



# HP ProBook 650 G5 Notebook PC

Everyday made special

The contemporary and purposeful design of the HP ProBook 650 compliments enterprise-grade performance, security, manageability all while working with today's technology and continuing to support connectivity to legacy devices.



HP recommends Windows 10 Pro for business

## Modern professional design

- This PC is built for business. The HP ProBook 650 undergoes MIL-STD 810G testing<sup>2</sup> and has a striking silver finish with sharp lines that embody today's bold design and supports several HP docking options for gradual transitions to modern docking solutions.

## High performance

- Help speed up demanding business applications with an optional 8th Gen quad-core Intel® Core™ processor.<sup>3</sup> Help keep connected with HP Extended Range Wireless LAN and optional Wi-Fi 6.<sup>4,5,6</sup>

## Built on a secure foundation

- Protect your PC against the evolving malware threats of the future, with self-healing and manageable hardware-enforced security solutions from HP. From the BIOS to the browser, HP Sure Start Gen5<sup>7</sup> and HP Sure Click<sup>8</sup> help secure your PC.
- Power through your day with Windows 10 Pro and the powerful security, collaboration and connectivity features from HP.
- Take on demanding graphics and video tasks using high resolution 4K displays with optional AMD Radeon™ 540X Discrete Graphics.
- Get gigabit speed with optional Wi-Fi 6 on the HP ProBook 650.
- Cover more ground and improve connectivity with HP Extended Range Wireless LAN.
- Never wonder if someone is watching you with the added peace-of-mind that comes from the integrated HP Privacy Camera, with a physical shutter to protect from malicious surveillance.
- Firmware attacks can completely devastate your PC. Stay protected with HP Sure Start Gen5, the self-healing BIOS that automatically recovers itself from attacks or corruption.
- Fortify your security with up to three authentication factors including fingerprints and facial recognition.
- Help protect existing investments in legacy IT with optical drive and serial port options.

## HP ProBook 650 G5 Notebook PC Specifications Table



Available Operating Systems	Windows 10 Pro 64 <sup>1</sup> Windows 10 Home 64 – HP recommends Windows 10 Pro for business <sup>1</sup> Windows 10 Home Single Language 64 <sup>1</sup> Windows 10 Pro (Windows 10 Enterprise available with a Volume Licensing Agreement) <sup>1</sup> FreeDOS
Processor family <sup>5</sup>	8th Generation Intel® Core™ i7 processor (i7-8565U); 8th Generation Intel® Core™ i5 processor (i5-8265U); 8th Generation Intel® Core™ i3 processor (i3-8145U); 8th Generation Intel® Core™ i7 processor (i7-8665U); 8th Generation Intel® Core™ i5 processor (i5-8365U)
Available Processors <sup>3,4,5</sup>	Intel® Core™ i7-8565U with Intel® UHD Graphics 620 (1.8 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores); Intel® Core™ i7 8665U vPro™ processor with Intel® UHD Graphics 620 (1.8 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores); Intel® Core™ i5-8265U with Intel® UHD Graphics 620 (1.6 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 6 MB L3 cache, 4 cores); Intel® Core™ i5 8365U vPro™ processor with Intel® UHD Graphics 620 (1.6 GHz base frequency, up to 4.1 GHz with Intel® Turbo Boost Technology, 6 MB L3 cache, 4 cores); Intel® Core™ i3-8145U with Intel® UHD Graphics 620 (2.1 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 4 MB L3 cache, 2 cores)
Maximum memory	32 GB DDR4-2400 SDRAM <sup>6</sup> Both slots are customer accessible/upgradeable. Supports dual channel memory.
Memory slots	2 SODIMM
Internal storage	up to 512 GB Intel® PCIe® NVMe™ QLC M.2 SSD with 32 GB Intel® Optane™ memory H10 <sup>7,41,43</sup> 256 GB up to 2 TB PCIe® Gen3x4 NVMe™ M.2 SSD TLC <sup>7</sup> 256 GB up to 512 GB M.2 SATA FIPS 140-2 SSD TLC <sup>7</sup> up to 512 GB PCIe® Gen3x4 NVMe™ M.2 SED SSD TLC <sup>7</sup> up to 512 GB PCIe® M.2 Value SSD <sup>7</sup> up to 256 GB M.2 SATA-3 SED SSD <sup>7</sup> up to 128 GB M.2 SATA-3 SSD TLC <sup>7</sup> 500 GB up to 1 TB 7200 rpm SATA <sup>7,44</sup> up to 500 GB 7200 rpm SATA FIPS 140-2 SED <sup>7,45</sup>
Optical drive	DVD-Writer <sup>11,39</sup>
Display	39.6 cm (15.6") diagonal HD SVA eDP anti-glare WLED-backlit slim, 220 nits, 45% NTSC (1366 x 768); 39.6 cm (15.6") diagonal FHD IPS eDP anti-glare WLED-backlit slim, 250 nits, 45% NTSC (1920 x 1080); 39.6 cm (15.6") diagonal FHD IPS eDP WLED-backlit slim touch screen, 250 nits, 45% NTSC (1920 x 1080); 39.6 cm (15.6") diagonal FHD IPS eDP + PSR WLED-backlit ultraslim touch screen with HP Sure View Gen3 Integrated Privacy Screen, 650 nits, 72% NTSC (1920 x 1080) <sup>11,12,16,17</sup>
Available Graphics	Integrated: Intel® UHD Graphics 620 <sup>12</sup> Discrete: AMD Radeon™ 540X (2 GB GDDR5 dedicated) <sup>13</sup> (Support HD Decode, DX12, and HDMI 1.4b.)
Audio	Dual stereo speakers, dual array microphone
Wireless technologies	Intel® Dual Band Wireless-AC 9560 802.11 a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 5 Combo, vPro™; Intel® Dual Band Wireless-AC 9560 802.11 a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 5 Combo, non-vPro™; Intel® XMM™ 7360 LTE-Advanced Cat 9; Intel® XMM™ 7262 LTE-Advanced Cat 6; Intel® AX200 Wi-Fi 6 (2x2) and Bluetooth® 5 Combo, vPro™; Intel® AX200 Wi-Fi 6 (2x2) and Bluetooth® 5 Combo, non-vPro™ <sup>8,9,11</sup>
Expansion slots	1 microSD
Ports and Connectors	2 USB 3.1 Gen 1 (1 charging); 1 USB 3.1 Type-C™ Gen 1 (Power delivery, DisplayPort™); 1 RJ-45; 1 headphone/microphone combo; 1 HDMI 1.4; 1 docking connector; 1 AC power; 1 VGA or Serial Port (Cables are not included.)
Input devices	HP Advanced Keyboard, Spill-resistant with drain, optional DuraKeys and backlit <sup>14</sup> ; Clickpad with multi-touch gesture support;
Communications	HP Module with NXP NFC Controller NPC300 I2C NCI; Intel® I219-LM GbE, vPro™; Intel® I219-V GbE, non-vPro™ <sup>10,11</sup> ;
Camera	720p HD camera <sup>11,12,15</sup>
Available Software	HP Connection Optimizer; HP Hotkey Support; HP Image Assistant; HP JumpStart; HP Noise Cancellation Software; HP Support Assistant; Native Miracast support; Buy Office (Sold separately) <sup>18,19</sup>
Security management	Absolute persistence module; HP DriveLock and Automatic DriveLock; HP Fingerprint Sensor; HP Secure Erase; Power-on authentication; Preboot authentication; Smart card reader; TPM 2.0 embedded security chip shipped with Windows 10 (Common Criteria EAL4+ Certified); HP Sure Click; Windows Defender; HP Sure Start Gen5; HP BIOSphere Gen5; HP Client Security Gen5; HP Sure Sense <sup>22,23,24,25,26,27,28,29,30,31,40,42</sup>
Management features	HP Driver Packs; HP System Software Manager (SSM); HP BIOS Config Utility (BCU); HP Client Catalog; HP Manageability Integration Kit Gen3 <sup>20,21</sup>
Power	HP Smart 65 W External AC power adapter; HP Smart 65 W USB Type-C™ adapter; HP Smart 45 W External AC power adapter; HP Smart 45 W USB Type-C™ adapter <sup>34,35</sup>
Battery type	HP Long Life 3-cell, 48 Wh Li-ion <sup>33,34</sup>
Battery life	Up to 15 hours <sup>32</sup>
Dimensions	37.7 x 25.7 x 2.39 cm (non-touch); 37.7 x 25.7 x 2.49 cm (touch)
Weight	Starting at 2.18 kg (non-touch); Starting at 2.4 kg (touch) (Weight will vary by configuration.)

## HP ProBook 650 G5 Notebook PC

### Accessories and services (not included)

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#### HP USB-C Mini Dock



Be productive on the go with streamlined, pocket-sized port expansion that's fashionable and functional. The HP USB-C™ Mini Dock has a modern, textured design and packs pass-through charging<sup>1</sup> and data, video, network, and device connectivity<sup>2</sup> into a compact, portable dock. Be productive on the go with streamlined, pocket-sized port expansion that's fashionable and functional. The HP USB-C™ Mini Dock has a modern, textured design and packs pass-through charging<sup>1</sup> and data, video, network, and device connectivity<sup>2</sup> into a compact, portable dock. HP's extensive range of notebook PCs enable increased productivity and efficiency, by providing the perfect combination of built-in mobility features to match the particular needs of individuals from businesses large and small.

**Product number: 1PM64AA**

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#### HP 17.3 Business Backpack



Keep your hands free and your notebook safe with the HP 17.3 Business Backpack, designed to go with you in and out of the office and on the road. It has lockable<sup>1</sup> zippers, a secure RFID pocket, and room for your device up to 17.3" diagonal, phone, accessories, and so much more. HP's best combination of business features, functionality and value for mainstream business applications HP's extensive range of notebook PCs enable increased productivity and efficiency, by providing the perfect combination of built-in mobility features to match the particular needs of individuals from businesses large and small.

**Product number: 2SC67AA**

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#### HP 65W USB-C Slim Travel Power Adapter

Use one adapter to power and charge your notebook or mobile device<sup>1</sup> and a USB accessory at the same time, in the office or on the go, with the surprisingly compact HP 65W USB-C Slim Travel Power Adapter. HP's best combination of business features, functionality and value for mainstream business applications HP's extensive range of notebook PCs enable increased productivity and efficiency, by providing the perfect combination of built-in mobility features to match the particular needs of individuals from businesses large and small.

**Product number: 3PN48AA**

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#### HP 3 year Next Business Day Onsite Hardware Support for Notebooks



Receive 3 years of next business day onsite HW support from an HP-qualified technician for your computing device, if the issue cannot be solved remotely.

**Product number: U4391E**

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## HP ProBook 650 G5 Notebook PC

### 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 and/or software 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.windows.com>.
- <sup>2</sup> MIL STD 810G testing is pending and 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>3</sup> Quad core processors are optional. 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, branding and/or naming is not a measurement of higher performance.
- <sup>4</sup> Sold separately or as an optional feature.
- <sup>5</sup> Wi-Fi® supporting gigabit speeds is achievable with Wi-Fi 6 (802.11ax) when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 160MHz channels.
- <sup>6</sup> Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs. The specifications for Wi-Fi 6 (802.11ax) are draft 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 802.11ax devices.
- <sup>7</sup> HP Sure Start Gen5 is available on select HP PCs with Intel processors. See product specifications for availability.
- <sup>8</sup> HP Sure Click is available on select HP platforms and supports Microsoft Internet Explorer, Google Chrome™, and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode. Check <http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4AA7-0922ENW> for all compatible platforms as they become available.
- <sup>9</sup> Video conferencing requires internet connection and creative applications are sold separately.
- <sup>10</sup> Based on internal testing vs. previous generation product with 802.11ac wireless LAN module.
- <sup>11</sup> HP Privacy Camera only available PCs equipped with HD or IR camera and must be installed at the factory.
- <sup>12</sup> HP Multi Factor Authenticate Gen3 is available on select HP PCs and requires Intel® Core™ processor, Intel® integrated graphics, and Intel® WLAN. Three authentication factors require Intel® vPro™. (If facial recognition is mentioned: Authentication factors may require optional hardware.)

### 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.windows.com>.
- <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, branding and/or naming is not a measurement of higher performance.
- <sup>4</sup> Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
- <sup>5</sup> In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.
- <sup>6</sup> 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.
- <sup>7</sup> For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.
- <sup>8</sup> Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.
- <sup>9</sup> WWAN module 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, in all regions.
- <sup>10</sup> 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.
- <sup>11</sup> Sold separately or as an optional feature.
- <sup>12</sup> HD content required to view HD images.
- <sup>13</sup> 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).
- <sup>14</sup> Backlit keyboard is an optional feature.
- <sup>15</sup> Internet access required.
- <sup>16</sup> Resolutions are dependent upon monitor capability, and resolution and color depth settings.
- <sup>17</sup> Touch-enabled display and Sure View privacy panel will lower actual brightness.
- <sup>18</sup> HP Support Assistant requires Windows and Internet access.
- <sup>19</sup> Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.
- <sup>20</sup> HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>.
- <sup>21</sup> HP Manageability Integration Kit can be downloaded from <http://www.hp.com/go/clientmanagement>.
- <sup>22</sup> 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.
- <sup>24</sup> HP Fingerprint Sensor sold separately or as an optional feature.
- <sup>25</sup> HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.
- <sup>26</sup> Firmware TPM is version 2.0. Hardware TPM is v1.2, which is a subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).re TPM is version 2.0. Hardware TPM is v1.2, which is a subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).
- <sup>27</sup> HP Sure Click is available on most HP PCs and supports Microsoft® Internet Explorer and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office or Adobe Acrobat are installed.
- <sup>28</sup> Windows Defender Opt in and internet connection required for updates.
- <sup>29</sup> HP Sure Start Gen5 is available on select HP PCs with Intel processors. See product specifications for availability.
- <sup>30</sup> HP BIOSphere Gen5 is available on select HP Pro and Elite PCs. See product specifications for details. Features may vary depending on the platform and configurations.
- <sup>31</sup> HP Client Security Manager Gen5 requires Windows and is available on the select HP Pro and Elite PCs. See product specifications for details.
- <sup>32</sup> Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.bapco.com](http://www.bapco.com) for additional details.
- <sup>33</sup> Supports HP Fast Charging.
- <sup>34</sup> Recharges the battery up to 90% within 90 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65 watts is required. After charging has reached 90% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.
- <sup>35</sup> Availability may vary by country.
- <sup>36</sup> HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit [www.hp.com/go/cpc](http://www.hp.com/go/cpc). HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.
- <sup>37</sup> EPEAT® registered where applicable. EPEAT registration varies by country. See <http://www.epeat.net> for registration status by country. Search keyword generator on HP's 3rd party option store for solar generator accessories at [www.hp.com/go/options](http://www.hp.com/go/options).
- <sup>38</sup> External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
- <sup>39</sup> DVD-Writer does not support DVD RAM. Don't copy copyright protected materials.
- <sup>40</sup> Smart Card reader is sold separately or as an optional feature.
- <sup>42</sup> HP Sure Sense requires Windows 10. See product specifications for availability.
- <sup>43</sup> Intel® Optane™ memory H10 only for Intel® PCIe® NVMe™ QLC M.2 SSD.
- <sup>44</sup> Not required if Primary M.2 Storage is selected.
- <sup>45</sup> Not available with Optane Memory or SSD.

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