EEV-Q701

3.5 inch Qseven Carrier Board

Quick Installation Guide

1st Ed – 02 March 2012

Part No. E2017221000R

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.

Copyright Notice

Trademark Acknowledgement

Brand and product names are trademarks or registered trademarks of their respective owners.

Disclaimer

Avalue Technology Inc. reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. Avalue Technology assumes no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. Applications that are described in this manual are for illustration purposes only. Avalue Technology Inc. makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

Life Support Policy

Avalue Technology's PRODUCTS ARE NOT FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE PRIOR WRITTEN APPROVAL OF Avalue Technology Inc.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into body, or (b) support or sustain life and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2 A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:
http://www.avalue.com.tw/

If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Avalue's products. In fact, most problems reported are minor and are able to be easily solved over the phone.

In addition, free technical support is available from Avalue's engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

Headquarters and Branch

Avalue Technology Inc.

7F, 228, Lian-cheng Road, Chung Ho City, Taipei, Taiwan

Tel:+886-2-8226-2345

Fax: +886-2-8226-2777

Information:sales@avalue.com.tw

Service: service@avalue.com.tw

Avalue USA

Avalue Technology Inc.

9 Timber Lane, Marlboro, NJ 07746-1443

Tel: (732) 414-6500

Fax: (732) 414-6501

Information: sales@avalue-usa.com

Service: support@avalue-usa.com

BCM Advanced Research

BCM Advanced Research

an Avalue Company

7 Marconi, Irvine, CA92618

Tel: +1-949-470-1888

Fax: +1-949-470-0971

Information: BCMSales@bcmcom.com

Web: www.bcmcom.com

Avalue Europe

Avalue Europe A/S

Moelledalen 22C, 3140

Aalsgaarde, Denmark

Tel: +45-7025-0310

Fax:+45-4975-5026

Information: sales.europe@avalue.com.tw

Service: service.europe@avalue.com.tw

Avalue China

Avalue Technology Inc.

Room 805, Building 9,No.99 Tianzhou Rd.,

Caohejing Development Area,

Xuhui District, Shanghai

Tel: +86-21-5169-3609

Fax:+86-21-5445-3266

Information: sales.china@avalue.com.cn

Service: service@avalue.com.tw

Avalue Japan

Avalue Technology Inc.

2F keduka-Bldg, 2-27-3 Taito,

Taito-Ku, Tokyo 110-0016 Japan

Tel: +81-3-5807-2321

Fax: +81-3-5807-2322

Information: sales.japan@avalue.com.tw
Service: service@avalue.com.tw

Contents

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

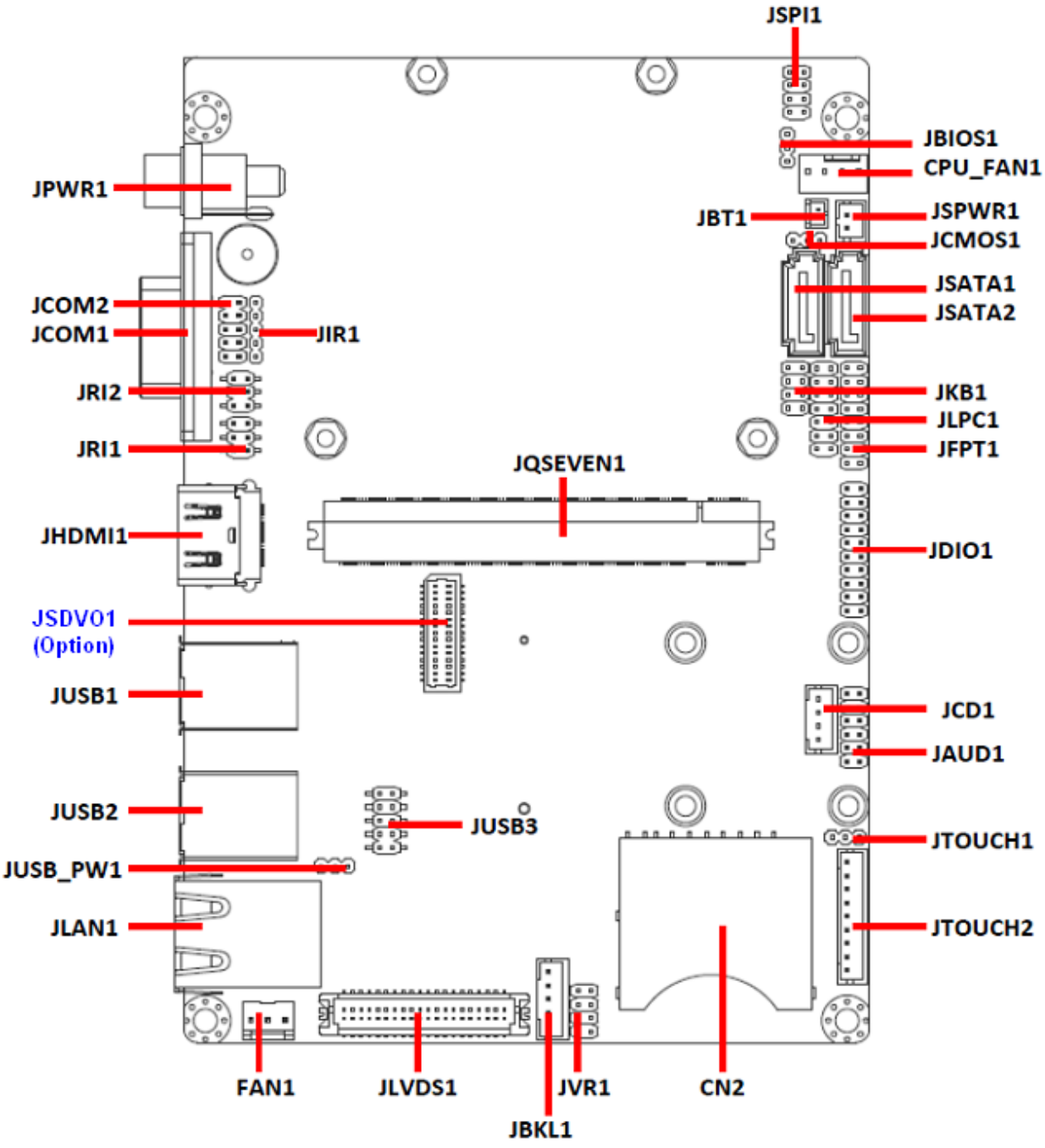
Before you begin installing your single board, please make sure that the following materials have been shipped:

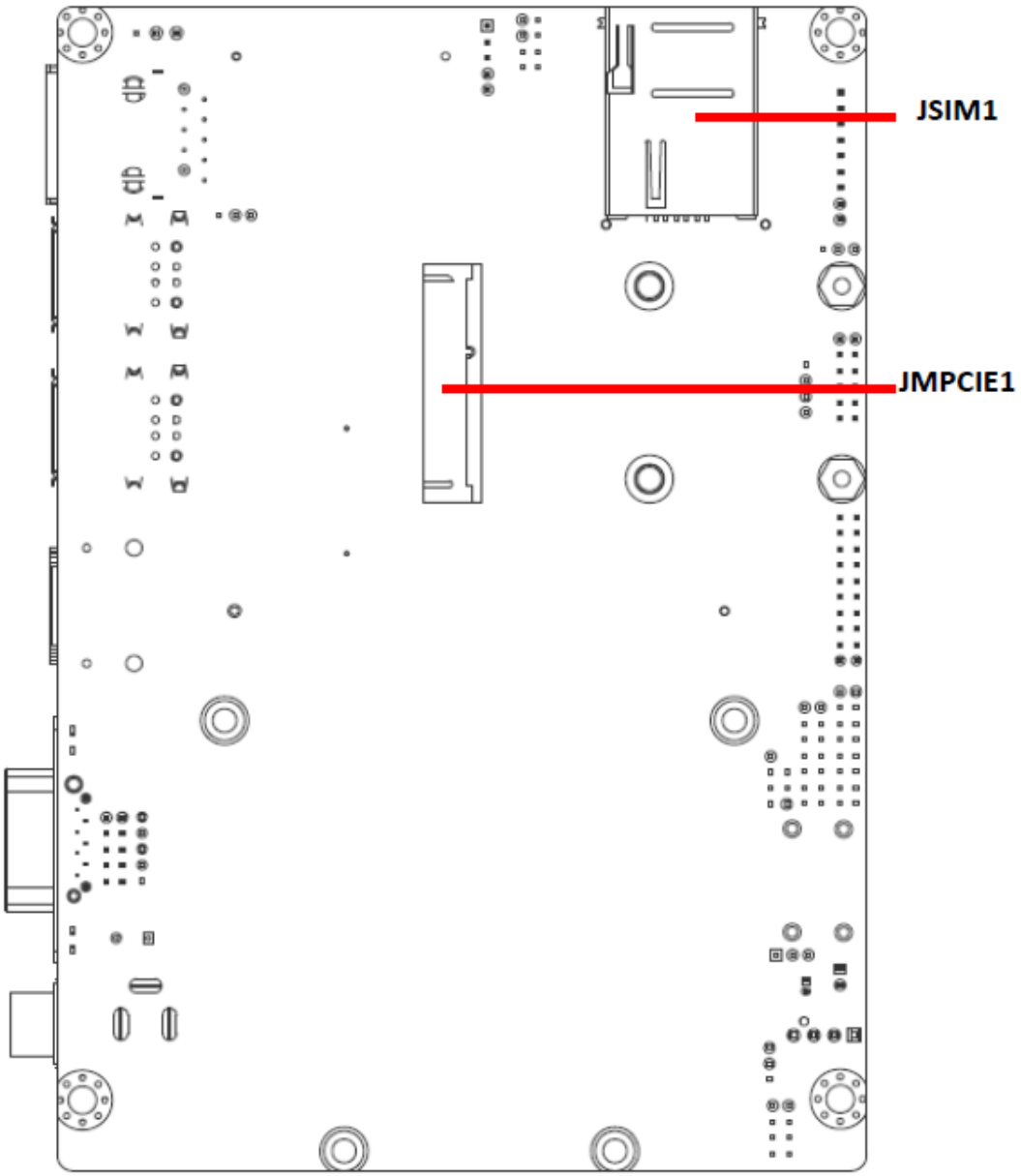
- 1 x 3.5 inch Qseven Carrier Board
- 1 x Quick Installation Guide
- 1 x DVD-ROM containing the followings:
  - User's Manual (this manual in PDF file)
  - Audio drivers and utilities

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

2. Hardware Configuration

2.1 Product Overview

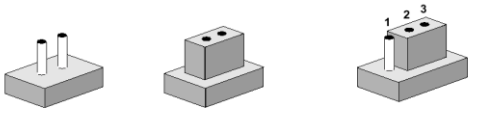



JSIM1
JMPCIE1

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

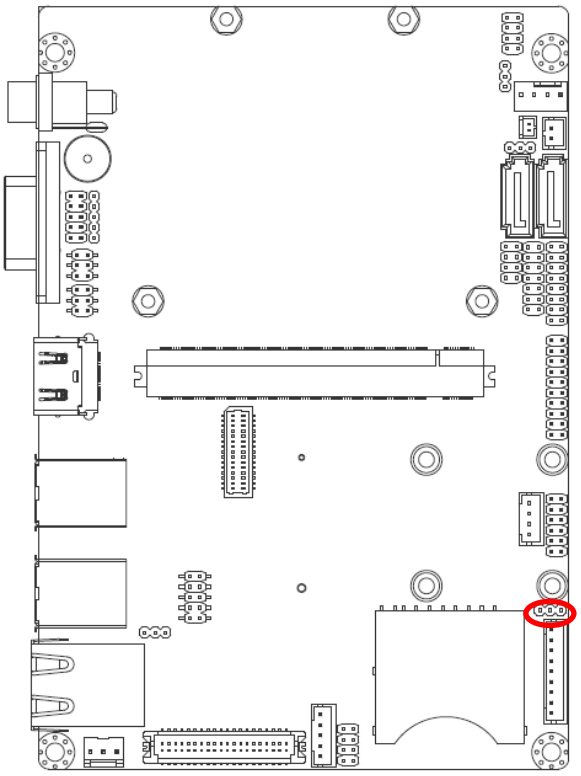
Label	Function	Note
JTOUCH1	Touch selector	3 x 1 header, pitch 2.00mm
JVR1	Brightness adjuster	4 x 2 header, pitch 2.00mm
JUSB_PW1	USB power selector	3 x 1 header, pitch 2.00mm
JFPT1	AT/ATX & Miscellaneous setting connector	8 x 2 header, pitch 2.00mm
JCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm
JBIOS1	Module/Carrier BIOS selector	3 x 1 header, pitch 2.00mm
JRI1	COM1 Dsub_ 9 signal selector	3 x 2 header, pitch 2.00mm
JRI2	COM2 signal selector	3 x 2 header, pitch 2.00mm

Connectors

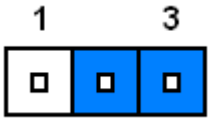
Label	Function	Note
CN2	SDIO connector	SD card slot
JCPU_FAN1	CPU fan connector	4 x 1 wafer, pitch 2.54mm
JBT1	Battery connector	2 x 1 wafer, pitch 2.00mm
FAN1	System Fan connector	3 x 1 wafer, pitch 2.54mm
JAUD1	Audio connector	6 x 2 header, pitch 2.00mm
JBKL1	LCD inverter connector	5 x 1 wafer, pitch 2.0mm
JCD1	CD-ROM audio connector	4 x 1 wafer, pitch 2.00mm
JCOM1	Serial Port 1 connector	D Sub 9 pin male
JCOM2	Serial port 2 in RS-422/485 mode	5 x 2 header, pitch 2.0mm
JDIO1	General purpose I/O connector	10 x 2 header, pitch 2.00mm
JHDMI1	HDMI connector	
JIR1	IrDA connector	5 x 1 header, pitch 2.00mm
JKB1	PS/2 keyboard & mouse connector	4 x 2 header, pitch 2.00mm
JLAN1	LAN port connector	
JLVDS1	LVDS connector	DIN 40-pin wafer, pitch 1.25mm
JLPC1	LPC connector	7 x 2 header, pitch 2.0mm
JMPCIE1	MPCIE connector	
JPWR1	DC +12V power connector	
JQSEVEN1	Qseven connector	
JSIM1	SIM card connector	
JSPI1	SPI connector	4 x 2 header, pitch 2.0mm
JSPWR1	SATA power connector	2 x 1 wafer, pitch 2.0mm
JSATA1	SATA connector 1	
JSATA2	SATA connector 2	
JTOUCH2	Touch connector	9 x 1 Wafer, pitch 2.0mm
JUSB1	USB connector 0 &1	
JUSB2	USB connector 2 &3	
JUSB3	USB connector 4&5	5 x 2 header, pitch 2.0mm

2.3 Setting Jumpers & Connectors

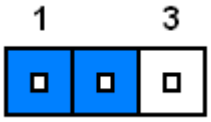
2.3.1 Touch selector (JTOUCH1)



5W*



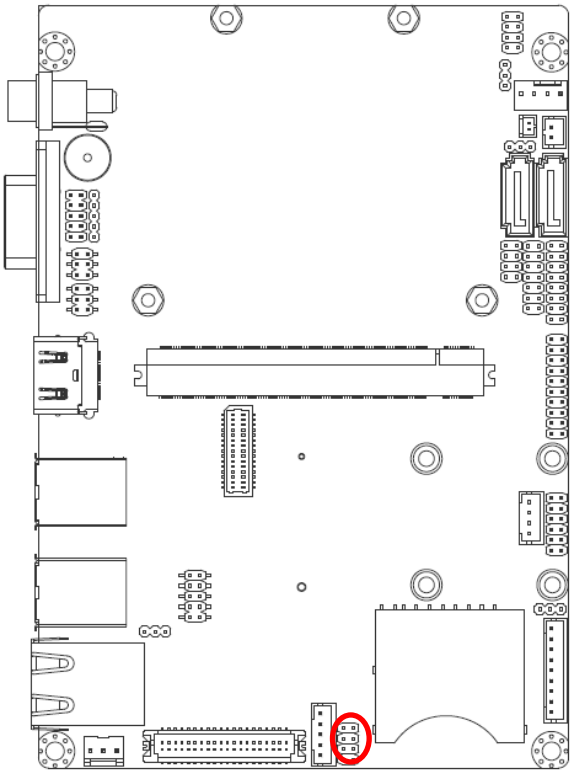
4/ 8W



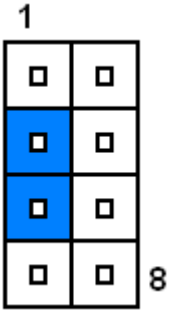
Signal	PIN
Y-	1
SENSE	2
NC	3

***Default**

2.3.2 Brightness adjuster (JVR1)



GND*

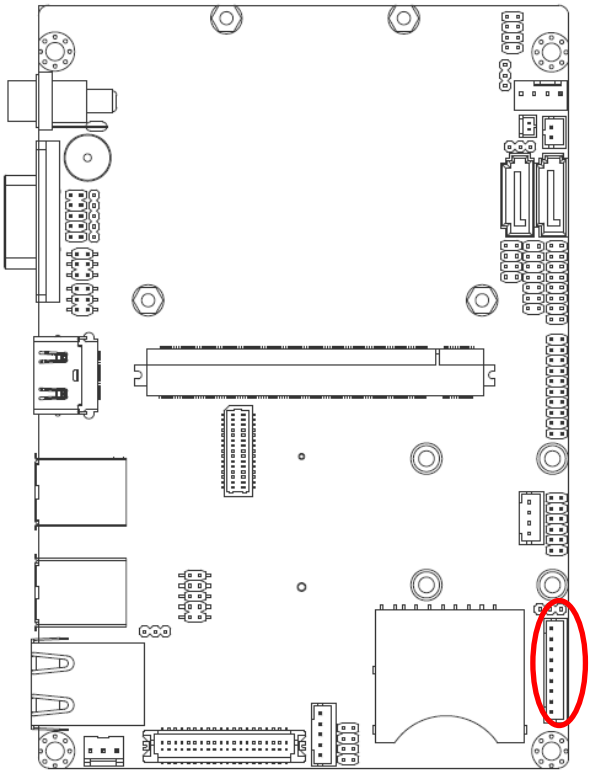


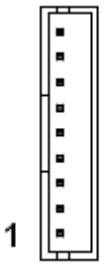
Signal	PIN	PIN	Signal
+5V	1	2	BK_DC_ADJ
BK_ADJ	3	4	BK_ADJ
GNDC	5	6	BK_PWM_ADJ
BK_ADJ	7	8	LVDS_BKLTCTL

.

***Default**

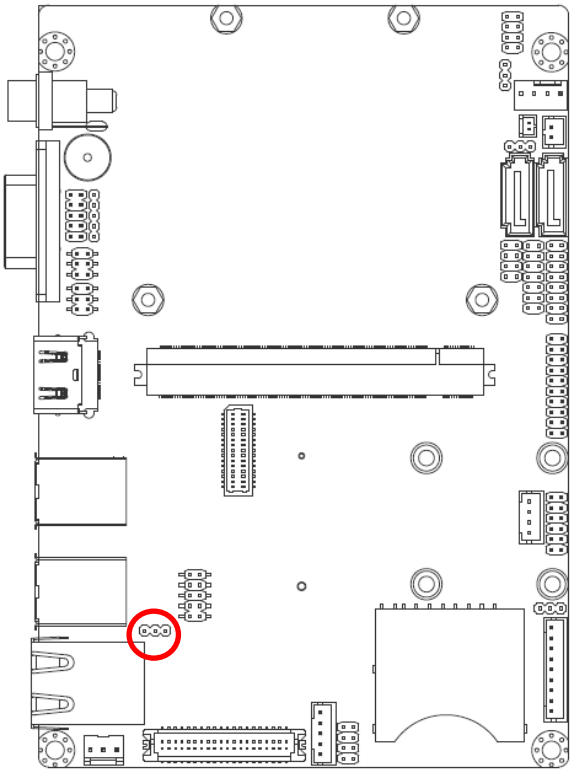
2.3.3 Touch connector (JTOUCH2)



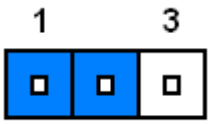


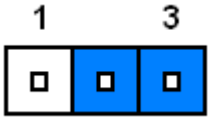
PIN	4-WIRE	5-WIRE	8-WIRE
1	N/A	N/A	Right Sense
2	N/A	N/A	Left Sense
3	N/A	N/A	Bottom Sense
4	N/A	Sense	Top Sense
5	Right	LR	Right Excite
6	Left	LL	Left Excite
7	Bottom	UR	Bottom Excite
8	Top	UL	Top Excite
9	GND	GND	GND

2.3.4 USB power selector (JUSB_PW1)



Default *

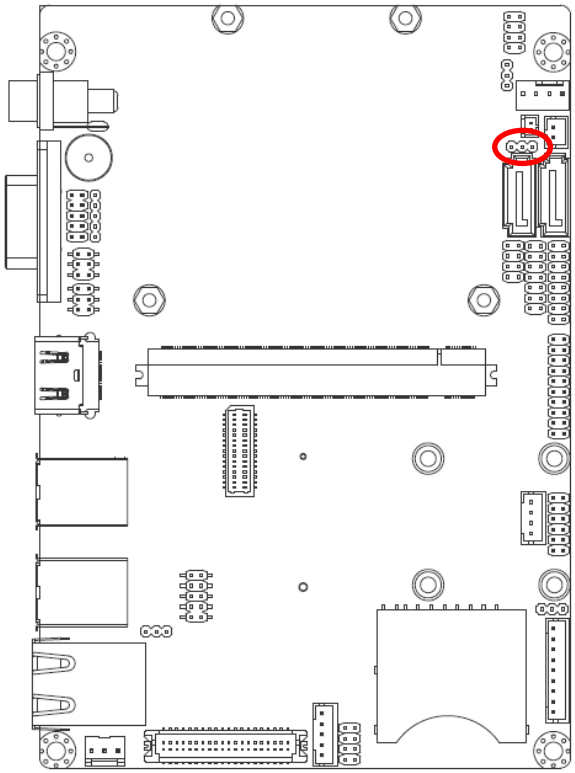




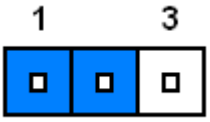
Signal	PIN
+V5A	1
USB_VCC_EN	2
+V5S	3

***Default**

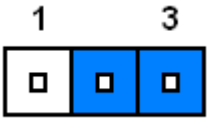
2.3.5 Clear COMS (JCMOS1)



Protect*



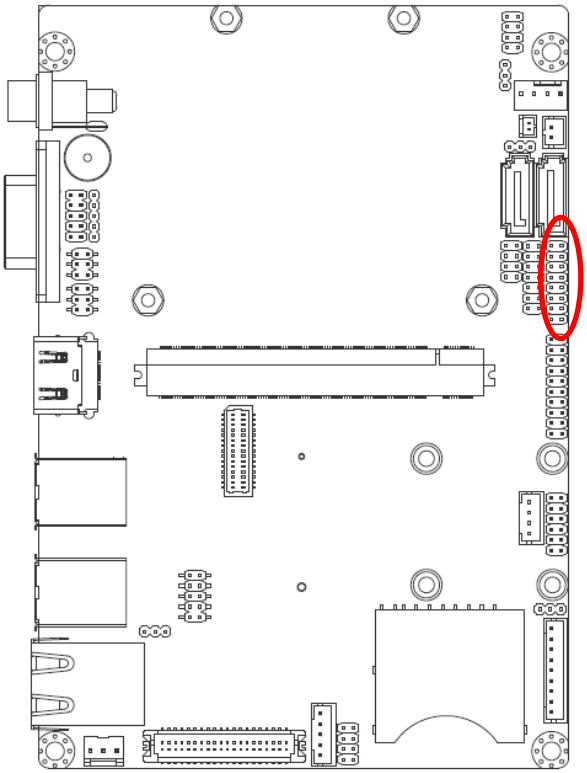
Clear CMOS



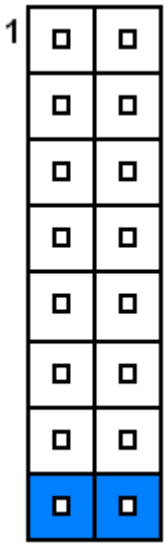
Signal	PIN
+VRTC_IN	1
+VRTC_C	2
GND	3

***Default**

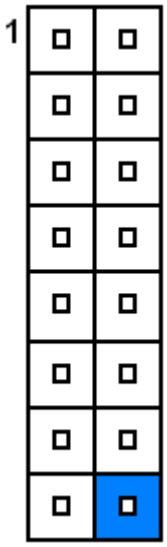
2.3.6 AT/ATX & Miscellaneous setting connector (JFPT1)



AT*



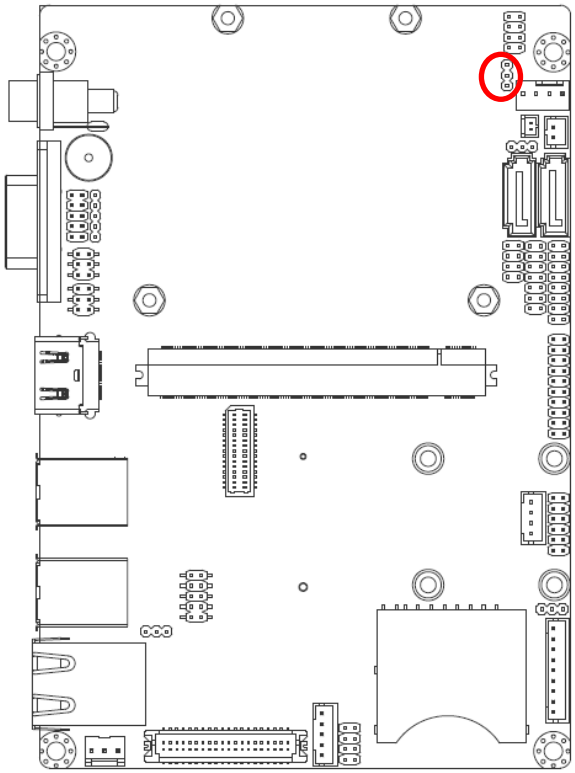
ATX



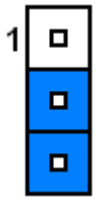
***Default**

Signal	PIN	PIN	Signal
HDD_LED+	1	2	PWR_LED+
HDD_LED#	3	4	PWR_LED-
GND	5	6	Standby_LED+
SYSRST#	7	8	Standby_LED-
GND	9	10	GND
LID_BTN#	11	12	SLP_BTN#
Power Button-	13	14	GND
Power Button-	15	16	AT

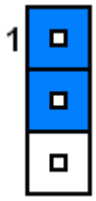
2.3.7 Module/Carrier BIOS selector (JBIOS1)



Q7 Module BIOS*



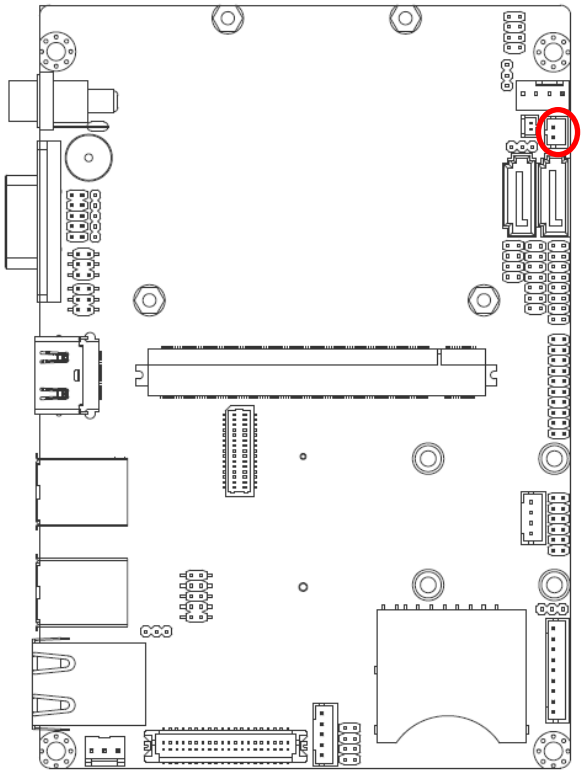
Carrier BIOS

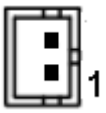


Signal	PIN
+3.3V	1
GND	2
NC	3

***Default**

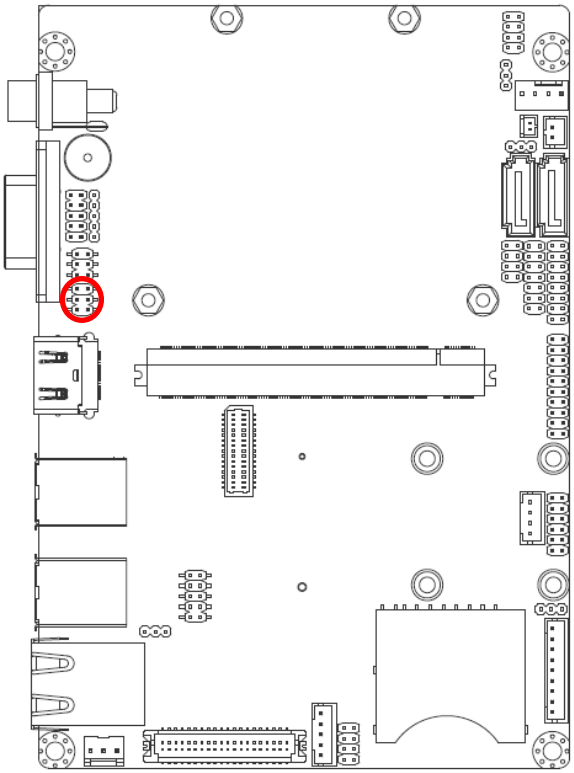
2.3.8 SATA power connector (JSPWR1)

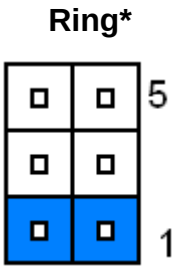


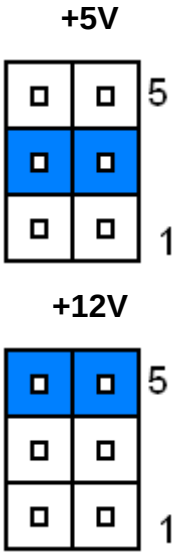


Signal	PIN
+5V	2
GND	1

2.3.9 COM1 Dsub_ 9 signal selector (JRI1)





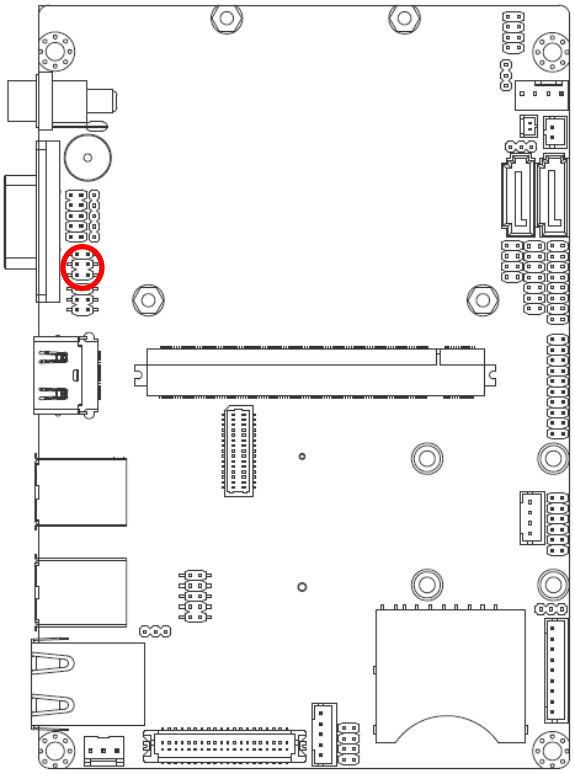


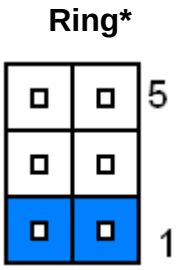
*** Default**

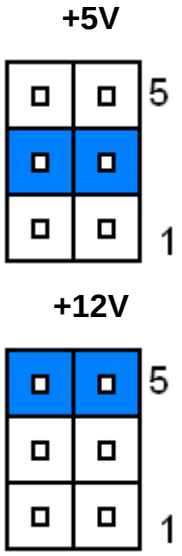
Signal	PIN	PIN	Signal
PS2	6	5	+12V
PS2	4	3	+5V
NRIA#	2	1	JNRIA#

Note: When switched to “Ring”, the signal only works in RS-232 mode.

2.3.10 Serial port 2 pin9 signal select (JRI2)



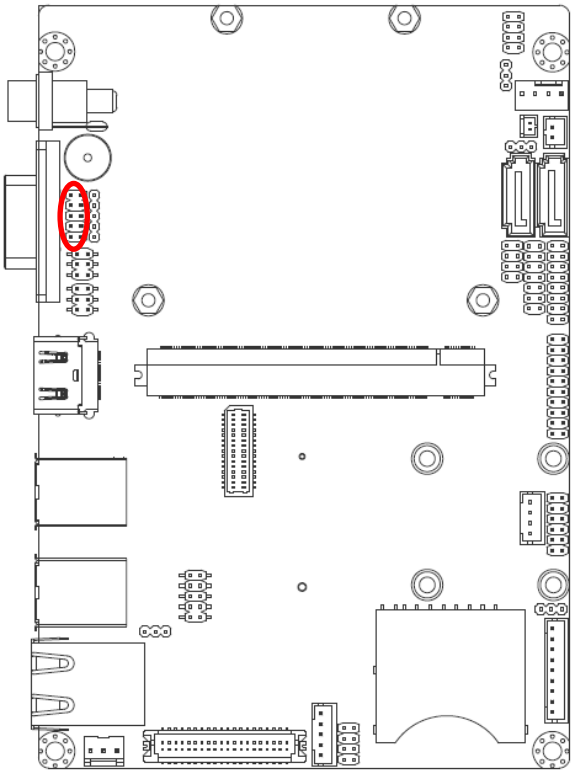


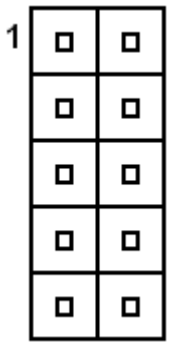


*** Default**

Signal	PIN	PIN	Signal
PS3	6	5	+12V
PS3	4	3	+5V
NRIB#	2	1	JNRIB#

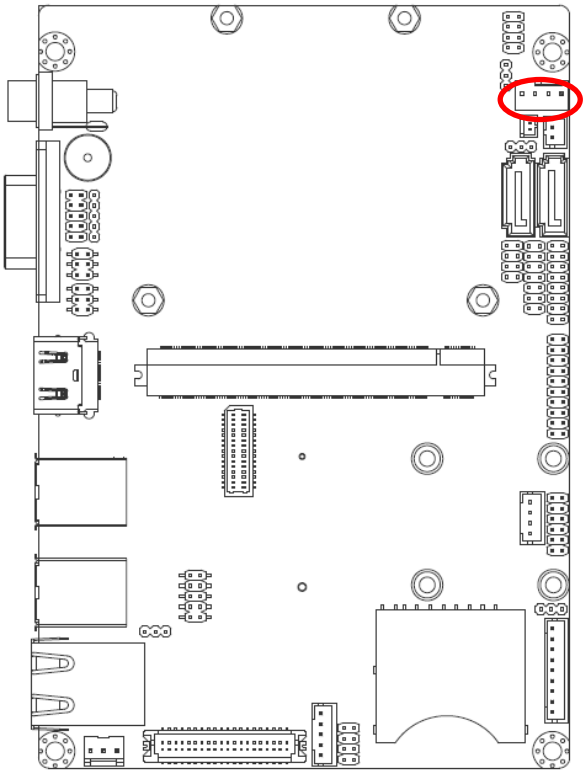
2.3.11 Serial port 2 connector (JCOM2)

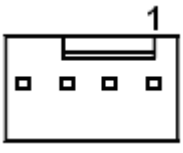




Signal	PIN	PIN	Signal
TX-	1	2	TX+
RX+	3	4	RX-
GND	5	6	DSRB#
RTSB#	7	8	CTSB#
NRIB#	9	10	NC

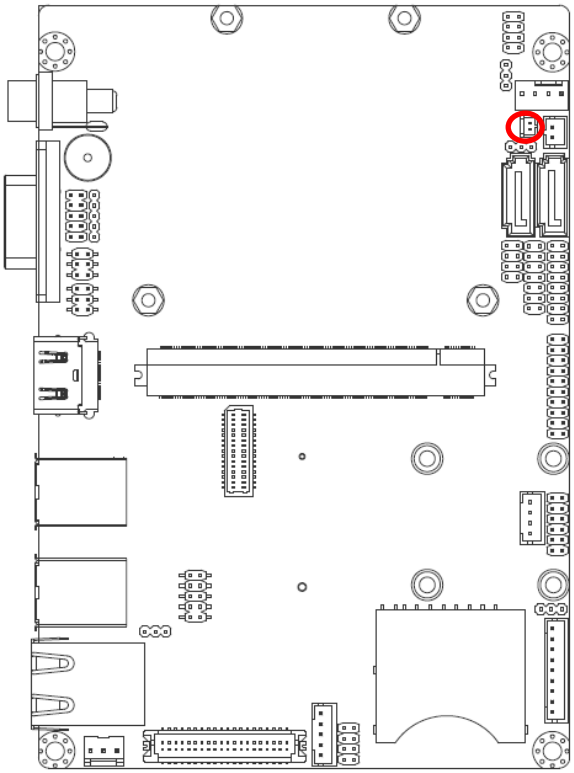
2.3.12 CPU fan connector (JCPU_FAN1)

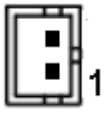




Signal	PIN
GND	1
+12V	2
CPU_FANIN	3
FANPWMOUT	4

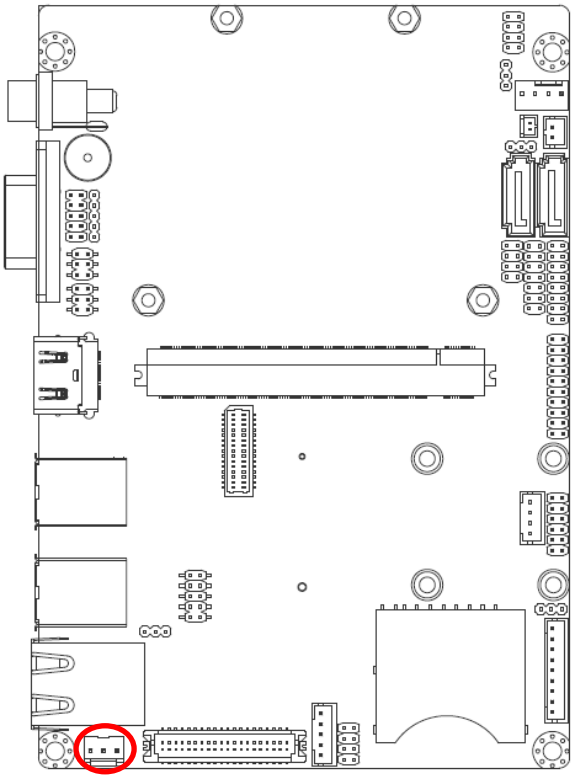
2.3.13 Battery connector (JBT1)

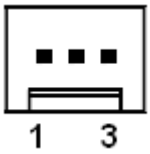




Signal	PIN
GND	2
+3.3V	1

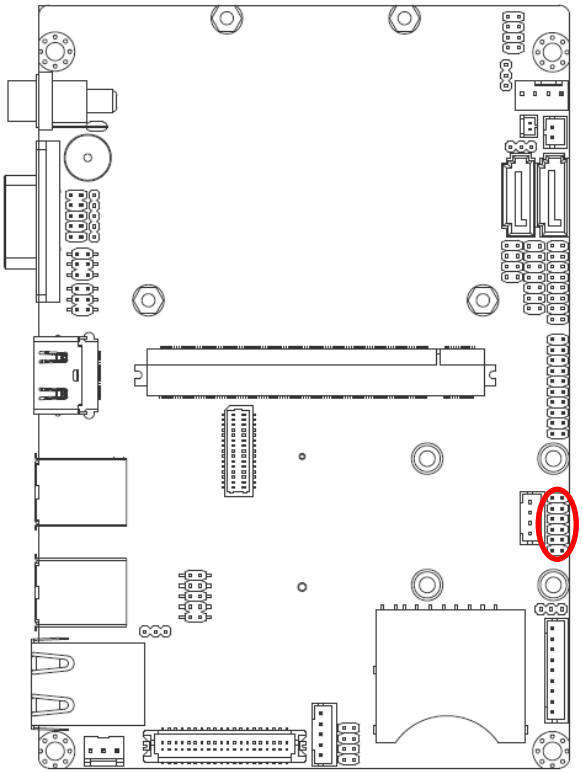
2.3.14 System Fan connector (FAN1)

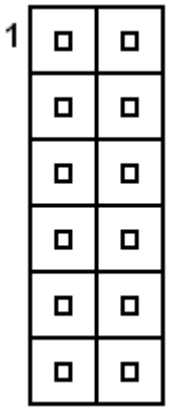




Signal	PIN
GND	1
+12V	2
SYS_FANIN	3

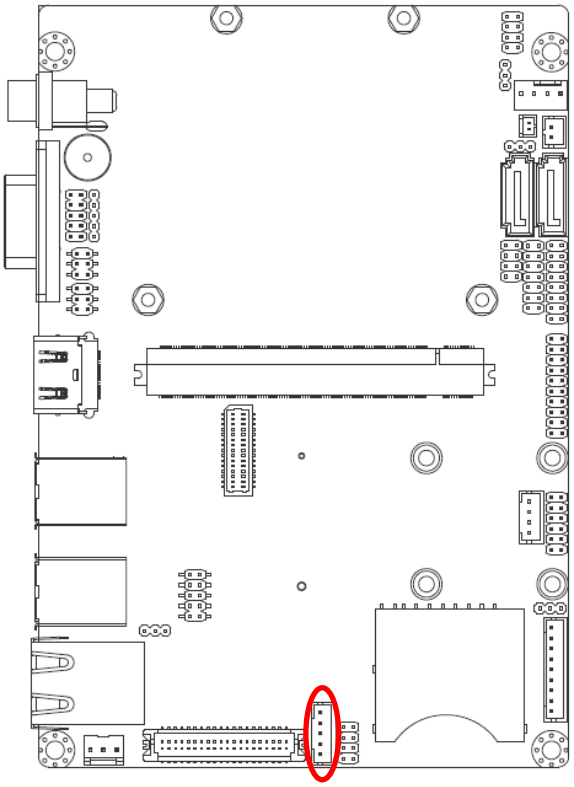
2.3.15 Audio connector (JAUD1)





Signal	PIN	PIN	Signal
LINEOUT_R	1	2	LINEOUT_L
GND	3	4	GND
LINE1_RIN	5	6	LINE1_LIN
MIC_RIN	7	8	MIC_LIN
FRONT_JD	9	10	LINE1_JD
MIC1_JD	11	12	GND

2.3.16 LCD Inverter Connector (JBKL1)



JBKL1

Signal	PIN
+5V (max. 2A)	5
BRIGHT	4
BLK_ON	3
GND	2
+12V	1

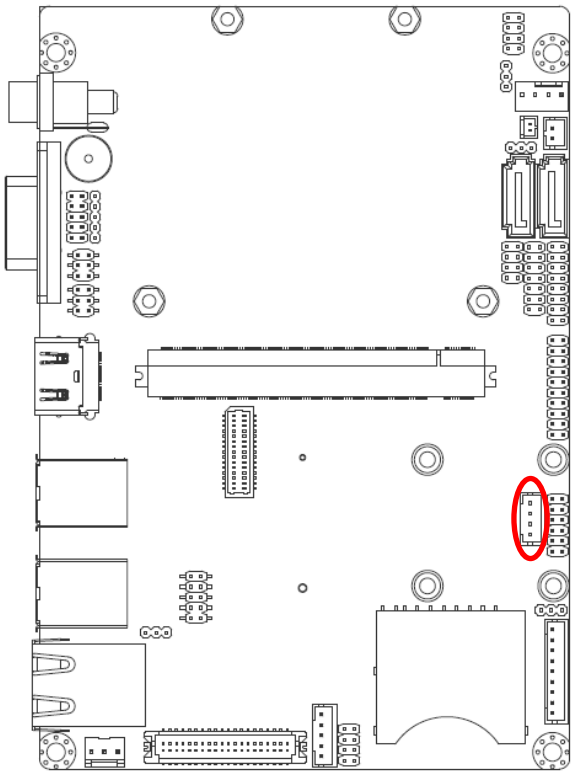
Note:

For inverters with adjustable Backlight function, it is possible to control the LCD brightness through the VR signal controlled by **JVR1**. Please see the **JVR1 (Brightness adjuster)** section for detailed circuitry information.

2.3.16.1 Signal Description – LCD Inverter Connector (JBKL1)

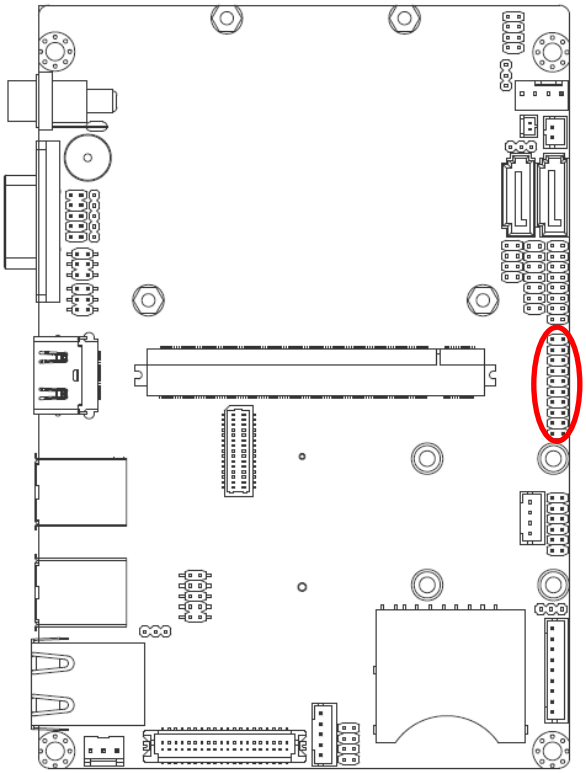
Signal	Signal Description
BRIGHT	Vadj = 0.75V ~ 4.25V (Recommended: 4.7KΩ, >1/16W)
BLK_ON	LCD backlight ON/OFF control signal

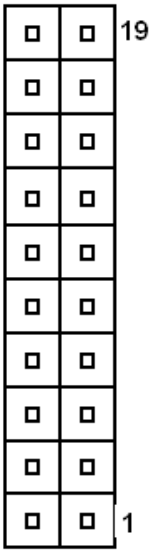
2.3.17 CD-ROM Audio Connector (JCD1)



Signal	PIN
R_IN	4
GND_IN	3
L_IN	2
GND_IN	1

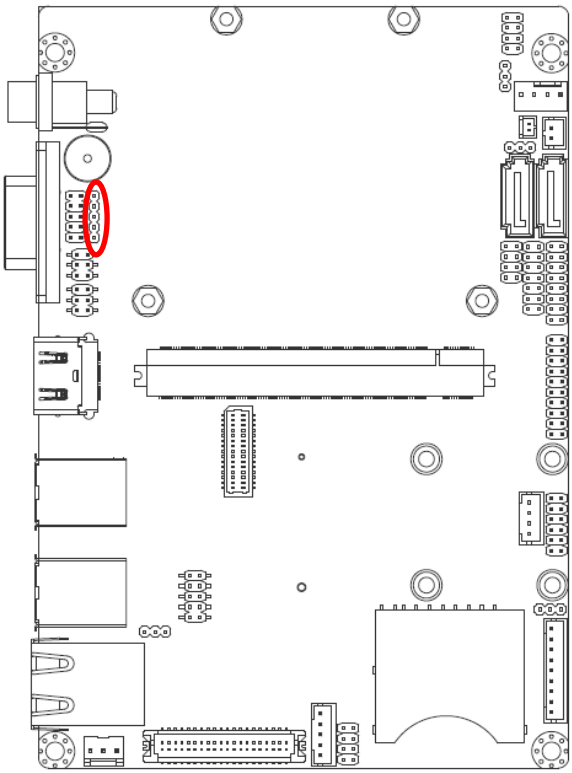
2.3.18 General Purpose I/O Connector (JDIO1)

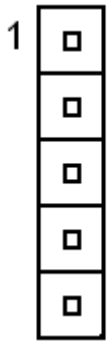




Signal	PIN	PIN	Signal
+5V	20	19	GND
SMB_DATA	18	17	SMB_CLK
DO7	16	15	DI7
DO6	14	13	DI6
DO5	12	11	DI5
DO4	10	9	DI4
DO3	8	7	DI3
DO2	6	5	DI2
DO1	4	3	DI1
DO0	2	1	DI0

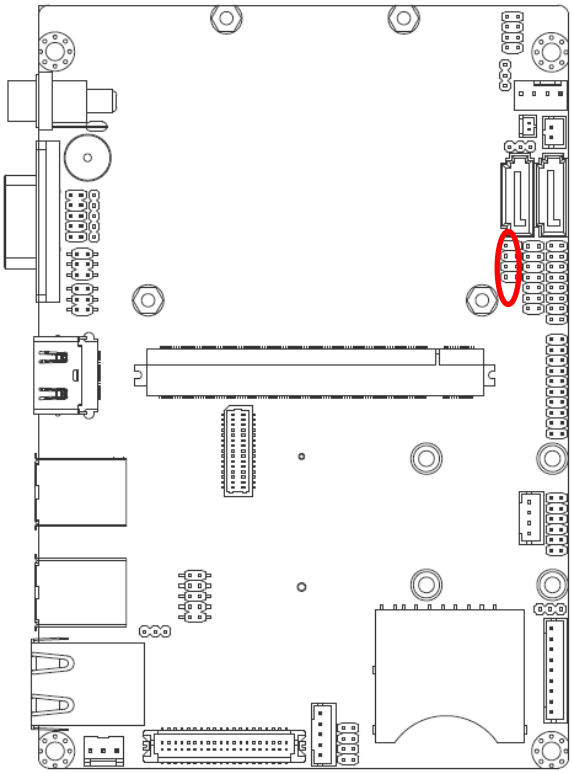
2.3.19 IrDA Connector (JIR1)

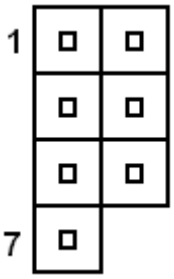




Signal	PIN
+5V	1
NC	2
INB_IRRX	3
GND	4
OUTB_IRTX	5

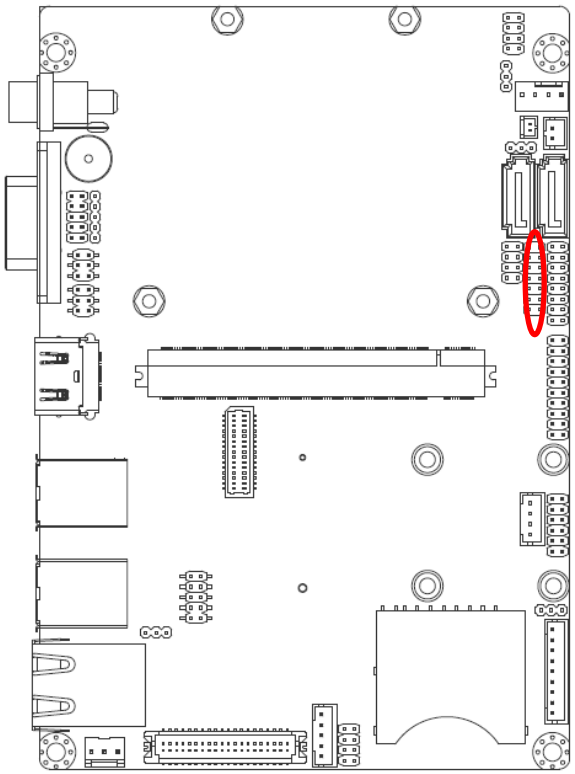
2.3.20 PS/2 keyboard & mouse connector (JKB1)

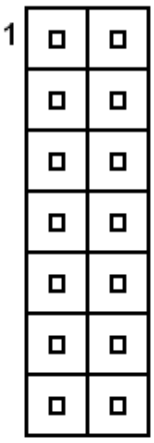




Signal	PIN	PIN	Signal
KBDA	1	2	KBCK
GND_PS2	3	4	VCC_PS2
MSDA	5	6	MSCK
NC	7		

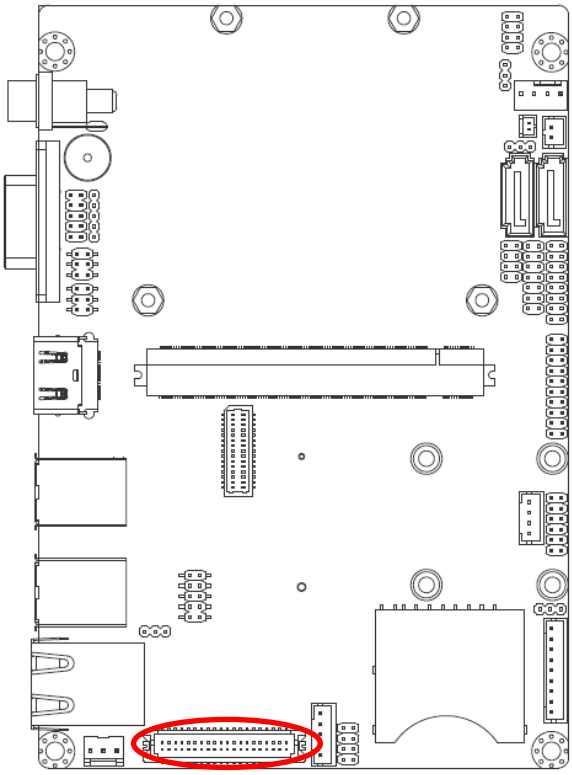
2.3.21 LPC Connector (JLPC1)

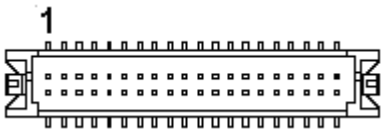




Signal	PIN	PIN	Signal
LPC_AD0	1	2	+3.3V
LPC_AD1	3	4	PCIE_RST#
LPC_AD2	5	6	LPC_FRAME#
LPC_AD3	7	8	LPC_CLK
SERIRQ	9	10	GND
+5V	11	12	GND
+5VSB	13	14	GND

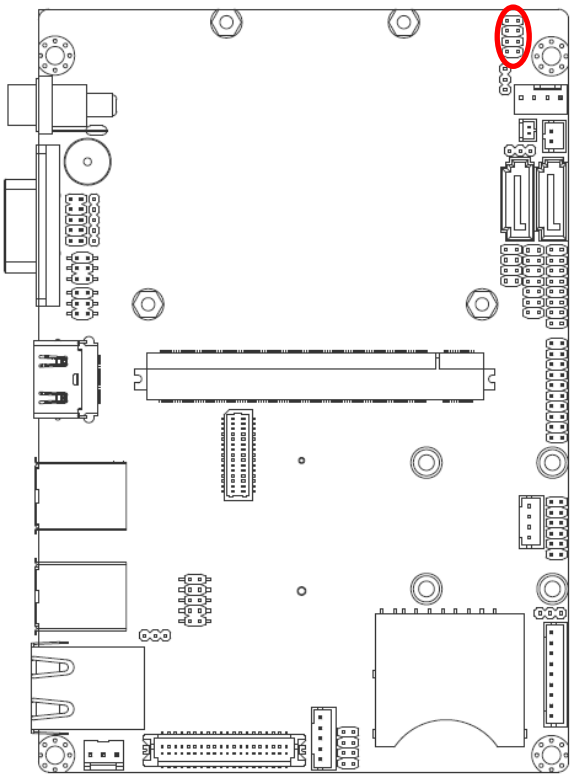
2.3.22 LVDS connector (JLVDS1)

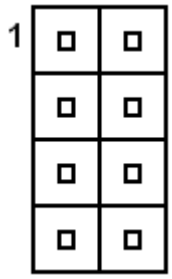




Signal	PIN	PIN	Signal
+3.3V	1	2	+5V
+3.3V	3	4	+5V
LVDS_DDC_CLK	5	6	LVDS_DDC_DATA
GND	7	8	GND
LVDSA_DATA1	9	10	LVDSA_DATA0
LVDSA_DATA1#	11	12	LVDSA_DATA0#
GND	13	14	GND
LVDSA_DATA3	15	16	LVDSA_DATA2
LVDSA_DATA3#	17	18	LVDSA_DATA2#
GND	19	20	GND
LVDSB_DATA1	21	22	LVDSB_DATA0
LVDSB_DATA1#	23	24	LVDSB_DATA0#
GND	25	26	GND
LVDSB_DATA3	27	28	LVDSB_DATA2
LVDSB_DATA3#	29	30	LVDSB_DATA2#
GND	31	32	GND
LVDSB_CLK	33	34	LVDSA_CLK
LVDSB_CLK#	35	36	LVDSA_CLK#
GND	37	38	GND
+12V	39	40	+12V

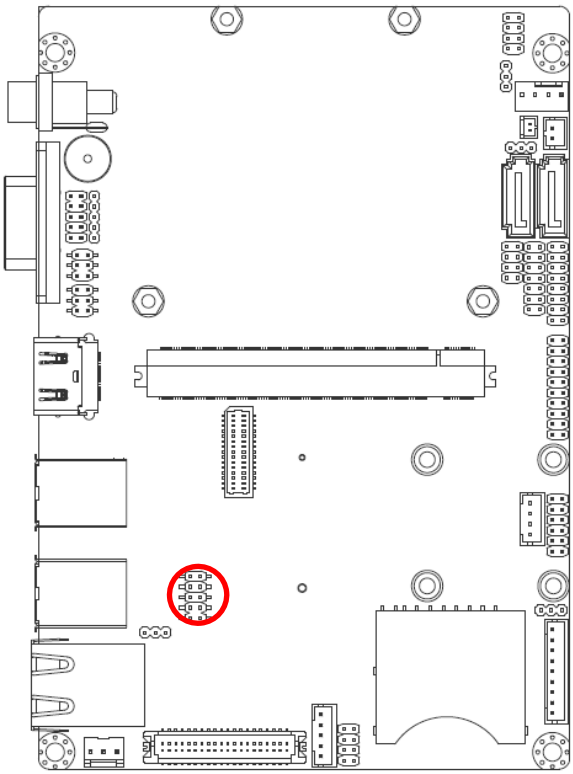
2.3.23 SPI connector (JSPI1)

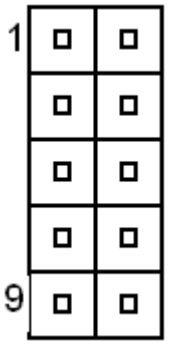




Signal	PIN	PIN	Signal
+3.3V	1	2	GND
CS#	3	4	CLK_C
SO_C	5	6	SI_C
HOLD#	7	8	NC

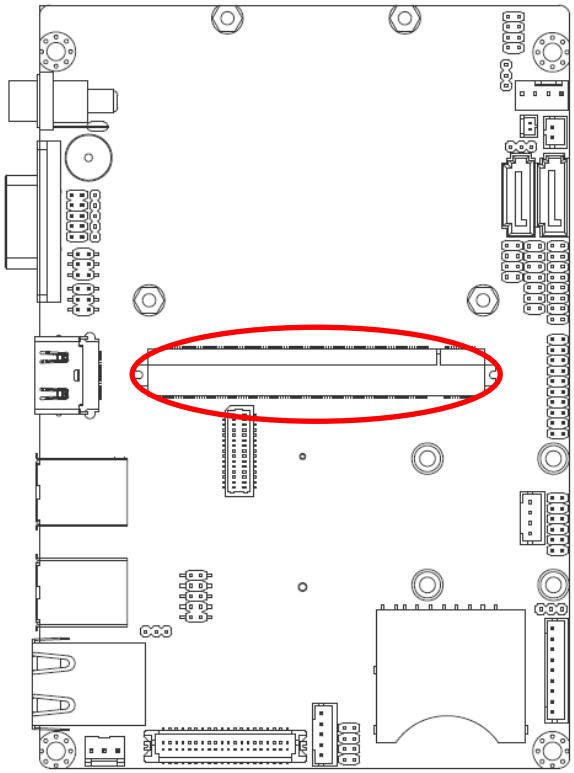
2.3.24 USB Connector 4 & 5 (JUSB3)





Signal	PIN	PIN	Signal
+5V	1	2	GND
USB_N4	3	4	GND
USB_P4	5	6	USB_P5
GND	7	8	USB_N5
GND	9	10	+5V

2.3.25 Qseven connector (JQSEVEN1)



Signal	PIN	PIN	Signal
GND1	1	2	GND2
GBE_MDI3-	3	4	GBE_MDI2-
GBE_MDI3+	5	6	GBE_MDI2+
GBE_LINK100#	7	8	GBE_LINK1000#
GBE_MDI1-	9	10	GBE_MDI0-
GBE_MDI1+	11	12	GBE_MDI0+
GBE_LINK#	13	14	GBE_ACT#
GBE_CTREF	15	16	SUS_S5#
WAKE#	17	18	SUS_S3#
SUS_STAT#	19	20	PWRBTN#
SLP_BTN#	21	22	LID_BTN#
GND3	23	24	GND4
GND5	25	26	PWGIN
BATLOW#	27	28	RSTBTN#
SATA0_TX+	29	30	SATA1_TX+
SATA0_TX-	31	32	SATA1_TX-
SATA_ACT#	33	34	GND6
SATA0_RX+	35	36	SATA1_RX+
SATA0_RX-	37	38	SATA1_RX-

Signal	PIN	PIN	Signal
GND7	39	40	GND8
BIOS_DISABLE#	41	42	SDIO_CLK#
SDIO_CD#	43	44	SDIO_LED
SDIO_CMD	45	46	SDIO_WP
SDIO_PWR#	47	48	SDIO_DAT1
SDIO_DAT0	49	50	SDIO_DAT3
SDIO_DAT2	51	52	SDIO_DAT5
SDIO_DAT4	53	54	SDIO_DAT7
SDIO_DAT6	55	56	RSVD56
GND9	57	58	GND10
HDA_SYNC	59	60	SMB_CLK
HDA_RST#	61	62	SMB_DAT
HDA_BCLK	63	64	SMB_ALERT#
HDA_SDI	65	66	I2C_CLK
HDA_SDO	67	68	I2C_DAT
THRM#	69	70	WDTRIG#
THRMTRIP#	71	72	WDOUT
GND11	73	74	GND12
USB_P7-	75	76	USB_P6
USB_P7+	77	78	USB_P6
USB_6_7_OC#	79	80	USB_4_5_OC#
USB_P5-	81	82	USB_P4-
USB_P5+	83	84	USB_P4+
USB_2_3_OC#	85	86	USB_0_1_OC#
USB_P3-	87	88	USB_P2-
USB_P3+	89	90	USB_P2+
USB_HOST_PRES#	91	92	USB_HC_SEL
USB_P1-	93	94	USB_P0-
USB_P1+	95	96	USB_P0+
GND13	97	98	GND14
LVDS_A0+	99	100	LVDS_B0+
LVDS_A0-	101	102	LVDS_B0-
LVDS_A1+	103	104	LVDS_B1+

Signal	PIN	PIN	Signal
LVDS_A1-	105	106	LVDS_B1-
LVDS_A2+	107	108	LVDS_B2+
LVDS_A2-	109	110	LVDS_B2-
LVDS_PPEN	111	112	LVDS_BLEN
LVDS_A3+	113	114	LVDS_B3+
LVDS_A3-	115	116	LVDS_B3
GND15	117	118	GND16
LVDS_A_CLK+	119	120	LVDS_B_CLK+
LVDS_A_CLK-	121	122	LVDS_B_CLK-
LVDS_BLT_CTRL	123	124	RSVD124
LVDS_DID_DAT	125	126	LVDS_BLC_DAT
LVDS_DID_CLK	127	128	LVDS_BLC_CLK
RSVD129	129	130	RSVD130
SDVO_BCLK+	131	132	SDVO_INT+
SDVO_BCLK-	133	134	SDVO_INT-
GND17	135	136	GND18
SDVO_GREEN+	137	138	SDVO_FLDSTALL+
SDVO_GREEN-	139	140	SDVO_FLDSTALL-
GND19	141	142	GND20
SDVO_BLUE+	143	144	SDVO_TVCLKIN+
SDVO_BLUE-	145	146	SDVO_TVCLKIN-
GND21	147	148	GND22
SDVO_RED+	149	150	SDVO_CTRL_DAT
SDVO_RED-	151	152	SDVO_CTRL_CLK
HDMI_HPD#	153	154	DP_HPD#
PCIE_CLK_REF+	155	156	PCIE_WAKE#
PCIE_CLK_REF-	157	158	PCIE_RST#
GND23	159	160	GND24
PCIE3_TX+	161	162	PCIE3_RX+
PCIE3_TX-	163	164	PCIE3_RX-
GND25	165	166	GND26
PCIE2_TX+	167	168	PCIE2_RX+
PCIE2_TX-	169	170	PCIE2_RX-

Signal	PIN	PIN	Signal
EXCD0_PERST#	171	172	EXCD1_PERST#
PCIE1_TX+	173	174	PCIE1_RX+
PCIE1_TX-	175	176	PCIE1_RX-
EXCD0_CPPE#	177	178	EXCD1_CPPE#
PCIE0_TX+	179	180	PCIE0_RX+
PCIE0_TX-	181	182	PCIE0_RX-
GND27	183	184	GND28
LPC_AD0	185	186	LPC_AD1
LPC_AD2	187	188	LPC_AD3
LPC_CLK	189	190	LPC_FRAME#
SERIRQ	191	192	LPC_LDRQ#
VCC_RTC	193	194	SPKR
FAN_TACHOIN	195	196	FAN_PWMOUT
GND29	197	198	GND30
RSVD199	199	200	RSVD200
RSVD201	201	202	RSVD202
RSVD203	203	204	MFG_NC4
VCC_5V_SB1	205	206	VCC_5V_SB2
MFG_NC0	207	208	MFG_NC2
MFG_NC1	209	210	MFG_NC3
VCC1	211	212	VCC2
VCC3	213	214	VCC4
VCC5	215	216	VCC6
VCC7	217	218	VCC8
VCC9	219	220	VCC10
VCC11	221	222	VCC12
VCC13	223	224	VCC14
VCC15	225	226	VCC16
VCC17	227	228	VCC18
VCC19	229	230	VCC20