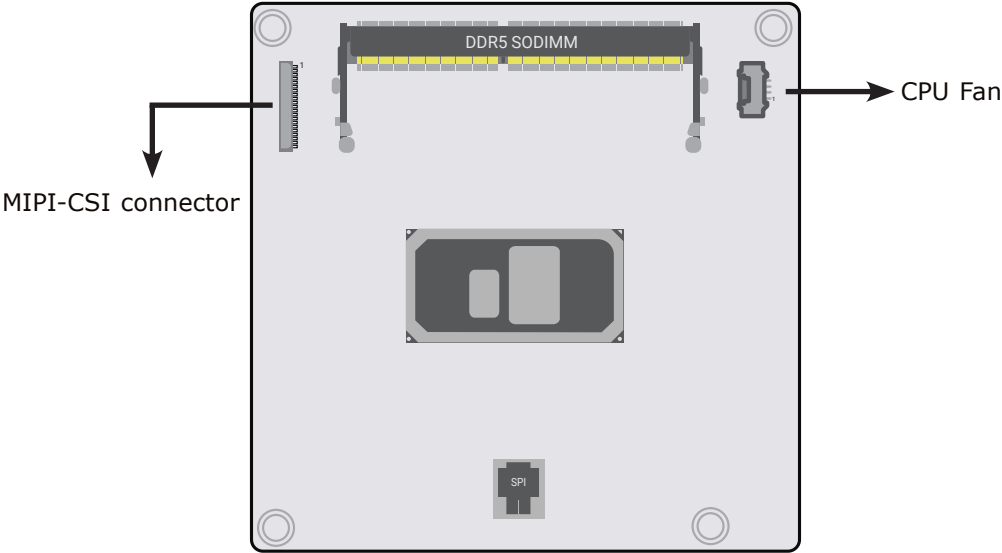
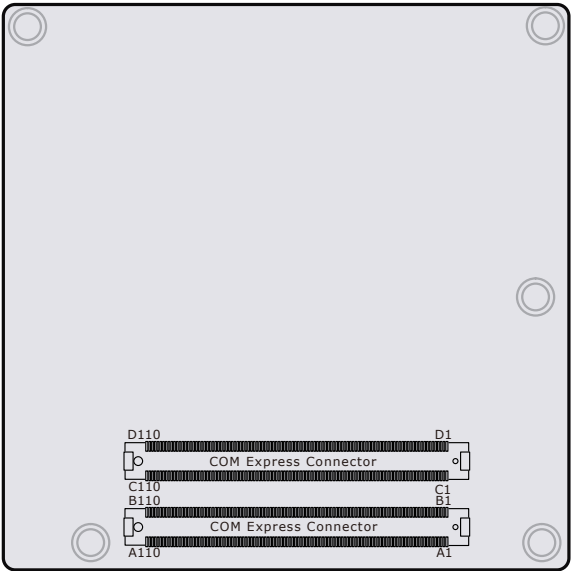


Board Layout and COM Express Pin Assignments

TOP



BOTTOM





PIN Assignment

► CPU Fan (J1)

Pin	Assignment
1	Sense
2	+12V
3	GND

► MIPI-CSI Connector (CN2)

Pin	Assignment
1	CAM0_VCC
2	CAM0_VCC
3	GND
4	CSI0_RX0+
5	CSI0_RX0-
6	GND
7	CSI0_RX1+
8	CSI0_RX1-
9	GND
10	CSI0_RX2+
11	CSI0_RX2-
12	CAM0_RST#(1.8V)
13	CSI0_RX3+
14	CSI0_RX3-
15	GND
16	CSI0_CK+
17	CSI0_CK-
18	GND
19	I2C_CAM0_CK(1.8V)
20	I2C_CAM0_DAT(1.8V)
21	CAM0_PWR#(1.8V)
22	CAM0_MC(1.8V)



COM Express Pin Assignments

Pin List for Pin-Out Type 6

The table below is a comprehensive list of all signal pins supported on the dual 220-pin COM Express connectors as defined for Type 6 in the PICMG COM.0 R3.1 specification.

Pin	Row A	ASL968 Difference	Row B	ASL968 Difference
1	GND (FIXED)		GND (FIXED)	
2	GBE0_MDI3-		GBE0_ACT#	
3	GBE0_MDI3+		LPC_FRAME#/ESPI_CS0#	
4	GBE0_LINKMID#	GBE_LED1000#	LPC_AD0/ESPI_IO_0	
5	GBE0_LINKMAX#	GBE_LED2500#	LPC_AD1/ESPI_IO_1	
6	GBE0_MDI2-		LPC_AD2/ESPI_IO_2	
7	GBE0_MDI2+		LPC_AD3/ESPI_IO_3	
8	GBE0_LINK#		LPC_DRQ0#/ESPI_ALERT0#	PU 10K to 3.3V
9	GBE0_MDI1-		LPC_DRQ1#/ESPI_ALERT1#	PU 10K to 3.3V
10	GBE0_MDI1+		LPC_CLK/ESPI_CK	
11	GND (FIXED)		GND (FIXED)	
12	GBE0_MDI0-		PWRBTN#	
13	GBE0_MDI0+		SMB_CK	
14	GBE0_CTREF	NC	SMB_DAT	
15	SUS_S3#		SMB_ALERT#	
16	SATA0_TX+		SATA1_TX+	
17	SATA0_TX-		SATA1_TX-	
18	SUS_S4#		SUS_STAT#	NC
19	SATA0_RX+		SATA1_RX+	
20	SATA0_RX-		SATA1_RX-	
21	GND (FIXED)		GND (FIXED)	
22	SATA2_TX+	NA	SATA3_TX+	NA
23	SATA2_TX-	NA	SATA3_TX-	NA
24	SUS_S5#		PWR_OK	
25	SATA2_RX+	NA	SATA3_RX+	NA
26	SATA2_RX-	NA	SATA3_RX-	NA

Pin	Row A	ASL968 Difference	Row B	ASL968 Difference
27	BATLOW#		WDT	
28	(S)ATA_ACT#		HDA_SDN2	NC
29	HDA_SYNA		HDA_SDIN1	
30	HDA_RST#		HDA_SDIN0	
31	GND (FIXED)		GND (FIXED)	
32	HDA_BITCLK		SPKR	
33	HDA_SDOUT		I2C_CK	
34	BIOS_DIS0#		I2C_DAT	
35	THRMTRIP#		THRM#	
36	USB6-		USB7-	
37	USB6+		USB7+	
38	USB_6_7_OC#		USB_4_5_OC#	
39	USB4-		USB5-	
40	USB4+		USB5+	
41	GND (FIXED)		GND (FIXED)	
42	USB2-		USB3-	
43	USB2+		USB3+	
44	USB_2_3_OC#		USB_0_1_OC#	
45	USB0-		USB1-	
46	USB0+		USB1+	
47	VCC_RTC		ESPI_EN#	NC
48	RSMRST_OUT#		USB0_HOST_PRSENT	NC
49	GBE0_SDP		SYS_RESET#	
50	LPC_SERIRQ		CB_RESET#	
51	GND (FIXED)		GND (FIXED)	
52	PCIE_TX5+ **Note		PCIE_RX5+ **Note	
53	PCIE_TX5- *Note		PCIE_RX5- **Note	
54	GPIO		GPO1	
55	PCIE_TX4+		PCIE_RX4+	
56	PCIE_TX4-		PCIE_RX4-	

Pin	Row A	ASL968 Difference	Row B	ASL968 Difference
57	GND		GPO2	
58	PCIE_TX3+		PCIE_RX3+	
59	PCIE_TX3-		PCIE_RX3-	
60	GND (FIXED)		GND (FIXED)	
61	PCIE_TX2+		PCIE_RX2+	
62	PCIE_TX2-		PCIE_RX2-	
63	GPI1		GPO3	
64	PCIE_TX1+		PCIE_RX1+	
65	PCIE_TX1-		PCIE_RX1-	
66	GND		WAKE0#	
67	GPI2		WAKE1#	
68	PCIE_TX0+		PCIE_RX0+	
69	PCIE_TX0-		PCIE_RX0-	
70	GND (FIXED)		GND (FIXED)	
71	LVDS_A0+/eDP_TX2+**Note		LVDS_B0+	
72	LVDS_A0-/eDP_TX2-**Note		LVDS_B0-	
73	LVDS_A1+/eDP_TX1+**Note		LVDS_B1+	
74	LVDS_A1-/eDP_TX1-**Note		LVDS_B1-	
75	LVDS_A2+/eDP_TX0+**Note		LVDS_B2+	
76	LVDS_A2-/eDP_TX0-**Note		LVDS_B2-	
77	LVDS_VDD_EN/ eDP_VDD_EN **Note		LVDS_B3+	
78	LVDS_A3+		LVDS_B3-	
79	LVDS_A3-		LVDS_BKLT_EN/ eDP_BKLT_EN**Note	
80	GND (FIXED)		GND (FIXED)	
81	LVDS_A_CK+/ eDP_TX3+**Note		DDIO_PAIR3+	
82	LVDS_A_CK-/ eDP_TX3-**Note		DDIO_PAIR3-	
83	LVDS_I2C_CK/ eDP_AUX+**Note		LVDS_BKLT_TRL/ eDP_BKLT_CTRL**Note	
84	LVDS_I2C_DAT/ eDP_AUX-**Note		VCC_5V_SBY	
85	GPI3		VCC_5V_SBY	
86	GP_SPI_MOSI		VCC_5V_SBY	
87	eDP_HPD**		VCC_5V_SBY	
88	PCIE_CLK_REF+		BIOS_DIS1#	

Pin	Row A	ASL968 Difference	Row B	ASL968 Difference
89	PCIE_CLK_REF-		DDI0_HPD	
90	GND(FIXED)		GND(FIXED)	
91	SPI_POWER		VGA_GRN	NA
92	SPI_MISO		VGA_BLU	NA
93	GPO0		VGA_HSYNA	NA
94	SPI_CLK		VGA_VSYNA	NA
95	SPI_MOSI		VGA_I2C_CK	NA
96	TPM_PP		VGA_I2C_DAT	NA
97	TYPE10#	NC	SPI_CS#	
98	SER0_TX		GP_SPI_MISO	
99	SER0_RX		GP_SPI_CK	
100	GND (FIXED)		GND (FIXED)	
101	SER1_TX		FAN_PWMOUT	
102	SER1_RX		FAN_TACHIN	
103	LID#		SLEEP#	
104	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
105	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
106	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
107	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
108	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
109	VCC_12V	VCC_8.5V~ 20V	VCC_12V	VCC_8.5V~ 20V
110	GND(FIXED)		GND(FIXED)	



Note:

1. ** PCIE_TX5+/-, PCIE_RX5+/- (in place of SATA1) are BOM option supported by project basis.
2. ** eDP (in place of LVDS) is BOM option supported by project basis.
3. For PCIe device down components on the carrier board, please use and place on the PCIe Lane0 port first.

Row C		ASL968 Difference	Row D		ASL968 Difference
1	GND (FIXED)		1	GND (FIXED)	
2	GND		2	GND	
3	USB_SSRX0-		3	USB_SSTX0-	
4	USB_SSRX0+		4	USB_SSTX0+	
5	GND		5	GND	
6	USB_SSRX1-		6	USB_SSTX1-	
7	USB_SSRX1+		7	USB_SSTX1+	
8	GND		8	GND	
9	USB_SSRX2-	NA**Note	9	USB_SSTX2-	NA**Note
10	USB_SSRX2+	NA**Note	10	USB_SSTX2+	NA**Note
11	GND (FIXED)		11	GND (FIXED)	
12	USB_SSRX3-	NA**Note	12	USB_SSTX3-	NA**Note
13	USB_SSRX3+	NA**Note	13	USB_SSTX3+	NA**Note
14	GND		14	GND	
15	USB4_1_LSTX	NA	15	DDI1_CTRLCLK_AUX+/ USB4_1_AUX+	USB4 is not supported.
16	USB4_1_LSRX	NA	16	DDI1_CTRLDATA_AUX-/ USB4_1_AUX-	USB4 is not supported.
17	USB4_RT_ENA	NA	17	USB4_PD_I2C_ALERT#	USB4 is not supported.
18	GND_C18		18	PMCALERT#	NA
19	PCIE_RX6+**Note		19	PCIE_TX6+**Note	
20	PCIE_RX6-**Note		20	PCIE_TX6-**Note	
21	GND (FIXED)		21	GND (FIXED)	
22	PCIE_RX7+**Note		22	PCIE_TX7+**Note	
23	PCIE_RX7-**Note		23	PCIE_TX7-**Note	
24	DDI1_HPDP		24	GND_D24	
25	SML0_CLK		25	GND_D25	
26	SML0_DAT		26	DDI1_PAIR0+/ USB4_1_SSTX0+	USB4 is not supported.
27	SML1_CLK		27	DDI1_PAIR0-/ USB4_1_SSTX0-	USB4 is not supported.



- Note:**
- **The ASL968 supports two USB 3.2 Gen 2 ports, with an optional expansion to four ports via a USB hub. The USB_SSTX2+/-, USB_SSRX2+/-, USB_SSTX3+/-, and USB_SSRX3+/- connections are BOM-optional and can be enabled by adding a USB hub, based on project requirements.
 - **PCIE_TX6+/-, PCIE_RX6+/- (in place of SATA0) are BOM option supported by project basis.
 - **PCIE_TX7+/-, PCIE_RX7+/- (in place of 2.5GbE LAN) are BOM option supported by project basis.

Row C		ASL968 Difference	Row D		ASL968 Difference
28	SML1_DAT		28	GND_D28	
29	USB4_PD_I2C_CLK	NA	29	DDI1_PAIR1+/ USB4_1_SSRX0+	USB4 is not supported.
30	USB4_PD_I2C_DAT	NA	30	DDI1_PAIR1-/ USB4_1_SSRX0-	USB4 is not supported.
31	GND (FIXED)		31	GND (FIXED)	
32	DDI2_CTRLCLK_AUX+ / USB4_2_AUX+	USB4 is not supported.	32	DDI1_PAIR2+/ USB4_1_SSTX1+	USB4 is not supported.
33	DDI2_CTRLDATA_AUX-/ USB4_2_AUX-	USB4 is not supported.	33	DDI1_PAIR2-/ USB4_1_SSTX1-	USB4 is not supported.
34	DDI2_DDC_AUX_SEL		34	DDI1_DDC_AUX_SEL	
35	USB4_2_LSTX	NA	35	USB4_2_LSRX	USB4 is not supported.
36	DDI3_CTRLCLK_AUX+	NA	36	DDI1_PAIR3+/ USB4_1_SSRX1+	USB4 is not supported.
37	DDI3_CTRLDATA_AUX-	NA	37	DDI1_PAIR3-/ USB4_1_SSRX1-	USB4 is not supported.
38	DDI2_DDC_AUX_SEL	NA	38	GND_D38	
39	DDI3_PAIR0+	NA	39	DDI2_PAIR0+/ USB4_2_SSTX0+	USB4 is not supported.
40	DDI3_PAIR0-	NA	40	DDI2_PAIR0-/ USB4_2_SSTX0-	USB4 is not supported.
41	GND (FIXED)		41	GND (FIXED)	
42	DDI3_PAIR1+	NA	42	DDI2_PAIR1+/ USB4_2_SSRX0+	USB4 is not supported.
43	DDI3_PAIR1-	NA	43	DDI2_PAIR1-/ USB4_2_SSRX0-	USB4 is not supported.
44	DDI3_HPD	NA	44	DDI2_HPD	
45	GP_SPI_CS#(NA)		45	GND_D45	
46	DDI3_PAIR2+	NA	46	DDI2_PAIR2+/ USB4_2_SSTX1+	USB4 is not supported.
47	DDI3_PAIR2-	NA	47	DDI2_PAIR2-/ USB4_2_SSTX1-	USB4 is not supported.
48	RSVD		48	GND_D48	
49	DDI3_PAIR3+	NA	49	DDI2_PAIR3+/ USB4_2_SSRX1+	USB4 is not supported.
50	DDI3_PAIR3-	NA	50	DDI2_PAIR3-/ USB4_2_SSRX1-	USB4 is not supported.
51	GND (FIXED)		51	GND (FIXED)	
52	PEG_RX0+	NA	52	PEG_TX0+	NA
53	PEG_RX0-	NA	53	PEG_TX0-	NA
54	TYPE0# (NA)	NC	54	PEG_LANE_RV#	NC
55	PEG_RX1+	NA	55	PEG_TX1+	NA

Row C		ASL968 Difference	Row D		ASL968 Difference
56	PEG_RX1-	NA	56	PEG_TX1-	NA
57	TYPE1# (NA)	NC	57	TYPE2# (GND)	
58	PEG_RX2+	NA	58	PEG_TX2+	NA
59	PEG_RX2-	NA	59	PEG_TX2-	NA
60	GND (FIXED)		60	GND (FIXED)	
61	PEG_RX3+	NA	61	PEG_TX3+	NA
62	PEG_RX3-	NA	62	PEG_TX3-	NA
63	GND_C63		63	GND_D63	
64	GND_C64		64	GND_D64	
65	PEG_RX4+	NA	65	PEG_TX4+	NA
66	PEG_RX4-	NA	66	PEG_TX4-	NA
67	RAPID_SHUTDOWN		67	GND	
68	PEG_RX5+	NA	68	PEG_TX5+	NA
69	PEG_RX5-	NA	69	PEG_TX5-	NA
70	GND (FIXED)		70	GND (FIXED)	
71	PEG_RX6+	NA	71	PEG_TX6+	NA
72	PEG_RX6-	NA	72	PEG_TX6-	NA
73	GND		73	GND	
74	PEG_RX7+	NA	74	PEG_TX7+	NA
75	PEG_RX7-	NA	75	PEG_TX7-	NA
76	GND		76	GND	
77	GND_C77		77	GND_D77	
78	PEG_RX8+	NA	78	PEG_TX8+	NA
79	PEG_RX8-	NA	79	PEG_TX8-	NA
80	GND (FIXED)		80	GND (FIXED)	
81	PEG_RX9+	NA	81	PEG_TX9+	NA
82	PEG_RX9-	NA	82	PEG_TX9-	NA

Row C		ASL968 Difference	Row D		ASL968 Difference
83	GND_C83		83	GND_D83	
84	GND		84	GND	
85	PEG_RX10+	NA	85	PEG_TX10+	NA
86	PEG_RX10-	NA	86	PEG_TX10-	NA
87	GND		87	GND	
88	PEG_RX11+	NA	88	PEG_TX11+	NA
89	PEG_RX11-	NA	89	PEG_TX11-	NA
90	GND (FIXED)		90	GND (FIXED)	
91	PEG_RX12+	NA	91	PEG_TX12+	NA
92	PEG_RX12-	NA	92	PEG_TX12-	NA
93	GND		93	GND	
94	PEG_RX13+	NA	94	PEG_TX13+	NA
95	PEG_RX13-	NA	95	PEG_TX13-	NA
96	GND		96	GND	
97	GND_C97		97	GND_D97	
98	PEG_RX14+	NA	98	PEG_TX14+	NA
99	PEG_RX14-	NA	99	PEG_TX14-	NA
100	GND (FIXED)		100	GND (FIXED)	
101	PEG_RX15+	NA	101	PEG_TX15+	NA
102	PEG_RX15-	NA	102	PEG_TX15-	NA
103	GND		103	GND	
104	VCC_12V	VCC_8.5V~ 20V	104	VCC_12V	VCC_8.5V~ 20V
105	VCC_12V	VCC_8.5V~ 20V	105	VCC_12V	VCC_8.5V~ 20V
106	VCC_12V	VCC_8.5V~ 20V	106	VCC_12V	VCC_8.5V~ 20V
107	VCC_12V	VCC_8.5V~ 20V	107	VCC_12V	VCC_8.5V~ 20V
108	VCC_12V	VCC_8.5V~ 20V	108	VCC_12V	VCC_8.5V~ 20V
109	VCC_12V	VCC_8.5V~ 20V	109	VCC_12V	VCC_8.5V~ 20V
110	GND (FIXED)		110	GND (FIXED)	



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