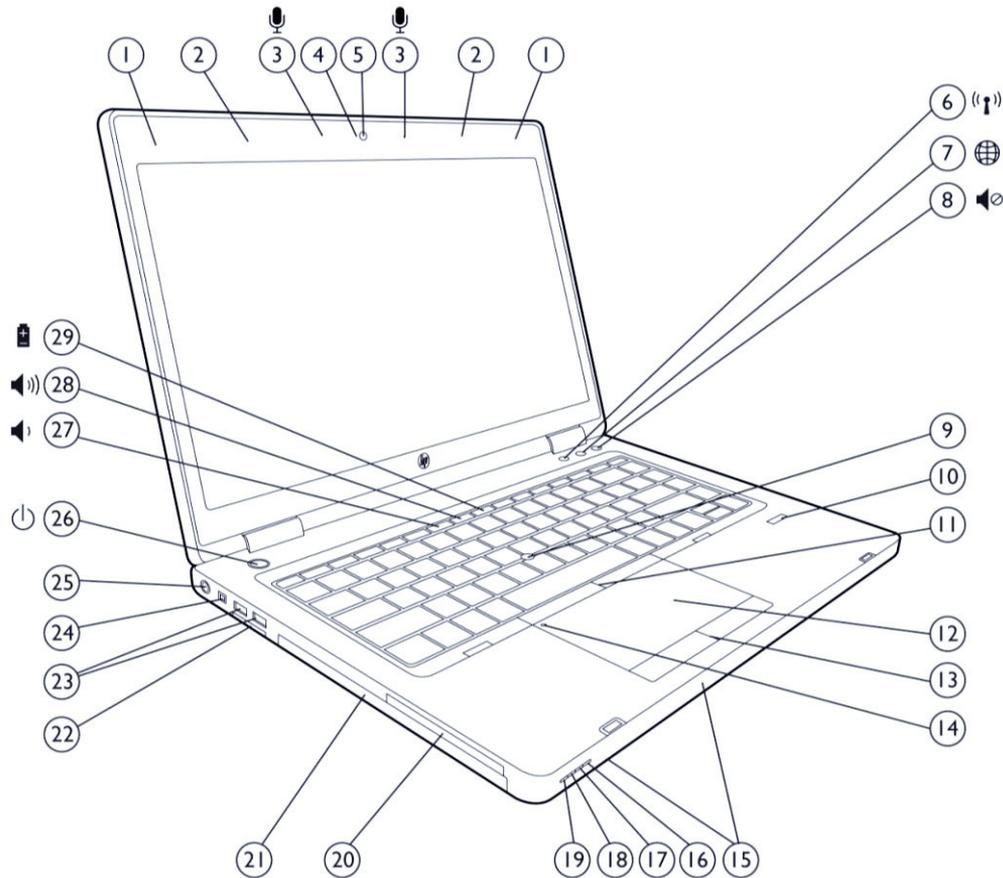


Overview

HP ProBook 6465b Notebook PC

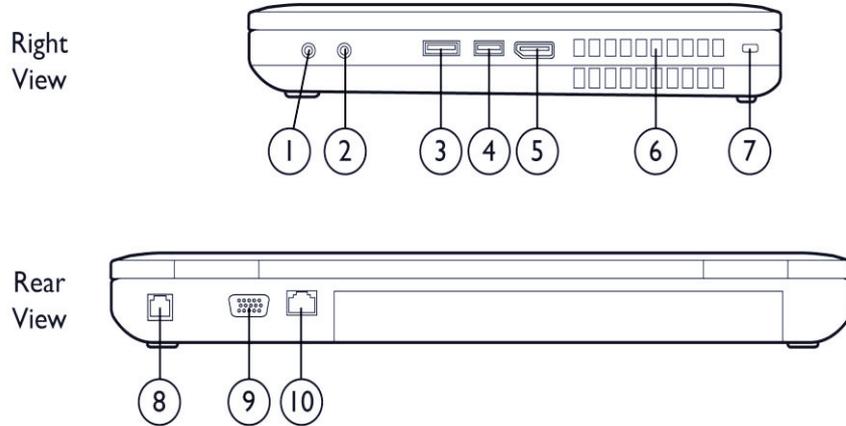


- | | |
|--|---|
| 1. WLAN antennas | 16. Hard drive activity/HP 3D DriveGuard LED indicator |
| 2. WWAN antennas (select models) | 17. Battery charging LED indicator |
| 3. Dual-microphone array* | 18. Power/standby LED indicator |
| 4. Webcam LED indicator (with optional webcam) | 19. Wireless on/off LED indicator |
| 5. Optional HD webcam | 20. ExpressCard/54 slot or optional Smart Card Reader |
| 6. Wireless on/off button with LED indicator | 21. Upgrade Bay (optical drive, second hard drive, or weight saver) |
| 7. HP QuickWeb button with LED indicator | 22. Secure Digital/MMC slot |
| 8. Volume mute button with LED indicator | 23. (2) USB 2.0 ports |
| 9. Optional pointstick | 24. 1394a port |
| 10. Optional HP Fingerprint Sensor | 25. Power connector |
| 11. Pointstick pick buttons (with optional pointstick) | 26. Power button with LED indicator |
| 12. Touchpad | 27. Volume down function key <F6> |
| 13. Touchpad pick buttons | 28. Volume up function key <F7> |
| 14. Touchpad on/off button with LED indicator | 29. HP Power Assistant function key <F8> |
| 15. Stereo speakers | |

* Models without optional webcam have single integrated microphone on left side of display panel.

Overview

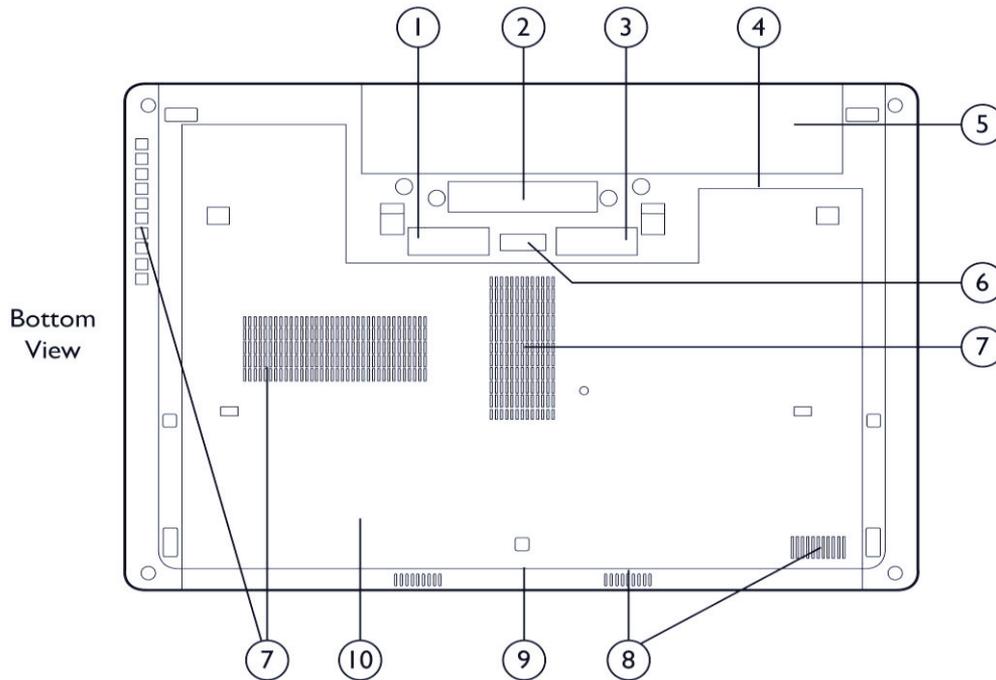
HP ProBook 6465b Notebook PC



- | | |
|------------------------------|-----------------------------------|
| 1. Stereo headphone/line out | 6. Vents |
| 2. Stereo microphone/line in | 7. Security lock slot |
| 3. eSATA/USB 2.0 combo port | 8. RJ-11/modem port |
| 4. (1) USB 2.0 port | 9. VGA/external monitor connector |
| 5. DisplayPort | 10. RJ-45/Ethernet port |

Overview

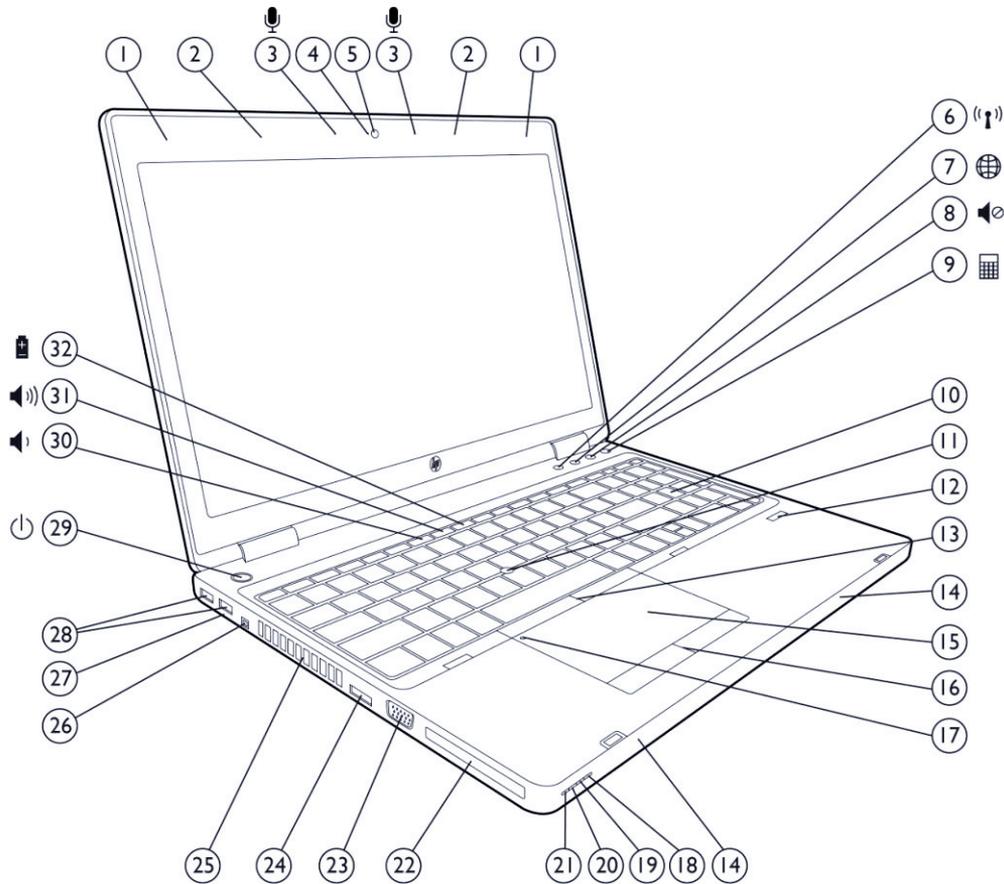
HP ProBook 6465b Notebook PC



- | | |
|--------------------------------------|--|
| 1. Battery release latch | 7. Vents |
| 2. Docking connector | 8. Speakers |
| 3. Bottom cover release latch | 9. Bluetooth module compartment |
| 4. SIM slot for WWAN (select models) | 10. Hard drive, memory, and wireless compartments under bottom cover |
| 5. Battery bay | |
| 6. Secondary battery connector | |

Overview

HP ProBook 6565b Notebook PC

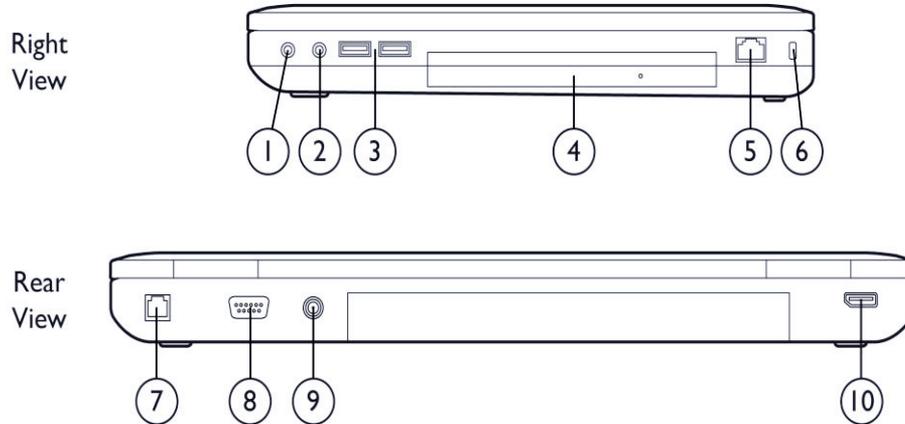


- | | |
|--|---|
| <ul style="list-style-type: none"> 1. WLAN antennas 2. WWAN antennas (select models) 3. Dual-microphone array* 4. Webcam LED indicator (with optional webcam) 5. Optional HD webcam 6. Wireless on/off button with LED indicator 7. HP QuickWeb button with LED indicator 8. Volume mute button with LED indicator 9. Calculator button with LED indicator 10. Numeric keypad 11. Optional pointstick 12. Optional HP Fingerprint Sensor 13. Pointstick pick buttons (with optional pointstick) 14. Stereo speakers 15. Touchpad 16. Touchpad pick buttons | <ul style="list-style-type: none"> 17. TouchPad on/off light 18. Hard drive activity/HP 3D DriveGuard LED indicator 19. Battery charging LED indicator 20. Power/standby LED indicator 21. Wireless on/off LED indicator 22. ExpressCard/54 slot or optional Smart Card Reader 23. VGA/external monitor connector 24. eSATA/USB 2.0 combo port 25. Vent 26. 1394a port 27. Secure Digital/MMC slot 28. (2) USB 2.0 ports 29. Power button with LED indicator 30. Volume down function key <FN 6> 31. Volume up function key <FN 7> 32. HP Power Assistant function key <FN 8> |
|--|---|

* Models without optional webcam have single integrated microphone on left side of display panel.

Overview

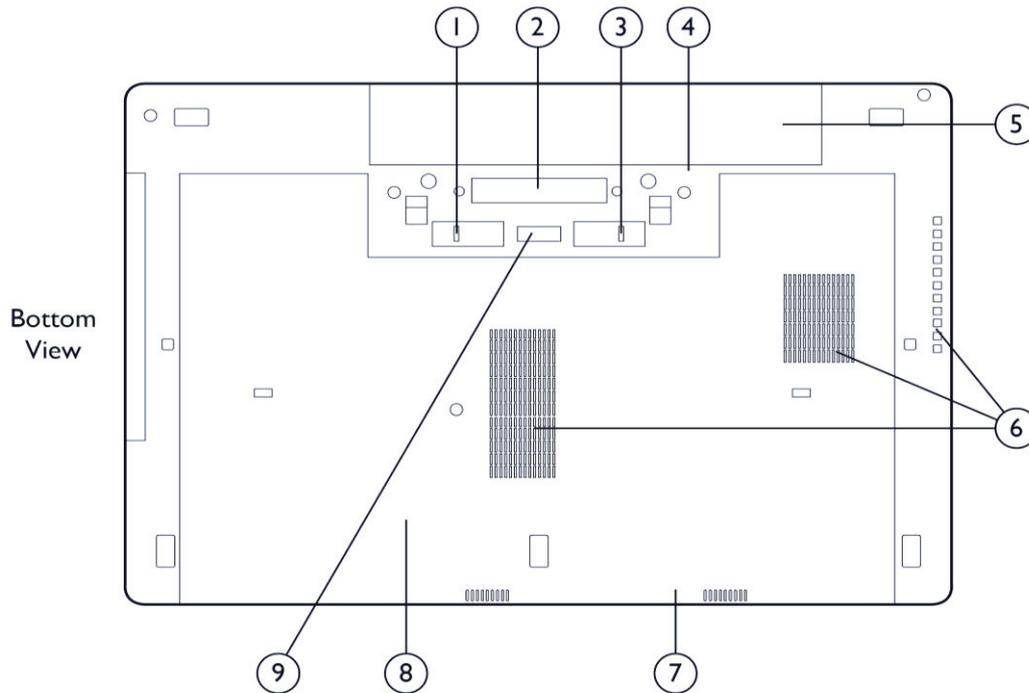
HP ProBook 6565b Notebook PC



- | | |
|---|-----------------------|
| 1. Stereo headphone/line out | 6. Security lock slot |
| 2. Stereo microphone/line in | 7. RJ-11/modem port |
| 3. (2) USB 2.0 ports | 8. Serial port |
| 4. Upgrade Bay (optical drive or second hard drive or weight saver) | 9. Power connector |
| 5. RJ-45/Ethernet port | 10. DisplayPort |

Overview

HP ProBook 6565b Notebook PC



- 1. Battery release latch
- 2. Docking connector
- 3. Bottom cover release latch
- 4. SIM slot for WWAN (select models)
- 5. Battery bay
- 6. Vents
- 7. Bluetooth module compartment
- 8. Hard drive, memory, and wireless compartments under bottom cover
- 9. Secondary battery connector

Overview

At A Glance

- Genuine Windows 7 versions, SUSE Linux Enterprise Desktop 11, or FreeDOS
- All new design with bead-blast aluminum display enclosure, magnesium support structure, wear-resistant tungsten-colored HP DuraFinish, HP DisplaySafe frame, precision latches, and brushed aluminum palm rest
- Widescreen LED-backlit display
HP ProBook 6465b: 14.0-inch diagonal HD or HD+
HP ProBook 6565b: 15.6-inch diagonal HD or HD+ WVA
- Touchpad and optional pointstick
- Choice of standard ExpressCard slot or optional integrated Smart Card Reader for strong security authentication
- Optional HP Fingerprint Sensor for the additional security and convenience of single sign-on for Windows and websites
- Optional HD webcam comes with dual-microphone array
- Choice of primary battery to optimize run time or weight: 9-cell (100 WHr), 6-cell (55 WHr), or 6-cell HP Long Life 3-year (55 Whr)
- Combine primary battery with optional secondary battery options
- Easily hot dock with one of the optional HP docking stations
- DisplayPort for external high-resolution graphics support
- Accelerated Processing Unit and graphics powered by VISION Technology from AMD
- SRS Premium Sound optimized for high-fidelity audio
- Security features including HP ProtectTools, with central management across HP and non-HP client PCs
- HP Power Assistant allows you to conserve power, stretch battery run time, accurately monitor your reported power need, and report workforce power consumption.
- HP QuickWeb for convenient online access without the standard boot-up time
- HP DayStarter for calendar display during startup
- Flexible wireless connectivity options:
 - Optional integrated HP hs2340 HSPA+ Mobile Broadband Module connects to both HSPA and HSPA+ (UMTS) networks
 - Optional integrated HP un2430 EV-DO/HSPA Mobile Broadband Module (Gobi 3000)
 - Integrated Broadcom 802.11 a/b/g/n or b/g/n wireless LAN module
 - Bluetooth® v2.1+EDR
- Upgrade Bay for optical drive, optional second hard drive, or weight saver
- Choice of 7200 rpm user-removable hard drive up to 500 GB with HP 3D DriveGuard protection, or 128 GB Solid State Drive
- BFR/PVC-free, * ENERGY STAR® qualified models, ** EPEAT® Gold registered in the U.S. (EPEAT status varies by country—please see www.epeat.net.)

* Meeting the industry definition of 'BFR/PVC-free' per the iNEMI Position Statement on "Low Halogen" Electronics. Plastic parts incorporated into the chassis generally contain < 1000 ppm (0.1%) of bromine or chlorine. Printed circuit board and substrate laminates generally contain < 1500 ppm (0.15%) of total bromine and chlorine. Service parts after purchase may not be BFR/PVC-free. External accessories, including power supplies, power cords, and peripherals are not BFR/PVC-free.

**Microsoft® Windows® is required for ENERGY STAR qualification.



Standard Features (availability may vary by country)

Accelerated Processing Unit (APU)

VISION Technology from AMD

AMD Quad-Core A8-3510MX with AMD Radeon™ HD 6620G Graphics (2.5 GHz/1.8 GHz, 4 MB L2 cache)

AMD Quad-Core A6-3410MX with AMD Radeon HD 6520G Graphics (2.3 GHz/1.6 GHz, 4 MB L2 cache)

AMD Dual-Core A4-3310MX with AMD Radeon HD 6480G Graphics (2.5 GHz/2.1 GHz, 2 MB L2 cache)

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

Operating System

Preinstalled

Genuine Windows 7 Professional 32*
Genuine Windows 7 Professional 64*
Genuine Windows 7 Home Premium 64*
Genuine Windows 7 Home Basic 32* (select countries)
SUSE Linux Enterprise Desktop 11
FreeDOS

Supported

Genuine Windows 7 Enterprise 32*
Genuine Windows 7 Enterprise 64*
Genuine Windows 7 Ultimate 32*
Genuine Windows 7 Ultimate 64*
Genuine Windows Vista Enterprise 32**
Genuine Windows Vista Enterprise 64**
Genuine Windows Vista Business 32**
Genuine Windows Vista Business 64**
Genuine Windows XP Professional 32

Certified

SUSE Linux Enterprise Desktop 11

* System may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See www.microsoft.com/windows/windows-7/ for details.

** Certain Windows Vista product features require advanced or additional hardware. See: www.microsoft.com/windowsvista/getready/hardwarereqs.msp and www.microsoft.com/windowsvista/getready/capable.msp for details. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: www.windowsvista.com/upgradeadvisor.

Fusion Controller Hub (Chipset)

AMD A60M FCH

Graphics included with Accelerated Processing Unit (APU)

AMD Radeon HD 6520G Graphics (with AMD Quad-Core A6-3410MX APU)
AMD Radeon HD 6480G Graphics (with AMD Dual-Core A4-3310MX APU)
AMD Radeon HD 6380G Graphics (with AMD Dual-Core E2-3000M APU)

Display

Internal

HP ProBook 6465b:



Standard Features (availability may vary by country)

14.0-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution)
14.0-inch diagonal LED-backlit HD+ anti-glare (1600 x 900 resolution)

HP ProBook 6565b:

15.6-inch diagonal LED-backlit HD anti-glare (1366 x 768 resolution)
15.6-inch diagonal LED-backlit HD+ WVA anti-glare (1600 x 900 resolution)

HP Privacy Filter support

External

Up to 32-bit per pixel color depth

DisplayPort supports resolutions up to 2560 x 1600, 30-bit color depth at 60 Hz, and full HD (1920 x 1080) monitors, 24-bit color depth at 120 Hz

VGA port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz

DVI-D (single link) video signal available through DVI port in optional HP Docking Station (sold separately)

supports resolutions up to 1600 x 1200 at both full and reduced blanking, and 1920 x 1200 at reduced blanking

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

Memory

Standard

DDR3 PC3-10600 SDRAM (1333 MHz)
Two SODIMM slots supporting dual-channel memory
2 GB, 4 GB, and 8 GB SODIMMs

Maximum

Upgradeable to 16 GB with 8 GB SODIMMs in slots 1 and 2

Dual-channel

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

NOTE: 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. Full availability of 4 GB or more of memory requires a Windows 64-bit operating system or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Communications

Integrated Realtek 10/100/1000* NIC

56K V.92 modem**

* 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.

** Designed for downloads from 56K modem compliant sources. Maximum achievable download transmission rates currently do not reach 56 KB/s, and will vary with line conditions. Modem availability is subject to country regulatory approval.

Wireless Devices

Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Broadband Wireless (WWAN) requires a



Standard Features (availability may vary by country)

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.

Mobile Broadband options

Two 850/900/1575/1700/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies.

NOTE: Separately purchased mobile network operator service is required.

HP hs2340 HSPA+ Mobile Broadband Module

Integrated mobile broadband module that provides connectivity to both HSPA and HSPA+ (UMTS) networks. It also provides standalone, Internet and network assisted GPS functionality for various mapping applications and security applications such as Computrace Pro for HP ProtectTools.

HP un2430 EV-DO/HSPA Mobile Broadband Module

Integrated mobile broadband module with Gobi global mobile Internet technology that provides connectivity to both CDMA (EVDO) and UMTS (HSPA) networks. It also provides GPS functionality for various mapping applications and security applications such as Computrace LoJack Pro Premium for HP ProtectTools.

All 802.11 integrated wireless LAN options

Wi-Fi Certified*

Cisco Compatible Extensions support

Wired Equivalent Privacy (WEP) support up to 128-bit keys

Wi-Fi Protected Access (WPA) and WPA2 support

802.1x authentication support, including EAP-TLS, EAP-TTLS,

PEAP-GTC, PEAP-MSCHAPv2, and LEAP

Advanced Encryption Standard (AES) support

Dual antennas integrated in the display enclosure

Broadcom 43224AGN 802.11a/b/g/n WiFi Adapter

Integrated support for 802.11 a, b, g, and n

Up to 300 mbps data rate

Broadcom 4313GN 802.11b/g/n WiFi Adapter

Integrated support for 802.11 b, g, and n

Up to 72 mbps data rate

HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology

Bluetooth Specification v2.1+EDR compliant

Works with a wide range of Bluetooth devices

Keyboard

The keyboard with bottom-case drain is designed using a thin layer of Mylar film under the keyboard and a drain system that funnels fluid through a hole in the bottom of the notebook. This minimizes the risk of damage to sensitive components underneath. The 101/102-key compatible



Standard Features (availability may vary by country)

keyboard features a full-pitch key layout with desktop keyboard features, such as the isolated inverted-T cursor control keys, editing keys, both left and right control and alt keys, 12 function keys, and 19.05 x 19.05 mm key pitch (center-to-center spacing). U.S. and International key layouts are available. Other features include hot keys for instant access to power conservation and brightness. The HP ProBook 6565b includes a separate numeric keypad.

Launch Buttons and Function Keys	Separate launch buttons provide easy access to the following features: wireless on/off, HP QuickWeb, and volume mute. The HP ProBook 6565b also features a calculator launch button. Function keys provide control of the following features: standby mode, external display, volume down, volume up, HP Power Assistant, display brightness down, and display brightness up.								
Pointing device	Touchpad with on/off button, two-way scroll, gestures, two pick buttons Optional pointstick comes with two additional pointstick buttons								
Internal Storage	<table><tr><td>Hard drives</td><td>250/320/500 GB 7200 rpm SMART SATA II 320 GB 7200 rpm SMART SATA II Self Encrypting Drive</td></tr><tr><td>NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.</td><td></td></tr><tr><td>HP 3D DriveGuard (Windows only)</td><td>The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.</td></tr><tr><td>Solid State Drive</td><td>128 GB</td></tr></table>	Hard drives	250/320/500 GB 7200 rpm SMART SATA II 320 GB 7200 rpm SMART SATA II Self Encrypting Drive	NOTE: These hard drives are customer removable and will withstand multiple insertion/removal cycles. Up to 10 GB is reserved for the system recovery software.		HP 3D DriveGuard (Windows only)	The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive. Uses three-axis digital motion detection with intelligent sensitivity to help protect the hard drive during normal use from shock and vibration. The digital accelerometer temporarily halts all data transfer and parks the hard drive when abrupt motion is detected.	Solid State Drive	128 GB
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Solid State Drive	128 GB								
Upgrade Bay	<table><tr><td>Fixed 12.7 mm SATA optical drive</td><td>Blu-ray ROM DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL Drive DVD-ROM Drive</td></tr><tr><td>Second hard drive</td><td>500 GB 7200 rpm SMART SATA II Hard Drive</td></tr><tr><td>Weight saver</td><td></td></tr></table>	Fixed 12.7 mm SATA optical drive	Blu-ray ROM DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL Drive DVD-ROM Drive	Second hard drive	500 GB 7200 rpm SMART SATA II Hard Drive	Weight saver			
Fixed 12.7 mm SATA optical drive	Blu-ray ROM DVD+/-RW SuperMulti DL Drive DVD+/-RW SuperMulti DL Drive DVD-ROM Drive								
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Weight saver									
Expansion card slots	<table><tr><td>ExpressCard/54 slot</td><td>Supports ExpressCard/54 and ExpressCard/34 or</td></tr><tr><td>Optional Integrated Smart Card Reader (replaces ExpressCard/54 slot)</td><td>Compatible with ISO 7816-compliant Smart Cards PC/SC interface support</td></tr><tr><td>Secure Digital/MMC slot</td><td>Supports SD (Secure Digital), SDHC, SDXC, MMC (MultiMedia Card), and MMC+</td></tr></table>	ExpressCard/54 slot	Supports ExpressCard/54 and ExpressCard/34 or	Optional Integrated Smart Card Reader (replaces ExpressCard/54 slot)	Compatible with ISO 7816-compliant Smart Cards PC/SC interface support	Secure Digital/MMC slot	Supports SD (Secure Digital), SDHC, SDXC, MMC (MultiMedia Card), and MMC+		
ExpressCard/54 slot	Supports ExpressCard/54 and ExpressCard/34 or								
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Secure Digital/MMC slot	Supports SD (Secure Digital), SDHC, SDXC, MMC (MultiMedia Card), and MMC+								
Interfaces	<table><tr><td>External monitor</td><td>Two—(1) DisplayPort, (1) VGA</td></tr><tr><td>1394a</td><td>One</td></tr><tr><td>Stereo microphone in</td><td>One</td></tr></table>	External monitor	Two—(1) DisplayPort, (1) VGA	1394a	One	Stereo microphone in	One		
External monitor	Two—(1) DisplayPort, (1) VGA								
1394a	One								
Stereo microphone in	One								



Standard Features (availability may vary by country)

Stereo headphone/line out	One
Power connector	One
RJ-11/modem	One
RJ-45/Ethernet	One
USB 2.0	Three on HP 6465b; four on HP 6565b
eSATA/USB 2.0 combo	One
Serial port	One (HP ProBook 6565b only)
Docking connector	One
Secondary battery connector	One

Audio/Visual

SRS Premium Sound™

Integrated stereo speakers

Integrated microphone (dual-microphone array when equipped with optional webcam)

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

Stereo headphone/line out

Stereo microphone/line in

Optional HD webcam

- HD format (widescreen)
- Supports web casting and still-image capture
- High-quality fixed-focus lens
- M-JPEG compression supports higher frame rates for video capture and web casting
- Improved low-light sensitivity
- Improved dynamic range

Software

Preinstalled software with Windows operating system

HP Recovery Manager

HP Support Assistant

HP ProtectTools Security Manager

HP ProtectTools for Central Management

HP Hotkey Support

HP QuickWeb

HP Power Assistant

HP Connection Manager

HP DayStarter

Microsoft Office 2010 preloaded (purchase of a Product Key required to activate a full Office 2010 suite)*

Norton Internet Security 2011**

PDF Complete Special Edition***

Intervideo WinDVD - DVD Player (select models)

Roxio Secure Burn (select models)

Roxio MyDVD Business 2010 (select models)



Standard Features (availability may vary by country)

HP Webcam Software (select models)
Skype

Additional software available from the web HP SoftPaq Download Manager

* Microsoft Office 2010 Preloaded includes reduced functionality versions of Word and Excel. Purchase of Product Key required to activate full Office 2010 suite available at participating resellers/retailers and www.office.com.

** Norton Internet Security 2011 includes 60 days of complimentary live updates; subscription required for live updates thereafter. Internet access required to receive updates.

*** PDF Complete Special Edition 60-day trial; purchase license afterwards for full functionality.

HP Recovery Manager

Models shipped with Windows 7 include HP Recovery Manager. HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 20 GB of the hard drive is reserved for the system recovery software.

Security

Standard Features

HP ProtectTools Security Manager (standard modules include)

- Credential Manager
- Computrace* Pro
- Device Access Manager
- Drive Encryption
- Face Recognition (webcam configurations only)
- File Sanitizer
- Privacy Manager
- Embedded Security

Enhanced Pre-Boot Security (Multiuser/Multifactor)

HP SpareKey

One-Step Logon

TPM 1.2 Embedded Security Chip**

HP Disk Sanitizer

Security lock slot

Optional Features

Smart Card Reader Compatible with ISO 7816 compliant Smart Cards
(replaces ExpressCard/54 slot) PC/SC interface support

HP Fingerprint Sensor Enhanced sensor scans the fingerprint to uniquely identify and authenticate a person.

HP Privacy Filter Narrows viewing area so that screen data is visible only to persons directly in front of the monitor.

Computrace* Pro for HP ProtectTools with GPS Tracking Subscription based security solution providing the ability to track, initiate physical recovery, conduct asset management, and perform remote data delete by utilizing GPS technology. GPS functionality requires



Standard Features (availability may vary by country)

HP Mobile Broadband Module.

* The Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription with terms ranging from one to five years.

** TPM module disabled where use is restricted by law, i.e., Russia and China.

For more information on HP security solutions refer to: www.hp.com/products/security.

HP ProtectTools Security Manager with Central Management

HP ProtectTools Security Manager is the security platform for business notebooks and desktops. The HP ProtectTools Security Manager is an extensible client security console that delivers enhanced security capabilities through add-on software modules. The following modules are available on the hard drive (also downloadable from the web) and can be configured in Software Setup:

- Credential Manager for HP ProtectTools
- Device Access Manager for HP ProtectTools
- Drive Encryption for HP ProtectTools
- Face Recognition with Bluetooth Verification
- File Sanitizer for HP ProtectTools
- Privacy Manager for HP ProtectTools (Chat & Sign)
- Embedded Security for HP ProtectTools
- Computrace Pro for HP ProtectTools

HP ProtectTools is now capable of being centrally managed from a single control point. HP ProtectTools is management ready out of the box, in partnership with Digital Persona, and provides features that customers expect from a centrally managed security solution, such as user provisioning, credential reset, and system and network revocation. Central Management is available in two feature levels:

- Digital Persona Pro Enterprise: Designed for environments with Active Directory. For large businesses, as well as smaller businesses utilizing an active directory based infrastructure. Gives IT Managers the ability to create role based security policies, provision users, and create login policies based on passwords, biometrics or smart cards. Management features also include remote credential recovery in case the user forgets the password, loses the smart card, or cannot use the fingerprint reader for any reason. In addition, advanced auditing capabilities are also built in.
- Digital Persona Workgroup Manager: Designed for environments without Active Directory. This option can be used by smaller businesses as well as workgroups within large organizations. Workgroup Manager offers features similar to Digital Persona Pro Enterprise, but without active directory integration. Workgroup activation is built into HP ProtectTools, and activation of up to 5 seats is completely free.

Power Supply

External 90-watt Smart AC adapter

Power cord included is 6 foot (1.8 meter).

Total length including external AC adapter is 12 feet (3.66 meter).

HP Fast Charge*

*HP Fast Charge recharges your battery up to 90% within 90 minutes when the system is off.

HP Fast Charge does not apply to the 9-cell primary battery, HP ST09 Extended Life Notebook Battery, or HP BB09 Ultra Extended Life Notebook Battery.



Standard Features (availability may vary by country)

Battery	Primary battery	HP 9-cell (100 WHr) Li-Ion battery HP 6-cell (55 WHr) Li-Ion battery HP Long Life 6-cell (55 WHr) battery (3-year warranty)
	Optional HP ST09 Extended Life Notebook Battery	9-cell (73 WHr) Li-Ion battery
	Optional HP BB09 Ultra Extended Life Notebook Battery	9-cell (100 WHr) Li-Ion battery

Battery Life	HP ProBook 6465b	
	9 cell (100 WHr)	Up to TBD hours and TBD minutes
	with optional HP ST09 Extended Life Notebook Battery	Up to TBD hours and TBD minutes
	with optional HP BB09 Ultra Extended Life Notebook Battery	Up to TBD hours and TBD minutes
	6 cell (55 WHr)	Up to TBD hours and TBD minutes
	HP ProBook 6565b	
	9 cell (100 WHr)	Up to TBD hours and TBD minutes
	with optional HP ST09 Extended Life Notebook Battery	Up to TBD hours and TBD minutes
	with optional HP BB09 Ultra Extended Life Notebook Battery	Up to TBD hours and TBD minutes
	6 cell (55 WHr)	Up to TBD hours and TBD minutes

NOTE: Battery life will vary depending on the 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 MobileMark07 battery benchmark www.bapco.com/products/mobilemark2007 for additional details.

System Standby Time	Up to 1 week
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Power Conservation	AMD PowerPlay technology Hibernation Standby ACPI compliance
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Standard Features (availability may vary by country)

Docking and Stands HP 90W Docking Station
HP 120W Advanced Docking Station
HP USB 2.0 Docking Station
HP Essential USB 2.0 Port Replicator
HP LAN and USB Travel Hub

NOTE: Some HP Docking stations may not support every feature of some HP Notebook models. Please refer to the individual docking station documentation for specific information about supported features.

Service and Support HP Services offers limited 3-year and 1-year warranty options depending on country. On-site service and warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: www.hp.com/services/carepack.

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.
<http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>.



Options (availability may vary by country)

Memory	HP 2 GB (DDR3 1333 MHz) SODIMM	AT912AA#xxx
	HP 4 GB (DDR3 1333 MHz) SODIMM	AT913AA#xxx
Storage	HP 250 GB Pocket Media Drive	FE477AA
	HP Mobile USB DVD	XQ543AA
	HP Mobile USB DVDRW	BU516AA
	HP Upgrade Bay SATA 500 GB 7200 rpm Hard Drive	AU097AA#xxx
	HP Primary SATA 500 GB 7200 rpm Hard Drive	AU098AA#xxx
Expansion Solutions	HP 90W Docking Station	VB041AA#xxx
	HP 120W Advanced Docking Station	NZ222AA#xxx
	HP USB 2.0 Docking Station	AY052AA#xxx
	HP Essential USB 2.0 Port Replicator	AQ731AA#xxx
	HP LAN and USB Travel Hub	BM868AA#xxx
	HP Display & Notebook Stand	AW662AA#xxx
	HP Adjustable Display Stand	AW663AA#xxx
	HP Adjustable Dual Display Stand	AW664AA#xxx
Power	HP ST09 Extended Life Notebook Battery	QK639AA
	HP BB09 Ultra Extended Life Notebook Battery	QK640AA
	HP CC06XL Long Life Notebook Battery	QK642AA
	HP CC09 Notebook Battery	QK643AA
	HP 90W Smart AC Adapter	ED495AA#xxx
	HP 90W Smart AC/Auto/Air Combo Adapter	AJ652AA#xxx
	HP 90W Smart Auto/Truck Adapter	ED493AA
	HP 90W Slim Adapter	BT796AA#xxx
	HP 90W Slim Adapter	BT796AA#xxx
Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Business Nylon Case	BP848AA
	HP Professional Slim Top Load Case	AY530AA
Security	HP Notebook Combo Lock	AY475AA#xxx
	HP Keyed Cable Lock	BV411AA
	HP 14.0-inch Display Privacy Filter	AU100AA#xxx
	HP 15.6-inch Display Privacy Filter	AU103AA#xxx
Input/Output Devices	HP USB Optical Travel Mouse	RH304AA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP USB Keyboard & Mouse Bundle	RC465AA#xxx
	HP Notebook Projection Companion	AX325AA#xxx



Technical Specifications

System Unit	Dimensions (HxWxD)	HP ProBook 6465b: 1.34 in (at front) x 13.31 in x 9.11 in 34.0 mm (at front) x 338 mm x 231.3 mm
		HP ProBook 6565b: 1.35 in (at front) x 14.72 in x 9.86 in 34.3 mm (at front) x 374 mm x 250.5 mm
Weight		HP ProBook 6465b: Starting at 4.46 lb (2.02 kg) with SSD, weight saver (no optical drive) Starting at 4.85 lb (2.20 kg) with hard drive, optical drive
		HP ProBook 6565b: Starting at 5.50 lb (2.50 kg) with hard drive, weight saver (no optical drive) Starting at 5.76 lb (2.62 kg) with hard drive, optical drive
NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes WLAN.		
Standalone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	TBD W
	Max Operating Power	< 90 W
Temperature	Operating*	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
	Non-operating	-4° to 140° F (-20° to 60° C)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	125 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Select models*
	EPEAT	Gold target**
	ICES	Yes



Technical Specifications

Australia/NZ A-Tick Compliance	Yes
CCC	Yes
Japan VCCI Compliance	Yes
KCC	Yes
BSMI	Yes
CE Marking Compliance	Yes

* Microsoft Windows required for ENERGY STAR qualification. Configurations of the HP ProBook 6465b and HP ProBook 6565b with a Microsoft OS that are ENERGY STAR qualified and are identified as HP ProBook 6465b ENERGY STAR and HP ProBook 6565b ENERGY STAR on HP websites and on www.energystar.gov.

** EPEAT Registered Gold in U.S. EPEAT registration varies by country. See www.epeat.net for registration status by country.

NOTE: For accessibility information on HP products, please visit: www.hp.com/accessibility.

Audio **SRS Premium Sound**

Hardware	Implementation	IDT 92HD87 High Definition CODEC
	Touch-Sensitive Volume Controls	Volume up, volume down, and mute
	Full Duplex	Yes
	Microphone In	Stereo
	Headphone/Line Out	Stereo
	Integrated Microphone	Yes, dual digital microphone array when equipped with optional webcam

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–48 KHz
	DAC	16, 20, or 24-bit
	ADC	16 or 20-bit

Integrated Stereo Speakers	Power Rating	2 Watts
	Impedance	4 Ohms

Power

HP 90W Smart AC	Dimensions	5.00 x 1.97 x 1.1 in (12.7 x 5.0 x 2.9 cm)
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QuickSpecs

HP ProBook 6465b Notebook PC HP ProBook 6565b Notebook PC

Technical Specifications

Adapter	Weight	0.82 lb (370 g)	
		Input	100 to 240 VAC
			Input efficiency 87% min at 115 VAC
	Input frequency range 47 to 63 Hz		
	Output	Input AC current 1.5 A at 90 VAC, 0.75 A at 180 VAC PFC Version	
		2.4 A at 90 VAC, 1.2 A at 180 VAC NON PFC Version	
		Output power 90W	
		DC output 19.0V	
	Connector	Hold-up time 5 msec at 115 VAC input	
		Output current limit <11A, Overvoltage protection—29V max automatic shutdown	
		3 pin/grounded, mates with interchangeable cords	
	Environmental Design	Operating temperature 32° to 104° F (0° to 40° C)	
Non-operating (storage) temperature -4° to 149° F (-20° to 65° C)			
Altitude 0 to 10,000 ft (0 to 3,048 m)			
Humidity 20% to 80%			
Storage Humidity 10% to 90%			
EMI and Safety Certifications	CE Mark—full compliance with LVD and EMC directives; Worldwide safety standards—IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals—C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; MTBF—over 200,000 hours at 25°C ambient condition.		

NOTE: Unless otherwise noted, temperature limits listed in the following component specifications relate to the internal temperatures of these components and not to the environment in which the PC is operating.

Optional HP BB09 Ultra Extended Life Notebook Battery	Dimensions (H x W x L)	1.2 x 5.9 x 11.4 in (3 x 15 x 29 cm)	
	Weight (max)	1.5 lb, (0.682 kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	11.25V
		Amp-hour capacity	8.85 Ah
		Watt-hour capacity	100 Wh
	Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
		Operating (discharging)	14° to 122° F (-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 to 5 hours
System ON		4 to 7 hours	
Fuel Gauge LED	Yes		



Technical Specifications

Warranty	1 year
Optional Travel Battery Available	NA

Optional HP ST09 Extended Life Notebook Battery

Dimensions (H x W x L)	1.2 x 6.1 x 12 in (3 x 15.5 x 30.5 cm)	
Weight (max)	1.2 lb (0.550 kg)	
Cells/Type	Lithium-Ion Polymer	
Energy	Voltage	11.1V
	Amp-hour capacity	6.6 Ah
	Watt-hour capacity	73 Wh
Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
	Operating (discharging)	14° to 122° F (-10° to 50° C)
	Non-operating	-4° to 122° F (-20° to 50° C)
Battery Recharge Time	System in OFF or Standby Mode	3.5 to 5 hours
	System ON	4 to 7 hours
Fuel Gauge LED	Yes	
Warranty	1 year	
Optional Travel Battery Available	NA	

Optional HP 6-cell (55 WHr) Long Life Battery

Dimensions (H x W x L)	0.8 x 1.8 x 8.0in (2.0 x 4.7 x 20.5 cm)	
Weight (max)	0.72 lb (0.323 kg)	
Cells/Type	Lithium-Ion	
Energy	Voltage	10.8V
	Amp-hour capacity	5.1 Ah
	Watt-hour capacity	55 Wh
Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
	Operating (discharging)	14° to 122° F (-10° to 50° C)
	Non-operating	-4° to 122° F (-20° to 50° C)
Battery Re-Charge Time	System in OFF or Standby Mode	2.5 hours
	System ON	3 to 5 hours
Fuel Gauge LED	No	
Warranty	3 years	
Optional Travel Battery Available	Yes	

HP 9-cell (100 WHr)

Dimensions (H x W x L)	0.8 x 2.4 x 8.1in (2 x 6.6 x 20.5 cm)
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Technical Specifications

Lithium-Ion Primary battery	Weight (max)	1.1 lb (0.488 kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	11.25V
		Amp-hour capacity	8.85 Ah
		Watt-hour capacity	100 Wh
	Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
		Operating (discharging)	14° to 122° F (-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	3.5 to 5 hours
		System ON	4 to 7 hours
Fuel Gauge LED	No		
Warranty	1 year		
Optional Travel Battery Available	Yes		

HP 6-cell (55 WHr) Lithium-Ion Primary battery	Dimensions (H x W x L)	0.8 x 1.8 x 8.0in (2.0 x 4.7 x 20.5 cm)	
	Weight (max)	0.70 lb, (0.313 kg)	
	Cells/Type	Lithium-Ion	
	Energy	Voltage	10.8V
		Amp-hour capacity	5.1 Ah
		Watt-hour capacity	55 Wh
	Temperature	Operating (charging)	32° to 113° F (0° to 45° C)
		Operating (discharging)	14° to 122° F (-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
	Battery Re-Charge Time	System in OFF or Standby Mode	2.5 hours
System ON		3 to 5 hours	
Fuel Gauge LED	No		
Warranty	1 year		
Optional Travel Battery Available	Yes		

Displays

14.0-inch LED HD (1366 x 768) anti-glare	Active Area (W x H)	12.74 x 7.56 in (32.4 x 19.2 cm)
	Diagonal Size	14.0 in (35.6cm)
	Surface Treatment	Anti-glare
	Contrast Ratio	300:1 (typical)
	Refresh Rate	60 Hz



Technical Specifications

Brightness	200 nit (typical)
Pixel Resolution	Pitch 0.227 mm
	Format 1366 x 768
	Configuration RGB Stripe
Backlight	LED
PPI	112 ppi
Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

14.0-inch LED HD+ (1600 x 900) anti-glare

Dimensions (W x H)	323.5 mm x 192.0 mm (typ)
Diagonal Size	14.0 in (35.6cm)
Surface Treatment	Anti-glare
Contrast Ratio	300 (min)
Refresh Rate	60 Hz
Brightness	200 nits (typ)
Pixel Resolution	Pitch 0.1935mm
	Format 1600 x 900
	Configuration RGB Strip
Backlight	LED
PPI	131 ppi
Viewing Angle	30/30/20/10 (Left/Right/Down/Up) (minimum)

15.6-inch LED HD (1366 x 768) anti-glare

Active Area (W x H)	13.54 x 7.59 in (34.4 x 19.4 cm)
Diagonal Size	15.6 in (39.6cm)
Surface Treatment	Anti-glare
Contrast Ratio	300:1 (typical)
Refresh Rate	60 Hz
Brightness	200 nit (typical)
Pixel Resolution	Pitch 0.252 mm
	Format 1366 x 768
	Configuration RGB Stripe
Backlight	LED
PPI	100 ppi
Viewing Angle	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)

15.6-inch LED HD+ WVA (1600 x 900) anti-glare

Active Area (W x H)	13.54 x 7.59 in (34.4 x 19.4 cm)
Diagonal Size	15.6 in (39.6 cm)
Surface Treatment	Anti-glare



Technical Specifications

Contrast Ratio	300:1 (typical)	
Refresh Rate	60 Hz	
Brightness	200 nit (typical)	
Pixel Resolution	Pitch	0.215 mm
	Format	1600 x 900
	Configuration	RGB Stripe
Backlight	LED	
PPI	118 ppi	
Viewing Angle	±60° Horizontal, ± 50° Vertical (minimum) or ±70° Horizontal, ±60° Vertical (typical)	

Internal Storage

500 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)		
	Capacity	500 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
	Transfer Rate	Synchronous	300 MB/s (Drive Capability)	
		(maximum)		
	Seek Time	Single Track	1.5 ms	
	(typical reads, including settling)	Average	11 ms	
		Maximum	22 ms	
	Rotational Speed	7200 rpm		
	Logical Blocks	976,773,168		
Operating Temperature	32° to 140° F (0° to 60° C) [case temp]			
Features	ATA Security			

320 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115 g)		
	Capacity	320 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
	Transfer Rate	Synchronous	300 MB/s (Drive Capability)	
		(maximum)		
	Seek Time	Single Track	1.5 ms	
	(typical reads, including settling)	Average	11 ms	
		Maximum	22 ms	
	Rotational Speed	7200 rpm		
	Logical Blocks	625,142,448		



QuickSpecs

HP ProBook 6465b Notebook PC HP ProBook 6565b Notebook PC

Technical Specifications

	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
	Features	ATA Security		
250 GB 7200 rpm SATA Hard Drive	Drive Weight	0.25 lbs (115g)		
	Capacity	250 GB		
	Height	0.37 in (9.5 mm)		
	Width	2.75 in (70 mm)		
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
	Transfer Rate	Synchronous (maximum)	300 MB/s (Drive Capability)	
	Seek Time (typical reads, including settling)	Single Track	1.5 ms	
		Average	11 ms	
		Maximum	22 ms	
	Rotational Speed	7200 rpm		
Logical Blocks	488,397,168			
	Operating Temperature	32° to 140° F (0° to 60° C) [case temp]		
	Features	ATA Security		
128 GB 2.5-inch SATA Solid State Drive	Drive Weight	75 Grams		
	Capacity	128 GB		
	Height	0.276 in (7 mm)		
	Width	2.76 in (70 mm)		
	Interface	SATA Gen 2		
	Performance	Maximum Sequential Read	250 MB/s	
		Maximum Sequential Write	140 MB/s	
	Logical Blocks	250,069,680		
	Operating Temperature	32° to 158°F (0° to 70°C) [case temp]		
Features	ATA Security; ATA-7; SATA 2.6; DIPM; TRIM			
Optical Drives				
DVD-ROM Drive	Access Times	Random	< 140 ms CD (typical)	
			< 160 ms DVD (typical)	
	Max Data Transfer Rate	24X CD-ROM		
		8X-DVD		
	Transfer Mode	UDMA Mode 5		
Interface	Gen 1 SATA			
Supported Media	CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I,			



Technical Specifications

(read)	CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM
Supported Media (write)	None
Max Media Capacity (read)	8.5GB
Transport	Tray Loading

DVD+/-RW SuperMulti DL Drive

Access Times	Random	<140ms CD (typical) < 160 ms DVD (typical)
Max Data Transfer Rate	24X CD-ROM 8X DVD 24X CD-R 24X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 6X - DVD+R Dual Layer 6X - DVD-R Dual Layer 5X DVD-RAM	
Transfer Mode	UDMA Mode 5	
Interface	Gen 1 SATA	
Supported Media (read)	CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, DVD+R DL, DVD-R DL	
Max Media Capacity (read)	8.5 GB	
Max Media Capacity (write)	8.5 GB	
Transport	Tray Loading	

Blu-ray ROM DVD+/-RW SuperMulti DL Drive

Access Times	Random	<190 ms CD-ROM (typical) < 180ms DVD-ROM (typical) <230 ms BD-ROM (typical)
Max Data Transfer	24X CD-ROM	



Technical Specifications

Rate	8X DVD-ROM 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 4X - DVD+R Dual Layer 4X - DVD-R Dual Layer 5X DVD-RAM 6X BD-ROM
Transfer Mode	UDMA Mode 5
Interface	Gen 1 SATA
Supported Media (read)	CD-DA, , CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW. DVD-RAM, BD-ROM, BD-R, BD-RE
Supported Media (write)	CD-R, CD-RW, DVD+R, DVD+R DL, DVD+RW, DVD-R, DVD-R DL, DVD-RW, DVD-RAM
Max Media Capacity (read)	50.0 GB
Max Media Capacity (write)	8.5GB
Transport	Tray Loading

Security

HP Fingerprint Sensor (optional)	Mobile Voltage Operation	3.0V-3.6V Single Supply
	Operating Temperature	32° – 158°F (0° – 70°C)
	Current Consumption @ 3.3V	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
	High-Rate Image Capture	Up to 240 image frames /sec
	ESD Resistance	IEC 61000-4-2 Level 4 (±15KV)
	Detection Matrix	192 x 16 Pixels 9.7 mm x 0.81 mm 500 ppi High-Resolution Images

Communications



Technical Specifications

V.92 56K Data/Fax Modem	Form Factor	MDC 1.5 Daughtercard
	Power Management Support	APM Revision 1.2, ACPI
	Approvals/Certifications	UL, CSA, NEMKO, CCIB, Industry Canada, FCC Part 68, CTR21, FCC Part 15 Class B, Canadian ICES-003 Class B, C.I.S.P.R.22, Australian ACA, CE Mark, Other Countries
	Data Mode Capabilities	V.92 data V.8bis V.80 V44, V.42bis, MNP5 (Compression) V.42 (LAPM, MNP2-4) (Error Correction) Optional symbol rates: 2800, 3429 Asymmetric Symbol rates Synchronous primary channel data signaling rates: 3600, 31200 Automatic rate re-negotiation V.34 V.32bis V.32 V.23 V.22bis V.22 V.21 Bell 212A Bell 103J
	Fax Mode Capabilities	TIA/EIA-578-B (Class 1) T.30, T.4 (Group 3) V.17 V.29 V.27ter V.21 Channel 2
	Command Set	V.250 (Partial) TIA-602 Identification: +GMI, +GMM, +GMR Port control: +IPR, +ICF, +IFC, +ILRR Modulation: +MS, +MR, +MA Error control: +ES, +ER, +EB, +ESR, +ETBM Data compression: +DS, +DR V.251

HP un2430 EV-DO/HSPA Mobile Broadband Module	Technology/Operating Bands	GSM/GPRS/EDGE: 850 MHz (Cell), 900 MHz (EGSM), 1800 MHz (DCS), 1900 MHz (PCS) UMTS/WCDMA with receive diversity: 2100 MHz (UTRA FDD Band I), 1900 MHz (UTRA FDD Band II), AWS (UTRA FDD Band IV),
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Technical Specifications

	900 MHz (UTRA FDD Band VIII), 850 MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850 MHz (Band Class 0-Cell), 1900 MHz (Band Class 1-PCS)
Wireless Protocol Standards	GSM/GPRS/EDGE: Class A, Multi-slot class 10 operation, coding schemes CS1–CS4 and MSC1–MSC9. UMTS/WCDMA: Release 99 and Release 6 CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-856, IS-2000
Wireless Parametric Standards	Meets or exceeds TIA/EIA IS-98-D
Maximum Data Rates	UMTS (HSPA)—14.4 Mbps (Download), 5.76 Mbps (Upload) CDMA (EVDO Release A)—3.1 Mbps (Download), 1.8 Mbps (Upload)
GPS	Standalone GPS enabled gpsOneXTRATM™
GPS Bands	L1—1575.42 MHz
Maximum Output Power	GSM/GPRS/EDGE: 32 dBm (+/-1) WCDMA: 24 dBm (+0.7/-2.3) CDMA: 24 dBm (+0.7/-2)
Maximum Power Consumption	2750 mA (peak); 1100 mA (average)
Power Consumption, Idle Not Connected	20 mA
Power Management	USB selective suspend Integrated notebook wireless button
Antenna Type	Dual high-efficiency 5-band antennae with spatial diversity, mounted in the display enclosure
Form Factor	PCI-Express MiniCard, USB 2.0 interface
Weight	11.5 g
Dimensions (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
Voltage, Operating	3.3v +/- 10%
Temperature, Operating (from TIA/EIA/IS-98-D)	-22° to 158° F (-30° to 70° C) (full RF performance) -22° to 167° F (-30° to 75° C) (reduced RF performance)
Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
Humidity, Non-operating	95% relative humidity for 48 hours @ 185° F (85° C) (noncondensing)
Configuration Utilities	HP Connection Manager
LED Activity	LED Off—Radio Off; Solid LED On—Radio On



Technical Specifications

HP hs2340 HSPA+ Mobile Broadband Module	Technology/Operating Bands	GSM/GPRS/EDGE: 850 MHz (Cell), 900 MHz (EGSM), 1800 MHz (DCS), 1900 MHz (PCS) UMTS/WCDMA with receive diversity: 2100 MHz (UTRA FDD Band I), 1900 MHz (UTRA FDD Band II), 900 MHz (UTRA FDD Band VIII), 850 MHz (UTRA FDD Band V)
	Wireless Protocol Standards	GSM/GPRS/EDGE: Class B, Multi-slot class 10 operation, coding schemes CS1–CS4 and MSC1–MSC9. UMTS/WCDMA: Release 99 and Release 7 Advanced Receiver Type 3i
	Wireless Parametric Standards	Complies with 3GPP specifications
	Maximum Data Rates	UMTS (HSPA)—21 Mbps (Download), 5.76 Mbps (Upload)
	GPS	Standalone, A-GPS (Internet- and Network-assisted)
	GPS Bands	1575.42 MHz (± 1.023 MHz)
	Maximum Output Power	GSM/EDGE GSM850 & GSM900 bands GPRS: +33 dBm ± 2 dBm (class 4) EGPRS: +27 dBm ± 3 dBm (class E2) DCS1800 & PCS1900 bands GPRS: +30 dBm ± 2 dBm (class 1) EGPRS: +26 dBm +4 / -3 dBm (class E2)
	Maximum Power Consumption	UMTS UTRA FDD Bands +24 dBm +4 / -3 dBm (class 3) 2000mA (peak); 600mA (average)
	Power Consumption, Sleep Mode	5 mA
	Power Management	USB selective suspend Integrated notebook wireless button
	Antenna Type	Dual high-efficiency 5-band antennae with spatial diversity, mounted in the display enclosure
	Form Factor	PCI-Express MiniCard, USB 2.0 interface
	Weight	< 12 g
	Dimensions (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
	Voltage, Operating	3.3v +/- 9%
	Temperature, Operating	14° to 149° F (–10° to 65° C) (full RF performance) 14° to 167° F (–10° to 75° C) (reduced RF performance)
	Temperature, Non-operating, 96 hours (from MIL-STD 202 Method	–22° to 185° F (–30° to 85° C)



Technical Specifications

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Humidity, Non-operating	85% relative humidity for 48 hours @ 185° F (85° C) (noncondensing)
Configuration Utilities	HP Connection Manager
LED Activity	LED Off—Radio Off; Solid LED On—Radio On

Broadcom 43224AGN 802.11a/b/g/n WiFi Adapter

Wireless LAN Standards¹	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP (details at: www.hp.com/go/notebooks/WLAN)
Frequency Band	2.4 GHz and 5 GHz
Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6, 6.5, 9, 12, 13, 13.5, 18, 19.5, 24, 26, 27, 36, 39, 40.5, 48, 52, 54, 58.5, 65, 78, 81, 104, 108, 117, 121.5, 130, 135, 162, 216, 243, 270, 300 Mbps
Frequency Support	20 MHz: 2.4 GHz and 5 GHz bands 40 MHz: 2.4 GHz and 5 GHz bands
Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
Security²	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output³	17 dBm, nominal
Output Power (for OFDM; power varies by data rate) ³	15 dBm, nominal



Technical Specifications

Power Consumption	Idle associated: 250 mW Idle unassociated: 150 mW Transmit/Receive 20 MHz channel: 2.0 W (max) Transmit/Receive 40 MHz channel: 2.0 W (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity ⁴	270 Mbps: -61 dBm, 54 Mbps: -72 dBm, 11 Mbps: -85 dBm, 1 Mbps: -92 dBm
Antenna type	High-efficiency dual-band antenna with spatial diversity, mounted in the display enclosure
Form Factor	PCI-Express Half-MiniCard
Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating 14° to 149° F (-10° to 65° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (noncondensing) Non-operating 5% to 95% (noncondensing)
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

1. 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.
2. Check latest software/driver release for updates on supported security features.
3. Maximum output power may vary by country according to local regulations.
4. 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).

Broadcom 4313GN 802.11b/g/n WiFi Adapter	Wireless LAN Standards ¹	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Win7, Vista and XP (details at: www.hp.com/go/notebooks/WLAN)
	Frequency Band	2.4 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 7.2, 13, 14.4, 19.5, 21.7, 26, 28.9, 39, 43.3, 52, 57.8, 58.5, 65, 72.2Mbps
	Frequency Support	20 MHz: 2.4 GHz bands
	Modulation	Direct Sequence Spread Spectrum



Technical Specifications

Security ²	DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 4) with Microsoft Windows Vista and XP only.
Sub-channels	Multinational support with frequency bands and channels compliant to local regulations.
Media Access Protocol	CSMA/CA (Collision Avoidance) with ACK
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power (for CCK) ³	17 dBm, nominal
Output Power (for OFDM; power varies by data rate) ³	15 dBm, nominal
Power Consumption	Idle associated: 250 mW avg (CLKREQ enabled) Idle unassociated: 425 mW avg Transmit/Receive 20 MHz channel: 5.5 W (max)
Power Management	ACPI compliant power management 802.11 compliant power saving mode
Receiver Sensitivity ⁴	72.2 Mbps: -71 dBm
Antenna type	High efficiency dual band antenna with spatial diversity, usually mounted in the display enclosure
Form Factor	PCI-Express Half-MiniCard
Weight	0.013 lb (6 g)
Dimensions	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)
Operating Voltage	3.3v +/- 10%
Temperature	Operating 14° to 149° F (-10° to 65° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (noncondensing) Non-operating 5% to 95% (noncondensing)
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

1. 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



Technical Specifications

1. support for Microsoft Windows Vista and Win7.
2. Check latest software/driver release for updates on supported security features.
3. Maximum output power may vary by country according to local regulations.
4. 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).

HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology	Bluetooth Specification	2.1+EDR Compliant
	Dimensions	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
	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	-6 dBm to 4 dBm (Bluetooth Class II)
	Receiver Sensitivity	Better than -80 dBM at 0.1 % raw bit error rate
	Power Consumption	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
	Antenna	Internally integrated within module
	Range	Up 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
	Temperature	Operating



Technical Specifications

Humidity	Non-operating	-40° to 176° F (-40° to 80° C)
	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	15,000 ft (4,572 m)
	Non-operating	40,000 ft (12,192 m)
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}	
	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

Environmental Data

Eco-Label Certifications

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:

- US ENERGY STAR®
- IT ECO declaration
- EPEAT - Gold where HP registers commercial notebook products. 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 Convertible Mini tower Desktop model is based on a "Typically Configured Notebook"

HP ProBook 6465b Notebook PC

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	11.16 W	11.04 W	11.09 W
Sleep (Energy Star low power mode)	0.73 W	0.82 W	0.73 W
Off	0.47 W	0.55 W	0.47 W



Technical Specifications

Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	38 BTU/hr	38 BTU/hr	38 BTU/hr
Sleep	2 BTU/hr	3 BTU/hr	2 BTU/hr
Off	2 BTU/hr	1 BTU/hr	2 BTU/hr

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

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

System Fan Off	Sound Power (LWAd, bels)	Sound Pressure (LpAm, decibels)
Idle	3.4	25.8
Fixed Disk (random writes)	3.4	43

System fan is usually off except when charging the battery

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 5ppm by weight
- Cadmium greater than 10ppm by weight

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

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

Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/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 ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)



Technical Specifications

This product is greater than 95.3% recycle-able when properly disposed of at end of life.

Packaging Materials

- External:
 - Corrugated 500 g
 - CANON bags - several layers 5 g
- Internal:
 - Polypropylene 15 g
 - Molded Pulp 180 g
- The Corrugated packaging material is made from 80% recycled content.
- The CANON bags - several layers packaging material is made from 80% recycled content.
- The Polypropylene packaging material is made from 60% recycled content.
- The Molded Pulp packaging material is made from 60% recycled content.

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.

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (for reference of these limits please refer to the HP General Specification of the Environment:

http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium



Technical Specifications

- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- 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)
- Nickel finishes that release greater than 0.5 $\mu\text{grams}/\text{cm}^2/\text{week}$, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

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>

Environment website

<http://www.hp.com/environment>

Eco-label certifications

<http://www.hp.com/hpinfo/globalcitizenship/environment/productdesign/ecolabels.html>

ISO 14001 certificates:

<http://www.hp.com/hpinfo/globalcitizenship/environment/operations/envmanagement.html>



Technical Specifications

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