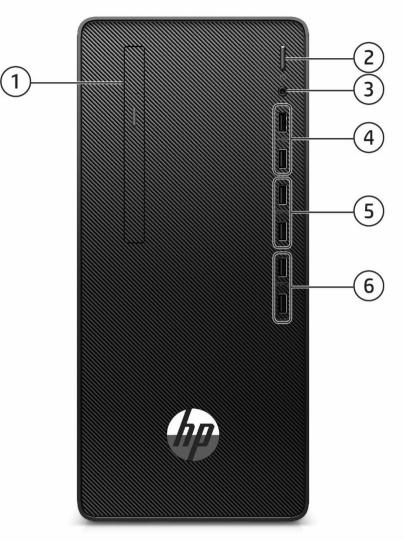
## Overview

### HP 285 G6 Microtower Business PC



#### Front

- Slim-height Bay supporting an optical disk drive 1. (optional)
- 2.
- 3.
- 4. (2) USB 2.0
- 5.
- 6.

#### **Not Shown**

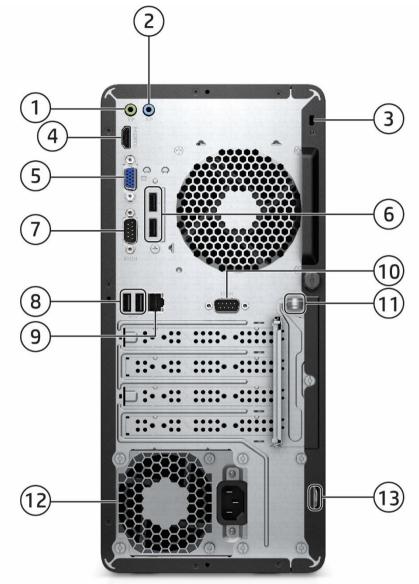
(1) PCI Express x16 (1) PCI x1 **Power Button** (1) PCI Express x1 Combo jack, Headphone/ Microphone (1) M.2 for WLAN (1) M.2 2280 storage (2) SuperSpeed USB 5 Gbps port<sup>1</sup> (1) 3.5" or 2.5" internal HDD bay (2) SuperSpeed USB 10 Gbps port<sup>1</sup> (1) 3.5" or 2.5" internal HDD bay (share bay with caddy) (1) 9.5mm internal optical drive bay

1. SuperSpeed USB 5Gbps signaling rate = USB 3.2 Gen1. SuperSpeed USB 10 Gbps signaling rate = USB 3.2 Gen2.



### Overview

### HP 285 G6 Microtower Business PC



#### Rear

- 1. Audio Line out
- 2. Audio Line in
- 3. Standard lock slot
- 4 HDMI Port
- 5. VGA Port
- 6. Connector (2) USB 2.0 port (Optional)

#### Not Shown

- (1) Parallel Port (Optional via PCIex1 slot)
- (1) PS/2 Ports (Optional)
- (1) Intrusion Sensor (Optional)

**\*NOTE:** Only available on selected models.

- 7. Serial Port
- 8. Connector (2) SuperSpeed USB 5 Gbps
- 9. RJ-45 Network Connector
- 10. 2<sup>nd</sup> Serial Port (Optional)
- 11. Integrated accessories cable lock
- 12. Power Cord Connector
- 13. Padlock Loop

(1) 4 Serial Port PCIe Card (Optional via PCIex1 slot)\*(1) Internal Speaker (Optional)



## AT A GLANCE

- Windows 10 Pro, Windows 10 Home or FreeDos 2.0
- AMD PR0565 Chipset, latest AMD<sup>®</sup> Ryzen<sup>™</sup> PRO, AMD<sup>®</sup> Ryzen<sup>™</sup>, and Athlon PRO processors with AMD Integrated Radeon<sup>™</sup> Vega Graphics
- Supports an optional discrete graphics card
- Integrated 10/100/1000 Ethernet Controller or Realtek ac 1x1+BT 4.2 LE with 1 Antenna
- Up to 32 GB DDR4- 3200 Unbuffered Memory (UDIMM)<sup>1</sup>
- Independent monitor support via VGA/HDMI interfaces
- Supports both Hard Disk Drives and / M.2 PCIe NVMe Solid State Drives
- Up to 10 USB ports (including native 2 USB 2.0, 2 SuperSpeed USB 5Gbps ports and 2 SuperSpeed USB 10Gbps at front, and native 2 SuperSpeed USB 5Gbps at rear and optional 2 USB 2.0 at rear)<sup>2</sup>
- 180W/310W 90% HE power supply
- Security cable lock supported (sold separately)
- Integrated accessory cable lock helps secure cabled mouse, keyboard and accessories
- Intrusion sensor supported (Optional)
- Optional HP Care Service available; terms and conditions vary by country; certain restrictions and exclusions apply<sup>3</sup>
- TPM 2.0 support (fTPM)<sup>4</sup>

1. Memory modules support data transfer rates up to 3200 MT/s; actual data rate is determined by the system's configured processor. See processor specifications for supported memory data rate.

2. SuperSpeed USB 10Gbps signaling rate = USB 3.2 Gen2. SuperSpeed USB 5Gbps signaling rate= USB 3.2 Gen1

3. HP Care Services are optional. Service levels and response times for HP Care Services may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit <a href="http://www.hp.com/go/cpc">http://www.hp.com/go/cpc</a>. 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.

4. TPM feature will be supported on machine pre-configured with FreeDOS, and will be default set as enabled in BIOS setup menu if the machine is dTPM, but will be default set as disabled in BIOS setup menu if the machine is fTPM.

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

## **PRODUCT NAME**

HP 285 G6 Microtower Business PC

### **OPERATING SYSTEM**

Preinstalled	Windows 10 Pro 64 <sup>1</sup>
	Windows 10 Home 64 <sup>1</sup>
Pre-installed (other)	FreeDOS

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 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/

### PROCESSORS<sup>2</sup>

#### AMD<sup>®</sup> Ryzen<sup>™</sup> 4000 Series Processors

AMD<sup>®</sup> Ryzen<sup>™</sup> 7 PRO 4750G 65W, 8 Cores, 16 threads, 3.6 GHz base frequency, up to 4.4 GHz max<sup>3</sup>. 384 KB L1 cache, 4 MB L2 cache, 8 MB L3 cache Integrated Radeon<sup>™</sup> Vega 8 Graphics Supports DDR4 memory up to 3200 MT/s data rate

AMD<sup>®</sup> Ryzen<sup>™</sup> 5 PRO 4650G 65W, 6 Cores, 12 threads, 3.7 GHz base frequency, up to 4.2 GHz max<sup>3</sup>. 384 KB L1 cache, 3 MB L2 cache,8 MB L3 cache Integrated Radeon<sup>™</sup> Vega 7 Graphics Supports DDR4 memory up to 3200 MT/s data rate

AMD<sup>®</sup> Ryzen<sup>™</sup> 3 PRO 4350G 65W, 4 Cores, 8 threads, 3.8 GHz base frequency, up to 4.0 GHz max<sup>3</sup>. 384 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Vega 6 Graphics Supports DDR4 memory up to 3200 MT/s data rate

AMD<sup>®</sup> Ryzen<sup>™</sup> 7 4700G 65W, 8 Cores, 16 threads, 3.6 GHz base frequency, up to 4.4 GHz max<sup>3</sup>. 512 KB L1 cache, 4 MB L2 cache, 8 MB L3 cache Integrated Radeon<sup>™</sup> Vega 8 Graphics Supports DDR4 memory up to 3200 MT/s data rate

AMD<sup>®</sup> Ryzen<sup>™</sup> 5 4600G 65W, 6 Cores, 12 threads, 3.7 GHz base frequency, up to 4.2 GHz max<sup>3</sup>. 384 KB L1 cache, 3 MB L2 cache,8 MB L3 cache Integrated Radeon<sup>™</sup> Vega 7 Graphics Supports DDR4 memory up to 3200 MT/s data rate

AMD<sup>®</sup> Ryzen<sup>™</sup> 3 4300G 65W, 4 Cores, 8 threads, 3.8 GHz base frequency, up to 4.0 GHz max<sup>3</sup>. 256 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Vega 6 Graphics



Supports DDR4 memory up to 3200 MT/s data rate

#### AMD® Ryzen™ 3000 Series Processors

APU AMD Ryzen<sup>™</sup> 5 PRO 3400G 65W, 4 Cores, 8 threads, 3.7 GHz base frequency, up to 4.2 GHz max<sup>3</sup>. 384 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Vega 11 Graphics Supports DDR4 memory up to 2933 MT/s data rate

APU AMD Ryzen<sup>™</sup> 5 PRO 3350G 65W, 4 Cores, 8 threads, 3.6 GHz base frequency, up to 4.0 GHz max<sup>3</sup>. 384 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Vega 11 Graphics Supports DDR4 memory up to 2933 MT/s data rate

APU AMD Ryzen<sup>™</sup> 3 PRO 3200G 65W, 4 Cores, 4 threads, 3.6 GHz base frequency, up to 4.0 GHz max<sup>3</sup>. 384 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Vega 8 Graphics Supports DDR4 memory up to 2933 MT/s data rate

#### AMD<sup>®</sup> Athlon<sup>™</sup> 3000 Series Processors

APU AMD Athlon<sup>™</sup> Gold PRO 3150G 65W, 4 Cores, 4 threads, 3.5 GHz base frequency, up to 3.9 GHz max<sup>3</sup>. 384 KB L1 cache, 2 MB L2 cache, 4 MB L3 cache Integrated Radeon<sup>™</sup> Graphics Supports DDR4 memory up to 2933 MT/s data rate

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. AMD's numbering is not a measurement of clock speed.
 AMD Max Boost frequency performance varies depending on hardware, software and overall system configuration.

#### CHIPSET

AMD PR0565



## **GRAPHICS**<sup>4</sup>

**Integrated** AMD Integrated Radeon<sup>™</sup> Vega Graphics

#### Discrete Graphics⁵

AMD Radeon™ RX550X 4GB DP+HDMI GFX AMD Radeon™ R7 430 2GB DP+VGA GFX AMD Radeon™ 520 1GB DP+VGA GFX

4. HD content required to view HD images.5. Sold separately or as an optional feature.

#### **MEMORY<sup>6</sup>**

Form Factor Microtower

#### Туре

DDR4 2666 (Transfer rates up to 2666 MT/s) DDR4 3200 (Transfer rates up to 3200 MT/s)

#### Maximum

32 GB capacity

#### # of Slots

2 DIMM 4GB DDR4-2666 UDIMM NECC (1x4GB) 8GB DDR4-2666 UDIMM NECC (1x8GB) 8GB DDR4-2666 UDIMM NECC (2x4GB) 16GB DDR4-2666 UDIMM NECC (1x16GB) 16GB DDR4-2666 UDIMM NECC (1x4GB) 32GB DDR4-2666 UDIMM NECC (1x32GB) 32GB DDR4-2666 UDIMM NECC (1x4GB) 4GB DDR4-3200 UDIMM NECC (1x4GB) 8GB DDR4-3200 UDIMM NECC (1x16GB) 16GB DDR4-3200 UDIMM NECC (1x16GB) 16GB DDR4-3200 UDIMM NECC (2x8GB) 32GB DDR4-3200 UDIMM NECC (2x8GB) 32GB DDR4-3200 UDIMM NECC (2x8GB) 32GB DDR4-3200 UDIMM NECC (2x16GB)

6. Running at 3200 MT/s when configure w/ Renoir 4000 -series APU.



## STORAGE<sup>7</sup>

#### SATA3 - 3.5" or 2.5" HDDs

2TB 7200 RPM SATA Hard Disk Drive 1TB 7200 RPM SATA Hard Disk Drive 500GB 7200 RPM SATA Hard Disk Drive

# M.2 Solid State Drives

128 GB M.2 2280 PCIe NVMe SSD 256 GB M.2 2280 PCIe NVMe SSD 512 GB M.2 2280 PCIe NVMe SSD

7. For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software. Storage DriveLock does not work with Self Encrypting or Optane based storage.

### **OPTICAL DISK DRIVES<sup>8</sup>**

DVD-ROM 9.5mm DVD-Writer 9.5mm

8. Optical drives are optional or add on features. Duplication of copyrighted material is strictly prohibited. Actual speeds may vary. Double Layer media compatibility will widely vary with some home DVD players and DVD-ROM drives.

#### **NETWORKING/COMMUNICATIONS<sup>9</sup>**

#### Networking Integrated 10/100/1000M GbE LAN

Wi-Fi® and Bluetooth® 802.11 ac (1x1) Wi-Fi® and Bluetooth® 4.2 Combo

9. Wireless cards are optional or add-on features and requires separately purchased wireless access point and internet service. Availability of public wireless access points limited.

#### AUDIO/MULTIMEDIA

Realtek ALC3601 Combo Jack, Headphone/ Microphone Line-in/Line-out (3.5mm) Support 2W Internal speaker



## **KEYBOARDS/POINTING DEVICES<sup>10</sup>**

#### Keyboards

USB Business Slim Wired Keyboard HP USB Keyboard Business Slim USB Antimicrobial Wired Keyboard (China) Business Slim PS/2 Wired Keyboard No KB Option

#### Mouse

Antimicrobial USB Mouse (China) HP Optical USB Mouse Universal Wired Mouse USB USB Hardened Mouse (India) HP PS/2 Mouse (for machine configured with PS/2 port) No Mouse Option

10. Keyboards and mouse are optional or add-on features.

### **PORTS/SLOTS**

#### Front

(1) Combo jack (Headphone/Microphone)
 (2) USB 2.0
 (2) SuperSpeed USB 5Gbps
 (2) SuperSpeed USB 10Gbps

#### **Not Shown**

(2) DIMM
(1) PCIEX16
(1) PCIEX1
(1) PCI
(1) SATA-ODD
(2) SATA-HDD (2\*3.5", could support dual 2.5 drive caddy)
(1) M.2- PCIE SSD
(1) M.2 –WLAN

#### Rear

(1) Audio Line out
 (1) Audio Line in
 (1) HDMI Port
 (1) VGA Port
 (1) Serial Port
 (2) USB 2.0 Port(optional)
 (1) RJ-45
 (2) USB 3.2 Gen1

#### Not Shown

(2) PS/2 Port (Optional)
(1) Parallel Port (Optional via PCIex1 slot)
(1) 4x Serial port (Optional via PCIex1 slot)
(1) Internal Speaker (Optional)
(1) Intrusion Sensor (Optional)



## BAYS

(1) 9.5mm external slimline ODD bay

- (1)3.5" internal HDD bay
- (1)3.5 or 2.5" internal HDD bay (share bay)

### SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS

Security and Protection McAfee\* LiveSafe<sup>™12</sup>

#### Productivity

Buy Office (sold separately) Dropbox<sup>13</sup> Xerox® DocuShare® (30 day free trial offer)<sup>14</sup>

#### **ODD Playback**

sMedio True DVD for HP

Movies

Netflix

App Stores and Content Purchasing Amazon<sup>15</sup>

#### **HP Utilities and Support**

HP Documentation HP JumpStart HP Audio Switch<sup>16</sup> HP Support Assistant

#### BTB

**HP Setup Integrated OOBE** 

#### Hardware Enabling Drivers or software utility

HP System Event Utility

12. Free 1-year subscription of McAfee LiveSafe service included. Internet access required and not included. Subscription required after expiration.

13. New Dropbox users are eligible to get 25 GB of Dropbox space free for 12 months from date of registration. For complete details and terms of use, including cancellation policies, visit the Dropbox website at https://www.dropbox.com/help/space/hp-promotion. Internet service required and not included.

14. Simply sign up and start using Xerox<sup>®</sup> DocuShare<sup>®</sup> Go. No credit card. No obligation. Data will become unavailable unless a subscription is entered before the end of the 30 day free trial period. See visit http://www.xerox.com/docusharego for details.

15. Internet access required and not included. Apps sold separately.

16. Easily switch between speaker and microphone sources with intuitive controls and a consistent app experience.

**\*NOTE**: Available for LA region only.

#### POWER

#### **Power Supply**

180 W EStar Libra2 EPA90 (Gold) Full range 115V/230V

310 W

310W MT Sirius2 ENTL EPA90 (Gold) Full range 115V/230V

#### **DIMENSIONS & WEIGHT**

(configured with 1 HDD and 1 ODD)

Packaging dimensions and weight

Chassis (H x W x D)

13.3 x 6.12 x 11.7 in (337.4 x 155.4 x 297.2 mm)

**System Weight** 12.17 lbs / 5.52 kg

Dimensions

Weight

11.30 x 15.75 x 19.65 in 287 x400 x499 mm 20.06 lb / 9.10 kg

Security Features TPM 2.0 support (fTPM)<sup>17</sup> Security cable slot

17.TPM feature will not be supported on machines pre-configured with FreeDOS. In selected countries, machines pre-configured with Windows OS will be shipped with TPM disabled.

# UNIT ENVIRONMENTAL AND OPERATING CONDITIONS

**General Unit Operating Guidelines** 

Environmental and Industry	<ul> <li>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.</li> <li>Leave a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow.</li> <li>Never restrict airflow into the computer by blocking any vents or air intakes.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul>	
Temperature Range	Operating:	5° to 35° C <sup>18</sup>
	Non-operating:	-30° to 60° <sup>18</sup>
Relative Humidity	Operating:	5% to 90% (non-condensing at ambient)
	Non-operating:	5% to 90% (non-condensing at ambient)
Maximum Altitude	Operating:	5,000 m
(unpressurized)	Non-operating:	50,000 ft (15240 m)



18. 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.

Eco-Label Certifications & declarations	This product has received or is in may be labeled with one or more • IT ECO declaration • US ENERGY STAR® • EPEAT® 2019 registered where http://www.epeat.net for registra party option store for solar generation *Based on US EPEAT® registration ac http://www.epeat.net for more infor	of these marks: applicable. EPEAT ® registration ation status by country. Search rator accessories at http://www cording to IEEE 1680.1-2018 EPEA1	varies by country. See keyword generator on HP's 3rd .hp.com/go/options.
System Configuration	The configuration used for the Er Desktop model is based on a "Ty		d Noise Emissions data for the
Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	35.98W	36.76W	36.52W
Normal Operation (Long idle)	33.27W	33.03W	33.26W
Sleep	1.08W	1.1W	1.27W
Off	0.27W	0.3W	0.26
	<b>NOTE:</b> Energy efficiency data listed is family. HP computers marked with th Environmental Protection Agency (El not offer ENERGY STAR® compliant c configured PC featuring a hard disk d operating system. Search keyword g at http://www.hp.com/go/option	ne ENERGY STAR® Logo are complia PA) ENERGY STAR® specifications fo onfigurations, then energy efficienc rive, a high efficiency power supply enerator on HP's 3rd party option s	nt with the applicable U.S. r computers. If a model family does cy data listed is for a typically r, and a Microsoft Windows®
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)	122.69 BTU/hr	125.35 BTU/hr	124.53 BTU/hr
Normal Operation (Long idle)	113.45 BTU/hr	112.63 BTU/hr	113.42 BTU/hr
Sleep	3.68 BTU/hr	3.75 BTU/hr	4.33 BTU/hr
Off	0.92 BTU/hr	1.02 BTU/hr	0.89 BTU/hr
	<b>NOTE:</b> Heat dissipation is calculated one hour.	based on the measured watts, assu	ming the service level is attained for



Declared Noise Emissions				
(in accordance with	Sound Po	wer	Sound Pressure	2
-	(L <sub>WAd</sub> , be	ls)	(L <sub>pAm</sub> , decibels)	
ISO 7779 and ISO 9296)				
Typically Configured – Idle	3.8		25.4	
Fixed Disk – Random writes	4		27.9	
Longevity and Upgrading	This product can be upgra features and/or component		ing its useful life by several years. product may include:	. Upgradeable
	Spare parts are available t of production.	hroughout the warra	nty period and or for up to "3" yea	ars after the end
Batteries	This battery(s) in this proc	luct comply with EU [	Directive 2006/66/EC	
	Batteries used in the prod	uct do not contain:		
	Mercury greater the1ppm			
	Cadmium greater than 20	ppm by weight		
	Battery size: CR2032 (coir Battery type: Lithium	i cell)		
Additional Information	,,,	anco with the Restric	tions of Hazardous Substances (R	oHS) directive -
	2011/65/EC.	ance with the Restric		ond) an ective
	• This HP product is design		e Waste Electrical and Electronic	Equipment
	(WEEE) Directive – 2002/9			
			Proposition 65 (State of California	; Safe Drinking
	Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680.1 (EPEAT) standard at the <silver> level, se</silver>			
				ver> level, see
	www.epeat.net <ul> <li>Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li> </ul>		1469 and	
	• This product contains 28	.2% post-consumer	recycled plastic (by wt.)	
			erly disposed of at end of life.	
Packaging Materials	External:	PAPER/Paperboard	1	1220 g
	Internal:	PAPER/Molded Pul	p	520 g
		PLASTIC/Polyethyl	ene low density - LDPE	53 g
Material Usage	This product does not con	tain any of the follow	ing substances in excess of regul	atory limits
	(refer to the HP General S			
		o/globalcitizenship/e	environment/pdf/gse.pdf):	
	Asbestos     Colonante			
	<ul> <li>Certain Azo Colorants</li> <li>Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li> <li>Cadmium</li> <li>Chlorinated Hydrocarbons</li> <li>Chlorinated Paraffins</li> <li>Formaldehyde</li> </ul>			
				i plastics
	Halogenated Diphenyl Methanes			
	Lead carbonates and sulfates			
	<ul> <li>Lead and Lead compounds</li> <li>Mercuric Oxide Batteries</li> <li>Nickel – finishes must not be used on the external surface designed to be frequently handled</li> </ul>			
			ently handled or	
	carried by the user.			
	<ul> <li>Ozone Depleting Substat</li> <li>Polybrominated Bipheny</li> </ul>			
	- Polybronninaleu bipheny	נטעד) ו		



	Polybrominated Biphenyl Ethers (PBBEs)
	Polybrominated Biphenyl Oxides (PBBOs)
	Polychlorinated Biphenyl (PCB)     Delvablesizet d Teachery la (PCT)
	<ul> <li>Polychlorinated Terphenyls (PCT)</li> <li>Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been</li> </ul>
	voluntarily removed from most applications.
	Radioactive Substances
	• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
Packaging Usage	HP follows these guidelines to decrease the environmental impact of product packaging:
	• Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging
	materials.
	• Eliminate the use of ozone-depleting substances (ODS) in packaging materials.
	• Design packaging materials for ease of disassembly.
	• Maximize the use of post-consumer recycled content materials in packaging materials.
	• Use readily recyclable packaging materials such as paper and corrugated materials.
	Reduce size and weight of packages to improve transportation fuel efficiency.
	<ul> <li>Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.</li> </ul>
End-of-life Management	HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To
and Recycling	recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest
	HP sales office. Products returned to HP will be recycled, recovered or disposed of in a
	responsible manner.
	The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information
	for each product type for use by treatment facilities. This information (product disassembly
	instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers.
	These instructions may be used by recyclers and other WEEE treatment facilities as well as HP
	OEM customers who integrate and re-sell HP equipment.
	Global Citizenship Report
	http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html
	Eco-label certifications
	http://www8.hp.com/us/en/hp-information/environment/ecolabels.html
	ISO 14001 certificates:
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_1
	4K_Certificate.pdf
	and
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

## **SERVICE AND SUPPORT**

On-site Warranty: One-year (1-1-1) limited warranty delivers, next business day service for parts and labor and includes free support 24 x 7. One-year onsite and labor are not available in all countries. Service offers terms up to 3 years by choosing an optional HP Care Pack. To choose the right level of service for your HP product, visit HP Care Pack Central: http://www.hp.com/go/cpc.

**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. **NOTE 3:** Technical support applies only to HP-configured and third-party HP qualified hardware and software. 24 x 7 support may not be available in some countries.

**NOTE 4:** HP Care Packs are sold separately. 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 with your HP Product.



# Technical Specifications - Storage

## GRAPHICS

## AMD Radeon™ Vega Graphics (integrated)

Graphics Controller	Integrated
DisplayPort™	Multimode capable; supports HDCP, DisplayPort™ Audio (2 streams), HBR2 link rates and Multi- Stream Technology for a maximum of 3 displays connected to any output controlled by AMD® Graphics
HDMI	Supports HDMI 2.0a features Supports HDCP 2.3 Supports audio over HDMI
VGA	VGA output
USB Type-C <sup>®</sup> DP Alt Mode	DisplayPort™ over the USB Type-C <sup>®</sup> module
Memory	The actual amount of maximum graphics memory can be >4GB. System memory is allocated for graphics as needed, to provide an optimal balance between graphics and system memory use.
Maximum Color Depth	up to 10 bits/color
Graphics/Video API Support	VP9 10b Dec HW HDR Rec. 2020 DX12
Max. Resolution (VGA)	2048 x 1536@60Hz
Max. Resolution (HDMI)	4096 x 2160@60Hz
Max. Resolution (DP)	4096 x 2160@60Hz

#### AMD® Radeon™ RX 550X 4 GB FH 2DP+HDMI

Engine Clock	1183MHz
Memory Clock	6 Gbps
Memory Size (width)	4 GB (128-bit)
Memory Type	GDDR5
Max. Resolution (HDMI)	4096x2160 @ 60Hz
Max. Resolution (DP)	5120x2880 @ 60Hz
Multi Display Support	2 displays
HDCP Compliance	Yes
Rear I/O connectors (bracket)	HDMI, DP
Cooling (active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption (W)	<50W
PCB form-factor with bracket	LP (low profile) PCB with FH/LP bracket

#### AMD<sup>®</sup> Radeon<sup>™</sup> R7 430 2GB VGA+DP 64bit Graphics Card

Engine Clock	780 MHz
Memory Clock	1100 MHz
Memory Size (width)	2 GB (64-bit)
Memory Type	256M x 32 GDDR5
Max. Resolution (HDMI)	2048x1536
Max. Resolution (DP)	4096x2160@60Hz
Multi Display Support	2 displays
HDCP Compliance	Yes



# Technical Specifications - Storage

Rear I/O connectors (bracket)	VGA+DP
Cooling (active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption (W)	<50W
PCB form-factor with bracket	LP PCB with FH/LP bracket

## AMD® Radeon™ R7 430 2GB GDDR5 2DP 64 bit Graphics Card

Engine Clock	780 MHz
Memory Clock	1100 MHz
Memory Size (width)	2 GB (64-bit)
Memory Type	256M x 32 GDDR5
Max. Resolution (DP)	4096x2160@60Hz
Multi Display Support	2 displays
HDCP Compliance	yes
Rear I/O connectors (bracket)	DPx2
Cooling (active/passive)	Active fan-sink (Active cooling with dynamic speed)
Total power consumption (W)	<50W
PCB form-factor with bracket	LP PCB with FH/LP bracket



# Technical Specifications - Storage

## STORAGE<sup>1</sup>

2 TB 7.2K rpm SATA 6.0Gb/s 3.5"	Capacity	2 TB
Hard Disk Drive	Rotational Speed	7,200 rpm
	Interface	SATA 6.0 Gb/s
	Cache, Multi-segmented (MB)	64 MB
	Height	1.028 in/26.11 mm
	Width	4.0 in/101.6 mm
	Depth	5.787 in/146.99 mm
	Weight	1.38 lb/626 g
	Operating Temperature	41° to 131° F (5° to 55° C)

1 TB 7.2K rpm SATA 6.0Gb/s 3.5'	' Capacity	1 TB
Hard Disk Drive	Rotational Speed	7,200 rpm
	Interface	SATA 6.0 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: 11 ms Full-Stroke: 21 ms
	Height	1 in/2.54 cm
	Width (nominal)	Media diameter: 3.5 in/8.89 cm Physical size: 4 in/10.2 cm
	Operating Temperature	41° to 131° F (5° to 55° C)
	<b>6</b>	500 CD
500 GB 7.2K rpm SATA 6.0Gb/s 3.5" Hard Disk Drive	Capacity	500 GB
	Rotational Speed	7,200 rpm
	Drive Type	Serial ATA 3.0 (6.0 Gb/s)
	Interface	32 MB
	Buffer Size	976,773,168

Seek Time

Width

Height (nominal)

**Operating Temperature** 

Single Track: 2.0 ms Average: 11 ms Full-Stroke: 21 ms

Media diameter: 3.5 in/8.89 cm Physical size: 4 in/10.2 cm

41° to 131° F (5° to 55° C)

1 in/2.54 cm

# Technical Specifications - Storage

	5	110-	
128 GB M.2 2280 PCIe NVMe Three Layer Cell SSD	Drive Weight	< 10g	
	Capacity	128GB	
	Height	2.38mm	
	Length	80mm	
	Width	22mm	
	Interface	PCIE Gen3x4	
	Maximum Sequential Read	Up to 2800MB/s	
	Maximum Sequential Write	Up to 600MB/s	
	Logical Blocks	250,069,680	
	Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]	
	Features	APST; ASPM L1.2; NVME spec 1.2	
256 GB M.2 2280 PCIe NVMe	Drive Weight	< 10g	
Three Layer Cell SSD	Capacity	256GB	
-	Height	2.38mm	
	Length	80mm	
	Width	22mm	
	Interface	PCIE Gen3x4	
	Maximum Sequential Read		
	Maximum Sequential Write Up to 1000MB/s		
	Logical Blocks	500,118,192	
	Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]	
	Features	APST; ASPM L1.2; NVME spec 1.2	
512 GB M.2 2280 PCIe NVMe	Drive Weight	< 10g	
Three Layer Cell SSD	Capacity	512GB	
	Height	2.38mm	
	Length	80mm	
	Width	22mm	
	Interface	PCIE Gen3x4	
	Maximum Sequential Read		
	Maximum Sequential Write		
	Logical Blocks	1,000,215,216	
	Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]	
	Features	APST; ASPM L1.2; NVME spec 1.2	
256 GB M.2 2280 PCIe NVMe SSD	Drive Weiaht	< 10g	
	Capacity	256 GB	
	· · · · · · · · · · · · · · · · · · ·		
	Height	2.38mm	



# Technical Specifications - Storage

	Width	22mm
	Interface	PCIE Gen3
	Maximum Sequential Read	
	Maximum Sequential Write	-
	Logical Blocks	500,118,192
	Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
	Features	APST; ASPM L1.2; NVME spec 1.2
512 GB M.2 2280 PCIe NVMe SSD	Drive Weight	< 10g
	Capacity	512 GB
	Height	2.38mm
	Length	80mm
	Width	22mm
	Interface	PCIE Gen3
	Maximum Sequential Read	Up to 1600MB/s
	Maximum Sequential Write	Up to 860MB/s
	Logical Blocks	1,000,215,216
	Operating Temperature	0° to 70°C (32° to 158°F) [ambient temp]
	Features	APST; ASPM L1.2; NVME spec 1.2
500 GB 7200RPM 2.5in SATA HDD		APST; ASPM L1.2; NVME spec 1.2 500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average)
500 GB 7200RPM 2.5in SATA HDD	Capacity Rotational Speed Interface Buffer Size Logical Blocks	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal)
500 GB 7200RPM 2.5in SATA HDD	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal)	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average)
500 GB 7200RPM 2.5in SATA HDD	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal)	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature Capacity Rotational Speed	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature Capacity Rotational Speed Interface	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature Capacity Rotational Speed Interface Buffer Size	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C)
	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature Capacity Rotational Speed Interface Buffer Size Logical Blocks	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C) 1 TB 7,200 rpm SATA 6 Gb/s 32 MB 1,953,525,168
500 GB 7200RPM 2.5in SATA HDD 1TB 7200RPM 2.5in SATA HDD	Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time Height Width (nominal) Operating Temperature Capacity Rotational Speed Interface Buffer Size Logical Blocks Seek Time	500 GB 7,200 rpm SATA 6 Gb/s 32 MB 976,773,168 12 ms (Average) 0.267 in/6.8 mm (nominal) 2.75 in/70 mm (nominal) 41° to 131° F (5° to 55° C) 1 TB 7,200 rpm SATA 6 Gb/s 32 MB 1,953,525,168 12 ms (Average)



(hp)

# Technical Specifications - Storage

HP 9.5mm Desktop G2 Slim DVD	Height	9.5 mm height
Writer Drive	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)
	Read Speeds	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 DL, 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
	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% Maximum Wet Bulb Temperature 84° F (29° C)
HP 9.5mm Desktop G2 Slim DVD- ROM Drive	Height Orientation	9.5 mm height 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 DL - Up to 6X DVD+R - Up to 8X DVD+RW - Up to 8X DVD+R DL - Up to 6X DVD-R - Up to 6X DVD-RW - Up to 6X

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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

Technical Specifications - Storage

	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 conditions (operating - non- condensing)	Temperature 41° to 122° F (5° to 50° C) Relative Humidity 10% to 80% Maximum Wet Bulb Temperature 84° F (29° C)

For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows 10) of system disk is reserved for the system recovery software. Storage DriveLock does not work with Self Encrypting or Optane based storage.



Technical Specifications - Audio

## **HIGH DEFINITION AUDIO**

Туре	Integrated
HD Stereo Codec	Realtek ALC3601
Audio I/O Ports	Front Combo jack, Headphone/ Microphone (Headphone-out 0.5 Ohm Output Impedance, expects at least a 32 ohm load, Microphone-in 150-K ohm Input Impedance)
	Rear Line-out (190 ohms Output Impedance, expects at least a 10-K ohm load). Mic-in (150-K ohm Input Impedance) Line-in (Input the audio signal to system via the loopback cable)
	When plug in all rear side jacks, can switch the function to 5.1 ch via audio GUI.
Internal Speaker Amplifier	Codec embeded amp for supportting 2W mono speaker.
Multi-streaming Capable	Multi-streaming can be enabled in the Realtek control panel to allow independent audio streams to be sent to/from the front and rear jacks.
Sampling	Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit, 44.1K/ 48 K/96K / 192K Hz for DAC and16 bit, 44.1K/ 48K/ 96K/ 192K Hz for ADC
Wavetable Syntheses	Yes
Analog Audio	Yes
# of Channels on Line-Out	Stereo (Left channel / Right channel)
Internal Speaker	Yes
External Speaker Jack	2W class D mono amplifier for the internal speaker only. External speakers must be powered externally.



# Technical Specifications - Networking

#### NETWORKING

Integrated 10/100/1000 NIC	Ethernet Features	10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13- 14) 100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30) 1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40) Auto-Negotiation (Automatic Speed Selection) Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s
	Power	ACPI compliant – multiple power modes
	Management	Situation-sensitive features reduce power consumption Advanced link down power saving for reducing link down power consumption
	Performance Features	TCP/IP/UDP Checksum Offload (configurable) Protocol Offload (ARP & NS) Large send offload and Giant send offload Receiving Side Scaling Jumbo Frame 9K
	Manageability	Wake-on-LAN from standby and hibernation (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only) PXE 2.1 Remote Boot Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))
		Comprehensive diagnostic and configuration software suite Virtual Cable Doctor for Ethernet cable status
	Interface	PCIe + SMBus
	NIC Device Driver Name	PCIe GBE Ethernet Family Controller

#### Realtek 802.11ac (1x1) WiFi and Bluetooth® 4.2 Combo\*

Wireless LAN Standards <sup>1</sup>	IEEE 802.11a
	IEEE 802.11b
	IEEE 802.11g
	IEEE 802.11n
	IEEE 802.11ac
	IEEE 802.11n

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

1. Whetess access point a	iu internet service required and i	for included. Availability of public wireless access points limited.
Interoperability	Wi-Fi <sup>®</sup> certified	
Frequency Bands	802.11b/g/n	• 2.402 – 2.482 GHz
		ed products that utilize passive scanning on channel 12/13 and are capable of mply with requirements of 15.247 & 15.249 or otherwise disable those channels.
	802.11a/n	<ul> <li>4.9 – 4.95 GHz (Japan)</li> <li>5.15 – 5.25 GHz</li> <li>5.25 – 5.35 GHz</li> <li>5.47 – 5.725 GHz</li> <li>5.825 – 5.850 GHz</li> </ul>
Data Rates	<ul> <li>802.11a: 6, 9, 7</li> <li>802.11n: MCS (</li> </ul>	5.5, 11 Mbps 12, 18, 24, 36, 48, 54 Mbps 12, 18, 24, 36, 48, 54 Mbps 0 ~ MCS 15, (20MHz, and 40MHz) 0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)



# Technical Specifications - Networking

•			
Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM		
Security <sup>2</sup>	<ul> <li>IEEE and WiFi compliant 64/128 bit WEP encryption for a/b/g mode only</li> <li>AES-CCMP: 128 bit in hardware</li> <li>802.1x authentication</li> <li>WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>WPA2 certification</li> <li>IEEE 802.11i</li> <li>Cisco Certified Extensions, all versions through CCX4 and CCX Lite</li> <li>WAPI</li> </ul>		
2. Check latest software/driv	er release for updates on supported security features.		
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)		
Roaming	IEEE 802.11 compliant roaming between access points		
Output Power <sup>3</sup>	<ul> <li>802.11b: +14dBm minimum</li> <li>802.11g: +12dBm minimum</li> <li>802.11a: +12dBm minimum</li> <li>802.11n HT20(2.4GHz): +12dBm minimum</li> <li>802.11n HT40(2.4GHz): +12dBm minimum</li> <li>802.11n HT20(5GHz): +10dBm minimum</li> <li>802.11n HT40(5GHz): +10dBm minimum</li> <li>802.11ac VHT80(5GHz): +10dBm minimum</li> </ul>		
3. Maximum output power m	ay vary by country according to local regulations.		
Power Consumption	<ul> <li>Transmit mode2.0 W</li> <li>Receive mode1.6 W</li> <li>Idle mode (PSP)180 mW (WLAN Associated)</li> <li>Idle mode50 mW (WLAN unassociated)</li> <li>Connected Standby 10mW</li> <li>Radio disabled8 mW</li> </ul>		
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode		
Receiver Sensitivity <sup>4</sup>	02.11b, 1Mbps: -93.5dBm maximum 802.11b, 11Mbps: -84dBm maximum 802.11a/g, 6Mbps: -86dBm maximum 802.11a/g, 54Mbps: -72dBm maximum 802.11n, MCS07: -67dBm maximum 802.11n, MCS15: -64dBm maximum 802.11ac, MCS0: -84dBm maximum 802.11ac, MCS9: -59dBm maximum		

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

Antenna type	High efficiency antenna. One embedded dual band 2.4/5 GHz antenna is provided to the card to support WLAN communications and Bluetooth communications
Form Factors	PCI-Express M.2 MiniCard



# Technical Specifications - Networking

	5 Nettron ang	
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm	
Weight	Туре 2230 : 2.8g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating: Non-operating:	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	Operating: Non-operating:	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	Operating: Non-operating:	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio C	N
HP Integrated Module w	ith Bluetooth 4.0/4.1/4.2 Wireless Techn	ology
Bluetooth <sup>®</sup> 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 BLE: 1 Mbps data rate; throughput up to 0.2 Legacy: Synchronous Connection Oriented lir Legacy: Asynchronous Connection Less links kbps symmetric (3-EV5)	Mbps
Transmit Power	The Bluetooth <sup>®</sup> component shall operate as a Class II Bluetooth <sup>®</sup> device with a maximum transmit power of + 4 dBm for BR and EDR.	
Receiver Sensitivity Legac	У	
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW	
Range	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)	
<b>Electrical Interface</b>	USB 2.0 compliant	
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth® Software	
Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark	
Bluetooth® Profiles Supported	FCC (47 CFR) Part 15C, Section 15.247 & 15.2	249
Power Management Certifications	Microsoft Windows ACPI, and USB Bus Suppo	rt



## Technical Specifications - Networking

Certifications
<b>Bluetooth® Profiles</b>
Supported

BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 – Link Layer Privacy LE Privacy 1.2 – Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)



Technical Specifications - Power

# **POWER SUPPLY**

Operating Voltage Range	90 – 264 VAC
Rated Voltage Range	100-240V AC
<b>Rated Line Frequency</b>	50/60 HZ
Operating Line Frequency	47 – 63 Hz
Rated Input Current	180W: <2.3A; 310W: <4A
Rated Input Current with Energy Efficient' Power Supply	180W active PFC 87/90/87% efficient at 20/50/100% load (115V) 88/91/88% efficient at 20/50/100% load (230V); 310W active PFC 87/90/87% efficient at 20/50/100% load (115V) 88/91/88% efficient at 20/50/100% load (230V)
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	70*25mm (linear type)

Technical Specifications – Dimensions and weight

## **DIMENSIONS & WEIGHT**



Options and Accessories (sold separately and availability may vary by country)

# **AFTER MARKET OPTIONS**

<b>Туре</b> Memory	<b>Description</b> HP 4GB DDR4-2666 DIMM HP 8GB DDR4-2666 DIMM HP 16GB DDR4-2666 DIMM HP 4GB DDR4-3200 DIMM HP 8GB DDR4-3200 DIMM	<b>Part #</b> 3TK85AA 3TK87AA 3TK83AA 13L78AA 13L76AA
	HP 16GB DDR4-3200 DIMM	13L74AA
Storage	HP 500GB 7200rpm 3.5 SATA 6.0Gb/s Smart IV Hard Drive HP 1TB 7200rpm SATA 6Gbps Hard Drive	QK554AA QK555AA
Graphics	AMD Radeon R7 430 Card	1MX32AA
Security	HP Keyed Cable Lock 10mm kit	T1A62AA
Adapters	HP HDMI Standard Cable Kit	T6F94AA
Input	HP USB Mouse HP Wired Desktop 320M Mouse HP USB Keyboard HP PS/2 Business Slim Keyboard HP USB Business Slim Keyboard HP Wired Desktop 320K Keyboard	QY777AA 9VA80AA QY776AA N3R86AA N3R87AA 9SR37AA
Others	HP Business Headset v2	T4E61AA

Summary	of	Changes
Junnury	01	chunges

Date of change:	Version History:		Description of change:
October 30,2020	V1 to V2	Corrections	Call out images, typo in port section and typo in software section
March 2, 2021	V2 to V3	Update	Xerox specs and disclaimer updated in Software section
	V3 to V4	Addition	Environmental specs added
	V4 to V5		
	V5 to V6		
	V6 to V7		
	V7 to V8		
	V8 to V9		
	V9 to V10		

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