

EIC-2000 USER

Arm-based Edge AI Computing System
NXP i.MX 8M Plus Arm® Cortex®-A53 Processor, Rugged, Compact,
-25°C to 70°C Operation

Manual

Record of Revision

Version	Date	Page	Description	Remark
1.00	2023/2/13	All	Official Release	
1.10	2023/9/11	6	Update	

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FCC 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 it is not installed and used in accordance with the instruction manual, it 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.

CE The products described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

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Order Information

Part Number	Description
EIC-2000	EIC-2000, NXP i.MX 8M Plus Quad Core Arm Cortex-A53 processor , LPDDR4 4GB RAM, eMMC 32GB, 2 GigE LAN (with 1 TSN support), 2 USB3.0, 2 COM, 1 HDMI, 1 Micro SD, 2 Nano SIM Socket, DC-IN 9-55V, with Linux Ubuntu 20.04

Optional Accessories

Part Number	Description
PWA-60WP3-WT	60W, 24V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
PWA-60WP3-WT-12V	60W, 12V, 90V AC to 264V AC Power Adapter with 3-pin Terminal Block, Wide Temperature -30°C to +70°C
DIN-RAIL	DIN Rail Kit
5G Module	5G Module with Antenna
4G Module	4G/GPS Module with Antenna
WiFi & Bluetooth	WiFi & Bluetooth Module with Antenna

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1

GENERAL INTRODUCTION

1.1 Overview

Vecow EIC-2000 is an Arm-based Edge AI Computing System. Powered by industrial-grade NXP i.MX 8M Plus processor, Vecow EIC-2000 delivers powerful AI inferencing capabilities while allowing low power consumption, making it a perfect fit for Base Transceiver Stations, Irrigation Solutions, Smart Manufacturing and any AIoT/Industry 4.0 applications.

The EIC-2000 is equipped with extensive I/O interfaces including 2 USB, 2 GigE LAN, 2 COM, 1 Micro USB, 2 Nano SIM card sockets, 6 antenna and optional GPIO and 2 CAN Bus for data acquisition and communication. Featuring small footprint dimensions (130mmx78.5mmx42mm), the EIC-2000 is easy to integrate into space-limited applications.

To meet the challenges of IoT applications in fields, the EIC-2000 supports 9V to 55V DC-in, fanless, -25°C to 70°C wide range operating temperature, and vibration and humidity resistance. The EIC-2000 delivers industrial-grade reliability and is capable of withstanding harsh environments.

1.2 Features

- Industrial-grade NXP i.MX 8M Plus Quad Core Arm Cortex-A53 Processor, embedded Neural Processing Unit, up to 2.3 TOPS AI performance
- Supports up to 3840 x 2160 4K UHD
- 2 GigE LAN with 1 TSN supported
- 2 SIM sockets for multiple WiFi/BT/5G/4G/LTE/GPRS/UMTS
- Optional 2 CAN Bus support Flexible Data-rate and Optional 6-bit GPIO
- 9V to 55V wide range DC Power Input
- Fanless -25°C to 70°C operationn

1.3 Product Specification

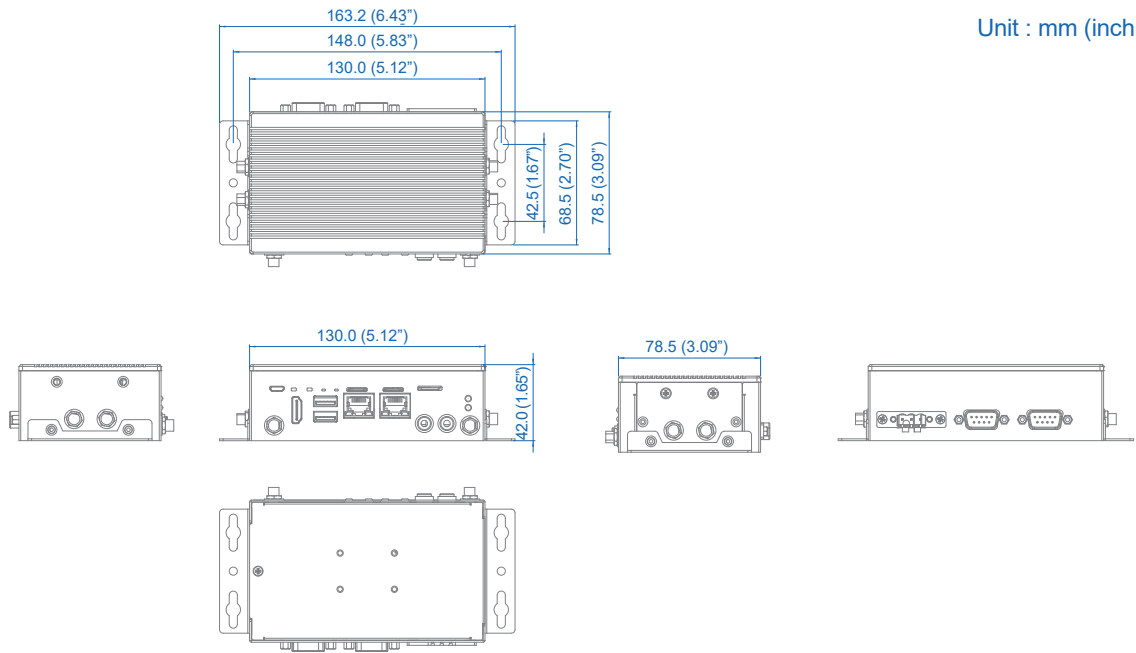
1.3.1 Specifications of EIC-2000

System	
Processor	NXP i.MX 8M Plus Quad Core Arm Cortex-A53 processor
Memory	1 LPDDR4 SDRAM, 4GB
OS	Ubuntu 20.04 LTS
Ethernet	
LAN 1	10/100/1000 Base-T Ethernet GigE LAN, RJ45 Connector
LAN 2	10/100/1000 Base-T Ethernet GigE LAN supports TSN, RJ45
I/O Interface	
USB	2 USB 3.0 Type A
Serial	2 COM RS-232/422/485
GPIO	4-bit GPIO (Optional)
CAN Bus	2 CAN Bus support CAN FD (Optional)
Console	1 Micro USB console debug port
Button	<ul style="list-style-type: none">• 1 User-define Button• 1 Reset Button
SIM	2 Nano SIM Card Socket
LED	Power, Ready, 2 WLAN
Antenna	6 Antenna for WiFi/4G/5G/LTE/GPRS/UMTS
Expansion	
Mini PCIe	1 Full-size Mini PCIe Socket
USB	1 M.2 Key B Socket (3042/3052)
Storage	
SD	1 Micro SD Socket (External)
eMMC	1 eMMC, 32GB
Power	
Power Input	DC 9V to 55V
Power Interface	3-pin Terminal Block : V+, V-, Frame Ground
Mechanical	
Dimensions	130 mm x 78.5 mm x 42 mm (5.12" x 3.09" x 1.65")
Weight	0.5 kg (1.1 lbs)
Mounting	<ul style="list-style-type: none">• Wallmount by mounting bracket• DIN Rail Mount (optional)

Environment	
Operating Temperature	-25°C to 70°C (-13°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% Humidity, non-condensing
Relative Humidity	95% at 70°C
Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I
Vibration	Operating, MIL-STD-810G, Method 514.7, Procedure I, Category 4
EMC	CE, FCC

1.4 Mechanical Dimensions of EIC-2000

Unit : mm (inch)






2

GETTING TO KNOW YOUR EIC-2000

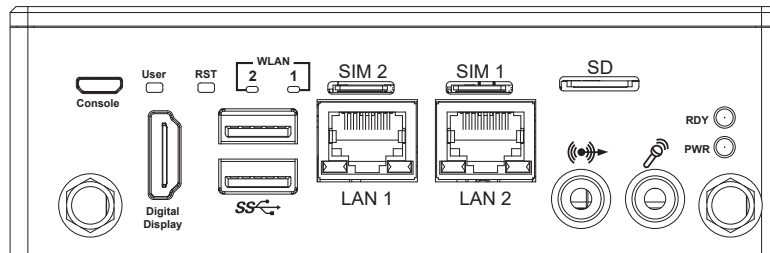
2.1 Packing List

Item	Description	Qty
1	EIC-2000 Arm-based IoT Gateway (According to the configuration of your order, EIC-2000 series may contain micro SD and mini PCIe modules. Please verify these items if necessary.)	1

Item	Description	Outlook	Usage	P/N	Qty
1	P head M2.5x6L_Ni		Mini PCIe	53-2426906-30B	1
2	Terminal block 3-pin(5.0mm)		DC-IN	51-2411R03-S1B	1
3	PHILLIPS- M3x4L		M.2 (3052)	53-2426204-80B	2
4	M.2 extender bracket		M.22242/3042 to 3052	62-03P1113-30A	1
5	Flat M3x4L,Ni		Wall mount	53-2466204-30B	4
6	Wall mount bracket		Wall mount	62-03P1111-0BA	2

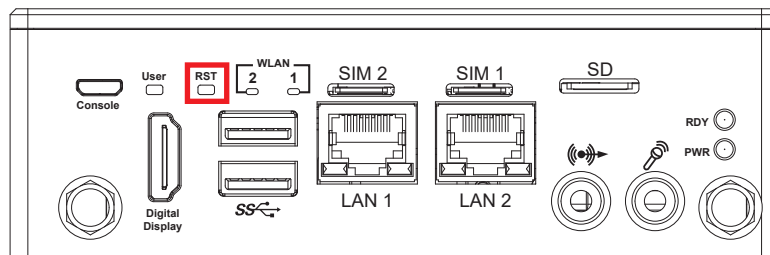
2.2 Front Panel I/O & Functions

2.2.1 Functions of EIC-2000



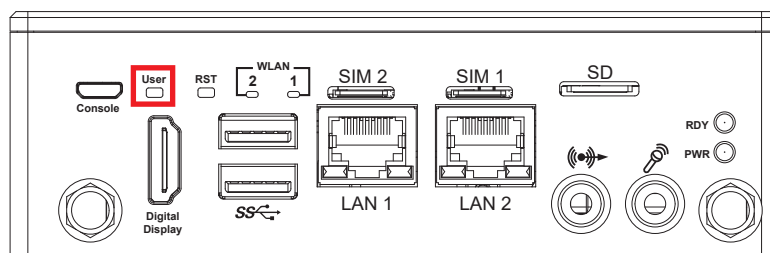
In Vecow EIC-2000 series, all I/O connectors are located on the front and top panels. Most of the general connections to computer devices, such as USB, COM, LAN, Console port, Reset button, audio/mic, digital display indicators are placed on the front panel.

2.2.1.1 Reset Button



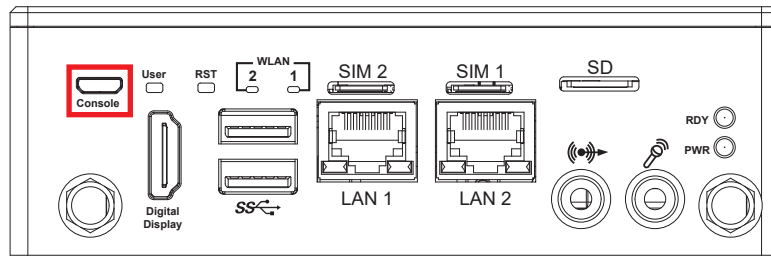
If the system have error or frozen, you can press the Reset button to restart.

2.2.1.2 USER Button



EIC-2000 is also equipped with a Programmable Button for users' easy maintenance.

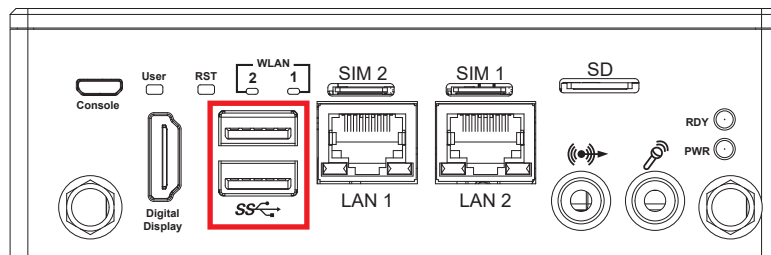
2.2.1.3 Console Port



Console Port Pin Out of Micro USB :

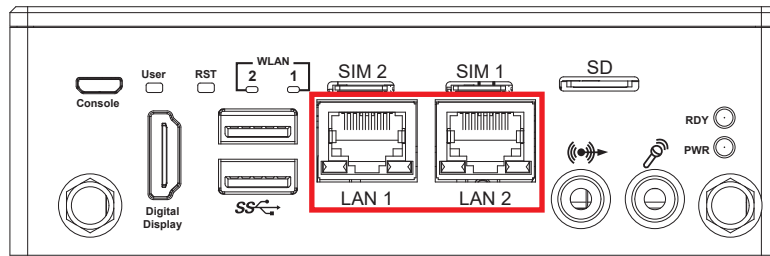
Pin No.	Function
1	+V5
2	USB_DATA-
3	USB_DATA+
4	NC
5	GND

2.2.1.4 USB 3.0



The USB interface supports 5 Gbps transfer rate complied with Super speed USB specification Rev. 3.0. The top port is a pure USB port, the bottom port can be changed OTG function and pure USB by DIP Switch SW2.

2.2.1.5 10/100/1000 Mbps Ethernet Port



There are two Ethernet ports auto-sensing 10/100/1000 Mbps in RJ45 connectors on the front side of EIC-2000 series. Both are powered by RTL8211FI-CG Ethernet PHY. The Pin out of LAN1 and LAN2 are listed as following chart.

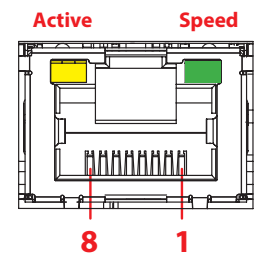
RJ-45 LAN 1 & 2 Pin Out :

Pin No.	10/ 100 Mbps	1000 Mbps
1	E_TX+	MDI0_P
2	E_TX-	MDI0_N
3	E_RX+	MDI1_P
4	----	MDI2_P
5	----	MDI2_N
6	E_RX-	MDI1_N
7	----	MDI3_P
8	----	MDI3_N

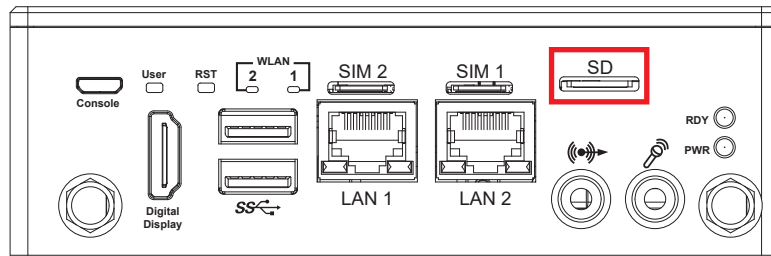
Each LAN port is supported by standard RJ-45 connector with LED indicators to present active/link/speed status of the connection. When the RJ-45 cable is properly connected to 100Mbps Ethernet network, the LED indicator on the left top corner becomes twinkling yellow, and on the right top corner becomes solid green. When the RJ-45 cable is properly connected to 1000Mbps, the LED indicator on the left top corner becomes twinkling yellow, and on the right top corner becomes solid Orange Ethernet network. It can refer as following status table.

LAN 1 & 2 LED Status Table :

LED Location	LED Color	10/100 Mbps	1000 Mbps
Right LED	Green	Solid Green	Solid Orange
Left LED	Yellow	Flash Yellow	Flash Yellow

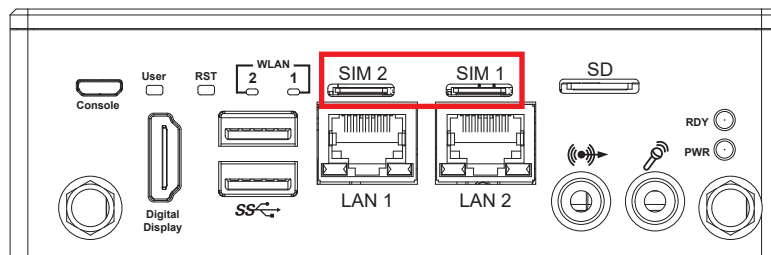


2.2.1.6 Micro SD



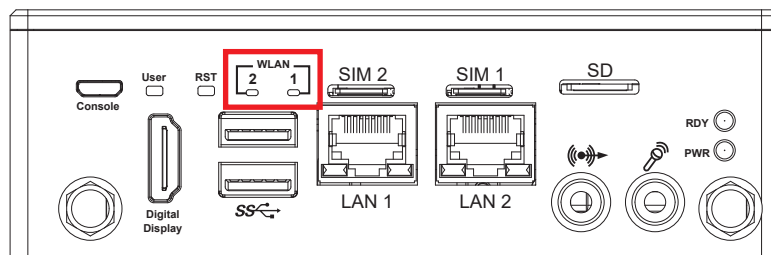
The external Micro SD card provides additional storage expansion. It is located behind the cover-plate on the bottom panel. If you would like to replace or insert the card, it MUST be ensure the system is powered off.

2.2.1.7 Nano SIM



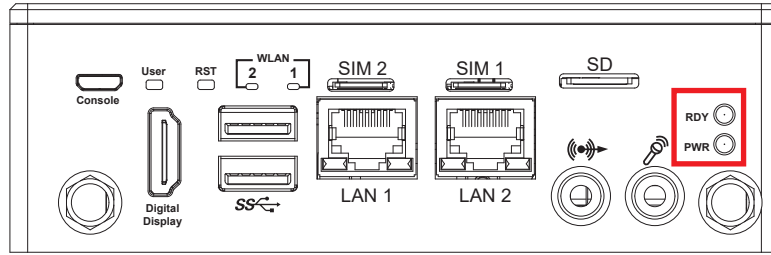
There are two external Nano SIM cards M1 and SIM2 are assigned for mini PCIe slot and M.2 key B slot respectively offers wireless communication capability to the system.

2.2.1.8 WLAN LED Indicators



WLAN LED	Define	LED Status
1	Mini PCIe Card	Mini PCIe Transmission Blinking
2	M.2 key B	M.2 key B Transmission Blinking

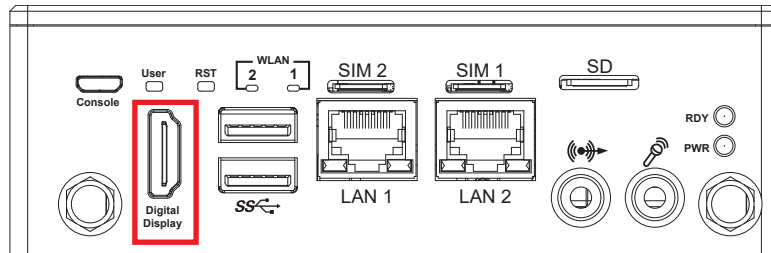
2.2.1.9 PWR & Status LED Indicators



There are two LEDs defined system power up (green LED) and system work (yellow LED) respectively. When the system power is ready, the top LED (green LED) will be lighted up stably, it means the power of system is already powered up. When the system boot up, the bottom LED (yellow LED) will be flashed, it means the system boot up successfully.

LED Color	System Status
Green (PWR LED)	+V3.3 Power Ready
Yellow (Status LED)	Heartbeat of System

2.2.1.10 Digital Display

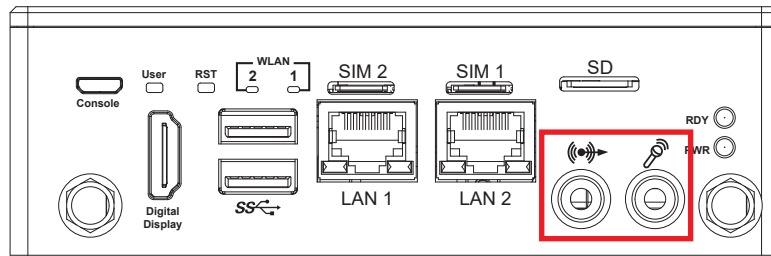


Pin No.	Function
1	HDMI_TX2_P
2	GND
3	HDMI_TX2_N
4	HDMI_TX1_P
5	GND
6	HDMI_TX1_N
7	HDMI_TX0_P
8	GND
9	HDMI_TX0_N
10	HDMI_CLK_P

Pin No.	Function
11	GND
12	HDMI_CLK_N
13	HDMI_CEC
14	NC
15	HDMI_DDC_SCL
16	HDMI_DDC_SDA
17	GND
18	HDMI_5V
19	HDMI_HPD

HDMI Display provides a method of transferring video and audio data over a TMDS compatible physical link to an audio/visual display device. The Digital Display Port support HDMI V2.0a, it can support 3840 x 2160 @30Hz.

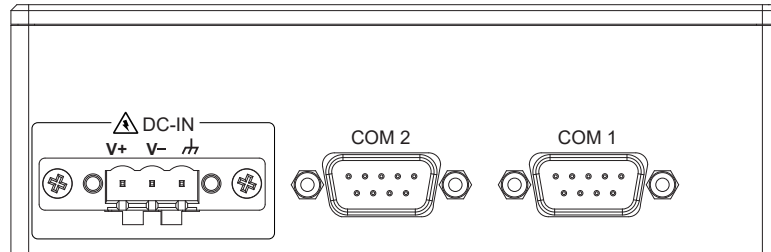
2.2.1.11 Audio Jack



There two 3.5 mm audio jacks for line-out and mic in function on the front side of EIC-2000. The function is line-out and mic in from left jack to right jack.

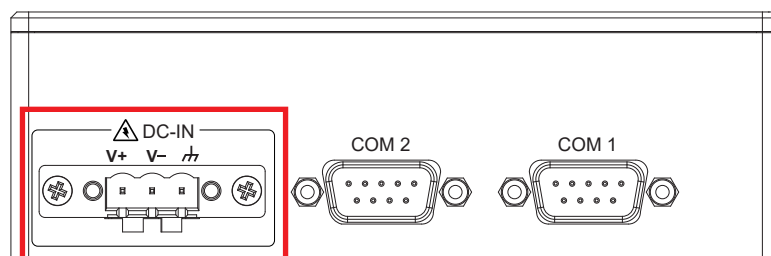
2.3 Rear Panel I/O & Functions

2.3.1 Functions of EIC-2000



On the Rear panel side, there are three connectors terminal block of power input and 2 DB-9 Ports in EIC-2000 Series.

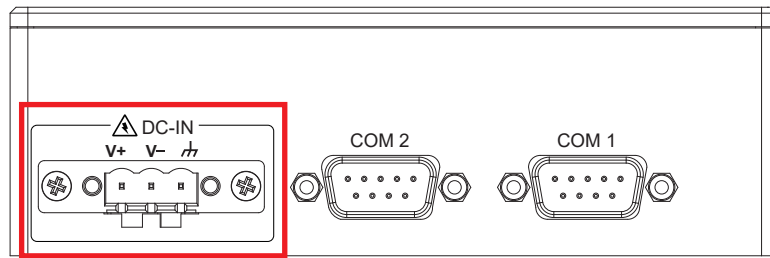
2.3.1.1 Power Terminal Block



EIC-2000 supports 9V to 55V DC wide range power input by terminal block on the top side.

LED Color	Definition
1	V+
2	V-
3	Chassis Ground

2.3.1.2 COM Port



There are two COM ports (COM1 and COM2), they can be configured for RS-232, RS-422, or RS-485 by GPIO control with auto flow control communication. The default definition of COM1 and COM2 is RS-232; if you want to change to RS-422 or RS-485, you can find the setting in software.

COM of D-SUB Pin Out Table:

COM Port	Pin No.	RS-232	RS-422 (5-wire)	RS-485 (3-wire)
1,2	1	-----	RS422_TXD-	RS485-
	2	RS232_TXD	RS422_TXD+	RS485+
	3	RS232_RXD	RS422_RXD+	-----
	4	-----	RS422_RXD-	-----
	5	GND	GND	GND
	6	-----	-----	-----
	7	RS232_RTS	-----	-----
	8	RS232_CTS	-----	-----
	9	-----	-----	-----

The COM1 can be changed to CAN Bus function, full implementation of the CAN with Flexible Data Rate (CAN FD) protocol specification and CAN protocol specification, Version 2.0.

CAN Bus of D-SUB Pin Out Table:

COM Port	Pin No.	Definition
1	1	CANH1
	2	CANL1
	3	GND
	4	-----
	5	-----
	6	CANH2
	7	CANL2
	8	GND
	9	-----

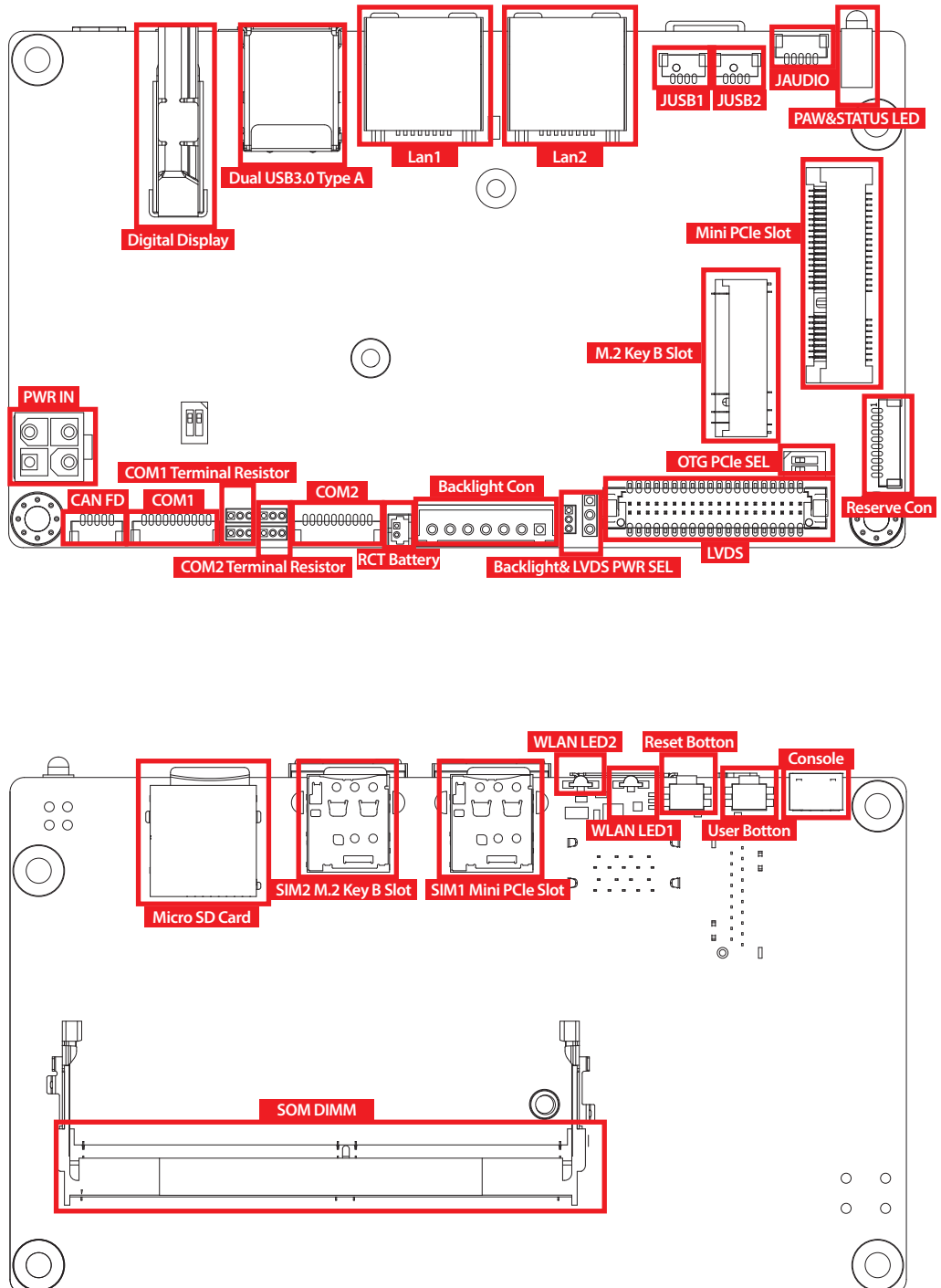
The COM2 can be changed to reserve bus function, there are 6 bits GPIO with voltage 3.3v and one I2C bus with voltage 3.3v.

Reserve bus of D-SUB Pin Out Table:

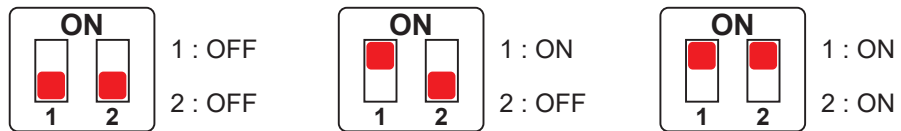
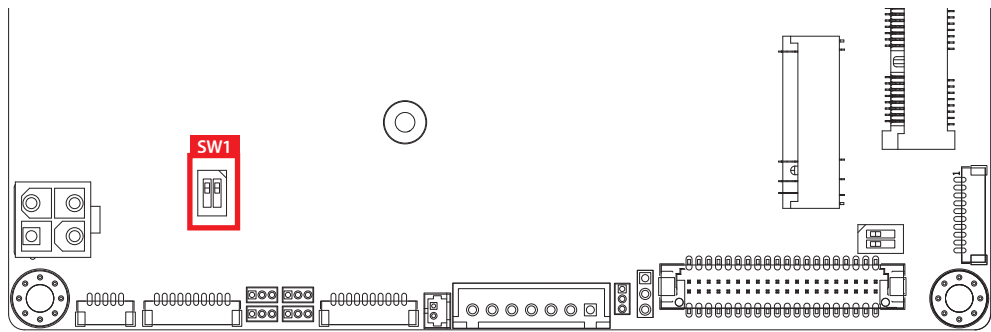
COM Port	Pin No.	CAN Bus
2	1	SCL
	2	SDA
	3	GND
	4	GPIO1
	5	GPIO2
	6	GPIO3
	7	GPIO4
	8	GPIO5
	9	GPIO6

2.4 Main Board Connectors & Jumper Locations

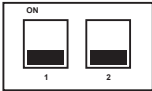

2.4.1 TOP& BOT View of MB



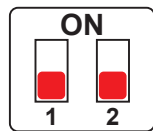
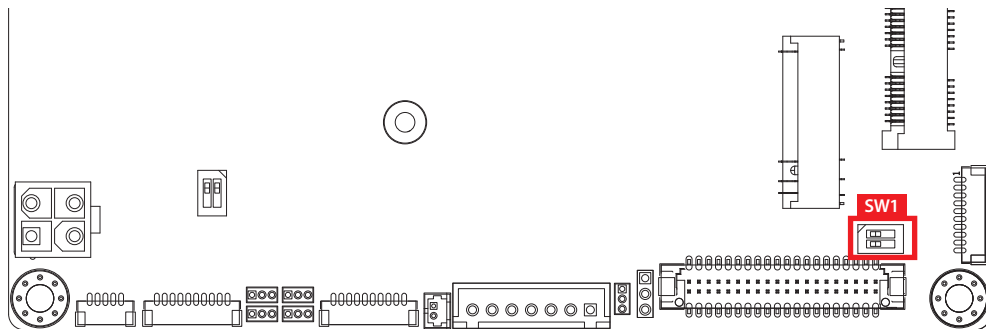
2.4.1.1 SW1: Boot Strap config



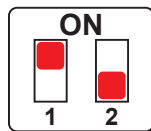
There is a SW1 set the boot strap in EIC-2000. There are 3 modes selected by SW1, it will be decided to boot up from which mode, default setting “off”.

Item	Boot strap	Switch Position
1	eMMC Mode	
2	USB Serial Downloader Mode	

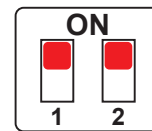
2.4.1.2 OTG / PCIe SEL: SW2



1 : OFF
2 : OFF



1 : ON
2 : OFF



1 : ON
2 : ON

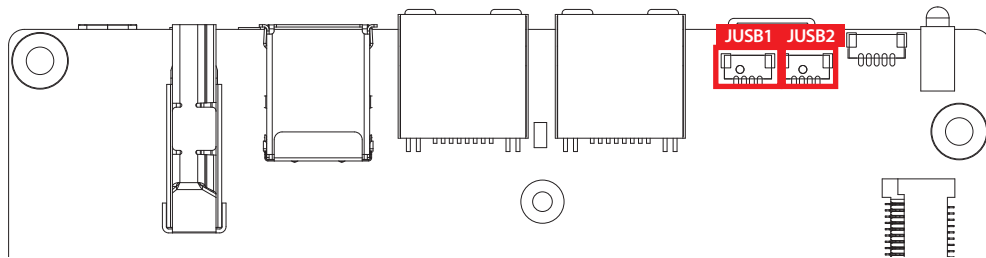
There is a SW1 set the boot strap in EIC-2000. There are 3 modes selected by SW1, it will be decided to boot up from which mode, default setting “off”.

SW2.x	Function	Switch Position
1	OTG	
1	USB3.0	
2	PCIe Clock to Mini PCIe slot	
2	PCIe Clock to M.2 key B slot	

There is a SW2 set USB port mode and PCIe clock select for Mini PCIe slot and M.2 key B slot in EIC-2000. There are 2 function selected by SW2. When the SW2.1 is switched to “on”, the USB 3.0 Type A bottom port will be changed a pure master USB 3.0 signal. When it is switched to “off”, the USB 3.0 Type A bottom port will be changed OTG mode slave device, the OTG mode can be downloaded image to eMMC storage by master. Default setting is “on”.

The SW2.2 setting is selected the PCIe clock signal to Mini PCIe slot or M.2 key B slot. If the SW2.2 is set “off”, the signal will be switched to Mini PCIe slot, if it set “on”, the signal will be switched to M.2 key B slot.

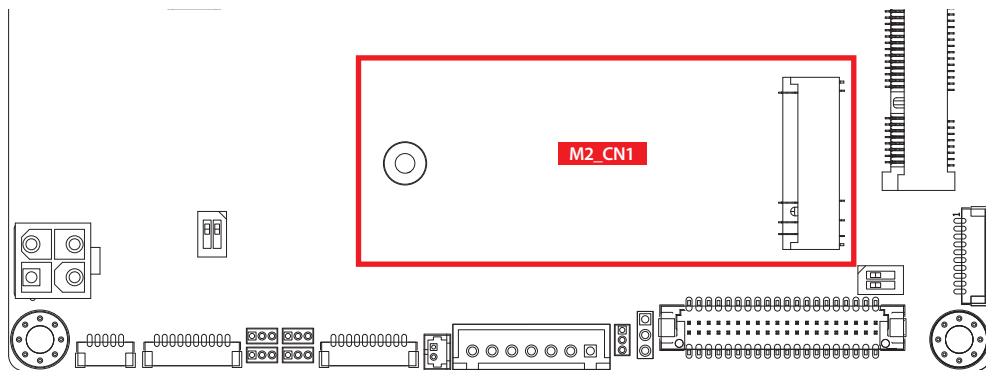
2.4.1.3 JUSB1 & JSUB2 : USB Header



EIC-2000 is equipped with an USB2.0 header for reserve function.

	Pin Number	Definition
JUSB1	1	PWR_5V
	2	USB_D-
	3	USB_D+
	4	GND
JUSB2	1	PWR_5V
	2	USB_D-
	3	USB_D+
	4	GND

2.4.1.4 M2_CN1 : M.2 Key B slot



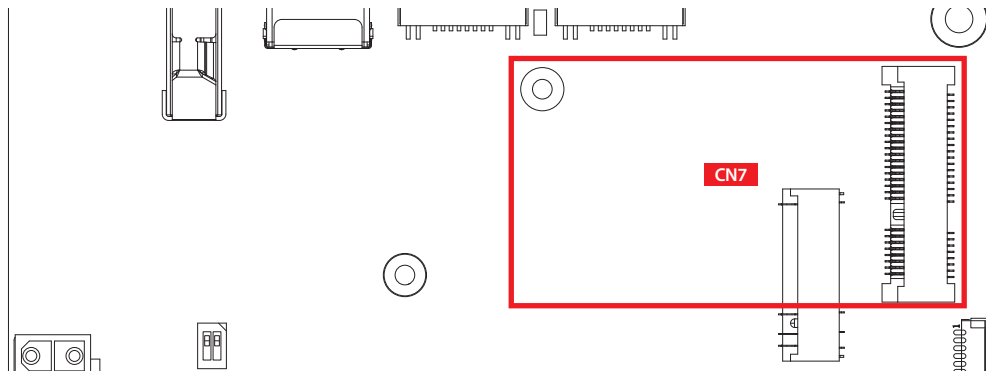
There is a M.2 key B supported with USB 3.0 and PCIE Gen3 signal in EIC-2000. The PCIe signal only option one slot, either Mini PCIe slot or M.2 key B slot. If the M.2 Key B slot can work normally by PCIe signal, the SW2.2 must be switched to “on”.

Pin Out :

Pin No.	Signal Name	Pin No.	Signal Name
		80	GND
75	NC	-	-
73	GND	74	V3.3

Pin No.	Signal Name	Pin No.	Signal Name
71	GND	72	V3.3
69	CONFIG_1	70	V3.3
67	NC	68	NC
65	NC	66	SIM_DETECT
63	NC	64	NC
61	NC	62	NC
59	NC	60	NC
57	GND	58	NC
55	RFECLKp	56	NC
53	RFECLKn	54	PCIE_WAKE#
51	GND	52	PCIE_CLK_REQ
49	PETp0	50	PCIE_RST#
47	PETn0	48	NC
45	GND	46	NC
43	PERp0	44	NC
41	PERn0	42	NC
39	GND	40	NC
37	USB3.1-TX+	38	DEVSLP
35	USB3.1-TX-	36	UIM_PWR
33	GND	34	UIM_DATA
31	USB3.1-RX+	32	UIM_CLK
29	USB3.1-RX-	30	UIM_RESET
27	GND	28	NC
25	NC	26	NC
23	NC	24	NC
21	NC	22	NC
		20	NC
Mechanical Key			
11	GND		
9	USB-	10	LED1#
7	USB+	8	W_DISABLE#
5	GND	6	FULL_CARD_PWR_OFF
3	GND	4	V3.3
1	NC	2	V3.3

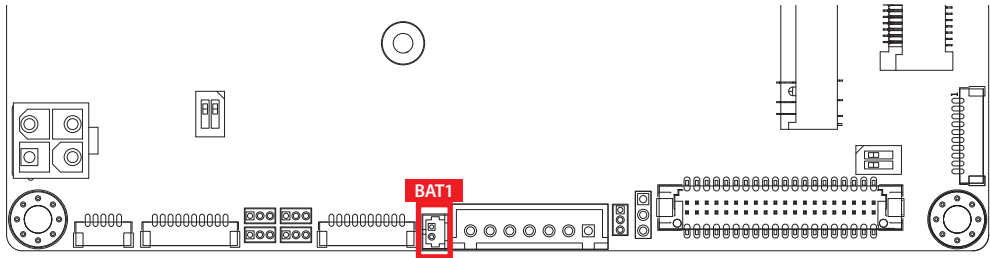
2.4.1.5 CN7: Mini PCIe Slot



There is a Mini PCIe slot supported with USB 2.0 and PCIE Gen3 signal in EIC-2000. The PCIe signal only option one slot, either Mini PCIe slot or M.2 key B slot. If the Mini PCIe slot can work normally by PCIe signal, the SW2.2 must be switched to “off”.

Pin No.	Signal Name	Pin No.	Signal Name
51	Reserved	52	+V3.3
49	Reserved	50	GND
47	Reserved	48	+1.5V
45	Reserved	46	mPCIE_WPAN#
43	Reserved	44	mPCIE_WLAN#
41	+V3.3	42	mPCIE_WWAN#
39	+V3.3	40	GND
37	GND	38	USB_D+
35	GND	36	USB_D-
33	PCIE_TXP	34	GND
31	PCIE_TXN	32	SMB_DATA
29	GND	30	SMB_CLK
27	GND	28	+1.5V
25	PCIE_RXP	26	GND
23	PCIE_RXN	24	+V3.3
21	GND	22	mPCIE_RST_n
19	Reserved	20	Reserved
17	Reserved	18	GND
Mechanical Key			
15	GND	16	UIM VPP
13	CLK_PCIE_P	14	UIM RESET
11	CLK_PCIE_N	12	UIM CLK
9	GND	10	UIM DATA
7	PCIE_CLKQ	8	UIM PWR
5	Reserved	6	1.5V
3	Reserved	4	GND
1	mPCIE_WAKE_n	2	+V3.3

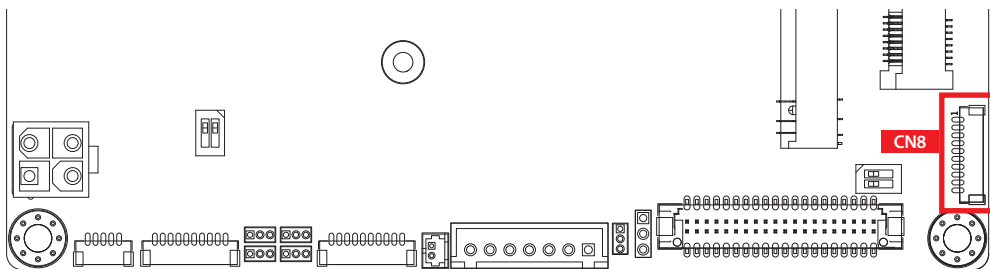
2.4.1.6 BAT1 : RTC Battery



The real-time clock of EIC-2000 is powered by a lithium battery. It is equipped with muRata CR2032 210mAh lithium battery. It is recommended that you not replace the lithium battery on your own. If the battery needs to be changed, please contact Vecow RMA service team.

Pin No.	Definition
1	VBAT
2	GND

2.4.1.7 CN8 : Reserve Connector

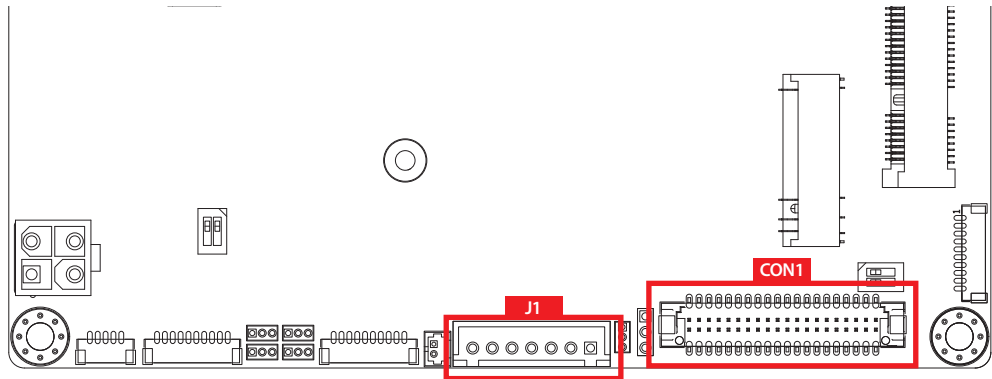


There is a 6-bit GPIO and one I2C in connector on the Top side. Each GPIO channel can be configuration GPI or GPO. The all signal with voltage 3.3v level.

Reserve Pin Out Table

Pin No.	Definition
1	SCL
2	SDA
3	GND
4	PWR(3.3V)
5	GPIO1
6	GPIO2
7	GPIO3
8	GPIO4
9	GPIO5
10	GPIO6

2.4.1.8 J1 : LVDS Connector



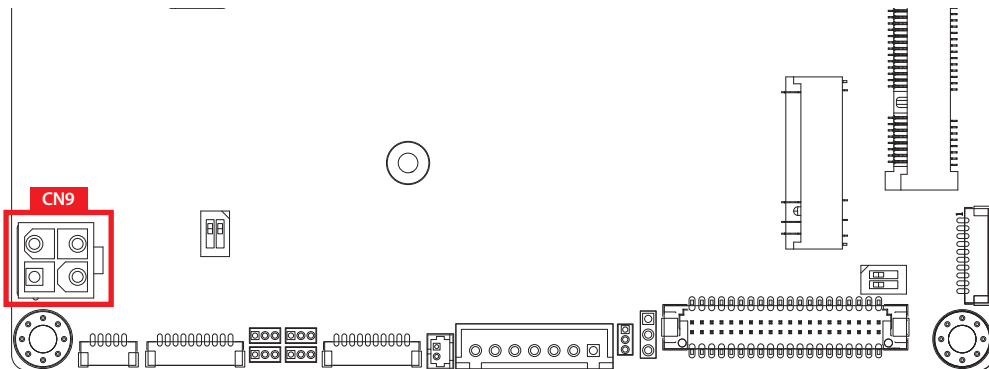
EIC-2000 supports dual-channel 24-bit LVDS display, up to 1920 x 1080 pixels resolution. The pin assignments of CON1 are listed in following table. The panel power level can be changed by JP1, 5V or 3.3V.

Pin No.	Definition	Pin No.	Definition
1	PANEL_VDD	21	GND
2	TXO0-	22	TXE0-
3	PANEL_VDD	23	GND
4	TXO0+	24	TXE0+
5	PANEL_VDD	25	GND
6	TXO1-	26	TXE1-
7	GND	27	GND
8	TXO1+	28	TXE1+
9	GND	29	GND
10	TXO2-	30	TXE2-
11	GND	31	GND
12	TXO2+	32	TXE2+
13	GND	33	GND
14	TXOC-	34	TXEC-
15	GND	35	GND
16	TXOC+	36	TXEC+
17	GND	37	GND
18	TXO3-	38	TXE3-
19	GND	39	LVDS_DET#
20	TXO3+	40	TXE3+

The LCD backlight is connected to J1 via a JST 7-pin 2.5mm connector, it provides 5V/12V by power to LCD display. The pin 1 of J1 can be changed power level by JP2, 5V or 3.3V.

Pin No.	Definition	Pin No.	Definition
1	+5V	5	GND
2	+12V	6	GND
3	+12V	7	LBKLT_EN
4	LBKLT_CTL		

2.4.1.9 CN9 : Power Connector

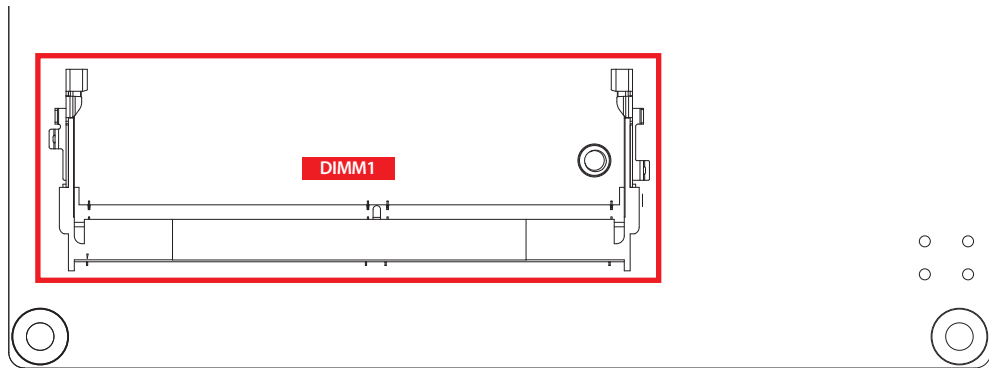


EIC-2000 supports 9V to 55V DC power input by wire to board cable to terminal block connector on the top side.

Power Input Pin Out Table

Pin No.	Definition
1	V-
2	V-
3	V+
4	V+

2.4.1.10 DIMM1 : SOM Connector

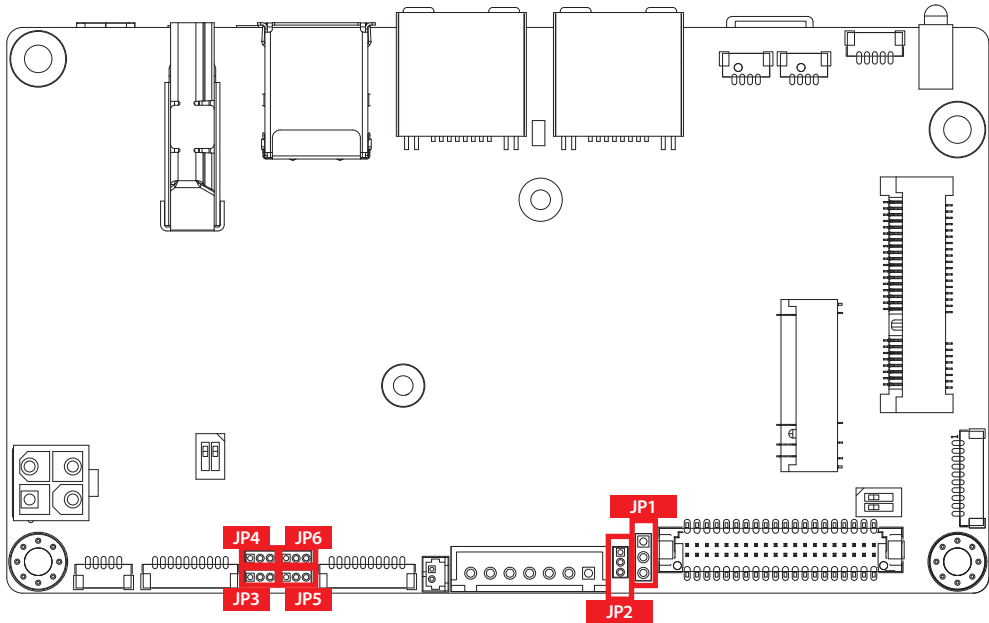


The DIMM1 only for EDM-G-IMX8M-PLUS module.

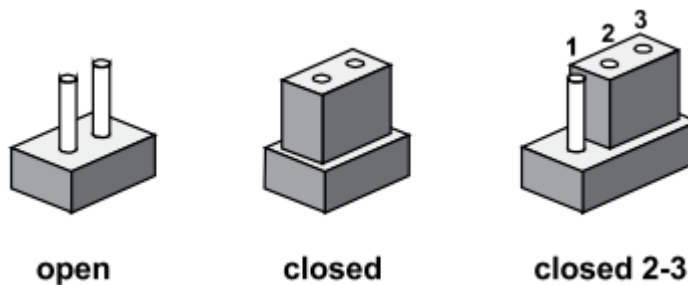
2.5 Main Board Jumper Settings

2.5.1.1 Board Top View of EIC-2000 Main Board with Jumper

The figure below is the top view of EIC-2000 main board which is the main board. It shows the location of the jumpers.



To "close" a jumper, you connect the pins with the clip. To "open" a jumper, you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2, or 2 and 3.



The Pin Header JP1 Jumper select can be changed panel power level for panel, and JP2 Jumper select can be changed power level of backlight PWM and enable. As following configuration table. The two jumpers default setting are shorted Pin 1 and Pin 2.

JP1		JP2	
Jumper	Function Mode	Jumper	Function Mode
1-2	3.3V	1-2	3.3V
2-3	5V	2-3	5V

There are two Pin Header (JP3 & JP4) to set terminal resistor of COM1 function.

Default setting is RS-232 mode, if the function is set RS-485 mode, it must be shorted Pin 2 and Pin 3 of Pin Header by Jumper, as following configuration table. The default setting are RS-232 mode.

COM1 Mode Terminal Resistor Configuration Table :

JP3		JP4	
Jumper	Function Mode	Jumper	Function Mode
1-2	RS-232	1-2	RS-232
2-3	RS-485 or RS422 (120 ohm)	2-3	RS-422 (120 ohm)

There are two Pin Header (JP5 & JP6) to set terminal resistor of COM2 function.

Default setting is RS-232 mode, if the function is set RS-485 mode, it must be shorted Pin 2 and Pin 3 of Pin Header by Jumper, as following configuration table. The default setting are RS-232 mode.

COM2 Mode Terminal Resistor Configuration Table :

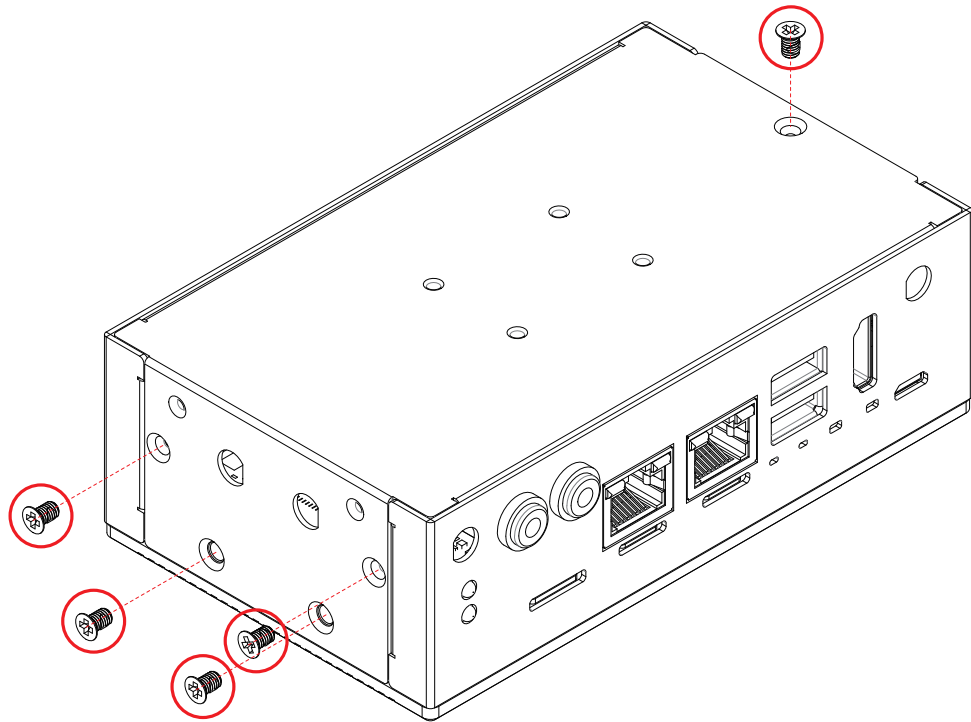
JP5		JP6	
Jumper	Function Mode	Jumper	Function Mode
1-2	RS-232	1-2	RS-232
2-3	RS-485 or RS422 (120 ohm)	2-3	RS-422 (120 ohm)

3

SYSTEM SETUP

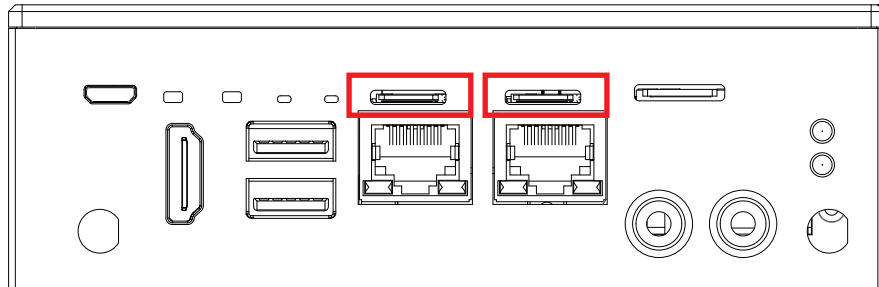
3.1 How to Open Your EIC-2000

Remove the three **F-M3x4L(red)** and two **F-#6-32x6L(blue)** screws indicated and separate Cover from the enclosure.



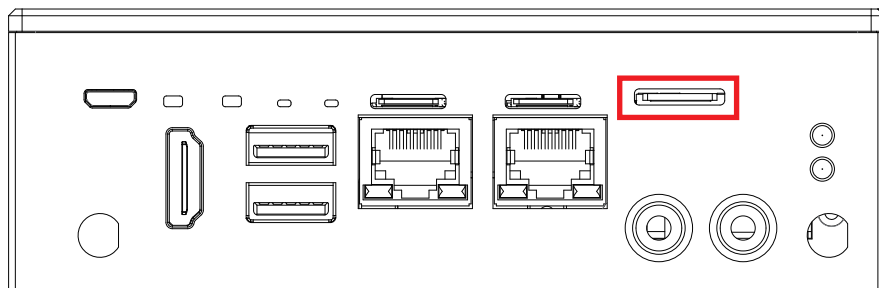
3.2 Installing Nano SIM Card

Inserting SIM card, before make sure the system power not plugged.



3.3 Installing Micro SD Card

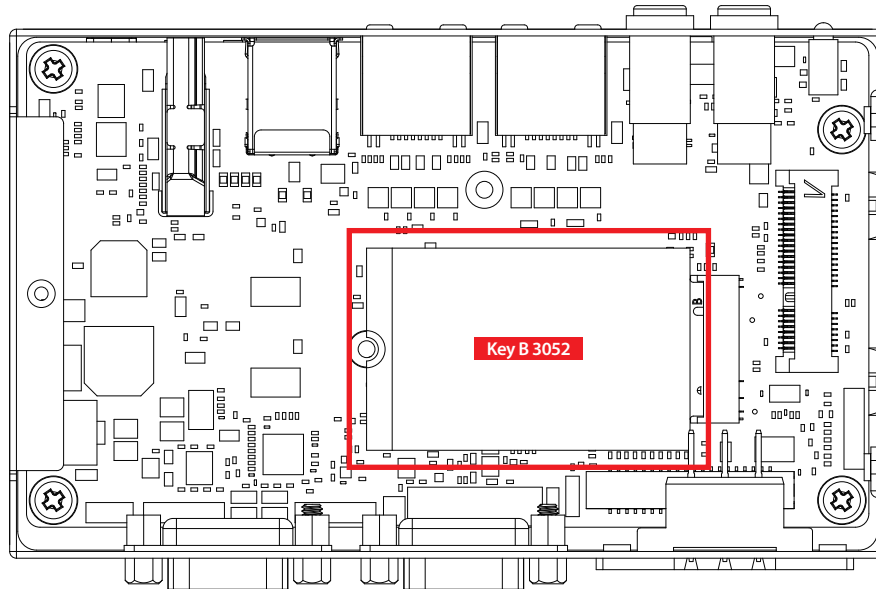
Inserting SD card



3.4 Installing M.2

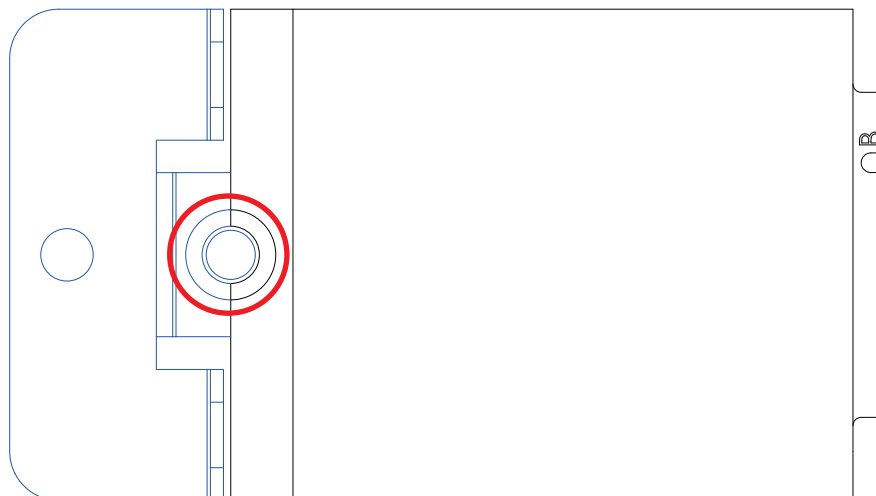
3.4.1 M.2 Key B (3052)

Install M.2 card into the M.2 slot and fasten PHILLIPS-M3x4L screw.

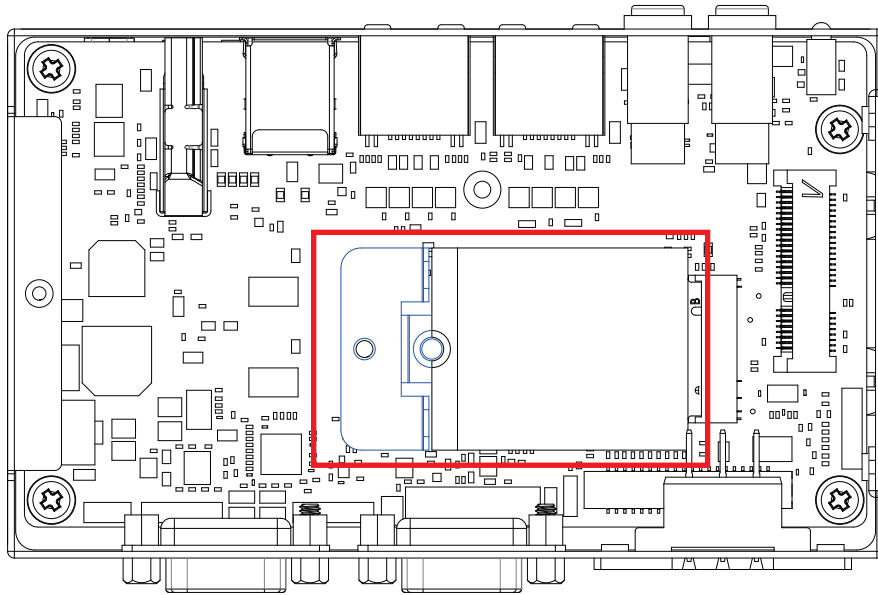


3.4.2 M.2 Key B (2242_3042)

Step 1 Install M.2 extender bracket for 2242/3042 and fasten PHILLIPS-M3x4L screw.

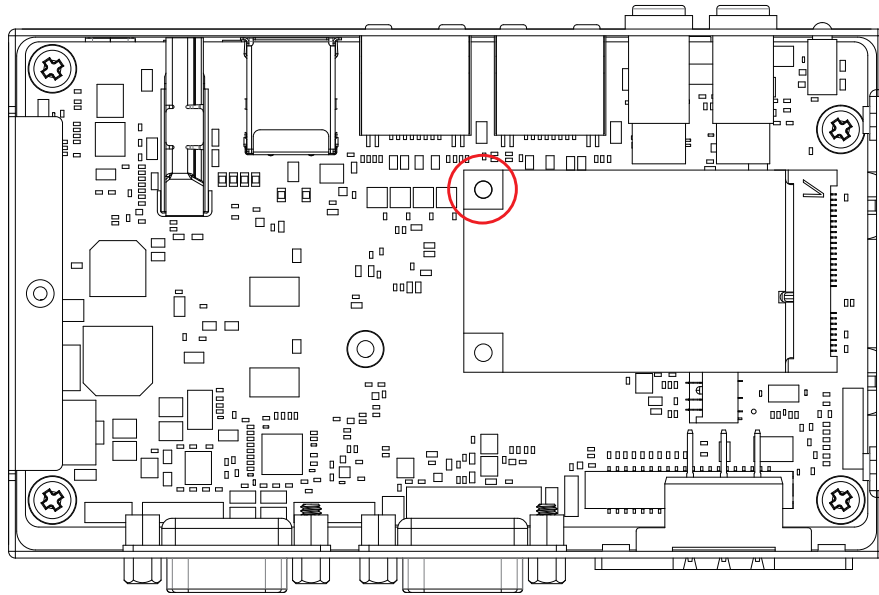


Step 2 Install M.2 card into the M.2 slot and fasten PHILLIPS-M3x4L screw.



3.5 Installing Mini PCIe

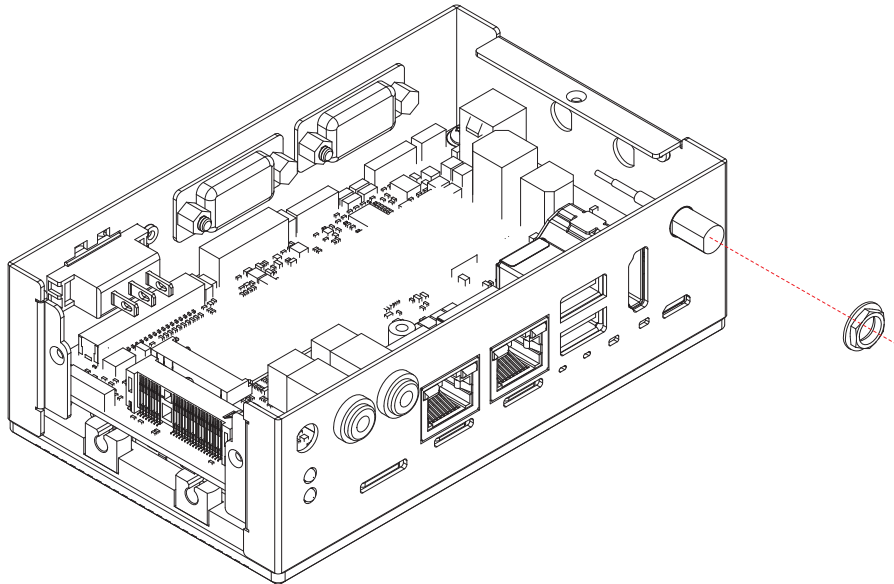
Install Mini PCIe card into the slot and fasten PHILLIPS-M2.5x6L screw.



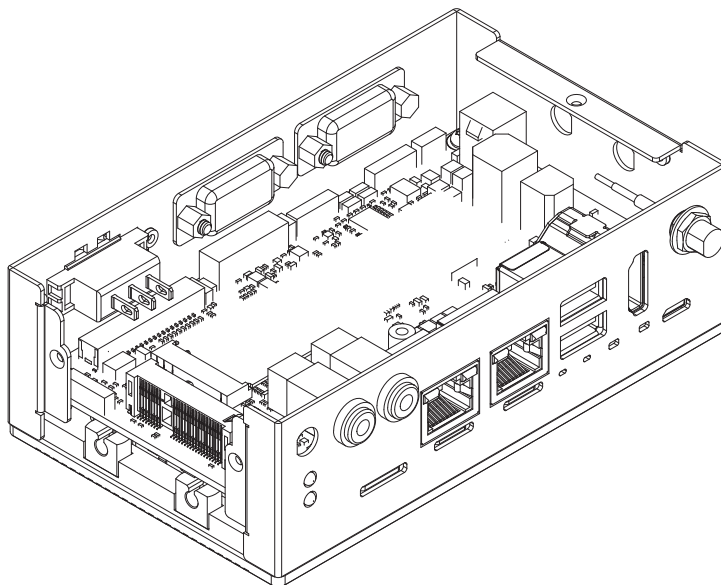
3.6 Installing Antenna Cable

Step 1 Remove the rubber corks on the panel.

Step 2 Put antenna cable connector into the hole on panel.



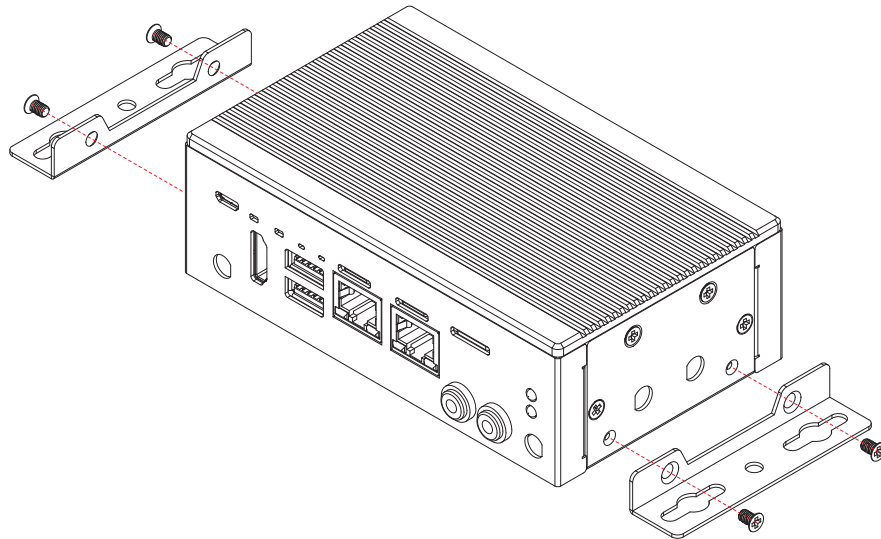
Step 3 Fasten washer on the antenna cable connector.



3.7 Mounting Your EIC-2000

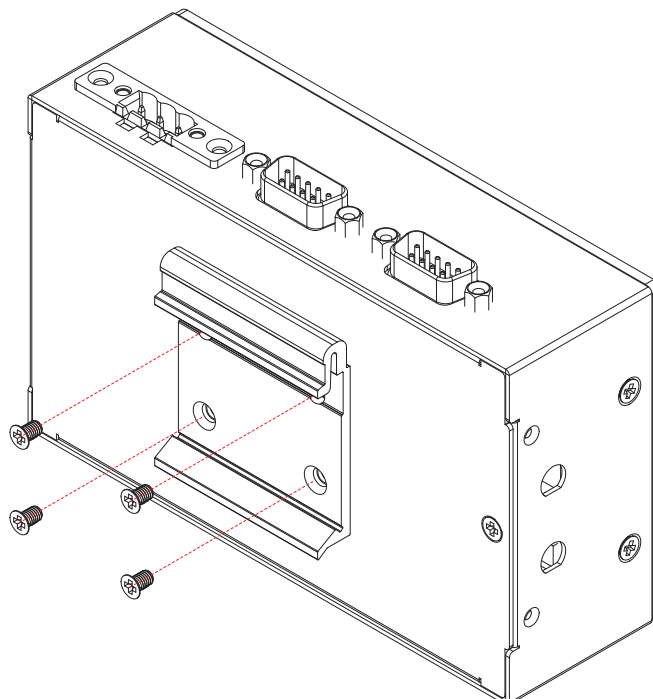
3.7.1 Wall Mount

Install wall mount bracket then fasten four pcs F-M3x4L screws.



3.7.2 DIN Rail Mount

Install DIN Rail then fasten four pcs F-M3x4L screws.



4

SOFTWARE SETUP

4.1 Peripheral Interface Guide

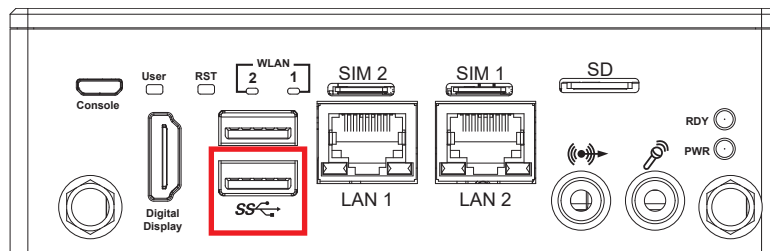
For I/O support and example please follow this link:

https://github.com/VecowSoftware/EIC-2000_Sample/tree/master/EIC-2000

4.2 Force Recovery Mode

Before starting the flashing process, be sure you've properly turned off the EIC-2000 and disconnected from the power. You also need to prepare a host PC running Ubuntu 16.04 or later.

1. Make sure SW1 is 00 and SW2 pin 1 is 0.
2. Connect the bottom USB port to the host PC, connect the power and power on the EIC-2000.
3. The EIC-2000 will show up on the host system USB list as a new NXP target device.
4. After successfully updating the system software, power off the system. Recover the DIP switch SW1/ SW2 and restart the EIC-2000 system.



A

APPENDIX A : POWER CONSUMPTION

Testing Board	EIC-2000
RAM	4GB (On Board)
USB-1	Transcend JetFlash USB3.0 8GB Flash drive
USB-2	Transcend JetFlash USB3.0 8GB Flash drive
USB-3	USB Keyboard Logitech Y-B0001
USB-4	USB Mouse MM-5113
Micro SD	Sandisk 8GB
M.2 KEY B	Quectel RM500Q-AE
Mini PCIe	Quectel EC25-J
Storage	32 GB eMMC
LAN1	GigE LAN
LAN2	GigE LAN
Graphics output	HDMI
Power plan	Default
Power Source	Chroma 62006P-100-25
Test Program-1	Stress-ng
Test Program-2	Mentester

CPU	Power Input	Ubuntu 20.04.3 LTS 64bit			
		idle status CPU		Run BurnInTest	
		Max Current	Max Consumption	Max Current	Max Consumption
NXP i.MX8M Plus Arm® Quad Cortex®-A53 processor	09V	1.775A	15.98W	2.089A	18.80W
	12V	1.297A	15.56W	1.557A	18.68W
	24V	0.715A	17.16W	0.834A	20.02W
	36V	0.518A	18.65W	0.598A	21.53W
	48V	0.411A	19.73W	0.470A	22.56W

B

APPENDIX B : Supported Expansion Module List

B.1 Supported 5G/4G/GPS List

Type	Model	Support Standard
M.2 KEY B	Quectel EM06-E	LTE Category 6 Worldwide LTE-A and UMTS/HSPA+ Coverage GPS/GLONASS/BeiDou (Compass)/Galileo/ QZSS (Optional)
M.2 KEY B	Quectel RM500Q-AE	5G sub-6GHz Worldwide 5G and LTE-A coverage GPS/GLONASS/BeiDou (Compass)/Galileo
M.2 KEY B	Thales MV31-W	Sub 6 GHZ operation Worldwide coverage in single SKU GPS/GLONASS/Galileo/Beidou
mini PCIe	Quectel EC25 Series	LTE Category 4 UMTS/HSPA/GSM/GPRS/EDGE GPS/GLONASS/BeiDou/Galileo/QZSS



For further support information, please visit www.vecow.com

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