

ENX-CDD

Intel® Atom™ Cedar Trail Nano ITX Motherboard

Intel® D2550 or N2800 + NM10 Chipset

Quick Installation Guide



3rd Ed – 29 March 2013

1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

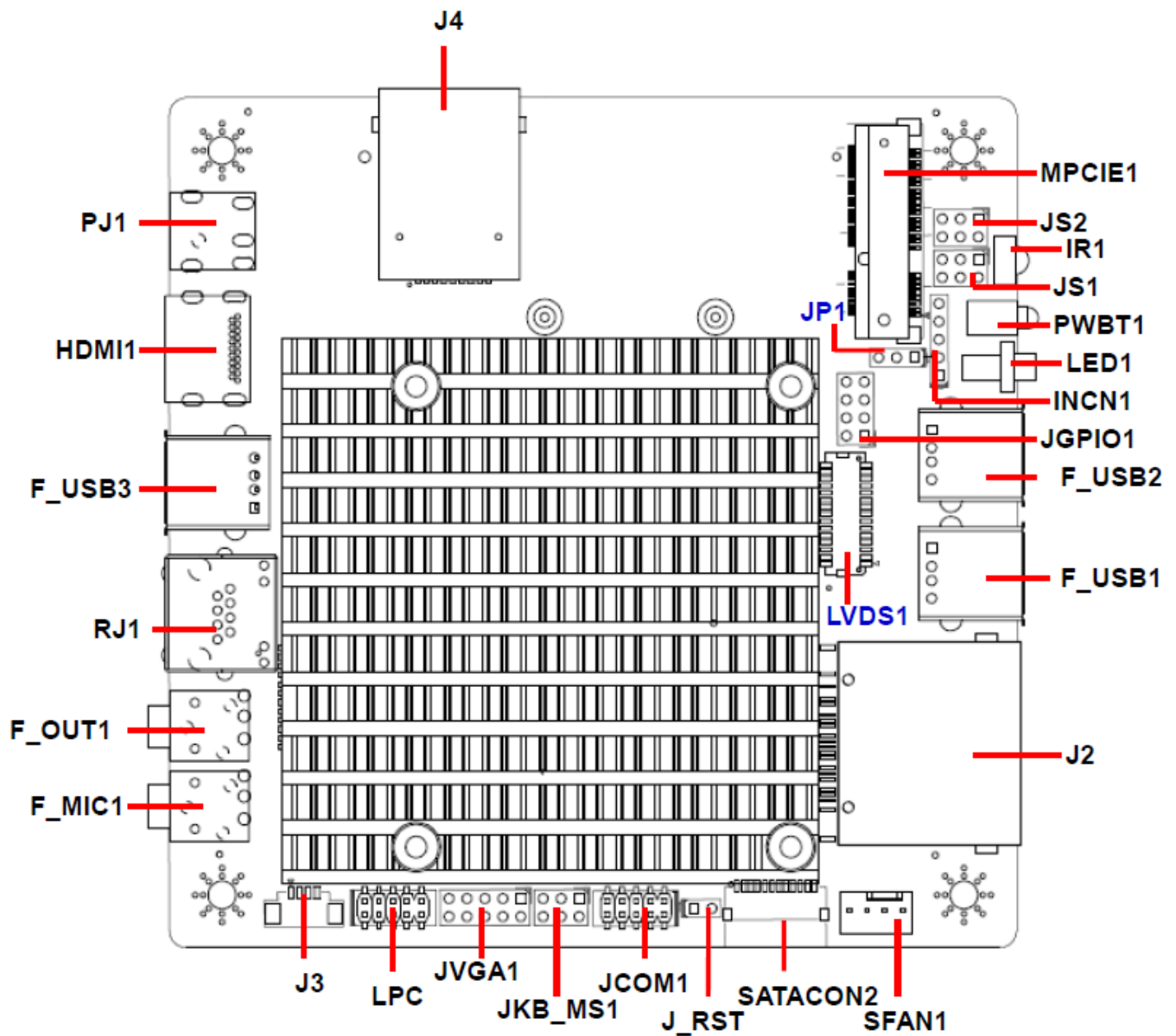
1.2 Packing List

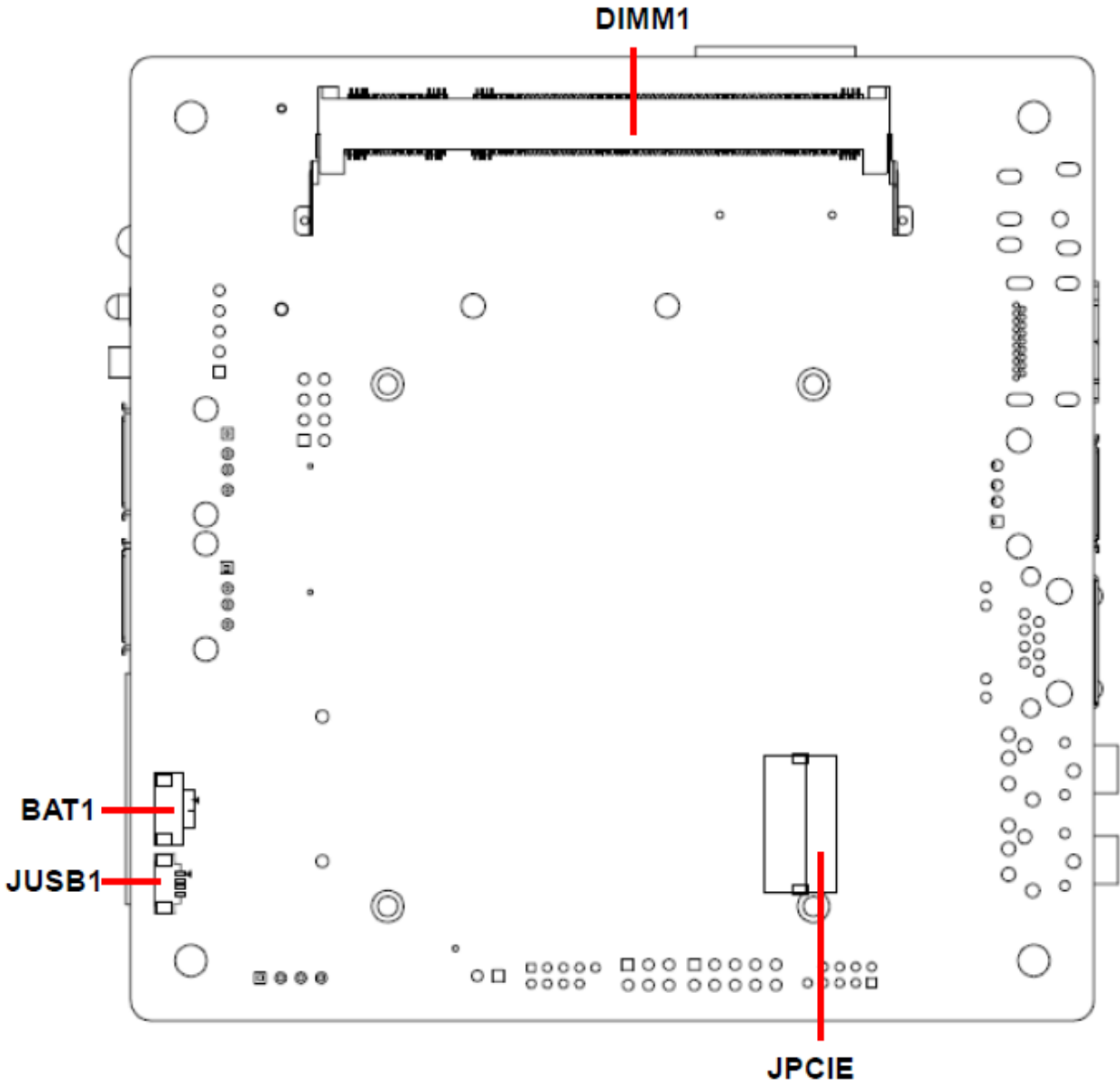
Before you begin installing your single board, please make sure that the following materials have been shipped:

- Quick Installation Guide X 1
- Driver/Utility CD X 1
- Serial ATA Signal with Power Cable X 1
- Serial ATA AUX Board X1
- COM Cable X 1
- VGA Cable X1
- Motherboard X 1

2. Hardware Configuration

2.1 Product Overview

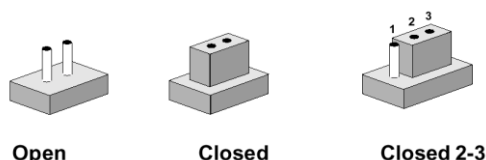




2.2 Jumper and Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



The jumper settings are schematically depicted in this manual as follows:



A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

The following tables list the function of each of the board’s jumpers and connectors.

Jumpers

| Label | Function | Note |
|-------|---------------------------------|-----------------------------|
| JS1/2 | mSATA/Mini PCIe function Jumper | 3 x 2 header, pitch 2.54 mm |
| JP1 | LVDS voltage | 3 x 1 header, pitch 2.54 mm |

Connectors

| Label | Function | Note |
|-------|----------------------|-----------------------------|
| BAT1 | Battery connector | 2 x 1 wafer, pitch 1.25 mm |
| JPCIE | PCIE signal selector | 14 x 1 wafer, pitch 1.00 mm |
| J_RST | Reset connector | 2 x 1 header, pitch 2.54 mm |
| HDMI1 | HDMI connector | |
| J2 | SD/MS/MMC socket | |

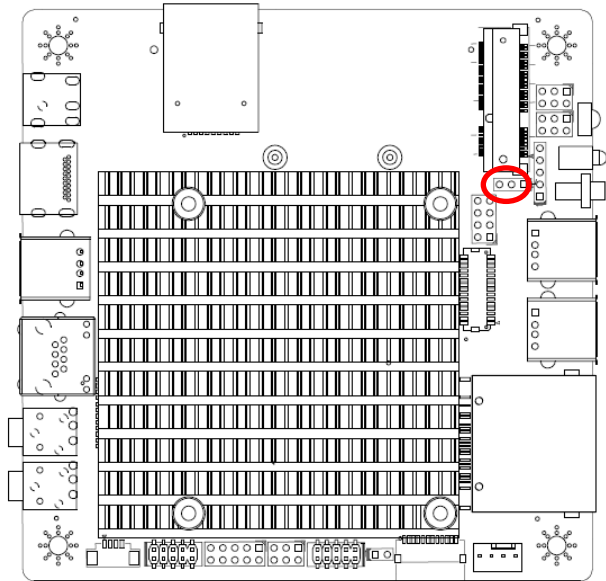
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| | | |
|-----------------|----------------------------|-----------------------------|
| J3 | Speaker connector | 4 x 1 wafer, pitch 1.25 mm |
| J4 | SIM card holder | |
| JCOM1 | Serial port 1 connector | 5 x 2 header, pitch 2.00 mm |
| PWBT1 | Power Button | |
| JGPIO1 | General Purpose I/O | 4 x 2 header, pitch 2.54 mm |
| LPC | Low Pin Count | 5 x 2 header, pitch 2.00 mm |
| LVDS1 | LVDS connector | 15 x 2 wafer, pitch 1.00 mm |
| SATACON2 | SATA AUX Board | 12 x 1 wafer, pitch 1.00 mm |
| JUSB1 | USB connector | 4 x 1 wafer, pitch 1.25 mm |
| F_MIC1 | Mic-in | |
| F_OUT1 | Line out | |
| RJ1 | LAN port | |
| CIR1 | CIR connector | |
| LED1 | HDD LED | |
| PJ1 | DC-In | |
| JKB_MS1 | Keyboard & mouse connector | 3 x 2 wafer, pitch 2.54 mm |
| F_USB1 | USB connector1 | |
| F_USB2 | USB connector2 | |
| F_USB3 | USB connector3 | |
| INCN1 | LCD Inverter connector | 5 x 1 header, pitch 2.54 mm |
| SFAN1 | System Fan connector | 4 x 1 wafer, pitch 2.54 mm |
| JVGA1 | VGA connector | 5 x 2 header, pitch 2.54 mm |
| MPCIE1 | Mini-PCI-e socket | |
| DIMM1 | DDR3 SODIMM socket | |

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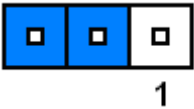
2.3 Setting Jumpers & Connectors

2.3.1 LVDS voltage (JP1)

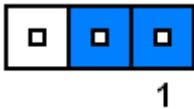


* Default

VCC5*

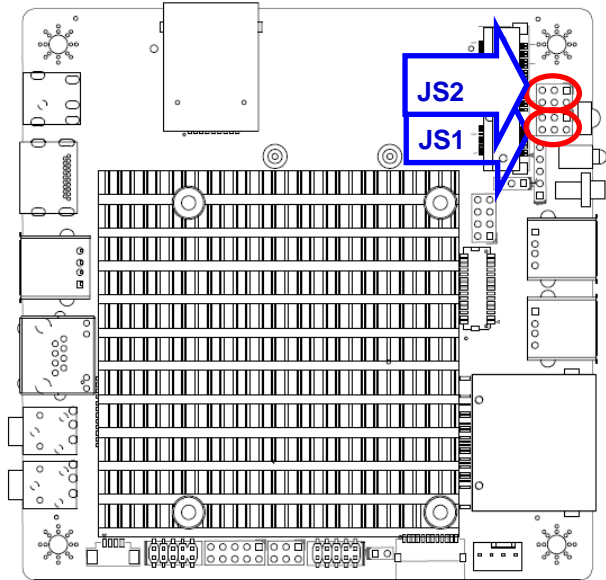


VCC3



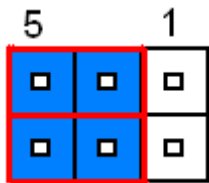
| Pin | Define |
|-----|--------|
| 1-2 | VCC3 |
| 2-3 | VCC5 |

2.3.2 mSATA/Mini PCIe function Jumper (JS1/JS2)

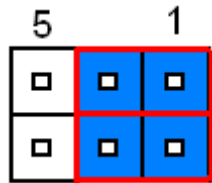


* Default

MINIPCI*



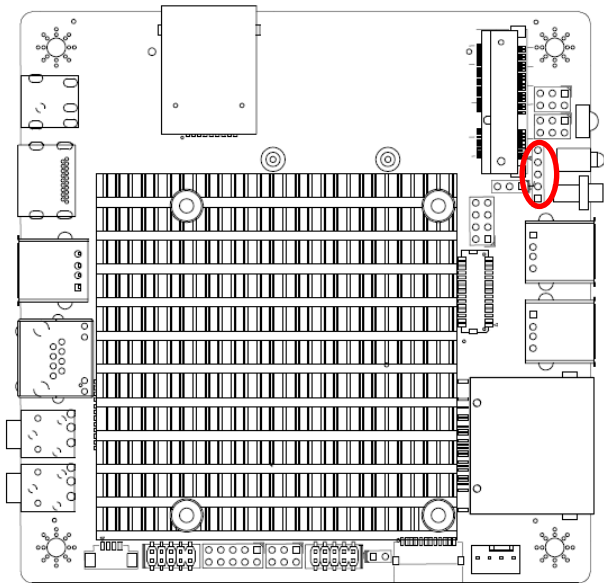
M-SATA



| Pin | Pin | Define |
|-----|-----|----------|
| 1-3 | 2-4 | M-SATA |
| 3-5 | 4-6 | MINIPCI* |

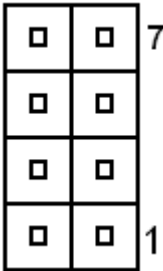
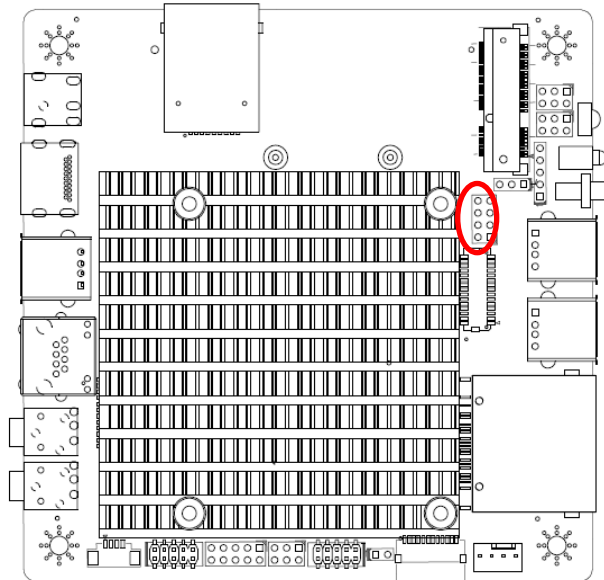
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2.3.3 LCD Inverter connector (INCN1)



| Signal | PIN |
|--------|-----|
| 5V | 5 |
| PWM | 4 |
| BKL_EN | 3 |
| GND | 2 |
| 12V | 1 |

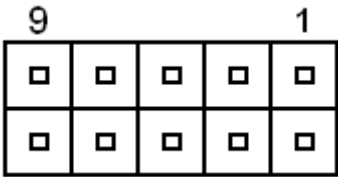
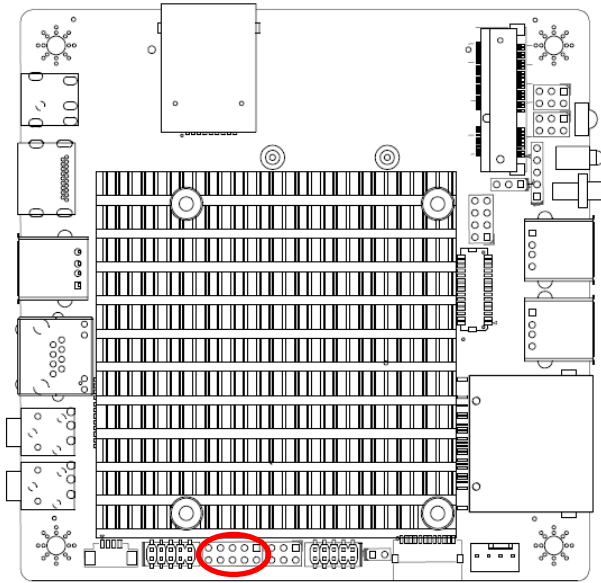
2.3.4 General Purpose I/O (JGPIO1)



| Signal | PIN | PIN | Signal |
|--------|-----|-----|--------|
| GND | 8 | 7 | GND |
| GPIO | 6 | 5 | GPIO |
| GPIO | 4 | 3 | GPIO |
| 3.3V | 2 | 1 | 5V |

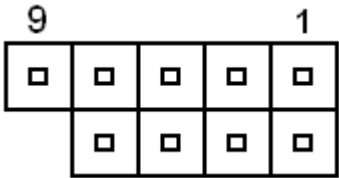
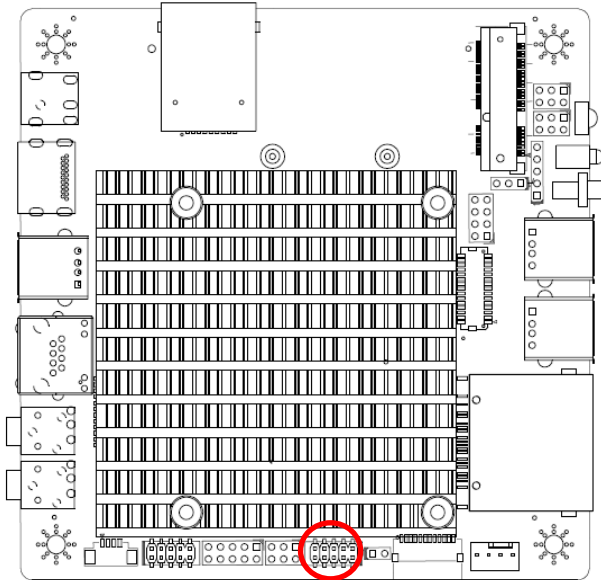
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2.3.5 VGA connector (JVGA1)



| Signal | PIN | PIN | Signal |
|----------|-----|-----|---------|
| GND | 1 | 2 | RED |
| GND | 3 | 4 | GREEN |
| GND | 5 | 6 | BLUE |
| HSYNC | 7 | 8 | VSYNC |
| DDC_DATA | 9 | 10 | DDC_CLK |

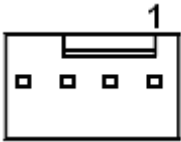
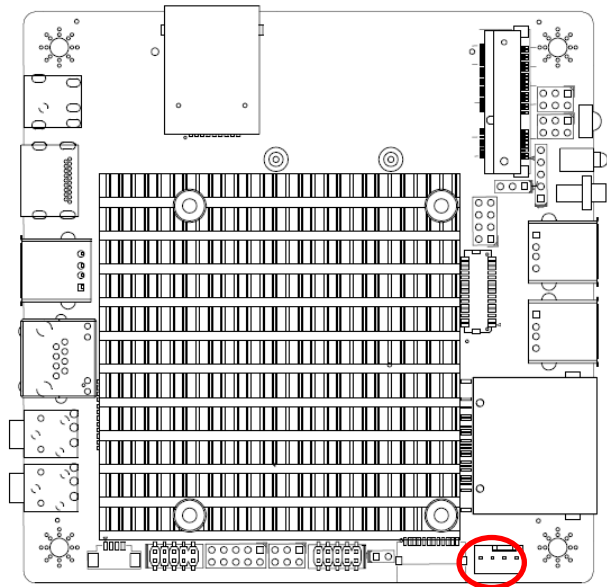
2.3.6 Serial port 1 connector (JCOM1)



| Signal | PIN | PIN | Signal |
|--------|-----|-----|--------|
| DCD | 1 | 2 | RXD |
| TXD | 3 | 4 | DTR |
| GND | 5 | 6 | DSR |
| RTS | 7 | 8 | CTS |
| RI | 9 | | |

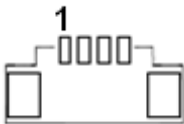
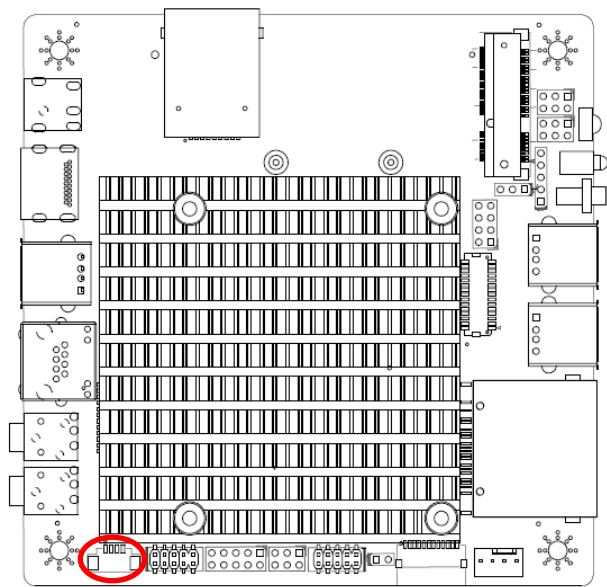
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2.3.7 System Fan connector (SFAN1)



| Signal | PIN |
|---------|-----|
| Ground | 1 |
| +12V | 2 |
| RPM | 3 |
| Control | 4 |

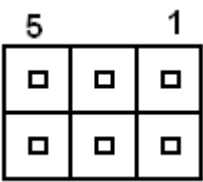
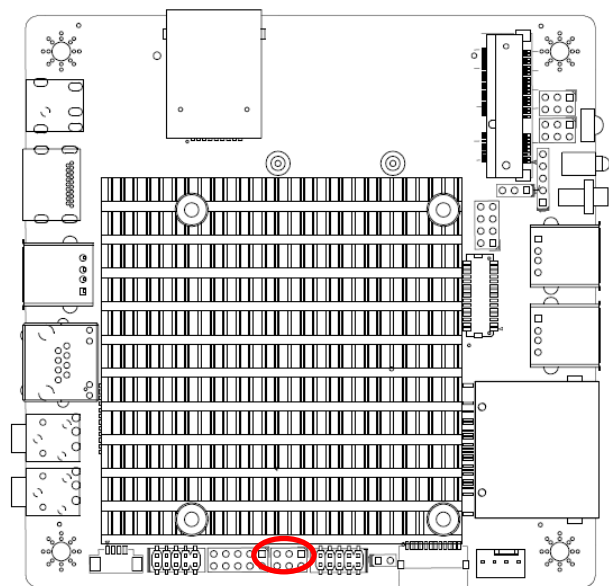
2.3.8 Speaker connector (J3)



| Signal | PIN |
|---------|-----|
| INTSPL+ | 1 |
| INTSPL- | 2 |
| INTSPR- | 3 |
| INTSPR+ | 4 |

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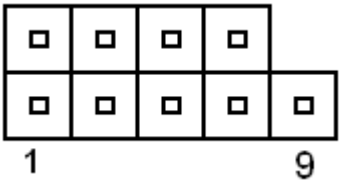
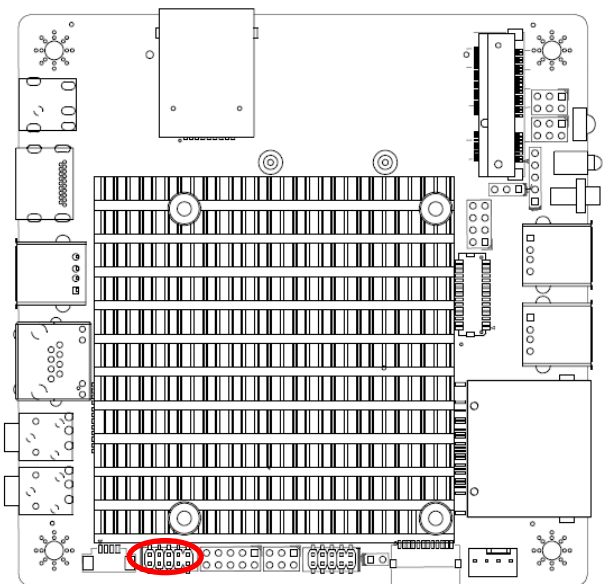
2.3.9 Keyboard & mouse connector (JKB_MS1)



| Signal | PIN | PIN | Signal |
|--------|-----|-----|---------|
| MS_CLK | 1 | 2 | MS_DATA |
| KB_CLK | 3 | 4 | KB_DATA |
| VCC | 5 | 6 | GND |

Note:
The KB/Mouse cable is not included.

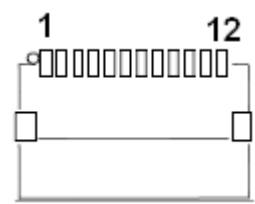
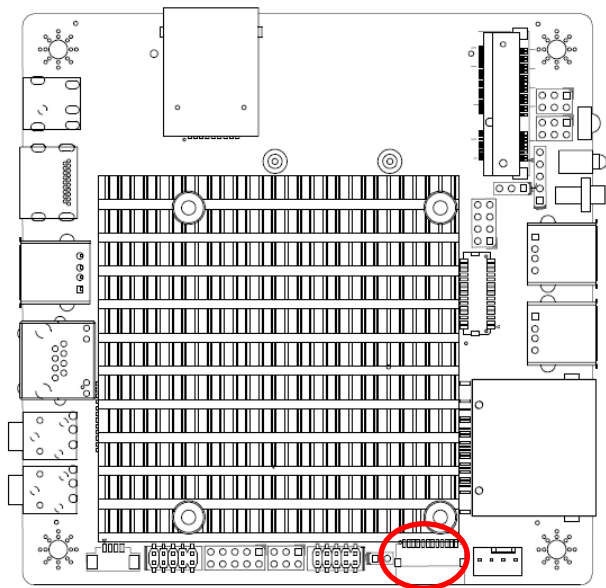
2.3.10 Low Pin Count (LPC)



| Signal | PIN | PIN | Signal |
|-----------|-----|-----|-----------|
| LPC_DATA3 | 1 | 2 | +3V |
| LPC_DATA2 | 3 | 4 | PLC_RESET |
| LPC_DATA1 | 5 | 6 | FPAME |
| LPC_DATA0 | 7 | 8 | CLK_33M |
| GND | 9 | | |

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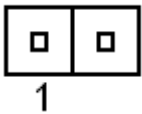
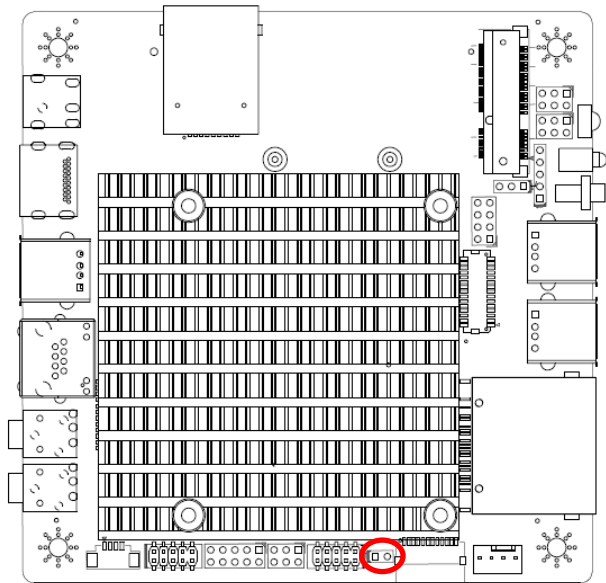
2.3.11 SATA AUX Board (SATACON2)



Note:
To SATA AUX board.

| Signal | PIN |
|--------|-----|
| NC | 1 |
| +5V | 2 |
| +5V | 3 |
| +5V | 4 |
| GND | 5 |
| GND | 6 |
| RXP | 7 |
| RXN | 8 |
| GND | 9 |
| TXN | 10 |
| TXP | 11 |
| GND | 12 |

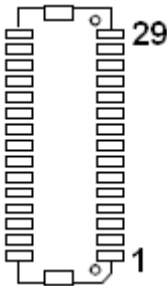
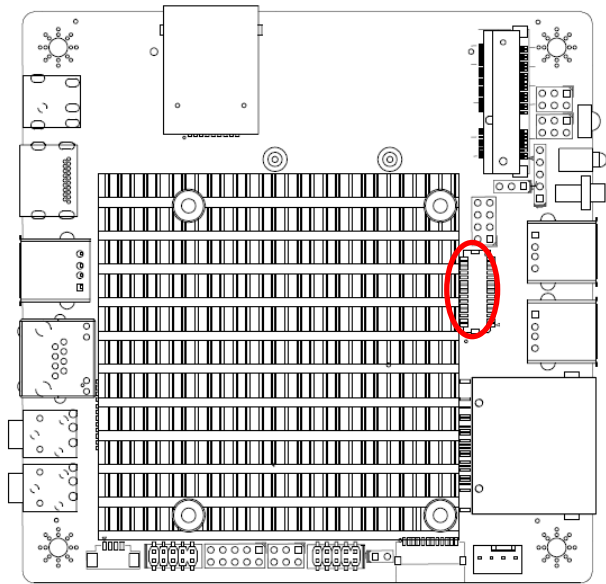
2.3.12 Reset connector (J_RST)



| Signal | PIN |
|--------|-----|
| Reset | 1 |
| GND | 2 |

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2.3.13 LVDS connector (LVDS1)



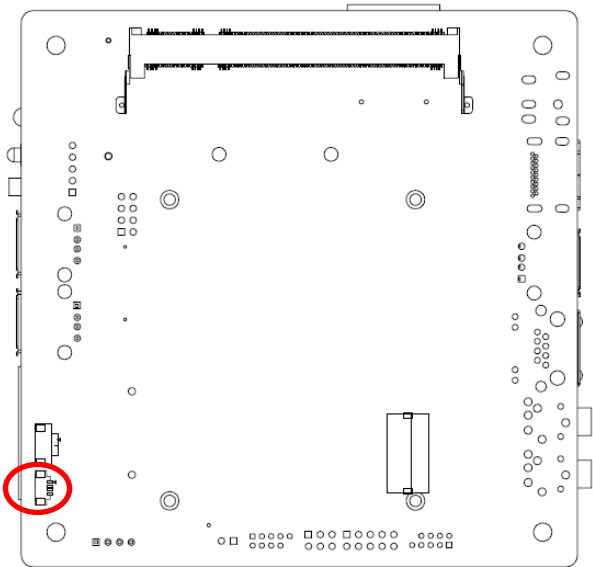
Note:

Recommend connector.
On board LVDS connector: CSI-1171-30.
Matting connector:KB901-B30H.

| Signal | PIN | PIN | Signal |
|----------|-----|-----|--------|
| VDD | 30 | 29 | VDD |
| VDD | 28 | 27 | VDD |
| DDC_CLK | 26 | 25 | GND |
| DDC_DATA | 24 | 23 | DATA3- |
| GND | 22 | 21 | DATA3+ |
| CLKN | 20 | 19 | GND |
| CLKP | 18 | 17 | DATA2- |
| GND | 16 | 15 | DATA2+ |
| GND | 14 | 13 | GND |
| GND | 12 | 11 | GND |
| DATA1- | 10 | 9 | DATA0- |
| DATA1+ | 8 | 7 | DATA0+ |
| GND | 6 | 5 | GND |
| GND | 4 | 3 | PWM |
| GND | 2 | 1 | GND |

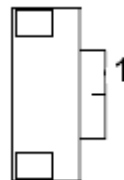
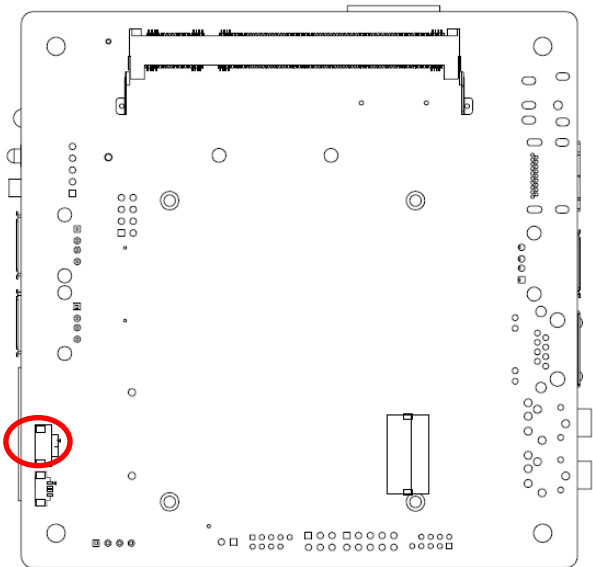
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2.3.14 USB connector (JUSB1)



| Signal | PIN |
|--------|-----|
| +5VSB | 1 |
| DATAN | 2 |
| DATAP | 3 |
| GND | 4 |

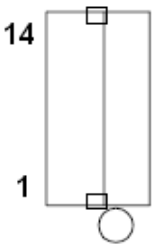
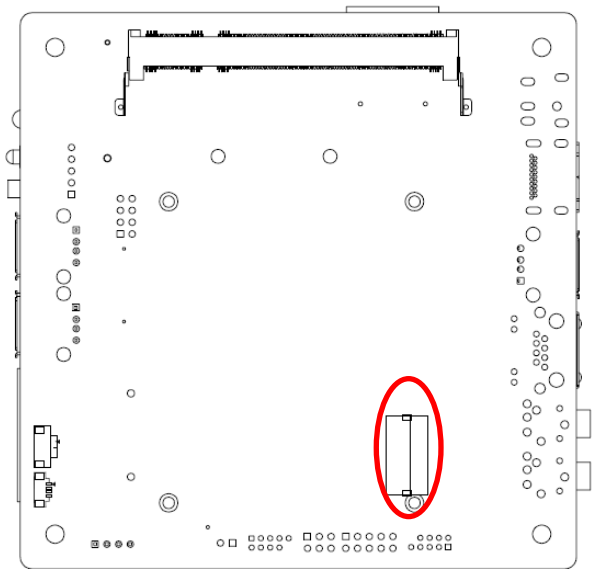
2.3.15 Battery connector (BAT1)



| Signal | PIN |
|--------|-----|
| BAT | 1 |
| GND | 2 |

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2.3.16 PCIE signal selector (J_PCIE)



| Signal | PIN |
|--------|-----|
| RXN | 14 |
| RXP | 13 |
| GND | 12 |
| TXN | 11 |
| TXP | 10 |
| GND | 9 |
| CLKP | 8 |
| CLKN | 7 |
| RESET | 6 |
| WAKE | 5 |
| +5VSB | 4 |
| +5VSB | 3 |
| GND | 2 |
| +3.3V | 1 |

Note:

For Customized add-on card, the expansion card is not included.

