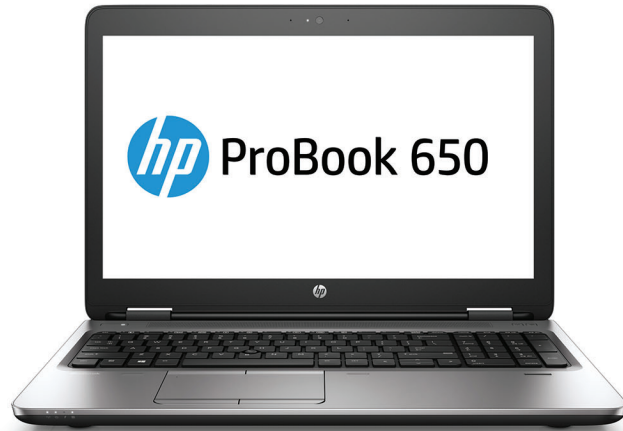


# HP ProBook 650 G2 Notebook PC



Equip your workforce with HP's most configurable and cost effective notebook PC. Confidently deploy the HP ProBook 650 which combines support for legacy features that provide long-term stability with modern security for today's business.



- Windows 10 Pro<sup>1</sup>
- Screen Size: 15.6" diagonal

## Easy integration

- Help get the most out of existing IT investments with the HP ProBook 650. Take advantage of legacy features like a standard VGA port, an RJ-45 connection, an optional optical drive,<sup>2</sup> and a native serial port.

## Powerful processing and drive options

- Select from powerful 6th Gen Intel® Core™ processors<sup>3</sup> and integrated Intel® HD UMA graphics along with other configurable options that let businesses configure the right ProBook 650 for each user's needs.

## Professional-grade

- Create a full featured experience with powerful processors, robust DDR4 memory, and professional-grade peripheral devices like HP Pro Displays and an HP Ultralim dock.<sup>2</sup>

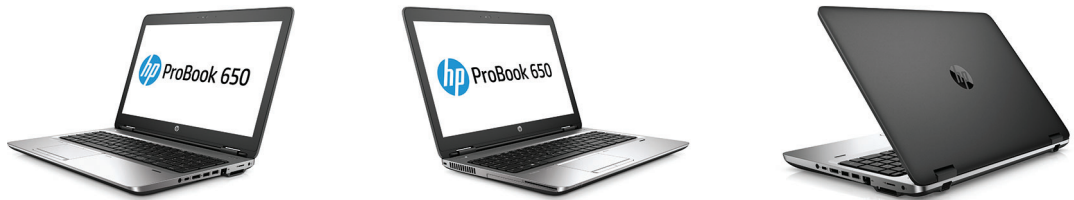
## Executive-class collaboration

- Interact naturally with your PC using an optional FHD Touch screen and Cortana<sup>4</sup> on Windows 10 Pro.<sup>1</sup> Enjoy impressive collaboration tools like Skype for Business,<sup>5</sup> HP Noise Reduction Software, and a 720p webcam for collaboration on the go.

## Featuring

- Be productive in any situation. Experience the new features of Windows 10 Pro<sup>1</sup> on the powerful, touch<sup>2</sup> optional HP ProBook 650 with AMD Radeon™ discrete graphics 2GB-GDDR5.<sup>2</sup>
- HP BIOSphere boosts security and keeps mission-critical data and systems under lock and key with customizable authentication and BIOS-level passwords.<sup>6</sup>
- Help suppress ambient noise including keyboard clicks with HP Noise Reduction Software.
- Help make good speakers sound great with the HP Clear Sound Amp.
- Stand up to the workload with a ProBook that passed MIL-STD 810G testing.<sup>7</sup>
- Help protect your ProBook with a spill-resistant HP Premium Keyboard with backlit<sup>2</sup> options available.
- Get the same HP configuration across the globe, available in more than 180 countries where HP conducts business.
- Avoid surprises by tracking device health and security policy enforcement. With the HP Touchpoint Manager app, IT can quickly address risks to keep devices functional, and employees productive.<sup>8</sup>

# HP ProBook 650 G2 Notebook PC Specifications Table



<b>Available Operating System</b>	Windows 10 Pro 64 <sup>1</sup> Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro 64) <sup>2</sup> Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro 64) <sup>2</sup> Windows 10 Home 64 <sup>1</sup> Windows 10 Home Single Language 64 <sup>1</sup> Windows 8.1 Pro 64 <sup>23</sup> Windows 8.1 64 <sup>23</sup> Windows 7 Professional 64 <sup>23</sup> Windows 7 Professional 32 <sup>23</sup> FreeDOS 2.0 NeoKylin Linux
<b>Processor Family</b> <sup>3</sup>	Intel® Core™ i7 processor; Intel® Core™ i5 processor; Intel® Core™ i3 processor
<b>Processor Technology</b>	Intel® vPro™ Technology (select models)
<b>Available Processors</b> <sup>3,4,22</sup>	Intel® Core™ i7-6820HQ with Intel HD Graphics 530 (2.7 GHz, up to 3.6 GHz with Intel Turbo Boost Technology, 8 MB cache, 4 cores); Intel® Core™ i7-6600U with Intel HD Graphics 520 (2.6 GHz, up to 3.4 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores); Intel® Core™ i5-6440HQ with Intel HD Graphics 530 (2.6 GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 6 MB cache, 4 cores); Intel® Core™ i5-6300U with Intel HD Graphics 520 (2.4 GHz, up to 3 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i5-6200U with Intel HD Graphics 520 (2.3 GHz, up to 2.8 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores); Intel® Core™ i3-6100U with Intel HD Graphics 520 (2.3 GHz, 3 MB cache, 2 cores)
<b>Chipset</b>	Chipset is integrated with processor
<b>Maximum Memory</b>	16 GB DDR4-2133 SDRAM <sup>5</sup> Transfer rates up to 2133 MT/s. Both slots are customer accessible/upgradeable. Supports dual channel memory.
<b>Memory Slots</b>	2 SODIMM
<b>Internal Storage</b>	up to 1 TB SATA (5400 rpm) <sup>6</sup> up to 500 GB SATA (7200 rpm) <sup>6</sup> up to 500 GB SATA SED (7200 rpm) <sup>6</sup> up to 500 GB SATA FIPS 140-2 SED (7200 rpm) <sup>6</sup> up to 500 GB SATA SSHD <sup>6</sup> 128 GB up to 512 GB SATA TLC SSD <sup>6</sup> 180 GB up to 256 GB SATA MLC SSD <sup>6</sup> up to 256 GB M.2 PCIe SSD <sup>6</sup>
<b>Optical Drive</b>	Blu-ray ROM DVD+/-RW SuperMulti DL; DVD+/-RW SuperMulti DL; DVD-ROM <sup>7</sup> (Option of no optical drive.)
<b>Display</b>	15.6" diagonal HD SVA anti-glare slim LED-backlit (1366 x 768); 15.6" diagonal FHD SVA anti-glare slim LED-backlit (1920 x 1080); 15.6" diagonal FHD SVA slim LED-backlit touch screen (1920 x 1080) <sup>12</sup>
<b>Available Graphics</b>	Integrated: Intel® HD Graphics 520; Intel® HD Graphics 530 Discrete: AMD Radeon™ R7 M365X (2 GB GDDR5 dedicated) (Discrete graphics available in Feb 2016.)
<b>Audio</b>	HD audio with DTS Studio Sound™; two integrated stereo speakers; Dual array microphones; Headphone and microphone combo jack <sup>12</sup>
<b>Wireless Technologies</b>	HP Ilt4120 Qualcomm® Snapdragon™ X5 LTE Mobile Broadband Module; HP hs3110 HSPA+ Mobile Broadband; Intel® 802.11a/b/g/n/ac (2x2) and Bluetooth® 4.2 Combo; Broadcom 802.11a/b/g/n (2x2) and Bluetooth® 4.0 Combo; Broadcom 802.11b/g/n (1x1) WiFi and Bluetooth® 4.0 Combo; Realtek 802.11b/g/n (1x1) Wi-Fi; Near Field Communication (NFC) module (optional); Intel® Pro Wireless Display (WiDi Pro) <sup>8,9,10,11</sup> (Support for Miracast (Windows 8.1 and Windows 10))
<b>Communications</b>	Intel® Ethernet Connection I219-V; Intel® Ethernet Connection I219-LM
<b>Expansion Slots</b>	1 media card reader (Supports SD, SDHC, SDXC.)
<b>Ports and Connectors</b>	1 USB 3.0; 1 USB 3.0 charging; 1 USB Type-C™; 1 DisplayPort; 1 VGA; 1 headphone/microphone combo; 1 AC power; 1 RJ-45; 1 docking connector; 1 serial (optional)
<b>Input Device</b>	HP Premium Spill-Resistant Keyboard; HP Premium Spill-Resistant Backlit Keyboard (optional); HP Premium Spill-Resistant Backlit Keyboard and Dual Point (optional) Touchpad with on/off button, supports 2-way scroll, taps and gestures enabled by default, two-finger scrolling, two finger zoom (pinch)
<b>Camera</b>	720p HD webcam (optional) <sup>12</sup>
<b>Available Software</b>	HP Client Security; HP BIOSphere; HP Client Management Solutions; HP Touchpoint Manager; HP ePrint Driver; HP Mobile Connect Pro; HP Noise Reduction Software; HP Support Assistant 13,14,15,16,17,18,19
<b>Security Management</b>	HP Client Security; HP BIOSphere; Optional Self-Encrypting or FIPS Certified Storage Drives; Security lock slot (lock must be purchased separately); TPM 1.2; Integrated smart card reader (active); Preboot Authentication (password, Smart Card); HP Fingerprint reader (optional) <sup>20</sup>
<b>Power</b>	45 W Smart AC adapter; 45 W Smart AC adapter 2-prong (Japan only); 65 W Smart AC adapter; 65 W EM Smart AC adapter (China and India only); 90 W Smart adapter
<b>Battery Type</b>	HP Long Life 3-cell, 48 WHr Li-ion prismatic
<b>Dimensions</b>	37.8 x 25.7 x 2.74 cm
<b>Weight</b>	Starting at 2.31 kg (Weight will vary by configuration.)
<b>Environmental</b>	Low halogen <sup>21</sup>
<b>Energy Efficiency Compliance</b>	ENERGY STAR® certified configurations available
<b>Warranty</b>	Limited 3-year, 1-year or 90-day limited warranty options available, depending on country. Batteries have a default 1-year limited warranty except for HP Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. Optional HP Care Pack Services are extended service contracts which go beyond your standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at <a href="http://www.hp.com/gp/pc">http://www.hp.com/gp/pc</a> . Restrictions and limitations apply. Consult the HP Customer Support Center for details: <a href="http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp">http://h20000.www2.hp.com/bizsupport/TechSupport/ProductRoot.jsp</a>

## HP ProBook 650 G2 Notebook PC

### Recommended Accessories and Services

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#### HP CA06XL Notebook Battery



Be productive longer than with standard battery solutions with the HP CA06XL Long Life Notebook Battery, which has up to a three-year life span<sup>1</sup> to help lower your total cost of ownership as you use fewer batteries over the life of the notebook.

**Product number: E7U21AA**

#### HP Slim Ultrabook Backpack



The HP Slim Ultrabook Backpack—a stylish, durable, and compact messenger bag built for your Ultrabook™.<sup>1</sup> A black twill fabric accented with gray plaid combines form and function to help protect your hardware and give you a polished appearance.

**Product number: F3W16AA**

#### HP 3-year Travel Next Business Day Low End Notebook Only Hardware Support



This HP services offers notebook users on the go prompt, reliable coverage in major geographies of the world, for 3 years. For more information on Care Pack services, please visit [www.hp.com/go/cpc](http://www.hp.com/go/cpc).

**Product number: UC909E**

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## Messaging Footnotes

- <sup>1</sup> 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>.
- <sup>2</sup> Sold separately or as an optional feature.
- <sup>3</sup> Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
- <sup>4</sup> Cortana experience may vary by device, region and requires Windows 10. Apps sold separately.
- <sup>5</sup> Skype for business subscription required.
- <sup>6</sup> HP BIOSphere features may vary depending on the PC platform and configurations.
- <sup>7</sup> MIL-STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL-STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.
- <sup>8</sup> HP Touchpoint Manager requires purchase of a subscription and supports Android™, iOS and Windows 7 or higher operating systems and PCs, notebooks, tablets and smartphones from various manufacturers. Not available in all countries see [www.hp.com/touchpoint](http://www.hp.com/touchpoint) for availability information.

## Technical Specifications Footnotes

- <sup>1</sup> 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>.
- <sup>2</sup> 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.
- <sup>3</sup> Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
- <sup>4</sup> Some vPro™ functionality, 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.
- <sup>5</sup> Maximum memory capacities assume Windows 64-bit operating systems. With Windows 32-bit operating systems, memory above 3 GB may not all be available due to system resource requirements.
- <sup>6</sup> For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 7, 8 and 10) is reserved for system recovery software.
- <sup>7</sup> Double-layer discs can store more data than single layer discs. However, double-layer discs burned with this drive may not be compatible with many existing single-layer DVD drives and players. Note that this drive cannot read or write to 2.6 GB single-sided/5.2 GB double-sided – version 1.0 media. Don't copy copy-right protected materials. With Blu-Ray, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawless playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HDMI digital connection and your display may require HDCP support. HD-DVD movies cannot be played on this PC.
- <sup>8</sup> 802.11 wireless is an optional feature. Wireless access point and Internet service is required and is not included. Availability of public wireless access points limited.
- <sup>9</sup> WWAN is an optional feature and 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.
- <sup>10</sup> Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.
- <sup>11</sup> Intel WiDi Pro support requires Intel vPro processor, Intel Graphics, and Intel 2x2 ac WLAN.
- <sup>12</sup> HD content required to view HD images.
- <sup>13</sup> HP Client Security requires Windows. Self Encrypting HDs (SEDs) are not supported if the encryption pin is enabled by the user.
- <sup>14</sup> HP BIOSphere features may vary depending on the PC platform & configuration.
- <sup>15</sup> HP Client Management Solutions are sold separately.
- <sup>16</sup> HP Touchpoint Manager requires purchase of a subscription and supports Android™, iOS and Windows 7 or higher operating systems and PCs, notebooks, tablets and smartphones from various manufacturers. Not available in all countries see [www.hp.com/touchpoint](http://www.hp.com/touchpoint) for availability information.
- <sup>17</sup> HP ePrint Driver 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)).
- <sup>18</sup> HP Mobile Connect Pro local country plans are available in UK, Ireland, Belgium, Netherlands, Luxembourg and Fearless Roaming plans are available in Germany, France, Spain and Poland. Please visit <http://www.hp.com/go/mobileconnect>.
- <sup>19</sup> HP Support Assistant requires Windows
- <sup>20</sup> This product ships with TPM 1.2 with option to upgrade to TPM 2.0. Upgrade utility is expected to be available by the end of 2015 via HP Customer Support.
- <sup>21</sup> External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.
- <sup>22</sup> Intel® Core™ i7-6820HQ and Intel® Core™ i5-6440HQ available Feb 2016
- <sup>23</sup> 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. See <http://www.microsoft.com>.

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