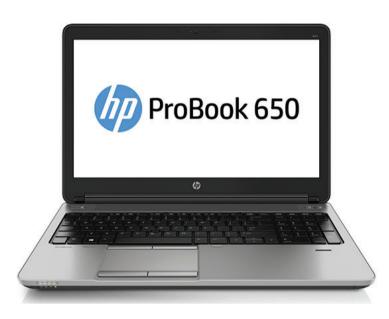
# HP ProBook 650 G1 Notebook PC



### **Redesigned for productivity**

Take on tasks in the office or on the road with a durable HP ProBook 640 and HP ProBook 650. These ProBooks are thin, light and packed with productivity features to make work faster and easier. Plus, reliable security solutions keep your data out of the wrong hands.



#### Thinner, tougher taskmaster.

- Get the technology you trust from HP, with cutting-edge style that looks and feels the way you want.
- Join forces with the latest generation technology and legacy features your business demands on a new thinner HP ProBook for in the office or on the go.
- Protect existing IT investments with support for existing legacy features such as an optical drive, optional serial ports,<sup>1</sup> VGA and RJ45 connectors.
- Enjoy a desktop experience on your ProBook with various docking options including HP 120W Advanced Docking Station and HP 90W Docking Station.<sup>2</sup>

#### Design your ideal ProBook.

- Take advantage of the wide range of features and configurable options on the new HP ProBook 600 Series.
- Configure a ProBook made for your business thanks to flexible architecture configurations including the latest Intel<sup>®</sup> 4th generation processors.<sup>3</sup>
- Experience great visual performance with full-HD display options, AMD 1GDDR5 discrete graphics and native DisplayPort 1.2.4
- Bridge distances on the HP ProBook 600 series, with Microsoft Lync,<sup>5</sup> premium audio/video and full-HD display.<sup>6</sup>
- Stay in touch from the office or on the road with powerful connectivity options including 4G WWAN,<sup>7,8</sup> HP Wireless Hotspot<sup>9</sup> and Bluetooth<sup>®</sup> 4.0.<sup>16</sup>

#### **Convenient Control.**

- Protect data, devices and identities with HP Client Security<sup>10</sup> and HP BIOS Protection.
- Stay up and running. HP BIOS Protection<sup>12</sup> offers enhanced protection against virus attacks to the BIOS and other security threats, and is designed to help prevent data loss and reduce downtime.
- Enjoy easy and simple integration into your IT environment with HP Client Management Solutions<sup>13</sup> such as optional LANDesk<sup>14</sup> and Intel vPro<sup>15</sup> technology.
- Maintain a productive system environment with stable and consistent images, managed lifecycle transitions and Global Series support you can rely on.

# HP ProBook 650 G1 Notebook PC Specifications Table







Available Operating System	Windows 10 Pro 64 Windows 10 Home 64 Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro) Windows 8.1 Pro 64 Windows 7 Professional 64 (available through downgrade rights form Windows 8.1 Pro) Windows 7 Professional 32 (available through downgrade rights form Windows 8.1 Pro) Windows 8 Pro 64 Windows 8 Pro 64 Windows 8 64 Windows 7 Professional 64 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 64 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro) Windows 7 Professional 32 (available through downgrade rights from Windows 8 Pro)
Processor Family	Intel® Core™ i7 processor; Intel® Core™ i5 processor; Intel® Core™ i3 processor
Available Processors	Intel® Core™ i7-4712MQ with Intel HD Graphics 4600 (2.3 GHz, up to 3.3 GHz with Intel Turbo Boost Technology, 6 MB cache, 4 cores); Intel® Core™ i7-4702M with Intel HD Graphics 4600 (2.2 GHz, up to 3.2 GHz with Intel Turbo Boost Technology, 6 MB cache, 4 cores); Intel® Core™ i7-4610M with Intel HD Graphics 4600 (3 GHz, up to 3.7 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores); Intel® Core™ i5-4340M with Intel HD Graphics 4600 (2.9 GHz, up to 3.6 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.6 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.6 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.6 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.9 GHz, up to 3.5 GHz with Intel HD Graphics 4600 (2.8 GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i5-4310M with Intel HD Graphics 4600 (2.7 GHz, up to 3.4 GHz with Intel HD Graphics 4600 (2.6 GHz, up to 3.3 GHz with Intel HD Graphics 4600 (2.6 GHz, up to 3.2 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i5-4210M with Intel HD Graphics 4600 (2.6 GHz, up to 3.2 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i5-4210M with Intel HD Graphics 4600 (2.5 GHz, up to 3.2 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i3-4110M with Intel HD Graphics 4600 (2.6 GHz, up to 3.1 GHz with Intel HD Graphics 4600 (2.5 GHz, a MB cache, 2 cores); Intel® Core™ i3-4110M with Intel HD Graphics 4600 (2.4 GHz, 3 MB cache, 2 cores); Intel® Core™ i3-4000M with Intel HD Graphics 4600 (2.4 GHz, 3 MB cache, 2 cores); Intel® Core™ i3-4000M with Intel HD Graphics 4600 (2.4 GHz, 3 MB cache, 2 cores); Intel® Core™ i3-4000M
Chipset	Mobile Intel® HM87; Mobile Intel® QM87
Maximum Memory	Up to 16 GB
Memory Slots	2 SODIMM
Internal Storage	320 GB up to 500 GB SATA (7200 rpm) up to 500 GB SATA SED (7200 rpm) 128 GB SATA SSD
Optical Storage	DVD+/-RW SuperMulti DL; DVD-ROM
Display	39,6 cm (15.6°) diagonal LED-backlit HD anti-glare eDP 1.2 flat (1366 x 768); 39,6 cm (15.6°) diagonal LED-backlit FHD SVA anti-glare eDP 1.2 slim (1920 x 1080)
Available Graphics	Integrated: Intel® HD Graphics 4600; Discrete: AMD Radeon HD 8750M (1 GB GDDR5 dedicated)
Audio	HD Audio with DTS Studio Sound; (2) Integrated stereo speakers; Integrated microphone (dual-microphone array with optional webcam); Stereo headphone/line out; Stereo microphone in
Wireless Technologies	Atheros 802.11b/g/n (1x1); Broadcom 802.11a/b/g/n (2x2) and Bluetooth 4.0 Combo; HP hs3110 HSPA+ Mobile Broadband; HP lt4112 LTE/HSPA+ Mobile Broadband; Intel Centrino Advanced-N 6235 802.11a/b/g/n and Bluetooth 4.0 Combo
Communications	Realtek (10/100/1000)
Expansion Slots	1 Media Card Reader
Ports and Connectors	4 USB 3.0; 1 USB 3.0 charging; 1 DisplayPort; 1 VGA; 1 combo stereo headphone/mic jack; 1 AC power; 1 RJ-11 (modem); 1 RJ-45; 1 docking connector; 1 serial
Input Device	Spill-resistant keyboard with drain Touchpad with on/off button, two-way scroll, gestures, two pick buttons; Pointstick with two additional pointstick buttons
Webcam	720p HD webcam (select models)
Available Software	HP 3D DriveGuard; HP Connection Manager (Windows 7); HP Wireless HotSpot; HP Mobile Connect (EMEA only); HP PageLift; HP Recovery Manager; HP Support Assistant; HP ePrint; Buy Office
Security Management	HP Client Security Suite includes: HP Credential Manager, HP Password Manager, HP File Sanitizer and HP Device Access Manager with Just in Time Authentication; HP Drive Encryption; HP Secure Erase; HP Trust Circles; Microsoft Security Essentials (Windows 7) & Microsoft Defender (Windows 8); HP SpareKey; Absolute Data Protect; TPM Embedded Security Chip 1.2 Security lock
Power	Integrated: 65W Smart AC adapter; 90W Smart AC adapter; Discrete: 90W Smart AC adapter 6-cell (55 WHr) Li-Ion; 6-cell (55 WHr) Long Life
Dimensions	37.8 × 25.7 × 2.53 cm (at front)
Weight	Starting at 2.32 kg
Environmental	Low halogen
Energy Efficiency Compliance	ENERGY STAR® qualified configurations available
Energy Efficiency Compliance	

# HP ProBook 650 G1 Notebook PC

### Accessories and services (not included)

HP 65W Smart Travel AC AC power adapters from HP power your notebook and charge the internal battery simultaneously. These adapters provide you with the ability to power your notebook when away from the office or on the road. The HP 65W Slim Travel Adapter Adapter is perfect for international travelers or "road warriors" who are always on the go. The adapter is 40% thinner than the standard 65W adapter and includes a convenient USB port for charging other accessories while you work. Four international adapter plugs help make sure your Slim Travel Adapter works wherever you do. A stylish protective carrying case keeps everything together. Product number: AU155AA HP Comfort Grip Wireless The HP Comfort Grip Wireless Mouse features a 30-month battery life and a bold, modern design that integrates seamlessly with HP Business Notebooks. Mouse Product number: H2L63AA HP Ultraslim Keyed Cable Secure your HP Ultrabook™ or laptop PC quickly and easily with the HP Ultraslim Keyed Cable Lock. Lock Product number: H4D73AA HP Professional Slim Top HP Professional Slim Top Load Case lets you store folders and other documents, and features storage areas for business cards, PDAs, cell phones, pens, an AC adapter and any additional items needed for a long stay away from the office or Load Case home. Designed for ultra-mobile professionals who are on the road frequently and for long periods of time. Product number: H4J91AA 3-year Next Business Day Receive 3 years of next business day onsite repair from an HP-qualified technician for your computing device, if the issue Onsite cannot be solved remotely Product number: U4391E **Care Pack** 

Learn more at www.hp.eu/hpoptions

### HP ProBook 650 G1 Notebook PC

### **Messaging Footnotes**

<sup>1</sup> Optional Serial ports available on HP ProBook 650 <sup>2</sup> Docking Stations sold separately.

<sup>3</sup> Julti-Cere 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. <sup>4</sup> Support for external displays as a standard feature through integrated processor-based graphics is dependent upon the particular PC platform/form factor; the actual number of displays supported will vary. An optional discrete graphics solution will be required

for the support of additional displays. Additional cables required. DisplayPort with multi-stream through integrated graphics is planned to be available in fall 2013 as an integrated feature and as a web update in late summer 2013 <sup>5</sup> Microsoft Lync sold separately.

<sup>6</sup> Optional webcam and internet service required for video conferencing, and not included.

<sup>7</sup> 4G LTE not available on all products, in all regions and only available on products featuring Intel processors

<sup>9</sup> Nobile broadband is optional or an add on feature and use requires separately purchased service contract. Check with your service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors.

and outer ractors. <sup>10</sup> HP Client Security requires Windows.
<sup>12</sup> HP Tools partition with HP BIOS required for automatic recovery.

 <sup>14</sup> Diaba particular in the construction of the cons Computer.

TS Some functionality of this technology, such as Intel<sup>®</sup> 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. <sup>16</sup> Sold separately or as an optional feature.

Learn more at

www.hp.eu/notebooks

### **Get engaged with HP Financial Services**

Get engaged with HP Financial Services to implement innovative technologies essential for driving business value and competitive differentiation. More information on www.hp.com/go/hpfs.

### Sign up for updates www.hp.com/go/getupdated

The product could differ from the images shown. © 2015 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. Specific features may vary from model to model. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Not all features are available in all editions of Windows 8. Systems may require upgraded and/or separately purchased hardware to take full advantage of Windows 8 functionality. See http://www.microsoft.com/windows for details.

Bluetooth is a trademark of its proprietor and used by Hewlett-Packard Company under license. Intel and Core are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the U.S. and other countries. All other trademarks are the property of their respective owners.



4AA4-8732EEE, August 2015