

Overview

HP Chromebook 14A G5



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

Left

5. USB 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 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 64 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.
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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.
-

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

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

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

10. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited.

11. Chromecast must be purchased separately.

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

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.

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

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 2.0
1 Stereo Headphone/Microphone combo jack

Expansion Slots

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

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

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/cpc>²³

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: <ul style="list-style-type: none"> • 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		

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

	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/hr	6 BTU/hr
Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
Off	1 BTU/hr	1 BTU/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	<p>This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:</p> <ul style="list-style-type: none"> • 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 <p>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.</p>		
Batteries	<p>This battery(s) in this product comply with EU Directive 2006/66/EC</p> <p>Batteries used in the product do not contain: Mercury greater the 1ppm by weight Cadmium greater than 20ppm by weight</p> <p>Battery size: CR2032 (coin cell) Battery type: Lithium</p>		

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

Additional Information	<ul style="list-style-type: none"> • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 (EPEAT) standard at the <gold> level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains 2.6% post-consumer recycled plastic (by wt.) • This product is 96.3% recycle-able when properly disposed of at end of life. 		
Packaging Materials	External:	PAPER/Paperboard	230 g
	Internal:	PAPER/Corrugated	51 g
		PLASTIC/Polyethylene Expanded - EPE	9 g
		PLASTIC/Polyethylene low density - LDPE	49 g
Material Usage	<p>This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):</p> <ul style="list-style-type: none"> • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) 		

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

Packaging Usage	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
End-of-life Management and Recycling	<p>HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>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.</p>
HP Inc. Corporate Environmental Information	<p>For more information about HP's commitment to the environment:</p> <p>Global Citizenship Report</p> <p>http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html</p> <p>Eco-label certifications</p> <p>http://www8.hp.com/us/en/hp-information/environment/ecolabels.html</p> <p>ISO 14001 certificates:</p> <p>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf</p> <p>and</p> <p>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf</p>

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

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	USB-C 45W adapter
	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)
	Non-operating -50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard Certifications	UL Yes
	FCC Compliance Yes
	ENERGY STAR® Yes ²⁴
	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 (ICCP) Yes
	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.

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

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 (W x H x D)	320.9 x 205.6 (max) x 3.0 (max.) mm
	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
	Configuration	1366 x 768
	Interface	eDP 1.2
	LCD Mode	TN
	PPI	112
Viewing Angle	SVA 40/40/15/30	

14.0" diagonal HD WLED BrightView (1366 x 768) SVA slim TOP, Touch	Outline Dimensions (W x H x D)	320.9 x 205.6 (max) x 3.2 (max.) mm
	Active Area	309.4 x 173.95 mm
	Weight	275g max.
	Diagonal Size	14.0"
	Surface Treatment	BV
	Touch enabled	Yes
	Contrast Ratio	500:1 (typ. - BV)
	Refresh Rate	60 Hz
	Brightness	200 nits typ. (Panel Only)
	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	

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

14.0" diagonal FHD WLED AntiGlare (1920 x 1080) slim (3.0mm) UWVA, eDP	Outline Dimensions (W x H x D)	320.9 x 205.6 (max) x 3.0 (max.) mm
	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
	Configuration	1920 x 1080
	Interface	eDP 1.2
	LCD Mode	IPS/FFS/AHVA
	PPI	157
Viewing Angle	UWVA 85/85/85/85	

14.0" diagonal FHD WLED BrightView (1920x1080) slim (3.0mm) UWVA, TOP Touch eDP	Outline Dimensions (W x H x D)	320.9 x 205.6 (max) x 3.2 (max.) mm
	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
	Configuration	1920 x 1080
	Interface	eDP 1.2
	LCD Mode	IPS/FFS/AHVA
	PPI	157
Viewing Angle	UWVA 85/85/85/85	

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)
	Operating Temperature	0 to 70 degree

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

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
	Security³	<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. • IEEE 802.11i
	Network Architecture Models	Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power²	<ul style="list-style-type: none"> • 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 Sensitivity³	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 Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Signaling Data Rate	Legacy: 3 Mbps signaling data rate ¹ 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.

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

POWER

45 W USB-C AC adapter	Dimensions (H x W x D)	94.0 x 40.0 x 26.5 mm	
	Weight	192.5g +/-10%	
	Input	100 to 240 VAC	
	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%	
	Output	Input frequency range	47 ~ 63Hz
		Input AC current	Max. 1.4 A at 90 Vac
		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 temperature	32°F to 95°F (0°C to 35°C)
		Non-operating (storage) temperature	-4°F to 185°F (-20°C to 85°C)
		Altitude	0 to 16,400 ft (0 to 5000m)
Humidity		20% to 95%	
Storage Humidity		10% to 95%	
EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives * 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 (47 Whr)	Dimensions (H x W x L)	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)	
	Cells/Type	2cell Lithium-Ion Polymer cell / 4473A9	
	Voltage	7.7 V	
	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	

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

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 Mini Dock	1PM64AA
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

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