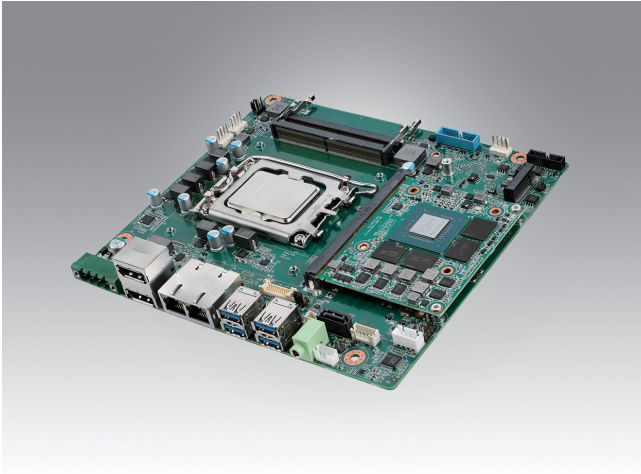


AIMB-288E B1

1U THIN Motherboard 12/13/14th Gen Intel® Core™ Processor MXM GPU module Integration



Features

- 12th/13th/14th Gen Intel® Core™ Desktop Processors, max. 24Core, support H610E chipset
- Integrated Graphics, NVIDIA RTX/Quadro
- Up to 96GB DDR5 5600MT/s with two SO-DIMM
- Triple displays with 2 DP and 1 eDP, up to 4K
- Abundant Expansion: 1 M.2 M-key & 1 M.2 E-key, 6 USB 3.2 Gen1x1, 1 SATA III
- Embedded software: Win11 LTSC, Ubuntu, Edge AI SDK and DeviceOn

Software APIs:



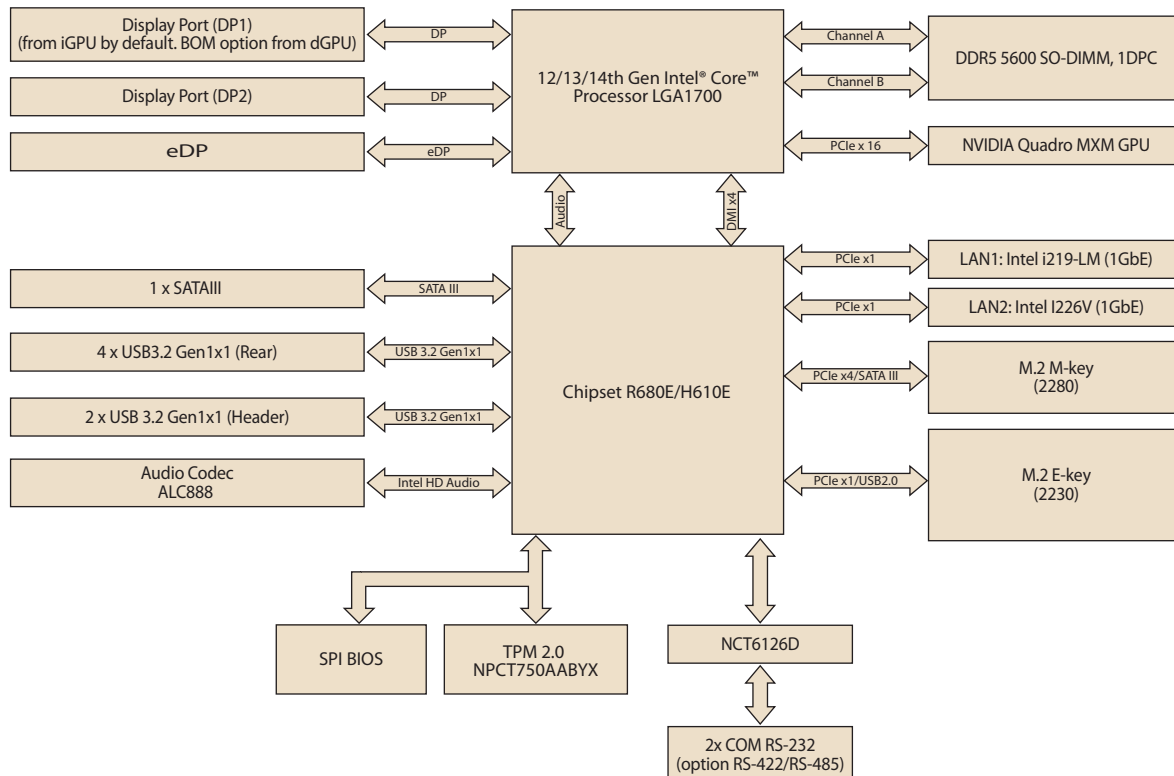
Utilities:



Specifications

	CPU	i9-14900	i9-14900T	i7-14700	i7-14700T	i5-14500	i5-14500T	i5-14400	i5-14400T	i3-14100	i3-14100T		
14 th Generation Processors	Core Number	24	24	20	20	14	14	10	10	4	4		
	Base frequency (GHz)	2	1.1	2.1	1.3	2.6	1.7	2.5	1.5	3.5	2.7		
	Max Speed (GHz)	5.4	5.1	5.3	5	5	4.8	4.7	4.5	4.7	4.4		
	Smart cache (MB)	36	36	33	33	24	24	20	20	12	12		
	TDP (W)	65	35	65	35	65	35	65	35	60	35		
13 th Generation Processors	CPU	i9-13900E / i9-13900	i9-13900TE	i7-13700E / i7-13700	i7-13700TE	i5-13500E / i5-13500	i5-13500TE	i5-13400E / i5-13400	i3-13100E / i3-13100	i3-13100TE			
	Core Number	24	24	16	16	14	14	10	4	4			
	Base frequency (GHz)	1.8/2.0	1	1.9/2.1	0.8	2.4/2.6	1.3	2.4/2.5	3.3/3.4	2.4			
	Max Speed (GHz)	5.2/5.6	5	5.1/5.2	4.8	4.6/4.8	4.5	4.6	4.4/4.5	4.1			
	TDP (W)	65	35	65	35	65	35	65	60	35			
12 th Generation Processors	CPU	i9-12900E / i9-12900	i9-12900TE	i7-12700E / i7-12700	i7-12700TE	i5-12500E / i5-12500/12400	i5-12500TE	i3-12100E / i3-12100	i3-12100TE	G7400E	G7400TE	G6900E	G6900TE
	Core Number	16	16	12	12	6	6	4	4	2	2	2	2
	Base frequency (GHz)	2.3/2.4	1.1	2.1	1.4	2.9/3.0/2.5	1.9	3.2	2.1	3.6	3	3	2.4
	Max Speed (GHz)	5	4.8	4.8	4.7	4.5/4.6/4.4	4.3	4.2/4.3	4	NA	NA	NA	NA
	TDP (W)	65	35	65	35	65	35	60	35	46	35	46	35
Processor System	Chipset	H610E											
	BIOS	AMI EFI 256Mb SPI											
Expansion Slot	M.2	1, M-key for storage (Type: 2280, NVMe supported) 1, E-key for storage (Type: 2230)											
Memory	Technology	2, Dual Channel DDR5 5600 MT/s SO-DIMM											
	Max. Capacity	96GB (up to 48GB per DIMM)											
	Socket	2, 262 PIN DDR5 SO-DIMM (ECC R680E only)											
Graphics	GPU	Quadro® T1000			Quadro® A2000			Quadro® 2000A					
	Cores	896 CUDA® cores			2560 CUDA® cores			3072 CUDA cores					
	FP32 Performance (TFLOPS)	2.6			8.25			12.99					
	Memory	GDDR6 4GB			GDDR6 8GB			GDDR6 8GB					
Display (From Intel® UHD Graphics)	DP	2 Ports DP++, DP1.4a, up to 4096 x 2304 @ 60 Hz											
	eDP	DP1 co-design iGPU & dGPU, (iGPU by default, dGPU by BOM option)											
	Triple Display	1 Port, up to 3840 x 2160 @ 60 Hz DP+DP+eDP											
Ethernet	Controller	LAN1: 1 GbE Intel I219-LM LAN2: 1 GbE Intel I226V											
	Connector	RJ45 x 2											
Audio	Codec	Realtek ALC888S, High Definition Audio (HD), Line-Out (default)											
	Amplifier	Yes (Option, 3.2W)											
SATA	Max Data Transfer Rate	6.0 Gb/s											
	Channel	1 (SATA III)											
Rear I/O	Display Port	2											
	Ethernet	2											
	USB	4 USB 3.2 Gen1x1											
	Audio	1 (Line out by default, (Line in/Line out/Mic in programmable)											
	Power Connector	1 Terminal block (4P, Phoenix Contact)											
Internal Connector	USB	2, USB 3.2 Gen1x1											
	eDP	1											
	Serial	2, RS-232 (Option RS-422/RS-485 with auto flow control)											
	SATA	1											
	M.2	1 x M-key (2280, for NVMe Storage) 1 x E-key (2230, for wireless connectivity)											
	SATA Power Connector	1											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 – 255 (second or minute)											
Power Requirements	Input voltage	19-24V DC-in											
	Connector	4-pin Terminal block											
Environment	Operating												
	Temperature	0 – 60° C (32 – 140° F), depends on STD or THIN GPU cooler								Non-Operating -40 – 85° C (-40 – 185° F)			
Physical Characteristics	Dimensions	170 mm x 190 mm (6.69" x 7.48")											

Block Diagram



Ordering Information

P/N	GPU SKU	DP	eDP	GbE	COM	SATA III	USB 3.2	M.2 M-key	M.2 E-key	TPM2.0	AMP	Cooler type	Temperature
AIMB-288EH-00B1	Nvidia T1000	2**	1	2	2	1	6	1	1	1	(1)	STD GPU cooler	0 - 55 °C
AIMB-288EH-02B1	Nvidia A2000	2**	1	2	2	1	6	1	1	1	(1)	STD GPU cooler	0 - 55 °C
AIMB-288EH-04B1	Nvidia 2000A	2	1	2	2	1	6	1	1	1	(1)	STD GPU cooler	0 - 55 °C

*() Supports by BOM options

** DP1 support signal from dGPU by option, need specific BIOS and MXM GPU SKU. Please contact FAE for further discussion

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	1
1700018785	SATA power cable (1 port, 25cm)	1
1700031130-01	1-to-2 serial port cable, 22cm	1
1920002598T001	I/O port bracket	1
AIMB-288E Board	AIMB-288E with GPU & GPU Cooler Pre-Installed	1

Optional Accessories

Part Number	Description
1970005672T001	LGA1700 CPU Cooler H: 32mm (for TDP 35W)
1700029719-01	M cable USB-A 9P(F)*2/2*10P-2.0 30CM (B2000)
96PSA-A230W24P4-3	ADP A/D 100-240V 230W 24V C14 TERMINAL BLOCK 4P
1970005349T001	LGA1700 CPU Cooler H: 55.4mm (for TDP 65W)
THIN Cooler	Thermal module of CPU & GPU Cooler for 1U system (need pre-assembly, please contact local sales or FAE)

I/O View



Embedded OS/API

OS/API	Part Number	968 P/N	Description
Windows 10	20706WX1ES0007	968QW21ELE	img W10 21EL AIMB-288E 64b 21H2 ENU
Windows 10	20706WX1HS0007	968QW21HLE	img W10 21HL AIMB-288E 64b 21H2 ENU
Windows 10	20706WX1VS0007	968QW21VLE	img W10 21VL AIMB-288E 64b 21H2 ENU
Windows 11	20706WLE1S0014	968QW1124ELOXE	img W11 24EL AIMB-288E 64b 24H2 ENU
Windows 11	20706WLH1S0014	968QW1124HLOXE	img W11 24HL AIMB-288E 64b 24H2 ENU
Windows 11	20706WLV1S0014	968QW1124VLOXE	img W11 24VL AIMB-288E 64b 24H2 ENU
Ubuntu22.04	20706U22DS0032	968MOU204D	img UbuntuD AIMB-288E 64b 22.04 ENU