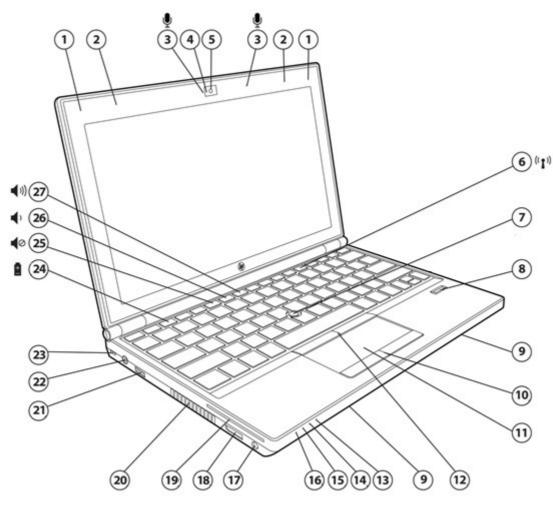
## **Overview**

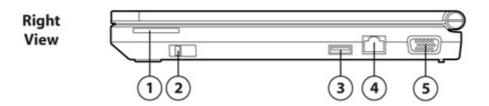


- 1. WLAN antennas (2)
- 2. WWAN antennas (2)
- 3. Dual-microphone array\*
- 4. Webcam LED indicator (with optional webcam)
- 5. Optional 720p HD webcam
- 6. Wireless on/off button with LED indicator
- 7. Pointstick
- 8. Optional HP Fingerprint Sensor
- 9. Stereo speakers
- 10. Touchpad pick buttons
- 11. Touchpad
- 12. Pointstick buttons (2)
- 13. Drive activity / HP 3D DriveGuard LED indicator
- 14. Battery charging LED indicator

- 15 Power/standby LED indicator
- 16. Wireless on/off LED indicator
- 17. Audio-out (headphone) jack/Audio-in (microphone) jack
- 18. DisplayPort
- 19. Smart card reader
- 20. Vent
- 21. USB 3.0 port
- 22. Power connector
- 23. Security cable slot
- 24. HP Power Assistant function key
- 25. Volume mute function key
- 26. Volume down function key
- 27. Volume up function key

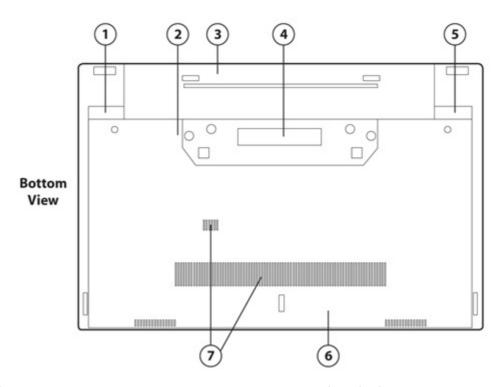


# Overview



- 1. Media Card Reader
- 2. Power on
- 3. USB 3.0 charging port

- 4. RJ-45 (network) jack
- 5. External monitor port



- 1. Service cover release
- 2. SIM card slot (in battery bay)
- 3. Battery bay
- 4. Docking station connector

- 5 Battery release latch
- 6. Hard drive bay and memory module compartments
- 7. Vents

#### Overview

### At A Glance

- Windows 8 versions, Windows 7 versions or FreeDOS
- 3<sup>rd</sup> Generation Intel<sup>®</sup> Core<sup>™</sup> i7, i5 and i3 Dual-Core<sup>™</sup> with Turbo Boost Technology
- Intel® vPro™ technology (optional) 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
- Integrated Intel<sup>®</sup> HD Graphics 4000
- Widescreen LED-backlit HD display (1366 x 768)
- Full sized, Chiclet, spill-resistant keyboard with drains
- Touchpad with scroll zone and gestures support
- 1.04 Inch (26.5 mm) thin profile
- Weight starting at 2.94 lb (1.33 kg)
- High Definition Audio with SRS Premium Sound PRO, stereo speakers, integrated dual-microphone array and optional 720p HD
   Webcam
- Easily hot dock with one of the optional HP docking stations
- Choice of 6-cell or 4-cell battery to customize weight, run-time, and battery life to your needs
- Security features including a Security lock slot and TPM 1.2 Embedded Security Chip
- Wireless connectivity:
  - O Optional integrated wireless mobile broadband module support
  - O Integrated Intel® Centrino® 802.11 a/b/g/n 2x2, Intel 802.11a/b/g/n 2x2 with Bluetooth® v4.0 combo, Atheros 802.11a/b/g/n 2x2 with Bluetooth® v4.0 combo, Broadcom 801.11b/g/n 1x1 with Bluetooth® v4.0 combo
  - Bluetooth<sup>®</sup>
- Choice of 7200 rpm user-removable hard drive up to 500 GB with HP 3D DriveGuard protection, or 128/180/240 GB Solid State Drive or 256 GB SED Solid State Drive
- Low Halogen\*, ENERGY STAR qualified and EPEAT Gold registered in the U.S. EPEAT status varies by country- please see epeat.net.
- Standard commercial 1 year warranty



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

#### **Features**

### **OPERATING SYSTEM**

Preinstalled Windows 8 Pro 64\*

Windows 7 Professional (available through downgrade rights from Windows 8 Pro)\*\*

Windows 8 64\*

Windows 7 Professional 32\*\*\*
Windows 7 Professional 64\*\*\*
Windows 7 Home Premium 32\*\*\*
Windows 7 Home Premium 64\*\*\*
Windows 7 Home Basic 32\*\*\*

**FreeDOS** 

**Supported** Windows 7 Enterprise 32\*\*\*

Windows 7 Enterprise 64\*\*\*
Windows 7 Ultimate 32\*\*\*
Windows 7 Ultimate 64\*\*\*
Windows XP Professional 32

Windows XP Professional 32

Certified SUSE Linux Enterprise Desktop

\*\*\* Not all features are available in all editions of Windows 7. This system may require upgraded and/or separately purchased hardware to take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details.

### **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™ i7-3667U (2.0 GHz, 3 MB L3 cache, 2 cores)\*

Up to 3.20 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™ i5-3427U (1.8 GHz, 3 MB L3 cache, 2 cores)\*

Up to 2.80 GHz with Intel Turbo Boost Technology

3rd Generation Intel® Core™ i5-3337U (1.8 GHz, 3 MB L3 cache, 2 cores)\*†

Up to 2.70 GHz with Intel Turbo Boost Technology

3rd Generation Intel® Core™ i5-3317U (1.7 GHz, 3 MB L3 cache, 2 cores)\*†

Up to 2.60 GHz with Intel Turbo Boost Technology

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

3rd Generation Intel® Core™ i3-3217U (1.8 GHz, 3 MB L3 cache, 2 cores)\* †

† Not available with vPro

\* Intel's numbering is not a measurement of higher performance.

**NOTE:** Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.



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

\*\* 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.

#### **Features**

### **CHIPSET**

Mobile Intel® QM77 Express (vPro support)\*

\*Some functionality of Intel vPro, 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 vPro technologies is dependent on 3rd party software providers. Compatibility with future "virtual appliances", Microsoft Windows required.

# INTEL® CORE 15 WITH VPRO/CORE 17 WITH VPRO TECHNOLOGY CAPABLE

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

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

**NOTE:** Some functionality of Intel® Core i5 with vPro/Core i7 with vPro technology, such as Intel® Active Management technology and Intel® Virtualization technology, requires additional third- party software in order to run. Availability of future "virtual appliances" applications for Intel® Core i5 with vPro/Core i7 with vPro technology is dependent on third- party software providers. Compatibility with future "virtual appliances" is yet to be determined.

### **GRAPHICS**

Integrated: Intel® HD Graphics 4000

#### DISPLAY

#### Internal

11.6" diagonal LED-backlit HD anti-glare (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

#### **VGA**

Port supports resolutions up to 2048 x 1536 at 75 Hz, and lower resolutions at up to 100 Hz

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



#### **Features**

### STORAGE AND DRIVES

#### **Primary Storage Bay**

#### **Hard Drives**

320/500 GB 7200 rpm SMART SATA II 500 GB 7200 rpm SMART SATA II Self Encrypting Drive

### **HP 3D DriveGuard (Windows only)**

The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive

#### **Solid State Drive**

128/180/240 GB SATA III

256 GB SATA III Self Encrypting Drive

**NOTE:** For hard drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 15 GB (for Windows 7) and up to 36 GB (for Windows 8) of system disk is reserved for the system recovery software

## **MEMORY**

#### **Standard**

DDR3 SDRAM (1600 MHz)
Two SODIMM slots supporting dual-channel memory
2 GB, 4 GB, and 8 GB SODIMMs

#### Maximum

16384MB

**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. With Windows Starter 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

# **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.

Mobile Broadband options (Win 8 WWAN support will not be available at Win 8 introduction)

HP hs2350 HSPA+ Mobile Broadband Module

HP un2430 EV-DO/HSPA Mobile Broadband Module

HP lt2522 LTE/EV-DO Mobile Broadband Module - U.S. only

HP lt2523 LTE/HSPA+ Mobile Broadband Module - U.S./Canada only (no Win 8 support)

All 802.11 integrated wireless LAN options

Intel® Centrino Advanced-N 6205 (2x2)

Intel® 802.11a/b/g/n 2x2 with Bluetooth® v4.0 combo

Atheros 802.11a/b/g/n 2x2 with Bluetooth® v4.0 combo

Broadcom 801.11b/g/n 1x1 with Bluetooth® v4.0 combo

HP Integrated Module with Bluetooth 4.0+EDR Wireless Technology



### **Features**

#### **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**

SRS Premium Sound PRO™ Integrated stereo speakers Integrated dual-microphone array Button for volume mute; function keys for volume up and down Combo headphone/microphone jack

#### Webcam

Optional 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**

#### 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.

## **Backlit Keyboard**

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

#### **Pointing Devices**

Touchpad with gestures support, on/off button with LED indicator, two-way scroll, two pick buttons

### SOFTWARE AND SECURITY

#### **Preinstalled Software with Windows Operating System**

HP Peak Power Manager\* (web only)
HP Power Assistant (Windows 7 only)
Cyberlink Media Suite for Win 8
HP Wireless Hotspot (Win 8 web download only)



### **Features**

HP Recovery Manager
HP Support Assistant
Buy Office
Adobe® Flash Player (Windows 7 only)
Corel WinDVD (select Windows 7 models)
Roxio Secure Burn (select Windows 7 models)
Roxio MyDVD Business 2010 (select Windows 7 models)
PDF Complete Corporate Edition
WinZip Basic (Windows 7 only)
Skype ready\*\*

\*HP Peak Power Manager replaces HP Power Assistant for both Win7 and Win8. HP Peak Power Manager will be available on the web for download for existing product owners.

\*\* Internet access required.

#### Security

### Standard

Digital Pass (Windows 7 only HP Client Security (Windows 8 only) HP ProtectTools Security Manager (standard modules include)

- Credential Manager
- Central Management capable\*
- Computrace\*\* Pro
- Device Access Manager
- Drive Encryption (will be web-only ready at Win8 GA date)
- Face Recognition (webcam configurations only)

Microsoft Defender (Windows 8 only)

Microsoft Security Essentials (included with Microsoft Defender for Windows 8)

One Step Logon

**Password Manager** 

Privacy Manager (Windows 7 only)

SpareKey

**Smart Card Reader** 

TPM 1.2 Embedded Security Chip\*\*\*

Security lock slot

Support for Intel® AT\*\*\*\*

#### **Optional**

**HP Fingerprint Sensor** 

- \* 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. Requires Microsoft Windows.
- \*\* 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.
  \*\*\* TPM module disabled where use is restricted by law, for example, Russia and China.

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

\*\*\*\* 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/



### **Features**

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

### **POWER**

### **Power Supply**

External 65-watt HP Smart AC Adapter

External 65-watt Slim AC adapter

Power cord included is 6-foot (1.8 meter).

Total length including external AC adapter is 12 feet (3.66 meter).

**HP Fast Charge** 

## **Primary Battery**

HP 6-cell Prismatic Battery (48 WHr)

HP 4-cell Prismatic Battery (30 WHr)

### **Battery Life\***

## HP EliteBook 2170p (Hard Drive)

**6-cell (48 WHr)**Up to 8 hours and 15 minutes **4-cell (30 WHr)**Up to 4 hours and 30 minutes

#### HP EliteBook 2170p (Solid State Drive)

6-cell (48 WHr) Up to 10 hours

**4-cell (30 WHr)** Up to 5 hours and 30 minutes

#### **System Standby Time**

Up to 2 weeks

\*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. See MobileMark07 battery benchmark http://www.bapco.com/products/mobilemark2007 for additional details.

#### **Power Conservation**

Hibernation

Standby

**ACPI** compliance

## **ENVIRONMENTAL**

**US ENERGY STAR®** 

IT ECO Declaration

EPEAT – Gold where HP registers commercial notebook products. See http://www.epeat.net for registration status in your country.

**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

Starting at 2.94 lbs (1.33 kg) (with 4-cell battery) Starting at 3.12 lbs (1.42 kg) (with 6-cell battery)

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

11.50 x 7.56 x 1.04 in (at front)

29.2 x 19.2 x 2.65 cm (at front)

**NOTE:** Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. Lowest weight includes 4-cell battery, hard drive, 1 SODIMM, no WWAN and no fingerprint sensor. Weight varies by configuration and components.

## **PORTS/SLOTS**

#### **Ports**

DisplayPort 1.1a – One
VGA – One
RJ-45 (Ethernet) – One
Headphone/Microphone Combo Jack – One
Power Connector – One
Docking Connector – One
USB 3.0 – One
USB 3.0 Charge Port – One

### **Digital Media Slots**

5 in 1 Secure Digital Slot

### SERVICE AND SUPPORT

HP Services offers limited 3 year and 1 year warranty options depending on country;

1 year limited warranty on primary battery; 3 year limited warranty on HP Long Life Battery (only available with 3 year platform warranty). On-site service and warranty upgrades are also available. HP Care Pack Services extend service contracts beyond the standard warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <a href="http://www.hp.com/go/lookuptool">http://www.hp.com/go/lookuptool</a>. Additional HP Care Pack Services information by product is available at: <a href="http://www.hp.com/hps/carepack">http://www.hp.com/hps/carepack</a>.

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



# **Technical Specifications**

### **SYSTEM UNIT**

**Stand-Alone Power Nominal Operating** 

Requirements (AC Power) Voltage

Average Operating Power Windows 7 (32-bit) Windows 7 (64-bit)

> 7.45 W 6.03 W

**Max Operating Power** < 65 W

32° to 95° F (0° to 35° C) (not writing optical) **Temperature** Operating

41° to 95° F (5° to 35° C) (writing optical)

**Non-operating** -4° to 140° F (-20° to 60° C)

18.5 V

**Relative Humidity** Operating 10% to 90%, non-condensing

> 5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature **Non-operating**

Shock Operating 40 G, 2 ms, half-sine

> **Non-operating** 200 G, 2 ms, half-sine

**Random Vibration** Operating 0.75 grms

> **Non-operating** 1.50 grms

**Altitude** (unpressurized) Operating -50 to 10,000 ft (-15.24 to 3,048 m)

> -50 to 40,000 ft (-15.24 to 12,192 m) **Non-operating**

**Planned Industry Standard Certifications** 

UL Yes **CSA** Yes **FCC Compliance** Yes

**ENERGY STAR®** Select models\*

**EPEAT** Registered Gold in United States\*\*

**ICES** Yes Australia / Yes

**NZ A-Tick Compliance** 

CCC Yes **Japan VCCI Compliance** Yes KC Yes **BSMI** Yes **CE Marking Compliance** Yes **BNCI or BELUS** Yes CIT Yes GOST Yes Saudi Arabian Compliance Yes

(ICCP)

**SABS** Yes **UKRSERTCOMPUTER** Yes



# **Technical Specifications**

- \* Configurations of the HP EliteBook 2170p that are ENERGY STAR qualified are identified as HP EliteBook 2170p ENERGY STAR on HP websites and on www.energystar.gov.
- \*\* EPEAT registration varies by country. See 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**

11.6-inch LED HD (1366 x Active Area 768) Anti-glare Dimensions

**Active Area** 9.88 x 5.67 in (25.61 x 14.40 cm) **Dimensions** (W x H) 11.53 x 6.49 in (29.3 x 16.5 cm)

Diagonal Size 11.6 in (29.46 cm)

Surface Treatment Anti-glare
Contrast Ratio 300:1 (typical)

**Refresh Rate** 60 Hz

**Brightness** 200 nit (typical)

Pixel Resolution Format 1366 x 768

**Configuration** RGB Stripe

Backlight LED

Viewing Angle 40/40/15/30 (Left/Right/Down/Up) (typical)

## STORAGE AND DRIVES

### **Internal Storage**

500 GB 7200 rpm SATA Hard Drive

**Drive Weight** 0.25 lbs (115g) **Capacity** 500 GB

 Height
 0.37 in (9.5 mm)

 Width
 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

Transfer Rate Synchronous (maximum) 300 MB/s (Drive Capability)

Seek TimeSingle Track1.5 ms(typical reads, including<br/>settling)Average11 msMaximum22 ms

**Rotational Speed** 7200 rpm **Logical Blocks** 976,773,168

**Operating Temperature** 32° to 140° F (0° to 60° C) [case temp]

**Features** ATA Security



# **Technical Specifications**

500 GB 7200 rpm SMART SATA II Self Encrypting Drive **Drive Weight** 0.25 lbs (115g)

Capacity 500 GB

 Height
 0.37 in (9.5 mm)

 Width
 2.50 in (63.5 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s

Transfer Rate Synchronous (maximum) 300 MB/s (Drive Capability)

Seek TimeSingle Track1 ms(typical reads, including<br/>settling)Average12 msMaximum20 ms

Rotational Speed 7200 rpm Logical Blocks 976,773,168

Logical Blocks 976,773,168

Operating Temperature 32° to 140° F (0° to 60° C) [case temp]

**Features** ATA Security

320 GB 7200 rpm SATA Hard Drive **Drive Weight** 0.25 lbs (115 g)

Capacity 320 GB

 Height
 0.37 in (9.5 mm)

 Width
 2.75 in (70 mm)

Interface ATA-8, SATA 2.6, 3.0 Gb/s, NCQ

Transfer Rate Synchronous (maximum) 300 MB/s (Drive Capability)

Seek TimeSingle Track1.5 ms(typical reads, including<br/>settling)Average11 msMaximum22 ms

Rotational Speed 7200 rpm Logical Blocks 625,142,448

**Operating Temperature** 32° to 140° F (0° to 60° C) [case temp]

**Features** ATA Security

# **Technical Specifications**

SATA 6 Gb/s 256 GB, 2.5- Drive We inch SATA SED Solid State Capacity Drive

Drive Weight 73 Grams
Capacity 256 GB

 Height
 0.276 in (7 mm)

 Width
 2.76 in (70 mm)

 Interface
 SATA 3 (6 Gb/s)

Performance Maximum Sequential Maximum Sequential Write

Read

Up to 460 MB/s Up to 260 MB/s

**Logical Blocks** 500,118,192

**Operating Temperature** 32° to 158°F (0° to 70°C) [case temp]

**Features** ATA Security; ATA-8 compliant; SATA 3.0; DIPM; TRIM

SATA 6 Gb/s 240 GB, 2.5-inch Solid State Drive

**Drive Weight** 78 Grams **Capacity** 240 GB

 Height
 0.276 in (7 mm)

 Width
 2.76 in (70 mm)

 Interface
 SATA Gen 3 (6 Gb/s)

Performance Maximum Sequential Maximum Sequential Write

Read

550 MB/s 520 MB/s

**Logical Blocks** 468,862,128

**Operating Temperature** 32° to 158°F (0° to 70°C) [case temp]

Features ATA Security; ATA-8, SATA 3.0; DIPM; TRIM

SATA 6 Gb/s 180 GB, 2.5-inch Solid State Drive

**Drive Weight** 78 Grams **Capacity** 180 GB

 Height
 0.276 in (7 mm)

 Width
 2.76 in (70 mm)

 Interface
 SATA Gen 3 (6 Gb/s)

Performance Maximum Sequential Maximum Sequential Write

Read

550 MB/s 520 MB/s

**Logical Blocks** 351,651,888

**Operating Temperature** 32° to 158°F (0° to 70°C) [case temp] **Features** ATA Security; ATA-8, SATA 3.0; DIPM; TRIM

## **Technical Specifications**

SATA 6 Gb/s 128 GB, 2.5-inch Solid State Drive

**Drive Weight** 73 Grams **Capacity** 128 GB

 Height
 0.276 in (7 mm)

 Width
 2.76 in (70 mm)

 Interface
 SATA 3 (6 Gb/s)

Performance Maximum Sequential Maximum Sequential Write

Read

415 MB/s 175 MB/s

**Logical Blocks** 250,069,680

Operating Temperature 32° to 158°F (0° to 70°C) [case temp]

Features ATA Security; ATA-8; SATA 3.0 DIPM; TRIM

# **NETWORKING/COMMUNICATIONS**

Intel® 82579LM Gigabit Network Connection **Ethernet Features** 

**Power** 

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 Mbti/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 802.1g VLAN support

IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)

IEEE 802.3az EEE(Energy Efficient Ethernet)

Jumbo Frame 9K

Auto MDI/MDIX Crossover cable detection ACPI compliant - multiple power modes

ManagementEnergy Detect Low Power Mode(Green Ethernet)PerformanceTCP/IP/UDP Checksum Offload (configurable)

Features Protocol Offload( ARP & NS)

Large send offload and Giant send offload

Receiving Side Scaling MACSec Offload (802.3ae)

Intel vPro iSCSI Boot

Manageability Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft

Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)

PXE 2.1 Remote Boot

Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x,

clause 30))

Comprehensive diagnostic and configuration software suite

Virtual Cable Doctor for Ethernet cable status



## **Technical Specifications**

Interface PCI Express 1.1 x1 to fully support ASPM LOs/L1 and CLKREQ.

NOTE: Intel 82579 PCIe interface is not PCIe compliant. It operates at half of

PCIe specification V1.1 (2.5GT/S) speed.

**NIC Device Driver Name** Intel 82579LM/82579V Ethernet Network Connection

HP un2430

**EV-DO/HSPA Mobile Broadband Module** 

Technology/Operating

**Bands** 

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 Classo-Cell), 1900MHz

(Band Class 1-PCS)

**Wireless Protocol** 

**Standards** 

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

**Wireless Parametric** 

**Standards** 

Meets or exceeds TIA/EIA IS-98-D

**Maximum Data Rates** UMTS (HSPA) - 14.4 Mbps (Download), 5.76Mbps (Upload)

CDMA (EVDO Release A) - 3.1 Mbps (Download), 1.8 Mbps (Upload)

**GPS** Standalone GPS enabled

gps0neXTRATM™

**GPS Bands** L1 - 1575.42 MHz

**Maximum Output Power** GSM/GPRS/EDGE: 32dBm (+/-1)

> WCDMA: 24dBm (+0.7/-2.3) CDMA: 24dBm (+0.7/-2)

**Maximum Power** 

Consumption

2750mA (peak); 1100mA (average)

Power Consumption, Idle 20 mA

**Not Connected** 

**Power Management** USB selective suspend

Integrated notebook wireless button

Antenna Type Dual high efficiency 5 band antennae with spatial diversity, mounted in the

display enclosure

**Form Factor** PCI-Express MiniCard, USB 2.0 interface

Weight 11.5 q

**Dimensions** (Length x

Width x Thickness)

2.01 x 1.18 x 0.18 in (51 x 30 x 5 mm)

Voltage, Operating 3.3v +/- 10%

Temperature, Operating -22° to 158° F (-30° to 70° C) (full RF performance) (from TIA/EIA/IS-98-D) -22° to 167° F (-30° to 75° C) (reduced RF performance)

Temperature, Non--40° to 185° F (-40° to 85° C)

operating, 96 hours (from MIL-STD 202 Method 108)



## **Technical Specifications**

**Humidity, Non-operating** 95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)

**Configuration Utilities** HP Connection Manager **LED Activity** LED Off - Radio Off;
Solid LED On - Radio On

Intel Centrino Advanced-N Wireless LAN Standards IEEE 802.11a

6205 (2x2)

IEEE 802.11b IEEE 802.11g IEEE 802.11n

Interoperability Wi-Fi certified

Cisco Compatible Extensions Program compliant with Microsoft Windows 7, Windows Vista and XP (details at: http://www.hp.com/go/notebooks/WLAN)

Frequency Band 2.4 GHz and 5GHz

**Antenna Structure** 2 transmit; 2 receive (2x2)

**Data Rates** 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

**Modulation** Direct Sequence Spread Spectrum

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security<sup>1</sup> 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.

**Sub-channels** Multinational support with frequency bands and channels compliant to local

regulations.

Media Access Protocol CSMA/CA (Collision Avoidance) with ACK

**Network Architecture** Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

**Roaming** IEEE 802.11 compliant roaming between 2.4GHz band Access Points

Output Power (for CCK and 17 dBm max

OFDM)2

**Power Consumption** 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)

**Power Management** ACPI compliant power management

802.11 compliant power saving mode



## **Technical Specifications**

Receiver Sensitivity<sup>4</sup> 54 Mbps: -76 dBm, 6 Mbps: -92 dBm

**Antenna Connections** 2 U.FL type connectors, 50 ohm nominal impedance

**Form Factor** PCI-Express Half-MiniCard

Weight 0.0075 lb (3.4 q)

**Dimensions** 0.12 x 1.06 x 1.18 in (3.1 x 26.8 x 30.0 mm)

**Operating Voltage** 3.3V +/- 9%

**Temperature** Operating 32° to 176° F (0° to 80° C)

Non-operating -40° to 176° F (-40° to 80° C)

Humidity Operating 10% to 90% (non-condensing)

> Non-operating 5% to 90% (non-condensing)

**Altitude** Operating 0 to 10,000 ft (3,048 m)

Non-operating 0 to 50,000 ft (15,240 m)

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

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.

Intel Centrino Advanced - Wireless LAN Standards N 6235 802.11a/q/n (2x2) Bluetooth v4.0 Combo **Adaptor** 

IEEE 802.11a

IEEE 802.11b IEEE 802.11q IEEE 802.11n

Interoperability Wi-Fi certified

Cisco Compatible Extensions Program compliant with Microsoft Windows 7

(details at: http://www.hp.com/go/notebooks/WLAN)

Frequency Band 2.4 GHz and 5 GHz

**Data Rates** 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: 300 Mbps

Modulation **Direct Sequence Spread Spectrum** 

DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16-QAM, 64-QAM

Security Supports 64- and 128-bit WEP, WPA, WPA2, hardware-accelerated AES,

> 802.1x authentication types EAP-TLS, EAP-TTLS, PEAP, LEAP, and EAP-FAST. Support for Cisco Security Features (proven compatibility with Cisco Aironet infrastructure products through the Cisco Compatible Extensions Program

Version 5) with Microsoft Windows 7.

**Sub-channels** Multinational support with frequency bands and channels compliant to local

regulations.

**Media Access Protocol** CSMA/CA (Collision Avoidance)



## Technical Specifications

**Network Architecture** Ad-hoc (Peer to Peer)

Infrastructure (Access Point Required) Models

Roaming IEEE 802.11 compliant roaming between access points

**Output Power** 13.5 dBm, nominal

**Power Consumption** Idle associated: 250 mW

> Idle unassociated: 100 mW Radio disabled: 75mW Transmit: 2.0 W (max) Receive: 1.6 W (max)

**Power Management ACPI** compliant power management

802.11 compliant power saving mode

**Receiver Sensitivity** 54 Mbps: -74 dBm, 11 Mbps: -88 dBm, 1 Mbps: -95 dBm

High efficiency dual band antenna with spatial diversity, mounted in the Antenna type

display enclosure

Form Factor PCI-Express Half-MiniCard 1.2

Weight 0.008 lb (3.7 g)

**Dimensions** 1.06 x 1.18 x 0.19 in (26.80 x 30.00 x 4.75 mm)

**Operating Voltage** 3.3v +/- 10%

Operating 14° to 158° F (-10° to 70° C) **Temperature** 

-40° to 176° F (-40° to 80° C) Non-operating

**Humidity** 10% to 90% (non-condensing) Operating

> Non-operating 5% to 95% (non-condensing)

**Altitude** Operating 0 to 10,000 ft (3,048 m)

0 to 50,000 ft (15,240 m) Non-operating

**LED Activity** Amber LED - Radio OFF; White LED - Radio ON

**Bluetooth 4.0 Wireless Technology** 

**Bluetooth Specification** 2.1+EDR, 3.0+HS, 4.0 Compliant

**Dimensions** 1.06 x 1.18 x 0.19 in (26.80 x 30.00 x 4.75 mm)

**Frequency Band** 2402 to 2480 MHz

**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 2.17 Mbps/177.1 kbps asymmetric or

1306.9 kbps symmetric

**Transmit Power** Max 4 dBm (Bluetooth Class II); Max +10 dBm (Bluetooth 4.0)

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

**Power Consumption** Receive 230mW

Peak Operating 330mW

**USB Selective Suspend 17mW** 

**Antenna** High efficiency dual band antenna with spatial diversity, mounted in the

display enclosure



## **Technical Specifications**

**Range** Up to 30 ft (9.14 m)

**Electrical Interface** USB 2.0 compliant

Microsoft Windows Plug and Play compliant

**Bluetooth Software** 

Supported

Motorola 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

**Certifications** 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

**Temperature** Operating 14° to 158° F (-10° to 70° C)

Non-operating -40° to 176° F (-40° to 80° C)

**Humidity** Operating 10% to 90%

Non-operating 5% to 95%

Altitude Operating 10,000 ft (3,048 m)

Non-operating 50,000 ft (15,240 m)

**Bluetooth Profiles** 

**Supported** 

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)1,2

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>1,2,3</sup>

FAX Profile (FAX)

Basic Imaging Profile (BIP)<sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP)

Advanced Audio Distribution Profile (A2DP)

HP Integrated Module with Bluetooth 4.0+EDR Wireless Technology

**Bluetooth Specification** 

4.0+EDR Compliant

**Dimensions** 

1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)

**Frequency Band** 

2402 to 2480 MHz

**Number of Available** 

Channels

79 (1 MHz) available channels



## **Technical Specifications**

**Data Rates and** 3 Mbps data rate; throughput up to 2.17 Mbps

**Throughput** 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** -1.5 dBm to 4 dBm (Bluetooth Class II)

**Receiver Sensitivity** Better than -20 dBM at 0.1 % raw bit error rate

**Power Consumption** Peak (Tx) 264 mW

Peak (Rx) 231 mW

Sleep <1 mW

Antenna Internally integrated within module

Range Up 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

**Certifications** 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

**Temperature** Operating -14° to 158° F (-10° to 70° C)

Non-operating -40° to 212° F (-40° to 100° C)

**Humidity** Operating 0% to 90%

Non-operating 0% to 95%

**Altitude** Operating 15,000 ft (4,572 m)

Non-operating 40,000 ft (12,192 m)

**Bluetooth Profiles** Serial Port Profile (SPP)<sup>1</sup>

**Supported** 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>



# **Technical Specifications**

FAX Profile (FAX)

Basic Imaging Profile (BIP)<sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP)

Volume up, volume down

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

## **AUDIO/MULTIMEDIA**

Audio SRS Premium Sound™ PRO

Hardware Implementation IDT 92HD80 High Definition CODEC

**Function Key Volume** 

**Controls** 

Mute Button Volume mute button with LED indicator

Full Duplex Yes
Microphone In Stereo
Headphone/Line Out Stereo

**Integrated Microphone** Yes, dual digital microphone array

**Audio Output Quality** Frequency Response 20 Hz - 20 kHz

Signal to Noise Ratio >85 dB

Total Harmonic Distortion 0.01%

Noise Floor -110 dB

Play/Record Sampling

Rate(s)

8 kHz - 48kHz

**DAC** 16, 20 or 24-bit **ADC** 16 or 20-bit

Internal Stereo Speaker Power Rating 2 Watts

Impedance 4 ohms

### **POWER**



## **Technical Specifications**

**HP 65W Smart AC Adapter Dimensions** 4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)

 Weight
 0.62 lb (280 g)

 Input
 100 to 240 VAC

**Input Efficiency** 87% min at 115 VAC

**Input frequency range** 47 to 63 Hz

Input AC current 1.7 A at 90 VAC, 0.85 A at 180 VAC

**Output Output power** 65W

**DC output** 18.5V

**Hold-up time** 5 msec at 115 VAC input

**Output current limit** <11A, Over voltage protection- 29V max

automatic shutdown

**Connector** 3 pin/grounded, mates with interchangeable cords

**Environmental Design** Operating 32° to 104° F (0° to 40° C)

temperature

**Non-operating (storage)** -4° to 149° F (-20° to 65° C)

temperature

**Altitude** 0 to 10,000 ft (0 to 3,048 m)

**Humidity** 20% to 80% **Storage Humidity** 10% to 90%

EMI and Safety Certifications 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; MTBF - over 200,000 hours at 25°C ambient condition.

HP 4-cell (45 WHr) Lithium-Ion Primary battery **Dimensions** 0.6 x 2.1 x 8.1 in (1.4 x 5.2 x 20.6 cm)

(h x w x l)

Weight 0.44 lb (0.199 kg

Cells/Type 4-cell Lithium-Ion

**Energy Temperature Watt-hour capacity** 45 WHr

 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)

**Battery System in OFF or** 2.5 hours

Re-Charge Time Standby Mode

System ON 3 to 5 hours

Warranty 1 year

## **Technical Specifications**

HP 4-cell Prismatic Battery (30 WHr) Dimensions (h x w x l)

**Battery** 

0.6 x 2.1 x 8.1 in (1.3 x 4.5 x 22.2 cm)

Weight 0.44 lb (210g)
Cells/Type 4-cell Lithium-Ion

Energy Voltage 14.8V
Amp-hour capacity 2.0Ah

Watt-hour capacity 30 WHr

**Temperature 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)

System in OFF or 2.5 hours

Re-Charge Time Standby Mode

System ON 3 to 5 hours

Warranty 1 year

### **ENVIRONMENTAL**

#### **Environmental Data**

**Eco-Label Certifications** 

This product has received or is in the process of being certified to the following

approvals and may be labeled with one or more of these marks:

US Energy Star ® IT ECO declaration

EPEAT Gold where HP registers commercial desktop products. See <a href="http://www.epeat.net">http://www.epeat.net</a> for registration status in your country US Federal

Energy Management Program (FEMP)

**System Configuration** 

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

Energy Consumption	115 VAC	230 VAC	100 VAC
Normal Operation	8.47 W	9.23 W	8.54 W
Sleep (Energy Star low power mode)	1.02 W	1.19 W	1.01 W
Off	0.66 W	0.77 W	0.61 W
Heat Dissipation*	115 VAC	230 VAC	100 VAC
Normal Operation	29 BTU/hr	31 BTU/hr	29 BTU/hr
Sleep	3 BTU/hr	4 BTU/hr	3 BTU/hr
Off	2 BTU/hr	2 BTU/hr	2 BTU/hr

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

Declared Noise Emissions (in accordance with



# **Technical Specifications**

#### ISO 7779 and ISO 9296)

System Fan Off	Sound Power	Sound Pressure	
	(LWAd, bels)	(LpAm, decibels)	
Idle	3.3	25	
Fixed Disk (random writes)	3.4	27	

System fan is usually off except when charging the battery

Batteries

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

Batteries used in the product do not contain:

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

The battery type and chemistry used in the product is:

CR2032 (coin cell), Li-ion

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

Additional information

This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2002/95/EC.

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

This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).

This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see <a href="https://www.epeat.net">www.epeat.net</a>

Plastics parts weighing over 25 grams used in the product are marked per ISO 11469 and ISO1043.

This product contains 0% post consumer recycled plastic (by wt.)

This product is greater than 90.8% recycle-able when properly disposed of at end of life.

#### **Packaging Materials**

- External:
  - O PAPER/Corrugated 432 g
- Internal:
  - O PLASTIC/Polyethylene low density 19.5 g
  - O PLASTIC/EPE-Expanded Polyethylene 36 g
  - O OTHER/OTHER 20 g
  - O PLASTIC/PET 1.5
- The PAPER/Corrugated packaging material is made from 1% recycled content
- The PLASTIC/Polyethylene low density packaging material is made



## **Technical Specifications**

- from 1% recycled content.
- The PLASTIC/EPE-Expanded Polyethylene packaging material is made from 1% recycled content.
- The OTHER/OTHER packaging material is made from 1% recycled content.
- The PLASTIC/PET packaging material is made from 1% recycled content.

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

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

#### **MATERIAL USAGE**

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

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

- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances



# **Technical Specifications**

- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
- Nickel finishes that release greater than 0.5 µgrams/cm²/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

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

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

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

#### **HEWLETT-PACKARD CORPORATE ENVIRONMENTAL INFORMATION**

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

**Global Citizenship Report** 

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

**Environment website** 

http://www.hp.com/environment

**Eco-label certifications** 

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

ISO 14001 certificates:

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



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

Туре	Description	Part #
Memory	HP 2 GB PC3-12800 (DDR3 1600 MHz) SODIMM	H2P63AA#xxx
	HP 4 GB PC3-12800 (DDR3 1600 MHz) SODIMM	H2P64AA#xxx
	HP 8 GB PC3-12800 (DDR3 1600 MHz) SODIMM	H2P65AA#xxx
	<b>NOTE:</b> Full availability of 4 GB or more of memory requires Windows Vista Business 64-bit or Linux. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.	
Cases	HP Business Slim Top Load Case	H2T13AA
	HP Business Nylon Backpack	BP849AA
Docking	HP 90W Docking Station	A7E32AA
	HP 230W Docking Station	A7E34AA
	HP 120W Advanced Docking Station	A7E36AA
	HP 230W Advanced Docking Station	A7E38AA
	HP Dual Hinge Notebook Stand	AW661AA
	HP Display and Notebook Stand	AW662AA
Input/Output – Mice	HP 2.4 GHz Wireless Optical Mobile Mouse	LX732AA
	HP Wireless Mobile Mouse	H2L63AA
	HP USB Essential Keyboard/Mouse	H2S75AA
Adapters	HP 90W Slim Adapter	BT796AA
	HP 90W Smart AC/Auto/Air Combo Adapter	ED493AA
Power	HP MIO6 Battery (2170p)	TBD
Storage - External Storage	HP Mobile USB DVDRW	A2U57AA
Health and Education	HP 20-Notebook Managed Charging Cart	QL489AA
	HP 20-Notebook Charging Cart	QL488AA
	HP 30-Notebook Managed Charging Cart	QL490AA
	HP Pocket Whiteboard	A0X37AA
Security	HP Docking Station Cable Lock	AU656AA



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

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