

ECM-QB

3.5" Intel Queensbay Micro Module

Quick Installation Guide



1st Ed – 24 October 2011

FCC Statement



THIS DEVICE COMPLIES WITH PART 15 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 UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

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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.

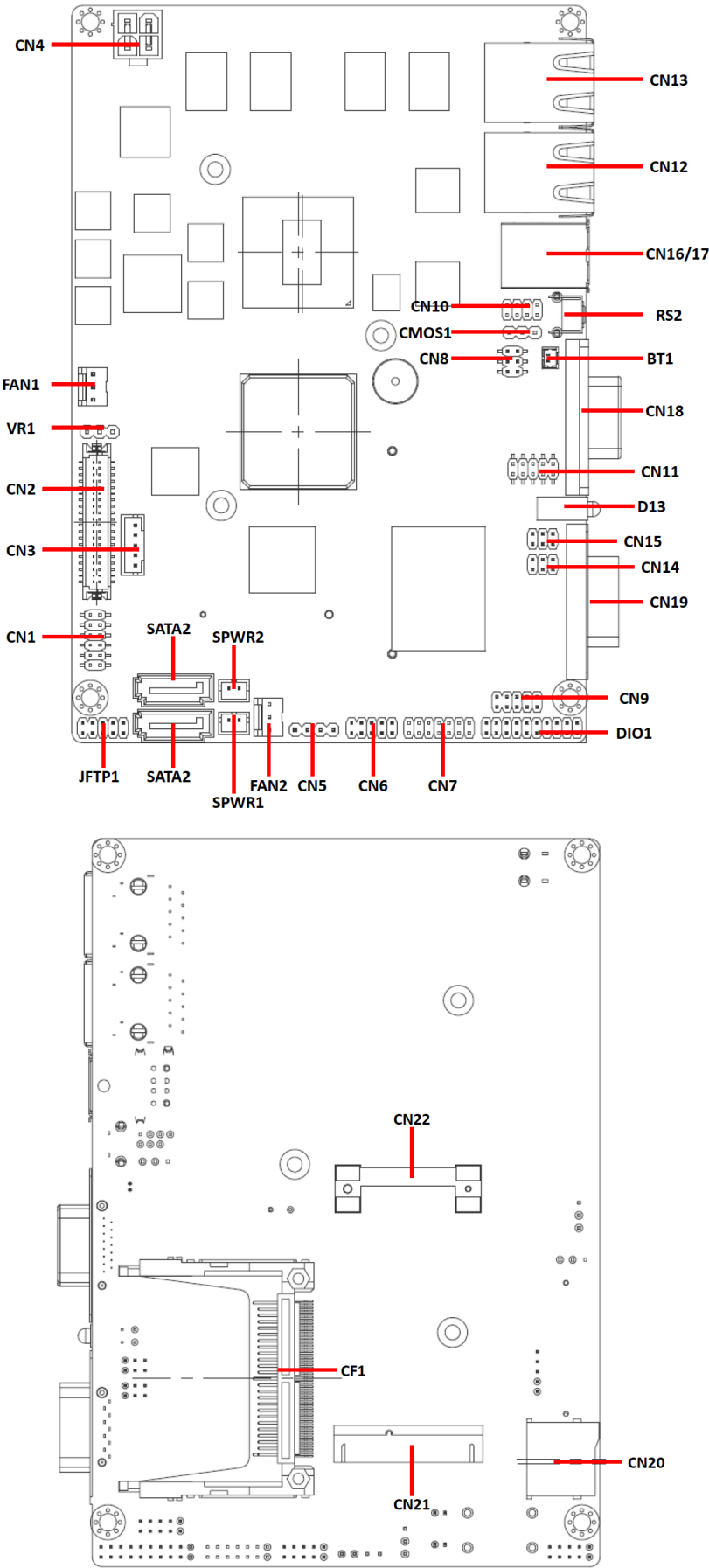
1.2 Packing List

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

- 1 x 3.5" ECM-QB Micro Module
- 1 x Quick Installation Guide for ECM-QB
- 1 x AUX-032 daughter board
- 1 x DVD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
 - Audio drivers and utilities
- 1 x Cable set contains the followings:
 - 1 x Audio cable (12pin, 2.0mm pitch)
 - 1 x USB cable
 - 1 x Serial ATA cable (7-pin, standard).
 - 1 x Wire SATA power (15-pin, 2P/2.0mm)
 - 1 x Flat Cable 9P(M)-Dupont 10P/2.0mm)
- Screw-Bind (IMS M3*4mm)
- Heat sink (88*60*21.7mm)
- 3M Foam (VHB-4622 10mm*20mm*1.1mm)

2. Hardware Configuration

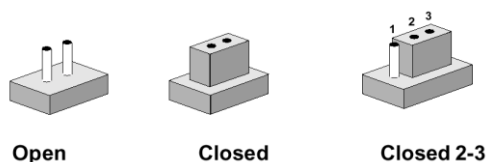
2.1 Product Overview



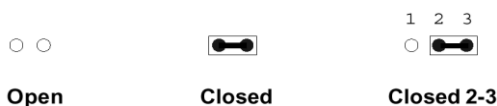
2.2 Jumper and Connector List

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

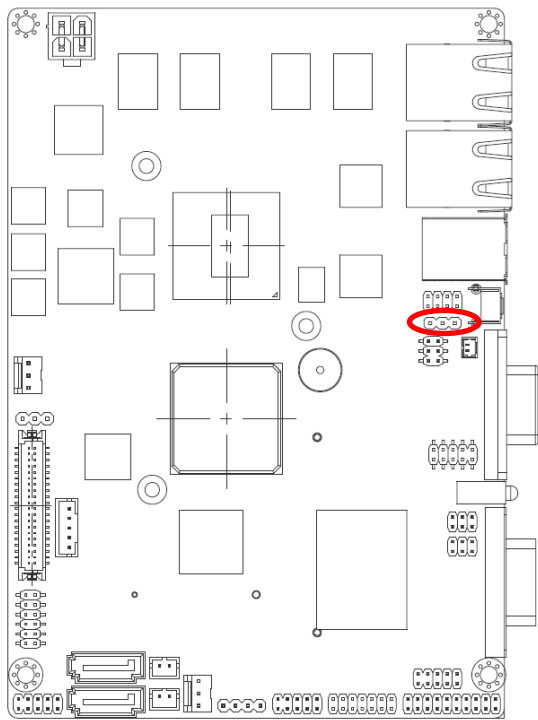
Label	Function	Note
JFTP1	Miscellaneous settings connector	5 x 2 header, pitch 2.0 mm
CMOS1	Clear CMOS	3 x 1 header, pitch 2.54 mm

Connectors

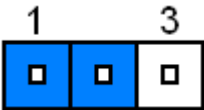
Label	Function	Note
BT1	Battery connector	2 x 1 wafer, pitch 1.25 mm
CN1	Audio connector	6 x 2 header, pitch 2.0 mm
CN2	LVDS connector	2 x 20 header, pitch 1.25mm
CN3	LCD inverter connector	5 x 1 wafer, pitch 2.0mm
CN4	Power connector	2 x 2 wafer, pitch 4.2 mm
CN5	CAN connector	4 x 1 wafer, pitch 2.54 mm
CN6	USB 2 & 3 connector	5 x 2 header, pitch 2.0 mm
CN7	LPC connector	7 x 2 header, pitch 2.0 mm
CN8	SPI connector	3 x 2 header, pitch 2.0 mm
CN9	Serial port 2 connector	5 x 2 header, pitch 2.0 mm
CN10	Ps2 connector	4 x 2 header, pitch 2.0 mm
CN11	Serial port 3 connector	5 x 2 header, pitch 2.0 mm
CN12/ CN13	RJ-45 Ethernet connector 1/2	
CN14	Serial port 5 in RS-485 mode	3 x 2 header, pitch 2.0 mm
CN15	Serial port 4 in RS-422 mode	3 x 2 header, pitch 2.0 mm
CN16/ CN17	USB 0 & 1 connector/ Ps2 connector	Double Deck/ mini-DIN-6
CN18	VGA connector	D-sub 15-pin, female
CN19	Serial port 1 connector	D-sub 9-pin, male
CN20	Micro SD connector	Micro SD card
CN21	Mini PCI Express Connector	
CN22	Mini PCI Express latch	
DIO1	General purpose I/O connector	10 x 2 header, pitch 2.0 mm
D13	Power & HDD LED indicator	
FAN1	CPU fan connector	3 x 1 wafer, pitch 2.54 mm
FAN2	System fan connector	3 x 1 wafer, pitch 2.54 mm
RS2	Reset Button	
SPWR 1/2	SATA power connector 1/2	2 x 1 wafer, pitch 2.0 mm
SATA 1/2	Serial ATA connector 1/2	
VR1	LCD backlight brightness adjustment	3 x 1 header, pitch 2.54mm

2.3 Setting Jumpers & Connectors

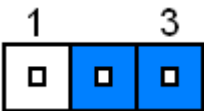
2.3.1 Clear CMOS (CMOS1)



Protect*

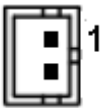
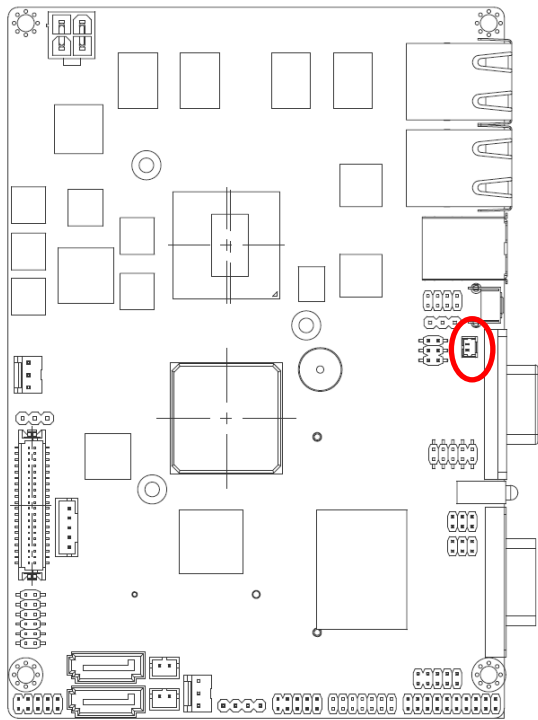


Clear CMOS



* Default

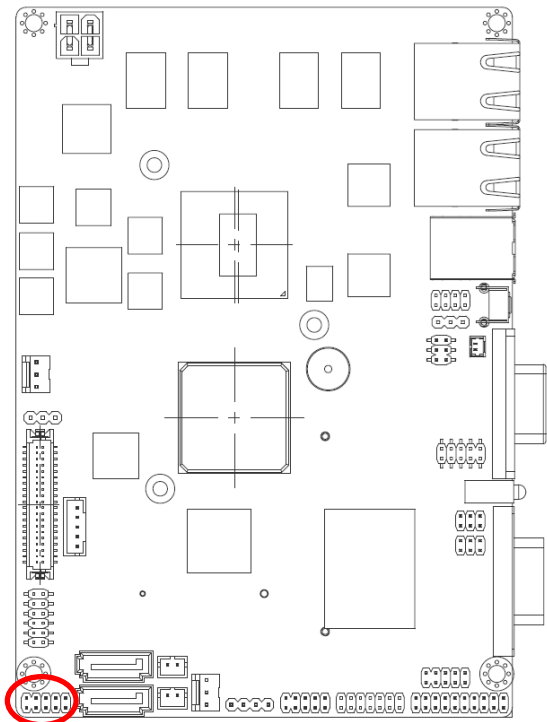
2.3.2 Battery connector (BAT)



Signal	PIN
BAT	1
GND	2

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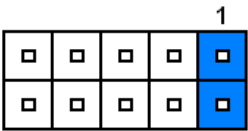
2.3.3 Miscellaneous settings connector (JFTP1)



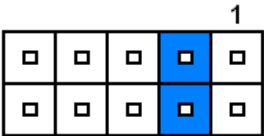
* Default

(Power Button)

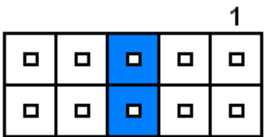
AT Mode*



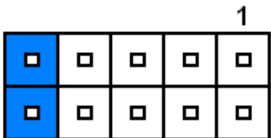
ATX Mode



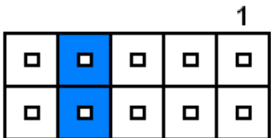
Power LED Mode



Reset Button Mode



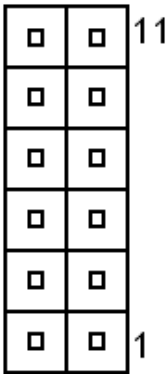
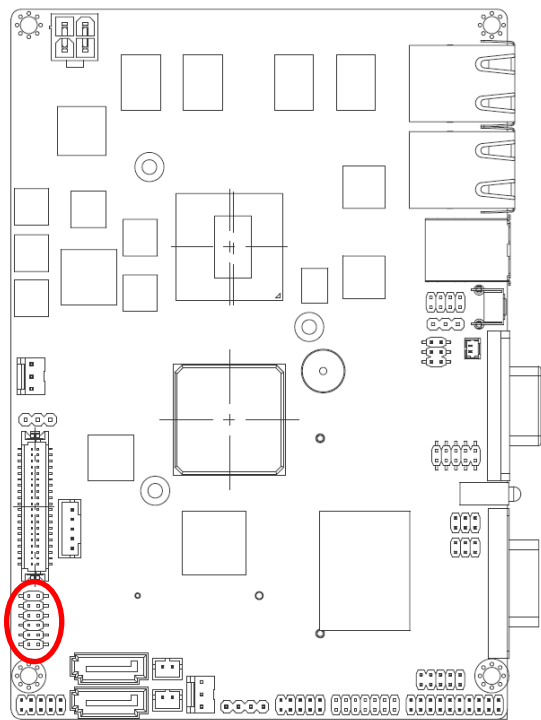
HDD LED Mode



Signal	PIN	PIN	Signal
AT_EN	1	2	PWR_BTN#_SW
GND	3	4	AT_EN
GND	5	6	PWR_LED+
HDD_LED	7	8	HD_LED+
GND	9	10	SYS_RST#_BTN

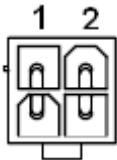
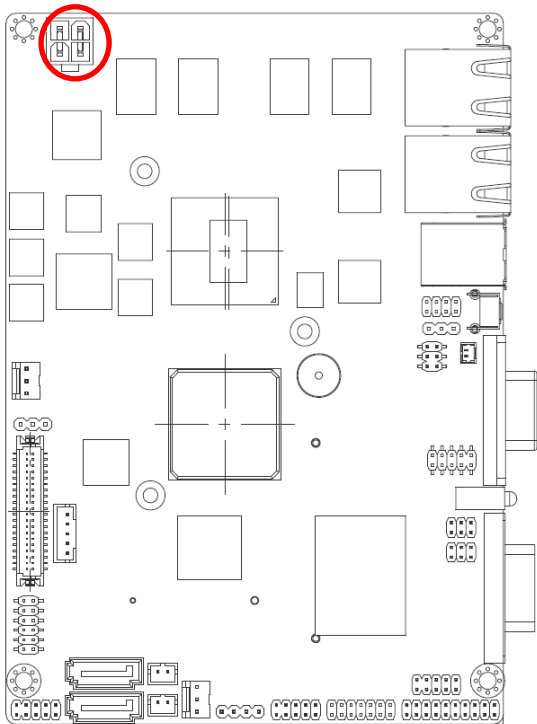
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2.3.4 Audio connector (CN1)



Signal	PIN	PIN	Signal
GND	12	11	MIC1-JD
LINE1-JD	10	9	FRONT-JD
MIC-LIN	8	7	MIC-RIN
LINE1_LIN	6	5	LINE1_RIN
GND	4	3	GND
LINEOUT_L	2	1	LINEOUT_R

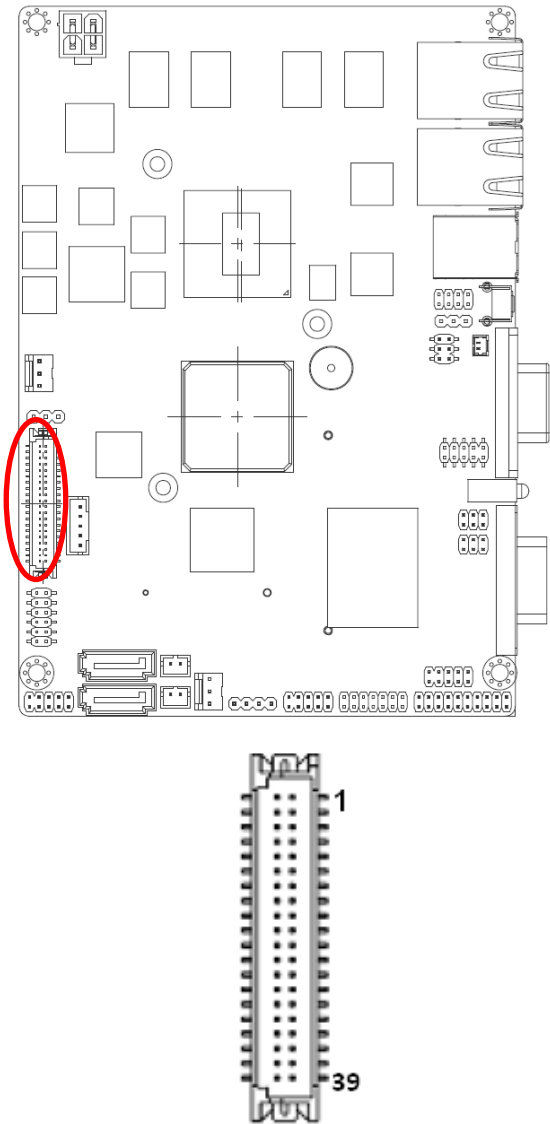
2.3.5 Power connector (CN4)



Signal	PIN	PIN	Signal
GND	1	2	GND
12V	3	4	12V

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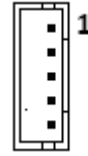
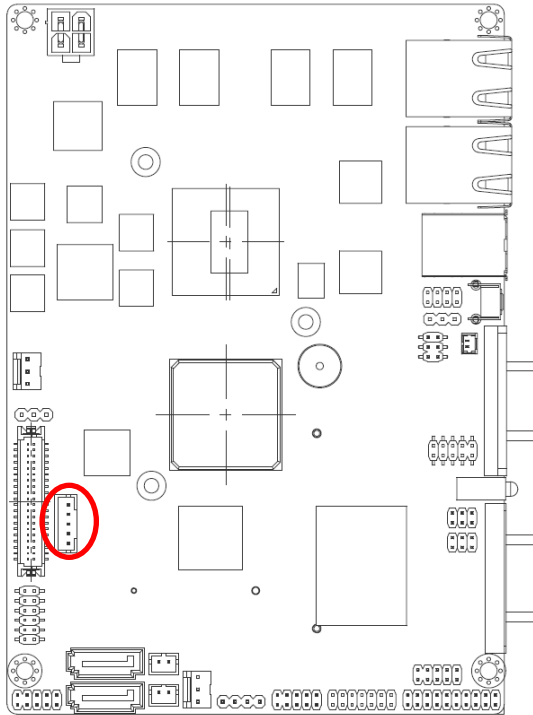
2.3.6 LVDS connector (CN2)



Signal	PIN	PIN	Signal
VDD5_LVDS	2	1	VDD3_LVDS
VDD5_LVDS	4	3	VDD3_LVDS
DDC_DAT_OVL	6	5	DDC_CLK_OVL
GND	8	7	GND
DATA_P0	10	9	DATA_P1
DATA_N0	12	11	DATA_N1
GND	14	13	GND
DATA_P2	16	15	DATA_P3
DATA_N2	18	17	DATA_N3
GND	20	19	GND
NC	22	21	NC
NC	24	23	NC
GND	26	25	GND
NC	28	27	NC
NC	30	29	NC
GND	32	31	GND
LVDS_CLKP	34	33	NC
LVDS_CLKN	36	35	NC
GND	38	37	GND
NC	40	39	NC

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2.3.7 LCD Inverter Connector (CN3)



Signal	PIN
+12V	1
GND	2
BLKTEN_OVL	3
BRIGHT	4
+5V	5

Note:

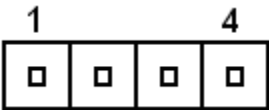
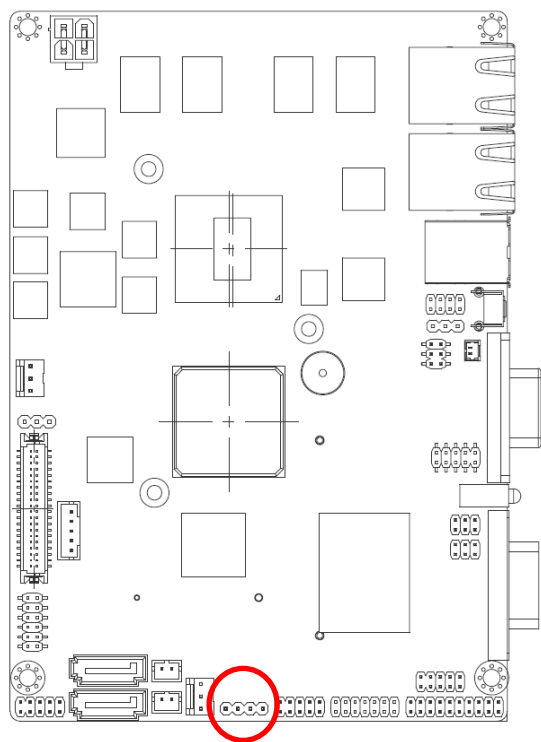
For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **JVR**.

2.3.7.1 Signal Description – LCD Inverter Connector (CN3)

Signal	Signal Description
BRIGHT	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
BLKTEN_OVL	LCD backlight ON/OFF control signal

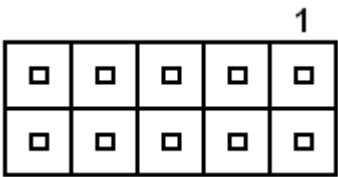
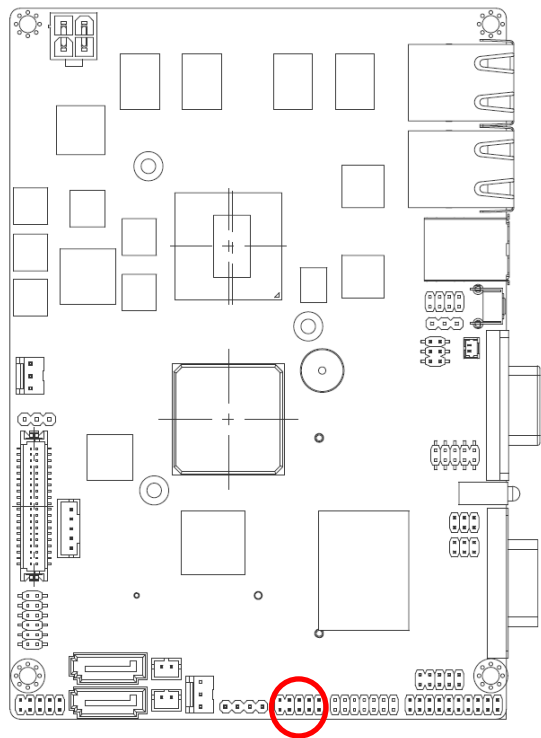
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2.3.8 CAN connector (CN5)



Signal	PIN
CAN_H	1
GND	2
CAN_L	3
NC	4

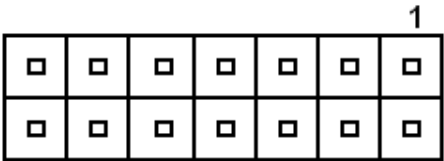
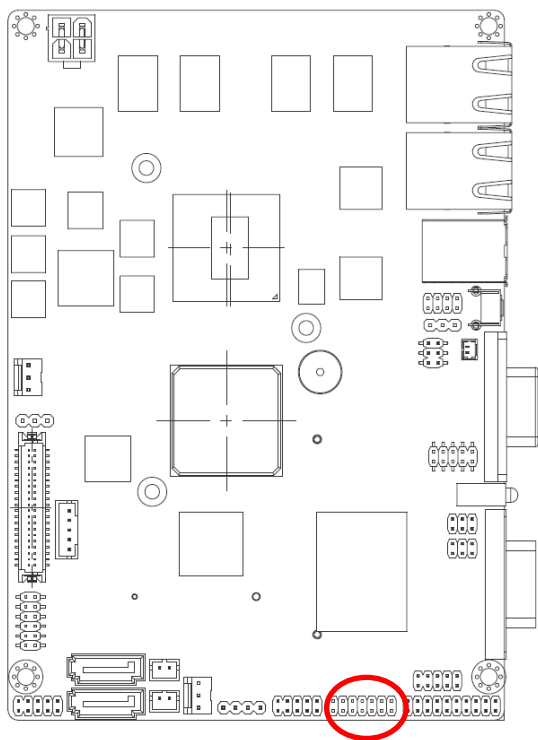
2.4.9 USB 2 & 3 connector (CN6)



Signal	PIN	PIN	Signa
VCC_USB23	1	2	GND
USB2_N	3	4	GND
USB2_P	5	6	USB3_P
GND	7	8	USB3_N
GND	9	10	VCC_USB23

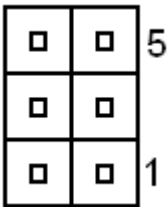
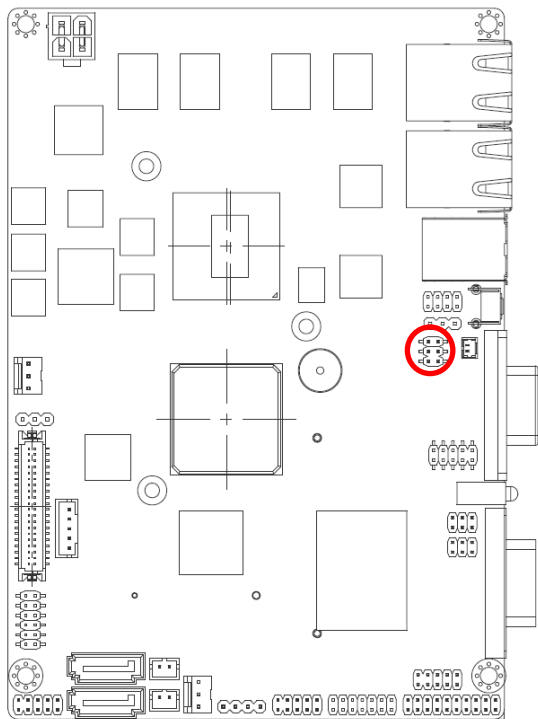
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2.3.10 LPC connector (CN7)



Signal	PIN	PIN	Signal
AD0	1	2	V3P3_S
AD1	3	4	BUF_RESET#
AD2	5	6	LPC_FRAME#
AD3	7	8	LPC1_PCI_CLK
SERIRQ	9	10	GND
VCC_5S	11	12	GND
VCC5V_A	13	14	V3P3_S

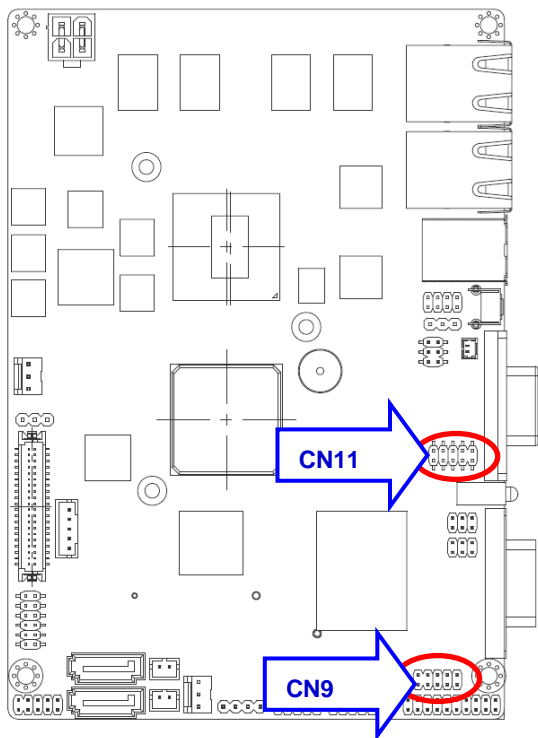
2.3.11 SPI connector (CN8)



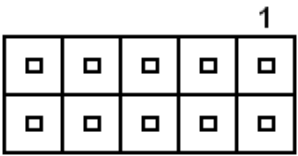
Signal	PIN	PIN	Signal
SI	6	5	SO
CLK_R	4	3	CS#_R
GND	2	1	V3P3_S

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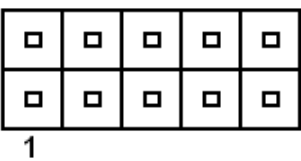
2.3.12 Serial port 2/3 connector (CN9 / CN11)



CN9

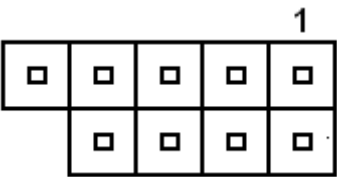
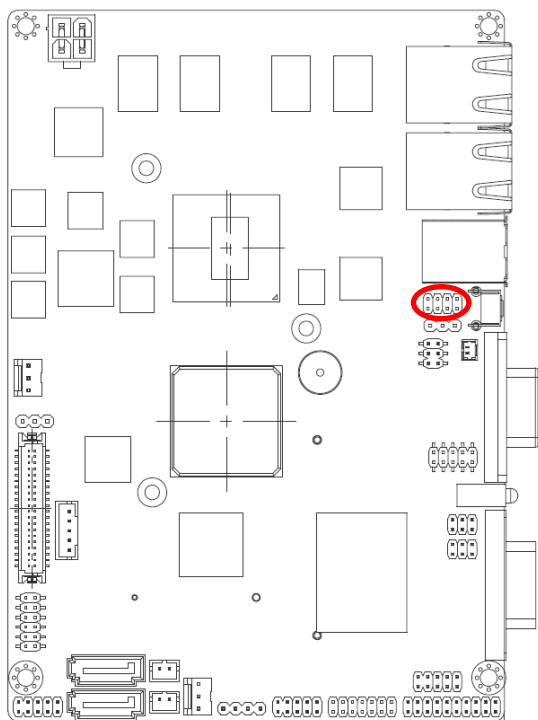


CN11



Signal	PIN	PIN	Signal
DCD2_3	1	2	RxDD2_3
TxDD2_3	3	4	DTR2_3
GND	5	6	DSR2_3
RTS2_3	7	8	CTS2_3
RI2_3	9	10	NC

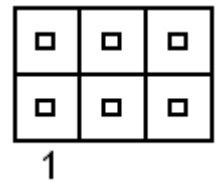
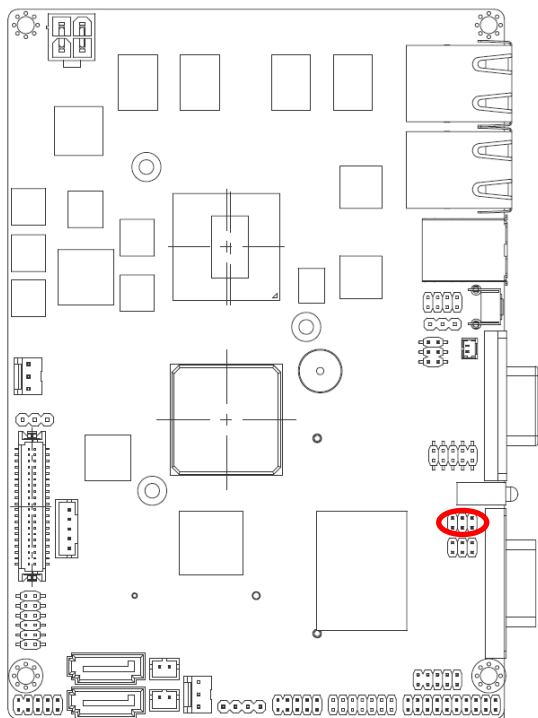
2.3.13 Ps2 connector (CN10)



Signal	PIN	PIN	Signal
KBDA	1	2	KBCK
GND_PS2	3	4	VCC_PS2
MSDA	5	6	MSCK
NC	7		

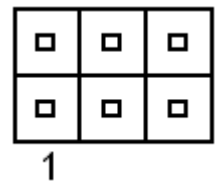
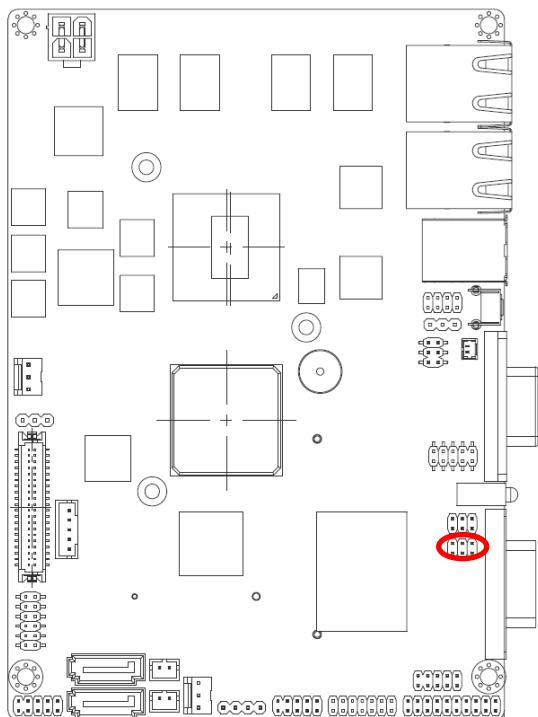
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2.3.14 Serial port 4 in RS-422 mode (CN15)



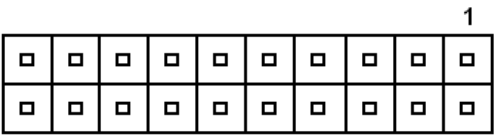
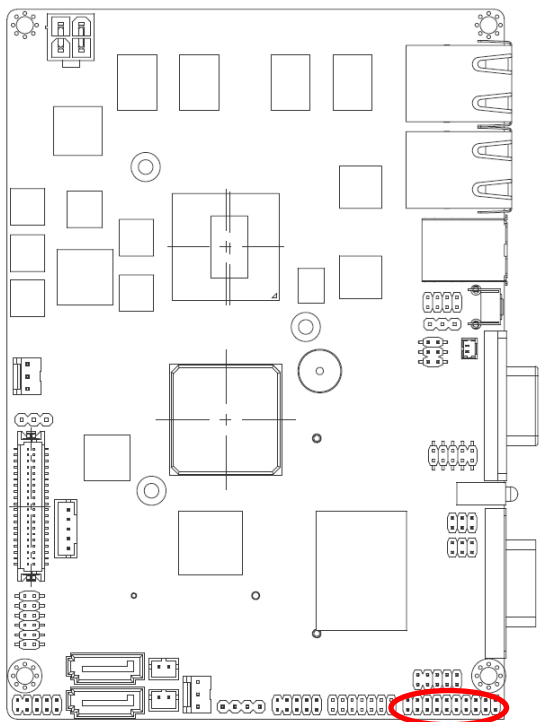
Signal	PIN	PIN	Signal
TX-	1	2	RX-
TX+	3	4	RX+
+5V	5	6	GND

2.3.15 Serial port 5 in RS-485 mode (CN14)



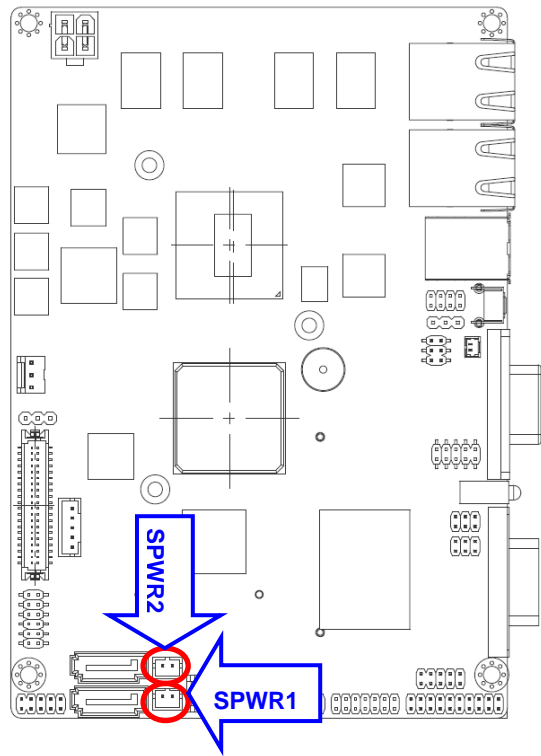
Signal	PIN	PIN	Signal
TX-	1	2	NC
TX+	3	4	NC
+5V	5	6	GND

2.3.16 General purpose I/O connector (DIO1)



Signal	PIN	PIN	Signal
DI0	1	2	DO10
DI1	3	4	DO11
DI2	5	6	DO12
DI3	7	8	DO13
DI4	9	10	DO14
DI5	11	12	DO15
DI6	13	14	DO16
DI7	15	16	DO17
SMB_CLK	17	18	SMB_DATA
GND	19	20	+5V

2.3.17 SATA power connector (S_PWR1)



Signal	PIN
GND	1
SATA_PWR	2

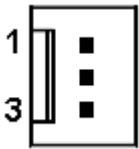
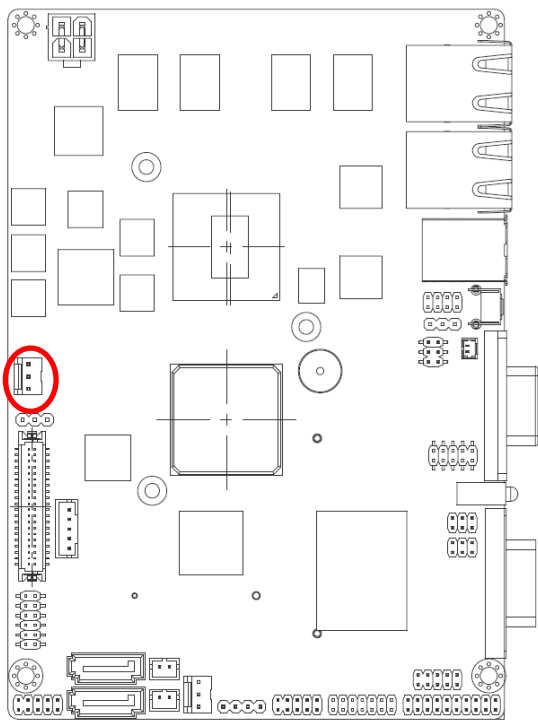


Note:

SATA_PWR is _+5V for SATA DOM use

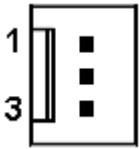
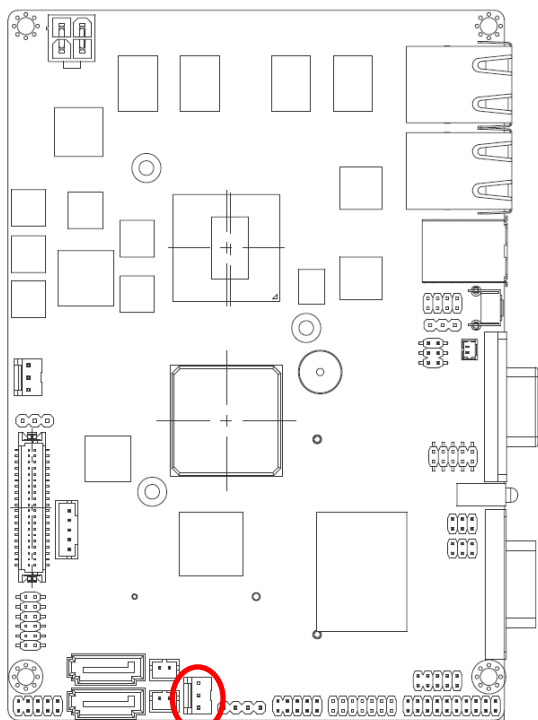
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2.3.18 CPU fan connector (FAN1)



Signal	PIN
GND	1
CPUFAN_PWM	2
CPUFANIN	3

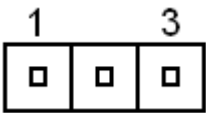
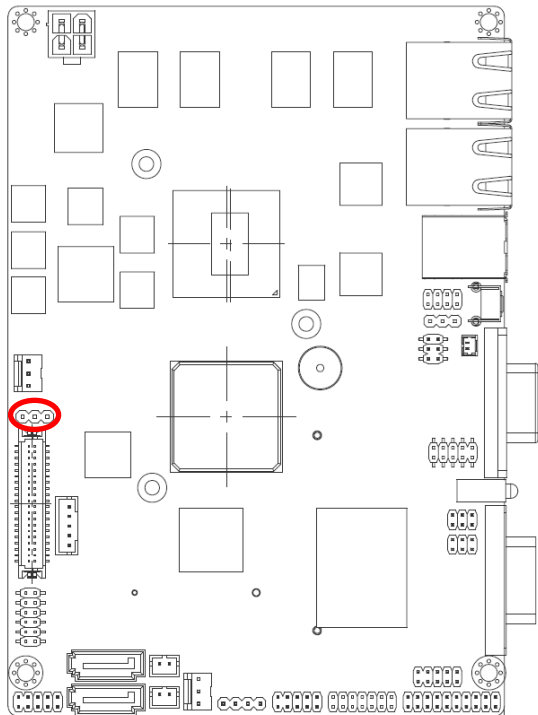
2.3.19 System fan connector (FAN2)



Signal	PIN
GND	1
SYSFAN_PWM	2
SYSFANIN	3

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2.3.20 LCD backlight brightness adjustment (VR1)



Signal	PIN
+5V	1
BRIGHT	2
GND	3

