

HP EliteOne 800 G3 23.8 NT Healthcare Edition AiO



1. Webcam

Infrared (IR) webcam (optional)



- | | | | |
|-----------------|--------------------------------------|---------------------------------|-----------------|
| 1. Webcam light | 3. Full High Definition (FHD) webcam | 5. Rear webcam adjustment wheel | 7. Webcam light |
| 2. IR light | 4. IR webcam | 6. Digital microphones | 8. FHD webcam |

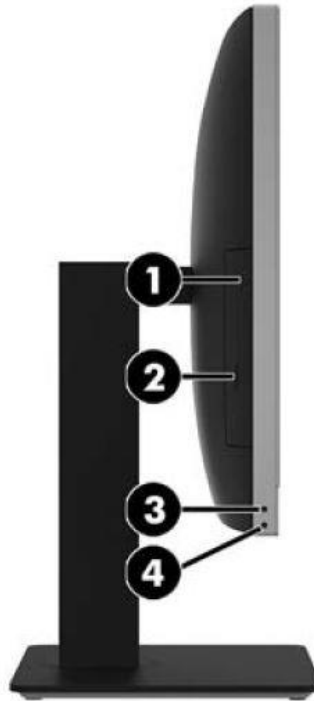
Full High Definition (FHD) webcam (optional)



- | | | |
|-----------------|---------------|------------------------|
| 1. Webcam light | 2. FHD webcam | 3. Digital microphones |
|-----------------|---------------|------------------------|

Overview

HP EliteOne 800 G3 23.8 NT Healthcare Edition AiO



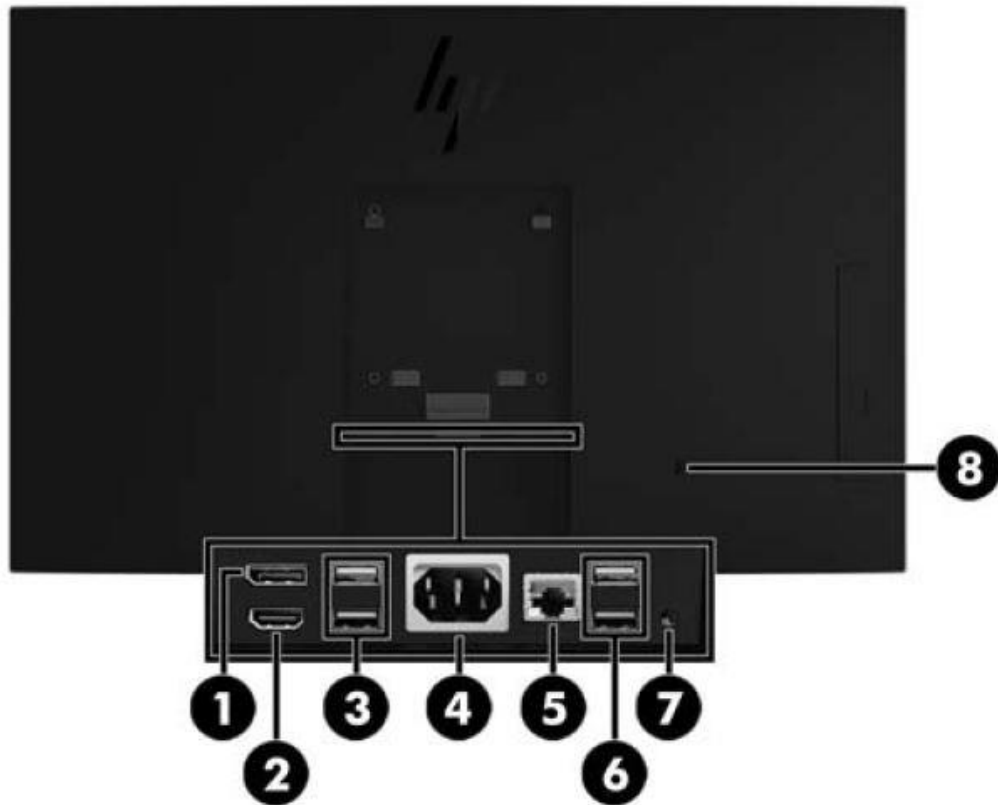
- | | |
|---|---|
| 1. Optical disc drive (optional) | 3. Universal Audio Jack with CTIA headset support |
| 2. Optical disc drive eject button (optional) | 4. Headphone connector |



Bottom components

- | | |
|---|----------------------------|
| 1. USB 3.1 Gen 1 Type-A port | 5. Hard drive activity LED |
| 2. USB 3.1 Gen 1 Type-A (charging) port | 6. Dual-state power button |
| 3. SD card reader 4.0 (optional) | 7. Speakers (optional) |
| 4. USB 3.1 Type-C™ Gen 1 port | |

HP EliteOne 800 G3 23.8 NT Healthcare Edition AiO



REAR/PORTS (BEHIND SECURITY COVER)

- | | | | |
|----|--------------------------------|----|--------------------------------|
| 1. | Dual-Mode DisplayPort™ (DP++) | 5. | RJ-45 (network) jack |
| 2. | HDMI connector | 6. | USB 3.1 Gen 1 Type-A ports (2) |
| 3. | USB 3.1 Gen 1 Type-A ports (2) | 7. | Audio line-out connector |
| 4. | Power connector | 8. | Security lock slot |

Not Shown

- Slots (1) internal M.2 PCIe x1 connector for optional wireless NIC
(2) internal M.2 PCIe x4 connector for optional Turbo Drive G2 SSD
- Bays (1) 2.5" internal storage drive bay
- VESA Support for VESA 100 mounting system on bottom of PC chassis*
*Mounting hardware sold separately (see [Accessories](#) section).

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

AT A GLANCE

- All-in-One form factor (non-touch)
- New commercial ID with 23.8" FHD display with glass cover
- Intel® Q270 chipset supporting Intel® 7th generation Core™ processors and Intel® 6th generation Core™ processors, featuring integrated Intel® HD Graphics and Intel® vPro™ Technology (available with Core i5 and Core i7 processors)¹
- Processor support up to 65W
- Support for Windows 10 to Windows 7 Downgrade with Intel® 6th Generation processors
- Intel® HD graphics
- Intel® Ethernet Connection I219LM GbE LOM integrated network connection
- DDR4 Synchronous Dynamic Random Access Memory (SDRAM)
- Support for up to three monitors via two standard DisplayPort™ connectors and an optional third video port connector which provides the following choices: HDMI, DisplayPort™, (see Ports section or pages 1-8 for port availability).
- HP Sure Start Gen3
- HP Manageability Integration Kit
- HP WorkWise
- High efficiency energy saving power supply options
- ENERGY STAR® certified. EPEAT® Gold registered where applicable/supported. Registration may vary by country. See www.epeat.net for registration status by country. Search keyword generator on HP's 3rd party option store for solar generator accessories at <http://www.hp.com/go/options>
- CCC, CECP and SEPA Certified
- TCO Edge for AiO
- PC chassis and all internal components and modules are manufactured with low halogen content³
- Arsenic-free
- Dust filter available
- Protected by HP Services, including limited warranties up to 3-3-3 (terms and conditions vary by country; certain restrictions and exclusions apply); Care Packs available with up to 5 years extended Business Day Onsite Hardware Support

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

1. Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
2. DisplayPort™ multi-stream monitors 'daisy-chained' together.
3. External power supplies, power cords, cables and peripherals are not low halogen. Service parts obtained after purchase may not be low halogen.

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

OPERATING SYSTEMS

Preinstalled

Windows 10 Pro 64¹
Windows 10 Pro 64 (National Academic License)³
Windows 10 Home 64¹
Windows 10 Home Single Language 64¹
Windows 7 Professional 64 (available through downgrade rights from Windows 10 Pro)^{2, 4}
Windows 7 Professional 32 (available through downgrade rights from Windows 10 Pro)^{2, 4}

Pre-installed (other)

FreeDOS 2.0
NeoKylin Linux® 64

Web-supported only

Windows 10 Enterprise 64¹
Windows 7 Enterprise 64⁴

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 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com>.

2. This system is preinstalled with Windows 7 Professional software and also comes with a license and media for Windows 10 Pro software. You may only use one version of the Windows software at a time. Switching between versions will require you to uninstall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.

3. Some devices for academic use will automatically be updated to Windows 10 Pro Education with the Windows 10 Anniversary Update. Features vary; see <https://aka.ms/ProEducation> for Windows 10 Pro Education feature information.

4. Only available with 6th generation (Intel) processors.

CHIPSET

Intel® Q270

PROCESSORS*, **

*NOTE: Your product does not support Windows 8 or Windows 7. In accordance with Microsoft's support policy, HP does not support the Windows® 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows® 8 or Windows 7 drivers on <http://www.support.hp.com>

**Note: Multi-Core is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.

Intel® 7th Generation Core™ i7 Processors

Intel® Core™ i7-7700 Processor

65W

Up to 4.2 GHz Max. Turbo Frequency (3.6 GHz base frequency)

8 MB cache, 4 cores, 8 threads

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

Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® 7th Generation Core™ i5 Processors

Intel® Core™ i5-7500 Processor
65W
Up to 3.8 GHz Max. Turbo Frequency (3.4 GHz base frequency)
6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® Core™ i5-7600 Processor
65W
Up to 4.1 GHz Max. Turbo Frequency (3.5 GHz base frequency)
6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® 7th Generation Core™ i3 Processors

Intel® Core™ i3-7100 Processor
51W
3.9 GHz base frequency
3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate

Intel® Core™ i3-7300 Processor
51W
4.0 GHz base frequency
4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate

Intel® Core™ i3-7320 Processor
51W
4.1 GHz base frequency
4 MB cache, 2 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate

Intel® 7th Generation Pentium® Processors

Intel® Pentium® G4560 Processor
54W
3.5 GHz Base Frequency
3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 610
Supports DDR4 memory up to 2400 MT/s data rate

Intel® Pentium® G4600 Processor
51W
3.6 GHz Base Frequency
3 MB cache, 2 cores, 4 threads

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

Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate

Intel® Pentium® G4620 Processor

51W
3.7 GHz Base Frequency
3 MB cache, 2 cores, 4 threads
Intel® HD Graphics 630
Supports DDR4 memory up to 2400 MT/s data rate

Intel® 7th Generation Celeron® Processors

Intel® Celeron® G3930 Processor

51W
2.9 GHz Base Frequency
2 MB cache, 2 cores, 2 threads
Intel® HD Graphics 610
Supports DDR4 memory up to 2133 MT/s data rate

Intel® Celeron® G3950 Processor

51W
3.0 GHz Base Frequency
2 MB cache, 2 cores, 2 threads
Intel® HD Graphics 610
Supports DDR4 memory up to 2133 MT/s data rate

Intel® 6th Generation Core™ i7 Processors

Intel® Core™ i7-6700 Processor

65W
Up to 4.0 GHz Max. Turbo Frequency (3.4 GHz base frequency)
8 MB cache, 4 cores, 8 threads
Intel® HD Graphics 530
Supports DDR4 memory up to 2133 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® 6th Generation Core™ i5 Processors

Intel® Core™ i5-6500 Processor

65W
Up to 3.6 GHz Max. Turbo Frequency (3.2 GHz base frequency)
6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 530
Supports DDR4 memory up to 2133 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® Core™ i5-6600 Processor

65W
Up to 3.9 GHz Max. Turbo Frequency (3.3 GHz base frequency)
6 MB cache, 4 cores, 4 threads
Intel® HD Graphics 530
Supports DDR4 memory up to 2133 MT/s data rate
Supports Intel® vPro™ Technology and Intel® Stable Image Platform Program (SIPP)

Intel® 6th Generation Core™ i3 Processors

Intel® Core™ i3-6100 Processor



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

<p>51W 3.7 GHz base frequency 3 MB cache, 2 cores, 4 threads Intel® HD Graphics 530</p>	<p>Supports DDR4 memory up to 2133 MT/s data rate</p>
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MEMORY*

Form Factor	Type	Maximum	Number of Slots
All-in-One	DDR4-2400 (Transfer rates up to 2400 MT/s)	32 GB	2 SODIMM

Memory modules available. Memory options vary by platform. All slots are customer accessible / upgradeable.

- 2,048 MB (2048 MB x 1)
- 4,096 MB (4096 MB x 1)
- 8,192 MB (8192 MB x 1)
- 16,384 MB (16,384 MB x 1)

* Full availability of 4 GB or more of memory requires a 64-bit operating system. With Windows 32-bit operating systems, the amount of usable memory is dependent upon your configuration, so that above 3 GB all memory may not be available due to system resource requirements.

Memory modules support data transfer rates up to 2400 MT/s; actual data rate is determined by the system's configured processor. See processor specifications for supported memory data rate.

STORAGE*

2.5 inch 7.2k RPM Hard Disk Drives

1TB SATA
500GB SATA

2.5 inch Solid State Hybrid Drives (SSHD)

1TB 5400RPM 2.5in 8GB Hybrid
500GB 5400RPM 2.5in 8GB Hybrid

2.5 inch Self-encrypting Drives (SED HDD)

500GB 5400RPM 2.5in Federal Information Processing Standard (FIPS) SED
500GB 7200RPM 2.5in SED OPAL 2

2.5 inch Self-encrypting Drives (SED SSD)

256GB TLC SED SSD OPAL 2 Drive
512GB TLC SED SSD OPAL 2 Drive
256GB TLC SED SSD 2.5in Federal Information Processing Standard (FIPS) SED
512GB TLC SED SSD 2.5in Federal Information Processing Standard (FIPS) SED

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

PCIe NVMe SSD Drives

HP 256GB Turbo Drive G2 PCIe TLC SSD Drive
HP 512GB Turbo Drive G2 PCIe TLC SSD Drive
HP 1TB Turbo Drive G2 PCIe TLC SSD Drive

2.5 SATA SSD Drives

HP SATA 128GB SSD Drive
HP SATA 256GB SSD Drive

*For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB of system disk is reserved for system recovery software.

Optical Disc Drives

HP 9.5mm AIO 800 G3 Slim DVD Writer*
HP 9.5mm AIO 800 G3 Slim DVD-ROM

*HD-DVD discs 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.

Removable

HP 9.5mm Slim Removable SATA 500GB

Media Card Reader (optional)*

SD 4 with 5-in-1 Interface from SD option to PCA is PCIe (Supports SD, SDXC, SDHC, UHS-I, UHS-II)
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*Card sold separately

GRAPHICS

System Integrated Graphics

Intel® HD Graphics 530 (integrated on 6 th gen Core i7/i5/i3 processors)
Intel® HD Graphics 630 (integrated on 7 th gen Core i7/i5/i3 processors and Pentium G4620, 4600, 4600T)
Intel® HD Graphics 610 (integrated on Pentium G4560, G4560T, Celeron G3950, G3930, G3930T)

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

DISPLAY

23.8" diagonal IPS widescreen WLED backlit anti-glare LCD display with glass cover
 Orientation designed to operate in portrait or landscape mode
 Non-touch

Display Panel	Type	IPS WLED Backlit LCD
	Screen opening (mm)	535 x 313 (FHD)
	Native Resolution (HxV)	1920 x 1080 (FHD)
	Aspect ratio	16:9
	Pixel pitch (HxV)(mm)	0.2475 x 0.2475 (FHD)
	Contrast ratio (typical)	1000:1
	Brightness (typical)	250nits (cd/m2)(FHD)
	Viewing angle (typical) (HxV)	178° x 178°
	Backlight lamp life (to half brightness)	30,000 hours minimum
	Color support	Over 16 million colors (FHD)
	Color gamut (typical)	72%
	Anti-glare	Yes*
	Default color temperature	Warm (6500K)
	Response Time	14 ms

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

Webcams	Pop-up Web Camera	2MP FHD webcam, Up to 30 frames/sec, Array Microphone (Fixed 2Mp FHD 1080p)
	IR Camera with rear-facing, 2nd 2MP webcam	Dual Camera 480P IR+1080P RGB Fixed/2MP FHD 1080P Fixed
	<ul style="list-style-type: none"> • Supporting Win10 Hello 	

Adjustable Height Stand:	Height - Vertical/Landscape Adjustment	101mm (±2 mm)
	Portrait Adjustment	54mm (±2 mm)
	Tilt Angle	-5° to +20° (±3°) in landscape and portrait
	Rotation (Swivel)	90° (±1°)
	Pivot	Clockwise 90°

Recline Stand:	Height - Vertical Adjustment	178 mm (±2 mm)
	Tilt Angle	-5° to +65° (+/-3°)
	Rotation (swivel)	360° swivel

WEBCAM & MIC

Optional discrete dual microphone and Optional integrated 2MP webcam and IR sense (front) and 2MP webcam (rear); maximum resolution of 1920 x1080

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

Optional discrete dual microphone and Optional integrated 2MP webcam; maximum resolution of 19020 x1080

AUDIO/MULTIMEDIA

Conexant CX5001 codec- up to 24-bit PCM
Line-out rear connector (3.5mm)
Headset side port (3.5mm)
Headphone side port (3.5mm)
Multi-streaming capable*
High performance integrated stereo speakers

* The front headset connector supports CTIA style headsets and is re-taskable as a Line-in, Microphone-in or Headphone-out port. Rear audio input ports are re-taskable as a Line-in or Microphone-in port. External speakers must be powered externally. 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 internal speakers. This allows for different audio applications to use separate audio ports on the system. For example, the front jacks could be used with a headset for a communications application while the rear jacks are being used with external speakers and a multimedia application.

NETWORKING/COMMUNICATIONS*

Ethernet (RJ-45) Integrated

Intel® I219LM Gigabit Network Connection LOM (standard)

Wireless LAN (optional and must be bought at purchase)*

Intel® 8265 802.11AC 2x2 Wi-Fi +Bluetooth® M.2 Combo Card vPro™ (802.11AC Wave 2 supported)
Intel® 8265 802.11AC 2x2 Wi-Fi +Bluetooth® M.2 Combo Card non-vPro™ (802.11AC Wave 2 supported)
Intel® 7265 802.11AC 2x2 Wi-Fi +Bluetooth® M.2 Combo Card non-vPro™
Intel® 7260 802.11 a,b,g,n 2x2 M.2 Bluetooth® Disabled NIC**
Intel® 3168 802.11AC 2x2 Wi-Fi +Bluetooth® M.2 Combo Card non-vPro™

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

**Wake on Lan feature is not available.

SLOTS

Turbo Drive (M.2 PCIe)	1 ea. M.2 PCIe x1-2230 (for WLAN) 1 ea. M.2 PCIe x4-2280 (for storage) 1 ea. M.2 PCIe x4-2280/2230 combo (for storage)
PCI Express x1 (v3.0)	N/A
PCI Express x16 (v3.0) (wired as a x4)	N/A

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

PCI Express x16 (v3.0)	N/A
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PORTS

USB 3.1 Gen1	2 (side) including 1 fast charging, 4 (rear)
USB Type-C™3.1 Gen1 port	1 (side)
PS/2	N/A
Video	1 DisplayPort™ with multi-stream 1 HDMI
Audio	Side: Headset and Headphone (side) 3.5mm diameter
Network Interface	RJ-45

I/O Ports — Internal ports

AiO SATA storage connector	N/A	N/A	N/A	1
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BAYS

9mm Slim ODD	1 ea.
Secure Digital (SD) 4 Reader	1 ea.
2.5" internal storage drive	1 ea.

KEYBOARDS AND POINTING DEVICES (optional)

Keyboards

HP Conferencing Keyboard
HP USB PS/2 Washable Keyboard*
HP USB Business Slim CCID SmartCard Keyboard
HP USB Business Slim Keyboard
HP USB Business Slim Keyboard (China only)
HP USB Business Slim Grey Keyboard

Mice

HP USB 1000dpi Laser Mouse
HP Grey V2 Mouse
HP USB Mouse
HP USB PS/2 Washable Mouse*
HP USB Mouse (China only)
HP USB Hardened Mouse

Combo

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

HP USB Keyboard and Mouse Healthcare Edition
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HP Wireless Business Slim Keyboard and Mouse
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HP USB Keyboard and Mouse (China only)
--

Other

HP Mouse Pad

*Note Optional HP Internal Serial/PS/2 Ports is required to support this device.

ADAPTERS AND CABLES (optional)

HP DisplayPort™ Cable

HP DisplayPort™ to DVI-D Adapter

HP DisplayPort™ to HDMI 4K Adapter

HP DisplayPort™ to VGA Adapter

HP DVI Cable

HP USB to Serial Port Adapter

I/O DEVICES

HP EliteOne 800 G3 AiO Dust Filter

AIO STANDS

(Optional and must be configured at purchase except for the Easel Stand)

HP EliteOne 800 G3 AiO Recline Stand

HP EliteOne 800 G3 AiO Adjustable Height Stand
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Standard Features and Configurable Components (availability may vary by country)

SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

BIOS

HP Sure Start Gen3¹
HP DriveLock | HP Automatic DriveLock
BIOS Update via Network
Master Boot Record Security
Power On Authentication
Secure Erase²
Absolute Persistence Module³
Pre-boot Authentication
HP LAN-WLAN Protection
HP Wireless Wakeup

Multi Media

CyberLink Power Media Player (select models only)
CyberLink Power2Go (select models only)

Communication / Connectivity

Native Miracast Support⁴

HP Value Add Software

HP ePrint Driver + JetAdvantage⁵
HP Hotkey Support - CMIT
HP Recovery Manager
HP Recovery Disc Creator (Windows 7 only)
HP Jumpstart
HP Support Assistant
HP Noise Cancellation Software
HP Velocity
HP Notifications

3rd Party

Foxit PhantomPDF Express for HP (Windows 7 only)

Microsoft Products

Buy Office
Bing Search
Skype⁶

Manageability

HP Driver Packs⁷
HP SoftPaq Download Manager (SDM)
HP System Software Manager (SSM)⁷
HP BIOS Config Utility (BCU)⁷
HP Client Catalog⁷
HP Manageability & Integration Kit (MIK)⁸
LANDESK Management⁸
Discover HP Touchpoint Manager¹¹

For more information on HP Client Management Solutions refer to: <http://www.hp.com/go/clientmanagement>

Client Security Software

HP Client Security Suite Gen3

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

- HP Security Manager (including Credential Manager and Password Manager)
- HP Drive Lock
- HP Password Manager
- Absolute Persistence Module
- Power On Authentication

Microsoft Security Essentials⁹ (Windows 7 only)

Microsoft Defender

HP WorkWise (requires Bluetooth®)¹⁰

Standard

Trusted Platform Module (TPM) 2.0 (Infineon SLB9670). Common Criteria EAL4+ Certified.

Downgradeable to TPM 1.2. Convertible to FIPS 140-2 Certified mode. (TPM 2.0 is not available for Win 7 32-bit.) Restrictions apply; contact your account manager for more details.

For more information on HP Client Security Software Suite, refer to <http://www.hp.com/go/clientsecurity>.

1 Available on HP EliteDesk / EliteOne products equipped with Intel® 7th generation processors.

2 For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88.

3 Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.

4 Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information:

<http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>

5 Requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see www.hp.com/go/eprintcenter). Requires optional broadband module. Broadband use requires separately purchased service contract. Check with service provider for coverage and availability in your area. Separately purchased data plans or usage fees may apply. Print times and connection speeds may vary.

6 Skype is not offered in China.

7 Not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>

8 Subscription required.

9 Opt in and internet connection required for updates.

10 HP WorkWise smartphone is available as a free download on the App Store and Google Play. Requires Windows 10 Build 1607 or higher).

11 HP Touchpoint Manager requires purchase of a subscription and supports Android™, iOS and Windows 7 or higher operating systems and PCs, notebooks, tablets and smartphones from various manufacturers. Not available in all countries see www.hp.com/touchpoint for availability information

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

HP BIOS

Key features of the HP BIOS include:

- Deployment and manageability – HP BIOS provides several technologies that help integrate the HP Elite 800 G3 Business PC into the enterprise, such as PXE, remote configuration, remote control, and F10 Setup support for 14 languages.
- Update your BIOS via the cloud or standardize on a BIOS version hosted on Enterprise network.
- Stability – HP BIOS supports the HP stable product roadmap by releasing only critical BIOS changes to the factory and advanced change notification.
- UEFI specification 2.5
- Absolute Persistence agent – For tracking and tracing services, available in select countries, separate software and purchase of a subscription is required.
- Thermal and power management – The HP BIOS provides and enables thermal and power management technologies so component temperatures are managed for high reliability and to assist in operating the HP Business Desktop computer in any enterprise environment.
- Acoustic performance – Industry leading acoustic emissions across the range of operating conditions.
- Serviceability – HP BIOS provides diagnostic and detailed service information.
- Upgrades and recovery – HP BIOS provides numerous ways to upgrade HP Business Desktop computers, including BIOS updates from within Windows (HPBIOSUPDREC), HP Client Manager, and fail-safe recovery. In addition, the HP BIOS Configuration Utility enables replication of BIOS settings within Windows while the Replicated Setup feature provides the same capability within F10 setup. The BIOS Configuration Utility is available from the support website.
- HP BIOS uses PKI signing of the BIOS for trusted BIOS upgrades and recovery.

Additional HP BIOS Features:

- Power-On password – Helps prevent an unauthorized user from powering on the system.
- Administrator password – Also known as the setup password, this helps prevent unauthorized changes to the system configuration. If the administrator password is not known, the BIOS version cannot be changed and changes cannot be made to BIOS settings using F10 setup or under the OS.
- Advanced Configuration and Power Interface (ACPI) – Represents a significant innovation in power and configuration management, allowing operating systems and applications to manage power based on activity and usage. HP Elite models use ACPI to provide power conservation features.

S5 Max Power Savings setting supports EU Lot6 requirement and allows the computer to power down below 0.5W in S5 (when turned off). When S5 Max Power Savings feature is enabled below features are turned off:

- Power to slots
- Wake events other than power buttons (such as Wake on LAN)
- USB charging ports

SureStart

- BIOS Integrity checking – Sure Start protection ensures that only trusted BIOS code is executed and not rootkits, viruses and malware. Verification is done upon boot up, shutdown and while On.
- Sure Start is set by default to automatically repair the BIOS if corrupted or compromised but is policy driven for better manageability.
- Protecting beyond BIOS – Integrity checking and repair is extended to other data that should be protected such as network configuration parameters (network name), platform specific information (i.e. system IDs) and other code the system needs to boot.
- Audit enabled – System Audit via Sure Start Event Logs capture data such as incident, repair date and time for troubleshooting and investigating.

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

Core™ vPro™ Processors*

Intel® 6th & 7th Generation Core™ vPro™ Processors

All HP Elite 800 G3 Business PC 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 800 G3 Business PC, thus making these models the most stable, secure, and manageable platforms available to enterprises today.

Intel® Advanced Management Technology (AMT) v11** – 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 11 includes the following advanced management functions:

- Support for configuration of Intel® AMT 11.0 new capabilities
- No reset after provisioning
- Support changes to BIOS table 130
- Support for Microsoft Windows Server 2012 R2
- Support for New Microsoft SQL Server Versions including Standard and Enterprise editions
- Support for Intel® SSD Prop 2500 Series
- Support for Intel® Enterprise Digital Fence
- The Platform Discovery Utility can now discover these additional Intel® products:
- Intel® SSD Pro 2500 Series; Enterprise Digital Fence
- Intel® Identity Protection Technology with One Time Password; Public Key Infrastructure; Multi Factor Authentication
- Intel® Identity Protection Technology with Intel® WiGig
- New Profile Editor and Profile Editor Plugin Interface
- New Required Permissions for Solutions Framework

*Some functionality of this technology, such as Intel Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro™ technology is dependent on 3rd party software providers. Compatibility with future "virtual appliances" is yet to be determined.

** Intel® Active Management Technology requires an Intel® AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. Setup requires configuration by the purchaser and may require scripting with the management console or further integration into existing security frameworks to enable certain functionality. It may also require modifications of implementation of new business processes.

HARDWARE SECURITY

SATA 0,1 port disablement (via BIOS)

Serial, USB enable/disable (via BIOS)

Hood Sensor (integrated in the PCA, can be enabled/disabled through BIOS)

Support for chassis padlocks and cable lock devices

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

POWER SUPPLY

80 PLUS Gold	180W active PFC 87/90/87% efficient at 20/50/100% load (115V) 88/91/88% efficient at 20/50/100% load (230V)
Operating Voltage Range	90 – 264 VAC
Rated Voltage Range	100-240V AC
Rated Line Frequency	50/60 HZ
Operating Line Frequency	47 – 63 Hz
Rated Input Current	180W : 2.5A
Rated Input Current with Energy Efficient* Power Supply	180W : 2.5A
DC Output	+12.1V
Current Leakage (NFPA 99: 2102)	Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
	Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.
Power Supply Fan	N/A
Power cord length	6.0 ft. (1.83 m)

WEIGHTS & DIMENSIONS

(configured with 1 HDD & 1 ODD; DM configured with 1 HDD only)

ALL-IN-ONE WEIGHTS AND DIMENSIONS

Weight

<i>Product Weight</i> <i>Unboxed</i>	<u>Without Stand</u> 14.84-14.95lbs 6.73-6.78kg	<u>Adjustable Height Stand</u> 20.79-21.01lbs 9.43-9.53kg	<u>Recline Stand</u> 22.66-22.77 lbs 10.28-10.33kg
<i>Shipping Weight</i> <i>Box</i>	<u>Without Stand</u> 22.27-22.38lbs 10.1-10.15kg	<u>Adjustable Height Stand</u> 28.22-28.44lbs 12.8-12.9 kg	<u>Recline Stand</u> 29.98 – 30.2lbs 13.6 - 13.7kg
<i>Shipping Weight</i> <i>Pallet</i>	<u>Without Stand (10 units)</u> 249.12-250.22lbs 113-113.5kg	<u>Adjustable Height Stand (10 units)</u> 308.65-310.85lbs 140-141kg	<u>Recline Stand (10 units)</u> 326.28 – 328.49lbs 148kg - 149kg

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

Dimensions (W x D x H)

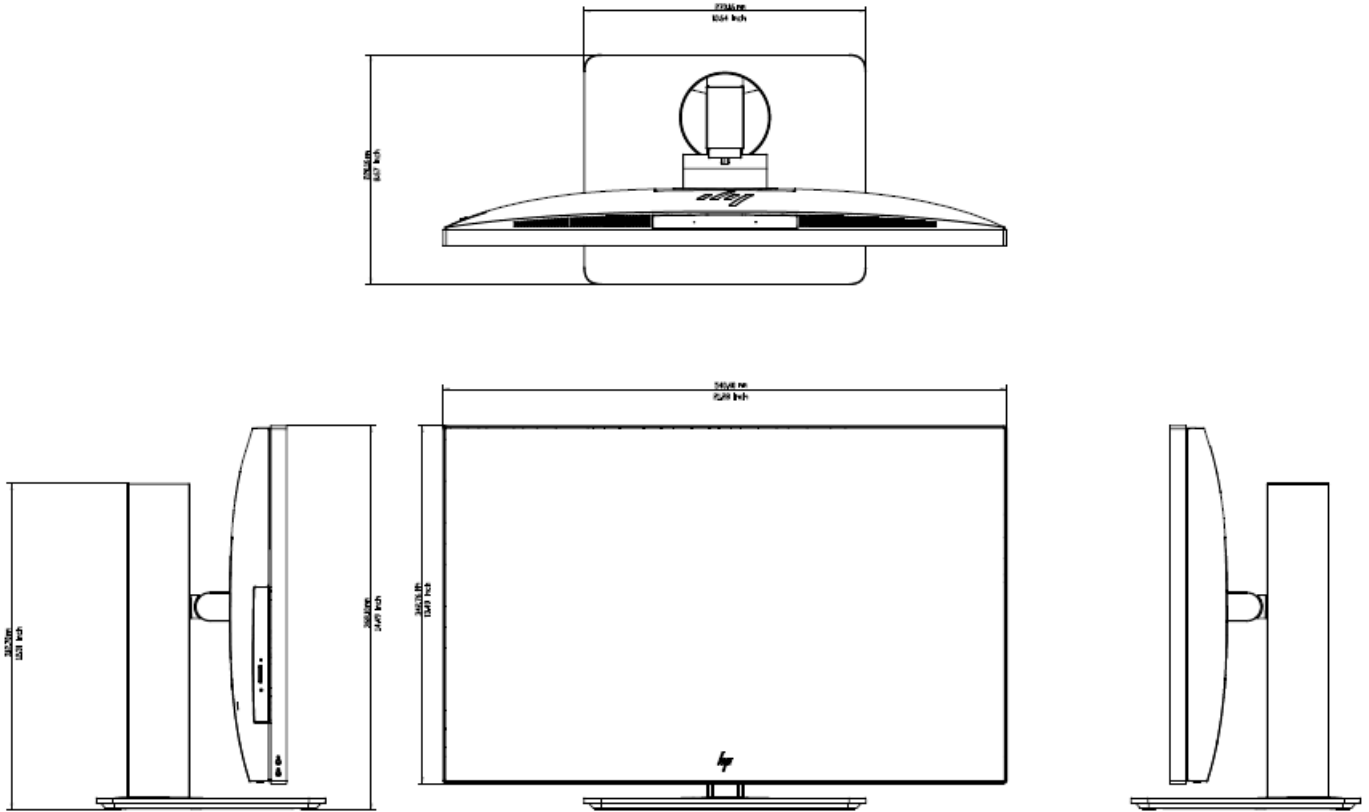
<i>Product Dimensions</i>	<u>Without Stand</u> 21.2 x 2.1 x 13.5in 539.6 x 54 x 341.955 mm	<u>Adjustable Height Stand 0 degrees</u> 21.2 x 5.9 x 18.6 in 539.6 x 175.041 x 471.266 mm	<u>Recline Stand 0 degrees</u> 21.2 x 10.6 x 17.1 in 539.6 x 270 x 433.589 mm
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Shipping Dimensions

<i>Shipping Dimensions Boxed</i>	<u>Without Stand</u> 27.17 x 10.08 x 21.46(H) in 690 x 256 x 545(H) mm	<u>Adjustable Height Stand</u> 27.17 x 10.08 x 26.22(H) in 690 x 256 x 666(H) mm	<u>Recline Stand</u> 27.17 x 10.08 x 26.22(H) in 690 x 256 x 666(H) mm
<i>Shipping Dimensions Pallet</i>	<u>Without Stand (10 units)</u> 47.24 x 39.37 x 24.02(H) in 1200 x 1000 x 610(H) mm	<u>Adjustable Height Stand (10 units)</u> 47.24 x 39.37 x 28.94(H) in 1200 x 1000 x 735(H) mm	<u>Recline Stand (10 units)</u> 47.24 x 39.37 x 28.94(H) in 1200 x 1000 x 735(H) mm

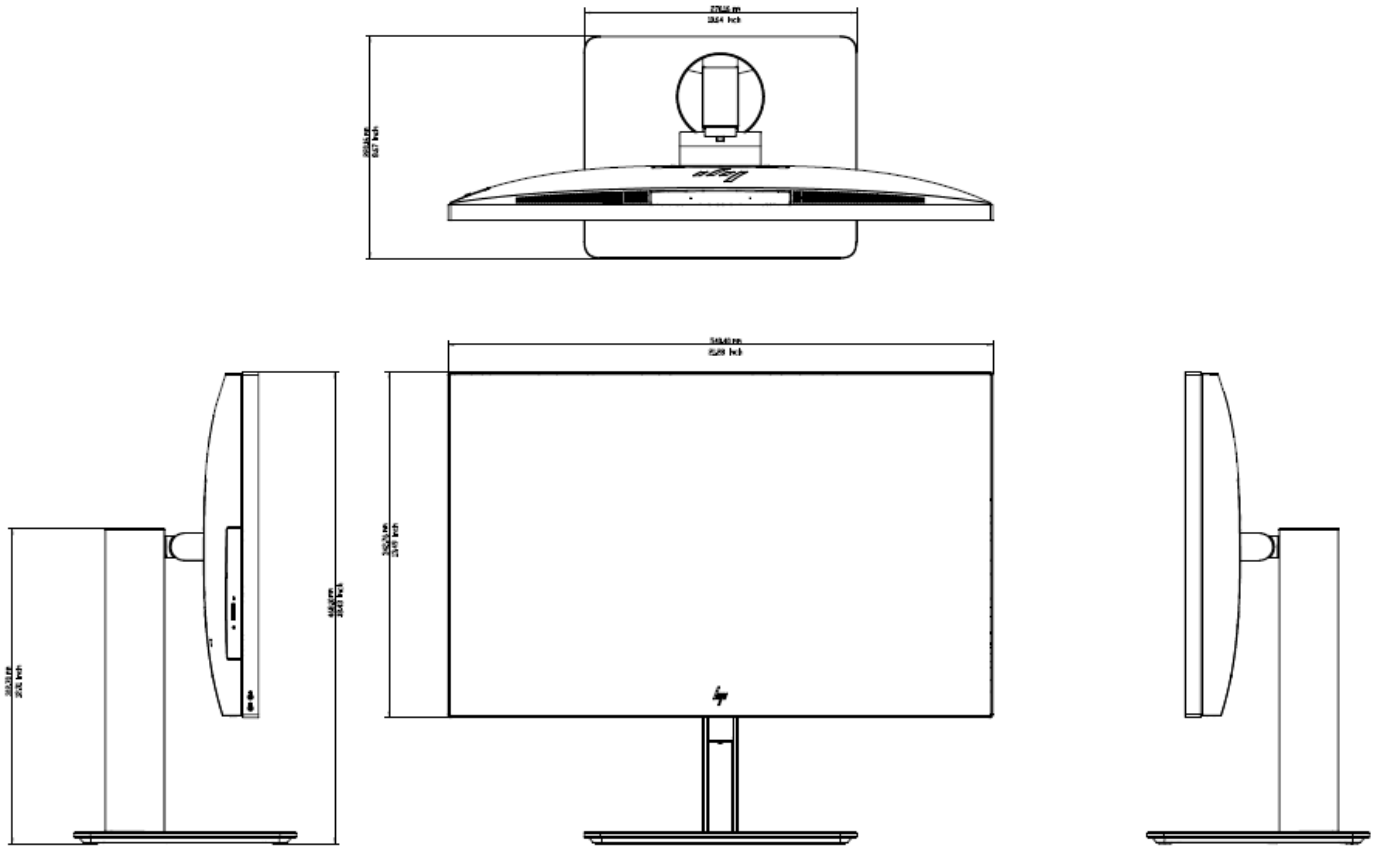
Standard Features and Configurable Components (availability may vary by country)

ALL-IN-ONE ADJUSTABLE HEIGHT STAND DIMENSIONS (LOW POSITION)



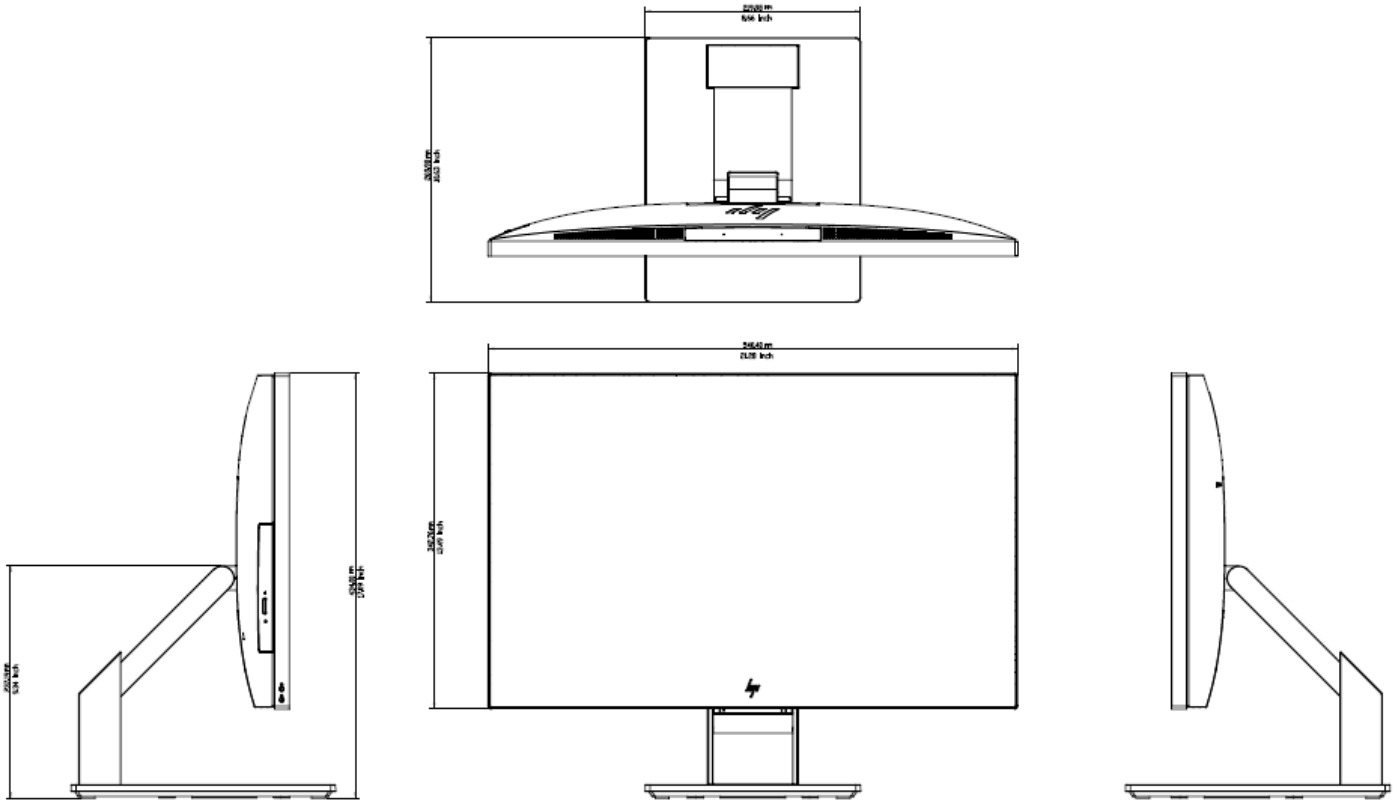
Standard Features and Configurable Components (availability may vary by country)

ALL-IN-ONE ADJUSTABLE HEIGHT STAND DIMENSIONS (HIGH POSITION)



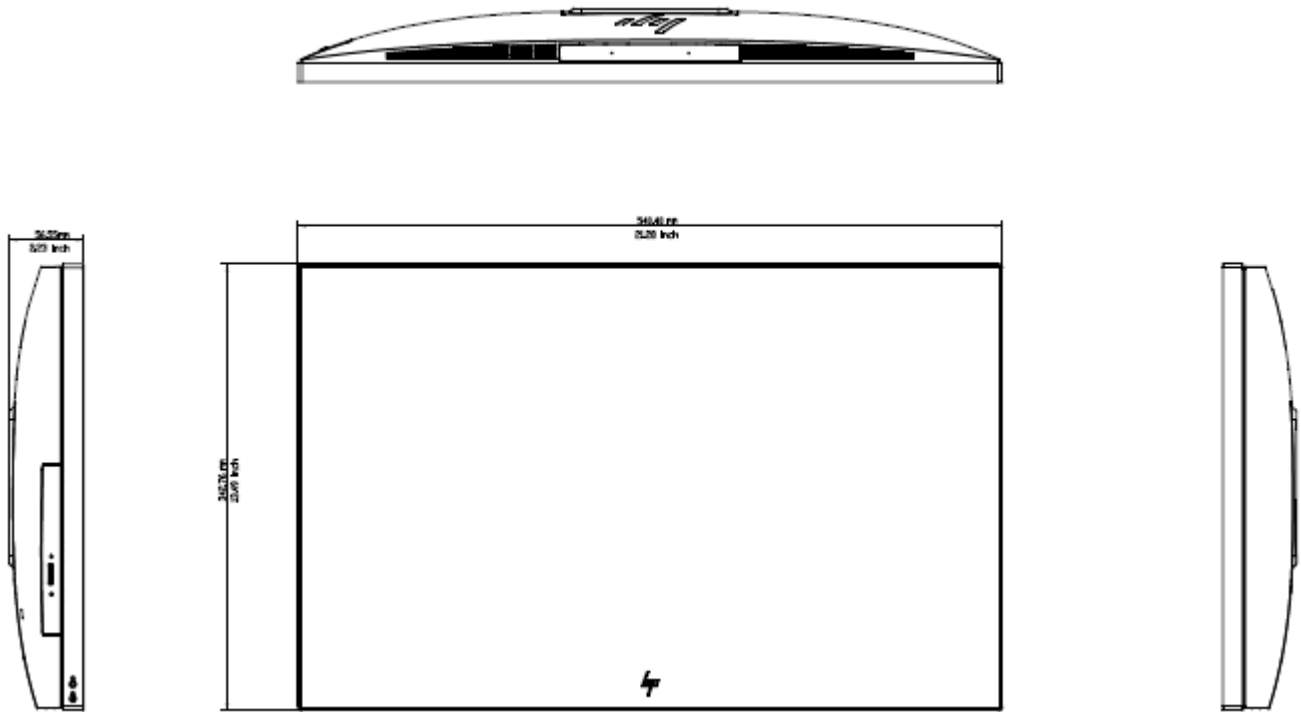
Standard Features and Configurable Components (availability may vary by country)

ALL-IN-ONE RECLINING STAND DIMENSIONS



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

ALL-IN-ONE NO STAND DIMENSIONS



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

ENVIRONMENTAL & INDUSTRY

- ENERGY STAR® certified models available
- EPEAT® registered where applicable/supported. See <http://www.epeat.net> for registration status by country. Search keyword generator on HP's 3rd party option store for solar generator accessories at <http://www.hp.com/go/options>
- Low halogen (chassis, all internal components and modules)*
- TAA compliant models available

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

*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.

SERVICE AND SUPPORT

On-site Warranty ¹: Three-year (3-3-3) limited warranty delivers three years of on-site, next business day ² service for parts and labor and complimentary limited technical support.³ Three-year onsite and labor are not available in all countries. HP Service offers terms up to 5 years by choosing an optional HP Care Pack.⁴ To choose the right level of service for your HP product, visit HP Care Pack Central: www.hp.com/go/cpc

NOTE 1: Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.

NOTE 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.

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

NOTE 3: Technical telephone support applies only to HP-configured and third-party HP qualified hardware and software.

NOTE 4: Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

GRAPHICS

Intel® HD Graphics (integrated)			
DisplayPort™	Multimode capable; supports HDCP, Display Port Audio (2 streams), HBR2 link rates and Multi-Stream Technology for a maximum of 3 displays (including the integrated panel)		
Memory	The BIOS has options for selecting the dedicated memory size of 128MB, 256MB or 512MB Additional 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 Graphics Memory	Microsoft Windows 7	Windows 8.1	Windows 10
	Up to 1.7GB	Up to 1.8GB	>4 GB
Note: the actual amount of maximum graphics memory can be less than the amounts listed above depending upon your computer's configuration.			
Maximum Color Depth	32 bits/pixel		
Graphics/Video API Support	6th Generation Core™ processors: <ul style="list-style-type: none"> • Next Generation Intel® Clear Video Technology HD Support is a collection of video playback and enhancement features that improve the end user's viewing experience <ul style="list-style-type: none"> ○ Encode/transcode HD content ○ Playback of high definition content including Blu-ray Disc ○ Superior image quality with sharper, more colorful images • DirectX Video Acceleration (DXVA) support for accelerating video processing <ul style="list-style-type: none"> ○ Full AVC/VC1/MPEG2/HEVC HW Decode • Advanced Scheduler 2.0, 1.0 • Windows 7, Windows 8.1, Windows 10, Linux OS Support • DirectX 12.1 • OpenGL 4.4 • Open CL 1.2 (Intel® HD Graphics 510) • Open CL 1.2/2.0 (Intel® HD Graphics 530) 		

Supported Display Resolutions and Refresh Rates

Note: other resolutions may be available but are not recommended as they may not have been tested and qualified by HP. For All in One platforms, resolutions higher than the integrated panel resolution are not supported on the integrated panel.

Resolution	Refresh Rate	VGA	DisplayPort™	HDMI	Standard
640 x 480	60, 75, 85	X	X	X	VESA DMT, CVT 0.31M3
720 x 400	70	X	X	X	IBM VGA
800 x 600	60, 75, 85	X	X	X	VESA DMT, CVT0.48M3

Technical Specifications – Graphics

1024 x 768	60, 75, 85	X	X	X	VESA DMT, CVT 0.79M3
1152 x 864	60, 75, 85	X	X	X	VESA DMT, CVT 0.83MA
1280 x 720	60, 75, 85	X	X	X	VESA DMT, CVT 0.92M9, CEA-770.3
1280 x 768	60, 60RB, 75, 85	X	X	X	VESA DMT, CVT 0.98M9/0.98M9-R
1280 x 800	60, 75, 85	X	X	X	VESA DMT
1280 x 960	60, 75, 85	X	X	X	VESA DMT
1280 x 1024	60, 75, 85	X	X	X	VESA DMT, CVT 1.31M4
1366 x 768	60, 60RB	X	X	X	VESA DMT
1440 x 900	60, 60RB	X	X	X	VESA DMT
1600 x 900	60, 60RB, 75, 85	X	X	X	VESA DMT
1680 x 1050	60, 60RB, 75	X	X	X	VESA DMT, CVT 1.76MA/1.76MA-R
1920 x 1080	60	X	X	X	VESA DMT, CVT 2.07M9, SMPTE 274M
1920 x 1200	60, 60RB, 75, 85	X*	X	X	DMT, CVT 2.30MA/2.30MA-R
1600 x 1200	60, 75, 85	X*	X	X	VESA DMT, 1.92M3
1920 x 1440	60, 75, 85		X	X	VESA DMT, CVT 2.76M3
2048 x 1536	60,75		X	X	CVT 3.15M3
2560 x 1440	59.951		X	X	CVT 3.69M9-R
2560 x 1600	60, 60RB		X	X	VESA DMT, CVT 4.10MA/4.10MA-R
3840 x 2160	24		X	X	CVT-RBv1/v2 (8.29M9-R), SMPTE 274M
3840 x 2160	25		X	X	CVT-RBv1/v2 (8.29M9-R), SMPTE 274M
3840 x 2160	30		X	X	CVT-RBv1/v2 (8.29M9-R), SMPTE 274M
3840 x 2160	50		X	X	CVT-RBv1/v2 (8.29M9-R), SMPTE 274M
3840 x 2160	60		X	X	CVT-RBv1/v2 (8.29M9-R), SMPTE 274M
4096 x 2160	24		X	X	CVT-RBv1/v2 (8.85M-R), SMPTE 274M
4096 x 2160	25		X	X	CVT-RBv1/v2 (8.85M-R), SMPTE 274M
4096 x 2160	30		X	X	CVT-RBv1/v2 (8.85M-R), SMPTE 274M
4096 x 2160	50		X	X	CVT-RBv1/v2 (8.85M-R), SMPTE 274M
4096 x 2160	60		X	X	CVT-RBv1/v2 (8.85M-R), SMPTE 274M
1920 x 1080	60		X	X	VESA (SMPTE 274M)
1920 x 1080	50		X	X	SMPTE 274M
1920 x 1080	30		X	X	SMPTE 274M
1920 x 1080	24		X	X	SMPTE 274M
1280 x 720	60		X	X	VESA (CEA-770.3)
1280 x 720	50		X	X	SMPTE 296M

Technical Specifications – Graphics

720 x 480	60		X	X	MHL (CEA-770.2)
720 x 576	50		X	X	ITU-R BT.1358
640 x 480	60		X	X	CEA (VESA DMT)
* 60Hz refresh rate only on VGA					

Technical Specifications – Hard Disk and Solid State Storage

HARD DISK AND SOLID STATE STORAGE

NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

HP 1 TB 7.2K SATA 6.0Gb/s 2.5” Hard Disk Drive		
Capacity	1,000,204,886,016 bytes	
Rotational Speed	7,200 rpm	
Interface	SATA 6 Gb/s	
Buffer Size	32 MB	
Logical Blocks	1,953,525,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	12 ms
	Full-Stroke:	25 ms
Height (nominal)	0.374 in/9.5 mm	
Width (nominal)	Media diameter: 2.5 in/63.5 mm	
	Physical size: 2.75 in/70 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 30GB (for Windows 10) of system disk is reserved for system recovery software.		

HP 500 GB 7.2K SATA 6.0Gb/s 2.5” Hard Disk Drive*		
Capacity	500,107,862,016 bytes	
Rotational Speed	7,200 rpm	
Interface	SATA 6 Gb/s	
Buffer Size	16 MB	
Logical Blocks	976,773,168	
Seek Time (typical reads, includes controller overhead, including settling)	Single Track:	2.0 ms
	Average:	12 ms

Technical Specifications – Hard Disk and Solid State Storage

	Full-Stroke:	25 ms
Height (nominal)	0.267 in/6.8 mm	
Width (nominal)	Media diameter: 2.5 in/63.5 mm	
	Physical size: 2.75 in/70 mm	
Operating Temperature	41° to 131° F (5° to 55° C)	
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

HP 500 GB SATA 6G 2.5" 8GB Solid State Hybrid Drive (SSHD)*

Formatted Capacity	500 GB	
Spindle Speed	5,400 rpm +/- 0.2%	
Drive Type	Solid State Hybrid Drive (SSHD) technology with NAND Flash	
Interface	SATA 6 Gb/s	
Cache Buffer	64 MB	
NAND Flash Commercial Multilevel Cell (cMLC)	8 GB	
Number of Sectors	976,773,168	
Seek Time (typical reads)	Single Track:	2.0 ms
	Average:	12 ms
Height	0.268 +/- .008 in (6.8 +/- 0.2 mm)	
Width	2.750 +/- 0.010 in (69.85 +/- 0.25 mm)	
Length	3.951 +0.008 / -0.010 in (100.35 +0.20 / -0.25 mm)	
Weight	0.209 lb/95 g (max)	
Operating Temperature	41° to 131° F (5° to 55° C)	
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

Technical Specifications – Hard Disk and Solid State Storage

HP 1 TB* SATA 6G 2.5" 8GB Solid State Hybrid Drive (SSHD)*	
Formatted Capacity	1 TB
Spindle Speed	5,400 rpm +/- 0.2%
Drive Type	Solid State Hybrid Drive (SSHD) technology with NAND Flash
Interface	SATA 6 Gb/s
Cache Buffer	64 MB
NAND Flash Commercial Multilevel Cell (cMLC)	8 GB
Number of Sectors	976,773,168
Seek Time (typical reads)	Single Track: 2.0 ms
	Average: 12 ms
Height	0.374 +/- .008 in (9.5 +/- 0.2 mm)
Width	2.750 +/- 0.010 in (69.85 +/- 0.25 mm)
Length	3.951 +0.008 / -0.010 in (100.35 +0.20 / -0.25 mm)
Weight	0.254 lb/115 g (max)
Operating Temperature	32° to 140° F (0° to 60° C)
*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.	

500GB* 2.5" FIPS 140-2 SED Solid State Drive*	
Formatted Capacity	500 GB
Architecture	Self-Encrypting (SED) Solid State Drive with SATA interface.
Interface	Serial ATA (6.0 Gb/s)
Form Factor	2.5 inch
Height	6.80 mm ± 0.20
Width	69.85 mm ± 0.25
Length	100.35 mm ± 0.25/0.20
Weight (typical)	<95 g (0.209 lb)

Technical Specifications – Hard Disk and Solid State Storage

Bandwidth Performance	Sustained data transfer rate OD	100 MB/s max
	I/O data-transfer rate	600 MB/s max
Power	Power consumption:	Spinup (max): 1.00A Idle, active: 0.70W Sleep 0.18W
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 140° F (0° to 60° C)
	Relative Humidity:	5% to 95%
	Shock:	Maximum 400 G/2 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

256GB* TLC SED SSD 2.5" FIPS Drive*		
Unformatted Capacity	256 GB	
Architecture	Self-Encrypting (SED) Solid State Drive with SATA interface.	
Interface	Serial ATA (6.0 Gb/s)	
Form Factor	2.5 inch	
Height	7 mm	
Width	69.85 mm	
Length	100.45 mm	
Weight (typical)	10 g (0.022 lb) max	
Bandwidth Performance	Sequential read (128KB transfer)	530
	Sequential write (128KB transfer)	500
	Random read (4KB transfer)	55,000

Technical Specifications – Hard Disk and Solid State Storage

	Random write (4KB transfer)	83,000
Power	SATA Power consumption	Sleep Typical: 2mw Idle, average: 55mw Active, average: 70mW Active maximum (128KB transfer): 3000 mW
Environmental (all conditions, non-condensing)	Operating Temperature	32° to 158° F (0° to 70° C)
	Relative Humidity	5% to 95%
	Non-operating Shock	1500 G/0.5ms
	Non-operating Vibration	5-800Hz @ 3.10G

***NOTE:** For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

512GB* TLC SED SSD 2.5" FIPS Drive*

Unformatted Capacity	512 GB	
Architecture	Self-Encrypting (SED) Solid State Drive with SATA interface.	
Interface	Serial ATA (6.0 Gb/s)	
Form Factor	2.5 inch	
Height	7 mm	
Width	69.85 mm	
Length	100.45 mm	
Weight (typical)	10 g (0.022 lb) max	
Bandwidth Performance	Sequential read (128KB transfer)	530

Technical Specifications – Hard Disk and Solid State Storage

	Sequential write (128KB transfer)	500
	Random read (4KB transfer)	92,000
	Random write (4KB transfer)	83,000
Power	SATA Power consumption	Sleep Typical: 2mW Idle, average: 55mW Active, average: 70mW Active maximum (128KB transfer): 4000 mW
Environmental (all conditions, non-condensing)	Operating Temperature	32° to 158° F (0° to 70° C)
	Relative Humidity	5% to 95%
	Non-operating Shock	1500 G/0.5ms
	Non-operating Vibration	5-800Hz @ 3.10G
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

256GB Turbo Drive G2 TLC Solid State Drive

Unformatted Capacity	256 GB
Architecture	Solid State Drive with TLC NAND Flash and PCIE interface. Complies with NVMe Standard Power Saving Modes: L1 substates support Multi Queue support
Interface	PCI-E Gen3 x 4
Form Factor	M.2 2280
Height	3.73 mm
Width	22.00 ± 0.15 mm

Technical Specifications – Hard Disk and Solid State Storage

Length	80.00 ± 0.15 mm	
Weight	Up to 8 g	
Bandwidth Performance	Sustained Sequential Read:	Up to 2600 MB/s
	Sustained Sequential Write:	Up to 1000 MB/s
Power	Power consumption:	Active: Typical 6.1W; Idle: Typical 80mW L1.2: Typical 5mW
Mean Time Between Failure (MTBF)	1,500,000 hours	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms

***NOTE:** For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

512GB Turbo Drive G2 TLC Solid State Drive

Unformatted Capacity	512 GB
Architecture	Solid State Drive with TLC NAND Flash and PCIe interface. Complies with NVMe Standard Power Saving Modes: L1 substates support Multi Queue support
Interface	PCI-E Gen3 x 4
Form Factor	M.2 2280
Height	3.73 mm
Width	22.00 ± 0.15 mm
Length	80.00 ± 0.15 mm

Technical Specifications – Hard Disk and Solid State Storage

Weight	Up to 8 g	
Bandwidth Performance	Sustained Sequential Read:	Up to 2600 MB/s
	Sustained Sequential Write:	Up to 1200 MB/s
Power	Power consumption:	Active: Typical 6.1W; Idle: Typical 80mW L1.2: Typical 5mW
Mean Time Between Failure (MTBF)	1,500,000 hours	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

1TB Turbo Drive G2 TLC Solid State Drive

Unformatted Capacity	1 TB
Architecture	Solid State Drive with TLC NAND Flash and PCIE interface. Complies with NVMe Standard Power Saving Modes: L1 substates support Multi Queue support
Interface	PCI-E Gen3 x 4
Form Factor	M.2 2280
Height	3.73 mm
Width	22.00 ± 0.15 mm
Length	80.00 ± 0.15 mm
Weight	Up to 8 g

Technical Specifications – Hard Disk and Solid State Storage

Bandwidth Performance	Sustained Sequential Read:	Up to 2600 MB/s
	Sustained Sequential Write:	Up to 1400 MB/s
Power	Power consumption:	Active: Typical 6.1W; Idle: Typical 80mW L1.2: Typical 5mW
Mean Time Between Failure (MTBF)	1,500,000 hours	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

500 GB* SATA 2.5" Self-Encrypting (SED) Opal 2 Solid State Drive*

Unformatted Capacity	500GB	
Architecture	Self-Encrypting (SED) Solid State Drive with 25nm MLC NAND Flash and SATA interface	
Interface	Serial ATA 2.0 (3.0 Gb/s)	
NAND Flash	25nm MLC NAND Flash	
Height	.275 in/7mm	
Width	2.75 in/69.85 mm	
Length	3.95 in/100.5 mm	
Weight	0.161 lb (73 g)	
Bandwidth Performance	Sustained Sequential 128k Read:	Up to 450 MB/s

Technical Specifications – Hard Disk and Solid State Storage

	Sustained Sequential 128k Write:	Up to 260 MB/s
	Random 4k Read:	Up to 46K IOPs
	Random 4k Write:	Up to 56K IOPs
Latency	Read:	55 μ s
	Write:	55 μ s
Power	SATA power consumption:	160 mW (active average); <85 mW (idle average)
Useful Drive Life	72TB written, up to 40GB/day for 5 years	
	Operating Temperature:	32° to 158° F (0° to 70° C)
Environmental (all conditions, non-condensing)	Relative Humidity:	5% to 95%
	Shock:	1,500 G/1 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

256 GB SATA 2.5" TLC SED SSD Opal 2 Drive*

Unformatted Capacity	256 GB 500,118,192 (User Addressable Sectors)
Architecture	Self-Encrypting (SED) Solid State Drive with NAND Flash and SATA interface. Trusted Computing Group (TCG) OPAL 2.0 compliant encrypted solid state drive
Interface	Serial ATA (6.0 Gb/s)
Form Factor	2.5 inch
Height	6.80 mm \pm 0.20
Width	69.85 mm \pm 0.25
Length	100.20 mm \pm 0.25
Typical Weight	37.4 g

Technical Specifications – Hard Disk and Solid State Storage

Bandwidth Performance	Sustained Sequential Read:	Up to 520 MB/s
	Sustained Sequential Write:	Up to 460 MB/s
Power	Power consumption:	Active: 3.891W; Idle: 0.085W
Mean Time Between Failure (MTBF)	1,500,000 hours	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

512 GB SATA 2.5" TLC SED SSD Opal 2 Drive*

Unformatted Capacity	512 GB 1,000,215,216 (User Addressable Sectors)	
Architecture	Self-Encrypting (SED) Solid State Drive with NAND Flash and SATA interface. Trusted Computing Group (TCG) OPAL 2.0 compliant encrypted solid state drive	
Interface	Serial ATA (6.0 Gb/s)	
Form Factor	2.5 inch	
Height	7 mm ± 0.20	
Width	69.85 mm ± 0.25	
Length	100.20 mm ± 0.25	
Typical Weight	37.4 g	
Bandwidth Performance	Sustained Sequential Read:	Up to 515 MB/s
	Sustained Sequential Write:	Up to 490 MB/s
Power	Power consumption:	Maximum active power: ≤4,400mW

Technical Specifications – Hard Disk and Solid State Storage

		Average power: 70mW Slumber low power mode: 42mW – 52mW
Mean Time Between Failure (MTBF)	Up to 1,750,000 hours	
Environmental (all conditions, non-condensing)	Operating Temperature:	0 °C to 70 °C (32 °F to 158 °F)
	Non-operating temperature and storage	-55 °C to +85 °C (-67 °F to 185 °F)
	Operating and non-operating shock	1,500 G/0.5 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

128GB SATA 2.5" Value (Non-SED) Solid State Drive

Unformatted Capacity	128 GB	
Architecture	TLC NAND Flash	
Interface	SATA 3.2 (6.0 Gb/s)	
Form Factor	2.5 inch	
Dimensions (W x H x D)	6.98 x 0.7 x 10.05 cm	
Weight	31g	
Bandwidth Performance	Sustained Sequential Read:	Up to 510 MB/s
	Sustained Sequential Write:	Up to 330 MB/s
	Random Read:	Up to 38K IOPs
	Random Write:	Up to 70K IOPs
Power	DC power requirement:	5 VDC 5%-100 mV ripple p-p
	Total power consumption:	50mW (active); 20mW (idle)
Useful Drive Life	72TB written, up to 40GB/day for 5 years	

Technical Specifications – Hard Disk and Solid State Storage

Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms
<p>*NOTE: For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.</p>		

256GB SATA 2.5" Value (Non-SED) Solid State Drive		
Unformatted Capacity	256 GB	
Architecture	TLC NAND Flash	
Interface	SATA 3.2 (6.0 Gb/s)	
Form Factor	2.5 inch	
Dimensions (W x H x D)	6.98 x 0.7 x 10.05 cm	
Weight	31g	
Bandwidth Performance	Sustained Sequential Read:	Up to 510 MB/s
	Sustained Sequential Write:	Up to 330 MB/s
	Random Read:	Up to 38K IOPs
	Random Write:	Up to 70K IOPs
Power	DC power requirement:	5 VDC 5%-100 mV ripple p-p
	Total power consumption:	50mW (active); 20mW (idle)
Useful Drive Life	72TB written, up to 40GB/day for 5 years	
Environmental (all conditions, non-condensing)	Operating Temperature:	32° to 158° F (0° to 70° C)
	Relative Humidity:	5% to 95%
	Shock:	1,500 G/0.5 ms

Technical Specifications – Hard Disk and Solid State Storage

***NOTE:** For storage drives, GB = 1 billion bytes, TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30GB (for Windows 10) of system disk is reserved for system recovery software.

Technical Specifications – Optical Disk Drives

HP 9.5mm AIO 800 G3 Slim DVD-Writer		
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)	
	DVD-R DL	Up to 6X
	DVD+R	Up to 8X
	DVD+RW	Up to 8X
	DVD+R DL	Up to 6X
	DVD-R	Up to 8X
	DVD-RW	Up to 6X
	CD-R	Up to 24X
	CD-RW	Up to 10X
	DVD-RW, DVD+RW	Up to 8X
	DVD-R DL, DVD+R DL	Up to 8X
	DVD+R, DVD-R	Up to 8X
	DVD-ROM DL, DVD-ROM	Up to 8X
	CD-ROM, CD-R	Up to 24X
	CD-RW	Up to 24X
Other Media	M disc	DVD media for storage preservation
Access time (typical reads, including settling)	Random	DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)
	Full Stroke	DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
	Stop Time	6 seconds (typical)
Power	Source	Slimline SATA DC power receptacle
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p
	DC Current	5 VDC (< 1000 mA typical, 1600 mA maximum)
Environmental conditions (operating - non-condensing)	Temperature	41° to 122° F (5° to 50° C)
	Relative Humidity	10% to 80%

Technical Specifications – Optical Disk Drives

	Maximum Wet Bulb Temperature	84° F (29° C)
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HP 9.5mm AIO 800 G3 Slim DVD-ROM Drive		
Height	9.5mm	
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/-RW/+R DL /-R DL	Up to 8X
	DVD-ROM	Up to 8X
	CD-ROM, CD-R	Up to 24X
	CD-RW	Up to 24X
Access time (typical reads, including settling)	Random	DVD-ROM: 170 ms (typical), CD-ROM: 170 ms (typical)
	Full Stroke	DVD-ROM: 320 ms (typical), CD-ROM: 320 ms (typical)
Power	Source	Slimline SATA DC power receptacle
	DC Power Requirement	5 VDC ± 5%-100 mV ripple p-p
	DC Current	5 VDC - <1000 mA typical, < 1600 mA maximum
Environmental (all conditions non-condensing)	Temperature	41° to 122° F (5° to 50° C)
	Relative Humidity	10% to 80%
	Maximum Wet Bulb Temperature (operating)	84° F (29° C)

Technical Specifications – Memory

System Memory Support

The HP EliteOne 800 G3 Business PC supports DDR4 protocols with two independent, 64-bit wide channels each accessing one or two DIMMs.

- Two channels of non-ECC DDR4 unbuffered small outline dual in-line memory modules (SO-DIMM) with a maximum of two DIMMs per channel
- Single-channel and dual-channel memory organization modes
- Data burst length of eight for all memory organization modes
- Memory data transfer rates of up to 2400 MT/s; actual supported data transfer rate determined by the configured processor.
- 64-bit wide channels
- DDR4 system memory I/O voltage of 1.2V
- Theoretical maximum memory bandwidth of:
 - 21.3 GB/s in dual-channel mode assuming 1333 MT/s
 - 25.6 GB/s in dual-channel mode assuming 1600 MT/s
 - 34.0 GB/s in dual-channel mode assuming 2133 MT/s
 - 38.4 GB/s in dual-channel mode assuming 2400 MT/s

Platform Memory Support

- Supports up to two (2) industry-standard DDR4-SDRAM DIMMs.

CAUTION: You must shut down the computer and disconnect the power cord before adding or removing memory modules. Regardless of the power-on state, voltage is always supplied to the memory modules as long as the computer is plugged in to an active AC outlet. Adding or removing memory modules while voltage is present may cause irreparable damage to the memory modules or system board.

NOTE: For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.

Technical Specifications - Networking and Communications

NETWORKING AND COMMUNICATIONS

Intel® I219LM Gigabit Network Connection LOM (standard)	
Connector	RJ-45
System Interface	PCIe + SMBus
Controller	Intel® I219LM Gigabit Ethernet Controller
Data rates supported	Supports operation at 10/100/1000 Mb/s data rates
IEEE Compliance	IEEE 802.3 Ethernet interface for 1000BASE-T, 100BASETX, and 10BASET applications (802.3ab, 802.3u, and 802.3i, respectively). IEEE 802.3az support [Low Power Idle (LPI) mode] IEEE 802.3u auto-negotiation conformance
Performance	Jumbo Frames (up to 9 kB) 802.1Q & 802.1p Receive Side Scaling (RSS) Two Queues (Tx & Rx)
Power	Ultra Low Power at cable disconnect (<1 mW) enables platform support for connected standby Reduced power consumption during normal operation and power down modes Integrated Intel® Auto Connect Battery Saver (ACBS) Single-pin LAN Disable for easier BIOS implementation Fully integrated Switching Voltage Regulator (iSVR) Low Power Link-Up (LPLU)
MAC/PHY Interconnect	PCIe-based interface for active state operation (S0 state) SMBus-based interface for host and management traffic (Sx low power state)
Management Interface	MDC/MDIO management interface
Security & Manageability	Intel® vPro™ support with appropriate Intel® chipset components

Intel® 8265 802.11ac 2x2 WiFi + Bluetooth® M.2 Combo Card* (802.11AC Wave 2 supported)	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
Interoperability	Wi-Fi certified
Frequency Band	802.11b/g/n <ul style="list-style-type: none"> 2.402 – 2.482 GHz Note: The FCC has declared as of January 1, 2015 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. 802.11a/n <ul style="list-style-type: none"> 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz Note: Indonesia no support this band)
Data Rates	<ul style="list-style-type: none"> 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

Technical Specifications - Networking and Communications

	<ul style="list-style-type: none"> 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
Security¹	<ul style="list-style-type: none"> IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only AES-CCMP: 128 bit in hardware 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification IEEE 802.11i Cisco Certified Extensions, all versions through CCX4 and CCX Lite WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	<ul style="list-style-type: none"> 802.11b: +16dBm minimum 802.11g: +14dBm minimum 802.11a: +14dBm minimum 802.11n HT20(2.4GHz): +14dBm minimum 802.11n HT40(2.4GHz): +12dBm minimum 802.11n HT20(5GHz): +14dBm minimum 802.11n HT40(5GHz): +12dBm minimum
Power Consumption	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW (WLAN+BT) Radio disabled: 30 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity³	802.11b, 1Mbps: -94dBm maximum 802.11b, 11Mbps: -86dBm maximum 802.11g, 6Mbps: -88dBm maximum 802.11g, 54Mbps: -74dBm maximum 802.11a, 6Mbps: -88dBm maximum 802.11a, 54Mbps: -74dBm maximum 802.11n, MCS07: -69dBm maximum 802.11n, MCS15: -66dBm maximum 802.11ac, 1SS, MCS-0: -86dBm maximum 802.11ac, 1SS, MCS-9: -61dBm maximum 802.11ac, 2SS, MCS-0: -83dBm maximum 802.11ac, 2SS, MCS-9: -58dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth® communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230: 2.3 x 22.0 x 30.0 mm

Technical Specifications - Networking and Communications

		Or Type 1630 : 2.3 x 16.0 x 30.0 mm	
Weight		Type 2230 : 2.8g Or Type 1630 : 2g	
Operating Voltage		3.3v +/- 9%	
Temperature	Operating	14° to 158° F (-10° to 70° C)	
	Non-operating	-40° to 176° F (-40° to 80° C)	
Humidity	Operating	10% to 90% (non-condensing)	
	Non-operating	5% to 95% (non-condensing)	
Altitude	Operating	0 to 10,000 ft (3,048 m)	
	Non-operating	0 to 50,000 ft (15,240 m)	
LED Activity		LED Amber – Radio OFF; LED White – Radio ON	
		<ol style="list-style-type: none"> 1. Check latest software/driver release for updates on supported security features. 2. Maximum output power may vary by country according to local regulations. 3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation). 	
		HP Integrated Module with Bluetooth® 4.0/4.1/4.2 Wireless Technology	
Bluetooth® Specification		4.0/4.1/4.2 Compliant	
Frequency Band		2402 to 2480 MHz	
Number of Available Channels		Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)	
Data Rates and Throughput		Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps	
		BLE : 1 Mbps data rate; throughput up to 0.2 Mbps	
		Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels	
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.	
Receiver Sensitivity		Modulation	0.01% BER
		GFSK	-80 dBm
		π/4-DQPSK	-80 dBm
		8DPSK	-80 dBm
Power Consumption		Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW	
Range		Legacy Up to 33 ft (10 m) BLE Up to 99 ft (30 m)	
Electrical Interface		USB 2.0 compliant	
Bluetooth® Software Supported Link Topology		Microsoft Windows Bluetooth® Software	
Electrical Interface Bluetooth® Software Supported Security		Point to Point, Multipoint Pico Nets up to 7 slaves Full support of Bluetooth® Security Provisions	
Power Management Power Management Certifications		Microsoft Windows ACPI, and USB Bus Support Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff	
Security		All necessary regulatory approvals for supported countries, including:	
Certifications Bluetooth® Profiles Supported		FCC (47 CFR) Part 15C, Section 15.247 & 15.249	
Power Management		ETS 300 328, ETS 300 826	

Technical Specifications - Networking and Communications

	Certifications	Low Voltage Directive IEC950
		UL, CSA, and CE Mark
	Certifications Bluetooth® Profiles Supported	<ul style="list-style-type: none"> UL, CSA, and CE Mark Serial Port Profile (SPP)1.2 Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN)1,1 Generic Object Exchange Profile (GOEP)1,2 Object Push Profile (OPP)1,2 Hard Copy Cable Replacement (HCRP)1,2 Personal Area Networking Profile (PAN)1.0 Human Interface Device Profile (HID)1.0 Hands Free Profile (HFP) 1.5/1.6 Advanced Audio Distribution Profile (A2DP) 1.3 Audio Video Remote Control Profile (AVRCP) 1.3/1.4
	Bluetooth® V4.1/V4.2 support feature	<ul style="list-style-type: none"> V4.1: ESR5/6/7 compliant V4.2: ESR8 compliant, LE Secure Connection – Basic
<p>*Wireless access point and internet access required. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.</p>		

Intel® 7265 802.11ac 2x2 DualBand Combo PCIe x1 Card		
	Wireless LAN Standards	<ul style="list-style-type: none"> IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	Interoperability	Wi-Fi certified
	Frequency Band	802.11b/g/n <ul style="list-style-type: none"> • 2.402 – 2.482 GHz Note: The FCC has declared as of January 1, 2015 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. 802.11a/n <ul style="list-style-type: none"> • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz Note: Indonesia no support this band)
	Data Rates	<ul style="list-style-type: none"> • 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) • 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
	Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
	Security¹	<ul style="list-style-type: none"> • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware

Technical Specifications - Networking and Communications

		<ul style="list-style-type: none"> 802.1x authentication WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. WPA2 certification IEEE 802.11i Cisco Certified Extensions, all versions through CCX4 and CCX Lite WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)	
Roaming	IEEE 802.11 compliant roaming between access points	
Output Power²	<ul style="list-style-type: none"> 802.11b : +16dBm minimum 802.11g : +14dBm minimum 802.11a : +14dBm minimum 802.11n HT20(2.4GHz) : +13dBm minimum 802.11n HT40(2.4GHz) : +13dBm minimum 802.11n HT20(5GHz) : +12dBm minimum 802.11n HT40(5GHz) : +12dBm minimum 802.11ac 80MHz(5GHz) : +11dBm minimum 	
Power Consumption	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 60 mW (WLAN unassociated) Radio disabled: 30 mW	
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode	
Receiver Sensitivity³	802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -86dBm maximum 802.11a, 54Mbps : -72dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm maximum 802.11ac, 1SS, MCS-0 : -86dBm maximum 802.11ac, 1SS, MCS-9 : -61dBm maximum 802.11ac, 2SS, MCS-0 : -83dBm maximum 802.11ac, 2SS, MCS-9 : -58dBm maximum	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth® communications	
Form Factor	PCI-Express M.2 MiniCard	
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm	
Weight	Type 2230 : 2.8g Or Type 1630 : 2g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating	14° to 158° F (-10° to 70° C)
	Non-operating	-40° to 176° F (-40° to 80° C)
Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)

Technical Specifications - Networking and Communications

	Altitude	Operating Non-operating	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)												
	LED Activity	LED Amber – Radio OFF; LED White – Radio ON													
	<p>4. Check latest software/driver release for updates on supported security features.</p> <p>5. Maximum output power may vary by country according to local regulations.</p> <p>6. 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).</p>														
	HP Integrated Module with Bluetooth® 4.2 Wireless Technology														
	Bluetooth® Specification	4.2 Compliant													
	Frequency Band	2402 to 2480 MHz													
	Number of Available Channels	79 (1 MHz) available channels													
	Data Rates and Throughput	3 Mbps data rate; throughput up to 2.17 Mbps													
		Synchronous Connection Oriented links up to 3, 64 kbps, voice channels													
		Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric or 1306.9 kbps symmetric													
	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.													
	Receiver Sensitivity	<table border="1"> <thead> <tr> <th>Modulation</th> <th>0.01% BER</th> <th>0.001% BER</th> </tr> </thead> <tbody> <tr> <td>GFSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td>π/4-DQPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> <tr> <td>8DPSK</td> <td>-80 dBm</td> <td>-70 dBm</td> </tr> </tbody> </table>	Modulation	0.01% BER	0.001% BER	GFSK	-80 dBm	-70 dBm	π/4-DQPSK	-80 dBm	-70 dBm	8DPSK	-80 dBm	-70 dBm	
Modulation	0.01% BER	0.001% BER													
GFSK	-80 dBm	-70 dBm													
π/4-DQPSK	-80 dBm	-70 dBm													
8DPSK	-80 dBm	-70 dBm													
	Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW													
	Range	Up to 33 ft (10 m)													
	Electrical Interface	USB 2.0 compliant													
	Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software													
	Electrical Interface Bluetooth® Software Supported Security	Point to Point, Multipoint Pico Nets up to 7 slaves Full support of Bluetooth® Security Provisions													
	Power Management Power Management Certifications	Microsoft Windows ACPI, and USB Bus Support Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff													
	Security	All necessary regulatory approvals for supported countries, including:													
	Certifications Bluetooth® Profiles Supported	FCC (47 CFR) Part 15C, Section 15.247 & 15.249													
	Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950													
	Certifications Bluetooth® Profiles Supported	UL, CSA, and CE Mark Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2} Generic Object Exchange Profile (GOEP) ^{1,2} Object Push Profile (OPP) ^{1,2} File Transfer Profile (FTP) Synchronization Profile (SYNC) Hard Copy Cable Replacement (HCRP) ^{1,2} Personal Area Networking Profile (PAN) ^{1,2}													

Technical Specifications - Networking and Communications

		Human Interface Device Profile (HID) ^{1,2} FAX Profile (FAX) Basic Imaging Profile (BIP) ² Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)
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Intel® 3168 802.11ac with PCIe x1 WLAN/ Bluetooth® Combo*		
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac	
Interoperability	Wi-Fi certification	
Frequency Bands	802.11b/g/n	2.402 – 2.482 GHz Note: The FCC has declared as of January 1, 2015 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.
	802.11a/n	4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz Note: Indonesia only supports 5.725 - 5.825 GHz (CH149 - CH161)
Data Rates	<ul style="list-style-type: none"> 802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) 802.11ac : MCS0 ~ MCS7, (1SS) (20MHz, 40MHz, and 80MHz) 	
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM	

Technical Specifications - Networking and Communications

Security¹	<ul style="list-style-type: none"> • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • IEEE 802.11i • Cisco Certified Extensions, all versions through CCX4 and CCX Lite • WAPI <p>¹ Check latest software/driver release for updates on supported security features.</p>
Network Architecture Models	<p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p>
Roaming	<p>802.11r Fast Roaming</p>
Output Power²	<ul style="list-style-type: none"> • 802.11b : +16dBm minimum • 802.11g : +14dBm minimum • 802.11a : +14dBm minimum • 802.11n HT20(2.4GHz) : +14dBm minimum • 802.11n HT40(2.4GHz) : +12dBm minimum • 802.11n HT20(5GHz) : +14dBm minimum • 802.11n HT40(5GHz) : +12dBm minimum • 802.11ac 80MHz(5GHz) : +11dBm minimum <p>² Maximum output power may vary by country according to local regulations.</p>
Power Consumption	<p>Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW (WLAN+BT) Radio disabled: 5 mW</p>
Power Management	<p>ACPI and PCI Express compliant power management 802.11 compliant power saving mode</p>
Receiver Sensitivity³	<p>802.11b, 1Mbps : -94dBm maximum 802.11b, 11Mbps : -86dBm maximum 802.11g, 6Mbps : -88dBm maximum 802.11g, 54Mbps : -74dBm maximum 802.11a, 6Mbps : -88dBm maximum 802.11a, 54Mbps : -74dBm maximum 802.11n, MCS07 : -69dBm maximum 802.11n, MCS15 : -66dBm maximum 802.11ac, 1SS, MCS-0 : -86dBm maximum 802.11ac, 1SS, MCS-9 : -61dBm maximum 802.11ac, 2SS, MCS-0 : -83dBm maximum 802.11ac, 2SS, MCS-9 : -58dBm maximum</p>

Technical Specifications - Networking and Communications

	³ Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).	
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth® communications	
Form Factors	PCI-Express M.2 MiniCard	
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm Or Type 1630 : 2.3 x 16.0 x 30.0 mm	
Weight	Type 2230 : 2.8g Or Type 1630 : 2g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating:	14° to 158° F (-10° to 70° C)
	Non-operating:	-40° to 176° F (-40° to 80° C)
Humidity	Operating:	10% to 90% (non-condensing)
	Non-operating:	5% to 95% (non-condensing)
Altitude	Operating:	0 to 10,000 ft (3,048 m)
	Non-operating:	0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON	

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

HP Integrated Module with Bluetooth® 4.0/4.1/4.2 Wireless Technology

Bluetooth® Specification	4.0/4.1/4.2 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps
	BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
	Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)

Technical Specifications - Networking and Communications

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.		
Receiver Sensitivity Legacy	Modulation	0.01% BER	0.001% BER
	GFSK	-80 dBm	-70 dBm
	$\pi/4$ -DQPSK	-80 dBm	-70 dBm
	8DPSK	-80 dBm	-70 dBm
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW		
Range	Legacy Up to 33 ft (10 m) BLE Up to 99 ft (30 m)		
Electrical Interface	USB 2.0 compliant		
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software		
Electrical Interface Bluetooth® Software Supported Security	Point to Point, Multipoint Pico Nets up to 7 slaves		
	Full support of Bluetooth® Security Provisions		
Power Management Certifications	Microsoft Windows ACPI, and USB Bus Support		
	Self-configurable to optimize power conservation in all operating modes, including Standby, Hold, Park, and Sniff		
Security	All necessary regulatory approvals for supported countries, including:		
Certifications Bluetooth® Profiles Supported	FCC (47 CFR) Part 15C, Section 15.247 & 15.249		
Power Management Certifications	ETS 300 328, ETS 300 826		
	Low Voltage Directive IEC950		
Certifications Bluetooth® Profiles Supported	UL, CSA, and CE Mark		
	Serial Port Profile (SPP) ¹ Service Discovery Application Profile (SDAP) Dial-Up Networking (DUN) ^{1,2} Generic Object Exchange Profile (GOEP) ^{1,2} Object Push Profile (OPP) ^{1,2} Hard Copy Cable Replacement (HCRP) ^{1,2} Personal Area Networking Profile (PAN) ^{1,2}		

Technical Specifications - Networking and Communications

	Human Interface Device Profile (HID) ^{1,2} Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)
	Audio Video Remote Control Profile (AVRCP)
Bluetooth® V4.1/V4.2 support feature	V4.1: ESR5/6/7 compliant
	V4.2: ESR8 compliant, LE Secure Connection – Basic.

Technical Specifications - Audio

AUDIO

High Definition Audio AIO	
Type	Integrated
HD Stereo Codec	Conexant 2-channel CX5001 codec
Audio I/O Ports	Side Headset connector supports a CTIA style headset and is re-taskable as a Line-in, Line-out, Microphone-in or Headphone-out port
	Side Headphone port
	Rear Line-Out
	All ports are 3.5mm and support stereo (see above tables for system configurations)
Internal Speaker Amplifier	2W per channel Class D amplifier for the internal speaker only. External speakers must be powered externally.
Multi-streaming Capable	Multi-streaming can be enabled in the audio control panel
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 Stereo Speakers	Yes

Technical Specifications – Input/Output Devices

Input/Output Devices

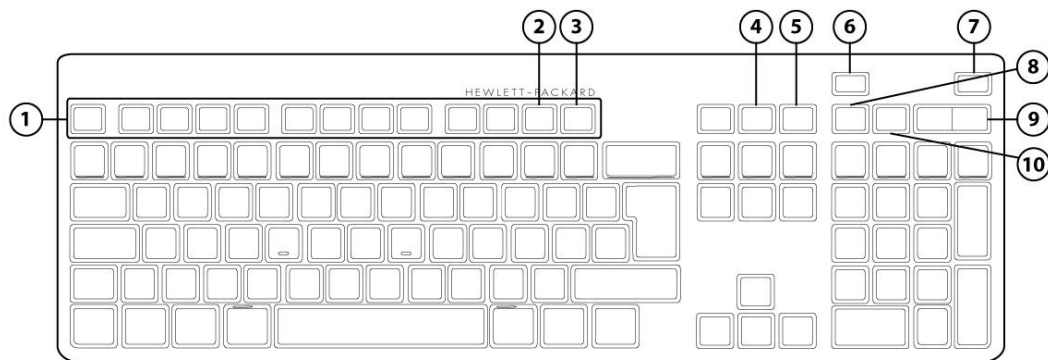
HP USB Keyboard Healthcare Edition		
Physical Characteristics	Keys	99 (US) 100(UK)
	Dimensions (H x W x D)	13.5x4.4x1.1 in (342.5x112.5x28.0 mm)
	Weight	0.6 lbs without cable (270 g)
Electrical	Operating voltage	+ 4.75 to 5.25VDC
	Power consumption	50-mA maximum
	System interface	USB Type A plug connector
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft PC 99 - 2001	Functionally compliant
Mechanical	Keycaps	Low-profile design
	Switch actuation	55±10g nominal peak force with tactile feedback
	Switch life	10 million keystrokes (Life tester)
	Switch type	Membrane switch
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Microsoft PC 99 - 2001	Mechanically compliant
Environmental	Acoustics	<40-dBA maximum sound pressure level
	Operating temperature	32° to 122° F (0° to 50° C)
	Non-operating temperature	23° to 131° F (-5° to 55° C)
Approvals	FCC, CE Mark, C-Tick, ICES-003, EN 55022, EN55024, EN55032, (NRTL will be available by the end of March)	

HP USB Mouse Healthcare Edition		
Physical characteristics	Buttons	3 buttons + a scroll wheel
	Dimensions (L x W x H)	4.7×2.5×1.5 in (118.9x64.5x37.3 mm)
	Weight	0.2 lbs (100 g)
Electrical	Operating voltage	+ 4.75 to 5.25VDC
	Power consumption	50-mA maximum
	System interface	USB Type A plug connector
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft® PC 99 - 2001	Functionally compliant
	Switch actuation	100±50g nominal peak force with tactile feedback
	Switch life	3 million
	Switch type	Mechanical switch
	Cable length	6 ft (1.8 m)
Microsoft PC 99 - 2001	Mechanically compliant	
Environmental	Acoustics	<40-dBA maximum sound pressure level
	Operating temperature	32° to 104° F (0° to 40° C)
	Non-operating temperature	-40° to 140° F (-40° to 60° C)
	Non-operating vibration	Frequency : 55 HZ, amplitude: 0.10Grms, 30 min.

Technical Specifications – Input/Output Devices

	Drop (in box)	Height : 76.2 cm, b. ground : 30mm iron plate, c. test one corner, 3 edges, 6 surfaces(one time for each)
Approvals	FCC, CE Mark, C-Tick, ICES-003, EN 55022, EN55024, EN55032, (NRTL will be available by the end of March)	
Country of Origin (keyboard and mouse)	China	
Kit contents (keyboard and mouse)	Keyboard, Keyboard Drape, Mouse, Installation Guide	

HP Conferencing Keyboard



1.	Function Keys	6.	End/Decline a Call
2.	F11 Lync or Skype for Business Contact list *	7.	Answer a Call
3.	F12 Lync or Skype for Business Calendar **	8.	Microphone Mute
4.	Share Screen	9.	Volume Up/Down
5.	Stop Webcam	10.	Audio Mute

*Microsoft Lync 2013, or Skype for Business, or Microsoft Outlook 2013 Contact list

**Microsoft Lync 2013, or Skype for Business, or Microsoft Outlook 2013 Calendar

Dimensions (H x L x W)	0.85 x 17.34 x 6.10 in (2.16 x 44.05 x 15.50 cm)
Weight	24.69 oz. (700 g)
Connectivity	USB cable
Keys	110 (US) Layout, 111 (EU) Layout – depending upon country
Feature Summary	Full-size ultra-quiet keyboard with numerical pad and 12 function keys One-touch simplicity for Microsoft Lync or Skype for Business calls with dedicated keys and LED light indicators

Technical Specifications – Input/Output Devices

Illuminated keys	Incoming Call – Blinks Green Call in progress –Green Microphone Mute – Orange Audio Mute – Orange Screen Sharing – Orange Stop Webcam – Orange
Other Call control keys	End/Decline Call Volume up and down rocker key
Microsoft Lync/Outlook	Fn+F12 – Lync or Skype for Business Calendar will open. If Lync or Skype for Business is not available will bring Outlook Calendar * Fn+F11 – Lync or Skype for Business Contact will open. If Lync or Skype for Business is not available will bring Outlook Contact list * * Fn+11 and Fn+12 function keys are not supported in Microsoft Windows 8.x Metro mode
Functions Keys	Fn+F10 – System Settings Fn+F9 – Devices Fn+F8 – Search Fn+F7 – Blank Fn+F6 – Up Brightness Adjustment Fn+F5 – Down Brightness Adjustment Fn+F4 – Display Options Fn+F3 – File Explorer Fn+F2 – System Lock Fn+F1 – System Sleep
System requirements	Available USB port Windows 7, Windows 8.x, and Windows 10 Server: Microsoft Lync Server 2010 or 2013 and Skype for Business Server 2015 Client: Microsoft Lync 2013 version 15.0.46xx or newer or Skype for Business Notes: <ul style="list-style-type: none"> Limited support for Microsoft Lync 2010, Microsoft Lync 2013 Basic and Microsoft Metro Mode Screen brightness functions supported in select HP systems
Approvals EMC Product Safety	FCC; CE; ACA(C-tick); EAC UL, CE Mark

HP USB PS/2 Washable Keyboard

Physical Characteristics	Keys	104 (US) Layout, 105 (EU) layout - depending upon country
	Dimensions (L x W x H)	17.67x 6.62 x 1.38 in (449 x 168 x 35 mm)
	Weight	1.7 lb (0.77 kg) minimum
Electrical	Operating voltage	+ 5VDC ±5%

Technical Specifications – Input/Output Devices

	Power consumption	50-mA maximum (with three LEDs ON)
	System interface	USB Type A plug connector
	ESD	CE level 4, 15-kV air discharge
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft® PC 99 - 2001	Functionally compliant
Mechanical	Keycaps	Stepped -profile design
	Switch actuation	55-g nominal peak force with tactile feedback
	Switch life	20 million keystrokes
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	7 ft (2.2 m)
	Microsoft PC 99 - 2001	Mechanically compliant
	Acoustics	43-dBA maximum sound pressure level
Environmental	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)	42 in (107 cm) on concrete, 16-drop sequence
Approvals	UL, cUL, FCC, CE, TUV GS, VCCI, BSMI, C-Tick, KCC, USB-IF, WHQL, EN/IEC 60601-1, IP66/NEMA4X	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	

HP USB Business Slim Smartcard Keyboard		
Physical Characteristics	Keys	104, 105, 109 layout (depending upon country)
	Dimensions (H x W x D)	17.34 x 5.68 x 0.78 in (440.6 x 14.45 x 1.98 cm)
	Weight	1.32 lb (0.6± 0.1 kg)
Electrical	Operating voltage	5V
	Power consumption	200 mA
	System interface	USB Interface
	ESD	Air 12.5kV / Contact 8kV
	EMI - RFI	under 3dB

Technical Specifications – Input/Output Devices

	Microsoft PC 99 - 2001	Conforms to FCC rules for a Class B computing device	
Mechanical	Keycaps	Low-profile design	
	Switch actuation	60±15g 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	
	Interface	Reads from and writes to all ISO7816-1, 2, 3, 4 memory and microprocessor smart cards (T=0, T=1)	
	Chipset	IDENTIVE 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 9241-410, TUV GS		
Kit Contents	Keyboard, I/O Security and Documentation CD, warranty card		

HP USB Business Slim Keyboard

Physical characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
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Technical Specifications – Input/Output Devices

	Dimensions (L x W x H)	171.97 x 68.35 x 8.27 in (436.8± 1.5 x 137.6± 1.0 x 21.0± 1.0 cm)
	Weight	1.32 lb (0.6± 0.08 kg)
Electrical	Operating voltage	+ 4.4 – 5.25VDC
	Power consumption	50-mA maximum (with 5 VDC power supplied and three LEDs ON)
	System interface	USB Type A plug connector
	ESD	Contact Discharge: 2, 4, 6, 8KV Air Discharge: 2, 4, 8, 10, 12.5KV
	EMI - RFI	Conforms to FCC rules for a Class B computing device
	Microsoft® PC 99 - 2001	Functionally compliant
Mechanical	Keycaps	Low-profile design
	Switch actuation	60±12.5g nominal peak force with tactile feedback
	Switch life	10 million keystrokes (Life tester)
	Switch type	Contamination-resistant switch membrane
	Key-leveling mechanisms	For all double-wide and greater-length keys
	Cable length	6 ft (1.8 m)
	Microsoft PC 99 - 2001	Mechanically compliant
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

Technical Specifications – Input/Output Devices

	Non-operating vibration	4-g peak acceleration
	Drop (out of box)	26 in (66 cm) on carpet, six-drop sequence
	Drop (in box)	30 in (76.2 cm) on concrete, 16-drop sequence
Approvals	UL, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, KC	
Ergonomic compliance	ANSI HFS 100, ISO 9241-4, and TUVGS	
Kit contents	Keyboard	Installation Guide
	Warranty Card	Safety and Comfort Guide

HP USB (Grey) Business Slim Keyboard

Physical characteristics	Keys	104, 105, 106, 107, 109 layout (depending upon country)
	Dimensions (L x W x H)	17.19 x 5.41 x 0.82 in (43.68±1.5 x 13.76±1.0 x 2.1 ±1.0 cm)
	Weight	1.32 lb (0.6± 0.08 kg)
Electrical	Operating voltage	+ 4.4 – 5.25VDC
	Power consumption	100-mA maximum (with 5 VDC power supplied and three LEDs ON)
	System interface	USB Type A plug connector
	ESD	Contact Discharge: 4, 6, 8 KV
	EMI – RFI	Air Discharge: 8, 10, 12 KV / 15 KV
	Microsoft PC 99 – 2001	Conforms to FCC rules for a Class B computing device; Functionally compliant
Mechanical	Keycaps	Low-profile design
	Switch actuation	Rubber dome + membrane
	Switch life	10 million
	Switch type	Rubber dome
	Key-leveling mechanisms	Link bar
	Cable length	For all double-wide and greater-length keys
	Microsoft PC 99 – 2001	Yes
Environmental	Acoustics	55-dBA maximum sound pressure level
	Operating temperature	10°C to 50°
	Non-operating temperature	-30°C to 90°
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	60% 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	

Technical Specifications – Input/Output Devices

Approvals	FCC; CE; VCCI; BSMI; KC; EAC; RCM; TUV-GS; UL; RoHS; WEEE
Ergonomic compliance	ANSI HFS 100; ISO 9241-4; and TUVGS

HP Wireless Business Slim Keyboard and Mouse		
Keyboard	Dimensions (L x W x H)	171.97 x 68.35 x 8.27 in (436.8± 1.5 x 137.6± 1.0 x 21.0± 1.0 cm)
	Weight – Without Two AA Alkaline Batteries	1.23 lb (560± 80 g)
Mouse	Dimensions (H x L x W)	1.46 x 4.53 x 2.47 in (37 x 115 x 62.9 mm)
	Weight – Without Two AA Alkaline Batteries	0.15 lb (67 g)
Receiver	Dimensions (H x L x W)	0.33x 1.79 x 0.72 in (8.4 x 45.5 x 18.4 mm)
	Weight	0.21 oz (5.9 g)
	Cable Length – Minimum	6 ft (1.8 m)
	Range	32.8 ft (10 m)
System Requirements	Available USB port for the receiver CD-ROM Drive *This system may require upgraded and/or separately purchased hardware and/or a DVD drive to install the Windows 7 software and take full advantage of Windows 7 functionality. See http://www.microsoft.com/windows/windows-7/ for details.	
Approvals	Product Safety	UL; CSA /TUV (Europe only); CE Mark; CB Report
	Ergonomics	ANSI; ISO (Europe only); GS Mark (Germany only)
	EMC	FCC; CE; ACA (-tick); BSMI; KC ; VCCI
	CE Mark	EN 55022:2010; EN 55024; EN 301489-1; EN 61000
	Design Guidelines for PCs	PC 99 – connector overmold colors; PC 2001 – full functionality
	Telecom	All local telecom requirements and approvals for intended markets
	USA	FCC Title 47 CFR, Par 15, Subpart C; other local requirements

Technical Specifications – Input/Output Devices

	Country Support	US, Belgium, Switzerland, Spain, Denmark, Netherlands, France, Germany, Italy, Portugal, Sweden, Norway, Finland, UK, Poland, Czech Republic, Turkey, Greece, Austria, Bulgaria, Cyprus, Estonia, Hungary, Ireland, Latvia, Lithuania, Luxemburg, Malta, Romania, Slovakia, Slovenia, Vietnam, HK, Australia, NZ, Malaysia, Singapore, Indonesia, Philippines, Thailand, Canada, China, Japan, Korea, Taiwan, India, Venezuela, Ecuador, Russia, Ukraine, Israel, Croatia, United Arab Emirates, Peru, Brazil, Chile, Argentina, Mexico, South Africa, and up to 193 countries worldwide.
Environmental	Keyboard contains 25% post-consumer recycled plastic material.	

HP USB 1000dpi Laser Mouse		
Dimensions (H x L x W)	1.47 x 4.53 x 2.47 in (37.3 x 114.97 x 62.86 mm)	
Weight	3.360 oz (102g)	
Cable length	70.9 in (180 cm)	
System requirements	Available USB port	
Environmental	Operating Temperature	32° to 104° F (0° to 40° C)
	Non-operating Temperature	-4° to 140° F (-20° to 60° C)
	Operating Humidity	10% to 90% (non-condensing at ambient)
Mechanical	Resolution	1000dpi
	Tracking Speed	45 cm/sec
	Cable Length	70.9 in (180 cm)

HP USB PS/2 Washable Mouse		
Dimensions (H x L x W)	1.56 x 2.44 x 4.61 in (3.95 x 6.21 x 11.7 cm)	
Weight	4.44 oz (126 g)	
Environmental	Operating temperature	-32° to 104°F (0° to 40° C)
	Non-operating temperature	-4° to 140°F (-20° to 60° C)
	Operating humidity	10% to 90% (non-condensing at ambient)
	Non-operating humidity	10% to 90% (non condensing at ambient)
	Operating shock	40 g, 6 surfaces
	Non-operating shock	80 g, 6 surfaces
	Operating vibration	2 g peak acceleration
	Non-operating vibration	4 g peak acceleration
Drop (out of box)	80 cm height onto asphalt tile over concrete or equivalent, 5-drop in 5 direction except the cable face	

Technical Specifications – Input/Output Devices

Electrical	Operating voltage	5 VDC ± 10%
	Power consumption	100mA
	System consumption	PS/2 mini-din connector
	ESD	CE level 4, 15 kV air discharge
	EMI-RFI	Conforms to FCC rules for a Class B computing device
	Microsoft® PC99 – 2001	Functionally compliant
Mechanical	Resolution	400 ± 20% DPI
	Tracking speed	10 in/s (25.4 cm/s) maximum
	Acceleration	100 in/s/s (2.54 m/s/s)
	Switch actuation	61 g nominal peak force
	Switch life	3,000,000 operations (using Hasco modified tester)
	Switch type	Low force micro-switches
	Tracking mechanism life	155 mi (250 km) at average speed of 10 in/s
	Cable length	6 ft (1.8 m)
	Microsoft PC99 – 2001	Mechanically compliant
Scroll wheel	Width	8 mm
	Diameter	1.01 in (25.6 mm)
	Maximum rotation speed	48 rats/sec
	Switch type	Light force micro-switch
	Switch life	1 million operations
	Mechanical life	Minimum 200,000 revolutions
Regulatory approvals	Compliant	UL, CSA, FCC, CE Mark, TUV, TUV GS, VCCI, BSMI, C-Tick, MIC

HP USB Hardened Mouse			
Mouse Type	Wired optical mouse		
Interface	USB 2.0		
Dimensions (H x L x W)	114.97 x 62.92 x 37.3 mm (+/-0.3 mm) (11.49 x 6.29 x 1.46 in)		
Weight	92 g (+/-10 g) (3.2 oz)		
Cable length	1.8 M		
Tracking	X-Y Positioning	X-Y Wheel Resolution	1000 DPI
		Tracking Speed	Up to 30 in/sec in either X or Y direction
	Z Axis Wheel	Z Wheel Revolution	24 counts per revolution
		Tracking Speed	0 ~ 120 rpm
Environmental	Operating temperature	0° - 40°C	

Technical Specifications – Input/Output Devices

	Non-operating temperature	-40° - 65°C
	Operating humidity	90%
	Agency Approvals	CE FCC RCM VCCI EMC EAC BSMI UL ICES-003 Class B KCC TUV/GS
Electrical	Input Voltage & Current	4.4 ~ 5.25 VDC / 100 mA
	Power Consumption	Under nominal 5 VDC power supplied, max current consumption is 100mA with tracking speed up to 30 in/sec
Color	Black	
System requirements	Windows 10, Windows 8.1 32/64bit, Windows 7 32/64bit	

HP Grey V2 Mouse		
Dimensions (H x L x W)	1.46 x 4.53 x 2.48 in (3.72 x 11.5 x 6.29 cm) ±1 mm	
Weight	3.53 oz (100g; +10g/- 5 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, 6 surfaces
	Non-operating shock	80 g, 6 surfaces
	Operating vibration	2 g peak acceleration
	Non-operating vibration	4 g peak acceleration
Electrical	Operating voltage	4.75~5.25 Vdc
	Power consumption (typical)	10mA
Mechanical	Connector	USB 2.0
	Type	3D mouse (3 keys and wheel)
	Resolution	800 DPI
	Sensor	PixArt vendor Optical USB mouse sensor. DIP
	Tracking speed	30 inch/sec (max)

Technical Specifications – Input/Output Devices

	Tracking acceleration	8G(max), 1G=9.8m/s ²
	Cable length	6 ft (1.8 m)
Color	Grey	
Regulatory Approvals	FCC, CE, ICES, C-TICK, VCCI, KCC, BSMI, ISO9241, Part 4, Computer Work Station Ergonomics compliance, IEC 801-2, IEC 1000-4-2, EN 55024:1998 + A1:2001 + A2:2003, European Standard EN 55022: 2006 Class B, CE Mark	

HP USB Mouse		
Dimensions (H x L x W)	2.5 x 4.5 x 1.5 in (63.5 x 114.3 x 38.1 mm)	
Weight	0.22 lb (99.79 g)	
Color	Black	
Connector	USB	
Mechanical	Resolution	800 DPI sensitivity
	Buttons	Two primary buttons and clickable scroll wheel

Technical Specifications – Miscellaneous Features

MISCELLANEOUS FEATURES

Management Features

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

Serviceability Features

- Dual colored power LED on front of computer to indicate either normal or fault condition
- 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
- BIOS recovery files are maintained on the local OS drive when updating with HP BIOS Update and Recovery utility (HPBIOSUPDREC)
- 5 Aux Power LED on System PCA
- Processor ZIF Socket for easy Upgrade
- Over-Temp Warning on Screen (Requires IM Agents)
- Clear Password Jumper
- DIMM Connectors for easy Upgrade
- Clear CMOS Button
- NIC LEDs (integrated) (Green & Amber)
- Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions
- Color coordinated cables and connectors
- 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
- Quick Release Latches for easy Identification

Technical Specifications – Miscellaneous Features

Additional Features

Additional Features	Description
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	<p>DPS Access through F10 Setup during Boot</p> <p>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</p> <p>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</p> <p>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</p>
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	<p>Detects errors in Read/Write buffers on HDD cache RAM</p> <p>Interface in F10 setup provides confirmation of SMART IV support.</p>

After-Market Options (availability may vary by region)

After Market Options

Graphics Solutions	Part Number
HP UHD USB Graphics Adapter	N2U81AA
HP DisplayPort™ Cable Kit	VN567AA
HP DisplayPort™ To DVI-D Adapter	FH973AA
HP DisplayPort™ To VGA Adapter	AS615AA
HP DisplayPort™ To HDMI 4k Adapter	K2K92AA
HP DVI to DVI Cable	DC198A
Data Storage Drives	
Data Storage Drives	Part Number
HP 256GB SATA TLC Solid State Drive	P1N68AA
HP 512GB Turbo Drive G2 TLC M.2 SSD Drive	X8U75AA
HP 9.5mm Slim Removable SATA 500GB	T7G14AA
HP 256GB SATA Non-SED Solid State Drive	W0U55AA
HP 9.5mm AIO 800 G3 Slim DVD Writer	Z9H62AA
Input Devices	
Input Devices	Part Number
HP USB Keyboard and Mouse Healthcare Edition	1VD81AA
HP Conferencing Keyboard	K8P74AA
HP USB Business Slim Keyboard	N3R87AA
HP Wireless Business Slim Keyboard and Mouse**	QY449AA
HP USB Keyboard and Mouse Healthcare Edition	1VD81AA
HP USB Business Slim Grey Keyboard (EMEA only)	Z9H49AA
HP USB Business Slim Smart Card CCID Keyboard	Z9H48AA
HP USB PS/2 Washable Keyboard and Mouse Kit**	BU207AA
HP USB Grey V2 Mouse (EMEA only)	Z9H74AA
HP USB Business Slim Keyboard and Mouse (China Only)	Z9H50AA
HP USB Hardened Mouse	P1N77AA
HP USB Mouse	QY777AA
HP USB 1000dpi Laser Mouse	QY778AA
** Keyboard contains 25% post-consumer recycled plastic material	
System Memory	
System Memory	Part Number
HP 4GB DDR4-2400 SODIMM	Z9H55AA
HP 8GB DDR4-2400 SODIMM	Z9H56AA
HP 16GB DDR4-2400 SODIMM	Z9H53AA
Multimedia Devices	
Multimedia Devices	Part Number
HP Business Headset v2	T4E61AA
Security Devices	
Security Devices	Part Number
HP Keyed Cable Lock 10mm Kit	T1A62AA
HP Dual Head Keyed Cable Lock Kit	T1A64AA
Stands and Accessories	
Stands and Accessories	Part Number
HP EliteOne G3 800 AIO Recline Stand	Z9H67AA
HP EliteOne G3 800 AIO Adjustable Height Stand	Z9H66AA
HP Quick Release Kit	EM870AA
LANDESK Software (e-delivery)	
LANDESK Software (e-delivery)	Part Number
Contact your HP representative for available options.	N/A

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Change Log

Date	Version History	Action	Description of Change
April 21, 2017	Version 1 to Version 2	Launch	Quick Spec launched
October 10, 2017	Version 1 to Version 2	Update	Footnotes on “Software components and applications with windows” section fixed
March 7, 2018	Version 2 to version 3	Update	HP USB Keyboard and Mouse Healthcare Edition added to options section