### Overview

### HP EliteBook x360 830 G7 Notebook PC



- 1. Internal Microphones (2)
- 2. Web cam LED
- 3. HD and IR Camera (Optional)
- 4. Camera Shutter
- 5. IR Camera LEDs (Optional)
- 6. Ambient Light Sensor

#### Left

- 7. Glass Clickpad
- 8. Smartcard Reader (Optional)
- 9. Audio Combo Jack
- 10. USB 3.1 Gen 1 Port
- 11. USB 3.1 Gen 1 Charging Port
- 12. Nano Security Lock Slot (Lock sold separately)



### Overview



- 1. Power Button Key
- 2. Power Connector
- 3. HDMI Port (Cable not included)
- 4. USB Type-C<sup>®</sup> with Thunderbolt<sup>™</sup>

- 5. USB Type-C<sup>®</sup> with Thunderbolt<sup>™</sup>
- 6. SIM Card Slot<sup>1</sup>
- 7. Touch Fingerprint Sensor (select models)

#### 1. All units have a SIM card stray but units that do not support WWAN are shipped with a non-removable SIM slot plug



### Overview

### At a Glance

- Premium ultraslim design with precision-crafted machined CNC aluminum x360 design with four usage modes that is 0.71 inches (1.79 cm) thin with a starting weight of 2.89 lbs. (1.31 Kg)
- 10th Generation Intel<sup>®</sup> Core™ i5 processors up to quad-core, i7 processors up to six-core with integrated Intel UHD premium graphics
- Optional ultrabright, anti-glare touch displays with ambient light sensor including a Sure View Reflect display option. With a single click, optional HP Sure View Reflect produces a copper reflective finish when the screen is viewed from the side making it appear unreadable.
- Choice of displays:
  - 33.8 cm (13.3") diagonal FHD IPS LED-backlit BrightView touch with Corning® Gorilla® Glass 5, 250 nits, 45% NTSC
  - 33.8 cm (13.3") diagonal FHD IPS LED-backlit BrightView touch with Corning® Gorilla® Glass 5, 400 nits, 72% NTSC
  - 33.8 cm (13.3") diagonal FHD IPS LED-backlit Anti-Glare glass touch with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 400 nits, 72% NTSC
     33.8 cm (13.3") diagonal FHD IPS LED-backlit BrightView touch with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 1000 nits, 72% NTSC
  - with HP Sure View Reflect\*

- 33.8 cm (13.3") diagonal FHD IPS LED-backlit Anti-Glare glass touch with Corning® Gorilla® Glass 5, 1000 nits, 72% NTSC with HP Sure View Reflect\*

- Enterprise grade security with HP Sure Sense, HP SureStart Gen6, HP Privacy Camera with a physical shutter, HP Sure View Reflect<sup>1</sup>, HP Sure Run Gen3, HP Sure Recover Gen2<sup>2</sup> with embedded reimaging, HP Sure Click, SmartCard Reader<sup>2</sup> and Touch Fingerprint reader<sup>3</sup> (select models)
- New optional HP Rechargeable Active Pen G3<sup>2</sup>
- Ultimate connectivity with Wi-Fi 6 WLAN and optional CAT16 4G/LTE WWAN
- Preinstalled with Windows 10 versions or FreeDOS
- Choice of solid state drives up to 1 TB and DDR4 memory up to 32 GB
- Supports fast charging (50% in 30 minutes) with no impact on battery recharge cycles<sup>4</sup>
- Featuring redesigned quiet HP Keyboard with backlit options and the new HP Programmable key for easy customization with the companion app to launch apps and custom commands
- Innovative world-facing third mic improves inbound ambient noise cancellation while 360 degree mic pick-up allows everyone to clearly hear and be heard
- HP WorkWell makes wellbeing measurable and actionable at work
- Battery life up to 22 hours (Intel® 10th generation CPU and 3-cell 53 WHr battery)
- Tested for 19 MIL-STD 810H tests, plus an additional 120,000 hours of reliability testing through HP's Total Test Process<sup>6</sup>
- Instant on/instant off with Modern Connected Standby

1. 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.

2. Sold separately or as an optional feature

3. HP Fingerprint Sensor is an optional feature and requires configuration at purchase.

4. Recharges your battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65 watts is required. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

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

6. MIL STD 810 G testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

\*Touch-enabled display and Sure View privacy panel will lower actual brightness.

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



### **Technical Specifications**

#### **PRODUCT NAME**

HP EliteBook x360 830 G7 Notebook PC

#### **OPERATING SYSTEMS**

Preinstalled

Windows 10 Pro 64 – HP recommends Windows 10 Pro for business<sup>1</sup> Windows 10 Pro 64 (National Academic only)<sup>2</sup> Windows 10 Home 64<sup>1</sup> Windows 10 Home Single Language 64<sup>1</sup> Windows 10 Pro (Windows 10 Enterprise available with a Volume Licensing Agreement)<sup>1</sup> FreeDOS

1. Not all features are available in all editions or versions of Window. 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. 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<sup>®</sup> Core<sup>™</sup> i7-10810U with Intel<sup>®</sup> UHD Graphics 620 (1.1 GHz base frequency, up to 4 GHz with Intel<sup>®</sup> Turbo Boost Technology, 12 MB L3 cache, 6 cores)<sup>3,4,5,6</sup>

Intel<sup>®</sup> Core™ i7-10710U with Intel<sup>®</sup> UHD Graphics 620 (1.1 GHz base frequency, up to 4.7 GHz with Intel<sup>®</sup> Turbo Boost Technology, 12 MB L3 cache, 6 cores)<sup>3,4,5,6</sup>

Intel<sup>®</sup> Core<sup>™</sup> i7-10610U with Intel<sup>®</sup> UHD Graphics 620 (1.8 GHz base frequency, up to 4.9 GHz with Intel<sup>®</sup> Turbo Boost Technology, 8 MB L3 cache, 4 cores)<sup>3,4,5,6</sup>

Intel<sup>®</sup> Core<sup>™</sup> i7-10510U with Intel<sup>®</sup> UHD Graphics 620 (1.8 GHz base frequency, up to 4.9 GHz with Intel<sup>®</sup> Turbo Boost Technology, 8 MB L3 cache, 4 cores)<sup>3,4,5,6</sup>

Intel<sup>®</sup> Core<sup>™</sup> i5-10310U with Intel<sup>®</sup> UHD Graphics 620 (1.7 GHz base frequency, up to 4.8 GHz with Intel<sup>®</sup> Turbo Boost Technology, 6 MB L3 cache, 4 cores)<sup>3,4,5,6</sup>

Intel<sup>®</sup> Core™ i5-10210U with Intel<sup>®</sup> UHD Graphics 620 (1.6 GHz base frequency, up to 4.2 GHz with Intel<sup>®</sup> Turbo Boost Technology, 6 MB L3 cache, 4 cores)<sup>3,4,5,6</sup>

#### **Processor Family**

10th Generation Intel<sup>®</sup> Core<sup>™</sup> i7 processor (i7-10810U, i7-10710U, i7-10610U, i7-10510U) 10th Generation Intel<sup>®</sup> Core<sup>™</sup> i5 processor (i5-10310U, i5-10210U)

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, branding and/or naming 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. Intel<sup>®</sup> Turbo Boost performance varies depending on hardware, software and overall system configuration. See <a href="http://www.intel.com/technology/turboboost">http://www.intel.com/technology/turboboost</a> for more information.

6. 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.



### **Technical Specifications**

#### CHIPSET

Chipset is integrated with processor

#### GRAPHICS

Integrated Intel® UHD Premium Graphics<sup>7</sup>

Supports Support HD decode, DX12, HDMI 1,4b<sup>8</sup>, HDCP 2,3

7. HD content required to view HD images.

8. HDMI cable sold separately.

#### DISPLAY

#### Touch

33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 250 nits, 45% NTSC with HD camera (1920 x 1080)<sup>7,9,10</sup>

33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 250 nits, 45% NTSC with HD camera for WWAN (1920 x 1080)<sup>7,9,10</sup>

33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 400 nits, 72% NTSC with Low Power, Ambient Light Sensor and HD+IR camera (1920 x 1080)<sup>7,9,10</sup>

33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 400 nits, 72% NTSC with Low Power, Ambient Light Sensor and HD+IR camera for WWAN (1920 x 1080)<sup>7,9,10</sup>

33.8 cm (13.3") diagonal FHD IPS Anti-Glare WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 400 nits, 72% NTSC with Low Power, Ambient Light Sensor and HD+IR camera (1920 x 1080)<sup>7,9,10</sup>

33.8 cm (13.3") diagonal FHD IPS Anti-Glare WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 400 nits, 72% NTSC with Low Power, Ambient Light Sensor and HD+IR camera for WWAN (1920 x 1080)<sup>7,9,10</sup>

HP Sure View Reflect Integrated Privacy Screen 33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 1000 nits, 72% NTSC with Ambient Light Sensor and HD+IR camera (1920 x 1080)<sup>7,9,10,11</sup>

HP Sure View Reflect Integrated Privacy Screen 33.8 cm (13.3") diagonal FHD IPS BrightView WLED-backlit touch screen with Corning® Gorilla® Glass 5, 1000 nits, 72% NTSC with Ambient Light Sensor and HD+IR camera for WWAN (1920 x 1080)<sup>7,9,10,11</sup> HP Sure View Reflect Integrated Privacy Screen 33.8 cm (13.3") diagonal FHD IPS Anti-Glare WLED-backlit touch screen with Corning® Gorilla® Glass 5, 1000 nits, 72% NTSC with Ambient Light Sensor and HD+IR camera (1920 x 1080)<sup>7,9,10,11</sup>

HP Sure View Reflect Integrated Privacy Screen 33.8 cm (13.3") diagonal FHD IPS Anti-Glare WLED-backlit touch screen with Corning<sup>®</sup> Gorilla<sup>®</sup> Glass 5, 1000 nits, 72% NTSC with Ambient Light Sensor and HD+IR camera for WWAN (1920 x 1080)<sup>7,9,10,11</sup>

#### HDMI 1.4b

Supports resolution up to 4K @ 60Hz via DP and 30Hz via HDMI

#### **Display Size**

13.3" 33.8 cm (13.3")

7. HD content required to view HD images.

9. Sold separately or as an optional feature.

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

11. HP Sure View integrated privacy screen is an optional feature that must be configured at purchase and functions in landscape orientation.



Docking station model	Total number of supported displays (Including the notebook) display)	Max. resolutions supported	Dock Connectors	Technical limitations
HP Thunderbolt Dock G2	3	Dual 4K @ 60Hz	2xDP, 1xVGA, 1xTB, 1xUSB-C alt-mode	Dual 4k (4096 x 2160) only with: • 1 DP + TB port or • USB-C alt mode + TB port Dual 4K (3840 x 2160) with any of the DP, TB or USB-C alt mode video ports
HP Elite USB-C Dock G5	3	Three 1680x1050 @ 60 Hz Dual 2K @ 60Hz Single 4K @ 60Hz (3840 x 1440)	1xHDMI, 2xDP	
HP USB-C Universal Dock G2	3	Dual 4K @ 60Hz Single 5K @ 60Hz	1xHDMI, 2xDP	
HP USB-C Travel Dock	2	Single 2K @ 60Hz	1xHDMI, 1xVGA	Single external display Only HDMI or VGA at the time



### **Technical Specifications**

#### **STORAGE AND DRIVES**

#### Primary M.2 Storage

128 GB M.2 SATA SSD TLC<sup>12</sup> 256 GB PCIe<sup>®</sup> NVMe<sup>™</sup> Value M.2 SSD<sup>12</sup> 256 GB PCIe<sup>®</sup> Gen3x4 NVMe<sup>™</sup> M.2 SSD TLC<sup>12</sup> 256 GB PCIe<sup>®</sup> Gen3x4 NVMe<sup>™</sup> M.2 SED OPAL 2 SSD TLC<sup>12</sup> 256 GB Intel<sup>®</sup> PCIe<sup>®</sup> NVMe<sup>™</sup> QLC M.2 SSD with 16 GB Intel<sup>®</sup> Optane<sup>™</sup> memory<sup>12,13,14</sup> 512 GB PCIe<sup>®</sup> Gen3x4 NVMe<sup>™</sup> M.2 SSD TLC<sup>12</sup> 512 GB PCIe<sup>®</sup> Gen3x4 NVMe<sup>™</sup> M.2 SED OPAL 2 SSD TLC<sup>12</sup> 512 GB PCIe<sup>®</sup> NVMe<sup>™</sup> Value M.2 SSD<sup>12</sup> 512 GB PCIe<sup>®</sup> NVMe<sup>™</sup> Value M.2 SSD<sup>12</sup> 512 GB Intel<sup>®</sup> PCIe<sup>®</sup> NVMe<sup>™</sup> QLC M.2 SSD with 32 GB Intel<sup>®</sup> Optane<sup>™</sup> memory<sup>12,13,14</sup> 1 TB PCIe<sup>®</sup> Gen3x4 NVMe<sup>™</sup> M.2 SSD TLC<sup>12</sup>

12. 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.

13. Intel<sup>®</sup> Optane<sup>™</sup> memory is sold separately. Intel<sup>®</sup> Optane<sup>™</sup> memory system acceleration does not replace or increase the DRAM in your system. Available for HP commercial desktops and notebooks and for select HP workstations (HP Z240 Tower/SFF, Z2 Mini, ZBook Studio, 15 and 17 G5) and requires a SATA HDD, 7th Gen or higher Intel<sup>®</sup> Core<sup>™</sup> processor or Intel<sup>®</sup> Xeon<sup>®</sup> processor E3-1200 V6 product family or higher, BIOS version with Intel<sup>®</sup> Optane<sup>™</sup> supported, Windows 10 version 1703 or higher, M.2 type 2280-S1-B-M connector on a PCH Remapped PCIe Controller and Lanes in a x2 or x4 configuration with B-M keys that meet NVMe<sup>™</sup> Spec 1.1, and an Intel<sup>®</sup> Rapid Storage Technology (Intel<sup>®</sup> RST) 15.5 driver.

14. Intel<sup>®</sup> Optane<sup>™</sup> memory system acceleration does not replace or increase the DRAM in your system. Requires 8th Gen or higher Intel<sup>®</sup> Core<sup>™</sup> processor, BIOS version with Intel<sup>®</sup> Optane<sup>™</sup> supported, Windows 10 64-bit, and an Intel<sup>®</sup> Rapid Storage Technology (Intel<sup>®</sup> RST) driver.

#### MEMORY

#### Maximum Memory

32 GB DDR4-2666 SDRAM<sup>15</sup>

#### Memory

32 GB DDR4-2666 SDRAM (1 X 32 GB)<sup>15</sup> 16 GB DDR4-2666 SDRAM (1 X 16 GB)<sup>15</sup> 8 GB DDR4-2666 SDRAM (1 X 8 GB)<sup>15</sup> 4 GB DDR4-2666 SDRAM (1 X 4 GB)<sup>15</sup>

#### **Memory Slots**

1 SODIMM Single slot is customer accessible / upgradeable DDR4 SODIMM, System runs at: 2666 (Comet Lake quad core) Supports Single Channel Memory

15. 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.



### **Technical Specifications**

#### **NETWORKING/COMMUNICATIONS**

#### WLAN

Intel<sup>®</sup> Dual Band Wireless-AX201 802.11a/b/g/n/ac (2x2) Wi-Fi 6 and Bluetooth<sup>®</sup> 5 Combo, vPro<sup>™17</sup> Intel<sup>®</sup> Dual Band Wireless-AX201 802.11a/b/g/n/ac (2x2) Wi-Fi 6 and Bluetooth<sup>®</sup> 5 Combo, non-vPro<sup>™17</sup>

#### WWAN

Intel<sup>®</sup> XMM<sup>™</sup> 7360 LTE-Advanced Cat 9<sup>17</sup> Intel<sup>®</sup> XMM<sup>™</sup> 7560 LTE-Advanced Pro Cat16<sup>18</sup>

#### NFC

NPC300 Near Field Communication module<sup>9</sup>

#### Miracast

Native Miracast Support<sup>19</sup>

9. Sold separately or as an optional feature.

16. 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. The specifications for Wi-Fi 6 (802.11ax) are draft 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 802.11ax devices.

17. WWAN module is an optional feature, requires factory configuration and requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products, in all regions.

18. Gigabit class Category 16 4G LTE module is optional and must be configured at the factory. Module designed for up to 1 Gbps download speeds as carriers deploy 5 carrier aggregation and 100Mhz channel bandwidth, requires activation and separately purchased service contract. Backwards compatible to HSPA 3G technologies. 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. purchased service contract. Backwards compatible to HSPA 3G technologies. Check with service provider for coverage and availability in your area. Connection, upload and download speeds will vary due to network, location, environment, network compatible to HSPA 3G technologies. 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. and other factors. 4G LTE not available on all products, in products, and other factors. 4G LTE not available on all products, in all regions.

19. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.



### **Technical Specifications**

#### AUDIO/MULTIMEDIA

#### Audio

Audio by Bang & Olufsen 2 Integrated stereo speakers (73dB) Integrated 3 Multi Array microphone

#### Camera

720p HD camera<sup>7</sup> 720p HD+IR camera<sup>7</sup>

#### Sensor

ALS (ambient light sensor) Magnetometer Hall Sensor Gyro Accelerometer

7. HD content required to view HD images.

#### **KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS**

#### Keyboard

HP Premium Keyboard, spill resistant, Backlit keyboard and DuraKeys HP Premium Keyboard, spill resistant, Non-Backlit keyboard and DuraKeys HP Premium Keyboard, spill resistant, Backlit keyboard and DuraKeys Privacy

#### **Pointing Device**

Clickpad with multi-touch gesture support, taps enabled as default Microsoft Precision Touchpad Default Gestures Support

#### **Function Keys**

F1 - Display Switching F2 - Night mode or Privacy (with LED) F3 - Brightness Down F4 - Brightness Up F5 - Audio Mute F6 - Volume Down F7 - Volume Up F8 - Mic Mute F9 - Blank or Backlit Toggle F10 - Insert F11 - Airplane Mode F12 - HP Programmable Key Print Screen

Power Button (with LED)

#### **Hidden Function Keys**

Fn+R - Break Fn+S - Sys Rq Fn+C - Scroll Lock



### **Technical Specifications**

#### SOFTWARE AND SECURITY

#### **Preinstalled Software**

#### BIOS

HP BIOSphere Gen5<sup>20</sup> HP Drive Lock & Automatic Drive Lock BIOS Update via Network Power On Authentication Secure Erase<sup>21</sup> Absolute Persistence Module<sup>22</sup> Pre-boot Authentication

#### Software

HP Connection Optimizer HP Hotkey Support HP JumpStarts HP Support Assistant<sup>23</sup> HP Noise Cancellation Software HP Workwell Buy Office (sold separately)

#### **Manageability Features**

HP Driver Packs<sup>24</sup> HP System Software Manager (SSM) HP BIOS Config Utility (BCU) HP Client Catalog HP Manageability Integration Kit Gen4<sup>25</sup> HP Image Assistant HP Client Management Script Library Ivanti Management Suite\* HP Cloud Recovery

#### **Client Security Software**

HP Client Security Manager Gen6<sup>26</sup> HP Fingerprint Sensor<sup>27</sup> (select models) HP Power On Authentication Windows Defender<sup>28</sup>

#### **Security Management**

Pre-boot Authentication TPM 2.0 Embedded Security Chip shipped with Windows 10 (Common Criteria EAL4+ Certified)<sup>29</sup> USB enable/disable (via BIOS) Power-on password (via BIOS) Setup password (via BIOS) HP Sure Click<sup>30</sup> HP Sure Click<sup>30</sup> HP Sure Start Gen6<sup>31</sup> HP Sure Run Gen3<sup>32</sup> HP Sure Recover Gen3<sup>33</sup> HP Sure Sense<sup>34</sup> HP Multi-Factor Authenticate Gen3<sup>35</sup>

#### **Smartcard Reader**

Model number: Alcor AU9560 FIPS 201 Compliant: Yes



### **Technical Specifications**

#### ТРМ

Model: Infineon SLB9670 Version: 7.85 Revision: TPM 2.0 FIPS 140-2 Compliant: Yes

20. HP BIOSphere Gen5 is available on select HP Pro and Elite PCs. See product specifications for details. Features may vary depending on the platform and configurations.

21. HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel<sup>®</sup> Optane™.

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 Support Assistant requires Windows and Internet access.

24. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.

25. HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html. 26. HP Client Security Manager Gen5 requires Windows and is available on the select HP Pro and Elite PCs.

27. HP Fingerprint Sensor is an optional feature and requires configuration at purchase.

28. Windows Defender Opt in and internet connection required for updates.

29. Firmware TPM is version 2.0. Hardware TPM is v1.2, which is a subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).re TPM is version 2.0. Hardware TPM is v1.2, which is a subset of the TPM 2.0 specification version v0.89 as implemented by Intel Platform Trust Technology (PTT).

30. HP Sure Click is available on select HP platforms and supports Microsoft Internet Explorer, Google Chrome<sup>™</sup>, and Chromium<sup>™</sup>. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office or Adobe Acrobat are installed.

31. HP Sure Start Gen5 is available on select HP PCs with Intel processors.

32. HP Sure Run Gen3 is available on select Windows 10 based HP Pro, Elite and Workstation PCs with select Intel® or AMD processors.

33. HP Sure Recover Gen3 is available on select HP PCs and requires an open network connection. Not available on platforms with multiple internal storage drives. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.

34. HP Sure Sense requires Windows 10.

35. HP Multi Factor Authenticate Gen3 is available on select HP PCs and requires Intel<sup>®</sup> Core<sup>™</sup> processor, Intel<sup>®</sup> integrated graphics, and Intel<sup>®</sup> WLAN. Three authentication factors requires Intel<sup>®</sup> vPro<sup>™</sup> Authentication factors may require optional hardware.

\*Ivanti Management Suite is a paid service



### **Technical Specifications**

#### POWER

#### **Power Supply**

HP Smart 45 W External AC power adapter<sup>37</sup> HP Smart 45 W External AC power adapter, 2-prong (Japan only)<sup>37</sup> HP Smart 65 W External AC power adapter<sup>37</sup> HP Smart 65 W EM External AC power adapter<sup>37</sup> 65 W USB Type-C<sup>®</sup> adapter<sup>37</sup> 65 W slim USB Type-C<sup>®</sup> adapter<sup>37</sup>

#### **Primary Battery**

HP Long Life 3-cell, 53 Wh Li-ion34<sup>38</sup> Support HP Fast Charge (Up to 50% in 30 minutes with 65W AC Adapter)<sup>39</sup>

#### **Power Cord**

2-wire plug - 1m (Japan only) 3-wire plug - 1m Premium - 1m

#### **Battery life**

MM14 Battery life UMA graphics: Up to 22 hours (Intel® 10th generation CPU and 3-cell 53 WHr battery) <sup>40</sup> MM18 Battery life UMA graphics: Up to 14 hours 15 minutes (Intel® 10th generation CPU and 3-cell 53 WHr battery)

#### **Battery Weight**

210 g ± 10 g

#### 37. Availability may vary by country.

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

39. Recharges the battery up to 50% within 30 minutes when the system is off or in standby mode. Power adapter with a minimum capacity of 65 watts is required. After charging has reached 50% capacity, charging will return to normal. Charging time may vary +/-10% due to System tolerance.

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



### **Technical Specifications**

#### **WEIGHTS & DIMENSIONS**

**Product Weight** Starting at 2.89 lb<sup>40</sup> Starting at 1.31 kg<sup>40</sup>

NOTE: Starting weight configuration includes FHD 400 nits BrightView Touch, 53 Wh battery, 4 GB, 128 GB SSD, HD + IR camera, No FPS, with WWAN Antenna, No NFC, and No Pen

**Product Dimensions (w x d x h)** 12.1 x 8.07 x 0.71 in 30.75 x 20.5 x 1.79 cm

40. Weight will vary by configuration.

#### **PORTS/SLOTS**

2 USB 3.1 Type-C<sup>®</sup> with Thunderbolt<sup>™</sup> support, DisplayPort<sup>™</sup> 1.2 2 USB 3.1 Gen 1 (1 charging)

1 USB 3.1 Gen 1
1 USB 3.1 Gen 1 (charging)
1 HDMI 1.4b<sup>8</sup>
1 headphone/microphone combo
1 4.5 mm AC Adapter Port
1 nano SIM card slot\*
1 Smartcard reader (optional)
Nano Security Lock Slot (Lock sold separately)

8. HDMI cable sold separately \*All units have a SIM card slot and icon but units that do not support WWAN are shipped with a non-removable SIM slot plug

#### **SERVICE AND SUPPORT**

HP Services offers 3-years and 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.<sup>41</sup>

41. 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.



### **Technical Specifications**

#### SYSTEM UNIT

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	19.5 V
	Average Operating Power	2.4 W
	Integrated Graphics	Yes
	Max Operating Power	UMA < 65 W
Temperature	Operating	32° to 95° F (0° to 35° C) (not writing optical)
	Non-operating	41° to 95° F (5° to 35° C) (writing optical)
Relative Humidity	Operating	10% to 90%, non-condensing
	Non-operating	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
Shock	Operating	40 G, 2 ms, half-sine
	Non-operating	200 G, 2 ms, half-sine
Random Vibration	Operating	0.75 grms
	Non-operating	1.50 grms
Altitude (unpressurized)	Operating	-50 to 10,000 ft (-15.24 to 3,048 m)
	Non-operating	-50 to 40,000 ft (-15.24 to 12,192 m)
Planned Industry Standard	UL	Yes
Certifications	CSA	Yes
	FCC Compliance	Yes
	ENERGY STAR®	Yes <sup>42</sup>
	EPEAT <sup>®</sup> 2019	Yes <sup>43</sup>
	ICES	Yes
	Australia	Yes
	NZ A-Tick Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	КС	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	BNCI or BELUS	Yes
	CIT	Yes
	GOST	Yes
	Saudi Arabian Compliance (ICCP)	Yes
	SABS	Yes

42. Configurations of the HP EliteBook x360 830 G7 that are ENERGY STAR<sup>®</sup> certified are identified as HP EliteBook x360 830 G7 ENERGY STAR<sup>®</sup> on HP websites and on http://www.energystar.gov.

43. Based on US EPEAT<sup>®</sup> registration according to IEEE 1680.1-2018 EPEAT<sup>®</sup>. Status varies by country. Visit http://www.epeat.net for more information.



### **Technical Specifications**

#### DISPLAYS

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

Panel LCD 13.3 inch	Outline Dimensions (W x H x D)	300.56 x 177.77 mm (max) (FPC folding included)
diagonal FHD (1920 x 1080) BrightView WLED UWVA 45% NTSC 250 nits eDP 1.2	Active Area	293.76 x 165.24 mm (typ.)
	Weight	260 g (max)
w/o PSR	Diagonal Size	13.3 inch
	Thickness	3.0 mm/ 5.0 mm (PCB) (max)
	Interface	eDP 1.2 (2lane)
	Surface Treatment	BrightView Glass
	Touch Enabled	Yes
	Contrast Ratio	600:1 (typ.)
	Refresh Rate	60 Hz
	Brightness	250 nits (Panel Only)
	Pixel Resolution	1920 x 1080 (FHD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	45% of NTSC
	Color Depth	6 bits
	Viewing Angle	UWVA 85/85/85
Panel LCD 13.3 inch diagonal FHD (1920 x 1080)	Outline Dimensions (W x H x D)	299.06 x 176.54 mm (max) (FPC folding included)
BrightView WLED UWVA		293.76 x 165.24 mm (typ.)
sRGB 100% NTSC 400 nits	Weight	175 g (max)
eDP 1.4+PSR2 bent	Diagonal Size	13.3 inch
	Thickness	2.0 mm / 3.8 mm (PCB) (max)
	Interface	eDP 1.4 w/ PSRII (2 lane)
	Surface Treatment	BrightView Glass
	Touch Enabled	Yes
	Contrast Ratio	1500:1(typ.)
	Refresh Rate	60 Hz
	Brightness	400 nits (Panel Only)
	Pixel Resolution Format of LCD Pixel Arrangement	1920 x 1080 (FHD)



Backlight

**Color Depth** 

**Viewing Angle** 

**Color Gamut Coverage** 

LED

8 bits

sRGB 100% (NTSC 72%)

UWVA 85/85/85/85

Panel LCD 13.3 inch diagonal FHD (1920 x 1080)	Outline Dimensions (W x H x D)	299.06 x 176.54 mm (max) (FPC folding included)
	Active Area	293.76 x 165.24 mm (typ.)
Anti-Glare WLED UWVA sRGB 100% NTSC 400 nits	Weight	175 g (max)
eDP 1.4+PSR2 bent	Diagonal Size	13.3 inch
	Thickness	2.0 mm / 3.8 mm (PCB) (max)
	Interface	eDP 1.4 w/ PSRII (2 lane)
	Surface Treatment	Anti-Glare Glass
	Touch Enabled	Yes
	Contrast Ratio	1500:1(typ.)
	Refresh Rate	60 Hz
	Brightness	400 nits (Panel Only)
	Pixel Resolution	1920 x 1080 (FHD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	sRGB 100% (NTSC 72%)
	Color Depth	8 bits
	Viewing Angle	UWVA 85/85/85/85



### **Technical Specifications**

Panel LCD 13.3-in diagonal FHD (1920 x 1080) Anti-FHD		299.06 x 176.54 mm (max)
	Active Area	293.76 x 165.24 mm (typ.)
(1920 x 1080) BrightView WLED UWVA 72% NTSC	Weight	220 g (max)
1000 nits eDP 1.4+PSR Sure	Diagonal Size	13.3 inch
View Reflect	Thickness	3.9 mm (max)
	Interface	eDP 1.4 + PSR (4 lane)
	Surface Treatment	BrightView glass
	Touch Enabled	Yes
	Contrast Ratio	1500:1 (typ.)
	Refresh Rate	60 Hz
	Brightness	1000 nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format of LCD Pixel Arrangement	RGB
	Backlight	LED
	Color Gamut Coverage	72%
	Color Depth	8 bits
	Viewing Angle	UWVA 85/85/85/85

#### **STORAGE AND DRIVES**

Note: 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.

SSD 128 GB 2280	Form Factor	M.2 2280
M2 SATA-3 TLC	Capacity	128 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	ATA-8, SATA 3.0
	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 256 GB 2280	Form Factor	M.2 2280	
M2 PCIe-3x4 SS NVMe TLC	Capacity	256 GB	
	NAND Type	TLC	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	PCIe NVMe Gen3X4	
	Maximum Sequential Read	Up To 3167 MB/s	
	Maximum Sequential Write	Up To 1663 MB/s 500,118,192	
	Logical Blocks		
	-		
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	ATA Security; TRIM; L1.2	
SSD 256 GB 2280 PCIe-3x4	Form Factor	M.2 2280	
NVMe Self Encrypted OPAL2 TLC	Capacity	256 GB	
	NAND Type	TLC	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	ATA-8, SATA 3.0	
	Maximum Sequential Read	Up To 3500 MB/s	
	Maximum Sequential Write	Up To 2200 MB/s	
	Logical Blocks	500,118,192	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	ATA Security (Option); TCG Opal 2.0; TRIM; L1.2	
256 GB 2280 PCIe NVMe	Form Factor	M.2 2280	
Value Solid State Drive	Capacity	256 GB	
	NAND Type	TLC	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Weight	0.02 lb (10 g)	
	Interface	PCIe NVMe Gen3X4	
	Maximum Sequential Read	Up To 1700 MB/s	
	Maximum Sequential Write	Up To 600 MB/s	
	Logical Blocks	500,118,192	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	TRIM; L1.2	



SSD 256 GB 2280 PCIe- 3x2x2 NVMe+SSD 16 GB Intel® Optane™	Form Factor	M.2 2280
	Capacity	256 GB
	NAND Type	QLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X2X2
	Maximum Sequential Read	Up to 1450 MB/s
	Maximum Sequential Write	Up to 500 MB/s
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security; TRIM; L1.2
SSD 512 GB 2280 M2 PCIe-	Form Factor	M.2 2280
3x4 SS NVMe TLC	Capacity	512 GB
	NAND Type	MLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	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 512 GB 2280 PCIe-3x4	Form Factor	M.2 2280
NVMe Self Encrypted OPAL2 TLC	Capacity	512 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up To 2900 MB/s
	Maximum Sequential Write	Up To 1400 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2



SSD 512 GB 2280 PCIe	Form Factor	M.2 2280
NVMe Value	Capacity	512 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up to 1700 MB/s
	Maximum Sequential Write	Up to 1500 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2
	reatures	TNP, L1.2
SSD 512 GB 2280 PCIe-	Form Factor	M.2 2280
3x2x2 NVMe+SSD 32 GB	Capacity	512 GB
Intel® Optane™	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up to 2400 MB/s
	Maximum Sequential Write	Up to 1300 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2
	<b>- -</b> .	W 2 2200
SSD 1 TB 2280 PCIe-3x4 NVMe TLC SS	Form Factor	M.2 2280
	Capacity	1 TB
	NAND Type	
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface Maximum Committee Dead	PCIe NVMe Gen3X4
	Maximum Sequential Read	Up to 3480 MB/s
	Maximum Sequential Write	Up to 2800 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**

#### **NETWORKING/COMMUNICATIONS**

	_	
Intel® Wi-Fi 6 <sup>1</sup> AX201 and Bluetooth® 5.0 802.11ax (2x2) vPro, supporting gigabit file transfer speeds vPro	Wireless LAN Standards Interoperability	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 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v 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	<ul> <li>•802.11b: 1, 2, 5.5, 11 Mbps</li> <li>•802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>•802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>•802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>•802.11a: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>•802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, 80MHz &amp; 160MHz)</li> <li>• 802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, 80MHz &amp; 160MHz)</li> </ul>
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security <sup>3</sup>	<ul> <li>IEEE compliant 64 / 128 bit WEP encryption for a/b/g mode only</li> <li>AES-CCMP: 128 bit in hardware</li> <li>802.1x authentication</li> <li>WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>WPA2 certification</li> <li>IEEE 802.11i</li> <li>WAPI</li> </ul>
	Network Architecture	Ad-hoc (Peer to Peer)
	Models	Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power <sup>2</sup>	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum
		• 802.11a: +18.5dBm minimum
		• 802.11n HT20(2.4GHz): +15.5dBm minimum
		• 802.11n HT40(2.4GHz): +14.5dBm minimum
		• 802.11n HT20(5GHz): +15.5dBm minimum
		• 802.11n HT40(5GHz): +14.5dBm minimum



## **Technical Specifications**

	• 802.11ac VHT1 • 802.11ax HT40	30(5GHz): +11.5dBm minimum  60(5GHz): +11.5dBm minimum )(2.4GHz): +10dBm minimum  60(5GHz): +10dBm minimum
Power Consumption	•Idle mode: 50 m	1.6 W 180 mW (WLAN Associated) nW (WLAN unassociated) ndby/Modern Standby: 10mW
Power Management		ress compliant power management It power saving mode
Receiver Sensitivity <sup>4</sup>	<ul> <li>•802.11b, 1Mbps: -93.5dBm maximum</li> <li>•802.11b, 11Mbps: -84dBm maximum</li> <li>•802.11a/g, 6Mbps: -86dBm maximum</li> <li>•802.11a/g, 54Mbps: -72dBm maximum</li> <li>•802.11n, MCS07: -67dBm maximum</li> <li>•802.11n, MCS15: -64dBm maximum</li> <li>•802.11ac, MCS0: -84dBm maximum</li> <li>•802.11ac, MCS9: -59dBm maximum</li> <li>•802.11ax, MCS11(HT40): -59dBm maximum</li> <li>•802.11ax, MCS11(VHT160): -58.5dBm maximum</li> </ul>	
Antenna type	enclosure Two embedded (	ntenna with spatial diversity, mounted in the display dual band 2.4/5 GHz antennas are provided to the card to IMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard with CNVi Interface	
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm	
Weight	1. Type 2230: 2.8 g 2. Type 126: 1.3 g	
Operating Voltage	3.3v +/- 9%	
Temperature	Operating Non-operating	Operating: 14° to 158° F (–10° to 70° C) Non-operating: –40° to 176° F (–40° to 80° C)
Humidity	Operating Non-operating	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating Non-operating	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Rad LED White – Rad	

#### HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1 Wireless Technology

<b>Bluetooth Specification</b>	4.0/4.1/4.2/5.0/5.1 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Signaling Data Rate	Legacy: 3 Mbps signaling data rate <sup>1</sup> 2.17 Mbps BLE: 1 Mbps signaling data rate <sup>1</sup> 0.2 Mbps 1. Actual throughput may vary.



### **Technical Specifications**

	Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
	Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 dBm for BR and EDR.
•	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
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
Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
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 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)
	Intel® vPro™ support with appropriate Intel® chipset components

Security & Manageability Intel® vPro™ support with appropriate Intel® chipset components

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. The specifications for Wi-Fi 6 (802.11ax) are draft 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 802.11ax devices. Only available in countries where 802.11ax is supported.

2. Maximum output power may vary by country according to local regulations.

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).

Wireless LAN Standards IEEE 802.11a IEEE 802.11b



Intel® Wi-Fi 6 <sup>1</sup> AX201 and Bluetooth® 5.0 802.11ax (2x2), non-vPro, supporting gigabit file transfer speeds) non- vPro		IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11h 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	<ul> <li>802.11b: 1, 2, 5.5, 11 Mbps</li> <li>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, 80MHz &amp; 160MHz)</li> <li>802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, 80MHz &amp; 160MHz)</li> </ul>
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security <sup>3</sup>	<ul> <li>IEEE compliant 64 / 128 bit WEP encryption for a/b/g mode only</li> <li>AES-CCMP: 128 bit in hardware</li> <li>802.1x authentication</li> <li>WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>WPA2 certification</li> <li>IEEE 802.11i</li> <li>WAPI</li> </ul>
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power <sup>2</sup>	<ul> <li>802.11b: +18.5dBm minimum</li> <li>802.11g: +17.5dBm minimum</li> <li>802.11a: +18.5dBm minimum</li> <li>802.11a: +18.5dBm minimum</li> <li>802.11n HT20(2.4GHz): +15.5dBm minimum</li> <li>802.11n HT40(2.4GHz): +14.5dBm minimum</li> <li>802.11n HT40(5GHz): +15.5dBm minimum</li> <li>802.11ac VHT80(5GHz): +11.5dBm minimum</li> <li>802.11ac VHT160(5GHz): +11.5dBm minimum</li> <li>802.11ax HT40(2.4GHz): +10dBm minimum</li> </ul>



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## QuickSpecs

### **Technical Specifications**

	• 802.11ax VHT1	60(5GHz): +10dBm minimum	
Power Consumption	<ul> <li>Transmit mode 2.0 W</li> <li>Receive mode 1.6 W</li> <li>Idle mode (PSP) 180 mW (WLAN Associated)</li> <li>Idle mode 50 mW (WLAN unassociated)</li> <li>Connected Standby 10mW</li> <li>Radio disabled 8 mW</li> </ul>		
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode		
Receiver Sensitivity <sup>4</sup>	<ul> <li>•802.11b, 1Mbps: -93.5dBm maximum</li> <li>•802.11b, 11Mbps: -84dBm maximum</li> <li>•802.11a/g, 6Mbps: -86dBm maximum</li> <li>•802.11a/g, 54Mbps: -72dBm maximum</li> <li>•802.11n, MCS07: -67dBm maximum</li> <li>•802.11n, MCS15: -64dBm maximum</li> <li>•802.11ac, MCS0: -84dBm maximum</li> <li>•802.11ac, MCS9: -59dBm maximum</li> <li>•802.11ax, MCS11(HT40): -59dBm maximum</li> <li>•802.11ax, MCS11(VHT160): -58.5dBm maximum</li> </ul>		
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	support WLAN MI	•	
Form Factor Dimensions	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3	MO communications and Bluetooth communications	
	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3	MO communications and Bluetooth communications MiniCard with CNVi Interface x 22.0 x 30.0 mm 7 x 12.0 x 16.0 mm g	
Dimensions	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3 2. Type 1216: 1.6 1. Type 2230: 2.8	MO communications and Bluetooth communications MiniCard with CNVi Interface x 22.0 x 30.0 mm 7 x 12.0 x 16.0 mm g	
Dimensions Weight	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3 2. Type 1216: 1.6 1. Type 2230: 2.8 2. Type 126: 1.3 g	MO communications and Bluetooth communications MiniCard with CNVi Interface x 22.0 x 30.0 mm 7 x 12.0 x 16.0 mm g	
Dimensions Weight Operating Voltage	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3 2. Type 1216: 1.6 1. Type 2230: 2.8 2. Type 126: 1.3 g 3.3v +/- 9% Operating	MO communications and Bluetooth communications MiniCard with CNVi Interface x 22.0 x 30.0 mm 7 x 12.0 x 16.0 mm g J 14° to 158° F (–10° to 70° C)	
Dimensions Weight Operating Voltage Temperature	support WLAN MI PCI-Express M.2 / 1. Type 2230: 2.3 2. Type 1216: 1.6 1. Type 2230: 2.8 2. Type 126: 1.3 g 3.3v +/- 9% Operating Non-operating Operating	MO communications and Bluetooth communications MiniCard with CNVi Interface x 22.0 x 30.0 mm 7 x 12.0 x 16.0 mm g J 14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C) 10% to 90% (non-condensing)	

#### HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1 Wireless Technology

Bluetooth Specification	4.0/4.1/4.2/5.0/5.1 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Signaling Data Rate	Legacy: 3 Mbps signaling data rate <sup>1</sup> 2.17 Mbps BLE: 1 Mbps signaling data rate <sup>1</sup> 0.2 Mbps 1. Actual throughput may vary.

Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels



### **Technical Specifications**

	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.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
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 Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

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. The specifications for Wi-Fi 6 (802.11ax) are draft 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 802.11ax devices. Only available in countries where 802.11ax is supported.

2. Maximum output power may vary by country according to local regulations.

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® XMM™ 7560 LTE-Advanced Pro DL CAT16<sup>1</sup> 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), 700 (Band



### **Technical Specifications**

	12 lower), 700 (Band 13 upper), 700 (Band 14 upper), 700 (Band 17 lower), 850 (Band 18 lower), 850 (Band 19 upper), 800 (Band 20), 1900 (Band 25), 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), 3500 (Band 42), 5200 (Band 46 RX only) HSPA+: 2100 (Band 1), 1900 (Band 2), 1700/2100 (Band 4), 850 (Band 5), 900 (Band 8) MHz
Wireless protocol standards	3GPP Release 12 LTE Specification DL-CAT.16, DL 100MHz BW throughput up to 978Mbps; UL-CAT.7 20MHz throughput up to 75Mbps 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: 978 Mbps (Download), 75 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
Maximum output power	LTE: 23 dBm in all band except B41 LTE B41 HPUE = 26 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	6 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.

Intel® XMM™ 7360 LTE- Advanced CAT9¹	······································	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)



Not all configuration components are available in all regions/countries. c06619568 — DA 16577 — Worldwide — Version 3 — October 15, 2020

### **Technical Specifications**

	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.

Near Field Communications Controller (optional)	Dimensions (L x W x H)	Module 25 mm by 10 mm by 2.0 mm	
	Chipset	NPC100	
	System interface	I2C	
	NFC RF standards	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 ISO/IEC 18092 ECMA-340 NFCIP-1 Target and Initiator ECMA-320 NFCIP-2	
	NFC Forum Support	Tag Type 1, Type 2, Type3 and Type 4, NFCIP-1 and NFCIP-2	
	Reader (PCD-VCD) Mode <sup>1</sup>	ISO/IEC 14443 A ISO/IEC 14443 B ISO/IEC 15693 MIFARE 1K MIFARE 4K MIFARE DESFire FeliCa Jewel and Topaz cards	
	Card Emulation (PICC- VICC) Mode <sup>1</sup>	ISO/IEC 14443 A ISO/IEC 14443 B and B' MIFARE FeliCa	
	Frequency	13.56 MHz	
	NFC Modes Supported	Reader/Writer, Peer-to-Peer	
	Raw RF Data Rates	106, 212, 424, 848 kbps	
	Operating temperature	0°C to 70°C	
	Storage temperature	-20°C to 125°C	
	Humidity	10-90% operating 5-95% non-operating	
	Supply Operating voltage	4.35 to 5.25 Volts	

Not all configuration components are available in all regions/countries. c06619568 — DA 16577 — Worldwide — Version 3 — October 15, 2020

### **Technical Specifications**

	I/O Voltage	1.8 V or 3.3 V
Power Consumption (Booster enable, VBAT=	Mode Plling	Power Consumption, Typical 7.3 mA
3.3V, VCC_BOOST = 5V)	Detected Test Tag Type 1	Total 283.8 mA Net Module 236.8 mA
	Detected Test Tag Type 2	Total 288.8 mA Net Module 241.8 mA
	Detected Test Tag Type 3	Total 287.7 mA Net Module 240.7 mA
	Detected Test Tag Type 4	Total 282.3 mA Net Module 235.3 mA
	Antenna	Antenna connector, 0.5mm pitch, 7 connector FPC. Antenna matching is external to module.

#### POWER

AC Adapter 65 Watt Smart nPFC Standard Barrel 4.5 mm Right Angle 1.0 m	Dimensions (H x W x D)	107.0 x 47.0 x 30.0mm		
	Weight	250 g +/- 10 g Not including power cord. Power cord varies by country		
	Input	Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230Vac	
		Input frequency range	47 ~ 63 Hz	
		Input AC current	Max. 1.7 A at 90 Vac	
	Output	Output power	65 W	
		DC output	19.5 V	
		Hold-up time	5ms at 115 Vac input	
		Output current limit	<11.0A	
	Connector	4.5mm Barrel Type		
	Environmental Design	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	CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. MTBF - over 200,000 hours at 25°C ambient condition.		

**Dimensions (H x W x D)** 95.0 x 40.0 x 26.5 mm



	Weight	200 g +/- 10 g	
	weight	Not including power cord. Pov	wer cord varies by country
	Input	Input Efficiency	87.74 % at 115 Vac and 88.4 % at 230Vac
		Input frequency range	47 ~ 63 Hz
		Input AC current	Max. 1.4 A at 90 Vac
	Output	Output power	45 W
		DC output	19.5 V
		Hold-up time	5 ms at 115 Vac input
		Output current limit	<8.0 A
AC Adapter 45 Watt	Connector	4.5mm Barrel Type, 3 pin/	grounded, mates with interchangeable cords
Smart nPFC Standard Barrel 4.5 mm Right Angle 1.0 m	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 5000m)
		Humidity	20% to 95%
		Storage Humidity	10% to 95%
	EMI and Safety Certifications	Worldwide safety standard SELV; Agency approvals - ( FCC Class B, CISPR22 Class	with LVD and EMC directives ds - IEC60950, EN60950, UL60950, Class1, C-UL-US, NORDICS, DENAN, EN55022 Class B, s B, CCC, NOM-1 NYCE. s at 25°C ambient condition.
AC Adapter 45 Watt Smart	Dimensions (H x W x D)	95 x 45 x 26.8 mm	
nPFC Standard Barrel 4.5 mm Right Angle 1.0 m	Weight	200 g +/- 10 g Not including power cord. Pov	wer cord varies by country
2prong	Input	Input Efficiency	87.74 % at 115 Vac and 88.4 % at 230Vac
		Input frequency range	47 ~ 63 Hz
		Input AC current	Max. 1.4 A at 90 Vac
	Output	Output power	45 W
		DC output	19.5 V
		Hold-up time	5 ms at 115 Vac input
		Output current limit	<8.0 A
	Connector	4.5 mm Barrel Type	
	Environmental Design	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)



### **Technical Specifications**

rechnicat Specifi	cations		
		Storage Humidity	10% to 95%
	EMI and Safety Certifications	Worldwide safety standar SELV; Agency approvals – FCC Class B, CISPR22 Class	with LVD and EMC directives ds - IEC60950, EN60950, UL60950, Class1, C-UL-US, NORDICS, DENAN, EN55022 Class B, B, CCC, NOM-1 NYCE. s at 25°C ambient condition.
AC Adapter 65 Watt nPFC Standard USB	Dimensions (H x W x D)	90.0 x 51 x 28.5 mm	
Type-C <sup>®</sup> Straight 1.0 m	Weight	250 g +/- 10 g Not including power cord. Po	wer cord varies by country
	Input	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 @ 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 63Hz
		Input AC current	1.6 A at 90 VAC and maximum load
	Output	Output Power	65 W
		DC output	5V/9V/12V/15V/20V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	8.0 A MAXIMUM
	Connector	USB Type-C®	
	Environmental Design	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	Worldwide safety standar Class1, SELV; Agency appr Class B, FCC Class B, CISPR	with LVD and EMC directives ds - IEC60950, EN60950, UL60950, ul62368, ovals - C-UL-US, NORDICS, DENAN, EN55022 22 Class B, CCC, NOM-1 NYCE. s at 25°C ambient condition.

AC Adapter 65 Watt Smart nPFC EM Barrel 4.5 mm New EM	Dimensions (H x W x D) Weight	102 x 55 x 30mm 270 g +/- 10 g Not including power cord. Pc	nuer corduction hu countru
	Input	Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230Vac



Not all configuration components are available in all regions/countries. c06619568 — DA 16577 — Worldwide — Version 3 — October 15, 2020

## **Technical Specifications**

	Input frequency range	47 to 63 Hz
	Input AC current	Max. 1.7 A at 90 Vac
Output	Output power	65 W
	DC output	19.5 V
	Hold-up time	5 msec at 115 VAC input
	Output current limit	<11.0 A
Connector	4.5mm Barrel Type, 3 pin/	grounded, mates with interchangeable cords
Environmental Design	Operating temperature	32°F to 95°F (0° to 35°C)
	Non-operating (storage) temperature	-4°F to 185°F (-20° to 85°C)
		-4°F to 185°F (-20° to 85°C) 0 to 5,000 m
	temperature	
	temperature Altitude	0 to 5,000 m

AC Adapter 65 Watt	Dimensions (H x W x D)	90.0 x 51 x 28.5 mm	
nPFC Standard USB Type-C® Straight 1.0 m	Weight	250 g +/- 10 g Not including power cord. Po	wer cord varies by country
	Input	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 @ 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 63Hz
		Input AC current	1.6 A at 90 VAC and maximum load
	Output	Output Power	65 W
		DC output	5V/9V/12V/15V/20V
		Hold-up time	5 msec at 115 VAC input
		Output current limit	8.0 A MAXIMUM
	Connector	USB Type-C®	
	Environmental Design	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)

Not all configuration components are available in all regions/countries. c06619568 — DA 16577 — Worldwide — Version 3 — October 15, 2020

			Humidity	20% to 95%	
Certifications       Worldwide safety istandards - IEC60950, EK00950, UL62368, Class S, EVC (2003 paprovis) - CUI-US, NORDICS, DENAN, ENSSO22 Class B, CCC (2003 hours at 25°C ambient condition.         AC Adapter 65 Watt mPFC Stim USB type C° Straight 1.0 m       Dimensions (H x W x D) Weight       88 x 53.5 x 21 mm 220 g +/ 10g Not including power cord. Power cord varies by country Input         Input       Input Efficiency       81.5% min at 115 Vac/ 230Vac @ 2V/3A 88% min at 115 Vac/ 230Vac @ 12V/5A 88% min at 115 Vac/ 130Vac @ 120 g 68% min at 115 Vac/ 130Vac @ 120 g 618/7 Vac/ at 16A at 100 molecular 98% min at 115 Vac/ 130Vac @ 120 g 618/7 Vac/ at 16A at 100 molecular 98% min at 115 Vac/ 130Vac @ 120 g 618/7 Vac/ at 10 g 618/7 Vac/ at 115 Vac/ 130Vac @ 120 g 618/7 Vac/ at 10 g 618/7 Vac/ at 100,000 hours at 25°C ambient condition.			Storage Humidity	10% to 95%	
MPFC Slim USB type C*     Weight     220 g +/- 10g Not including power cord. Power cord varies by country       Input     Input Efficiency     81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 2V/3A 88% min at 115 Vac/ 230Vac @ 2V/3A 88% min at 115 Vac/ 230Vac @ 20V/3.25A       Input frequency range     47 to 63 Hz       Input AC current     1.6 A at 90 VAC and maximum load       Output     Output Power     65 W       DC output     5/V/9V/12V/15V/20V       Hold-up time     5 ms at 115 Vac input       Output current limit     <8.0 A			CE Mark - full compliance with LVD and EMC directives Worldwide safety standards - IEC60950, EN60950, UL60950 Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE.		
Straight 1.0 m       Weight       220 97-109         Not including power cord. Power cord varies by country       Not including power cord. Power cord varies by country         Input       Input Efficiency       81.5% min at 115 Vac/ 230Vac @ 9V/3A         867.7% min at 115 Vac/ 230Vac @ 12V/5A       88% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         89% min at 115 Vac/ 230Vac @ 12V/5A       89% min at 115 Vac/ 230Vac @ 12V/5A         80       Not including power cord       65 W         0utput       Output Power       65 W         Doutput tourrent limit       <6.0 A	AC Adapter 65 Watt	Dimensions (H x W x D)	88 x 53.5 x 21 mm		
Market S3       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         Voltage       Voltage       11.5 Voltage         Voltage       Voltage       11.5 Voltage         Voltage       11.5 Voltage       11.5 Voltage		Weight			
Input AC current       1.5 A at 90 VAC and maximum load         Output       Output Power       65 W         DC output       SV/9V/12V/15V/20V         Hold-up time       5 ms at 115 Vac input         Output current limit       <8.0 A		Input	Input Efficiency	86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A	
Output       Output Power       65 W         DC output       5V/9V/12V/15V/20V         Hold-up time       5 ms at 115 Vac input         Output current limit       <8.0 A			Input frequency range	47 to 63 Hz	
DC output5V/9V/12V/15V/20VHold-up time5 ms at 115 Vac inputOutput current limit<8.0 A			Input AC current	1.6 A at 90 VAC and maximum load	
Hold-up time       5 ms at 115 Vac input         Output current limit       <8.0 A		Output	Output Power	65 W	
Connector       USB Type-C®         Environmental Design       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       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 - 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.         HP 3 Cell WHr 53 Long Life -PL Fast Charge       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         Weight       210 g ± 10 g       210 g ± 10 g         Cells/Type       3cell Lithium-Ion Polymer - ell / 645180         Energy       Voltage       11.55 V			DC output	5V/9V/12V/15V/20V	
ConnectorUSB Type-C®Environmental DesignOperating temperature32°F to 95°F (0° to 35°C) temperatureNon-operating (storage)-4°F to 185°F (-20° to 85°C) temperatureAttitude0 to 16,400 ft (0 to 5000m) HumidityHumidity5% to 95%Storage Humidity5% to 95%EMI and Safety CertificationsCE 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.HP 3 Cell WHr 53 Long Life -PL Fast ChargeDimensions (H x W x D) Weight Cells/Type267.3 x 59.75 x 7.5 mm 210 g ± 10 g Cell Lithium-Ion Polyme - tell / 645180 Energy			Hold-up time	5 ms at 115 Vac input	
Environmental Design       Operating temperature       32°F to 95°F (0° to 35°C)         Non-operating (storage)       -4°F to 185°F (-20° to 85°C)         temperature       Altitude       0 to 16,400 ft (0 to 5000m)         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.         HP 3 Cell WHr 53 Long Life -PL Fast Charge       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         Weight       210 g ± 10 g       210 g ± 10 g         Cells/Type       3cell Lithium-Ion Polymer cell / 645180         Energy       Voltage       11.55 V			Output current limit	<8.0 A	
HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         Keight       210 g ± 10 g         Fast Charge       Voltage       11.55 V		Connector	USB Type-C®		
HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         HP 3 Cell WHr 53       Dimensions (H x W x D)       267.3 x 59.75 x 7.5 mm         Fast Charge       Voltage       11.55 V		Environmental Design		32°F to 95°F (0° to 35°C)	
Humidity5% to 95%Storage Humidity5% to 95%EMI and Safety CertificationsCE 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.HP 3 Cell WHr 53 Long Life -PL Fast ChargeDimensions (H x W x D) Weight Cells/Type Energy267.3 x 59.75 x 7.5 mm 267.3 x 59.75 x 7.5 mmEnergyVoltage11.55 V				-4°F to 185°F (-20° to 85°C)	
Kend and Safety CertificationsStorage Humidity5% to 95%EMI and Safety CertificationsCE 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.HP 3 Cell WHr 53 Long Life -PL Fast ChargeDimensions (H x W x D) Weight Cells/Type Energy267.3 x 59.75 x 7.5 mm 210 g ± 10 g 3cell Lithium-Ion Polymer cell / 645180 11.55 V			Altitude	0 to 16,400 ft (0 to 5000m)	
EMI and Safety CertificationsCE 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.HP 3 Cell WHr 53 Long Life -PL Fast ChargeDimensions (H x W x D) Weight Cells/Type Energy267.3 x 59.75 x 7.5 mmWeight Energy210 g ± 10 g Scell Lithium-Ion Polymer cell / 645180 11.55 V			Humidity	5% to 95%	
CertificationsWorldwide 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.HP 3 Cell WHr 53 Long Life -PL Fast ChargeDimensions (H x W x D) Weight Cells/Type267.3 x 59.75 x 7.5 mmWeight Cells/Type Energy210 g ± 10 g Cell Lithium-Ion Polymer cell / 645180 11.55 V			Storage Humidity	5% to 95%	
Long Life -PL Fast ChargeWeight210 g ± 10 gCells/Type3cell Lithium-Ion Polymer cell / 645180EnergyVoltage11.55 V			Worldwide safety standar SELV; Agency approvals - FCC Class B, CISPR22 Class	ds - IEC60950, EN60950, UL60950, Class1, C-UL-US, NORDICS, DENAN, EN55022 Class B, s B, CCC, NOM-1 NYCE.	
Fast Charge     Weight     210 g ± 10 g       Cells/Type     3cell Lithium-Ion Polymer cell / 645180       Energy     Voltage     11.55 V	HP 3 Cell WHr 53	Dimensions (H x W x D)	267.3 x 59.75 x 7.5 mm		
Cells/Type3cell Lithium-Ion Polymer cell / 645180EnergyVoltage11.55 V	Long Life -PL East Charge	Weight	210 g ± 10 g		
	rast unarge	Cells/Type			
		Energy	Voltage	11.55 V	
			Amp-hour capacity	4590 mAh	



### **Technical Specifications**

	Watt-hour capacity	53 Wh
Temperature	Operating (Charging)	32° to 113° F (0° to 45° C)
	Operating (Discharging)	14° to 122° F (-10° to 60° C)
	Optional Travel Battery Available	Νο

#### **Country of Origin**

China



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

Tupo	Description	Part Number
Type Cases	<b>Description</b> HP Business Backpack (up to 17.3")	2SC67AA
Lases	HP Business Case (up to 15.6")	2SC67AA 2SC66AA
	HP Business Clase (up to 13.6 ) HP Business Slim Top Load (up to 14.1" x .75" thick)	2SC65AA 2SC65AA
	HP Prelude Pro Recycled Top Load (up to 14.1 x .75 thick)	1X645AA
		TV042AA
Docking	HP USB-C Mini Dock	1PM64AA
	HP Thunderbolt Dock 120W G2	2UK37AA
	HP TB Dock 120W G2 w/ Audio	3YE87AA
	HP USB-C/A Universal Dock G2	5TW13AA
	HP USB-C Dock G5	5TW10AA
	HP USB-C Travel Hub G2	7PJ38AA
	HP Elite USB-C Hub	4WX89AA
Input/Output	HP Slim Wireless Keyboard and Mouse	T6L04AA
mpac/output	HP Slim USB Keyboard and Mouse	T6T83AA
	HP Wireless (Link-5) Keyboard	T6U20AA
	HP USB Essential Keyboard and Mouse	H6L29AA
	HP USB Collaboration Keyboard	Z9N38AA
	HP Wireless Collaboration Keyboard	Z9N39AA
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP X4000b Bluetooth Mouse	НЗТ5ОАА
	HP 3-Button USB Laser Mouse	H4B81AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Wireless Premium Mouse	1JR31AA
	HP USB Premium Mouse	1JR32AA
	HP Essential USB Mouse	2TX37AA
	HP Elite Presenter Mouse	2CE30AA
	HP Bluetooth Travel Mouse	6SP30AA
	HP Stereo 3.5mm Headset	T1A66AA
	HP Stereo USB Headset	T1A67AA
	HP UC Wireless Duo Headset	W3K09AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C to DP	N9K78AA
	HP USB-C to VGA	N9K76AA
	HP HDMI to VGA	H4F02AA
	HP USB-C to HDMI 2.0 Adapter	1WC36AA
	HP USB-C to RJ45 Adapter	V7W66AA
Power	HP 65W Slim AC Adapter	H6Y82AA
	HP 45W Smart AC Adapter	H6Y88AA
	HP 65W Smart AC Adapter	H6Y89AA
	·	-



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

	HP 45W 2-prong 4.5 mm DC jack AC Adapter HP 45W USB-C Power Adapter HP 65W USB-C Power Adapter	L6F60AA 1HE07AA 1HE08AA
	HP 65W USB-C Slim Power Adapter	3PN48AA
	HP Notebook Power Bank	N9F71AA
	HP USB-C Notebook Power Bank	1TZ86AA
Storage	HP USB External DVDRW Drive	F2B56AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
	HP Nano Dual-Head Keyed Cable Lock	1AJ41AA
	HP Sure Key Cable Lock	6UW42AA
WWAN	HP XMMT 7360 LTE WWAN	3FB01AA
Other	HP Rechargeable Active Pen G3	6SG43AA



### Change Log

Date of change:	Version History:	Description of change:
	From V1 to V2	Battery updated
	From V2 to V3	Accessories, Processor section updated

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