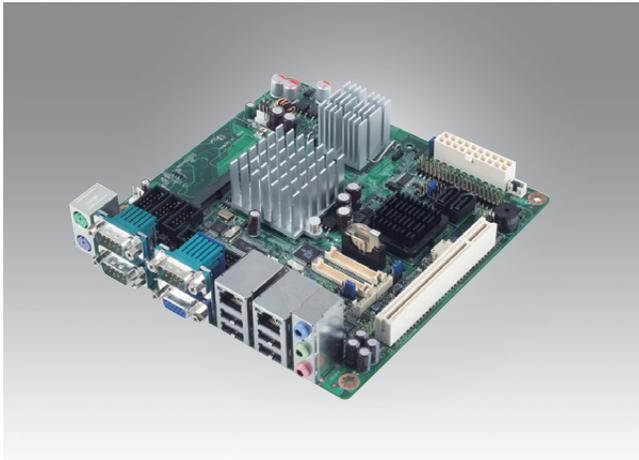# AIMB-210

Intel® Atom™ N270 Mini-ITX with CRT/LVDS, 6 COM, and Dual LAN

Features

- Intel® Atom™ Mini-ITX motherboard supports N270 1.6 GHz processor
- One 200-pin SODIMM up to 2 GB DDR2 533 MHz SDRAM
- Supports dual display for CRT, LVDS, and TV-Out
- 6 serial ports, 8 USB ports, CF, 2 LAN ports and TPM1.2 (optional)
- Supports SUSIAccess and Embedded Software APIs
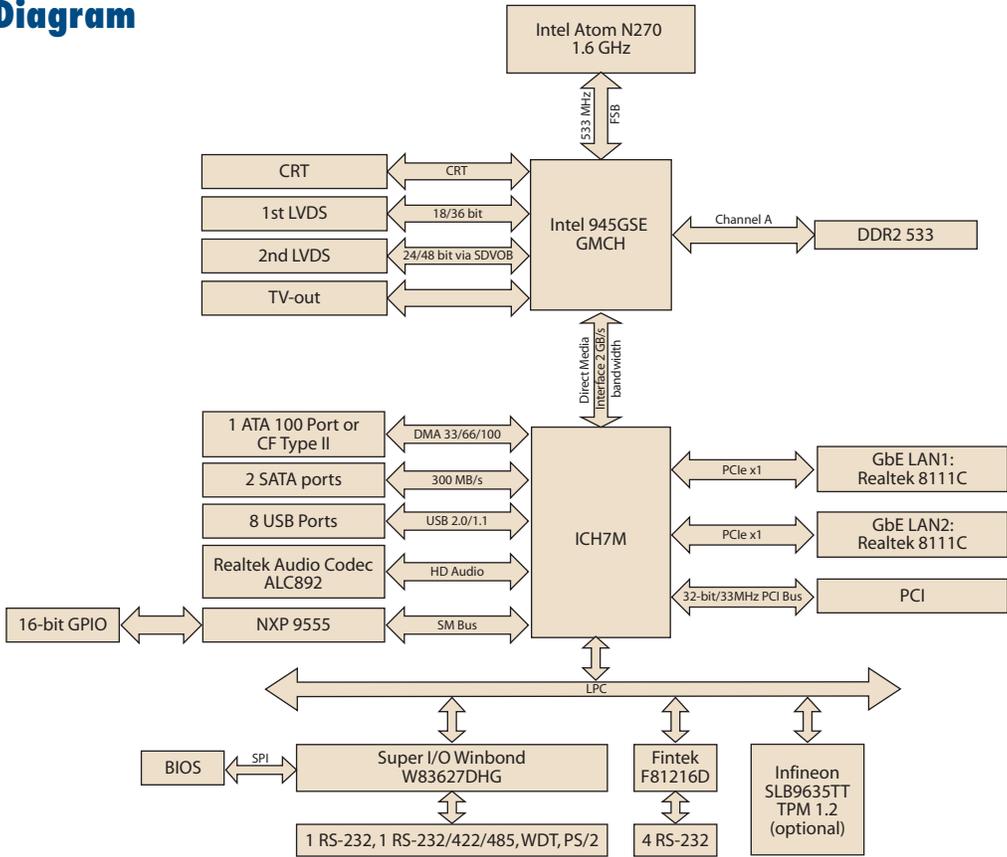
Software APIs: SMBus H/W Monitor GPIO Watchdog Brightness

Utilities: BIOS flash Monitoring

Windows Embedded Linux QNX SUSIAccess RoHS COMPLIANT 2002/95/EC CE FCC

Specifications

Processor System	CPU (45 nm)	Intel Atom N270			
	Max. Speed	1.6 GHz			
	Front Side Bus	533 MHz			
	L2 Cache	512 KB			
	Chipset	Intel 945GSE + ICH7M			
	BIOS	Award 16 Mbit, SPI			
Expansion Slot	PCI	32-bit/33 MHz, 1 slot			
	Mini-PCI	-			
	PCIe	-			
Memory	Technology	Single channel DDR2 533 MHz SDRAM			
	Max. Capacity	2 GB			
	Socket	1 x 200-pin SODIMM (Non-ECC)			
Graphics	Controller	Intel 945GSE GMCH integrated GMA 950			
	VRAM	Shared system memory up to 224 MB SDRAM			
	1st LVDS	Single channel 18-bit/Dual channel 36-bit LVDS			
	2nd LVDS	Single channel 18/24-bit/Dual channel 36/48-bit LVDS, via Chrontel 7308B SDVO transmitter (F version)			
	TV-Out	Supports both S-video and composite video (TV-Out function is not supported during POST stage)			
	Dual Display	CRT + LVDS, CRT + TV-Out, LVDS + TV-Out			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN1: Realtek 8111C; GbE LAN2: Realtek 8111C			
	Connector	RJ-45 x 2			
SATA	Max Data Transfer Rate	300MB/S			
	Channel	2			
EIDE	Mode	EIDE (Ultra DMA 100)			
	Channel	1			
SSD	CompactFlash	Supports CompactFlash Type I/II			
Rear I/O	CRT	1			
	Ethernet	2			
	USB	4 (USB 2.0 compliant)			
	Audio	3 (Mic-in, Line-out, Line-in)			
	Serial	3 (2 x RS-232, 1 x RS-232/422/485)			
	Parallel	-			
	PS/2	2 (1 x keyboard and 1 x mouse)			
Internal Connector	LVDS & Inverter	1			
	USB	4 (USB 2.0 compliant)			
	Serial	3 (RS-232)			
	IDE	1			
	SATA	2			
	CompactFlash	1			
	Parallel	1			
	DIO	16-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirements	Power consumption	Intel 1.6 GHz Atom processor, 2 GB DDR2 SDRAM			
		+5 V	+3.3 V	+12 V	-12 V	+5 VSB
		1.96 A	1.21 A	0.19 A	0.06 A	0.28 A
Environment	Power type	20pin ATX connector; Support AT/ATX mode			
		Operating		Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F)		-20 ~ 70° C (-4 ~ 158° F)	
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")			

* Minimum order quantity is required.

ADVANTECH **Industrial Motherboards**

All product specifications are subject to change without notice

Last updated : 13-Jun-2012

Block Diagram

Block diagram showing:

- Intel Atom N270 1.6 GHz connected via 533 MHz FSB to Intel 945GSE GMCH
- CRT → CRT → Intel 945GSE GMCH
- 1st LVDS → 18/36 bit → Intel 945GSE GMCH
- 2nd LVDS → 24/48 bit via SDVOB → Intel 945GSE GMCH
- TV-out → Intel 945GSE GMCH
- Intel 945GSE GMCH ↔ Channel A ↔ DDR2 533
- Intel 945GSE GMCH ↔ Direct Media Interface 2 GB/s bandwidth ↔ ICH7M
- 1 ATA 100 Port or CF Type II → DMA 33/66/100 → ICH7M
- 2 SATA ports → 300 MB/s → ICH7M
- 8 USB Ports → USB 2.0/1.1 → ICH7M
- Realtek Audio Codec ALC892 → HD Audio → ICH7M
- 16-bit GPIO ↔ NXP 9555 → SM Bus → ICH7M
- ICH7M → PCIe x1 → GbE LAN1: Realtek 8111C
- ICH7M → PCIe x1 → GbE LAN2: Realtek 8111C
- ICH7M → 32-bit/33MHz PCI Bus → PCI
- LPC bus
- BIOS ↔ SPI ↔ Super I/O Winbond W83627DHG → 1 RS-232, 1 RS-232/422/485, WDT, PS/2
- Fintek F81216D → 4 RS-232
- Infineon SLB9635TT TPM 1.2 (optional)

Ordering Information

Part Number	CPU	Chipset	GbE	COM	LVDS	TV-out	TPM	Thermal Solution
AIMB-210G2-S6B1E	Atom 1.6 GHz	945GSE	2	6	1, 18-bit	Yes	None	Passive
AIMB-210F-S6B1E	Atom 1.6 GHz	945GSE	2	6	2, 18/24-bit	Yes	Yes	Passive

Note: Passive = fanless; Active = with fan

Packing List

Description	Quantity
AIMB-210 SBC	1
IDE HDD cable (40-pin)	1
SATA HDD cable	2
SATA power cable	2
Serial port cable	3
CPU cooler	1
I/O port bracket	1
Startup manual	1
Driver CD	1

I/O View

AIMB-210G2-S6B1E
AIMB-210F-S6B1E

Optional Accessories

Part Number	Description
1700003195	USB cable with two ports, 17.5 cm
1700002204	USB cable with two ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1700008809	Printer port cable, 25 cm, w/bracket

Embedded OS/API

OS/API	Part No.	Description
Win XPE	2070009632	WES2009 AIMB-210 V4.0 ENG
	2070007913	WES2009 AIMB-210 V4.0 Russian
	2070009654	WES2009 AIMB-210 V4.0 CHS
	2070007914	WES2009 AIMB-210 V4.0 24MUI
	2070006189	FP2007 AIMB-210 V3.1.0 ENG
Win CE	2070006271	CE60 Pro AIMB-210 V1.1 ENG
	2070009651	CE 5.0 Pro AIMB-210 V1.4 ENG
QNX	2070006272	QNX V6.4 AIMB-210 V1.0 ENG (Audio is not supported)

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