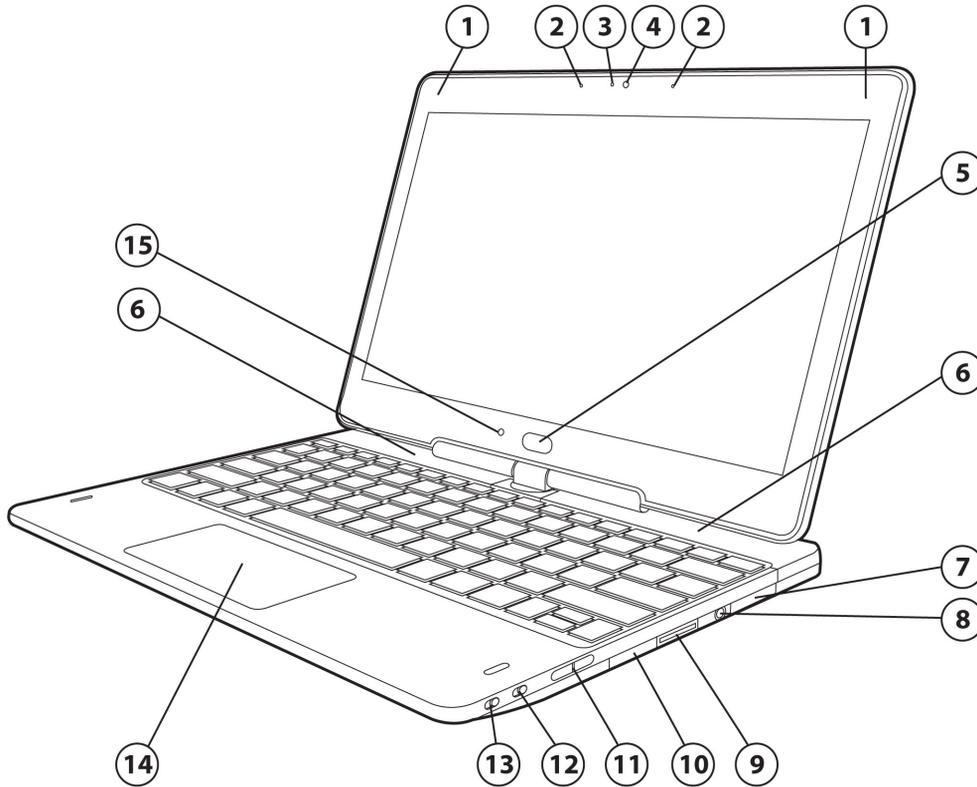
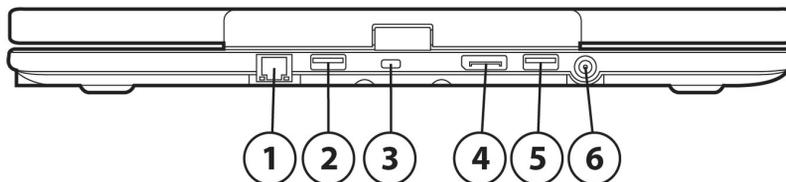


### Overview



#### Front, Right

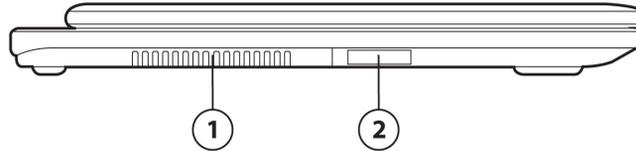
- |                           |                           |
|---------------------------|---------------------------|
| 1. WLAN antennas          | 9. MicroSD slot           |
| 2. Dual-microphone array  | 10. Speaker               |
| 3. Webcam LED             | 11. Volume up/down button |
| 4. 720p 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

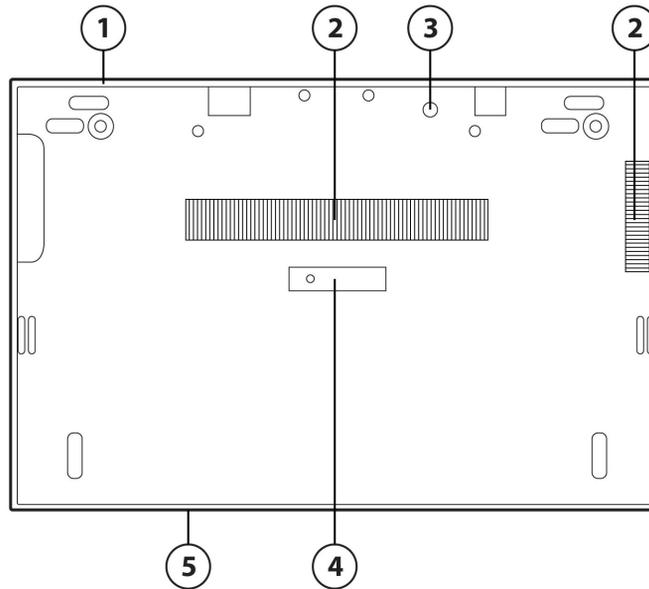
### Overview

- |                          |                      |
|--------------------------|----------------------|
| 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 (44 WHr) polymer battery
- 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 display (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

DDR3 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 (factory configurable only) 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

Optional HP Executive Tablet Pen\*

\*The HP Executive Tablet Pen does not support the hover feature, which may be required for some Microsoft Windows 8 apps. Please refer to [www.hp.com/go/hpexecutivetabletpen](http://www.hp.com/go/hpexecutivetabletpen) for more information.

##### 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

### Features

- 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)
- 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</sup>
- Face Recognition<sup>3</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

### Features

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

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

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

<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.

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 Battery (44 WHr)

#### Battery Life

HP 6-cell Primary Battery    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

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,

### Features

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<sup>®</sup>
  - 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)
- 

### 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.

---

### 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

### 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>Max Operating Power</b>              | < 45 W   |
| <b>Temperature</b>                               | <b>Operating</b>                        | 32° to 95° F (0° to 35° C) (not writing optical)<br>41° to 95° F (5° to 35° C) (writing optical) |
|  | <b>Non-operating</b>                    | -4° to 140° F (-20° to 60° C)  |
| <b>Relative Humidity</b>                         | <b>Operating</b>                        | 10% to 90%, non-condensing   |
|  | <b>Non-operating</b>                    | 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature                                       |
| <b>Shock</b>                                     | <b>Operating</b>                        | 40 G, 2 ms, half-sine  |
|  | <b>Non-operating</b>                    | 200 G, 2 ms, half-sine   |
| <b>Random Vibration</b>                          | <b>Operating</b>                        | 0.75 grms  |
|  | <b>Non-operating</b>                    | 1.50 grms  |
| <b>Altitude</b> (unpressurized)                  | <b>Operating</b>                        | -50 to 10,000 ft (-15.24 to 3,048 m)   |
|  | <b>Non-operating</b>                    | -50 to 40,000 ft (-15.24 to 12,192 m)  |
| <b>Planned Industry Standard Certifications</b>  | <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<br/>(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<br/>Drive</b> | <b>Drive Weight</b>          | 75 Grams                                  |                                 |
|   | <b>Capacity</b>              | 128 GB                                    |                                 |
|   | <b>Height</b>                | 0.276 in (7 mm)                           |                                 |
|   | <b>Width</b>                 | 2.76 in (70 mm)                           |                                 |
|   | <b>Interface</b>             | SATA Gen 2                                |                                 |
|   | <b>Performance</b>           | <b>Maximum Sequential<br/>Read</b>        | <b>Maximum Sequential Write</b> |
|   |                              | 250 MB/s                                  | 140 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-7; SATA 2.6; DIPM; TRIM |                                 |

### 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>            | <b>Maximum Sequential Write</b> |
|                                       |                              | Up to 490 MB/s                            | 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)<br>100 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023. Clauses 40)<br>Auto-Negotiation (Automatic Speed Selection)<br>Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s<br>IEEE 802.1p QoS (Quality of Service) Support<br>IEEE 802.1q VLAN support<br>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)<br>IEEE 802.3az EEE(Energy Efficient Ethernet)<br>Jumbo Frame 9K<br>Auto MDI/MDIX Crossover cable detection |
|  | <b>Power Management</b>     | ACPI compliant - multiple power modes<br>Energy Detect Low Power Mode(Green Ethernet)   |
|  | <b>Performance Features</b> | TCP/IP/UDP Checksum Offload (configurable)<br>Protocol Offload( ARP & NS)<br>Large send offload and Giant send offload<br>Receiving Side Scaling<br>MACSec Offload (802.3ae)<br>Intel vPro<br>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)<br>PXE 2.1 Remote Boot<br>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))<br>Comprehensive diagnostic and configuration software suite<br>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.<br><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)<br>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)<br>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.<br>UMTS/WCDMA: Release 99 and Release 6<br>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)<br>CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8Mbps (Upload)   |
| <b>GPS</b>  | Standalone GPS enabled<br>gpsOneXTRATM™   |
| <b>GPS Bands</b>  | L1 - 1575.42 MHz  |
| <b>Maximum Output Power</b>   | GSM/GPRS/EDGE: 32dBm (+/-1)<br>WCDMA: 24dBm (+0.7/-2.3)<br>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<br>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)<br>-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;<br>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)<br>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.<br>UMTS/WCDMA: Release 99 and Release 7<br>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<br>GSM850 & GSM900 bands<br>GPRS: +33 dBm ± 2 dBm (class 4)<br>EGPRS: +27 dBm ± 3 dBm (class E2)<br><br>DCS1800 & PCS1900 bands<br>GPRS: +30 dBm ± 2 dBm (class 1)<br>EGPRS: +26 dBm +4 / -3 dBm (class E2)      |
|  | <b>Maximum Power Consumption</b>               | UMTS<br>UTRA FDD Bands<br>+24 dBm +4 / -3 dBm (class 3)<br>2000mA (peak); 600mA (average)   |
|  | <b>Power Consumption, Sleep Mode</b>           | 5 mA  |
|  | <b>Power Management</b>                        | USB selective suspend<br>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)<br>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;<br>Solid LED On - Radio On  |
| <b>Intel Centrino Advanced-N Wireless LAN Standards 6205 (2x2)</b>        | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n   |
| <b>Interoperability</b>   | Wi-Fi certified<br>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<br>802.11b: 1, 2, 5.5, 11 Mbps<br>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>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<br>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)<br><br>Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2<br><br>Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP<br><br>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)<br>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)<br>Receive: 1 Watt (max with two spatial streams)<br>Idle mode <sup>3</sup> : 35 mW (average)<br>Radio off: 20 mW (max)   |
| <b>Power Management</b>  | ACPI compliant power management<br>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)<br>Non-operating -40° to 176° F (-40° to 80° C)   |
| <b>Humidity</b>  | Operating 10% to 90% (non-condensing)<br>Non-operating 5% to 90% (non-condensing)   |
| <b>Altitude</b>  | Operating 0 to 10,000 ft (3,048 m)<br>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<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n  |
| <b>Interoperability</b>  | Wi-Fi certified<br>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<br>802.11b: 1, 2, 5.5, 11 Mbps<br>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>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<br>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)<br><br>Authentication Protocols: PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2<br><br>Encryption: 64 and 128-bit WEP, AES-CCMP, CKIP, TKIP<br><br>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)<br>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)<br>Receive: 1 Watt (max with two spatial streams)<br>Idle mode <sup>3</sup> : 35 mW (average)<br>Radio off: 20 mW (max)  |
| <b>Power Management</b>                             | ACPI compliant power management<br>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)<br>Non-operating -40° to 176° F (-40° to 80° C)  |
| <b>Humidity</b>                                     | Operating 10% to 90% (non-condensing)<br>Non-operating 5% to 90% (non-condensing)  |
| <b>Altitude</b>                                     | Operating 0 to 10,000 ft (3,048 m)<br>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:

- US Energy Star<sup>®</sup>
- 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)

##### System Configuration

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

##### Energy Consumption

|                                    | 115 VAC | 230 VAC | 100 VAC |
|------------------------------------|---------|---------|---------|
| Normal Operation                   | 8.844 W | 9.132 W | 8.616 W |
| Sleep (Energy Star low power mode) | 0.780 W | 0.900 W | 0.780 W |
| Off                                | 0.396 W | 0.480 W | 0.396 W |

##### Heat Dissipation\*

|                  | 115 VAC   | 230 VAC   | 100 VAC   |
|------------------|-----------|-----------|-----------|
| Normal Operation | 30 BTU/hr | 31 BTU/hr | 29 BTU/hr |
| Sleep            | 3 BTU/hr  | 3 BTU/hr  | 3 BTU/hr  |
| Off              | 1 BTU/hr  | 2 BTU/hr  | 1 BTU/hr  |

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

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

| System Fan Off                | Sound Power<br>(LWAd, bels) | Sound Pressure<br>(LpAm, decibels) |
|-------------------------------|-----------------------------|------------------------------------|
| Idle                          | 3.2                         | 25                                 |
| Fixed Disk<br>(random writes) | 3.1                         | 25                                 |

System fan is usually off except when charging the battery

##### Batteries

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

Batteries used in the product do not contain:

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

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion  
6-cell high capacity Polymer battery

##### Additional information

This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.

### Technical Specifications

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 ISO 11469 and ISO1043.

This product contains 80% post consumer recycled plastic (by wt.)

This product is greater than 90.2% recycle-able when properly disposed of at end of life.

#### Packaging Materials

- External:
  - PAPER/Corrugated 340 g
  - OTHER/OTHER 1450 g
- Internal:
  - PLASTIC/Polyethylene low density 25 g
  - PLASTIC/EPE-Expanded Polyethylene 80 g
  - PLASTIC/PET 500 g
- The PAPER/Corrugated packaging material is made from 30% recycled content.
- The OTHER/OTHER packaging material is made from 30% recycled content.
- The PLASTIC/Polyethylene low density packaging material is made from 30% recycled content
- The PLASTIC/EPE-Expanded Polyethylene packaging material is made from 30% recycled content
- The PLASTIC/PET packaging material is made from 30% recycled content

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

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

### Technical Specifications

#### MATERIAL USAGE

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

([http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen\\_specifications.html](http://www.hp.com/hpinfo/globalcitizenship/environment/supplychain/gen_specifications.html)):

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBT0)
- Nickel finishes that release greater than 0.5 µgrams/cm<sup>2</sup>/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

#### END-OF-LIFE MANAGEMENT AND RECYCLING

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

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

#### HEWLETT-PACKARD CORPORATE ENVIRONMENTAL INFORMATION

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

Global Citizenship Report

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

Environment website

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

Eco-label certifications

### Technical Specifications

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

ISO 14001 certificates:

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

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 Professional Series Designer Tote (up to 15.6")     | AT889AA     |
|  | HP Professional Series Carrying Case (up to 15.6")     | H4J90AA     |
|  | HP Professional Slim Top Load Case (up to 17.3")       | H4J91AA     |
|  | 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 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 |
|  | HP Slim BT Keyboard US                                 | H4Q44AA#ABA |

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

|                                   |  |             |
|-----------------------------------|--|-------------|
| <b>Input/Output - Other</b>       | HP USB Ethernet Adapter  | XZ613AA#ABA |
|                                   | USB Graphics Adapter   | NL571AT     |
|                                   | USB Graphics Adapter (DBU PL)  | NL571AA     |
|                                   | HP Executive Tablet Pen  | H4E45AA     |
|                                   | <b>NOTE:</b> The HP Executive Tablet Pen does not support the hover feature, which may be required for some Microsoft Windows 8 apps. Please refer to <a href="http://www.hp.com/go/hpexecutivetabletpen">www.hp.com/go/hpexecutivetabletpen</a> for more information. |             |
| <b>Adapters</b>                   | 90W Slim Combo Adapter (coming soon Q2 2013)   | 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>Storage - SSD</b>              | HP 256GB SED Solid State Drive   | H2C38AA     |
| <b>Platform Battery</b>           | HP OD06XL Battery  | TBD         |
| <b>Health and Education</b>       | 20 Notebook Managed Charging Cart  | QL489AA#xxx |
|                                   | 20 Notebook Charging Cart  | QL488AA#xxx |
|                                   | 30 Notebook Managed Charging Cart  | QL490AA#xxx |
|                                   | 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     |
|                                   | HP Master Keyed Docking Station Cable Lock (25 unit minimum)   | AY474AA#xxx |

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