

### Features

#### PRODUCT KITS

**HP Presence Small Space Solution with Microsoft Teams Rooms Kit**



**HP Presence Small Space Solution Plus AI Camera with Microsoft Teams Rooms Kit**



**HP Presence Small Space Solution Plus AI Video Bar with Microsoft Teams Rooms Kit**



**HP Presence Medium Space Solution with Microsoft Teams Rooms Kit**



**HP Presence Medium Space Solution Plus AI Camera with Microsoft Teams Rooms Kit**



**HP Presence Medium to Large Space Solution Plus AI Camera/Mics with Microsoft Teams Rooms**

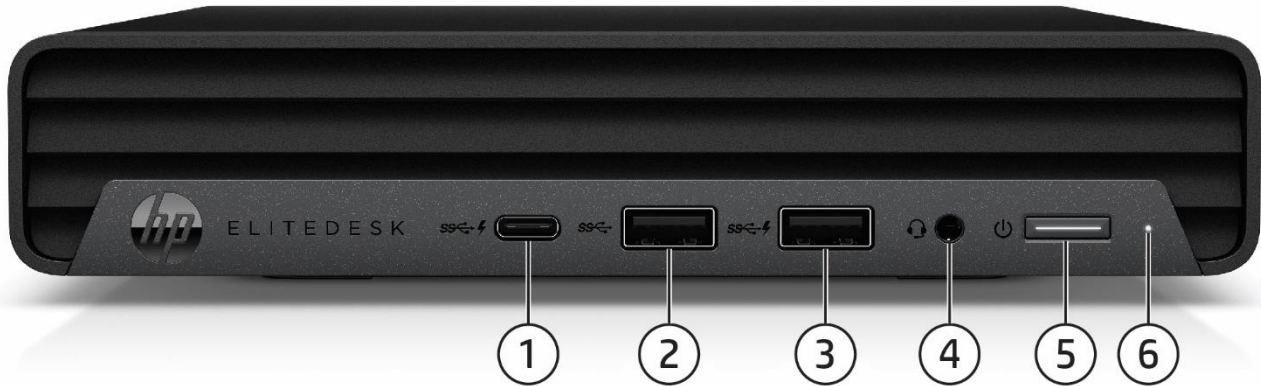


**HP Presence Large Space Solution with Microsoft Teams Rooms Kit**



### Features

#### HP Presence Mini Conferencing PC

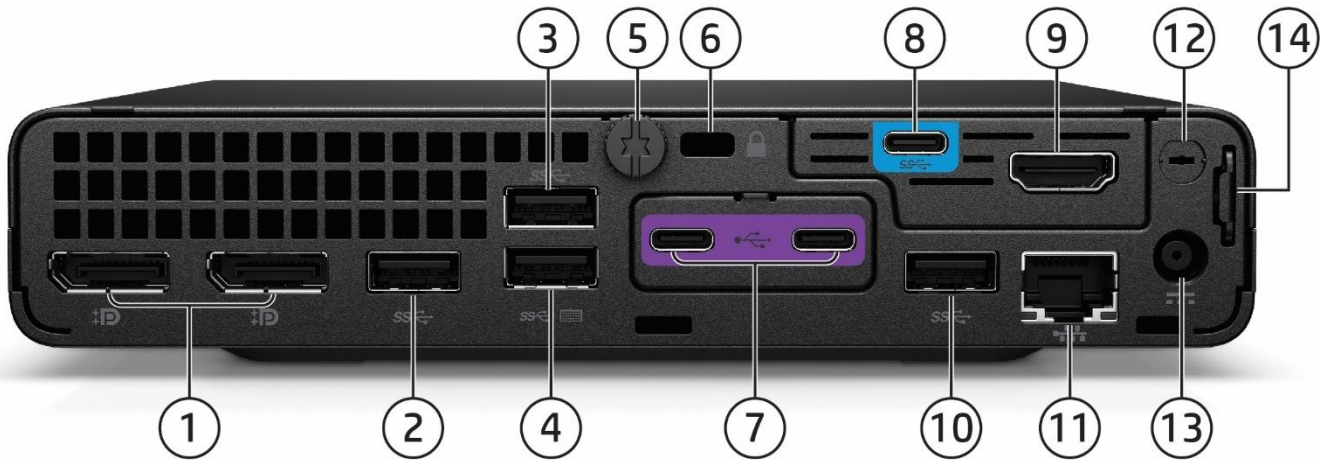


#### Front

1. Type-C® SuperSpeed USB 10Gbps signaling rate port (charge support up to 5V/3A)
2. Type-A SuperSpeed USB 10Gbps signaling rate port
3. Type-A SuperSpeed USB 5Gbps signaling rate port (charge support up to 5V/2.1A)
4. 3.5mm Jack
5. Dual-state power button
6. Hard drive activity light

### Features

#### HP Presence Mini Conferencing PC



#### Rear

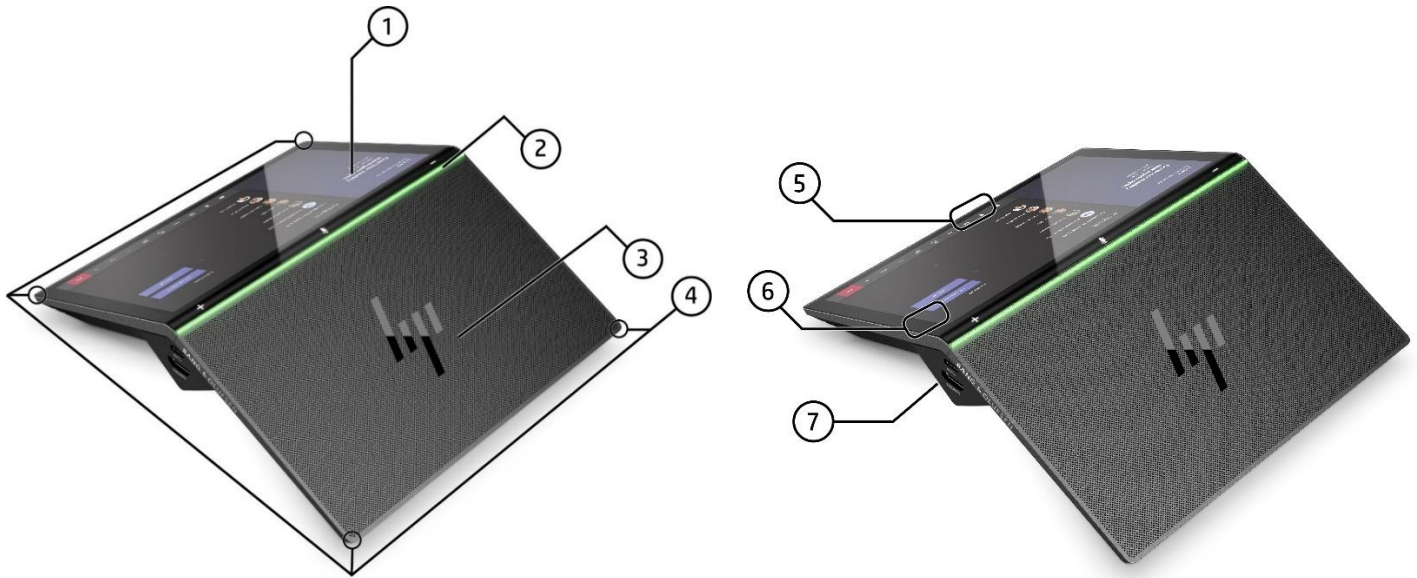
1. (2) Dual-Mode DisplayPort™ 1.4 (DP++)
2. Type-A SuperSpeed USB 5Gbps signaling rate port
3. Type-A SuperSpeed USB 5Gbps signaling rate port (Supporting wake from S4/S5 with keyboard/mouse connected and enabled in BIOS)
4. Type-A SuperSpeed USB 10Gbps signaling rate port (Supporting wake from S4/S5 with keyboard/mouse connected and enabled in BIOS)
5. Cover release thumbscrew
6. Standard cable lock slot (10 mm)
7. Dual HP Presence Control Ports
8. SuperSpeed Type-C™ USB 5Gbps signaling rate (or 1 HP Presence See Camera or HP Presence Audio Visual Bar Primary)
9. HDMI 2.0a Port for Hi-Res Sharing/Guest mode thru the Multi-Port Adapter
10. Type-A SuperSpeed USB 10Gbps signaling rate port
11. RJ45 network connector
12. External WLAN antenna opening
13. Power connector
14. Retractable Padlock loop

#### Not Shown

- Slots
- (1) Internal M.2 2230 connector for WLAN
  - (2) Internal M.2 SSD storage 2242 and 2280 connector
- Mounting
- Support for
    - VESA Sleeve with PS adapter
    - Quick Release Bracket

### Features

#### HP Presence Control/z Control Center



#### Top view items

1. Screen
2. LED Room Status light
3. Speakers
4. Microphones (4)<sup>1</sup>

5. People in Room (PIR) Sensor (located under belly)
6. Ambient Light Sensor (ALS) light sensor
7. Temp sensor (imbedded under belly)

1. No Audio Control microphones disabled

### Features

#### HP Presence Control/No Audio Control Center



#### Under view ports

- |   |  |
|---|--|
| 1. USB-A Port - SuperSpeed USB 5Gbps signaling rate | 4. HP Presence Multi-Port Adapter Port |
| 2. HP Presence Control Port                         | 5. Cable Management pins               |
| 3. Device Power Port                                |  |



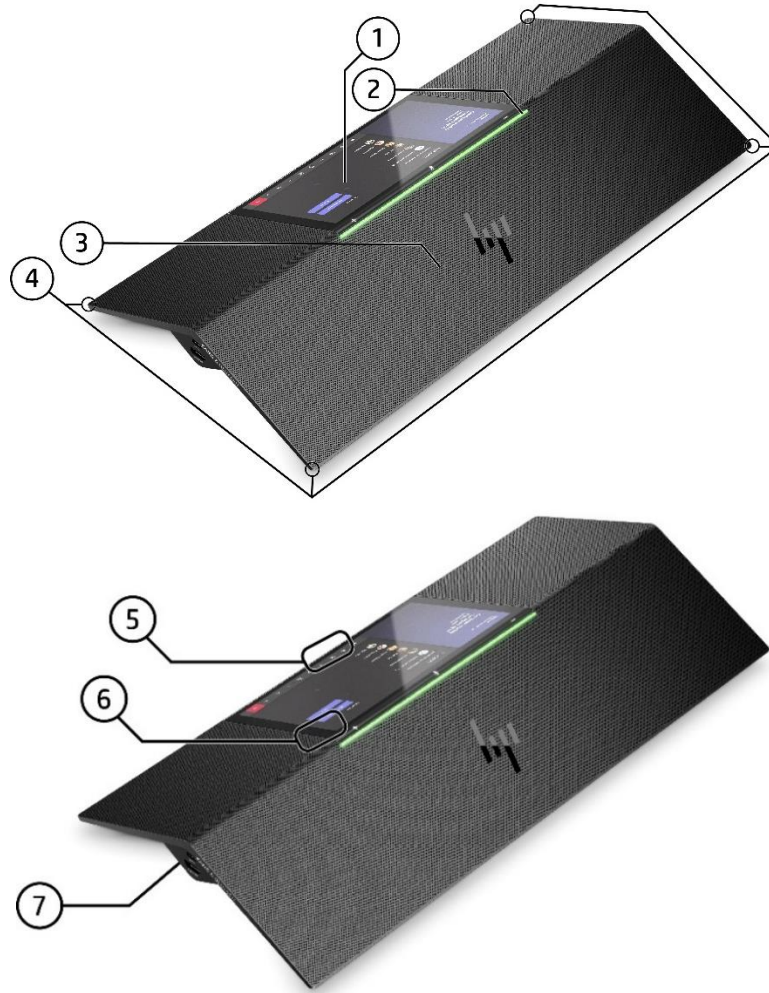
#### Side Video (only) Input Ports

- 6. USB-C<sup>1</sup>
- 7. HDMI 2.0a

<sup>1</sup> Only Alt-Displayport USB-C cables are supported. No adapters are supported

### Features

#### HP Presence Control Plus Center



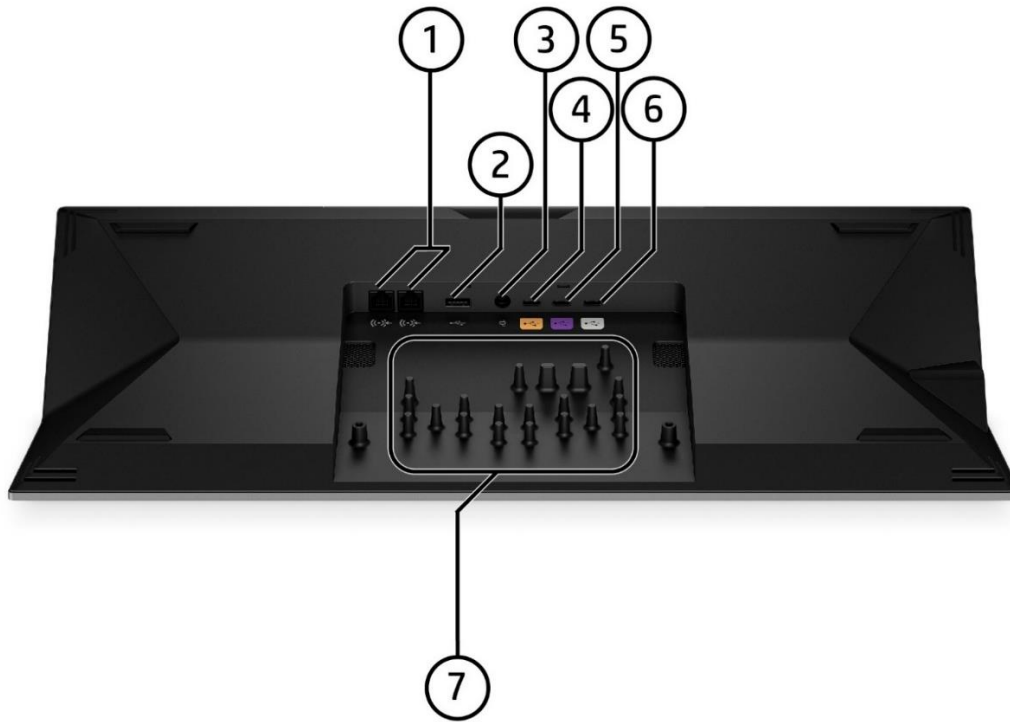
#### Top items

- |                          |  |
|--------------------------|--|
| 1. Screen                | 5. People in Room (PIR) Sensor (located under belly) |
| 2. LED Room Status light | 6. Ambient Light Sensor (ALS) light sensor           |
| 3. Speakers              | 7. Temp sensor (imbedded under belly)                |
| 4. Microphones (4)       |  |



### Features

#### HP Presence Control/No Audio Control Center



#### Under view ports

- 1. RJ11 Ports – for HP Presence Talk Satellite Microphones (2)
- 2. USB-A Port - SuperSpeed USB 5Gbps signaling rate
- 3. Device Power Port
- 4. HP Presence Control Port
- 5. HP Presence Control Center Daisy Chain Port
- 6. HP Multi-Port Adapter Port
- 7. Cable Management pins

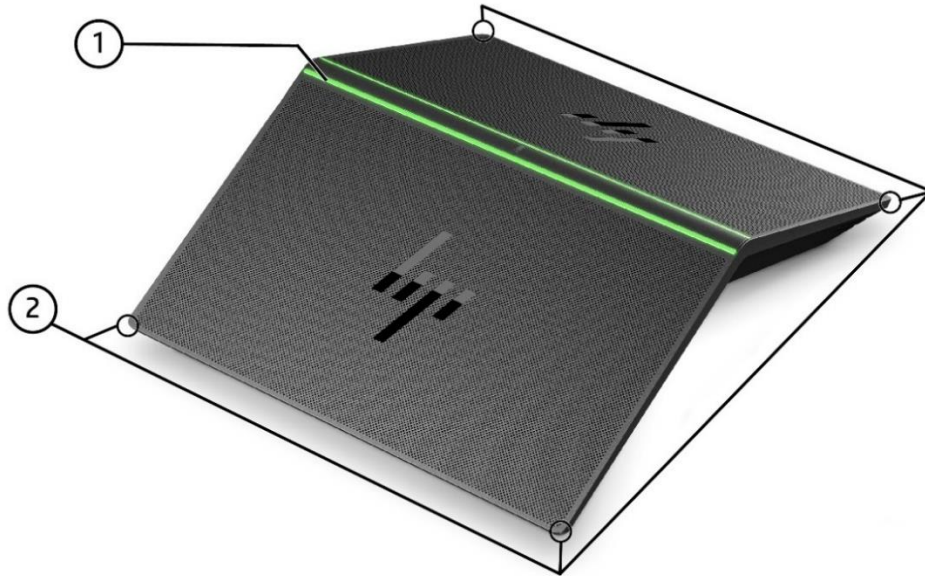


#### Side Input Ports

- 1. USB-C®
- 2. HDMI 2.0a

### Features

#### HP Presence Hub (Optional with Control or No Audio Control Center) -TBD



#### Top view items

1. LED Status light
2. Microphone (4)<sup>1</sup>

1. Disabled

#### Under view ports

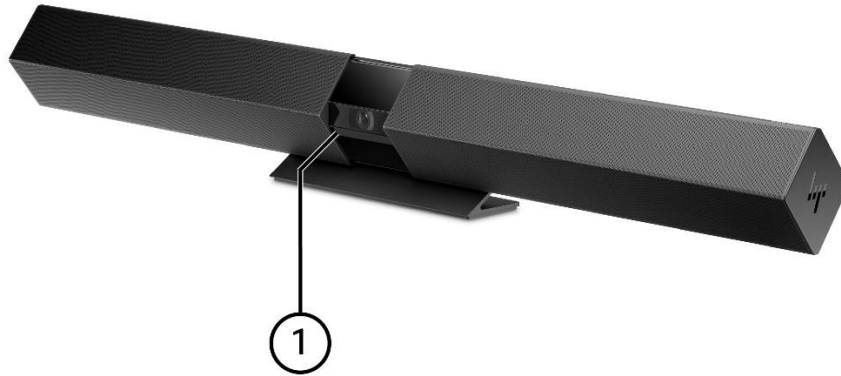


- |  |  |
|--|--|
| 1. RJ11 Ports – for HP Presence Talk Satellite Microphones (2) | 4. Purple Port - HP Presence Control Center Daisy Chain Port |
| 2. Power Plug – For power connection                           | 5. White Port - TBD  |
| 3. Orange Port – HP Presence Control Port                      |  |



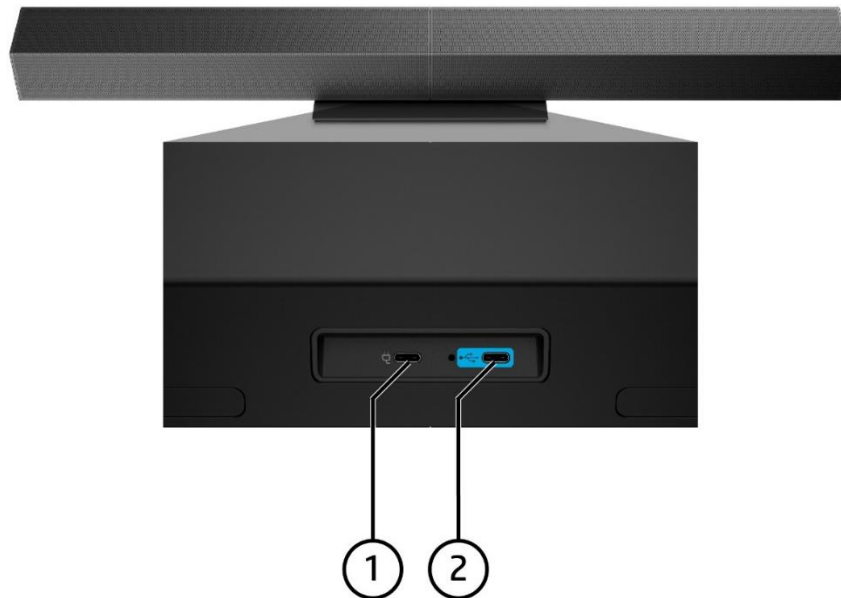
### Features

#### HP Presence Audio Video Bar (Optional)



1. Camera

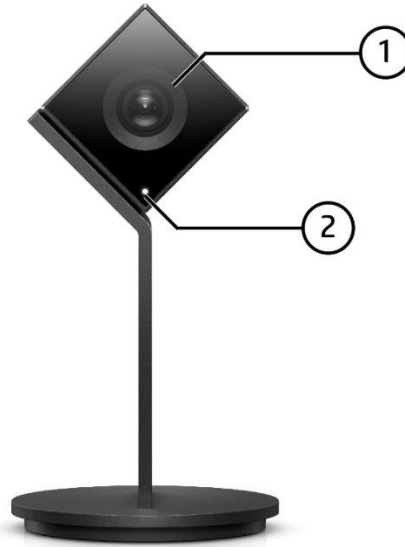
#### HP Presence Audio Video Bar Ports (Rear View)



1. USB-C® Power Port
2. USB-C® Data Port (blue)

### Features

#### HP Presence See 4K AI Camera (Optional)



1. Camera
2. Activity light

#### Under view port



1. USB-C® Port connector

### Features

#### AT A GLANCE

- Full HP Meeting Teams Rooms solution with compute and center with different HP conferencing devices
- Microsoft Teams Rooms conferencing solution built on Windows IoT 64 Enterprise
- Designed solution for huddle, small, medium, large, and custom meetings rooms
- HP Presence Mini Conferencing PC Information
  - HP developed and engineered UEFI V2.7 BIOS supporting security, manageability, and software image stability
  - Intel® Q470 chipset supporting Intel® 10<sup>th</sup> generation Core™ processors, featuring integrated Intel® UHD 630 Graphics and Intel® vPro® Technology Core i5 and Core i7 processors
  - 35W Processors
  - Intel® Ethernet Connection I219LM GbE LOM integrated network connection
  - Intel® Wi-Fi 6 + BT5 (802.11AX 2x2)
  - DDR4 Synchronous Dynamic Random Access Memory (SDRAM) (Transfer rates up to 2933 MT/s)
  - Enhanced Security with HP Security Suite (Refer to Security Section for details)
  - CCC, CECP and SEPA Certified
  - TCO
  - PC chassis and all internal components and modules are manufactured with low halogen content
  - Dust filter available
  - Undergo up to 13 MIL-STD tests<sup>1</sup>
  - Protected by HP Services, including limited warranties up to 3-3-3 (terms and conditions vary by country; certain restrictions and exclusions apply); Care Packs available with up to 5 years Next Business Day Onsite Hardware Support
  - Compliance with CE (Class B) / FCC (Class B) / UL (UL60950-1 /UL62368-1) / CSA (CSA C22.2 No.60950-1-07 / CSA C22.2 No. 62368-1-14) / ICES-003 / CCC / VCCI (Class B) / KCC (Class B)

1. MIL-STD drop test not performed for All-in-Ones. MIL-STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

**NOTE: See important legal disclosures for all listed specs in their respective feature's sections**

### Features

#### OPERATING SYSTEM

**Preinstalled**Windows 10 IoT Enterprise SAC<sup>1</sup>

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

**Microsoft Teams Rooms/Skype Room Systems IT Topology Pre-Requisites (setup must be one of the these three):**

- 1. Online Deployment (o365) - Skype for Business Online with Exchange Online. \*Active Directory Online
- 2. On Premise Deployment - Skype for Business Server 2015 On-Premises with Exchange 2013 SP1+ or later On-Prem. \*Active Directory On-Prem
- 3. Hybrid Deployment - Skype for Business 2015 On-Premise with Exchange Online/ Skype for Business 2015 Online with Exchange 2013 SP1+ On-Prem. \*Active Directory On-Prem

**Note1:** Microsoft Teams Rooms/Skype Room Systems does not support Lync Server 2013

**Note2:** Preparation of the environment to enable Teams Rooms/SRS

- Microsoft Teams Rooms/Skype Room Systems needs to be assigned a "User account" in Active Directory, Exchange, and Skype for Business. The account is used to access its meeting calendar and establish Skype for Business connectivity. People can book this account by scheduling a meeting with it. Microsoft Teams Rooms/Skype Room Systems will be able to join that meeting and provide various features to the meeting attendees. Without a user account, none of these features will work. The user account & infrastructure must be correctly configured to allow Microsoft Teams Rooms/Skype Room Systems to validate the user account and reach appropriate Microsoft services. For more information on configuration & licenses required: <https://docs.microsoft.com/en-us/microsoftteams/room-systems/requirements>
- A Microsoft Teams Rooms/Skype Room Systems client appliance PC with all required software installed
- For additional information on configuration & supported topologies: <https://docs.microsoft.com/en-us/microsoftteams/room-systems/room-systems>

### Features

#### CHIPSET

|                          |
|--------------------------|
| Intel® Q470 PCH-H- vPro® |
|--------------------------|

#### PROCESSORS

|   |
|---|
| <b>Intel® 10<sup>th</sup> Generation Core™ Processors</b> |
|---|

|  |
|--|
| Intel® Core™ i7 10700T Processor with Intel® UHD Graphics 630<br>(2.0 GHz, up to 4.5 GHz with Intel® Turbo Boost3, 16MB cache, 8 cores) 35W <sup>1, 2</sup><br>Supports Intel® vPro® Technology <sup>3</sup> |
|--|

|   |
|---|
| Intel® Core™ i5 10500T processor with Intel® UHD Graphics 630<br>(2.3 GHz, up to 3.8 GHz with Turbo Boost 2.0, 12 MB cache, 6 cores) 35W <sup>1, 2</sup><br>Supports Intel® vPro® Technology <sup>3</sup> |
|---|

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. Intel's numbering, branding and/or naming is not a mea configuration surement of higher performance.

2. Intel® Optane™ memory system acceleration does not replace or increase the DRAM in your system.

3. Some functionality of vPro® technology, such as Intel Active management technology and Intel Virtualization technology, requires additional 3rd party software in order to run. Availability of future "virtual appliances" applications for Intel vPro® technology is dependent on 3rd party software providers. Compatibility with future "virtual appliances" is yet to be determined.

**NOTE:** Memory speed 2666 and 2933 MT/s can be achieved via two UDIMMs per channel (2DPC) when populated with the same part number.

#### GRAPHICS

##### Integrated Intel® Graphics

|   |
|---|
| Intel® UHD Graphics 630 (integrated on 10 <sup>th</sup> gen Core i7/i5) |
|---|

##### Adapters and Cables

|   |
|---|
| HP DisplayPort™ to HDMI True 4K Adapter |
|---|

|                              |
|------------------------------|
| HP Presence 2m Type-C cable* |
|------------------------------|

|                              |
|------------------------------|
| HP Presence 5m Type-C cable* |
|------------------------------|

|                               |
|-------------------------------|
| HP Presence 15m Type-C cable* |
|-------------------------------|

|                               |
|-------------------------------|
| HP Presence 30m Type-C cable* |
|-------------------------------|

|  |
|--|
| HP Presence 5m Right Angle Type-C Cable (Included with camera and audio/video bar) |
|--|

**NOTE\*:** Custom USB-C® cable only can used between the mini and a center

#### STORAGE

##### Integrated Intel® Graphics

|   |
|---|
| 256GB M.2 2280 PCIe NVMe Three Layer Cell SSD |
|---|

**NOTE\*:** For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows) of system disk is reserved for the system recovery software

### Features

#### MEMORY

##### Memory Type

|  |
|--|
| DDR4-2933 (Transfer rates up to 2933 MT/s), 64 GB, 2 SODIMM <sup>1</sup> |
|--|

|   |
|---|
| DDR4-2666 (Transfer rates up to 2666 MT/s), 64 GB, 2 SODIMM |
|---|

##### Memory Configuration

|                 |
|-----------------|
| 8 GB (2 x 4 GB) |
|-----------------|

|                  |
|------------------|
| 16 GB (2 x 8 GB) |
|------------------|

1. Only available with Intel Core i7 processor. Maximum transfer rate only available with Intel® Core i7 = Processors.

**NOTE:** For systems configured with more than 3 GB of memory and a 32-bit operating system, all memory may not be available due to system resource requirements. Addressing memory above 4 GB requires a 64-bit operating system.

Memory modules support data transfer rates up to 2666 MT/s or 2933 MT/s as depending on processor config; with 1 DIMM per channel.

Additional DIMM loading on any channel may impact maximum memory speed. Actual data rate is determined by the system's configured ; See processor specifications for supported memory data rate.

**NOTE:** All memory slots are customer accessible / upgradeable.

#### NETWORKING/COMMUNICATIONS

##### Ethernet (RJ-45)

|   |
|---|
| Intel® I219-LM 1 Gigabit Network Connection LOM (vPro®) |
|---|

##### Wireless

|  |
|--|
| Intel® Wi-Fi 6 <sup>1</sup> AX201 + BT5 (802.11AX 2x2 vPro®, supporting gigabit file transfer speed) |
|--|

1. 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.

#### AUDIO / MULTIMEDIA

##### Audio

|                            |
|----------------------------|
| HP Presence Control Center |
|----------------------------|

|                                 |
|---------------------------------|
| HP Presence Control Plus Center |
|---------------------------------|

##### Video

|                              |
|------------------------------|
| HP Presence See 4k AI Camera |
|------------------------------|

|                             |
|-----------------------------|
| HP Presence Audio Video Bar |
|-----------------------------|

##### Audio/Video Input

|                                |
|--------------------------------|
| HP Presence Multi-Port Adapter |
|--------------------------------|



### Features

#### KEYBOARDS AND POINTING DEVICES

##### Keyboards (AMO only)

|                                |
|--------------------------------|
| HP Wired Desktop 320K Keyboard |
|--------------------------------|

|                                     |
|-------------------------------------|
| HP Wired Desktop 125 Wired Keyboard |
|-------------------------------------|

##### Mouse (AMO only)

|                             |
|-----------------------------|
| HP Wired Desktop 320M Mouse |
|-----------------------------|

|                                  |
|----------------------------------|
| HP Wired Desktop 125 Wired Mouse |
|----------------------------------|

#### SYSTEM SECURITY (HARDWARE/BIOS)

TPM 2.0 (FW: 7.85) endpoint security controller (Infineon SLB9670) shipped with Windows 10. Common Criteria EAL4+ Certified. FIPS 140-2 Level 2 Certified.

Intrusion Sensor for DM (integrated in the PCA, can be enabled/disabled through BIOS)

Support for chassis cable lock devices

Support for chassis padlocks devices

Intel® Identify Protection Technology (IPT)<sup>1</sup>

Removable media write/boot control

Power-on password (via BIOS)

Setup password (via BIOS)

1. Models configured with Intel® Core™ processors have the ability to utilize advanced security protection for online transactions. IPT, used in conjunction with participating web sites, provides double identity authentication by adding a hardware component in addition to the usual user name and password. IPT is initialized through an HP Client Security module.

### Features

#### PORTS

##### I/O Ports – Internal Ports

|  |
|--|
| Internal SATA storage connector (Data and Power) |
|--|

##### Standard User Accessible Ports

|  |  |
|--|--|
| Type-A SuperSpeed USB 5 Gbps signaling rate port   | 1 (front)<br>2 (rear)                                    |
| Type-A SuperSpeed USB 10 Gbps signaling rate port  | 1 (front)<br>2 (rear)                                    |
| Type-C® SuperSpeed USB 10 signaling rate Gbps port | 1 (front)  |
| Video  | 2 DisplayPort™ 1.4 (rear)                                |
| Audio  | 1 Combo Audio Jack with CTIA and headset support (front) |
| Network Interface                                  | 1 RJ45 (rear)  |

##### (1) Flexible Port 1:

|                           |                                    |
|---------------------------|------------------------------------|
| HP Presence Control Ports | 2 (rear)                           |
| Video                     | 2 HP Presence Control Center Ports |

##### (1) Flexible Port 2:

|            |                       |
|------------|-----------------------|
| Type-C USB | 2 Hi-Speed USB (rear) |
| HDMI 2.0a  | 1 (rear)              |

##### Slots

|          |  |
|----------|--|
| M.2 PCIe | (1) M.2 PCIe x1 2230 (for WLAN)<br>(2) M.2 PCIe x4 2280/2230 Combo (for storage) |
|----------|--|

### Features

#### USB SPECIFICATION AND MARKETING NAME MAPPING TABLE

| Marketing Name                       | Technical Terminology |
|--------------------------------------|-----------------------|
| Hi-Speed USB 480Mbps signaling rate  | USB 2.0               |
| SuperSpeed USB 5Gbps signaling rate  | USB 3.2 Gen 1         |
| SuperSpeed USB 10Gbps signaling rate | USB 3.2 Gen 2         |
| SuperSpeed USB 20Gbps signaling rate | USB 3.2 Gen 2x2       |

## Features

**SOFTWARE COMPONENTS AND APPLICATIONS WITH WINDOWS****Software**

Microsoft Teams Rooms<sup>1</sup>  
HP Desktop Support Utilities  
HP Privacy Settings  
HP Presence Smart Setup  
HP TechPulse<sup>2</sup>  
HP Cloud Endpoint Manager<sup>3</sup>  
HP Presence App

**Manageability Features and Services**

HP Manageability Integration Kit (download)<sup>4</sup>  
HP Driver Packs (download)  
HP Client Catalog (download)  
HP Client Management Script Library (download)  
HP Image Assistant Gen5 (download)  
HP Presence Manager<sup>5</sup>  
HP Presence Insights<sup>6</sup>  
HP Presence Exchange

**Security Management**

HP Wolf Security for Business<sup>7</sup> includes:  
HP Sure Start Gen6<sup>8</sup>  
HP Secure Erase<sup>9</sup>

**BIOS**

HP BIOSphere Gen6<sup>10</sup>  
HP DriveLock & Automatic DriveLock  
BIOS Update via Network  
Absolute Persistence Module<sup>11</sup>  
Pre-boot Authentication  
HP Wake on WLAN  
TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified)

1. Microsoft Teams Rooms software preinstalled. Subscription to Microsoft Teams Rooms required and sold separately

2. HP TechPulse is a telemetry and analytics platform that provides critical data around devices and applications and is not sold as a standalone service. HP TechPulse follows stringent GDPR privacy regulations and is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access with connection to TechPulse portal is required. For full system requirements, please visit

<http://www.hpdaas.com/requirements>.

3. HP Cloud Endpoint Manager is licensed by the terms of the HP Presence Insights Terms of Service <http://www.hp.com/hp-presence-insights-tos>.

4. HP Manageability Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.

5. HP Presence Manager requires HP Presence Meeting Space Solutions and uses HP Cloud Endpoint Manager and HP TechPulse, a telemetry and analytics platform that provides critical data around devices and applications. HP Cloud Endpoint Manager and HP TechPulse follow stringent GDPR privacy regulations. HP TechPulse is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access with connection to TechPulse portal is required. For full system requirements, please visit <http://www.hpdaas.com/requirements>. HP Presence Manager and HP Presence Insights are licensed by the terms of the HP Presence Insights Terms of Service <http://www.hp.com/hp-presence-insightstos>.

6. HP Presence Insights is included through December 31, 2022 with the purchase of HP Presence Meeting Space solutions. Functionality will then revert to HP Presence Manager. Purchase of 1–5-year license is required thereafter. HP Presence Manager and HP Presence Insights are licensed by the terms of the HP Presence Insights Terms of Service <http://www.hp.com/hp-presence-insights-tos>. HP Presence Manager and HP Presence Insights use HP Cloud Endpoint Manager and HP TechPulse, a telemetry and analytics platform that provides critical data around devices and applications HP Cloud Endpoint Manager and HP TechPulse follow stringent GDPR privacy regulations. HP TechPulse is ISO27001, ISO27701, ISO27017 and SOC2 Type2 certified for Information Security. Internet access with connection to TechPulse portal is required. For full

### Features

system requirements, please visit <http://www.hpdaas.com/requirements>. HP Presence Manager and HP Presence Insights are licensed by the terms of the HP Presence Terms of Service <http://www.hp.com/hp-presence-insights-tos>.

7. HP Wolf Security for Business requires Windows 10 or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features and OS requirement.

8. HP Sure Start Gen7 is available on select HP PCs and requires Windows 10 and higher.

9. HP Secure Erase for the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane™.

10. HP BIOSphere Gen6 features may vary depending on the platform and configuration.

11. Absolute firmware module is shipped turned off and can only be activated with the purchase a license subscription and full activation of the software agent. License subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. Certain conditions apply. For full details visit: <https://www.absolute.com/about/legal/agreements/absolute/>.

### Features

#### HP Presence Control/No Audio Control Center



#### Specifications

##### Audio Version only

|                                 |  |
|---------------------------------|--|
| 4 corner (360°) Integrated Mics | 4m pickup range (disabled for No Audio Control Center) |
| Satellite Mics                  | Requires HP Present HUB to use                         |
| Speakers 2.25 inch              | 2 Stereo Speakers                                      |
| Decibels(db)                    | 85db@1M  |
| Frequency Response              | 115Hz – 20kHz  |
| THD                             | < 5% 200Hz to 20kHz, 1W/0.5M                           |
| Audio + Room Calibration        | B&O Room-Cal (4 core Audio Processor w 32gb memory)    |
| Echo Cancellation               | Yes - Rapid  |
| Auto Volume                     | Yes  |
| Auto Mic Gain                   | Yes  |
| Stereo Audio                    | Yes  |

##### General (Audio and No Audio versions)

|                                 |   |
|---------------------------------|---|
| 4 corner (360°) Integrated Mics | 4m pickup range                                 |
| Detection                       | Presence (3m)                                   |
| BYOD – Guest Mode               | Yes (Multi-Port Adaptor Included)               |
| Screen                          | 8 in diagonal, touch, anti-glare, 360° view LED |
| Screen Resolution               | 1280x800 @50hz Landscape                        |
| Daisy Chain                     | Yes – Up to 3                                   |
| Mounting Position               | Table / Wall                                    |
| Remote Configure                | Yes – Realtime                                  |
| Dimensions (LxWxH)              | 2.56 x 8.92 x 7.61 in (65.2 x 226.6 x 193.3 mm) |
| Weight                          | 1.65 kg (3.64 lbs) With Audio                   |

#### Includes

- HP Presence Control or No Audio Control Center
- HP Presence 5m Type-C Cable
- 65w USB-C® Power Supply
- HP Presence Multi-Port Adapter



### Features

### HP Presence Control Plus Center



#### Features

- Low profile intelligent control center
- Built-in Audio Processor for premium stereo audio
- 360 far-field mic pickup range
- Integrated Guest & High-Resolution Modes

#### Specifications

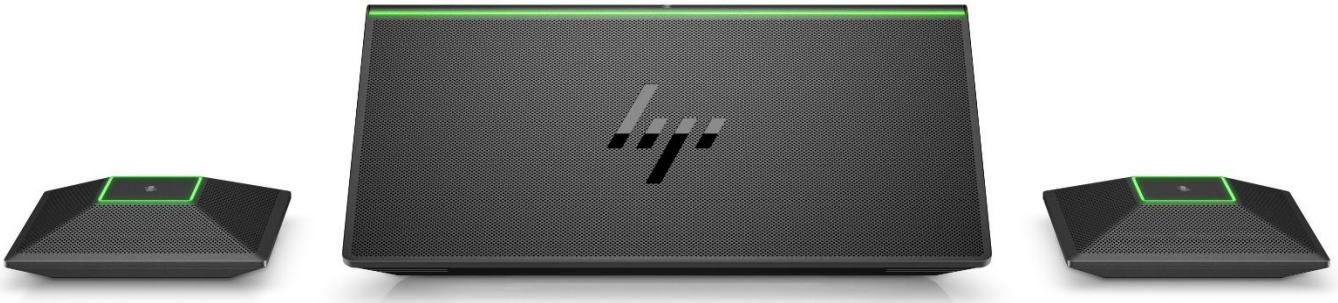
|                                 |   |
|---------------------------------|---|
| 4 corner (360°) Integrated Mics | 6m pickup range   |
| Satellite Mics                  | Up to 2 mics optional   |
| Speakers 3.25 inch              | 2 Stereo Speakers   |
| Decibels(db)                    | 89db@1M   |
| Frequency Response              | 95Hz – 16kHz  |
| THD                             | < 5% 100Hz to 20kHz, 1W/0.5M  |
| Audio + Room Calibration        | B&O Room-Cal (4 core Audio Processor w 32gb memory)                                     |
| Echo Cancellation               | Yes – Rapid   |
| Auto Volume                     | Yes   |
| Auto Mic Gain                   | Yes   |
| Stereo Audio                    | Yes   |
| Sensors                         | Passive infrared (People in Room-PIR), Light (Ambient Light Sensor-ALS) and temperature |
| Detection                       | Presence (3m)   |
| BYOD – Guest Mode               | Yes (Multi-Port Adaptor Included)   |
| Screen                          | 8 in diagonal, touch, anti-glare, 360° view LED   |
| Screen Resolution               | 1280x800 @50hz Landscape  |
| Daisy Chain                     | Yes – Up to 3   |
| Mounting Position               | Table   |
| Remote Configure                | Yes – Realtime  |
| Dimensions (LxWxH)              | 2.56 x 8.92 x 7.61 in (65.2 x 226.6 x 459.2 mm)   |
| Weight                          | 4.03 kg (8.87 lbs) With Audio   |

#### Includes

- HP Presence Control Plus Center
- HP Presence 5m Type-C Cable
- 90w Power Supply
- HP Presence Multi-Port Adapter

### Features

#### HP Presence Hub (optional) - TBD



#### Features

- Low profile hub
- Extended
- Voice pickup with total 6 mics
- Plug and Play satellite microphones (2)
- Only works with and integrates easily with the Control/No Audio Control centers

#### Specifications

|                       |   |
|-----------------------|---|
| Integrated Mics       | 4 corner (360°), 4 m pickup range (disabled)    |
| Satellite Mics        | 2 Included (3m pickup range)                    |
| Echo Cancellation     | Yes - Rapid                                     |
| Auto Mic Gain         | Yes   |
| BYOD – Guest Mode     | Yes   |
| Remote Configure      | Yes - Realtime                                  |
| Dimensions (LxWxH)    | 2.56 x 8.92 x 7.61 in (65.2 x 226.6 x 193.3 mm) |
| Hub Weight            | 1.43 k (3.15 lb)                                |
| Satellite Mics Weight | 80.4 g (0.18 lb)                                |

#### Includes

- HP Presence Hub
- HP Presence 2m USB-C® Cable
- 90w Power Supply
- HP Presence Talk Satellite Microphones (2) with RJ11 cables

### Features

#### HP Presence See 4k AI Camera (Optional with any platform)



#### Features

- Mics Callout: (2) Presenter Tracking Mics
- Speaker Detection
- HP Auto Frame (3 modes)
- Anti-Vibration Stabilizer
- Wide Dinamic Range
- Auto Light Adjustment
- People Counting (Up to 20)
- Auto Image Rotate Accelerometer
- Electronic Image Stabilization
- Up/down rotational motor
- Supports Customize and Control with HP Presence Smart Setup App
- Space X App SW interface

#### Specifications

|                         |  |                       |
|-------------------------|--|-----------------------|
| Definition              | 4K @30FPS                                    |                       |
| Privacy Shutter         | Automatic - Mechanical                       |                       |
| Zoom Pan/Tilt           | 5X ePTZ (Digital)                            |                       |
| Framing                 | Auto 3 speeds                                |                       |
| Picture Correction      | WDR  |                       |
| Picture -In-Picture     | Yes – Speaker Tracking                       |                       |
| Sensors                 | 12MP   |                       |
| Detection               | Auto-rotate                                  |                       |
| BYOD – Guest Mode       | Yes (Video)                                  |                       |
| 12MP image sensor       | Resolution                                   | 3840x2160 @30FPS      |
|                         | Aspect ratio                                 | 16:9                  |
|                         | FOV  | H 112°, V 73°, D 122° |
|                         | Zoom   | 5x digital            |
| Interface               | USB 3.1 G1 HW                                |                       |
| Dimensions (LxWxH)      | 3.52 x 3.52 x 6.89 in (100 x 100 x 195.6 mm) |                       |
| Table Stand mode Weight | 0.44 kg (0.96 lbs)                           |                       |
| Wall Mount Weight       | 0.26kg (0.57 lbs)                            |                       |

### Features

#### Includes

- HP Presence See 4k AI Camera
- HP Presence 5m Right Angle Type-C Cable
- Table Mount
- Wall Mount<sup>1</sup>

1. Does not include Locking Mount (separate option kit)

#### HP Presence Audio Video Bar (Optional)



#### Audio Features

- Dedicated Audio Processor for premium stereo audio
- Auto room calibration supported
- Automatic privacy shutter
- Cinema like auto zooming

#### Audio Specifications

|                          |   |
|--------------------------|---|
| Integrated Mics          | 4 Uni-Directional Mics, 6m pickup range             |
| Speakers                 | 2.25 in. Stereo Speakers (4) / 1.25 n. Tweeter (2)  |
| Decibels(db)             | 89db@1M   |
| Frequency Response       | 100Hz – 20kHz                                       |
| THD                      | < 5% 150Hz to 20kHz, 1W/0.5M                        |
| Audio + Room Calibration | B&O Room-Cal (4 core Audio Processor w 32gb memory) |
| Echo Cancellation        | Yes - Rapid   |
| Auto Volume              | Yes   |
| Auto Mic Gain            | Yes   |
| Stereo Audio             | Yes   |
| Daisy Chain              | Yes   |
| Satellite Mic            | Up to 2 optional                                    |
| Detection                | Auto-Open   |
| Detection Distance       | 3m - 90° FOV  |
| BYOD                     | Yes (Video + Speakers + Mics)                       |

### Features

#### Camera Features

- Mics Callout: (2) Presenter Tracking Mics
- HP Auto Frame (3 modes)
- Auto Light Adjustment
- People Counting (Up to 20)
- Auto Image Rotate Accelerometer
- Anti-Vibration Stabilizer
- Supports Customize and Control with HP Presence Smart Setup App

#### Camera Specifications

|                     |                             |
|---------------------|-----------------------------|
| Definition          | 4K @30FPS                   |
| Privacy Shutter     | Automatic - Mechanical      |
| Zoom Pan/Tilt       | 5X ePTZ (Digital)           |
| Framing             | Auto 3 speeds               |
| Picture Correction  | WDR                         |
| Picture -In-Picture | Yes – Speaker Tracking      |
| Detection Distance  | 3m - 90° FOV                |
| 12MP image sensor   | Resolution 3840x2160 @30FPS |
|                     | Aspect ratio 16:9           |
|                     | FOV H 112°, V 73°, D 122°   |
|                     | Zoom 5x digital             |

#### Overall Specifications

|   |   |
|---|---|
| Interface   | USB-C®  |
| Dimensions (LxWxH)                                | 4.91 x 3.37 x 35.47 in (124.8 x 85.7 x 901mm) |
| Weight  | 3.93 kg (8.66 lb) Table stand mode            |
| Bar Width   | 901 mm (doors closed), 981 mm (doors open)    |
| Traveling distance of single door (left or right) | 40 mm   |

#### Includes

- HP Presence Audio Video Bar
- HP Presence 5m Right Angle Type-C Cable
- 65w USB-C® Power Supply
- Wall Mount

### Features

#### **HP Presence Talk Satellite Microphones (2) (Optional or comes with HP Presence Hub with RJ11 Cables included)**



#### **Features**

- Bright 360-degree LED Light for mic status
- Touch Control Mute / Un-Mute
- Easy Table setup with standard RJ11 connection
- Mics separately only work with HP Presence Control Plus Center

#### **Specifications**

|                        |   |
|------------------------|---|
| Range                  | Increase range by 3 m                           |
| Dimensions (L x W x H) | 3.11 x 3.11 x 0.80 in (79.14 x 79.14 x 20.5 mm) |
| Weight                 | 80.4 g (0.18 lb)                                |
| RJ11 Cable Length      | 1.8 m   |

#### **Includes**

- 2 Satellite Microphones
- 2 RJ11 cables



### Features

#### HP Presence Multi-Port Adapter



#### Features

- HDMI or USB-C® video input connectors for video input
- USB-A® input connector for audio input when using HDMI video input for Guest mode
- White Color coded connector for easy installation
- Included with HP Presence Control/No Audio Control/Control Plus consoles

#### Specifications

|   |       |
|---|-------|
| Length Dimensions                         | 2.0 m |
| HDMI 2.0a input                           | Yes   |
| USB-C® USB 5Gbps signaling rate connector | Yes   |
| USB-A® USB 5Gbps signaling rate connector | Yes   |

### Features

#### **BASIC PLATFORM KIT CONTENTS**

##### **HP Presence kit with a Control/No Audio Control Center and Microsoft Teams Rooms**

- HP Presence Mini Conferencing PC with preloaded Win IoT Enterprise and Microsoft Teams Rooms
- HP 90w Power Supply
- HP Mini Port Cover
- HP Mini Security Dual VESA Sleeve v3 with Power Supply Holder
- HP Presence Control or No Audio Control Center
- HP 65w USB-C® Power Supply
- HP Presence 5m USB-C® Cable (with clips) \*
- HP Presence Multi-Port Adapter
- HP DisplayPort to HDMI True 4k Adapter
- T10/T4 Torq wrench
- Optional in box (or AMO kit)
  - HP Presence Hub with 2m cable with clips, Power Supply, and HP Presence Talk Satellite Microphones (2) (with RJ11 cables)

##### **HP Presence with a Control Plus Center and Microsoft Teams Rooms**

- HP Presence Mini Conferencing PC with preloaded Win IoT Enterprise and Microsoft Teams Rooms
- HP 90w Power Supply (2 of them)
- HP Mini Port Cover
- HP Mini Security Dual VESA Sleeve v3 with Power Supply Holder
- HP Presence Control Plus Center
- HP Presence 5m USB-C® Cable (with clips) \*
- HP Presence Multi-Port Adapter
- HP DisplayPort to HDMI True 4k Adapter
- T10/T4 Torq wrench
- Optional in box (or AMO kit)
  - HP Presence Talk Satellite Microphones (2) (with RJ11 cables)
- Custom USB-C® cable between mini and center

### Features

#### ENVIRONMENTAL & INDUSTRY

Low halogen (chassis, all internal components and modules)<sup>1</sup>  
TAA compliant models available

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

#### UNIT ENVIRONMENT AND OPERATING CONDITIONS

##### General Unit Operating Guidelines

- Use the operating specifications for helpful information when you travel with or store your computer.
- Keep the computer away from excessive moisture, direct moisture and the extremes of heat and cold, to ensure that unit is operated within the specified operating range.
- Leave a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow.
- Never restrict airflow into the computer by blocking any vents or air intakes.
- Do not stack computers on top of each other or place computers so near each other that they are subject to each other's re-circulated or preheated air.
- Occasionally clean the air vents on the front, back, and any other vented side of the computer. Lint, dust and other foreign matter can block the vents and limit the airflow.
- If the computer is to be operated within a separate enclosure, intake and exhaust ventilation must be provided on the enclosure, and the same operating guidelines listed above will still apply.

Temperature Range                      Operating: 41° to 95° F (5° to 35° C)<sup>1</sup> (writing to optical disc)<sup>2</sup>  
Non-operating: -4° to 140° F (-20° to 60° C)

Relative Humidity                      Operating: 10% to 90% (non-condensing at ambient)  
Non-operating: 5% to 95% (non-condensing at ambient)

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

1. Operating temperature is de-rated 1.0 deg C per 300 m (1000 ft) to 3000 m (10,000 ft) above sea level, no direct sustained sunlight. Maximum rate of change is 10 deg C/Hr. The upper limit may be limited by the type and number of options installed.

2. Presence detection: 5°C to 25°C.

### Features

#### HP Presence Mini Conferencing PC

|  |   |  |                     |
|--|---|--|---------------------|
| <b>Eco-Label Certifications &amp; declarations</b>                         | 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:<br>• IT ECO declaration  |  |                     |
| <b>System Configuration</b>  | The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a “Typically Configured Desktop.”   |  |                     |
| <b>Energy Consumption</b>  | <b>115VAC, 60Hz</b>   | <b>230VAC, 50Hz</b>                          | <b>100VAC, 50Hz</b> |
| Normal Operation (Short idle)  | 8.9320 W  | 8.9410 W                                     | 8.9190 W            |
| Normal Operation (Long idle)   | 6.3380 W  | 6.3460 W                                     | 6.3280 W            |
| Sleep  | 1.0520 W  | 1.1020 W                                     | 1.0320 W            |
| Off  | 0.8210 W  | 0.8220 W                                     | 0.8200 W            |
|  |   |  |                     |
| <b>Heat Dissipation*</b>   | <b>115VAC, 60Hz</b>   | <b>230VAC, 50Hz</b>                          | <b>100VAC, 50Hz</b> |
| Normal Operation (Short idle)  | 30.4581 BTU/hr  | 30.4888 BTU/hr                               | 30.4138 BTU/hr      |
| Normal Operation (Long idle)   | 21.6126 BTU/hr  | 21.6399 BTU/hr                               | 21.5785 BTU/hr      |
| Sleep  | 3.5873 BTU/hr   | 3.7578 BTU/hr                                | 3.5191 BTU/hr       |
| Off  | 2.7996 BTU/hr   | 2.8030 BTU/hr                                | 2.7962 BTU/hr       |
|  | <b>NOTE:</b> Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.   |  |                     |
| <b>Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)</b> | Sound Power (L <sub>WAd</sub> , bels)   | Sound Pressure (L <sub>pAm</sub> , decibels) |                     |
| Typically Configured – Idle  | 2.8   | 18.8   |                     |
| Fixed Disk – Random writes   | 2.8   | 18.8   |                     |
| Longevity and Upgrading  | This product can be upgraded, possibly extending its useful life by several years. Upgradeable features and/or components contained in the product may include:<br><br>Spare parts are available throughout the warranty period and or for up to “5” years after the end of production. |  |                     |
| Batteries  | This battery(s) in this product comply with EU Directive 2006/66/EC<br><br>Batteries used in the product do not contain:<br>Mercury greater the 1ppm by weight<br>Cadmium greater than 20ppm by weight<br><br>Battery size: CR2032 (coin cell)<br>Battery type: Lithium                 |  |                     |

### Features

|                               |  |                                  |       |
|-------------------------------|--|----------------------------------|-------|
| <b>Additional Information</b> | <ul style="list-style-type: none"> <li>• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC.</li> <li>• This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC.</li> <li>• This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986).</li> <li>• Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043.</li> <li>• This product contains a minimum of 35% post-consumer recycled plastic (by wt.); Including 10% ITE-derived post-consumer recycled plastic*</li> <li>• This product is 95.1% recycle-able when properly disposed of at end of life.</li> </ul> <p><b>*NOTE:</b> Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.</p>   |                                  |       |
| <b>Packaging Materials</b>    | <b>External:</b>   | PAPER/Corrugated                 | 405 g |
|                               |  | PAPER/Molded pulp                | 74 g  |
| <b>Material Usage</b>         | <b>Internal:</b>   | PLASTIC/Polyethylene low density | 3 g   |
|                               | This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf</a> ): <ul style="list-style-type: none"> <li>• Asbestos</li> <li>• Certain Azo Colorants</li> <li>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li> <li>• Cadmium</li> <li>• Chlorinated Hydrocarbons</li> <li>• Chlorinated Paraffins</li> <li>• Formaldehyde</li> <li>• Halogenated Diphenyl Methanes</li> <li>• Lead carbonates and sulfates</li> <li>• Lead and Lead compounds</li> <li>• Mercuric Oxide Batteries</li> <li>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li> <li>• Ozone Depleting Substances</li> <li>• Polybrominated Biphenyls (PBBs)</li> <li>• Polybrominated Biphenyl Ethers (PBBEs)</li> <li>• Polybrominated Biphenyl Oxides (PBBOs)</li> <li>• Polychlorinated Biphenyl (PCB)</li> <li>• Polychlorinated Terphenyls (PCT)</li> <li>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.</li> <li>• Radioactive Substances</li> <li>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> </ul> |                                  |       |
| <b>Packaging Usage</b>        | This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf</a> ): <ul style="list-style-type: none"> <li>• Asbestos</li> <li>• Certain Azo Colorants</li> <li>• Certain Brominated Flame Retardants – may not be used as flame retardants in plastics</li> <li>• Cadmium</li> <li>• Chlorinated Hydrocarbons</li> <li>• Chlorinated Paraffins</li> <li>• Formaldehyde</li> <li>• Halogenated Diphenyl Methanes</li> </ul>  |                                  |       |



### Features

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• Lead carbonates and sulfates</li> <li>• Lead and Lead compounds</li> <li>• Mercuric Oxide Batteries</li> <li>• Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user.</li> <li>• Ozone Depleting Substances</li> <li>• Polybrominated Biphenyls (PBBs)</li> <li>• Polybrominated Biphenyl Ethers (PBBEs)</li> <li>• Polybrominated Biphenyl Oxides (PBBOs)</li> <li>• Polychlorinated Biphenyl (PCB)</li> <li>• Polychlorinated Terphenyls (PCT)</li> <li>• Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications.</li> <li>• Radioactive Substances</li> <li>• Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)</li> </ul>   |
| <p><b>End-of-life Management and Recycling</b></p> | <p>HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: <a href="http://www.hp.com/go/reuse-recycle">http://www.hp.com/go/reuse-recycle</a> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.</p> <p>The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <a href="http://www.hp.com/go/recyclers">http://www.hp.com/go/recyclers</a>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.</p> <p>Global Citizenship Report<br/> <a href="http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html">http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html</a><br/>         Eco-label certifications<br/> <a href="http://www8.hp.com/us/en/hp-information/environment/ecolabels.html">http://www8.hp.com/us/en/hp-information/environment/ecolabels.html</a><br/>         ISO 14001 certificates:<br/> <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf</a><br/>         and<br/> <a href="http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf">http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf</a></p> |

### Features

#### **SERVICE AND SUPPORT**

##### **HP Presence Mini Conferencing PC**

On-site Warranty<sup>1</sup>: Three-year (3-3-3) limited warranty delivers three years of on-site, next business day<sup>2</sup> service for parts and labor and includes free support 24 x 7<sup>3</sup>. Three-year onsite and labor are not available in all countries. Service offers terms up to 5 years by choosing an optional HP Care Pack. To choose the right level of service for your HP product, visit HP Care Pack Central: <http://www.hp.com/go/cpc>.<sup>4</sup>

1. Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.
2. On-site service may be provided pursuant to a service contract between HP and an authorized HP third-party provider, and is not available in certain countries. Global service response times are based on commercially reasonable best effort and may vary by country.
3. Technical telephone support applies only to HP-configured and third-party HP qualified hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.
4. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit [www.hp.com/go/cpc](http://www.hp.com/go/cpc). HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

### Technical Specifications – Processors

#### PROCESSORS

##### Intel® 10th Generation Core™ Processors

HP Presence Mini Conferencing PC features this technology includes processors that are part of the Intel® Stable Image Platform Program (SIPP) designed to ensure the stability promise inherent in the value proposition of the HP Presence Mini Conferencing PC.

Intel® Advanced Management Technology (AMT) v12 – An advanced set of remote management features and functionality which provides network administrators the latest and most effective tools to remotely discover, heal, and protect networked client systems regardless of the system's health or power state. AMT 12 includes the following advanced management functions:

- Support for configuration of Intel AMT 12.0 new capabilities
- No reset after provisioning
- Support changes to BIOS table 130
- Support for Microsoft Windows Server 2012 R2
- Support for New Microsoft SQL Server Versions including Standard and Enterprise editions
- Support for Intel SSD Prop 2500 Series
- Support for Intel Enterprise Digital Fence
- The Platform Discovery Utility can now discover these additional Intel products:
- Intel SSD Pro 2500 Series; Enterprise Digital Fence
- Intel Identity Protection Technology with One Time Password; Public Key Infrastructure; Multi Factor Authentication
- Intel Identity Protection Technology with Intel WiGig
- New Profile Editor and Profile Editor Plugin Interface
- New Required Permissions for Solutions Framework



### Technical Specifications – Graphics

#### GRAPHICS

##### HP Presence Mini Conferencing PC

Intel® HD 630 Graphics (integrated)

|   |  |
|---|--|
| <b>DisplayPort™</b>                                   | Multimode capable; supports HDCP, Display Port Audio (2 streams), HBR2 link rates and Multi-Stream Technology for a maximum of 3 displays connected to any output controlled by Intel® Graphics  |
| <b>HDMI</b>   | Supports HDMI 2.0a features<br>Supports HDCP 2.3<br>Supports audio over HDMI   |
| <b>USB-C® DP Alt Mode Memory</b>                      | DisplayPort over the Presence Control Ports<br>The actual amount of maximum graphics memory can be >4GB. System memory is allocated for graphics as needed using Intel's Dynamic Video Memory Technology (DVMT), to provide an optimal balance between graphics and system memory use. |
| <b>Maximum Color Depth Graphics/Video API Support</b> | up to 10 bits/color<br>HEVC 10b Enc/Dec HW<br>VP9 10b Dec HW<br>HDR<br>Rec. 2020<br>DX12   |
| <b>Max. Resolution (HDMI)</b>                         | 4096x2160@30Hz   |
| <b>Max. Resolution (DP)</b>                           | 4096x2304@60Hz   |

### Technical Specifications – Storage

#### STORAGE

##### 256GB M.2 2280 PCIe NVMe Three Layer Cell SSD

|                                 |  |
|---------------------------------|--|
| <b>Drive Weight</b>             | <10g                                     |
| <b>Capacity</b>                 | 256GB                                    |
| <b>Height</b>                   | 2.38mm                                   |
| <b>Length</b>                   | 80mm                                     |
| <b>Width</b>                    | 22mm                                     |
| <b>Interface</b>                | PCIe Gen3                                |
| <b>Maximum Sequential Read</b>  | Up to 2700MB/s                           |
| <b>Maximum Sequential Write</b> | Up to 1000MB/s                           |
| <b>Logical Blocks</b>           | 500,118,192                              |
| <b>Operating Temperature</b>    | 0° to 70°C (32° to 158°F) [ambient temp] |
| <b>Features</b>                 | APST; ASPM L1.2; NVME spec 1.2           |

**NOTE:** For hard drives and solid state drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36 GB (for Windows) of system disk is reserved for the system recovery software.

#### NETWORKING AND COMMUNICATIONS

| <b>Intel® I219-LM 1 Gigabit Network Connection LOM (vPro®)</b> |   |
|--|---|
| <b>Connector</b>   | RJ-45   |
| <b>System Interface</b>  | PCI (Intel proprietary) + SMBus   |
| <b>Data rates supported</b>                                    | 10 Mbit/s operation (10BASE-T; IEEE 802.3i; IEEE 802.3 clauses 13-14)<br>100 Mbit/s operation (100BASE-TX; IEEE 802.3u; IEEE 802.3 clauses 21-30)<br>1000 Mbit/s operation (1000BASE-T; IEEE 802.3ab; IEEE 8023 clauses 40)<br>Auto-Negotiation (Automatic Speed Selection)<br>Full Duplex Operation at all Speeds, Half Duplex operation at 10 and 100 Mbit/s          |
| <b>IEEE Compliance</b>   | IEEE 802.1p QoS (Quality of Service) Support<br>IEEE 802.1q VLAN support<br>IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable)<br>IEEE 802.3az EEE (Energy Efficient Ethernet)   |
| <b>Performance</b>   | TCP/IP/UDP Checksum Offload (configurable)<br>Protocol Offload (ARP & NS)<br>Large send offload and Giant send offload<br>Receiving Side Scaling (Hash Mode Only)<br>Jumbo Frame 9K   |
| <b>Power consumption</b>                                       | Cable Disconnection: 25mW<br>100Mbps Full Run: 450mW<br>1000bp Full Run: 1000mW<br>WoL Enable(S3/S4/S5): 50mW<br>WoL Disable(S3/S4/S5): 25mW  |
| <b>Power Management</b>  | ACPI compliant – multiple power modes<br>Situation-sensitive features reduce power consumption<br>Advanced link down power saving for reducing link down power consumption  |
| <b>Management Interface</b>                                    | Auto MDI/MDIX Crossover cable detection   |
| <b>IT Manageability</b>  | Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame);<br>Wake-on-LAN from off (Magic Packet only)<br>PXE 2.1 Remote Boot<br>Statistics Gathering (SNMP MIB II, Ethernet-like MIB, Ethernet MIB (802.3x, clause 30))<br>Comprehensive diagnostic and configuration software suite<br>Virtual Cable Doctor for Ethernet cable status |
| <b>Security &amp; Manageability</b>                            | Intel® vPro® support with appropriate Intel® chipset components   |

### Technical Specifications – Networking and Communications

| <b>Intel Wi-Fi 6 AX201 + BT5 (802.11ax 2x2, vPro®, supporting gigabit file transfer speeds)<sup>1</sup></b> |  |
|---|--|
| <b>Wireless LAN Standards</b>   | <ul style="list-style-type: none"> <li>IEEE 802.11a</li> <li>IEEE 802.11b</li> <li>IEEE 802.11g</li> <li>IEEE 802.11n</li> <li>IEEE 802.11ac</li> <li>IEEE 802.11ax</li> <li>IEEE 802.11d</li> <li>IEEE 802.11e</li> <li>IEEE 802.11h</li> <li>IEEE 802.11i</li> <li>IEEE 802.11k</li> <li>IEEE 802.11r</li> <li>IEEE 802.11v</li> </ul>   |
| <b>Interoperability</b>   | Features Wi-Fi 6 technology  |
| <b>Frequency Band</b>   | <ul style="list-style-type: none"> <li>802.11b/g/n/ax                             <ul style="list-style-type: none"> <li>• 2.402 – 2.482 GHz</li> </ul> </li> <li>802.11a/n/ac/ax                             <ul style="list-style-type: none"> <li>• 4.9 – 4.95 GHz (Japan)</li> <li>• 5.15 – 5.25 GHz</li> <li>• 5.25 – 5.35 GHz</li> <li>• 5.47 – 5.725 GHz</li> <li>• 5.825 – 5.850 GHz</li> </ul> </li> </ul>  |
| <b>Data Rates</b>   | <ul style="list-style-type: none"> <li>• 802.11b: 1, 2, 5.5, 11 Mbps</li> <li>• 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>• 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li> <li>• 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz)</li> <li>• 802.11ac: MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, ,80MHz &amp; 160MHz)</li> <li>• 802.11ax: MCS0 ~ MCS11, (1SS and 2SS) (20MHz, 40MHz, ,80MHz &amp; 160MHz)</li> </ul>   |
| <b>Modulation</b>   | Direct Sequence Spread Spectrum<br>OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024QAM   |
| <b>Security<sup>2</sup></b>   | <ul style="list-style-type: none"> <li>• IEEE compliant 64 / 128 bit WEP encryption for a/b/g mode only</li> <li>• AES-CCMP: 128 bit in hardware</li> <li>• 802.1x authentication</li> <li>• WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES.</li> <li>• WPA2 certification</li> <li>• WPA3 and WPA3 Enterprise</li> <li>• IEEE 802.11i</li> <li>• WAPI</li> </ul>   |
| <b>Network Architecture Models</b>  | Ad-hoc (Peer to Peer)<br>Infrastructure (Access Point Required)  |
| <b>Roaming</b>  | IEEE 802.11 compliant roaming between access points  |
| <b>Output Power<sup>3</sup></b>   | <ul style="list-style-type: none"> <li>• 802.11b: +18.5dBm minimum</li> <li>• 802.11g: +17.5dBm minimum</li> <li>• 802.11a: +18.5dBm minimum</li> <li>• 802.11n HT20(2.4GHz): +15.5dBm minimum</li> <li>• 802.11n HT40(2.4GHz): +14.5dBm minimum</li> <li>• 802.11n HT20(5GHz): +15.5dBm minimum</li> <li>• 802.11n HT40(5GHz): +14.5dBm minimum</li> <li>• 802.11ac VHT80(5GHz): +11.5dBm minimum</li> <li>• 802.11ac VHT160(5GHz): +11.5dBm minimum</li> <li>• 802.11ax HT40(2.4GHz): +10dBm minimum</li> <li>• 802.11ax VHT160(5GHz): +10dBm minimum</li> </ul> |
| <b>Power Consumption</b>  | <ul style="list-style-type: none"> <li>• Transmit mode: 2.0 W</li> </ul>   |

### Technical Specifications – Networking and Communications

|   |  |                                |
|---|--|--------------------------------|
|   | <ul style="list-style-type: none"> <li>• Receive mode: 1.6 W</li> <li>• Idle mode: (PSP) 180 mW (WLAN Associated)</li> <li>• Idle mode: 50 mW (WLAN unassociated)</li> <li>• Connected Standby: 10mW</li> <li>• Radio disabled: 8 mW</li> </ul>  |                                |
| <b>Power Management</b>   | ACPI and PCI Express compliant power management<br>802.11 compliant power saving mode  |                                |
| <b>Receiver Sensitivity<sup>4</sup></b>   | <ul style="list-style-type: none"> <li>•802.11b, 1Mbps: -93.5dBm maximum</li> <li>•802.11b, 11Mbps: -84dBm maximum</li> <li>• 802.11a/g, 6Mbps: -86dBm maximum</li> <li>• 802.11a/g, 54Mbps: -72dBm maximum</li> <li>• 802.11n, MCS07: -67dBm maximum</li> <li>• 802.11n, MCS15: -64dBm maximum</li> <li>• 802.11ac, MCS0: -84dBm maximum</li> <li>• 802.11ac, MCS9: -59dBm maximum</li> <li>•802.11ax, MCS11(HT40): -59dBm maximum</li> <li>•802.11ax, MCS11(VHT160): -58.5dBm maximum</li> </ul> |                                |
| <b>Antenna type</b>   | High efficiency antenna with spatial diversity, mounted in the display enclosure<br><br>Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications  |                                |
| <b>Form Factor</b>  | PCI-Express M.2 MiniCard with CNVi Interface   |                                |
| <b>Dimensions</b>   | 1. Type 2230: 2.3 x 22.0 x 30.0 mm<br>2. Type 1216: 1.67 x 12.0 x 16.0 mm  |                                |
| <b>Weight</b>   | 1. Type 2230: 2.8g<br>2. Type 126: 1.3g  |                                |
| <b>Operating Voltage</b>  | 3.3v +/- 9%  |                                |
| <b>Temperature</b>  | Operating  | 14° to 158° F (-10° to 70° C)  |
|   | Non-operating  | -40° to 176° F (-40° to 80° C) |
| <b>Humidity</b>   | Operating  | 10% to 90% (non-condensing)    |
|   | Non-operating  | 5% to 95% (non-condensing)     |
| <b>Altitude</b>   | Operating  | 0 to 10,000 ft (3,048 m)       |
|   | Non-operating  | 0 to 50,000 ft (15,240 m)      |
| <b>LED Activity</b>   | LED Amber – Radio OFF; LED White – Radio ON  |                                |
| <b>HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2 Wireless Technology</b> |  |                                |
| <b>Bluetooth<sup>®</sup> Specification</b>  | 4.0/4.1/4.2/5.0/5.1/5.2 Compliant  |                                |
| <b>Frequency Band</b>   | 2402 to 2480 MHz   |                                |
| <b>Number of Available Channels</b>   | Legacy: 0~79 (1 MHz/CH)<br>BLE: 0~39 (2 MHz/CH)  |                                |
| <b>Data Rates and Throughput</b>  | Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps<br>BLE: 1 Mbps data rate; throughput up to 0.2 Mbps<br><br>Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels.<br>Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)  |                                |
| <b>Transmit Power</b>   | The Bluetooth <sup>®</sup> component shall operate as a Class II Bluetooth <sup>®</sup> device with a maximum transmit power of +9.5 dBm for BR and EDR.   |                                |
| <b>Power Consumption</b>  | Peak (Tx) 330 mW<br>Peak (Rx) 230 mW<br>Selective Suspend 17 mW  |                                |
| <b>Bluetooth<sup>®</sup> Software Supported Link Topology</b>                           | Microsoft Windows Bluetooth <sup>®</sup> Software  |                                |

### Technical Specifications – Networking and Communications

|  |  |
|--|--|
| <b>Power Management</b>  | Microsoft Windows ACPI, and USB Bus Support  |
| <b>Certifications</b>  | FCC (47 CFR) Part 15C, Section 15.247 & 15.249   |
| <b>Power Management Certifications</b>   | ETS 300 328, ETS 300 826<br>Low Voltage Directive IEC950<br>UL, CSA, and CE Mark   |
| <b>Bluetooth Profiles Supported</b>  | BT4.1-ESR 5/6/7 Compliance<br>LE Link Layer Ping<br>LE Dual Mode<br>LE Link Layer<br>LE Low Duty Cycle Directed Advertising<br>LE L2CAP Connection Oriented Channels<br>Train Nudging & Interlaced Scan<br>BT4.2 ESR08 Compliance<br>LE Secure Connection- Basic/Full<br>LE Privacy 1.2 –Link Layer Privacy<br>LE Privacy 1.2 –Extended Scanner Filter Policies<br>LE Data Packet Length Extension<br>FAX Profile (FAX)<br>Basic Imaging Profile (BIP)2<br>Headset Profile (HSP)<br>Hands Free Profile (HFP)<br>Advanced Audio Distribution Profile (A2DP) |
| <b>Security &amp; Manageability</b>  | Intel® vPro® support with appropriate Intel® chipset components  |
| <p>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.</p> <p>2. Check latest software/driver release for updates on supported security features.</p> <p>3. 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.</p> <p>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).</p> |  |

### Technical Specifications – Input/Output Devices

#### I/O DEVICES

| <b>HP Wired Desktop 320K Keyboard (AMO only)</b> |                           |  |                               |                               |
|--|---------------------------|--|-------------------------------|-------------------------------|
| <b>Physical Characteristics</b>                  | Keys                      | 104, 105, 107,109 layouts  |                               |                               |
|  | Dimensions(L x W x H)     | 18.86 x 4.55 x 0.66 in (426.2 x 110.9 x 16.7 mm)   |                               |                               |
|  | Weight                    | 1.00 lb (452g)   |                               |                               |
| <b>Electrical</b>                                | Operating voltage         | 5 VDC, +/-5%   |                               |                               |
|  | Power consumption         | 50 mA Max (All LED on)   |                               |                               |
|  | System interface          | USB Port   |                               |                               |
|  | ESD                       | Contact Discharge: 8 KV Air Discharge: 15 KV (Class B)   |                               |                               |
|  | EMI - RFI                 | European Standard EN 55022: 2006+A1: 2007, Class B.<br>FCC/CFR 47 : Part 15 Class B  |                               |                               |
| <b>Mechanical</b>                                | Keycaps                   | 2.0mm +/-0.2mm at 120gf Key travel   |                               |                               |
| <b>Environmental</b>                             | Operating temperature     | 10° C to 90° C   |                               |                               |
|  | Non-operating temperature | -30° C to 95° C  |                               |                               |
|  | Operating humidity        | N/A  |                               |                               |
|  | Non-operating humidity    | 10% to 90% (non-condensing at ambient)   |                               |                               |
|  | Operating shock           | N/A  |                               |                               |
|  | Non-operating shock       | i. Half-Sine Shock – End-Use Handling, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Axis: X, Y, Z axis (all 6 faces) – sample normal mode of operation.<br>Number of shocks: 1 shock/face.<br>Pulse duration: < 3 ms<br>Velocity change: 50lps (inch-per-second)- 65lps desired.   |                               |                               |
|  |                           | ii. Trapezoidal Shock- Transportation Environment, Non-Operational<br>Sample size: 5pcs.<br>Condition: Sample power off.<br>Orientation: All six faces: Front, Rear, Left, Right, Bottom, and Top.<br>Configuration: As intended for shipment<br>Number of shocks: 1 shock/face.<br>Minimum faired acceleration: 30G's. Test also at 40 and 50G's to find margin.<br>Velocity change: 266lps (inch-per-second) for product mass (m)<br>20<m<40lbs. |                               |                               |
|  | Operating vibration       | <b>Frequency (Hz)</b>  | <b>Slope (dB/oct)</b>         | <b>PSD (g<sup>2</sup>/Hz)</b> |
| 5-350  |                           | 0  | 0.0001                        |                               |
| 350-500  |                           | -6   | -                             |                               |
| 500  |                           | -  | 0.00005                       |                               |
| (~0.21G <sub>rms</sub> )                         |                           |  |                               |                               |
| Total Test time: 10 minutes                      |                           |  |                               |                               |
| Non-operating vibration                          | <b>Frequency (Hz)</b>     | <b>Slope (dB/oct)</b>  | <b>PSD (g<sup>2</sup>/Hz)</b> |                               |



### Technical Specifications – Input/Output Devices

|                             |  |  |    |        |
|-----------------------------|--|--|----|--------|
|                             |  | 5.100  | 0  | 0.015  |
|                             |  | 100-137  | -6 | -      |
|                             |  | 137-350  | 0  | 0.008  |
|                             |  | 350-500  | -6 | -      |
|                             |  | 500  | -  | 0.0039 |
|                             | Drop (out of box)  | 76cm on carpet, six-drop sequence  |    |        |
|                             | Drop (in box)  | 10 times drop including 6 faces, one corner and 3 edges on rigid surface.<br>Drop Height: 91cm |    |        |
| <b>Approvals</b>            | CB, CE, FCC, ICES, EAC, NOM-NYCE SCT, RCM, BIS, VCCI, KC, BSMI |  |    |        |
| <b>Ergonomic compliance</b> | TUVGS  |  |    |        |

| <b>HP 125 USB-A Wired Keyboard (AMO only)</b> |                           |  |
|---|---------------------------|--|
| <b>Physical Characteristics</b>               | Keys                      | 104, 105 layout (depending upon country)             |
|   | Dimensions (L x W x H)    | 17.04 x 5.55 x 0.52 in (433 x 141 x 13.2 mm)         |
|   | Weight                    | 1.54 lb. (698g)                                      |
| <b>Electrical</b>                             | Operating voltage         | 5 VDC, +/-5%   |
|   | Power consumption         | 35mA (All LED on)                                    |
|   | System interface          | USB Type A plug connector                            |
|   | ESD                       | Contact Discharge: 8 KV Air Discharge: 15 KV         |
|   | EMI - RFI                 | Conforms to FCC rules for a Class B computing device |
|   | Microsoft® PC 99 - 2001   | Functionally compliant                               |
| <b>Mechanical</b>                             | Keycaps                   | Low-profile design                                   |
|   | Switch actuation          | 60±10g nominal peak force with tactile feedback      |
|   | Switch life               | 10 million keystrokes (Life tester)                  |
|   | Switch type               | Contamination-resistant switch membrane              |
|   | Key-leveling mechanisms   | For all double-wide and greater-length keys          |
|   | Cable length              | 6 ft. (1.8 m)  |
|   | Microsoft PC 99 - 2001    | Mechanically compliant                               |
| <b>Environmental</b>                          | Acoustics                 | 43-dBA maximum sound pressure level                  |
|   | Operating temperature     | 50° to 122° F (10° to 50° C)                         |
|   | Non-operating temperature | -22° to 140° F (-30° to 60° C)                       |
|   | Operating humidity        | 10% to 90% (non-condensing at ambient)               |
|   | Non-operating humidity    | 20% to 80% (non-condensing at ambient)               |
|   | Operating shock           | 40 g, six surfaces                                   |
|   | Non-operating shock       | 80 g, six surfaces                                   |
|   | Operating vibration       | 2-g peak acceleration                                |



### Technical Specifications – Input/Output Devices

|                             |  |   |
|-----------------------------|--|---|
|                             | Non-operating vibration                        | 4-g peak acceleration                         |
|                             | Drop (out of box)                              | 26 in (66 cm) on carpet, six-drop sequence    |
|                             | Drop (in box)                                  | 30 in (76.2 cm) on concrete, 16-drop sequence |
| <b>Approvals</b>            | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC |   |
| <b>Ergonomic compliance</b> | TUVGS  |   |
| <b>Kit contents</b>         | Keyboard, QSP                                  |   |
| <b>Warranty Card</b>        | Product Notice                                 |   |

| <b>HP Wired Desktop 320M Mouse (AMO only)</b> |                           |   |
|---|---------------------------|---|
| <b>Physical Characteristics</b>               | Keys                      | Left/right key  |
|   | Dimensions(L x W x H)     | 4.09 x2.50 x 1.40 in (103.8x 63.4 x 35.5 mm)  |
|   | Weight                    | 0.16 lb(72g)  |
| <b>Electrical</b>                             | Operating voltage         | 5 VDC, +/-0.25V   |
|   | Power consumption         | 100 mA Max  |
|   | System interface          | USB Port  |
|   | ESD                       | Contact Discharge: 8 KV Air Discharge: 15 KV (Class B)                              |
|   | EMI - RFI                 | European Standard EN 55022: 2006+A1: 2007, Class B.<br>FCC/CFR 47 : Part 15 Class B |
| <b>Mechanical</b>                             | Keycaps                   | 0.3mm key travel  |
|   | Key actuation             | 75±20g  |
|   | Key life                  | 1million cycles   |
|   | Key structure type        | Tact Switch   |
|   | Key-leveling mechanisms   | N/A   |
| <b>Environmental</b>                          | Operating temperature     | 10° to 90° C  |
|   | Non-operating temperature | -30° C to 95° C   |
|   | Operating humidity        | N/A   |
|   | Non-operating humidity    | 10% to 90% (non-condensing at ambient)  |
|   | Operating shock           | N/A   |

### Technical Specifications – Input/Output Devices

|                             |  |  |                       |                               |
|-----------------------------|--|--|-----------------------|-------------------------------|
|                             | Non-operating shock  | <p>i. Half-Sine Shock – End-Use Handling, Non-Operational<br/>                     Sample size: 5pcs.<br/>                     Condition: Sample power off.<br/>                     Axis: X, Y, Z axis (all 6 faces) – sample normal mode of operation.<br/>                     Number of shocks: 1 shock/face.<br/>                     Pulse duration: &lt; 3 ms<br/>                     Velocity change: 50lps (inch-per-second)- 65lps desired.</p> <p>ii. Trapezoidal Shock- Transportation Environment, Non-Operational<br/>                     Sample size: 5pcs.<br/>                     Condition: Sample power off.<br/>                     Orientation: All six faces: Front, Rear, Left, Right, Bottom, and Top.<br/>                     Configuration: As intended for shipment<br/>                     Number of shocks: 1 shock/face.<br/>                     Minimum faired acceleration: 30G's. Test also at 40 and 50G's to find margin.<br/>                     Velocity change: 266lps (inch-per-second) for product mass (m)<br/>                     20&lt;m&lt;40lbs.</p> |                       |                               |
|                             | Operating vibration  | <b>Frequency (Hz)</b>  | <b>Slope (dB/oct)</b> | <b>PSD (g<sup>2</sup>/Hz)</b> |
|                             |  | 5-350  | 0                     | 0.0001                        |
|                             |  | 350-500  | -6                    | -                             |
|                             |  | 500  | -                     | 0.00005                       |
|                             |  | (~0.21G <sub>rms</sub> )   |                       |                               |
|                             | Total Test time: 10 minutes                                      |  |                       |                               |
|                             | Non-operating vibration  | <b>Frequency (Hz)</b>  | <b>Slope (dB/oct)</b> | <b>PSD (g<sup>2</sup>/Hz)</b> |
|                             |  | 5.100  | 0                     | 0.015                         |
|                             |  | 100-137  | -6                    | -                             |
| 137-350                     |  | 0  | 0.008                 |                               |
| 350-500                     |  | -6   | -                     |                               |
|                             | 500  | -  | 0.0039                |                               |
| Drop (out of box)           | 76cm on carpet, six-drop sequence                                |  |                       |                               |
| Drop (in box)               | N/A  |  |                       |                               |
| <b>Approvals</b>            | CB, CE, FCC, cULus, ICES, EAC, NOM-NYCE SCT, RCM, VCCI, KC, BSMI |  |                       |                               |
| <b>Ergonomic compliance</b> | TUVGS  |  |                       |                               |

### Technical Specifications – Input/Output Devices

| <b>HP 125 USB-A Wired Mouse (AMO only)</b> |  |  |
|--|--|--|
| <b>Dimensions (H x L x W)</b>              | 4.21 x 2.64 x 1.52 in (107 x 67 x 38.7 mm) |  |
| <b>Weight</b>                              | 0.19lb (90g)                               |  |
| <b>Environmental</b>                       | Operating temperature                      | 50° to 122°F (10° to 50° C)                    |
|  | Non-operating temperature                  | -22° to 140°F (-30° to 60° C)                  |
|  | Operating humidity                         | 10% to 90% (non-condensing at ambient)         |
|  | Non-operating humidity                     | 20% to 80% (non-condensing at ambient)         |
|  | Operating shock                            | 50 g, 6 surfaces                               |
|  | Non-operating shock                        | 80 g, 6 surfaces                               |
|  | Operating vibration                        | 2 g peak acceleration                          |
|  | Non-operating vibration                    | 4 g peak acceleration                          |
| <b>Electrical</b>                          | Operating voltage                          | 5 VDC, +/-5%                                   |
|  | Power consumption                          | 12mA   |
| <b>Mechanical</b>                          | Connector                                  | USB 2.0  |
|  | Type                                       | 3D mouse (3 keys and wheel)                    |
|  | Resolution                                 | 800, 1200, 1600 DPI                            |
|  | Sensor                                     | Pixart PAN3606DL                               |
| <b>Tracking speed</b>                      | Tracking acceleration                      | 8G(max), 1G=9.8m/s <sup>2</sup>                |
|  | Cable length                               | 6 ft. (1.8 m)                                  |
|  | Color                                      | Jack Black                                     |
| <b>Regulatory approvals</b>                | Compliant                                  | UL, FCC, CE Mark, TUV GS, VCCI, BSMI, RCM, KCC |

### Technical Specifications – Audio/Multimedia

#### **AUDIO/MULTIMEDIA**

##### **Audio (from Center)**

|                                      |   |
|--------------------------------------|---|
| Type                                 | Integrated Mics and Speakers  |
| HD Stereo Codec                      | IMX8-Nano 4 Core DSP Processor (in center)  |
| Audio I/O Ports                      | Type C Dual Path Connection   |
| Internal Speaker Amplifier           | Up to 23W stereo class-D amplifier for internal speaker only.                         |
| Internal Analog to Digital converter | Ultra-low power Quad-Channel microphone ADC   |
| Sampling                             | Independent sampling rates for DAC's and ADC's; supports resolution at 24-bit; 48 kHz |
| Wavetable Syntheses                  | Yes - Uses OS soft wavetable  |
| Analog Audio                         | Yes (not supported)   |
| Internal Speaker                     | Yes   |

### Technical Specifications – Power

#### POWER

#### HP Presence Mini Conferencing PC/Presence Hub/Presence Control Plus Console

##### Unit Environment and Operating Conditions

|                                     |  |
|-------------------------------------|--|
| Temperature Range                   | Operating: 5°C ~35°C<br>Non-Operating: -40°C ~66°C   |
| Relative Humidity                   | Operating 5% to 90% relative humidity at max inlet temperature<br>Non-Operating 5% to 90% relative humidity at max inlet temperature |
| Maximum Altitude<br>(unpressurized) | Operating: 5000m<br>Non-operating: 50,000 ft. (15240 m)  |

|  |   |
|--|---|
| <b>External Power Supplies</b>                                 | 90W EPS, active PFC, 88% average efficiency at 115V & 89% at 230Vac   |
| <b>Operating Voltage Range</b>                                 | 90Vac~264Vac  |
| <b>Rated Voltage Range</b>                                     | 100Vac~240Vac   |
| <b>Rated Line Frequency</b>                                    | 50HZ~60HZ   |
| <b>Operating Line Frequency</b>                                | 47HZ~63HZ   |
| <b>Rated Input Current</b>                                     |   |
| <b>Rated Input Current with Energy Efficient* Power Supply</b> | 90W≤1.2A  |
| <b>DC Output</b>   | +19.5V  |
| <b>Current Leakage (NFPA 99: 2012)</b>                         | Less than 500 microamps of leakage current at 120 Vac with the ground wire disconnected, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1.<br>Less than 100 microamps of leakage current at 120 Vac with the ground wire intact with normal polarity, as required for Non-patient Electrical Appliances and Equipment used in a patient care facility or that contact patients in normal use. Per section 10.3.5.1. |
| <b>Power cord length</b>                                       | 6.0 ft. (1.83 m)  |
| <b>External Power Adapter</b>                                  | External power supply   |
| <b>Dimensions</b>  | 90W: 132 x 57 x 30 mm   |
| <b>Total Cord Length</b>                                       | 6.0 ft. (1.83 m)  |

### Technical Specifications – Power

#### HP Presence Control Console and Audio/Video Soundbar

|                                      |  |  |
|--------------------------------------|--|--|
| <b>AC Adaptor</b>                    |  | <b>65W</b>   |
| <b>Dimensions</b>                    |  | 3.543 x 2.008 x 1.122 in (9.0x5.1x2.85cm)  |
| <b>Weight</b>                        |  | 0.53 lb (240 g) max (Not including power cord. Power cord varies by country.)  |
| <b>Input</b>                         | <b>Input Efficiency</b>                    | Average Efficiency of 25%, 50%, 75%, 100% load condition with 115Vac/230Vac Spec:<br>5V : 81.5%<br>9V : 86.7%<br>12V : 88.0%<br>15V : 89.0%<br>20V : 89.0%   |
|                                      | <b>Input Frequency Range</b>               | 47-63Hz  |
|                                      | <b>Input AC current</b>                    | Max. 1.6 A at 90 Vac   |
| <b>Output</b>                        | <b>Output Power</b>                        | 5V/15W<br>9V/27W<br>12V/60W<br>15V/65W<br>20V/65W  |
|                                      | <b>DC Output</b>                           | 5V/9V/12V/15V/20V  |
|                                      | <b>Hold-up Time</b>                        | 100% load 5ms at 115 Vac input   |
|                                      | <b>Output Over Current Protection</b>      | < 8.0A   |
| <b>AC connector (Ac Inlet)</b>       |  | C6   |
| <b>DC Plug</b>                       |  | USB Type-C   |
| <b>Environmental Design</b>          | <b>Operating Temperature</b>               | 32°F to 95°F (0°to 35°C)   |
|                                      | <b>Non-operating (storage) Temperature</b> | -4°F to 185°F (-20°to 85°C)  |
|                                      | <b>Altitude</b>                            | 0 to 16,400 ft (0 to 5000m)  |
|                                      | <b>Humidity</b>                            | 20% to 95%   |
|                                      | <b>Storage Humidity</b>                    | 10% to 95%   |
| <b>EMI and Safety Certifications</b> |  | CE Mark - full compliance with LVD and EMC directives<br>Worldwide safety standards - IEC60950-1 and IEC62368-1 : 2018, EN62368-1:2014+A11, UL 62368-1<br>Agency approvals - C-UL-US, TUV/GS, TUV/PSE, EN55032 Class B, FCC Class B, CISPR32 Class B, CCC and CECP, CU(EAC), EAEU, KCC(Safety+EMC) and K-MEPS, NOM-001 and 029 NYCE, NRcan, NRCS, ISC, SEC, PSB, Argentina S-mark, Australia RCM, BIS, BSMI, UAE, UKCA DoC |

The power supply shall comply with harmonic input current requirements as detailed in EN61000-3-2 and JEIDA MITI standards. The harmonic input current requirements must be met under the following operating conditions:

Load Requirements: 50% and 100%

Input Voltage: 230Vac/50Hz.

For active power factor correction the power factor at 50% & 100% loads shall be greater than 0.9 over the entire nominal input voltage range (100-127VAC and 200-240VAC).

### Technical Specifications – Power

| Condition          | Standard Efficiency | 82/85/82% | 85/88/85% | 87/90/87% | 90/92/89% | Input Voltage |
|--------------------|---------------------|-----------|-----------|-----------|-----------|---------------|
| 10% of Rated Load  | -                   | 75%       | 81%       | 84%       | 86%       | 115Vac/60HZ   |
| 20% of Rated Load  | -                   | 82%       | 85%       | 87%       | 90%       | 115Vac/60HZ   |
| 50% of Rated Load  | -                   | 85%       | 88%       | 90%       | 92%       | 115Vac/60HZ   |
|                    | PF>0.9              | PF>0.9    | PF>0.9    | PF>0.9    | PF>0.95   |               |
| 100% of Rated Load | 70%                 | 82%       | 85%       | 87%       | 89%       | 115Vac/60HZ   |
|                    | PF>0.9              | PF>0.9    | PF>0.9    | PF>0.9    | PF>0.9    | 230Vac/50HZ   |

### Technical Specifications – Weights and Dimensions

#### WEIGHTS & DIMENSIONS

|  |  |
|--|--|
| <b>Mini PC Chassis (WxDxH)</b>   | 6.97 x 6.89 x 1.35 in<br>177 x 175 x 34 mm   |
| <b>Mini PC System Volume</b>   | 63.4 cu in<br>1.05L                          |
| <b>Mini PC System Weight</b>   | 3.13 lb<br>1.42 kg                           |
| <b>Box Dimensions (WxDxH)</b>  |  |
| <b>Platform box only</b>   | 11.1 x 22.7 x 9.7 in<br>281 x 576 x 246 mm   |
| <b>Platform box with See Camera in large box</b>   | 11.3 x 22.8 x 14.4 in<br>288 x 579 x 365 mm  |
| <b>Platform box with Audio Video Bar in large box</b>  | 11.2 x 40.9 x 14.8 in<br>284 x 1039 x 376 mm |
| <b>Product Kits Weights</b>  |  |
| <b>HP Presence Small Space Solution with Microsoft Teams Rooms</b>                               |  |
| Packaged Dimensions (LxWxH)  | 22.3 x 10.8 x 9.1 in (566 x 273 x 231 mm)    |
| Weight   | 11.02 lb (7.72 kg)                           |
| <b>HP Presence Small Space Solution Plus AI Camera with Microsoft Teams Rooms</b>                |  |
| Packaged Dimensions (LxWxH)  | 22.8 x 11.4 x 11.8 in (580 x 290 x 376 mm)   |
| Weight   | 25.84 lb (11.72 kg)                          |
| <b>HP Presence Small Space Solution Plus AI Video Bar with Microsoft Teams Rooms</b>             |  |
| Packaged Dimensions (LxWxH)  | 41.1 x 11.3 x 15.1 in (143 x 287 x 384 mm)   |
| Weight   | 35.64 lb (16.16 kg)                          |
| <b>HP Presence Medium Space Solution with Microsoft Teams Rooms</b>                              |  |
| Packaged Dimensions (LxWxH)  | 22.3 x 10.8 x 9.1 in (566 x 273 x 231 mm)    |
| Weight   | 21.21 lb (9.62 kg)                           |
| <b>HP Presence Medium Space Solution Plus AI Camera with Microsoft Teams Rooms</b>               |  |
| Packaged Dimensions (LxWxH)  | 22.8 x 11.4 x 14.8 in (580 x 290 x 376 mm)   |
| Weight   | 30.04 lb (13.62 kg)                          |
| <b>HP Presence Medium to Large Space Solution Plus AI Camera/Mics with Microsoft Teams Rooms</b> |  |
| Packaged Dimensions (LxWxH)  | 22.8 x 11.4 x 14.8 in (580 x 290 x 376 mm)   |
| Weight   | 30.86 lb (14 kg)                             |
| <b>HP Presence Large Space Solution with Microsoft Teams Rooms</b>                               |  |
| Packaged Dimensions (LxWxH)  | 22.3 x 10.8 x 9.1 in (566 x 273 x 231 mm)    |
| Weight   | 11.02 lb (7.72 kg)                           |



### Technical Specifications – Miscellaneous Features

#### MISCELLANEOUS FEATURES

##### Management Features

- Advanced Configuration and Power Management Interface (ACPI). Allows the system to wake from a low power mode. Controls system power consumption, making it possible to place individual cards and peripherals in a low-power or powered-off state without affecting other elements of the system.
- Intel® Wired for Management support; industry wide initiative to make Intel® architecture based PCs, servers and mobile computers more inherently manageable out-of-the-box and over the network
- Dual State Power Button; acts as both an on/off button and a suspend-to-sleep button

##### Serviceability Features

- Dual colored power LED on front of computer to indicate either normal or fault condition
- Diagnostic LED Explanation Table:
  - Power LED will blink red 2 to 5 times, then blink white 2 or more times, then repeat (with beep tones for each blink initially):
    - 2 red + 2 white User must provide file for BIOS recovery (USB storage typically)
    - 2 red + 3 white User must enter a key sequence to proceed with recovery by policy
    - 2 red + 4 white BIOS recovery is in progress
    - 3 red + 2 white Memory could not be initialized
    - 3 red + 3 white Graphics adaptor could not be found
    - 3 red + 4 white Power supply failure / not connected
    - 3 red + 5 white Processor not installed
    - 3 red + 6 white Current processor does not support an enabled feature
    - 4 red + 2 white Processor has exceeded its temperature threshold / system thermal shutdown
    - 4 red + 3 white System internal temperature has exceeded its threshold
    - 5 red + 2 white System controller firmware is not valid
    - 5 red + 3 white System controller detected BIOS is not executing
    - 5 red + 4 white BIOS could not complete initialization / PCA failure
    - 5 red + 5 white System controller rebooted the system after a health or recovery timer triggered
- HP PC Hardware Diagnostics UEFI:
  - This utility enables hardware level testing outside the operating system on many components. The diagnostics can be invoked by pressing F2 at POST, and is available as a download from HP Support
- System/Emergency ROM
- Flash ROM
- CMOS Battery Holder for easy replacement
- Flash Recovery with Video Configuration Record Software
- 5 Aux Power LED on System PCA
- Processor ZIF Socket for easy Upgrade
- Over-Temp Warning on Screen (Requires IM Agents)
- DIMM Connectors for easy Upgrade
- Clear CMOS Button
- NIC LEDs (integrated) (Green & Amber)
- Dual Color Power and HD LED - To Indicate Normal Operations and Fault Conditions
- Color coordinated cables and connectors
- Tool-less Hood Removal
- Front power switch
- System memory can be upgraded without removing the system board or any internal components
- Tool-less Hard Drive, CD & Diskette Removal
- Green Pull Tabs, and Quick Release Latches for easy Identification

### Technical Specifications – Miscellaneous Features

#### Additional Features

##### Mini Orientation

#### Description

Product can be oriented as either a desktop (horizontal) or a tower (vertical)\*

\*Requires optional stand.

##### Drive Lock

Implementation of the industry standard ATA Security feature set. When enabled, it prevents software access to user data on the drive until one or two user-defined passwords are provided.

##### Boot Sectors Protection

MBR and GPT sectors of the hard drive are critical to booting the operating system. By saving the MBR or GPT data (depending on the how the OS was installed), the BIOS will be able to monitor for changes and allow the user to override them with the backup copy at boot-up.

##### Drive Protection System

DPS Access through F10 Setup during Boot (for SATA hard drive only)

A diagnostic hard drive self- test. It scans critical physical components and every sector of the hard drive for physical faults and then reports any faults to the user. Running independently of the operating system, it can be accessed through a Windows-based diagnostics utility or through the computer's setup procedure. It produces an evaluation on whether the hard drive is the source of the problem and needs to be replaced.

The system expands on the Self-Monitoring, Analysis, and Reporting Technology (SMART), a continuously running systems diagnostic that alerts the user to certain types of failures.

##### SMART Technology (Self-Monitoring, Analysis and Reporting Technology)

Allows hard drives to monitor their own health and to raise flags if imminent failures were predicted.

##### SMART I - Drive Failure Prediction

Predicts failures before they occur. Tracks fault prediction and failure indication parameters such as re-allocated sector count, spin retry count, calibration retry count.

##### SMART II - Off-Line Data Collection

By avoiding actual hard drive failures, SMART hard drives act as "insurance" against unplanned user downtime and potential data loss from hard drive failure.

##### SMART III - Off-Line Read Scanning with Defect Reallocation

IOEDC: I/O Error Detection Circuitry

##### SMART IV - End-to-End CRC for hard drives

Detects errors in Read/Write buffers on HDD cache RAM

### After Market Options

#### AFTER MARKET OPTIONS

| <b>HP Presence Accessories</b>             | <b>Part Number</b> |
|--|--------------------|
| HP Presence Audio Video Bar                | 4V974AA            |
| HP Presence See 4K AI Camera               | 4V975AA            |
| HP Presence Talk Satellite Microphones (2) | 4V976AA            |
| HP Presence No Audio Control Center        | 4V978AA            |
| HP Presence 15m Type-C Cable Kit           | 4V972AA            |
| HP Presence 30m Type-C Cable Kit           | 4V973AA            |
| HP Presence Control Table Mount Kit        | 4V979AA            |
| HP Presence See Table Lock Kit             | 54N70AA            |
| HP Presence Control Table Wall Mount Kit   | 4V980AA            |

| <b>HP Large Format Displays</b>             | <b>Part Number</b> |
|---|--------------------|
| HP LD5513t Large Format Interactive Display | 50J08AA#AC3        |
| HP LD5513t Large Format Interactive Display | 518R8AA#AC3        |
| HP LD7513t Large Format Interactive Display | 518W7AA#AC3        |
| HP LD8613t Large Format Interactive Display | 50R18AA#AC3        |
| HP LD6502t Large Format Interactive Display | 518R4AA#AC3        |
| HP LD7502t Large Format Interactive Display | 518S1AA#AC3        |
| HP LD8502t Large Format Interactive Display | 50R15AA#AC3        |

| <b>Mini Accessories</b>   | <b>Part Number</b> |
|---|--------------------|
| HP Desktop Mini 90W Power Supply Kit                                  | L4R65AA            |
| HP Desktop Mini LockBox V2  | 3EJ57AA            |
| HP Desktop Mini Security/Dual VESA Sleeve v3 with Power Supply Holder | 13L68AA            |
| HP Desktop Mini Vertical Chassis Stand                                | G1K23AA            |
| HP Quick Release Bracket 2  | 6KD15AA            |

| <b>Data Storage Drives</b>           | <b>Part Number</b> |
|--------------------------------------|--------------------|
| HP PCIe NVME TLC 256GB SSD M.2 Drive | 1CA51AA            |

| <b>Input Devices</b>           | <b>Part Number</b> |
|--------------------------------|--------------------|
| HP Desktop Wired 320K Keyboard | 9SR37AA            |
| HP Desktop Wired 320M Mouse    | 9VA80AA            |
| HP Desktop Wired 125 Keyboard  | 266C9AA            |
| HP Desktop Wired 125 Mouse     | 265A9AA            |

### After Market Options

| <b>System Memory</b>    | <b>Part Number</b> |
|-------------------------|--------------------|
| HP 4GB DDR4-2666 SODIMM | 3TK86AA            |
| HP 8GB DDR4-2666 SODIMM | 3TK88AA            |
| HP 4GB DDR4-3200 SODIMM | 13L79AA            |
| HP 8GB DDR4-3200 SODIMM | 13L77AA            |

| <b>Security Devices</b>         | <b>Part Number</b> |
|---------------------------------|--------------------|
| HP Keyed Cable Lock 10mm        | T1A62AA            |
| HP Master Keyed Cable Lock 10mm | T1A63AA            |
| HP Sure Key Cable lock          | 6UW42AA            |

### Change Log

© Copyright 2022 HP Development Company, L.P.

The information contained herein is subject to change without notice. The only warranties for HP products are set forth in the express limited warranty statements accompanying such products. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Microsoft and Windows are registered trademarks or trademarks of Microsoft Corporation in the U.S. and/or other countries. Intel, Celeron, Core, Pentium are registered trademarks or trademarks of Intel Corporation in the U.S. and/or other countries. Bluetooth<sup>®</sup> is a trademark of its proprietor, used by HP, Inc. under license. USB Type-C<sup>®</sup> and USB-C<sup>®</sup> are trademarks of USB Implementers Forum. NVIDIA, GeForce and NVS are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. AMD and Radeon are trademarks of Advanced Micro Devices, Inc. DisplayPort<sup>™</sup> and the DisplayPort<sup>™</sup> logo are trademarks owned by the Video Electronics Standards Association (VESA<sup>®</sup>) in the United States and other countries.

| Date            | Version History | Action | Description of Change  |
|-----------------|-----------------|--------|--|
| August 17, 2022 | From v1 to v2   | Update | 65W ac adaptor table added / Processors, Software, Graphics sections and Intel Wi-Fi 6 AX201 with HP Integrated Module with Bluetooth tables corrected |
|                 | From v2 to v3   |        |  |
|                 | From v3 to v4   |        |  |
|                 | From v4 to v5   |        |  |
|                 | From v5 to v6   |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |
|                 |                 |        |  |