Overview

HP Fortis 14 inch G10 Chromebook Enterprise

Left

1. Microphones (2)
2. Webcam
3. HP Privacy Camera
4. Webcam LED
5. Touchpad

6. SIM Card Tray (Optional)
7. SuperSpeed USB Type-A 5Gbps signaling rate (USB 3.2 Gen 1)
8. HDMI v1.4
9. Nano Lock slot (Lock sold separately.)

Not all configuration components are available in all regions/countries.

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Overview

Right

1. Power button

2. SuperSpeed USB Type-A 5Gbps signaling rate (USB 3.2 Gen 1)

3. Stereo Headphone/Microphone Combo Jack

4. SuperSpeed USB Type-C® 5Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.2)

5. Micro SD Memory Card Reader

Not all configuration components are available in all regions/countries.
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Overview

AT A GLANCE

- Support up to Intel® Pentium® processor
- Stay connected with the optional embedded CAT9 WWAN 4G LTE
- Co-molded rubber contact points, strengthened corners around the display, and a reinforced 180˚ hinge reduce stress on the device caused by students gripping it by the lid [1]
- Intel® Wi-Fi 6 AX 2x2 WLAN with MU-MIMO and HP Extended Range Wireless Lan for stable connection in dense environment
- Choice of up to 8GB memory and 128GB eMMc storage
- 180 degree hinge and optional IPS anti-glare touchscreen for collaboration
- HP Privacy Camera
- Long battery life up to 12 hours[2] and spend less time charging with HP Fast Charge technology
- One HDMI port to connect to displays and projectors without dongle
- Give all your digital content new dimension and fully engage in advanced apps with the large 14-inch diagonal display.
- Front-facing 720p HD camera with 88-degree wide viewing angle comes with two microphones
- The full-skirted anchored keyboard resists keycap picking and spills up to 350 ml (11.8 oz)—reducing risk of damage.
- Wipe-ability for cleaning with common household cleaning wipes [3]
- Easily maintain and upgrade your Chromebook with simplified access to internal components through the bottom cover
- Undergoes MIL-STD 810H tests and additional drop tests with 76cm drop on concrete and 122cm drop on plywood[4]

1. Any accidental damage requires an optional HP Accidental Damage Protection Care Pack.
2. 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 and battery optimization activation. See http://www.chromium.org/chromium-os/testing/power-testing for test details. Battery configuration and charge capacity is optimized to improve battery health over time based upon charging patterns and temperature.
3. The chassis, ports, keyboards, and displays the HP Chromebook x360 11 G4 EE, HP Chromebook x360 11MK G3 EE, HP Chromebook 11 G9 EE, HP Chromebook 11MK G9 EE, HP Chromebook 14 G7, HP Fortis 14" G10 Chromebook, and the HP ProBook x360 11 G7 EE have been tested to 1,000 wipes with Windex® Original Glass & Surface Wipes and Clorox® Disinfecting Wipes with EPA Registration Number 5813-79. See user guide for cleaning instructions.
4. MIL-STD-810H testing is not intended to demonstrate fitness of U.S. Department of Defense (DoD) contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

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

Not all configuration components are available in all regions/countries.

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PRODUCT NAME

HP Fortis 14 inch G10 Chromebook Enterprise

OPERATING SYSTEM

Preinstalled   Chrome OS with Chrome Enterprise Upgrade

NOTE: Single Chrome Enterprise Upgrade included. Requires one-time setup, subscription, Google Admin Console, and your organization's domain. Please see https://support.google.com/a/answer/60216

PROCESSORS

Intel® Pentium® Silver N6000 with Intel® UHD Graphics (up to 3.30 GHz, 4 MB cache, 4 cores, 4 threads) [1,2]
Intel® Celeron® N5100 with Intel® UHD Graphics (up to 2.80 GHz, 4 MB cache, 4 cores, 4 threads) [1,2]
Intel® Celeron® N4500 with Intel® UHD Graphics (up to 2.80 GHz, 4 MB cache, 2 cores, 2 threads) [1,2]

Processor Family
Intel® Pentium® processor (N6000)
Intel® Celeron® processor (N5100, N4500)

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 [3]

Supports
Support HD decode, DX12, HDMI

3. HD content required to view HD images.

Not all configuration components are available in all regions/countries.
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Technical Specifications

DISPLAY

Non-Touch
35.6 cm (14") diagonal, HD (1366 x 768), SVA, anti-glare, 250 nits, 45% NTSC [3,4,5]
35.6 cm (14") diagonal, FHD (1920 x 1080), touch, IPS, anti-glare, 250 nits, 45% NTSC [3,4,5]

Touch
35.6 cm (14") diagonal, HD (1366 x 768), touch, SVA, anti-glare, 250 nits, 45% NTSC [3,4,5,6]
35.6 cm (14") diagonal, FHD (1920 x 1080), touch, IPS, anti-glare, 250 nits, 45% NTSC [3,4,5,6]

Display Size (Diagonal)
14"
35.56 cm (14")

3. FHD/HD content required to view FHD/HD images.
4. Sold separately or as an optional feature.
5. Resolutions are dependent upon monitor capability, and resolution and color depth settings.
6. Actual brightness will be lower with touchscreen or HP Sure View

DOCKING (Sold Separately)

Docking station model #1	HP Thunderbolt Dock G2
Docking station model #2	HP USB-C Dock G5
Docking station model #3	HP USB-C/A Universal Dock G2

STORAGE AND DRIVES

Primary Storage
128 GB eMMC 5.0 [7]
64 GB eMMC 5.0 [7]
32 GB eMMC 5.0 [7]

7. For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 18.3 GB is not user available.

Not all configuration components are available in all regions/countries.
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MEMORY

Maximum Memory
8 GB LPDDR4X -4266 SDRAM

Memory
8 GB LPDDR4X -4266 SDRAM
4 GB LPDDR4X -4266 SDRAM

Memory Slots
Memory soldered on board

NETWORKING/COMMUNICATIONS

WLAN
Intel® Wi-Fi CERTIFIED® 6 AX201 (2x2) and Bluetooth® 5 combo, non-vPro® [8]
MU-MIMO supported
HP Extended Range WLAN supported

WWAN
Intel® XMM™ 7360 LTE-Advanced Cat 9[9]

Chromecast
Chromecast Support [10]

8. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with prior 802.11 specs.
9. LTE module is optional, must be configured at the factory, requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. 4G LTE not available on all products, in all regions.
10. Chromecast must be purchased separately.

Technical Specifications

AUDIO/MULTIMEDIA

Audio
HD audio
Integrated dual array microphone
2 Integrated stereo speakers

Speaker Power
2W Per speaker

Camera
720p HD camera [3]
HP Privacy Camera

3. HD content required to view HD images.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard
Full-size island-style Chrome keyboard, spill resistant with HP Full-Skirted Anchored Key

Pointing Device
Clickpad with multi-touch gesture support
Taps enabled as default

Function Keys

Icon	Function
←	Back
→	Forward
↻	Reload
⛶	Full screen
▢‖	Display apps
☼	Brightness down
☼	Brightness up
🔇	Mute
🔉	Volume down
🔊	Volume up

Not all configuration components are available in all regions/countries.
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SOFTWARE AND SECURITY

Preinstalled Software
HP Classroom Manager (Sold Separately) [11]

Security Management
Titan C security chip
Nano lock slot (Lock Sold Separately) [12]
Zero-Touch Enrollment capable

IPv6 Support
Yes

Is the BIOS on this Chromebook ISO19678 compliant? Yes

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

POWER

Power Supply
HP Smart 45 W USB Type-C® adapter

Battery
HP Long Life 2-cell, 47 Wh Li-ion polymer [13,14]
HP Fast Charge Technology (90% in 90 minutes) [15]

Power Cord
3-wire plug - 1m

Battery Life
Up to 12 hours[16]

Battery Weight
0.42 lb
190 g

13. Battery is internal and not replaceable by customer. Serviceable by warranty.
14. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.
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 will return to normal. Charging time may vary +/-10% due to System tolerance.
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 and battery optimization activation. See http://www.chromium.org/chromium-os/testing/power-testing for test details. Battery configuration and charge capacity is optimized to improve battery health over time based upon charging patterns and temperature.

Not all configuration components are available in all regions/countries.
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Technical Specifications

WEIGHTS & DIMENSIONS

Product Weight
Starting at 3.44 lb [17]
Starting at 1.56 kg [17]

Product Dimensions (W x D x H)
13.06 x 9.07 x 0.82 in
33.19 x 23.05 x 2.09 cm

17. Weight will vary by configuration.

PORTS/SLOTS

1 SuperSpeed USB Type-C® 5Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.2)
2 SuperSpeed USB Type-A 5Gbps signaling rate (USB 3.2 Gen 1)
1 Headphone/microphone combo jack
1 HDMI v1.4

Expansion Slots
1 Micro SD multi-format digital media reader
Supports SD, SDHC, SDXC

Not all configuration components are available in all regions/countries.
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Technical Specifications

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. [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 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.

Not all configuration components are available in all regions/countries.
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Technical Specifications

SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	45W adapter with USB type C connector
Nominal Operating Voltage	15V
Average Operating Power	<4.3w with PLT test
Integrated graphics	Intel UHD Graphics 16EUs/24EUs/32EUs
Discrete Graphics	N/A
Max Operating Power	< 45W
Temperature	
Operating	41° to 95° F (5° to 35° C)
Non-operating	-4° to 140° F (-20° to 60° 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 grams
Non-operating	3.5 grams
Altitude (unpressurized)	
Operating	-50 to 10,000 ft (-15 to 3,048 m)
Non-operating	-50 to 40,000 ft (-15 to 12,192 m)
Planned Industry Standard Certifications	
Regulatory Model Number	TPN-Q271
UL	Yes
CSA	No
FCC Compliance	Yes
ENERGY STAR®	Yes, ENERGY STAR® 8.0[19]
EPEAT®	Yes, EPEAT® Gold in the United States[20]
ICES	Yes
Australia /	Yes
NZ RCM Compliance	Yes
CCC	No
Japan VCCI Compliance	Yes
KC	Yes
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	No
CIT	Yes
EAC	Yes
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes
UKRSERTCOMPUTER	No

19. Configurations of the HP Fortis 14 G10 Chromebook Enterprise that are ENERGY STAR® qualified are identified as HP Fortis 14 G10 Chromebook Enterprise ENERGY STAR on HP websites and on http://www.energystar.gov.
20. 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.

Not all configuration components are available in all regions/countries.
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QuickSpecs

Technical Specifications

DISPLAYS

1. Actual brightness will be lower with touchscreen or HP Sure View.

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

Panel LCD 14-in FHD (1920 x 1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP NWBZ slim

Outline Dimensions (W x H x D)	316.17 x 197.98 max.
Active Area	309.37 x 174.02
Weight	<285g max.
Diagonal Size	14.0"
Thickness	3.0mm max.
Interface	eDP 1.2
Surface Treatment	Anti-glare (AG)
Touch Enabled	No
Contrast Ratio	600:1 (typ)
Refresh Rate	60Hz
Brightness	250nit
Pixel Resolution-Format	1920 x 1080 (FHD)
Backlight	RGB
Pixel Resolution - Configuration	LED
Color Gamut Coverage	45%
Color Depth	6bit
Viewing Angle	UWVA 85/85/85/85
Low Blue Light	No
Power Consumption (W, EBL@ 150nits max/ 200nits max)	<2.52W max./ No define

Panel LCD 14-in FHD (1920 x 1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP TOP NWBZ slim

Outline Dimensions (W x H x D)	316.17 x 198.07 max.
Active Area	309.37 x 174.02
Weight	<290g max.
Diagonal Size	14.0"
Thickness	3.0mm (Panel Side) / 3.2mm (PCBA Side) max.
Interface	eDP 1.2
Surface Treatment	Anti-glare (AG)
Touch Enabled	Yes[1]
Contrast Ratio	600:1 (typ) - AG
Refresh Rate	60Hz
Brightness [1]	250 nits
Pixel Resolution-Format	1920 x 1080 (FHD)
Backlight	RGB
Pixel Resolution - Configuration	LED
Color Gamut Coverage	45%
Color Depth	6bit
Viewing Angle	UWVA 85/85/85/85
Low Blue Light	No

Not all configuration components are available in all regions/countries.

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Technical Specifications

	Power Consumption (W, EBL@ 150nits max/ 200nits max)	<2.67W max./ No define

Panel LCD 14-in HD (1366 x 768) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR TOP NWBZ flat		
	Outline Dimensions (W x H x D)	315.9 x 197.54 max
	Active Area	309.4 x 173.95
	Weight	290g Max
	Diagonal Size	14."
	Thickness	3.0mm (Panel Side) / 3.2mm (PCBA Side) max.
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	Yes[1]
	Contrast Ratio	400:1 (Typ) – AG
	Refresh Rate	60Hz
	Brightness[1]	250 nits
	Pixel Resolution-Format	1366 x 768 (HD)
	Backlight	RGB
	Pixel Resolution - Configuration	LED
	Color Gamut Coverage	45%
	Color Depth	6 bits
	Viewing Angle	SVA 45/45/15/30
	Low Blue Light	No
	Power Consumption (W, EBL@ 150nits max/ 200nits max)	<2.44W max./ <3.02W max

Panel LCD 14-in HD (1366 x 768) Anti-Glare WLED SVA 45percent cg 250nits eDP NWBZ ultraslim		
	Outline Dimensions (W x H x D)	315.9+/-0.3 x 197.54 +/- 0.5
	Active Area	309.4 x 173.95
	Weight	285g Max
	Diagonal Size	14."
	Thickness	3.0mm max
	Interface	eDP 1.2
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	No
	Contrast Ratio	300:1 (typ) – AG
	Refresh Rate	60Hz
	Brightness	250 nits
	Pixel Resolution-Format	1366 x 768 (HD)
	Backlight	RGB
	Pixel Resolution - Configuration	LED
	Color Gamut Coverage	45%
	Color Depth	6 bits
	Viewing Angle	SVA 45/45/15/30
	Low Blue Light	No

Not all configuration components are available in all regions/countries.
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Technical Specifications

Power Consumption (W, EBL@ 150nits max/ 200nits max)	<2.52W max./ <2.86W max.

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Technical Specifications

STORAGE AND DRIVES

For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. Up to 18.3 GB is not user available

eMMC 5.0		
	Drive Weight	0.2g
	Rotation speed	32GB/64GB/128GB
	Cache Buffer	1.4mm
	Height	11.5x13mm
	Width	MMC protocol
	Interface	MMC protocol
	Transfer Rate	Up to 250 MB/s
	Seek Time	Up to 70 MB/s
	Logical Blocks	32GB (31,268,536,320 Bytes)/64GB (62,537,072,640 Bytes)/128GB (125,074,145,280)
	Operating Temperature	0 to 70
	Security Features	HS400
	Features	N/A

Not all configuration components are available in all regions/countries.
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Technical Specifications

NETWORKING

Intel® Wi-Fi 6 AX201 + Bluetooth® 5 (802.11ax 2x2, non-vPro®, supporting gigabit file transfer speeds) [1,5] non-vPro®

Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax 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/ax
	  2.402 – 2.482 GHz
	•802.11a/n/ac/ax
	  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: max 300Mbps • 802.11ac : 1733Mbps • 802.11ax : max 2.4Gbps
Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
Security[3]	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 WPA3 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 Power[2]	• 802.11b : +17dBm minimum • 802.11g : +16dBm minimum • 802.11a : +17dBm minimum • 802.11n HT20(2.4GHz) : +14dBm minimum • 802.11n HT40(2.4GHz) : +13dBm minimum • 802.11n HT20(5GHz) : +14dBm minimum

Not all configuration components are available in all regions/countries.
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	• 802.11n HT40(5GHz) : +13dBm minimum
	• 802.11ac VHT80(5GHz) : +10dBm minimum
	• 802.11ac VHT160(5GHz) : +10dBm minimum
	• 802.11ax HE40(2.4GHz) : +12dBm minimum
	• 802.11ax HE80(5GHz) : +10dBm minimum
	• 802.11ax HE160(5GHz) : +10dBm minimum
Power Consumption	•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 10mW •Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	• 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(VHT80) : -84dBm maximum • 802.11ac, MCS9(VHT80) : -59dBm maximum • 802.11ac, MCS9(VHT160) : -58.5dBm maximum • 802.11ax, MCS11(HE40): -57dBm maximum • 802.11ax, MCS11(HE80): -54dBm maximum • 802.11ax, MCS11(HE160): -53.5dBm 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 : 2.8g 2. Type 126: 1.3g
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)
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 4.0/4.1/4.2/5.0/5.1/5.2 Compliant Wireless Technology

Bluetooth Specification	4.0/4.1/4.2/5.0/5.1/5.2 Compliant
Frequency Band	2402 to 2480 MHz

Not all configuration components are available in all regions/countries.

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Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps BLE: 1 Mbps data rate; throughput up to 0.2 Mbps 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)"
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 dBm for BR and EDR.

1. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs. Only available in countries where 802.11ax is supported.

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).

5. Wi-Fi 5 or 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

Not all configuration components are available in all regions/countries.
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Technical Specifications

Intel® XMM™ 7360 LTE-Advanced CAT9[1]	Technology/Operating bands	FDD LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3), 1700/2100 (Band 4), 850 (Band 5), 2600 (Band 7), 900 (Band 8), 1400 (Band 11), 700 (Band 12 lower), 700 (Band 13 upper), 700 (Band 17 lower), 850 (Band 18 lower), 850 (Band 19 upper), 800 (Band 20), 1400 (Band 21), 850 (Band 26), 700 (Band 28), 700 (Band 29 RX only), 2300 (Band 30), 1700/2100 (Band 66). TDD LTE: 2600 (Band 38), 1900 (Band 39), 2400 (Band 40), 2500 (Band 41). HSPA+: 2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 900 (Band 8) MHz
	Wireless protocol standards	3GPP Release 11 LTE Specification CAT.9, DL 60MHz BW throughput up to 450Mbps; UL 20MHz throughput up to 50Mbps WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
	Maximum data rates	LTE: 450 Mbps (Download), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
	Maximum output power	LTE: 23 dBm HSPA+: 23.5 dBm
	Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
	Form Factor	M.2, 3042-S3 Key B
	Weight	5.8 g
	Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

1. Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

Not all configuration components are available in all regions/countries.
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Technical Specifications

POWER

45W USBC PD Adapter		
	Dimensions	3.74 x 1.69 x 1.08in (9.5 x 4.3 x 2.75 cm)
	Weight	200g +/-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 : 87.41% 15V : 87.8%
	Input frequency range	47 ~ 63Hz
	Input AC current	Max. 1.4 A at 90 Vac
	Output	
	Output power	45W
	DC output	5V/15W 9V/27W 12V/36W 15V/45W
	Hold-up time	5ms at 115 Vac input
	Output current limit	<5.0A
	Connector	USB Type-C®
	Operating temperature	32°F to 95°F (0°to 35°C)
	Non-operating (storage) temperature	-4°F to 185°F (-20° 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	Eg: * CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards -IEC60950, EN60950, UL60950, UL62368, 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.

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Technical Specifications

HP 2-cell Long Life Li-Ion (47 Wh)

Dimensions (H x W x L)	5.2 x 240.8 x 76.4 mm (0.204 x 9.48 x 3 inch)
Weight	0.192 kg (0.42 lb)
Cells/Type	2cell Lithium-Ion Polymer cell / 4473A9
Energy	
Voltage	8.8V
Amp-hour capacity	6.150 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)
Fuel Gauge LED	NA
Warranty	1-year
Optional Travel Battery Available	No

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Technical Specifications

AUDIO

HD Stereo Codec	Realtek ALC5682 -VD or ALC5682I-VS
Audio I/O Ports	Headset connector supports both CTIA and OMTP style headset
Internal Speaker Amplifier	Maxim MAX98360D x 2, up to 3W class-D mono amplifier
Multi-streaming Capable	Follow ChromeOS behavior
Sampling	Follow ChromeOS behavior
Wavetable Syntheses	N/A
Analog Audio	Stereo headphone out by 3.5mm audio jack only
# of Channels on Line-Out	Line-out was not supported
Internal Speaker	Yes

ENVIRONMENTAL DATA

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® • US Federal Energy Management Program (FEMP) • EPEATª Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO Certified • China Energy Conservation Program (CECP) • China State Environmental Protection Administration (SEPA) • Taiwan Green Mark • Korea Eco-label • Japan PC Green label*
Sustainable Impact Specifications	• Ocean-bound plastic in Speaker • 5% post-consumer recycled plastic • Low halogen • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable • Bulk packaging available
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
Normal Operation (Sort idle)	4.512 W	4.500 W	4.452 W
Normal Operation (Long idle)	1.440 W	1.512 W	1.392 W
Sleep	0.324 W	0.360 W	0.336 W
Off	0.204 W	0.240 W	0.204 W

Technical Specifications

	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.		
Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	15.4 BTU/hr	15.4 BTU/hr	15.2 BTU/hr
Normal Operation (Long idle)	4.9 BTU/hr	5.2 BTU/hr	4.8 BTU/hr
Sleep	1.1 BTU/hr	1.2 BTU/hr	1.1 BTU/hr
Off	0.7 BTU/hr	0.8 BTU/hr	0.7 BTU/hr
	*NOTE: 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	2.4		23.9
Fixed Disk – Random writes	2.4		23.9
Optical Drive – Sequential reads	-		-
Longevity and Upgrading	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the		
	spare parts are available throughout the warranty period and or for up to "5" years after the end of production.		

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 is 95.7% recycle-able when properly disposed of at end of life.			

Packaging Materials	**External:**	PAPER/Corrugated	230 g
		PAPER/Paperboard	51 g
		PAPER/Molded Pulp	110 g
	Internal:	OTHER/Other	13 g
	The plastic packaging material contains at least 100% recycled content.		

Technical Specifications

	The corrugated paper packaging materials contains at least 35.6% recycled content.
RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam. We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products. We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve. To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.
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/supplychain/gen_specifications.html) : - Asbestos - Certain Azo Colorants - Certain Brominated Flame Retardants – may not be used as flame retardants in plastics - Cadmium - Chlorinated Hydrocarbons - Chlorinated Paraffins - Bis(2-Ethylhexyl) phthalate (DEHP) - Benzyl butyl phthalate (BBP) - Dibutyl phthalate (DBP) - Diisobutyl phthalate (DIBP) - 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)

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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	HP 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.

HP, Inc. 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://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842
	     and
	     http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

footnotes	• Percentage of ocean-bound plastic contained in each component varies by product • Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard. • External power supplies, WWAN modules, power cords, cables and peripherals excluded. • 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers. • Fiber cushions made from 100% recycled wood fiber and organic materials.

COUNTRY OF ORIGIN

China

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

DOCKING (Sold Separately)

Docking station model #1	HP Thunderbolt Dock G2
Total number of supported displays (incl. the notebook display)	4
Max. resolutions supported	Dual 4K @30Hz or dual 4K UHD @ 60Hz is supported Dual 8K@ 60Hz for TB hosts or USB-C hosts DP 1.4 with DSC in high res mode
Dock Connectors	2xDP, 1xVGA, 1xTB, 1xUSB-C alt-mode
Technical limitations	Thunderbolt Hosts: Maximum of (4) displays with maximum resolution of 5K@ 30Hz running Thunderbolt host. Maximum resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in high resolution mode @30Hz Non-Thunderbolt hosts: The highest resolution for dual displays running a non-Thunderbolt host in multi-function mode is: (1) 5K dual cable (using both DP ports) +(1) 4K on USB-C DP port Non-Thunderbolt hosts support (3) displays with a maximum resolution of (2) 5K single cable + (1) 4K UHD @ 60 Hz in high resolution mode. In multi-function mode the maximum resolution for (3) displays is (2) 5K single cable @ 30Hz + (1) 4K UHD @ 30Hz.
Docking station model #2	HP USB-C Dock G5
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	Dual 5K@ 30Hz + (1) 4K UHD (multi-function mode)
Dock Connectors	1xHDMI, 2xDP
Technical limitations	Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode. Three maximum displays supported are two 5K@ 30 Hz on DP ports plus one 4K UHD@ 30 Hz on HDMI in Multi-function mode The highest resolution for a non-Thunderbolt host in Multi-function mode is a single 5K dual cable (using both DP ports) + (1) 4K on HDMI port.
Docking station model #3	HP USB-C/A Universal Dock G2
Total number of supported displays (incl. the notebook display)	3
Max. resolutions supported	Triple 4K UHD@ 60Hz 3840x2160
Dock Connectors	1xHDMI, 2xDP
Technical limitations	The best resolution for dual or triple displays is 4K UHD@ 60Hz. For use with the USB-A adapter that comes in the box the maximum number of displays supported is (2) 4k x 60 Hz on the Type-A Gen 1 connection from the host

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

Category	Description	Part Number
Audio/Video	HP Wired USB-A Stereo Headset	428K6AA
	HP Wired 3.5mm Stereo Headset	428K7AA
	HP 955 4K Webcam	4C9Q3AA
Cases	HP Executive 14.1 Tote	6KD10AA
	HP Executive 15.6 Backpack	6KD07AA
	HP Executive 15.6 Top Load	6KD06AA
	HP Executive 17.3 Backpack	6KD05AA
	HP Executive 17.3 Top Load	6KD08AA
	HP Executive Leather 15.6 Top Load	6KD09AA
	HP Executive Slim 14.1 Top Load	6KD04AA
	HP Prelude G2 15.6 Backpack	1E7D6AA
	HP Prelude G2 15.6 Top Load	1E7D7AA
	HP Prelude Pro Recycled 15.6 Backpack	1X644AA
	HP Prelude Pro Recycled 15.6 Top Load	1X645AA
	HP Renew 14 Laptop Sleeve	2E6U9AA,2E6V0AA
	HP Renew Business 14.1 Laptop Bag	3E5F9AA
	HP Renew Business 14.1 Laptop Sleeve	3E2U7AA
	HP Renew Business 15.6 Laptop Bag	3E5F8AA
	HP Renew Business 17.3 Laptop Backpack	3E2U5AA
	HP Renew Business 17.3 Laptop Bag	3E2U6AA
Docking	HP Thunderbolt 120W G4 Dock	4J0A2AA
	HP USB-C 120W G5 Dock	26D32AA
	HP USB-C/A 120W G2 Universal Dock	5TW13AA
	HP Thunderbolt 120W G2 Dock	2UK37AA
Hub	HP USB-C Mini Dock	1PM64AA
	HP USB-C Travel Dock G2	7PJ38AA
Adapter	HP HDMI to DVI Adapter	F5A28AA
	HP HDMI to VGA Adapter	H4F02AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB to Gigabit RJ45 Adapter	N7P47AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
	HP USB-C to RJ45 Adapter	V7W66AA
Keyboard/Combo	HP 325 Chrome Wireless Keyboard	45U14AA
Mouse	HP USB Premium Wireless Mouse	1JR31AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA

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

	HP 125 USB-A Wired Mouse	265A9AA
	HP 128 USB Laser Wired Mouse	265D9AA
	HP 320M USB-A Wired Mouse	9VA80AA
	HP Creator USB-A+Bluetooth 935 Wireless Mouse Black	1D0K8AA
	HP USB-A+Bluetooth Multi-Device 635 Wireless Mouse Black	1D0K2AA
	HP USB-A+Bluetooth Travel Bluetooth Mouse	6SP30AA
Power	HP 45W USB-C G2 Zeus AC Power Adapter	1HE07AA
	HP 45W USB-C LC Dali AC Power Adapter	1MZ01AA
Commodity	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA

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Summary of Changes

Date of change:	Version History:	Updated	Description of change:
April 11, 2022	V1 to V2	Added	Reference for USB ports
September 15, 2022	V2 to V3	Updated	Product weight and Networking section
	V3 to V4		

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