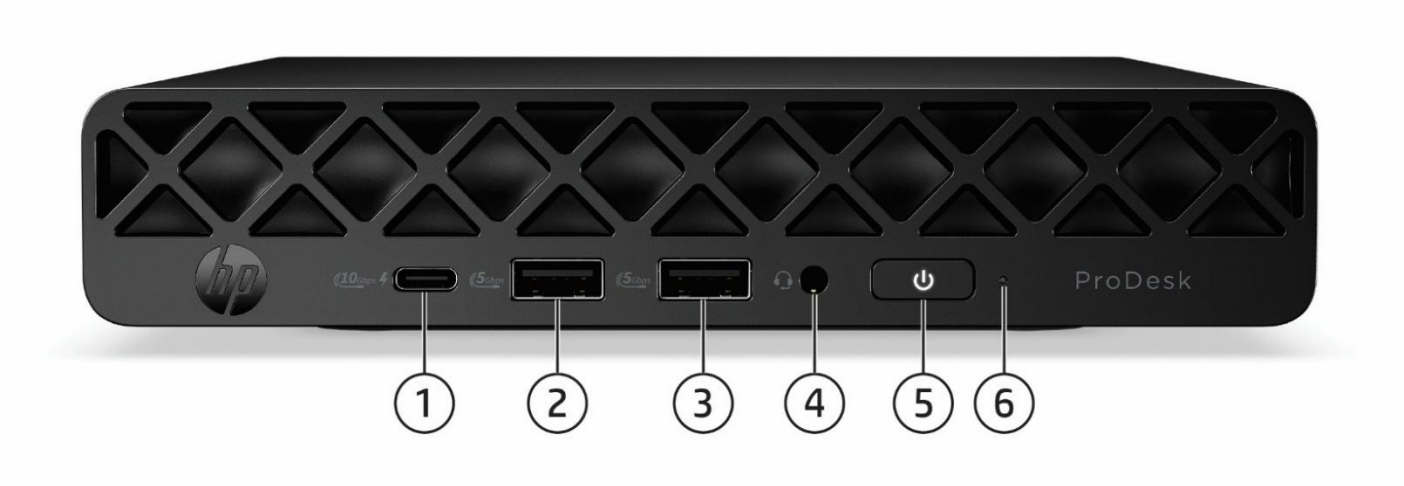
*Overview*

**HP ProDesk 2 Mini G2i Desktop PC**



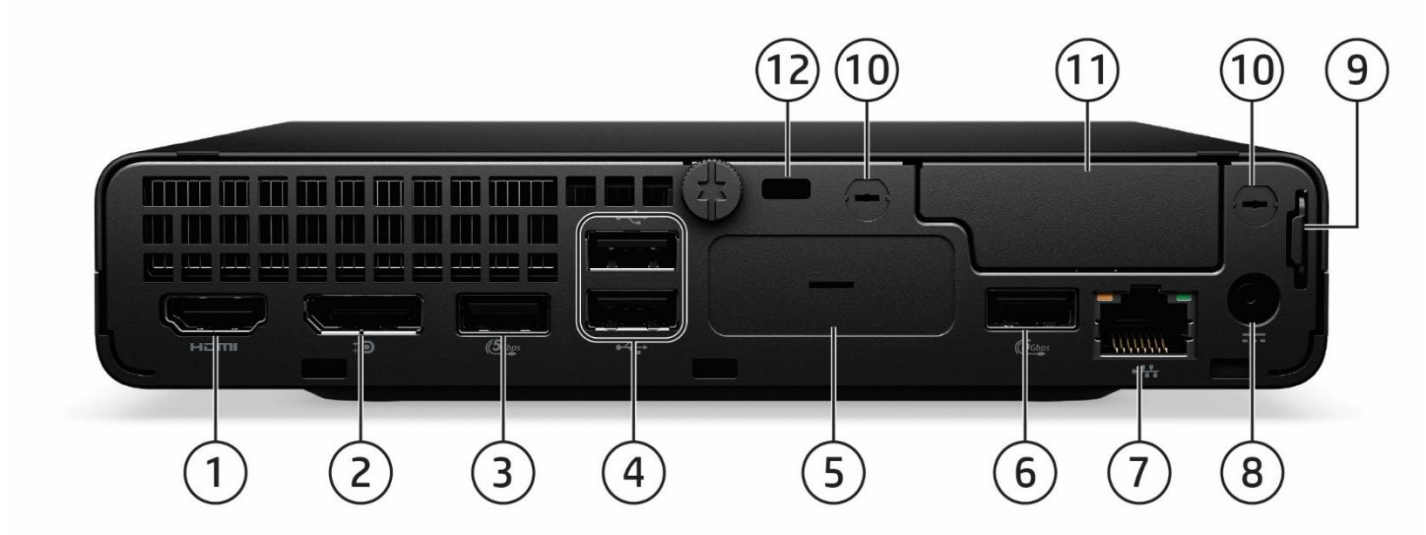

1. Type-C® SuperSpeed USB 10Gbps signaling rate port (charge support up to 5V/3A)
2. Type-A SuperSpeed USB 5Gbps signaling rate port
3. Type-A SuperSpeed USB 5Gbps signaling rate port
4. Combo Audio Jack with CTIA and OMTP headset support
5. Dual-state power button
6. SSD activity light

**Not shown**

(2) M.2 (1 as M.2 2230 socket for WLAN/BT and 1 as M.2 2280 socket for storage)

*Overview*

**HP ProDesk 2 Mini G2i Desktop PC**




1. HDMI 2.1 TMDS 6Gbps
2. DisplayPort™ 2.1 HBR3
3. Type-A SuperSpeed USB 5Gbps signaling rate port
4. Type-A Hi-Speed USB 480Mbs signaling rate port (2)
5. Flex Port 1[1], choice of:
   - HDMI 2.1 FRL 12 Gbps
   - DisplayPort 2.1 UHBR20
   - USB-C (10Gbps) w/ 100W power intake
   - Dual Type A SuperSpeed USB 5Gbps signalling rate port
   - VGA
   - Serial
6. Type-A SuperSpeed USB 5Gbps signaling rate port
7. RJ45 Network connector
8. Power connector
9. Retractable Padlock loop
10. External WLAN antenna opening
11. Flex Port 2[1], choice of:
    - Serial
    - Dual Type A SuperSpeed USB 5Gbps signalling rate port
12. Standard cable lock slot (10 mm)

1. Must be configured at time of purchase

## AT A GLANCE

- Intel® Core™ processor (up to Core™ 7) featuring integrated Intel® UHD Graphics
- Choice of Windows 11 Professional, Windows 11 Home, and FreeDOS Up to 64GB of DDR5 Synchronous Dynamic Random Access Memory (SDRAM).
- Support for up to three monitors via native HDMI 2.1 TMDS 6Gbps, native DisplayPort™ and optional video output flex module.
- Optional Wi-Fi 6E and Wi-Fi 6 connectivity.
- Trusted Platform Module (TPM) 2.0.
- VESA mounting incorporated into chassis design in the bottom case.
- Dust filter and Port cover available, External Antenna Ports preserved on chassis.
- High efficiency energy saving power supply with both AC barrel type and AC Type-C adapters.
- PC chassis and all internal components and modules are manufactured with low halogen content.
- 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.60950-1-07 / CSA C22.2 No. 62368-1-14) / ICES-003 / CCC / VCCI (Class B) / KCC (Class B) v.

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

*Standard Features and Configurable Modules*

## OPERATING SYSTEMS

**Preinstalled**

FreeDOS
Windows 11 Pro[1]
Windows 11 Pro Education[1]
Windows 11 Home - HP recommends Windows 11 Pro for business[1]
Windows 11 Home Single Language - HP recommends Windows 11 Pro for business[1]
Windows 11 Pro (Windows 11 Enterprise or Windows 10 Enterprise available with a Volume Licensing Agreement)[1,2]

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.

## PROCESSORS

**Intel® Core™ Processors**

Intel® Core™ 3 304 Processors
15W Base power, 35W Turbo power
Up to 4.3 GHz max Turbo frequency with Intel® Turbo Boost Technology[2]
6MB cache, 5 cores and threads, 15 NPU TOPs, Intel® 1Xe Graphics

Intel® Core™ 5 315 Processors
15W Base power, 35W Turbo power
Up to 4.4 GHz max Turbo frequency with Intel® Turbo Boost Technology[2]
6MB cache, 6 cores and threads, 15 NPU TOPs, Intel® 2Xe Graphics

Intel® Core™ 5 320 Processors
15W Base power, 35W Turbo power
Up to 4.6 GHz max Turbo frequency with Intel® Turbo Boost Technology[2]
6MB cache, 6 cores and threads, 16 NPU TOPs, Intel® 2Xe Graphics

Intel® Core™ 7 350 Processors
15W Base power, 35W Turbo power
Up to 4.8 GHz max Turbo frequency with Intel® Turbo Boost Technology[2]
6MB cache, 6 cores and threads, 17 NPU TOPs, Intel® 2Xe Graphics
® Technology[2]

1. 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. Intel's numbering, branding and/or naming is not a measurement of higher performance.
2. Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost for more information.
3. Intel® Iris® Xe Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® Xe Graphics with Intel® Core™ i5 or 7 processors and single channel memory will only function as UHD graphics.

## GRAPHICS

**Integrated**

Intel® Graphics

**NOTE:** Intel® integrated Graphics varies by processor.

## STORAGE

**NOTE:** Starting from November 1st, 2023, all shipments will require Windows to be installed on SSD to provide users a better experience. HDD can only be configured as additional data drives and not the boot drive.

**M.2 PCIe NVMe Solid State Drives (SSD)**

256GB* M.2 2280 PCIe NVMe SSD
512GB* M.2 2280 PCIe NVMe SSD
1TB* M.2 2280 PCIe NVMe SSD
2TB* M.2 2280 PCIe NVMe SSD
256GB* M.2 2280 PCIe NVMe Self Encrypted OPAL2 SSD**
512GB* M.2 2280 PCIe NVMe Self Encrypted OPAL2 SSD**

***NOTE:** For 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.
****NOTE**: Storage DriveLock does not work with Self Encrypting or Optane based storage.

## MEMORY

**Type**

DDR5-5600(Transfer rates up to 5600MT/s)

**Maximum**

32GB capacity

**Memory Configurations**

1 SODIMM
8GB (8GB x 1)
12GB (12GB X 1)
16GB (16GB x 1)
24GB (24GB X 1)
32GB (32GB x 1)

**NOTE:** For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.
**NOTE:** Memory modules support data transfer rates up to 5600 MT/s; actual data rate is determined by the system's configured processor. See processor specifications for supported memory data rate.
**NOTE:** Memory slots are customer accessible / upgradeable, however, SKUs with LPDDR memory would not be able to access / upgrade as LPDDR memory were soldered onboard.

| | OPTION 1 | OPTION 2 |
|---|---|---|
| **Memory slots** | One SODIMM slot | Onboard memory, no memory slots |
| **Memory type** | DDR5 | LPDDR5x |
| **Maximum supported memory** | 32GB DDR5-5600 MT/s | 16GB LPDDR5x-8533 MT/s |
| **Available memory configurations** | 8 GB (1 x 8 GB) DDR5-5600 MT/s, single-channel<br>12 GB (1 x 12 GB) DDR5-5600 MT/s, single-channel<br>16 GB (1 x 16 GB) DDR5-5600 MT/s, single-channel<br>24 GB (1 x 24 GB) DDR5-5600 MT/s, single-channel<br>32 GB (1 x 32 GB) DDR5-5600 MT/s, single-channel<br><br>**NOTE:** System runs at 5600 MT/s. Memory is replaceable by customer or customer IT support. | 8 GB LPDDR5x 8533 MT/s, single-channel<br>16 GB LPDDR5x 8533 MT/s, single-channel<br><br>**NOTE:** System runs at 7467 MT/s. The memory is non-accessible / nonupgradeable. |

## NETWORKING/COMMUNICATIONS

**Networking**

Intel® I219-V Gigabit Network Connection LOM (Non-vPro)

**Wireless**

MediaTek RZ616 Wi-Fi 6E with Bluetooth® 5.3 Wireless Card (802.11ax 2x2[1,2,3]

Realtek RTL8852BE-VT Wi-Fi with Bluetooth® 5.4 Wireless Card (802.11ax 2x2)[3]

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
2. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately.
3. 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.

**NOTE:** WiFi-6E might restrict by local regulation.HP will enable countries in the future by upgrading BIOS in default.

## KEYBOARDS/POINTING DEVICES

**Keyboard and Mouse Combo**

HP 275 Wireless Keyboard and Mouse Combo

**Keyboard**

HP 175 Wired Keyboard

HP 175 AntiMicobial Wired Keyboard[1] (China Only)

HP 375 Secure Smartcard USB Keyboard

**Mouse**

HP 175 Wired Mouse

HP 175 Antimicrobial Wired Mouse[1] (China Only)

**NOTE**: Availability may vary by country

## SECURITY

TPM 2.0[1] endpoint security controller (Infineon SLB9672). Common Criteria EAL4+ Certified. FIPS 140-2 Level 2 Certified.

Intrusion Sensor (integrated in the system board, can be enabled/disabled through BIOS)

Support for chassis cable lock devices

Support for chassis padlocks devices

Serial, USB enable/disable (via BIOS)

Removable media write/boot control

Power-on password (via BIOS)

Setup password (via BIOS)

1. In some scenarios, machines pre-configured with Windows OS might ship with TPM turned off

## PORTS

**Internal slots and Ports**

(1) M.2 PCIe x1 2230 (for WLAN)

(1) M.2 PCIe x4 2280 (for storage)

**NOTE**: For Desktop Mini with M.2 Storage config, there will be no SATA drive bracket.

**Standard User Accessible Ports**

**Front**

(1) Type-C® SuperSpeed USB 10Gbps signaling rate port

(2) Type-A SuperSpeed USB 5Gbps signaling rate port

(1) Combo Audio Jack with CTIA and OMTP headset support

**Rear**

(2) Type-A SuperSpeed USB 5Gbps signaling rate port

(2) Type-A Hi-Speed USB 480Mbps signaling rate port

(1) Display Port 2.1 HBR3

(1) HDMI 2.1 TMDS 6 Gbps

(1) RJ45

(1)

**Configurable Non-PCIe/PCI Slot User Accessible Ports**

**Rear**

Flexible Port#1, choice of USB-C (10Gbps) w/ 100W power intake or DisplayPort 2.1 UHBR20 or HDMI 2.1 FRL 12 Gbps or VGA or 2x USB-A (5Gbps) or Serial port.

Flexible Port#2, choose of Serial (RS-232), Dual USB-A port.

## 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

Buy Microsoft Office (Sold Separately)[1]
HP Desktop Support Utilities
HP app[2]
HP Notifications
HP Support Assistant[3]

**Manageability Features**
HP Cloud Recovery

**Client Security Software**
McAfee LiveSafe™ (1 year subscription)[5]

**BIOS**
Administrator Password
Self-Recovery
Hard Drive Utilities
HP Secure Erase Feature
Secure Boot
Cover Removal Senor
UEFI Self Certification Level: 2.9

1. Microsoft 365 sold separately and requires Internet access for activation.
2. HP app with Multicamera support for Mini Desktop PC will only available on 13th processor and beyond.
2 HP Support Assistant is available on Windows. For more information, please visit: http://www.support.hp.com/help/hp-support-assistant
3. 4. Sold separately and requires Internet access for activation.
5. 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, 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://support.hp.com/us-en/document/c05115630.
5 Availability may vary by country. McAfee LiveSafe 30-day free trial offer (Internet access required. First 30 days included. Subscription required for live updates afterwards.)

## UNIT ENVIRONMENT AND OPERATING CONDITIONS

**ENERGY STAR® certified models available**

ENERGY STAR® certified. EPEAT registered where applicable. Based on US EPEAT registration according to EPEAT criteria and EPEAT Climate+ achieved, status and tier level varies by country. Visit http://www.epeat.net for more information.
Low halogen (chassis, all internal components and modules)[1]
TAA compliant models available

1. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

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)[2] |
| | Non-operating: | -22° to 140° F(-30° to 60° C) |
| **Relative Humidity** | Operating: | 10% to 90% (non-condensing at ambient) |
| | Non-operating: | 0% to 95% (non-condensing at ambient) |
| **Maximum Altitude (unpressurized)** | Operating: | 10,000 ft (3048 m) |
| | Non-operating: | 30,000 ft (9144 m) |

2. 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.

## ENVIRONMENTAL & INDUSTRY

| | |
|---|---|
| **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:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT Gold registered and EPEAT Climate+ attained in the United States. See http://www.epeat.net for registration status in your country.*<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT registration according to EPEAT criteria and EPEAT Climate+, status and tier level 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, 60Hz** |
|---|---|---|---|
| Normal Operation (Short idle) | 2.90 W | 2.98 W | 2.82 W |
| Sleep | 1.63 W | 1.66 W | 1.61 W |
| Off | 0.40 W | 0.41 W | 0.39 W |

**NOTE:** Energy efficiency data listed is for an ENERGY STAR® certified product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are certified with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® certified 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, 60Hz** |
|---|---|---|---|
| Normal Operation (Short idle) | 9.9 BTU/hr | 10.2 BTU/hr | 9.6 BTU/hr |
| Sleep | 5.5 BTU/hr | 5.6 BTU/hr | 5.5 BTU/hr |
| Off | 1.3 BTU/hr | 1.4 BTU/hr | 1.3 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 | 2.6 | 16 |
| Fixed Disk – Random writes | 2.6 | 16 |

| | | | |
|---|---|---|---|
| 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:<br>• 1 SODIMM memory slot<br>• Interchangeable M.2 PCIe NVME SSD & 2.5" SATA HDD<br>Spare parts are available throughout the warranty period and or for up to 5 years after the end of production. | | |
| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is registered as EPEAT Gold and has attained EPEAT Climate+ in the US, status and tier level varies by country, see http://www.epeat.net.<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product contains 0% post-consumer recycled plastic (by wt.)<br>• This product is 95.1% recycle-able when properly disposed of at end of life. | | |
| **Packaging Materials** | **External:** | PAPER/Corrugated | 450 g |
| | | PAPER/Molded Pulp | 74 g |
| | **Internal:** | PLASTIC/Polyethylene low density - LDPE | 5 g |
| | The plastic packaging material contains at least 30% recycled content. | | |
| | The corrugated paper packaging materials contains at least 35% recycled content. | | |
| **Material Usage** | 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 http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):<br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.<br>• Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) | | |

| | |
|---|---|
| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.<br>• Eliminate the use of ozone-depleting substances (ODS) in packaging materials.<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use readily recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• 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: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>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:<br><br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf<br>and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |

## SERVICE AND SUPPORT

On-site Warranty[1]: Three-year (3-3-3) or one-year (1-1-1) limited warranty delivers three years or one year of on-site, next business day[2] service for parts and labor and includes free support 24 x 7[3]. Three-year onsite and labor are not available in all countries. 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.[4]

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. Technical telephone support applies only to HP-configured and third-party HP qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.
4. 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 http://www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

## GRAPHICS

### Intel® UHD Graphics (integrated)[1]

| | |
|---|---|
| **Graphics Controller** | Integrated |
| **HDMI** | Supports HDMI 2.1 (TMDS 6Gpbs)<br>Supports HDCP 2.3<br>Supports audio over HDMI |
| **DisplayPort** | Supports DisplayPort 2.1 (up to HBR3)<br><br>VESA DSC 1.2b |
| **Memory** | The actual amount of maximum graphics memory can be >4GB. System memory is allocated for graphics as needed using Intel's Dynamic Video Memory Technology (DVMT), to provide an optimal balance between graphics and system memory use. |
| **Graphics/Video API Support** | HEVC/H265 442,444 -8b/10b VP9 420/8b,444/8b,420/10b,444/10b<br>HDR<br>DX12 Direct3D11/Direct3D12 API |
| **Max. Resolution (DP)** | 4096 x 2304@60Hz |
| **Max. Resolution (HDMI)** | 4096 x 2160 @ 30Hz |
| **Max. Resolution (option VGA)** | 2048x1536@60Hz |
| **Max Resolution (option DP)** | 4096 x 2304@60Hz |
| **Max Resolution (option HDMI)** | 4096 x 2160 @ 30Hz |
| **Max Resolution (Option USB-C, DP Alt mode)** | 4096 x 2304@60Hz |

## STORAGE

**NOTE:** Starting from November 1ST, 2023, all shipments will require Windows to be installed on SSD to provide users a better experience. HDD can only be configured as additional data drives and not the boot drive.

### 256GB M.2 2280 PCIe NVMe SSD

| | |
|---|---|
| **Capacity** | 256GB |
| **Interface** | PCIe NVMe Gen4x4 |
| **Minimum Sequential Read** | 3200MB/s ±10% |
| **Minimum Sequential Write** | 1200 MB/s ±20% |
| **Logical Blocks** | 500,118,192 |
| **Features** | TRIM; L1.2 |

**NOTE:** 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.

### 512GB M.2 2280 PCIe NVMe SSD

| | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIe NVMe Gen4x4 |
| **Minimum Sequential Read** | 3500 MB/s ±20% |
| **Minimum Sequential Write** | 1600 MB/s ±20% |
| **Logical Blocks** | 1,000,215,216 |
| **Features** | TRIM; L1.2 |

**NOTE:** 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.

### 1TB M.2 2280 PCIe NVMe SSD

| | |
|---|---|
| **Capacity** | 1TB |
| **Interface** | PCIe NVMe Gen4x4 |
| **Minimum Sequential Read** | 3500 MB/s ±20% |
| **Minimum Sequential Write** | 2700 MB/s ±20% |
| **Logical Blocks** | 2,000,409,264 |
| **Features** | TRIM; L1.2 |

**NOTE:** 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.

### 512 GB PCIe Gen5 NVMe™ Value 2280 Solid State Drive

| | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIE Gen5x4 |
| **Minimum Sequential Read** | 9000 MB/s ±20% (in PCIe 5x4 slot) |
| **Minimum Sequential Write** | 6000 MB/s ±20% (in PCIe 5x4 slot) |
| **Logical Blocks** | 1,000,215,216 |
| **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.

### 1 TB PCIe® Gen5x4 NVMe™ Self Encrypted OPAL2 SSD

| | |
|---|---|
| **Capacity** | 1TB |
| **Interface** | PCIE Gen5 |
| **Minimum Sequential Read** | 13000 MB/s ±20% (in PCIe 5x4 slot) |
| **Minimum Sequential Write** | 9000 MB/s ±20% (in PCIe 5x4 slot) |
| **Logical Blocks** | 2,000,409,264 |
| **Features** | TRIM; L1.2; TCG Opal 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.

### 2TB PCIe Gen5 2280 NVMe Value Solid State Drive

| | |
|---|---|
| **Capacity** | 2TB |
| **Interface** | PCIE Gen5 |
| **Minimum Sequential Read** | 10000 MB/s ±20% (in PCIe 5x4 slot) |
| **Minimum Sequential Write** | 8000 MB/s ±20% (in PCIe 5x4 slot) |
| **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.

### 256GB PCIe Gen3 2280 NVMe Value Solid State Drive

| | |
|---|---|
| **Capacity** | 256GB |
| **Interface** | PCIe NVMe |
| **Minimum Sequential Read** | 300MB/s ±10% |
| **Minimum Sequential Write** | 1200 MB/s ±20% |
| **Logical Blocks** | 500,118,192 |
| **Features** | TRIM; L1.2 |

**NOTE:** 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.

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

| | |
|---|---|
| **Capacity** | 256GB |
| **Interface** | PCIE Gen4x4 |
| **Minimum Sequential Read** | 3100 MB/s ±20% |
| **Minimum Sequential Write** | 1200 MB/s ±20% |
| **Logical Blocks** | 500,118,192 |
| **Features** | TRIM; L1.2; TCG Opal 2.0 |

**NOTE:** 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.

| **512GB PCIe Gen5 2280 NVMe Self Encrypted OPAL2 SSD** | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIE Gen 5 |
| **Minimum Sequential Read** | 9000 MB/s ±20% (in PCIe 5x4 slot) |
| **Minimum Sequential Write** | 6000 MB/s ±20% (in PCIe 5x4 slot) |
| **Logical Blocks** | 1,000,215,216 |
| **Features** | TRIM; L1.2; TCG Opal 2.0 |

**NOTE:** 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.

## NETWORKING AND COMMUNICATIONS

| Intel® I219v 1 Gigabit Network Connection LOM (non-vPro) | |
|---|---|
| **Connector** | RJ-45 |
| **System Interface** | PCI (Intel proprietary) + SMBus |
| **Data rates supported** | 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)<br>Auto-Negotiation (Automatic Speed Selection)<br>Full Duplex Operation at all Speeds, Half Duplex operation at 10, 100 & 1000 Mbit/s |
| **IEEE Compliance** | IEEE 802.1p QoS (Quality of Service) Support<br>IEEE 802.1q VLAN support<br>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)<br>IEEE 802.3az EEE (Energy Efficient Ethernet)<br>IEEE 802.3i 10BASE-T<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3ab 1000BAE-T<br>IEEE 802.3bz 2.5GBASE-T |
| **Performance** | TCP/IP/UDP Checksum Offload (configurable)<br>Protocol Offload (ARP & NS)<br>Large send offload and Giant send offload<br>Receiving Side Scaling (Hash Mode only)<br>Jumbo Frame 9K |
| **Power consumption** | Cable Disconnetion: 25mW<br>100Mbps Full Run: 450mW<br>1000bp Full Run: 1000mW<br>WoL Enable(S3/S4/S5): 50mW<br>WoL Disable(S3/S4/S5): 25mW |
| **Power Management** | ACPI compliant – multiple power modes<br>Situation-sensitive features reduce power consumption<br>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);<br>Wake-on-LAN from off (Magic Packet only)<br>PXE 2.1 Remote Boot<br>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))<br>Comprehensive diagnostic and configuration software suite<br>Virtual Cable Doctor for Ethernet cable status |
| **Security & Manageability** | Intel® non vPro™ support with appropriate Intel® chipset components |

| **MediaTek RZ616 Wi-Fi 6E + Bluetooth® 5.3 (802.11ax 2x2, AMD AIM-T)**[1,2] | |
|---|---|
| **Wireless LAN Standards** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n<br>IEEE 802.11ac<br>IEEE 802.11ax<br>IEEE 802.11d<br>IEEE 802.11e<br>IEEE 802.11h<br>IEEE 802.11i<br>IEEE 802.11j<br>IEEE 802.11k<br>IEEE 802.11mc<br>IEEE 802.11r<br>IEEE 802.11v<br>IEEE 802.11w |
| **Interoperability** | Wi-Fi® certified |
| **Frequency Band** | 802.11b/g/n/ax<br>• 2.402 – 2.482 GHz<br><br>802.11a/n/ac/ax<br>• 5.15 – 5.25 GHz<br>• 5.25 – 5.35 GHz<br>• 5.47 – 5.725 GHz<br>• 5.825 – 5.850 GHz<br>• 5.925 – 7.125 GHz |
| **Data Rates** | • 802.11b: 1, 2, 5.5, 11 Mbps<br>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)<br>• 802.11ac: MCS0 ~ MCS9, (20MHz, 40MHz, ,80MHz & 160MHz)<br>• 802.11ax: MCS0 ~ MCS11, (20MHz, 40MHz, ,80MHz & 160MHz) |
| **Modulation** | Direct Sequence Spread Spectrum<br>OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM |
| **Security** | • IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only<br>• AES-CCMP: 128 bit in hardware<br>• 802.1x authentication<br>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.<br>• WPA2 certification<br>• WPA3 (personal) certification<br>• IEEE 802.11i<br>• WAPI |
| **Network Architecture Models** | Ad-hoc (Peer to Peer)<br><br>Infrastructure (Access Point Required) |
| **Roaming** | IEEE 802.11 compliant roaming between access points |
| **Output Power**[3] | 2.4GHz (MIMO, typical):<br>• 802.11b: +18dBm<br>• 802.11g: +16.5dBm<br>• 802.11n/ac/ax (HT20/VHT20/HE20): +16dBm<br>• 802.11n/ac/ax (HT40/VHT40/HE40): +12.5dBm |

| | |
|---|---|
| **Output Power[3]** | 5GHz (MIMO, typical):<br>• 802.11a: +13dBm<br>• 802.11n/ac/ax (HT20/VHT20/HE20): +13.5dBm<br>• 802.11n/ac/ax (HT40/VHT40/HE40): +12.5dBm<br>• 802.11ac/ax (VHT80/HE80): +11.5dBm<br>• 802.11ax HE160: +11.5dBm<br>6GHz LPI mode (MIMO, typical):<br>• 802.11a: 0dBm<br>• 802.11ax HE20: +1dBm<br>• 802.11ax HE40: +4dBm<br>• 802.11ax HE80: +7dBm<br>• 802.11ax HE160: +7.5dBm |
| **Power Consumption** | • Transmit mode:2.5 W<br>• Receive mode:2 W<br>• Idle mode (PSP) 180 mW (WLAN Associated)<br>• Idle mode:50 mW (WLAN unassociated)<br>• Connected Standby/Modern Standby: 10mW<br>• Radio disabled: 8 mW |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Receiver Sensitivity[3]** | 2.4GHz (SISO):<br>•802.11b, 11Mbps: -82dBm maximum<br>• 802.11g, 54Mbps: -71dBm maximum<br>• 802.11n, MCS7: -64dBm maximum<br>• 802.11ac, MCS9: -52dBm maximum<br>•802.11ax, MCS11(HT40): -49dBm maximum<br>5GHz (SISO):<br>• 802.11a, 54Mbps: -71dBm maximum<br>• 802.11n, MCS07: -64dBm maximum<br>• 802.11ac, MCS9: -52dBm maximum<br>•802.11ax, MCS11(HE80/HE160): -46dBm maximum<br>6GHz (SISO):<br>• 802.11a, 54Mbps: -71dBm maximum<br>• 802.11n, MCS7: -64dBm maximum<br>• 802.11ac, MCS9: -52dBm maximum<br>•802.11ax, MCS11(HE160): -46dBm maximum |
| **Antenna type** | High efficiency antenna with spatial diversity, mounted in the display enclosure<br>Two embedded dual band 2.4/5/6 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: 14° to 158° F (–10° to 70° C)<br>Non-operating: –40° to 176° F (–40° to 80° C) |
| **Humidity** | Operating: 10% to 60% (non-condensing)<br>Non-operating: 5% to 95% (non-condensing) |
| **Altitude** | Operating: 0 to 10,000 ft (3,048 m)<br>Non-operating: 0 to 50,000 ft (15,240 m) |
| **LED Activity** | N/A |

| HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology | |
|---|---|
| **Bluetooth® 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)<br>BLE: 0~39 (2 MHz/CH) |
| **Data Rates and Throughput** | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels<br>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 1.5 Bluetooth device with a maximum transmit power of + 14 dBm and 10 dBm for BR and EDR, respectively. |
| **Power Consumption** | Peak (Tx): 330 mW<br>Peak (Rx): 230 mW<br>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, Section 15.247 & 15.249 |
| **Power Management Certifications** | FCC (47 CFR) Part 15C, Section 15.247 & 15.407<br>ETS 300 328<br>Low Voltage Directive<br>CE Mark |
| **Bluetooth® Profiles Supported** | Bluetooth 4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>Train Nudging & Interlaced Scan<br>Bluetooth 4.2 ESR08 Compliance<br>LE Secure Connection- Basic/Full<br>LE Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP)<br>Bluetooth 5.2<br>ESR9/10 Compliance<br>LE Advertisement Extensions<br>Channel Selection Algo<br>Limited High Duty Cycle Non-Connectable Advertising<br>2Mbps LE<br>LE Long Range<br>Windows BT profiles support<br>Bluetooth 5.3<br>Periodic Advertisement interval<br>Encryption key size control enhancements |

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
2. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

| **Realtek RTL8852BE-VT 802.11ax 2x2 Wi-Fi + BLuetooth® 5.4**<br>(802.11ax 2x2, supporting gigabit data rate)[1] | |
|---|---|
| **Wireless LAN Standards** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n<br>IEEE 802.11ac<br>IEEE 802.11ax<br>IEEE 802.11d<br>IEEE 802.11e<br>IEEE 802.11h<br>IEEE 802.11i<br>IEEE 802.11j<br>IEEE 802.11k<br>IEEE 802.11mc<br>IEEE 802.11r<br>IEEE 802.11v<br>IEEE 802.11w |
| **Interoperability** | Wi-Fi® certified modules |
| **Frequency Band** | 802.11b/g/n/ax<br>• 2.402 – 2.482 GHz<br>802.11a/n/ac/ax<br>• 4.9 – 4.95 GHz (Japan)<br>• 5.15 – 5.25 GHz<br>• 5.25 – 5.35 GHz<br>• 5.47 – 5.725 GHz<br>• 5.825 – 5.850 GHz |
| **Data Rates** | • 802.11b: 1, 2, 5.5, 11 Mbps<br>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11n: max 300Mbps<br>• 802.11ac: max 866.7Mbps<br>• 802.11ax: max 1201Mbps |
| **Modulation** | Direct Sequence Spread Spectrum, OFDM,<br>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM |
| **Security[2]** | • IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only<br>• AES-CCMP: 128 bit in hardware<br>• 802.1x authentication<br>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.<br>• WPA2 certification<br>• WPA3 (personal) certification<br>• IEEE 802.11i<br>• WAPI (by request)<br>• EAP |

| | |
|---|---|
| **Network Architecture**<br>**Models** | Ad-hoc (Peer to Peer)<br>Infrastructure (Access Point Required) |
| **Roaming** | IEEE 802.11 compliant roaming between access points |
| **Output Power**[3] | 802.11b: +20dBm<br>802.11g: +18dBm<br>802.11a: +18dBm<br>802.11n HT20(2.4GHz): +17dBm<br>802.11n HT40(2.4GHz): +17dBm<br>802.11n HT20(5GHz): +17dBm<br>802.11n HT40(5GHz): +17dBm<br>802.11ac VHT80(5GHz): +15dBm<br>802.11ax HE40(2.4GHz): +13dBm<br>802.11ax HE80(5GHz): +13dBm |
| **Power Consumption** | • Transmit mode 2.0 W<br>• Receive mode 1.6 W<br>• Idle mode (PSP) 180 mW (WLAN Associated)<br>• Idle mode 50 mW (WLAN unassociated)<br>• Connected Standby 10mW<br>• Radio disabled 8 mW |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Receiver Sensitivity**[2] | 802.11b, 1Mbps: -93.5dBm maximum<br>802.11b, 11Mbps: -84dBm maximum<br>802.11a/g, 6Mbps: -86dBm maximum<br>802.11a/g, 54Mbps: -72dBm maximum<br>802.11n, MCS07: -67dBm maximum<br>802.11n, MCS15: -64dBm maximum<br>802.11ac, MCS0: -84dBm maximum<br>802.11ac, MCS9: -59dBm maximum |
| **Antenna type** | High efficiency antenna with spatial diversity.<br>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** | Type 2230: 2.3 x 22.0 x 30.0 mm |
| **Weight** | Type 2230: 2.8g |
| **Operating Voltage** | 3.3v +/- 9% |
| **Temperature** | Operating: 14° to 158° F (–10° to 70° C)<br>Non-operating: –40° to 176° F (–40° to 80° C)<br>Storage Temperature (–55° to 125° C) |
| **Humidity** | Operating: 10% to 90% (non-condensing)<br>Non-operating: 5% to 95% (non-condensing) |
| **Altitude** | Operating: 0 to 10,000 ft (3,048 m)<br>Non-operating: 0 to 50,000 ft (15,240 m) |
| **LED Activity** | LED Amber – Radio OFF;<br>LED OFF – Radio ON |
| **HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Wireless Technology** | |
| **Bluetooth® Specification** | 4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Compliant |
| **Frequency Band** | 2402 to 2480 MHz |
| **Number of Available Channels** | Legacy: 0~79 (1 MHz/CH)<br>BLE: 0~39 (2 MHz/CH) |

| | |
|---|---|
| **Data Rates and Throughput** | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels<br>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 I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR. |
| **Power Consumption** | Peak (Tx): 330 mW<br>Peak (Rx): 230 mW<br>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<br>ETSI 300 328, ETSI 301 893 |
| **Bluetooth Profiles Supported** | Bluetooth 4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>Train Nudging & Interlaced Scan<br>Bluetooth 4.2 ESR08 Compliance<br>LE Secure Connection- Basic/Full<br>LE Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP)<br>Bluetooth 5.2<br>ESR9/10 Compliance<br>LE Advertisement Extensions<br>Channel Selection Algo<br>Limited High Duty Cycle Non-Connectable Advertising<br>2Mbps LE<br>LE Long Range<br>Windows BT profiles support<br>Bluetooth 5.3 Compliance to the latest errata spetion 12.3 of Bluetooth 5.3 specification<br>ESR 9/10 compliance<br>Host to controller Encryption key control enhancements |

1. 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.2. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

## INPUT/OUTPUT DEVICES

| **HP 175 wired Mouse** | | |
|---|---|---|
| **Dimensions** (LxWxH) | 123x65x39 (mm); 4.84x2.56x1.54 (in) | |
| **Weight** | 80 (g);0.18 (lb) | |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Electrical** | Operating voltage | 4.75~5.25V |
| | Power consumption (typical) | 100mA |
| | Resolution | 1,200 DPI |
| | Sensor | Optical USB mouse sensor |
| | System Interface | USB |
| | Cable length | 6 ft (1.8 M) |
| **Regulatory approvals** | Compliant | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC |

| **HP 175K Wired Keyboard** | | |
|---|---|---|
| **Physical Characteristics** | Keys | 110keys (US);111(UK);113(JP, BR) |
| | Dimensions (LxWxH) | 428.83 x 117.37 x 19.1 (mm);16.88 × 4.62 × 0.75 (in) |
| | Weight | 435 (g);0.96 (lb) |
| **Electrical** | Operating voltage | 4.75~5.25V |
| | Power consumption | 100mA |
| | System Interface | USB |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV |
| | Cable length | 6 ft (1.8 M) |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Key Structure (Switch type and feeling) (Plunger) | Plunger, Key travel: 2.5mm +/-0.2mm at 120gf, low profile key travel |
| | Key actuation | 60±8g nominal peak force with tactile feedback |
| | Key life | 10 million keystrokes (Life tester) |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Approvals** | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC, BIS | |

| **HP 175M Antimicrobial Wired Mouse** | | |
|---|---|---|
| **Dimensions** (LxWxH) | 123 x 65 x 39 (mm); 4.84 x 2.56 x 1.54 (in) | |
| **Weight** | 80 (g);0.18 (lb) | |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Electrical** | Operating voltage | 4.75~5.25V |
| | Power consumption (typical) | 100mA |
| | Resolution | 1,200 DPI |
| | Sensor | Optical USB mouse sensor |
| | System Interface | USB |
| | Cable length | 6 ft (1.8 M) |
| **Regulatory approvals** | Compliant | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC |

| **HP 175K Antimicrobial Wired Keyboard** | | |
|---|---|---|
| **Physical Characteristics** | Keys | 110 keys (US); 111(UK); 113(JP, BR) |
| | Dimensions (LxWxH) | 428.83 x 117.37 x 19.1 (mm); 16.88 x 4.62 x 0.75 (in) |
| | Weight | 435 (g);0.96 (lb) |
| **Electrical** | Operating voltage | 4.75~5.25V |
| | Power consumption | 100mA |
| | System Interface | USB |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV |
| | Cable length | 6 ft (1.8 M) |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Key Structure (Switch type and feeling) (Plunger) | Plunger, Key travel: 2.5mm +/-0.2mm at 120gf, low profile key travel |
| | Key actuation | 60±8g nominal peak force with tactile feedback |
| | Key life | 10 million keystrokes (Life tester) |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Approvals** | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC, BIS | |

| **HP 275 wireless Keyboard** | | |
|---|---|---|
| **Physical Characteristics** | Keys | 107keys (US); 108keys (UK); 110 keys (JP, BR) |
| | Dimensions (LxWxH) | 428.83 x 117.37 x 19.1 (mm);16.88 x 4.62 x 0.75 (in) |
| | Weight | 416 (g); 0.92 (lb) |
| **Electrical** | Operating voltage | 2.2V~3.3V (BATTERY) |
| | Power consumption | 30mA |
| | System Interface | 2.4GHz Wireless |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Key Structure (Switch type and feeling) (Plunger) | Plunger, Key travel: 2.5mm +/-0.2mm at 120gf, low profile key travel |
| | Key actuation | 60±8g nominal peak force with tactile feedback |
| | Key life | 10 million keystrokes (Life tester) |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Approvals** | CB; FCC; IC; UL; ENCOM; ANATEL; SUBTEL; RCM; WPC; BIS; CONATEL; TRA; CE; TUV GS; ICASA; SRRC; DJID; TELEC; VCCI; KCC; SIRIM; NTC; IMDA; NCC; BSMI; NBTC | |

| **HP 275 wireless Mouse** | | |
|---|---|---|
| **Dimensions (LxWxH)** | 123x65x39 (mm); 4.84x2.56x1.54 (in) | |
| **Weight** | 73 (g); 0.161 (lb) (no Battery） | |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Electrical** | Operating voltage | 1.5VDC |
| | Power consumption (typical) | 30mA |
| | Resolution | 1,200 DPI |
| | Sensor | Optical mouse sensor |
| | System Interface | 2.4GHz Wireless |
| | Cable length | NA |
| **Regulatory approvals** | CB; FCC; IC; UL; ENCOM; ANATEL; SUBTEL; RCM; WPC; CONATEL; TRA; CE; TUV GS; ICASA; SRRC; DJID; TELEC; VCCI; KCC; SIRIM; NTC; IMDA; NCC; BSMI; NBTC | |

| HP 375 Secure Smartcard USB Keyboard | | |
|---|---|---|
| **Physical Characteristics** | Keys | 107, 108, 110, 111 layout (depending upon country) |
| | Dimensions (LxWxH) | 16.88 x 4.61 x 0.75 in (428.8 x 117.1 x 19 mm) |
| | Weight | 1.02lb (462g) |
| **Electrical** | Operating voltage | 5 VDC, +/-5% |
| | Power consumption | 100mA (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 | Regular Key: < 43 dBA; Space bar: < 45 dBA |
| | Operating temperature | 50° to 104° F (10° to 40° 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 |
| **Smartcard reader** | Support | All ISO 7816 smart cards<br>Support Extended APDU |
| | Interface | Fully compliant with EMV L1, ISO 7816-1,2,3,4, memory cards read/write, Synchronous/Asynchronous Protocols T=0 and T=1. Programmable smart card clock from 1MHz to 12MHz. |
| | Chipset | Hirsch CLOUD 2190F |
| | Standard API's supported | PC/SC, EMV2000, CT-API |

| | | | |
|---|---|---|---|
| | Power | USB bus<br>Support step up/down DCDC converter<br>Class A: 5V 60mA<br>Class B: 3V 60mA<br>Class C 1.8V 35mA | |
| | Power consumption | Max 100mA | |
| | Communication | From Card | 9,600bps to 330,000bps |
| | | From Computer | 12Mpbs(USB full speed) |
| | Landing mechanism | Contact device | Friction contact |
| | | Card insertion rating | Up to 100,000 insertion cycles |
| | Interface modes | CCID protocol | |
| | Reader performance Interface | USB connection | |
| | Electro-Magnetic standards | Europe | 2004/108/EC |
| | | USA | USAFCC part 15 |
| **Approvals** | CE Marking, TUV-GS, EAC, FCC, cULus, ICES, RCM, VCCI, KCC, BSMI, India BIS, Ukraine | | |
| **Ergonomic compliance** | ISO 9241-410 | | |

## AUDIO/MULTIMEDIA

| | |
|---|---|
| **Type** | Integrated |
| **HD Stereo Codec** | Realtek ALC3252 |
| **Audio I/O Ports** | Front: Headset connector supports a CTIA and OMTP style headset and is retaskable as a Line-in, Line-out, Microphone-in or Headphone-out port |
| **Internal Speaker Amplifier** | 2W class D mono amplifier for the internal speaker only. External speakers must be powered externally |
| **Multi-streaming Capable** | Playback multi-streaming allows independent audio streams to be sent to/from the front jacks and 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 Syntheses** | Yes - Uses OS soft wavetable |
| **Analog Audio** | Yes |
| **# of Channels on Line-Out** | Stereo (Left & Right channels) |
| **Internal Speaker** | Yes |

## POWER SUPPLY

| | |
|---|---|
| **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<br>Average efficiency 88% at 115V<br>Average efficiency 89% at 230V |
| **DC Output** | +19.5V |
| **Current Leakage (NFPA 99: 2102)** | Less than 500 microamps of leakage current at 264 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.<br>Less than 100 microamps of leakage current at 264 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** | 3.28 ft. (1.0 m) / 5.9 ft (1.8m) |
| **Dimensions** | 90 x 51 x 28.5mm |
| **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 |
| **DC Output** | +20.0 V |
| **Current Leakage (NFPA 99: 2102)** | Less than 40 microamps of leakage current at 250Vac/50 Hz 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. |
| **Power cord length** | Duck head |
| **Dimensions** | 65x 32x 32mm |

## WEIGHT AND DIMENSIONS[1]

**System**

| | |
|---|---|
| **Dimensions** | 6.97 x 7.13 x 1.35 in<br>177 x 181 x 34.2 mm |
| **Weight[2]** | 2.07~2.2 lbs<br>0.94~1.0 kg |
| **Volume** | 64.4 cu in<br>1.09 L |

**Packaging dimensions and weight**

| | |
|---|---|
| **Dimensions** | **Config-1:** 19.57 x 5.04 x 8.78 in<br>497 x 128 x 223 mm<br>**Config-2:** 19.61 x 9.25 x 5.20 in<br>498 x 235 x 132 mm |
| **Weight** | 7.36 lbs<br>3.34 kg<br>**MPP/EPE:** 6.4 lbs<br>2.9 kg |

**Palletization and Container**

| | |
|---|---|
| **Pallet Profile** | **Config-1:**<br>1 unit/carton<br>18 cartons/layer<br>5~6 layers per pallet max depending on details of air freight<br>90~108 units per pallet depending on details of air freight<br><br>**Config-2:**<br>1 unit/carton<br>10 cartons/layer<br>10~19 layers per pallet max depending on details of ground/sea freight<br>100~190 units per pallet depending on details of ground/sea freight |
| **Pallet Size Loaded** | 45.354 x 39.13 x 57.80 in<br>1152 x 994 x 1468 mm<br>**MPP/EPE:** 46.26 x 39.21 x 103.74 in<br>1175 x 996 x 2635 mm |

1. Packaging material used will vary by country.

*After-Market Options (availability may vary by region)*

## AFTER MARKET OPTIONS

| Graphics Solutions | Part Number |
|---|---|
| HP HDMI Standard Cable Kit | T6F94AA |
| HP DisplayPort™ To HDMI True 4k Adapter | 2JA63AA |
| HP DisplayPort™ Cable Kit | VN567AA |
| HP DisplayPort™ To VGA Adapter | F7W97AA |
| HP DisplayPort™ To DVI-D Adapter | F7W96AA |
| HP USB to Serial Adapter | J7B60AA |
| HP HDMI to VGA Adapter | H4F02AA |
| HP DisplayPort to HDMI 1.4 Adapter | F3W43UT |
| HP USB-C to DisplayPort Adapter G2 | 8Y8Y1AA |
| HP USB-C to HDMI 2.0 Adapter | 1WC36AA |
| HP USB-C to USB 3.0 Adapter | N2Z63AA |

| Desktop Mini Accessories | Part Number |
|---|---|
| HP Desktop Mini v4+ VESA Sleeve | 99T54AA |
| HP Desktop Mini v4+ VESA Sleeve with Power Supply Holder | 99T55AA |
| HP B300 PC Mounting Bracket with Power Supply Holder | 7DB37AA |
| HP Desktop Mini Vertical Chassis Stand | G1K23AA |
| HP Desktop Mini v4 Port Cover | B6BS6AA |
| HP Elite Mini EPS Holder | 657R3AA |

| Input Devices | Part Number |
|---|---|
| HP 128 Laser Wired Mouse | 265D9AA |
| HP 405 Multi-Device Wired Backlit Keyboard | 7N7C1AA |
| HP 475 Dual-Mode Wireless Keyboard | 7N7B9AA |
| HP 105 Sanitizable Mouse Pad | 8X595AA |
| HP 205 Sanitizable Desk Mat | 8X597AA |
| HP 515 Ultra-Fast Rechargeable Wireless Mouse | 9C2F7AA |
| HP 685 Comfort Dual-Mode Keyboard | 8T6L9AA |
| HP 685 Comfort Dual-Mode Mouse | 8T6M0UT |
| HP 685 Comfort Dual-Mode Keyboard and Mouse Combo | 8T6L7AA |
| HP 725 Multi-Device Rechargeable Keyboard | 9T5B2AA |
| HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo | 9T5B0UT |
| HP 175K Wired Keyboard | D54CRAA |
| HP 175M Wired Mouse | D54CFAA |
| HP 175C Wired Keyboard and Mouse Combo | D54DLAA |
| HP 275K Wireless Keyboard | D4YK9AA |
| HP 275M Wireless Mouse | D4YK4AA |
| HP 275C Wireless Keyboard and Mouse Combo | D4YK6AA |
| HP 375 Secure Smartcard keyboard | DC9D0AA |

*After-Market Options (availability may vary by region)*

| Multimedia Devices | Part Number |
|---|---|
| HP S101 Speaker bar | 5UU40AA |
| HP USB DVD-Writer EXT ODD | F2B56AA |

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

| Stands and Mounting Accessories | Part Number |
|---|---|
| HP B560 PC Mounting Bracket | 763U8AA |
| HP B200 PC Mounting Bracket | 762T5AA |
| HP B250 PC Mounting Bracket | 8RA46AA |
| HP B300 PC Mounting Bracket | 2DW53AA |
| HP Quick Release Bracket 2 | 6KD15AA |
| HP B550 PC Mounting Bracket | 16U00AA |
| HP Quick Release 2 | 6KD15AA |
| HP Quick Release Single Arm | 762U0AA |
| HP Z Display B600 PC Mounting Bracket | 529H3AA |

| Stands and Mounting Accessories | Part Number |
|---|---|
| HP 65W 7.4 mm AC Power Adapter - New AMO | L2X04AA |
| HP 65W GaN Wall Charger - New AMO | C90CKUT |

| I/O Devices | Part Number |
|---|---|
| HP DisplayPort 2.1 Flex IO v3 | B6BS8AA |
| HP Dual Type-A 3.2 Gen 1 Flex IO v2 | 13L58AA |
| HP HDMI 2.1 Flex IO v3 | B6BS9AA |
| HP Serial Port v3 Flex IO | 5B895AA |
| HP USB-C G2 ALT 100W In Flex IO v3 | B6BT4AA |
| HP VGA Flex IO v3 | B6BT0AA |

**NOTE:** For more detail on HP I/O Devices please refer to the HP FLEX IO v3 Option Cards QuickSpecs: https://www8.hp.com/h20195/v2/GetDocument.aspx?docname=c06712909

*Change Log*

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| Date of change: | Version History: | | Description of change: |
|---|---|---|---|
| June 23, 2026 | From v1 to v2 | Correction | Longevity and Upgrading in Environmental section corrected |
| July 16, 2023 | From v2 to v3 | Update | Memory configurable options tables added. |
| | From v3 to v4 | | |
| | From v4 to v5 | | |
| | From v5 to v6 | | |
| | From v6 to v7 | | |