Overview

HP Chromebook 14A G5



- 1. Microphones
- 2. Webcam LED
- 3. Webcam
- 4. Touchpad

Left

- 5. USB-A 2.0
- 6. USB Type-C[™] 3.1 Gen1 port (Supports Power Delivery +Display Port[™])
- 7. Nano Security lock slot (Lock sold separately)

Overview



- 1. Power Button
- 2. USB Type-C™ 3.1 Gen1 port (Supports Power Delivery +Display Port™)
- 3. Power LED

Right

- 4. USB-A 2.0
- 5. Micro SD Card Reader
- 6. Stereo Headphone/Microphone combo jack

Overview

AT A GLANCE

- Enjoy affordable, convenient mobile productivity with AMD A4-9120C & A6-9220C processor
- Designed to pass MIL STD 810G tests.¹
- 2 USB-C[™] ports (Supports Power Delivery +Display Port[™])
- Choice of up to 128 GB eMMc storage
- Monor spill and pick resistant keyboard; optional backlit keyboard for low-light environment²
- Enjoy up to 9 hour battery life³ and spend less time charging with HP Fast Charge technology⁴
- 180 degree hinge and optional FHD IPS Touchscreen for collaboration
- Enjoy Android[™] Apps* on Chrome OS^{™5}
- Your Chromebook boots up within 10 seconds and you can be browsing online and working in Google Apps just moments later
- Qualcomm® 2x2 AC WLAN with MIMO for easy connection in dense classroom environment
- 1. MIL STD 810G testing is pending and is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack. 2. Sold separately or as an optional feature.
- 3. Testing conducted by HP using Google Chrome OS power_LoadTest. Battery life will vary and the maximum capacity of the battery will naturally decrease with time and usage. See http://www.chromium.org/chromium-os/testing/power-testing for test details.
- 4. Recharges your battery up to 90% within 90 minutes when the system is off (using "shut down" command). Recommended for use with the HP adapter provided with the notebook, not recommended with a smaller capacity battery charger. After charging has reached 90% capacity, charging speed will return to normal speed. Charging time may vary +/-10% due to System tolerance.

 5. Apps sold separately.

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



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

PRODUCT NAME

HP Chromebook 14A G5

OPERATING SYSTEM

Preinstalled

Chrome OS™

PROCESSOR

AMD A4-9120C APU with Radeon™ R4 Graphics (1.6 GHz base clock, up to 2.4 GHz max boost clock, 1 MB cache, 2 cores)^{1,2,3}

AMD A6-9220C APU with Radeon™ R5 Graphics (1.8 GHz base clock, up to 2.7 GHz max boost clock, 1 MB cache, 2 cores) 1,2,3

Processor Family

AMD® A-Series processors

- 1. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. AMD's numbering is not a measurement of clock speed.
- 2. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
- 3. AMD Max Boost Clock performance varies depending on hardware, software and overall system configuration.

CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated

AMD Radeon™ R4 Graphics AMD Radeon™ R5 Graphics

Supports

Support HD Decode, DX12, and HDMI 1.4 b4

4. HD content required to view HD images.



DISPLAY

Non-Touch

35.56 cm (14") diagonal FHD IPS anti-glare WLED-backlit, 220 cd/m², 100% sRGB (1920 x 1080)^{5,6,7} 35.56 cm (14") diagonal HD anti-glare WLED-backlit, 220 cd/m², 100% sRGB (1366 x 768)^{5,6,7}

Touch

35.56 cm (14") diagonal FHD IPS BrightView WLED-backlit touch screen, 220 cd/m², 100% sRGB (1920 x 1080)^{5,6,7,8} 35.56 cm (14") diagonal HD SVA BrightView WLED-backlit touch screen, 220 cd/m², 100% sRGB (1366 x 768) ^{5,6,7,8}

- 5. HD content required to view HD images.
- 6. Resolutions are dependent upon monitor capability, and resolution and color depth settings.
- 7. All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.
- 8. Touchscreen is an optional feature that must be configured at purchase.

STORAGE AND DRIVES

Primary Storage

16 GB eMMC 5.09

32 GB eMMC 5.09

64 GB eMMC 5.09

128 GB eMMC 5.09

9. For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 5.1 GB is not user available.

MEMORY

Maximum Memory

8 GB DDR4-1866 SDRAM

Memory

4 GB DDR4-1866 SDRAM 8 GB DDR4-1866 SDRAM

Memory Slots

On-board system memory Supports Single Channel Memory

NETWORKING/COMMUNICATIONS

WLAN

Qualcomm® Wireless-AC 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, non-vPro™10 MU-MIMO supported

Chromecast

Chromecast Support¹¹



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

- 10. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited.
- 11. Chromecast must be purchased separately.

AUDIO/MULTIMEDIA

Audio

HD Audio Dual Speakers Integrated Microphones

Camera

720p HD Camera4

4. HD content required to view HD images.

KEYBOARD / POINTING DEVICES

Keyboard

Full Size Textured island-style Keyboard, spill & pick resistant Full Size Textured island-style Keyboard, spill & pick resistant, Backlit¹²

Pointing Device

Touchpad with multi-touch gestures enabled. Taps enabled as default

12. Backlit keyboard is an optional feature.

SOFTWARE AND SECURITY

Preinstalled Software

Google One¹³ HP Classroom Manager¹⁴ Management Console¹⁵

Security Management

H1 Security IC Nano Security lock slot¹⁶

- 13. Google Drive offer is tied to this device and is non-transferable. If this device is returned, the extra storage will be revoked. In order to redeem this offer, you will need to be on Chrome OS™ 23 or later. Internet access is required and not included. Additional information about storage plan refunds, renewals, cancellations and expiration is available at the Google website: https://support.google.com/chromebook/answer/2703646?hl=en
- 14. HP Classroom Manager is sold separately. Control and device locking from the teacher's desktop requires purchase of HP Classroom Manager.
- 15. Management Console is sold separately.
- 16. Lock must be purchased separately.



POWER

Power Supply¹⁷

HP Smart 45 W Type-C[™] AC Power Adapter¹⁷

Primary Battery

HP Long Life 2-cell, 47.36 Wh Li-ion Polymer^{18,20} HP Fast Charge Technology (90% in 90 minutes)²¹

Power Cord

3-wire plug - 1m¹⁷

Battery life

Up to 9 hours (Non-Touch Display)19

Battery Weight

0.42 lb

0.19 kg

- 17. Availability may vary by country.
- 18. Battery is internal and not replaceable by customer. Serviceable by warranty.
- 19. Testing conducted by HP using Google Chrome OS power_LoadTest. Battery life will vary and the maximum capacity of the battery will naturally decrease with time and usage. See http://www.chromium.org/chromium-os/testing/power-testing for test details.
- 20. Recharges up to 90% within 90 minutes when the system is off or in standby mode when used with the power adapter provided with the notebook. After charging has reached 90% capacity, charging speed will return to normal. Charging time may vary +/-10% due to System tolerance.
- 21. Recharges your battery up to 90% within 90 minutes when the system is off (using "shut down" command). Recommended for use with the HP adapter provided with the notebook, not recommended with a smaller capacity battery charger. After charging has reached 90% capacity, charging speed will return to normal speed. Charging time may vary +/-10% due to System tolerance.

WEIGHTS & DIMENSIONS

Product Weight

Starting at 3.48 lbs²² Starting at 1.57 kg²²

Product Dimensions (w x d x h)

13.26 x 8.93 x 0.72 in 33.7 x 22.6 x 1.83 cm

22. Weight will vary by configuration.

PORTS/SLOTS

Ports

2 USB 3.1 Type-C[™] Gen 1 (Power delivery, DisplayPort[™]) 2 USB-A 2.0

1 Stereo Headphone/Microphone combo jack



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

Expansion Slots

1 Multi-format digital media reader Supports SD, SDHC, SDXC

SERVICE AND SUPPORT

HP Services offers 1 year and 90 day limited warranty options depending on country. Batteries have a default 1 year limited warranty except for Long Life batteries which will have same 1 year or 3 year limited warranty as the platform. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. Service levels and response times for HP Care Packs may vary depending on your geographic location. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at: http://www.hp.com/go/cpc²³

23. 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 http://www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

ENVIRONMENTAL & INDUSTRY

Eco-Label Certifications & declarations	This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks: • IT ECO declaration				
	• US ENERGY STAR®				
	• EPEAT® Silver registered in the United States. See http://www.epeat.net for registration status in your country				
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".				
Energy Consumption (in accordance with US ENERGY STAR® test					
method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz		
Normal Operation (Short idle)	4.33	4.56	4.5		
Normal Operation (Long idle)	2.02	2.07	2.01		
Sleep	0.51	0.56	0.51		
Off	0.39	0.44	0.39		

	Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.			
Heat Dissipation*	115VAC, 60Hz	230VAC	, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	14 BTU/hr	15 BTU/hr		15 BTU/hr
Normal Operation (Long idle)	7 BTU/hr	7 BTU	J/hr	6 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr		2 BTU/hr
Off	1 BTU/hr	1 BTU	J/hr	1 BTU/hr
	Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.			
Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L _{WAd} , bels)		Sound Pressure (L _{pAm} , decibels)	
Typically Configured — Idle	2.7		25	
Fixed Disk – Random writes	2.8			25
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include: • 3 USB ports • 1 PC card slot (type I/II) • 1 ExpressCard/54 slot • 1 IEEE 1394 Port • 2 SODIMM memory slots • Optional expansion base docking station • 1 multi-bay II storage port • Interchangeable HDD Spare parts are available throughout the warranty period and or for up to "5" years after the end of production.			
Batteries	This battery(s) in this product comply with EU Directive 2006/66/EC Batteries used in the product do not contain: Mercury greater the1ppm by weight Cadmium greater than 20ppm by weight			



	Dattery size	CD2022 (soin soll)		
	Battery size: CR2032 (coin cell) Battery type: Lithium			
Additional Information	This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directives.			
	2011/65/EC.			
	• This HP pro Directive – 2	oduct is designed to comply with the Waste Electrical a	ina Electronic Equipment (WEEE)	
			e of California: Safe Drinking	
	 This product is in compliance with California Proposition 65 (State of California; Safe Drinkin Water and Toxic Enforcement Act of 1986). This product is in compliance with the IEEE 1680 (EPEAT) standard at the <gold> level, see</gold> 			
	www.epeat.net			
		rts weighing over 25 grams used in the product are ma		
	This product contains 2.6% post-consumer recycled plastic (by wt.) This product is 06.2% post-consumer recycled plastic (by wt.) This product is 06.2% post-consumer recycled plastic (by wt.)			
Packaging Materials	External:	oct is 96.3% recycle-able when properly disposed of at end of life. PAPER/Paperboard 230 g		
rackaying materials		·	230 g	
	Internal:	PAPER/Corrugated	51 g	
		PLASTIC/Polyethylene Expanded - EPE	9 g	
		PLASTIC/Polyethylene low density - LDPE	49 g	
Material Usage	This product does not contain any of the following substances in excess of regulator			
	to the HP General Specification for the Environment at			
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):			
	• Asbestos			
	 Certain Azo Colorants Certain Brominated Flame Retardants – may not be used as flame retardants in plastics Cadmium Chlorinated Hydrocarbons Chlorinated Paraffins Formaldehyde 			
	Halogenated Diphenyl Methanes			
	• Lead carbonates and sulfates			
	Lead and Lead compounds Mercuric Oxide Batteries			
	Nickel – finishes must not be used on the external surface designed to be frequently.			
	carried by the user.			
	Ozone Depleting Substances Ozone Depleting Substances			
Polybrominated Biphenyls (PBBs)				
	Polybrominated Biphenyl Ethers (PBBEs)Polybrominated Biphenyl Oxides (PBBOs)			
	Polychlorinated Biphenyl (PCB) Polychlorinated Townboryde (PCT)			
	Polychlorinated Terphenyls (PCT)			
	 Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packate voluntarily removed from most applications. 			
	Radioactive Substances Tributul Tip (TRT), Tributul Tip (TRT), Tributul Tip Ovide (TRTO)			
	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.		
	Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.		
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 EIL WEEE directive (2002/05/EC) requires manufacturers to provide treatment information for		
	The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly		
	instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These		
	instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM		
	customers who integrate and re-sell HP equipment.		
HP Inc. Corporate	For more information about HP's commitment to the environment:		
Environmental Information	Global Citizenship Report		
intormation			
	http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html		
	Eco-label certifications		
	http://www8.hp.com/us/en/hp-information/environment/ecolabels.html		
	ISO 14001 certificates:		
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K _Certificate.pdf		
	and		
	http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf		

SYSTEM UNIT

Stand-Alone Power USB-C 45W adapter

Requirements (AC Power) Nominal Operating Voltage 5V/9V/12V/15V

> Average Operating Power 45W **Integrated Graphics** Yes

Max Operating Power UMA < 45 W

Temperature Operating 32° to 95° F (0° to 35° C)

> Non-operating 41° to 95° F (5° to 35° C)

Relative Humidity Operating 10% to 90% Non-operating 5% to 95%

Shock **Operating** 40 G, 2 ms, half-sine

> Non-operating 240 G. 2 ms. half-sine

Random Vibration Operating 1.043 grms

> Non-operating 3.5 grms

Altitude (unpressurized) **Operating** -50 to 10,000 ft (-15.24 to 3,048 m)

> -50 to 40,000 ft (-15.24 to 12,192 m) Non-operating

Planned Industry Standard UL Yes Certifications

Yes **FCC Compliance** Yes24 **ENERGY STAR®**

EPEAT® 2019 Yes, in U.S. 25

ICES Yes Australia / Yes **NZ A-Tick Compliance** Yes CCC Yes KC Yes BSMI Yes **CE Marking Compliance** Yes GOST Yes Saudi Arabian Compliance Yes (ICCP)

SABS Yes

^{24.} Configurations of the HP Chromebook 14A G5 that are ENERGY STAR® qualified are identified as HP Chromebook 14A G5 ENERGY STAR on HP websites and on http://www.energystar.gov.

^{25.} Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information.

DISPLAYS

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

14.0" diagonal HD WLED AntiGlare (1366 x 768) slim, SVA

Outline Dimensions

320.9 x 205.6 (max) x 3.0 (max.) mm

 $(W \times H \times D)$

Active Area 309.4 x 173.95 mm

Weight 280g max.

Diagonal Size 14.0"

Surface Treatment AG

Touch enabled No

Contrast Ratio 300:1 (typ. - AG)

Refresh Rate 60 Hz

Brightness 220 nits typ. (Panel Only)

Format of LCD Pixel Arrangement RGB

Configuration1366 x 768InterfaceeDP 1.2LCD ModeTNPPI112

Viewing Angle SVA 40/40/15/30

14.0" diagonal HD WLED BrightView (1366 x 768) SVA slim TOP, Touch **Outline Dimensions**

320.9 x 205.6 (max) x 3.2 (max.) mm

 $(W \times H \times D)$

Active Area 309.4 x 173.95 mm

Weight275g max.Diagonal Size14.0"Surface TreatmentBVTouch enabledYes

Contrast Ratio 500:1 (typ. - BV)

Refresh Rate 60 Hz

Brightness 200 nits typ. (Panel Only)0

Format of LCD Pixel Arrangement RGB
Configuration 1366 x 768
Interface eDP 1.2
LCD Mode TN
PPI 112

Viewing Angle SVA 40/40/15/30

14.0" diagonal FHD WLED AntiGlare (1920 x 1080) slim (3.0mm) UWVA. eDP **Outline Dimensions** 320.9 x 205.6 (max) x 3.0 (max.) mm

 $(W \times H \times D)$

Active Area 309.31 x 173.99 mm

Weight 290 g max.

Diagonal Size 14.0"

Surface Treatment AG

Touch enabled No

Contrast Ratio 600:1 (typ. - AG)

Refresh Rate 60Hz

Brightness 220 nits typ. (Panel Only)

Format of LCD Pixel Arrangement RGB

Configuration1920 x 1080InterfaceeDP 1.2LCD ModeIPS/FFS/AHVA

PPI 157

Viewing Angle UWVA 85/85/85

14.0" diagonal FHD WLED BrightView (1920x1080) slim (3.0mm) UWVA, TOP Touch eDP Outline Dimensions

320.9 x 205.6 (max) x 3.2 (max.) mm

(W x H x D)

Active Area 309.31 x 173.99 mm

Weight 290g max.
Diagonal Size 14.0"
Surface Treatment BV
Touch enabled Yes

Contrast Ratio 800:1 (typ. - BV)

Refresh Rate 60Hz

Brightness 220 nits typ. (Panel Only)

Format of LCD Pixel Arrangement RGB

Configuration1920 x 1080InterfaceeDP 1.2LCD ModeIPS/FFS/AHVA

PPI 157

Viewing Angle UWVA 85/85/85



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

STORAGE AND DRIVES

eMMC 5.0 Weight 0.2 g

Height 1.4 mm

Width 11.5 x 13 mm Interface MMC protocol

Transfer Rate HS400

Logical Blocks 16 GB (15,758,000,128 Bytes) / 32 GB (31,268,536,320 Bytes) /

64 GB (62,537,072,640 Bytes) / 128 GB (125,074,145,280

Bytes)

Operating Temperature 0 to 70 degree



NETWORKING/COMMUNICATIONS

802.11a/b/g/n/ac (2x2)

Wifi® and Bluetooth® 4.2

Combo

Wireless LAN Standards

IEEE 802.11a

IEEE 802.11b IEEE 802.11g

IEEE 802.11n IEEE 802.11ac

Interoperability QCA6174A passed Google AVL tests for Wi-Fi/BT

Frequency Band IEEE 802.11a/b/g/n/ac (2.4GHz and 5GHz)

Data Rates 802.11b: 1, 2, 5.5, 11 Mbps

802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20/40/80 MHz)

802.11ac: MCS 0 ~ MCS 9, (20/40/80 MHz), 1x1/2x2

Modulation CCK, DQPSK, DBPSK for DSSS

64QAM, 16QAM, QPSK, BPSK for OFDM

256QAM for OFDM in 11ac mode and VHT (20/40) mode

• 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.

IEEE 802.11 compliant roaming between access points

• IEEE 802.11i

Network Architecture

Models Roaming Infrastructure (Access Point Required)

Output Power² • 802.11b: +17dBm minimum

• 802.11g : +14dBm minimum

• 802.11a : +9dBm minimum

802.11n HT20(2.4GHz): +14dBm minimum
802.11n HT40(2.4GHz): +14dBm minimum
802.11n HT20(5GHz): +7dBm minimum
802.11n HT40(5GHz): +7dBm minimum
802.11ac HT20(5GHz): +6dBm minimum
802.11ac HT40(5GHz): +5dBm minimum
802.11ac HT80(5GHz): +5dBm minimum

Power Consumption Transmit: 2.0 W (max)

Receive: 1.6 W (max) Idle mode: 60 mW

Power Management ACPI and PCI Express compliant power management

Receiver Sensitivity ³ High efficiency antenna with spatial diversity, mounted in the display

enclosure

Two embedded 2.4 GHz antennas are provided to the card to support

WLAN and Bluetooth communications

(Support Dual antenna or Single antenna, depend on platform

requirement)



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

Antenna type 802.11b, 11Mbps : -84dBm maximum

802.11g, 54Mbps: -70dBm maximum 802.11a, 54Mbps: -70dBm maximum 802.11n 2.4g,HT20: -69dBm maximum 802.11n 2.4g,HT40: -67dBm maximum 802.11n 5g, HT20: -68dBm maximum 802.11n 5g, HT40: -66dBm maximum 802.11n 5g, HT20: -63dBm maximum 802.11n 5g, HT40: -59dBm maximum 802.11n 5g, HT80: -56dBm maximum

Form Factor PCI-Express M.2 MiniCard

Dimensions Type 2230 : 2.3 x 22.0 x 30.0 mm

 Weight
 Type 2230 : 2.3g

 Operating Voltage
 3.3v +/- 5%

Temperature Operating: 32° to 149° F (0° to 65° C)

Non-operating: -40° to 185° F (-40° to 85° 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)

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 Legacy: 0~79 (1 MHz/CH) **Channels** BLE: 0~39 (2 MHz/CH)

Signaling Data Rate Legacy: 3 Mbps signaling data rate¹ 2.17 Mbps

BLE: 1 Mbps signaling data rate 0.2 Mbps

1. Actual throughput may vary.

Legacy: Synchronous Connection Oriented links, 64 kbps, voice channels

Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps

asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)

Transmit Power The Bluetooth component shall operate as a Class II Bluetooth device with

a maximum transmit power of + 4 dBm for BR and EDR.

POWER

45 W USB-C **AC** adapter

Dimensions (H x W x D) 94.0 x 40.0 x 26.5 mm

Weight 192.5q +/-10% 100 to 240 VAC Input

> **Input Efficiency** Average Efficiency of 25%, 50%, 75%, 100%

> > load condition with 115Vac/230Vac Spec:

5V: 81.5% 9V: 86.7 12V: 87.8% 15V: 87.8%

Input frequency range 47 ~ 63Hz

Input AC current Max. 1.4 A at 90 Vac

Output **Output power** 5V/15W; 9V/27W; 12V/36W; 15V/45W

> DC output 5V/9V/12V/15V Hold-up time 5ms at 115 Vac input

Output current limit <5.0A

Connector USB Type-C™

Environmental Design Operating 32°F to 95°F (0°C to 35°C) temperature

> Non-operating (storage) -4°F to 185°F (-20°C to 85°C)

temperature

Altitude 0 to 16,400 ft (0 to 5000m)

Humidity 20% to 95% **Storage Humidity** 10% to 95%

EMI and Safety *CE Mark - full compliance with LVD and EMC directives

Certifications * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1,

SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC

Class B, CISPR22 Class B, CCC, NOM-1 NYCE.

* MTBF - over 200,000 hours at 25°C ambient condition.

HP 2-cell Long Life Li-Ion Dimensions (H x W x L) (47 Whr)

3.89 mm x 240.8 mm x 76.4 mm (0.153 x 9.48 x 3.01 inch)

Weight 0.19 kg (0.42 lb)

2cell Lithium-Ion Polymer cell / 4473A9 Cells/Type

7.7 V Voltage **Amp-hour capacity** 6150mAH Watt-hour capacity 47.3WH Temperature 5°C ~ 40°C Operating (Charging) 0°C ~ 45°C Operating (Discharging) -10°C ~ 60°C

Category	Description	Part Number
Cases	HP Business Slim Top Load	F3W15AA
	HP Essential Top Load Case	H2W17AA
	HP Essential Backpack	H1D24AA
Docking	HP USB-C Travel Dock G2	7PJ38AA
	HP USB-C/A Universal Dock G2 1. Only i5/i7 configurations can support dual 4k monitors. 2. Do not support HP Alt Mode	5TW13AA
Input/output	HP 3-Button Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP USB Optical Travel mouse	G1K28AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Essential USB Mouse	2TX37AA
	HP Stereo USB Headset	T1A67AA
	HP Stereo 3.5mm Headset	T1A66AA
	HP USB-C to DP	N9K78AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to USB HUB	Z6A00AA
	HP USB to RJ45 Adapter	N7P47AA
	HP USB-C to VGA Adapter	N9K76AA
Power	HP 45W USB-C G2 Power Adapter	1MZ01AA#ABA
	HP Notebook USB-C Power Bank	2NA10AA
Storage	HP External USB Optical Drive	F2B56AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
Displays	HP EliteDisplay S240n 23.8-inch Monitor	W9A88AA
	HP EliteDisplay S270n 27-inch Monitor	2PD37AA
	HP EliteDisplay E273q 27-inch Monitor	1FH52AA
	HP EliteDisplay E273m 27-inch Monitor	1FH51AA



Summary of Changes

Date of change:	Version History:		Description of change:
April 23, 2019	From v1 to v2	Added	Networking Section: Chromecast
May 6, 2019	From v2 to v3	Added	Environmental Section
July 29, 2019	From v3 to v4	Added	Memory
December 6, 2019	From v4 to v5	Updated	Storage and Drives Section
March 17, 2020	From v5 to v6	Updated	Accessories Section

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