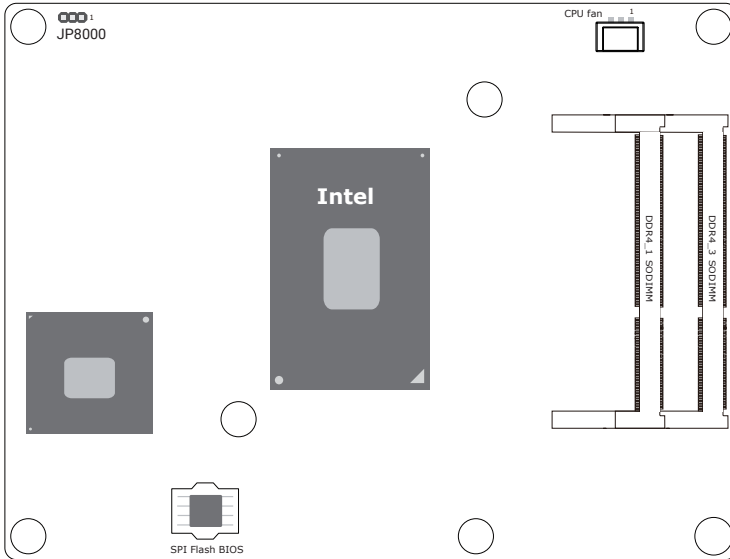
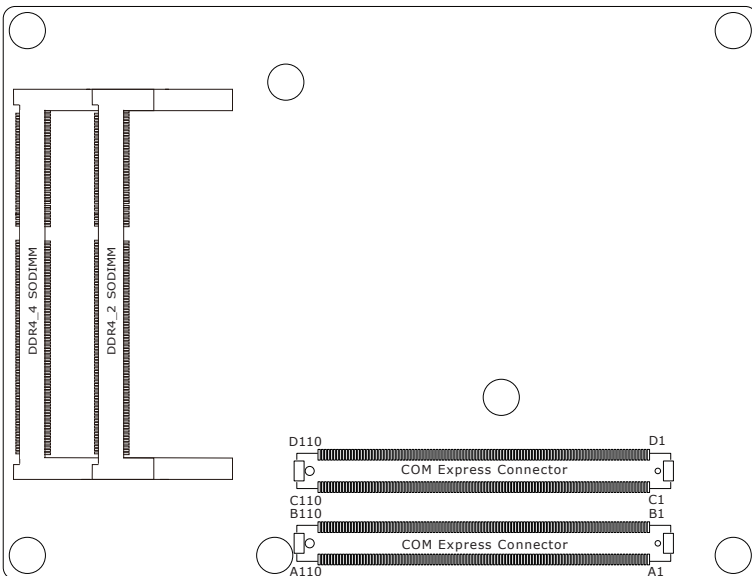


## Board Layout and COM Express Pin Assignments

### TOP



### BOTTOM



## ► COM Express Connector

Row A		Row B	
<b>A1</b>	GND (FIXED)	<b>B1</b>	GND (FIXED)
<b>A2</b>	GBE0_MDI3-	<b>B2</b>	GBE0_ACT#
<b>A3</b>	GBE0_MDI3+	<b>B3</b>	LPC_FRAME#/ESPI_CS0#
<b>A4</b>	GBE0_LINK100#	<b>B4</b>	LPC_AD0/ ESPI_IO_0
<b>A5</b>	GBE0_LINK1000#	<b>B5</b>	LPC_AD1/ESPI_IO_1
<b>A6</b>	GBE0_MDI2-	<b>B6</b>	LPC_AD2/ESPI_IO_2
<b>A7</b>	GBE0_MDI2+	<b>B7</b>	LPC_AD3/ESPI_IO_3
<b>A8</b>	GBE0_LINK#	<b>B8</b>	LPC_DRQ0#(NA)/ ESPI_ALERT0#
<b>A9</b>	GBE0_MDI1-	<b>B9</b>	LPC_DRQ1#(NA)/ ESPI_ALERT1#
<b>A10</b>	GBE0_MDI1+	<b>B10</b>	LPC_CLK/ESPI_CK
<b>A11</b>	GND (FIXED)	<b>B11</b>	GND (FIXED)
<b>A12</b>	GBE0_MDI0-	<b>B12</b>	PWRBTN#
<b>A13</b>	GBE0_MDI0+	<b>B13</b>	SMB_CK
<b>A14</b>	GBE0_CTREF	<b>B14</b>	SMB_DAT
<b>A15</b>	SUS_S3#	<b>B15</b>	SMB_ALERT#
<b>A16</b>	SATA0_TX+	<b>B16</b>	SATA1_TX+
<b>A17</b>	SATA0_TX-	<b>B17</b>	SATA1_TX-
<b>A18</b>	SUS_S4#	<b>B18</b>	SUS_STAT#/ESPI_RESET#
<b>A19</b>	SATA0_RX+	<b>B19</b>	SATA1_RX+
<b>A20</b>	SATA0_RX-	<b>B20</b>	SATA1_RX-
<b>A21</b>	GND (FIXED)	<b>B21</b>	GND (FIXED)
<b>A22</b>	SATA2_TX+	<b>B22</b>	SATA3_TX+
<b>A23</b>	SATA2_TX-	<b>B23</b>	SATA3_TX-
<b>A24</b>	SUS_S5#	<b>B24</b>	PWR_OK
<b>A25</b>	SATA2_RX+	<b>B25</b>	SATA3_RX+
<b>A26</b>	SATA2_RX-	<b>SATA2_RX-</b>	SATA3_RX-
<b>A27</b>	BATLOW#	<b>BATLOW#</b>	WDT

Row A		Row B	
<b>A28</b>	(S)ATA_ACT#	<b>B28</b>	NA
<b>A29</b>	AC/HDA_SYNC	<b>B29</b>	HDA_SDI1
<b>A30</b>	AC/HDA_RST#	<b>B30</b>	HDA_SDINO
<b>A31</b>	GND (FIXED)	<b>B31</b>	GND (FIXED)
<b>A32</b>	HDA_BITCLK	<b>B32</b>	SPKR
<b>A33</b>	HDA_SDOOUT	<b>B33</b>	I2C_CK
<b>A34</b>	BIOS_DISO#/ESPI_SAFS	<b>B34</b>	I2C_DAT
<b>A35</b>	THRMTRIP#	<b>B35</b>	THRM#
<b>A36</b>	USB6-	<b>B36</b>	USB7-
<b>A37</b>	USB6+	<b>B37</b>	USB7+
<b>A38</b>	USB_6_7_OC#	<b>B38</b>	USB_4_5_O#
<b>A39</b>	USB4-	<b>B39</b>	USB5-
<b>A40</b>	USB4+	<b>B40</b>	USB5+
<b>A41</b>	GND (FIXED)	<b>B41</b>	GND (FIXED)
<b>A42</b>	USB2-	<b>B42</b>	USB3-
<b>A43</b>	USB2+	<b>B43</b>	USB3+
<b>A44</b>	USB_2_3_OC#	<b>B44</b>	USB_0_1_O#
<b>A45</b>	USB0-	<b>B45</b>	USB1-
<b>A46</b>	USB0+	<b>B46</b>	USB1+
<b>A47</b>	VCC_RTC	<b>B47</b>	ESPI_EN#
<b>A48</b>	RSVD	<b>B48</b>	USB0_HOST_PRSN <del>T</del> (NA)
<b>A49</b>	GBE0_SDP	<b>B49</b>	SYS_RESET#
<b>A50</b>	LPC_SERIRQ/ ESPI_CS1#	<b>B50</b>	CB_RESET#
<b>A51</b>	GND (FIXED)	<b>B51</b>	GND (FIXED)
<b>A52</b>	PCIE_TX5+	<b>B52</b>	PCIE_TX5+
<b>A53</b>	PCIE_TX5-	<b>B53</b>	PCIE_TX5-
<b>A54</b>	GPIO	<b>B54</b>	GPO1
<b>A55</b>	PCIE_TX4+	<b>B55</b>	PCIE_RX4+

Row A		Row B	
<b>A56</b>	PCIE_TX4-	<b>B56</b>	PCIE_RX4-
<b>A57</b>	GND	<b>B57</b>	GPO2
<b>A58</b>	PCIE_TX3+	<b>B58</b>	PCIE_RX3+
<b>A59</b>	PCIE_TX3-	<b>B59</b>	PCIE_RX3-
<b>A60</b>	GND (FIXED)	<b>B60</b>	GND (FIXED)
<b>A61</b>	PCIE_TX2+	<b>B61</b>	PCIE_RX2+
<b>A62</b>	PCIE_TX2-	<b>B62</b>	PCIE_RX2-
<b>A63</b>	GPI1	<b>B63</b>	GPO3
<b>A64</b>	PCIE_TX1+	<b>B64</b>	PCIE_RX1+
<b>A65</b>	PCIE_TX1-	<b>B65</b>	PCIE_RX1-
<b>A66</b>	GND	<b>B66</b>	WAKE0#
<b>A67</b>	GPI2	<b>B67</b>	WAKE1#
<b>A68</b>	PCIE_TX0+	<b>B68</b>	PCIE_RX0+
<b>A69</b>	PCIE_TX0-	<b>B69</b>	PCIE_RX0-
<b>A70</b>	GND(FIXED)	<b>B70</b>	GND (FIXED)
<b>A71</b>	LVDS_A0+/ eDP_TX2+	<b>B71</b>	LVDS_B0+
<b>A72</b>	LVDS_A0-/ eDP_TX2-	<b>B72</b>	LVDS_B0-
<b>A73</b>	LVDS_A1+/ eDP_TX1+	<b>B73</b>	LVDS_B1+
<b>A74</b>	LVDS_A1-/ eDP_TX1-	<b>B74</b>	LVDS_B1-
<b>A75</b>	LVDS_A2+/ eDP_TX0+	<b>B75</b>	LVDS_B2+
<b>A76</b>	LVDS_A2-/ eDP_TX0-	<b>B76</b>	LVDS_B2-
<b>A77</b>	LVDS_VDD_EN /eDP_VDD_EN	<b>B77</b>	LVDS_B3+
<b>A78</b>	LVDS_A3+	<b>B78</b>	LVDS_B3-
<b>A79</b>	LVDS_A3-	<b>B79</b>	LVDS_BKLT_EN /eDP_BKLT_EN
<b>A80</b>	GND (FIXED)	<b>B80</b>	GND (FIXED)
<b>A81</b>	LVDS_A_CK+/eDP_TX3+	<b>B81</b>	LVDS_B_CK+
<b>A82</b>	LVDS_A_CK-/eDP_TX3-	<b>B82</b>	LVDS_B_CK-

Row A		Row B	
<b>A83</b>	LVDS_I2C_CK/eDP_AUX+	<b>B83</b>	LVDS_BKLT_CTRL/eDP_BLKT_CTRL
<b>A84</b>	LVDS_I2C_DAT /eDP_AUX-	<b>B84</b>	VCC_5V_SBY
<b>A85</b>	GPI3	<b>B85</b>	VCC_5V_SBY
<b>A86</b>	RSVD	<b>B86</b>	VCC_5V_SBY
<b>A87</b>	RSVD/ePD_HPD	<b>B87</b>	VCC_5V_SBY
<b>A88</b>	PCIE0_CK_REF+	<b>B88</b>	BIOS_DIS1#
<b>A89</b>	PCIE0_CK_REF-	<b>B89</b>	VGA_RED
<b>A90</b>	GND (FIXED)	<b>B90</b>	GND (FIXED)
<b>A91</b>	SPI_POWER	<b>B91</b>	VGA_GRN
<b>A92</b>	SPI_MISO	<b>B92</b>	VGA_BLU
<b>A93</b>	GPO0	<b>B93</b>	VGA_HSYNC
<b>A94</b>	SPI_CLK	<b>B94</b>	VGA_VSYNC
<b>A95</b>	SPI_MOSI	<b>B95</b>	VGA_I2C_CK
<b>A96</b>	TPM_PP	<b>B96</b>	VGA_I2C_DAT
<b>A97</b>	Type10# (NC)	<b>B97</b>	SPI_CS#
<b>A98</b>	SER0_TX	<b>B98</b>	RSVD
<b>A99</b>	SER0_RX	<b>B99</b>	RSVD
<b>A100</b>	GND (FIXED)	<b>B100</b>	GND (FIXED)
<b>A101</b>	SER1_TX	<b>B101</b>	FAN_PWMOUT
<b>A102</b>	SER1_RX	<b>B102</b>	FAN_TACHIN
<b>A103</b>	LID#	<b>B103</b>	SLEEP#
<b>A104</b>	VCC_8.5V~ 20V	<b>B104</b>	VCC_8.5V~ 20V
<b>A105</b>	VCC_8.5V~ 20V	<b>B105</b>	VCC_8.5V~ 20V
<b>A106</b>	VCC_8.5V~ 20V	<b>B106</b>	VCC_8.5V~ 20V
<b>A107</b>	VCC_8.5V~ 20V	<b>B107</b>	VCC_8.5V~ 20V
<b>A108</b>	VCC_8.5V~ 20V	<b>B108</b>	VCC_8.5V~ 20V
<b>A109</b>	VCC_8.5V~ 20V	<b>B109</b>	VCC_8.5V~ 20V
<b>A110</b>	GND (FIXED)	<b>B110</b>	GND (FIXED)

Row C		Row D	
<b>C1</b>	GND (FIXED)	<b>D1</b>	GND (FIXED)
<b>C2</b>	GND	<b>D2</b>	GND
<b>C3</b>	USB_SSRX0-	<b>D3</b>	USB_SSTX0-
<b>C4</b>	USB_SSRX0+	<b>D4</b>	USB_SSTX0+
<b>C5</b>	GND	<b>D5</b>	GND
<b>C6</b>	USB_SSRX1-	<b>D6</b>	USB_SSTX1-
<b>C7</b>	USB_SSRX1+	<b>D7</b>	USB_SSTX1+
<b>C8</b>	GND	<b>D8</b>	GND
<b>C9</b>	USB_SSRX2-	<b>D9</b>	USB_SSTX2-
<b>C10</b>	USB_SSRX2+	<b>D10</b>	USB_SSTX2+
<b>C11</b>	GND (FIXED)	<b>D11</b>	GND (FIXED)
<b>C12</b>	USB_SSRX3-	<b>D12</b>	USB_SSTX3-
<b>C13</b>	USB_SSRX3+	<b>D13</b>	USB_SSTX3+
<b>C14</b>	GND	<b>D14</b>	GND
<b>C15</b>	DDI1_PAIR6+ (NA)	<b>D15</b>	DDI1_CTRLCLK_AUX+
<b>C16</b>	DDI1_PAIR6- (NA)	<b>D16</b>	DDI1_CTRLDATA_AUX-
<b>C17</b>	RSVD	<b>D17</b>	RSVD
<b>C18</b>	RSVD	<b>D18</b>	RSVD
<b>C19</b>	PCIE_RX6+	<b>D19</b>	PCIE_TX6+
<b>C20</b>	PCIE_RX6-	<b>D20</b>	PCIE_TX6-
<b>C21</b>	GND (FIXED)	<b>D21</b>	GND (FIXED)
<b>C22</b>	PCIE_RX7+	<b>D22</b>	PCIE_TX7+
<b>C23</b>	PCIE_RX7-	<b>D23</b>	PCIE_TX7-
<b>C24</b>	DDI1_HPD	<b>D24</b>	RSVD
<b>C25</b>	DDI1_PAIR4+ (NA)	<b>D25</b>	RSVD
<b>C26</b>	DDI1_PAIR4- (NA)	<b>D26</b>	DDI1_PAIR0+
<b>C27</b>	RSVD	<b>D27</b>	DDI1_PAIR0-

Row C		Row D	
<b>C28</b>	RSVD	<b>D28</b>	RSVD
<b>C29</b>	DDI1_PAIR5+ (NA)	<b>D29</b>	DDI1_PAIR1+
<b>C30</b>	DDI1_PAIR5- (NA)	<b>D30</b>	DDI1_PAIR1-
<b>C31</b>	GND (FIXED)	<b>D31</b>	GND (FIXED)
<b>C32</b>	DDI2_CTRLDATA_AUX+	<b>D32</b>	DDI1_PAIR2+
<b>C33</b>	DDI2_CTRLDATA_AUX-	<b>D33</b>	DDI1_PAIR2-
<b>C34</b>	DDI2_DDC_AUX_SEL	<b>D34</b>	DDI1_DDC_AUX_SEL
<b>C35</b>	RSVD	<b>D35</b>	RSVD
<b>C36</b>	DDI3_CTRLCLK_AUX+	<b>D36</b>	DDI1_PAIR3+
<b>C37</b>	DDI3_CTRLDATA_AUX-	<b>D37</b>	DDI1_PAIR3-
<b>C38</b>	DDI2_DDC_AUX_SEL	<b>D38</b>	RSVD
<b>C39</b>	DDI3_PAIR0+	<b>D39</b>	DDI2_PAIR0+
<b>C40</b>	DDI3_PAIR0-	<b>D40</b>	DDI2_PAIR0-
<b>C41</b>	GND (FIXED)	<b>D41</b>	GND (FIXED)
<b>C42</b>	DDI3_PAIR1+	<b>D42</b>	DDI2_PAIR1+
<b>C43</b>	DDI3_PAIR1-	<b>D43</b>	DDI2_PAIR1-
<b>C44</b>	DDI3_HPDP	<b>D44</b>	DDI2_HPDP
<b>C45</b>	RSVD	<b>D45</b>	RSVD
<b>C46</b>	DDI3_PAIR2+	<b>D46</b>	DDI2_PAIR2+
<b>C47</b>	DDI3_PAIR2-	<b>D47</b>	DDI2_PAIR2-
<b>C48</b>	RSVD	<b>D48</b>	RSVD
<b>C49</b>	DDI3_PAIR3+	<b>D49</b>	DDI2_PAIR3+
<b>C50</b>	DDI3_PAIR3-	<b>D50</b>	DDI2_PAIR3-
<b>C51</b>	GND (FIXED)	<b>D51</b>	GND (FIXED)
<b>C52</b>	PEG_RX0+	<b>D52</b>	PEG_TX0+
<b>C53</b>	PEG_RX0-	<b>D53</b>	PEG_TX0-
<b>C54</b>	TYPE0# (NC)	<b>D54</b>	PEG_LANE_RV#
<b>C55</b>	PEG_RX1+	<b>D55</b>	PEG_TX1+

Row C		Row D	
<b>C56</b>	PEG_RX1-	<b>D56</b>	PEG_TX1-
<b>C57</b>	TYPE1# (NC)	<b>D57</b>	TYPE2# (GND)
<b>C58</b>	PEG_RX2+	<b>D58</b>	PEG_TX2+
<b>C59</b>	PEG_RX2-	<b>D59</b>	PEG_TX2-
<b>C60</b>	GND (FIXED)	<b>D60</b>	GND (FIXED)
<b>C61</b>	PEG_RX3+	<b>D61</b>	PEG_TX3+
<b>C62</b>	PEG_RX3-	<b>D62</b>	PEG_TX3-
<b>C63</b>	RSVD	<b>D63</b>	RSVD
<b>C64</b>	RSVD	<b>D64</b>	RSVD
<b>C65</b>	PEG_RX4+	<b>D65</b>	PEG_TX4+
<b>C66</b>	PEG_RX4-	<b>D66</b>	PEG_TX4-
<b>C67</b>	RAPID_SHUTDOWN	<b>D67</b>	GND
<b>C68</b>	PEG_RX5+	<b>D68</b>	PEG_TX5+
<b>C69</b>	PEG_RX5-	<b>D69</b>	PEG_TX5-
<b>C70</b>	GND (FIXED)	<b>D70</b>	GND (FIXED)
<b>C71</b>	PEG_RX6+	<b>D71</b>	PEG_TX6+
<b>C72</b>	PEG_RX6-	<b>D72</b>	PEG_TX6-
<b>C73</b>	GND	<b>D73</b>	GND
<b>C74</b>	PEG_RX7+	<b>D74</b>	PEG_TX7+
<b>C75</b>	PEG_RX7-	<b>D75</b>	PEG_TX7-
<b>C76</b>	GND	<b>D76</b>	GND
<b>C77</b>	RSVD	<b>D77</b>	RSVD
<b>C78</b>	PEG_RX8+	<b>D78</b>	PEG_TX8+
<b>C79</b>	PEG_RX8-	<b>D79</b>	PEG_TX8-
<b>C80</b>	GND (FIXED)	<b>D80</b>	GND (FIXED)
<b>C81</b>	PEG_RX9+	<b>D81</b>	PEG_TX9+
<b>C82</b>	PEG_RX9-	<b>D82</b>	PEG_TX9-



Row C		Row D	
<b>C83</b>	RSVD	<b>D83</b>	RSVD
<b>C84</b>	GND	<b>D84</b>	GND
<b>C85</b>	PEG_RX10+	<b>D85</b>	PEG_TX10+
<b>C86</b>	PEG_RX10-	<b>D86</b>	PEG_TX10-
<b>C87</b>	GND	<b>D87</b>	GND
<b>C88</b>	PEG_RX11+	<b>D88</b>	PEG_TX11+
<b>C89</b>	PEG_RX11-	<b>D89</b>	PEG_TX11-
<b>C90</b>	GND (FIXED)	<b>D90</b>	GND (FIXED)
<b>C91</b>	PEG_RX12+	<b>D91</b>	PEG_TX12+
<b>C92</b>	PEG_RX12-	<b>D92</b>	PEG_TX12-
<b>C93</b>	GND	<b>D93</b>	GND
<b>C94</b>	PEG_RX13+	<b>D94</b>	PEG_TX13+
<b>C95</b>	PEG_RX13-	<b>D95</b>	PEG_TX13-
<b>C96</b>	GND	<b>D96</b>	GND
<b>C97</b>	RSVD	<b>D97</b>	RSVD
<b>C98</b>	PEG_RX14+	<b>D98</b>	PEG_TX14+
<b>C99</b>	PEG_RX14-	<b>D99</b>	PEG_TX14-
<b>C100</b>	GND (FIXED)	<b>D100</b>	GND (FIXED)
<b>C101</b>	PEG_RX15+	<b>D101</b>	PEG_TX15+
<b>C102</b>	PEG_RX15-	<b>D102</b>	PEG_TX15-
<b>C103</b>	GND	<b>D103</b>	GND
<b>C104</b>	VCC_8.5V~ 20V	<b>D104</b>	VCC_8.5V~ 20V
<b>C105</b>	VCC_8.5V~ 20V	<b>D105</b>	VCC_8.5V~ 20V
<b>C106</b>	VCC_8.5V~ 20V	<b>D106</b>	VCC_8.5V~ 20V
<b>C107</b>	VCC_8.5V~ 20V	<b>D107</b>	VCC_8.5V~ 20V
<b>C108</b>	VCC_8.5V~ 20V	<b>D108</b>	VCC_8.5V~ 20V
<b>C109</b>	VCC_8.5V~ 20V	<b>D109</b>	VCC_8.5V~ 20V
<b>C110</b>	GND (FIXED)	<b>D110</b>	GND (FIXED)



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