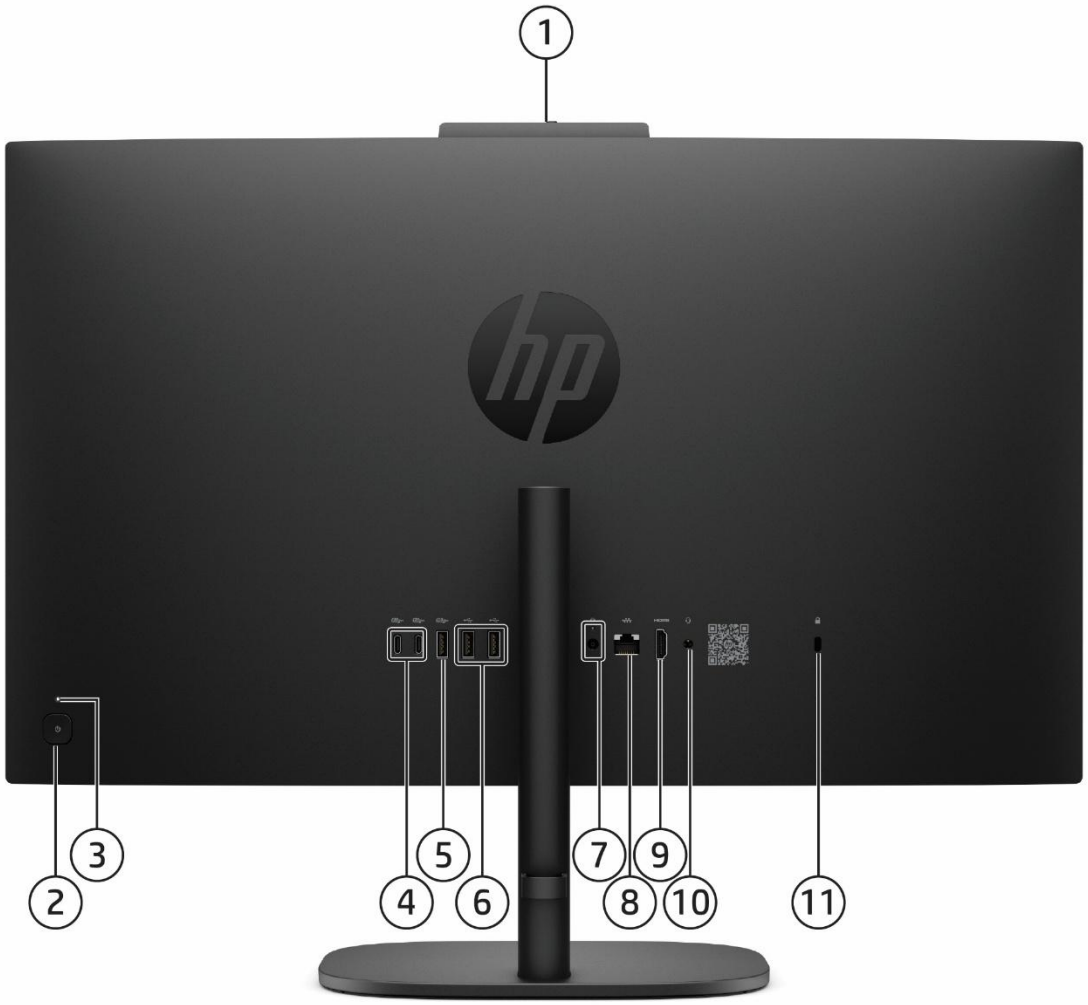
HP ProStudio 2 All-in-One G2a 24 Desktop PC



Front

1. 5MP IR webcam and microphone include webcam slider
2. Dual 3W Speakers (downfiring)

HP ProStudio 2 All-in-One G2a 24 Desktop PC



Rear (Advanced models**)**

1. 5MP IR webcam and microphone
2. Power button
3. Power signaling light
4. (2) Type C: USB 3.2 Gen2 SuperSpeed 10Gbps w/ DisplayPort™ Alt Mode
5. (1) Type A USB 3.2 Gen2 SuperSpeed 10Gbps
6. (2) Type A USB 2.0
7. Power Connection
8. RJ-45 Network Adapter
9. HDMI 2.0b Output
10. Microphone/Headphone Combo Jack
11. Kensington Lock

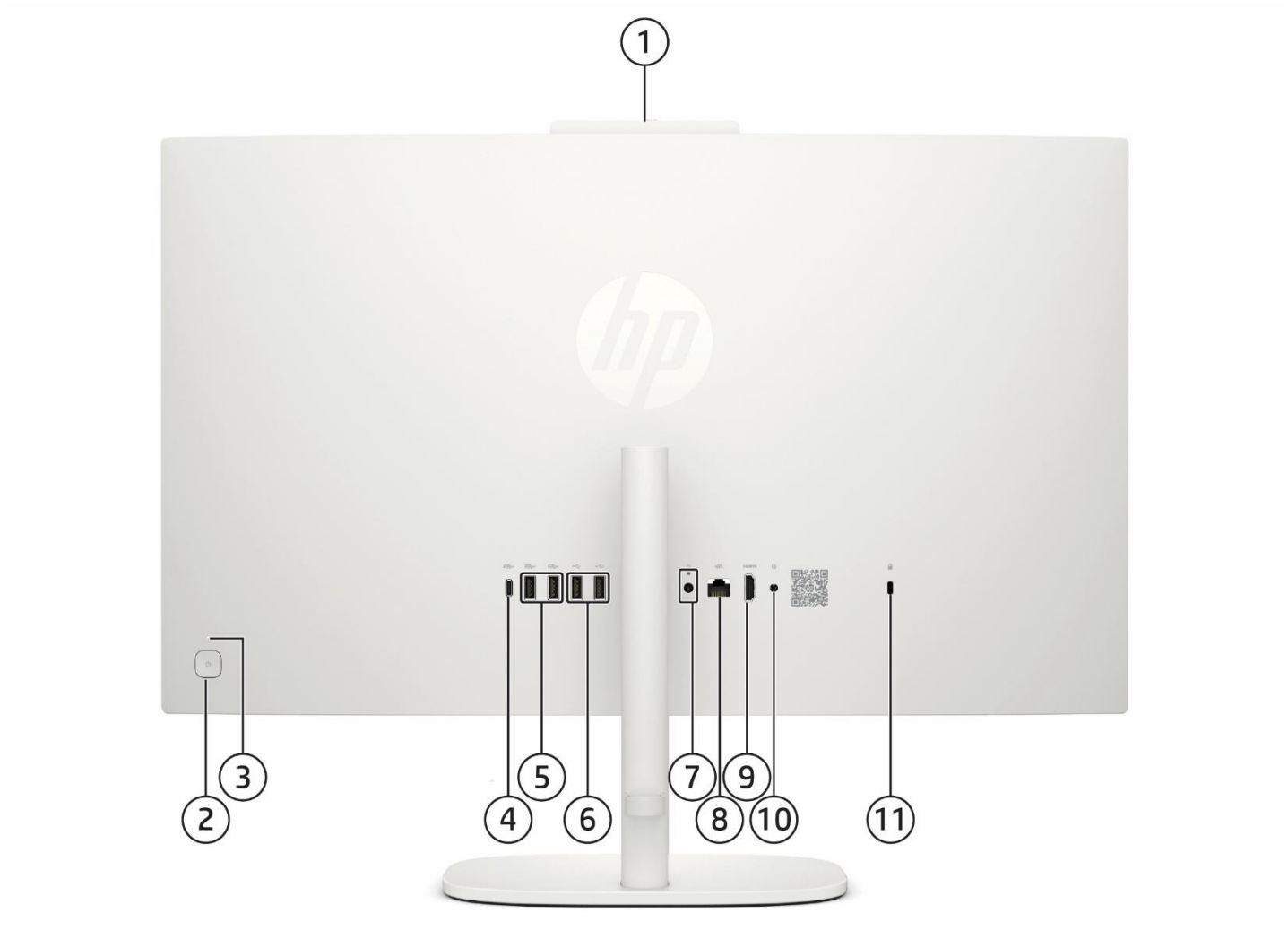
HP ProStudio 2 All-in-One G2a 24 AI Desktop PC



Front
ID color: Cashmere White for EMEA only

1. 5MP IR webcam and microphone (optional) or FHD webcam and microphone (optional) both include webcam slider
2. 2W dual Speakers

HP ProStudio 2 All-in-One G2a 24 Desktop PC



Rear
(Base models)
ID color: Cashmere White for EMEA only

1. 5MP IR webcam and microphone (optional) or FHD webcam and microphone (optional)
2. Power button
3. Power indicating light
4. (1) Type C USB 3.2 Gen2 SuperSpeed 10Gbps w/ DisplayPort™ Alt Mode
5. (2) Type A USB 3.2 Gen2 SuperSpeed 10Gbps
6. (2) Type A USB 2.0
7. Power Connection
8. RJ-45 Network Adapter
9. HDMI 2.0b Output
10. Microphone/Headphone Combo Jack

11 Kensington Lock

PRODUCT NAME

HP ProStudio 2 All-in-One G2a 24 Desktop PC

OPERATING SYSTEMS

Preinstalled	Windows 11 Pro[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] FreeDOS
Pre-installed (other)	FreeDOS

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*

AMD Ryzen™ AI 7 445[1] (Advanced model)
Up to 4.6 GHz max boost clock
8 MB L3 cache, 6 cores
Integrated Radeon™ Graphics with AMD Ryzen™ AI (50 NPU TOPS)
Supports DDR5 memory up to 5600 MHz MHz data rate[2]

AMD Ryzen™ 5 220[1] (Advanced model)
3.2 GHz base clock, up to 4.9 GHz max boost clock
16 MB L3 cache, 6 cores
AMD Radeon™ 740M
Supports DDR5 memory up to 5600 MHz data rate[2]

AMD Ryzen™ 5 216[1] (Advanced model)
2.9 GHz base clock, up to 4.7 GHz max boost clock
16 MB L3 cache, 6 cores
AMD Radeon™ 740M
Supports DDR5 memory up to 5600 MHz data rate[2]

AMD Ryzen™ 5 40[1] (Based model)
2.8 GHz base clock, up to 4.3 GHz max boost clock
4 MB L3 cache, 4 cores
AMD Radeon™ 610M
Supports LPDDR5 memory up to 5500 MHz data rate[2]

AMD Ryzen™ 3 30[1] (Based model)
2.4 GHz base clock, up to 4.1 GHz max boost clock
4 MB L3 cache, 4 cores
AMD Radeon™ 610M
Supports LPDDR5 memory up to 5500 MHz data rate[2]

AMD Athlon™ Silver 10[1] (Based model)
2.4 GHz base clock, up to 3.5 GHz max boost clock
4 MB L3 cache, 2 cores
Integrated Radeon™ 610M
Supports LPDDR5 memory up to 5500 MT/s data rate[2]

Features

1. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.
2. Actual data rate is determined by both the system's configured processor and memory module installed.
NOTE: In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com.

Features

GRAPHICS

AMD Radeon™ Graphics
AMD Radeon™ 740M
AMD Radeon™ 610M

NOTE: AMD integrated Radeon™ Vega Graphics varies by processor

DISPLAY

Non-Touch
23.8 inch FHD (1920x1080) Anti-Glare LCD 350nits LowBlueLight IPS 100Hz – Advanced models
23.8 inch FHD (1920x1080) Anti-Glare LCD 250nits LowBlueLight IPS 60Hz – Base models

STORAGE AND DRIVES*

NOTE: Starting from November 1st, 2023, all shipments will require Windows to be installed when selecting a SSD.

M.2 PCIe NMVe Solid State Drives (SSD)
256GB 2280 PCIe NVMe Solid State Drive
512GB 2280 PCIe NVMe Solid State Drive
1TB 2280 PCIe NVMe Solid State Drive
2TB 2280 PCIe NVMe Solid State Drive

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

Features

MEMORY

Maximum
DDR5 SODIMM up to 5600MT/s

Memory Slots (No additional memory slot for LPDDR5 memory)
SODIMM up to 2 slots

Available Configurations
8GB (8GB x1)
12GB (12GB x1)
16GB (8GB x2)
16GB (16GB x1)
24GB (24GB x1)
32GB (16GB x2)
32GB (32GB x1)

1. Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.
NOTE: Actual data rate is determined by both the system's configured processor and memory module installed.

NETWORKING/COMMUNICATIONS

Wireless LAN
Realtek® 8852BE-VT Wi-Fi 6[1] +Bluetooth® 5.4 WW WLAN[2]
Mediatek MT7920 Wi-Fi 6 +Bluetooth 5.4 WW WLAN
Realtek 8922AE-VS Wi-Fi 7 +Bluetooth 6.0 WW WLAN

Ethernet (RJ-45) Integrated
Realtek® RTL8111HSH-CG Gigabit Ethernet Controller

1. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11 ax) is backwards compatible with prior 802.11 specs.
2. Must be configured at time of purchase.
3. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with prior 802.11 specs.

AUDIO/MULTIMEDIA

High Definition Audio
Integrated Realtek ALC3274 Audio Codec
High performance integrated stereo speakers
3.5mm combo (microphone/headphone) jack

Webcams & Mic
Integrated 5MP webcam (Pixel size: 1.12µm x 1.12µm), Up to 30 frames/sec, dual array microphone included

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboards
HP 175 Wired Keyboard
HP 275 Wireless Keyboard

Mice
HP 175 Wired Mouse
HP 275 Wireless Mouse

NOTE: Availability may vary by country

Features

SOFTWARE AND SECURITY

HP Support
HP PC Hardware Diagnostics
HP Cloud Recovery
HP Support Assistant

Internet Security and Antivirus
McAfee LiveSafe (30-day subscription)[1]

Product Setup
myHP

Security Features
Trusted Platform Module (TPM) 2.0 (firmware)[2,3]

Productivity
Xerox® DocuShare® (90 days free trial offer)[4]
Microsoft 365 (sold separately and requires Internet access for activation)

BIOS
Administrator Password
Self recovery
Hard drive utilities
HP Secure erase feature
Secure Boot
UEFI Self Certification Level: 2.9

1. 30 days trial period. Internet access required to receive updates. First update included. Subscription required for updates thereafter
2. TPM feature will not be supported on machines pre-configured with FreeDOS and Linux
3. In selected countries, machines pre-configured with Windows OS will be shipped with TPM disabled.
4. 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 90 days free trial period. See visit https://xerox.com/docusharego for details.

Features

POWER

Power Supply

HP Smart 90W External AC power adapter

PORTS/SLOTS

Rear I/O Ports

Two (2) Type-C SuperSpeed USB 10Gbps signaling rate ports (Advanced models)
One (1) Type-C SuperSpeed USB 10Gbps signaling rate ports (Base models)
One (1) Type-A SuperSpeed USB 10 Gbps port (Advanced models)
Two (2) Type-A SuperSpeed USB 10Gbps signaling rate ports (Base models)
Two (2) Type-A Hi-Speed USB 480Mbps signaling rate ports
One (1) RJ-45 (network) jack
One (1) HDMI 2.0out connector
One (1) Microphone/Headphone Combo Jack
One (1) DC in power

Internal I/O Ports

One (1) M.2 PCIe x1 2230 (for WLAN)
One (1) M.2 PCIe x4 2280 (for storage)

WEIGHTS & DIMENSIONS

Weight

23.8 Non-Touch Product Weight (Unboxed)	5.28 kg, 11.64 lbs
23.8 Shipping Weight (Boxed)	8.80 kg, 19.40 lbs
23.8 Shipping Weight (Pallet)	225.2 kg, 496.5 lbs

Dimension

23.8 System Dimensions	
Height Adjustable Stand	54.03 x 18.49 x 47.57 cm, 21.27 x 7.27 x 18.73 in
Fixed Height Stand	54.03 x 18.49 x 43.67 cm, 21.27 x 7.27 x 16.87 in
23.8 Shipping Dimensions (Boxed)	64.1 x 27.7 x 52.5 cm, 25.2 x 10.9 x 20.6 in
23.8 Shipping Dimensions (Pallet)	1200 x 1000 x 2235 mm 47.24 x 39.37 x 88 in
23.8 Pallet Quantity (Sea/ Rail)	24
23.8 Pallet Quantity (Air)	12

UNIT ENVIRONMENT AND OPERATING CONDITIONS[9]

• 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.
• Low halogen (chassis, all internal components and modules)[1]

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

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

HP ProStudio 2 All-in-One G2a 24 Desktop PC (Base models**)**

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.
Sustainable Impact Specifications	• Product Carbon Footprint (hp.com) • At least 60% post-consumer recycled plastic[1] • At least 30% recycled metal[2] • External Power Supply 90% Efficiency • Low halogen[3] • 100% of HP paper-based packaging is from recycled or certified sustainable sources[4] • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable (MPP frame) • Recycled Plastic cushions
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”.

Features

Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	13.92 W	14.00 W	13.72 W
Normal Operation (Long idle)	1.92 W	2.04 W	1.66 W
Sleep	1.92 W	2.04 W	1.66 W
Off	0.17 W	2.04 W	0.17 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. Search keyword generator on HP's 3rd party option store for solar generator accessories at http://www.hp.com/go/options.

Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	48 BTU/hr	48 BTU/hr	47 BTU/hr
Normal Operation (Long idle)	7 BTU/hr	7 BTU/hr	6 BTU/hr
Sleep	7 BTU/hr	7 BTU/hr	6 BTU/hr
Off	1 BTU/hr	7 BTU/hr	1 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	2.4	14
Fixed Disk – Random writes	3.3	21

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:

Batteries

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

Batteries used in the product do not contain:
Mercury greater the1ppm by weight
Cadmium greater than 20ppm by weight

Battery size: 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).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see http://www.epeat.net
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product is 96.8% recycle-able when properly disposed of at end of life.

Features

Packaging Materials

External:	PAPER/Corrugated	1932 g
	PAPER/Molded Pulp	1840 g
Internal:	PLASTIC/EPE (Expanded Polyethylene)	11 g
	PLASTIC/Polyethylene low density	49 g

The plastic packaging material contains at least 30% recycled content.

The corrugated paper packaging materials contains at least 35% recycled content.

RoHS Compliance

HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam.

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

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

To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.

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)

Features

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.

HP, Inc. Corporate Environmental Information

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

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 certifications:
http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842
and
http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

Footnotes

1. Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT standard for computers, IEEE 1680.1-2018 standard.
2. Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams.
3. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.
4. HP paper and fiber-based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included. Plastic cushions are made from >90% recycled plastic.

Features

HP ProStudio 2 All-in-One G2a 24 AI Desktop PC (Advanced models**)**

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.

Sustainable Impact Specifications

- Product Carbon Footprint (hp.com)
- At least 60% post-consumer recycled plastic[1]
- At least 30% recycled metal[2]
- External Power Supply 90% Efficiency
- Low halogen[3]
- 100% of HP paper-based packaging is from recycled or certified sustainable sources[4]
- Outside Box and corrugated cushions are 100% sustainably sourced and recyclable
- Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable (MPP frame)
- Recycled Plastic cushions

System Configuration

The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a “Typically Configured Desktop”.

Energy Consumption (in accordance with US ENERGY STAR® test method)	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	13.92 W	14.00 W	13.72 W
Normal Operation (Long idle)	1.92 W	2.04 W	1.66 W
Sleep	1.92 W	2.04 W	1.66 W
Off	0.17 W	2.04 W	0.17 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. Search keyword generator on HP’s 3rd party option store for solar generator accessories at http://www.hp.com/go/options.

Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	48 BTU/hr	48 BTU/hr	47 BTU/hr
Normal Operation (Long idle)	7 BTU/hr	7 BTU/hr	6 BTU/hr
Sleep	7 BTU/hr	7 BTU/hr	6 BTU/hr
Off	1 BTU/hr	7 BTU/hr	1 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	2.4	14
Fixed Disk – Random writes	3.3	21

Features

Longevity and Upgrading

This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:

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

Batteries

This battery(s) in this product comply with EU Directive 2006/66/EC
Batteries used in the product do not contain:
Mercury greater the1ppm by weight
Cadmium greater than 20ppm by weight

Battery size: 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).
- This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see http://www.epeat.net
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product is 96.8% recycle-able when properly disposed of at end of life.

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)

Features

Packaging Materials	**External:**	PAPER/Corrugated	1932 g
		PAPER/Molded Pulp	1840 g
	Internal:	PLASTIC/EPE (Expanded Polyethylene)	11 g
		PLASTIC/Polyethylene low density	49 g

The plastic packaging material contains at least 30% recycled content.
The corrugated paper packaging materials contains at least 35% recycled content.

RoHS Compliance

HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam.
We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products.
We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve.
To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.

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.

HP, Inc. Corporate Environmental Information

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

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 certifications:
http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842
and
http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

Features

Footnotes

1. Recycled plastic is expressed as a percentage of the total weight plastic. Post-consumer recycled is based on the definition set in the EPEAT standard for computers, IEEE 1680.1-2018 standard.
2. Recycled metal is expressed as a percentage of the total weight of the metal according to ISO 14021 definitions for metal parts over 25 grams.
3. External power supplies, WWAN modules, power cords, cables and peripherals excluded. Service parts obtained after purchase may not be Low Halogen.
4. HP paper and fiber-based packaging for PCs, displays, home and office print, and supplies is reported by suppliers as recycled or certified, with a minimum of 97% by volume verified by HP. Packaging is the box that comes with the product and all paper-based materials inside the box. Packaging for personal systems accessories and spare parts is not included. Plastic cushions are made from >90% recycled plastic.

ALL-IN-ONE DISPLAY PANEL SPECIFICATIONS

23.8" diagonal FHD IPS anti-glare WLED-backlit (1920 x 1080)
Non-touch

Type	IPS WLED Backlit LCD
Active area (mm)	527.04 x 296.46
Native resolution (HxV)	1920 x 1080
Refresh rate	100Hz @ 1920 x 1080
Aspect ratio	16:9
Pixel pitch (HxV)(mm)	0.2745 x 0.2745
Contrast ratio (typical)	1000:1
Brightness (typical)	250nits
Viewing angle (typical) (HxV)	178 ° x 178 °
Backlight lamp life (to half brightness)	30,000 hours minimum
Color support	Up to 16.7 million colors with the use of FRC technology
Color gamut (typical)	NTSC 72%
Anti-glare	Yes
Response time (typical)	14ms
Default color temperature	Warm (6500K)

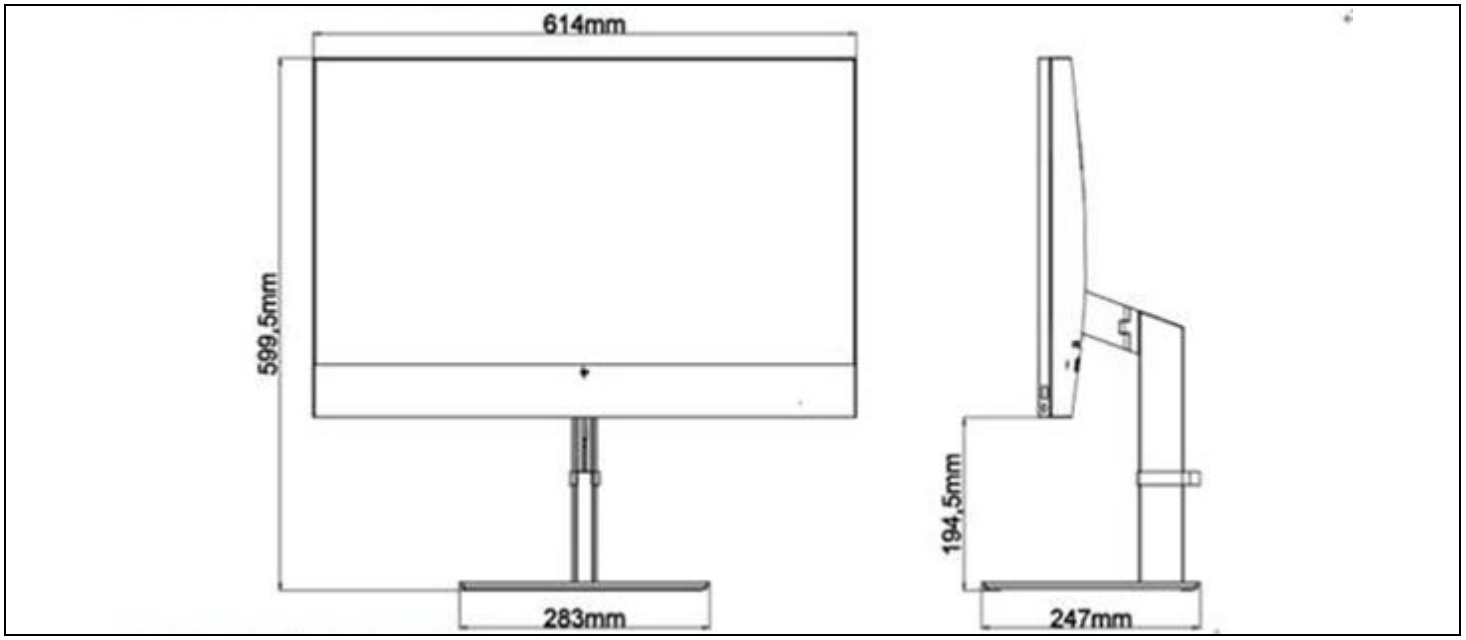
23.8" diagonal FHD VA anti-glare WLED-backlit (1920 x 1080)
Non-touch

Type	IPS WLED Backlit LCD
Active area (mm)	527.04 x 296.46
Native resolution (HxV)	1920 x 1080
Refresh rate	100Hz @ 1920 x 1080
Aspect ratio	16:9
Pixel pitch (HxV)(mm)	0.2745 x 0.2745
Contrast ratio (typical)	1000:1
Brightness (typical)	350nits
Viewing angle (typical) (HxV)	178 ° x 178 °
Backlight lamp life (to half brightness)	30,000 hours minimum
Color support	Up to 16.7 million colors with the use of FRC technology
Color gamut (typical)	NTSC 72%
Anti-glare	Yes
Response time (typical)	14ms
Default color temperature	Warm (6500K)

ALL-IN-ONE STAND SPECIFICATIONS

Standard stand:	**Tilt angle**	-5° to +20°
	Rotation (Swivel)	None

Adjustable Height Stand:	Height - Vertical/Landscape Adjustment	130mm (±2 mm)
	Portrait Adjustment	No portrait
	Tilt Angle	-5° to +18° (±2°) in landscape and portrait
	Rotation (Swivel)	86° (±4°) (45 left, 45 right)
	Pivot	No pivot



STORAGE AND DRIVES

NOTE: Starting from November 1st, 2023, all shipments will require Windows to be installed when selecting a SSD.

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB (for Windows) 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 Gen4
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 36GB (for Windows) 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 Gen4
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 36GB (for Windows) of system disk is reserved for the system recovery software.

1TB M.2 2280 PCIe NVMe SSD

Drive Weight	< 10g
Capacity	1TB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIE Gen4
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 36GB (for Windows) 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 Gen4
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

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB (for Windows) of system disk is reserved for the system recovery software.

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

Drive Weight	< 10g
Capacity	1 TB
Height	2.38mm
Length	80mm
Width	22mm
Interface	PCIE Gen4
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

NOTE: For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB (for Windows) of system disk is reserved for the system recovery software.

HIGH DEFINITION AUDIO

Type	Integrated
HD Audio Codec	Realtek ALC3274 Audio Codec
Audio I/O Ports	Rear 3.5mm combo (microphone/headphone) jack (32 Ohm) supporting CTIA and OMTP style headset Microphone (2K Ohm)
Analog Audio	Yes
Internal Speaker Amplifier	2W per channel stereo amplifier for the internal speakers only
Internal Speaker	Yes - Stereo Speaker
DAC Sampling Rates	44.1 kHz/48 kHz/96 kHz/192 kHz
ADC Sampling Rates	44.1 kHz/48 kHz/96 kHz/192 kHz

INPUT/OUTPUT DEVICES

HP 175 Wired Keyboard		
Physical Characteristics	Keys	110keys (US);111(UK);113(JP, BR)
	Dimensions (LxWxH)	428.83x117.37x19.1 (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
	EMI - RFI	6 ft (1.8 M)
Mechanical	Key Structure (Switch type and feeling) (Plunger)	Conforms to FCC rules for a Class B computing device
	Key actuation	Plunger, Key travel: 2.5mm +/-0.2mm at 120gf, low profile key travel
	Key life	60±8g nominal peak force with tactile feedback
Environmental	Operating temperature	10 million keystrokes (Life tester)
	Non-operating temperature	50° to 122° F (10° to 50° C)
	Operating humidity	-32° to 140° F (-40° to 60° C)
	Non-operating humidity	10% to 90% (non-condensing at ambient)
	Drop (out of box)	20% to 80% (non-condensing at ambient)
	Drop (in box)	6 faces, 76cm, rigid surface
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 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 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	Compliant	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

NETWORKING/COMMUNICATIONS

Realtek® RTL8111HSH-CG Gigabit Ethernet Controller	
Ethernet Features	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 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) Jumbo Frame 9K Auto MDI/MDIX Crossover cable detection
Power Management	ACPI compliant – multiple power modes Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
Performance Features	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling
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
Interface	PCI Express 1.1 x1 to fully support ASPM L0s/L1 and CLKREQ
NIC Device Driver Name	PCIe GBE Ethernet Family Controller

WLAN*

Realtek® 8852BE Wi-Fi 6[1] (802.11ax) 2x2 with Bluetooth® Wireless Card M.2	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi® certified
Frequency Band	802.11b/g/n/ax • 2.402 – 2.482 GHz 802.11a/n/ac/ax • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz

	• 5.47 – 5.725 GHz • 5.825 – 5.850 GHz
Data Rates	• 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: max 300Mbps • 802.11ac : max 866.7Mbps • 802.11ax : max 1201Mbps
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security[2]	• IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • WPA3 certification • IEEE 802.11i • WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[3]	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ax HE40(2.4GHz): +10dBm minimum • 802.11ax HE80(5GHz): +10dBm minimum
Power Consumption	• Transmit mode:2.5 W • Receive mode:2 W • Idle mode: (PSP) 180 mW (WLAN Associated) • Idle mode:50 mW (WLAN unassociated) • Connected Standby/Modern Standby: 10mW • Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	802.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum 802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum •802.11ax, MCS11(HE40): -57dBm maximum •802.11ax, MCS11(HE80): -54dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications

Technical Specifications - Networking

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 Non-operating	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON	

1. 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. Check latest software/driver release for updates on supported security features.
3. Maximum output power may vary by country according to local regulations.
4. 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).

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2 Wireless Card Technology	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2 Wireless Card Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps
	BLE: 1 Mbps data rate; throughput up to 0.2 Mbps
	Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels. Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249 ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 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 FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) BT5.1 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range

Realtek RT 8852BE-VS Wi-Fi 6[1] (802.11ax) 1x1 with Bluetooth® Wireless Card M.2	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
Interoperability	Wi-Fi® certified
Frequency Band	802.11b/g/n • 2.402 – 2.482 GHz 802.11a/n • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz
Data Rates	• 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security[2]	• IEEE 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 • Cisco Certified Extensions, all versions through CCX4 and CCX Lite • WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[3]	• 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	• Transmit mode2.0 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	ACPI and PCI Express compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity[4]	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. 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 Non-operating	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON	

1. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with prior 802.11 specs.
2. Check latest software/driver release for updates on supported security features.
3. Maximum output power may vary by country according to local regulations.
4. 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).

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)

Technical Specifications - Networking

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
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 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 FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

Realtek RTL8852BE-VT 802.11ax 2x2 Wi-Fi™ + Bluetooth® 5.4 Wireless Card (802.11ax 2x2, supporting gigabit data rate)[1]	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi certified modules

Technical Specifications - Networking

Frequency Band	802.11b/g/n/ax •2.402 – 2.482 GHz 802.11a/n/ac/ax •4.9 – 4.95 GHz (Japan) •5.15 – 5.25 GHz •5.25 – 5.35 GHz •5.47 – 5.725 GHz •5.825 – 5.850 GHz
Data Rates	•802.11b: 1, 2, 5.5, 11 Mbps •802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11n: max 300Mbps •802.11ac: max 866.7Mbps • 802.11ax: max 1201Mbps
Modulation	Direct Sequence Spread Spectrum, OFDM, 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 •AES-CCMP: 128 bit in hardware •802.1x authentication •WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. •WPA2 certification •WPA3 certification •IEEE 802.11i •WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[3]	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ax HE40(2.4GHz): +10dBm minimum • 802.11ax HE80(5GHz): +10dBm minimum
Power Consumption	•Transmit mode: 2.5 W •Receive mode: 2 W •Idle mode (PSP): 180 mW (WLAN Associated) •Idle mode: 50 mW (WLAN unassociated) •Connected Standby/Modern Standby: 10mW •Radio disabled: 8 mW
hahahPower Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode

Technical Specifications - Networking

Receiver Sensitivity[4]	802.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum 802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum •802.11ax, MCS11(HE40): -57dBm maximum •802.11ax, MCS11(HE80): -54dBm maximum
Antenna type	High efficiency antenna with spatial diversity. Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	1. Type 2230: 2.4 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) 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)
LED Activity	LED Amber – Radio OFF; LED OFF – Radio ON
HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 Wireless Card Technology	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3/5.4 wireless card compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps BLE: 1 Mbps data rate; throughput up to 0.2 Mbps Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C/E, Section 15.247, 15.249 ETSI 300 328, ETSI 301 893

Technical Specifications - Networking

Bluetooth® Profiles Supported	Bluetooth 4.1-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 Bluetooth 4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) Bluetooth 5.1 ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range

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. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
3. 1. Check latest software/driver release for updates on supported security features.
4. 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).

POWER

Efficiency	90W EPS, 88% average efficiency at 115V & 89% at 230Vac
Operating Voltage Range	90Vac~264Vac
Rated Voltage Range	100Vac~240Vac
Rated Line Frequency	50Hz~60Hz
Operating Line Frequency	47Hz~63Hz
Rated Input Current	≦1.6A
Rated Input Current with Energy Efficient* Power Supply	≦1.6A
DC Output	+19.5V
Current Leakage (NFPA 99: 2102)	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-Patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-Patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
Dimensions	102 x 55 x 30 mm

ADDITIONAL FEATURES

	Description
SMART Technology (Self-Monitoring, Analysis and Reporting Technology)	Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted

SUMMARY OF CHANGES

Date of change:	Version History:		Description of change:
January 28, 2026	V1 to V2	Update	Rear call image updated for AI version
February 2, 2026	V2 to V3	Correction	Call out images correction
February 9, 2026	V3 to V4	Update	FF rear call out image USB port changed to: (2) Type C: USB 3.2 Gen2 SuperSpeed 10Gbps w/ DisplayPort™ Alt Mode
March 10, 2026	V4 to V5	Update	Keyboards and pointing dev. section updated
April 9, 2026	V5 to V6	Update	All-in-One G2a 24 Desktop PC environmental table, Call outs, Storage and drives, Memory and Ports/slots sections updated.
May 26, 2026	V6 to V7	Removal	“and LPDDR5x memory up to 7500 MHz” from AMD Ryzen™ 5 220
May 27, 2026	V7 to V8	Update	BIOS and Environmental data updated
June 12, 2026	V8 to V9	Update	Eco-Label Certifications & declarations updated in Environmental section
July 29, 2026	V9 to V10	Update	Full/De-feature calling changed to Advanced/Base models
October 6, 2026	V10 to V11	Addition	AMD Ryzen™ 5 216 processor added
October 25, 2026	V11 to V12	Addition	“Advanced/based model” category to Processors

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