Overview

HP EliteBook 840 Aero G8 Notebook PC



Left

1. Ambient Light Sensor (Optional)
2. Internal Microphones (2)
3. Webcam LED (Optional)
4. Camera Shutter
5. HD and IR Camera (Optional)
6. IR Camera LEDs (Optional)
7. Glass Clickpad
8. Smartcard Reader (Optional)
9. Audio Combo Jack
10. SuperSpeed USB Type-A 5Gbps signaling rate
11. SuperSpeed USB Type-A 5Gbps signaling rate (1 Charging)
12. Nano Security Lock Slot (Lock sold separately)

Overview



Right

1. Power Button Key
2. Power Connector
3. HDMI 2.0b Port (Cable not included)
4. Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) [1]
5. Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) [1]
6. SIM Card Slot (Optional)
7. Touch Fingerprint Sensor (Select models)

1.SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

Overview

AT A GLANCE

- Starting at less than 2.50 lbs (1.13 kg)[1] you can take the HP EliteBook 840 Aero anywhere without feeling weighed down
- Premium ultraslim design with precision-crafted and recycled magnesium chassis for a premium look and feel
- 11th Generation Intel® Core™ i5, i7 Processors up to four-core
- Preinstalled with Windows 10 versions or FreeDOS
- Designed to support all HP docking options including the HP Universal Dock G5 (Sold separately)
- Featuring the redesigned quiet HP Keyboard with the HP Programmable key and backlit options
- Innovative world-facing third mic improves inbound ambient noise cancellation while 360-degree mic pick-up allows everyone to clearly hear and be heard
- Optional ultrabright displays with ambient light sensor
- Choice of displays:
  35.6 cm (14”) diagonal FHD IPS Anti-Glare LED-backlit, 250 nits, 45% NTSC
  35.6 cm (14") diagonal FHD IPS Anti-Glare LED-backlit non-touch 400 nits, 72% NTSC
  35.6cm (14") diagonal FHD IPS Anti-Glare LED-backlit non-touch, 1000 nits, 100% sRGB with HP Sure View Reflect
  35.6cm (14") diagonal FHD IPS Anti-Glare On-Cell LED-backlit touch, 250 nits, 45% NTSC
- Enterprise grade security with HP Sure Sense, HP Sure Start Gen 6, HP Privacy Camera, HP Sure View Reflect, HP Sure Run Gen4, HP Sure Recover Gen4 with Embedded Reimaging, HP Sure Click, SmartCard Reader and Touch Fingerprint reader
- Connectivity with optional Intel® XMM™ 7360 LTE-Advanced Cat 9, Qualcomm® Snapdragon™ X55 5G ModemCat 20 and Thunderbolt™ Docking (Dock sold separately)
- Supports fast charging (50% in 30 minutes) with no impact on battery recharge cycles
- Choice of solid state drives up to 2 TB and DDR4 memory up to 64 GB
- Undergoes MIL-STD 810H tests[2]
- Intel® Iris® Xᵉ Graphics

1. WWAN, SureView Reflect, 250n panel, 2xDIMMs, Smart Card Slot and EMMC not available on configurations starting at less than 2.5 lbs on HP EliteBook 840 Aero G8.
2. MIL-STD 810H is not intended to demonstrate fitness of 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.

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

Technical Specifications

PRODUCT NAME

HP EliteBook 840 Aero G8 Notebook PC

OPERATING SYSTEM

Preinstalled

Windows 10 Pro 64 – HP recommends Windows 10 Pro for business[1]
Windows 10 Pro 64 (National Academic License)[1,2]
Windows 10 Home 64[1]
Windows 10 Home Single Language 64[1]
Windows 10 Pro (Windows 10 Enterprise available with a Volume Licensing Agreement)[1]
Windows 10 Enterprise 64 (Web Support) [1]
FreeDOS

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. 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.

NOTE: HP tested Windows 10, version 1909 on this platform. For testing information on newer versions of Windows 10, please see https://support.hp.com/document/c05195282.

PROCESSORS

Intel® Core™ i7-1165G7 processor (2.8 GHz base frequency, up to 4.7 GHz with Intel® Turbo Boost Technology, 12 MB L3 cache, 4 cores) [3,4,5,6]
Intel® Core™ i7-1185G7 (3.0 GHz base frequency; up to 4.8 GHz with Intel® Turbo Boost Technology, 12 MB L3 cache, 4 cores), supports Intel® vPro® Technology [3,4,5,6]
Intel® Core™ i5-1135G7 (2.4 GHz base frequency, up to 4.2 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores) [3,4,5,6]
Intel® Core™ i5-1145G7 (2.6 GHz base frequency; up to 4.4 GHz with Intel® Turbo Boost Technology, 8 MB L3 cache, 4 cores), supports Intel® vPro® Technology [3,4,5,6]

Processor Family

11th Generation Intel® Core™ i7 processor (i7-1165G7)[6]
11th Generation Intel® Core™ i7 processor (i7-1185G7)[6]
11th Generation Intel® Core™ i5 processor (i5-1135G7)[6]
11th Generation Intel® Core™ i5 processor (i5-1145G7)[6]

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® Turbo Boost performance varies depending on hardware, software and overall system configuration. See www.intel.com/technology/turboboost 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.

CHIPSET

Chipset is integrated with processor.

GRAPHICS

Integrated

Intel® Iris® Xᵉ Graphics[7]

Supports

Support HD decode, DX12, HDMI 2.0b, HDCP 2.37[8]

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

8. HDMI cable sold separately.

DISPLAY

Non-Touch

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP, 250 nits, 45% NTSC for HD + IR Camera for WWAN 4G (1920 x 1080) [9,10]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP, 250 nits, 45% NTSC for HD + IR Camera for WWAN 5G (1920 x 1080) [9,10]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 400 nits, 100% sRGB, Low Power Ambient Light Sensor for HD + IR Camera (1920 x 1080) [9,10]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 400 nits, 100% sRGB, Low Power Ambient Light Sensor for HD + IR Camera for WWAN 4G (1920 x 1080) [9,10]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 400 nits, 100% sRGB, Low Power Ambient Light Sensor for HD + IR Camera for WWAN 5G (1920 x 1080) [9,10]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 1000 nits, 100% sRGB with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor for HD + IR Camera (1920 x 1080) [9,10,11,12]

Technical Specifications

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 1000 nits, 72% NTSC with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor for HD + IR Camera for WWAN 4G (1920 x 1080) [9,10,11,12]

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP+PSR, 1000 nits, 72% NTSC with HP Sure View Reflect integrated privacy screen, Ambient Light Sensor for HD + IR Camera for WWAN 5G (1920 x 1080) [9,10,11,12]

Touch

35.56 cm (14") diagonal FHD bent, anti-glare UMA eDP, 250 nits, 45% NTSC for HD + IR Camera for WWAN 4G Touch on Panel (1920 x 1080) [9,10,11,12]

HDMI 2.0[13]

Support resolution up to 4K @60 Hz

9. FHD/HD content required to view FHD/HD images.
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 is designed to function in landscape orientation.
12. Actual brightness will be lower with touchscreen or Sure View.
13. HDMI cable sold separately.

Docking station model (Sold separately)	Total number of supported displays (incl. the notebook) display)	Max resolutions supported for DP 1.4 hosts with DSC	Dock Connectors	Technical limitations / additional information For more details refer to HP Dock QuickSpecs http://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c04168358 All information below applies to platforms running DP 1.4 with DSC
HP Thunderbolt Dock G2	Max number of displays = 4	Dual 8K@ 60Hz in high res mode	2xDP, 1xVGA, 1xTB, 1xUSB-C alt-mode	Max displays = 4 with max resolution of 5K@ 30Hz running Thunderbolt host Max resolution possible is dual 8K displays @ 60Hz running Thunderbolt host or running a non-Thunderbolt host in High Resolution mode The highest resolution for dual displays running a non-Thunderbolt host in Multi-function mode is one 5K dual cable (using both DP ports) + one 4K on USB-C DP port

Technical Specifications

HP USB-C Dock G5	3	Dual 5K@ 30Hz + 1 4K UHD (multi-function mode)	1xHDMI, 2xDP	Three maximum displays supported are two 5K@ 30 Hz on DP ports plus one 4K UHD@ 30 Hz on HDMI in Multi-function mode Highest resolution with dual displays is two 8K@ 60Hz host in High Resolution mode The highest resolution for running a non-Thunderbolt host in Multi-function mode is a single 5K dual cable (using both DP ports) + one 4K on HDMI port
HP USB-C/A Universal Dock G2	3	Triple 4K UHD@ 60Hz	1xHDMI, 2xDP	In High Resolution, mode the max available is one display. This dock's best use case is triple display. The best resolution for dual display is two 4K UHD@ 60Hz Highest triple displays resolution available is three 4KUHD @60Hz using both DP and 1 HDMI port. Best single display is with High Resolution mode using HDMI port.
HP USB-C Travel Dock G2	1	Single 4K@ 30 Hz 4960 x 2160 (via HDMI)	1xHDMI, 1xVGA	Single external display using either HDMI or VGA

STORAGE AND DRIVES

Primary M.2 Storage

2 TB PCIe® Gen3x4 NVMe™ M.2 SSD TLC[14]

1 TB PCIe® Gen3x4 NVMe™ M.2 SSD TLC[14]

512 GB PCIe® Gen3x4 NVMe™ M.2 SSD TLC [14]

256 GB PCIe® Gen3x4 NVMe™ M.2 SSD TLC[14]

512 GB PCIe® NVMe™ Value M.2 SSD[14]

256 GB PCIe® NVMe™ Value M.2 SSD[14]

512 GB PCIe®Gen 3x4 NVMe™ M.2 SED TLC OPAL2[14]

256 GB PCIe® Gen3x4 NVMe™ M.2 SED TLC OPAL2[14]

512 GB Intel® PCIe® NVMe™ QLC M.2 SSD with 32 GB Intel® Optane™ memory H10[14,15]

14. 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.
15. Intel® Optane™ H10 memory system acceleration does not replace or increase the DRAM in your system. Requires 8th Gen or higher Intel® Core™ processor, BIOS version with Intel® Optane™ supported, Windows 10 64-bit, and an Intel® Rapid Storage Technology (Intel® RST) driver.

MEMORY

Maximum Memory
64 GB DDR4-3200 SDRAM[16]

Memory
64 GB DDR4-3200 SDRAM (2 x 32 GB)[16]
32 GB DDR4-3200 SDRAM (2 x 16 GB)[16]
16 GB DDR4-3200 SDRAM (2 x 8 GB) [16]
16 GB DDR4-3200 SDRAM (1 x 16 GB) [16]
8 GB DDR4-3200 SDRAM (1 x 8 GB) [16]

Memory Slots
2 SODIMM
DDR4 SODIMMS, system runs at 3200
Supports Dual Channel Memory

16. 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® Dual Band Wi-Fi® 6 AX201 802.11a/b/g/n/ac/ax (2x2) WLAN and Bluetooth® 5 Combo, vPro®[17, 18]

Intel® Dual Band Wi-Fi® 6 AX201 802.11a/b/g/n/ac/ax (2x2) WLAN and Bluetooth® 5 Combo, non-vPro®[17]

WWAN

Intel® XMM™ 7360 LTE-Advanced Cat 9 [19]

Qualcomm® Snapdragon™ X55 5G ModemCat 20 [20]

Miracast

Native Miracast Support[21]

Near Field Communications (NFC) Module [22]

HP Module with NXP NFC Controller NPC300 12C NCI

17. 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.
18. For full Intel® vPro™ functionality, Windows, a vPro supported processor, vPro enabled chipset, vPro enabled WLAN card and discrete TPM 2.0 are required. See https://www.intel.com/content/www/us/en/architecture-and-technology/vpro/vpro-platform-general.html
19. 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. LTE not available on all products, in all regions.
20. 5G module is an optional feature that must be configured at purchase. AT&T and T-Mobile networks supported in the U.S. Module designed for 5G networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP, requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. 5G not available on all products, in all regions. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select countries, where carrier supported.
21. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.
22. Sold separately or as an optional feature.

Technical Specifications

AUDIO/MULTIMEDIA

Audio
Audio by Bang & Olufsen
2 Integrated stereo speakers
Integrated microphone (3-Mic Array)
World- Facing microphone

Speaker Power
2W/4ohm Per speaker

Camera
720p HD+IR camera[9,22]

Sensors
Ambient light sensor
Hall Sensor
HP Tamper Lock[23]

9. FHD/HD content required to view FHD/HD images.
22. Sold separately or as an optional feature.
23. HP Tamper Lock must be enabled by the customer or your administrator.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard [24]
HP Premium Keyboard – spill-resistant, backlit keyboard

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

Function Keys
F1 - Display Switching
F2 - Blank or Privacy
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 Command Center (Programmable Key)
Print Screen
Power Button (with LED)

Hidden Function Keys
Fn+R - Break
Fn+S - Sys Rq
Fn+C - Scroll Lock

24. Keyboards are made from up to 65% post-consumer recycled plastic.

SOFTWARE AND SECURITY

Preinstalled Software
BIOS
HP BIOSphere Gen6[25]
HP Drive Lock & Automatic Drive Lock
BIOS Update via Network
HP Secure Erase[26]
Absolute Persistence Module[27]
HP LAN-Wireless Protection
USB enable/disable (via BIOS)

Software
HP Easy Clean [55]
HP Connection Optimizer[28]
HP Hotkey Support
myHP
HP Support Assistant[29]
HP QuickDrop [30]
HP Noise Cancellation Software
Touchpoint Customizer for Commercial
HP Notifications
HP Privacy Settings
HP Wireless Button Driver
HP Power Manager
HP WorkWell
Tile App[31]
HP PC Hardware Diagnostics Windows

Technical Specifications

Microsoft Defender [32]
Buy Microsoft Office (Sold separately)

Manageability Features
HP Driver Packs (download)[33]
HP Manageability Integration Kit Gen4 (download)[34]
HP System Software Manager (SSM) (download)
HP Client Catalog (download)
HP Client Management Script Library (download)
HP Image Assistant (download)

Security Management
HP Client Security Manager Gen7[35]
Pre-boot Authentication
HP Pro Security Edition (Select models)[36]
HP Sure Click[37]
HP Sure Start Gen 6[38]
HP Sure Sense[39]
HP Sure Admin[40]
HP Sure Recover Gen4[41]
HP Sure Run Gen4[42]
Touch Fingerprint Sensor (Select models) [43]
TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified)

25. HP BIOSphere Gen6 is available on select HP Pro and Elite PCs. Features may vary depending on the platform and configurations.
26. 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® Optane™.
27. Absolute firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: https://www.absolute.com/about/legal/agreements/absolute/
28. HP Connection Optimizer requires Windows 10.
29. HP Support Assistant requires Windows and Internet access.
30. HP Quick Drop requires Internet access and Windows 10 PC preinstalled with HP QuickDrop app and either an Android device (phone or tablet) running Android 7 or higher with the Android HP QuickDrop app, and /or an iOS device (phone or tablet) running iOS 12 or higher with the iOS HP QuickDrop app.
31.Tile is an optional feature that must be configured at the factory and requires Windows 10. Some features require optional subscription to Tile Premium. Tile application for Windows 10 available for download from the Windows Store. Mobile phone app available for download from App Store and Google Play. Requires iOS 11 and greater or Android 6.0 and greater see https://support.thetileapp.com/hc/en-us/articles/200424778 for more information. HP Tile will function as long as the PC has battery power.
32. Windows Defender Opt in and internet connection required for updates.
33. HP Driver Packs not preinstalled, however available for download at http://www.hp.com/go/clientmanagement.

Technical Specifications

34. HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html.
35. HP Client Security Manager Gen7 requires Windows and is available on the select HP Elite and Pro PCs.
35. HP Pro Security Edition is available preloaded select skus and includes HP Sure Click Pro and HP Sure Sense Pro. 3-year license required. The HP Pro Security Edition software is licensed under the license terms of the HP End User License Agreement (EULA) that can be found at: https://h30670.www3.hp.com/ecommerce/common/disclaimer.do#EN_US as modified by the following: "7. Term. Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the license for the HP Pro Security Edition (HP Sure Sense Pro and HP Sure Click Pro) is effective upon activation and will continue for thirty-six (36) months thereafter ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standard versions of HP Sure Click and HP Sure Sense at no additional cost with no future software updates or HP Support. "HP Pro Security Edition is optimized for the SMB environment and ships pre-configured - manageability is optional. The HP Pro Security Edition supports a limited tool set that can be used by the HP Manageability Integration Kit which can be downloaded from http://www.hp.com/go/clientmanagement."
37.HP Sure Click requires Windows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details
38. HP Sure Start Gen6 is available on select HP PCs and requires Windows 10.
39. HP Sure Sense is available on select HP PCs and is not available with Windows10 Home.
40. HP Sure Admin requires Windows 10, HP BIOS, HP Manageability Integration Kit from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.
41. HP Sure Recover Gen4 is available on select HP PCs and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
42.HP Sure Run Gen4 is available on select Windows 10 based HP Pro, Elite and Workstation PCs with select Intel® or AMD processors.
43. HP Fingerprint sensor is an optional feature that must be configured at purchase.
55. HP Easy Clean requires Windows 10 RS3 and will disable the keyboard, touchscreen, and clickpad only. Ports are not disabled. See user guide for cleaning instructions. Expected availability March 2020.

SMART CARD READER

Smart Card Reader (Optional)	**Smart card standard**	PC/SC 2.0 for Windows smart card standard
	Dimensions (L x W x H)	0.41x 0.08 x 0.32 in (10.5 x 2 x 8.2 mm)
	Smart Card support	ISO 7816 Class A and AB smart cards
	Smart Card Interface	Smart Card Interface with T = 0 and T = 1 support Support I2C memory card, SLE4418, SLE4428, SLE4432, SLE4442, SLE4436, SLE5536, SLE6636, AT88SC1608, AT45D041 card and AT45DB041 card via external EEPROM

Technical Specifications

POWER

Power Supply

HP Smart 65 W External AC power adapter[56]

HP Smart 65 W EM External AC power adapter[56]

HP Smart 65 W USB Type-C adapter[56]

HP Smart 45 W External AC power adapter[56]

HP Smart 45 W External AC power adapter, 2-prong (Japan only) [56]

Power Cord

2-wire plug - 1.0m

3-wire plug - 1.0m

Primary Battery

HP Long Life 3-cell, 53 Wh Polymer[44,45]

Supports HP Fast Charge (Up to 50% in 30 minutes)[46]

Battery Life

Up to 14 hours and 45 minutes[47]

Battery Weight

0.45 lb

0.205 kg

56. Availability may vary by country.

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

45. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.

46. Supports HP Fast Charge with 65W AC Adapter. 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.

47. Windows 10 MM18 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.

Technical Specifications

WEIGHTS & DIMENSIONS

Product Weight

Non-Touch

Starting at 2.48 lb (1.13 kg)[48]

Touch

Starting at 2.88 lb (1.31 kg)[48]

Product Dimensions (W x D x H)

12.69 x 8.46 x 0.7 in

32.25 x 21.50 x 1.79 cm

48. Weight will vary by configuration.

PORTS/SLOTS

Ports

2 Thunderbolt™ 4 with USB4™ Type-C® 40Gbps signaling rate (USB Power Delivery, DisplayPort™ 1.4) [54]

2 SuperSpeed USB Type-A 5Gbps signaling rate (1 Charging)

1 HDMI 2.0b[49]

1 Headphone/microphone combo

1 4.5 mm AC power

1 nano SIM card slot[50]

1 Smartcard reader (Optional)

1 Nano Security Lock Slot (Lock sold separately)

49. HDMI cable sold separately.

50. 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.

54. SuperSpeed USB 20Gbps is not available with Thunderbolt™ 4.

Technical Specifications

SERVICE AND SUPPORT

1-year and 3-year limited warranties and 90 day software limited warranty options depending on country.
Batteries have a default one year limited warranty except for HP Long Life batteries which will follow the one or three year warranty of the platfor. 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. [51]

51. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit http://www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

Technical Specifications

SYSTEM UNIT

Nominal Operating Voltage	19.5V
Average Operating Power	1.825W
Integrated graphics	Yes
Discrete Graphics	N/A
Max Operating Power	UMA < 45W
Temperature	
Operating	32° to 95° F (0° to 35° C)
Non-operating	41° to 95° F (5° to 35° C) (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 Certifications	
UL	Yes
CSA	Yes
FCC Compliance	Yes
ENERGY STAR®	ENERGY STAR® Select models [52]
EPEAT®	EPEAT® Gold in United States [53]
ICES	Yes
Australia /	Yes
NZ A-Tick Compliance	Yes
CCC	Yes
Japan VCCI Compliance	Yes
KC	Yes
BSMI	Yes
CE Marking Compliance	Yes
BNCI or BELUS	Yes
CIT	Yes
GOST	Yes
Saudi Arabian Compliance (ICCP)	Yes
SABS	Yes

Technical Specifications

52. Configurations of the HP EliteBook 840 Aero G8 Notebook PC that are ENERGY STAR® qualified are identified as HP EliteBook 840 Aero G8 Notebook PC ENERGY STAR® on HP websites and on http://www.energystar.gov.
53. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. Status varies by country. Visit http://www.epeat.net for more information.

DISPLAYS

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

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

Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP 1.2 w/o PSR bent NWBZ	**Outline Dimensions (W x H)**	316.17 x 186.4 mm (max) (w/ PCB)
	Active Area	309.37 x 174.02 mm
	Weight	300 g (max)
	Diagonal Size	14.0 inch
	Thickness	3.0 mm/ 5.0 mm (PCB) (max)
	Interface	eDP 1.2
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	600:1
	Refresh Rate	60 Hz
	Brightness	250 nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB Stripe
	Backlight	LED
	Color Gamut Coverage	NTSC 45%
	Color Depth	6 bits (Hi FRC supportive w/ condition to enable)
	Viewing Angle	UWVA 85/85/85/85

Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP 1.2 w/o PSR bent Touch on Panel NWBZ	**Outline Dimensions (W x H)**	316.17 x 186.4 mm (max) (w/ PCB)
	Active Area	309.37 x 174.02 mm
	Weight	305 g (max)
	Diagonal Size	14.0 inch
	Thickness	3.0 mm/ 5.0 mm (PCB) (max)
	Interface	eDP 1.2
	Surface Treatment	Anti-Glare On-cell
	Touch Enabled	Yes
	Contrast Ratio	600:1
	Refresh Rate	60 Hz
	Brightness	250 nits[1]
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB Stripe

Technical Specifications

	Backlight	LED
	Color Gamut Coverage	NTSC 45%
	Color Depth	6 bits (Hi FRC supportive w/ condition to enable)
	Viewing Angle	UWVA 85/85/85/85
Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA sRGB 100percent cg 400nits eDP 1.4+PSR2 bent LP NB2X	**Outline Dimensions (W x H)**	315.07 x 186.6 mm (max)
	Active Area	309.37 X 174.02 mm
	Weight	200 g (max)
	Diagonal Size	14.0 inch
	Thickness	2.0 mm/4.0 mm (w/PCB) (max)
	Interface	eDP 1.4
	Surface Treatment	Anti-Glare
	Touch Enabled	No
	Contrast Ratio	1200:1
	Refresh Rate	60 Hz
	Brightness	400 nits
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB Stripe
	Backlight	LED
	Color Gamut Coverage	sRGB 100% (NTSC 72%)
	Color Depth	8 bits
	Viewing Angle	UWVA 85/85/85/85
Panel LCD 14-in FHD (1920x1080) Anti-Glare WLED UWVA 100% sRGB 1000nits eDP 1.4+PSR HP Sure View Reflect NB2Y bent	**Outline Dimensions (W x H x D)**	314.612 x 185.33 mm (max.)
	Active Area	309.312 x 173.99 mm
	Weight	230 g (max.)
	Diagonal Size	14.0”
	Thickness	3.9 mm (max.)
	Interface	eDP
	Surface Treatment	Anti-glare (AG)
	Touch Enabled	No
	Contrast Ratio	1500:1
	Refresh Rate	60 Hz
	Brightness	1000 nits[1]
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB
	Backlight	LED
	Color Gamut Coverage	100% sRGB
	Color Depth	8 bits
	Viewing Angle	UWVA 85/85/85/85

Technical Specifications

STORAGE

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 1TB 2280 PCIe-3x4 NVMe Three Layer Cell single-sided	**Form Factor**	M.2 2280
	Capacity	1 TB
	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 3100 ~ 3500 MB/s
	Maximum Sequential Write	Up to 2700 ~ 3037 MB/s
	Logical Blocks	2,000,409,264
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security; TRIM; L1.2

SSD 256GB 2280 M2 PCIe-3x4 SS NVMe TLC	**Form Factor**	M.2 2280
	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 2800 ~ 3500 MB/s
	Maximum Sequential Write	Up to 1600 ~ 2200 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

Technical Specifications

SSD 256GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	256 GB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X2
	Maximum Sequential Read	Up to 2100 ~ 2400 MB/s
	Maximum Sequential Write	Up to 950 ~ 1400 MB/s
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option); TRIM; L1.2
SSD 256GB 2280 PCIe-3x4 NVMe Self Encrypted OPAL2 Three Layer Cell	**Form Factor**	M.2 2280
	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 2800 ~ 3500 MB/s
	Maximum Sequential Write	Up to 1663 ~ 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
SSD 2TB 2280 PCIe-3x4 NVMe Three Layer Cell single-sided	**Form Factor**	M.2 2280
	Capacity	2 TB
	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 3100 ~ 3500 MB/s

Technical Specifications

	Maximum Sequential Write	Up to 2800 ~ 3000 MB/s
	Logical Blocks	3,907,029,168
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security; TRIM; L1.2
SSD 512GB 2280 M2 PCIe-3x4 SS NVMe TLC	**Form Factor**	M.2 2280
	Capacity	512 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 3100 ~ 3500 MB/s
	Maximum Sequential Write	Up to 2400 ~ 2956 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security; TRIM; L1.2
SSD 512GB 2280 PCIe NVMe Value	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	Value
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X2
	Maximum Sequential Read	Up to 1500 ~ 2400 MB/s
	Maximum Sequential Write	Up to 1000 ~ 1750 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option); TRIM; L1.2

Technical Specifications

SSD 512GB 2280 PCIe-3x2x2 NVMe+SSD 32GB 3D Xpoint	**Form Factor**	M.2 2280
	Capacity	512 GB
	NAND Type	QLC+3D XPoint
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	PCIe NVMe Gen3X2X2
	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	ATA Security; TRIM; L1.2

SSD 512GB 2280 PCIe-3x4 NVMe Self Encrypted OPAL2 Three Layer Cell	**Form Factor**	M.2 2280
	Capacity	512 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 3100 ~ 3500 MB/s
	Maximum Sequential Write	Up to 2400 ~ 2956 MB/s
	Logical Blocks	1,000,215,215
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	ATA Security (Option); TCG Opal 2.0; TRIM; L1.2

Technical Specifications

NETWORKING

Intel® Wi-Fi 6[1] AX201 and Bluetooth® 5.0 802.11ax (2x2) supporting gigabit data rate[5] (vPro®)	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
	Interoperability	Features Wi-Fi 6 technology
	Frequency Band	•802.11b/g/n/ax 2.402 – 2.482 GHz •802.11a/n/ac/ax 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz
	Data Rates	•802.11b: 1, 2, 5.5, 11 Mbps •802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) •802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, 80MHz & 160MHz) •802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, 80MHz & 160MHz)
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM
	Security[3]	•IEEE 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 •WAPI
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power[2]	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum

Technical Specifications

	• 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ac VHT160(5GHz): +11.5dBm minimum • 802.11ax HT40(2.4GHz): +10dBm minimum • 802.11ax VHT160(5GHz): +10dBm minimum
Power Consumption	•Transmit mode: 2.0 W •Receive mode: 1.6 W •Idle mode (PSP) 180 mW (WLAN Associated) •Idle mode: 50 mW (WLAN unassociated) •Connected Standby/Modern Standby: 10mW •Radio disabled: 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	•802.11b, 1Mbps: -93.5dBm maximum •802.11b, 11Mbps: -84dBm maximum • 802.11a/g, 6Mbps: -86dBm maximum • 802.11a/g, 54Mbps: -72dBm maximum • 802.11n, MCS07: -67dBm maximum • 802.11n, MCS15: -64dBm maximum • 802.11ac, MCS0: -84dBm maximum • 802.11ac, MCS9: -59dBm maximum •802.11ax, MCS11(HT40): -59dBm maximum •802.11ax, MCS11(VHT160): -58.5dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard with CNVi Interface
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm
Weight	1. Type 2230: 2.8 g 2. Type 126: 1.3 g
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

Technical Specifications

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[1] 2.17 Mbps BLE: 1 Mbps signaling data rate[1] 0.2 Mbps 1. Actual throughput may vary. Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
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)
Security & Manageability	Intel® vPro® support with appropriate Intel® chipset components

Technical Specifications

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. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
3. Check latest software/driver release for updates on supported security features.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. Wi-Fi 5 or 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

Intel® Wi-Fi 6[1] AX201 and Bluetooth® 5.0 802.11ax (2x2), supporting gigabit data rate[5] (non-vPro®)	**Wireless LAN Standards**	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
	Interoperability	Features Wi-Fi 6 technology
	Frequency Band	•802.11b/g/n/ax 2.402 – 2.482 GHz •802.11a/n/ac/ax 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz
	Data Rates	•802.11b: 1, 2, 5.5, 11 Mbps •802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) •802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, 80MHz & 160MHz) • 802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, 80MHz & 160MHz)
	Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM

Technical Specifications

Security[3]	•IEEE 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 •WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points
Output Power[2]	• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum • 802.11n HT20(2.4GHz): +15.5dBm minimum • 802.11n HT40(2.4GHz): +14.5dBm minimum • 802.11n HT20(5GHz): +15.5dBm minimum • 802.11n HT40(5GHz): +14.5dBm minimum • 802.11ac VHT80(5GHz): +11.5dBm minimum • 802.11ac VHT160(5GHz): +11.5dBm minimum • 802.11ax HT40(2.4GHz): +10dBm minimum • 802.11ax VHT160(5GHz): +10dBm minimum
Power Consumption	•Transmit mode 2.0 W •Receive mode 1.6 W •Idle mode (PSP) 180 mW (WLAN Associated) •Idle mode 50 mW (WLAN unassociated) •Connected Standby 10mW •Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	•802.11b, 1Mbps: -93.5dBm maximum •802.11b, 11Mbps: -84dBm maximum • 802.11a/g, 6Mbps: -86dBm maximum • 802.11a/g, 54Mbps: -72dBm maximum • 802.11n, MCS07: -67dBm maximum • 802.11n, MCS15: -64dBm maximum • 802.11ac, MCS0: -84dBm maximum • 802.11ac, MCS9: -59dBm maximum •802.11ax, MCS11(HT40): -59dBm maximum •802.11ax, MCS11(VHT160): -58.5dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard with CNVi Interface

Technical Specifications

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**	14° to 158° F (–10° to 70° C) –40° to 176° F (–40° to 80° C)
Humidity	**Operating** **Non-operating**	10% to 90% (non-condensing) 5% to 95% (non-condensing)
Altitude	**Operating** **Non-operating**	0 to 10,000 ft (3,048 m) 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF LED Off – Radio ON	

HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1 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[1] 2.17 Mbps BLE: 1 Mbps signaling data rate[1] 0.2 Mbps 1. Actual throughput may vary. Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
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 Software Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising

Technical Specifications

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. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
3. Check latest software/driver release for updates on supported security features.
4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).
5. Wi-Fi 5 or 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels.

Technical Specifications

Qualcomm® Snapdragon™ X55 5G Cat 20 [1]	**Technology/ Operating bands**

WCDMA/HSDPA/HSUPA/HSPA+ operating bands:
Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 6: 830 to 840 MHz (UL), 875 to 885 MHz (DL)
Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Band 9: 1750 to 1785 MHz(UL), 1845to 1880 MHz (DL)
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)
LTE FDD/TDD operating bands:
Band 1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
Band 2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
Band 3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
Band 4: 1710 to 1755 MHz (UL), 2110 to 2155 MHz (DL)
Band 5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
Band 7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
Band 8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
Band 12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
Band 13: 777 to 787 MHz (UL), 746 to 756 MHz (DL)
Band 14: 788 to 798 MHz (UL), 758 to 768 MHz (DL)
Band 17: 704 to 716 MHz (UL), 734 to 746 MHz (DL)
Band 18: 815 to 830 MHz (UL), 860 to 875 MHz (DL)
Band 19: 830 to 845 MHz (UL), 875 to 890 MHz (DL)
Band 20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)
Band 25: 1850 to 1915 MHz (UL), 1930 to 1995 MHz (DL)
Band 26: 814 to 849 MHz (UL), 859 to 894 MHz (DL)
Band 28: 703 to 748 MHz (UL), 758 to 803 MHz (DL)
Band 29: 717 to 728 MHz (DL)
Band 30: 2305 to 2315 MHz (UL) 2350 to 2360 MHz (DL)
Band 32: 1452 to 1496 MHz (DL)
Band 34: 2010 to 2025 MHz (UL/DL)
Band 38: 2570 to 2620 MHz (UL/DL)
Band 39: 1880 to 1920 MHz (UL/DL)
Band 40: 2300 to 2400 MHz (UL/DL)
Band 41: 2496 to 2690 MHz (UL/DL)
Band 42: 3400 to 3600 MHZ (UL/DL)
Band 46: 5150 to 5925 MHZ (DL)
Band 48: 3550 to 3700 MHZ (UL/DL)
Band 66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL)
Band 71: 663 to 698 MHz (UL), 617 to 652 MHz (DL)
5GNR Sub 6GHZ:
n1: 1920 to 1980 MHz (UL), 2110 to 2170 MHz (DL)
n2: 1850 to 1910 MHz (UL), 1930 to 1990 MHz (DL)
n3: 1710 to 1785 MHz (UL), 1805 to 1880 MHz (DL)
n5: 824 to 849 MHz (UL), 869 to 894 MHz (DL)
n7: 2500 to 2570 MHz (UL), 2620 to 2690 MHz (DL)
n8: 880 to 915 MHz (UL), 925 to 960 MHz (DL)
n12: 699 to 716 MHz (UL), 729 to 746 MHz (DL)
n20: 832 to 862 MHz (UL), 791 to 821 MHz (DL)

Technical Specifications

	n28: 703 to 748 MHz (UL), 758 to 803 MHz (DL) n41: 2496 to 2690 MHz (UL/DL) n66: 1710 to 1800 MHz (UL), 2110 to 2200 MHz (DL) n71: 663 to 698 MHz (UL), 617 to 652 MHz (DL) n77: 3300 to 4200 MHz (UL/DL) n78: 3300 to 3800 MHz (UL/DL) n79: 4400 to 5000 MHz (UL/DL)
Wireless protocol standards	5GNR Air Interface 3GPP Rel15 5G NR sub-6 LTE Rel14 20 layers and 2 Gbps downlink (DL) throughput – 4 × 4 MIMO across 5x CA 200 Mbps uplink (UL) throughput – 40 MHz ULCA and 256 QAM WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
GPS	Standalone, A-GPS (MS-A, MS-B)
GPS bands	GPS: L1 (1575.42MHz); L5 (1176MHz) GLONASS: L1 (1602MHz) BeidouB1(1561.098MHz) Galileo E1 (1575.42); E5a (1176MHz)
Maximum data rates	5G sub 6G : 3.8 Gbps LTE: ue-CategoryDL 20, (DL : 2 Gbps) ue-CategoryUL 13 , (UL: 150Mbps) 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 = 26dBm HSPA+: 23.5 dBm
Maximum power consumption	5G Sub 6 : 2500 mA LTE: 1,300 mA (peak); 1100 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
Form Factor	M.2, 3042-S3 Key B
Weight	8 g
Dimensions (Length x Width x Thickness)	42 mm × 30 mm × 2.6 mm

1. 5G module is an optional feature that must be configured at purchase. AT&T and T-Mobile networks supported in the U.S. Module designed for 5G networks as carriers deploy Evolved-Universal Terrestrial Radio Access New Radio Dual Connectivity (ENDC) with both 100Mhz of 5G NR and LTE channel bandwidth, using 256QAM 4x4 as defined by 3GPP, requires activation and separately purchased service contract. Check with service provider for coverage and availability in your area. Connection, upload and download speeds will vary due to network, location, environment, network conditions, and other factors. 5G not available on all products, in all regions. Backwards compatible to 4G LTE and 3G HSPA technologies. 5G module planned to be available in select countries, where carrier supported.

Technical Specifications

Intel® XMM™ 7360 LTE-Advanced [1]	**Technology/Operating bands**	FDD LTE: LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3) , 1700 (Band 4), 850 (Band 5), 2600 (Band 7), 900 (Band 8) , 1400 (Band 11), 700 (Band 12), 700 (Band 13) 700 (Band 17) , 850 (Band 18) , 850 (Band 19), 800 (Band 20), 1450 (Band 21) , 850 (Band 26) 700 (Band 28) MHz, 700 (Band 29) , 2300 (Band 30) , 2100 (Band 66) MHz TDD LTE: 2600 (Band 38) , 1900 (Band 39) , 2300 (Band 40) , 2500 (Band 41) MHz HSPA+: 2100 (Band 1), 1900 (Band 2), 1700 (Band 4), 850 (Band 5), 900 (Band 8) MHz
	Wireless protocol standards	3GPP Release 11 LTE Specification CAT.9, MAX 60MHz aggregation BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
	GPS	Standalone, A-GPS (MS-B and LTO)
	GPS bands	GPS 1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou 1561.098 ± 2.046 MHz
	Maximum data rates	LTE: 450 Mbps (DL 3CA), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
	Maximum output power	LTE: 23 dBm HSPA+: 23.5 dBm
	Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
	Form Factor	M.2, 3042-S3 Key B
	Weight	6 g
	Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

1. 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. LTE not available on all products, in all regions.

Technical Specifications

NXP NPC300 Near Field Communication Module	**Dimensions (L x W x H)**	Module 17 mm by 10 mm by 2.0 mm
	Chipset	NPC300
	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[1]	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[1]	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	-25°C to 80°C
	Storage temperature	-25°C to 125°C
	Humidity	10-90% operating 5-95% non-operating
	Supply Operating voltage	2.7 to 5.5 Volts
	I/O Voltage	1.8V or 3.3V
	Power Consumption (Booster enable, VBAT= 3.3V, VCC_BOOST = 5V)	
	Mode	Power Consumption, Typical[2]
	Polling	710.93 mW
	Detected Test Tag Type 1	152.09 mW

Technical Specifications

Detected Test Tag Type 2	341.26 mW
Detected Test Tag Type 3	383.76 mW
Detected Test Tag Type 4	312.26 mW
Antenna	Antenna connector, 0.3mm pitch, 7 connector FPC. Antenna matching is external to module.

1. With application or UICC support
2. Actual Power Consumption is dependent on NFC antenna and matching circuit and on the particular polling sequence and period configured.

Technical Specifications

POWER

AC Adapter 45 Watt Smart nPFC Standard Barrel 4.5mm Right Angle 1.0m	**Dimensions**	95x45x26.8mm
	Weight	unit: 200g +/- 10g
	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	45W
	DC output	19.5V
	Hold-up time	5ms at 115 Vac input
	Output current limit	<8.0A
	Connector	
	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)
	Non-operating (storage) temperature	
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	Eg: *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, 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.

Technical Specifications

AC Adapter 45 Watt Smart nPFC Standard Barrel 4.5mm Right Angle 1.0m 2prong	**Dimensions**	95x45x26.8mm
	Weight	unit: 200g +/- 10g
	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	45W
	DC output	19.5V
	Hold-up time	5ms at 115 Vac input
	Output current limit	<8.0A
	Connector	
	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)
	Non-operating (storage) temperature	
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	Eg: *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, 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.
AC Adapter 65 Watt nPFC Slim USB type C® Straight 1.0m	**Dimensions**	88x53.5x21mm
	Weight	unit: 220g +/- 10g
	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 ~ 63 Hz
	Input AC current	1.6 A at 90 VAC and maximum load
	Output	
	Output power	65W

Technical Specifications

DC output	5V/9V/12V/15V/20V
Hold-up time	5ms at 115 Vac input
Output current limit	<8.0A
Connector	
Connector	USB Type C
Environmental Design	
Operating temperature	32ºFto 95ºF (0ºto 35ºC)
Non-operating (storage) temperature	-4ºFto 185ºF (-20ºto 85ºC)
Non-operating (storage) temperature	
Altitude	0 to 16,400 ft (0 to 5000m)
Humidity	5% to 95%
Storage Humidity	5% to 95%
EMI and Safety Certifications	Eg: *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.

AC Adapter 65 Watt nPFC Standard USB type C Straight 1.0m	**Dimensions**	90.0x51x28.5mm
	Weight	unit: 250g +/- 10g
	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 ~ 63 Hz
	Input AC current	1.6 A at 90 VAC and maximum load
	Output	
	Output power	65W
	DC output	5V/9V/12V/15V/20V
	Hold-up time	5ms at 115 Vac input
	Output current limit	8.0A Max.
	Connector	
	Connector	USB TYPE C
	Environmental Design	

Technical Specifications

Operating temperature	32°F to 95°F (0°to 35°C)
Non-operating (storage) temperature	-4°F to 185°F (-20°to 85°C)
Non-operating (storage) temperature	
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, UL62368, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. - MTBF - over 200,000 hours at 25°C ambient condition.

AC Adapter 65 Watt Smart nPFC EM Barrel 4.5mm New EM	**Dimensions**	102x55x30mm
	Weight	unit: 250g +/- 10g
	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	65W
	DC output	19.5V
	Hold-up time	5ms at 115 Vac input
	Output current limit	<11.0A
	Connector	
	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)
	Non-operating (storage) temperature	
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%

Technical Specifications

	EMI and Safety Certifications	Eg: *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.

AC Adapter 65 Watt Smart nPFC Standard Barrel 4.5mm Right Angle 1.0m	**Dimensions**	90x51x28.5mm
	Weight	unit: 230g +/- 10g
	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	65W
	DC output	19.5V
	Hold-up time	5ms at 115 Vac input
	Output current limit	<11.0A
	Connector	
	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)
	Non-operating (storage) temperature	
	Altitude	0 to 16,400 ft (0 to 5000m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	Eg: *CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, 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.

Technical Specifications

Battery CC 3 Cell 53 Wh[1] 53 Long Life -PL Fast Charge	**Dimensions (H x W x L)**	7.3 x 52.9 x 267.11mm (0.287 x 2.082 x 10.516 inch)
	Weight	0.205 kg (0.45 lb)
	Cells/Type	3cell Lithium-Ion Polymer cell / 645180
	Energy	
	Voltage	11.55V
	Amp-hour capacity	4.59Ah
	Watt-hour capacity[1]	53Wh
	Temperature	32˚ to 113˚ F (0˚ to 45˚ C)
	Operating (Charging)	32˚ to 122˚ F (0˚ to 50˚ C)
	Operating (Discharging)	14˚ to 140˚ F (-10˚ to 60˚ C)
	Fuel Gauge LED	N/A
	Warranty	Depends on system offering
	Optional Travel Battery Available	No

1. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.

FINGERPRINT READER	Model Synaptics Validity VFS7552 touch sensor Mobile Voltage Operation 3.0V to 3.6V Operating Temperature 14° – 167°F (-10°-75°C) Current Consumption Image 36mA peak Low Latency Wait For Finger 950 uA Capture Rate 30 cm/sec ESD Resistance IEC 61000-4-2 4B (+15KV) Detection Matrix 200*1 (Plus another secondary line) / 508 dpi / 10mm sensor area FRR (False Reject Rate) / FAR (False Acceptance Rate) FRR ~ 1% @ 1:50K FAR

Technical Specifications

ENVIRONMENTAL DATA

Sustainable Impact Specifications

- Ocean-bound plastic in speaker enclosure
- Low halogen
- Outside Box and corrugated cushions are 100% sustainably sourced and recyclable
- Bulk packaging available

Footnotes

- Percentage of ocean-bound plastic contained in each component varies by product.
- External power supplies, WWAN modules, power cords, cables and peripherals excluded.
- 100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.
- Plastic cushions are made from >90% recycled plastic.

COUNTRY OF ORIGIN

China

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

Category	Description	Part Number
Cases	HP Exec 15.6 Backpack	6KD07AA
	HP Exec 15.6 Top Load Case	6KD06AA
	HP Executive Slim 14.1 Top Load Case	6KD04AA
Docking	HP Thunderbolt Dock 120W G2	2UK37AA
	HP Thunderbolt Dock 230W G2	2UK38AA
	HP TB Dock w/ Combo Cable (230W)	3TR87AA
	HP Thunderbolt 120W Dock w/Audio G2	3YE87AA
	HP USB-C Mini Dock	1PM64AA
	HP USB-C Dock G5	5TW10AA
	HP USB-C/A Universal Dock G2	5TW13AA
Input/Output	HP Wireless Rechargeable 950MK Mouse and Keyboard	3M165AA
	HP Wireless Premium Keyboard	Z9N41AA
	HP Bluetooth Fingerprint Reader USB Mouse	4TS44AA
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP X4000b Bluetooth Mouse	H3T50AA
	HP USB Travel Mouse	G1K28AA
	HP Bluetooth Travel Mouse	6SP30AA
	HP Wireless Premium Mouse	1JR31AA
	HP USB Premium Mouse	1JR32AA
	HP USB Laser 3 Button USB Mouse	H4B81AA
	HP Elite Presenter Mouse	2CE30AA
	HP Stereo USB Headset	T1A67AA
	HP WL USB Keyboard	T6U20AA
	HP Slim Wireless Keyboard and Mouse	T6L04AA
	HP 235 WL Mouse and Keyboard Combo	1Y4D0AA
	HP 125 Wired Keyboard	266C9AA
	HP 225 Wired Mouse and Keyboard Combo	286J4AA
	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
	HP USB to Gig RJ45 Adapter	N7P47AA
	HP USB-C Travel Hub G2	7PJ38AA
	HP Elite USB-C Hub	4WX89AA
Power	HP 45W USB-C LC Dali AC Power Adapter	1MZ01AA
	HP 45W USB-C Power Adapter	1HE07AA
	HP 65W USB-C Power Adapter	1HE08AA
	65W USB-C Slim Power Adapter	3PN48AA
	HP USB-C Essential Power Bank	3TB55AA

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

Memory	HP 4GB DDR4 3200 Memory	286H5AA
	HP 8GB DDR4 3200 Memory	286H8AA
	HP 16GB DDR4 3200 Memory	286J1AA
Security	HP Nano Keyed Cable Lock	1AJ39AA
	HP Sure Key Cable Lock	6UW42AA

Summary of Changes

Date of change:	Version History:	Updated	Description of change:
March 25, 2021	V1 to V2	Update	Battery Life
April 19,2021	V2 to V3	Updated	Memory Section and Input/ Output Section Updated
	V3 to V4		

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