

### Overview

#### HP EliteBook 1040 G4 Notebook PC



#### Front

- |                             |   |
|-----------------------------|---|
| 1. Internal microphones (2) | 6. Audio combo jack                           |
| 2. Webcam and IR Camera     | 7. USB 3.1 Gen 1 charging port                |
| 3. Webcam LED               | 8. Power button                               |
| 4. Fingerprint reader       | 9. Security lock slot (Lock sold separately.) |
| 5. Glass clickpad           |   |

### Overview



#### Rear

1. USB Type-C™ with Thunderbolt™
2. USB Type-C™ with Thunderbolt™
3. USB 3.1 Gen 1 charging port
4. HDMI port (Cable not included.)
5. WWAN SIM with plug (Plug is removable only for units with optional WWAN)

### Overview

#### At a Glance

1. Natural silver CNC Aluminum chassis with diamond cut design
  2. Choice of 7th Generation Intel® Core™ i5, i7 Processors with integrated Intel® HD Graphics
  3. Display include your choice of 35.56 cm (14") diagonal IPS Wide viewing Angle, FHD or UHD, Touch or Non-Touch
  4. Get added protection in open or public places with the optional HP Sure View integrated privacy screen
  5. Passed 12 MIL-STD 810G testing, plus an additional 120,000 hours of reliability testing through HP's Total Test Process<sup>1</sup>
  6. Never forget your password with your choice of simple authentication methods, including the IR camera for face recognition and Touch Fingerprint Sensor compatible with Windows Hello
  7. Weight starting at 2.99 lbs (1.36 kg)
  8. Height starting at of 15.95 mm
  9. Supports wireless LAN and wireless WAN options for connectivity on the go
  10. HP (67 WHr) Battery life up to 18 hrs
  11. Up to 1 TB Solid State Drives
  12. Up to 16 GB total system memory
  13. Engage teams, clients, and vendors with the best in class audio by Bang & Olufsen and the high-performance HP Premium Collaboration Keyboard
1. MIL-STD-810G testing is not intended to demonstrate fitness of U.S. Department of Defense (DoD) contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

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



### Features

#### PRODUCT NAMES

HP EliteBook 1040 G4 Notebook PC

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#### OPERATING SYSTEMS

<b>Preinstalled</b>	Windows 10 Pro 64 – HP recommends Windows 10 Pro. <sup>2</sup> Windows 10 Home 64 <sup>2</sup> Windows 10 Home Single Language 64 <sup>2</sup> FreeDOS 2.0 NeoKylin Linux® 64
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2. 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/>.
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#### PROCESSORS

Intel® Core™ i7-7820HQ with Intel® HD Graphics 630 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 8 MB cache, 4 cores) <sup>3,4,5</sup>

Intel® Core™ i7-7600U with Intel HD Graphics 620 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores) <sup>3,4,5</sup>

Intel® Core™ i7-7500U with Intel HD Graphics 620 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores) <sup>3,4,5</sup>

Intel® Core™ i5-7300U with Intel HD Graphics 620 (2.6 GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores) <sup>3,4,5</sup>

Intel® Core™ i5-7200U with Intel HD Graphics 620 (2.5 GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores) <sup>3,4,5</sup>

3. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
  4. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
  5. **NOTE:** In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.
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#### CHIPSET

Integrated with processor

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### Features

#### GRAPHICS

##### Integrated

Intel® HD Graphics 630<sup>6</sup>

Intel® HD1 Graphics 620 with shared video memory<sup>6</sup>

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

#### DISPLAY

##### Internal

HP Sure View integrated privacy screen 35.56 cm (14") diagonal FHD IPS eDP LED backlit touch screen, 700 cd/m2, 100% sRGB with Corning® Gorilla® Glass 4, privacy screen, camera and WWAN (1920 x 1080) <sup>6,7</sup>

35.56 cm (14") diagonal FHD IPS eDP LED-backlit touch screen, 340 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4 and camera (1920 x 1080) <sup>6,7</sup>

35.56 cm (14") diagonal FHD IPS eDP LED-backlit touch screen, 340 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4, camera and WWAN (1920 x 1080) <sup>6,7</sup>

35.56 cm (14") diagonal 4K IPS eDP LED-backlit touch screen, 400 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4, camera and WWAN (3840 x 2160) <sup>6,7</sup>

HP Sure View integrated privacy screen 35.56 cm (14") diagonal FHD IPS eDP antiglare LED-backlit, 700 cd/m2, 100% sRGB with camera and WWAN (1920 x 1080) <sup>6,7</sup>

35.56 cm (14") diagonal FHD UWVA eDP anti-glare LED-backlit, 340 cd/m2, 100% sRGB with camera (1920 x 1080)<sup>6,7</sup>

35.56 cm (14") diagonal FHD UWVA eDP anti-glare LED-backlit, 340 cd/m2, 100% sRGB with camera and WWAN (1920 x 1080)<sup>6,7</sup>

35.56 cm (14") diagonal 4K UWVA eDP anti-glare LED-backlit, 400 cd/m2, 100% sRGB with camera and WWAN (3840 x 2160) <sup>6,7</sup>

##### Size (imperial)

14"

##### Size (metric)

35.56m

6. [HD content required to view HD images.](#)
7. [Resolutions are dependent upon monitor capability, and resolution and color depth settings.](#)



### Features

#### STORAGE AND DRIVES

M.2 (NGFF) 2280 Solid State Drive  
128 GB SATA-3 SS TLC<sup>8</sup>  
256 GB PCIe Gen 3x4 NVMe SS TLC<sup>8</sup>  
256 GB SATA-3 SS TLC (Opal 2)<sup>8</sup>  
360 GB PCIe Gen3x4 SS TLC (Intel)<sup>8</sup>  
512 GB PCIe Gen3x4 NVMe SS TLC<sup>8</sup>  
360 GB M.2 PCIe Gen 3x4 TLC SSD<sup>8</sup>  
512 GB PCIe Gen3x4 NVMe SS MLC<sup>8</sup>  
1 TB PCIe Gen3x4 NVMe SS TLC<sup>8</sup>

8. 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.

#### MEMORY

8 GB DDR4-2133 SDRAM  
16 GB DDR4-2133 SDRAM

##### Configurations

Memory soldered down  
System runs at 2133  
Supports Dual Channel Memory

##### Maximum

16 GB DDR4-2133 SDRAM

#### NETWORKING/COMMUNICATIONS

##### WLAN

Intel Dual band wireless-AC 8265 802.11AC 2x2 WiFi + BT 4.2 Combo Adaptor<sup>8</sup>  
Compatible with Miracast-certified devices (models with Windows 10)<sup>9</sup>

##### NFC

NFC Mirage module (NXP NPC300 I2C 10mmx17mm)

##### WWAN

Foxconn HP It4120 LTE/EVDO/HSPA+ w/GPS M.2<sup>10</sup>  
Huawei HP It4132 - LTE/HSPA+ w/GPS M.2<sup>10</sup>  
Fibocom HP hs3210 WW HSPA+ w/o GPS<sup>10</sup>  
"No WWAN" option



### Features

9. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.
10. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information:  
<http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.
11. WWAN module is optional, must be configured at the factory 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.

### AUDIO/MULTIMEDIA

#### Audio

Audio by Bang & Olufsen; Digital dual-array microphone  
Integrated premium speakers

#### Camera

IR camera for face authentication with Windows Hello<sup>12</sup>

#### Webcam

720p HD webcam<sup>6</sup>

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

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

#### Keyboard

Full size  
HP Premium Collaboration Keyboard  
Backlit  
DuraKeys  
Spill-resistant

#### Pointing Device

Clickpad with image sensor and glass surface, multi-touch gestures enabled, taps enabled as default.

### SOFTWARE AND SECURITY

#### Software

Native Miracast Support<sup>10</sup>  
HP LAN-Wireless Protection  
HP Wireless Wakeup



## Features

HP Sure Connect  
HP Velocity  
HP 3D DriveGuard  
HP ePrint + JetAdvantage <sup>11</sup>  
HP Hotkey Support  
HP Recovery Manager  
HP Jumpstart  
HP Support Assistant<sup>12</sup>  
HP Noise Cancellation Software  
Buy Office  
Bing Search  
Manageability Features  
HP Driver Packs<sup>13</sup>  
HP System Software Manager (SSM)  
HP BIOS Config Utility (BCU)  
HP Client Catalog  
HP Management Integration Kit for Microsoft System Center Configuration Manager<sup>14</sup>  
LANDESK Management<sup>15</sup>

### Security Management

HP BIOSphere Gen3<sup>16</sup>  
HP DriveLock & Automatic DriveLock  
BIOS Update via Network  
HP Sure Start Gen3  
TPM 2.0 Embedded Security Chip shipped with Windows 10 (Common Criteria EAL4+ Certified)  
SATA 0,1 port disablement (viaBIOS)  
RAID configurations  
Serial, USB enable/disable (viaBIOS)  
Power-on password (viaBIOS)  
Setup password (viaBIOS)  
Support for chassis padlocks and cable lock devices  
Integrated hood sensor  
Absolute Persistence Module <sup>17</sup>  
HP Client Security Suite Gen 3 [HP Security Manager (HP Credential Manager, HP Password Manager, HP Spare Key), HP Power On Authentication, HP Device Access Manager<sup>18</sup>  
Microsoft Defender<sup>19</sup>  
HP Sure Click

10. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.





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## Features

11. HP ePrint Drive requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see [www.hp.com/go/eprintcenter](http://www.hp.com/go/eprintcenter)). Print times and connection speeds may vary.
  12. HP Support Assistant requires Windows and Internet access.
  13. HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>.
  14. HP Management Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
  15. LANDESK Management subscription required.
  16. HP BIOSphere Gen3 requires Intel® 7th or 8th Generation processors
  17. 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.
  18. HP Client Security Suite Gen3 requires Windows and Intel® or AMD 7th or 8th Generation processors.
  19. Microsoft Defender Opt in and internet connection required for updates.
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## POWER

### Power Supply

65 W USB Type-C™ AC adapter<sup>20</sup>  
90 W USB Type-C™ AC adapter<sup>20</sup>

### Primary Battery

HP Long Life 6-cell, 67 Wh Li-ion<sup>21,22</sup>

**NOTE:** Battery is internal and not replaceable by customer.

### Power Cord

65W USB-Type C™, Duckhead Power Cord Length: 1.0m  
90W USB-Type C™, Duckhead Power Cord Length: 1.0m

### Battery life

Up to 18 hours<sup>23</sup>

20. Availability may vary by country.
  21. Supports HP Fast Charging with 90W only
  22. Battery is internal and not replaceable by customer. Serviceable by warranty.
  23. Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See [www.bapco.com](http://www.bapco.com) for additional details.
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## WEIGHTS & DIMENSIONS

### Weight

Starting at 2.99 lbs<sup>24</sup>



### Features

Starting at 1.35 kg<sup>24</sup>

**Dimensions (w x d x h)**

12.95 x 9.17 x 0.63 in

32.89 x 23.28 x 1.59 cm

24. Weight will vary by configuration.
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### PORTS/SLOTS

2 USB Type-C™ with Thunderbolt™

2 USB 3.1 Gen 1 Charging

1 HDMI 1.4<sup>25</sup>

1 headphone/microphone combo

25. HDMI 1.4 cable sold separately.
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### SERVICE AND SUPPORT

1 year standard commercial warranty; 1 year limited warranty on primary battery. On-site service and optional HP Care Pack Services are available to extend your protection beyond the standard warranty. Service levels and response times for HP Care Packs may vary depending on your geographic location. Restrictions and limitations apply. Service starts at date of hardware purchase. For details, visit <http://www.hp.com/go/cpc><sup>26</sup>

26. 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](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.
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### CERTIFICATION AND COMPLIANCE

ENERGY STAR® certified

EPEAT® Gold<sup>27</sup>

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

#### DISPLAYS

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

<b>Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA 72percent cg 340nits eDP 1.3 + PSR ultraslim 2.4mm NB</b>	Outline Dimensions (W x H x D)	315.41 x 196.17 max. (w/ PCB)
	Active Area	309.37 x 174.02 (mm)
	Weight	225 g max
	Diagonal Size	14.0 (inch)
	Surface Treatment	Anti-Glare (AG)
	Touch enabled	Yes
	Contrast Ratio	600:1 (typical)
	Refresh Rate	60 Hz
	Brightness	340 nits
	Pixel Resolution	
	Format	RGB
	Configuration	1920 x 1080 (FHD)
	Interface	eDP 1.3 + PSR
	LCD Mode	
	PPI	157
Viewing Angle	UWVA 85/85/85/85	

<b>Panel LCD 14 inch UHD (3840x2160) Anti-Glare WLED UWVA 72percent cg 400nits eDP 1.3 + PSR ultraslim N.B.</b>	Outline Dimensions (W x H x D)	315.31 x 199.54 (mm) max (w/ PCB)
	Active Area	309.31 x 173.99 (mm)
	Weight	240 g max
	Diagonal Size	14.0 (inch)
	Surface Treatment	Anti-Glare (AG)
	Touch enabled	Yes
	Contrast Ratio	1200:1 (typical)
	Refresh Rate	60 Hz
	Brightness	400 nits
	Pixel Resolution	
	Format	RGB
	Configuration	3840 x 2160 (UHD)
	Interface	eDP 1.3 + PSR
	LCD Mode	
	PPI	315
Viewing Angle	UWVA 85/85/85/85	



# QuickSpecs

## Technical Specifications

### STORAGE AND DRIVES

#### HARD DRIVES

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

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

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



# QuickSpecs

## Technical Specifications

<b>SSD 360GB 2280 PCIe-3x4 NVMe TLC</b>	Drive Weight	0.02 lb (10 g)	
	Capacity	360GB	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	PCIe NVMe Gen3X4	
	Performance		
	Maximum Sequential Read	Up To 1700 MB/s	
	Maximum Sequential Write	Up To 600 MB/s	
	Logical Blocks	703,282,608	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	TRIM; L1.2	
	<b>SSD 512GB 2280 M2 PCIe-3x4 SS NVMe</b>	Drive Weight	0.02 lb (10 g)
Capacity		512GB	
Height		0.09 in (2.3 mm)	
Width		0.87 in (22 mm)	
Interface		PCIe NVMe Gen3X4	
Performance			
Maximum Sequential Read		Up To 3000 MB/s	
Maximum Sequential Write		Up To 1500 MB/s	
Logical Blocks		1,000,215,216	
Operating Temperature		32° to 158°F (0° to 70°C) [ambient temp]	
Features		TRIM; L1.2	
<b>SSD 512GB 2280 M2 PCIe-3x4 SS NVMe TLC</b>		Drive Weight	0.02 lb (10 g)
	Capacity	512GB	
	Height	0.09 in (2.3 mm)	
	Width	0.87 in (22 mm)	
	Interface	PCIe NVMe Gen3X4	
	Performance		
	Maximum Sequential Read	Up To 2600 MB/s	
	Maximum Sequential Write	Up To 1400 MB/s	
	Logical Blocks	1,000,215,216	
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]	
	Features	TRIM; L1.2	



# QuickSpecs

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## Technical Specifications

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



# QuickSpecs

## Technical Specifications

### NETWORKING/COMMUNICATIONS

#### WLAN

<b>Intel 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo</b>	<b>Wireless LAN Standards</b>	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	<b>Interoperability</b>	Wi-Fi certified
	<b>Frequency Band</b>	802.11b/g/n <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul> 802.11a/n <ul style="list-style-type: none"> <li>• 4.9 – 4.95 GHz (Japan)</li> <li>5.15 – 5.25 GHz</li> <li>5.25 – 5.35 GHz</li> <li>5.47 – 5.725 GHz</li> <li>5.825 – 5.850 GHz</li> </ul>
	<b>Data Rates</b>	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, and 80MHz)
	<b>Modulation</b>	Direct Sequence Spread Spectrum  BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
	<b>Security</b>	<ul style="list-style-type: none"> <li>• IEEE and WiFi 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>• Cisco Certified Extensions, all versions through CCX4 and CCX Lite</li> <li>• WAPI</li> </ul>
	<b>Network Architecture Models</b>	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	<b>Roaming</b>	IEEE 802.11 compliant roaming between access points
	<b>Output Power[2]</b>	<ul style="list-style-type: none"> <li>• 802.11b : +14dBm minimum</li> <li>• 802.11g : +12dBm minimum</li> <li>• 802.11a : +12dBm minimum</li> <li>• 802.11n HT20(2.4GHz) : +12dBm minimum</li> <li>• 802.11n HT40(2.4GHz) : +12dBm minimum</li> <li>• 802.11n HT20(5GHz) : +10dBm minimum</li> <li>• 802.11n HT40(5GHz) : +10dBm minimum</li> <li>• 802.11ac VHT80(5GHz) : +10dBm minimum</li> </ul>



# QuickSpecs

## Technical Specifications

<b>Power Consumption</b>	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW Radio disabled 8 mW
<b>Power Management</b>	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
<b>Receiver Sensitivity[3]</b>	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
<b>Antenna type</b>	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
<b>Form Factor</b>	PCI-Express M.2 MiniCard
<b>Dimensions</b>	Type 2230 : 2.3 x 22.0 x 30.0 mm
<b>Weight</b>	Type 2230 : 2.8g
<b>Operating Voltage</b>	3.3v +/- 9%
<b>Temperature</b>	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
<b>Humidity</b>	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
<b>Altitude</b>	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
<b>LED Activity</b>	LED Amber – Radio OFF; LED White – Radio ON

**HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology**

<b>Bluetooth Specification</b>	4.0/4.1/4.2 Compliant
<b>Frequency Band</b>	2402 to 2480 MHz
<b>Number of Available Channels</b>	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
<b>Data Rates and Throughput</b>	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps  BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels
<b>Data Rates and Throughput Transmit Power</b>	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 + 4 dBm for BR and EDR.





# QuickSpecs

## Technical Specifications

<b>Power Consumption</b>	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
<b>Electrical Interface</b>	USB 2.0 compliant
<b>Bluetooth Software Supported</b>	Microsoft Windows Bluetooth Software
<b>Link Topology</b>	
<b>Power Management</b>	Microsoft Windows ACPI, and USB Bus Support
<b>Certifications</b>	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
<b>Power Management Certifications</b>	ETS 300 328, ETS 300 826  Low Voltage Directive IEC950
<b>Bluetooth Profiles Supported</b>	UL, CSA, and CE Mark 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)
<b>Bluetooth Profiles Supported</b>	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)

## WWAN



# QuickSpecs

## Technical Specifications

<b>HP It4132 LTE/HSPA+ 4G Mobile Broadband Module</b>	<b>Technology/Operating bands</b>	LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3) MHz, 850 (Band 5), 2600 (Band 7), 900 (Band 8) MHz, 800 (Band 20), 700 (Band 28) MHz. HSPA+: 2100 (Band 1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz
	<b>Wireless protocol standards</b>	3GPP Release 10 LTE Specification CAT.4, 20MHz BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification E-GPRS: Class B, Multi-slot class 12, coding schemes CS1 - CS4 and MSC1 - MSC9
	<b>GPS</b>	Standalone, A-GPS (MS-B and LTO)
	<b>GPS bands</b>	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
	<b>Maximum data rates</b>	LTE: 150 Mbps (Download), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
	<b>Maximum output power</b>	LTE: 23 dBm HSPA+: 23.5 dBm E-GPRS 1900/1800: 26 dBm E-GPRS 900/850: 27 dBm GPRS 1900/1800: 29.5 dBm GPRS 900/850: 32.5 dBm
	<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,600 mA (peak); 500 mA (average)
	<b>Form Factor</b>	M.2, 3042-S3 Key B
	<b>Weight</b>	6 g
	<b>Dimensions</b> (Length x Width x Thickness)	42 x 30 x 2.3 mm

**NOTE:** 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.

<b>HP It4210 LTEHSPA+ 4G Mobile Broadband Module</b>	<b>Technology/Operating bands</b>	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
	<b>Wireless protocol standards</b>	3GPP Release 11 LTE Specification CAT.9, MAX 60MHz aggregation BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
	<b>GPS</b>	Standalone, A-GPS (MS-B and LTO)



# QuickSpecs

## Technical Specifications

<b>GPS bands</b>	GPS 1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz, Beidou 1561.098 ± 2.046 MHz
<b>Maximum data rates</b>	LTE: 450 Mbps (DL 3CA), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
<b>Maximum output power</b>	LTE: 23 dBm HSPA+: 23.5 dBm
<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
<b>Form Factor</b>	M.2, 3042-S3 Key B
<b>Weight</b>	6 g
<b>Dimensions</b> (Length x Width x Thickness)	42 x 30 x 2.3 mm

**NOTE:** 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.

<b>HP hs3210 HSPA+ Mobile Broadband Module</b>	<b>Technology/Operating bands</b>	HSPA+: 2100 (Band1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 MHz (Band 5), 900 (Band 8) MHz
	<b>Wireless protocol standards</b>	WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification E-GPRS: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9
	<b>GPS</b>	Not supported
	<b>GPS bands</b>	Not supported
	<b>Maximum data rates</b>	HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload)  E-GPRS: 296 kbps (Download), 236.8 kbps (Upload)
	<b>Maximum output power</b>	HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,800 mA (peak); 700 mA (average)
	<b>Maximum power consumption</b>	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
	<b>Form Factor</b>	M.2, 3042-S3 Key B
	<b>Weight</b>	6 g
	<b>Dimensions</b> (Length x Width x Thickness)	42 x 30 x 2.3 mm

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

## POWER

<b>Dimensions (H x W x D)</b>	2.91 x 2.91 x 1.12 in (7.4 x 7.4 x 2.85 cm)
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# QuickSpecs

## Technical Specifications

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

<b>AC Adapter 90 Watt PFC USB type C</b>	<b>Dimensions (H x W x D)</b>	129.5x65.5x28.5mm (5.09 x 2.57 x 1.12 inch)	
	<b>Weight</b>	0.320 kg (0.705lb)	
	<b>Output</b>	<b>Input Efficiency</b>	81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 10V/5A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A
		<b>Input frequency range</b>	47 to 63 Hz
		<b>Input AC current</b>	1.7 A at 90 VAC and maximum load
		<b>Output power</b>	90W
		<b>DC output</b>	5V/9V/10V/12V/15V/20V
		<b>Hold-up time</b>	5 ms at 115 VAC input
		<b>Output current limit</b>	<11A



# QuickSpecs

## Technical Specifications

<b>Connector</b>	C6 (3pin/with grounded, without Smart ID DC connector)
<b>Environmental Design</b>	<b>Operating temperature</b> 32° to 95° F (0° to 35° C)
	<b>Non-operating (storage) temperature</b> -4° to 185° F (-20° to 85° C)
	<b>Altitude</b> 0 to 16,400 ft (0 to 5,000 m)
	<b>Humidity</b> 5% to 95%
	<b>Storage Humidity</b> 5% to 95%
<b>EMI and Safety Certifications</b>	*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.

<b>Battery BE 6 Cell WHr 67 Long Life -PL Fast Charge</b>	<b>Dimensions (H x W x L)</b>	9.45 x 86.1 x 271mm (0.372 x 3.38 x 10.66 inch)	
	<b>Weight</b>	0.271 kg (0.5971lb)	
	<b>Cells/Type</b>	ATL: 416760	
		Coslight: 416760G	
	<b>Energy</b>	<b>Voltage</b>	11.55V
		<b>Amp-hour capacity</b>	5800mAh / 5510mAh
		<b>Watt-hour capacity</b>	67.0Wh / 63.65Wh
	<b>Temperature</b>	<b>Operating (Charging)</b>	0°C ~ 50°C
		<b>Operating (Discharging)</b>	-10°C ~ 60°C
	<b>Fuel Gauge LED</b>	No	
<b>Warranty</b>	15 months		
<b>Optional Travel Battery Available</b>	No		

**Country of Origin**  
China



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

Type	Description	Part Number
<b>Cases</b>	HP Business Slim Top Load	H5M91AA
	HP Business Backpack	H5M90AA
	HP Essential Top Load Case	H2W17AA#xxx
<b>Docking</b>	HP Elite 90W Thunderbolt3 Dock	1DT93AA#xxx
	HP Thunderbolt Dock 120W G2	TBD
	HP USB-C Mini Dock	1PM64AA#xxx
	HP USB-C Universal Dock	1MK33AA#xxx
	HP Elite USB-C Dock	Z9R42AA
	HP Elite USB-C Dock G3	2DW60AA
	HP USB-C Travel Dock	TOK29AA
	HP USB Travel Dock	TOK30AA
<b>I/O Devices</b>	HP Comfort Grip Wireless Mouse	H2L63AA
	HP Wireless Premium Mouse	1JR31AA
	HP USB Premium Mouse	1JR32AA
	HP Wireless (Link-5) Keyboard	T6U20AA
	HP Slim USB Keyboard and Mouse	T6T83AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C to RJ45	V7W66AA#xxx
	HP USB to RJ 45	N7P47AA
	HP USB-C to VGA Adapter	N9K76AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP HDMI to VGA Adapter	H4F02AA
	<b>Power</b>	HP 65W USB-C AC Adapter
HP 90W USB-C AC Adapter		TBD
HP USB-C Notebook Power Bank		1TZ86AA
<b>Storage</b>	HP External USB Optical Drive	F2B56AA
<b>Security</b>	HP Keyed Cable Lock 10mm	T1A62AA
	HP Dual Head Keyed Cable Lock	T1A64AA
	HP 14.0 Privacy Filter designed by 3M	V8Z57AA#XXX
<b>UCC</b>	HP Nano Lock	1AJ39AA
	HP Conferencing Keyboard	K8P74AA#xxx
	HP USB Collaboration Keyboard	Z9N38AA#xxx
	HP Wireless Collaboration Keyboard	Z9N39AA#xxx
	HP UC Wireless Mono Headset	W3K08AA
	HP UC Wireless Duo Headset	W3K09AA
	HP UC Wired Headset	K7V17AA
HP UC Speaker Phone	K7V16AA	



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

<b>Displays</b>	HP EliteDisplay S140u USB Portable Monitor	G8R65AA
	HP EliteDisplay S340c 34-inch Curved Monitor	V4G46AA
	HP EliteDisplay S240n 23.8-inch Micro Edge Monitor	W9A88AA
	HP EliteDisplay E272q 27-inch QHD Monitor	M1P04AA
	HP EliteDisplay E230t 23-inch Touch Monitor	W2Z50AA
	HP EliteDisplay E240c 23.8-inch Collaboration Monitor	M1P00A8



### Change Log

<b>Date of change:</b>	<b>Version History:</b>		<b>Description of change:</b>
August 28, 2017	From V1 to V2	Update	Battery information changed to "TBD"
September 6, 2017	From V2 to V3	Update	Weight updated
September 11, 2017	From V3 to V4	Update	Processors family correction made on i5-7300HQ switched to 7300U
September 20, 2017	From V4 to V5	Update	Processors list updated
October 9, 2017	From V5 to V6	Update	Battery Life updated
October 18, 2017	From V6 to V7	Update	Keyboard section updated
November 7, 2017	From V7 to V8	Update	Footnote added to Primary battery on Power section.
December 18, 2017	From V8 to V9	Update	HP Nano Lock added to Options and Accessories
February 7, 2018	From V9 to V10	Update	Footnote n. 10 removed on page 6 and replaced

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