QuickSpecs

Overview

HP ProBook 6450b Notebook PC

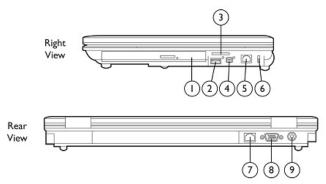|			
1.	WWAN antennas (select models)	15.	Hard drive activity / HP 3D DriveGuard LED indicator
2.	Dual-microphone array with optional webcam only*	16.	Battery charging LED indicator
3.	WLAN antennas	17.	Power/standby LED indicator
4.	Webcam LED indicator	18.	Wireless on/off LED indicator
5.	Optional 2 MP webcam	19.	Stereo headphone/line out
6.	Volume mute button with LED indicator	20.	Stereo microphone/line in
7.	Volume down button with LED indicator	21.	ExpressCard/54 slot or optional Smart Card Reader
8.	Volume up button with LED indicator	22.	eSATA/USB combo port
9.	Optional pointstick	23.	(2) USB 2.0 port
10.	Pointstick pick buttons (with optional pointstick)	24.	DisplayPort
11.	Optional HP Fingerprint Sensor	25.	Power button with LED indicator
12.	Stereo speakers	26.	QuickLook button
13.	Touchpad with scroll zone	27.	QuickWeb button
14.	Touchpad pick buttons	28.	Wireless on/off button with LED indicator

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

QuickSpecs

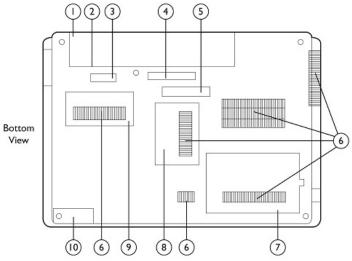HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Overview

HP ProBook 6450b Notebook PC

1. Upgrade Bay (optical drive or second hard drive)
2. (1) USB 2.0 port
3. Media Card Reader
4. 1394a port
5. RJ-11/modem port

6. Lock slot
7. RJ-45/Ethernet port
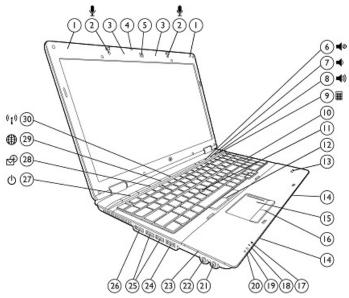8. VGA/external monitor connector
9. Power connector

1. Battery bay
2. SIM slot for WWAN (select models) – inside battery bay
3. Battery release latch
4. Docking connector
5. Secondary battery connector

6. Vents
7. Hard drive bay
8. Memory module compartment
9. WLAN/WWAN module compartment (select models)
10. Bluetooth module compartment

QuickSpecs

Overview

HP ProBook 6550b Notebook PC
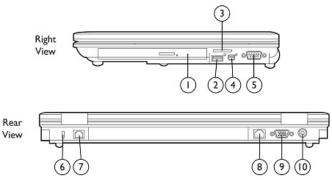

1.	WWAN antennas (select models)	16.	Touchpad pick buttons
2.	Dual-microphone array with optional webcam only*	17.	Hard drive activity / HP 3D DriveGuard LED indicator
3.	WLAN antennas	18.	Battery charging LED indicator
4.	Webcam LED indicator	19.	Power/standby LED indicator
5.	Optional 2 MP webcam	20.	Wireless on/off LED indicator
6.	Volume mute button with LED indicator	21.	Stereo headphone/line out
7.	Volume down button with LED indicator	22.	Stereo microphone/line in
8.	Volume up button with LED indicator	23.	ExpressCard/54 slot or optional Smart Card Reader
9.	Calculator button	24.	eSATA/USB 2.0 combo port
10.	Separate numeric keypad	25.	(2) USB 2.0 ports
11.	Optional pointstick	26.	DisplayPort
12.	Pointstick pick buttons (with optional pointstick)	27.	Power button with LED indicator
13.	Optional HP Fingerprint Sensor	28.	QuickLook button
14.	Stereo speakers	29.	QuickWeb button
15.	Touchpad with scroll zone	30.	Wireless on/off button with LED indicator

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

QuickSpecs

Overview

HP ProBook 6550b Notebook PC

1. Upgrade Bay (optical drive or second hard drive)
2. (1) USB 2.0 port
3. Media Card Reader
4. 1394a port
5. Serial port

6. Lock slot
7. RJ-11/modem port
8. RJ-45/Ethernet port
9. VGA/external monitor connector
10. Power connector

1. Battery bay
2. SIM slot for WWAN (select models) – inside battery bay
3. Battery release latch
4. Docking connector
5. Secondary battery connector

6. Vents
7. Hard drive bay
8. Memory module compartment
9. WLAN/WWAN module compartment (select models)
10. Bluetooth module compartment

QuickSpecs

HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Overview

At A Glance

- Genuine Windows 7 versions, Genuine Windows Vista versions, Genuine Windows Vista Business available through downgrade rights from Windows 7, Genuine Windows XP Professional available through downgrade rights from Windows 7 Professional, RedFlag Linux (PRC only), or FreeDOS
- Choice of Intel® Core™ i7, Core i5, Core i3, or Celeron® processor
- ATI Mobility Radeon HD 540v discrete graphics with 512 MB dedicated video memory (6550b only) or integrated Intel HD Graphics
- Widescreen LED-backlit HD or HD+ display
  HP ProBook 6450b: 35.6cm (14.0-inch) diagonal; HD anti-glare or HD+ anti-glare
  HP ProBook 6550b: 39.6cm (15.6-inch) diagonal; HD anti-glare or HD+ anti-glare
- Starting at 2.26 kg/5.0 lb (6450b) or 2.51 kg/5.5 lb (6550b)
- Flexible wireless connectivity options:
  o Integrated HP un2420 EV-DO/HSPA Mobile Broadband Module provides worldwide Gobi mobile Internet technology with GPS
  o Integrated Intel Centrino® 802.11 a/b/g/n; Broadcom 802.11 a/b/g/n or b/g/n wireless LAN module
  o Bluetooth® v2.1+EDR
- Touchpad with scroll zone; optional pointstick
- Full-sized spill-resistant keyboard with drains; full separate numeric keypad on the HP ProBook 6550b
- Touch-sensitive controls for HP QuickLook 3, HP QuickWeb, wireless on/off, mute, volume down, volume up; calculator button on HP ProBook 6550b
- Choice of 9-cell (93 WHr) or 6-cell (55 WHr & 47 WHr) primary battery, or 6-cell (51 WHr) HP Long Life Battery (OOC, with 3-year system warranty)
- 3-cell (47 WHr) HP Long Life Battery available as after-market option
- Optional external batteries: HP Ultra-Capacity Battery, HP Extended Life Battery
- Optional integrated 2 MP Webcam with dual-microphone array
- Choice of 7200 rpm user-removable hard drive up to 500 GB with HP 3D DriveGuard protection, or 128 GB Solid State Drive
- Upgrade Bay for optical drive
- Media Card Reader
- New eSATA/USB 2.0 combo port
- Reliability with HP 3D DriveGuard, magnesium alloy support structure, HP DuraFinish, and the spill-resistant keyboard with drains
- Security features including HP ProtectTools with Central Management, Computrace LoJack Pro ready, HP SpareKey, HP Disk Sanitizer, TPM 1.2;* optional Smart Card Reader (replaces ExpressCard slot), optional HP Fingerprint Sensor, and optional HP Privacy Filter
- HP Power Assistant allows you to conserve power, stretch battery run-time, accurately monitor your reported power need, and report workforce power consumption.
- HP QuickLook 3 for instant access to e-mail, calendar, and contacts; HP QuickWeb for fast access to the web
- HP DayStarter displays your calendar and battery charge while Windows starts up
- HP Support Assistant helps maintain your PC performance and resolve problems with automated updates and tune-ups, onboard diagnostics, and guided assistance.
- Options include HP Advanced Docking Station, HP Docking Station, HP USB 2.0 Docking Station, and HP Essential USB 2.0 Port Replicator
- BFR/PVC-free**, ENERGY STAR qualified and EPEAT Gold registered in the U.S. EPEAT status varies by country-please see epeat.net.

QuickSpecs

Overview

* TPM module disabled where not permitted by law (for example, Russia and China).
** This notebook is brominated flame retardant and polyvinyl chloride-free (BFR/PVC-free) on notebooks that are non-WWAN; meeting the evolving definition of 'BFR/PVC-free' as set forth in the "iNEMI Position Statement on the 'Definition of Low-Halogen' Electronics (BFR/CFR/PVC-Free)'". Plastic parts contain < 1000 ppm (0.1%) of bromine [if the Br source is from BFRs] and < 1000 ppm (0.1%) of chlorine [if the Cl source is from CFRs or PVC or PVC copolymers]. Power supply and power cords are not BFR/PVC-free. Service parts after purchase may not be BFR/PVC-free.

QuickSpecs

Standard Features (availability may vary by country)

Processors

Intel Dual-Core Processors

Intel Core i7-620M Processor (2.66 GHz, 35W, 4 MB L3 cache)*
  Up to 3.33 GHz with Intel Turbo Boost Technology

Intel Core i5-540M Processor (2.53 GHz, 35W, 3 MB L3 cache)*
  Up to 3.06 GHz with Intel Turbo Boost Technology

Intel Core i5-520M Processor (2.40 GHz, 35W, 3 MB L3 cache)*
  Up to 2.93 GHz with Intel Turbo Boost Technology

Intel Celeron P4500 Processor (1.80 GHz, 35W, 2 MB L3 cache)*

* Intel's numbering is not a measurement of higher performance.
NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

> **Comment [tcs1]: Do not print with this note.**
>
> Under embargo until June 20:
>
> Intel Core i5-450M Processor (2.40 GHz, 35W, 3 MB L3 cache)*
>   Up to 2.66 GHz with Intel Turbo Boost Technology
>
> Intel Core i3-370M Processor (2.40 GHz, 35W, 3 MB L3 cache)*

Operating System

Preinstalled
Genuine Windows 7 Professional Edition 32*
Genuine Windows 7 Professional Edition 64*
Genuine Windows 7 Home Premium Edition 32*
Genuine Windows 7 Home Basic Edition 32* (select countries)
Genuine Windows Vista Business 32**
Genuine Windows Vista Home Basic 32**
Genuine Windows XP Professional available through downgrade rights
  from Genuine Windows 7 Professional)*†
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**

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 http://www.microsoft.com/windows/windows-7/ for details.

** Certain Windows Vista product features require advanced or additional hardware. See: http://www.microsoft.com/windowsvista/getready/hardwarereqs.mspx and http://www.microsoft.com/windowsvista/getready/capable.mspx 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: http://www.windowsvista.com/upgradeadvisor.

† Windows XP Professional is preinstalled on this system and includes end user rights and media for Windows 7 Professional. You may only use one version at a time. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

QuickSpecs

Standard Features (availability may vary by country)

Chipset		Mobile Intel HM57 Express Chipset (non vPro configurations)

Graphics		Models with discrete graphics (6550b only):
		  ATI Mobility Radeon™ HD 540v with 512 MB dedicated video memory
		  Microsoft DirectX 10.1 (Shader Model 4.1) and OpenGL 2.1 capable
		
		Models with integrated graphics (6450b and 6550b):
		  Intel HD Graphics
		  Microsoft DirectX 10 (Shader Model 4.0) and OpenGL 2.0 capable

Display	**Internal**	HP ProBook 6450b: 35.6cm (14.0-inch) diagonal LED-backlit HD anti-glare (1366 x 768 resolution) 35.6cm (14.0-inch) diagonal LED-backlit HD+ anti-glare (1600 x 900 resolution) HP ProBook 6550b: 39.6cm (15.6-inch) diagonal LED-backlit HD anti-glare (1366 x 768 resolution) 39.6cm (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 2048 MB and 4096 MB SODIMMs
	Maximum	Upgradeable to 8192 MB with 4096 MB SODIMMs in slots 1 and 2
	Dual-channel	Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

* Memory speed is processor dependent.

QuickSpecs

HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Standard Features (availability may vary by country)

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 Intel 82577LC Gigabit* Network Connection (non vPro configurations)
	56K V.92 modem**
	* The term "10/100/1000" or "Gigabit" Ethernet indicates compliance 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 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.
HP un2420 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. **NOTE:** Separately purchased mobile network operator service is required. Two 850/900/1575/1800/1900/2100 MHz antennas integrated in the top of the display panel support current and future WWAN technologies.
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
Intel Centrino Advanced-N 6200 (2x2)	Integrated support for 802.11a, b, g, and n* 2 transmit, 2 receive antennas Up to 300 mbps data rate
Broadcom 4322AGN	Integrated support for 802.11 a, b, g, and n

QuickSpecs

Standard Features (availability may vary by country)

802.11a/b/g/n WiFi Adapter	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 HP spill-resistant keyboard 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 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 hotkeys for instant access to power conservation and brightness. The HP ProBook 6550b includes a separate numeric keypad.
Touch-sensitive controls	Touch-sensitive controls provide easy access to the following features: HP QuickLook 3, HP QuickWeb, wireless on/off, volume mute, volume down, volume up. The HP ProBook 6550b also features a calculator button.
Pointing device	Touchpad with scroll zone, two pick buttons Optional pointstick with two additional pointstick buttons

Expansion card slots	**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
	Media Card Reader	Supports SD (Secure Digital), HC-SD (High Capacity Secure Digital), MMC (MultiMedia Card), HS-MMC (MultiMedia Card Plus), Sony Memory Stick, Sony Memory Stick Pro, Memory Stick Duo*, xD-Picture card Additionally, the following cards are supported via passive adapters (sold separately): Mini-Secure Digital (Mini-SD), Transflash (Micro-SD), Reduced size Multimedia card (RS-MMC), Reduced size Dual voltage Multimedia card, MMC Mobile Cards, MMC Micro Cards, Memory Stick Duo (MS Duo)*, Memory Stick Duo Pro (MS Duo Pro)*, Memory Stick M2 Micro

QuickSpecs

HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Standard Features (availability may vary by country)

* Memory Stick Duo Adapters are required and sold separately. Inserting a Memory Stick Duo Card directly into your notebook could damage the memory card and/or notebook.

Internal Storage	**Hard drives**	250/320/500 GB 7200 rpm SMART SATA II
		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

Upgrade Bay	**Fixed 12.7 mm SATA optical drive**	DVD+/-RW SuperMulti DL LightScribe Drive DVD-ROM Drive
	Weight saver	

Interfaces	**ExpressCard/54 slot**	One (or optional Smart Card Reader)
	External monitor	Two - (1) DisplayPort, (1) VGA
	1394a	One
	Stereo microphone in	One
	Stereo headphone/line out	One
	Power connector	One
	RJ-11/modem	One
	RJ-45/Ethernet	One
	USB 2.0	Three
	eSATA/USB 2.0 combo	One
	Serial port	One (HP ProBook 6550b only)
	Docking connector	One
	Secondary battery connector	One

Audio/Visual	HP Premier Sound™ Integrated stereo speakers Integrated microphone (dual-microphone array when equipped with optional 2 MP webcam) Touch-sensitive controls for volume up, volume down, and mute

DA – 13616 EMEA — Version 1 — May, 2010

Page 11

Standard Features (availability may vary by country)

Stereo headphone/line out
Stereo microphone/line in

Optional 2 MP webcam

- Supports videoconferencing and still image capture
- Large image sensor for excellent color matching and good low light sensitivity
- Up to 30 frames/sec
- Fixed focus lens
- Video capture at VGA, 1.3 Mpixel, and 2 Mpixel resolutions
- 16-bit true color (camera sensors output YCrCb format among others)

Software	Preinstalled software with Windows operating system	HP Recovery Manager (available with Windows 7 or Vista only)
		HP Support Assistant (available with Windows 7 or Vista only)
		HP ProtectTools Security Manager
		HP ProtectTools for Central Management
		HP Quick Launch Buttons Software
		HP QuickLook 3
		HP QuickWeb
		HP Power Assistant
		HP Connection Manager 3.1
		HP Wireless Assistant
		HP DayStarter
		Microsoft Office Professional 2007 60-day Convertible Trial
		McAfee Total Protection*
		Intervideo WinDVD - DVD Player (select models)
		Roxio Creator Business (select models)
		HP Webcam Software (select models)
		Skype
		WinZip 14 trial
	Additional software available from the web	HP SoftPaq Download Manager

* 60 day trial period for McAfee Total Protection for Small Business software. Internet access required to receive updates. First update included. Subscription required for updates thereafter.

HP Recovery Manager	Models shipped with Windows 7 or Windows Vista 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 10 GB of the hard drive is reserved for the system recovery software.

Security	**Standard Features**	HP ProtectTools Security Manager
		Enhanced Pre-Boot Security

Standard Features (availability may vary by country)

	HP SpareKey One-Step Logon Setup Password TPM 1.2 Embedded Security Chip* TPM Enhanced DriveLock* HP Disk Sanitizer Lock slot Support for Computrace** LoJack Pro for HP ProtectTools	
Optional Features	**Smart Card Reader** (replaces ExpressCard/54 slot)	Compatible with ISO 7816 compliant Smart Cards 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 ** **LoJack Pro Premium 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 HP un2420 EV-DO/HSPA Mobile Broadband Module.

* TPM module disabled where use is restricted by law; for example, Russia and China.
** 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.
For more information on HP security solutions refer to: http://www.hp.com/go/security.

| **HP ProTools 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
• File Sanitizer for HP ProtectTools
• Privacy Manager for HP ProtectTools (Chat & Sign)
• Embedded Security for HP ProtectTools
• Computrace LoJack 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 |

Standard Features (availability may vary by country)

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	Models with discrete graphics: External 90-watt Smart AC adapter Models with integrated graphics: External 65-watt Smart AC adapter Power cord included is 1.8 meter (6-foot). Total length including external AC adapter is 3.66 meter (12 feet). 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 or the 12-cell Ultra-Capacity batteries.

Battery	**Primary battery**	HP 9-cell (93 WHr) Li-Ion battery HP 6-cell (55 WHr) Li-Ion battery HP Long Life 6-cell (51 WHr) Battery (with 3-year platform warranty only)
	Optional HP Long Life Battery	3-cell (47 WHr) Li-Ion battery
	Optional HP Extended Life Battery	8-cell (52 WHr) Li-Ion battery
	Optional HP Ultra-Capacity Battery	12-cell (95 WHr) Li-Ion battery

Battery Life		**HP 9-cell (93 WHr) Primary**	**HP 6-cell (55 WHr) Primary**	**HP Long Life 6-cell (51 WHr)**
	Primary battery	Up to 11 hours	Up to 6h 30min	Up to 6hours

QuickSpecs

Standard Features (availability may vary by country)

Primary battery and optional HP Extended Life Battery	Up to 17h 30min	Up to 13 hours
Primary battery and optional HP Ultra-Capacity Battery	Up to 22 hours	Up to 17h 30min

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

Power Conservation	ATI PowerPlay technology
	Hibernation
	Standby
	ACPI compliance

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 Dual Hinge Notebook Stand
	HP Display & Notebook Stand
	HP Adjustable Display Stand
	HP Adjustable Dual Display Stand

Service and Support	1-year warranty options depending on country; 1-year limited warranty on primary battery. 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: http://www.hp.com/go/lookuptool. Additional HP Care Pack Services information by product is available at: http://www.hp.com/hps/carepack.

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

QuickSpecs

Options (availability may vary by country)

Memory	HP 1 GB (DDR3 1333 MHz) SODIMM	AT911AA
	HP 2 GB (DDR3 1333 MHz) SODIMM	AT912AA
	HP 4 GB (DDR3 1333 MHz) SODIMM	AT913AA

Storage	HP Upgrade Bay SATA DVD+/-RW SuperMulti DL LightScribe Drive	AK869AA
	HP 250 GB Pocket Media Drive	FE477AA
	HP External USB Drive CD/DVD R/RW	FS943AA
	HP Upgrade Bay SATA 500 GB 7200 rpm Hard Drive	AU097AA
	HP Primary SATA 500 GB 7200 rpm Hard Drive	AU098AA
	HP Primary SATA 320 GB 7200 rpm Hard Drive	AS282AA

Expansion Solutions	HP 90W Docking Station	VB041AA
	HP 120W Advanced Docking Station	NZ222AA
	HP USB 2.0 Docking Station	FQ834AA
	HP Essential USB 2.0 Port Replicator	AQ731AA
	HP Dual Hinge Notebook Stand	AW661AA
	HP Display & Notebook Stand	AW662AA
	HP Adjustable Display Stand	AW663AA
	HP Adjustable Dual Display Stand	AW664AA

Power	HP Smart 65W Travel AC Adapter	AU155AA
	HP 90W Smart AC Adapter	ED495AA
	HP 90W Smart Combo Adapter	AJ652AA
	HP Long Life 3-Cell Battery	AU213AA
	HP 6-Cell Li-Ion Primary Battery	KU531AA
	HP 9-Cell Li-Ion Primary Battery	AT908AA
	HP Extended Life Battery	AJ359AA
	HP Ultra-Capacity Battery	AT486AA

Carrying Cases	HP Basic Carrying Case	AJ078AA
	HP Value Nylon Case	RR314AA
	HP Universal Nylon Case	RR315AA
	HP Professional Slim Top Load Case	AY530AA
	HP Executive Leather Case	RR316AA
	HP Deluxe Nylon Backpack	RR317AA
	HP Deluxe Roller Case	GD405AA
	HP Basic Backpack	AM863AA
	HP Merlot Slipcase	AU095AA

QuickSpecs

**HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC**

Options (availability may vary by country)

HP Basic Messenger Carrying Case	AP355AA
HP Professional Series Carrying Case	AT886AA
HP Professional Series Backpack	AT887AA
HP Professional Series Messenger	AT888AA
HP Professional Series Designer Tote	AT889AA
HP Professional Series Slip Case	AT890AA
HP Elite Series Designer Tote	AT891AA
HP Elite Series Quick Case	AT892AA

Security		
	HP Notebook Combination Lock	AY475AA
	HP Docking Station Cable Lock	AU656AA
	HP 14.0-inch Display Privacy Filter	AU100AA
	HP 15.6-inch Display Privacy Filter	AU103AA
	HP ExpressCard Smart Card Reader	AJ451AA

Input/Output Devices		
	HP PS/2 Keyboard & Mouse Bundle	RC464AA
	HP USB Keyboard & Mouse Bundle	RC465AA
	HP USB Optical Travel Mouse	RH304AA
	HP USB/PS2 Optical 2-Button Scroll Mouse	DC369A
	HP Wireless Mouse	AR085AA
	HP BT Headset	AR084AA
	HP Mobile Audio Speakers	FS944AA
	HP Mobile Productivity Bundle	AQ792AA
	HP Bluetooth ExpressCard Mouse	GK872AA
	HP Notebook Companion Projector	AX325AA
	HP Migration Cable for Windows 7	AY493AA
	HP Premium Autofocus Webcam	KQ245AA
	Premium Digital Headset	KJ270AA

Miscellaneous		
	DisplayPort To DVI-D Adapter	FH973AA
	Promo USB Graphics Adapter	NL571AT
	External USB Modem	GS023AA
	Belkin USB to Serial Adapter	EM449AA
	Notebook Multi-Purpose Cleaning Kit	BL528AA

QuickSpecs

Memory

DDR3 PC3-10600 SDRAM (1333 MHz)*
Two SODIMM slots supporting dual-channel memory
SODIMM sizes supported: 2048 MB and 4096 MB

Standard Memory
- 2048 MB (2048 MB x 1)
- 4096 MB (2048 MB x 2)
- 4096 MB (4096 MB x 1)

Optional Memory Upgrades

Support for up to 8192 MB of memory with the installation of optional DDR3 SDRAM memory kits. Both memory slots are user-accessible. Please refer to the Hardware and Software Guide for installation procedures. Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

Up to	Slot 1	Slot 2
4096 MB	2048 MB	2048 MB
4096 MB	4096 MB	Empty
8192 MB	4096 MB	4096 MB

* Memory speed is processor dependent.

NOTE: This chart does not represent all possible memory configurations. Due to the non-industry standard nature of some third-party memory modules, we strongly recommend using only HP-branded memory modules 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.

Memory Upgrades

HP 1 GB (DDR3 1333 MHz) SODIMM	AT911AA
HP 2 GB (DDR3 1333 MHz) SODIMM	AT912AA
HP 4 GB (DDR3 1333 MHz) SODIMM	AT913AA

QuickSpecs

Storage

Upgrade Bay Drive Support

	Quantity Supported	Drive Bay
DVD+/-RW SuperMulti DL LightScribe Drive	One	Upgrade Bay
DVD-ROM Drive	One	Upgrade Bay
Weight Saver	One	Upgrade Bay

Internal Storage Device

	Quantity Supported	Drive Bay
Hard Drives		
500 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
320 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
250 GB 7200 rpm SMART SATA II Hard Drive	One	Dedicated hard drive bay
Solid State Drive		
128 GB Solid State Drive	One	Dedicated hard drive bay

QuickSpecs

Technical Specifications

System Unit	**Dimensions** (HxWxD)	HP ProBook 6450b:
		33.8 mm (at front) x 339 mm x 236.2 mm
		1.33 in (at front) x 13.35 in x 9.3 in
		HP ProBook 6550b:
		34.8 mm (at front) x 371.4 mm x 248.0 mm
		1.37 in (at front) x 14.62 in x 9.76 in
	Weight	HP ProBook 6450b:
		Starting at 2.26 kg (5.0 lb) with weight saver (no optical drive)
		Starting at 2.39 kg (5.31 lb) with DVD-ROM drive
		HP ProBook 6550b:
		Starting at 2.51 kg (5.5 lb) with weight saver (no optical drive)
		Starting at 2.64 kg (5.81 lb) with DVD-ROM drive

NOTE: Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery and hard drive.

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	18.5 V
	Average Operating Power	TBD W
	Max Operating Power	< 65 W or < 90 W
Temperature	Operating	0° to 35° C (32° to 95° F) (not writing optical)
		5° to 35° C (41° to 95° F) (writing optical)
	Non-operating	-20° to 60° C (-4° to 140° F)
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	-15.24 to 3,048 m (-50 to 10,000 ft)
	Non-operating	-15.24 to 12,192 m (-50 to 40,000 ft)
Industry Standard Certifications	UL	Yes
	CSA	Yes
	FCC Compliance	Yes

QuickSpecs

Technical Specifications

ENERGY STAR®	Select models*
EPEAT	Registered Gold in United States**
ICES	Yes
GS	Yes
Australia / NZ A-Tick Compliance	Yes
CCC	Yes
Japan VCCI Compliance	Yes
KCC	Yes
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	Yes
CIT	Yes
GOST	Yes
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes
UKRSERTCOMPUTER	Yes

* Configurations of the HP ProBook 6450b and HP ProBook 6550b that are ENERGY STAR qualified are identified as HP ProBook 6450b ENERGY STAR and HP ProBook 6550b 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:
http://www.hp.com/accessibility.

HP 90W Smart AC Adapter	**Dimensions**	12.7 x 5.0 x 2.9 cm (5.00 x 1.97 x 1.1 in)
	Weight	370 g (0.82 lb)
	Input	100 to 240 VAC
	Input Efficiency	87% min at 115 VAC
	Input frequency range	47 to 63 Hz
	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	Output power	90W
		DC output	19.0V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<11A, Over voltage protection- 29V max

Technical Specifications

		automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords
	Environmental Design	Operating temperature 0° to 40° C (32° to 104° F)
		Non-operating (storage) temperature -20° to 65° C (-4° to 149° F)
		Altitude 0 to 3,048 m (0 to 10,000 ft)
		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.
HP 65W Smart AC Adapter	**Dimensions**	10.6 x 4.7 x 2.8 cm (4.17 x 1.85 x 1.1 in)
	Weight	280 g (0.62 lb)
	Input	100 to 240 VAC
		Input Efficiency 87% min at 115 VAC
		Input frequency range 47 to 63 Hz
		Input AC current 1.7 A at 90 VAC, 0.85 A at 180 VAC
	Output	Output power 65W
		DC output 18.5V
		Hold-up time 5 msec at 115 VAC input
		Output current limit <11A, Over voltage protection- 29V max automatic shutdown
	Connector	3 pin/grounded, mates with interchangeable cords
	Environmental Design	Operating temperature 0° to 40° C (32° to 104° F)
		Non-operating (storage) temperature -20° to 65° C (-4° to 149° F)
		Altitude 0 to 3,048 m (0 to 10,000 ft)
		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.
Optional HP Ultra-Capacity Battery	**Dimensions** (H x W x L)	3.33 x 15.25 x 26.88 cm (1.3 x 6.0 x 10.6 in)
	Weight	0.803 kg (1.77 lb)

QuickSpecs

Technical Specifications

Cells/Type	12-cell Lithium-Ion	
Energy	Watt-hour Capacity	95 WHr
Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
	Operating (Discharging)	–10° to 60° C (14° to 140° F)
	Non-operating	–20° to 60° C (–4° to 140° F)
Battery Re-Charge Time	Smart Adapter	3 to 4 hours
	System ON	4 to 5 hours (depending on system power consumption)
Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery	

Optional HP Extended Life Battery	**Dimensions** (H x W x L)	2.5 x 10.0 x 22.0 cm (1.0 x 3.9 x 8.7 in)
	Weight	0.455 kg (1.00 lb)
	Cells/Type	8-cell Lithium-Ion
	Energy	Watt-hour Capacity	52 WHr
	Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
		Operating (Discharging)	–10° to 60° C (14° to 140° F)
		Non-operating	–20° to 60° C (–4° to 140° F)
	Battery Re-Charge Time	System in OFF mode or Standby	3 hours
		System ON	3 to 5 hours (depending on system power consumption)
		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF
	Fuel Gauge	When pressed, LEDs light indicating level of charge remaining on battery

Optional HP Long Life 3-cell 47 WHr Lithium-Ion Battery	**Dimensions** (H x W x L)	2.0 x 5.3 x 20.4 cm (0.8 x 2.1 x 8.0 in)
	Weight	0.71 lb 0.32 kg)
	Cells/Type	3-cell Lithium-Ion
	Energy	Watt-hour Capacity	47 WHr
	Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
		Operating (Discharging)	-10° to 60° C (14° to 140° F)
		Non-operating	-20° to 60° C (-4° to 140° F)
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)

QuickSpecs

Technical Specifications

		HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF

HP Long Life 6-cell 51 WHr Lithium-Ion Primary battery	**Dimensions** (H x W x L)	2.0 x 5.3 x 20.3 cm (0.8 x 2.1 x 8.0 in)	
	Weight	0.331 kg (0.73 lb)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity	51 WHr
	Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
		Operating (Discharging)	-10° to 60° C (14° to 140° F
		Non-operating	-20° to 60° C (-4° to 140° F)
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)

9-Cell (93 WHr) Lithium-Ion battery	**Dimensions** (H x W x L)	2.0 x 7.3 x 21.0 cm (0.8 x 2.9 x 8.3 in)	
	Weight	1.07 lb (0.488 kg)	
	Cells/Type	9-cell Lithium-Ion	
	Energy	Watt-hour Capacity	93 WHr
	Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
		Operating (Discharging)	–10° to 60° C (14° to 140° F)
		Non-operating	–20° to 60° C (–4° to 140° F)
	Battery Re-Charge Time	System in OFF mode or Standby	3 to 4 hours
		System ON	4 to 6 hours (depending on system power consumption)

6-Cell (55 WHr) Lithium-on battery	**Dimensions** (H x W x L)	2.0 x 5.3 x 20.4 cm (0.8 x 2.1 x 8.0 in)	
	Weight	0.32 kg (0.71 lb)	
	Cells/Type	6-cell Lithium-Ion	
	Energy	Watt-hour Capacity	55 WHr
	Temperature	Operating (Charging)	0° to 45° C (32° to 113° F)
		Operating (Discharging)	–10° to 60° C (14° to 140° F)
		Non-operating	–20° to 60° C (–4° to 140° F)
	Battery Re-Charge Time	System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power

Technical Specifications

		consumption)
	HP Fast Charge Technology	Charges the battery up to 90% within 90 minutes when system is OFF

Displays

39.6 cm (15.6-inch) LED HD (1366 x 768) anti-glare	**Active Area** (W x H)	34.4 x 19.4 cm (13.54 x 7.59 in)	
	Diagonal Size	39.6 cm (15.6 in)	
	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)	

39.6 cm (15.6-inch) LED HD+ WVA (1600 x 900) anti-glare	**Active Area** (W x H)	34.4 x 19.4 cm (13.54 x 7.59 in)	
	Diagonal Size	39.6 cm (15.6 in)	
	Surface Treatment	Anti-glare	
	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)	

35.6cm (14.0-inch) LED HD (1366 x 768) anti-glare	**Active Area** (W x H)	32.4 cm x 19.2 cm (12.74 x 7.56 in)
	Diagonal Size	35.6cm (14.0 in)
	Surface Treatment	Anti-glare
	Contrast Ratio	400:1 (typical)

Technical Specifications

Refresh Rate	60 Hz	
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)	

35.6cm (14.0-inch) LED HD+ (1600 x 900) anti-glare	**Dimensions** (W x H)	32.4 cm x 19.2 cm (12.74 x 7.56 in)	
	Diagonal Size	35.6cm (14.0 in)	
	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 Stripe
	Backlight	LED	
	PPI	131 ppi	
	Viewing Angle	30/30/20/10 (Left/Right/Down/Up) (minimum)	

Internal Storage

128 GB 2.5-inch SATA Solid State Drive	**Weight**	80.1 Grams	
	Capacity	128 GB	
	Height	9.5 mm (0.37 in)	
	Width	70 mm (2.75 in)	
	Interface	SATA	
	Performance	**Maximum Sequential Read**	**Maximum Sequential Write**
		220 MB/s	200 MB/s
	Logical Blocks	250,069,680	
	Operating Temperature	0° to 70°C (32° to 158°F) [case temp]	
	Features	ATA Security; ATA-7 ;SATA 2.6; DIPM	

QuickSpecs

Technical Specifications

500 GB 7200 rpm SATA Hard Drive	**Drive Weight**	115 g (0.25 lbs)	
	Capacity	500 GB	
	Height	9.5 mm (0.37 in)	
	Width	70 mm (2.75 in)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 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	976,773,168	
	Operating Temperature	0° to 60° C (32° to 140° F) [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** (maximum)	100 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	625,142,448	
	Operating Temperature	0° to 60° C (32° to 140° F) [case temp]	
	Features	ATA Security	

250 GB 7200 rpm SATA Hard Drive	**Drive Weight**	115g (0.25 lbs)	
	Capacity	250 GB	
	Height	9.5 mm (0.37 in)	
	Width	70 mm (2.75 in)	
	Interface	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	Transfer Rate	**Synchronous** (maximum)	100 MB/s (Drive Capability)

Technical Specifications

	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	0° to 60° C (32° to 140° F) [case temp]	
	Features	ATA Security	

DVD-ROM Drive	**Access Times**	Random	< 110 ms CD (typical)
			< 110 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X-DVD	Up to 10,800 KB/s
	Transfer Mode	UDMA Mode 5	
	Interface	Gen 1 SATA	
	Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, 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)	None	
	Max Media Capacity (read)	8.5 GB	
	Transport	Tray Loading	

DVD+/-RW SuperMulti DL LightScribe Drive	**Access Times**	Random	< 150ms CD (typical)
			< 160 ms DVD (typical)
	Max Data Transfer Rate	24X CD-ROM	Up to 3,600 KB/s
		8X DVD	Up to 10,800 KB/s
		24X CD-R	Up to 3,600 KB/s
		16X CD-RW	Up to 2,400 KB/s
		8X DVD+R	Up to 10,800 KB/s
		8X DVD+RW	Up to 10,800 KB/s
		8X DVD-R	Up to 10,800 KB/s
		6X DVD-RW	Up to 8100KB/s
		4X - DVD+R Dual Layer	Up to 5,400 KB/s
		4X - DVD-R Dual Layer	Up to 5,400 KB/s
		5X DVD-RAM	Up to 6,750 KB/s
	Transfer Mode	UDMA Mode 5	

QuickSpecs

Technical Specifications

Interface	Gen 1 SATA	
Supported Media (read)	CD-DA, CD+(E)G, CD-MIDI, 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, LightScribe	
Max Media Capacity (read)	8.5 GB	
Max Media Capacity (write)	8.5 GB	
Transport	Tray Loading	

Audio

Hardware	**Implementation**	IDT 92HD75B 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, one microphone on configurations without optional webcam; dual-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 – 48kHz
	DAC	16, 20 or 24-bit
	ADC	16 or 20-bit
Integrated Stereo Speakers	**Power Rating**	2 Watts
	Impedance	4 Ohms

Security

Technical Specifications

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

Integrated Intel Gigabit Network Connection (10/100/1000 NIC) 82577LM [codename Hanksville-M for internal use only]	**Ethernet Features**	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 802.3z and 802.3ab; IEEE 802.3 clauses 34-42) 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 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)
	Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption
	Performance Features	TCP/IP/UDP Checksum Offload (configurable)
	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 Intel Advanced Management Technology 6.0 (iAMT)
	Interface	PCI Express x1 based, SMBUS dedicated connection with Intel® 5 Series Chipset
	NIC Device Driver Name	Intel 82577 Gigabit Network Connection

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 un2420 EV-DO/HSPA Mobile	**Technology/Operating Bands**	GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band

QuickSpecs

Technical Specifications

Broadband Module		I), 1900MHz (UTRA FDD Band II), 900MHz (UTRA FDD Band VIII), 850MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS)
	Wireless Protocol Standards	GSM/GPRS/EDGE: Class B, Multi-slot 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-2000
	Wireless Parametric Standards	Meets or exceeds TIA/EIA IS-98-D
	Maximum Data Rates	UMTS (HSPA) – 7.2 Mbps (Download), 2.0 Mbps (Upload) CDMA (EVDO Release A) – 3.1 Mbps (Download), 1.8 Mbps (Upload)
	GPS	Standalone GPS enabled
	GPS Bands	L1 – 1575.42 MHz
	Maximum Output Power	GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+/-1) CDMA: 24dBm (+/-1)
	Maximum Power Consumption	2500mA (peak); 1000mA (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	11.5 g
	Dimensions (Length x Width x Thickness)	51 x 30 x 5 mm (2.01 x 1.18 x 0.18 in)
	Voltage, Operating	3.3v +/- 10%
	Temperature, Operating (from TIA/EIA/IS-98-D)	–30° to 60° C (–22° to 140° F) (full RF performance) –30° to 75° C (–22° to 167° F) (reduced RF performance)
	Temperature, Non-operating, 96 hours (from MIL-STD 202 Method 108)	–40° to 85° C (–40° to 185° F)
	Humidity, Non-operating	85% relative humidity for 48 hours @ 85° C (185° F) (non-condensing)
	Configuration Utilities	HP Connection Manager
	LED Activity	LED Off – Radio Off; Solid LED On – Radio On

Technical Specifications

Intel Centrino Advanced-N 6200 (2x2)	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n*
		* In countries where 802.11n is not allowed, this capability is not enabled.
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP
	Frequency Band	2.4 GHz and 5GHz
	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: 66 possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP 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 2.4GHz band Access Points
	Output Power (for CCK and OFDM)[2]	17 dBm max
	Power Consumption	Transmit: 2.3 Watts (average, with one spatial streams)

Technical Specifications

	Receive: 1 Watt (max with two spatial streams)	
	Idle mode[3]: 35 mW (average)	
	Radio off: 20 mW (max)	
Power Management	ACPI compliant power management	
	802.11 compliant power saving mode	
Receiver Sensitivity[4]	54 Mbps: -76 dBm, 6 Mbps: -92 dBm	
Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance	
Form Factor	PCI-Express Half-MiniCard	
Weight	0.0075 lb (3.4 g)	
Dimensions	3.1 x 26.8 x 30.0 mm (0.12 x 1.06 x 1.18 in)	
Operating Voltage	3.3V +/- 9%	
Temperature	Operating	0° to 80° C (32° to 176° F)
	Non-operating	−40° to 80° C (−40° to 176° F)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 90% (non-condensing)
Altitude	Operating	3,048 m (0 to 10,000 ft)
	Non-operating	15,240 m (0 to 50,000 ft)

Configuration Utility[5] Microsoft Windows XP
  Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager.
- Intel IHV extensions for Windows Vista available to support Cisco Compatible Extensions.

LED Activity   LED Off – Radio OFF; Solid LED On – 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. In Power Save Polling mode and on battery power.
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).
5. 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.

Technical Specifications

Intel Centrino Wireless-N 1000	**Wireless LAN Standards**	IEEE 802.11b IEEE 802.11g IEEE 802.11n* * In countries where 802.11n is not allowed, this capability is not enabled.
	Interoperability	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP
	Frequency Band	2.4 GHz
	Antenna Structure	1 transmit; 2 receive (1x2)
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: many possible data rates, ranging from 6 Mbps to 300 Mbps, depending on the combination of Bandwidth, Modulation Coding Scheme, and Guard Interval used, as defined in IEEE 802.11n specification
	Modulation	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	Authentication: WPA and WPA2, 802.1x (EAP_TLS, TTLS, PEAP, LEAP, EAP-FAST) Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2 Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP 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 2.4GHz band Access Points
	Output Power (for CCK and OFDM)[2]	15 dBm typical
	Power Consumption	Transmit: 1.4 Watts (average, with one spatial streams) Receive: 1.3 Watts (average with two receive chains) Idle mode[3]: 30 mW (average) Radio off: 20 mW (max)
	Power Management	ACPI compliant power management 802.11 compliant power saving mode

Technical Specifications

Receiver Sensitivity[4]	54 Mbps: -74 dBm, 6 Mbps: -91 dBm	
Antenna Connections	2 U.FL type connectors, 50 ohm nominal impedance	
Form Factor	PCI-Express Half-MiniCard	
Weight	3.4 g (0.0075 lb)	
Dimensions	3.1 x 26.8 x 30.0 mm (0.12 x 1.06 x 1.18 in)	
Operating Voltage	3.3V +/- 9%	
Temperature	Operating	0° to 80° C (32° to 176° F)
	Non-operating	–40° to 80° C (–40° to 176° F)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 90% (non-condensing)
Altitude	Operating	3,048 m (0 to 10,000 ft)
	Non-operating	15,240 m (0 to 50,000 ft)
Configuration Utility[5]	Microsoft Windows XP	
	Choice of Configuration Utility:	

- Microsoft Windows XP Wireless Network Connection Manager
- Intel PROSet for Microsoft Windows XP (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager.
- Intel IHV extensions for Windows Vista available to support Cisco Compatible Extensions.

LED Activity   LED Off – Radio OFF; Solid LED On – 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. In Power Save Polling mode and on battery power.
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).
5. 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.

LED Activity   LED Off – Radio OFF; Solid LED On – 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 (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

QuickSpecs

Technical Specifications

4. 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.

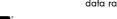| **Broadcom 4322AGN 802.11a/b/g/n WiFi Adapter**	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
	Interoperability	Wi-Fi certified (802.11abg only) Cisco Compatible Extensions Program compliant (802.11abg only) with Microsoft Windows Vista and XP
	Frequency Band	2.4 GHz 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
	Security[1]	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)[2]	17 dBm
	Output Power (for OFDM; power varies by data rate)[2]	15 dBm

QuickSpecs

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[3]	270 Mbps: -61dBm, , 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	6 g (0.013 lb)
Dimensions	4.75 x 26.8 x 30 mm (0.19 x 1.06 x 1.18 in)
Operating Voltage	3.3v +/- 10%

Temperature	Operating	–10° to 65° C (14° to 149° F)
	Non-operating	–40° to 80° C (–40° to 176° F)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	3,048 m (0 to 10,000 ft)
	Non-operating	15,240 m (0 to 50,000 ft)

Configuration Utility[4] Microsoft Windows XP

Choice of Configuration Utility:

- Microsoft Windows XP Wireless Network Connection Manager
- Broadcom Wireless Configuration Utility (required for Cisco Compatible Extensions support)

Microsoft Windows Vista

- Microsoft Windows Vista Wireless Network Connection Manager
- Broadcom IHV extensions for Windows Vista available to support Cisco Compatible Extensions.

LED Activity   LED Off – Radio OFF; Solid LED On – 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 (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. 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.

QuickSpecs

Technical Specifications

Broadcom 4313GN 802.11b/g/n WiFi Adapter		
	Wireless LAN Standards	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: http://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 DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	Security[1]	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)[2]	17 dBm , nominal
	Output Power (for OFDM; power varies by data rate)[2]	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[3]	72.2 Mbps: -71dBm
	Antenna type	High efficiency dual band antenna with spatial diversity, usually mounted in the display enclosure
	Form Factor	PCI-Express Half-MiniCard

Technical Specifications

Weight	6 g (0.013 lb)	
Dimensions	4.75 x 26.8 x 30 mm (0.19 x 1.06 x 1.18 in)	
Operating Voltage	3.3v +/- 10%	
Temperature	Operating	-10° to 65° C (14° to 149° F)
	Non-operating	-40° to 80° C (-40° to 176° F)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	3,048 m (0 to 10,000 ft)
	Non-operating	15,240 m (0 to 50,000 ft)
LED Activity	LED Off - Radio OFF; Solid LED On - 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 (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
4. 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 and Win7.

HP Integrated Module with Bluetooth 2.1+EDR Wireless Technology		
Bluetooth Specification	2.1+EDR Compliant
Dimensions	30 x 6.5 x 3.25 mm (1.18 x 0.26 x 0.13 in)
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 10 m (33 ft)
Electrical Interface	USB 2.0 compliant
	Microsoft Windows Plug and Play compliant
Bluetooth Software Supported	Broadcom Bluetooth for Windows
	Microsoft Windows Bluetooth Software

QuickSpecs

HP ProBook 6450b Notebook PC

HP ProBook 6450b Notebook PC
HP ProBook 6550b Notebook PC

Technical Specifications

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	-20° to 70° C (-4° to 158° F)
	Non-operating	-40° to 80° C (-40° to 176° F)
Humidity	Operating	10% to 90%
	Non-operating	5% to 95%
Altitude	Operating	4,572 m (15,000 ft)
	Non-operating	12,192 m (40,000 ft)
Bluetooth Profiles Supported	Serial Port Profile (SPP)[1]	
	Service Discovery Applicaton 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)[1,2,3]	
	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

Copyright © 2010 Hewlett-Packard Development Company, L.P.

All rights reserved. Microsoft, Windows, Windows 7, Windows Vista and Windows XP are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. Intel, Core, and Celeron are registered trademarks or trademarks of Intel Corporation in the U.S. and/or other countries. Bluetooth is a registered trademark of Bluetooth SIG, Inc., in the U.S. and other countries. All other product names mentioned herein may be trademarks of their respective companies.

DA – 13616   EMEA — Version 1 — May, 2010

Page 41

QuickSpecs

Technical Specifications