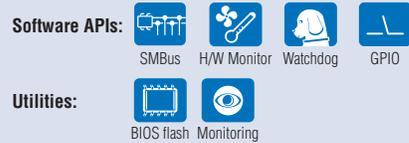# AIMB-582

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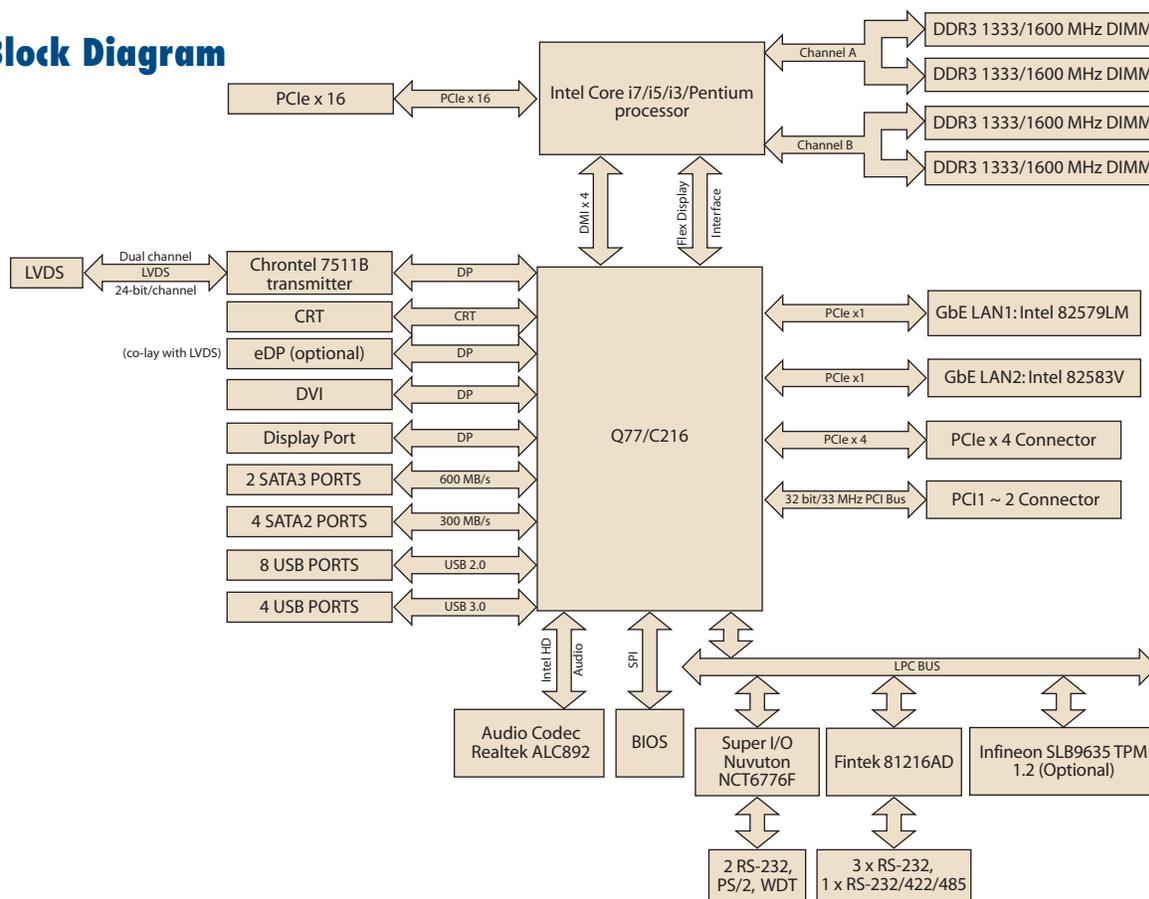
NEW

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, LVDS, DP, eDP (optional) and dual GbE LAN
- Supports Intel AMT 8.0 and Intel vPro competent
- Supports PCIE Gen3, USB 3.0, Software RAID 0,1,5,10, TPM 1.2 (Optional)
- Supports SUSIAccess and Embedded Software APIs

Software APIs: SMBus H/W Monitor Watchdog GPIO

Utilities: BIOS flash Monitoring

Windows Embedded Standard 7 QNX Quiet SUSIAccess RoHS COMPLIANT 2002/95/EC CE FCC

Specifications

		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
Processor System	CPU												
	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, 2 slots											
	PCIe x4 (Gen2)	2.0 GB/s per direction, 1 slot											
	PCIe x16 (Gen3)	16 GB/s per direction, 1 slot											
Memory	Technology	Dual Channel DDR3 1333/1600 MHz SDRAM											
	Max. Capacity	32 GB/8 GB per DIMM											
	Socket	4 x 240-pin DIMM											
Graphics	Controller	Intel HD Graphics											
	VRAM	1 GB maximum shared memory with 2 GB and above system memory installed											
	LVDS	Supports dual channel 48 bit and up to 1920 x 1200											
	CRT	Yes, supports max resolution 2048 x 1536 at 60 Hz											
	DVI	Yes, supports max. resolution 1920 x 1200 at 60 Hz											
	eDP	Yes, with internal pin header, supports max. resolution 1920 x 1200 at 60 Hz											
	Display Port	Yes, supports max resolution 2560 x 1600 at 60 Hz											
	Triple Display	CRT+eDP (or LVDS)+DP, CRT+eDP (or LVDS)+ DVI											
	Dual Display	CRT+eDP (or LVDS), CRT+DVI, eDP (or LVDS)+ DVI											
Ethernet	Interface	10/100/1000 Mbps											
	Controller	GbE LAN1: Intel 82579LM, GbE LAN2: Intel 82583V											
	Connector	RJ-45 x 2											
SATA	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)											
	Channel	2/4											
Rear I/O	CRT	1											
	DVI	1											
	Display Port	1											
	Ethernet	2											
	USB	4 (4 USB 3.0)											
	Audio	2 (Mic-in, Line-out)											
	Serial	1 (RS-232)											
	PS/2	2 (1 x keyboard and 1 x mouse)											
Internal Connector	USB	8 (USB 2.0)											
	Serial	5 (4 x RS-232, 1 x RS-232/422/485 to support auto flow control)											
	IDE	-											
	SATA	2 x 600 MB/s (SATA 3.0)/4 x 300 MB/s (SATA 2.0)											
	LVDS & Inverter	1 (default)											
	Extended Display Port (eDP)	1 (optional by removing LVDS)											
	Parallel	1											
	JTAG	1											
	IrDA	-											
	GPIO	8-bit GPIO											
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")											

ADVANTECH **Industrial Motherboards & Systems**

Block Diagram

PCIe x 16 — PCIe x 16 → Intel Core i7/i5/i3/Pentium processor

Channel A → DDR3 1333/1600 MHz DIMM
DDR3 1333/1600 MHz DIMM
Channel B → DDR3 1333/1600 MHz DIMM
DDR3 1333/1600 MHz DIMM

DMI x 4
Flex Display Interface

LVDS — Dual channel LVDS 24-bit/channel → Chrontel 7511B transmitter — DP →
CRT — CRT →
(co-lay with LVDS) — eDP (optional) — DP →
DVI — DP →
Display Port — DP →
2 SATA3 PORTS — 600 MB/s →
4 SATA2 PORTS — 300 MB/s →
8 USB PORTS — USB 2.0 →
4 USB PORTS — USB 3.0 →

Q77/C216

PCIe x1 → GbE LAN1: Intel 82579LM
PCIe x1 → GbE LAN2: Intel 82583V
PCIe x 4 → PCIe x 4 Connector
32 bit/33 MHz PCI Bus → PCI1 ~ 2 Connector

Intel HD Audio
SPI
LPC BUS

Audio Codec Realtek ALC892
BIOS
Super I/O Nuvuton NCT6776F
Fintek 81216AD
Infineon SLB9635 TPM 1.2 (Optional)

2 RS-232, PS/2, WDT
3 x RS-232, 1 x RS-232/422/485

Ordering Information

Part Number	Chipset	Memory	USB 3.0	CRT	DP	DVI	LVDS/eDP	USB	COM	TPM	GbE LAN
AIMB-582QG2-00A1E	Q77	Non-ECC	4	Yes	1	1	1/(1)	8	6	(1)	2
AIMB-582WG2-00A1E	C216	ECC/Non-ECC	4	Yes	1	1	1/(1)	8	6	(1)	2
AIMB-582QG2-TPA1E	Q77	Non-ECC	4	Yes	1	1	1/(1)	8	6	1	2

*() 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-RP3PF-21A1E	2U riser card for 1 PCIe x 16 abd 2 PCI expansion
AIMB-RF10F-01A1E	1U riser card with 1 PCI e x 16 expansion
AIMB-RP3P8-12A1E	2U riser card with 2 PCIe x 8 & 1 PCI slots expansion (For WG2 Sku)

Note: AIMB-RP3P8-12A1E is not compatible with ACP-2010MB/2320MB chassis unless change special bracket to 1950014302N001.

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960056089T000	I/O port braket	1
2002058100	Startup manual	1
2062058100	Driver CD	1

I/O View

AIMB-582QG2-00A1E
AIMB-582WG2-00A1E
AIMB-582QG2-TPA1E

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)
1700000446	Printer port cable kit
1700018699	KBMS cable 1*6P-2.5/DIN-6P(F)*2, 25 cm
1700000447	1-to-4 serial ports cable kit, 45cm
1701400181	1-to-4 serial ports cable kit, 18cm
1950014302N001	Special bracket for riser card AIMB-RP3P8-12A1E

Note: Purchasing AIMB-582's proprietary CPU cooler from Advantech is a must, other brand's CPU cooler are NOT compatible with AIMB-582.
The complete thermal solution is composed of CPU cooler and system fans to support the CPU TDP as above.

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070011427	Image XPE WES2009 AIMB-582QG2-00A1E V4.1 ENG
WES 7	2070011428	Image WES7E AIMB-582QG2 V5.1.2 4Muti
WES 7	2070011429	Image WES7E AIMB-582QG2 64bit V5.6.4 Eng/Chs/Jpn

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  [AIMB-582WG2-00A1E](#)