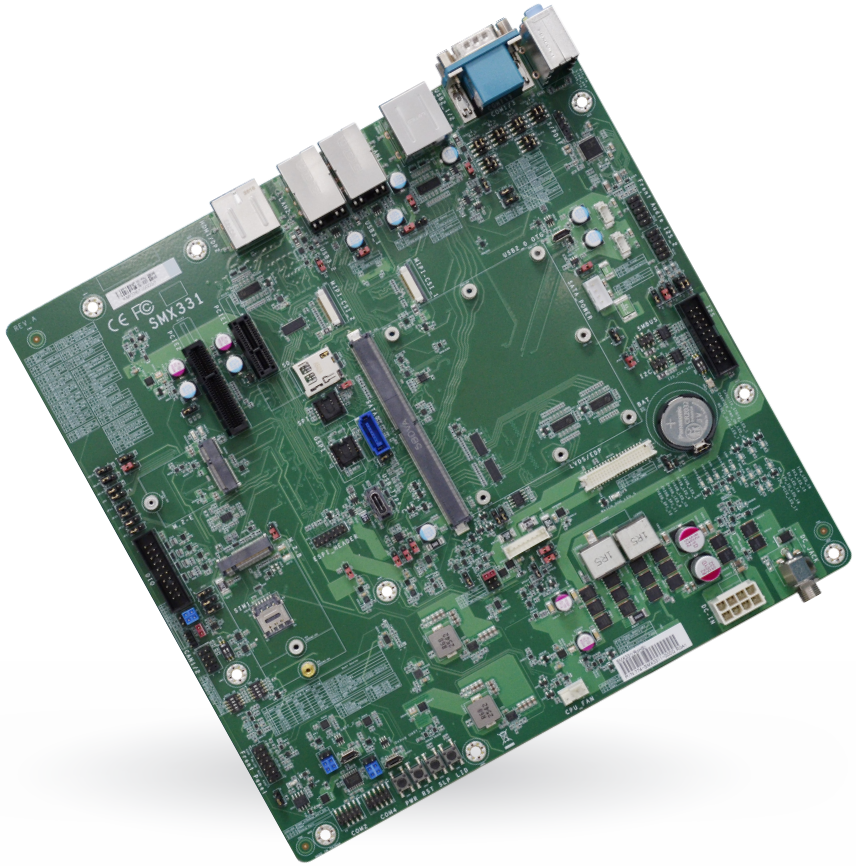
DFI



SMX331

SMARC® Carrier Board
User's Manual

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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 SMX331 motherboard

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.

- 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.

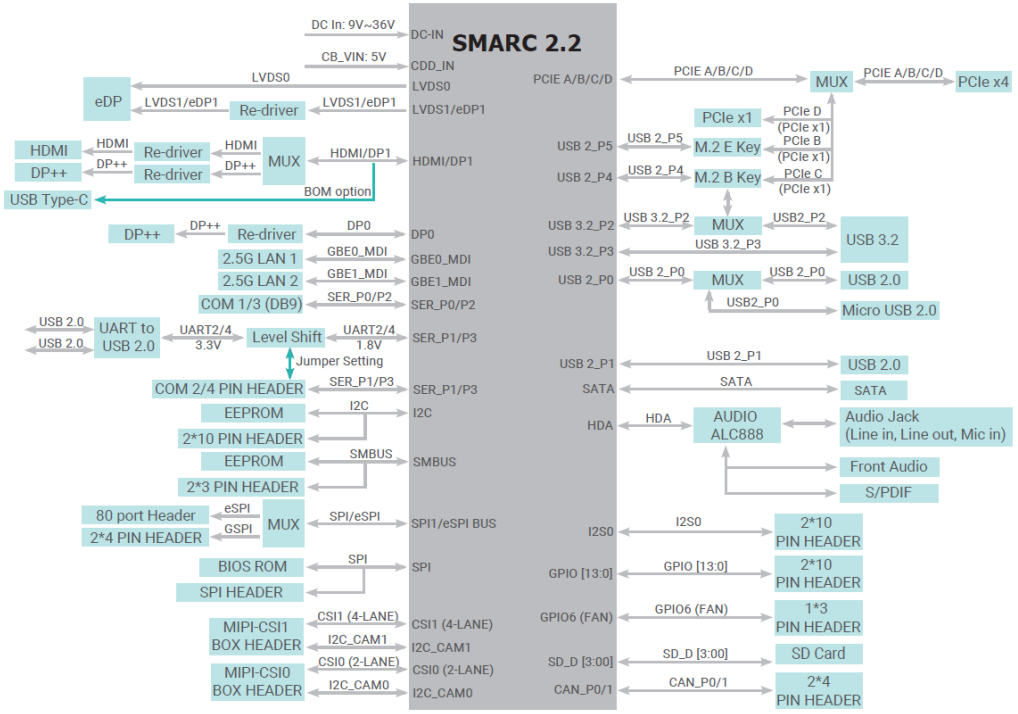
Chapter 1 - Introduction

▶ Specifications

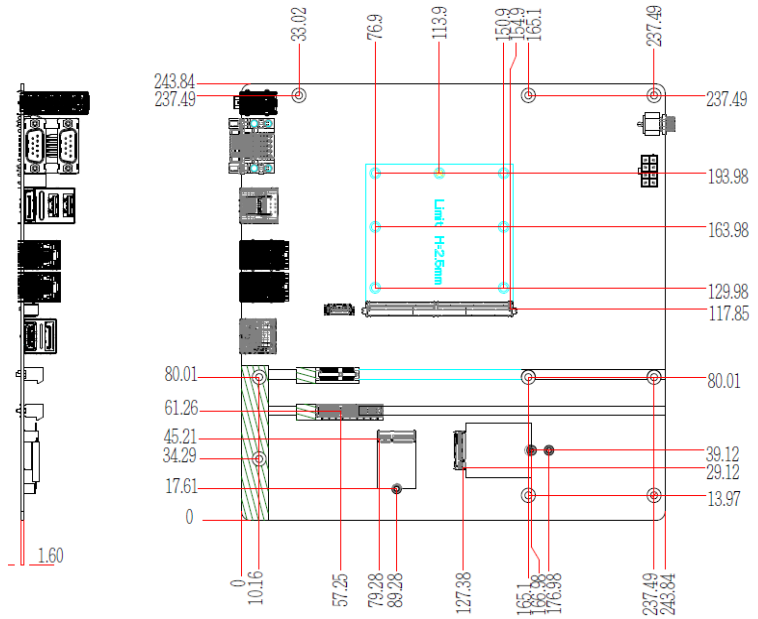
GRAPHICS	Display	1 x HDMI 1 x LVDS/eDP (eDP available upon request) 2 x DP
EXPANSION	Interface	1 x PCIe x4 1 x PCIe x1 1 x M.2 E Key 2230 1 x M.2 B Key 3042/3052 1 x SDIO
AUDIO	Audio Codec	Realtek ALC888S-VD2-GR
I/O	Ethernet	2 x 2.5GbE (RJ-45)
	USB	2 x USB 3.2 (Gen1) 2 x USB 2.0
	Display	2 x DP
	Audio	1 x Line-in 1 x Line-out 1 x Mic-in
	Serial	2 x RS232
INTERNAL I/O	Serial	2 x Serial Interface Connector (TX/RX)
	Display	1 x eDP/LVDS LCD Connector 1 x LCD/Inverter Power
	Audio	1 x Audio (Line-out/Mic-in) 1 x S/PDIF
	SATA	1 x SATA 3.0 (up to 6Gb/s)
	DIO	1 x 14-bit DIO
	eSPI	1 x eSPI
	I2C	1 x I2C
	SMBus	1 x SMBus
	MIPI-CSI	1 x 4-lanes MIPI-CSI + 1 x 2-lanes MIPI-CSI
	CAN	2 x CAN bus
	USB	2 x USB 2.0 (M.2 B Key & M.2 E Key support)
	SPI	1 x SPI

POWER	Type	1 x 8-pin ATX power connector (12V DC_In) 9~36V DC-in jack
	Connector	1 x 8-pin ATX power connector 1 x DC-in jack
	RTC Battery	CR2032 Coin Cell
ENVIRONMENT	Temperature	Operating: 0 to 60°C or -40 to 85°C Storage: -40 to 85°C
	Humidity	Operating: 5 to 95% RH Storage: 5 to 95% RH
	MTBF	TBD
MECHANISM	Dimensions	microATX Form Factor 244mm (9.6") x 244mm (9.6")
	Height	PCB: 1.6mm Top Side: 37.7mm Bottom Side: 3.25mm
	Compliance	SMARC V2.2
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, RoHS

▶ Block Diagram

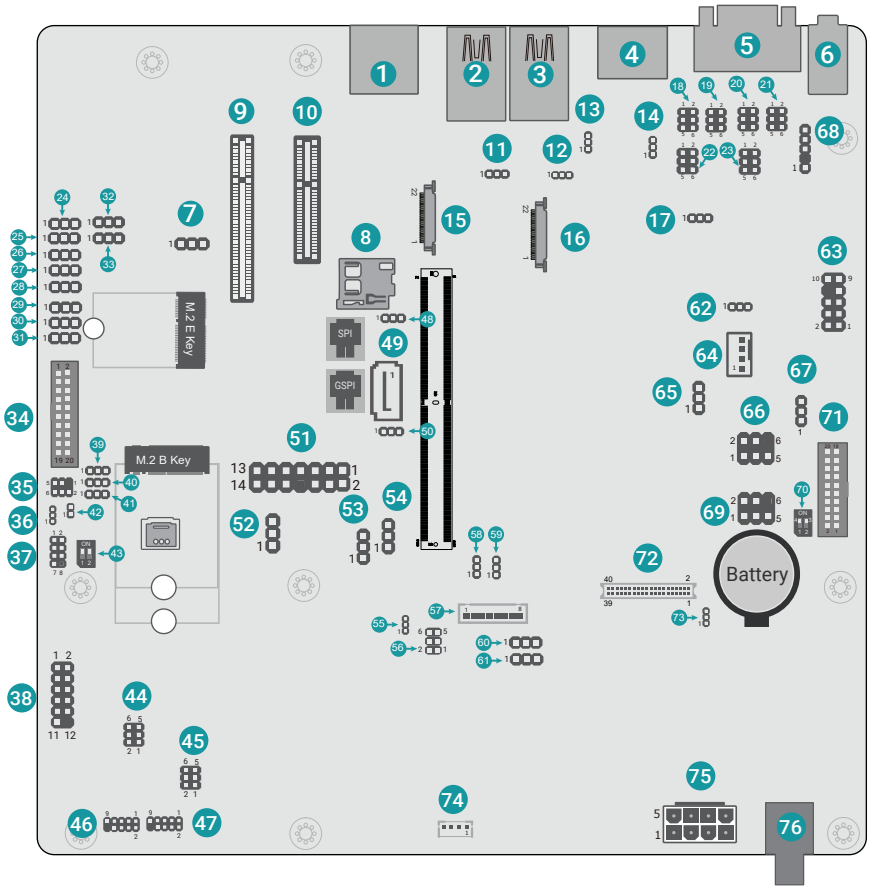


▶ Dimension



Chapter 2 - Hardware Installation

▶ Board Layout

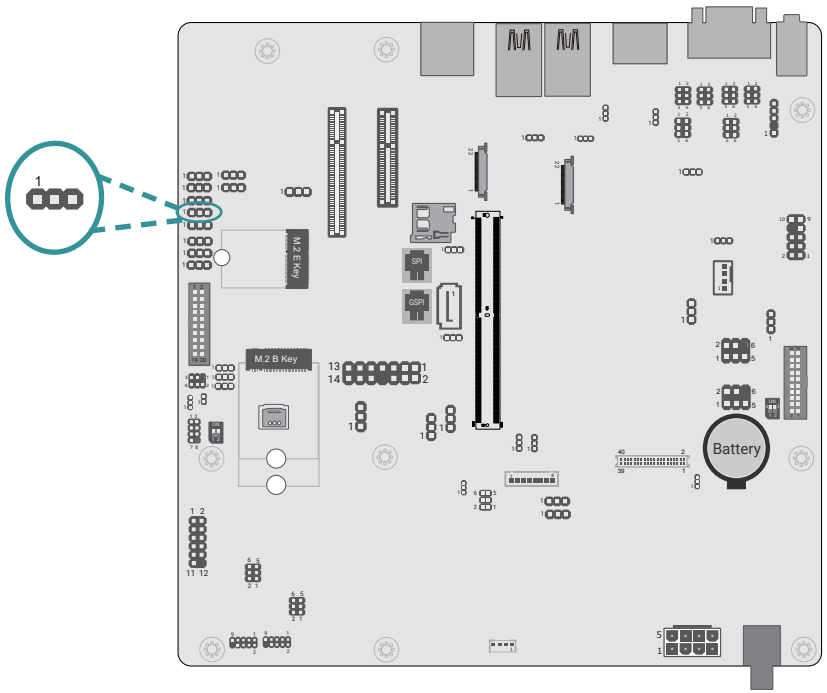


1 ▲DP2 ▼HDMI
2 ▲LAN2 ▼USB3_2
3 ▲LAN1 ▼USB3_1
4 ▲DP1 ▼USB2_1/2
5 COM1/3
6 ▲Line-In ▼Line-Out Mic-In
7 PCIE_A_CKREQ#_SEL
8 Micro SD Card Slot
9 PCIE2
10 PCIE1
11 USB3_2POWER_SEL
12 USB3_1_POWER_SEL
13 USB2 1_POWER_SEL
14 USB2 2_POWER_SEL
15 MIPI- CSI port 2 CS1-4 Lane
16 MIPI- CSI port 1 CS0-2 Lane
17 USB2_0 SEL
18 COM3 RS232/RS485/RS422 Header SEL
19 COM3 RS232/RS485/RS422 Header SEL
20 COM1 RS232/RS485/RS422 Header SEL
21 COM1 RS232/RS485/RS422 Header SEL
22 COM3 RS232/RS485/RS422 Header SEL
23 COM1 RS232/RS485/RS422 Header SEL
24 M.2-E/PCIEX4_SEL
25 PCIEX1/PCIEX4_SEL
26 M.2-B/PCIEX4_SEL
27 DP2/HDMI_SEL
28 GPOI0_CAM0_PWR
29 GPOI1_CAM1_PWR
30 GPOI2_CAM0_RST
31 GPOI3_CAM1_RST
32 PCIE_B_CKREQ#SEL
33 SD Card_POWER_SEL
34 DIO
35 GPIO_12_13 /CAN BUS SEL
36 CAN bus Header
37 CAN Bus 1/2 Header
38 Front Panel
39 GPOI6_TACHIN
40 GPOI5_PWM_OUT

41 GPOI4_HDA_RST
42 CAN BUS_3 Termination_SEL
43 CAN Bus 1/2 Termination_SEL
44 COM2 /debug port Select
45 COM4 /debug port Select
46 COM2
47 COM4
48 SD_CLK/SD_CMD/SD_CD#_POWER_SEL
49 SATA Connector
50 GSPI/ESPI_SEL
51 ESPI
52 ESPI_POWER_SEL
53 SMBUS_POWER_SEL
54 SMBUS_POWER_SEL
55 eDP0/1 HPD_SEL
56 Panel_Power_SEL
57 Panel Inverter Connector
58 LVDS/EDP_SEL
59 LVDS/EDP_SEL
60 Panel_Inverter_Power
61 Panel_Backlight_SEL
62 USB2 OTG_POWER_SEL
63 Front Audio
64 SATA POWER
65 M.2-B/USB3_SEL
66 SMBUS Header
67 HDA/I2S_SEL
68 S/PDIF
69 I2C Header
70 I2S Clock settings
71 I2S Header
72 LVDS/EDP Connector
73 Clear CMOS
74 CPU FAN
75 DC-IN
76 DC JACK_IN

▶ Jumper Settings

DP2/HDMI_SEL (JP5)

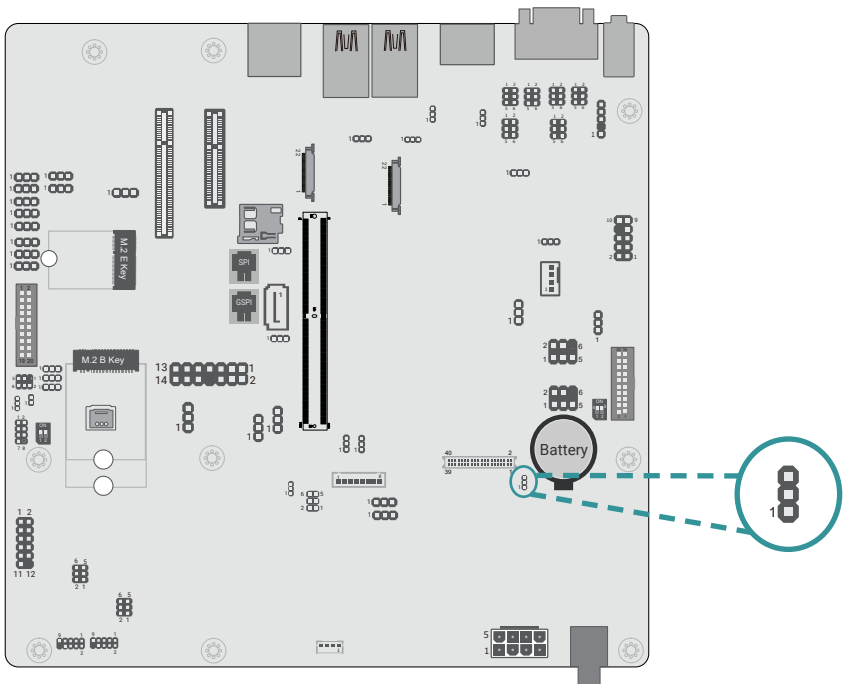


1 1

■ 1-2 On: DP (default)

■ 2-3 On: HDMI

Clear CMOS (JP24)

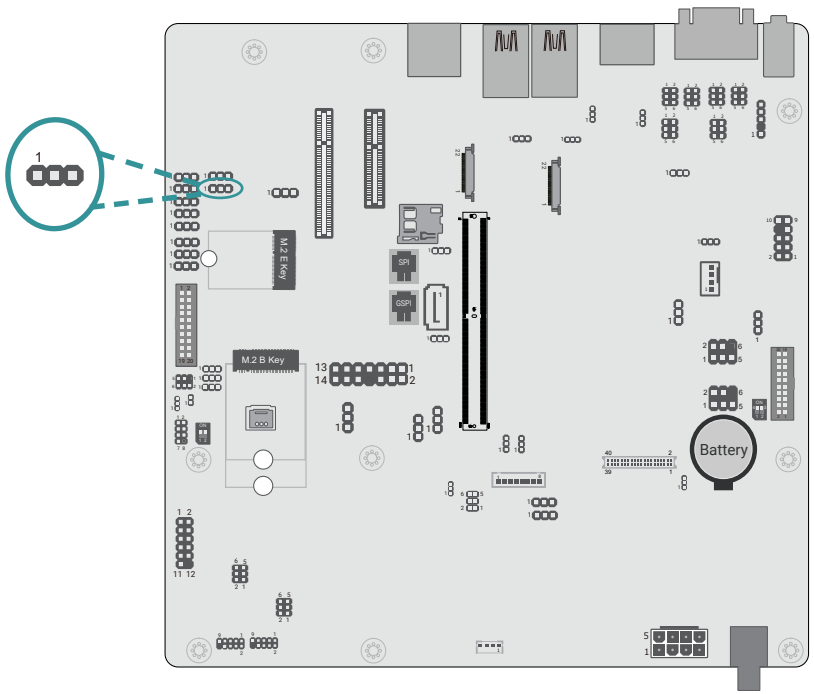


1 1

■ 1-2 On: Normal (default)

■ 2-3 On: Clear CMOS

SD Card_POWER_SEL (JP35)



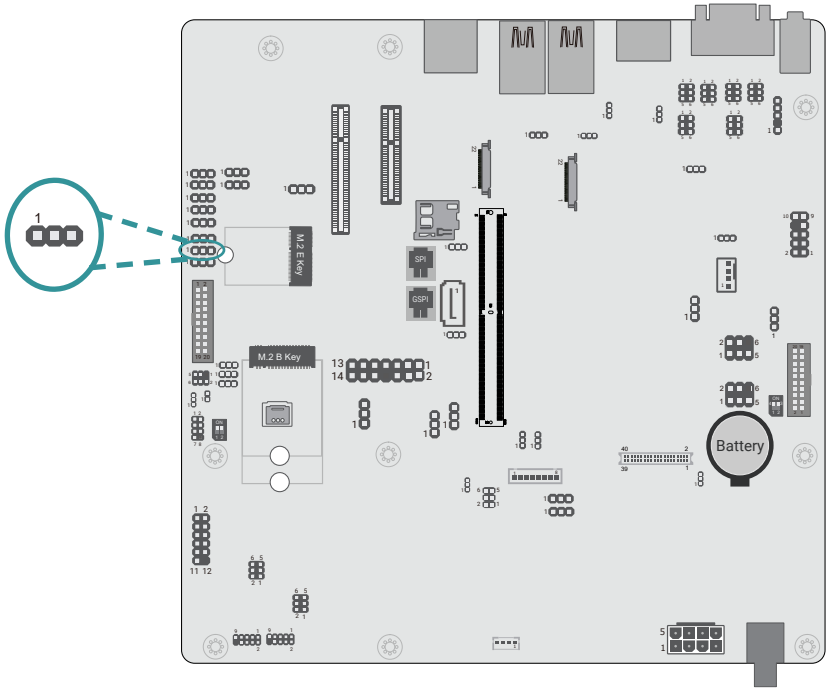


■ 1-2 On: 3V (default)



■ 2-3 On: 3VSB

GPOI2_CAM0_RST (JP12)



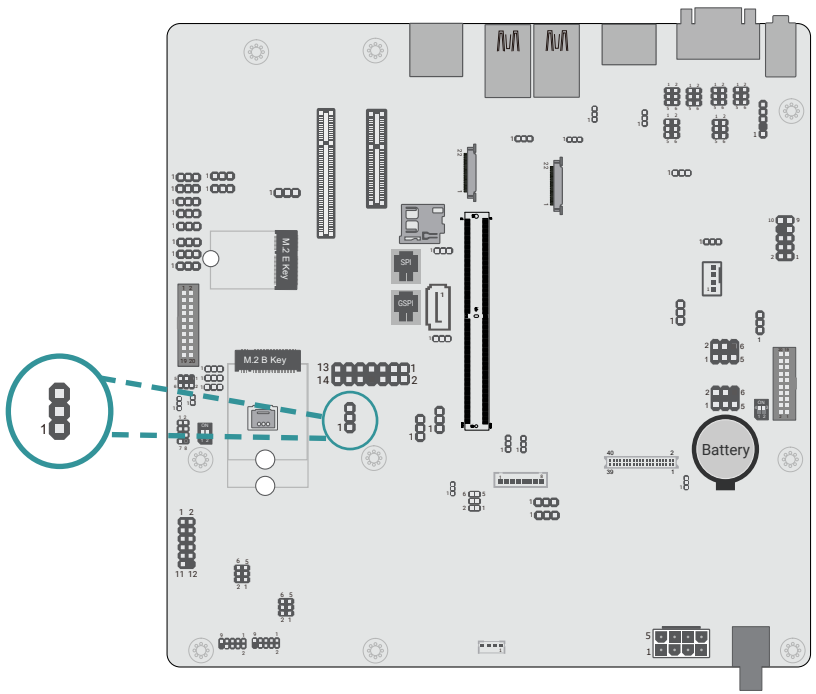


■ 1-2 On: MIPI_CSI0_RST# (default)



■ 2-3 On: GPOI2_3V3

ESPI__POWER_SEL (JP8)



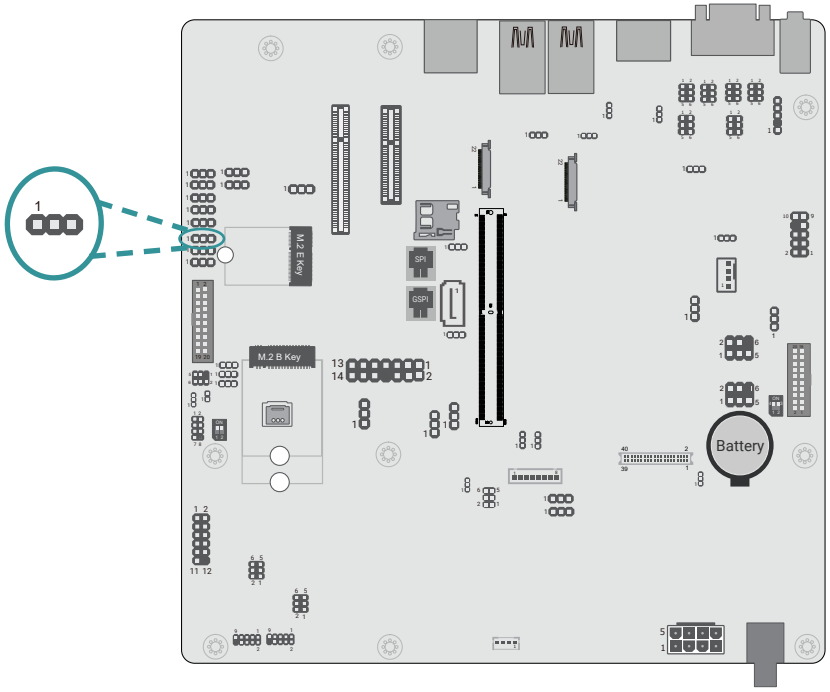


■ 1-2 On: 1V8SB (default)



■ 2-3 On: 3V3SB

GPOI1_CAM1_RST (JP13)



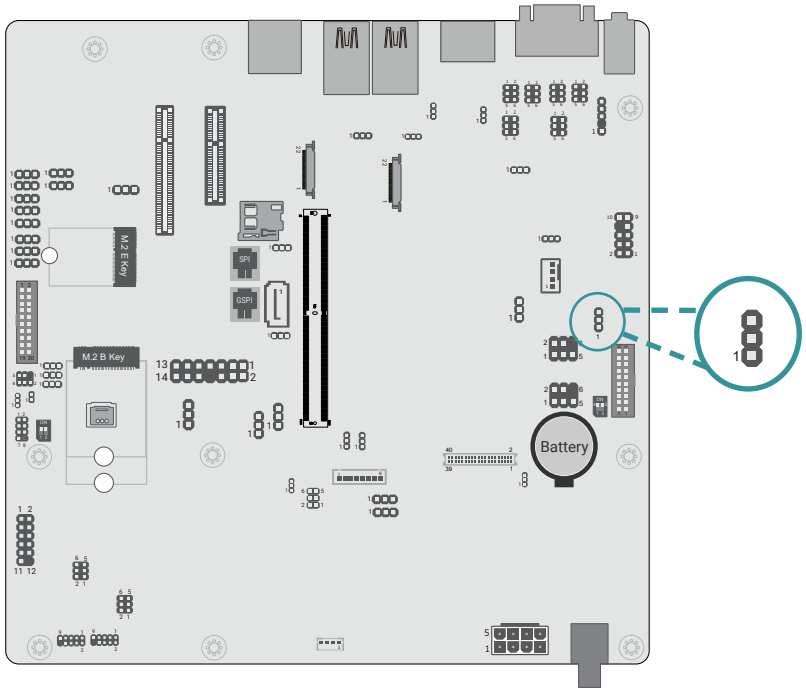


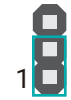
■ 1-2 On: MIPI_CAM1_PWR (default)



■ 2-3 On: GPOI1_3V3

HDA/I2S_SEL (JP9)



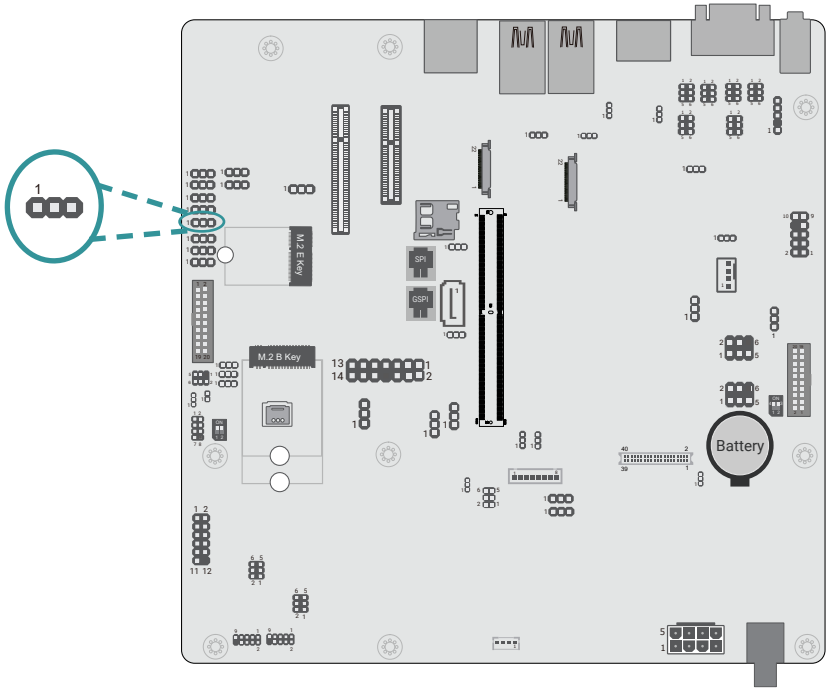


■ 1-2 On: HDA (default)



■ 2-3 On: I2S

GPOI1_CAM0_PWR (JP14)



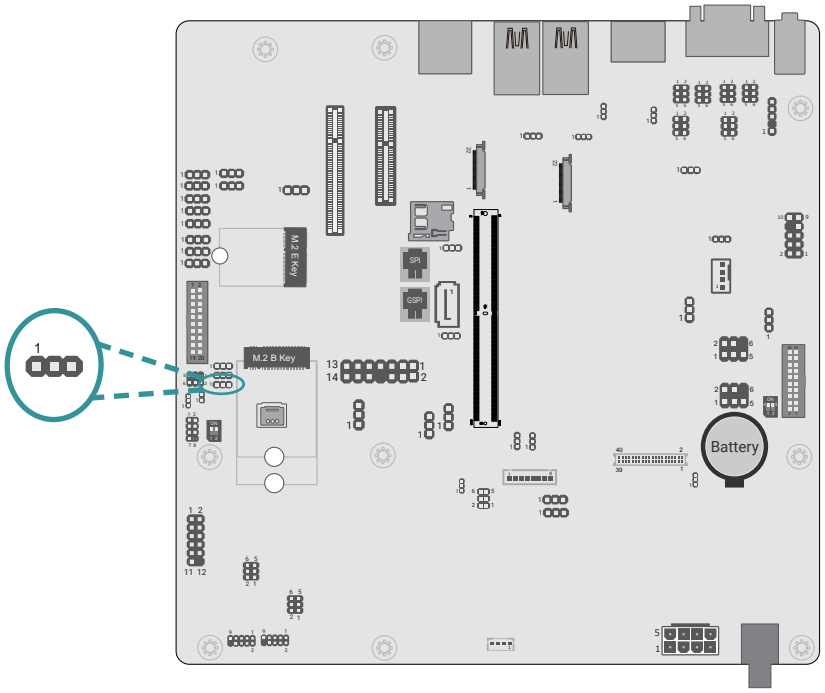


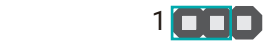
■ 1-2 On: MIPI_CAM0_PWR (default)



■ 2-3 On: GPOI0_3V3

GPOI4_HDA_RST (JP10)



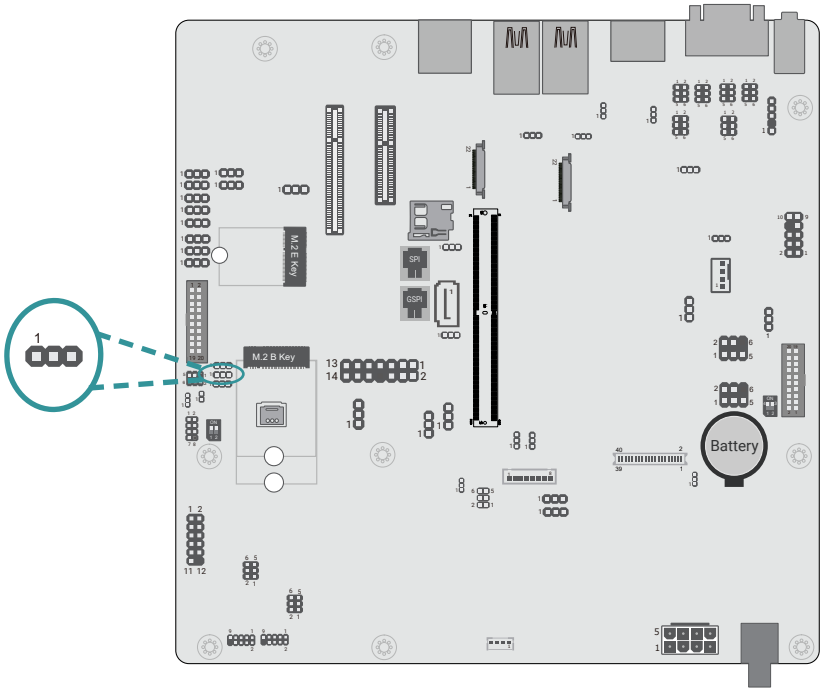


■ 1-2 On: GPOI4_HDA_1V8 (default)



■ 2-3 On: GPOI4_HDA_3V3

GPOI15_PWM_OUT (JP16)



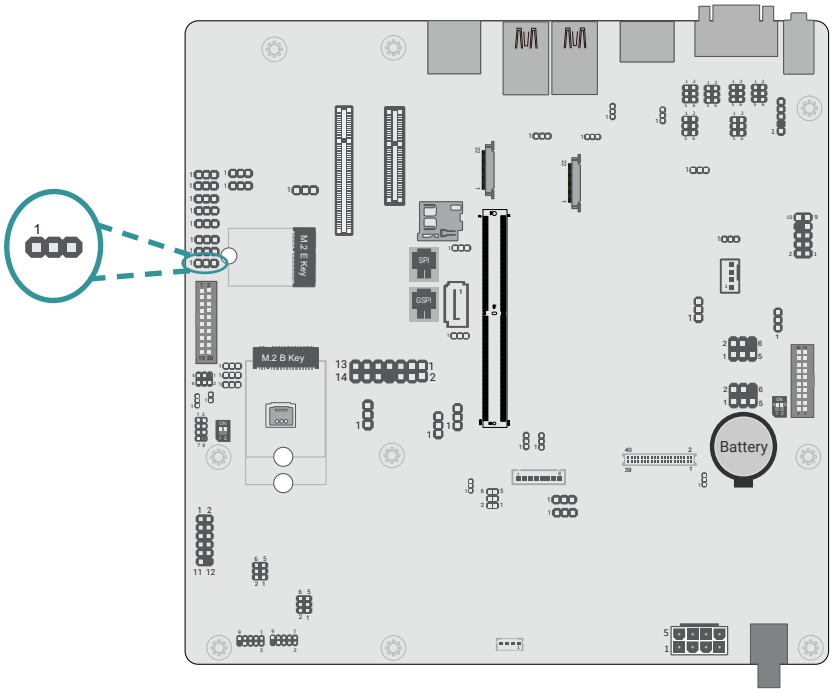


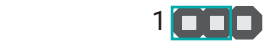
■ 1-2 On: GPOI5_PWM_1V8 (default)



■ 2-3 On: GPOI5_3V3

GPOI3_CAM1_RST (JP11)



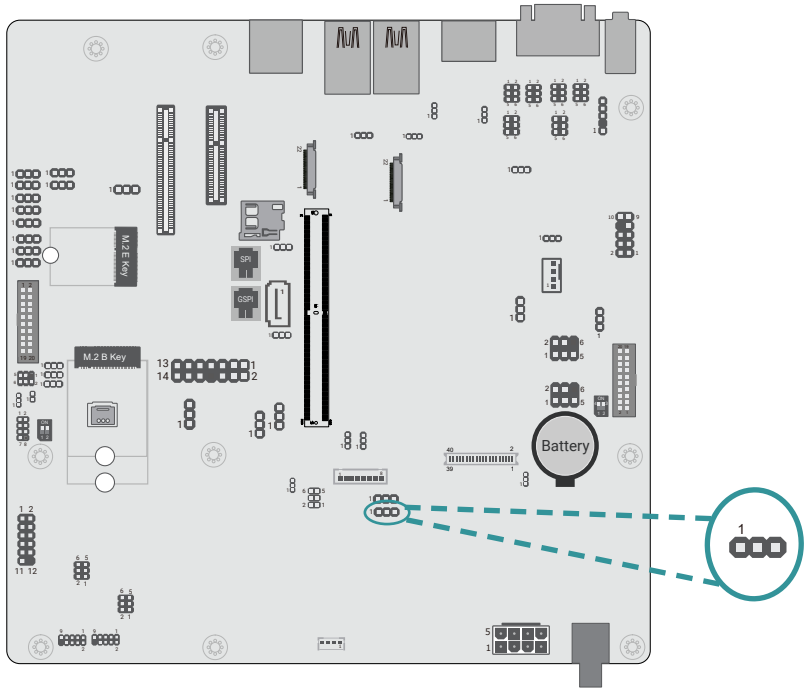


■ 1-2 On: MIPI_CSI1_RST# (default)



■ 2-3 On: GPOI3_3V3

Panel_Backlight_SEL (JP18)



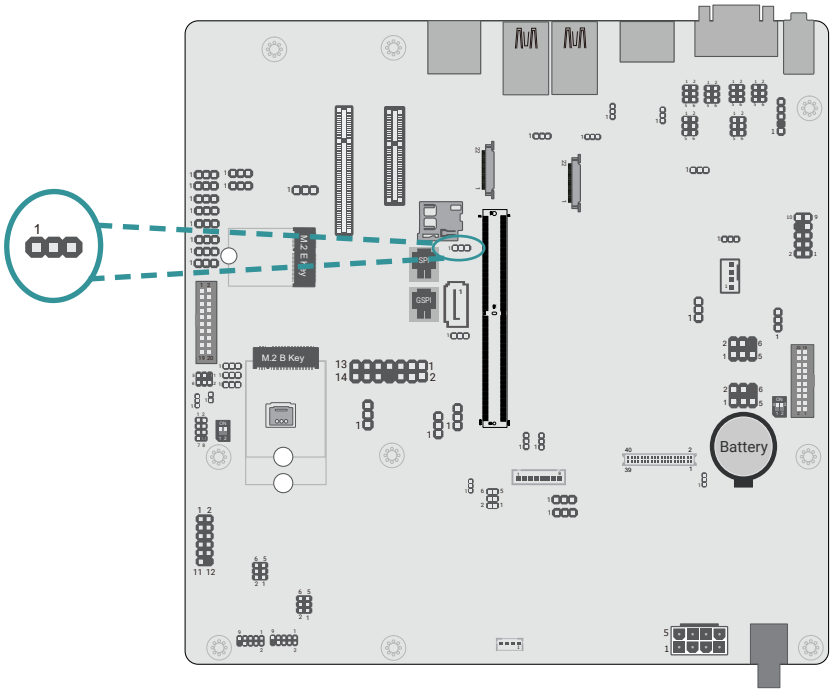


■ 1-2 On: 3V3 (default)



■ 2-3 On: 5V

SD_CLK/SD_CMD/SD_CD#_POWER_SEL (JP38)



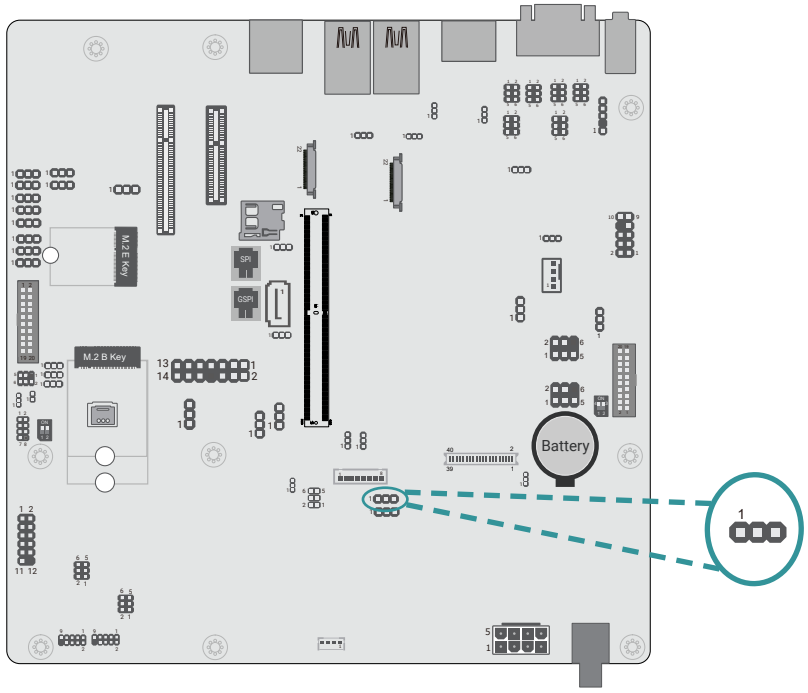


■ 1-2 On: 3V



■ 2-3 On: 1V8 (default)

Panel_Inverter_Power (JP19)



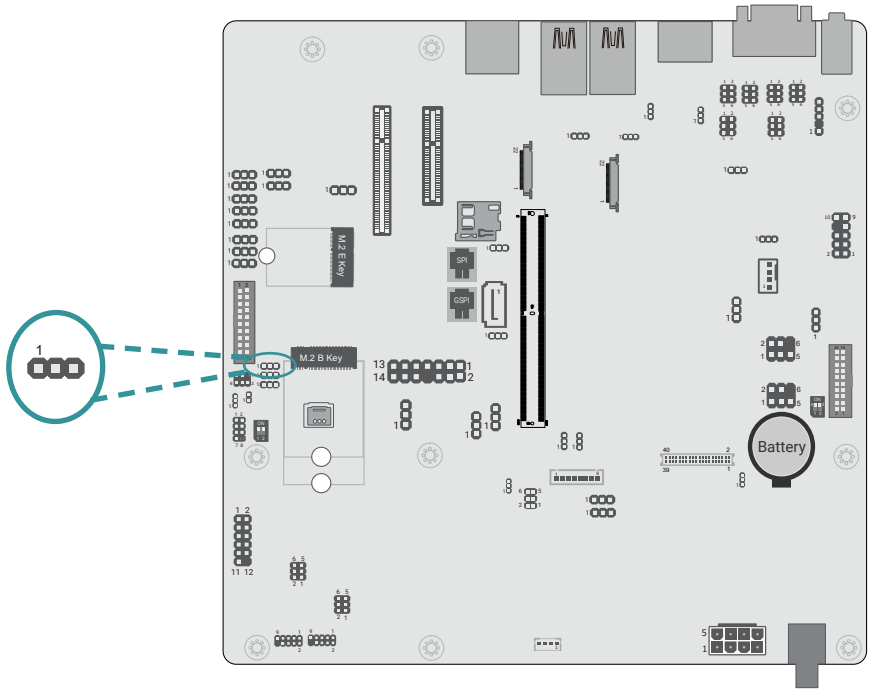


■ 1-2 On: 12V (default)



■ 2-3 On: 5V

GPOI6_TACHIN (JP21)



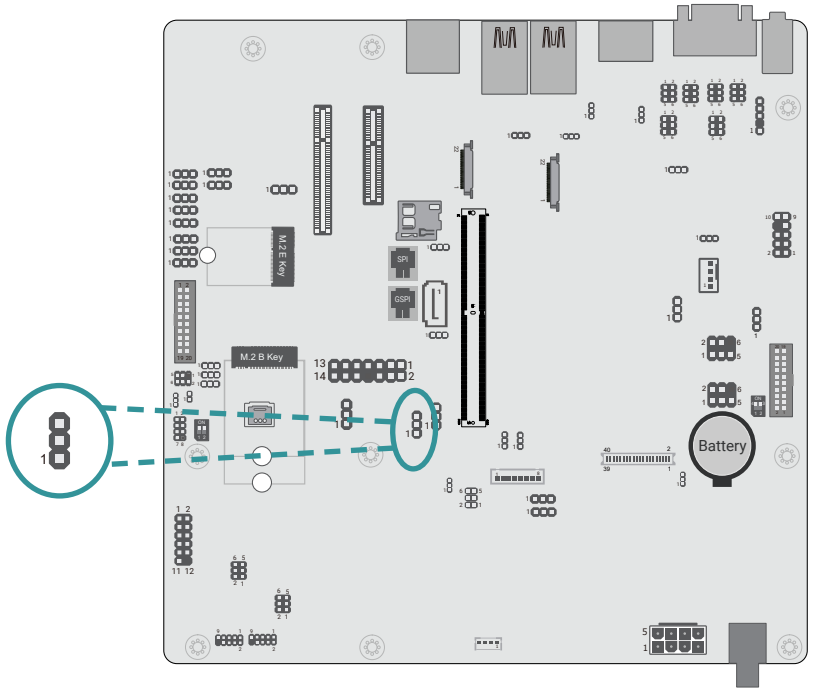


■ 1-2 On: GPOI6_TACH_1V8 (default)



■ 2-3 On: GPOI6_3V3

SMBUS_POWER_SEL (JP32)



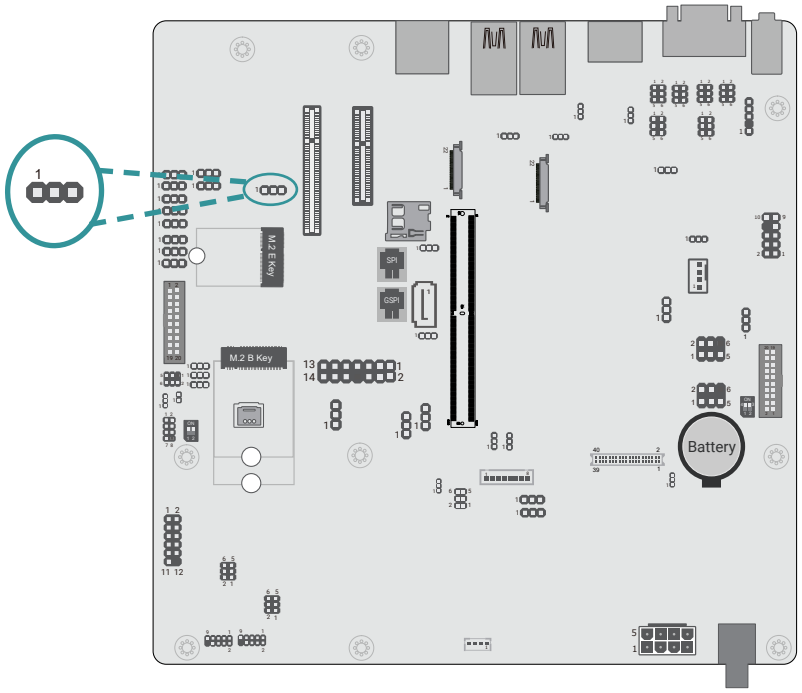


■ 1-2 On: 3V3SB (default)



■ 2-3 On: 3V3

PCIE_A_CKREQ#_SEL (JP22)



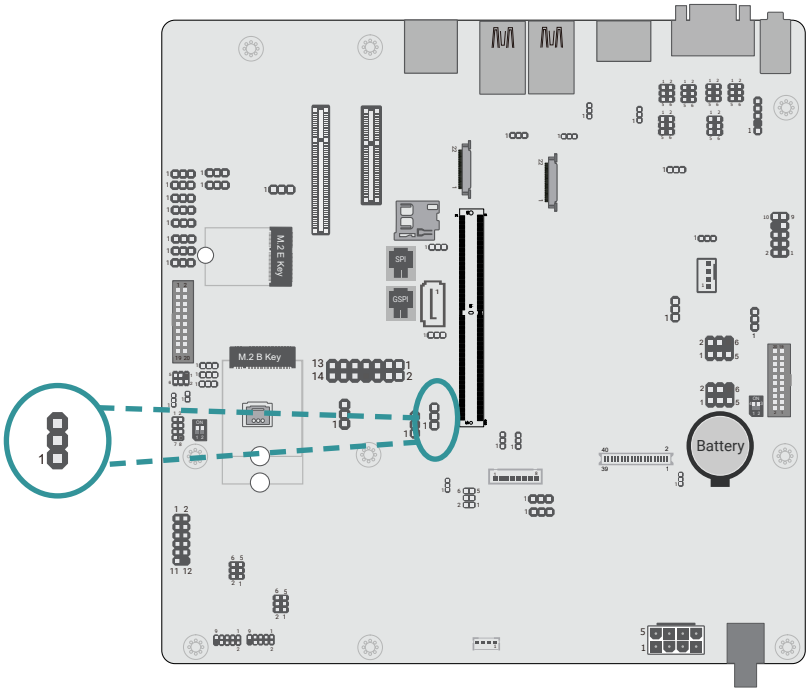


■ 1-2 On: PCIE_A_CKREQ# (Default)



■ 2-3 On: NC for PCIE_A_CKREQ#

SMBUS_POWER_SEL (JP33)



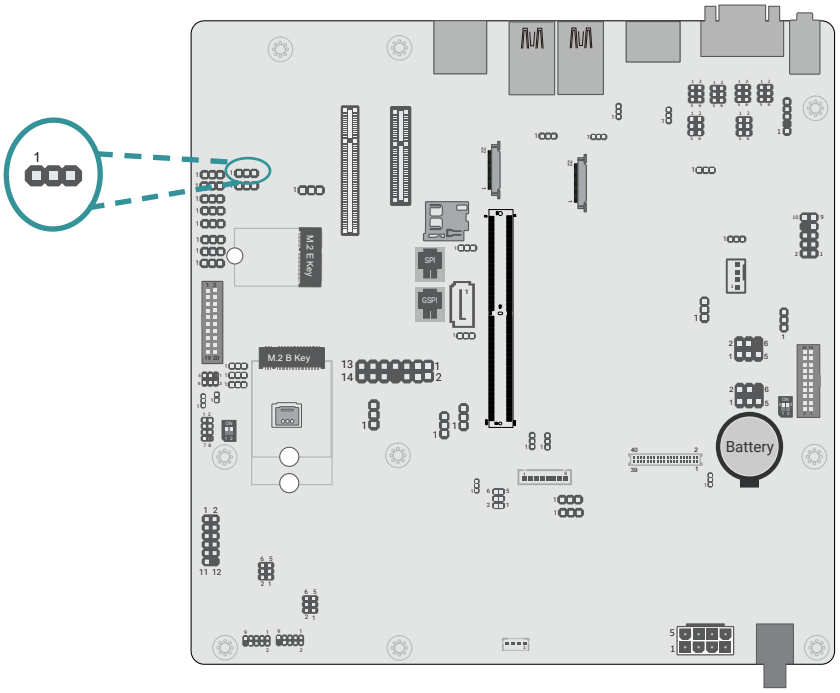


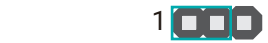
■ 1-2 On: 1V8SB (default)



■ 2-3 On: 1V8

PCIE_B_CKREQ#_SEL (JP23)



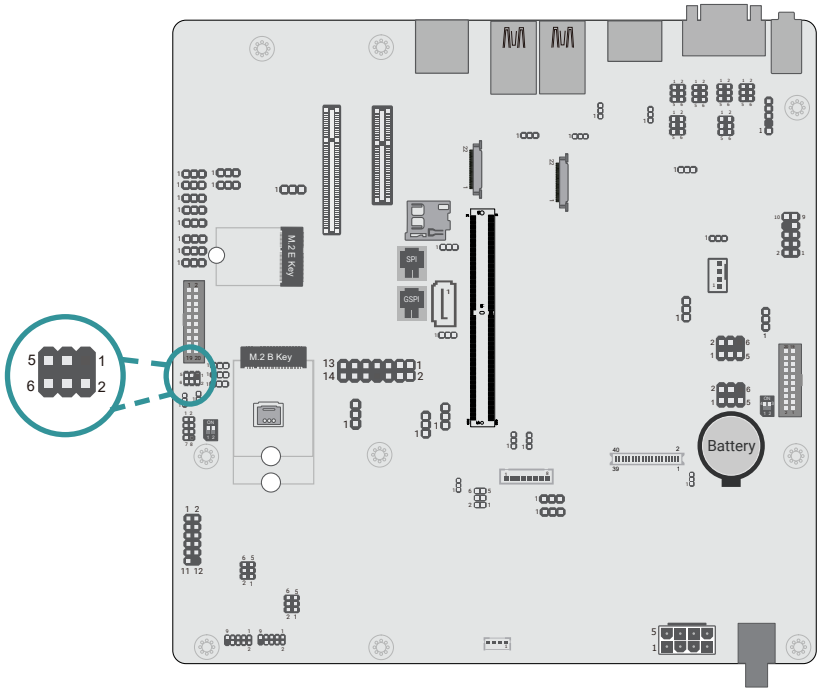


■ 1-2 On: PCIE_B_CKREQ# (Default)



■ 2-3 On: NC for PCIE_B_CKREQ#

GPIO_12_13 /CAN BUS SEL (J17)



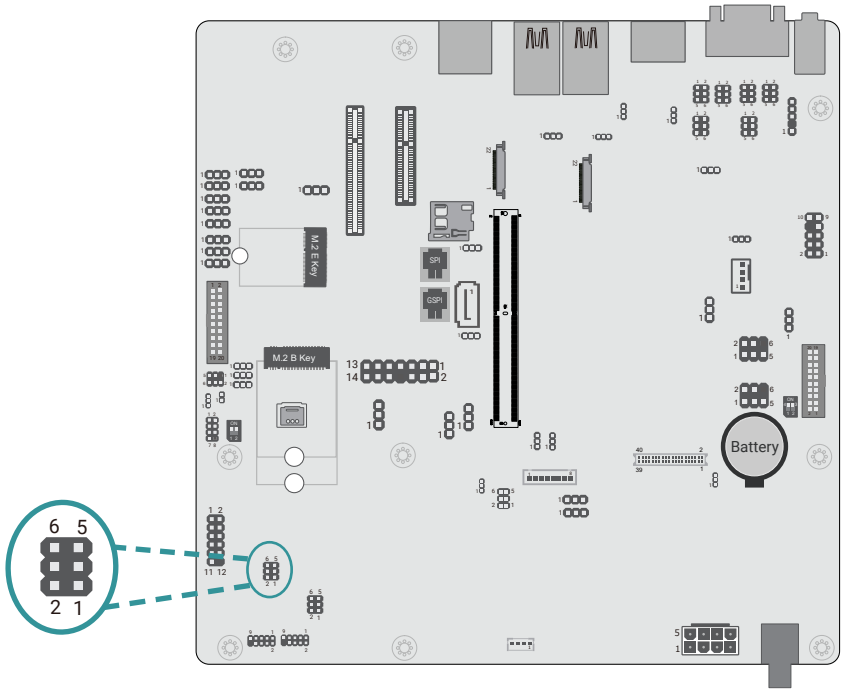


■ 1-3,2-4 On: GPIO_12_13 (default)



■ 3-5,4-6 On: CAN bus

COM2/Debug Port_SEL (J19)



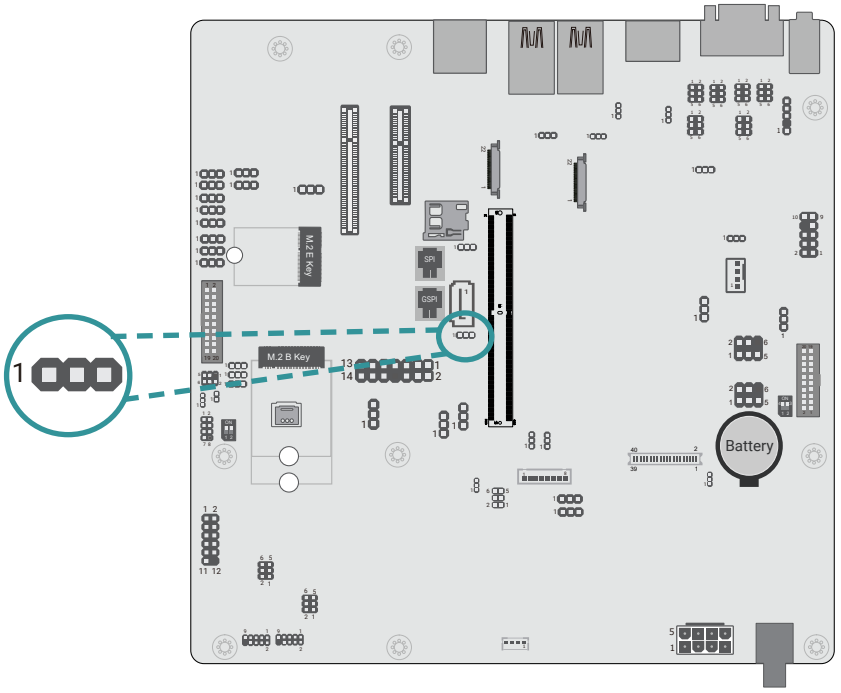


■ 1-3,2-4 On: COM2 (default)



■ 3-5,4-6 On: Debug Port

GSPI/ESPI_SEL (SPIJP1)



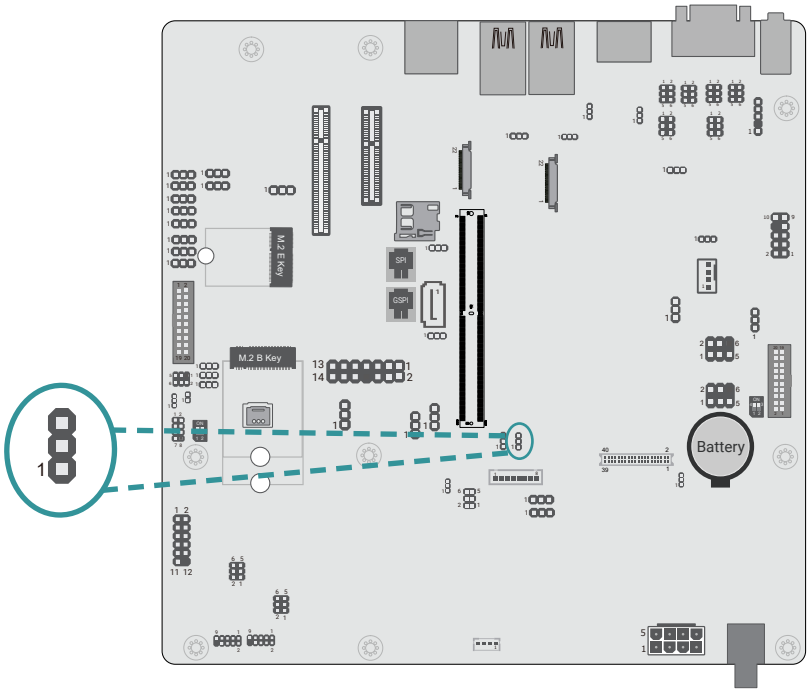


■ 1-2 On: ESPI (default)



■ 2-3 On: GSPI

LVDS/eDP_SEL (JP26)



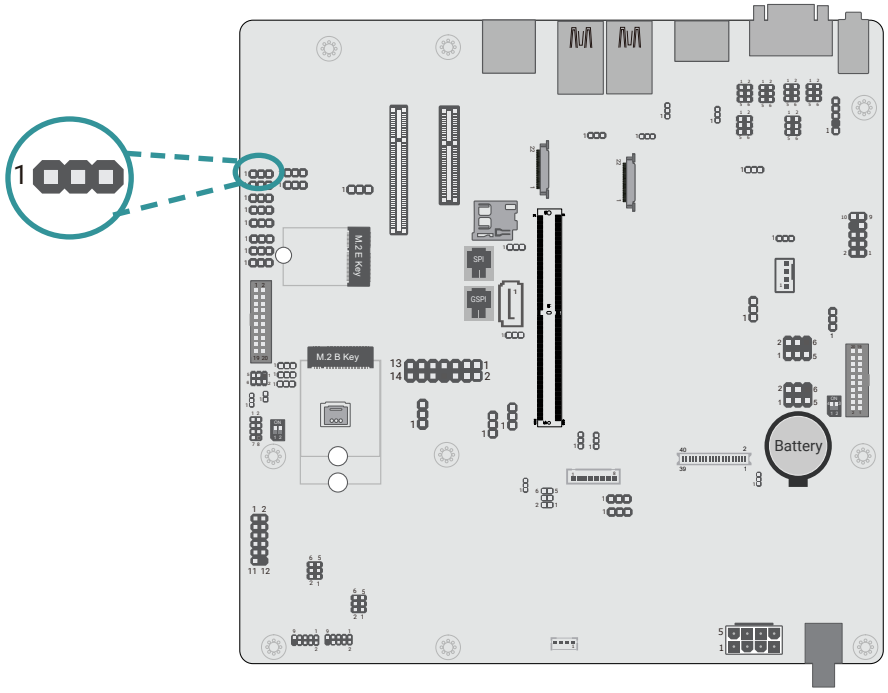


■ 1-2 On: EDP0 (default)



■ 2-3 On: LVDS0

M.2-E/PCIEX4_SEL (M2JP1)



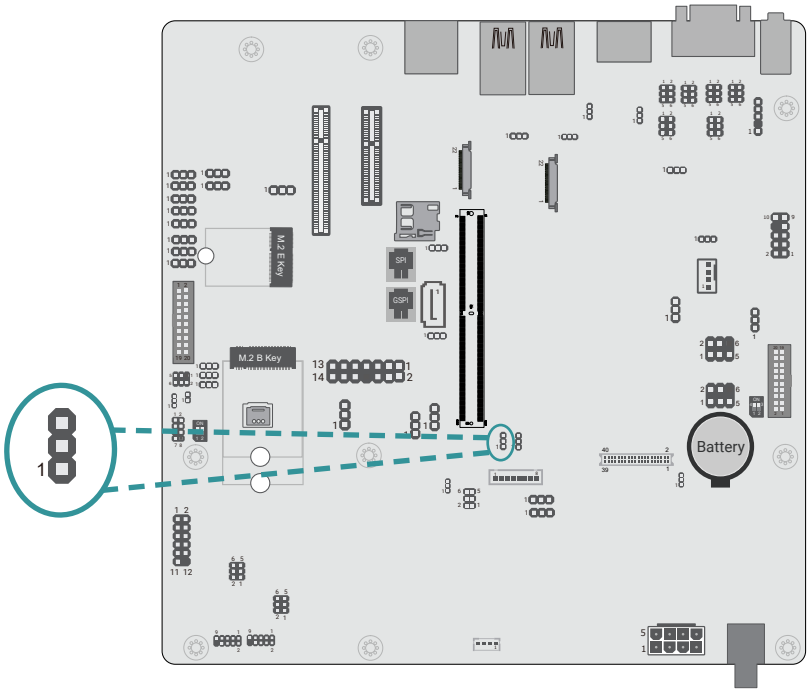


■ 1-2 On: PCIEX4 (default)



■ 2-3 On: M.2-E

LVDS/eDP_SEL (JP27)



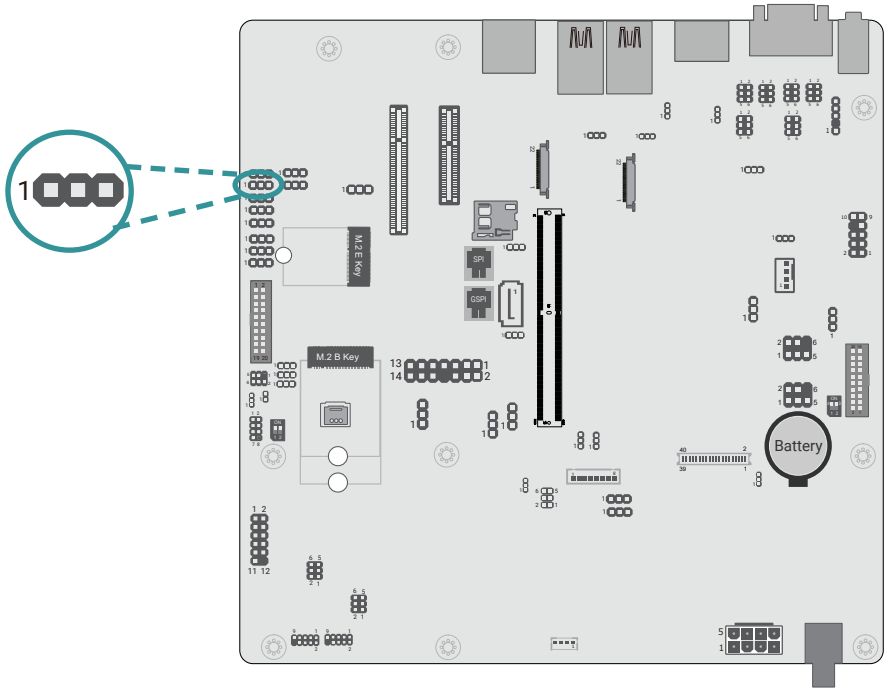


■ 1-2 On: eDP1 (default)



■ 2-3 On: LVDS1

PCIEX1/PCIEX4_SEL (M2JP2)



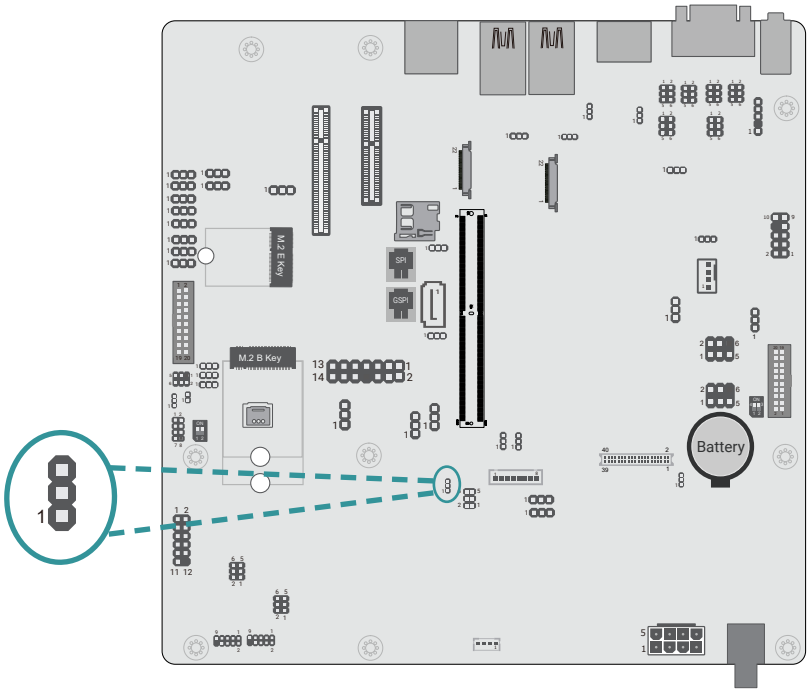


■ 1-2 On: PCIEX4 (default)



■ 2-3 On: PCIEX1

eDP0/1 HPD_SEL (JP28)



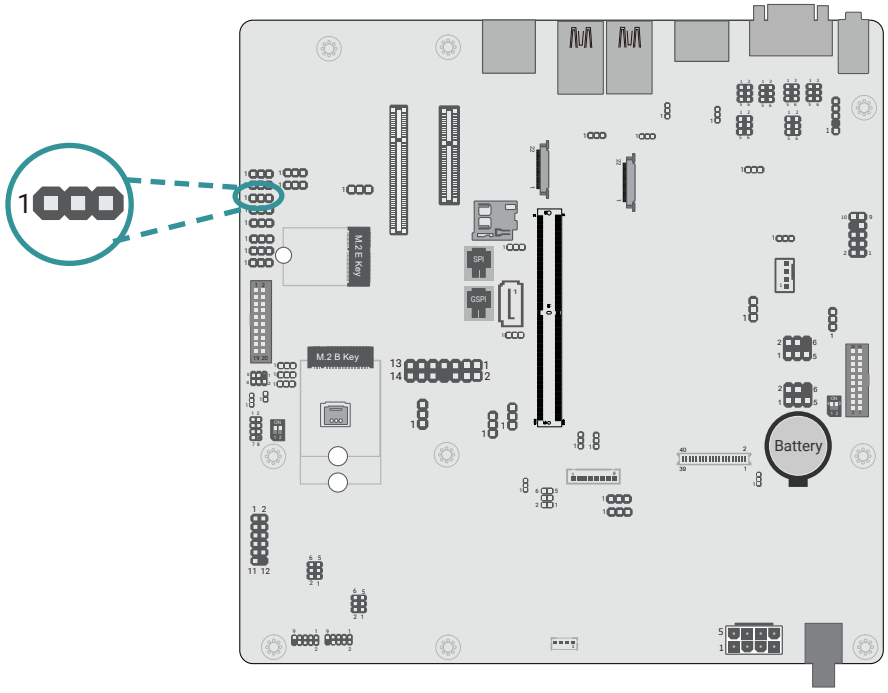


■ 1-2 On: eDP0 (default)



■ 2-3 On: eDP1

M.2-B/PCIEX4_SEL (M2JP3)



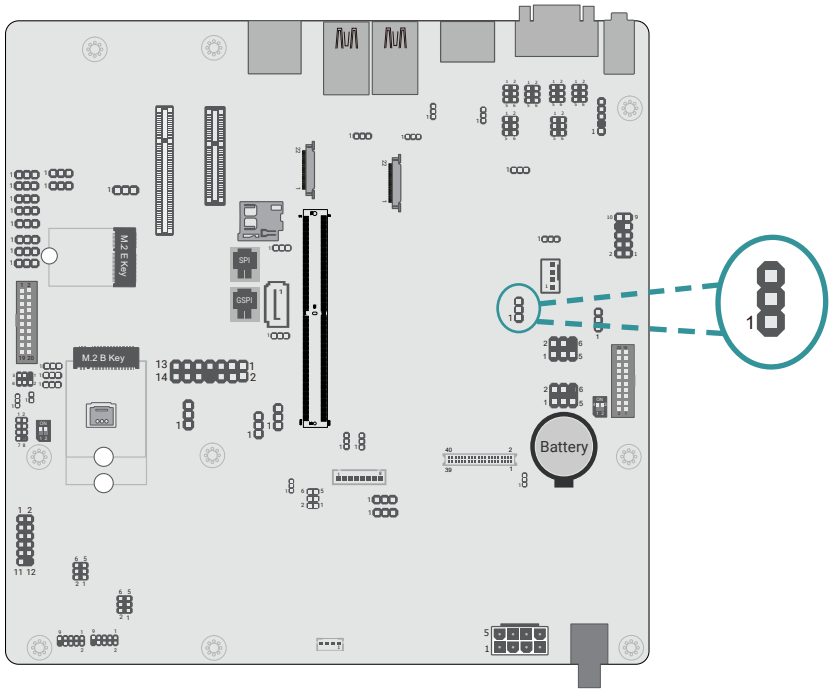


■ 1-2 On: PCIEX4 (default)



■ 2-3 On: M.2-B

M.2-B/USB3_SEL (M2JP4)



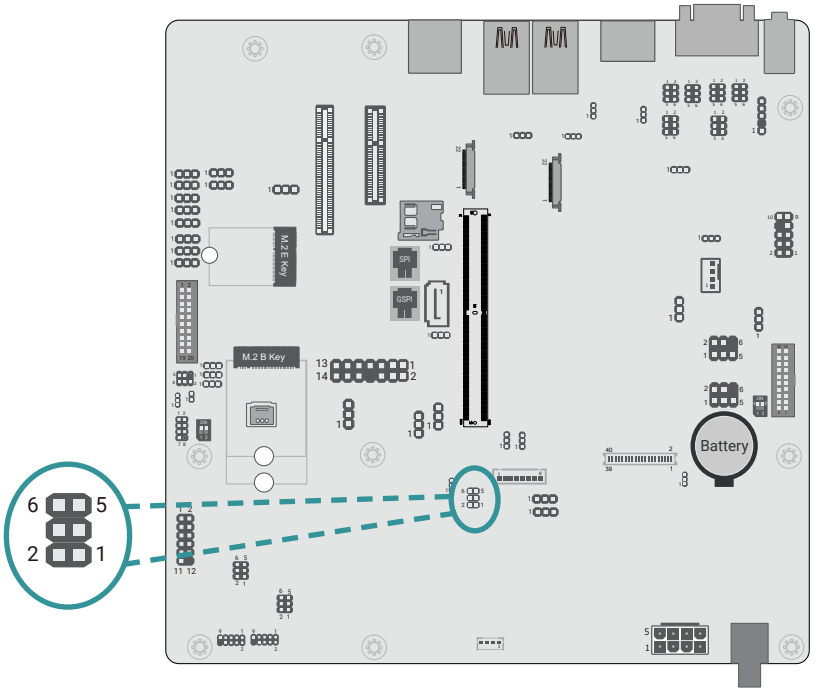


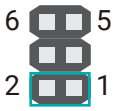
■ 1-2 On: USB3 (default)



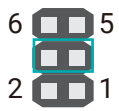
■ 2-3 On: M.2-B

Panel_Power_SEL (JP17)





■ 1-2 On: 12V

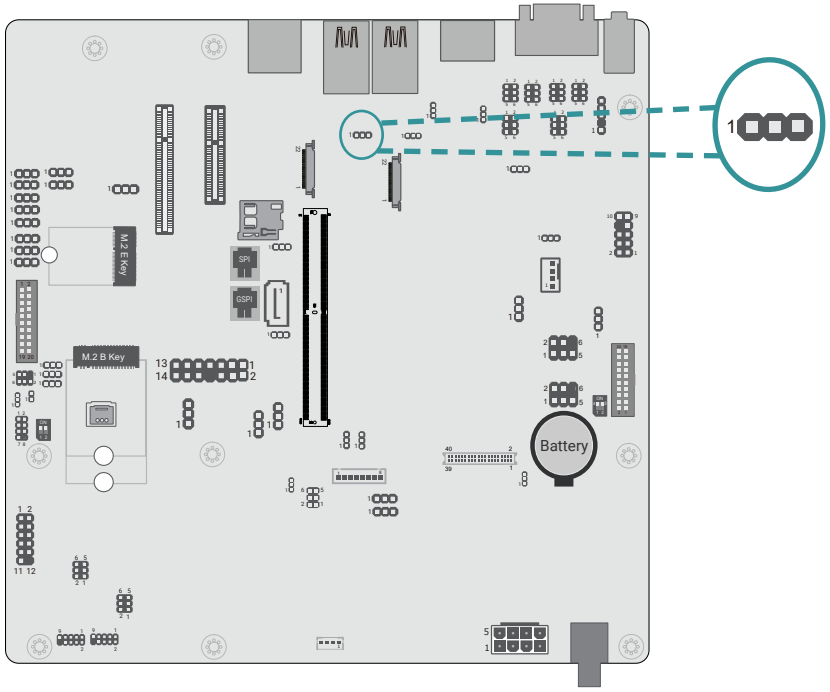


■ 3-4 On: 5V



■ 5-6 On: 3V3 (default)

USB3_2POWER_SEL (USBJP4)



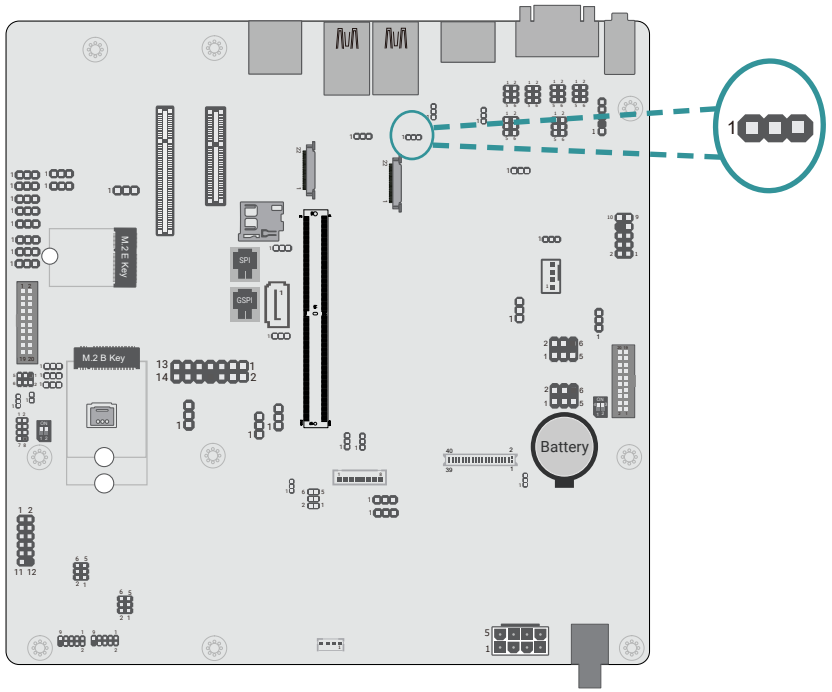
1

■ 1-2 On: 5V

1

■ 2-3 On: 5VSB (default)

USB3_1_Power_SEL (UBJP2)



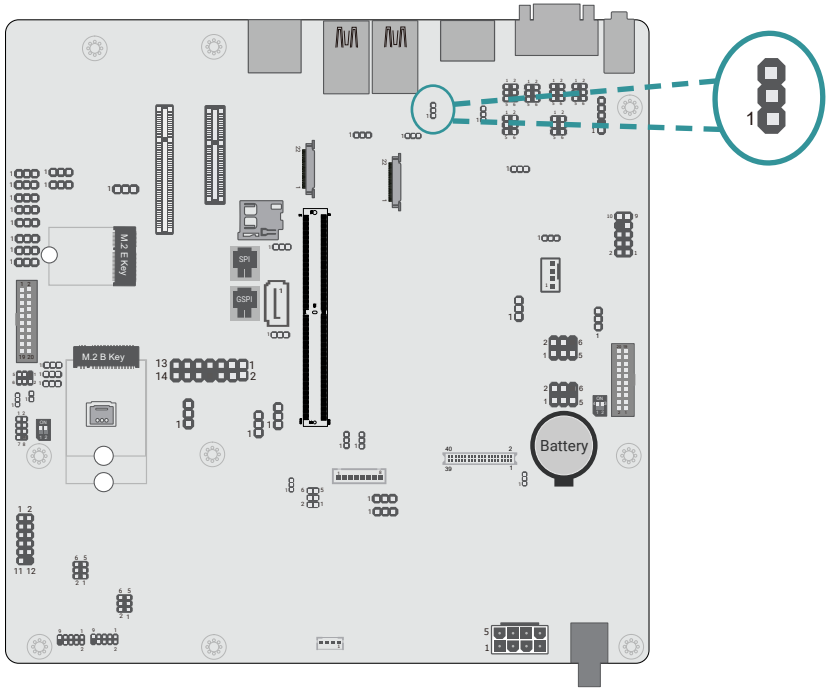
1

■ 1-2 On: 5V

1

■ 2-3 On: 5VSB (default)

USB2 1_POWER_SEL (UBJP3)



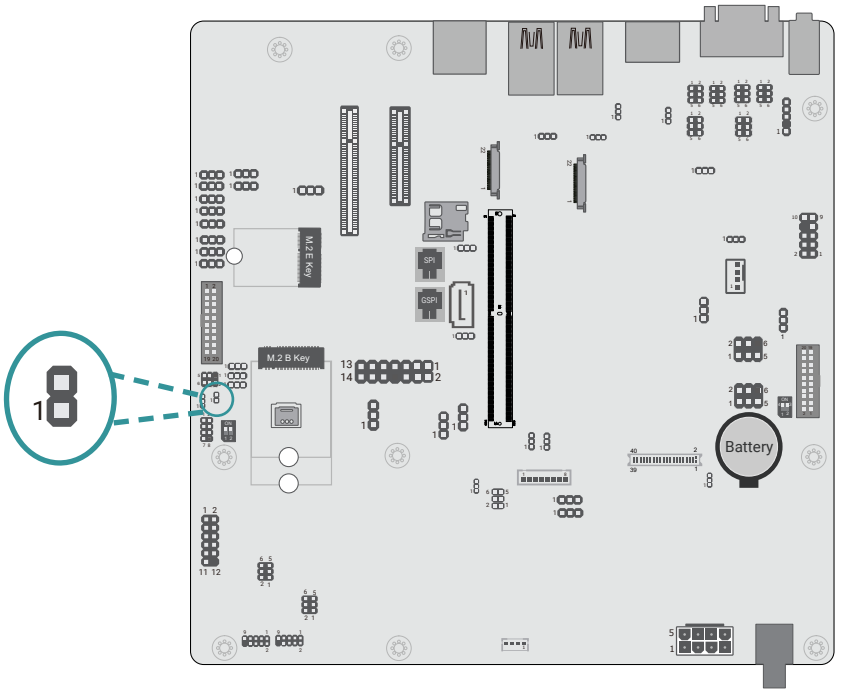


■ 1-2 On: 5V



■ 2-3 On: 5VSB (default)

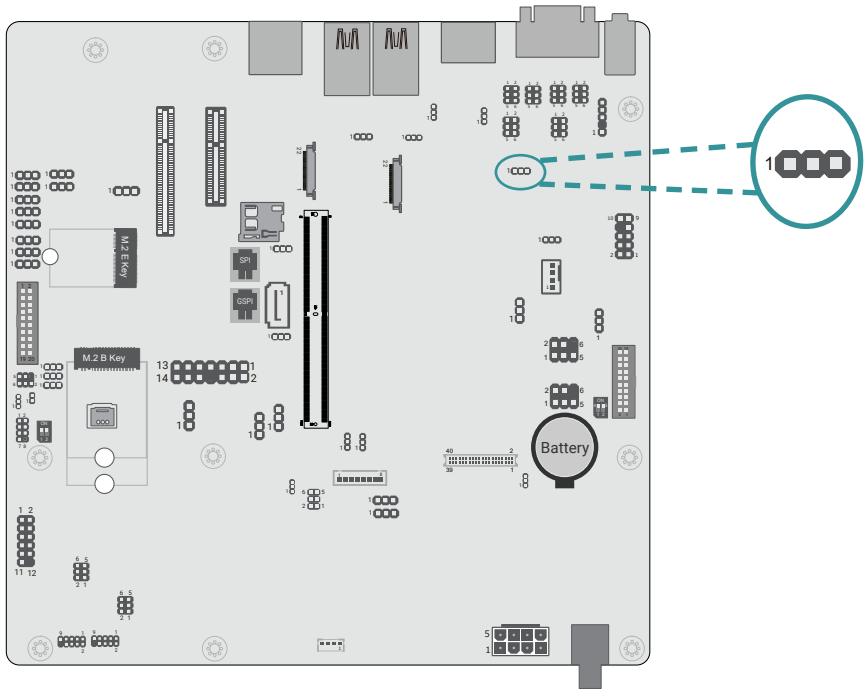
CAN BUS_3 Termination_SEL (J5)





■ 1-2 On: Enable CAN3 termination resistor (120 ohm)
■ 1-X On: N/A

USB2_0 SEL (UBJP1)



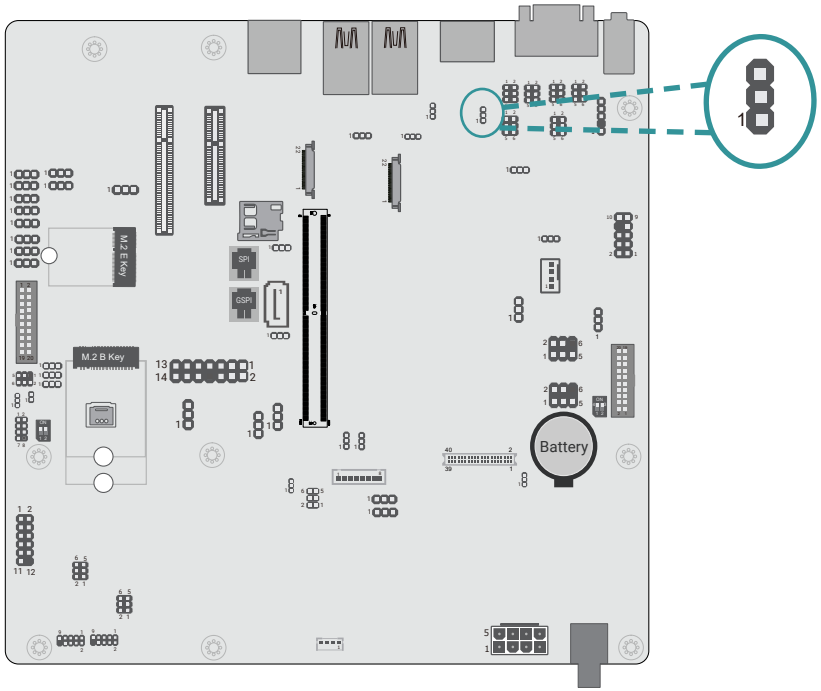


■ 1-2 On: USB2_0_CONN



■ 2-3 On: Micro USB2_CONN

USB2 2_POWER_SEL (UBJP7)



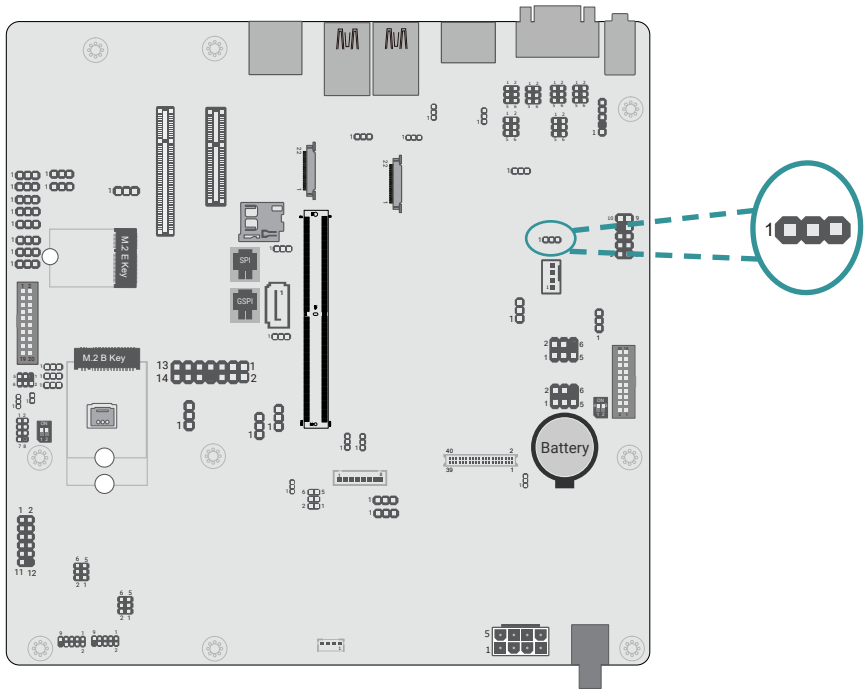


■ 1-2 On: 5V



■ 2-3 On: 5VSB (default)

USB2 OTG_POWER_SEL (UBJP5)



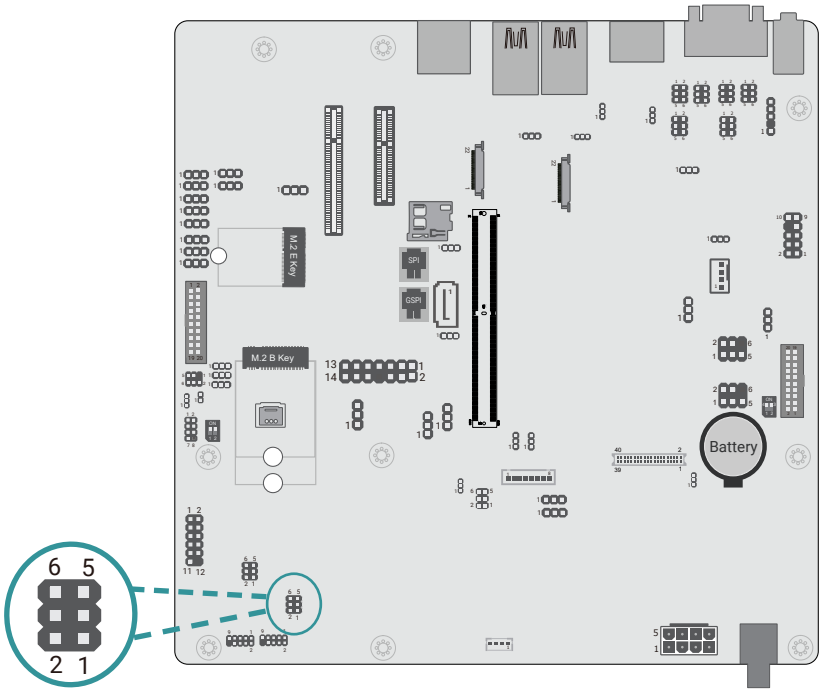


■ 1-2 On: 5V



■ 2-3 On: 5VSB (default)

COM4/Debug Port_SEL (J24)



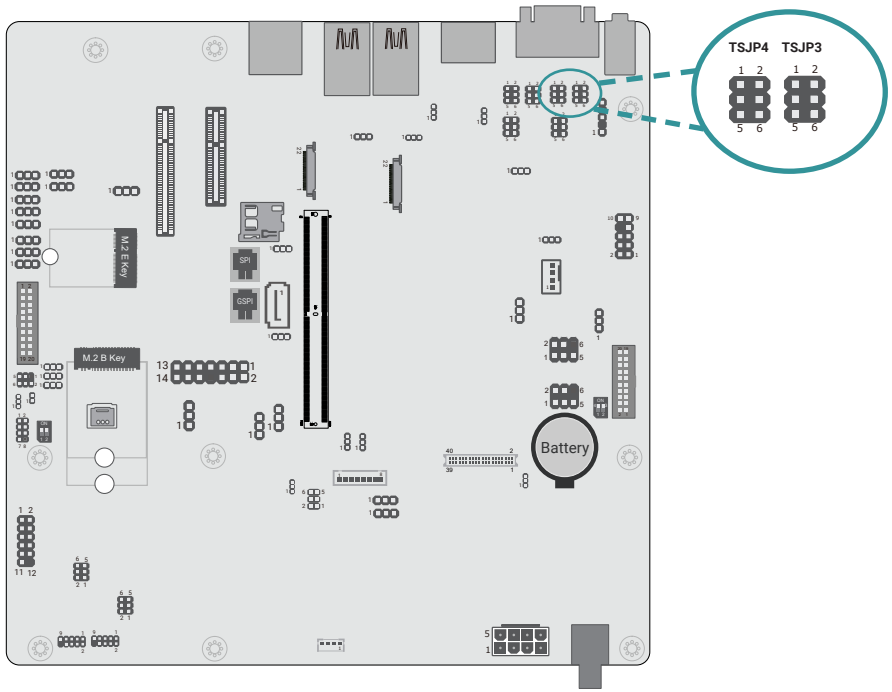


■ 1-3,2-4 On: COM4 (default)



■ 3-5,4-6 On: Debug Port

COM1 RS232/RS485/RS422 Header SEL (TSJP3/4)





■ 1-3,2-4 On: RS232 (default)

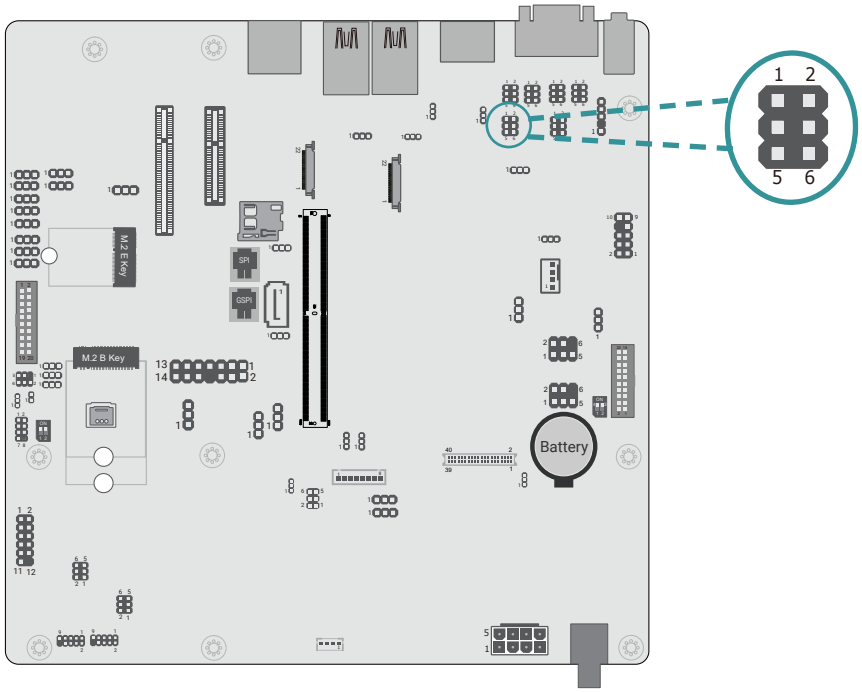


■ 3-5,4-6 On: RS422



■ 3-5,4-6 On: RS485

COM3 RS232/RS485/RS422 Header SEL (TSJP5)





■ 1-3,4-6 On: RS232 (default)

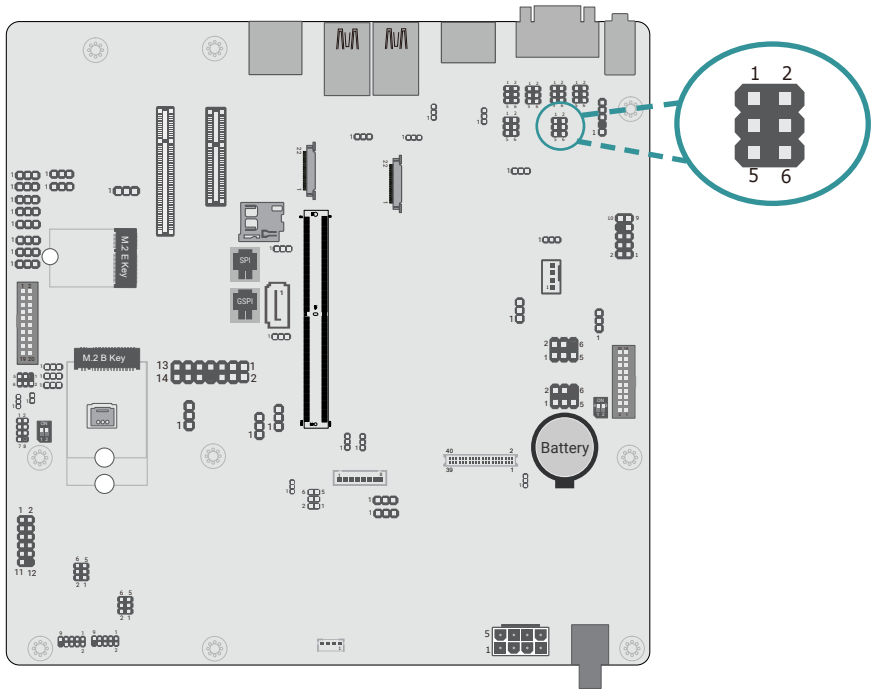


■ 3-5,4-6 On: RS422



■ 3-5,2-4 On: RS485

COM1 RS232/RS485/RS422 Header SEL (TSJP2)





■ 1-3,4-6 On: RS232 (default)

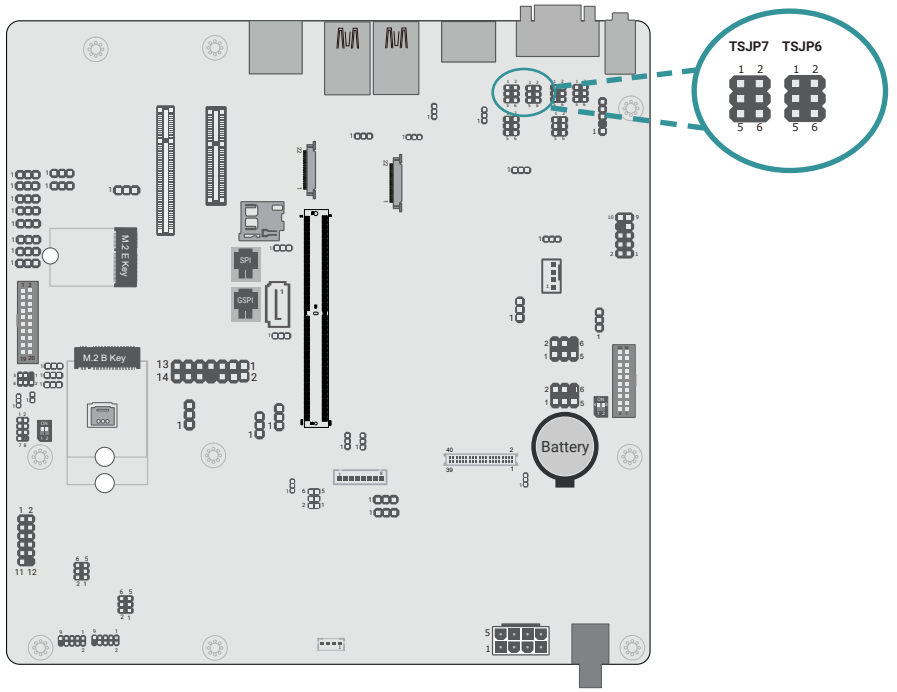


■ 3-5,4-6 On: RS422



■ 3-5,2-4 On: RS485

COM3 RS232/RS485/RS422 Header SEL (TSJP6/7)





■ 1-3,2-4 On: RS232 (default)

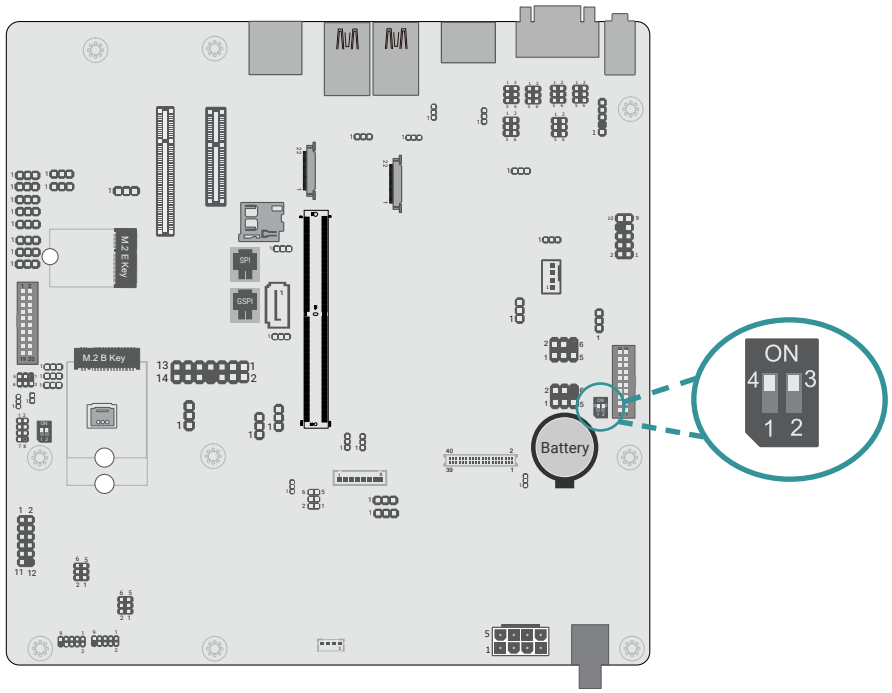


■ 3-5,4-6 On: RS422



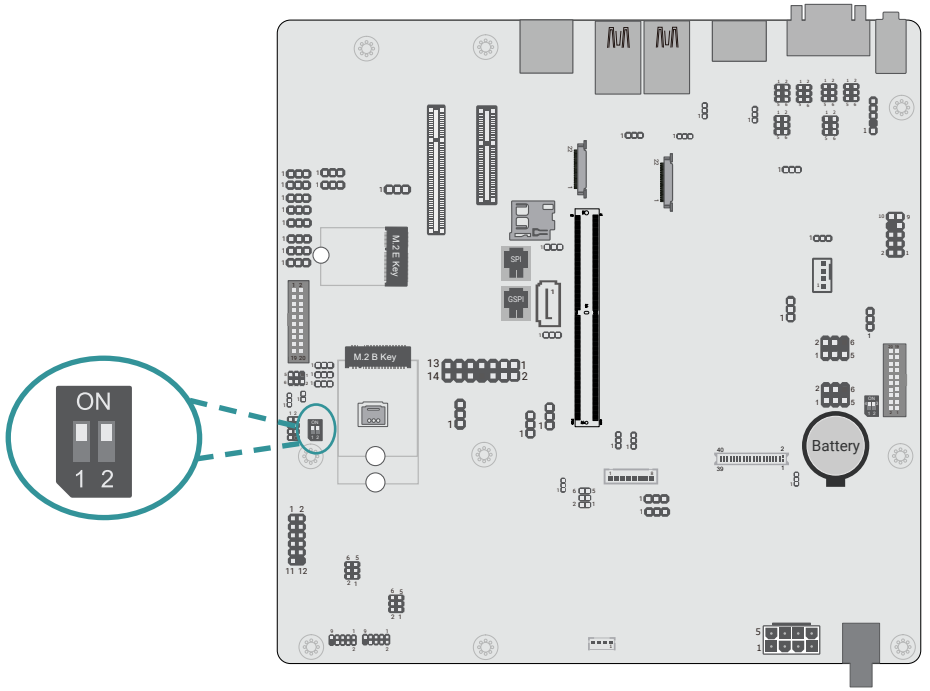
■ 3-5,4-6 On: RS485

I2S Clock Settings (SW6)



NC	1-4 Off 2-3 Off
AUDIO_MCK form 24M Oscillator	1-4 On 2-3 Off
AUDIO_MCK form Module	1-4 Off 2-3 On
Do not use	1-4 On 2-3 On

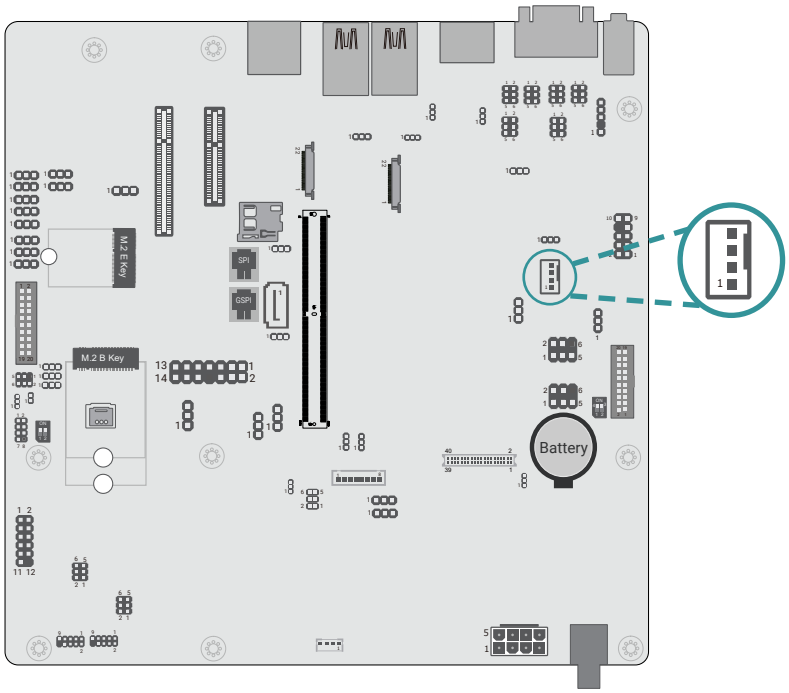
CAN Bus 1/2 Termination_SEL (SW5)



Enable CAN1 termination resistor (120 ohm)	1_ON (default)
Enable CAN2 termination resistor (120 ohm)	2_ON (default)
Disable CAN2 termination resistor	3_OFF
Disable CAN1 termination resistor	4_OFF

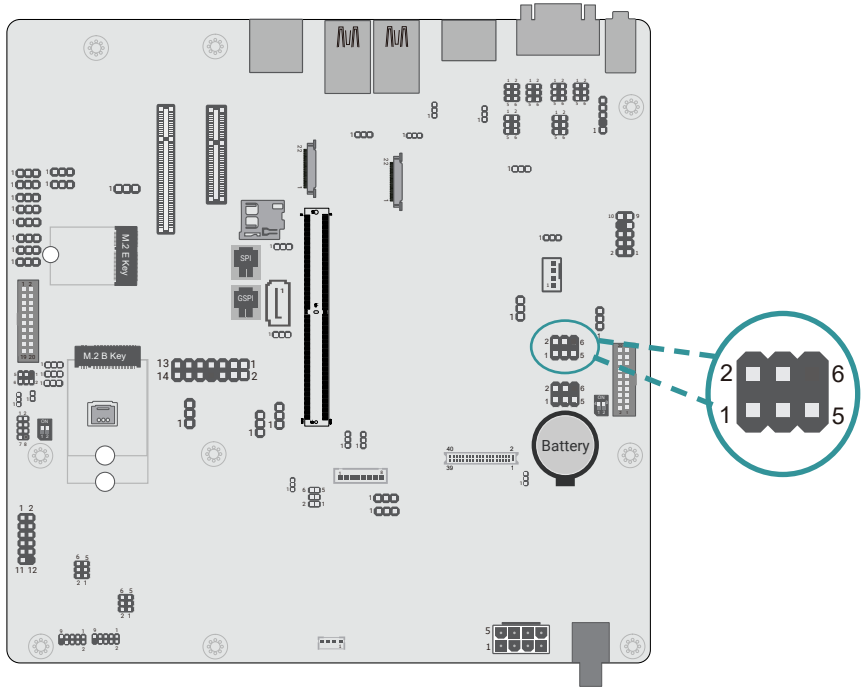
▶ Pin Assignment

SATA_Power_Connector (CN11)



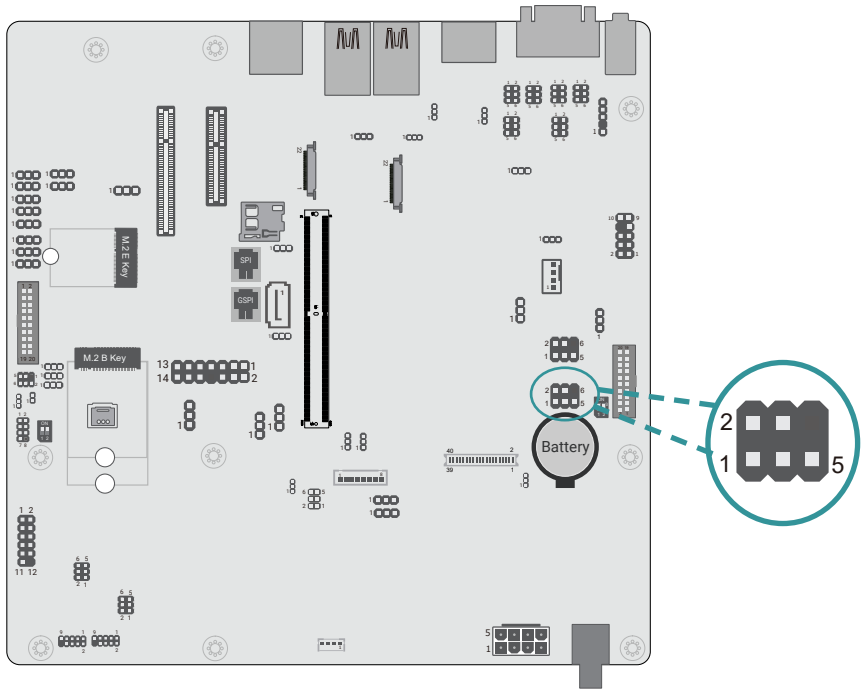
Pin	Assignment
1	12V_IO
2	GND
3	GND
4	5V

SMBUS Header (J6)



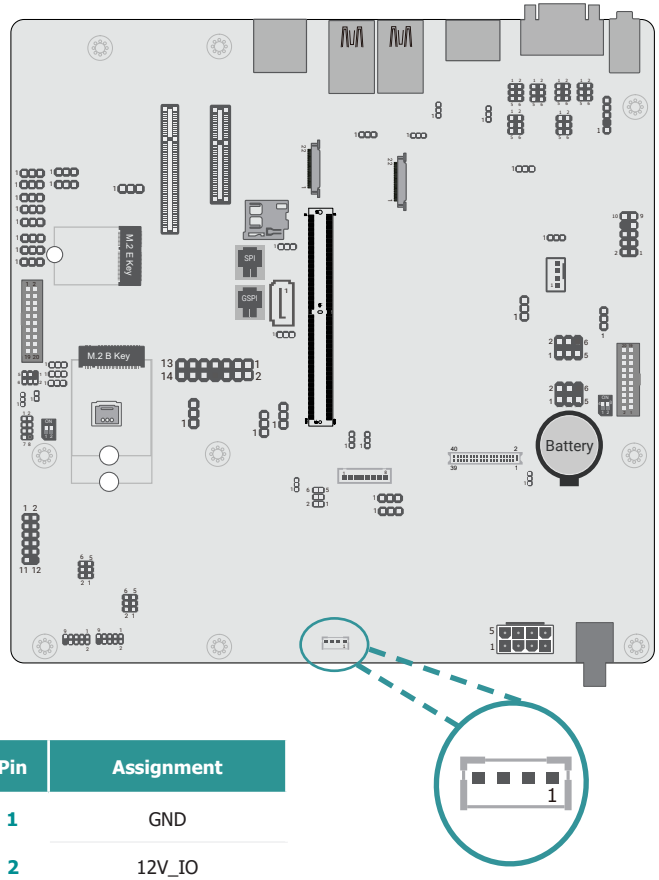
Pin	Assignment
1	SMBUS_3V3
2	GND
3	I2C_PM_CLK_3VM
4	I2C_PM_DAT_3VM
5	SMB_ALERT_3V#

I2C Header (J2)



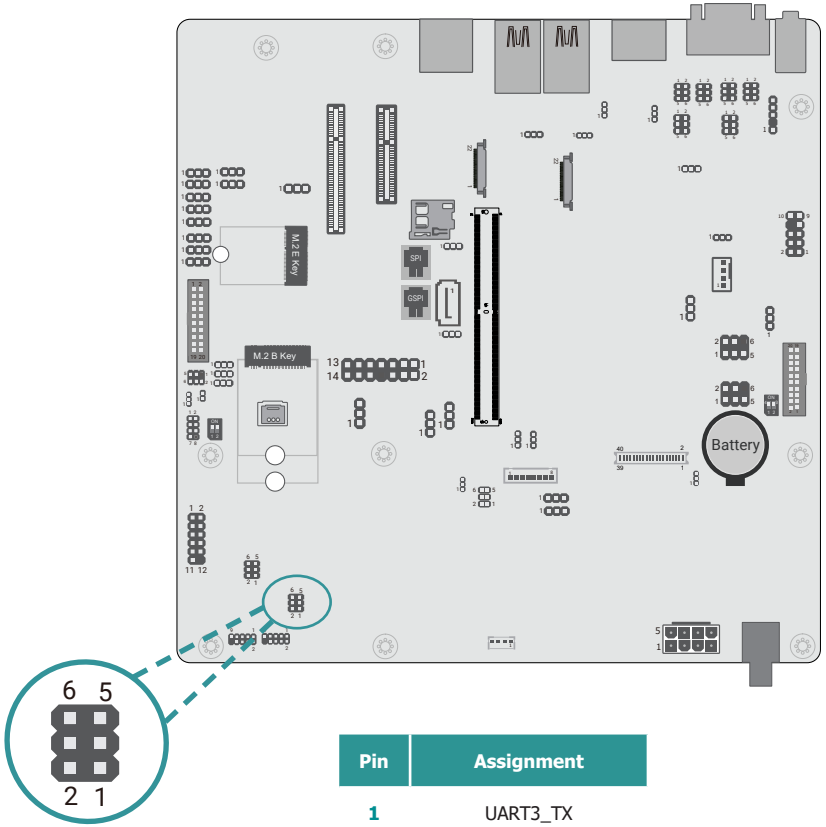
Pin	Assignment
1	3V3
2	GND
3	I2C_GP_CLK
4	I2C_GP_DAT
5	NC

CPU FAN (J11)



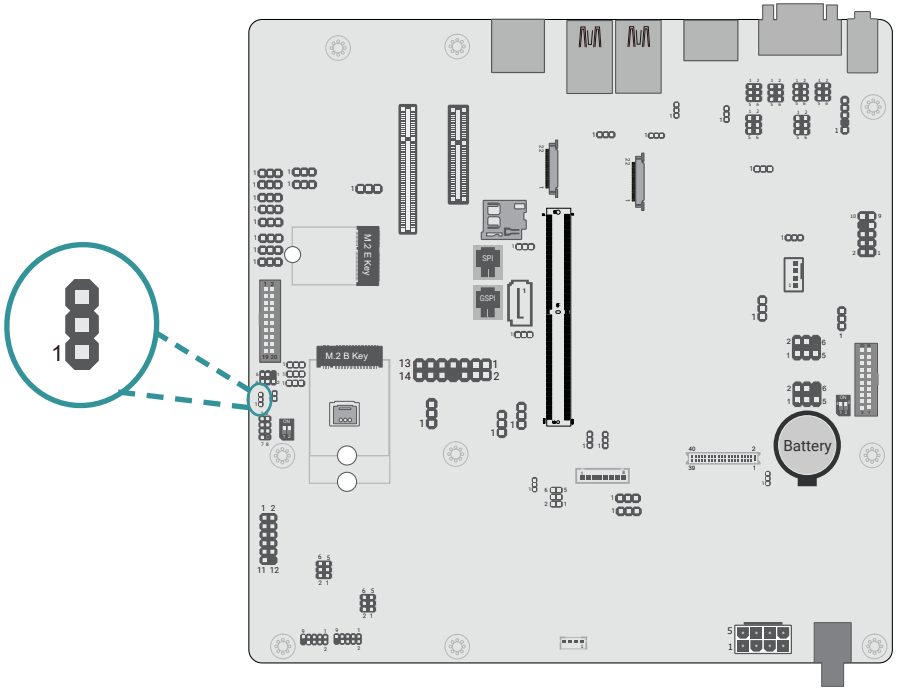
Pin	Assignment
1	GND
2	12V_IO
3	GPO6_TACH_1V8
4	GPO5_PWM_1V8
5	NC

COM4 /debug port Select (J24)



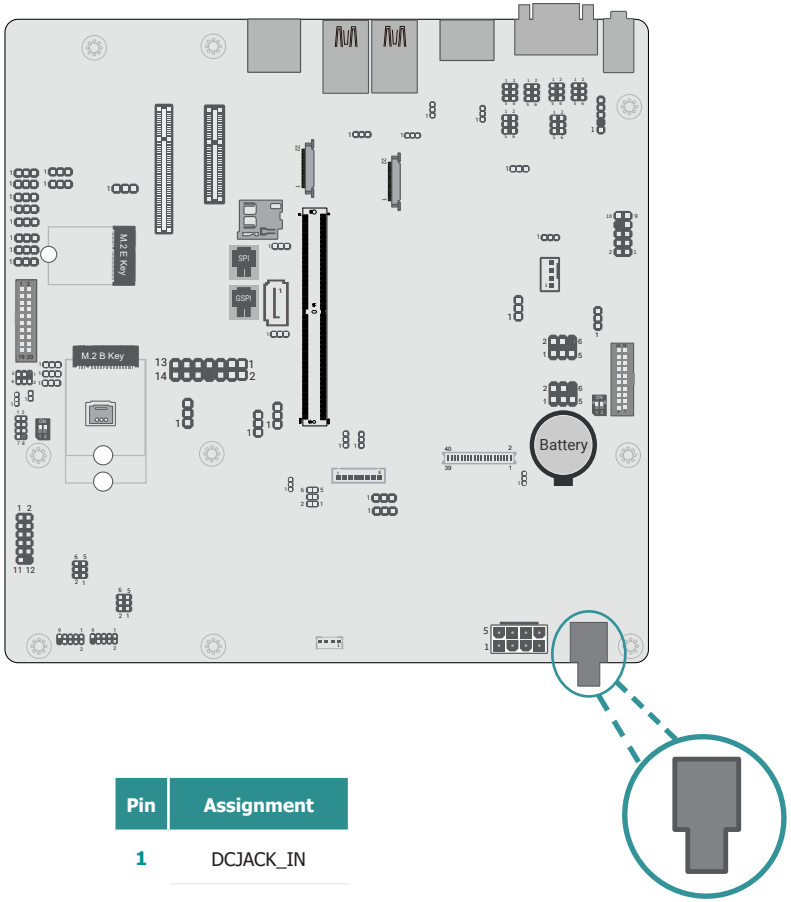
Pin	Assignment
1	UART3_TX
2	UART3_RX
3	UART3_C_TX
4	UART3_C_RX
5	Debug_TX
6	Debug_RX

CAN bus Header (J18)



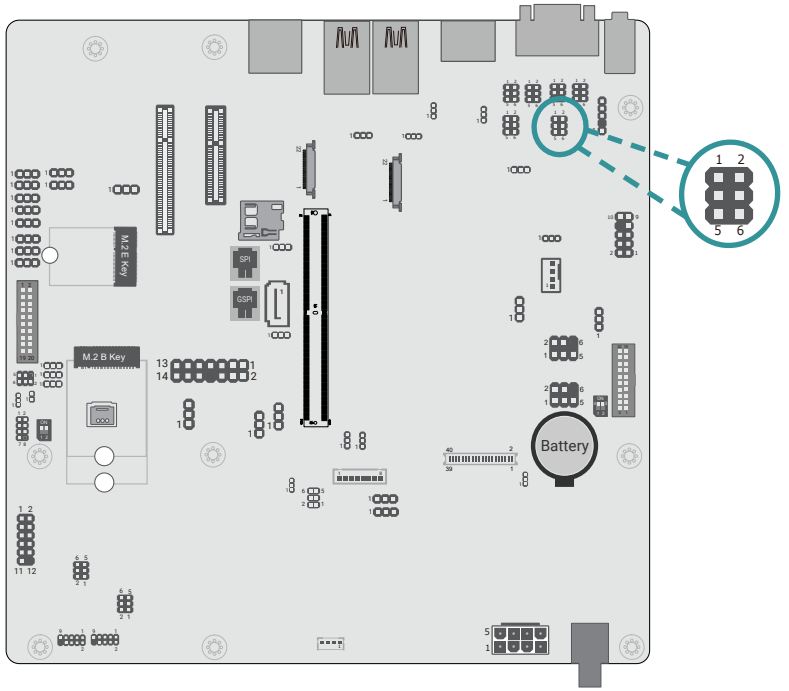
Pin	Assignment
1	CAN3_H
2	GND
3	CAN3_L

DCJACK_IN (CN31)



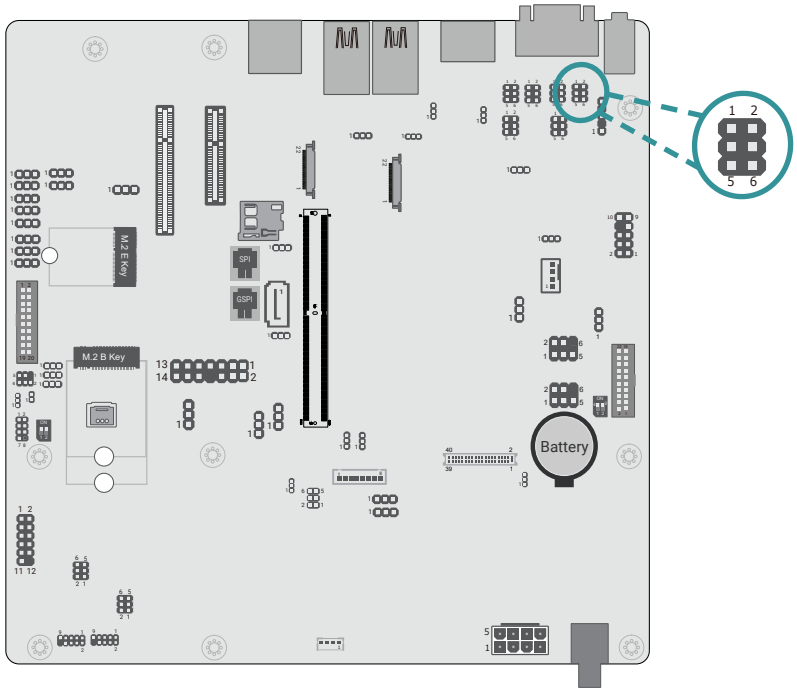
Pin	Assignment
1	DCJACK_IN
2	GND
3	GND

COM1 RS232/RS485/RS422 Header SEL (TSJP2)



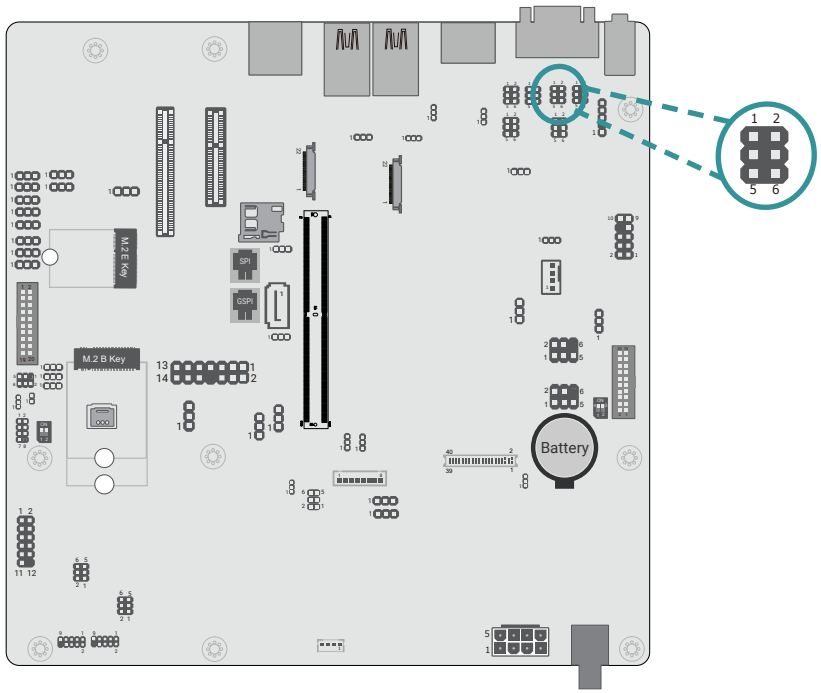
Pin	Assignment
1	COM1_RS232
2	COM1_TX_SEL
3	UART0_RX_5V
4	COM1_RX_SEL
5	COM1_RO SEL
6	GND

COM1 RS232/RS485/RS422 Header SEL (TSJP3)



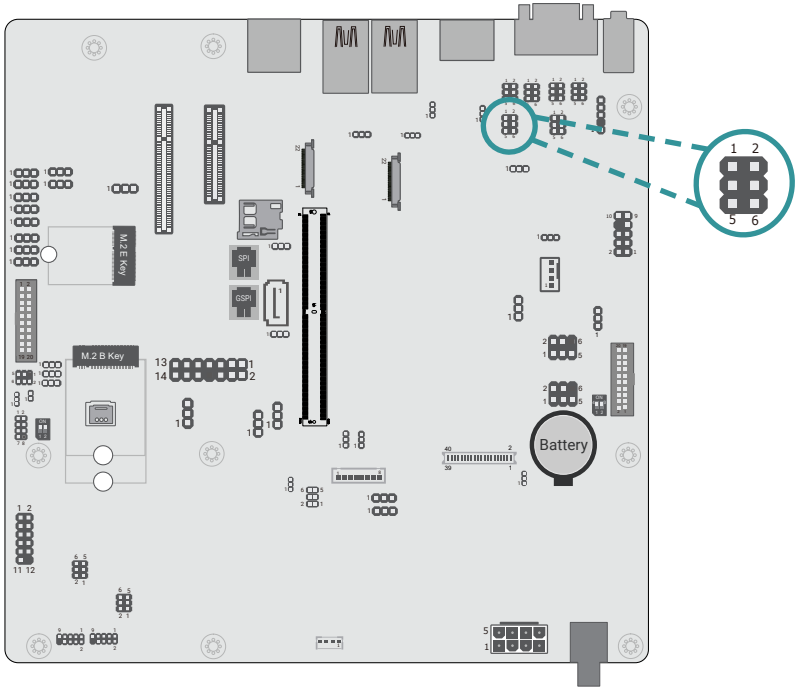
Pin	Assignment
1	NC
2	MSIN1- 232
3	MDCD1- 232
4	MSIN1- COM
5	COM1_485+_RX422+
6	COM1_485-_RX422-

COM1 RS232/RS485/RS422 Header SEL (TSJP4)



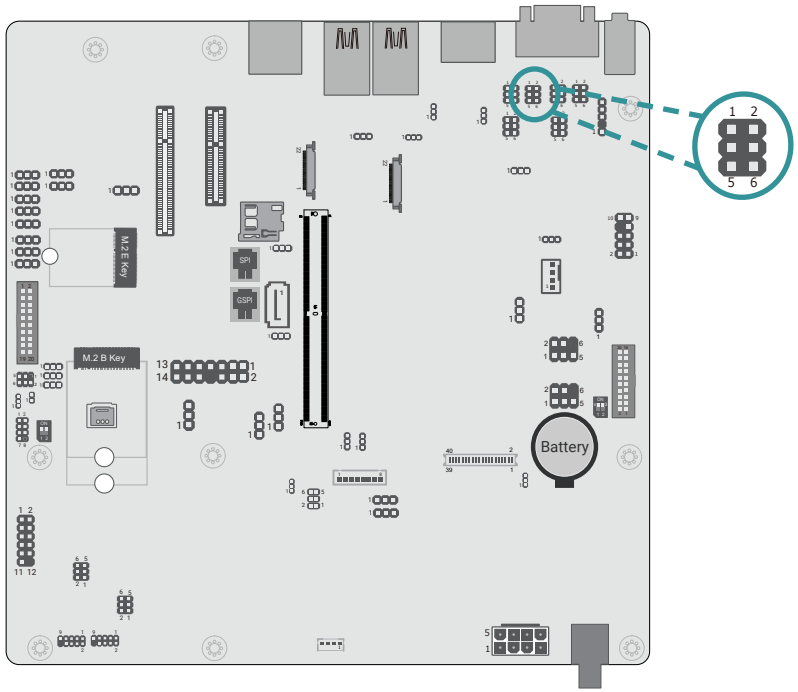
Pin	Assignment
1	MSO1- 232
2	NC
3	MSO1- COM
4	MDTR1- COM
5	COM1_TX422+
6	COM1_TX422-

COM2 RS232/RS485/RS422 Header SEL (TSJP5)



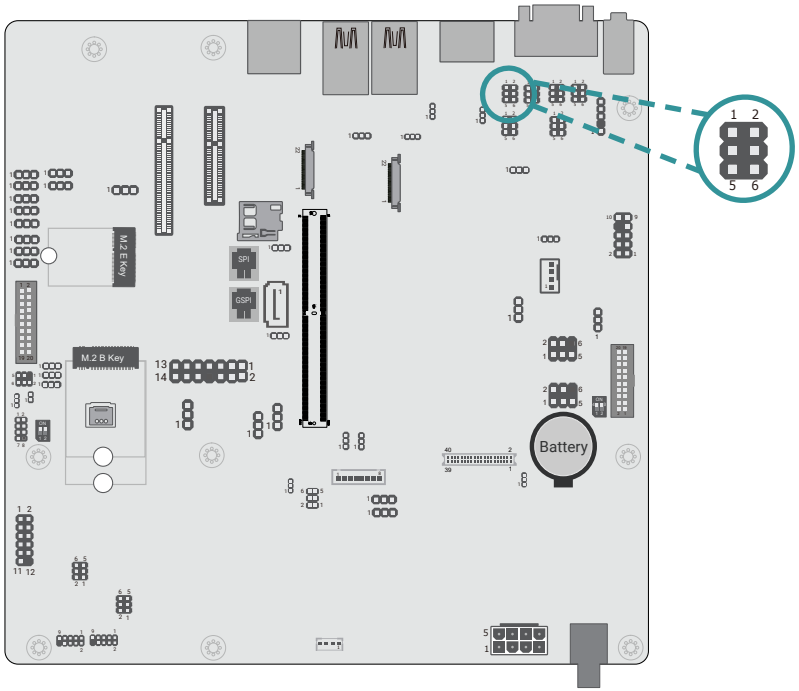
Pin	Assignment
1	COM2_RS232
2	COM2_TX_SEL
3	UART2_RX_5V
4	COM2_RX_SEL
5	COM2_RO SEL
6	GND

COM2 RS232/RS485/RS422 Header SEL (TSJP6)



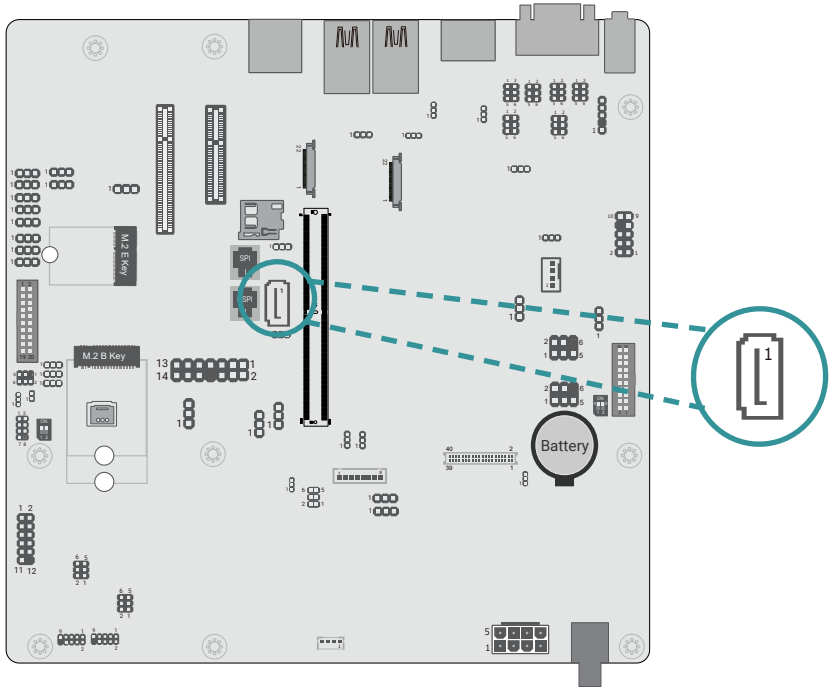
Pin	Assignment
1	NC
2	MSIN2- 232
3	MDCD2- 232
4	MSIN2- COM
5	COM2_485+_RX422+
6	COM2_485-_RX422-

COM2 RS232/RS485/RS422 Header SEL (TSJP7)



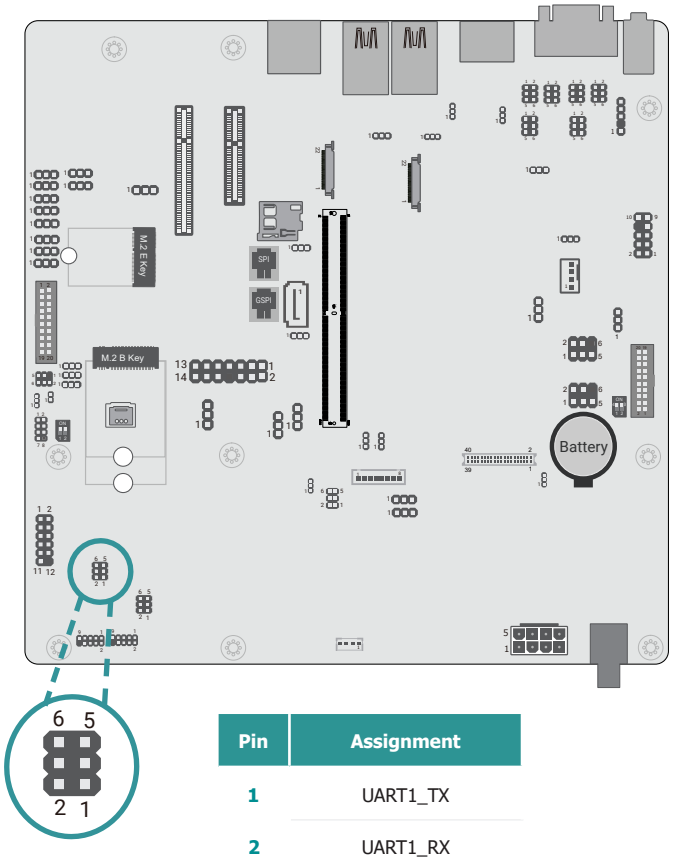
Pin	Assignment
1	MSO2- 232
2	NC
3	MSO2- COM
4	MDTR2- COM
5	COM2_TX422+
6	COM2_TX422-

SATA Connector (J1)



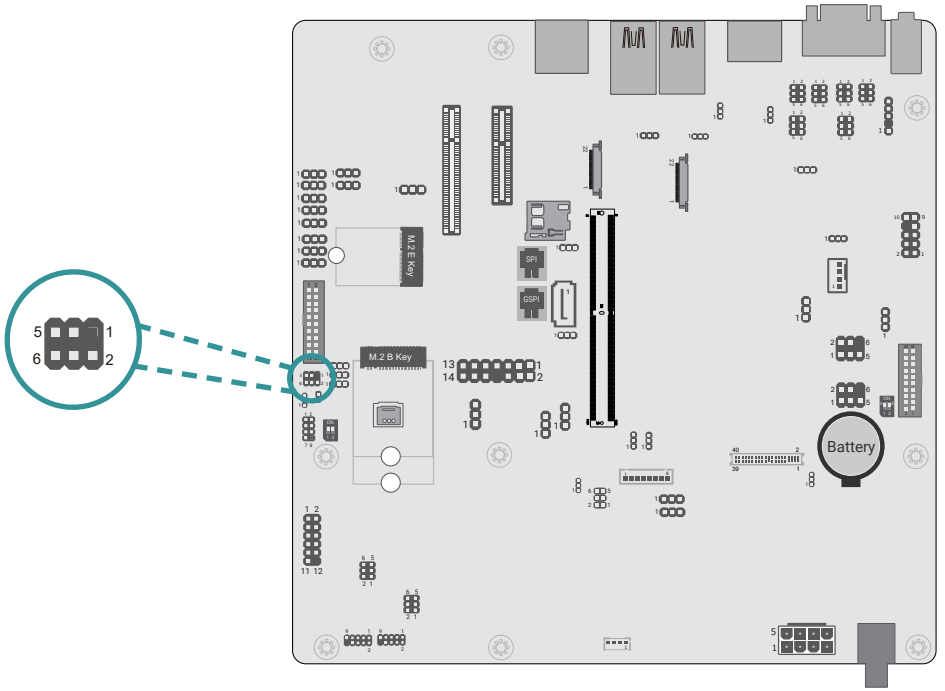
Pin	Assignment
1	GND
2	SATA_TXP
3	SATA_TXN
4	GND
5	SATA_RXN
6	SATA_RXP
7	GND

COM2/debug port Select (J19)



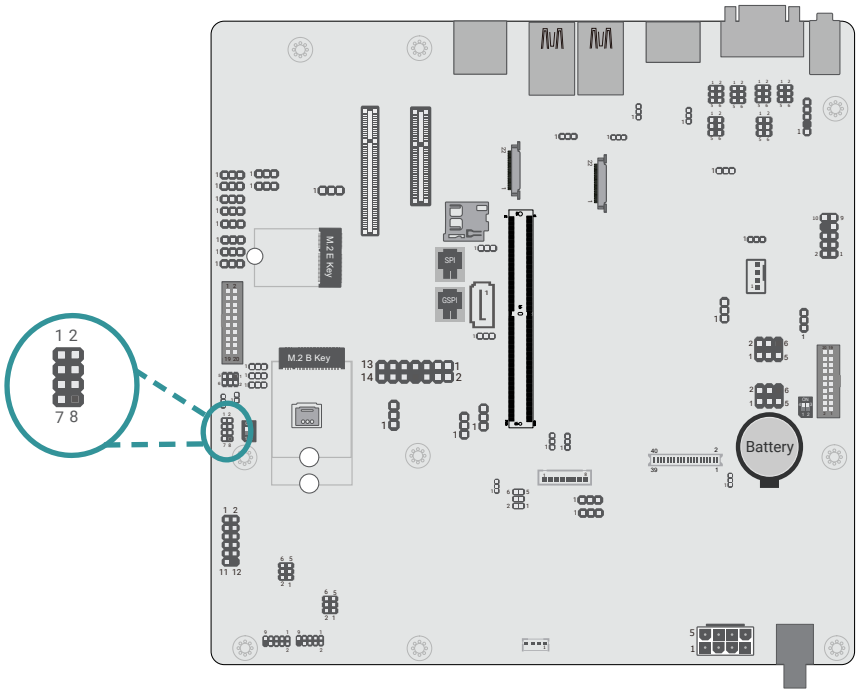
Pin	Assignment
1	UART1_TX
2	UART1_RX
3	UART1_C_TX
4	UART1_C_RX
5	Debug_TX
6	Debug_RX

GPIO_12_13/CAN BUS SEL (J17)



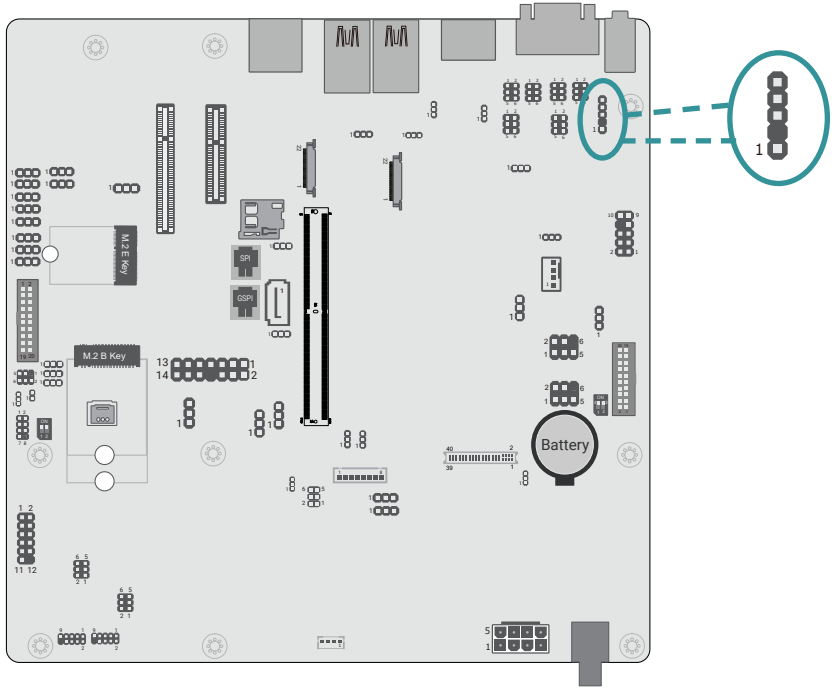
Pin	Assignment
1	GPIO12_C
2	GPIO13_C
3	GPIO12_SMARC
4	GPIO13_SMARC
5	GPIO12_CAN_TX
6	GPIO13_CAN_RX

CAN Bus 1/2 Header (J9)



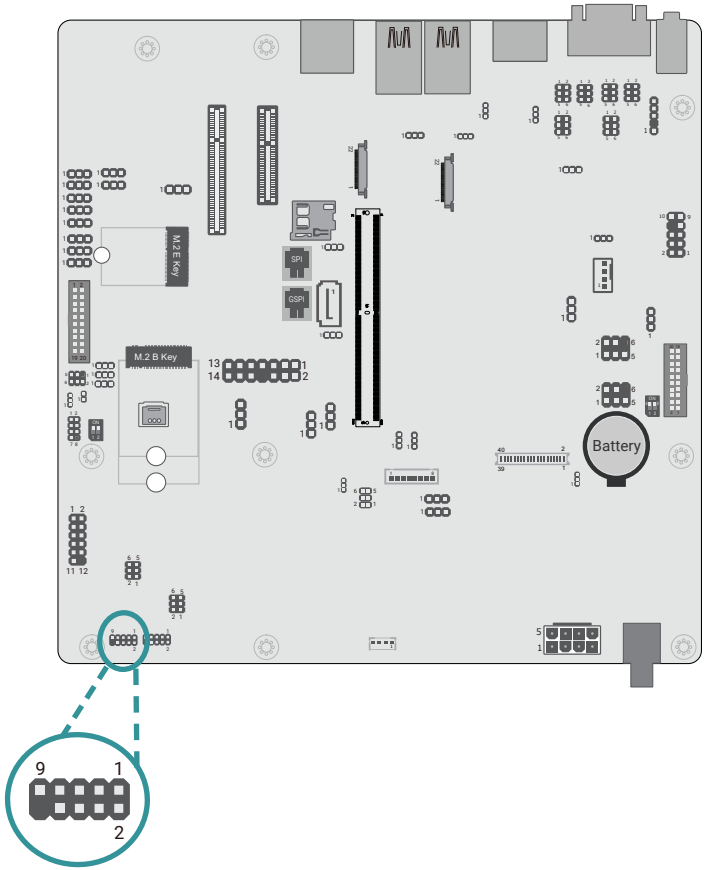
Pin	Assignment
1	CAN0_L
2	CAN1_L
3	GND
4	GND
5	CAN0_H
6	CAN1_H
7	NC
8	NA

S/PDIF (AUJ1)



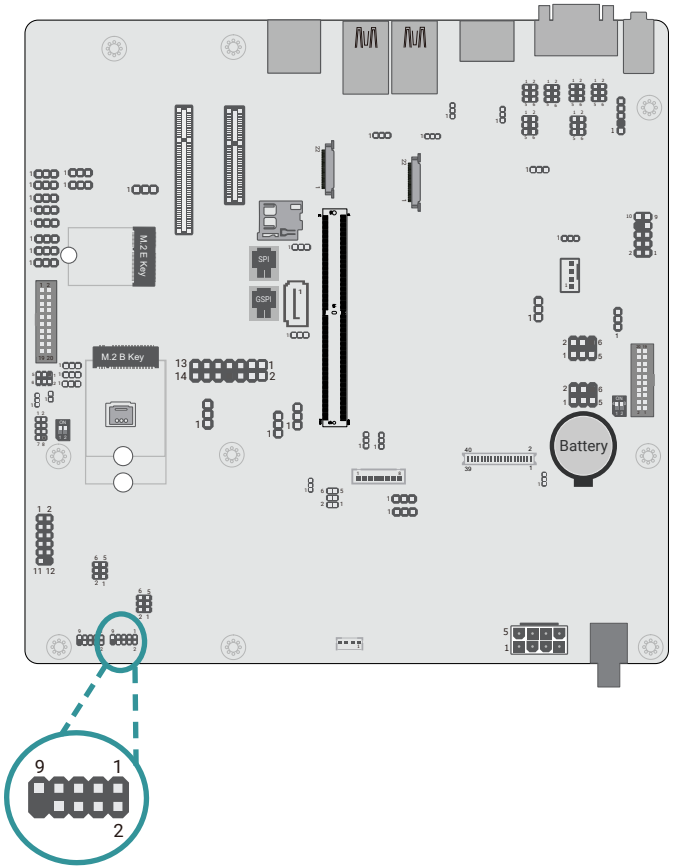
Pin	Assignment
1	5V
2	NA
3	SPDIF-OUT
4	GND
5	SPDIF-IN

COM2 (J7)



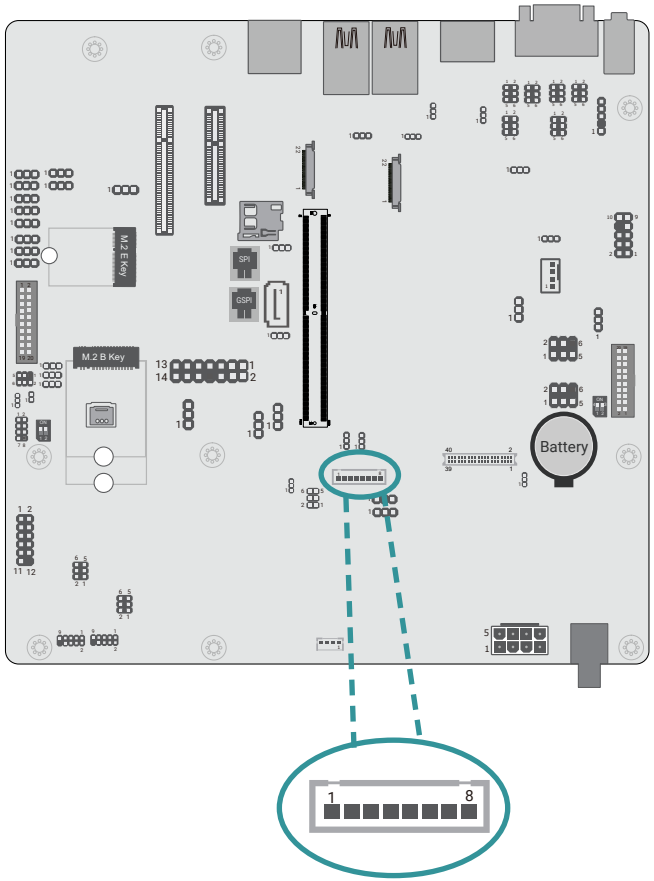
Pin	Assignment
1	NC
2	MRD1
3	MTD1
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC
10	NA

COM4 (J8)



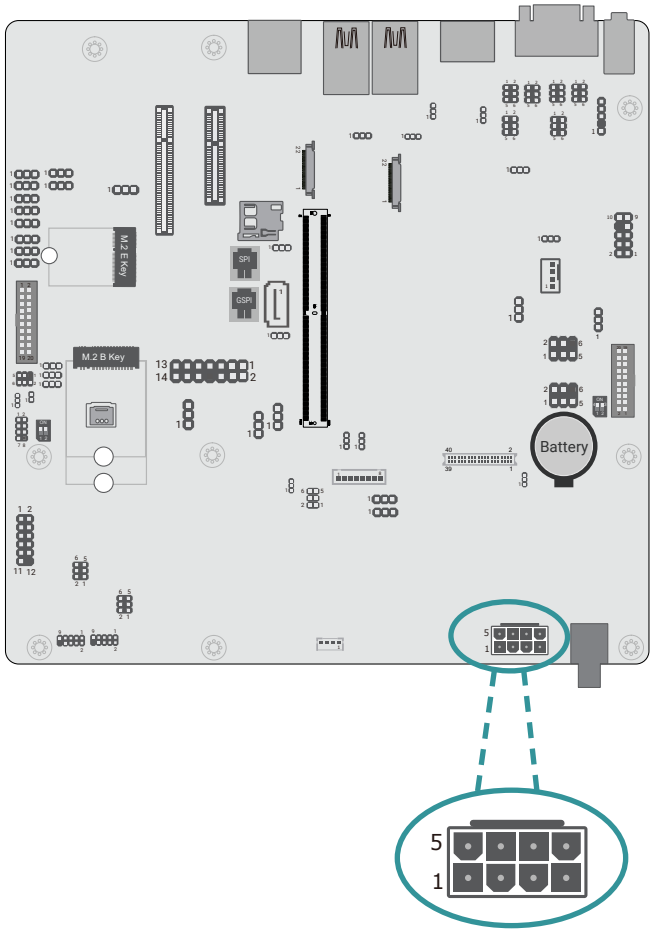
Pin	Assignment
1	NC
2	MRD3
3	MTD3
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC
10	NA

Panel Inverter Connector (DPJ14)



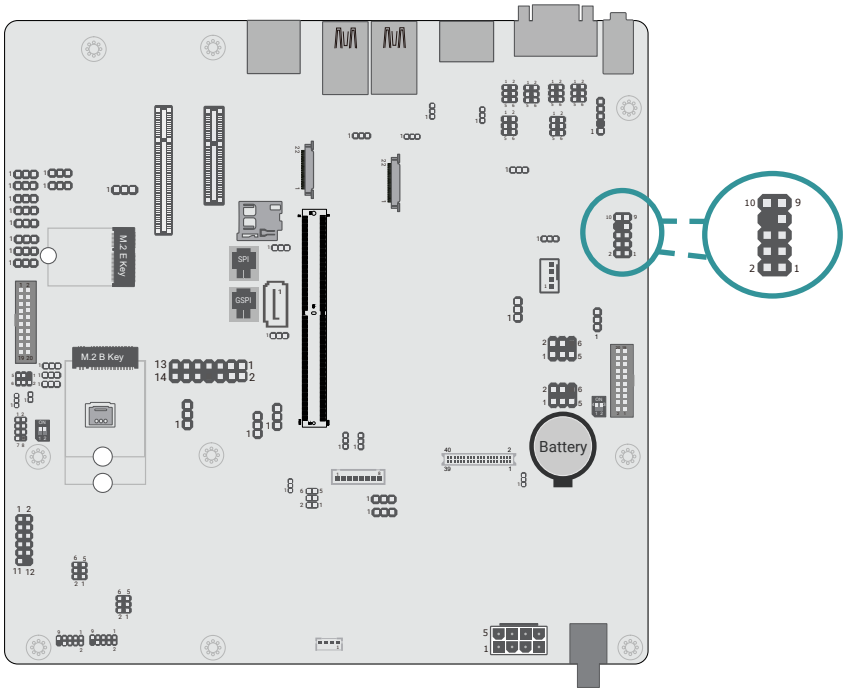
Pin	Assignment
1	GND
2	GND
3	DIMMING
4	PANEL-PWR
5	LVDS_3V3
6	BRT-ON-OFF
7	INVTER_PWR
8	INVTER_PWR

DC_IN (CN30)



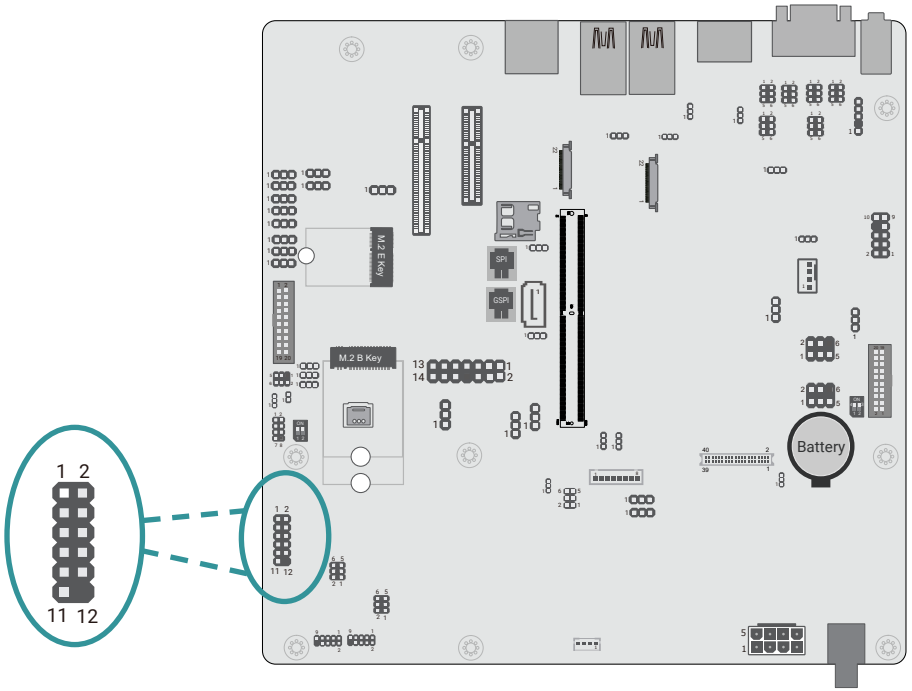
Pin	Assignment
1	GND_1
2	GND_2
3	GND_3
4	GND_4
5	12V_1
6	12V_2
7	12V_3
8	12V_4

Front Audio (AUJ2)



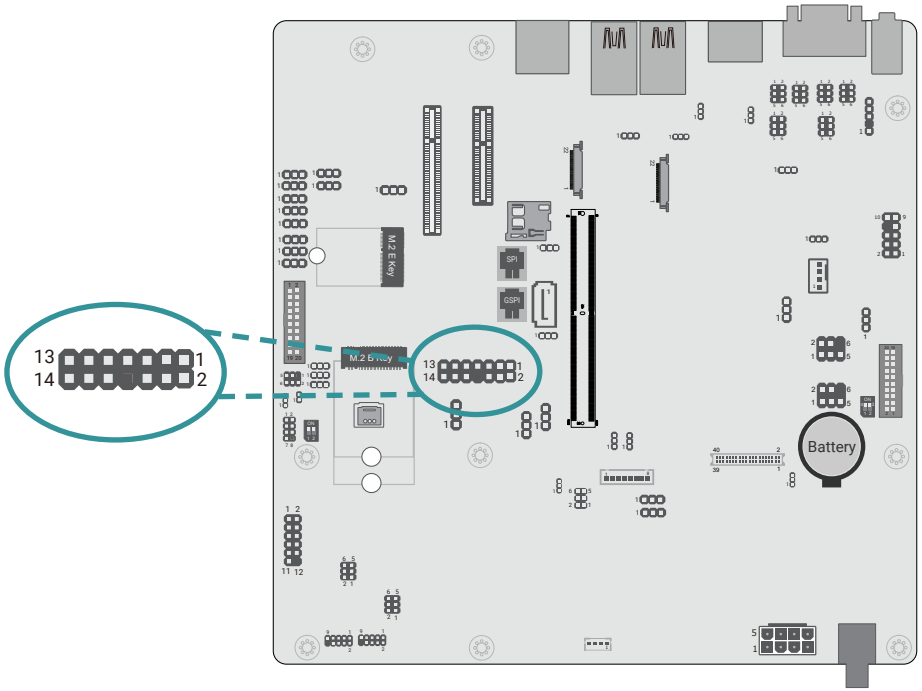
Pin	Assignment
1	MIC2-L
2	A_GND
3	MIC2-R
4	NC
5	LINE2-R
6	MIC2-JD
7	A_GND
8	NA
9	LINE2-L
10	LINE2-JD

Front Panel (J3)



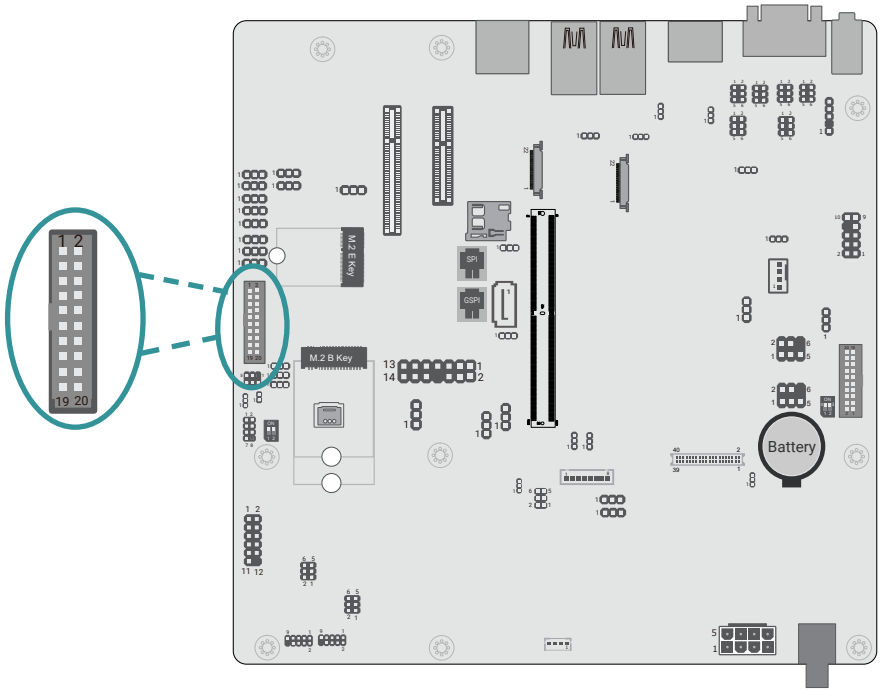
Pin	Assignment
1	NC
2	V_SUS_LED
3	3V3
4	V_SUS_LED
5	HD_LED
6	SUS_LED
7	GND
8	GND
9	RST_IN
10	PWR_BTN
11	NC
12	NA

ESPI (J14)



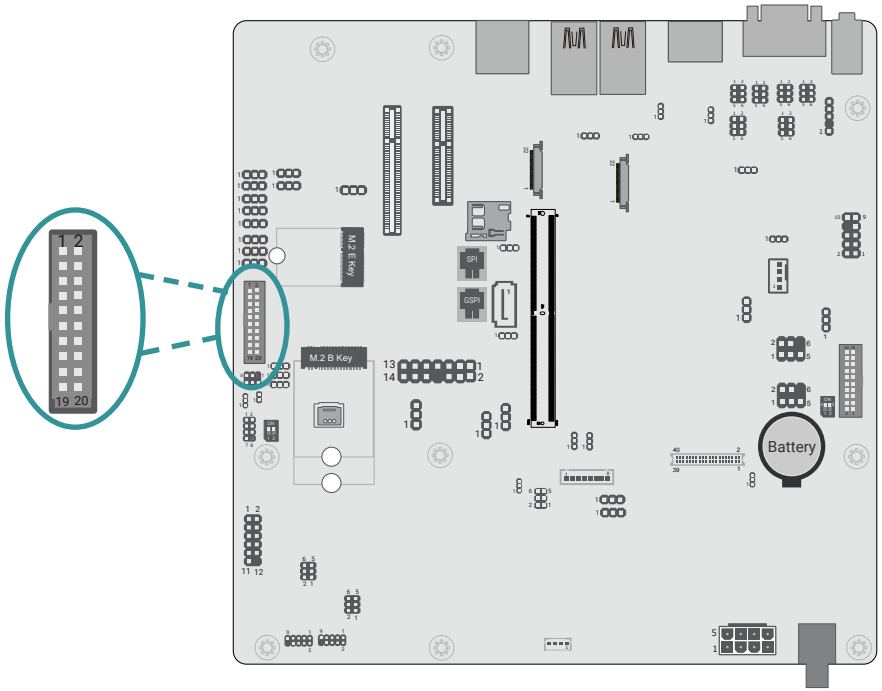
Pin	Assignment
1	3V3SB_SPI
2	eSPI0_S_CLK
3	ESPI0A_RST#_C
4	GND
5	ESPI_ALERT0_C
6	N.C
7	eSPI0_IO_0_MOSI
8	NA
9	eSPI0_IO_1_MISO
10	eSPI0_S_CS0#
11	ESPI0_IO_2_C
12	N.C
13	ESPI0_IO_3_C
14	3V3SB_SPI

DIO (J12)



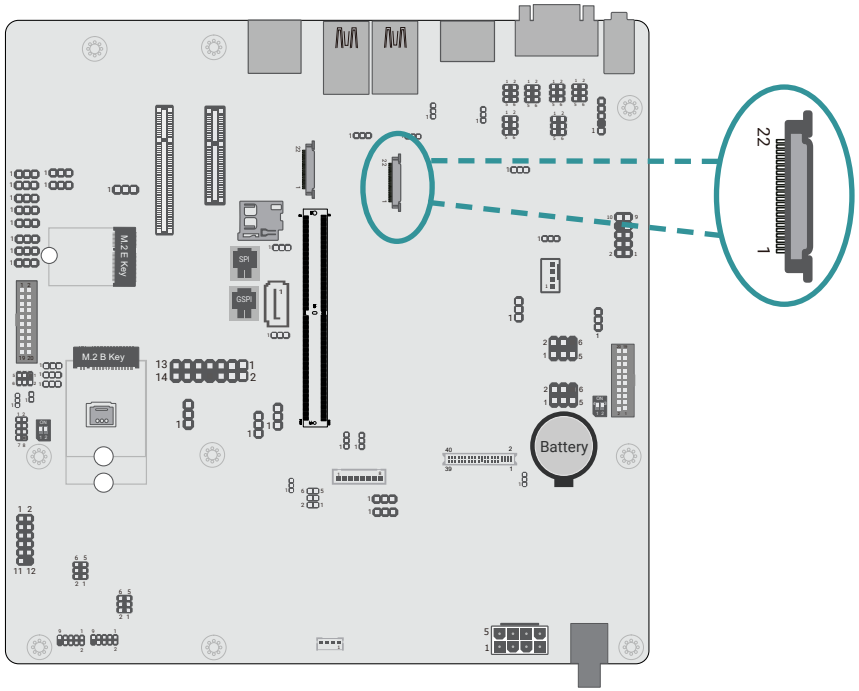
Pin	Assignment
1	3V3
2	3V3
3	D_IOA0_C
4	D_IOA1_C
5	D_IOA2_C
6	D_IOA3_C
7	D_IOA4_C
8	D_IOA5_C
9	D_IOA6_C
10	D_IOA7_C
11	D_IOA8_C
12	D_IOA9_C
13	D_IOA10_C
14	D_IOA11_C
15	D_IOA12_C
16	D_IOA13_C
17	NC
18	NC
19	GND
20	GND

I2S (J13)



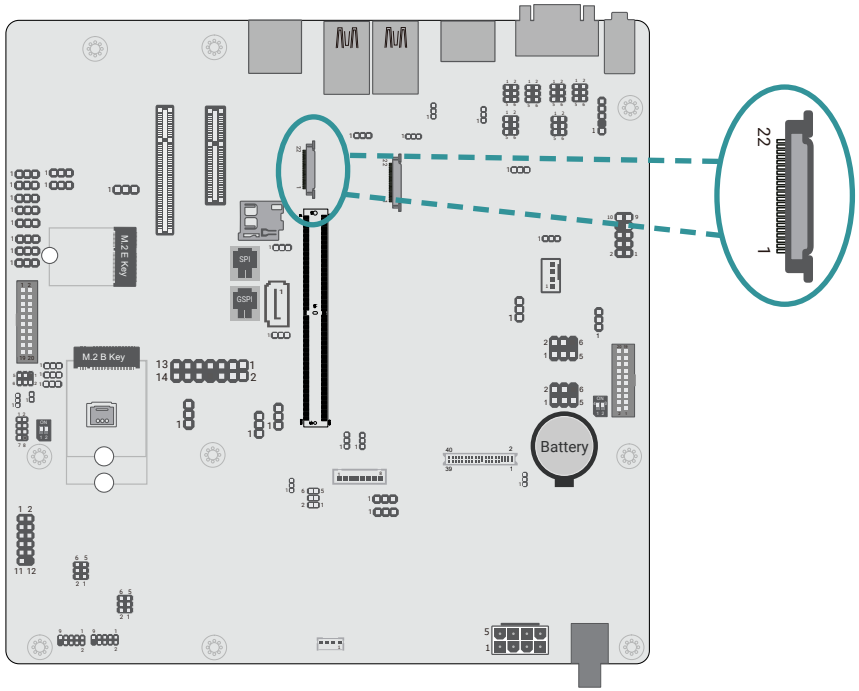
Pin	Assignment
1	I2S0_VDDA_3V3
2	GND
3	I2S0_VDDA_3V3
4	I2S0_SDIN_3V3
5	I2S0_SDOUT_3V3
6	I2S0_LRCK_3V3
7	I2S0_CLK_3V3
8	AUDIO_MCLK_I2S
9	NC
10	GND
11	PM_CLK_I2S
12	MIC_BIAS_I2S0_3V3
13	PM_DAT_I2S
14	GND
15	NC
16	I2S0_HP_R
17	I2S0_MIC_IN
18	GND
19	GND
20	I2S0_HP_L

MIPI- CSI port 1 CS0-2 Lane (CN3)



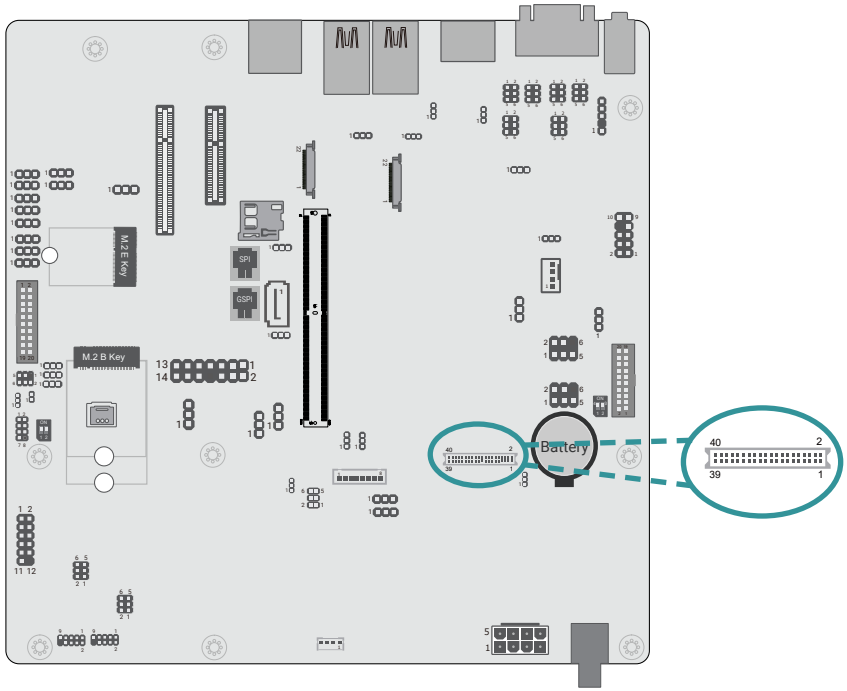
Pin	Assignment
1	3V3
2	I2C_SDA_CAMERA
3	I2C_SCL_CAMERA
4	GND
5	MIPI_CSI0_MCLK_OUT
6	MIPI_CSI0_RST#_C
7	GND
8	NC
9	NC
10	GND
11	NC
12	NC
13	GND
14	MIPI_CSI0_CLK_P
15	MIPI_CSI0_CLK_N
16	GND
17	MIPI_CSI0_DATA1_P
18	MIPI_CSI0_DATA1_N
19	GND
20	MIPI_CSI0_DATA0_P
21	MIPI_CSI0_DATA0_N
22	GND

MIPI- CSI port 2 CS1-4 Lane (CN4)



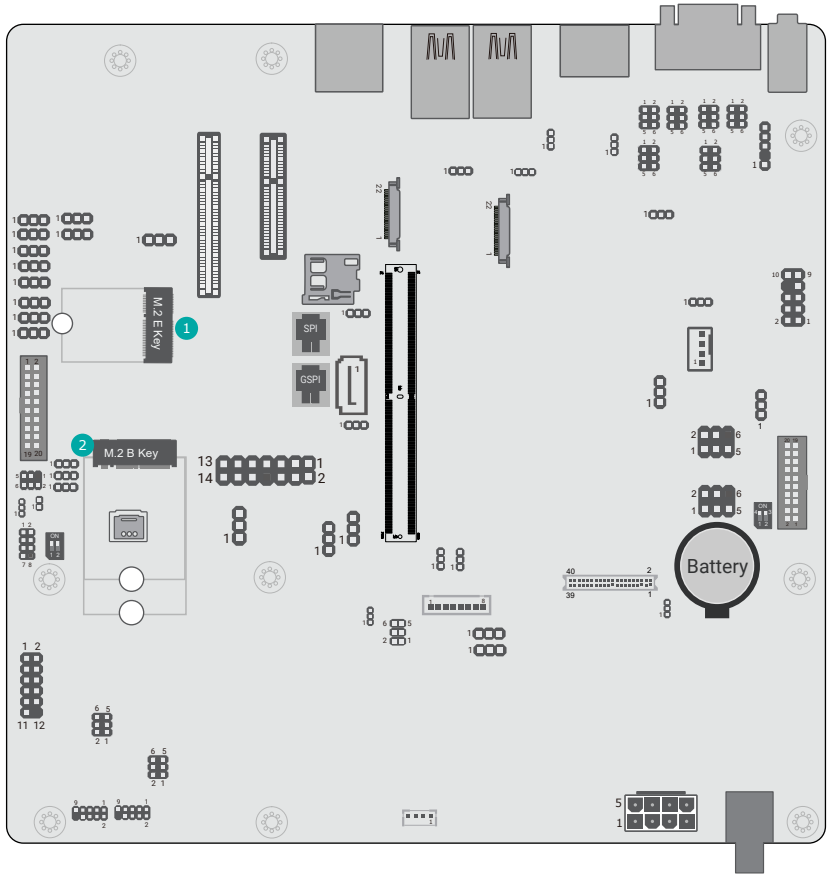
Pin	Assignment
1	3V3
2	I2C_SDA_CAMERA
3	I2C_SCL_CAMERA
4	GND
5	MIPI_CSI0_MCLK_OUT
6	MIPI_CSI1_RST#_C
7	GND
8	MIPI_CSI1_DATA3_P
9	MIPI_CSI1_DATA3_N
10	GND
11	MIPI_CSI1_DATA2_P
12	MIPI_CSI1_DATA2_N
13	GND
14	MIPI_CSI1_CLK_P
15	MIPI_CSI1_CLK_N
16	GND
17	MIPI_CSI1_DATA1_P
18	MIPI_CSI1_DATA1_N
19	GND
20	MIPI_CSI1_DATA0_P
21	MIPI_CSI1_DATA0_N
22	GND

LVDS/eDP (DPCN3)



Pin	Assignment	Pin	Assignment
1	eDP_LVDS0_LANE3_P	2	eDP_LVDS1_LANE3_P
3	eDP_LVDS0_LANE3_N	4	eDP_LVDS1_LANE3_N
5	GND	6	GND
7	eDP_LVDS0_LANE2_P	8	eDP_LVDS1_LANE2_P
9	eDP_LVDS0_LANE2_N	10	eDP_LVDS1_LANE2_N
11	GND	12	GND
13	eDP_LVDS0_LANE1_P	14	eDP_LVDS1_LANE1_P
15	eDP_LVDS0_LANE1_N	16	eDP_LVDS1_LANE1_N
17	GND	18	GND
19	eDP_LVDS0_LANE0_P	20	eDP_LVDS1_LANE0_P
21	eDP_LVDS0_LANE0_N	22	eDP_LVDS1_LANE0_N
23	GND	24	GND
25	eDP_LVDS0_CLK_P	26	eDP_LVDS1_CLK_P
27	eDP_LVDS0_CLK_N	28	eDP_LVDS1_CLK_N
29	GND	30	GND
31	LVDS_DDC_CLK	32	EDP_HPD_R
33	LVDS_DDC_DAT	34	BRT-ON-OFF
35	GND	36	LVDS_3V3
37	INVTER_PWR	38	DIMMING
39	INVTER_PWR	40	PANEL_PWR
41	GND	42	GND
43	NC	44	NC

▶ Expansion Slots



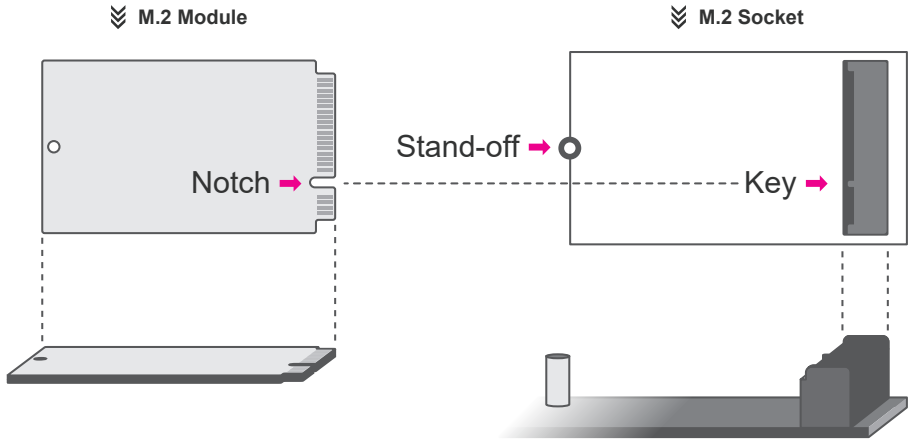
1 M.2 E-Key

2 M.2 B-Key

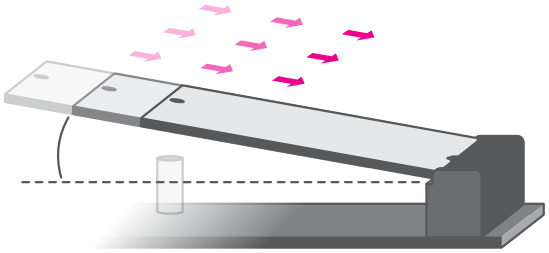
Installing the M.2 Module

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

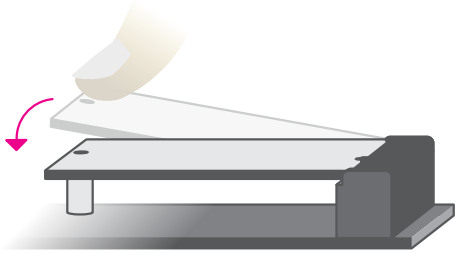
1. Make sure the PC and all other peripheral devices connected to it has been powered down.
2. Disconnect all power cords and cables.
3. Locate the M.2 socket on the system board
4. Make sure the notch on card is aligned to the key on the socket.
5. Make sure the standoff screw is removed from the standoff.



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.