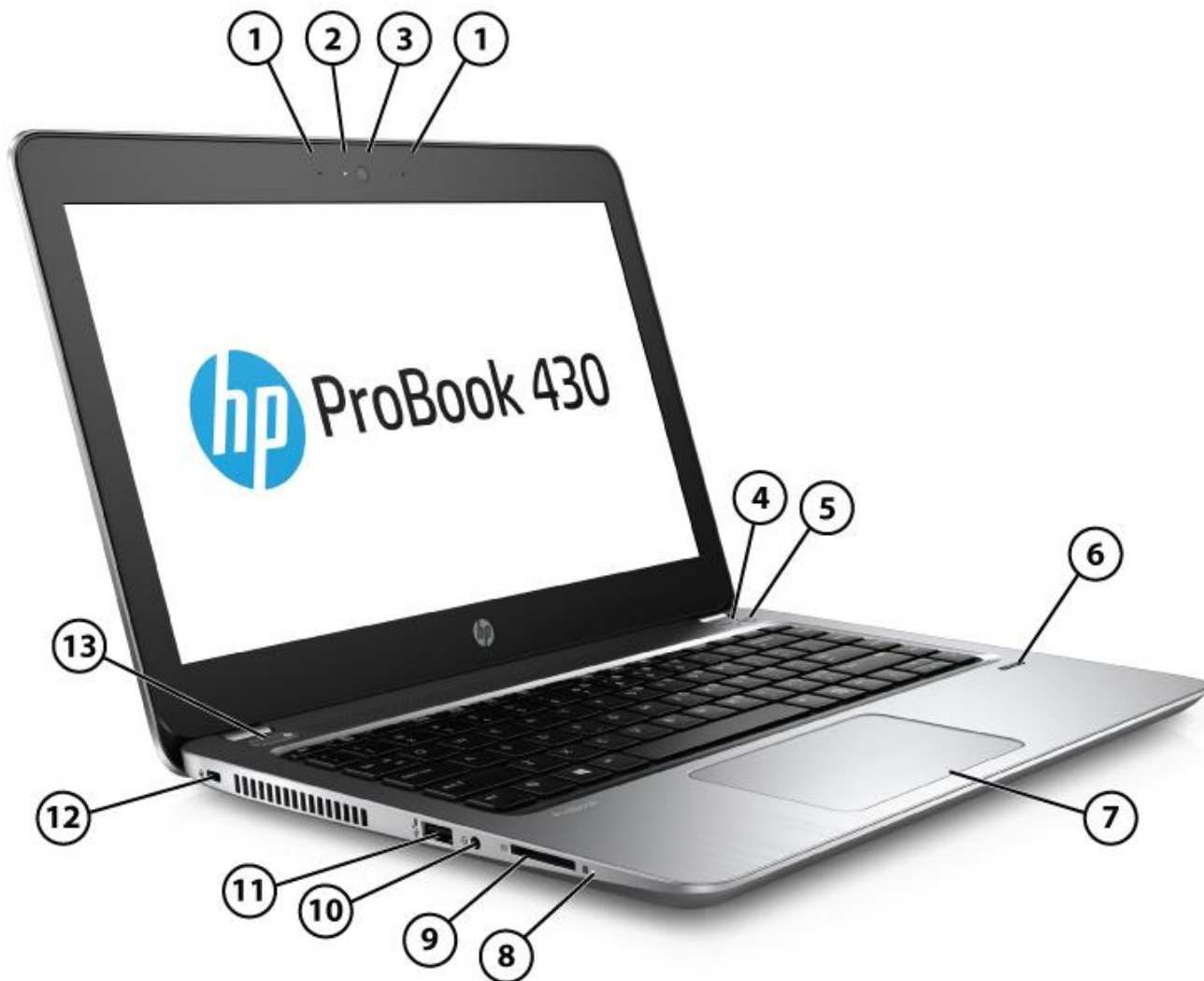


# QuickSpecs

## Overview

### HP ProBook 430 G4 Notebook PC



#### Front

- |                           |                                     |
|---------------------------|-------------------------------------|
| 1. Microphones (2)        | 8. Hard drive LED                   |
| 2. Webcam light           | 9. SD Card reader                   |
| 3. Webcam                 | 10. Headphone/Microphone combo jack |
| 4. Wireless on/off button | 11. USB 2.0 port (power port)       |
| 5. Speaker mute button    | 12. Security lock slot              |
| 6. Fingerprint reader     | 13. Power button                    |
| 7. Touchpad               |                                     |



## Overview



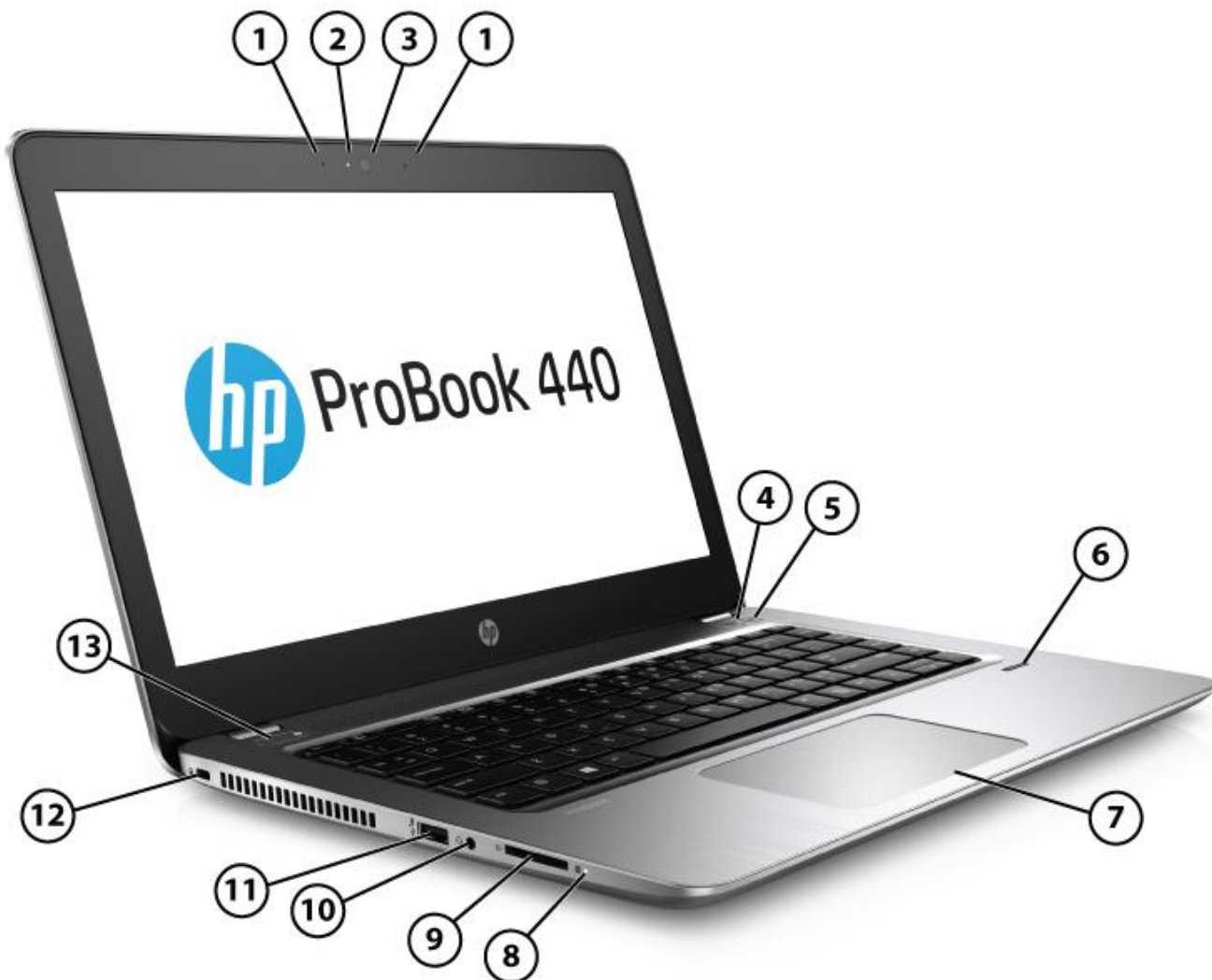
### Rear

- |                 |                              |
|-----------------|------------------------------|
| 1. USB-C port   | 4. External VGA monitor port |
| 2. USB 3.0 port | 5. Ethernet port (RJ-45)     |
| 3. HDMI port    | 6. Power connector           |

# QuickSpecs

## Overview

### HP ProBook 440 G4 Notebook PC



#### Front

- |                           |                                     |
|---------------------------|-------------------------------------|
| 1. Microphones (2)        | 8. Hard drive LED                   |
| 2. Webcam light           | 9. SD Card reader                   |
| 3. Webcam                 | 10. Headphone/Microphone combo jack |
| 4. Wireless on/off button | 11. USB 2.0 port (power port)       |
| 5. Speaker mute button    | 12. Security lock slot              |
| 6. Fingerprint reader     | 13. Power button                    |
| 7. Touchpad               |                                     |



## Overview



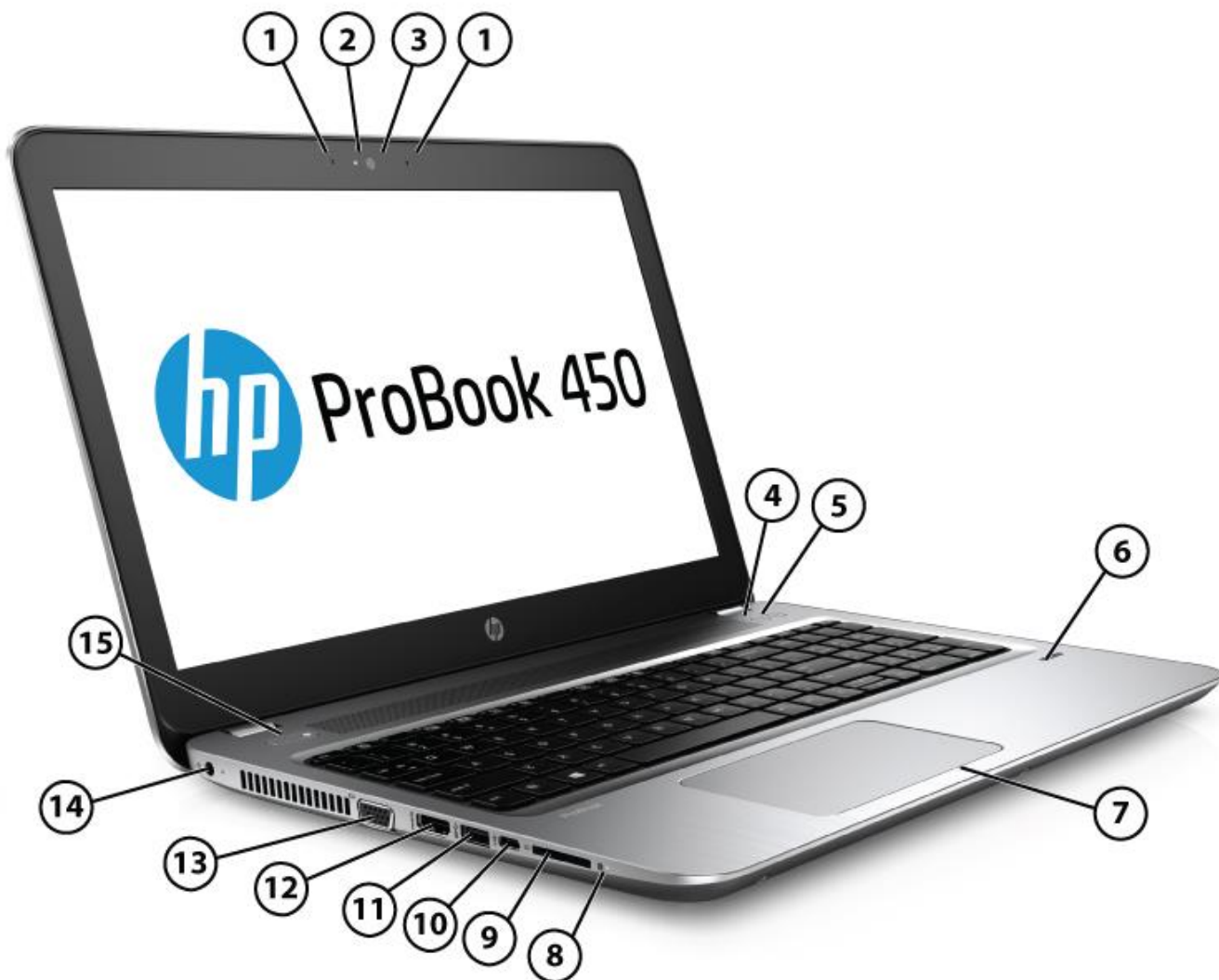
### Rear

- |                     |                              |
|---------------------|------------------------------|
| 1. USB Type-C™ port | 4. External VGA monitor port |
| 2. USB 3.0 port     | 5. Ethernet port (RJ-45)     |
| 3. HDMI port        | 6. Power connector           |

# QuickSpecs

## Overview

### HP ProBook 450 G4 Notebook PC



#### Front

- |                           |                               |
|---------------------------|-------------------------------|
| 1. Microphones (2)        | 9. SD Card reader             |
| 2. Webcam light           | 10. USB-C port                |
| 3. Webcam                 | 11. USB 3.0 port              |
| 4. Wireless on/off button | 12. HDMI port                 |
| 5. Speaker mute button    | 13. External VGA monitor port |
| 6. Fingerprint reader     | 14. Power connector           |
| 7. Touchpad               | 15. Power button              |
| 8. Hard drive LED         |                               |



## Overview



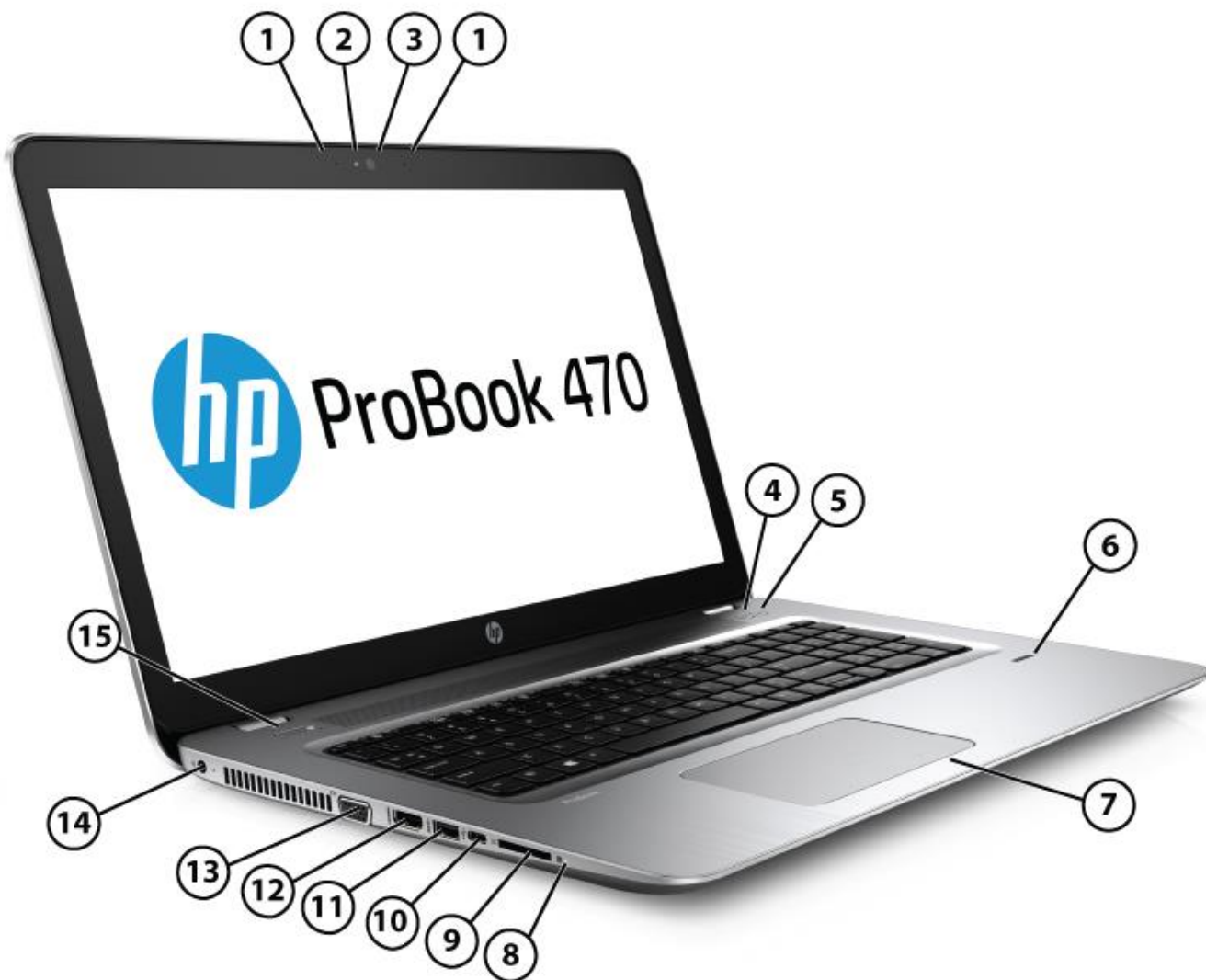
### Rear

- |                                    |                          |
|------------------------------------|--------------------------|
| 1. Optical drive                   | 4. Ethernet port (RJ-45) |
| 2. Headphone/Microphone combo jack | 5. Security lock slot    |
| 3. USB 2.0 ports (2)               |                          |

# QuickSpecs

## Overview

### HP ProBook 470 G4 Notebook PC



#### Front

- |                           |                               |
|---------------------------|-------------------------------|
| 1. Microphones (2)        | 9. SD Card reader             |
| 2. Webcam light           | 10. USB-C port                |
| 3. Webcam                 | 11. USB 3.0 port              |
| 4. Wireless on/off button | 12. HDMI port                 |
| 5. Speaker mute button    | 13. External VGA monitor port |
| 6. Fingerprint reader     | 14. Power connector           |
| 7. Touchpad               | 15. Power button              |
| 8. Hard drive LED         |                               |





# QuickSpecs

HP ProBook 430 G4 Notebook PC  
HP ProBook 440 G4 Notebook PC  
HP ProBook 450 G4 Notebook PC  
HP ProBook 470 G4 Notebook PC

## Overview



### Right

- |                                    |                          |
|------------------------------------|--------------------------|
| 1. Optical drive                   | 4. Ethernet port (RJ-45) |
| 2. Headphone/Microphone combo jack | 5. Security lock slot    |
| 3. USB 2.0 ports (2)               |                          |





# QuickSpecs

## Overview

### At a Glance

1. Windows 10 or FreeDOS 2.0
  2. Choice of Intel® Core™ processors
  3. Full size HP Premium Keyboard, spill-resistant keyboard with a thin layer of Mylar film to prevent minor spills; full separate numeric keypad (on 450/470 only)
  4. Separate launch buttons provide easy access to wireless on/off and speaker mute.
  5. Function keys provide control of features including: standby mode, display brightness, external display, microphone mute, volume down, volume up, and backlight toggle for backlit keyboard (select models only).
  6. Large Clickpad with gestures support
  7. Enhanced security features with preinstalled software and hardware options
  8. Optional HD webcam with dual-microphone array for video conferencing
  9. HDMI port for connecting to high-resolution displays
  10. Choice of displays
    - **HP ProBook 430 G4**
    - 13.3" diagonal Full HD anti-glare Ultraslim LED-backlit (1920 x 1080) Non-Touch
    - 13.3" diagonal HD anti-glare Slim LED-backlit (1366 x 768) Non-Touch
    - 13.3" diagonal HD Slim LED-backlit (1366 x 768) Touch
    - **HP ProBook 440 G4**
    - 14" diagonal Full HD anti-glare slim LED-backlit (1920 x 1080) Non-Touch
    - 14" diagonal HD anti-glare Slim LED-backlit (1366 x 768) Non-Touch
    - 14" diagonal HD Slim LED-backlit (1366 x 768) Touch
    - **HP ProBook 450 G4**
    - 15.6" diagonal Full HD anti-glare slim LED-backlit (1920 x 1080) Non-Touch
    - 15.6" diagonal HD anti-glare Slim LED-backlit (1366 x 768) Non-Touch
    - 15.6" diagonal HD Slim LED-backlit touch screen (1366 x 768) Touch
    - **HP ProBook 470 G4**
    - 17.3" diagonal Full HD anti-glare flat LED backlit (1920 x 1080) Non-Touch
    - 17.3" diagonal HD+ anti-glare flat LED backlit (1600 x 900) Non-Touch
  11. Flexible wireless connectivity options
  12. Battery life
    - **HP ProBook 430 G4** up to 16hrs (SSD), or 13hrs (HDD)
    - **HP ProBook 440 G4** up to 15hrs 30mins (SSD), or 12hrs 30mins (HDD)
    - **HP ProBook 450 G4** up to 14hrs 15mins (SSD), or 12hrs (HDD)
    - **HP ProBook 470 G4** up to 12hrs 45mins (SSD), or 11hrs (HDD)
  13. HP 3-cell, 48 WHr Li-ion battery
  14. Passed MIL-STD testing<sup>1</sup>
1. MIL STD 810G testing was not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.

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



## Features

### PRODUCT NAMES

HP ProBook 430 G4 Notebook PC  
HP ProBook 440 G4 Notebook PC  
HP ProBook 450 G4 Notebook PC  
HP ProBook 470 G4 Notebook PC

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### OPERATING SYSTEMS

**Preinstalled**

- Windows 10 Pro 64<sup>1</sup>
- Windows 10 Pro (National Academic only)<sup>1</sup>
- Windows 10 Home 64<sup>1</sup>
- Windows 10 Home Single Language 64<sup>1</sup>
- Windows 10 Home 64 (National Academic only)<sup>1</sup>
- FreeDOS 2.0

**Web only support**

- Windows 10 Pro 64<sup>1</sup>
- Windows 10 Home 64<sup>1</sup>
- Windows 10 Enterprise 64<sup>1</sup>

**NOTE:** In accordance with Microsoft's support policy, HP does not support the Windows® 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows® 8 or Windows 7 drivers on <http://www.support.hp.com>.

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.microsoft.com>.

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# QuickSpecs

## Features

### PROCESSORS

#### HP ProBook 430 G4

Intel® Core™ i3-7100U Intel® HD Graphics 620 (2.4GHz, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7200U Intel® HD Graphics 620 (2.5GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7300U Intel® HD Graphics 620 (2.6GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i7-7500U Intel® HD graphics 620 (2.7GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 4MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Pentium® Gold 4415U with Intel® HD Graphics (2.3 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

Intel® Celeron® 3865U with Intel® HD Graphics (1.8 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

#### HP ProBook 440 G4

Intel® Core™ i3-7100U Intel® HD Graphics 620 (2.4GHz, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7200U Intel® HD Graphics 620 (2.5GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7300U Intel® HD Graphics 620 (2.6GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i7-7500U Intel® HD graphics 620 (2.7GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 4MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Pentium® Gold 4415U with Intel® HD Graphics (2.3 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

Intel® Celeron® 3865U with Intel® HD Graphics (1.8 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

#### HP ProBook 450 G4

Intel® Core™ i3-6006U Intel® HD Graphics 520 (2.0GHz, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i3-7100U Intel® HD Graphics 620 (2.4GHz, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7200U Intel® HD Graphics 620 (2.5GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i7-7500U Intel® HD graphics 620 (2.7GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 4MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Pentium® Gold 4415U with Intel® HD Graphics (2.3 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

Intel® Celeron® 3865U with Intel® HD Graphics (1.8 GHz, 2 MB cache, 2 cores)<sup>1,2</sup>

#### HP ProBook 470 G4

Intel® Core™ i3-7100U Intel® HD Graphics 620 (2.4GHz, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i5-7200U Intel® HD Graphics 620 (2.5GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3MB L3 Cache, 2 core)<sup>1,2</sup>

Intel® Core™ i7-7500U Intel® HD graphics 620 (2.7GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 4MB L3 Cache, 2 core)<sup>1,2</sup>

#### Processors Family

6th Generation Intel® Core™ i3 processor (i3-6006U model)

7th Generation Intel® Core™ i3 processor (i3-7100U model)

7th Generation Intel® Core™ i3 processor (i3-6006U, i3-7100U, models)

7th Generation Intel® Core™ i5 processor (i5-7200U, i5-7300U models)

7th Generation Intel® Core™ i7 processor (i7-7500U model)

7th Generation Intel® Pentium® processor (4415U model)

7th Generation Intel® Celeron® processor (3864U model)

**NOTE:** In accordance with Microsoft's support policy, HP does not support the Windows® 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows® 8 or Windows 7 drivers on <http://www.support.hp.com>.



## Features

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

1. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
2. HD content required to view HD images.

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## CHIPSET

Integrated with processor

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## GRAPHICS

### Integrated

#### HP ProBook 430/440/450

Intel® HD Graphics 620<sup>1</sup>

Note: View processor section for details.

### Discrete<sup>2</sup>

#### HP ProBook 440/450/470

NVIDIA® GeForce® 930MX (2GB DDR3 dedicated, switchable)

1. HD content required to view HD images.

2. NVIDIA® Optimus™ technology requires an Intel processor, plus an NVIDIA® GeForce® discrete graphics configuration and is available on Windows 10 Professional OS. With NVIDIA® Optimus™ technology, full enablement of all discrete graphics video and display features may not be supported on all systems (e.g. OpenGL applications will run on the integrated GPU or the APU as the case may be).

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## DISPLAYS

### HP ProBook 430 G4

#### Internal

#### Non-Touch

33.7 cm (13.3") diagonal HD<sup>1</sup> anti-glare LED-backlit (1366 x 768)

33.7 cm (13.3") diagonal FHD<sup>1</sup> anti-glare LED-backlit (1920 x 1080)

#### Touch

33.78 cm (13.3") diagonal HD<sup>1</sup> touch screen (1366 x 768)

**NOTE:** Only available with Windows 10.

#### External

Up to 32-bit per pixel color depth

#### VGA

Port supports resolutions up to 2048 x 1536 external resolution @60 Hz



# QuickSpecs

## Features

### **HDMI**

Supports direct connection to high-definition displays with up to 4096 x 2160 @24 Hz resolution and 7-channel audio with one convenient cable (Cable not included)

### **HP ProBook 440 G4**

#### **Internal**

##### **Non-Touch**

35.5 cm (14") diagonal HD<sup>1</sup> anti-glare LED-backlit (1366 x 768)

35.5 cm (14") diagonal FHD<sup>1</sup> anti-glare LED-backlit (1920 x 1080)

##### **Touch**

35.56 cm (14") diagonal HD<sup>1</sup> touch screen (1366 x 768)

**NOTE:** Only available with Windows 10.

#### **External**

Up to 32-bit per pixel color depth

##### **VGA**

Port supports resolutions up to 2048 x 1536 external resolution @60 Hz

##### **HDMI**

Supports direct connection to high-definition displays with up to 4096 x 2160 @24 Hz resolution and 7-channel audio with one convenient cable (Cable not included.)

### **HP ProBook 450 G4**

#### **Internal**

##### **Non-Touch**

39.6 cm (15.6") diagonal HD<sup>1</sup> anti-glare LED-backlit (1366 x 768)

39.6 cm (15.6") diagonal FHD<sup>1</sup> anti-glare LED-backlit (1920 x 1080)

##### **Touch**

39.6 cm (15.6") diagonal HD<sup>1</sup> touch screen (1366 x 768)

#### **External**

Up to 32-bit per pixel color depth

##### **VGA**

Port supports resolutions up to 2048 x 1536 external resolution @ 60 Hz

##### **HDMI**

Supports direct connection to high-definition displays with up to 4096 x 2160 @24 Hz resolution and 7-channel audio with one convenient cable (not included)

### **HP ProBook 470 G4**

#### **Internal**

##### **Non-Touch**

43.9 cm (17.3") diagonal HD<sup>+</sup> anti-glare LED-backlit (1600 x 900)

43.9 cm (17.3") diagonal FHD<sup>1</sup> anti-glare LED-backlit (1920 x 1080)

#### **External**

Up to 32-bit per pixel color depth

##### **VGA**

Port supports resolutions up to 2048x1536 external resolution @ 60 Hz

##### **HDMI**

Supports direct connection to high-definition displays with up to 4096 x 2160 @24 Hz resolution and 7-channel audio with one convenient cable (not included)



# QuickSpecs

**HP ProBook 430 G4 Notebook PC**  
**HP ProBook 440 G4 Notebook PC**  
**HP ProBook 450 G4 Notebook PC**  
**HP ProBook 470 G4 Notebook PC**

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## Features

1. HD content required to view HD images.

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

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# QuickSpecs

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## Features

### STORAGE AND DRIVES

#### **HP ProBook 430 and 440 G4**

##### **Hard Drives**

Supports SATA, 7mm, 2.5" Hard Drives

500 GB - 5400 RPM Hard Drive

500 GB - 7200 RPM Hard Drive

500 GB – SSHD (hybrid) (8 GB Cache)

1 TB - 5400 RPM Hard Drive

##### **Mini Card Solid State Drive**

M.2 (NGFF) 2280 Solid State Drive

128 GB SATA-3 Value Solid State Drive

256 GB SATA-3 Value Solid State Drive

#### **HP ProBook 450 and 470 G4**

##### **Hard Drives**

Supports SATA, 7mm/9.5mm, 2.5" Hard Drives

500 GB (5400 rpm) Hard Drive

500 GB (5400 rpm) SSHD (Hybrid) (8 GB Cache)

500 GB (7200) rpm Hard Drive

1 TB (5400 rpm) Hard Drive

2 TB (5400 rpm) Hard Drive

##### **Mini Card Solid State Drive**

M.2 (NGFF) 2280 Solid State Drive

128 GB SATA-3 Value Solid State Drive

256 GB SATA-3 Value Solid State Drive

##### **Dual Solid State Drive**

256 GB + 256 GB SATA-3 Value Solid State 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

**NOTE:** For Solid State Drives or Hard Drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.

---





# QuickSpecs

## Features

### OPTICAL DRIVES

#### HP ProBook 430 and 440

##### External

Support Optional<sup>1</sup> External USB Drive CD/DVD R/RW

#### HP ProBook 450<sup>3</sup> and 470<sup>3</sup>

##### Fixed Optional<sup>1</sup> Optical Drive

9.0 mm SATA:

DVD-ROM<sup>1</sup>

DVD+/-RW SuperMulti DL Drive<sup>1,2</sup>

Weight saver<sup>3</sup>

1. Sold separately as an optional feature,
2. For Blu-ray drives, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require an HDMI digital connection and your display may require HDCP support. HD-DVD disks cannot be played on this drive. Note that DVD-RAM cannot read or write to 2.6 GB Single Sided/5.2 GB Double Sided – Version 1.0 media. Actual speeds may vary. Don't copy copyright-protected materials. Double Layer discs can store more data than single layer discs; discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.
3. No Optical option (weight saver) supported

### MEMORY

Two SODIMM slots:

Both slots are customer accessible / upgradeable

DDR4 PC4 SODIMMS, system runs at 2133

Supports Dual Channel Memory

#### Standard

4 GB Total System Memory (4 GB x 1)

8 GB Total System Memory (4 GB x 2) (Dual Channel)

8 GB Total System Memory (8 GB x 1)

12 GB Total System Memory (8 GB + 4 GB) (Dual Channel)

16 GB Total System Memory (8 GB x 2) (Dual Channel)

#### Maximum

Up to 16 GB (8GBx2)

#### Dual-channel

Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

**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.



# QuickSpecs

## Features

### NETWORKING/COMMUNICATIONS

#### **HP ProBook 430**

##### **Broadband Wireless (WWAN)<sup>1,2</sup>**

HP Lt4132 LTE/HSPA+ 4G Mobile Broadband<sup>3</sup>

##### **Wireless LAN (WLAN)<sup>1,2</sup>**

Realtek 802.11b/g/n (1x1) and Bluetooth® 4.0 Combo

Intel® Dual Band Wireless-AC 3168 802.11a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.2 Combo

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

#### **HP ProBook 440 G4**

##### **Broadband Wireless (WWAN)<sup>1,2</sup>**

HP Lt4132 LTE/HSPA+ 4G Mobile Broadband<sup>3</sup>

##### **Wireless LAN (WLAN)<sup>1,2</sup>**

Realtek 802.11b/g/n (1x1) and Bluetooth® 4.0 Combo

Intel® Dual Band Wireless-AC 3168 802.11a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.2 Combo

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

#### **HP ProBook 450 G4**

##### **Broadband Wireless (WWAN)<sup>1,2</sup>**

HP Lt4132 LTE/HSPA+ 4G Mobile Broadband<sup>3</sup>

##### **Wireless LAN (WLAN)<sup>1</sup>**

Realtek 802.11b/g/n (1x1) and Bluetooth® 4.0 Combo

Intel® Dual Band Wireless-AC 3168 802.11a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.2 Combo

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

#### **HP ProBook 470 G4**

##### **Wireless LAN (WLAN)<sup>1,2</sup>**

Realtek 802.11b/g/n (1x1) and Bluetooth® 4.0 Combo

Intel® Dual Band Wireless-AC 3168 802.11a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.2 Combo

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

Intel® Dual Band Wireless-AC 7265 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo (non-vPro)

1. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. 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.
2. Sold separately or as an optional feature.
3. Mobile Broadband 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 on all products, and in all regions.

#### **Communications**

Realtek RTL8111HSH (10/100/1000)



# QuickSpecs

## Features

**NOTE:** 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

Two stereo speakers  
Integrated microphone (dual-microphone array when equipped with optional webcam)  
Headphone/microphone combo jack

### Webcam

Optional<sup>1</sup> 720p HD<sup>2</sup> webcam<sup>3</sup>

1. Sold separately as an optional feature.
2. HD content required to view HD images.
3. Internet access required.

## KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

### HP Premium Keyboard

The HP spill-resistant keyboard is designed using a thin layer of Mylar film under the keyboard. The 101/102-key compatible 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.

**NOTE 1:** Includes a separate numeric keypad (HP ProBook 450 and 470 only.)

**NOTE 2:** Backlit keyboard available as an option.

### Buttons and Function Keys

Separate launch buttons provide easy access to wireless on/off and speaker mute. Function keys provide control of features including: standby mode, display brightness, external display, microphone mute, volume down, volume up, and backlight toggle for backlit keyboard (select models only).

### Function Keys

ESC: system information

F1 - Sleep

F2 - Blank

F3 - Backlight Toggle (for backlit keyboard) or Blank

F4 - Display Switching

F5 - Brightness Down

F6 - Brightness Up

F7 - Blank

F8 - Volume Down

F9 - Volume Up

F10 - Mic Mute

F11 - Blank



# QuickSpecs

## Features

F12 – NumLock (430/440); Blank (450/470)

### Hidden Functions

- o Fn+R = Break
- o Fn+S = Sys Rq
- o Fn+C = Scroll Lock

### Pointing Devices

Clickpad with gestures support, two-way scroll

### Touchpad

Taps enabled as default

### Gestures

#### Enabled by default Win 10

- 2 Finger Scrolling
- 2 Finger Zoom (Pinch)
- OSD (enable/disable)
- 3 finger tap = Cortana
- 3 finger flick = App switch
- 4 finger tap = Action Center

#### Disabled by default Win 10

- 3 Finger Flick
- 2 Finger Rotate
- Momentum Motion
- 1 Finger Vertical Scroll

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## SOFTWARE AND SECURITY

### BIOS

- HP BIOSphere<sup>1</sup>
- HP DriveLock | HP Automatic DriveLock
- HP BIOS Protection<sup>2</sup>
- BIOS Update via Network
- Master Boot Record Security
- Power On Authentication
- Pre-Boot Security
- Secure Erase<sup>3</sup>
- Hybrid Boot
- Measure Boot
- Secure Boot
- Absolute Persistence Module<sup>4</sup>

### Multi Media

- Cyberlink Power Media Player<sup>12</sup>
- Native Miracast Support<sup>5</sup>



## Features

### Communication

HP Mobile Connect<sup>6,11</sup>

### HP Value Add Software

HP 3D DriveGuard

HP ePrint Driver<sup>7</sup>

HP Hotkey Support

HP Recovery Manager

HP Support Assistant

### Microsoft Products

Buy Office

Bing Search

Certified for Skype for Business<sup>8</sup>

### Manageability

HP Driver Packs<sup>9</sup>

HP SoftPaq Download Manager (SDM)

HP System Software Manager (SSM)<sup>9</sup>

HP BIOS Config Utility (BCU)<sup>9</sup>

HP Client Catalog<sup>9</sup>

HP CIK for Microsoft SCCM<sup>9</sup>

LANDESK Management<sup>10</sup>

For more information on HP Client Management Solutions, refer to: <http://www.hp.com/go/clientmanagement>.

### Client Security Software

HP Security Manager

Microsoft Defender

### Standard

TPM 2.0 (1.2 optional)

HP Fingerprint Reader

Security lock slot

Pre-boot Authentication

For more information on HP Client Security Software Suite, refer to <http://www.hp.com/go/clientsecurity>.

1 Available only on business PCs with HP BIOS. HP BIOSphere features may vary depending on the PC platform & configuration.

2 May require a manual recovery step if all copies of BIOS are compromised or deleted. BIOS adheres to NIST SP800-147.

3 For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.

4 Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription.

Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit:

<http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service



# QuickSpecs

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## Features

provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.

5 Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information:

<http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>

6 HP Mobile Connect is only available on preconfigured devices with WWAN. For geographic availability refer to

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

7 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 <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.

8 Skype is not offered in China.

9 Not preinstalled, however available on manageability website.

10 Subscription required.

11 Not supported in HP ProBook 470 G4

12 Not supported in HP ProBook 430 and 440 G4. Only available with optical drive.

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# QuickSpecs

## Features

### POWER

#### Power Supply

##### HP ProBook 430

45 W Smart AC adapter  
 45 W Smart AC adapter 2-prong (Japan only)  
 65 W EM Smart AC adapter (China and India only)

##### HP ProBook 440 /450 G4

45 W Smart AC adapter  
 45 W Smart AC adapter 2-prong (Japan only)  
 65 W Smart AC adapter  
 65 W EM Smart AC adapter (China and India only)

##### HP ProBook 470 G4

65 W Smart AC adapter  
 65 W EM Smart AC adapter (PRC and India only)

#### Battery

HP 3-cell, Long Life 48 WHr Li-ion

**NOTE:** Battery is internal and not replaceable by customer.

#### Battery life<sup>1</sup>

Platform	Other HW Details	Battery	SSD	HDD
HP Probook 430 G4	Optimal SKU	3 cell (48Whr)	Up to 16 hrs	Up to 13 hrs and 15 mins
HP Probook 440 G4	Optimal SKU	3 cell (48Whr)	Up to 15 hrs and 30 mins	Up to 12 hrs and 30 mins
HP Probook 450 G4	Optimal SKU	3 cell (48Whr)	Up to 14 hrs and 15 mins	Up to 12 hrs
HP Probook 470 G4	Optimal SKU	3 cell (48Whr)	Up to 12 hrs and 45 mins	Up to 11 hrs

1. Windows 10/MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See <http://www.bapco.com> for additional details

### WEIGHTS & DIMENSIONS

#### HP ProBook 430 G4

##### Weight

Starting at 1.49 kg (3.28 lbs)

##### Dimensions (w x d x h)

##### Non-Touch

33 x 23.35 x 1.98 cm (front to rear)  
 12.99 x 9.19 x 0.78 in (front to rear)

##### Touch

33.02 x 23.38 x 2.13 cm  
 13 x 9.20 x 0.84 in

#### HP ProBook 440 G4





# QuickSpecs

## Features

### Weight

Starting at 1.64 kg (3.61 lbs)

### Dimensions (w x d x h)

#### Non-Touch

34.32 x 23.90 x 2.03 cm

13.51 x 9.41 x 0.80 in

#### Touch

34.34 x 23.94 x 2.19 cm

13.52 x 9.43 x 0.86 in

### HP ProBook 450 G4

#### Weight

Starting at 2.04 kg (4.49 lbs)

#### Dimensions (w x d x h)

#### Non-Touch

38.20 x 26.30 x 2.44 cm

15.04 x 10.35 x 0.96 in

#### Touch

38.22 x 26.35 x 2.61 cm

15.05 x 10.37 x 1.03 in

### HP ProBook 470 G4

#### Weight

Starting at 2.63 kg (5.79 lbs)

#### Dimensions (w x d x h)

#### Non-Touch

41.68 x 28 x 2.58 cm

16.41 x 11.02 x 1.02 in

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

## PORTS/SLOTS

### Ports

#### 430/440

1 USB 3.0

1 USB 2.0 (power port)

1 USB Type-C™

1 HDMI

1 headphone/microphone combo

1 AC power

1 RJ-45

1 VGA

#### 450/470

1 USB 3.0

2 USB 2.0

1 USB Type-C™



# QuickSpecs

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## Features

- 1 HDMI
- 1 headphone/microphone combo
- 1 AC power
- 1 RJ-45
- 1 VGA

**NOTE:** All cables are not included and sold separately.

### Digital Media Slots

Multi Media Reader Slot  
Supports SD, SDHC, SDXC

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## SERVICE AND SUPPORT

HP Services offers 3-year and 1-year limited warranties and 90-day software limited warranty options depending on country. Batteries have a default one year limited warranty except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. On-site service and extended coverage is also available. HP Care Pack Services <sup>1,2</sup> are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at <http://www.hp.com/go/cpc>.

1. Sold separately or as an optional feature.
  2. 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. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: <http://www.hp.com/go/cpc>.
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# QuickSpecs

## Technical Specifications

### SYSTEM UNIT

<b>Stand-Alone Power Requirements (AC Power)</b>	<b>Nominal Operating Voltage</b>	19 V
	<b>Average Operating Power</b>	Win 10
	<b>ProBook 430</b> Integrated graphics	6.78W
	<b>ProBook 440</b> Integrated graphics	6.78W
	Discrete graphics	4.49W
	<b>ProBook 450</b> Integrated graphics	8.89W
	Discrete graphics	6.79W
	<b>ProBook 470</b> Discrete graphics	5.71W
	<b>Max Operating Power</b>	Discrete < 65W UMA < 45W
<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 6.0®</b>	Select models <sup>1</sup>
	<b>EPEAT</b>	Registered Gold in United States <sup>2</sup>
	<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	



# QuickSpecs

## Technical Specifications

**UKRSERTCOMPUTER** Yes

1. Configurations of the HP ProBook 430 G4, HP ProBook 440 G4, HP ProBook 450 G4 and HP ProBook 470 G4 that are ENERGY STAR® qualified are identified as HP ProBook 430 G4 ENERGY STAR, HP ProBook 440 G4 ENERGY STAR, HP ProBook 450 G4 ENERGY STAR and HP ProBook 470 G4 ENERGY STAR on HP websites and on <http://www.energystar.gov>.
2. EPEAT® registration varies by country. See <http://www.epeat.net> for registration status by country. EPEAT status listed above applies to U.S. For accessibility information on HP products, please visit: <http://www.hp.com/accessibility>.

### DISPLAYS

<b>Panel LCD 13.3 FHD AG WLED UWVA 45%cg 220nits eDP Ultraslim 2.85mm</b>	<b>Active Area (W x H)</b>	293.47 x 165.08 mm
	<b>Dimensions (W x H)</b>	306.8x195.7
	<b>Diagonal Size</b>	13.3 (inch)
	<b>Thickness</b>	2.85mm max.
	<b>Weight</b>	260 g max
	<b>Interface</b>	eDP 1.2
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	600:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1920 x 1080 (FHD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	45%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	UWVA 85/85/85/85
<b>Other Features</b>	N/A	
<b>Pen Enabled</b>	No	

<b>Panel LCD 13.3 HD AG WLED SVA 45%cg 220nits eDP Slim Touch</b>	<b>Active Area (W x H)</b>	293.42 x 164.97 (mm)
	<b>Dimensions (W x H)</b>	314.6 x 189.2 (mm) max
	<b>Diagonal Size</b>	13.3 (inch)
	<b>Thickness</b>	3.0 (mm) max
	<b>Weight</b>	260 g max
	<b>Interface</b>	eDP 1.2
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	300:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1366 x 768 (HD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	45%

Not all configuration components are available in all regions/countries.  
 c05123921 — DA - 15623 — Worldwide — Version 11 — September 21, 2017



# QuickSpecs

## Technical Specifications

<b>Color Depth</b>	6 bits + Hi FRC
<b>Viewing Angle</b>	SVA 45/45/25/35
<b>Other Features</b>	AS
<b>Pen Enabled</b>	No

**Panel LCD 14.0 FHD AG**  
**WLED SVA 45%cg 220nits**  
**eDP Slim**

<b>Active Area (W x H)</b>	309.40 x 173.89 (mm)
<b>Dimensions (W x H)</b>	320.9 x 205.6 (mm) max
<b>Diagonal Size</b>	14 (inch)
<b>Thickness</b>	3.0 (mm) max
<b>Weight</b>	290 g max
<b>Interface</b>	eDP 1.2
<b>Surface Treatment</b>	Anti-Glare (AG)
<b>Contrast Ratio</b>	300:1 (typical)
<b>Refresh Rate</b>	60 Hz
<b>Brightness</b>	220 nits
<b>Pixel Resolution - Format</b>	1920 x 1080 (FHD)
<b>Pixel Resolution - Configuration</b>	RGB
<b>Backlight</b>	LED
<b>Color Gamut Coverage</b>	45%
<b>Color Depth</b>	6 bits + Hi FRC
<b>Viewing Angle</b>	SVA 45/45/25/35
<b>Other Features</b>	N/A
<b>Pen Enabled</b>	No



# QuickSpecs

## Technical Specifications

<b>Panel LCD 14.0 HD AG WLED SVA 45%cg 220nits eDP Slim Touch</b>	<b>Active Area (W x H)</b>	309.40 x 173.95 (mm)
	<b>Dimensions (W x H)</b>	320.9 x 205.6 (mm) max
	<b>Diagonal Size</b>	14 (inch)
	<b>Thickness</b>	3.0 (mm) max
	<b>Weight</b>	290 g max
	<b>Interface</b>	eDP 1.2
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	300:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1366 x 768 (HD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	45%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	SVA 40/40/15/30
<b>Other Features</b>	AS	
<b>Pen Enabled</b>	No	

<b>Panel LCD 15.6 FHD AG WLED SVA 45%cg 220nits eDP Slim</b>	<b>Active Area (W x H)</b>	344.2 x 193.5 (mm)
	<b>Dimensions (W x H)</b>	360 x 224.3 (mm) max
	<b>Diagonal Size</b>	15.6 (inch)
	<b>Thickness</b>	3.2 (mm) max
	<b>Weight</b>	370 g max
	<b>Interface</b>	eDP 1.2
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	300:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1920 x 1080 (FHD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	45%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	SVA 45/45/25/35
<b>Other Features</b>	N/A	
<b>Pen Enabled</b>	No	



# QuickSpecs

## Technical Specifications

<b>Panel LCD 15.6 HD AG WLED SVA 45%cg 220nits eDP Slim Touch</b>	<b>Active Area (W x H)</b>	344.2 x 193.5 (mm)
	<b>Dimensions (W x H)</b>	360 x 224.3 (mm) max
	<b>Diagonal Size</b>	15.6 (inch)
	<b>Thickness</b>	3.2 (mm) max
	<b>Weight</b>	370 g max
	<b>Interface</b>	eDP 1.2
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	300:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1366 x 768 (HD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	45%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	SVA 45/45/25/35
	<b>Other Features</b>	AS
<b>Pen Enabled</b>	No	

<b>Panel LCD 17.3 FHD AG WLED UWVA 72%cg 300nits eDP Flat 4.0mm</b>	<b>Active Area (W x H)</b>	381.89 x 214.81 (mm)
	<b>Dimensions (W x H)</b>	400 x 233.3 (mm) max
	<b>Diagonal Size</b>	17.3 (inch)
	<b>Thickness</b>	4.0 (mm) max
	<b>Weight</b>	550 g max
	<b>Interface</b>	eDP 1.3
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	600:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	300 nits
	<b>Pixel Resolution - Format</b>	1920 x 1080 (FHD)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	72%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	UWVA 85/85/85/85
	<b>Other Features</b>	N/A
<b>Pen Enabled</b>	No	





# QuickSpecs

## Technical Specifications

<b>Panel LCD 17.3 HD+ AG</b> <b>WLED SVA 60%cg 220nits</b> <b>eDP Flat</b>	<b>Active Area (W x H)</b>	382.08 x 214.92 (mm)
	<b>Dimensions (W x H)</b>	398.6 x 251 (mm) max
	<b>Diagonal Size</b>	17.3 (inch)
	<b>Thickness</b>	4.0 (mm) max
	<b>Weight</b>	550 g max
	<b>Interface</b>	eDP 1.3
	<b>Surface Treatment</b>	Anti-Glare (AG)
	<b>Contrast Ratio</b>	300:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	220 nits
	<b>Pixel Resolution - Format</b>	1600 x 900 (HD+)
	<b>Pixel Resolution - Configuration</b>	RGB
	<b>Backlight</b>	LED
	<b>Color Gamut Coverage</b>	60%
	<b>Color Depth</b>	6 bits + Hi FRC
	<b>Viewing Angle</b>	SVA 45/45/25/35
<b>Other Features</b>	N/A	
<b>Pen Enabled</b>	No	



# QuickSpecs

## Technical Specifications

### STORAGE AND DRIVES

#### HARD DRIVES

##### 500 GB\* 5400 rpm SATA Hard Drive

<b>Drive Weight</b>	0.20 lbs (92 g) ~ 0.21 lbs (95 g)
<b>Rotation Speed</b>	5400 rpm
<b>Cache Buffer</b>	Up to 16 MB
<b>NAND Type/Size</b>	N/A
<b>Height</b>	0.28 in (7 mm)
<b>Width</b>	2.75 in (69.85 mm)
<b>Interface</b>	ATA-8, SATA 3.0
<b>Interface Transfer Rate</b>	600 MB/s
<b>Seek Time</b>	<b>Single Track</b> 1.5 ~ 2 ms <b>Average</b> 13 ~ 16 ms <b>Maximum</b> 18 ~ 22 ms
<b>Logical Blocks</b>	976,773,168
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]
<b>Security Features</b>	ATA Security
<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA

##### 500 GB\* 5400 rpm SMART SATA Hybrid HDD/SSHD

<b>Drive Weight</b>	0.20 lbs (92 g) ~ 0.21 lbs (95 g)
<b>Rotation Speed</b>	5400 rpm
<b>Cache Buffer</b>	64 MB
<b>NAND Type/Size</b>	TLC/8GB
<b>Height</b>	0.28 in (7 mm)
<b>Width</b>	2.75 in (69.85 mm)
<b>Interface</b>	ATA-8, SATA 3.0
<b>Interface Transfer Rate</b>	600 MB/s
<b>Seek Time</b>	<b>Single Track</b> 2 ms <b>Average</b> 12 ms <b>Maximum</b> 22 ms
<b>Logical Blocks</b>	976,773,168
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]
<b>Security Features</b>	ATA Security
<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA

##### 500 GB\* 7200 rpm SATA Hard Drive

<b>Drive Weight</b>	0.20 lbs (92 g) ~ 0.21 lbs (95 g)
<b>Rotation Speed</b>	7200 rpm
<b>Cache Buffer</b>	Up to 32 MB
<b>NAND Type/Size</b>	N/A
<b>Height</b>	0.28 in (7 mm)



## Technical Specifications

	<b>Width</b>	2.75 in (69.85 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Interface Transfer Rate</b>	600 MB/s
	<b>Seek Time</b>	<b>Single Track</b> 2 ~ 1.5 ms <b>Average</b> 11 ~ 13 ms <b>Maximum</b> 18 ~ 22 ms
	<b>Logical Blocks</b>	976,773,168
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]
	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA
<b>1TB* 5400 rpm 9.5mm SATA Hard Drive</b>	<b>Drive Weight</b>	0.25 lbs (115 g) ~ 0.22 lbs (102 g)
	<b>Rotation Speed</b>	5400 rpm
	<b>Cache Buffer</b>	8 MB
	<b>NAND Type/Size</b>	N/A
	<b>Height</b>	0.37 in (9.5 mm)
	<b>Width</b>	2.75 in (69.85 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Interface Transfer Rate</b>	600 MB/s
	<b>Seek Time</b>	<b>Single Track</b> 2 ms <b>Average</b> 13 ms <b>Maximum</b> 15 ~ 22 ms
	<b>Logical Blocks</b>	1,953,525,168
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]
	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA
<b>1TB* 5400 rpm 7mm SATA Hard Drive</b>	<b>Drive Weight</b>	0.21 lbs (94 g)
	<b>Rotation Speed</b>	5400 rpm
	<b>Cache Buffer</b>	Up to 32 MB
	<b>NAND Type/Size</b>	N/A
	<b>Height</b>	0.28 in (7.2 mm)
	<b>Width</b>	2.75 in (69.85 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Interface Transfer Rate</b>	600 MB/s
	<b>Seek Time</b>	<b>Single Track</b> 2 ms <b>Average</b> 12 ~ 13 ms <b>Maximum</b> 18 ~ 22 ms
	<b>Logical Blocks</b>	1,953,525,168
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]



# QuickSpecs

## Technical Specifications

	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA
<b>2TB 5400 rpm 9.5mm SATA Hard Drive</b>	<b>Drive Weight</b>	0.29lbs (130 g)
	<b>Rotation Speed</b>	5400 rpm
	<b>Cache Buffer</b>	32 MB
	<b>NAND Type/Size</b>	N/A
	<b>Height</b>	0.37 in (9.5 mm)
	<b>Width</b>	2.75 in (69.85 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Interface Transfer Rate</b>	600 MB/s
	<b>Seek Time</b>	<b>Single Track</b> 2 ms
		<b>Average</b> 12 ms
		<b>Maximum</b> 22 ms
	<b>Logical Blocks</b>	3,907,029,168
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [top cover temp]
	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	S.M.A.R.T., NCQ, Ultra DMA

## SOLID STATE DRIVES



# QuickSpecs

## Technical Specifications

### SOLID STATE DRIVES

<b>SSD 128GB 2280 M2 SATA-3</b>	<b>Form-Factor (I/O)</b>	M.2 2280
<b>Value</b>	<b>Capacity</b>	128 GB
	<b>NAND Type</b>	TLC
	<b>Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
	<b>Height</b>	0.09 in (2.3 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Sequential Read (Up to MB/s)</b>	513 ~ 535
	<b>Sequential Write (Up to MB/s)</b>	136 ~ 515
	<b>Logical Blocks</b>	250,069,680
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	DIPM; TRIM; DEVSLP

<b>SSD 256GB 2280 M2 SATA-3</b>	<b>Form-Factor (I/O)</b>	M.2 2280
<b>Value</b>	<b>Capacity</b>	256 GB
	<b>NAND Type</b>	TLC
	<b>Weight</b>	0.01 lb (6 g) ~ 0.02 lb (10 g)
	<b>Height</b>	0.09 in (2.3 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Sequential Read (Up to MB/s)</b>	520 ~ 530
	<b>Sequential Write (Up to MB/s)</b>	330 ~ 450
	<b>Logical Blocks</b>	500,118,192
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Security Features</b>	ATA Security
	<b>Other Features</b>	DIPM; TRIM; DEVSLP



# QuickSpecs

## Technical Specifications

### OPTICAL DRIVES

<b>DVD+/-RW SuperMulti DL Drive</b>	<b>Access Times</b>	<b>Random</b>	<140ms CD (typical) < 160ms DVD (typical)	
	<b>Weight</b>		150g max.	
	<b>Max Data Transfer Rate</b>			24X CD-ROM
				8X DVD-ROM
				24X CD-R
				10X CD-RW
				8X DVD+R
				8X DVD+RW
				8X DVD-R
				6X DVD-RW
				6X - DVD+R Dual Layer
				6X - DVD-R Dual Layer
			5X DVD-RAM	
	<b>Transfer Mode</b>		UDMA Mode 5	
<b>Interface</b>		Gen 1 SATA		
<b>Supported Media (read)</b>		CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM		
<b>Supported Media (write)</b>		CD-R, CD-RW, DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-RAM, DVD+R DL, DVD-R DL		
<b>Max Media Capacity (read)</b>		8.5 GB		
<b>Max Media Capacity (write)</b>		8.5 GB		
<b>Transport</b>		Tray Loading		
<b>DVD-ROM Drive</b>	<b>Access Times</b>	<b>Random</b>	< 140ms CD (typical) < 160ms DVD (typical)	
	<b>Max Data Transfer Rate</b>		24X CD-ROM	
			8X-DVD	
	<b>Transfer Mode</b>		UDMA Mode 5	
	<b>Interface</b>		Gen 1 SATA	
	<b>Supported Media (read)</b>		CD-DA, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM	
	<b>Supported Media (write)</b>		None	
	<b>Max Media Capacity (read)</b>		8.5GB	



# QuickSpecs

**HP ProBook 430 G4 Notebook PC**  
**HP ProBook 440 G4 Notebook PC**  
**HP ProBook 450 G4 Notebook PC**  
**HP ProBook 470 G4 Notebook PC**

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## Technical Specifications

**Transport**

Tray Loading

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# QuickSpecs

## Technical Specifications

### SECURITY

**HP Synaptics  
 Fingerprint Reader**  
 (optional)

<b>Mobile Voltage Operation</b>	3.0V-3.6V Single Supply
<b>Operating Temperature</b>	32° – 158°F (0° – 70°C)
<b>Current Consumption @ 3.3V</b>	Less than 70 mA peak imaging and scrolling Less than 25 mA hardware finger detection Advanced Power Management
<b>High-Rate Image Capture</b>	Up to 240 image frames /sec
<b>ESD Resistance</b>	IEC 61000-4-2 Level 4 (±15KV)
<b>Detection Matrix</b>	200 pixel wide fingerprinting image 16.5 mm x 3 mm sensor area 508 dpi resolution, 256 levels of grayscale

### NETWORKING/COMMUNICATIONS

#### WWAN

**HP It4132 LTE/HSPA+ 4G  
 Mobile Broadband  
 Module**

<b>Technology/Operating bands</b>	LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3) MHz, 850 (Band 5), 2600 (Band 7), 900 (Band 8) MHz, 800 (Band 20), 700 (Band 28) MHz. HSPA+: 2100 (Band 1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz
<b>Wireless protocol standards</b>	3GPP Release 10 LTE Specification CAT.4, 20MHz BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification E-GPRS: Class B, Multi-slot class 12, coding schemes CS1 - CS4 and MSC1 - MSC9
<b>GPS</b>	Standalone, A-GPS (MS-B and LTO)
<b>GPS bands</b>	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
<b>Maximum data rates</b>	LTE: 150 Mbps (Download), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
<b>Maximum output power</b>	LTE: 23 dBm HSPA+: 23.5 dBm E-GPRS 1900/1800: 26 dBm E-GPRS 900/850: 27 dBm GPRS 1900/1800: 29.5 dBm GPRS 900/850: 32.5 dBm
<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,600 mA (peak); 500 mA (average)
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	6 g
<b>Dimensions</b> (Length x Width x Thickness)	42 x 30 x 2.3 mm



## Technical Specifications

\* Mobile Broadband is an optional 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. 4G LTE not available on all products or in all countries.

### WLAN

<b>Realtek 802.11 b/g/n (1x1) + Bluetooth® Combo</b>	<b>Wireless LAN Standards</b>	IEEE 802.11b IEEE 802.11g IEEE 802.11n
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul>
		<p><b>Note:</b> The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.</p>
	<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: MCS 0 ~ MCS 07, (20MHz)
	<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 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>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
	<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 802.11b : +16dBm minimum</li> <li>• 802.11g : +14dBm minimum</li> <li>• 802.11a : +14dBm minimum</li> <li>• 802.11n HT20(2.4GHz) : +13dBm minimum</li> <li>• 802.11n HT40(2.4GHz) : +13dBm minimum</li> <li>• 802.11n HT20(5GHz) : +12dBm minimum</li> <li>• 802.11n HT40(5GHz) : +12dBm minimum</li> </ul>
	<b>Power Consumption</b>	Transmit: 2.0 W (max)



# QuickSpecs

## Technical Specifications

	Receive: 1.6 W (max)
	Idle mode (PSP): 180 mW (WLAN Associated)
	Idle mode: 60 mW (WLAN unassociated)
	Radio disabled: 30 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, 1Mbps : -94dBm maximum
	802.11b, 11Mbps : -86dBm maximum
	802.11g, 6Mbps : -88dBm maximum
	802.11g, 54Mbps : -74dBm maximum
	802.11a, 6Mbps : -86dBm maximum
	802.11a, 54Mbps : -72dBm maximum
	802.11n, MCS07 : -69dBm maximum
	802.11n, MCS15 : -66dBm maximum
<b>Antenna type</b>	High efficiency antenna with spatial diversity, mounted in the display enclosure
	Two embedded 2.4 GHz antennas are provided to the card to support WLAN and Bluetooth communications (Support Dual antenna or Single antenna, depend on platform requirement)
<b>Form Factor</b>	PCI-Express M.2 MiniCard
<b>Dimensions</b>	Type 2230 : 2.3 x 22.0 x 30.0 mm
	Or
	Type 1630 : 2.3 x 16.0 x 30.0 mm
<b>Weight</b>	Type 2230 : 2.8g
	Or
	Type 1630 : 2g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	<b>Operating</b> 14° to 158° F (-10° to 70° C)
	<b>Non-operating</b> -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	<b>Operating</b> 10% to 90% (non-condensing)
	<b>Non-operating</b> 5% to 95% (non-condensing)
<b>Altitude</b>	<b>Operating</b> 0 to 10,000 ft (3,048 m)
	<b>Non-operating</b> 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – Radio ON

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



## Technical Specifications

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).

<b>Intel 802.11 a/b/g/n/AC (1x1) Bluetooth® Combo</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul> <p>Note: The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.</p> 802.11a/n <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> </ul> <p>Note: Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)</p>
	<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 ~ MCS7, (1SS) (20MHz, 40MHz, and 80MHz)</li> </ul>
	<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-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>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)



## Technical Specifications

<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 802.11b : +16dBm minimum</li> <li>• 802.11g : +14dBm minimum</li> <li>• 802.11a : +14dBm minimum</li> <li>• 802.11n HT20(2.4GHz) : +14dBm minimum</li> <li>• 802.11n HT40(2.4GHz) : +12dBm minimum</li> <li>• 802.11n HT20(5GHz) : +14dBm minimum</li> <li>• 802.11n HT40(5GHz) : +12dBm minimum</li> <li>• 802.11ac 80MHz(5GHz) : +11dBm minimum</li> </ul>
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW (WLAN+BT) Radio disabled: 5 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, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -88dBm maximum 802.11a, 54Mbps : -74dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm maximum 802.11ac, 1SS, MCS-0 : -86dBm maximum 802.11ac, 1SS, MCS-9 : -61dBm maximum 802.11ac, 2SS, MCS-0 : -83dBm maximum 802.11ac, 2SS, MCS-9 : -58dBm maximum
<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 M.2 MiniCard
<b>Dimensions</b>	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm
<b>Weight</b>	Type 2230 : 2.8g Or Type 1630 : 2g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	<b>Operating</b> 14° to 158° F (-10° to 70° C) <b>Non-operating</b> -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	<b>Operating</b> 10% to 90% (non-condensing) <b>Non-operating</b> 5% to 95% (non-condensing)
<b>Altitude</b>	<b>Operating</b> 0 to 10,000 ft (3,048 m) <b>Non-operating</b> 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – Radio ON

4. Check latest software/driver release for updates on supported security features.



## Technical Specifications

5. Maximum output power may vary by country according to local regulations.
6. 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).

<b>Intel 802.11 a/b/g/n/AC (2x2) Bluetooth® 4.2 Combo</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul> <p><b>Note:</b> The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.</p> 802.11a/n <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> </ul> <p><b>Note:</b> Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)</p>
	<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 ~ MCS7, (1SS) (20MHz, 40MHz, and 80MHz)</li> </ul>
	<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-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>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	<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>• 802.11b : +16dBm minimum</li> <li>• 802.11g : +14dBm minimum</li> <li>• 802.11a : +14dBm minimum</li> <li>• 802.11n HT20(2.4GHz) : +14dBm minimum</li> <li>• 802.11n HT40(2.4GHz) : +12dBm minimum</li> <li>• 802.11n HT20(5GHz) : +14dBm minimum</li> <li>• 802.11n HT40(5GHz) : +12dBm minimum</li> <li>• 802.11ac 80MHz(5GHz) : +11dBm minimum</li> </ul>
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW (WLAN+BT) Radio disabled: 5 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, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -88dBm maximum 802.11a, 54Mbps : -74dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm maximum 802.11ac, 1SS, MCS-0 : -86dBm maximum 802.11ac, 1SS, MCS-9 : -61dBm maximum 802.11ac, 2SS, MCS-0 : -83dBm maximum 802.11ac, 2SS, MCS-9 : -58dBm maximum
<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 M.2 MiniCard
<b>Dimensions</b>	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm
<b>Weight</b>	Type 2230 : 2.8g Or Type 1630 : 2g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	<b>Operating</b> 14° to 158° F (-10° to 70° C) <b>Non-operating</b> -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	<b>Operating</b> 10% to 90% (non-condensing) <b>Non-operating</b> 5% to 95% (non-condensing)
<b>Altitude</b>	<b>Operating</b> 0 to 10,000 ft (3,048 m) <b>Non-operating</b> 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – 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.](#)



## Technical Specifications

- 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).

### HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology

<b>Bluetooth Specification</b>	4.0/4.1/4.2 Compliant
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.

<b>Intel® 802.11 a/b/g/n/ac (2x2) +Bluetooth® 4.2 Combo</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>2.402 – 2.482 GHz</li> </ul> <p><b>Note:</b> The FCC has declared as of January 1, 2015 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.</p> 802.11a/n <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> </ul> <p><b>Note:</b> Indonesia no support this band</p>
	<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>	Direct Sequence Spread Spectrum





## Technical Specifications

<b>Security<sup>1</sup></b>	<p>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p> <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>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power<sup>2</sup></b>	<ul style="list-style-type: none"> <li>• 802.11b : +16dBm minimum</li> <li>• 802.11g : +14dBm minimum</li> <li>• 802.11a : +14dBm minimum</li> <li>• 802.11n HT20(2.4GHz) : +14dBm minimum</li> <li>• 802.11n HT40(2.4GHz) : +12dBm minimum</li> <li>• 802.11n HT20(5GHz) : +14dBm minimum</li> <li>• 802.11n HT40(5GHz) : +12dBm minimum</li> </ul>
<b>Power Consumption</b>	<p>Transmit: 2.0 W (max)          Receive: 1.6 W (max)          Idle mode (PSP): 180 mW (WLAN Associated)          Idle mode: 50 mW (WLAN unassociated)          Connect Standby: 10 mW (WLAN+BT)          Radio disabled: 5 mW</p>
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>3</sup></b>	<p>802.11b, 1Mbps : -94dBm maximum          802.11b, 11Mbps : -86dBm maximum          802.11g, 6Mbps : -88dBm maximum          802.11g, 54Mbps : -74dBm maximum          802.11a, 6Mbps : -88dBm maximum          802.11a, 54Mbps : -74dBm maximum          802.11n, MCS07 : -69dBm maximum          802.11n, MCS15 : -66dBm maximum          802.11ac, 1SS, MCS-0 : -86dBm maximum          802.11ac, 1SS, MCS-9 : -61dBm maximum          802.11ac, 2SS, MCS-0 : -83dBm maximum          802.11ac, 2SS, MCS-9 : -58dBm maximum</p>
<b>Antenna type</b>	<p>High efficiency antenna with spatial diversity, mounted in the display enclosure</p> <p>Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications</p>
<b>Form Factor</b>	PCI-Express M.2 MiniCard
<b>Dimensions</b>	<p>Type 2230 : 2.3 x 22.0 x 30.0 mm          Or          Type 1630 : 2.3 x 16.0 x 30.0 mm</p>



## Technical Specifications

<b>Weight</b>	Type 2230 : 2.8g Or Type 1630 : 2g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	<b>Operating</b> 14° to 158° F (–10° to 70° C) <b>Non-operating</b> –40° to 176° F (–40° to 80° C)
<b>Humidity</b>	<b>Operating</b> 10% to 90% (non-condensing) <b>Non-operating</b> 5% to 95% (non-condensing)
<b>Altitude</b>	<b>Operating</b> 0 to 10,000 ft (3,048 m) <b>Non-operating</b> 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – 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. 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).</li> </ol>

### HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology

<b>Bluetooth Specification</b>	4.0/4.1/4.2 Compliant
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.

## COMMUNICATIONS

<b>Realtek Ethernet (10/100/1000)</b>	<b>Ethernet Features</b>	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet) Jumbo Frame 9K Auto MDI/MDIX Crossover cable detection
	<b>Power Management</b>	ACPI compliant - multiple power modes Situation-sensitive features reduce power consumption



# QuickSpecs

## Technical Specifications

	Advanced link down power saving for reducing link down power consumption
<b>Performance Features</b>	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling
<b>Manageability</b>	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
<b>Interface</b>	PCI Express 1.1 to fully support ASPM L0s/L1 and CLKREQ
<b>NIC Device Driver Name</b>	Realtek PCIe GBE Ethernet Family Controller



# QuickSpecs

## Technical Specifications

### AUDIO/MULTIMEDIA

<b>Hardware</b>	<b>Implementation</b>	Conexant CX7700	
	<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	
	<b>Audio Output Quality</b>	<b>Frequency Response</b>	20Hz – 20kHz
		<b>Signal to Noise Ratio</b>	106 dB (DAC), 102dB (ADC)
		<b>Total Harmonic Distortion</b>	91dB THD+n on Line Out/HP (0.003%)
		<b>Play Sampling Rate(s)</b>	Up to 192kHz
<b>Record Sampling Rate(s)</b>		Up to 96Khz	
<b>Integrated Stereo Speakers</b>	<b>DAC</b>	16, 20 or 24-bit	
	<b>ADC</b>	16, 20 or 24-bit	
	<b>Power Rating</b>	2 Watts	
	<b>Impedance</b>	4 Ohms	

### POWER

<b>HP 45W Smart AC Adapter</b>	<b>Dimensions (H x W x D)</b>	3.74 x 1.57 x 1.04 in (9.5 x 4.0 x 2.65 cm)	
	<b>Weight</b>	0.386 lb (175g) max	
	<b>Input</b>	<b>Input</b>	90 to 265 VAC
		<b>Input Efficiency</b>	87.74% at 115Vac and 88.4% at 230Vac
	<b>Output</b>	<b>Input frequency range</b>	47 to 63 Hz
		<b>Input AC current</b>	1.4 A at 90 VAC
		<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>	<8.0A
		<b>Connector</b>	4.5mm Barrel Type, 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 185° F (-20° to 85° C)
		<b>Altitude</b>	0 to 16,400 ft (0 to 5,000 m)
		<b>Humidity</b>	20% to 95%



# QuickSpecs

**HP ProBook 430 G4 Notebook PC**  
**HP ProBook 440 G4 Notebook PC**  
**HP ProBook 450 G4 Notebook PC**  
**HP ProBook 470 G4 Notebook PC**

## Technical Specifications

	<b>EMI and Safety Certifications</b>	<b>Storage Humidity</b>	10% to 95%	
		*CE Mark - full compliance with LVD and EMC directives		
		* Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE.		
		* MTBF - over 200,000 hours at 25°C ambient condition.		
<hr/>				
<b>HP 65W AC Adapter, nPFC 3Pin RC 4.5mm</b>	<b>Dimensions</b>	4.25 x 1.85 x 1.47 in (10.8 x 4.7 x 3.74 cm)		
	<b>Weight</b>	1.81 lb (250g) max		
	<b>Input</b>	100 to 240 VAC		
		<b>Input Efficiency</b>	88% min at 115 VAC and 89% min at 230 VAC	
		<b>Input frequency range</b>	47 to 63 Hz	
		<b>Input AC current</b>	1.7 A at 90 VAC	
	<b>Output</b>	<b>Output power</b>	65W	
		<b>DC output</b>	19.5V	
		<b>Hold-up time</b>	5 msec at 115 VAC input	
		<b>Output current limit</b>	<11A, Over voltage protection- 29V max automatic shutdown	
	<b>Connector</b>	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords		
	<b>Environmental Design</b>	<b>Operating temperature</b>	32° to 104° F (0° to 40° C)	
		<b>Non-operating (storage) temperature</b>	-4° to 149° F (-20° to 65° C)	
		<b>Altitude</b>	0 to 10,000 ft (0 to 3,048 m)	
		<b>Humidity</b>	20% to 80%	
<b>Storage Humidity</b>		10% to 90%		
	<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.		
		* MTBF - over 200,000 hours at 25°C ambient condition.		

<b>65W 3-prong AC Adapter (EM Model)</b>	<b>Dimensions</b>	4.96 x 1.96 x 1.18 in (12.6cmx5.0cmx3.0cm)		
	<b>Weight</b>	1.65 lb (275g) max		
	<b>Input</b>	<b>Input Voltage</b>	90V to 264V	
		<b>Input Efficiency</b>	87% min at 115V/230V	
		<b>Input frequency range</b>	47 to 63 Hz	
		<b>Input AC current</b>	1.7 A at 90 VAC and maximum load	



# QuickSpecs

**HP ProBook 430 G4 Notebook PC**  
**HP ProBook 440 G4 Notebook PC**  
**HP ProBook 450 G4 Notebook PC**  
**HP ProBook 470 G4 Notebook PC**

## Technical Specifications

<b>Output</b>	<b>Output power</b>	65W(19.5V/3.33A) ; 7.5W(5V/1.5A)
	<b>DC output</b>	19.5V
	<b>Hold-up time</b>	5 msec at 115 VAC input
	<b>Output current limit</b>	<11A, Over voltage protection- 29V max automatic shutdown
<b>Connector</b>	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords	
<b>Environmental Design</b>	<b>Operating temperature</b>	0° to 35° C
	<b>Non-operating (storage) temperature</b>	-20° to 85° C
	<b>Altitude</b>	0 to 5,000 m
	<b>Humidity</b>	0% to 95%
	<b>Storage Humidity</b>	0% to 95%
<b>Safety Certifications</b>	CE Mark - EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE; Reliability - failure rate of less than 0.1% annually within the first three years of operation.	

<b>HP 3-cell, Long Life 48 WHr Li-ion HP ProBook 430 /440/450/470 G4</b>	<b>Dimensions (H x W x L)</b>	7.0. x180.48x88.95 mm (0.273 x 7.09 x 3.49 inch)	
	<b>Weight</b>	0.22 kg (0.48lb)	
	<b>Cells/Type</b>	3cell Lithium-Ion	
	<b>Energy</b>	<b>Voltage</b>	11.4V/ 10.95V
		<b>Amp-hour capacity</b>	4.212Ah /4.385Ah
		<b>Watt-hour capacity</b>	48Wh
	<b>Temperature</b>	<b>Operating (Charging)</b>	32° to 113° F (0° to 45° C)
		<b>Operating (Discharging)</b>	14° to 122° F (-10° to 60° C)
		<b>Non-operating</b>	-4° to 122° F (-20° to 60° C)
	<b>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	<3 hours
	<b>Fuel Gauge LED</b>	No	
	<b>Warranty</b>	1-year*	
	<b>Optional Travel Battery Available</b>	No	

\*Batteries have a default one year limited warranty except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform.

### Country of Origin



# QuickSpecs

## Technical Specifications

China

### ENVIRONMENTAL

#### ProBook 430 G4

##### Eco-Label Certifications & declarations

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:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.

##### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

##### Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	6.85 W	6.99 W	6.85 W
Normal Operation (Long idle)	3.22 W	3.42 W	3.31 W
Sleep	0.51 W	0.55 W	0.52 W
Off	0.31 W	0.42 W	0.30 W

##### Note:

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

##### Heat Dissipation\*

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	23 BTU/hr	24 BTU/hr	23 BTU/hr
Normal Operation (Long idle)	11 BTU/hr	12 BTU/hr	11 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	2 BTU/hr	1 BTU/hr	1 BTU/hr

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

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

	Sound Power (L <sub>WAd</sub> , bels)	Sound Pressure (L <sub>pAm</sub> , decibels)
Typically Configured – Idle	2.8	15
Fixed Disk – Random writes	2.8	15

##### Longevity and Upgrading

This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:

- 3 USB ports
- 1 PC card slot (type I/II)
- 1 ExpressCard/54 slot



# QuickSpecs

## Technical Specifications

- 1 IEEE 1394 Port
- 2 SODIMM memory slots
- Optional expansion base docking station
- 1 multi-bay II storage port
- Interchangeable HDD??

Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.

### 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 1ppm by weight  
 Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)  
 Battery type: Lithium

### Additional Information

- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/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 [www.epeat.net](http://www.epeat.net)
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 0% post-consumer recycled plastic (by wt.)
- This product is 94.7% recycle-able when properly disposed of at end of life.

### Packaging Materials

<b>External:</b>	PAPER/Corrugated	340.5 g
<b>Internal:</b>	PLASTIC/EPE-Expanded Polyethylene	49 g
	PLASTIC/Polyethylene low density	9.1 g

The plastic packaging material contains at least 0% recycled content.  
 The corrugated paper packaging materials contains at least 80.0% recycled content.

### Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf>):

- 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





## Technical Specifications

- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide Batteries
- Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.
- Ozone Depleting Substances
- Polybrominated Biphenyls (PBBs)
- Polybrominated Biphenyl Ethers (PBBEs)
- Polybrominated Biphenyl Oxides (PBBOs)
- Polychlorinated Biphenyl (PCB)
- Polychlorinated Terphenyls (PCT)
- Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.
- Radioactive Substances
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)

### Packaging Usage

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.

### End-of-life Management and Recycling

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

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



## Technical Specifications

### 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>

Eco-label certifications

<http://www8.hp.com/us/en/hp-information/environment/ecolabels.html>

ISO 14001 certificates:

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842>

and

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

### ProBook 440 G4

#### Eco-Label Certifications & declarations

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:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.

#### System Configuration

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

#### Energy Consumption

(in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	4.92 W	4.93 W	4.91 W
Normal Operation (Long idle)	2.33 W	2.25 W	2.29 W
Sleep	0.38 W	0.40 W	0.34 W
Off	0.19 W	0.24 W	0.190 W

#### Note:

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

### ProBook 450 G4

#### Eco-Label Certifications & declarations

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:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.



# QuickSpecs

## Technical Specifications

### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

### Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	5.57 W	5.82 W	5.72 W
Normal Operation (Long idle)	3.07 W	3.12 W	2.92 W
Sleep	0.50 W	0.53 W	0.50 W
Off	0.17 W	0.25 W	0.17 W

**Note:**

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

### ProBook 470 G4

### Eco-Label Certifications & declarations

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:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT <Gold> registered in the United States. See <http://www.epeat.net> for registration status in your country.

### System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.

### Energy Consumption (in accordance with US ENERGY STAR® test method)

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	8.12 W	8.16 W	8.09 W
Normal Operation (Long idle)	3.12 W	3.14 W	3.11 W
Sleep	0.34 W	0.40 W	0.33 W
Off	0.18 W	0.27 W	0.17 W



# QuickSpecs

**HP ProBook 430 G4 Notebook PC**  
**HP ProBook 440 G4 Notebook PC**  
**HP ProBook 450 G4 Notebook PC**  
**HP ProBook 470 G4 Notebook PC**

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## Technical Specifications

**Note:**

Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

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# QuickSpecs

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

Type	Description	Part Number
<b>Docking</b>	HP 3001pr USB 3 Port Replicator	F3S42AA
	HP 3005pr USB 3.0 Port Replicator	Y4H06AA
<b>Input/Output</b>	HP Stylish USB Keyboard and Mouse	H4B80AA#xxx
	HP Stylish Wireless Keyboard and Mouse	H4B79AA#xxx
	HP Slim BT Keyboard	H4Q44AA#xxx
	HP USB Essential Keyboard and Mouse	H6L29AA
	HP 2.4 GHz Keyboard and Mouse	G1K29AA#xxx
	HP Ultra Mobile Wireless Mouse	H6F25AA#xxx
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP 3-Button USB Laser Mouse	H4B81AA
	HP USB Travel Mouse	G1K28AA
	HP Ultrathin Wireless Mouse SE	L9V77AA
	HP Ultrathin Wireless Mouse	L9V78AA
	HP HDMI to DVI Adapter	F5A28AA
	HP Wireless Display Adapter	J1V25AA#xxx
	HP UC Wireless Mono Headset	W3K08AA
	HP UC Wireless Duo Headset	W3K09AA
	<b>Power</b>	HP 65W Smart AC Adapter
HP 90W Smart AC Adapter		H6Y90AA#xxx
HP 65W Slim AC Adapter		H6Y82AA#xxx
HP Power Bank		N9F71AA#xxx
<b>Storage</b>	HP External USB Optical Drive	F2B56AA
	HP 500GB 7200rpm HDD	F3B97AA
<b>Security</b>	HP UltraSlim Keyed Cable Lock	H4D73AA
	HP Essential Combination Lock	TOY16AA
	HP Combination Lock	TOY15AA
	HP Keyed Cable lock	TOY14AA
	HP Keyed Cable Lock 10mm	T1A62AA
<b>UCC</b>	HP Conferencing Keyboard	K8P74AA#xxx
	HP Speaker Phone	K7V16AA
	HP Wired Headset	K7V17AA



# QuickSpecs

## Summary of Changes

<b>Date of change:</b>	<b>Version History:</b>		<b>Description of change:</b>
September 27, 2016	Version 1 to 2	Changed	BT Standards
October 18, 2016	Version 2 to 3	Added	Environmental Data on HP ProBook 430 G4 Notebook PC
October 19, 2016	Version 3 to 4	Added	430/440/450 G4 processors information was added to the Processors section. Skype for Business certification information added to the Software section.
November 22, 2016	Version 4 to 5	Changed	Changed from Skype for Business Certified to Certified for Skype for Business, under Microsoft Products section.
December 21, 2016	Version 5 to 6	Updated	Processors specs updated
January 26, 2017	Version 6 to 7	Updated	Processors Section updated
March 9, 2017	Version 7 to 8	Updated	Updated Note in Operating System and Processor sections
April 4, 2017	Version 8 to 9	Added	Processors family added and Battery Warranty updated
April 17, 2017	Version 9 to 10	Updated	Display Section updated
September 21, 2017	Version 10 to 11	Updated	Processor names updated
October 2, 2017	Version 11 to 12	Updated	Touchpoint Removed

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