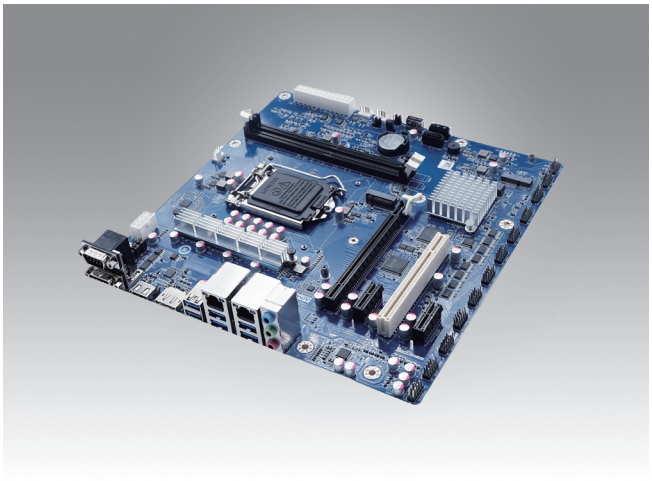
SIMB-686

LGA1200, Intel 10th/11th Gen Micro-ATX Motherboard



Features

- Intel® 10th/11th generation Core™ i9/i7/i5/i3 &Pentium/Celeron processor with H420E chipset
- Dual channel (Non-ECC) DDR4 2400/2666/2933 up to 64 GB
- Support HDMI,DP display
- 1 M.2 SATA SSD, 2 SATA 3.0, 6 USB 3.2,3 USB2.0, 1 2.5GbE,1 1GbE, 1 RS232/RS422/RS485 and 9 RS232
- 1 PCIe x16 and 2 PCIe x1, PCI x1 slots,1 M.2 E key
- Support TPM
- Supports Win10 / Win11

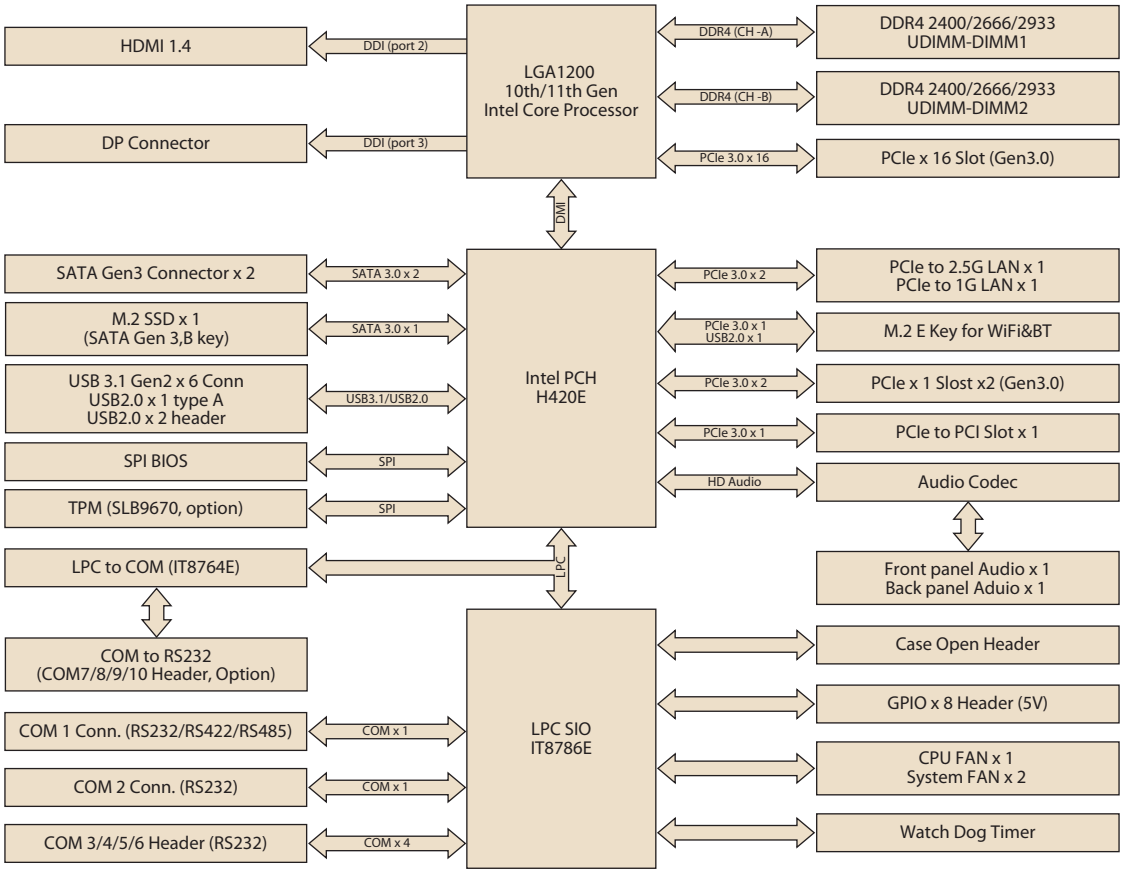
Specifications

Processor	CPU	Intel 10th/11th Core i9/i7/i5/i3/Pentium/Celeron processor
	TDP	125W
	Socket	LGA1200
	Chipset	Intel H420E
	BIOS	AMI EFI 128Mbit SPI
Memory	Technology	Dual channel DDR4 2400/2666/2933 MHz SDRAM (Non-ECC)
	Max. Capacity	64GB(32GB per slot)
	Socket	2 x 288-pin UDIMM
Graphics	Controller	Integrated Intel UHD Graphics
	HDMI1.4	1 x up to 4096 x 2160 @30Hz
	DP++	1 x up to 4096 x 2304 @60Hz
	Dual Display	HDMI+DP
Ethernet	Interface	10/100/1000/2500 Mbps
	LAN 1 Controller	Intel i219-V (1G)
	LAN 2 Controller	Intel i226-V (2.5G)
	Connector	2 x RJ-45
Expansion Slot	PCIe_1	Gen3 x16 slot, x16 signal
	PCIe_2	Gen3 x1 slot, x1 signal, compatible with X4 card
	PCI_3	1
	PCIe_4	Gen3 x1 slot, x1 signal, compatible with X4 card
Storage	SATA 3.0	2 (600MB/s per port)
	M.2 B Key	1 x M.2 B Key 2280/2242 (support B Key and B/M Key SSD, not support M Key), only support SATA (not support NVMe)
Rear I/O Connector	Serial	1 x RS-232, 1 x RS-232/422/485(Default RS-232)
	HDMI	1
	DisplayPort ++	1
	RJ-45	2
	USB 3.2(Gen1)	6
	HD Audio	1 (Line-in, Line-out, Mic-in)
Internal Connector	USB 2.0	3 (2 x USB2.0 via header, 1x vertical type A USB2.0)
	Serial	4 x RS-232,4 x RS-232(option)
	SATA 3.0	2
	M.2 E Key	1 (M.2 E key for WiFi&BT)
	CPU Fan	1
	System Fan	2
	Front Audio	1 (via header)
	GPIO	8-bit (5V)
	Case Open	1
	Front Power LED	1
	Front HDD LED	1
	Clear CMOS	1
Security	TPM (option)	On board TPM chip (infineon SLB 9670)
Watchdog Timer	Output	System reset
	Interval	Programmable 1-255 steps
Power	Power Type	ATX
	Power Connector	1 x 24-pin ATX, 1 x 8-pin ATX 12V
Environment	Operation Temperature	0 ~ 60° C (32 ~ 140° F)
	Non-Operation Temperature	40 ~ 85° C (-40 ~ 185° F)
	Operation Humidity	40° C@90% relative humidity, non-condensing
Physical Characteristics	Dimensions	244 x 244 mm (Micro-ATX)
Operating System	OS	Win 10&11

All product specifications are subject to change without notice.

Last updated: 15-Sep-2026

Block Diagram



Ordering Information

Part Number	Chipset	Memory	DP	HDMI	1GbE LAN	2.5GbE LAN	USB 3.2 Gen1	USB2.0	COM	M.2 B Key	M.2 E Key	SATA	PCI	PCIe x1	PCIe x16	TPM	ATX/AT Mode
SIMB-686-NP1A1	H420E	2	1	1	1	1	6	3	6+(4)	1	1	2	1	2	1	(1)	Support

() means BOM option

Packing List

Description	Quantity
I/O port bracket	1
Starup manual	1
China Rohs	1

Optional Accessories

Part Number	Description
1960053207N001	LGA1150 CPU cooler for CPU TDP 65W, 92.9 (W) x 92.9 (L) x 46 (H) mm
1960047669N001	C.L R3 I-LGA1156 S-95W 12V0.4A 95.0 x 95.0 x 69.37mm

Note 1: Purchasing SIMB-686's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with SIMB-686.
Note 2: 1960047669N001 cooler for 95~125W CPU is tested with SIMB-C400/EPC-B3000 chassis.

I/O View

