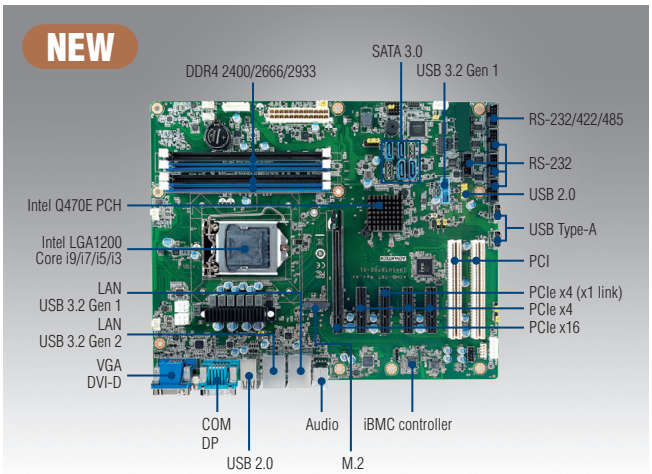
AIMB-787

LGA1200 10th Generation Intel® Core™ i9/i7/i5/i3 & Pentium®/Celeron® ATX with DP/DVI/VGA, DDR4, USB 3.2, M.2



Features

- Intel® 10th generation Core™ i9/i7/i5/i3 & Pentium®/Celeron® processor with Q470E chipset
- Four DIMM sockets up to 128 GB DDR4 2933
- Triple display DP/DVI-D/VGA and dual GbE LAN
- M.2, SATA RAID 0, 1, 5, 10, USB 3.2
- Supports Intel vPro, AMT & TPM technologies
- Advantech iBMC remote out-of-band power management solution on DeviceOn

Note 1: TPM module is required to enable Intel vPro and TPM technologies.

Note 2: Legacy platform is not supported.

Quiet

Specifications

Processor System	CPU	i9-10900K	i9-10900E	i9-10900TE	i7-10700E	i7-10700TE	i5-10500E	i5-10500TE	i3-10100E	i3-10100TE	G6400E	G6400TE	G5900E	G5900TE
	Base Frequency	3.7 GHz	2.8 GHz	1.8 GHz	2.9 GHz	2.0 GHz	3.1 GHz	2.3 GHz	3.2 GHz	2.3 GHz	3.8 GHz	3.2 GHz	3.2 GHz	3.0 GHz
	L3 Cache	20 MB	20 MB	20 MB	16 MB	16 MB	12 MB	12 MB	6 MB	6 MB	4 MB	4 MB	2 MB	2 MB
	Cores	10	10	10	8	8	6	6	4	4	2	2	2	2
	TDP	125W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W
	Socket	LGA1200												
	Chipset	Q470E												
	BIOS	AMI 256 Mbit SPI												
Expansion Slot	PCI	2 (32-bit/33 MHz)												
	PCIe x4 (Gen 3)	4 (3 x link x4, 1 x link x1)												
	PCIe x16 (Gen 3)	1												
Memory	Technology	Dual Channel (Non-ECC) DDR4 2400/2666/2933												
	Max. Capacity	128 GB												
	Socket	4 x 288-pin DIMM												
Graphics	Controller	Intel HD Graphics												
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed												
Ethernet	Interface	10/100/1000 Mbps												
	Controller	GbE LAN1: Intel I219-LM, GbE LAN2: Intel I210-AT (iBMC supported)												
	Connector	2 x RJ-45												
SATA	Max Data Transfer Rate	600 MB/s												
	Channel	4												
	RAID	0,1,5,10												
Rear I/O	VGA	1 (Resolution up to 1920 x 1200 @ 60 Hz)												
	DVI-D	1 (Resolution up to 1920 x 1200 @ 60 Hz)												
	DisplayPort	1 (Resolution up to 4096 x 2304 @ 60 Hz)												
	Ethernet	2												
	USB	8 (2 x USB 3.2 Gen 2, 2 x USB 3.2 Gen 1, 4 x USB 2.0)												
	Audio	2 (Line-out, Mic-in)												
	Serial	1 (RS-232)												
Internal Connectors	USB	6 (2 x USB 3.2 Gen 1 via header, 2 x USB 2.0 via header, 2 x USB 2.0 Type-A connector)												
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)												
	SATA	4												
	M.2	1 (PCIe x4 M-key 2280 type)												
	GPIO	8-bit												
	PS/2 KB/Mouse	1 (Optional PS/2 KB/Mouse Cable is required)												
Watchdog Timer	Output	System reset												
	Interval	Programmable 1 ~ 255 sec												
Power Requirement	Power On	Intel Core i5-10500E; DDR4 32 GB x 4												
	Voltage	+12V			+5V		+3.3V		+5Vsb		-12V			
	Current	7.58A			1.92A		0.87A		0.14A		0.08A			
Environment		Operating								Non-Operating				
	Temperature	0 ~ 60 °C (32 ~ 140 °F), depends on CPU speed and system thermal solution								-40 ~ 85 °C (-40 ~ 185 °F)				
	Humidity	40 °C @ 95% RH Non-condensing								60 °C @ 95% RH Non-condensing				
Physical Characteristics	Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")												

Note: A 8-pin 12V CPU power plug connected to MB's CPU 12V connector is required to support i9-10900K CPU. Core i9-10900K has no long life time due to not belong to embedded segment.

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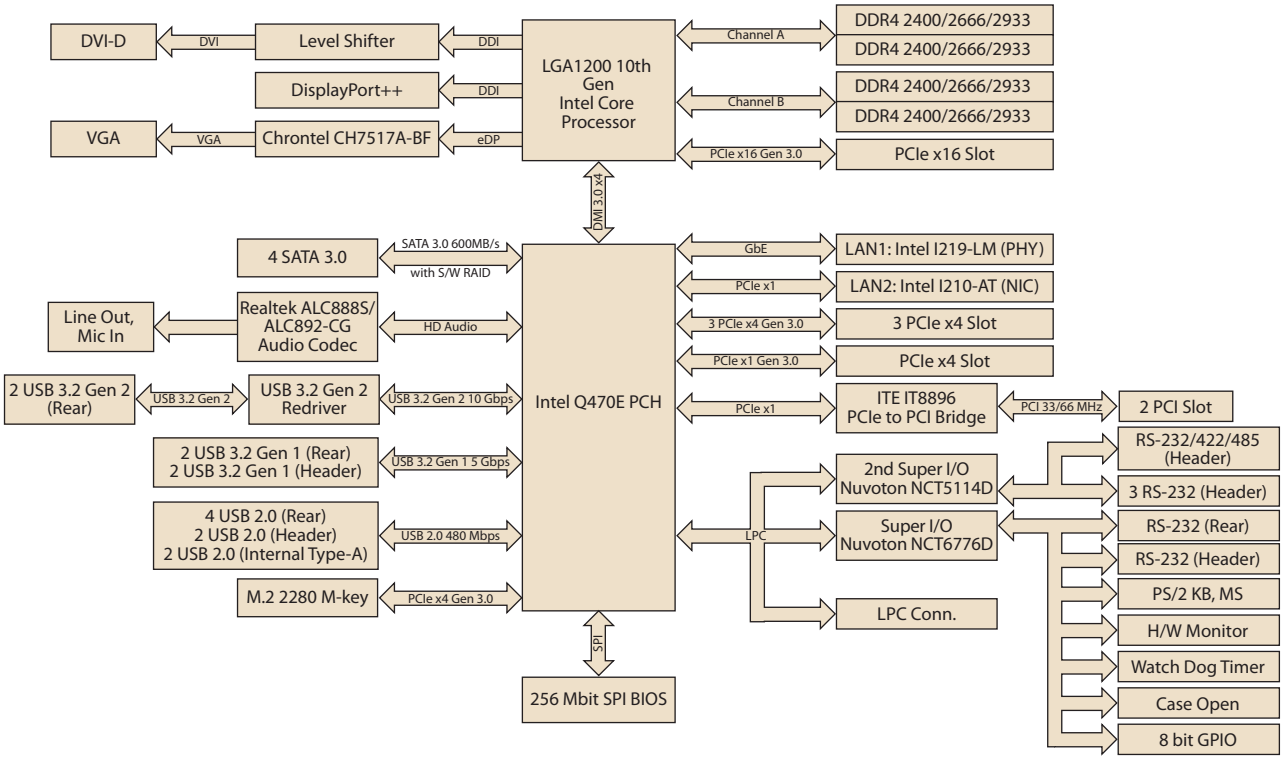
Block Diagram



Ordering Information

Part Number	Chipset	Memory	Display	USB 3.2 Gen 2	USB 3.2 Gen 1	USB 2.0	COM	GbE LAN	AMT	M.2	SATA 3.0	SW RAID
AIMB-787G2-00A2	Q470E	Non-ECC DDR4 2400/2666/2933 up to 128 GB	VGA + DVI-D + DP	2	4	8	6	2	Yes	1	4	Yes

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x 2
1960086615T001	I/O port bracket	x 1
2041078710	Startup manual	x 1

Note: Driver CD is not provided. Please visit Advantech support website for driver download.

I/O View

AIMB-787G2-00A2

Optional Accessories

Part Number	Description
1700002204	2-port USB 2.0 cable w/ BKT(27 cm)
1700028292-01	2-port USB 3.0 cable w/ BKT(30 cm)
1960052651N021	CPU cooler for 2U, 4U and wallmount chassis (for CPU TDP=35~65W)
1960067860N001	CPU cooler for 4U chassis (for CPU TDP=95~125W)
1701090401	Single COM port cable(40 cm)
1701092300	Dual COM port cable(28.5 cm)
1700022749-11/ 1700022749-12/ 1700022749-13	SATA power cable
1700019268-11	PS/2 KB/Mouse cable
1960063434N000	IO bracket for PS/2 KB/Mouse cable
PCA-TPM-00B1E	TPM2.0 module to enable TPM and vPro technologies

Note 1: Purchasing AIMB-787's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-787.
Note 2: 1960067860N001 cooler for 95~125W CPU is tested with ACP-4000/IPC-610H chassis.

Riser Card

Part Number	Description
AIMB-R430P-03A2E	2U riser card with 3 PCI expansion
AIMB-R431F-21A1E	2U riser card with 1 PCIex16 & 1 PCIex1 expansion
AIMB-R43PF-21A1E	2U riser card with 1 PCIex16 & 2 PCI expansion
AIMB-R4301-03A2E	2U riser card with 1 PCIex1 expansion

Note: AIMB-787 is not compatible with 1U chassis.