



# IMB-159

Mini-ITX Motherboard

## Key Features

- Intel® Gemini Lake Refresh SoC Processor
- Supports Dual Channel DDR4 SO-DIMM 2400, up to 8GB
- 1 x DisplayPort, 1 x VGA
- 1 x Dual Channel 24-bit LVDS/1 x eDP
- 4 x USB 3.0, 5 x USB 2.0, 1 x SATA3, 6 x COM
- 1 x PCIe x1, 1 x mini-PCIe, 1 x M.2 Key E , 1 x M.2 Key M
- 2 x Realtek LAN
- 1 x TPM Header
- 12V/19~28V DC-in

## Specifications

### Processor System

Dimensions	Mini-ITX (6.7-in x 6.7-in x 1.5-in)
CPU	Intel® Gemini Lake Refresh SoC Processor -IMB-159AR (N5030, QC, 1.10GHz, 6W) -IMB-159NR (N4120, QC, 1.10GHz, 6W)
Chipset	SoC

### Expansion Slot

PCIe	1 x PCIe x1
mini-PCIe	1 x full/half size with PCIe x1 and USB2.0
M.2	1x M.2 (Key E, 2230) with PCIe x1, CNVI and USB2.0 for Wireless 1x M.2 (Key M, 2242/2260/2280) with SATA3 for SSD

### Memory

Technology	Dual Channel DDR4 2400 MHz
Max	8 GB
Socket	2 x SO-DIMM

### Graphics

Controller	Intel HD Graphics
VGA	Supports max resolution up to 1920 x 1200
DVI	N/A
LVDS	Dual Channel 24-bit, max resolution up to 1920 x 1200@60Hz
eDP	Max resolution up to 4096 x 2160@60Hz
HDMI	N/A
DisplayPort	Max resolution up to 4096 x 2160@60Hz
Multi Display	Triple Display

### Ethernet

Controller/ Speed	2 x Realtek RTL8111G/RTL8111H-CG with 10/100/1000 Mbps
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### Rear I/O

VGA	1
DVI	N/A
HDMI	N/A
DisplayPort	1
Ethernet	2
USB	4 x USB 3.0
Audio Jack	2 (Mic-in, Line-out)
Serial	N/A
PS/2	N/A

### Internal Connector

USB	5 x USB 2.0 (2 x header, 1 x Type A)
LVDS	1 (shared with eDP, auto detect)
eDP	1 (shared with LVDS, auto detect)
VGA	1 (shared with VGA Con.)
Serial	2 x COM (RS-232/422/485), 4 x COM(RS-232)
SATA	1 x SATA3 (6.0Gb/s)
Parallel	1 (shared with GPIO)
GPIO	8 x GPI, 8 x GPO
SATA PWR Output Con	1
Speaker Header	1
TPM	1 x header

### Watchdog Timer

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

### Power Requirements

Input PWR	12V/19V~28V DC-in
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 Temperature	0°C – 60°C
Storage Temperature	-40°C – 85°C

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