

Overview

HP Chromebook x360 11 G2 EE



1. Webcam LED
2. Webcam
3. Internal Microphones
4. Touchpad
5. 5 MP Camera (Optional)

Left

6. Volume Button
7. Power Button
8. USB-A 3.1 Gen 1
9. USB-C™ 3.1 Gen 1 (Supporting Power Delivery and Display Port)
10. Nano Security Lock Slot

Overview



Right

- | | |
|------------------------------------------------------------------|---------------------------------------------|
| 1. USB-C™ 3.1 Gen 1 (Supporting Power Delivery and Display Port) | 4. MicroSD Card Reader |
| 2. Power LED | 5. Stereo Headphone / Microphone Combo Jack |
| 3. USB-A 3.1 Gen 1 | |

Overview

AT A GLANCE

- Latest Intel® Celeron® N4000 and N4100 processors
- The device is designed to pass MIL-STD 810G, 76cm drop on concrete, and minor water and dust resistance¹
- Long battery life with HP Fast Charge technology to support charge 90 minutes to 90%
- Designed to survive the school day activities with pick-proof and spill-resistant keyboard
- Intel® 2x2 AC WLAN with MIMO for easy connection in dense classroom environment
- Choice of up to 8 GB memory and 64 GB eMMC storage
- 2 USB-C™ ports for charging, power and data transfer, and 2 USB 3.1 Gen 1 ports for sleep and charge support
- Enjoy Android™ Apps on Chrome OS™²
- Optional active digitizer along with EMR pen³
- Your Chromebook boots up within 10 seconds and you can be browsing online and working in Google Apps just moments later
- Flexible 360°hinge to allow students to type, touch, write, capture, and draw comfortably whether in laptop, tablet, tent or stand mode

1. MIL STD 810 G 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. The availability of Chrome OS System supporting Android Apps is dependent on Google's Chrome OS support, readiness timeline will be announced by Google <https://sites.google.com/a/chromium.org/dev/chromium-os/chrome-os-systems-supporting-android-apps>.

3. Optional pen required and sold separately; pen requires optional digitizer feature that must be configured at time of purchase.

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 x360 11 G2 Education Edition

OPERATING SYSTEM

Preinstalled Chrome OS™

PROCESSOR

Intel® Celeron® processors

Intel® Celeron® N4100 with Intel® UHD Graphics 600 (1.1 GHz base frequency, up to 2.4 GHz boost frequency, 4 MB cache, 4 cores)^{1,2}

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}

Processor Family

Intel® Celeron® 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. 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.

CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated

Intel® UHD Graphics 600³

Supports

Supports HD decode, DX12 and HDMI 1.4 b

3. HD content required to view HD images.

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

DISPLAY

Touch

29.46 cm (11.6") diagonal HD IPS BrightView WLED-backlit TOP+ touch screen with Corning® Gorilla® Glass 3, 220 cd/m², 69% sRGB (1366 x 768)^{3,4}

29.46 cm (11.6") diagonal HD IPS BrightView WLED-backlit TOP+ touch screen with Corning® Gorilla® Glass 3 and Digitizer, 220 cd/m², 69% sRGB (1366 x 768)^{3,4,5}

3. HD content required to view HD images.

4. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

5. Sold separately or as an optional feature.

STORAGE AND DRIVES

Primary Storage

32 GB eMMC 5.0⁶

64 GB eMMC 5.0⁶

6. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 5.1 GB is reserved for system recovery software.

MEMORY

Maximum Memory

8 GB LPDDR4-2400 SDRAM

Memory

8 GB LPDDR4-2400 SDRAM

4 GB LPDDR4-2400 SDRAM

Memory soldered on board

NETWORKING/COMMUNICATIONS

WLAN

Intel® Dual Band Wireless-AC 9560 802.11a/b/g/n/ac (2x2) WLAN and Bluetooth® 5 Combo, non-vPro™, MU-MIMO/80 Mhz⁷
Integrated Wireless options with dual antennas

Chromecast

Chromecast Support⁸

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

8. Chromecast must be purchased separately.

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

AUDIO/MULTIMEDIA

Audio

Dual Speakers
Integrated Microphone
HD Audio

Camera

720p HD Camera³
5 MP Rear Camera (World Facing secondary camera, Fixed Focus)⁵

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

KEYBOARDS/TOUCHPAD

Keyboard

Full Size Textured island-style, spill-resistant and pick proof anchored, Chalkboard Gray, Keyboard

Pointing Device

Touchpad with multi-touch gesture support

SOFTWARE AND SECURITY

Preinstalled Software

Google One⁹
HP Classroom Manager¹⁰

Security Management

H1 Security IC
Nano Security Lock Slot¹¹

9. Additional information is available at the Google website: <https://one.google.com/about>.
10. HP Classroom Manager is sold separately. Control and device locking from the teacher's desktop requires purchase of HP Classroom Manager.
11. Lock must be purchased separately.

POWER

Power Supply

HP Smart 45 W Type-C™ AC Power Adapter¹²

Primary Battery

HP Long Life 2-cell, 47.36 Wh Li-ion Polymer¹³
HP Fast Charge Technology (90% in 90 minutes)¹⁵

Power Cord

1.0 M Length Sticker Conventional Power Cord¹²

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

Battery life

Up to 11 hours and 30 minutes¹⁴

Battery Weight

0.18 kg

0.39 lb

12. Availability may vary by country.

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

14. 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.

15. 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.

WEIGHTS & DIMENSIONS

Product Weight

Starting at 3.24 lbs¹⁶

Starting at 1.47 kgs¹⁶

Product Dimensions (W x D x H)

12.04 x 8.18 x 0.83 in

30.6 x 20.8 x 2.11 cm

16. Weight will vary by configuration.

PORTS/SLOTS

Ports

2 USB 3.1 Type-C™ (Charge and video support, data transfer, power delivery)

2 USB 3.1 Gen 1 (Sleep and Charge support)

1 Stereo Headphone / Microphone Combo Jack

Expansion Slots

1 Multi-format digital media reader

Supports SD, SDHC, SDXC

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 except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. 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>.¹⁷

17. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your

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

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	<p>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:</p> <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. TCO 		
System Configuration	<p>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a “Typically Configured Notebook”.</p>		
Energy Consumption (in accordance with US ENERGY STAR® test method)	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	2.79 W	2.80 W	2.72 W
Normal Operation (Long idle)	0.87 W	0.92 W	0.85 W
Sleep	0.33 W	0.34 W	0.34 W
Off	0.31 W	0.32 W	0.32 W
	<p>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.</p>		
Heat Dissipation*	115VAC, 60Hz	230VAC, 50Hz	100VAC, 60Hz
Normal Operation (Short idle)	10 BTU/hr	10 BTU/hr	9 BTU/hr

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

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
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		23.9
Fixed Disk – Random writes	2.7		23.9
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/manganese dioxide</p>		
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 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 3% post-consumer recycled plastic (by wt.) • This product is 94.5% recycle-able when properly disposed of at end of life. 		

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

Packaging Materials	External:	PAPER/Corrugated	265 g
	Internal:	PAPER/Molded Pulp	116 g
		PLASTIC/Polyethylene low density	7 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) 		
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>		

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

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>
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SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage 15V
	Average Operating Power ChromeOS™
	Integrated Graphics <4.0w with PLT test
	Max Operating Power UMA < 45W
Temperature	Operating 0° to 35° C
	Non-operating 5° to 35° C
Relative Humidity	Operating 10% to 90%, Non-condensing
	Non-operating 5% to 95%, 101.6° F (38.7° C) Dry bulb value
Shock	Operating 40 G, 2 ms, half-sine
	Non-operating 240 G, 2 ms, half-sine
Random Vibration	Operating 0.015 g2/Hz, 10-40 Hz, nominal 1.043 grms
	Non-operating 0.025 g2/Hz, 10-500 Hz, nominal 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
	CSA No, Leverage CUL
	FCC Compliance Yes
	ENERGY STAR® Yes ¹⁸
	EPEAT® 2019 Yes, Silver in U.S. ¹⁹
	ICES Yes
	Australia Yes
	NZ A-Tick Compliance Yes
	CCC Yes

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

Japan VCCI Compliance	No, no support this country
KC	Yes
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	Yes, EAC, Belarus required
CIT	No, no support this country
GOST	Yes, EAC, Russia required
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes
UKRSERTCOMPUTER	No, no support this country

18. Configurations of the HP Chromebook x360 11 G2 EE that are ENERGY STAR® certified are identified as HP Chromebook x360 11 G2 EE ENERGY STAR® on HP websites and on <http://www.energystar.gov>.

19. 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.

11.6 inch diagonal HD (1366 x 768) BrightView WLED UWVA 50% NTSC c9 220nits eDP 1.2 w/o PSR slim TOP+ OBZ	Outline Dimensions (W x H x D)	299.7 x 194.39 x 4.2 mm (max)
	Active Area	256.125 x 144
	Weight	320 g (max)
	Diagonal Size	11.6"
	Thickness	4.2 mm
	Interface	eDP1.2
	Surface Treatment	BV
	Touch Enabled	Yes
	Contrast Ratio	800:1 (typ - BV)
	Refresh Rate	60 Hz
	Brightness	220 nits typ
	Pixel Resolution	1366 x 768 (HD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
Color Gamut Coverage	50% of NTSC	
Color Depth	6 bit + FRC	
Viewing Angle	UWVA 85/85/85/85	

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

STORAGE AND DRIVES

eMMC 5.0	Drive Weight	0.2 g
	Height	1.4 mm
	Width	11.5 x 13 mm
	Interface	MMC protocol
	Transfer Rate	HS400
	Logical Blocks	32 GB (31,268,536,320 Bytes) / 64 GB (62,537,072,640 Bytes)
	Operating Temperature	0 to 70 degree

NETWORKING / COMMUNICATIONS

Intel® 9560 802.11a/b/g/n/ac (2x2) WLAN and Bluetooth® 5.0 Combo¹ non-vPro	Wireless LAN Standards	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
	Interoperability	Wi-Fi® certified
	Frequency Band	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
	Data Rates	•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)
	Modulation	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
	Security³	•IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only •AES-CCMP: 128 bit in hardware

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

	<ul style="list-style-type: none"> •802.1x authentication •WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. •WPA2 certification •IEEE 802.11i •WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power²	<ul style="list-style-type: none"> • 802.11b: +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 • 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: 10mW •Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity³	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 126: 1.3 g
Operating Voltage	3.3v +/- 9%
Temperature	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)"

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

Humidity	Operating	10% to 90% (non-condensing)
	Non-operating	5% to 95% (non-condensing)
Altitude	Operating	0 to 10,000 ft (3,048 m)
	Non-operating	0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON	

1. Check latest software/driver release for updates on supported security features.
2. Maximum output power may vary by country according to local regulations.
3. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0 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 ¹ 0.2 Mbps 1. Actual throughput may vary.
Transmit Power	Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5) 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
Electrical Interface	USB 2.0 compliant
Bluetooth Software Supported	Linux kernel version
Link Topology	
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

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

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)

POWER

45 W PD AC Adapter	Dimensions (H x W x D)	94 x 43 x 27.8 mm	
	Weight	200 g	
	Input	100 to 240 VAC	
		Input Efficiency	5V/81.5%; 9V/86.7%; 12V/87.4%; 15V/87.8% (measured at 115Vac/60Hz and 230Vac/50Hz)
		Input frequency range	47 ~ 63 Hz
		Input AC current	1.4 Amperes RMS at 90 VAC
	Output	Output power	45 W
		DC output	5V; 9V; 12V; 15V
		Hold-up time	5ms at 115 Vac input
		Output current limit	The power supply shall limit the maximum steady state output current to an average current of 5 Amperes. (OCP Interval: 30mS Minimum)
		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 1 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	5.2 x 240.8 x 76.4 mm (0.247 x 9.48 x 3 inch)	
	Weight	0.19 kg (0.42 lb)	



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

Cells/Type	2-cell Lithium-Ion Polymer cell / 4473A9
Voltage	7.7 V
Amp-hour capacity	6.15 Ah
Watt-hour capacity	47.3 Wh
Temperature	
Operating (Charging)	32° to 113° F (0° to 45° C)
Operating (Discharging)	14° to 122° F (-10° to 60° C)
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 Essential Top Load Case (up to 15.6")	H2W17AA
	HP Essential Backpack (up to 15.6")	H1D24AA
	HP Black 11.6 Always on Case	2MY57AA
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 USB-C™ to HDMI 2.0 Adapter	1WC36AA
	HP USB-C™ to DisplayPort™ Adapter	N9K78AA
	HP USB-C™ to USB 3.0 Adapter	N2Z63AAA
	HP USB-C™ to RJ45 Adapter	V7W66AA
	HP USB Collaboration Keyboard	Z9N38AA
	HP Wireless Collaboration Keyboard	Z9N398AA
	HP 3-Button Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP USB Optical Travel mouse	G1K28AA
	HP Essential USB Mouse	2TK37AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP 3-Button USB Laser Mouse	H4B81AA
	HP Slim USB KB & Mouse	T6T83AA
	Stereo 3.5mm Headset	T1A66AA
Pens	HP x360 11 EMR Pen with Eraser	2EB40AA
	HP EMR PEN	1MY81AV
Power	HP USB-C™ Notebook Power Bank	1TZ76AA
	HP 45W Type -C Straight Type	1MZ01AA
Storage	HP External USB Optical Drive	F2B56AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
Displays	HP ProDisplay P240va 23.8-inch Monitor	N3H14AA
	HP ProDisplay P232 23-inch Monitor	K7X31AA
	HP EliteDisplay E223 21.5-inch Monitor	1FH45AA
	HP EliteDisplay E243 23.8-inch Monitor	1FH47AA
	HP E24d G4 Advanced Docking monitor	6PA50AA
	HP E27d G4 Advanced Docking monitor	6PA56AA

Summary of Changes

Date of change:	Version History:		Description of change:
April 21, 2019	From v1 to v2	Added	Environmental Section
April 23, 2019	From v2 to v3	Added	Networking Section Chromecast
August 26, 2019	From v3 to v4	Updated	Security Lock, EPEAT disclaimer
March 17, 2020	From v4 to v5	Updated	Docking Section

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