DFI

COM836

COM HPC® Carrier Board
User's Manual

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Changes after the publication's first release will be based on the product's revision. The website will always provide the most updated information.

Trademarks

Product names or trademarks appearing in this manual are for identification purpose only and are the properties of the respective owners.

FCC and DOC Statement on Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

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About this Manual

This manual can be downloaded from the website.

The manual is subject to change and update without notice, and may be based on editions that do not resemble your actual products. Please visit our website or contact our sales representatives for the latest editions.

Warranty

1. Warranty does not cover damages or failures that occur from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.

2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.

3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.

4. We will not be liable for any indirect, special, incidental or consequential damages to the product that has been modified or altered.

Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.

2. Wear an antistatic wrist strap.

3. Do all preparation work on a static-free surface.

4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.

5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.

Important:
Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

Safety Measures

- To avoid damage to the system, use the correct AC input voltage range.

- To reduce the risk of electric shock, unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

About the Package

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- 1 COM836 board

The board and accessories in the package may not come similar to the information listed above. This may differ in accordance with the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

Before Using the System Board

When installing the system board in a new system, you will need at least the following internal components.

- Memory module
- Storage device such as a hard disk drive.
- Power supply

External system peripherals may also be required for navigation and display, including at least a keyboard, a mouse and a video display monitor.

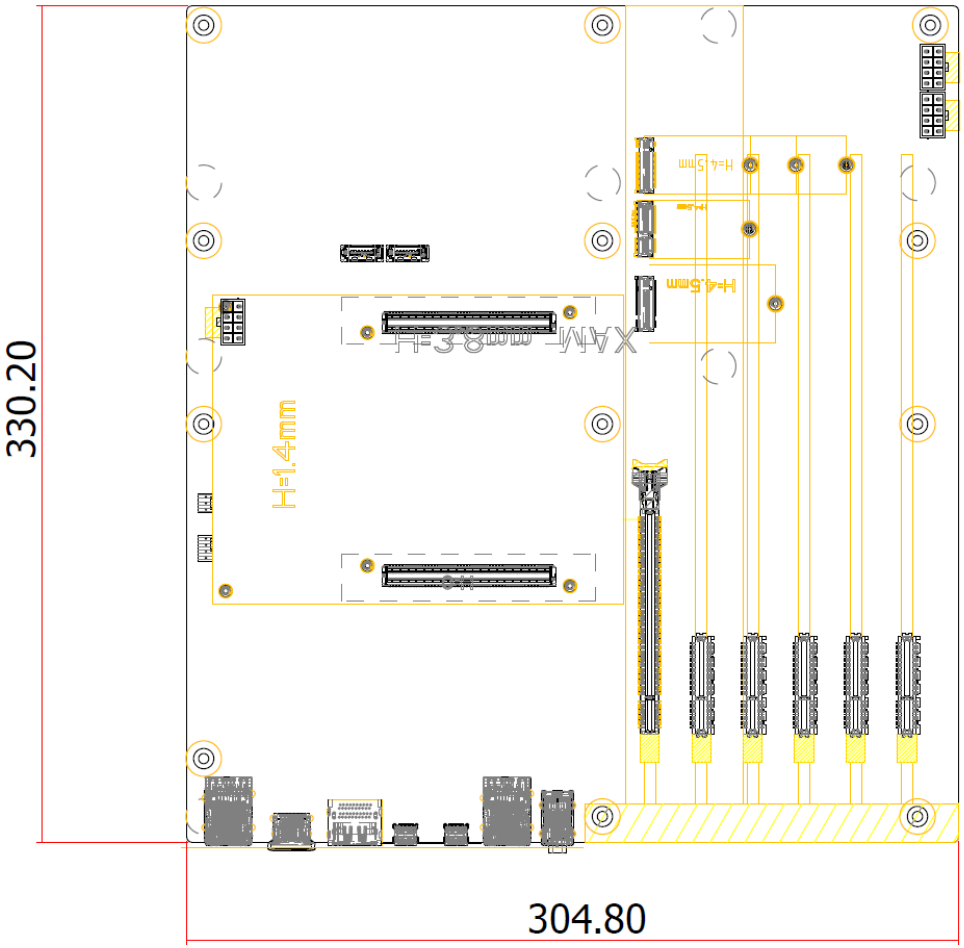
Chapter 1 - Introduction

▶ Specifications

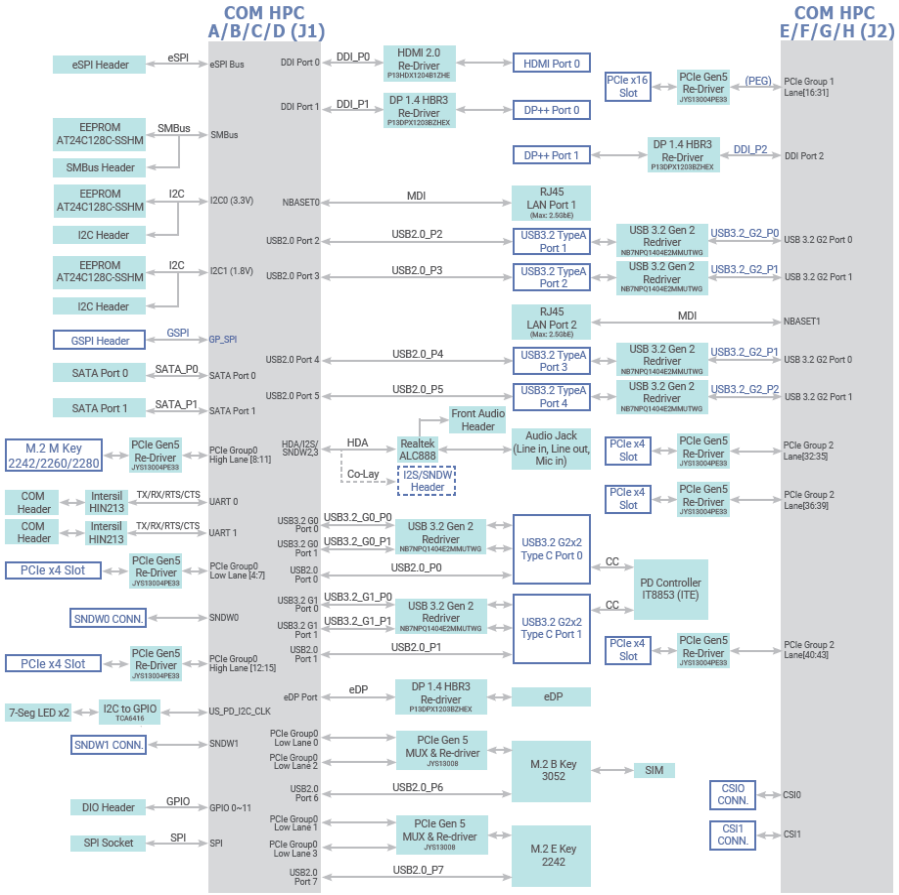
GRAPHICS	Display	1 x HDMI 2 x DP++ 1 x eDP
EXPANSION	Interface	1 x PCIe x16 5 x PCIe x4 1 x M.2 B Key 3052 1 x M.2 E Key 2242 1 x M.2 M key 2242/2260/2280
AUDIO	Audio Codec	Realtek ALC888
I/O	Ethernet	2 x 2.5 GbE (RJ-45)
	USB	2 x USB 3.2 Gen1 type A 2 x USB 3.2 Gen2x2 type C
	Audio	1 x Line-in 1 x Line-out 1 x Mic-in
INTERNAL I/O	Serial	2 x COM (TX/RX/CTS/RTS)
	Display	1 x eDP LCD Panel Connector
	Audio	1 x Audio (Line-out/Line-in/Mic-in) 1 x S/PDIF
	SATA	2 x SATA 3.0
	NBASET SDP	2 x NBASET SDP
	GPIO	1 x 8-bit GPIO 1 x 4-bit GPIO
	eSPI	1 x eSPI expansion
	GP SPI	1 x GP SPI
	SIM	1 x SIM slot
	SMBus	1 x SMBus
POWER	Type	8-20V, 5VSB, VCC_RTC (ATX mode) 8-20V, VCC_RTC (AT mode)
	Connector	2x 4-pin power connector
	RTC Battery	CR2032 Coin Cell

ENVIRONMENT	Temperature	Operating: 0 to 60°C Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH
	MTBF	TBD
MECHANICAL	Dimensions	Extend ATX Form Factor 325mm x 340mm
	Compliance	PICMG COM HPC® R2.0 carrier board Client size A, B, C
CERTIFICATIONS	Certifications	CE, FCC, RoHS

▶ Block Diagram

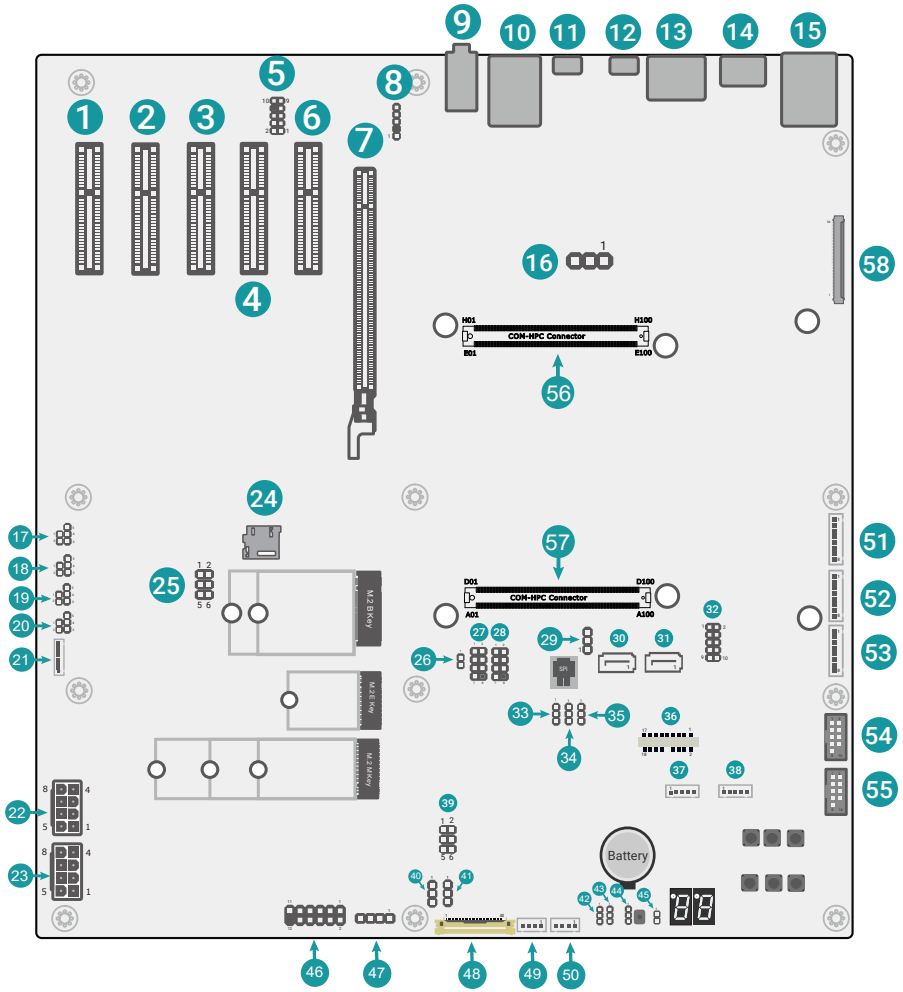


▶ Dimension



Chapter 2 - Hardware Installation

▶ Board Layout



1 PCIE6
2 PCIE5
3 PCIE4
4 PCIE3
5 Front Audio
6 PCIE2
7 PCIE1
8 S/PDIF
9 ▲Line-In ▼Line-Out ▼MIC-In
10 ▲LAN2 ▼USB2_3/4 USB3_3/4
11 USB Type C
12 USB Type C
13 DP++
14 HDMI
15 ▲LAN1 ▼USB2_1/2 USB3_1/2
16 NBASET1 SDP
17 PCIE Re-driver SMBUS Debug
18 EC I2C Debug
19 PCIE Re-driver SMBUS Debug
20 PCIE Re-driver SMBUS Debug
21 SMBUS & I2C0 Header
22 Power Input Connector
23 Power Input Connector
24 SIM Slot
25 VCC_5V_SBY Power Selection
26 Battery Low Header
27 SNDW/DMIC Header
28 I2S/SNDW Header
29 NBASET0 SDP
30 SATA0
31 SATA1
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34 COM-HPC Define Boot SPI Selection1
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36 eSPI
37 SATA Power
38 SATA Power
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41 eDP Inverter Power Selection
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43 ATX/AT Mode Selection
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46 Front Panel
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48 eDP
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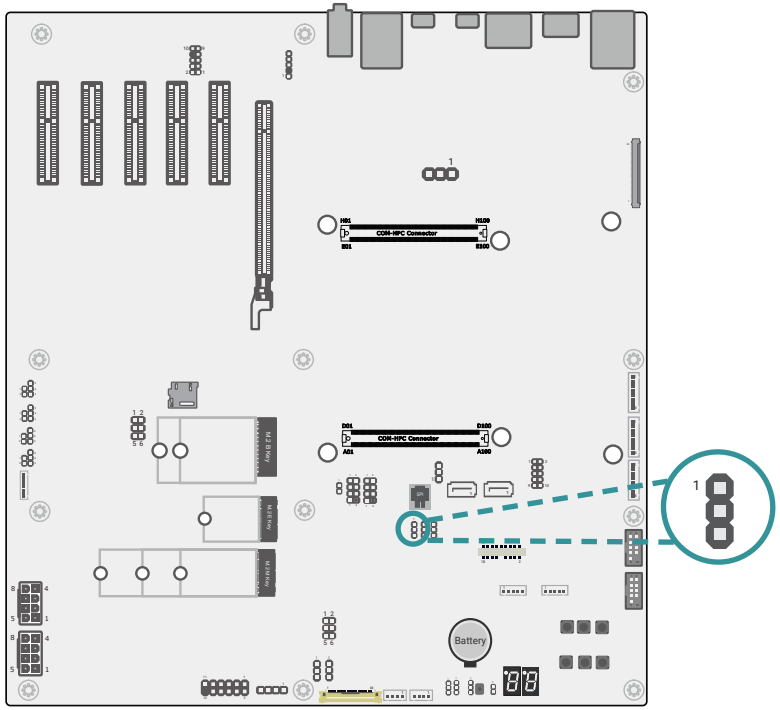
50 System FAN Connector
51 I2C1
52 GPIO Bit [11:8]
53 GPIO Bit [7:0]
54 COM1
55 COM2
56 COM-HPC J2
57 COM-HPC J1
58 CSI Connector

▶ Jumper Settings

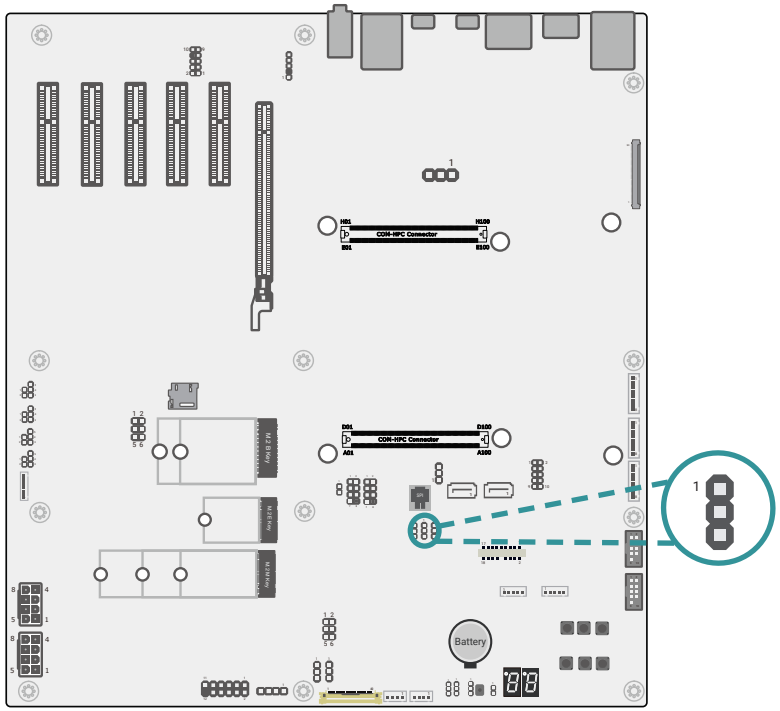
COM-HPC Define Boot SPI Selection 2 (JP3)



■ 1-2 On: BSEL2 Set to 1

■ 2-3 On: BSEL2 Set to 0

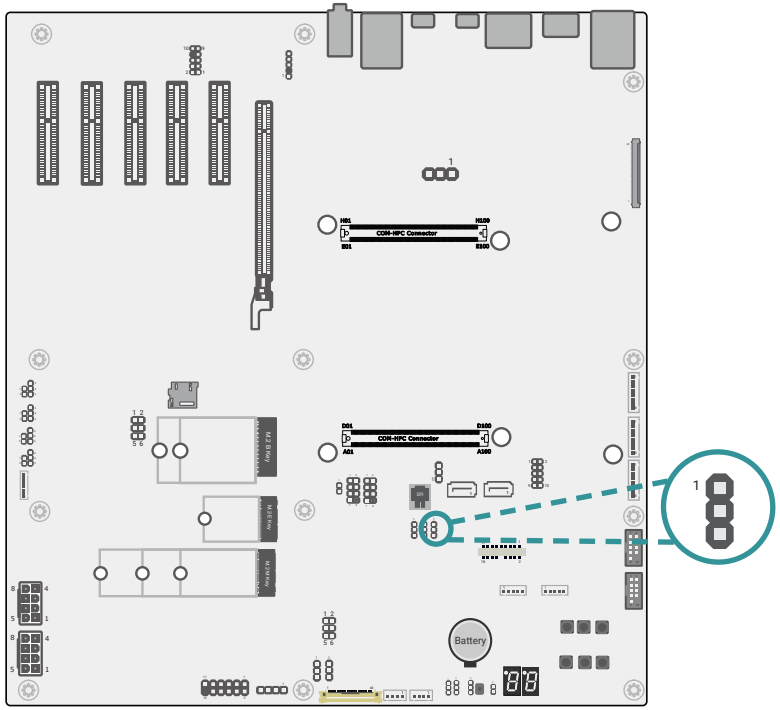
COM-HPC Define Boot SPI Selection 1 (JP2)



■ 1-2 On: BSEL2 Set to 1

■ 2-3 On: BSEL2 Set to 0

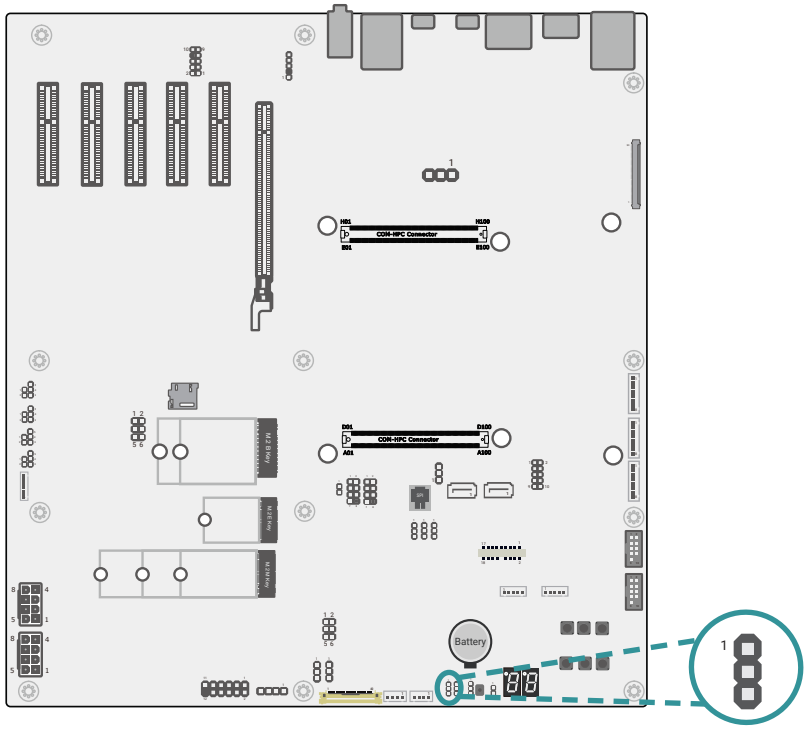
COM-HPC Define Boot SPI Selection 0 (JP1)



■ 1-2 On: BSEL2 Set to 1

■ 2-3 On: BSEL2 Set to 0

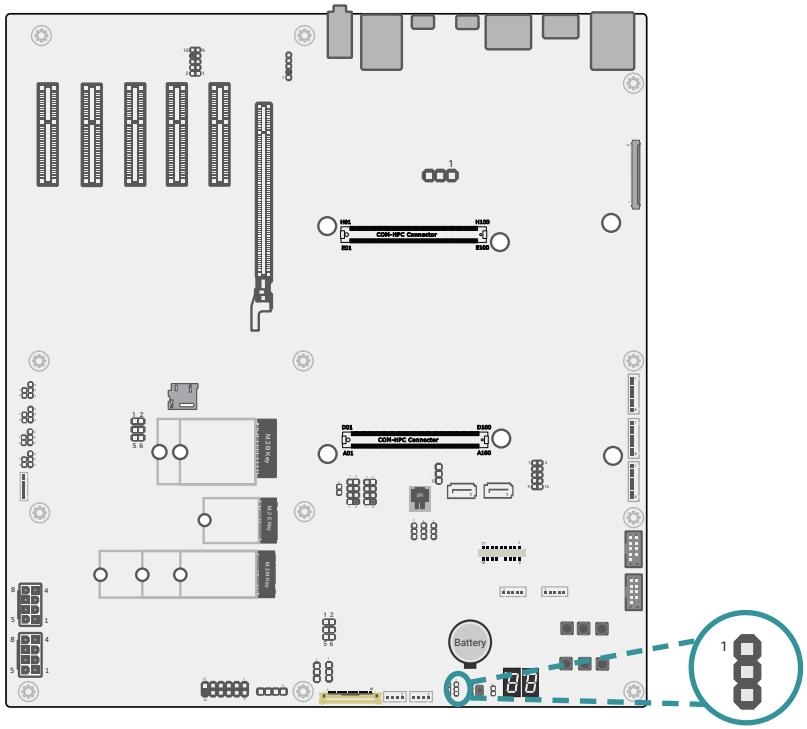
ATX Power OK Control (JP4)



■ 1-2 On: POK (Default)

■ 2-3 On: Set to 0 (Low)

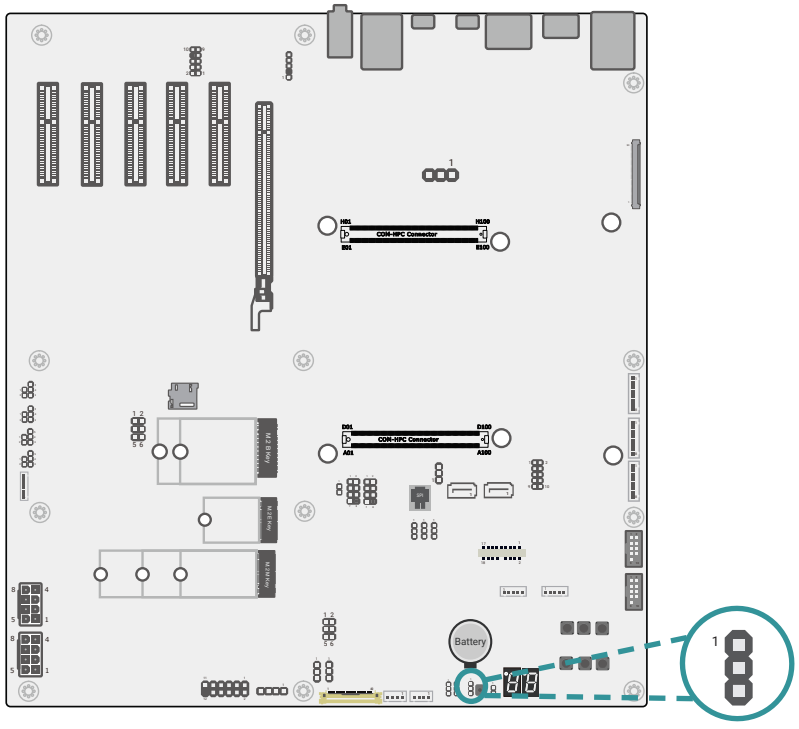
ATX/AT Mode Selection (JP5)



■ 1-2 On: ATX (Default)

■ 2-3 On: AT

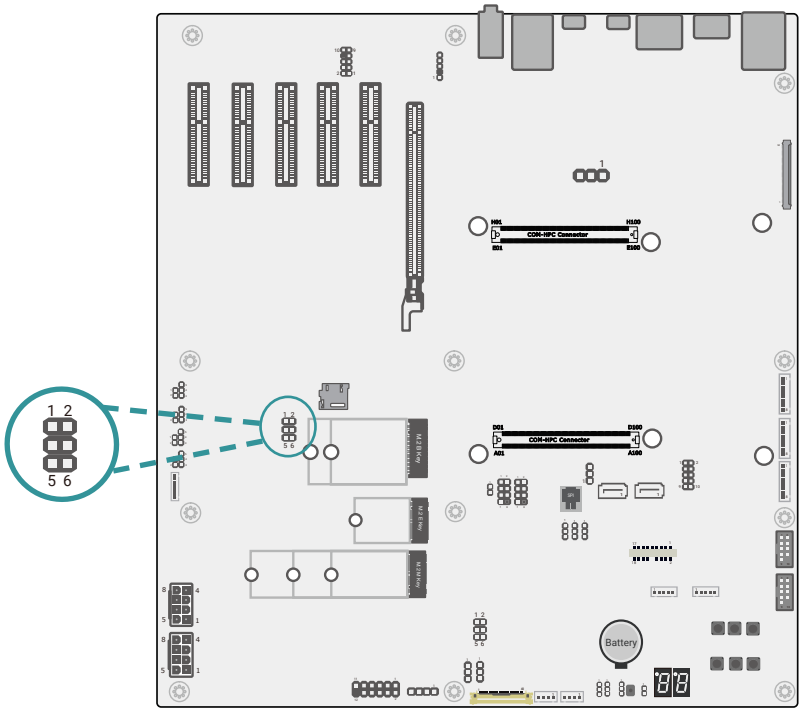
Clear CMOS (JP6)

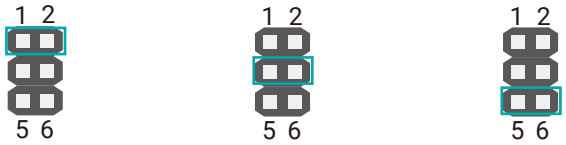


■ 1-2 On: Default

■ 2-3 On: Set to 0 (Clear CMOS)

VCC_5V_SBY Power Selection (JP12)



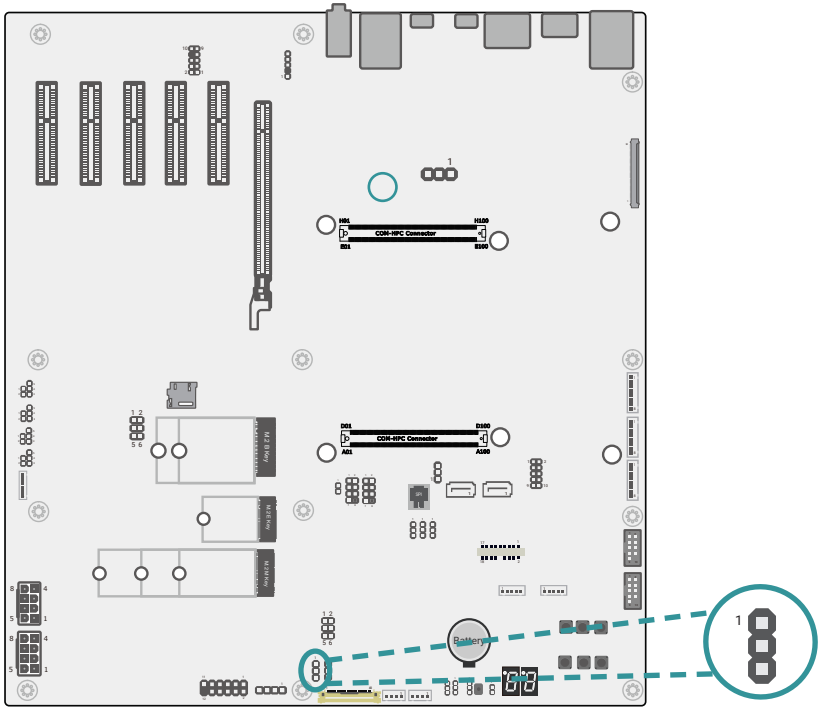


■ 1-2 On: 5VSB (Default)

■ 3-4 On: 5V

■ 2-3 On: NC

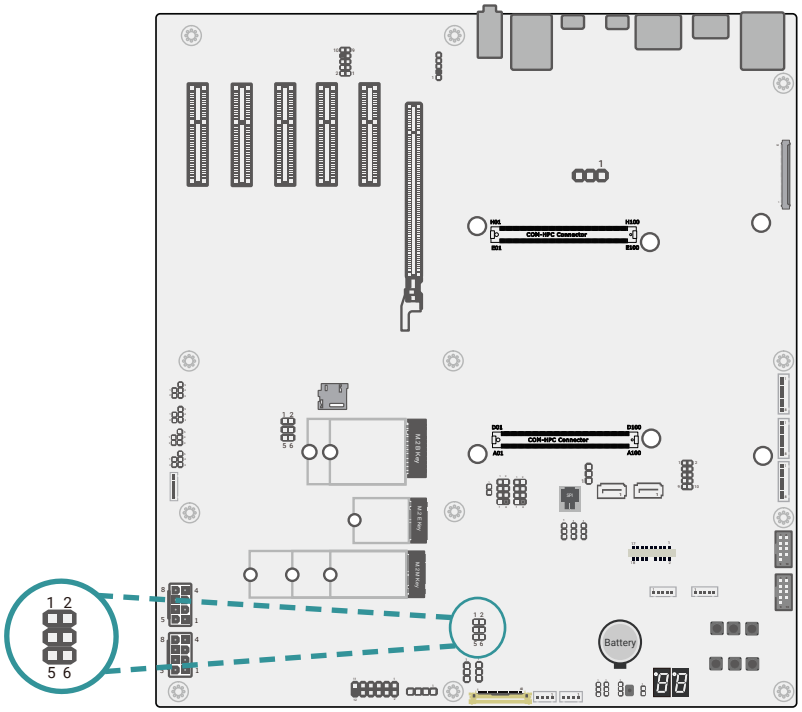
eDP Backlight ON/OFF Signal Voltage (DPJP1)

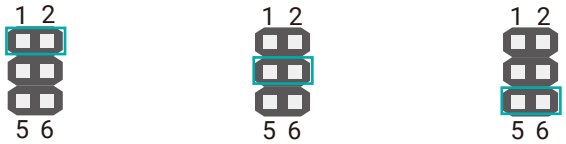


■ 1-2 On: 3.3V (Default)

■ 2-3 On: 5V

VCC_5V_SBY Power Selection (JP12)



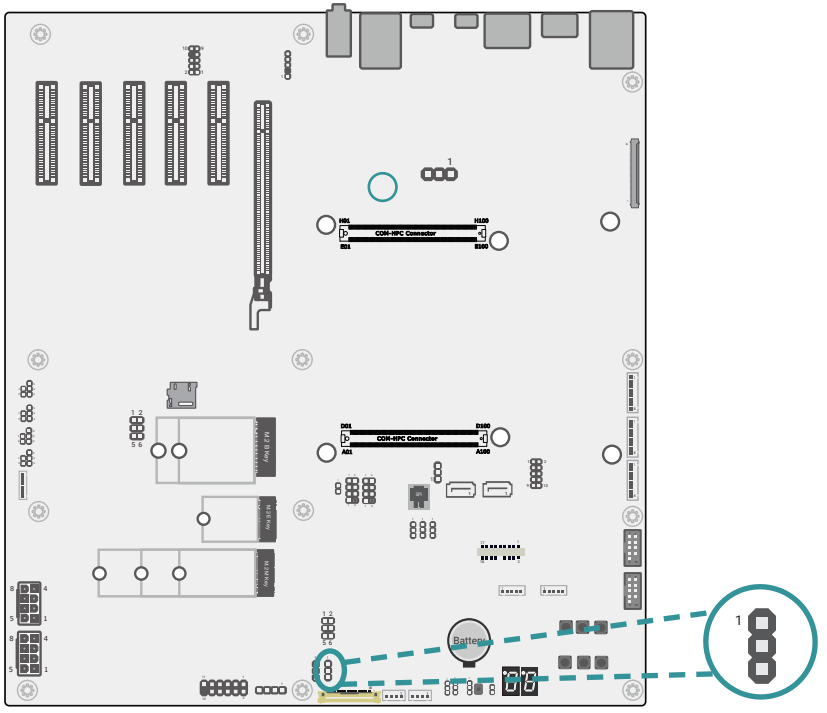


- 1-2 On: 12V

- 3-4 On: 5V

- 2-3 On: 3.3V (Default)

eDP Inverter Power Selection (DPJP2)

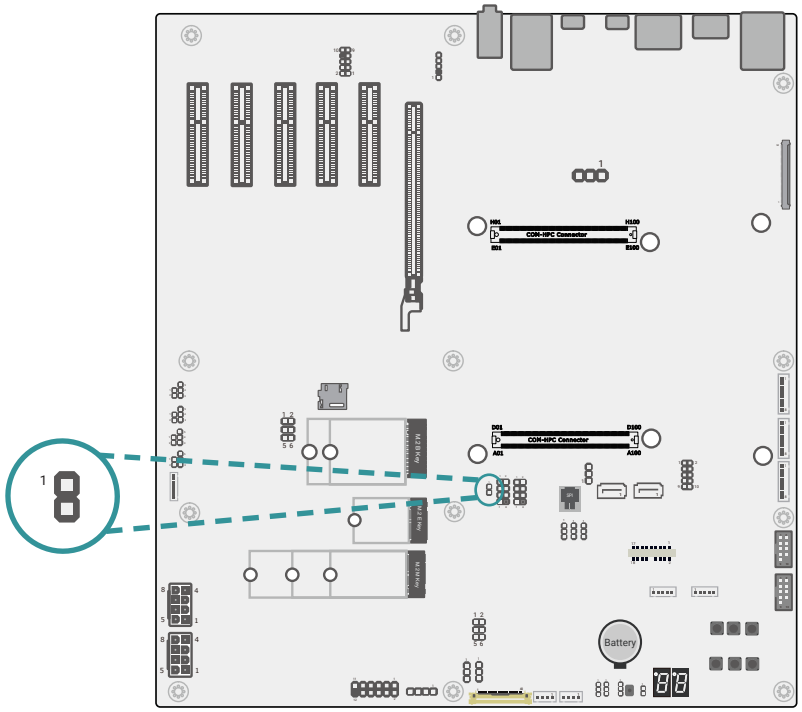


- 1-2 On: 12V (Default)

- 2-3 On: 5V

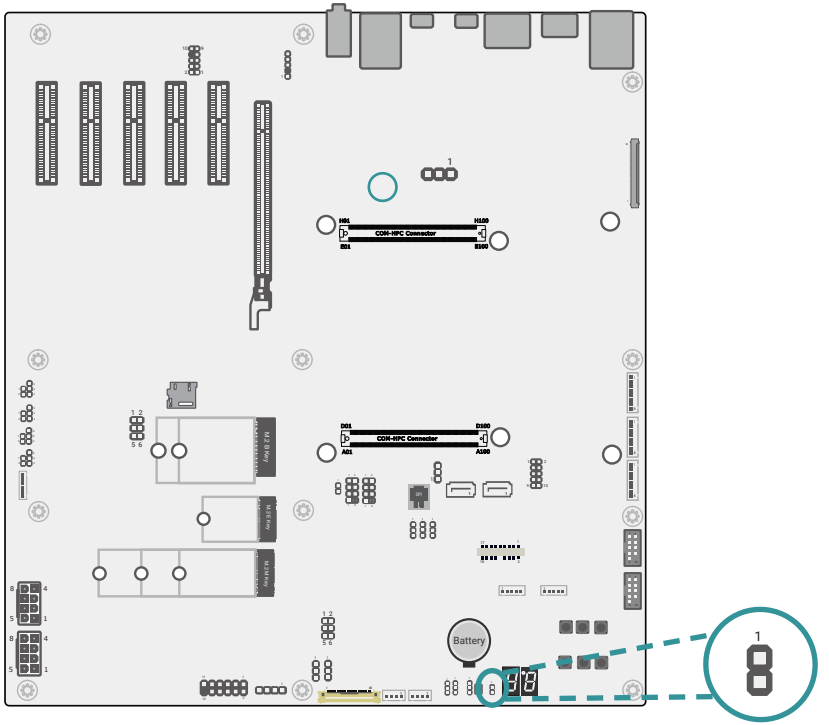
▶ Pin Assignment

Battery Low Header (J10)



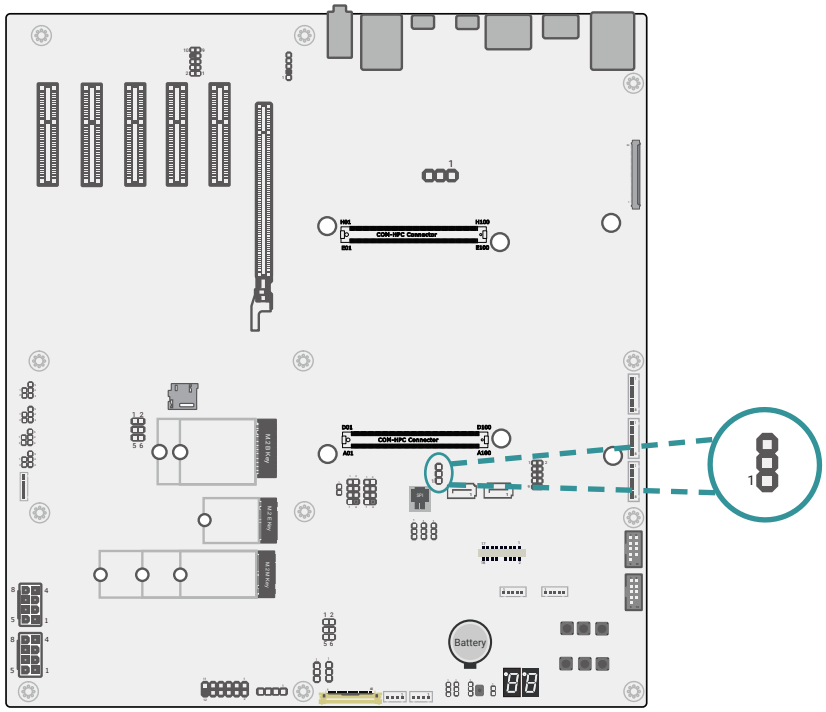
Pin	Assignment
1	BATLOW#
2	GND

Case Open (J5)



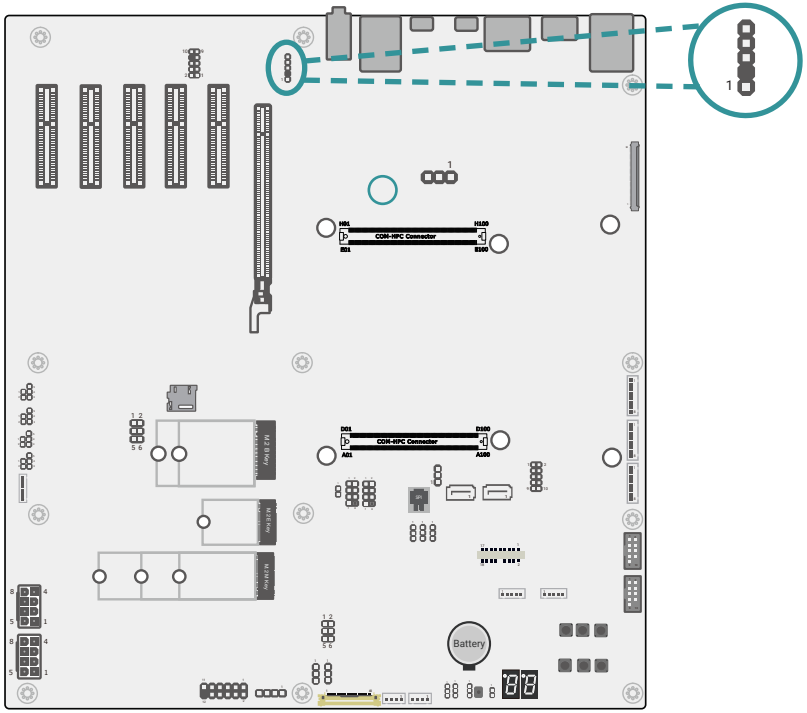
Pin	Assignment
1	TAMPER#
2	GND

NBASET0 SDP (J13)



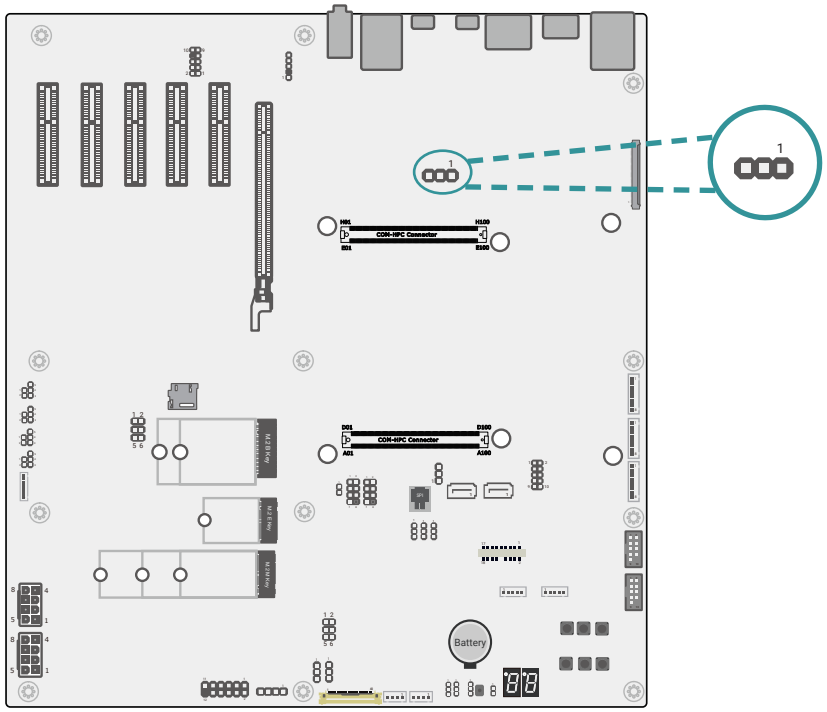
Pin	Assignment
1	3V3
2	NBASET0_SDP
3	GND

S/PDIF (AUJ1)



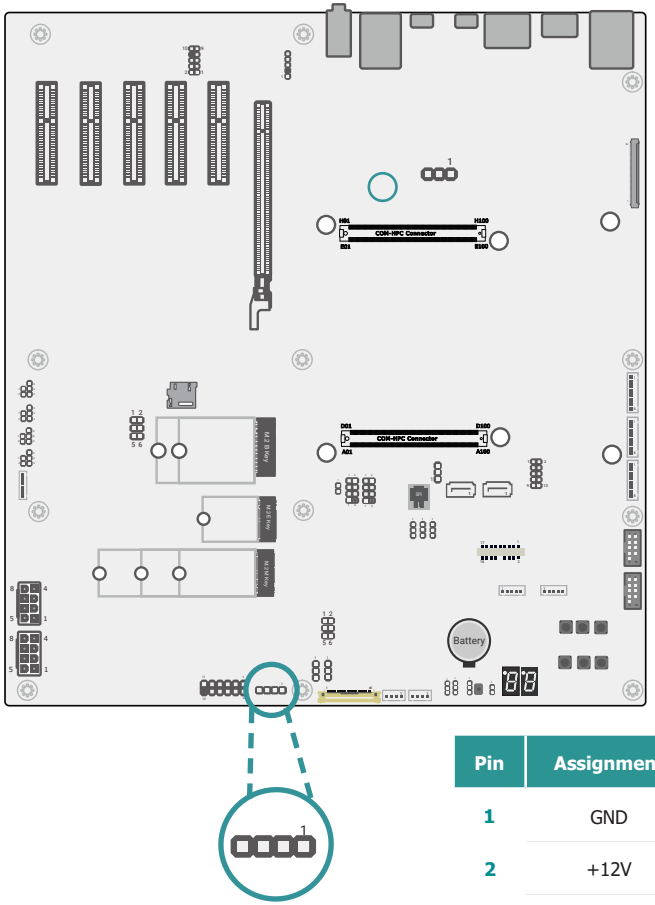
Pin	Assignment
1	A5V
2	---
3	SPDIF OUT
4	GND
5	SPDIF IN

NBASET1 SDP (J14)



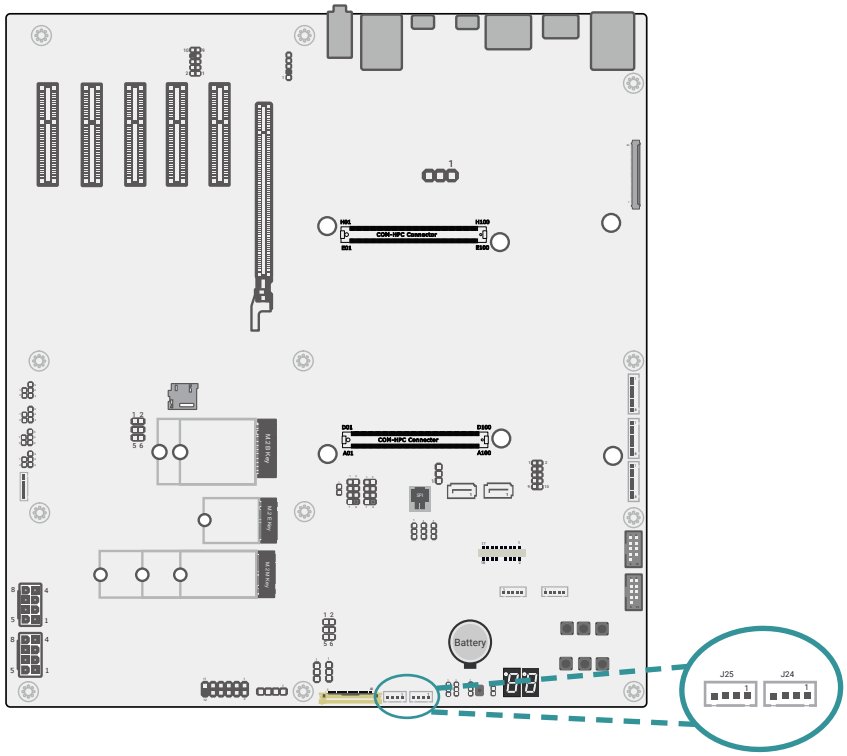
Pin	Assignment
1	3V3
2	NBASET1_SDP
3	GND

4 Pin FAN (J12)



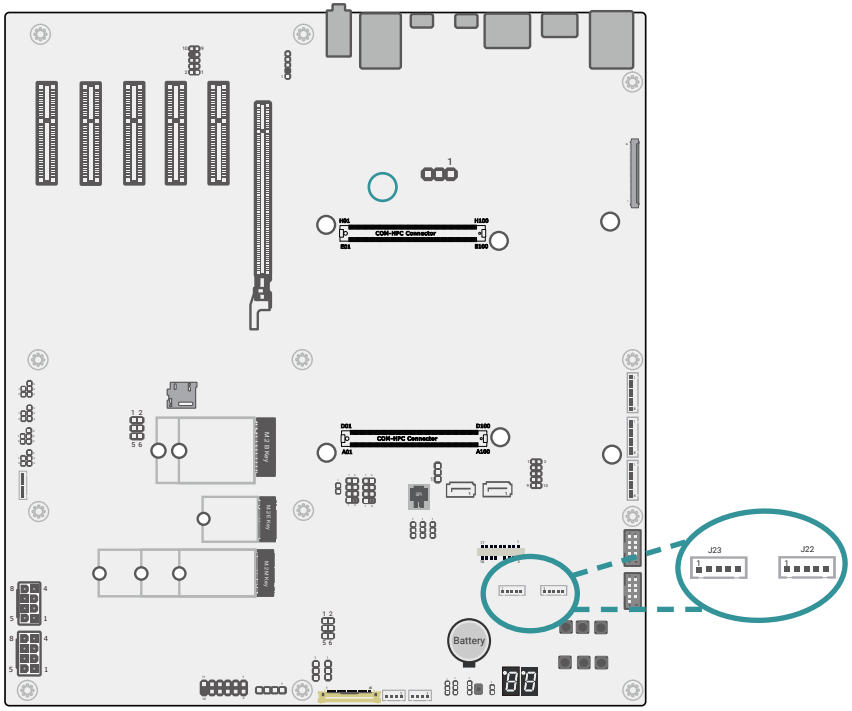
Pin	Assignment
1	GND
2	+12V
3	FAN_TACHIN_BTB
4	FAN0_PWM_OUT
5	NC

System Fan (J25, J24)



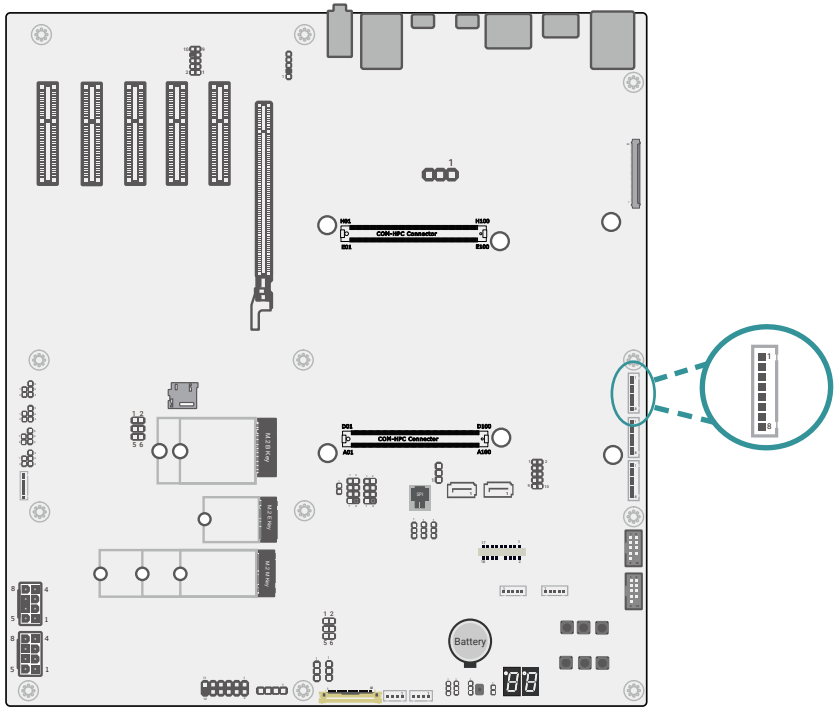
Pin	Assignment
1	SYSFANIN1
2	FAN_PWM
3	GND

SATA Power (J23,J22)



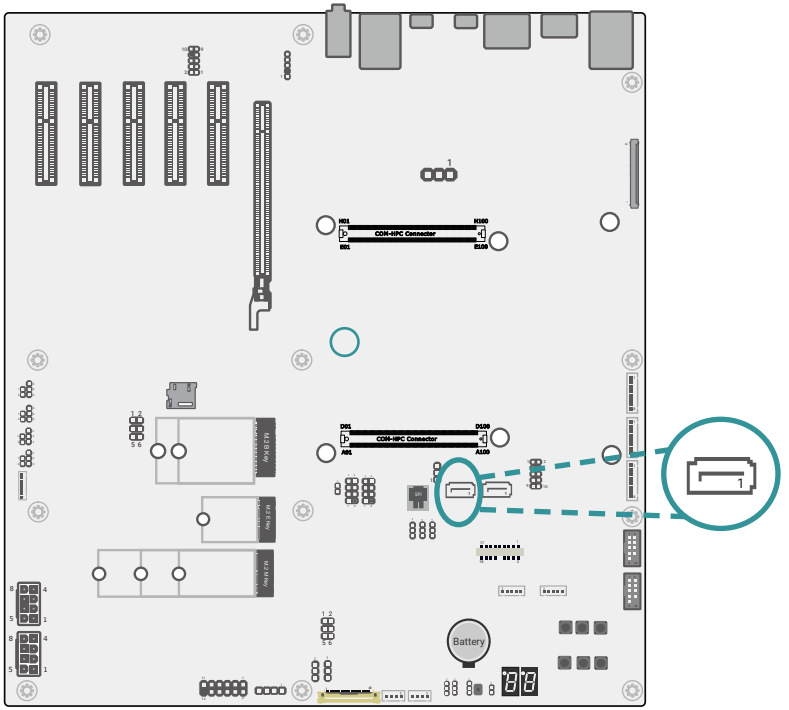
Pin	Assignment
1	5V
2	5V
3	+12V
4	GND
5	GND

I2C1 Header (J3)



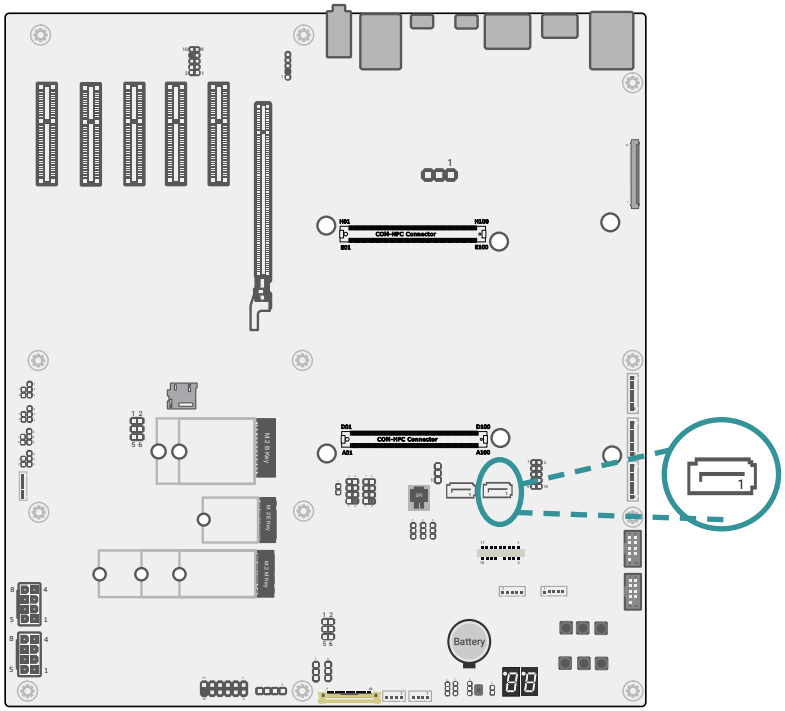
Pin	Assignment
1	1V8SB
2	GND
3	NC
4	NC
5	NC
6	I2C1_CLK
7	I2C1_DAT
8	NC

SATA0 (J15)



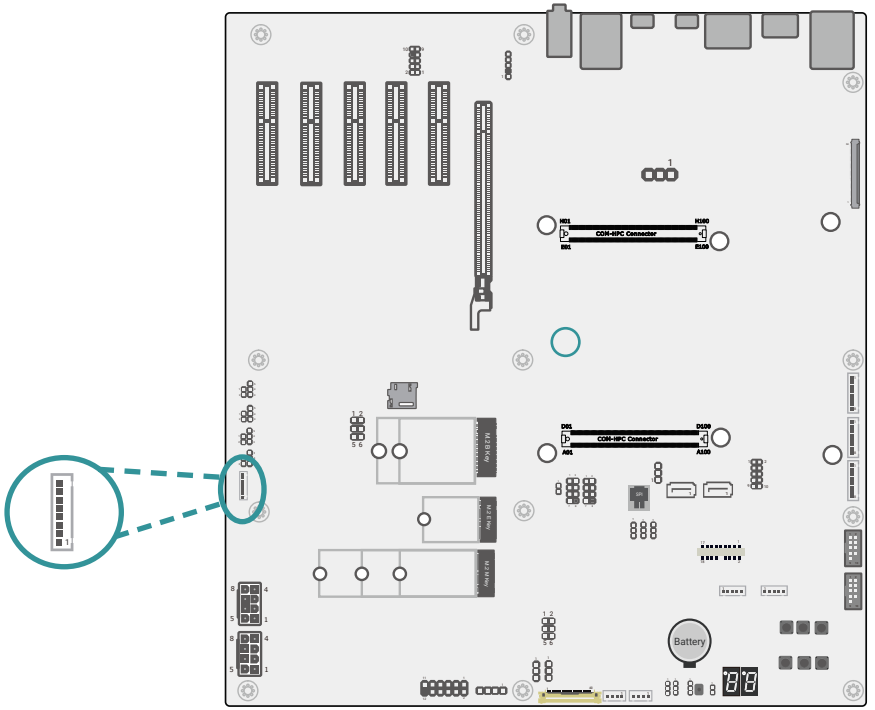
Pin	Assignment
1	GND
2	SATA0_TXP
3	SATA0_TXN
4	GND
5	SATA0_RXN
6	SATA0_RXP
7	GND

SATA1 (J16)



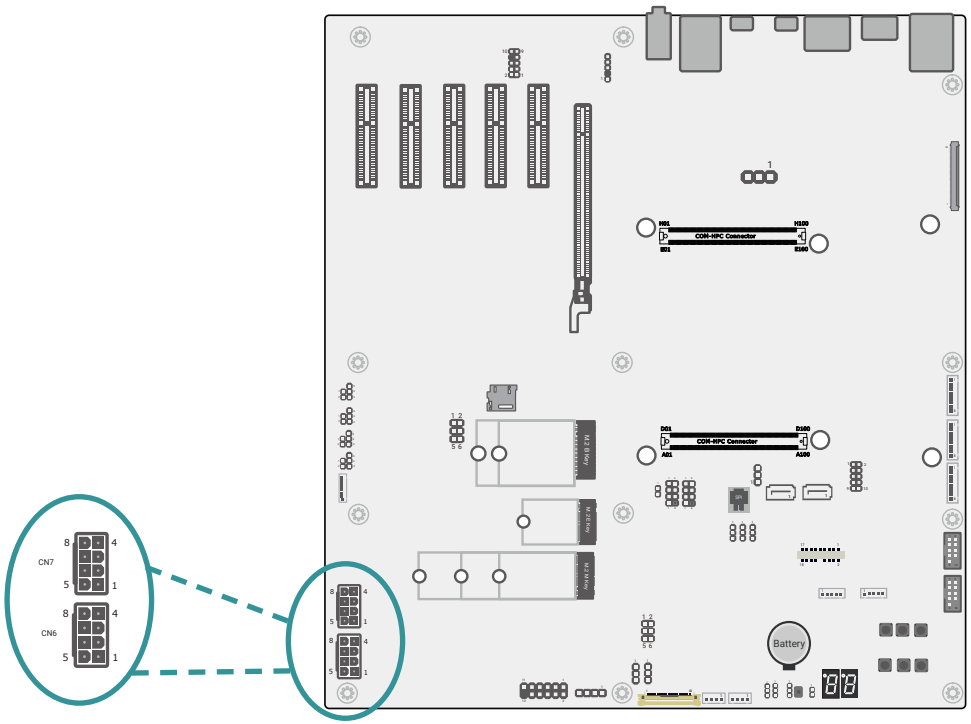
Pin	Assignment
1	GND
2	SATA1_TXP
3	SATA1_TXN
4	GND
5	SATA1_RXN
6	SATA1_RXP
7	GND

SMBus & I2C0 (J1)



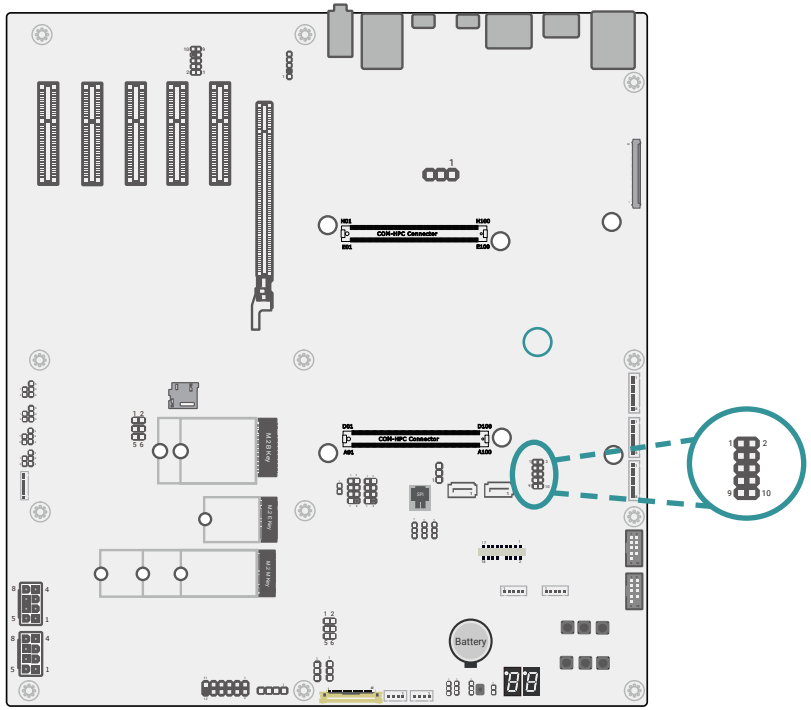
Pin	Assignment
1	3V3SB
2	GND
3	SMB_CLK_RESUME
4	SMB_DAT_RESUME
5	SMB_ALERT#
6	I2C0_CLK
7	I2C0_DAT
8	I2C0_ALERT#_CONN

Power Input (CN7, CN6)



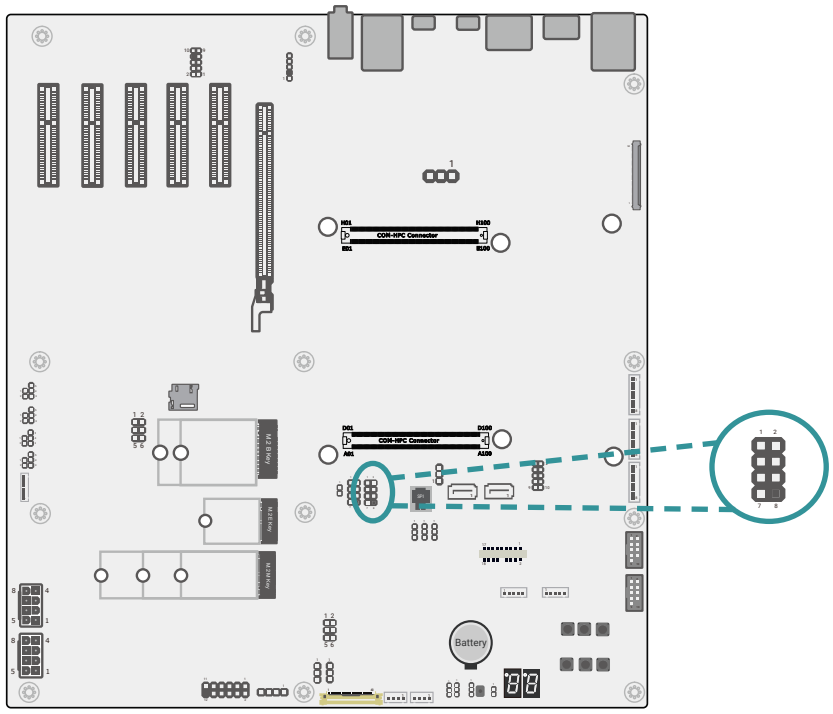
Pin	Assignment	Pin	Assignment
1	GND	5	DCJACK_IN
2	GND	6	DCJACK_IN
3	GND	7	DCJACK_IN
4	GND	8	DCJACK_IN

GP_SPI Connector (J9)



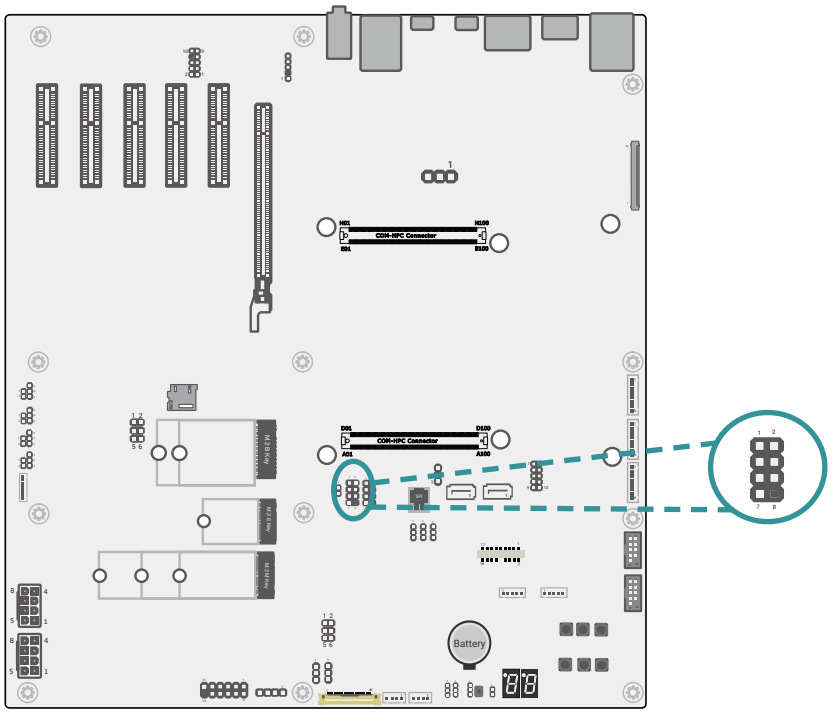
Pin	Assignment	Pin	Assignment
1	3V3	2	GP_SPI_MOSI
3	GP_SPI_MISO	4	GP_SPI_CS0#
5	GP_SPI_CS1#	6	GP_SPI_CS2#
7	GP_SPI_CS3#	8	GP_SPI_CLK
9	GP_SPI_ALERT#	10	GND

I2S/SNDW Header (J6)



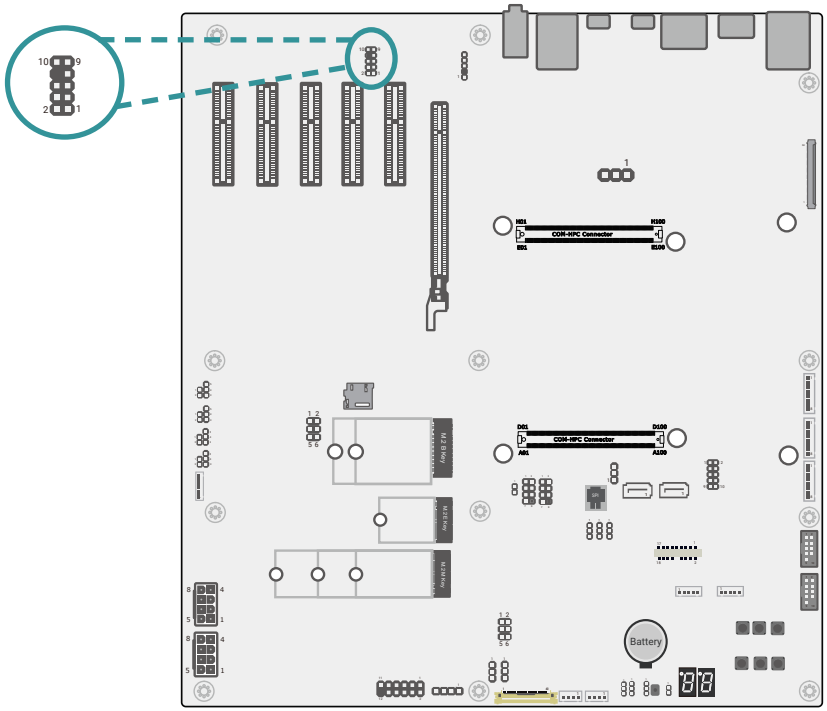
Pin	Assignment	Pin	Assignment
1	1V8	2	I2S_DIN/SNDW_DAT2
3	I2S_DOUT/SNDW_DAT3	4	I2S_CLK/SNDW_CLK2
5	I2S_LRCLK/SNDW_CLK3	6	I2S_MCLK
7	GND	8	---

SNDW/DMIC Header (J7)



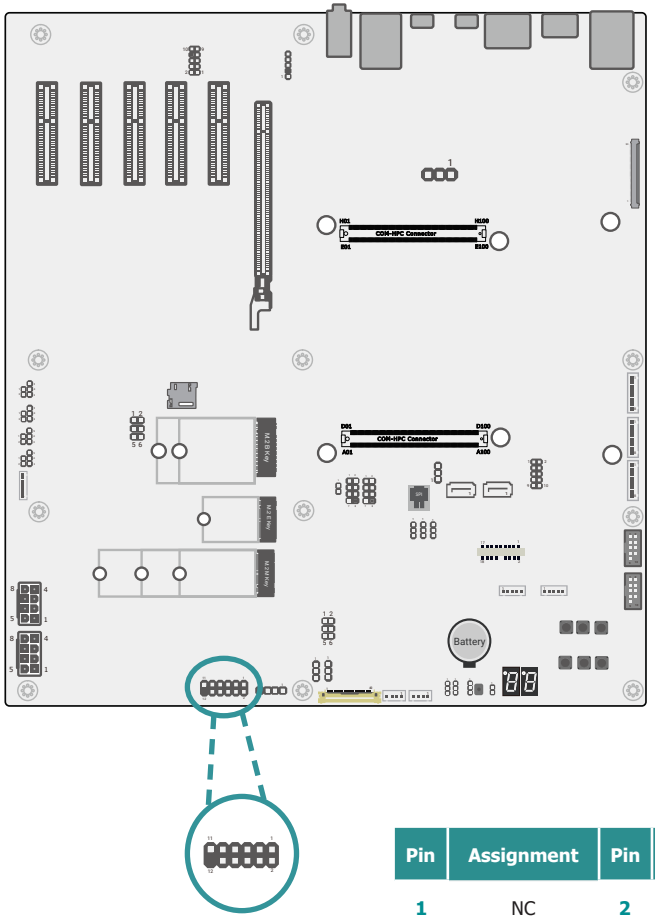
Pin	Assignment	Pin	Assignment
1	1V8	2	SNDW_DMIC_DAT0
3	SNDW_DMIC_DAT1	4	SNDW_DMIC_CLK0
5	SNDW_DMIC_CLK1	6	---
7	GND	8	---

Front Audio (AUJ2)



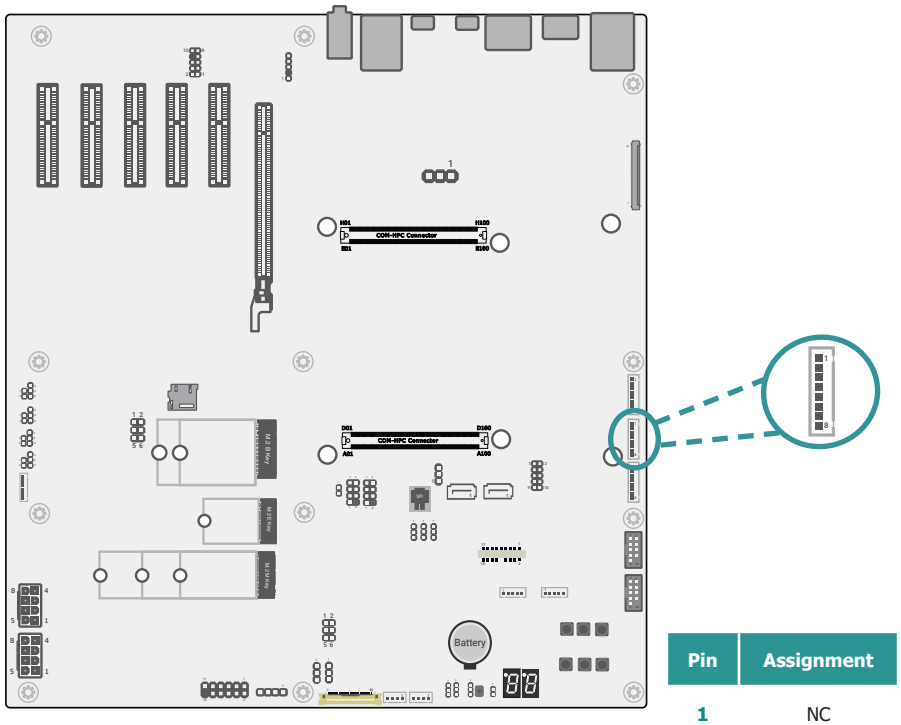
Pin	Assignment	Pin	Assignment
1	MIC2_L	2	AGND_AUDIO
3	MIC2_R	4	NC
5	LINE2_R	6	MIC2-JD
7	AGND_AUDIO	8	---
9	LINE2-L	10	LINE2-JD#

Front Panel (J8)



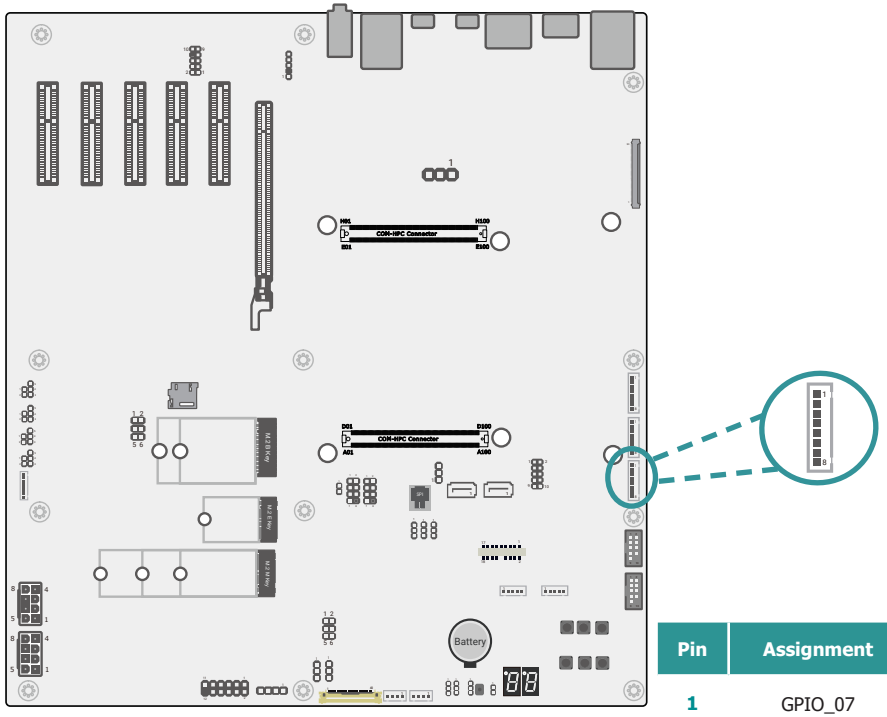
Pin	Assignment	Pin	Assignment
1	NC	2	3V3SB
3	3V3	4	3V3SB
5	M2M_LED#	6	SUS_LED#
7	GND	8	GND
9	RSTBTN#	10	PWRBTN#
11	NC	12	---

GPIO Bit [11:8] (J21)



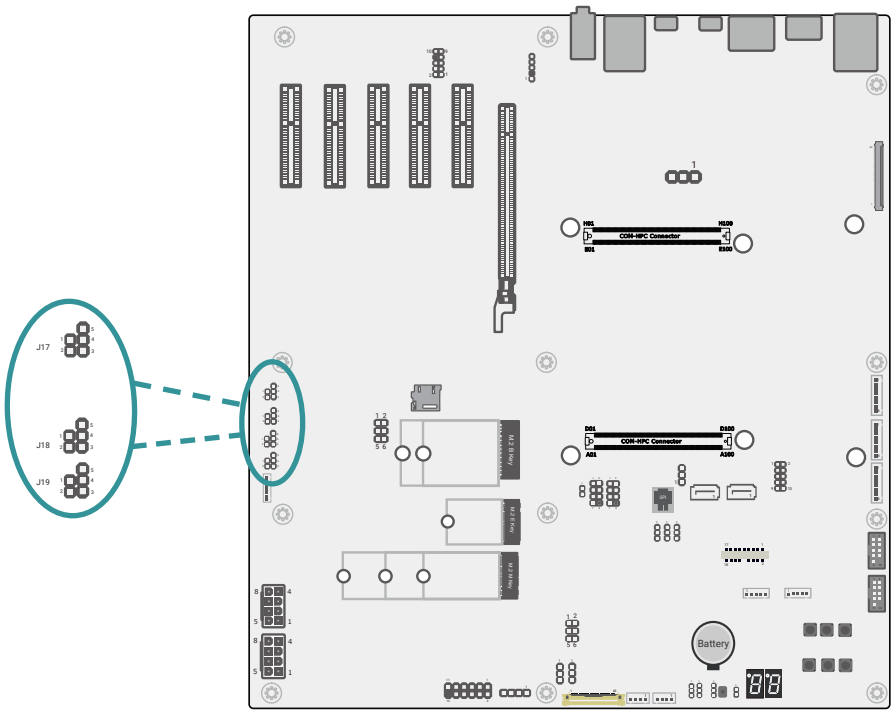
Pin	Assignment
1	NC
2	NC
3	NC
4	NC
5	GPIO_11
6	GPIO_10
7	GPIO_09
8	GPIO_08
9	5VSB
10	GND

GPIO Bit [7:0] (J11)



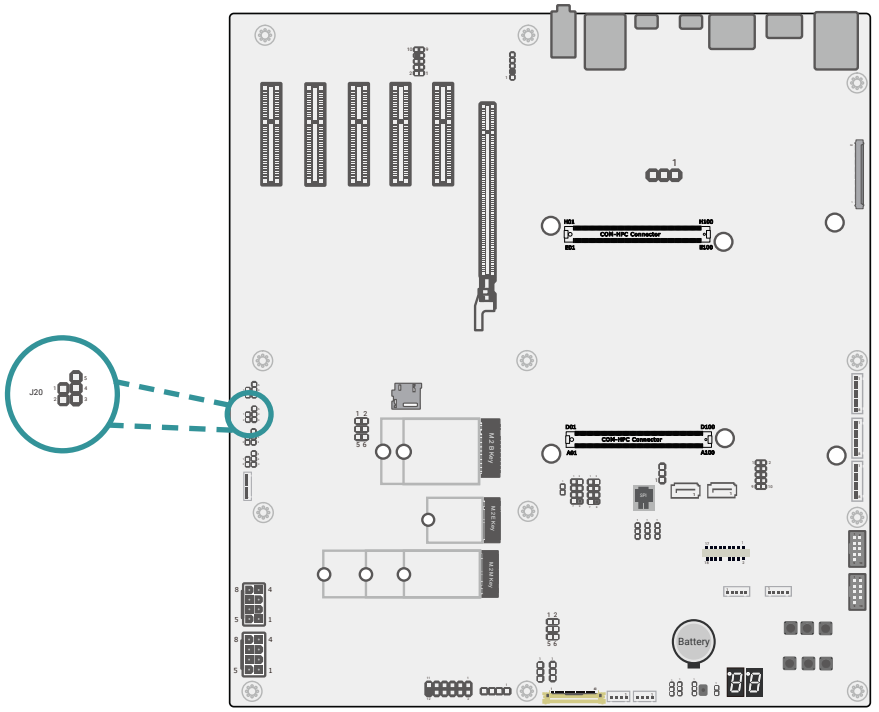
Pin	Assignment
1	GPIO_07
2	GPIO_06
3	GPIO_05
4	GPIO_04
5	GPIO_03
6	GPIO_02
7	GPIO_01
8	GPIO_00
9	5VSB
10	GND

PCIE Re-driver SMBUS Debug (J17,J18,J19)



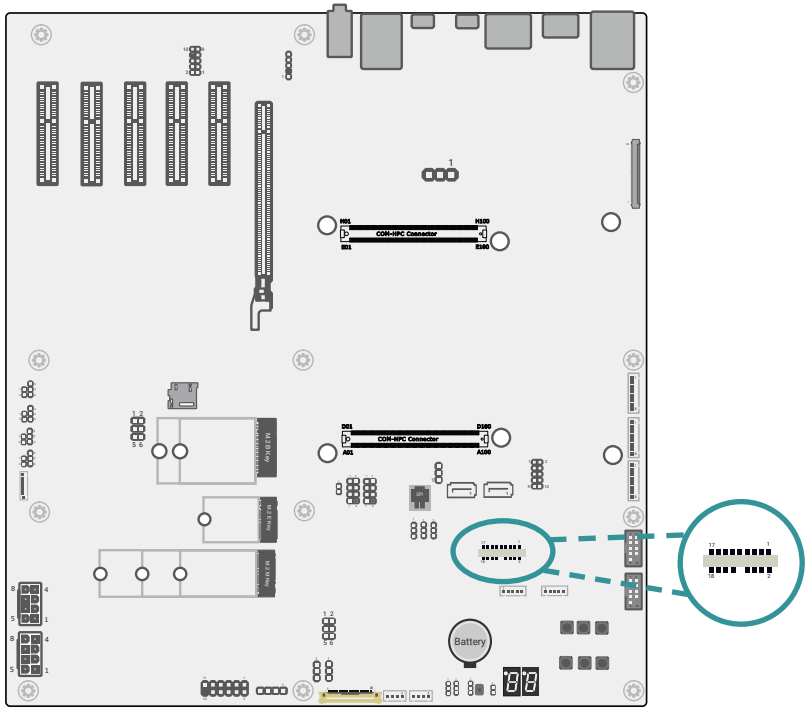
Pin	Assignment	Pin	Assignment
1	3V3	2	GND
3	DBG_SMB_CLK	4	DBG_SMB_DAT
5	NC		

EC I2C Debug (J20)



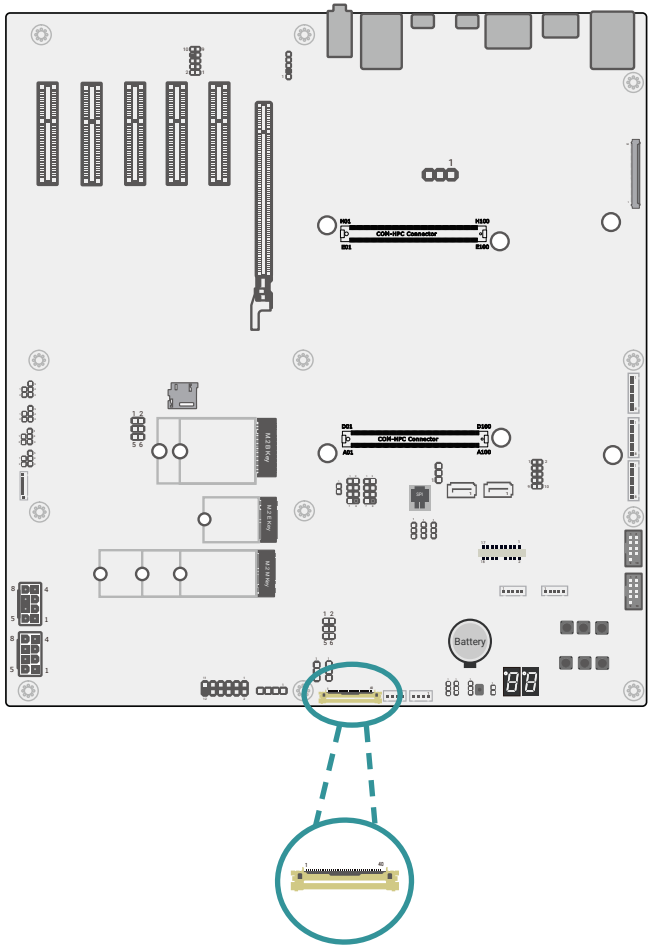
Pin	Assignment	Pin	Assignment
1	3V3	2	GND
3	USB_PD_I2C_CLK	4	USB_PD_I2C_DAT
5	USB_PD_ALERT#		

ESPI (J4)



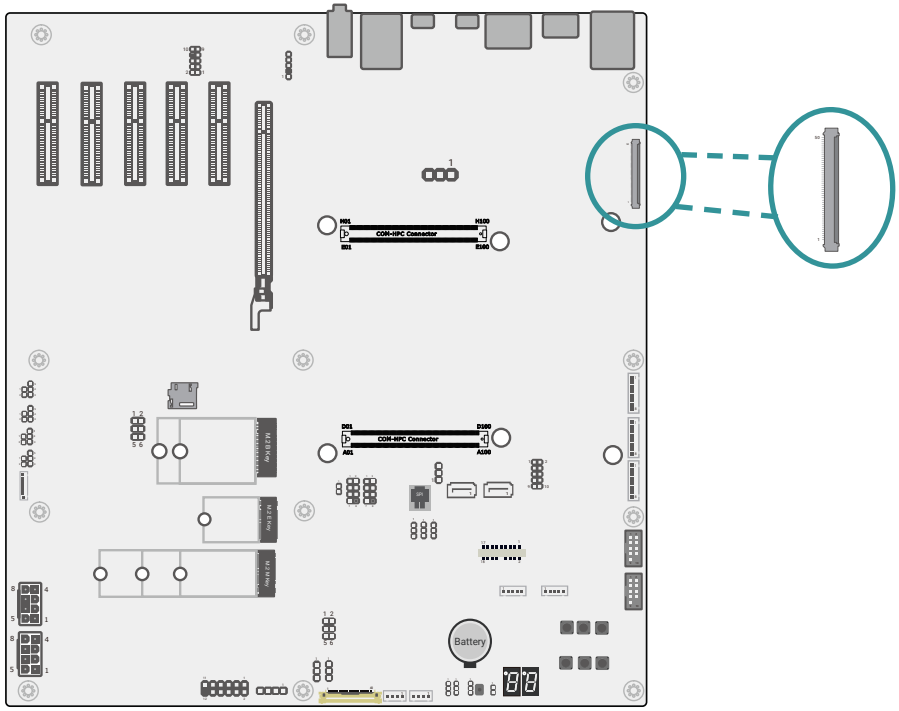
Pin	Assignment	Pin	Assignment
1	ESPICK	2	ESPI_IO1
3	NC	4	ESPI_IO0
5	ESPI_CS0#	6	3V3
7	ESPI_IO3	8	GND
9	ESPI_IO2	10	---
11	ESPI_CS1#	12	GND
13	5VSB	14	5V
15	ESPI_RESET#	16	ESPI_ALERT0#
17	NC	18	ESPI_ALERT1#

eDP (DPCN3)



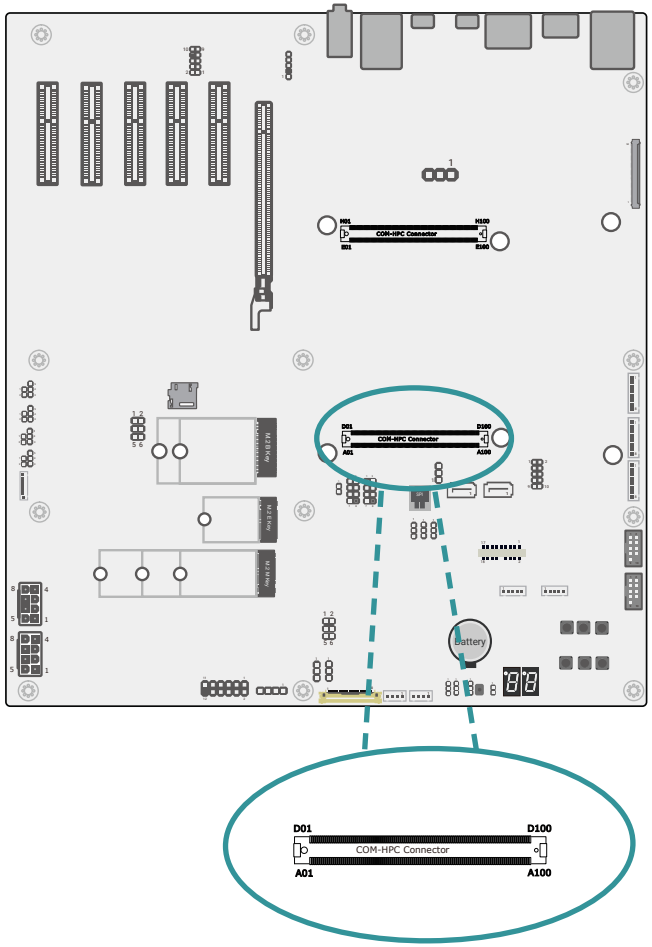
Pin	Assignment	Pin	Assignment	Pin	Assignment	Pin	Assignment
1	NC	11	EDP_GND	21	EDP_PANEL_PWR	31	EDP_LANE1_C_P
2	INV_PWR	12	EDP_GND	22	EDP_PANEL_PWR	32	EDP_LANE1_C_N
3	INV_PWR	13	EDP_GND	23	EDP_PANEL_PWR	33	GND
4	INV_PWR	14	EDP_HPD_CON	24	GND	34	EDP_LANE2_C_P
5	INV_PWR	15	GND	25	EDP_AUX_C_N	35	EDP_LANE2_C_N
6	NC	16	GND	26	EDP_AUX_C_P	36	GND
7	NC	17	GND	27	GND	37	EDP_LANE3_C_P
8	DIMMING	18	GND	28	EDP_LANE0_C_P	38	EDP_LANE3_C_N
9	BLONOFF	19	NC	29	EDP_LANE0_C_N	39	GND
10	EDP_GND	20	EDP_PANEL_PWR	30	GND	40	NC

CSI Connector (CN3)



Pin	Assignment	Pin	Assignment
1	3V3	26	CSI0_I2C_DAT
2	3V3	27	CSI0_MCLK
3	NC	28	CSI0_RST#
4	1V8	29	CSI0_ENA
5	1V8	30	GND
6	NC	31	CSI1_RX0_N
7	GND	32	CSI1_RX0_P
8	GND	33	GND
9	GND	34	CSI1_RX1_N
10	CSI0_RX0_N	35	CSI1_RX1_P
11	CSI0_RX0_P	36	GND
12	GND	37	CSI1_RX2_N
13	CSI0_RX1_N	38	CSI1_RX2_P
14	CSI0_RX1_P	39	GND
15	GND	40	CSI1_RX3_N
16	CSI0_RX2_N	41	CSI1_RX3_P
17	CSI0_RX2_P	42	GND
18	GND	43	CSI1_CLK_N
19	CSI0_RX3_N	44	CSI1_CLK_P
20	CSI0_RX3_P	45	GND
21	GND	46	CSI1_I2C_CLK
22	CSI0_CLK_N	47	CSI1_I2C_DAT
23	CSI0_CLK_P	48	CSI1_MCLK
24	GND	49	CSI1_RST#
25	CSI0_I2C_CLK	50	CSI1_ENA

COM HPC J1 (CN1)



Number	Name	Net Name
A01	VCC_A1	VIN_WIDE
A02	VCC_A2	VIN_WIDE
A03	VCC_A3	VIN_WIDE
A04	VCC_A4	VIN_WIDE
A05	VCC_A5	VIN_WIDE
A06	VCC_A6	VIN_WIDE
A07	VCC_A7	VIN_WIDE
A08	VCC_A8	VIN_WIDE
A09	VCC_A9	VIN_WIDE
A10	GND_A10	GND
A11	(3.3V)BATLOW#	BATLOW#
A12	(3.3V)PLTRST#	PLTRST#
A13	GND_A13	GND
A14	(3.3V)USB7-	M2E_USB_DN
A15	(3.3V)USB7+	M2E_USB_DP
A16	GND_A16	GND
A17	(3.3V)USB6-	M2B_USB_DN
A18	(3.3V)USB6+	M2B_USB_DP
A19	GND_A19	GND
A20	(OD 3.3V for HDMI/ DVI)DDI1_SDA_AUX-	DP1_SDA_AUXN
A21	(OD 3.3V for HDMI/ DVI)DDI1_SCL_AUX+	DP1_SCL_AUXP
A22	GND_A22	GND
A23	DDI1_PAIR0-	DP1_LANE_0N
A24	DDI1_PAIR0+	DP1_LANE_0P
A25	GND_A25	GND
A26	DDI1_PAIR1-	DP1_LANE_1N
A27	DDI1_PAIR1+	DP1_LANE_1P
A28	GND_A28	GND
A29	DDI1_PAIR2-	DP1_LANE_2N
A30	DDI1_PAIR2+	DP1_LANE_2P

Number	Name	Net Name
A31	GND_A31	GND
A32	DDI1_PAIR3-	DP1_LANE_3N
A33	DDI1_PAIR3+	DP1_LANE_3P
A34	GND_A34	GND
A35	eDP_AUX-	EDP_AUXN
A36	eDP_AUX+	EDP_AUXP
A37	GND_A37	GND
A38	eDP_TX0-	EDP_TX0N
A39	eDP_TX0+	EDP_TX0P
A40	GND_A40	GND
A41	eDP_TX1-	EDP_TX1N
A42	eDP_TX1+	EDP_TX1P
A43	GND_A43	GND
A44	eDP_TX2-	EDP_TX2N
A45	eDP_TX2+	EDP_TX2P
A46	GND_A46	GND
A47	eDP_TX3-	EDP_TX3N
A48	eDP_TX3+	EDP_TX3P
A49	GND_A49	GND
A50	(1.8V)eSPI_IO0	ESPI_IO0
A51	(1.8V)eSPI_IO1	ESPI_IO1
A52	(1.8V)eSPI_IO2	ESPI_IO2
A53	(1.8V)eSPI_IO3	ESPI_IO3
A54	(1.8V)eSPI_CLK	ESPI_CLK
A55	GND_A55	GND
A56	(OD 3.3V)PCIe_CLKREQ0_LO#	PCIE_CLKREQ0_LO#
A57	(OD 3.3V)PCIe_CLKREQ0_HI#	PCIE_CLKREQ0_HI#
A58	GND_A58	GND
A59	PCIe_BMC_TX-	NC
A60	PCIe_BMC_TX+	NC

Number	Name	Net Name
A61	GND_A61	GND
A62	PCIe08_TX-	PCIE08_TXN
A63	PCIe08_TX+	PCIE08_TXP
A64	GND_A64	GND
A65	PCIe09_TX-	PCIE09_TXN
A66	PCIe09_TX+	PCIE09_TXP
A67	GND_A67	GND
A68	PCIe10_TX-	PCIE10_TXN
A69	PCIe10_TX+	PCIE10_TXP
A70	GND_A70	GND
A71	PCIe11_TX-	PCIE11_TXN
A72	PCIe11_TX+	PCIE11_TXP
A73	GND_A73	GND
A74	PCIe12_TX-	PCIE12_TXN
A75	PCIe12_TX+	PCIE12_TXP
A76	GND_A76	GND
A77	PCIe13_TX-	PCIE13_TXN
A78	PCIe13_TX+	PCIE13_TXP
A79	GND_A79	GND
A80	PCIe14_TX-	PCIE14_TXN
A81	PCIe14_TX+	PCIE14_TXP
A82	GND_A82	GND
A83	PCIe15_TX-	PCIE15_TXN
A84	PCIe15_TX+	PCIE15_TXP
A85	GND_A85	GND
A86	VCC_RTC	VCC_RTC
A87	(3.3V)SUS_CLK	SUS_CLK
A88	(3.3V)GPIO_00	GPIO_00
A89	(3.3V)GPIO_01	GPIO_01
A90	(3.3V)GPIO_02	GPIO_02

Number	Name	Net Name
A91	(3.3V)GPIO_03	GPIO_03
A92	(3.3V)GPIO_04	GPIO_04
A93	(3.3V)GPIO_05	GPIO_05
A94	(3.3V)GPIO_06	GPIO_06
A95	(3.3V)GPIO_07	GPIO_07
A96	(3.3V)GPIO_08	GPIO_08
A97	(3.3V)GPIO_09	GPIO_09
A98	(3.3V)GPIO_10	GPIO_10
A99	(3.3V)GPIO_11	GPIO_11
A100	TYPE0	TYPE0

Number	Name	Net Name
B01	VCC_B1	VIN_WIDE
B02	(3.3V)PWRBTN#	PWRBTN#
B03	VCC_B3	VIN_WIDE
B04	(3.3V)THERMTRIP#	THERMTRIP#
B05	VCC_B5	VIN_WIDE
B06	(VCC_RTC)TAMPER#	TAMPER#
B07	VCC_B7	VIN_WIDE
B08	(3.3V)SUS_S3#	SUS_S3#
B09	VCC_B9	VIN_WIDE
B10	(3.3V)WD_STROBE#	WDT_STROBE#
B11	(3.3V)WD_OUT	WDT_OUT
B12	GND_B12	GND
B13	(3.3V)USB5-	USBA_P4_DN
B14	(3.3V)USB5+	USBA_P4_DP
B15	GND_B15	GND
B16	(3.3V)USB4-	USBA_P3_DN
B17	(3.3V)USB4+	USBA_P3_DP
B18	GND_B18	GND
B19	(1.8V)I2S_LRCLK/SNDW_CLK3/ HDA_SYNC	HDA_SYNC/I2S_LRCLK/SNDW_CLK3
B20	(1.8V)I2S_DOUT/SNDW_DAT3/ HDA_SDO	HDA_SDO/I2S_DOUT/SNDW_DAT3
B21	(1.8V)I2S_MCLK/HDA_RST#	HDA_RST#/I2S_MCLK
B22	(1.8V)I2S_DIN/SNDW_DAT2/ HDA_SDI	HDA_SDI/I2S_DIN/SNDW_DAT2
B23	(1.8V)I2S_CLK/SNDW_CLK2/ HDA_BCLK	HDA_BCLK/I2S_CLK/SNDW_CLK2
B24	VCC_5V_SBY	VCC_5V_SBY
B25	(3.3V)USB67_OC#	USB67_OC#
B26	(3.3V)USB45_OC#	USB45_OC#
B27	(3.3V)USB23_OC#	USB23_OC#
B28	(3.3V)USB01_OC#	USB01_OC#
B29	(OD 3.3V)SML1_CLK	SML1_CLK
B30	(OD 3.3V)SML1_DAT	SML1_DAT

Number	Name	Net Name
B31	(3.3V)PMCALERT#	PMCALERT#
B32	(OD 3.3V)SML0_CLK	NC
B33	(OD 3.3V)SML0_DAT	NC
B34	(3.3V)USB_PD_ALERT#	USB_PD_ALERT#
B35	(OD 3.3V)USB_PD_I2C_CLK	USB_PD_I2C_CLK
B36	(OD 3.3V)USB_PD_I2C_DAT	USB_PD_I2C_DAT
B37	(3.3V)USB_RT_ENA	NC
B38	(3.3V)USB1_LSRX	NC
B39	(3.3V)USB1_LSTX	NC
B40	(3.3V)USB0_LSRX	NC
B41	(3.3V)USB0_LSTX	NC
B42	GND_B42	GND
B43	USB0_AUX-	NC
B44	USB0_AUX+	NC
B45	(3.3V)LID#	LID#_BTN
B46	(3.3V)SLEEP#	SLP#_BTN
B47	(1.8V/3.3V)VCC_BOOT_SPI	VCC_BOOT_SPI
B48	(VCC_BOOT_SPI)BOOT_SPI_CS#	BOOT_SPI_CS#
B49	BSEL0	BSEL0
B50	BSEL1	BSEL1
B51	BSEL2	BSEL2
B52	(1.8V)eSPI_ALERT0#	ESPI_ALERT0#_CON
B53	(1.8V)eSPI_ALERT1#	ESPI_ALERT1#_CON
B54	(1.8V)eSPI_CS0#	ESPI_CS0#_CON
B55	(1.8V)eSPI_CS1#	ESPI_CS1#_CON
B56	(1.8V)eSPI_RST#	ESPI_RST#
B57	GND_B57	GND
B58	PCIe_BMC_RX-	NC
B59	PCIe_BMC_RX+	NC
B60	GND_B60	GND

Number	Name	Net Name
B61	PCIe08_RX-	PCIE08_RXN
B62	PCIe08_RX+	PCIE08_RXP
B63	GND_B63	GND
B64	PCIe09_RX-	PCIE09_RXN
B65	PCIe09_RX+	PCIE09_RXP
B66	GND_B66	GND
B67	PCIe10_RX-	PCIE10_RXN
B68	PCIe10_RX+	PCIE10_RXP
B69	GND_B69	GND
B70	PCIe11_RX-	PCIE11_RXN
B71	PCIe11_RX+	PCIE11_RXP
B72	GND_B72	GND
B73	PCIe12_RX-	PCIE12_RXN
B74	PCIe12_RX+	PCIE12_RXP
B75	GND_B75	GND
B76	PCIe13_RX-	PCIE13_RXN
B77	PCIe13_RX+	PCIE13_RXP
B78	GND_B78	GND
B79	PCIe14_RX-	PCIE14_RXN
B80	PCIe14_RX+	PCIE14_RXP
B81	GND_B81	GND
B82	PCIe15_RX-	PCIE15_RXN
B83	PCIe15_RX+	PCIE15_RXP
B84	GND_B84	GND
B85	(OD 3.3V)TEST#	□NC
B86	(3.3V)RSMRST_OUT#	RSMRST_OUT#
B87	(3.3V)UART1_TX	UART1_TX
B88	(3.3V)UART1_RX	UART1_RX
B89	(3.3V)UART1_RTS#	UART1_RTS#
B90	(3.3V)UART1_CTS#	UART1_CTS#

Number	Name	Net Name
B91	(OD 3.3V)IPMB_CLK	NC
B92	(OD 3.3V)IPMB_DAT	NC
B93	(3.3V)GP_SPI_MOSI	GP_SPI_MOSI
B94	(3.3V)GP_SPI_MISO	GP_SPI_MISO
B95	(3.3V)GP_SPI_CS0#	GP_SPI_CS0#
B96	(3.3V)GP_SPI_CS1#	GP_SPI_CS1#
B97	(3.3V)GP_SPI_CS2#	GP_SPI_CS2#
B98	(3.3V)GP_SPI_CS3#	GP_SPI_CS3#
B99	(3.3V)GP_SPI_CLK	GP_SPI_CLK
B100	(3.3V)GP_SPI_ALERT#	GP_SPI_ALERT#

Number	Name	Net Name
C01	VCC_C1	VIN_WIDE
C02	(3.3V)RSTBTN#	RSTBTN#
C03	VCC_C3	VIN_WIDE
C04	(3.3V)CARRIER_HOT#	CARRIER_HOT#
C05	VCC_C5	VIN_WIDE
C06	(3.3V)VIN_PWR_OK	VIN_PWR_OK
C07	VCC_C7	VIN_WIDE
C08	(3.3V)SUS_S4_S5#	SUS_S4_S5#
C09	VCC_C9	VIN_WIDE
C10	GND_C10	GND
C11	(3.3V)FAN_PWMOUT	FAN_PWMOUT_BTB
C12	(OD 3.3V)FAN_TACHIN	FAN_TACHIN_BTB
C13	GND_C13	GND
C14	(3.3V)USB3-	USBA_P2_DN
C15	(3.3V)USB3+	USBA_P2_DP
C16	GND_C16	GND
C17	(3.3V)USB2-	USBA_P1_DN
C18	(3.3V)USB2+	USBA_P1_DP
C19	GND_C19	GND
C20	(1.8V)SNDW_DMIC_CLK1	SNDW_DMIC_CLK1
C21	(1.8V)SNDW_DMIC_DAT1	SNDW_DMIC_DAT1
C22	GND_C22	GND
C23	(1.8V)SNDW_DMIC_CLK0	SNDW_DMIC_CLK0
C24	(1.8V)SNDW_DMIC_DAT0	SNDW_DMIC_DAT0
C25	GND_C25	GND
C26	(3.3V)DDI0_DDC_AUX_SEL	HDMI_DP_SEL_DDI0
C27	(3.3V)DDI1_DDC_AUX_SEL	HDMI_DP_SEL_DDI1
C28	(3.3V)DDI0_HPD	HDMI_HPD_BTB
C29	(3.3V)DDI1_HPD	DP1_HPD
C30	(3.3V)eDP_HPD	EDP_HPD

Number	Name	Net Name
C31	(3.3V)eDP_VDD_EN	EDP_VDD_EN
C32	(3.3V)eDP_BKLT_EN	EDP_BKLT_EN
C33	(3.3V)eDP_BKLTCTL	EDP_BKLT_CTRL
C34	GND_C34	GND
C35	USB1_AUX-	NC
C36	USB1_AUX+	NC
C37	GND_C37	GND
C38	USB1_SSRX0-	USBC_P2_RX0N
C39	USB1_SSRX0+	USBC_P2_RX0P
C40	GND_C40	GND
C41	USB1_SSRX1-	USBC_P2_RX1N
C42	USB1_SSRX1+	USBC_P2_RX1P
C43	GND_C43	GND
C44	USB0_SSRX0-	USBA_P1_RXN
C45	USB0_SSRX0+	USBA_P1_RXP
C46	GND_C46	GND
C47	USB0_SSRX1-	USBA_P2_RXN
C48	USB0_SSRX1+	USBA_P2_RXP
C49	GND_C49	GND
C50	(VCC_BOOT_SPI)BOOT_SPI_IO0	BOOT_SPI_IO_0
C51	(VCC_BOOT_SPI)BOOT_SPI_IO1	BOOT_SPI_IO_1
C52	(VCC_BOOT_SPI)BOOT_SPI_IO2	BOOT_SPI_IO_2
C53	(VCC_BOOT_SPI)BOOT_SPI_IO3	BOOT_SPI_IO_3
C54	(VCC_BOOT_SPI)BOOT_SPI_CLK	BOOT_SPI_CLK
C55	GND_C55	GND
C56	PCIe_REFCLK0_HI-	PCIE_REFCLK0_HI_N
C57	PCIe_REFCLK0_HI+	PCIE_REFCLK0_HI_P
C58	GND_C58	GND
C59	PCIe_REFCLK0_LO-	PCIE_REFCLK0_LO_N
C60	PCIe_REFCLK0_LO+	PCIE_REFCLK0_LO_P

Number	Name	Net Name
C61	GND_C61	GND
C62	PCIe00_RX-	PCIE00_RXN
C63	PCIe00_RX+	PCIE00_RXP
C64	GND_C64	GND
C65	PCIe01_RX-	PCIE01_RXN
C66	PCIe01_RX+	PCIE01_RXP
C67	GND_C67	GND
C68	PCIe02_RX-	PCIE02_RXN
C69	PCIe02_RX+	PCIE02_RXP
C70	GND_C70	GND
C71	PCIe03_RX-	PCIE03_RXN
C72	PCIe03_RX+	PCIE03_RXP
C73	GND_C73	GND
C74	PCIe04_RX-	PCIE04_RXN
C75	PCIe04_RX+	PCIE04_RXP
C76	GND_C76	GND
C77	PCIe05_RX-	PCIE05_RXN
C78	PCIe05_RX+	PCIE05_RXP
C79	GND_C79	GND
C80	PCIe06_RX-	PCIE06_RXN
C81	PCIe06_RX+	PCIE06_RXP
C82	GND_C82	GND
C83	PCIe07_RX-	PCIE07_RXN
C84	PCIe07_RX+	PCIE07_RXP
C85	GND_C85	GND
C86	(OD 3.3V)SMB_CLK	SMB_CLK_RESUME
C87	(OD 3.3V)SMB_DAT	SMB_DAT_RESUME
C88	(3.3V)SMB_ALERT#	SMB_ALERT#
C89	(3.3V)UART0_TX	UART0_TX
C90	(3.3V)UART0_RX	UART0_RX

Number	Name	Net Name
C91	(3.3V)UART0_RTS#	UART0_RTS#
C92	(3.3V)UART0_CTS#	UART0_CTS#
C93	(OD 3.3V)I2C0_CLK	I2C0_CLK
C94	(OD 3.3V)I2C0_DAT	I2C0_DAT
C95	(3.3V)I2C0_ALERT#	I2C0_ALERT#
C96	(OD 1.8V)I2C1_CLK	I2C1_CLK
C97	(OD 1.8V)I2C1_DAT	I2C1_DAT
C98	(3.3V)NBASET0_SDP	NBASET0_SDP
C99	(Min GND/Max 3.3V)NBASET0_CTREF	LAN1_CTREF
C100	TYPE1	TYPE1

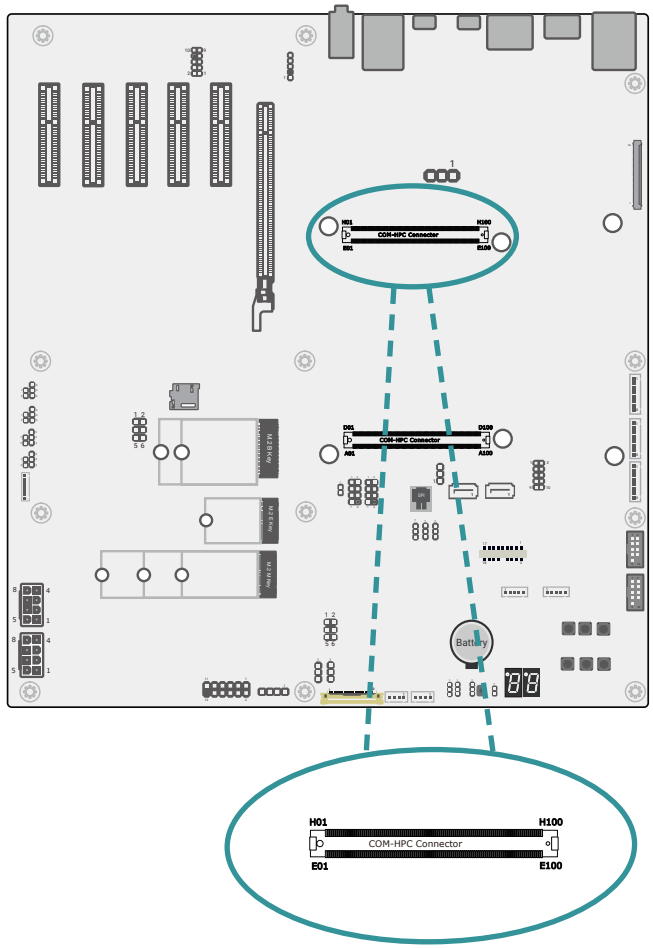
Number	Name	Net Name
D01	VCC_D1	VIN_WIDE
D02	VCC_D2	VIN_WIDE
D03	VCC_D3	VIN_WIDE
D04	VCC_D4	VIN_WIDE
D05	VCC_D5	VIN_WIDE
D06	VCC_D6	VIN_WIDE
D07	VCC_D7	VIN_WIDE
D08	VCC_D8	VIN_WIDE
D09	VCC_D9	VIN_WIDE
D10	(3.3V)WAKE0#	WAKE0#
D11	(3.3V)WAKE1#	N20416436
D12	GND_D12	GND
D13	(3.3V)USB1-	USBC_P2_DN
D14	(3.3V)USB1+	USBC_P2_DP
D15	GND_D15	GND
D16	(3.3V)USB0-	USBC_P1_DN
D17	(3.3V)USB0+	USBC_P1_DP
D18	GND_D18	GND
D19	(OD 3.3V for HDMI/DVI)DDI0_SDA_AUX-	HDMI_CTRL_DAT
D20	(OD 3.3V for HDMI/DVI)DDI0_SCL_AUX+	HDMI_CTRL_CLK
D21	GND_D21	GND
D22	DDI0_PAIR0-	HDMI_LANE0_N
D23	DDI0_PAIR0+	HDMI_LANE0_P
D24	GND_D24	GND
D25	DDI0_PAIR1-	HDMI_LANE1_N
D26	DDI0_PAIR1+	HDMI_LANE1_P
D27	GND_D27	GND
D28	DDI0_PAIR2-	HDMI_LANE2_N
D29	DDI0_PAIR2+	HDMI_LANE2_P
D30	GND_D30	GND

Number	Name	Net Name
D31	DDI0_PAIR3-	HDMI_CLK_N
D32	DDI0_PAIR3+	HDMI_CLK_P
D33	GND_D33	GND
D34	(3.3V)AC_PRESENT	AC_PRESENT
D35	RSVD_D35	NC
D36	GND_D36	GND
D37	USB1_SSTX0-	USBC_P2_TX0N
D38	USB1_SSTX0+	USBC_P2_TX0P
D39	GND_D39	GND
D40	USB1_SSTX1-	USBC_P2_TX1N
D41	USB1_SSTX1+	USBC_P2_TX1P
D42	GND_D42	GND
D43	USB0_SSTX0-	USBA_P1_TXN
D44	USB0_SSTX0+	USBA_P1_TXP
D45	GND_D45	GND
D46	USB0_SSTX1-	USBA_P2_TXN
D47	USB0_SSTX1+	USBA_P2_TXP
D48	GND_D48	GND
D49	SATA0_RX-	SATA0_RXN
D50	SATA0_RX+	SATA0_RXP
D51	GND_D51	GND
D52	SATA0_TX-	SATA0_TXN
D53	SATA0_TX+	SATA0_TXP
D54	GND_D54	GND
D55	SATA1_RX-	SATA1_RXN
D56	SATA1_RX+	SATA1_RXP
D57	GND_D57	GND
D58	SATA1_TX-	SATA1_TXN
D59	SATA1_TX+	SATA1_TXP
D60	GND_D60	GND

Number	Name	Net Name
D61	PCIe00_TX-	PCIE00_TXN
D62	PCIe00_TX+	PCIE00_TXP
D63	GND_D63	GND
D64	PCIe01_TX-	PCIE01_TXN
D65	PCIe01_TX+	PCIE01_TXP
D66	GND_D66	GND
D67	PCIe02_TX-	PCIE02_TXN
D68	PCIe02_TX+	PCIE02_TXP
D69	GND_D69	GND
D70	PCIe03_TX-	PCIE03_TXN
D71	PCIe03_TX+	PCIE03_TXP
D72	GND_D72	GND
D73	PCIe04_TX-	PCIE04_TXN
D74	PCIe04_TX+	PCIE04_TXP
D75	GND_D75	GND
D76	PCIe05_TX-	PCIE05_TXN
D77	PCIe05_TX+	PCIE05_TXP
D78	GND_D78	GND
D79	PCIe06_TX-	PCIE06_TXN
D80	PCIe06_TX+	PCIE06_TXP
D81	GND_D81	GND
D82	PCIe07_TX-	PCIE07_TXN
D83	PCIe07_TX+	PCIE07_TXP
D84	GND_D84	GND
D85	(3.3V)NBASET0_MDI0-	LAN1_MDIN0
D86	(3.3V)NBASET0_MDI0+	LAN1_MDIP0
D87	GND_D87	GND
D88	(3.3V)NBASET0_MDI1-	LAN1_MDIN1
D89	(3.3V)NBASET0_MDI1+	LAN1_MDIP1
D90	GND_D90	GND

Number	Name	Net Name
D91	(3.3V)NBASET0_MDI2-	LAN1_MDIN2
D92	(3.3V)NBASET0_MDI2+	LAN1_MDIP2
D93	GND_D93	GND
D94	(3.3V)NBASET0_MDI3-	LAN1_MDIN3
D95	(3.3V)NBASET0_MDI3+	LAN1_MDIP3
D96	GND_D96	GND
D97	(3.3V)NBASET0_LINK_MAX#	LAN1_LED_2500#
D98	(3.3V)NBASET0_LINK_MID#	LAN1_LED_1000#
D99	(3.3V)NBASET0_LINK_ACT#	LAN1_LED_LINK_ACT#
D100	TYPE2	TYPE2

COM HPC J2 (CN2)



Number	Name	Net Name
E01	(5V)RAPID_ SHUTDOWN	
E02	GND_E2	GND
E03	(OD 3.3V for HDMI/ DVI)DDI2_SDA_AUX-	DP2_SDA_AUXN
E04	(OD 3.3V for HDMI/ DVI)DDI2_SCL_AUX+	DP2_SCL_AUXP
E05	GND_E5	GND
E06	DDI2_PAIR0-	DP2_LANE_0N
E07	DDI2_PAIR0+	DP2_LANE_0P
E08	GND_E8	GND
E09	DDI2_PAIR1-	DP2_LANE_1N
E10	DDI2_PAIR1+	DP2_LANE_1P
E11	GND_E11	GND
E12	DDI2_PAIR2-	DP2_LANE_2N
E13	DDI2_PAIR2+	DP2_LANE_2P
E14	GND_E14	GND
E15	DDI2_PAIR3-	DP2_LANE_3N
E16	DDI2_PAIR3+	DP2_LANE_3P
E17	GND_E17	GND
E18	(3.3V)DDI2_DDC_ AUX_SEL	HDMI_DP_SEL_DDI2
E19	(3.3V)DDI2_HPD	DP2_HPD
E20	GND_E20	GND
E21	PCIe32_TX-	PCIE32_TXN
E22	PCIe32_TX+	PCIE32_TXP
E23	GND_E23	GND
E24	PCIe33_TX-	PCIE33_TXN
E25	PCIe33_TX+	PCIE33_TXP
E26	GND_E26	GND
E27	PCIe34_TX-	PCIE34_TXN
E28	PCIe34_TX+	PCIE34_TXP
E29	GND_E29	GND
E30	PCIe35_TX-	PCIE35_TXN

Number	Name	Net Name
E31	PCIe35_TX+	PCIE35_TXP
E32	GND_E32	GND
E33	PCIe36_TX-	PCIE36_TXN
E34	PCIe36_TX+	PCIE36_TXP
E35	GND_E35	GND
E36	PCIe37_TX-	PCIE37_TXN
E37	PCIe37_TX+	PCIE37_TXP
E38	GND_E38	GND
E39	PCIe38_TX-	PCIE38_TXN
E40	PCIe38_TX+	PCIE38_TXP
E41	GND_E41	GND
E42	PCIe39_TX-	PCIE39_TXN
E43	PCIe39_TX+	PCIE39_TXP
E44	GND_E44	GND
E45	PCIe16_TX-	PCIE16_TXN
E46	PCIe16_TX+	PCIE16_TXP
E47	GND_E47	GND
E48	PCIe17_TX-	PCIE17_TXN
E49	PCIe17_TX+	PCIE17_TXP
E50	GND_E50	GND
E51	PCIe18_TX-	PCIE18_TXN
E52	PCIe18_TX+	PCIE18_TXP
E53	GND_E53	GND
E54	PCIe19_TX-	PCIE19_TXN
E55	PCIe19_TX+	PCIE19_TXP
E56	GND_E56	GND
E57	PCIe20_TX-	PCIE20_TXN
E58	PCIe20_TX+	PCIE20_TXP
E59	GND_E59	GND
E60	PCIe21_TX-	PCIE21_TXN

Number	Name	Net Name
E61	PCIe21_TX+	PCIE21_TXP
E62	GND_E62	GND
E63	PCIe22_TX-	PCIE22_TXN
E64	PCIe22_TX+	PCIE22_TXP
E65	GND_E65	GND
E66	PCIe23_TX-	PCIE23_TXN
E67	PCIe23_TX+	PCIE23_TXP
E68	GND_E68	GND
E69	RSVD_E69	NC
E70	RSVD_E70	NC
E71	RSVD_E71	NC
E72	RSVD_E72	NC
E73	RSVD_E73	NC
E74	RSVD_E74	NC
E75	RSVD_E75	NC
E76	RSVD_E76	NC
E77	RSVD_E77	NC
E78	(Min GND/Max 3.3V) NBASET1_CTREF	LAN2_CTREF
E79	(3.3V)NBASET1_SDP	NBASET1_SDP
E80	(3.3V)NBASET1_ LINK_MID#	LAN2_LED_1000#
E81	(3.3V)NBASET1_ LINK_ACT#	LAN2_LED_LINK_ACT#
E82	(3.3V)NBASET1_ LINK_MAX#	LAN2_LED_2500#
E83	GND_E83	GND
E84	RSVD_E84	NC
E85	RSVD_E85	NC
E86	GND_E86	GND
E87	ETH0_RX-	NC
E88	ETH0_RX+	NC
E89	GND_E89	GND
E90	ETH1_RX-	NC

Number	Name	Net Name
E91	ETH1_RX+	NC
E92	GND_E92	GND
E93	PCIe_REFCLK1-	PCIE_REFCLK1_N
E94	PCIe_REFCLK1+	PCIE_REFCLK1_P
E95	GND_E95	GND
E96	(OD 3.3V)PCIe_CLKREQ1#	PCIE_CLKREQ1#
E97	(OD 3.3V)PCIe_CLKREQ2#	PCIE_CLKREQ2#
E98	PCIe_CLKREQ_OUT0#	NC
E99	PCIe_CLKREQ_OUT1#	NC
E100	(3.3V)PCIe_PERST_IN0#	NC

Number	Name	Net Name
F01	(3.3V)FUSA_STATUS0	NC
F02	(3.3V)FUSA_STATUS1	NC
F03	(3.3V)FUSA_ALERT#	NC
F04	(3.3V)FUSA_SPI_CS#	NC
F05	(3.3V)FUSA_SPI_CLK	NC
F06	(3.3V)FUSA_SPI_ MISO	NC
F07	(3.3V)FUSA_SPI_ MOSI	NC
F08	(3.3V)FUSA_SPI_ ALERT	NC
F09	(3.3V)FUSA_ VOLTAGE_ERR#	NC
F10	(3.3V)PROCHOT#	PROCHOT#
F11	(3.3V)CATERR#	CATERR#
F12	RSVD_F12	NC
F13	RSVD_F13	NC
F14	RSVD_F14	NC
F15	RSVD_F15	NC
F16	RSVD_F16	NC
F17	RSVD_F17	NC
F18	RSVD_F18	NC
F19	GND_F19	GND
F20	PCIe32_RX-	PCIE32_RXN
F21	PCIe32_RX+	PCIE32_RXP
F22	GND_F22	GND
F23	PCIe33_RX-	PCIE33_RXN
F24	PCIe33_RX+	PCIE33_RXP
F25	GND_F25	GND
F26	PCIe34_RX-	PCIE34_RXN
F27	PCIe34_RX+	PCIE34_RXP
F28	GND_F28	GND
F29	PCIe35_RX-	PCIE35_RXN
F30	PCIe35_RX+	PCIE35_RXP

Number	Name	Net Name
F31	GND_F31	GND
F32	PCIe36_RX-	PCIE36_RXN
F33	PCIe36_RX+	PCIE36_RXP
F34	GND_F34	GND
F35	PCIe37_RX-	PCIE37_RXN
F36	PCIe37_RX+	PCIE37_RXP
F37	GND_F37	GND
F38	PCIe38_RX-	PCIE38_RXN
F39	PCIe38_RX+	PCIE38_RXP
F40	GND_F40	GND
F41	PCIe39_RX-	PCIE39_RXN
F42	PCIe39_RX+	PCIE39_RXP
F43	GND_F43	GND
F44	PCIe16_RX-	PCIE16_RXN
F45	PCIe16_RX+	PCIE16_RXP
F46	GND_F46	GND
F47	PCIe17_RX-	PCIE17_RXN
F48	PCIe17_RX+	PCIE17_RXP
F49	GND_F49	GND
F50	PCIe18_RX-	PCIE18_RXN
F51	PCIe18_RX+	PCIE18_RXP
F52	GND_F52	GND
F53	PCIe19_RX-	PCIE19_RXN
F54	PCIe19_RX+	PCIE19_RXP
F55	GND_F55	GND
F56	PCIe20_RX-	PCIE20_RXN
F57	PCIe20_RX+	PCIE20_RXP
F58	GND_F58	GND
F59	PCIe21_RX-	PCIE21_RXN
F60	PCIe21_RX+	PCIE21_RXP

Number	Name	Net Name
F61	GND_F61	GND
F62	PCIe22_RX-	PCIE22_RXN
F63	PCIe22_RX+	PCIE22_RXP
F64	GND_F64	GND
F65	PCIe23_RX-	PCIE23_RXN
F66	PCIe23_RX+	PCIE23_RXP
F67	GND_F67	GND
F68	RSVD_F68	NC
F69	RSVD_F69	NC
F70	GND_F70	GND
F71	(3.3V)NBASET1_ MDI0-	LAN2_MDIN0
F72	(3.3V)NBASET1_ MDI0+	LAN2_MDIP0
F73	GND_F73	GND
F74	(3.3V)NBASET1_ MDI1-	LAN2_MDIN1
F75	(3.3V)NBASET1_ MDI1+	LAN2_MDIP1
F76	GND_F76	GND
F77	(3.3V)NBASET1_ MDI2-	LAN2_MDIN2
F78	(3.3V)NBASET1_ MDI2+	LAN2_MDIP2
F79	GND_F79	GND
F80	(3.3V)NBASET1_ MDI3-	LAN2_MDIN3
F81	(3.3V)NBASET1_ MDI3+	LAN2_MDIP3
F82	GND_F82	GND
F83	RSVD_F83	NC
F84	RSVD_F84	NC
F85	GND_F85	GND
F86	ETH0_TX-	NC
F87	ETH0_TX+	NC
F88	GND_F88	GND
F89	ETH1_TX-	NC
F90	ETH1_TX+	NC

Number	Name	Net Name
F91	GND_F91	GND
F92	PCIe_REFCLK2-	PCIE_REFCLK2_N
F93	PCIe_REFCLK2+	PCIE_REFCLK2_P
F94	GND_F94	GND
F95	RSVD_F95	NC
F96	(3.3V)ETH0-1_ PRSNT#	NC
F97	(3.3V)ETH0-1_PHY_ RST#	NC
F98	(3.3V)ETH0_SDP	NC
F99	(3.3V)ETH1_SDP	NC
F100	(3.3V)PCIe_PERST_ IN1#	NC

Number	Name	Net Name
G01	VCC_5V_SBY	VCC_5V_SBY
G02	GND_G2	GND
G03	USB2_SSRX0-	USBC_P1_RX0N
G04	USB2_SSRX0+	USBC_P1_RX0P
G05	GND_G5	GND
G06	USB2_SSRX1-	USBC_P1_RX1N
G07	USB2_SSRX1+	USBC_P1_RX1P
G08	GND_G8	GND
G09	USB3_SSRX0-	USBA_P3_RXN
G10	USB3_SSRX0+	USBA_P3_RXP
G11	GND_G11	GND
G12	USB3_SSRX1-	USBA_P4_RXN
G13	USB3_SSRX1+	USBA_P4_RXP
G14	GND_G14	GND
G15	USB3_LSRX	□NC
G16	USB3_LSTX	NC
G17	USB2_LSRX	NC
G18	USB2_LSTX	NC
G19	PEG_LANE_REV#	PEG_LANE_REV#
G20	GND_G20	GND
G21	PCIe40_RX-	PCIE40_RXN
G22	PCIe40_RX+	PCIE40_RXP
G23	GND_G23	GND
G24	PCIe41_RX-	PCIE41_RXN
G25	PCIe41_RX+	PCIE41_RXP
G26	GND_G26	GND
G27	PCIe42_RX-	PCIE42_RXN
G28	PCIe42_RX+	PCIE42_RXP
G29	GND_G29	GND
G30	PCIe43_RX-	PCIE43_RXN

Number	Name	Net Name
G31	PCIe43_RX+	PCIE43_RXP
G32	GND_G32	GND
G33	PCIe44_RX-	NC
G34	PCIe44_RX+	NC
G35	GND_G35	GND
G36	PCIe45_RX-	NC
G37	PCIe45_RX+	NC
G38	GND_G38	GND
G39	PCIe46_RX-	NC
G40	PCIe46_RX+	NC
G41	GND_G41	GND
G42	PCIe47_RX-	NC
G43	PCIe47_RX+	NC
G44	GND_G44	GND
G45	PCIe24_RX-	PCIE24_RXN
G46	PCIe24_RX+	PCIE24_RXP
G47	GND_G47	GND
G48	PCIe25_RX-	PCIE25_RXN
G49	PCIe25_RX+	PCIE25_RXP
G50	GND_G50	GND
G51	PCIe26_RX-	PCIE26_RXN
G52	PCIe26_RX+	PCIE26_RXP
G53	GND_G53	GND
G54	PCIe27_RX-	PCIE27_RXN
G55	PCIe27_RX+	PCIE27_RXP
G56	GND_G56	GND
G57	PCIe28_RX-	PCIE28_RXN
G58	PCIe28_RX+	PCIE28_RXP
G59	GND_G59	GND
G60	PCIe29_RX-	PCIE29_RXN

Number	Name	Net Name
G61	PCIe29_RX+	PCIE29_RXP
G62	GND_G62	GND
G63	PCIe30_RX-	PCIE30_RXN
G64	PCIe30_RX+	PCIE30_RXP
G65	GND_G65	GND
G66	PCIe31_RX-	PCIE31_RXN
G67	PCIe31_RX+	PCIE31_RXP
G68	GND_G68	GND
G69	RSVD_G69	NC
G70	RSVD_G70	NC
G71	GND_G71	GND
G72	(1.2V)CSI0_RX0-	CSI0_RX0_N
G73	(1.2V)CSI0_RX0+	CSI0_RX0_P
G74	GND_G74	GND
G75	(1.2V)CSI0_RX1-	CSI0_RX1_N
G76	(1.2V)CSI0_RX1+	CSI0_RX1_P
G77	GND_G77	GND
G78	(1.2V)CSI0_RX2-	CSI0_RX2_N
G79	(1.2V)CSI0_RX2+	CSI0_RX2_P
G80	GND_G80	GND
G81	(1.2V)CSI0_RX3-	CSI0_RX3_N
G82	(1.2V)CSI0_RX3+	CSI0_RX3_P
G83	GND_G83	GND
G84	(1.2V)CSI0_CLK-	CSI0_CLK_N
G85	(1.2V)CSI0_CLK+	CSI0_CLK_P
G86	GND_G86	GND
G87	(1.8V)CSI0_I2C_CLK	CSI0_I2C_CLK
G88	(1.8V)CSI0_I2C_DAT	CSI0_I2C_DAT
G89	(1.8V)CSI0_MCLK	CSI0_MCLK
G90	(1.8V)CSI0_RST#	CSI0_RST#

Number	Name	Net Name
G91	(1.8V)CSI0_ENA	CSI0_ENA
G92	GND_G92	GND
G93	RSVD_G93	NC
G94	RSVD_G94	NC
G95	GND_G95	GND
G96	(OD 3.3V)ETH0-1_I2C_CLK	NC
G97	(OD 3.3V)ETH0-1_I2C_DAT	NC
G98	(3.3V)ETH0-1_PHY_INT#	NC
G99	(3.3V)ETH0-1_INT#	NC
G100	(OD 3.3V)PCIe_WAKE_OUT0#	NC

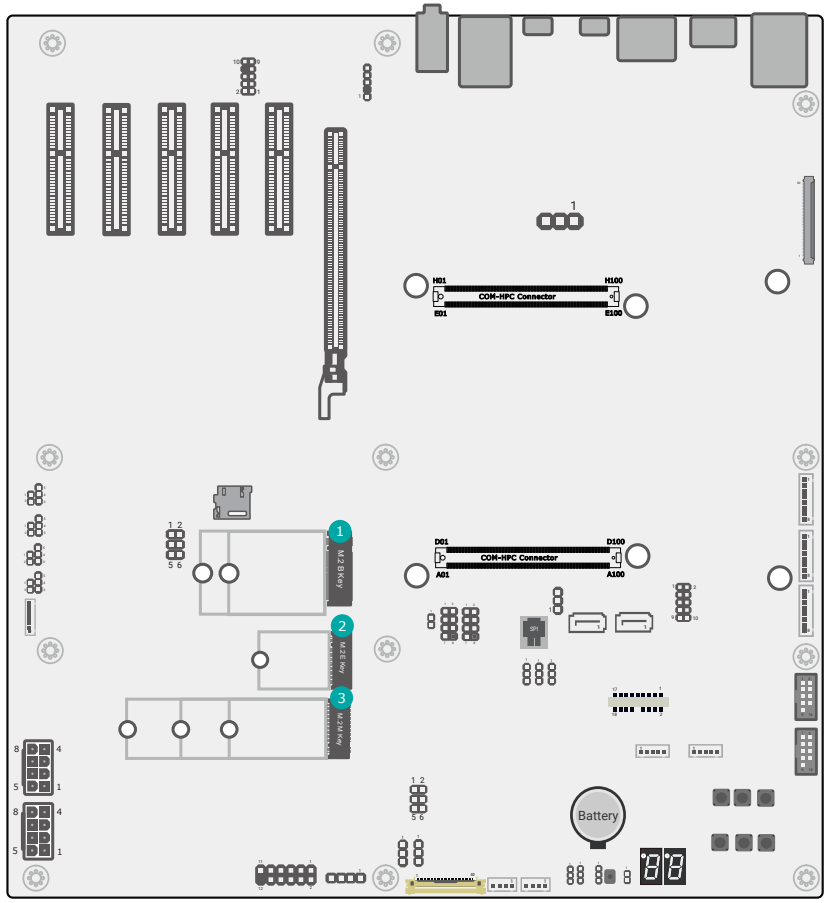
Number	Name	Net Name
H01	GND_H1	GND
H02	USB2_SSTX0-	USBC_P1_TX0N
H03	USB2_SSTX0+	USBC_P1_TX0P
H04	GND_H4	GND
H05	USB2_SSTX1-	USBC_P1_TX1N
H06	USB2_SSTX1+	USBC_P1_TX1P
H07	GND_H7	GND
H08	USB3_SSTX0-	USBA_P3_TXN
H09	USB3_SSTX0+	USBA_P3_TXP
H10	GND_H10	GND
H11	USB3_SSTX1-	USBA_P4_TXN
H12	USB3_SSTX1+	USBA_P4_TXP
H13	GND_H13	GND
H14	USB2_AUX-	NC
H15	USB2_AUX+	NC
H16	GND_H16	GND
H17	USB3_AUX-	NC
H18	USB3_AUX+	NC
H19	GND_H19	GND
H20	PCIe40_TX-	PCIE40_TXN
H21	PCIe40_TX+	PCIE40_TXP
H22	GND_H22	GND
H23	PCIe41_TX-	PCIE41_TXN
H24	PCIe41_TX+	PCIE41_TXP
H25	GND_H25	GND
H26	PCIe42_TX-	PCIE42_TXN
H27	PCIe42_TX+	PCIE42_TXP
H28	GND_H28	GND
H29	PCIe43_TX-	PCIE43_TXN
H30	PCIe43_TX+	PCIE43_TXP

Number	Name	Net Name
H31	GND_H31	GND
H32	PCIe44_TX-	NC
H33	PCIe44_TX+	NC
H34	GND_H34	GND
H35	PCIe45_TX-	NC
H36	PCIe45_TX+	NC
H37	GND_H37	GND
H38	PCIe46_TX-	NC
H39	PCIe46_TX+	NC
H40	GND_H40	GND
H41	PCIe47_TX-	NC
H42	PCIe47_TX+	NC
H43	GND_H43	GND
H44	PCIe24_TX-	PCIE24_TXN
H45	PCIe24_TX+	PCIE24_TXP
H46	GND_H46	GND
H47	PCIe25_TX-	PCIE25_TXN
H48	PCIe25_TX+	PCIE25_TXP
H49	GND_H49	GND
H50	PCIe26_TX-	PCIE26_TXN
H51	PCIe26_TX+	PCIE26_TXP
H52	GND_H52	GND
H53	PCIe27_TX-	PCIE27_TXN
H54	PCIe27_TX+	PCIE27_TXP
H55	GND_H55	GND
H56	PCIe28_TX-	PCIE28_TXN
H57	PCIe28_TX+	PCIE28_TXP
H58	GND_H58	GND
H59	PCIe29_TX-	PCIE29_TXN
H60	PCIe29_TX+	PCIE29_TXP

Number	Name	Net Name
H61	GND_H61	GND
H62	PCIe30_TX-	PCIE30_TXN
H63	PCIe30_TX+	PCIE30_TXP
H64	GND_H64	GND
H65	PCIe31_TX-	PCIE31_TXN
H66	PCIe31_TX+	PCIE31_TXP
H67	GND_H67	GND
H68	RSVD_H68	NC
H69	RSVD_H69	NC
H70	GND_H70	GND
H71	(1.2V)CSI1_RX0-	CSI1_RX0_N
H72	(1.2V)CSI1_RX0+	CSI1_RX0_P
H73	GND_H73	GND
H74	(1.2V)CSI1_RX1-	CSI1_RX1_N
H75	(1.2V)CSI1_RX1+	CSI1_RX1_P
H76	GND_H76	GND
H77	(1.2V)CSI1_RX2-	CSI1_RX2_N
H78	(1.2V)CSI1_RX2+	CSI1_RX2_P
H79	GND_H79	GND
H80	(1.2V)CSI1_RX3-	CSI1_RX3_N
H81	(1.2V)CSI1_RX3+	CSI1_RX3_P
H82	GND_H82	GND
H83	(1.2V)CSI1_CLK-	CSI1_CLK_N
H84	(1.2V)CSI1_CLK+	CSI1_CLK_P
H85	GND_H85	GND
H86	(1.8V)CSI1_I2C_CLK	CSI1_I2C_CLK
H87	(1.8V)CSI1_I2C_DAT	CSI1_I2C_DAT
H88	(1.8V)CSI1_MCLK	CSI1_MCLK
H89	(1.8V)CSI1_RST#	CSI1_RST#
H90	(1.8V)CSI1_ENA	CSI1_ENA

Number	Name	Net Name
H91	GND_H91	GND
H92	(3.3V)PCIe REFCLKIN0-	NC
H93	(3.3V)PCIe_REFCLKIN0+	NC
H94	GND_H94	GND
H95	(3.3V)PCIe_REFCLKIN1-	NC
H96	(3.3V)PCIe_REFCLKIN1+	NC
H97	GND_H97	GND
H98	(3.3V)ETH0-1_MDIO_CLK	NC
H99	(3.3V)ETH0-1_MDIO_DAT	NC
H100	(OD 3.3V)PCIe_WAKE_OUT1#	NC

▶ Expansion Slots

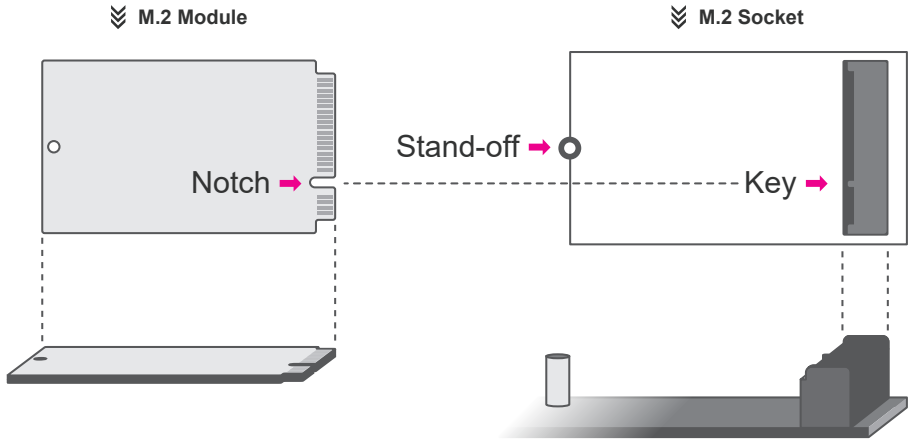


1. M.2 B-Key
2. M.2 E-Key
3. M.2 M-Key

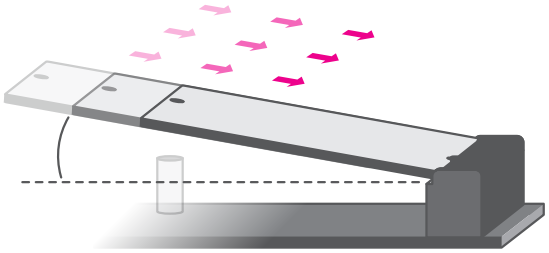
Installing the M.2 Module

Before installing the M.2 module into the M.2 socket, please make sure that the following safety cautions are well-attended.

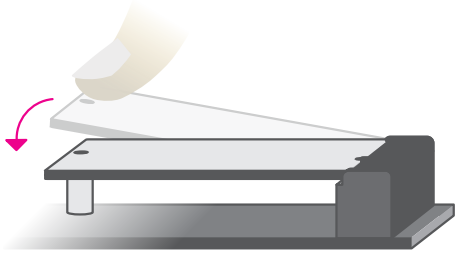
1. Make sure the PC and all other peripheral devices connected to it has been powered down.
2. Disconnect all power cords and cables.
3. Locate the M.2 socket on the system board
4. Make sure the notch on card is aligned to the key on the socket.
5. Make sure the standoff screw is removed from the standoff.



Please follow the steps below to install the card into the socket.



Step 1:
Insert the card into the socket at an angle while making sure the notch and key are perfectly aligned.



Step 2:
Press the end of the card far from the socket down until against the stand-off.

Step 3:
Screw tight the card onto the stand-off with a screw driver and a stand-off screw until the gap between the card and the stand-off closes up. The card should be lying parallel to the board when it's correctly mounted.