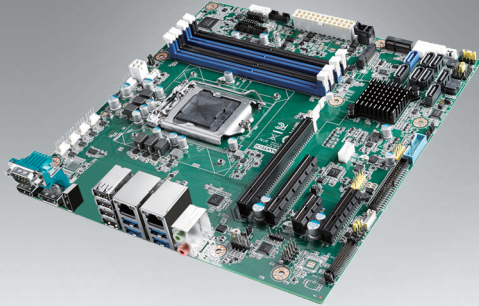


AIMB-586

Intel® Xeon® E3/ 8th & 9th Gen Core™
i7/i5/i3 LGA1151, MicroATX with
HDMI/2 DP++/eDP (LVDS)/6 COM, 4 LANs,
USB 3.1, ATX or 12V DC-IN



Features

- Supports Intel® Xeon® 8th / 9th Gen Core™ i7/i5/i3 processor with Q370/ C246/H310 chipset
- Supports triple displays. (HDMI, 2DP++, eDP or LVDS display)
- Supports Intel AMT 12.0 and Intel vPro competent
- Supports PCIe Gen3, max up to 4x USB 3.1 (Gen2), 2x USB 3.0, 8x SATAIII, 4 GbE LAN, 2x M.2 (M & E Key)
- Supports Software RAID 0, 1, 5, 10, TPM 1.2/2.0 (optional)
- Supports DeviceOn and Embedded Software APIs

Software APIs:



Utilities:

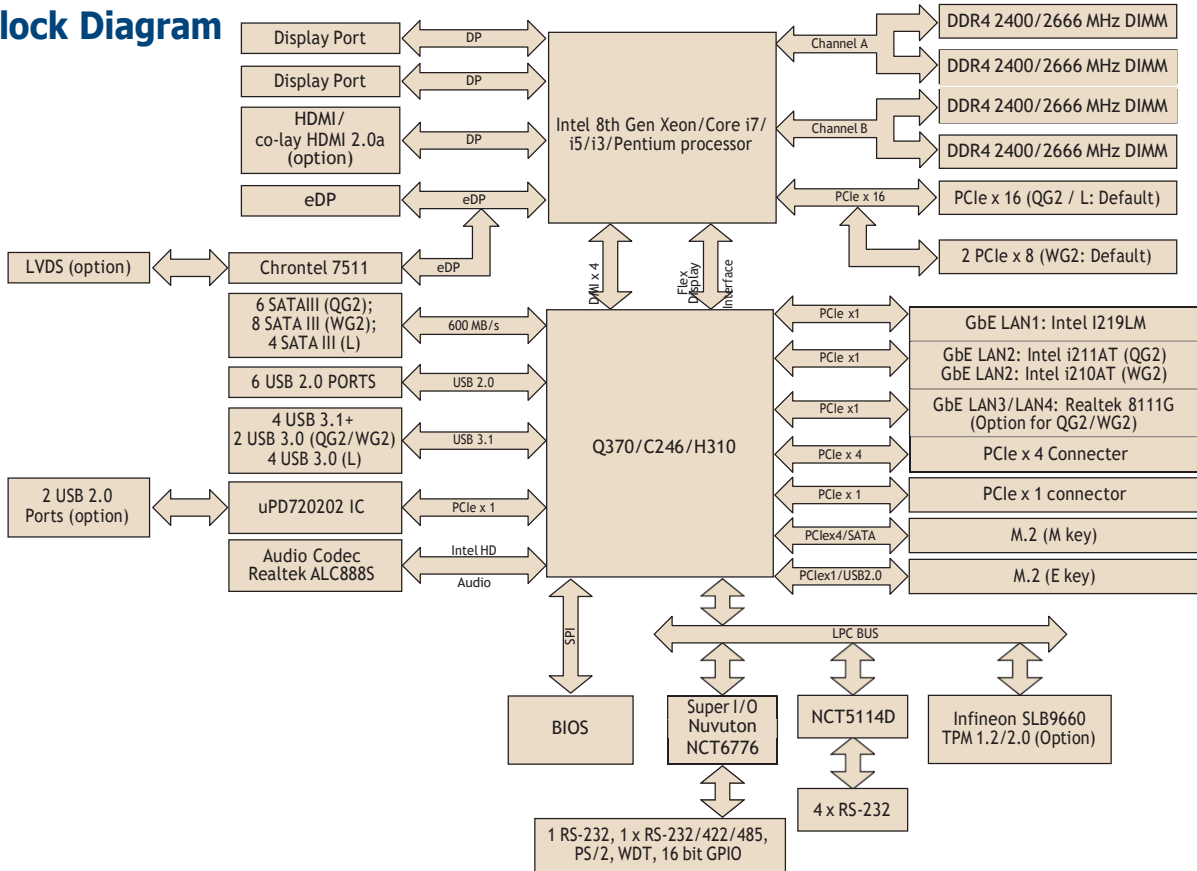


Specifications

Processor System	CPU	E-2176G/ E-2124G	E-2278GE/ E-2278GEL	E-2226GE i7-9700TE	i7-9700E/ i7-8700T	i7-8700/ i7-8700T	i5-9500E/ i5-9500TE	i5-8500/ i5-8500T	i3-9100E/ i3-9100TE	i3-8100/ i3-8100T	G5400/ G5400T	G4900/ G4900T	
	Core Number	6/ 4	8/ 8	6	8/ 8	6/6	6/6	6/6	4/4	4/4	2/2	2/2	
	Max. Speed	3.7GHz/ 3.4 GHz	3.3GHz/ 2.0 GHz	3.4GHz	2.6GHz/ 1.8GHz	3.2GHz/ 2.4GHz	3.0GHz/ 2.2GHz	3.0GHz/ 2.1GHz	3.0GHz/ 2.2GHz	3.1GHz/ 2.2GHz	3.6GHz/ 3.1GHz	3.7GHz/ 3.1GHz	3.1GHz/ 2.9GHz
	TDP (W)	12MB/ 8MB	16MB/ 16MB	12MB	12MB/12MB	12MB/12MB	9MB/9MB	9MB/9MB	6MB/6MB	6MB/6MB	4MB/4MB	4MB/4MB	2MB/2MB
	Supports Model	80W/ 71W	80W*/ 35W	80W*	65W*/35W	65W/35W	65W/35W	65W/35W	65W/35W	65W/35W	65W/35W	58W/25W	54W/35W
	Supports Model	WG2	WG2	W2/QG2	WGG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L	WG2/QG2/L
	Chipset	Q370/C246/H310											
BIOS	AMI EFI 256 Mbit SPI												
Expansion Slot	PCIe x1 (Gen3)	1 GB/s per direction, 1 slot (QG2/WG2 only)											
	PCIe x4 (Gen3)	4 GB/s per direction, 1 slot											
	PCIe x8 (Gen3)	8 GB/s per direction, 1 slot (Default on WG2 sku, BOM Option on QG2 sku)											
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot (Only x8 Link on WG2 sku)											
Memory	Technology	Dual Channel DDR4 2400/2666MHz Non-ECC SDRAM/ ECC SDRAM (WG2 only)											
	Max. Capacity	128GB (32GB per DIMM)											
	Socket	4 x 288 pin U DIMM (QG2/WG2) 2 x 288 pin U DIMM (L)											
Graphics	Controller	Intel HD Graphics Supports DirectX11.1, OpenGL 5.0 and OpenCL 2.1											
	HDMI	1, Supports max resolution HDMI 1.2 1920 x 1200 @ 60 Hz (Colay HDMI 2.0a 4096 x 2160 @ 60 Hz, via BOM Option)											
	eDP	1, Internal pin header, supports max. resolution 3840 x 2160 @ 60 Hz (Internal pin header)											
	LVDS	1 (option), Supports dual channel 48 bits up to 1920 x 1200 (colay with eDP)											
	Display Port	2, Supports max resolution 4096 x 2304 @ 60 Hz											
	Triple Display	eDP (LVDS) + DP** + HDMI, eDP (LVDS) + DP** + DP**, DP** + DP** + HDMI											
Dual Display	DP** + HDMI, DP** + DP**, DP** + eDP (LVDS), HDMI + eDP (LVDS)												
Ethernet	Controller	LAN1: Intel I219LM (QG2/WG2/L) LAN2: Intel I211AT (QG2) Intel I210AT (WG2) LAN3/4: Realtek 8111G (BOM Option on QG2/WG2 sku)											
	Connector	RJ 45 x 2 (Max up to 4 ports via BOM option on QG2/WG2)											
	Max Data Transfer Rate	600 MB/s Max. (SATA 3.0)											
SATA	Q'ty	6 (QG2); 8 (WG2), 1 colay with M.2 M key; 4 (L)											
Rear I/O	Display Port	2											
	HDMI	1											
	Ethernet	2 (Default, Max 4 ports via BOM option on QG2/WG2)											
	USB	8 (4 USB 3.1, 4 USB 2.0 on QG2/WG2) 8 (4 USB 3.0, 4 USB 2.0 on L)											
	Audio	2 (Mic-in/ Line-out) (Mic-in could be configured as "Line-in" under Win OS.)											
	Serial	1 (RS-232)											
Internal Connector	USB 3.0	2 (QG2/WG2 only)											
	USB 2.0	2; can up to 4 (via BOM option)											
	Serial	5 (4 x RS-232, 1 x RS-232/422/485 with auto flow control supported on QG2/WG2)											
	SATA 3.0	1 (1 x RS-232/422/485 with auto flow control supported on L)											
	Extended Display Port (eDP)/LVDS	6 (QG2); 8 (WG2), 1 colay M.2 M-key; 4 (L)											
	PS/2 (KBMS1)	1											
	M.2 (M key)	1 (2280 NVMe PCIe4 and SATA M.2 support, QG2/WG2 only)											
	M.2 (E key)	1 (2230 for WIFI, QG2/WG2 only)											
GPIO	16-bit GPIO												
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 ~ 255 sec/min											
Power Requirements	Power On	Intel Core i7-8700, 16 GB DDR4 x 4pcs											
		+5 V	3.3 V	12 V	12V_4P	5 Vsb	-12 V						
		+1.361A	0.473A	0.365A	5.985A	0A	0A						
Environment	Operating	Non-Operating											
		0 ~ 60° C (14 ~ 158° F), depends on CPU speed and cooler solution											
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")											
	Input Mode	-40 ~ 85° C (-40 ~ 185° F)											
Power	Input Mode	ATX input (Default)/DC-IN 12V (BOM option)											

*The performance of CPUs will be limited due to power design.

Block Diagram



Ordering Information

P/N	Chipset	USB3.1	USB 3.0	USB 2.0	DP/HDMI	eDP (LVDS)	GbE LAN	SATA III	COM	PClex16	PClex8	PClex4	PClex1	M.2 E-key	M.2 M-key	TPM
AIMB-586QG2-00A1E	Q370	4	2	6+(2)***	2/1**	1/(1)	2+(2)	6	6	1	(2)	1	1	1	1	(1)
AIMB-586WG2-00A1E	C246	4	2	6+(2)***	2/1**	1/(1)	2+(2)	8	6	(1)	2	1	1	1	1	(1)
AIMB-586L-00A1E	H310	0	4	6+(2)***	2/1	(1)/0	1	4	2+(4)	1	0	1	0	0	0	(1)

(*) BOM options available on MP version.
 ** Default: HDMI 1.2, co-layout HDMI 2.0 (BOM Option)
 *** BOM option with added USB 2.0 from controller IC

Riser Card

Part Number	Description
AIMB-RF10F-01A1E	1U riser card with 1 PClex16 expansion

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1700022749-13	SATA power cable	2
1960088075T000	I/O port bracket	1
2006B58610	Startup manual	1
1930001071	M.2 device screw	2

I/O View



Optional Accessories

Part Number	Description
1700020277-01	Dual port USB 3.0 cable 30cm with IO bracket
1700002204	Dual port USB 2.0 cable 27cm with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP 64W, 4.72" (W) x 4.72" (L) x 3.03" (H)
1960052651N021	LGA1155 CPU cooler for 2U and backplane version of chassis, for CPU TDP 69W, 3.54" (W) x 3.54" (L) x 2.68" (H)
1960053207N001	LGA1155 CPU cooler for 2U and wallmount chassis, for CPU TDP 45W, D=3.66" (W) x 3.66" (L) x 1.81" (H)
1700018699	PS/2 KB/MS cable (KMBS1) 1*6P-2.5/M-DIN 6P(F)*2 25cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1700026163-01	COM2,1 to 1 COM cable 60cm (IDE 10P-2.0) w/ Bracket
1960087944N001	1U IO bracket for chassis ACP-1010MB & HPC-7120S (should order screws separately)

Note: Purchasing AIMB-586's proprietary CPU cooler is a must, other CPU cooler might be not compatible with AIMB-586.
 Note: screws P/N: 1933030500 for ACP-1010MB, 1930004607 for HPC-7120S

Embedded OS/API

OS/API	Part No.	img
win10 IoT Ent	20706WX9HS0019	img W10 16HL(Eng)
	20706WX9VS0022	img W10 16VL(Eng)