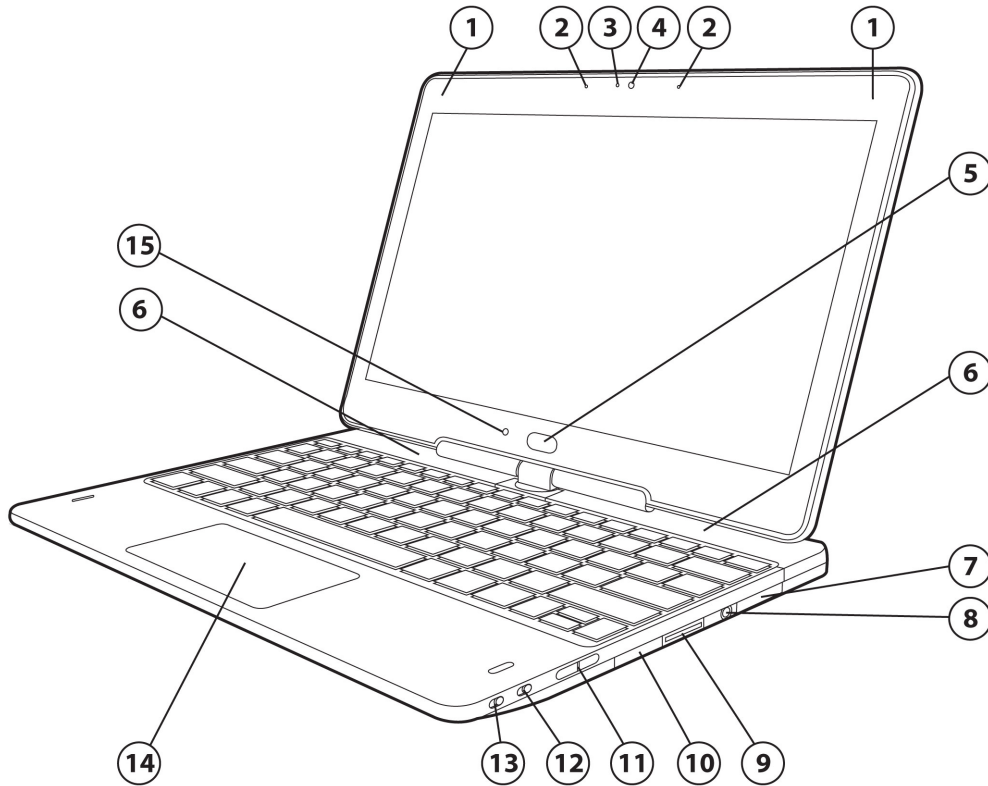
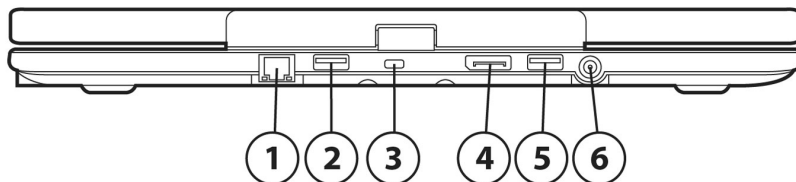


### Overview



#### Front, Right

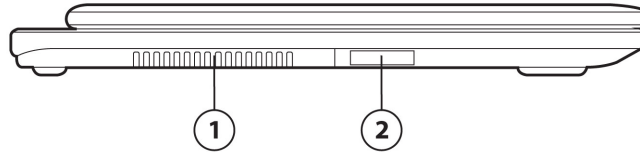
- |                           |                           |
|---------------------------|---------------------------|
| 1. WLAN antennas          | 9. MicroSD slot           |
| 2. Dual-microphone array  | 10. Speaker               |
| 3. Webcam LED             | 11. Volume up/down button |
| 4. 720p HD Webcam         | 12. Rotation lock button  |
| 5. Home button            | 13. Power button          |
| 6. WWAN antennas          | 14. Clickpad image sensor |
| 7. Side docking connector | 15. Ambient light sensor  |
| 8. Audio jack             |                           |



#### Rear

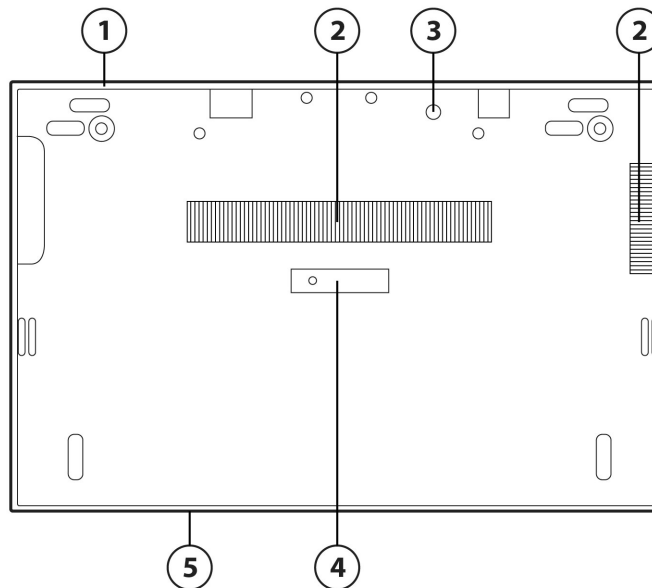
### Overview

- |                          |                      |
|--------------------------|----------------------|
| 1. RJ-45 (Ethernet) jack | 4. DisplayPort v1.1a |
| 2. USB 3.0 port          | 5. USB 3.0 port      |
| 3. Security lock slot    | 6. Power connector   |



### Left

1. Vent
2. Speaker



### Bottom

- |   |                                    |
|---|------------------------------------|
| 1. Service cover                          | 4. Battery bay cover release latch |
| 2. Vents                                  | 5. Battery bay                     |
| 3. Near Field Communication (NFC) antenna |                                    |

### Overview

#### At A Glance

- Windows 8 versions, Windows 7 versions or FreeDOS
- 11.6-inch diagonal LED-backlit HD UWVA display (1366 x 768) with capacitive multi-touch screen
- Industrial, business rugged HP DuraCase construction features a full magnesium alloy chassis, wear-resistant HP DuraFinish, and stainless steel hinges
- The HP Elitebook Revolve meets military standards 810G testing\* for drop, vibration, functional shock, dust, altitude, and high and low temperature.
- Full-sized backlit, spill-resistant keyboard with bottom-case drain
- Clickpad image sensor
- Choice of 3rd Generation Intel® Core™ i7, i5 Core with Turbo Boost Technology or 3rd Generation Intel® Core™ i3 Core
- Intel vPro technology (optional support on models with i7 and i5 processors) enables you to remotely monitor, diagnose, and repair PCs over the network, even if a system's OS is inoperable or it is powered off
- Choice of up to 256 GB mSATA Solid State Drive
- Flexible wireless connectivity options:
  - Integrated WWAN modules with GPS support
  - Integrated Intel 802.11 a/b/g/n (2x2) wireless LAN module with Bluetooth
  - Integrated Intel 802.11 a/b/g/n (2x2) wireless LAN module
- 6-cell polymer long life battery(44 WHr)
- Integrated Intel HD Graphics
- Integrated 720p HD Webcam
- DTS Studio Sound with integrated stereo speakers and dual microphone array
- Security features including HP Client Security, Common Criteria Certified Discrete TPM 1.2 Embedded Security Chip, and Security lock slot
- Separate launch buttons for easy access to the following features: Windows, power, rotation lock, volume up and down
- DisplayPort for high resolution support
- Optional HP Docking Station
- Sensors include Gyroscope, Accelerometer, Compass, Ambient Light Sensor, Near Field Communication (NFC)
- MicroSD slot, Micro-SIM

\* Testing was not intended to demonstrate fitness for Department of Defense contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions.

### Features

#### PRODUCT NAME

HP EliteBook Revolve 810 Tablet

#### OPERATING SYSTEM

##### Preinstalled

Windows 8 Pro 64\*  
Windows 8 64\*  
Windows 7 Professional 64 (available through downgrade rights from Windows 8 Pro)\*\*  
Windows 7 Professional 64\*\*\*  
Windows 7 Home Premium 64\*\*\*  
FreeDOS 2.0

##### Supported

Windows 8 32\*  
Windows 8 Pro 32\*  
Windows 8 ML 32\*  
Windows 8 Enterprise 32\*  
Windows 8 Enterprise 64\*  
Windows 7 Professional 32\*\*\*  
Windows 7 Enterprise 32\*\*\*  
Windows 7 Enterprise 64\*\*\*  
Windows 7 Ultimate 32\*\*\*  
Windows 7 Ultimate 64\*\*\*  
Windows 7 Home Premium 32\*\*\*  
Windows 7 Home Basic 32\*\*\*  
Windows 7 Home Basic 64\*\*\*

\* Not all features are available in all editions of Windows 8. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8 functionality. See <http://www.microsoft.com/>

\*\* This system is preinstalled with Windows® 7 Pro software and also comes with a license and media for Windows 8 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data

\*\* Systems may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. See <http://www.microsoft.com/windows/windows-7/> for details.

### Features

#### PROCESSOR\*

3rd Generation Intel® Core™ i7-3687U (2.1 GHz, 4 MB L3 cache, 2 cores)\*

Up to 3.30 GHz with Intel Turbo Boost Technology\*\*

3rd Generation Intel® Core™ i5-3437U (1.9 GHz, 3 MB L3 cache, 2 cores)\*

Up to 2.90 GHz with Intel Turbo Boost Technology\*\*

3rd Generation Intel® Core™ i3-3227U (1.9 GHz, 3 MB L3 cache, 2 cores)\*

\* Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

\*\* Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See [www.intel.com/technology/turboboost](http://www.intel.com/technology/turboboost) for more information.

#### CHIPSET

Mobile Intel® QM77 Express (vPro support on i7 and i5 processors)

#### INTEL CORE I5 WITH VPRO/CORE I7 WITH VPRO TECHNOLOGY CAPABLE

Intel Core i5 with vPro and Core i7 with vPro technology is a selectable feature that is available on units configured with select processors, an Intel Centrino® Advanced-N or Ultimate-N WLAN module and a preinstalled Windows operating system. It provides advances in remote manageability, security, energy efficient performance, and wireless connectivity. Intel Active Management Technology 8.0 (iAMT) offers built-in manageability and proactive security for networked notebook PCs, even when they are powered off\* or when the operating system is inoperable. It can help identify threats before they reach the network, isolate infected systems, and update PCs regardless of their power state.

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

**NOTE:** Some functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required. For hard drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 30 GB for Windows 8 is reserved for system recovery software.

#### GRAPHICS

Integrated:

Intel HD Graphics

### Features

#### DISPLAY

##### Internal

11.6-inch diagonal LED-backlit HD\* UWVA touchscreen (1366 x 768)

- Ultra- Wide-viewing angle
- Capacitive multitouch screen with digitizer
- Tough, durable Corning Gorilla Glass 2

##### 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

\* HD content required to view HD images.

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

#### STORAGE AND DRIVES

##### Solid State Drive

Up to 256 GB mSATA

**NOTE:** Solid State Drives (SSD), GB = 1 billion bytes. Actual formatted capacity is less. Up to 30 GB for Windows 8 is reserved for system recovery software.

#### MEMORY

##### Standard

DDR3L PC3-12800 SDRAM (1600 MHz)

One SODIMM slot supporting dual-channel memory plus 4 GB soldered down  
4 GB and 8 GB SODIMMs

##### Maximum

Upgradeable to 12288 MB with optional 8192 MB SODIMM in slot 1 and 4096 MB soldered down  
Dual-channel

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

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

**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.

### Features

## NETWORKING/COMMUNICATIONS

### Wireless

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 as both a factory configurable and after-market option and can be combined with any of the supported wireless LAN and wireless WAN options.

### Broadband Wireless (WWAN)

HP un2430 EV-DO/HSPA Mobile Broadband Module with GPS support<sup>1, 2</sup>  
HP hs2350 HSPA+ Mobile Broadband Module with GPS support<sup>1, 2</sup>

### Wireless LAN (WLAN)

Intel Centrino Advanced N 6205, (2x2) a/b/g/n<sup>1, 3</sup>  
Intel 802.11 a/b/g/n (2x2) +Bluetooth Combo<sup>1, 3</sup>

### NOTES:

1. Wireless access point and Internet service required. Availability of public wireless access points limited.
2. GPS access requires an unobstructed path to multiple satellites. Performance may be affected if/when used inside of buildings, bridges or heavily congested metropolitan areas. Requires separately purchased GPS navigation software available from multiple GPS applications.
3. Wireless use requires separately purchased service contract. Check with your local vendor for coverage area and availability in your area. Connection and speeds will vary due to location, environment, network conditions, and other factors. 4G compatibility with HSPA+.

### Communications

Integrated Intel 82579LM Gigabit\* Network Connection (vPro configurations)

\* The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required.

## AUDIO/MULTIMEDIA

### Audio

DTS Studio Sound  
Integrated stereo speakers  
Integrated microphone (dual-microphone array)  
Buttons for volume up and down  
Headphone/microphone combo jack

### Webcam

Integrated 720p HD webcam

- HD format (widescreen)
- Supports videoconferencing and still image capture
- High quality fixed focus lens
- Video capture at various resolutions up to 1280x720 resolution (720p) and up to 30fps
- M-JPEG compression supports higher frame rates for video capture and videoconferencing
- Improved low light sensitivity
- Improved dynamic range

### Features

#### KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

##### 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 an industry standard, 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, and 12 function keys. U.S. and International key layouts are available. Other features include an integrated numeric keypad, hotkeys for instant access to power conservation, brightness, and other features, 19 mm x 19 mm key pitch (center-to-center spacing), 2.0 mm stroke, and comfort-dished keycaps.

##### Pointing Devices

Clickpad image sensor

##### Buttons and Function Keys

Function keys are:

F1 - Ambient Light Sensor

F2 - Battery Gauge

F3 - Sleep

F4 - Display Switching

F5 - Speaker Mute

F6 - Volume Down

F7 - Volume Up

F8 - mic mute

F9 - Brightness Down

F10 - Brightness Up

F11 - Backlit

F12 - WiFi toggle

#### SENSORS

Accelerometer

Compass

Ambient Light Sensor

Near Field Communication (NFC)

#### SOFTWARE AND SECURITY

##### Preinstalled Software with Windows Operating System

HP ePrint\*

PDF Complete Corporate Edition

Evernote

Adobe® Flash Player

Cyberlink Media Suite

- Cyberlink PowerDVD
- Cyberlink Media Suite (Windows App) (Windows 8 only)
- Cyberlink Media Suite (Desktop App)
- Cyberlink YouCam (Windows App) (Windows 8 only)
- Cyberlink YouCam BE (Desktop App)



### Features

- Cyberlink Photo Director
- Cyberlink Power Director

Skype ready\*

Skitch (Windows 8 only)

HP PageLift

Intel WiDi (with select configurations)

Buy Office.

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

\*\* Internet access required.

### Security

#### Standard

Common Criteria EAL4+ Augmented Certified Discrete TPM 1.2 Embedded Security Chip

Security lock slot

HP BIOS (BIOS Protection)

Secure Erase<sup>1</sup>

Computrace Persistence<sup>2</sup>

DriveLock and Automatic DriveLock

Preboot Security

Master Boot Record recovery (Windows 7 only)

HP Client Security Software<sup>3</sup>:

- Drive Encryption
- Credential Manager
- Password Manager
- Absolute Data Protect (Windows 8 only)<sup>3, 7</sup>
- Computrace (Windows 7 only)<sup>8</sup>
- Face Recognition<sup>5</sup>
- One Step Logon
- SpareKey<sup>4</sup>

Device Access Manager with Just In Time Authentication

Embedded Security (Windows 7 only)

Privacy Manager (Windows 7 only)

Microsoft Security Essentials (Windows 7 only)<sup>5</sup>

DigitalPass (Windows 7 only)

Central Management capable<sup>6</sup>

#### Optional

HP Combo Lock

<sup>1</sup> For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.

<sup>2</sup> Computrace agent is shipped turned off, and must be activated by customers when they purchase a subscription. Subscriptions can be purchased for terms ranging for multiple years. Service is limited, check with Absolute for availability outside the U.S

<sup>3</sup> Requires Microsoft Windows.

<sup>4</sup> Requires initial user setup.

<sup>5</sup> Opt-in and Internet connection required for updates

### Features

<sup>6</sup> In order to deploy and receive updated policies, the client needs to be connected to the network server and requires separately purchased DigitalPersona Pro software. System access may not prevent users from logging into the system on the first attempt if policy updates haven't yet been received and applied.

<sup>7</sup> HP Revolve with Windows 8 includes includes a 4 year license of Absolute Data Protect to locate your device, lock and prevent unauthorized access and remotely delete personal data. See <http://www.absolute.com/landing/2012/computrace-hp> for complete details. Absolute Data Protect agent is shipped turned off, and must be activated by customers. Service may be limited, check with Absolute for availability outside the U.S. The optional subscription service of Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>. If Data Delete is utilized, the Recovery Guarantee payment is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either create a PIN or purchase one or more RSA SecurID tokens from Absolute Software.

<sup>8</sup> HP Revolve with Windows 7 includes the Computrace agent, shipped turned off, and is activated with customer purchase of a subscription. Service may be limited. Check with Absolute for availability outside the U.S. The optional subscription service of Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>. If Data Delete is utilized, the Recovery Guarantee payment is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either create a PIN or purchase one or more RSA SecurID tokens from Absolute Software.

For more information on HP security solutions refer to: <http://www.hp.com/go/security>.

#### Management

LANDesk Management Suite (optional)<sup>1, 2</sup>

LANDesk Security Suite(optional)<sup>1, 2</sup>

HP System Software Manager (available at no charge as a download from the web)

HP Softpaq Download Manager (available at no charge as a download from the web)

<sup>1</sup> Sold separately or as an optional feature.

<sup>2</sup> Location based functionality planned to be available in May 2013 and requires active LANDesk maintenance service or purchase of updated LANDesk license with location based settings when available.

### POWER

#### Power Supply

External HP 45W Slim Smart AC Adapter

Power cord included is 5.91-foot (1.8 meter).

#### Primary Battery

HP 6-cell polymer long life (44WHr)

#### Battery Life

HP 6-cell polymer long life battery (44WHr)

Up to 8 hours and 30 minutes (with Windows 7)\*

Up to 8 hours and 15 minutes (with Windows 8)\*\*

#### System Standby Time

Up to 137 hours

#### Power Conservation

Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)

Intel Display Power Saving technology

### Features

Hibernation  
Standby  
ACPI compliance

\* Battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.bapco.com](http://www.bapco.com) for additional details.

\*\* Testing conducted by HP consisting of full battery discharge while running a series of productivity scripts against the following applications (which may or may not be included with your particular product): Adobe® AcrobatReader 7.0, Adobe® Illustrator® CS2, Adobe® Photoshop® CS2, Apple® Quicktime 7.1, Intervideo® WinDVD® 8, Macromedia® Flash 8, Microsoft® Office® 2003 Pro, Microsoft® Project 2003, and Winzip® 10.0. Prior to testing, the system was fully charged, display brightness was set at 60 nits, wireless was turned off, and auto dim, suspend, hibernate and all other non-essential operation programs, utilities, and services to operation and battery testing were disabled. 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.

### ENVIRONMENTAL

- US Energy Star®
- IT ECO declaration
- EPEAT Gold where HP registers commercial desktop products. See <http://www.epeat.net> for registration status in your country US Federal Energy Management Program (FEMP)

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### WEIGHTS & DIMENSIONS

#### Weight

Starting at 3.08 lb (1.40 kg) (weight will vary by configuration)

#### Dimensions (w x d x h)

8.34 x 11.22 x 0.80 in (at front) / 212 x 285 x 22.2 mm (at front)

**NOTE:** Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Weight includes 6-cell battery, lightest SSD, and 1 SODIMM.

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### PORTS/SLOTS

#### Ports

DisplayPort – One (v1.1a)  
Stereo headphone/microphone combo jack – One  
Power Connector – One  
Side Docking Connector – One  
RJ-45 (Ethernet) – One  
USB 3.0 – One  
USB 3.0 Charging – One

#### Digital Media Slots

Micro-SIM; Micro SD Media Reader Slot - supports SD, SDHC, SDXC

### Features

#### **SERVICE AND SUPPORT**

Limited, 90-day warranty, depending on country); 1 and 3 year limited warranty options available. 3-year limited warranty on battery. Optional HP Care Pack Services are extended service contracts which go beyond your standard warranties. For more details visit: <http://www.hp.com/go/cpc>

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

### Technical Specifications

#### SYSTEM UNIT

<b>Stand-Alone Power Requirements</b> (AC Power)	<b>Nominal Operating Voltage</b>	110/220 V
	<b>Average Operating Power</b>	10.2 W
<b>Temperature</b>	<b>Max Operating Power</b>	< 45 W
	<b>Operating</b>	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
<b>Relative Humidity</b>	<b>Non-operating</b>	-4° to 140° F (-20° to 60° C)
	<b>Operating</b>	10% to 90%, non-condensing
<b>Shock</b>	<b>Non-operating</b>	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
	<b>Operating</b>	40 G, 2 ms, half-sine
<b>Random Vibration</b>	<b>Non-operating</b>	200 G, 2 ms, half-sine
	<b>Operating</b>	0.75 grms
<b>Altitude</b> (unpressurized)	<b>Non-operating</b>	1.50 grms
	<b>Operating</b>	-50 to 10,000 ft (-15.24 to 3,048 m)
<b>Planned Industry Standard Certifications</b>	<b>Non-operating</b>	-50 to 40,000 ft (-15.24 to 12,192 m)
	<b>UL</b>	Yes
	<b>CSA</b>	Yes
	<b>FCC Compliance</b>	Yes
	<b>ENERGY STAR®</b>	Select models*
	<b>EPEAT</b>	Gold**
	<b>ICES</b>	Yes
	<b>Australia / NZ A-Tick Compliance</b>	Yes
	<b>CCC</b>	Yes
	<b>Japan VCCI Compliance</b>	Yes
	<b>KC</b>	Yes
	<b>BSMI</b>	Yes
	<b>CE Marking Compliance</b>	Yes
	<b>BNCI or BELUS</b>	Yes
	<b>CIT</b>	Yes
	<b>GOST</b>	Yes
	<b>Saudi Arabian Compliance (ICCP)</b>	Yes
	<b>SABS</b>	Yes
	<b>UKRSERTCOMPUTER</b>	Yes

### Technical Specifications

\* Configurations of the HP EliteBook Revolve that are ENERGY STAR qualified are identified as HP EliteBook Revolve ENERGY STAR on HP websites and on [www.energystar.gov](http://www.energystar.gov).

\*\* EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country. EPEAT status listed above applies to U.S.

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

### DISPLAYS

<b>11.6-inch LED HD (1366 x 768)</b>	<b>Active Area</b>	9.88 x 5.67 in (25.61 x 14.40 cm)	
	<b>Dimensions (W x H)</b>	11.53 x 6.49 in (29.3 x 16.5 cm)	
	<b>Diagonal Size</b>	11.6 in (29.46 cm)	
	<b>Contrast Ratio</b>	300:1 (typical)	
	<b>Refresh Rate</b>	60 Hz	
	<b>Brightness</b>	400 nit (typical)	
	<b>Pixel Resolution</b>	<b>Format</b>	1366 x 768
		<b>Configuration</b>	RGB Stripe
	<b>Backlight</b>	LED	
	<b>Viewing Angle</b>	40/40/15/30 (Left/Right/Down/Up) (typical)	

### STORAGE AND DRIVES

#### Internal Storage

<b>128 GB mSATA Solid State Drive</b>	<b>Drive Weight</b>	10 Grams	
	<b>Capacity</b>	128 GB	
	<b>Height</b>	0.147 in (3.75 mm)	
	<b>Width</b>	1.18 in (29.85 mm)	
	<b>Interface</b>	SATA 3 (6 Gb/s)	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 450 MB/s	Up to 260 MB/s
	<b>Logical Blocks</b>	250,069,680	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [case temp]	
	<b>Features</b>	ATA Security; ATA-8; SATA 3.0; DIPM	

## Technical Specifications

<b>256 GB mSATA Solid State Drive</b>	<b>Drive Weight</b>	Up to 10 Grams		
	<b>Capacity</b>	128 GB		
	<b>Height</b>	Up to 0.191 in (Up to 4.85 mm)		
	<b>Width</b>	1.18 in (29.85 mm)		
	<b>Interface</b>	SATA 3 (6 Gb/s)		
	<b>Performance</b>	<b>Maximum Sequential Read</b>	Up to 490 MB/s	<b>Maximum Sequential Write</b> Up to 250 MB/s
		<b>Logical Blocks</b>	500,118,192	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [case temp]		
	<b>Features</b>	ATA Security; ATA-8, SATA 3.0; DIPM; TRIM		

## NETWORKING/COMMUNICATIONS

<b>Intel® 82579LM Gigabit Network Connection</b>	<b>Ethernet Features</b>	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023. Clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE(Energy Efficient Ethernet) Jumbo Frame 9K Auto MDI/MDIX Crossover cable detection
	<b>Power Management</b>	ACPI compliant - multiple power modes Energy Detect Low Power Mode(Green Ethernet)
	<b>Performance Features</b>	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload( ARP & NS) Large send offload and Giant send offload Receiving Side Scaling MACSec Offload (802.3ae) Intel vPro iSCSI Boot
	<b>Manageability</b>	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status

### Technical Specifications

#### HP un2430 EV-DO/HSPA Mobile Broadband Module

<b>Interface</b>	PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ. <b>NOTE:</b> Intel 82579 PCIe interface is not PCIe compliant. It operates at half of PCIe specification V1.1 (2.5GT/S) speed.
<b>NIC Device Driver Name</b>	Intel 82579LM/82579V Ethernet Network Connection
<b>Technology/Operating Bands</b>	GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), AWS (UTRA FDD Band IV), 900MHz(UTRA FDD Band VIII), 850MHz (UTRA FDD Band V) 1xEVDO/1xRTT with receive diversity: 850MHz (Band Class0-Cell), 1900MHz (Band Class1-PCS)
<b>Wireless Protocol Standards</b>	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
<b>Wireless Parametric Standards</b>	Meets or exceeds TIA/EIA IS-98-D
<b>Maximum Data Rates</b>	UMTS (HSPA) - 14.4 Mbps (Download ), 5.76Mbps (Upload) CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8Mbps (Upload)
<b>GPS</b>	Standalone GPS enabled gpsOneXTRATM™
<b>GPS Bands</b>	L1 - 1575.42 MHz
<b>Maximum Output Power</b>	GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+0.7/-2.3) CDMA: 24dBm (+0.7/-2)
<b>Maximum Power Consumption</b>	2750mA (peak); 1100mA (average)
<b>Power Consumption, Idle Not Connected</b>	20 mA
<b>Power Management</b>	USB selective suspend Integrated notebook wireless button
<b>Antenna Type</b>	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
<b>Form Factor</b>	PCI-Express MiniCard, USB 2.0 interface
<b>Weight</b>	11.5 g
<b>Dimensions</b> (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
<b>Voltage, Operating</b>	3.3v +/- 10%
<b>Temperature, Operating</b> (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)
<b>Temperature, Non-operating, 96 hours</b> (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
<b>Humidity, Non-operating</b>	95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)



### Technical Specifications

	<b>Configuration Utilities</b>	HP Connection Manager
	<b>LED Activity</b>	LED Off - Radio Off; Solid LED On - Radio On
<b>HP hs2350 HSPA+ Mobile Broadband Module</b>	<b>Technology/Operating Bands</b>	GSM/GPRS/EDGE: 850MHz(Cell), 900MHz(EGSM), 1800MHz(DCS), 1900MHz (PCS) UMTS/WCDMA with receive diversity: 2100MHz (UTRA FDD Band I), 1900MHz (UTRA FDD Band II), 900MHz(UTRA FDD Band VIII), 850 MHz (UTRA FDD Band V)
	<b>Wireless Protocol Standards</b>	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
	<b>Wireless Parametric Standards</b>	Complies with 3GPP specifications
	<b>Maximum Data Rates</b>	UMTS (HSPA) - 21 Mbps (Download ), 5.76Mbps (Upload)
	<b>GPS</b>	Standalone, A-GPS (Internet- and Network assisted)
	<b>GPS Bands</b>	1575.42 MHz (± 1.023 MHz)
	<b>Maximum Output Power</b>	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)
	<b>Maximum Power Consumption</b>	UMTS UTRA FDD Bands +24 dBm +4 / -3 dBm (class 3) 2000mA (peak); 600mA (average)
	<b>Power Consumption, Sleep Mode</b>	5 mA
	<b>Power Management</b>	USB selective suspend Integrated notebook wireless button
	<b>Antenna Type</b>	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
	<b>Form Factor</b>	PCI-Express MiniCard, USB 2.0 interface
	<b>Weight</b>	< 12 g
	<b>Dimensions</b> (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)
	<b>Voltage, Operating</b>	3.3v +/- 9%
	<b>Temperature, Operating</b>	14° to 149° F (-10° to 65° C) (full RF performance) 14° to 167° F (-10° to 75° C) (reduced RF performance)

### Technical Specifications

<b>Temperature, Non-operating, 96 hours</b> (from MIL-STD 202 Method 108)	-22° to 185° F (-30° to 85° C)
<b>Humidity, Non-operating</b>	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
<b>Configuration Utilities</b>	HP Connection Manager
<b>LED Activity</b>	LED Off - Radio Off; Solid LED On - Radio On

#### Intel Centrino Advanced-N Wireless LAN Standards 6205 (2x2)

	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n
<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows 7, Windows Vista and XP (details at: <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
<b>Frequency Band</b>	2.4 GHz and 5GHz
<b>Antenna Structure</b>	2 transmit; 2 receive (2x2)
<b>Data Rates</b>	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
<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
<b>Security<sup>1</sup></b>	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.
<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between 2.4GHz band Access Points
<b>Output Power</b> (for CCK and OFDM) <sup>2</sup>	17 dBm max

### Technical Specifications

<b>Power Consumption</b>	Transmit: 2.3 Watts (max, with two spatial streams) Receive: 1 Watt (max with two spatial streams) Idle mode <sup>3</sup> : 35 mW (average) Radio off: 20 mW (max)	
<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode	
<b>Receiver Sensitivity<sup>4</sup></b>	54 Mbps: -76 dBm, 6 Mbps: -92 dBm	
<b>Antenna Connections</b>	2 U.FL type connectors, 50 ohm nominal impedance	
<b>Form Factor</b>	PCI-Express Half-MiniCard	
<b>Weight</b>	0.0075 lb (3.4 g)	
<b>Dimensions</b>	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)	
<b>Operating Voltage</b>	3.3V +/- 9%	
<b>Temperature</b>	Operating	32° to 176° F (0° to 80° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 90% (non-condensing)
<b>Altitude</b>	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Off - Radio OFF; Solid LED On - Radio ON	
	<ol style="list-style-type: none"> <li>1. Check latest software/driver release for updates on supported security features.</li> <li>2. Maximum output power may vary by country according to local regulations.</li> <li>3. In Power Save Polling mode and on battery power.</li> <li>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).</li> <li>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.</li> </ol>	
<b>Intel 802.11a/b/g/n (2x2) Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n	
<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows Vista and XP (details at: <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )	
<b>Frequency Band</b>	2.4 GHz and 5GHz	
<b>Antenna Structure</b>	2 transmit; 2 receive (2x2)	
<b>Data Rates</b>	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	
<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM	

### Technical Specifications

<b>Security<sup>1</sup></b>	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.
<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
<b>Media Access Protocol</b>	CSMA/CA (Collision Avoidance) with ACK
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between 2.4GHz band Access Points
<b>Output Power</b> (for CCK and OFDM) <sup>2</sup>	17 dBm max
<b>Power Consumption</b>	Transmit: 2.3 Watts (max, with two spatial streams) Receive: 1 Watt (max with two spatial streams) Idle mode <sup>3</sup> : 35 mW (average) Radio off: 20 mW (max)
<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>4</sup></b>	54 Mbps: -76 dBm, 6 Mbps: -92 dBm
<b>Antenna Connections</b>	2 U.FL type connectors, 50 ohm nominal impedance
<b>Form Factor</b>	PCI-Express Half-MiniCard
<b>Weight</b>	0.0075 lb (3.4 g)
<b>Dimensions</b>	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)
<b>Operating Voltage</b>	3.3V +/- 9%
<b>Temperature</b>	Operating 32° to 176° F (0° to 80° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 90% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	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

#### AUDIO/MULTIMEDIA

<b>Audio</b>	<b>DTS Studio Sound</b> (Windows OS only)	
<b>Hardware</b>	<b>Implementation</b>	IDT 92HD91 High Definition CODEC
	<b>Function Key Volume Controls</b>	Volume up, volume down, and mute
	<b>Mute Buttons</b>	Playback and Record mute buttons with LED indicator
	<b>Full Duplex</b>	Yes
	<b>Microphone In</b>	Stereo
	<b>Headphone/Line Out</b>	Stereo
	<b>Integrated Microphone</b>	Yes, dual digital microphone array when equipped with optional webcam
<b>Audio Output Quality</b>	<b>Frequency Response</b>	20 Hz – 20 kHz
	<b>Signal to Noise Ratio</b>	>85 dB
	<b>Total Harmonic Distortion</b>	0.01%
	<b>Noise Floor</b>	-110 dB
	<b>Play/Record Sampling Rate(s)</b>	8 kHz - 48kHz
	<b>DAC</b>	16, 20 or 24-bit
	<b>ADC</b>	16 or 20-bit
<b>Integrated Stereo Speakers</b>	<b>Power Rating</b>	1 Watt
	<b>Impedance</b>	8 Ohms

#### POWER

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### Technical Specifications

<b>HP 45W Slim Smart AC Adapter</b>	<b>Dimensions (H x W x D)</b>	9.60 x 4.95 x 2.24 cm	
	<b>Input</b>	90 to 265 VAC	
		Input Efficiency	87% min at 115 VAC
		Input frequency range	47 to 63 Hz
	<b>Output</b>	Input AC current	1.4 A at 90 VAC and maximum load
		Output power	45W
		DC output	19.5V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	<8A, Over voltage protection- 29V max automatic shutdown
	<b>Connector</b>	3 pin/grounded, mates with interchangeable cords	
	<b>Environmental Design</b>	<b>Operating temperature</b>	32° to 95° F (0° to 35° C)
		<b>Non-operating (storage) temperature</b>	-4° to 121° F (-20° to 85° C)
		<b>Altitude</b>	0 to 16,405 ft (0 to 5,000 m)
<b>Humidity</b>		0% to 95%	
<b>EMI and Safety Certifications</b>	<b>Storage Humidity</b>	0% to 95%	
	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; Reliability - failure rate of less than 0.1% annually within the first three years of operation.		
<b>HP 6-cell (44 WHr) Polymer Primary battery</b>	<b>Dimensions (H x W x L)</b>	1.11 x 28.1 x 10.3 cm	
	<b>Weight (max)</b>	3.10g	
	<b>Cells/Type</b>	6-cell Polymer	
	<b>Energy</b>	Voltage	11.1V
		Amp-hour capacity	4.0Ah
		Watt-hour capacity	44Wh
	<b>Temperature</b>	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)
	<b>Battery Re-Charge Time</b>	System in OFF or Standby Mode	2.5 hours
		System ON	3-5 hours
	<b>Fuel Gauge LED</b>	No	
	<b>Optional Travel Battery Available</b>	No	

### ENVIRONMENTAL

### Technical Specifications

#### 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:

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

#### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".

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

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation	8.84 W	9.13 W	8.20 W
Sleep	0.78 W	0.9 W	0.78 W
Off	0.39 W	0.48 W	0.38 W

#### NOTE:

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

#### Heat Dissipation\*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation	30 BTU/hr	31 BTU/hr	28 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	1 BTU/hr	2 BTU/hr	1 BTU/hr

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

### Technical Specifications

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

Typically Configured - Idle  
Fixed Disk - Random writes

Sound Power  
(LWAd, bels)

3.2  
3.1

Sound Pressure  
(LpAm, decibels)

25  
25

#### Longevity and Upgrading

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

- 3 USB ports
- 1 PC card slot (type I/II)
- 1 ExpressCard/54 slot
- 1 IEEE 1394 Port
- 2 SODIMM memory slots
- Optional expansion base docking station
- 1 multi-bay II storage port
- Interchangeable HDD??

<edit list of features as required>

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

#### Batteries

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

Batteries used in the product do not contain:

- Mercury greater the 1ppm by weight
- Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)

Battery type: Lithium

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

Battery type:

#### Additional information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.
- This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.
- This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the gold level, see [www.epeat.net](http://www.epeat.net)
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 30.6% post-consumer recycled plastic (by wt.)
- This product is 90.2% recycle-able when properly disposed of at end of life.

#### Packaging Materials

External:

PAPER/Corrugated

340 g



### Technical Specifications

<b>Internal:</b>	PLASTIC/EPE (Expanded Polyethylene)	80 g
	PLASTIC/Polyethylene low density	25 g
	PLASTIC/PET	500 g
	OTHER/OTHER	1450 g

The plastic packaging material contains at least 30 % recycled content.

The corrugated paper packaging materials contains at least 30% recycled content.

#### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at: <http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf>):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel - finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) - except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

#### Packaging Usage

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

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

### Technical Specifications

#### End-of-life Management and Recycling

- Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.

Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/recyclers>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

#### Hewlett-Packard Corporate Environmental Information

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

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Eco-label certifications

<http://www8.hp.com/us/en/hp-information/environment/ecolabels.html>

ISO 14001 certificates:

[http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC\\_GBU\\_Product\\_Design\\_ISO\\_14K\\_Certificate.pdf](http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf)

and

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

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

Type	Description	Part #
<b>Memory</b>	HP 2GB DDR3 1600 PC3-12800 SODIMM	H2P63AA#xxx
	HP 4GB DDR3 1600 PC3-12800 SODIMM	H2P64AA#xxx
	HP 8GB DDR3 1600 PC3-12800 SODIMM	H2P65AA#xxx
<b>Cases</b>	HP Essential Top Load Case (up to 15.6")	H2W17AA#xxx
	HP Essential Backpack (up to 15.6")	H1D24AA
	HP Essential Messenger Case (up to 17.3")	H1D25AA
	HP Deluxe 4 wheel Roller Case (up to 17.3")	XW576AA
	HP Business Nylon Backpack (up to 17.3")	BP849AA
	HP Business Nylon Case(up to 15.6")	BP848AA
	HP BP848 TAA Business Nylon Top Load (up to 15.6")	LU934AA#ABA
	HP Elite Leather Messenger	AX676AA
	HP Professional Series Designer Tote (up to 15.6")	AT889AA
	HP Elite Series Designer Tote (up to 15.6")	AT891AA
	HP Professional Series Carrying Case (up to 15.6")	H4J90AA
	HP Professional Series Carrying Case TSA (up to 15.6")	H4J92AA
	HP Professional Series Backpack (up to 15.6")	H4J93AA
	HP Professional Leather Case (up to 17.3")	H4J94AA
HP Business Slim Top Load (up to 14.1" x .75" thick)	H2T13AA	
<b>Docking</b>	HP Adjustable Dual Monitor Stand	AW664AA#xxx
	HP Adjustable Display Stand	AW663AA#xxx
	HP Display and Notebook Stand	AW662AA#xxx
	HP LCD Monitor Stand	QM196AA
	HP Dual Hinge Notebook Stand	AW661AA#xxx
	HP USB 2.0 Port Replicator	H1L07AA#xxx
	HP USB 3.0 Port Replicator	H1L08AA#xxx
	HP UltraSlim Docking Station	B9C87AA#xxx
<b>Input/Output - Mice</b>	HP USB Optical Travel mouse	RH304AA
	HP Wireless Mobile Mouse	H2L63AA
	HP USB Essential Keyboard/Mouse	H2S75AA
	HP X6000 Mouse	H2L62AA#XXX
	HP 3-button USB Laser Mouse	H4B81AA
	HP X4000b Bluetooth Mouse	H3T50AA#xxx
<b>Input/Output - Keyboard</b>	HP Stylish Wireless KB/Mouse	H4B79AA
	HP Stylish USB KB/Mouse	H4B80AA
	HP Wireless Mini Keyboard	A3X55AA#xxx

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

	HP Slim BT Keyboard US	H4Q44AA#ABA
<b>Input/Output - Other</b>	HP USB Ethernet Adapter	XZ613AA#ABA
	USB Graphics Adapter	NL571AT
	USB Graphics Adapter (DBU PL)	NL571AA
<b>Input/Output - Projector</b>	HP Notebook Projection Companion	LQ552AA#xxx
<b>Adapters</b>	90W Slim Combo Adapter	H4A41AA#xxx
	90W w/USB Universal Adapter	H4A43AA#ABA
	90W Smart AC/Auto/Air Combo Adapter	AJ652AA#xxx
	90W Smart Auto/Truck Adapter	ED493AA
	HP Smart 65W Travel AC Adapter	AU155AA#xxx
	HP 65W Slim Adapter	AX727AA#xxx
	65W Smart AC Adapter	ED494AA#xxx
	90W Smart AC Adapter	ED495AA#xxx
	90W Slim Adapter	BT796AA#xxx
<b>Storage - External Storage</b>	HP Mobile USB DVDRW Non-LS	A2U57AA
<b>Platform Battery</b>	HP OD06XL Long Life Notebook Battery	H6L25AA
<b>Health and Education</b>	20 Notebook Managed Charging Cart	QL489AA#xxx
	20 Notebook Charging Cart	QL488AA
	30 Notebook Managed Charging Cart	QL490AA
	30 Notebook Charging Cart	H4F31AA#ABA
	HP Presentation Station Projector Shelf	QN034AA
	HP Presentation Station 1000	QL815AA
	HP Pocket Whiteboard (3 year warranty)	A0X37AA#xxx
<b>Security</b>	HP Docking Station Cable Lock	AU656AA#xxx
	HP UltraSlim Keyed Cable Lock	H4D73AA

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