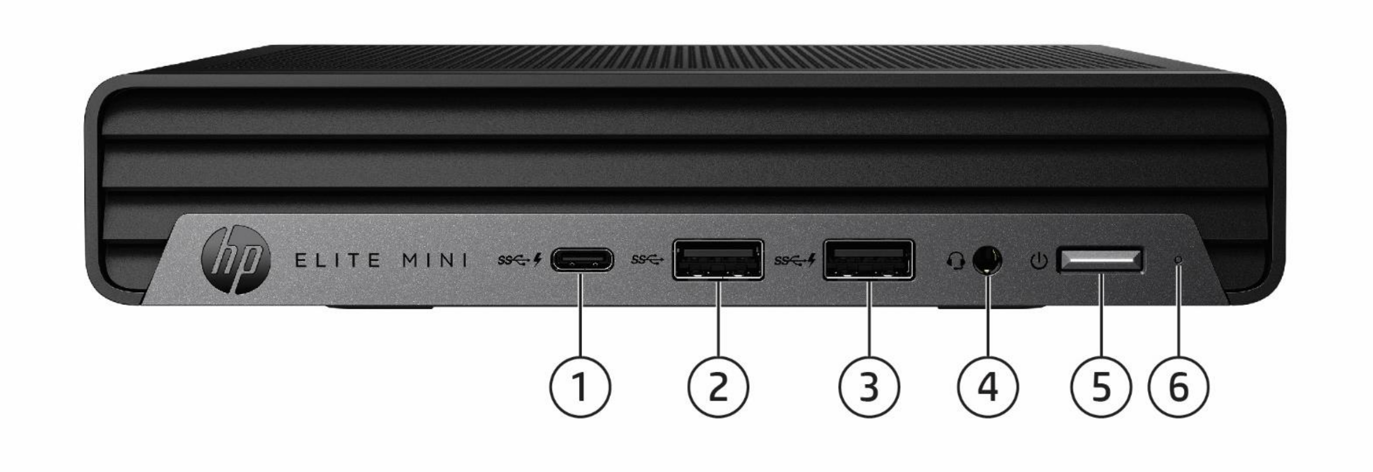
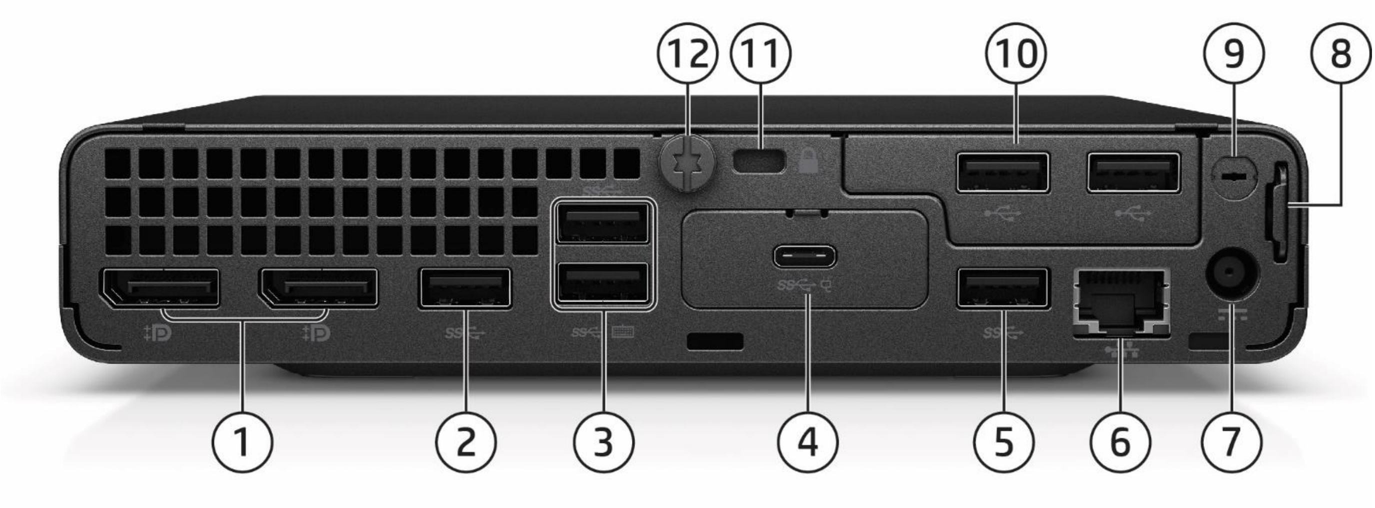
Overview

HP Elite Mini 805 G8 Desktop PC



1. Type-C® SuperSpeed USB 10Gbps signaling rate (charge support up to 5V/3A)
2. Type-A SuperSpeed USB 10 Gbps signaling rate
3. Type-A SuperSpeed USB 10 Gbps signaling rate (charge support up to 5V/2.1A)
4. Universal Audio Jack with CTIA headset support
5. Dual-state power button
6. Storage activity light

HP Elite Mini 805 G8 Desktop C



1. (2) Dual Mode DisplayPort™ 1.4 (DP++)
2. Type-A SuperSpeed USB 5Gbps signaling rate
3. 2 x Type-A SuperSpeed USB 10Gbps signaling rate (Supporting wake from S4 with keyboard/mouse connected and enabled in BIOS)
4. (1) Flex Port 1*, choice of:
    - DisplayPort™ 1.4
    - HDMI 2.1
    - VGA
    - 2.5 GbE Ethernet NIC
    - (2) Type A SuperSpeed USB 5Gbps signaling rate
    - Type-C® SuperSpeed USB 10Gbps signaling rate port w/Alt Mode DisplayPort™ and power intake via USB Type-C® Power Delivery up to 100W
5. Type-A SuperSpeed USB 5Gbps signaling rate
6. RJ-45 Network Adapter
7. Power connector
8. Retractable Padlock Loop
9. External WLAN antenna opening
10. (1) Flex Port 2, choice of:
    - (2) Type-A Hi-Speed USB 480Mbps signaling rate port (shown here installed)
    - Serial
    - Second external antenna
11. Standard cable lock slot (10mm)
12. Cover release thumbscrew

Not Shown

Slots	(1) internal M.2 WLAN (2230 connector) (2) internal M.2 SSD storage (2280 connector)
Mounting	VESA 100 mounting system integrated on bottom of PC chassis Support for: - VESA Sleeve standalone - Quick Release Bracket - B200/B300/B500/B550/B560/B600 Mounting bracket - Integrated Work Center Stand - HP Single Monitor Arm

***NOTE:** Availability depends on model

Standard Features and Configurable Components (availability may vary by country)

AT A GLANCE

- Choice of Windows 11 Professional, Windows 11 Home, and FreeDOS.
- HP developed and engineered UEFI V2.7 BIOS supporting security, manageability and software image stability.
- AMD® Ryzen™ PRO 5000 series processors with Radeon™ Graphics.
- Support for up to 3 monitors on Mini Desktop via two standard DisplayPort™ 1.4, a configurable flex port for video.
- Configurable flex port provides the following choices: HDMI 2.1, VGA, DisplayPort™ 1.4, USB Type-C® with DisplayPort™ 1.2 with 100W Power Delivery, dual USB Type-A, Intel i225 2.5 GbE Ethernet NIC. 2nd flex port available with the choices of Serial and dual USB Type-A.
- Realtek 8852BE Wi-Fi 6 and Bluetooth® 5.3 Wireless Card M.2.
- DDR4 Synchronous Dynamic Random Access Memory (SDRAM) (Transfer rates up to 3200 MT/s).
- Single cable scenario support when configured with FlexPort USB Type-C® with DisplayPort™ 1.4 with Power Delivery via selected HP monitors.
- Models can be configured with dual SSD in a RAID array.
- Industry-standard AMD® PRO Manageability with full featured KVM.
- Enhanced security with HP Wolf Security for business.
- ENERGY STAR® certified. EPEAT® Climate+ registered Where applicable.
- CCC, CECP and SEPA Certified.
- TCO 9.0 certified.
- High efficiency energy saving power supply.
- Recycled metals, low halogen & ocean bound plastics used in materials.
- 100% sustainably sourced and recyclable package.
- PC chassis and all internal components and modules are manufactured with low halogen content.
- Dust filter available for purchase.
- Protected by HP Services, including limited warranties up to 1-1-1 (terms and conditions vary by country; certain restrictions and exclusions apply); Care Packs available with up to 5 years Next Business Day Onsite Hardware Support.
- Compliance with CE (Class B) / FCC (Class B) / UL (UL60950-1/UL62368-1) / CSA (CSA C22.2 No.62368-1-14) / ICES-003 / CCC / VCCI (Class B) / KCC (Class B).

NOTE: See important legal disclosures for all listed specs in their respective features sections.

Standard Features and Configurable Components (availability may vary by country)

PRODUCT NAME

HP Elite Mini 805 G8 Desktop PC

OPERATING SYSTEM

Preinstalled	Windows 11 Pro Windows 11 Pro Education Windows 11 Home - HP recommends Windows 11 Pro for business Windows 11 Home Single Language- HP recommends Windows 11 Pro for business FreeDOS
Web supported	Windows 11 Pro (Windows 11 Enterprise available with a Volume Licensing Agreement)[1]

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 apply and additional requirements may apply over time for updates.
See http://www.windows.com.

CHIPSET

AMD® PRO 565

Standard Features and Configurable Components (availability may vary by country)

PROCESSORS[12]

AMD® Ryzen™ 5000 series Desktop Processors with PRO technologies and integrated AMD® Radeon™ Graphics

AMD Ryzen™ 7 PRO 5750G Processor (8C/16T, 20 MB cache, 4.6GH Boost) 65W
AMD Ryzen™ 7 PRO 5750GE Processor (8C/16T, 20MB cache, 4.6GHz Boost) 35W
AMD Ryzen™ 7 5700GE Processor (8C/16T, 16MB cache, 4.6GHz Boost) 35W
AMD Ryzen™ 5 PRO 5650G Processor (6C/12T, 19MB cache, 4.4GHz Boost) 65W
AMD Ryzen™ 5 PRO 5650GE Processor (6C/12T, 19MB cache, 4.4GHz Boost) 35W
AMD Ryzen™ 5 5600GE Processor (6C /12T, 16MB cache, 4.4GHz Boost) 35W
AMD Ryzen™ 3 PRO 5350G Processor (4C/8T, 10MB cache, 4.2GHz Boost) 65W
AMD Ryzen™ 3 PRO 5350GE Processor (4C/8T, 10MB cache, 4.2GHz Boost) 35W

12. Multi-core 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. AMD's numbering is not a measurement of clock speed.

GRAPHICS

System Integrated Graphics

AMD® Radeon™ Graphics

Adapters and Cables

HP DisplayPort™ Cable
HP DisplayPort™ to DVI-D Adapter
HP DisplayPort™ to HDMI 4K Adapter
HP DisplayPort™ to VGA Adapter
Mini DisplayPort™ to DisplayPort™ Adapter

STORAGE

M.2 PCIe NMVe Solid State Drives (SSD)[1]

256GB M.2 2280 PCIe NVMe SSD
512GB M.2 2280 PCIe NVMe SSD
1TB M.2 2280 PCIe NVMe SSD
512GB M.2 2280 PCIe NVMe Three Layer Cell SSD
1TB M.2 2280 PCIe NVMe Three Layer Cell SSD
2TB M.2 2280 PCIe NVMe Three Layer Cell SSD
256GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 SSD[2]
512GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD[2]

1. For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows) of system disk is reserved for the system recovery software.
2. Storage Drivelock does not work with Self Encrypting storage.

Standard Features and Configurable Components (availability may vary by country)

MEMORY[1,2,3,4]

Max Memory Configuration

DDR4-3200 (Transfer rates up to 3200 MT/s)[5], 64 GB, 2 SODIMM

1. All memory slots are customer accessible/upgradeable.
2. Actual transfer rate will vary and is determined by the system's configured processor. See processor specifications for supported memory data rate.
3. System architecture design is 1DIMM per channel and the population starts from the furthest memory slot from the processor.
4. To achieve optimal memory speed, HP strongly recommends using identical memory modules (e.g., same capacity, same part number and from the same supplier) within the same memory channel.
5. Transfer rates determined by processor and memory configuration.

Memory Configuration

8 GB (1 x 8 GB)
16 GB (2 x 8 GB)
16 GB (1 x 16 GB)
32 GB (2 x 16 GB)
32 GB (1 x 32 GB)
64 GB (2 x 32 GB)

NETWORKING/COMMUNICATIONS

Ethernet (RJ-45)

Realtek RTL8111FPH-CG Gigabit Network Connection (standard)[1]
Intel® I225V 2.5 Gigabit Network Connection LOM

1. Supports full-featured AMD DASH and hardware enforced KVM

Wireless[1]

Realtek 8852BE Wi-Fi 6 and Bluetooth® 5.3 Wireless Card M.2
Realtek 8852BE Wi-Fi 6 and Bluetooth® 5.3 Wireless Card with external antenna

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

Standard Features and Configurable Components (availability may vary by country)

KEYBOARDS AND POINTING DEVICES

Keyboards

HP Wired Desktop 320K Keyboard
HP USB Business Slim Wired Smart Card CCID Keyboard
HP 125 Wired Keyboard
HP 125 Antimicrobial Wired Keyboard[1]

Keyboard and Mouse Combo

HP 655 Wireless Keyboard and Mouse Combo

Mouse

HP Wired Desktop 320M Mouse
HP 125 Wired Mouse
HP 125 Antimicrobial Wired Mouse[1]
HP 128 Laser Wired Mouse

1. Available in China only.

PORTS

I/O Ports – Internal Ports

Internal SATA storage connector (Data and Power)	(1)

NOTE: For M.2 Storage config, there will be no SATA drive bracket. If you plan to use or upgrade the storage with any 2.5" SATA drive, please select a DM SATA Drive Bracket (available as both factory configured and after market option). (Not applicable to all regions.)

I/O Ports – Standard

Hi-Speed USB 480Mbps signaling rate port	
Type-A SuperSpeed USB 5 Gbps signaling rate port	(2) (rear)
Type-A SuperSpeed USB 10 Gbps signaling rate port	(2) (front);2 (rear)
Type-C® SuperSpeed USB 10 Gbps signaling rate port (15W)	(1)(front)
Video	(2) DisplayPort™ 1.4 (rear)
Audio	(1) Universal Audio Jack with CTIA headset support (front)
Network Interface	RJ45

1. Occupies PCIe slot

Standard Features and Configurable Components (availability may vary by country)

(1) Flexible Port 1 – Optional (rear), choice of one of the following:

Type-A SuperSpeed USB 5 Gbps signaling rate port	2
Type-C® SuperSpeed USB 10Gbps signaling rate port	(1) w/DisplayPort™1.2 Alt Mode and power intake via USB Type-C® Power Delivery up to 100W
Video	(1) DisplayPort™ 1.4* or HDMI 2.1 or VGA
Serial (RS-232)	N/A
RJ-45 Ethernet NIC	(1) 2.5Gbps

NOTE*: Configurable VGA port does not support 4K resolution.

(1) Flexible Port 2 – Optional (rear), choice of one of the following:

Type-A Hi-Speed USB 480Mbps signaling rate port	(2)
Serial (RS-232)	(1)

Slots

M.2 PCIe	(1) M.2 PCIe x1 2230 (for WLAN) (2) M.2 PCIe x4 2280 (for Storage)
PCI Express v3.0 x4	N/A
PCI Express v3.0 x16	N/A

Bays

9.5mm Slim ODD	N/A
Secure Digital (SD) Reader	N/A
2.5” internal storage drive	N/A
3.5” internal storage drive	N/A

USB SPECIFICATION AND MARKETING NAME MAPPING TABLE

Marketing Name	Technical Terminology
Hi-Speed USB 480Mbps signaling rate	USB 2.0
SuperSpeed USB 5Gbps signaling rate	USB 3.2 Gen 1
SuperSpeed USB 10Gbps signaling rate	USB 3.2 Gen 2
SuperSpeed USB 20Gbps signaling rate	USB 3.2 Gen 2x2

SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

Software

Buy Microsoft Office (sold separately)
HP Easy Clean[1]
HP PC Hardware Diagnostics UEFI
HP Desktop Support Utilities
HP Privacy Settings
HP Setup Integrated OOBE
HP Support Assistant[2]
HP Notifications
HP Connection Optimizer
HP Services Scan[3]
Miro[4]
myHP

Manageability Features

HP Image Assistant[5]
HP Manageability Integration Kit (download)[6]
HP Client Management Script Library (https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools)
HP Patch Assistant[7]
HP Driver Packs (https://www.hp.com/us-en/solutions/client-management-solutions/drivers-pack.html)
HP Cloud Recovery[8]
HP Client Catalog (https://www.hp.com/us-en/solutions/client-management-solutions.html)

Security Features

HP Wolf Security for Business[9] includes HP Sure Click[10]and HP Sure Sense[11]
TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified)
HP Sure Recover[12]
HP Sure Run[13]
HP Sure Admin[14]
HP Sure Start[15]
HP Tamper Lock[16]

BIOS

HP BIOSphere[17]
HP Secure Erase[18]
HP DriveLock & Automatic DriveLock
BIOS Update via Network
Absolute Persistence Module[19]
Power-On Authentication[20]
Microsoft 3rd Party UEFI CA Enable

1. HP Easy Clean requires Windows 10 RS3 and will disable the keyboard, touchscreen, and clickpad only. Ports are not disabled. See user guide for cleaning instructions.
2. HP Support Assistant is available on Windows. For more information, please visit https://support.hp.com/us-en/help/hp-support-assistant.
3. HP Services Scan is preinstalled and/or provided thru Windows Update and checks for service entitlement on each hardware device and downloads the HP Insights agent automatically. To disable this feature, please follow the instructions at http://www.hpdaas.com/requirements. The HP Insights agent is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. Select HP Workforce Solutions require an HP Insights agent for Windows, Mac, & Android, available for download at https://admin.hp.com/software. For full system requirements and services that require the agent, please visit https://admin.hp.com/requirements. The agent collects telemetry and analytics around devices and applications that integrate into the Workforce Experience platform and is not sold as a standalone service. Internet access with connection to the Workforce Experience platform is

Standard Features and Configurable Components (availability may vary by country)

required. HP follows stringent GDPR privacy regulations, and the platform is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Not available in China.

4. HP customers qualify for a 90 day trial of Miro, this offer ends September 2025. Complete terms and conditions are provided by Miro when accepting the offer.
5. HP Connect for Microsoft Endpoint Manager is available from the Azure Market Place for HP Pro, Elite, Z and Point-of-Sale PCs managed with Microsoft Endpoint Manager. Subscription to Microsoft Endpoint Manager required and sold separately. Network connection required.
6. HP Manageability Integration Kit can be downloaded from https://www.hp.com/us-en/solutions/client-management-solutions.html#tab=manageability-tools.
7. HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from Client Management Solutions Overview HP® Official Site.
8. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, wired network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail, please refer to: https://apps.microsoft.com/detail/9mtks9pr7r3n?hl=en-US&gl=US.
9. HP Wolf Security for Business requires Windows 10 or 11 Pro 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.
10. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
11. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS.
12. HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
13. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.
14. HP Sure Admin requires HP G8 or newer platforms, Windows 10 or higher, HP BIOS, HP Manageability Kit or KMS Service from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store
15. HP Sure Start is available on select HP PCs and requires Windows 10 and higher.
16. HP Tamper Lock can be Enabled/disabled by customers or IT administrator with administrator authority.
17. HP BIOSphere features may vary depending on the platform and configuration.
18. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special Publication 800-88r "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.
19. Absolute firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: https://www.absolute.com/about/legal/agreements/absolute/.
20. Ensures that only authorized users can start up the PC or access the BIOS by requiring user authentication using a password prior to system start-up.

Standard Features and Configurable Components (availability may vary by country)

ENVIRONMENTAL & INDUSTRY

ENERGY STAR® certified models available

ENERGY STAR® certified. EPEAT® registered[1].
Low halogen (chassis, all internal components and modules)[2]
TAA compliant models available

1. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.
2. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

UNIT ENVIRONMENT AND OPERATING CONDITIONS

General Unit Operating Guidelines

- Keep the computer away from excessive moisture, direct moisture and the extremes of heat and cold, to ensure that unit is operated within the specified operating range.
- Leave a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow.
- Never restrict airflow into the computer by blocking any vents or air intakes.
- Do not stack computers on top of each other or place computers so near each other that they are subject to each other's re-circulated or preheated air.
- Occasionally clean the air vents on the front, back, and any other vented side of the computer. Lint, dust and other foreign matter can block the vents and limit the airflow.
- If the computer is to be operated within a separate enclosure, intake and exhaust ventilation must be provided on the enclosure, and the same operating guidelines listed above will still apply.

Temperature Range	Operating: 50° to 95° F (10° to 35° C)[3] Non-operating: -22° to 140° F (-30° to 60° C)
Relative Humidity	Operating: 10% to 90% (non-condensing at ambient) Non-operating: 5% to 95% (non-condensing at ambient)
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50000ft (15240 m)

3. Operating temperature is de-rated 1.0 deg C per 300 m (1000 ft) to 3000 m (10,000 ft) above sea level, no direct sustained sunlight. Maximum rate of change is 10 deg C/Hr. The upper limit may be limited by the type and number of options installed.

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration • US ENERGY STAR® • EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country.* • TCO Certified 9 **NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a “Typically Configured Desktop”.

Energy Consumption (in accordance with US ENERGY STAR® test method)	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	10.07 W	10.15 W	9.99 W
Normal Operation (Long idle)	9.57 W	9.65 W	9.49 W
Sleep	0.97 W	1.00 W	0.95 W
Off	0.67 W	0.68 W	0.66 W

NOTE: Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	34.35 BTU/hr	34.63 BTU/hr	34.08 BTU/hr
Normal Operation (Long idle)	32.63 BTU/hr	32.90 BTU/hr	32.35 BTU/hr
Sleep	3.30 BTU/hr	3.41 BTU/hr	3.24 BTU/hr
Off	2.27 BTU/hr	2.31 BTU/hr	2.24 BTU/hr

NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L_{WAd}, bels)	Sound Pressure (L_{pAm}, decibels)
Typically Configured – Idle	2.8	18.8
Fixed Disk – Random writes	2.8	18.8

Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include: Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.

<table>
<tr><td>Batteries</td><td colspan="3">his battery(s) in this product comply with EU Directive 2006/66/EC
Batteries used in the product do not contain:
Mercury greater the1ppm by weight
Cadmium greater than 20ppm by weight

Battery size: Not Applilcable
Battery type: Not Applilcable</td></tr>
<tr><td>**Additional Information**</td><td colspan="3">• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.
• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.
• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).
• This product is in compliance with the IEEE 1680.1 (EPEAT) standard at the <Gold> level, based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.
• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
• This product contains 35.2% post-consumer recycled plastic (by wt.)
• This product is 92.8% recycle-able when properly disposed of at end of life.</td></tr>
<tr><td rowspan="5">**Packaging Materials**</td><td>**External:**</td><td>PAPER/Corrugated</td><td>450 g</td></tr>
<tr><td>**Internal:**</td><td>PAPER/Molded Pulp</td><td>74 g</td></tr>
<tr><td></td><td>PLASTIC/Polyethylene low density - LDPE</td><td>5 g</td></tr>
<tr><td colspan="3">The plastic packaging material contains at least 100% recycled content.</td></tr>
<tr><td colspan="3">The corrugated paper packaging materials contains at least 80% recycled content.</td></tr>
<tr><td>**RoHS Compliance**</td><td colspan="3">HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam.

We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products.

We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve.

To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.</td></tr>
<tr><td>**Material Usage**</td><td colspan="3">This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05998906

• Asbestos
• Certain Azo Colorants
• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics
• Cadmium
• Chlorinated Hydrocarbons
• Chlorinated Paraffins
• Formaldehyde
• Halogenated Diphenyl Methanes
• Lead carbonates and sulfates
• Lead and Lead compounds</td></tr>
</table>

	• Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging: • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
End-of-life Management and Recycling	HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: https://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c05403198 or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.
HP Inc. Corporate Environmental Information	For more information about HP's commitment to the environment: Sustainable Impact Report https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c06040843 Eco-label certifications https://www.hp.com/us-en/sustainable-impact/document-reports.html#filters_documents_reports-=document_type-type_energy_star,type_epeat,type_tcoISO ISO 14001 certificates: https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04777932

footnotes	• Percentage of ocean-bound plastic contained in each component varies by product • Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. • External power supplies, WWAN modules, power cords, cables and peripherals excluded. • 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. • Fiber cushions made from 100% recycled wood fiber and organic materials. • Plastic cushions are made from >90% recycled plastic. Disclaimer: recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams.

Standard Features and Configurable Components (availability may vary by country)

SERVICE AND SUPPORT

On-site Warranty[1]: One-year (1-1-1) limited warranty delivers three years of on-site, next business day[2] service for parts and labor and includes online support, includes 90 days software support. Service offers terms up to 5 years by choosing an optional HP Care Pack. To choose the right level of service for your HP product, visit HP Care Pack Central: http://www.hp.com/go/cpc.[3]

1. Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.
2. On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.
3. 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. 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.

CERTIFICATION AND COMPLIANCE

Energy Efficiency Compliance

ENERGY STAR® certified. EPEAT® registered based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.

Technical Specifications – Processors

PROCESSORS

AMD® Ryzen™ 5000 Series Processors

Architecture: “Zen 3”
Process Node: 7nm

AMD® PRO Technologies
AMD® Memory Guard – Helps defend against cold boot attacks with real time encryption of memory
AMD® PRO manageability – DASH including KVM Redirection Profile with hardware enforcement

GRAPHICS

AMD Radeon™ Vega 7 Graphics

Multi Display Support	Maximum of 3 displays supported by the integrated graphics
DisplayPort	Two DisplayPort™ outputs are standard. One DisplayPort™ output is optional. AMD® PRO APUs and AMD® Ryzen™ APUs support DP1.4 features including DP++, Audio, MST, HBR2, HDCP2.3 and a maximum resolution of 5128x3880@30Hz or 3840x2160@60Hz.
VGA Port (Optional)	Maximum Resolution of 2048x1536 at 60Hz
HDMI (Optional)	AMD® PRO APUs support HDMI 2.0 features and AMD® Ryzen™ APUs support HDMI 2.0a features. All support HDCP2.3, audio and a maximum resolution of 4096x2160@60Hz
USB-C (Optional)	Supports DisplayPort™ Alt Mode
Memory	512MB when 4GB or more of system memory is installed
Maximum Color Depth	up to 10 bits
Graphics/Video API Support	AMD® PRO APUs: DirectX 12 OpenCL 1.2 OpenGL 4.1 Dedicated decoding of the H.264 format at up to 4K and 60Hz. Encoding H.264 video supported at 1080p120, 1440p60, and 2160p60 AMD® Ryzen™ APUs: DirectX 12 Vulkan 1.0 OpenCL 2.0 OpenGL 4.5 Hardware-based decode of HEVC/H.265 main10 profile videos at resolutions up to 3840x2160 at 60Hz with 10-bit color for HDR content. Dedicated decoding of the H.264 format at up to 4K and 60Hz. Decoding the VP9 format at resolutions up to 3840x2160 using a hybrid approach where the video and shader engines collaborate to offload work from the CPU. Encode HEVC/H.265 at 1080p240, 1440p120, and 2160p60. Encoding H.264 video is also supported at 1080p120, 1440p60, and 2160p60

STORAGE

256GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Value SSD

Capacity	256GB
Interface	PCIE Gen3
Minimum Sequential Read	Up to 1600MB/s
Minimum Sequential Write	Up to 780MB/s
Logical Blocks	500,118,192
Features	APST; ASPM L1.2; NVME spec 1.2; TCG-OPAL2 security

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

512GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD

Capacity	512GB
Interface	PCIE Gen3
Minimum Sequential Read	Up to 2900MB/s
Minimum Sequential Write	Up to 1100MB/s
Logical Blocks	1,000,215,216
Features	A PST; ASPM L1.2; NVME spec 1.2; TCG-OPAL2 security

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

1TB M.2 2280 PCIe NVMe SSD

Capacity	1TB
Interface	PCIe NVMe
Minimum Sequential Read	Up to 2200MB/s
Minimum Sequential Write	Up to 1600MB/s
Logical Blocks	2,000,409,264
Features	TRIM; L1.2

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

256GB M.2 2280 PCIe NVMe SSD

Capacity	256GB
Interface	PCIe Gen3
Minimum Sequential Read	Up to 1600MB/s
Minimum Sequential Write	Up to 780MB/s
Logical Blocks	500,118,192
Features	APST; ASPM L1.2; NVME spec 1.2

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

Technical Specifications – Storage

1TB M.2 2280 PCIe NVMe Three Layer Cell SSD

Capacity	1TB
Interface	PCIE Gen3
Minimum Sequential Read	Up to 3480MB/s
Minimum Sequential Write	Up to 3037MB/s
Logical Blocks	2,000,409,264
Features	TRIM; ASPM L1.2

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

2TB M.2 2280 PCIe NVMe Three Layer Cell SSD

Capacity	2TB
Interface	PCIE Gen3
Minimum Sequential Read	Up to 3500MB/s
Minimum Sequential Write	Up to 3000MB/s
Logical Blocks	4,000,797,360
Features	TRIM; L1.2; Pyrite 2.0

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

512GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Capacity	512GB
Interface	PCIE Gen3
Minimum Sequential Read	Up to 2900MB/s
Minimum Sequential Write	Up to 1100MB/s
Logical Blocks	1,000,215,216
Features	APST; ASPM L1.2; NVME spec 1.2

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

512GB M.2 2280 PCIe NVMe SSD

Capacity	512GB
Interface	PCIe Gen3
Minimum Sequential Read	Up to 1600MB/s
Minimum Sequential Write	Up to 860MB/s
Logical Blocks	1,000,215,216
Features	APST; ASPM L1.2; NVME spec 1.2

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

NETWORKING AND COMMUNICATIONS

Realtek RTK8111FPH 10/100/1000 Integrated NIC	
Connector	RJ-45
System Interface	PCIe + SMBus
Data rates supported	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet)
Performance	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling Jumbo Frame 9K
Power consumption	Cable Disconnection: 25mW 100Mbps Full Run: 450mW 1000bp Full Run: 1000mW WoL Enable(S3/S4/S5): 50mW WoL Disable(S3/S4/S5): 25mW
Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Management Interface	Auto MDI/MDIX Crossover cable detection
IT Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
Security & Manageability	Support DASH 1.2 compliant

Intel® I225V 2.5 Gigabit Network Connection LOM (non-vPro)	
Connector	RJ-45
System Interface	PCI (Intel proprietary) + SMBus
Data rates supported	1. 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14) 2. 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 3. 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40) 4. 2.5 Gbit/s operation(2.5GBASE-T; IEEE 802.3bz Clause 126) 5. Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10& 100 Mbit/s

Technical Specifications – Networking and Communications

IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BAE-T IEEE 802.3bz 2.5GBASE-T
Performance	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling (Hash Mode Only) Jumbo Frame 9K
Power consumption	Cable Disconnection: 25mW 100Mbps Full Run: 450mW 1000Mbp Full Run: 1000mW 2500Mbp Full Run: 4500mW WoL Enable(S3/S4/S5): 50mW WoL Disable(S3/S4/S5): 25mW
Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Management Interface	Auto MDI/MDIX Crossover cable detection
IT Manageability	Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30)) Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
Security & Manageability	Intel® non-vPro™ support with appropriate Intel® chipset components

Realtek RTL8852BE 802.11ax 2x2 Wi-Fi + Bluetooth® 5.3 Wireless Card (802.11ax 2x2, supporting gigabit data rate) [1]	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi CERTIFIED™ modules
Frequency Band	802.11b/g/n/ax •2.402 – 2.482 GHz 802.11a/n/ac/ax

Technical Specifications – Networking and Communications

	•4.9 – 4.95 GHz (Japan) •5.15 – 5.25 GHz •5.25 – 5.35 GHz •5.47 – 5.725 GHz •5.825 – 5.850 GHz
Data Rates	•802.11b: 1, 2, 5.5, 11 Mbps •802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11n: max 300Mbps •802.11ac: max 866.7Mbps • 802.11ax: max 1201Mbps
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security[3]	•IEEE and WiFi CERTIFIED 64 / 128 bit WEP encryption for a/b/g mode only •AES-CCMP: 128 bit in hardware •802.1x authentication •WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. •WPA2 certification •WPA3 certification •IEEE 802.11i •WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[2]	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ax HE40(2.4GHz): +10dBm minimum • 802.11ax HE80(5GHz): +10dBm minimum
Power Consumption	• Transmit mode:2.5 W • Receive mode:2 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode:50 mW (WLAN unassociated) • Connected Standby/Modern Standby: 10mW • Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[3]	802.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum 802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum

	802.11ax, MCS11(HE40): -57dBm maximum 802.11ax, MCS11(HE80): -54dBm maximum	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications	
Form Factor	PCI-Express M.2 MiniCard	
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm	
Weight	1. Type 2230: 2.8g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating Non-operating	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED Off – Radio ON	

HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology

Bluetoothâ Specification	4.0/4.1/4.2/5.0/5.1 /5.2/5.3 Wireless Card Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps
	BLE: 1 Mbps data rate; throughput up to 0.2 Mbps
	Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth® component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 dBm for BR and EDR.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249 ETSI 300 328, ETSI 301 893
Bluetooth Profiles Supported	Bluetooth® 4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer

Technical Specifications – Networking and Communications

	LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan Bluetooth® 4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) Bluetooth® 5.1 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range

NOTE: Wi-Fi 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.
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.

I/O DEVICES

HP USB Premium Keyboard

Physical Characteristics	Keys	104, 105 layout (depending upon country)
	Dimensions (L x W x H)	17.04 x 5.55 x 0.52 in (433 x 141 x13.2 mm)
	Weight	1.54 lb (698g)
Electrical	Operating voltage	5 VDC, +/-5%
	Power consumption	35mA (All LED on)
	System interface	USB Type A plug connector
	ESD	Contact Discharge: 8 KV Air Discharge: 15 KV
	EMI - RFI	Conforms to FCC rules for a Class B computing device
Mechanical	Keycaps	Low-profile design
	Switch actuation	60±10g nominal peak force with tactile feedback
	Switch life	10 million keystrokes (Life tester)
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
Environmental	Acoustics	43-dBA maximum sound pressure level
	Operating temperature	50° to 122° F (10° to 50° C)
	Non-operating temperature	-22° to 140° F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	20% to 80% (non-condensing at ambient)
	Operating shock	40 g, six surfaces
	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	30 in (76.2 cm) on concrete, 16-drop sequence
Approvals	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, C-Tick, KC	
Ergonomic Compliance	TUVGS	
Kit Contents	Keyboard, QSP	
Warranty Card	Product Notice	

Technical Specifications – Input/Output Devices

HP USB Premium Mouse

Dimensions (H x L x W)	4.21 x 2.64 x 1.52 in (107 x 67 x 38.7 mmm)	
Weight	0.19lb (90g)	
Environmental	Operating temperature	50° to 122°F (10° to 50° C)
	Non-operating temperature	-22° to 140°F (-30° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	20% to 80% (non condensing at ambient)
	Operating shock	50 g, 6 surfaces
	Non-operating shock	80 g, 6 surfaces
	Operating vibration	2 g peak acceleration
	Non-operating vibration	4 g peak acceleration
Electrical	Operating voltage	5 VDC, +/-5%
	Power consumption	12mA
Mechanical	Connector	USB 2.0
	Type	3D mouse (3 keys and wheel)
	Resolution	800, 1200, 1600 DPI
	Sensor	Pixart PAN3606DL
Tracking speed	Tracking acceleration	8G(max), 1G=9.8m/s2
	Cable length	6 ft (1.8 m)
	Color	Jack Black
Regulatory approvals	Compliant	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, C-Tick, KC

HP Wired Desktop 320M Mouse

Dimensions (HxLxW)	35.5mm x 103.8mm x 63.4mm	
Weight	75.8 +/- 10 g	
Color	Black	
Connector	USB	
Cable Length	1800mm	
Sustainability	Low halogen PCBA	
Mechanical	Resolution	1000 DPI sensitivity
	Buttons	Two primary buttons and clickable scroll wheel

Technical Specifications – Input/Output Devices

HP Wired Desktop 320K Keyboard

Dimensions (HxLxW)	16.7mm x 426.2mm x 110.9mm
Weight	413 +/- 30 g
Color	Black
Connector	USB
Cable Length	1800mm
Keys	104, 105, 107, 109
Operating Voltage	5V
Power Consumption	50mA – 100mA
Switch Life	10M
Switch Type	Plunger
Operating Temperature	10°C to 50°C
Non- Operating Temperature	30°C to 65°C
Operating Humidity	10% to 90%
Non- Operating Humidity	0% to 90%
Sustainability	Greater than 50% post-consumer recycled plastic content and low halogen PCBA

HP USB Mouse

Dimensions (H x L x W)	37mm*115mm*62.9mm	
Weight	90 +10g/- 5 g	
Color	Black	
Connector	USB	
Mechanical	Resolution	800 DPI sensitivity
	Buttons	Two primary buttons and clickable scroll wheel

Technical Specifications – Audio/Multimedia

AUDIO/MULTIMEDIA

Type	Integrated
HD Stereo Codec	Realtek ALC3867
Audio I/O Ports	Front: 1 - Headset connector supports a CTIA style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port 1 - Headphone port All ports are 3.5mm and support stereo
Internal Speaker Amplifier	2W class D mono amplifier for the internal speaker only. External speakers must be powered
Multi-streaming Capable	Playback multi-streaming allows for independent audio streams to be sent to/from the front and rear jacks or integrated speaker
Sampling	Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 96 kHz for ADC
Wavetable Synthesis	Yes - Uses OS soft wavetable
Analog Audio	Yes
# of Channels on Line-Out	Stereo (Left & Right channels)
Internal Speaker	Yes

Technical Specifications – Power

POWER

UNIT ENVIRONMENT AND OPERATING CONDITIONS

Temperature Range	Operating: 5°C ~35°C Non-Operating: -40°C ~66°C
Relative Humidity	Operating 5% to 90% relative humidity at max inlet temperature Non-Operating 5% to 90% relative humidity at max inlet temperature
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50,000 ft (15240 m)

External Power Adapter	External power supply 65W EPS, 88% average efficiency at 115V & 89% at 230Vac 90W EPS, 88% average efficiency at 115V & 89% at 230Vac
Operating Voltage Range	90Vac~264Vac
Rated Voltage Range	100Vac~240Vac
Rated Line Frequency	50HZ~60HZ
Operating Line Frequency	47HZ~63HZ
Rated Input Current with Energy Efficient* Power Supply	65W ≦ 1.6A 90W ≦ 1.7A
DC Output	+19.5V
Current Leakage (NFPA 99: 2012)	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
Power cord length	6.0 ft. (1.83 m)
Dimensions	65W: 102 x 55 x 30 mm 90W: 126 x 50 x 30mm

The harmonic input current requirements must be met under the following operating conditions:
Load Requirements: 50% and 100%
Input Voltage: 230Vac/50Hz.
For active power factor correction the power factor at 50% &100% loads shall be greater than 0.9 over the entire nominal input voltage range (100-127VAC and 200-240VAC).

Technical Specifications – Power

Condition	**Standard Efficiency**	**82/85/82%**	**85/88/85%**	**87/90/87%**	**90/92/89%**	**Input Voltage**
10% of Rated Load	-	75%	81%	84%	86%	115Vac/60HZ
20% of Rated Load	-	82%	85%	87%	90%	115Vac/60HZ
50% of Rated Load	-	85%	88%	90%	92%	115Vac/60HZ
	PF>0.9	PF>0.9	PF>0.9	PF>0.9	PF>0.95	
100% of Rated Load	70%	82%	85%	87%	89%	115Vac/60HZ
	PF>0.9	PF>0.9	PF>0.9	PF>0.9	PF>0.9	230Vac/50HZ

Technical Specifications – Weights and Dimensions

WEIGHTS & DIMENSIONS

Chassis (W x D x H)	6.97 x 6.89 x 1.35 in 177 x 175 x 34.2 mm
System Volume	64 cu in 1.05 L
Max System Weight	1.45kg
Max Supported Weight (desktop orientation)	0
Stand Dimensions	160x117x18.5mm
Packaging (W x D x H)	19.61 x 9.25 x 5.20 in 498 x 235 x 132 mm
Shipping Weight	2.95 kg 6.49 lb
Shipping Weight (Molded Pulp)	3.05 kg 6.72 lb
Multipack Packaging (10 units)	20.28x16.54x25 in 515x420x636 mm
Palletization Profile	10-units per layer 11, 15, or 18 layers max depending on details of freight 110 units per air freight pallet 46.26 x 39.21 x 62.87 in 1175 x 996 x 1597 mm (include pallet), or 150 units per standard ground or sea freight pallet 46.26 x 39.21 x 83.86 in 1175 x 996 x 2130 mm (include pallet), or 170units per ground freight or high-cube sea pallet 46.26 x 39.21 x 94.06 in 1175 x 996 x 2389 mm (include pallet)

MISCELLANEOUS FEATURES

Management Features

- Advanced Configuration and Power Management Interface (ACPI). Allows the system to wake from a low power mode. Controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system.
- Dual State Power Button; acts as both an on/off button and a suspend-to-sleep button

Serviceability Features

- Dual colored power LED on front of computer to indicate either normal or fault condition
- System/Private ROM
- Flash ROM
- CMOS Battery Holder for easy replacement
- 1 Aux Power LED on System PCA
- Processor ZIF Socket for easy Upgrade
- Over-Temp Warning on Screen (Requires IM Agents)
- DIMM Connectors for easy Upgrade
- NIC LEDs (integrated) (Green & Amber)
- HD LED - To Indicate Normal Operations
- Color coordinated cables and connectors
- Tool-less Hood Removal
- Front power switch
- System memory can be upgraded without removing the system board
- Tool-less Hard drive & DVD drive Removal
- Green Pull Tabs, and Quick Release Latches for easy Identification

Additional Features	**Description**
Tower Orientation	Product can be oriented as either a desktop (horizontal) or a tower (vertical) for MT, and DM only. DM requires optional stand.
Drive Lock	Implementation of the industry standard ATA Security feature set. When enabled, it prevents software access to user data on the drive until one or two user-defined passwords are provided.
Boot Sectors Protection	MBR and GPT sectors of the hard drive are critical to booting the operating system. By saving the MBR or GPT data (depending on the how the OS was installed), the BIOS will be able to monitor for changes and allow the user to override them with the backup copy at boot-up.
Drive Protection System	DPS Access through F10 Setup during Boot (for SATA hard drive only) A diagnostic hard drive self- test. It scans critical physical components and every sector of the hard drive for physical faults and then reports any faults to the user Running independently of the operating system, it can be accessed through a Windows-based diagnostics utility or through the computer's setup procedure. It produces an evaluation on whether the hard drive is the source of the problem and needs to be replaced The system expands on the Self-Monitoring, Analysis, and Reporting Technology (SMART), a continuously running systems diagnostic that alerts the user to certain types of failures
SMART Technology (Self-Monitoring, Analysis and Reporting Technology)	Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted
SMART I - Drive Failure Prediction	Predicts failures before they occur. Tracks fault prediction and failure indication parameters such as re-allocated sector count, spin retry count, calibration retry count
SMART II - Off-Line Data Collection	By avoiding actual hard drive failures, SMART hard drives act as "insurance" against unplanned user downtime and potential data loss from hard drive failure
SMART III - Off-Line Read Scanning with Defect Reallocation	IOEDC: I/O Error Detection Circuitry
SMART IV - End-to-End CRC for hard drives	Detects errors in Read/Write buffers on HDD cache RAM

NOTE: Storage Drive lock does not work with Self Encrypting storage

AFTER MARKET OPTIONS

Desktop Mini Accessories	**Part Number**
HP Desktop Mini 2.5" SATA Drive Bay kit v2	13L70AA
HP Desktop Mini 65W Power Supply Kit	L2X04AA
HP Desktop Mini 90W Power Supply Kit	L4R65AA
HP Desktop Mini LockBox V2[1]	3EJ57AA
HP Desktop Mini DVD-Writer ODD Expansion Module	K9Q83AA
HP Desktop Mini Security/Dual VESA Sleeve v4+	99T54AA
HP Desktop Mini v4+ VESA Sleeve with Power Supply Holder	99T55AA
HP B250 PC Mounting Bracket	8RA46AA
HP B300 PC Mounting Bracket	2DW53AA
HP B300 PC Mounting Bracket with Power Supply Holder	7DB37AA
HP B550 PC Mounting Bracket	16U00AA
HP Desktop Mini Vertical Chassis Stand	G1K23AA
HP B560 PC Mounting Bracket	763U8AA
HP Quick Release Bracket 2	6KD15AA
HP B200 PC Mounting Bracket (Mark I)	762T5AA
HP Quick Release Single Arm (Recliner)	762U0AA
HP Z Display B600 PC Mounting Bracket (Masar)	529H3AA

1.Not available in all regions

Data Storage Drives	**Part Number**
HP PCIe NVME TLC 512GB SSD M.2 Drive	X8U75AA
HP PCIe NVME TLC 1TB SSD M.2 Drive	406L7AA

After Market Options

Input Devices	**Part Number**
HP Desktop Wired 320K Keyboard	9SR37AA
HP Desktop Wired 320MK Mouse and Keyboard	9SR36AA
HP USB Business Slim CCID SmartCard Keyboard	Z9H48AA
HP 125 Wired Keyboard	266C9AA
HP 225 Antimicrobial Wired Mouse and Keyboard Combo	286K3AA
HP 225 Wired Mouse and Keyboard Combo	286J4AA
HP Desktop Wired 320M Mouse	9VA80AA
HP 125 Wired Mouse	265A9AA
HP 128 Laser Wired Mouse	265D9AA
HP 455 Wireless Programmable USB Keyboard	4R177AA
HP 655 Wireless Keyboard and Mouse Combo	4R009AA

System Memory	**Part Number**
HP 4GB DDR4-3200 SODIMM	13L79AA
HP 8GB DDR4-3200 SODIMM	13L77AA
HP 16GB DDR4-3200 SODIMM	13L75AA
HP 32GB DDR4-3200 SODIMM	13L73AA

Multimedia Devices	**Part Number**
HP S101 Speaker Bar	5UU40AA
HP Z G3 Conf Sp Bar	32C42AA
HP Z G3 Conf Sp Bar with Stand	647Y2AA

Security Devices	**Part Number**
HP Keyed Cable Lock 10mm	T1A62AA
HP Master Keyed Cable Lock 10mm	T1A63AA

After Market Options

I/O Devices	**Part Number**
HP DisplayPort Port Flex IO v2	13L54AA
HP Type-C® USB 3.1 Gen2 Port with PD Flex IO v2	13L60AA
HP VGA Port Flex IO v2	13L53AA
HP USB 3.1 Gen1 x2 Module Flex IO v2	13L58AA
HP Serial Port v3 Flex IO	5B895AA
HP Serial Port Flex IO 2nd v2	13L57AA
HP USB to Serial Port Adapter	J7B60AA
HP DisplayPort To HDMI True 4k Adapter	2JA63AA
HP HDMI Standard Cable Kit	T6F94AA
HP DisplayPort Cable Kit	VN567AA
HP DisplayPort To DVI-D Adapter	FH973AA
HP DisplayPort To VGA Adapter	AS615AA
HP Single Mini Display Port Adapter to Display Port Adapter	2MY05AA
HP Type-C® USB 3.1 Gen2 Port with 100W PD Flex IO v2	13L60AA

NOTE: For more detail on HPI/O Devices please refer to the HP FLEXIO Option Cards QuickSpecs:
https://www8.hp.com/h20195/v2/GetDocument.aspx?docname=c06042607

Change Log

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Date	**Version History**	**Action**	**Description of Change**
April 23, 2024	From v1 to v2	Removal	13L69AA from AMO section and Environmental section footnotes updated
May 3, 2024	From v2 to v3	Update	Environmental table data updated
May 22, 2024	From v3 to v4	Update	Hyperlinks on Environmental table updated / TPM 2.0 Embedded Security Chip and Tamper Lock added to Software section
	From v4 to v5		
	From v5 to v6		
	From v6 to v7		
	From v7 to v8		