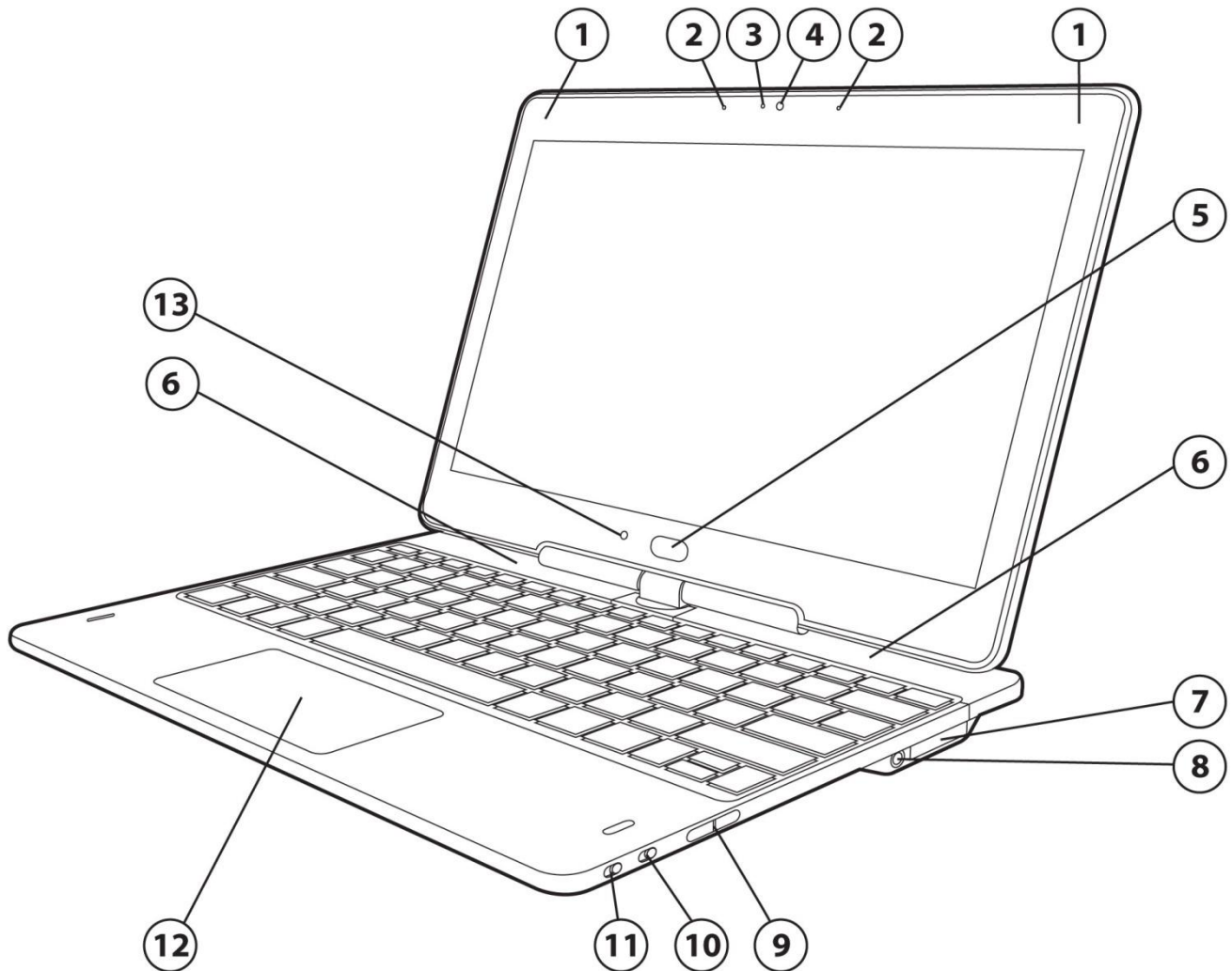


### Overview

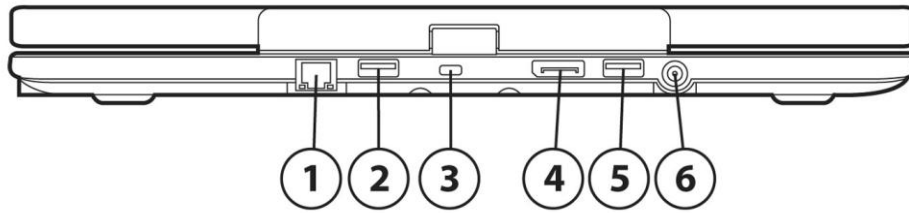
### HP EliteBook Revolve



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



### 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   |

### Overview

#### AT A GLANCE

- Windows 8 versions, Windows 7 versions or FreeDOS
- 11.6-inch diagonal LED-backlit HD UWVA display (1366 x 768)
- Industrial, business rugged HP DuraCase construction features a full magnesium alloy chassis, wear-resistant HP DuraFinish, and stainless steel hinges
- Full-sized backlit, spill-resistant keyboard with bottom-case drain
- Clickpad image sensor
- Choice of 3<sup>rd</sup> Generation Intel® Core™ i7, i5 Core with Turbo Boost Technology or 3<sup>rd</sup> 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 802.11a/b/g/n (2x2) wireless LAN module with Bluetooth
  - Integrated Intel 802.11a/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



### Features

#### PRODUCT NAME

HP EliteBook Revolve 810  
Tablet

#### OPERATING SYSTEM

<b>Preinstalled</b>	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***
<b>Supported</b>	FreeDOS 2.0
	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 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 [microsoft.com/](http://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 [microsoft.com/windows/windows-7/](http://microsoft.com/windows/windows-7/) for details.

#### 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)\*

**NOTE:** 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.

#### CHIPSET

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

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



### Features

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

### DISPLAY

#### Internal

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

#### 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

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



## Features

### 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 Active Pen

### 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

Gyroscope

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)
- Cyberlink Photo Director
- Cyberlink Power Director

Skype ready\*



### Features

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 [hp.com/go/eprintcenter](http://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

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.

<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: [hp.com/go/security](http://hp.com/go/security).

#### Management





### Features

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

#### Primary Battery

HP 6-cell Battery (44 WHr)

#### Battery Life

HP 6-cell Primary Battery                      Up to 8 hours

#### 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

### ENVIRONMENTAL

TBD

### 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 x-cell battery, lightest SSD, and 1 SODIMM.

### PORTS/SLOTS



### Features

#### 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 – Two

#### Digital Media Slots

MicroSD slot, Micro-SIM

### SERVICE AND SUPPORT

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

[hp.com/go/lookuptool](http://hp.com/go/lookuptool)

**NOTE:** Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

[hp.com/bizsupport/TechSupport/ProductRoot.jsp](http://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) 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	

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

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

For accessibility information on HP products, please visit: [hp.com/accessibility](http://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)



### Technical Specifications

<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

##### 128 GB 2.5-inch mSATA Solid State Drive

<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 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	

##### 256 GB 2.5-inch mSATA Solid State Drive

<b>Drive Weight</b>	Up to 10 Grams	
<b>Capacity</b>	256 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

#### Intel® 82579LM Gigabit Network Connection

<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



### Technical Specifications

	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
<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>HP un2430 EV-DO/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), 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™



### Technical Specifications

	<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)
	<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 Complies with 3GPP specifications
	<b>Wireless Parametric Standards</b>	
	<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)



### Technical Specifications

		DCS1800 & PCS1900 bands GPRS: +30 dBm ± 2 dBm (class 1) EGPRS: +26 dBm +4 / -3 dBm (class E2)
		UMTS UTRA FDD Bands +24 dBm +4 / -3 dBm (class 3) 2000mA (peak); 600mA (average)
	<b>Maximum Power Consumption, 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 Temperature, Operating</b>	3.3v +/- 9% 14° to 149° F (-10° to 65° C) (full RF performance) 14° to 167° F (-10° to 75° C) (reduced RF performance)
	<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
<b>Intel Centrino Advanced-N 6205 (2x2)</b>	<b>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 7, Windows Vista and XP (details at: <a href="http://hp.com/go/notebooks/WLAN">hp.com/go/notebooks/WLAN</a> )
	<b>Frequency Band</b>	2.4 GHz and 5 GHz
	<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)



### Technical Specifications

	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</b> <sup>4</sup>	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>	

#### 802.11a/b/g/n (2x2)

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





### Technical Specifications

	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://hp.com/go/notebooks/WLAN">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
<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)



### Technical Specifications

<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>6. Check latest software/driver release for updates on supported security features.</li> <li>7. Maximum output power may vary by country according to local regulations.</li> <li>8. In Power Save Polling mode and on battery power.</li> <li>9. 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>10. 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>	

### 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>Integrated Stereo Speakers</b>	<b>ADC</b>	16 or 20-bit	
	<b>Power Rating</b>	1 Watt	
	<b>Impedance</b>	8 Ohms	

### POWER

<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
		<b>Input Efficiency</b>	87% min at 115 VAC
		<b>Input frequency range</b>	47 to 63 Hz
		<b>Input AC current</b>	1.4 A at 90 VAC and maximum load



### Technical Specifications

<b>Output</b>	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>	Operating temperature	32° to 95° F (0° to 35° C)	
	Non-operating (storage) temperature	-4° to 121° F (-20° to 85° C)	
	Altitude	0 to 16,405 ft (0 to 5,000 m)	
	Humidity	0% to 95%	
	Storage Humidity	0% to 95%	
<b>EMI and Safety Certifications</b>	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	



### 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
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
<b>Input/Output - Other</b>	HP USB Ethernet Adapter	XZ613AA#ABA
	USB Graphics Adapter	NL571AT
	USB Graphics Adapter (DBU PL)	NL571AA



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

<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>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

Copyright © 2013 Hewlett-Packard Development Company, L.P.

2013 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Bluetooth is a trademark of its proprietor and used by Hewlett-Packard Company under license. Intel, Celeron, Core and vPro are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries. All other trademarks are the property of their respective owners. To learn more, visit [hp.com](http://hp.com).

