



# IMB-156

Mini-ITX Motherboard

## KEY FEATURES

- Intel® Apollo Lake SoC Processor
- 2 x 204-pin SO-DIMM up to 16GB DDR3L 1866 MHz (8GB per DIMM)
- 1 x PCIe x1 (Gen2), 4 x USB 3.1 Gen1, 4 x USB 2.0, 1 x mini-PCIe, 1 x M.2 Key M, 1 x M.2 Key E, 6 x COM, 1 x SATA3
- 2 x Realtek 1 Gigabit LAN
- Supports triple display, 1 x HDMI 1.4b, 1 x VGA, 1 x LVDS
- TPM header
- 12V or +19V~+24V DC-In/ ATX PWR

## SPECIFICATIONS

### Form Factor

Dimensions	Mini-ITX (6.7-in x 6.7-in x 1.5-in)
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### Processor System

CPU	Intel® Apollo Lake SoC Processor IMB-156M (E3940, QC, 1.6 GHz, 9.5 W) IMB-156J (J3455, QC, 1.5 GHz, 10 W) IMB-156D (N4200, QC, 1.1 GHz, 6 W) IMB-156L (N3350, DC, 1.1 GHz, 6 W)
Chipset	SoC
Socket	N/A
BIOS	AMI SPI 128 Mbit

### Memory

Technology	Dual Channel DDR3L 1866 MHz
Capacity	16 GB (8 GB per DIMM)
Socket	2 x 204-pin SO-DIMM

### Graphics

Controller	Intel® Gen9 Graphics DX 12
HDMI	HDMI 1.4b Max resolution up to 4096 x 2160@24Hz
DisplayPort	N/A
VGA	Max resolution up to 1920 x 1200@60Hz
LVDS	Dual channel 24 bit up to 1920x1200@60Hz
eDP	N/A
DVI	N/A
MultiDisplay	Triple Display

### Expansion Slot

PCIe	1 x PCIe x1 (Gen2)
PCI	N/A
mini-PCIe	1 x Full size with PCIe x1 and shared USB 2.0
M.2	1 x Key E (2230) with PCIe x1 and shared USB 2.0 for Wireless

### Audio

Interface	Realtek ALC887/ALC897, High Definition Audio. Line-out, Mic-in
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### Ethernet

Controller/ Speed	2 x Realtek RTL8111G/RTL8111H-CG with 10/100/1000 Mbps
Connector	2 x RJ-45

### Rear I/O

HDMI	1 x HDMI 1.4b
DisplayPort	N/A
VGA	1
DVI	N/A
Ethernet	2 x 1 Gigabit LAN
USB	4 x USB 3.1 (Gen1)
Audio	2 (Mic-in, Line-out)
COM	3 x COM (RS-232/422/485)
PS2	1 x PS/2 combo

### Internal Connector

USB	4 x USB 2.0 (2 x 2.54 pitch header)
COM	3 x COM (RS232)
Parallel	1 (shared with GPIO)
GPIO	8 x GPI, 8 x GPO (shared with LPT header)
TPM	TPM Header
LVDS	1
eDP	N/A
VGA	N/A
SATA PWR Output	1
Speaker Header	1

### Storage

M.2	1 x Key M (2242/2260) with SATA3 for SSD
mSATA	N/A
SATA	1 x SATA3 (6Gb/s), SATA3_1 shared with M.2_Key M
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 or +19V~+24V DC-In/ ATX PWR
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%

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