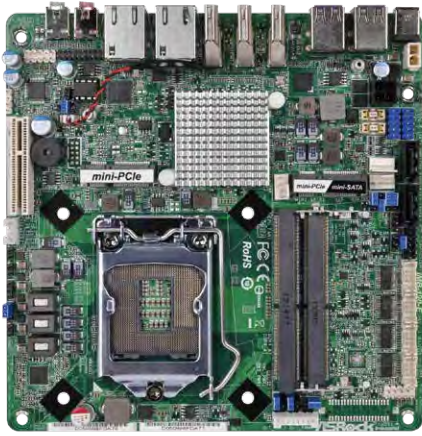


# IMB-190 / IMB-190-E

Mini-ITX Motherboard



## Spotlight Features

- Supports Intel® 7<sup>th</sup>/ 6<sup>th</sup> Gen (Kabylake-S/Skylake-S) Core™ Processors (Socket 1151)
- Supports Dual Channel DDR4 SO-DIMM 2133, up to 32GB
- 3 x HDMI, 1 x LVDS (IMB-190)
- 3 x HDMI, 1 x eDP (IMB-190-E)
- 4 x USB 3.0, 4 x USB 2.0, 2 x SATA3, 4 x COM
- 2 x Mini-PCIe, 1 x PCIe x4, 1 x mSATA
- 2 x Intel® LAN
- 1 x TPM Header
- 12V / 19~24V DC-in

## Specifications

Processor System	IMB-190	IMB-190-E
Dimensions	Mini-ITX (6.7-in x 6.7-in)	
CPU	Supports Intel® 7 <sup>th</sup> / 6 <sup>th</sup> Gen (Kabylake-S/Skylake-S) Core™ Processors (Socket 1151)	
Chipset	Intel® Q170	

Expansion Slot	
PCIe	1 x PCIe x4
Mini-PCIe	1 x half size with PCIe x1 and USB2.0
M.2	N/A
mini-PCIe/ mSATA	1 x full size with PCIe x1, SATA3 and USB2.0

Memory	
Technology	Dual Channel DDR4 2133 MHz
Max.	32GB
Socket	2 x SO-DIMM

Graphics	
Controller	Intel® Gen9 Graphics DX 11/12, OGL4.3/4.4
VGA	Supports max resolution up to 1920 x 1200
LVDS	Supports Dual channel 24-bit co-lay with eDP, max resolution up to 1920 x 1200@60Hz
eDP	N/A
HDMI	HDMI1: Supports max resolution 4096 x 2160@60Hz HDMI2 & 3: Supports max resolution 4096 x 2160@30Hz
DVI	N/A
DisplayPort	N/A
Multi Display	Triple Display

Ethernet	
Interface	10/100/1000 Mbps
Controller	1 x Intel® I210 1 x Intel® I219LM

Rear I/O	IMB-190	IMB-190-E
VGA	N/A	
DVI	N/A	
HDMI	3	
DisplayPort	N/A	
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	4 x USB 2.0	
LVDS	1	N/A
eDP	N/A	1
VGA	1	N/A
Serial	2 x COM (RS-232), 2 x COM (RS-232/422/485)	
SATA	2 x SATA3	
Parallel	N/A	
GPIO	4 x GPI + 4 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/min

Power Requirements	
Input PWR	12V / 19~24V DC-in (DC Jack / 4-pin ATX PWR Con)
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