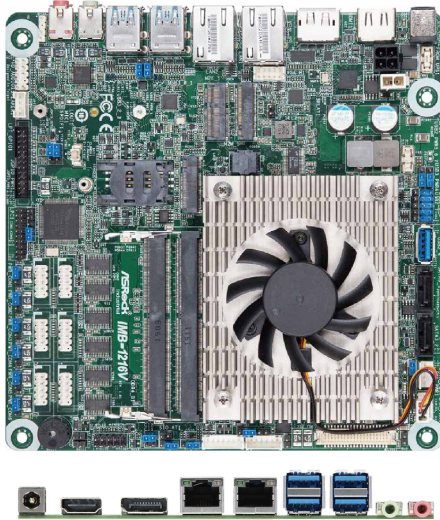




**ASRock**  
— Industrial —



# IMB-1216

Mini-ITX Motherboard

## KEY FEATURES

- Intel® 8<sup>th</sup> Gen (Whiskey Lake-U) Core™ MCP Processors
- 2 x 260-pin SO-DIMM up to 32GB DDR4 2400MHz (16GB per DIMM)
- 5 x USB 3.2 Gen1, 3 x USB 2.0, 1 x M.2 Key E, 1 x M.2 Key B, 1 x M.2 Key M, 6 x COM, 2 x SATA3
- 1 x Intel 1 Gigabit LAN, 1 x Realtek 1 Gigabit LAN
- Supports triple display, 1 x HDMI 2.0a, 1 x DP 1.2 or VGA, 1 x LVDS or eDP
- TPM 2.0 onboard IC, supports Intel® vPro, AMT (IMB-1216P/IMB-1216M)
- TPM Header (IMB-1216V/IMB-1216E)
- Supports Intel® RAID 0/1
- 12V~28V DC-In

## SPECIFICATIONS

### Form Factor

Dimensions	Mini-ITX (6.7-in x 6.7-in)
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### Processor System

CPU	Intel® 8th Gen (Whiskey Lake-U) Core™ MCP Processors IMB-1216P (i7-8665UE, QC, 1.7GHz, 15W) IMB-1216M (i5-8365UE, QC, 1.6GHz, 15W) IMB-1216V (i3-8145UE, DC, 2.2GHz, 15W) IMB-1216E (CELERON-4305UE, DC, 2.0GHz, 15W)
Chipset	MCP
Socket	N/A
BIOS	AMI SPI 128 Mbit

### Memory

Technology	Dual Channel DDR4 2400 MHz
Capacity	32 GB (16 GB per DIMM)
Socket	2 x 260-pin SO-DIMM

### Graphics

Controller	Intel® Gen9 Graphics DX 11/12
HDMI	HDMI 2.0a Max resolution up to 4096x2160@60Hz
DisplayPort	DisplayPort 1.2, DP++ Max resolution up to 4096x2304@60Hz
VGA	Max resolution up to 1920x1200@60Hz
LVDS	Dual channel 24 bit up to 1920x1200@60Hz
eDP	eDP 1.4 Max resolution up to 4096x2304@60Hz
DVI	N/A
MultiDisplay	Triple Display

### Expansion Slot

PCIe	N/A
PCI	N/A
mini-PCIe	N/A
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB2.0 and CNVi for Wireless 1 x M.2 (Key B, 3042) with PCIe x1, USB 3.0 and UIM for 4G
SIM Socket	1 x Socket connected to M.2 Key_B

### Audio

Interface	Realtek ALC887, High Definition Audio. Line-out, Mic-in
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### Ethernet

Controller/ Speed	IMB-1216P/IMB-1216M LAN1: 1 x Intel I219LM with 10/100/1000 Mbps, supports AMT/vPro LAN2: 1 x Realtek RTL8111G/RTL8111H-CG with 10/100/1000 Mbps IMB-1216V/IMB-1216E LAN1: 1 x Intel I219V with 10/100/1000 Mbps LAN2: 1 x Realtek RTL8111G/RTL8111H-CG with 10/100/1000 Mbps
Connector	2 x RJ-45

### Rear I/O

HDMI	1 x HDMI 2.0a
DisplayPort	1 x DP 1.2 (shared with internal VGA, by BIOS setting)
VGA	N/A
DVI	N/A
Ethernet	2 x 1 Gigabit LAN
USB	4 x USB 3.2 (Gen1)
Audio	2 (Mic-in, Line-out)
COM	N/A
PS2	N/A

### Internal Connector

USB	1 x USB 3.2 (Gen1) (1 x Type-A vertical con) 3 x USB 2.0 (2 x 2.54 pitch header)
COM	COM1, 2(RS232/422/485), COM3, 4, 5, 6 (RS-232)
Parallel	1 (shared with GPIO)
GPIO	8 x GPI, 8 x GPO (shared with LPT header)
TPM	IMB-1216P/IMB-1216M: TPM 2.0 IC onboard IMB-1216V/IMB-1216E: TPM Header
LVDS	1 (shared with eDP, by BIOS setting)
eDP	1 (shared with LVDS, by BIOS setting)
VGA	1 x Header (shared with DP port, by BIOS setting)
SATA PWR Output	1
Speaker Header	1

### Storage

M.2	1 x M.2 (Key M, 2242/2260/2280) with PCIe x4 and SATA3 for SSD
mSATA	N/A
SATA	2 x SATA3 (6Gb/s)
RAID	Intel® SATA RAID 0/1
eMMC	N/A

### Watchdog Timer

Output	From Super I/O to drag RESETCON#
Interval	256 Segments, 0, 1, 2, ..., 255sec

### Power Requirements

Input PWR	12V~28V DC-In with 4-pin plug PWR cable or DC Jack
Power On	AT/ATX Supported - AT : Directly PWR on as power input ready - ATX : Press button to PWR on after power input ready

### Environment

Operating Temp	0°C - 60°C
Storage Temp	-40° C - 85° C
Operating Humidity	5% - 90%
Storage Humidity	5% - 90%

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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