

HP Z2 Tower G9 Workstation Desktop PC

Pro-power. Today and tomorrow



Experience a whole new level of performance for your professional workflow. The Z2 Tower is engineered to seamlessly run multi-threaded apps for fast rendering, simulation, and now real-time ray tracing. And when your demands change, you have impressive expandability to upgrade.

Your new benchmark for entry workstation power

Unleash the power of professional graphics and an Intel® Core™ processor, including K-Series, on intensive multi-threaded apps. Designed for zero throttling so you can render, simulate, and even real-time ray trace without overheating or slow downs. Prioritize your workflow by increasing performance up to 34%¹¹ with just the flip of a BIOS setting using HP's High Performance Mode.

Built to expand. Power to grow

Need to upgrade graphics? Increase memory or storage? Add specialized PCIe cards? Go for it. With room to expand and tool-less access, you can easily upgrade and add components as your needs evolve. This is an investment that will last for years.

Industry-leading security. Reliability you can trust

Get peace of mind with a PC that's built to endure. The Z2 Tower undergoes 360K hours of rigorous testing, military-standard testing² and is certified for pro apps. And with HP Wolf Security for Business⁴, it's protected below, in and above the OS.



HP Z2 Tower G9 Workstation Desktop PC



Operating Systems

Support your unique user needs with a choice of Windows 11 Pro, WSL2 or Linux® operating systems.⁴

Intel® Core™ Processors⁵

Bring your ideas to life quickly and run multiple apps simultaneously with the latest Intel® Core™ vPro®⁶ processors. For added performance, choose the K-Series.

Professional Graphics

Design, render, ray-trace and even work on large datasets seamlessly with up to NVIDIA RTX A5000 and AMD Radeon Pro X with PCIe G5 high speed bandwidth.⁷

Memory

Experience fast performance when working on complex design tasks with 4 DIMMs for up to 128GB DDR5 memory at an increased memory speed of up to 4400MHz.⁸

Storage

Storage fit for a pro. Get up to 48TB with 3x M.2 storage slots and RAID for added performance and reliability.⁹

Flexible I/O Module

Configure to the needs today and adapt to the future with multiple flex I/O options. Choose from DP 1.4, VGA, HDMI, Dual USB Type-A, USB Type-C® with Alt-DP or 2nd Serial and more.¹⁰

HP Wolf Security

HP Wolf Security for Business creates a hardware-enforced, always-on, resilient defense. From the BIOS to the browser, above, in, and below the OS, these constantly evolving solutions help protect your PC from modern threats.¹

Tool-less Access

Evolve your work. Evolve your rig. With tool-less access to the interior, you can customize your Z to fit your needs.

Network Connectivity

Connect at a clip with fast network connectivity with 10Gb Ethernet interface.

ISV Certified

Work with confidence knowing your desktop is certified with leading software applications to ensure peak performance.³

Thermal Management

Innovatively designed to keep hardware components cool and quiet no matter how hard you push it. Have confidence to run your system at max load 24/7.

Custom Performance Modes

Custom tune your PC to ensure peak performance with three different modes to tackle any task.



HP Z2 Tower G9 Workstation Desktop PC

Specifications Table

Available Operating Systems	Windows 11 Pro ¹ Windows 11 Home – HP recommends Windows 11 Pro for Business ¹ Linux® Ready ³ Ubuntu 20.04 LTS ²⁷
Processor family ⁴	13th Generation Intel® Core™ i9 processor; 13th Generation Intel® Core™ i7 processor; 13th Generation Intel® Core™ i5 processor; 13th Generation Intel® Core™ i3 processor; 12th Generation Intel® Core™ i9 processor; 12th Generation Intel® Core™ i7 processor; 12th Generation Intel® Core™ i5 processor; 12th Generation Intel® Core™ i3 processor
Available Processors	Intel® Core™ i5-12400 with Intel® UHD Graphics (2.5 GHz P-core base frequency, up to 4.4 GHz P-core Max Turbo frequency, 18 MB L3 cache, 6 P-cores, 12 threads) Intel® Core™ i3-12300 with Intel® UHD Graphics (3.5 GHz P-core base frequency, up to 4.4 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 8 threads) Intel® Core™ i3-12100 with Intel® UHD Graphics (3.3 GHz P-core base frequency, up to 4.3 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 8 threads) Intel® Core™ i5-12600K with Intel® UHD Graphics (2.8 GHz E-core base frequency, 3.7 GHz P-core base frequency, up to 3.6 GHz E-core Max Turbo frequency, up to 4.9 GHz P-core Max Turbo frequency, 20 MB L3 cache, 6 P-cores and 4 E-cores, 16 threads) Intel® Core™ i5-12600 with Intel® UHD Graphics (3.3 GHz P-core base frequency, up to 4.8 GHz P-core Max Turbo frequency, 18 MB L3 cache, 6 P-cores, 12 threads) Intel® Core™ i5-12500 with Intel® UHD Graphics (3.0 GHz P-core base frequency, up to 4.6 GHz P-core Max Turbo frequency, 18 MB L3 cache, 6 P-cores, 12 threads) Intel® Core™ i9-12900 with Intel® UHD Graphics (1.8 GHz E-core base frequency, 2.4 GHz P-core base frequency, up to 3.8 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, up to 5.1 GHz with Intel® Turbo Boost Technology, 30 MB L3 cache, 8 P-cores and 8 E-cores, 24 threads) Intel® Core™ i9-12900K with Intel® UHD Graphics (2.4 GHz E-core base frequency, 3.2 GHz P-core base frequency, up to 3.9 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 30 MB L3 cache, 8 P-cores and 8 E-core, 24 threads) Intel® Core™ i7-12700K with Intel® UHD Graphics (2.7 GHz E-core base frequency, 3.6 GHz P-core base frequency, up to 3.8 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 25 MB L3 cache, 8 P-cores and 4 E-core, 20 threads) Intel® Core™ i7-12700 with Intel® UHD Graphics (1.6 GHz E-core base frequency, 2.1 GHz P-core base frequency, up to 3.6 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, up to 4.9 GHz with Intel® Turbo Boost Technology, 25 MB L3 cache, 8 P-cores and 4 E-cores, 20 threads) Intel® Core™ i5-13400 (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.3 GHz E-core Max Turbo frequency, up to 4.6 GHz P-core Max Turbo frequency, 20 MB L3 cache, 6 P-cores and 4 E-cores, 16 threads) Intel® Core™ i5-13500 (1.8 GHz E-core base frequency, 2.5 GHz P-core base frequency, up to 3.5 GHz E-core Max Turbo frequency, up to 4.8 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i5-13600 (2.0 GHz E-core base frequency, 2.7 GHz P-core base frequency, up to 3.7 GHz E-core Max Turbo frequency, up to 5.0 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i5-13600K (2.6 GHz E-core base frequency, 3.5 GHz P-core base frequency, up to 3.9 GHz E-core Max Turbo frequency, up to 5.1 GHz P-core Max Turbo frequency, 24 MB L3 cache, 6 P-cores and 8 E-cores, 20 threads) Intel® Core™ i7-13700 (1.5 GHz E-core base frequency, 2.1 GHz P-core base frequency, up to 4.1 GHz E-core Max Turbo frequency, up to 5.1 GHz P-core Max Turbo frequency, 30 MB L3 cache, 8 P-cores and 8 E-cores, 24 threads) Intel® Core™ i7-13700K (2.5 GHz E-core base frequency, 3.4 GHz P-core base frequency, up to 4.2 GHz E-core Max Turbo frequency, up to 5.3 GHz P-core Max Turbo frequency, 30 MB L3 cache, 8 P-cores and 8 E-cores, 24 threads) Intel® Core™ i9-13900 (1.5 GHz E-core base frequency, 2.0 GHz P-core base frequency, up to 4.2 GHz E-core Max Turbo frequency, up to 5.2 GHz P-core Max Turbo frequency, 36 MB L3 cache, 8 P-cores and 16 E-cores, 32 threads) Intel® Core™ i9-13900K (2.2 GHz E-core base frequency, 3.0 GHz P-core base frequency, up to 4.3 GHz E-core Max Turbo frequency, up to 5.4 GHz P-core Max Turbo frequency, 36 MB L3 cache, 8 P-cores and 16 E-cores, 32 threads)
Chipset	Intel® W680
Maximum memory	128 GB DDR5-4400 non-ECC SDRAM; 128 GB DDR5-4400 ECC SDRAM ²⁹ Transfer rates up to 4400 MT/s.
Memory slots	4 DIMM
Internal storage	500 GB up to 2 TB 7200 rpm SATA HDD ⁷ 1 TB up to 12 TB 7200 rpm Enterprise SATA HDD ⁷ up to 500 GB 7200 rpm SED HDD ⁷ 512 GB up to 4 TB HP Z Turbo Drive PCIe® NVMe™ TLC M.2 SSD ⁷ 512 GB up to 4 TB HP Z Turbo Drive PCIe® NVMe™ SED Opal 2 TLC M.2 SSD ⁷ 256 GB up to 1 TB PCIe® NVMe™ Value M.2 SSD ⁷ 500 GB up to 2 TB CRU SHIPS Removable NVMe™ Module ⁷
Optical drive	HP Slim DVD-ROM; HP Slim DVD-Writer ^{11,12}
Available Graphics	Integrated: Intel® UHD Graphics 770 Entry 3D: NVIDIA® T400 (4 GB GDDR6 dedicated) AMD Radeon™ Pro WX 3200 (4 GB GDDR5 dedicated) ³² Mid-range 3D: NVIDIA RTX™ A2000 (12 GB GDDR6 dedicated) NVIDIA® T1000 (8 GB GDDR6 dedicated) AMD Radeon™ Pro W6600 (8 GB GDDR6 dedicated) NVIDIA® T1000 (4 GB GDDR6 dedicated) NVIDIA RTX™ A2000 (6 GB GDDR6 dedicated) High-end 3D: NVIDIA RTX™ A5000 (24 GB GDDR6 dedicated) AMD Radeon™ Pro W6800 (32 GB GDDR6 dedicated) AMD Radeon™ RX 6400 Graphics (4 GB GDDR6 dedicated) AMD Radeon™ RX 6700 XT Graphics (12 GB GDDR6 dedicated) AMD Radeon™ Pro W7900 (48 GB GDDR6 dedicated) NVIDIA RTX™ 5000 Ada Generation (32 GB GDDR6 dedicated)
Audio	Realtek ALC3205-VA2-CG, 2.0W internal mono speaker
Expansion slots	1 PCIe 3 x4 (x16 connector); 1 PCIe 3 x4 (x4 connector); 1 PCIe 3 x1 (x4 connector); 1 PCIe 5 x16 (x16 connector); 1 M.2 2230 PCIe 3 X1 for WLAN (1 M.2 2230 slot for WLAN and 3 M.2 2280 slots for storage)
Ports and connectors	Front: 4 SuperSpeed USB Type-A 10Gbps signaling rate (1 charging); 1 universal audio jack ; Rear: 1 audio-in; 1 audio-out; 1 RJ-45; 2 DisplayPort™ 1.4; 2 SuperSpeed USB Type-A 10Gbps signaling rate; 1 SuperSpeed USB Type-A 5Gbps signaling rate; 3 USB Type-A 480Mbps signaling rate ; Optional Ports: Flex IO Front – choose one of the following options: 1 SuperSpeed USB Type-C® 20Gbps signaling rate (1 charging), 1 SD 4.0 card reader. Flex IO – choose one of the following options: 1 DisplayPort™ 1.4, 1 HDMI 2.0b, 1 VGA, 1 2nd 1GbE LAN, 1 Dual SuperSpeed USB Type-A 5Gbps signaling rate, 1 SuperSpeed USB Type-C® 10Gbps signaling rate (15W USB Power Delivery, Alt Mode DisplayPort™), 1 Thunderbolt™ 3 with SuperSpeed USB4 Type-C® 40Gbps signaling rate (cabled to PCIe® AIC). Front: 1 SuperSpeed USB Type-C® 20Gbps signaling rate (charging), 1 SD card reader. Flex IO Rear: choose one of the following options: 1 SuperSpeed USB Type-C® 20Gbps signaling rate (charging), 2 SuperSpeed USB Type-A 5Gbps signaling rate, 1 serial. Flex IO Front : choose one of the following options: 1 SuperSpeed USB Type-C® 20Gbps signaling rate (charging), 1 SD 4.0 card reader ⁸

HP Z2 Tower G9 Workstation Desktop PC

Specifications Table

Keyboard	HP Wired Desktop 320K keyboard; HP Wired Desktop 320MK Mouse and Keyboard; HP 125 Wired Keyboard; HP 655 Wireless Keyboard and mouse combo; HP 975 Wireless Keyboard; HP 455 Programmable Wireless Keyboard ⁹
Mouse	HP Wired Desktop 320M mouse; HP wired desktop 128 laser mouse; HP 125 Wired Mouse; HP Creator 935 Black Wireless Mouse ⁹
Communications	LAN: Intel® Ethernet Network Adapter I225-T1; Intel® I350-T2 dual-port GbE NIC; Intel® X550-T2 dual-port 10GbE NIC; NVIDIA® Mellanox ConnectX-6 DX Dual Port 10/25GbE SFP28 NIC; Allied Telesis AT-2911T/2-901 dual-port 1GbE NIC; Intel® i225-T1 single-port 2.5 GbE NIC ³⁰ ; WLAN: Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card with external antenna; Intel® Wi-Fi 6 AX211 (2x2) and Bluetooth® 5.3 wireless card with internal antenna ²⁸ ;
Drive Bays	External: One slim ODD; One 5.25" ODD; Internal: One 2.5" HDD; Two 3.5" HDD; Three M.2 NVME 2280 SSD
Software ^{15,16,17}	HP PC Hardware Diagnostics UEFI HP Support Assistant HP PC Hardware Diagnostics Windows ZCentral Remote Boost HP Image Assistant HP Manageability Integration Kit Performance Advisor 3.0
Security management ^{19,20,21,22,23,24,25,26,33}	HP Secure Erase HP Sure Click HP BIOSphere Gen6 HP Sure Admin Hood Sensor Optional Kit HP Client Security Manager Gen6 HP Sure Start Gen7 HP Sure Recover Gen4 HP Sure Sense Gen2 HP Sure Run Gen5
Security Software Licenses	HP Wolf Pro Security Edition ⁵⁶
Management features	HP Driver Packs; HP Management Integration Kit for Microsoft System Center Configuration Management Gen4; HP System Software Manager (download); HP BIOS Configuration Utility (download) ¹⁸
Power	350 W 92% efficient, wide-ranging, active PFC; 700 W 92% efficient, wide-ranging, active PFC; 500 W 90% efficient, wide-ranging, active PFC; 450 W 90% efficient, wide-ranging, active PFC
Dimensions	35.6 x 16.9 x 38.5 cm; (Standard tower orientation.); 51.8 x 29.5 x 49 cm (Package)
Weight	Starting at 7.2 kg; (Exact weight depends on configuration.)
Ecolabels	IT ECO Declaration; TCO Certified configurations available; EPEAT® Gold registered in the U.S. ^{13,31}
Energy star certified	ENERGY STAR® certified
Sustainable impact specifications	Ocean-bound plastic in speaker enclosure; 45% post-consumer recycled plastic; 25% ITE-derived closed loop plastic; Bulk packaging available; 80 Plus® Gold power supplies available; Molded paper pulp cushion inside box is 100% sustainably sourced and recyclable; Ocean-bound plastic in speaker enclosure and system fan; Contains recycled metal
Compatible displays	All HP Z Displays and HP DreamColor Displays are supported. For more information see www.hp.com/go/zdisplays



HP Z2 Tower G9 Workstation Desktop PC

Accessories and services (not included)

NVIDIA RTX A4000 16 GB 4DP Graphics



Product number: 20X24AA

NVIDIA Mellanox ConnectX-6 LX Dual Port 25GbE SFP28 NIC



Product number: 436M8AA

HP CRU QX328 5.25 in Front Removable Frame



Product number: 4N011AA

HP Keyed Cable Lock 10 mm



Help keep your notebook safe in the office and high-traffic areas by tethering it to a secure surface with the HP Master Keyed Cable Lock 10mm, designed specifically for ultra-thin profile notebooks.

Product number: T1A62AA

HP Business Slim Smartcard Keyboard



Boost your productivity, make a stylish IT choice, and get integrated security features with the HP USB Slim Smartcard Keyboard, which has a built-in smart card reader and is designed to complement the latest HP Business PCs.

Product number: Z9H48AA



HP Z2 Tower G9 Workstation Desktop PC

Messaging Footnotes

¹ HP Wolf Security for Business requires Windows 10 or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features and OS requirement.

² 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. Accidental Damage or damage under these test conditions requires an optional HP Accidental Damage Protection Care Pack.

³ Third party software sold separately.

⁴ 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 11 Pro 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>.

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 For full Intel® vPro™ functionality, Windows 10 Pro 64 bit, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See <http://intel.com/vpro>

⁷ Sold separately or as an optional feature.

⁸ Gen over gen.

⁹ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB of system disk (for Windows 11) is reserved for system recovery software.

¹⁰ Optional features that must be configured at purchase or are sold separately.

¹¹ Compared to Performance Mode. Performance increase based on Z2 Tower G9 with 64GB of memory, 1TB NVMe, Windows 11 22H2 OS, RTX A4000, i9-13900 CPU using SPECworkstation 3.1.

¹² 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 Desktop PC.

¹³ Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.

¹⁵ HP ZCentral Remote Boost does not come preinstalled on Z Workstations but can be downloaded and run on all Z desktop and laptops without license purchase. With non-Z sender devices, purchase of perpetual individual license or perpetual floating license per simultaneously executing versions and purchase of ZCentral Remote Boost Software Support is required. ZCentral Remote Boost requires Windows, RHEL (7 or 8), UBUNTU 18.04 LTS, or HP ThinPro 7 operating systems. MacOS (10.13 or newer) operating system is only supported on the receiver side. Requires network access. The software is available for download at hp.com/ZCentralRemoteBoost.

¹⁶ HP Performance Advisor Software - HP Performance Advisor is ready and waiting to help you get the most out of your HP Workstation from day one—and every day after. Learn more or download at: <https://www8.hp.com/us/en/workstations/performance-advisor.html>

¹⁷ HP Support Assistant requires Windows and Internet access.

¹⁸ HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>

¹⁹ HP Client Security Manager Gen7 requires Windows and is available on the select HP PCs.

²⁰ HP BIOSphere Gen6 features may vary depending on the platform and configurations.

²¹ HP Sure Click requires Windows 11 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.

²² HP Sure Start Gen7 is available on select HP PCs and workstations. See product specifications for availability.

²³ HP Sure Run Gen5 is available on select HP PCs and requires Windows 10 and higher.

²⁴ HP Sure Recover Gen4 is available on select HP PCs and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.

²⁵ 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™.

²⁶ HP Sure Sense requires Windows 11 Pro or Enterprise and supports Microsoft Internet Explorer, Google Chrome™, 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.

²⁷ A certified preloaded version of Ubuntu® 20.04 LTS is available from HP for this platform.

²⁸ Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs.

²⁹ 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.

³⁰ Intel I350-T4 4-port GbE NIC is an AMO only.

³¹ TCO Certified configurations available when ENERGY STAR configurations are selected with a USB type C connector. ENERGY STAR available with a combination of high-performance CPU's, high-performance GPU's and select memory configurations.

³² NVIDIA® T400 (2 GB GDDR6 dedicated) may go End of Life in late 2022.

³³ HP Sure Admin requires Windows 10 or higher, HP BIOS, HP Manageability Integration Kit from <http://www.hp.com/go/clientmanagement> and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.

³⁶ HP Wolf Pro Security Edition (including HP Sure Click Pro and HP Sure Sense Pro) is available preloaded on select SKUs and, depending on the HP product purchased, includes a paid 1-year or 3-year license. The HP Wolf Pro Security Edition software is licensed under the license terms of the HP Wolf Security Software - End-User license Agreement (EULA) that can be found at: https://support.hp.com/us-en/document/ish_3875769-3873014-16 as that EULA is modified by the following: "7. Term. Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the license for the HP Wolf Pro Security Edition (HP Sure Sense Pro and HP Sure Click Pro) is effective upon activation and will continue for either a twelve (12) month or thirty-six (36) month license term ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Wolf Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standard versions of HP Sure Click and HP Sure Sense at no additional cost with no future software updates or HP Support.

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 is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com>.

³ For detailed OS/hardware support information for Linux, see: http://www.hp.com/support/linux_hardware_matrix.

⁴ 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.

⁵ For full Intel® vPro™ functionality, Windows 11 Pro 64 bit, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See <http://intel.com/vpro>.

⁶ Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost> for more information.

⁷ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB of system disk (for Windows 11) is reserved for system recovery software.

⁸ Flex IO port and one PCIe slot will be occupied when Thunderbolt is installed. About Thunderbolt compatibility, please refer to the FAQ of Thunderbolt community. <https://www.thunderbolttechnology.net/tech/faq>.

⁹ Keyboard and Mouse are optional or add on features.

¹⁰ Specific chassis required for 550 W 92% efficient, wide-ranging, active PFC power supply.

¹¹ Duplication of copyrighted material is strictly prohibited. Actual speeds may vary. Double Layer media compatibility will widely vary with some home DVD players and DVD-ROM drives. Note that DVD-RAM cannot read or write to 2.6GB Single Sided/5.2 Double Sided-Version 1.0 Media.

Sign up for updates hp.com/go/getupdated

© Copyright 2023 HP Development Company, L.P. The information contained herein is subject to change without notice. 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.

Intel, Pentium, the Intel logo, Intel Core, Thunderbolt, vPro, Optane, and Core Inside are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Bluetooth is a trademark of its proprietor, used by HP Inc. under license. USB Type-C® and USB-C® are registered trademarks of USB Implementers Forum. Adobe PDF is a trademark of Adobe Systems Incorporated. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. NVIDIA, the NVIDIA logo, Quadro, and GeForce are trademarks and/or registered trademarks of NVIDIA Corporation in the US, and other countries. Bluetooth is a trademark of its proprietor and used by HP Inc. under license. AMD and Radeon are trademarks of Advanced Micro Devices, Inc. All other trademarks are the property of their respective owners.