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# Datasheet

## ADVANTECH

### AIMB-786

ATX Motherboard for

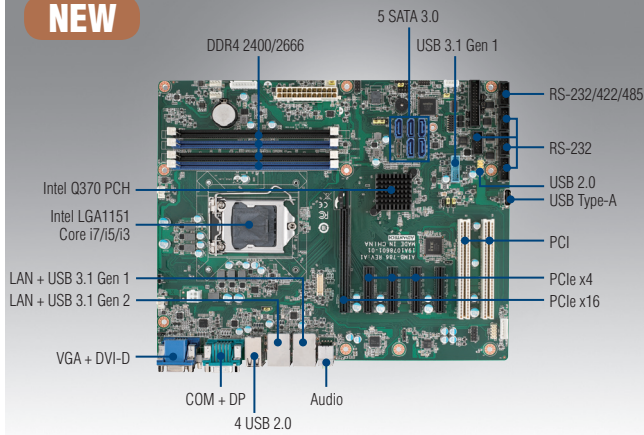
**8th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® LGA1151 Processor**

**with Triple Display, DDR4, USB 3.1, SATA 3.0**

# AIMB-786

## LGA1151 8th/9th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® ATX with Triple Display, DDR4, USB 3.1, SATA 3.0

**NEW**



### Features

- Intel® 8th/9th generation Core™ i7/i5/i3/Pentium®/Celeron® processor with Q370 chipset
- Four DIMM sockets up to 128 GB DDR4 2400/2666
- Triple display VGA/DVI-D/DP and dual GbE LAN
- SATA RAID 0, 1, 5, 10, USB 3.1
- Supports Intel vPro, AMT & TPM technologies

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

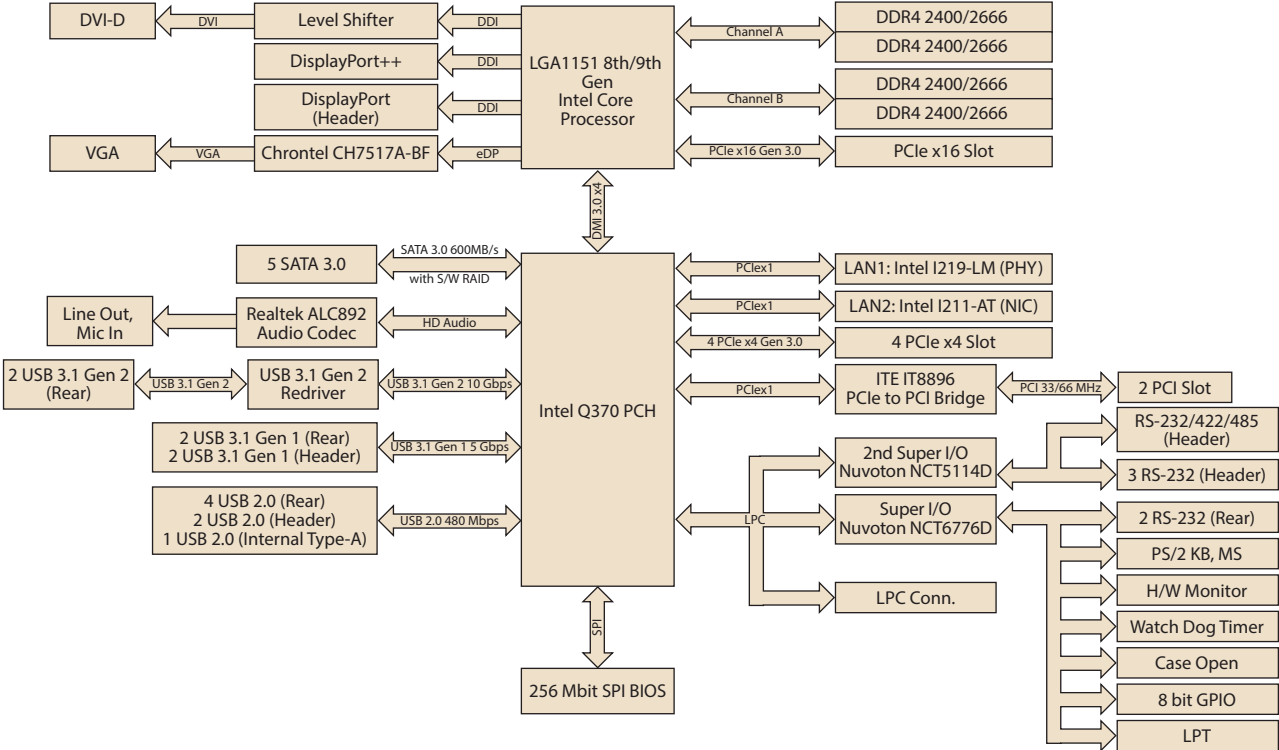
Note 2: Intel 8th/9th generation processors only support Windows 10 (64-bit).

### Quiet Specifications

CE FCC

	CPU	i7-9700E	i7-9700TE	i7-8700	i7-8700T	i5-9500E	i5-9500TE	i5-8500	i5-8500T	i3-9100E	i3-9100TE	i3-8100	i3-8100T	G5400	G5400T	G4900	G4900T	
Processor System	Speed	2.6GHz	1.8 GHz	3.2 GHz	2.4 GHz	3.0 GHz	2.2 GHz	3.0 GHz	2.1 GHz	3.1 GHz	2.2 GHz	3.6 GHz	3.1 GHz	3.7 GHz	3.1 GHz	3.1 GHz	2.9 GHz	
	L3 Cache	12 MB	12 MB	12 MB	12 MB	9 MB	9 MB	9 MB	9 MB	6 MB	6 MB	6 MB	6 MB	4 MB	4 MB	2 MB	2 MB	
	Cores	8	8	6	6	6	6	6	6	4	4	4	4	2	2	2	2	
	TDP	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	58 W	35 W	54 W	35 W	
	Socket	LGA1151																
Expansion Slot	Chipset	Q370																
	BIOS	AMI 256 Mbit SPI																
	PCI	32-bit/33 MHz, 2 slots																
Memory	PCIe x4 (Gen 3)	4 GB/s per direction, 4 slots																
	PCIe x16 (Gen 3)	16 GB/s per direction, 1 slot																
	Technology	Dual Channel (Non-ECC) DDR4 2400/2666																
Graphics	Max. Capacity	128 GB																
	Socket	4 x 288-pin DIMM																
	Controller	Intel HD Graphics																
Ethernet	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed																
	Interface	10/100/1000 Mbps																
	Controller	GbE LAN1: Intel I219-LM, GbE LAN2: Intel I211-AT																
SATA	Connector	2 x RJ-45																
	Max Data Transfer Rate	600 MB/s																
	Channel	5																
Rear I/O	RAID	0,1,5,10																
	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 3.1 Gen 2, 2 x USB 3.1 Gen 1, 4 x USB 2.0)																
	Audio	2 (Line-out, Mic-in)																
Internal Connectors	Serial	1 (RS-232)																
	PS/2	-																
	USB	5 (2 x USB 3.1 Gen 1 via header, 2 x USB 2.0 via header, 1 x USB 2.0 Type-A connector)																
	Serial	5 (4 x RS-232, 1 x RS-232/422/485)																
	SATA	5																
	Parallel	1																
Watchdog Timer	DisplayPort	1																
	GPIO	8-bit																
	PS/2 KB/Mouse	1 (Optional PS/2 KB/Mouse Cable is required)																
Power Requirement	Output	System reset																
	Interval	Programmable 1 ~ 255 sec																
	Power On	Intel Core i7-8700 3.2 GHz; DDR4 2400 16 GB x 4																
Environment	Voltage	+12V	+5V	+3.3V	+5Vsb	-12V	-5V											
	Current	3.77A	1.77A	2.8A	0.1A	0.04A	0.06A											
	Operating											Non-Operating						
Physical Characteristics	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						
Dimensions (L x H)	304.8 x 244 mm (12" x 9.6")																	

### Block Diagram



### Ordering Information

Part Number	Chipset	Memory	Display	USB 3.1 Gen 2	USB 3.1 Gen 1	USB 2.0	COM	GbE LAN	AMT	SATA 3.0	SW RAID
AIMB-786G2-00A1	Q370	Non-ECC DDR4 2400/2666 up to 128 GB	VGA + DVI-D + DP	2	4	7	6	2	Yes	5	Yes

### Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	x 2
1700022749-11	SATA power cable	x 2
1960086615T001	I/O port bracket	x 1
2001078611	Startup manual	x 1

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

### I/O View



AIMB-786G2-00A1

### 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
1700020294-01	Printer port cable kit (42 cm)
1701092300	Dual COM port cable(28.5 cm)
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: Purchasing AIMB-786's proprietary CPU cooler from Advantech is a must. Other brands' CPU coolers are NOT compatible with AIMB-786.

### Riser Card

Part Number	Description
AIMB-R430P-03A2E	2U riser card with 3 PCI expansion
AIMB-R431F-21A1E	2U riser card with 1 PClex16 & 1 PClex1 expansion
AIMB-R43PF-21A1E	2U riser card with 1 PClex16 & 2 PCI expansion
AIMB-R4301-03A1E	2U riser card with 1 PClex1 expansion

Note: AIMB-786 is not compatible with 1U chassis.

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