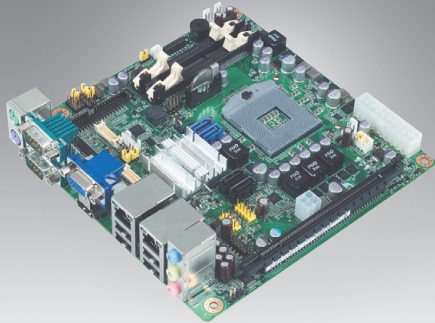


AIMB-272

Intel® Core™ i7/i5/i3/Celeron uFC-PGA988
Mini-ITX with VGA/DVI/HDMI/LVDS, 6 COM,
Dual LAN, PCIe x16

NEW



Features

- Supports Intel® Core™ i7/i5/i3 mobile processor (PGA) with Intel QM67/HM65 chipset
- Supports dual display of DVI, HDMI, LVDS, VGA
- Supports PCIe x16 (Gen 2) and mini PCIe
- Supports Intel vPro, AMT 7.0, PECL 3.0, Software RAID 0,1,5,10, TPM 1.2 (optional)
- Supports embedded software APIs and Utilities

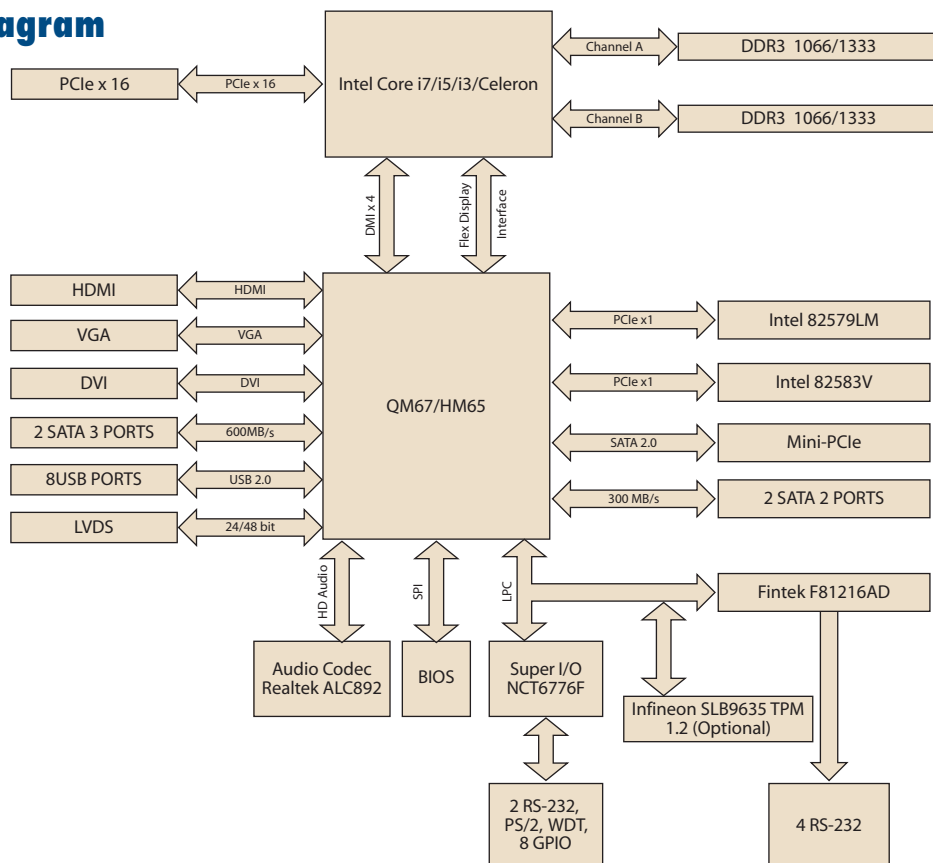


Note: eSOS requires ODM BIOS, available by request

Specifications

Processor System	CPU	Intel Core i7-2710QE	Core i5-2510E	Core i3-2330E	Celeron B810	
	Core Number	4	2	2	2	
	Max Speed	2.1 GHz	2.5 GHz	2.2 GHz	1.6 GHz	
	L3 Cache	6 MB	3 MB	3 MB	2 MB	
	Chipset	QM67/HM65				
	BIOS	AMI EFI 64 Mbit SPI				
Expansion Slot	PCI	-				
	Mini-PCIe	1				
	PCIe x16 (Gen2)	8 GB/s per direction, 1 slot				
Memory	Technology	Dual Channel DDR3 1066/1333 MHz SDRAM				
	Max. Capacity	8 GB				
	Socket	2x 204 PIN DDR3 SODIMM				
Graphics	Controller	Integrated Gfx Gen5.75, supports DirectX 10 and OpenGL 2.1				
	VRAM	Shared system memory, 2 GB and above, total system memory shared 1 GB maximum video memory				
	VGA	Yes, supports max. resolution 2048 x 1536				
	LVDS	Single channel 24-bit/dual channel 48-bit LVDS				
	HDMI	Supports HDMI 1.4, 1650 Mbps/channel with 165 MHz				
	DVI	Yes, supports max resolution 1920 x 1200				
Dual Display	CRT+LVDS, CRT+DVI, DVI+HDMI, LVDS+HDMI, CRT+HDMI, DVI+LVDS					
	Interface	10/100/1000 Mbps				
Ethernet	Controller	GbE LAN1: Intel 82579LM, LAN2: Intel 82583V				
	Connector	RJ-45 x 2				
	Max Data Transfer Rate	600 MB/s (SATA 3.0)/ 300 MB/s (SATA 2.0)				
Rear I/O	Channel	2/2				
	VGA	1				
	HDMI	1				
	Ethernet	2				
	USB	4 (USB 2.0 compliant)				
	Audio	3 (Mic-in, Line-out, Line-in)				
	Serial	2 (RS-232)				
	PS/2	2 (1 x keyboard and 1 x mouse)				
Internal Connector	USB	4 (USB 2.0 compliant)				
	LVDS/inverter	1				
	DVI	1				
	Serial	4 (RS-232)				
	IDE	-				
	SATA	2 (SATA 3.0), 2 (SATA 2.0)				
	Mini-PCIe	1				
	Cfast	1				
	Parallel	-				
	IrDA	-				
Watchdog Timer	GPIO	8-bit				
	Output	System reset				
Power Requirements	Interval	Programmable 1 ~ 255 sec/min				
	Power On	5 V	3.3 V	12 V	5 Vsb	-12 V
Environment		3.42 A	1.1 A	1.19 A	0.5 A	0.07A
	Temperature	Operating 0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		Non-Operating -20 ~ 70° C (-4 ~ 158° F)		
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")				

Board Diagram



Ordering Information

Part Number	Chipset	VGA	DVI	LVDS	HDMI	GbE LAN	COM
AIMB-272G2-00A1E	QM67	Yes	Yes	Yes	Yes	2	6
AIMB-272VG-00A1E	HM65	Yes	Yes	No	Yes	1	6

Optional Accessories

Part Number	Description
1700003195	USB cable with four ports, 17.5 cm
1700002204	USB cable with four ports, 27 cm
1700008461	USB cable with four ports, 30.5 cm
1700008822	DVI cable

Packing List

Part Number	Description	Quantity
1700003194	SATA HDD cable	2
1703150102	SATA power cable	2
1960051292N001	CPU cooler	1
1701400181	Cable kit for 4 serial ports	1
1960019192T100	I/O port bracket	1
20060272010	Startup manual	1
20660272000	Driver CD	1

Embedded OS/API

OS/API	Description
Win XPE	XPE WES 2009
Software API	SUSI V3.0

I/O View



AIMB-272G2-00A1E
AIMB-272VG-00A1E

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control



GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.



I2C

I2C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I2C API allows a developer to interface with an embedded system environment and transfer serial messages using the I2C protocols, allowing multiple simultaneous device control.

Display



Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Monitor



Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.



Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Power Saving



CPU Speed

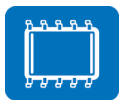
Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.



Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.



Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.



eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.



Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.