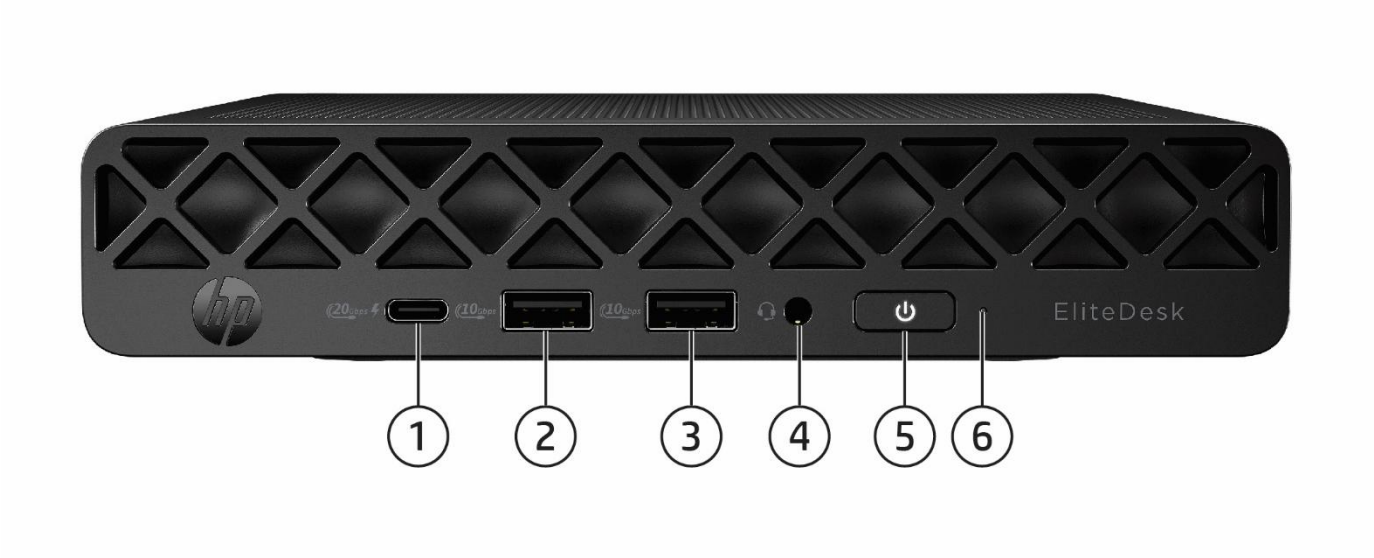
*Overview*

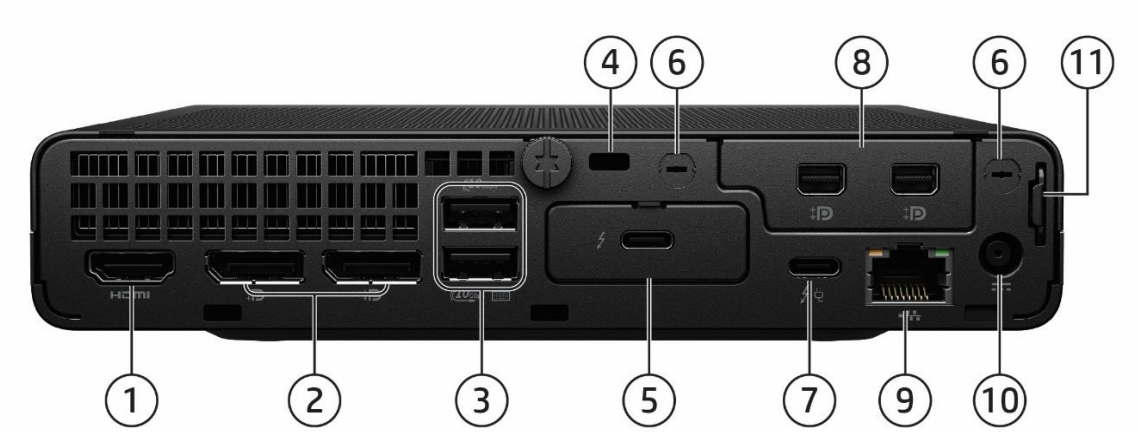
## HP EliteDesk 8 Mini G1i Desktop AI PC




1. Type-C® SuperSpeed USB 20Gbps signaling rate port (charge support up to 5V/3A)
2. Type-A SuperSpeed USB 10Gbps signaling rate port
3. Type-A SuperSpeed USB 10Gbps signaling rate port
4. Combo Audio Jack with CTIA and OMTP headset support
5. Dual-state power button
6. SSD activity light

*Overview*

## HP EliteDesk 8 Mini G1i Desktop AI PC




1. HDMI port 2.1TMDS 6Gbps
2. (2) Dual-Mode DisplayPort™ 2.1 HBR3 (DP++)
3. (2) Type-A SuperSpeed USB 10Gbps signaling rate port (Supporting wake from S4/S5 with keyboard/mouse connected and enabled in BIOS)
4. Standard cable lock slot (10 mm)
5. (1) Flex Port 1, choice of:
   - HDMI 2.1
   - VGA
   - DisplayPort™ 2.1
   - Fiber NIC 1Gbps[1]
   - Serial[2]

   - Intel® I226V 2.5 Gigabit Network Connection LOM (non-vPro)
   - Dual Type A SuperSpeed USB 5Gbps signaling rate port
   - Dual USB Type C 20Gbps
   - Thunderbolt 4.0
     (shown in the image)
6. External WLAN antenna opening[3]
7. TBT4 with Alt mode and 100W Power in
8. (1) Flex Port 2[3], choice of:
   - Serial
   - HP video port extender (shown in the image)
   - Dual Type-A SuperSpeed USB 5Gbps signaling rate port
   - NVIDIA® GeForce RTX™ 5050 discrete Graphics
9. RJ-45 network connector
10. Power connector
11. Retractable Padlock loop

## Not shown

**Slots**
(1) Internal M.2 2230 connector for WLAN
(3) Internal M.2 SSD storage 2280 connector[4]

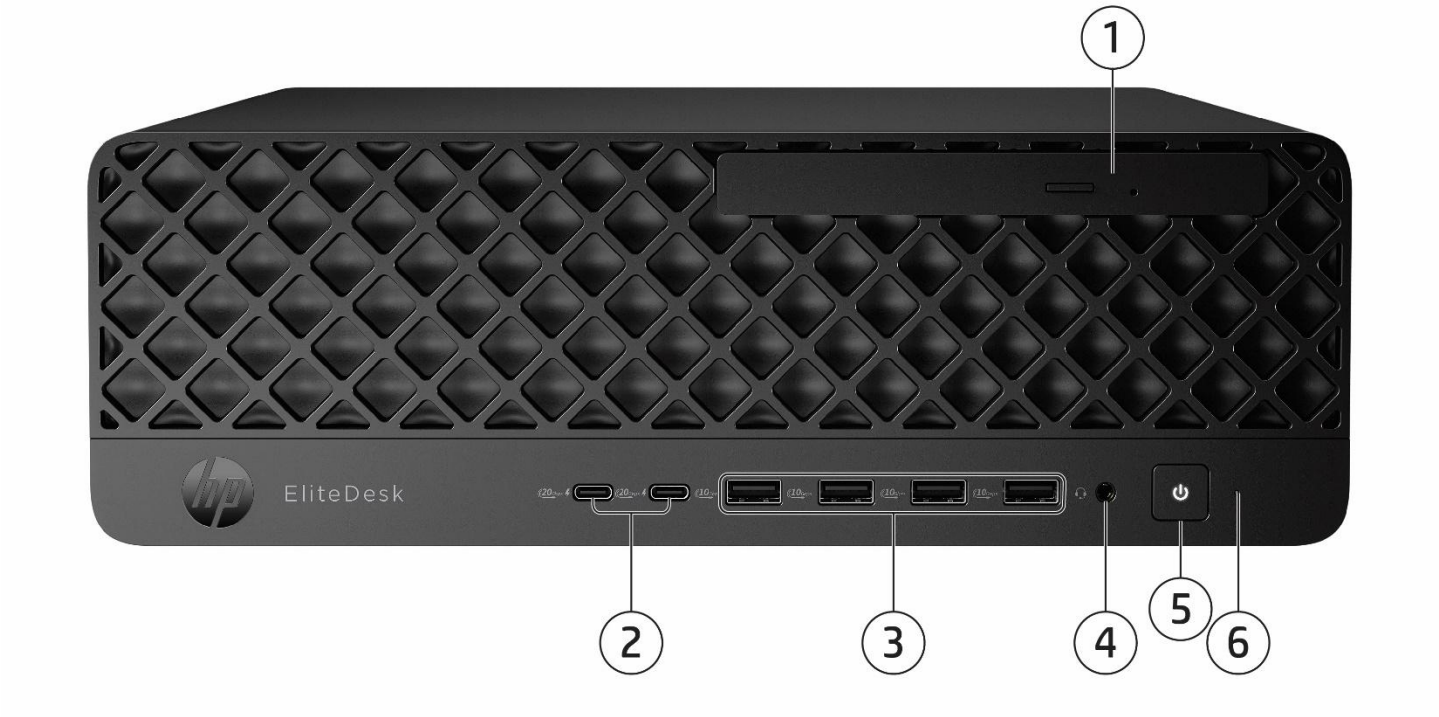
**Mounting**
Support for
- Dual VESA Sleeve V4 Standalone
- Quick Release Bracket
- B200/B300/B500/B550/B560/B600 Mounting bracket
- Integrated Work Center Stand
- HP Single Monitor Arm

1. Fiber NIC 1Gbps cards would not be available in some selected Europe countries and Korea.
2. Sold separately or as an optional feature - Not sold in every region.
3. Must be configured at time of purchase.
4. 3rd SSD must be configured at the time of purchase

**NOTE:** SPO (Single Power On) feature only available when platform config in 35W CPU with Thunderbolt cable plugged in native Thunderbolt port via selected HP series 7 pro monitors or HP series 5 pro monitors.
**NOTE:** Thunderbolt flex module does not support SPO (Single Power On) feature.

*Overview*

**HP EliteDesk 8 SFF G1i Desktop AI PC**




1. Slim optical drive (optional)
2. (2) Type-C® SuperSpeed USB 20Gbps signaling rate port (charge support up to 5V/3A)
3. (4) Type A SuperSpeed USB 10Gbps signaling rate port
4. Combo Audio Jack with CTIA and OMTP headset support
5. Dual-state power button
6. Hard drive activity light

**Not shown**

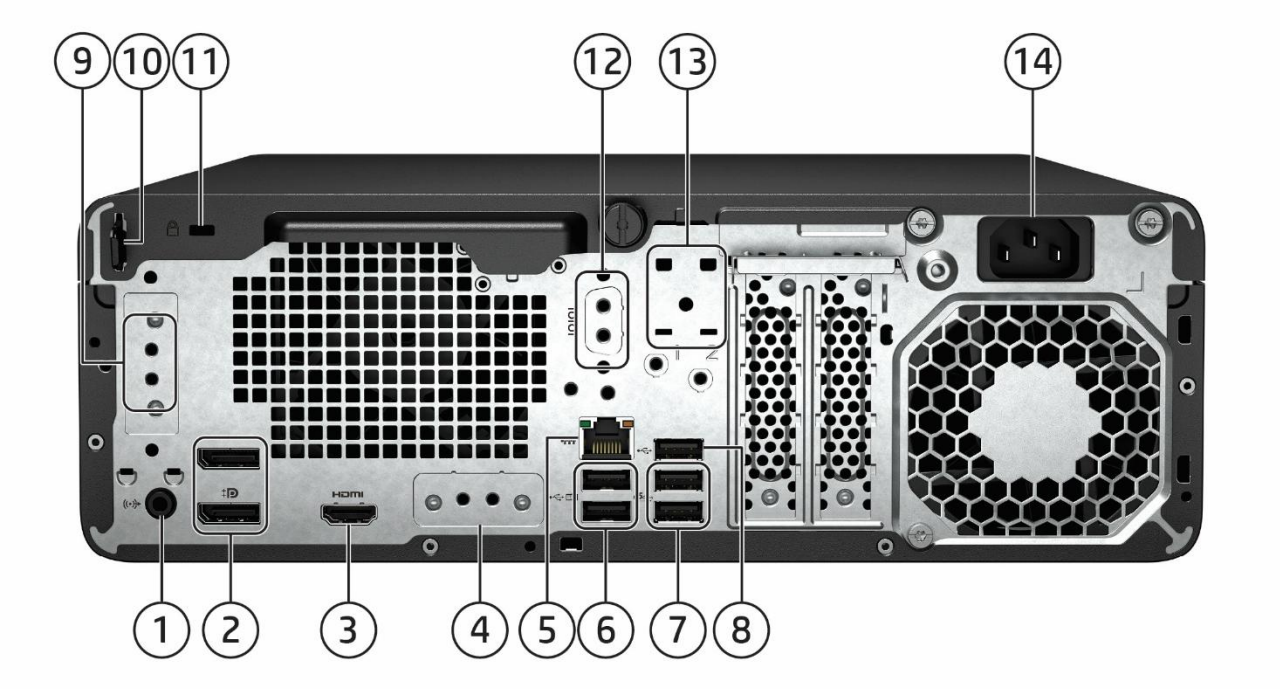
(1) PCI Express Gen4 x16

(1) PCI Express Gen4 x4

(4) M.2 (1 as M.2 2230 socket for WLAN/Bluetooth® and 3 as M.2 2280 socket for storage, slot2 toolless)

*Overview*

**HP EliteDesk 8 SFF G1i Desktop AI PC**




1. Audio line-out jack (supports line-in re-tasking)
2. (2) Dual-Mode DisplayPort™ 2.1 HBR3 (DP++)
3. HDMI port 2.1
4. Flex port, choice of:
   - DisplayPort™ 2.1
   - HDMI 2.1
   - VGA
   - Fiber NIC 1Gbps
   - Thunderbolt™ 4
   - Serial
   - Dual Type-A SuperSpeed USB 5Gbps signaling rate port
   - Dual Type-C SuperSpeed USB 10Gbps signaling rate port
   - USB-C® SuperSpeed 10Gbps signaling rate port (Alt Mode DP 1.4 with 15W output)
5. RJ-45 network connector
6. (2) Type A Hi-Speed USB 480 Mbps signaling rate port with wake from S4/S5
7. (2) Type A SuperSpeed USB 5Gbps signaling rate port
8. (1) Type-A Hi-Speed USB 480Mbps
9. Flex port 2, choice of:
   - Dual Type-A SuperSpeed USB 5Gbps signaling rate port
   - Serial
10. Padlock loop
11. Standard cable lock slot
12. Serial port (optional)
13. Solenoid lock
14. Power cord connector

**Not shown**

**Optional Ports**

Optional Parallel port[1]

Optional 4 Serial Port PCIe Card[1]

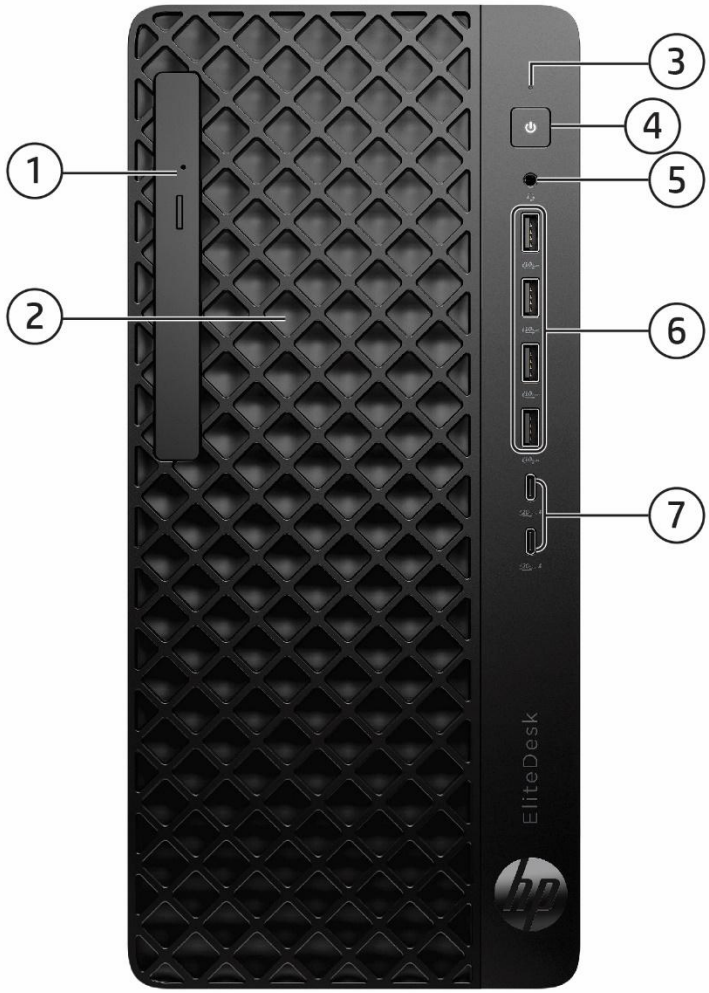
**Bays**

(1) 3.5” internal storage drive bay[2]

(1) Slim optical drive bay (ODD or removable storage)[3]

1. Each of the legacy port options would occupy one rear slot.
2. The system does not come with HDD bay when the hard drive/ODD is not configured.
3. For future HDD/ODD installation, the HDD expansion module must be added to support a single 3.5” HDD.

**HP EliteDesk 8 Tower G1i / G1i E Desktop AI PC**




1. Slim optical drive bay (optional)
2. Slim optical bay for M.2 SSD (optional)
3. Hard drive activity light
4. Dual-state power button
5. Combo Audio Jack with CTIA and OMTP headset support
6. (4) Type-A SuperSpeed USB 10Gbps signaling rate port
7. (2) Type-C SuperSpeed USB 20Gps (charge support 15W)

**Not shown**

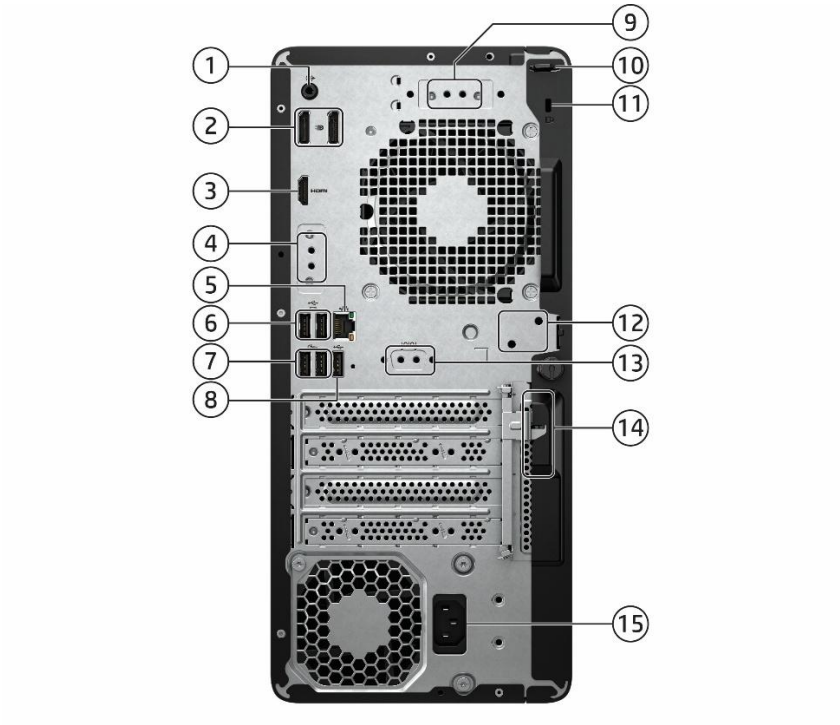
(1) PCI Express Gen 5 x16

(2) PCI Express Gen3 x1 (1) PCI Express Gen4 x 16(wired as x4)

(4) M.2 (1 as M.2 2230 socket for WLAN/Bluetooth® and 3 as M.2 2280 socket for storage, slot2 toolless)

*Overview*

## HP EliteDesk 8 Tower G1i / G1i E Desktop AI PC




1. Audio line-out jack (supports line-in re-tasking)
2. (2) Dual-Mode DisplayPort™ 2.1 (DP++)
3. HDMI port 2.1
4. Flex port, choice of:
   - DisplayPort™ 2.1
   - HDMI 2.1
   - VGA
   - Fiber NIC 1Gbps
   - Thunderbolt™ 4
   - Dual Type-A SuperSpeed USB 5Gbps signaling rate port.
   - Serial
   - Dual Type-C SuperSpeed USB 10Gbps signaling rate port
   - USB-C® SuperSpeed USB 10Gbps signaling rate port (USB-C® option has alt mode DisplayPort™ 1.4 and 15W output)
5. RJ-45 (network) Jack
6. (2) Type A Hi-Speed USB 480 Mbps signaling rate port with wake from S4/S5
7. (2) Type A SuperSpeed USB 5Gbps signaling rate port
8. (1) Type-A Hi-Speed USB 480Mbps
9. Flex Port 2, choice of:
   - Dual Type-A SuperSpeed USB 5Gbps signaling rate port
   - Serial
10. Padlock loop
11. Standard cable lock slot
12. Solenoid lock
13. Serial port (optional)
14. Integrated keyboard/mouse wire hoop

    Power cord connector

**Not shown**

**Optional ports**

Optional Parallel port[1]

Optional 4 Serial Port PCIe Card[1]

**Bays**

(2) 3.5" internal storage drive bay[2]

(2) Slim optical drive bay (ODD and removable storage)[3]

1. Each of the legacy port options would occupy one rear slot.
2. The system does not come with HDD bay when the hard drive/ODD is not configured.
3. For future HDD/ODD installation, the HDD expansion module must be added to support a single 3.5" HDD.

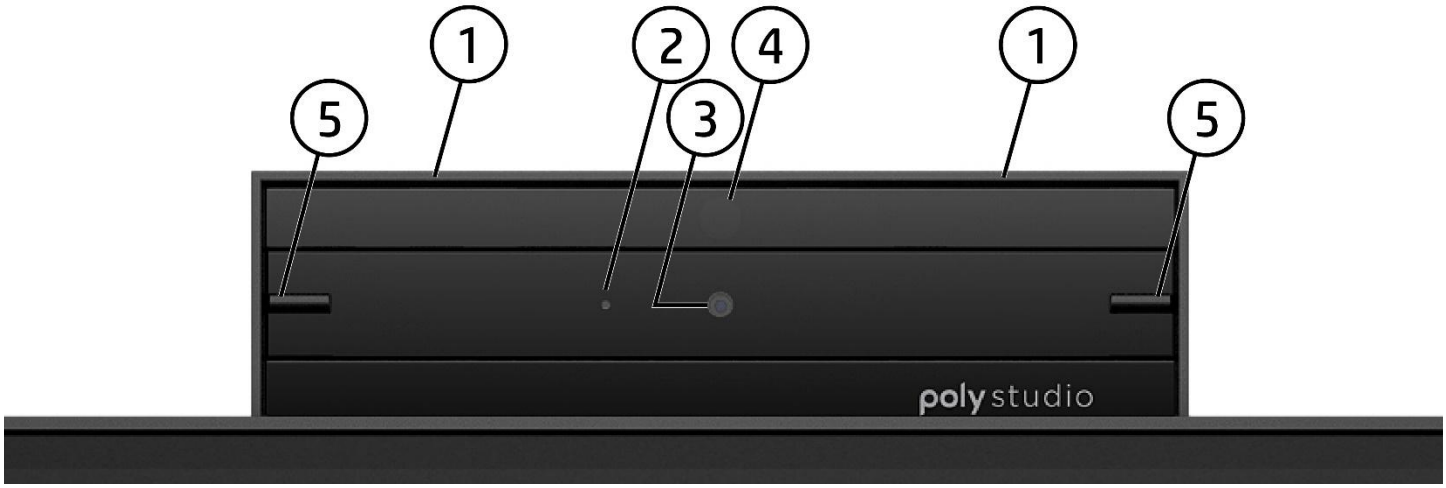
**HP EliteStudio 8 All-in-One G1i 23.8 / 27-inch Desktop AI PC**
Touch/Non-Touch




1. Pull-up webcam (optional)
2. Speakers
3. Type-C® SuperSpeed USB 20Gbps signaling rate port (charge support up to 15W)
4. Combo Audio Jack with CTIA and OMTP headset support
5. Type-A SuperSpeed USB 10Gbps signaling rate port
6. Power Activity Light
7. Power Button

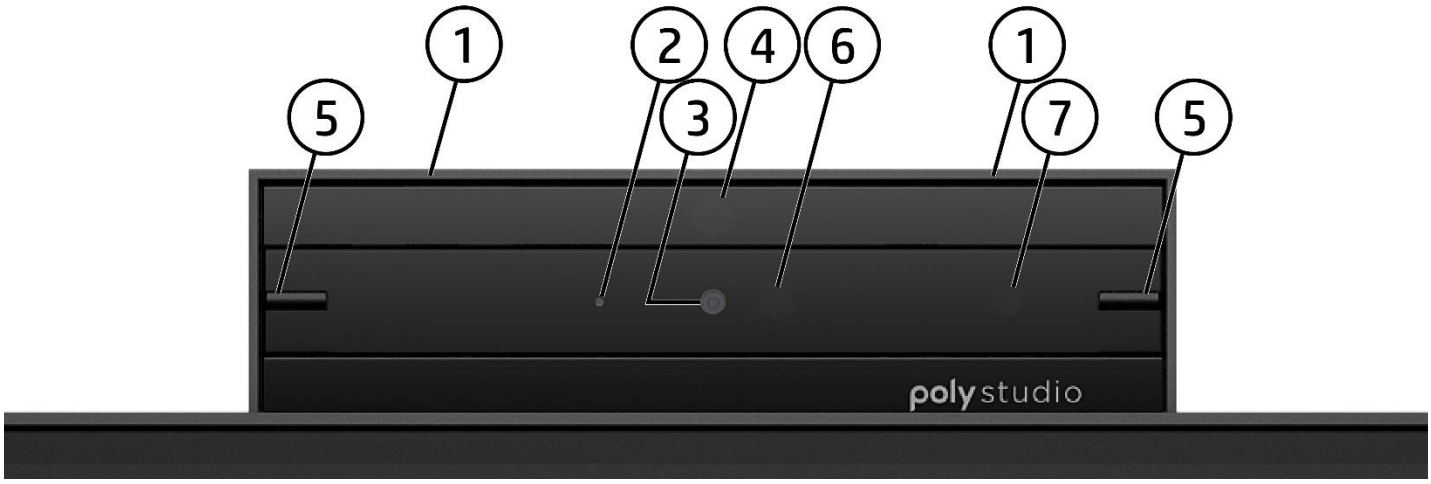
**HP EliteStudio 8 All-in-One G1i 23.8 / 27-inch Desktop AI PC**
Touch/Non-Touch

**5MP Webcam with High SNR micorphones+ACS Sensor**



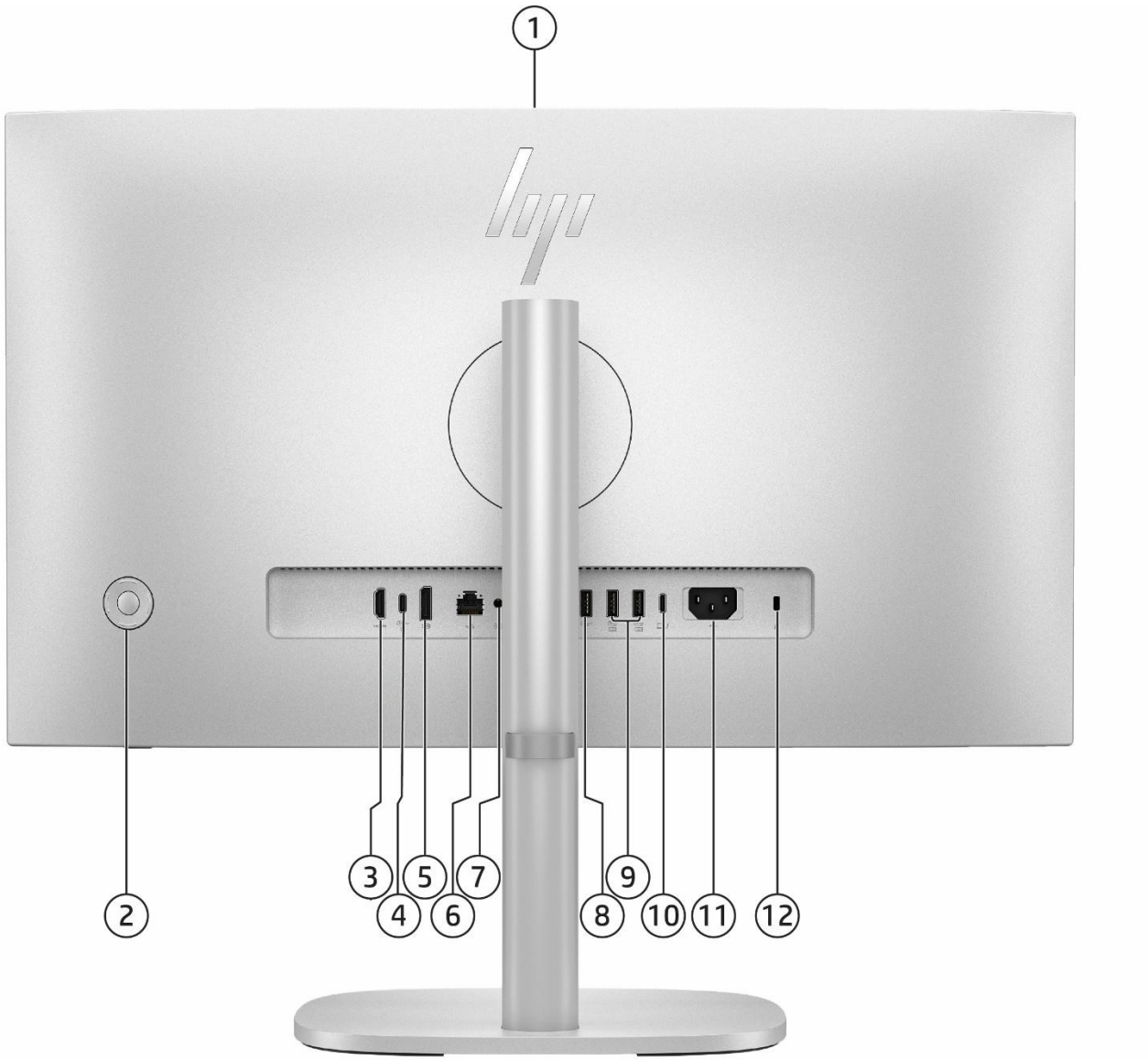

1. Dual Microphones
2. Webcam Light
3. 5MP Webcam
4. Ambient Color Sensor
5. Adjustable Tilt

**5MP Webcam + IR Sensor + High SNR micorphones + ACS Sensor**




1. Dual Microphones
2. Webcam Light
3. 5MP Webcam
4. Ambient Color Sensor
5. Adjustable Tilt
6. IR Sensor
7. IR Light

**HP EliteStudio 8 All-in-One G1i 23.8 / 27-inch Desktop AI PC**
Touch/Non-Touch




1. Pull-up Camera (Optional)
2. OSD
3. HDMI 2.1 Output
4. USB-C SuperSpeed 10Gbps with DisplayPort Alt Mode
5. DisplayPort 2.1
6. RJ-45 Network Adapter
7. Audio Line Out
8. Type-A SuperSpeed USB 10Gbps signaling rate port
9. (2) Type A SuperSpeed USB 5Gbps signaling rate port
10. Thunderbolt 4 40Gbps with 100W Power Delivery
11. Power cord connector
12. Standard Cable Lock Slot

*Features*

## PRODUCT NAME

HP EliteDesk 8 Mini G1i Desktop AI PC
HP EliteDesk 8 SFF G1i Desktop AI PC
HP EliteDesk 8 Tower G1i Desktop AI PC
HP EliteDesk 8 Tower G1i E Desktop AI PC
HP EliteStudio 8 All-in-One G1i 23.8-inch Desktop AI PC
HP EliteStudio 8 All-in-One G1i 27-inch Desktop AI PC

## OPERATING SYSTEM

**Preinstalled**

Windows 11 Pro[1]
Windows 11 Pro Education[1]
Windows 11 Home - HP recommends Windows 11 Pro for business[1]
Windows 11 Home Single Language - HP recommends Windows 11 Pro for business[1]
Windows 11 Pro (Windows 11 Enterprise or Windows 10 Enterprise available with a Volume Licensing Agreement)[1]
Ubuntu 24.04
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.
2. Ubuntu® and Canonical® are registered trademarks of Canonical Ltd. References to Ubuntu Linux certification relate to certifications offered by Canonical through Canonical Academy. Certification for specific hardware configurations indicates successful completion of Canonical administered exams and does not imply endorsement of any third-party product, service, warranty by HP, organization Canonical beyond the tested configurations.

## CHIPSET

| | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Intel® Q870 | X | X | X | X |

*Features*

## PROCESSORS

| Intel® Core Ultra Processor | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Intel® Core™ Ultra 9-285 Processor with Intel® UHD Graphics 4Xᵉ (2.5GHz, up to 5.6GHz with Intel® Turbo Boost[1] Max Technology and Intel® Thermal Velocity Boost, 36MB L3 Cache, 24 Cores, 24 Threads) 65W, Supports Intel® vPro® Technology[2] | X | X | X | X |
| Intel® Core™ Ultra 9-285T Processor with Intel® UHD Graphics 4Xᵉ (1.4GHz, up to 5.4GHz with Intel® Turbo Boost[1] Max Technology, 36MB L3 Cache, 24 Cores, 24 Threads) 35W, Supports Intel® vPro® Technology[2] | X | | | |
| Intel® Core™ Ultra 7-265 Processor with Intel® UHD Graphics 4Xᵉ (2.4GHz, up to 5.3GHz with Intel® Turbo Boost[1] Max Technology, 30MB L3 Cache, 20 Cores, 20 Threads) 65W, Supports Intel® vPro® Technology[2] | X | X | X | X |
| Intel® Core™ Ultra 7-265T Processor with Intel® UHD Graphics 4Xᵉ (1.4GHz, up to 5.4GHz with Intel® Turbo Boost[1] Max Technology, 36MB L3 Cache, 24 Cores, 20 Threads) 35W, Supports Intel® vPro® Technology[2] | X | | | |
| Intel® Core™ Ultra 5-245 Processor with Intel® UHD Graphics 4Xᵉ (3.5GHz, up to 5.1GHz, 24MB L3 Cache, 14 Cores, 14 Threads) 65W, Supports Intel® vPro® Technology[2] | X | X | X | X |
| Intel® Core™ Ultra 5-245T Processor with Intel® UHD Graphics 4Xᵉ (2.2GHz, up to 5.1GHz, 24MB L3 Cache, 14 Cores, 14 Threads) 35W, Supports Intel® vPro® Technology[2] | X | | | |
| Intel® Core™ Ultra 5-235 Processor with Intel® UHD Graphics 3Xᵉ (3.4GHz, up to 5GHz, 24MB L3 Cache, 14 Cores, 14 Threads) 65W, Supports Intel® vPro® Technology[2] | X | X | X | X |
| Intel® Core™ Ultra 5-235T Processor with Intel® UHD Graphics 3Xᵉ (2.2GHz, up to 5GHz, 24MB L3 Cache, 14 Cores, 14 Threads) 35W, Supports Intel® vPro® Technology[2] | X | | | |
| Intel® Core™ Ultra 5-225 Processor with Intel® UHD Graphics 2Xᵉ (3.3GHz, up to 4.9GHz, 20MB L3 Cache, 10 Cores, 10 Threads) 65W | X | X | X | X |
| Intel® Core™ Ultra 5-225T Processor with Intel® UHD Graphics 2Xᵉ (2.5GHz, up to 4.9GHz, 20MB L3 Cache, 10 Cores, 10 Threads) 35W | X | | | |

1. 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. See http://www.intel.com/technology/turboboost for more information.
2. Intel vPro® requires Windows 10 Pro 64 bit or higher, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd party software in order to run. Features of vPro® Essentials and Enterprise vary. See http://intel.com/vpro.

**NOTE:** All processors are embedded with 13 TOPs NPU.

*Features*

## GRAPHICS

| Integrated Intel® Graphics | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Intel® UHD Graphics 4Xe[3] | X | X | X | X |
| Intel® UHD Graphics 3Xe[3] | X | X | X | X |
| Intel® UHD Graphics 2Xe[3] | X | X | X | X |

| Optional Discrete Graphics Solutions | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| NVIDIA® GeForce® RTX 5060 Ti 16GB GDDR7 Graphics Card[1] | | | X | |
| NVIDIA® GeForce® RTX 5060 8 GB GDDR7 Graphics Card[2] | | | X | |
| NVIDIA® GeForce® RTX 5050 8GB GDDR7 Graphics card[7,8] | X | | | X |
| NVIDIA® GeForce® RTX 3050 8GB GDDR6 Graphics card[2,6] | | | X | |
| NVIDIA® A400 4GB GDDR6 Graphics card[5,6] | | X | X | |
| NVIDIA® A1000 8GB GDDR6 Graphics card[5,6] | | X | | |
| Intel® Arc™ A380 6GB GDDR6 Graphics card[6] | | | X | |
| AMD Radeon™ RX 6300 2GB GDDR6 Graphics card | | X | X | |

1. Not available with 280W and 400W power supply
2.Not available with 280W power supply.
3. Support up to 4 displays via native video ports on Desktop Mini with 35W processors. Support up to 6 out of 7 display output via native video ports, 1 optional video port flex IO and HP Video Port Extender flex module on Desktop Mini.
4. Xe is Intel LPG Graphics Architecture, one X*e-core* represents 16EU.
5. Not available with 180W power supply.
6. Support up to 8 displays via native video ports, a configurable Flex IO port and selected discrete graphics on TWR & SFF.
7. Support up to 7 displays vai natie video ports, a configurable Flex IO port and selected discrete graphics on Mini.
8. Support up to 5 displays via native video ports, a panel display and selected discrete graphics on Aio.

| Adapters and Cables | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| HP DisplayPort™ Cable | X | X | X | X |
| HP DisplayPort™ to DVI-D Adapter | | X | X | X |
| HP DisplayPort™ to VGA Adapter | X | X | X | X |
| HP USB to Serial Port Adapter | X | X | X | X |
| HP USB-C® to HDMI Adapter | X | X | X | X |
| HP USB-C® to DisplayPort™ Adapter G2 | X | X | X | X |
| HP 1.8m HDMI Cable | X | X | X | X |
| 1m Thunderbolt 4™ Cable (100W power delivery) | X | | | X |

*Features*

## STORAGE

**NOTE:** Starting November 1, 2023, HP PCs with Windows require Windows to be installed on SSD.
HDD can only be configured as additional data drives and not as the boot drive.
**NOTE:** SATA RAID and NVME RAID can be supported simultaneously when customers configure on their own.

| 3.5 inch SATA Hard Disk Drives (HDD) | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| 1TB* 7200RPM SATA HDD | | X | X | |
| 2TB* 7200RPM SATA HDD | | X | X | |

| M.2 PCIe NVMe Solid State Drives (SSD)[1] | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| 256GB M.2 2280 PCIe NVMe SSD | X | X | X | X |
| 512GB M.2 2280 PCIe NVMe SSD | X | X | X | X |
| 1TB M.2 2280 PCIe NVMe SSD | X | X | X | X |
| 512GB M.2 2280 PCIe NVMe Three Layer Cell SSD | X | X | X | X |
| 1TB M.2 2280 PCIe NVMe Three Layer Cell SSD | X | X | X | X |
| 2TB M.2 2280 PCIe NVMe Three Layer Cell SSD | X | X | X | X |
| 512GB M.2 2280 PCIe NVMe Self Encrypted OPAL2 Three Layer Cell SSD[2] | X | X | X | X |
| 256GB M.2 2280 PCIe OPAL2 NVMe SSD | X | X | X | X |

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

| Optical Disc Drives | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| HP 9.5mm Slim DVD-ROM Drive[1] | | X | X | |
| HP 9.5mm Slim DVD Writer Drive[1] | | X | X | |

1. HD-DVD disks cannot be played on this drive. No support for DVD-RAM. Actual speeds may vary. Don't copy copyright-protected materials. Double Layer discs can store more data than single layer discs. Discs burned with this drive may not be compatible with many existing single-layer DVD drives and players.

*Features*

## MEMORY

| Memory Type | Mini | SFF* | TWR* | AiO |
|---|---|---|---|---|
| DDR5-5600 (Transfer rates up to 5600 MT/s), Max 64 GB, 2 SODIMM | X | X | | X |
| DDR5-5600 (Transfer rates up to 5600 MT/s), Max 128 GB, 4 UDIMM | | X | X | |

***NOTE:** Memory modules support data transfer rates up to 5600 MT/s; system speed should follow Intel's design guideline. Actual data rate is determined by the system configuration.
***NOTE:** System architecture design is 2 DIMMS per channel and the population starts from the furthest memory slot from the processor.
***NOTE:** Symmetric configurations are required for the 2 DIMMs within the same memory channel.
***NOTE:** To achieve optimal memory speed, HP strongly recommends using identical memory modules (e.g., same capacity, same part number and from the same supplier within the same memory channel.
***NOTE:** All memory slots are customer accessible.

| Memory Configuration | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| 8GB (1 x 8GB) | X | X | X | X |
| 16GB (2 x 8GB) | X | X | X | X |
| 32GB (4 x 8GB) | | X | X | |
| 12GB (1x12GB) | X | | | X |
| 16GB (1 x 16GB) | X | X | X | X |
| 32GB (2 x 16GB) | X | X | X | X |
| 64GB (4 x 16GB) | | X | X | |
| 24GB (1x24GB) | X | | | X |
| 32GB (1 x 32GB) | X | X | X | X |
| 64GB (2 x 32GB) | X | X | X | X |
| 128GB (4 x 32GB) | | X | X | |

## NETWORKING/COMMUNICATIONS

| Ethernet (RJ-45) | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Intel® I219-LM Integrated Gigabit Network Connection LOM (vPro) | X | X | X | X |
| Intel I226-T1 2.5GbE Ethernet Network Adapter | | X | X | |
| Intel® I226V 2.5 Gigabit Network Connection LOM | X | | | |

| Wireless | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Intel Wi-Fi 7 BE200 +Bluetooth® 5.4 Wireless Card non-vPro | X | X | X | X |
| Intel Wi-Fi 7 BE200 +Bluetooth® 5.4 Wireless Card vPro | X | X | X | X |
| Realtek RTL8852CE 802.11ax 2x2 Wi-Fi 6E + Bluetooth® 5.3 Wireless Card (802.11ax 2x2, supporting gigabit data rate) | X | X | X | X |

**NOTE**: Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 7 (802.11BE) functionality requires compatible Windows 11 OS, compatible processor, and separately purchased Wi-Fi 7 router to support backwards compatibility with prior 802.11 specs. Available in countries where Wi-Fi 7 is supported.
**NOTE**: WiFi-6E might be restricted by local regulation and only available in countries where Wi-Fi 6E is supported. HP will enable countries in the future by upgrading BIOS in default as the technology becomes available in more regions.
**NOTE**: External Antenna is supported on Desktop Mini to strengthen the quality of networking and only available at the time of purchase.
**NOTE**: Supports Miracast when configured with Wi-Fi Wireless Card.

## KEYBOARDS AND POINTING DEVICES

| Keyboards | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| HP USB Business Slim v2 Wired SmartCard CCID Keyboard | X | X | X | X |
| HP 125 v2 AntiMicrobial Wired Keyboard (China Only) | X | X | X | X |
| HP 175 Wired Keyboard | X | X | X | X |
| HP 175 Antimicrobial Wired Keyboard[1] (China Only) | X | X | X | X |
| HP 320K v2 Wired Desktop Keyboard | X | X | X | X |
| HP 725 Multi-Device Rechargeable Wireless Keyboard | X | X | X | X |
| HP 125 v2 Wired Keyboard | X | X | X | X |
| HP 375 Secure Smartcard Keyboard | X | X | X | X |

1. Available in China only.

| Keyboard and Mouse Combo | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| HP 275 Wireless Keyboard and Mouse Combo | X | X | X | X |
| HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo | X | X | X | X |

**NOTE**: V2 keyboards contain copilot* shortcut key.
*Copilot in Windows requires Windows 11. Some features require an NPU. Timing of feature delivery and availability varies by market and device. Requires Microsoft account to log in. Where Microsoft in Windows is not available, the Copilot key will lead to the Bing search engine. Use of Recall requires customer authentication using Windows Hello Enhanced Sign in Security (ESS) which requires a fingerprint reader or facial recognition camera and may not be supported on all platforms. See http://aka.ms/WindowsAIFeatures.

*Features*

| Mouse | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| HP Wired Desktop 320M Mouse | X | X | X | X |
| HP Wired 125 Mouse | X | X | X | X |
| HP Wired 125 Antimicrobial Mouse (China Only) | X | X | X | X |
| HP Wired 128 Laser Mouse | X | X | X | X |
| HP 175 Wired Mouse | X | X | X | X |
| HP 175 Antimicrobial Wired Mouse[1] (China Only) | X | X | X | X |
| HP 725 Multi-Device Rechargeable Wireless Mouse | X | X | X | X |

1. Available in China only.

## SECURITY

| | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| TPM 2.0 endpoint security controller (Infineon SLB9672/Nuvoton NPCT760HABYX). Common Criteria EAL4+ Certified. FIPS 140-2 Level 2 Certified. | X | X | X | X |
| Solenoid Lock & Intrusion Sensor (optional) | | X | X | |
| Intrusion Sensor for Mini/AiO (integrated in the PCA, can be enabled/disabled through BIOS) | X | | | X |
| Support for chassis cable lock devices | X (10 mm barrel or smaller) | X | X | X |
| Support for chassis padlocks devices | X | X | X | |
| SATA port disablement (via BIOS) | X | X | X | |
| Serial, USB enable / disable (via BIOS) | X | X | X | X |
| Serial, parallel, USB enable / disable (via BIOS) | X | X | X | X |
| Optional USB Port Disable at factory (user configurable via BIOS) | X | X | X | X |
| Removable media write/boot control | X | X | X | X |
| Power-on password (via BIOS) | X | X | X | X |
| Setup password (via BIOS) | X | X | X | X |

*Features*

## PORTS

| I/O Ports – Internal Ports | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| PCI Express 5.0 x16 | | | 1 | |
| PCI Express 4.0 x16 | | 1 | | |
| PCI Express 4.0 x4 | | 1 | | |
| PCI Express 3.0 x16 (wired as x4) | | | 1 | |
| PCI Express 3.0 x1 | | | 2 | |
| SATA 3.0 (6Gbps) port | | 2 | 3 | |
| Internal shared 3rd SSD/dGPU connector | 1 | | | |
| M.2 PCIe | (1) M.2 PCIe 3 x1 2230 (for WLAN)<br>(2) M.2 PCIe 4 x 4 2280 (for storage)<br>(1) M.2 PCIe 4x4 2280 (only available with 3rd SSD expansion kit) | (1) M.2 PCIe 3 x1 2230 (for WLAN)<br>(3) M.2 PCIe 4 x4 2280 (for storage) | (1) M.2 PCIe 3 x1 2230 (for WLAN)<br>(3) M.2 PCIe 4 x4 2280 (for storage) | (1) M.2 WLAN+ Bluetooth Combo; (2) M.2 2280 for NVME SSD storage. attached to CPU PCIe Gen 4.0, |

**NOTE**: M.2 SSD attached to CPU is PCIe Gen 4, the other two M.2 are PCIe Gen 3 (AIO).
**NOTE**: For Mini configured with 3rd M.2 Storage, can't be configured with discrete graphics.
**NOTE**: For Mini 3rd SSD is only available on selected base units at the time of purchase.
**NOTE**: PCI slots for TWR are full height and SFF are low profile.

| Standard User Accessible Ports | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Type-A Hi-Speed USB 480Mbps signaling rate port | | 3 (rear) | 3(rear) | |
| Type-A SuperSpeed USB 5 Gbps signaling rate port | | 2 (rear) | 2 (rear) | 2 (rear) |
| Type-A SuperSpeed USB 10 Gbps signaling rate port | 2(front)<br>2 (rear) | 4 (front) | 4 (front) | 1 (rear)<br>1 (down facing) |
| Type-C® SuperSpeed USB 10Gbps signaling rate port (USB-C® option has alt mode DisplayPort™ 1.4) | | | | 1 (rear) |
| Type-C® SuperSpeed USB 20Gbps signaling rate port (charge supports up to 15W) | 1 (front) | 2 (front) | 2 (front) | 1 (down facing) |
| Thunderbolt™ 4.0 with Alt Mode DisplayPort™ and 100W Power intake | 1 (rear) | | | 1 (rear) |

*Features*

| | | | | |
|---|---|---|---|---|
| Video[1] | 2 DisplayPort™ 2.1 HBR3<br>1 HDMI 2.1<br>1 Thunderbot™ 4.0 with Alt Mode DisplayPort™ | 2 DisplayPort™ 2.1 HBR3<br>1 HDMI 2.1 | 2 DisplayPort™ 2.1 HBR3<br>1 HDMI 2.1 | 1 DisplayPort™ 2.1 (rear)<br>1 USB Type-C® with alt mode display (rear)<br>1 Thunderbot™ 4.0 with Alt Mode DisplayPort™ (Rear)<br>1 HDMI 2.1 |
| Audio | 1 Combo Audio Jack with CTIA and OMTP headset support (front) | 1 Universal Audio Jack with CTIA and OMPT headset support (front);<br>1 Audio-Line-in/Line out (rear) | 1 Universal Audio Jack with CTIA and OMPT headset support (front);<br>1 Audio-Line-in/Line out (rear) | 1 CTIA/OMTP UAJ (down facing)<br>1 Audio Line Out(rear) |

1. For actual resolution supported, refer to the Graphics section of this document.

| **(1) Flexible Port 1, choice of <u>one</u> of the following[1]:** | **<u>Mini</u>** | **<u>SFF</u>** | **<u>TWR</u>** | **<u>AiO</u>** |
|---|---|---|---|---|
| Dual SuperSpeed USB Type-A 5 Gbps signaling rate port | 1 | 1 | 1 | |
| Dual SuperSpeed USB Type-C 10Gbps signaling rate port with 15W power out | 1 | 1 | 1 | |
| Type-C® SuperSpeed USB 10Gbps signaling rate port | | 1 | 1 | |
| Thunderbolt™ 4.0 | 1 | 1 | 1 | |
| Video | 1 DisplayPort™ 2.1 <u>or</u> HDMI 2.1 <u>or</u> VGA | 1 DisplayPort™ 2.1 <u>or</u> HDMI 2.1 <u>or</u> VGA | 1 DisplayPort™ 2.1 <u>or</u> HDMI 2.1 <u>or</u> VGA | |
| Serial | 1 | 1 | 1 | |
| Fiber NIC | 1x1 Gbps NIC | 1x1 Gbps NIC | 1x1 Gbps NIC | |
| RJ-45 Ethernet | 1 x2.5GbE NIC | 1[2] | 1[2] | |

1. Sold separately or as an optional feature.
2. Occupies a PCIe slot on TWR/SFF.

**NOTE:** Integrated graphics support up to max 4 display signals out of 5 video output ports.
Support up to 6 out of 7 display outputs at a time when configured with 1 optional video port flex IO and 1 HP Video Port Extender.

| **(1) Flexible Port 2, choice of <u>one</u> of the following[1]:** | **<u>Mini</u>** | **<u>SFF</u>** | **<u>TWR</u>** | **<u>AiO</u>** |
|---|---|---|---|---|
| Dual Type-A SuperSpeed USB 5Gbps signaling rate port | 1 | 1 | 1 | |
| Serial | 1 | 1 | 1 | |
| Discrete Graphic | 1 | | | |
| HP Video Port Extender | 1 | | | |

1.Must be configured at time of purchase

*Features*

| Bays | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| Slim Optical Disc Drive (ODD or removable storage, optional) | | 1 | 2 | |
| 3.5" Internal Storage Drive | | 1[1] | 2[1] | |

1.Must be configured at time of purchase

## USB SPECIFICATION AND MARKETING NAME MAPPING TABLE

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

## SOFTWARE COMPONENTS AND APPLICATIONS WITH 7

**Software**
Buy Microsoft Office[1]
Edge Customization
HP Connection Optimizer
HP Desktop Support Utilities
HP Documentation
HP Hotkey Support
HP Notifications HP PC Hardware Diagnostics UEFI
HP PC Hardware Diagnostics Windows
HP Privacy Settings
HP Services Scan[2]
HP Setup Integrated OOBE
HP Smart Support[3]
HP Support Assistant[4]
HSA Fusion for Commercial
HSA Telemetry for Commercial
myHP (SFF & TWR) myHP with Multicamera[5] support (AIO & Mini)
Poly Camera Pro (AIO Only)
Poly Lens

**Manageability Features**
HP Client Catalog (download))[6]
HP Client Management Script Library (download)
HP Cloud Recovery[7]
HP Connect for Microsoft Endpoint Manager[8]
HP Driver Packs (download)[9]
HP Image Assistant (download)[10]
HP Manageability Integration Kit (download)[11]
HP Patch Assistant (download)[12]

**Security Features**
HP Protect and Trace
HP Endpoint Security Controller (ESC) Gen5
HP Wolf Security for Business[13] includes:
HP Sure Admin[14]
HP Sure Click[15]
HP Sure Run[16]
HP Sure Sense[17]
HP Sure Recover[18]
HP Sure Start[19]
HP Tamper Lock[20]
HP Secured-Core PC Enable

**BIOS**
Absolute Persistence Module[21]
HP Bios Recovery
HP BIOS Update via Network
HP BIOSphere[22]
HP Secure Erase[23]
HP DriveLock & Automatic DriveLock
TPM
UEFI Self Certification Level: 2.9

*Features*

1. Microsoft 365 sold separately and requires Internet access for activation.
2. HP Services Scan automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit http://www.hp.com/smart-support.
3. HP Smart Support automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit http://www.hp.com/smart-support.
4. HP Support Assistant is available on Windows. For more information, please visit http://www.support.hp.com/help/hp-support-assistant
5. MyHP with Multicamera support for Mini Desktop PC will only available on 13th processor and beyond.
6. HP Client Catalog not preinstalled, however available for download at (https://www.hp.com/us-en/solutions/client-management-solutions.html).
7. HP Cloud Recovery is available for Z by HP, HP Elite and Pro desktops and laptops PCs with Intel® or AMD processors and requires an open, network connection. Note: You must back up important files, data, photos, videos, etc. before use to avoid loss of data. Detail, please refer to: https://support.hp.com/us-en/document/c05115630.
8. HP Connect for Microsoft Endpoint Manager is available from the Azure Market Place for HP Pro, Elite, Z and Point-of-Sale PCs managed with Microsoft Endpoint Manager. Subscription to Microsoft Endpoint Manager required and sold separately. Network connection required.
9. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.
10. HP Image Assistant not preinstalled, however available for download at (https://ftp.ext.hp.com/pub/caps-softpaq/cmit/HPIA.html)
11. HP Manageability Integration Kit can be downloaded from http://www.hp.com/go/clientmanagement.
12. HP Patch Assistant available on select HP PCs with the HP Manageability Kit that are managed through Microsoft System Center Configuration Manager. HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html.
13. HP Wolf Security for Business requires Windows 10 or 11 or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features.
14. HP Sure Admin requires HP G8 or newer platforms, Windows 10 or higher, HP BIOS, HP Manageability Kit or KMS Service from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator
15. HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
16. HP Sure Run is available on select HP PCs and requires Windows 10 and higher.
17. HP Sure Sense is available on select HP PCs with Windows 10 Pro, Windows 10 Enterprise, Windows 11 Pro, or Windows 11 Enterprise OS.
18. HP Sure Recover is available on select HP PCs and requires Windows 10 or 11 and an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data. HP Sure Recover Gen6 with Embedded Reimaging is an optional feature on select HP PCs which requires Windows 10 or 11 must be configured at purchase. You must back up important files, data, photos, videos, etc. before use to avoid loss of data.
19. HP Sure Start is available on select HP PCs and requires Windows 10 and higher
20. HP Tamper Lock can be Enabled/disabled by customers or IT administrator with administrator authority.
21. Absolute Persistence firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: https://www.absolute.com/about/legal/agreements/absolute/.
22. HP BIOSphere features may vary depending on the platform and configuration.
23. HP Secure Erase implements the methods outlined in the National Institute of Standards and Technology Special .

## UNIT ENVIRONMENT AND OPERATING CONDITIONS

**ENERGY STAR® certified models available**

ENERGY STAR® certified. EPEAT® registered where applicable. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.
Low halogen (chassis, all internal components and modules)[1]
TAA compliant models available

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

**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)[2]<br>Non-operating: -22° to 149° F (-30° to 65° C) |
| Relative Humidity | Operating: 10% to 90% (non-condensing at ambient)<br>Non-operating: 5% to 95% (non-condensing at ambient) |
| Maximum Altitude (unpressurized) | Operating: 5000m<br>Non-operating: 50000ft (15240 m) |

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

*Features*

## ENVIRONMENTAL & INDUSTRY

### HP EliteDesk 8 Mini G1i Desktop AI PC

| | | | |
|---|---|---|---|
| **Eco-Label Certifications & declarations** | This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country.*<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. | | |
| **Sustainable Impact Specifications** | • At least 25% ocean bound plastic-PET Bottle in the Fan and 5% ocean bound plastic-PET Bottle used in the Speaker[1]<br>• At least 5% OP-EPS in plastic parts of Enclosure<br>• At least 55% of total post-consumer recycled plastic used in the system[2]<br>• 95% recycled plastic used in parts<br>• 20% recycled metal used in parts<br>• 100% recycled Aluminum used in thermal part<br>• 100% Recycled Rare Earth Elements (REE) used in speaker<br>• Outside Box and corrugated cushions are 100% sustainably sourced and recyclable[3]<br>• Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable[4]<br>• Bulk packaging available[5] | | |
| **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 (Short idle) | 6.42 W | 6.53 W | 6.22 W |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 2.18 W | 2.21 W | 2.14 W |
| Off | 0.77 W | 0.79 W | 0.74 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 compliant 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. | | |

*Features*

| **Heat Dissipation*** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 50Hz** |
|---|---|---|---|
| Normal Operation (Short idle) | 21.9 BTU/hr | 22.3 BTU/hr | 21.2 BTU/hr |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 7.4 BTU/hr | 7.5 BTU/hr | 7.3 BTU/hr |
| Off | 2.6 BTU/hr | 2.7 BTU/hr | 2.5 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 | 16 |
| Fixed Disk – Random writes | 2.7 | 16 |

| | | | |
|---|---|---|---|
| Longevity and Upgrading | This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:<br><br>Spare parts are available throughout the warranty period and or for up to "5" years after the end of production. | | |
| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Climate+ level, see http://www.epeat.net<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product is 92.7% recycleable when properly disposed of at end of life. | | |
| **Packaging Materials -Horizontal design** | **External:** | PAPER/Paper | 652 g |
| | **Internal:** | PAPER/Molded pulp | 79 g |
| | | PLASTIC/Polyethylene low density - LDPE | 16 g |
| **Packaging Materials -Vertical design** | **External:** | PAPER/Corrugated | 405 g |
| | **Internal:** | PAPER/Molded pulp | 74 g |
| | | PLASTIC/Polyethylene low density - LDPE | 5 g |
| | The plastic packaging material contains at least 80.0% recycled content. | | |
| | The corrugated paper packaging materials contain at least 80.0% 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.<br><br>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.<br><br>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.<br><br>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):<br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.<br>• Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) |
| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use readily recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards. |
| **End-of-life Management and Recycling** | HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.<br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |

| | |
|---|---|
| **footnotes** | 1. Percentage of ocean-bound plastic & PCR contained in each component varies by product.<br>2. Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.<br>3. 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.<br>4. Fiber cushions made from 100% recycled wood fiber and organic materials.<br>5. Plastic cushions are made from >90% recycled plastic. |

### HP EliteDesk 8 SFF G1i Desktop AI PC

| | | | |
|---|---|---|---|
| **Eco-Label Certifications & declarations** | This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country*.<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. | | |
| **Sustainable Impact Specifications** | • At least 25% ocean bound plastic-PET Bottle in the fan and 5% ocean bound plastic-PET used in the speaker<br>• 95% recycled plastic used in parts<br>• 20% recycled metal used in parts<br>• At least 60% of the total post-consumer recycled plastic used in the system<br>• 100% Recycled Rare Earth Elements (REE) in speaker<br>• Outside Box and corrugated cushions are 100% sustainably sourced and recyclable<br>• Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable<br>• Bulk packaging available | | |
| **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) | 5.34 W | 5.37 W | 5.33 W |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 2.24 W | 2.26 W | 2.27 W |
| Off | 0.65 W | 0.65 W | 0.65 W |

*Features*

| | | | |
|---|---|---|---|
| | **NOTE:** Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |
| **Heat Dissipation*** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 50Hz** |
| Normal Operation (Short idle) | 18.2 BTU/hr | 18.3 BTU/hr | 18.2 BTU/hr |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 7.6 BTU/hr | 7.7 BTU/hr | 7.7 BTU/hr |
| Off | 2.2 BTU/hr | 2.2 BTU/hr | 2.2 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 | 3.1 | 19 | |
| Fixed Disk–Random writes | 3.3 | 21 | |
| Optical Drive – Sequential reads | 3.0 | 19 | |
| Longevity and Upgrading | This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:<br><br>Spare parts are available throughout the warranty period and or for up to "5" years after the end of production. | | |
| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Climate+ level, see http://www.epeat.net<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product is 93.6% recycle-able when properly disposed of at end of life. | | |
| **Packaging Materials** (vary by country) | **External:** | PAPER/Corrugated | 424 g |
| | **Internal:** | PAPER/Molded Pulp | 468 g |
| | | PLASTIC/Polyethylene low density – LDPE | 28 g |
| | The plastic packaging material contains at least 320-0% recycled content. | | |
| | The corrugated paper packaging materials contain 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.<br><br>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.<br><br>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.<br><br>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/supplychain/gen_specifications.html):<br><br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Bis(2-Ethylhexyl) phthalate (DEHP)<br>• Benzyl butyl phthalate (BBP)<br>• Dibutyl phthalate (DBP)<br>• Diisobutyl phthalate (DIBP)<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.<br>• Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) |

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| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use ready recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards. |
| **End-of-life Management and Recycling** | HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.<br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |
| **footnotes** | • Percentage of ocean-bound plastic and PCR contained in each component varies by product<br>• Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.<br>• 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.<br>• Fiber cushions made from 100% recycled wood fiber and organic materials.<br>• Plastic cushions are made from >90% recycled plastic.<br>• 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. |

### HP EliteDesk 8 Tower G1i/G1i E Desktop AI PC

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| **Eco-Label Certifications & declarations** | This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country.*<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. |

*Features*

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| **Sustainable Impact Specifications** | • At least 25% ocean bound plastic-PET Bottle in the fan and 5% ocean bound plastic-PET in the speaker<br>• 95% recycled plastic used in parts<br>• 20% recycled metal used in parts<br>• At least 60% of post-consumer recycled plastic used in system<br>• 100% Recycled Rare Earth Elements (REE) used in speaker<br>• Outside Box and corrugated cushions are 100% sustainably sourced and recyclable<br>• Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable<br>• Bulk packaging available | | |
| **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) | 6.17 W | 6.26 W | 6.18 W |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 2.17 W | 2.16 W | 2.11 W |
| Off | 0.67 W | 0.69 W | 0.68 W |
| | **NOTE:** Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |
| **Heat Dissipation*** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 60Hz** |
| Normal Operation (Short idle) | 21.0 BTU/hr | 21.3 BTU/hr | 21.1 BTU/hr |
| Normal Operation (Long idle) | N/A | N/A | N/A |
| Sleep | 7.4 BTU/hr | 7.4 BTU/hr | 7.2 BTU/hr |
| Off | 2.3 BTU/hr | 2.4 BTU/hr | 2.3 BTU/hr |
| | **NOTE:** Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour. | | |
| **Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)** | Sound Power ($L_{WAd}$, bels) | Sound Pressure ($L_{pAm}$, decibels) | |
| Typically Configured – Idle | 3.0 | 21 | |
| Fixed Disk–Random writes | 3.0 | 22 | |
| Optical Drive – Sequential reads | 3.0 | 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:<br><br>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production. | | |

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| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Climate+ level, see http://www.epeat.net<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product is 93.6% recycle-able when properly disposed of at end of life | | |
| **Packaging Materials** (vary by country) | **External:** | PAPER/Corrugated | 1106 g |
| | **Internal:** | PAPER/Molded Pulp | 676 g |
| | | OTHER/Other | 36 g |
| | The plastic packaging material contains at least 20-30% recycled content. | | |
| | The corrugated paper packaging materials contain at least 35.0% 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.<br><br>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.<br><br>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.<br><br>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/supplychain/gen_specifications.html):<br><br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Bis(2-Ethylhexyl) phthalate (DEHP)<br>• Benzyl butyl phthalate (BBP)<br>• Dibutyl phthalate (DBP)<br>• Diisobutyl phthalate (DIBP)<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. | | |

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| | • Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) |
| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use readily recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards. |
| **End-of-life Management and Recycling** | HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br>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.<br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |
| **Footnotes** | • Percentage of ocean-bound plastic and PCR contained in each component varies by product<br>• Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.<br>• 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.<br>• Fiber cushions made from 100% recycled wood fiber and organic materials.<br>• Plastic cushions are made from >90% recycled plastic.<br>• 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. |

### HP EliteStudio 8 All-in-One G1i 23.8-inch Desktop AI PC

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| **Eco-Label Certifications & declarations** | This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country.*<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. | | |
| **Sustainable Impact Specifications** | • At least 25% ocean bound plastic-PET Bottle in the Fan and 5% ocean bound plastic-PET Bottle in the Speaker[1]<br>• At least 75% of t post-consumer recycled plastic used in system[2]<br>• 95% recycled plastic used in parts<br>• 20% recycled metal used in parts<br>• 20% recycled glass used in display panels<br>• 100% recycled Aluminum used in thermal part and stand part<br>• 100% Recycled Rear earth element (REE) used in speaker<br>• Outside Box and corrugated cushions are 100% sustainably sourced and recyclable[3]<br>• Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable[4] | | |
| **System Configuration** | The configuration used for the Energy Consumption and Declared Noise Emissions data for the All-in-One PC model is based on a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |
| **Energy Consumption (in accordance with US ENERGY STAR® test method)** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 50Hz** |
| Normal Operation (Short idle) | 15.07 W | 14.03 W | 14.11 W |
| Normal Operation (Long idle) | 1.99 W | 2.13 W | 2.01 W |
| Sleep | 1.99 W | 2.13 W | 2.01 W |
| Off | 0.78 W | 0.77 W | 0.79 W |
| | **NOTE:** Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |

*Features*

| **Heat Dissipation*** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 50Hz** |
|---|---|---|---|
| Normal Operation (Short idle) | 51.34 BTU/hr | 47.84 BTU/hr | 48.12 BTU/hr |
| Normal Operation (Long idle) | 6.79 BTU/hr | 7.26 BTU/hr | 6.85 BTU/hr |
| Sleep | 6.79 BTU/hr | 7.26 BTU/hr | 6.85 BTU/hr |
| Off | 2.66 BTU/hr | 2.63 BTU/hr | 2.69 BTU/hr |
| | **NOTE:** Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour. | | |

| **Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)** | Sound Power ($L_{WAd}$, bels) | Sound Pressure ($L_{pAm}$, decibels) |
|---|---|---|
| Typically Configured – Idle | 2.8 | 14 |
| Fixed Disk – Random writes | 3.1 | 18 |

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| Longevity and Upgrading | This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:<br>• 6 USB ports<br>• 2 memory slots<br>• 1 Mini PCIe half-length slot<br>• 1 MXM 3.0 Type A - 35W slot<br>• 1 mSATA slot<br>• 1 2.5" internal bay supporting up to Two 2.5" hard drives (HDD/SSD/SED/SSHD)<br>• 1 5.25" external supporting optical drive<br>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production. |
| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Climate+ level, see http://www.epeat.net<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product is 97.5% recycle-able when properly disposed of at end of life. |

| **Packaging Materials** | | | |
|---|---|---|---|
| | **External:** | PAPER/Paper | 1102.6g |
| | | PAPER/Molded Pulp | 1650.5g |
| | **Internal:** | LDPE | 39.6g |
| | The plastic packaging material contains at least 80% recycled content. | | |
| | The corrugated paper packaging materials contain at least 80% recycled content. | | |

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| **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.<br><br>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.<br><br>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.<br><br>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/supplychain/gen_specifications.html):<br><br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Bis(2-Ethylhexyl) phthalate (DEHP)<br>• Benzyl butyl phthalate (BBP)<br>• Dibutyl phthalate (DBP)<br>• Diisobutyl phthalate (DIBP)<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.<br>• Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) |
| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use readily recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards. |

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| **End-of-life Management and Recycling** | HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.<br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |
| **HP, Inc. Corporate Environmental Information** | For more information about HP's commitment to the environment:<br><br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |
| **footnotes** | 1. Percentage of ocean-bound plastic & PCR contained in each component varies by product.<br>2. Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.<br>3. 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.<br>4. Fiber cushions made from 100% recycled wood fiber and organic materials.<br>5. Plastic cushions are made from >90% recycled plastic. |

### HP EliteStudio 8 All-in-One G1i 27-inch Desktop AI PC

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| **Eco-Label Certifications & declarations** | This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:<br>• IT ECO declaration<br>• US ENERGY STAR®<br>• US Federal Energy Management Program (FEMP)<br>• EPEAT® Climate+ registered in the United States. See http://www.epeat.net for registration status in your country.*<br>• TCO Certified<br>• China Energy Conservation Program (CECP)<br>• China State Environmental Protection Administration (SEPA)<br>• Taiwan Green Mark<br>• Korea Eco-label<br>• Japan PC Green label<br>• Commission Regulation (EC) No 617/2013 (ErP Lot 3)<br><br>**NOTE***: Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. |

*Features*

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| **Sustainable Impact Specifications** | • At least 25% ocean bound plastic-PET Bottle in the Fan and 5% ocean bound plastic-PET Bottle used in the Speaker[1]<br>• At least 80% of post-consumer recycled plastic used in system[2]<br>• 95% recycled plastic used in parts<br>• 20% recycled metal used in parts<br>• 20% recycled glass used in display panels<br>• 100% recycled Aluminum used in thermal part and Stand part<br>• 100% Recycled Rear earth element (REE) used in speaker<br>• Outside Box and corrugated cushions are 100% sustainably sourced and recyclable[3]<br>• Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable[4] | | |
| **System Configuration** | The configuration used for the Energy Consumption and Declared Noise Emissions data for the All-in-One PC model is based on a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |
| **Energy Consumption (in accordance with US ENERGY STAR® test method)** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 60Hz** |
| Normal Operation (Short idle) | 22.99 W | 22.65 W | 22.30 W |
| Normal Operation (Long idle) | 2.15 W | 1.82 W | 2.27 W |
| Sleep | 2.15 W | 1.82 W | 2.27 W |
| Off | 0.77 W | 0.78 W | 0.78 W |
| | **Note:** Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system. | | |
| **Heat Dissipation*** | **115VAC, 60Hz** | **230VAC, 50Hz** | **100VAC, 60Hz** |
| Normal Operation (Short idle) | 78.40 BTU/hr | 77.24 BTU/hr | 76.04 BTU/hr |
| Normal Operation (Long idle) | 7.33 BTU/hr | 6.21 BTU/hr | 7.74 BTU/hr |
| Sleep | 7.33 BTU/hr | 6.21 BTU/hr | 7.74 BTU/hr |
| Off | 2.63 BTU/hr | 2.66 BTU/hr | 2.66 BTU/hr |
| | **NOTE:** Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour. | | |
| **Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)** | Sound Power ($L_{WAd}$, bels) | Sound Pressure ($L_{pAm}$, decibels) | |
| Typically Configured – Idle | 2.8 | 14 | |
| Fixed Disk – Random writes | 3.0 | 18 | |

*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:<br>• 6 USB ports<br>• 2 memory slots<br>• 1 Mini PCIe half-length slot<br>• 1 MXM 3.0 Type A - 35W slot<br>• 1 mSATA slot<br>• 1 2.5" internal bay supporting up to Two 2.5" hard drives (HDD/SSD/SED/SSHD)<br>• 1 5.25" external supporting optical drive<br>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production. | | |
| **Additional Information** | • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.<br>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.<br>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).<br>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Climate+ level, see http://www.epeat.net<br>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.<br>• This product is 97.9% recycle-able when properly disposed of at end of life | | |
| **Packaging Materials** | **External:** | Paper/ CORRUGATED | 1339g |
| | | Molded pulp | 2139g |
| | **Internal:** | LDPE | 50g |
| | The plastic packaging material contains at least xx% recycled content. | | |
| | The corrugated paper packaging materials contain at least xx% 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.<br>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.<br>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.<br>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/supplychain/gen_specifications.html):<br><br>• Asbestos<br>• Certain Azo Colorants<br>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics<br>• Cadmium<br>• Chlorinated Hydrocarbons<br>• Chlorinated Paraffins<br>• Bis(2-Ethylhexyl) phthalate (DEHP)<br>• Benzyl butyl phthalate (BBP)<br>• Dibutyl phthalate (DBP)<br>• Diisobutyl phthalate (DIBP)<br>• Formaldehyde<br>• Halogenated Diphenyl Methanes<br>• Lead carbonates and sulfates<br>• Lead and Lead compounds<br>• Mercuric Oxide Batteries<br>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.<br>• Ozone Depleting Substances<br>• Polybrominated Biphenyls (PBBs)<br>• Polybrominated Biphenyl Ethers (PBBEs)<br>• Polybrominated Biphenyl Oxides (PBBOs)<br>• Polychlorinated Biphenyl (PCB)<br>• Polychlorinated Terphenyls (PCT)<br>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.<br>• Radioactive Substances<br>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) |
| **Packaging Usage** | HP follows these guidelines to decrease the environmental impact of product packaging:<br>• Design packaging materials for ease of disassembly.<br>• Maximize the use of post-consumer recycled content materials in packaging materials.<br>• Use readily recyclable packaging materials such as paper and corrugated materials.<br>• Reduce size and weight of packages to improve transportation fuel efficiency.<br>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards. |
| **End-of-life Management and Recycling** | HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.<br><br>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment. |

*Features*

| | |
|---|---|
| **HP, Inc. Corporate Environmental Information** | For more information about HP's commitment to the environment:<br><br>Global Citizenship Report<br>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html<br>Eco-label certifications<br>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html<br>ISO 14001 certificates:<br>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and<br>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf |
| **footnotes** | 1. Percentage of ocean-bound plastic contained in each component varies by product.<br>2. Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.<br>3.100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.<br>4. Fiber cushions made from 100% recycled wood fiber and organic materials.<br>5. Plastic cushions are made from >90% recycled plastic. |

## SERVICE AND SUPPORT

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

1. Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.
2. On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.
3. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit http://www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

## CERTIFICATION AND COMPLIANCE

### Energy Efficiency Compliance

ENERGY STAR® certified. EPEAT® registered where applicable. EPEAT ® registration varies by country. See http://www.epeat.net for registration status by country. According to IEEE 1680.1-2018.

## PROCESSORS

Intel Core Ultra Processors 200S series

All HP EliteDesk G1i Business PC & EiliteStudio G1i AiO models featuring this technology include processors that are part of the Intel® Stable Image Platform Program (SIPP) designed to ensure the stability promise inherent in the value proposition of the HP Elite series G1i Desktop Business PC.

Intel® Management Engine (ME) v19– An advanced set of remote management features and functionality which provides network administrators the latest and most effective tools to remotely discover, heal, and protect networked client systems regardless of the system's health or power state. AMT includes the following advanced management functions:

- Support for configuration of Intel ME 19.0 capabilities
- No reset after provisioning
- Support for Intel Enterprise Digital Fence
- The Platform Discovery Utility can now discover these additional Intel products:
    - Public Key Infrastructure
- Profile Editor and Profile Editor Plugin Interface
- Required Permissions for Solutions Framework

## DISPLAY PANEL SPECIFICATIONS

**NOTE:** All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower. For All in One only Intel® HD Graphics (integrated).

### 23.8" diagonal IPS widescreen WLED backlit anti-glare LCD (1920 x 1080) Projected Capacitive Touch supports up to 10 touch-points

Support HW low blue light feature

| | |
|---|---|
| **Typo** | IPS WLED Backlit LCD |
| **Active area (mm)** | 527.04 x 296.46 |
| **Native resolution (HxV)** | 1920 x 1080 |
| **Refresh rate** | 75 Hz @ 1920 x 1080 |
| **Aspect ratio** | 16:9 |
| **Pixel pitch (HxV)(mm)** | 0.2745 x 0.2745 |
| **Contrast ratio** | 1000:1 |
| **Brightness** | 300nits |
| **Viewing angle (HxV)** | 178° x 178° |
| **Backlight lamp life (to half brightness)** | 30,000 hours minimum |
| **Color support** | Up to 16.7 million colors with 8 Bit (6 Bit + FRC) |
| **Color gamut** | sRGB 99% |
| **Anti-glare** | Yes |
| **Response time** | 14ms |
| **Default color temperature** | Warm (6500K) |

### 23.8" diagonal IPS widescreen WLED backlit anti-glare LCD (1920 x 1080) non-touch

Support HW low blue light feature

| | |
|---|---|
| **Type** | IPS WLED Backlit LCD |
| **Active area (mm)** | 527.04 x 296.46 |
| **Native resolution (HxV)** | 1920 x 1080 |
| **Refresh rate** | 75Hz @ 1920 x 1080 |
| **Aspect ratio** | 16:9 |
| **Pixel pitch (HxV)(mm)** | 0.2745 x 0.2745 |
| **Contrast ratio** | 1000:1 |
| **Brightness** | 250nits |
| **Viewing angle (HxV)** | 178° x 178° |
| **Backlight lamp life (to half brightness)** | 30,000 hours minimum |
| **Color support** | Up to 16.7 million colors with 8 Bit (6 Bit + FRC) |
| **Color gamut** | sRGB99% |
| **Anti-glare** | Yes |
| **Response time** | 14ms |
| **Default color temperature** | Warm (6500K) |

### 27.0" diagonal IPS widescreen WLED backlit anti-glare LCD (2560 x 1440) non-touch

Support HW low blue light feature

| | |
|---|---|
| **Type** | IPS WLED Backlit LCD |
| **Active area (mm)** | 596.736 x 335.664 |
| **Native resolution (HxV)** | 2560 x 1440 |
| **Refresh rate** | 75 Hz @ 2560 x 1440 |
| **Aspect ratio** | 16:9 |
| **Pixel pitch (HxV)(mm)** | 0.2331 x 0.2331 |
| **Contrast ratio** | 1000:1 |
| **Brightness** | 350 nits |
| **Viewing angle (HxV)** | 178° x 178° |
| **Backlight lamp life (to half brightness)** | 30,000 hours minimum |
| **Color support** | Up to 16.7 million colors with 8 bit (True) |
| **Color gamut** | sRGB99% |
| **Anti-glare** | Yes |
| **Response time** | 14ms |
| **Default color temperature** | Warm (6500K) |

### 27.0" diagonal IPS widescreen WLED backlit LCD (2560 x 1440) Touch

**Projected Capacitive Touch supports up to 10 touch-points**

Support HW low blue light feature

| | |
|---|---|
| **Type** | IPS WLED Backlit LCD |
| **Active area (mm)** | 596.736 x 335.664 |
| **Native resolution (HxV)** | 2560 x 1440 |
| **Refresh rate** | 75 Hz @ 2560 x 1440 |
| **Aspect ratio** | 16:9 |
| **Pixel pitch (HxV)(mm)** | 0.2331 x 0.2331 |
| **Contrast ratio** | 1000:1 |
| **Brightness** | 350nits* |
| **Viewing angle (HxV)** | 178° x 178° |
| **Backlight lamp life (to half brightness)** | 30,000 hours minimum |
| **Color support** | Up to 16.7 million colors with 8 bit (True) |
| **Color gamut** | sRGB99% |
| **Anti-glare** | Yes |
| **Response time** | 14ms |
| **Default color temperature** | Warm (6500K) |

## GRAPHICS

### HP EliteDesk 8 Mini G1i Desktop AI PC

**Intel® HD Graphics** (integrated)
Up to four simultaneous displays, 4K60Hz display concurrent with:

- Single external display up to 8K60Hz, supported by joining two pipes over single port.
- Up to 4x4K60Hz External display (Out of 4 Native video ports + 1 Flex IO option)

| | |
|---|---|
| **VGA Controller** | Integrated |
| **DisplayPort™** | Supports up to UHBR20 |
| | Support MST (Multi-Stream Transport), Maximum of 3 displays with Daisy-Chain monitor |
| | Support VESA DSC 1.2b |
| | Support HDCP |
| | Support up to 36 BPP (Bit Pre Pixel) |
| **HDMI** | Supports HDMI 2.1 features |
| | Supports up to 6Gbps TMDS link rates on 3 lanes |
| | Supports up to 12Gbps FRL link rates on 4 lanes |
| | Supports HDCP 2.3 |
| | Supports audio over HDMI |
| | Support up to 36 BBP (Bit Pre Pixel) |
| **VGA (optional)** | VGA output |
| **USB-C® DP Alt Mode (optional)** | DisplayPort™ over the optional USB-C® module |
| **Memory** | The actual amount of maximum graphics memory can be >4GB. System memory is allocated for graphics as needed using Intel's Dynamic Video Memory Technology (DVMT), to provide an optimal balance between graphics and system memory use. |
| **Graphics/Video API Support** | HEVC/VP9 8k@60 12-bit 420/422/444 Decode |
| | AV1 8K@60 10-bit 420 Decode |
| | AVC 4k@60 8bit 420 Decode |
| | HDR |
| | Direct3D* 2015 /Dircet3D 12/Direct3D 11.2/Direct/Direct3D11.1/Direct3D 10/Direct2D |
| | OpenGL* 4.5 |
| | OpenCL* 3.0 |
| | Direct X* 12 |
| **Max resolution (Native DP)** | DP2.1 (HBR3) 7680 x 4320 @60hz (with DSC) |
| **Max resolution (Native HDMI)** | 4096 x 2160 @60Hz HMDI 2.1 (TMDS 6Gbps) 4K @60HZ 24bpp |
| **Max resolution (Native Thunderbolt 4)** | DP ALT Mode DP2.1 UHBR20 7680 x 4320 @60Hz |
| **Max resolution (option VGA)** | 2048 x 1536 @60Hz |
| **Max resolution (option DP)** | UHBR20: 8K @60Hz compressed, 5K @120Hz compressed |

*Technical Specifications – Graphics*

| | |
|---|---|
| **Max resolution (option HDMI)** | HDMI2.1 (FRL 12G bps) 8K60Hz Compressed, 5K @120Hz compressed, 4K @144Hz compressed |
| **Max resolution (optional Thunderbolt 4)** | DP ALT Mode DP2.1 UHBR20 7680 x 4320 @60Hz |

**NVIDIA® GeForce® RTX 5050 8GB GDDR7 Graphics card**

| | |
|---|---|
| **DisplayPort™** | Supports up to UHBR20 |
| | Support MST (Multi-Stream Transport), Maximum of 3 displays with Daisy-Chain monitor |
| | Support VESA DSC 1.2a |
| | Maximum resolution with CVT-RB timing: 8K@240Hz (With DSC) |
| | 16K@60Hz (With DSC) |
| | Maximum line width per head with DSC is 5120 pixels |
| | 4:4:4 (RGB or YUV) pixel format at 8,10, or 12 bpp is support |
| | 4:2:2 and 4:2:0 pixel formats are not supported |
| **HDMI** | Supports HDMI 2.1b features |
| | TMDS mode : |
| | Maximum pixel clock : |
| | 4:4:4 or 4:2:2 pixel format:600MHz |
| | 4:2:0 pixel format :1200MHz |
| | Maximum resolution: 4096x2160x24 bpp @60Hz |
| | FRL mode : |
| | Maximum pixel clock:2069MHz |
| | Maximum resolution: |
| | 6780 x4320 x36 bpp YUV420 or DSC @60Hz |

### HP EliteDesk 8 SFF G1i Desktop AI PC

Intel® HD Graphics (integrated)
Up to four simultaneous displays, 4K60Hz display concurrent with:
— Single external display up to 8K60Hz, supported by joining two pipes over single port.
— Up to 4x4K60Hz External display (3 Native video ports + 1 Flex IO options).

| | |
|---|---|
| **VGA Controller** | Integrated |
| **DisplayPort™** | Multimode capable; supports HDCP, Display Port Audio), Native support HBR3 link rates/option DP support to UHBR20 and Multi-Stream Technology for a maximum of 3-displays connected to any output controlled by Intel® Graphics |
| **HDMI (Native / optional)** | Supports HDMI 2.1 features (Native HDMI support HDMI TMDS 6G; Option HDMI support HDMI 2.1 FRL12)<br>Supports HDCP 2.3 (Support HDCP 1.4/2.3)<br>Supports audio over HDMI |
| **VGA (optional)** | VGA output |
| **USB-C® DP Alt Mode (optional)** | DisplayPort™ over the optional USB-C® module (Support DP1.4 HBR3) |
| **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** | Supports up to 36 BPP (Bit Per Pixel) |
| **Graphics/Video API Support** | Decode: HEVC/VP9 8K60 12-bit 420/422/444*, AV1 8K60 10-bit 420, AVC 4K60 8-bit 420<br>Encode: HEVC/VP9 8K30 10-bit 420/444*, AV1 8K30 10-bit 420 (FF accel), AVC 4K60 8-bit 420<br>HDR<br>Dolby Vision 420/422 w/ DSC 1.2<br>DX12 Ultimate |
| **Max. Resolution (VGA Option)** | 2048 x 1536 @60Hz |
| **Max. Resolution (Native HDMI)** | HDMI TMDS 6G: 4096 x 2160 @60Hz |
| **Max. Resolution (Option HDMI)** | HDMI2.1 FRL 12G: 8K @60Hz Compressed, 5K @120Hz compressed, 4K @144Hz compressed |
| **Max. Resolution (Native DP)** | DP2.1 HBR3: 7680 x 4320 @60Hz (with DSC) |
| **Max. Resolution (Option DP)** | DP2.1 UHBR20: 8K @60Hz compressed, 5K@120Hz compressed |
| **Max. Resolution (Option Type C)** | DP HBR3: 7680 x 4320 @60Hz (with DSC) |
| **Max resolution (option Thunderbolt 4)** | DP ALT Mode DP2.1 UHBR20 7680 x 4320 @60Hz |

### AMD Radeon™ RX 6300 2GB GDDR6 Graphics card

| | |
|---|---|
| **Engine Clock** | Base: 1512 Mhz Boost: 2040 Mhz |
| **Memory Size / Width** | 2GB / 32bit |
| **Graphic Memory Type / Clock** | 512Mx32 GDDR6 ,1 pcs / 16Gbps |
| **Max. Resolution (HDMI)** | 7680 x 4320 @60Hz |
| **Max. Resolution (DP)** | 7680 x 4320 @120Hz |
| **Multi Display Support** | 2 displays |

| | |
|---|---|
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | HDMIx1+ DPx1 (LP) |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 57W |
| **Form-factor** | X:160.2mm/Y:68.9mm/Z: 22.6mm PCB with single slot |

**NVIDIA® RTX A1000 8GB GRAPHICS**

| | |
|---|---|
| **GPU Clocks** | Base: 721 Mhz Boost: 1462 Mhz |
| **Memory size / Bus Width** | 8GB / 128bits |
| **Graphic Memory Type / Clock** | 8GB GDDR6/6001MHz |
| **Max. Resolution (DP1.4a)** | 7680 x 4320 x 24bpp @120Hz/60Hz |
| **Multi Display Support** | 4 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | mDPx4 |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 50W |
| **Form Factor** | H: 2.7"(68.58mm) x L: 6.4"(162.56mm), single slot |

**NVIDIA® RTX A400 4GB Graphics**

| | |
|---|---|
| **GPU Clocks** | Base: 1417 Mhz Boost: 1762 Mhz |
| **Memory size / Bus Width** | 4GB / 64 bits |
| **Graphic Memory Type / Clock** | 4GB GDDR6/6001MHz |
| **Max. Resolution (DP1.4a)** | 7680 x 4320 x 24bpp @120Hz/60Hz |
| **Multi Display Support** | 4 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | mDPx4 |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 50W |
| **Form Factor** | H: 2.7"(68.58mm) x L: 6.4"(162.56mm), single slot |

## HP EliteDesk 8 Tower G1i / G1i E Desktop AI PC

Intel® HD Graphics (integrated)
Up to four simultaneous displays, 4K60Hz display concurrent with:
— Single external display up to 8K60Hz, supported by joining two pipes over single port.
— Up to 4x4K60Hz External display. (3 Native video ports + 1 Flex IO options)

| | |
|---|---|
| **VGA Controller** | Integrated |
| **DisplayPort™** | Multimode capable; supports HDCP, Display Port Audio), Native support HBR2 link rates/option DP support to HBR3 and Multi-Stream Technology for a maximum of 3-displays connected to any output controlled by Intel® Graphics |
| **HDMI (Native / optional)** | Supports HDMI 2.1 features (Native HDMI support HDMI TMDS 6G; Option HDMI support HDMI 2.1 FRL12)<br>Supports HDCP 2.3 (Support HDCP 1.4/2.3)<br>Supports audio over HDMI |
| **VGA (optional)** | VGA output |
| **USB-C® DP Alt Mode (optional)** | DisplayPort™ over the optional USB-C® module (Support DP1.4 HBR3) |
| **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** | Supports up to 36 BPP (Bit Per Pixel) |
| **Graphics/Video API Support** | Decode: HEVC/VP9 8K60 12-bit 420/422/444*, AV1 8K60 10-bit 420, AVC 4K60 8-bit 420<br>Encode: HEVC/VP9 8K30 10-bit 420/444*, AV1 8K30 10-bit 420 (FF accel, AVC 4K60 8-bit 420<br>HDR<br>Dolby Vision 420/422 w/ DSC 1.2<br>DX12 Ultimate |
| **Max. Resolution (VGA Option)** | 2048 x 1536@60Hz |
| **Max. Resolution (Native HDMI)** | HDMI TMDS 6G: 4096 x 2160 @60Hz |
| **Max. Resolution (Option HDMI)** | HDMI2.1 FRL 12G: 8K60Hz Compressed, 5K120Hz compressed, 4K144Hz compressed |
| **Max. Resolution (On board DP)** | DP2.1 HBR3: 7680 x 4320 @60Hz (with DSC) |
| **Max. Resolution (Option DP)** | DP2.1 UHBR20: 8K60Hz compressed, 5K120Hz compressed |
| **Max. Resolution (Option Type C)** | DP HBR3: 7680 x 4320 @60Hz (with DSC) |
| **Max resolution (option Thunderbolt 4)** | DP ALT Mode DP2.1 UHBR20 7680 x 4320 @60Hz |

### NVIDIA® GeForce® RTX 5060 Ti Graphics Card

| | |
|---|---|
| **Engine Clock** | Base: 2407 MHz Boost: 2572 MHz |
| **Frame Buffer Size / Width** | 16GB / 128bit |
| **Graphic Memory Type / Clock** | 8 pcs of 512Mx32 16Gb GDDR7/28Gps |
| **Max. Resolution (HDMI)** | HDMI 2.1b / 7680 × 4320 × 24bpp YUV420 or DSC at 60Hz |
| **Max. Resolution (DP)** | DP 2.1a / 7680 × 4320 × 24 bpp at 120 Hz |
| **Multi Display Support** | Up to four simultaneous displays with 4K at 144 Hz or two simultaneous displays with 8K at 60 Hz |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | HDMIx1+ DPx3 |
| **Cooling (active/passive)** | Active fansink with 4 pin fan control |
| **Total power consumption (W)** | 180W |
| **PCB form-factor with bracket** | ATX (X:203mm/Y:111.15mm/Z: 44.5mm, 2.5 slot) |

**NOTE:** 16 pins connector requires for RTX5060 Ti with 500W PSU

### NVIDIA GeForce RTX 5060 8 GB GDDR7 FH PCIe x16 Graphics

| | |
|---|---|
| **Engine Clock** | Base: 2280 MHz Boost: 2497 MHz |
| **Frame Buffer Size / Width** | 8GB / 128bit |
| **Graphic Memory Type / Clock** | 512Mx 32 GDDR7 @4pcs / 28Gps |
| **Max. Resolution (HDMI)** | 4096 x 2160 x 36bpp @120Hz or 7680 x 4320 36bpp DSC @60Hz |
| **Max. Resolution (DP)** | 3840 x 2160 x 30bpp @120Hz or 7680 x 4320 36bpp @60Hz |
| **Multi Display Support** | Up to 4 display |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | HDMIx1+ DPx3 |
| **Cooling (active/passive)** | Active fansink with 4 pin fan control |
| **Total power consumption (W)** | 145 W |
| **Card dimension** | ATX: (X:188mm/Y:111.15mm/Z: 38.0mm) |

**NOTE:** 8 pins connector requires for RTX5060 with 400W PSU or 500W PSU

### NVIDIA® GeForce® RTX 3050 8GB GDDR6 Graphics Card

| | |
|---|---|
| **Engine Clock** | Base: 1515 Mhz Boost: 1755 Mhz |
| **Frame Buffer Size / Width** | 8GB/128bit |
| **Graphic Memory Type / Clock** | 512M x32 GDDR6 @ 4 pcs/14Gbps |
| **Max. Resolution (HDMI)** | 7680 x 4320 @60Hz |
| **Max. Resolution (DP)** | 7680 x 4320 @60Hz |
| **Multi Display Support** | 4 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | HDMIx1+ DPx3 |
| **Cooling (active/passive)** | Active fansink with 4 pin fan control |
| **Total power consumption (W)** | 120W |

*Technical Specifications – Graphics*

| | |
|---|---|
| **Form-factor** | ATX (X:144.7mm/Y:111.15mm/Z: 36.70mm) PCB with ATX dual slot bracket |

**NOTE:** PCIe 2x4 power connector requires for RTX3050 with 400W PSU

**NVIDIA® RTX A400 4GB Graphics**

| | |
|---|---|
| **GPU Clocks** | Base: 1417 Mhz Boost: 1762 Mhz |
| **Memory size / Bus Width** | 4GB / 64 bits |
| **Graphic Memory Type / Clock** | 4GB GDDR6/6001MHz |
| **Max. Resolution (DP1.4a)** | 7680 x 4320 x 24bpp @120Hz/60Hz |
| **Multi Display Support** | 4 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | mDPx4 |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 50W |
| **Form Factor** | H: 2.7"(68.58mm) x L: 6.4"(162.56mm), single slot |

**Intel® Arc™ A380 6GB GDDR6 Graphics card[4]**

| | |
|---|---|
| **Engine Clock** | 2150Mhz |
| **Frame Buffer Size / Width** | 6GB/96bit |
| **Graphic Memory Type / Clock** | GDDR6 ,3 pcs/15.5Gbps |
| **Max. Resolution (HDMI)** | 4096 x 2160@60Hz |
| **Max. Resolution (DP)** | 7680 x 4 320@60Hz |
| **Multi Display Support** | 4 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | DP x3 + HDMI x1 |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 75W |

**AMD Radeon™ RX 6300 2GB GDDR6 Graphics card**

| | |
|---|---|
| **Engine Clock** | Base: 1512 Mhz Boost: 2040 Mhz |
| **Memory Size/Width** | 2GB/32bit |
| **Graphic Memory Type/Clock** | 512M x3 2 GDDR6 ,1 pcs/16Gbps |
| **Max. Resolution (HDMI)** | 7680 x 4320@60Hz |
| **Max. Resolution (DP)** | 7680 x 4320@120Hz |
| **Multi Display Support** | 2 displays |
| **HDCP Compliance** | Yes |
| **Rear I/O connectors (bracket)** | HDMIx1+ DPx1 (FH) |
| **Cooling (active/passive)** | Active |
| **Total power consumption (W)** | 57W |
| **Form-factor** | X:160.2mm/Y:68.9mm/Z: 22.6mm PCB with single slot |

### HP EliteStudio 8 All-in-One G1i 23.8-inch Desktop AI PC

Intel® UHD Graphics (integrated)

| | |
|---|---|
| **VGA Controller** | Integrated |
| **DisplayPort™ 2.1** | Supports up to UHBR20<br>Support MST (Multi-Stream Transport), Maximum of 3 displays with Daisy-Chain monitor<br>Support VESA DSC 1.2b<br>Support HDCP<br>Support up to 36 BP |
| **USB-C® DP Alt Mode** | DisplayPort™ over the optional USB-C® module (Support DP1.4 HBR3) |
| **HDMI (Native)** | Supports HDMI 2.1 features (Native HDMI support HDMI TMDS 6G; Option HDMI support HDMI 2.1 FRL12)<br>Supports HDCP 2.3 (Support HDCP 1.4/2.3)<br>Supports audio over HDMI |
| **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** | Supports up to 36 BPP (Bit Per Pixel) |
| **Graphics/Video API Support** | Decode: HEVC/VP9 8K60 12-bit 420/422/444*, AV1 8K60 10-bit 420, AVC 4K60 8-bit 420<br>Encode: HEVC/VP9 8K30 10-bit 420/444*, AV1 8K30 10-bit 420 (FF accel), AVC 4K60 8-bit 420<br>HDR<br>Dolby Vision 420/422 w/ DSC 1.2<br>DX12 Ultimate |
| **Max. Resolution (DP)** | UHBR20: 8K60Hz compressed, 5K120Hz compressed |
| **Max. Resolution (Type C)** | 5120 x 3200@60Hz |

### HP EliteStudio 8 All-in-One G1i 27-inch Desktop AI PC

Intel® UHD Graphics (integrated)

| | |
|---|---|
| **VGA Controller** | Integrated |
| **DisplayPort™ 2.1** | Supports up to UHBR20<br>Support MST (Multi-Stream Transport), Maximum of 3 displays with Daisy-Chain monitor<br>Support VESA DSC 1.2b<br>Support HDCP<br>Support up to 36 BP |
| **HDMI (Native)** | Supports HDMI 2.1 features (Native HDMI support HDMI TMDS 6G; Option HDMI support HDMI 2.1 FRL12)<br>Supports HDCP 2.3 (Support HDCP 1.4/2.3)<br>Supports audio over HDMI |
| **USB-C® DP Alt Mode** | DisplayPort™ over the optional USB-C® module (Support DP1.4 HBR3) |
| **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** | Supports up to 36 BPP (Bit Per Pixel) |
| **Graphics/Video API Support** | Decode: HEVC/VP9 8K60 12-bit 420/422/444*, AV1 8K60 10-bit 420, AVC 4K60 8-bit 420<br>Encode: HEVC/VP9 8K30 10-bit 420/444*, AV1 8K30 10-bit 420 (FF accel), AVC 4K60 8-bit 420<br>HDR<br>Dolby Vision 420/422 w/ DSC 1.2<br>DX12 Ultimate<br><br>HEVC 10b Enc/Dec HW<br>VP9 10b Dec HW<br>HDR<br>Rec. 2020<br>DX12 |
| **Max. Resolution (DP)** | UHBR20: 8K60Hz compressed, 5K120Hz compressed |
| **Max. Resolution (Type C)** | 5120 x 3200@60Hz |

## STORAGE

**NOTE:** Starting November 1, 2023, HP PCs with Windows require Windows to be installed on SSD.
HDD can only be configured as additional data drives and not as the boot drive.

### 1TB 7200RPM 3.5in SATA HDD

| | |
|---|---|
| **Capacity** | 1TB |
| **Rotational Speed** | 7,200 rpm |
| **Interface** | SATA 6 Gb/s |
| **Buffer Size** | 64 MB |
| **Logical Blocks** | 1,953,525,168 |
| **Seek Time** | 11 ms (Average) |
| **Height** | 1 in/2.54 cm |
| **Width (nominal)** | Media diameter: 3.5 in/8.89 cm<br>Physical size: 4 in/10.2 cm |
| **Operating Temperature** | 41° to 131° F (5° to 55° C) |

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

### 2TB 7200RPM 3.5in SATA HDD

| | |
|---|---|
| **Capacity** | 2TB |
| **Rotational Speed** | 7,200 rpm |
| **Interface** | SATA 6 Gb/s |
| **Buffer Size** | 128 MB |
| **Logical Blocks** | 3,907,050,336 |
| **Seek Time** | 11 ms (Average) |
| **Height** | 1.028 in/26.11 mm |
| **Width (nominal)** | Media diameter: 3.5 in/88.9 mm<br>Physical size: 4 in/102 mm |
| **Operating Temperature** | 41° to 131° F (5° to 55° C) |

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

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

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

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

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

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

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

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

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

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

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

| | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIE Gen5 |
| **Minimum Sequential Read** | 7000 MB/s |
| **Minimum Sequential Write** | 6000 MB/s |
| **Logical Blocks** | 1,000,215,216 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

### 1TB PCIe Gen5 NVMe™ Value 2280 Solid State Drive

| | |
|---|---|
| **Capacity** | 1TB |
| **Interface** | PCIE Gen5 |
| **Minimum Sequential Read** | 7000 MB/s |
| **Minimum Sequential Write** | 6000 MB/s |
| **Logical Blocks** | 2,000,409,264 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

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

| | |
|---|---|
| **Capacity** | 2TB |
| **Interface** | PCIE Gen5 |
| **Minimum Sequential Read** | 7000 MB/s |
| **Minimum Sequential Write** | 6000 MB/s |
| **Logical Blocks** | 4,000,797,360 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

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

| | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIE Gen4x4 |
| **Minimum Sequential Read** | 6400 MB/s ±20% |
| **Minimum Sequential Write** | 3500 MB/s ±20% |
| **Logical Blocks** | 1,000,215,216 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

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

| | |
|---|---|
| **Capacity** | 1TB |
| **Interface** | PCIE Gen4x4 |
| **Minimum Sequential Read** | 6400 MB/s ±20% |
| **Minimum Sequential Write** | 5000 MB/s ±20% |
| **Logical Blocks** | 2,000,409,264 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

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

| | |
|---|---|
| **Capacity** | 2TB |
| **Interface** | PCIE Gen4x4 |
| **Minimum Sequential Read** | 6400 MB/s ±20% |
| **Minimum Sequential Write** | 5000 MB/s ±20% |
| **Logical Blocks** | 4,000,797,360 |
| **Features** | TRIM; L1.2; Pyrite 2.0 |

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

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

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

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

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

| | |
|---|---|
| **Capacity** | 512GB |
| **Interface** | PCIE Gen4x4 |
| **Minimum Sequential Read** | 6400 MB/s ±20% |
| **Minimum Sequential Write** | 3500 MB/s ±20% |
| **Logical Blocks** | 1,000,215,216 |
| **Features** | TRIM; L1.2; TCG Opal 2.0 |

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

## OPTICAL DISC DRIVES

### HP 9.5mm Slim DVD-ROM Drive

| | |
|---|---|
| **Height** | 9.5 mm height |
| **Orientation** | Either horizontal or vertical |
| **Interface type** | SATA/ATAPI |
| **Dimensions (W x H x D)** | 5.04 x 0.37 x 5.0 in (128 x 9.5 x 127 mm) without bezel |
| **Weight (max)** | Up to 0.31 lb (140g) without bezel |
| **Read Speeds** | DVD+R/-R/+RW/<br>-RW/+R DL /-R DL Up to 8X<br>DVD-ROM Up to 8X<br>CD-ROM, CD-R Up to 24X<br>CD-RW Up to 24X |
| **Access time (typical reads, including settling)** | Random: DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)<br>Full stroke: DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical) |
| **Power** | Source Slimline SATA DC power receptacle<br>DC Power Requirement 5 VDC ± 5%-100 mV ripple p-p<br>DC Current 5 VDC (< 1000 mA typical, 1600 mA maximum) |
| **Environmental conditions (operating - non-condensing)** | Temperature 41° to 122° F (5° to 50° C)<br>Relative Humidity 10% to 80%<br>Maximum Wet Bulb Temperature 84° F (29° C) |

**HP 9.5mm Slim DVD Writer Drive**

| | |
|---|---|
| **Height** | 9.5 mm height |
| **Orientation** | Either horizontal or vertical |
| **Interface type** | SATA/ATAPI |
| **Disc recording capacity** | Up to 8.5 GB DL or 4.7 GB standard |
| **Dimensions (W x H x D)** | 5.04 x 0.37 x 5.0 in (128 x 9.5 x 127 mm) without bezel |
| **Weight (max)** | 0.31 lb (140 g) |
| **Write Speeds** | DVD-R DL - Up to 6X<br>DVD+R - Up to 8X<br>DVD+RW - Up to 8X<br>DVD+R DL - Up to 6X<br>DVD-R - Up to 8X<br>DVD-RW - Up to 6X<br>CD-R - Up to 24X<br>CD-RW - Up to 10X<br>DVD-RW, DVD+RW - Up to 8X |
| **Read Speeds** | DVD-R DL, DVD+R DL - Up to 8X<br>DVD+R, DVD-R - Up to 8X<br>DVD-ROM DL, DVD-ROM - Up to 8X<br>CD-ROM, CD-R - Up to 24X<br>CD-RW - Up to 24X |
| **Access time (typical reads, including settling)** | Random DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)<br>Full Stroke DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)<br>Stop Time 6 seconds (typical) |
| **Power** | Source Slimline SATA DC power receptacle<br>DC Power Requirement 5 VDC ± 5%-100 mV ripple p-p<br>DC Current 5 VDC (< 1000 mA typical, 1600 mA maximum) |
| **Environmental conditions (operating - non-condensing)** | Temperature 41° to 122° F (5° to 50° C)<br>Relative Humidity 10% to 80%<br>Maximum Wet Bulb Temperature 84° F (29° C) |

## NETWORKING AND COMMUNICATIONS

| Intel® I219-LM 1 Gigabit Network Connection LOM (vPro) | |
|---|---|
| **Connector** | RJ-45 |
| **System Interface** | PCI (Intel proprietary) + SMBus |
| **Data rates supported** | 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40)<br>Auto-Negotiation (Automatic Speed Selection)<br>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<br>IEEE 802.1q VLAN support<br>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)<br>IEEE 802.3az EEE (Energy Efficient Ethernet) |
| **Performance** | TCP/IP/UDP Checksum Offload (configurable)<br>Protocol Offload (ARP & NS)<br>Large send offload and Giant send offload<br>Receiving Side Scaling (Hash Mode Only)<br>Jumbo Frame 9K |
| **Power consumption** | Cable Disconnetion: 25mW<br>100Mbps Full Run: 450mW<br>1000bp Full Run: 1000mW<br>WoL Enable(S3/S4/S5): 50mW<br>WoL Disable(S3/S4/S5): 25mW |
| **Power Management** | ACPI compliant – multiple power modes<br>Situation-sensitive features reduce power consumption<br>Advanced link down power saving for reducing link down power consumption |
| **Management Interface** | Auto MDI/MDIX Crossover cable detection |
| **IT Manageability** | Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)<br>PXE 2.1 Remote Boot<br>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))<br>Comprehensive diagnostic and configuration software suite<br>Virtual Cable Doctor for Ethernet cable status |
| **Security & Manageability** | Intel® vPro™ support with appropriate Intel® chipset components |

| Intel I226-T1 2.5GbE Ethernet Network Adapter | |
|---|---|
| **Connector** | RJ-45 |
| **System Interface** | PCI (Intel proprietary) + SMBus |
| **Data rates supported** | 1. 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>2. 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>3. 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)<br>4. 2.5 Gbit/s operation( 2.5GBASE-T;  IEEE 802.3bz Clause 126)<br>5. Auto-Negotiation (Automatic Speed Selection)<br>Full Duplex Operation at all Speeds, Half Duplex operation at 10 & 100 Mbit/s |

*Technical Specifications – Networking and Communications*

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

| **Intel® I226-V 2.5 Gigabit Network Connection LOM (non-vPro)** | |
|---|---|
| **Connector** | RJ-45 |
| **System Interface** | PCI (Intel proprietary) + SMBus |
| **Data rates supported** | 1. 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>2. 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>3. 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 802.3 clauses 40)<br>4. 2.5 Gbit/s operation ( 2.5GBASE-T;  IEEE 802.3bz Clause 126)<br>5. Auto-Negotiation (Automatic Speed Selection)<br>Full Duplex Operation at all Speeds, Half Duplex operation at 10& 100 Mbit/s |
| **IEEE Compliance** | IEEE 802.1p QoS (Quality of Service) Support<br>IEEE 802.1q VLAN support<br>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)<br>IEEE 802.3az EEE (Energy Efficient Ethernet)<br>IEEE 802.3i 10BASE-T<br>IEEE 802.3u 100BASE-TX<br>IEEE 802.3ab 1000BAE-T<br>IEEE 802.3bz 2.5GBASE-T |
| **Performance** | TCP/IP/UDP Checksum Offload (configurable)<br>Protocol Offload (ARP & NS)<br>Large send offload and Giant send offload<br>Receiving Side Scaling (Hash Mode Only)<br>Jumbo Frame 9K |

*Technical Specifications – Networking and Communications*

| | |
|---|---|
| **Power consumption** | Cable Disconnection: 25mW<br>100Mbps Full Run: 450mW<br>1000Mbp Full Run: 1000mW<br>2500Mbp Full Run: 4500mW<br>WoL Enable(S3/S4/S5): 50mW<br>WoL Disable(S3/S4/S5): 25mW |
| **Power Management** | ACPI compliant – multiple power modes<br>Situation-sensitive features reduce power consumption<br>Advanced link down power saving for reducing link down power consumption |
| **Management Interface** | Auto MDI/MDIX Crossover cable detection |
| **IT Manageability** | Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)<br>PXE 2.1 Remote Boot<br>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))<br>Comprehensive diagnostic and configuration software suite<br>Virtual Cable Doctor for Ethernet cable status |
| **Security & Manageability** | Intel® non-vPro™ support with appropriate Intel® chipset components |

| **Intel BE200 Wi-Fi 7 +Bluetooth® 5.4 Wireless Card M.2 320MHz PCIe World-wide WLAN vPro[1]** | |
|---|---|
| **Wireless LAN Standards** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n<br>IEEE 802.11ac<br>IEEE 802.11ax<br>IEEE 802.11be<br>IEEE 802.11d<br>IEEE 802.11e<br>IEEE 802.11h<br>IEEE 802.11i<br>IEEE 802.11k<br>IEEE 802.11r<br>IEEE 802.11v |
| **Interoperability** | Wi-Fi certified |
| **Frequency Band** | 802.11b/g/n/ax/be<br>• 2.402 – 2.482 GHz<br><br>802.11a/n/ac/ax/be<br>• 4.9 – 4.95 GHz (Japan)<br>• 5.15 – 5.25 GHz<br>• 5.25 – 5.35 GHz<br>• 5.47 – 5.725 GHz<br>• 5.825 – 5.850 GHz<br>• 5.955 – 6.415 GHz<br>• 6.435 – 6.515 GHz<br>• 6.535 – 6.875 GHz<br>• 6.895 – 7.115 GHz |

*Technical Specifications – Networking and Communications*

| | |
|---|---|
| **Data Rates** | • 802.11b: 1, 2, 5.5, 11 Mbps<br>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11n: max 300Mbps<br>• 802.11ac: 1733Mbps<br>• 802.11ax: max 2.4Gbps<br>• 802.11be: max 5.76Gbps |
| **Modulation** | Direct Sequence Spread Spectrum<br>OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM |
| **Security[2]** | • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only<br>• AES-CCMP: 128 bit in hardware<br>• 802.1x authentication<br>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.<br>• WPA2 certification<br>• WPA3 certification<br>• IEEE 802.11i<br>• WAPI |
| **Network Architecture Models** | Ad-hoc (Peer to Peer)<br>Infrastructure (Access Point Required) |
| **Roaming** | IEEE 802.11 compliant roaming between access points |
| **Output Power[3]** | • 802.11b, 1Mbps: +17dBm minimum<br>• 802.11g, 6Mpbs: +16dBm minimum<br>• 802.11a, 6Mbps: +17dBm minimum<br>• 802.11n, MCS7(HT20): +14dBm minimum<br>• 802.11n, MCS7(HT40): +13.5dBm minimu<br>• 802.11ac MCS9(VHT20): 13.5dBm minimum<br>• 802.11ac MCS9(VHT40): +13.5dBm minimum<br>• 802.11ac MCS9(VHT80): +12.5dBm minimum<br>• 802.11ac MCS9(VHT160): +10.5dBm minimum<br>• 802.11ax MCS11(HE20)(6GHz): +11.5dBm minimum<br>• 802.11ax MCS11(HE40)(6GHz): +7.5dBm minimum<br>• 802.11ax MCS11(HE80)(6GHz): +7.5dBm minimum<br>• 802.11ax MCS11(HE160)(6GHz): +7.5dBm minimum<br>• 802.11be MCS13(EHT20)(6GHz): 11.5dBm<br>• 802.11be MCS13(EHT40)(6GHz): 7.5dBm<br>• 802.11be MCS13(EHT80)(6GHz): 7.5dBm<br>• 802.11be MCS13(EHT160)(6GHz): 6.5dBm<br>• 802.11be MCS13(EHT320)(6GHz): 4.5dBm |
| **Power Consumption** | • Transmit mode 3.1 W<br>• Receive mode 1.8 W<br>• Idle mode (PSP) 180 mW (WLAN Associated)<br>• Idle mode 50 mW (WLAN unassociated)<br>• Connected Standby 10mW<br>• Radio disabled 8 mW |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |

| | |
|---|---|
| **Receiver Sensitivity**[4] | •802.11b, 1Mbps: -93.5dBm maximum<br>•802.11b, 11Mbps: -85dBm maximum<br>• 802.11a/g, 6Mbps: -90.5dBm maximum<br>• 802.11a/g, 54Mbps: -72.5dBm maximum<br>• 802.11n, MCS0(HT20): -90dBm maximum<br>• 802.11n, MCS7(HT20): -71.5dBm maximum<br>• 802.11n, MCS0(HT40): -88.5dBm maximum<br>• 802.11n, MCS7(HT40): -68.5dBm maximum<br>• 802.11ac, MCS9(VHT20): -88.5dBm maximum<br>• 802.11ac, MCS9(VHT40): -65.5dBm maximum<br>• 802.11ac, MCS9(VHT80): -60.5dBm maximum<br>• 802.11ac, MCS9(VHT160): -58.5dBm maximum<br>• 802.11ax, MCS11(HE20)(6GHz): -59.5dBm maximum<br>• 802.11ax, MCS11(HE40)(6GHz): -56.5dBm maximum<br>• 802.11ax, MCS11(HE80)(6GHz): -53.5dBm maximum<br>• 802.11ax, MCS11(HE160)(6GHz): -51.5dBm maximum<br>• 802.11be, MCS13(EHT20)(6GHz): -55.5dBm maximum<br>• 802.11be, MCS13(EHT40)(6GHz): -53.5dBm maximum<br>• 802.11be, MCS13(EHT80)(6GHz): -51.5dBm maximum<br>• 802.11be, MCS13(EHT160)(6GHz): -48.5dBm maximum<br>• 802.11be, MCS13(EHT320)(6GHz): -45.5dBm maximum |
| **Antenna type** | High efficiency antenna with spatial diversity<br>Two embedded tri-band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications |
| **Form Factor** | PCI-Express M.2 MiniCard |
| **Dimensions** | 1. Type 2230: 2.3 x 22.0 x 30.0 mm<br>2. Type 1216: 1.67 x 12.0 x 16.0 mm |
| **Weight** | 1. Type 2230: 2.8g<br>2. Type 1216: 1.3g |
| **Operating Voltage** | 3.3v +/- 9% |
| **Temperature** | Operating: 14° to 158° F (–10° to 70° C)<br>Non-operating: –40° to 176° F (–40° to 80° C) |
| **Humidity** | Operating: 10% to 90% (non-condensing)<br>Non-operating: 5% to 95% (non-condensing) |
| **Altitude** | Operating: 0 to 10,000 ft (3,048 m)<br>Non-operating: 0 to 50,000 ft (15,240 m) |
| **LED Activity** | LED Amber – Radio OFF; 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)<br>BLE: 0~39 (2 MHz/CH) |
| **Data Rates and Throughput** | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels<br>Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5) |
| **Transmit Power** | The Bluetooth component shall operate as a Class I Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR. |

*Technical Specifications – Networking and Communications*

| | |
|---|---|
| **Power Consumption** | Peak (Tx): 330 mW<br>Peak (Rx): 230 mW<br>Selective Suspend: 17 mW |
| **Bluetooth® Software Supported Link Topology** | 1.Microsoft Windows Bluetooth Software<br>2.Linux/Chrome OS Bluetooth Software. |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Certifications** | FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407<br>ETSI 300 328, ETSI 301 893, ETSI 303 687 |
| **Bluetooth® Profiles Supported** | Bluetooth 4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>Train Nudging & Interlaced Scan<br>Bluetooth 4.2 ESR08 Compliance<br>LE Secure Connection- Basic/Full<br>LE Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP)<br>Bluetooth 5.2<br>ESR9/10 Compliance<br>LE Advertisement Extensions<br>Channel Selection Algo<br>Limited High Duty Cycle Non-Connectable Advertising<br>2Mbps LE<br>LE Long Range<br>Bluetooth 5.3<br>Host to Controller Encryption Key Control Enahancements<br>Compliance to the latest Errata Section 12.3 of Bluetooth 5.3 specification |

1. Wi-Fi 7 requires a Wi-Fi 7 router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 7 is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 7 is supported. Wi-Fi 7 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.
2. Check latest software/driver release for updates on supported security features.
3. 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.
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).

| **Intel BE200 Wi-Fi 7 +Bluetooth® 5.4 Wireless Card M.2 320MHz PCIe World-wide WLAN non-vPro[1]** | |
|---|---|
| **Wireless LAN Standards** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n<br>IEEE 802.11ac<br>IEEE 802.11ax<br>IEEE 802.11be<br>IEEE 802.11d<br>IEEE 802.11e<br>IEEE 802.11h<br>IEEE 802.11i<br>IEEE 802.11k<br>IEEE 802.11r<br>IEEE 802.11v |
| **Interoperability** | Wi-Fi certified |
| **Frequency Band** | 802.11b/g/n/ax/be<br>• 2.402 – 2.482 GHz<br>802.11a/n/ac/ax/be<br>• 4.9 – 4.95 GHz (Japan)<br>• 5.15 – 5.25 GHz<br>• 5.25 – 5.35 GHz<br>• 5.47 – 5.725 GHz<br>• 5.825 – 5.850 GHz<br>• 5.955 – 6.415 GHz<br>• 6.435 – 6.515 GHz<br>• 6.535 – 6.875 GHz<br>• 6.895 – 7.115 GHz |
| **Data Rates** | • 802.11b: 1, 2, 5.5, 11 Mbps<br>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11n: max 300Mbps<br>• 802.11ac: 1733Mbps<br>• 802.11ax: max 2.4Gbps<br>• 802.11be: max 5.76Gbps |
| **Modulation** | Direct Sequence Spread Spectrum<br>OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM, 4096QAM |
| **Security[2]** | • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only<br>• AES-CCMP: 128 bitIn hardware<br>• 802.1x authentication<br>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.<br>• WPA2 certification<br>• WPA3 certification<br>• IEEE 802.11i<br>• WAPI |
| **Network Architecture Models** | Ad-hoc (Peer to Peer)<br>Infrastructure (Access Point Required) |
| **Roaming** | IEEE 802.11 compliant roaming between access points |

| | |
|---|---|
| **Output Power**[3] | • 802.11b, 1Mbps: +17dBm minimum<br>• 802.11g, 6Mpbs: +16dBm minimum<br>• 802.11a, 6Mbps: +17dBm minimum<br>• 802.11n, MCS7(HT20): +14dBm minimum<br>• 802.11n, MCS7(HT40): +13.5dBm minimu<br>• 802.11ac MCS9(VHT20): 13.5dBm minimum<br>• 802.11ac MCS9(VHT40): +13.5dBm minimum<br>• 802.11ac MCS9(VHT80): +12.5dBm minimum<br>• 802.11ac MCS9(VHT160): +10.5dBm minimum<br>• 802.11ax MCS11(HE20)(6GHz): +11.5dBm minimum<br>• 802.11ax MCS11(HE40)(6GHz): +7.5dBm minimum<br>• 802.11ax MCS11(HE80)(6GHz): +7.5dBm minimum<br>• 802.11ax MCS11(HE160)(6GHz): +7.5dBm minimum<br>• 802.11be MCS13(EHT20)(6GHz): 11.5dBm<br>• 802.11be MCS13(EHT40)(6GHz): 7.5dBm<br>• 802.11be MCS13(EHT80)(6GHz): 7.5dBm<br>• 802.11be MCS13(EHT160)(6GHz): 6.5dBm<br>• 802.11be MCS13(EHT320)(6GHz): 4.5dBm |
| **Power Consumption** | • Transmit mode 3.1 W<br>• Receive mode 1.8 W<br>• Idle mode (PSP) 180 mW (WLAN Associated)<br>• Idle mode 50 mW (WLAN unassociated)<br>• Connected Standby 10mW<br>• Radio disabled 8 mW |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Receiver Sensitivity**[4] | •802.11b, 1Mbps: -93.5dBm maximum<br>•802.11b, 11Mbps: -85dBm maximum<br>• 802.11a/g, 6Mbps: -90.5dBm maximum<br>• 802.11a/g, 54Mbps: -72.5dBm maximum<br>• 802.11n, MCS0(HT20): -90dBm maximum<br>• 802.11n, MCS7(HT20): -71.5dBm maximum<br>• 802.11n, MCS0(HT40): -88.5dBm maximum<br>• 802.11n, MCS7(HT40): -68.5dBm maximum<br>• 802.11ac, MCS9(VHT20): -88.5dBm maximum<br>• 802.11ac, MCS9(VHT40): -65.5dBm maximum<br>• 802.11ac, MCS9(VHT80): -60.5dBm maximum<br>• 802.11ac, MCS9(VHT160): -58.5dBm maximum<br>• 802.11ax, MCS11(HE20)(6GHz): -59.5dBm maximum<br>• 802.11ax, MCS11(HE40)(6GHz): -56.5dBm maximum<br>• 802.11ax, MCS11(HE80)(6GHz): -53.5dBm maximum<br>• 802.11ax, MCS11(HE160)(6GHz): -51.5dBm maximum<br>• 802.11be, MCS13(EHT20)(6GHz): -55.5dBm maximum<br>• 802.11be, MCS13(EHT40)(6GHz): -53.5dBm maximum<br>• 802.11be, MCS13(EHT80)(6GHz): -51.5dBm maximum<br>• 802.11be, MCS13(EHT160)(6GHz): -48.5dBm maximum<br>• 802.11be, MCS13(EHT320)(6GHz): -45.5dBm maximum |
| **Antenna type** | High efficiency antenna with spatial diversity<br>Two embedded tri-band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications |
| **Form Factor** | PCI-Express M.2 MiniCard |
| **Dimensions** | 1. Type 2230: 2.3 x 22.0 x 30.0 mm<br>2. Type 1216: 1.67 x 12.0 x 16.0 mm |

*Technical Specifications – Networking and Communications*

| | |
|---|---|
| **Weight** | 1. Type 2230: 2.8g<br>2. Type 1216: 1.3g |
| **Operating Voltage** | 3.3v +/- 9% |
| **Temperature** | Operating: 14° to 158° F (–10° to 70° C)<br>Non-operating: –40° to 176° F (–40° to 80° C) |
| **Humidity** | Operating: 10% to 90% (non-condensing)<br>Non-operating: 5% to 95% (non-condensing) |
| **Altitude** | Operating: 0 to 10,000 ft (3,048 m)<br>Non-operating: 0 to 50,000 ft (15,240 m) |
| **LED Activity** | LED Amber – Radio OFF; 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)<br>BLE: 0~39 (2 MHz/CH) |
| **Data Rates and Throughput** | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels<br>Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5) |
| **Transmit Power** | The Bluetooth component shall operate as a ClassI Bluetooth device with a maximum transmit power of +15.5 dBm for BR and +13dBm for EDR. |
| **Power Consumption** | Peak (Tx): 330 mW<br>Peak (Rx): 230 mW<br>Selective Suspend: 17 mW |
| **Bluetooth® Software Supported Link Topology** | 1. Microsoft Windows Bluetooth Software<br>2. Linux/Chrome OS Bluetooth Software. |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Certifications** | FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407<br>ETSI 300 328, ETSI 301 893, ETSI 303 687 |

| | |
|---|---|
| **Bluetooth® Profiles Supported** | Bluetooth 4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>rain Nudging &Interlaced Scan<br>Bluetooth 4.2 ESR08 Compliance<br>E Secure Connection- Basic/Full<br>E Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP)<br>Bluetooth 5.2<br>ESR9/10 Compliance<br>LE Advertisement Extensions<br>Channel Selection Algo<br>Limited High Duty Cycle Non-Connectable Advertising<br>Mbps LE<br>LE Long Range<br>Bluetooth 5.3<br>Host to Controller Encryption Key Control Enahancements<br>Compliance to the latest Errata Section 12.3 of Bluetooth 5.3 specification |

1. Wi-Fi 7 requires a Wi-Fi 7 router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 7Is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 7Is supported. Wi-Fi 7Is 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.
2. Check latest software/driver release for updates on supported security features.
3. 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.
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).

### Realtek RTL8852CE 802.11ax 2x2 Wi-Fi 6E + Bluetooth® 5.3 Wireless Card[1]

(802.11ax 2x2, supporting gigabit data rate)

| | |
|---|---|
| **Wireless LAN Standards** | IEEE 802.11a<br>IEEE 802.11b<br>IEEE 802.11g<br>IEEE 802.11n<br>IEEE 802.11ac<br>IEEE 802.11ax<br>IEEE 802.11d<br>IEEE 802.11e<br>IEEE 802.11h<br>IEEE 802.11i<br>IEEE 802.11k |
| **Interoperability** | Wi-Fi certified |
| **Frequency Band** | 802.11b/g/n/ax<br>• 2.402 – 2.482 GHz<br><br>802.11a/n/ac/ax<br>• 5.15 – 5.25 GHz<br>• 5.25 – 5.35 GHz<br>• 5.47 – 5.725 GHz<br>• 5.825 – 5.850 GHz<br>• 5.955 – 6.415 GHz<br>• 6.435 – 6.515 GHz<br>• 6.535 – 6.875 GHz<br>• 6.895 – 7.115 GHz |
| **Data Rates** | • 802.11b: 1, 2, 5.5, 11 Mbps<br>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>• 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)<br>• 802.11ac: MCS0 ~ MCS9, (20MHz, 40MHz, ,80MHz & 160MHz)<br>• 802.11ax: MCS0 ~ MCS11, (20MHz, 40MHz, ,80MHz & 160MHz) |
| **Modulation** | Direct Sequence Spread Spectrum<br>OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM |
| **Security[2]** | •IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only<br>• AES-CCMP: 128 bit in hardware<br>• 802.1x authentication<br>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.<br>• WPA2 certification<br>• WPA3 (personal) certification<br>• IEEE 802.11i<br>• WAPI<br>• EAP |
| **Network Architecture Models** | Ad-hoc (Peer to Peer)<br>Infrastructure (Access Point Required) |
| **Roaming** | IEEE 802.11 compliant roaming between access points |
| **Output Power[3]** | • 802.11b: +17dBm minimum<br>• 802.11g: +16dBm minimum<br>• 802.11a: +17dBm minimum |

*Technical Specifications – Networking and Communications*

| | |
|---|---|
| | • 802.11n HT20(2.4GHz): +14dBm minimum<br>• 802.11n HT40(2.4GHz): +13dBm minimum<br>• 802.11n HT20(5GHz): +14dBm minimum<br>• 802.11n HT40(5GHz): +13dBm minimum<br>• 802.11ac VHT80(5GHz): +10dBm minimum<br>• 802.11ac VHT160(5GHz): +10dBm minimum<br>• 802.11ax HE40(2.4GHz): +12dBm minimum<br>• 802.11ax HE80(5GHz): +10dBm minimum<br>• 802.11ax HE160(5GHz): +10dBm minimum<br>• 802.11ax HE80(6GHz): +10dBm minimum<br>• 802.11ax HE160(6GHz): +10dBm minimum |
| **Power Consumption** | •Transmit mode:2.5 W<br>•Receive mode:2 W<br>•Idle mode (PSP) 180 mW (WLAN Associated)<br>•Idle mode: 50 mW (WLAN unassociated)<br>•Connected Standby/Modern Standby: 10mW<br>•Radio disabled: 8 mW |
| **Power Management** | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode |
| **Receiver Sensitivity[4]** | 802.11b, 1Mbps: -93.5dBm maximum<br>802.11b, 11Mbps: -84dBm maximum<br>802.11a/g, 6Mbps: -86dBm maximum<br>802.11a/g, 54Mbps: -72dBm maximum<br>802.11n, MCS07: -67dBm maximum<br>802.11n, MCS15: -64dBm maximum<br>802.11ac, MCS0(VHT80): -84dBm maximum<br>802.11ac, MCS9(VHT80): -59dBm maximum<br>802.11ac, MCS9(VHT160): -58.5dBm maximum<br>•802.11ax, MCS11(HE40): -57dBm maximum<br>•802.11ax, MCS11(HE80): -54dBm maximum<br>•802.11ax, MCS11(HE160): -53.5dBm maximum |
| **Antenna type** | High efficiency antenna with spatial diversity<br>Two embedded tri-band 2.4/5/6 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications |
| **Form Factor** | PCI-Express M.2 MiniCard |
| **Dimensions** | 1. Type 2230: 2.3 x 22.0 x 30.0 mm |
| **Weight** | 1. Type 2230: 2.8g |
| **Operating Voltage** | 3.3v +/- 9% |
| **Temperature** | Operating: 14° to 158° F (–10° to 70° C)<br>Non-operating: –40° to 176° F (–40° to 80° C) |
| **Humidity** | Operating: 10% to 60% (non-condensing)<br>Non-operating: 5% to 95% (non-condensing) |
| **Altitude** | Operating: 0 to 10,000 ft (3,048 m)<br>Non-operating: 0 to 50,000 ft (15,240 m) |
| LED Activity | N/A |

| HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology | |
|---|---|
| **Bluetooth Specification** | 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Compliant |
| **Frequency Band** | 2402 to 2480 MHz |
| **Number of Available Channels** | Legacy: 0~79 (1 MHz/CH)<br>BLE: 0~39 (2 MHz/CH) |
| **Data Rates and Throughput** | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels<br>Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5) |
| **Transmit Power** | The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR. |
| **Power Consumption** | Peak (Tx): 330 mW<br>Peak (Rx): 230 mW<br>Selective Suspend: 17 mW |
| **Bluetooth® Software Supported Link Topology** | Microsoft Windows Bluetooth Software |
| **Power Management** | Microsoft Windows ACPI, and USB Bus Support |
| **Certifications** | FCC (47 CFR) Part 15C/E, Section 15.247, 15.249, 15.407<br><br>ETSI 300 328, ETSI 301 893, ETSI 303 687 |
| **Bluetooth® Profiles Supported** | Bluetooth 4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>Train Nudging & Interlaced Scan<br>Bluetooth 4.2 ESR08 Compliance<br>LE Secure Connection- Basic/Full<br>LE Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP)<br>Bluetooth 5.2<br>ESR9/10 Compliance<br>LE Advertisement Extensions<br>Channel Selection Algo<br>Limited High Duty Cycle Non-Connectable Advertising<br>2Mbps LE<br>LE Long Range<br>Windows Bluetooth profiles support<br>Bluetooth 5.3<br>Periodic Advertisement interval<br>Encryption key size control enhancements |

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported. Wi-Fi 6E is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.
2. Check latest software/driver release for updates on supported security features.
3. 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.
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 Flex 1GbE Fiber LC Single Port** | |
|---|---|
| **Connector** | Fiber |
| **Cabling** | I GbE over Category OM1 (or better) up to 100m |
| **Controller** | Microchip LAN7801 |
| **Data Rates Supported** | 100/1000 Mbps |
| **Compliance** | IEE 802.1q priority enconding/tagging (QoS, CoS)<br>IEE 802.1q VLAN tagging<br>IEE 802.3x flow control |
| **Bus Architecture** | USB |
| **Power requirement** | Requires 3.3V (Integrated regulators for code Vdc) |
| **Boot ROM support** | Yes |
| **Network transfer mode** | Full-duplex; Half duplex |
| **Network transfer rate** | 100BASE-X (Half-duplex) 100Mbps<br>1000BASE-X (Half-duplex) 1000Mbps<br>1000BASE-X (Full-duplex) 2000Mbps |
| **Operating temperature** | 32° to 95° F (0° to 35°C) |
| **calvin** | 1.5 x 1.7 x 0.75 In (3.84 x 4.3 x 1.9 cm) |
| **Operating System Driver Support** | Windows 11 64-Bit<br>Linux® |

## I/O DEVICES

| HP USB Business Slim v2 Wired SmartCard CCID Keyboard | | |
|---|---|---|
| **Physical Characteristics** | Keys | 104, 105, 107, 109 layout (depending upon country) |
| | Dimensions (LxWxH) | 17.34 x 5.68 x 0.78 in (440.6 x 144.5 x 1.98 cm) |
| | Weight | 1.32 lb (598g) |
| **Electrical** | Operating voltage | 5 VDC, +/-5% |
| | Power consumption | 100mA (All LED on) |
| | System Interface | USB Type A plug connector |
| | ESD | Contact Discharge: 8 KV Air Discharge: 12.5 KV |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Keycaps | Low-profile design |
| | Switch actuation | 60±10g nominal peak force with tactile feedback |
| | Switch life | 10 million keystrokes (Life tester) |
| | Switch type | Contamination-resistant switch membrane |
| | Key-leveling mechanisms | For all double-wide and greater-length keys |
| | Cable length | 6 ft (1.8 m) |
| **Environmental** | Acoustics | 43-dBA maximum sound pressure level |
| | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -22° to 140° F (-30° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Operating shock | 40 g, six surfaces |
| | Non-operating shock | 80 g, six surfaces |
| | Operating vibration | 2-g peak acceleration |
| | Non-operating vibration | 4-g peak acceleration |
| | Drop (out of box) | 26 in (66 cm) on carpet, six-drop sequence |
| | Drop (in box) | 30 in (76.2 cm) on concrete, 16-drop sequence |
| **SmartCard Function** | Support | All ISO 7816 smart cards<br>Support Extended APDU |
| | Interface | Reads from and writes to all ISO7816-1, 2, 3, 4 memory and microprocessor smart cards (T=0, T=1) |
| | Chipset | IDENTIV CLOUD 2190 F |
| | Standard APIs supported | PC/SC, EMV2000, CT-API |
| | Power | USB Port |
| | | Short circuit detection (protects smart card and reader) |
| | | Power supply compliant with ISO7816 and EMV (5V, 60 mA) |
| | | Supports 3-V and 5-V cards |

| | | | |
|---|---|---|---|
| | Power consumption | 100-mA maximum draw | |
| | Communication | From card | 9600 bps to 330,000 bps |
| | | From computer | 12 Mbps (USB transfer speed) |
| | Landing mechanism | Contact device | Friction contact |
| | | Card insertions rating | Up to 100,000 insertion cycles |
| | Interface modes | CCID protocol | |
| | Reader performance interface | USB connection | |
| | Electro-magnetic standards | Europe | 2004/108/EC |
| | | USA | USAFCC part 15 |
| **Approvals** | CE Marking, TUV, EAC, FCC, cULus/CSAus, ICES, RCM, VCCI, KCC, BSMI | | |
| **Ergonomic compliance** | ISO 9241-4, TUVGS | | |

| **HP 125 v2 AntiMicrobial Wired Keyboard (China only)** | | |
|---|---|---|
| **Physical Characteristics** | Keys | 104/105/107/109 layout (depending upon country) |
| | Dimensions (LxWxH) | 436 x 138 x20.7 mm |
| | Weight | 471g |
| **Electrical** | Operating voltage | 5V +- 5% |
| | Power consumption | 50mA |
| | System Interface | USB Type A plug connector |
| | ESD | Contact Discharge: 8 KV Air Discharge: 12.5 KV |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Keycaps | Low-profile design |
| | Switch actuation | 55±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 | 1.8 m |
| **Environmental** | Acoustics | 43-dBA maximum sound pressure level |
| | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -4° to 149° F (-20° to 65° C) |
| | Operating humidity | 10% to 95% (non-condensing at ambient) |
| | Non-operating humidity | 0% 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 |
| | 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, cUL, FCC, CE, TUV GS, VCCI, BSMI, RCM, KCC, USB-IF, WHQL, EN/IEC 60601-1 | |
| **Ergonomic compliance** | ANSI HFS 100, ISO 9241-4, and TUVGS | |

| 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 |
| | Cable length | 6 ft (1.8 M) |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Key Structure (Switch type and feeling) (Plunger) | Plunger, Key travel: 2.5mm +/-0.2mm at 120gf, low profile key travel |
| | Key actuation | 60±8g nominal peak force with tactile feedback |
| | Key life | 10 million keystrokes (Life tester) |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Approvals** | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC, EAC, BIS | |

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

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

| HP 320K v2 Wired Desktop Keyboard | | |
|---|---|---|
| **Physical Characteristics** | Keys | 104, 105, 107,109 layouts |
| | Dimensions(LxWxH) | 18.86*4.55*0.66 in (426.2 x 110.9 x 16.7 mm) |
| | Weight | 1.00 lb(452g) |
| **Electrical** | Operating voltage | 5 VDC, +/-5% |
| | Power consumption | 50 mA Max (All LED on) |
| | System Interface | USB Port |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV (Class B) |
| | EMI - RFI | European Standard EN 55022: 2006+A1: 2007, Class B. FCC/CFR 47: Part 15 Class B |
| **Mechanical** | Keycaps | 2.0mm +/-0.2mm at 120gf Key travel |
| **Environmental** | Operating temperature | 10° C to 90° C |
| | Non-operating temperature | -30° C to 95° C |
| | Operating humidity | N/A |
| | Non-operating humidity | 10% to 90% (non-condensing at ambient) |
| | Operating shock | N/A |

<table>
<tr><td rowspan="8"></td><td rowspan="2">Non-operating shock</td><td colspan="3">i. Half-Sine Shock – End-Use Handling, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Axis: X, Y, Z axis (all 6 faces) – sample normal mode of operation.<br>Number of shocks: 1 shock/face.<br>Pulse duration: < 3 ms<br>Velocity change: 50lps (inch-per-second)- 65lps desired.<br><br>ii. Trapezoidal Shock- Transportation Environment, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Orientation: All six faces: Front, Rear, Left, Right, Bottom, and Top.<br>Configuration: As intended for shipment<br>Number of shocks: 1 shock/face.<br>Minimum faired acceleration: 30G's. Test also at 40 and 50G's to find margin.<br>Velocity change: 266lps (inch-per-second) for product mass (m) 20<m<40lb</td></tr>
<tr><td rowspan="5">Operating vibration</td><td>Frequency (Hz)</td><td>Slope (dB/oct)</td><td>PSD ($g^2$/Hz)</td></tr>
<tr><td>5-350</td><td>0</td><td>0.0001</td></tr>
<tr><td>350-500</td><td>-6</td><td>-</td></tr>
<tr><td>500</td><td>-</td><td>0.00005</td></tr>
<tr><td colspan="3">(~0.21$G_{nms}$)</td></tr>
<tr><td rowspan="6">Non-operating vibration</td><td colspan="3">Total Test time: 10 minutes</td></tr>
<tr><td>Frequency (Hz)</td><td>Slope (dB/oct)</td><td>PSD ($g^2$/Hz)</td></tr>
<tr><td>5.100</td><td>0</td><td>0.015</td></tr>
<tr><td>100-137</td><td>-6</td><td>-</td></tr>
<tr><td>137-350</td><td>0</td><td>0.008</td></tr>
<tr><td>350-500</td><td>-6</td><td>-</td></tr>
<tr><td>500</td><td>-</td><td>0.0039</td></tr>
<tr><td>Drop (out of box)</td><td colspan="3">76cm on carpet, six-drop sequence</td></tr>
<tr><td>Drop (in box)</td><td colspan="3">10 times drop including 6 faces, one corner and 3 edges on rigid surface.<br>Drop Height: 91cm</td></tr>
<tr><td>Approvals</td><td colspan="4">CB, CE, FCC, ICES, EAC, NOM-NYCE SCT, RCM, BIS, VCCI, KC, BSMI</td></tr>
<tr><td>Ergonomic compliance</td><td colspan="4">TUVGS</td></tr>
</table>

| HP 725 Multi-Device Rechargeable Wireless Keyboard | | |
|---|---|---|
| **Physical Characteristics** | Keys | US-109 Keys<br>POD-110 Keys<br>JP-114 Keys<br>LA-110 Keys |
| | Dimensions (LxWxH) | 420.47 x 120.7 x 17.66(mm); 16.56 x 4.75 x 0.7(in) |
| | Weight | 1.1lb; 499g |
| **Electrical** | Operating voltage | 2.5V~3.8V |
| | Power consumption | 2.4G Active=0.833mA Idle=0.065mA Sleep=0.03mA Power off=0.006mA<br>BLE Active=0.414mA Idle=0.048 Sleep=0.03mA Power off=0.006mA |
| | System Interface | 2.4GHz Wireless +Bluetooth 5.3 |
| | ESD | 4kV, Contact Discharge<br>8kV, Air Discharge |
| | EMI - RFI | -3dB |
| **Mechanical** | Key Structure<br>(Switch type and feeling)<br>(Plunger, Scissor, Mechanical) | Scissor, 2.0mm ± 0.3mm low profile key travel |
| | Key actuation | Contact Point: 1.1±0.4mm |
| | Key life | 10 million keystrokes (Life tester) |
| | Key structure type | Scissor |
| | Key-leveling mechanisms | balance bar |
| **Environmental** | Operating temperature | -29°C ~ 60°C |
| | Non-operating temperature | -20°C ~ 65°C |
| | Operating humidity | N/A |
| | Non-operating humidity | 0-95%RH |
| | Operating shock | 40G, 2ms, 1 impact on the ± X, ± Y, and + Z axes, with a total of 6 impacts |
| | Non-operating shock | 240G, 2ms, 1 impact on the ± X, ± Y, and + Z axes, with a total of 6 impacts |
| | Operating vibration | N/A |
| | Non-operating vibration | Frequency: 5-55-5 (Hz),<br>Amplitude: 2mm,<br>Vibration direction: X, Y, Z, three axes in total,<br>Cycle time: 3 minutes/CYCLE, Number of cycles: 10 times,<br>Test time: 30 minutes/axis, total 90 minutes |
| | Drop (out of box) | 6 faces & 4 corners, 76cm |
| | Drop (in box) | 1 corner, 3 edge, 6 flat |
| **Approvals** | CB; FCC; IC; RCM; WPC; NTC; IMDA; BSMI; NCC; SRRC; SIRIM; TRA; EAC; ICASA; UKCA; KCC; TUV; RATEL; IFETEL; BIS; MOICT; iCTqatar; RoHS; Subtel; NKRZI | |

| **HP Wired Desktop 320M Mouse** | | |
|---|---|---|
| **Physical Characteristics** | Keys | Left/right key |
| | Dimensions (LxWxH) | 4.09 x2.50 x 1.40 in (103.8x 63.4 x 35.5 mm) |
| | Weight | 0.16 lb (72g) |
| **Electrical** | Operating voltage | 5 VDC, +/-0.25V |
| | Power consumption | 100 mA Max |
| | System Interface | USB Port |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV (Class B) |
| | EMI - RFI | European Standard EN 55022: 2006+A1: 2007, Class B.<br>FCC/CFR 47: Part 15 Class B |
| **Mechanical** | Keycaps | 0.3mm key travel |
| | Key actuation | 75±20g |
| | Key life | 1million cycles |
| | Key structure type | Tact Switch |
| | Key-leveling mechanisms | N/A |
| **Environmental** | Operating temperature | 10° to 90° C |
| | Non-operating temperature | -30° C to 95° C |
| | Operating humidity | N/A |
| | Non-operating humidity | 10% to 90% (non-condensing at ambient) |
| | Operating shock | N/A |
| | Non-operating shock | i. Half-Sine Shock – End-Use Handling, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Axis: X, Y, Z axis (all 6 faces) – sample normal mode of operation.<br>Number of shocks: 1 shock/face.<br>Pulse duration: < 3 ms<br>Velocity change: 50lps (inch-per-second)- 65lps desired.<br><br>ii. Trapezoidal Shock- Transportation Environment, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Orientation: All six faces: Front, Rear, Left, Right, Bottom, and Top.<br>Configuration: As intended for shipment<br>Number of shocks: 1 shock/face.<br>Minimum faired acceleration: 30G's. Test also at 40 and 50G's to find margin.<br>Velocity change: 266lps (inch-per-second) for product mass (m) 20<m<40lb |

| | | | | |
|---|---|---|---|---|
| | Operating vibration | **Frequency (Hz)** | **Slope (dB/oct)** | **PSD ($g^2$/Hz)** |
| | | 5-350 | 0 | 0.0001 |
| | | 350-500 | -6 | - |
| | | 500 | - | 0.00005 |
| | | (~0.21$G_{nms}$) | | |
| | | Total Test time: 10 minutes | | |
| | Non-operating vibration | **Frequency (Hz)** | **Slope (dB/oct)** | **PSD ($g^2$/Hz)** |
| | | 5.100 | 0 | 0.015 |
| | | 100-137 | -6 | - |
| | | 137-350 | 0 | 0.008 |
| | | 350-500 | -6 | - |
| | | 500 | - | 0.0039 |
| | Drop (out of box) | 76cm on carpet, six-drop sequence | | |
| | Drop (in box) | N/A | | |
| **Approvals** | CB, CE, FCC, cULus, ICES, EAC, NOM-NYCE SCT, RCM, VCCI, KC, BSMI | | | |
| **Ergonomic compliance** | TUVGS | | | |

| **HP 375 Secure Smartcard USB Keyboard** | | |
|---|---|---|
| **Physical Characteristics** | Keys | 107, 108, 110, 111 layout (depending upon country) |
| | Dimensions (LxWxH) | 16.88 x 4.61 x 0.75 in (428.8 x 117.1 x 19 mm) |
| | Weight | 1.02lb (462g) |
| **Electrical** | Operating voltage | 5 VDC, +/-5% |
| | Power consumption | 100mA (All LED on) |
| | System Interface | USB Type A plug connector |
| | ESD | Contact Discharge: 8 KV Air Discharge: 15 KV |
| | EMI - RFI | Conforms to FCC rules for a Class B computing device |
| **Mechanical** | Keycaps | Low-profile design |
| | Switch actuation | 60±10g nominal peak force with tactile feedback |
| | Switch life | 10 million keystrokes (Life tester) |
| | Switch type | Contamination-resistant switch membrane |
| | Key-leveling mechanisms | For all double-wide and greater-length keys |
| | Cable length | 6 ft (1.8 m) |
| **Environmental** | Acoustics | Regular Key: < 43 dBA; Space bar: < 45 dBA |
| | Operating temperature | 50° to 104° F (10° to 40° C) |
| | Non-operating temperature | -22° to 140° F (-30° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |

| | | | |
|---|---|---|---|
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) | |
| | Operating shock | 40 g, six surfaces | |
| | Non-operating shock | 80 g, six surfaces | |
| | Operating vibration | 2-g peak acceleration | |
| | Non-operating vibration | 4-g peak acceleration | |
| | Drop (out of box) | 26 in (66 cm) on carpet, six-drop sequence | |
| | Drop (in box) | 30 in (76.2 cm) on concrete, 16-drop sequence | |
| **Smartcard reader** | Support | All ISO 7816 smart cards<br>Support Extended APDU | |
| | Interface | Fully compliant with EMV L1, ISO 7816-1,2,3,4, memory cards read/write, Synchronous/Asynchronous Protocols T=0 and T=1. Programmable smart card clock from 1MHz to 12MHz. | |
| | Chipset | Hirsch CLOUD 2190F | |
| | Standard API's supported | PC/SC, EMV2000, CT-API | |
| | Power | USB bus<br>Support step up/down DCDC converter<br>Class A: 5V 60mA<br>Class B: 3V 60mA<br>Class C 1.8V 35mA | |
| | Power consumption | Max 100mA | |
| | Communication | From Card | 9,600bps to 330,000bps |
| | | From Computer | 12Mpbs(USB full speed) |
| | Landing mechanism | Contact device | Friction contact |
| | | Card insertion rating | Up to 100,000 insertion cycles |
| | Interface modes | CCID protocol | |
| | Reader performance Interface | USB connection | |
| | Electro-Magnetic standards | Europe | 2004/108/EC |
| | | USA | USAFCC part 15 |
| **Approvals** | CE Marking, TUV-GS, EAC, FCC, cULus, ICES, RCM, VCCI, KCC, BSMI, India BIS, Ukraine | | |
| **Ergonomic compliance** | ISO 9241-410 | | |

| **HP USB 125 Antimicrobial (China only) / 128 Laser Mouse** | | |
|---|---|---|
| **Dimensions** (HxLxW) | 112 x 63 x 36.2 mm | |
| **Weight** | 85 g | |
| **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 |
| | 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) | 100mA |
| | Resolution | 1,200 DPI |
| | Sensor | Optical/ Laser USB mouse sensor |
| | Tracking speed | 30 inch/sec (max) |
| | Tracking acceleration | 8G(max), 1G=9.8m/s2 |
| **Mechanical** | Connector | USB |
| | 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 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 175 Antimicrobial Wired Mouse** | | |
|---|---|---|
| **Dimensions (LxWxH)** | 123 x 65 x 39 (mm); 4.84 x 2.56 x 1.54 (in) | |
| **Weight** | 80 (g);0.18 (lb) | |
| **Environmental** | Operating temperature | 50° to 122° F (10° to 50° C) |
| | Non-operating temperature | -32° to 140° F (-40° to 60° C) |
| | Operating humidity | 10% to 90% (non-condensing at ambient) |
| | Non-operating humidity | 20% to 80% (non-condensing at ambient) |
| | Drop (out of box) | 6 faces, 76cm, rigid surface |
| | Drop (in box) | 6 faces, 1 corner and 3 edges on rigid surface, drop Height: 91cm |
| **Electrical** | Operating voltage | 4.75~5.25V |
| | Power consumption (typical) | 100mA |
| | Resolution | 1,200 DPI |
| | Sensor | Optical USB mouse sensor |
| | System Interface | USB |
| | Cable length | 6 ft (1.8 M) |

| **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 |

| **HP 725 Multi-Device Rechargeable Wireless Mouse** | | |
|---|---|---|
| **Dimensions** (HxLxW) | 114.89 x 73.26 x 39.86 (mm); 4.52 x 2.88 x 1.57 (in) | |
| **Weight** | 90.1(g); 0.2(lb) | |
| **Environmental** | Operating temperature | -29°C ~ 60°C |
| | Non-operating temperature | -20°C ~ 65°C |
| | Operating humidity | N/A |
| | Non-operating humidity | 0-95%RH |
| | Operating shock | 40G, 2ms, 1 impact on the ± X, ± Y, and + Z axes, with a total of 6 impacts |
| | Non-operating shock | 240G, 2ms, 1 impact on the ± X, ± Y, and + Z axes, with a total of 6 impacts |
| | Operating vibration | N/A |
| | Non-operating vibration | Frequency: 5-55-5 (Hz),<br>Amplitude: 2mm,<br>Vibration direction: X, Y, Z, three axes in total,<br>Cycle time: 3 minutes/CYCLE, Number of cycles: 10 times,<br>Test time: 30 minutes/axis, total 90 minutes |
| **Electrical** | Operating voltage | 2.5V~3.8V |
| | Power consumption (typical) | 2.4G Active=1.126mA Idle=0.108mA Sleep=0.042mA Power off=0.007mA<br>BLE Active=1.057mA Idle=0.102mA Sleep=0.044mA Power off=0.005mA |
| | Resolution | 1,200 DPI (Default)<br>Range: 800->1200 (default)->1600->2400->3600->4000 DPI<br>Adjustable by HPX (or HPAC) from 800 to 4000, every 50 dpi per step |
| | Sensor | PAW3220DB |
| | Tracking speed (Report rate) | 125Hz |
| | Tracking acceleration | 2.4GHz Wireless and Bluetooth |
| **Mechanical** | Color | Black |
| **Regulatory approvals** | Compliant | CB; FCC; IC; RCM; WPC; NTC; IMDA; BSMI; NCC; SRRC; SIRIM; TRA; EAC; ICASA; UKCA; KCC; TUV; RATEL; IFETEL; BIS; MOICT; iCTqatar; RoHS; Subtel; NKRZI |

## AUDIO/MULTIMEDIA

### HP EliteDesk 8 Mini G1i Desktop AI PC

| | |
|---|---|
| Type | Integrated |
| HD Stereo Codec | Realtek ALC3252 |
| Audio I/O Ports | combo audio jack with CTIA and OMTP headset support |
| Internal Speaker Amplifier | 2W class D mono amplifier for the internal speaker only. External speakers must be powered |
| Multi-streaming Capable | Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front and rear jacks or integrated speaker. |
| Sampling | Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 192 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 |

### HP EliteDesk 8 SFF G1i Desktop AI PC

| | |
|---|---|
| Type | Integrated |
| HD Stereo Codec | Realtek ALC 3252 |
| Audio I/O Ports | Front: Headset connector supports a CTIA and OMTP style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port<br>Rear: Line-out, Line-in*, 3.5mm and support stereo and retasking |
| Internal Speaker Amplifier | 2W class D mono amplifier for the internal speaker only. External speakers must be powered |
| Multi-streaming Capable | Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front and rear jacks or integrated speaker. |
| Sampling | Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 96 kHz for ADC |
| Wavetable Syntheses | Yes – Uses OS soft wavetable |
| Analog Audio | Yes |
| # of Channels on Line-Out | Stereo (Left & Right channels) |
| Internal Speaker | Yes |

***NOTE:** System default is line-out. Line-in / Line-out can be adjusted through the audio setting

### HP Elite Tower 800/880 G1i Desktop PC

| | |
|---|---|
| Type | Integrated |
| HD Stereo Codec | Realtek ALC 3252 |
| Audio I/O Ports | Front: Headset connector supports a CTIA and OMTP style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port<br>Rear: Line-out, Line-in*, 3.5mm and support stereo and retasking |
| Internal Speaker Amplifier | 2W class D mono amplifier for the internal speaker only. External speakers must be powered |
| Multi-streaming Capable | Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front and rear jacks or integrated speaker. |
| Sampling | Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 192 kHz for ADC |
| Wavetable Syntheses | Yes - Uses OS soft wavetable |
| Analog Audio | Yes |
| # of Channels on Line-Out | Stereo (Left & Right channels) |

***NOTE:** System default is line-out. Line-in / Line-out can be adjusted through the audio setting

### HP EliteStudio 8 All-in-One G1i 23.8 / 27-inch Desktop AI PC

| | |
|---|---|
| Type | Integrated |
| HD Stereo Codec | Realtek ALC3274 |
| Audio I/O Ports | Down facing headset connector supports a CTIA/OMTP style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port<br>All ports are 3.5mm and support stereo |
| Internal Speaker Amplifier | 5W per channel class D stereo amplifier for the internal speakers only |
| Multi-streaming Capable | Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front and rear jacks or integrated speakers. |
| 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 192 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 - Stereo |

## INTEGRATED WEBCAM AND MICROPHONE

Integrated Webcam and Microphone
Optional integrated 5 MP Webcam + Color Light Sensor with integrated dual array digital microphones;
Optional integrated 5 MP Webcam + IR Sensor + ISP + Color Light Sensor with integrated dual array digital microphones (Supports Windows Hello and human presence detection))

## POWER

### HP EliteDesk 8 Mini G1i Desktop AI PC

**Unit Environment and Operating Conditions**

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

### HP EliteDesk 8 SFF G1i Desktop AI PC

**Unit Environment and Operating Conditions**

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

### HP EliteDesk 8 Tower G1i / G1i E Desktop AI PC

**Unit Environment and Operating Conditions**

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

### HP EliteStudio 8 All-in-One G1i 23.8 / 27-inch Desktop AI PC

**Unit Environment and Operating Conditions**

| | |
|---|---|
| Temperature Range | Operating: 5°C ~45°C<br>Non-Operating: -40°C ~66°C |
| Relative Humidity | Operating 5% to 90% relative humidity at max inlet temperature<br>Non-Operating 5% to 90% relative humidity at max inlet temperature |
| Maximum Altitude (unpressurized) | Operating: 5000m<br>Non-operating: 50,000 ft. (15240 m) |

*Technical Specifications – Power*

| | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| **External Power Supplies[1]** | 90W EPS, active PFC, 88% average efficiency at 115V & 89% at 230Vac<br>100W EPS Type-C[2], active PFC, 88% average Efficiency at 115V & 89% at 230Vac<br>120W EPS, active PFC, 88% average efficiency at 115V & 89% at 230Vac<br>150W EPS, active PFC, 88% efficiency in 115Vac / 89% efficiency in 230Vac<br>180W EPS, active PFC, 88% average efficiency at 115V & 89% at 230Vac | N/A | N/A | N/A |
| **Internal Power Supply** | N/A | **280W active PFC Efficiency at 115Vac** 80PLUS Platinum certified 90/92/89% efficient at 20/50/100% load **Efficiency at 230Vac** 91/93/90% at 20/50/100% load Which meet 80PLUS Platinum<br><br>**180W active PFC Efficiency at 115Vac** 80PLUS Gold certified 87/90/87% efficient at 20/50/100% load **Efficiency at 230Vac** 90/92/89% at 20/50/100% load Which meet 80PLUS Gold | **500W/280W/400W active PFC Efficiency at 115Vac** 80PLUS Platinum certified 90/92/89% efficient at 20/50/100% load **Efficiency at 230Vac** 91/93/90% at 20/50/100% load Which meet 80PLUS Platinum | **280W active PFC , Efficiency at 115Vac** 80PLUS Platinum certified 90/92/89% efficient at 20/50/100% load **Efficiency at 230Vac** 90/92/89% at 20/50/100% load Which meet 80PLUS Platinum |
| **Operating Voltage Range** | 90Vac~264Vac | 90Vac~264Vac | 90Vac~264Vac | 90Vac~264Vac |
| **Rated Voltage Range** | 100Vac~240Vac | 100Vac~240Vac | 100Vac~240Vac | 100Vac~240Vac |
| **Rated Line Frequency** | 50HZ~60HZ | 50HZ~60HZ | 50HZ~60HZ | 50HZ~60HZ |
| **Operating Line Frequency** | 47HZ~63HZ | 47HZ~63HZ | 47HZ~63HZ | 47HZ~63HZ |
| **Rated Input Current with Energy Efficient* Power Supply** | 90W≦1.7A<br>100W≦1.6A<br>120W≦1.7A<br>150W≦2.5A<br>180W≦2.5A | 280W Platinum≦3.3A<br>180W Gold ≦2.3A | 400W Platinum≦5.2A<br>280W Platinum≦3.3A<br>500W Platinum≦6A | 280W≦3.2A |

*Technical Specifications – Power*

| | | | | |
|---|---|---|---|---|
| **DC Output** | +19.5V | +12V | +12V | +20V |

1. External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.
2. The 100W USB Type-C power adapter is not certified for medical use. For medical environments, customers should use the conventional (barrel type) power adapter.

| | **Mini** | **SFF** | **TWR** | **AiO** |
|---|---|---|---|---|
| **Current Leakage (NFPA 99: 2012)** | Less than 40 microamps of leakage current at 250 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.<br>Less than 40 microamps of leakage current at 250 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. | Less than 500 microamps of leakage current at 264 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.<br>Less than 100 microamps of leakage current at 264 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. | Less than 500 microamps of leakage current at 264 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.<br>Less than 100 microamps of leakage current at 264 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. | Less than 500 microamps of leakage current at 264 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.<br>Less than 100 microamps of leakage current at 264 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. |
| **Power Supply Fan** | N/A | 70 mm variable speed | 70 mm variable speed | N/A |
| **Power cord length** | 6.0 ft. (1.83 m)[1] | 6.0 ft. (1.83 m)[2] | 6.0 ft. (1.83 m)[2] | 6.0 ft. (1.83 m)[1,2] |
| **External Power Adapter** | External power | Internal power | Internal power supply | Internal power supply |
| **Dimensions** | 90W: 127 x 51 x 30 mm<br>100W: 136 x 60 x 22 mm<br>120W: 138 x 68.5 x 25.4 mm<br>150W: 148 x 75.5 x 25.4 mm<br>180W: 165.5 x 75.9 x 25.4 mm | 165 x 95 x 73 mm | 165 x 95 x 73 mm | 90 x 130 x 26 mm |
| **Total Cord Length** | 1 m, 6.0 ft. (1.83 m) | 6.0 ft. (1.83 m) | 6.0 ft. (1.83 m) | 6.0 ft. (1.83 m) |

1. Power cord length will be varied from different type of cords start from 1.8m.
2. The length of India power cord is 2.0m

*Technical Specifications – Power*

The power supply shall comply with harmonic input current requirements as detailed in EN61000-3-2 and JEIDA MITI standards.
The harmonic input current requirements must be met under the following operating conditions:
Load Requirements: 50% and 100%
Input Voltage: 230Vac/50Hz.
For active power factor correction the power factor at 50% &100% loads shall be greater than 0.9 over the entire nominal input voltage range (100-127VAC and 200-240VAC).

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

## WEIGHTS & DIMENSIONS

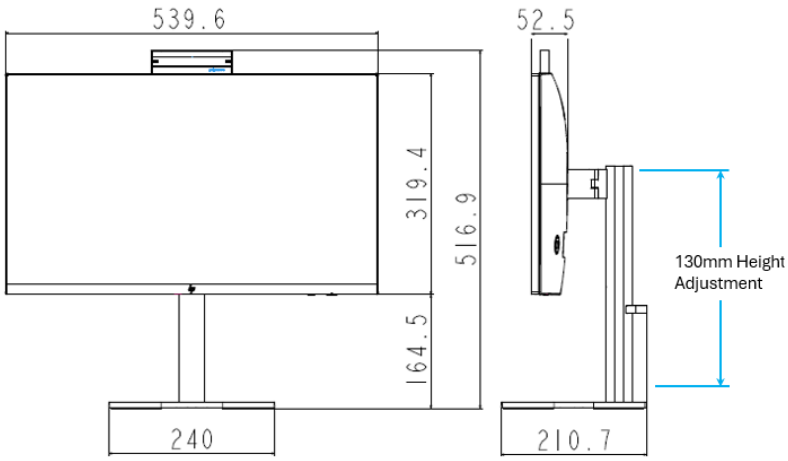
| | Mini | SFF | TWR | AiO |
|---|---|---|---|---|
| **Chassis** (WxDxH) | 6.97 x 7.13 x 1.35 in<br>(177 x 181 x 34 mm) | 11.95 x 12.13 x 3.94 in<br>(303.5 x 308 x 100 mm) | 6.1 x 12.13 x 13.27 in<br>(155 x 308 x 337 mm) | See the table below. |
| **System Volume** | 66.86 cu in<br>(1.09 L) | 570.57 cu in<br>(9.35 L) | 982 cu in<br>(16.1 L) | |
| **Standard System Weight** | 2.97 lb<br>(1.35 kg) | 10.4 lb<br>(4.7 kg) | 13.7 lb<br>(6.22 kg) | |
| **Heavy Configuration Weight** | N/A | 11.5 lb<br>(5.21 kg) | 15.6 lb<br>(7.09 kg) | |
| **Stand Dimensions** (WxDxH) | 117 x 160 x 20 mm | 151.7 x 199.8 x 38.2mm | N/A | |
| **Packaging** (WxDxH) | Packaging 1:<br>18.9 x 4.1 x 9.4 in<br>(481 x105 x 240 mm)<br><br>Packaging 2[1]:<br>19.6 x 5.2 x 9.3 in<br>(498 x x132 x 235 mm) | 7.87 x 19.65 x 15.51 in<br>(200 x 499 x 394 mm)<br><br>**MPP:**7.87 x 19.65 x 15.51 in<br>(200 x 499 x 394 mm) | 15.75 x 19.65 x 11.30 in<br>(400 x 499 x 287 mm)<br><br>**MPP:**15.75 x 19.65 x 11.30 in<br>(400 x 499 x 287 mm) | |
| **Shipping Weight** | 2.95 kg<br>(6.49 lb) | 13.04 lb (5.92 kg)<br>**MPP:** 13.74 lb (6.24 kg) | 18.46 lb (8.38 kg)<br>**MPP**: 19.34 lb (8.78kg) | |
| **Multipack Packaging** | 20.28 x16.54 x 25 in<br>(515 x 420 x 636 mm) | 8 units per pack<br>32 units per pallet<br>1200 x 1000 x 1317 mm<br>(include the pallet) | 5-units per pack<br>20 per pallet<br>1200 x 1000 x 1310 mm<br>(including pallet) | |
| **Palletization Profile** (Molded Pulp) | Palletization 1:<br>22-units per layer<br>8 layers max<br>176 units per pallet<br>46.14 x 37.87 x 81.5 in<br>(1172 x 962 x 2070 mm)<br>(including pallet)<br><br>Palletization 2:<br>10-units per layer<br>10 to 19 layers max<br>depending on details of freight<br>100 or 190 units per pallet<br>depending on details of freight<br>46.26 x 39.21 x 103.74 in,<br>(1175 x 996 x 2635 mm)<br>(including pallet) | 6 units per layer<br>12 layers max<br>72 units per pallet<br>1200 x 1000 x 2494 mm<br>(include the pallet) | 6-units per layer<br>8 layesr max<br>48 per pallet<br>1200 x 1000 x 2416 mm<br>(including pallet) | |

1. Only available on selected US, Brazil & Japan SKU (HP EliteDesk 8 Mini G1i Desktop AI PC).
2. Actual weight depends on configuration.
3. Packaging material used will vary by country.
4. TWR/SFF system weight uses 1 HDD + 1 ODD + 1 DIMM configuration.
5. The palletization is for single pack.
6. Palletization options depend on the factories.

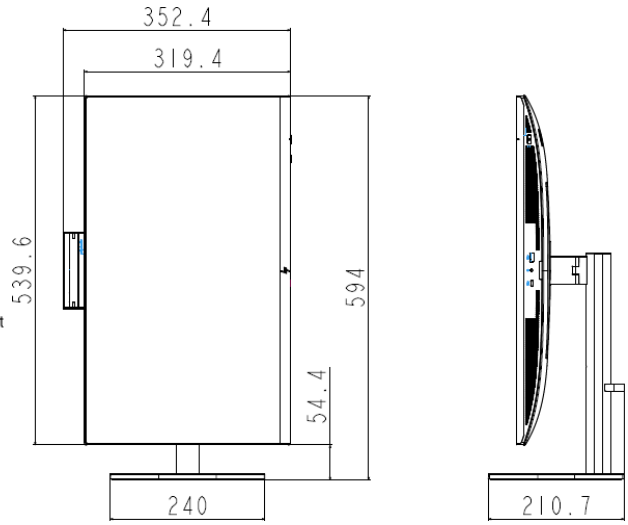
## STANDS AND DIMENSIONS

### HP EliteStudio8 G1i 23.8" AIO Adjustable Height Stand

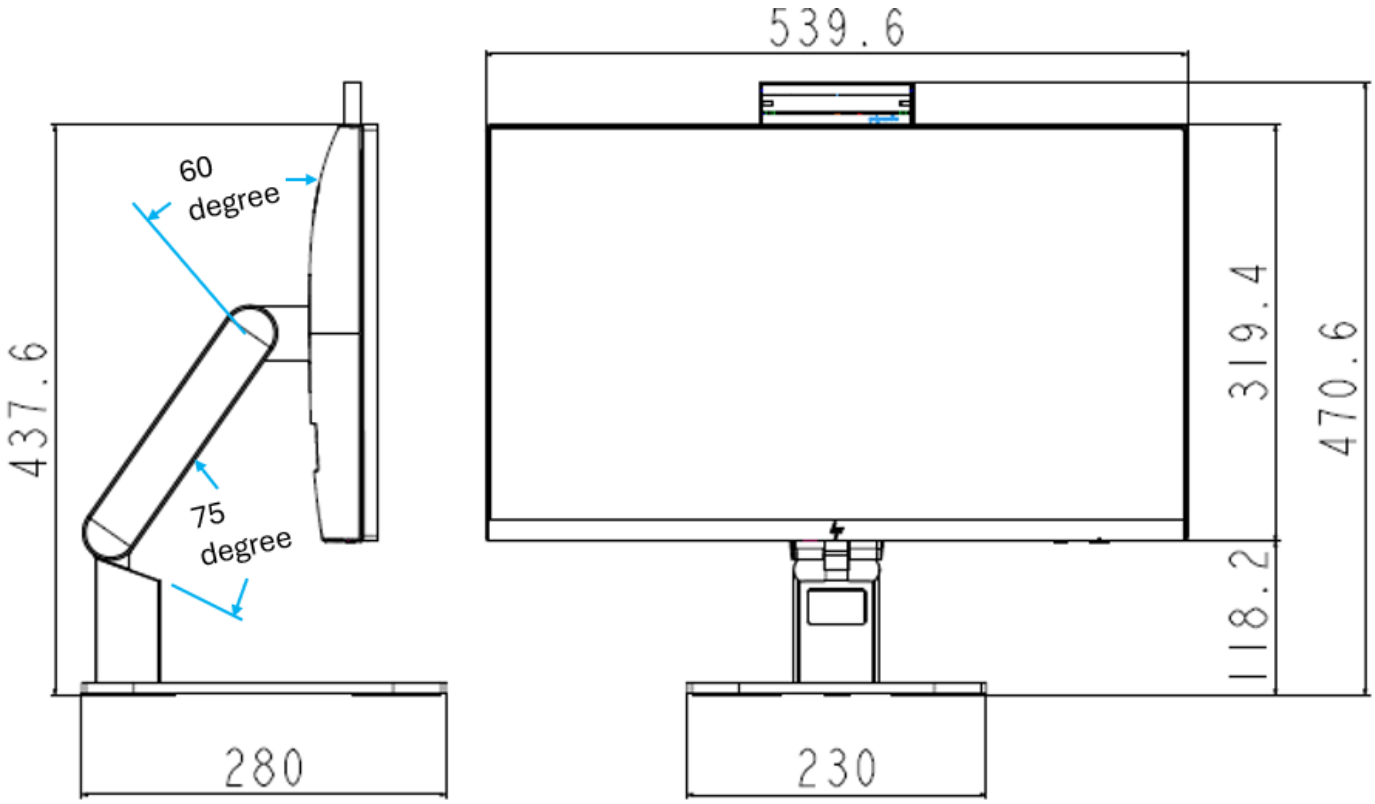
(Landscape Mode)




(Portrait Mode)

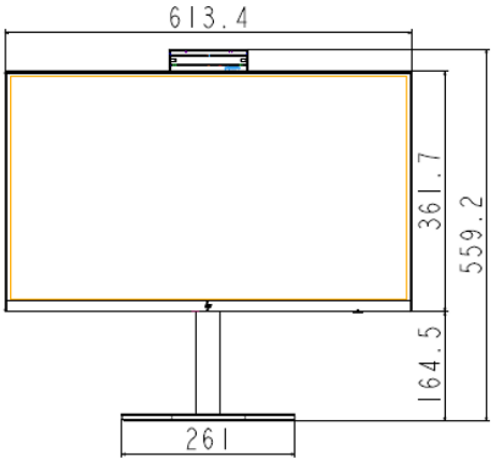


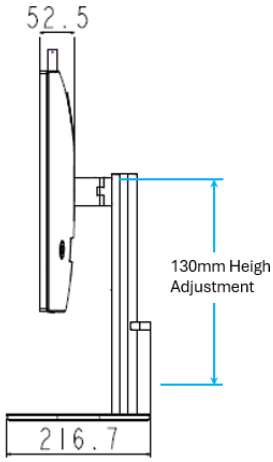

### HP EliteStudio8 G1i 23.8" AIO Articulating Stand



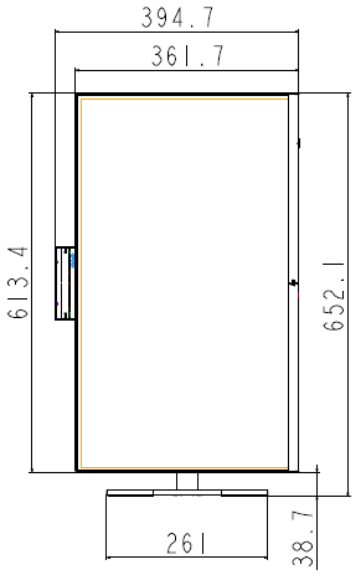
**HP EliteStudio8 G1i 27" AIO Adjustable Height Stand**

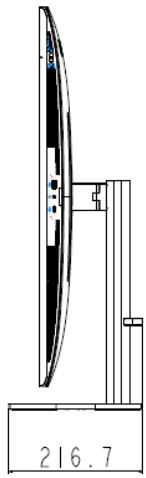
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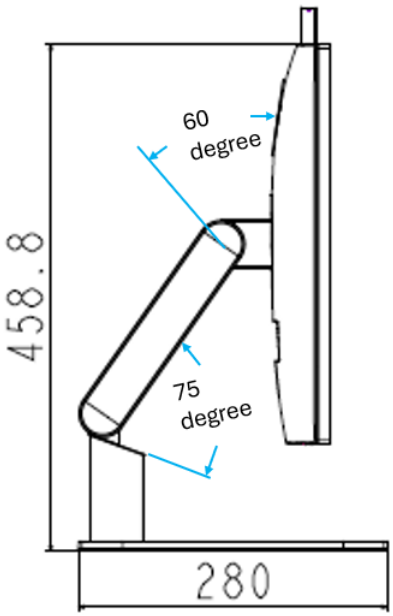


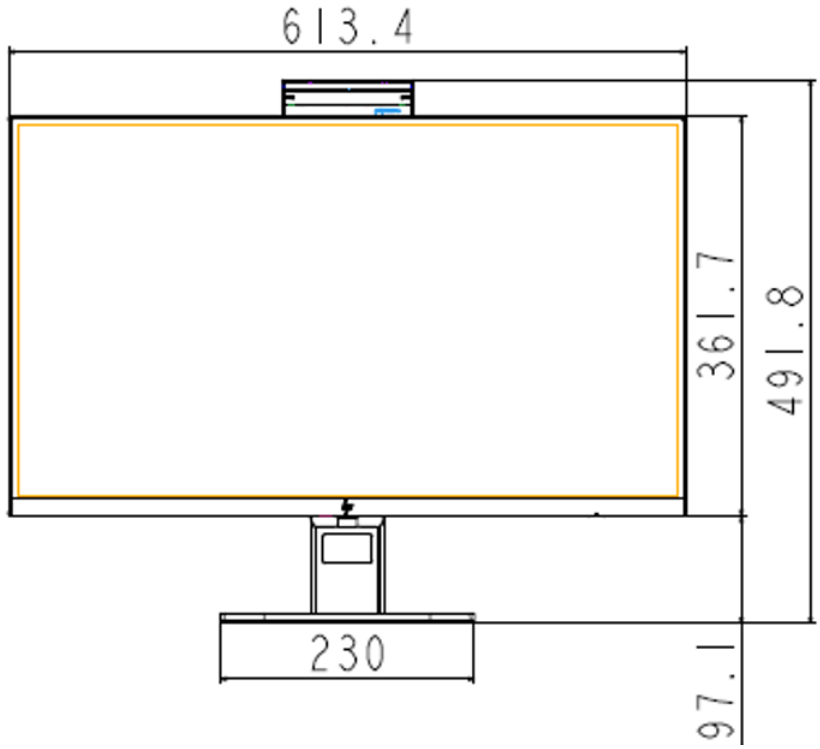




(Portrait Mode)

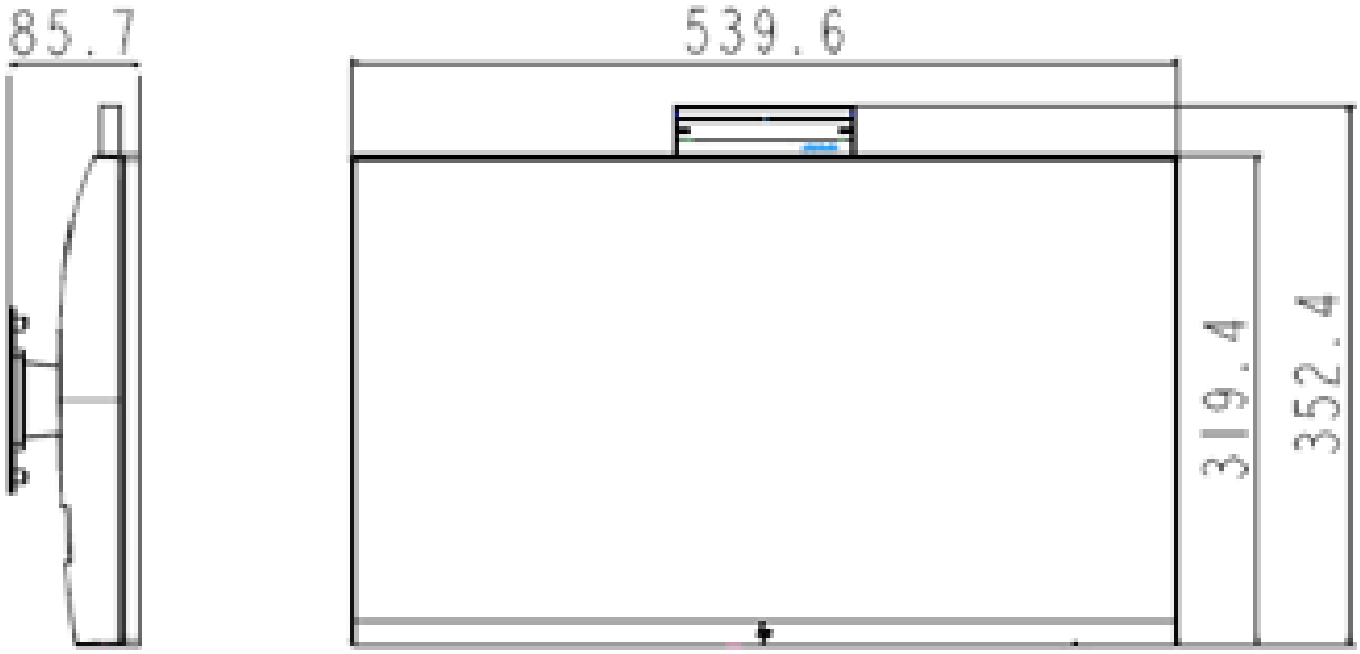


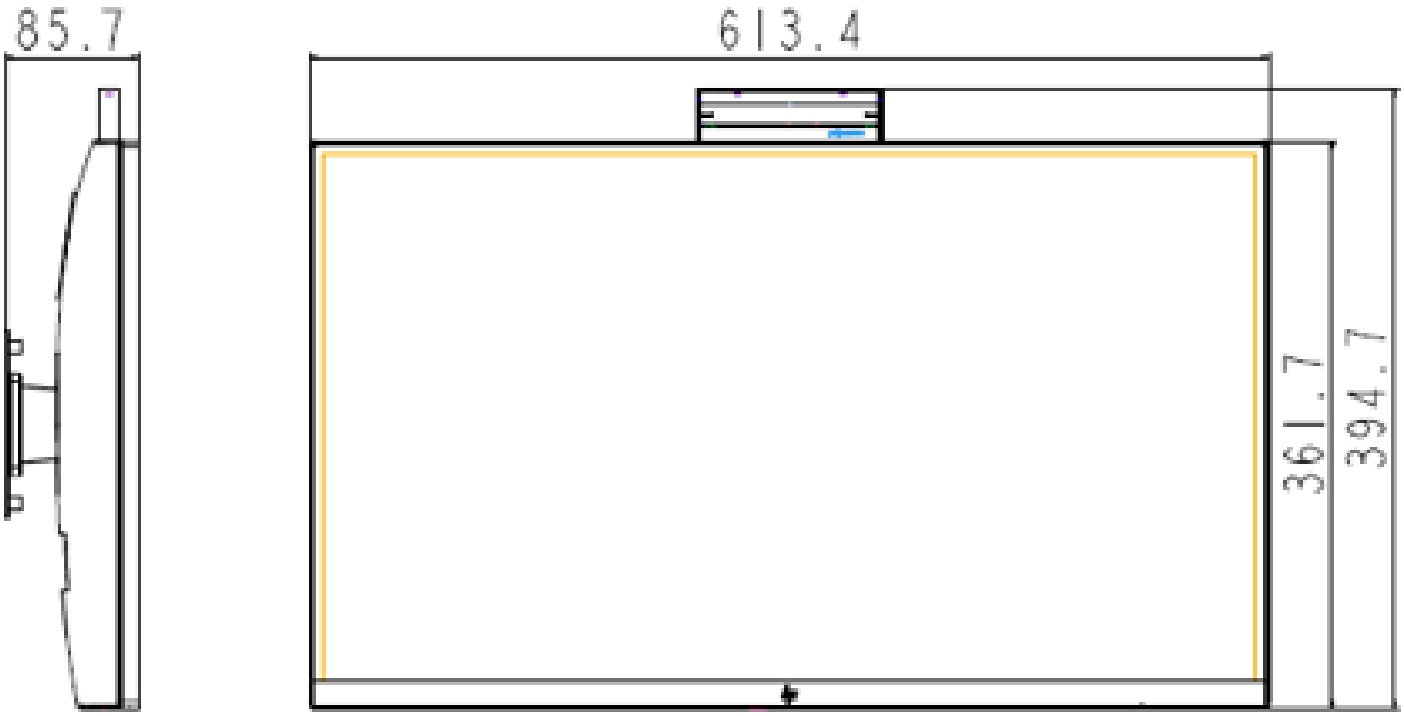



**HP EliteStudio8 G1i 23.8“ AIO with VESA Plate**




**HP EliteStudio8 G1i 27“ AIO with VESA Plate**



| | | |
|---|---|---|
| **Adjustable Height Stand:** | Height - Vertical/Landscape Adjustment | 130mm (±3 mm) |
| | Pivot Function | Landscape/Portrait pivot direction Counter clockwise |
| | Tilt Angle | [-5°] to [+20°] in landscape and portrait |
| | Rotation (Swivel) | 90° [Clockwise 45°, Counter clockwise 45°] |
| **Articulating stand:** | Rotation Lift angle range Landscape | 75°<br>[-20°] to [+55°] |
| | Pivot Function | No/Landscape only |
| | Tilt Angle (Display) | Backward: 60°<br>Forward: 0° |
| | Rotation (swivel) | No swivel |

## ALL-IN-ONE WEIGHTS AND DIMENSIONS

### HP EliteStudio 8 All-in-One G1i 23.8-inch Desktop AI PC

| | | Without Stand (VESA Cover Plate) | | Articulating Stand | | Adjustable Height Stand | |
|---|---|---|---|---|---|---|---|
| | | cm/kg | inch/lb | cm/kg | inch/lb | cm/kg | inch/lb |
| **Product (Landscape orientation)** | **Width** | 539.6 | 21.2 | 539.6 | 21.2 | 539.6 | 21.2 |
| | **Length/Depth** | 85.7 | 3.4 | 210.7 | 8.3 | 280 | 11.0 |
| | **Height** (include Webcam pop up) | 352.4 | 13.9 | 516.9 | 20.4 | 470.6 | 18.5 |
| | | | | | | | |
| **Product (Portrait orientation)** | **Width** | 352.4 | 13.9 | 352.4 | 13.9 | N/A | N/A |
| | **Length/Depth** | 85.7 | 3.4 | 210.7 | 8.3 | N/A | N/A |
| | **Height** (include Webcam pop up) | 539.6 | 21.2 | 594 | 23.4 | N/A | N/A |
| | **Weight** | 7.13 | 15.7 | 8.54 | 18.8 | 10.45 | 23.0 |
| | | | | | | | |
| **Package** | **Width** | 198 | 7.8 | 198 | 7.8 | 198 | 7.8 |
| | **Length/Depth** | 750 | 29.5 | 750 | 29.5 | 750 | 29.5 |
| | **Height** | 480 | 18.9 | 480 | 18.9 | 480 | 18.9 |
| | **Weight** | 11.88 | 26.2 | 13.29 | 29.3 | 15.20 | 33.5 |
| | | | | | | | |
| **Palletization for Sea/Rail** | **Width** | 1000 | 39.4 | 1000 | 39.4 | 1000 | 39.4 |
| | **Length/Depth** | 1200 | 47.2 | 1200 | 47.2 | 1200 | 47.2 |
| | **Height** | 2060 | 81.1 | 2060 | 81.1 | 2060 | 81.1 |
| | **Weight** | 347.14 | 765.3 | 386.62 | 852.4 | 440.1 | 970.3 |
| | **Qty / Layer** | 7 | | 7 | | 7 | |
| | **Layers** | 4 | | 4 | | 4 | |
| **Qty / Pallet via Sea/Rail** | | 28 | | 28 | | 28 | |
| **Qty / Pallet via Air** | | 21 | | 21 | | 21 | |

**NOTE:** Packaging material used will vary by country.
Package weight is based on EPE package.
Actual system weight will depend on the system configuration.

### HP EliteStudio 8 All-in-One G1i 27-inch Desktop AI PC

| | | Without Stand (VESA Cover Plate) | | Articulating Stand | | Adjustable Height Stand | |
|---|---|---|---|---|---|---|---|
| | | cm/kg | inch/lb | cm/kg | inch/lb | cm/kg | inch/lb |
| Product (Landscape orientation) | Width | 613.4 | 24.1 | 613.4 | 24.1 | 613.4 | 24.1 |
| | Length/Depth | 85.7 | 3.4 | 216.7 | 8.5 | 280 | 11.0 |
| | Height (include Webcam pop up) | 394.7 | 15.5 | 559.2 | 22.0 | 491.8 | 19.4 |
| | | | | | | | |
| Product (Portrait orientation) | Width | 394.7 | 15.5 | 394.7 | 15.5 | N/A | N/A |
| | Length/Depth | 85.7 | 3.4 | 216.7 | 8.5 | N/A | N/A |
| | Height (include Webcam pop up) | 613.4 | 24.1 | 652.1 | 25.7 | N/A | N/A |
| | Weight | 8.5 | 18.7 | 10.07 | 22.2 | 11.83 | 26.1 |
| | | | | | | | |
| Package | Width | 228 | 9.0 | 228 | 9.0 | 228 | 9.0 |
| | Length/Depth | 740 | 29.1 | 740 | 29.1 | 740 | 29.1 |
| | Height | 480 | 18.9 | 480 | 18.9 | 480 | 18.9 |
| | Weight | 13.72 | 30.2 | 15.32 | 33.8 | 17.12 | 37.7 |
| | | | | | | | |
| Palletization for Sea/Rail | Width | 1000 | 39.4 | 1000 | 39.4 | 1000 | 39.4 |
| | Length/Depth | 1200 | 47.2 | 1200 | 47.2 | 1200 | 47.2 |
| | Height | 2060 | 81.1 | 2060 | 81.1 | 2060 | 81.1 |
| | Weight | 343.78 | 757.9 | 382.18 | 842.6 | 425.38 | 937.8 |
| | Qty / Layer | 6 | | 6 | | 6 | |
| | Layers | 4 | | 4 | | 4 | |
| Qty / Pallet via Sea/Rail | | 28 | | 24 | | 24 | |
| Qty / Pallet via Air | | 21 | | 18 | | 18 | |

**NOTE:** Packaging material used will vary by country.
Package weight is based on EPE package.
Actual system weight will depend on the system configuration.

## MISCELLANEOUS FEATURES

### Management Features

- Advanced Configuration and Power Management interface (ACPI). Allows the system to wake from a low power mode. Controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system.
- Intel® Wired for Management support; industry wide initiative to make Intel® architecture based PCs, servers and mobile computers more inherently manageable out-of-the-box and over the network
- Dual State Power Button; acts as both an on/off button and a suspend-to-sleep button

### Serviceability Features

- Dual colored power LED on front of computer to indicate either normal or fault condition
- Diagnostic LED Explanation Table:
    - Power LED will blink red 2 to 5 times, then blink white 2 or more times, then repeat (with beep tones for each blink initially):
        - 2 red + 2 white User must provide file for BIOS recovery (USB storage typically)
        - 2 red + 3 white User must enter a key sequence to proceed with recovery by policy
        - 2 red + 4 white BIOS recovery is in progress
        - 3 red + 2 white Memory could not be initialized
        - 3 red + 3 white Graphics adaptor could not be found
        - 3 red + 4 white Power supply failure / not connected
        - 3 red + 5 white Processor not installed
        - 3 red + 6 white Current processor does not support an enabled feature
        - 4 red + 2 white Processor has exceeded its temperature threshold / system thermal shutdown
        - 4 red + 3 white System internal temperature has exceeded its threshold
        - 5 red + 2 white System controller firmware is not valid
        - 5 red + 3 white System controller detected BIOS is not executing
        - 5 red + 4 white BIOS could not complete initialization / PCA failure
        - 5 red + 5 white System controller rebooted the system after a health or recovery timer triggered
- HP PC Hardware Diagnostics UEFI:
    - This utility enables hardware level testing outside the operating system on many components. The diagnostics can be invoked by pressing F2 at POST, and is available as a download from HP Support
- System/Emergency ROM
- Flash ROM
- CMOS Battery
- Holder for easy replacement
- 1 Aux Power LED on System PCA
- Processor ILM Socket for easy Upgrade
- Over-Temp Warning on Screen (Requires IM Agents)
- DIMM Connectors for easy Upgrade
- Clear CMOS Button
- NIC LEDs (integrated) (Green & Amber)
- Dual Color Power bottom LED – To indicate Normal Operations and Fault Conditions
- Tool-less Hood Removal
- Front power switch
- System memory can be upgraded without removing the system board or any internal components
- Tool-less Hard Drive, CD & Diskette Removal (For MT, SFF, and DM only)
- Blue Pull Tabs, and Quick Release Latches for easy identification

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

## AFTER MARKET OPTIONS

| Graphics Solutions | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| NVIDIA RTX A400 4GB Graphics | | X | X | | AV8J3AA |
| NVIDIA RTX A1000 8 GB Graphics | | X | | | AV8J4AA |
| AMD Radeon RX 6300 2GB GDDR6 DP+HDMI FH | | | X | | 7Y6P7AA |
| AMD Radeon RX 6300 2GB GDDR6 DP+HDMI LP | | X | | | 803S9AA |
| Intel Arc A380 6GB GDDR6 FH PCIe x16 3DP+HDMI | | | X | | 9Q6G0AA |
| HP DisplayPort to HDMI True 4k Adapter | X | X | X | X | 2JA63AA |
| HP DisplayPort Cable Kit | | X | X | X | VN567AA |
| HP HDMI Standard Cable Kit | X | X | X | X | T6F94AA |
| HP HDMI to VGA Adapter | X | X | X | X | H4F02AA |
| HP DisplayPort to VGA Adapter | X | X | X | X | F7W97AA |
| HP DisplayPort to DVI-D Adapter | X | X | X | X | F7W96AA |
| HP USB-C to DisplayPort Adapter G2 | X | X | X | X | 8Y8Y1AA |
| HP USB-C to HDMI 2.0 Adapter | X | X | X | X | 1WC36AA |
| HP USB-C to USB 3.0 Adapter | X | X | X | X | N2Z63AA |
| HP Single Mini Display Port Adapter to Display Port Adapter | | X | X | | 2MY05AA |

| Desktop Mini Accessories | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| HP Desktop Mini 90W Power Supply Kit | X | | | | L4R65AA |
| HP Desktop Mini v4+ VESA Sleeve | X (95W and discrete GPU skus not supported) | | | | 99T54AA |
| HP Desktop Mini v4+ VESA Sleeve with Power Supply Holder | X (Discrete GPU skus not supported) | | | | 99T55AA |
| HP 150W Elite Mini EPS Holder* | X | | | | 657R3AA |
| HP B200 PC Mounting Bracket | X | | | | 762T5AA |
| HP B250 PC Mounting Bracket | X | | | | 8RA46AA |
| HP B300 PC Mounting Bracket | X | | | | 2DW53AA |
| HP B300 PC Mounting Bracket with Power Supply Holder | X (Discrete GPU skus and 150W/180W adapter not supported) | | | | 7DB37AA |
| HP B550 PC Mounting Bracket | X | | | | 16U00AA |

| | | | | | |
|---|---|---|---|---|---|
| HP B560 PC Mounting Bracket | X | | | | 763U8AA |
| HP Desktop Mini Vertical Chassis Stand | X | | | | 763U8AA |
| HP Quick Release Bracket 2 | X | | | X | 6KD15AA |
| HP Desktop Mini 65w Power Supply Kit* | X | | | | L2X04AA |

**NOTE*:** Compatible with HP B300 PC Mounting Bracket (2DW53AA) and HP Desktop Mini v4+ VESA Sleeve (99T54AA)

| **AIO Accessories** | **Mini** | **SFF** | **TWR** | **AiO** | **Part Number** |
|---|---|---|---|---|---|
| HP EliteStudio 8 G1i 27 Adjustable Height Stand* | | | | X | B6BT7AA |
| HP EliteStudio 8 G1i 23.8 Adjustable Height Stand** | | | | X | B6BT6AA |
| HP EliteStudio 8 G1i Articulating Stand | | | | X | B6BT9AA |
| HP All-in-One G1i VESA Plate | | | | X | B6BT8AA |

***NOTE:** Support 870 AIO only
****NOTE:** Support 840 AIO only

| **Data Storage Drives** | **Mini** | **SFF** | **TWR** | **AiO** | **Part Number** |
|---|---|---|---|---|---|
| HP PCIe Gen 4 NVME TLC M.2 512GB SSD | X | X | X | X | 406L8AA |
| HP PCIe Gen 4 NVME TLC M.2 1TB SSD | X | X | X | X | 406L7AA |
| HP 1TB 7200rpm SATA 3.5" Hard Drive | | X | X | | QK555AA |
| HP G1i TWR 3.5in HDD Carrier | | | X | | BJ3M6AA |
| HP G1i TWR 3.5in HDD Exp | | | X | | BJ3M8AA |
| HP Small Form Factor 3.5in G1i HDD Expansion Module | | X | | | BJ3M7AA |

| **Input Devices** | **Mini** | **SFF** | **TWR** | **AiO** | **Part Number** |
|---|---|---|---|---|---|
| HP 125 G2 Wired Keyboard | X | X | X | X | AY2Y7AA |
| HP 125 Wired Mouse | X | X | X | X | 265A9UT |
| HP 128 Laser Wired Mouse | X | X | X | X | 265D9AA |
| HP 320K G2 Wired USB Keyboard | X | X | X | X | 9SR37UT |
| HP Wired Desktop 320M Mouse | X | X | X | X | 9VA80AA |
| HP Wired Desktop 320MK Mouse and Keyboard G2 | X | X | X | X | 9SR36UT |
| HP Business Slim v2 Smart Card USB Keyboard | X | X | X | | A71J9AA |
| HP 655 Wireless Keyboard and Mouse Combo G2 | X | X | X | X | 4R009UT |
| HP 455 G2 Programmable WRLS USB Keyboard | X | X | X | X | B08ZDAA |
| HP 405 Multi-Device Wired Backlit Keyboard | X | X | X | X | 7N7B9UT |
| HP 725 Multi-Device Rechargeable Wireless Keyboard | X | X | X | X | 9T5B2AA |
| HP 725 Multi-Device Rechargeable Wireless Keyboard and Mouse Combo | X | X | X | X | 9T5B0UT |
| HP 515 Ultra-Fast Rechargeable Wireless Mouse | X | X | X | X | 9C2F7AA |
| HP 475 Dual-Mode Keyboard | X | X | X | X | 7N7B9AA |
| HP 685 Comfort Dual-Mode Keyboard | X | X | X | X | 8T6L9UT |
| HP 685 Comfort Dual-Mode Keyboard and Mouse Combo | X | X | X | X | 8T6L7UT |

| | | | | | |
|---|---|---|---|---|---|
| HP 685 Comfort Dual-Mode Mouse | X | X | X | X | 8T6M0UT |

| System Memory | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| HP 8GB DDR5-5600 UDIMM | | X | X | | A9TF0AA |
| HP 16GB DDR5-5600 UDIMM | | X | X | | A9TF1AA |
| HP 32GB DDR5-5600 UDIMM | | X | X | | A9TF3AA |
| HP 8GB DDR5-5600 SODIMM | X | | | X | B8CA1AA |
| HP 16GB DDR5-5600 SODIMM | X | | | X | B8CA2AA |
| HP 32GB DDR5-5600 SODIMM | X | | | X | B8CA3AA |

| Multimedia Devices | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| HP S101 Speaker Bar | X | X | X | | 5UU40AA |
| HP Z G3 Conferencing Speaker Bar wStand | X | X | X | | 647Y2AA |

| Security Devices | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| HP Business PC Security Lock v3 Kit | | X | X | | 3XJ17AA |
| HP Keyed Cable Lock 10mm | X | X | X | X | T1A62AA |
| HP Master Keyed Cable Lock 10mm | X | X | X | X | T1A63AA |
| HP Combination Standard Cable Lock | | X | X | X | T0Y15AA |
| HP Essential Combination Lock | | X | X | X | T0Y16AA |

| I/O Devices | Mini | SFF | TWR | AiO | Part Number |
|---|---|---|---|---|---|
| HP DisplayPort 2.1 Flex IO v3 | X | X | X | | B6BS8AA |
| HP VGA Flex IO v3 | X | X | X | | B6BT0AA |
| HP HDMI 2.1 Flex IO v3 | X | X | X | | B6BS9AA |
| HP Thunderbolt 4™ Flex IO v3 | X | X | X | | B6BT1AA |
| HP USB-C 3.1 Gen2 Flex IO v3 | | X | X | | B6BT3AA |
| HP Dual Type-C 3.2 Gen2 Flex IO v3 | X | X | X | | B6BT5AA |
| HP USB 3.2 Gen1 x2 Module Flex IO v2 | X (Not Available on discrete GPU SKUs) | X | X | | 13L58AA |
| HP Internal Serial Port (in rear wall) | | X | X | | 3TK82AA |
| HP PCIe x1 Parallel Port Card | | X | X | | N1M40AA |
| HP USB to Serial Port Adapter | X | X | X | X | J7B60AA |
| HP USB-C to DisplayPort Adapter G2 | X | | | X | 8Y8Y1AA |
| HP Single Mini Display Port Adapter to Display Port Adapter | | X | X | | 2MY05AA |
| HP Serial Port Flex IO v2 | X | X | X | | 5B895AA |
| HP Z2 2.5GbE LAN Flex Port | X | | | | B96W7AA |
| HP Flex 1GbE Fiber LC Single Port | X | X | X | | 20J15AA |

| | | | | | |
|---|---|---|---|---|---|
| HP USB External DVD RW Drive | X | X | X | X | F2B56AA |

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

| **Mouse Pad** | **Mini** | **SFF** | **TWR** | **AiO** | **Part Number** |
|---|---|---|---|---|---|
| HP 105 Sanitizable Mouse Pad | X | X | X | X | 8X595AA |

| **Communication Devices** | **Mini** | **SFF** | **TWR** | **AiO** | **Part Number** |
|---|---|---|---|---|---|
| Intel® EthernetI226-T1 2.5GbE NIC | | X | X | | 9P1U8AA |

*Change Log*

| Date | Version History | Action | Description of Change |
|---|---|---|---|
| May 21, 2025 | From v1 to v2 | Update | AiO weight and dimensions, Stands and dimensions and display panel specifications sections corrected |
| June 6, 2025 | From v2 to v3 | Update | Flex Io QS link updated in AMO / Weights and dimensions and Display panel specifications updated |
| June 19, 2025 | From v3 to v4 | Update | Packaging materials values for AiO 23 and 27 updated |
| June 25, 2025 | From v4 to v5 | Update | Back call out´s image Port flex 2 description corrected / Post-consumer recycled plastic used in system percentage corrected for MINI-TWR´s-AiO (23) / External power supply data corrected for MINI |
| July 24, 2025 | From v5 to v6 | Update | HP Endpoint Security Controller (ESC) Gen5 added to Sec Features in SW section / All M.2 2280 PCIe NVMe SSD´s interface corrected to PCIE Gen4x4 |
| July 25, 2025 | From v6 to v7 | Update | HP Protect and Trace added to Security features in SW section |
| July 31, 2025 | From v7 to v8 | Update | “Native” Thunderbolt 4 corrected to “Optional” in Graphics specs table for Elite Mini. / PCI Express 5.0 x16 removed from SFF in Ports section |
| August 5, 2025 | From v8 to v9 | Correction | PCI Express 4.0 x16 added to Ports for SFF |
| August 11, 2025 | From v9 to v10 | Removal | 2MY05AA removed from AiO and Mini at AMO section |
| August 14, 2025 | From v10 to v11 | Correction | 3 SODIMM AMO skus (8/16/32GB) corrected |
| August 19, 2025 | From v11 to v12 | Update | HP Wolf Security for Business disclaimer in SW section updated |
| August 21, 2025 | From v12 to v13 | Addition | NVIDIA GeForce RTX 5060 graphic card added to Graphics section / 12GB (1x12GB) and 24GB (1x24GB) added in Memory conf. table |
| September 3, 2025 | From v13 to v14 | Update | 13L58AA description updated to 3.2 and B96W7AA check for Mini in AMO section |
| September 19, 2025 | From v14 to v15 | Update | Footnote 1 in page 2 updated |
| September 22,2025 | From v15 to v16 | Update | UEFI Self Certification ADDED |
| September 23, 2025 | From v16 to v17 | Update | 20% recycled glass used in display panels added to AiO environmental tables Sustainable Impact Specifications row / RJ45 corrected to RJ-45 in the whole doc and “Integrated” added to Intel® I219-LM |
| October 13, 2025 | From v17 to v18 | Addition | Footnotes 2 and 3 added to back call out images for SFF and TWR |
| October 15, 2025 | From v18 to v19 | Addition | NVIDIA® GeForce® RTX 5050 added to Graphics sections and back call outs for MINI |
| November 20, 2025 | From v19 to v20 | Update | Input and Security devices tables updated and Mouse Pad added to AMO section |
| December 1, 2025 | From v20 to v21 | Update | BJ3M6AA, BJ3M8AA, BJ3M7AA Added to Storage in AMO section |
| December 3, 2025 | From v21 to v22 | Update | MINI,SFF and TWRs Energy Consumption and Heat Dissipation values in Environmental data tables updated. |
| December 15, 2025 | From v22 to v23 | Update | New note to Wireless table in N&C section / SFF and TWR for 280W at 230V from Gold to Platinum in Power section |
| January 12, 2026 | From v23 to v24 | Update | 175 wired/wireless and 275 wireless Mice and Kb´s added to I/O Dev |
| January 22, 2026 | From v24 to v25 | Update | GeForce® RTX 5060 Ti added to Graphic Cards |
| March 11, 2026 | From v25 to v26 | Correction | Tower 800/880 naming corrected to G1i in Audio/Multimedia section |
| May 27, 2026 | From v26 to v27 | Addition | Gen5 Solid State Drives added |
| July 16, 2026 | From v28 to v29 | Correction | Back call outs images updated for SFF and TWR |
| July 31, 2026 | From v29 to v30 | Update | DDR5-5600 SODIMM checked on for SFF |
| September 1, 2026 | From v30 to v31 | Addition | HP 375 Secure Smartcard Keyboard added |
| September 13, 2026 | From v31 to v32 | Update | USB Business Slim v2 table updated |
| October 28, 2026 | From v32 to v33 | Addition | Ubuntu added to OS |

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