# HP ZBook 15 G5 Mobile Workstation



# HP's best-selling ZBook

Our powerhouse ZBook thrives with heavy workloads from rendering to engineering to simulation. With room to grow, it's the only machine you'll ever need.



HP recommends Windows 10 Pro for business

### Full-throttle performance

• Get blazing-fast performance with the heaviest multi-app workloads. Boost your speed on single and multi-threaded apps with the high-performance multi-core Intel processor. Through it all, our cutting-edge thermal design keeps everything cool and quiet.

#### Ready to expand. No tools required.

 When your technology needs evolve, you can easily upgrade. Simply remove the back panel and switch out your memory or storage in seconds.

#### Industry-leading security

- Advanced security features come standard on every ZBook 15. System safeguards like HP Client Security Suite<sup>1</sup> and HP Sure Start<sup>2</sup> - the industry's first self-healing BIOS - mean your device is locked down tight, so your data and identity are too.
- Work anywhere without compromising on performance or security with Windows 10 Pro, powered by HP's collaboration and connectivity technology.<sup>3</sup>
- Accelerate your workflow. Power through projects with up to 128 GB RAM for fast rendering, editing and visual effects performance.<sup>4</sup>
- Take multitasking to the next level with the Intel<sup>®</sup> Core™ i9 processor designed to handle complex, multithreaded apps like Adobe Premier Pro, and with fast clock speeds you can boost your speed on single threaded apps like Autodesk 3ds Max.<sup>5,6</sup>
- Run demanding professional apps with the newest generation Intel<sup>®</sup> Xeon<sup>®</sup> processors for powerful performance and productivity.<sup>7</sup>
- Render the most demanding projects and experience virtual immersion with the next generation of VR-ready NVIDIA Quadro® graphics.
- Strenuously tested to meet software certification and deliver superb performance with leading software providers, including Autodesk and Adobe.
- Bring your projects to life with one billion colors on the stunning 600 nit, 4K UHD HP DreamColor display. Maintain color accuracy with a built-in color calibration system.<sup>8</sup>
- Blitz through multiple tasks and ditch external drives with up to 6 TB storage. Get 4 TB local PCIel NVMe storage - up to 21x faster than standard HDD and 6x faster than SATA SSD.<sup>9</sup>
- Our ZBooks are designed to undergo extensive MIL-STD 810G testing.
- Plug in to greater connectivity at your desktop with the HP Thunderbolt Dock for lightning-fast Thunderbolt™ 3 transfers and the flexibility to run up to two external 4K displays. <sup>11,12</sup>
- Accidents happen which is why we designed our keyboard with a drain hole, so minor spills flow out the bottom for easy cleanup.
- Easy-to-remove rear panel allows for future expansion via 3 (2x M.2, 1x 2.5) storage slots. 4 million separate custom configurations to choose from will meet the demands of engineers and designers to ensure extended device lifetime.

# HP ZBook 15 G5 Mobile Workstation Specifications Table







Available Operating Systems	Windows 10 Pro 64 – HP recommends Windows 10 Pro for business <sup>1</sup> Windows 10 Home 64 <sup>1</sup> Windows 10 Pro for Workstations 64 <sup>1</sup> FreeDOS 2.0 Red Hat <sup>®</sup> Enterprise Linux <sup>®</sup> 7 - Web support only <sup>33</sup> Ubuntu 16.04.3 LTS - Web support only <sup>33</sup>
Processor family <sup>2,3,4,31,32,35</sup>	Intel® Xeon® processor (E-2176M, E-2186M); 8th Generation Intel® Core™ i9 processor (i9-8950HK); 8th Generation Intel® Core™ i7+ processor (Core™ i7+ processor (Core™ i7+ processor (Core™ i5+ proce
Available Processors <sup>2,3,4,31,32,35</sup>	Intel® Xeon® E 2186M vPro™ with Intel® UHD Graphics P630 (2.9 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 12 MB cache, 6 cores); Intel® Xeon® E 2176M vPro™ with Intel® UHD Graphics P630 (2.7 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 12 MB cache, 6 cores); Intel® Core™ i9 8950HK with Intel® UHD Graphics 630 (2.6 GHz base frequency, up to 4.8 GHz with Intel® Turbo Boost Technology, 12 MB cache, 6 cores); Intel® Core™ i7 and 16 GB Intel® Optane™ memory) with Intel® UHD Graphics 630 (2.6 GHz base frequency, up to 4.3 GHz with Intel® Turbo Boost Technology, 9 MB cache, 6 cores); Intel® Core™ i7 8850H vPro™ with Intel® UHD Graphics 630 (2.6 GHz base frequency, up to 4.3 GHz with Intel® Turbo Boost Technology, 9 MB cache, 6 cores); Intel® Core™ i7 and 16 GB Intel® Optane™ memory) with Intel® UHD Graphics 630 (2.2 GHz base frequency, up to 4.1 GHz with Intel® Turbo Boost Technology, 9 MB cache, 6 cores); Intel® Core™ i5+8400H vPro™ (Core™ i5 and 16 GB Intel® Optane™ memory) with Intel® UHD Graphics 630 (2.5 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores); Intel® Core™ i5+8400H vPro™ i5+8400H vPro™ with Intel® UHD Graphics 630 (2.5 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores); Intel® Core™ i5+8400H vPro™ with Intel® UHD Graphics 630 (2.5 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores); Intel® Core™ i5-8300H with Intel® Optane™ memory) with Intel® UHD Graphics 630 (2.3 GHz base frequency, up to 4.0 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores); Intel® Core™ i5-8300H with Intel® UHD Graphics 630 (2.3 GHz base frequency, up to 4.0 GHz with Intel® Core™ i5-8300
Display size (diagonal)	15.6° <sup>9,33</sup>
Maximum memory	128 GB DDR4-2667 non-ECC SDRAM; 64 GB DDR4-2667 ECC SDRAM; 64 GB DDR4-2667 non-ECC SDRAM <sup>5,36</sup> Transfer rates up to 2400 MT/s.
Memory slots	4 SODIMM
Internal storage	up to 2 TB 5400 rpm SATA <sup>6</sup> 500 GB up to 1 TB 7200 rpm SATA <sup>6</sup> up to 500 GB 7200 rpm SATA SED <sup>6</sup> up to 500 GB 7200 rpm SATA FIPS 140-2 SED <sup>6</sup> 500 GB up to 2 TB 5400 rpm SATA SSHD <sup>6</sup> 256 GB up to 1 TB SATA SSD <sup>6</sup> up to 256 GB up to 1 TB SATA SSD <sup>6</sup> up to 256 GB M.2 SATA SED SSD <sup>6</sup> up to 512 GB M.2 SATA FIPS 140-2 SED SSD <sup>6</sup> 256 GB up to 2 TB PCle® NVMe™ M.2 SSD <sup>6</sup> 256 GB up to 512 GB PCle® NVMe™ M.2 SSD <sup>6</sup> 256 GB up to 512 GB PCle® NVMe™ M.2 SSD <sup>6</sup> 2 X 1 TB up to 2 x 2 TB PCle® NVMe™ M.2 SSD <sup>6</sup>
Display	15.6" diagonal FHD IPS eDP anti-glare LED-backlit, 220 cd/m² (1920 x 1080); 15.6" diagonal 4K IPS eDP + PSR anti-glare LED-backlit and ambient light sensor, 400 cd/m² (3840 x 2160); 15.6" diagonal 4K IPS eDP + PSR LED-backlit touch screen with Corning® Gorilla® (alass 4 and ambient light sensor, 400 cd/m² (3840 x 2160); 15.6" diagonal FHD IPS eDP + PSR anti-glare LED-backlit with ambient light sensor, 400 cd/m² (1920 x 1080); HP Sure View Integrated Privacy Screen 15.6" diagonal FHD eDP + PSR LED-backlit touch screen with Corning® Gorilla® Glass 4, 650 cd/m² (1920 x 1080); HP DreamColor 15.6" diagonal 4K IPS anti-glare LED-backlit, 600 cd/m², 100% AdobeRGB (3840 x 2160) 9.33
Available Graphics	Integrated: Intel® UHD Graphics 630; Intel® UHD Graphics P630 <sup>9,10</sup> Discrete: AMD Radeon™ Pro WX 4150 Graphics (4 GB GDDR5 dedicated); NVIDIA® Quadro® P1000 (4 GB GDDR5 dedicated); NVIDIA® Quadro® P2000 (4 GB GDDR5 dedicated) <sup>11</sup> (Intel® UHD Graphics 630 integrated on Core™ i7, Core™ i5 and Core™ i9 processors. Intel® UHD Graphics P630 integrated on Xeon® processors.)
Audio	HP tuned Bang & Olufsen, dual stereo speakers, HP World Facing Microphone supporting HP Noise Reduction software, dual array digital microphone, functions keys for volume up and down, combo microphone/headphone jack, HD audio, HP Clear Sound Amp 13
Expansion slots	1 UHS-II SD card reader; 1 smart card reader (SD supports next generation secure digital and is backward compatible to SDHC, SDXC)
Ports and Connectors	Left side: 1 RJ-45; 1 USB 3.0; 1 USB 3.0 (charging) Right side: 1 HDMI 2.0; 1 headphone/microphone combo; 1 power connector; 1 USB 3.0; 2 USB 3.1 Type-C™ Thunderbolt™ 3 (DisplayPort™ 1.3)
Input devices	HP Collaboration Keyboard, full-size, spill-resistant, backlit, with drain and DuraKeys, clickpad with image sensor and glass surface, multi-touch gestures and taps enabled; Image sensor touchpad with on/off button, two-way scroll, gestures, three buttons; Pointstick with three additional pointstick buttons; Touchpad with Color Calibration Sensor38
Communications	LAN: Integrated Intel® I219-LM GbE WLAN: Intel® Dual Band Wireless-AC 9560 802.11ac (2x2) Wi-Fi® and Bluetooth® 5.0 Combo; Intel® Dual Band Wireless-AC 9560 802.11ac (2x2) Wi-Fi® and Bluetooth® 5.0 Combo, non-vPro™ 7; WWAN: HP lt4132 LTE/HSPA+ 4G Mobile Broadband Module; Intel® XMM™ 7360 LTE Advanced 8.14 (Optional Near Field Communication (NFC) module)
Camera	HP Privacy HD Camera 720p; HP Privacy HD IR Camera 720p, face authentication with Windows Hello 9,12,14,30
Available Software	Bing search for IE11; Buy Office; HP ePrint Driver + JetAdvantage; HP Hotkey Support; HP Noise Cancellation Software; HP Performance Advisor; HP Recovery Manager; HP Remote Graphics Software; HP Support Assistant; HP Velocity; Skype for Business Certified; HP LAN-WLAN Protection; HP JumpStart; HP Client Security Suite Gen4 15,16,17,18
Security management	Absolute persistence module; Common Criteria EAL4+ Augmented Certified Discrete TPM 2.0 Embedded Security Chip; DriveLock and Automatic DriveLock; HP Device Access Manager; HP FingerPrint Sensor; HP Password Manager; HP Power On Authentication; HP Security Manager; Per-boot authentication; HP Sure Click; Measured Boot; HP BIOS Config Utility (BCU); HP Client Catalog; HP Driver Packs; HP System Software Manager (SSM); HP Manageability Integration Kit Gen2; HP BIOSphere with Sure Start Gen4; HP Secure Disk Erase; HP Host Based Mac Address; Windows Defender 19,20,21,22,23,26,27,28,29
Power	150 W Slim Smart external AC power adapter
Battery type	HP Long Life 4-cell, 90 Wh Li-ion polymer <sup>26,34</sup>
Dimensions	37.6 x 26.4 x 2.6 cm
Weight	Starting at 2.6 kg (Weight varies by configuration and components.)
Energy efficiency compliance	ENERGY STAR® certified and EPEAT® registered configurations available <sup>24</sup>
Environmental specifications	Low halogen <sup>25</sup>

# HP ZBook 15 G5 Mobile Workstation

# Accessories and services (not included)

# HP Thunderbolt Dock 230W G2



Reinvent docking and boost productivity with HP's most versatile Thunderbolt™ dock, the small, sophisticated HP Thunderbolt Dock G2. Designed for workspace flexibility and network manageability¹, it delivers USB-C™² device connectivity and optional integrated audio.³

**Product number: 2UK38AA** 

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.

**Product number: UC909E** 

## HP ZBook 15 G5 Mobile Workstation

#### Messaging Footnotes

- $^{\rm 1}$  Requires Windows and Intel® or AMD 7th or 8th generation processors.
- <sup>2</sup> HP Sure View integrated privacy screen is an optional feature that must be configured at purchase and functions in landscape orientation.
- <sup>3</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

- 4 Up to 128GB memory is an optional, configurable feature.

  5 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
- 6 Adobe Premier Pro and Autodesk 3ds Max sold separately.
  7 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.

  B DreamColor display required for 1 billion colors and is an optional or add on feature.

- <sup>9</sup> For hard drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

  10 MIL-STD-810G testing is pending. Testing is not intended to demonstrate fitness of U.S. Department of Defense (DoD) contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.
- 11 HP Thunderbolt Dock with Thunderbolt™ 3 sold separately.

  12 Hybrid graphics setting is required to run up to two external 4K displays

#### **Technical Specifications Footnotes**

- 1 Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com.
- <sup>2</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.
- 3 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 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any 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 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any 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 operating system on products configured with Intel and Intel System on the Intel System of the Intel System of System on the Intel System of System of System on the Intel System of System of System of System on the Intel System of Syst drivers on http://www.support.hp.com
- <sup>4</sup> vPro. 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. Compatibility future "virtual appliances" is yet to be determined.

  Sintel® allows architectures designed with four DIMM slots to run at 2400 MT/s.

- 6 For storage drives GB = 1 billion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 10) is reserved for system recovery software.

  7 Wireless cards are optional or add-on features and requires separately purchased wireless access point and internet service. 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>8</sup> WWAN is an optional feature. 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. 4G LTE not available on all products, and in all regions.

- HD content required to view HD images.
   Intel® HD graphics 630 is configurable as a standalone graphics option; Intel® HD graphics P630 only used when NVIDIA® Optimus™ Technology is enabled
- 11 NVIDIA® Quadro® mobile professional graphics support up to four independent displays when using a HP ZBook Dock with Thunderbolt 3 (sold separately) or DP 1.2 hubs with MST.
- <sup>12</sup> Privacy camera not available on touchscreen.
- 13 Dual-microphone array when equipped with optional webcam and optional world facing microphone.
- 14 Ontional or add-on feature
- 15 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.

  16 HP Remote Graphics Software requires a Windows, Linux®, or Mac®OS X 10.10 and newer operating system and network access

  18 HP Client Security Suite Gen 4 requires Windows and Intel® or AMD 8th generation processors.

- 19 BIOS Absolute Persistence module is shipped turned off, and will be activated when customers purchase and activate a subscription. Service may be limited. Check with Absolute for availability outside the U.S. The optional subscription service of Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: http://www.absolute.com/company/legal/agreements/computrace-agreement. 20 Finger Sensor is optional
- <sup>21</sup> HP Manageability Integration Kit can be downloaded from http://www.hp.com/go/clientmanagement
- <sup>22</sup> HP Password manager requires Windows.

- 24 HP BIOSphere Gen4 requires Intel® or AMD 8th generation processors. HP Sure Start Gen4 is available on HP Z Workstations products equipped with 8th generation Intel® or AMD processors.

  24 EPEAT® registered where applicable. EPEAT registration varies by country. See www.epeat.net for registration status by country.

  25 External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.

  26 Battery is internal and not replaceable by customer. Serviceable by warranty. Batteries have a default one year limited warranty except for Long Life batteries which will have same 1-year or 3-year.

  27 HP Secure Disk Erase is for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.
- 28 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>29</sup> Windows Defender Opt In, Windows 10, and internet connection required for updates
- 30 Windows Hello optional
  31 Intel® Optane™ memory system acceleration does not replace or increase the DRAM in your system.
- 32 Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost for more information.
  33 Supported not preloaded.
- 34 4 cell now only w/ UMA, and not possible with DSC
- 35 Intel® Optane™ memory is only available if HDD is selected and 2nd M.2 is not selected.
  36 Available in December 2018
- <sup>37</sup> RAID 1 Configuration requires 2 NVMe PCIe M.2 drives; both drives must be the same capacity and only available on NVMe technology.
  <sup>38</sup> Color calibration sensor is only available with the DreamColor display

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