

KMDA-3302

User's Manual



Ver. A0.1

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This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by JHC, or which have been subject to misuse, abuse, accident or improper installation.

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If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, JHC products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from JHC. Please contact your local supplier for ordering information. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A 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 commercial environment. 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

- Step 1. Visit the JHC web site at www.jhctech.com.cn where you can find the latest information about the product.
- Step 2. Contact your distributor, sales representative, or JHC's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
- Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
- The exact wording of any error messages

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CHAPTER

1



General Information

1.1 Introduction

KMDA-3302 is a lightweight and slim box computer from JHC, designed with an SGCC box structure and built-in 4-wire debugging fan for silent cooling. It is Powered by Intel® 11th Gen Tiger Lake U Soc CPU module and paired with the newly designed PIB-285 carrier board, supports 1*DDR4 3200MHz memory, up to 64GB. The main IO interface is located on the front coastline: 1*HDMI display interface, 2*I210AT Gig. network interface, 2*USB3.2 + 2*USB2.0, remote switch interface, DC 9-36V wide power input terminal, with overvoltage reverse connection overcurrent protection, and with LED power button. On the left side, there are 8-bit GPIO, 2*COM (1*RS232/422/485, 1*RS232, placed in a DB9 interface), and 1*M I/O interface. There is a COM mode selection switch and SIM card slot on the right side. Built-in 1*Full size Mini PCIe with PCIe X1+USB2.0 signal, supports WIFI/BT and CAN bus, and can automatically detect and switch to mSATA; 1*M.2 3042/3050 B-key, with SIM card slot, PCIe X1+USB2.0 signal, supports 4G or 5G wireless routing; 1*M.2 2230 E-Key with PCIe X1+USB2.0 signal, supports WiFi/BT module and other functional expansion modules; 1*Full Size mSATA, up to SATA6.0 Gbps. The network port and USB interface structure adopt anti-trip design, suitable for mobile portable terminals, advertising machines, logistics visual detection, AGV, AMR and other fields.

1.2 Features

Key Features

- 1、SGCC box with built-in 4-wire debugging fan for silent heat dissipation
- 2、Intel® Tiger lake U Celeron/Core I3/I5/I7 Soc CPU
- 3、JHCTECH NODE Modular motherboard + PIB board design specification
- 4、1*260-pin SODIMM, DDR4 3200MHz, up to 32GB
- 5、1*Full Size Mini PCIe with PCIe X1+USB2.0 signal, supports WIFI/BT and CAN bus etc., can automatically detect and switch to mSATA
- 6、1*M.2 3042/3052 B-Key with SIM card slot, PCIe X1+USB2.0 signal, supports wireless function modules such as 4G LTE or 5G NR
- 7、1*M.2 2230 E-Key with PCIe X1+USB2.0 signal, supports WiFi/BT module and other functional expansion modules

- 8、 2*Full Size mSATA, up to SATA6.0 Gbps, one is PCIeX1 signal automatic detection option
- 9、 1*HDMI display
- 10、 2*Intel I210AT, 10/100/1000Mbps adaptive, supports WOL
- 11、 8 bit DIO, 2*COM, 2*USB3.2, 2*USB2.0
- 12、 Supports desktop mounting and Din-Rail Rail mounting
- 12、 DC 9-36V wide power input

1.3 Specifications

1.3.1 General

CPU: Intel® Tiger lake-U Soc Celeron/Core I3/I5/I7 Soc CPU

System Memory: 1*DDR4 3200MHz SODIMM, up to 32GB

Watchdog Timer: 255-level interval timer, setup by software

USB: 2*USB3.2 + 2*USB2.0, Type A;

Serial Ports: 1*RS232/422/485 + 1*RS232, placed inside one DB9 male connector, set its working mode through the COM mode selection switch

Expansion Interface:

1*Full size Mini PCIe, supports WIFI/BT and CAN bus etc.

1*M.2 3042/3052 B-Key with SIM card slot, supports 4G or 5G module

1*M.2 2230 E-Key, supports WiFi/BT module and other functional expansion modules

Storage:

1*Full size mSATA, up to SATA6.0 Gbps

1.3.2 Display

Chipset: Intel® Gen. 11 UHD Graphics

Display Memory: Intel UHD Graphics or iRIS® Xe Graphics

Resolution: HDMI max res. 4096x2304@60Hz

1.3.3 Ethernet

Chipset: 2*Intel I210AT Ethernet controllers

Speed: 10M/100M/1000M adaptive

Interface: 2*RJ45

1.3.4 Audio

Chipset: /

Interface: /

1.3.5 Power Consumption

Input Voltage: DC 9~36V

Power Consumption: Full load power consumption: 37.2W, 12V/3.1A; Minimum power consumption: 11.52W, 12V/0.96A (Intel Core i7-1165G7 CPU, 4G DDR4 Ram, 64G SSD)

Power Adapter: AC/DC adapter, DC 12V/5A 60W

1.4 Environmental requirement

Operating temperature: -20 ~60° C (wide operating temp. SSD)

Relative humidity: 10%-95%@40°C (non-condensing)

Storage temperature: -40 ~ 85°C (-40 ~ 185°F)

Vibration loading during operation:

With SSD: 5Grms, random, 5 ~ 500 Hz

With HDD: 1Grms, random, 5 ~ 500 Hz

Shock during operation:

With SSD: 50g, peak acceleration (11ms duration)

With HDD: 20g peak acceleration (11ms duration)

EMC: CE, FCC Class A

1.5 KMDA-3302 Series CPU Specifications

Model NO.	KMDA-3302-S001	KMDA-3302-S002	KMDA-3302-S003	KMDA-3302-S004
CPU	Core I3-1115G4	Core I5-1135G7	Core I7-1165G7	Celeron 6305E
Frequency	1.70-4.10 GHz	0.90-4.20 GHz	1.20-4.70 GHz	1.80 GHz

Core	2	4	4	2
Thread	4	8	8	2

1.6 Dimension

KMDA-3302 dimensions:

Unit: mm

Desktop mounting: 172*116*54 mm

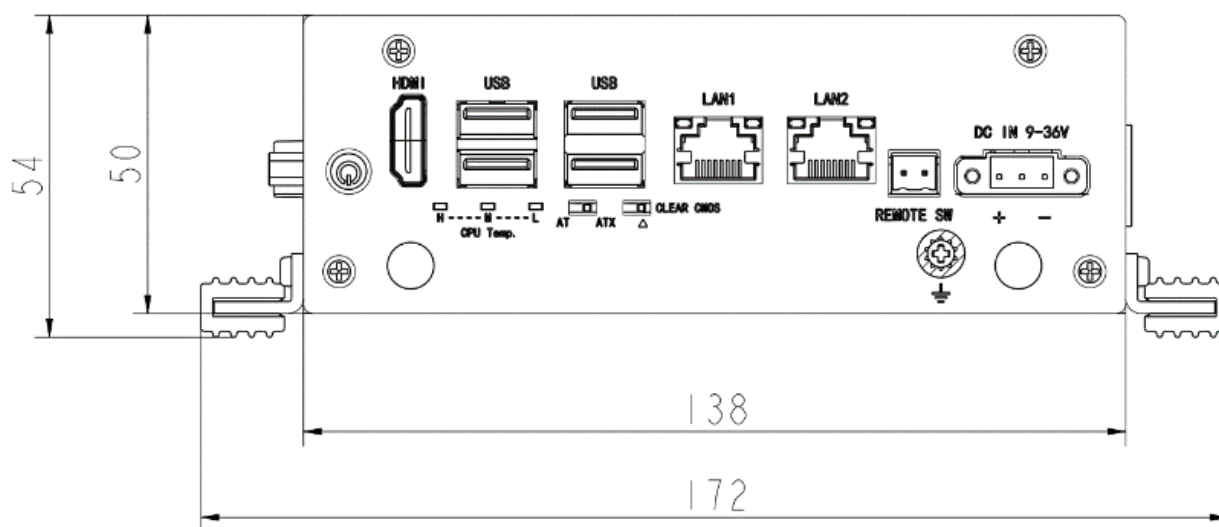


Figure 1.1

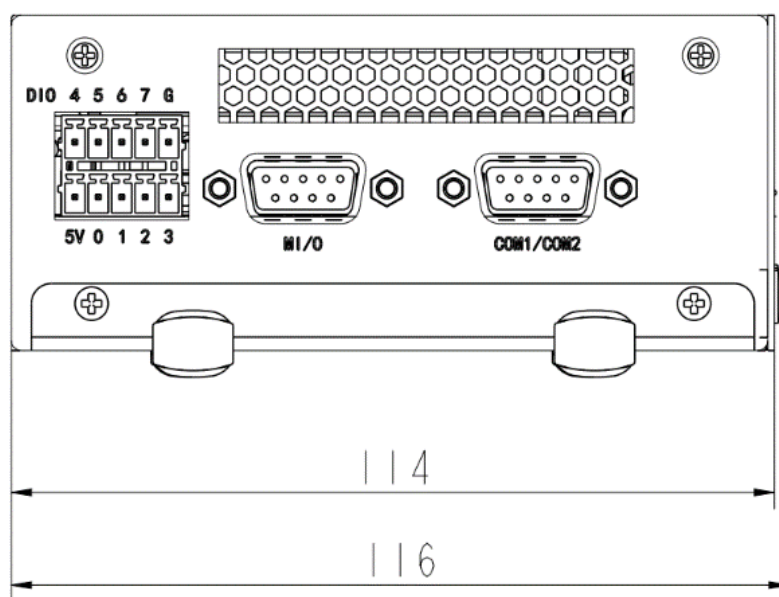


Figure 1.2

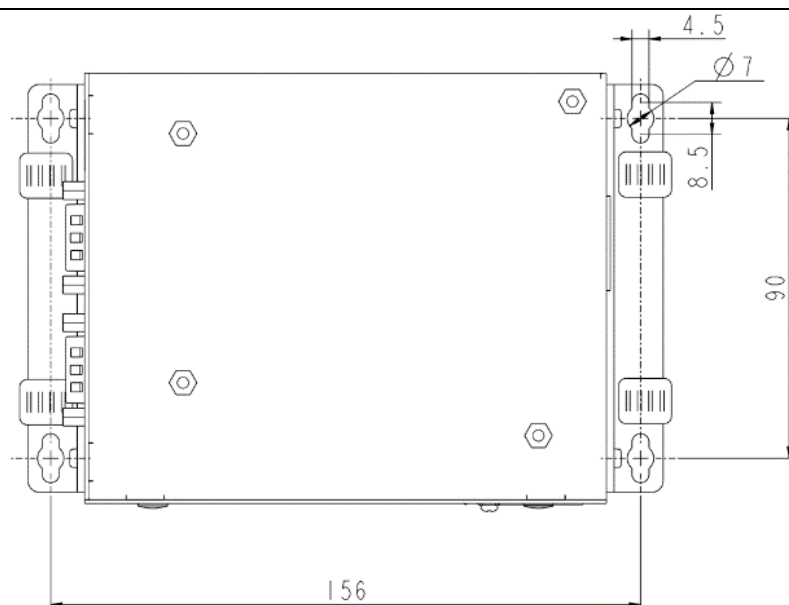


Figure 1.3

Din-Rail mounting: 144.8*125.22*50 mm

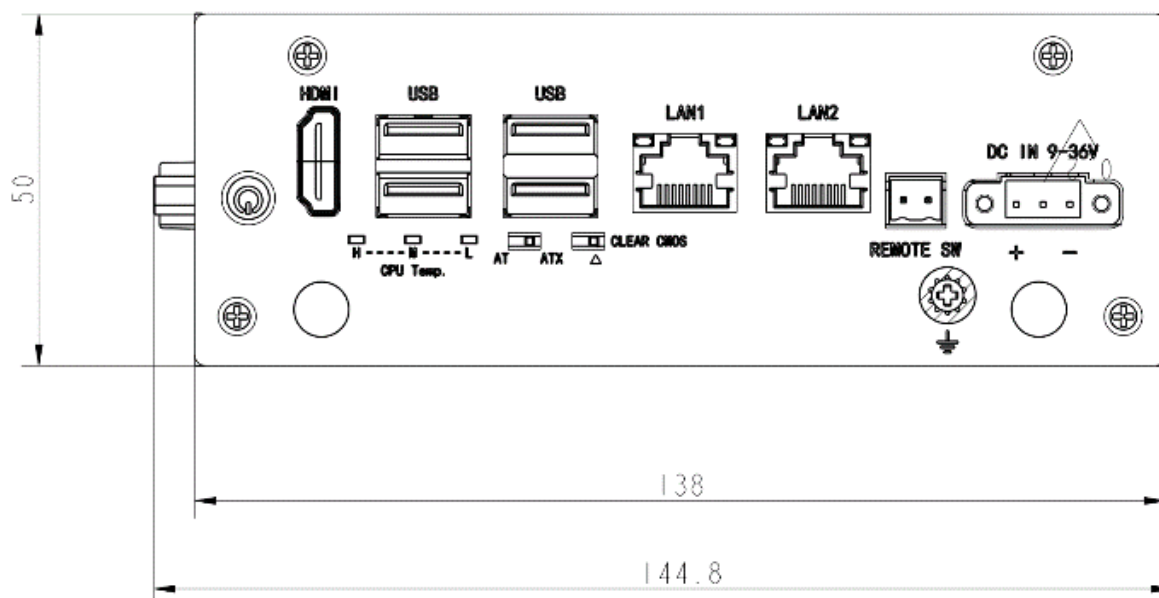


Figure 1.4

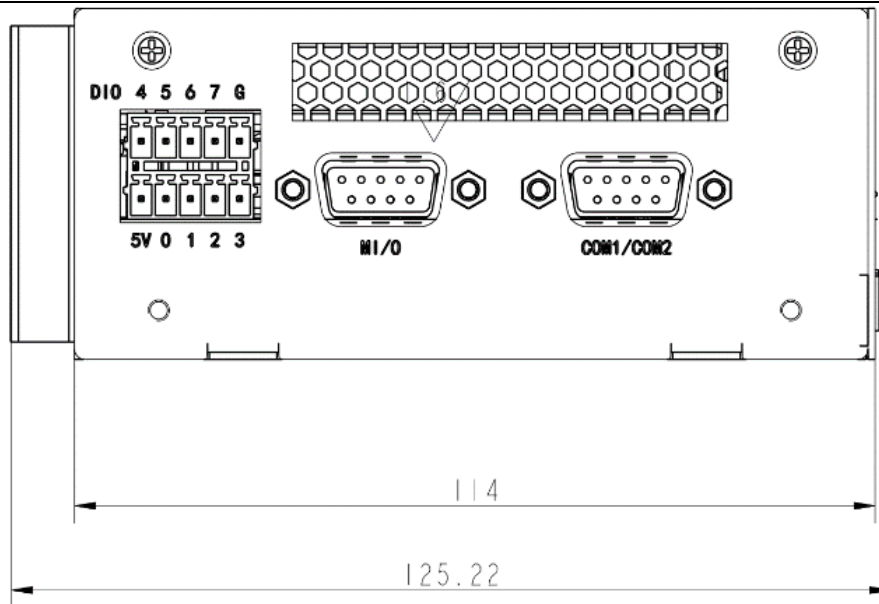


Figure 1.5

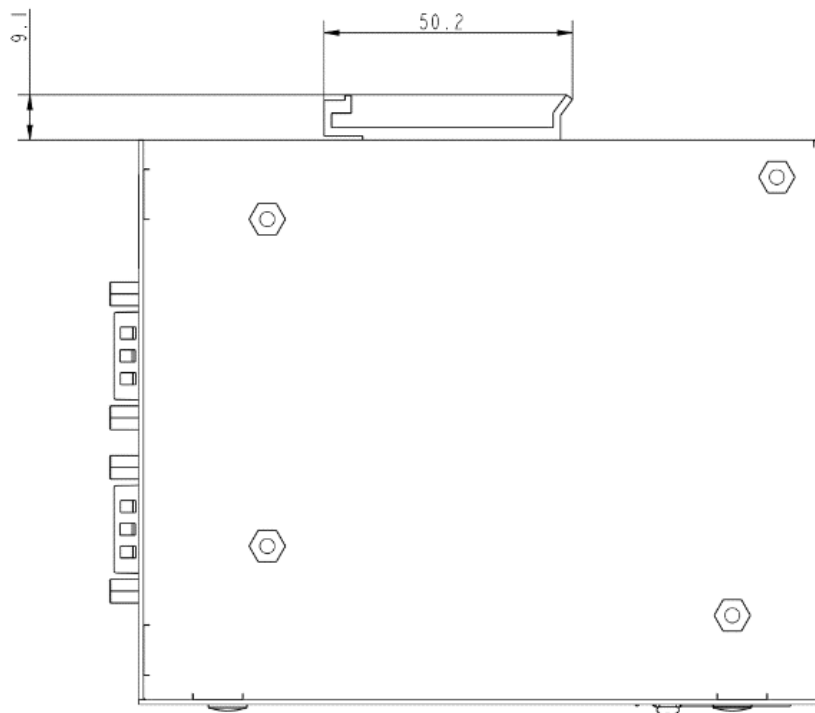


Figure 1.6

CHAPTER

2



Hardware Installation

2.1 Introduction

The following sections describe panel DIP switch Settings and external connectors and pin assignments.

2.2 Dip SW Settings

KMDA-3302 box computer is provided with a simple dip switch on the motherboard. This simple DIP switch can be moved with tweezers or card pins, which is convenient for users to set according to different configuration requirements. The following table lists the functions of each dip switch on the motherboard.

Dip SW List:

Model	Description	Specification
CLEAR/CMOS	Clear CMOS Data Setting	3-Pin Block
AT/ATX	Set the power-on mode, AT or ATX	3-Pin Block

2.2.1 CLEAR/COMS CMOS Data clear switch

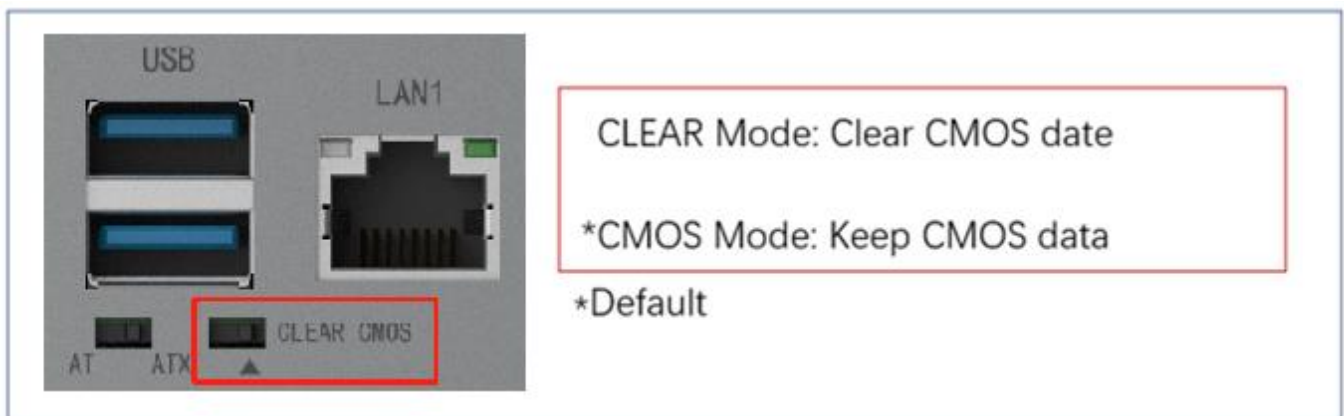


Figure 2.1

CMOS is powered by socket BAT batteries. Clearing CMOS will cause the previous system settings to be permanently erased and set to the original (factory setting) system Settings.

If you encounter the followings:

- a) CMOS data becomes corrupted.
- b) You forget the supervisor or user password.

you can reconfigure the system with the default values stored in the ROM BIOS.

To load the default values stored in the ROM BIOS, please follow the steps below.

1. Power-off the system and unplug the power cord.
2. Turn the dip switch to CLEAR mode, hold for 5-6 seconds, and then return to CMOS mode.
3. Boot the computer and press the Del key to enter BIOS settings, reloading the optimal default values.

4. Save & Exit Setup.

2.2.2 AT/ATX Power supply Select

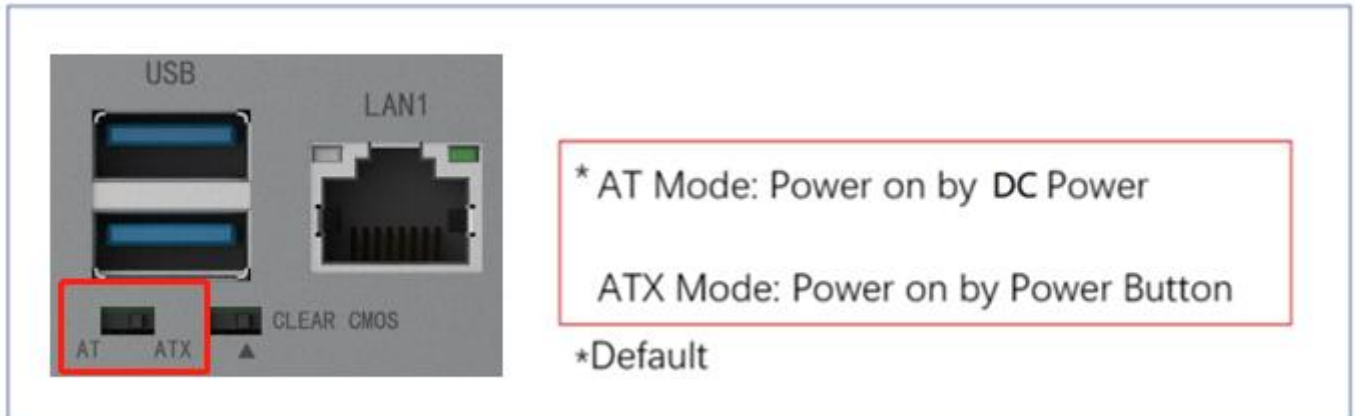


Figure 2.2

KMDA-3302 provides an AT/ATX switch, which users can use tweezers to toggle the dial switch to set the machine's startup mode. When you set it to AT mode, it means that you can turn on the machine by connecting to the DC power supply; When dialed to ATX, it means turning on the machine through the power button.

2.3 I/O ports/LED Indication

KMDA-3302 Front view:

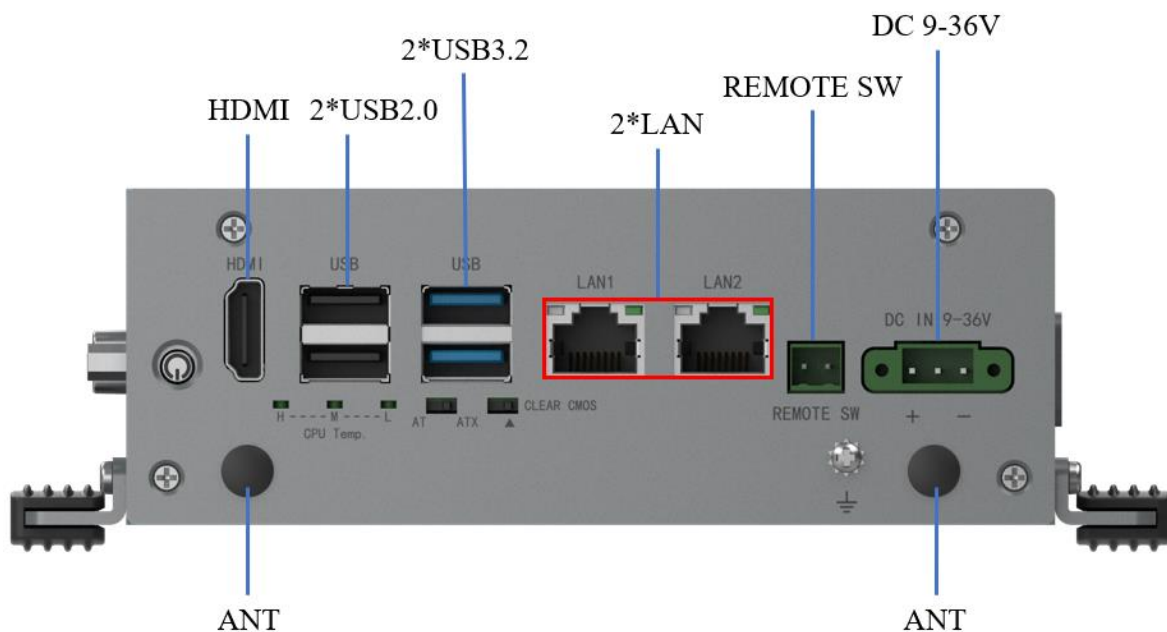


Figure 2.3

Front I/O interface:

- 1*DC 9-36V power input
- 1*HDMI
- 2*USB 2.0 Type A, 2*USB3.2 Type A

- 2*Gigabit LAN: RJ45
- 2*ANT
- Power button
- 1*Remote SW
- HDD LED, CPU LEDs
- AT/ATX SW, Clear CMOS SW

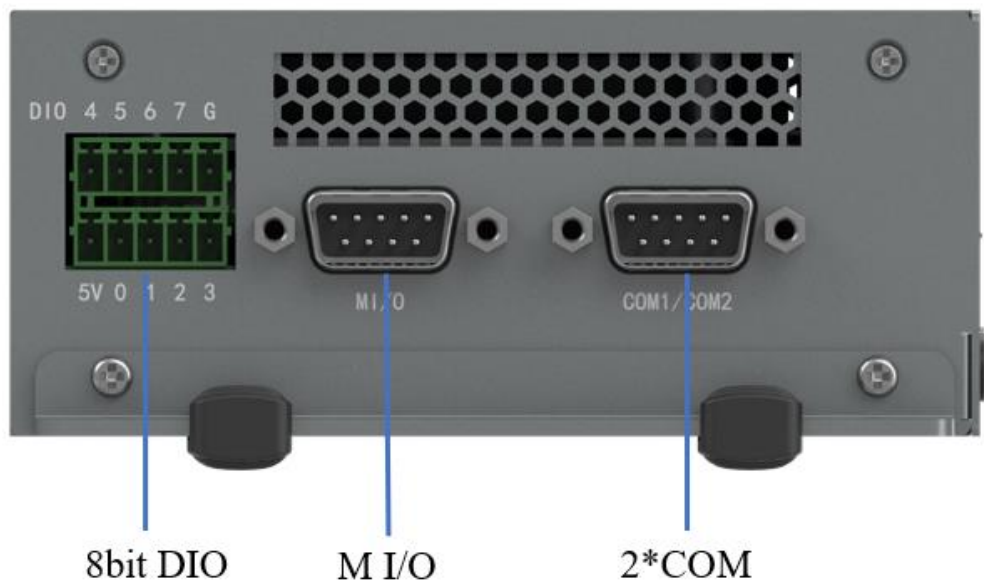
KMDA-3302 left view:

Figure 2.4

Left I/O interface:

- 1*M I/O, DB9 interface
- 8-bit DIO: 10-Pin phoenix terminal
- 2*COM, DB9 interface

KMDA-3302 right view:

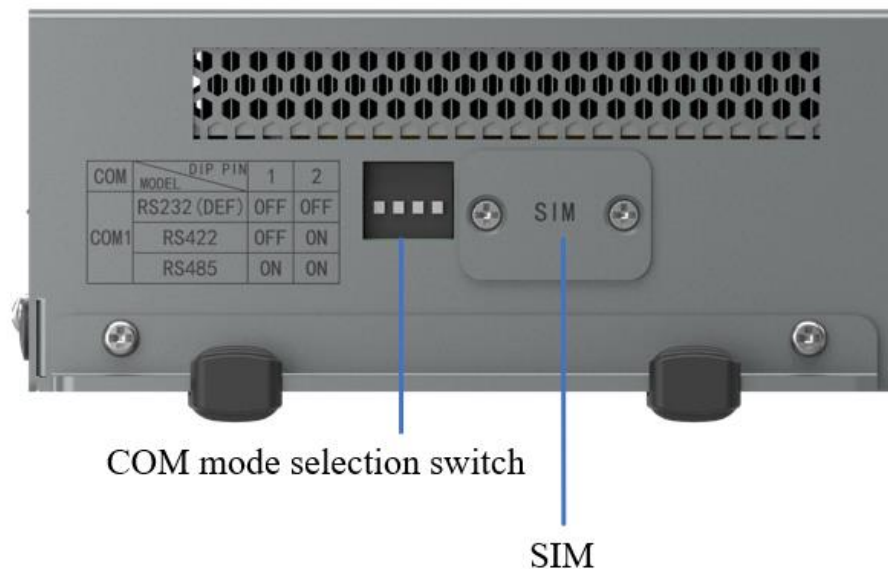


Figure 2.5

Right I/O interface:

- 1*COM mode selection switch
- 1*SIM card slot

2.3.1 Ethernet Connector

KMDA-3302 is equipped with 2*Intel® I210AT chips, supports 10M/100M/1000M rate self-adaption. The Ethernet provides a standard RJ-45 port with a orange LED indicating network port activity and a green LED indicating network speed. Table 2.1 provides a detailed description of pin assignments.

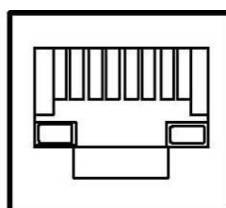


Figure 2.6 Ethernet Connector

Table 2.1: RJ-45 Connector pin assignments	
Pin	10/100/1000BaseT信号名
1	TX+(10/100), LAN_DA+(GHz)
2	TX-(10/100), LAN_DA-(GHz)
3	RX+(10/100), LAN_DB+(GHz)
4	LAN_DC+(GHz)
5	LAN_DC-(GHz)

6	RX-(10/100), LAN_DB-(GHz)
7	LAN_DD+(GHz)
8	LAN_DD-(GHz)

Table 2.2 lists the connection rate represented by network port LED.

Table 2.2: RJ-45 Led active state		
Type	Left LED	Right LED
10 M Cable	OFF	Green led flashing
100M Cable	Orange led Lighting	Green led flashing
1000M Cable	Orange led Lighting	Green led flashing

2.3.2 Power Input Connector

KMDA-3302 provides wide voltage (9~36V) power input through a 3pin terminal. Table 2.3 describes pin assignments in detail.

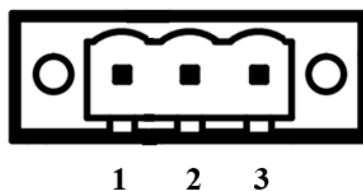


Figure 2.7 DC connector

Table 2.3:DC-IN Pin Assignments			
Pin	Signal	Pin	Signal
1	9~36V	2	NC
3	GND		

2.3.3 CMOS battery interface

KMDA-3302 provides one CMOS battery interface, the interface pins are defined as follows.

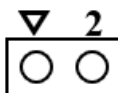


Figure 2.8 CMOS battery interface

Table 2.4: CMOS battery pin assignments			
Pin	Signal	Pin	Signal
1	BAT+	2	GND

2.3.4 Remote SW Connector

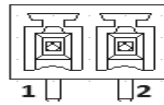


Figure 2.9 Remote SW Connector

Table 2.5: Remote SW pin assignments

Pine	Signal	Pin	Signal
1	PWR_SW	2	GND

2.3.5 8-bit DIO

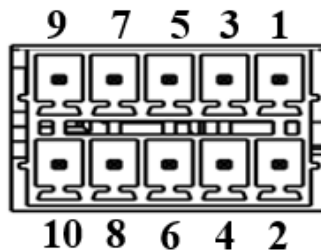


Figure 2.10 8-bit DIO connector

Table 2.6: DIO pin assignments

Pin	Signal	Pin	Signal
1	5V VCC	2	DIO4
3	DIO0	4	DIO5
5	DIO1	6	DIO6
7	DIO2	8	DIO7
9	DIO3	10	GND

2.3.6 SM Bus

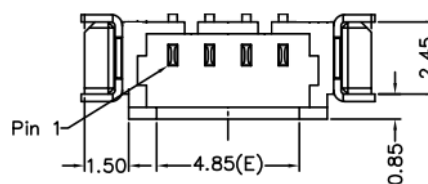


Figure 2.11 SM Bus connector

Table 2.7: SM BUS pin assignments

Pin	Signal	Pin	Signal
-----	--------	-----	--------

1	GND	2	DAT
3	CLK	4	+V3.3

2.3.7 USB connector

The front panel of KMDA-3302 provides 2*USB3.2 Type A, 2*USB2.0 Type A. These USB interface connectors support plug and play and hot swap capabilities, comply with USB UHCI version 3.0 and 2.0 protocols, and can be disabled through the system BIOS Settings.

These USB ports can be connected to any other USB port device, suitable for many new digital devices. In addition, the plug and pull function is convenient for users to unplug or plug in USB at any time according to the need, without shutting down. Table 2.8 provides a detailed description of pin assignments for dual-layer USB3.2 Type A:

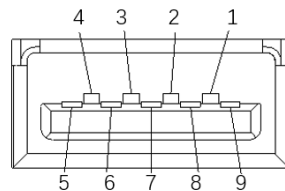


Figure 2.12 USB3.2 Type A接口

Table 2.8: USB3.2 type A Port Pin Assignments			
Pin	Signal	Pin	Signal
1	VBUS	6	RX+
2	D-	7	GND
3	D+	8	TX-
4	GND	9	X+
5	RX-	Shell	Shield

Table 2.9 provides a detailed description of pin assignments for dual-layer USB2.0 Type A:

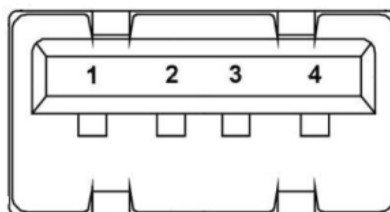


Figure 2.13 USB2.0接口

Table 2.9: USB2.0 pin assignments	
Pin	Signal
1	VCC
2	D-

3	D+
4	GND

2.3.8 HDMI

KMDA-3302 provides a vertical HDMI display interface that supports the highest resolution possible 4096x2304@60Hz. Table 2.10 describes pin assignments in detail.

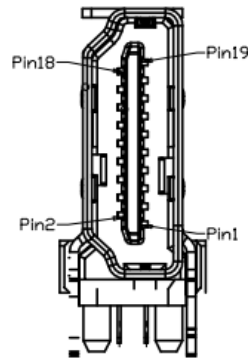


Figure 2.15 HDMI connector

Table 2.10: HDMI Pin Assignments					
Pin	Signal	Pin	Signal	Pin	Signal
1	DATA2_P	8	GND	15	SCL
2	GND	9	DATA0_N	16	SDA
3	DATA2_N	10	CLK_P	17	GND
4	DATA1_P	11	GND	18	VCC
5	GND	12	CLK_N	19	DETECT
6	DATA1_N	13	NC		
7	DATA0_P	14	NC		

Note: NC means no connection.

2.3.9 CPU FAN

KMDA-3302 provides 1*4pin wafer to provide CPU fan, pin assignment is as follows.

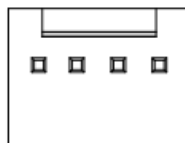


Figure 2.15 CPU fan connector

Table 2.11: CPU FAN Pin Assignments			
Pin	Signal	Pin	Signal

1	GND	2	+12V
3	FAN_TAC	4	FAN_CTL

2.3.10 Mini-PCle

KMDA-3302 provides a standard full size Mini PCIe slot, supports automatic detection and switching to mSATA, pin assignment as follows:

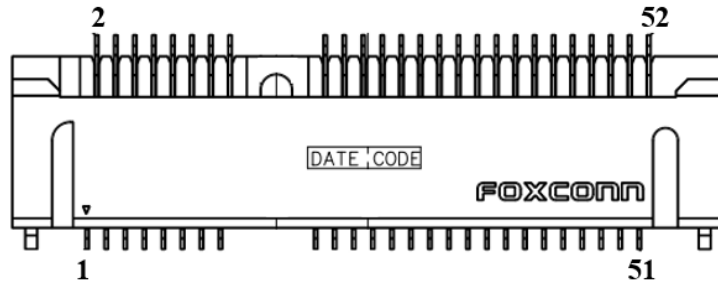


Figure 2.16 Mini-PCle slot

Table 2.12: Mini PCIe Pin Assignments			
Pin	Signal	Pin	Signal
1	PCIE_WAKE_N	2	+V3.3_MINICARD
3	NC	4	GND
5	NC	6	+V1.5
7	+V3.3_MINICARD	8	SIM_PWR
9	GND	10	SIM_DATA
11	CLK_SRC_DN	12	SIM_CLK
13	CLK_SRC_DP	14	SIM_RESET
15	GND	16	+VUIM_VPP
17	NC	18	GND
19	NC	20	WIFI_DISABLE#
21	GND	22	PLTRST_MINIPCI_N
23	PCIE_RX_DN	24	+V3.3_MINICARD
25	PCIE_RX_DP	26	GND
27	GND	28	+V1.5
29	GND	30	SMB_CLK_MAIN
31	PCIE_TX_DN	32	SMB_DATA_MAIN
33	PCIE_TX_DP	34	GND
35	GND	36	USB_N
37	GND	38	USB_P
39	+V3.3_MINICARD	40	GND

41	+V3.3_MINICARD	42	NC
43	GND	44	SIM_DET
45	NC	46	NC
47	NC	48	+V1.5
49	NC	50	GND
51	NC	52	+V3.3_MINICARD

2.3.11 mSATA

KMDA-3302 provides a full size mSATA slot, pin assignments as follows:

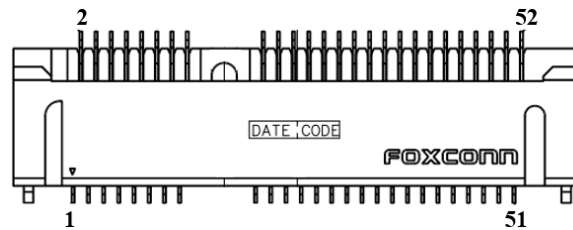


Figure 2.17 mSATA slot

Table 2.13: mSATA Pin Assignments			
Pin	Signal	Pin	Signal
1	NC	2	+V3.3
3	NC	4	GND
5	NC	6	+V1.5
7	NC	8	LPC_FRAME#
9	GND	10	LPC_AD3
11	NC	12	LPC_AD2
13	NC	14	LPC_AD1
15	GND	16	LPC_AD0
17	PLTRST#	18	GND
19	LPC_CLK1	20	NC
21	GND	22	PLTRST#
23	SATA1_mSATA_z_RX+	24	+V3.3
25	SATA1_mSATA_z_RX-	26	GND
27	GND	28	+V1.5
29	GND	30	SMB_SCL
31	SATA1_mSATA_z_TX-	32	SMB_SDA
33	SATA1_mSATA_z_TX+	34	GND
35	GND	36	NC

37	GND	38	NC
39	+V3.3	40	GND
41	+V3.3	42	NC
43	GND	44	NC
45	NC	46	NC
47	NC	48	+V1.5
49	NC	50	GND
51	NC	52	+V3.3

2.3.12 M.2 B-Key 3042/3052

KMDA-3302 provides a M.2 B-Key 3042/3052 slot with PCIe and USB signals, connected to a SIM card slot, and capable of 5G module expansion. Table 2.14 shows the specific pin assignments.

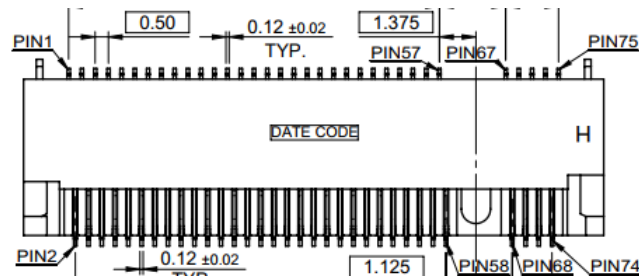


Figure 2.18 M.2 B-Key slot

Table 2.14: M. 2 3052/3042 B-Key Pin Assignments

Pin	Signal	Pin	Signal
1	GND	2	+V3_M2
3	GND	4	+V3_M2
5	GND	6	+V3_M2
7	USB_P9	8	WIFI_DISABLE
9	USB_N9	20	NC
21	+V3_M2	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	NC	30	SIM2_RESET
31	NC	32	SIM2_CLK
33	GND	34	SIM2_DATA
35	NC	36	SIM2_PWR
37	NC	38	SSD_SATA5_DEVSLP

39	GND	40	NC
41	PCIE_RX18-	42	NC
43	PCIE_RX18+	44	NC
45	GND	46	NC
47	PCIE_TX18-	48	NC
49	PCIE_TX18+	50	PLTRST_M2_N
51	GND	52	CLK_REQ15#
53	CLK_PCIE_N15	54	PCH_WAKE_N
55	CLK_PCIE_P15	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	SIM_DET
67	+3VS	68	SUSCLK
69	M.2_SSD_PEDET	70	+V3_M2
71	GND	72	+V3_M2
73	GND	74	+V3_M2
75	NC		

2.3.13 M.2 E-Key 2230

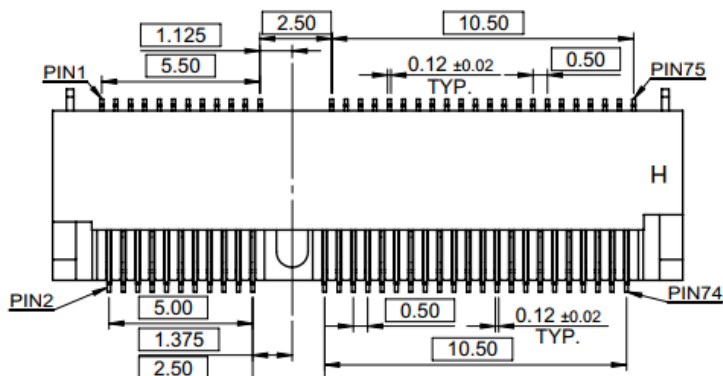


Figure 2.19 M.2 E-Key slot

Table 2.15: M. 2 E-Key 2230 Pin Assignments

Pin	Signal	Pin	Signal
1	GND	2	+V3.3M2SB
3	USB_P5	4	+V3.3M2SB
5	USB_N5	6	NC

7	GND	8	M.2_BT_PCMCLK
9	/	10	M.2_BT_PCMFRM_CR E_RST_N
11	/	12	M.2_BT_PCMIN
13	GND	14	M.2_BT_PCMOUT_CL KREQ
15	/	16	NC
17	/	18	GND
19	GND	20	UART_BT_WAKE_N
21	/	22	/
23	/	32	/
33	GND	34	/
35	PCIE_X4_TX12+	36	/
37	PCIE_X4_TX12-	38	M.2_WLAN_CL_RST_ N
39	GND	40	M.2_WLAN_CL_DAT A
41	PCIE_X4_RX12+	42	M.2_WLAN_CL_CLK
43	PCIE_X4_RX12-	44	DISC_WLAN_WWAN_ COEX2
45	GND	46	DISC_WLAN_WWAN_ COEX2
47	CLK_PCIE_P14	48	DISC_WLAN_WWAN_ COEX1
49	CLK_PCIE_N14	50	SUSCLK
51	GND	52	PLTRST_M2_N
53	CLK_REQ14#	54	NC
55	PCH_WAKE_N	56	NC
57	GND	58	NC
59	/	60	NC
61	/	62	NC
63	GND	64	PULSAR_38P4M_REF CLK
65	/	66	NC
67	/	68	GPPC_B10_CLKREQ5 WICIC_P_N
69	GND	70	+V3.3M2SB
71	/	72	+V3.3M2SB

2.3.14 COM1/2 (RS232/422/485, RS232)

KMDA-3302 provides one RS232/422/485 serial interface (COM1) and one RS232 serial port (COM2) through a single row thin layer DB9 interface on the left side. COM1 can be configured to RS232, RS422, or RS485 modes through a 4-digit dial switch setting. Table 2.16 provides a detailed introduction to pin

assignments.

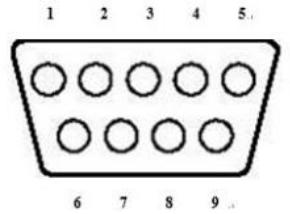
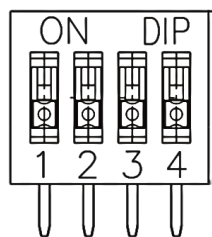


Figure 2.20 COM1/2

Table 2.16: COM1/2 Pin Assignments			
Pin	RS-232 signal	RS-422 signal	RS-485 signal
1	NC	TX-	DATA-
2	RxD _1	TX+	DATA+
3	TxD _1	RX+	NC
4	NC	RX-	NC
5	GND	GND	GND
6	NC	NC	NC
7	NC	NC	NC
8	RxD _2	NC	NC
9	TxD _2	NC	NC

Note: NC means no connection.



4-digit dial switch

		Switch1			
		1	2	3	4
COM1	RS232 (DEF)	OFF	OFF	X	X
	RS422	OFF	ON	X	X
	RS485	ON	ON	X	X

2.3.15 Front PANEL

KMDA-3302 provides a F_PANEL interface. Table 2.17 provides a detailed description of pin assignments.

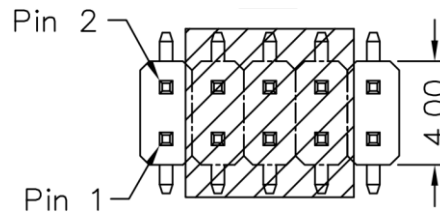


Figure 2.21 F-Panel

Table 2.17: F_PANEL Pin Assignments

Pin	Signal	Pin	Signal
1	HDD_LED+	6	PWR_SW#_C
2	PWR_LED+	7	RST_SW#
3	HDDLED-	8	GND
4	PWR_LED-	9	NC
5	GND	10	NC

2.3.16 MXM 3.1 Goldfinger

KMDA-3302 connects the CPU module to the carrier board through an MXM 3.1 standard interface.

Table 2.18 shows the detailed pin allocation of the CPU core module gold finger.

Table 2.18: MXM 3.1 Goldfinger Pin Assignments

引脚	信号	引脚	信号
E1	MXM_DC_IN 12V	E2	MXM_DC_IN 12V
E3	GND	E4	GND
1	+VBAT	2	PLTRST_N
3	+VCCPAZIO_3P3_1P8	4	PCIE_WAKE-
5	AC_RST-	6	IO_BOARD_PWROK
7	I2S_MCLK	8	IO_BOARD_PWROK
9	AC_SYNC	10	/
11	AC_SDIN0	12	GND
13	AC_SDOUT	14	SLP_S3-
15	AC_BITCLK	16	SLP_S4_N
17	GND	18	RTCRST#
19	24M_SIO_PCICLK	20	SATA_LED-
21	ESPI_IO0 (LAD0)	22	GND
23	ESPI_IO1 (LAD1)	24	GND
25	ESPI_IO2 (LAD2)	26	SATAPCIE_2

27	ESPI_IO3 (LAD3)	28	SATAPCIE_3
29	ESPI_RST#	30	SML0ALERT#
31	ESPI_CS0#(LFRAME#)	32	PCH_SMB_CK
33	ESPI_CS1#(SERIRQ#)	34	PCH_SMB_DA
35	ESPI_ALERT#(PIRQA#)	36	GND
37	GND	38	CPU PCIE3_TXN
39	CPU PCIE3_RXN	40	CPU PCIE3_TXP
41	CPU PCIE3_RXP	42	CPU PCIE2_TXN
43	CPU PCIE2_RXN	44	CPU PCIE2_TXP
45	CPU PCIE2_RXP	46	GND
47	GND	48	CLK_PE_PORT2_N
49	CLK_PE_PORT1_N	50	CLK_PE_PORT2_P
51	CLK_PE_PORT1_P	52	GND
53	GND	54	CPU PCIE1_TXN
55	CPU PCIE1_RXN	56	CPU PCIE1_TXP
57	CPU PCIE1_RXP	58	GND
59	GND	60	CPU PCIE0_TXN
61	CPU PCIE0_RXN	62	CPU PCIE0_TXP
63	CPU PCIE0_RXP	64	GND
65	GND	66	PCIE12_TXN(SATA3_TX_N1)
67	PCIE12_RXN(SATA3_RX_N1)	68	PCIE12_TXP(SATA3_TX_P1
69	PCIE12_RXP(SATA3_RX_P1)	70	GND
71	GND	72	PCIE11_TXN(SATA3_TX_N0)
73	PCIE11_RXN(SATA3_RX_N0)	74	PCIE11_TXP(SATA3_TX_P0
75	PCIE11_RXP(SATA3_RX_P0)	76	GND
77	GND	78	SIO UART6_DN
79	SIO UART5_DN	80	SIO UART6_PN
81	SIO UART5_PN	82	GND
83	GND	84	PCIE10_TXN
85	PCIE10_RXN	86	PCIE10_TXP
87	PCIE10_RXP	88	GND
89	GND	90	PCIE9_TXN
91	PCIE9_RXN	92	PCIE9_TXP
93	PCIE9_RXP	94	GND

95	GND	96	PCIE8_TXN
97	PCIE8_RXN	98	PCIE8_TXP
99	PCIE8_RXP	100	GND
101	GND	102	PCIE7_TXN
103	PCIE7_RXN	104	PCIE7_TXP
105	PCIE7_RXP	106	GND
107	GND	108	PCIE6_TXN
109	PCIE6_RXN	110	PCIE6_TXP
111	PCIE6_RXP	112	GND
113	GND	114	PCIE5_TXN
115	PCIE5_RXN	116	PCIE5_TXP
117	PCIE5_RXP	118	GND
119	GND	120	PCIE4_TXN(USB3_P4_TX_DN
121	PCIE4_RXN(USB3_P4_RX_DN)	122	PCIE4_TXP(USB3_P4_TX_DP
123	PCIE4_RXP(USB3_P4_RX_DP)	124	GND
125	GND	126	SIO UART3_DN
127	SIO UART4_DN	128	SIO UART3_PN
129	SIO UART4_PN	130	/
131	/	132	/
133	GND	134	GND
135	PCIE3_RXN(USB3_P3_RX_DN)	136	PCIE3_TXN(USB3_P3_TX_DN
137	PCIE3_RXP(USB3_P3_RX_DP)	138	PCIE3_TXP(USB3_P3_TX_DP
139	GND	140	GND
141	PCIE2_RXN(USB3_P2_RX_DN)	142	PCIE2_TXN(USB3_P2_TX_DN
143	PCIE2_RXP(USB3_P2_RX_DP)	144	PCIE2_TXP(USB3_P2_TX_DP
145	GND	146	GND
147	PCIE1_RXN(USB3_P1_RX_DN)	148	PCIE1_TXN(USB3_P1_TX_DN
149	PCIE1_RXP(USB3_P1_RX_DP	150	PCIE1_TXP(USB3_P1_TX_DP
151	GND	152	GND
153	CLK_PE_PORT0_N	154	GSPI0_CLK
155	CLK_PE_PORT0_P	156	GSPI0_MISO
157	GND	158	GSPI0_MOSI
159	SMLINK0_CLK	160	GSPI0_CS0#
161	SMLINK0_DATA	162	I2C1_SCL(NON UART3_DN)

163	LAN_WAKE#	164	I2C1_SDA((NON UART3_DP)
165	LANPHYPC	166	GND
167	USB_OC0	168	CLK_PE_PORT4_N
169	USB_OC1	170	CLK_PE_PORT4_P
171	USB_OC2	172	GND
173	GND	174	USB2_N1
175	CLK_PE_PORT3_N	176	USB2_P1
177	CLK_PE_PORT3_P	178	GND
179	GND	180	USB2_N3
181	CLK_PE_PORT5_N	182	USB2_P3
183	CLK_PE_PORT5_P	184	GND
185	GND	186	USB2_N5
187	USB2_N2	188	USB2_P5
189	USB2_P2	190	GND
191	GND	192	USB2_N7
193	USB2_N4	194	USB2_P7
195	USB2_P4	196	GND
197	GND	198	USB2_N9
199	USB2_N6	200	USB2_P9
201	USB2_P6	202	GND
203	GND	204	USB2_N10
205	USB2_N8	206	USB2_P10
207	USB2_P8	208	GND
209	GND	210	EDP_TXN2
211	EDP_AUXN	212	EDP_TXP2
213	EDP_AUXP	214	GND
215	GND	216	EDP_TXN1
217	EDP_TXN3	218	EDP_TXP1
219	EDP_TXP3	220	GND
221	GND	222	EDP_TXN0
223	EDP_VDDEN	224	EDP_TXP0
225	EDP_BKLTCTL	226	GND
227	EDP_BKLTEN	228	EDP_HPD_PD
229	GPP_B_14_SPKR	230	DCD2#

231	DCD1#	232	RI2#
233	RI1#	234	CTS2#
235	CTS1#	236	DTR2#
237	DTR1#/JP4	238	RTS2#
239	RTS1#/JP2	240	DSR2#
241	DSR1#	242	SOUT2
243	SOUT1/JP3	244	SIN2
245	SIN1	246	GND
247	DDPB_CPU_CLK	248	CPU_DDI2_TN0
249	DDPB_CPU_DATA	250	CPU_DDI2_TP0
251	GND	252	GND
253	CPU_DDI1_TN0	254	CPU_DDI2_TN1
255	CPU_DDI1_TP0	256	CPU_DDI2_TP1
257	GND	258	GND
259	CPU_DDI1_TN1	260	CPU_DDI2_TN2
261	CPU_DDI1_TP1	262	CPU_DDI2_TP2
263	GND	264	GND
265	CPU_DDI1_TN2	266	CPU_DDI2_TN3
267	CPU_DDI1_TP2	268	CPU_DDI2_TP3
269	GND	270	GND
271	CPU_DDI1_TN3	272	CPU_DDI2_AUXN
273	CPU_DDI1_TP3	274	CPU_DDI2_AUXP
275	GND	276	CPU_DDI2_HDP_B
277	CPU_DDI1_AUXN	278	DDPC_CPU_CLK
279	CPU_DDI1_AUXP	280	DDPC_CPU_DATA
281	CPU_DDI1_HDP_B		

2.3.17 LED

The KMDA-3302 panel has one power indicator LED (green, on the switch button), one hard disk indicator LED (red), and three CPU operating temperature indicators. The user can monitor the working condition of the machine by the status of the CPU indicator. When the working temperature of the CPU is less than 85°C, the green light is on. When the CPU temperature is between 86°C and 95°C, the yellow indicator is on, and when the CPU operating temperature is greater than or equal to 96°C, the red indicator is on. If you keep the CPU running at red light, it will affect the service life of the machine.



Figure 2.22 CPU temperature indicator light

Table 2.19: LEDs Status indicates the CPU temperature level	
LEDs	工作状态
Red	Warning
Yellow	High
Green	Normal

2.4 Install

2.4.1 Install Mini PCIe/mSATA/M.2 B-Key/M.2 E-Key module

Step 1: Unscrew the 4 screws on the bottom cover and remove the bottom cover;

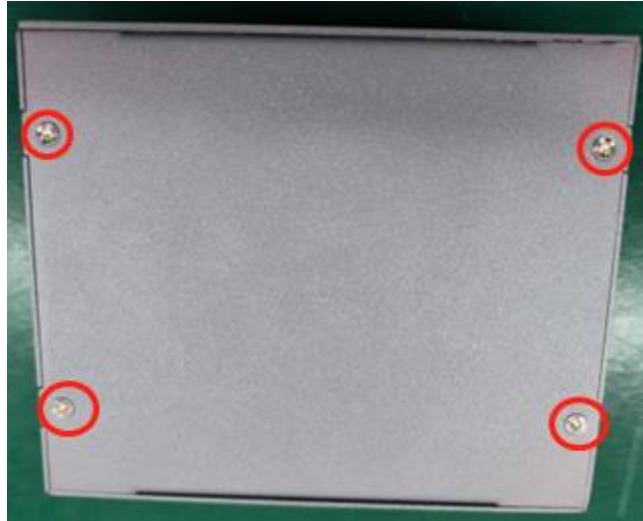


Figure 2.23



Figure 2.24

Step 2: Hold the Mini PCIe/mSATA/M.2 B-Key/M.2 E-Key module so that its slot is aligned with the Mini PCIe/mSATA/M.2 B-Key/M.2 E-Key slot on the board, insert it into the socket at a 30 degree Angle, and tighten one screw to secure the installed module;

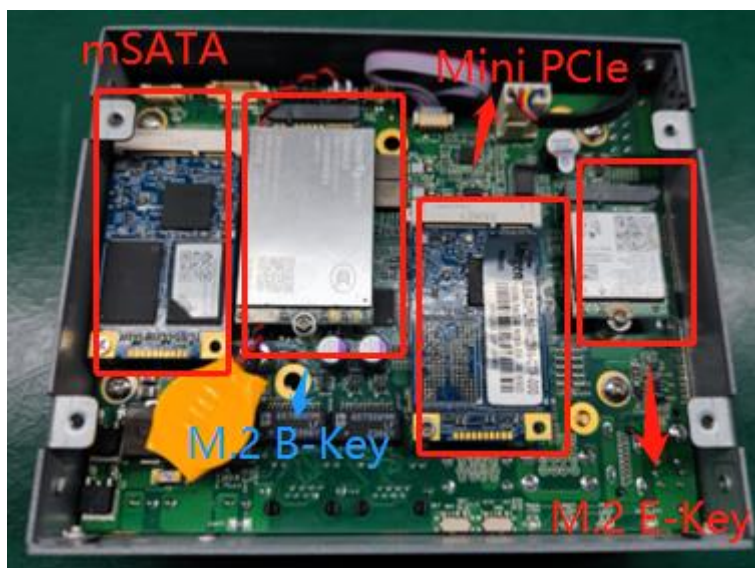


Figure 2.25

Step 3: Complete the product installation by following the steps for removing and installing the product.