

### Overview

### HP mt31 Mobile Thin Client



#### Front

- |                       |  |
|-----------------------|--|
| 1. Microphones (2)    | 8. Headphone/microphone combo jack             |
| 2. Webcam             | 9. USB 3.1 Gen 1 (power port)                  |
| 3. Webcam light       | 10. Power button                               |
| 4. Fingerprint reader | 11. Security lock slot (Lock sold separately.) |
| 5. Clickpad           |  |
| 6. Storage LED        |  |
| 7. SD Card reader     |  |

### Overview



#### Rear

- |                              |                                    |
|------------------------------|------------------------------------|
| 1. Power connector           | 4. HDMI port (Cable not included.) |
| 2. Ethernet port (RJ-R45)    | 5. USB 3.1 Gen 1                   |
| 3. External VGA monitor port | 6. USB Type-C™ port                |

### Overview

### At a Glance

- Preinstalled with Windows 10 IoT Enterprise
- Intel® Celeron® 3867U with Intel® HD Graphics (1.8 GHz, 2 MB cache, 2 cores)<sup>3,4</sup>
- Full size HP Premium Keyboard, spill-resistant keyboard with a thin layer of mylar film to prevent minor spills
- Function keys provide control of features, including: standby mode, display brightness, external display, microphone mute, volume down, volume up, and backlight toggle for backlit keyboard (Select models only)
- Large Clickpad with gestures support
- Enhanced security features with preinstalled software and hardware options
- Optional HD webcam with dual-microphone array for video conferencing<sup>1</sup>
- HDMI port for connecting to high-resolution displays
- 33.7 cm (13.3") diagonal HD SVA anti-glare LED-backlit non-touch; 220 cd/m<sup>2</sup>; 45% sRGB (1366 x 768)
- Battery life up to 15 hours
- HP 3-cell, 48 WHr Li-ion battery
- Passed MIL-STD testing<sup>2</sup>

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

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

**NOTE:** This product is available currently only in Japan.

### Features

#### PRODUCT NAMES

HP mt31 Mobile Thin Client

#### OPERATING SYSTEMS

**Preinstalled** Windows 10 IoT Enterprise

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. See <http://www.windows.com/>.

#### PROCESSORS

Intel® Celeron® 3867U with Intel® HD Graphics (1.8 GHz, 2 MB cache, 2 cores)<sup>3,4</sup>

##### Processors Family

Intel® Celeron® processor (3867U. Please refer to Microsoft support disclaimer)

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>.

#### CHIPSET

Integrated with processor

#### GRAPHICS

##### Integrated

Intel® HD graphics<sup>6</sup>

6. HD content required to view HD images.

### Features

#### DISPLAYS

33.7 cm (13.3") diagonal HD SVA anti-glare LED-backlit non-touch, 220 cd/m<sup>2</sup>, 45% sRGB (1366 x 768)<sup>6,7</sup>

##### Multiple Display Video Output

HDMI (3840 x 2160)

USB-C (3840 x 2160)

VGA (2048 x 1536)

##### Display Size

13.3"

33.7 cm (13.3")

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

#### STORAGE AND DRIVES

##### Primary M.2 Storage

128 GB M.2 2280 SATA TLC SSD<sup>8</sup>

8. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less.

#### MEMORY

8 GB DDR4-2400 SDRAM (2 x 4 GB)<sup>9</sup>

4 GB DDR4-2400 SDRAM (1 x 4 GB)<sup>9</sup>

##### Maximum

8 GB DDR4-2400 SDRAM<sup>9</sup>

##### Memory Slots

2 SODIMM

Both slots are customer accessible / upgradeable

DDR4 PC4 SODIMMS, system runs at 2133

Supports Dual Channel Memory

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

#### NETWORKING/COMMUNICATIONS

##### Wireless LAN (WLAN)

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) WiFi® and Bluetooth® 4.2 Combo (non-vPro™) <sup>10</sup>

##### Ethernet

Realtek RTL8111HSH Gigabit Ethernet

### Features

10. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited.

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## AUDIO/MULTIMEDIA

### Audio

2 Integrated stereo speakers  
Integrated dual array microphone

### Webcam

HD webcam<sup>6,7</sup>

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

## KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

### Keyboard

HP Premium Keyboard (optional backlit)  
Full-sized island-style, spill resistant

### Pointing Device

Clickpad with multi-touch gesture support image sensor, taps enabled as default

### Buttons and Function Keys

Separate launch buttons provide easy access to wireless on/off and speaker mute. Function keys provide control of features including: standby mode, display brightness, external display, microphone mute, volume down, volume up, and backlight toggle for backlit keyboard (select models only).

### Function Keys

Start Menu: HP System Information  
Fn + ESC: System Information  
F1 - Display Switching  
F2 - Blank  
F3 - Brightness Down  
F4 - Brightness Up  
F5 - Speaker Mute  
F6 - Volume Down  
F7 - Volume Up  
F8 - Mic Mute  
F9 - Backlight Toggle (for backlit keyboard) or Blank  
F10 - NumLock  
F11 - Wifi Toggle  
F12 - Sleep

### Hidden Functions

Fn+R = Break  
Fn+S = Sys Rq

### Features

Fn+C = Scroll Lock

#### Pointing Devices

Clickpad with multi-touch gesture support image sensor, taps enabled as default

#### Gestures

##### Enabled by default Win 10 IoT E

- 2 Finger Scrolling
- 2 Finger Zoom (Pinch)
- OSD (enable/disable)
- 3 finger flick = App switch
- 4 finger tap = Action Center

##### Disabled by default Win 10 IoT E

- 3 Finger Flick
- 2 Finger Rotate
- Momentum Motion
- 1 Finger Vertical Scroll

### SOFTWARE AND SECURITY

#### BIOS

- HP BIOSphere Gen4<sup>13</sup>
- HP DriveLock & Automatic DriveLock
- BIOS Update via Network
- Power On Authentication
- Secure Erase<sup>14</sup>
- Absolute Persistence Module<sup>15</sup>
- Pre-boot Authentication

#### Software

- HP Native Miracast Support<sup>16</sup>
- HP Easy Shell
- HP USB Port Manager
- HP Noise Cancellation Software

#### Manageability Features

- HP BIOS Config Utility (BCU)
- HP Device Manager
- HP ThinUpdate
- Microsoft System Center Configuration Manager<sup>20</sup>

#### Client Security Software

- HP Fingerprint Sensor



### Features

HP Write Manager  
Microsoft Defender<sup>24</sup>  
TPM 2.0

13. HP BIOSphere Gen4 requires Intel® or AMD 8th Gen processors. Features may vary depending on the platform and configurations.
14. For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method.
15. 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.
16. Miracast via Wireless Display adapter 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>
24. Microsoft Defender Opt in and internet connection required for updates.

Recommended TC config for Microsoft Teams media optimization			
	TC CPU	VMware Teams Optimization	Citrix Teams Optimization
<b>t430</b>	1.10 GHz 2 Core	–	–
<b>t530</b>	1.50 GHz 2 Core	–	–
<b>t540</b>	1.50 GHz 2 Core	–	–
<b>t630</b>	2.00 GHz 4 Core	✓	✓
<b>t628</b>	1.99 GHz 4 Core	–	✓
<b>t638</b>	2.00 GHz 4 Core	✓	✓
<b>t640</b>	2.40 GHz 2 Core	✓	✓
<b>t730</b>	2.70 GHz 4 Core	✓	✓
<b>t740</b>	3.25 GHz 4 Core	✓	✓
<b>mt21</b>	1.80 GHz 2 Core	–	✓
<b>mt22</b>	1.90 GHz 2 Core	–	✓
<b>mt31</b>	1.80 GHz 2 Core	–	✓
<b>mt32</b>	2.70 GHz 4 Core	✓	✓
<b>mt45</b>	2.10 GHz 4 Core	✓	✓



### Features

mt46	2.50 GHz 4 Core	✓	✓
- Not recommended, ✓ recommended			

### POWER

#### Power Supply

45 W HP Smart right angle 4.5mm AC adapter 2-prong (Japan only)<sup>25</sup>

#### Battery

3-cell, 48 Wh Long Life Li-ion<sup>26</sup>

#### Power Cord

2-wire plug - 1m (2-prong Japan only)<sup>25</sup>

#### Battery life

Up to 15 hours<sup>27</sup>

25. Availability may vary by country.

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

27. 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.

### WEIGHTS & DIMENSIONS

#### Weight

Starting at 3.28 lb<sup>28</sup>

Starting at 1.49 kg<sup>28</sup>

#### Dimensions (w x d x h)

12.83 x 9.21 x 0.78 in

32.6 x 23.4 x 1.98 cm

28. Weight will vary by configuration.

### PORTS/SLOTS

#### Ports

1 USB 3.1 Type-C™ Gen 1 (Power delivery, DisplayPort™)

2 USB 3.1 Gen 1 (1 powered port)

1 HDMI 1.4b<sup>29</sup>

1 VGA

1 RJ-45



### Features

- 1 AC power
- 1 headphone/microphone combo jack

#### **Expansion Slots**

- 1 multi-format digital media reader
- Supports SD, SDHC, SDXC.

29. HDMI cable sold separately.

30. USB 3.1 type-C Gen1 port supports HP ALT mode.

### Features

#### SERVICE AND SUPPORT

##### Warranty

HP Services offers 3-year and 1-year limited warranties and 90-day software limited warranty options depending on country. Batteries have a default one year limited warranty except for Long Life batteries which will have same 1-year or 3-year limited warranty as the platform. Refer to <http://www.hp.com/support/batterywarranty/> for additional battery information. On-site service and extended coverage is also available. HP Care Pack Services are optional extended service contracts that go beyond the standard limited warranties. To choose the right level of service for your HP product, use the HP Care Pack Services Lookup Tool at <http://www.hp.com/go/cpc> <sup>30</sup>

30. 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.

#### CERTIFICATION AND COMPLIANCE

ENERGY STAR® certified  
EPEAT® Gold <sup>31</sup>  
Low halogen <sup>32</sup>

31. EPEAT® registered where applicable. EPEAT® registration varies by country. See <http://www.epeat.net> for registration status by country. Search keyword generator on HP's 3rd party option store for solar generator accessories at <http://www.hp.com/go/options>

32. External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.

### Technical Specifications

#### SYSTEM UNIT

<b>Stand-Alone Power Requirements (AC Power)</b>	<b>Nominal Operating Voltage</b>	19V
	<b>Average Operating Power</b>	Win 10
	<b>Integrated graphics</b>	4.49W
	<b>Discrete Graphics</b>	N/A
<b>Temperature</b>	<b>Max Operating Power</b>	UMA < 45W
	<b>Operating</b>	32° to 95° F (0° to 35° C)
	<b>Non-operating</b>	-4° to 140° F (-20° to 60° C)
<b>Relative Humidity</b>	<b>Operating</b>	10% to 90%, non-condensing
	<b>Non-operating</b>	5% to 95%, 101.6° F (38.7° C) maximum wet bulb temperature
<b>Shock</b>	<b>Operating</b>	40 G, 2 ms, half-sine
	<b>Non-operating</b>	200 G, 2 ms, half-sine
<b>Random Vibration</b>	<b>Operating</b>	0.75 grms
	<b>Non-operating</b>	1.50 grms
<b>Altitude (unpressurized)</b>	<b>Operating</b>	-50 to 10,000 ft (-15.24 to 3,048 m)
	<b>Non-operating</b>	-50 to 40,000 ft (-15.24 to 12,192 m)
<b>Planned Industry Standard Certifications</b>	<b>UL</b>	Yes
	<b>CSA</b>	Yes
	<b>FCC Compliance</b>	Yes
	<b>ENERGY STAR 7.0®</b>	Selected models <sup>33</sup>
	<b>EPEAT</b>	Registered Gold in United States <sup>31</sup>
	<b>ICES</b>	Yes
	<b>Australia /</b>	Yes
	<b>NZ A-Tick Compliance</b>	Yes
	<b>CCC</b>	Yes
	<b>Japan VCCI Compliance</b>	Yes
	<b>KC</b>	Yes
	<b>BSMI</b>	Yes
	<b>CE Marking Compliance</b>	Yes
	<b>BNCI or BELUS</b>	Yes
	<b>CIT</b>	Yes
	<b>GOST</b>	Yes
	<b>Saudi Arabian Compliance (ICCP)</b>	Yes
	<b>SABS</b>	Yes
	<b>UKRSERTCOMPUTER</b>	Yes

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33. Configurations of the HP ProBook 430 G4 is ENERGY STAR® qualified are identified as HP ProBook 430 G4 ENERGY STAR on HP websites and on <http://www.energystar.gov>.

### DISPLAYS

**13.3" diagonal HD SVA anti-glare LED-backlit non-touch; 220 cd/m²; 45% sRGB (1366 x 768)**

<b>Outline Dimensions (W x H)</b>	314.6 x 189.2 (mm) max
<b>Active Area</b>	293.42 x 164.97 (mm)
<b>Weight</b>	260 g max
<b>Diagonal Size</b>	13.3 (inch)
<b>Thickness</b>	3.0 (mm) max
<b>Interface</b>	eDP 1.2
<b>LCD Mode</b>	TN
<b>PPI</b>	
<b>Surface Treatment</b>	Anti-Glare (AG)
<b>Touch Enabled</b>	None
<b>Contrast Ratio</b>	300:1 (typical)
<b>Refresh Rate</b>	60 Hz
<b>Brightness</b>	220 nits
<b>Pixel Resolution</b>	1366 x 768 (HD)
<b>Format</b>	RGB
<b>Backlight</b>	LED
<b>Color Gamut Coverage</b>	45%
<b>Color Depth</b>	6 bits + Hi FRC
<b>Viewing Angle</b>	SVA 45/45/25/35

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

Technical Specifications

STORAGE AND DRIVES

SOLID STATE DRIVES

128GB 2280 M2 SATA-3 TLC Solid State Drive	Form Factor	M.2 2280
	Capacity	128 GB
	NAND Type	TLC
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Weight	0.02 lb (10 g)
	Interface	ATA-8, SATA 3.0
	Maximum Sequential Read	Up To 520 MB/s
	Maximum Sequential Write	Up To 450 MB/s
	Logical Blocks	250,069,680
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	DIPM; TRIM; DEVSLP



### Technical Specifications

## NETWORKING/COMMUNICATIONS

### WLAN

<b>Intel® 802.11 a/b/g/n/AC (2x2) WiFi and Bluetooth® Combo</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>	<ul style="list-style-type: none"> <li>802.11b: 1, 2, 5.5, 11 Mbps</li> <li>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>802.11ac : MCS0 ~ MCS7, (1SS) (20MHz, 40MHz, and 80MHz)</li> </ul>
<b>Modulation</b>	Direct Sequence Spread Spectrum BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM
<b>Security<sup>1</sup></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 : +16dBm minimum</li> <li>802.11g : +14dBm minimum</li> <li>802.11a : +14dBm minimum</li> <li>802.11n HT20(2.4GHz) : +14dBm minimum</li> <li>802.11n HT40(2.4GHz) : +12dBm minimum</li> <li>802.11n HT20(5GHz) : +14dBm minimum</li> <li>802.11n HT40(5GHz) : +12dBm minimum</li> <li>802.11ac 80MHz(5GHz) : +11dBm minimum</li> </ul>

### 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 (WLAN+BT) Radio disabled: 5 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

1. [Check latest software/driver release for updates on supported security features.](#)
2. [Maximum output power may vary by country according to local regulations.](#)
3. [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 \(OFDM modulation\).](#)

#### 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 Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)



### Technical Specifications

<b>Transmit Power</b>	The Bluetooth® component shall operate as a Class II Bluetooth® device with a maximum transmit power of + 4 dBm for BR and EDR.
<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</b>	ETS 300 328, ETS 300 826
<b>Certifications</b>	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)

### Technical Specifications

#### POWER

##### HP 45W Smart AC Adapter

<b>Dimensions (H x W x D)</b>	3.74 x 1.57 x 1.04 in (9.5 x 4.0 x 2.65 cm)
<b>Weight</b>	0.386 lb (175g) max
<b>Input</b>	90 to 265 VAC
	<b>Input Efficiency</b> 87.74% at 115Vac and 88.4% at 230Vac
	<b>Input frequency range</b> 47 to 63 Hz
	<b>Input AC current</b> 1.4 A at 90 VAC
<b>Output</b>	<b>Output power</b> 45W
	<b>DC output</b> 19.5V
	<b>Hold-up time</b> 5 msec at 115 VAC input
	<b>Output current limit</b> <8.0A
<b>Connector</b>	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords
<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> 20% to 95%
	<b>Storage Humidity</b> 10% 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, Class1, 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 200,000 hours at 25°C ambient condition.</p>

##### HP 3-cell, Long Life 48 WHr Li-ion

<b>Dimensions (H x W x L)</b>	7.0. x180.48x88.95 mm (0.273 x 7.09 x 3.49 inch)
<b>Weight</b>	0.22 kg (0.48lb)
<b>Cells/Type</b>	3cell Lithium-Ion
<b>Energy</b>	<b>Voltage</b> 11.4V/ 10.95V
	<b>Amp-hour capacity</b> 4.212Ah /4.385Ah
	<b>Watt-hour capacity</b> 48Wh
<b>Temperature</b>	<b>Operating (Charging)</b> 32° to 113° F (0° to 45° C)
	<b>Operating (Discharging)</b> 14° to 122° F (-10° to 60° C)
	<b>Non-operating</b> -4° to 122° F (-20° to 60° C)

### Technical Specifications

<b>Battery Re-Charge Time</b>	<b>System in OFF or Standby Mode</b>	<3 hours
<b>Fuel Gauge LED</b>	No	
<b>Warranty</b>	Refer to <a href="http://www.hp.com/support/batterywarranty/">http://www.hp.com/support/batterywarranty/</a>	
<b>Optional Travel Battery Available</b>	No	

### ENVIRONMENTAL & INDUSTRY

<b>Environmental Data</b>	<b>Eco-Label Certifications &amp; declarations</b>	<p>This product has received or is in the process of being certified to the following approvals and may be labeled with one or more of these marks:</p> <ul style="list-style-type: none"> <li>IT ECO declaration</li> <li>US ENERGY STAR®</li> <li>EPEAT® Gold registered in the United States. See <a href="http://www.epeat.net">http://www.epeat.net</a> for registration status in your country. Search keyword <i>generator</i> on HP's 3rd party option store for solar energy accessory at <a href="http://www.hp.com/go/options">http://www.hp.com/go/options</a></li> </ul>		
	<b>System Configuration</b>	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".		
	<b>Energy Consumption (in accordance with US ENERGY STAR® test method)</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 60Hz</b>
	Normal Operation (Short idle)	7.34 W	7.40 W	7.34 W
	Normal Operation (Long idle)	3.72 W	3.76 W	3.69 W
	Sleep	0.64 W	0.69 W	0.64 W
	Off	0.40 W	0.45 W	0.42 W
		<p><b>Note:</b> Energy efficiency data listed is for an ENERGY STAR® compliant product if offered within the model family. HP computers marked with the ENERGY STAR® Logo are compliant with the applicable U.S. Environmental Protection Agency (EPA) ENERGY STAR® specifications for computers. If a model family does not offer ENERGY STAR® compliant configurations, then energy efficiency data listed is for a typically configured PC featuring a hard disk drive, a high efficiency power supply, and a Microsoft Windows® operating system.</p>		
	<b>Heat Dissipation*</b>	<b>115VAC, 60Hz</b>	<b>230VAC, 50Hz</b>	<b>100VAC, 60Hz</b>
	Normal Operation (Short idle)	25 BTU/hr	25 BTU/hr	25 BTU/hr
	Normal Operation (Long idle)	13 BTU/hr	13 BTU/hr	13 BTU/hr
	Sleep	2 BTU/hr	2 BTU/hr	2 BTU/hr
	Off	1 BTU/hr	2 BTU/hr	1 BTU/hr

### Technical Specifications

	<b>*Note:</b> Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
<b>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</b>	Sound Power (L <sub>WAd</sub> , bels)	Sound Pressure (L <sub>pAm</sub> , decibels)	
Typically Configured – Idle	2.8	19	
Fixed Disk – Random writes	2.9	19	
<b>Longevity and Upgrading</b>	This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include: • 3 USB ports		
<b>Batteries</b>	This battery(s) in this product comply with EU Directive 2006/66/EC  Batteries used in the product do not contain: Mercury greater the 1ppm by weight Cadmium greater than 20ppm by weight  Battery size: CR2032 (coin cell) Battery type: Lithium		
<b>Additional Information</b>	<ul style="list-style-type: none"><li>• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.</li><li>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.</li><li>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).</li><li>• This product is in compliance with the IEEE 1680 (EPEAT) standard at the Gold level, see <a href="http://www.epeat.net">www.epeat.net</a></li><li>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li><li>• This product contains 0% post-consumer recycled plastic (by wt.)</li><li>• This product is 94.4% recycle-able when properly disposed of at end of life.</li></ul>		
<b>Packaging Materials</b>	<b>External:</b>	PAPER/Corrugated	320 g
	<b>Internal:</b>	PLASTIC/EPE (Expanded Polyethylene)	49 g
		PLASTIC/Polyethylene low density	8 g
	The plastic packaging material contains at least 50% recycled content.		
	The corrugated paper packaging materials contains at least 75% recycled content.		
<b>Material Usage</b>	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf</a> ):  <ul style="list-style-type: none"><li>• Asbestos</li><li>• Certain Azo Colorants</li><li>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li><li>• Cadmium</li></ul>		

### Technical Specifications

		<ul style="list-style-type: none"> <li>• Chlorinated Hydrocarbons</li> <li>• Chlorinated Paraffins</li> <li>• Formaldehyde</li> <li>• Halogenated Diphenyl Methanes</li> <li>• Lead carbonates and sulfates</li> <li>• Lead and Lead compounds</li> <li>• Mercuric Oxide Batteries</li> <li>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li> <li>• Ozone Depleting Substances</li> <li>• Polybrominated Biphenyls (PBBs)</li> <li>• Polybrominated Biphenyl Ethers (PBEBs)</li> <li>• Polybrominated Biphenyl Oxides (PBBOs)</li> <li>• Polychlorinated Biphenyl (PCB)</li> <li>• Polychlorinated Terphenyls (PCT)</li> <li>• Polyvinyl Chloride (PVC) – except for wires and cables, has been voluntarily removed from most applications.</li> <li>• Radioactive Substances</li> <li>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> </ul>
	<b>Packaging Usage</b>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> <li>• Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials.</li> <li>• Eliminate the use of ozone-depleting substances (ODS) in packaging materials.</li> <li>• Design packaging materials for ease of disassembly.</li> <li>• Maximize the use of post-consumer recycled content materials in packaging materials.</li> <li>• Use readily recyclable packaging materials such as paper and corrugated materials.</li> <li>• Reduce size and weight of packages to improve transportation fuel efficiency.</li> <li>• Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.</li> </ul>
	<b>End-of-life Management and Recycling</b>	<p>Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <a href="http://www.hp.com/go/reuse-recycle">http://www.hp.com/go/reuse-recycle</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <a href="http://www.hp.com/go/recyclers">http://www.hp.com/go/recyclers</a>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.</p>

Technical Specifications

	<b>HP, Inc. Corporate Environmental Information</b>	<p>For more information about HP's commitment to the environment:</p> <p>Global Citizenship Report <a href="http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html">http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html</a></p> <p>Eco-label certifications <a href="http://www8.hp.com/us/en/hp-information/environment/ecolabels.html">http://www8.hp.com/us/en/hp-information/environment/ecolabels.html</a></p> <p>ISO 14001 certificates: <a href="http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842">http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842</a> <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf</a></p>
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**Country of Origin**  
China



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

Type	Description	Part Number
Cases	HP Essential Top Load Case	H2W17AA
	HP Essential Backpack	H1D24AA
	HP Essential Messenger Case	H1D25AA
Docking	HP USB-C Dock G4	3FF69AA
	HP USB-C Mini Dock	1PM64AA
	HP 3005pr USB3 Port Replicator	Y4H06AA
	HP Thunderbolt Dock 120W G2	2UK37AA
	HP Thunderbolt Dock 120W G2 w/ Audio	3YE87AA
	HP Thunderbolt Dock G2 w/ Combo Cable	3TR87AA
	HP USB-C Travel Dock	TOK29AA
	HP USB-C Universal Dock	1MK33AA
	HP USB-C Universal Dock NF	3DV65AA
	HP Adjustable Display Stand	AW663AA
	HP Thunderbolt Dock Audio Module	3AQ21AA
	HP Thunderbolt Dock 120 W	3XB94AA
	HP Thunderbolt Dock G2 combo cable	3XB96AA
	HP Slim Wireless Keyboard and Mouse	T6T83AA
	HP Ultra Mobile Wireless Mouse	T6L04AA
Input/Output	HP USB Collaboration Keyboard	Z9N38AA
	HP Wireless Collaboration Keyboard	Z9N39AA
	HP USB Essential Keyboard and Mouse	H6L29AA
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP 3-Button USB Laser Mouse	H4B81AA
	HP USB Travel Mouse	G1K28AA
	HP Ultrathin Wireless Mouse	L9V77AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Essential USB Mouse	2TX37AA
	HP HDMI to DVI Adapter	F5A28AA
	HP USB-C to DP	N9K78AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP Stereo 3.5mm Headset	T1A66AA
	HP Stereo USB Headset	T1A67AA
Power	HP 45W Smart AC Adapter 4.5mm	H6Y88AA
	HP 45W USB-C Power Adapter	1HE07AA
	HP 65W USB-C Power Adapter	1HE08AA
	HP 65W USB-C Slim Power Adapter	3PN48AA
	HP Power Bank	N9F71AA
Storage	HP USB-C Notebook Power Bank	1TZ86AA
	HP External USB Optical Drive	F2B56AA
	HP Essential Combination Lock	TOY16AA
Security	HP Combination Lock	TOY15AA



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

UCC	HP Keyed Cable lock	TOY14AA
	HP Keyed Cable Lock 10mm	T1A62AA
	HP Conferencing Keyboard	K8P74AA
	HP UC Wireless Mono Headset	W3K08AA
	HP UC Wireless Duo Headset	W3K09AA
	HP UC Speaker Phone	K7V16AA
	HP UC Wired Headset	K7V17AA



## Summary of Changes

Date of change:	Version History:		Description of change:
April 30, 2019	From v1 to v2	Changed	Intel Celeron 3865U to Intel Celeron 3867U
January 14, 2021	From v2 to v3	Changed	SOFTWARE AND SECURITY section

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