

# ENX-CDD

Intel® Atom™ Cedar Trail Nano ITX Motherboard

Intel® D2550 or N2800 + NM10 Chipset

## Quick Installation Guide



3<sup>rd</sup> 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

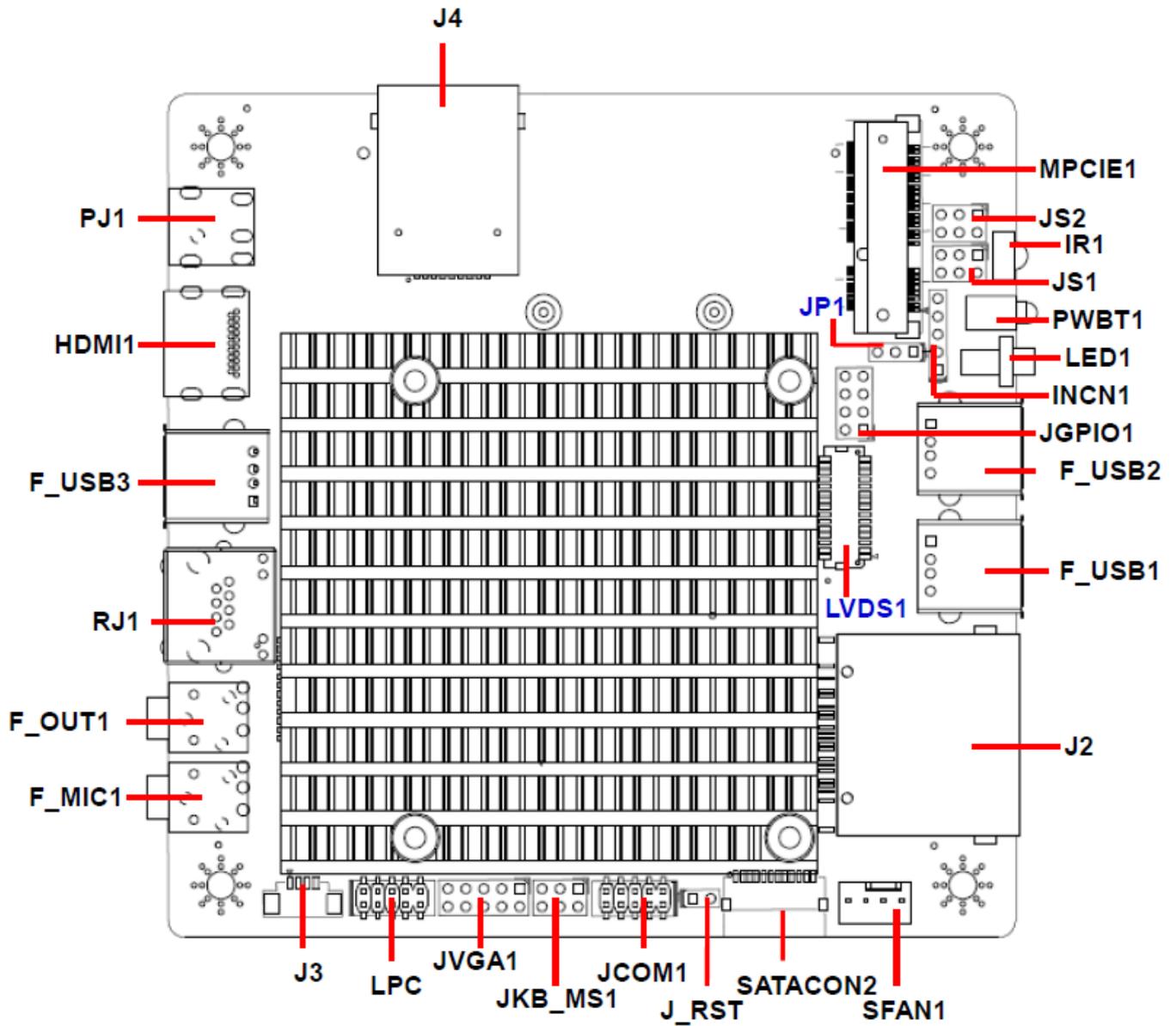
Before you begin installing your single board, please make sure that the following materials have been shipped:

- 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

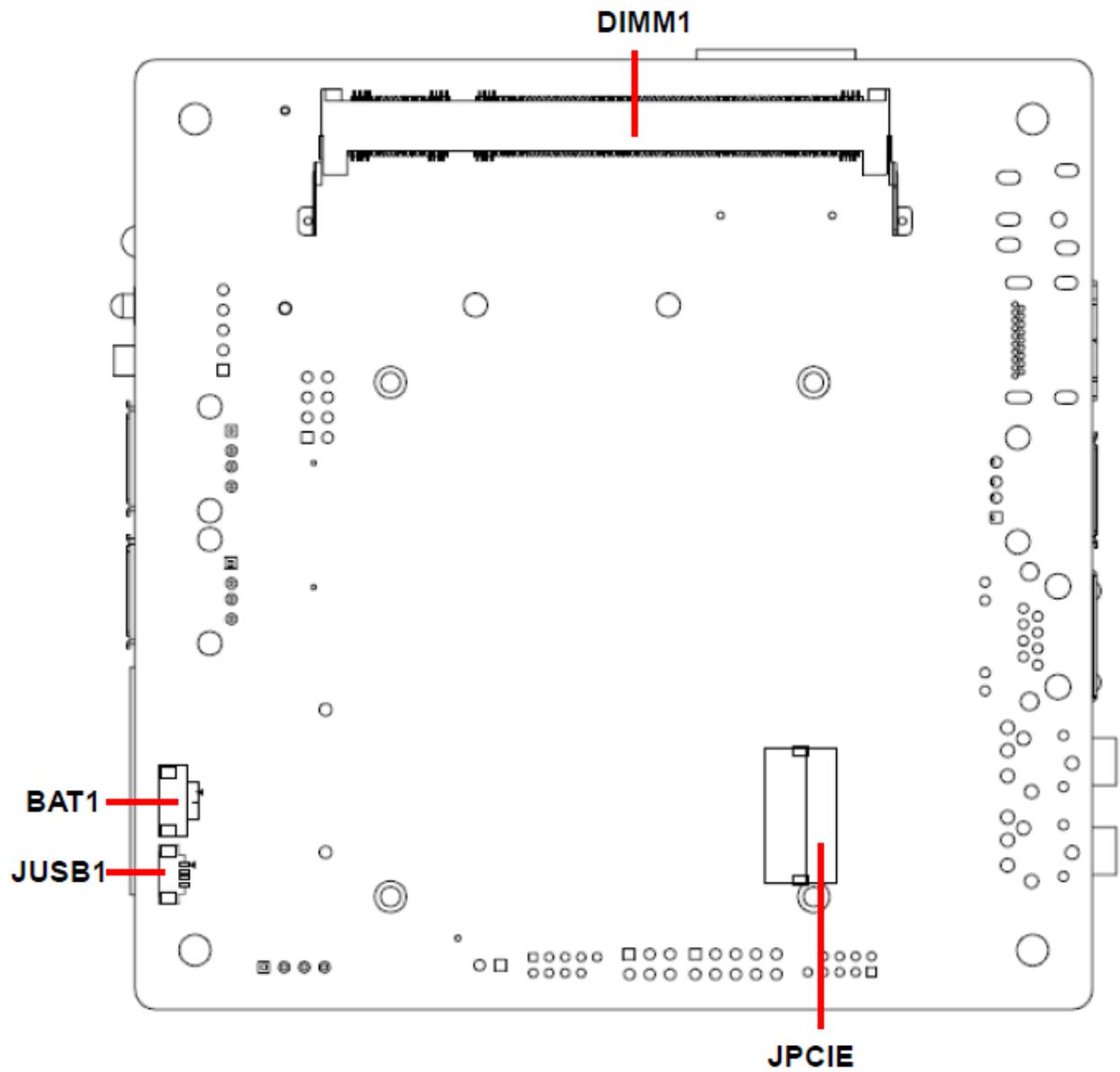
# 2. Hardware Configuration

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## 2.1 Product Overview



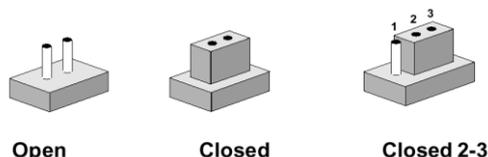
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## 2.2 Jumper and Connector List

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
JPCIIE	PCIIE 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	

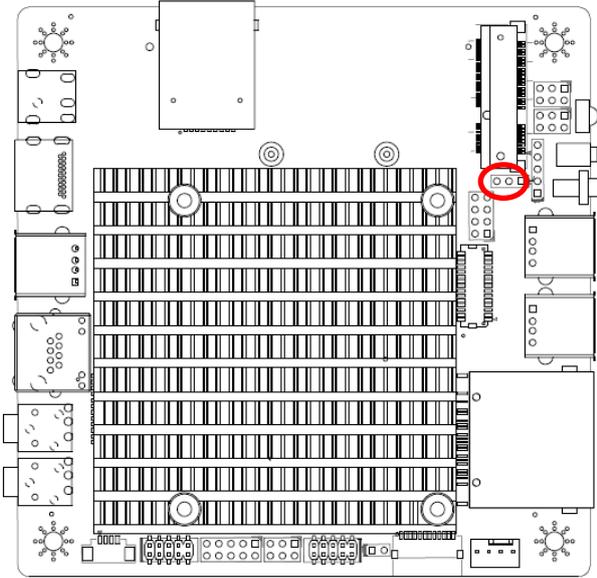
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<b>J3</b>	Speaker connector	4 x 1 wafer, pitch 1.25 mm
<b>J4</b>	SIM card holder	
<b>JCOM1</b>	Serial port 1 connector	5 x 2 header, pitch 2.00 mm
<b>PWBT1</b>	Power Button	
<b>JGPIO1</b>	General Purpose I/O	4 x 2 header, pitch 2.54 mm
<b>LPC</b>	Low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

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## 2.3 Setting Jumpers & Connectors

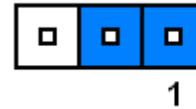
### 2.3.1 LVDS voltage (JP1)



VCC5\*



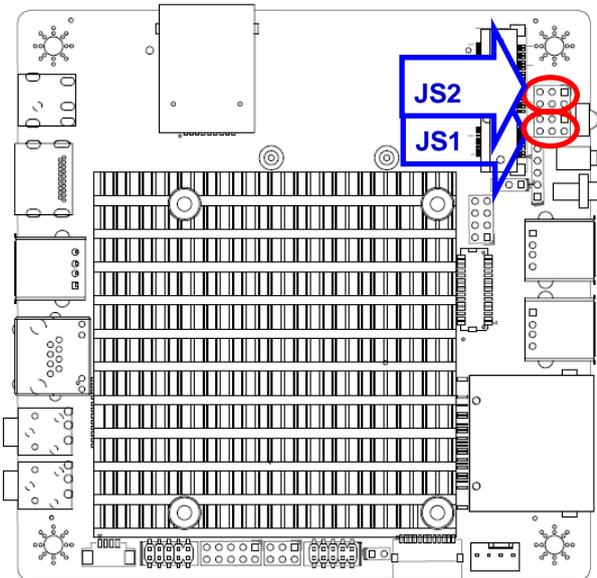
VCC3



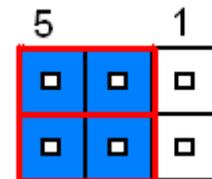
\* Default

Pin	Define
1-2	VCC3
2-3	VCC5

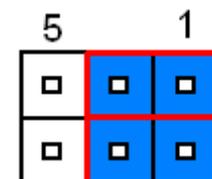
### 2.3.2 mSATA/Mini PCIe function Jumper (JS1/JS2)



MINIPCIE\*



M-SATA

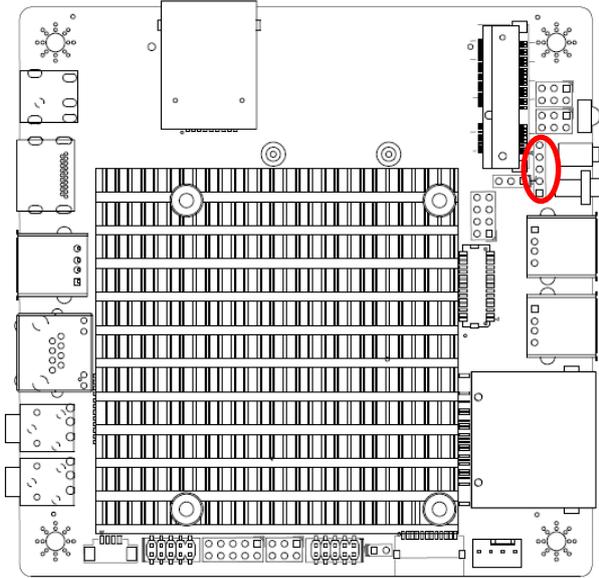


\* Default

Pin	Pin	Define
1-3	2-4	M-SATA
3-5	4-6	MINIPCIE

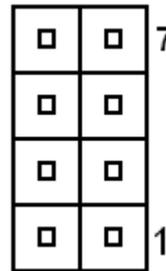
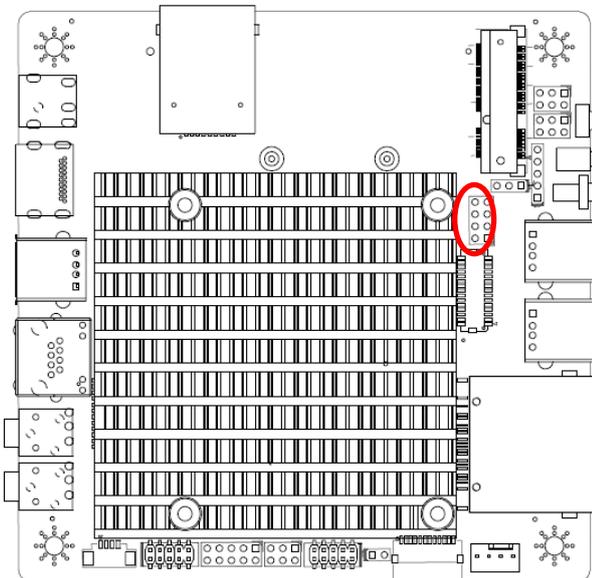
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## 2.3.3 LCD Inverter connector (INCN1)



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

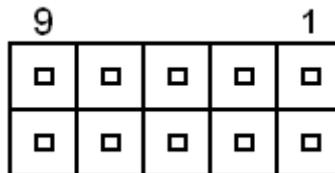
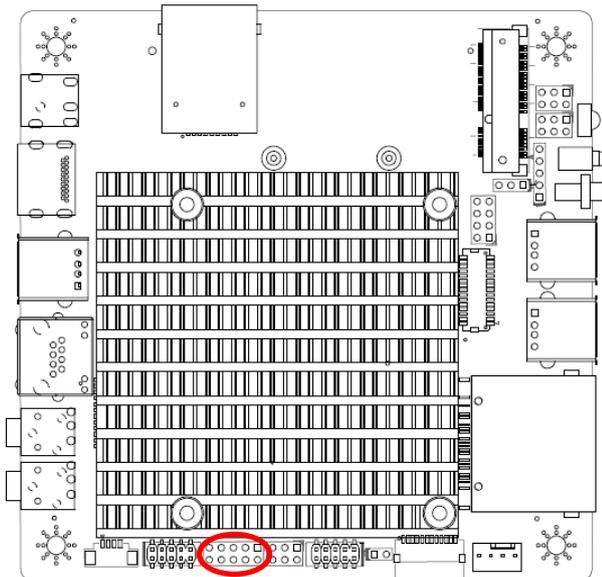
## 2.3.4 General Purpose I/O (JGPIO1)



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

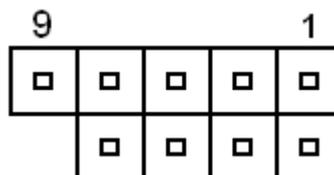
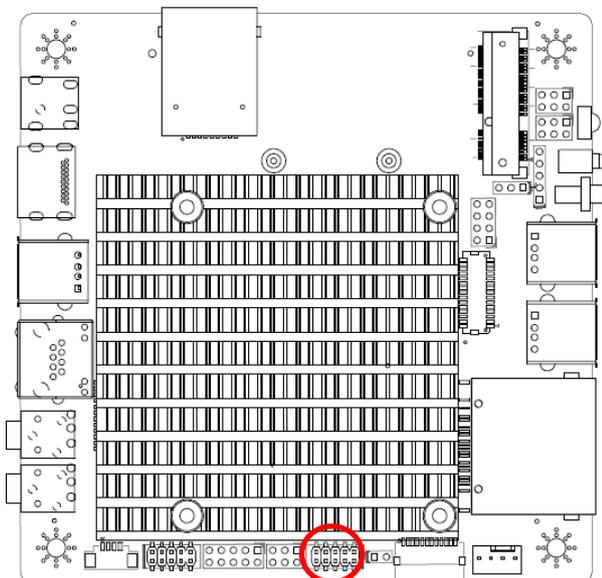
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## 2.3.5 VGA connector (JVGA1)



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

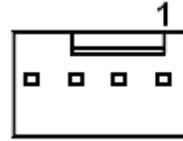
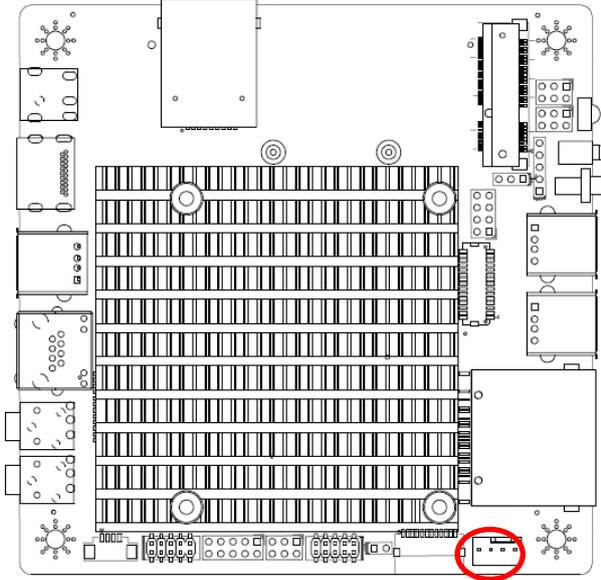
## 2.3.6 Serial port 1 connector (JCOM1)



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

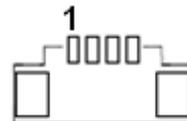
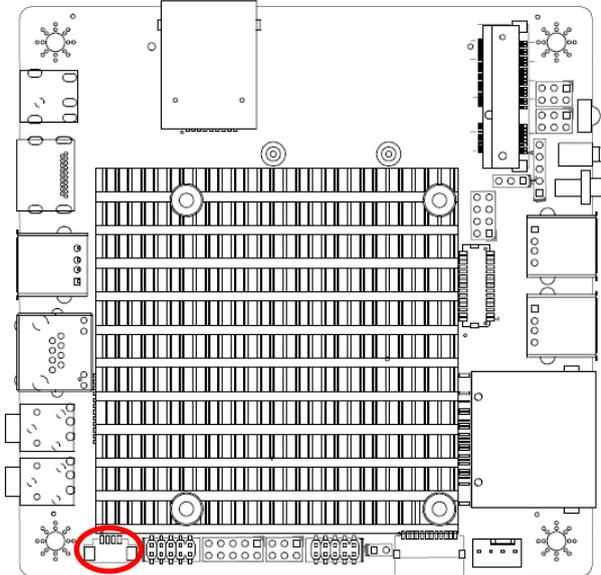
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## 2.3.7 System Fan connector (SFAN1)



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

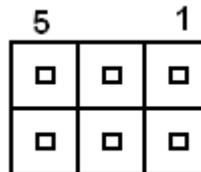
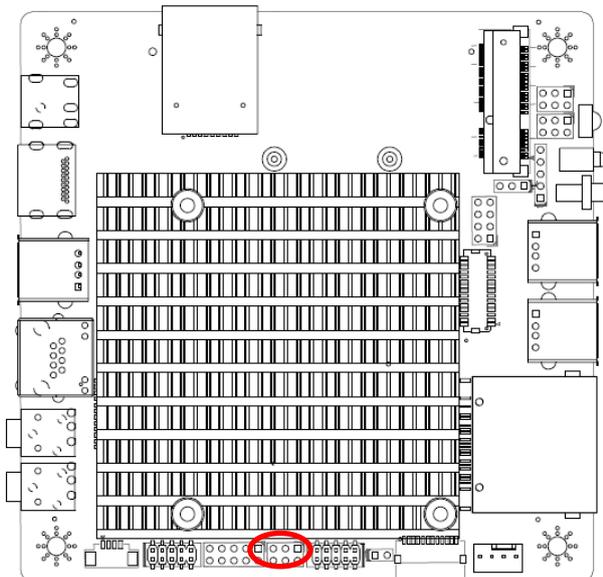
## 2.3.8 Speaker connector (J3)



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

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## 2.3.9 Keyboard & mouse connector (JKB\_MS1)

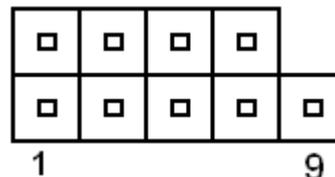
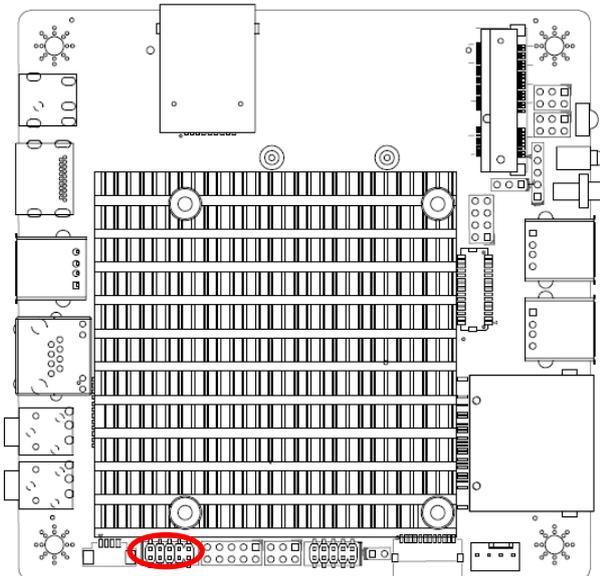


Signal	PIN	PIN	Signal
MS_CLK	1	2	MS_DATA
KB_CLK	3	4	KB_DATA
VCC	5	6	GND

**Note:**

The KB/Mouse cable is not included.

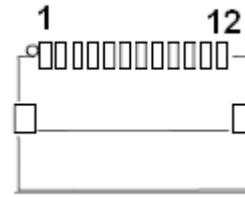
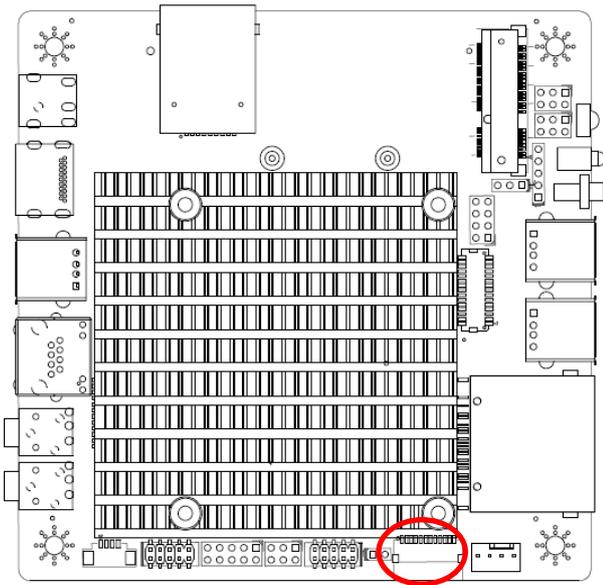
## 2.3.10 Low Pin Count (LPC)



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)

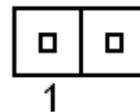
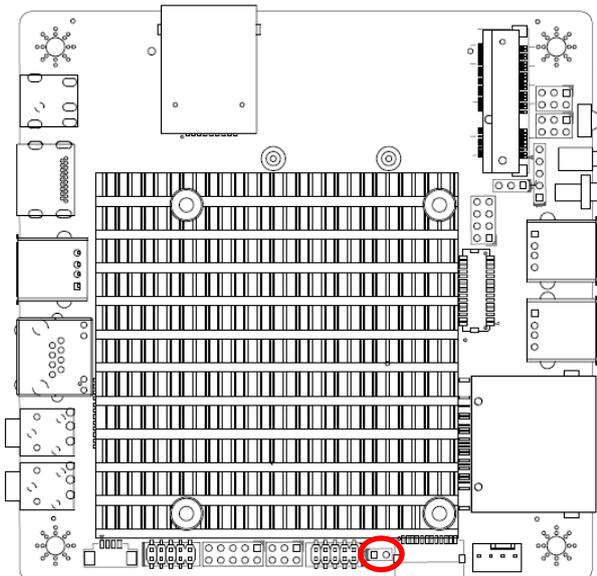


Signal	PIN
NC	1
+5V	2
+5V	3
+5V	4
GND	5
GND	6
RXP	7
RXN	8
GND	9
TXN	10
TXP	11
GND	12

**Note:**

To SATA AUX board.

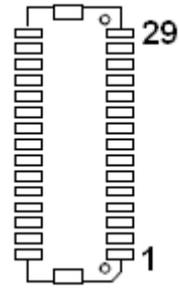
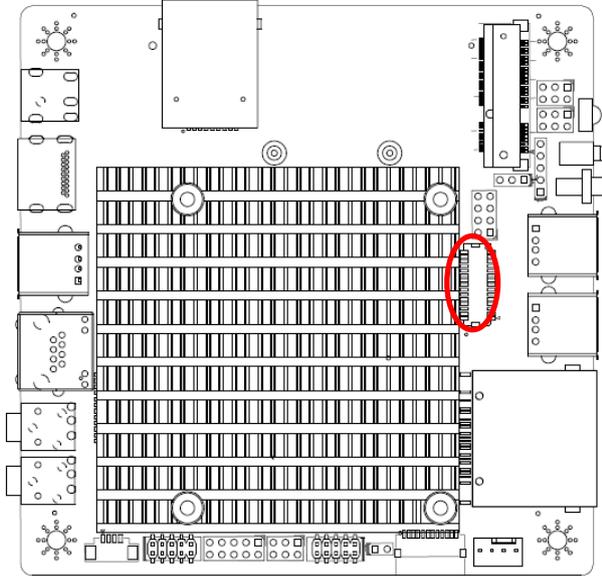
## 2.3.12 Reset connector (J\_RST)



Signal	PIN
Reset	1
GND	2

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## 2.3.13 LVDS connector (LVDS1)



**Note:**

Recommend connector.

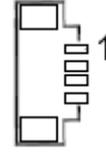
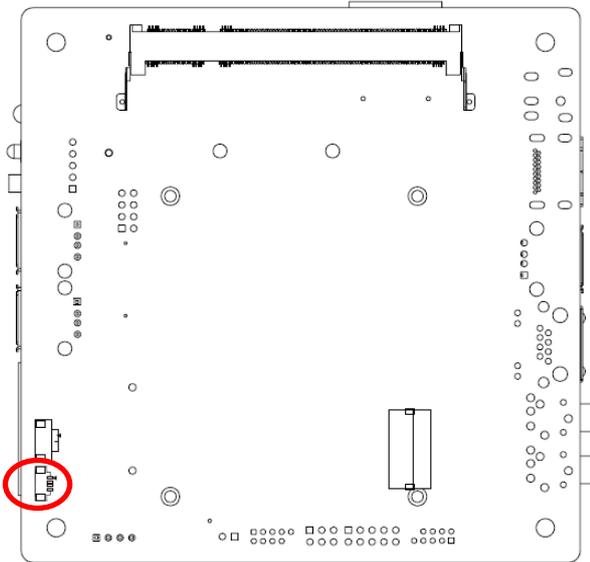
On board LVDS connector: CSI-1171-30.

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

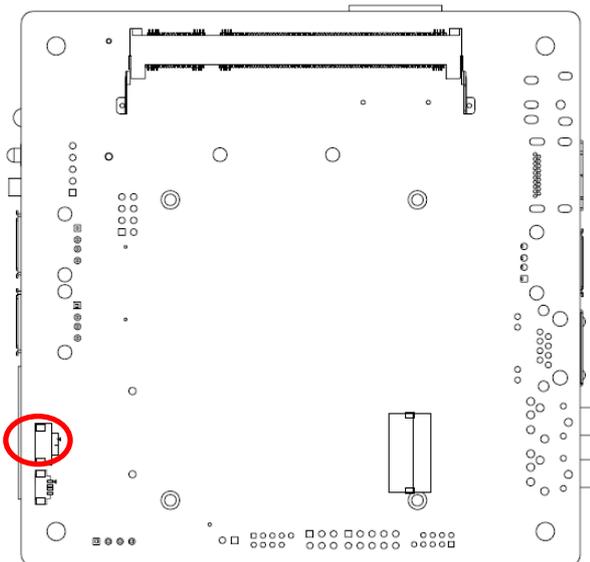
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## 2.3.14 USB connector (JUSB1)



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

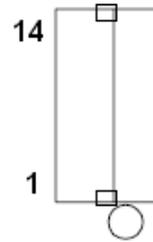
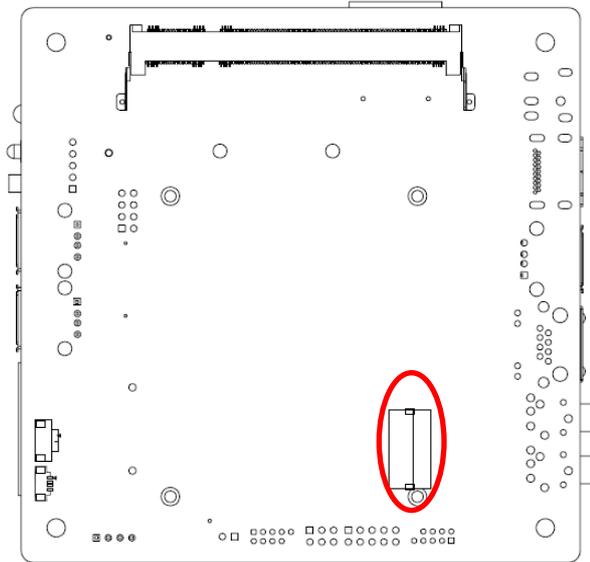
## 2.3.15 Battery connector (BAT1)



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.

