# AIMB-224 Mobile AMD R-series Quad Core/Dual Core Mini-ITX with VGA/LVDS/HDMI/DP/eDP, 6COM and Dual LAN



#### **Features**

- Supprt AMD Mobile eTrinity Quard core/Dual Core processor
- Two 204-pin SODIMM up to 16 GB DDR3 1066/1333/1600 MHz SDRAM
- Supports VGA/LVDS/HDMI/DP/eDP
- Daul LANs, 6COM, 2Mini PCIe
- Supports embedded software APIs and Utilities



# Windows

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#### **Specifications**

Processor System	CPU	AMD Quad Core R-464L	AMD Quad Core R-460H	AMD Dual Core R-272F	
	Max. Speed	2.3 GHz (quard core 35W)	2.1 GHz (quard core 35W)	2.6 GHz (dual core 35W)	
	L2 Cache	1M/per core		· · · · ·	
	Chipset	AMD R-series+A70M			
	BIOS	AMI 32 Mhit SPI			
	PCI	None			
Expansion Slot	Mini-PCle	2			
	PCIe	PCIex16			
	Technology	Dual Channel DDB3 1066/1333/160	0 MHz		
Memory	Max Canacity	16 GB			
Wentery	Socket	2 x 204 nin SODIMM			
	Controller	AMD Badeon™ GPLIs_support DX1	1 11//D3		
	VRAM	None	1,0705		
	VGA	Supports up to 4006 x 2400 @ 60 H	lv .		
Graphics		Supports 24 bit dual channel up to	1020 x 1200 co. lav oDP (by ROM option)		
		1020 x 1200 @ 60 MHz co. lav Disp	lay port (by BOM option)		
	Triple Display	Support triple display of any three d	ay put (by DOM uption)	ומח	
Ethernet	Interface	10/100/1000 Mbps	וועונים איז		
	Controllor	ChE I ANIA Poplial 9111E: ChE I AN	2. Dealtok 0111E		
	Connector	DL 45 v 2	2. REDIER OTTE		
	May Data Trapafar Data				
SATA	Chappel	000 IVID/S			
	Ulalifier	J			
EIDE	Channel	None			
		1			
		1 aplay DD (by DOM aption)			
	HUIVII	T COTAY DP (DY BOINT OPTION)			
	Ethemet				
Rear I/O	USB	4 (IOUI USB 3.0)			
	Audio	3 (MIC-IN, LINE-OUT, LINE-IN)			
	Serial	2 (2 RS-232)			
	DUJACK	1 (2.5 mm)			
	KB/MB				
Internal Connector	LVDS & Inverter	1			
	USB	4 (USB2.0)			
	Serial	4 (3 RS-232; 1 RS-232/422/485; U	JM3 support 5V/12V by jumper selection)		
	IDE	None			
	SAIA	4			
	Parallel	None			
	GPIO	8 bit			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
		Single Voltage 12V DC input by 1x I	External DC phone Jack or 1x Internal 2x2-	pin Power Connector;	
Power Requirement	Typical	AI/AIX Supported by Jumper	AT/ATX Supported by Jumper		
		max power consumption: 90W(R-464L/R-460H+16G DDR3 RAM)			
Environment	-	Operating	Non-Operating		
Linnollinolit	Iemperature	<u>0 ~ 60° C (32 ~ 140° F)</u>	-40 ~ 85° C (	-40 ~ 185° F)	
Physical Characteristics	Dimensions	170 mm x 170 mm (6.69" x 6.69")			

Industrial Motherboards AD\ANTECH

All product specifications are subject to change without notice



# **Ordering Information**

Part Number	Display	LAN	COM	TPM
AIMB-224G2-00A1E	VGA/LVDS/DP	2	6	Yes
AIMB-224G2-01A1E	VGA/eDP/HDMI	2	6	Yes

### **Packing List**

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AIMB-224 SBC 1	
SATA HDD cable 2	
Serial port cable 1	
I/O port bracket 1	
Startup manual 1	
Driver CD 1	
CPU cooler 1	

# **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
1757003064	Adapter AC100-240V, 84W, +12V/ 7A FSP

# Embedded OS/API

OS/API	Description
Win XPE	WES 2009
Software API	SUSI V3.0
WES7E	WIN 7 Embedded

# 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



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 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.



I<sup>2</sup>C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s. The I<sup>2</sup>C API allows a developer to interface with an embedded system environment and transfer serial messages using the I<sup>2</sup>C protocols, allowing multiple simultaneous device control.

#### Display



Control

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



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

### **Software Utilities**



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.



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.



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.

#### Monitor



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.



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



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**



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





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%.

Throttlina



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 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

