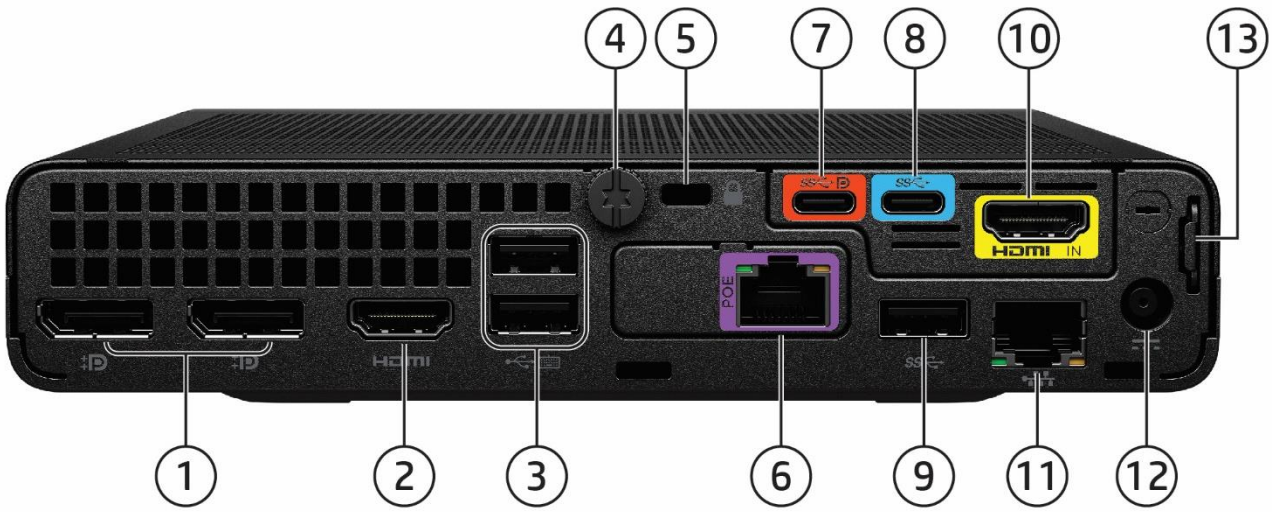
Overview

HP Mini IP Conferencing PC with Microsoft Teams Rooms

1. Type-C® SuperSpeed USB 20Gbps signaling rate port (charge support up to 5V/3A)
2. Type-A SuperSpeed USB 10Gbps signaling rate port
3. Type-A SuperSpeed USB 10Gbps signaling rate port (charge support up to 5V/1.5A)
4. Combo Audio Jack with CTIA and OMTP headset support
5. Dual-state power button
6. Hard drive activity light

Overview

HP Mini IP Conferencing PC with MS Teams Rooms



1. (2) Dual-Mode DisplayPort™ 1.4a (DP++)
2. HDMI port 2.1
3. (2) Type-A SuperSpeed USB 10Gbps signaling rate port (Supporting wake from S4/S5 with keyboard/mouse connected and enabled in BIOS)
4. Cover release thumbscrew
5. Standard cable lock slot (10 mm)
6. 2.5Gbps POE LAN to Controller (Up to 25W)
7. Type-C Gen1 10 Gbps w/DisplayPort™ Alt Mode
8. Type-C Gen1 SuperSpeed USB 10Gbps (Up to 15W)
9. Type-A SuperSpeed USB 10Gbps
10. HDMI Ingest port to Notebook
11. RJ45 Network Connector
12. Power Connector
13. Retractable Padlock Loop

Not Shown

Slots	(1) Internal M.2 2230 connector for WLAN (2) Internal M.2 SSD storage 2280 connector
Mounting	Support for - VESA Sleeve Standalone - Quick Release Bracket

AT A GLANCE

- MS Teams Rooms conferencing solution built on Windows IoT 64 Enterprise.
- HP developed and engineered UEFI V2.7 BIOS supporting security, manageability, and software image stability.
- Intel® Q670 chipset supporting Intel® 13th generation Core™ processors, featuring integrated Intel® UHD Graphics and Intel® vPro® Technology (available with Core i7 13700T.
- Intel® Ethernet Connection I219LM GbE LOM integrated network connection.
- Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 Wireless Card.
- DDR5 Synchronous Dynamic Random Access Memory (SDRAM) (Transfer rates up to 4800 MT/s).
- Support for up to 4 monitors via two standard DisplayPort™ 1.4 ports one integrated HDMI 2.1 port, and Type C.
- HDMI Ingest, Type-C and DP-Alt Type-C for display.
- POE power and data supporting compatible controller or device
- Enhanced Security with HP Security Suite (Refer to Security Section for details).
- CCC
- TCO
- PC chassis and all internal components and modules are manufactured with low halogen content.
- One Year Limited Hardware warranty. (terms and conditions vary by country, certain restrictions and exclusions apply) See Warranty terms and conditions for details: https://support.hp.com/us-en/document/ish_9022084-8101342-16 Support options available for advanced parts replacement or onsite delivery for terms up to five years.
- Compliance with CE (Class B) / FCC (Class B) / /UL62368-1) / CAN/CSA C22.2 No. 62368-1:19/ ICES-003 / CCC / VCCI (Class B) / KCC (Class B).

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

Features

PRODUCT NAME

HP Mini IP Conferencing PC with MS Teams Rooms

OPERATING SYSTEM

Preinstalled Windows 11 IoT 64 Enterprise Collaboration

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.

COLLABORATION SOFTWARE

Microsoft Teams Rooms/ 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

Note*: Microsoft Teams Rooms Basic software is preinstalled; license activation required and includes core meeting experiences for up to 25 devices. A Pro license is sold separately and includes all Basic features plus the enhanced in-room meeting experiences, security and the Microsoft Teams Rooms Managed Services platform. Terms and conditions are subject to change. For more information, please visit Aka.ms/TeamsRoomsLicensing.

Features

CHIPSET

Intel® Q670

PROCESSORS

Intel® 13th Generation Core™ Processors
Intel® Core™ i7-13700T Processor with Intel® UHD Graphics 770 (P-core Max turbo frequency up to 4.8 GHz, up to 4.9 GHz with Intel® Turbo Boost Technology[1] ,30MB cache, 16 cores) 35W[2]. Supports Intel® vPro® Technology[3]

1. Intel® Turbo Boost technology requires a PC with a processor with Intel Turbo Boost capability. Intel Turbo Boost performance varies depending on hardware, software and overall system. See http://www.intel.com/technology/turboboost for more information.
2. 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 configuration measurement of higher performance.
3. Intel vPro® on this product requires a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or Wi-Fi 6E WLAN and TPM 2.0. Some functionality requires additional 3rd party software in order to run. Features of vPro® Essentials and Enterprise vary. See http://intel.com/vpro.

GRAPHICS

Integrated Intel® Graphics

Intel® UHD Graphics 770 integrated in 13th gen Core™ I7-13700T

STORAGE

M.2 PCIe NVMe Solid State Drives (SSD)

256GB M.2 2280 PCIe NVMe

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.

MEMORY

Memory Type

DDR5-4800 (Transfer rates up to 4800 MT/s), Max 16GB, 2 SO-DIMM

Memory Configuration

16GB (2x8GB)

NOTE: All memory slots are customer accessible / upgradeable.

Features

COMMUNICATIONS

Ethernet (RJ-45)

Intel® I219-LM 1 Gigabit Network Connection LOM (vPro)
Realtek RTL8125BG-CG POE

Wireless[1,2]

Intel® Wi-Fi 6E AX211 + Bluetooth 5.3 (802.11AX 2x2 vPro, supporting gigabit data rate[3])

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, and Windows 11 IoT to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 6E is supported.
2. The (product) does not operate under 6GHz band. The products are compatible with 6GHz and other routers, sold separately, and will operate in 2.4Ghz and 5GHz bands. The actual throughput depends on network condition and router configuration. 6GHz band support requires Windows 11 IoT.
3. Wi-Fi 6E 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.

SYSTEM SECURITY (HARDWARE/BIOS)

TPM 2.0 endpoint security controller (Infineon SLB9670) shipped with Windows 10. Common Criteria EAL4+ Certified. FIPS 140-2 Level 2 Certified.
Intrusion Sensor (integrated in the PCA, can be enabled/disabled through BIOS)
Support for chassis cable lock devices
Support for chassis padlocks devices
Optional USB Port Disable at factory (user configurable via BIOS)
Removable media write/boot control
Power-on password (via BIOS)
Setup password (via BIOS)

Features

PORTS

I/O Ports – Internal Ports

M.2 PCIe	(1) M.2 PCIe3 x1 2230 (for WLAN) (1) M.2 PCIe4 x4 2280 (for storage) (1) M.2 PCIe4 x4 2280 (for storage)

Standard User Accessible Ports

Type-A SuperSpeed USB 10 Gbps signaling rate port	2(front) 3 (rear)
Type-C® SuperSpeed USB 20Gbps signaling rate port	1 (front)
Type-C® SuperSpeed USB 10Gbps signaling rate port	2 (rear)
Video	2 DisplayPort™ 1.4a 1 HDMI 2.1 1 HDMI Ingest
Audio	1 Combo Audio Jack with CTIA and OMTP headset support (front)
I/O	POE 2.5Gbps LAN
I/O	Type-C SuperSpeed USB 10 Gbps signaling rate port
I/O	Type-C SuperSpeed USB 10 Gbps signaling rate port w/ Display port Alt Mode

USB SPECIFICATION AND MARKETING NAME MAPPING TABLE

Marketing Name	Technical Terminology
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
HP Collaboration PC with MS Teams Rooms (license required and sold separately)
HP Desktop Support Utilities
HP Notifications
HP Console Control
Poly Lens Room Manager
HP Audio Control

Manageability Features
HP Manageability Integration Kit (download)[1]
HP Driver Packs (download)
HP Client Catalog (download)
HP Client Management Script Library (download)
HP Image Assistant Gen5 (download)

Security Management
HP Sure Start Gen7[3]
HP Secure Erase[4]

BIOS
HP BIOSphere Gen6[5]
HP DriveLock & Automatic DriveLock
BIOS Update via Network
Absolute Persistence Module[6]
TPM 2.0 Embedded Security Chip (Common Criteria EAL4+ Certified) (FIPS 140-2 Level 2 Certified).

1. HP Manageability Integration Kit can be downloaded from https://www.hp.com/us-en/solutions/client-management-solutions.html.
3. HP Sure Start Gen7 is available on select HP PCs and requires Windows 10 and higher.
4. 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™.
5. HP BIOSphere Gen6 is available on select HP Pro and Elite PCs. See product specifications for details. Features may vary depending on the platform and configurations.
6. 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/.

UNIT ENVIRONMENT AND OPERATING CONDITIONS

General Unit Operating Guidelines

- 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: 50° to 95° F (10° to 35° C)[2] Non-operating: -22° to 149° F (-30° to 65° C)
Relative Humidity	Operating: 10% to 90% (non-condensing at ambient) Non-operating: 5% to 95% (non-condensing at ambient)
Maximum Altitude (unpressurized)	Operating: 5000m Non-operating: 50000ft (15240 m)

2. 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.

Features

ENVIRONMENTAL & INDUSTRY

Eco-Label Certifications & declarations	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: • IT ECO declaration • US Federal Energy Management Program (FEMP) • EPEAT® Gold registered in the United States. See http://www.epeat.net for registration status in your country. • TCO Certified • Commission Regulation (EC) No 617/2013 (ErP Lot 3)		
Sustainable Impact Specifications	• 50% post-consumer recycled plastic • Low halogen • Outside Box and corrugated cushions are 100% sustainably sourced and recyclable • Molded Paper Pulp Cushion inside box is 100% sustainably sourced and recyclable		
System Configuration	The configuration used for the Energy Consumption and Declared Noise Emissions data for the Desktop model is based on a "Typically Configured Desktop.		
Energy Consumption	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal (Short idle)	11.63 W	12.2 W	11.55 W
Normal Operation (Long idle)	3.35 W	3.42 W	3.31 W
Sleep	3.31 W	3.39 W	3.28 W
Off	0.82 W	0.83 W	0.81 W
Heat Dissipation*	**115VAC, 60Hz**	**230VAC, 50Hz**	**100VAC, 50Hz**
Normal Operation (Short idle)	39.7 BTU/hr	41.6 BTU/hr	39.4 BTU/hr
Normal Operation (Long idle)	11.4 BTU/hr	11.7 BTU/hr	11.3 BTU/hr
Sleep	11.3 BTU/hr	11.6 BTU/hr	11.2 BTU/hr
Off	2.8 BTU/hr	2.8 BTU/hr	2.8 BTU/hr
	NOTE: Heat dissipation is calculated based on the measured watts, assuming the service level is attained for one hour.		
Declared Noise Emissions (in accordance with ISO 7779 and ISO 9296)	Sound Power (L_{WAd}, bels)	Sound Pressure (L_{pAm}, decibels)	
Typically Configured – Idle	2.6	16	
Fixed Disk – Random writes	2.6	16	
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: 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 Batteries used in the product do not contain: Mercury greater the1ppm by weight Cadmium greater than 20ppm by weight Battery size: CR2032 (coin cell)		

Features

	Battery type: Lithium		
Additional Information	• This product is in compliance with the Restrictions of Hazardous Substances (RoHS) directive - 2011/65/EC. • This HP product is designed to comply with the Waste Electrical and Electronic Equipment (WEEE) Directive – 2002/96/EC. • This product is in compliance with California Proposition 65 (State of California; Safe Drinking Water and Toxic Enforcement Act of 1986). EPEAT® 2019 registered where applicable. Based on US EPEAT® registration according to IEEE 1680.1-2018 EPEAT®. EPEAT® status varies by country. Visit http://www.epeat.net for more information. • Plastics parts weighing over 25 grams used in the product are marked per ISO11469 and ISO1043. • This product contains a minimum of 35% post-consumer recycled plastic (by wt.); Including 10% ITE-derived post-consumer recycled plastic* • This product is 92.7% recycle-able when properly disposed of at end of life. ***NOTE:** Recycled plastic content percentage is based on the definition set in the IEEE 1680.1-2018 standard.		
Packaging Materials	**External:**	PAPER/Corrugated	545 g
		PAPER/Molded pulp	74 g
	Internal:	PLASTIC/Polyethylene low density	53 g
Material Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)		

Features

Packaging Usage	This product does not contain any of the following substances in excess of regulatory limits (refer to the HP General Specification for the Environment at http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/gse.pdf): • Asbestos • Certain Azo Colorants • Certain Brominated Flame Retardants – may not be used as flame retardants in plastics • Cadmium • Chlorinated Hydrocarbons • Chlorinated Paraffins • Formaldehyde • Halogenated Diphenyl Methanes • Lead carbonates and sulfates • Lead and Lead compounds • Mercuric Oxide Batteries • Nickel – finishes must not be used on the external surface designed to be frequently handled or carried by the user. • Ozone Depleting Substances • Polybrominated Biphenyls (PBBs) • Polybrominated Biphenyl Ethers (PBBEs) • Polybrominated Biphenyl Oxides (PBBOs) • Polychlorinated Biphenyl (PCB) • Polychlorinated Terphenyls (PCT) • Polyvinyl Chloride (PVC) – except for wires and cables, and certain retail packaging has been voluntarily removed from most applications. • Radioactive Substances • Tributyl Tin (TBT), Triphenyl Tin (TPT), Tributyl Tin Oxide (TBTO)
End-of-life Management and Recycling	HP Inc. offers end-of-life HP product return and recycling programs in many geographic areas. To recycle your product, please go to: http://www.hp.com/go/reuse-recycle or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/recyclers. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment. Global Citizenship Report http://www.hp.com/hpinfo/globalcitizenship/gcreport/index.html Eco-label certifications http://www8.hp.com/us/en/hp-information/environment/ecolabels.html ISO 14001 certificates: http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/PC_GBU_Product_Design_ISO_14K_Certificate.pdf and http://www.hp.com/hpinfo/globalcitizenship/environment/pdf/cert.pdf

Features

SERVICE AND SUPPORT

One year limited hardware warranty[1] delivers one year return to factory hardware parts replacement. See full warranty terms for details: https://support.hp.com/us-en/document/ish_9022084-8101342-16

Support services[2] are available on request. Poly+ offers 24 x 7[3] technical telephone support and advanced parts replacement. Available in one or multi–year terms up to five years. Onsite[4] options are also available. Contact your reseller or local sales rep for details.

1. Terms and conditions may vary by country. Certain restrictions and exclusions apply. Other warranty variations may be offered in your region.
2. Service levels and response times for HP Poly Support services may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, contact your reseller or local sales rep. 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.
3.Technical telephone support applies only to HP hardware and software. Toll-free calling and 24 x 7 support may not be available in some countries.
4. 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.

PROCESSORS

13th Generation Intel® Core™ Processors

All HP EliteDesk 800 G9 Business PC models featuring this technology include 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 Elite series G9 Desktop Business PC.

Intel® Management Engine (ME) v16 – 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 16 includes the following advanced management functions:

- Support for configuration of Intel ME 16.0 capabilities
- No reset after provisioning
- Support for Intel Enterprise Digital Fence
- The Platform Discovery Utility can now discover these additional Intel products:
  - Public Key Infrastructure
- Profile Editor and Profile Editor Plugin Interface
- Required Permissions for Solutions Framework

GRAPHICS

Intel® HD Graphics (integrated)	
VGA Controller	Integrated
DisplayPort™	Multimode capable; supports HDCP, DisplayPort™ Audio (2 streams), HBR2 link rates and Multi-Stream Technology for a maximum of 3 displays connected to any output controlled by Intel® Graphics
HDMI	Supports HDMI 2.1 features Supports HDCP 2.3 Supports audio over HDMI
Memory	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.
Maximum Color Depth	up to 16 bits/color
Graphics/Video API Support	HEVC 10b Enc/12b Dec HW VP9 12b Dec HW HDR Rec. 2020 DX12
Max. Resolution (HDMI)	4096 x 2160@60Hz
Max. Resolution (DP)	4096 x 2160@60Hz

STORAGE

256GB M.2 2280 PCIe NVMe SSD

Capacity	256 GB
Interface	PCIE Gen4x4
Maximum Sequential Read	2000MB/s ±10%
Maximum Sequential Write	900 MB/s ±10%
Logical Blocks	500,118,192
Features	TRIM; L1.2; Pyrite 2.0

NOTE: For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB (for Windows) is reserved for system recovery software.

NETWORKING AND COMMUNICATIONS

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

Technical Specifications – Networking and Communications

Realtek POE LAN	
Connector	RJ-45
System Interface	PCI Express 2.1
Data rates supported	Integrated 10M BASE-Te and 100/1000M/2.5G BASE-T 802.3 compatible transceiver 2.5G Lite (1G data rate) mode
IEEE Compliance	IEEE 802.1p QoS (Quality of Service) Support IEEE 802.1q VLAN support IEEE 802.3x Flow Control (IEEE 802.3 clauses 31-32; configurable) IEEE 802.3az EEE (Energy Efficient Ethernet)
Power consumption	Cable Disconnection: 39.9mW 2500Mbps Full Run: 684mW 100Mbps Full Run: 257mW 1000bp Full Run: 409mW WoL Enable(S3/S4/S5): 3.3mW WoL Disable(S3/S4/S5): 1.4mW
Power Management	ACPI compliant – multiple power modes Supports power down/link down power saving/PHY disable mode
Management Interface	Auto MDI/MDIX Crossover cable detection
IT Manageability	Wake-on-LAN from modern standby or sleep state (Magic Packet and Microsoft Wake-Up Frame); Wake-on-LAN from off (Magic Packet only)

Intel® AX211 Wi-Fi 6E* +Bluethoot® 5.3 M.2 vPro® 160MHz CNVi WW WLAN[1]	
Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac IEEE 802.11ax IEEE 802.11d IEEE 802.11e IEEE 802.11h IEEE 802.11i IEEE 802.11k IEEE 802.11r IEEE 802.11v
Interoperability	Wi-Fi certified
Frequency Band	802.11b/g/n/ax • 2.402 – 2.482 GHz 802.11a/n/ac/ax • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz • 5.955 – 6.415 GHz • 6.435 – 6.515 GHz • 6.535 – 6.875 GHz • 6.895 – 7.115 GHz
Data Rates	• 802.11b: 1, 2, 5.5, 11 Mbps • 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps • 802.11n: max 300Mbps • 802.11ac: 1733Mbps • 802.11ax: max 2.4Gbps
Modulation	Direct Sequence Spread Spectrum OFDM, BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM , 1024QAM
Security[2]	• IEEE and WiFi CERTIFIED 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • WPA3 certification • IEEE 802.11i • WAPI
Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
Roaming	IEEE 802.11 compliant roaming between access points

Output Power[3]	• 802.11b: +17dBm minimum • 802.11g: +16dBm minimum • 802.11a: +17dBm minimum • 802.11n HT20(2.4GHz): +14dBm minimum • 802.11n HT40(2.4GHz): +13dBm minimum • 802.11n HT20(5GHz): +14dBm minimum • 802.11n HT40(5GHz): +13dBm minimum • 802.11ac VHT80(5GHz): +10dBm minimum • 802.11ac VHT160(5GHz): +10dBm minimum • 802.11ax HE40(2.4GHz): +12dBm minimum • 802.11ax HE80(5GHz): +10dBm minimum • 802.11ax HE160(5GHz): +10dBm minimum
Power Consumption	• Transmit mode 2.0 W • Receive mode 1.6 W • Idle mode (PSP) 180 mW (WLAN Associated) • Idle mode 50 mW (WLAN unassociated) • Connected Standby 10mW • Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[4]	•802.11b, 1Mbps: -93.5dBm maximum •802.11b, 11Mbps: -84dBm maximum • 802.11a/g, 6Mbps: -86dBm maximum • 802.11a/g, 54Mbps: -72dBm maximum • 802.11n, MCS07: -67dBm maximum • 802.11n, MCS15: -64dBm maximum • 802.11ac, MCS0(VHT80): -84dBm maximum • 802.11ac, MCS9(VHT80): -59dBm maximum • 802.11ac, MCS9(VHT160): -58.5dBm maximum •802.11ax, MCS11(HE40): -57dBm maximum •802.11ax, MCS11(HE80): -54dBm maximum •802.11ax, MCS11(HE160): -53.5dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	1. Type 2230: 2.3 x 22.0 x 30.0 mm 2. Type 1216: 1.67 x 12.0 x 16.0 mm
Weight	1. Type 2230: 2.8g 2. Type 1216: 1.3g
Operating Voltage	3.3v +/- 9%
Temperature	Operating: 14° to 158° F (–10° to 70° C) Non-operating: –40° to 176° F (–40° to 80° C)

Humidity	Operating: 10% to 90% (non-condensing) Non-operating: 5% to 95% (non-condensing)
Altitude	Operating: 0 to 10,000 ft (3,048 m) Non-operating: 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED OFF – Radio ON
HP Integrated Module with Bluetooth® 4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Technology	
Bluetooth® Specification	4.0/4.1/4.2/5.0/5.1/5.2/5.3 Wireless Card Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy: 0~79 (1 MHz/CH) BLE: 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy: 3 Mbps data rate; throughput up to 2.17 Mbps BLE: 1 Mbps data rate; throughput up to 0.2 Mbps Legacy: Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy: Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 9.5 dBm for BR and EDR.
Power Consumption	Peak (Tx): 330 mW Peak (Rx): 230 mW Selective Suspend: 17 mW
Bluetooth® Software Supported Link Topology	Microsoft Windows Bluetooth Software
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950 UL, CSA, and CE Mark
Bluetooth® Profiles Supported	Bluetooth® 4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan Bluetooth® 4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP) Bluetooth® 5.3

	ESR9/10 Compliance LE Advertisement Extensions Channel Selection Algo Limited High Duty Cycle Non-Connectable Advertising 2Mbps LE LE Long Range

1. Wi-Fi 6E requires a Wi-Fi 6E router, sold separately, and Windows 11 IoT to function in the 6GHz band. Availability of public wireless access points limited. Wi-Fi 6E is backwards compatible with prior 802.11 specs. Available in countries where Wi-Fi 6E is supported.
2. Check latest software/driver release for updates on supported security features.
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.
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).

NOTE*: The (product) does not operate under 6GHz band. The products are compatible with 6GHz and other routers, sold separately, and will operate in 2.4Ghz and 5GHz bands. The actual throughput depends on network condition and router configuration. 6GHz band support requires Windows 11 IoT.

AUDIO/MULTIMEDIA

HP Mini IP Conferencing PC with MS Teams Rooms

Type	Integrated
HD Stereo Codec	Realtek ALC3252
Audio I/O Ports	Combo audio jack with CTIA and OMTP headset support
Internal Speaker Amplifier	2W class D mono amplifier for the internal speaker only. External speakers must be powered
Multi-streaming Capable	Playback multi-streaming can be enabled in the audio control panel to allow independent audio streams to be sent to/from the front and rear jacks or integrated speaker.
Sampling	Independent sampling rates for DAC's and ADC's; supports resolutions from 16 to 24-bit; 44.1 kHz to 192 kHz for DAC and 44.1 kHz to 192 kHz for ADC
Wavetable Syntheses	Yes - Uses OS soft wavetable
Analog Audio	Yes
# of Channels on Line-Out	Stereo (Left & Right channels)
Internal Speaker	Yes

POWER

Unit Environment and Operating Conditions

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

External Power Supplies	150W EPS, active PFC, 88% efficiency in 115Vac / 89% efficiency in 230Vac
80 PLUS Platinum	N/A
Operating Voltage Range	90Vac~264Vac
Rated Voltage Range	100Vac~240Vac
Rated Line Frequency	50HZ~60HZ
Operating Line Frequency	47HZ~63HZ
Rated Input Current	
Rated Input Current with Energy Efficient* Power Supply	90W≦1.7A 120W≦1.7A 150W≦2.5A 180W≦2.5A
DC Output	+19.5V

Current Leakage (NFPA 99: 2012)	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. 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.
Power cord length	6.0 ft. (1.83 m)[1,2]
External Power Adapter	External power
Dimensions	150W: 148 x 75.5 x 25.4mm
Total Cord Length	6.0 ft. (1.83 m)

1. Power cord length will be varied from different type of cords start from 1.8m.
2. The length of India power cord is 2.0m

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).

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

WEIGHTS & DIMENSIONS

Chassis (W x D x H)	6.97 x 6.89 x 1.35 in 177 x 175 x 34 mm
System Volume	63.4 cu in 1.05L
System Weight	3.13 lb 1.42 kg
Max Supported Weight (desktop orientation)	0
Stand Dimensions	160 x 117 x 18.5 mm
Packaging (W x D x H)	19.4 x 10.0 x 4.5 in (492 x 251 114 mm)
Shipping Weight	3.82kg 8.42lb

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
- 1 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 (For MT, SFF, and DM only)
- Green Pull Tabs, and Quick Release Latches for easy Identification

Technical Specifications – Miscellaneous Features

Additional Features	Description
Tower Orientation	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

Graphics Solutions	Part Number
HP HDMI Standard Cable Kit	T6F94AA
HP DisplayPort™ to HDMI True 4k Adapter	2JA63AA
HP Single Mini DisplayPort™ to DisplayPort™ Adapter Cable	2MY05AA

Desktop Mini Accessories	Part Number
HP Desktop Mini Port Cover v3	13L69AA
HP Desktop Mini Vertical Chassis Stand	G1K23AA
HP Desktop Mini v4+ VESA Sleeve - NEW AMO	99T54AA
HP Desktop Mini v4+ VESA Sleeve with Power Supply Holder - NEW AMO	99T55AA

Data Storage Drives	Part Number
HP PCIe NVME TLC M.2 256GB SSD	1CA51AA

System Memory	Part Number
HP 8GB DDR5-4800 SODIMM	4M9Y4AA

Security Devices	Part Number
HP Keyed Cable Lock 10mm	T1A62AA
HP Master Keyed Cable Lock 10mm	T1A63AA

Change Log

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Date	Version History	Action	Description of Change
	From v1 to v2		
	From v2 to v3		
	From v3 to v4		
	From v4 to v5		
	From v5 to v6		
	From v6 to v7		
	From v6 to v7		
	From v8 to v9		
	From v9 to v10		