

ATX MB

AXMB-5120



FEATURES

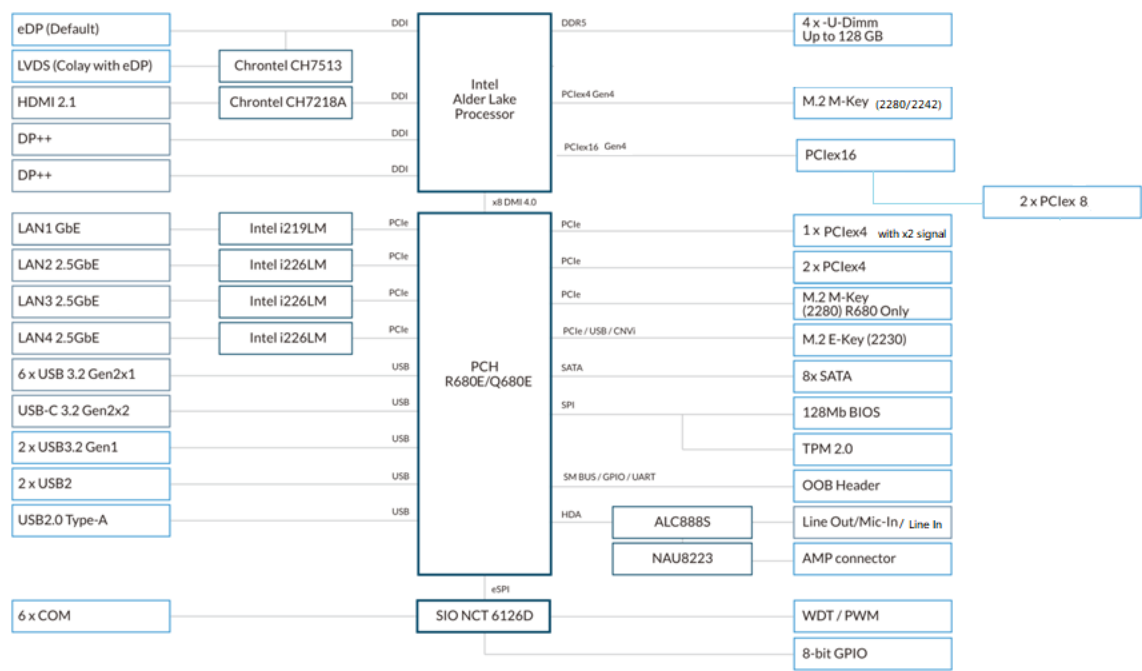
- Intel® 12th/13th/14th Gen. Core™ i Processors with Q670E/R680E chipset
- Dual PCIe x16 expansion slots for dual GPU cards
- 8 SATA (RAID 0, 1, 5, 10) supported by R680E/Q670E

SPECIFICATIONS

System	CPU	i9-13900E/ i9-13900TE	i7-13700E/ i7-13700TE	i5-13500E/ i5-13500TE	i3-13100E/ i3-13100TE	G7400E/ G7400TE	G6900E/ G6900TE
	Base Frequency	5.00 GHz	4.80 GHz	4.50 GHz	4.1 GHz	3.0 GHz	2.4 GHz
	Max Frequency	5.20 GHz	5.10 GHz	4.60 GHz	4.4 GHz	3.6 GHz	3.0 GHz
	Core Numbers	24/32	16/24	14/20	4/8	2/4	2/2
	Smart Cache	36MB	30MB	24MB	12MB	6MB	4MB
	CPU TDP	65W/35W	65W/35W	65W/35W	65W/35W	46W/35W	46W/35W
	Chipset	R680E/Q670E					
	BIOS	AMI UEFI 256Mbit					
Memory	Technology	Dual channel DDR5 4800MHz					
	Max. Capacity	128GB (up to 32GB per U-DIMM)					
	Socket	4 x 288 pin U-DIMM (ECC support for R680E PCH)					
Graphics	Controller	Intel® UHD Graphics 770 driven by Xe Architecture					
	Execution Units	32 EUs					
	Graphic Engine	OpenGL 4.6, DirectX 12, Vulkan 1.2 (Windows) Mesa 3D, Open GL 4.6, Vulkan 1.2 (Linux) HW Encode: 8K30 or 5K60 8b/10b 4:2:0 HEVC/VP9/SCC HW Decode: 8K60 12b 4:2:0 HEVC/VP9/SCC					
Audio	Controller	Realtek ALC888, High Definition Audio					
Expansion Slots	M.2	1 x M-Key 2242/2280 (PCIe Gen.4 x4)					
		1 x M-Key 2242/2280; support only w/ R680E (PCIe Gen.4 x4)					
		1 x E-Key 2230 (PCIe Gen.3 x1/USB 2.0/CNVi)					
	PCIe x16 (Gen.4)	1 or (2 x PCIe x8)					
Rear I/O	PCIe x4	2 x PCIe x4 (Gen.4) 1 x PCIe x2 (Gen.3)					
	Ethernet	LAN1: Intel® i219LM, up to 1000Mbps; LAN2~4: Intel® i226-LM, up to 2500Mbps					
	USB 3.2 Gen.2	6 x USB 3.2 Gen.2 x1 (Type A) 1 x USB 3.2 Gen.2 x2 (Type C)					
	Audio	Line-in, Line-out, Mic-in					
	Displays	1 x HDMI, up to 4K@60Hz 2 x DP++, up to 4K@60Hz					
Internal I/O	USB 3.2	2					
	USB 2.0	2(Pin Header 2x5P, 2.54mm pitch)					
	USB 2.0	1(Vertical USB type-A)					
	LVDS/eDP	1 (LVDS: Up to 2K@60Hz/eDP: Up to 2K@60Hz)					
	SATA III	8 (Up to 6.0 Gb/s)					
	DB9	COM1: RS232/PWR					

		COM2: RS232/422/485 COM3~6: RS232
	GPIO (8-bit)	1
	SMBus	1
Power Supply	Power Input Voltage	Standard ATX power
	Connector Type	24-pin ATX power connector + 4x2 pin power connector
Environment	Operating Temperature	0°C~60°C
	Storage Temperature	-40°C~85°C
	Relative Humidity	5 to 95% Relative humidity, non-condensing
Watchdog Timer	Output	System reset
	Interval	Programmable from 1 to 255 Seconds
Security	TPM 2.0	Optional
Physical Characteristics	Dimension	ATX Form Factor, 305 x 244mm
	Net Weight/Gross Weight	0.7kg/ 1.5kg
OS Support	OS	Microsoft Windows 10/Linux®
Certification	Safety	CE/FCC Class B/RoHS/UKCA

Block Diagram



ORDER INFORMATION

Part No.	Chipset	Display	Gbe	COM	SATA	USB 3.2/2.0	M/E Key	AMP	TPM
AXMB-5120-A00	R680E	2 x DP, HDMI, LVDS/eDP	4	6	8	9/3	2/1	1	1
AXMB-5120-A01	Q670E	2 x DP, HDMI, LVDS/eDP	4	6	8	9/3	1/1	1	1

PACKING LIST

Part Number	Description	Quantity
AXMB-5120-AXX	AXMB-5120 ATX Motherboard	1
7ABFIXL109B1	I/O Bracket	1
7W4000000130	SATA cable	1
7W6000000490	Serial cable	1
7SW1-M2003511SN	M.2 Screw	2

OPTIONAL ACCESSORIES

Part Number	Description
7W6000000490	1 to 1 Serial cable
7W6000000510	1 to 4 Serial cable
7W2000000130	USB 3.0 cable
7W2000000140	USB 2.0 cable
9Z0000000090	LGA 1700 CPU Cooler TDP≤ 125W
9Z0000000150	LGA 1700 CPU Cooler TDP ≤ 65W
7ATSE1201L111B01	LGA 1700 CPU Cooler Back plate
7W8000000070	Power Cord, Standards (UK), 1.8m
7W8000000080	Power Cord, Standards (EU), 1.8m
7W8000000090	Power Cord, Standards (US), 1.8m