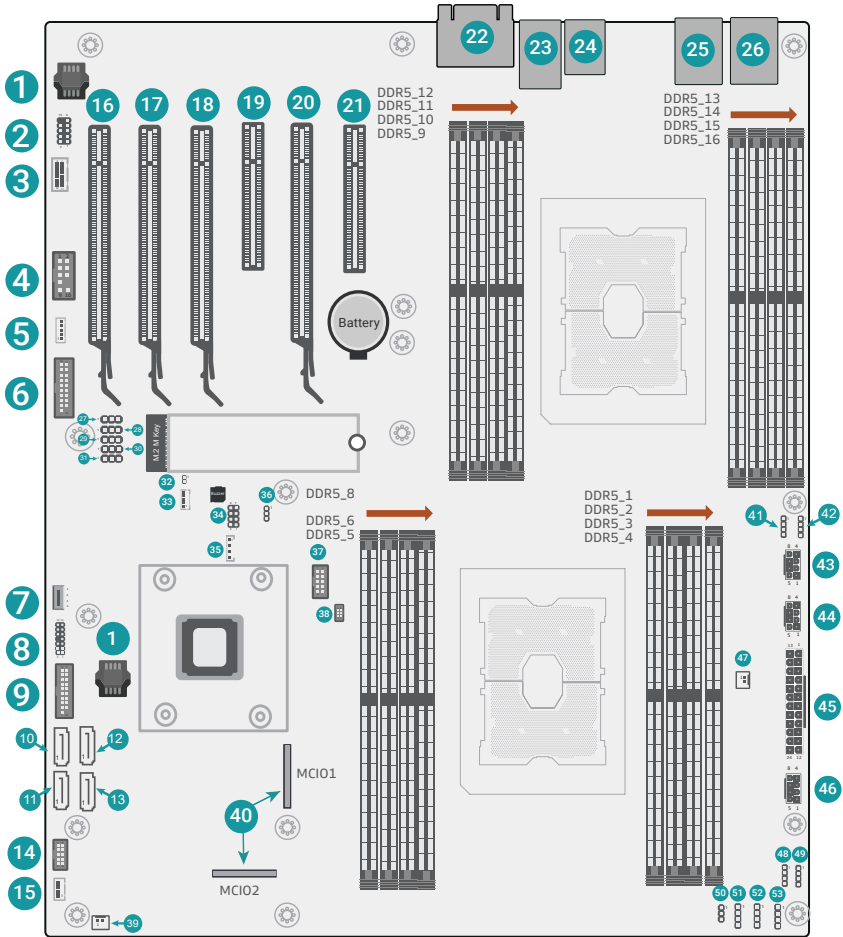


Board Layout

Top View



1	SPI	21	PCIE1
2	BMC COM	22	▲COM1 ▼DP
3	Front Panel	23	▲LAN3 ▼LAN4
4	COM2	24	MGMT Port
5	DIO Power	25	▲LAN2 ▼USB2_3/4 USB3_3/4
6	DIO	26	▲LAN1 ▼USB2_1/2 USB3_1/2
7	USB 2.0_P9	27	DIO 4-7 Power Select
8	ESPI Header	28	DIO 8-11 Power Select
9	USB 3.0_P5/P6	29	DIO 12-15 Power Select
10	SATA1	30	DIO 0-3 Power Select
11	SATA0	31	DIO Power
12	SATA2	32	Case Open
13	SATA3	33	OOB I2C
14	Front Audio	34	CPLD JTAG
15	LINE-IN Connector	35	IntelR VROC Hardware Key
16	PCIE6	36	Clear CMOS Data
17	PCIE5	37	USB2.0_P10/P11
18	PCIE4	38	SMBus
19	PCIE3	39	RTC Battery
20	PCIE2	40	MCI0

- 41 CPU Fan2

- 42 CPU Fan1

- 43 12V Power Connector

- 44 12V Power Connector

- 45 ATX Power Connector

- 46 12V Power Connector

- 47 5VSB Header

- 48 System Fan2

- 49 System Fan1

- 50 CPU Power Update

- 51 System Fan5

- 52 System Fan4

- 53 System Fan3



Jumper Settings

36 Clear CMOS Data	JP15
Normal (default)	1-2 On
Clear RTC Registers	2-3 On

31 DIO Power	JP3
5VSB (default)	1-2 On
5V	2-3 On

30 DIO 0-3 Power Select	JP2
DIO PWR (default)	1-2 On
GND	2-3 On

27 DIO 4-7 Power Select	JP4
DIO PWR (default)	1-2 On
GND	2-3 On

28 DIO 8-11 Power Select	JP5
DIO PWR (default)	1-2 On
GND	2-3 On

29 DIO 12-15 Power Select	JP6
3V3 (default)	1-2 On
3V3DU	2-3 On

PIN Assignment

39 ▶ RTC Battery (J2)

Pin	Assignment
1	P3V_BAT
2	GND

32 ▶ Case Open (SOJ1)

Pin	Assignment
1	CASEOPEN#
2	GND

47 ▶ 5VSB Header (J7)

Pin	Assignment
1	5VSB_CONN
2	GND

50 ▶ CPU Power Update (J8000)

Pin	Assignment
1	DEBUG_UART_TX
2	DEBUG_UART_RX
3	GND

42 ▶ CPU Fan1 (J10)

Pin	Assignment
1	GND
2	+12V
3	FAN_TACH_IN_CPU0
4	FAN_PWM_OUT_CPU0

41 ▶ CPU Fan2 (J9)

Pin	Assignment
1	GND
2	+12V
3	FAN_TACH_IN_CPU1
4	FAN_PWM_OUT_CPU1

49 ▶ System Fan1 (J11)

Pin	Assignment
1	GND
2	+12V
3	FAN_TACH_IN_SYS1
4	FAN_PWM_OUT_SYS1

48 ▶ System Fan2 (J13)

Pin	Assignment
1	GND
2	+12V
3	FAN_TACH_IN_SYS2
4	FAN_PWM_OUT_SYS2

53 ▶ System Fan3 (J12)

Pin	Assignment
1	GND
2	12V
3	FAN_TACH_IN_SYS3
4	FAN_PWM_OUT_SYS3

52 ▶ System Fan4 (J14)

Pin	Assignment
1	GND
2	12V
3	FAN_TACH_IN_SYS4
4	FAN_PWM_OUT_SYS4

51 ▶ System Fan5 (J23)

Pin	Assignment
1	GND
2	12V
3	FAN_TACH_IN_SYS5
4	FAN_PWM_OUT_SYS5

5 ▶ DIO Power (J20)

Pin	Assignment
1	12V
2	GND
3	5VSB
4	5V

15 ▶ LINE-IN Connector (AUJ3)

Pin	Assignment
1	LINE1-R
2	LINE1-JD
3	LINE1-L
4	GND

7 ▶ USB 2.0_P9 (UBCN4)

Pin	Assignment
1	V5USB2_P9
2	USB2_VER_USB_P9_R_N
3	USB2_VER_USB_P9_R_P
4	GND

33 ▶ OOB I2C (J5)

Pin	Assignment
1	NC
2	GND
3	SIO_SCL
4	SIO_SDA
5	NC

11 ▶ SATA0 (J16)

Pin	Assignment
1	GND
2	SATA_PCH_TO_CON1_P
3	SATA_PCH_TO_CON1_N
4	GND
5	SATA_CON1_TO_PCH_C_N
6	SATA_CON1_TO_PCH_C_P
7	GND

10 ▶ SATA1 (J17)

Pin	Assignment
1	GND
2	SATA_PCH_TO_CON2_P
3	SATA_PCH_TO_CON2_N
4	GND
5	SATA_CON2_TO_PCH_C_N
6	SATA_CON2_TO_PCH_C_P
7	GND

12 ▶ SATA2 (J18)

Pin	Assignment
1	GND
2	SATA_PCH_TO_CON3_P
3	SATA_PCH_TO_CON3_N
4	GND
5	SATA_CON3_TO_PCH_C_N
6	SATA_CON3_TO_PCH_C_P
7	GND

13 ▶ SATA3 (J19)

Pin	Assignment
1	GND
2	SATA_PCH_TO_CON4_P
3	SATA_PCH_TO_CON4_N
4	GND
5	SATA_CON4_TO_PCH_C_N
6	SATA_CON4_TO_PCH_C_P
7	GND

38 ▶ SMBus (J22)

Pin	Assignment	Pin	Assignment
1	3V3_AUX	2	GND
3	SMB_SMLINK0_STBY_LVC3_R_SCL	4	SMB_SMLINK0_STBY_LVC3_R_SDA
5	PU_PCH_TLS_ENABLE_STRAP		

34 ► CPLD JTAG (J3)

Pin	Assignment	Pin	Assignment
1	3V3SB	2	JTAG_PLD_TDO
3	JTAG_PLD_TDI	4	JTAG_PLD_EN_N
5	JTAG_PLD_RST_N	6	JTAG_PLD_TMS
7	GND	8	JTAG_PLD_TCK

4 ► COM2 (TSJ1)

Pin	Assignment	Pin	Assignment
1	MDCD2-	2	MSIN2
3	MSO2	4	MDTR2-
5	GND	6	MDSR2-
7	MRTS2-	8	---
9	5V_12V_COM2	10	MCTS2-

2 ► BMC COM (J15)

Pin	Assignment	Pin	Assignment
1	MDCD1-	2	MRD1
3	MTD1	4	MDTR1-
5	GND	6	MDSR1-
7	MRTS1-	8	MCTS1-
9	MRI1-	10	----

14 ► Front Audio (AUJ2)

Pin	Assignment	Pin	Assignment
1	GND	2	MIC2-L_HEADER
3	NC	4	MIC2-R_HEADER
5	MIC2-JD	6	LINE2-R_HEADER
7	NC	8	AUD_GND_HEADER
9	LINE2-JD	10	LINE2-L_HEADER

37 ► USB2.0_P10/P11 (UBJ3)

Pin	Assignment	Pin	Assignment
1	V5USB2_P1011	2	V5USB2_P1011
3	USB2_HR_USB1_P10_R_N	4	USB2_HR_USB2_P11_R_N
5	USB2_HR_USB1_P10_R_P	6	USB2_HR_USB2_P11_R_P
7	GND	8	GND
9	GND	10	GND

3 ► Front Panel (J8)

Pin	Assignment	Pin	Assignment
1	NC	2	3V3SB
3	3V3	4	3V3SB
5	LED_PCH_SATA_HDD_N	6	FP_PWR_LED_N
7	GND	8	GND
9	FP_SYSRST_BTN_N	10	FP_PWR_BTN_IN_N
11	NC	12	---

8 ▶ eSPI Header (J6)

Pin	Assignment	Pin	Assignment
1	3V3SB	2	CLK_24M_66M_ ESPI_P80
3	RST_ESPI_ RESET_N	4	GND
5	ESPI_ ALERT1_N_ RCIN_N	6	GND
7	ESPI_IO0_LAD0	8	---
9	ESPI_IO0_LAD1	10	ESPI_CS0_N_ LFRAME_N
11	ESPI_IO0_LAD2	12	3V3SB
13	ESPI_IO0_LAD3	14	3V3SB

43 44 46 ▶ 12V Power (CN1, CN2, CN6)

Pin	Assignment	Pin	Assignment
1	GND	5	12V
2	GND	6	12V
3	GND	7	12V
4	GND	8	12V

9 ▶ USB 3.0_P5/P6 (UBJ1)

Pin	Assignment	Pin	Assignment
1	V5USB3_P78	11	USB2_P8_R_P
2	USB3_P5_RX_R_N	12	USB2_P8_R_N
3	USB3_P5_RX_R_P	13	USB2_VER_USB_ P9_R_P
4	GND	14	GND
5	USB3_P5_ TX_C_R_N	15	USB3_P6_ TX_C_R_P
6	USB3_P5_ TX_C_R_P	16	USB3_P6_ TX_C_R_N
7	GND	17	GND
8	USB2_P7_R_N	18	USB3_P6_RX_R_P
9	USB2_P7_R_P	19	USB3_P6_RX_R_N
10	NC	20	V5USB3_P78

6 ▶ DIO (J21)

Pin	Assignment	Pin	Assignment
1	GND	11	D_IOA8_C
2	GND	12	D_IOA9_C
3	D_IOA7_C	13	D_IOA10_C
4	D_IOA6_C	14	D_IOA11_C
5	D_IOA5_C	15	D_IOA12_C
6	D_IOA4_C	16	D_IOA13_C
7	D_IOA3_C	17	D_IOA14_C
8	D_IOA2_C	18	D_IOA15_C
9	D_IOA1_C	19	GND
10	D_IOA0_C	20	---

40 ► MCIO1 (MCCON1)

Pin	Assignment	Pin	Assignment	Pin	Assignment	Pin	Assignment
A1	GND	B1	GND	A20	CPU0_PE3_MCIO1_RX_DN<0>	B20	CPU0_PE3_MCIO1_TX_DN<0>
A2	CPU0_PE3_MCIO1_RX_DN<4>	B2	CPU0_PE3_MCIO1_TX_DN<4>	A21	CPU0_PE3_MCIO1_RX_DP<0>	B21	CPU0_PE3_MCIO1_TX_DP<0>
A3	CPU0_PE3_MCIO1_RX_DP<4>	B3	CPU0_PE3_MCIO1_TX_DP<4>	A22	GND	B22	GND
A4	GND	B4	GND	A23	CPU0_PE3_MCIO1_RX_DN<1>	B23	CPU0_PE3_MCIO1_TX_DN<1>
A5	CPU0_PE3_MCIO1_RX_DN<5>	B5	CPU0_PE3_MCIO1_TX_DN<5>	A24	CPU0_PE3_MCIO1_RX_DP<1>	B24	CPU0_PE3_MCIO1_TX_DP<1>
A6	CPU0_PE3_MCIO1_RX_DP<5>	B6	CPU0_PE3_MCIO1_TX_DP<5>	A25	GND	B25	GND
A7	GND	B7	GND	A26	CPU0_PHEP_ALERT_N	B26	CPU0_PE3_MCIO1_1_SCL
A8	CPU0_PHEP_ALERT_N	B8	CPU0_PE3_MCIO1_SCL	A27	SGPIO_SATA0_DATAOUT_R	B27	CPU0_PE3_MCIO1_1_SDA
A9	CPU0_PE3_PWR_BRAKE_N	B9	CPU0_PE3_MCIO1_SDA	A28	GND	B28	GND
A10	GND	B10	GND	A29	CLK_100M_CPU0_PE3_MCIO1_NVME0_P	B29	CPLD_MCIO1_1_PERST_N
A11	CLK_100M_CPU0_PE3_MCIO1_NVME1_P	B11	CPLD_MCIO1_PERST_N	A30	CLK_100M_CPU0_PE3_MCIO1_NVME0_N	B30	CPU0_PE3_MCIO1_1_PRSNT_N
A12	CLK_100M_CPU0_PE3_MCIO1_NVME1_N	B12	CPU0_PE3_MCIO1_PRSNT_N	A31	GND	B31	GND
A13	GND	B13	GND	A32	CPU0_PE3_MCIO1_RX_DN<2>	B32	CPU0_PE3_MCIO1_TX_DN<2>
A14	CPU0_PE3_MCIO1_RX_DN<6>	B14	CPU0_PE3_MCIO1_TX_DN<6>	A33	CPU0_PE3_MCIO1_RX_DP<2>	B33	CPU0_PE3_MCIO1_TX_DP<2>
A15	CPU0_PE3_MCIO1_RX_DP<6>	B15	CPU0_PE3_MCIO1_TX_DP<6>	A34	GND	B34	GND
A16	GND	B16	GND	A35	CPU0_PE3_MCIO1_RX_DN<3>	B35	CPU0_PE3_MCIO1_TX_DN<3>
A17	CPU0_PE3_MCIO1_RX_DN<7>	B17	CPU0_PE3_MCIO1_TX_DN<7>	A36	CPU0_PE3_MCIO1_RX_DP<3>	B36	CPU0_PE3_MCIO1_TX_DP<3>
A18	CPU0_PE3_MCIO1_RX_DP<7>	B18	CPU0_PE3_MCIO1_TX_DP<7>	A37	GND	B37	GND
A19	GND	B19	GND				

Pin	Assignment	Pin	Assignment	Pin	Assignment	Pin	Assignment
A1	GND	B1	GND	A20	CPU0_PE3_MCIO2_RX_DN<0>	B20	CPU0_PE3_MCIO2_TX_DN<0>
A2	CPU0_PE3_MCIO2_RX_DN<4>	B2	CPU0_PE3_MCIO2_TX_DN<4>	A21	CPU0_PE3_MCIO2_RX_DP<0>	B21	CPU0_PE3_MCIO2_TX_DP<0>
A3	CPU0_PE3_MCIO2_RX_DP<4>	B3	CPU0_PE3_MCIO2_TX_DP<4>	A22	GND	B22	GND
A4	GND	B4	GND	A23	CPU0_PE3_MCIO2_RX_DN<1>	B23	CPU0_PE3_MCIO2_TX_DN<1>
A5	CPU0_PE3_MCIO2_RX_DN<5>	B5	CPU0_PE3_MCIO2_TX_DN<5>	A24	CPU0_PE3_MCIO2_RX_DP<1>	B24	CPU0_PE3_MCIO2_TX_DP<1>
A6	CPU0_PE3_MCIO2_RX_DP<5>	B6	CPU0_PE3_MCIO2_TX_DP<5>	A25	GND	B25	GND
A7	GND	B7	GND	A26	CPU0_PHEP_ALERT_N	B26	CPU0_PE3_MCIO2_1_SCL
A8	CPU0_PHEP_ALERT_N	B8	CPU0_PE3_MCIO2_SCL	A27	SGPIO_SATA0_CLOCK_R	B27	CPU0_PE3_MCIO2_1_SDA
A9	SGPIO_SATA0_LOAD_R	B9	CPU0_PE3_MCIO2_SDA	A28	GND	B28	GND
A10	GND	B10	GND	A29	CLK_100M_CPU0_PE3_MCIO2_NVME0_P	B29	CPLD_MCIO2_1_PERST_N
A11	CLK_100M_CPU0_PE3_MCIO2_NVME1_P	B11	CPLD_MCIO2_PERST_N	A30	CLK_100M_CPU0_PE3_MCIO2_NVME0_N	B30	CPU0_PE3_MCIO2_1_PRSNT_N
A12	CLK_100M_CPU0_PE3_MCIO2_NVME1_N	B12	CPU0_PE3_MCIO2_PRSNT_N	A31	GND	B31	GND
A13	GND	B13	GND	A32	CPU0_PE3_MCIO2_RX_DN<2>	B32	CPU0_PE3_MCIO2_TX_DN<2>
A14	CPU0_PE3_MCIO2_RX_DN<6>	B14	CPU0_PE3_MCIO2_TX_DN<6>	A33	CPU0_PE3_MCIO2_RX_DP<2>	B33	CPU0_PE3_MCIO2_TX_DP<2>
A15	CPU0_PE3_MCIO2_RX_DP<6>	B15	CPU0_PE3_MCIO2_TX_DP<6>	A34	GND	B34	GND
A16	GND	B16	GND	A35	CPU0_PE3_MCIO2_RX_DN<3>	B35	CPU0_PE3_MCIO2_TX_DN<3>
A17	CPU0_PE3_MCIO2_RX_DN<7>	B17	CPU0_PE3_MCIO2_TX_DN<7>	A36	CPU0_PE3_MCIO2_RX_DP<3>	B36	CPU0_PE3_MCIO2_TX_DP<3>
A18	CPU0_PE3_MCIO2_RX_DP<7>	B18	CPU0_PE3_MCIO2_TX_DP<7>	A37	GND	B37	GND
A19	GND	B19	GND				

45 ► ATX Power (CN3)

Pin	Assignment	Pin	Assignment
1	3V3	13	3V3
2	3V3	14	-12V
3	GND	15	GND
4	5V	16	ATX_PCTL_N
5	GND	17	GND
6	5V	18	GND
7	GND	19	GND
8	PWRGD_PS	20	NC
9	5VSB	21	5V
10	12V	22	5V
11	12V	23	5V
12	3V3	24	GND



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