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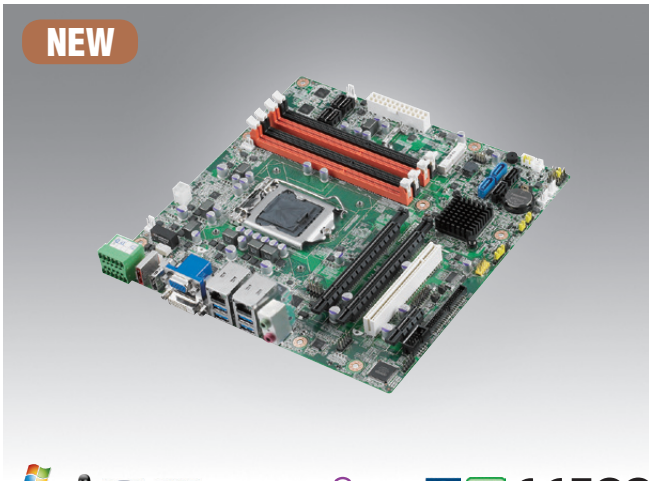
AIMB-502

Intel® Xeon® E3/ Core™ i7/i5/i3 LGA1155 MicroATX with CRT/DVI/HDMI, 6 COM, Dual LAN, SATAIII



Windows Embedded Standard 7 · QNX · Quiet · SUSIAccess · RoHS · CE FCC

Features

- Supports Intel® Xeon®/ Core™ i7/i5/i3 processor with Q77/C216 chipset
- Four DIMM sockets support up to 32 GB DDR3 1333/1600 MHz SDRAM
- Supports CRT, DVI, HDMI, Phoenix connector and dual GbE LAN
- Supports Intel AMT 8.0 and Intel vPro competent
- Supports 2 SATAIII, 6 SATAII, 1 eSATA, 1 mSATA, Software RAID 0, 1, 5, 10.
- Supports PCIE Gen3, USB 3.0 x 4. TPM 1.2 (Optional)
- Supports SUSIAccess and Embedded Software APIs

Software APIs: SMBus, H/W Monitor, Watchdog, GPIO

Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU	Intel Xeon E3-1275v2	Intel Xeon E3-1275	Intel Xeon E3-1225v2	Intel Xeon E3-1225	Intel Core i3-2120	Intel Pentium G850	Intel Core i7-3770	Intel Core i7-2600	Intel Core i5-3550S	Intel Core i3-3220	Intel Core i5-2400	Intel Celeron G540
	Core Number	4	4	4	4	2	2	4	4	4	2	4	2
	Max. Speed	3.5 GHz	3.4 GHz	3.2 GHz	3.1 GHz	3.3 GHz	2.9 GHz	3.4GHz	3.4 GHz	3.0GHz	3.3 GHz	3.1 GHz	2.5 GHz
	Integrated Graphics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	L3 Cache	8 MB	8 MB	8 MB	6 MB	3 MB	3 MB	8 MB	8 MB	6 MB	3 MB	6 MB	2 MB
	Supports Model	WG2	WG2	WG2	WG2	WG2/ QG2	WG2/QG2	QG2	QG2	QG2	QG2	QG2	QG2
	Chipset	Q77/C216											
	BIOS	AMI EFI 64 Mbit SPI											
Expansion Slot	PCI	32-bit/33 MHz, 1 slot											
	PCIe x1 (Gen2)	500MB/s per direction, 1 slot											
	PCIe x16 (Gen3)	16GB/s per direction, 1 slot (QG2), 2 slot (WG2: PCIe x8 single per slot only)											
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM											
	Max. Capacity	32 GB/8 GB per DIMM											
	Socket	4 x 240-pin DIMM (Non-ECC)											
Graphics	Controller	Intel HD Graphics											
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed											
	HDMI	Supports max resolution 1920 x 1200 (1080P)											
	CRT	Supports max resolution 2048 x 1536 at 60 Hz											
	DVI	Supports max. resolution 1920 x 1200 at 60 Hz											
	Triple Display	CRT+DVI+HDMI											
	Dual Display	CRT+DVI, CRT+HDMI, DVI+HDMI											
Ethernet	Interface	10/100/1000 Mbps											
	Controller	GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82574L											
	Connector	RJ-45 x 2											
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0) / eSATA / mSATA											
	Channel	2/6/1/1											
Rear I/O	CRT	1											
	DVI	1											
	HDMI	1											
	Ethernet	2											
	USB	4 (4 USB 3.0)											
	Audio	2 (Mic-in, Line-out)											
	Serial	1 (RS-485 from Phoenix connector)											
	Phoenix	1 (1 RS-485 + 6 bit GPIO: fixed 4 in, 2 out, can't programmable)											
	eSATA	1											
Internal Connector	USB	2 (USB 2.0)											
	Serial	5 (RS-232)											
	IDE	-											
	SATA	2 x 600 MB/s (SATA 3.0)/6 x 300 MBs (SATA 2.0) / 1 x eSATA / 1 x mSATA											
	IrDA	-											
	GPIO	14 bit GPIO (6 bit non-programmable GPIO via Phoenix connector on rear side and 8 bit programmable GPIO by pin header on board)											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1 ~ 255 sec/min											
Power Requirements		Intel Core i7-3770 3.4 GHz, 8 GB DDR3 1600 MHz x 4pcs											
	Power On	+5 V		3.3 V		12 V		5 Vsb		-12 V			
		2.69 A		0.93 A		5.3 A		0.0 A		0.52 A			
Environment		Operating											
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution											
Physical Characteristics	Dimensions	244 mm x 244 mm (9.6" x 9.6")											

All product specifications are subject to change without notice

Last updated : 15-Jan-2014

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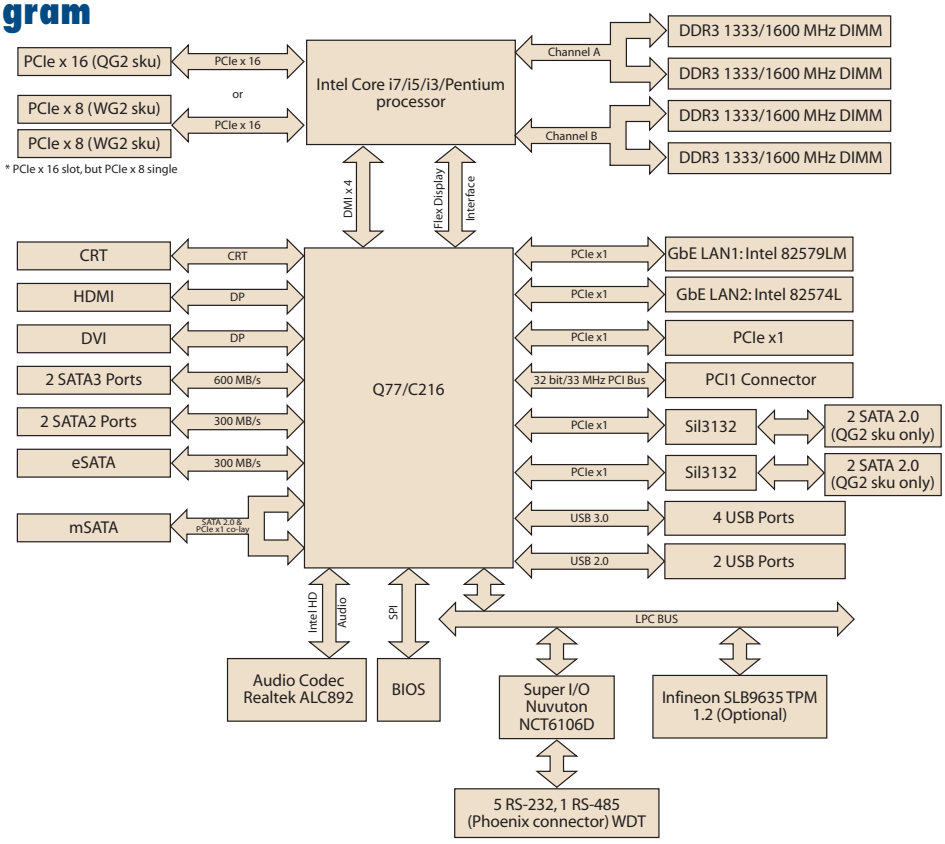
Block Diagram



Ordering Information

Part Number	Chipset	Memory	USB 2.0/ 3.0	CRT	HDMI	DVI	SATA 3.0/ 2.0	eSATA/ mSATA	COM	TPM	GbE LAN	PCIe	Mini PCIe
AIMB-502QG2-00A1E	Q77	Non-ECC	2/4	Yes	1	1	2/6	1/1	6	(1)	2	PCIe 16 x 1 (Gen 3) PCIe 1 x 1 (Gen 2)	1 (co-lay with mSATA)
AIMB-502WG2-00A1E	C216	ECC/Non-ECC	2/4	Yes	1	1	2/2	1/1	6	(1)	2	PCIe 8 x 2 (Gen 3, PCIe 16 connector) PCIe 1 x 1(Gen 2)	1 (co-lay with mSATA)

*() BOM options available on MP version.

Riser Card

Part Number	Description
AIMB-RP10P-01A1E	1U riser card with 1 PCI expansion
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960059180T000	IO Bracket for AIMB-502	1
2002050200	Startup manual	1
2062050200	Driver CD	1

Optional Accessories

Part Number	Description
1700002204	Dual port USB cable (27 cm) with bracket
1960047669N001	LGA1156 CPU cooler for 4U and wallmount chassis, for CPU TDP ≦ 95W, 4.72" (W) x 4.72" (L)X 3.03" (H)
1960047831N001	LGA1156 CPU cooler for 2U and backplane version of chassis, for CPU TDP ≦ 65W, 3.27" (W) x 3.27" (L)X 2.17" (H)
1960049408N001	LGA1156 CPU cooler for 1U and wallmount chassis, for CPU TDP ≦ 65W, 3.35" (W) x 3.35" (L)X 1.02" (H)
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm

Note: Purchasing AIMB-502's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-502.

The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

I/O View

AIMB-502QG2-00A1E
AIMB-502WG2-00A1E

Embedded OS/API

OS/API	Part No.	Description
WES 7		Image WES7E 32 bit AIMB-502 ENG/TC/SC/JPN
		Image WES7E 64 bit AIMB-502 ENG/TC/SC/JPN