

# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

## Features

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 2.6GB 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.

## MEMORY

**Standard**  
DDR3L – 1600 (Transfer rates up to 1600 MT/s)  
Two SODIMM slots supporting dual-channel memory  
2 GB, 4 GB, and 8 GB SODIMMs\*

**Maximum**  
Upgradeable to 16384 MB with optional 8192 MB SODIMMs in slots 1 and 2  
**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.

## NETWORKING/COMMUNICATIONS

**Wireless**  
Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Broadband Wireless (WWAN) requires a Windows operating system and is available in select countries as a standard, factory configurable feature only. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.

**Broadband Wireless (WWAN) (WWAN and LTE are not available on the HP ProBook 470 G2)**  
HP hs3110 HSPA+ Mobile Broadband Module\*  
HP tt4112 LTE/HSPA+ Gobi™ 4G Module\*\*  
**Wireless LAN (WLAN)\*\*\***  
Realtek RTL8188EE 802.11b/g/n (1x1) \*\*\*\*  
Realtek RTL8723BE 802.11b/g/n (1x1) with Bluetooth™ v4.0 combo\*\*\*  
Broadcom BCM943228HM8 802.11 a/b/g/n (2x2) with Bluetooth™ v4.0 combo\*  
Intel Dual Band Wireless-AC 3160 802.11 a/b/g/n/ac (1x1) with Bluetooth 4.0 combo\*\*\*  
Intel Dual Band Wireless-AC 7260 802.11 a/b/g/n/ac (2x2) with Bluetooth 4.0 combo\*\*\*

**Communications**  
Realtek 10/100/1000\* Ethernet Controller  
\* 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.  
Supports Bluetooth® v2.1 on Linux operating systems.

## AUDIO/MULTIMEDIA

Audio



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## Features

DTS Sound+  
Integrated stereo speakers  
Integrated digital microphone (dual-microphone array when equipped with optional webcam)  
Function keys for microphone mute, volume up, and volume down  
Headphone/Microphone Combo Jack  
**Webcam**  
Optional\* 720p HD\*\* webcam

- HD format (widescreen)
- Supports videoconferencing (non-HD) 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
- Skype-ready\*\*\*, \*\*\*\*

\* Sold separately as an optional feature.  
\*\* HD content required to view HD images.  
\*\*\* Internet access required.  
\*\*\*\* Not available in China

## KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

**Keyboard**  
The HP spill-resistant keyboard and optional HP spill-resistant backlit keyboard are 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. Includes a separate numeric keypad (HP ProBook 450 and 470 only).  
Optional backlit keyboard is available (available in Summer 2014).  
**Pointing Devices**  
Touchpad with gestures support, on/off button with LED indicator, two-way scroll, two pick buttons  
**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).

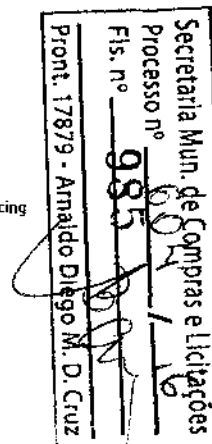
## SOFTWARE AND SECURITY

### Software Included

#### Security

**Windows 8.1**  
Absolute Persistence Module<sup>1</sup>  
Device Access Manager with Just In Time Authentication  
HP File Sanitizer<sup>2</sup>  
HP Client Security<sup>3</sup>  
HP SpareKey  
Microsoft Defender  
DigitalPersona Fingerprint Driver  
Validity Fingerprint Driver  
Hardware Root of Trust

**Windows 7**  
Absolute Persistence Module  
Device Access Manager with Just In Time Authentication  
HP File Sanitizer<sup>2</sup>  
HP Client Security<sup>3</sup>  
HP SpareKey  
Microsoft Security Essentials<sup>4</sup>  
DigitalPersona Fingerprint Driver  
Validity Fingerprint Driver  
Hardware Root of Trust



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## Features

	HP Automatic DriveLock HP BIOS Protection HP Disk Sanitizer <sup>5</sup> DASH Support HP DriveLock HP SpareKey <sup>6</sup> Hybrid Boot Master Record Security Measured Boot Power On Authentication Pre-Boot Security Secure Boot (Windows 8.1) Secure Erase <sup>7</sup> Touch enabled F10 Setup with virtual KB Cyberlink Power2Go Cyberlink PowerDVD Cyberlink YouCam BE HP Connection Manager HP GPS and Location <sup>8</sup> HP Mobile Connect <sup>9</sup> HP Wireless Hotspot <sup>10</sup> Intel WiDi Software <sup>11</sup> Intel My WiFi and Wireless Drivers for Microsoft	HP Automatic DriveLock HP BIOS Protection HP Disk Sanitizer <sup>5</sup> DASH Support HP DriveLock HP SpareKey <sup>6</sup> Hybrid Boot Master Record Security Measured Boot Power On Authentication Pre-Boot Security Secure Boot (Windows 7) Secure Erase <sup>7</sup> Touch enabled F10 Setup with virtual KB Cyberlink Power2Go Cyberlink PowerDVD Cyberlink YouCam BE HP Connection Manager HP GPS and Location <sup>8</sup> Intel WiDi Software <sup>11</sup> Intel My WiFi and Wireless Drivers for Microsoft
<b>MultiMedia</b>		
<b>Communications</b>		
<b>HP Value Add Software</b>	Digital Energy Star Logo WB Getting Started with Windows 8 HP 3D DriveGuard HP Cement HP ePrint Driver <sup>12</sup> HP Hotkey HP PageLift App (Requires Windows 8) HP Recovery Manager HP Registration App HP Setup HP Software Download Manager HP Software Setup HP Support Assistant <sup>13</sup> HP Recovery Disc Creator (HPRDC) HP Wallpaper System Default Settings for Win8 UEFI System Diagnostics WB Box 50GB Offer Desktop Icon <sup>14</sup> Box App Foxit PhantomPDF Express Buy Office	Digital Energy Star Logo WB Getting Started with Windows 8 HP 3D DriveGuard HP Cement HP ePrint Driver <sup>12</sup> HP Hotkey HP PageLift for Win 7 HP Recovery Manager HP Registration App HP Setup HP Software Download Manager HP Software Setup HP Support Assistant <sup>13</sup> HP Recovery Disc Creator (HPRDC) HP Wallpaper System Default Settings for Win8 UEFI System Diagnostics WB Box 50GB Offer Desktop Icon <sup>14</sup> Box App Foxit PhantomPDF Express Buy Office
<b>3rd Party</b>		

<sup>1</sup>The Absolute Persistence 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 provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service,

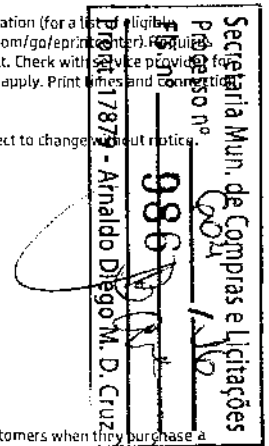
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customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software. <sup>2</sup> For the use cases outlined in the DOD 5220.22-M Supplement. Supports standard Hard Drives. Initial setup required. <sup>3</sup> Not all features are remotely manageable. <sup>4</sup> Opt in and internet connection required for updates. <sup>5</sup> For the use cases outlined in the DOD 5220.22-M Supplement. Does not support Solid State Drives (SSDs). Initial setup required. Web history deleted only in internet Explorer and Firefox browsers and must be user enabled. <sup>6</sup> Requires initial user set up. <sup>7</sup> For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88. <sup>8</sup> GPS access requires an unobstructed path to multiple satellites. Performance may be affected if/when used inside of buildings, bridges or heavily congested metropolitan areas. Requires separately purchased GPS navigation software available from multiple GPS applications. <sup>9</sup> Internet access required. <sup>10</sup> The wireless hotspot application requires an active internet connection and separately purchased data plan. While HP wireless hotspot is active, on-device applications will continue to work and will use the same data plan as the wireless hotspot. Wireless hotspot data usage may incur additional charges. Check with your service provider for plan details. Requires Windows. <sup>11</sup> Integrated Intel Wi-Di feature is available on select configurations only and requires separately purchased projector, tv or computer monitor with an integrated or external Wi-Di receiver. External Wi-Di receivers connect to the projector, tv or computer monitor via a standard HDMI cable, also sold separately. <sup>12</sup> Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of compatible printers, supported documents and image types and other HP ePrint details, see <a href="http://www.hp.com/go/eprint">www.hp.com/go/eprint</a> ). 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. <sup>13</sup> Internet access required. <sup>14</sup> Offer available on new 2014 HP commercial PC and requires Box registration. Offer subject to change without notice.	<b>Security</b>  <b>Standard</b> HP Client Security (Windows only) Microsoft Security Essentials(Windows 7)/Microsoft Defender (Windows 8) <sup>*</sup> HP Drive Encryption <sup>**</sup> HP BIOS Protection <sup>***</sup> Security lock slot TPM 1.2 Embedded Security Chip  <b>Optional</b> Intel Identity Protection <sup>****</sup> HP Fingerprint reader
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**NOTE:** The Absolute Persistence agent is shipped turned off, and must be activated by customers when they purchase a subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S.  
<sup>\*</sup> Opt in and internet connection required for updates.  
<sup>\*\*</sup> HP Drive Encryption requires Windows. Data is protected prior to Drive Encryption login. Turning the PC off or into hibernate logs out of Drive Encryption and prevents data access.  
<sup>\*\*\*</sup> HP Tools partition with an HP BIOS required for automatic recovery.  
<sup>\*\*\*\*</sup> Intel Identity Protection feature is only available with Intel Core Processors. Intel IPT security requires separate Symantec VIP software service subscription and must be activated and configured. Requires a website that uses Symantec



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## Features

VIP Authentication Service and Microsoft® Windows, Intel® and HP assume no liability for lost or stolen data and/or systems or any other damages resulting therefrom.

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

## POWER

### Power Supply

#### HP ProBook 440 G2 Notebook PC

Models with discrete graphics:

- 65W Smart AC Adapter
- 65W EM Smart AC Adapter

Models with integrated graphics:

- 45W Smart AC Adapter
- 45W Smart AC Adapter (two prong) (Japan only) (1.0 m power cord only)

Power cord included is 1.8m (+/- 0.1m) or 1.0m (+/- 0.1m) (1.8m power cord not available in Japan).

#### HP ProBook 450 G2 Notebook PC

Models with discrete graphics:

- 65W Smart AC Adapter
- 65W EM Smart AC Adapter

Models with integrated graphics:

- 45W Smart AC Adapter
- 45W Smart AC Adapter (two prong) (Japan only) (1.0 m power cord only)

Power cord included is 1.8m (+/- 0.1m) or 1.0m (+/- 0.1m) (1.8m power cord not available in Japan).

#### HP ProBook 470 G2 Notebook PC

Models with discrete graphics:

- 65W Smart AC Adapter
- 65W EM Smart AC Adapter
- 90W Smart AC Adapter
- 90W EM Smart AC Adapter

HP Fast Charge (available on 470 G2 standard battery only, not available for the Long Life Battery or for the 440 G2 or 450 G2)

### Primary Battery

#### HP ProBook 440 G2 and 450 G2 Notebook PCs

- 4-cell (44 Whr) Lithium-Ion battery
- 4-cell (40 Whr) Long Life Lithium-Ion battery

#### HP ProBook 470 G2 Notebook PC

- 6-cell (47 Whr) Lithium-Ion battery
- 6-cell (51 Whr) Long Life Lithium-Ion battery

### Battery Life \*

Configurations with integrated graphics  
(Windows 7)

Configurations with discrete graphics  
(Windows 7)



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## Features

### HP ProBook 440 and 450

- 4-cell (44 Whr) battery Up to 11 hours\* Up to 10 hours 15 min\*
- 4-cell (40 Whr) long life battery Up to 9 hours 15 min\* Up to 9 hours\*

### HP ProBook 470

- 4-cell (47 Whr) battery NA
- 6-cell (51 Whr) long life battery NA

\* Windows 7 battery life will vary depending on various factors including product model, configuration, non-loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.bapco.com](http://www.bapco.com) for additional details.

### System Standby Time\*

#### HP ProBook 440 and 450

- 4-cell (44 Whr) battery Up to 15 days\*
- 4-cell (40 Whr) long life battery Up to 14 days\*

#### HP ProBook 470

- 4-cell (47 Whr) battery Up to 19 days\*
- 4-cell (51 Whr) long life battery Up to 17 days\*

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

**NOTE:** Fast Charge recharges your battery up to 90% within 90 minutes when the system is off.

### Power Conservation

Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)  
AMD PowerPlay technology (discrete models)  
Hibernation  
Standby  
ACPI compliance

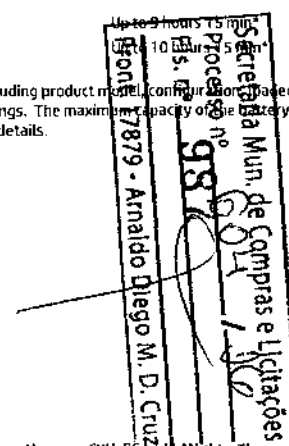
## WEIGHTS & DIMENSIONS

### HP ProBook 440 G2 Notebook PC

#### Weight

Lightest possible configuration across battery and panel options (HD Panel, Non-Touch, No-ODD, 4-cell (44Whr) Battery, M.2 120GB SSD) at 3.97lb/1.80kg

Lightest Weight Configurations (across panel, battery and ODD options, if applicable)



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## Features

	4-cell (44Whr)
Non-Touch, No-ODD, M.2 SSD	3.97lb/1.80kg
Non-Touch, ODD, M.2 SSD	4.21lb/1.91kg
Non-Touch, No-ODD, HDD	4.37lb/1.89kg
Non-Touch, ODD, HDD	4.41lb/2.00kg
Touch, No-ODD, HDD	4.70lb/2.14kg
Touch, ODD, HDD	4.95lb/2.25kg

### Dimensions (w x d x h)

#### Non-Touch Models

13.35 x 9.61 x 0.91 (front) - 0.99 in (rear)  
33.92 x 24.4 x 2.31 (front) - 2.52 cm (at rear)

#### Touch Models

13.35 x 9.62 x 0.96 (front) - 1.05 in (rear)  
33.92 x 24.45 x 2.45 (front) - 2.66 cm (rear)

### HP ProBook 450 G2 Notebook PC

#### Weight

Lightest possible configuration across battery and panel options (11.3 Panel, Non-Touch, No-ODD, 4-cell (44Whr) Battery, M.2 120GB SSD) at 4.54lb/2.06kg

#### Lightest Weight Configurations (across panel, battery and ODD options, if applicable)

	4-cell (44Whr)
Non-Touch, No-ODD, M.2 SSD	4.54lb/2.06kg
Non-Touch, ODD, M.2 SSD	4.78lb/2.17kg
Non-Touch, No-ODD, HDD	4.74lb/2.15kg
Non-Touch, ODD, HDD	4.98lb/2.26kg
Touch, No-ODD, HDD	5.51lb/2.50kg
Touch, ODD, HDD	5.75lb/2.61kg

### Dimensions (w x d x h)

#### Non-Touch Models

14.76 x 10.35 x 0.92 (front) - 1.00 in (rear)  
37.50 x 26.28 x 2.34 (front) - 2.55 cm (at rear)

#### Touch Models



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## Features

14.76 x 10.36 x 0.98 (front) - 1.07 in (rear)  
37.50 x 26.32 x 2.50 (front) - 2.71 cm (rear)

### HP ProBook 470 G2 Notebook PC

#### Weight

Lightest possible configuration across battery and panel options (HQ - Panel, No-ODD, 6-cell (47Whr) Battery, HDD) at 6.26lb/2.84kg

#### Lightest Weight Configurations (across panel, battery and ODD options, if applicable)

	6-cell (47Whr)
No-ODD	6.26lb/2.84kg
ODD	6.50lb/2.95kg

### Dimensions (w x d x h)

16.79 x 11.0 x 1.02 (front) - 1.27 in (rear)  
41.38 x 27.95 x 2.60 (front) - 3.22 cm (at rear)

**NOTE:** Height varies depending upon where on the notebook the measurement is made. Weight varies by configuration and components. 440/450G2 lightest weight requires optional 120GB M.2 SSD drive.

## PORTS/SLOTS

#### Ports

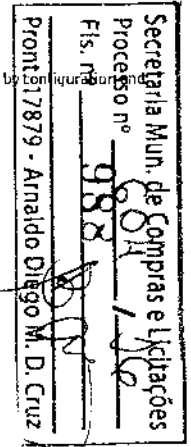
USB 3.0 - Two  
USB 2.0 - Two  
HDMI 1.4a - One  
Headphone/Microphone Combo Jack - One  
RJ-45 (Ethernet) - One  
Power connector - One  
VGA - One

#### Digital Media Slots

Multi Media Reader Slot supporting SD, SDHC, and SDXC

## SERVICE AND SUPPORT

HP Services offers 2-year, 1-year and 90 day 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 2-year limited warranty as the platform. On-site service and extended coverage is also available. HP Care Pack Services 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>.



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

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## Technical Specifications

### SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage Average Operating Power	19 V Win 7	Win 8	Max
	<b>ProBook 440</b>			
	Integrated graphics	6.78W	6.78W	38.88W
	Discrete graphics	4.49W	4.49W	31.87W
	<b>ProBook 450</b>			
	Integrated graphics	8.89W	8.89W	39.33W
	Discrete graphics	6.79W	6.79W	38.42W
	<b>ProBook 470</b>			
	Discrete graphics	5.71W	5.71W	23.56W
	<b>Max Operating Power</b>			
		Discrete < 90W		
		UMA < 65W		
<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>PCC Compliance</b>	Yes		
	<b>ENERGY STAR 6.0*</b>	Select models*		
	<b>EPEAT</b>	Registered Gold in United States**		
	<b>ICES</b>	Yes		
	<b>Australia / NZ A-Tick Compliance</b>	Yes		
	<b>CCC</b>	Yes		
	<b>Japan VCCI Compliance</b>	Yes		
	<b>KC</b>	Yes		
	<b>BSMI</b>	Yes		
	<b>CE Marking Compliance</b>	Yes		
	<b>BHCCI or BELUS</b>	Yes		
	<b>CIT</b>	Yes		
	<b>GOST</b>	Yes		
	<b>Saudi Arabian Compliance (ICCP)</b>	Yes		
	<b>SABS</b>	Yes		
	<b>UKRSERTCOMPUTER</b>	Yes		

Secretaria Mun. de Compras e Licitações  
 Processo nº 989/2014  
 Fis. nº 989/2014  
 Pront. 17879 - Arnaldo Diego M. D. Cruz

\* Configurations of the HP ProBook 440 G2, HP ProBook 450 G2 and HP ProBook 470 G2 that are ENERGY STAR® qualified are identified as HP ProBook 440 G2 ENERGY STAR, HP ProBook 450 G2 ENERGY STAR and HP ProBook 470 G2 ENERGY STAR on HP websites and on [www.energystar.gov](http://www.energystar.gov).

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



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## Technical Specifications

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

### DISPLAYS

<b>14.0-inch LED HD (1366 x 768) anti-glare</b>	<b>Dimensions (W x H)</b>	12.63 x 7.39 in (32.09 x 18.76 cm)
	<b>Weight</b>	320g max.
	<b>Diagonal Size</b>	14.0 in (35.6cm)
	<b>Surface Treatment</b>	Anti-glare
	<b>Contrast Ratio</b>	400:1 (typical)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	200 nit (typical)
	<b>Pixel Resolution</b>	<b>Pitch</b> 0.227 mm <b>Format</b> 1366 x 768 <b>Configuration</b> RGB Stripe
	<b>Backlight</b>	LED
	<b>PPI</b>	112 ppi
<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	
<b>15.6-inch LED HD (1366 x 768) with Touch</b>	<b>Dimensions (W x H)</b>	13.54 x 7.64 in (34.39 x 19.41 cm)
	<b>Weight</b>	500g max.
	<b>Diagonal Size</b>	15.6 in (39.6cm)
	<b>Contrast Ratio</b>	300:1 (min)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	200 nit (typical)
	<b>Pixel Resolution</b>	<b>Pitch</b> 0.252 x 0.252 <b>Format</b> 1366 x 768 <b>Configuration</b> RGB Stripe
	<b>Backlight</b>	LED
	<b>PPI</b>	106 ppi
	<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)
<b>15.6-inch LED HD (1366 x 768) anti-glare</b>	<b>Dimensions (W x H)</b>	14.17 x 8.83 in (36.0 x 22.43 cm)
	<b>Weight</b>	500g max.
	<b>Diagonal Size</b>	15.6 in (39.6cm)
	<b>Surface Treatment</b>	Anti-glare
	<b>Contrast Ratio</b>	400:1 (min)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	200 nit (typical)



# QuickSpecs

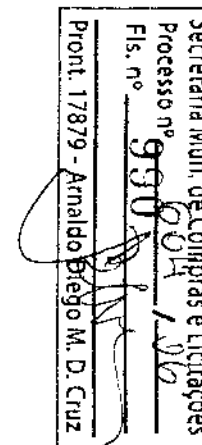
HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>Pixel Resolution</b>	<b>Pitch</b>	0.252 mm
	<b>Format</b>	1366 x 768
	<b>Configuration</b>	RGB Stripe
<b>Backlight</b>	LED	
<b>PPI</b>	106 ppi	
<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	
<b>17.3-inch LED HD* anti-glare</b>	<b>Active Area (W x H)</b>	15.0 x 8.5 in (38.2 x 21.5 cm)
	<b>Weight</b>	570g max.
	<b>Diagonal Size</b>	17.3 in (43.9 cm)
	<b>Surface Treatment</b>	Anti-glare
	<b>Contrast Ratio</b>	400:1 typical
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	200 nit typical
	<b>Pixel Resolution</b>	<b>Pitch</b> 0.23868 x 0.23868 mm <b>Format</b> 1600 x 900 <b>Configuration</b> RGB Stripe
	<b>Backlight</b>	LED
	<b>PPI</b>	106
<b>Viewing Angle</b>	±30° Horizontal, ±10° Vertical (minimum) 30/30/20/10 (Left/Right/Down/Up) (minimum) or 45/45/35/25 (Left/Right/Down/Up) (typical)	

### STORAGE AND DRIVES

<b>Internal Storage</b>	<b>Drive Weight</b>	0.25 lbs (115g)
<b>750 GB* 7200 rpm SATA Hard Drive</b>	<b>Capacity</b>	750 GB
	<b>Height</b>	0.37 in (9.5 mm)
	<b>Width</b>	7.50 in (63.5 mm)
	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s
	<b>Transfer Rate</b>	<b>Synchronous (maximum)</b> 300 MB/s (Drive Capability)
	<b>Seek Time</b>	<b>Single Track</b> 1.5 ms
	(typical reads, including settling)	<b>Average</b> 11 ms
		<b>Maximum</b> 22 ms
	<b>Rotational Speed</b>	7200 rpm
	<b>Logical Blocks</b>	1,465,149,168
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [rise temp]
	<b>Features</b>	ATA Security



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>320 GB* 5400 rpm SATA Hard Drive</b>	<b>Drive Weight</b>	0.25 lbs (115 g)	
	<b>Capacity</b>	320 GB	
	<b>Height</b>	0.37 in (9.5 mm)	
	<b>Width</b>	2.75 in (70 mm)	
	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 300 MB/s (Drive Capability)	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	1.5 ms
		<b>Average</b>	11 ms
		<b>Maximum</b>	22 ms
	<b>Rotational Speed</b>	7200 rpm	
<b>Logical Blocks</b>	625,142,448		
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]		
<b>500 GB* 5400 rpm SATA Hard Drive</b>	<b>Features</b>	ATA Security	
	<b>Drive Weight</b>	0.22 lb (101 g)	
	<b>Capacity</b>	500 GB	
	<b>Height</b>	0.37 in (9.5 mm)	
	<b>Width</b>	2.75 in (70 mm)	
	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 300 MB/s (Drive Capability)	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3 ms
		<b>Average</b>	13 ms
		<b>Maximum</b>	24 ms
<b>Rotational Speed</b>	5400 rpm		
<b>Logical Blocks</b>	976,773,168		
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]		
<b>750 GB* 5400 rpm SATA Hard Drive</b>	<b>Features</b>	ATA Security	
	<b>Drive Weight</b>	0.22 lb (101 g)	
	<b>Capacity</b>	750 GB	
	<b>Height</b>	0.37 in (9.5 mm)	
	<b>Width</b>	2.75 in (70 mm)	
	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ	
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 300 MB/s (Drive Capability)	
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	3 ms
		<b>Average</b>	13 ms
		<b>Maximum</b>	24 ms
<b>Rotational Speed</b>	5400 rpm		
<b>Logical Blocks</b>	1,465,149,168		
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]		
<b>1 TB* 5400 rpm SATA Hard Drive</b>	<b>Features</b>	ATA Security	
	<b>Drive Weight</b>	0.254 lb (115 g)	
	<b>Capacity</b>	1 TB	
	<b>Height</b>	0.37 in (9.5 mm)	
	<b>Width</b>	2.75 in (70 mm)	



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>1.5 TB* 5400 rpm SATA Hard Drive</b>	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum)	300 MB/s (Drive Capability)	
		<b>Single Track</b>	3 ms	
		<b>Average</b>	13 ms	
	<b>Seek Time</b> (typical reads, including settling)	<b>Maximum</b>	24 ms	
		<b>Rotational Speed</b>	5400 rpm	
		<b>Logical Blocks</b>	1,953,525,168	
	<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]		
		<b>Features</b>	ATA Security	
	<b>500 GB* 5400 rpm SMART SATA II Hybrid HDD/SSHD</b>	<b>Drive Weight</b>	0.26 lb (118 g)	
<b>Capacity</b>		1.5 TB		
<b>Height</b>		0.37 in (9.5 mm)		
<b>Width</b>		2.5 in (63.5 mm)		
<b>Interface</b>		ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
<b>Transfer Rate</b>		<b>Synchronous</b> (maximum) 300 MB/s (Drive Capability)		
<b>Seek Time</b> (typical reads, including settling)		<b>Single Track</b>	2.2 ms	
		<b>Average</b>	13 ms	
		<b>Maximum</b>	25 ms	
<b>Rotational Speed</b>		5400 rpm		
<b>Logical Blocks</b>	293,0277,168			
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]			
<b>500 GB* 5400 rpm SMART SATA II Hybrid HDD/SSHD</b>	<b>Features</b>	ATA Security		
	<b>Drive Weight</b>	0.209 lb (95 g)		
	<b>Capacity</b>	500 GB		
	<b>Height</b>	0.276 in (7 mm)		
	<b>Width</b>	2.76 in (70.1 mm)		
	<b>Interface</b>	ATA-8, SATA 2.6, 3.0 Gb/s, NCQ		
	<b>Transfer Rate</b>	<b>Synchronous</b> (maximum) 600 MB/s (Drive Capability)		
	<b>Seek Time</b> (typical reads, including settling)	<b>Single Track</b>	2 ms	
		<b>Average</b>	12 ms	
		<b>Maximum</b>	N/A ms	
<b>Rotational Speed</b>	5400 rpm			
<b>Logical Blocks</b>	976,773,168			
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]			
<b>SATA 6 Gb/s 128 GB*, 2.5-inch Solid State Drive</b>	<b>Features</b>	ATA Security		
	<b>Drive Weight</b>	73 Grams		
	<b>Capacity</b>	128 GB		
	<b>Height</b>	0.276 in (7 mm)		
	<b>Width</b>	2.76 in (70 mm)		
	<b>Interface</b>	SATA 3 (6 Gb/s)		
	<b>Performance</b>	<b>Maximum Sequential Read</b>	Maximum Sequential Write	



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# QuickSpecs

## Technical Specifications

		415 MB/s	175 MB/s
<b>Logical Blocks</b>		250,069,680	
<b>Operating Temperature</b>		32° to 158°F (0° to 70°C) [case temp]	
<b>Features</b>		ATA Security; ATA-B; SATA 3.0; DIPM; TRIM	
<b>120 GB* M.2 Solid State Drive</b>	<b>Drive Weight</b>	< 10 Grams	
	<b>Capacity</b>	120 GB	
	<b>Height</b>	0.276 in (22 mm)	
	<b>Width</b>	2.76 in (42 mm)	
	<b>Interface</b>	SATA 3 (6 Gb/s)	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		540 MB/s	480 MB/s
	<b>Logical Blocks</b>	234,441,648	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [case temp]	
	<b>Features</b>	ATA Security; ATA-B; SATA 3.0; TRIM	
* For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 8) of system disk is reserved for system recovery software.			
<b>Optical Drives</b>			
<b>DVD+/-RW SuperMulti DL Drive*</b>	<b>Access Times</b>	Random	<140ms CD (typical) < 160 ms DVD (typical)
	<b>Weight</b>	170g max.	
	<b>Max Data Transfer Rate</b>	24X CD-ROM 8X DVD 24X CD-R 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, BD-ROM, BD-R, BD-RE	

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# QuickSpecs

## Technical Specifications

	<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>Access Times</b>	Random
<b>Blu-ray ROM DVD+/-RW SuperMulti DL Drive*</b>		<190 ms CD-ROM (typical) < 180ms DVD-ROM (typical) <230 ms BD-ROM (typical)
	<b>Weight</b>	170g max.
	<b>Max Data Transfer Rate</b>	24X CD-ROM 8X DVD-ROM 24X CD-R 16X CD-RW 8X DVD+R 8X DVD+RW 8X DVD-R 6X DVD-RW 4X - DVD+R Dual Layer 4X - DVD-R Dual Layer 5X DVD-RAM 6X BD-ROM
	<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, BD-ROM, BD-R, BD-RE
	<b>Supported Media (write)</b>	CD-R, CD-RW, DVD+R, DVD+R DL, DVD+RW, DVD-R, DVD-R DL, DVD-RW, DVD-RAM
	<b>Max Media Capacity (read)</b>	50.0 GB
	<b>Max Media Capacity (write)</b>	8.5GB
	<b>Transport</b>	Tray Loading
	<b>Access Times</b>	Random
<b>DVD-ROM Drive</b>		< 140 ms CD (typical) < 160 ms DVD (typical)

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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
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 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<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
<b>Transport</b>	Tray Loading

## SECURITY

HP Validity VFM 495 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 fingerprint image 16.5 mm x 3 mm sensor area 508 dpi resolution, 256 levels of grayscale

## NETWORKING/COMMUNICATIONS

Integrated Realtek RTL8161GSH-CH 10/100/1000 NIC

<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 802.3 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 Advanced link down power saving for reducing link down power consumption

# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<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) PXIE 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
<b>Technology/Operating bands</b>	Modes: WCDMA/HSDPA/HSUPA/HSPA+/AWS/GSM/EDGE/GPRS Penta-band WCDMA/HSDPA/HSUPA/HSPA+/AWS: 850/900/1900/2100/AWS MHz GSM/GPRS/EDGE: 850/900/1800/1900 MHz
<b>Wireless protocol standards</b>	GSM/GPRS/EDGE: Class B, Multi-slot class 33, coding schemes CS-1 and CS-2 UMTS/WCDMA: Release 99 and Release 7 Advanced Receiver Type 31
<b>GPS</b>	GPS Standalone, A-GPS: L1 (Internet- and Network assisted)
<b>Wireless parametric standards</b>	Complies with 3GPP specifications
<b>Maximum data rates</b>	GPRS/EDGE: Multi-slot Class 33, Class B WCDMA PS: UL (384 kbps) / DL (384 kbps) UL/DL HSPA: UL (5.76 Mbps)/ DL (7.2 Mbps) UL/DL HSPA+: UL (5.76 Mbps)/ DL (21 Mbps)
<b>Maximum output power</b>	WCDMA/HSPA/HSPA+ 2100/1900/900/850/AWS MHz: +24dBm (Power Class 3) GPRS 1900/1800 MHz: +30dBm (Power Class 1) GPRS 900/850 MHz: +33dBm (Power Class 4) EDGE 1900/1800 MHz: +26dBm (Power Class E2) EDGE 900/850 MHz: +27dBm (Power Class E2)
<b>Maximum power consumption</b>	2500mA (peak); 600mA (average)
<b>Power consumption, sleep mode</b>	3.6 mA
<b>Power management</b>	USB selective suspend, Connected Standby Integrated notebook wireless button
<b>Antenna type</b>	Dual high efficiency 5 band antennae with spatial diversity, mounted in the display enclosure
<b>Form Factor</b>	M.2 Socket 2, USB 2.0 interface high speed
<b>Weight</b>	<6 g
<b>Dimensions (Length x Width x Thickness)</b>	2.01 x 1.18 x 0.18 in (42 x 30 x 2.3 mm)

HP hs3110/3114 HSPA+ Mobile Broadband\* Module

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# QuickSpecs

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## Technical Specifications

<b>SIM card supply voltage</b>	1.8 V/3.0 V UICC (SIM/UICC/USIM)
<b>Voltage, Operating</b>	3.135V-4.4V (3.3 V recommended)
<b>Temperature, operating</b>	14° to 131° F (-10° to 55° C) (Normal operation) -4° to 158° F (-20° to 70° C) (Extended operation)
<b>Temperature, storage</b>	-40° to 185° F (-40° to 85° C)
<b>Humidity</b>	5% to 95%
<b>Configuration utilities</b>	HP Connection Manager
<b>LED activity</b>	LED Off - Radio Off; Solid LED On - Radio On

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

### HP Lt4112 LTE/HSPA+ Gobi™ 4G Module\*

<b>Technology/Operating bands</b>	LTE FDD all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 2600 MHz (Band VII), 900 MHz (Band VIII), 800 MHz (Band XX, DD800) WCDMA/HSDPA/HSPA/HSPA+ all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 800 MHz (Band V), 900 MHz (Band VIII) GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII)
<b>Wireless protocol standards</b>	3GPP Release 8 LTE Specification WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification
<b>Wireless parametric standards</b>	Complies with 3GPP specifications Release 8 for LTE
<b>Maximum data rates</b>	LTE (Category 3): 100 Mbps (Download), 50Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
<b>GPS</b>	Standalone
<b>GPS bands</b>	1575.42 MHz (+/- 1.073 MHz), GLONASS 1596-1607 MHz
<b>Maximum output power</b>	LTE: +23 dBm (+/- 2 dBm) WCDMA: +23.5 dBm (+/- 1 dBm) GPRS Band II, III: +29.5 dBm (+/- 1 dBm) GPRS Band V, VIII: +32.5 dBm (+/- 1 dBm) EGPRS Band II, III: +26.5 dBm (+/- 1.5 dBm) EGPRS Band V, VIII: +27.5 dBm (+/- 1.5 dBm)
<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); <900 mA (average) WCDMA: 1,100 mA (peak); <800 mA (average) EGPRS: 2,800 mA (peak); <700 mA (average)
<b>Power consumption, sleep mode</b>	3 mA
<b>Power management</b>	USB selective suspend, Integrated notebook wireless button
<b>Antenna type</b>	Dual high efficiency multi-band antennae with spatial diversity
<b>Form Factor</b>	M.2, USB 2.0 interface



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>Weight</b>	6 g
<b>Dimensions</b> (Length x Width x Thickness)	42 mm x 30 mm x 7.3 mm
<b>Voltage, Operating</b>	3.135 V to 4.4 V (3.3 V +1.1V/-0.165V)
<b>Temperature, operating</b> (from TIA/EIA/IS-98-D)	14° to 131° F (-10° to 55° C)
<b>Temperature, non-operating, 96 hours</b> (from MIL-STD 202 Method 108)	-40° to 185° F (-40° to 85° C)
<b>Humidity, non-operating</b>	95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
<b>LED activity</b>	LED Off - Radio Off; Solid LED On - Radio On

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

### Realtek 802.11 b/g/n (1x1)\*

<b>Wireless LAN Standards</b>	IEEE 802.11b IEEE 802.11g IEEE 802.11n
<b>Interoperability</b>	Wi-Fi certified
<b>Frequency Band</b>	2.402 – 2.482 GHz
<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: card will support rates for NSS=1 for RX and TX for 20 MHz channels. Short and long guard interval will be supported.
<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM
<b>Security<sup>1</sup></b>	IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication types WPA, WPA2: 802.1x, WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification IEEE 802.11i Cisco Certified Extensions, all versions through V5 WAPI
<b>Network Architecture</b>	Ad-hoc (Peer to Peer)
<b>Models</b>	Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power<sup>2</sup></b>	13.5 dBm, nominal
<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.6 W (max) Associated to Access Point, Idle: 250 mW nominal Wireless Button Off: 100 mW nominal Radio disabled: 75 mW nominal



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Fls. nº 994  
 Processo nº 2017-0879 - Arnaldo Diego M. D. Cruz

# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>Power Management</b>	ACPI compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity<sup>1</sup></b>	802.11b: -95 dBm (1 Mbps), -93 dBm (2 Mbps), -91 dBm (5.5 Mbps), -88 dBm (11 Mbps)  802.11g: -90 dBm (6 Mbps), -89 dBm (9 Mbps), -87 dBm (12 Mbps), -85 dBm (18 Mbps), -82 dBm (24 Mbps), -79 dBm (36 Mbps), -76 dBm (48 Mbps), -74 dBm (54 Mbps)  802.11n: -70 dBm (72.2 Mbps)
<b>Antenna type</b>	High efficiency antenna with spatial diversity, mounted in the display enclosure
<b>Form Factor</b>	PCI-Express Half-MiniCard
<b>Dimensions</b>	0.19 x 1.06 x 1.18 in (4.75 x 26.8 x 30 mm)
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Off – Radio OFF; Solid LED On – Radio ON

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

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

Intel Dual Band  
 Wireless-AC 3160 802.11  
 ac (1x1) WiFi and  
 Bluetooth 4.0 Combo<sup>2</sup>  
 Adaptor

<b>General</b>	<b>Dimensions (H x W x D)</b>	Standard: 26.80 mm x 30.00 mm x 2.4 mm Max (Top Side) / 1.35 mm Max (Bottom Side) Low profile: 22 mm x 30.00 mm x 1.5 mm Max (Top Side) / 0.6 mm Max (Bottom Side) NGFF: 22 mm x 30 mm, single sided
	<b>Weight</b>	TBD
	<b>Diversity</b>	No diversity support
	<b>Radio ON/OFF Control</b>	Supported in both hardware and software
	<b>Connector interface</b>	Half Mini Card form factor, based on PCIe electrical interface Next Generation Form Factor, A-SD electrical interface definition support
	<b>LED Output</b>	On/Off



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>Operating Temperature (Adapter Shield)</b>	0° to +80° C
<b>Humidity Non-Operating</b>	50% to 90% RH non-condensing (at temperatures of 25°C to 35°C)
<b>Operating Systems</b>	Microsoft Windows 7, Microsoft Windows 8, Linux
<b>Wi-Fi Alliance</b>	Wi-Fi CERTIFIED for 802.11ac, Wi-Fi CERTIFIED a/b/g, Wi-Fi CERTIFIED n, WMM, WPA, WPA2, and WPS, WPS 2.0, Protected Management Frames, Wi-Fi Direct for peer to peer device connections
<b>Microsoft WHQL</b>	Yes
<b>IEEE WLAN Standard</b>	IEEE 802.11abgn, 802.11ac, 802.11d, 802.11e, 802.11i, 802.11h, 802.11w
<b>Architecture</b>	Infrastructure and SoftAP; Supports simultaneous Client and SoftAP modes in 2.4 GHz or 5GHz
<b>Roaming<sup>1</sup></b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Authentication</b>	WPA and WPA2, 802.1X (EAP-TLS, TTLS, PEAP, LEAP, EAP-FAST), EAP-SIM, EAP-AKA
<b>Authentication Protocols</b>	PAP, CHAP, TLS, GTC, MS-CHAP, MS-CHAPv2
<b>Encryption</b>	64-bit and 128-bit WEP, AES-CCMP, TKIP
<b>Wi-Fi Direct Encryption and Authentication</b>	WPA2, AES-CCMP
<b>Product Safety</b>	UL, C-UL, CB (IEC 60950-1)
<b>Management Frame Protection</b>	802.11w (WFA- Protected Management Frame)
<b>Retail (Credit Card Processing)</b>	PCI, CISP
<b>Government</b>	FIPS <sup>2</sup> , FISMA

1. Roaming is supported only within each respective band and mode of access points.  
 2. Microsoft Windows 7 only.

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

<b>Bluetooth Specification</b>	Dual Mode Bluetooth <sup>®</sup> 2.1, 2.1+EDR, 3.0, 3.0+HS, 4.0 (BLE)
<b>Dimensions</b>	1.18 x 0.26 x 0.13 in (30 x 6.5 x 3.25 mm)
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	79 (1 MHz) available channels
<b>Data Rates and Throughput</b>	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric

Fis. nº 935/179  
 Pront. 17879 - Arnaldo Diego M. D. Cruz



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# QuickSpecs

**HP ProBook 440 G2 Notebook PC**  
**HP ProBook 450 G2 Notebook PC**  
**HP ProBook 470 G2 Notebook PC**

## Technical Specifications

<b>Transmit Power</b>	-1.5 dBm to 4 dBm (Bluetooth Class II)
<b>Receiver Sensitivity</b>	Better than -20 dBm at 0.1 % raw bit error rate
<b>Power Consumption</b>	Peak (Tx) 264 mW Peak (Rx) 231 mW Sleep <1 mW
<b>Antenna</b>	Internally integrated within module
<b>Range</b>	Up to 33 ft (10 m)
<b>Electrical Interface</b>	USB 2.0 compliant Microsoft Windows Plug and Play compliant
<b>Bluetooth Software Supported</b>	Broadcom Bluetooth for Windows Microsoft Windows Bluetooth Software
<b>Link Topology</b>	Point to Point, Multipoint Pico Nets up to 7 slaves
<b>Security</b>	Full support of Bluetooth Security Provisions
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support Self configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
<b>Certifications</b>	All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<b>Temperature</b>	Operating -14° to 158° F (-10° to 70° C) Non-operating -40° to 212° F (-40° to 100° C)
<b>Humidity</b>	Operating 0% to 90% Non-operating 0% to 95%
<b>Altitude</b>	Operating 15,000 ft (4,572 m) Non-operating 40,000 ft (12,192 m)
<b>Bluetooth Profiles Supported</b>	Serial Port Profile (SPP) <sup>1</sup> Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) <sup>1,2</sup> Generic Object Exchange Profile (GDEP) <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>2</sup> Personal Area Networking Profile (PAN) <sup>1,2</sup> Human Interface Device Profile (HID) <sup>1,2</sup> FAX Profile (FAX) Basic Imaging Profile (BIP) <sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP)



# QuickSpecs

**HP ProBook 440 G2 Notebook PC**  
**HP ProBook 450 G2 Notebook PC**  
**HP ProBook 470 G2 Notebook PC**

## Technical Specifications

Advanced Audio Distribution Profile (A2DP)

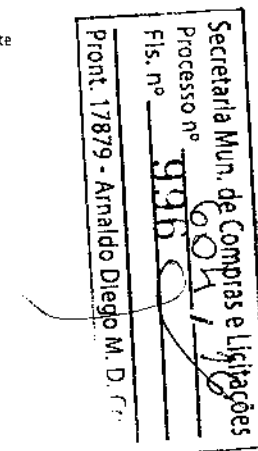
1. Indicates the profile is supported by Microsoft Windows XP SP2
  2. Indicates the profile is part of Windows Vista
- \* Wireless access point and internet service required. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and 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.

## AUDIO/MULTIMEDIA - DTS SOUND+

<b>Hardware</b>	<b>Implementation</b>	Realtek ALC3227-CG
	<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>	10 Hz - .454*Fs
	<b>Signal to Noise Ratio</b>	95 dB (DAC), 88dB (ADC)
	<b>Total Harmonic Distortion</b>	0.01%
	<b>Play/Record Sampling Rate(s)</b>	44.1k/48k/96k/192kHz
	<b>DAC</b>	16, 20 or 24-bit
	<b>ADC</b>	16, 20 or 24-bit
<b>Integrated Stereo Speakers</b>	<b>Power Rating</b>	2 Watts
	<b>Impedance</b>	4 Ohms

## POWER

<b>HP 65W Smart AC Adapter (Configurations with integrated graphics)</b>	<b>Dimensions</b>	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)
	<b>Weight</b>	0.66 lb (300 g) Max.
	<b>Input</b>	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
	<b>Output</b>	Output power 65W DC output 18.5V Hold-up time 5 msec at 115 VAC input



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

		Output current limit	<11A, Over voltage protection- 29V max automatic shutdown
<b>Connector</b>		3 pin/grounded, mates with interchangeable cords	
	<b>Environmental Design</b>	Operating temperature	32° to 104° F (0° to 40° C)
		Non-operating (storage) temperature	-4° to 149° F (-20° to 65° C)
		Altitude	0 to 10,000 ft (0 to 3,048 m)
		Humidity	20% to 80%
	Storage Humidity	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>HP 45W Smart AC Adapter</b>	<b>Dimensions</b>	3.74 x 1.57 x 1.04 in (9.5 x 4.0 x 2.65 cm)	
	<b>Input</b>	90 to 265 VAC	
<b>Output</b>	<b>Input Efficiency</b>	87.74% min at 115 VAC	
	<b>Input frequency range</b>	47 to 63 Hz	
	<b>Input AC current</b>	2.31 A at 100 VAC and maximum load	
	<b>Output power</b>	45W	
	<b>DC output</b>	19.5V +/-5.0%/+5%	
	<b>Hold-up time</b>	5 msec at 115 VAC input	
	<b>Output current limit</b>	<8A, Over voltage protection- 29V max automatic shutdown	
<b>Connector</b>	3 pin/grounded, mates with interchangeable cords		
	<b>Environmental Design</b>	Operating temperature	32° to 95° F (0° to 35° C)
Non-operating (storage) temperature		-4° to 121° F (-20° to 85° C)	
Altitude		0 to 16,405 ft (0 to 5,000 m)	
Humidity		0% to 95%	
Storage Humidity		0% to 95%	
<b>EMI and Safety Certifications</b>	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SFLV; 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 40W Smart AC Adapter</b>	<b>Dimensions</b>	3.67 x 1.57 x 1.18 in (93 x 40 x 30 mm)	
	<b>Weight</b>	8.64 oz (245 g)	
	<b>Input</b>	90 to 265 VAC	
	<b>Input Efficiency</b>	84% min at 115 VAC	
	<b>Input frequency range</b>	47 to 63 Hz	



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

		<b>Input AC current</b>	1.1 A at 90 VAC
<b>Output</b>		<b>Output power</b>	40W
		<b>Output Voltage</b>	19.5V +/-5.0%/+5.0%
<b>Output current limit</b>		<b>Output current limit</b>	3.08A
		<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>	
		<b>Humidity</b>	Up to 95%
		<b>Storage humidity</b>	Up to 95%
<b>EMI and safety certifications</b>	Worldwide safety and EMC approvals including CE, UL, cUL, GS, Australian Electric Permit, RCM, NOM, CCC, KC, CU, S mark, BSMI, ISC, PSE, PSB, NRCan, Ukraine and SII		
<b>6-Cell (47 Whr) Lithium-Ion battery</b>	<b>Dimensions (H x W x L)</b>	0.85 x 1.76 x 10.59 in (2.16 x 4.46 x 26.9cm)	
	<b>Weight (max)</b>	.70lb (1.312kg)	
<b>Cells/Type</b>		6 cell Lithium-Ion	
	<b>Energy</b>	Voltage	10.8V
		Amp-hour capacity	4.4Ah
		Watt-hour capacity	47Wh
<b>Temperature</b>		Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 122° F (-10° to 50° C)
		Non-operating	-4° to 122° F (-20° to 50° C)
		<b>Battery Re-Charge Time</b>	System in OFF or Standby Mode
		System ON	3 to 5 hours
<b>Fuel Gauge LED</b>	No		
<b>Warranty</b>	1 year		
<b>Optional Travel Battery Available</b>	No		
<b>6-cell (51 Whr) Long Life Lithium-Ion battery</b>	<b>Cells/Type</b>	6-cell Lithium-Ion	
	<b>Energy</b>	Amp-hour capacity	2.55Ah
		Watt-hour Capacity	51 Whr
<b>Temperature</b>		Operating (Charging)	32° to 113° F (0° to 45° C)
		Operating (Discharging)	14° to 140° F (-10° to 60° C)
		Non-operating	-4° to 140° F (-20° to 60° C)
<b>Battery Re-Charge Time</b>		System in OFF mode or Standby	2.5 hours
		System ON	3 to 5 hours (depending on system power consumption)



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

<b>Fuel Gauge LED</b>	No
<b>Warranty</b>	Up to 3 years (depending on system warranty)
<b>Optional Travel Battery Available</b>	No
<b>4-Cell (44 WHr) Lithium-Ion battery</b>	
<b>Dimensions (H x W x L)</b>	0.86 x 1.4 x 8.0 in (2.18 x 3.56 x 27.72 cm)
<b>Weight</b>	≤0.551 lb (250 g)
<b>Cells/Type</b>	4-cell Lithium Ion
<b>Energy</b>	Voltage 14.8V DC Amp-hour capacity 2850mAh Watt-hour Capacity 44 WHr
<b>Temperature</b>	Operating (Charging) 32° to 113° F (0° to 45° C) Operating (Discharging) 14° to 140° F (-10° to 60° C) Non-operating -4° to 140° F (-20° to 60° C)
<b>Battery Re-Charge Time</b>	System in OFF mode or Standby 2.5 hours System ON 3 to 5 hours (depending on system power consumption)
<b>Fuel Gauge LED</b>	No
<b>Warranty</b>	1 year
<b>Optional Travel Battery Available</b>	No
<b>4-cell (40 WHr) Long Life Lithium-Ion battery</b>	
<b>Cells/Type</b>	4-cell Lithium Ion
<b>Energy</b>	Amp-hour capacity 3.0Ah Watt-hour Capacity 40 WHr
<b>Temperature</b>	Operating (Charging) 32° to 113° F (0° to 45° C) Operating (Discharging) 14° to 140° F (-10° to 60° C) Non-operating -4° to 140° F (-20° to 60° C)
<b>Battery Re-Charge Time</b>	System in OFF mode or Standby 2.5 hours System ON 3 to 5 hours (depending on system power consumption)
<b>Fuel Gauge LED</b>	No
<b>Warranty</b>	Up to 3 years (depending on system warranty)
<b>Optional Travel Battery Available</b>	No

## ENVIRONMENTAL



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

### HP ProBook 440 G2 Notebook PC

**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)	7.02 W	7.04 W	6.89 W
Normal Operation (Long idle)	5.24 W	5.27 W	5.20 W
Sleep	0.65 W	0.68 W	0.65 W
Off	0.31 W	0.35 W	0.31 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)	24 BTU/hr	24 BTU/hr	24 BTU/hr
Normal Operation (Long idle)	18 BTU/hr	18 BTU/hr	18 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

\*NOTE: Heat dissipation is calculated based on the measurement of the system assuming the service level is attained for one hour.

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

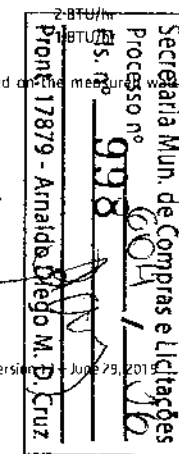
Typically Configured - Idle

Sound Power (L<sub>WA</sub>, dBS)

3.1

Sound Pressure (L<sub>pA</sub>, decibels)

24



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

Fixed Disk – Random writes 3.1 24

**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
- 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 than 1ppm by weight  
 Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)  
 Battery type: Lithium  
 Battery size: 6-cell high capacity Lithium-Ion battery (optional 8 cell available)  
 Battery type:

- 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 95.9% recycle-able when properly disposed of at end of life.

**Packaging Materials**

<b>External:</b>	PAPER/Corrugated	367.8 g
<b>Internal:</b>	PLASTIC/Polyethylene low density	18.1 g
	PLASTIC/EPE-Expanded Polyethylene	38 g

The plastic packaging material contains at least 75% recycled content.  
 The corrugated paper packaging materials contains at least 75% recycled content.



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

### HP ProBook 450 G2 Notebook PC

**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)	7.88 W	7.31 W	7.78 W
Normal Operation (Long idle)	4.88 W	5.84 W	6.28 W
Sleep	0.95 W	0.95 W	0.92 W
Off	0.34 W	0.37 W	0.34 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)	27 BTU/hr	25 BTU/hr	27 BTU/hr
Normal Operation (Long idle)	17 BTU/hr	20 BTU/hr	21 BTU/hr
Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

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

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

	Sound Power (L <sub>w</sub> , dBS)	Sound Pressure (L <sub>p</sub> ,m, decibels)
Typically Configured – Idle	3.1	22



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## Technical Specifications

Fixed Disk – Random writes 3.1 22

**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
- 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 than 1ppm by weight  
 Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)  
 Battery type: Lithium  
 Battery size: 6-cell high capacity Lithium-ion battery (optional 8 cell available)  
 Battery type:

- 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 1580 (EPEAT) standard at the <gold> level, see 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 96.2% recycle-able when properly disposed of at end of life.

**Packaging Materials**

<b>External:</b>	PAPER/Corrugated	398 g
<b>Internal:</b>	PLASTIC/EPE (Expanded Polyethylene)	36 g
	PLASTIC/Polyethylene low density	18.1 g

The plastic packaging material contains at least 75% recycled content.  
 The corrugated paper packaging materials contains at least 75% recycled content.

### HP ProBook 470 G2 Notebook PC



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
 HP ProBook 450 G2 Notebook PC  
 HP ProBook 470 G2 Notebook PC

## 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)	7.60 W	7.50 W	7.57 W
Normal Operation (Long idle)	3.42 W	3.62 W	3.43 W
Sleep	0.66 W	0.71 W	0.66 W
Off	0.34 W	0.37 W	0.34 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\***

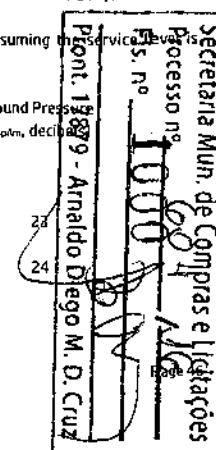
	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	26 BTU/hr	26 BTU/hr	26 BTU/hr
Normal Operation (Long idle)	12 BTU/hr	12 BTU/hr	12 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

\*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>WA</sub> , dBS)
Typically Configured – Idle	2.9
Fixed Disk – Random writes	2.9

Sound Pressure (L<sub>p</sub>, dB)



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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

## Technical Specifications

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

Battery size: CR2032 (coin cell)  
Battery type: Lithium  
Battery size: 6-cell high capacity Lithium-Ion battery (optional 8 cell available)  
Battery type:

### 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 96.9% recycle-able when properly disposed of at end of life.

### Packaging Materials

External:	PAPER/Corrugated	454.8 g
Internal:	PLASTIC/Polyethylene low density	68.5 g

The plastic packaging material contains at least 75% recycled content.  
The corrugated paper packaging materials contains at least 75% recycled content.

## All models



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

## Technical Specifications

### Eco-Label Certifications & declarations

These products have received or are 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.

### 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/bpinfo/global/citizenship/environment/supplychain/gen\\_specifications.html](http://www.hp.com/bpinfo/global/citizenship/environment/supplychain/gen_specifications.html))):

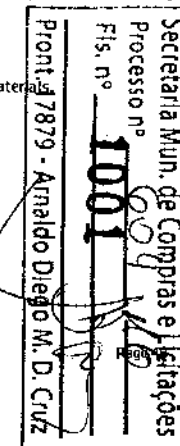
- Asbestos
- Certain Azo Colorants
- Certain Brominated Flame Retardants - may not be used as flame retardants in plastics
- Cadmium
- Chlorinated Hydrocarbons
- Chlorinated Paraffins
- Formaldehyde
- Halogenated Diphenyl Methanes
- Lead carbonates and sulfates
- Lead and Lead compounds
- Mercuric Oxide 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
- Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
- Nickel finishes that release greater than 0.5 µgrams/cm<sup>2</sup>/week, measured according to EN 1811:1998, are not used on any product surface designed to be frequently handled or touched by users.

### 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



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

## Technical Specifications

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.

### 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>

### Country of Origin

China



# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

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

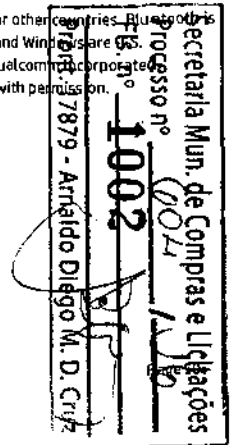
Type	Description	Part #
<b>Cases</b>	HP Essential Top Load Case	H2W17AA
	HP Essential Backpack (up to 15.6")	H1D24AA
	HP Essential Messenger Case (up to 17.3")	H1D25AA
<b>Docking</b>	HP 3005pr USB 3.0 Port Replicator	H1L08AA
<b>Input/Output - Mice</b>	HP Comfort Grip Wireless Mouse	H2L63AA
	HP 3-Button USB Laser Mouse	H4B81AA
	HP USB Optical Travel mouse	RH304AA
<b>Adapters</b>	HP 45W Smart AC Adapter 4.5mm	H6Y88AA
<b>Security</b>	HP UltraSlim Keyed Cable Lock	H4D73AA
<b>Displays</b>	HP ProDisplay P201 20-inch LED Backlit Monitor	C9F26AA
	HP ProDisplay P201m 20-inch LED Backlit Monitor (With Integrated Speakers)	C9F73AA
	HP ProDisplay P221 21.5-inch LED Backlit Monitor	C9E49AA
	HP ProDisplay P231 23-inch LED Backlit Monitor	E45D7AA

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# QuickSpecs

HP ProBook 440 G2 Notebook PC  
HP ProBook 450 G2 Notebook PC  
HP ProBook 470 G2 Notebook PC

## Summary of Changes

Date of change:	Version History:		Description of change:
June 5, 2014	From vMar'14 to vJun'14	Changed	Environmental data for the 440 & 470
June 9, 2014	From June 6 to June 9	Added	Environmental data for the 450
June 19, 2014	From June 9 to June 19	Added	Changes throughout the document
July 7, 2014	From v4 to v5	Changed	Weight specs
October 22, 2014	From v5 to v6	Changed	Operating System and Processor changes on pages 4-14
October 28, 2014	From v6 to v7	Removed	Windows 7 Home, Home Premium & Ultimate OS
November 13, 2014	From v7 to v8	Added	5 <sup>th</sup> Generation Intel processors and graphics.
November 17, 2014	From v8 to v9	Changed	Warranty specs on page 22
March 13, 2015	From v9 to v10	Changed	Memory speed transfer units on page 14
April 8, 2015	From v10 to v11	Added	Average Operating Power page 23
June 26, 2015	From v11 to v12	Added	Web-only support OS on page 11
June 29, 2015	From V12 to v13	Added	Windows 10 to overview on page 9, OS list on page 10, footnotes to pages 10 & 14



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Processo nº 004 / 2016
Fls. nº 1004
Pront. 17879 - Arnaldo Diego M. D. Cruz

**DECLARATION OF CONFORMITY**  
according to ISO/IEC 17050-1 and EN 17050-1

**DoC #: HSTNN-C83C-R1**

**Supplier's Name:** Hewlett-Packard Company  
**Supplier's Address:** 11445 Compaq Center Drive West, Houston, TX 77070 USA  
**declares, that the product:**  
**Product Name and Model:** HP ProBook 440 G2 Notebook PC  
**Regulatory Model Number: <sup>1)</sup>** HSTNN-C83C  
**Product Options:** See Page 3  
**conforms to the following Product Specifications and Regulations:**

**EMC:**

EN 55022:2010 Class B  
EN 55024:2010  
EN 61000-3-2:2006 +A1:2009 +A2:2009  
EN 61000-3-3:2008

**Safety:**

EN 60950-1:2006 +A1:2010 +A11:2009 +A12:2011  
IEC 60950-1:2005 +A1:2009  
EN 62479:2010

**Telecom:**

EN 62311:2008  
EN 50385:2002  
EN 300 328 V1.8.1  
EN 301 489-3 V1.4.1  
EN 301 489-7 V1.3.1  
EN 301 489-17 V2.2.1  
EN 301 489-24 V1.5.1  
EN 301 893 V1.7.1  
EN 301 908-01 V5.2.1  
EN 301 908-02 V5.2.1  
EN 301 908-13 V5.2.1

**Energy Use:**

Regulation (EC) No. 617/2013  
EN 62623:2013

**RoHS:**

EN 50581:2012

The product herewith complies with the requirements of the EMC Directive 2004/108/EC, the Low Voltage Directive 2006/95/EC, the RoHS Directive 2011/65/EU, the Ecodesign Directive 2009/125/EC, the R&TTE Directive 1999/5/EC and carries the **CE** marking accordingly.

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**DECLARATION OF CONFORMITY**  
according to ISO/IEC 17050-1 and EN 17050-1

**Additional Information:**

- 1) This product is assigned a Regulatory Model Number which stays with the regulatory aspects of the design. The Regulatory Model Number is the main product identifier in the regulatory documentation and test reports, this number should not be confused with the marketing name or the product numbers.



Houston, TX  
7/11/2014

Joe Sharkey, Manager  
Houston Product Compliance Center

**Local contact for regulatory topics only:**

EU: Hewlett-Packard GmbH, HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, Germany  
U.S.: Hewlett-Packard, 3000 Hanover St., Palo Alto, CA 94304, U.S.A. 650-857-1501

[www.hp.eu/certificates](http://www.hp.eu/certificates)

**DECLARATION OF CONFORMITY**  
 according to ISO/IEC 17050-1 and EN 17050-1

**Regulatory Model Number: HSTNN-C83C**

**OPTIONS**

<b>CATEGORY &amp; DESCRIPTION</b>	<b>REGULATORY MODEL NUMBER*</b>
Adapter	HSTNN-XA13 HSTNN-XA15 HSTNN-XA40 HSTNN-XA41 PPP009X PPP012X-S
Battery Packs	HSTNN-XB6J HSTNN-XB6L
Atheros HB125 1x1 802.11bgn Adapter	AR5B125
Realtek RTL8188EE 802.11bgn 1x1 Wi-Fi Adapter	RTL8188EE
HP Bluetooth Module with Low Energy Support / Broadcom High Performance WLAN Module	BCM943228HMB
Broadcom BCM43142 802.11bgn 1x1 Wi-Fi +BT4.0 Combo	BCM943142HM
WLAN Realtek Skyray RTL8723BE bgn 1x1 + BT 4 LE PCIe+USB HMC WW RTL8723BE1T1R	RTL8723BE
Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 combo adaptor	3160HMW
Intel Dual Band Wireless-N 7260AN 802.11 a/b/g/n 2x2 WiFi + BT 4.0 combo adaptor	7260HMW AN
HP It4112 LTE/HSPA+ Gobi 4G Module	ME906E
HP hs3110 Mobile Broadband Module / HP hs3114 Mobile Broadband Module	MU736

\* Where X represents any alpha-numeric character A-Z or 0-9



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Fls. nº 1007  
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(ENERGY STAR)® certified HP computers<sup>1</sup>

07/10/15

Item	Product Category	Product name
<b>Business Desktops PCs</b>		
1	Desktop	HP Compaq Pro 6305 MT PC (ENERGY STAR)
2	Desktop	HP Compaq Pro 6305 SFF PC (ENERGY STAR)
3	Desktop	HP EliteDesk 800 G1 Tower Business PC (ENERGY STAR)
4	Desktop	HP EliteDesk 800 G1 Small Form Factor Business PC (ENERGY STAR)
5	Desktop	HP EliteDesk 800 G1 Ultra-slim Desktop Business PC (ENERGY STAR)
6	Desktop	HP ProDesk 600 G1 Tower Business PC (ENERGY STAR)
7	Desktop	HP ProDesk 600 G1 Small Form Factor Business PC (ENERGY STAR)
8	Desktop	HP Envy Phoenix 810 Desktop PC
9	Desktop	HP ProDesk 400 G1 Microtower Business PC (ENERGY STAR)
10	Desktop	HP ProDesk 480 G1 Microtower Business PC (ENERGY STAR)
11	Desktop	HP ProDesk 498 G1 Microtower Business PC (ENERGY STAR)
12	Desktop	HP ProDesk 400 G1 Small Form Factor Business PC (ENERGY STAR)
13	Desktop	HP ProDesk 490 G1 Microtower Business PC (ENERGY STAR)
14	Desktop	HP ProDesk 405 G1 Microtower Business PC (ENERGY STAR)
15	Desktop	HP ProDesk 485 G1 Microtower Business PC (ENERGY STAR)
16	Desktop	HP EliteDesk 800 G1 Desktop Mini PC (ENERGY STAR)
17	Desktop	HP ProDesk 600 G1 Desktop Mini PC (ENERGY STAR)
18	Desktop	HP ProDesk 405 G2 MT Business PC (ENERGY STAR)
19	Desktop	HP ProDesk 485 G2 MT Business PC (ENERGY STAR)
20	Desktop	HP ProDesk 400 G2 MT Business PC (ENERGY STAR)
21	Desktop	HP ProDesk 480 G2 MT Business PC (ENERGY STAR)
22	Desktop	HP ProDesk 490 G2 MT Business PC (ENERGY STAR)
23	Desktop	HP ProDesk 498 G2 MT Business PC (ENERGY STAR)
24	Desktop	HP EliteDesk 880 G1 TWR Business PC (ENERGY STAR)
25	Desktop	HP ProDesk 680 G1 TWR Business PC (ENERGY STAR)
26	Desktop	HP RP2 Retail System, Model 2000 (ENERGY STAR)
27	Desktop	HP RP2 Retail System, Model 2030 (ENERGY STAR)
28	Desktop	HP RP2 Retail System, Model 2020 (ENERGY STAR)
29	Desktop	HP EliteDesk 705 G1 SFF Business PC (ENERGY STAR)
30	Desktop	HP EliteDesk 705 G1 MT Business PC (ENERGY STAR)
31	Desktop	HP 406 G1 MT (ENERGY STAR)
32	Desktop	HP 280 G1 MT (ENERGY STAR)
33	Desktop	HP EliteDesk 700 G1 SFF Business PC (ENERGY STAR)
34	Desktop	HP EliteDesk 705 G1 DM Business PC (ENERGY STAR)
35	Desktop	HP EliteDesk 700 G1 MT Business PC (ENERGY STAR)
36	Desktop	HP ProDesk 400 G2 SFF Business PC (ENERGY STAR)
37	Desktop	HP 260 G1 DM Business PC (ENERGY STAR)
38	Desktop	HP ProDesk 400 G1 DM Business PC (ENERGY STAR)
39	Desktop	HP 285 Pro G1 MT
40	Desktop	HP MP9 Model 9000 Digital Signage Player (ENERGY STAR)
41	Desktop	HP ProDesk 400 G2.5 SFF Business PC (ENERGY STAR)
<b>Home and Home Office Desktops PCs</b>		
1	Desktop	HP Pavilion 500 Desktop PC
2	Desktop	HP Chromebox PC/HP Chromebox G1 PC
3	Desktop	HP 110 Desktop PC/Compaq 100 Desktop PC
4	Desktop	HP Pavilion Mini 300 Desktop / HP Stream Mini 200 Desktop
5	Desktop	HP ENVY Phoenix Desktop
6	Desktop	HP ENVY Desktop
7	Desktop	HP Pavilion Desktop
8	Desktop	HP Desktop/Compaq Desktop
9	Desktop	HP Slimline Desktop/Compaq Slimline Desktop
<b>Integrated PCs</b>		
1	Integrated PC	HP rp5800 Point of Sale System (ENERGY STAR)
2	Integrated PC	HP RP5 Retail System, Model 5810 (ENERGY STAR)
3	Integrated PC	HP RP7 Retail System, Model 7800 (ENERGY STAR)



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4	Integrated PC	HP 18 All-in-One PC (ENERGY STAR)
5	Integrated PC	HP EliteOne 800 G1 All-in-One Business PC (ENERGY STAR)
6	Integrated PC	HP ProOne 600 G1 All-in-One Business PC (ENERGY STAR)
7	Integrated PC	HP Envy TouchSmart 23 All-in-One PC (ENERGY STAR)
8	Integrated PC	HP Envy TouchSmart 27 All-in-One PC (ENERGY STAR)
9	Integrated PC	HP Envy TouchSmart 23se All-in-One PC (ENERGY STAR)
10	Integrated PC	HP Slate 21-k100 All-in-One PC (ENERGY STAR)
11	Integrated PC	HP Slate 21-s100 All-in-One PC (ENERGY STAR)
12	Integrated PC	HP Envy Recline23 TouchSmart Beats SE All-in-One PC (ENERGY STAR)
13	Integrated PC	HP Pavilion 21 TouchSmart All-in-One PC (ENERGY STAR)
14	Integrated PC	HP Pavilion 22 TouchSmart All-in-One PC (ENERGY STAR)
15	Integrated PC	HP Pavilion 23 TouchSmart All-in-One PC (ENERGY STAR)
16	Integrated PC	HP Pavilion 23 All-in-One PC (ENERGY STAR)
17	Integrated PC	HP 19 All-in-One PC (ENERGY STAR)
18	Integrated PC	HP 20 All-in-One PC (ENERGY STAR)
17	Integrated PC	HP ProOne 400 G1 All-in-One Business PC (ENERGY STAR)
18	Integrated PC	HP 205 G1 All-in-One Business PC (ENERGY STAR)
19	Integrated PC	HP Compaq 18 All-in-One PC (ENERGY STAR)
20	Integrated PC	HP Slate 21 Pro 200k/200s All-in-One PC (ENERGY STAR)
21	Integrated PC	HP EliteOne 800 G1 21.5-inch Non-Touch All-in-One PC (ENERGY STAR)
22	Integrated PC	HP ProOne 400 G1 21.5" Touch All-in-One (ENERGY STAR)
23	Integrated PC	HP ProOne 400 G1 23-inch Non-Touch All-in-One (ENERGY STAR)
24	Integrated PC	HP Envy Beats All-in-One PC (ENERGY STAR)
25	Integrated PC	HP Envy All-in-One PC (ENERGY STAR)
26	Integrated PC	HP Pavilion All-in-One PC (ENERGY STAR)
27	Integrated PC	HP All-in-One PC (ENERGY STAR)
28	Integrated PC	HP EliteOne 705 G1 23-inch Non-Touch All-in-One PC (ENERGY STAR)
29	Integrated PC	HP Slate 17 All-in-One (ENERGY STAR)
30	Integrated PC	HP Sprout Immersive Computer (ENERGY STAR)
31	Integrated PC	HP 205 G2 All-in-One Business PC (ENERGY STAR)
<b>Business Notebook PCs</b>		
1	Notebook PC	HP 455
2	Notebook PC	HP EliteBook Folio 9470m (ENERGY STAR)
3	Notebook PC	HP EliteBook Revolve 810 G1 Notebook PC
4	Notebook PC	HP ProBook 455 G1 Notebook PC (ENERGY STAR)
5	Notebook PC	HP ProBook 445 G1 Notebook PC (ENERGY STAR)
6	Notebook PC	HP ProBook 430 G1 Notebook PC (ENERGY STAR)
7	Notebook PC	HP ZBook 17 Mobile Workstation (ENERGY STAR)
8	Notebook PC	HP ZBook 15 Mobile Workstation (ENERGY STAR)
9	Notebook PC	HP ZBook 14 Mobile Workstation (ENERGY STAR)
10	Notebook PC	HP ProBook 470 G1 Notebook PC (ENERGY STAR)
11	Notebook PC	HP ProBook 450 G1 Notebook PC (ENERGY STAR)
12	Notebook PC	HP ProBook 440 G1 Notebook PC (ENERGY STAR)
13	Notebook PC	HP EliteBook 850 G1 Notebook PC (ENERGY STAR)
14	Notebook PC	HP EliteBook 840 G1 Notebook PC (ENERGY STAR)
15	Notebook PC	HP EliteBook 820 G1 Notebook PC (ENERGY STAR)
16	Notebook PC	HP 215 G1 Notebook PC (ENERGY STAR)
17	Notebook PC	HP mt41 Mobile Thin Client (ENERGY STAR)
18	Notebook PC	HP ProBook 650 G1 Notebook PC (ENERGY STAR)
19	Notebook PC	HP ProBook 640 G1 Notebook PC (ENERGY STAR)
20	Notebook PC	HP ProBook 645 G1 Notebook PC (ENERGY STAR)
21	Notebook PC	HP ProBook 655 G1 Notebook PC (ENERGY STAR)
22	Notebook PC	HP 255 G2 Notebook PC (ENERGY STAR)
23	Notebook PC	HP 240 G2 Notebook PC (ENERGY STAR)
24	Notebook PC	HP 245 G2 Notebook PC (ENERGY STAR)
25	Notebook PC	HP 248 G1 Notebook PC (ENERGY STAR)
26	Notebook PC	HP 250 G2 Notebook PC (ENERGY STAR)
27	Notebook PC	HP EliteBook Folio 1040 G1 Notebook PC (ENERGY STAR)
28	Notebook PC	HP EliteBook Revolve 810 G2 Notebook PC (ENERGY STAR)
29	Notebook PC	HP 350 G1 Notebook PC (ENERGY STAR)
30	Notebook PC	HP 250 G3 Notebook PC (ENERGY STAR)
31	Notebook PC	HP 240 G3 Notebook PC (ENERGY STAR)





Secretaria Mun. de Compras e Licitações  
Processo nº 604/16  
Fls. nº 1009  
Pront. 17879 - Arnaldo Diego M. D. Cruz

32	Notebook PC	HP 245 G3 Notebook PC (ENERGY STAR)
33	Notebook PC	HP 355 G2 Notebook PC (ENERGY STAR)
34	Notebook PC	HP 345 G2 Notebook PC (ENERGY STAR)
35	Notebook PC	HP EliteBook Folio 9480m (ENERGY STAR)
36	Notebook PC	HP EliteBook 755 G2 Notebook PC (ENERGY STAR)
37	Notebook PC	HP EliteBook 745 G2 Notebook PC (ENERGY STAR)
38	Notebook PC	HP EliteBook 725 G2 Notebook PC (ENERGY STAR)
39	Notebook PC	HP ProBook 470 G2 Notebook PC (ENERGY STAR)
40	Notebook PC	HP ProBook 450 G2 Notebook PC (ENERGY STAR)
41	Notebook PC	HP ProBook 440 G2 Notebook PC (ENERGY STAR)
42	Notebook PC	HP ProBook 430 G2 Notebook PC (ENERGY STAR)
43	Notebook PC	HP ProBook 455 G2 Notebook PC (ENERGY STAR)
44	Notebook PC	HP ProBook 445 G2 Notebook PC (ENERGY STAR)
45	Notebook PC	HP x360 310 G1 (ENERGY STAR)
46	Notebook PC	HP 210 G1 Notebook PC (ENERGY STAR)
47	Notebook PC	HP 255 G3 Notebook PC (ENERGY STAR)
48	Notebook PC	HP 340 G1 Notebook PC (ENERGY STAR)
49	Notebook PC	HP Chromebook 11 G3 (ENERGY STAR)
50	Notebook PC	HP EliteBook 720 G1 Notebook PC (ENERGY STAR)
51	Notebook PC	HP EliteBook 740 G1 Notebook PC (ENERGY STAR)
52	Notebook PC	HP EliteBook 750 G1 Notebook PC (ENERGY STAR)
53	Notebook PC	HP Zbook 17 G2 Mobile Workstation (ENERGY STAR)
54	Notebook PC	HP Zbook 15 G2 Mobile Workstation (ENERGY STAR)
55	Notebook PC	HP Chromebook 14 G3 (ENERGY STAR)
56	Notebook PC	HP Classmate Notebook PC (ENERGY STAR)
57	Notebook PC	HP Zbook 14 G2 Mobile Workstation (ENERGY STAR)
58	Notebook PC	HP Zbook 15u G2 Mobile Workstation (ENERGY STAR)
59	Notebook PC	HP EliteBook 850 G2 Notebook PC (ENERGY STAR)
60	Notebook PC	HP EliteBook 840 G2 Notebook PC (ENERGY STAR)
61	Notebook PC	HP EliteBook 820 G2 Notebook PC (ENERGY STAR)
62	Notebook PC	HP 340 G2 Notebook PC (ENERGY STAR)
63	Notebook PC	HP 350 G2 Notebook PC (ENERGY STAR)
64	Notebook PC	HP EliteBook Folio 1040 G2 Notebook PC (ENERGY STAR)
65	Notebook PC	HP EliteBook 740 G2 Notebook PC (ENERGY STAR)
66	Notebook PC	HP Elitebook 750 G2 Notebook PC (ENERGY STAR)
67	Notebook PC	HP EliteBook Revolve 810 G3 Notebook PC (ENERGY STAR)
68	Notebook PC	HP EliteBook Folio 1020 G1 Notebook PC (ENERGY STAR)
69	Notebook PC	HP Spectre Pro x360 Convertible PC (G1)/HP Spectre Pro x360/HP Spectre Pro x360 G1 (ENERGY STAR)
70	Notebook PC	HP Stream 11 Pro/ HP Stream 11 Pro Notebook PC (ENERGY STAR)
71	Notebook PC	HP OMEN Pro 15 Notebook, HP OMEN Pro, HP OMEN Pro 15 (ENERGY STAR)
72	Notebook PC	HP ProBook 11 G1 Education Edition (ENERGY STAR)
72	Notebook PC	HP 250 G4 Notebook PC (ENERGY STAR)
73	Notebook PC	HP 256 G4 Notebook PC (ENERGY STAR)
74	Notebook PC	HP 245 G4 Notebook PC (ENERGY STAR)
75	Notebook PC	HP 240 G4 Notebook PC (ENERGY STAR)
76	Notebook PC	HP 246 G4 Notebook PC (ENERGY STAR)
77	Notebook PC	HP 255 G4 Notebook PC (ENERGY STAR)
<b>Home and Home Office Notebook PCs</b>		
1	Notebook PC	HP Envy m6 Notebook PC
2	Notebook PC	HP Envy 15 Notebook PC
3	Notebook PC	HP Envy TouchSmart 15 Notebook PC
4	Notebook PC	HP Pavilion 14 Notebook PC
5	Notebook PC	HP Pavilion 15 Notebook PC
6	Notebook PC	HP Pavilion 17 Notebook PC
7	Notebook PC	HP Envy 17 Notebook PC
8	Notebook PC	HP Envy TouchSmart m7 Notebook PC
9	Notebook PC	HP Envy 14 Sleekbook
10	Notebook PC	HP Envy TouchSmart 14 Sleekbook
11	Notebook PC	HP Pavilion TouchSmart 11 Notebook PC
12	Notebook PC	HP Pavilion TouchSmart 15 Notebook PC
13	Notebook PC	HP Chromebook 14
14	Notebook PC	HP Pavilion TouchSmart 14 Ultrabook

CÓPIA DE DOCUMENTO ASSINADO DIGITALMENTE POR: GABRIEL MARCHI DA SILVA. Sistema e-TCESP. Para obter informações sobre assinatura e/ou ver o arquivo original acesse <http://e-processo.tec.sp.gov.br> - link "Validar documento digital" e informe o código do documento: 2-R3KV-BNQH-65Q3-46R7-33T5



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Processo nº 6017/20  
Fls. nº 1010  
Pront. 17879 - Arnaldo Diego M. D. Cruz

15	Notebook PC	HP ENVY17 Leap Motion SE Notebook
16	Notebook PC	HP Pavilion 10 TouchSmart Notebook PC
17	Notebook PC	HP Spectre 13 Ultrabook
18	Notebook PC	HP 14 TouchSmart Notebook PC
19	Notebook PC	Compaq 14 TouchSmart Notebook PC
20	Notebook PC	HP 15 TouchSmart Notebook PC
21	Notebook PC	Compaq 15 TouchSmart Notebook PC
22	Notebook PC	HP Pavilion11 x360 PC
23	Notebook PC	HP 14 Notebook PC
24	Notebook PC	Compaq 14 Notebook PC
25	Notebook PC	HP 15 Notebook PC
26	Notebook PC	Compaq 15 Notebook PC
27	Notebook PC	HP Envy Notebook PC
28	Notebook PC	HP Pavilion 17 TouchSmart Notebook PC
29	Notebook PC	HP Pavilion 10 Notebook PC
30	Notebook PC	HP Chromebook PC/HP Chromebook 11 PC/HP Chromebook 11 G2 PC
31	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 14 Notebook PC
32	Notebook PC	HP ENVY Notebook PC/HP ENVY 15 Notebook PC
33	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 15 Notebook PC
34	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 17 Notebook PC
35	Notebook PC	HP ENVY Notebook PC/HP ENVY 17 Notebook PC/HP ENVY m7 Notebook PC
36	Notebook PC	HP Notebook PC/HP 15 Notebook PC
37	Notebook PC	HP SlateBook PC/HP SlateBook 14 PC
38	Notebook PC	HP ENVY Notebook PC/HP ENVY 14 Notebook PC
39	Notebook PC	HP ENVY x360 Convertible PC/HP ENVY 15 x360 Convertible PC/HP ENVY 15 x360 PC
40	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 13 Notebook PC
41	Notebook PC	HP Pavilion x360 Convertible PC/HP Pavilion 13 x360 Convertible PC/HP Pavilion 13 x360 PC
42	Notebook PC	HP 14 Notebook PC/HP Notebook PC/HP Notebook PC 14
43	Notebook PC	HP Chromebook/HP Chromebook 11
44	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 14
45	Notebook PC	HP ENVY x2/HP ENVY x2 Detachable PC/HP ENVY x2 Detachable PC 15
46	Notebook PC	HP Chromebook/HP Chromebook 14
47	Notebook PC	HP ENVY x2/HP ENVY x2 Detachable PC/HP ENVY x2 Detachable PC 13
48	Notebook PC	HP Pavilion x2 Detachable PC/HP Pavilion x2 Detachable PC 10
49	Notebook PC	HP Stream x360/HP Stream x360 Convertible PC / HP Stream x360 Convertible PC 11
50	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 11
51	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 13
52	Notebook PC	HP OMEN Notebook PC/ HP OMEN/ HP OMEN Notebook PC 15
54	Notebook PC	HP Spectre x360 Convertible PC/HP Spectre x360/HP Spectre x360 Convertible PC 13/HP Spectre x360 Convertible 13
55	Notebook PC	HP OMEN Notebook, HP OMEN, HP OMEN Notebook 15
56	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 14
57	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 15
58	Notebook PC	x360 m1 Convertible, HP Pavilion x360 m1



Secretaria Mun. de Compras e Licitações  
 Processo nº 6045/10  
 Fis. nº 1011  
 Pront. 17879 - Arnaldo Diego M. D. Cruz

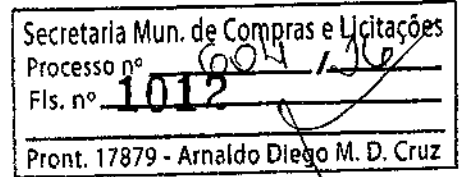
59	Notebook PC	x360 m3 Convertible, HP Pavilion x360 m3
60	Notebook PC	HP ENVY x360 Convertible, HP ENVY x360 Convertible 15, HP ENVY x360, HP ENVY x360 m6 Convertible, HP ENVY x360 m6
61	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 17
62	Notebook PC	HP Notebook, HP Notebook 15, HP Notebook 15q, HP Notebook 15g
63	Notebook PC	HP Notebook, HP Notebook 14
64	Notebook PC	HP Notebook, HP Notebook 14, HP Notebook 14q, HP Notebook 14g
65	Notebook PC	HP Notebook, HP Notebook 15
66	Notebook PC	HP ENVY x360 Convertible, HP ENVY x360 Convertible 15
67	Notebook PC	HP Notebook, HP Notebook 17
68	Notebook PC	HP ENVY Notebook, HP ENVY Notebook 15, HP ENVY, HP ENVY 15
69	Notebook PC	HP ENVY Notebook, HP ENVY, HP ENVY Notebook 14, HP ENVY 14
70	Notebook PC	HP ENVY Notebook, HP ENVY, HP ENVY Notebook 15, HP ENVY 15, HP ENVY m6 Notebook, HP ENVY m6
71	Notebook PC	HP mt245 Mobile Thin Client
72	Notebook PC	HP Chromebook 11 G4
<b>Thin Clients</b>		
1	Thin Client	HP t610 Thin Client
2	Thin Client	HP t610 PLUS Thin Client
3	Thin Client	HP t410 Smart Zero Client
4	Thin Client	HP t410 All-in-One Smart Zero Client
5	Thin Client	HP t510 Thin Client
6	Thin Client	HP t820 Thin Client
7	Thin Client	HP t620 Thin Client
8	Thin Client	HP t620 Plus Thin Client
9	Thin Client	HP t520 Flexible Series Thin Client
10	Thin Client	HP t310 All-in-One Zero Client
11	Thin Client	HP t420 Thin Client
<b>Workstations</b>		
1	Workstation	HP Z420 Workstation
2	Workstation	HP Z620 Workstation
3	Workstation	HP Z820 Workstation
4	Workstation	HP Z1 Workstation G2
5	Workstation	HP Z230 Tower Workstation
6	Workstation	HP Z230 SFF Workstation
7	Workstation	HP Z440 Workstation
8	Workstation	HP Z640 Workstation
9	Workstation	HP Z840 Workstation
<b>Business Tablets PC</b>		
1	Tablet	HP Pro tablet 10 EE G1
2	Tablet	HP Pro slate 10 EE G1
3	Tablet	HP Pro Tablet 408 G1
4	Tablet	HP ElitePad 1000 G2 Healthcare Tablet
5	Tablet	HP Elite x2 1011 G1
6	Tablet	HP ElitePad 1000 G2 Rugged Tablet
7	Tablet	HP Pro Slate 12
8	Tablet	HP Pro Slate 8
9	Tablet	HP Pro Tablet 508 G1

1 Many PCs are offered in multiple configurations within the model family. PC models listed on this page and that are physically labeled with the (ENERGY STAR)<sup>®</sup> label meet the (ENERGY STAR) program requirements for computers (Version 6.1 effective September 10, 2014).

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Product Detail



EPEAT Registry

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Search by Country

Full Search

Company List

### HP ProBook 440 G2 Notebook PC (ENERGY STAR)

Product	HP ProBook 440 G2 Notebook PC (ENERGY STAR)
CAB	Green Electronics Council CAB
Country	United States
Product Type	Notebooks
Manufacturer	HP Inc.
URL	<a href="http://www.hp.com">http://www.hp.com</a>
Rating	
Registration Date	6/3/2014
Monitor Type	Flat Panel
Monitor Size	14
Product Status	<input checked="" type="checkbox"/> Active
Exceptions	Product is in conformance with EPEAT only when product is configured with an operating system (except FreeDOS and Linux) and high efficiency power supply certified to the ENERGY STAR specification.
Manufacturer Part #	
UPC	
EAN	
Consumer or Institutional	Not Indicated

Options:

- Power Supply
- Power Supply with Onboard Charger
- Equipped to ACEL
- Equipped to ENCEL with Onboard Charger

[Back](#)

Criteria Category Summary	Optional Points
4.1 Reduction/elimination of environmentally sensitive materials	8/8
4.2 Materials selection	0/3
4.3 Design for end of life	5/5
4.4 Product longevity/life cycle extension	2/2
4.5 Energy conservation	2/2
4.6 End of life management	1/1

4.7 Corporate performance

2/2

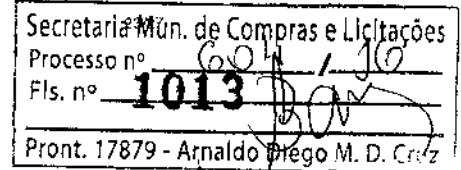
4.8 Packaging

3/4

Total Optional Points:

**This Product is also registered in:**

- Australia
- Canada
- China
- India
- Japan
- New Zealand
- Taiwan



About EPEAT

- Mission
- History
- Global Reach
- Advisory Council
- Environmental Benefits
- FAQs
- EPEAT as a PRE
- Market Surveillance Entity (MSE)
- Staff
- Careers

Partners

- Partners
- Manufacturers
- Purchasers
- PREs

Resources

- Criteria
- Training
- For Purchasers
- For Manufacturers
- Verification
- Clarifications and Interpretations
- Recycling

My Account

- Manage Account
- Login



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THE ECO




DECLARATION

Secretaria Mun. de Compras e Licitações  
 P.º Access. nº 004 / 10  
 P.º Is. nº 1014  
 Pront. 17879 - Arnaldo Diego M. D. Cruz

**Product environmental attributes – THE ECO DECLARATION**

The declaration may be published only when all rows and/or fields marked with an \* are filled-in (n.a. for not applicable).  
 Additional information regarding each item may be found under P14.


Brand *	Hewlett-Packard	
Company name *	Hewlett-Packard Company	
Contact information *	Hans Wendschlag <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/contactem ail.html">http://www.hp.com/hpinfo/globalcitizenship/environment/contactem ail.html</a>	
Internet site *	<a href="http://www.hp.com/hpinfo/globalcitizenship/environment/">http://www.hp.com/hpinfo/globalcitizenship/environment/</a>	
Additional information		

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.	
Type of product *	Notebook PC
Commercial name *	HP ProBook 440 G0 Notebook PC
Model number *	440 G0
Issue date *	5/9/2013
Intended market *	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other
Additional information	

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.


Quality Control		Requirement met	
		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see <a href="http://www.itecodeclaration.org">www.itecodeclaration.org</a> ).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

CÓPIA DE DOCUMENTO ASSINADO DIGITALMENTE POR: GABRIEL MARCHI DA SILVA. Sistema e-TCESP. Para obter informações sobre assinatura e/ou ver o arquivo original arquivecesse <http://e-processo.tce.sp.gov.br> - link "Validar documento digital" e informe o código do documento: 2-R3KV-BNQH-6SQ3-46R7-33T5

Model number *	440 G0	Logo	
Issue date *	5/9/2013		

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
<b>P1</b>	<b>Hazardous substances and preparations</b>			
P1.1*	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbon tetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.4*	Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.5*	Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.6*	Textile and leather parts with direct skin contact do not contain Tri-(2,3,-dibromopropyl)-phosphate (TRIS), Tris-(aziridinyl)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.7*	Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.8*	Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm <sup>2</sup> /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/reachdesktop-pcs.html">http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/reachdesktop-pcs.html</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2</b>	<b>Batteries</b>			
P2.1*	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.2*	Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.3*	Batteries and accumulators are easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3</b>	<b>Safety, EMC connection to the telephone network and labeling</b>			
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.3*	If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4</b>	<b>Consumable materials</b>			
P4.1*	If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.3*	If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/packaging is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P5</b>	<b>Product packaging</b>			
P5.1*	Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Note B1. Restriction applies to the homogeneous material, unless otherwise specified and expressed in weight %

Model number *	440 G0	
Issue date *	5/9/2013	Logo 

Product environmental attributes - Market requirements - Environmental conscious design		Requirement met		
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.
<b>P6</b>	<b>Treatment information</b>			
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7</b>	<b>Design</b>			
	<b>Disassembly, recycling</b>			
P7.1*	Parts that have to be treated separately are easily separable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.2*	Plastic materials in covers/housing have no surface coating.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Product lifetime</b>			
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.8*	Upgrading can be done using commonly available tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.9.	Spare parts are available after end of production for: <b>5</b> years			<input type="checkbox"/>
P7.10	Service is available after end of production for: _____ years			<input checked="" type="checkbox"/>
	<b>Material and substance requirements</b>			
P7.11*	Product cover/housing material type: Material type: <b>&gt;PC-(GF25)FR40&lt;</b> Material type: <b>&gt;PC+ABS-FR(40)&lt;</b> Material type:			
P7.12	Electrical cable insulation materials of power cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.13	Electrical cable insulation materials of signal cables are PVC free	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See Note B2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.16	Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking: <b>&gt;PC+ABS-FR(40)&lt;</b> ; <b>&gt;PC-(GF25)FR40&lt;</b> ;	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.17	Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components): TBBPA (additive) <input type="checkbox"/> , TBBPA (reactive) <input type="checkbox"/> , Other; chemical name: _____, CAS #: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alt. 2 Chemical specifications of flame retardants in printed circuit boards (without components) >25g according ISO 1043-4: <b>FR(40)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.18	Alt. 1 Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%: <b>Comment: No legal limits exist, this is a market requirement.</b> 1. Chemical name: _____, CAS #: _____ 2. Chemical name: _____, CAS #: _____ 3. Chemical name: _____, CAS #: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4: <b>&gt;PC+ABS-FR(40)&lt;</b> ; <b>&gt;PC-(GF25)FR40&lt;</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.19	Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45, R40, R46, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.20	Of total plastic parts' weight >25g, recycled material content is <b>0.0</b> %.			
P7.21	Of total plastic parts' weight >25g, biobased material content is <b>0</b> %.			
P7.22	Light sources are free from mercury If mercury is used specify: Number of lamps: _____ and max. mercury content per lamp: _____ mg.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8</b>	<b>Batteries</b>			
P8.1*	Battery chemical composition: <b>lithium/manganese dioxide</b>			<input type="checkbox"/>
P8.2	Batteries meet the requirements of the following voluntary program/s:			<input checked="" type="checkbox"/>

Note B2: IEC61249-2-21 has maximum limits for chlorine and bromine but does not address fluorine, iodine and astatine which are included in the group of halogens.

Note B3: Starting from January 2009, Risk phrases can be replaced by Hazard phrases according to the Globally Harmonized System (GHS), mandatory by December 2010


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Model number *	440 G0	Logo	
Issue date *	5/9/2013		

Product environmental attributes - Market requirements (continued)					Requirement met			
Item					Yes	No	n.a.	
<b>P9</b>	<b>Energy consumption</b>							
9.1	For the product the following power levels or energy consumptions are reported:							
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference / Standard for energy modes and test method *				
ENERGY STAR® On Mode * (System Idle)	6.372 W	6.828 W	6.924 W	ENERGY STAR® Program Requirements for Computers: Ver. 5.2	<input type="checkbox"/>			
ENERGY STAR® Low Power Sleep Mode * (S3 - Windows "Standby") With Wake On LAN (WOL) Enabled	0.804 W	0.732 W	0.852 W	ENERGY STAR® Program Requirements for Computers: Ver. 5.2	<input type="checkbox"/>			
ENERGY STAR® System Off/Apparent Off Mode* (ACPI S5) With Wake On LAN(WOL) Enabled (Test Unit connected to AC Mains, AC adapter connected to notebook)	0.432 W	0.456 W	0.432 W	ENERGY STAR® Program Requirements for Computers: Ver. 5.2	<input type="checkbox"/>			
ETEC * Annual Energy Consumption (calculated value) for each input voltage	19.72 kWh/year	20.98 kWh/year	21.21 kWh/year	ENERGY STAR® Program Requirements for Computers: Ver. 5.2	<input type="checkbox"/>			
Display resolution* :	Megapixels						<input checked="" type="checkbox"/>	
Print Speed* :	Images per minute						<input checked="" type="checkbox"/>	
Default time to enter energy save mode:	minutes			ENERGY STAR® Program Requirements for Computers: Ver. 5.2	<input type="checkbox"/>			
P9.2*	Information about the energy save function is provided with the product.				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P9.3*	The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: 5.2 Tier: Product category: Notebook PC				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Others specify:				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>P10</b>	<b>Emissions</b>							
<b>Noise emission – Declared according to ISO 9296</b>								
P10.1	Mode	Mode description	Declared A-weighted sound power level $L_{WA,d}$ (B)	Declared A-weighted sound pressure level $L_{pA,m}$ (dB)				
				Operator position <input checked="" type="checkbox"/>	Bystander positions <input type="checkbox"/>			
				Desktop <input type="checkbox"/>	(only if product is not operator attended)			
				or Desk side <input type="checkbox"/>				
	Idle	* Fans on, HDD spinning (if applicable)	* 3.6	32			<input type="checkbox"/>	
	Operation	* Fans on, HDD spinning	* 4.5	41			<input type="checkbox"/>	
	Other mode							
	Measured according to: <input checked="" type="checkbox"/> ISO7779 <input checked="" type="checkbox"/> ECMA-74							
	<input type="checkbox"/> Other (only if not covered by ECMA-74 with $L_{pA,m}$ measurement distance m)							
P10.2	The product meets the acoustic noise requirements of the following voluntary program/s:						<input type="checkbox"/>	<input checked="" type="checkbox"/>

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Model number *	440 G0	Logo	
Issue date *	5/9/2013		

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
<b>Chemical emissions from printing products</b>				
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P10.4	Typical emission rate (print phase) is (mg/h): Dust      Ozone      Styrene      Benzene      TVOC			<input checked="" type="checkbox"/>
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Electromagnetic emissions</b>				
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11 Consumable materials for printing products</b>				
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.3*	2-sided (duplex) printing/copying is an integrated product function.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P12 Ergonomics for computing products</b>				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>P13 Packaging and documentation</b>				
P13.1*	Product packaging material type(s): <i>PAPER/Cardboard &amp; misc</i> weight (kg): 0.325 Product packaging material type(s): <i>PLASTIC/Polyethylene low density</i> weight (kg): 0.015 Product packaging material type(s): <i>PAPER/Corrugated</i> weight (kg): 0.051 Product packaging material type(s): <i>PLASTIC/EPE-Expanded Polyethylene</i> weight (kg): 0.068 Product packaging material type(s): <i>PLASTIC/PET</i> weight (kg): 0.02 Product packaging material type(s): <i>OTHER/OTHER</i> weight (kg): 0.02			
P13.2*	Product plastic packaging is free from PVC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P13.3*	Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input type="checkbox"/> , Other <input type="checkbox"/>			<input type="checkbox"/>
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: 0%			<input type="checkbox"/>
Rev. P13.5	User and product documentation do not contain chlorine bleached paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P14 Additional information (See Note B4)</b>				
All sections	1. Product environmental information contained in this declaration is valid as of the date the declaration is published. Changes to external standards referenced in the IT Eco-Declaration may invalidate some information contained in this declaration over time.			
P9	1. Many PCs are offered in multiple configurations within the model family. Energy efficiency data listed in this declaration is for an ENERGY STAR® compliant configuration 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. For more information about HP's ENERGY STAR® qualified products, go to <a href="http://www.hp.com/">http://www.hp.com/</a> and select the applicable market segments and product categories to find PC configurations that meet the ENERGY STAR® specifications.  2. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured model.  3. Energy Efficiency information published on the ECMA 370 The Eco Declaration represents a typically configured product base model meeting ENERGY STAR® specifications if offered within the model family. If optional components or modules are added, like extra hard disks or graphic cards etc, these can change the energy efficiency data listed above.  4. Power consumption in the Off / Apparent Off mode is measured and reported with the network interface controller (NIC) WOL disabled.			
P10	1. Acoustic noise information published on the ECMA 370 The Eco Declaration represents a typically configured product base model only. If optional items with moving parts are added, like extra hard disks or graphic cards with fans etc, these can change acoustic noise values for which HP can take no responsibility.			

Note B4: Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key

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 Fls. nº **1019**  
 Pront. 17879 - Arnaldo Sérgio M. D. Cruz

**Legal references Europe Annex B**

Reference	Declaration Item
2002/95/EC (ROHS Directive)	P1.1, P4.1
REACH, Annex XVII	P1.6, P1.8, P4.2
REACH, Annex XVII	P1.4
REACH, Annex XVII	P1.2
REACH, Annex XVII	P1.7
REACH, Annex XVII	P1.9
Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000	P1.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
2006/66/EC (Battery and accumulators Directive)	P2.1, P2.2, P2.3, P3.4, P8.1
2006/95/EC (Low Voltage Directive)	P3.1, 3.4
2004/108/EEC (New EMC Directive)	P3.2, 3.4
1999/5/EC (R&TTE Directive)	P3.3, 3.4
"REACH" Regulation (1907/2006), annex VII	P1.10
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P4.3
REACH article 31, annex II	P4.3
2004/12/EC (Directive on packaging and packaging waste)	P5.1
(97/129/EC) (Commission Decision on Identification System for Packaging Materials	P5.2
2037/2000/EC Regulation on Substances that Deplete the Ozone Layer	P5.3
2002/96/EC (WEEE directive)	P3.4, P6.1
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P7.19

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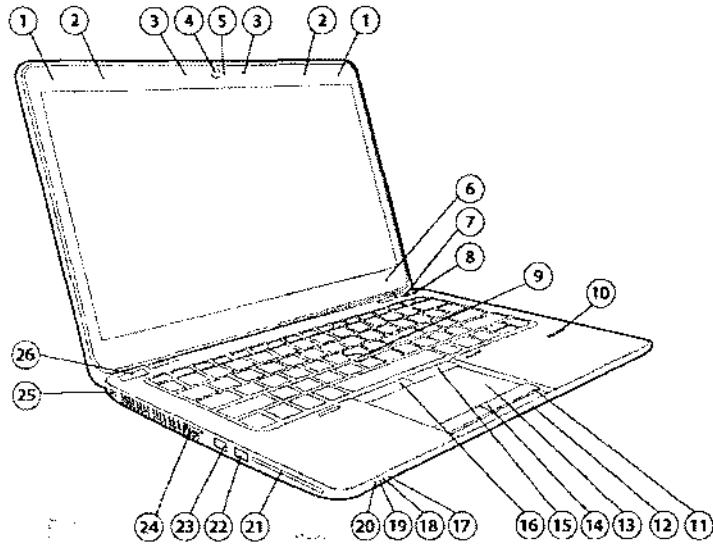
LOTE I – ITEM 4  
CATALOGO E CERTIFICADOS

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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

## Overview HP EliteBook 840 G2 Notebook PC



Front/Left

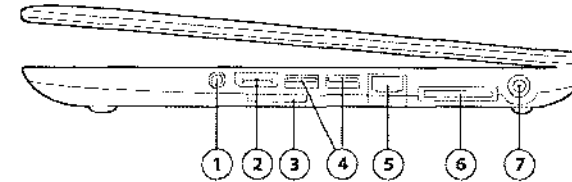
- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 1. WLAN antennas (2)                 | 14. Left TouchPad button        |
| 2. WWAN antennas (2)                 | 15. Right pointing stick button |
| 3. Internal microphones (2)          | 16. Left pointing stick button  |
| 4. Webcam (select models only)       | 17. Hard drive light            |
| 5. Webcam light (select models only) | 18. AC adapter/Battery light    |
| 6. Internal display switch           | 19. Power light                 |
| 7. Wireless button                   | 20. Wireless light              |
| 8. Volume mute button                | 21. Smart card reader           |
| 9. Pointstick                        | 22. USB 3.0 port                |
| 10. Fingerprint reader (optional)    | 23. USB 3.0 charging port       |
| 11. Right TouchPad button            | 24. External VGA monitor port   |
| 12. NFC sensor (optional)            | 25. Security cable slot         |
| 13. TouchPad zone                    | 26. Power button                |

32



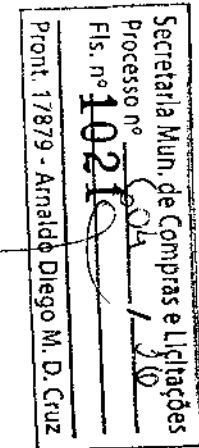
# QuickSpecs

HP EliteBook 840 G2 Notebook PC



Right

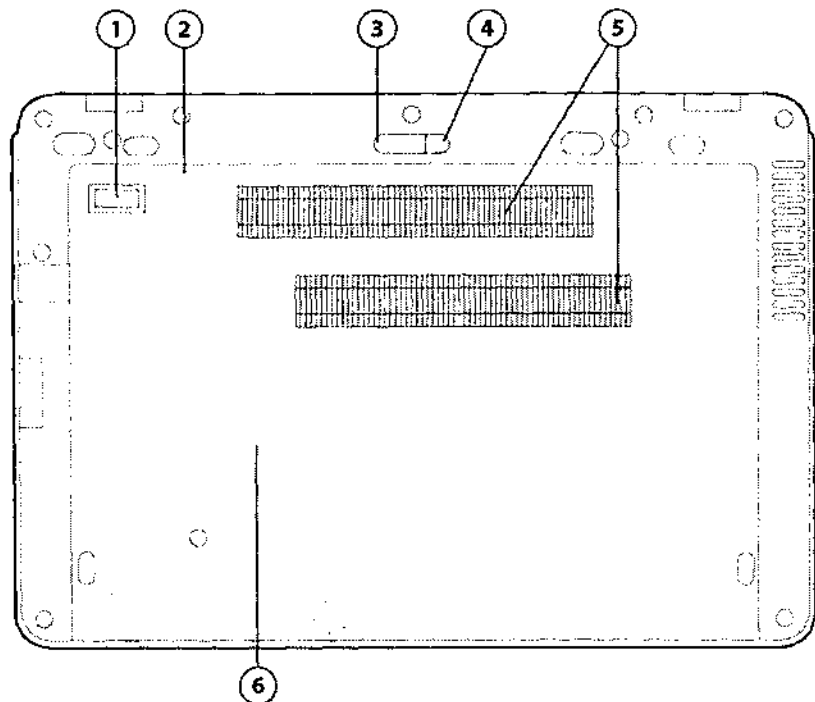
- |   |                                   |
|---|-----------------------------------|
| 1. Audio-out (headphone) jack/Audio-in(microphone) jack | 5. Drop-jaw Ethernet port (RJ-45) |
| 2. DisplayPort  | 6. Docking port                   |
| 3. Memory card reader                                   | 7. Power connector                |
| 4. USB 3.0 ports (2)                                    |                                   |



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# QuickSpecs

HP EliteBook 840 G2 Notebook PC



- 1. Accessory battery connector
- 2. EasyAccess panel
- 3. EasyAccess panel release latch
- \* Supports full-size ZFF (mini-SIM card)

- 4. Security screw
- 5. Vents (2)
- 6. SIM slot\*



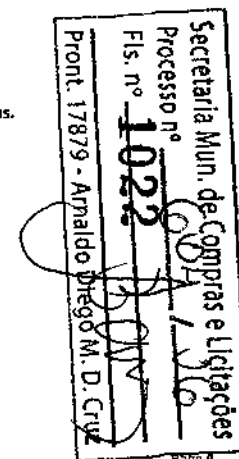
# QuickSpecs

HP EliteBook 840 G2 Notebook PC

## AT A GLANCE

- Windows 10 versions, Windows 8.1 versions, Windows 7 versions, Ubuntu Linux or FreeDOS 2.0
- Magnesium and aluminum chassis, HP DuraFinish, HP DisplaySafe frame, HP duraKeys, precision aluminum drop hinge, aluminum palm rest
- 4-step Soft-touch paint process
- Patent-pending Drop-jaw Ethernet port
- EasyAccess door to quickly access most components for easy serviceability
- Full-sized spill-resistant keyboard; optional back-lit keyboard keeps you productive in low-light settings
- Choice of 5<sup>th</sup> Generation Intel® Core™ i7 and i5 processors
- Memory options up to 16 GB
- Weight starting at 3.48 lbs/1.58 kg
- Storage options up to 1 TB Hard Drives, 512 GB Solid State Drives, or 256GB PCIe Solid State Drive
- M.2 32GB Flash Cache for Intel Smart Response Technology installed in the factory
- M.2 120GB Solid State Drive & 256GB PCIe Solid State Drive can be configured as primary storage or combined with a SATA drive for dual storage performance
- Integrated Intel® HD Graphics 5500 or AMD Radeon™ R7 M260X discrete graphics with 1 GB dedicated GDDR5 video memory
- Choice of Touch or Non Touch 14" diagonal displays
- Easily hot dock with the 2013 UltraSlim Docking Station
- DisplayPort for high resolution support
- Touchpad with scroll zone, on/off button with LED indicator
- Enhanced security features including HP Sure Start self-healing BIOS, HP Client Security and optional HP Fingerprint Reader
- Optional HD webcam with dual-microphone array for video conferencing
- HD Audio with DTS Studio Sound™ optimized for high fidelity audio
- Wireless and speaker mute buttons
- Supports a broad range of wireless LAN and wireless WAN options, including 4G LTE, for connectivity on the go.
- UEFI BIOS Compliant with 2.3.1 UEFI Specification

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



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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

## PRODUCT NAME

HP EliteBook 840 G2 Notebook PC

## OPERATING SYSTEM

### Preinstalled

Windows 10 Professional 64\*  
Windows 10 Home 64\*  
Windows 8.1 Pro 64\*  
Windows 8.1 64\*  
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)\*\*  
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)\*\*  
Windows 7 Professional 64 (available through downgrade rights from Windows 8.1 Pro)\*\*  
Windows 7 Professional 32 (available through downgrade rights from Windows 8.1 Pro)\*\*  
Windows 7 Professional 64\*  
Windows 7 Professional 32\*  
Ubuntu Linux  
FreeDOS 2.0

### Web-only Support

Windows 10 Professional 64\*  
Windows 10 Home 64\*  
Windows 8.1 Pro 64\*  
Windows 8.1 64\*  
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)\*\*  
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)\*\*  
Windows 7 Professional 64 (available through downgrade rights from Windows 8.1 Pro)\*\*  
Windows 7 Professional 32 (available through downgrade rights from Windows 8.1 Pro)\*\*  
Windows 7 Professional 64\*  
Windows 7 Professional 32\*  
Windows 10 Enterprise 64\*  
Windows 8.1 Enterprise 64\*  
Windows 8 Pro 64\*  
Windows 8 64\*  
Windows 7 Enterprise 64\*  
Windows 7 Enterprise 32\*

\* 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>

\*\* This system is preinstalled with Windows 7 Professional 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.

\*\*\* This system is preinstalled with Windows 7 Professional software and also comes with a license and media for Windows 10 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.



# QuickSpecs

HP EliteBook 840 G2 Notebook PC

## PROCESSOR

5<sup>th</sup> Generation Intel® Core™ i5-5200U 2.2 GHz (max turbo frequency 2.7-GHz), 3 MB L3 cache, 15W  
5<sup>th</sup> Generation Intel® Core™ i5-5300U 2.3 GHz (max turbo frequency 2.9-GHz), 3 MB L3 Cache, 15W  
5<sup>th</sup> Generation Intel® Core™ i7-5500U 2.4 GHz (max turbo frequency 3.0-GHz), 4 MB L3 Cache, 15W  
5<sup>th</sup> Generation Intel® Core™ i7-5600U 2.6 GHz (max turbo frequency 3.2-GHz), 4 MB L3 Cache, 15W

\* Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

\*\* Not available with Intel iAMT (\*\*Not available with vPro)

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

## INTEL TURBO BOOST TECHNOLOGY\*

Intel Turbo Boost is a feature that speeds up the CPU for a short time. It is similar to overclocking the processor, except within a framework provided by Intel. This feature provides additional performance and allows the computer to perform certain tasks more quickly. It also draws additional power and generates additional heat. Therefore, if Turbo Boost is used while powered from battery, it causes additional stress on the battery.

Using Turbo Boost while powered from battery might impact battery cycle life. Cycle life describes how long the battery will last before it needs to be replaced. A cycle refers to one complete charge/discharge cycle of the battery. Because Turbo Boost causes extra stress on the battery, it often shortens the lifetime of the battery.

HP decided not to enable Turbo Boost when powered from battery. This decision was based on the desire to give customers the greatest battery cycle life possible. Turbo Boost is enabled when powered from AC adapter.

Based on customer requests, HP will provide an option to enable Turbo Boost while powered from battery. For the 2013 platform, it will be an F10 option. Turbo Boost will be available for devices powered from battery by the end of the year. The additional performance might cause a slight reduction in battery cycle life, but will not void the battery warranty.

\* Implementing Turbo Boost in F10 option is only allowed for batteries over 40Whr. Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See [www.intel.com/technology/turboboost](http://www.intel.com/technology/turboboost) for more information.

## CHIPSET

Chipset integrated with processor

## INTEL CORE I5 WITH vPRO/CORE I7 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 9.0 (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.



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D. Cruz  
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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

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

**NOTE:** Some functionality of this technology, such as Intel® Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro technology is dependent on 3rd party software providers. Microsoft Windows required.

## GRAPHICS

### Integrated:

Intel® HD\* Graphics 5500

### Discrete

AMD Radeon™ R7 M260X, with 1 GB dedicated DDR5 video memory\*\*

\*HD content required to view HD images.

\*\*AMD Dynamic Switchable Graphics technology requires an Intel processor, plus an AMD Radeon™ discrete graphics configuration and is not available on FreeDOS and Linux OS. With AMD Dynamic Switchable Graphics 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).

## DISPLAY

### Internal

#### Non Touch

14.0" diagonal LED-backlit HD anti-glare SVA flat (1366x768)

14.0" diagonal LED-backlit HD anti-glare SVA flat (1366x768) with camera

14.0" diagonal LED-backlit HD+ anti-glare SVA flat (1600x900)

14.0" diagonal LED-backlit HD+ anti-glare SVA flat (1600x900) with camera

14.0" diagonal LED-backlit FHD anti-glare UWA slim (1920x1080)

14.0" diagonal LED-backlit FHD anti-glare UWA slim (1920x1080) with camera

### Touch

14.0" diagonal LED-backlit FHD UWA slim (1920x1080) with camera

Touch panel has chemically-strengthened Corning® Gorilla® Glass 3 top cover

### External

Up to 32-bit per pixel color depth

### VGA

Port supports resolutions up to 1920 x 1200 external resolution@75 Hz

### DisplayPort

Supports resolutions up to 3840 x 2160 @ 60Hz. Supports Multi-Stream Transport (MST) where three displays can be daisy chained with digital displays through DisplayPort Only. The full resolution of each display will be limited as you reach 3 displays due to the bandwidth limitations with a maximum resolution of:

- 2560x1600@60Hz for 2 displays
- 1920x1200@60Hz for 3 displays



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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

### Number of Displays supported

3 With Optional\* UltraSlim Docking Station

\*Sold separately.

## STORAGE AND DRIVES

### Primary Storage Bay -

#### Hard Drives\*

320 GB 7200rpm SATA Hard Drive

500 GB 7200rpm SATA Hard Drive

500 GB 7200rpm Self-Encrypting Drive

500 GB 5400 rpm Self-Encrypting Drive (FIPS-140-2)

1TB 5400rpm SATA Hard Drive

500 GB 5400rpm + 8GB NAND SATA Hybrid Hard Drive

#### Solid State Drive\*

120 GB M.2 Solid State Drive

128 GB SATA-3 MLC Solid State Drive

128 GB SATA-3 TLC Solid State Drive

180 GB SATA-3 MLC Solid State Drive

180 GB SATA-3 MLC Self-Encrypting Drive

240 GB SATA-3 MLC Solid State Drive

256 GB SATA-3 TLC Solid State Drive

256 GB SATA-3 MLC Self-Encrypting Drive

256 GB M.2 PCIe Solid State Drive

512 GB SATA-3 MLC Solid State Drive

512 GB SATA-3 TLC Solid State Drive

### HP 3D DriveGuard (Windows only)

HP 3D DriveGuard mitigates the risk of hard drive failures, safeguarding your data when you are on the go by sensing sudden movement and protecting the hard drive. The hard drive is mounted directly to the notebook frame, reducing the transmission of shock to the hard drive.

\*For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 16 GB (for Windows 7) and up to 30 GB (for Windows 8 and 10) of system disk is reserved for the system recovery software.

## FLASH CACHE

32 GB M.2 (NGFF)

Optional 32 GB M.2 flash cache module support for Intel Smart Response Technology.

Available only with standard non-SED hard drive and non-solid state drives.

## MEMORY

### Standard

DDR3L-1600 (Transfer rates up to 1600 MT/s)

Two SODIMM slots supporting dual-channel memory

4 GB Total System Memory (4 GB x 1)

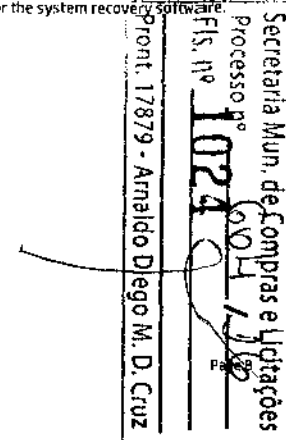
8 GB Total System Memory (4 GB x 2) (Not available with Windows 7 Professional 32)

8 GB Total System Memory (8 GB x 1) (Not available with Windows 7 Professional 32)



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## QuickSpecs

HP EliteBook 840 G2 Notebook PC

16 GB Total System Memory (8 GB x 2) (Not available with Windows 7 Professional 32)

### Maximum

Upgradeable to 16 GB with optional 8 GB SODIMMs in slots 1 and 2\*

### Dual-channel

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

\* Maximum memory capacities assume Windows 64-bit operating systems or Linux. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.

**NOTE:** Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

## NETWORKING/COMMUNICATIONS

### Wireless

Support for a broad range of secure, integrated wireless LAN and wireless WAN options featuring support for the latest industry standards. Broadband Wireless (WWAN) requires a Windows operating system and is available in select countries as a standard, factory configurable feature only. Integrated Bluetooth is also available (factory configurable only) and can be combined with any of the supported wireless LAN and wireless WAN options.

### Broadband Wireless (WWAN)\*

HP t4112 LTE/HSPA+ Qualcomm® Gobi™ 4G Module

HP t4211 LTE/EV-DO/HSPA+ Qualcomm® Gobi™ 4G Module\*\*

HP h3110 HSPA+ Mobile Broadband Module

\* WWAN is an optional feature sold separately or as an add on feature. WWAN 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 WWAN is an optional feature, not available on all products, in all regions and requires separately purchased service contract. Check with service provider for coverage and availability. Connection speeds will vary due to location, environment, network conditions, and other factors.

### Wireless LAN (WLAN)\*

Intel® Dual Band Wireless-AC 7265 802.11 ac (2X2) Wi-Fi + Bluetooth®

Intel® Dual Band Wireless-7265AN 802.11 a/b/g/n (2X2) Wi-Fi + Bluetooth®

Intel® Dual Band Wireless-AC 3160 802.11 ac (1x1) Wi-Fi + Bluetooth®

\*Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.

### Communications

Intel® I218LM Gigabit\* Network Connection (10/100/1000 NIC)

\*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.

Optional Near Field Communication (NFC)

## AUDIO/MULTIMEDIA



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## QuickSpecs

HP EliteBook 840 G2 Notebook PC

### Audio

HD Audio with DTS Studio Sound™

2 Integrated stereo speakers

Integrated dual-microphone array; located in the display

Function keys for microphone mute, volume up, volume down

Stereo headphone/line out

Stereo microphone/line in

### Webcam

Optional\* 720p HD\*\* webcam

- HD format (widescreen)
- Supports videoconferencing (non-HD) 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
- Skype-ready\*\*\*

\* Sold separately.

\*\* HD content required to view HD images.

\*\*\*Internet access required.

## 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 includes an all-metal keyboard deck for greater rigidity, as well as HP DuraKeys. 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. Backlit keyboard available as an option.

### Pointing Devices

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

### Buttons and Function Keys

Separate discrete buttons provide easy access to WLAN on/off and speaker mute. Function keys provide control of features including: standby mode, display brightness, external display, microphone mute, volume down, and volume up.

## SOFTWARE AND SECURITY

### Preinstalled Software with Windows Operating System

#### BIOS

HP BIOSphere<sup>1</sup>

HP Sure Start

HP DriveLock | HP Automatic Drive Lock

HP BIOS Protection<sup>2</sup>

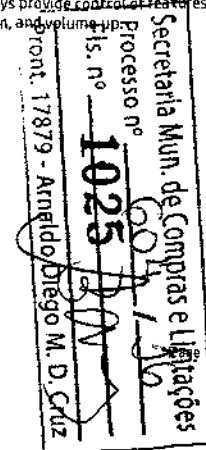
HP Disk Sanitizer<sup>3</sup>

HP SpareKey<sup>4</sup>

BIOS Update via Network



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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

Master Boot Record Security  
Power On Authentication  
Pre-Boot Security  
Secure Erase<sup>5</sup>  
Hybrid Boot  
Measured Boot  
Secure Boot  
Absolute Persistence Module<sup>6</sup>

1. Available only on business PCs with HP BIOS.
2. May require a manual recovery step if all copies of BIOS are compromised or deleted.
3. For the use cases outlined in the DOD 5220.22-M Supplement. Does not support solid state drives..
4. Requires initial user set up.
5. For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.
6. 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 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.

### MultiMedia

CyberLink Power2Go  
CyberLink YouCam BE

### Communication

HP Connection Manager with support for HP Mobile Connect (Windows 7 only)<sup>2</sup>  
HP GPS and Location<sup>1</sup>  
HP Mobile Connect (Windows 8 only)<sup>2</sup>  
HP Wireless Hotspot<sup>3</sup> (Windows 8 only)  
Intel WiDi Software<sup>4</sup>  
HP Roaming Alert  
Intel My WiFi and Wireless Drivers

### HP Value Add Software

Getting Started with Windows 8  
HP 3D DriveGuard (Windows required)  
HP ePrint Driver (HP Exclusive)<sup>5</sup>  
HP Hotkey Support  
HP PageLift  
HP Recovery Manager (Windows 7 only)  
HP Support Assistant  
HP Recovery Disc Creator (Windows 7 only)  
UEFI System Diagnostics W8

### 3<sup>rd</sup> Party

Adobe® Flash Player (Commercial)  
Foxit PhantomPDF Express for HP  
Bing Search  
Skype<sup>6</sup>



# QuickSpecs

HP EliteBook 840 G2 Notebook PC

### Buy Office

**NOTE:** HP Recovery Manager enables fast recovery of the factory preinstalled image if the system becomes corrupted or if important system files are accidentally deleted. Up to 16 GB (for Windows 7) and 36 GB (for Windows 8) of system disk is reserved for the system recovery software.

1. GPS access requires an unobstructed path to multiple satellites. Performance may be affected if/when used inside of buildings, bridges or heavily congested metropolitan areas. Requires separately purchased GPS navigation software available from multiple GPS applications.
2. HP Mobile Connect is only available on selective devices with wwan. For geographical availability refer to [www.hp.com/go/mobileconnect](http://www.hp.com/go/mobileconnect)
3. The wireless hotspot application requires an active internet connection that is shared with the connecting devices. Wireless hotspot data usage may incur additional charges. Check with your service provider for plan details.
4. Integrated Intel Wi-Di feature is available on select configurations only and requires separately purchased projector, tv or computer monitor with an integrated or external Wi-Di receiver. External Wi-Di receivers connect to the projector, tv or computer monitor via a standard HDMI cable, also sold separately.
5. Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see [www.hp.com/go/businessmobileprinting](http://www.hp.com/go/businessmobileprinting)..
6. Skype is not offered in China.

### Manageability

HP Driver Packs \*  
HP SoftPaq Download Manager (SDM)  
HP System Software Manager (SSM)\*  
HP BIOS Config Utility (BCU) \*  
HP Client Catalog / HP CIK for Microsoft SCCM \*  
LANDESK Management \*

\* Not preinstalled  
For more information on HP Client Management Solutions refer to: <http://www.hp.com/go/clientmanagement>.

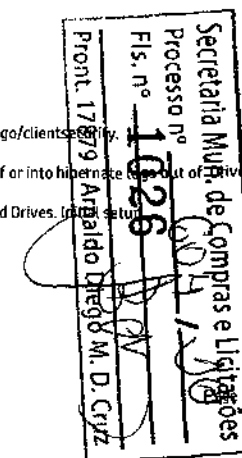
### Standard Security Features

HP Client Security Manager (Windows only)  
HP Device Access Manager  
HP Drive Encryption<sup>1</sup>  
HP File Sanitizer<sup>2</sup>  
Microsoft Security Essentials (Windows 7 only)<sup>3</sup>  
TPM Embedded Security Chip 1.2  
Security lock slot  
Fingerprint Reader  
Integrated Smart Card Reader  
For more information on HP Client Security Software Suite, refer to <http://www.hp.com/go/clientsecurity>.

1. Requires Windows. Data is protected prior to Drive Encryption login. Turning the PC off or into hibernate does not turn off Drive Encryption and prevents data access.
2. For the use cases outlined in the DOD 5220.22-M Supplement. Supports standard Hard Drives. Intel Setpoint required.
3. Opt in and internet connection required for updates.

### POWER

#### Power Supply



## QuickSpecs

HP EliteBook 840 G2 Notebook PC

HP 45W Smart AC Adapter  
45W 2-prong 7.4mm DC jack AC Adapter (Only for Japan)  
HP 65W Smart AC Adapter  
HP 65W Smart EM AC Adapter (China and India only)

Power cord is configurable; either 3.2 feet or 6 feet (1.0 or 1.8 meter)  
Total length including external AC adapter is 9.2 feet or 12 feet (2.86 or 3.66 meter).

**Primary Battery**  
3-cell HP Long Life Polymer/Prismatic 50 WHr

**Secondary Battery**  
6-cell HP Long Life Polymer 60 WHr  
3-cell HP Long Life Polymer 24 WHr

### Battery Life\*

Hardware details	Battery	With UMA Graphics	With Discrete Graphics
HDD	3-cell (50Whr)	Up to 12 hrs 15 mins	Up to 12 hrs 45 mins
SSD	3-cell (24Whr)	Up to 7 hrs 45 mins	Up to 7 hrs 15 mins
SSD	3-cell (50Whr)	Up to 16 hrs	Up to 15 hrs 15 mins
SSD	3-cell (50Whr) + Slice (60Whr)	Up to 35 hrs 30 mins	Up to 35 hrs 15 mins

\*Windows 7 MM07 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.hp.com](http://www.hp.com) for additional details.

### System Standby Time\*\*

UMA Graphics – 180 hrs.  
Discrete Graphics – 171 hrs.

### Power Conservation

Supports enhanced Intel SpeedStep technology (allows Battery Optimized Mode, Maximum Performance Mode, or Automatic mode)  
AMD PowerPlay technology (discrete models)  
Hibernation  
Standby  
ACPI compliance

## WEIGHTS & DIMENSIONS

**Weight**  
**Non Touch**  
Starting at 3.40 lbs/1.55 kg  
Weight will vary by configuration.

**Touch**  
Starting at 3.76 lbs/1.71 kg



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## QuickSpecs

HP EliteBook 840 G2 Notebook PC

Weight will vary by configuration.

**Dimensions (w x d x h)**  
**Non Touch**  
13.35 x 9.33 x 0.83 in  
33.9 x 23.7 x 2.10 cm (at front)  
**Touch**  
13.35 x 9.33 x 0.89 in  
33.9 x 23.7 x 2.26 cm (at front)

## PORTS/SLOTS

**Ports**  
(1) DisplayPort 1.2  
(1) USB 3.0 Charging Port  
(3) USB 3.0 Port  
(1) RJ-45 / Ethernet  
(1) Side Docking connector  
(1) Secondary battery connector  
(1) Headphone/Microphone Combo  
(1) AC Port  
**Expansion Slots**  
Media Card Reader  
Supports SD, SDHC, SDXC

## SERVICE AND SUPPORT

HP Services offers 3-year, 1-year and 90 day 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 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>.

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

\*HP Care Packs are sold separately. Service levels and response times for HP Care Services may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. Consult the HP Customer Support Center for details. <http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp>

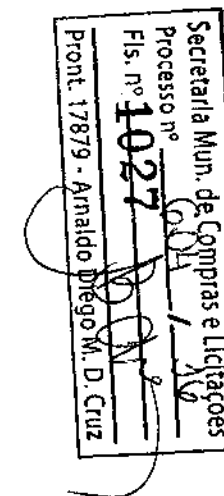
## SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	19.5 V	Windows 7 (64-bit)	Windows 8 (64-bit)
	Average Operating Power		4.75 W	4.26 W
	Integrated graphics			
	Max Operating Power		Discrete < 90W UMA < 65W	



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

<b>Temperature</b>	<b>Operating</b>	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
	<b>Non-operating</b>	-4° to 140° F (-20° to 60° C)
<b>Relative Humidity</b>	<b>Operating</b>	10% to 90%, non-condensing
	<b>Non-operating</b>	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
<b>Shock</b>	<b>Operating</b>	40 G, 2 ms, half-sine
	<b>Non-operating</b>	200 G, 2 ms, half-sine
<b>Random Vibration</b>	<b>Operating</b>	0.75 grms
	<b>Non-operating</b>	1.50 grms
<b>Altitude (unpressurized)</b>	<b>Operating</b>	-50 to 10,000 ft (-15.24 to 3,048 m)
	<b>Non-operating</b>	-50 to 40,000 ft (-15.24 to 12,192 m)
<b>Planned Industry Standard Certifications</b>	<b>UL</b>	Yes
	<b>CSA</b>	Yes
	<b>FCC Compliance</b>	Yes
	<b>ENERGY STAR®</b>	Select models*
	<b>EPEAT®</b>	Registered Gold in United States**
	<b>ICES</b>	Yes
	<b>Australia / NZ A-Tick Compliance</b>	Yes
	<b>CCC</b>	Yes
	<b>Japan VCCI Compliance</b>	Yes
	<b>KC</b>	Yes
	<b>BSMI</b>	Yes
	<b>CE Marking Compliance</b>	Yes
	<b>BNCI or BELUS</b>	Yes
	<b>CIT</b>	Yes
	<b>GDST</b>	Yes
<b>Saudi Arabian Compliance (ICCP)</b>	Yes	
<b>SABS</b>	Yes	
<b>UKRSERT/COMPUTER</b>	Yes	

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

### DISPLAYS

#### Non-Touch

<b>14" diagonal LED-backlit HD anti-glare SVA flat (1366 x 768)</b>	<b>Outline Dimensions (W x H x D)</b>	12.6 x 8.09 x 0.14 in (32.09 x 20.56 x 0.36 cm)
	<b>Active Area</b>	12.18 x 6.85 in (30.94 x 17.395 cm)
	<b>Weight</b>	0.71 lb (320g) (max)
	<b>Diagonal Size</b>	14.0 in (35.6cm)



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

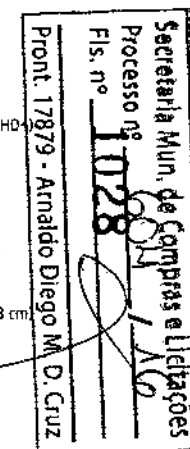
<b>Contrast Ratio</b>	300:1 (min)	
<b>Refresh Rate</b>	60 Hz	
<b>Brightness</b>	200 nit (typical)	
<b>Pixel Resolution</b>	<b>Format</b>	1366 x 768 (HD)
	<b>Configuration</b>	RGB Stripe
<b>Interface</b>	eDP 1.2 (1 lane)	
<b>LCD Mode</b>	TN	
<b>PPI</b>	125 ppi	
<b>Viewing Angle</b>	SVA 40/40/15/30 (Left/Right/Down/Up)	

<b>14" diagonal LED-backlit HD+ anti-glare SVA flat (1600 x 900)</b>	<b>Outline Dimensions (W x H x D)</b>	12.6 x 8.09 x 0.14 in (32.09 x 20.56 x 0.36 cm)
	<b>Active Area</b>	12.19 x 6.86 in (30.96 x 17.415 cm)
	<b>Weight</b>	0.72 lb (325 g) (max)
	<b>Diagonal Size</b>	14.0 in (35.6cm)

<b>Contrast Ratio</b>	300:1 (min)	
<b>Refresh Rate</b>	60 Hz	
<b>Brightness</b>	250 nit (typical)	
<b>Pixel Resolution</b>	<b>Format</b>	1600 x 900 (HD+)
	<b>Configuration</b>	RGB Stripe
<b>Interface</b>	eDP 1.2 (1 lane)	
<b>LCD Mode</b>	TN	
<b>PPI</b>	131 ppi	
<b>Viewing Angle</b>	SVA 40/40/15/30 (Left/Right/Down/Up)	

<b>14" diagonal LED-backlit FHD anti-glare UWVA slim (1920 x 1080)</b>	<b>Outline Dimensions (W x H x D)</b>	12.6 x 8.09 x 0.12 in (32.09 x 20.56 x 0.3 cm)
	<b>Active Area</b>	12.18 x 6.85 in (30.93 x 17.4 cm)
	<b>Weight</b>	0.75 lb (340 g) (max)
	<b>Diagonal Size</b>	14.0 in (35.6cm)

<b>Contrast Ratio</b>	600:1 (min)	
<b>Refresh Rate</b>	60 Hz	
<b>Brightness</b>	300 nit (typical)	
<b>Pixel Resolution</b>	<b>Format</b>	1920 x 1080 (FHD)
	<b>Configuration</b>	RGB Stripe



# QuickSpecs

HP EliteBook 840 G2 Notebook PC

<b>Interface</b>	eDP 1.3+PSR (2 lane)
<b>LCD Mode</b>	IPS/FFS/VA
<b>PPI</b>	157 ppi
<b>Viewing Angle</b>	UWVA 85/85/85/85 (Left/Right/Down/Up)

## Touch

<b>14" diagonal LED-backlit FHD anti-glare UWVA slim (1920 x 1080)+touch</b>	<b>Outline Dimensions (W x H x D)</b>	12.6 x 8.09 x 0.12 in (32.09 x 20.56 x 0.3 cm)
	<b>Active Area</b>	12.18 x 6.85 in (30.93 x 17.4 cm)
	<b>Weight</b>	0.75 lb (340 g) (max)
	<b>Diagonal Size</b>	14.0 in (35.6cm)
	<b>Touch enabled</b>	Yes
	<b>TSP Type</b>	Capacitive
	<b>Touch point supported</b>	Min 5-point & Max 10-point for Win8
	<b>Contrast Ratio</b>	600:1 (min)
	<b>Refresh Rate</b>	60 Hz
	<b>Brightness</b>	300 nit (typical)
	<b>Pixel Resolution</b>	<b>Format</b> 1920 x 1080 (FHD) <b>Configuration</b> RGB Stripe
	<b>Interface</b>	eDP 1.3+PSR (2 lane)
	<b>LCD Mode</b>	IPS/FFS/VA
	<b>PPI</b>	157 ppi
	<b>Viewing Angle</b>	UWVA 85/85/85/85 (Left/Right/Down/Up)

## STORAGE AND DRIVES

<b>500 GB* 7200 rpm SATA Hard Drive</b>	<b>Drive Weight</b>	0.20lbs(92g)- 0.21 lbs (95g)
	<b>Capacity</b>	500 GB
	<b>Height</b>	0.28 in (7 mm)
	<b>Width</b>	2.75 in (69.85 mm)



# QuickSpecs

HP EliteBook 840 G2 Notebook PC

<b>Interface</b>	ATA-8, SATA 3.0
<b>Transfer Rate</b>	<b>Synchronous (maximum)</b> 600 MB/s (Drive Capability)
<b>Seek Time</b>	<b>Single Track</b> 1.5 ms-2ms
(typical reads, including settling)	<b>Average</b> 12 ms-13ms
	<b>Maximum</b> 18ms-22 ms
<b>Rotational Speed</b>	7200 rpm
<b>Logical Blocks</b>	976,773,168
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]
<b>Features</b>	ATA Security; S.M.A.R.T. IV, NCQ, Ultra DMA

## 500 GB\* 5400 rpm FIPS 140-2 OPAL 2 SATA HDD

<b>Drive Weight</b>	0.21 lbs (95g)
<b>Capacity</b>	500 GB
<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>Transfer Rate</b>	<b>Synchronous (maximum)</b> 300 MB/s (Drive Capability)
<b>Seek Time</b>	<b>Single Track</b> 2 ms
(typical reads, including settling)	<b>Average</b> 13 ms
	<b>Maximum</b> 18 ms
<b>Cache</b>	32 MB
<b>Rotational Speed</b>	7200 rpm
<b>Logical Blocks</b>	976,773,168
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]
<b>Features</b>	ATA Security; TCG OPAL v2.00, FIPS 140-2

## 1 TB\* 7200 rpm SATA Hard Drive

<b>Drive Weight</b>	0.25 lb (115 g)
<b>Capacity</b>	1 TB
<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>Transfer Rate</b>	<b>Synchronous (maximum)</b> 600 MB/s (Drive Capability)
<b>Seek Time</b>	<b>Single Track</b> 2 ms
(typical reads, including settling)	<b>Average</b> 13 ms
	<b>Maximum</b> 15 ms
<b>Rotational Speed</b>	7200 rpm



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

<b>Logical Blocks</b>	1,953,525,168
<b>Operating Temperature</b>	32° to 140° F (0° to 60° C) [case temp]
<b>Features</b>	ATA Security; S.M.A.R.T. IV, NCQ, Ultra DMA
<b>500 GB 5400rpm + 8GB Drive Weight</b>	95g
<b>NAND SATA Hybrid Capacity</b>	500GB
<b>Hard Drive</b>	
<b>Height</b>	7mm
<b>Width</b>	70.1mm
<b>Interface</b>	ATA-8, SATA 3.0
<b>Transfer Rate</b>	600MB/s
<b>Seek Time</b>	5.6ms (Average Latency)
<b>Rotational Speed</b>	5400rpm
<b>Logical Blocks</b>	976,733,168
<b>Operating Temperature</b>	0-60 degree C
<b>Features</b>	ATA Security, S.M.A.R.T., NCQ, Ultra DMA

<b>SATA 3 (6 Gb/s) 32 GB*, M.2 2242 Solid State Drive</b>	<b>Drive Weight</b>	10 Grams
	<b>Capacity</b>	32 GB
	<b>Height</b>	0.09 in (3.7 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Performance</b>	<b>Maximum Sequential Read</b> <b>Maximum Sequential Write</b>
		Up to 380 MB/s      Up to 110 MB/s
	<b>Logical Blocks</b>	62,533,296
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP

<b>120 GB SATA 3 (6 Gb/s) M.2 2242 Solid State Drive</b>	<b>Drive Weight</b>	10 Grams
	<b>Capacity</b>	120 GB
	<b>Height</b>	0.09 in (3.7 mm)
	<b>Width</b>	0.87 in (22 mm)
	<b>Interface</b>	ATA-8, SATA 3.0
	<b>Performance</b>	<b>Maximum Sequential Read</b> <b>Maximum Sequential Write</b>
		Up to 540 MB/s      Up to 480 MB/s
	<b>Logical Blocks</b>	234,441,648



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	
<b>128 SATA 3 (6 Gb/s) 2.5-inch TLC Solid State Drive</b>	<b>Drive Weight</b>	78 Grams
	<b>Capacity</b>	128 GB
	<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>Performance</b>	<b>Maximum Sequential Read</b> <b>Maximum Sequential Write</b>
		Up to 520 MB/s      Up to 140 MB/s
	<b>Logical Blocks</b>	250,069,680
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP

<b>180 GB SATA 3 (6 Gb/s) 2.5-inch MLC SATA Solid State Drive</b>	<b>Drive Weight</b>	78 Grams
	<b>Capacity</b>	180 GB
	<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>Performance</b>	<b>Maximum Sequential Read</b> <b>Maximum Sequential Write</b>
		Up to 540 MB/s      Up to 490 MB/s
	<b>Logical Blocks</b>	351,651,888
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP

<b>180 GB SATA 3 (6 Gb/s) 2.5 MLC SED OPAL 2 Solid State Drive</b>	<b>Drive Weight</b>	Up to 78 Grams
	<b>Capacity</b>	180 GB
	<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>Performance</b>	<b>Maximum Sequential Read</b> <b>Maximum Sequential Write</b>
		Up to 540 MB/s      Up to 490 MB/s



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## QuickSpecs

### HP EliteBook 840 G2 Notebook PC

	<b>Logical Blocks</b>	351,651,888	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP; TCG Opal 1x	
<b>240 GB SATA 3 (6 Gb/s) 2.5 MLC SSD</b>	<b>Drive Weight</b>	78 Grams	
	<b>Capacity</b>	240 GB	
	<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>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 540 MB/s	Up to 490 MB/s
	<b>Logical Blocks</b>	468,862,128	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	
<b>256 GB SATA 3 (6 Gb/s) 2.5 MLC SED OPAL 2 Solid State Drive</b>	<b>Drive Weight</b>	78 Grams	
	<b>Capacity</b>	256 GB	
	<b>Height</b>	0.28 in (7 mm)	
	<b>Width</b>	2.75 in (69.85 mm)	
	<b>Interface</b>	ATA8, SATA 3.0	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 520 MB/s	Up to 280 MB/s
	<b>Logical Blocks</b>	500,118,192	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; TCG Opal 2.x; DIPM; TRIM; DEVSLP	
<b>256 GB SATA 3 (6 Gb/s) 2.5 TLC Solid State Drive</b>	<b>Drive Weight</b>	78 Grams	
	<b>Capacity</b>	256 GB	
	<b>Height</b>	0.28 in (7 mm)	
	<b>Width</b>	2.75 in (69.85 mm)	
	<b>Interface</b>	ATA8, SATA 3.0	
	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 550 MB/s	Up to 500 MB/s
	<b>Logical Blocks</b>	500,118,192	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	
	<b>Drive Weight</b>	10 Grams	



## QuickSpecs

### HP EliteBook 840 G2 Notebook PC

	<b>Capacity</b>	256 GB	
	<b>Height</b>	0.24 in (60 mm)	
	<b>Width</b>	0.87 in (22 mm)	
	<b>Interface</b>	ATA-8, PCIe 2.0	
<b>256 GB 2260 M2 PCIe Solid State Drive</b>	<b>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 730 MB/s	620 MB/s
	<b>Logical Blocks</b>	500,118,192	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	
<b>512 GB SATA 3 (6 Gb/s) 2.5 MLC Solid State Drive</b>	<b>Drive Weight</b>	78 Grams	
	<b>Capacity</b>	512 GB	
	<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>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 550 MB/s	Up to 550 MB/s
	<b>Logical Blocks</b>	1,000,215,216	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	
<b>SATA 3 Gb/s 512 GB*, 2.5- inch Solid State Drive</b>	<b>Drive Weight</b>	78 Grams	
	<b>Capacity</b>	512 GB	
	<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>Performance</b>	<b>Maximum Sequential Read</b>	<b>Maximum Sequential Write</b>
		Up to 550 MB/s	Up to 550 MB/s
	<b>Logical Blocks</b>	1,000,215,216	
	<b>Operating Temperature</b>	32° to 158°F (0° to 70°C) [ambient temp]	
	<b>Features</b>	ATA Security; DIPM; TRIM; DEVSLP	

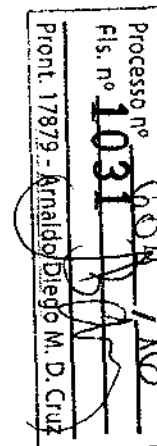
#### NETWORKING/COMMUNICATIONS

##### Broadband Wireless (WWAN)

HP It4112 LTE/HSPA+ Gobi 4G Module\*\*

##### Technology/Operating bands

LTE FDD all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 2600 MHz (Band VII), 900 MHz (Band VIII), 800 MHz (Band XX, DD800)  
WCDMA/HSDPA/HSUPA/HSPA+ all bands with diversity: 2100 MHz (Band I), 1900 MHz (Band II), 800 MHz (Band V), 900 MHz (Band VIII)



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

	GSM/GPRS/EDGE: 1900 MHz (Band II), 1800 MHz (Band III), 850 MHz (Band V), 900 MHz (Band VIII)
<b>Wireless protocol standards</b>	3GPP Release 8 LTE Specification WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification
<b>Wireless parametric standards</b>	Complies with 3GPP specifications Release 8 for LTE
<b>Maximum data rates</b>	LTE (Category 3): 100 Mbps (Download), 50Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
<b>GPS</b>	Standalone
<b>GPS bands</b>	1575.42 MHz (± 1.023 MHz), GLONASS 1596-1607MHz
<b>Maximum output power</b>	LTE: +23 dBm (+/- 2 dBm) WCDMA: +23.5 dBm (+/- 1 dBm) GPRS Band II, III: +29.5 dBm (+/- 1 dBm) GPRS Band V, VIII: +32.5 dBm (+/- 1 dBm) EGPRS Band II, III: +26.5 dBm (+/- 1.5 dBm) EGPRS Band V, VIII: +27.5 dBm (+/- 1.5 dBm)
<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); <900 mA (average) WCDMA: 1,100 mA (peak); <800 mA (average) EGPRS: 2,800 mA (peak); <700 mA (average)
<b>Power consumption, sleep mode</b>	3 mA
<b>Power management</b>	USB selective suspend, Integrated notebook wireless button
<b>Antenna type</b>	Dual high efficiency multi-band antennae with spatial diversity
<b>Form Factor</b>	M.2, USB 2.0 interface
<b>Weight</b>	6 g
<b>Dimensions (Length x Width x Thickness)</b>	42 mm x 30 mm x 2.3 mm
<b>Voltage, Operating</b>	3.135 V to 4.4 V (3.3 V +1.1V)±0.165V
<b>Temperature, operating (from TIA/EIA/IS-98-D)</b>	14° to 131° F (-10° to 55° C)
<b>Temperature, non-operating, 96 hours (from MIL-STD 202 Method 108)</b>	-40° to 185° F (-40° to 85° C)
<b>Humidity, non-operating</b>	95% relative humidity for 48 hours @ 185° F (85° C) (non-condensing)
<b>LED activity</b>	LED Off - Radio Off; Solid LED On - Radio On

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



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

### HP It4211 LTE/EV-DO/HSPA+ Gobi 4G Module

#### Technology/Operating bands

LTE: 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 700 (Band 13 upper 5MHz), 700 (Band 17 lower 5MHz), 1900 MHz (Band 25, extended PCS) MHz  
HSPA+: 2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 900 (Band 8) MHz  
E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz  
EV-DO: 800 (800), 1900 (BC1) MHz

#### Wireless protocol standards

3GPP Release 8 LTE Specification  
WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification  
E-GPRS: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9  
EVDO Release 0 and Release A

#### GPS

Standalone, A-GPS

#### GPS bands

1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz

#### Maximum data rates

LTE: 100 Mbps (Download), 50 Mbps (Upload)  
DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload)  
HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload)  
EDGE: 236.8 kbps (Download), 236.8 kbps (Upload)  
GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)  
CDMA 1x: DL 153.6 kbps/UL 153.6 kbps  
EVDO Rev.A: DL 3.1 Mbps/UL 1.8 Mbps

#### Maximum output power

LTE: 23 dBm  
HSPA+: 23.5 dBm  
E-GPRS 1900/1800: 26.5 dBm  
E-GPRS 900/850: 27.5 dBm  
GPRS 1900/1800: 29.5 dBm  
GPRS 900/850: 32.5 dBm  
CDMA/EVDO: 24dBm

#### Maximum power consumption

LTE: 1,200 mA (peak); 900 mA (average)  
HSPA+: 1,100 mA (peak); 800 mA (average)  
E-GPRS: 2,800 mA (peak); 700 mA (average)  
EVDO: 1000mA (peak); 720mA (average)

#### Form Factor

M.2, 3042-53 Key B

#### Weight

6 g

#### Dimensions (Length x Width x Thickness)

1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)

### HP hs3110 HSPA+ Mobile Broadband Module

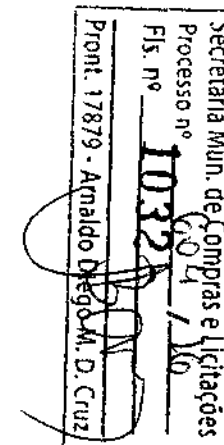
#### Technology/Operating bands

HSPA+: 2100 (Band 1), 1900 (Band 2), 850 (Band 5), 700 (Band 17) MHz  
E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz

#### Wireless protocol standards

WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification  
E-GPRS: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9  
Standalone, A-GPS

#### GPS



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# QuickSpecs

HP EliteBook 840 G2 Notebook PC

<b>GPS bands</b>	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
<b>Maximum data rates</b>	DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps (Download), 85.6 kbps (Upload)
<b>Maximum output power</b>	HSPA+: 23.5 dBm E-GPRS 1900/1800: 26.5 dBm E-GPRS 900/850: 27.5 dBm GPRS 1900/1800: 29.5 dBm GPRS 900/850: 32.5 dBm
<b>Maximum power consumption</b>	HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,800 mA (peak); 700 mA (average)
<b>Form Factor</b>	M.2, 3042-53 Key B
<b>Weight</b>	5g
<b>Dimensions (Length x Width x Thickness)</b>	1.65 x 1.18 x 0.09 in (42 x 30 x 2.3 mm)

## Wireless LAN

Intel® 802.11 a/b/g/n ac (2X2) + Bluetooth®

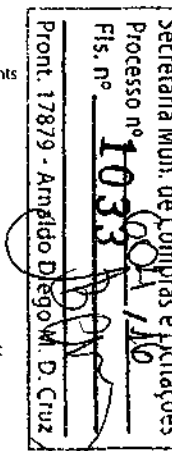
<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac Wi-Fi certified
<b>Interoperability</b>	802.11b/g/n
<b>Frequency Band</b>	<ul style="list-style-type: none"> <li>2.402 – 2.482 GHz</li> </ul> <p>Note: The FCC has declared as of January 1, 2015 products that 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>
<b>Data Rates</b>	802.11b: 1, 2, 5.5, 11 Mbps
	802.11a <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>



# QuickSpecs

HP EliteBook 840 G2 Notebook PC

<b>Modulation</b>	Direct Sequence Spread Spectrum
<b>Security<sup>1</sup></b>	BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM <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</b>	Ad-hoc (Peer to Peer)
<b>Models</b>	Infrastructure (Access Point Required)
<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
<b>Output Power<sup>2</sup></b>	802.11b: +16dBm minimum 802.11g: +14dBm minimum 802.11a: +14dBm minimum 802.11n HT20(2.4GHz): +13dBm minimum 802.11n HT40(2.4GHz): +13dBm minimum 802.11n HT20(5GHz): +12dBm minimum 802.11n HT40(5GHz): +12dBm minimum 802.11ac 80MHz(5GHz): +11dBm minimum
<b>Power Consumption</b>	Transmit: 2.0 W (max) 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
<b>Receiver Sensitivity<sup>3</sup></b>	802.11 compliant power saving mode 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 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



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications

**Form Factor**  
**Dimensions** PCI-Express M.2 MiniCard  
 Type 2230: 2.3 x 22.0 x 30.0 mm  
 Or  
 Type 1630: 2.3 x 16.0 x 30.0 mm

**Weight**  
 Type 2230: 2.8g  
 Or  
 Type 1630: 2g

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

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

**Altitude**  
 Operating 0 to 10,000 ft (3,048 m)  
 Non-operating 0 to 50,000 ft (15,240 m)

**LED Activity**  
 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.
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).

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

**Bluetooth Specification** 4.0+EDR Compliant

**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 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric

**Transmit Power** The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of +4 dBm for BR and EDR.

**Receiver Sensitivity**

Modulation	0.01% BER	0.001% BER
GFSK	-80 dBm	-70 dBm
m/4-DQPSK	-80 dBm	-70 dBm
8DPSK	-80 dBm	-70 dBm

**Power Consumption**  
 Peak (Tx) 330 mW  
 Peak (Rx) 230 mW  
 Selective Suspend 17 mW

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

**Electrical Interface** USB 2.0 compliant

**Bluetooth Software Supported** Microsoft Windows Bluetooth Software

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

**Bluetooth Software Supported** Full support of Bluetooth Security Provisions

**Security** Microsoft Windows ACPI, and USB Bus Support

**Power Management** Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

**Security** All necessary regulatory approvals for supported countries, including:  
 FCC (47 CFR) Part 15C, Section 15.247 & 15.249

**Certifications**

**Bluetooth Profiles Supported**

**Power Management** ETS 300 328, ETS 300 826  
 Low Voltage Directive IEC950  
 UL, CSA, and CE Mark

**Certifications**

**Bluetooth Profiles Supported**

SerialPort Profile (SPP)<sup>1</sup>  
 Service Discovery Application Profile (SDAP)  
 Dial-Up Networking (DUN)<sup>1,2</sup>  
 Generic Object Exchange Profile (GOEP)<sup>1,2</sup>  
 Object Push Profile (OPP)<sup>1,2</sup>  
 File Transfer Profile (FTP)  
 Synchronization Profile (SYNC)  
 Hard Copy Cable Replacement (HCRP)<sup>1,2</sup>  
 Personal Area Networking Profile (PAN)<sup>1,2</sup>  
 Human Interface Device Profile (HID)<sup>1,2</sup>  
 FAX Profile (FAX)  
 Basic Imaging Profile (BIP)<sup>2</sup>  
 Headset Profile (HSP)  
 Hands Free Profile (HFP)  
 Advanced Audio Distribution Profile (A2DP)

### Intel® 802.11 a/b/g/n (2x2) + Bluetooth®

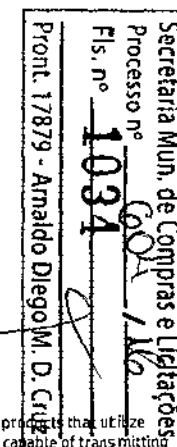
**Wireless LAN Standards** IEEE 802.11a  
 IEEE 802.11b  
 IEEE 802.11g  
 IEEE 802.11n

**Interoperability** Wi-Fi certified

**Frequency Band** 802.11b/g/n  
 • 2.402 – 2.482 GHz  
 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.

802.11a  
 • 4.9 – 4.95 GHz (Japan)  
 • 5.15 – 5.25 GHz  
 • 5.25 – 5.35 GHz  
 • 5.47 – 5.725 GHz  
 • 5.825 – 5.850 GHz  
 Note:  
 Indonesia only supports 5.725 – 5.825 GHz (CH149 – CH161)

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





# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

### Security

#### Power Management

#### Power Management

#### Certifications

### Security

#### Certifications

#### Bluetooth Profiles Supported

#### Power Management

#### Certifications

Microsoft Windows ACPI, and USB Bus Support

Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff

All necessary regulatory approvals for supported countries, including: FCC (47 CFR) Part 15C, Section 15.247 & 15.249

ETS 300 328, ETS 300 825

Low Voltage Directive IEC950

UL, CSA, and CE Mark

Serial Port Profile (SPP)<sup>1</sup>

Service Discovery Application Profile (SDAP)

Dial-Up Networking (DUN)<sup>1,2</sup>

Generic Object Exchange Profile (GOEP)<sup>1,4</sup>

Object Push Profile (OPP)<sup>1,4</sup>

File Transfer Profile (FTP)

Synchronization Profile (SYNC)

Hard Copy Cable Replacement (HCRP)<sup>1,2</sup>

Personal Area Networking Profile (PAN)<sup>1,2</sup>

Human Interface Device Profile (HID)<sup>1,2</sup>

FAX Profile (FAX)

Basic Imaging Profile (BIP)<sup>2</sup>

Headset Profile (HSP)

Hands Free Profile (HFP)

Advanced Audio Distribution Profile (A2DP)

Intel® 802.11 ac (2x2) WiFi +  
Bluetooth® 4.0 combo  
(Indonesia only)

#### Wireless LAN Standards

IEEE 802.11a

IEEE 802.11b

IEEE 802.11g

IEEE 802.11n

IEEE 802.11ac

#### Interoperability Frequency Band

Wi-Fi certified

802.11b/g/n

- 2.402 – 2.482 GHz

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.

802.11a

- 4.9 – 4.95 GHz (Japan)

- 5.15 – 5.25 GHz

- 5.25 – 5.35 GHz



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

- 5.47 – 5.725 GHz

- 5.825 – 5.850 GHz

Note:

Indonesia only supports 5.725 – 5.825 GHz (CH149 - CH161)

#### Data Rates

802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: MCS 0 – MCS 15, (20MHz, and 40MHz)

802.11ac: MCS 0 – MCS 9, (15S, and 25S) (20MHz, 40MHz, and 80MHz)

#### Modulation

Direct Sequence Spread Spectrum

BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM

#### Security 1

- IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only

- AES-CCMP: 128 bit in hardware

- 802.1x authentication

- WPA, WPA2: 802.1x, WPA-PSK, WPA2-PSK, TKIP, and AES.

- WPA2 certification

- IEEE 802.11i

- Cisco Certified Extensions, all versions through CCK4 and CCK Lite

- WAPI

#### Network Architecture

Ad hoc (Peer to Peer)

#### Models

Infrastructure (Access Point Required)

#### Roaming

IEEE 802.11 compliant roaming between access points

#### Output Power<sup>2</sup>

802.11b: +16dBm minimum

802.11g: +14dBm minimum

802.11a: +14dBm minimum

802.11n HT20(2.4GHz): +13dBm minimum

802.11n HT40(2.4GHz): +13dBm minimum

802.11n HT20(5GHz): +12dBm minimum

802.11n HT40(5GHz): +12dBm minimum

802.11ac 80MHz(5GHz): +11dBm minimum

#### Power Consumption

Transmit: 2.0 W (max)

Receive: 1.5 W (max)

Idle mode (PSP): 180 mW (WLAN Associated)

Idle mode: 60 mW (WLAN Unassociated)

Radio disabled: 30 mW

#### Power Management

ACPI and PCI Express compliant power management

802.11 compliant power saving mode

802.11b, 1Mbps: -94dBm maximum

802.11b, 11Mbps: -86dBm maximum

802.11g, 6Mbps: -88dBm maximum

802.11g, 54Mbps: -74dBm maximum

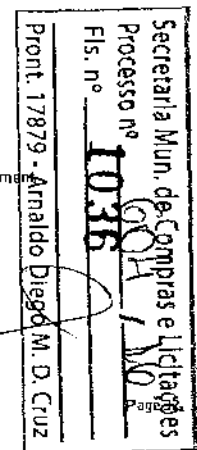
802.11a, 6Mbps: -86dBm maximum

802.11a, 54Mbps: -72dBm maximum

802.11n, MCS07: -69dBm maximum

802.11n, MCS15: -66dBm maximum

#### Receiver Sensitivity<sup>3</sup>



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

	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
<b>Form Factor</b>	Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
<b>Dimensions</b>	PCI-Express M.2 MiniCard
	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>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – Radio ON
	4. Check latest software/driver release for updates on supported security features.
	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).

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

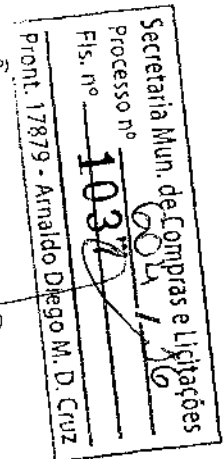
<b>Bluetooth Specification</b>	4.0+EDR Compliant												
<b>Frequency Band</b>	2402 to 2480 MHz												
<b>Number of Available Channels</b>	79 (1 MHz) available channels												
<b>Data Rates and Throughput</b>	3 Mbps data rate; throughput up to 2.17 Mbps Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric												
<b>Transmit Power</b>	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of +4 dBm for BR and EDR.												
<b>Receiver Sensitivity</b>	<table border="1"> <thead> <tr> <th>Modulation</th> <th>0.01% BER</th> <th>0.001% BER</th> </tr> </thead> <tbody> <tr> <td>GFSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td>mQPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td>BDPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> </tbody> </table>	Modulation	0.01% BER	0.001% BER	GFSK	-80 dBm	-70 dBm	mQPSK	-80 dBm	-70 dBm	BDPSK	-80 dBm	-70 dBm
Modulation	0.01% BER	0.001% BER											
GFSK	-80 dBm	-70 dBm											
mQPSK	-80 dBm	-70 dBm											
BDPSK	-80 dBm	-70 dBm											
<b>Power Consumption</b>	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW												
<b>Range</b>	Up to 33 ft (10 m)												
<b>Electrical Interface</b>	USB 2.0 compliant												
<b>Bluetooth Software Supported</b>	Microsoft Windows Bluetooth Software												
<b>Link Topology</b>													



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

<b>Electrical Interface</b>	Point to Point, Multipoint Pico Nets up to 7 slaves
<b>Bluetooth Software Supported</b>	Full support of Bluetooth Security Provisions
<b>Security</b>	
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support
<b>Certifications</b>	Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff
<b>Security</b>	All necessary regulatory approvals for supported countries, including:
<b>Certifications</b>	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
<b>Bluetooth Profiles Supported</b>	
<b>Power Management</b>	ETS 300 328, ETS 300 826
<b>Certifications</b>	Low Voltage Directive IEC950 UL, CSA, and CE Mark Serial Port Profile (SPP) <sup>1</sup> Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) <sup>1,2</sup> Generic Object Exchange Profile (GOEP) <sup>1,2</sup> Object Push Profile (OPP) <sup>1,2</sup> File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) <sup>1,2</sup> Personal Area Networking Profile (PAN) <sup>1,2</sup> Human Interface Device Profile (HID) <sup>1,2</sup> FAX Profile (FAX) Basic Imaging Profile (BIP) <sup>2</sup> Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)
<b>Certifications</b>	
<b>Bluetooth Profiles Supported</b>	



### Intel® Dual Band Wireless-AC 3160 802.11 ac (1x1) Wi-Fi • Bluetooth®

<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac Wi-Fi certified 802.11h/g/n
<b>Interoperability Frequency Band</b>	<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> <p>802.11a/n</p> <ul style="list-style-type: none"> <li>4.9 - 4.95 GHz (Japan)</li> <li>5.15 - 5.25 GHz</li> <li>5.25 - 5.35 GHz</li> <li>5.47 - 5.725 GHz</li> </ul>



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

	<ul style="list-style-type: none"> <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: MCS 0 – MCS 7, (15S) (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
<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> <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: 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: -59dBm maximum



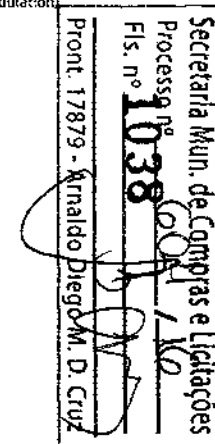
# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

	802.11n, MCS15: -66dBm maximum 802.11ac, 15S, MCS-0: -86dBm maximum 802.11ac, 15S, MCS-9: -61dBm maximum 802.11ac, 25S, MCS-0: -83dBm maximum 802.11ac, 25S, MCS-9: -58dBm maximum 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 PCI-Express M.2 MiniCard
<b>Antenna type</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>Form Factor Dimensions</b>	Type 2230: 2.8g Or Type 1630: 2g
<b>Weight</b>	3.3v +/- 9%
<b>Operating Voltage</b>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Temperature</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
<b>Humidity</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>Altitude</b>	LED Amber – Radio OFF; LED White – Radio ON
<b>LED Activity</b>	7. Check latest software/driver release for updates on supported security features. 8. Maximum output power may vary by country according to local regulations. 9. 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)

### AUDIO/MULTIMEDIA – DTS SOUND+

<b>Hardware</b>	<b>Implementation</b>	Realtek ALC3228 HD
	<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>	20 Hz – 20 kHz
	<b>Signal to Noise Ratio</b>	>85 dB
	<b>Total Harmonic Distortion</b>	0.01%
	<b>Noise Floor</b>	-110 dB
	<b>Play/Record Sampling Rate(s)</b>	8 kHz – 48kHz
	<b>DAC</b>	16, 20 or 24-bit
	<b>ADC</b>	16 or 20-bit



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

**Integrated Stereo Speakers**  
**Power Rating** 2 Watts  
**Impedance** 4 Ohms

### SECURITY

**HP Fingerprint Reader (optional)**  
**Mobile Voltage Operation** 3.0V-3.6V  
**Operating Temperature** 14° - 167°F (-10° - 75°C)  
**Current Consumption Image** 36 mA peak  
**Low Latency Wait for Finger** 950 µA  
**Capture Rate** 6000 lines/sec  
**ESD Resistance** IEC 61000-4-2 4B (±15KV)  
**Detection Matrix** 200\*1 (plus another secondary line)  
 508 dpi  
 12\*3 mm sensor area

**Smart Card Reader**  
**Smart card standard** PC/SC 2.0 for Windows smart card standard  
**Dimensions (L x W x H)** 0.41 x 0.08 x 0.32 in (10.5 x 2 x 8.2 mm)  
**Smart Card support** ISO 7816 Class A and AB smart cards  
**Smart Card Interface** Smart Card Interface with T = B and T = 1 support  
 Support I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436, SLE5536, SLE6636, A188SC1608, AT45D041 card and AT45DB041 card via external EEPROM  
**Operating systems** No driver is required for this device. Native support is provided by the operating system.  
**Power**  
**Normal Mode**  
 With card present, before being suspended: 40.9 mA  
 Without card present, before being suspended: 33.16 mA  
 After being suspended with smart card present: 380 µA  
 After being suspended without smart card present: 380 µA  
**Power Saving Mode**  
 With card present, before being suspended: 40.6 mA  
 Without card present: 380 µA  
 After being suspended with smart card present: 380 µA  
**Features**  

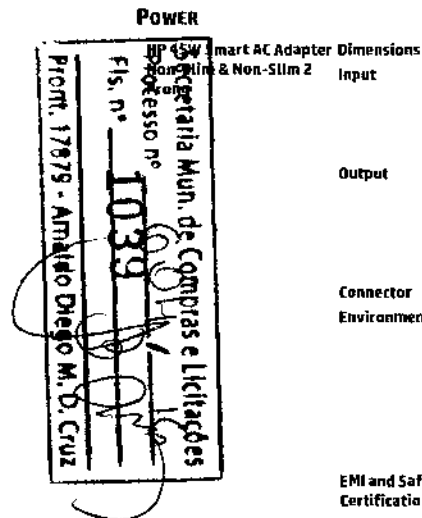
- Support single slot
- Support T0, T1 protocol
- Support I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436,
- SLE5536, SLE6636, AT88SC1608, AT45D041 card and AT45DB041 card via external EEPROM
- Support ISO7816 Class A, B and C (5V/3V/1.8V) card
- Implemented as an USB full speed device with bulk transfer endpoint, Mass



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

- Storage endpoint
- Built-in PLL for USB and Smart Card clocks requirement
- Support EEPROM for USB descriptors customization (PID/VID/iManufacturer/iProduct/Serial Number), Direct Web Page Link, and accessing memory card module.
- EEPROM programmable via USB interface
- Support software update for memory card module
- Support Direct Web Page Link via configuration in external EEPROM
- Support short APDU and extended APDU
- Compatible with Microsoft USB-CCID driver
- Support remote wake up through inserting card/removing card
- Support USB selective suspend
- Support Power Saving Mode (Using one pin to select between Normal/PWR Saving Mode)
- Support card power over current protection mechanism
- Built in resonator.
- Support USB LPM (Link Power Management) features.
- Embedded clock source.



**POWER**  
**Smart AC Adapter Dimensions** 95.0 x 40.0 x 26.5mm  
**Input** 90 to 265 VAC  
**Input Efficiency** 87% min at 115 VAC// 89% min at 230VAC  
**Input frequency range** 47 to 63 Hz  
**Input AC current** 1.4 A at 90 VAC and maximum load  
**Output power** 45W  
**DC output** 19.5V  
**Hold-up time** 5 msec at 115 VAC input  
**Output current limit** <8A, Over voltage protection- 29V max automatic shutdown  
**Connector** 3 pin/grounded, mates with interchangeable cords  
**Environmental Design**  
**Operating temperature** 32° to 95° F (0° to 35° C)  
**Non-operating (storage) temperature** -4° to 121° F (-20° to 85° C)  
**Altitude** 0 to 16,405 ft (0 to 5,000 m)  
**Humidity** 0% to 95%  
**Storage Humidity** 0% to 95%  
**EMI and Safety Certifications** CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class T, 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.



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## QuickSpecs

### HP EliteBook 840 G2 Notebook PC

<b>HP 65W Smart AC Adapter</b>	<b>Dimensions</b>	4.17 x 1.85 x 1.1 in (10.6 x 4.7 x 2.8 cm)
	<b>Weight</b>	0.62 lb (280 g)
	<b>Input</b>	100 to 240 VAC
	<b>Input Efficiency</b>	87% min at 115 VAC/230VAC
	<b>Input frequency range</b>	47 to 63 Hz
	<b>Input AC current</b>	1.7 A at 90 VAC, 0.85 A at 180 VAC
	<b>Output</b>	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

<b>HP 65W EM Smart AC Adapter</b>	<b>Dimensions</b>	4.98 x 1.97 x 1.18 in (12.65 x 5.0 x 3.0 cm)
	<b>Weight</b>	0.62 lb (300 g) max
	<b>Input</b>	90 to 265 VAC
	<b>Input Efficiency</b>	87% min at 115 VAC/230VAC
	<b>Input frequency range</b>	47 to 63 Hz
	<b>Input AC current</b>	1.7 A at 90 VAC
	<b>Output</b>	Output power 65W
		DC output 19.5V
		Hold-up time 5 msec at 115 VAC input
		Output current limit <11A, Over voltage protection- 29V max automatic shutdown

<b>Connector</b>	3 pin/grounded, mates with 4.5mm barrel type Smart ID DC connector
<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 16,405 ft (0 to 5,000 m)

<b>Humidity</b>	20% to 95%
<b>Storage Humidity</b>	10% to 95%

<b>EMI and Safety Certifications</b>	CE Mark - full compliance with LVD and EMC directives; Worldwide safety standards - IEC60950, EN60950, UL60950, Class 1, 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.
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<b>Dimensions (H x W x L)</b>	7.8 x 4.01 x 0.3 in (19.89x10.28x0.84 cm)
<b>Weight</b>	280 g



## QuickSpecs

### HP EliteBook 840 G2 Notebook PC

<b>3-cell HP Long Life (50Whr) Lithium-Ion Polymer</b>	<b>Cells/Type</b>	3-cell Lithium-Ion Polymer
	<b>Energy</b>	Voltage 11.1 Amp-hour capacity 4.504Ah Watt-hour capacity 50Wh
	<b>Temperature</b>	Operating (Charging) 32° to 113° F (0° to 45° C) Operating (Discharging) 14° to 140° F (-10° to 60° C) Non-operating -4° to 140° 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 or 3 years* *Battery warranty depends on the platform warranty.
	<b>Optional Travel Battery Available</b>	No

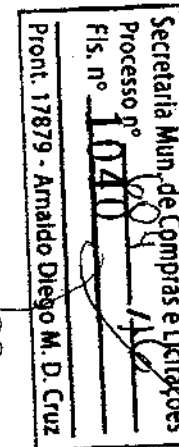
<b>6-cell HP Long Life (60Whr) Lithium-Ion Polymer</b>	<b>Dimensions (H x W x L)</b>	12.59 x 8.6 x 0.59 in (32 x 21.85 x 1.51 cm)
	<b>Weight</b>	603 g
	<b>Cells/Type</b>	3-cell Lithium-Ion Polymer
	<b>Energy</b>	Voltage 11.1 Amp-hour capacity 5.4Ah Watt-hour capacity 60 Wh
	<b>Temperature</b>	Operating (Charging) 32° to 113° F (0° to 45° C) Operating (Discharging) 14° to 140° F (-10° to 60° C) Non-operating -4° to 140° 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>	Yes
	<b>Warranty</b>	1 year or 3 years* *Battery warranty depends on the platform warranty.
	<b>Optional Travel Battery Available</b>	Yes

## ENVIRONMENTAL

### 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.



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# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

**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	
	Normal Operation (Short idle)	Normal Operation (Long idle)	Normal Operation (Short idle)	Normal Operation (Long idle)
Normal	8.59 W		8.92 W	
Normal	3.39 W		3.87 W	
Sleep	0.74 W		0.79 W	
Off	0.36 W		0.4 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	
	Normal Operation (Short idle)	Normal Operation (Long idle)	Normal Operation (Short idle)	Normal Operation (Long idle)
Normal	29 BTU/hr		31 BTU/hr	
Normal	12 BTU/hr		13 BTU/hr	
Sleep	3 BTU/hr		3 BTU/hr	
Off	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>WAP</sub> , bels)	Sound Pressure (L <sub>SPAT</sub> , decibels)



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

Typically Configured – Idle	2.9	21
Fixed Disk – Random writes	3.0	22
<b>Batteries</b>	This battery(s) in this product comply with EU Directive 2006/66/EC	

Batteries used in the product do not contain:  
Mercury greater than 1ppm by weight  
Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)  
Battery type: Lithium  
Battery size: 6-cell (high capacity Lithium-Ion battery (optional 8 cell available))  
Battery type:

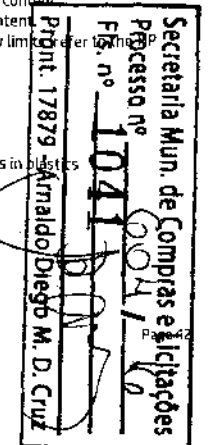
- Additional Information**
- This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.
  - This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive - 2002/96/EC.
  - This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1985).
  - 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 ISO10143.
  - This product contains 9.3 % post-consumer recycled plastic (by wt.)
  - This product is 97.3 % recycle-able when properly disposed of at end of life.

Packaging Materials	External:	PAPER/Corrugated	405 g
	Internal:	PLASTIC/EPE (Expanded Polyethylene)	45 g
PLASTIC/Polyethylene low density		26 g	

The PAPER/Corrugated packaging material is made from 70 % recycled content.  
The PLASTIC/EPE (Expanded Polyethylene) materials contains at least 50% recycled content.  
The PLASTIC/Polyethylene low density materials contains at least 50% recycled content.

**Material Usage** This product does not contain any of the following substances in excess of regulatory limits as defined in the General Specification for the Environment at <http://www.hp.com/hpinfo/global/citizenship/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
- Lead carbonates and sulfates



## QuickSpecs

HP EliteBook 840 G2 Notebook PC

- 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.



## QuickSpecs

HP EliteBook 840 G2 Notebook PC

### 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:

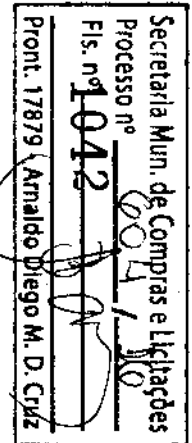
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and

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### COUNTRY OF ORIGIN

China



# QuickSpecs

## HP EliteBook 840 G2 Notebook PC

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

Type	Description	Part #
<b>Cases</b>	HP Slim Ultrabook Messenger (up to 15.6" x .88"/22/5mm)	F3W14AA
	HP Slim Ultrabook Top Load (up to 15.6" x .88"/22/5mm)	F3W15AA
<b>Docking</b>	HP 3001pr USB 3 Port Replicator	F3542AA
	HP 3005pr USB 3.0 Port Replicator	H1L08AA#xxx
	HP UltraSlim Docking Station	D9V32AA#xxx
	HP Universal Port Replicator	E6D70AA#xxx
	HP Display and Notebook Stand	AW662AA
<b>Input/Output – Mice</b>	HP Comfort Grip Wireless Mouse	H2L63AA
	HP X4000b Bluetooth Mouse	H3T50AA#xxx
	HP 3-Button USB Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H5F25AA#xxx
	HP Slim Bluetooth Mouse	F3J92AA#xxx
<b>Input/Output – Keyboards</b>	HP Stylish USB Keyboard and Mouse	H4B80AA#xxx
	HP Stylish Wireless Keyboard and Mouse	H4B79AA#xxx
	HP USB Essential Keyboard and Mouse	H6L29AA
	HP 2.4 GHz Keyboard and Mouse	G1K29AA#xxx
<b>Input/Output – Adapters</b>	HP Wireless Display Adapter	J1V25AA#xxx
	DisplayPort to VGA	F7W97AA
	USB Graphic adapter Dual output	C5U89AA
	DisplayPort to DVI Adapter	F7W96AA
	DisplayPort to HDMI Cable	F3W43AA
<b>Power</b>	HP 65W Slim AC Adapter	H6Y82AA#xxx
	HP 90W Slim AC Adapter	H6Y83AA#xxx
	HP 90W Slim Combo AC Adapter w/USB	H6Y84AA#xxx
	HP 45W Smart AC Adapter	H6Y88AA#xxx
	HP 65W Smart AC Adapter	H6Y89AA#xxx
	HP 90W Smart AC Adapter	H6Y90AA#xxx
	HP 90W Smart AC/Auto/Air Combo Adapter	AJG52AA#xxx
	HP 90W Smart Auto/Truck Adapter	ED493AA
<b>Batteries</b>	HP C006XL Notebook Battery (Slice)	E7U23AA
	HP C406XL Notebook Battery	E7U21AA
<b>Security</b>	HP Docking Station Cable Lock	AU656AA#XXX
	HP UltraSlim Keyed Cable Lock	H4D73AA
<b>Storage - External Storage</b>	HP USB External DVD RW Drive	F2B56AA
<b>Misc.</b>	HP 14" Notebook PC Privacy Filter	J6E65AA
<b>Displays</b>	HP EliteDisplay S231d 23-in IPS LED BLU Notebook Docking Monitor	F0W81AA
	HP EliteDisplay S240ml 23.8-in IPS LED Backlit MHL Monitor	F4M47AA
	HP EliteDisplay E241i 24-in IPS LED Backlit Monitor	F0W81AA

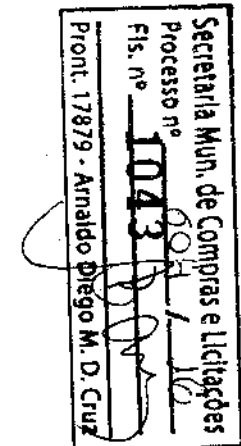
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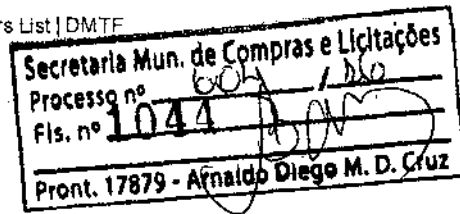
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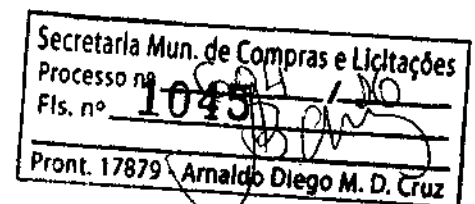
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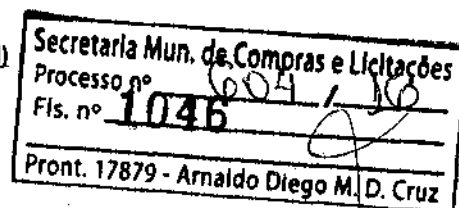
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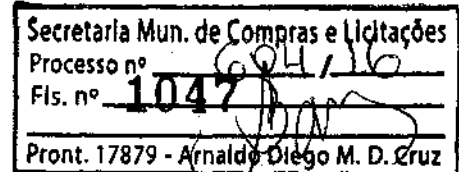
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- [Microsemi \(http://www.microsemi.com/\)](http://www.microsemi.com/)
- [Nokia Solutions and Networks GmbH & Co. KG \(http://www.nokiasiemensnetworks.com\)](http://www.nokiasiemensnetworks.com)
- [NVIDIA Corporation \(http://www.nvidia.com\)](http://www.nvidia.com)

- [OSIsoft, LLC \(http://www.osisoft.com/\)](http://www.osisoft.com/)
- [Pauta Distribuição e Logística S.A. \(https://www.pauta.com.br/\)](https://www.pauta.com.br/)
- [QLogic Corp. \(http://www.qlogic.com/\)](http://www.qlogic.com/)
- Qualcomm Incorporated
- [Quanta Computer Inc \(http://www.quantatw.com/\)](http://www.quantatw.com/)
- [Realtek Semiconductor \(http://www.realtek.com.tw\)](http://www.realtek.com.tw)
- [Red Hat \(http://www.redhat.com\)](http://www.redhat.com)
- [Seagate \(http://www.seagate.com/\)](http://www.seagate.com/)
- [Toshiba America Electronic Components Inc \(http://www.toshiba.com/taec/\)](http://www.toshiba.com/taec/)
- [Unisys Corp. \(http://www.unisys.com/\)](http://www.unisys.com/)
- US Department of Defense
- [VIA Technologies, Inc. \(http://www.via.com.tw/\)](http://www.via.com.tw/)
- [Western Digital Corporation \(http://www.hgst.com\)](http://www.hgst.com)



## Monitoring

- [BrightTALK \(https://www.brighttalk.com/\)](https://www.brighttalk.com/)
- [LOGIN INFORMATICA \(http://www.login.com.br\)](http://www.login.com.br)
- [PC-Arts Argentina S.A. \(http://www.pcartsgentina.com\)](http://www.pcartsgentina.com)
- [Phoenix Technologies Ltd. \(http://www.phoenix.com\)](http://www.phoenix.com)
- [Samsung Semiconductor \(http://www.samsung.com/sec\)](http://www.samsung.com/sec)
- [Solarflare Communications \(http://www.solarflare.com\)](http://www.solarflare.com)

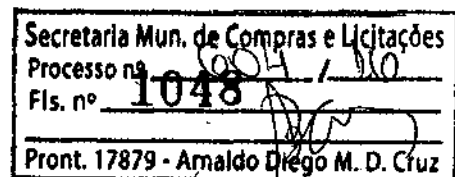
## Alliance Partner

- China Cloud Computing Promotion and Policy Forum (3CPP)
- China Communications Standards Association
- [China Electronics Standardization Institute \(CESI\) \(http://www.en.cesi.cn/\)](http://www.en.cesi.cn/)
- [Cloud Standards Customer Council \(http://www.cloud-council.org\)](http://www.cloud-council.org)
- [ETSI-NFV \(http://portal.etsi.org/portal/server.pt/community/NFV/367\)](http://portal.etsi.org/portal/server.pt/community/NFV/367)
- [Open Compute Project \(OCP\) \(http://www.opencompute.org/\)](http://www.opencompute.org/)
- [Open Data Center Alliance \(ODCA\) \(http://www.opendatacenteralliance.org/\)](http://www.opendatacenteralliance.org/)
- [Open Grid Forum \(http://ogf.org\)](http://ogf.org)
- [OpenStack Foundation \(http://www.openstack.org\)](http://www.openstack.org)
- [Storage Networking Industry Association \(http://www.snia.org/\)](http://www.snia.org/)
- [TagVault.org \(http://taqvault.org\)](http://taqvault.org)
- [TeleManagement Forum \(http://www.tmforum.org/\)](http://www.tmforum.org/)
- [The Green Grid \(http://www.thegreengrid.org\)](http://www.thegreengrid.org)
- [The Open Group \(http://www.opengroup.org\)](http://www.opengroup.org)
- [Unified Extensible Firmware Interface \(http://www.uefi.org/\)](http://www.uefi.org/)

## Academic Alliance

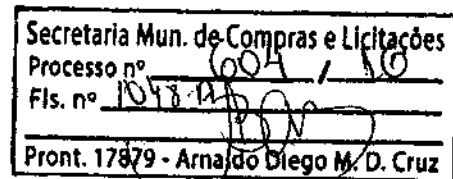
- [Alexandria University \(http://www.alex.edu.eg\)](http://www.alex.edu.eg)
- Athens University of Economics and Business
- Balarussian State University
- Case Western Reserve University
- Federal Institute of Technology of Espírito Santo
- Federal University of Espírito Santo
- [Fudan University \(http://fudan.edu.cn\)](http://fudan.edu.cn)

- **George Mason University** (<http://c4i.gmu.edu>)
- **Hangzhou Dianzi University** (<http://www.hdu.edu.cn/english/>)
- HOSEI Univ
- **Huazhong University of Science and Technology** (<http://grid.hust.edu.cn/>)
- **ICFAI University Dehradun** (<http://iudehradun.edu.in/>)
- Imperial College of Science Technology and Medicine
- Indian Institute of Technology Roorkee
- **Indian Institute of Technology, Bombay** (<http://www.it.iitb.ac.in/>)
- **Institute of Computing Technology, Chinese Academy of Sciences** (<http://english.ict.cas.cn/>)
- Institute of Information Security (IISEC)
- **Instituto de Educaçao Tecnologica (IETEC)** (<http://ietec.com.br>)
- Kasetsart University
- **Kyung Hee University** (<http://khu.ac.kr/main.do>)
- **Laurentian University** (<http://laurentian.ca/>)
- **Leibniz Supercomputing Center** (<http://www.lrz-muenchen.de/>)
- Ludwig Maximilians University
- **Madrid Technical University** (<http://www.dit.upm.es>)
- **Marshall University** (<http://www.marshall.edu>)
- **Modern College of Engineering, University of Pune** (<http://moderncoe.com>)
- **Munich University of Technology** (<http://www.lrz-muenchen.de/wir/intro/en/>)
- Nanyang Polytechnic
- Nanyang Technological University
- National Research University Higher School of Economics
- **National Technical University of Athens** (<http://www.ntua.gr/>)
- Naval Postgraduate School
- **Northwestern University** (<http://www.northwestern.edu>)
- Oakland Community College
- Ostfalia University of Applied Sciences
- Paul Sabatier University
- **Peking University** (<http://www.pkucn.edu.com>)
- **Penn State University** (<http://www.psu.edu>)
- **Pohang University of Science and Technology (POSTECH)** (<http://www.postech.ac.kr>)
- **POLITECNICO DI TORINO** (<http://www.polito.it>)
- Research Center on Scientific and Technical Information (CERIST)
- Ruprecht-Karls-University Heidelberg
- **Saint-Petersburg University for Aerospace Instrumentation** (<http://www.aanet.ru>)
- Shanghai Jiao Tong University
- **Stanford University** (<http://stanford.edu>)
- Technische Universitaet Dresden
- **Technische Universität Carolo-Wilhelmina zu Braunschweig** (<http://www.tu-braunschweig.de/>)
- **Texas Tech University** (<http://www.ttu.edu/>)
- TU Dortmund
- TU Muenchen
- **Universidad Complutense de Madrid** (<http://www.ucm.es>)
- **Universidad Libre Cali** (<http://www.unilibrecali.edu.co/>)
- Universidade Federal do Rio Grande do Sul
- University College Dublin: Center for Cybersecurity and Cybercrime Investigation
- **University Joseph Fourier of Grenoble** (<http://imag.fr>)
- University Karlstuhe
- **University of Athens** (<http://cni.di.uoa.gr>)





- University of Aveiro- Portugal
- **University of Bologna** (<http://www.unibo.it>)
- University of Calgary
- University of California
- University of California-Irvine
- **University of Cauca** (<http://www.ucauca.edu.co>)
- **University of Edinburgh** (<http://www.ed.ac.uk>)
- **University of Hamburg** (<http://www.uni-hamburg.de>)
- **University of Illinois** (<http://uiuc.edu>)
- University of Milano-Bicocca
- **University of Murcia (Spain)** (<http://www.um.es/english/>)
- **University of New Hampshire** (<http://unh.edu>)
- University of Pisa - Italy
- University of Southampton
- **University of Stuttgart** (<http://www.iaas.uni-stuttgart.de/>)
- University of Sydney
- University of Texas Health Science
- University of the Federal Armed Forces Munich
- University of the Rockies
- University of Tuebingen
- **University of Twente** (<http://www.utwente.nl/uk/>)
- University of Western Ontario
- University of Wuerzburg
- **University Technology Petronas** (<http://www.utp.edu.my>)
- Vienna University of Technology



## SMF Leadership

- **Advanced Micro Devices** (<http://www.amd.com/>)
- **Broadcom Limited** (<http://www.broadcom.com>)
- **Dell, Inc.** (<http://www.dell.com>)

## SMF Participatory

- **Positivo Informática SA** (<http://www.positivo.com.br>)
- **Realtek Semiconductor** (<http://www.realtek.com.tw>)

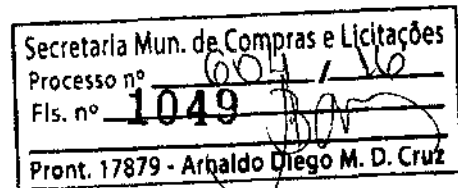
## SPMF Promoter

- **Broadcom Limited** (<http://www.broadcom.com>)
- **Cisco** (<http://www.cisco.com>)
- **Dell, Inc.** (<http://www.dell.com>)
- **EMC** (<http://www.emc.com>)
- **Emerson Network Power** (<http://www.avocent.com>)
- **Ericsson AB** (<http://www.ericsson.com>)
- **Hewlett Packard Enterprise** (<https://www.hpe.com/us/en/home.html>)
- **Intel Corporation** (<http://www.intel.com>)
- **Lenovo** (<http://www.lenovo.com>)
- **Microsoft Corporation** (<http://www.microsoft.com>)

- [Supermicro \(http://www.supermicro.com\)](http://www.supermicro.com)
- [VMware Inc. \(http://www.vmware.com\)](http://www.vmware.com)

## SPMF Supporter

- [American Megatrends, Inc. \(http://www.ami.com\)](http://www.ami.com)
- [Fujitsu \(http://www.fujitsu.com/\)](http://www.fujitsu.com/)
- [Huawei \(http://www.huawei.com/\)](http://www.huawei.com/)
- [IBM \(http://www-03.ibm.com/systems/power/\)](http://www-03.ibm.com/systems/power/)
- [Insyde Software Corp. \(http://www.insyde.com\)](http://www.insyde.com)
- [Mellanox Technologies \(http://www.mellanox.com\)](http://www.mellanox.com)
- [Microsemi \(http://www.microsemi.com/\)](http://www.microsemi.com/)
- [NetApp \(http://www.netapp.com\)](http://www.netapp.com)
- [Oracle \(http://www.oracle.com\)](http://www.oracle.com)
- [OSIsoft, LLC \(http://www.osisoft.com/\)](http://www.osisoft.com/)
- [Quanta Computer Inc \(http://www.quantatw.com/\)](http://www.quantatw.com/)
- [Seagate \(http://www.seagate.com/\)](http://www.seagate.com/)
- [Western Digital Corporation \(http://www.hgst.com\)](http://www.hgst.com)



## About DMTF

- [Frequently Asked Questions \(/about/faq\)](/about/faq)
- [Members List \(/about/list\)](/about/list)
- [DMTF Officer Hall of Fame \(/about/officers/history\)](/about/officers/history)
- [DMTF Officers \(/about/officers\)](/about/officers)
- [DMTF Fellows \(/about/fellows\)](/about/fellows)
- [DMTF Star Award Recipients \(/about/star\\_awards\)](/about/star_awards)
- [Working Groups and Committees \(/about/working-groups\)](/about/working-groups)
- [Alliance Partners \(/about/registers\)](/about/registers)
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## DMTF Board Member Companies

### [See all DMTF Member Companies » \(/about/list\)](/about/list)

- [LinkedIn \(http://www.linkedin.com/groups?home=&gid=134290\)](http://www.linkedin.com/groups?home=&gid=134290)
- [RSS \(/rss.xml\)](/rss.xml)
- [Follow DMTF on Twitter \(http://twitter.com/dmtf\)](http://twitter.com/dmtf)
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Secretaria Mun. de Compras e Licitações
Processo nº <u>604 / 20</u>
Fls. nº <u>1050</u>
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Secretaria Mun. de Compras e Licitações  
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(ENERGY STAR)® certified HP computers<sup>1</sup>

07/10/15

Item	Product Category	Product name
<b>Business Desktops PCs</b>		
1	Desktop	HP Compaq Pro 6305 MT PC (ENERGY STAR)
2	Desktop	HP Compaq Pro 6305 SFF PC (ENERGY STAR)
3	Desktop	HP EliteDesk 800 G1 Tower Business PC (ENERGY STAR)
4	Desktop	HP EliteDesk 800 G1 Small Form Factor Business PC (ENERGY STAR)
5	Desktop	HP EliteDesk 800 G1 Ultra-slim Desktop Business PC (ENERGY STAR)
6	Desktop	HP ProDesk 600 G1 Tower Business PC (ENERGY STAR)
7	Desktop	HP ProDesk 600 G1 Small Form Factor Business PC (ENERGY STAR)
8	Desktop	HP Envy Phoenix 810 Desktop PC
9	Desktop	HP ProDesk 400 G1 Microtower Business PC (ENERGY STAR)
10	Desktop	HP ProDesk 480 G1 Microtower Business PC (ENERGY STAR)
11	Desktop	HP ProDesk 498 G1 Microtower Business PC (ENERGY STAR)
12	Desktop	HP ProDesk 400 G1 Small Form Factor Business PC (ENERGY STAR)
13	Desktop	HP ProDesk 490 G1 Microtower Business PC (ENERGY STAR)
14	Desktop	HP ProDesk 405 G1 Microtower Business PC (ENERGY STAR)
15	Desktop	HP ProDesk 485 G1 Microtower Business PC (ENERGY STAR)
16	Desktop	HP EliteDesk 800 G1 Desktop Mini PC (ENERGY STAR)
17	Desktop	HP ProDesk 600 G1 Desktop Mini PC (ENERGY STAR)
18	Desktop	HP ProDesk 405 G2 MT Business PC (ENERGY STAR)
19	Desktop	HP ProDesk 485 G2 MT Business PC (ENERGY STAR)
20	Desktop	HP ProDesk 400 G2 MT Business PC (ENERGY STAR)
21	Desktop	HP ProDesk 480 G2 MT Business PC (ENERGY STAR)
22	Desktop	HP ProDesk 490 G2 MT Business PC (ENERGY STAR)
23	Desktop	HP ProDesk 498 G2 MT Business PC (ENERGY STAR)
24	Desktop	HP EliteDesk 880 G1 TWR Business PC (ENERGY STAR)
25	Desktop	HP ProDesk 680 G1 TWR Business PC (ENERGY STAR)
26	Desktop	HP RP2 Retail System, Model 2000 (ENERGY STAR)
27	Desktop	HP RP2 Retail System, Model 2030 (ENERGY STAR)
28	Desktop	HP RP2 Retail System, Model 2020 (ENERGY STAR)
29	Desktop	HP EliteDesk 705 G1 SFF Business PC (ENERGY STAR)
30	Desktop	HP EliteDesk 705 G1 MT Business PC (ENERGY STAR)
31	Desktop	HP 406 G1 MT (ENERGY STAR)
32	Desktop	HP 280 G1 MT (ENERGY STAR)
33	Desktop	HP EliteDesk 700 G1 SFF Business PC (ENERGY STAR)
34	Desktop	HP EliteDesk 705 G1 DM Business PC (ENERGY STAR)
35	Desktop	HP EliteDesk 700 G1 MT Business PC (ENERGY STAR)
36	Desktop	HP ProDesk 400 G2 SFF Business PC (ENERGY STAR)
37	Desktop	HP 260 G1 DM Business PC (ENERGY STAR)
38	Desktop	HP ProDesk 400 G1 DM Business PC (ENERGY STAR)
39	Desktop	HP 285 Pro G1 MT
40	Desktop	HP MP9 Model 9000 Digital Signage Player (ENERGY STAR)
41	Desktop	HP ProDesk 400 G2,5 SFF Business PC (ENERGY STAR)
<b>Home and Home Office Desktops PCs</b>		
1	Desktop	HP Pavilion 500 Desktop PC
2	Desktop	HP Chromebox PC/HP Chromebox G1 PC
3	Desktop	HP 110 Desktop PC/Compaq 100 Desktop PC
4	Desktop	HP Pavilion Mini 300 Desktop / HP Stream Mini 200 Desktop
5	Desktop	HP ENVY Phoenix Desktop
6	Desktop	HP ENVY Desktop
7	Desktop	HP Pavilion Desktop
8	Desktop	HP Desktop/Compaq Desktop
9	Desktop	HP Slimline Desktop/Compaq Slimline Desktop
<b>Integrated PCs</b>		
1	Integrated PC	HP rp5800 Point of Sale System (ENERGY STAR)
2	Integrated PC	HP RP5 Retail System, Model 5810 (ENERGY STAR)
3	Integrated PC	HP RP7 Retail System, Model 7800 (ENERGY STAR)



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4	Integrated PC	HP 18 All-in-One PC (ENERGY STAR)
5	Integrated PC	HP EliteOne 800 G1 All-in-One Business PC (ENERGY STAR)
6	Integrated PC	HP ProOne 600 G1 All-in-One Business PC (ENERGY STAR)
7	Integrated PC	HP Envy TouchSmart 23 All-in-One PC (ENERGY STAR)
8	Integrated PC	HP Envy TouchSmart 27 All-in-One PC (ENERGY STAR)
9	Integrated PC	HP Envy TouchSmart 23se All-in-One PC (ENERGY STAR)
10	Integrated PC	HP Slate 21-k100 All-in-One PC (ENERGY STAR)
11	Integrated PC	HP Slate 21-s100 All-in-One PC (ENERGY STAR)
12	Integrated PC	HP Envy Recline23 TouchSmart Beats SE All-in-One PC (ENERGY STAR)
13	Integrated PC	HP Pavilion 21 TouchSmart All-in-One PC (ENERGY STAR)
14	Integrated PC	HP Pavilion 22 TouchSmart All-in-One PC (ENERGY STAR)
15	Integrated PC	HP Pavilion 23 TouchSmart All-in-One PC (ENERGY STAR)
16	Integrated PC	HP Pavilion 23 All-in-One PC (ENERGY STAR)
17	Integrated PC	HP 19 All-in-One PC (ENERGY STAR)
18	Integrated PC	HP 20 All-in-One PC (ENERGY STAR)
17	Integrated PC	HP ProOne 400 G1 All-in-One Business PC (ENERGY STAR)
18	Integrated PC	HP 205 G1 All-in-One Business PC (ENERGY STAR)
19	Integrated PC	HP Compaq 18 All-in-One PC (ENERGY STAR)
20	Integrated PC	HP Slate 21 Pro 200k/200s All-in-One PC (ENERGY STAR)
21	Integrated PC	HP EliteOne 800 G1 21.5-inch Non-Touch All-in-One PC (ENERGY STAR)
22	Integrated PC	HP ProOne 400 G1 21.5" Touch All-in-One (ENERGY STAR)
23	Integrated PC	HP ProOne 400 G1 23-inch Non-Touch All-in-One (ENERGY STAR)
24	Integrated PC	HP Envy Beats All-in-One PC (ENERGY STAR)
25	Integrated PC	HP Envy All-in-One PC (ENERGY STAR)
26	Integrated PC	HP Pavilion All-in-One PC (ENERGY STAR)
27	Integrated PC	HP All-in-One PC (ENERGY STAR)
28	Integrated PC	HP EliteOne 705 G1 23-inch Non-Touch All-in-One PC (ENERGY STAR)
29	Integrated PC	HP Slate 17 All-in-One (ENERGY STAR)
30	Integrated PC	HP Sprout Immersive Computer (ENERGY STAR)
31	Integrated PC	HP 205 G2 All-in-One Business PC (ENERGY STAR)
<b>Business Notebook PCs</b>		
1	Notebook PC	HP 455
2	Notebook PC	HP EliteBook Folio 9470m (ENERGY STAR)
3	Notebook PC	HP EliteBook Revolve 810 G1 Notebook PC
4	Notebook PC	HP ProBook 455 G1 Notebook PC (ENERGY STAR)
5	Notebook PC	HP ProBook 445 G1 Notebook PC (ENERGY STAR)
6	Notebook PC	HP ProBook 430 G1 Notebook PC (ENERGY STAR)
7	Notebook PC	HP ZBook 17 Mobile Workstation (ENERGY STAR)
8	Notebook PC	HP ZBook 15 Mobile Workstation (ENERGY STAR)
9	Notebook PC	HP ZBook 14 Mobile Workstation (ENERGY STAR)
10	Notebook PC	HP ProBook 470 G1 Notebook PC (ENERGY STAR)
11	Notebook PC	HP ProBook 450 G1 Notebook PC (ENERGY STAR)
12	Notebook PC	HP ProBook 440 G1 Notebook PC (ENERGY STAR)
13	Notebook PC	HP EliteBook 850 G1 Notebook PC (ENERGY STAR)
14	Notebook PC	HP EliteBook 840 G1 Notebook PC (ENERGY STAR)
15	Notebook PC	HP EliteBook 820 G1 Notebook PC (ENERGY STAR)
16	Notebook PC	HP 215 G1 Notebook PC (ENERGY STAR)
17	Notebook PC	HP mt41 Mobile Thin Client (ENERGY STAR)
18	Notebook PC	HP ProBook 650 G1 Notebook PC (ENERGY STAR)
19	Notebook PC	HP ProBook 640 G1 Notebook PC (ENERGY STAR)
20	Notebook PC	HP ProBook 645 G1 Notebook PC (ENERGY STAR)
21	Notebook PC	HP ProBook 655 G1 Notebook PC (ENERGY STAR)
22	Notebook PC	HP 255 G2 Notebook PC (ENERGY STAR)
23	Notebook PC	HP 240 G2 Notebook PC (ENERGY STAR)
24	Notebook PC	HP 245 G2 Notebook PC (ENERGY STAR)
25	Notebook PC	HP 248 G1 Notebook PC (ENERGY STAR)
26	Notebook PC	HP 250 G2 Notebook PC (ENERGY STAR)
27	Notebook PC	HP EliteBook Folio T040 G1 Notebook PC (ENERGY STAR)
28	Notebook PC	HP EliteBook Revolve 810 G2 Notebook PC (ENERGY STAR)
29	Notebook PC	HP 350 G1 Notebook PC (ENERGY STAR)
30	Notebook PC	HP 250 G3 Notebook PC (ENERGY STAR)
31	Notebook PC	HP 240 G3 Notebook PC (ENERGY STAR)



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32	Notebook PC	HP 245 G3 Notebook PC (ENERGY STAR)
33	Notebook PC	HP 355 G2 Notebook PC (ENERGY STAR)
34	Notebook PC	HP 345 G2 Notebook PC (ENERGY STAR)
35	Notebook PC	HP EliteBook Folio 9480m (ENERGY STAR)
36	Notebook PC	HP EliteBook 755 G2 Notebook PC (ENERGY STAR)
37	Notebook PC	HP EliteBook 745 G2 Notebook PC (ENERGY STAR)
38	Notebook PC	HP EliteBook 725 G2 Notebook PC (ENERGY STAR)
39	Notebook PC	HP ProBook 470 G2 Notebook PC (ENERGY STAR)
40	Notebook PC	HP ProBook 450 G2 Notebook PC (ENERGY STAR)
41	Notebook PC	HP ProBook 440 G2 Notebook PC (ENERGY STAR)
42	Notebook PC	HP ProBook 430 G2 Notebook PC (ENERGY STAR)
43	Notebook PC	HP ProBook 455 G2 Notebook PC (ENERGY STAR)
44	Notebook PC	HP ProBook 445 G2 Notebook PC (ENERGY STAR)
45	Notebook PC	HP x360 310 G1 (ENERGY STAR)
46	Notebook PC	HP 210 G1 Notebook PC (ENERGY STAR)
47	Notebook PC	HP 255 G3 Notebook PC (ENERGY STAR)
48	Notebook PC	HP 340 G1 Notebook PC (ENERGY STAR)
49	Notebook PC	HP Chromebook 11 G3 (ENERGY STAR)
50	Notebook PC	HP EliteBook 720 G1 Notebook PC (ENERGY STAR)
51	Notebook PC	HP EliteBook 740 G1 Notebook PC (ENERGY STAR)
52	Notebook PC	HP EliteBook 750 G1 Notebook PC (ENERGY STAR)
53	Notebook PC	HP Zbook 17 G2 Mobile Workstation (ENERGY STAR)
54	Notebook PC	HP Zbook 15 G2 Mobile Workstation (ENERGY STAR)
55	Notebook PC	HP Chromebook 14 G3 (ENERGY STAR)
56	Notebook PC	HP Classmate Notebook PC (ENERGY STAR)
57	Notebook PC	HP Zbook 14 G2 Mobile Workstation (ENERGY STAR)
58	Notebook PC	HP Zbook 15u G2 Mobile Workstation (ENERGY STAR)
59	Notebook PC	HP EliteBook 850 G2 Notebook PC (ENERGY STAR)
60	Notebook PC	HP EliteBook 840 G2 Notebook PC (ENERGY STAR)
61	Notebook PC	HP EliteBook 820 G2 Notebook PC (ENERGY STAR)
62	Notebook PC	HP 340 G2 Notebook PC (ENERGY STAR)
63	Notebook PC	HP 350 G2 Notebook PC (ENERGY STAR)
64	Notebook PC	HP EliteBook Folio 1040 G2 Notebook PC (ENERGY STAR)
65	Notebook PC	HP EliteBook 740 G2 Notebook PC (ENERGY STAR)
66	Notebook PC	HP EliteBook 750 G2 Notebook PC (ENERGY STAR)
67	Notebook PC	HP EliteBook Revolve 810 G3 Notebook PC (ENERGY STAR)
68	Notebook PC	HP EliteBook Folio 1020 G1 Notebook PC (ENERGY STAR)
69	Notebook PC	HP Spectre Pro x360 Convertible PC (G1)/HP Spectre Pro x360/HP Spectre Pro x360 G1 (ENERGY STAR)
70	Notebook PC	HP Stream 11 Pro/ HP Stream 11 Pro Notebook PC (ENERGY STAR)
71	Notebook PC	HP OMEN Pro 15 Notebook, HP OMEN Pro, HP OMEN Pro 15 (ENERGY STAR)
72	Notebook PC	HP ProBook 11 G1 Education Edition (ENERGY STAR)
72	Notebook PC	HP 250 G4 Notebook PC (ENERGY STAR)
73	Notebook PC	HP 256 G4 Notebook PC (ENERGY STAR)
74	Notebook PC	HP 245 G4 Notebook PC (ENERGY STAR)
75	Notebook PC	HP 240 G4 Notebook PC (ENERGY STAR)
76	Notebook PC	HP 246 G4 Notebook PC (ENERGY STAR)
77	Notebook PC	HP 255 G4 Notebook PC (ENERGY STAR)

**Home and Home Office Notebook PCs**

1	Notebook PC	HP Envy m6 Notebook PC
2	Notebook PC	HP Envy 15 Notebook PC
3	Notebook PC	HP Envy TouchSmart 15 Notebook PC
4	Notebook PC	HP Pavilion 14 Notebook PC
5	Notebook PC	HP Pavilion 15 Notebook PC
6	Notebook PC	HP Pavilion 17 Notebook PC
7	Notebook PC	HP Envy 17 Notebook PC
8	Notebook PC	HP Envy TouchSmart m7 Notebook PC
9	Notebook PC	HP Envy 14 Sleekbook
10	Notebook PC	HP Envy TouchSmart 14 Sleekbook
11	Notebook PC	HP Pavilion TouchSmart 11 Notebook PC
12	Notebook PC	HP Pavilion TouchSmart 15 Notebook PC
13	Notebook PC	HP Chromebook 14
14	Notebook PC	HP Pavilion TouchSmart 14 Ultrabook

CÓPIA DE DOCUMENTO ASSINADO DIGITALMENTE POR: GABRIEL MARCHI DA SILVA. Sistema e-TCESP. Para obter informações sobre assinaturas e/ou ver o arquivo original acesse <http://e-processo.ite.sp.gov.br> - link 'Validar documento digital' e informe o código do documento: 2-R3KV-BNQH-6SQ3-46R7-33T5



Secretaria Mun. de Compras e Licitações  
Processo nº 604/16  
Fls. nº 1054  
Pront. 17879 - Arnaldo Diego M. D. Cruz

15	Notebook PC	HP ENVY17 Leap Motion SE Notebook
16	Notebook PC	HP Pavilion 10 TouchSmart Notebook PC
17	Notebook PC	HP Spectre 13 Ultrabook
18	Notebook PC	HP 14 TouchSmart Notebook PC
19	Notebook PC	Compaq 14 TouchSmart Notebook PC
20	Notebook PC	HP 15 TouchSmart Notebook PC
21	Notebook PC	Compaq 15 TouchSmart Notebook PC
22	Notebook PC	HP Pavilion11 x360 PC
23	Notebook PC	HP 14 Notebook PC
24	Notebook PC	Compaq 14 Notebook PC
25	Notebook PC	HP 15 Notebook PC
26	Notebook PC	Compaq 15 Notebook PC
27	Notebook PC	HP Envy Notebook PC
28	Notebook PC	HP Pavilion 17 TouchSmart Notebook PC
29	Notebook PC	HP Pavilion 10 Notebook PC
30	Notebook PC	HP Chromebook PC/HP Chromebook 11 PC/HP Chromebook 11 G2 PC
31	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 14 Notebook PC
32	Notebook PC	HP ENVY Notebook PC/HP ENVY 15 Notebook PC
33	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 15 Notebook PC
34	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 17 Notebook PC
35	Notebook PC	HP ENVY Notebook PC/HP ENVY 17 Notebook PC/HP ENVY m7 Notebook PC
36	Notebook PC	HP Notebook PC/HP 15 Notebook PC
37	Notebook PC	HP SlateBook PC/HP SlateBook 14 PC
38	Notebook PC	HP ENVY Notebook PC/HP ENVY 14 Notebook PC
39	Notebook PC	HP ENVY x360 Convertible PC/HP ENVY 15 x360 Convertible PC/HP ENVY 15 x360 PC
40	Notebook PC	HP Pavilion Notebook PC/HP Pavilion 13 Notebook PC
41	Notebook PC	HP Pavilion x360 Convertible PC/HP Pavilion 13 x360 Convertible PC/HP Pavilion 13 x360 PC
42	Notebook PC	HP 14 Notebook PC/HP Notebook PC/HP Notebook PC 14
43	Notebook PC	HP Chromebook/HP Chromebook 11
44	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 14
45	Notebook PC	HP ENVY x2/HP ENVY x2 Detachable PC/HP ENVY x2 Detachable PC 15
46	Notebook PC	HP Chromebook/HP Chromebook 14
47	Notebook PC	HP ENVY x2/HP ENVY x2 Detachable PC/HP ENVY x2 Detachable PC 13
48	Notebook PC	HP Pavilion x2 Detachable PC/HP Pavilion x2 Detachable PC 10
49	Notebook PC	HP Stream x360/HP Stream x360 Convertible PC / HP Stream x360 Convertible PC 11
50	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 11
51	Notebook PC	HP Stream/HP Stream Notebook PC/HP Stream Notebook PC 13
52	Notebook PC	HP OMEN Notebook PC/ HP OMEN/ HP OMEN Notebook PC 15
54	Notebook PC	HP Spectre x360 Convertible PC/HP Spectre x360/HP Spectre x360 Convertible PC 13/HP Spectre x360 Convertible 13
55	Notebook PC	HP OMEN Notebook, HP OMEN, HP OMEN Notebook 15
56	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 14
57	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 15
58	Notebook PC	x360 m1 Convertible, HP Pavilion x360 m1



59	Notebook PC	x360 m3 Convertible, HP Pavilion x360 m3
60	Notebook PC	HP ENVY x360 Convertible, HP ENVY x360 Convertible 15, HP ENVY x360, HP ENVY x360 m6 Convertible, HP ENVY x360 m6
61	Notebook PC	HP Pavilion Notebook, HP Pavilion Notebook 17
62	Notebook PC	HP Notebook, HP Notebook 15, HP Notebook 15g, HP Notebook 15g
63	Notebook PC	HP Notebook, HP Notebook 14
64	Notebook PC	HP Notebook, HP Notebook 14, HP Notebook 14g, HP Notebook 14g
65	Notebook PC	HP Notebook, HP Notebook 15
66	Notebook PC	HP ENVY x360 Convertible, HP ENVY x360 Convertible 15
67	Notebook PC	HP Notebook, HP Notebook 17
68	Notebook PC	HP ENVY Notebook, HP ENVY Notebook 15, HP ENVY, HP ENVY 15
69	Notebook PC	HP ENVY Notebook, HP ENVY, HP ENVY Notebook 14, HP ENVY 14
70	Notebook PC	HP ENVY Notebook, HP ENVY, HP ENVY Notebook 15, HP ENVY 15, HP ENVY m6 Notebook, HP ENVY m6
71	Notebook PC	HP mt245 Mobile Thin Client
72	Notebook PC	HP Chromebook 11 G4
<b>Thin Clients</b>		
1	Thin Client	HP t610 Thin Client
2	Thin Client	HP t610 PLUS Thin Client
3	Thin Client	HP t410 Smart Zero Client
4	Thin Client	HP t410 All-in-One Smart Zero Client
5	Thin Client	HP t510 Thin Client
6	Thin Client	HP t820 Thin Client
7	Thin Client	HP t620 Thin Client
8	Thin Client	HP t620 Plus Thin Client
9	Thin Client	HP t520 Flexible Series Thin Client
10	Thin Client	HP t310 All-in-One Zero Client
11	Thin Client	HP t420 Thin Client
<b>Workstations</b>		
1	Workstation	HP Z420 Workstation
2	Workstation	HP Z620 Workstation
3	Workstation	HP Z820 Workstation
4	Workstation	HP Z1 Workstation G2
5	Workstation	HP Z230 Tower Workstation
6	Workstation	HP Z230 SFF Workstation
7	Workstation	HP Z440 Workstation
8	Workstation	HP Z640 Workstation
9	Workstation	HP Z840 Workstation
<b>Business Tablets PC</b>		
1	Tablet	HP Pro tablet 10 EE G1
2	Tablet	HP Pro slate 10 EE G1
3	Tablet	HP Pro Tablet 408 G1
4	Tablet	HP ElitePad 1000 G2 Healthcare Tablet
5	Tablet	HP Elite x2 1011 G1
6	Tablet	HP ElitePad 1000 G2 Rugged Tablet
7	Tablet	HP Pro Slate 12
8	Tablet	HP Pro Slate 8
9	Tablet	HP Pro Tablet 608 G1

1 Many PCs are offered in multiple configurations within the model family. PC models listed on this page and that are physically labeled with the (ENERGY STAR)\* label meet the (ENERGY STAR) program requirements for computers (Version 6.1 effective September 10, 2014).

The (ENERGY STAR) name and mark are registered trademarks owned by the U.S. EPA. For more information on the (ENERGY STAR) program see <http://www.energystar.gov>.





Product Detail

EPEAT Registry

← Back

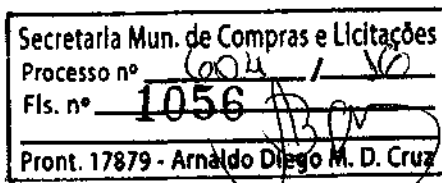
Quick Search

Search by Manufacturer

Search by Country

Full Search

Company List



HP EliteBook 840 G2 Notebook PC (ENERGY STAR)

Product	HP EliteBook 840 G2 Notebook PC (ENERGY STAR)
CAB	Green Electronics Council CAB
Country	United States
Product Type	Notebooks
Manufacturer	HP Inc.
URL	http://www.hp.com
Rating	
Registration Date	1/8/2015
Monitor Type	Flat Panel
Monitor Size	14
Product Status	Active
Exceptions	Product is in conformance with EPEAT only when product is configured with an operating system (except FreeDOS and Linux) and high efficiency power supply certified to the ENERGY STAR specification
Manufacturer Part #	
UPC	
EAN	
Consumer or Institutional	Not Indicated

Options:

- Order Energy
- Print Friendly, Add External Links
- Export EXCEL
- Export EXCEL With Detailed Data

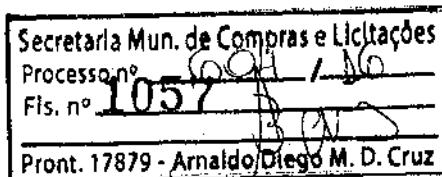
Back

Criteria Category Summary	Optional Points
4.1 Reduction/elimination of environmentally sensitive materials	8/8
4.2 Materials selection	0/3
4.3 Design for end of life	5/5
4.4 Product longevity/life cycle extension	2/2
4.5 Energy conservation	1/2
4.6 End of life management	1/1

4.7 Corporate performance	2/2
4.8 Packaging	3/4
<b>Total Optional Points:</b>	<b>22/27</b>

**This Product is also registered in:**

- Australia
- Belgium
- Canada
- China
- France
- Germany
- India
- Japan
- New Zealand
- Poland
- Portugal
- Spain
- Sweden
- Taiwan
- United Kingdom



<u>About EPEAT</u>	<u>Participants</u>	<u>Resources</u>	<u>My Account</u>
Mission	Partners	Criteria	Manage Account
History	Manufacturers	Training	Login
Global Reach	Purchasers	For Purchasers	
Advisory Council	PREs	For Manufacturers	
Environmental Benefits		Verification	
FAQs		Clarifications and Interpretations	
EPEAT as a PRE		Recycling	
Market Surveillance Entry (MSE)			
Staff			
Careers			



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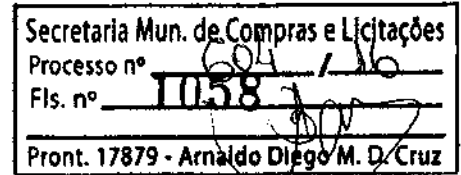
**DECLARATION OF CONFORMITY**  
according to ISO/IEC 17050-1 and EN 17050-1

DoC #: HSTNN-I26C-4- R7 Original/en

**Manufacturer's Name:** HP Inc.  
**Manufacturer's Address:** 11445 Compaq Center Drive West, Houston, TX 77070 USA

**declare, under its sole responsibility that the product**

**Product Name and Model:<sup>2)</sup>** HP EliteBook 740 G2 Notebook PC /  
HP EliteBook 840 G2 Notebook PC /  
HP ZBook 14 G2 Mobile Workstation  
**Regulatory Model Number:<sup>1)</sup>** HSTNN-I26C-4  
**Product Options:** Please See ANNEX I



**conforms to the following Product Specifications and Regulations:**

**Safety**

EN 60950-1:2006 +A1:2010 +A11:2009  
+A12:2011  
IEC 60950-1:2005 +A1:2009  
EN 50364:2010  
EN 62311:2008  
EN 62479:2010

**EMC**

EN 55022:2010 Class B  
EN 55024:2010  
EN 61000-3-2:2006 +A1:2009 +A2:2009  
EN 61000-3-3:2008  
EN 301 489-1 V1.9.2  
EN 301 489-3 V1.6.1  
EN 301 489-7 V1.3.1  
EN 301 489-17 V2.2.1  
EN 301 489-24 V1.5.1

**Spectrum**

EN 300 328 V1.8.1  
EN 300 330-2 V1.5.1  
EN 300 440-1 V1.6.1  
EN 300 440-2 V1.4.1  
EN 301 511 V9.0.2  
EN 301 893 V1.7.1  
EN 301 908-01 V6.2.1  
EN 301 908-02 V6.2.1  
EN 301 908-13 V6.2.1

**Ecodesign**

Regulation (EC) No. 1275/2008  
EN 50564:2011  
IEC 62301:2011

**RoHS**

EN 50581:2012

The product herewith complies with the requirements of the R&TTE Directive 1999/5/EC, the Ecodesign Directive 2009/125/EC, the RoHS Directive 2011/65/EU and carries the **CE** marking accordingly.

US ONLY: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Additional Information:**

- 1) This product is assigned a Regulatory Model Number which stays with the regulatory aspects of the design. The Regulatory Model Number is the main product identifier in the regulatory documentation and test reports, this number should not be confused with the marketing name or the product numbers.
- 2) This product was tested in a typical HP environment.

Houston, TX  
16-05-2016

*Gilles Souillard*  
Gilles Souillard, Manager  
Houston Product Compliance Center

**Local contact for regulatory topics only:**

EU: HP Deutschland GmbH, HP HQ-TRE, 71025 Boeblingen, Germany  
U.S.: HP Inc., 1501 Page Mill Road, Palo Alto 94304, U.S.A. 650-857-1501

[www.hp.eu/certificates](http://www.hp.eu/certificates)

Secretaria Mun. de Compras e Licitações  
 Processo nº 604 / 20  
 Fls. nº 1059  
 Pont.: 17879 - Arnaldo, Diego M. D. Cir.

DECLARATION OF CONFORMITY  
 according to ISO/IEC 17050-1 and EN 17050-2

**ANNEX I**

**Regulatory Model Number: HSTNN-I26C-4**

**OPTIONS**

DESCRIPTION	OPTION NUMBER
AC Adapter	HSTNN-XA14
	HSTNN-XA15
	HSTNN-XA40
	HSTNN-XA41
	PPP009X
	PPP009L-X
	PPP019L-X
Battery Pack	HSTNN-XB4R
	HSTNN-XB4Q
	HSTNN-XB5A
Intel Dual Band Wireless-AC 3160 802.11 ac 1x1 WiFi + BT 4.0 combo adaptor	3160NGW
Intel Dual Band Wireless-AC 7265 802.11 ac 2x2 WiFi + BT 4.0 combo adaptor	7265NGW
Intel Dual Band Wireless-N 7265AN 802.11 a/b/g/n 2x2 WiFi + BT 4.0 combo adaptor	7265NGW AN
HP hs3110 Mobile Broadband Module / HP hs3114 Mobile Broadband Module	MU736
HP lt4112 LTE/HSPA+ Gobi 4G Module	ME906E
NFC Module	DFCN-4
HP UltraSlim Docking Station	HSTNN-IX10


\* Where X represents any alpha numeric character.

# THE ECO DECLARATION

Secretaria Mun. de Compras e Licitações  
 Processo nº 004 / 10  
 Fls. nº 1060  
 P. n.º 127 Arnaldo Diego M. D. Cruz

## Product environmental attributes – THE ECO DECLARATION


The declaration may be published only when all rows and/or fields marked with an \* are filled-in (n.a. for not applicable).  
 Additional information regarding each item may be found under P14.

Brand *	Hewlett-Packard	Logo 
Company name *	Hewlett-Packard Company	
Contact information *	Hans Wendschlag <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/contactem ail.html">http://www.hp.com/hpinfo/globalcitizenship/environment/contactem ail.html</a>	
Internet site *	<a href="http://www.hp.com/hpinfo/globalcitizenship/environment/">http://www.hp.com/hpinfo/globalcitizenship/environment/</a>	
Additional information		

The company declares (based on product specification or test results based obtained from sample testing), that the product conforms to the statements given in this declaration.	
Type of product *	Notebook PC
Commercial name *	HP EliteBook 840 G2 Notebook PC
Model number *	840 G2
Issue date *	1/5/2015
Intended market *	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other
Additional information	


This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

Quality Control		Requirement met	
Item		Yes	No
QC1 *	The company enforces an internal quality control scheme to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control such as organized by IT-Företagen (see <a href="http://www.itcodeclaration.org">www.itcodeclaration.org</a> ).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Model number *	840 G2	
Issue date *	1/5/2015	Logo 

Product environmental attributes - Legal requirements		Requirement met		
Item		Yes	No	n.a.
<b>P1</b>	<b>Hazardous substances and preparations</b>			
P1.1*	Products do not contain more than; 0.1% lead, 0.01% cadmium, 0.1% mercury, 0.1% hexavalent chromium, 0.1% polybrominated biphenyls (PBB) or 0.1% polybrominated diphenyl ethers (PBDE). (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.2*	Products do not contain Asbestos (see legal reference). Comment: Legal reference has no maximum concentration value.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.3*	Products do not contain Ozone Depleting Substances: Chlorofluorocarbons (CFC), hydrobromofluorocarbons (HBFC), hydrochlorofluorocarbons (HCFC), Halons, carbontetrachloride, 1,1,1-trichloroethane, methyl bromide (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.4*	Products do not contain more than; 0.005% polychlorinated biphenyl (PCB), 0.005% polychlorinated terphenyl (PCT) in preparations (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.5*	Products do not contain more than 0.1% short chain chloroparaffins (SCCP) with 10-13 carbon atoms in the chain containing at least 48% per mass of chlorine in the SCCP (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P1.6*	Textile and leather parts with direct skin contact do not contain Tri-(2,3-dibromopropyl)-phosphate (TRIS), Tris-(aziridinyl)-phosphineoxide (TEPA), polybrominated biphenyl (PBB) (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.7*	Textile and leather parts with direct skin contact do not contain more than 0.003% Azo colorants that split aromatic amines. (See legal reference and Note B1)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.8*	Wooden parts do not contain arsenic and chromium as a wood preservation treatment as well as pentachlorophenol and derivatives (see legal reference). Comment: Legal reference has no maximum concentration values.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P1.9*	Parts with direct and prolonged skin contact do not release nickel in concentrations above 0.5 microgram/cm <sup>2</sup> /week (see legal reference). Comment: Max limit in legal reference when tested according to EN1811:1998.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P1.10*	REACH Article 33 information about substances in articles is available at (add URL or mail contact): <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/reachdesktop-pcs.html">http://www.hp.com/hpinfo/globalcitizenship/environment/productdata/reachdesktop-pcs.html</a>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2</b>	<b>Batteries</b>			
P2.1*	If the product contains a battery or an accumulator, it is labeled with the disposal symbol and if it contains more than 0.0005% of mercury (for button cells only) by weight, or more than 0.004% of lead, it shall be marked with the chemical symbol for the metal concerned, Hg or Pb. Information on proper disposal is provided in user manual. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.2*	Button cells used in the product do not contain more than 2% by weight of mercury. Other batteries or accumulators do not contain more than 0.0005% of mercury or 0.002% of cadmium. (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P2.3*	Batteries and accumulators are easily removable by either users or service providers (as dependent on the design of the product). Exception: Batteries that are permanently installed for safety, performance, medical or data integrity reasons do not have to be "easily removable". (See legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3</b>	<b>Safety, EMC connection to the telephone network and labeling</b>			
P3.1*	The product complies with legally required safety standards as specified (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.2*	The product complies with legally required standards for electromagnetic compatibility (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.3*	If product is intended for connection to a public telecom network or contains a radio transmitter, it complies with legally required standards for radio and telecommunication devices (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P3.4*	The product is labeled to show conformance with applicable legal requirements (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4</b>	<b>Consumable materials</b>			
P4.1*	If a photo conductor (drum, belt etc.) is used in the product, it does not contain cadmium max 0.01% (see legal reference and Note B1).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.2*	If ink/toner is used in the product, it does not contain cadmium max 0.1% by weight (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P4.3*	If the ink/toner formulation/preparation is classified as hazardous according to applicable regulations, the product/packaging is adequately labeled and a Safety Data Sheet (SDS) in accordance with these requirements is available (see legal reference).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P5</b>	<b>Product packaging</b>			
P5.1*	Packaging and packaging components do not contain more than 0.01% lead, mercury, cadmium and hexavalent chromium by weight of these together.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
P5.2*	Plastic packaging material is marked according to ISO 11469 referring ISO 1043 (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P5.3*	The product packaging material is free from ozone depleting substances as specified in the Montreal Protocol (see legal reference). Comment: Legal reference has no maximum concentration values.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>


Note B1: Restriction applies to the homogeneous material, unless other specified and expressed in weight %.

Model number *	840 G2	Logo	
Issue date *	1/5/2015		

Product environmental attributes - Market requirements - Environmental conscious design		Requirement met		
Item	*=mandatory to fill in. Additional information regarding each item may be found under P14.	Yes	No	n.a.
<b>P6 Treatment information</b>				
P6.1*	Information for recyclers/treatment facilities is available (see legal reference).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7 Design</b>				
<b>Disassembly, recycling</b>				
P7.1*	Parts that have to be treated separately are easily separable	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.2*	Plastic materials in covers/housing have no surface coating.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.3*	Plastic parts >100g consist of one material or of easily separable materials.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.4*	Plastic parts >25g have material codes according to ISO 11469 referring ISO 1043.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.5	Plastic parts are free from metal inlays or have inlays that can be removed with commonly available tools.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.6*	Labels are easily separable. (This requirement does not apply to safety/regulatory labels).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Product lifetime</b>				
P7.7*	Upgrading can be done e.g. with processor, memory, cards or drives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.8*	Upgrading can be done using commonly available tools	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.9.	Spare parts are available after end of production for: 5 years			<input type="checkbox"/>
P7.10	Service is available after end of production for: years			<input checked="" type="checkbox"/>
<b>Material and substance requirements</b>				
P7.11*	Product cover/housing material type: Material type: <b>PC+ABS FR(40)</b> Material type: Material type:			
P7.12	Electrical cable insulation materials of power cables are PVC free.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P7.13	Electrical cable insulation materials of signal cables are PVC free	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.14	All cover/housing plastic parts >25g are free from chlorine and bromine.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.15	All printed circuit boards (without components) >25g are halogen free. as defined in IEC61249-2-21. (See Note B2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.16	Flame retarded plastic parts >25g in covers / housings are marked according ISO 1043-4: Marking: <b>PC+ABS FR(40)</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.17	Alt. 1 Chemical specifications of flame retardants in printed circuit boards >25g (without components): TBBPA (additive) <input type="checkbox"/> , TBBPA (reactive) <input type="checkbox"/> , Other; chemical name: , CAS #:  Alt. 2 Chemical specifications of flame retardants in printed circuit boards (without components) >25g according ISO 1043-4: <b>FR(40)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.18	Alt. 1 Flame retarded plastic parts >25g contain the following flame retardant substances/preparations in concentrations above 0.1%: Comment: No legal limits exist, this is a market requirement. 1. Chemical name: , CAS #: 2. Chemical name: , CAS #: 3. Chemical name: , CAS #: Alt. 2 Chemical specifications of flame retardants in plastic parts >25g according ISO 1043-4: <b>PC+ABS FR(40)</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.19	Plastic parts >25g are free from flame retardant substances/ preparations above 0.1% classified as R45, R40, R48, R48, R50, R51, R53, R60, R61 and any combination of these (See Note B3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P7.20	Of total plastic parts' weight >25g, recycled material content is 0%.			
P7.21	Of total plastic parts' weight >25g, biobased material content is 0%.			
P7.22	Light sources are free from mercury If mercury is used specify: Number of lamps: and max. mercury content per lamp: mg	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8 Batteries</b>				
P8.1*	Battery chemical composition: <b>lithium ion, lithium/manganese dioxide</b>			<input type="checkbox"/>
P8.2	Batteries meet the requirements of the following voluntary program/s:			<input checked="" type="checkbox"/>

Note B2. IEC61249-2-21 has maximum limits for chlorine and bromine-but does not address fluorine iodine and astatine which are included in the group of halogens

Note B3: Starting from January 2009, Risk phrases can be replaced by Hazard phrases according to the Globally Harmonized System (GHS), mandatory by December 2010


Model number *	840 G2	Logo 
Issue date *	1/5/2015	

Product environmental attributes - Market requirements (continued)					Requirement met		
Item					Yes	No	n.a.
<b>P9</b>	<b>Energy consumption</b>						
9.1	For the product the following power levels or energy consumptions are reported:						
Energy mode *	Power level at 100 V AC	Power level at 115 V AC	Power level at 230 V AC	Reference / Standard for energy modes and test method *			
ENERGY STAR® On Mode* (System Short Idle)	8.65 W	8.59 W	8.92 W	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
ENERGY STAR® On Mode* (System Long Idle)	4.47 W	3.39 W	3.87 W	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
ENERGY STAR® Low Power Sleep Mode* (S3 - Windows "Standby") With Wake On LAN (WOL) Enabled	0.74 W	0.74 W	0.79 W	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
ENERGY STAR® Low Power Sleep Mode* (S3 - Windows "Standby") With Wake On LAN (WOL) Disabled	0.73 W	0.74 W	0.79 W	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
ENERGY STAR® System Off/Apparent Off Mode* (ACPI S5) With Wake On LAN(WOL) Enabled (Test Unit connected to AC Mains, AC adapter connected to notebook)	0.35 W	0.36 W	0.4 W	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
ETEC* Annual Energy Consumption (calculated value) for each input voltage	29.68 kWh/year	28.6 kWh/year	30.15 kWh/year	ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
Display resolution* :	Megapixels				<input checked="" type="checkbox"/>		
Print Speed* :	Images per minute				<input checked="" type="checkbox"/>		
Default time to enter energy save mode:	minutes			ENERGY STAR® Program Requirements for Computers: Ver. 6.0	<input type="checkbox"/>		
P9.2*	Information about the energy save function is provided with the product.				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P9.3*	The product meets the energy requirements of the following voluntary program/s: ENERGY STAR® version: 6.0 Tier: Product category: Notebook PC Others specify:				<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P10</b>	<b>Emissions</b>						
<b>Noise emission – Declared according to ISO 9296</b>							
P10.1	Mode	Mode description	Declared A-weighted sound power level $L_{WA,d}$ (B)	Declared A-weighted sound pressure level $L_{pA,m}$ (dB)		<input type="checkbox"/>	
				Operator position <input checked="" type="checkbox"/>	Bystander positions <input type="checkbox"/>	<input type="checkbox"/>	
				Desktop or Desk side <input type="checkbox"/>	(only if product is not operator attended)	<input type="checkbox"/>	
	Idle	* Fans on, HDD spinning (if applicable)	* 2.9	21		<input type="checkbox"/>	
	Operation	* Fans on, HDD spinning	* 3.0	22		<input type="checkbox"/>	
	Other mode					<input type="checkbox"/>	
	Measured according to: <input checked="" type="checkbox"/> ISO7779 <input checked="" type="checkbox"/> ECMA-74 <input type="checkbox"/> Other (only if not covered by ECMA-74 with $L_{pA,m}$ measurement distance m)						
P10.2	The product meets the acoustic noise requirements of the following voluntary program/s:				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 Processo nº 604 / 16  
 Fls. nº 1064  
 Pront. 17879 - Arnaldo Diego M. D. Cruz

Model number *	840 G2	
Issue date *	1/5/2015	Logo 

Product environmental attributes - Market requirements (continued)		Requirement met		
Item		Yes	No	n.a.
<b>Chemical emissions from printing products</b>				
P10.3*	Test performed according to ECMA-328 (ISO/IEC 28360) standard <input type="checkbox"/> , other specify:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P10.4	Typical emission rate (print phase) is (mg/h): Dust      Ozone      Styrene      Benzene      TVOC			<input checked="" type="checkbox"/>
P10.5	Chemical emission requirements of the following voluntary program/s are met for : Dust <input type="checkbox"/> Ozone <input type="checkbox"/> Styrene <input type="checkbox"/> Benzene <input type="checkbox"/> TVOC <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Electromagnetic emissions</b>				
P10.6	Computer display meets the requirement for low frequency electromagnetic fields of the following voluntary program/s:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11 Consumable materials for printing products</b>				
P11.1*	A Safety Data Sheet (SDS) is available for the ink/toner preparation, even if not legally required (see P4.3).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.2*	Paper containing post-consumer recycled fibers can be used, provided that it meets the requirements of EN12281.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
P11.3*	2-sided (duplex) printing/copying is an integrated product function.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>P12 Ergonomics for computing products</b>				
P12.1*	The display meets the ergonomic requirements of ISO 9241-307 for visual display technologies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P12.2*	The physical input device meets the requirements of ISO 9995 and ISO 9241-410.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>P13 Packaging and documentation</b>				
P13.1*	Product packaging material type(s): <i>PAPER/Corrugated</i> weight (kg): <i>0.405</i> Product packaging material type(s): <i>PLASTIC/Polyethylene low density</i> weight (kg): <i>0.026</i> Product packaging material type(s): <i>PLASTIC/EPE-Expanded Polyethylene</i> weight (kg): <i>0.045</i>			
P13.2*	Product plastic packaging is free from PVC.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
P13.3*	Specify media for user and product documentation (tick box): Electronic <input checked="" type="checkbox"/> , Paper <input type="checkbox"/> , Other <input type="checkbox"/>			<input type="checkbox"/>
P13.4*	For paper user and product documentation, please specify contained percentage of post-consumer recycled fiber: <i>0%</i>			<input type="checkbox"/>
Rev. P13.5	User and product documentation do not contain chlorine bleached paper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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P14	Additional information (See Note B4)															
All sections	1. Product environmental information contained in this declaration is valid as of the date the declaration is published. Changes to external standards referenced in the IT Eco-Declaration may invalidate some information contained in this declaration over time.															
P9	<p>1. Many PCs are offered in multiple configurations within the model family. Energy efficiency data listed in this declaration is for an ENERGY STAR® compliant configuration 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. For more information about HP's ENERGY STAR® qualified products, go to hp.com: <a href="http://www.hp.com/">http://www.hp.com/</a> and select the applicable market segments and product categories to find PC configurations that meet the ENERGY STAR® specifications.</p> <p>2. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured model.</p> <p>3. Energy Efficiency information published on the ECMA 370 The Eco Declaration represents a typically configured product base model meeting ENERGY STAR® specifications if offered within the model family. If optional components or modules are added, like extra hard disks or graphic cards etc, these can change the energy efficiency data listed above.</p> <p>4. Power consumption in the Off / Apparent Off mode is measured and reported with the network interface controller (NIC) WOL disabled.</p> <p>5. European Union Commission Regulation 1275/2008- Energy Efficiency Information:</p> <table border="1"> <thead> <tr> <th>Mode / Condition</th> <th>Power Consumption in Watts at 230 VAC Input</th> <th>Default Time to Mode / Condition (if applicable)</th> </tr> </thead> <tbody> <tr> <td>Off Mode (if applicable)</td> <td>0.41 W</td> <td>Not Applicable</td> </tr> <tr> <td>Standby Mode (if applicable)</td> <td>Not Applicable</td> <td>Not Applicable</td> </tr> <tr> <td>Network Standby / Sleep / Long Idle Mode if all wired network ports are connected and all wireless network ports are activated (if applicable)</td> <td>7.64 W</td> <td>15 Min</td> </tr> <tr> <td>Network Standby / Sleep / Long Idle Mode (if applicable)</td> <td>5.72 W</td> <td>15 Min</td> </tr> </tbody> </table> <p>6. European Union Commission Regulation 1275/2008- Wireless Network Instructions:            Where applicable, activate and deactivate a wireless network using the instructions provided in the product user guide or the operating system. Information is also available at <a href="http://www.hp.com/support">www.hp.com/support</a>.</p>	Mode / Condition	Power Consumption in Watts at 230 VAC Input	Default Time to Mode / Condition (if applicable)	Off Mode (if applicable)	0.41 W	Not Applicable	Standby Mode (if applicable)	Not Applicable	Not Applicable	Network Standby / Sleep / Long Idle Mode if all wired network ports are connected and all wireless network ports are activated (if applicable)	7.64 W	15 Min	Network Standby / Sleep / Long Idle Mode (if applicable)	5.72 W	15 Min
Mode / Condition	Power Consumption in Watts at 230 VAC Input	Default Time to Mode / Condition (if applicable)														
Off Mode (if applicable)	0.41 W	Not Applicable														
Standby Mode (if applicable)	Not Applicable	Not Applicable														
Network Standby / Sleep / Long Idle Mode if all wired network ports are connected and all wireless network ports are activated (if applicable)	7.64 W	15 Min														
Network Standby / Sleep / Long Idle Mode (if applicable)	5.72 W	15 Min														
P10	1. Acoustic noise information published on the ECMA 370 The Eco Declaration represents a typically configured product base model only. If optional items with moving parts are added, like extra hard disks or graphic cards with fans etc, these can change acoustic noise values for which HP can take no responsibility.															

Note B4: Additional lines may be inserted to declare further items, by positioning the cursor at the far right of the row and hitting the <Enter> key

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Legal references Europe Annex B

Reference	Declaration item
2002/95/EC (ROHS Directive)	P1.1, P4.1
REACH, Annex XVII	P1.6, P1.8, P4.2
REACH, Annex XVII	P1.4
REACH, Annex XVII	P1.2
REACH, Annex XVII	P1.7
REACH, Annex XVII	P1.9
Regulation (EC) No. 2037/2000, 2038/2000, 2039/2000	P1.3
Norwegian regulation relating to restrictions on the use of certain dangerous chemicals 20.12.2002	P1.5
2006/66/EC (Battery and accumulators Directive)	P2.1, P2.2, P2.3, P3.4, P8.1
2006/95/EC (Low Voltage Directive)	P3.1, 3.4
2004/108/EEC (New EMC Directive)	P3.2, 3.4
1999/5/EC (R&TTE Directive)	P3.3, 3.4
"REACH" Regulation (1907/2006), annex VII	P1.10
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P4.3
REACH article 31, annex II	P4.3
2004/12/EC (Directive on packaging and packaging waste)	P5.1
(97/129/EC) (Commission Decision on Identification System for Packaging Materials	P5.2
2037/2000/EC Regulation on Substances that Deplete the Ozone Layer	P5.3
2002/96/EC (WEEE directive)	P3.4, P6.1
(EC) No.1272/2008 regulation on classification, labeling and packaging (CLP)	P7.19

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# THE ECO DECLARATION



## Company environmental profile - THE ECO DECLARATION

Brand	HP	Logo
Company name *	Hewlett-Packard Company	
Contact information *	HP Environmental Contact Centre (ECC) environment@hp.com	
Internet site *	www.hp.com/hpinfo/globalcitizenship/environment/index.html	
Issue date *	2014-06	
Intended market *	<input checked="" type="checkbox"/> Global <input type="checkbox"/> Europe <input type="checkbox"/> Asia, Pacific & Japan <input type="checkbox"/> Americas <input type="checkbox"/> Other	
Additional information		

This is an uncontrolled copy when in printed form. Please refer to the contact information for the latest version.

The declaration may be published only when all rows and/or fields marked with an \* are filled-in (n.a. for not applicable). Additional information regarding each item may be found under C6.

Quality control		Requirement met	
Item		Yes	No
QC1 *	The company enforces an internal quality control system to ensure the correctness of this eco declaration	<input checked="" type="checkbox"/>	<input type="checkbox"/>
QC2 *	The company is a member of an eco declaration system that enforces regular independent quality control.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Company environmental profile - Legal requirements		Requirement met		
Item		Yes	No	n.a.
<b>C1</b>	<b>Product recycling</b>			
C1.1*	The company participates in a system or has its own system for collection and recycling of end of life products in countries where the company puts them on the market and where required (see legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>C2</b>	<b>Battery recycling</b>			
C2.1*	The company participates in a system or has its own system for collection and recycling of batteries in countries where the company puts products on the market (see legal reference) or pays eco tax / fee where required.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>C3</b>	<b>Packaging recycling</b>			
C3.1*	The company participates in a system or has its own system for collection and recycling of packaging material in countries where the company puts products on the market and where required (see legal reference)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Company environmental profile - Market requirements		Requirement met		
Item		Yes	No	n.a.
<b>C4</b>	<b>Environmental policy and environmental management</b>			
C4.1*	The company has a documented environmental policy approved by the management.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
C4.2*	The company has an environmental management system covering: Product development Manufacturing If so certified according to: <input checked="" type="checkbox"/> ISO 14001 <input type="checkbox"/> Other as specified in C6	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
C4.3	The company regularly publishes an environmental report. If so, it meets the recommendations of <input checked="" type="checkbox"/> The Global Reporting Initiative <input type="checkbox"/> Other as specified in C6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>C5</b>	<b>Recycling</b>			
C5.1*	Information about the product, battery & packaging take back system (C1, C2, C3) is available in printed or electronic format.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>C6</b>	<b>Additional information</b>			
<p>HP is committed to responsible business practices and transparency in its global citizenship policies and performance. We have a long history of working with suppliers to improve their social and environmental (SER) performance, as well as improving industry standards. HP endorses the EICC Code of Conduct in its entirety, and we supplement it with additional requirements specific to freedom of association and HP's Student and Dispatch Worker Guidance Standard for Supplier Facilities in the People's Republic of China (PRC). HP also has a strong Global Human Rights Policy in place. HP sets expectations for its suppliers to establish policies and processes regarding conflict minerals. HP conducts due diligence on its supply chain annually including requesting information about our suppliers' own due diligence and the smelters and refiners used. HP became the first IT company to publish its supply chain smelter list. HP follows the Global Reporting Initiative (GRI) guidelines as a basis for reporting. The GRI index provides easy reference to HP's Living Progress Report (LPR) content. HP offers take back services of products and printing suppliers in some 70 countries. Please refer to HP's Living Progress Report for more details on our global efforts.</p>				

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Fis. nº <u>1068</u>
Pront. 17879 - Arnaldo Diego M. D. Cruz

**Legal references Europe Annex A**

Reference	Declaration item
2002/96/EC (WEEE directive)	C1.1
2006/66/EC (Battery and accumulators Directive)	C1.2
2004/12/EC (Directive on packaging and packaging waste)	C1.3

# PROPOSTA TÉCNICA

2016-05-25 01:01

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LOTE I – ITEM 9  
CATALOGO E CERTIFICADOS

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# Uptime Institute

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## Uptime Institute Tier Certifications - Design Documents

Filter by Client:

By Country:

By Tier Level:

Reset Filter    Display:

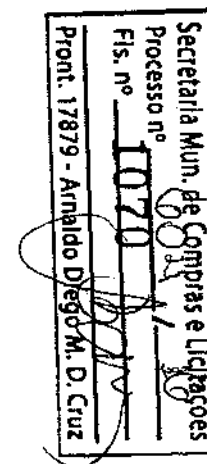
### Selected Filter - Client: Oi Cyber Data Center

Please visit the [Terms and Limitations page](#) for Tier Certification, which included key updates as of 1 de janeiro de 2014 and 1 de julho de 2015.  
[Termos e limitações das certificações de Tier e de sustentabilidade operacional](#)

## Tier Certification of Design Documents

### Tier III - Simultaneamente sustentável

**Oi Cyber Data Center**  
Data Center SIG - Brasília - DF  
Brasília, Distrito Federal  
Brasil



[ Back to the main page ]

Termos e limitações das certificações de Tier e de sustentabilidade operacional



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**"ATESTADO DE CAPACIDADE TÉCNICA"**

Atestamos para fins de comprovação da realização de atividade técnica, que a **Brasil Telecom Comunicação Multimídia Ltda.**, presta ao **Tribunal de Justiça do Estado de São Paulo** os serviços abaixo relacionados com as seguintes características:

1. **Contrato de Prestação de Serviços** n.º 000.015/07
2. **Anotação Responsabilidade Técnica (ART)** n.º 92221220070612849
3. **Objeto do Contrato** Contratação de empresa especializada para prestação de serviço de hospedagem (Data Center), bem como o fornecimento de circuito de comunicação externo, com gerenciamento dos equipamentos de tecnologia da informação do Tribunal de Justiça.

**4. Dados da Contratada**

**Razão Social:** Brasil Telecom Comunicação Multimídia Ltda  
**C.N.P.J.:** 02.041.460/0001-93  
**Endereço Sede:** Avenida das Nações Unidas, 12.901, 27ª andar, Conjunto 2701, T. Centre - São Paulo/SP - CEP: 04.578-000  
**N.º de Registro no CREA/SP:** 0498498



**5. Dados do Contratante**

**Razão Social:** Tribunal de Justiça do Estado de São Paulo  
**C.N.P.J.:** 51.174.001/0001-93  
**Endereço:** Praça da Sé, S/N - Centro - São Paulo / SP CEP: 01018-010

**6. Período de execução**

**Início:** 22/02/2007  
**Término:** 22/02/2012

10/05/07  
 10/05/07  
 10/05/07



**7. Endereço da obra ou serviço:**  
 Endereço: Avenida Guido Cozzi, 1000 - Jardim São Luis - São Paulo - SP

**8. Descrição dos Serviços**

**✓ HOSPEDAGEM**

Alocação de espaço físico próprio para ambiente de Tecnologia da Informação, contíguo em área dedicada exclusivamente ao Tribunal de Justiça, de propriedade da contratada (Datacenter próprio), com fechamento a chave ou cartão magnético de uso somente por pessoas autorizadas pelo Tribunal de Justiça.

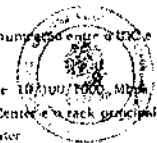
**✓ CIRCUITOS DE COMUNICAÇÃO**

Fornecimento de circuito de comunicação (banda Internet) com velocidade mínima de 155Mbps plena com redundância, para uso exclusivo do Tribunal de Justiça.

Fornecimento do link de comunicação entre o TJC e o Tribunal de Justiça na velocidade de 1 Gbps.

Conexões em velocidades de 10/100/1000 Mbps entre as instalações de telecomunicações do Data Center e o rack principal de rede no ambiente do Tribunal dentro do Data Center.

A disponibilidade mensal dos circuitos de comunicação de dados, de acordo com o SLA - Service Level Agreement definido no Contrato de Prestação de Serviços e de 99,5%.



10/05/07  
 10/05/07

Secretaria Mun. de Compras e Licitações  
 Processo nº 1072/11  
 Fis. nº 1072/11  
 Pront. 17879 - Arnaldo Diego M. D. Cruz



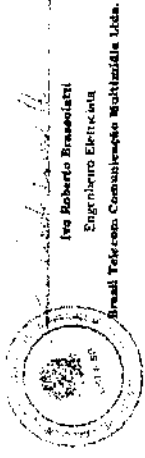
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TRIBUNAL DE JUSTIÇA DE SÃO PAULO



PODER JUDICIÁRIO  
TRIBUNAL DE JUSTIÇA DE SÃO PAULO

Atenuamos, adicionalmente, que as serviços prometidas pela **Brazil Telecom Comunicação Multimedial Ltda.**, encontram-se em conformidade com as obrigações contratuais assumidas, nada havendo que a deslance na presente prestação do serviço.

São Paulo, 23 de Agosto de 2007  
**Luiz Carlos Villani de Bousa**  
 Diretor Técnico de Planejamento e Administração de Recursos de TI  
 Secretaria de Tecnologia da Informação  
 Telefone: (11) 2771-6543



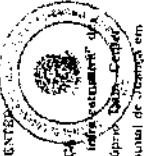
**Ivo Roberto Braseuskis**  
 Engenheiro Eletricista  
 Brasil Telecom Comunicação Multimedial Ltda.

Secretaria Mun. de Compras e Licitações  
 Processo nº 604 / 10  
 Fls. nº 1073  
 Pront. 17879 - Arnaldo Braga M. D. Cruz

**SERVIÇOS DE MANUTENÇÃO**

Serviço de manutenção é proposto pelos seguintes itens:  
 Inoperante por erro de fábrica do ambiente de rede ou seus componentes, com a respectiva correção, quando for de sua competência.  
 A correção de falha que for de competência do DATA CENTER deverá ser comunicada ao Tribunal de Justiça imediatamente.

Suporte técnico, na modalidade (24x7x365), para a operação dos equipamentos do Tribunal de Justiça localizados no DATA CENTER.



**SERVIÇO DE CONTINGÊNCIA DE OPERAÇÃO CRÍTICA**

Forneçimento especializado e pontual de trabalho, com infraestrutura de Telecomunicações e TI no âmbito do próprio Data Center, garantindo a continuidade das operações críticas do Tribunal de Justiça em situações de substituição, falhas nos sistemas ou infra-estrutura, etc.

**RESPONSÁVEL TÉCNICO PELA EXECUÇÃO E ACOMPANHAMENTO DOS SERVIÇOS PRESTADOS**

Identificação (base Responsável) Técnico(a):  
 Brasil Telecom Comunicação Multimedial Ltda  
 Nome: Ivo Roberto Braseuskis  
 Título: Engenheiro Eletricista  
 N.º de Registro no CREA: SP/0601379300 / D

Atividades, devidamente detalhadas, constantes do Gerenciamento das Serviços prestados.

BRASIL TELECOM  
 10/08/07





**CERTIDÃO DE ACERVO TÉCNICO - CAT**

Valida somente para o Estado de São Paulo



CERTIDÃO Nº: **SZO-77902**

Publicado em: 1 de 1

Affiliate nº: 18761 - 0227120000612849

CERTIFICAMOS, para os devidos fins, de acordo com os artigos 1º, 2º e 3º da Resolução nº 317/86 do CONFEA, que consta em nossos arquivos o registro de Acervo Técnico do profissional abaixo mencionado.

Profissional: **DR. ROBERTO BRASQUATTI**

Título: **Engenheiro Eletricista**

CREASP Nº: **0001070280**

Atuação: **Artigo 18 e 19, da Resolução 216/75, do CONFEA.**

Atividade: **Responsável Técnico por Serviço Técnico no Área de Engenharia Elétrica - Instalação (Data Criação), criação de documentação, supervisão de gerenciamento e supervisão de manutenção de geração elétrica (P11502A).**

Quantidade: **Empenhada Conforme Anexado anexo.**

Local de atuação: **Avonida Bordo Cabel, 1.000 - Jardim São Luís.**

Cidade: **São Paulo.**

UF: **Estado - SP**

Valor: **R\$ 192.000,00 (Novecentos e 00)**

Período: **22/02/2007 a 23/09/2007.**

Instância: **Tribunal de Justiça do Estado de São Paulo.**

Contratado: **Brasil Telecom Comunicação Multimídia Ltda.**

CREASP Nº: **045949A**

**DECLARAÇÃO:** Informamos, que fizemos, para fins de comprovação de presente Conselho (ou documento) regularidade pelo profissional ou órgão público, a quem cabe a responsabilidade, pela validade e veracidade do que neste (ou nestes) constar(em).

São Paulo, 1 de fevereiro de 2007.

*[Assinatura]*

Enfermeiro: *[Assinatura]* - 1006 - 1006

**NOTIFICAÇÃO:** O presente certidão e validação somente vale para o profissional mencionado. O profissional e toda a documentação anexada ao longo do ato de profissionalização, devem ser mantidos em arquivo, sob pena de qualquer irregularidade.

1 de fevereiro de 2007.

Secretaria Mun. de Compras e Licitações  
Processo nº 004 / 10  
Fls. nº 1074  
Pront. 17879 - Arnaldo Diego M. D. Cruz



Agência Nacional de Vigilância Sanitária  
Gerência - Geral de Informação



**ATESTADO DE CAPACIDADE TÉCNICA**

Atestamos para fins de comprovação da realização de atividade técnica, que o profissional **DANILO BARROS NACIFE JÚNIOR - CREA DF-7813/D**, como Responsável Técnico pela **BRASIL TELECOM S/A**, prestou para a **AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA - ANVISA** os serviços abaixo relacionados com as seguintes características:

- Contrato N.º 09/2002
- ART N.º 007722/2002
  
- **OBJETO DO CONTRATO:** Prestação de serviço de **Internet Data Center - IDC** para hospedagem de **hosting** dedicado do portal de serviços da **AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA - ANVISA**.
  
- **DADOS DA CONTRATADA :**
  - Razão Social: **BRASIL TELECOM S/A**
  - CNPJ/MF : **76.535.764/0001-43**
  - Endereço : **SIA, ASP lote "D" bloco "B" - CEP 71.215-000.**
  - Registro no CREA N.º **RF 5623/DF**
  
- **DADOS DO CONTRATANTE :**
  - Razão Social: **AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA - ANVISA**
  - CNPJ/MF : **03.112.386/0001-11**
  - Endereço : **SEPN QUADRA 515, BLOCO B, ED. ÔMEGA -- 1º Ss. BRASÍLIA -- DISTRITO FEDERAL -- CEP 70.770-502**
  
- **PROPRIETÁRIO DO EMPREENDIMENTO:** o Contratante
  - **PERÍODO DE EXECUÇÃO:**
  - Início : **21/03/2002**
  - Término : **21/03/2003**
  - Endereço : **SEPN Quadra 515, BL. B, Ed. ÔMEGA -- 1º Ss.**
  
- **DESCRIÇÃO DO SERVIÇO**
  - **Fornecimento, instalação e manutenção de Servidores (Hospedagem) da Agência Nacional de Vigilância Sanitária - ANVISA no CyDC (Cyber Data Center Brasil Telecom) disponibilizando serviços de Banco de Dados, WEB e outros aplicativos da ANVISA. Para acesso aos servidores foi disponibilizado no CyDC 3 Mbps IP Dedicado à internet, 3 circuitos SLDD de 2 Mbps cada da ANVISA para o CyDC e na ANVISA 2 Mbps IP Dedicado à Internet. Para a comunicação de dados nos circuitos IP e SLDD foram fornecidos e instalados 2 roteadores Cisco 4000.**

Declaramos, adicionalmente, que o Responsável Técnico - RT pela prestação do serviço é o:

- Engenheiro **DANILO BARROS NACIFE JÚNIOR - CREA DF-7813/D**
- Período de participação do RT na prestação do serviço desde **21/03/2002 a 21/03/2003**
- Atividades efetivamente desenvolvidas : **Condução/Gerenciamento do serviço.**

Brasília-DF, 02 de agosto de 2002.

Jorge Antonio da Carvalho  
Gerente de Recursos de Informação

*Daniilo Barros Nacife Junior*  
Assinatura/Identificação do RT

Secretaria Mun. de Compras e Licitações
Processo nº 604 / 16
Fis. nº 1075
Pront. 17879 - Arnaldo Bregó M. D. Cruz



BANCO CENTRAL DO BRASIL

### ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para fins de comprovação da realização de atividade técnica, que a **BRASIL TELECOM S/A**, presta para o **BANCO CENTRAL DO BRASIL** os serviços abaixo relacionados com as seguintes características:

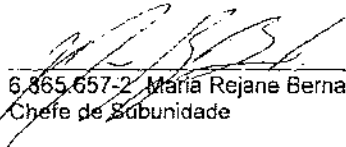
- **CONTRATO N.º Deinf 0157/2006**
- **OBJETO DO CONTRATO:** Prestação de Serviços por meio de Sistema de Telecomunicações para extensão de canais de comunicação Escon, ETR Sysplex Timer, Fibre Channel, Fast Ethernet e Gigabyte Ethernet por meio de conexão óptica.
- **DADOS DA CONTRATADA:**
  - Razão Social: BRASIL TELECOM S/A
  - CNPJ/MF: 76.535.764/0001-43
  - Endereço: SIA, ASP lote "D" bloco "B" - CEP 71.215-000.
- **DADOS DO CONTRATANTE:**
  - Razão Social: BANCO CENTRAL DO BRASIL.
  - CNPJ/MF: 00.038.166/0001-05
  - Endereço: SBS, Quadra 3, Edifício-Sede Banco Central, Brasília-DF, CEP 70.074-900.
- **PROPRIETÁRIO DO EMPREENDIMENTO:** o Contratante.
- **PERÍODO DE EXECUÇÃO:**
  - Contrato 0157/2006
  - Início: 29/08/2006;
  - Término: 28/08/2009.
- **ENDEREÇO DE PRESTAÇÃO DO SERVIÇO:** Brasília-DF.
- **DESCRIÇÃO DO SERVIÇO:** Fornecimento de um sistema de telecomunicações para extensão de canais de comunicação Escon, ETR Sysplex Timer, Fibre Channel, Fast Ethernet e Gigabit Ethernet, por meio de conexão óptica, entre o Edifício-Sede/DF e o Centro de Serviços de Informática (CSI) Alternativo, no Centro de Treinamento do Banco Central do Brasil (Cetre), ambos os locais em Brasília (DF).

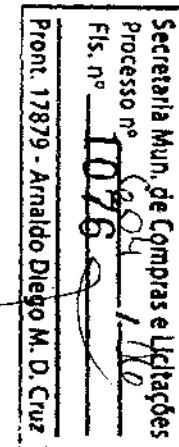


BANCO CENTRAL DO BRASIL

➤ Declaramos, adicionalmente, que o serviço está sendo executado com bom desempenho, boa qualidade e de forma satisfatória.

Brasília, 03 de dezembro de 2007

  
 6.865.657-2 Maria Rejane Bernardo  
 Chefe de Subunidade



Informações sobre assinatura e/ou ver o arquivo original acesse http://e-processo.ice.sp.gov.br - link "Validar documento digital" e digite o código do documento: 2-R3KV-BNQH-6SQ3-46R7T5



### ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para fins de comprovação de atividade técnica e participação em licitações, que mantemos contrato firmado, desde 01/10/2002, com a empresa **BRASIL TELECOM S/A.**, através da qual, a mesma presta-nos serviços de Internet Dada Center – IDC, para hospedagem de Location dedicado do portal de serviços da **BS2 SISTEMAS PARA INTERNET LTDA.**

CONTRATO N.º CYDC/PR.2002.0064.001-02

#### DADOS DA CONTRATADA :

- Razão Social : BRASIL TELECOM S/A.
- C.N.P.J. : 76.535.764/0001-43
- Endereço : SIA Sul, ASP, Lote “D”, Bloco “A”, 2º andar (Cep : 71215-000)
- Registro no CREA N.º RF 5623/DF

#### DADOS DA CONTRATANTE :

- Razão Social : **BS2 SISTEMAS PARA INTERNET LTDA**
- C.N.P.J. : 04.373.526/0001-78
- Endereço : Av Dr Luiz Teixeira Mendes, 638 – Loja 01

PROPRIETÁRIO DO EMPREENDIMENTO : O Contratante

PERÍODO DE EXECUÇÃO DO CONTRATO :

Início : 01/10/2002

Término : 30/12/2005

#### DESCRIÇÃO DO SERVIÇO :

Conectividade IP 1 Mbps Dedicado e Collocation de equipamentos de informática/telecom. em ½ bastidor dedicado ( 20Us).

Declaramos adicionalmente, que os serviços objeto do contrato estão sendo prestados com um nível de disponibilidade e qualidade técnica satisfatória, nada havendo que à desabone nas prestações do mesmo.

Maringá, 01 de agosto de 2003.

ROCHA LOURES

*Carlos Eduardo Scramin*

**BS2 SISTEMAS PARA INTERNET LTDA**

CNPJ: 04.373.526/0001-78

Carlos Eduardo Scramin

CPF: 027.852.289-0

RG. 6.240.256-3

Reconheço a(s) Firma(s) por semelhança de *Carlos Eduardo Scramin*

do que dou fé

Maringá/Pr 01 SET. 2003

Em test<sup>o</sup> da verdade.

081888



- ROCHA LOURES
- |   |   |
|---|---|
| <input type="checkbox"/> DIDEROT A. A. DA ROCHA LOURES<br>2º Tabelião             | <input type="checkbox"/> ALBA DE ARAUJO ROCHA LOURES<br>Of. Maior |
| <input type="checkbox"/> LAURA ALVES DE GOES CAPPELLINI<br>Auxiliares Autorizados | <input type="checkbox"/> JULIANA RIZZO DA ROCHA LOURES            |
| <input type="checkbox"/> MIYAE NAKATANI TAKAKURA                                  | <input type="checkbox"/> LUCIA REGINA RIZZO SPERANDIO             |
| <input type="checkbox"/> MAIRA RIZZO DA ROCHA LOURES                              | <input type="checkbox"/> MARCIA REGINA MORAES DE LIMA             |

Brasília, 03 JUN. 2004

Em testemunho da verdade

- ENIVAL MOREIRA DE ARAÚJO - Titular
- CARLOS ALBERTO VAZ DA COSTA
- ZILMAR BARRETO
- MIGACIR NATERCIO

## ATESTADO DE CAPACIDADE TÉCNICA

Atestamos para fins de comprovação da realização de atividade técnica, que a **BRASIL TELECOM S/A.**, através do seu responsável técnico, o profissional Danilo Barros Nacif Junior, portador da Carteira n.º 7813/D, presta para **CAIXA SEGUROS S/A.** os serviços abaixo relacionados com as seguintes características:

- **Contrato N.º CONT./CYDC/020/2003**
- **ART N.º 06690**
- **OBJETO DO CONTRATO:** Disponibilização de ambiente físico e lógico, para recuperação de sistemas e serviços, em regime de contingência, para processamento de dados, em ambiente denominado "Cyber Data Center" conexão entre as partes, será local ou remota, através de rede "VPN".
- **DADOS DA CONTRATADA:**
  - **Razão Social:** BRASIL TELECOM S.A.
  - **C.N.P.J.:** 76.535.764/0001-43
  - **Endereço:** SIA SUL, Área de Serviços Públicos, Conjunto 'D' - Bloco CEP: 71.215-000 - Brasília - DF.
  - **Registro no CREA N.º RF 5623/DF**
- **DADOS DO CONTRATANTE:**
  - **Razão Social:** CAIXA SEGURADORA S/A.
  - **C.N.P.J.:** 34.020.354/0001-10
  - **Endereço:** SCN - Quadra 1, Bloco A - Edifício Number One - 15º, 16º e 17º andares - CEP: 70.711-900 - Brasília - DF
  - **Telefone:** 61 429-2868
- **PROPRIETÁRIO DO EMPREENDIMENTO:** o Contratante
- **PERÍODO DE EXECUÇÃO**
  - **Início:** 10/09/2003
  - **Término:** 10/09/2004
- **ENDEREÇO DO SERVIÇO:** SCN Quadra 02, Bloco F - Subsolo - CEP: 70710-500 - Brasília - DF.
- **DESCRIÇÃO DO SERVIÇO:** Prestação de serviços de disponibilização de ambientes físicos e lógicos, que permita a recuperação de sistemas e serviços da Caixa Seguros, em regime de contingência, dentro do ambiente denominado "Cyber Data Center", de propriedade da Brasil Telecom, cuja conexão entre as

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Processo nº 10978  
Fis. nº 10978  
Front. 17879 - Arnaldo Diego M.D. Cruz

empresas será feito localmente ou remotamente, através da rede denominada Internet, sob o serviço de Rede Virtual Privada (VPN).

- A arquitetura da solução proposta está sendo atendida por um equipamento IBM 9672-ZY7 - Partição CAIXASEG, configurada com 2 GB de memória real, 36 MIPS, 8 canais ESCON, 5 paralelos, OSA2 10 Mbps e OSA SF 100 Mbps. O subsistema de disco disponibilizado será o ESS 2105 - F20 (Shark IBM), com 500 GB de disco. As unidades de fita serão IBM 3490-E e 3590, cada uma composta de 2 (dois) drives.
- As linhas telefônicas fornecidas e habilitadas para ligações nacionais e internacionais. Quanto ao aparelho de fax, disponibilizados na sala compartilhada, permitirá o apoio e suporte do ambiente.
- Todos os 10 (dez) micros estão disponibilizados com acesso à Internet e o Emulador 3270 - Extra conectados à rede dos equipamentos da plataforma mainframe.
- Declaramos, que o Responsável Técnico - RT pela prestação do serviço é o:
  - Engenheiro **DANILO BARROS NACIF JUNIOR** - CREA-DF N.º 7813 / D
  - Período de participação do RT na prestação do serviço desde 10/09/2003
  - Atividades efetivamente desenvolvidas: **Condução / Gerenciamento dos Serviços.**
- Atestamos adicionalmente, que os serviços prestados pela Brasil Telecom S/A, encontram-se em conformidade com as obrigações contratuais assumidas, nada havendo a que desabone na presente prestação de serviço.

Brasília, 03 de Junho de 2004

**MARCOS RIBEIRO DE SOUZA**  
Gerente de Produção e Rede

03 JUN 2004

CAIXA SEGURADORA S.A.  
CNPJ - 34.020.354/0001-10  
Inscrição Estadual - 073.151.18/001-12  
SCN Quadra 01 Bloco A - 11º andar - Ed Number One - Fone (61) 429.2568

1º OFÍCIO DE NOTAS F. CIVIL E PROTESTOS-DF  
4/15 NORTE - QD. 504 - ED. MARTINA FERREIRO  
BRASILIA-DF - FONE: (061) 326.5734

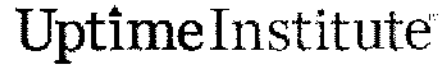
RECONHECO e dou fe no SENHANCIA(S) de  
Firma(s) de:  
0318938-MARCOS RIBEIRO DE SOUZA

En testemunho da verdade  
BRASILIA, 03 de Junho de 2004

033-AROLD DE SOUZA ARAUJO  
ESCRIVÃO AUTORIZADO  
LSE

Soares Arrojado  
Escritor de Brasília-DF  
Autorizado

Caixa Seguradora S. A  
CNPJ - 34.020.354/0001-10 Inscrição Estadual - 073.151.18/001-12  
SCN Quadra 01 Bloco A - 11º andar - Ed Number One - Fone (61) 429.2568



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### Uptime Institute Tier Certifications - Design Documents

Filter by Client:

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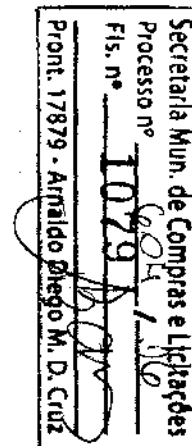
### Selected Filter - Client: T-Systems Brazil, Country: Brasil

Please visit the [Terms and Limitations page](#) for Tier Certification, which included key updates as of 1 de janeiro de 2014 and 1 de julho de 2015.  
[Termos e limitações das certificações de Tier e de sustentabilidade operacional](#)

### Tier Certification of Design Documents

#### Tier III - Simultaneamente sustentável

**T-Systems Brazil**  
T-Center  
Barueri, Sao Paulo  
Brasil



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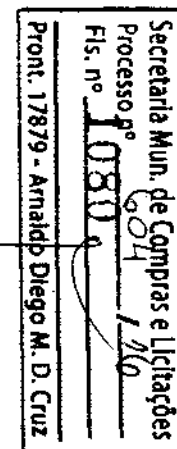
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Termos e limitações das certificações de Tier e de sustentabilidade operacional



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### Uptime Institute Tier Certifications - Design Documents

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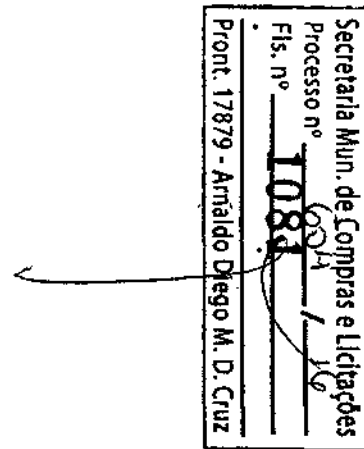
### Selected Filter - Client: Level 3 Brasil Sao Paulo

Please visit the [Terms and Limitations page](#) for Tier Certification, which included key updates as of 1 de janeiro de 2014 and 1 de julho de 2015.  
[Termos e limitações das certificações de Tier e de sustentabilidade operacional](#)

### Tier Certification of Design Documents

#### Tier III - Simultaneamente sustentável

**Level 3 Brasil Sao Paulo**  
Datacenter DC - 6, DC - 7 and DC - 8  
Cotia, Sao Paulo  
Brasil



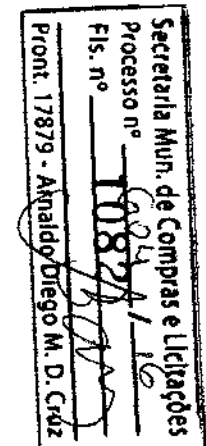
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Termos e limitações das certificações de Tier e de sustentabilidade operacional



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# Conformidade com a HIPAA

Gostaria de informações sobre a HIPAA na Nuvem

Conformidade

Segurança na nuvem

Programas de garantia

Recursos

Últimas novidades

Eventos



## HIPAA

Um número grade e crescente de provedores de saúde, pagantes e profissionais de TI estão usando os serviços de nuvem baseado em utilitários da AWS para processar, armazenar e transmitir PHI.

A AWS permite que entidades com cobertura e seus associados sujeitos à **HIPAA (Health Insurance Portability and Accountability Act, Lei de Portabilidade e Responsabilidade de Seguros de Saúde) dos EUA** se beneficiem do ambiente seguro da AWS para processamento, manutenção e armazenamento de informações protegidas relacionadas à saúde.

A AWS oferece um **whitepaper sobre a HIPAA** para os clientes interessados em saber mais sobre como podem aproveitar a AWS para o processamento e armazenamento de informações de saúde. O whitepaper "Creating HIPAA-Compliant Medical Data Applications with AWS" descreve como as empresas podem usar a

Secretaria Mun. de Compras e Licitações  
Processo nº 1083  
Fis. nº 1083  
Pront. 17878 - Arnaldo Diego M. D. Cruz

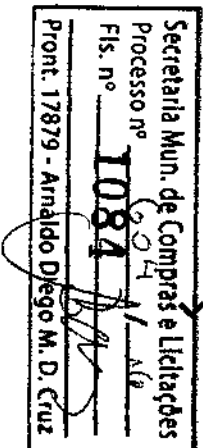
CÓPIA DE DOCUMENTO ASSINADO DIGITALMENTE POR: GABRIEL MARCHI DA SILVA. Sistema e-TCESP. Para obter informações sobre assinatura e/ou ver o arquivo original acesse http://e-processo.tce.sp.gov.br -link 'Validar documento digital' e informe o código do documento: 2-R3KV-BNQH-6SQ3-46R7315

AWS para processar sistemas que facilitam a conformidade com a HIPAA e a HITECH.

# Clientes de conformidade da nuvem HIPAA

HealthCare.gov

ORION  
HEALTH



O que são HIPAA e HITECH?

O que é a HITRUST?

O que é um Acordo de associado comercial?

A AWS assinará um Acordo de Associado Comercial como descrito nas regras e regulamentos da HIPAA?

A AWS tem a certificação da HIPAA?

Quais serviços posso usar na minha conta da AWS se tenho um BAA com a AWS?

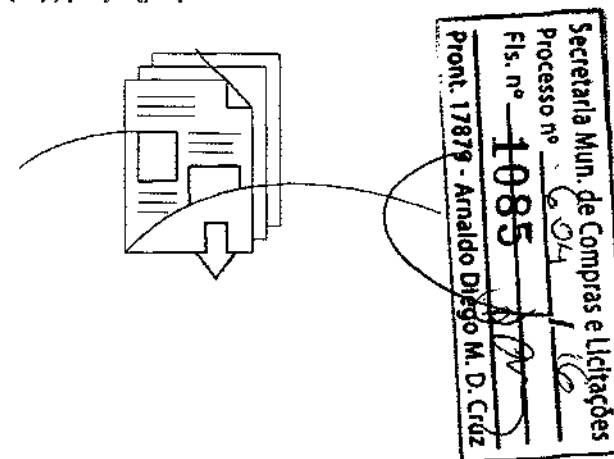
Se você é um parceiros de SaaS da AWS com um BAA e você vende suas soluções de SaaS a provedores de saúde ou outras entidades cobertas, essas entidades também precisam assinar um BAA com a AWS?



## Recursos de conformidade com a HIPAA

A AWS oferece um **whitepaper sobre a HIPAA** para os clientes interessados em saber mais sobre como podem aproveitar a AWS para o processamento e armazenamento de informações de saúde. O whitepaper **Creating HIPAA-Compliant Medical Data Applications with AWS** descreve como as empresas podem usar a AWS para processar sistemas que facilitam a conformidade com a HIPAA e a HITECH.

- **A Lei de Portabilidade e Responsabilidade de Provedores de Saúde (HIPAA)**
- **Estrutura de Segurança Comum (CSF, Common Security Framework)**

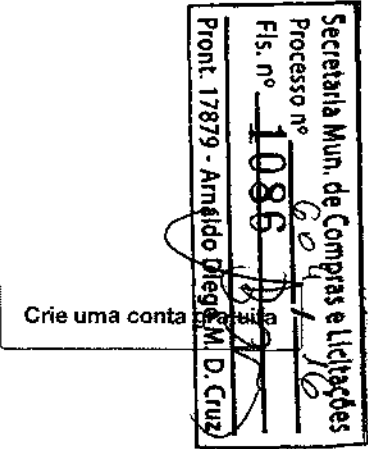


### HITRUST

- Regra final intermediária de aplicação da Lei HITECH
- Fornecedores e seguradoras de saúde na nuvem

## Quer mais informações sobre a conformidade com a AWS HIPAA?

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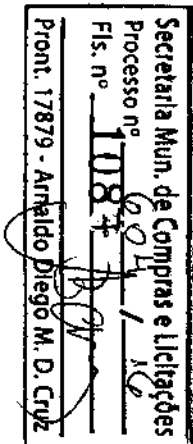
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Java na AWS





- JavaScript na AWS
- Aplicativos móveis na AWS
- PHP na AWS
- Python na AWS
- Ruby na AWS
- Windows e .NET na AWS
- SDKs e ferramentas
- AWS Marketplace
- Grupos de usuários
- Planos de suporte
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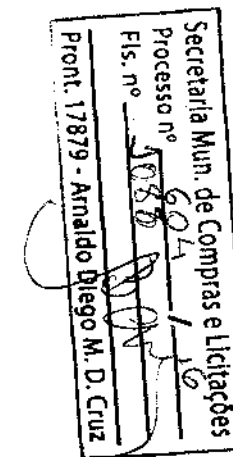
#### Gerencie sua conta

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- Gerenciamento de cobrança e custos
- Informações pessoais
- Método de pagamento
- AWS Identity & Access Management
- Credenciais de segurança
- Solicite aumentos de limite de serviço
- Entre em contato conosco

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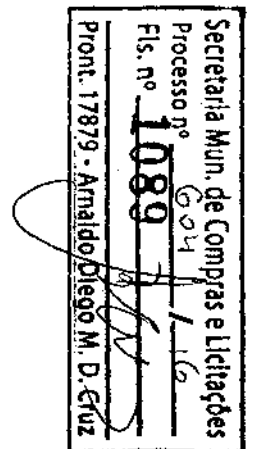
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# Conformidade da PCI

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# Nível 1 do PCI DSS

A PCI DSS é um padrão que especifica melhores práticas e diversos controles de segurança. A certificação no padrão requer que as organizações:

- Criem e mantenham uma rede segura
- Protejam os dados de proprietários de cartão
- Mantenham um programa de gestão de vulnerabilidades
- Implementem medidas robustas de segurança
- Testem e monitorem redes regularmente
- Mantenham uma política de segurança da informação

**Todas as organizações que processam informações de cartão de crédito, independentemente do modelo de implementação, devem ser certificadas.** Para os comerciantes (o maior tipo é o Merchant Level 1), é necessária a validação por um revisor independente e aprovado. O PCI Qualified Security Assessor (QSA - Assessor Qualificado de Segurança da PCI) é autorizado a desempenhar avaliações independentes e certificar fornecedores.

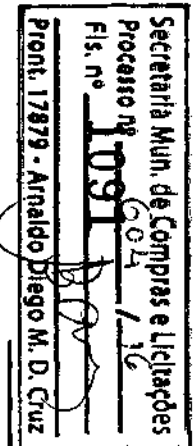


Clientes de conformidade da nuvem PCI



strina

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O que é a Certificação PCI?

A AWS é certificada pelo PCI?

Serviços da AWS compatíveis com PCI

O que isso significa para mim como comerciante ou provedor de serviços da PCI?

O que isso significa para mim como cliente comerciante fora da PCI?

Posso depender dos resultados do Relatório de Conformidade com a PCI da AWS ou testes adicionais são requeridos para estar em conformidade total?

Como posso saber mais sobre por quais controles da PCI sou responsável?

Como posso obter o AWS PCI Compliance Package (Pacote de Conformidade da AWS com a PCI)?

A AWS depende do seu relatório SOC 1 (antes denominado SAS 70) para demonstrar a conformidade com a PCI?

Alguém obteve certificação PCI na plataforma da AWS?



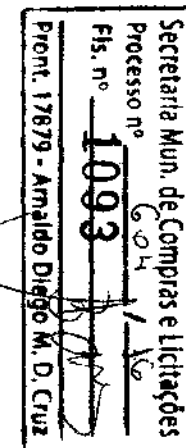
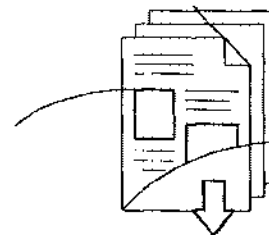
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- A AWS faz parte da lista de Registro Global Visa dos provedores de serviço e da Lista de Provedores de Serviço em Conformidade com a MasterCard? ✓
- O padrão PCI requer ambientes dedicados para estabelecer conformidade? ✓
- Os QSAs para os comerciantes de nível 1 requerem a excursão física pelo datacenter do provedor de serviço? ✓
- A AWS cooperará com investigações forenses caso seja necessário? ✓
- Existe algum ambiente especial em conformidade com a PCI que preciso especificar ao inicializar servidores ou enviar objetos para armazenamento? ✓
- A conformidade da AWS se aplica internacionalmente? ✓
- O padrão PCI DSS é público? ✓

## Recursos de conformidade com PCI

- Diretrizes de computação em nuvem do PCI DSS
- Padrão PCI DSS
- Manual de conformidade com a PCI na Nuvem AWS




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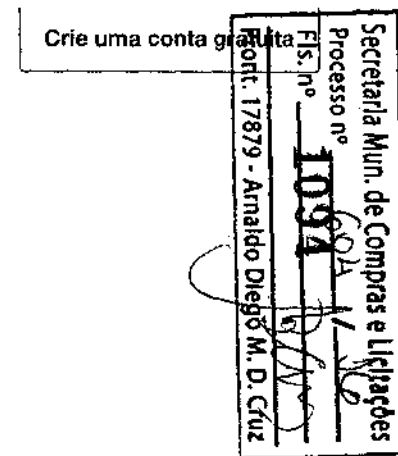
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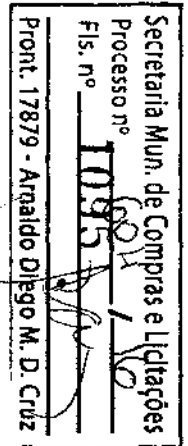
PHP na AWS

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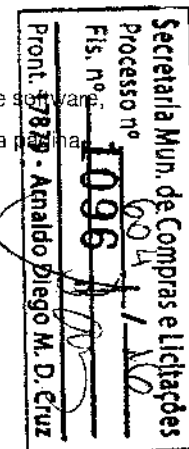
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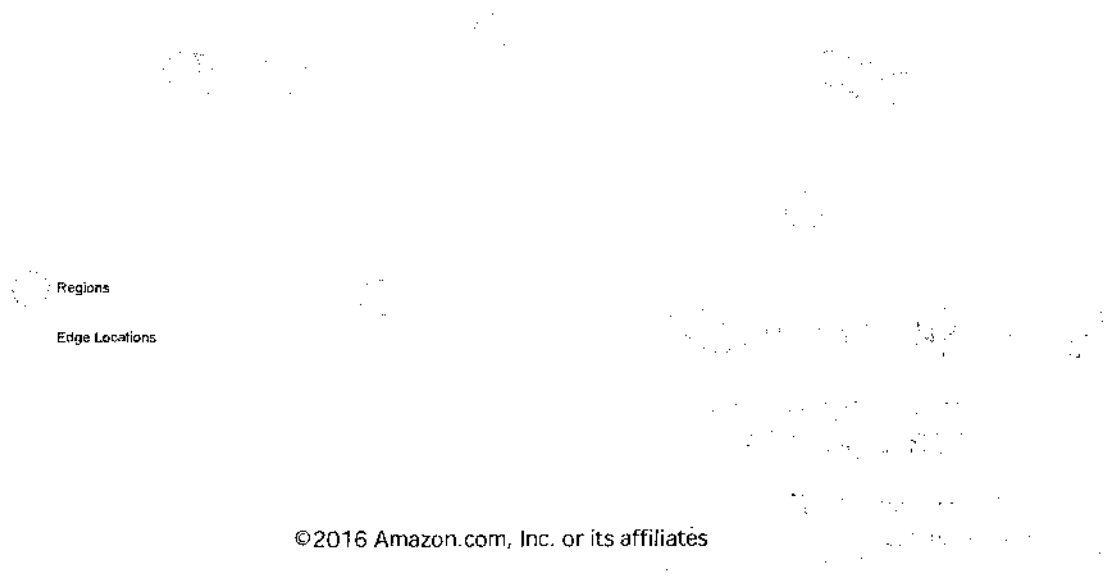


**amazon**  
web services

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Service Organization Controls 3 Report  
Report on the Amazon Web Services System  
Relevant to Security and Availability  
For the Period October 1, 2015 – March 31, 2016

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## Report of Independent Accountants

To the Board of Directors of Amazon Web Services, Inc.

We have examined management's assertion that Amazon Web Services, Inc. (AWS), during the period October 1, 2015 through March 31, 2016, maintained effective controls to provide reasonable assurance that:

- the Amazon Web Services System was protected against unauthorized access, use, or modification to meet AWS' commitments and system requirements
- the Amazon Web Services System was available for operation and use to meet AWS' commitments and system requirements

based on the criteria for security and availability in the American Institute of Certified Public Accountants' TSP section 100, *Trust Services Principles and Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy* updated as of March 2016. This assertion is the responsibility of AWS management. Our responsibility is to express an opinion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) and, accordingly, included (1) obtaining an understanding of Amazon Web Services' relevant security and availability controls, (2) testing and evaluating the operating effectiveness of the controls and (3) performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

Because of inherent limitations in controls, error or fraud may occur and not be detected. Furthermore, the projection of any conclusions, based on our findings, to future periods is subject to the risk that the validity of such conclusions may be altered because of changes made to the system or controls, the failure to make needed changes to the system or controls or a deterioration in the degree of effectiveness of the controls.

In our opinion, AWS' management's assertion referred to above is fairly stated, in all material respects, based on the aforementioned criteria for security and availability.

*Ernst & Young LLP*

April 25, 2016

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Amazon Web Services  
1918 8<sup>th</sup> Ave.  
Seattle, WA 98101

**Management's Assertion Regarding the Effectiveness of Its Controls  
Over the Amazon Web Services System  
Based on the Trust Services Principles and Criteria for Security and Availability**

April 25, 2016

Amazon Web Services, Inc. (AWS) maintained effective controls over the Security and Availability of its Amazon Web Services System to provide reasonable assurance that:

- the Amazon Web Services System was protected against unauthorized access, use, or modification to meet AWS' commitments and system requirements
- the Amazon Web Services System was available for operation and use to meet AWS' commitments and system requirements

during the period October 1, 2015 through March 31, 2016, based on the criteria for the security and availability principles set forth in the AICPA's TSP section 100, *Trust Services Principles and Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy* updated as of March 2016.

Our attached System Description of the Amazon Web Services System identified the aspects of the Amazon Web Services System covered by our assertion.

Amazon Web Services, Inc.

## AWS Background

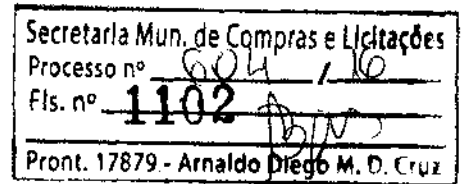
Since 2006, Amazon Web Services (AWS) has provided flexible, scalable, and secure IT infrastructure to businesses of all sizes around the world. With AWS, customers can deploy solutions on a cloud computing environment that provides on-demand compute power, storage, and other application services via the Internet as their business needs demand. AWS affords businesses the flexibility to employ the operating systems, application platforms and databases of their choice.

The scope of services covered in this report includes:

- AWS CloudFormation
- AWS CloudHSM
- AWS CloudTrail
- AWS Direct Connect
- Amazon DynamoDB
- AWS Elastic Beanstalk
- Amazon Elastic Block Store (EBS)
- Amazon Elastic Compute Cloud (EC2)
- Elastic Load Balancing
- Amazon Elastic MapReduce (EMR)
- Amazon ElastiCache
- Amazon Glacier
- AWS Identity and Access Management (IAM)
- AWS Key Management Service (KMS)
- Amazon Redshift
- Amazon Relational Database Service (RDS)
- Amazon Route 53
- Amazon Simple Email Service (SES)
- Amazon Simple Queue Service (SQS)
- Amazon Simple Storage Service (S3)
- Amazon Simple Workflow Service (SWF)
- Amazon SimpleDB
- AWS Storage Gateway
- Amazon Virtual Private Cloud (VPC)
- VM Import/Export
- Amazon WorkMail
- Amazon WorkSpaces

The scope of locations covered in this report includes the data centers in the US East (Northern Virginia), US West (Oregon), US West (Northern California), AWS GovCloud (US), EU (Ireland), EU (Frankfurt), Asia Pacific (Singapore), Asia Pacific (Sydney), Asia Pacific (Tokyo), and South America (São Paulo) Regions. The following AWS Edge Locations are also covered in this report:

- Melbourne, Australia
- Sydney, Australia
- Rio de Janeiro, Brazil
- São Paulo, Brazil
- Hong Kong, China
- London, England
- Marseille, France
- Paris, France
- Frankfurt, Germany
- Chennai, India
- Mumbai, India
- Dublin, Ireland
- Milan, Italy
- Osaka, Japan
- Tokyo, Japan
- Seoul, Korea
- Amsterdam, Netherlands
- Manila, Philippines
- Warsaw, Poland
- Singapore
- Madrid, Spain
- Stockholm, Sweden
- Taipei, Taiwan
- California, United States
- Florida, United States
- Georgia, United States
- Illinois, United States
- Indiana, United States
- Missouri, United States
- New Jersey, United States
- New York, United States
- Texas, United States
- Virginia, United States
- Washington, United States



## Infrastructure

AWS operates the cloud infrastructure customers use to provision computing resources such as processing and storage. The AWS infrastructure includes the facilities, network, and hardware as well as some operational software (e.g., host operating system, virtualization software, etc.) that support the provisioning and use of these resources. The AWS infrastructure is designed and managed in accordance with security compliance standards and AWS best practices.

## Components of the System

AWS offers a series of compute, storage, database, networking, administration & security, analytics, application services, deployment management, and enterprise solutions. A description of the AWS services included within the scope of this report is listed below:

### Compute

#### Amazon Elastic Compute Cloud (EC2)

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. Amazon EC2 presents a virtual computing environment, allowing customers to use web service interfaces to launch instances with a variety of operating systems, load them with custom application environments, manage network access permissions, and run images using as many or few systems as needed.

#### VM Import/Export

VM Import/Export enables customers to import virtual machine images from existing customer environments to Amazon EC2 instances and export them back to their on-premise environment.

### Storage

#### Amazon Elastic Block Store (EBS)

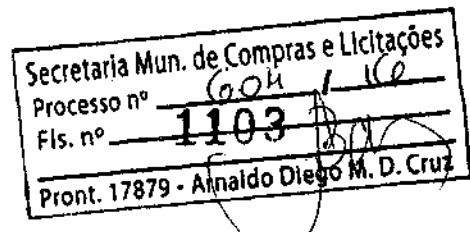
Amazon Elastic Block Store (Amazon EBS) allows customers to create storage volumes that can be mounted as devices by Amazon EC2 instances. Storage volumes behave like raw, unformatted block devices, with user supplied device names and a block device interface. Customers can create a file system on top of Amazon EBS volumes, or use them in any other way one would use a block device (like a hard drive).

#### Amazon Glacier

Amazon Glacier is an archival storage solution for data that is infrequently accessed and for which retrieval times of several hours are suitable.

#### Amazon Simple Storage Service (S3)

Amazon Simple Storage Service (Amazon S3) is a storage solution that can be used to store and retrieve data from anywhere on the web. Amazon S3 supports storage of individual objects ranging in size from 1 byte to 5 terabytes.



### AWS Storage Gateway

The AWS Storage Gateway service connects customers' on-premises software appliance with cloud-based storage. The service enables organizations to upload data to Amazon S3 or Amazon Glacier storage services.

## **Database**

### Amazon DynamoDB

Amazon DynamoDB is a managed NoSQL database service. Amazon DynamoDB enables customers to offload to AWS the administrative tasks of operating and scaling distributed databases such as hardware provisioning, setup and configuration, replication, software patching, and cluster scaling.

### Amazon ElastiCache

Amazon ElastiCache automates management tasks for in-memory cache environments, such as patch management, failure detection, and recovery. It works in conjunction with other AWS services to provide a managed in-memory cache.

### Amazon Relational Database Service (RDS)

Amazon Relational Database Service (Amazon RDS) is a web service designed to enable customers to set up, operate, and scale a relational database in the cloud. It provides resizable capacity and manages database administration tasks.

### Amazon SimpleDB

Amazon SimpleDB is a non-relational data store that allows customers to store and query data items via web services requests. Amazon SimpleDB then creates and manages multiple geographically distributed replicas of data automatically to enable high availability and data durability.

## **Networking**

### AWS Direct Connect

AWS Direct Connect enables customers to establish a dedicated network connection between their network and one of the AWS Direct Connect locations. Using AWS Direct Connect, customers can establish private connectivity between AWS and their datacenter, office, or colocation environment.

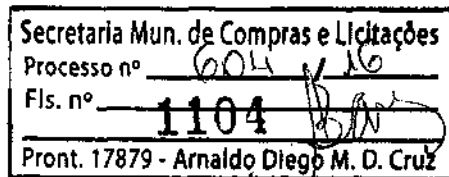
### Elastic Load Balancing

Elastic Load Balancing enables customers to automatically distribute incoming application traffic across multiple Amazon EC2 instances in the cloud.

### Amazon Route 53

Amazon Route 53 provides customers with a managed Domain Name System (DNS) web service. Customers can use Amazon Route 53 to configure DNS health checks to route traffic to healthy endpoints or to independently monitor the health of their application and its endpoints.





### Amazon Virtual Private Cloud (VPC)

Amazon Virtual Private Cloud (Amazon VPC) enables customers to provision a logically isolated section of AWS where they can launch AWS resources in a virtual network that they define. Amazon VPC customers control their virtual networking environment, including selection of their own IP address range, creation of subnets, and configuration of route tables and network gateways.

### **Administration & Security**

#### AWS CloudHSM

AWS CloudHSM is a service that allows customers to use dedicated hardware security module (HSM) appliances within the AWS cloud. AWS CloudHSM allows customers to store and use encryption keys within HSM appliances in AWS data centers.

#### AWS CloudTrail

AWS CloudTrail is a web service that records AWS activity for customers and delivers log files. With AWS CloudTrail, customers can obtain historical information relating to AWS API calls.

#### AWS Identity and Access Management (IAM)

AWS Identity and Access Management (IAM) enables customers to securely control access to AWS services and resources for their users. Using AWS IAM, customers can create and manage AWS users and groups and use permissions to allow and deny their permissions to AWS resources.

#### AWS Key Management Service (KMS)

AWS Key Management Service (KMS) allows customers to create and control the encryption keys used to encrypt their data, and uses hardware security modules (HSMs) to protect the security of their keys.

### **Analytics**

#### Amazon Elastic MapReduce (EMR)

Amazon Elastic MapReduce (Amazon EMR) enables customers to effectively process large amounts of data. Amazon EMR actively manages customer clusters.

#### Amazon Redshift

Amazon Redshift is a data warehouse service to analyze data using a customer's existing Business Intelligence (BI) tools.

### **Application Services**

#### Amazon Simple Email Service (SES)

Amazon Simple Email Service (Amazon SES) is an email service built on the reliable and scalable infrastructure that Amazon.com developed to serve its own customer base. With Amazon SES, you can send transactional email, marketing messages, or any other type of high-quality content to your customers.

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### Amazon Simple Queue Service (SQS)

Amazon Simple Queue Service (Amazon SQS) enables customers to build automated workflows, working in close conjunction with the Amazon Elastic Compute Cloud (Amazon EC2) and the other AWS infrastructure web services.

### Amazon Simple Workflow Service (SWF)

Amazon Simple Workflow Service (Amazon SWF) enables customers to build scalable distributed applications in the cloud. Amazon SWF allows developers to architect and manage the coordination of their workflow.

## **Deployment Management**

### AWS CloudFormation

AWS CloudFormation enables customers to create and manage a collection of related AWS resources by providing templates to use in the provisioning and updating of AWS services.

### AWS Elastic Beanstalk

AWS Elastic Beanstalk is an application container launch platform for customers to launch and scale their applications on top of AWS. Customers can use AWS Elastic Beanstalk to create new environments using their applications, deploy application versions, update application configurations, rebuild environments, update AWS configurations, and build on top of the scalable infrastructure.

## **Enterprise Applications**

### Amazon WorkMail

Amazon WorkMail is a managed business email and calendaring service with support for existing desktop and mobile email clients. It allows access to email, contacts, and calendars using Microsoft Outlook, a browser, or native iOS and Android email applications.

### Amazon WorkSpaces

Amazon WorkSpaces is a desktop computing service in the cloud, allowing customer to easily provision cloud-based desktops and provide users access to the documents, applications, and resources they need from any supported device.

## **People**

Amazon Web Services' organizational structure provides a framework for planning, executing and controlling business operations. Executive and senior leadership play important roles in establishing the Company's tone and core values. The organizational structure assigns roles and responsibilities to provide for adequate staffing, security, efficiency of operations, and segregation of duties. Management has also established authority and appropriate lines of reporting for key personnel.

The Company follows a structured on-boarding process to familiarize new employees with Amazon tools, processes, systems, security practices, policies and procedures. Employees are provided with the Company's Code of Business Conduct and Ethics and additionally complete annual Security & Awareness training to educate them as to their responsibilities concerning information security. Compliance audits are performed so that employees understand and follow established policies.

#### Data

AWS customers retain control and ownership of their own data. Customers are responsible for the development, content, operation, maintenance, and use of their content. AWS systems are designed to prevent customers from accessing physical hosts or instances not assigned to them by filtering through the virtualization software.

When a storage device has reached the end of its useful life, AWS procedures include a decommissioning process that is designed to prevent customer data from being exposed to unauthorized individuals. AWS uses techniques detailed in NIST 800-88 ("Guidelines for Media Sanitization") as part of the decommissioning process. All decommissioned hardware is sanitized and physically destroyed in accordance with industry-standard practices.

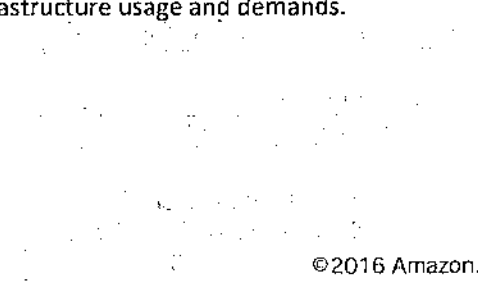
#### Availability

AWS is architected in a manner to maintain availability of its services through defined programs, processes, and procedures. The AWS Resiliency Program encompasses the processes and procedures by which AWS identifies, responds to, and recovers from a major event or incident within the environment. This program builds upon the traditional approach of addressing contingency management, incorporating elements of business continuity and disaster recovery plans while expanding to consider critical elements of proactive risk mitigation strategies. These strategies include engineering physically separate Availability Zones (AZs) and continuous infrastructure capacity planning.

Contingency plans and incident response playbooks are maintained to reflect emerging continuity risks and lessons learned. Plans are tested and updated through the course of business and the AWS Resiliency Program is annually reviewed and approved by senior leadership.

AWS has identified critical system components required to maintain the availability of the system and recover services in the event of an outage. These components are replicated across multiple availability zones; authoritative backups are maintained and monitored to ensure successful replication.

Service usage is continuously monitored, protecting infrastructure needs and supporting availability commitments and requirements. Additionally, AWS maintains a capacity planning model to assess infrastructure usage and demands.



# PROPOSTA TÉCNICA

05/25/01-01

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## LOTE I – ITEM 10 CATALOGO E INFORMAÇÕES TÉCNICAS

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**M7-3G**  
QUADCORE

**8GB**  
memória flash

**3G**  
conexão 3G

**Bluetooth**  
conexão Bluetooth

**dual chip**



processamento mais rápido com quatro núcleos de 1.3 GHz cada



tela com maior brilho e nitidez



bateria de longa duração

<b>tel.</b>	7" - 1024x600 (HD)	<b>com. sem fio</b>	1.0 MP	<b>Conexões de armazenamento:</b>			
<b>processador</b>	Quad-Core 4 x 1.3 GHz	<b>memória</b>	2 MP	Tablet / Carregador / Micro USB / Guia Rápido			
<b>chipset</b>	ARM Cortex-A9	<b>RAM</b>	8192 MB				
<b>memória</b>	RAM Interna - 8 GB - 8 GB + 32 GB	<b>Conexões</b>	Wi-Fi (802.11n) Bluetooth	<b>cds. do produto</b>	N9253 (preto)	N9255 (prata)	N9255 (preto)
<b>bateria</b>	2.800 mAh	<b>GPS</b>	A-GPS	<b>cds. de acesso</b>	798546081103 8	798546081102 8	798546081104 8

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DETALHES

ESPECIFICAÇÕES

Dimensão Aprox. Largura	5
Dimensão Aprox. Profundidade	7,47
Dimensão Aprox. Altura	21,7
Garantia do Fornecedor	0
Memória Interna de Processamento	0
Memória Interna de Armazenamento	0
Número de Simcards	0
Peso Líquido aprox	0,42
Conexões HDMI	0
Conexões USB	0
Tamanho Tela, Polegadas	0

Hardware Features	M7-3G QUAD CORE
Platform (Chipset)	SC7731G
Operating system	ANDROID OS V4.4.2
ARM	CortexTM A7
Technology(nm)	28nm
CPU frequency (Mhz or Ghz)	1.3GHZ
No. of cores	QUAD CORE
RAM	512M
Flash Memory(ROM)	8GB
Expansion T-Flash card	YES, UP TO 32GB
T-Flash card is hotplug?	YES
What type of SIM/UIM is?	IS SIM CAR TYPE
How many SIM/UIM?	DUAL SIM (Standard SIM)
Is DSDS or DSAF?	DSDS
Display (inches)	7"
Display (resolution)	1024*600
Display (type)	TN
Touch screen	CAPACITIVE
Multi-Touch	5 POINTS
TP type	G+G
Back Camera	0.3 (2.0 BY INTERPOLATION)
Front Camera	0.3 (1.3 BY INTERPOLATION)
Flash LED	YES FALSE LED FLASH
Torch	YES
Apps	Google Search, Maps, Gmail, YouTube, Calendar, Gallery, Camera, Video and Calculator
Flight mode	YES
FM Radio	SUPPORT
Audio player	3GPP (.3gp), MPEG-4 (.mp4, .m4a), ADTS raw AAC (.aac), MPEG-TS (.ts), FLAC (.flac), MP3 (.mp3), Type 0 and 1 (.mid, .xmf, .mxmf), RTTTL/RTX (.rttl, .rtx), OTA (.ota), Imelody (.imy), Ogg (.ogg), Matroska (.mkv), WAVE (.wav), AMR (.amr), AMR-WB (.awb), 3GA (.3ga), MIDI (.mid, .midi)
Video player	3GPP (.3gp), MPEG-4 (.mp4), MPEG-TS (.ts, AAC audio only), WebM (.webm), Matroska (.mkv), AVI (.avi)

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GPS	YES
AGPS	YES
TV	NONSUPPORT
TV OUT	NONSUPPORT
USB	USB 2.0 TYPE C
HDMI	NONSUPPORT
Light-sensor	NONSUPPORT
Proxy-sensor	NONSUPPORT
G-sensor	YES
Gyro	NONSUPPORT
E-compass	NONSUPPORT
Barometer	NONSUPPORT
NFC Compatible	NONSUPPORT
Voice Calling	NONSUPPORT
Video Calling	NONSUPPORT
OTG support	SUPPORT
Ports	1 TF CARD, 1 USB, 1 EARPHONE AND DUAL SIM
Others	NO ADDITIONALS

**Radio Interface**

**M7-3G QUAD CORE**

Bands	700 MHz (B 28)	850 MHz (B 5)	900 MHz (B 8)	1800 MHz (B 3)	1900 MHz (B 2)	2100 MHz (B 1)	2500 MHz (B 7)
GSM							
GPRS							
EDGE (Downlink)							
EDGE (Uplink)							
WCDMA							
HSDPA							
HSUPA							
HSDPA +							
HSUPA +							
LTE							
LTE BW	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
Wi-Fi	802.11b	802.11g	802.11n (20 MHz)	802.11n (40 MHz)	802.11a	802.11ac	

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Bluetooth		V1.0	V1.1	V1.2	V2.0 + EDR	V2.1 + EDR	V4.0	V4.1
<b>Machinery</b>		<b>M7-3G QUAD CORE</b>						
	Size(L*W*H)	189.5*108.5*9.8mm						
	Weight w/ battery	245g						
	Material of Housing (Front , Rear , Middle , Back Cover ....)	ABS+PC						
	Colors	BLACK, WHITE, PINK						
	Colors composition	999C, 000C,						
	Keypad	3 KEY						
	Side key	POWER AND VOLUME ON RIGHT						
	RF antenna	YES						
	TV antenna	NO						
	Standard audio jack	3.5mm						
	Charging connector	MICRO-USB connector						
	USB Port	5 pin, MICRO-USB						
	Electroacoustic parts	1 mic,1 vib.,1 rec.,1 spk.						
	Speaker	8Ω/1W *1						
	Hole for carrying strap	NO						
	Optical Trackpad	NO						
	Stylus	NO						
	Others	NO ADDITIONALS						
<b>Battery</b>		<b>M7-3G QUAD CORE</b>						
	Battery Type	BST-41 Standard battery, Li-Ion						
	Capacity	2800mAh						
	Standby time (Hours)	320H						
	Talk time (Hours)	6H						
	Music/Video player (Hours)	MP3 20h,MP4 4h.						
	Others	Discharge Protection						
<b>Charger Features</b>		<b>M7-3G QUAD CORE</b>						
	Input plug type	VDE type, Brazilian Standard						
	Output cable and DC Plug	SEPARATE						
	PINs Material	COPPER						
	Capacity	1.5A						
	Input	100V-240V						

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Output	5V
Size(L*W*H)	27*41*60
Temperature	Storage -20°C~70°C
RH Humidity	85%
Others	NO ADDITIONAL

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Fls. nº 111
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LOTE II – ITEM 5  
CATALOGO E INFORMAÇÕES TÉCNICAS

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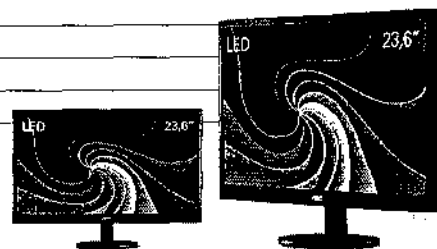
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## Especificações técnicas - M2470Swd2

Tamanho do painel	23,6" Widescreen 75Hz WVA - VA (LED LCD)
Tamanho da imagem visível (diagonal)	59,8 cm
Pixel pitch	0,271 mm
Brilho	250 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tipo de Painel	Anti-reflexivo
Tempo de resposta	5 ms
Ângulo de visão horizontal	178°
Ângulo de visão vertical	178°
Frequência nativa do painel	75Hz
Frequência de varredura horizontal	50 KHz ~ 76 KHz
Frequência de varredura vertical	30 kHz ~ 83 kHz
Largura de banda	165 MHz
Compatibilidade	Windows, MAC, Linux
Resolução máxima	1920 x 1080 @ 60 Hz (FULL HD)
Resolução recomendada	1920 x 1080 @ 60 Hz (FULL HD)
Suporte de cores	Maior que 16 Milhões
Conectores	1x Analógico (RGB) 1x Digital (DVI)
Entradas digitais	Sim
DCB (Amplificação Dinâmica de Cores)	Sim
DCR (Relação de Contraste Dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 26 Watts (típico), Stand By < 0,5 Watt
Alto-Falantes	Não
Fonte	Interna - 90-240V - 50/60 Hz
Plug & Play	DDC 2B/C1
Energy Star	Sim (EPA)
Controles manuais	Entrada/Auto/Exit, Clear vision/+, 4:3/W.de/+, Menu/Enter, Power
Função OSD (On Screen Display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões Monitor com base (L x A x P) - mm	551,4 x 400,4 x 221,0
Dimensões Monitor sem base (L x A x P) - mm	551,4 x 338,4 x 53,4
Dimensões Embalagem (L x A x P) - mm	620 x 435 x 127
Peso líquido	3,4 kg
Peso bruto	4,9 kg
VESA (sistema internacional de furação para fixação em paredes ou painéis)	Sim (100 x 100)
Cor predominante do produto	Preto
Normas/segurança/certificações	TUV, EPA, ISO 9241-307, EPEAT Silver, TCO6.0, CCC, CECP, CTUVus, BSMI, Win8, Inmetro  Slim Design, tecnologia de painel WVA (Wide View Angle) para perfeito ângulo de visão, painel mais rápido com 75Hz, LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Eco Mode, Picture Boost, DCB (amplificação dinâmica de cores), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD com interface gráfica amigável (tipo ícones de celular), tempo de resposta ultra rápido (5 ms), i-Menu (controle dos menus pelo mouse), acabamento em black piano com textura diferenciada na base e painel traseiro, direct-insert (facilita a conexão de cabos), conexão digital DVI e analógica VCA, ajuste ângulo da base - Tilt (-4 ~ 17°), certificado EPEAT (produto ecológico), FULL HD (1080p).
Características Especiais	
Itens incluídos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano
Código EAN (JDI)	7838933091985 7
Classificação fiscal	85285120
PPB	Sim - Portaria MCT/MDIC/MF: 236

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www.aoc.com.br

AOCdoBrasil

Terça em vista a constante atualização tecnológica dos produtos AOC, eventuais modificações poderão ser efetuadas sem aviso prévio. Verificar data de produção. Fotos meramente ilustrativas. Pesos e medidas aproximadas. Verifique modelos e recursos na tabela comparativa. Em caso de dúvida, consulte o SAC: 0800 109 409

**ESPECIFICAÇÕES TÉCNICAS - MONITORES AOC**

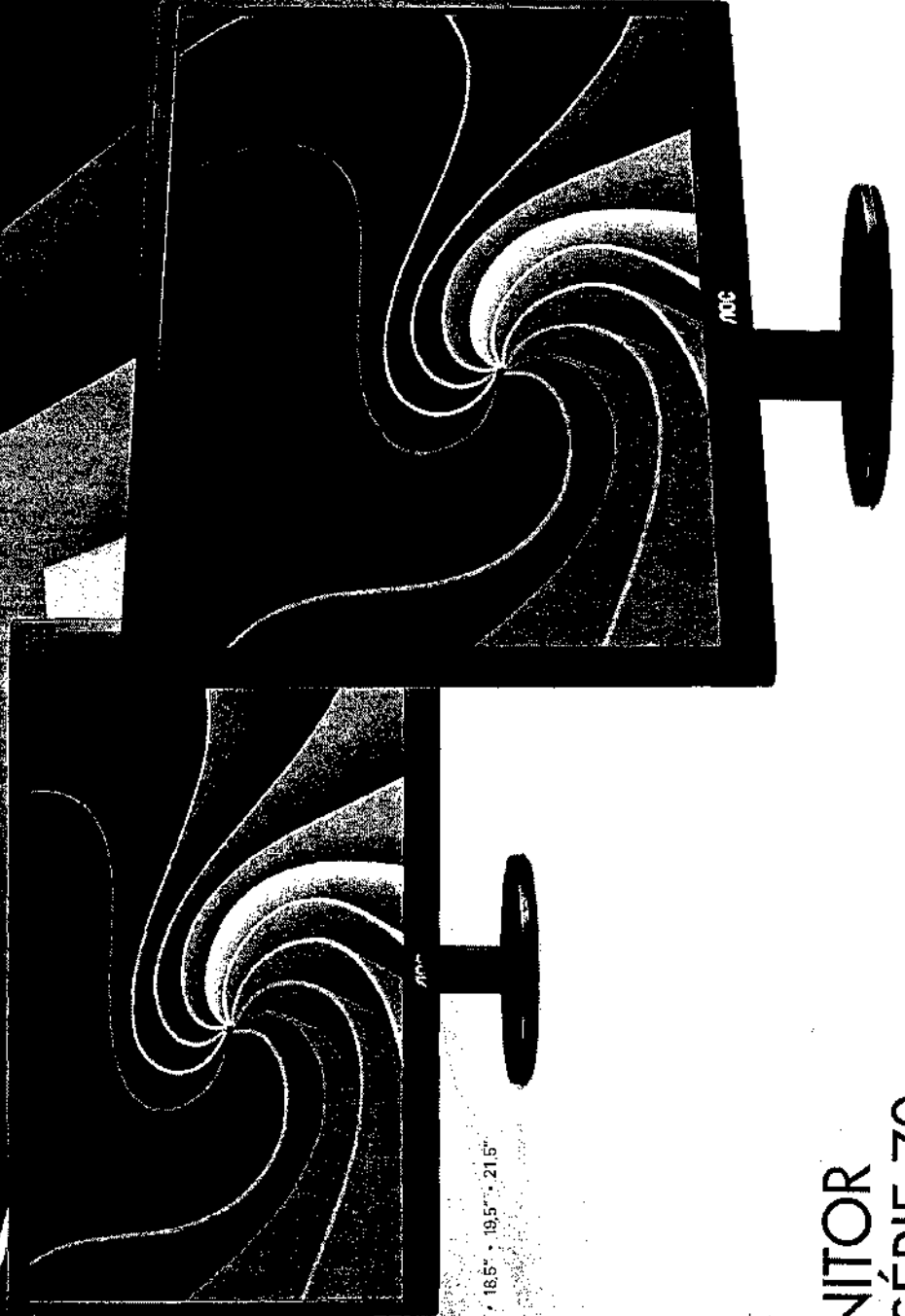
MODELO	e1670Swu (LED 15,6")	e970Swul (LED 18,5")	M2470Swd2 (LED 23,6")
Tamanho do painel	15,6" Widescreen (painel LED)	18,5" Widescreen (painel LED)	23,6" Widescreen WVA - VA (LED LCD)
Tamanho da imagem visível (diagonal)	39,5 cm	47,0 cm	59,8 cm
Pixel pitch	0,252 mm	0,3 mm	0,271 mm
Briho	180 cd/m <sup>2</sup>	200 cd/m <sup>2</sup>	250 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1	20.000.000:1	20.000.000:1
Tipo de painel	Reflexivo	Anti-reflexivo	Anti-reflexivo
Tempo de resposta	8 ms	5 ms	5 ms
Ângulo de visão horizontal	90°	90°	178°
Ângulo de visão vertical	50°	50°	178°
Frequência nativa do painel	60Hz	60Hz	75Hz
Frequência de varredura horizontal	30 KHz ~ 50 KHz	30 KHz ~ 60 KHz	50Hz ~ 76 Hz
Frequência de varredura vertical	60 Hz	50 ~ 75 Hz	30kHz to 83kHz
Largura de banda	85 MHz	85 MHz	165 MHz
Compatibilidade	Windows, MAC, Linux	Windows, MAC, Linux	Windows, MAC, Linux
Resolução máxima	1366 x 768 @ 60 Hz (HD)	1366 x 768 @ 60 Hz (HD)	1920 x 1080 @ 60 Hz (FULL HD)
Resolução recomendada	1366 x 768 @ 60 Hz (HD)	1366 x 768 @ 60 Hz (HD)	1920 x 1080 @ 60 Hz (FULL HD)
Suporte de cores	262.000	Maior que 16 Milhões	Maior que 16 Milhões
Conectores	Analgógico (RGB)	Analgógico (RGB)	1x Analógico (RGB) 1x Digital (DVI)
Entradas digitais	Não	Não	Sim
DCB (Amplificação Dinâmica de Cores)	Sim	Sim	Sim
DCR (Relação de Contraste Dinâmico)	Sim	Sim	Sim
Compatível com Windows	Sim	Sim	Sim
Consumo	Ligado < 7 Watts (típico), Stand By < 0,5 Watt	Ligado < 15 Watts (típico), Stand By < 0,5 Watt	Ligado < 26 Watts (típico), Stand By < 0,5 Watt
Alto-Falantes	Não	Não	Não
Fonte	USB 5V DC	Interna - 100~240V - 50/60 Hz	Interna - 90~240V - 50/60 Hz
Plug & Play	DDC2B/CI	DDC2B/CI	DDC 2B/CI
Energy Star	Sim (EPA)	Sim (EPA)	Sim (EPA)
Controles manuais	Power	Power	Power On/Off, Menu/Enter, Direita/Volume, Fonte/Auto/Exit, Esquerda/Clear vision
Função OSD (On Screen Display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões Monitor com base (L x A x P) - mm	370,7 x 298,8 x 142,0	437,4 x 336,8 x 156,0	551,4 x 400,4 x 221,0
Dimensões Monitor sem base (L x A x P) - mm	370,7 x 232,8 x 33,5	437,4 x 273,1 x 48,0	551,4 x 338,4 x 53,4
Dimensões Embalagem (L x A x P) - mm	423 x 106 x 304	488 x 102 x 348	620 x 435 x 127
Peso líquido	0,87 kg	1,97 kg	3,4 Kg
Peso bruto	1,50 kg	2,57 kg	4,9 Kg
VESA (sistema internacional de furação para fixação em paredes ou painéis)	Não	Não	Sim (100 x 100)
Base ajustável	Não	Não	Não
Cor predominante do produto	Preto	Preto	Preto
Cor predominante da base	Preto	Preto	Preto
Normas/segurança/certificações			TUV, EPA, ISO 9241-307, EPEAT Silver, TCO6.0, CCC, CECP, CTUVus, BSMI, Win8, Inmetro
Características Especiais	Design diferenciado, alimentação de energia por cabo USB, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (8 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10o), resolução HD.	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (5ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10o), resolução HD.	Slim Design, tecnologia de painel WVA (Wide View Angle) para perfeito ângulo de visão, painel mais rápido com 75Hz, LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Eco Mode, Picture Boost, DCB (amplificação dinâmica de cores), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD com interface gráfica amigável (tipo ícones de celular), tempo de resposta ultra rápido (5 ms), i-Menu (controle dos menus pelo mouse), acabamento em black piano com textura diferenciada na base e painel traseiro, direct-insert (facilita a conexão de cabos), conexão digital DVI e analógica VGA, ajuste ângulo da base - Tilt (-4~17o), certificado EPEAT (produto ecológico), FULL HD (1080p).
Itens inclusos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano	1 ano	1 ano
Código EAN (JDI)	789893091934 8	789893091933 1	789893091986 7
Classificação fiscal	85285120	85285120	85285120
PPB	Sim - Portaria MCT/MDIC/MF: 236	Sim - Portaria MCT/MDIC/MF: 236	Sim - Portaria MCT/MDIC/MF: 236
Local de fabricação	Jundiaí/SP - Brasil	Jundiaí/SP - Brasil	Jundiaí/SP - Brasil

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LOTE II – ITEM 6  
CATALOGO E INFORMAÇÕES TÉCNICAS

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INTENSAMENTE LED.  
INCRIVELMENTE INTELIGENTE.



15.6" • 18.5" • 19.5" • 21.5"

MONITOR  
LED SÉRIE 70

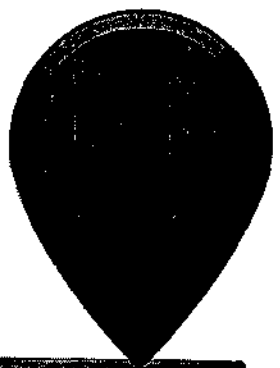
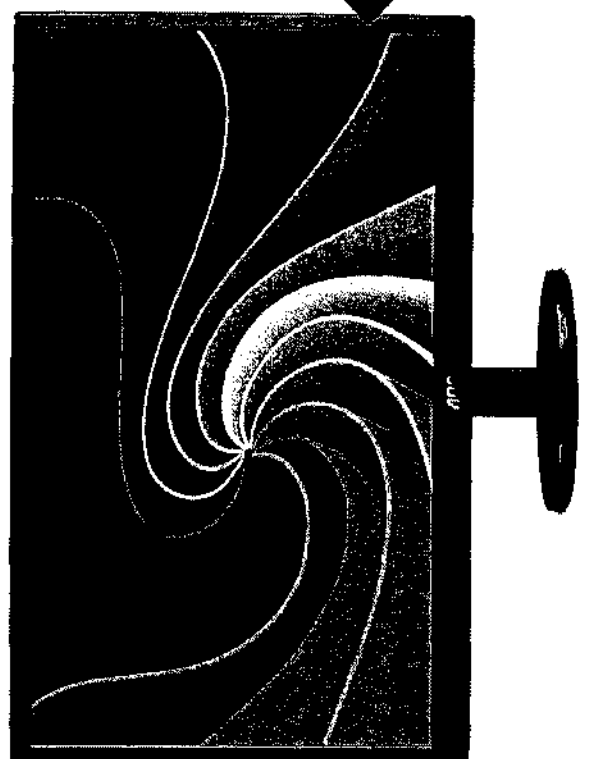
Simplificando a vida.

AOC

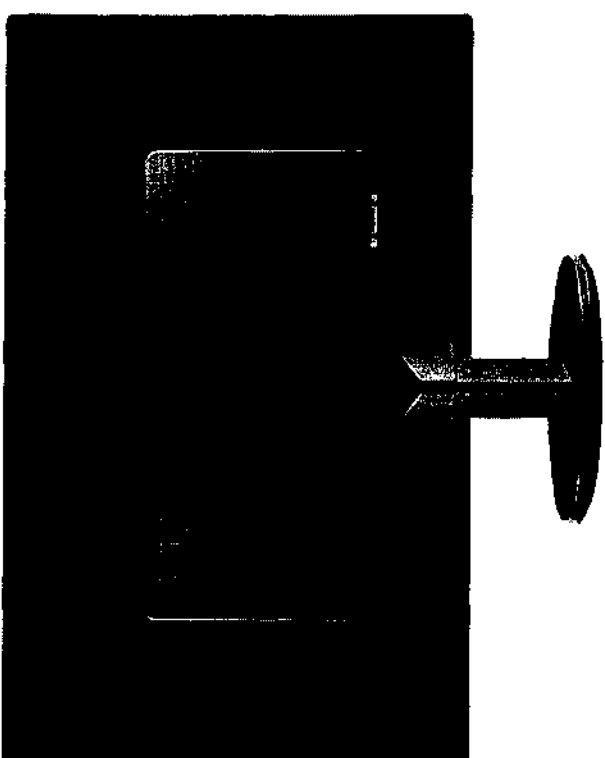
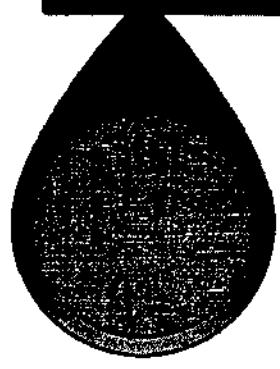
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**Textura Hair Line**  
 Textura de aço  
 escovado na moldura.



**Textura de fibras**  
 Textura do entrelaçado  
 de tecido na traseira.





# Confira as principais atrações e faça a melhor escolha: AOC.



## LED

LED de alto contraste, com imagens que trazem maior profundidade, além de cores mais vivas.



## Low Power

Ultrabaixo consumo de energia, gerando uma economia de até 50% se comparado aos LCDs comuns.



## DCR 20.000.000:1

Veja além das áreas de sombras mais escuras. A relação de contraste dinâmico Ultra-high (DCR) proporciona os mais finos detalhes a uma razão de 20.000.000:1, assim, você pode ver as áreas mais escuras da imagem com maior profundidade.



## Design slim

Mais espaço na sua área de trabalho.



## i-Menu

Acesse a configuração dos menus com o mouse, mais simples e fácil.



## 16,7M Colors

Mais que 16,7M de cores. Pode apresentar 0,5 milhões de cores a mais do que um painel comum.



## DCB

**Color Boost:** 5 ajustes de realce de cor - Full Enhance, Natural Skin, Green Field, Sky Blue, e Auto Detect, mais Demo.

**Picture Boost:** Permite ao usuário destacar uma janela em qualquer lugar desejado e ajustar as cores na área escolhida.



## Off Timer

Economia programada: você escolhe em quanto tempo o monitor deverá desligar-se automaticamente.



## Screen +

O software Screen + é uma ferramenta de divisão de tela, em diferentes painéis. Basta arrastar a janela para um painel correspondente, quando desejar acessá-lo. Siga o software de instalação para configurá-lo.



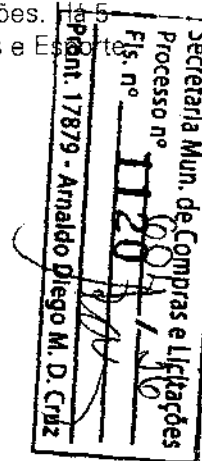
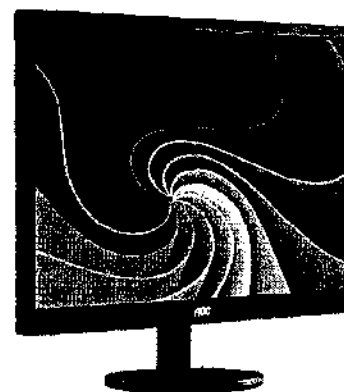
## e-Saver

Reduz o consumo de energia quando o computador estiver no modo "proteção de tela", desligado ou sem usuário.



## Eco Mode

Quando o modo de economia de energia estiver ligado, o monitor consumirá apenas 50% de energia comparado ao uso normal, sem comprometer nenhuma de suas funções. Há 5 ajustes: Texto, Internet, Jogos, Filmes e Esportes.



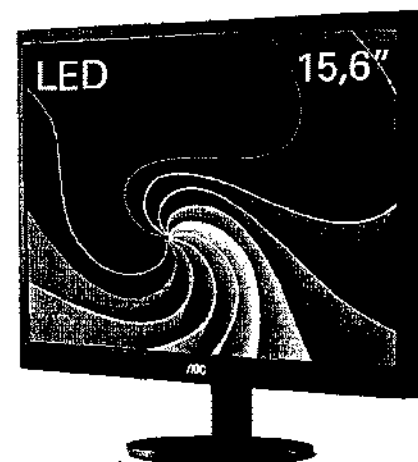
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# Especificações técnicas

Modelo e1670Swu (LED 15,6")

Tamanho do painel	15,6" Widescreen (painel LED)
Tamanho da imagem visível (diagonal)	39,5 cm
Pixel pitch	0,252 mm
Brilho	180 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tempo de resposta	8 ms
Ângulo de visão horizontal	90°
Ângulo de visão vertical	50°
Frequência de varredura horizontal	30 KHz - 50 KHz
Frequência de varredura vertical	60 Hz
Largura de banda	85 Mhz
Compatibilidade	Windows, MAC, Linux
Resolução máxima / recomendada	1366 x 768 @ 60 Hz (HD)
Suporte de cores	262.000
Conectores	Analogico (RGB)
DCB (amplificação dinâmica de cores)	Sim
DCR (relação de contraste dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 7 Watts (típico), Standby < 0,5 Watt
Fonte	USB 5V DC
Plug & Play	DDC2B/C1
Energy Star	Sim (EPA)
Controles manuais	Power
Função OSD (on screen display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões monitor com base (LxAxP) mm	370,7 x 298,3 x 142,0
Dimensões monitor sem base (LxAxP) mm	370,7 x 232,9 x 33,5
Dimensões embalagem (LxAxP) mm	423 x 106 x 304
Peso líquido	0,87 kg
Peso bruto	1,50 kg
Características especiais	Design diferenciado, alimentação de energia por cabo USB, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (8 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10°), resolução HD.
Itens inclusos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano



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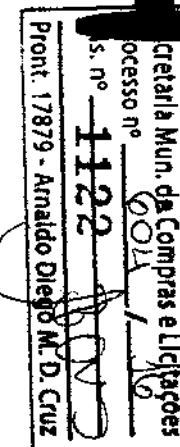
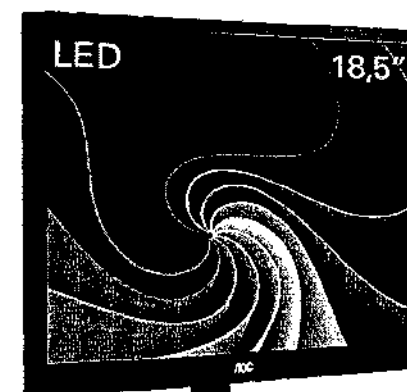
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# Especificações técnicas

Modelo e970Swnl (LED 18,5")

Tamanho do painel	18,5" Widescreen (painel LED)
Tamanho da imagem visível (diagonal)	47 cm
Pixel pitch	0,3 mm
Brilho	200 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tempo de resposta	5 ms
Ângulo de visão horizontal	90°
Ângulo de visão vertical	50°
Frequência de varredura horizontal	30 KHz ~ 60 KHz
Frequência de varredura vertical	50 ~ 75 Hz
Largura de banda	85 Mhz
Compatibilidade	Windows, MAC, Linux
Resolução máxima / recomendada	1366 x 768 @ 60 Hz (HD)
Suporte de cores	Maior que 16 milhões
Conectores	Analogico (RGB)
DCB (amplificação dinâmica de cores)	Sim
DCR (relação de contraste dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 15 Watts (típico), Standby < 0,5 Watt
Fonte	Interna - 100~240V - 50/60 Hz
Plug & Play	DDC2S/CI
Energy Star	Sim (EPA)
Controles manuais	Power
Função OSD (on screen display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões monitor com base (LxAxP) mm	437,4 x 338,8 x 156,0
Dimensões monitor sem base (LxAxP) mm	437,4 x 273,1 x 48,0
Dimensões embalagem (LxAxP) mm	488 x 102 x 348
Peso líquido	1,97 kg
Peso bruto	2,57 kg
Características especiais	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (5 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10°), resolução HD
Itens inclusos na embalagem	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano



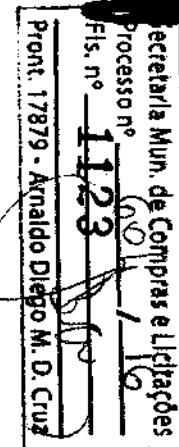
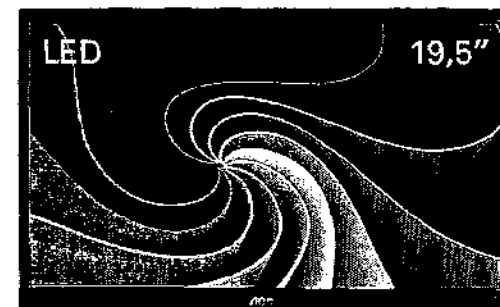
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# Especificações técnicas

Modelo e2070Swnl (LED 19,5")

Tamanho do painel	19,5" Widescreen (painel LED)
Tamanho da imagem visível (diagonal)	49,4 cm
Pixel pitch	0,262 mm
Briho	200 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tempo de resposta	5 ms
Ângulo de visão horizontal	90°
Ângulo de visão vertical	50°
Frequência de varredura horizontal	30 KHz ~ 60 KHz
Frequência de varredura vertical	50 ~ 75 Hz
Largura de banda	85 MHz
Compatibilidade	Windows, MAC, Linux
Resolução máxima / recomendada	1600 x 900 @ 60 Hz (HD)
Suporte de cores	Maior que 16 milhões
Conectores	Analogico (RGB)
DCB (amplificação dinâmica de cores)	Sim
DCR (relação de contraste dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 18 Watts (típico), Standby < 0,5 Watt
Fonte	Interna - 100-240V - 50/60 Hz
Plug & Play	DDC2B/CI
Energy Star	Sim (EPA)
Controles manuais	Power
Função OSD (on screen display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões monitor com base (LxAxP) mm	464,6 x 346,3 x 156,0
Dimensões monitor sem base (LxAxP) mm	464,6 x 280,2 x 48,9
Dimensões embalagem (LxAxP) mm	519 x 107 x 361
Peso líquido	2,1 kg
Peso bruto	3,0 kg
Características especiais	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (5 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3-10°), resolução HD
Itens incluídos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano



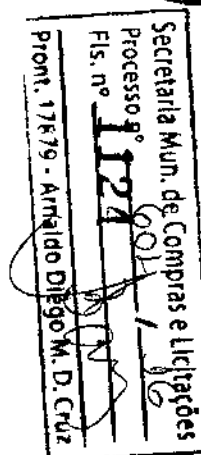
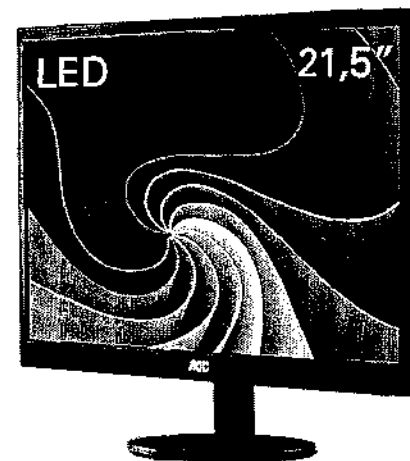
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# Especificações técnicas

## Modelo e2270Swn (LED 21,5")

Tamanho do painel	21,5" Widescreen (painel 1 HD)
Tamanho da imagem visível (diagonal)	54,7 cm
Pixel pitch	0,248 mm
Brilho	200 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tempo de resposta	5 ms
Ângulo de visão horizontal	90°
Ângulo de visão vertical	50°
Frequência de varredura horizontal	30 KHz - 83 KHz
Frequência de varredura vertical	50 - 75 Hz
Largura de banda	165 MHz
Compatibilidade	Windows, MAC, Linux
Resolução máxima / recomendada	1920 x 1080 @ 60 Hz (Full HD)
Suporte de cores	Maior que 16 milhões
Conectores	Analogico (RGB)
DCB (amplificação dinâmica de cores)	Sim
DCR (relação de contraste dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 18 Watts (típico), Standby < 0,5 Watt
Fonte	Interna - 100-240V - 50/60 Hz
Plug & Play	DIX2B/CI
Energy Star	Sim (EPA)
Controles manuais	Power
Função OSD (on screen display)	OSD com interface gráfica amigável, controlado pelo programa HMenu (download no site AOC ou CD)
Dimensões monitor com base (L x A x P) mm	503,4 x 374,5 x 76,0
Dimensões monitor sem base (L x A x P) mm	503,4 x 311,1 x 48,0
Dimensões embalagem (L x A x P) mm	558 x 108 x 394
Peso líquido	2,7 kg
Peso bruto	3,45 kg
VESA (sistema internacional de furação para fixação em paredes ou painéis)	Sim
Normas/segurança/certificações	FCC, CE, FPA6.0, ISO9241-307, Wm B, CCC, EPEAT Silver, ROHS
Características especiais	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico 20.000.000:1), Menu OSD controlado pelo H-Menu com interface gráfica amigável (tipo ícones de colular), tempo de resposta rápido (5 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base -Tilt: (-3~10°), certificado -PEAT (produto ecológico), resolução Full HD.
Itens incluídos na embalagem	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano



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Todos os produtos AOC possuem tecnologia LED backlight, economia de energia e menor consumo de energia em relação a um LCD comum. Para mais informações, consulte o site [aoc.com.br](http://aoc.com.br). Todos os produtos AOC possuem certificação Energy Star. Para mais informações, consulte o site [energy.gov.br](http://energy.gov.br). Todos os produtos AOC possuem certificação RoHS. Para mais informações, consulte o site [rohs.com.br](http://rohs.com.br). Todos os produtos AOC possuem certificação VESA. Para mais informações, consulte o site [vesa.com](http://vesa.com). Todos os produtos AOC possuem certificação CE. Para mais informações, consulte o site [ce.com](http://ce.com). Todos os produtos AOC possuem certificação FCC. Para mais informações, consulte o site [fcc.com](http://fcc.com). Todos os produtos AOC possuem certificação CCC. Para mais informações, consulte o site [ccc.com](http://ccc.com). Todos os produtos AOC possuem certificação Wm B. Para mais informações, consulte o site [wm-b.com](http://wm-b.com). Todos os produtos AOC possuem certificação EPEAT Silver. Para mais informações, consulte o site [epeat.com](http://epeat.com). Todos os produtos AOC possuem certificação ISO9241-307. Para mais informações, consulte o site [iso9241-307.com](http://iso9241-307.com). Todos os produtos AOC possuem certificação PEAT. Para mais informações, consulte o site [peat.com](http://peat.com). Todos os produtos AOC possuem certificação DIX2B/CI. Para mais informações, consulte o site [dix2b-ci.com](http://dix2b-ci.com). Todos os produtos AOC possuem certificação EPA. Para mais informações, consulte o site [epa.com](http://epa.com). Todos os produtos AOC possuem certificação Power. Para mais informações, consulte o site [power.com](http://power.com). Todos os produtos AOC possuem certificação OSD. Para mais informações, consulte o site [osd.com](http://osd.com). Todos os produtos AOC possuem certificação HMenu. Para mais informações, consulte o site [hmenu.com](http://hmenu.com). Todos os produtos AOC possuem certificação Full HD. Para mais informações, consulte o site [full-hd.com](http://full-hd.com). Todos os produtos AOC possuem certificação 1920 x 1080 @ 60 Hz. Para mais informações, consulte o site [1920-1080-60hz.com](http://1920-1080-60hz.com). Todos os produtos AOC possuem certificação 5 ms. Para mais informações, consulte o site [5ms.com. Todos os produtos AOC possuem certificação 90°. Para mais informações, consulte o site \[90deg.com. Todos os produtos AOC possuem certificação 50°. Para mais informações, consulte o site \\[50deg.com. Todos os produtos AOC possuem certificação 30 KHz - 83 KHz. Para mais informações, consulte o site \\\[30khz-83khz.com. Todos os produtos AOC possuem certificação 50 - 75 Hz. Para mais informações, consulte o site \\\\[50-75hz.com. Todos os produtos AOC possuem certificação 165 MHz. Para mais informações, consulte o site \\\\\[165mhz.com. Todos os produtos AOC possuem certificação Windows, MAC, Linux. Para mais informações, consulte o site \\\\\\[windows-mac-linux.com. Todos os produtos AOC possuem certificação 1920 x 1080 @ 60 Hz \\\\\\\(Full HD\\\\\\\). Para mais informações, consulte o site \\\\\\\[1920-1080-60hz-full-hd.com. Todos os produtos AOC possuem certificação Maior que 16 milhões. Para mais informações, consulte o site \\\\\\\\[more-than-16-million.com. Todos os produtos AOC possuem certificação Analogico \\\\\\\\\(RGB\\\\\\\\\). Para mais informações, consulte o site \\\\\\\\\[analogico-rgb.com. Todos os produtos AOC possuem certificação Sim. Para mais informações, consulte o site \\\\\\\\\\[sim.com. Todos os produtos AOC possuem certificação Ligado < 18 Watts \\\\\\\\\\\(típico\\\\\\\\\\\), Standby < 0,5 Watt. Para mais informações, consulte o site \\\\\\\\\\\[on-18watts-standby-0.5watt.com. Todos os produtos AOC possuem certificação Interna - 100-240V - 50/60 Hz. Para mais informações, consulte o site \\\\\\\\\\\\[internal-100-240v-50-60hz.com. Todos os produtos AOC possuem certificação DIX2B/CI. Para mais informações, consulte o site \\\\\\\\\\\\\[dix2b-ci.com. Todos os produtos AOC possuem certificação Sim \\\\\\\\\\\\\\(EPA\\\\\\\\\\\\\\). Para mais informações, consulte o site \\\\\\\\\\\\\\[sim-epa.com. Todos os produtos AOC possuem certificação Power. Para mais informações, consulte o site \\\\\\\\\\\\\\\[power.com. Todos os produtos AOC possuem certificação OSD com interface gráfica amigável, controlado pelo programa HMenu \\\\\\\\\\\\\\\\(download no site AOC ou CD\\\\\\\\\\\\\\\\). Para mais informações, consulte o site \\\\\\\\\\\\\\\\[osd-amigavel-controlado-pelo-programa-hmenu.com. Todos os produtos AOC possuem certificação 503,4 x 374,5 x 76,0. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\[503.4-x-374.5-x-76.0.com. Todos os produtos AOC possuem certificação 503,4 x 311,1 x 48,0. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\[503.4-x-311.1-x-48.0.com. Todos os produtos AOC possuem certificação 558 x 108 x 394. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\[558-x-108-x-394.com. Todos os produtos AOC possuem certificação 2,7 kg. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\\[2.7kg.com. Todos os produtos AOC possuem certificação 3,45 kg. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\\\[3.45kg.com. Todos os produtos AOC possuem certificação Sim. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\\\\[sim.com. Todos os produtos AOC possuem certificação FCC, CE, FPA6.0, ISO9241-307, Wm B, CCC, EPEAT Silver, ROHS. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\\\\\[fcc-ce-fpa6.0-iso9241-307-wm-b-ccc-epeat-silver-rohs.com. Todos os produtos AOC possuem certificação Design diferenciado, tecnologia LED backlight \\\\\\\\\\\\\\\\\\\\\\\\(até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico\\\\\\\\\\\\\\\\\\\\\\\\), Ultra High DCR \\\\\\\\\\\\\\\\\\\\\\\\(altíssimo contraste dinâmico 20.000.000:1\\\\\\\\\\\\\\\\\\\\\\\\), Menu OSD controlado pelo H-Menu com interface gráfica amigável \\\\\\\\\\\\\\\\\\\\\\\\(tipo ícones de colular\\\\\\\\\\\\\\\\\\\\\\\\), tempo de resposta rápido \\\\\\\\\\\\\\\\\\\\\\\\(5 ms\\\\\\\\\\\\\\\\\\\\\\\\), acabamento em textura diferenciada, ajuste de ângulo do suporte base -Tilt: \\\\\\\\\\\\\\\\\\\\\\\\(-3~10°\\\\\\\\\\\\\\\\\\\\\\\\), certificado -PEAT \\\\\\\\\\\\\\\\\\\\\\\\(produto ecológico\\\\\\\\\\\\\\\\\\\\\\\\), resolução Full HD. Para mais informações, consulte o site \\\\\\\\\\\\\\\\\\\\\\\\[design-diferenciado-tecnologia-led-backlight-com-50-de-economia-de-energia-em-relacao-a-um-lcd-comum-maior-durabilidade-produto-ecologico-ultra-high-dcr-altissimo-contraste-dinamico-20.000.000-1-menu-osd-controlado-pelo-h-menu-com-interface-grafica-amigavel-tipo-icone-de-colular-tempo-de-resposta-rapido-5-ms-acabamento-em-textura-diferenciada-ajuste-de-angulo-do-suporte-base-tilt-3-10-certificado-peat-produto-ecologico-resolucao-full-hd.com\\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\\(http://design-diferenciado-tecnologia-led-backlight-com-50-de-economia-de-energia-em-relacao-a-um-lcd-comum-maior-durabilidade-produto-ecologico-ultra-high-dcr-altissimo-contraste-dinamico-20.000.000-1-menu-osd-controlado-pelo-h-menu-com-interface-grafica-amigavel-tipo-icone-de-colular-tempo-de-resposta-rapido-5-ms-acabamento-em-textura-diferenciada-ajuste-de-angulo-do-suporte-base-tilt-3-10-certificado-peat-produto-ecologico-resolucao-full-hd.com\\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\\(http://fcc-ce-fpa6.0-iso9241-307-wm-b-ccc-epeat-silver-rohs.com\\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\\(http://sim.com\\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\\(http://3.45kg.com\\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\\(http://2.7kg.com\\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\\(http://558-x-108-x-394.com\\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\\(http://503.4-x-311.1-x-48.0.com\\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\\(http://503.4-x-374.5-x-76.0.com\\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\\(http://osd-amigavel-controlado-pelo-programa-hmenu.com\\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\\]\\\\\\\\\\\\\\\(http://power.com\\\\\\\\\\\\\\\)\\\\\\\\\\\\\\]\\\\\\\\\\\\\\(http://sim-epa.com\\\\\\\\\\\\\\)\\\\\\\\\\\\\]\\\\\\\\\\\\\(http://dix2b-ci.com\\\\\\\\\\\\\)\\\\\\\\\\\\]\\\\\\\\\\\\(http://internal-100-240v-50-60hz.com\\\\\\\\\\\\)\\\\\\\\\\\]\\\\\\\\\\\(http://on-18watts-standby-0.5watt.com\\\\\\\\\\\)\\\\\\\\\\]\\\\\\\\\\(http://sim.com\\\\\\\\\\)\\\\\\\\\]\\\\\\\\\(http://analogico-rgb.com\\\\\\\\\)\\\\\\\\]\\\\\\\\(http://more-than-16-million.com\\\\\\\\)\\\\\\\]\\\\\\\(http://1920-1080-60hz-full-hd.com\\\\\\\)\\\\\\]\\\\\\(http://windows-mac-linux.com\\\\\\)\\\\\]\\\\\(http://165mhz.com\\\\\)\\\\]\\\\(http://50-75hz.com\\\\)\\\]\\\(http://30khz-83khz.com\\\)\\]\\(http://50deg.com\\)\]\(http://90deg.com\)](http://5ms.com)

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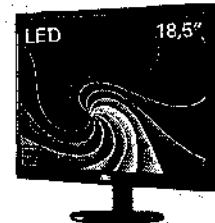
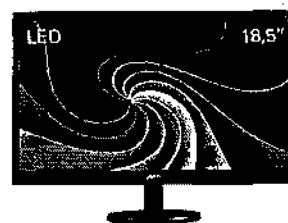
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## Especificações técnicas - e970Swnl

Tamanho do painel	18,5" Widescreen (painel LED)
Tamanho da imagem visível (diagonal)	47,0 cm
Pixel pitch	0,3 mm
Brilho	200 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1
Tipo de Painel	Anti-reflexivo
Tempo de resposta	5 ms
Ângulo de visão horizontal	90°
Ângulo de visão vertical	50°
Frequência nativa do painel	60 Hz
Frequência de varredura horizontal	30 KHz ~ 60 KHz
Frequência de varredura vertical	50 ~ 75 Hz
Largura de banda	85 MHz
Compatibilidade	Windows, MAC, Linux
Resolução máxima	1366 x 768 @ 60 Hz (HD)
Resolução recomendada	1366 x 768 @ 60 Hz (HD)
Suporte de cores	Maior que 16 Milhões
Conectores	Analgógico (RGB)
Entradas digitais	Não
DCB (Amplificação Dinâmica de Cores)	Sim
DCR (Relação de Contraste Dinâmico)	Sim
Compatível com Windows	Sim
Consumo	Ligado < 15 Watts (típico), Stand By < 0,5 Watt
Alto-Falantes	Não
Fonte	Interna - 100-240V - 50/60 Hz
Plug & Play	DDC2B/CI
Energy Star	Sim (EPA)
Controles manuais	Power
Função OSD (On Screen Display)	OSD com interface gráfica amigável, controlado pelo programa i-Menu (download no site AOC ou CD)
Dimensões Monitor com base (L x A x P) - mm	437,4 x 336,8 x 156,0
Dimensões Monitor sem base (L x A x P) - mm	437,4 x 273,1 x 48,0
Dimensões Embalagem (L x A x P) - mm	488 x 102 x 348
Peso líquido	1,97 kg
Peso bruto	2,57 kg
VESA (sistema internacional de fixação para fixação em paredes ou painéis)	Não
Cor predominante do produto	Preto
Normas/segurança/certificações	-
Características Especiais	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD controlado pelo i-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (5 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tit (3-10°), resolução HD.
Itens incluídos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano
Código EAN (UD)	789893081933 1
Classificação fiscal	85285120
PPB	Sim - Portaria MCT/MDIC/MF: 236
Local de fabricação	Jundiaí/SP - Brasil



www.aoc.com.br

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Tenha em vista a constante atualização tecnológica dos produtos AOC, eventuais modificações poderão ser efetuadas sem aviso prévio. Verificar data de produção. Fotos meramente ilustrativas. Pesos e medidas aproximadas. Verifique modelo e requisitos na tabela comparativa. Em caso de dúvida, consulte nosso SAC: 0800 135 933

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**ESPECIFICAÇÕES TÉCNICAS - MONITORES AOC**

MODELO	e1670Swu (LED 15,6")	e970Swml (LED 18,5")	M2470Swd2 (LED 23,6")
Tamanho do painel	15,6" Widescreen (painel LED)	18,5" Widescreen (painel LED)	23,6" Widescreen WVA - VA (LED LCD)
Tamanho da imagem visível (diagonal)	39,5 cm	47,0 cm	59,8 cm
Pixel pitch	0,252 mm	0,3 mm	0,271 mm
Briho	180 cd/m <sup>2</sup>	200 cd/m <sup>2</sup>	250 cd/m <sup>2</sup>
Relação de contraste (dinâmico)	20.000.000:1	20.000.000:1	20.000.000:1
Tipo do painel	Reflexivo	Anti-reflexivo	Anti-reflexivo
Tempo de resposta	8 ms	5 ms	5 ms
Ângulo de visão horizontal	90°	90°	178°
Ângulo de visão vertical	50°	50°	178°
Frequência nativa do painel	60Hz	60Hz	75Hz
Frequência de varredura horizontal	30 KHz ~ 50 KHz	30 KHz ~ 60 KHz	50Hz ~ 76 Hz
Frequência de varredura vertical	60 Hz	50 ~ 75 Hz	30kHz to 83kHz
Largura de banda	85 MHz	85 MHz	165 MHz
Compatibilidade	Windows, MAC, Linux	Windows, MAC, Linux	Windows, MAC, Linux
Resolução máxima	1366 x 768 @ 60 Hz (HD)	1366 x 768 @ 60 Hz (HD)	1920 x 1080 @ 60 Hz (FULL HD)
Resolução recomendada	1366 x 768 @ 60 Hz (HD)	1366 x 768 @ 60 Hz (HD)	1920 x 1080 @ 60 Hz (FULL HD)
Suporte de cores	262.000	Maior que 16 Milhões	Maior que 16 Milhões
Conectores	Analgico (RGB)	Analgico (RGB)	1x Analógico (RGB) 1x Digital (DVI)
Entradas digitais	Não	Não	Sim
DCB (Amplificação Dinâmica de Cores)	Sim	Sim	Sim
DCR (Relação de Contraste Dinâmico)	Sim	Sim	Sim
Compatível com Windows	Sim	Sim	Sim
Consumo	Ligado < 7 Watts (típico), Stand By < 0,5 Watt	Ligado < 15 Watts (típico), Stand By < 0,5 Watt	Ligado < 26 Watts (típico), Stand By < 0,5 Watt
Alto-Falantes	Não	Não	Não
Fonte	USB 5V DC	Interna - 100~240V - 50/60 Hz	Interna - 90~240V - 50/60 Hz
Plug & Play	DDC2B/CI	DDC2B/CI	DDC 2B/CI
Energy Star	Sim (EPA)	Sim (EPA)	Sim (EPA)
Controles manuais	Power	Power	Power On/Off, Menu/Enter, Direita/Volume, Fonte/Auto/Exit, Esquerda/Clear vision
Função OSD (On Screen Display)	OSD com interface gráfica amigável, controlado pelo programa I-Menu (download no site AOC ou CD)	OSD com interface gráfica amigável, controlado pelo programa I-Menu (download no site AOC ou CD)	OSD com interface gráfica amigável, controlado pelo programa I-Menu (download no site AOC ou CD)
Dimensões Monitor com base (L x A x P) - mm	370,7 x 298,3 x 142,0	437,4 x 335,8 x 156,0	551,4 x 400,4 x 221,0
Dimensões Monitor sem base (L x A x P) - mm	370,7 x 232,8 x 33,5	437,4 x 273,1 x 48,0	551,4 x 338,4 x 53,4
Dimensões Embalagem (L x A x P) - mm	423 x 106 x 304	488 x 102 x 348	620 x 435 x 127
Peso líquido	0,87 kg	1,97 kg	3,4 Kg
Peso bruto	1,50 kg	2,57 kg	4,9 Kg
VESA (sistema internacional de furação para fixação em paredes ou painéis)	Não	Não	Sim (100 x 100)
Base ajustável	Não	Não	Não
Cor predominante do produto	Preto	Preto	Preto
Cor predominante da base	Preto	Preto	Preto
Normas/segurança/certificações	-	-	TUV, EPA, ISO 9241-307, EPEAT Silver, TCO6.0, CCC, CECP, CTUVus, BSMI, Win8, Inmetro
Características Especiais	Design diferenciado, alimentação de energia por cabo USB, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD controlado pelo I-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (8 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10°), resolução HD.	Design diferenciado, tecnologia LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD controlado pelo I-Menu com interface gráfica amigável (tipo ícones de celular), tempo de resposta rápido (5 ms), acabamento em textura diferenciada, ajuste de ângulo do suporte base - Tilt (-3~10°), resolução HD.	Slim Design, tecnologia de painel WVA (Wide View Angle) para perfeito ângulo de visão, painel mais rápido com 75Hz, LED backlight (até 50% de economia de energia em relação a um LCD comum, maior durabilidade, produto ecológico), Eco Mode, Picture Boost, DCB (amplificação dinâmica de cores), Ultra High DCR (altíssimo contraste dinâmico - 20.000.000:1), Menu OSD com interface gráfica amigável (tipo ícones de celular), tempo de resposta ultra rápido (5 ms), I-Menu (controle dos menus pelo mouse), acabamento em black piano com textura diferenciada na base e painel traseiro, direct-insert (facilita a conexão de cabos), conexão digital DVI e analógica VGA, ajuste ângulo da base - Tilt (-4~17°), certificado EPEAT (produto ecológico), FULL HD (1080p).
Itens inclusos na embalagem	Cabo de força USB, cabo RGB, manual (CD), certificado de garantia, base e monitor	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor	Cabo de força, cabo RGB, manual (CD), certificado de garantia, base e monitor
Garantia	1 ano	1 ano	1 ano
Código EAN (UDI)	789893091934 8	789893091933 1	789893091986 7
Classificação fiscal	85285120	85285120	85285120
PPB	Sim - Portaria MCT/MDIC/MF: 236	Sim - Portaria MCT/MDIC/MF: 236	Sim - Portaria MCT/MDIC/MF: 236
Local de fabricação	Jundiaí/SP - Brasil	Jundiaí/SP - Brasil	Jundiaí/SP - Brasil

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LOTE II – ITEM 7  
CATALOGO E CERTIFICADOS

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**MULTILASER**

**Características**

- . Formato Slim
- . Teclas macias e silenciosas
- . Teclas impressas a laser
- . Resistente à água

**Informações técnicas**

- . Compatível com:

Windows 9x, 2000, ME, XP, NT ou superiores

. Conexão: USB

. Peso: 383 g

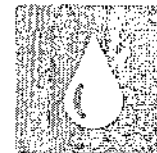
. Dimensões: 2,1 x 13,8 x 41,8 cm

**Conteúdo da embalagem**

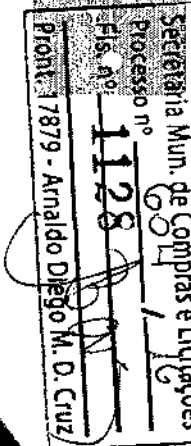
- . 1 Teclado Slim



resistente à água



conexão USB



cód. TC193

produto	cód. do produto	TC193
	cód. barras	789850647898-9
	peso (kg)	0,383
	dimensões (cm)	2,1 x 13,8 x 41,8
caixa master	cód. barras	1789850647898-6
	dimensões (cm)	
	produtos por caixa	20

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LOTE II – ITEM 8  
CATALOGO E CERTIFICADOS

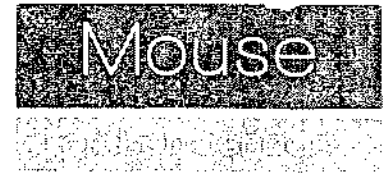
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MULTILASER

Características

- . 1200 dpi
  - . Plug&Play
  - . Design Anatômico
- Informações Técnicas
- . Dimensões: 9,7 x 5,9 x 3,4 cm
  - . Peso: 0,056 kg
  - . Alimentação: 2 pilhas AAA (não inclusas).



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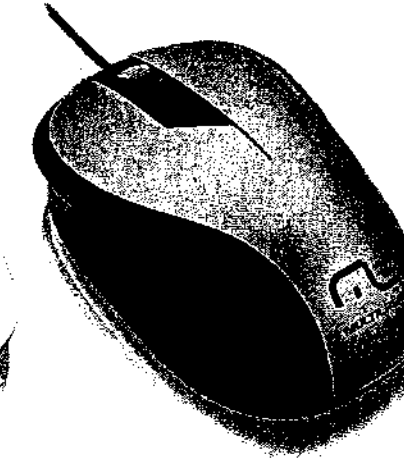
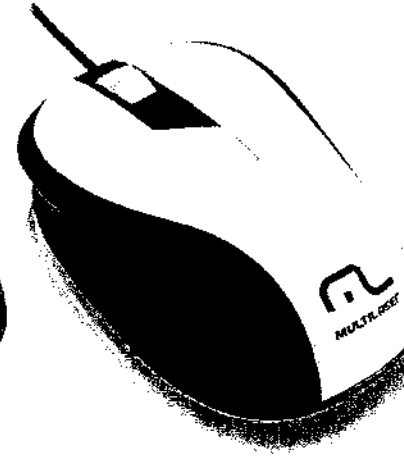
cód.  
M0222

cód.  
M0223

cód.  
M0224

cód.  
M0225

cód.  
M0226



produto	cód. do produto	M0222	M0223	M0224	M0225	M0226
	cód. barras	789983880028-7	789983880028-4	789983880028-8	789983880029-5	789983880027-2
	peso (g)	0,056	0,056	0,056	0,056	0,060
caixa master	dimensões (mm)	9,7 x 5,9 x 3,4	9,7 x 5,9 x 3,4	9,7 x 5,9 x 3,4	9,7 x 5,9 x 3,4	9,7 x 5,9 x 3,4
	cód. barras	1789983880025-4	1789983880028-1	1789983880028-2	1789983880029-2	1789983880027-1
	peso (kg)	-	-	-	-	-
produtos por caixa	dimensões (mm)	200 x 225 x 475	200 x 225 x 475	200 x 225 x 475	200 x 225 x 475	200 x 225 x 475
	produtos por caixa	20	20	20	20	20

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