

Overview

HP Chromebook x360 14 G1



1. **Webcam LED**
2. **Webcam**
3. **Touch Pad**
4. **Power Button**

Left

5. **MicroSD Card Reader**
6. **Headphone / Microphone Combo Jack**
7. **AC Plug LED**
8. **USB-C™ 3.1 Gen 1 (Support charging, power delivery, video and data)**

Overview



Right

1. **USB-C™ 3.1 Gen 1 (Support charging, power delivery, video and data)**
2. **AC Plug LED**
3. **USB-A 3.1 Gen 1**
4. **Nano Security Lock Slot**
5. **Volume Button**

Overview

AT A GLANCE

- **Sleek design with metal top cover and metal keyboard deck**
- **Intel®7th and 8th Generation processors**
 - Pentium®, Core™ i3, i5 or i7
- **Audio by B&O**
- **Android™ Apps ready**
- **Two USB Type-C™ charging**
- **USB Type-C™ docking support**
- **Memory up to 16 GB**
- **Storage up to 64 GB**
- **Long battery life up to 13 hrs***
- **16 mm thin**
- **Weight starting at 1.6 kg (3.7 lbs)**
- **14" diagonal Full HD IPS narrow bezel, touch panel**
- **Backlit keyboard**

***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.**

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

Technical Specifications

PRODUCT NAME

HP Chromebook x360 14 G1

OPERATING SYSTEM

Preinstalled **Chrome OS™**

PROCESSOR

Intel® Celeron® processors

Intel® Core™ i7-8650U with Intel® UHD Graphics 620

(1.9 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores)^{1,2,3}

Intel® Core™ i5-8350U with Intel® UHD Graphics 620

(1.7 GHz base frequency, up to 3.6 GHz with Intel® Turbo Boost Technology, 6 MB cache, 4 cores)^{1,2,3}

Intel® Core™ i3-8130U with Intel® UHD Graphics 620

(2.2 GHz base frequency, up to 3.4 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores)^{1,2,3}

Intel® Core™ i7-7600U with Intel® HD Graphics 620

(2.8 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores)^{1,2,3}

Intel® Core™ i3-7130U with Intel® HD Graphics 620

(2.7 GHz, 3 MB cache, 2 cores)^{1,2,3}

Intel® Pentium® 4415U with Intel® HD Graphics 610

(2.3 GHz, 2 MB cache, 2 cores)^{1,2}

Intel® Pentium® 4417U with Intel® HD Graphics 610

(2.3 GHz, 2 MB cache, 2 cores)^{1,2}

Processor Family

8th Generation Intel® Core™ i7 processor (i7-8650U)

8th Generation Intel® Core™ i5 processor (i5-8350U)

8th Generation Intel® Core™ i3 processor (i3-8130U)

Intel® Pentium® processor

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

Technical Specifications

GRAPHICS

Integrated

Intel® HD Graphics 610 ⁴

Intel® UHD Graphics 620 ⁴

NOTE: See processor section for details.

Supports

Support HD decode, DX12, HDMI 1.4b

4. HD content required to view HD images.

DISPLAY

Touch

35.56 cm (14") diagonal FHD IPS eDP BrightView Glass WLED-backlit slim-flat (3.0mm) touch screen, 220 cd/m², 67% sRGB (1920 x 1080) Narrow Bezel ^{4,5}

4. HD content required to view HD images.

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

STORAGE AND DRIVES

Primary Storage

32 GB eMMC 5.0 ⁶

64 GB eMMC 5.0 ⁶

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

Memory Soldered Down

8 GB DDR4-2133 SDRAM (1 x 8 GB) on-board

16 GB DDR4-2133 SDRAM (1 x 16 GB) on-board

Memory Slots

Memory soldered on board

Technical Specifications

NETWORKING/COMMUNICATIONS

WLAN

Intel® Dual Band Wireless-AC 7265 802.11ac (2x2) WLAN and Bluetooth® 4.2 Combo, non-vPro™⁷

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.

AUDIO/MULTIMEDIA

Audio

B&O PLAY

2 Integrated stereo speakers

Camera

720p HD camera⁴

4. HD content required to view HD images.

KEYBOARDS/TOUCHPAD

Keyboard

Full Size Textured island-style Keyboard Flint Silver, Backlit

Pointing Device

Multi-touch gesture support, taps enabled as default

SOFTWARE AND SECURITY

Preinstalled Software

Store up to 100 GB with Google Drive (2-year subscription included)⁹

HP Classroom Manager¹⁰

Security Management

H1 Security IC

Nano Security Lock Slot¹¹

9. 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>

10. HP Classroom Manager is sold separately. Control and device locking from the teacher's desktop requires purchase of HP Classroom Manager.

Technical Specifications

11. Lock must be purchased separately.

POWER

Power Supply

HP Smart 45 W USB Type-C™ straight type AC adapter

Primary Battery

HP Long Life 3-cell, 60.9 Wh Li-ion ¹²

Power Cord

1 M length USB-C/power cord

Battery Life

Up to 13 hours¹³

Battery Weight

0.54 lb ¹²

0.24 kg ¹²

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

13. Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See <http://www.bapco.com> for additional details.

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® Gold registered in the United States. See <http://www.epeat.net> for registration status in your country.**
- **TCO Certified 5.0.**

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, 50Hz
<i>Normal Operation (Sort idle)</i>	4.76 W	4.40 W	4.62 W
<i>Normal Operation (Long idle)</i>	1.56 W	1.40 W	1.40 W
<i>Sleep</i>	0.60 W	0.65 W	0.60 W

Technical Specifications

<i>Off</i>	0.41 W	0.46 W	0.41 W
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Note: 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.

<i>Heat Dissipation*</i>	<i>115VAC, 60Hz</i>	<i>230VAC, 50Hz</i>	<i>100VAC, 50Hz</i>
<i>Normal Operation (Short idle)</i>	16 BTU/hr	15 BTU/hr	16 BTU/hr
<i>Normal Operation (Long idle)</i>	5 BTU/hr	5 BTU/hr	5 BTU/hr
<i>Sleep</i>	2 BTU/hr	2 BTU/hr	2 BTU/hr
<i>Off</i>	1 BTU/hr	2 BTU/hr	1 BTU/hr

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

<i>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</i>	Sound Power (L_{WAd}, bels)	Sound Pressure (L_{pAm}, decibels)
<i>Typically Configured – Idle</i>	3	23
<i>Fixed Disk – Random writes</i>	3	23

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**

Technical Specifications

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 (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 1% post-consumer recycled plastic (by wt.)
- This product is 96.7% recycle-able when properly disposed of at end of life.

Packaging Materials

<i>External:</i>	PAPER/Corrugated	281 g
<i>Internal:</i>	PLASTIC/Polyethylene Expanded - EPE	66 g
	PLASTIC/Polyethylene low density – LDPE	9 g
	PLASTIC/Polypropylene - PP	4 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>):

- 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)

Technical Specifications

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

Hewlett-Packard 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.

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 3.7 lbs ¹⁴

Starting at 1.61 kg ¹⁴

Product Dimensions (W x D x H)

12.81 x 8.93 x 0.63 in

32.55 x 22.7 x 1.6 cm

14. Weight will vary by configuration.

Technical Specifications

PORTS/SLOTS

Ports

- 2 USB 3.1 Type-C™ (Charge and video support, data transfer, power delivery)**
- 1 USB 3.1 Gen 1 (Charging)**
- 1 Stereo headphone / microphone combo jack**

Expansion Slots

- 1 MicroSD**
 - 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>.¹⁵

15. 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.

Technical Specifications

SYSTEM UNIT

<i>Stand-Alone Power Requirements (AC Power)</i>	<i>Nominal Operating Voltage</i>	15V
	<i>Average Operating Power</i>	< 6.9W
<i>Temperature</i>	<i>Integrated Graphics</i>	HD Graphics 610 (Kabylake U) UHD Graphics 620 (Kabylake-R)
	<i>Max Operating Power</i>	< 45W
	<i>Operating</i>	41° to 95° F (5° to 35° C)
<i>Relative Humidity</i>	<i>Non-operating</i>	-4° to 140° F (-20° to 60° C)
	<i>Operating</i>	10% to 90%
<i>Altitude (unpressurized)</i>	<i>Non-operating</i>	5% to 95%
	<i>Operating</i>	-50 to 10,000 ft (-15 to 3,048 m)
<i>Planned Industry Standard Certifications</i>	<i>Non-operating</i>	-50 to 40,000 ft (-15 to 12,192 m)
	<i>UL</i>	Yes
	<i>CSA</i>	No
	<i>FCC Compliance</i>	Yes
	<i>ENERGY STAR®</i>	Yes¹⁶
	<i>EPEAT® 2019</i>	Yes, Gold in U.S.¹⁷
	<i>ICES</i>	Yes
	<i>Australia</i>	Yes
	<i>NZ A-Tick Compliance</i>	Yes
	<i>CCC</i>	Yes
	<i>Japan VCCI Compliance</i>	Yes
	<i>KC</i>	Yes
	<i>BSMI</i>	Yes
	<i>CE Marking Compliance</i>	Yes
<i>BNCI or BELUS</i>	Yes	
<i>CIT</i>	Yes	
<i>GOST</i>	Yes	
<i>Saudi Arabian Compliance (ICCP)</i>	Yes	
<i>SABS</i>	Yes	

16. Configurations of the HP Chromebook x360 14 G1 that are ENERGY STAR® certified are identified as HP Chromebook x360 14 G1 ENERGY STAR® on HP websites and on <http://www.energystar.gov>.

17. 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.

<i>Panel LCD 14 inch diagonal FHD (1920x1080) BrightView WLED UWVA 45% cg 220 nits eDP slim NB</i>	<i>Outline Dimensions (W x H x D)</i>	315.81 x 197.57 mm (max)
	<i>Active Area</i>	309.31 x 173.99 mm
	<i>Weight</i>	280g (max)
	<i>Diagonal Size</i>	14.0 inch
	<i>Thickness</i>	3.0mm
	<i>Interface</i>	eDP1.3
	<i>Surface Treatment</i>	Glare
	<i>Touch Enabled</i>	YES
	<i>Contrast Ratio</i>	700:1 (typ)
	<i>Refresh Rate</i>	60Hz
	<i>Brightness</i>	220nits (typ)
	<i>Pixel Resolution</i>	1920 x 1080 FHD
	<i>Format of LCD Pixel Arrangement</i>	RGB
	<i>Backlight</i>	LED
	<i>Color Gamut Coverage</i>	72% of NTSC
	<i>Color Depth</i>	6bit
	<i>Viewing Angle</i>	UWVA 85/85/85/85

STORAGE AND DRIVES

<i>eMMC 5.0</i>	<i>Height</i>	1.4mm
	<i>Width</i>	11.5x13mm
	<i>Interface</i>	MMC protocol
	<i>Transfer Rate</i>	HS400
	<i>Logical Blocks</i>	32GB (31,268,536,320 Bytes)/64GB (62,537,072,640 Bytes)
	<i>Operating Temperature</i>	0 to 70 degree

Technical Specifications

NETWORKING/COMMUNICATIONS

<p>Intel® 2 7265 802.11a/b/g/n/ac (2x2) WLAN and Bluetooth® 4.2 Combo¹ vPro⁴</p>	<p>Wireless LAN Standards</p>	<p>IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac</p>
	<p>Interoperability</p>	<p>Wi-Fi certified</p>
	<p>Frequency Band</p>	<p>802.11b/g/n •2.402 – 2.482 GHz</p> <p>802.11a/n •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>
	<p>Data Rates</p>	<p>•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, and 80MHz)</p>
	<p>Modulation</p>	<p>Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p>
	<p>Security³</p>	<p>•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. •WPA2 certification •IEEE 802.11i •Cisco Certified Extensions, all versions through CCX4 and CCX Lite •WAPI</p>
	<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>	<p>• 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</p>
	<p>Power Consumption</p>	<p>•Transmit mode 2.0 W</p>

Technical Specifications

	<ul style="list-style-type: none"> •Receive mode 1.6 W •Idle mode (PSP) 180 mW (WLAN Associated) •Idle mode 50 mW (WLAN unassociated) •Connected Standby 10mW •Radio disabled 8 mW 				
<i>Power Management</i>	ACPI and PCI Express compliant power management				
	802.11 compliant power saving mode				
<i>Receiver Sensitivity</i> 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				
<i>Antenna type</i>	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				
<i>Form Factor</i>	PCI-Express M.2 MiniCard				
<i>Dimensions</i>	Type 2230: 2.3 x 22.0 x 30.0 mm				
<i>Weight</i>	Type 2230: 2.8g				
<i>Operating Voltage</i>	3.3v +/- 9%				
<i>Temperature</i>	<table> <tr> <td>Operating</td> <td>14° to 158° F (-10° to 70° C)</td> </tr> <tr> <td>Non-operating</td> <td>-40° to 176° F (-40° to 80° C)</td> </tr> </table>	Operating	14° to 158° F (-10° to 70° C)	Non-operating	-40° to 176° F (-40° to 80° C)
Operating	14° to 158° F (-10° to 70° C)				
Non-operating	-40° to 176° F (-40° to 80° C)				
<i>Humidity</i>	<table> <tr> <td>Operating</td> <td>10% to 90% (non-condensing)</td> </tr> <tr> <td>Non-operating</td> <td>5% to 95% (non-condensing)</td> </tr> </table>	Operating	10% to 90% (non-condensing)	Non-operating	5% to 95% (non-condensing)
Operating	10% to 90% (non-condensing)				
Non-operating	5% to 95% (non-condensing)				
<i>Altitude</i>	<table> <tr> <td>Operating</td> <td>0 to 10,000 ft (3,048 m)</td> </tr> <tr> <td>Non-operating</td> <td>0 to 50,000 ft (15,240 m)</td> </tr> </table>	Operating	0 to 10,000 ft (3,048 m)	Non-operating	0 to 50,000 ft (15,240 m)
Operating	0 to 10,000 ft (3,048 m)				
Non-operating	0 to 50,000 ft (15,240 m)				
<i>LED Activity</i>	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).
4. For full Intel® vPro™ functionality, Windows, a vPro supported processor, vPro enabled chipset, vPro enabled WLAN card and discrete TPM 2.0 are required. See <http://intel.com/vpro>

HP 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**

Technical Specifications

<i>Number of Available Channels</i>	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
<i>Signaling Data Rate</i>	Legacy: 3 Mbps signaling data rate¹ 2.17 Mbps BLE: 1 Mbps signaling data rate¹ 0.2 Mbps 1. Actual throughput may vary.
	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)
<i>Transmit Power</i>	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
<i>Power Consumption</i>	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
<i>Electrical Interface</i>	USB 2.0 compliant
<i>Bluetooth Software Supported</i>	Linux kernel version
<i>Link Topology</i>	
<i>Power Management</i>	Intel CNVi/BRI HW power management
<i>Certifications</i>	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
<i>Power Management Certifications</i>	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
<i>Bluetooth Profiles Supported</i>	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

Technical Specifications

POWER

<i>45 W PD AC adapter</i>	<i>Dimensions (H x W x D)</i>	94 x 43 x 27.8mm	
	<i>Weight</i>	200g	
	<i>Input</i>	100 to 240 VAC	
		<i>Input Efficiency</i>	5V/81.5%; 9V/86.7%; 12V/87.4%; 15V/87.8% (measured at 115Vac/60Hz and 230Vac/50Hz)
		<i>Input frequency range</i>	47 ~ 63 Hz
		<i>Input AC current</i>	1.4 Amperes RMS at 90 VAC
	<i>Output</i>	<i>Output power</i>	45W
		<i>DC output</i>	5V; 9V; 12V; 15V
		<i>Hold-up time</i>	5ms at 115 Vac input
		<i>Output current limit</i>	The power supply shall limit the maximum steady state output current to an average current of 5 Amperes. (OCP Interval: 30mS Minimum)
	<i>Connector</i>	USB Type-C™	
<i>Environmental Design</i>	<i>Operating temperature</i>	32°F to 95°F(0°C to 35°C)	
	<i>Non-operating (storage) temperature</i>	-4°F to 185°F (-20°C to 85°C)	
	<i>Altitude</i>	1 to 16,400 ft (0 to 5000m)	
	<i>Humidity</i>	20% to 95%	
	<i>Storage Humidity</i>	10% to 95%	
<i>EMI and Safety Certifications</i>		*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.	

<i>HP 3-cell Long Life Li-Ion (60 WHr)</i>	<i>Dimensions</i>	4.34 x 267.7 x 116.11 mm (0.17 x 10.54 x 4.57 inch)
	<i>Weight</i>	0.245 kg (0.54 lb)
	<i>Cells/Type</i>	3cell Lithium-Ion Polymer cell / 368598
	<i>Voltage</i>	11.55V
	<i>Amp-hour capacity</i>	5.275Ah
	<i>Watt-hour capacity</i>	60.9Wh
	<i>Operating (Charging)</i>	32° to 113° F (0° to 45° C)
	<i>Operating (Discharging)</i>	14° to 122° F (-10° to 60° C)
	<i>Optional Travel Battery Available</i>	No

Technical Specifications

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

<i>Category</i>	<i>Description</i>	<i>Part Number</i>
<i>Cases</i>	HP Essential Top Load Case (up to 15.6")	H2W17AA
	HP Essential Backpack (up to 15.6")	H1D24AA
	HP Business Slim Top Load	2SC65AA
	HP 14.0 Always On Black Case	3YF54AA
<i>Docking</i>	HP USB-C Mini Dock	1PM64AA
	HP USB-C Universal Dock G2	5TW13AA
	HP USB-C Travel Dock G2	7PJ38AA
<i>Input Devices</i>	HP USB-C to RJ45 Adapter	V7W66AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to USB HUB	Z6A00AA
	HP USB to RJ45 Adapter	N7P47AA
	HP Stereo USB Headset	T1A67AA
	HP Stereo 3.5mm Headset	T1A66AA
	HP 3-Button Laser Mouse	H4B81AA
	HP USB Optical Travel mouse	G1K28AA
	HP 3-Button Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP Slim Bluetooth Mouse	F3J92AA
<i>Power</i>	65W USB-C Slim Power adapter	3PN48AA
	HP Notebook USB-C Power Bank	2NA10AA
	HP 45W USB-C G2 Power Adapter	1MZ01AA
<i>Storage</i>	HP External USB Optical Drive	F2B56AA
<i>Security</i>	HP Nano Keyed Cable Lock	1AJ39AA
<i>Displays</i>	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

<i>Date of change:</i>	<i>Version History:</i>		<i>Description of change:</i>
January 22, 2019	From v1 to v2	Updated	Docking
February 21, 2019	From v2 to v3	Added	Environmental tab
March 27, 2019	From v3 to v4	Added	Battery Life
April 23, 2019	From v4 to v5	Added	Networking Section Chromecast
August 26, 2019	From v5 to v6	Updated	Security Lock Slot, EPEAT and vPro disclaimers
January 6, 2020	From v6 to v7	Added	Processors
March 17, 2020	From v7 to v8	Updated	Accessories Section
May 11, 2020	From v8 to v9	Updated	Accessories Section

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