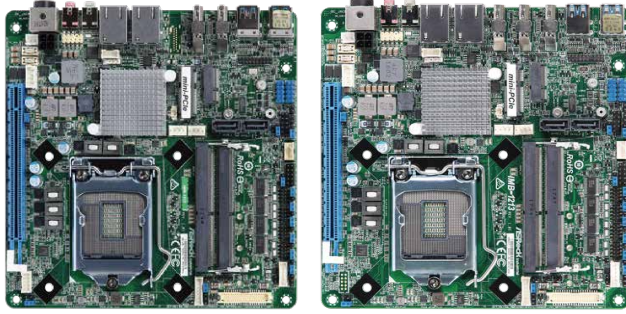# IMB-1212/ IMB-1213

Mini-ITX Motherboard

IMB-1212

IMB-1213

KEY FEATURES

· Intel® 9th/ 8th Gen (Coffee Lake-S) Core™ Processors with H310 chipset (IMB-1212)

· Intel® 9th/ 8th Gen (Coffee Lake-S) Core™ Processors with Q370 chipset (IMB-1213)

· 2 x 260-pin SO-DIMM up to 64GB* DDR4 2666MHz

· 1 x PCIe x16 (Gen3), 4 x USB 3.1 Gen1, 4 x USB 2.0, 1 x mini-PCIe, 1 x M.2 Key E, 1 x M.2 Key M, 4 x COM, 2 x SATA3

· 2 x Intel 1 Gigabit LAN

· Supports dual display, 2 x DP 1.2, 1 x VGA, 1 x LVDS or eDP (IMB-1212)

· Supports triple display, 3 x DP 1.2, 1 x LVDS or eDP (IMB-1213)

· TPM header (IMB-1212)

· TPM 2.0 onboard IC, supports Intel® vPro, AMT, RAID 0/1 (IMB-1213)

· 12V/19~28V DC-In

SPECIFICATIONS

Form Factor	IMB-1212	IMB-1213
Dimensions	Mini-ITX (6.7-in x 6.7-in)	

Processor System

CPU	Intel® 9th/ 8th Gen (Coffee Lake-S) Core™ Processors,up to 65W *The Performance of CPUs over 65W will be limited due to power design.	
Chipset	Intel® H310	Intel® Q370
Socket	LGA1151	
BIOS	AMI SPI 128 Mbit	

Memory

Technology	Dual Channel DDR4 2666 MHz
Capacity	64GB* * Intel Core i9/i7/i5 CPUs support up to 64GB (32GB per DIMM) Intel Core i3/Pentium/Celeron CPUs support up to 32GB (16GB per DIMM)
Socket	2 x 260-pin SO-DIMM

Graphics

Controller	Coffee Lake integrated graphics	
HDMI	N/A	
DisplayPort	DisplayPort 1.2, DP++ Max resolution up to 4096x2304@60Hz	
VGA	Max resolution up to 1920x1200@60Hz	N/A
LVDS	Dual channel 24 bit up to 1920x1200@60Hz	
eDP	eDP 1.4 Max resolution up to 4096x2304@60Hz	
DVI	N/A	
MultiDisplay	Dual Display	Triple Display

Expansion Slot

PCIe	1 x PCIe x16 (Gen3)	1 x PCIe x16 (Gen3, Support riser card x8/x8, x8/x4/x4)
PCI	N/A	
mini-PCIe	1 x Full/Half size with PCIe x1 and USB 2.0	
M.2	1 x M.2 (Key E, 2230) with PCIe x1, USB 2.0 and CNVi for Wireless	

Audio

Interface	Realtek ALC887/897, High Definition Audio. Line-out,Mic-in

Ethernet

Controller/ Speed	LAN1: 1 x Intel® I219V with 10/100/1000 Mbps	LAN1: 1 x Intel® I219LM with 10/100/1000 Mbps, supports AMT/vPro
	LAN2: 1 x Intel® I210 with 10/100/1000 Mbps	
Connector	2 x RJ-45	

Rear I/O	IMB-1212	IMB-1213
HDMI	N/A	
DisplayPort	2 x DP 1.2	3 x DP 1.2
VGA	N/A	
DVI	N/A	
Ethernet	2 x 1 Gigabit LAN	
USB	4 x USB 3.1 (Gen1)	
Audio	2 (Mic-in, Line-out)	
COM	N/A	
PS2	N/A	

Internal Connector

USB	4 x USB 2.0 (2 x 2.54 pitch header)	
COM	COM3, 4(RS232/422/485) COM1, 2(RS232)	
Parallel	N/A	
GPIO	4 x GPI, 4 x GPO	
TPM	TPM Header	TPM 2.0 onboard IC
LVDS	1 (shared with eDP, by jumper setting)	
eDP	1 (shared with LVDS, by jumper setting)	
VGA	1	N/A
SATA PWR Output	1	
Speaker Header	1	

Storage

M.2	1 x M.2 (Key M, 2242/2260/ 2280) with SATA3 for SSD	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	N/A	Intel® SATA RAID 0/1

Watchdog Timer

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

Power Requirements

Input PWR	12V or 19~28V DC-In with 4-pin plug PWR cable or 4-pin 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	0ºC ~ 60ºC
Storage Temp	-40° C – 85° C
Operating Humidity	5% ~ 90%
Storage Humidity	5% ~ 90%