

Overview

HP Chromebook 14 G6



1. Microphones (2)
2. HD Camera
3. Privacy Camera (Optional)
4. Camera LED

Left

5. Touch Pad
6. USB Type-A™ 3.1 Gen1 Port
7. HDMI 2.0
8. Nano Security Lock Slot

Overview



1. Power Button
2. USB Type-C™ 3.1 Gen1 Port
(Support charging, Power delivery, Video, Data)
3. USB Type-A™ 3.1 Gen1 Port

Right

4. Micro SD
5. Headphone / Microphone Combo Jack

Overview

AT A GLANCE

- Support latest Intel® Core™ Celeron® quad core processors
- Up to 8 GB memory and 128 GB eMMC storage options
- Fast data transfer in dense classroom environments by having 2x2 WLAN with MIMO and Extended Wide Range Antenna design
- Optional backlit keyboard
- Narrow bezel display design
- Optional touchscreen for intuitive interactions
- Optional HP Privacy Camera
- Fast charging technology with long-life battery
- One HDMI port to connect to displays and projectors without dongle
- USB Type-C™ docking support
- 18.35 mm thin (.72 inches measured at the hinge)
- Weight starting at 1.54 kg (3.39 lb)
- Battery life up to 13 hours and 30 minutes
- Front-facing 720p HD camera comes with two microphones
- Android Apps ready (may require purchase, Internet access required)

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

Technical Specifications

PRODUCT NAME

HP Chromebook 14 G6

OPERATING SYSTEM

Preinstalled Chrome OS™ 64-bit

PROCESSOR

Intel® Celeron® N4120 with Intel® UHD Graphics 600 (1.1 GHz base frequency, up to 2.5 GHz boost frequency, 4 MB cache, 4cores)^{1,2,3}

Intel® Celeron® N4020 with Intel® UHD Graphics 600 (1.1 GHz base frequency, up to 2.7 GHz boost frequency, 4 MB cache, 2cores)^{1,2,3}

Intel® Celeron® N4000 with Intel® UHD Graphics 600 (1.1 GHz base frequency, up to 2.6 GHz boost frequency, 4 MB cache, 2 cores)^{1,2,3}

Processor Family

Intel® Celeron® processor (N4120, N4020, N4000)

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. Intel's numbering, branding and/or naming is not a measurement of higher performance.

2. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

3. Intel® Turbo Boost performance varies depending on hardware, software and overall system configuration. See <http://www.intel.com/technology/turboboost> for more information.

CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated

Intel® UHD Graphics 600⁴

Supports

Support HD decode, DX12, HDMI 1.4b⁴

4. HD content required to view HD images.

Technical Specifications

DISPLAY

Non-Touch

- 35.56 cm (14") diagonal HD SVA anti-glare LED-backlit, 220 nits, 45% NTSC (1366 x 768), Narrow Bezel
- 35.56 cm (14") diagonal HD SVA anti-glare LED-backlit, 220 nits, 45% NTSC (1366 x 768), Narrow Bezel, Privacy Shutter
- 35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 250 nits, 45% NTSC (1920 x 1080), Narrow Bezel
- 35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 250 nits, 45% NTSC (1920 x 1080), Narrow Bezel, Privacy Shutter

Touch

- 35.56 cm (14") diagonal HD SVA BrightView LED-backlit TOP touch, 220 nits, 45% NTSC (1366 x 768), Narrow Bezel^{4,5}
- 35.56 cm (14") diagonal HD SVA BrightView LED-backlit TOP touch, 220 nits, 45% NTSC (1366 x 768), Narrow Bezel, Privacy Shutter^{4,5}
- 35.56 cm (14") diagonal FHD SVA anti-glare LED-backlit TOP touch, 250 nits, 45% NTSC (1920 x 1080), Narrow Bezel^{4,5}
- 35.56 cm (14") diagonal FHD SVA anti-glare LED-backlit TOP touch, 250 nits, 45% NTSC (1920 x 1080), Narrow Bezel, Privacy Shutter^{4,5}

HDMI

HDMI v1.4b supporting: up to 1920x1080

Displays support

support dual displays through HP docks⁶

4. HD content required to view HD images.
5. Resolutions are dependent upon monitor capability, and resolution and color depth settings.
6. Sold separately or as an optional feature.

STORAGE AND DRIVES

Primary Storage

- 16 GB eMMC 5.0⁷
- 32 GB eMMC 5.0⁷
- 64 GB eMMC 5.0⁷
- 128 GB eMMC 5.0⁷

7. For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 8.1 GB is not user available

MEMORY

Maximum Memory

8 GB LPDDR4-2400 SDRAM

Memory

- 4 GB LPDDR4-2400 SDRAM
- 8 GB LPDDR4-2400 SDRAM

Memory Slots

On-board system memory
Supports Dual Channel Memory

Technical Specifications

NETWORKING/COMMUNICATIONS

WLAN

Intel® Dual Band Wireless-AC 9560 802.11 ac (2x2) Wi-Fi® and Bluetooth® 5 Combo, non-vPro™⁸
MU-MIMO supported⁹

8. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited.

9. Multiple-Input Multiple-Output (MIMO) is a wireless technology that uses multiple transmitters and receivers to enhance data transfer. MIMO requires a MU-MIMO router, sold separately.

AUDIO/MULTIMEDIA

Audio

HD audio
Dual stereo speakers
Integrated dual array microphone

Camera

720p HD camera⁴
HP Privacy Camera (Optional)

4. HD content required to view HD images.

KEYBOARD / POINTING DEVICES











Keyboard

Full-size island-style Chrome keyboard, Cool Gray, spill resistant
Full-size island-style Chrome keyboard, backlit, Cool Gray, spill resistant¹⁰

Pointing Device

Touchpad with multi-touch gesture support
Taps enabled as default

Function Keys

-  Go to the previous page
-  Go to the next page
-  Refresh your current page
-  Make your page take up the full screen
-  Show all your open windows
-  Decrease screen brightness
-  Make the screen brighter
-  Turn off the sound
-  Lower the volume
-  Raise the volume

10. Backlit keyboard is an optional feature.

Technical Specifications

SOFTWARE AND SECURITY

Preinstalled Software

Store up to 100 GB with Google Drive (2-year subscription included)¹¹

Manageability Features

Chrome Education Upgrade^{12,13}

Security Management

Google H1 Security Chip

Nano Security Lock¹²

11. 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>.

12. Sold separately.

13. Requires one-time setup, subscription, Google Admin Console, and your organization's domain. Please see <https://support.google.com/a/answer/60216>.

POWER

Power Supply

AC Adapter 45 Watt nPFC Standard USB type C Straight¹⁴

Primary Battery

HP Long Life 2-cell, 47.36 Wh Li-ion; support fast charge¹⁵

Power Cord

3-wire plug - 1m

Battery life

Up to 13 hours and 30 minutes¹⁶

14. Availability may vary by country.

15. Battery is internal and not replaceable by customer. Serviceable by warranty.

16. 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. Full charge battery life will decrease after Adaptive Battery Optimizer activation.

Technical Specifications

ENVIRONMENTAL

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. Based on US EPEAT registration according to IEEE 1680.1-2018 EPEAT. Status varies by country. See <http://www.epeat.net> for more information.

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)	3.49 W	3.46 W	3.43 W
Normal Operation (Long idle)	0.948 W	1.008 W	0.876 W
Sleep	0.36 W	0.42 W	0.36 W
Off	0.33 W	0.39 W	0.32 W

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)	12 BTU/hr	12 BTU/hr	12 BTU/hr
Normal Operation (Long idle)	3 BTU/hr	3 BTU/hr	3 BTU/hr
Sleep	1 BTU/hr	1 BTU/hr	1 BTU/hr
Off	1 BTU/hr	1 BTU/hr	1 BTU/hr

NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.

Technical Specifications

**Declared Noise Emissions
(in accordance with
ISO 7779 and ISO 9296)**

Sound Power
($L_{WA,d}$, bels)

Sound Pressure
(L_{pAm} , decibels)

Typically Configured – Idle

2.2

22

Fixed Disk – Random writes

2.2

22

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 the 1ppm by weight
- Cadmium greater than 20ppm by weight

Battery size: CR2032 (coin cell)

Battery type: Lithium

Additional Information

- 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 1680.1 (EPEAT) standard at the <Silver> level, see <http://www.epeat.net>
- Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.
- This product contains 2.69% post-consumer recycled plastic (by wt.)
- This product is 96.1% recycle-able when properly disposed of at end of life.

Packaging Materials

External:	PAPER/Corrugated	281 g
Internal:	PLASTIC/Polyethylene Expanded - LDPE	9 g
	PLASTIC/Molded Pulp	142 g

Material Usage

This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf>):

Technical Specifications

- 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)"

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 and Recycling

HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <http://www.hp.com/go/reuse-recycle> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

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.

Technical Specifications

Hewlett-Packard Corporate Environmental Information

For more information about HP's commitment to the environment:

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_14K_Certificate.pdf

and <http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf>

WEIGHTS & DIMENSIONS

Product Weight

Starting at 1.54 kg (3.39 lb)¹⁷

Product Dimensions (w x d x h)

32.65 x 22.7 x 1.83 cm

12.85 x 8.94 x .72 in

¹⁷ Weight will vary by configuration.

PORTS/SLOTS

Ports

1 USB 3.1 Type-C™ Gen 1 (Charging, power delivery, video, data)

2 USB 3.1 Type-A™ Gen 1

1 HDMI 2.0

1 Headphone/Microphone Combo Jack

Expansion Slots

1 multi-format digital media reader

Supports SD, SDHC, SDXC

Push-Push Insertion/Removal

SERVICE AND SUPPORT

HP Services offers 1-year limited warranties and 90 day software limited warranty options depending on country. Batteries have a default one year limited warranty. Refer to <http://www.hp.com/support/batterywarranty/> for additional battery information. 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. 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>.¹⁸

¹⁸ 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

Technical Specifications

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.

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	USB-C 45 W adapter
	Nominal Operating Voltage 15 V
	Average Operating Power < 4.5 W
Temperature	Integrated Graphics HD Graphics 600 12EUs
	Max Operating Power < 45 W
	Operating 41° to 95° F (5° to 35° C)
Relative Humidity	Non-operating -4° to 140° F (-20° to 60° C)
	Operating 10% to 90%
Shock	Non-operating 5% to 95%
	Operating 40 G, 2 ms, half-sine
Random Vibration	Non-operating 240 G, 2 ms, half-sine
	Operating 1.043 grms
Altitude (unpressurized)	Non-operating 3.5 grms
	Operating -50 to 10,000 ft (-15 to 3,048 m)
Planned Industry Standard Certifications	Non-operating -50 to 40,000 ft (-15 to 12,192 m)
	UL Yes
	FCC Compliance Yes
	ENERGY STAR® Yes ²¹
	EPEAT® 2019 Yes, Silver in U.S. ²²
	ICES Yes
	Australia / Yes
	NZ RCM Compliance Yes
	CCC Yes
	KC Yes
	BSMI Yes
	CE Marking Compliance Yes
EAC Yes	
Saudi Arabian Compliance (ICCP) Yes	

Technical Specifications

SABS

Yes

21. Configurations of the HP ChromeBook 14 G6 that are ENERGY STAR® qualified are identified as HP ChromeBook 14 G6 ENERGY STAR on HP websites and on <http://www.energystar.gov>.

22. 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.

Technical Specifications

DISPLAYS

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

14 inch diagonal FHD (1920 x 1080) Anti-Glare WLED UWVA 45% NTSC 250 nits eDP slim NB	Outline Dimensions (W x H x D)	316.11 x 197.98 max.
	Active Area	309.31 x 173.99 (mm)
	Weight	285 g max.
	Diagonal Size	14.0 (inch)
	Thickness	3.0 (mm) max
	Interface	eDP1.2
	Surface Treatment	Anti-glare (AG)
	Contrast Ratio	600:1 (typical)
	Refresh Rate	60Hz
	Brightness	250 nit typical (Panel Only)
	Pixel Resolution	1920 x 1080 (FHD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	45% of NTSC
Color Depth	6-bit	
Viewing Angle	UWVA 85/85/85/85	

14 inch diagonal FHD (1920 x 1080) Anti-Glare WLED UWVA 45% NTSC 250 nits eDP slim Touch on Panel NWBZ	Outline Dimensions (W x H x D)	316.17 x 198.07 (mm) max
	Active Area	309.37 x 174.02 (mm)
	Weight	290 g max
	Diagonal Size	14.0 (inch)
	Thickness	3.0 (Panel Side); 3.2 (PCBA Side)(mm) max
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	Yes
	Contrast Ratio	600:1 (typical)
	Refresh Rate	60Hz
	Brightness	250 nit typical (Panel Only)
	Pixel Resolution	1920 x 1080 (FHD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
Color Gamut Coverage	45% of NTSC	
Color Depth	6 bits	
Viewing Angle	UWVA 85/85/85/85	

Technical Specifications

14 inch diagonal HD (1366 x 768) BrightView WLED SVA 45% NTSC 220 nits slim Touch on Panel NWBZ	Outline Dimensions (W x H x D)	316.2 x 198.04 max. (w/ PCB)
	Active Area	309.4 x 173.95 (mm)
	Weight	290 g max
	Diagonal Size	14.0 (inch)
	Thickness	3.0 (Panel Side); 3.2 (PCBA Side)(mm) max
	Interface	eDP 1.2
	Surface Treatment	BV
	Touch enabled	Yes
	Contrast Ratio	500:1 (typical)
	Refresh Rate	60 Hz
	Brightness	220 nit typical (Panel Only)
	Pixel Resolution	1366 x 768
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	45% of NTSC
	Color Depth	6 bits
Viewing Angle	SVA 45/45/15/30	

14.0" diagonal HD SVALED-backlight; 220 nits 45% NTSC (1366 x 768)	Outline Dimensions (W x H x D)	316.2 x 186 (mm) max
	Active Area	309.4 x 173.95 (mm)
	Weight	280 g max.
	Diagonal Size	14.0 (inch)
	Thickness	3.0 (mm) max
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch enabled	None
	Contrast Ratio	500:1 (typical)
	Refresh Rate	60 Hz
	Brightness	220 nit typical
	Pixel Resolution	1366 x 768 (HD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	45% of NTSC
	Color Depth	6 bits
Viewing Angle	45/45/20/45	

Technical Specifications

STORAGE AND DRIVES*

16 G emmc	Capacity	16 GB
	Height	1.4 mm
	Width	11.5 x 13 mm
	Interface	MMC potocal
	Maximum Sequential Read	Up to 250 MB/s
	Maximum Sequential Write	Up to 70 MB/s
	Logical Blocks	16 GB (15,758,000,128 Bytes)
	Operating Temperature	0 to 70
	Features	HS400

32 G emmc	Capacity	32 GB
	Height	1.4 mm
	Width	11.5 x 13 mm
	Weight	0.2 g
	Interface	MMC potocal
	Maximum Sequential Read	Up to 250 MB/s
	Maximum Sequential Write	Up to 70 MB/s
	Logical Blocks	32 GB (31,268,536,320 Bytes)
	Operating Temperature	0 to 70
Features	HS400	

64 G emmc	Capacity	64 GB
	Height	1.4 mm
	Width	11.5 x 13 mm
	Interface	MMC potocal
	Maximum Sequential Read	Up to 250 MB/s
	Maximum Sequential Write	Up to 70 MB/s
	Logical Blocks	64 GB (62,537,072,640 Bytes)
	Operating Temperature	0 to 70
	Features	HS400

Technical Specifications

128 G emmc	Capacity	128 GB
	Height	1.4 mm
	Width	11.5 x 13 mm
	Weight	0.2 g
	Interface	MMC potocal
	Maximum Sequential Read	Up to 250 MB/s
	Maximum Sequential Write	Up to 150 MB/s
	Logical Blocks	116.48 GB (125,074,145,280 Bytes)
	Operating Temperature	0 to 70
	Features	HS400

*For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 8.1 GB is not user available

Technical Specifications

NETWORKING/COMMUNICATIONS

<p>Intel® 9560 802.11a/b/g/n/ac (2 x 2) Wi-Fi® and Bluetooth® 5.0 Combo¹ non-vPro</p>	<p>Wireless LAN Standards</p>	<p>IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v</p>
	<p>Interoperability</p>	<p>Wi-Fi certified</p>
	<p>Frequency Band</p>	<ul style="list-style-type: none"> •802.11b/g/n 2.402 – 2.482 GHz •802.11a/n/ac 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz
	<p>Data Rates</p>	<ul style="list-style-type: none"> •802.11b: 1, 2, 5.5, 11 Mbps •802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) •802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz & 80MHz)
	<p>Modulation</p>	<p>Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p>
	<p>Security³</p>	<ul style="list-style-type: none"> •IEEE compliant 64 / 128 bit WEP encryption for a/b/g mode only •AES-CCMP: 128 bit in hardware •802.1x authentication •WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. •WPA2 certification •IEEE 802.11i •WAPI
	<p>Network Architecture Models</p>	<p>Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)</p>
	<p>Roaming</p>	<p>IEEE 802.11 compliant roaming between access points</p>
	<p>Output Power²</p>	<ul style="list-style-type: none"> • 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum

Technical Specifications

	<ul style="list-style-type: none"> • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ac VHT160(5GHz): +11.5dBm minimum
Power Consumption	<ul style="list-style-type: none"> • Transmit mode: 2.0 W • Receive mode: 1.6 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode: 50 mW (WLAN unassociated) • Connected Standby/Modern Standby: 10 mW • Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity ³	802.11b, 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
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard with CNVi Interface
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm
Weight	1. Type 2230: 2.8 g 2. Type 1216: 1.3 g
Operating Voltage	3.3 v +/- 5%
Temperature	Operating: 14° to 158° F (-10° to 70° C) Non-operating: -40° to 176° F (-40° to 80° C)
Humidity	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF LED OFF – Radio ON

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0 Wireless Technology

Bluetooth Specification	4.0/4.1/4.2/5.0 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

Technical Specifications

1. Actual throughput may vary.

	Legacy: Synchronous Connection Oriented links, 3,64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth Software Supported Link Topology	Linux kernel version
Power Management	Intel CNVi/BRI HW power management
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Bluetooth Profiles 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)

1. Wireless access point and Internet service is required. Availability of public wireless access point is limited.
2. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
3. Check latest software/driver release for updates on supported security features.
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).

Technical Specifications

POWER

45 W PD AC adapter	Dimensions (H x W x D)	95 mm x 43 mm x 27.5 mm	
	Weight	200 g +/-10% Not including power cord. Power cord varies by country	
	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: 87.41% 15V: 87.8%	
	Input frequency range	47 ~ 63Hz	
	Input AC current	Max. 1.4 A at 90 Vac	
	Output	5V/15W	
		9V/27W	
		12V/36W	
		15V/45W	
	Output power	5V/9V/12V/15V	
	DC output	5 ms at 115 Vac input	
	Hold-up time	<5.0 A by each outputs	
	Output current limit	<5.0 A by each outputs	
	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)	5.2 x 240.8 x 76.4 mm (0.204 x 9.48 x 3 inch)	
	Weight	0.19 kg (0.418 lb)	
	Cells/Type	2cell Lithium-Ion Polymer cell / 4473A9	
	Voltage	7.7 V	
	Amp-hour capacity	6.15 Ah	
	Watt-hour capacity	47.3 Wh	
	Operating (Charging)	32° to 113° F (0° to 45° C)	
	Operating (Discharging)	14° to 122° F (-10° to 60° C)	
	Warranty	1-year	
	Optional Travel Battery Available	No	

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

Category	Description	Part Number
Cases	HP Business Slim Top Load	2SC65AA
	HP Black Always On Case 14"	3YF54AA
	HP Essential Top Load Case (Up to 15.6")	H2W17AA
	HP Essential Backpack (Up to 15.6")	H1D24AA
Docking	HP USB-C Travel Dock G2	7PJ38AA
	HP E24d G4 Advanced Docking monitor	6PA50AA
	HP E27d G4 Advanced Docking monitor	6PA56AA
Input/output	HP 3-Button Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP USB Optical Travel mouse	G1K28AA
	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 4.5mm and USB-C Dock Adapter G2	6LX61AA/UT
Power	HP 45W USB-C G2 Power Adapter	1MZ01AA
	65W USB-C Slim Power adapter	3PN48AA
	HP Notebook USB-C Power Bank	2NA10AA
Storage	HP External USB Optical Drive	F2B56AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
	HP Sure Key Cable Lock	6UW42AA

Summary of Changes

Date of change:	Version History:		Description of change:
January 22, 2020	V1 to V2	Added	Environmental Tab
January 31, 2020	V2 to V3	Added	Processor
February 21, 2020	V3 to V4	Updated	Docking Section
March 17, 2020	V4 to V5	Updated	Accessories Section

Copyright © 2020 HP Development Company, L.P. The only warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel®, Core®, Celeron® and Intel vPro™ are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. DisplayPort™ and the DisplayPort™ logo are trademarks owned by the Video Electronics Standards Association (VESA®) in the United States and other countries. USB Type-C™ and USB-C™ are trademarks of USB Implementers Forum. SD, SDHC and SDXC are registered trademarks of SD-3C in the United States, other countries or both. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency. © 2019 Google LLC All rights reserved. Google and the Google Logo are registered trademarks of Google LLC.