# tehnot≡ka

## Informacije o proizvodu (EN)

HP laptop 255 G9 (6S6F2EA)





Tehnoteka je online destinacija za upoređivanje cena i karakteristika bele tehnike, potrošačke elektronike i IT uređaja kod trgovinskih lanaca i internet prodavnica u Srbiji. Naša stranica vam omogućava da istražite najnovije informacije, detaljne karakteristike i konkurentne cene proizvoda.

Posetite nas i uživajte u ekskluzivnom iskustvu pametne kupovine klikom na link:

https://tehnoteka.rs/p/hp-laptop-255-g9-6s6f2ea-akcija-cena/

### **Overview**

### HP 255 15.6 inch G9 Notebook PC



#### Left

- 1. Internal Dual Digital Microphone
- 2. Webcam LED
- 3. Webcam
- 4. Touchpad
- 5. Touchpad Buttons
- 6. Audio Combo Jack
- 1. SuperSpeed USB 20Gbps is not available.

- 7. Power Indicator LED
- 8. Hard Drive Indicator LED
- SuperSpeed USB Type-C<sup>®</sup> 5Gbps signaling rate<sup>1</sup> (Data Transfer Only)
- 10. HDMI Port (Cable Sold Separately)
- 11. RJ-45 / Ethernet Port
- 12. Power Button

### **Overview**



### Right

- **Power Connector**
- SuperSpeed USB Type-A 5Gbps signaling rate<sup>1</sup> port **5.** Fingerprint Reader (Selected Models) (USB 3.2 Gen 1)
- SuperSpeed USB Type-A 5Gbps signaling rate<sup>1</sup> port (USB 3.2 Gen 1)
- 1. SuperSpeed USB 20Gbps is not available.

- 4. SD Card slot

### Overview

### AT A GLANCE

- Preinstalled with Windows 11 Pro, Windows Home or FreeDOS
- Choice of powerful AMD Ryzen™ APU processors
- Choice of 39.62 cm (15.6") diagonal HD and Ultra Wide Viewing Angle FHD 300 nit display
- Fast and dual channel DDR4 SODIMM memory up to 32 GB
- Optimize your video calls with an HD camera and temporal noise reduction that adjusts the lighting to your environment.
- Enhanced security features including discrete TPM 2.0 (select model) and optional Fingerprint reader
- Weight with basic configurations starting at 3.84 lb / 1.74 kg
- Choice of Solid State Drives up to 1 TB, Hard Drive up to 1 TB and optional dual storage support.
- Support wireless options for connectivity on the go including gigabit-speed up to Wi-Fi® 6
- Supports fast charging (50% in 45 minutes) with no impact on battery recharge cycles
- Battery Life up to 10 hours 15 mins
- Full size, optional backlit keyboard and clickpad with Precision Touchpad Supported certified
- AMD FreeSync™ makes FHD display stutter, input lag, and screen tears ancient history
- Passed 13 MIL-STD test

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



#### **PRODUCT NAME**

HP 255 15.6 inch G9 Notebook PC

### **OPERATING SYSTEM**

Preinstalled Windows 11 Pro <sup>1</sup>

Windows 11 Pro Education<sup>1</sup>

Windows 11 Home - HP recommends Windows 11 Pro for business 1

Windows 11 Home Single Language – HP recommends Windows 11 Pro for business 1,2

Windows 11 Home Education – HP recommends Windows 11 Pro for business 1

**FreeDOS** 

- 1. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows is automatically updated and enabled. High speed internet and Microsoft account required. ISP fees may apply and additional requirements may apply over time for updates. See <a href="http://www.windows.com">http://www.windows.com</a>.
- 2. This computer is preinstalled with Windows 11 Home Single Language.

### **PROCESSORS**

AMD Ryzen<sup>™</sup> 7 5825U APU with Radeon<sup>™</sup> (2.00 GHz base frequency, up to Standard, 16 MB L3 cache, 8 cores) <sup>3,4,5</sup> AMD Ryzen<sup>™</sup> 5 5625U APU with Radeon<sup>™</sup> (2.30 GHz base frequency, up to Standard, 16 MB L3 cache, 6 cores) <sup>3,4,5</sup> AMD Ryzen<sup>™</sup> 3 5425U APU with Radeon<sup>™</sup> (2.70 GHz base frequency, up to Standard, 8 MB L3 cache, 4 cores) <sup>3,4,5</sup>

#### **Processor Family**

AMD Ryzen™ 7 Mobile Processors <sup>6</sup> AMD Ryzen™ 5 Mobile Processors <sup>6</sup> AMD Ryzen™ 3 Mobile Processors <sup>6</sup>

- 3. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
- 4. 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. AMD's numbering is not a measurement of clock speed.
- 5. AMD Max Boost clock frequency performance varies depending on hardware, software and overall system configuration.
- 6. In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on http://www.support.hp.com.

### **CHIPSET**

Chipset is integrated with processor.



### **Technical Specifications**

### **GRAPHICS**

#### Integrated

AMD Radeon™ Graphics

#### **Supports**

Support HD decode, DX12, HDMI 1.4b 7

7. HD content required to view HD images.

### **DISPLAY**

#### **Non-Touch**

39.6 cm (15.6") diagonal, FHD (1920 x 1080), Low Blue Light, anti-glare, UWVA, micro-edge, 300 nits, sRGB 100% eDP  $1.4+PSR2^{7.8.9}$ 

39.6 cm (15.6") diagonal, FHD (1920 x 1080), anti-glare, SVA, micro-edge, 250 nits, 45% NTSC eDP 1.2  $^{7,8,9}$  39.6 cm (15.6") diagonal, FHD (1920 x 1080), anti-glare, UWVA, micro-edge, 250 nits, 45% NTSC eDP 1.2  $^{7,8,9}$  39.6 cm (15.6") diagonal, HD (1366x768), anti-glare, SVA, micro-edge, 250 nits, 45% NTSC eDP 1.2  $^{7,8,9}$ 

#### **HDMI**

Port supports resolutions up to 1920 x 1080 external resolution @60 Hz

### **Display Size**

15.6" diagonal 39.6 cm (15.6") diagonal

- 7. HD content required to view HD images.
- 8. Sold separately or as an optional feature.
- 9. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

#### STORAGE AND DRIVES

#### **Primary Storage**

1 TB 5400 rpm SATA <sup>10</sup> 500 GB 7200 rpm SATA <sup>10</sup> 501 GB 5400 rpm SATA <sup>10</sup>

#### **Primary M.2 Storage**

1 TB PCIe® NVMe™ M.2 SSD <sup>10</sup>
512 GB PCIe® NVMe™ M.2 QLC Solid State Drive <sup>10</sup>
256 GB PCIe® NVMe™ M.2 QLC Solid State Drive <sup>10</sup>
128 GB PCIe® NVMe™ TLC Solid State Drive <sup>10</sup>

### **Dual Storage**

256 GB PCIe® NVMe™ M.2 QLC Solid State Drive + 1TB 5400rpm SATA <sup>10</sup>
128 GB M.2 SATA-3 TLC Solid State Drive+ 1 TB 5400 rpm SATA <sup>10</sup>



### **Technical Specifications**

10. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 11) is reserved for system recovery software.

### **MEMORY**

#### **Maximum Memory**

32 GB DDR4-3200 SDRAM 11,12

#### Memory

32 GB DDR4-3200 SDRAM (2 X 16 GB) <sup>11,12</sup>
16 GB DDR4-3200 SDRAM (1 x 16 GB) <sup>11,12</sup>
16 GB DDR4-3200 SDRAM (2 x 8 GB) <sup>11,12</sup>
12 GB DDR4-3200 SDRAM (4 GB (1 x 4GB) and 8 GB (1 x 8 GB)) <sup>11,12</sup>
8 GB DDR4-3200 SDRAM (1 x 8 GB) <sup>11,12</sup>
8 GB DDR4-3200 SDRAM (2 x 4 GB) <sup>11,12</sup>
4 GB DDR4-3200 SDRAM (1 x 4 GB) <sup>11,12</sup>

#### **Memory Slots**

2 SODIMM (Ryzen 3/5/7 processors speed runs up to 3200, Ryzen 3 3250U speed runs up to 2400) <sup>11,12</sup> All slots are customer non-accessible / non-upgradeable Support Dual Channel Memory

- 11. All slots are non-accessible / non-upgradeable.
- 12. 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**

#### **WLAN**

Realtek RTL8822CE 802.11ac 2x2 Wi-Fi® + Bluetooth® 5.0 Wireless Card <sup>13</sup>
Realtek RTL8821CE 802.11a/b/g/n/ac (1x1) Wi-Fi® with Bluetooth® 4.2 Wireless Card <sup>13</sup>
Realtek RTL8852BE 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3 Wireless Card <sup>14</sup>

#### Miracast

Compatible with Miracast-certified devices (For Win11) 15

#### **Ethernet**

Integrated 10/100/1000 GbE 16

- 13. Wi-Fi supporting gigabit speeds (802.11ac) is achievable when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 160MHz channels
- 14. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 is backwards compatible with prior 802.11 specs. The specifications for Wi-Fi 6 (802.11ax) are draft and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ax devices
- 15. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming.



### **Technical Specifications**

16. The 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

2 Integrated stereo speakers Integrated dual array microphone

### **Speaker Power**

2W/4ohm

#### Camera

720p HD camera with Temporal Noise Reduction 7

7. HD content required to view HD images.

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

#### Keyboard

Full Size Textured island-style Keyboard and optional Backlit<sup>17</sup>

### **Pointing Device**

Touchpad with multi-touch gesture support (PTP certified)

### **Function Keys**

- F1 Open " How to get help in Windows 11" webpage
- F2 Brightness Down
- F3 Brightness Up
- F4 Display Switching
- F5 Blank
- F6 Mute
- F7 Volume Down
- F8 -Volume Up
- F9 Previous
- F10 Play/Pause
- F11 Next
- F12 Airplane mode
- 17. Backlit keyboard is an optional feature.



### SOFTWARE AND SECURITY

#### Software

**MYOffice** 

MvHP

HP QuickDrop<sup>18</sup>

**HP Privacy Settings** 

HP SUPPORT ASSISTANT 19

**HP Audio Switch** 

**HP Connection Optimizer** 

**HP PC Hardware Diagnostics** 

HP Smart Health 20

HP Smart<sup>21</sup>

### **Manageability Features**

**Touchpoint Customizer for Consumer** 

**NOTE:** To enhance brightness, level go to the Intel® Graphics Command Center app, click on System and turn off the Display Power Savings function.

### **Security Management**

McAfee Security (30 days free trial as default) <sup>22</sup> Express VPN (30 days free trial)
LastPass password manager
Discrete TPM 2.0 (select model) / Firmware TPM 2.0 <sup>23</sup> Fingerprint reader <sup>24</sup>

- 18. HP Quick Drop requires Internet access and Windows 10 PC preinstalled with HP QuickDrop app and either an Android device (phone or tablet) running Android 7 or higher with the Android HP QuickDrop app, and /or an iOS device (phone or tablet) running iOS 12 or higher with the iOS HP QuickDrop app.
- 19. HP Support Assistant requires Windows and Internet access.
- 20. HP Smart Support automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit <a href="http://www.hp.com/smart-support">http://www.hp.com/smart-support</a>.
- 21. HP Smart Support automatically collects the telemetry necessary upon initial boot of the product to deliver device-level configuration data and health insights and is available preinstalled on select products, thru HP Factory Configuration Services; or it can be downloaded. For more information about how to enable HP Smart Support or for download, please visit http://www.hp.com/smart-support.
- 22. 30-day McAfee® LiveSafe™ trial included. Internet access required and not included. Subscription required after expiration. See http://www.McAfee.com for more details.
- 23. Firmware TPM is version 2.0. Hardware TPM is v2.0.
- 24. HP Fingerprint Sensor is an optional feature and requires configuration at purchase.



### **POWER**

#### **Power Supply**

HP Smart 65 W EM External AC power adapter <sup>25</sup> HP Smart 45 W External AC power adapter <sup>25</sup>

### **Battery**

HP Long Life 3-cell, 41 Wh Li-ion Polymer <sup>26,27</sup> Compliant with UL 1642 Standard

#### **Power Cord**

1M (3.28 feet) length power cord

### **Battery Life**

Up to 10 hours 15 mins 28

### **Battery Weight**

0.42 lb

0.19 kg

- 25. Availability may vary by country.
- 26. Battery is internal and not replaceable by customer. Serviceable by warranty.
- 27. Actual battery Watt-hours (Wh) will vary from design capacity. Battery capacity will naturally decrease with shelf life, time, usage, environment, temperature, system configuration, loaded apps, features, power management settings and other factors.
- 28. Windows MM18 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See www.bapco.com for additional details.

### **WEIGHTS & DIMENSIONS**

Product Weight- 41 Whr 29

Starting at 3.84 lb Starting at 1.74 kg

Product Dimensions (W x D x H)

14.09 x 9.53 x 0.78 in 35.8 x 24.2 x 1.99 cm

29. Weight will vary by configuration. Does not include power adapter.



### **Technical Specifications**

### **PORTS/SLOTS**

#### **Ports**

- 2 SuperSpeed USB Type-A 5Gbps signaling rate (USB 3.2 Gen 1) 30
- 1 SuperSpeed USB Type-C® 5Gbps signaling rate (Supports data transfer only and does not support charging or external monitors) 30
- 1 HDMI v1.4b 31
- 1 RJ-45
- 1 AC Power
- 1 Headphone/microphone combo jack

### **Expansion Slots**

Support SD/SDHC/SDXC

- 1 Multi-format digital media reader
- 30. SuperSpeed USB 20Gbps is not available.
- 31.HDMI cable sold separately.



### **Technical Specifications**

### **SERVICE AND SUPPORT**

HP Services offers 1-year or 3-year limited warranties and 90 days 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>32</sup>

32. 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 <a href="http://www.hp.com/go/cpc">http://www.hp.com/go/cpc</a>. 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)** Yes Nominal Operating Voltage 19V

Average Operating Power 4.5W@MM18
Integrated graphics Vega7 Graphic Core

Discrete Graphics N/A

Max Operating Power UMA < 45W

**Temperature** 

Operating 41°F to 95°F (5°C to 35° C)

Non-operating -4°F to 140°F (-20°C to 60°C)

**Relative Humidity** 

Operating 10% to 90% Non-operating 5% to 95%

Shock

Operating 40 G, 2 ms duration, half-sine Non-operating 240 G, 2 ms duration, half-sine

**Random Vibration** 

Operating 1.043 grams
Non-operating 3.5 grams

**Altitude (unpressurized)** 

Operating -50 to 10,000 ft (-15m to 3,048 m) Non-operating -50 to 40,000 ft (-15m to 12,192 m)

Yes

**Planned Industry Standard** 

**Certifications** 

Regulatory Model Number TPN-C151
UL Yes
CSA No
FCC Compliance Yes
ENERGY STAR® Yes<sup>33</sup>

EPEAT® Yes, EPEAT® registered<sup>34</sup>

**ICES** Yes Australia / Yes NZ A-Tick Compliance Yes CCC Yes Japan VCCI Compliance Yes KC Yes **BSMI** Yes **CE Marking Compliance** Yes CU/EAC Yes CIT N/A Saudi Arabian Compliance (ICCP) Yes **SABS** Yes



**UKRSERTCOMPUTER** 

33. Configurations of the HP 255 15.6 inch G9 that are ENERGY STAR® qualified are identified as HP 255 15.6 inch G9 ENERGY STAR on HP websites and on http://www.energystar.gov.

34.Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit www.epeat.net for more information.

### **DISPLAYS**

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

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

15.6 in FHD (1920 x 1080) Anti-Glare UWVA Low Blue Light sRGB NWBZ 300 eDP 1.4+PSR2 100 flat LCD Panel **Outline Dimensions (W x H)** 350.66\*215.34(With PCBA) typ +/- 0.5

**Active Area** 344.16 x 193.59 typ

Weight 310g max
Diagonal Size 15.6"

Thickness 2.45 typ /2.6 max

Interface eDP1.4
Surface Treatment Anti-Glare

Touch Enabled No.

Contrast Ratio 1000:1 typ
Refresh Rate 60Hz
Brightness 300nits typ

Pixel Resolution 1920 x 1080 (FHD)

Format WLED Backlight RGB

Color Gamut Coverage SRGB100% typ

Color Depth 8bits

Viewing Angle UWVA 89/89/89

Low Blue Light Yes

Power Consumption (W, EBL@

150nits max/ 200nits max)

2.69W max / 3.34W max

Panel LCD 15.6-in FHD (1920x1080) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ ultraslim **Outline Dimensions (W x H)** 350.96 \* 216.65 (max. w/ PCB)

**Active Area** 344.16 x 193.59 typ

Weight 360g max
Diagonal Size 15.6"

This lease 3.2mm max

Thickness 3.2mm max
Interface eDP1.2
Surface Treatment Anti-Glare

Touch Enabled
Contrast Ratio
Refresh Rate
Brightness
No
300:1 typ
60Hz
250nits typ

Pixel Resolution 1920 x 1080 (FHD)

Format WLED Backlight RGB



Color Gamut Coverage NTSC45%
Color Depth 6bit

Viewing Angle SVA 45/45/15/35

**Low Blue Light** No

Power Consumption (W, EBL@ 150nits max/ 200nits max)

2.67W max / 3.33W max

15.6-in FHD (1920x1080) Anti-Glare WLED UWVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ slim **Outline Dimensions (W x H)** 350.96\*216.75(max.)

**Active Area** 344.16 x 193.59 (typ.)

Weight 370g max.
Diagonal Size 15.6"
Thickness 3.2 max.
Interface eDP1.2
Surface Treatment Anti-Glare
Touch Enabled No

Contrast Ratio 600:1 typ
Refresh Rate 60Hz
Brightness 250nits typ

Pixel Resolution 1920 x 1080 (FHD)

Format WLED

Backlight RGB

Color Gamut Coverage NTSC45%

Color Depth 6bits

Viewing Angle UWVA 85/85/85

Low Blue Light No

Power Consumption (W, EBL@ 150nits max/ 200nits max)

2.75W max

15.6-in HD (1366x768) Anti-Glare WLED SVA 45percent cg 250nits eDP 1.2 w/o PSR NWBZ ultraslim **Outline Dimensions (W x H)** 350.96 \* 216.65 (max. w/ PCB)

**Active Area** 344.23 x 193.54 typ

Weight 360g max
Diagonal Size 15.6"
Thickness 3.2mm max
Interface eDP1.2

Surface Treatment Anti-Glare
Touch Enabled No
Contrast Ratio 300:1 typ
Refresh Rate 60Hz

**Brightness** 250nits typ **Pixel Resolution** 1366 x 768 (HD)

Format WLED

Backlight RGB

Color Gamut Coverage NTSC45%



**Color Depth** 6bits

Viewing Angle SVA 45/45/15/35

2.42W max / 2.98W max

Low Blue Light
Power Consumption (W, EBL@

150nits max/ 200nits max)



### STORAGE AND DRIVES

For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for Windows 11) is reserved for system recovery software.

HDD 1TB 5400RPM 7mm

**SATA** 

**Drive Weight** 0.21 lbs (95 q) **Rotation** speed 5400rpm **NAND Type** up to 128MB Height 0.28 in (7 mm) Width 2.75 in (69.85 mm) Weight ATA-8. SATA 3.0 Interface 600MB/s (Interface) **Maximum Sequential Read** Single Track: 1.5ms Agerage: 13ms

Maximum: 32ms 1.953.525.168

**Maximum Sequential Write** 

Logical Blocks

0° to 60°C [case temp]

Operating Temperature

ATA Security

**Features** 

S.M.A.R.T., NCQ, Ultra DMA

HDD 500GB 5400RPM 7mm

SATA

Drive Weight0.21 lbs (95 g)Rotation speed5400rpmCache Bufferup to 128MB

NAND Type/Size N/A

Height 0.28 in (7 mm)

Width 2.75 in (69.85 mm)

Interface ATA-8, SATA 3.0

Transfer Rate 600MB/s (Interface)

Seek Time Single Track: 1.5ms
Agerage: 13ms

Maximum: 32ms 976,773,168

Logical Blocks

970,773,100

Operating Temperature

0° to 60°C [case temp]

Security Features

ATA Security

**Features** 

S.M.A.R.T., NCQ, Ultra DMA

HDD 500GB 7200RPM 7mm

SATA

**Drive Weight** 0.21 lbs (95 q) **Rotation speed** 7200rpm **Cache Buffer** up to 128MB Height 0.28 in (7 mm) Width 2.75 in (69.85 mm) Interface **ATA-8, SATA 3.0 Transfer Rate** 600MB/s (Interface) **Seek Time** Single Track: 1.5ms

> Agerage: 13ms Maximum: 32ms



**Logical Blocks** 976,773,168

**Operating Temperature** 0° to 60°C [case temp]

Security Features ATA Security

Features S.M.A.R.T., NCQ, Ultra DMA

SSD 128GB 2280 PCIe-3x2 Three Layer Cell

Form Factor M.2 2280
Capacity 128GB
NAND Type TLC

Height0.09 in (2.3 mm)Width0.87 in (22 mm)InterfacePCIe NVMe Gen3X4Maximum Sequential Readup to 1600MB/s ±20%Maximum Sequential Writeup to 900MB/s ±20%

Logical Blocks

**Operating Temperature** 32° to 158°F (0° to 70°C) [ambient temp]

250,069,680

**Features** Pyrite

SSD 1TB 2280 PCIe NVMe OLC

Form Factor M.2 2280
Capacity 1TB
NAND Type QLC

 Height
 0.09 in (2.3 mm)

 Width
 0.87 in (22 mm)

 Interface
 PCIe NVMe

Maximum Sequential Readup to 2300MB/s ±20%Maximum Sequential Writeup to 2000MB/s ±20%

**Logical Blocks** 2,000,409,264

**Operating Temperature** 32° to 158°F (0° to 70°C) [ambient temp]

**Features** Pyrite

SSD 256GB 2280 PCIe NVMe QLC

Form Factor M.2 2280
Capacity 256GB
NAND Type QLC

 Height
 0.09 in (2.3 mm)

 Width
 0.87 in (22 mm)

 Weight
 0.02 lb (10 g)

 Interface
 PCIe NVMe

Maximum Sequential Readup to 2300MB/s ±20%Maximum Sequential Writeup to 1280MB/s ±20%

**Logical Blocks** 1,000,215,216

**Operating Temperature** 32° to 158°F (0° to 70°C) [ambient temp]

**Features** Pyrite

### **Technical Specifications**

SSD 512GB 2280 PCIe NVMe QLC

Form Factor M.2 2280
Capacity 512GB
NAND Type QLC

Height 0.09 in (2.3 mm)
Width 0.87 in (22 mm)
Interface PCIe NVMe

Maximum Sequential Read up to 2300MB/s ±20%
Maximum Sequential Write up to 1400MB/s ±20%

Logical Blocks 1,000,215,216

Operating Temperature 32° to 158°F (0° to 70°C) [ambient temp]

Features Pyrite



### **NETWORKING/COMMUNICATIONS**

802.11a/b/g/n/ac (1x1) Wi-Fi® and Bluetooth® 4.2

Wireless Card 1

Realtek

Wireless LAN Standards

IEEE 802.11a IEEE 802.11b IEEE 802.11q

IEEE 802.11n IEEE 802.11ac IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i

IEEE 802.11k IEEE 802.11r IEEE 802.11v

Wi-Fi certified modules Interoperability

**Frequency Band** •802.11b/q/n

> 2.402 - 2.482 GHz •802.11a/n/ac

4.9 - 4.95 GHz (Japan) 5.15 - 5.25 GHz 5.25 - 5.35 GHz 5.47 - 5.725 GHz 5.825 - 5.850 GHz

**Data Rates** • 802.11b: 1, 2, 5.5, 11 Mbps

> • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

 802.11n: max 150Mbps 802.11ac: max 433.3Mbps

Modulation Direct Sequence Spread Spectrum

BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM

Security<sup>3</sup> • IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only

AES-CCMP: 128 bit in hardware

• 802.1x authentication

• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.

 WPA2 certification WPA3 certification • IEEE 802.11i

WAPI

**Network Architecture** 

Models

Ad-hoc (Peer to Peer)

Infrastructure (Access Point Required)

Roaming Output Power<sup>2</sup> IEEE 802.11 compliant roaming between access points

 802.11b: +14dBm minimum • 802.11q: +12dBm minimum

802.11a: +12dBm minimum

• 802.11n HT20(2.4GHz): +12dBm minimum • 802.11n HT40(2.4GHz): +12dBm minimum • 802.11n HT20(5GHz): +10dBm minimum • 802.11n HT40(5GHz): +10dBm minimum 802.11ac VHT80(5GHz): +10dBm minimum

**Power Consumption** 

Transmit mode 2.0 W

Receive mode 1.6 W

Idle mode (PSP) 180 mW (WLAN Associated)

• Idle mode 50 mW (WLAN unassociated)

Connected Standby 10mW

· Radio disabled 8 mW

**Power Management** ACPI and PCI Express compliant power management

802.11 compliant power saving mode

**Receiver Sensitivity**<sup>4</sup> 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

**Antenna type** High efficiency antenna.

One embedded dual band 2.4/5 GHz antenna is provided to the card to

support WLAN communications and Bluetooth communications

Form Factor PCI-Express M.2 MiniCard

**Dimensions** Type 2230 : 2.3 x 22.0 x 30.0 mm

 Weight
 Type 2230 : 2.8g

 Operating Voltage
 3.3v +/- 9%

**Temperature Operating** 14° to 158° F (-10° to 70° C)

**Non-operating**  $-40^{\circ}$  to  $176^{\circ}$  F ( $-40^{\circ}$  to  $80^{\circ}$  C)

**Humidity Operating** 10% to 90% (non-condensing)

Non-operating 5% to 95% (non-condensing)"

**Non-operating** 0 to 50,000 ft (15,240 m)

**LED Activity** LED Amber – Radio OFF;

LED OFF - Radio ON

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

**Bluetooth Specification** 4.0/4.1/4.2 Compliant **Frequency Band** 2402 to 2480 MHz

**Number of Available** Legacy : 0~79 (1 MHz/CH) **Channels** BLE : 0~39 (2 MHz/CH)

**Data Rates and**Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps **Throughput**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.

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



Realtek RTL8852BE 802.11ax 2x2 Wi-Fi® + Bluetooth® 5.3 Wireless Card (802.11ax 2x2, supporting gigabit data rate) <sup>1</sup> Wireless LAN Standards IEEE 802.11a

IEEE 802.11b
IEEE 802.11g
IEEE 802.11n
IEEE 802.11ac
IEEE 802.11ax

IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v

Interoperability Wi-Fi certified modules

Frequency Band •802.11b/g/n/ax

2.402 – 2.482 GHz •802.11a/n/ac/ax 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz 5.825 – 5.850 GHz

**Data Rates** •802.11b: 1, 2, 5.5, 11 Mbps

•802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps •802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

•802.11n: max 300Mbps •802.11ac: max 866.7Mbps • 802.11ax: max 1201Mbps

**Modulation** Direct Sequence Spread Spectrum

BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM

Security<sup>3</sup> •IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only

•AES-CCMP: 128 bit in hardware

•802.1x authentication

•WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.

•WPA2 certification •WPA3 certification •IEEE 802.11i •WAPI

**Network Architecture** 

Models

Ad-hoc (Peer to Peer)

Infrastructure (Access Point Required)

Roaming

IEEE 802.11 compliant roaming between access points

Output Power<sup>2</sup> • 802.11b: +18.5dBm minimum

• 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum

802.11n HT20(2.4GHz): +15.5dBm minimum
802.11n HT40(2.4GHz): +14.5dBm minimum
802.11n HT20(5GHz): +15.5dBm minimum
802.11n HT40(5GHz): +14.5dBm minimum
802.11ac VHT80(5GHz): +11.5dBm minimum
802.11ax HE40(2.4GHz): +10dBm minimum
802.11ax HE80(5GHz): +10dBm minimum

**Power Consumption** •Transmit mode:2.5 W

•Receive mode:2 W

 Idle mode (PSP)180 mW(WLAN Associated) Idle mode:50 mW(WLAN unassociated) Connected Standby/Modern Standby: 10mW

Radio disabled: 8 mW

**Power Management** ACPI and PCI Express compliant power management

802.11 compliant power saving mode

Receiver Sensitivity<sup>4</sup> •802.11b, 1Mbps: -93.5dBm maximum

> •802.11b, 11Mbps: -84dBm maximum •802.11a/g. 6Mbps : -86dBm maximum •802.11a/q, 54Mbps: -72dBm maximum •802.11n. MCS07: -67dBm maximum •802.11n, MCS15: -64dBm maximum •802.11ac, MCS0: -84dBm maximum •802.11ac, MCS9: -59dBm maximum

•802.11ax, MCS11(HE40): -57dBm maximum •802.11ax, MCS11(HE80): -54dBm maximum

Antenna type High efficiency antenna with spatial diversity, mounted in the display

enclosure

Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications

**Form Factor** PCI-Express M.2 MiniCard

**Dimensions** 1. Type 2230: 2.3 x 22.0 x 30.0 mm

2. Type 1216: 1.67 x 12.0 x 16.0 mm

Weight 1. Type 2230: 2.8g

2. Type 126: 1.3g

**Operating Voltage** 3.3v +/- 9%

**Temperature** Operating 14° to 158° F (-10° to 70° C)

> Non-operating -40° to 176° F (-40° to 80° C)

**Humidity** Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)

Altitude Operating 0 to 10.000 ft (3.048 m)

Non-operating 0 to 50,000 ft (15,240 m)

**LED Activity** LED Amber - Radio OFF

LED Off - Radio ON

#### HP Integrated Module with Bluetooth 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Technology

**Bluetooth Specification** 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Compliant

**Frequency Band** 2402 to 2480 MHz **Number of Available** Legacy: 0~79 (1 MHz/CH) Channels BLE: 0~39 (2 MHz/CH)

**Data Rates and** Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps Throughput 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.

1.Wi-Fi 6 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 6 (802.11ax) is backwards compatible with



#### prior 802.11 specs.

- 2. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.
- 3. Check latest software/driver release for updates on supported security features.
- 4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Realtek RTL8822CE
802.11ac 2x2 Wi-Fi® +
Bluetooth® 5.0 Wireless
Card <sup>1</sup>

Wireless LAN Standards IEEE 802.11a

IEEE 802.11b
IEEE 802.11g
IEEE 802.11n
IEEE 802.11ac
IEEE 802.11d
IEEE 802.11e
IEEE 802.11h
IEEE 802.11i
IEEE 802.11k
IEEE 802.11r

IEEE 802.11v

Interoperability Wi-Fi certified modules

Frequency Band •802.11b/g/n

2.402 – 2.482 GHz •802.11a/n/ac 4.9 – 4.95 GHz (Japan) 5.15 – 5.25 GHz 5.25 – 5.35 GHz 5.47 – 5.725 GHz

5.825 - 5.850 GHz

**Data Rates** • 802.11b: 1, 2, 5.5, 11 Mbps

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps

802.11n: max 300Mbps802.11ac: max 866.7Mbps

**Modulation** Direct Sequence Spread Spectrum

BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM

• IEEE and WiFi certified 64 / 128 bit WEP encryption for a/b/g mode only

• AES-CCMP: 128 bit in hardware

802.1x authentication

• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.

WPA2 certificationWPA3 certificationIEEE 802.11iWAPI

VVA

**Network Architecture** Ad-hoc (Peer to Peer)

Models Infrastructure (Access Point Required)

**Roaming** IEEE 802.11 compliant roaming between access points

• 802.11b: +18.5dBm minimum • 802.11g: +17.5dBm minimum • 802.11a: +18.5dBm minimum

802.11n HT20(2.4GHz): +15.5dBm minimum
802.11n HT40(2.4GHz): +14.5dBm minimum
802.11n HT20(5GHz): +15.5dBm minimum
802.11n HT40(5GHz): +14.5dBm minimum

• 802.11ac VHT80(5GHz): +11.5dBm minimum

Power Consumption • Transmit mode :2.0 W

• Receive mode: 1.6 W

Idle mode (PSP) 180 mW (WLAN Associated)
Idle mode :50 mW (WLAN unassociated)
Connected Standby/Modern Standby: 10mW

Radio disabled: 8 mW

**Power Management** ACPI and PCI Express compliant power management

802.11 compliant power saving mode

**Receiver Sensitivity**<sup>4</sup> 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

Antenna type High efficiency antenna with spatial diversity, mounted in the display

enclosure

Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications

Form Factor PCI-Express M.2 MiniCard

**Dimensions** 1. Type 2230 : 2.3 x 22.0 x 30.0 mm

2. Type 1216: 1.67 x 12.0 x 16.0 mm

**Weight** 1. Type 2230 : 2.8g

2. Type 126: 1.3g

**Operating Voltage** 3.3v +/- 9%

**Temperature Operating** 14° to 158° F (-10° to 70° C)

**Non-operating** -40° to 176° F (-40° to 80° C)

**Humidity Operating** 10% to 90% (non-condensing)

**Non-operating** 5% to 95% (non-condensing)

**Altitude Operating** 0 to 10,000 ft (3,048 m)

**Non-operating** 0 to 50,000 ft (15,240 m)

**LED Activity** LED Amber – Radio OFF

LED Off – Radio ON

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

**Bluetooth Specification** 4.0/4.1/4.2/5.0 Compliant

Frequency Band 2402 to 2480 MHz

Number of Available Legacy : 0~79 (1 MHz/CH)
Channels BLE : 0~39 (2 MHz/CH)

**Data Rates and**Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps **Throughput**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.

1. Wi-Fi 5 is designed to support gigabit data rate when transferring files between two devices connected to the same router. Requires a wireless router, sold separately, that supports 80MHz and higher channels. Wireless access point and internet service required and sold separately. Availability of public wireless access points limited. Wi-Fi 5 (802.11 ac) is backwards compatible with



prior 802.11 specs.

2. The FCC has declared as of September 1, 2014 products that utilize passive scanning on channel 12/13 and are capable of transmitting must fully comply with requirements of 15.247 or otherwise disable those channels.

3. Check latest software/driver release for updates on supported security features.

4. Receiver sensitivity is measured at a packet error rate of 8% for 802.11b (CKK modulation) and a packet error rate of 10% for 802.11a/g (OFDM modulation).

Realtek RTK8111HSH
10/100/1000 Integrated
NIC

**Ethernet Features** 

10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)

100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-

30)

1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40)

Auto-Negotiation (Automatic Speed Selection)

Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100

Mbit/s

**Power Management** ACPI compliant – multiple power modes

Situation-sensitive features reduce power consumption

Advanced link down power saving for reducing link down power

consumption

**Performance Features** TCP/IP/UDP Checksum Offload (configurable)

Protocol Offload (ARP & NS)

Large send offload and Giant send offload

Receiving Side Scaling Jumbo Frame 9K

Manageability Wake-on-LAN from modern standby or sleep state (Magic Packet and

Microsoft Wake-Up Frame): Wake-on-LAN from off (Magic Packet

only) (MSC is supported on selected model)

PXE 2.1 Remote Boot

Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB

(802.3x. clause 30))

Comprehensive diagnostic and configuration software suite

Virtual Cable Doctor for Ethernet cable status



#### **POWER**

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

HP 65W	Smart	AC
adanter		

**Dimensions (H x W x D)** 90x51x28.5mm

**Weight** 230g +/- 10g (Not including power cord. Power cord varies by country.)

Input 100 to 240 VAC

**Input Efficiency** 88.0 % at 115 VAC and 89.0 % at 230VAC

**Input frequency range** 48 ~ 63 Hz

Input AC current Max. 1.7 A at 90 VAC

Output Output power 65W

DC output 19.5V

**Hold-up time** 5ms at 115 Vac input

Output current limit <11.0A Over voltage protection- 29V max

automatic shutdown

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

**Environmental Design**Operating temperature
32°F to 95°F (0° to 35°C)
Non-operating (storage)
-4°F to 185°F (-20° to 85°C)

temperature

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

**Humidity** 20% to 95% **Storage Humidity** 10% to 95%

**EMI and Safety** Eg

Certifications \*CE Mark - full compliance with LVD and EMC directives

\* Worldwide safety standards - IEC60950-1 and/or IEC62368-1, EN60950-1 and/or EN62368-1. UL60950-1 and/or UL62368-1. Class1.

SELV;

Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class B, FCC

Class B, CISPR32 Class B, CCC, NOM-001 NYCE.

\* MTBF - over 200,000 hours at 25°C ambient condition.

#### 45 W AC adapter

**Dimensions** 95x40x26.5mm

**Weight** 200g +/- 10g (Not including power cord. Power cord varies by country.)

Input 100 to 240 VAC

**Input Efficiency** 88.0 % at 115 VAC and 89.0 % at 230VAC

Input frequency range 48 ~ 63 Hz

Input AC current Max. 1.4 A at 90 VA

Output Output power 45W

DC output 19.5V

**Hold-up time** 5ms at 115 Vac input

<8.0A Over voltage protection- 29V max

Output current limit automatic shutdown

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

**Environmental Design** Operating temperature 32°F to 95°F (0°to 35°C)

Non-operating (storage) -4°F to 185°F (-20°to 85°C)

temperature



Altitude 1 to 16.400 ft (0 to 5.000m)

Humidity 20% to 95% Storage Humidity 10% to 95%

**EMI and Safety** Certifications

\*CE Mark - full compliance with LVD and EMC directives

\* Worldwide safety standards - IEC60950-1 and/or IEC62368-1. EN60950-1 and/or EN62368-1. UL60950-1 and/or UL62368-1. Class1.

SELV:

Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class B, FCC

Class B, CISPR32 Class B, CCC, NOM-001 NYCE.

\* MTBF - over 200,000 hours at 25°C ambient condition.

**HP 65W EM Smart AC** adapter

**Dimensions** 102x55x30mm

250g +/- 10g (Not including power cord. Power cord varies by country.) Weight

Input 100 to 240 VAC

> **Input Efficiency** 88.0 % at 115 VAC and 89.0 % at 230VAC

**Input frequency** 48 ~ 63 Hz

range

Max. 1.7 A at 90 VAC **Input AC current** 

Output 65W **Output power** 

DC output 19.5V

Hold-up time 5ms at 115 Vac input

<11.0A Over voltage protection- 29V max **Output current limit** 

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

**Environmental Design** 32°Fto 95°F (0°to 35°C) Operating

temperature

Non-operating -4°Fto 185°F (-20°to 85°C)

(storage) temperature

Altitude 1 to 16,400 ft (0 to 5,000m)

**Humidity** 20% to 95 Storage Humidity 10% to 95%

**EMI and Safety** Certifications

Connector

Eq:

\*CE Mark - full compliance with LVD and EMC directives

\* Worldwide safety standards - IEC60950-1 and/or IEC62368-1. EN60950-1 and/or EN62368-1, UL60950-1 and/or UL62368-1, Class1,

Agency approvals - C-UL-US, NORDICS, DENAN, EN55032 Class B, FCC

Class B, CISPR32 Class B, CCC, NOM-001 NYCE.

\* MTBF - over 200.000 hours at 25°C ambient condition.

HP 3-cell Long Life Li-Ion (41 Wh¹) **Dimensions (H x W x L)** 6.0 x 186.85 x 90.2 mm (0.23 x 7.29 x 3.52 inch)

**Weight** 0.175 Kg (0.385 lb)

Cells/Type 3cell lithium-Ion Polymer cell 515974

Energy

**Voltage** 11.34V/11.28V **Amp-hour capacity** 3.62Ah/3.635Ah

Watt-hour capacity 41Wh

Temperature

(Discharging)

**Battery Available** 

 Operating (Charging)
 32° to 113° F (0° to 45° C)

 Operating
 14° to 122° F (-10° to 60° C)

Fuel Gauge LED N/A
Warranty 1-year
Optional Travel No

### **AUDIO**

HD Stereo Codec Realtek ALC3247

**Audio I/O Ports** One Headset Combo-Jack connector support CTIA spec.

Internal Speaker Amplifier 2W class D stereo amplifier for the internal speaker only. External speakers must be powered.

Multi-streaming Capable Playback multi-streaming can be enabled in the audio control panel to allow independent audio

streams to be sent to/from the Combo jack or integrated speaker.

Sampling 4-channel DAC supports 16/20/24-bit PCM format for independent two stereo channel or 2.1

audio playback.

4-channel ADC supports 16/20/24-bit PCM format for independent two stereo channel audio

inputs.

All DACs support 44.1k/48k/96k/192kHz sample rate. All ADCs support 44.1k/48k/96k/192kHz sample rate.

**Wavetable Syntheses** 

Yes - Uses OS soft wavetable

Analog Audio # of Channels on Line-Out Yes. 0

Internal Speaker

Yes

### FINGERPRINT READER

Sensor vendor Elan eFSA80ST touch sensor

Sensor type Capacitive

**DPI** resolution

Scan area

False Rejection Rate FRR (False Reject Rate) / FAR (False Acceptance Rate):

FRR ~ 2% @ 1:50K FAR

**False Acceptance Rate** 

**Mobile Voltage Operation** Mobile Voltage Operation: 2.65V to 3.6V

**Operating Temperature** Operating Temperature: 32° to 95° F (0° to 35° C)

**Current Consumption** 

**Image** 

Current Consumption Image: 50mA peak

**Low Latency Wait For** 

Finger

Low Latency Wait For Finger: <900 uA

Capture Rate Capture Rate: 20cm/sec

**ESD Resistance** ESD Resistance: IEC 61000-4-2 (+15KV)

**Detection Matrix** Detection Matrix: 508 dpi / 4x4mm sensor area



### **Technical Specifications**

<b>ENVIRONMENTAL DATA</b>				
<b>Eco-Label Certifications &amp;</b>	This product has received	or is in the process of being	certified to the following approvals and may	
declarations	be labeled with one or mo	re of these marks:		
	IT ECO declaration	1		
	US ENERGY STAR	9		
	US Federal Energy Management Program (FEMP)			
			® registration varies by country. See	
	http://www.epeat.net for registration status by country.*			
			to IEEE 1680.1-2018 EPEAT®. Status varies	
		ittp://www.epeat.net for m	ore information.	
	-	servation Program (CECP)		
	3,	onmental Protection Admini	istration (SEPA)	
	Taiwan Green Mar		istration (SELA)	
	Korea Eco-label			
	<ul> <li>Japan PC Green la</li> </ul>	bel*		
Sustainable Impact	• 5% post-consumer recyc			
Specifications	• Low halogen			
	Outside Box and corruga	ted cushions are 100% sust	ainably sourced and recyclable	
	Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable			
	Bulk packaging available			
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the			
	Notebook model is based	on a "Typically Configured N	lotebook".	
Energy Consumption				
(in accordance with US				
····				
ENERGY STAR® test				
_	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz	
ENERGY STAR® test	115VAC, 60Hz	230VAC, 50Hz	100VAC, 50Hz	
ENERGY STAR® test method)	<b>115VAC, 60Hz</b> 5.34 W	<b>230VAC, 50Hz</b> 5.27 W	100VAC, 50Hz 5.31 W	
ENERGY STAR® test method)  Normal Operation (Sort		·		
ENERGY STAR® test method)  Normal Operation (Sort idle)		·		
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long	5.34 W	5.27 W	5.31 W	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)	5.34 W 3.27 W	5.27 W 3.22 W	5.31 W 3.23 W	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W 3.27 W 0.53 W 0.13 W	5.27 W 3.22 W 0.55 W 0.16 W	5.31 W 3.23 W 0.53 W 0.13 W	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data liste	5.27 W 3.22 W 0.55 W 0.16 W ed is for an ENERGY STAR® c	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data lister family. HP computers mar	5.27 W 3.22 W 0.55 W 0.16 W ed is for an ENERGY STAR® co	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STA	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W 0.53 W 0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE	5.27 W  3.22 W 0.55 W 0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model gurations, then energy efficiency data listed	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data lister family. HP computers mare Environmental Protection family does not offer ENE is for a typically configure	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR® COMPLIANT CONFIGURE OF THE CONFIGURE OF T	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W 0.53 W 0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR® COMPLIANT CONFIGURE OF THE CONFIGURE OF T	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model gurations, then energy efficiency data listed	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data lister family. HP computers mare Environmental Protection family does not offer ENE is for a typically configure	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR® COMPLIANT CONFIGURE OF THE CONFIGURE OF T	5.31 W  3.23 W  0.53 W  0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model gurations, then energy efficiency data listed	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep  Off	5.34 W  3.27 W 0.53 W 0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE is for a typically configure Microsoft Windows® operation	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STARGRY STARGY STAR® COmpliant configured by the complex of the c	3.23 W 0.53 W 0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S. R® specifications for computers. If a model gurations, then energy efficiency data listed drive, a high efficiency power supply, and a	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep  Off  Heat Dissipation*	5.34 W  3.27 W 0.53 W 0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE is for a typically configure Microsoft Windows® operation	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STARGRY STARGY STAR® COmpliant configured by the complex of the c	3.23 W 0.53 W 0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S. R® specifications for computers. If a model gurations, then energy efficiency data listed drive, a high efficiency power supply, and a	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep  Off  Heat Dissipation*  Normal Operation (Short	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE is for a typically configure Microsoft Windows® opera	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR GOY STAR® to the property of th	5.31 W  3.23 W  0.53 W  0.13 W  Ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model gurations, then energy efficiency data listed drive, a high efficiency power supply, and a	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep  Off  Heat Dissipation*  Normal Operation (Short idle)	5.34 W  3.27 W  0.53 W  0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE is for a typically configure Microsoft Windows® opera	5.27 W  3.22 W  0.55 W  0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STAR GOY STAR® to the property of th	5.31 W  3.23 W  0.53 W  0.13 W  Ompliant product if offered within the model Logo are compliant with the applicable U.S.  R® specifications for computers. If a model gurations, then energy efficiency data listed drive, a high efficiency power supply, and a	
ENERGY STAR® test method)  Normal Operation (Sort idle)  Normal Operation (Long idle)  Sleep  Off  Heat Dissipation*  Normal Operation (Short idle)  Normal Operation (Long	3.27 W 0.53 W 0.13 W  NOTE: Energy efficiency data liste family. HP computers mar Environmental Protection family does not offer ENE is for a typically configure Microsoft Windows® opera	5.27 W  3.22 W 0.55 W 0.16 W  ed is for an ENERGY STAR® coked with the ENERGY STAR® Agency (EPA) ENERGY STARGY STARGY STAR® compliant configured PC featuring a hard disk string system.  230VAC, 50Hz  18 BTU/hr	3.23 W 0.53 W 0.13 W  ompliant product if offered within the model Logo are compliant with the applicable U.S. R® specifications for computers. If a model gurations, then energy efficiency data listed drive, a high efficiency power supply, and a	



Off

0.5 BTU/hr

0.4 BTU/hr

0.4 BTU/hr



	*NOTE: Heat dissipation is calculated based on the measured watts, assuming the service attained for one hour.			ssuming the service level is	
Declared Noise Emissions		Sound Power		Sound Pi	ressure
(in accordance with		(L <sub>wAd</sub> , bels)		(L <sub>pAm</sub> , de	
ISO 7779 and ISO 9296)		(,,		(_р,	,
Typically Configured – Idle		3.2		25.	.7
Fixed Disk – Random writes		3.3		26.	
Optical Drive - Sequential reads		N/A		N/	Ä
Longevity and Upgrading		can be upgraded, poss /or components contai		ful life by seve	eral years. Upgradeable
	Spare parts a of production		ıt the warranty period	l and or for up	o to "5" years after the end
Additional Information	<ul> <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 www.epeat.net</li> <li>Plastics parts weighing over 25 grams used in the product are marked per ISO11469 an ISO1043.</li> <li>This product is 94.2% recycle-able when properly disposed of at end of life.</li> </ul>			al and Electronic State of California; Safe dard at the Gold level, see I marked per ISO11469 and	
Packaging Materials	External:	PAPER/Corrugated		295 g	
		PAPER/Molded Pulp			141 g
	Internal:	PLASTIC/Polvethyle	ne low density - LDPE		10 g
		PLASTIC/Polypropyl			4 g
	The plastic packaging material contains at least 0.0% recycled content.				
		ted paper packaging m			
RoHS Compliance	HP Inc. complies fully with materials regulations. We were among the first companies to extend the restrictions in the European Union (EU) Restriction of Hazardous Substances (RoHS) Directive to our products worldwide through the HP GSE. HP has contributed to the development of related legislation in Europe, as well as China, India, and Vietnam.  We believe the RoHS directive and similar laws play an important role in promoting industry-wide elimination of substances of concern. We have supported the inclusion of additional substances—including PVC, BFRs, and certain phthalates—in future RoHS legislation that pertains to electrical and electronics products.  We met our voluntary objective to achieve worldwide compliance with the new EU RoHS requirements for virtually all relevant products by July 2013, and we will continue to extend the scope of the commitment to include further restricted substances as regulations continue to evolve.  To obtain a copy of the HP RoHS Compliance Statement, see HP RoHS position statement.				
Material Usage	to the	HP Genera	l Specification	for	ss of regulatory limits (refer the Environment at in/gen_specifications.html



### **Technical Specifications**

rechnical Specifica	UOUS
	):
	Asbestos     Certain Azo Colorants     Certain Brominated Flame Retardants – may not be used as flame retardants in plastics     Cadmium     Chlorinated Hydrocarbons     Chlorinated Paraffins     Bis(2-Ethylhexyl) phthalate (DEHP)     Benzyl butyl phthalate (BBP)     Dibutyl phthalate (BBP)     Dibutyl phthalate (DIBP)     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 Biphenyl Ethers (PBBEs)     Polybrominated Biphenyl Ethers (PBBEs)     Polychlorinated Biphenyl (PCB)     Polychlorinated Terphenyls (PCT)     Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.     Radioactive Substances
Packaging Usage	<ul> <li>Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> <li>HP follows these guidelines to decrease the environmental impact of product packaging:         <ul> <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> </li> </ul>
End-of-life Management and Recycling	HP 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.  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.

### **Technical Specifications**

HP, Inc. Environment	Corporate	For more information about HP's commitment to the environment:
Information		Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=c04755842 and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf
footnotes		<ul> <li>Percentage of ocean-bound plastic contained in each component varies by product</li> <li>Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.</li> <li>External power supplies, WWAN modules, power cords, cables and peripherals excluded.</li> <li>100% outer box packaging and corrugated cushions made from sustainably sourced certified and recycled fibers.</li> <li>Fiber cushions made from 100% recycled wood fiber and organic materials.</li> </ul>

### **COUNTRY OF ORIGIN**

China



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

Category	Description	Part Number
Audio/Video	HP Wired USB-A Stereo Headset	428K6AA
	HP Wired 3.5mm Stereo Headset	428K7AA
	HP 500 BT Headset	53L34AA
	HP 365 BT Speaker	567D3AA
Cases	HP Prelude Backpack 15.6	1E7D6AA
	HP Prelude Top Load 15.6	1E7D7AA
	HP Prelude Pro Recycle Backpack	1X644AA
	HP Prelude Pro Recycle Top Load	1X645AA
	HP Prelude Pro Recycle Backpack	1X644AA
	HP Prelude Pro Recycle Top Load	1X645AA
	HP Executive 15.6 Backpack	6KD07AA
	HP Executive 15.6 Top Load	6KD06AA
	HP Renew Business 17.3" Backpack	3E2U5AA
	HP Renew Business 15.6" Bag	3E5F8AA
	HP Renew Business 17.3" Bag	3E2U6AA
Hub	HP USB-C to USB-A Hub	Z6A00AA
Adapter	HP USB 3.0 to Gigabit Adapter	N7P47AA
	HP USB-C to RJ45 Adapter	V7W66AA
	HP USB-C to USB 3.0 Adapter	N2Z63AA
	HP USB-C to RJ45 Adapter G2	4Z527AA
	HP USB 3.0 to Gig RJ45 Adapter G2	4Z7Z7AA
Keyboard/Combo	HP 975 USB+BT Dual-Mode Wireless Keyboard	3Z726AA
	HP 655 Wireless Keyboard and Mouse Combo	4R009AA
	HP 225 Wired Mouse and Keyboard Combo	286J4AA
	HP 235 Wireless Mouse and Keyboard Combo	1Y4D0AA
Mouse	HP USB Premium Wireless Mouse	1JR31AA
	HP 435 Multi-Device Wireless Mouse	3B4Q5AA
	HP Creator USB-A+Bluetooth 935 Wireless Mouse Black	1D0K8AA
	HP USB-A+Bluetooth Travel Bluetooth Mouse	6SP30AA
	HP 235 Slim Wireless Mouse	4E407AA
Power	HP 65W Smart AC Adapter	H6Y89AA
Commodity	HP USB DVD-Writer EXT ODD	F2B56AA



### **Summary of Changes**

Date of change	Version History		Description of change
March 14, 2022	V1 to V2	Added	Battery Compliance in Power section; Environmental Data
April 11, 2022	V2 to V3	Added	Reference for USB ports
April 25, 2022	V3 to V4	Added	MIL-STD test in At a Glance section
June 15, 2022	V4 to V5	Added	Added note in Manageability Feature
August 5, 2022	V5 to V6	Updated	Eco-Label Certifications & declarations
August 8, 2022	V6 to V7	Updated	Memory Slots
October 20, 2022	V7 to V8	Updated	Bluetooth version
March 6, 2023	V8 to V9	Updated	Storage and Drives section
March 22, 2023	V9 to V10	Updated	USB Type C <sup>®</sup> description
	V10 to V11		

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