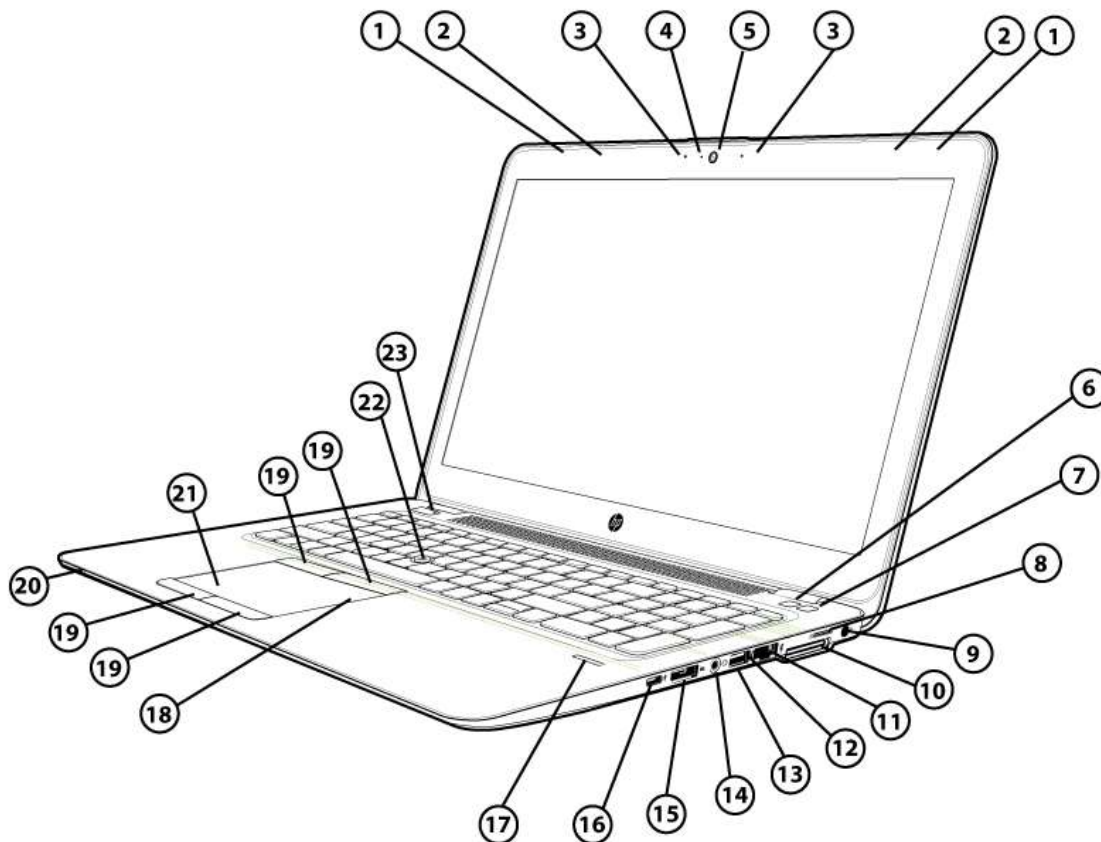


QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

HP EliteBook 850 G3 Notebook PC



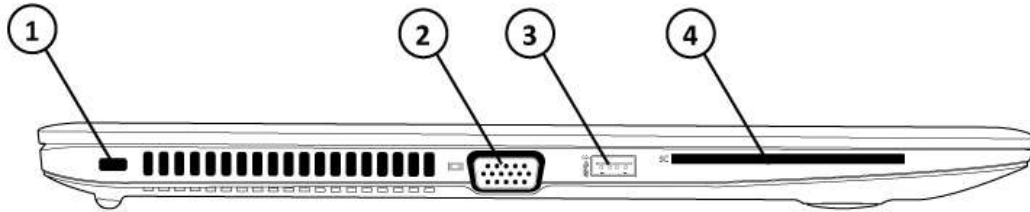
Front / Right

- | | |
|--------------------------------------|--|
| 1. WLAN antennas (2) | 13. SD card slot |
| 2. WWAN antennas (2) (select models) | 14. Microphone/ headphones combo jack |
| 3. Internal microphones (2) | 15. DisplayPort 1.2 |
| 4. Webcam LED (select models) | 16. USB-C™ port |
| 5. Webcam (select models) | 17. Fingerprint reader (select models) |
| 6. Wireless on/off button | 18. Touchpad |
| 7. Speaker mute button | 19. Touchpad buttons (4) |
| 8. SIM card slot | 20. Indicator LEDs: Wireless Light, Power Light, AC Adapter/Battery Light, Storage Usage Light |
| 9. Power connector | 21. NFC (select models) |
| 10. Docking connector | 22. Pointstick |
| 11. Ethernet port | 23. Power button |
| 12. USB 3.0 port | |



QuickSpecs

Features



Left

- | | |
|-----------------------|--------------------------|
| 1. Security lock slot | 3. USB 3.0 Charging port |
| 2. VGA port | 4. Smart Card Reader |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

AT A GLANCE

- Stylish, lightweight magnesium and aluminum chassis starts at 18.9 mm thin
- No dongles are needed with built-in VGA, drop-jaw RJ-45 Ethernet port, USB 3.1 Gen 1, USB Type-C™, and full-size DisplayPort 1.2 for high resolution support
- Customer serviceable and upgradeable with component accessible design
- Choice of 6th generation Intel® Core™ i7, i5 and i3 processors
- Integrated Intel® HD Graphics 520 or AMD Radeon™ R7 M365X with 1GB DDR5 discrete graphics (HP EliteBook 850 option only)
- Optimize your audio experience for remote collaboration with optional HD webcam, dual-microphone array, premium speakers, HP Noise Reduction Software, HP Clear Sound Amp, Audio by Bang & Olufsen
- Improved keyboard experience featuring HP Premium Keyboard with dual-point (10-key numeric keypad available on 850)
- Optional back-lit keyboard keeps you productive in all settings with HP DuraKeys to protect keys from fading
- Designed to pass MIL STD testing²
- Enhanced security features including TPM1.2/2.0³, SmartCard Reader, HP Sure Start self-healing BIOS, HP Client Security, Self-Encrypting storage drives, and optional Fingerprint reader
- HP Touchpoint Manager manageability supported
- LED-backlit displays:
 - HP EliteBook 820: 12.5" diagonal HD, FHD Non-Touch or FHD Touch
 - HP EliteBook 840: 14.0" diagonal HD, FHD, QHD Non-Touch or FHD Touch
 - HP EliteBook 850: 15.6" diagonal HD, FHD, UHD Non-Touch or FHD Touch
- Flexible wireless connectivity options including mobile broadband
- Easily dock with the optional HP UltraSlim Docking Station
- Choice of hard drives up to 1 TB and solid state drives up to 512 GB
- DDR4 memory up to 16 GB for HP EliteBook 820 and up to 32 GB for HP EliteBook 840 and 850
- Preinstall Windows 10, Windows 8.1, Windows 7 or FreeDOS 2.0 versions

1. MIL STD 810G testing is pending and is not intended to demonstrate fitness for U.S. Department of Defense contract 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.

2. 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.

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

PRODUCT NAMES



Not all configuration components are available in all regions/countries.
Americas – HP EliteBook 820, 840 & 850 G3 – April 17, 2017 - c04915645

QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

HP EliteBook 820 G3 Notebook PC

HP EliteBook 840 G3 Notebook PC

HP EliteBook 850 G3 Notebook PC

OPERATING SYSTEM

Preinstalled

Windows 10 Pro 64¹
Windows 10 Home 64¹
Windows 8.1 Pro 64³
Windows 8.1 64³
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)²
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)²
Windows 7 Professional 64³
Windows 7 Professional 32³
FreeDOS 2.0

Web Supported

Windows 10 Pro 64¹
Windows 10 Home 64¹
Windows 10 Enterprise 64¹
Windows 8.1 Pro 64¹
Windows 8.1 64¹
Windows 8.1 Enterprise 64¹
Windows 7 Professional 64¹
Windows 7 Professional 32¹
Windows 7 Enterprise 64¹
Windows 7 Enterprise 32¹
NeoKylin Linux 64

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 Pro 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 (2.6 GHz, up to 3.4 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores)¹
Intel® Core™ i7-6500U (2.5 GHz, up to 3.1 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores)^{1,2}
Intel® Core™ i5-6300U (2.4 GHz, up to 3 GHz with Intel® Turbo Boost Technology, 3 MB cache, 2 cores)¹
Intel® Core™ i5-6200U (2.3 GHz, up to 2.8 GHz with Intel® Turbo Boost Technology, 3 MB cache, 2 cores)^{1,2}
Intel® Core™ i3-6100U (2.3 GHz, 3 MB cache, 2 cores)^{1,2}



Not all configuration components are available in all regions/countries.
Americas – HP EliteBook 820, 840 & 850 G3 – April 17, 2017 - c04915645

QuickSpecs

Features

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.
2. Not available with Intel iAMT (*Not available with vPro)

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

CHIPSET

Chipset integrated with processor

INTEL® CORE I5 WITH vPRO/CORE I7 WITH vPRO TECHNOLOGY CAPABLE

Intel® Core i5 with vPro and Core i7 with vPro technology is a selectable feature that is available on units configured with select processors, on select Intel® Wireless WLAN module and a preinstalled Windows operating system. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel® Active Management Technology (iAMT) offers built-in manageability and proactive security for networked notebook PCs, even when they are powered off¹ or when the operating system is inoperable. It can help identify threats before they reach the network, isolate infected systems, and update PCs regardless of their power state.

*Requires a Windows operating system, network hardware and software, connection with a power source, and a direct (non-VPN) corporate network connection which is either cable or wireless LAN.

NOTE: Some functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required.

GRAPHICS

Integrated

Intel® HD Graphics 520

Discrete

AMD Radeon™ R7 M365X

1GB GDDR5 dedicated

(HP EliteBook 850 only)

DISPLAY

HP EliteBook 820

Internal

Non-Touch

12.5" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768)

12.5" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768) with camera

12.5" diagonal LED backlight FHD UltraSlim eDP UWVA Anti-glare (1920 x 1080)



Features

12.5" diagonal LED backlight FHD UltraSlim eDP UWVA Anti-glare (1920 x 1080) with camera

Touch

12.5" diagonal LED backlight FHD UltraSlim eDP UWVA (1920 x 1080) Touch with camera²

HP EliteBook 840

HP Sure View

Non-Touch Integrated Privacy Screen

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

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

Internal

Non-Touch

14.0" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768)

14.0" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768) with camera

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

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

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

14.0" diagonal LED backlight QHD UltraSlim eDP + PSR UWVA Anti-glare (2560 x 1440)

14.0" diagonal LED backlight QHD UltraSlim eDP + PSR UWVA Anti-glare (2560 x 1440) camera

Touch

14.0" diagonal LED backlight FHD Slim eDP SVA (1920 x 1080) Touch with camera²

HP EliteBook 850

Internal

Non-Touch

15.6" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768)

15.6" diagonal LED backlight HD¹ Slim eDP SVA Anti-glare (1366 x 768) with camera

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

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

15.6" diagonal LED backlight FHD Slim eDP UWVA Anti-glare (1920 x 1080)

15.6" diagonal LED backlight UHD Slim eDP UWVA Anti-glare (3840 x 2160)

15.6" diagonal LED backlight UHD Slim eDP UWVA Anti-glare (3840x 2160) with camera

Note: The HP EliteBook 850 G3 UHD panel is not compatible with WWAN.

Touch

15.6" diagonal LED backlight FHD Slim eDP SVA (1920 x 1080) Touch with camera²

VGA

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

DisplayPort 1.2

Supports resolutions up to 4096 x 2160 @ 60 Hz

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

Number of Displays supported with Docking

Supports 3 independent displays if used with optional HP Ultraslim Docking Station.³



QuickSpecs

Features

1. HD content required to view HD images.
 2. Touch panel has chemically-strengthened Corning® Gorilla® Glass 3 top cover.
 3. Sold separately or as an optional feature.
- NOTE:** Resolutions are dependent upon monitor capability, and resolution and color depth settings.

STORAGE AND DRIVES

Primary Storage

SATA, 2.5" Hard Drives

500 GB 7200rpm Self Encrypting Drive (FIPS-140-2) (Opal 2)
500 GB 7200rpm Hard Drive
1 TB 5400rpm Hard Drive

Mini Card Solid State Drive

M.2 (NGFF) 2280 Solid State Drive
128 GB SATA-3 TLC Solid State Drive
180 GB SATA-3 MLC Solid State Drive
180 GB SATA-3 Self-Encrypting (Opal 2) MLC Solid State Drive
240 GB SATA-3 MLC Solid State Drive
256 GB SATA-3 TLC Solid State Drive
256 GB SATA-3 Self-Encrypting (Opal 2) MLC Solid State Drive
256 GB PCIe-3x4 NVMe Solid State Drive
512 GB SATA-3 TLC Solid State Drive
512 GB SATA-3 Self-Encrypting (Opal 2) MLC Solid State Drive

NOTE: For Solid State Drives or Hard Drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) and up to 30 GB (for Windows 8.1 and 10) is reserved for system recovery software.

HP 3D DriveGuard (Windows and Hard Drives only)

The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. If any shock or vibration is detected, the head of the hard drive will be automatically parked to prevent data loss.

Dual Drive Configuration

System can be configured with a hard drive and M.2 SSD drive.¹

1. Not available for the Hybrid Hard Drive and not supported on 820 G3.

MEMORY

Standard

DDR4 PC4-17000 (Transfer rates up to 2133 MT/s)
Two SODIMM slots supporting dual-channel memory
Both slots are customer accessible / upgradeable

Supports the following configurations

4096 MB Total System Memory (4096 MB x 1)
8192 MB Total System Memory (4096 MB x 2)
8192 MB Total System Memory (8192 MB x 1)



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Features

16384 MB Total System Memory (8192 MB x 2)
16384 MB Total System Memory (16384 MB x 1) (HP EliteBook 840 and 850 only)
32768 MB Total System Memory (16384 MB x 2) (HP EliteBook 840 and 850 only)

Maximum
HP EliteBook 820
Up to 16 GB

HP EliteBook 840 and 850
Up to 32 GB

Dual-channel
Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

NOTE: Improved system performance when memory is added in pairs (dual channel).
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

Wireless
Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Optional Broadband Wireless (WWAN) requires a Windows operating system and is available in select countries as a standard, factory configurable feature only. Integrated Bluetooth® is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.

Broadband Wireless (WWAN)
HP lt4120 Qualcomm® Snapdragon X5 LTE Mobile Broadband Module^{1,3}
HP hs3110 HSPA+ Intel® Mobile Broadband Module^{1,2}

Note: The HP EliteBook 850 G3 UHD panel is not compatible with WWAN.

Wireless LAN (WLAN) Via M.2 Minicard
Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (vPro)²
Intel® Dual Band Wireless-AC 8260 802.11 a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 combo (non-vPro)²
Intel® Wireless-AC 3165 802.11 a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.0 combo (non-vPro)²

Near Field Communication (NFC)¹
HP Module with NXP NFC Controller NPC100

Support for Miracast

1. Sold separately or as an optional feature.
2. Wireless access point and Internet service is required and is not included.
Availability of public wireless access points limited.
3. WWAN module 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. 4G LTE not available on all products, in all regions.



Features

Communications

Intel® Ethernet Connection I219-V 10/100/1000 Ethernet (with Intel® i3-6100U, i5-6200U, and i7-6500U)

Intel® Ethernet Connection I219-LM 10/100/1000 Ethernet (with Intel® i5-6300U and i7-6600U)

NOTE: 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.

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen

HP Clear Sound Amp

HP Noise Reduction Software

Digital Microphones (Dual Array)

2 Premium Stereo Speakers

Webcam

Optional¹ 720p HD² webcam³

Note: Optimizes image quality under low light conditions and fixed focus lens.

1. Sold separately or as an optional feature.
2. HD content required to view HD images.
3. Internet access required.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

HP Premium Keyboard

The HP spill-resistant keyboard with drain is designed using a thin layer of Mylar film under the keyboard and includes an all-metal keyboard deck for greater rigidity. The 820 has 79/80-key, 840 has 85-86-key, the 850 has 100/101-key compatible keyboard features a full-pitch key layout with desktop keyboard features, such as editing keys, both left and right control and alt keys, and function keys.

US and International key layouts are available. Backlit keyboard with HP DuraKeys available as an option.

Pointing Devices

Glass Touchpad

On/Off button

Taps enabled as default

Gestures enabled by default - 2 Finger Scrolling, 2 Finger Zoom (Pinch)

Buttons and Function Keys

HP EliteBook 820

F1 - Sleep

F2 - Blank

F3 - Keyboard Backlit toggle



QuickSpecs

Features

- F4 - Display switching
- F5 - Brightness Down
- F6 - Brightness Up
- F7 - Speaker Mute
- F8 - Volume Down
- F9 - Volume Up
- F10 - Mic Mute
- F11 - Wireless
- F12 - Num Lock

HP EliteBook 840 (configurations with HP Sure View integrated privacy screen)

- F1 - Sleep
- F2 - Privacy
- F3 - Keyboard Backlit toggle
- 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

HP EliteBook 850

- F1 - Sleep
- F2 - Blank
- F3 - Backlit toggle
- F4 - Display switching
- F5 - Brightness Down
- F6 - Brightness Up
- F7 - Blank
- F8 - Volume down
- F9 - Volume up
- F10 - Mic mute
- F11 - Blank
- F12 - Blank

Hidden Function Keys

- Fn+R - Break
- Fn+S - Sys Rq
- Fn+C - Scroll Lock

SOFTWARE AND SECURITY

Preinstalled Software

BIOS

- HP BIOSphere¹
- HP Sure Start



Features

HP DriveLock | HP Automatic DriveLock
HP BIOS Protection²
BIOS Update via Network
Master Boot Record Security
Power On Authentication
Pre-Boot Security
Secure Erase³
Hybrid Boot
Measure Boot
HP SpareKey
Pre-boot Authentication

Multi Media

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 3D DriveGuard (requires Windows)
HP ePrint Driver⁹
HP Hotkey Support
HP Recovery Manager
HP Recovery Disc Creator
HP Registration App (Windows 8.1 only)
HP Support Assistant
HP Noise Reduction Software

3rd Party

Foxit PhantomPDF Express for HP

Microsoft Products

Buy Office
Bing Search
Skype¹⁰



Features

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
HP Image Assistant¹¹
LANDESK Management¹²

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 Defender

Security

Trusted Platform Module (TPM) 1.2 (Infineon SLB9670). Common Criteria EAL4+ Certified.

Upgradable to TPM 2.0. Convertible to FIPS 140-2 Certified mode. (TPM 2.0 is not available for Win 7 32-bit.)¹⁴

HP Fingerprint Reader (On select models)

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 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.



QuickSpecs

Features

6. HP Mobile Connect Pro is only available on preconfigured devices with WWAN. For geographic availability refer to www.hp.com/go/mobileconnect
7. Integrated Intel Wi-Di feature is available on select configurations preinstalled with Windows 7 or Windows 8.1 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 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 in December 2015 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 end of 2015 via HP Customer Support.

POWER

- HP 45W Smart AC Adapter (Not available for Asia, China and India)
- HP 45W 2-prong DC jack AC Adapter (Japan only)
- HP 65W Smart AC Adapter (Not available for Asia, China and India; for 840 & 850 only)
- HP 65W Smart AC Adapter EM (Asia, China and India only)

Power cord is configurable; either 3.2 feet or 6 feet (1.0 or 1.8 meter)
 Total length including external AC adapter is 9.2 feet or 12 feet (2.86 or 3.66 meter)

Primary Battery

HP EliteBook 820

HP 3-cell Long Life Li-Ion (44 WHr)

HP EliteBook 840 and HP EliteBook 850

HP 3-cell Long Life Li-Ion (46 WHr)

Battery Life

| Platform | Other HW Details | Battery | UMA Graphics | Discrete Graphics |
|---------------------|------------------|----------------------|----------------------|-------------------|
| HP EliteBook 820 G3 | HDD | 3-cell (44WHr) | Up to 9 hrs 45 mins | N/A |
| HP EliteBook 820 G3 | SSD | 3-cell (44WHr) | Up to 12 hrs 30 mins | N/A |
| | | Standby Time* | 193 hrs | N/A |



QuickSpecs

HP EliteBook 820 G3 Notebook PC HP EliteBook 840 G3 Notebook PC HP EliteBook 850 G3 Notebook PC

Features

| Platform | Other HW Details | Battery | UMA Graphics | Discrete Graphics |
|---------------------|------------------|----------------------|----------------------|-------------------|
| HP EliteBook 840 G3 | HDD | 3-cell (46Whr) | Up to 10 hrs 30 mins | N/A |
| HP EliteBook 840 G3 | SSD | 3-cell (46Whr) | Up to 13 hrs 30 mins | N/A |
| | | Standby Time* | 223 hrs | N/A |

| Platform | Other HW Details | Battery | UMA Graphics | Discrete Graphics |
|---------------------|------------------|----------------------|----------------------|---------------------|
| HP EliteBook 850 G3 | HDD | 3-cell (46Whr) | Up to 9 hrs 30 mins | Up to 9 hrs 30 mins |
| HP EliteBook 850 G3 | SSD | 3-cell (46Whr) | Up to 12 hrs 30 mins | Up to 12 hrs |
| | | Standby Time* | 223 hrs | 221 hrs |

1. Disclaimer: 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.

Power Conservation

Hibernation
Standby
ACPI compliance

Battery recharge times

| | HP EliteBook 820 | HP EliteBook 840 and HP EliteBook 850 |
|-------------------------------------|------------------|---------------------------------------|
| Time to 90% Charge (minute) (3-16) | 112 ¹ | 119 ³ |
| Time to 100% Charge (minute) (3-16) | 155 ² | 163 ⁴ |

1. Recharges your battery up to 90% within 112 minutes when the system is off. Applies to 3-cell 44 Whr battery only. When the PC is powered on, charge time may increase and will vary based on the workload of the notebook PC.

2. Recharges your battery up to 100% within 155 minutes when the system is off. Applies to 3-cell 44 Whr battery only. When the PC is powered on, charge time may increase and will vary based on the workload of the notebook PC.

3. Recharges your battery up to 90% within 119 minutes when the system is off. Applies to 3-cell 46 Whr battery only. When the PC is powered on, charge time may increase and will vary based on the workload of the notebook PC.

4. Recharges your battery up to 100% within 163 minutes when the system is off. Applies to 3-cell 46 Whr battery only. When the PC is powered on, charge time may increase and will vary based on the workload of the notebook PC.

WEIGHTS & DIMENSIONS

HP EliteBook 820

Weight¹

Starting at 2.78 lbs (1.26 kg)

(3-cell battery (44Whr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, Non-Touch panel)



QuickSpecs

Features

Starting at 3.05 lbs (1.38 kg)

(3-cell battery (44WHr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, FHD Touch)

Dimensions² (w x d x h)

Non-Touch

12.2 x 8.6 x 0.74 in

31 x 21.89 x 1.89 cm

Touch

12.2 x 8.6 x 0.80 in

31 x 21.89 x 2.02 cm

HP EliteBook 840

Weight¹

Starting at 3.27 lbs (1.48 kg)

(3-cell battery (46WHr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, Non-Touch panel)

Starting at 3.76 lbs (1.70 kg)

(3-cell battery (46WHr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, Touch)

Dimensions² (w x d x h)

Non-Touch

13.3 x 9.3 x 0.74 in

33.8 x 23.7 x 1.89 cm

Touch

13.3 x 9.3 x 0.80 in

33.8 x 23.7 x 2.02 cm

HP EliteBook 850

Weight¹

Starting at 4.06 lbs (1.84 kg)

(3-cell battery (46WHr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, Non-Touch panel)

Starting at 4.54 lbs (2.06 kg)

(3-cell battery (46WHr), UMA, no FPR, 1 SODIMM, WLAN, M.2 SSD, no camera, no WWAN, FHD Touch)

Dimensions² (w x d x h)

Non-Touch

15.09 x 10.10 x 0.76 in

38.33 x 25.77 x 1.94 cm

Touch

15.09 x 10.10 x 0.82 in

38.33 x 25.77 x 2.08 cm

1. Weight varies by configuration and components.
2. Height varies depending upon where on the notebook the measurement is made.



Features

PORTS/SLOTS

Ports

(1) USB 3.1 Gen 1 Charging Port
(1) USB 3.1 Gen 1 Port
(1) USB Basic Type-C
DisplayPort 1.2
VGA
RJ-45 / Ethernet
Docking connector
Headphone/Microphone Combo
AC Port

NOTE: Cables are not included.

Slots

External SIM slot - Micro SIMM (3FF): 15 x 12mm
SD Media Card Reader Slot Supports SD, SDHC, SDXC

SERVICE AND SUPPORT

Limited 3-year, 1-year or 90-day limited warranty options available, depending on country. Batteries have a default one year limited warranty except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. Optional¹ HP Care Pack Services² are extended service contracts which go beyond your standard limited warranties.

1. Sold separately or as an optional feature.
2. 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. Consult the HP Customer Support Center for details. <http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>



QuickSpecs

Technical Specifications

SYSTEM UNIT

TBD

DISPLAYS

| | | | | |
|---|--|-------------------------------------|-------------------|--|
| 12.5" diagonal LED backlight HD Slim eDP SVA Anti-glare (1366 x 768) | Outline Dimensions (W x H x D) | 291.0 x 181.9mm(max) X 3.0(max) mm | | |
| | Active Area | 276.615mm x 155.52mm | | |
| | Weight | 250g max. | | |
| | Diagonal Size | 12.5" | | |
| | Surface Treatment | AG | | |
| | Contrast Ratio | 300:1 (typ) - AG | | |
| | Refresh Rate | 60Hz | | |
| | Response time | 16ms typ. | | |
| | Pixel Per Inch (PPI) | 125 | | |
| | Brightness | 220nits | | |
| | Pixel Resolution | Format | 1366 x 768 (HD) | |
| | | Configuration | RGB Stripe | |
| | Interface | eDP 1.2 (1 lane) | | |
| | LCD Mode | TN | | |
| Viewing Angle | SVA 40/40/15/30 | | | |
| 12.5" diagonal LED backlight FHD UltraSlim eDP UWVA Anti-glare (1920 x 1080) | Outline Dimensions (W x H x D) | 282.7 x 179.82 (max) x 2.3 (max) mm | | |
| | Active Area | 276.48 typ. (W) x 155.52 typ. (H) | | |
| | Weight | 170 max | | |
| | Diagonal Size | 12.5" | | |
| | Surface Treatment | AG | | |
| | Contrast Ratio | 600:1 (typ) - AG | | |
| | Refresh Rate | 60Hz | | |
| | Response time | 25ms typ. | | |
| | Pixel Per Inch (PPI) | 176 | | |
| | Brightness | 300nits | | |
| | Pixel Resolution | Format | 1920 x 1080 (FHD) | |
| | | Configuration | RGB Stripe | |
| | Interface | eDP 1.3 (2 lane) | | |
| | LCD Mode | IPS/FFS/VA | | |
| Viewing Angle | UWVA 85/85/85/85 | | | |



QuickSpecs

Technical Specifications

| | | |
|--|--|-------------------------------------|
| 12.5" diagonal LED backlight FHD UltraSlim eDP UWVA (1920 x 1080) Touch with camera | Outline Dimensions (W x H x D) | 282.7 x 179.82 (max) x 2.3 (max) mm |
| | Active Area | 276.48 typ. (W) x 155.52 typ. (H) |
| | Weight | 170 max |
| | Diagonal Size | 12.5" |
| | Touch Enabled | Yes |
| | TSP Type | Capacitive |
| | Surface Treatment | AG |
| | Contrast Ratio | 600:1 (typ) - AG |
| | Refresh Rate | 60Hz |
| | Response time | 25ms typ. |
| | Pixel Per Inch (PPI) | 176 |
| | Brightness | 300nits |
| | Pixel Resolution | Format 1920 x 1080 (FHD) |
| | | Configuration RGB Stripe |
| | Interface | eDP 1.3 (2 lane) |
| LCD Mode | IPS/FFS/VA | |
| Viewing Angle | UWVA 85/85/85/85 | |

| | | |
|---|--|---|
| 14.0" diagonal LED backlight FHD Slim eDP SVA Anti-glare (1920 x 1080) Non-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" |
| | Surface Treatment | AG |
| | Contrast Ratio | 200:1 (typ) - AG |
| | Refresh Rate | 60Hz |
| | Response time | 16ms typ. |
| | Pixel Per Inch (PPI) | 157 |
| | Brightness | Privacy 85nits typ. (system) Sharing 275nits typ. (system) |
| | Pixel Resolution | Format 1920 x 1080 (FHD) |
| | | Configuration RGB Stripe |
| | Interface | eDP 1.2 (2 lane) |
| | LCD Mode | TN |
| | Viewing Angle | Sharing 45/45/15/30 (CR>10) |



QuickSpecs

Technical Specifications

Privacy 40/40/15/30 (CR>10)

**14.0" diagonal LED
backlight HD Slim eDP
SVA Anti-glare
(1366 x 768)**

| | |
|--|--|
| Outline Dimensions (W x H x D) | 320.9 x 205.6 (max) x 3.0mm max |
| Active Area | 309.4 x 173.95 |
| Weight | <290 max. |
| Diagonal Size | 14.0" |
| Surface Treatment | AG |
| Contrast Ratio | 300:1 (typ) - AG |
| Refresh Rate | 60Hz |
| Response time | 16ms typ. |
| Pixel Per Inch (PPI) | 112 |
| Brightness | 220nits |
| Pixel Resolution | Format 1366 x 768 (HD) Configuration RGB Stripe |
| Interface | eDP 1.2 (1 lane) |
| LCD Mode | TN |
| Viewing Angle | SVA 40/40/15/30 |

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

| | |
|--|--|
| Outline Dimensions (W x H x D) | 320.9 x 205.6 (max) x 3.0(max) mm |
| Active Area | 308.851x173.73 |
| Weight | <270 max |
| Diagonal Size | 14" |
| Surface Treatment | AG |
| Contrast Ratio | 300:1 (typ) - AG |
| Refresh Rate | 60Hz |
| Response time | 16ms typ. |
| Pixel Per Inch (PPI) | 157 |
| Brightness | 300nits |
| Pixel Resolution | Format 1920 x 1080 (FHD) Configuration RGB Stripe |



QuickSpecs

Technical Specifications

| | |
|----------------------|------------------|
| Interface | eDP 1.2 (2 lane) |
| LCD Mode | TN |
| Viewing Angle | SVA 40/40/15/30 |

**14.0" diagonal LED
backlight QHD UltraSlim
eDP UWVA Anti-glare
(2560 x 1440)**

| | | |
|---|--|-----------|
| Outline Dimensions (W x H x D) | 320.4± 0.5 x 198.6±0.5 mm typ. (w/PCB) | |
| Active Area | 309.504 mmx 174.096mm | |
| Weight | 270g max | |
| Diagonal Size | 14.0" | |
| Surface Treatment | Anti-Glare | |
| Contrast Ratio | 600:1 (typ.) | |
| Refresh Rate | 60Hz | |
| Response time | 25ms typ. | |
| Pixel Per Inch (PPI) | 210 | |
| Brightness | 340 nits typ | |
| Pixel Resolution | Format | 2560x1440 |
| | Configuration | RGB |
| Interface | eDP 1.3 + PSR | |
| LCD Mode | IPS | |
| Viewing Angle | UWVA 85/85/85/85 | |

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

| | | |
|---|-----------------------------------|--|
| Outline Dimensions (W x H x D) | 320.9 x 205.6 (max) x 3.0(max) mm | |
| Active Area | 308.851x173.73 | |
| Weight | 430g max | |
| Diagonal Size | 14" | |
| Surface Treatment | AG | |
| Touch Enabled | Yes | |
| TSP Type | Capacitive | |
| Contrast Ratio | 300:1 (typ) - AG | |
| Refresh Rate | TBD | |
| Response time | 16ms typ. | |



QuickSpecs

Technical Specifications

| | | |
|-----------------------------|----------------------|-------------------|
| Pixel Per Inch (PPI) | 157 | |
| Brightness | 300nits | |
| Pixel Resolution | Format | 1920 x 1080 (FHD) |
| | Configuration | RGB Stripe |
| Interface | eDP 1.2 (2 lane) | |
| LCD Mode | TN | |
| Viewing Angle | SVA 40/40/15/30 | |

**14.0" diagonal LED
backlight FHD Slim eDP
UWVA Anti-glare non-
touch (1920 x 1080)**

| | | |
|---|------------------------------|------------------|
| Outline Dimensions (W x H x D) | 320.9 x 205.6 x 3.0 (mm) max | |
| Active Area | 309.14 x 173.89 (mm) | |
| Weight | 285 g max | |
| Diagonal Size | 14.0" | |
| Surface Treatment | Anti-Glare | |
| Contrast Ratio | 600:1 (typ) | |
| Refresh Rate | 60Hz | |
| Response time | 35ms (typ) | |
| Pixel Per Inch (PPI) | 157 | |
| Brightness | 300 nits | |
| Pixel Resolution | Format | 1920 x1080 (FHD) |
| | Configuration | RGB |
| Interface | eDP 1.3 | |
| LCD Mode | IPS | |
| Viewing Angle | UWVA 85/85/85/85 | |

**15.6" diagonal LED
backlight HD Slim eDP
SVA Anti-glare
(1366 x 768)**

| | | |
|---|---------------------------|--|
| Outline Dimensions (W x H x D) | 360.0 x 224.3 x 3.2mm max | |
| Active Area | 344.2 x 193.5 | |
| Weight | 370g max | |
| Diagonal Size | 15.6" | |
| Surface Treatment | AG | |
| Contrast Ratio | 300:1 (typ) - AG | |
| Refresh Rate | 60Hz | |
| Response time | 16ms typ. | |
| Pixel Per Inch (PPI) | 101 | |



QuickSpecs

Technical Specifications

| | | |
|-------------------------|----------------------|-----------------|
| Brightness | 220 nit typ | |
| Pixel Resolution | Format | 1366 x 768 (HD) |
| | Configuration | RGB Stripe |
| Interface | eDP 1.2 (1 lane) | |
| LCD Mode | TN | |
| Viewing Angle | SVA 40/40/15/30 | |

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

| | | |
|--|----------------------------|-------------------|
| Outline Dimensions (W x H x D) | 360.0 x 224.3 x 3.2 mm max | |
| Active Area | 344.16 x 193.59 mm | |
| Weight | 360 max. | |
| Diagonal Size | 15.6" | |
| Surface Treatment | AG | |
| Contrast Ratio | 400:1 (typ) | |
| Refresh Rate | 60Hz | |
| Response time | 16ms typ. | |
| Pixel Per Inch (PPI) | 142 | |
| Brightness | 300nits | |
| Pixel Resolution | Format | 1920 x 1080 (FHD) |
| | Configuration | RGB Stripe |
| Interface | eDP 1.2 (2 lane) | |
| LCD Mode | TN | |
| Viewing Angle | SVA 45/45/25/35 | |

**15.6" diagonal LED
backlight UHD Slim eDP
UWVA Anti-glare (3840
x 2160)**

| | | |
|---------------------------|---------------------------------|------------------|
| Dimensions (W x H) | 13.62 x 7.59 in (3.6 x 19.4 cm) | |
| Diagonal Size | 15.6 in (39.6 cm) | |
| Weight | 345 g (max) | |
| Surface Treatment | Anti-glare | |
| Contrast Ratio | 1000:1 (typ) | |
| Refresh Rate | 60 Hz | |
| Brightness | 340 nit typical | |
| Pixel Resolution | Pitch | 0.090 x 0.090 mm |
| | Format | 3840x2160 |
| | Configuration | RGB Stripe |
| Backlight | LED | |
| PPI | 282 | |



QuickSpecs

Technical Specifications

Viewing Angle

80° Horizontal, ±80° Vertical (minimum)
 80/80/80/80 (Left/Right/Down/Up) (min)

**15.6" diagonal LED
 backlight FHD Slim eDP
 SVA (1920 x 1080)
 Touch with Camera**

| | | |
|--|------------------------------------|-------------------|
| Outline Dimensions (W x H x D) | 360.0 x 224.3 x 3.2 mm max | |
| Active Area | 344.16 x 193.59 mm | |
| Weight | 560 max. | |
| Diagonal Size | 15.6" | |
| Surface Treatment | AG/BV | |
| Contrast Ratio | 500:1 (typ) - BV, 400:1 (typ) - AG | |
| Touch Enabled | Yes | |
| TSP Type | Capacitive | |
| Refresh Rate | 60Hz | |
| Response time | 16ms typ. | |
| Pixel Per Inch (PPI) | 142 | |
| Brightness | 300nits | |
| Pixel Resolution | Format | 1920 x 1080 (FHD) |
| | Configuration | RGB Stripe |
| Interface | eDP 1.2 (2 lane) | |
| LCD Mode | TN | |
| Viewing Angle | SVA 45/45/25/35 | |

**15.6" diagonal LED
 backlight FHD Slim eDP
 UWVA Anti-glare non-
 touch (1920 x 1080)**

| | | |
|--|--------------------------|--|
| Outline Dimensions (W x H x D) | 360 x 224.3 x 3.2 mm max | |
| Active Area | 344.2 x 193.5 mm | |
| Weight | 360 max. | |
| Diagonal Size | 15.6" | |
| Surface Treatment | AG | |
| Contrast Ratio | 600:1 (typ) | |
| Refresh Rate | 60Hz | |
| Response time | 35ms typ. | |
| Pixel Per Inch (PPI) | 142 | |



QuickSpecs

Technical Specifications

| | | | |
|-------------------------|----------------------|-------------------|--|
| Brightness | 300nits | | |
| Pixel Resolution | Format | 1920 x 1080 (FHD) | |
| | Configuration | RGB | |
| Interface | eDP 1.3 + PSR | | |
| LCD Mode | IPS | | |
| Viewing Angle | UWVA 85/85/85/85 | | |

Note: All display specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

STORAGE AND DRIVES

500 GB 7200rpm Self Encrypting Drive (FIPS-140-2) (Opal 2)

| | | | |
|-------------------------------------|--|-----------|--|
| Drive Weight | 0.21 lbs (95 g) | | |
| Capacity | 500 GB | | |
| Height | 0.28 in (7 mm) | | |
| Width | 2.75 in (69.85 mm) | | |
| Interface | ATA-8, SATA 3.0 | | |
| Transfer Rate | Synchronous (maximum) | 600 MB/s | |
| Seek Time | Single Track | 1.5 ms | |
| (typical reads, including settling) | Average | 12ms | |
| | Maximum | 18mm-22ms | |
| Cache | 32GB | | |
| Rotational Speed | 7200 rpm | | |
| Logical Blocks | 976,773,168 | | |
| Operating Temperature | 32° to 140° F (0° to 60° C) [top cover temp] | | |
| Features | ATA Security; TCG Opal 2.x, FIPS, S.M.A.R.T., NCQ, Ultra DMA , | | |

500 GB 7200rpm Hard Drive

| | | | |
|-------------------------------------|---------------------------------|-------------|--|
| Drive Weight | 0.20 lbs (92 g)-0.21 lbs (95 g) | | |
| Capacity | 500 GB | | |
| Height | 0.28 in (7 mm) | | |
| Width | 2.75 in (69.85 mm) | | |
| Interface | ATA-8, SATA 3.0 | | |
| Transfer Rate | Synchronous (maximum) | 600 MB/s | |
| Seek Time | Single Track | 1.5ms-2.0ms | |
| (typical reads, including settling) | Average | 11ms-13ms | |
| | Maximum | 18ms-22ms | |
| Cache | 32GB | | |



QuickSpecs

Technical Specifications

| | | |
|--|---|---|
| | Rotational Speed | 7200 rpm |
| | Logical Blocks | 976,773,168 |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] |
| | Features | ATA Security |
| 500 GB 7200rpm Self-Encrypting Drive (Opal 2) | Drive Weight | 0.21 lbs (95 g) |
| | Capacity | 500GB |
| | Height | 0.28 in (7 mm) |
| | Width | 2.75 in (69.85 mm) |
| | Interface | ATA-8, SATA 3.0 |
| | Transfer Rate | Synchronous (maximum) 600 MB/s |
| | Seek Time (typical reads, including settling) | Single Track 1.5ms Average 12ms Maximum 18ms- 22ms |
| | Cache | 32GB |
| | Rotational Speed | 7200rpm |
| | Logical Blocks | 976,773,168 |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [top cover temp] |
| | Features | ATA Security; TCG Opal 2.x, S.M.A.R.T., NCQ, Ultra DMA |
| 1 TB 5400rpm Hard Drive | Drive Weight | 0.21 lbs (94 g)- 0.21 lbs (99 g) |
| | Capacity | 1TB |
| | Height | 0.28 in (7.2 mm) |
| | Width | 2.75 in (69.85 mm) |
| | Interface | ATA-8, SATA 3.0 |
| | Transfer Rate | Synchronous (maximum) 600 MB/s |
| | Seek Time (typical reads, including settling) | Single Track 2ms Average 12ms-13ms Maximum 18ms-23ms |
| | Cache | Up to 32GB |
| | Rotational Speed | 5400rpm |
| | Logical Blocks | 1,953,525,168 |
| | Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] |
| | Features | S.M.A.R.T., NCQ, Ultra DMA |
| 500 GB Hybrid, 8 GB cache | Drive Weight | 0.21 lb (95 g) |
| | Capacity | 500 GB |



QuickSpecs

Technical Specifications

| | |
|-------------------------------------|--|
| Height | 0.276 in (7 mm) |
| Width | 2.76 in (70.1 mm) |
| Interface | ATA-8, SATA 2.6, 6.0 Gb/s, NCQ |
| Transfer Rate | Synchronous (maximum) 600 MB/s (Drive Capability) |
| Seek Time | Single Track 2 ms |
| (typical reads, including settling) | Average 12 ms |
| | Maximum NIL ms |
| Cache | 64GB |
| Rotational Speed | 5400 rpm |
| Logical Blocks | 976,773,168 |
| Operating Temperature | 32° to 140° F (0° to 60° C) [case temp] |
| Features | ATA Security |

128 GB M2 2280 SATA-3 TLC Solid State Drive

| | |
|------------------------------|--|
| Drive Weight | 0.019 lb (8.5 g)-0.022 lb (10 g) |
| Capacity | 128 GB |
| Height | 0.09 in (2.23 mm)- 0.14 in (3.58 mm) |
| Width | 0.87 in (22 mm) |
| Interface | ATA-8, SATA 3.0 |
| Performance | Sequential Read 500 ~ 540 MB/s |
| | Sequential Write 130 ~ 450 MB/s |
| Logical Blocks | 250,069,680 |
| Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| Features | ATA Security, DIPM; TRIM; DEVSLP |

180 GB M2 2280 SATA-3 MLC Solid State Drive

| | |
|------------------------------|--|
| 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 |
| Performance | Sequential Read 540 MB/s |
| | Sequential Write 490 MB/s |
| Logical Blocks | 351,651,888 |
| Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| Features | ATA Security, DIPM; TRIM; DEVSLP |



QuickSpecs

Technical Specifications

| | | | |
|---|------------------------------|--|-------------------------|
| 180 GB M2 2280 SATA-3 Self-Encrypting Drive (Opal 2) MLC Solid State Drive | Drive Weight | 0.022 lb (<10 g) | |
| | Capacity | 180GB | |
| | Height | 0.09 in (2.23 mm) | |
| | Width | 0.87 in (22 mm) | |
| | Interface | ATA-8, SATA 3.0 | |
| | Performance | Sequential Read | Sequential Write |
| | | 540 MB/s | 490 MB/s |
| | Logical Blocks | 351,651,888 | |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] | |
| | Features | ATA Security, TCG OPAL 2.x, DIPM; TRIM; DEVSLP | |

| | | | |
|--|------------------------------|--|-------------------------|
| 240 GB SATA-3 MLC Solid State Drive | Drive Weight | 0.02 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 | Sequential Read | Sequential Write |
| | | 540 MB/s | 490 MB/s |
| | Logical Blocks | 468,862,128 | |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] | |
| | Features | ATA Security, DIPM; TRIM; DEVSLP | |

| | | | |
|---|------------------------------|--|-------------------------|
| 256 GB 2280 SATA-3 TLC Solid State Drive | Drive Weight | 0.019 lb (8.5 g)- 0.022 lb (10 g) | |
| | Capacity | 256GB | |
| | Height | 0.09 in (2.3 mm)- 0.14 in (3.58 mm) | |
| | Width | 0.87 in (22 mm) | |
| | Interface | ATA-8, SATA 3.0 | |
| | Performance | Sequential Read | Sequential Write |
| | | 515 ~ 540 MB/s | 260 ~ 515 MB/s |
| | Logical Blocks | 500,118,192 | |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] | |
| | Features | ATA Security, DIPM; TRIM; DEVSLP | |

| | | | |
|---|---------------------|--------------------------------------|--|
| 256 GB M2 2280 SATA-3 Self-Encrypting Drive (Opal 2) MLC Solid State Drive | 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) | |
| | Interface | ATA-8, SATA 3.0 | |



QuickSpecs

Technical Specifications

| | | | |
|---|---------------------------------------|--|-------------------------|
| | Performance | Sequential Read | Sequential Write |
| | | 450 ~ 540 MB/s | 370 ~ 500 MB/s |
| | Logical Blocks | 500,118,192 | |
| | Operating Temperature Features | 32° to 158°F (0° to 70°C) [ambient temp] ATA Security; TCG Opal 2.0, DIPM; TRIM; DEVSLP | |
| 256 GB PCIe-3x4 NVMe Solid State Drive | Drive Weight | 0.02 lb (10 g) | |
| | Capacity | 256 GB | |
| | Height | 0.09 in (2.3 mm) | |
| | Width | 0.87 in (22 mm) | |
| | Interface | PCIe NVMe Gen3X4 | |
| | Performance | Sequential Read | Sequential Write |
| | | 2,260 ~ 3,100 MB/s | 1,100 ~ 1,400 MB/s |
| | Logical Blocks | 500,118,192 | |
| | Operating Temperature Features | 32° to 158°F (0° to 70°C) [ambient temp] ATA Security, TRIM; L1.2 | |
| 512 GB M2 2280 TLC Solid State Drive | 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 | Sequential Read | Sequential Write |
| | | 500 ~ 540 MB/s | 440 ~ 515 MB/s |
| | Logical Blocks | 1,000,215,216 | |
| | Operating Temperature Features | 32° to 158°F (0° to 70°C) [ambient temp] ATA Security, DIPM; TRIM; DEVSLP | |
| 512 GB M2 2280 SATA-3 Self-Encrypting Drive (Opal 2) MLC Solid State Drive | Drive Weight | 0.01 lb (5.5 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 | Sequential Read | Sequential Write |
| | | 450 ~ 540 MB/s | 400 ~ 500 MB/s |
| | Logical Blocks | 1,000,215,216 | |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|------------------------------|--|
| Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| Features | ATA Security; TCG Opal 2.0; DIPM; TRIM; DEVSLP |

SECURITY

HP Fingerprint Reader (optional)

| | |
|------------------------------------|---|
| Mobile Voltage Operation | 3.0V-3.6V |
| Operating Temperature | 14° – 167°F (-10° – 75°C) |
| Current Consumption Image | 36 mA peak |
| Low Latency Wait for Finger | 950 uA |
| Capture Rate | 59000 lines/sec |
| ESD Resistance | IEC 61000-4-2 4B (±15KV) |
| Detection Matrix | 200*1 (plus another secondary line) 508 dpi 10*1 mm sensor area |

Smart Card Reader

| | |
|-------------------------------|---|
| Smart card standard | PC/SC 2.0 for Windows smart card standard |
| Dimensions (L x W x H) | 0.41x 0.08 x 0.32 in (10.5 x 2 x 8.2 mm) |
| Smart Card support | ISO 7816 Class A and AB smart cards |
| Smart Card Interface | Smart Card Interface with T = 0 and T = 1 support Support I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436, SLE5536, SLE6636, AT88SC1608, AT45D041 card and AT45DB041 card via external EEPROM |



Technical Specifications

| | |
|--------------------------|---|
| Operating systems | No driver is required for this device. Native support is provided by the operating system. |
| Power | Normal Mode With card present, before being suspended: 40.9 mA Without card present, before being suspended: 33.16 mA After being suspended with smart card present: 380 μ A After being suspended without smart card present: 380 μ A Power Saving Mode With card present, before being suspended: 40.6 mA Without card present: 380 μ A After being suspended with smart card present: 380 μ A |
| Features | <ul style="list-style-type: none">• Support single slot• Support T0, T1 protocol• Support I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436,• SLE5536, SLE6636, AT88SC1608, AT45D041 card and AT45DB041 card via external EEPROM• Support ISO7816 Class A, B and C (5V/3V/1.8V) card• Implemented as an USB full speed device with bulk transfer endpoint, Mass• Storage endpoint• Built-in PLL for USB and Smart Card clocks requirement• Support EEPROM for USB descriptors customization (PID/VID/iManufacturer/iProduct/Serial Number), Direct Web Page Link, and accessing memory card module.• EEPROM programmable via USB interface• Support software update for memory card module• Support Direct Web Page Link via configuration in external EEPROM• Support short APDU and extended APDU• Compatible with Microsoft USB-CCID driver• Support remote wake up through inserting card/removing card• Support USB selective suspend• Support Power Saving Mode (Using one pin to select between Normal/PWR Saving Mode)• Support card power over current protection mechanism• Built in resonator.• Support USB LPM (Link Power Management) features.• Embedded clock source. |



QuickSpecs

Technical Specifications

NETWORKING/COMMUNICATIONS

HP hs3110 HSPA+ Intel® Mobile Broadband Module*

| | |
|------------------------------------|--|
| Technology/Operating bands | HSPA+: 2100 (Band 1), 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 E-GPRS 850/900: 27 dBm GPRS 1800/1900: 30 dBm GPRS 850/900: 33 dBm |
| Maximum output power | HSPA+: 24 dBm E-GPRS 1800/1900: 26 dBm 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 |



QuickSpecs

Technical Specifications

Dimensions 1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)
(Length x Width x Thickness)

* 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.

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

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)



QuickSpecs

Technical Specifications

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)

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.

**Intel® Dual Band Wireless-N
8260AC 802.11 a/b/g/n (2x2)**

**Wireless LAN
Standards** IEEE 802.11a
IEEE 802.11b



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

**WiFi + Bluetooth 4.2 Combo
Adaptor* (vPro)**

IEEE 802.11g
IEEE 802.11n

Interoperability Wi-Fi certified

Frequency Band 802.11b/g/n 2.402 - 2.482 GHz

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

802.11a 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

Note: Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)

Antenna Structure 2 transmit; 2 receive (2x2)

Data Rates 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11b: 1, 2, 5.5, 11 Mbps
802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)

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

Security¹ IEEE and Wi-Fi 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
IEEE 802.11i
Cisco Certified Extensions, all versions through CCX4 and CCX Lite
WAPI

Sub-channels Multinational support with frequency bands and channels compliant to local regulations.



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|---|---|
| Network Architecture Models | Ad-hoc (Peer to Peer) Infrastructure (Access Point Required) |
| Roaming | IEEE 802.11 compliant roaming between band Access Points |
| Output Power² | 802.11b : +16dBm minimum 802.11g : +14dBm minimum 802.11a : +14dBm minimum 802.11n HT20(2.4GHz) : +13dBm minimum 802.11n HT40(2.4GHz) : +13dBm minimum 802.11n HT20(5GHz) : +12dBm minimum 802.11n HT40(5GHz) : +12dBm minimum |
| Power Consumption | Transmit: 2.0 Watts (max) Receive: 1.6 Watts (max) Idle mode ³ (PSP): 180 mW (WLAN Associated) Idle mode: 60 mW (WLAN unassociated) Radio off: 30 mW |
| Power Management | ACPI and PCI Express compliant power management 802.11 compliant power saving mode |
| Receiver Sensitivity⁴ | 802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -86dBm maximum 802.11a, 54Mbps : -72dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm 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 and Bluetooth communications |
| Form Factor | PCI-Express M.2 MiniCard |
| Dimensions | Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm |



QuickSpecs

Technical Specifications

| | | |
|--------------------------|--|---|
| Weight | Type 2230 : 2.8g | |
| | Or | |
| | Type 1630 : 2g | |
| Operating Voltage | 3.3v +/- 9% | |
| Temperature | Operating | 14° to 158° F (-10° to 70° C) -40° to 176° F (-40° to 80° C) |
| | Non-operating | |
| 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 Off - Radio OFF; Solid LED On - Radio ON | |

Check latest software/driver release for updates on supported security features.
 Maximum output power may vary by country according to local regulations.
 In Power Save Polling mode and on battery power.
 Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
 WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.

| | |
|--|---------------|
| Intel® Dual Band Wireless- Wireless LAN Standards | IEEE 802.11a |
| N 8260AC 802.11 a/b/g/n | |
| (2x2) WiFi + Bluetooth 4.2 | IEEE 802.11b |
| Combo Adaptor* (non- | IEEE 802.11g |
| vPro) | IEEE 802.11n |
| | IEEE 802.11ac |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|-----------------------------|---|
| Interoperability | Wi-Fi certified |
| Frequency Band | 802.11b/g/n 2.402 - 2.482 GHz 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 |
| | 802.11a <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 Note: Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161) |
| Antenna Structure | 2 transmit; 2 receive (2x2) |
| Data Rates | 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 and NSS=2 for RX and TX for 20 and 40 MHz channels. Short and long guard interval shall be supported. 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 Wi-Fi 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• IEEE 802.11i• Cisco Certified Extensions, all versions through CCX4 and CCX Lite• WAPI |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|---|---|
| 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) : +13dBm minimum• 802.11n HT40(2.4GHz) : +13dBm minimum• 802.11n HT20(5GHz) : +12dBm minimum• 802.11n HT40(5GHz) : +12dBm minimum• 802.11ac 80MHz(5GHz) : +11dBm minimum |
| Power Consumption | Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 60 mW (WLAN unassociated) Radio disabled: 30 mW |
| Power Management | ACPI and PCI Express compliant power management 802.11 compliant power saving mode |
| Receiver Sensitivity³ | 802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps) 802.11b:-95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps) 802.11g:-90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps) 802.11n:-69 dBm (150 Mbps), -66 dBm (300 Mbps) |
| 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 Half-MiniCard |
| Dimensions | 0.134 x 1.06 x 1.18 in (3.4 x 26.8 x 30 mm) |



QuickSpecs

Technical Specifications

| | | |
|--------------------------|---|--------------------------------|
| Weight | 3.1g | |
| 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 | |

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+EDR Wireless Technology

| | |
|-------------------------------------|---|
| Bluetooth Specification | 4.2+EDR Compliant |
| Frequency Band | 2402 to 2480 MHz |
| Number of Available Channels | 79 (1 MHz) available channels |
| Data Rates and Throughput | 3 Mbps data rate; throughput up to 2.17 Mbps |
| | Synchronous Connection Oriented links up to 3, 64 kbps, voice channels |
| | Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric |
| 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 | Better than -20 dBm at 0.1 % raw bit error rate |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|-------------------------------------|--|
| Power Consumption | Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW |
| Antenna | Internally integrated within module |
| Range | Up to 33 ft. (10 m) |
| Electrical Interface | USB 2.0 compliant Microsoft Windows Plug and Play compliant |
| Bluetooth Software Supported | Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software |
| Link Topology | Point to Point, Multipoint Pico Nets up to 7 slaves |
| Security | Full support of Bluetooth Security Provisions |
| Power Management | Microsoft Windows ACPI, and USB Bus Support Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff |
| Certifications | All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark |
| 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} File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) ^{1,2} |



QuickSpecs

Technical Specifications

- Personal Area Networking Profile (PAN)^{1,2}
- Human Interface Device Profile (HID)^{1,2}
- FAX Profile (FAX)
- Basic Imaging Profile (BIP)²
- Headset Profile (HSP)
- Hands Free Profile (HFP)
- Advanced Audio Distribution Profile (A2DP)

1. Indicates the profile is supported by Microsoft Windows XP SP2

2. Indicates the profile is part of Windows Vista

* Wireless access point and internet service required. Availability of public wireless access points limited.

**Intel Dual Band Wireless- Wireless LAN
 AC 3160 802.11 ac (1x1) Standards
 WiFi and Bluetooth 4.0
 Combo Adapter (non-vPro)**

- 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

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.

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

Note: Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)



Technical Specifications

| | |
|------------------------------------|---|
| 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 ~ MCS7, (1SS) (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 Wi-Fi 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• 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) : +13dBm minimum• 802.11n HT40(2.4GHz) : +13dBm minimum• 802.11n HT20(5GHz) : +12dBm minimum• 802.11n HT40(5GHz) : +12dBm minimum• 802.11ac 80MHz(5GHz) : +11dBm minimum |
| Power Consumption | Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 60 mW (WLAN unassociated) Radio disabled: 30 mW |
| Power Management | ACPI and PCI Express compliant power management 802.11 compliant power saving mode |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|---|---|
| Receiver Sensitivity³ | 802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -86dBm maximum 802.11a, 54Mbps : -72dBm 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 | PCI-Express M.2 MiniCard |
| Dimensions | 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 | 3.3v +/- 9% |



QuickSpecs

Technical Specifications

| | | |
|---|---|---|
| Reader (PCD-VCD) Mode(1) | ISO/IEC 14443 A | |
| | ISO/IEC 14443 B | |
| | ISO/IEC 15693 | |
| | MIFARE 1K | |
| | MIFARE 4K | |
| | MIFARE DESFire | |
| | FeliCa | |
| | Jewel and Topaz cards | |
| Card Emulation (PICC-VICC) Mode(1) | ISO/IEC 14443 A | |
| | ISO/IEC 14443 B and B' | |
| | MIFARE | |
| | FeliCa | |
| Frequency | 13.56 MHz | |
| NFC Modes Supported | Reader/Writer, Peer-to-Peer, Card Emulation | |
| Raw RF Data Rates | 106, 212, 424, 848 kbps | |
| Operating temperature | 0°C to 70°C | |
| Storage temperature | -20°C to 125°C | |
| Humidity | 10-90% operating | |
| | 5-95% non-operating | |
| Supply Operating voltage | 2.97 to 5.5 Volts | |
| I/O Voltage | 1.8V or 3.3V | |
| Power Consumption (Booster enable, VBAT= 3.3V, VCC_BOOST = 5V) | Mode | Power Consumption, Typical⁽²⁾ |
| | Polling | 7.3 mA |
| | Detected Test Tag Type 1 | Total 283.8 mA Net Module 236.8 mA |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|--------------------------|---------------------------------------|
| Detected Test Tag Type 2 | Total 288.8 mA Net Module 241.8 mA |
| Detected Test Tag Type 3 | Total 287.7 mA Net Module 240.7 mA |
| Detected Test Tag Type 4 | Total 282.3 mA Net Module 235.3 mA |

Antenna

Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.

Intel® I219-V Gigabit Network Connection

Ethernet Features

10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
100 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)
1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3. Clauses 40)
Auto-Negotiation (Automatic Speed Selection)
Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
IEEE 802.1p QoS (Quality of Service) Support
IEEE 802.1q VLAN support
IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
IEEE 802.3az EEE(Energy Efficient Ethernet)
Jumbo Frame 9K
Auto MDI/MDIX Crossover cable detection

Power Management

ACPI compliant - multiple power modes
Energy Detect Low Power Mode(Green Ethernet)

Performance Features

TCP/IP/UDP Checksum Offload (configurable)
Protocol Offload(ARP & NS)
Large send offload and Giant send offload
Receiving Side Scaling
MACSec Offload (802.3ae)



Technical Specifications

Intel Non-vPro
 iSCSI Boot

Manageability

Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)
 PXE 2.1 Remote Boot
 Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
 Comprehensive diagnostic and configuration software suite
 Virtual Cable Doctor for Ethernet cable status

Interface

PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ.
NOTE: Intel 82579 PCIe interface is not PCIe compliant. It operates at half of PCIe specification V1.1 (2.5GT/S) speed.

NIC Device Driver Name

Intel 82579LM/82579V Ethernet Network Connection

Intel® I219-LM Gigabit Network Connection

Ethernet Features

10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
 100 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)
 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)
 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3. Clauses 40)
 Auto-Negotiation (Automatic Speed Selection)
 Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
 IEEE 802.1p QoS (Quality of Service) Support
 IEEE 802.1q VLAN support
 IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
 IEEE 802.3az EEE(Energy Efficient Ethernet)
 Jumbo Frame 9K
 Auto MDI/MDIX Crossover cable detection

Power Management

ACPI compliant - multiple power modes
 Energy Detect Low Power Mode(Green Ethernet)



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | |
|-------------------------------|--|
| Performance Features | TCP/IP/UDP Checksum Offload (configurable) Protocol Offload(ARP & NS) Large send offload and Giant send offload Receiving Side Scaling MACSec Offload (802.3ae) Intel vPro iSCSI Boot |
| Manageability | Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status |
| Interface | PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ. NOTE: Intel 82579 PCIe interface is not PCIe compliant. It operates at half of PCIe specification V1.1 (2.5GT/S) speed. |
| NIC Device Driver Name | Intel 82579LM/82579V Ethernet Network Connection |

AUDIO/MULTIMEDIA

| | | |
|-----------------|-------------------------------------|------------------------------------|
| Hardware | Implementation | CX7501 |
| | Function Key Volume Controls | Volume up, volume down, and mute |
| | Full Duplex | Yes |
| | Line in/Line out | Yes via dock |
| | Headphone/Microphone In | Yes combo jack |
| | Integrated Microphone | Yes, dual digital microphone array |



QuickSpecs

Technical Specifications

| | | |
|-----------------------------------|-------------------------------------|------------------|
| Audio Output Quality | Frequency Response | 20 Hz – 20 kHz |
| | Signal to Noise Ratio | >85 dB |
| | Total Harmonic Distortion | 0.01% |
| | Noise Floor | -110 dB |
| | Play/Record Sampling Rate(s) | 8 kHz – 48kHz |
| | DAC | 16, 20 or 24-bit |
| | ADC | 16 or 20-bit |
| Integrated Stereo Speakers | Power Rating | 2 Watts |
| | Impedance | 4 Ohms |

POWER

HP 45W Smart AC Adapter

| | | |
|-------------------------------|---|--|
| Dimensions (H x W x D) | 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% at 115Vac and 88.4% at 230Vac |
| Output | Input frequency range | 47 to 63 Hz |
| | 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) |



QuickSpecs

HP EliteBook 820 G3 Notebook PC HP EliteBook 840 G3 Notebook PC HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | | |
|--|--|---|
| | Altitude | 0 to 16,400 ft (0 to 5,000 m) |
| | Humidity | 20% to 95% |
| | Storage Humidity | 10% to 95% |
| EMI and Safety Certifications | | <p>*CE Mark - full compliance with LVD and EMC directives</p> <p>* 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.</p> <p>* MTBF - over 200,000 hours at 25°C ambient condition.</p> |
| HP 65W Smart AC Adapter EM | 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 |
| | 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 | <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% |
| | Storage Humidity | 10% to 95% |
| EMI and Safety Certifications | | <p>*CE Mark - full compliance with LVD and EMC directives</p> <p>* 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.</p> <p>* MTBF - over 200,000 hours at 25°C ambient condition.</p> |
| HP 3-cell Long Life Li-Ion (44.5 WHr) – HP EliteBook 820 G3 | Dimensions (H x W x L) | 8.30 mm x 127.5 mm x 160.25 mm |
| | Weight | 213g (ATL), 211.1g (SDI) |
| | Cells/Type | ATL 505295, SDI 505295 |
| | Energy | |
| | Voltage | 11.4V |
| | Amp-hour capacity | 3910mAh |
| | Watt-hour capacity | 44.5Wh |
| | Temperature | |
| | Operating (Charging) | 0~45 C |
| | Operating (Discharging) | -10~60 C |



QuickSpecs

Technical Specifications

| | | | |
|--|--|--------------------------------|----------|
| | | Non-operating | 5~40 C |
| | Fuel Gauge LED | NA | |
| | Warranty | 1000 cycles >65% (at 23°C) | |
| | Optional Travel Battery Available | No | |
| HP 3-cell Long Life Li-Ion (46.5 WHr) – HP EliteBook 840 & 850 G3 | Dimensions (H x W x L) | 6.8mm x 102.8mm x 198mm | |
| | Weight | 216.3g (ATL), 217.8g (COS) | |
| | Cells/Type | ATL 506480, COSLIGHT 506480 | |
| | Energy | Voltage | 11.4V |
| | | Amp-hour capacity | 4080mAh |
| | | Watt-hour capacity | 46.5Wh |
| | Temperature | Operating (Charging) | 0~45 C |
| | | Operating (Discharging) | -10~60 C |
| | | Non-operating | 5~40 C |
| | Fuel Gauge LED | NA | |
| | Warranty | 1000 cycles >65% (at 23°C) | |
| | Optional Travel Battery Available | No | |

ENVIRONMENTAL

HP EliteBook 820 G3 Notebook PC

Eco-Label Certifications & declarations This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:

- IT ECO declaration
- US ENERGY STAR®
- US Federal Energy Management Program (FEMP)
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.

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 | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|--|---------------------|---------------------|---------------------|



QuickSpecs

Technical Specifications

ENERGY STAR® test method)

| | | | |
|-------------------------------|--------|--------|--------|
| Normal Operation (Short idle) | 8.79 W | 9.05 W | 8.85 W |
| Normal Operation (Long idle) | 6.35 W | 6.7 W | 6.63 W |
| Sleep | 0.85 W | 0.96 W | 0.84 W |
| Off | 0.38 W | 0.48 W | 0.37 W |

Note:

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

| Heat Dissipation* | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|-------------------------------|---------------------|---------------------|---------------------|
| Normal Operation (Short idle) | 30 BTU/hr | 31 BTU/hr | 30 BTU/hr |
| Normal Operation (Long idle) | 22 BTU/hr | 23 BTU/hr | 23 BTU/hr |
| Sleep | 3 BTU/hr | 3 BTU/hr | 3 BTU/hr |
| Off | 1 BTU/hr | 2 BTU/hr | 1 BTU/hr |

*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.



QuickSpecs

Technical Specifications

**Declared Noise Emissions
(in accordance with
ISO 7779 and ISO 9296)**

Sound Power
(L_{WA}d, bels)

Sound Pressure
(L_{pAm}, decibels)

Typically Configured – Idle

2.8

20

Fixed Disk – Random
writes

3.0

21

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:



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

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 96.6% recycle-able when properly disposed of at end of life.

Packaging Materials

| | | |
|------------------|-------------------------------------|---------|
| External: | PAPER/Corrugated | 329.5 g |
| Internal: | PLASTIC/EPE (Expanded Polyethylene) | 38 g |
| | PLASTIC/Polyethylene low density | 14.5 g |
| | PLASTIC/Polypropylene | 3.2 g |

The plastic packaging material contains at least 50% recycled content.

The corrugated paper packaging materials contains at least 70% 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)



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

Packaging Usage

HP follows these guidelines to decrease the environmental impact of product packaging:

- Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.
- Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
- Design packaging materials for ease of disassembly.
- Maximize the use of post-consumer recycled content materials in packaging materials.
- Use readily recyclable packaging materials such as paper and corrugated materials.
- Reduce size and weight of packages to improve transportation fuel efficiency.
- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

End-of-life Management and Recycling

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.



Technical Specifications

**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>

HP EliteBook 840 G3 Notebook PC

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®
- 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".

Energy Consumption (in accordance with US ENERGY STAR® test method)

| | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|------------------------------|---------------------|---------------------|---------------------|
| Normal Operation (Sort idle) | 8.12 W | 8.66 W | 8.39 W |
| Normal Operation (Long idle) | 6.23 W | 7.64 W | 6.77 W |
| Sleep | 0.86 W | 1.0 W | 0.84 W |



QuickSpecs

Technical Specifications

| | | | |
|-----|--------|--------|--------|
| Off | 0.37 W | 0.49 W | 0.37 W |
|-----|--------|--------|--------|

Note:

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

| Heat Dissipation* | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|-------------------------------|---------------------|---------------------|---------------------|
| Normal Operation (Short idle) | 28 BTU/hr | 30 BTU/hr | 29 BTU/hr |
| Normal Operation (Long idle) | 21 BTU/hr | 26 BTU/hr | 23 BTU/hr |
| Sleep | 3 BTU/hr | 3 BTU/hr | 3 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 | 2.9 | 22 |
| Fixed Disk – Random writes | 3.0 | 24 |

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:



QuickSpecs

Technical Specifications

- 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

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 0.0% post-consumer recycled plastic (by wt.)
- This product is 95.7% recycle-able when properly disposed of at end of life.

Packaging Materials

| | | |
|------------------|-------------------------------------|---------|
| External: | PAPER/Corrugated | 268.8 g |
| Internal: | PLASTIC/EPE (Expanded Polyethylene) | 91.9 g |
| | PLASTIC/Polyethylene low density | 13.6 g |
| | PLASTIC/Polypropylene | 5.5g |

The plastic packaging material contains at least 50.0% recycled content.
 The corrugated paper packaging materials contains at least 70.0% 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



Technical Specifications

<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)

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.



Technical Specifications

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>

HP EliteBook 850 G3 Notebook PC

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®
- 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".



QuickSpecs

Technical Specifications

Energy Consumption
(in accordance with US
ENERGY STAR® test
method)

| | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|-------------------------------|---------------------|---------------------|---------------------|
| Normal Operation (Short idle) | 9.06 W | 9.98 W | 9.6 W |
| Normal Operation (Long idle) | 7.31 W | 7.82 W | 8.0 W |
| Sleep | 0.76 W | 0.89 W | 0.75 W |
| Off | 0.44 W | 0.56 W | 0.43 W |

Note:

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

| Heat Dissipation* | 115VAC, 60Hz | 230VAC, 50Hz | 100VAC, 60Hz |
|-------------------------------|---------------------|---------------------|---------------------|
| Normal Operation (Short idle) | 31 BTU/hr | 34 BTU/hr | 33 BTU/hr |
| Normal Operation (Long idle) | 25 BTU/hr | 27 BTU/hr | 27 BTU/hr |
| Sleep | 3 BTU/hr | 3 BTU/hr | 3 BTU/hr |
| Off | 2 BTU/hr | 2 BTU/hr | 1 BTU/hr |

*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.



QuickSpecs

Technical Specifications

**Declared Noise Emissions
(in accordance with
ISO 7779 and ISO 9296)**

Sound Power
(L_{WAd}, bels)

Sound Pressure
(L_{pAm}, decibels)

Typically Configured – Idle

2.9

20

Fixed Disk – Random
writes

2.9

21

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

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 96.1% recycle-able when properly disposed of at end of life.



QuickSpecs

Technical Specifications

| | | | |
|----------------------------|------------------|-------------------------------------|---------|
| Packaging Materials | External: | PAPER/Cardboard & misc | 360.2 g |
| | Internal: | PLASTIC/EPE (Expanded Polyethylene) | 29.8 g |
| | | PLASTIC/Polyethylene low density | 13.6 g |
| | | PLASTIC/Polypropylene | 6 g |

The plastic packaging material contains at least 50% recycled content.
The corrugated paper packaging materials contains at least 70% 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.



Technical Specifications

Packaging Usage

- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

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.

For more information about HP's commitment to the environment:

Hewlett-Packard Corporate Environmental Information

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

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



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

Country of Origin

China

| Type | Description | Part # |
|-----------------------------|--|-------------|
| Batteries | HP Notebook Power Bank | N9F71AA |
| | HP SN03XL Rechargeable Battery (820 G3) | T7B33AA |
| | HP CS03XL Rechargeable Battery (840, 850 G3) | T7B32AA |
| Cases | HP Essential Top Load Case (up to 15.6") | H2W17AA |
| | HP Business Backpack (up to 17.3") | H5M90AA |
| | HP Business Case (up to 15.6") | H5M92AA |
| Docking | HP 3005pr USB 3.0 Port Replicator | H1L08AA |
| | HP UltraSlim Docking Station | D9Y32AA |
| | HP Display and Notebook Stand II | E8G00AA |
| | HP Adjustable Dual Display Stand | AW664AA |
| | HP USB-C Travel Dock | T0K29AA |
| | HP USB Travel Dock | T0K30AA |
| Input/Output Devices | HP 2.4 GHz Keyboard and Mouse | G1K29AA |
| | HP Slim Wireless Keyboard and Mouse | T6L04AA |
| | HP Wireless (Link-5) Keyboard | T6U20AA |
| | HP Touch to Pair Mouse | H6E52AA |
| | HP Comfort Grip Wireless Mouse | H2L63AA |
| | HP USB Travel Mouse | G1K28AA |
| | HP Slim Bluetooth Mouse | F3J92AA |
| | HP Ultrathin Wireless Mouse SE | L9V77AA |
| | HP UC Wired Headset | K7V17AA |
| | HP UC Speaker Phone | K7V16AA |
| Adapters | HP Conferencing Keyboard | K8P74AA |
| | HP Wireless Display Adapter | J1V25AA |
| | HP USB-C to USB 3.0 Adapter | N2Z63AAA |
| | HP USB-C to RJ45/USB 3/USB-C | N2Z64AA |
| | HP DisplayPort to HDMI 1.4 Adapter | F3W43AA |
| Memory | HP DisplayPort to VGA | F7W97AA |
| | HP 4GB 2133MHz DDR4 Memory | T7B76AA |
| Power Adapters | HP 8GB 2133MHz DDR4 Memory | T7B77AA |
| | HP 65W Slim AC Adapter | H6Y82AA#xxx |
| | HP 45W Smart AC Adapter | H6Y88AA#xxx |
| | HP 65W Smart AC Adapter | H6Y89AA#xxx |
| External Drives | HP 90W Slim Combo AC Adapter w/USB | H6Y84AA#xxx |
| | HP USB External DVDRW Drive | F2B56AA |
| Security | HP Docking Station Cable Lock | AU656AA |



QuickSpecs

HP EliteBook 820 G3 Notebook PC
HP EliteBook 840 G3 Notebook PC
HP EliteBook 850 G3 Notebook PC

Technical Specifications

| | | |
|-----------------|--|---------|
| | HP UltraSlim Keyed Cable Lock | H4D73AA |
| | HP 12.5" Notebook PC Privacy Filter (non-touch screens) | J6E64AA |
| | HP 14.1" Notebook PC Privacy Filter (non-touch screens) | J6E65AA |
| | HP 15.6" Notebook PC Privacy Filter (non-touch screens) | J7H71AA |
| Displays | HP EliteDisplay E240 23.8-inch Monitor | M1N99AA |
| | HP EliteDisplay E272Q 27-inch QHD Monitor | M1P04AA |
| | HP EliteDisplay E240c 23.8-inch Video Conferencing Monitor | M1P00AA |
| | HP EliteDisplay S140u 14-inch USB Portable Monitor | G8R65AA |

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