EPI-QM77

Intel Chief River QM77 EPIC Module

Quick Installation Guide

3rd Ed – 8 January 2013

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Part No. E2017382702R

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 UNDESIRED 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.

1.2 Packing List

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

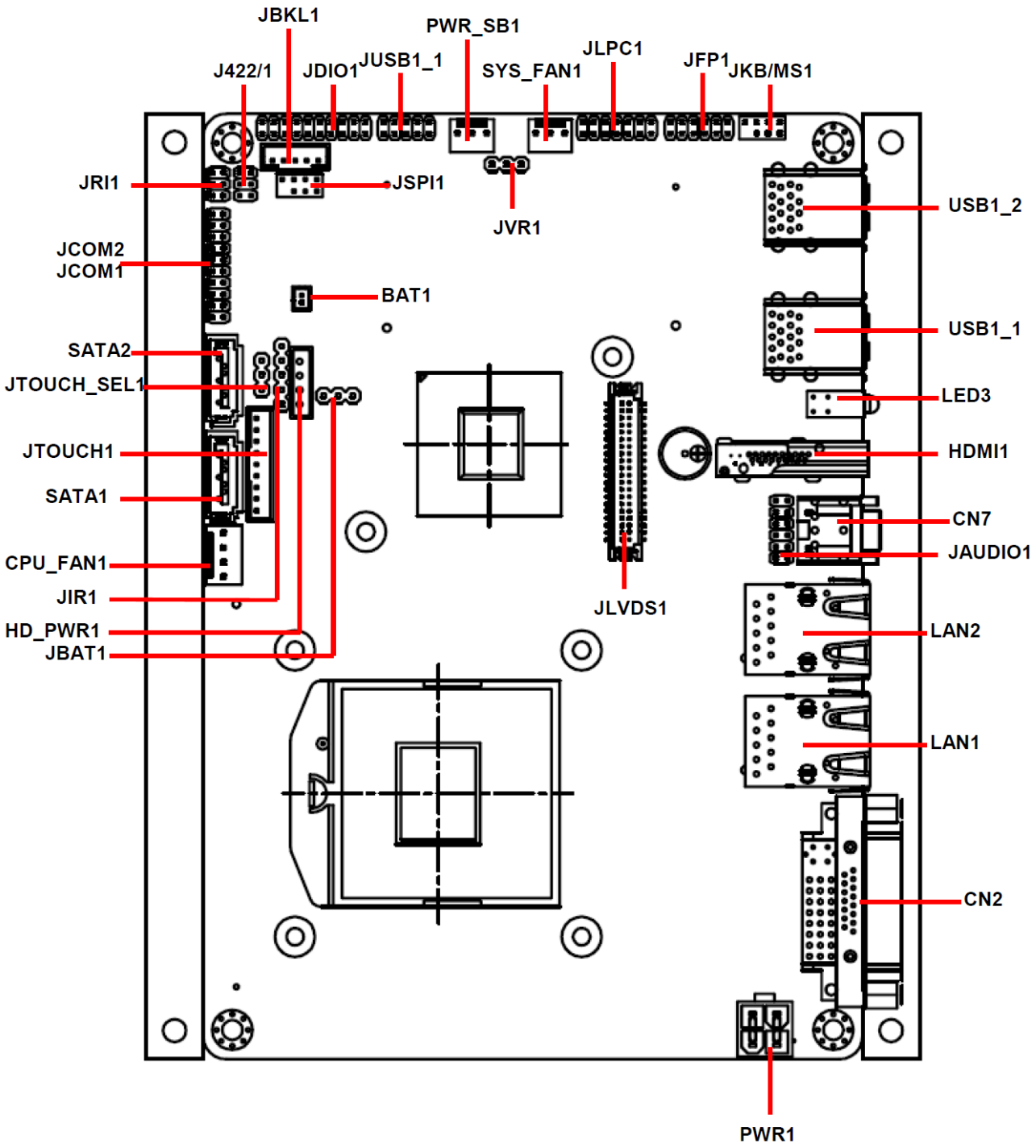
- 1 x Quick Installation Guide for EPI-QM77
- 1 x Cable set contains the followings:
  - 1 x COM port cable (20-pin to 2 x DB9(M))
  - 1 x Serial ATA cable (7-pin, standard)
  - 1 x Serial ATA power cable

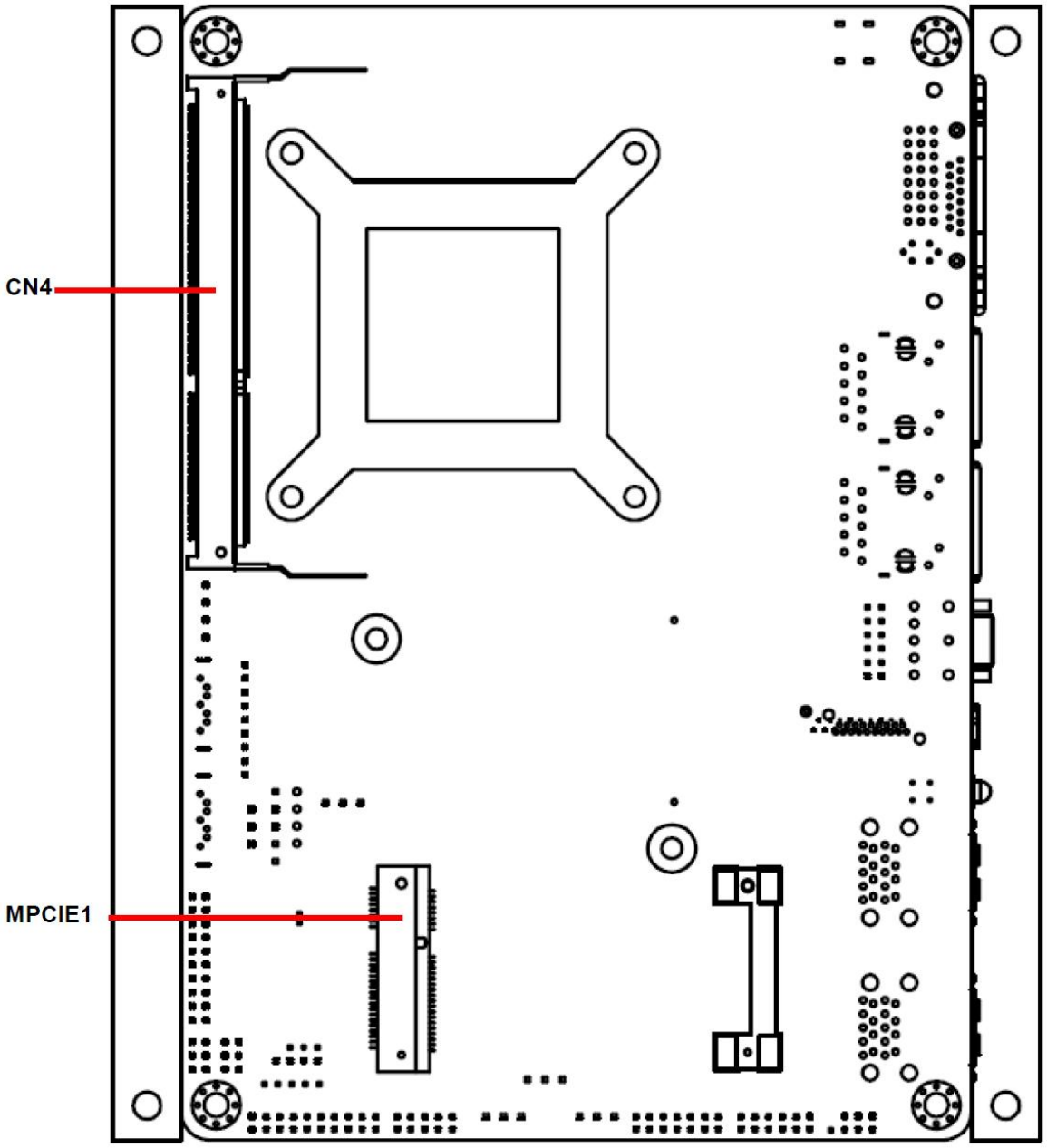


If any of the above items is damaged or missing, contact your retailer.

2. Hardware Configuration

2.1 Product Overview

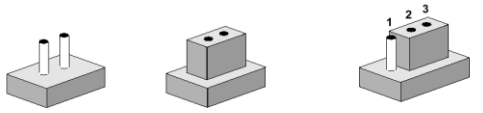



CN4
MPCIE1

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.



Open Closed Closed 2-3

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



Open Closed Closed 2-3

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

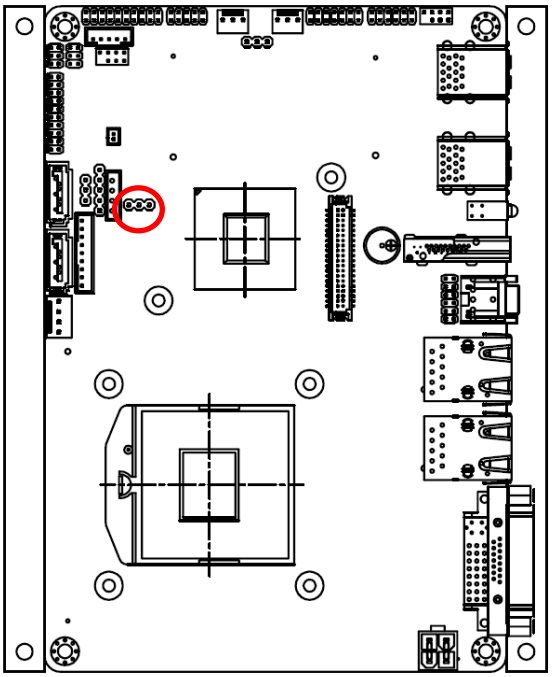
Label	Function	Note
JBAT1	Clear CMOS	3 x 1 header, pitch 2.54mm
JFP1	AT/ATX mode selector, Front panel & LED settings	6 x 2 header, pitch 2.00mm
JRI1	Serial port 1 - Ring, +5V, +12V power selector	3 x 2 header, pitch 2.00mm
JTOUCH_SEL1	Touch panel connector	3 x 1 header, pitch 2.54mm

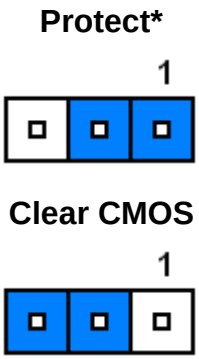
Connectors

Label	Function	Note
BAT1	Battery connector	2 x 1 wafer, pitch 1.25mm
CN2	DVI connector	
CN4	204-pin DDR3 SODIMM	
CN7	Audio out connector	Audio jack
CPU_FAN1	CPU Fan connector	4 x 1 wafer, pitch 2.54mm
HDMI	HDMI connector	
HD_PWR1	HD power connector	4 x 1 wafer, pitch 2.50mm
J422/1	Serial Port 1 connector	3 x 2 header, pitch 2.00mm
JAUDIO1	Audio Connector	6 x 2 header, pitch 2.00mm
JBKL1	LCD Inverter connector 1	5 x 1 wafer, pitch 2.00mm
JCOM1/ 2	Serial port 1/2 connector	10 x 2 header, pitch 2.00mm
JDIO1	General purpose I/O connector	10 x 2 header, pitch 2.00mm
JIR1	IrDA connector	5 x 1 header, pitch 2.54mm
JKB/MS1	PS/2 keyboard & mouse connector	4 x 2 header, pitch 2.00mm
JLPC1	(Reversed for BIOS programming)	7 x 2 header, pitch 2.00mm
JLVDS1	LVDS connector	DIN 40-pin wafer, pitch 1.25mm
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
JTOUCH1	Touch panel connector	9 x 1 wafer, pitch 2.00mm
JUSB1_1	USB connector 4 & 5	5 x 2 header, pitch 2.00mm
LAN1	RJ-45 Ethernet connector 1	
LAN2	RJ-45 Ethernet connector 2	
LED3	Power & HDD indicator	
MPCIE1	Mini PCIEXPRESS connector	
PWR_SB1	5VSB connector in ATX	3 x 1 wafer, pitch 2.54mm
PWR1	Power connector	2 x 2 wafer, pitch 4.2mm
SATA1	Serial ATA connector 1	
SATA2	Serial ATA connector 2	
SYS_FAN1	System Fan connector	3 x 1 wafer, pitch 2.54mm
USB1_1	USB connector 0&1	
USB1_2	USB connector 2&3	
JVR1	LCD Backlight brightness adjustment	3 x 1 header, pitch 2.54mm

2.3 Setting Jumpers & Connectors

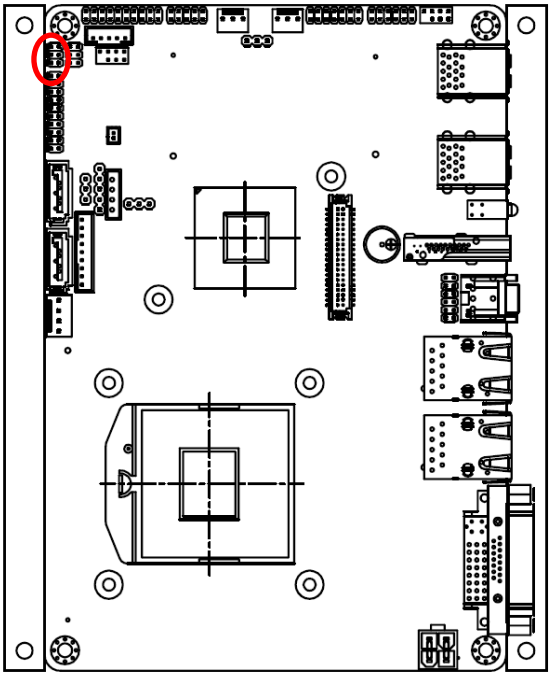
2.3.1 Clear CMOS (JBAT1)

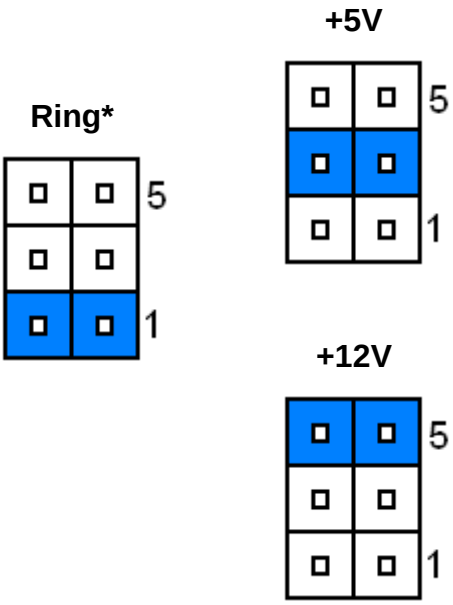




***Default**

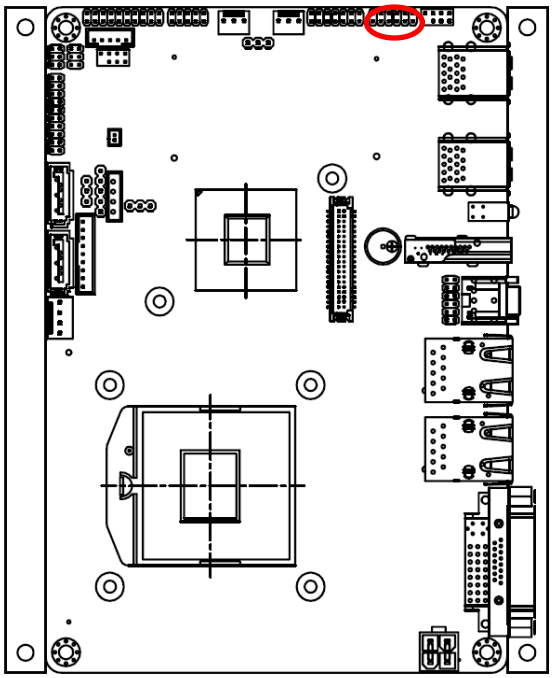
2.3.2 Serial port 1 - Ring, +5V, +12V power selector (JRI1)



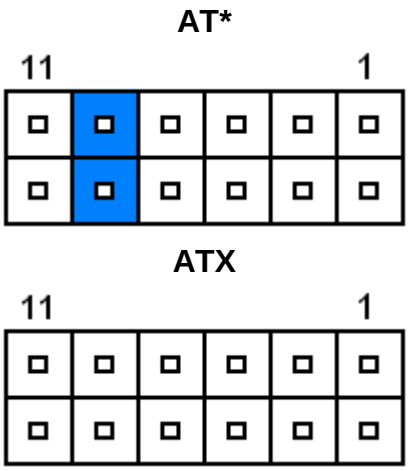


*** Default**

2.3.3 AT/ATX mode selector, Front panel & LED settings (JFP1)

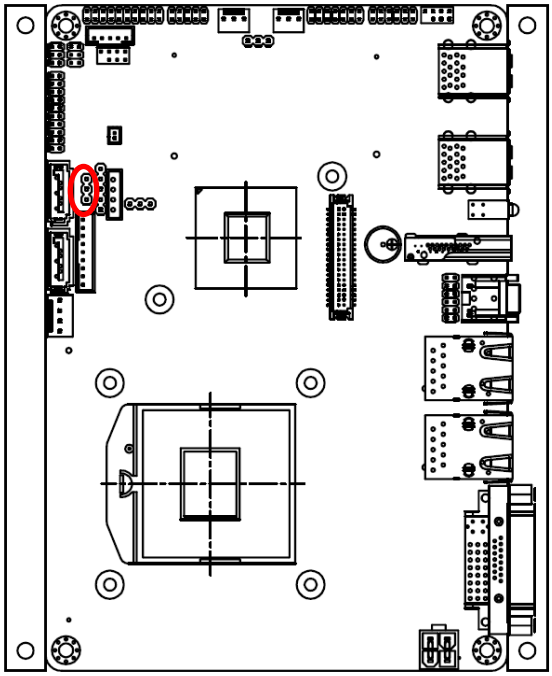


***Default**



Signal	PIN
PWBT	1, 2
RST#	3, 4
PWR-LED	5, 6
HDD-LED	7, 8
Short: AT MODE Open: ATX MODE	9, 10
COPEN#	11, 12

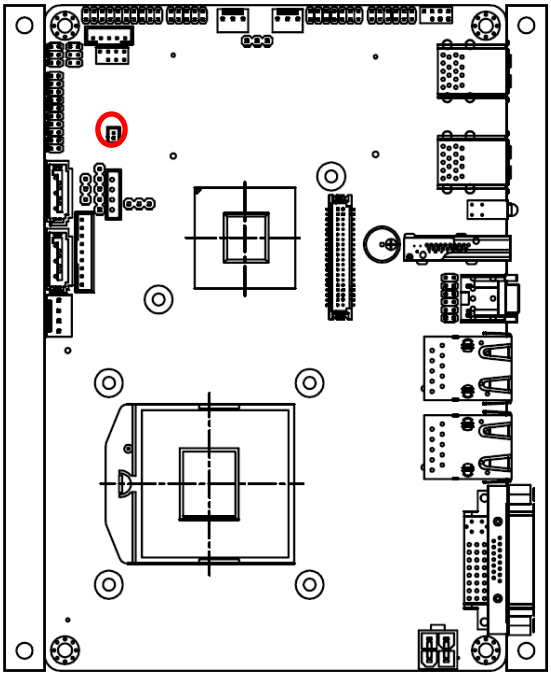
2.3.4 Touch panel connector (JTOUCH_SEL1)

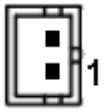


*** Default**



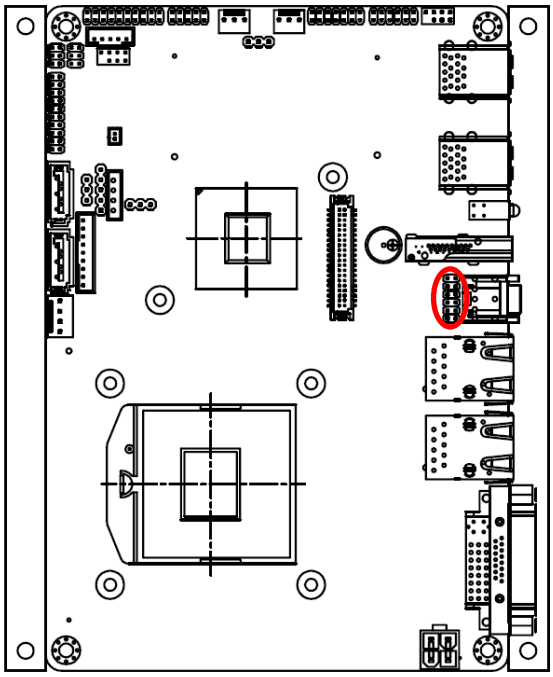
2.3.5 Battery connector (BAT1)

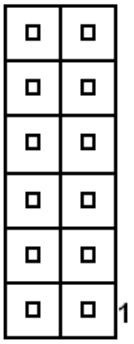




Signal	PIN
GND	2
VBAT	1

2.3.6 Audio connector (JAUDIO1)



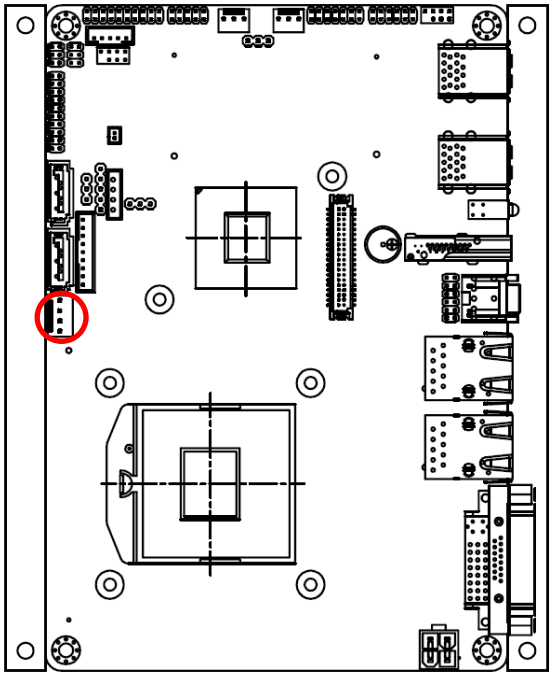


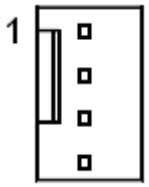
Signal	PIN	PIN	Signal
GND	12	11	MIC_JD
LINE1_JD	10	9	LINE2_JD
MIC_LIN	8	7	MIC_RIN
LINE1_LIN	6	5	LINE1_RIN
GND	4	3	GND
LINE2_LOUT	2	1	LINE2_ROUT

2.3.6.1 Signal Description – Audio connector (JAUDIO1)

Signal	Signal Description
LINE1_JD	Jack detection for line1
LINE2_JD	Jack detection for line2
MIC1_JD	Jack detection for mic1

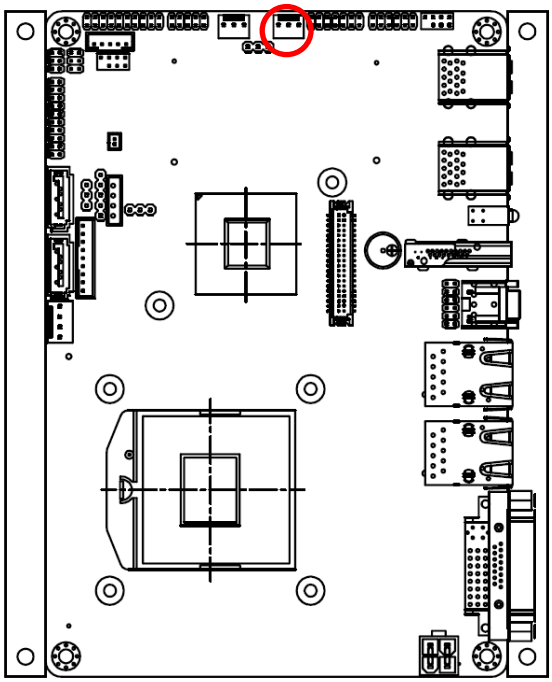
2.3.7 CPU fan (CPU_FAN1)

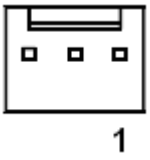




Signal	PIN
GND	1
+12VS	2
CPUFANIN0	3
CPUFANOUT	4

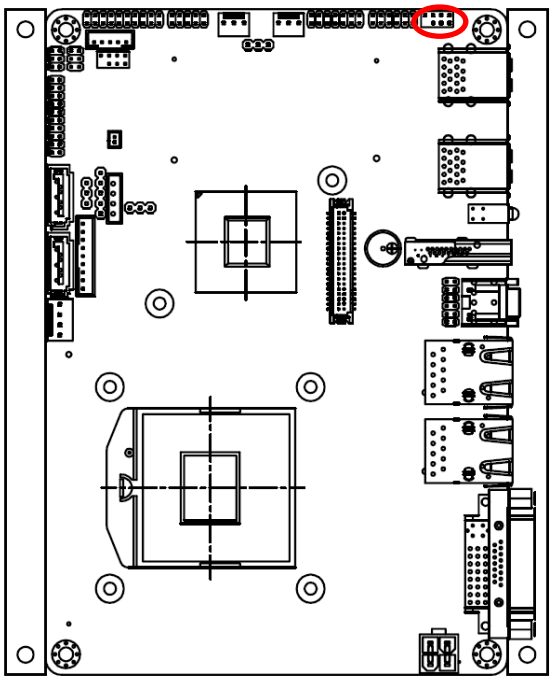
2.3.8 System fan connector (SYS_FAN1)

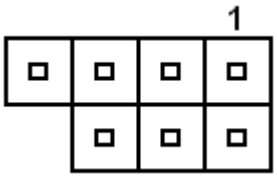




Signal	PIN
GND	1
SYS_FAN_PWR	2
SYSFANIN	3

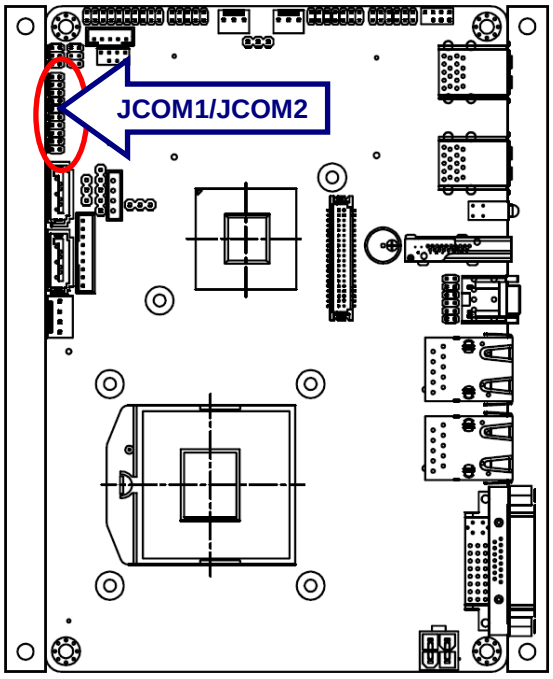
2.3.9 PS/2 keyboard & mouse connector (JKB/MS1)

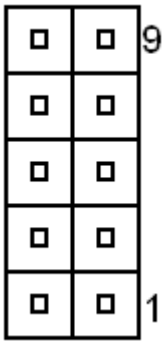




Signal	PIN	PIN	Signal
		7	NC
MSCK	6	5	MSDT
KBVCC	4	3	GND
KBCK	2	1	KBDT

2.3.10 Serial port 1/ 2 connector (JCOM1/ JCOM2)





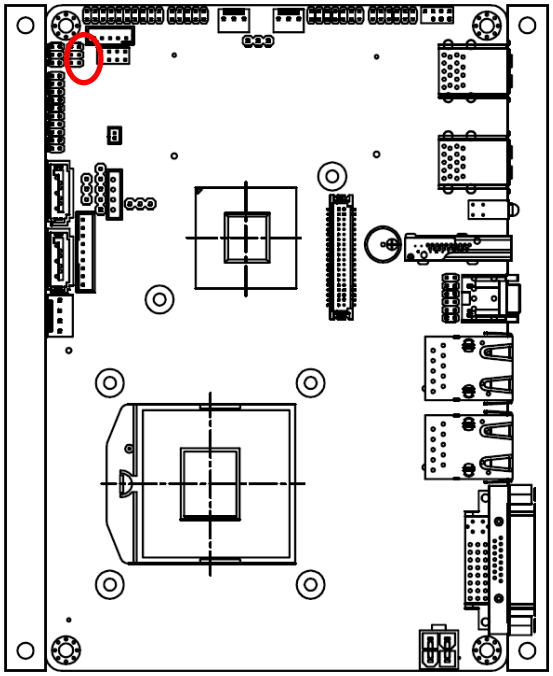
JCOM2

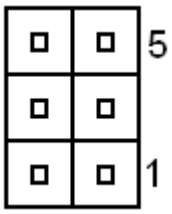
Signal	PIN	IN	Signal
NC	10	9	RI2
CTS2	8	7	RTS2
DSR2	6	5	GND
DTR2	4	3	TXDD2
RXDD2	2	1	DCD2

JCOM1

Signal	PIN	IN	Signal
NC	10	9	RI1
CTS1	8	7	RTS1
DSR1	6	5	GND
DTR1	4	3	TXDD1
RXDD1	2	1	DCD1

2.3.11 Serial Port 1 connector (J422/1)

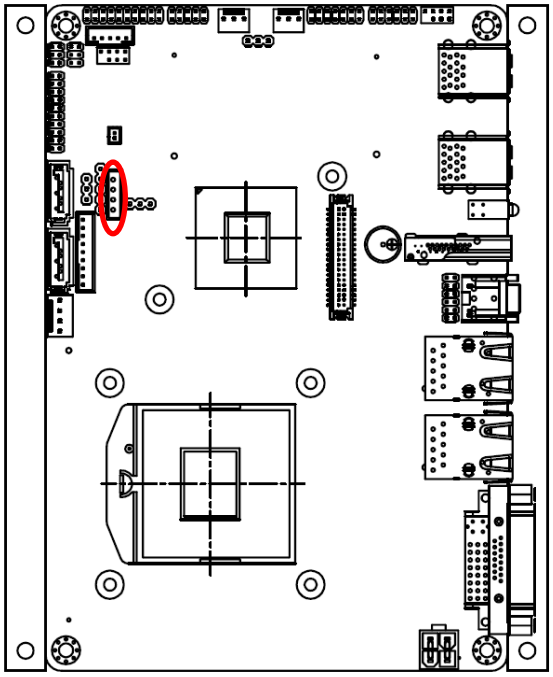




Signal	PIN	PIN	Signal
GND	6	5	+5V
RX+	4	3	TX+
RX-	2	1	TX-

Note: J422/1 is available after modifying the mode of COM1 in BIOS setting.

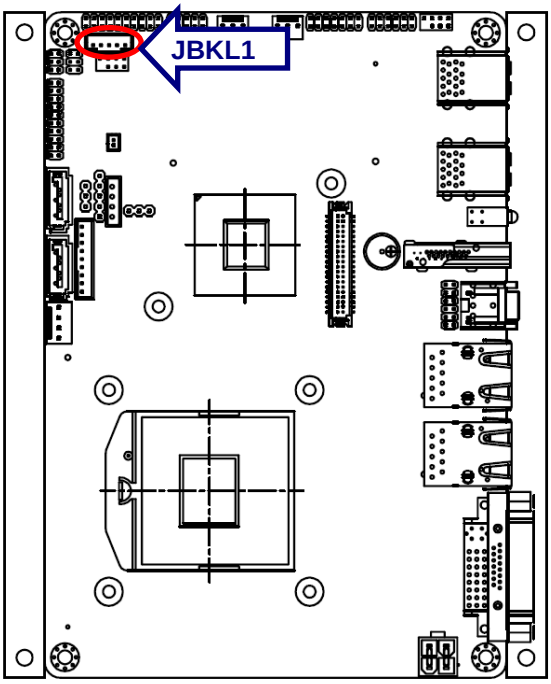
2.3.12 HD power connector (HD_PWR1)

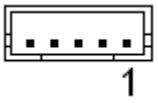




Signal	PIN
+5V	4
+5V	3
GND	2
GND	1

2.3.13 LCD Inverter Connector 1 (JBKL1)



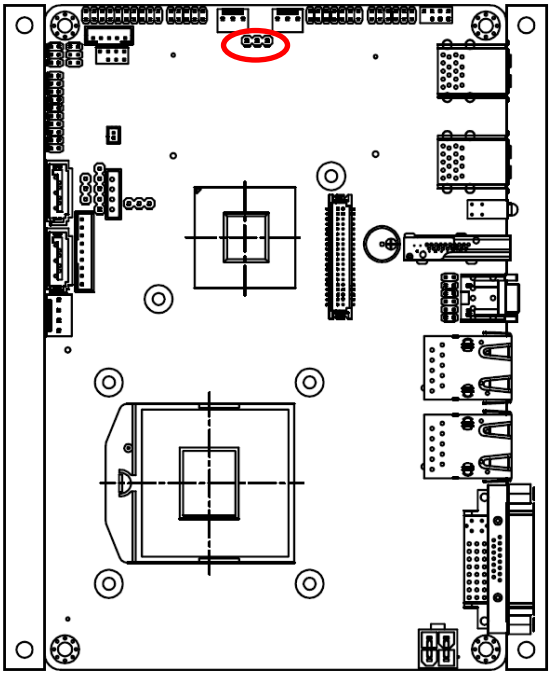


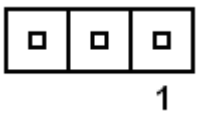
Signal	PIN
+5V	5
BRIGHT	4
BLK_ON	3
GND	2
+12V	1

2.3.13.1 Signal Description – LCD Inverter Connector (JBKL1)

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

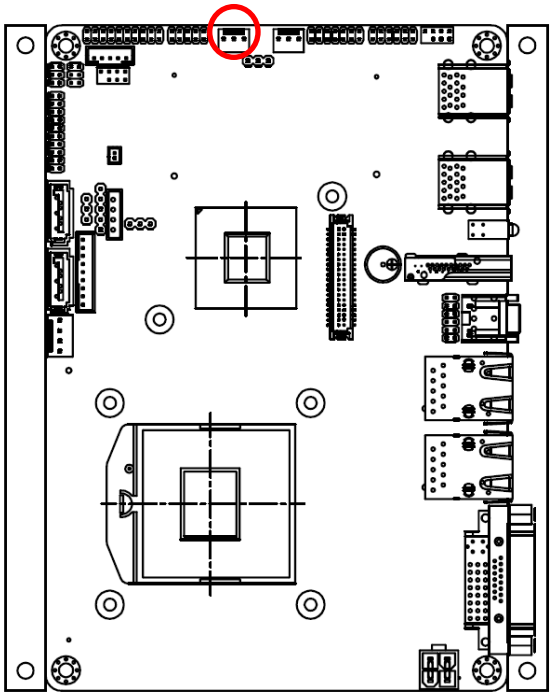
2.3.14 LCD Backlight brightness adjustment (JVR1)

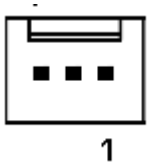




Signal	PIN
GND	3
BRIGHT	2
+5V	1

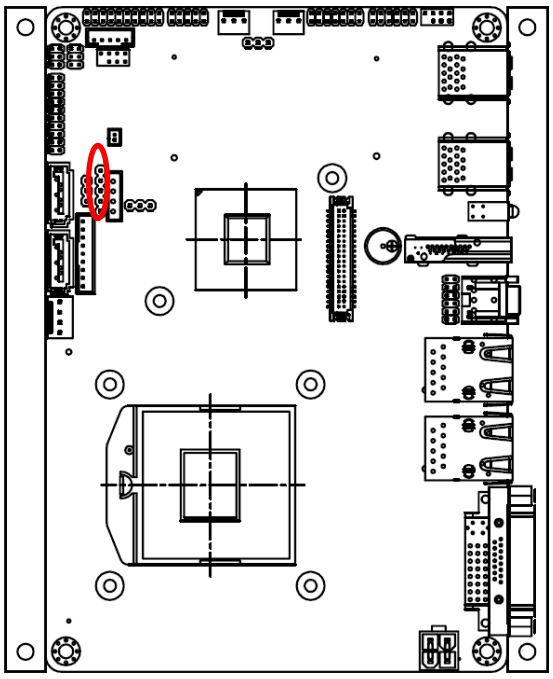
2.3.15 5VSB connector in ATX (PWR_SB1)

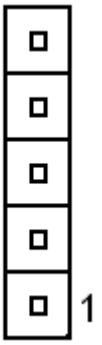




Signal	PIN
+ATX5VSB	3
GND	2
SIO_PSON#	1

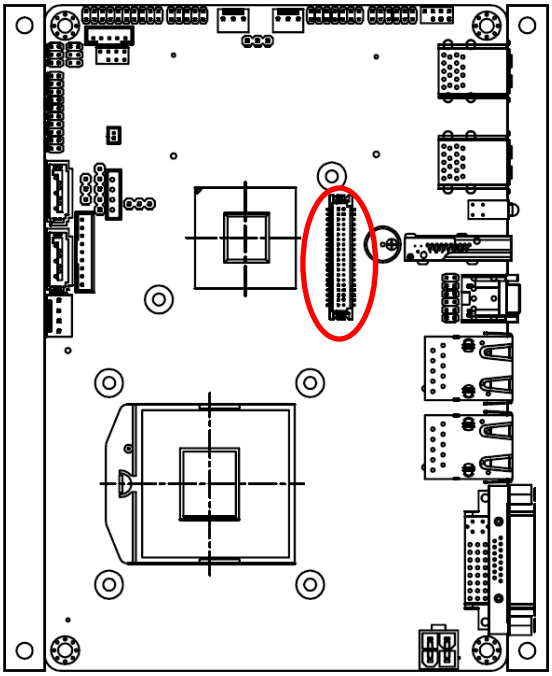
2.3.16 IrDA connector (JIR1)

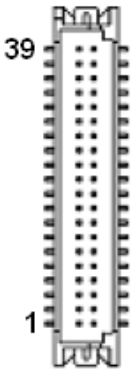




Signal	PIN
SOUTB_IRTX	5
GND	4
SINB_IRRX	3
NC	2
+5V	1

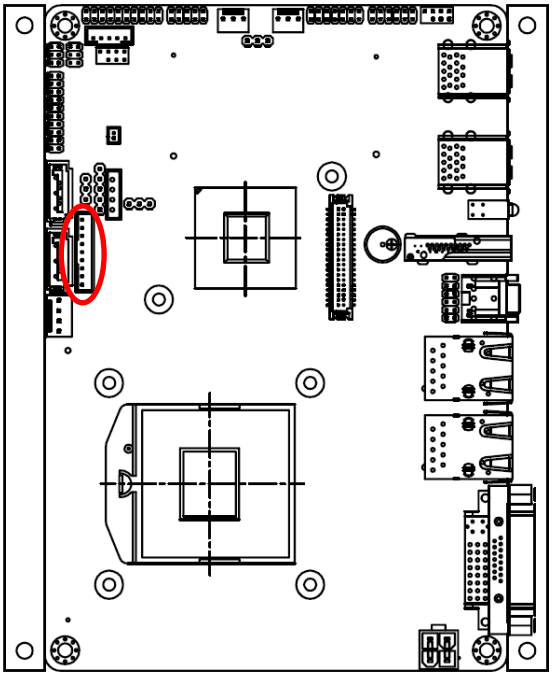
2.3.17 LVDS connector (JLVDS1)



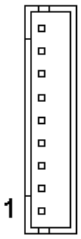


Signal	PIN	PIN	Signal
+12V	39	40	+12V
GND	37	38	GND
LVDS_CLK2_N	35	36	LVDS_CLK1_N
LVDS_CLK2_P	33	34	LVDS_CLK1_P
GND	31	32	GND
LVDS_DATA7_N	29	30	LVDS_DATA6_N
LVDS_DATA7_P	27	28	LVDS_DATA6_P
GND	25	26	GND
LVDS_DATA5_N	23	24	LVDS_DATA4_N
LVDS_DATA5_P	21	22	LVDS_DATA4_P
GND	19	20	GND
LVDS_DATA3_N	17	18	LVDS_DATA2_N
LVDS_DATA3_P	15	16	LVDS_DATA2_P
GND	13	14	GND
LVDS_DATA1_N	11	12	LVDS_DATA0_N
LVDS_DATA1_P	9	10	LVDS_DATA0_P
GND	7	8	GND
NC	5	6	NC
+3.3V	3	4	+5V
+3.3V	1	2	+5V

2.3.18 Touch panel connector (JTOUCH1)

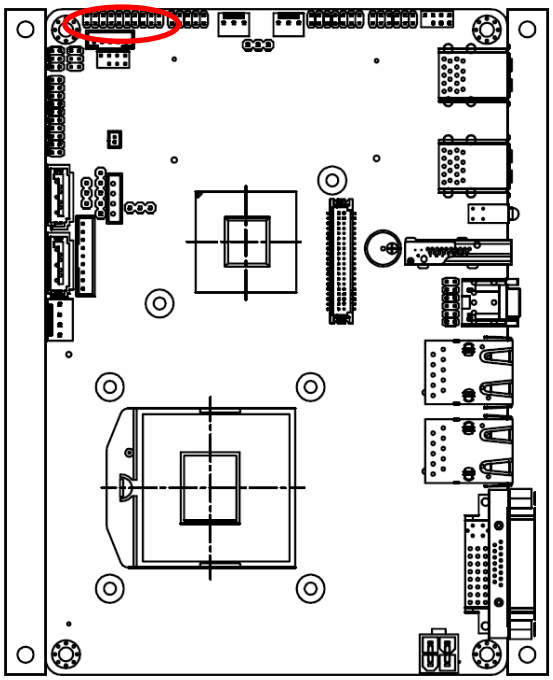


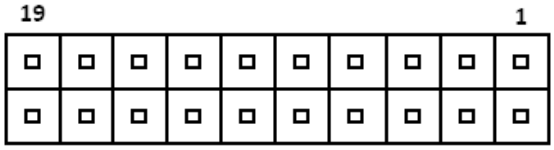
Signal	PIN
TOUCH_GND	9
Y-	8
Y+	7
X-	6
X+	5
SENSE	4
Y+	3
X-	2
X+	1



PIN	4-WIRE	5-WIRE	8-WIRE
9	GND	GND	GND
8	Top	UL	Top Excite
7	Bottom	UR	Bottom Excite
6	Left	LL	Left Excite
5	Right	LR	Right Excite
4	N/A	Sense	Top Sense
3	N/A	N/A	Bottom Sense
2	N/A	N/A	Left Sense
1	N/A	N/A	Right Sense

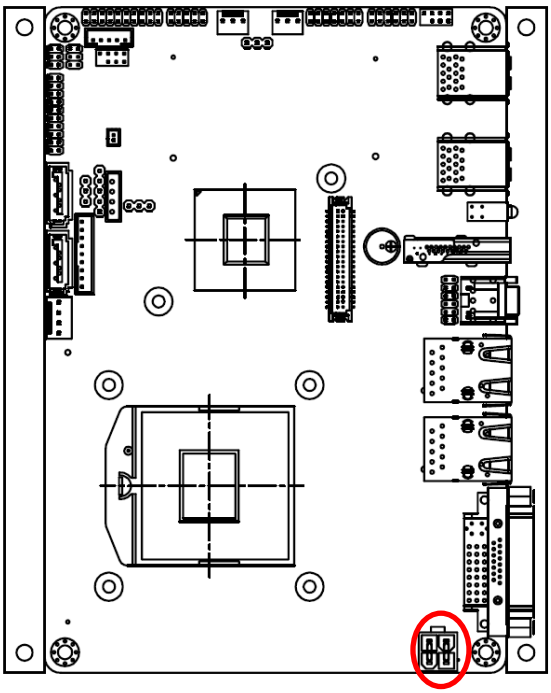
2.3.19 General purpose I/O connector (JDIO1)

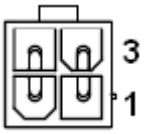




Signal	PIN	PIN	Signal
+5V	20	19	GND
SMBDATA_MAIN	18	17	SMBCLK_MAIN
DIO_GP17	16	15	DIO_GP27
DIO_GP16	14	13	DIO_GP26
DIO_GP15	12	11	DIO_GP25
DIO_GP14	10	9	DIO_GP24
DIO_GP13	8	7	DIO_GP23
DIO_GP12	6	5	DIO_GP22
DIO_GP11	4	3	DIO_GP21
DIO_GP10	2	1	DIO_GP20

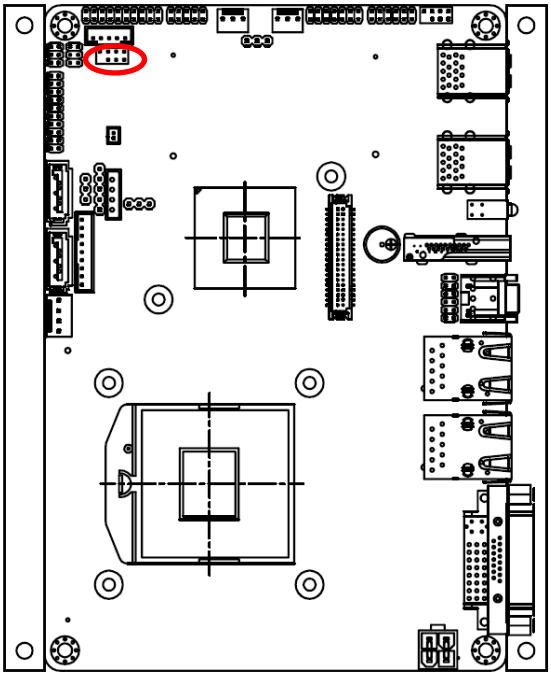
2.3.20 Power connector (PWR1)

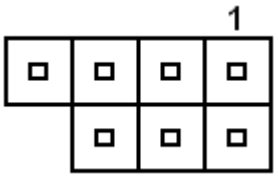




Signal	PIN	PIN	Signal
DC_IN	4	3	DC_IN
GND	2	1	GND

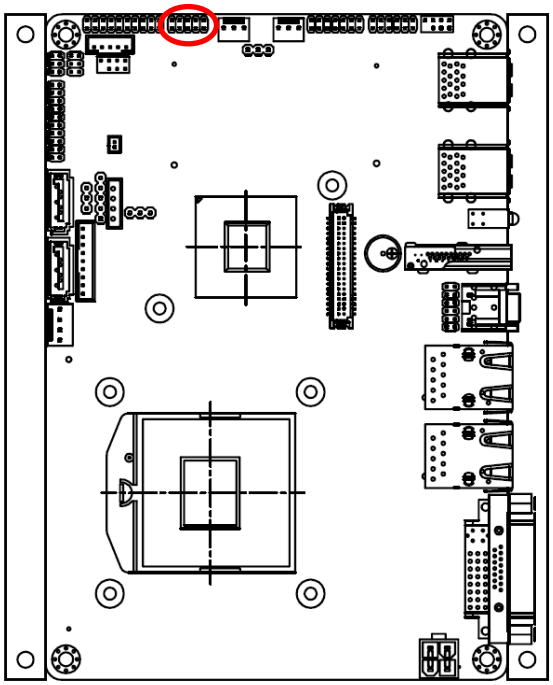
2.3.21 SPI connector (JSPI1)

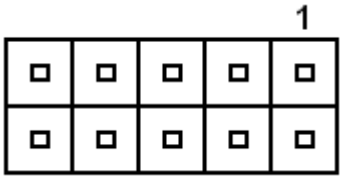




Signal	PIN	PIN	Signal
		7	HOLD#
SPI_SI	6	5	SPI_SO
SPI_CLK	4	3	SPI_CS0#
GND	2	1	+V3.3M_SPI

2.3.22 USB connector 4&5 (JUSB1_1)



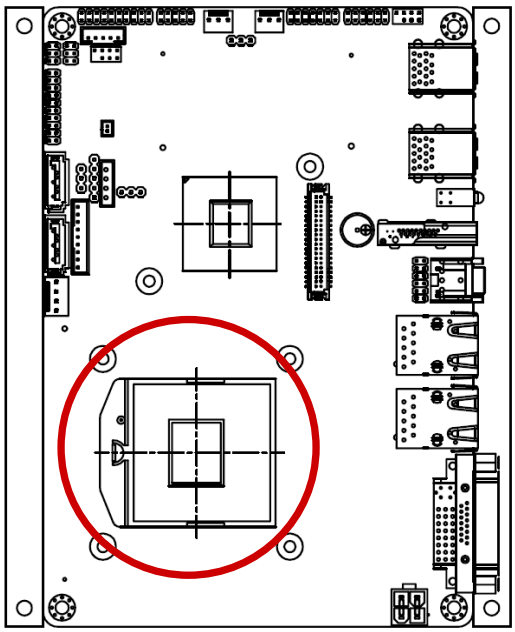


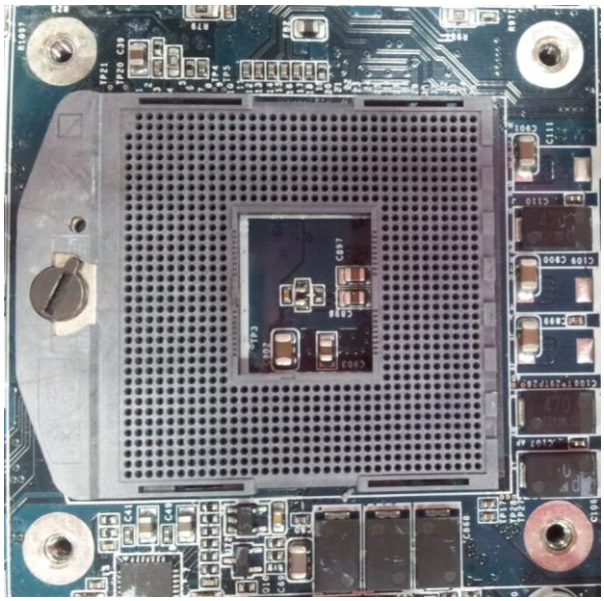
Signal	PIN	PIN	Signal
USBVCC4	1	2	GND
USB_PN_Z_4	3	4	GND
USB_PP_Z_4	5	6	USB_PP_Z_5
GND	7	8	USB_PN_Z_5
GND	9	10	USBVCC4

Note: Wrong USB cable configuration with USB devices might damage USB devices.

2.4 Installing the CPU

2.4.1 Locate the CPU socket on the board.

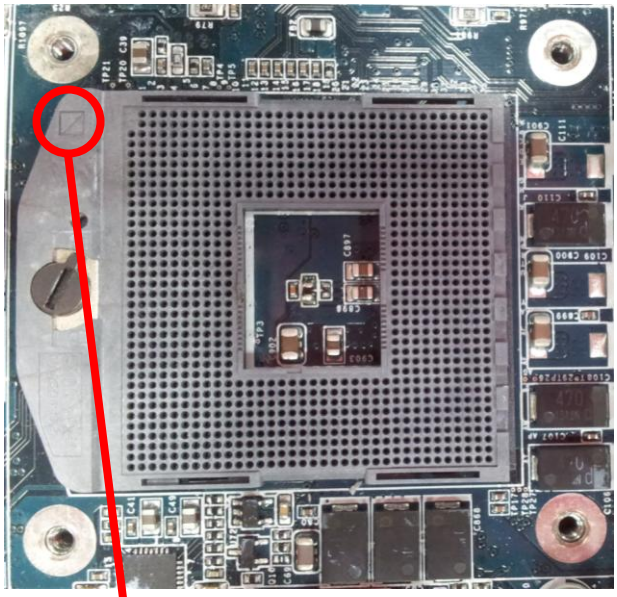




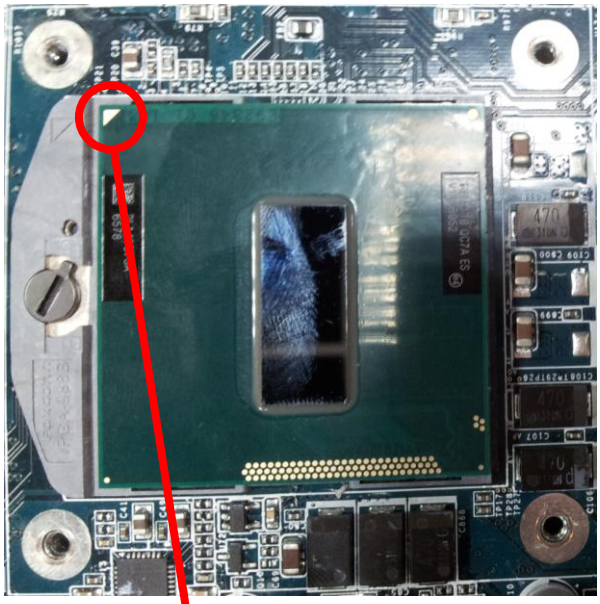
Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

2.4.2 Separate CPU cooler and its base first by screw drawer

1. Position the CPU over the socket, making sure that the gold triangle is the same side as CPU Socket triangle

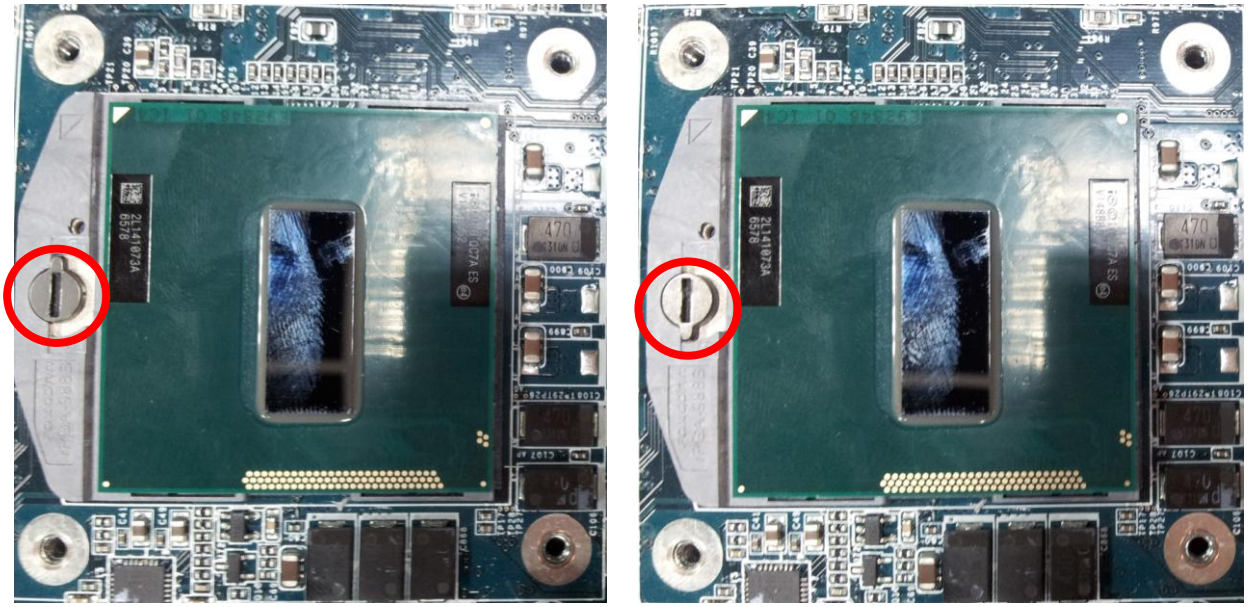


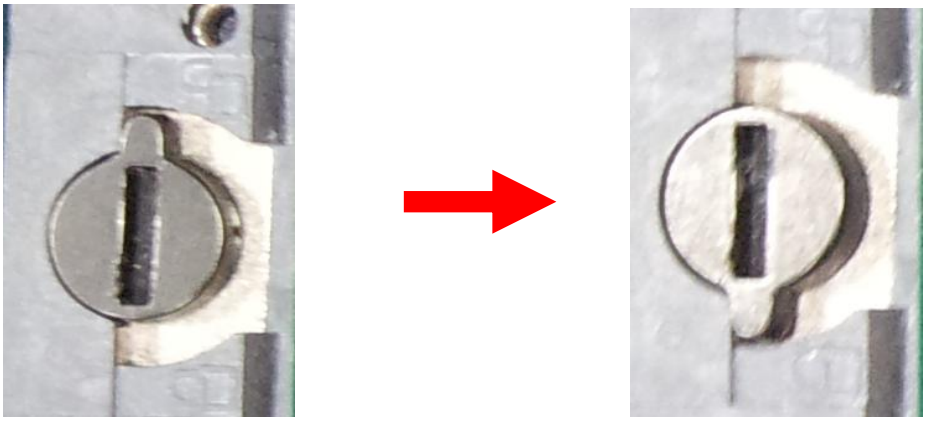
CPU Socket triangle



Gold triangle

2. turn the CPU lock clockwise to lock CPU





The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!