PCOM-C615 R0

User Manual

Contents

1. General description

This chapter gives the definitions and shows the positions of jumpers, headers and connector. All of the configuration jumpers on Portwell evaluative Carrier PCOM-C615 are in the proper position. The default settings shipped from factory are marked with a star (★).

1.1 Connector Allocation

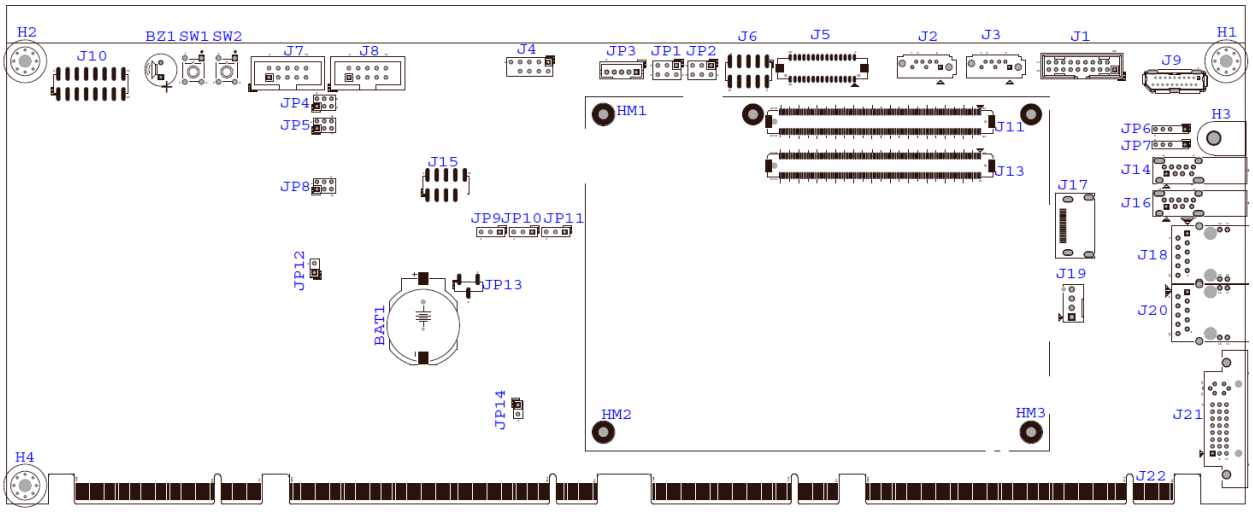
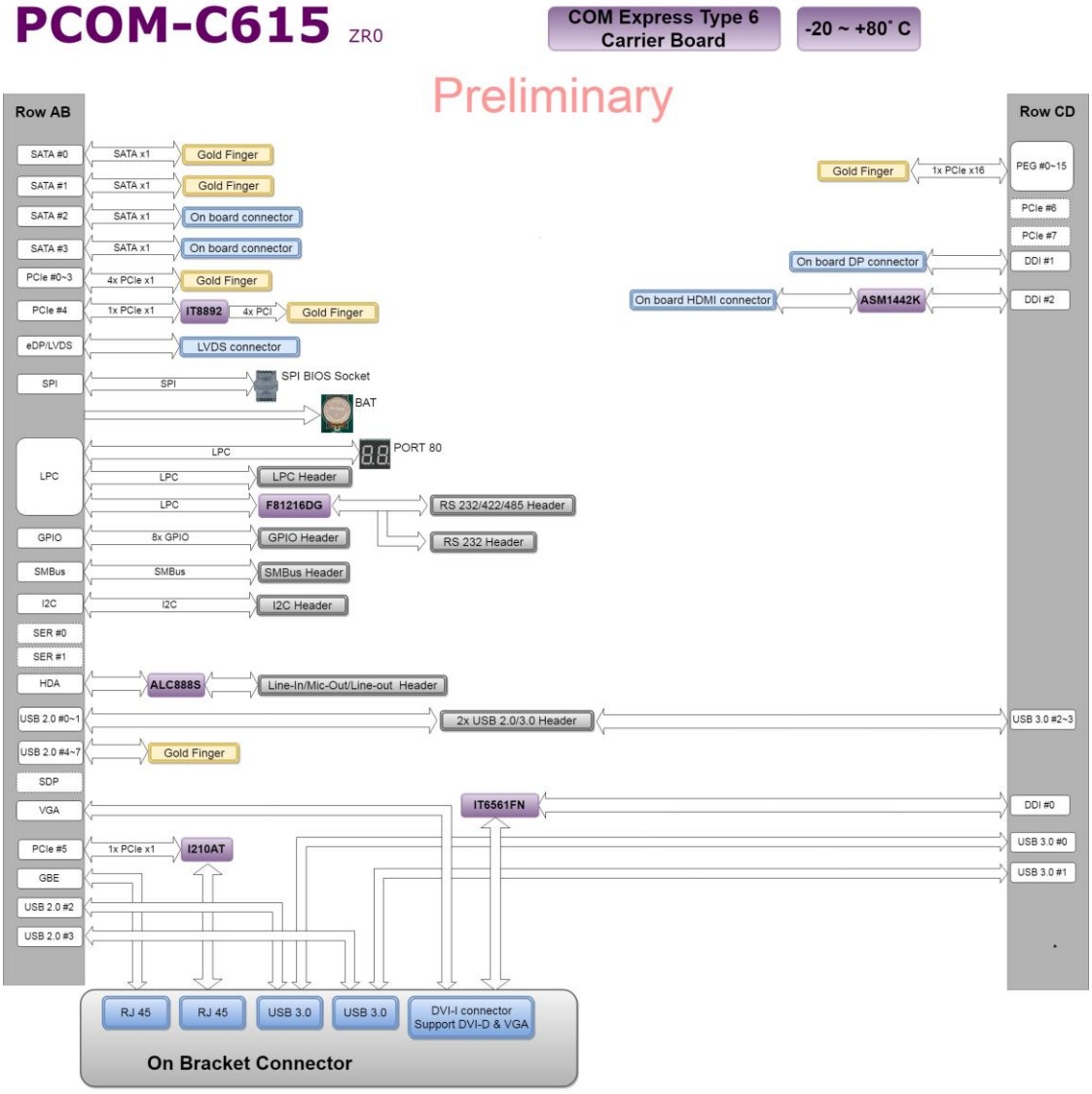


Figure 1-1 PCOM-C615 R0 TOP Jumper & Connector Location

1.2 Block diagram



1. **Figure 1-2 PCOM-C615 Block diagram**

2. Mechanical information

2.1 Mechanical drawing

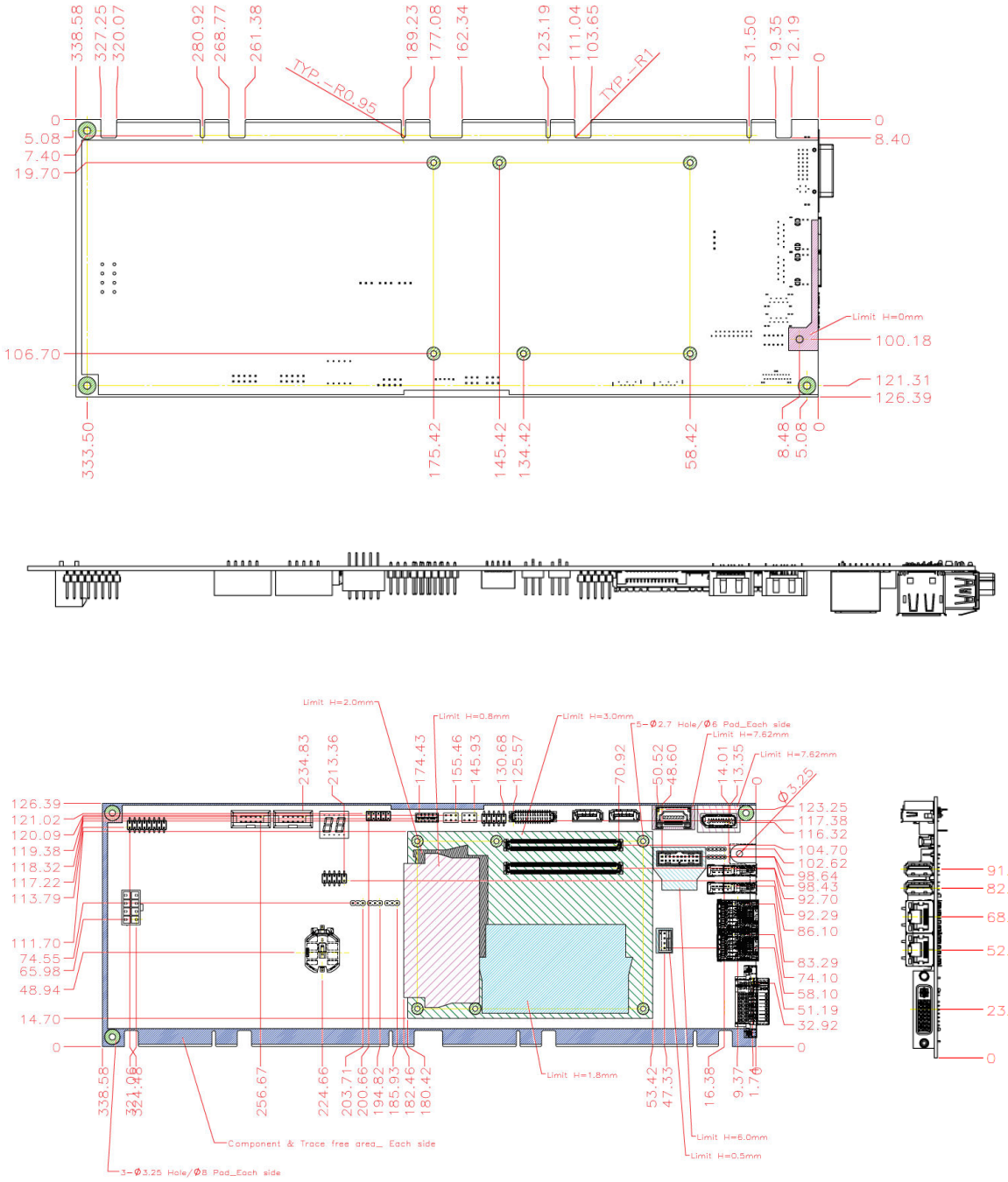


Figure 2-1 PCOM-C615 Mechanical dimension

3. Connector and Jumper setting

3.1 Connector Function List

Connector	Function description	Remark
J1	USB 3.0 Pin Header	
J2	SATA Connector.	
J3	SATA Connector.	
J4	Audio Pin Header	
J5	LVDS Pin Header.	
J6	GPIO Pin Header.	
J7	Com Port 1 Pin Header.	
J8	Com Port 2 Pin Header..	
J10	DP Port Connector.	
J11	Front Panel Pin Header.	
J12	COM Express AB Row.	
J13	COM Express CD Row.	
J14	USB2.0/3.0 connector.	
J15	LPC Pin Header.	
J16	USB2.0/3.0 connector..	
J17	HDMI Connector.	
J18	RJ45 Connector.	
J19	FAN Pin Header.	
J20	RJ45 Connector.	
J21	DVI Connector.	
SW1	Reset Button.	
SW2	Power Button.	

J1: USB2.0/3.0 connector:

Pin No	Description	Pin No	Description
1	5V_Dual		
2	USB3.0_RX_N	19	5V_Dual
3	USB3.0_RX_P	18	USB3.0_RX_N
4	GND	17	USB3.0_RX_P
5	USB3.0_TX_N	16	GND
6	USB3.0_TX_P	15	USB3.0_TX_N
7	GND	14	USB3.0_TX_P
8	USB2.0_N	13	GND
9	USB2.0_P	12	USB2.0_N
10	GND	11	USB2.0_P

J2/J3: SATA Connector:

Pin No	Description
1	GND
2	TX_P
3	TX_N
4	GND
5	RX_N
6	RX_P
7	GND

J4: Audio pin Header:

Pin No	Description	Pin No	Description
1	MIC_IN	2	GND
3	LINE_IN_L	4	GND
5	LINE_IN_R	6	GND
7	AUDIO_OUT_L	8	GND
9	AUDIO_OUT_R	10	GND

J5: LVDS Pin Header:

Pin No	Description	Pin No	Description
1	LVDS Power	2	LVDS Power
3	LVDSA_D0+	4	LVDSA_D0-
5	LVDSA_D1+	6	LVDSA_D1-
7	LVDSA_D2+	8	LVDSA_D2-
9	LVDSA_D3+	10	LVDSA_D3-
11	LVDSA CLK+	12	LVDSA CLK-
13	LVDS DDC CLK	14	LVDS DDC DATA
15	GND	16	GND
17	LVDSB_D0+	18	LVDSB_D0-
19	LVDSB_D1+	20	LVDSB_D1-
21	LVDSB_D2+	22	LVDSB_D2-
23	LVDSB_D3+	24	LVDSB_D3-
25	LVDSB CLK+	26	LVDSB CLK-
27	NC	28	NC
29	GND	30	GND

J6: GPIO Pin Header.

Pin No	Description	Pin No	Description
1	GPI0	2	GPO0
3	GPI1	4	GPO1
5	GPI2	6	GPO2
7	GPI3	8	GPO3
9	GND	10	VCC3

J7: COM Port Pin Header (Support RS232/422/485).

Pin No	Description	Pin No	Description
1	DCD#/485D/422T-	2	RXD#/485D/422T+
3	TXD#/422R+	4	DTR#/422R-
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI#	10	NC

J8: COM Port Pin Header.

Pin No	Description	Pin No	Description
1	DCD#	2	RXD#
3	TXD#	4	DTR#
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI#	10	NC

J9: DP Port Connector.

Pin No	Description	Pin No	Description
1	DP_D0_P	2	GND
3	DP_D0_N	4	DP_D1_P
5	GND	6	DP_D1_N
7	DP_D2_P	8	GND
9	DP_D2_N	10	DP_D3_P
11	GND	12	DP_D3_N
13	AUX_SEL	14	GND
15	DP_AUX_P	16	GND
17	DP+AUX_N	18	HPD
19	GND	20	3.3V

J10: Front Panel Connector.

Pin No	Description	Pin No	Description
1	5VSB	2	VCC
3	SUS_LED Singal	4	GND
5	VCC3_LAN Power	6	NC
7	I219 LINK/ACT Signal	8	BUZZER
9	I210 LED Signal	10	GND
11	VCC3_LAN Power	12	Power Button Signal
13	VCC3	14	Reset Signal
15	SATA LED Signal	16	GND

J11/J13: COM Express AB, CD Row Connector (PICMG 3.0)

Pin	Row A	Row B	Row C	Row D
1	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
2	GBE0_MDI3-	GBE0_ACT#	GND	GND
3	GBE0_MDI3+	LPC_FRAME#	USB_SSRX0-	USB_SSTX0-
4	GBE0_LINK100#	LPC_AD0	USB_SSRX0+	USB_SSTX0+
5	GBE0_LINK1000#	LPC_AD1	GND	GND
6	GBE0_MDI2-	LPC_AD2	USB_SSRX1-	USB_SSTX1-
7	GBE0_MDI2+	LPC_AD3	USB_SSRX1+	USB_SSTX1+
8	GBE0_LINK#	LPC_DRQ0#	GND	GND
9	GBE0_MDI1-	LPC_DRQ1#	USB_SSRX2-	USB_SSTX2-
10	GBE0_MDI1+	LPC_CLK	USB_SSRX2+	USB_SSTX2+
11	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
12	GBE0_MDI0-	PWRBTN#	USB_SSRX3-	USB_SSTX3-
13	GBE0_MDI0+	SMB_CK	USB_SSRX3+	USB_SSTX3+
14	GBE0_CTREF	SMB_DAT	GND	GND
15	SUS_S3#	SMB_ALERT#	DDI1_PAIR6+	DDI1_CTRLCLK_AUX+
16	SATA0_TX+	SATA1_TX+	DDI1_PAIR6-	DDI1_CTRLDATA_AUX-
17	SATA0_TX-	SATA1_TX-	RSVD10	RSVD10
18	SUS_S4#	SUS_STAT#	RSVD10	RSVD10
19	SATA0_RX+	SATA1_RX+	PCIE_RX6+	PCIE_TX6+
20	SATA0_RX-	SATA1_RX-	PCIE_RX6-	PCIE_TX6-
21	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
22	SATA2_TX+	SATA3_TX+	PCIE_RX7+	PCIE_TX7+
23	SATA2_TX-	SATA3_TX-	PCIE_RX7-	PCIE_TX7-
24	SUS_S5#	PWR_OK	DDI1_HPD	RSVD10
25	SATA2_RX+	SATA3_RX+	DDI1_PAIR4 +	RSVD10
26	SATA2_RX-	SATA3_RX-	DDI1_PAIR4-	DDI1_PAIR0+
27	BATLOW#	WDT	RSVD10	DDI1_PAIR0-
28	(S)ATA_ACT#	AC/HDA_SDIN2	RSVD10	RSVD10
29	HDA_SYNC	AC/HDA_SDIN1	DDI1_PAIR5+	DDI1_PAIR1+
30	HDA_RST#	AC/HDA_SDIN0	DDI1_PAIR5-	DDI1_PAIR1-
31	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
32	AC/HDA_BITCLK	SPKR	DDI2_CTRLCLK_AUX+	DDI1_PAIR2+
33	AC/HDA_SDOUT	I2C_CK	DDI2_CTRLDATA_AUX-	DDI1_PAIR2-
34	BIOS_DIS0#	I2C_DAT	DDI2_DDC_AUX_SEL	DDI1_DDC_AUX_SEL
35	THRMTRIP#	THRM#	RSVD10	RSVD10
36	USB6-	USB7-	DDI3_CTRLCLK_AUX+	DDI1_PAIR3+
37	USB6+	USB7+	DDI3_CTRLDATA_AUX-	DDI1_PAIR3-
38	USB_6_7_OC#	USB_4_5_OC#	DDI3_DDC_AUX_SEL	RSVD10
39	USB4-	USB5-	DDI3_PAIR0+	DDI2_PAIR0+
40	USB4+	USB5+	DDI3_PAIR0-	DDI2_PAIR0-
41	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
42	USB2-	USB3-	DDI3_PAIR1+	DDI2_PAIR1+
43	USB2+	USB3+	DDI3_PAIR1-	DDI2_PAIR1-
44	USB_2_3_OC#	USB_0_1_OC#	DDI3_HPD	DDI2_HPD
45	USB0-	USB1-	RSVD10	RSVD10
46	USB0+	USB1+	DDI3_PAIR2+	DDI2_PAIR2+
47	VCC_RTC	ESPI_EN#	DDI3_PAIR2-	DDI2_PAIR2-
48	RSVD10	USB0_HOST_PRSNT	RSVD10	RSVD10
49	GBE0_SDP	SYS_RESET#	DDI3_PAIR3+	DDI2_PAIR3+

50	LPC_SERIRQ	CB_RESET#	DDI3_PAIR3-	DDI2_PAIR3-
51	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
52	PCIE_TX5+	PCIE_RX5+	PEG_RX0+	PEG_TX0+
53	PCIE_TX5-	PCIE_RX5-	PEG_RX0-	PEG_TX0-
54	GPI0	GPO1	TYPE0#	PEG_LANE_RV#
55	PCIE_TX4+	PCIE_RX4+	PEG_RX1+	PEG_TX1+
56	PCIE_TX4-	PCIE_RX4-	PEG_RX1-	PEG_TX1-
57	GND	GPO2	TYPE1#	TYPE2#
58	PCIE_TX3+	PCIE_RX3+	PEG_RX2+	PEG_TX2+
59	PCIE_TX3-	PCIE_RX3-	PEG_RX2-	PEG_TX2-
60	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
61	PCIE_TX2+	PCIE_RX2+	PEG_RX3+	PEG_TX3+
62	PCIE_TX2-	PCIE_RX2-	PEG_RX3-	PEG_TX3-
63	GPI1	GPO3	RSVD10	RSVD10
64	PCIE_TX1+	PCIE_RX1+	RSVD10	RSVD10
65	PCIE_TX1-	PCIE_RX1-	PEG_RX4+	PEG_TX4+
66	GND	WAKE0#	PEG_RX4-	PEG_TX4-
67	GPI2	WAKE1#	RAPID_SHOTDOWN	GND
68	PCIE_TX0+	PCIE_RX0+	PEG_RX5+	PEG_TX5+
69	PCIE_TX0-	PCIE_RX0-	PEG_RX5-	PEG_TX5-
70	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
72	LVDS_A0-	LVDS_B0-	PEG_RX6-	PEG_TX6-
73	LVDS_A1+	LVDS_B1+	GND	GND
74	LVDS_A1-	LVDS_B1-	PEG_RX7+	PEG_TX7+
75	LVDS_A2+	LVDS_B2+	PEG_RX7-	PEG_TX7-
76	LVDS_A2-	LVDS_B2-	GND	GND
77	LVDS_VDD_EN	LVDS_B3+	RSVD10	RSVD10
78	LVDS_A3+	LVDS_B3-	PEG_RX8+	PEG_TX8+
79	LVDS_A3-	LVDS_BKLT_EN	PEG_RX8-	PEG_TX8-
80	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
81	LVDS_A_CK+	LVDS_B_CK+	PEG_RX9+	PEG_TX9+
82	LVDS_A_CK-	LVDS_B_CK-	PEG_RX9-	PEG_TX9-
83	LVDS_I2C_CK	LVDS_BKLT_CTRL	RSVD10	RSVD10
84	LVDS_I2C_DAT	VCC_5V_SBY	GND	GND
85	GPI3	VCC_5V_SBY	PEG_RX10+	PEG_TX10+
86	RSVD10	VCC_5V_SBY	PEG_RX10-	PEG_TX10-
87	eDP_HPD	VCC_5V_SBY	GND	GND
88	PCIE_CLK_REF+	BIOS_DIS1#	PEG_RX11+	PEG_TX11+
89	PCIE_CLK_REF-	VGA_RED	PEG_RX11-	PEG_TX11-
90	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
91	SPI_POWER	VGA_GRN	PEG_RX12+	PEG_TX12+
92	SPI_MISO	VGA_BLU	PEG_RX12-	PEG_TX12-
93	GPO0	VGA_HSYNC	GND	GND
94	SPI_CLK	VGA_VSYNC	PEG_RX13+	PEG_TX13+
95	SPI_MOSI	VGA_I2C_CK	PEG_RX13-	PEG_TX13-
96	TPM_PP	VGA_I2C_DAT	GND	GND
97	TYPE10#	SPI_CS#	RSVD10	RSVD10
98	SER0_TX	RSVD10	PEG_RX14+	PEG_TX14+
99	SER0_RX	RSVD10	PEG_RX14-	PEG_TX14-
100	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
101	SER1_TX	FAN_PWNOUT	PEG_RX15+	PEG_TX15+
102	SER1_RX	FAN_TACHIN	PEG_RX15-	PEG_TX15-

103	LID#	SLEEP#	GND	GND
104	VCC_12V	VCC_12V	VCC_12V	VCC_12V
105	VCC_12V	VCC_12V	VCC_12V	VCC_12V
106	VCC_12V	VCC_12V	VCC_12V	VCC_12V
107	VCC_12V	VCC_12V	VCC_12V	VCC_12V
108	VCC_12V	VCC_12V	VCC_12V	VCC_12V
109	VCC_12V	VCC_12V	VCC_12V	VCC_12V
110	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)

J14/J16: USB3.0 (D-Sub).

Pin No	Description	Pin No	Description
1	5V_Dual		
2	USB3.0_RX_N	19	5V_Dual
3	USB3.0_RX_P	18	USB3.0_RX_N
4	GND	17	USB3.0_RX_P
5	USB3.0_TX_N	16	GND
6	USB3.0_TX_P	15	USB3.0_TX_N
7	GND	14	USB3.0_TX_P
8	USB2.0_N	13	GND
9	USB2.0_P	12	USB2.0_N
10	GND	11	USB2.0_P

J15: LPC Pin Header.

Pin No	Description	Pin No	Description
1	LPC AD0	2	+3.3V
3	LPC AD1	4	RESET
5	LPC AD2	6	LPC FRAME
7	LPC AD3	8	LPC PCICLK
		10	GND

J17: HDMI Connector (D-Sub).

Pin No	Description	Pin No	Description
1	HDMI_D0_P	2	GND
3	HDMI_D0_N	4	HDMI_D1_P
5	GND	6	HDMI_D1_N
7	HDMI_D2_P	8	GND
9	HDMI_D2_N	10	HDMI_D3_P
11	GND	12	HDMI_D3_N
13	N/C	14	N/C
15	HDMI_DDC_CLK	16	HDMI_DDC_DATA
17	GND	18	5V_HDMI
19	HDMI_HPD		

J18/J20: RJ45 Connector (D-Sub).

Pin No	Description	Pin No	Description
1	MDIO_P	2	MDIO_N
3	MDI1_P	4	MDI1_N
5	LAN_CT1	6	LAN_CT2
7	MDI2_P	8	MDI2_N
9	MDI3_P	10	MDI3_N

11	LED_100	12	LED_1000
13	LED_LINK#/ACT#	14	ACT_LED

J19: FAN Pin Header.

Pin No	Description
1	GND
2	+12V
3	FAN_TACH
4	FAN_OUT

J21: DVI-I Connector (D-Sub).

Pin No	Description	Pin No	Description
1	DVI_D2_N	16	DVI_HPD
2	DVI_D2_P	17	DVI_D0_N
3	GND	18	DVI_D0_P
4	N/C	19	GND
5	N/C	20	N/C
6	DDC_CLK	21	N/C
7	DDC_DATA	22	GND
8	VSNC	23	DVI_CLK_P
9	DVI_D1_N	24	DVI_CLK_N
10	DVI_D1_P	C1	RED
11	GND	C2	GREEN
12	N/C	C3	BLUE
13	N/C	C4	HYSNC
14	DVI_VCC	C5	GND
15	GND	C6	GND

3.2 Jumper Setting

Jumper	Function description	Remark
JP1	LVDS Back light enable Voltage Adjust.	
JP2	LVDS Power Adjust.	
JP3	LVDS Inverter Pin Header.	
JP4	RI and Power Adjust.	
JP5/JP8	RS232/RS422/RS485 Adjust.	
JP6	I2C Pin Header.	
JP7	SM Bus Pin Header.	
JP9/JP10	Module/Carrier BIOS select.	
JP11	5VSB input module select.	
JP12	Reserve.	
JP13	Clear CMOS Jumper.	
JP14	Reserve.	

JP1: Backlight Enable Voltage elect pin.

Pin No				Description
1-3	2-4	3-5	4-6	
Short	Short			5V Active High *
Short			Short	12V Active High
	Short	Short		5V Active Low
	Short		Short	12V Active Low

JP2: LVDS Power Select Pin:

Pin No			Description
1-3	3-4	3-5	
Short			+3.3V *
	Short		+12V
		Short	+5V

JP3: Inverter Connector.

Pin No	Description
1	Backlight Enable
2	GND
3	+12V
4	LVDS Backlight Control
5	+5V

JP4: RI Pin Select.

Pin No			Description
1-2	3-4	5-6	
Short			+5V Output
	Short		RI Function *
		Short	+12V Output

JP5/JP8: COM Port (J7) RS232/422/485 Mode Selection.

JP5				JP8		Description
1-3	3-5	2-4	4-5	1-3	3-5	
Short			Short		Short	RS232 *
	Short	Short			Short	RS485 Half Duplex
Short		Short		Short		RS422/485 Full Duplex

JP6: I2C Bus Pin Header.

Pin No	Description
1	Clock
2	NC
3	GND
4	Data
5	VCC3

JP7: SM Bus Pin Header.

Pin No	Description
1	Clock
2	NC
3	GND
4	Data
5	VCC3

JP9/JP10: BIOS From Module or Carrier Select Pin Header.

JP9		JP10		Description
1-2	2-3	1-2	2-3	
	Short	Short		BIOS Boot From Module *
Short			Short	BIOS Boot From Carrier

JP11: 5VSB to Module board Select Pin Header.

Pin No	Description
1-2	5VSB To Module Board *
2-3	NC

JP13: Reserve.

Pin No	Description
1-2	Normal (Keep CMOS Setup) *
2-3	Clear CMOS Setup