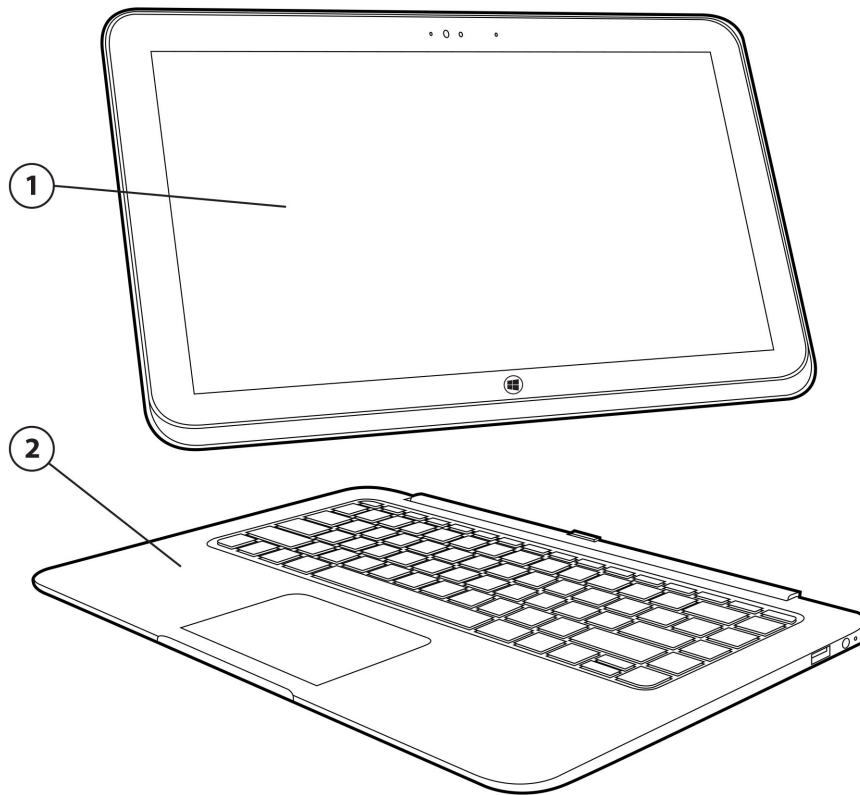


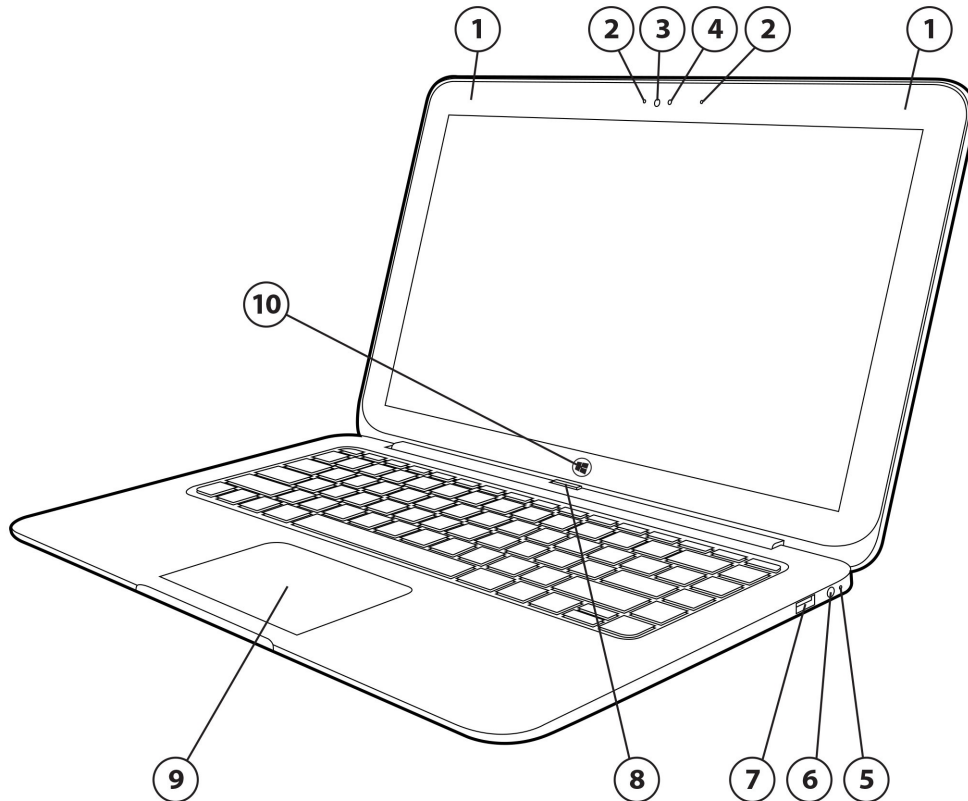
### Overview



#### Separate Tablet and Base

1. 13.3" Slate Tablet
2. Base

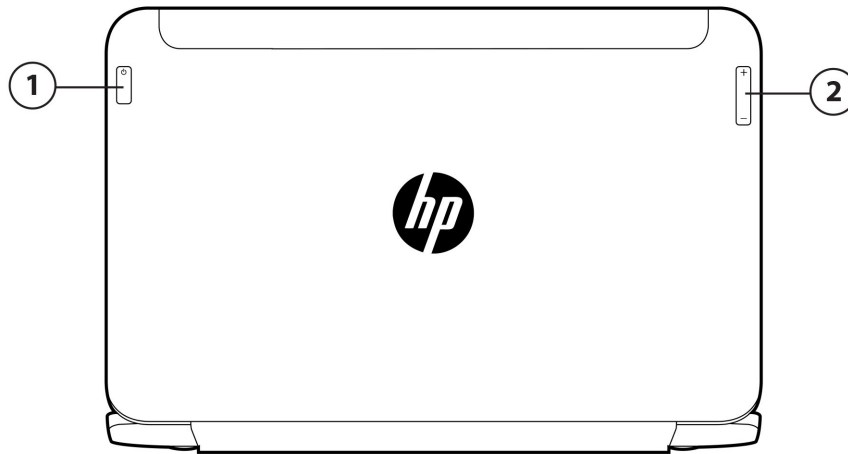
### Overview



#### Integrated Tablet and Base, Right Front View

- |                             |                                      |
|-----------------------------|--------------------------------------|
| 1. WLAN antennas (2)        | 6. Power connector                   |
| 2. Internal microphones (2) | 7. USB                               |
| 3. Webcam                   | 8. Button to detach tablet from base |
| 4. Webcam light             | 9. Clickpad                          |
| 5. AC Adapter/battery light | 10. Windows home button              |

### Overview



#### Rear View

1. Power button
2. Volume +/- button

### 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, Windows 8.1 ML 64 or Windows 8.1 EM 64
- Ultrabook™ compliant
- 4th generation Intel® Core™ i5-4202Y processor or 4th generation Intel® Core™ i3-4012Y processor
- Integrated Intel HD Graphics 4200
- Widescreen LED-backlit HD (1366 x 768) or FHD (1920x1080) slim 13.3" touchscreen displays that support eDP and are multi-touch enabled
- 128 GB or 256 GB mSATA Solid State Drive
- 0.71 inch (18 mm) thin profile (at front)
- Weight starting at 4.39 lb (1.99 kg)
- HP Beats Audio with integrated stereo speakers, integrated dual-microphone array, HD Webcam
- Full sized backlit island-style keyboard with UV coating
- Easily hot dock with one of the optional HP docking stations
- 3-cell (33 WHr) polymer battery (tablet) and 2-cell (18 WHr) polymer battery (base)
- Clickpad w/ multi-touch gesture support image sensor
- Security includes TPM 1.2 Embedded Security Chip
- Wireless connectivity:
  - Integrated HP Mobile Broadband Module

### Overview

- Integrated 802.11 ac, a/b/g/n or b/g/n with Bluetooth 4.0 combo card
- 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

#### OPERATING SYSTEM

<b>Preinstalled</b>	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> for details.

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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

13.3" diagonal HD LED (1366x768) (Slim 3.0mm) UWVA

- Supports eDP
- Touchscreen, Multitouch enabled

13.3" diagonal FHD LED (1920x1080) (Slim 3.0mm) UWVA

- Supports eDP
- Touchscreen, Multitouch enabled

##### External

Up to 32-bit per pixel color depth

##### HDMI

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

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

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#### STORAGE AND DRIVES

##### Internal Storage Device\*

128/256 GB mSATA 3 Solid State

\* For hard drives and SSD's, GB=1 billion bytes. TB=1 trillion bytes. Actual formatted capacity is less. Up to 36GB (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 4 GB or 8 GB memory\*

\*While your notebook may show 4 GB or 8 GB available, up to 1 GB of this memory may not be available with a 32 bit OS due to system resource requirements.

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### 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 an optional, 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 hs3110 HSPA+ Mobile Broadband Module\*,\*\*

HP lt4112 LTE/HSPA+ Gobi 4G\*\* Module\*,\*\*

##### Wireless LAN (WLAN)

Intel Dual Band Wireless-AC 7260 802.11ac (2x2) WiFi and Bluetooth 4.0 Combo\*,\*\*\* Intel Dual Band Wireless-N 7260AN 802.11a/b/g/n (2x2) WiFi and Bluetooth 4.0 Combo\*,\*\*\*

Intel Dual Band Wireless-N 7260BN 802.11b/g/n (2x2) WiFi and Bluetooth 4.0 Combo\*,\*\*\*

\* Sold separately or as an optional feature.

\*\* WWAN use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available in all regions.

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

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#### AUDIO/MULTIMEDIA

##### Audio

HP Beats Audio™

High Definition Beats Audio™ speakers (front facing)

Integrated Dual array Digital Microphones w/ appropriate software - beam forming, echo cancellation, noise suppression

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

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

##### Webcam

Integrated 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.

### Features

#### 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.

**Backlit Keyboard**

The standard backlit keyboard for low light environments is toggled on and off with a function key.

**Pointing Devices**

Clickpad w/ multi-touch gesture support image sensor, on/off button with LED indicator, two-way scroll

**Buttons**

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

**Sensors**

Accelerometer, Gyroscope, Digital Compass, NFC\*, ALS

\* [NFC software is not included and sold separately. Internet access required.](#)

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#### SOFTWARE AND SECURITY

**Preinstalled Software with Windows Operating System****Browser and Toolbars**

Internet Explorer 10

**UI Enhancements**

HP Wallpapers

**Productivity**

Buy Office

**Windows® Live™**

MovieMaker

Photo Gallery

SkyDrive

**Photos and Videos**

Cyberlink YouCam DE

Cyberlink Power DVD

Adobe Photoshop Lightroom 5

Adobe® Shockwave Player

Adobe Flash® Player

HP Connected Photo powered by Snapfish

**Music - HP**

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

\* [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**

Netflix

**Multimedia Codecs**

Dolby

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### Features

MPEG2

#### **Audio Post processing**

Beats Audio™

#### **Communication**

Skype

Nuance Dragon Assistant

#### **Cloud Storage**

Box.net\*

HP File Viewer/Connected Drive (US only)

#### **HP Utilities and Support**

HP Online User Guide

Getting Started with Windows 8.1??

HP Registration for Windows 8.1??

HP Recovery Manager

HP Support Assistant\*\*

HP CoolSense

ENERGY STAR® Logo

HP Utility Center

HP ePrint Driver\*\*\*

\*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 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.

### **Security**

#### **Standard**

Symantec Norton Internet Securities (60 Day Subscription - BNB SMB BBY)\*

Absolute Data Protect (90-day subscription)\*\*

Intel Experience Center

TPM 1.2 Embedded Security Chip

\* Internet access required. First 60 days included. Subscription required for live updates afterwards.

\*\* Absolute Data Protect agent is shipped turned off, and must be activated by customers. 90 day subscription included. Subscription and internet access required for updates after the 90 day period. Service may be limited, check with Absolute for availability outside the U.S. The optional subscription service of Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>.

#### **Optional**

CompuTrace\*

\*CompuTrace agent is shipped turned off, and must be activated by customers when they purchase a subscription. Subscriptions can be purchased for terms ranging from one to five years. Service is limited, check with Absolute for availability outside the U.S. For more information on HP security solutions refer to: <http://www.hp.com/go/security>.

### Features

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#### POWER

##### Power Supply

External 45-watt HP Smart AC Adapter  
Power cord included is 3.3-foot (1.0 meter)  
Total length including external AC adapter is TBD feet (TBD meter)

##### Primary Battery

###### Slate

HP 3-cell Polymer Battery (33 WHr)

###### Base

HP 2-cell Polymer Battery (18 WHr)

##### Battery Life\*,\*\*

Up to 9 hours and 45 minutes combined in the tablet and Keyboard

\* 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® Acrobat® Reader 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 and set to display brightness of 60 nits, auto dim disabled, wireless off, suspend and hibernate disabled, and all other programs, utilities, and services not essential to running the computer system or battery life test. 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. Disclaimer to be determined when battery testing is complete.

\*\* Battery life of 7:45 as tested in the tablet with an additional 2 hours provided by the secondary battery in the keyboard when the unit is attached.

##### System Standby Time

Up to TBD weeks\*

\* Standby time will vary depending on various factors including battery, Memory, CPU, EC and LAN chip. The maximum capacity of the battery will naturally decrease with time and usage.

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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

### Features

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.

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### WEIGHTS & DIMENSIONS

**Weight (Total)**

Starting at 4.39 lb (1.99 kg)

**Weight (Slate)**

Starting at 2.18 lb (0.99 kg)

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

13.39 x 9.06 x 0.72 in

340 x 230 x 18 mm

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

13.39 x 8.54 x 0.27 in

340 x 217 x 6.9 mm

**NOTE:** Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Total weight includes batteries in tablet and base, solid state drive, and 4 or 8 GB memory.

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### PORTS/SLOTS

**Ports - Slate**

Headphone/Line-out (Beats Audio™ supported) and Mic-in (combo) - Voice recognition - One  
Docking Connector - One

**Ports - Base**

USB 3.0 - Two

HDMI v1.4a - One

Docking Connector (Power + USB) - One

**Digital Media Slots (Tablet only)**

1 Micro Secure Digital (SD) Media Reader (Push-Push Insertion/Removal)

Support both SDHC and SDXC

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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>.

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### Technical Specifications

#### SYSTEM UNIT

<b>Stand-Alone Power Requirements (AC Power)</b>	<b>Nominal Operating Voltage</b>	TBD V
	<b>Average Operating Power</b>	Integrated graphics: TBD W Discrete graphics: 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*
	<b>EPEAT</b>	Registered TBD in United States**
	<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 Spectre 13 x2 Pro that are ENERGY STAR qualified are identified as HP Spectre 13 x2 Pro 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>.

## DISPLAY

<b>13.3-inch LED HD (1366 x 768)</b>	<b>Dimensions (W x H)</b>	11.53 x 6.49 in (29.3 x 16.5 cm)	
	<b>Diagonal Size</b>	13.3 in (33.8 cm)	
	<b>Contrast Ratio*</b>	500:1 (typical)	
	<b>Refresh Rate*</b>	60 Hz	
	<b>Brightness*</b>	200 nit (typical)	
	<b>Pixel Resolution</b>	<b>Pitch</b>	0.215 mm
		<b>Format</b>	1366 x 768
		<b>Configuration</b>	RGB Stripe
	<b>Backlight</b>	LED	
	<b>PPI</b>	118 ppi	
<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)		

\* All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower

<b>13.3-inch LED FHD (1900 x 1080)</b>	<b>Dimensions (W x H)</b>	11.53 x 6.49 in (29.3 x 16.5 cm)	
	<b>Diagonal Size</b>	13.3 in (33.8 cm)	
	<b>Contrast Ratio*</b>	500:1 (typical)	
	<b>Refresh Rate*</b>	60 Hz	
	<b>Brightness*</b>	200 nit (typical)	
	<b>Pixel Resolution</b>	<b>Pitch</b>	0.215 mm
		<b>Format</b>	1900 x 1080
		<b>Configuration</b>	RGB Stripe
	<b>Backlight</b>	LED	
	<b>PPI</b>	118 ppi	

### Technical Specifications

<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical) <i>* All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower</i>
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### STORAGE AND DRIVES

#### Internal Storage

<b>128 GB* 2.5-inch mSATA Solid State 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 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	

*\*For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 36GB of system disk is reserved for system recovery software.*

<b>SATA 6 Gb/s 256 GB*, mSATA Solid State Drive</b>	<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	

*\*For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 36GB of system disk is reserved for system recovery software.*

### Technical Specifications

#### NETWORKING/COMMUNICATIONS

<b>HP 3110 HSPA+ Mobile Broadband Module*</b>	<b>Technology/Operating Bands</b>	CDMA/1xRTT/EvDO: 800MHz (Cell), 1900MHz (PCS) 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) LTE: 700 MHz (Verizon, Band XIII)
	<b>Mobile Operator</b>	Verizon (US only)
	<b>Wireless Protocol Standards</b>	GSM/GPRS/EDGE: Class B, Multi-slot class 10 operation, coding schemes CS1 - CS4 and MSC1 - MSC9. CDMA: 1xEVDO Release 0 and Release A, IS-95A, IS-95B, IS-856, IS-2000 UMTS/WCDMA: Release 99 and Release 7 LTE: Power Class III as per 3GPP TS 36.101
	<b>Wireless Parametric Standards</b>	Complies with 3GPP specifications Release 8 for LTE
	<b>Maximum Data Rates</b>	EvDO (Revision A) - 3.1 Mbps (Download), 1.8 Mbps (Upload) WCDMA (DC-HSPA+) - 42Mbps (Download) LTE (Category 3) - 100 Mbps (Download ), 50Mbps (Upload)
	<b>GPS</b>	Standalone, Assisted, XTRA
	<b>GPS Bands</b>	1575.42 MHz (± 1.023 MHz)
	<b>Maximum Output Power</b>	GSM/GPRS/EDGE: 32dBm (+/-1) WCDMA: 24dBm (+0.7/-2.3) LTE: +23 dBm (+2.7 dBm/-1.7 dBm) 1xRTT/EvDO: +24 dBm (+0.5 dBm/-1.5 dBm)
	<b>Maximum Power Consumption</b>	2700mA (peak)
	<b>Power Consumption, Sleep Mode</b>	10 mA
	<b>Power Management</b>	USB selective suspend Integrated notebook wireless button
	<b>Antenna Type</b>	Dual high efficiency 6 band antennae with spatial diversity, mounted in the display enclosure
	<b>Form Factor</b>	PCI-Express MiniCard, USB 2.0 interface
	<b>Weight</b>	< 10 g
	<b>Dimensions</b> (Length x Width x Thickness)	2.01 x 1.18 x 0.18 in (51 x 30 x 4.5 mm)
	<b>Voltage, Operating</b>	3.3v +/- 9%
	<b>Temperature, Operating</b>	-4° to 149° F (-20° to 65° C)
	<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>	85% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)

### Technical Specifications

**LED Activity** LED Off - Radio Off;  
Solid LED On - Radio On

\* Mobile Broadband is an optional feature sold separately or as an add-on feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.

<b>HP It4112 LTE/HSPA+ Gobi 4G Module*</b>	<b>Technology/Operating bands</b>	LTE FDD all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 2600 MHz (Band VII), 900 MHz (Band VIII), 800 MHz (Band XX, DD800) WCDMA/HSDPA/HSUPA/HSPA+ all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 800 MHz (Band V), 900 MHz (Band VIII) GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII)
	<b>Wireless protocol standards</b>	3GPP Release 8 LTE Specification WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification
	<b>Wireless parametric standards</b>	Complies with 3GPP specifications Release 8 for LTE
	<b>Maximum data rates</b>	LTE (Category 3): 100 Mbps (Download), 50Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
	<b>GPS</b>	Standalone
	<b>GPS bands</b>	1575.42 MHz ( $\pm$ 1.023 MHz), GLONASS 1596-1607MHz
	<b>Maximum output power</b>	LTE: +23 dBm ( $\pm$ 2 dBm) WCDMA: +23.5 dBm ( $\pm$ 1 dBm) GPRS Band II, III: +29.5 dBm ( $\pm$ 1 dBm) GPRS Band V, VIII: +32.5 dBm ( $\pm$ 1 dBm) EGPRS Band II, III: +26.5 dBm ( $\pm$ 1.5 dBm) EGPRS Band V, VIII: +27.5 dBm ( $\pm$ 1.5 dBm)
	<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); <900 mA (average) WCDMA: 1,100 mA (peak); <800 mA (average) EGPRS: 2,800 mA (peak); <700 mA (average)
	<b>Power consumption, sleep mode</b>	3 mA
	<b>Power management</b>	USB selective suspend, Integrated notebook wireless button
	<b>Antenna type</b>	Dual high efficiency multi-band antennae with spatial diversity
	<b>Form Factor</b>	M.2, USB 2.0 interface
	<b>Weight</b>	6 g
	<b>Dimensions</b> (Length x Width x Thickness)	42 mm x 30 mm x 2.3 mm
	<b>Voltage, Operating</b>	3.135 V to 4.4 V (3.3 V +1.1V/-0.165V)
	<b>Temperature, operating</b> (from TIA/EIA/IS-98-D)	14° to 131° F (-10° to 55° C)



### Technical Specifications

<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>LED activity</b>	LED Off - Radio Off; Solid LED On - Radio On

\* 4G LTE not available on all products, in all regions. Mobile broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors.

<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  *Wireless access point and internet service required. Availability of public wireless access points limited.
	<b>Frequency Band</b>	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> ) 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)
	<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)

### Technical Specifications

<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%	
<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	

### Technical Specifications

<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
<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

### Technical Specifications

<b>Intel Dual Band Wireless-AC 7260 802.11 ac (2x2) WiFi + BT 4.0 combo Adapter</b>	<b>Wireless LAN Standards*</b>	<ul style="list-style-type: none"> <li>IEEE 802.11a</li> <li>IEEE 802.11b</li> <li>IEEE 802.11g</li> <li>IEEE 802.11n</li> <li>IEEE 802.11ac**</li> </ul>
	<b>Interoperability</b>	<p>Wi-Fi certified</p> <p>*Wireless access point and internet service required. Availability of public wireless access points limited.</p> <p>**The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.</p>
	<b>Frequency Band</b>	<p>802.11b/g/n</p> <ul style="list-style-type: none"> <li>● 2.402 - 2.482 GHz</li> </ul> <p>802.11a/n</p> <ul style="list-style-type: none"> <li>● 4.9 - 4.95 GHz (Japan)</li> <li>● 5.15 - 5.25 GHz</li> <li>● 5.25 - 5.35 GHz</li> <li>● 5.47 - 5.725 GHz</li> <li>● 5.825 - 5.850 GHz</li> <li>● 2.402 - 2.482 GHz</li> </ul>
	<b>Data Rates</b>	<ul style="list-style-type: none"> <li>● 802.11b: 1, 2, 5.5, 11 Mbps</li> <li>● 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>● 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>● 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>● 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)</li> </ul>
	<b>Modulation</b>	<p>Direct Sequence Spread Spectrum</p> <p>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p>
	<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>Network Architecture Models</b>	<p>Ad-hoc (Peer to Peer)</p> <p>Infrastructure (Access Point Required)</p>
	<b>Roaming</b>	IEEE 802.11 compliant roaming between access points

### Technical Specifications

<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><li>● Maximum output power must be able to achieve modular regulatory certification with notebooks that have antennas &gt;20cm from the user and peak gain of +3dBi at 2.4GHz and +4dBi at 5GHz</li></ul>
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 250 mW (WLAN Associated) Idle mode: 100 mW (WLAN unassociated) Radio disabled: 75 mW
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>3</sup></b>	802.11b:-95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps)  802.11a/g:-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 (72.2 Mbps), -66 dBm (300 Mbps)
<b>Antenna type</b>	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
<b>Form Factor</b>	PCI-Express Half-MiniCard
<b>Dimensions</b>	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 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 Off - Radio OFF; Solid LED On - Radio ON

1. Check latest software/driver release for updates on supported security features.  
2. Maximum output power may vary by country according to local regulations.  
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

**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

### Technical Specifications

<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>	-6 dBm to 4 dBm (Bluetooth Class II)
<b>Receiver Sensitivity</b>	Better than -80 dBm at 0.1 % raw bit error rate
<b>Power Consumption</b>	Peak (Tx) 330 mW Peak (Rx) 230 mW Sleep <17 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
<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)

### Technical Specifications

<b>Intel Dual Band Wireless-N 7260BN 802.11 a/b/g/WiFi + BT 4.0 combo Adapter</b>	<b>Wireless LAN Standards*</b>	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	<b>Interoperability</b>	Wi-Fi certified
		<i>*Wireless access point and internet service required. Availability of public wireless access points limited.</i>
		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>	802.11b/g/n                      2.402 - 2.482 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> <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> </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)

### Technical Specifications

	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
	<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>Bluetooth Specification</b>	
	V4.0 High Speed, V2.1+EDR, backwards compatible with V1.1, 1.2 and 2.0
<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>	-6 dBm to 4 dBm (Bluetooth Class II)
<b>Receiver Sensitivity</b>	Better than -80 dBm at 0.1 % raw bit error rate
<b>Power Consumption</b>	Peak (Tx) 330 mW
	Peak (Rx) 230 mW
	Sleep <17 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



### Technical Specifications

<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>	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.

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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

<b>HP 2-cell Polymer Battery (18 WHr)</b>	<b>Dimensions (h x w x l)</b>	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>Voltage</b>	TBD
		<b>Amp-hour capacity</b>	TBD
		<b>Watt-hour capacity</b>	18 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>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	TBD hours
		<b>System ON</b>	TBD hours (depending on system power consumption)
		<b>Fuel Gauge LED</b>	TBD
<b>Warranty</b>	1 year		

<b>HP 3-cell Polymer Battery (33 WHr)</b>	<b>Dimensions (h x w x l)</b>	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>	3-cell Polymer	
	<b>Energy</b>	<b>Voltage</b>	TBD
		<b>Amp-hour capacity</b>	TBD
		<b>Watt-hour capacity</b>	33 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>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	TBD hours
		<b>System ON</b>	TBD hours (depending on system power consumption)
		<b>Fuel Gauge LED</b>	TBD
<b>Warranty</b>	1 year		

### ENVIRONMENTAL

TBD

### COUNTRY OF ORIGIN

TBD

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

Type	Description	Part #
<b>Cases</b>	HP Business Slim Top Load (up to 14.1" x .75" thick)	H5M91AA
<b>Docking</b>	HP USB 2.0 Port Replicator	H1L07AA#xxx
	HP USB 3.0 Port Replicator	H1L08AA#xxx
<b>Input/Output</b>	HP Stylish Wireless KB/Mouse	H4B79AA
	HP USB Ethernet Adapter	XZ613AA#ABA
	HDMI to VGA Adapter	H2L54AA#xxx
<b>Power</b>	HP 45W Smart AC Adapter 4.5mm	H6V88AA#xxx
<b>Storage - External Storage</b>	HP External USB Optical Drive	F2B56AA

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