

Overview

HP mt44 Mobile Thin Client



Right

- | | |
|---------------------------|--|
| 1. Internal microphones | 7. Indicator LEDs (Power, Wireless, and Storage Usage) |
| 2. Webcam (select models) | 8. Smartcard Reader (select models) |
| 3. Internal microphones | 9. USB 3.1 Gen 1 charging port |
| 4. Speaker grill | 10. Vent |
| 5. Click button | 11. Security lock slot (Lock sold separately) |
| 6. Clickpad | 12. Power button |

Overview



Left

- | | |
|----------------------|-----------------------------------|
| 1. Power connector | 5. HDMI port (Cable not included) |
| 2. USB Type-C™ | 6. USB 3.1 Gen 1 port |
| 3. Docking connector | 7. Audio combo jack |
| 4. Ethernet port | 8. SIM card slot |

Overview

AT A GLANCE

- Achieve the perfect balance of form and function with the beautifully designed HP mt44 Mobile Thin Client.
- AMD Ryzen™ 3 PRO 2300U Mobile processor with Radeon™ Vega Graphics
- Featuring HP Collaboration Keyboard with Clickpad to manage most commonly used conferencing functions with a single keystroke
- Innovative world-facing third mic that improves inbound ambient noise cancellation while 360-degree mic pick-up allows everyone to clearly hear and be heard
- Louder speakers expertly tuned by Bang & Olufsen
- Maximize data and device safety with HP SureView*, HP Privacy Camera, Smart Card reader, Finger print reader, Infra Red Camera, HP Sure Start, and HP Write Manager
- Choice of displays:
 - 14.0" FHD (1920 x 1080) UWVA, 220-nit, 45% CG, eDP, slim, AG, NB
 - 14.0" FHD (1920 x 1080) UWVA, 220-nit, 45% CG, eDP, slim, AG, NB, Touch enabled
 - 14.0" FHD (1920 x 1080) UWVA, 700-nit, 72% CG, eDP+PSR, uslim, AG, Privacy
- Flexible wireless connectivity options
- Preinstalled with Windows 10 IoT Enterprise
- 128 GB Flash storage and 8 GB memory
- Supports fast charging (50% in 30 minutes)¹
- Optional HD camera or Infra Red camera with multi-array microphone
- Battery life up to 12 hours
- Passed MIL-STD testing²

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

2. MIL STD 810G testing is pending and is not intended to demonstrate fitness for Department of Defense contracts requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Damage under the MIL - STD test conditions or any accidental damage requires an optional HP Accidental Damage Protection Care Pack.

* Optional features

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

Features

OPERATING SYSTEM

Preinstalled: Windows 10 IoT Enterprise for Thin Clients

NOTE: 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. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com/>.

ACCELERATED PROCESSING UNIT

AMD Ryzen™ 3 PRO 2300U (2.0 GHz base frequency, up to 3.4 GHz burst frequency, 6 MB cache, 4 cores) with Radeon™ Vega Graphics¹

¹ Multi-core 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. AMD's numbering is not a measurement of clock speed.

NOTE: Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.

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

Chipset is integrated with processor

GRAPHICS

Integrated Graphics:

AMD Radeon™ Vega Graphics

DISPLAY

Non-Touch

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB (1920 x 1080)^{1,2}

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB with HD camera (1920 x 1080)^{1,2}

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB with HD IR webcam (1920 x 1080)^{1,2}

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB for WWAN (1920 x 1080)^{1,2}

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB with HD camera for WWAN (1920 x 1080)^{1,2}

35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 220 cd/m², 45% sRGB with HD IR webcam for WWAN (1920 x 1080)^{1,2}

HP Sure View Integrated Privacy Screen 35.6 cm (14") diagonal FHD IPS anti-glare LED-backlit, 700 cd/m², 72% sRGB with HD IR webcam for WWAN (1920 x 1080)^{1,2,3}

Touch

35.6 cm (14") diagonal FHD IPS LED-backlit touch screen with Corning® Gorilla® Glass 3, 220 cd/m², 45% sRGB with HD IR webcam for WWAN (1920 x 1080)^{1,2}

HDMI 2.0

Supports resolution up to 4k @ 60Hz

Displays support

Features

Support 4 independent displays when on HP UltraSlim Docking Station

- Max. resolution = 2K@60Hz (DP1) & 2K@60Hz (DP2) & 1920x1200@60Hz (VGA)

Support 4 independent displays when on HP Elite USB-C Dock G4

- Max. resolution = 2K@60Hz (DP1) & 2K@60Hz (DP2) & 1920x1200@60Hz (HDMI)

¹ HD content required to view HD images.

² Sold separately or as an optional feature.

³ HP Sure View is optional and must be configured at purchase.

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

Features

STORAGE AND DRIVES

Primary Storage

128GB M.2 2280 SATA-3 flash memory storage drive

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

MEMORY

Standard

DDR4 - 2400 (Transfer rates up to 2400 MT/s)

Two SODIMM slots supporting dual-channel memory

Supports the following configurations:

8192 MB Total System Memory (4096 MB x 2)

Maximum

8 GB

Dual-channel

Maximized dual-channel performance requires SODIMMs of the same size and speed in both memory slots.

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

Broadband Wireless (WWAN)

HP It4132 LTE/HSPA+ 4G Mobile Broadband²

LAN

Realtek PCIe GbE Family Controller 10/100/1000⁴

Wireless LAN (WLAN)

Intel® Dual Band Wireless-AC 8265 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo, non-vPro™³

NFC

NXP NPC300 Near Field Communication Module

Miracast

Support for Miracast¹

¹ Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming

² 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.

³ Wireless access point and Internet service is required and is not included. 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.

Features

⁴The term "10/100/1000" or "Gigabit" Ethernet indicates compatibility with IEEE standard 802.3ab for Gigabit Ethernet, and does not connote actual operating speed of 1 Gb/s. For high-speed transmission, connection to a Gigabit Ethernet server and network infrastructure is required

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen

Integrated 3 multi-array microphone

2 integrated stereo speakers

Webcam^{1,2}

720p HD webcam

HD IR webcam

¹ HD content required to view HD images.

² Sold separately or as an optional feature.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

HP Premium Keyboard

HP Premium Collaboration Keyboard with dual-point, minor spill-resistant with drain ; Optional backlit with HP Dura Keys, privacy.

Pointing Devices

Clickpad with multi-touch gestures enabled

Taps enabled as default

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 - Numlk

F11 - Wireless

F12 - Calendar

Share/Present

Call Answer

Call End

Hidden Function Keys

Fn+R - Break

Fn+S - Sys Rq

Fn+C - Scroll Lock

Features

SOFTWARE AND SECURITY

BIOS

HP BIOSphere Gen4¹
Master Boot Record Security
Power On Authentication
Secure Erase²
Pre-boot Authentication

Software

Supported protocols: Microsoft RDP; VMware® Horizon RDP/PCoIP, Blast Extreme; Citrix® ICA/HDX*
HP Native Miracast Support³
HP Noise Cancellation Software
HP Velocity
HP Easy Shell

*Protocols are dependent on operating system installed

Manageability Features

HP Device Manager
HP ThinUpdate
HP BIOS Config Utility (BCU)

Client Security Software^{4,5}

HP Power On Authentication
Microsoft Windows Defender
HP Write Manager
HP SureStart Gen4¹
Secure Erase²
HP USB Port Manager

Security

Security lock slot
Integrated smart card reader⁵
HP Fingerprint Sensor⁵
IR camera for facial recognition⁵
Trusted Platform Module (TPM) 2.0
NFC Antenna⁵

Supported protocols: Microsoft RDP; VMware® Horizon RDP/PCoIP; Citrix® ICA/HDX*

*Protocols are dependent on operating system installed

¹ HP SureStart Gen4 and BIOSphere Gen4 features may vary depending on the PC platform and configurations and requires 8th Gen AMD processors.

² For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method.

³ Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming

Features

⁴ Sold separately or as an optional feature.

⁵ Microsoft Defender Opt in and internet connection required for updates.

Features

POWER

Power Supply¹

- 65 W Smart AC adapter (external)
- 45 W Smart AC adapter (external)
- 45 W 2-prong AC adapter (external, Japan-only)
- 65W EM Smart AC adapter (external)
- 45 W USB Type-C™ adapter
- 65 W USB Type-C™ adapter

Primary Battery

HP 3-cell Long Life Li-Ion (50 WHr) (Supports HP Fast Charging)²

Battery Life

Up to 12 hours³

Power Cord¹

- 2-wire plug – 1.0m (Japan Only)
- 3-wire plug – 1.0m
- 3-wire plug – 1.8m
- Duckhead power cord – 1.0m
- Duckhead power cord – 1.8m

¹ Availability may vary by country.

² Battery is internal and not replaceable by customer. Serviceable by warranty.

³ Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See www.bapco.com for additional details.

WEIGHTS & DIMENSIONS

Weight¹

Starting at 3.27 lb (non-touch); Starting at 3.56 lb (touch)

Starting at 1.48 kg (non-touch); Starting at 1.61 kg (touch)

Dimensions (w x d x h)

12.84 x 9.22 x 0.71 in

32.6 x 23.4 x 1.79 cm

¹ Weight varies by configuration and components.

Features

PORTS/SLOTS

Ports

- 1 USB 3.1 GEN 1
- 1 USB Type-C™ (Alt Mode)
- 1 USB 3.1 GEN 1 (Charging)
- 1 HDMI 2.0¹
- 1 RJ-45 / Ethernet
- 1 docking connector
- 1 headphone/microphone Combo
- 1 AC power

¹HDMI cable sold separately.

Slots

- Smart card reader (optional)
- External Micro SIM Slot(3FF)

SERVICE AND SUPPORT

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. 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> ¹

¹ HP Care Services are optional. 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

Stand-Alone Power Requirements (AC Power)	Nominal Operating Voltage	19 V
	Average Operating Power	Windows 10
	Integrated graphics	15W
Temperature	Max Operating Power	UMA < 45W
	Operating	32° to 95° F (0° to 35° C) (not writing optical) 41° to 95° F (5° to 35° C) (writing optical)
	Non-operating	-4° to 140° F (-20° to 60° C)
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	Half sine wave shock: 40G, 2ms duration
	Non-operating	Half sine wave shock: 240G, 2ms duration
Random Vibration	Operating	Nominal 1.043 grms
	Non-operating	Nominal 3.5 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®	Yes
	EPEAT®	Yes
	ICES	Yes
	Australia / NZ RCM Compliance	Yes
	CCC	Yes
	Japan VCCI Compliance	Yes
	KC	Yes
	BSMI	Yes
	CE Marking Compliance	Yes
	CIT	Yes
	EAC	Yes
	Saudi Arabian Compliance (ICCP)	TRSE owned
UKRSERTCOMPUTER		

** 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 www.hp.com/go/options.

Technical Specifications

DISPLAYS

Panel LCD 14 inch FHD (1920x1080) Anti-Glare WLED UWVA 45% cg 220nits eDP slim NB	Outline Dimensions (W x H)	316.112 x 197.98 max.
	Active Area	309.312 x 173.988
	Weight	< 280 g max
	Diagonal Size	14"
	Thickness	3.0mm max.
	Interface	eDP 1.2
	Surface Treatment	IPS
	Contrast Ratio	600:1 (typical)
	Refresh Rate	60Hz
	Brightness	220 nits typical (Panel Only)
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB
	Backlight	LED
	Color Gamut Coverage	0.45
	Color Depth	6 bits + Hi FRC
Viewing Angle	UWVA 85/85/85/85	

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 72% cg 700nits eDP 1.3+PSR ultraslim Privacy	Outline Dimensions (W x H)	315.41 x 196.14 max.
	Active Area	309.312 x 173.988
	Weight	< 225 g max
	Diagonal Size	14"
	Thickness	3.0mm max.
	Interface	eDP 1.4
	Surface Treatment	IPS
	Contrast Ratio	Sharing mode, 600:1 (typical) Privacy mode, 150:1 (typical)
	Refresh Rate	120Hz
	Brightness	Sharing mode, 700 nits (typical) Privacy mode, 350 nits (typical)
	Pixel Resolution	1920 x 1080 (FHD)
	Format	RGB
	Backlight	LED
	Color Gamut Coverage	Sharing mode, 72% Privacy mode, 60%

Technical Specifications

Color Depth	8 bits
Viewing Angle	Sharing mode, CR>10, L/R/U/D, 85/85/85/85 (typical) Privacy mode, CR>2, L/R/U/D, 50/50/85/85 (typical)

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

NETWORKING

HP lt4132 LTE/HSPA + 4G Mobile Broadband*

Technology/Operating bands	FDD LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 2600 (Band 7), 900 (Band 8), 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
Wireless protocol standards	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
GPS	Standalone, A-GPS (MS-A, MS-B and LTO)
GPS bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
Maximum data rates	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)
Maximum output power	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
Maximum power consumption	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)
Form Factor	M.2, 3042-S3 Key B
Weight	6 g
Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

* 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.

Technical Specifications

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

Bluetooth Specification	4.0/4.1/4.2 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps BLE: 1 Mbps data rate; throughput up to 0.2 Mbps Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.
Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Range	Legacy Up to 33 ft (10 m) BLE Up to 99 ft (30 m)
Electrical Interface	USB 2.0 compliant
Bluetooth Software Supported	Microsoft Windows Bluetooth Software
Power Management Certifications	Microsoft Windows ACPI, and USB Bus Support
Security 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 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
Bluetooth Profiles Supported	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) Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

Technical Specifications

STORAGE AND DRIVES

128 GB M.2 2280 SATA-3 Flash Memory Drive

Drive Weight	0.02 lb (10 g)	
Capacity	128 GB	
Height	0.09 in (2.3 mm)	
Width	0.87 in (22 mm)	
Interface	ATA-8, SATA 3.0	
Performance	Maximum Sequential Read	Performance
	Up To 520 MB/s	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

POWER

AC adapter 65 Watt nPFC USB type C™	Dimensions (H x W x D)	74x74x28.5mm	
	Weight	unit: 245g +/- 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 @ 10V/5A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A	
	Input frequency range	47 to 63 Hz	
	Input AC current	1.7 A at 90 VAC and maximum load	
	Output	Output power	65W
		DC output	5V/9V/10V/12V/15V/20V
		Hold-up time	5 ms at 115 Vac input
		Output current limit	<8.0A
	Connector	Duck head / duck head power cord, without Smart ID DC connector	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
Altitude		0 to 16,400 ft (0 to 5,000 m)	
Humidity		5% to 95%	
Storage Humidity		5% to 95%	
EMI and Safety Certifications	<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>		

AC Adapter 45 Watt nPFC USB type C™	Dimensions (H x W x D)	62.0x62.0x28.5mm	
	Weight	unit: 220g +/- 10g	
Input	Input Efficiency	Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec:5V : 81.5%9V : 86.7%10V : 87.5%12V : 87.8%15V : 87.8%20V : 87.8%	
	Input frequency range	47 to 63 Hz	
	Input AC current	Max. 1.4 A at 90 Vac	
	Output	Output power	5V/15W 9V/27W 10V/37.5W 12V/45W 15V/45W 20V/45W
		DC output	5V / 9V / 10V /12V / 15V / 20V

Technical Specifications

Connector	Hold-up time	5 ms at 115Vac input
	Output current limit	<5.0A
Environmental Design	USB Type-C™	
	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
	Altitude	0 to 16,400 ft (0 to 5,000 m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
EMI and Safety Certifications	<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 45W Smart AC Adapter

Dimensions (H x W x D)	3.74 x 1.57 x 1.04 in (9.5 x 4.0 x 2.65 cm)	
	Weight	0.386 lb (175g) max
Input	Input Efficiency	87.74% at 115Vac and 88.4% at 230Vac
	Input frequency range	47 to 63 Hz
	Input AC current	Max. 1.4 A at 90 Vac
Output	Output power	45W
	DC output	19.5V
	Hold-up time	5 ms at 115 Vac input
	Output current limit	<8.0A
Connector	4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords	
Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
	Altitude	0 to 16,400 ft (0 to 5,000 m)
	Humidity	20% to 95%
	Storage Humidity	10% to 95%
	EMI and Safety Certifications	<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>

Technical Specifications

HP 45W Smart AC Adapter (2 Prong)	Dimensions (H x W x D)	95.0x40.0x26.5mm	
	Weight	unit: 200g +/- 10g	
	Input	90 to 265 VAC	
		Input Efficiency	87.74% at 115Vac and 88.4% at 230Vac
		Input frequency range	47 to 63 Hz
		Input AC current	Max. 1.4 A at 90 Vac
	Output	Output power	45W
		DC output	19.5V
		Hold-up time	5 ms at 115Vac input
		Output current limit	<8.0A
	AC Connector (Ac Inlet)	C8 (2 pin/non-grounded, with Smart ID DC connector)	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
	Storage Humidity	10% to 95%	
EMI and Safety Certifications	<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 65W Smart AC Adapter	Dimensions	107.0x47.0x30.0mm	
	Weight	unit: 250g +/- 10g	
	Input	Input Efficiency	88.0 % at 115 Vac and 89.0 % at 230 Vac
		Input frequency range	47 to 63 Hz
		Input AC current	Max 1.7 A at 90 Vac
	Output	Output power	65W
		DC output	19.5V
		Hold-up time	5 ms at 115 Vac input
		Output current limit	<11.0A
	Connector	4.5mm Barrel Type	
	Environmental Design	Operating temperature	32° to 95° F (0° to 35° C)
		Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)
		Altitude	0 to 16,400 ft (0 to 5,000 m)
		Humidity	20% to 95%
		Storage Humidity	10% to 95%

Technical Specifications

EMI and Safety Certifications

*CE Mark - full compliance with LVD and EMC directives
 * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE.
 * MTBF - over 200,000 hours at 25°C ambient condition.

HP 65W EM Smart AC Adapter

Dimensions

102x55x30mm

Weight

270g +/- 10g

Input

Input Efficiency

87% min at 115V/230V

Input frequency range

47 to 63 Hz

Input AC current

Max 1.7 A at 90 VAC

Output

Output power

65W

DC output

19.5V/3.33A

Hold-up time

5 msec at 115 VAC input

Output current limit

<11.0A, Over voltage protection- 29V max automatic shutdown

Connector

4.5mm Barrel Type, 3 pin/grounded, mates with interchangeable cords

Environmental Design

Operating temperature

32° to 95° F (0° to 35° C)

Non-operating (storage) temperature

-4° to 185° F (-20° to 85° C)

Altitude

0 to 16,400 ft (0 to 5,000 m)

Humidity

0% to 95%

Storage Humidity

0% to 95%

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Battery TT 3 Cell WHr 56 Long Life - PL	Dimensions (L x W x H)	L281.7mm x W 79.65mm x H 7.15mm	
	Weight	193 +/- 10g	
	Cells/Type	3cell Lithium-Ion Polymer cell / P604883A1	
	Energy	Voltage	11.55V
		Amp-hour capacity	4.113Ah/ 4.330Ah
		Watt-hour capacity	50wh
	Temperature	Operating (Charging)	0° to 50° C
		Operating (Discharging)	-10° to 60° C
	Fuel Gauge LED	NA	
	Warranty	3 years	
	Optional Travel Battery Available	No	

Technical Specifications

ENVIRONMENTAL DATA

Environmental Data	Eco-Label Certifications & declarations	<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"> IT ECO declaration US ENERGY STAR® US Federal Energy Management Program (FEMP) EPEAT[®] Gold registered in the United States. See http://www.epeat.net for registration status in your country. Search keyword <i>generator</i> on HP's 3rd party option store for solar energy accessory at http://www.hp.com/go/options. TCO 		
System Configuration		<p>The configuration used for the Energy Consumption and Declared Noise Emissions data for the Notebook model is based on a "Typically Configured Notebook".</p>		
Energy Consumption (in accordance with US ENERGY STAR® test method)		115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Sort idle)		7.98 W	7.70 W	7.04 W
Normal Operation (Long idle)		5.24 W	5.10 W	5.16 W
Sleep		0.82 W	0.84 W	0.82 W
Off		0.43 W	0.44 W	0.42 W
Heat Dissipation*		115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz
Normal Operation (Short idle)		27 BTU/hr	26 BTU/hr	24 BTU/hr

Note:

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.

Technical Specifications

	Normal Operation (Long idle)	18 BTU/hr	17 BTU/hr	18 BTU/hr
	Sleep	3 BTU/hr	3 BTU/hr	3 BTU/hr
	Off	1 BTU/hr	2 BTU/hr	1 BTU/hr
	*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.			
	Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L _{WA} d, bels)		Sound Pressure (L _{pAm} , decibels)
	Typically Configured – Idle	2.5		15
	Fixed Disk – Random writes	3.1		25
	Optical Drive – Sequential reads			
	Longevity and Upgrading	<p>This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:</p> <ul style="list-style-type: none"> • 3 USB ports • 1 PC card slot (type I/II) • 1 ExpressCard/54 slot • 1 IEEE 1394 Port • 2 SODIMM memory slots • Optional expansion base docking station • 1 multi-bay II storage port • Interchangeable HDD?? <p>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production.</p>		
	Batteries	<p>This battery(s) in this product comply with EU Directive 2006/66/EC</p> <p>Batteries used in the product do not contain: Mercury greater the 1ppm by weight Cadmium greater than 20ppm by weight</p> <p>Battery description: CR2032 (coin cell) Battery type: Lithium Battery description: 6-cell high capacity Lithium-Ion battery (optional 8 cell available) Battery type:</p>		

Technical Specifications

	Additional Information	<ul style="list-style-type: none"> • This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). • This product is in compliance with the IEEE 1680 (EPEAT) standard at the <Gold> level, see www.epeat.net • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains 5.2% post-consumer recycled plastic (by wt.) • This product is 96.2% recycle-able when properly disposed of at end of life. 												
	Packaging Materials	<table border="1"> <tr> <td data-bbox="606 751 762 798">External:</td> <td data-bbox="762 751 1404 798">PAPER/Corrugated</td> <td data-bbox="1404 751 1543 798">357 g</td> </tr> <tr> <td data-bbox="606 798 762 840">Internal:</td> <td data-bbox="762 798 1404 840">PLASTIC/Polyethylene Expanded - EPE</td> <td data-bbox="1404 798 1543 840">66 g</td> </tr> <tr> <td></td> <td data-bbox="762 840 1404 882">PLASTIC/Polyethylene low density - LDPE</td> <td data-bbox="1404 840 1543 882">15 g</td> </tr> <tr> <td></td> <td data-bbox="762 882 1404 924">PLASTIC/Polypropylene - PP</td> <td data-bbox="1404 882 1543 924">4 g</td> </tr> </table> <p>The plastic packaging material contains at least 50 % recycled content.</p> <p>The corrugated paper packaging materials contains at least 70 % recycled content.</p>	External:	PAPER/Corrugated	357 g	Internal:	PLASTIC/Polyethylene Expanded - EPE	66 g		PLASTIC/Polyethylene low density - LDPE	15 g		PLASTIC/Polypropylene - PP	4 g
External:	PAPER/Corrugated	357 g												
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	PLASTIC/Polyethylene low density - LDPE	15 g												
	PLASTIC/Polypropylene - PP	4 g												
	Material Usage	<p>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 http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf):</p> <ul style="list-style-type: none"> • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO) 												

Technical Specifications

	<p>Packaging Usage</p>	<p>HP follows these guidelines to decrease the environmental impact of product packaging:</p> <ul style="list-style-type: none"> • Eliminate the use of heavy metals such as lead, chromium, mercury and cadmium in packaging materials. • Eliminate the use of ozone-depleting substances (ODS) in packaging materials. • Design packaging materials for ease of disassembly. • Maximize the use of post-consumer recycled content materials in packaging materials. • Use readily recyclable packaging materials such as paper and corrugated materials. • Reduce size and weight of packages to improve transportation fuel efficiency. • Plastic packaging materials are marked according to ISO 11469 and DIN 6120 standards.
	<p>End-of-life Management and Recycling</p>	<p>Hewlett-Packard offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle 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: http://www.hp.com/go/recyclers. 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>
	<p>HP, Inc. Corporate Environmental Information</p>	<p>For more information about HP's commitment to the environment:</p> <p>Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html</p> <p>Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html</p> <p>ISO 14001 certificates:</p> <p>http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842</p> <p>and</p> <p>http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf</p>

Technical Specifications

COUNTRY OF ORIGIN

China

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

Type	Description	Part Number
Cases	HP Slim Tip Load	F3W16AA
	HP Slim Backpack	F3W15AA
	HP 15.6 Business Top Load	2SC66AA
Docking	HP UltraSlim Docking Station	D9Y32AA
	HP USB-C Universal Dock	1MK33AA
	HP USB-C Universal Dock with 4.5mm adapter	2UF95AA
	HP USB-C Universal Dock (non-flash, 4.5mm adapter)	3DV65AA
	HP USB-C Dock G4	3FF69AA
	HP USB-C Mini Dock	1PM64AA
	HP USB-C Travel Dock	T0K29AA
	HP Adjustable Dual Display Stand	AW664AA
	HP Display and Notebook Stand II	E8G00AA
	HP Hot Desk Stand (up to 32" monitor)	W3Z73AA
Monitor Arm (for use with W3Z73AA; supports two 24" monitors)	W3Z74AA	
Input/Output	HP Slim Wireless Keyboard and Mouse	T6L04AA
	HP Slim USB Keyboard and Mouse	T6T83AA
	HP Wireless (Link-5) Keyboard	T6U20AA
	HP USB Essential Keyboard and Mouse	H6L29AA
	HP Conferencing Keyboard	K8P74AA
	HP Comfort Grip Wireless Mouse	H2L63AA
	HP Ultra Mobile Wireless Mouse	H6F25AA
	HP Wireless Premium Mouse	1JR31AA
	HP USB Premium Mouse	1JR32AA
	HP USB Travel Mouse	G1K28AA
	HP Touch to Pair Mouse	H6E52AA
	HP X4000b Bluetooth Mouse	H3T50AA
	HP Slim Bluetooth Mouse	F3J92AA
	HP Wireless Optical Mouse LTNA	K7S53AA#ABM
	HP 3-button USB Laser Mouse	H4B81AA
	HP Stereo 3.5mm Headset	T1A66AA
	HP Stereo USB Headset	T1A67AA
	HP USB Speaker Phone	X7N17AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C to DP	N9K78AA
HP USB-C to VGA	N9K76AA	

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

	HP HDMI to DVI	F5A28AA
	HP HDMI to VGA	H4F02AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
Memory	HP 4GB 2400MHz DDR4 Memory	Z4Y84AA
	HP 8GB 2400MHz DDR4 Memory	Z4Y85AA
	HP 16GB 2400MHz DDR4 Memory	Z4Y86AA
Power	HP 65W Slim AC Adapter	H6Y82AA
	HP 90W Slim AC Adapter	H6Y83AA
	HP 90W Slim Combo AC Adapter w/USB	H6Y84AA
	HP 45W Smart AC Adapter	H6Y88AA
	HP 65W Smart AC Adapter	H6Y89AA
	HP 90W Smart AC Adapter	H6Y90AA
	HP 45W 2-prong 4.5mm DC jack AC adapter	L6F60AA#ABJ
	HP 45W USB-C Power Adapter	1HE07AA
	HP 65W USB-C Power Adapter	1HE08AA
	HP Notebook Power Bank	N9F71AA
	HP USB-C Notebook Power Bank	1TZ86AA
Storage	HP USB External DVDRW Drive	F2B56AA
Security	HP Docking Station Cable Lock	AU656AA
	HP Keyed Cable Lock	TOY14AA
	HP Combination Lock	TOY15AA
	HP Essential Combination Lock	TOY16AA
	HP Keyed Cable Lock 10mm	T1A62AA
	HP Dual Head Keyed Cable Lock	T1A64AA
	HP 1 year Next Business Day Onsite HW Support w/Accidental Damage Protection-G2	UK726E
	HP 3 year Next Business Day Onsite HW Support w/Accidental Damage Protection-G2	UC279E
UCC	HP USB Collaboration Keyboard	Z9N38AA
	HP Wireless Collaboration Keyboard	Z9N39AA
	HP UC Speaker Phone	K7V16AA
	HP UC Wired Headset	K7V17AA
	HP UC Wireless Mono Headset	W3K08AA
	HP UC Wireless Duo Headset	W3K09AA

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

Displays	HP EliteDisplay E243 23.8-inch Monitor	1FH47AA
	HP EliteDisplay E243i 23.8-inch Monitor	1FH49AA
	HP EliteDisplay E273 27-inch Monitor	1FH50AA
	HP EliteDisplay E273m 27-inch Monitor	1FH51AA
Misc	HP 14" Notebook PC Privacy Filter	J6E65AA
	USB-C™ to USB 3.0 dongle	N2Z63AA

Docking Station	Total number of supported displays (incl. the thin client display)	Max. resolutions supported	Dock Connectors	Technical limitations
HP UltraSlim Docking Station	4	Dual 2K @ 60Hz Single 4K @ 60Hz (3840 x 2160)	2xDP, 1xVGA	Supports only one 4K monitor at a time
HP Elite USB-C Dock G4	4	Dual 2K @ 60Hz Single 4K @ 60Hz (3840 x 2160)	1xHDMI, 2xDP	Both Display Ports on dock cannot be used if two HDMI's are connected
HP USB-C Universal Dock	4	Dual 4K @ 60Hz	2xDP	Both dock ports can be used at the same time
HP USB-C Travel Dock	3	Single 2K @ 50Hz (2560 x 1440) VGA 1920x1200 @ 60Hz	1xHDMI, 1xVGA	Single external display Only HDMI or VGA at a time
HP USB-C Mini Dock	3	Single 4K @ 30Hz	1xHDMI, 1xVGA	Single external display Only HDMI or VGA at a time

Summary of Changes

Date of change:	Version History:	Type of change	Description of change:
May 8, 2018	From v1 to v2	Added	Environmental tab
May 24, 2018	From v2 to v3	Changed	Environmental tab
June 18, 2018	From v3 to v4	Changed	Docking Station
August 6, 2018	From v4 to v5	Changed	MIL-STD from "Pending" to "Passed", Weight Changed it from "3.37 lb (1.53 kg)" to "3.27 lb (1.48 kg)" at non-touch
August 20, 2018	From v5 to v6	Changed	Software support for VMware Horizon

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