Overview

HP Elite c640 14 inch G3 Chromebook Enterprise



Left

- 1. Microphones enhanced by Al Noise Reduction (2)
- 2. HP Privacy Camera Shutter
- 3. 5MP camera
- 4. Webcam LED
- 5. Glass Clickpad
- 1. SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

- 6. Smart Card Reader (Smart card is not included) (Optional))
- 7. MicroSD memory card reader (Memory card is not included.)
- **8.** Thunderbolt[™] 4 with USB4 Type-C[®] 40Gbps signaling rate (USB Power Delivery)¹
- **9.** Super Speed USB Type-A 5Gbps signaling rate (Support charging) (USB 3.2 Gen 1)
- 10. HDMI port (Cable not included.)

Overview



- 1. Power Button
- 2. Headphone/Microphone Combo Jack
- **3.** Super Speed USB Type-A 5Gbps signaling rate (Charging) (USB 3.2 Gen 1)
- **4.** Thunderbolt[™] 4 with USB4 Type-C[®] 40Gbps signaling rate (USB Power Delivery, DisplayPort[™] 1.4)¹
- 1. SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

Right

- 5. Nano Lock Slot (Lock sold separately)
- 6. SIM card slot (WWAN sku only)
- 7. Fingerprint Sensor (Optional)

Overview

AT A GLANCE

- Bring exceptional clarity and contrast to your images, even in low light environments with the 5MP camera
- Help speed up demanding business applications with the latest Intel® processor.1,2 Coupled with up to 16GB memory and 512GB SSD storage.
- Keep up with the demands of your business with enhanced security supported total memory encryption, long battery life with optional Intel® vPro® technology.
- Seamlessly connect and charge your Chromebook and USB-C® accessories with two Thunderbolt™ USB-C® ports.
- With Al-based noise reduction3 and HP speakers, custom-tuned in collaboration with experts at B&O, get an enhanced audio and video conferencing experience.
- Attain fast and secure authentication in Chrome or virtualized computing environment with an optional smart card reader and fingerprint sensor.
- Get peace of mind with a built-in HP Privacy Camera that blocks the lens of your camera.
- Instantly block prying eyes by making your screen appear unreadable from the side with HP Sure View Reflect.
- 4G LTE delivers fast data uploads and transfers, while Wi-Fi 6E and Bluetooth® connectivity provide speed and stability on crowded networks.

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



Technical Specifications

PRODUCT NAME

HP Elite c640 14 inch G3 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

Processor	Processor 1,2,3,4 Cores Number of r of P-cores E-cores Thread			Threads	L3 Cache	Max Turbo Frequency		Base Frequency		Intel SIPP/vPro® Enterprise
1,2,3,4				P- cores	E- cores	P- cores	E- cores			
Intel® Core™ i7-1265U	10	2	8	12	12MB	4.8 GHz	3.6 GHz	1.8 GHz	1.3 GHz	Х
Intel® Core™ i7-1255U	10	2	8	12	12MB	4.7 GHz	3.5 GHz	1.7 GHz	1.2 GHz	
Intel® Core™ i5-1245U	10	2	8	12	12MB	4.4 GHz	3.3 GHz	1.2 GHz	1.2 GHz	Х
Intel® Core™ i5-1235U	10	2	8	12	12MB	4.4 GHz	3.3 GHz	1.3 GHz	0.9 GHz	
Intel® Core™ i3-1215U	6	2	4	8	10MB	4.4 GHz	3.3 GHz	1.2 GHz	0.9 GHz	
Intel® Pentium® Gold 8505	5	1	4	6	8MB	4.4 GHz	3.3 GHz	1.2 GHz	0.9 GHz	
Intel® Celeron® 7305	5	1	4	6	8MB	N/A	N/A	1.1 GHz	0.9 GHz	

^{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.

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



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

4. Intel vPro® requires Chrome OS R99 or after, a vPro supported processor, vPro enabled wired LAN and/or WLAN card, Wi-Fi 6E and H1 Security Chip are required. Some functionality requires additional 3rd party software in order to run. Features of vPro® Essentials and Enterprise vary. See http://intel.com/vpro

CHIPSET

Chipset is integrated with processor

GRAPHICS

Integrated

Intel[®] Iris[®] X^e Graphics ^{5,6} Intel[®] UHD Graphics ⁵

Supports

Support HD Decode, DX12, and HDMI 2.0

5. HD content required to view HD images.

6. Intel® Iris® Xe Graphics capabilities require system to be configured with Intel® Core™ i5 or i7 processors and dual channel memory. Intel® Iris® Xe Graphics with Intel® Core™ i5 or 7 processors and single channel memory will only function as UHD graphics.

DISPLAY

Non-Touch

35.6 cm (14") diagonal FHD (1920 x 1080) HP Sure View Reflect, UWVA anti-glare, micro-edge, eDP1.3+PSR, Low Blue Light, 1000 nits. 72% NTSC with HP Eve Ease 5,7,8,9,10

35.6 cm (14") diagonal FHD IPS anti-glare micro-edge WLED-backlit, eDP1.2, narrow bezel bent, 250 nits, 45% NTSC (1920 x 1080) ^{5,7,8}

35.6 cm (14") diagonal FHD IPS anti-glare micro-edge WLED-backlit, Low Power, eDP1.3+PSR, narrow bezel bent, 400 nits, 72% NTSC (1920 x 1080) 5,7,8

35.6 cm (14") diagonal HD SVA anti-glare micro-edge WLED-backlit, eDP1.2, narrow bezel bent, 250 nits, 45% NTSC $(1366 \times 768)^{5.7.8}$

Touch

35.6 cm (14") diagonal FHD (1920 x 1080), IPS, anti-glare, touch on panel micro-edge WLED-backlit touch screen, eDP1.2 w/o PSR bent, 250 nits, 45% NTSC ^{5,7,8,9,10}

Displays Support

Support 3 external displays up to 4K resolution.

Size (Diagonal)

14"

35.6 cm

5. HD content required to view HD images.



HP Elite c640 14 inch G3 Chromebook Enterprise

Technical Specifications

- 7. Sold separately or as an optional feature.
- 8. Resolutions are dependent upon monitor capability, and resolution and color depth settings.
- 9. HP Sure View Reflect integrated privacy screen is an optional feature that must be configured at purchase and is designed to function in landscape orientation.
- 10. Actual brightness will be lower with touchscreen or HP Sure View.

DOCKING (Sold Separately)

Docking station model #1 HP USB-C Dock G5

Docking station model #2 HP USB-C/A Universal Dock G2

For additional aftermarket options and docking specs please see page 30.

STORAGE AND DRIVES

Primary Storage

64GB eMMC

Primary M.2 Storage

512 GB 2280 PCIe[®] NVMe[™] M.2 SSD ¹¹ 256 GB 2230 PCIe[®] NVMe[™] M.2 SSD ¹¹ 128 GB 2230 PCIe[®] NVMe[™] M.2 SSD ¹¹

11. For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. For 64GB drive, 5.76GB is not user accessible. For 128GB drive, 8.76GB is not user accessible. For 256GB drive, 17.53GB is not user accessible. For 512GB drive, 48.64GB is not user accessible.

MEMORY

Maximum Memory

16 GB DDR4-4266 SDRAM

Memory

16 GB LPDDR4X-4266 SDRAM 8 GB LPDDR4X-4266 SDRAM

Memory Slots

On-board system memory
Supports Dual Channel Memory



Technical Specifications

NETWORKING/COMMUNICATIONS

WLAN

Intel® AX211 Wi-Fi 6E Bluetooth® 5.2 WLAN ¹² Intel® AX211 Wi-Fi 6E Bluetooth® 5.2 vPro WLAN ¹² MU-MIMO supported HP Extended Range WLAN supported

WWAN

Intel® XMM 7360 LTE-Advanced (Cat 9)13

Miracast

Chromecast Support 14

12. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.

13. 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. 14. Chromecast must be purchased separately.

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen
Dual stereo speakers
Dual microphone enhanced by AI noise reduction.

Speaker Power

2Watt / 40hms

Camera

5 MP camera HP Privacy Camera



Technical Specifications

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Full-size island-style 3 coat paint backlit keyboard Full-size island-style 3 coat paint standard keyboard

Pointing Device

Clickpad with multi-touch gesture support

Function Keys

esc	ESC key
\leftarrow	Go to the previous page
G	Refresh your current page
[]	Make your page take up the full screen
	Show all open windows
0	Take a screenshot

	rake a sercensilot
٥	Decrease screen brightness

\rightarrow	Increase screen brightness

:Keyboard backlight on/off

: [for SureView sku]: Keyboard backlight on/off

►u [for non-SureView sku]: Play/pause

Global microphone mute/unmute

₩ Turn off the sound

◆ Lower the volume

Raise the volume

(l) Power button

Technical Specifications

SOFTWARE AND SECURITY

Preinstalled Software Software

HP QuickDrop 15

Manageability Features

Zero Touch Enrollment ¹⁶ Chrome Enterprise Upgrade (Included)

NOTE: To enhance brightness, level go to the Intel® Graphics Command Center app, click on System and turn off the Display Power Savings function.

Security Management

Titan C security chip Nano lock slot ¹⁷ Fingerprint Sensor (Optional)

Smartcard Reader

Model number: Alcor AU9560 FIPS 201 Compliant: No

IPv6 Support

No

FirstNet Certified

No

Is the BIOS on this notebook ISO/IEC 19678:2015 (formerly NIST 800-147) compliant?: No

15. HP Quick Drop requires Internet access and Chrome OS device preinstalled with HP QuickDrop app and either an Android device (phone or tablet) running Android 7 or higher with the Android HP QuickDrop app, and /or an iOS device (phone or tablet) running iOS 12 or higher with the iOS HP QuickDrop app.

16. ZTE requires separately purchased HP Get More Service. 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.

17. Sold separately.



POWER

Power Supply

AC Adapter 65 Watt nPFC Standard USB type C Straight ¹⁸ AC Adapter 45 Watt nPFC Standard USB type C Straight ¹⁸

Battery

HP Long Life 3-cell, 58 Wh Polymer ^{19,20} Support HP Fast Charge (90% in 90 min) ²¹

Power Cord

3-wire plug - 1m

Battery Life

Up to 10 hours 45 minutes (Intel i7-1265U/16GB/128GB SSD/FHD touch screen) 22

Battery Weight

227.75g

- 18. Availability may vary by country.
- 19. Battery is internal and not replaceable by customer. Serviceable by warranty.
- 20. 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.
- 21. 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.
- 22. 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.

WEIGHTS & DIMENSIONS

Product Weight 23

Starting at 3.4 lb Starting at 1.54 kg

Product Dimensions (W x D x H)

12.71 x 8.7 x 0.77 in 32.3 x 22.1 x 1.98 cm

23. Weight will vary by configuration. Does not include power adapter.



PORTS/SLOTS

- 2 Thunderbolt[™] 4 with USB4 Type-C[®] 40Gbps signaling rate (USB Power Delivery, DisplayPort[™] 1.4) ²⁴
- 2 Super Speed USB Type-A 5Gbps signaling rate (Charging) (USB 3.2 Gen 1)
- 1 HDMI-in ²⁵

Expansion Slots

- 1 MicroSD memory card reader 26
- 24. SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.
- 25. HDMI cable sold separately.
- 26. MicroSD card sold separately.



HP Elite c640 14 inch G3 Chromebook Enterprise

Technical Specifications

SERVICE AND SUPPORT

HP Services offers 1-year or 3-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. ²⁷

27. 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.



SYSTEM UNIT

Stand-Alone Power Requirements (AC Power) USB-C 45W and 65W adapter

Nominal Operating Voltage 5V/9V/12V/15V

Average Operating Power < 45W
Integrated graphics Yes
Discrete Graphics N/A
Max Operating Power UMA < 45W

Temperature

Operating 32° to 95° F (0° to 35° C) Non-operating 41° to 95° F (5° to 35° C)

Relative Humidity

Operating 10% to 90% Non-operating 5% to 95%

Shock

Operating 40 G, 2 ms, half-sine Non-operating 240 G, 2 ms, half-sine

Random Vibration

Operating 1.043 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-Q276
UL Yes
CSA No
FCC Compliance Yes
ENERGY STAR® Yes 28

EPEAT® Yes, EPEAT® Gold in United States ²⁹

TCO certified Yes **ICES** Yes Australia / NZ A-Tick Compliance Yes CCC Yes Japan VCCI Compliance Yes KC Yes **BSMI** Yes **CE Marking Compliance** Yes **BNCI or BELUS** No CIT No **EAC Certificate** Yes **GOST**

GOST Yes (EAC)

Saudi Arabian Compliance (ICCP)

SABS

Ves

UKRSERTCOMPUTER

No

28. Configurations of the HP Elite c640 G3 Chromebook Enterprise that are ENERGY STAR® qualified are identified as HP Elite c640 G3 Chromebook Enterprise ENERGY STAR on HP websites and on http://www.energystar.gov.

29. 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: Actual brightness will be lower with touchscreen or 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 inch FHD (1920x1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP 1.2 w/o PSR bent Touch on Panel NWBZ **Outline Dimensions (W x H x D)** 316.170 x 186.400 max.

 Active Area
 309.37 x 174.02

 Weight
 <305g max.</td>

Diagonal Size 14"

Thickness 3.0mm/ 5.0mm (w/PCB) max.

InterfaceeDP 1.2 (2lane)Surface TreatmentAnti-Glare

Touch Enabled Yes

Contrast Ratio600:1 (typ)Refresh Rate60HzBrightness250 nits

Pixel Resolution - Format 1920 x 1080 (FHD)

BacklightWLEDPixel ResolutionRGBColor Gamut CoverageNTSC 45%Color Depth6bits

Viewing Angle UWVA 85/85/85

Low Blue Light No

Power Consumption (W, EBL@ 2.7W max./3.1W max.

150nits max/ 200nits max)

Panel LCD 14-in FHD (1920x1080) Anti-Glare WLED

UWVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ bent **Outline Dimensions (W x H x D)** 316.170 x 186.400 max

Active Area 309.37 x 174.02

Weight 300g Diagonal Size 14"

Thickness 3.0mm/ 5.0mm (w/PCB) max.

Interface eDP 1.2 (2lane)
Surface Treatment Anti-Glare

Touch Enabled No

Contrast Ratio600:1 (typ)Refresh Rate60HzBrightness250nits

Pixel Resolution - Format 1920 x 1080 (FHD)

BacklightWLEDPixel ResolutionRGBColor Gamut CoverageNTSC 45%Color Depth6bits

Viewing Angle UWVA 85/85/85

Low Blue Light No



Power Consumption (W, EBL@ 150nits max/ 200nits max)

2.205W Max/2.716W Max

Panel LCD 14-in HD (1366x768) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ bent Outline Dimensions (W x H x D)

316.110x186.370mm(max)

 Active Area
 309.4 x 173.95

 Weight
 300g Max

 Diagonal Size
 14"

Thickness 3.0mm/ 5.0mm (w/PCB) max.

250nits

InterfaceeDP 1.2 (1 lane)Surface TreatmentAnti-GlareTouch EnabledNo

Contrast Ratio 300:1 (typ)
Refresh Rate 60Hz

Pixel Resolution - Format 1366 x 768 (HD)

BacklightWLEDPixel ResolutionRGBColor Gamut CoverageNTSC 45%Color Depth6 bits

Viewing Angle SVA 45/45/15/30

Low Blue Light No

Power Consumption (W, EBL@ 150nits max/ 200nits max)

Briahtness

2.52W max/2.86W max

14.0 in FHD (1920 x 1080) Anti-Glare UWVA Low Blue Light sRGB NB2Y 1000 eDP 1.3+PSR 100 PrivacyG4 Plus bent LCD Panel

 Outline Dimensions (W x H x D)
 314.612 x 184.900 (max)

 Active Area
 309.312 x 173.990 (typ.)

Weight 230 g (max)
Diagonal Size 14 (inch)

Thickness 2.2mm / 3.9mm (w/PCB) (max)

InterfaceeDP1.4Surface TreatmentBright View

Touch Enabled No

Contrast Ratio 1500:1 (typical)

Refresh Rate 60Hz **Brightness** 1000 nits

Pixel Resolution - Format 1920 x 1080 (FHD)

BacklightWLEDPixel ResolutionRGBColor Gamut CoveragesRGB 100%

Color Depth 8

Viewing Angle UWVA 85/85/85

Low Blue Light Yes



Power Consumption (W, EBL@ 150nits max/ 200nits max)

1.6 (max)/2.0(max)

Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA sRGB 100percent cg 400nits eDP 1.4+PSR2 bent LP NB2X

 Outline Dimensions (W x H x D)
 315.370 x 186.900 (max)

 Active Area
 309.370 x 174.020 mm (typ.)

Weight 200 g (max)
Diagonal Size 14.0 (inch)

Thickness 2.0 mm / 4.0 mm (w/PCB) (max)

Interface eDP1.4 (4 lane)
Surface Treatment Anti-Glare

Touch Enabled No

Contrast Ratio 1200:1 (typical)

Refresh Rate 60Hz Brightness 400 nits

Pixel Resolution - Format 1920 x 1080 (FHD)

Backlight WLED Pixel Resolution RGB

Color Gamut Coverage sRGB 100% (NTSC 72%)

Color Depth 6+2 FRC

Viewing Angle UWVA 85/85/85

Low Blue Light No

Power Consumption (W, EBL@ 150nits max/ 200nits max)

1.04 (max)/ 1.25 (max)



STORAGE AND DRIVES

For storage drives, GB = 1 billion bytes. Actual formatted capacity is less. For 64GB drive, 5.76GB is not user accessible. For 128GB drive, 8.76GB is not user accessible. For 256GB drive, 17.53GB is not user accessible. For 512GB drive, 48.64GB is not user accessible.

64 GB eMMC

Form Factor eMMC
Capacity 64GB
NAND Type MLC/TLC
Height 1.4mm
Width 11.5x13mm
Weight 0.2q

InterfaceMMC protocalMaximum Sequential ReadUp to 250MB/sMaximum Sequential WriteUp to 70MB/s

Logical Blocks 64GB (62,537,072,640 Bytes) **Operating Temperature** 64GB (62,537,072,640 Bytes)

Features HS400

SSD 128GB 2230 PCIe NVMe Value (SSD 128GB 2230 PCIe NVMe Value) Form Factor M.2 2230
Capacity 128GB
NAND Type Value

 Height
 0.09 in (2.3 mm)

 Width
 0.87 in (22 mm)

Weight 0.01 lb (6 g) ~ 0.02 lb (10 g)

Interface NVMe

Maximum Sequential Read 3000 Up to MB/s

Maximum Sequential Write 1400 Up to MB/s **Logical Blocks** 250,069,680

Operating Temperature 32° to 158°F (0° to 70°C) [ambient temp]

Features Pyrite

SSD 256GB 2230 PCIe NVMe Value (256GB 2230 PCIe NVMe Value 2nd Solid State Drive) Form Factor M.2 2230
Capacity 256GB
NAND Type Value

 Height
 0.09 in (2.3 mm)

 Width
 0.87 in (22 mm)

Interface NVMe

Maximum Sequential Read 3000 Up to MB/s

Maximum Sequential Write 1800 Up to MB/s **Logical Blocks** 500,118,192

Operating Temperature 32° to 158°F (0° to 70°C) [ambient temp]

Features Pyrite

SSD 512GB 2280 PCIe NVMe Value (512GB 2280 PCIe NVMe Value 2nd Solid State Drive)

Form Factor M.2 2280
Capacity 512GB
NAND Type Value

 Height
 0.09 in (2.3 mm)

 Width
 0.87 in (22 mm)

Interface NVMe

Maximum Sequential Read 3200 Up to MB/s

Maximum Sequential Write2700 Up to MB/sLogical Blocks1,000,215,216

Operating Temperature 32° to 158°F (0° to 70°C) [ambient temp]

Features Pyrite



NETWORKING/COMMUNICATIONS

Intel® AX211 Wi-Fi 6E + Wireless LAN Standards Bluetooth® 5.2 M.2 160MHz CNVi World-wide

WLAN vPro¹

IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11n

IEEE 802.11ac
IEEE 802.11ac
IEEE 802.11d
IEEE 802.11e
IEEE 802.11h
IEEE 802.11i
IEEE 802.11k
IEEE 802.11r
IEEE 802.11r

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 5.955 – 6.415 GHz 6.435 – 6.515 GHz 6.535 – 6.875 GHz 6.895 – 7.115 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 300Mbps802.11ac : 1733Mbps802.11ax : max 2.4Gbps

Modulation Direct Sequence Spread Spectrum

OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM

• 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 certificationWPA3 certificationIEEE 802.11iWAPI

Network Architecture Ac

Ad-hoc (Peer to Peer)

Models

Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points

Output Power² • 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
802.11n HT40(5GHz): +13dBm minimum
802.11ac VHT80(5GHz): +10dBm minimum
802.11ac VHT160(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 Sensitivity⁴ •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

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 1216: 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)

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 Wireless Technology

Bluetooth Specification 4.0/4.1/4.2/5.0/5.1/5.2 Compliant

Frequency Band 2402 to 2480 MHz

Number of AvailableLegacy : 0~79 (1 MHz/CH)ChannelsBLE : 0~39 (2 MHz/CH)

Data Rates andLegacy: 3 Mbps data rate; throughput up to 2.17 Mbps **Throughput**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. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E 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).



Intel® AX211 Wi-Fi 6E + Bluetooth® 5.2 M.2 160MHz CNVi World-wide

WLAN non-vPro1

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 5.955 – 6.415 GHz 6.435 – 6.515 GHz 6.535 – 6.875 GHz 6.895 – 7.115 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 300Mbps802.11ac: 1733Mbps802.11ax: max 2.4Gbps

Modulation Direct Sequence Spread Spectrum

OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM

• 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 certificationWPA3 certificationIEEE 802.11i

WAPI

Network Architecture Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

Roaming IEEE 802.11 compliant roaming between access points

Output Power² • 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
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 Sensitivity⁴ • 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

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 1216: 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 Wireless Technology



HP Elite c640 14 inch G3 Chromebook Enterprise

Technical Specifications

Bluetooth Specification 4.0/4.1/4.2/5.0/5.1/5.2 Compliant

Frequency Band 2402 to 2480 MHz

Number of AvailableLegacy : 0~79 (1 MHz/CH)ChannelsBLE : 0~39 (2 MHz/CH)

Data Rates andLegacy: 3 Mbps data rate; throughput up to 2.17 Mbps **Throughput**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)

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Intel® XMM™ 7360 LTE-Advanced CAT9¹ 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

GPS Standalone, A-GPS (MS-A, MS-B)

GPS bands 1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou 1561.098

MHz

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 powerLTE: 1,200 mA (peak); 900 mA (average)consumptionHSPA+: 1,100 mA (peak); 800 mA (average)

Form Factor M.2, 3042-S3 Key B

Weight 5.8 g

Dimensions 42 x 30 x 2.3 mm

(Length x Width x

Thickness)

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.



POWER

1. 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.

45 W AC 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% 47 ~ 63Hz

Input frequency range

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 Eg

Certifications * 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.



HP 65W USB TYPE-C PD adapter

Dimensions 3.54 x 2.0 x 1.12 in (9.0cm x 5.1cm x 2.85cm)

Weight 0.55 lb (250 g) max (Not including power cord. Power cord varies by

country)

Input

Input Efficiency Average Efficiency of 25%, 50%, 75%, 100% load condition with

115Vac/230Vac Spec:

5V:81.5% 9V:86.7% 12V:88% 15V:88% 20V:89%

Input frequency range 47 ~ 63Hz

Input AC current Max. 1.6 A at 90 Vac

Output

Output power 5V/15W

9V/27W 12V/60W 15V/60W 20V/65W

DC output 5V/9V/12V/15V/20V **Hold-up time** 5ms at 115 Vac input

Output current limit <8.0A

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 1 to 16,400 ft (0 to 5000m)

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NYCE.

* MTBF - over 200,000 hours at 25°C ambient condition.



HP 3 -cell Long Life Li-Ion (58Wh)¹ Dimensions (H x W x L)

4.7 x 249 x 103.07 mm (0.185 x 9.8 x 4.06 inch)

Weight

Cells/Type 3cell Lithium-Ion Polymer cell / 407792

0.23 kg (0.506 lb)

Energy

Voltage 11.55V Amp-hour capacity 5.095A Watt-hour capacity 58.84Wh

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 No

Available

AUDIO

HD Stereo Codec Realtek ALC5682I-VS

Audio I/O Ports Headset connector supports both CTIA and OMTP style headset **Internal Speaker Amplifier** Maxim MAX98360D x2, up to 3W class-D mono smart amplifier

Multi-streaming Capable Follow ChromeOS behavior

(NOT SUPPORT in current version)

Sampling Follow ChromeOS behavior

Wavetable Syntheses N/A

Analog Audio Stereo headphone out by 3.5mm audio jack only.

of Channels on Line-Out

Headphone L/R, No Line-Out

Internal Speaker

Yes

FINGERPRINT READER

Model: FINGERPRINTS FPC1025 Sensor vendor

Sensor type Capacitive **DPI** resolution 508 dpi Scan area 160x160

False Rejection Rate CLKfreg 8kHz~19kHz

False Acceptance Rate N/A

Mobile Voltage Operation 1.62V to 1.98V (Typical 1.8V)

2.1 mA

Operating Temperature -40° to +85°C **Current Consumption** < 6 mA

Image

Low Latency Wait For

Finger

ESD Resistance +/- 30kV

Detection Matrix 160 x 160 pixels

COUNTRY OF ORIGIN

China



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

DOCKING (Sold Separately)

Docking station model #1

Total number of supported displays

(incl. the notebook display)

Max. resolutions supported

Dock Connectors

Technical limitations

HP USB-C Dock G5

3

Dual 5K@ 30Hz + (1) 4K UHD (multi-function mode)

1xHDMI, 2xDP

Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution

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 #2

Total number of supported displays

(incl. the notebook display) Max. resolutions supported

Dock Connectors

Triple 4K UHD@ 60Hz 3840x2160

HP USB-C/A Universal Dock G2

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

3



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
Cases	HP Executive 15.6 Backpack	6KD07AA
	HP Executive 15.6 Top Load	6KD06AA
	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 Mobility 14" Laptop Case	4U9G9AA
	HP Renew Business 14.1" Bag	3E5F9AA
	HP Renew Business 17.3" Backpack	3E2U5AA
	HP Renew Business 14.1" Sleeve	3E2U7AA
	HP Renew Business 15.6" Bag	3E5F8AA
	HP Renew Business 17.3" Bag	3E2U6AA
Docking	HP USB-C Dock G5	5TW10AA
	HP USB-C/A Universal Dock G2	5TW13AA
Hub	HP USB-C Mini Dock	1PM64AA
	HP Universal USB-C Multiport Hub	50H55AA
	HP USB-C Travel Dock G2	7PJ38AA
	HP USB-C to USB-A Hub	Z6A00AA
Adapter	HP HDMI to DVI Adapter	F5A28AA
	HP HDMI to VGA Adapter	H4F02AA
	HP USB to Gigabit RJ45 Adapter	N7P47AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter	V7W66AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to VGA Adapter	N9K76AA
Keyboard/Combo	HP 325 Chrome BT Keyboard	45U14AA
Mouse	HP USB Premium Wireless Mouse	1JR31AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA
	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



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

Power	HP 45W USB-C G2 AC Power Adapter	1HE07AA
	HP 45W USB-C LC AC Power Adapter	1MZ01AA
	HP 65W USB-C AC Power Adapter	1HE08AA
	HP 65W USB-C LC AC Power Adapter	1P3K6AA
	HP 65W USB-C Travel Slim AC Power Adapter	3PN48AA
Commodity	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Master Keyed Cable Lock	1AJ40AA
	HP SureKey Standard/Nano/Wedge Cable Lock	6UW42AA



HP Elite c640 14 inch G3 Chromebook Enterprise

Summary of Changes

Date of change:	Version History:	Updated	Description of change:
May 17, 2022	V1 to V2	Added	Battery life
June 15, 2022	V2 to V3	Added	Added note in Manageability Feature

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