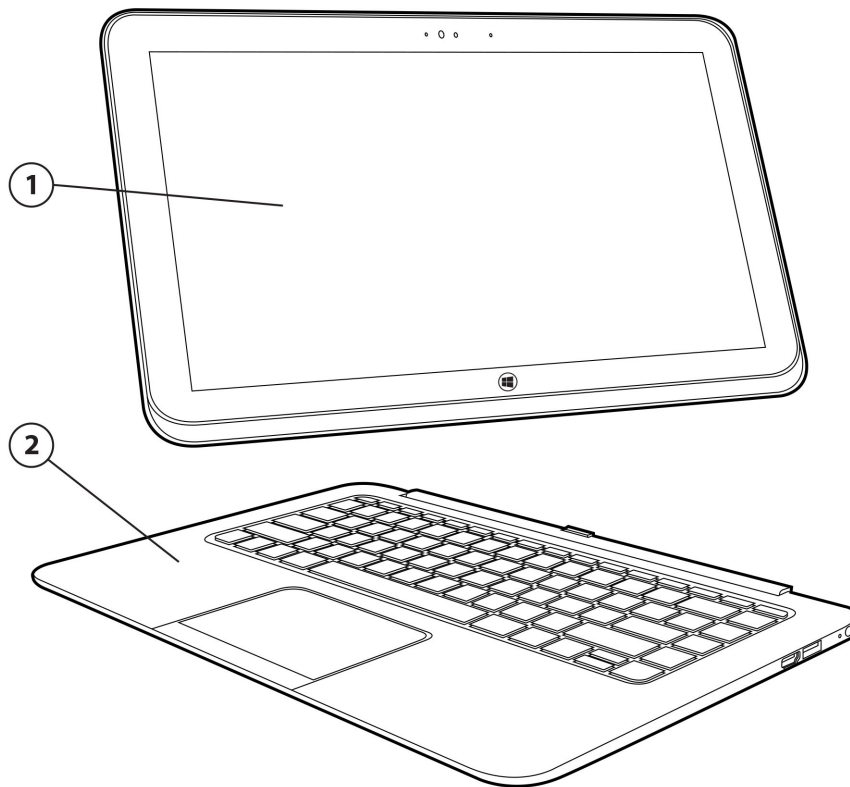


## Overview

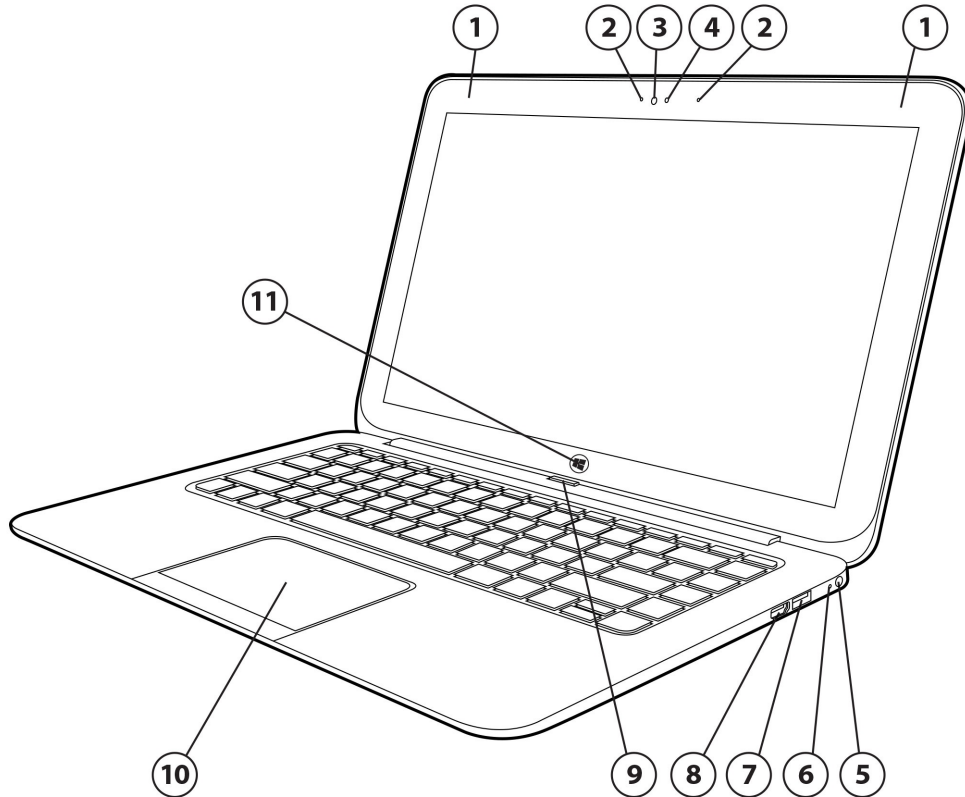


### Separate Tablet and Base

1. 11.6" Tablet

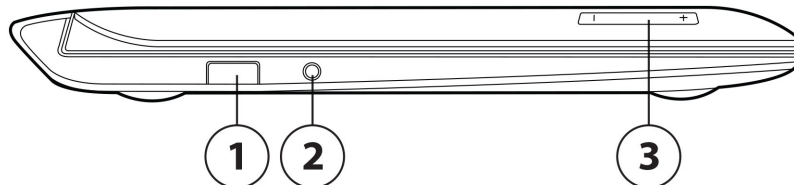
2. Base

### Overview



#### Front, Right

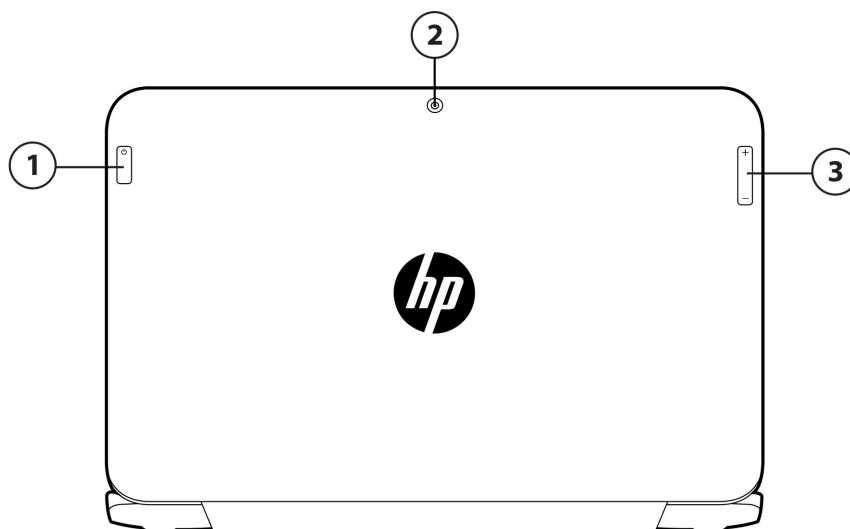
- |                             |                                      |
|-----------------------------|--------------------------------------|
| 1. WLAN antennas            | 7. USB 3.0 port                      |
| 2. Dual-microphone array    | 8. HDMI v1.4a port                   |
| 3. 1080p FHD Webcam         | 9. Button to detach tablet from base |
| 4. Webcam LED               | 10. Clickpad                         |
| 5. Power connector          | 11. Windows home button              |
| 6. AC Adapter/battery light |                                      |



#### Left

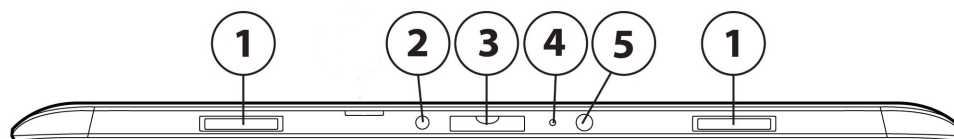
- |   |                      |
|---|----------------------|
| 1. USB 2.0 port                           | 3. Volume +/- button |
| 2. Stereo headphone-out/mic-in combo jack |                      |

### Overview



#### Rear

- 1. Power button
- 2. 1080p FHD Webcam
- 3. Volume +/- button



#### Rear- Base

- 1. Hinge tab cavities
- 2. Audio jack
- 3. Micro-SD 3-in-1 reader
- 4. AC plug LED
- 5. Power connector

### Overview

#### At A Glance

- Detachable hybrid tablet combines a super sleek design with key business features and the ability to seamlessly transition between notebook or tablet with one device.
- Windows 8.1 Pro 64 or Windows 8.1 64
- Ultrabook™ compliant
- 4th generation Intel® Core™ i5-4202Y processor or 4th generation Intel® Core™ i3-4012Y processor
- Integrated Intel HD Graphics 4200
- 11.6" diagonal LED HD (1366 x 768) Touchscreen
- 64 GB, 128 GB or 256 GB M.2 SATA-3 (NGFF) Solid State Drives
- 0.88 inch (22.3 mm) thin profile
- Weight of clamshell starting at 3.48 lbs (1.58 kg), tablet weight starting at 1.80 lbs (0.82 kg)
- HP Beats Audio with integrated stereo speakers, integrated microphone array, front and rear facing HP FHD Webcams
- Full size textured island style keyboard with UV coating
- Easily hot dock with one of the optional HP port replicators
- 2-cell (28 WHr) polymer battery (tablet) and 2-cell (21 WHr) polymer battery (base)
- Clickpad w/ multi-touch gesture support image sensor
- Security features including a TPM 1.2 Embedded Security Chip
- Wireless connectivity:
  - Ralink RT3290LE 802.11 b/g/n (1x1) Bluetooth® 4.0 Combo\*
  - Intel Dual Band Wireless-N 7260AN 802.11 a/b/g/n (2x2) WiFi + BT 4.0 combo\* (INDO not supported)
  - Intel Dual Band Wireless-N 7260BN 802.11 b/g/n (2x2) WiFi + BT 4.0 combo\*
- Standard commercial 1 year warranty with upgrade available with HP Care Pack

**NOTE:** See important legal disclosures for all listed specs in their respective features sections.

### Features

#### PRODUCT NAME

HP Pro x2 410 G1 PC

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#### OPERATING SYSTEM

**Preinstalled**                      Windows 8.1 Pro 64\*  
   Windows 8.1 64\*

\* Not all features are available in all editions of Windows 8.1. Systems may require upgraded and/or separately purchased hardware, drivers and/or software to take full advantage of Windows 8.1 functionality. See <http://www.microsoft.com/>

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#### PROCESSOR\*

4th Generation Intel® Core™ i5-4202Y (1.6 GHz, 3 MB L3 cache, 2 cores)\*  
Up to 2.60 GHz with Intel Turbo Boost Technology\*\*  
4th Generation Intel® Core™ i3-4012Y (1.5 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.

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#### CHIPSET

Integrated SoC PCH

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#### GRAPHICS

Integrated:  
Intel HD Graphics 4200

- Support HD Decode, DX11, and HDMI
  - Support PX5.0
-

## Features

### DISPLAY

#### Internal

11.6" diagonal HD\* IPS LED (1366 x 768) Touchscreen

- Ultra- Wide-viewing angle
- Ultra-slim (2.5mm)
- Touchscreen, Multi-touch enabled (10-finger support)

#### External

Up to 32-bit per pixel color depth

#### HDMI

1.4a port supports up to 1080p, 1920 x 1080 at 60Hz

\* HD content required to view HD images.

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

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### STORAGE AND DRIVES

#### Internal Storage Device\*

64/128/256 GB M.2 SATA-3 (NGFF) Solid State

\* For SSD's, GB=1 billion bytes. TB=1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 8.1) of system disk is reserved for system recovery software.

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### MEMORY

DDR3L SDRAM (1600 MHz)

On-board

Standard 4096 MB memory

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### NETWORKING/COMMUNICATIONS

#### Wireless

Support for a broad range of secure, integrated wireless LAN options featuring support for the latest industry standards

#### Wireless LAN (WLAN)

Ralink RT3290LE 802.11 b/g/n (1x1) Bluetooth® 4.0 Combo\*

Intel Dual Band Wireless-N 7260AN 802.11 a/b/g/n (2x2) WiFi + BT 4.0 combo\* (INDO not supported)

Intel Dual Band Wireless-N 7260BN 802.11 b/g/n (2x2) WiFi + BT 4.0 combo\*

\* Wireless access point and internet service required and sold separately. Availability of public wireless access points limited.

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## Features

### AUDIO/MULTIMEDIA

#### Audio

HP Beats Audio™

Dual speakers (front facing)

Single digital microphone with echo cancellation, noise suppression

Formats: MP3, AAC, AAC+, EAAC+ OGG, MIDI

Headphone/Line-out (Beats supported) and Mic-in (combo)

#### Webcams (Front and Back)

Integrated HP Full HD\* Webcam\*\*

- FHD\* format
- 1080p
- 2.0MP
- Supports videoconferencing and still image capture
- High quality fixed focus lens
- Video capture at various resolutions up to 1920x1080 resolution (1080p) and up to 30fps
- M-JPEG compression supports higher frame rates for video capture and videoconferencing
- Improved low light sensitivity
- Improved dynamic range

\*HD content required to view HD images.

\*\* Internet access required.

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

#### Keyboard

The 101/102-key island-style keyboard features a full-pitch key layout with desktop keyboard features, such as editing keys, both left and right control and alt keys, and function keys. US and International key layouts are available.

#### Pointing Devices

Clickpad with image sensor

Touchpad Requirements: Multi-touch gestures enabled, taps enabled as default, and multi-touch capacitive panel

#### Buttons

Power, Volume Up, Volume Down, Windows Start/Home

#### Sensors

Accelerometer, Gyroscope, Digital Compass, Ambient Light Sensor (ALS)

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### SOFTWARE AND SECURITY

#### Preinstalled Software with Windows Operating System

##### Browser and Toolbars

Internet Explorer 10

##### UI Enhancements

HP Utility Center

Baidu Chinese IME (China only)

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## Features

### Productivity

Buy Office  
QuickBooks 30-day Trial (NA only)  
7-Zip

### E-readers and Document Viewers

Kindle

### Windows Essentials

MovieMaker  
Photo Gallery  
SkyDrive

### Photos and Videos

Cyberlink YouCam DE (Windows 8.1 only)

### SnapFish URLAdobe® Shockwave Player

HP Connected Photo powered by Snapfish

### Music - HP

HP Connected Music powered by Meridian\* (includes UMG for Arabic and India) (NA only)  
Fingertapps Instruments

\* Availability of features varies by country. Streaming services may require a paid subscription. May not be compatible with all music files. Not compatible with DRM tracks. Internet access is required and not included.

### Movies

VUDU Movies (NA only)  
Netflix (NA and LA only)

### Home AV integration / Home Networking

Intel WiDi\*

\* Integrated Intel Wi-Di feature is available on select configurations only (not included on the Ralink WLAN) and requires separately purchased projector, tv or computer monitor with an integrated or external Wi-Di receiver. External Wi-Di receivers connect to the projector, tv or computer monitor via a standard HDMI cable, also sold separately.

### Multimedia Codecs

Dolby  
MPEG2

### Audio Post processing

Beats Audio™

### Games - Microsoft

Solitaire Collection (NA only)

### Games - HP

Classic Board Games  
ArcSoft Family Paint



## Features

### Communication

Skype  
Pinger (NA and LA only)

### App Stores and Content Purchasing

eBay (not available in China)  
BestBuy.com (NA only)  
Costco.com (NA only)  
Amazon (NA only)

### Cloud Storage

Box.net\*  
HP File Viewer/Connected Drive (US only)

### HP Utilities and Support

HP Documentation  
Getting Started with Windows 8  
HP Registration (Windows 8/8.1 only)  
HP Recovery Manager  
HP Support Assistant\*\*  
HP ePrint Driver\*\*\*  
HP PeakShift (Japan only)

\*50 GB Box account available on new 2013 HP Business Desktops, Notebooks, and Tablets. Requires Box registration. Offer available to new Box users only. Offer subject to change without notice. Box app requires Windows 8 or 8.1

\*\* Requires Windows and internet access.

\*\*\* Requires an Internet connection to HP web-enabled printer and HP ePrint account registration for details, see [www.hpconnected.com](http://www.hpconnected.com).

### Standard

McAfee LiveSafe subscription (30 Day Subscription)\*  
HP SimplePass

TPM 1.2 Embedded Security Chip

\* Internet access required. First 30 days included. Subscription required for live updates afterwards.

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

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### Features

#### POWER

##### Power Supply

External HP 45W Slim Smart AC Adapter\*  
External 65W EM Smart AC Adapter (PRC, India only)  
Power cord included is 3.3-foot (1.0 meter)  
[\\*AC adapter uses a 90 degree 4.5mm DC plug](#)

##### Primary Battery (Tablet)

HP 2-cell polymer (28 WHr)

##### Primary Battery (Base)

HP 2-cell polymer (21 WHr)

##### Battery Life\*

Tablet	Up to 5 Hours 30 minutes
Tablet and Base	Up to 8 Hours 45 minutes

\* MM12 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.

##### System Standby Time

Up to TBD hours

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#### ENVIRONMENTAL

Low halogen\*  
RFID support  
WEEE compliant (Waste Electric and Electronic Equipment)  
RoHS 2 Compliant  
MSH/OBL compliant  
E-Standby compliant  
DLNA certification  
Anti-theft\*\*  
California Battery Charger Energy Efficiency compliant  
Skype Acceptance Test  
China CEL label

\* External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

\* Intel AT security requires a separately purchased Absolute Computrace service subscription and must be activated and configured. Check with Absolute for availability in your country. Intel and HP assume no liability for lost or stolen data and/or systems or any other damages resulting therefrom. See <http://www.intel.com/technology/anti-theft/>

**NOTE:** 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.

## Features

### WEIGHTS & DIMENSIONS

**Weight (Clamshell configuration)**

Starting at 3.48 lbs (1.58 kg) (weight will vary by configuration)

**Weight (Tablet)**

Starting at 1.80 lbs (0.82 kg) (weight will vary by configuration)

**Dimensions (w x d x h) (Clamshell configuration)**

11.93 x 8.18 x 0.88 in (303 x 208 x 22.3 mm)

**Dimensions (w x d x h) (Tablet)**

11.93 x 7.6 x 0.46 in (303 x 193 x 11.6 mm)

**NOTE:** Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components.

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### PORTS/SLOTS

**Ports****Base**

USB 3.0 - One

USB 2.0 - One

HDMI v1.4a - One

Stereo headphone-out/mic-in combo jack - One

Docking connector to tablet - One

DC in port - One

**Tablet**

Stereo headphone-out/mic-in combo jack - One

Docking connector to base - One

DC in port - One

**Expansion Slots**

Base supports SD/SDHC/SDXC with UHS (Ultra high speed)

Tablet has a micro-SD 3-in-1 reader.

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### SERVICE AND SUPPORT

HP Services offers a 1 year standard commercial warranty; 1 year limited warranty on primary battery. On-site service and optional\* HP Care Pack Services\*\* are available to extend your protection beyond the standard warranty. For more details visit: <http://www.hp.com/go/cpc>.

\*Sold separately or as an optional feature.

\*\* Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. Consult the HP Customer Support Center for details.

<http://www.hp.com/go/cpc>.

## Technical Specifications

### SYSTEM UNIT

<b>Stand-Alone Power Requirements (AC Power)</b>	<b>Nominal Operating Voltage</b>	19.5 V
	<b>Average Operating Power</b>	TBD 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 (unpressurized)</b>	<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>	TBD models*
	<b>EPEAT</b>	TBD**
	<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 Pro x2 410 G1 PC that are ENERGY STAR qualified are identified as HP Pro x2 410 G1 PC on HP websites and on [www.energystar.gov](http://www.energystar.gov).

\*\* EPEAT® registered where applicable. EPEAT registration varies by country. See [www.epeat.net](http://www.epeat.net) for registration status by country.

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

### DISPLAY

<b>11.6-inch diagonal LED HD Active Area (1366 x 768)</b>	<b>Dimensions (W x H)</b>	9.88 x 5.67 in (25.61 x 14.40 cm)	
	<b>Diagonal Size</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>64 GB* M.2 Solid State Drive</b>	<b>Drive Weight</b>	10 grams	
	<b>Capacity</b>	64 GB	
	<b>Height</b>	0.091 in (2.3 mm)	
	<b>Width</b>	0.87 in (22 mm)	
	<b>Interface</b>	SATA 3 (6 Gb/s)	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 500 MB/s	Up to 250 MB/s
	<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	

## Technical Specifications

<b>128 GB* M.2 Solid State Drive</b>	<b>Drive Weight</b>	10 grams	
	<b>Capacity</b>	128 GB	
	<b>Height</b>	0.091 in (2.3 mm)	
	<b>Width</b>	0.87 in (22 mm)	
	<b>Interface</b>	SATA 3 (6 Gb/s)	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 500 MB/s	Up to 250 MB/s
	<b>Logical Blocks</b>	250,069,680	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [case temp]	
	<b>Features</b>	ATA Security; ATA-8; SATA 3.0; DIPM; TRIM	

<b>256 GB* M.2 Solid State Drive</b>	<b>Drive Weight</b>	10 grams	
	<b>Capacity</b>	256 GB	
	<b>Height</b>	0.091 in (2.3 mm)	
	<b>Width</b>	0.87 in (22 mm)	
	<b>Interface</b>	SATA Gen 3 (6 Gb/s)	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 500 MB/s	Up to 350 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	

\* For solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) and 30 GB (for Windows 8.1) of system disk is reserved for the system recovery software.

## NETWORKING/COMMUNICATIONS

<b>Intel Dual Band Wireless-N 7260AN 802.11 a/b/g/n (2x2) WiFi + Bluetooth 4.0 Combo Adaptor*</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n	
	<b>Interoperability</b>	Wi-Fi certified	
	<b>Frequency Band</b>	802.11b/g/n	2.402 - 2.482 GHz
		802.11a/n	4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz
	<b>Antenna Structure</b>	2 transmit; 2 receive (2x2)	

## Technical Specifications

<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: card will support rates for NSS=1 and NSS=2 for RX and TX for 20 and 40 MHz channels. Short and long guard interval shall be supported.
<b>Modulation</b>	Direct Sequence Spread Spectrum CCK, BPSK, QPSK, 16-QAM, 64-QAM
<b>Security<sup>1</sup></b>	<ul style="list-style-type: none"><li>• IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only</li><li>• AES-CCMP: 128 bit in hardware</li><li>• 802.1x authentication</li><li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li><li>• WPA2 certification</li><li>• IEEE 802.11i</li><li>• Cisco Certified Extensions, all versions through CCX4 and CCX Lite</li><li>• WAPI</li></ul>
<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between band Access Points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"><li>• 2.4G: +13.5dBm minimum</li><li>• 5G: +12dBm minimum</li></ul>
<b>Power Consumption</b>	Transmit: 2.0 Watts Receive: 1.6 Watts Idle mode <sup>3</sup> : 250 mW (WLAN Associated) Idle mode: 100 mW (WLAN unassociated) Radio off: 75 mW
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>4</sup></b>	802.11g: -90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11b: -95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps)  802.11g: -90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11n: -69 dBm (150 Mbps), -66 dBm (300 Mbps)
<b>Antenna Connections</b>	2 U.FL type connectors (output impedance of 50 ± 2 ohms)
<b>Form Factor</b>	PCI-Express Half-MiniCard
<b>Dimensions</b>	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)
<b>Weight</b>	3.1g
<b>Operating Voltage</b>	3.3v +/- 9%

### Technical Specifications

<b>Temperature</b>	Operating	14° to 158° F (-10° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
<b>Altitude</b>	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Off - Radio OFF; Solid LED On - Radio ON	
	<ol style="list-style-type: none"> <li>1. Check latest software/driver release for updates on supported security features.</li> <li>2. Maximum output power may vary by country according to local regulations.</li> <li>3. In Power Save Polling mode and on battery power.</li> <li>4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CCK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).</li> <li>5. WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista.</li> </ol>	
<b>HP Integrated Module with Bluetooth 4.0+EDR Wireless Technology</b>		
<b>Bluetooth Specification</b>	4.0+EDR Compliant	
<b>Dimensions</b>	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)	
<b>Frequency Band</b>	2402 to 2480 MHz	
<b>Number of Available Channels</b>	79 (1 MHz) available channels	
<b>Data Rates and Throughput</b>	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric	
<b>Transmit Power</b>	-1.5 dBm to 4 dBm (Bluetooth Class II)	
<b>Receiver Sensitivity</b>	Better than -20 dBm at 0.1 % raw bit error rate	
<b>Power Consumption</b>	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW	
<b>Antenna</b>	Internally integrated within module	
<b>Range</b>	Up to 33 ft (10 m)	
<b>Electrical Interface</b>	USB 2.0 compliant Microsoft Windows Plug and Play compliant	
<b>Bluetooth Software Supported</b>	Broadcom Bluetooth for Windows	
	Microsoft Windows Bluetooth Software	
<b>Link Topology</b>	Point to Point, Multipoint Pico Nets up to 7 slaves	
<b>Security</b>	Full support of Bluetooth Security Provisions	
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff	



### Technical Specifications

<b>Certifications</b>	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Bluetooth Profiles Supported</b>	Serial Port Profile (SPP) <sup>1</sup> Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) <sup>1,2</sup> Generic Object Exchange Profile (GOEP) <sup>1,2</sup> Object Push Profile (OPP) <sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) <sup>1,2</sup> Personal Area Networking Profile (PAN) <sup>1,2</sup> Human Interface Device Profile (HID) <sup>1,2</sup> FAX Profile (FAX) Basic Imaging Profile (BIP) <sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

1. Indicates the profile is supported by Microsoft Windows XP SP2

2. Indicates the profile is part of Windows Vista

\* Wireless access point and internet service required. Availability of public wireless access points limited.

<b>Intel Dual Band Wireless-N 7260BN 802.11 b/g/n (2x2) WiFi Adapter + BT 4.0 combo*</b>	<b>Wireless LAN Standards</b>	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n                      2.402 - 2.482 GHz 802.11n                            4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz
	<b>Antenna Structure</b>	2 transmit; 2 receive (2x2)
	<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 and NSS=2 for RX and TX for 20 and 40 MHz channels. Short and long guard interval shall be supported.
	<b>Modulation</b>	Direct Sequence Spread Spectrum CCK, BPSK, QPSK, 16-QAM, 64-QAM
	<b>Security<sup>1</sup></b>	<ul style="list-style-type: none"> <li>• IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only</li> <li>• AES-CCMP: 128 bit in hardware</li> <li>• 802.1x authentication</li> <li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>• WPA2 certification</li> </ul>

### Technical Specifications

	<ul style="list-style-type: none"> <li>• IEEE 802.11i</li> <li>• Cisco Certified Extensions, all versions through CCX4 and CCX Lite</li> <li>• WAPI</li> </ul>
<b>Sub-channels</b>	Multinational support with frequency bands and channels compliant to local regulations.
<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between band Access Points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 2.4G: +13.5dBm minimum</li> <li>• 5G: +12dBm minimum</li> </ul>
<b>Power Consumption</b>	Transmit: 2.0 Watts Receive: 1.6 Watts Idle mode <sup>3</sup> : 250 mW (WLAN Associated) Idle mode: 100 mW (WLAN unassociated) Radio off: 75 mW
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>4</sup></b>	802.11b: -95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps)  802.11g: -90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11n: -69 dBm (150 Mbps), -66 dBm (300 Mbps)
<b>Antenna Connections</b>	2 U.FL type connectors (output impedance of 50 ± 2 ohms)
<b>Form Factor</b>	PCI-Express Half-MiniCard
<b>Dimensions</b>	0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)
<b>Weight</b>	3.1g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (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 Amber - 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.

\* Wireless access point and internet service required. Availability of public wireless access points limited.

## Technical Specifications

### HP Integrated Module with Bluetooth 4.0+EDR Wireless Technology

<b>Bluetooth Specification</b>	4.0+EDR Compliant
<b>Dimensions</b>	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	79 (1 MHz) available channels
<b>Data Rates and Throughput</b>	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric
<b>Transmit Power</b>	-1.5 dBm to 4 dBm (Bluetooth Class II)
<b>Receiver Sensitivity</b>	Better than -20 dBm at 0.1 % raw bit error rate
<b>Power Consumption</b>	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
<b>Antenna</b>	Internally integrated within module
<b>Range</b>	Up to 33 ft (10 m)
<b>Electrical Interface</b>	USB 2.0 compliant
<b>Bluetooth Software Supported</b>	Microsoft Windows Plug and Play compliant Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software
<b>Link Topology</b>	Point to Point, Multipoint Pico Nets up to 7 slaves
<b>Security</b>	Full support of Bluetooth Security Provisions
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
<b>Certifications</b>	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Bluetooth Profiles Supported</b>	Serial Port Profile (SPP) <sup>1</sup> Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) <sup>1,2</sup> Generic Object Exchange Profile (GOEP) <sup>1,2</sup> Object Push Profile (OPP) <sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) <sup>1,2</sup> Personal Area Networking Profile (PAN) <sup>1,2</sup> Human Interface Device Profile (HID) <sup>1,2</sup> FAX Profile (FAX) Basic Imaging Profile (BIP) <sup>2</sup> Headset Profile (HSP)

### Technical Specifications

Hands Free Profile (HFP)  
Advanced Audio Distribution Profile (A2DP)

1. Indicates the profile is supported by Microsoft Windows XP SP2

2. Indicates the profile is part of Windows Vista

\* Wireless access point and internet service required. Availability of public wireless access points limited.

<b>Ralink RT3290LE 802.11 b/g/n (1x1) Bluetooth 4.0 Combo <sup>*</sup>, <sup>**</sup></b>	<b>Wireless LAN Standards</b>	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	<b>Interoperability</b>	Wi-Fi certified Cisco Compatible Extensions Program compliant with Microsoft Windows7 (details at: <a href="http://www.hp.com/go/notebooks/WLAN">http://www.hp.com/go/notebooks/WLAN</a> )
	<b>Frequency Band</b>	2.402 - 2.482 GHz
	<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 for RX and TX for 20 MHz channels. Short and long guard intervals shall be supported
	<b>Modulation</b>	Direct Sequence Spread Spectrum DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM
	<b>Security<sup>1</sup></b>	Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES, 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP-GTC, PEAP-MSCHAPv2, LEAP, EAP-FAST. WAPI Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program Version 5) 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 access points
	<b>Output Power (for CCK)<sup>2</sup></b>	13.5dBm , minimum
	<b>Power Consumption</b>	Idle associated: 250 mW Idle unassociated: 150 mW Transmit: 2.0 W (max) Receive: 2.0 W (max)
	<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode
	<b>Receiver Sensitivity<sup>3</sup></b>	72.2 Mbps: -70 dBm; 54 Mbps: -74 dBm; 11 Mbps: -88 dBm ; 1 Mbps: -95 dBm
	<b>Antenna type</b>	High efficiency dual antenna with spatial diversity, mounted in the display enclosure
	<b>Form Factor</b>	PCI-Express Half-MiniCard
	<b>Weight</b>	6 g
	<b>Dimensions</b>	3.3 x 26.65 x 29.85 mm
	<b>Operating Voltage</b>	3.3v +/- 10%

## Technical Specifications

<b>Temperature</b>	Operating	14° to 149° F (-10° to 65° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (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	

[Check latest software/driver release for updates on supported security features.](#)

Maximum output power may vary by country according to local regulations.

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).

**NOTE:** WLAN supplier's client utility is required for Cisco Compatible Extensions support with Microsoft Windows XP. WLAN may also be compatible with certain third-party software supplicants. WLAN supplier IHV extensions required for Cisco Compatible Extensions support for Microsoft Windows Vista and Win7.

### Bluetooth Specification

V4.0 High Speed, V2.1+EDR, backwards compatible with V1.1, 1.2 and 2.0

**Number of Available Channels** 79 (1 MHz) available channels

**Data Rates and Throughput** 3 Mbps data rate; throughput up to 2.17 Mbps  
Synchronous Connection Oriented links up to 3, 64 kbps, voice channels  
Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric

**Transmit Power** -6 dBm to 4 dBm (Bluetooth Class II)

**Receiver Sensitivity** Better than -80 dBm at 0.1 % raw bit error rate

**Power Consumption** Peak (Tx) 330 mW  
Peak (Rx) 230 mW  
Sleep <17 mW

**Antenna** Internally integrated within module

**Range** Up to 33 ft (10 m)

**Electrical Interface** USB 2.0 compliant  
Microsoft Windows Plug and Play compliant

**Bluetooth Software Supported** Broadcom Bluetooth for Windows  
Microsoft Windows Bluetooth Software

**Link Topology** Point to Point, Multipoint Pico Nets up to 7 slaves

**Security** Full support of Bluetooth Security Provisions

**Power Management** Microsoft Windows ACPI, and USB Bus Support  
Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff

## Technical Specifications

<b>Certifications</b>	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Bluetooth Profiles Supported</b>	Generic Access Profile (GAP) Service Discovery Application Profile (SDAP) Serial Port Profile (SPP) Dial_Up Networking Profile (DUN) Generic Object Exchange Profile (GOEP) Object Push Profile (OPP) File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) Personal Area Networking Profile (PAN) Human Interface Device Profile (HID) Generic Audio/Video Distribution Profile (GAVDP) Advanced Audio/Video Distribution Profile (A2DP) FAX Profile (FAX) Basic Imaging Profile (BIP) Headset Profile (HSP) Hands Free Profile (HFP) Basic Printing Profile (BPP) VDP (Video Distribution Profile) AVRCP (Audio Video Remote Control Profile)

\* Wireless access point and internet service required. Availability of public wireless access points limited.  
\*\* Sold separately or as an optional add-on feature.

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## AUDIO/MULTIMEDIA

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### Audio

<b>Hardware</b>	<b>Implementation</b>	IDT92HD99 High Definition CODEC
	<b>Function Key Volume Controls</b>	Volume up, volume down, and mute
	<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

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### Technical Specifications

<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>Internal Stereo Speaker</b>	<b>Power Rating</b>	2 Watts
	<b>Impedance</b>	4 ohms

### POWER

<b>HP 45W Smart AC Adapter</b>	<b>Dimensions</b>	3.78 x 1.95 x 0.88 in (9.6 x 4.95 x 2.24 cm)		
	<b>Input</b>	<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>Output</b>	<b>Input AC current</b>	1.4 A at 90 VAC and maximum load	
		<b>Output power</b>	45W	
		<b>DC output</b>	19.5V	
		<b>Hold-up time</b>	5 msec at 115 VAC input	
		<b>Output current limit</b>	<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>Storage Humidity</b>	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.		

### Technical Specifications

#### HP 2-cell Polymer Battery Dimensions (h x w x l) (21 WHr)

	294.0 x 130.8 x 3.43 (not including WTB connector)
	294.0 x 148.30 x 3.43 (including WTB connector)
<b>Weight (max)</b>	< 185 g
<b>Cells/Type</b>	2-cell Polymer
<b>Energy</b>	<b>Watt-hour capacity</b> 28 WHr
<b>Temperature</b>	<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C)
	<b>Operating (Discharging)</b> 14° to 140° F (-10° to 60° C)
	<b>Non-operating</b> -4° to 140° F (-20° to 60° C)
<b>Warranty</b>	1 year

#### HP 2-cell Polymer Battery Dimensions (h x w x l) (28 WHr)

	268.0 x 119.0 x 4.25 mm (not including screw holes)
	284.2 x 134.9 x 4.25 mm (including screw holes)
<b>Weight (max)</b>	< 190 g
<b>Cells/Type</b>	2-cell Polymer
<b>Energy</b>	<b>Watt-hour capacity</b> 28 WHr
<b>Temperature</b>	<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C)
	<b>Operating (Discharging)</b> 14° to 140° F (-10° to 60° C)
	<b>Non-operating</b> -4° to 140° F (-20° to 60° C)
<b>Warranty</b>	1 year

### ENVIRONMENTAL

TBD

### COUNTRY OF ORIGIN

China



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

Type	Description	Part #
<b>Cases</b>	HP Slim Ultrabook Messenger (up to 15.6" x .88"/22/5mm)	F3W14AA
	HP Slim Ultrabook Top Load (up to 15.6" x .88"/22/5mm)	F3W15AA
	HP Slim Ultrabook Backpack (up to 15.6" x .88"/22/5mm)	F3W16AA
	HP Business Slim Top Load (up to 14.1" x .75" thick)	H5M91AA
	HP Ultrabook Professional Sleeve 12.5	F7Z98AA
<b>Docking</b>	HP USB 2.0 Port Replicator	H1L07AA#xxx
	HP USB 3.0 Port Replicator	H1L08AA#xxx
	HP Universal Port Replicator	E6D70AA#xxx
	HP 3001pr USB 3 Port Replicator	F3S42AA#xxx
	HP LCD Monitor Stand	QM196AA
<b>Input/Output</b>	HP Bluetooth Keyboard	F3J73AA#xxx
	HP Touch To Pair Mouse	H6E52AA#ABB
	HP Ultra Mobile Wireless Mouse	H6F25AA
<b>Adapters</b>	HP 45W Smart AC Adapter (4.5mm)	H6V88AA#xxx
	HP 65W Smart AC Adapter (4.5mm)	H6Y89AA#xxx
	HP 65W Slim AC Adapter	H6V82AA#xxx
<b>Security</b>	HP USB Smart Card Reader	F6V67AA
<b>Storage - External Storage</b>	HP External USB Optical Drive	F2B56AA
<b>Monitors</b>	HP U160 15.6-inch LED Backlit Monitor	C4M77AA or D4T56AA#xxx (check region for which sku is available)
	HP EliteDisplay E271i 27-inch IPS LED Monitor	D7Z72AA/A8/AS/AT
	HP EliteDisplay E231 23-inch LED Monitor	C9V75AA/A8/AS/AT
	HP EliteDisplay E201 20-inch LED Monitor	C9V73AA/A8/AS/AT
	HP ProDisplay P221 21.5" LED Monitor	C9E49AA/A8/AS/AT
	HP ProDisplay P201 20" LED Monitor	C9F26AA/A8/AS/AT

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

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