

Overview

HP EliteBook x360 1020 G2 Notebook PC



Front

- | | |
|-----------------------------|---|
| 1. Internal microphones (2) | 6. Glass clickpad |
| 2. Webcam | 7. Power button |
| 3. IR Camera | 8. Security lock slot (Lock sold separately.) |
| 4. Webcam LED | 9. Audio combo jack |
| 5. Fingerprint reader | |

Overview



Rear

- | | |
|------------------------------------|----------------------------------|
| 1. HDMI port (Cable not included.) | 3. USB Type-C™ with Thunderbolt™ |
| 2. USB Type-C™ with Thunderbolt™ | 4. Volume up/down |

Overview

At a Glance

1. Preinstalled with Windows 10 versions
 2. All metal CNC Al chassis that is .55 inches (1.39 cm) thin
 3. Display choices include 31.75 cm (12.5") diagonal IPS UWVA, FHD touch screen or UHD touch screen.
 - Get added protection in open or public places with the optional HP Sure View integrated privacy screen [1]
 4. A 360° convertible notebook with 5 usage modes
 5. Passed 12 MIL-SPEC 810G testing, plus an additional 120,000 hours of reliability testing through HP's Total Test Process [2]
 6. Choice of 7th Generation Intel® Core™ i5, i7 Processors with integrated Intel® HD Graphics
 7. Weight starting at 2.50 lbs (1.13 kg)
 8. Optional full size HP Active Pen with App Launch, designed with Wacom technology
 9. HP 720p HD webcam, dual array microphones, and integrated premium stereo speakers for video audio and conferencing
 10. Engage teams, clients, and vendors with the crystal-clear audio by Bang & Olufsen and the high-performance HP Premium Collaboration Keyboard
 11. Never forget your password with your choice of simple authentication methods, including the IR camera for face recognition and Touch Fingerprint Sensor for Windows Hello
 12. Choice of Solid State Drive storage drives up to 1 TB
 13. Up to 16 GB total system memory
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1. HP Sure View is optional and must be configured at purchase.
 2. MIL-STD-810G 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.



Features

PRODUCT NAMES

HP EliteBook x360 1020 G2 Notebook PC

OPERATING SYSTEMS

Preinstalled

Windows 10 Pro 64 – HP recommends Windows 10 Pro. [1]
 Windows 10 Pro (National Academic License) [1,2]
 Windows 10 Home 64 [1]
 Windows 10 Home Single Language 64 [1]

1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com/>.
2. **NOTE:** Some devices for academic use will automatically be updated to Windows 10 Pro Education with the Windows 10 Anniversary Update. Features vary; see <https://aka.ms/ProEducation> for Windows 10 Pro Education feature information

PROCESSORS

Intel® Core™ i7-7600U with Intel® HD Graphics 620 (2.8 GHz, up to 3.9 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores) [3,4,5]
 Intel® Core™ i7-7500U with Intel® HD Graphics 620 (2.7 GHz, up to 3.5 GHz with Intel® Turbo Boost Technology, 4 MB cache, 2 cores) [3,4,5]
 Intel® Core™ i5-7300U with Intel® HD Graphics 620 (2.6 GHz, up to 3.5 GHz with Intel® Turbo Boost Technology, 3 MB cache, 2 cores) [3,4,5]
 Intel® Core™ i5-7200U with Intel® HD Graphics 620 (2.5 GHz, up to 3.1 GHz with Intel® Turbo Boost Technology, 3 MB cache, 2 cores) [3,4,5]

Processors Family

7th Generation Intel® Core™ i7 processor (i7-7600U model)
 7th Generation Intel® Core™ i7 processor (i7-7500U model)
 7th Generation Intel® Core™ i5 processor (i5-7300U model)
 7th Generation Intel® Core™ i5 processor (i5-7200U model)

3. 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 is not a measurement of higher performance.
4. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
5. **NOTE:** In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.



Features

CHIPSET

Integrated with processor

GRAPHICS

Integrated

Intel® HD Graphics 620 [6]

6. [HD content required to view HD images.](#)
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DISPLAY

Touch

HP Sure View integrated privacy screen 31.75 cm (12.5") diagonal FHD IPS eDP ultra-slim LED-backlit touch screen, 700 cd/m², 100% sRGB, direct bonded with Corning® Gorilla® Glass 4 (1920 x 1080) [6,7,8]

31.75 cm (12.5") diagonal FHD IPS eDP ultra-slim LED-backlit touch screen, 400 cd/m², 100% sRGB, direct bonded with Corning® Gorilla® Glass 4 (1920 x 1080) [6,7]

31.75 cm (12.5") diagonal 4K IPS eDP ultra-slim LED-backlit touch screen, 400 cd/m², 134% sRGB, direct bonded with Corning® Gorilla® Glass 4 (3840 x 2160) [6,7]

6. [HD content required to view HD images.](#)
7. [Resolutions are dependent upon monitor capability, and resolution and color depth settings.](#)
8. [HP Sure View is optional and must be configured at purchase.](#)
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STORAGE AND DRIVES

Supports M.2 SS/DS 2280 Solid State Drive

128 GB M.2 SATA SSD [9]

256 GB M.2 SATA TLC SSD [9]

256 GB M.2 PCIe Gen 3x4 NVMe TLC SSD [9]

360 GB M.2 PCIe Gen 3x4 TLC SSD [9]

512 GB M.2 PCIe Gen 3x4 NVMe TLC SSD [9]

1 TB M.2 PCIe Gen 3x4 NVMe TLC SSD [9]

9. [For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB \(for Windows 10\) is reserved for system recovery software.](#)
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MEMORY

Memory soldered down

LPDDR3-1866 (Transfer rates up to 1866 MT/s)

Supports Dual Channel Memory

On board (Customer non-accessible)

Maximum

16 GB LPDDR3-1866 SDRAM [10]



Features

Configurations

8 GB LPDDR3-1866 SDRAM [10]
16 GB LPDDR3-1866 SDRAM [10]

10. Due to the non-industry standard nature of some third-party memory modules, we recommend HP branded memory to ensure compatibility. If you mix memory speeds, the system will perform at the lower memory speed.

NETWORKING/COMMUNICATIONS

Wireless LAN (WLAN)

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo (vPro™) [11]

NFC

HP Module with NXP NFC Controller NPC300 I2C NCI

Communications

Optional Near Field Communication (NFC)
Compatible with Miracast-certified devices

11. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen
Premium Stereo Speakers
Dual microphone array

Camera

IR camera for face authentication with Windows Hello

Webcam

720p HD webcam [6,12]

6. HD content required to view HD images.
12. Internet access required.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Full size
HP Premium Collaboration Keyboard
Backlit
DuraKeys
Spill-resistant



Features

Pointing Device

ClickPad (Glass Cover)
Taps enabled as default
Gestures enabled by default

Pen

Optional full size HP Active Pen with App Launch, designed with Wacom technology [13]

13. Sold separately or as an optional feature.

SOFTWARE AND SECURITY

Software

HP Native Miracast Support [14]
HP LAN-Wireless Protection
HP Wireless Wakeup
HP Sure Connect
HP Velocity
HP 3D DriveGuard 6
HP ePrint + JetAdvantage [15]
HP Hotkey Support
HP Recovery Manager
HP Jumpstart
HP Support Assistant [16]
HP Noise Cancellation Software
Buy Office
Bing Search

Manageability Features

HP Driver Packs [17]
HP System Software Manager
HP BIOS Config Utility (BCU)
HP Client Catalog
HP Management Integration Kit for Microsoft System Center Configuration Manager [18]
LANDESK Management [19]

Security Management

HP BIOSphere Gen3 [20]
HP DriveLock and Automatic DriveLock
BIOS Update via Network
HP Sure Start Gen3
Trusted Platform Module TPM 2.0 Embedded Security Chip (SLB9670 -Common Criteria EAL4 + Certified)



Features

SATA 0,1 port disablement (viaBIOS)
 RAID configurations
 Serial, USB enable/disable (viaBIOS)
 Power-on password (viaBIOS)
 Setup password (viaBIOS) [21]
 Support for chassis padlocks and cable lock devices
 Integrated hood sensor
 Absolute Persistence Module [22]
 HP Client Security Suite Gen3 including HP Security Manager with Credential Manager and Password Manager [23]
 HP Client Security Suite Gen3 including Power On Authentication
 Microsoft Defender [24]
 HP WorkWise [25]
 HP Sure Click

14. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information:
<http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>
15. HP ePrint Drive requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see www.hp.com/go/eprintcenter). Print times and connection speeds may vary.
16. HP Support Assistant requires Windows and Internet Access.
17. HP Driver Packs is not preinstalled, however available for download at
<http://www.hp.com/go/clientmanagement>.
18. HP Management Integration Kit for Microsoft System Center Configuration Manager and HP Management Integration Kit can be downloaded from
<http://www8.hp.com/us/en/ads/clientmanagement/overview.html>
19. LANDESK Management subscription required.
20. HP BIOSphere Gen3 requires Intel® 7th or 8th Generation processors.
21. HP Password Manager requires Internet Explorer or Chrome or FireFox. Some websites and applications may not be supported. User may need to enable or allow the add-on / extension in the internet browser.
22. Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit:
<http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
23. HP Client Security Suite Gen3 requires Windows and Intel® or AMD 7th or 8th Generation processors.
24. Microsoft Defender Opt in and internet connection required for updates.
25. HP WorkWise Smartphone app is available as a free download on the App Store and Google Play.



Features



Features

POWER

Power Supply

65 W USB Type-C™ AC adapter

Primary Battery

4-cell, long life 49.28 Wh Li-ion

Supports battery fast charge

Power Cord

Power cord included is 1.0 m (+/- 0.1 m)

Battery life

Up to 15 hours 30 minutes (FHD) [26]

Up to 9 hours 15 minutes (UHD) [26]

26. 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 www.bapco.com for additional details.

WEIGHTS & DIMENSIONS

Weight

Starting at 2.5 lb [27]

Starting at 1.13 kg [27]

Dimensions (w x d x h)

11.41 x 8.02 x 0.53 in

29 x 20.38 x 1.39 cm

27. Weight varies by configuration and components.

PORTS/SLOTS

2 USB 3.1 Type-C™ with Thunderbolt™ support

1 HDMI 1.4a [28]

1 Headphone/microphone combo jack

28. HDMI cable sold separately.

SERVICE AND SUPPORT

1 year standard commercial warranty; 1 year limited warranty on primary battery. On-site service and optional HP Care Pack Services are available to extend your protection beyond the standard warranty. Service levels and response times for HP



Features

Care Packs may vary depending on your geographic location. Restrictions and limitations apply. Service starts at date of hardware purchase. For details, visit <http://www.hp.com/go/cpc> [29]

29. 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 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.

CERTIFICATION AND COMPLIANCE

ENERGY STAR® certified
EPEAT® Gold [30]

30. EPEAT® registered where applicable. EPEAT registration varies by country. See <http://www.epeat.net> for registration status by country.
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Technical Specifications

DISPLAYS

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

| | | |
|---|--------------------------------|-------------------------|
| 12.5 inch FHD (1920x1080) BrightView WLED UWVA 72percent cg 400nits eDP 1.3 + PSR ultraslim NB | Outline Dimensions (W x H x D) | 282.7 x 179.82 (mm) max |
| | Active Area | 276.48 x 155.52 (mm) |
| | Weight | 170 g max |
| | Diagonal Size | 12.5 (inch) |
| | Surface Treatment | Bright-View (BV) |
| | Touch enabled | Yes |
| | Contrast Ratio | 800:1 (typical) |
| | Refresh Rate | 60Hz |
| | Brightness | 400 nits |
| | Pixel Resolution | |
| | Format | RGB |
| | Configuration | 1920 x 1080 (FHD) |
| | Interface | |
| | LCD Mode | eDP 1.3 + PSR |
| | PPI | 176 |
| | Viewing Angle | UWVA 85/85/85/85 |

| | | |
|---|--------------------------------|--------------------------|
| 12.5 inch UHD (3840x2160) Anti-Glare WLED UWVA 95percent cg 400nits eDP 1.3 + PSR ultraslim 2.2mm NB | Outline Dimensions (W x H x D) | 282.38 x 179.26 (mm) max |
| | Active Area | 276.48 x 155.52 (mm) |
| | Weight | 185 g max |
| | Diagonal Size | 12.5 (inch) |
| | Surface Treatment | Anti-Glare (AG) |
| | Touch enabled | Yes |
| | Contrast Ratio | 1000:1 (typical) |
| | Refresh Rate | 60Hz |
| | Brightness | 400 nits |
| | Pixel Resolution | |
| | Format | RGB |
| | Configuration | 3840 x 2160 (UHD) |
| | Interface | eDP 1.3 + PSR |
| | LCD Mode | |
| | PPI | 352 |
| | Viewing Angle | UWVA 85/85/85/85 |



Technical Specifications

STORAGE AND DRIVES

HARD DRIVES

| | | |
|-------------------------------------|--------------------------|--|
| SSD 128GB 2280 M2 SATA-3 TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 128GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | ATA-8, SATA 3.0 |
| | Performance | |
| | Maximum Sequential Read | Up To 520 MB/s |
| | Maximum Sequential Write | Up To 450 MB/s |
| | Logical Blocks | 250,069,680 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | DIPM; TRIM; DEVSLP |

| | | |
|---------------------------------------|--------------------------|--|
| SSD 128GB 2280 M2 SATA-3 Value | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 128GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | ATA-8, SATA 3.0 |
| | Performance | |
| | Maximum Sequential Read | Up To 535 MB/s |
| | Maximum Sequential Write | Up To 515 MB/s |
| | Logical Blocks | 250,069,680 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | DIPM; TRIM; DEVSLP |

| | | |
|---------------------------------------|--------------------------|--|
| SSD 1TB 2280 PCIe-3x4 NVMe TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 1024GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | PCIe NVMe Gen3X4 |
| | Performance | |
| | Maximum Sequential Read | Up To 2800 MB/s |
| | Maximum Sequential Write | Up To 1600 MB/s |
| | Logical Blocks | 2,000,409,264 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | TRIM; L1.2 |



Technical Specifications

| | | |
|---|--------------------------|--|
| SSD 256GB 2280 M2 PCIe-3x4 SS NVMe TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 256GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | PCIe NVMe Gen3X4 |
| | Performance | |
| | Maximum Sequential Read | Up To 2600 MB/s |
| | Maximum Sequential Write | Up To 900 MB/s |
| | Logical Blocks | 500,118,192 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | TRIM; L1.2 |

| | | |
|--|--------------------------|--|
| SSD 256GB 2280 M2 SATA-3 Self Encrypted OPAL2 TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 256GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | ATA-8, SATA 3.0 |
| | Performance | |
| | Maximum Sequential Read | Up To 530 MB/s |
| | Maximum Sequential Write | Up To 515 MB/s |
| | Logical Blocks | 500,118,192 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | DIPM; TRIM; DEVSLP |

| | | |
|---|--------------------------|--|
| SSD 360GB 2280 PCIe-3x4 NVMe TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 360GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | PCIe NVMe Gen3X4 |
| | Performance | |
| | Maximum Sequential Read | Up To 1700 MB/s |
| | Maximum Sequential Write | Up To 600 MB/s |
| | Logical Blocks | 703,282,608 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | TRIM; L1.2 |



Technical Specifications

| | | |
|---|--------------------------|--|
| SSD 512GB 2280 M2 PCIe-3x4 SS NVMe TLC | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 512GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | PCIe NVMe Gen3X4 |
| | Performance | |
| | Maximum Sequential Read | Up To 2600 MB/s |
| | Maximum Sequential Write | Up To 1400 MB/s |
| | Logical Blocks | 1,000,215,216 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | TRIM; L1.2 |
| SSD 512GB 2280 M2 SATA-3 TLC FIPS | Drive Weight | 0.02 lb (10 g) |
| | Capacity | 512GB |
| | Height | 0.09 in (2.3 mm) |
| | Width | 0.87 in (22 mm) |
| | Interface | ACS-3, SATA 3.2 |
| | Performance | |
| | Maximum Sequential Read | Up To 530 MB/s |
| | Maximum Sequential Write | Up To 400 MB/s |
| | Logical Blocks | 1,000,215,216 |
| | Operating Temperature | 32° to 158°F (0° to 70°C) [ambient temp] |
| | Features | DIPM; TRIM; DEVSLP |

NETWORKING/COMMUNICATIONS

WLAN

| | | |
|---|-------------------------------|---|
| Intel 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo | Wireless LAN Standards | IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac |
| | Interoperability | Wi-Fi certified |
| | Frequency Band | 802.11b/g/n |
| | | • 2.402 – 2.482 GHz |
| | | 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 |
| | Data Rates | 802.11b: 1, 2, 5.5, 11 Mbps |



Technical Specifications

| | |
|------------------------------------|---|
| | <p>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</p> <p>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</p> <p>802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</p> <ul style="list-style-type: none"> • 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz) |
| Modulation | Direct Sequence Spread Spectrum |
| Security | <p>BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM</p> <ul style="list-style-type: none"> • 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 |
| Network Architecture Models | <p>Ad-hoc (Peer to Peer)</p> <p>Infrastructure (Access Point Required)</p> |
| Roaming | IEEE 802.11 compliant roaming between access points |
| Output Power[2] | <ul style="list-style-type: none"> • 802.11b : +14dBm minimum • 802.11g : +12dBm minimum • 802.11a : +12dBm minimum • 802.11n HT20(2.4GHz) : +12dBm minimum • 802.11n HT40(2.4GHz) : +12dBm minimum • 802.11n HT20(5GHz) : +10dBm minimum • 802.11n HT40(5GHz) : +10dBm minimum • 802.11ac VHT80(5GHz) : +10dBm minimum |
| Power Consumption | <p>Transmit: 2.0 W (max)</p> <p>Receive: 1.6 W (max)</p> <p>Idle mode (PSP): 180 mW (WLAN Associated)</p> <p>Idle mode: 50 mW (WLAN unassociated)</p> <p>Connect Standby: 10 mW</p> <p>Radio disabled 8 mW</p> |
| Power Management | <p>ACPI and PCI Express compliant power management</p> <p>802.11 compliant power saving mode</p> |
| Receiver Sensitivity[3] | <p>802.11b, 1Mbps : -93.5dBm maximum</p> <p>802.11b, 11Mbps : -84dBm maximum</p> <p>802.11a/g, 6Mbps : -86dBm maximum</p> <p>802.11a/g, 54Mbps : -72dBm maximum</p> <p>802.11n, MCS07 : -67dBm maximum</p> <p>802.11n, MCS15 : -64dBm maximum</p> <p>802.11ac, MCS0 : -84dBm maximum</p> <p>802.11ac, MCS9 : -59dBm maximum</p> |
| Antenna type | <p>High efficiency antenna with spatial diversity, mounted in the display enclosure</p> <p>Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications</p> |
| Form Factor | PCI-Express M.2 MiniCard |

Technical Specifications

| | |
|--------------------------|--|
| Dimensions | Type 2230 : 2.3 x 22.0 x 30.0 mm |
| Weight | Type 2230 : 2.8g |
| 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 White – Radio ON |

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 |
| 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 + 4 dBm for BR and EDR. |
| Power Consumption | Peak (Tx) 330 mW |
| | Peak (Rx) 230 mW |
| | Selective Suspend 17 mW |
| Electrical Interface | USB 2.0 compliant |
| Bluetooth Software Supported Link Topology | Microsoft Windows Bluetooth Software |
| Power Management | Microsoft Windows ACPI, and USB Bus Support |
| Certifications | FCC (47 CFR) Part 15C, Section 15.247 & 15.249 |
| Power Management | ETS 300 328, ETS 300 826 |
| Certifications | Low Voltage Directive IEC950 |
| | UL, CSA, and CE Mark |
| Bluetooth Profiles Supported | BT4.1-ESR 5/6/7 Compliance |
| | LE Link Layer Ping |
| | LE Dual Mode |
| | LE Link Layer |
| | LE Low Duty Cycle Directed Advertising |
| | LE L2CAP Connection Oriented Channels |
| | Train Nudging & Interlaced Scan |
| | BT4.2 ESR08 Compliance |
| | LE Secure Connection- Basic/Full |
| | |



Technical Specifications

LE Privacy 1.2 –Link Layer Privacy
LE Privacy 1.2 –Extended Scanner Filter Policies
LE Data Packet Length Extension
FAX Profile (FAX)
Basic Imaging Profile (BIP)2
Headset Profile (HSP)
Hands Free Profile (HFP)
Advanced Audio Distribution Profile (A2DP)

POWER

| | | |
|---|--|--|
| AC Adapter 65 Watt nPFC USB type C | Dimensions (H x W x D) | 2.91 x 2.91 x 1.12 in (7.4 x 7.4 x 2.85 cm) |
| | Weight | 0.54 lb (245g) max |
| Output | Input Efficiency | 81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 10V/5A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A |
| | Input frequency range | 47 to 63 Hz |
| | Input AC current | 1.7 A at 90 VAC and maximum load |
| | Output power | 65W |
| | DC output | 5V/9V/10V/12V/15V/20V |
| | Hold-up time | 5 msec at 115 VAC input |
| | Output current limit | <8.0A |
| | Connector | Duck head / duck head power cord, without Smart ID DC connector |
| Environmental Design | Operating temperature | 32° to 95° F (0° to 35° C) |
| | Non-operating (storage) temperature | -4° to 185° F (-20° to 85° C) |
| | Altitude | 0 to 16,400 ft (0 to 5,000 m) |
| | Humidity | 5% to 95% |
| | Storage Humidity | 5% to 95% |
| EMI and Safety Certifications | *CE Mark - full compliance with LVD and EMC directives | |
| | * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. | |
| | * MTBF - over 100,000 hours at 25°C ambient condition. | |

| | | |
|---|-------------------------------|---|
| Battery ET 4 Cell WHr 49 Long Life -PL Fast Charge | Dimensions (H x W x L) | 7.65 x 90.9 x 252mm (0.3 x 3.57 x 9.92 inch) |
| | Weight | 0.198 kg (0.436lb) |



Technical Specifications

| | | |
|--|---|-------------------------------|
| Cells/Type | ATL: 3841B3 + 654462 Coslight: 4041B3G + 674363G | |
| Energy | Voltage | 7.70V |
| | Amp-hour capacity | 6470mAh / 6146mAh |
| | Watt-hour capacity | 49.81 Wh / 47.31 Wh |
| Temperature | Operating (Charging) | 32° to 113° F (0° to 45° C) |
| | Operating (Discharging) | 14° to 122° F (-10° to 60° C) |
| | Non-operating | -4° to 122° F (-20° to 60° C) |
| Battery Re-Charge Time | System in OFF or Standby Mode | <3 hours |
| Fuel Gauge LED | No | |
| Warranty | 15 months | |
| Optional Travel Battery Available | No | |

Country of Origin

China

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

| Type | Description | Part Number |
|--------------------|---|-------------|
| Cases | HP Business Slim Top Load | H5M91AA |
| | HP Business Backpack | H5M90AA |
| Docking | HP Elite Thunderbolt 3 90W Dock | 1DT93AA#xxx |
| | HP Thunderbolt Dock 120W G2 | TBD |
| | HP USB-C Mini Dock | 1PM64AA#xxx |
| | HP USB-C Universal Dock | 1MK33AA#xxx |
| | HP Elite USB-C Dock | Z9R42AA#xxx |
| | HP Elite USB-C Dock G3 | 2DW60AA |
| | HP USB-C Travel Dock | T0K29AA |
| I/O Devices | HP Comfort Grip Wireless Mouse | H2L63AA |
| | HP Wireless Premium Mouse | 1JR31AA |
| | HP USB Premium Mouse | 1JR32AA |
| | HP Wireless (Link-5) Keyboard | T6U20AA |
| | HP Slim USB Keyboard and Mouse | T6T83AA |
| | HP USB-C to USB-A Hub | Z6A00AA |
| | HP USB-C to VGA Adapter | N9K76AA |
| | HP USB-C to DisplayPort Adapter | N9K78AA |
| Power | HP 65W USB-C Power Adapter | 1HE08AA#xxx |
| | HP USB-C Notebook Power Bank | 1TZ86AA |
| Storage | HP External USB Optical Drive | F2B56AA |
| Security | HP Nano Cable Lock | 1AJ40AA |
| UCC | HP Conferencing Keyboard | K8P74AA#xxx |
| | HP USB Collaboration Keyboard | Z9N38AA#xxx |
| | HP Wireless Collaboration Keyboard | Z9N39AA#xxx |
| | HP UC Wireless Mono Headset | W3K08AA |
| | HP UC Wireless Duo Headset | W3K09AA |
| | HP UC Speaker Phone | K7V16AA |
| | HP UC Wired Headset | K7V17AA |
| Displays | HP EliteDisplay S140u USB Portable Monitor | G8R65AA |
| | HP EliteDisplay S340c 34-inch Curved Monitor | V4G46AA |
| | HP EliteDisplay S240n 23.8-inch Micro Edge Monitor | W9A88AA |
| | HP EliteDisplay E272q 27-inch QHD Monitor | M1P04AA |
| | HP EliteDisplay E230t 23-inch Touch Monitor | W2Z50AA |
| | HP EliteDisplay E240c 23.8-inch Collaboration Monitor | M1P00A8 |



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

| Date of change: | Version History: | | Description of change: |
|--------------------|------------------|--------|---|
| August 28, 2017 | From V1 to V2 | Update | Battery life information changed to "TBD" |
| September 11, 2017 | From V2 to V3 | Update | Incorrect header fixed |
| October 18, 2017 | From V3 to V4 | Update | Battery and Keyboard sections updated |

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