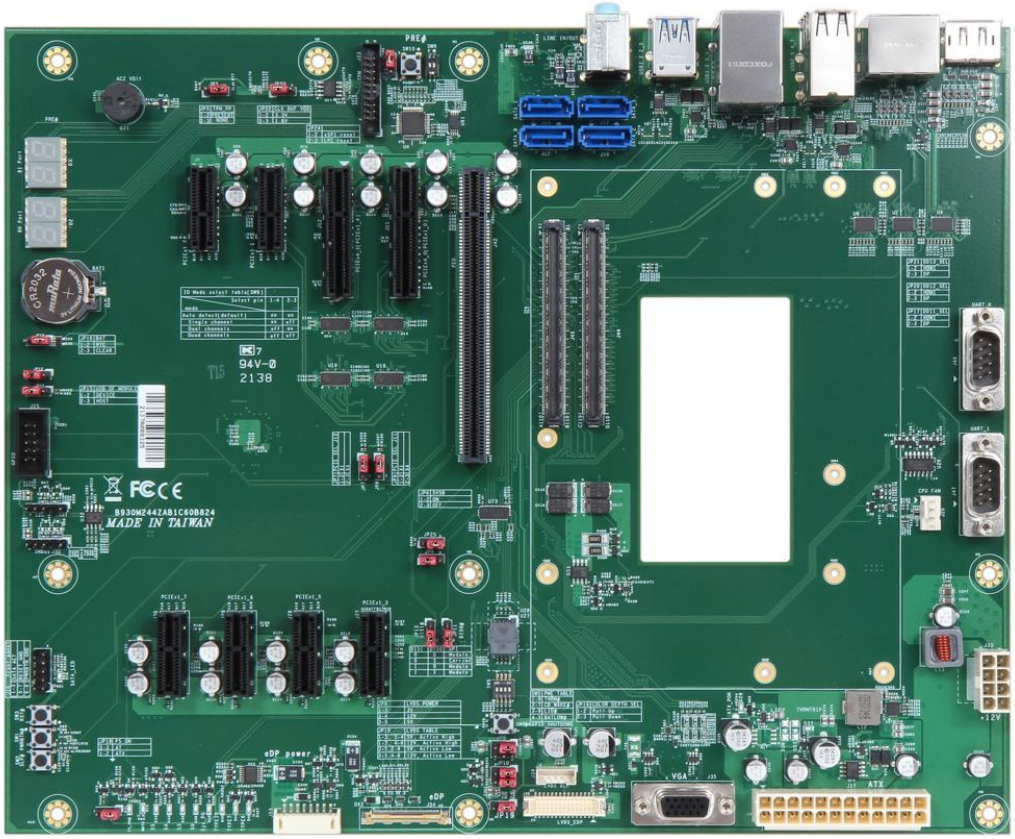

COM Express™
PCOM-C60B ZR4
User manual

Revision 1.0

Revision History

R 1.0	Preliminary for PCOM-C60B ZR4

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1 Introduction

PCOM-C60B user manual contains all information of the product specification, mechanical dimensions, and multiple I/O expansion with ATX mother board form factor. This carrier is planned to fulfill the most of COM-Express 2.1/3.0 Type 6 module, included basic, and compact size.

2 Block Diagram

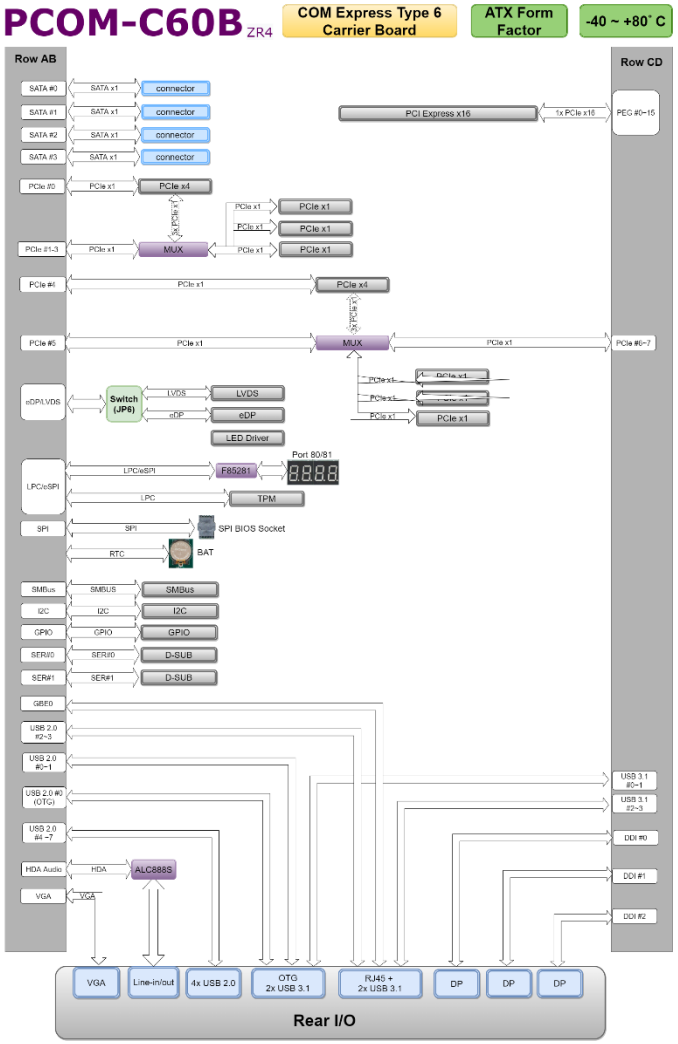


Figure 1 Block Diagram

3 Specifications

Product	➢ PCOM-C60B
Form Factor	➢ COM Express™ standard pin out Type 6 Rev. 3.0 (ATX 244 x 244mm).
Display Interface	➢ Display Port (Rear I/O) ➢ VGA (Header) ➢ LVDS 24bit / Dual channel (Connector)
Ethernet	➢ GbE (1G/2.5G)
Serial IO	➢ 8x GPIO (4 GPI / 4 GPO) ➢ I2C / SMBus ➢ 2x RS-232 COM Ports
PCI Express	➢ 1x PCIe x16 Slot ➢ 2x PCIe x 4 Slot ➢ 6x PCIe x 1 Slot
USB	➢ 4 x USB 3.0 (10 Gbps) (Port 0~3) ➢ 8 x USB 2.0 (480 Mbps)(Port 0~7) ➢ 1 x USB 2.0 OTG
SATA	➢ 4 x SATA3.0 (6 Gbps) (Port 1~3)
Miscellaneous	➢ FAN 4 Pin, ➢ HDA
Power DC IN	➢ +12V ATX Power ; AT/ATX Mode
Environment	➢ Operating Temperature -40 ° C ~ +85 ° C ➢ Storage Temperature -40 ° C ~ +85 ° C ➢ Relative Humidity 5%~95%

Table 1 Specifications

4 Carrier I/O Location

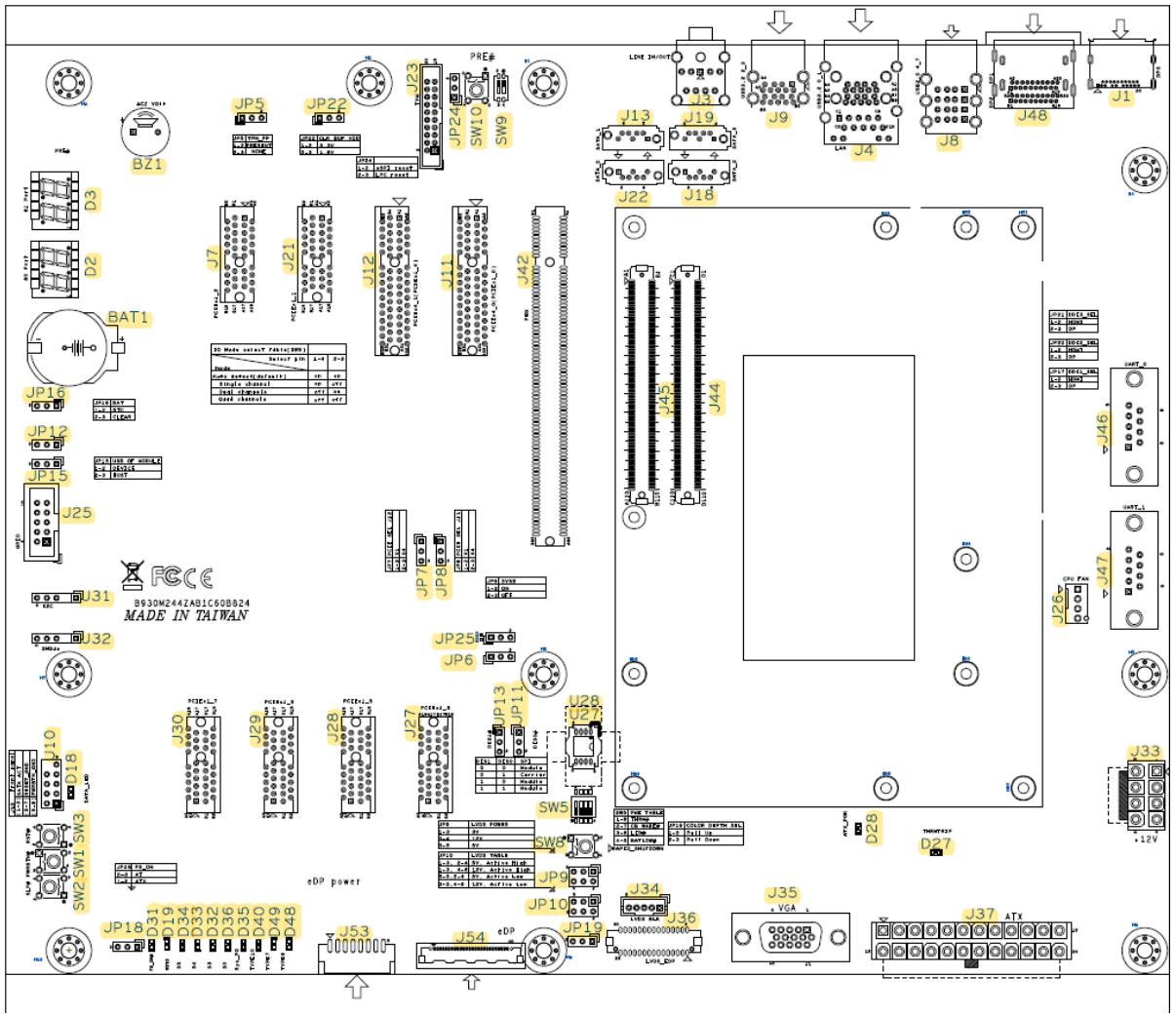


Figure 2 I/O & Connectors location

5 Mechanical drawing

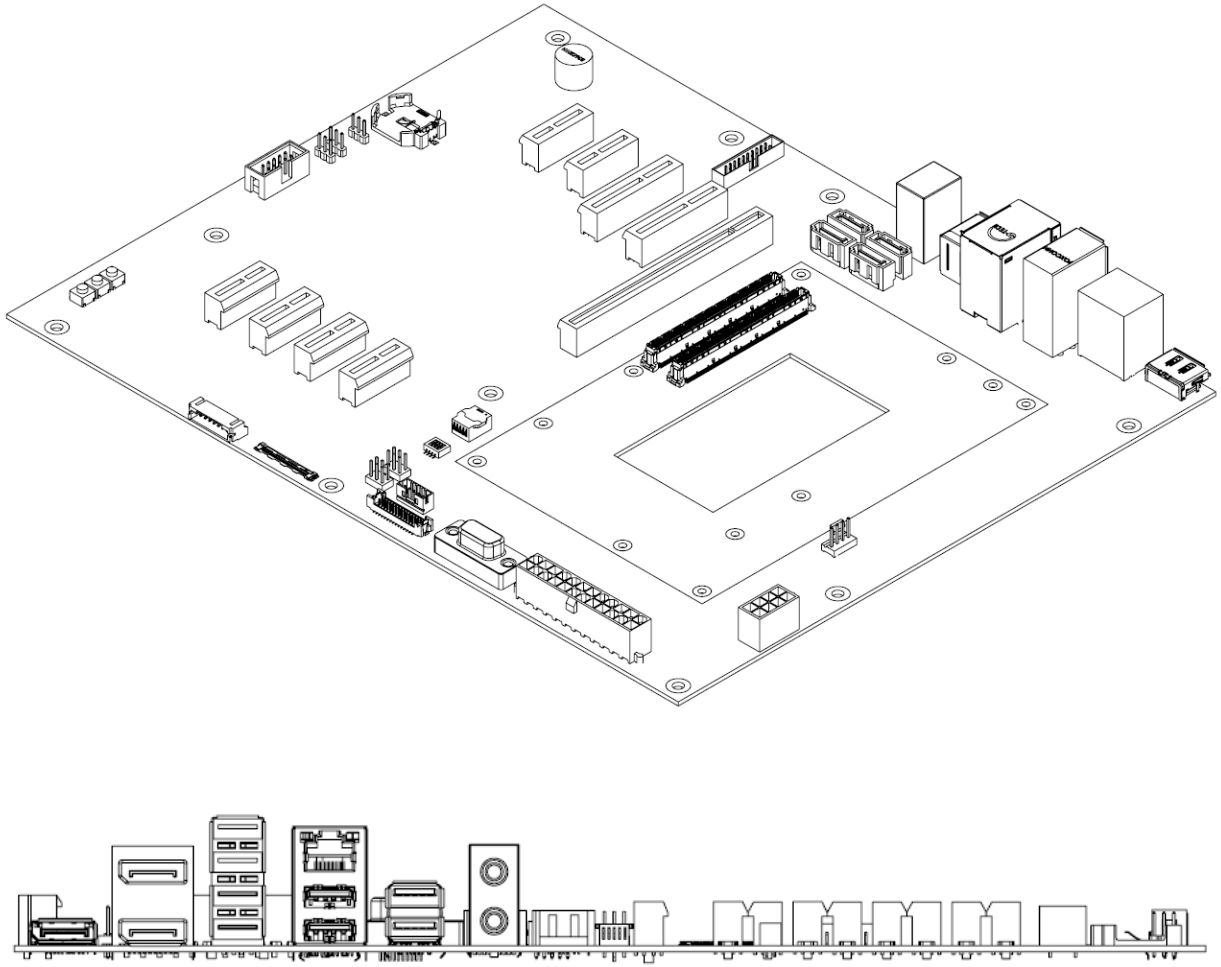


Figure 3 Mechnical Isometric View

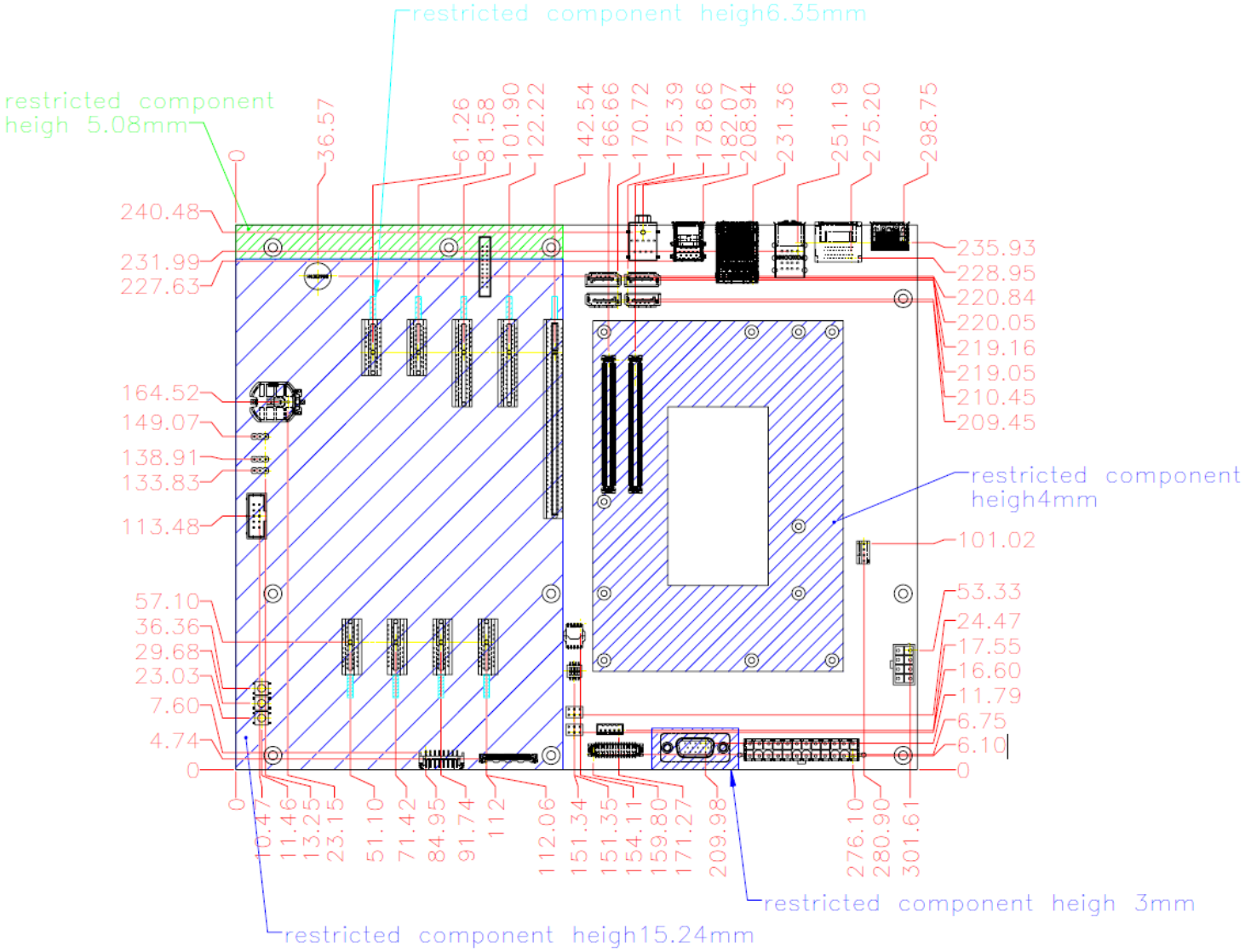


Figure 4 Mechnical dimension - Top

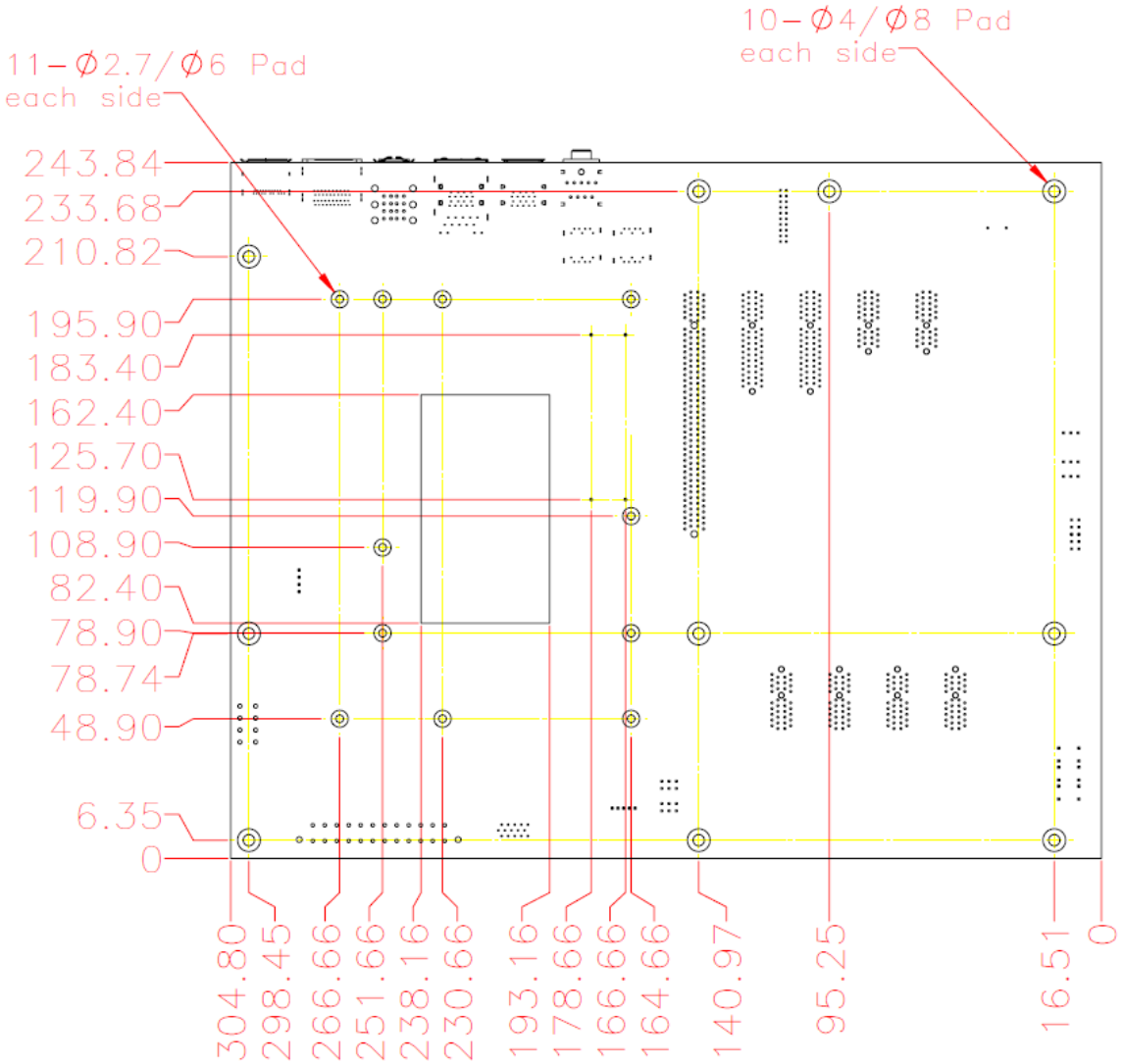


Figure 5 Mechnical dimension - Bottom

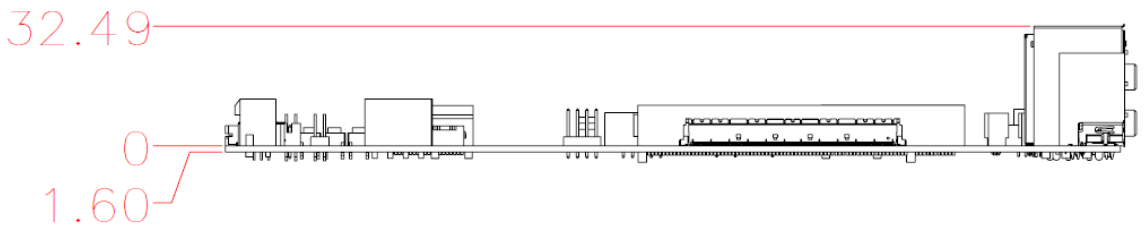


Figure 6 Mechanical dimension - Side view

6 Rear I/O

This section introduces the Rear I/O connector layout on PCOM-C60B

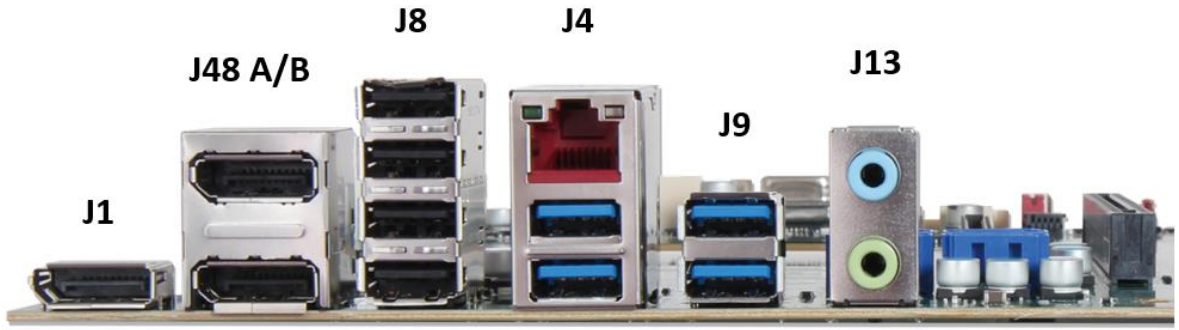


Figure 7 Rear I/O

Rear I/O	Function
J1	Display Port Connector
J48 A/B	Display Port 1/2 Connector
J8	4*USB2.0
J4	RJ45 + 2*USB3.2
J9	2*USB3.2
J13	Audio Jack

Table 2 Rear IO list

J1, J48 A/B: Display Port Connector

PIN	Signal Name	PIN	Signal Name
1	DP_LANE0_P	2	GND
3	DP_LANE0_N	4	DP_LANE1_P
5	GND	6	DP_LANE1_N
7	DP_LANE2_P	8	GND
9	DP_LANE2_N	10	DP_LANE3_P
11	GND	12	DP_LANE3_N
13	DP_AUX_SEL	14	GND
15	DP_AUX_P	16	GND
17	DP_AUX_N	18	DP_HPD
19	GND	20	VCC3

Table 3 Display Port

J8 : 4*USB2.0

PIN	Signal Name
A1	VBUS4
A2	USB_DN4
A3	USB_DP4
A4	GND
B1	VBUS5
B2	USB_DN5
B3	USB_DP5
B4	GND

Table 4 4*USB2.0

J8

J4: RJ45 + 2*USB3.2

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
A1	VBUSOTG	B1	VBUS1	C1	VCT_LAN
A2	USB_DN0	B2	USB_DN1	C2	LAN_MDI0P
A3	USB_DP0	B3	USB_DP1	C3	LAN_MDI0N
A4	GND	B4	GND	C4	LAN_MDI1P
A5	USB_RXN0	B5	USB_RXN1	C5	LAN_MDI1N
A6	USB_RXP0	B6	USB_RXP1	C6	LAN_MDI2P
A7	GND	B7	GND	C7	LAN_MDI2N
A8	USB_TXN0	B8	USB_TXN1	C8	LAN_MDI3P
A9	USB_TXP0	B9	USB_TXP1	C9	LAN_MDI3N

Table 5 RJ45 + 2* USB3.2

J4

J9: 2*USB3.2

PIN	Signal Name	PIN	Signal Name
A1	VBU2	B1	VBUS3
A2	USB_DN2	B2	USB_DN3
A3	USB_DP2	B3	USB_DP3
A4	GND	B4	GND
A5	USB_RXN2	B5	USB_RXN3
A6	USB_RXP2	B6	USB_RXP3
A7	GND	B7	GND
A8	USB_TXN2	B8	USB_TXN3
A9	USB_TXP2	B9	USB_TXP3

Table 6 2*USB3.2

J9

J13: Audio Jack

PIN	Signal Name	PIN	Signal Name
A1	GND	B2	LINE_IN_L
A2	LINE_OUT_L	B3	GND
A3	GND	B4	LINE_IN_JD
A4	LINE_OUT_JD	B5	LINE_IN_L
A5	LINE_OUT_L		

Table 7 Audio Jack

J13

7 On board Connectors

Connector, Header	Function
J10	FRONT PANEL
J11, J12	PCIE x4 SLOT_PORT 0-3/4-7
J7, J21, J27, J28, J29, J30	PCIE x1 SLOT_PORT 2/1/3/5/6/7
J42	PCIE x16 SLOT
J13, J18, J19, J22	SATA Port 1/2/3/0
J23	TPM Connector
J46, J47	COM D-SUB 0/1
J25	GPIO Header
J31	I2C Header
J32	SMBus Header
J34	LVDS Backlight Control
J36	LVDS Connector
J35	VGA D-SUB
J53	eDP Backlight control
J54	eDP connector
J26	CPU FAN
J33	ATX 8 pin Connector
J37	ATX 24 Pin Connector
J45, J44	COM Express connector AB/CD

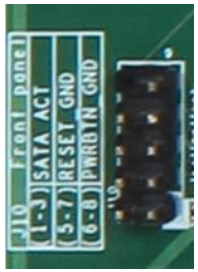
Table 8 Headers & Connectors list

J10: Front Panel

PIN	Signal Name	PIN	Signal Name
1	VCC_CARR_SATA	2	NC
3	SATA_ACK#	4	NC
5	GND	6	Power BTN#
7	Reset BTN#	8	GND
9	NC		

Table 9 Front Panel

J10



J11/12: PCIE x4 Slot Port 0-3/4-7

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
A1	PRSNT1#(GND)	B1	+12V	A17	PCIE_RXN0/4	B17	PRSNT2_1#(NC)
A2	+12V	B2	+12V	A18	GND	B18	GND
A3	+12V	B3	+12V	A19	NC	B19	PCIE_TXP1/5
A4	GND	B4	GND	A20	GND	B20	PCIE_TXN1/5
A5	JTAG_TCK(NC)	B5	SMB_CLK	A21	PCIE_RXP1/5	B21	GND
A6	JTAG_TDI(NC)	B6	SMB_DAT	A22	PCIE_RXN1/5	B22	GND
A7	JTAG_TDO(NC)	B7	GND	A23	GND	B23	PCIE_TXP2/6
A8	JTAG_TMS(NC)	B8	VCC3	A24	GND	B24	PCIE_TXN2/6
A9	VCC3	B9	NC	A25	PCIE_RXP2/6	B25	GND
A10	VCC3	B10	3VSB	A26	PCIE_RXN2/6	B26	GND
A11	PCIE_RST	B11	PCIE_WAKE#	A27	GND	B27	PCIE_TXP3/7
A12	GND	B12	NC	A28	GND	B28	PCIE_TXN3/7
A13	PCIE_CLK+	B13	GND	A29	PCIE_RXP3/7	B29	GND
A14	PCIE_CLK-	B14	PCIE_TXP0/4	A30	PCIE_RXN3/7	B30	GND
A15	GND	B15	PCIE_TXN0/4	A31	GND	B31	PRSNT2_2#(NC)
A16	PCIE_RXP0/4	B16	GND	A32	NC	B32	GND

J11/12

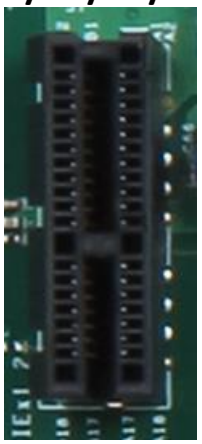
Table 10 PCIE x4 Slot Port 0-3/4-7

J7/21/27/28/29/30: PCIE x1 Slot Port 2/1/3/5/6/7

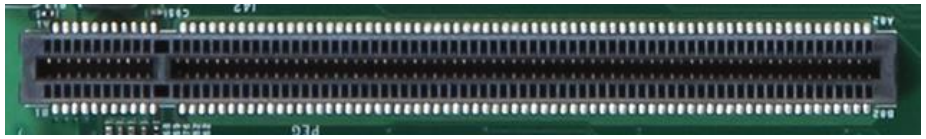
PIN	Signal Name	PIN	Signal Name
A1	PRSNT1#(GND)	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	JTAG_TCK(NC)	B5	SMB_CLK
A6	JTAG_TDI(NC)	B6	SMB_DAT
A7	JTAG_TDO(NC)	B7	GND
A8	JTAG_TMS(NC)	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	3VSB
A11	PCIE_RST	B11	PCIE_WAKE#
A12	GND	B12	NC
A13	PCIE_CLK+	B13	GND
A14	PCIE_CLK-	B14	PCIE_TXP
A15	GND	B15	PCIE_TXN
A16	PCIE_RXP	B16	GND
A17	PCIE_RXN	B17	PRSNT2#(NC)
A18	GND	B18	GND

Table 11 PCIE x1 Slot Port 2/1/3/5/6/7

J7/21/27/28/29/30



J42



J42: PCIE x16 Slot Port

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
A1	PRSNT1#(GND)	B1	+12V	A30	PEG_RXN3	B30	NC	A59	GND	B59	PEG_TXN10
A2	+12V	B2	+12V	A31	GND	B31	NC	A60	PEG_RXP10	B60	GND
A3	+12V	B3	+12V	A32	NC	B32	GND	A61	PEG_RXN10	B61	GND
A4	GND	B4	GND	A33	NC	B33	PEG_TXP4	A62	GND	B62	PEG_TXP11
A5	JTAG_TCK(NC)	B5	SMB_CLK	A34	GND	B34	PEG_TXN4	A63	GND	B63	PEG_TXN11
A6	JTAG_TDI(NC)	B6	SMB_DAT	A35	PEG_RXP4	B35	GND	A64	PEG_RXP11	B64	GND
A7	JTAG_TDO(NC)	B7	GND	A36	PEG_RXN4	B36	GND	A65	PEG_RXN11	B65	GND
A8	JTAG_TMS(NC)	B8	VCC3	A37	GND	B37	PEG_TXP5	A66	GND	B66	PEG_TXP12
A9	VCC3	B9	NC	A38	GND	B38	PEG_TXN5	A67	GND	B67	PEG_TXN12
A10	VCC3	B10	3VSB	A39	PEG_RXP5	B39	GND	A68	PEG_RXP12	B68	GND
A11	PCIE_RST	B11	PCIE_WAKE#	A40	PEG_RXN5	B40	GND	A69	PEG_RXN12	B69	GND
A12	+12V	B12	NC	A41	GND	B41	PEG_TXP6	A70	GND	B70	PEG_TXP13
A13	PCIE_CLK+	B13	GND	A42	GND	B42	PEG_TXN6	A71	GND	B71	PEG_TXN13
A14	PCIE_CLK-	B14	PEG_TXP0	A43	PEG_RXP6	B43	GND	A72	PEG_RXP13	B72	GND
A15	GND	B15	PEG_TXN0	A44	PEG_RXN6	B44	GND	A73	PEG_RXN13	B73	GND
A16	PEG_RXP0	B16	GND	A45	GND	B45	PEG_TXP7	A74	GND	B74	PEG_TXP14
A17	PEG_RXN0	B17	NC	A46	GND	B46	PEG_TXN7	A75	GND	B75	PEG_TXN14
A18	GND	B18	GND	A47	PEG_RXP7	B47	GND	A76	PEG_RXP14	B76	GND

A19	NC	B19	PEG_TXP1	A48	PEG_RXN7	B48	NC	A77	PEG_RXN14	B77	GND
A20	GND	B20	PEG_TXN1	A49	GND	B49	GND	A78	GND	B78	PEG_TXP15
A21	PEG_RXP1	B21	GND	A50	NC	B50	PEG_TXP8	A79	GND	B79	PEG_TXN15
A22	PEG_RXN1	B22	GND	A51	GND	B51	PEG_TXN8	A80	PEG_RXP15	B80	GND
A23	GND	B23	PEG_TXP2	A52	PEG_RXP8	B52	GND	A81	PEG_RXN15	B81	NC
A24	GND	B24	PEG_TXN2	A53	PEG_RXN8	B53	GND	A82	GND	B82	NC
A25	PEG_RXP2	B25	GND	A54	GND	B54	PEG_TXP9	A80	PEG_RXP15	B80	GND
A26	PEG_RXN2	B26	GND	A55	GND	B55	PEG_TXN9	A81	PEG_RXN15	B81	NC
A27	GND	B27	PEG_TXP3	A56	PEG_RXP9	B56	GND	A82	GND	B82	NC
A28	GND	B28	PEG_TXN3	A57	PEG_RXN9	B57	GND				
A29	PEG_RXP3	B29	GND	A58	GND	B58	PEG_TXP10				

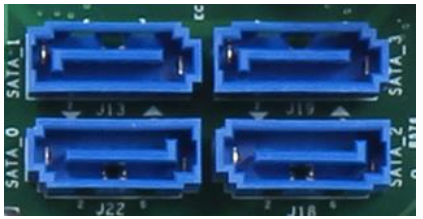
Table 12 PCIE x16 Slot Port

J13/18/19/22: SATA Port 1/2/3/0

PIN	Signal Name
1	GND
2	SATA_TXP
3	SATA_TXN
4	GND
5	SATA_RXN
6	SATA_RXP
7	GND

Table 13 SATA Port 1/2/3/0

J13/18/19/22



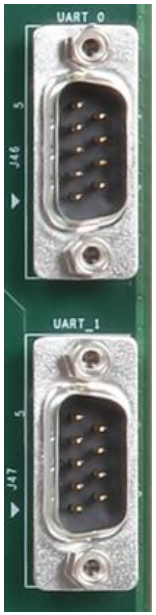
J23: TPM Connector

PIN	Signal Name	PIN	Signal Name
1	TPM_CLK_33M	2	GND
3	LPC_FRAME#	4	NC
5	BUF_PLT_RST#	6	VCC
7	LAD3	8	LAD2
9	VCC3	10	LAD1
11	LAD0	12	GND
13	CB_SMCLK0_R	14	CB_SMDAT0_R
15	3V_DUAL	16	LPC_SERIRQ
17	GND	18	NC
19	PM_SUS_STAT#	20	TPM_PP

Table 14 TPM Connector

J23

J46/J47



J46/47: COM0/1 D-SUB

PIN	Signal Name
1	NC
2	SER0/1_RX_232
3	SER0/1_TX_232
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Table 15 COM0/1 D-SUB

J25: GPIO Header

PIN	Signal Name	PIN	Signal Name
10	VCC	9	GND
8	GPO3	7	GPI3
6	GPO2	5	GPI2
4	GPO1	3	GPI1
2	GPO0	1	GPI0

J25

Table 16 GPIO Header

J31: I2C Header

PIN	Signal Name
1	I2C_clk
3	GND
4	I2C_dat
5	3V_DUAL

J31

J32: SMbus Header

PIN	Signal Name
1	SMB_clk
3	GND
4	SMB_dat
5	3V_DUAL

J32

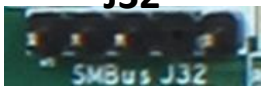


Table 17 I2C & SMbus Header

J34: LVDS Backlight Control

PIN	Signal Name
1	VCC
2	LVDS_BCLK_CTRL
3	+12V
4	GND
5	LVDS_BCLK_EN

J34

J36: LVDS Connector

PIN	Signal Name	PIN	Signal Name
1	VDD_LVDS	2	VDD_LVDS
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_CLK	14	LVDS_DDC_DAT
15	GND	16	GND
17	LVDSB_DATA0	18	LVDSB_DATA0#
19	LVDSB_DATA1	20	LVDSB_DATA1#
21	LVDSB_DATA2	22	LVDSB_DATA2#
23	LVDSB_DATA3	24	LVDSB_DATA3#
25	LVDSB_CLKP	12	LVDB_CLKN
27	Color bit select	28	NC
29	GND	30	GND

J35

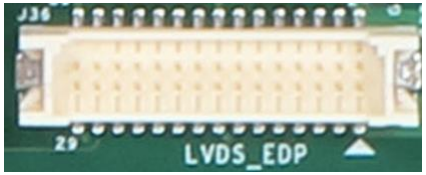


Table 18 LVDS Backlight Control & Connector

J35: VGA D-SUB

PIN	Signal Name	PIN	Signal Name
1	VGA_RED	9	VCC
2	VGA_GREEN	10	GND
3	VGA_BLUE	11	NC
4	NC	12	VGA_I2C_DAT
5	GND	13	VGA_HSY
6	GND	14	VGA_VSY
7	GND	15	VGA_I2C_CLK
8	GND		

Table 19 VGA D-SUB

J34

J53: eDP Backlight Control

PIN	Signal Name
1	+12V
2	+12V
3	+12V
4	GND
5	GND
6	eDP_BCLK_EN
7	eDP_BCLK_CTRL
8	GND

J53

J54: eDP Connector

PIN	Signal Name	PIN	Signal Name
1	eDP_VDD	21	EDP_AUX_P_C
2	eDP_VDD	22	GND
3	eDP_VDD	23	GND
4	eDP_VDD	24	GND
5	eDP_VDD	25	GND
6	NC	26	NC
7	GND	27	COLOR BIT SELECT
8	EDP_TXN0_R	28	GND
9	EDP_TXP0_R	29	EDP_HPD_B
10	GND	30	NC
11	EDP_TXN1_R	31	GND
12	EDP_TXP1_R	32	GND
13	GND	33	GND
14	EDP_TXN2_R	34	GND
15	EDP_TXP2_R	35	NC
16	GND	36	GND
17	EDP_TXN3_R	37	GND
18	EDP_TXP3_R	38	NC
19	GND	39	NC
20	EDP_AUX_N_C	40	EDP_AUX_P_C

J54

Table 20 eDP Backlight Control & Connector

J26: CPU Fan

PIN	Signal Name
1	GND
2	+12VL
3	FAN_TACHIN_C
4	FAN_PWMOUT_C

Table 21 CPU Fan

J26

J33: ATX 8 Pin Connector

PIN	Signal Name
1	GND
2	GND
3	GND
4	GND
5	+12V
6	+12V
7	+12V
8	+12V

Table 22 ATX 8 Pin Connector

J33

J37: ATX 24 Pin Connector

PIN	Signal Name	PIN	Signal Name
1	VCC3	13	VCC3
2	VCC3	14	NC
3	GND	15	GND
4	VCC	16	PS_ON#
5	GND	17	GND
6	VCC	18	GND
7	GND	19	GND
8	ATX_POK	20	NC
9	5VSB	21	VCC
10	+12V	22	VCC
11	+12V	23	VCC
12	VCC3	24	GND

Table 23 ATX 24 Pin Connector

J37

8 Jumper

This section introduces jumper settings on PCOM-C60B. Default setting will be marked as *

Jumper	Function	Remark
JP5	TPM present on carrier	3 Pin Header
JP6	5VSB select for module	3 Pin Header
JP7	1*PCIe x4 / 4*PCIe x1 select	3 Pin Header
JP8	1*PCIe x4 / 4*PCIe x1 select	3 Pin Header
JP9	LVDS panel power select	6 Pin Header
JP10	LVDS Backlight enable	6 Pin Header
JP11.JP13	BIOS eeprom boot from module or carrier select	3 Pin Header
JP12	SMA RF (COMe 3.0 SDP use)	3 Pin Header
JP15	USB host present	3 Pin Header
JP16	RTC Battery	3 Pin Header
JP18	AT/ATX mode select	3 Pin Header
JP19	LVDS color depth select	3 Pin Header
JP22	eSPI / LPC clock select	3 Pin Header
JP24	eSPI / LPC reset select	3 Pin Header
JP25	eDP / LVDS signal select	3 Pin Header

Table 24 Jumper List

JP5: TPM Present on Carrier

PIN	Signal Name
1-2 shorts	Carrier TPM present
2-3 shorts	* Carrier no present

Table 25 TPM Present on Carrier

JP5

JP6: 5VSB Select for Module

PIN	Signal Name
1-2 shorts	* Normal
2-3 shorts	NOT USE 5VSB

Table 26 5VSB Select for Module

JP6

JP7: 1*PCIe x4 / 4*PCIe x1 Select

PIN	Signal Name
1-2 shorts	*4*PCIE X1 (J12.J28.J29.J30)
2-3 shorts	1* PCIE X4 (J12)

Table 27 1*PCIe x4 / 4*PCIe x1 Select

JP7

JP8: 1*PCIe x4 / 4*PCIe x1 Select

PIN	Signal Name
1-2 shorts	* 4*PCIE X1 (J11.J21.J7.J27)
2-3 shorts	1* PCIE X4 (J11)

Table 28 1*PCIe x4 / 4*PCIe x1 Select

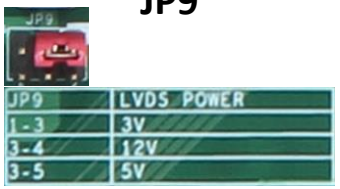
JP8

JP9: LVDS Panel Power Select

PIN	Signal Name
1-3 shorts	* VCC3
3-5 shorts	VCC
3-4 shorts	+12V

Table 29 LVDS Panel Power Select

JP9

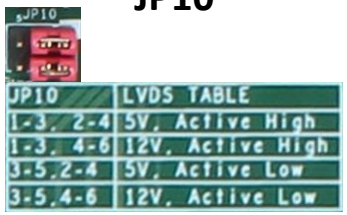


JP10: LVDS Backlight Enable

PIN	Signal Name
1-3 shorts 2-4 shorts	*5V,Active High
1-3 shorts 4-6 shorts	12V,Active High
3-5 shorts 2-4shorts	5V,Active Low
3-5 shorts 4-6 shorts	12V,Active Low

Table 30 LVDS Backlight Enable

JP10

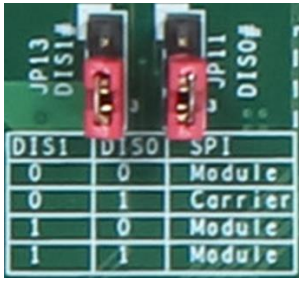


JP11.JP13: BIOS EEROM Boot from Module or Carrier Select

JP11	JP13	BIOS boot
*2-3 shorts	*2-3 shorts	* Module
2-3 shorts	1-2 shorts	Carrier
1-2 shorts	2-3 shorts	Module
1-2 shorts	1-2 shorts	Module

Table 31 BIOS EEROM Boot from Module or Carrier Select

JP11 & J13

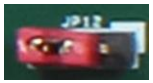


JP12: SMA RF (COMe 3.0 SDP use)

PIN	Signal Name
1-2 shorts	No use. connect to GND
2-3 shorts	*No use. floating

Table 32 SMA RF (COMe 3.0 SDP use)

JP12



JP15: USB Host Present

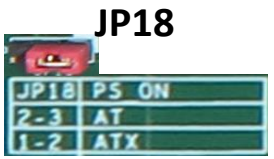
PIN	Signal Name
1-2 shorts	USB drive as host
2-3 shorts	*USB drive as slave (host present)

Table 33 USB Host Present

JP18: AT/ATX Mode Select

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

Table 34 AT/ATX Mode Select



JP19: LVDS Color Depth Select

PIN	Signal Name
1-2 shorts	*Normal PU
2-3 shorts	PD

Note. JP19 this option by each LVDS panel

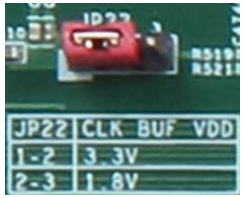
Table 35 LVDS Color Depth Select

JP22: eSPI / LPC Clock Select

PIN	Signal Name
1-2 shorts	*LPC clock
2-3 shorts	eSPI clock

Table 36 eSPI / LPC Clock Select

JP22



JP24: eSPI / LPC Reset Select

PIN	Signal Name
1-2 shorts	eSPI reset
2-3 shorts	*LPC reset

Table 37 eSPI / LPC Reset Select

JP24

JP25: eDP / LVDS Signal Select

PIN	Signal Name
1-2 shorts	LVDS
2-3 shorts	*eDP

Table 38 eDP / LVDS Signal Select

JP25

9 Miscellaneous

This section presents other functions and locations. Power / Reset button, CMOS battery etc. can be found in this section.

Switch	Function	Remark
SW1	Power Button	
SW2	Sleep Button	
SW3	Reset Button	
SW5	Other test (BATLOW#/LID#/CB_WAKE#/THRM#)	
SW8	Rapid shutdown	
SW9	F85281 mode select	
SW10	F85281 pre#/port select Button	

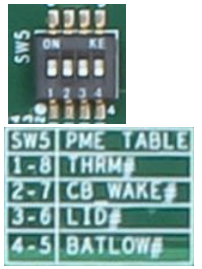
Table 39 Miscellaneous List

SW5: Other Test (BATLOW#/LID#/CB_WAKE#/THRM#)

PIN	Signal Name
1	BATLOW# /**Default (Off)**
2	LID# /**Default (Off)**
3	CB_WAKE# /**Default (Off)**
4	THRM# /**Default (Off)**

Table 40 Other Test (BATLOW#/LID#/CB_WAKE#/THRM#)

SW5

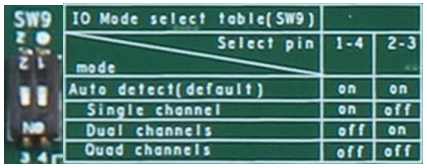


SW9: F85281 Mode Select

PIN	Signal Name
1	Auto detect /**1-4 on, 2-3 on**
2	Single channel /**1-4 on, 2-3 off**
3	Dual channel /**1-4 off, 2-3 on**
4	Quad channel /**1-4 off, 2-3 off**

Table 41 F85281 Mode Select

SW9



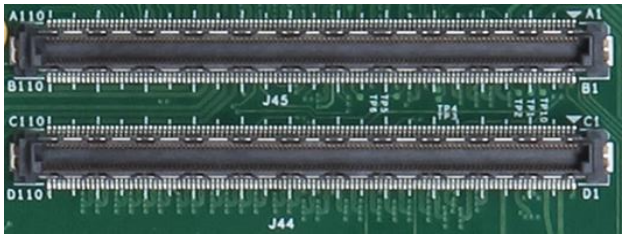
10 Ordering Guide

Model name	P/N	Status
PCOM-C60B	AB1-3G22Z	Available

Table 42 Ordering Guide

11 Pin out Tables

J45 & J44



J45/J44: COM Express connector AB/CD

PIN	Signal Name	PIN	Signal Name	PIN	Signal Name	PIN	Signal Name
A1	GND	B1	GND	C1	GND	D1	GND
A2	LAN_MDI3N	B2	LAN_LED_ACT#	C2	GND	D2	GND
A3	LAN_MDI3P	B3	LPC_FRAME#	C3	USB_SSRXN_P0	D3	USB_SSTXN_P0
A4	LAN_LED_100#	B4	LAD0	C4	USB_SSRXP_P0	D4	USB_SSTXP_P0
A5	LAN_LED_1000#	B5	LAD1	C5	GND	D5	GND
A6	LAN_MDI2N	B6	LAD2	C6	USB_SSRXN_P1	D6	USB_SSTXN_P1
A7	LAN_MDI2P	B7	LAD3	C7	USB_SSRXP_P1	D7	USB_SSTXP_P1
A8	LAN_LINK#	B8	LPC_DRQ0#	C8	GND	D8	GND
A9	LAN_MDI1N	B9	LPC_DRQ1#	C9	USB_SSRXN_P2	D9	USB_SSTXN_P2
A10	LAN_MDI1P	B10	33M_REF_CLK	C10	USB_SSRXP_P2	D10	USB_SSTXP_P2
A11	GND	B11	GND	C11	GND	D11	GND
A12	LAN_MDI0N	B12	PM_PWRBTN#	C12	USB_SSRXN_P3	D12	USB_SSTXN_P3
A13	LAN_MDI0P	B13	SMB_CLK	C13	USB_SSRXP_P3	D13	USB_SSTXP_P3
A14	VCT_LAN	B14	SMB_DAT	C14	GND	D14	GND

A15	SLP_S3#	B15	SMB_ALERT_N	C15	NC	D15	AUX_DDC_P_1
A16	SATA0_TX_P	B16	SATA1_TX_P	C16	NC	D16	AUX_DDC_N_1
A17	SATA0_TX_N	B17	SATA1_TX_N	C17	NC	D17	NC
A18	SLP_S4#	B18	PM_SUS_STAT#	C18	NC	D18	NC
A19	SATA0_RX_P	B19	SATA1_RX_P	C19	PCIE_RXP6	D19	PCIE_TXP6
A20	SATA0_RX_N	B20	SATA1_RX_N	C20	PCIE_RXN6	D20	PCIE_TXN6
A21	GND	B21	GND	C21	GND	D21	GND
A22	SATA2_TX_P	B22	SATA3_TX_P	C22	PCIE_RXP7	D22	PCIE_TXP7
A23	SATA2_TX_N	B23	SATA3_TX_N	C23	PCIE_RXN7	D23	PCIE_TXN7
A24	SLP_S5#	B24	N8649863	C24	HPD1	D24	NC
A25	SATA2_RX_P	B25	SATA3_RX_P	C25	NC	D25	NC
A26	SATA2_RX_N	B26	SATA3_RX_N	C26	NC	D26	DDI1_LANE0+
A27	BATLOW#	B27	WDTO	C27	NC	D27	DDI1_LANE0-
A28	SATA_ACK#	B28	N8649827	C28	NC	D28	NC
A29	ACZ_SYNC	B29	N8649815	C29	NC	D29	DDI1_LANE1+
A30	ACZ_RST#	B30	ACZ_SDIN	C30	NC	D30	DDI1_LANE1-
A31	GND	B31	GND	C31	GND	D31	GND
A32	ACZ_BITCLK	B32	SPKR	C32	AUX_DDC_P_2	D32	DDI1_LANE2+
A33	ACZ_SDOUT	B33	I2C_CLK	C33	AUX_DDC_N_2	D33	DDI1_LANE2-
A34	BIOS_DIS0#	B34	I2C_DATA	C34	DP_AUX_2	D34	DP_AUX_1
A35	THRMTRIP#	B35	THRM#	C35	NC	D35	NC
A36	USB_DN6	B36	USB_DN7	C36	AUX_DDC_P_3	D36	DDI1_LANE3+
A37	USB_DP6	B37	USB_DP7	C37	AUX_DDC_N_3	D37	DDI1_LANE3-
A38	USB_OC#_6_7	B38	USB_OC#_4_5	C38	DP_AUX_3	D38	NC
A39	USB_DN4	B39	USB_DN5	C39	DDI3_LANE0+	D39	DDI2_LANE0+

A40	USB_DP4	B40	USB_DP5	C40	DDI3_LANE0-	D40	DDI2_LANE0-
A41	GND	B41	GND	C41	GND	D41	GND
A42	USB_DN2	B42	USB_DN3	C42	DDI3_LANE1+	D42	DDI2_LANE1+
A43	USB_DP2	B43	USB_DP3	C43	DDI3_LANE1-	D43	DDI2_LANE1-
A44	USB_OC#_2_3	B44	USB_OC#_0_1	C44	HPD3	D44	HPD2
A45	USB_DN0	B45	USB_DN1	C45	NC	D45	NC
A46	USB_DP0	B46	USB_DP1	C46	DDI3_LANE2+	D46	DDI2_LANE2+
A47	RTC_BAT	B47	N8657193	C47	DDI3_LANE2-	D47	DDI2_LANE2-
A48	N8645016	B48	USB_HOST	C48	NC	D48	NC
A49	SMA RF	B49	RSTBTN#	C49	DDI3_LANE3+	D49	DDI2_LANE3+
A50	LPC_SERIRQ	B50	PLT_RST#	C50	DDI3_LANE3-	D50	DDI2_LANE3-
A51	GND	B51	GND	C51	GND	D51	GND
A52	PCIE_TXP5	B52	PCIE_RXP5	C52	PEG_RXP0	D52	PEG_TXP0
A53	PCIE_TXN5	B53	PCIE_RXN5	C53	PEG_RXN0	D53	PEG_TXN0
A54	GPI0	B54	GPO1	C54	TYPE0#	D54	N8700062
A55	PCIE_TXP4	B55	PCIE_RXP4	C55	PEG_RXP1	D55	PEG_TXP1
A56	PCIE_TXN4	B56	PCIE_RXN4	C56	PEG_RXN1	D56	PEG_TXN1
A57	GND	B57	GPO2	C57	TYPE1#	D57	TYPE2#
A58	PCIE_TXP3	B58	PCIE_RXP3	C58	PEG_RXP2	D58	PEG_TXP2
A59	PCIE_TXN3	B59	PCIE_RXN3	C59	PEG_RXN2	D59	PEG_TXN2
A60	GND	B60	GND	C60	GND	D60	GND
A61	PCIE_TXP2	B61	PCIE_RXP2	C61	PEG_RXP3	D61	PEG_TXP3
A62	PCIE_TXN2	B62	PCIE_RXN2	C62	PEG_RXN3	D62	PEG_TXN3
A63	GPI1	B63	GPO3	C63	NC	D63	NC
A64	PCIE_TXP1	B64	PCIE_RXP1	C64	NC	D64	NC

A65	PCIE_TXN1	B65	PCIE_RXN1	C65	PEG_RXP4	D65	PEG_TXP4
A66	GND	B66	N8650547	C66	PEG_RXN4	D66	PEG_TXN4
A67	GPI2	B67	CB_WAKE1#	C67	RAPID_SHUTDOWN	D67	GND
A68	PCIE_TXP0	B68	PCIE_RXP0	C68	PEG_RXP5	D68	PEG_TXP5
A69	PCIE_TXN0	B69	PCIE_RXN0	C69	PEG_RXN5	D69	PEG_TXN5
A70	GND	B70	GND	C70	GND	D70	GND
A71	EDP_TXP_2_LVDSA_DATA0	B71	LVDSB_DATA0	C71	PEG_RXP6	D71	PEG_TXP6
A72	EDP_TXN_2_LVDSA_DATA#0	B72	LVDSB_DATA#0	C72	PEG_RXN6	D72	PEG_TXN6
A73	EDP_TXP_1_LVDSA_DATA1	B73	LVDSB_DATA1	C73	GND	D73	GND
A74	EDP_TXN_1_LVDSA_DATA#1	B74	LVDSB_DATA#1	C74	PEG_RXP7	D74	PEG_TXP7
A75	EDP_TXP_0_LVDSA_DATA2	B75	LVDSB_DATA2	C75	PEG_RXN7	D75	PEG_TXN7
A76	EDP_TXN_0_LVDSA_DATA#2	B76	LVDSB_DATA#2	C76	GND	D76	GND
A77	VDD_EN	B77	LVDSB_DATA3	C77	NC	D77	NC
A78	LVDSA_DATA3	B78	LVDSB_DATA#3	C78	PEG_RXP8	D78	PEG_TXP8
A79	LVDSA_DATA#3	B79	LVDS_BKLT_EN	C79	PEG_RXN8	D79	PEG_TXN8
A80	GND	B80	GND	C80	GND	D80	GND
A81	EDP_TXP_3_LVDSA_CLKP	B81	LVDSB_CLKP	C81	PEG_RXP9	D81	PEG_TXP9
A82	EDP_TXN_3_LVDSA_CLKN	B82	LVDSB_CLKN	C82	PEG_RXN9	D82	PEG_TXN9
A83	EDP_AUX_DP_LVDS_DDC_CLK	B83	LVDSB_BKLT_CRTL	C83	NC	D83	NC
A84	EDP_AUX_DN_LVDS_DDC_DATA	B84	5VSB_MOD	C84	GND	D84	GND
A85	GPI3	B85	5VSB_MOD	C85	PEG_RXP10	D85	PEG_TXP10
A86	NC	B86	5VSB_MOD	C86	PEG_RXN10	D86	PEG_TXN10
A87	EDP_HPD	B87	5VSB_MOD	C87	GND	D87	GND
A88	CLK0_100M_COM_DP	B88	BIOS_DIS1#	C88	PEG_RXP11	D88	PEG_TXP11
A89	CLK0_100M_COM_DN	B89	VGA_R	C89	PEG_RXN11	D89	PEG_TXN11

A90	GND	B90	GND	C90	GND	D90	GND
A91	SPI_POWER	B91	VGA_G	C91	PEG_RXP12	D91	PEG_TXP12
A92	SPI_SO	B92	VGA_B	C92	PEG_RXN12	D92	PEG_TXN12
A93	GPO0	B93	VGA_HSY	C93	GND	D93	GND
A94	SPI_CLK	B94	VGA_VSY	C94	PEG_RXP13	D94	PEG_TXP13
A95	SPI_SI	B95	VGA_CLK	C95	PEG_RXN13	D95	PEG_TXN13
A96	TPM_PP	B96	VGA_DAT	C96	GND	D96	GND
A97	TYPE10#	B97	SPI_CS#0	C97	NC	D97	NC
A98	SER0_TX_C	B98	NC	C98	PEG_RXP14	D98	PEG_TXP14
A99	SER0_RX_C	B99	NC	C99	PEG_RXN14	D99	PEG_TXN14
A100	GND	B100	GND	C100	GND	D100	GND
A101	SER1_TX_C	B101	FAN_PWMOUT	C101	PEG_RXP15	D101	PEG_TXP15
A102	SER1_RX_C	B102	FAN_TACHIN	C102	PEG_RXN15	D102	PEG_TXN15
A103	LID#	B103	SLEEP#	C103	GND	D103	GND
A104	+12V_MOD	B104	+12V_MOD	C104	+12V_MOD	D104	+12V_MOD
A105	+12V_MOD	B105	+12V_MOD	C105	+12V_MOD	D105	+12V_MOD
A106	+12V_MOD	B106	+12V_MOD	C106	+12V_MOD	D106	+12V_MOD
A107	+12V_MOD	B107	+12V_MOD	C107	+12V_MOD	D107	+12V_MOD
A108	+12V_MOD	B108	+12V_MOD	C108	+12V_MOD	D108	+12V_MOD
A109	+12V_MOD	B109	+12V_MOD	C109	+12V_MOD	D109	+12V_MOD
A110	GND	B110	GND	C110	GND	D110	GND

Table 43 AB & CD Row Connector Signals

12 Industry Specifications

The list below provides links to industry specifications that apply to PORTWELL COM Express Carrier.

Low Pin Count Interface Specification, Revision 1.0 (LPC) http://www.intel.com/design/chipsets/industry/lpc.htm
Universal Serial Bus (USB) Specification, Revision 2.0 http://www.usb.org/home
PCI Specification, Revision 2.3 https://www.pcisig.com/specifications
Serial ATA Specification, Revision 3.0 http://www.serialata.org/
PICMG® COM Express Module™ Base Specification http://www.picmg.org/
PCI Express Base Specification, Revision 2.0 https://www.pcisig.com/specifications