

## AIMC-3421

# Micro Computer, Intel® Core™ i7/i5/i3 CPU, H81, 4 Expansions 2PCI/2PCIe, 300W PSU

## Startup Manual

### Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

1. AIMC-3421 Bare System x 1 P/N: AIMC-3421-00A1E
2. Driver CD x 1 P/N: 2066302801
3. USB 2.0 Cable x 1 P/N: 1700014398
4. USB 3.0 Cable x 1 P/N: 1700020277-01
5. Four-port USB Cable x 1 P/N: 1700014398
6. LPT Cable x 1 P/N: 1700002223
7. Mounting Brackets x 2 P/N: 1960014487T00C
8. Rubber Foot x 4 P/N: 1990012452S000

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

**Note 1:** For detailed contents of AIMC-3421, please refer to information on the enclosed CD-ROM (in PDF format).

**Note 2:** Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [get.adobe.com/reader](http://get.adobe.com/reader) (Acrobat is a trademark of Adobe)

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://support.advantech.com.tw/support/default.aspx>

This manual is for the AIMC-3421 Series Rev. A1.

Part No. 2001342100  
Printed in China

1st Edition,  
August 2014

### Specifications

#### Processor System

- LGA1150 Intel® Core™ i5/i3/Pentium®/Celeron®

Haswell Refresh CPU (Support from BIOS V2.XX)						
CPU	i7-4790S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE
Base Frequency (GHz)	3.2	3	2	2	3.7	3.1
L3 Cache (MB)	8	6	6	4	4	4

Haswell CPU (Support from BIOS V1.XX)										
CPU	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	G3420	G3320TE	G1820	G1820TE
Base Frequency (GHz)	3.1	2.3	2.9	2.7	3.5	2.4	3.2	2.3	2.7	2.2
L3 Cache (MB)	8	8	6	4	3	3	3	3	2	2

- \* Part Number iX-XXXXTX & GXXXXXX can use 1U CPU Cooler for 2 Expansion slots. The rest CPUs have to use 1.5U Cooler for 1 Expansion slot.

#### BIOS

- AMI 128 Mbit SPI Flash

#### Chipset

- Intel H81

#### Memory

- Supports Dual Channel DDR3 1066/1333/1600 8 GB per DIMM, Max capacity is 16GB

#### Graphic

- **Chipset:** Intel® HD Graphics

#### Expansion Slot

- One PCIe x16
- One PCIe x4
- Two PCI

#### Ethernet

- **Chipset supports:**
  - LAN 1: Intel® I217V
  - LAN 2: Intel® I211
- **Connection:** 2 on-board RJ-45 connector with LED indicators

#### SATA

- **Max Data Transfer Rate:** 600 MB/s (SATA 3.0)
- **HDD Bay:** 1 internal 3.5"

## Specifications (Cont.)

### I/O Interface

- **Display:** VGA + DVI-D
- **USB:** 4 USB2.0 (2 in front, 1 in rear, 1 type-A onboard for software key)
- **PS/2:** 1

### Watchdog Timer

- Programmable 1~255 sec/min

### Power Supply

- **Output Rating:** AC 250W, ATX
- **Input Voltage:** 100 VAC ~ 240 VAC

### Cooling

- **System Fan:** 2 (6cm / 27.7 CFM)
- **Air Filter:** Yes

### Environment

- **Operating Temperature:** 0 ~ 40°C (32 ~ 104°F)
- **Non-operating Temperature:** -20 ~ 60°C (-4 ~ 140°F)
- **Operating Humidity:** 10 ~ 85% @ 40°C, non-condensing
- **Non-operating Humidity:** 10 ~ 95% @ 40°C, non-condensing

### Physical Characteristics

- **Dimension (WxHxD):** 232 x 90 x 232 mm

## Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each of the jumpers and connectors.

### Connectors

Label	Function
LPT1	Parallel port, supports SPP/EPP/ECP mode
LAN1	Intel I217V
LAN2	Intel I211AT
VGA1	VGA connector
KBMS1	External keyboard/mouse connector
COM12	Box header for RS-232*2
FP1	Power switch / Reset connector
JCASE1	Case open
CPUFAN1	CPU FAN connector (4-pin)
LANLED1	LAN1/2 LED connector
HDAUD1	HD audio extension module connector
USB12	USB port 1, 2 (USB 3.0 port)
USB3	USB port 3 (USB 2.0)
USB4	Type A connector on board (USB 2.0)
USB56	USB port 5, 6 (USB 2.0)

## Jumpers and Connectors (Cont.)

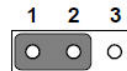
USB78	USB port 7, 8 (USB 2.0)
USB910	USB port 9, 10 (USB 2.0)
SATA1	Serial ATA1 (SATA 3.0)
SATA2	Serial ATA2 (SATA 3.0)
SATA3	Serial ATA3 (SATA 2.0)
SATA4	Serial ATA4 (SATA 2.0)
CPU1	CPU Socket
DIMMA1	Memory connector channel A1
DIMMB1	Memory connector channel B1
GPIO1	GPIO pin header
LPC1	Low pin count module expansion pin-header
PWR1	12 V, 5 V power connector
DVI1	DVI connector

### Jumpers

Label	Function
JCMOS1	CMOS clear
JOBS1+JWDT1	Hardware monitor alarm+watchdog timer output selection
BZ1	Buzzer setting
JME1	Enable ME

### JCMOS1: Clear CMOS

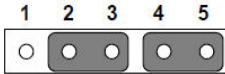
Closed Pins	Result
1-2	Keep CMOS (Default)
2-3	Clear CMOS



## Jumpers and Connectors (Cont.)

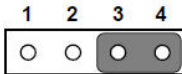
### JOBS1+JWDT1: Hardware monitor alarm+watchdog timer output selection

Function	Jumper Setting
2-3	Enable watchdog timer (Default)
4-5	Enable Hardware monitor alarm (Default)



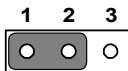
### BZ1: Buzzer setting

Closed Pins	Result
3-4	Enable buzzer (Default)
Connect 1 & 4	Connecting to external speaker



### JME1: Enable ME

Closed Pins	Result
1-2	Enable ME (Default)
2-3	Disable ME



## Software Installation

The drivers for the AIMC-3421 are located on the software installation CD. Please click through the folder and follow the on screen instructions to install them.

**Caution!** The computer is supplied with a battery-powered realtime clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

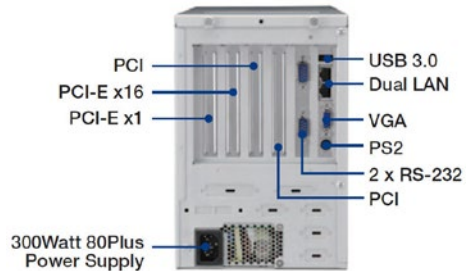


## Declaration of Conformity

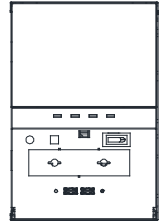
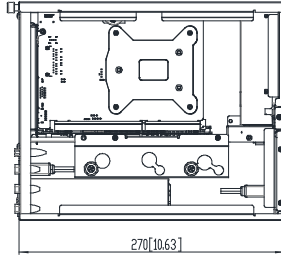
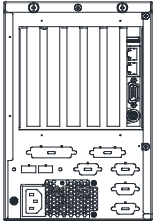
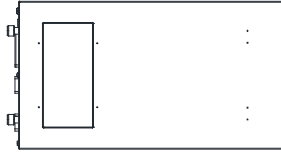
This device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation.

## System I/O Interface



# System Dimension



## AIMC-3421

微型计算机, Intel® Core™ i7/i5/i3 CPU,  
H81, 4扩展槽, 2PCI/2PCIe, 300W PSU

## 快速入门手册

### 包装清单

安装系统之前, 用户需确认包装中含有本设备以及下面所列各项:

- |                     |                      |
|---------------------|----------------------|
| 1. AIMC-3421准系统 x 1 | P/N: AIMC-3421-00A1E |
| 2. 驱动光盘 x 1         | P/N: 2066302801      |
| 3. USB2.0电缆 x 1     | P/N: 1700014398      |
| 4. USB3.0电缆 x 1     | P/N: 1700020277-01   |
| 5. 4端口USB电缆 x 1     | P/N: 1700014398      |
| 6. LPT电缆 x 1        | P/N: 1700002223      |
| 7. 安装支架 x 2         | P/N: 1960014487T00C  |
| 8. 橡胶垫脚 x 4         | P/N: 1990012452S000  |

如果其中任何一项缺失或损坏, 请立即与经销商或销售代表联系。

- 注1: 有关AIMC-3421产品的详细信息, 请参考CD光盘中的信息 (PDF格式)。
- 注2: 阅读PDF文件需要使用Acrobat Reader。用户可从以下路径下载Acrobat Reader: [get.adobe.com/reader](http://get.adobe.com/reader) (Acrobat为Adobe公司的商标)

如需了解有关产品及研华其它产品的详细信息, 请访问我们的网站:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

如需技术服务与支持, 请访问我们的技术支持网站:

<http://support.advantech.com.tw/support/default.aspx>

本手册适用于AIMC-3421系列Rev. A1。

料号: 2001342100  
中国印刷

第一版  
2014年9月

### 产品规格

#### 处理器系统

- LGA1150 Intel® Core™ i5/i3/Pentium®/Celeron®

Haswell Refresh CPU (支持BIOS V2.XX)						
CPU	i7-4790S	i5-4690S	i5-4590T	i3-4360	i3-4350T	i3-4340TE
基频 (GHz)	3.2	3	2	3.7	3.1	2.6
三级缓存 (MB)	8	6	6	4	4	4

Haswell CPU (支持BIOS V1.XX)										
CPU	i7-4770S	i7-4770TE	i5-4570S	i5-4570TE	i3-4330	i3-4330TE	G3420	G3320TE	G1820	G1820TE
基频 (GHz)	3.1	2.3	2.9	2.7	3.5	2.4	3.2	2.3	2.7	2.2
三级缓存 (MB)	8	8	6	4	3	3	3	3	2	2

- \* 料号iX-XXXXX & GXXXXX的2个扩展槽可使用1U CPU C冷却器。而其它CPU需要为1个扩展槽使用1.5U冷却器。

#### BIOS

- AMI 128 Mbit SPI Flash

#### 芯片组

- Intel H81

#### 内存

- 支持双通道DDR3 1066/1333/1600, 每个DIMM为 8 GB, 最大容量为16 GB

#### 显示

- 芯片组: Intel® HD Graphics

#### 扩展插槽

- 1个PCIe x16
- 1个PCIe x4
- 2个PCI

#### 以太网

- 芯片组支持:
  - LAN 1: Intel® I217V
  - LAN 2: Intel® I211
- 连接: 2个板载RJ-45接口, 带LED指示灯

#### SATA

- 最大数据传输速率: 600 MB/s (SATA 3.0)
- HDD磁盘盒: 1个内置3.5"

#### I/O接口

- 显示: VGA + DVI-D
- USB: 4个USB2.0接口 (2个位于前面板, 1个位于后面板, 1个type-A板载软件按键)
- PS/2: 1

#### 看门狗定时器

- 可编程1~255秒/分

## 产品规格 (续)

### 电源

- 输出功率: AC 250 W, ATX
- 输入电压: 100 VAC ~ 240 VAC

### 冷却

- 系统风扇: 2 (6 cm/27.7 CFM)
- 空气过滤器: 有

### 环境

- 工作温度: 0 ~ 40° C (32 ~ 104° F)
- 非工作温度: -20 ~ 60° C (-4 ~ 140° F)
- 工作湿度: 10 ~ 85% @ 40° C, 非凝结
- 非工作湿度: 10 ~ 95% @ 40° C, 非凝结

### 物理特性

- 尺寸(W x H x D): 232 x 90 x 232 mm

## 跳线和接口

主板上有很多跳线允许用户配置系统, 满足各种不同应用需求。下表为每个跳线和接口的功能列表。

接口	
接口	功能
LPT1	并行端口, 支持PSPP/EPP/ECP模式
LAN1	Intel I217V
LAN2	Intel I211AT
VGA1	VGA接口
KBMS1	外部键盘/鼠标接口
COM12	筒牛, 用于RS-232 * 2
FP1	电源开关/重启接口
JCASE1	机箱打开
CPUFAN1	CPU风扇接口 (4针)
LANLED1	LAN1/2 LED指示灯接口
HDAUD1	HD音频扩展模块接口
USB12	USB接口1、2 (USB3.0接口)
USB3	USB接口3 (USB 2.0)
USB4	板载Type A接口 (USB2.0)
USB56	USB接口5、6 (USB2.0)
USB78	USB接口7、8 (USB2.0)
USB910	USB接口9、10 (USB2.0)
SATA1	串行ATA1 (SATA3.0)
SATA2	串行ATA2 (SATA3.0)
SATA3	串行ATA3 (SATA2.0)
SATA4	串行ATA4 (SATA2.0)
CPU1	CPU插槽

## 跳线和接口 (续)

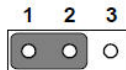
DIMMA1	内存接口通道A1
DIMMB1	内存接口通道B1
GPIO1	GPIO排针
LPC1	低脚位模块扩展排针
PWR1	12 V、5 V电源接口
DVI1	DVI接口

### 跳线

跳线	功能
JCMOS1	清除CMOS
JOBS1+JWDT1	硬件监视器报警 - 看门狗定时器输出选择
BZ1	蜂鸣器设定
JME1	启用ME

### JCMOS1: 清除CMOS

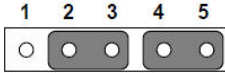
闭合针脚	结果
1-2	保留CMOS (默认)
2-3	清除CMOS



## 跳线和接口（续）

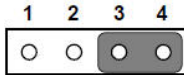
### JOBS1+JWDT1: 硬件监视器报警 - 看门狗定时器输出选择

闭合针脚	跳线设置
2-3	启用看门狗定时器（默认）
4-5	启用硬件监视器报警（默认）



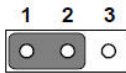
### BZ1: 蜂鸣器设定

闭合针脚	结果
3-4	启用蜂鸣器（默认）
连接1 & 4	连接至外部扬声器



### JME1: 启用ME

闭合针脚	结果
1-2	启用ME（默认）
2-3	禁用ME



## 软件安装

AIMC-3421的驱动位于软件安装光盘中。请点击文件夹并按照屏幕指示进行操作。

**注意!** 计算机配置了由电池供电的实时时钟电路，如果电池更换不正确，将有爆炸的危险。因此，只可以使用制造商推荐的同一种或者同等型号的电池进行替换。请按照制造商的指示处理旧电池。

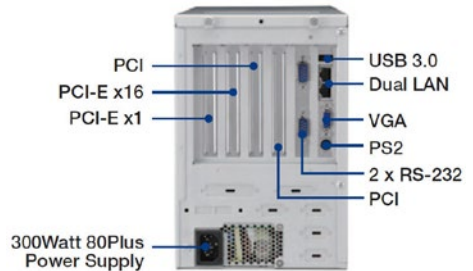


## 符合性声明

本品符合FCC规则第15款限制。操作符合下列两种情况：

1. 此设备不可产生干扰，且
2. 此设备必须接受任何干扰，包括可能导致非预期造作的干扰。

## 系统I/O接口



# 系统尺寸

