PCOM-CA00_R3

User's Manual

Rev 3.1

Chapter 1
Hardware 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-CA00 are in the proper position.

1.1 Connector Allocation

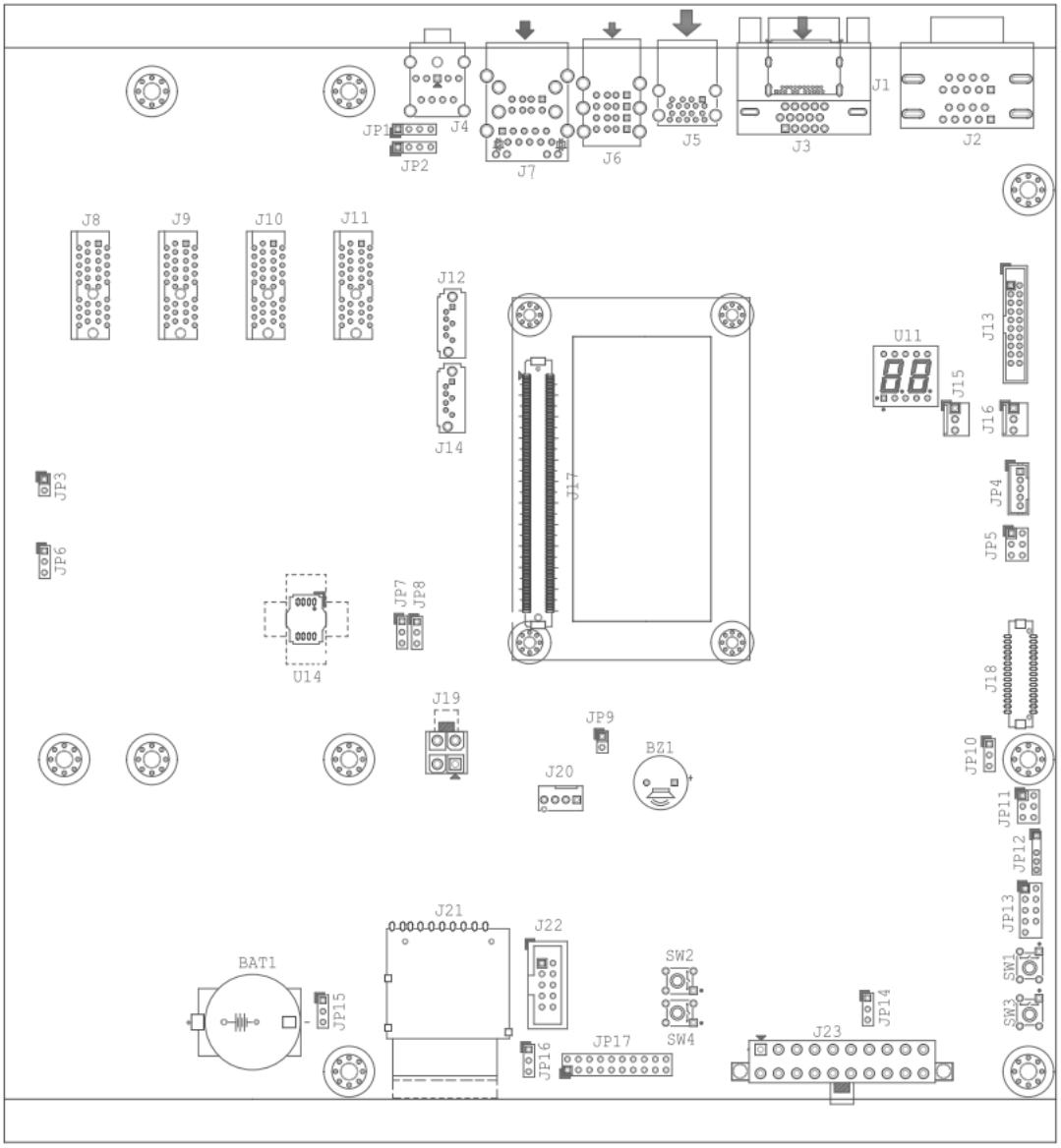

Figure 3-1 PCOM-CA00 Jumper & Connector Location

Connectors list

Connector	Function	Connector	Function
J1	Display Port Connector	J13	TPM Header
J2	RS232	J14	SATA Connector
J3	VGA Connector	J15	FAN Connector
J4	Audio Jack	J16	FAN Connector
J5	USB3.0 Connector	J17	COM Express connector
J6	USB2.0 Connector	J18	LVDS Connector
J7	RJ45 + USB 2.0 connector	J19	ATX 4P connector
J8	PCIe Connector	J20	FAN Connector
J9	PCIe Connector	J21	SD Connector
J10	PCIe Connector	J22	GPIO Connector
J11	PCIe Connector	J23	ATX Power 20P Connector
J12	SATA Connector	J24	SMBus Connector

J1: DP connector

Pin	Signal Name	Pin	Signal Name
1	DP_LANE0	11	GND
2	GND	12	DP_LANE3#
3	DPB_LANE0#	13	DP_AUX_SEL
4	DPB_LANE1	14	GND
5	GND	15	DP_AUX
6	DP_LANE1#	16	GND
7	DP_LANE2	17	DP_AUX#
8	GND	18	DP_HPD
9	DP_LANE2#	19	GND
10	DP_LANE3	20	VCC3

J2: RS232 connector

Pin	Signal Name
1	-
2	RX
3	TX
4	-
5	GND
6	-
7	-
8	-
9	-

J3: VGA Connector

Pin	Signal Name
1	RED
2	GREEN
3	BLUE
4	GND
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	-
12	SDA
13	HSync
14	VSync
15	SCL

J4: Audio Jack

Pin	Signal Name
Blue	Line In
Green	Line Out

J5: USB3.0 Connector

Pin	Signal Name	Pin	Signal Name
A1	5VSB	B1	5VSB
A2	USB_PN0	B2	USB_PN1
A3	USB_PP0	B3	USB_PP1
A4	GND	B4	GND
A5	USB0_SSRXN	B5	USB1_SSRXN
A6	USB0_SSRXP	B6	USB1_SSRXP
A7	GND	B7	GND
A8	USB0_SSTXN	B8	USB1_SSTXN
A9	USB0_SSTXP	B9	USB1_SSTXP
CG1	GND	CG3	GND
CG2	GND	CG4	GND

J6: USB2.0 Connector

Pin	Signal Name
A1	5VSB
A2	USB_PN7
A3	USB_PP7
A4	GND
B1	5VSB
B2	USB_PN6
B3	USB_PP6
B4	GND
C1	5VSB
C2	USB_PN5
C3	USB_PP5
C4	GND
D1	5VSB
D2	USB_PN4
D3	USB_PP4
D4	GND

J7: RJ45 + USB 2.0 connector

Pin	Signal Name	Pin	Signal Name
A1	5VSB	C1	VCT_LAN
A2	USB_PN3	C2	LAN1_MDI0+
A3	USB_PP3	C3	LAN1_MDI0-
A4	GND	C4	LAN1_MDI1+
B1	5VSB	C5	LAN1_MDI1-
B2	USB_PN2	C6	LAN1_MDI2+
B3	USB_PP2	C7	LAN1_MDI2-
B4	GND	C8	LAN1_MDI3+
		C9	LAN1_MDI3-
		C10	GND

J8: PCIe Connector

Pin	Signal Name	Pin	Signal Name
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	NC
A4	GND	B4	GND
A5	NC	B5	SMB_CLK
A6	NC	B6	SMB_DATA
A7	NC	B7	GND
A8	NC	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PLT_RST#	B11	PCIE_WAKE#
A12	NC	B12	NC
A13	REFCLK3+	B13	GND
A14	REFCLK3-	B14	PCIE_TXP3
A15	GND	B15	PCIE_TXN3
A16	PCIE_RXP3	B16	GND
A17	PCIE_RXN3	B17	NC
A18	GND	B18	GND

J9: PCIe Connector

Pin	Signal Name	Pin	Signal Name
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	NC
A4	GND	B4	GND
A5	NC	B5	SMB_CLK
A6	NC	B6	SMB_DATA
A7	NC	B7	GND
A8	NC	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PLT_RST#	B11	PCIE_WAKE#
A12	NC	B12	NC
A13	REFCLK2+	B13	GND
A14	REFCLK2-	B14	PCIE_TXP2
A15	GND	B15	PCIE_TXN2
A16	PCIE_RXP2	B16	GND
A17	PCIE_RXN2	B17	NC
A18	GND	B18	GND

J10: PCIe Connector

Pin	Signal Name	Pin	Signal Name
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	NC
A4	GND	B4	GND
A5	NC	B5	SMB_CLK
A6	NC	B6	SMB_DATA
A7	NC	B7	GND
A8	NC	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PLT_RST#	B11	PCIE_WAKE#
A12	NC	B12	NC
A13	REFCLK1+	B13	GND
A14	REFCLK1-	B14	PCIE_TXP1
A15	GND	B15	PCIE_TXN1
A16	PCIE_RXP1	B16	GND
A17	PCIE_RXN1	B17	NC
A18	GND	B18	GND

J11: PCIe Connector

Pin	Signal Name	Pin	Signal Name
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	NC
A4	GND	B4	GND
A5	NC	B5	SMB_CLK
A6	NC	B6	SMB_DATA
A7	NC	B7	GND
A8	NC	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PLT_RST#	B11	PCIE_WAKE#
A12	NC	B12	NC
A13	REFCLK0+	B13	GND
A14	REFCLK0-	B14	PCIE_TXP0
A15	GND	B15	PCIE_TXN0
A16	PCIE_RXP0	B16	GND
A17	PCIE_RXN0	B17	NC
A18	GND	B18	GND

J12: SATA Connector

Pin	Signal Name
1	GND
2	SATA_TXP1
3	SATA_TXN1
4	GND
5	SATA_RXN1
6	SATA_RXP1
7	GND
CG1	GND
CG2	GND

J13: TPM Connector

Pin	Signal Name	Pin	Signal Name
1	CLK_PCI_SIO	2	GND
3	LFRAME#	4	NC
5	BUF_PLT_RST#	6	VCC
7	LAD3	8	LAD2
9	VCC3	10	LAD1
11	LAD0	12	GND
13	BF_SMB_CLK	14	BF_SMB_DATA
15	3V_DUAL	16	SERIRQ
17	GND	18	NC
19	PM_SUS_STAT#	20	NC

J14: SATA Connector

Pin	Signal Name
1	GND
2	SATA_TXP0
3	SATA_TXN0
4	GND
5	SATA_RXN0
6	SATA_RXP0
7	GND
CG1	GND
CG2	GND

J15: FAN Connector

Pin	Signal Name
1	GND
2	+12V
3	VCC

J16: FAN Connector

Pin	Signal Name
1	GND
2	+12V
3	VCC

J17: COM-Express connector (PICMG 2.1)

	Type 1 Rev. 1.0		Type 1 Rev. 2.0		Type 10 Rev. 2.0		Type 10 Rev. 2.1	
Pin	Row A	Row B	Row A	Row B	Row A	Row B	Row A	Row B
1	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
2	GBE0_MDI3-	GBE0_ACT#	GBE0_MDI3-	GBE0_ACT#	GBE0_MDI3-	GBE0_ACT#	GBE0_MDI3-	GBE0_ACT#
3	GBE0_MDI3+	LPC_FRAME#	GBE0_MDI3+	LPC_FRAME#	GBE0_MDI3+	LPC_FRAME#	GBE0_MDI3+	LPC_FRAME#
4	GBE0_LINK100#	LPC_AD0	GBE0_LINK100#	LPC_AD0	GBE0_LINK100#	LPC_AD0	GBE0_LINK100#	LPC_AD0
5	GBE0_LINK1000#	LPC_AD1	GBE0_LINK1000#	LPC_AD1	GBE0_LINK1000#	LPC_AD1	GBE0_LINK1000#	LPC_AD1
6	GBE0_MDI2-	LPC_AD2	GBE0_MDI2-	LPC_AD2	GBE0_MDI2-	LPC_AD2	GBE0_MDI2-	LPC_AD2
7	GBE0_MDI2+	LPC_AD3	GBE0_MDI2+	LPC_AD3	GBE0_MDI2+	LPC_AD3	GBE0_MDI2+	LPC_AD3
8	GBE0_LINK#	LPC_DRQ0#	GBE0_LINK#	LPC_DRQ0#	GBE0_LINK#	LPC_DRQ0#	GBE0_LINK#	LPC_DRQ0#
9	GBE0_MDI1-	LPC_DRQ1#	GBE0_MDI1-	LPC_DRQ1#	GBE0_MDI1-	LPC_DRQ1#	GBE0_MDI1-	LPC_DRQ1#
10	GBE0_MDI1+	LPC_CLK	GBE0_MDI1+	LPC_CLK	GBE0_MDI1+	LPC_CLK	GBE0_MDI1+	LPC_CLK
11	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
12	GBE0_MDI0-	PWRBTN#	GBE0_MDI0-	PWRBTN#	GBE0_MDI0-	PWRBTN#	GBE0_MDI0-	PWRBTN#
13	GBE0_MDI0+	SMB_CK	GBE0_MDI0+	SMB_CK	GBE0_MDI0+	SMB_CK	GBE0_MDI0+	SMB_CK
14	GBE0_CTREF	SMB_DAT	GBE0_CTREF	SMB_DAT	GBE0_CTREF	SMB_DAT	GBE0_CTREF	SMB_DAT
15	SUS_S3#	SMB_ALERT#	SUS_S3#	SMB_ALERT#	SUS_S3#	SMB_ALERT#	SUS_S3#	SMB_ALERT#
16	SATA0_TX+	SATA1_TX+	SATA0_TX+	SATA1_TX+	SATA0_TX+	SATA1_TX+	SATA0_TX+	SATA1_TX+
17	SATA0_TX-	SATA1_TX-	SATA0_TX-	SATA1_TX-	SATA0_TX-	SATA1_TX-	SATA0_TX-	SATA1_TX-
18	SUS_S4#	SUS_STAT#	SUS_S4#	SUS_STAT#	SUS_S4#	SUS_STAT#	SUS_S4#	SUS_STAT#
19	SATA0_RX+	SATA1_RX+	SATA0_RX+	SATA1_RX+	SATA0_RX+	SATA1_RX+	SATA0_RX+	SATA1_RX+
20	SATA0_RX-	SATA1_RX-	SATA0_RX-	SATA1_RX-	SATA0_RX-	SATA1_RX-	SATA0_RX-	SATA1_RX-
21	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
22	SATA2_TX+	SATA3_TX+	SATA2_TX+	SATA3_TX+	**RSVD**	**RSVD**	**USB_SSRX0-**	**USB_SSTX0-**
23	SATA2_TX-	SATA3_TX-	SATA2_TX-	SATA3_TX-	**RSVD**	**RSVD**	**USB_SSRX0+**	**USB_SSTX0+**
24	SUS_S5#	PWR_OK	SUS_S5#	PWR_OK	SUS_S5#	PWR_OK	SUS_S5#	PWR_OK
25	SATA2_RX+	SATA3_RX+	SATA2_RX+	SATA3_RX+	**RSVD**	**RSVD**	**USB_SSRX1-**	**USB-SSTX1-**
26	SATA2_RX-	SATA3_RX-	SATA2_RX-	SATA3_RX-	**RSVD**	**RSVD**	**USB_SSRX1+**	**USB-SSTX1+**
27	BATLOW#	WDT	BATLOW#	WDT	BATLOW#	WDT	BATLOW#	WDT

	Type 1 Rev. 1.0		Type 1 Rev. 2.0		Type 10 Rev. 2.0		Type 10 Rev. 2.1	
Pin	Row A	Row B	Row A	Row B	Row A	Row B	Row A	Row B
28	ATA_ACT#	AC_SDIN2	**(S)ATA_ACT#**	**AC/HDA_SDIN2**	(S)ATA_ACT#	AC/HDA_SDIN2	(S)ATA_ACT#	AC/HDA_SDIN2
29	AC_SYNC	AC_SDIN1	**AC/HDA_SYNC**	**AC/HDA_SDIN1**	AC/HDA_SYNC	AC/HDA_SDIN1	AC/HDA_SYNC	AC/HDA_SDIN1
30	AC_RST#	AC_SDIN0	**AC/HDA_RST#**	**AC/HDA_SDIN0**	AC/HDA_RST#	AC/HDA_SDIN0	AC/HDA_RST#	AC/HDA_SDIN0
31	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
32	AC_BITCLK	SPKR	**AC/HDA_BITCLK**	SPKR	AC/HDA_BITCLK	SPKR	AC/HDA_BITCLK	SPKR
33	AC_SDOUT	I2C_CK	**AC/HDA_SDOUT**	I2C_CK	AC/HDA_SDOUT	I2C_CK	AC/HDA_SDOUT	I2C_CK
34	BIOS_DISABLE#	I2C_DAT	**BIOS_DIS0#**	I2C_DAT	BIOS_DIS0#	I2C_DAT	BIOS_DIS0#	I2C_DAT
35	THRMTRIP#	THRM#	THRMTRIP#	THRM#	THRMTRIP#	THRM#	THRMTRIP#	THRM#
36	USB6-	USB7-	USB6-	USB7-	USB6-	USB7-	USB6-	USB7-
37	USB6+	USB7+	USB6+	USB7+	USB6+	USB7+	USB6+	USB7+
38	USB_6_7_OC#	USB_4_5_OC#	USB_6_7_OC#	USB_4_5_OC#	USB_6_7_OC#	USB_4_5_OC#	USB_6_7_OC#	USB_4_5_OC#
39	USB4-	USB5-	USB4-	USB5-	USB4-	USB5-	USB4-	USB5-
40	USB4+	USB5+	USB4+	USB5+	USB4+	USB5+	USB4+	USB5+
41	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
42	USB2-	USB3-	USB2-	USB3-	USB2-	USB3-	USB2-	USB3-
43	USB2+	USB3+	USB2+	USB3+	USB2+	USB3+	USB2+	USB3+
44	USB_2_3_OC#	USB_0_1_OC#	USB_2_3_OC#	USB_0_1_OC#	USB_2_3_OC#	USB_0_1_OC#	USB_2_3_OC#	USB_0_1_OC#
45	USB0-	USB1-	USB0-	USB1-	USB0-	USB1-	USB0-	USB1-
46	USB0+	USB1+	USB0+	USB1+	USB0+	USB1+	USB0+	USB1+
47	VCC_RTC	EXCD1_PERST#	VCC_RTC	EXCD1_PERST#	VCC_RTC	EXCD1_PERST#	VCC_RTC	EXCD1_PERST#
48	EXCD0_PERST#	EXCD1_CPPE#	EXCD0_PERST#	EXCD1_CPPE#	EXCD0_PERST#	EXCD1_CPPE#	EXCD0_PERST#	EXCD1_CPPE#
49	EXCD0_CPPE#	SYS_RESET#	EXCD0_CPPE#	SYS_RESET#	EXCD0_CPPE#	SYS_RESET#	EXCD0_CPPE#	SYS_RESET#
50	LPC_SERIRQ	CB_RESET#	LPC_SERIRQ	CB_RESET#	LPC_SERIRQ	CB_RESET#	LPC_SERIRQ	CB_RESET#
51	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
52	PCIE_TX5+	PCIE_RX5+	PCIE_TX5+	PCIE_RX5+	**RSVD**	**RSVD**	RSVD	RSVD
53	PCIE_TX5-	PCIE_RX5-	PCIE_TX5-	PCIE_RX5-	**RSVD**	**RSVD**	RSVD	RSVD
54	GPI0	GPO1	GPI0	GPO1	GPI0	GPO1	GPI0	GPO1
55	PCIE_TX4+	PCIE_RX4+	PCIE_TX4+	PCIE_RX4+	**RSVD**	**RSVD**	RSVD	RSVD
56	PCIE_TX4-	PCIE_RX4-	PCIE_TX4-	PCIE_RX4-	**RSVD**	**RSVD**	RSVD	RSVD
57	GND	GPO2	GND	GPO2	GND	GPO2	GND	GPO2
58	PCIE_TX3+	PCIE_RX3+	PCIE_TX3+	PCIE_RX3+	PCIE_TX3+	PCIE_RX3+	PCIE_TX3+	PCIE_RX3+
59	PCIE_TX3-	PCIE_RX3-	PCIE_TX3-	PCIE_RX3-	PCIE_TX3-	PCIE_RX3-	PCIE_TX3-	PCIE_RX3-
60	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)

	Type 1 Rev. 1.0		Type 1 Rev. 2.0		Type 10 Rev. 2.0		Type 10 Rev. 2.1	
Pin	Row A	Row B	Row A	Row B	Row A	Row B	Row A	Row B
61	PCIE_TX2+	PCIE_RX2+	PCIE_TX2+	PCIE_RX2+	PCIE_TX2+	PCIE_RX2+	PCIE_TX2+	PCIE_RX2+
62	PCIE_TX2-	PCIE_RX2-	PCIE_TX2-	PCIE_RX2-	PCIE_TX2-	PCIE_RX2-	PCIE_TX2-	PCIE_RX2-
63	GPI1	GPO3	GPI1	GPO3	GPI1	GPO3	GPI1	GPO3
64	PCIE_TX1+	PCIE_RX1+	PCIE_TX1+	PCIE_RX1+	PCIE_TX1+	PCIE_RX1+	PCIE_TX1+	PCIE_RX1+
65	PCIE_TX1-	PCIE_RX1-	PCIE_TX1-	PCIE_RX1-	PCIE_TX1-	PCIE_RX1-	PCIE_TX1-	PCIE_RX1-
66	GND	WAKE0#	GND	WAKE0#	GND	WAKE0#	GND	WAKE0#
67	GPI2	WAKE1#	GPI2	WAKE1#	GPI2	WAKE1#	GPI2	WAKE1#
68	PCIE_TX0+	PCIE_RX0+	PCIE_TX0+	PCIE_RX0+	PCIE_TX0+	PCIE_RX0+	PCIE_TX0+	PCIE_RX0+
69	PCIE_TX0-	PCIE_RX0-	PCIE_TX0-	PCIE_RX0-	PCIE_TX0-	PCIE_RX0-	PCIE_TX0-	PCIE_RX0-
70	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
71	LVDS_A0+	LVDS_B0+	LVDS_A0+	LVDS_B0+	LVDS_A0+	**DDI0_PAIR0+**	**LVDS_A0+**	DDI0_PAIR0+
72	LVDS_A0-	LVDS_B0-	LVDS_A0-	LVDS_B0-	LVDS_A0-	**DDI0_PAIR0-**	**LVDS_A0-**	DDI0_PAIR0-
73	LVDS_A1+	LVDS_B1+	LVDS_A1+	LVDS_B1+	LVDS_A1+	**DDI0_PAIR1+**	**LVDS_A1+**	DDI0_PAIR1+
74	LVDS_A1-	LVDS_B1-	LVDS_A1-	LVDS_B1-	LVDS_A1-	**DDI0_PAIR1-**	**LVDS_A1-**	DDI0_PAIR1-
75	LVDS_A2+	LVDS_B2+	LVDS_A2+	LVDS_B2+	LVDS_A2+	**DDI0_PAIR2+**	**LVDS_A2+**	DDI0_PAIR2+
76	LVDS_A2-	LVDS_B2-	LVDS_A2-	LVDS_B2-	LVDS_A2-	**DDI0_PAIR2-**	**LVDS_A2-**	DDI0_PAIR2-
77	LVDS_VDD_EN	LVDS_B3+	LVDS_VDD_EN	LVDS_B3+	LVDS_VDD_EN	**DDI0_PAIR4+**	**LVDS_VDD_EN**	DDI0_PAIR4+
78	LVDS_A3+	LVDS_B3-	LVDS_A3+	LVDS_B3-	LVDS_A3+	**DDI0_PAIR4-**	**LVDS_A3+**	DDI0_PAIR4-
79	LVDS_A3-	LVDS_BKLT_EN	LVDS_A3-	LVDS_BKLT_EN	LVDS_A3-	LVDS_BKLT_EN	**LVDS_A3-**	**LVDS_BKLT_EN**
80	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
81	LVDS_A_CK+	LVDS_B_CK+	LVDS_A_CK+	LVDS_B_CK+	LVDS_A_CK+	**DDI0_PAIR3+**	LVDS_A_CK+	DDI0_PAIR3+
82	LVDS_A_CK-	LVDS_B_CK-	LVDS_A_CK-	LVDS_B_CK-	LVDS_A_CK-	**DDI0_PAIR3-**	LVDS_A_CK-	DDI0_PAIR3-
83	LVDS_I2C_CK	LVDS_BKLT_CTRL	LVDS_I2C_CK	LVDS_BKLT_CTRL	LVDS_I2C_CK	LVDS_BKLT_CTRL	**LVDS_I2C_CK**	**LVDS_BKLT_CTRL**
84	LVDS_I2C_DAT	VCC_5V_SBY	LVDS_I2C_DAT	VCC_5V_SBY	LVDS_I2C_DAT	VCC_5V_SBY	**LVDS_I2C_DAT**	VCC_5V_SBY
85	GPI3	VCC_5V_SBY	GPI3	VCC_5V_SBY	GPI3	VCC_5V_SBY	GPI3	VCC_5V_SBY
86	KBD_RST#	VCC_5V_SBY	KBD_RST#	VCC_5V_SBY	**RSVD**	VCC_5V_SBY	RSVD	VCC_5V_SBY
87	KBD_A20GATE	VCC_5V_SBY	KBD_A20GATE	VCC_5V_SBY	**RSVD**	VCC_5V_SBY	**eDP_HPD**	VCC_5V_SBY
88	PCIE_CLK_REF+	RSVD	PCIE_CLK_REF+	**BIOS_DIS1#**	PCIE_CLK_REF+	BIOS_DIS1#	PCIE_CLK_REF+	BIOS_DIS1#
89	PCIE_CLK_REF-	VGA_RED	PCIE_CLK_REF-	VGA_RED	PCIE_CLK_REF-	**DD0_HPD**	PCIE_CLK_REF-	DD0_HPD
90	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
91	RSVD	VGA_GRN	**SPI_POWER**	VGA_GRN	SPI_POWER	**DDI0_PAIR5+**	SPI_POWER	DDI0_PAIR5+
92	RSVD	VGA_BLU	**SPI_MISO**	VGA_BLU	SPI_MISO	**DDI0_PAIR5-**	SPI_MISO	DDI0_PAIR5-
93	GPO0	VGA_HSYNC	GPO0	VGA_HSYNC	GPO0	**DDI0_PAIR6+**	GPO0	DDI0_PAIR6+

	Type 1 Rev. 1.0		Type 1 Rev. 2.0		Type 10 Rev. 2.0		Type 10 Rev. 2.1	
Pin	Row A	Row B	Row A	Row B	Row A	Row B	Row A	Row B
94	RSVD	VGA_VSYNC	**SPI_CLK**	VGA_VSYNC	SPI_CLK	**DDI0_PAIR6-**	SPI_CLK	DDI0_PAIR6-
95	RSVD	VGA_I2C_CK	**SPI_MOSI**	VGA_I2C_CK	SPI_MOSI	**DDI0_DDC_AUX_SEL**	SPI_MOSI	DDI0_DDC_AUX_SEL
96	GND	VGA_I2C_DAT	GND	VGA_I2C_DAT	TPM_PP	**RSVD**	TPM_PP	**USB_HOST_PRSNT**
97	VCC_12V	TV_DAC_A	TYPE10#	**SPI_CS#**	TYPE10#	SPI_CS#	TYPE10#	SPI_CS#
98	VCC_12V	TV_DAC_B	**RSVD**	**RSVD**	**SER0_TX**	**DDI0_CTRLCLK_AUX+**	SER0_TX	DDI0_CTRLCLK_AUX+
99	VCC_12V	TV_DAC_C	**RSVD**	**RSVD**	**SER0_RX**	**DDI0_CTRLDATA_AUX-**	SER0_RX	DDI0_CTRLDATA_AUX-
100	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)
101	VCC_12V	VCC_12V	**RSVD**	**RSVD**	**SER1_TX**	**FAN_PWMOUT**	SER1_TX	FAN_PWMOUT
102	VCC_12V	VCC_12V	**RSVD**	**RSVD**	**SER1_RX**	**FAN_TACHIN**	SER1_RX	FAN_TACHIN
103	VCC_12V	VCC_12V	**RSVD**	**RSVD**	**LID#**	**SLEEP#**	LID#	SLEEP#
104	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
105	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
106	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
107	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
108	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
109	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V	VCC_12V
110	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)	GND(FIXED)

J18: LVDS Connector

Pin	Signal Name	Pin	Signal Name
1	Power	2	Power
3	LVDSA_Data0	4	LVDSA_Data0#
5	LVDSA_Data1	6	LVDSA_Data1#
7	LVDSA_Data2	8	LVDSA_Data2#
9	LVDSA_Data3	10	LVDSA_Data3#
11	LVDSA_CLKP	12	LVDSA_CLKN
13	LVDS_DDC_DATA	14	LVDS_DDC_DATA
15	GND	16	GND
17	NC	18	NC
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	NC	28	NC
29	GND	30	GND

J19: ATX 4P connector

Pin	Signal Name
1	GND
2	GND
3	+12V2
4	+12V2

J20: FAN Connector

Pin	Signal Name
1	GND
2	+12V1
3	FAN_TACHIN
4	FAN_PWMOUT

J21: SD Connector

Pin	Signal Name
1	SLOT0_DAT3
2	SLOT0_CMD
3	GND
4	SDIO_PWR
5	SLOT0_CLK
6	GND
7	SLOT0_DAT0
8	SLOT0_DAT1
9	SLOT0_DAT2
G	GND
Sa	SLOT0_WP
Sb	SLOT0_CD#
Sc	GND

J22: GPIO Connector

Pin	Signal Name	Pin	Signal Name
1	GPI0	2	GPO0
3	GPI01	4	GPO1
5	GPI02	6	GPO2
7	GPI03	8	GPO3

9	GND	10	VCC3

J23: ATX Power 20P Connector

Pin	Signal Name	Pin	Signal Name
1	ATX 3.3V	11	ATX 3.3V
2	ATX 3.3V	12	ATX -12V
3	ATX Ground	13	ATX Ground
4	ATX 5V	14	PS-ON
5	ATX Ground	15	ATX Ground
6	ATX 5V	16	ATX Ground
7	ATX Ground	17	ATX Ground
8	ATX Power Good	18	ATX -5V
9	ATX 5V Stand By	19	ATX 5V
10	ATX 12V	20	ATX 5V

J24: SMBus Connector

Pin	Signal Name
1	SMB_CLK
2	-
3	GND
4	SMB_DATA
5	VCC3

JP1、JP2: Side and rear surround header

Pin	Signal Name
1	LINE_OUT_R
2	LINE_OUT_L
3	LINE_OUT_JD
4	GND

JP3: SDP header

PIN	Signal Name
1	GBE0_SDP
2	GND

JP4：LVDS Invertor Connector

PIN	Signal Name
1	BACKLIGH_EN
2	GND
3	12V
4	LVDSB_BKLT_CRTL
5	5V

JP5：LVDS Power

PIN	LVDS Voltage Select (VDD)
*1-3	3V
3-5	5V
3-4	12V

JP6：PCIe Clock mode

PIN	Jumper Setting
*1-2	Bypass mode

2-3	SSC mode

JP7,8：Front Panel Header

JP7	JP8	Jumper Setting
*1-2	*1-2	Boot up from module
1-2	2-3	Boot up from carrier
2-3	1-2	Boot up from module
2-3	2-3	Boot up from module

JP9 : 5VSB power

PIN	Signal Name
1-2	With 5VSB
NC	Without 5VSB

JP10 : eDP and LVSD select

PIN	Signal Name
*1-2	LVDS
2-3	eDP to VGA

JP11：LVDS Back light Power

PIN	Backligh_EN Voltage Select
*1-3, 2-4	5V, Active High
1-3, 4-6	12V, Active High
3-5, 2-4	5V, Active Low
3-5, 4-6	12V, Active Low

JP13：Front Panel Header

PIN	Jumper Setting
1-3	SATA_ACTLED#
5-6	Power Button
7-8	RESET
9	NC

JP14：AT and ATX mode select

PIN	Signal Name
*1-2	ATX mode
2-3	AT mode

JP15：CMOS Setting

PIN	Jumper Setting
*1-2	Default
2-3	Clean CMOS

JP16：SD and GPIO select

PIN	Jumper Setting
*1-2	GPIO output
2-3	SD output

JP17 : Function header

PIN	Signal Name
1	VCC3
2	3V_DUAL
3	THRMTRIP#
4	PM_SLP_S3#
5	PM_SUS_STAT#
6	PM_SLP_S4#
7	WDRST
8	PM_SLP_S5#
9	BATLOW#
10	THRM#
11	TPM_PP
12	PS_ON#
13	SLEEP#_R
14	WAKE1#
15	LID#_R
16	PM_SYSRST#
17	PM_PWRBTN#
18	PWROK
19	GND
20	GND

Switch

Switch	Function
SW1	POWER Button
SW2	SLEEP Button
SW3	RESET Button
SW4	LID Button

1.2 Portwell Product Matrix

Connector	Function	PCOM-B21A	PCOM-BA00	PCOM-BA01
J1	Display Port Connector	Support	Support	Support
J2	RS232	Support*	Support	Support
J3	VGA Connector	Not Support	Support	Support
J4	Audio Jack	Support	Support	Support
J5	USB3.0 Connector	Not Support	Support	Support
J6	USB2.0 Connector	Support	Not Support	Support
J7	RJ45 + USB 2.0 connector	Support	Support	Support
J8	PCIe Connector	Support	Support	Support
J9	PCIe Connector	Support	Support	Support
J10	PCIe Connector	Support	Support	Support
J11	PCIe Connector	Support	Support*	Support
J12	SATA Connector	Support	Support*	Support
J13	TPM Header	Support	Support	Support
J14	SATA Connector	Support	Support	Support
J15	FAN Connector	Support	Support	Support
J16	FAN Connector	Support	Support	Support
J17	COM Express connector	Support	Support	Support
J18	LVDS Connector	Support	Support	Support
J19	ATX 4P connector	Support	Support	Support
J20	FAN Connector	Support	Support	Support
J21	SD Connector	Not Support	Support*	Support*
J22	GPIO Connector	Support	Support*	Support*
J23	ATX Power 20P Connector	Support	Support	Support
J24	SMBus Connector	Support	Support	Support

*RS232 (J2) : PCOM-B21A support one COM.

*PCIe Port (J11) : It depends on HSIO configuration.

*SATA Port (J12) : It depends on HSIO configuration.

*SD Connector (J21) and GPIO Connector (J22): PCOM-BA00 and PCOM-BA01 support either SD or GPIO, so those functions depend on module HW configuration.