

PCM-4381 Intel® Pentium® M EPIC SBC with VGA/2 LVDS/ 2 Ethernet/ 4 COM/ 2 SATA/6 USB 2.0/ 16 bit GPIO

Packing List

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

1. PCM-4381 all-in-one single board computer x 1
2. Startup manual x 1
3. CD disk for utility and drivers x 1
4. Mini Jumper (10 pcs package) x 1 p/n: 9689000002

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

Note 1: For detailed contents of PCM-4381, 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: www.adobe.com/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

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

<http://www.advantech.com>

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

<http://service.advantech.com.tw/eservice/>

This manual is for the PCM-4381 series Rev. A1

Part No. 2006438100

Print in China

1st Edition,
August 2008

Specifications

General

- **CPU:**
 - Onboard type: Intel Celeron M 600 MHz/ 1.0 GHz (910GMLE)
 - Socket type: Intel Pentium M/ Celeron M series (915GME)
- **2nd Cache Memory:** Depends on CPU
- **System Chipset:**
 - CPU is on board type: Intel 910GMLE + ICH6M
 - CPU is socket type: Intel 915GME + ICH6M
- **BIOS:** Award 4 Mbit
- **System Memory:** 1 x 200-pin SODIMM sockets, Double Data Rate (DDR2) up to 2 GB (910GMLE supports DDR2 400 MHz, 915GME supports DDR2 400/533 MHz)
- **Power Management:** APM 1.2, ACPI support
- **Watchdog Timer:** 255-level interval timer, setup by software, Super I/O integrated, SMSC Controller
- **Expansion Interface:** Supports 1 x PCI-104
- **Battery:** Lithium 3 V / 210 mAh

I/O

- **I/O Interface:** 2 x SATA 150, 1 x K/B, 1 x mouse, 3 x RS232, 1 x RS232/422/485, 1 x LPT
- **USB:** 6 x USB 2.0 compliant ports
- **Audio:** AC97, Line-in, Line-out, Mic-in
- **IrDA:** N/A
- **GPIO:** 16 bit general purpose for input or output

Ethernet

- **Chipset:** 2 x Realtek RTL8111B-GR
- **Speed:** 10/100/1000 Mbps
- **Interface:** 2 x RJ45 by cable
- **Standard:** IEEE 802.3u 100Base-T & IEEE 802.3ab 1000Base-T

Display

- **Controller:** Intel 910GMLE/915GME
- **VRAM:** Optimized Shared Memory Architecture up to 128 MB system memory
- **LVDS LCD:** 1 x 36-bit LVDS1, 1 x 48-bit LVDS2 (optional)
- **Dual Independent Display:** CRT + LVDS, LVDS + LVDS

Specifications

Mechanical and Environmental

- **Dimension (mm):** 115 mm (L) * 165 mm (W)
- **Height on Top (mm):**
 - PCM-4381F-00A1E 17 mm (USB connector)
 - PCM-4381F-S0A1E 27.6 mm (Heat sink)
 - PCM-4381L-M0A1E 27.6 mm (Heat sink)
- **Height on Bottom (mm):** 9.2 mm (memory socket)
- **Heatsink Dimension (mm):** 109 x 52 x 27.6 mm (PCM-4381L-M0A1E, PCM-4381F-S0A1E)
- **Weight (g):** 110 Kg (Weight of total package)
- Operating Temperature: 0 ~ 60° C (32~140° F)
- **Operating Humidity:** 0% ~ 90% Relative Humidity, noncondensing
- **Storage Temperature:**
 - Standard products: 0 ~ 60° C
 - Storage temperature: -20 ~ 70° C
- **Storage Humidity:**
 - Standard products: 0 ~ 60° C
 - Relative humidity: 95% @ 60° C
- **Power Supply Voltage:**
 - Voltage requirement with ATX Power :
 - +5 V ±5%
 - ±12 V ±5%**
 - Voltage requirement with AT Power :
 - +5 V ±5%
 - ±12 V ±5%**
 - AT: 5 V only to boot up, 12 V option for LCD Inverter

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.

Jumpers	
Label	Function
JP1	CLEAR CMOS
JP2	COM2 RS232/422/485 Select
JP3	External LVDS PANEL POWER Select
JP4	Internal LVDS PANEL POWER Select
JP5	PCVIO POWER Select

Jumpers and Connectors

Connectors

Label	Function
CN1	POWER connector
CN2	CPU Socket 479
CN3	DDR2 SO-DIMM
CN4	BATTERY connector
CN6	ATX POWER button connector
CN7	GPIO1 connector
CN8	LAN1 (RJ45)
CN9	LAN2 (RJ45)
CN11	Compack Flash connector
CN13	HD & Power LED
CN14	Internal LVDS connector
CN15	Internal LCD Backlight
CN16	CRT connector
CN18	USB0/1
CN19	KB/MS connector
CN20	USB2/3
CN21	COM1
CN22	AUDIO connector
CN23	USB 4/5
CN25	PCI-104 connector
CN26	RS422/485 connector
CN29	GPIO2 connector
CN30	COM2/3/4 & LPT
CN32	SATA1 connector
CN33	SATA2 connector
CN34	External LVDS connector
CN35	External LCD Backlight
FAN1	CPU FAN connector

Jumpers and Connectors

Jumper Setting

JP1	CLEAR CMOS
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P (M) 2.0 mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	Normal (Default)
(2-3)	CLEAR CMOS

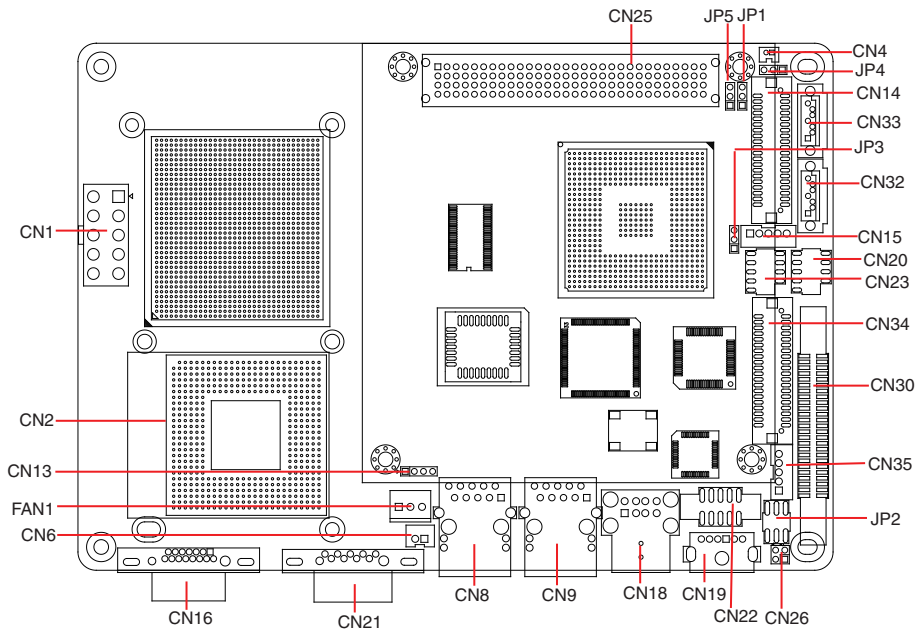
JP2	COM2 RS232/422/485 Select
Part Number	1653003260
Footprint	PH3x2P-S2.00
Description	PIN HEADER 3*2P 180D (M) 2.0 mm SMD SQUARE PIN
Setting	Function
(1-2)	RS232 (Default)
(3-4)	RS485
(5-6)	RS422

JP3	External LVDS PANEL POWER Select
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D (M) 2.0 mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	5 V for LVDS2 POWER Select
(2-3)	3.3 V for LVDS2 POWER Select (Default)

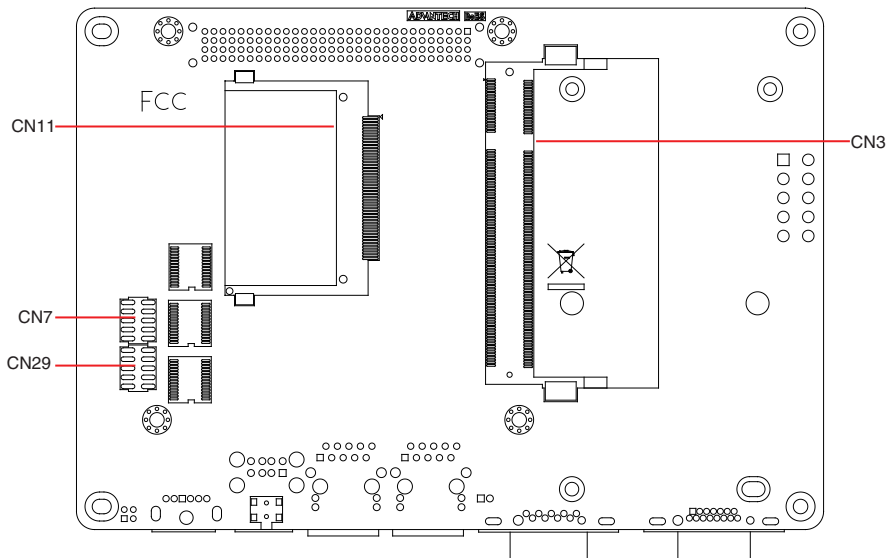
Jumpers and Connectors

JP4	Internal LVDS PANEL POWER Select
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D (M) 2.0 mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	5 V for LVDS2 POWER Select
(2-3)	3.3 V for LVDS2 POWER Select (Default)

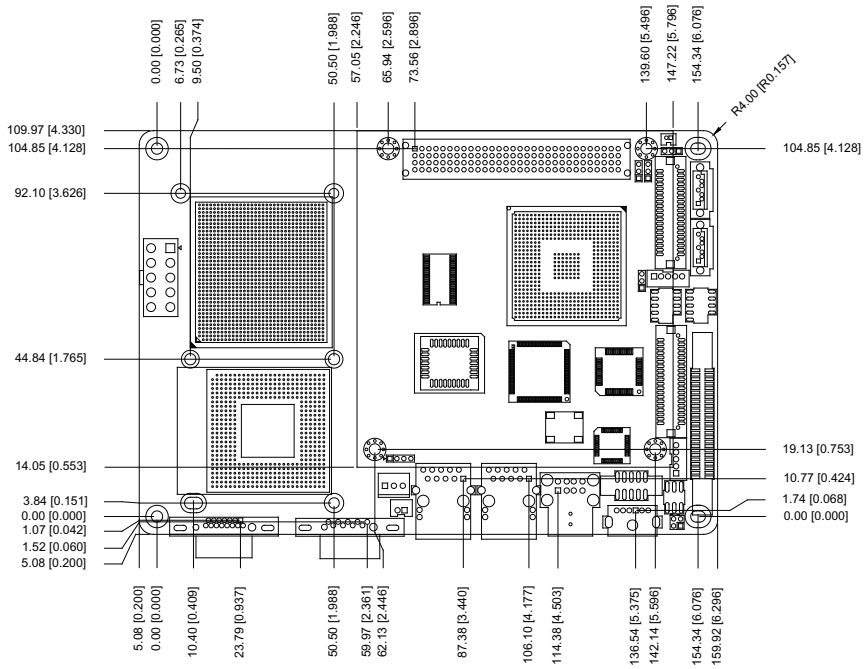
JP5	PCI V/I/O POWER Select
Part Number	1653003101
Footprint	JH3X1V-2M
Description	PIN HEADER 3*1P 180D (M) 2.0 mm SQUARE W/O Pb
Setting	Function
(1-2)	With +5 V
(2-3)	With +3.3 V (Default)



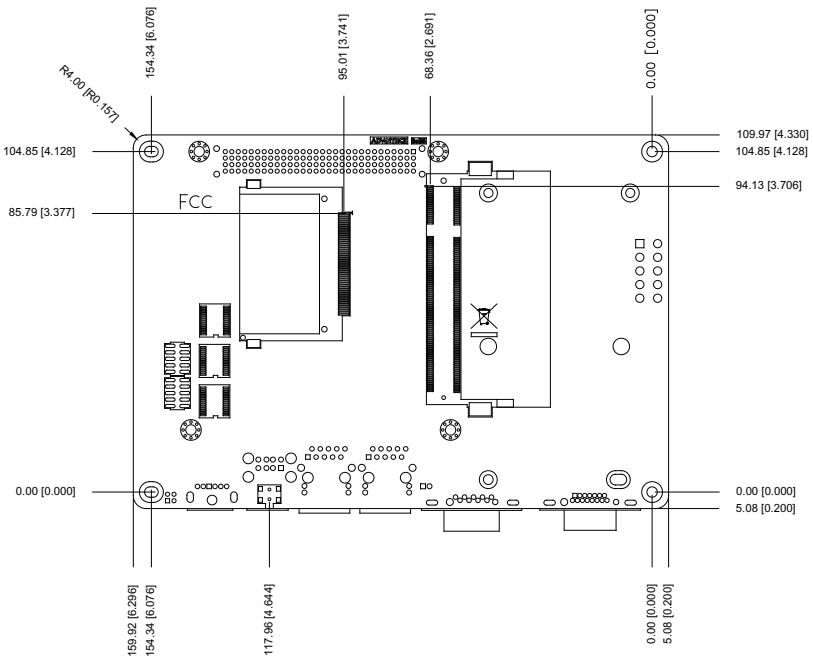
Jumper and Connector Layout (Component Side)



Jumper and Connector Layout (Solder Side)



Board Dimension Layout (Component Side)



Board Dimension Layout (Solder Side)