



IMB-159

Mini-ITX Motherboard

Key Features

- Intel Gemini Lake 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, 7 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) |
| CPU | Intel Gemini Lake SoC Processor (N5000,QC,1.10GHz,6W) (N4100,QC,1.10GHz,6W) (N4000,DC,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

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|---------------|--|
| 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

| | |
|------------|----------------------|
| Interface | 10/100/1000 Mbps |
| Controller | 2 x Realtek RTL8111H |

Rear I/O

| | |
|-------------|------------------------|
| VGA | 1 |
| DVI | N/A |
| HDMI | N/A |
| DisplayPort | 1 |
| Ethernet | 2 |
| USB | 4 x USB3.0, 2 x USB2.0 |
| Audio Jack | 2 (Mic-in, Line-out) |
| Serial | N/A |
| PS/2 | N/A |

Internal Connector

| | |
|---------------------|---|
| USB | 5 x USB2.0 (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 |