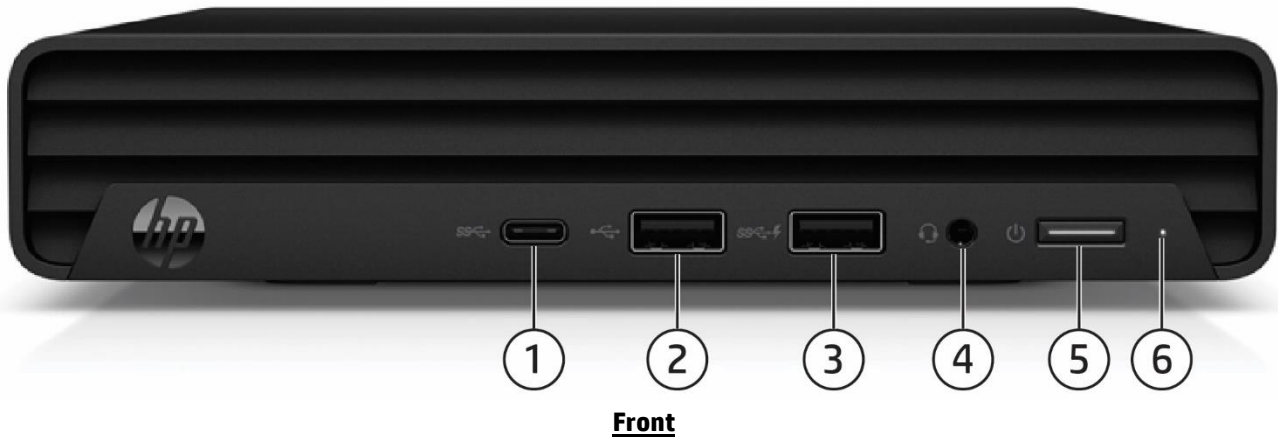


Overview

HP 260 G4 Desktop Mini PC



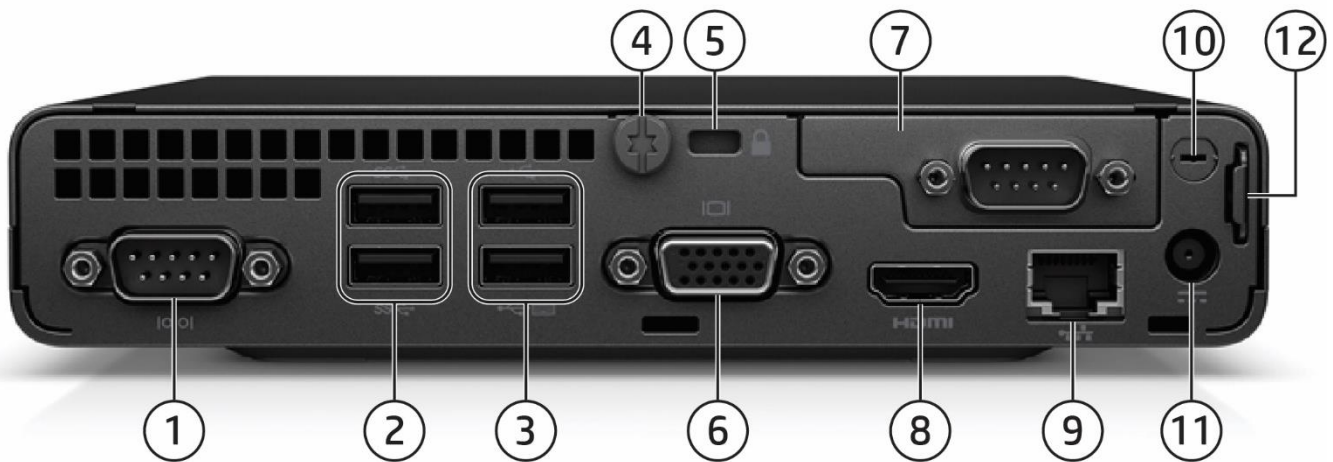
1. Type-C® SuperSpeed USB 10Gbps signaling rate port (charge support up to 5V/3A)
2. Type-A Hi-Speed USB 480Mbps signaling rate port
3. Type-A SuperSpeed USB 5Gbps signaling rate port (charge support up to 5V/1.5A)
4. Combo Audio Jack with CTIA and OMTP headset support
5. Dual-state power button
6. Hard drive 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)
- (1) 2.5" internal storage drive bay

Overview

HP 260 G4 Desktop Mini PC



Back

- | | |
|---|--|
| 1. Serial | 6. VGA |
| 2. (2) Type-A SuperSpeed USB 5Gbps signaling rate port | 7. Flex Port, choice of Serial ¹ |
| 3. (2) Type-A Hi-Speed USB 480Mbps signaling rate port (supporting wake from S4/S5 with keyboard/mouse connected and enabled in BIOS) | 8. HDMI 1.4 |
| 4. Cover release thumbscrew | 9. RJ45 network connector |
| 5. Standard cable lock slot (10 mm) | 10. External WLAN antenna opening ¹ |
| | 11. Power connector |
| | 12. Retractable Padlock loop |

1. Must be configured at time of purchase

At A Glance

- 10th Generation Intel® processors¹ (up to Core™ i5), featuring integrated Intel® UHD Graphics
- Choice of Windows 10 Professional, Windows 10 Home, and FreeDOS
- Up to 32GB of DDR4 Synchronous Dynamic Random Access Memory (SDRAM)
- Optional M.2 PCIe NVMe solid state drives (SSD) enabling faster system startup and application launches
- Support for up to two monitors via two standard HDMI 1.4 and VGA connectors
- Serial port support comes standard, with ability to configure one additional for a total of two, enabling support for legacy peripherals
- Integrated 10/100/1000 Ethernet Controller
- Optional Wi-Fi 5 (802.11ac) connectivity
- Trusted Platform Module (TPM) 2.0²
- VESA mounting incorporated into chassis design
- Dust filter available
- High efficiency energy saving power supply
- PC chassis and all internal components and modules are manufactured with low halogen content³
- Protected by HP Services, including limited warranties up to 3-3-3 (terms and conditions vary by country; certain restrictions and exclusions apply); Care Packs available with up to 3 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)

Overview

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. In some scenarios, machines pre-configured with Windows OS might ship with TPM turned off.
3. External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.

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

Standard Features and Configurable Modules

OPERATING SYSTEMS

Preinstalled

Windows 11 Pro¹
Windows 11 Pro Education¹
Windows 11 Home - HP recommends Windows 11 Pro for business¹
Windows 10 Pro^{1,2}
Windows 10 Pro Education^{1,2}
Windows 10 Home - HP recommends Windows 11 Pro for business^{1,2}
FreeDOS

Web-supported only

Windows 10 Pro (Windows 10 Enterprise available with a Volume Licensing Agreement)^{1,3}

1. Device comes with Windows 10 and a free Windows 11 upgrade or may be preloaded with Windows 11. Upgrade timing may vary by device. Features and app availability may vary by region. Certain features require specific hardware (see Windows 11 Specifications).

2. 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>.

3. This system is preinstalled with Windows 10 Pro software and also comes with a license for Windows 11 Pro software and provision for recovery software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

NOTE: HP tested Windows 10, version 1909 on this platform. For testing information on newer versions of Windows 10, please see <https://support.hp.com/document/c05195282>.

Standard Features and Configurable Modules

PROCESSORS

Intel® 10th Generation Core™ Processors

Intel® Core™ i5-10210U Processor¹

15W

1.6 GHz base frequency

Up to 4.2 GHz max. turbo frequency with Intel® Turbo Boost Technology²

6 MB cache, 4 cores, 8 threads

Intel® UHD Graphics

Supports DDR4 memory up to 2666 MT/s data rate

Intel® Core™ i3-10110U Processor¹

15W

2.1 GHz base frequency

Up to 4.1 GHz max. turbo frequency with Intel® Turbo Boost Technology²

4 MB cache, 2 cores, 4 threads

Intel® UHD Graphics

Supports DDR4 memory up to 2666 MT/s data rate

Intel® Pentium® Processors

Intel® Pentium® Gold 6405U Processor¹

15W

2.4 GHz base frequency

2 MB cache, 2 cores, 4 threads

Intel® UHD Graphics

Supports DDR4 memory up to 2400 MT/s data rate

Intel® Generation Celeron® Processors

Intel® Celeron® 5205U Processor¹

15W

1.9 GHz base frequency

2 MB cache, 2 cores, 2 threads

Intel® UHD Graphics

Supports DDR4 memory up to 2400 MT/s data rate

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 www.intel.com/technology/turboboost for more information.

Standard Features and Configurable Modules

GRAPHICS

Integrated

Intel® UHD Graphics

NOTE: Intel® integrated UHD Graphics varies by processor

STORAGE*

2.5 inch SATA Hard Disk Drives (HDD)

500GB 7200RPM 2.5in SATA HDD

1TB 7200RPM 2.5in SATA HDD

1TB 5400RPM 2.5in SATA HDD

2TB 5400RPM 2.5in SATA HDD

M.2 PCIe NVMe Solid State Drives (SSD)

256GB M.2 2280 PCIe NVMe SSD

512GB M.2 2280 PCIe NVMe SSD

128GB M.2 2280 PCIe NVMe Three Layer Cell SSD

256GB M.2 2280 PCIe NVMe Three Layer Cell SSD

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

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

256GB Intel® PCIe® NVMe™ QLC + 32 GB Intel® Optane™

512GB Intel® PCIe® NVMe™ QLC + 32 GB Intel® Optane™

***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 10) of system disk is reserved for the system recovery software.

Standard Features and Configurable Modules

MEMORY

Type

DDR4-2666 (Transfer rates up to 2666 MT/s)

Maximum

32 GB capacity

Memory Configurations

2 SODIMMs

4 GB (4 GB x 1)

8 GB (4 GB x 2)

8 GB (8 GB x 1)

16 GB (8 GB x 2)

16 GB (16 GB x 1)

32 GB (16 GB x 2)

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 2666 MT/s; actual data rate is determined by the system's configured processor. See processor specifications for supported memory data rate.

NOTE: All memory slots are customer accessible / upgradeable.

NETWORKING/COMMUNICATIONS

Networking

Realtek RTL8111HSH-CG Gigabit Network Connection

Wireless¹

Realtek RTL8822CE Wi-Fi 5 (802.11ac) 2x2 with Bluetooth® M.2 Combo Card

Realtek RTL8821CE Wi-Fi 5 (802.11ac) 1x1 with Bluetooth® M.2 Combo Card

1. Wireless access point and Internet service required and not included. Availability of public wireless access points limited.

KEYBOARDS/POINTING DEVICES

Keyboard

HP Wired Desktop 320K Keyboard

HP USB Business Slim Standalone Wired Keyboard

HP Universal USB Wired Keyboard

Mouse

HP Wired Desktop 320M Mouse

HP USB Optical Wired Mouse

HP USB Hardened Optical Wired Mouse

NOTE: Availability may vary by country



Standard Features and Configurable Modules

SECURITY

TPM 2.0 (FW: 7.85) endpoint security controller (Infineon SLB9670) shipped with Windows 10. 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

SATA port disablement (via BIOS)

Serial, USB enable/disable (via BIOS)

Removable media write/boot control

Power-on password (via BIOS)

Setup password (via BIOS)

PORTS

Internal slots and Ports

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

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

(1) Integrated SATA storage connector

NOTE: For Desktop Mini with 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).

Bays

2.5" Internal Storage Drive

Standard User Accessible Ports

Front

- (1) Type-C® SuperSpeed USB 10Gbps signaling rate port
- (1) Type-A Hi-Speed USB 480Mbps signaling rate port
- (1) 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) VGA
- (1) HDMI 1.4
- (1) RJ45
- (1) Serial (RS-232)

Configurable Non-PCIe/PCI Slot User Accessible Ports

Rear Flexible Port, choice of Serial (RS-232)

Standard Features and Configurable Modules

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

Standard Features and Configurable Modules

SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

Software

- HP Desktop Support Utilities
- HP JumpStarts
- HP Support Assistant¹
- Buy Office (Sold separately)
- Xerox® DocuShare® (30 days free trial offer)⁵

Manageability Features

- HP Cloud Recovery²

Client Security Software

- Windows Defender³
- McAfee LiveSafe™ (1 year subscription)⁴

Security Management

- Serial, USB enable/disable (via BIOS)
- Power-on password (via BIOS)
- Setup password (via BIOS)

1. HP Support Assistant requires Windows and Internet access.
2. HP Cloud Recovery is available for select HP 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://support.hp.com/us-en/document/c05115630>.
3. Windows Defender Opt In, Windows 10, and internet connection required for updates.
4. 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.)
5. Simply sign up and start using Xerox® DocuShare® Go. No credit card. No obligation. Data will become unavailable unless a subscription is entered before the end of the 30 days free trial period. See visit <https://xerox.com/docusharego> for details.

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) ¹
	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)

Standard Features and Configurable Modules

1. 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.

Standard Features and Configurable Modules

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:

- IT ECO declaration
- US ENERGY STAR®
- EPEAT® Gold registered in the United States. See <http://www.epeat.net> for registration status in your country.
- TCO Certified 8.0

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)	4.85 W	4.96 W	4.8 W
Normal Operation (Long idle)	4.62 W	4.72 W	4.57 W
Sleep	0.44 W	0.49 W	0.43 W
Off	0.41 W	0.41 W	0.4 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.

	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Heat Dissipation*			
Normal Operation (Short idle)	16.59 BTU/hr	16.96 BTU/hr	16.42 BTU/hr
Normal Operation (Long idle)	15.8 BTU/hr	16.14 BTU/hr	15.63 BTU/hr
Sleep	1.5 BTU/hr	1.68 BTU/hr	1.47 BTU/hr
Off	1.4 BTU/hr	1.4 BTU/hr	1.37 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	2.7	17
Fixed Disk – Random writes	2.9	17

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:

- 2 SODIMM memory slots
- Interchangeable M.2 PCIe NVME SSD & 2.5” SATA HDD

Spare parts are available throughout the warranty period and or for up to 5 years after the end of production.

Batteries This battery(s) in this product comply with EU Directive 2006/66/EC

Standard Features and Configurable Modules

Batteries used in the product do not contain:
Mercury greater than 1ppm by weight
Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)
Battery type: Lithium

Additional Information

- 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).
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 0% post-consumer recycled plastic (by wt.)
- 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>):

- 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
- 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)

Standard Features and Configurable Modules

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: <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.

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.

For more information about HP's commitment to the environment:

HP Inc. Corporate Environmental Information

Global Citizenship Report

<http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html>

Eco-label certifications

<http://www8.hp.com/us/en/hp-information/environment/ecolabels.html>

ISO 14001 certificates:

http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf

and

<http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

SERVICE AND SUPPORT

On-site Warranty¹: Three-year (3-3-3) or one-year (1-1-1) limited warranty delivers three years or one year of on-site, next business day² service for parts and labor and includes free support 24 x 7³. 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 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.

Technical Specifications – Graphics

GRAPHICS

Intel® UHD Graphics (integrated)¹

Graphics Controller	Integrated
HDMI	Supports HDMI 1.4 features Supports HDCP 2.2 Supports audio over HDMI
VGA	VGA output
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.
Maximum Color Depth	up to 10 bits/color HEVC 10b Enc/Dec HW VP9 10b Dec HW
Graphics/Video API Support	HDR Rec. 2020 DX12
Max. Resolution (VGA)	2048 x 1536@60Hz
Max. Resolution (HDMI)	4096 x 2160@60Hz

1. All performance specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

Technical Specifications – Storage

STORAGE

500GB 7200RPM 2.5in SATA HDD

Capacity	500GB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	Up to 128MB
Logical Blocks	976,773,168
Seek Time	12 ms (Average)
Height	0.283in/7.2mm (Max)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

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 10) of system disk is reserved for the system recovery software.

1TB 7200RPM 2.5in SATA HDD

Capacity	1TB
Rotational Speed	7,200 rpm
Interface	SATA 6 Gb/s
Buffer Size	Up to 128MB
Logical Blocks	1,953,525,168
Seek Time	12 ms (Average)
Height	0.283in/7.2 mm (Max)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

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 10) of system disk is reserved for the system recovery software.

1TB 5400RPM 2.5in SATA HDD

Capacity	1TB
Rotational Speed	5,400 rpm
Interface	SATA 6 Gb/s
Buffer Size	Up to 128MB
Logical Blocks	1,953,525,168
Seek Time	12ms (Average)
Height	0.283in/7.2mm (Max.)
Width	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

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 10) of system disk is reserved for the system recovery software.

Technical Specifications – Storage

2TB 5400RPM 2.5in SATA HDD

Capacity	2TB
Rotational Speed	5,400 rpm
Interface	SATA 6 Gb/s
Buffer Size	128MB
Logical Blocks	3,907,050,336
Seek Time	12 ms (Average)
Height	0.374in/9.5mm (Max.)
Width (nominal)	2.75in/70mm (nominal)
Operating Temperature	41° to 131° F (5° to 55° C)

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 10) of system disk is reserved for the system recovery software.

256GB M.2 2280 PCIe NVMe SSD

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 1600MB/s
Maximum Sequential Write	Up to 780MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

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 10) of system disk is reserved for the system recovery software.

512GB M.2 2280 PCIe NVMe SSD

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 1600MB/s
Maximum Sequential Write	Up to 860MB/s
Logical Blocks	1,000,215,216
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

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 10) of system disk is reserved for the system recovery software.

Technical Specifications – Storage

128GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	128GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2800MB/s
Maximum Sequential Write	Up to 600MB/s
Logical Blocks	250,069,680
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

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 10) of system disk is reserved for the system recovery software.

256GB M.2 2280 PCIe NVMe Three Layer Cell SSD

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2700MB/s
Maximum Sequential Write	Up to 1000MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

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 10) of system disk is reserved for the system recovery software.

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

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2900MB/s
Maximum Sequential Write	Up to 1100MB/s
Logical Blocks	1,000,215,216
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	APST; ASPM L1.2; NVME spec 1.2

Technical Specifications – Storage

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 10) of system disk is reserved for the system recovery software.

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

Drive Weight	< 10g
Capacity	1TB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 3480MB/s
Maximum Sequential Write	Up to 3037MB/s
Logical Blocks	2,000,409,264
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	TRIM; ASPM 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 10) of system disk is reserved for the system recovery software.

256GB Intel® PCIe® NVMe™ QLC + 32 GB Intel® Optane™

Drive Weight	< 10g
Capacity	256GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 1450MB/s
Maximum Sequential Write	Up to 500MB/s
Logical Blocks	500,118,192
Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
Features	TRIM; ASPM 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 10) of system disk is reserved for the system recovery software.

512GB Intel® PCIe® NVMe™ QLC + 32 GB Intel® Optane™

Drive Weight	< 10g
Capacity	512GB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIe Gen3
Maximum Sequential Read	Up to 2400MB/s
Maximum Sequential Write	Up to 1300MB/s
Logical Blocks	1,000,215,215

Technical Specifications – Storage

Operating Temperature 0° to 70°C (32° to 158°F) [ambient temp]

Features TRIM; ASPM 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 10) of system disk is reserved for the system recovery software.

Technical Specifications – Networking

NETWORKING AND COMMUNICATIONS

Realtek RTK8111HSH 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

Realtek RTL8821CE 802.11ac 1x1 Wi-Fi® and Bluetooth® 4.2 Combo	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac 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™
Frequency Band	802.11b/g/n



Technical Specifications – Networking

	<ul style="list-style-type: none"> 2.402 – 2.482 GHz <p>802.11a/n/ac</p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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: MCS 0 ~ MCS 15, (20MHz, and 40MHz) 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	<p>Direct Sequence Spread Spectrum</p> <p>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p>
Security	<ul style="list-style-type: none"> IEEE and Wi-Fi® compliant 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 IEEE 802.11i WAPI
Network Architecture Models	<p>Ad-hoc (Peer to Peer)</p> <p>Infrastructure (Access Point Required)</p>
Roaming	IEEE 802.11 compliant roaming between access points
Output Power	<ul style="list-style-type: none"> 802.11b : +14dBm minimum 802.11g : +12dBm minimum 802.11a : +12dBm minimum 802.11n HT20(2.4GHz) : +12dBm minimum 802.11n HT40(2.4GHz) : +12dBm minimum 802.11n HT20(5GHz) : +10dBm minimum 802.11n HT40(5GHz) : +10dBm minimum 802.11ac VHT80(5GHz) : +10dBm minimum
Power Consumption	<ul style="list-style-type: none"> Transmit mode 2.0 W Receive mode 1.6 W Idle mode (PSP) 180 mW (WLAN Associated) Idle mode 50 mW (WLAN unassociated) Connected Standby 10mW Radio disabled 8 mW
Power Management	<p>ACPI and PCI Express compliant power management</p> <p>802.11 compliant power saving mode</p>
Receiver Sensitivity	<ul style="list-style-type: none"> 802.11b, 1Mbps : -93.5dBm maximum 802.11b, 11Mbps : -84dBm maximum

Technical Specifications – Networking

	<ul style="list-style-type: none"> • 802.11 a/g, 6Mbps : -86dBm maximum • 802.11 a/g, 54Mbps : -72dBm maximum • 802.11 n, MCS07 : -67dBm maximum • 802.11 n, MCS15 : -64dBm maximum • 802.11 ac, MCS0 : -84dBm maximum • 802.11 ac, MCS9 : -59dBm maximum
Antenna type	High efficiency antenna. One embedded dual band 2.4/5 GHz antenna is provided to the card to support WLAN 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) Non-operating: -40° to 176° F (-40° to 80° C)
Humidity	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology	
Bluetooth Specification	4.0/4.1/4.2 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 + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Electrical Interface	USB 2.0 compliant
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	ETS 300 328, ETS 300 826 Low Voltage Directive IEC60950-1/IEC62368-1 UL, CSA, and CE Mark
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode



Technical Specifications – Networking

	<p>LE Link Layer</p> <p>LE Low Duty Cycle Directed Advertising</p> <p>LE L2CAP Connection Oriented Channels</p> <p>Train Nudging & Interlaced Scan</p> <p>BT4.2 ESR08 Compliance</p> <p>LE Secure Connection- Basic/Full</p> <p>LE Privacy 1.2 –Link Layer Privacy</p> <p>LE Privacy 1.2 –Extended Scanner Filter Policies</p> <p>LE Data Packet Length Extension</p> <p>FAX Profile (FAX)</p> <p>Basic Imaging Profile (BIP)2</p> <p>Headset Profile (HSP)</p> <p>Hands Free Profile (HFP)</p> <p>Advanced Audio Distribution Profile (A2DP)</p>
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Realtek RTL8822CE 802.11ac 2x2 Wi-Fi + BT5		
Wireless LAN Standards	<p>IEEE 802.11a</p> <p>IEEE 802.11b</p> <p>IEEE 802.11g</p> <p>IEEE 802.11n</p> <p>IEEE 802.11ac</p> <p>IEEE 802.11d</p> <p>IEEE 802.11e</p> <p>IEEE 802.11h</p> <p>IEEE 802.11i</p> <p>IEEE 802.11k</p> <p>IEEE 802.11r</p> <p>IEEE 802.11v</p>	
Interoperability	Wi-Fi® CERTIFIED™	
Frequency Band	802.11b/g/n	<ul style="list-style-type: none"> • 2.402 – 2.482 GHz
	802.11a/n/ac	<ul style="list-style-type: none"> • 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 4.9 – 4.95 GHz (Japan)
Data Rates	<ul style="list-style-type: none"> • 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: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz & 80MHz) 	
Modulation	<p>Direct Sequence Spread Spectrum</p> <p>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p>	
Security	<ul style="list-style-type: none"> • IEEE and Wi-Fi® compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware 	

Technical Specifications – Networking

	<ul style="list-style-type: none"> • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 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	<ul style="list-style-type: none"> • 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 • 802.11ac VHT160(5GHz) : +11.5dBm minimum
Power Consumption	<ul style="list-style-type: none"> • Transmit mode :2.0 W • Receive mode :1.6 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	<ul style="list-style-type: none"> • 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
Antenna type	High efficiency antenna with spatial diversity, mounted in the front 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 with CNVi Interface
Dimensions	1. Type 2230 : 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm
Weight	1. Type 2230 : 2.8g 2. Type 126: 1.3g
Operating Voltage	3.3v +/- 9%

Technical Specifications – Networking

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)
HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0 Wireless Technology		
Bluetooth Specification	4.0/4.1/4.2 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 + 4 dBm for BR and EDR.	
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW	
Electrical Interface	USB 2.0 compliant	
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	ETS 300 328, ETS 300 826 Low Voltage Directive IEC60950-1/IEC62368-1 UL, CSA, and CE Mark	
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 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	

Technical Specifications – Networking

	FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)Advanced Audio Distribution Profile (A2DP)
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Technical Specifications – I/O Devices

INPUT/OUTPUT DEVICES

HP Business Slim Standalone Wired Keyboard		
Physical Characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
	Dimensions (L x W x H)	171.97 x 68.35 x 8.27 in (436.8± 1.5 x 137.6± 1.0 x 21.0± 1.0 cm)
	Weight	1.32 lb (0.6± 0.08 kg)
Electrical	Operating voltage	4.4-5.25VDC
	Power consumption	50-mA maximum (with 5 VDC power supplied and three LEDs ON)
	System interface	USB or PS/2
	ESD	Contact Discharge: 2, 4,6,8KV Air Discharge: 2, 4, 8,10,12.5KV
	EMI - RFI	Conforms to FCC rules for a Class B computing device
Mechanical	Keycaps	Low-profile design
	Switch actuation	60±12.5g 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	Minus 30 degrees to 60 degrees Celsius
	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, RCM, KCC	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

HP Universal USB Wired Keyboard		
Physical Characteristics	Keys	104, 105 layout (depending upon country)

Technical Specifications – I/O Devices

	Dimensions (L x W x H)	18.15 x 6.02 x 1.08 in (461 x 153 x 27.4 mm)
	Weight	1.32 lb (600g) min
Electrical	Operating voltage	5 VDC, +/-5%
	Power consumption	50mA Max (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	Mid-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)
	Microsoft PC 99 - 2001	Mid-profile design
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, RCM, KCC, EAC	
Ergonomic compliance	TUVGS	

HP USB Universal Wired Mouse		
Dimensions (H x L x W)	4.53 x 2.50 x 1.40 in (115 x 63.46 x 35.48 mm)	
Weight	0.18lb (80g)	
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	40 g, six surfaces

Technical Specifications – I/O Devices

	Non-operating shock	80 g, six surfaces
	Operating vibration	2-g peak acceleration
	Non-operating vibration	4-g peak acceleration
Electrical	Operating voltage	5 VDC, +/-5%
	Power consumption (typical)	50mA Max
	Resolution	1,000 DPI
	Sensor	Pixart PAN3606DL
	Tracking speed	30 inch/sec (max)
	Tracking acceleration	9G(max), 1G=9.8m/s ²
Mechanical	Connector	USB 2.0
	Cable length	6 ft (1.8 m)
	Color	Jack Black
Regulatory approvals	Compliant	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC

HP Optical Mouse

Dimensions (H x L x W)	4.53 x 2.48 x 1.46 in (115.2x 63 x37 mm)	
Weight	0.22lb (101.6g)	
Environmental	Operating temperature	41° to 122° F (5° to 50° C)
	Non-operating temperature	(-4° to 140° F)(-20° to 60° C)
	Operating humidity	10% to 85% (non-condensing at ambient)
	Non-operating humidity	5% to 95% (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
Electrical	Tracking speed	30 inch/sec (max)
	Tracking acceleration	8G(max), 1G=9.8m/s ²
	System interface	USB or PS/2
Mechanical	Switch actuation	60±15g nominal peak force with tactile feedback
	Switch life	3 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)
	Color	Jack Black
Regulatory approvals	Compliant	UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC

Technical Specifications – Audio

AUDIO/MULTIMEDIA

Type	Integrated
HD Stereo Codec	Realtek ALC3205
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

Technical Specifications – Power

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 Average efficiency 88% at 115V 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. 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	6.0 ft. (1.83 m)
Dimensions	90 x 51 x 28.5mm & 102 x 55 x 30mm

Technical Specifications – Weights and Dimensions

WEIGHT AND DIMENSIONS¹

System

Dimensions	6.97 x 6.89 x 1.35 in 177 x 175 x 34.2 mm
Weight ²	2.74 lbs 1.25 kg
Volume	64 cu in 1.05 L

Packaging dimensions and weight

Dimensions	19.57 x 5.04 x 8.78 in 497 x 128 x 223 mm MPP/EPE: 19.61 x 9.25 x 5.20 in 498 x 235 x 132 mm
Weight	7.36 lbs 3.34 kg MPP/EPE: 7.50 lbs 3.40 kg

Palletization and Container

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

1. Packaging material used will vary by country

2. Configured with 1 SATA Drive

After-Market Options (availability may vary by region)

Type	Description	Part Number	
Graphics Solutions	HP HDMI Standard Cable Kit	T6F94AA	
	HP HDMI to VGA Adapter	H4F02AA	
Desktop Mini Accessories	HP Desktop Mini 2.5" SATA Drive Bay kit v2	13L70AA	
	HP Desktop Mini LockBox V2	3EJ57AA	
	HP Desktop Mini DVD-Writer ODD Expansion Module	K9Q83AA	
	HP Desktop Mini I/O Expansion Module	K9Q84AA	
	HP Desktop Mini Security/Dual VESA Sleeve v3	13L67AA	
	HP Desktop Mini Security/Dual VESA Sleeve v3 With Power Supply Holder	13L68AA	
	HP B300 PC Mounting Bracket with Power Supply Holder	7DB37AA	
	HP Desktop Mini Vertical Chassis Stand	G1K23AA	
	HP DM Power Supply Holder Kit v2	7DB38AA	
	Data Storage Drives	HP PCIe NVME TLC 256GB SSD M.2 Drive	1CA51AA
		HP PCIe NVME TLC 512GB SSD M.2 Drive	X8U75AA
Input Devices	HP Wired Desktop 320K Keyboard	9SR37AA	
	HP USB Business Slim Keyboard	N3R87AA	
	HP USB Business Slim SmartCard CCID Keyboard	Z9H48AA	
	HP Wired Desktop 320MK Mouse and Keyboard	9SR36AA	
	HP USB Business Slim Keyboard and Mouse and Mousepad	T4E63AA	
	HP Wired Desktop 320M Mouse	9VA80AA	
	HP USB Optical Mouse	QY777AA	
Intel® Optane™ Memory	Intel® Optane™ Memory 16GB (Cache)	1WV97AA	
	512GB Intel® Optane™ Memory H10 with SSD	6VF55AA	
System Memory	HP 4GB DDR4-2666 SODIMM	3TK86AA	
	HP 8GB DDR4-2666 SODIMM	3TK88AA	
	HP 16GB DDR4-2666 SODIMM	3TK84AA	
Multimedia Devices	HP Business Headset v2	T4E61AA	
	HP S101 Speaker Bar	5UU40AA	
Security Devices	HP Dual Head Keyed Cable Lock	T1A64AA	
	HP Keyed Cable Lock 10mm	T1A62AA	
	HP Master Keyed Cable Lock 10mm	T1A63AA	

After-Market Options (availability may vary by region)

Stands and Mounting Accessories	HP B250 PC Mounting Bracket	8RA46AA
	HP B300 PC Mounting Bracket	2DW53AA
	HP B500 PC Mounting Bracket	2DW52AA
	HP Quick Release Bracket 2	6KD15AA

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Change Log

Date of change:	Version History:		Description of change:
September 14, 2020	From v1 to v2	Update	Environmental specs added
September 25, 2020	From v2 to v3	Addition	Xerox® DocuShare® and footnote to software section.
March 2, 2021	From v3 to v4	Update	Xerox specs and disclaimer updated in Software section
August 19, 2021	From v4 to v5	Update	Environmental, Weights and dimensions and Storage updated / 1 TB 5400RPM 2.5in SATA HDD. added
December 15, 2021	From v5 to v6	Update	Windows 11 added
	From v6 to v7		