



®

AXIOMTEK

AIE500-901-FL Series

Embedded System

User's Manual



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Safety Precautions

Before getting started, please read the following important safety precautions.

1. The AIE500-901-FL does not come with an operating system which must be loaded first before installation of any software into the computer.
2. Be sure to ground yourself to prevent static charge when installing any internal components. Use a wrist grounding strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
3. Disconnect the power cord from the AIE500-901-FL prior to making any installation. Be sure both the system and all external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the AIE500-901-FL is properly grounded.
4. Make sure the voltage of the power source is correct before connecting it to any power outlet.
5. Turn Off system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
6. Do not leave equipment in an uncontrolled environment where the storage temperature is below -40°C or above 80°C as it may damage the equipment.
7. Do not open the system's back cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help discharge any static electricity on human body.
 - When handling boards and components, wear a wrist grounding strap available from most electronic component stores.
8. Note!! Caution with touch! AIE500-901-FL will be hot when it's on.

Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against ingress of water: IP40
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
4. Mode of operation: Continuous



【Note】 : *All of I/O connectors should be connected with corresponding cables when the system is operating with IP40 rated definition. If some of I/O ports are not be used or connected during operation, users must to connect optional I/O covers to meet IP40 standard.*

General Cleaning Tips

Please keep the following precautions in mind while understanding the details fully before and during any cleaning of the computer and any components within.

A piece of dry cloth is ideal to clean the device.

1. Be cautious of any tiny removable components when using a vacuum cleaner to absorb dirt on the floor.
2. Turn the system off before clean up the computer or any components within.
3. Avoid dropping any components inside the computer or getting circuit board damp or wet.
4. For cleaning, be cautious of all kinds of cleaning solvents or chemicals which may cause allergy to certain individuals.
5. Keep foods, drinks or cigarettes away from the computer.

Cleaning Tools:

Although many companies have created products to help improve the process of cleaning computer and peripherals, users can also use house hold items accordingly for cleaning. Listed below are items available for cleaning computer or computer peripherals.

Pay special attention to components requiring designated products for cleaning as mentioned below.

- Cloth: A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, it is recommended to use a piece of cloth.
- Water or rubbing alcohol: A piece of cloth may be somewhat moistened with water or rubbing alcohol before being rubbed on the computer. Unknown solvents may be harmful to plastic parts.
- Absorb dust, dirt, hair, cigarette and other particles outside of a computer can be one of the best methods of cleaning a computer. Over time these items may restrict the airflow in a computer and cause circuitry to corrode.
- Cotton swabs: Cotton swaps moistened with rubbing alcohol or water are applicable to reach areas in keyboard, mouse and other areas.
- Foam swabs: If possible, it is better to use lint free swabs such as foam swabs.



【Note】 : *It is strongly recommended that customer should shut down the system before start to clean any single components.*

Please follow the steps below:

1. Close all application programs;
2. Close operating software;
3. Turn off power switch;
4. Remove all devices;
5. Pull out power cable.

Scrap Computer Recycling

If the computer equipment's needs the maintenance or are beyond repair, we strongly recommended that you should inform your Axiomtek distributor as soon as possible for the suitable solution. For the computers that are no longer useful or no longer working well, please contact your Axiomtek distributor for recycling and we will make the proper arrangement.

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CHAPTER 1 INTRODUCTION



This chapter contains general information and detailed specifications of the AIE500-901-FL. The Chapter 1 includes the following sections:

- General Description
- System Specifications
- Dimensions
- I/O Outlets
- Packing List
- Model List

1.1 General Description

The AIE500-901-FL is an embedded system with NVIDIA® JETSON™ TX2 / TX2i Series supercomputer on a module to support Linux Ubuntu 16.04 and 18.04, suitable for the most enduring operation.

It features fanless design with full feature I/O, one 8GB 128-bit LPDDR4@1866 MHz memory, and enhanced system dependability by built-in Watchdog Timer.

- **Features**

1. NVIDIA® JETSON™ TX2 with Pascal™, 256 CUDA cores GPU
2. High AI computing performance for GPU-accelerated processing
3. Ideal for various edge AI applications
4. Supports M.2 PCIe & SATA SSD and Micro SD slot
5. Supports 2 USB 3.1 Gen1 and 2 COM or 2 CAN
6. JetPack ready

- **Reliable and Stable Design**

The AIE500-901-FL adopts the advanced fanless system and supporting the NVMe and SATA through M.2 interface, which makes it especially suitable for AI computing environments, best for industrial automation, GPU-accelerated processing and smart city applications.

- **JetPack Supported**

The AIE500-901-FL supports JetPack 4.2.1. NVIDIA JetPack SDK is the most comprehensive solution for building AI applications.

JetPack 4.2.1 is the latest production release supporting Jetson AGX Xavier, Jetson TX2 series modules, Jetson TX1, and Jetson Nano. It bundles all the Jetson platform software, including TensorRT, cuDNN, CUDA Toolkit, VisionWorks, GStreamer, and OpenCV, all built on top of L4T with LTS Linux kernel.

- **O.S. Supported**

The AIE500-901-FL supports both of Linux Ubuntu 16.04 and Linux Ubuntu 18.04.

- **Various Storage devices supported**

For storage device, the AIE500-901-FL supports one M.2 2280 Key M with PCI-Express 2.0 x1 and SATA interface, an onboard 16GB or 32GB eMMC (via JETSON™ TX2 / TX2i) and one Micro SD interface..

1.2 System Specifications

1.2.1 Product Specification

- **CPU Board**

- NVIDIA® JETSON™ TX2 4GB / TX2 8GB / TX2i Series

- **CPU**

- Dual-Core NVIDIA Denver 2 64-Bit CPU + Quad-Core ARM® Cortex®-A57 MPCore

- **GPU**

- NVIDIA® Pascal™ GPU architecture with 256 NVIDIA CUDA cores

- **Storage**

- 16 or 32GB eMMC onboard
- One M.2 2280 M Key with PCI-Express 2.0 x1 and SATA Interface to support optional PCIe NVMe and SATA SSD
- One Micro SD slot to support optional Micro SD card (UHS-I compatible)

- **System Memory**

- One 4GB or 8GB 128-bit LPDDR4 @ 1866 MHz onboard

- **WLAN & WWAN**

- 802.11ac WLAN, Bluetooth onboard. (Built-in TX2 8GB version only)
- Extra Wi-Fi and 3G/LTE supports via optional PCI Express Mini Card modules

1.2.2 I/O System

- One HDMI 2.0 for display (HDMI 2.0 Resolution: up to 4096 x 2160@60Hz)
- Two RJ-45 connectors for 10/100/1000 Base-T Ethernet ports (NVIDIA® + Intel® I210-IT)
- Two USB 3.1 Gen1 connectors
- One Micro USB connector (OTG) for image flash only.
- Two RS-232 ports (or Two CAN-bus ports by jumper setting)
- One Micro SD slot for extra storage
- One M.2 2280 Key M with PCI-Express 2.0 x1 and SATA SSD interface to support optional NVMe and SATA SSD
- One full-size PCI Express Mini Card slot (USB + PCI Express signal)
 - ※ The USB signal could be switched by recovery switch, it supports either USB signal of PCI-Express Mini Card connector or Micro USB connector. For more details, please refer to 3.3 Connectors.
- One Recovery switch
- One Power button and one Reset button
- Two Indicators LEDs (System Power, M.2 Storage)
- Four SMA type connector openings for Antenna
- One 12VDC or 24VDC Power phoenix type connector

1.2.3 System Specification

- Watchdog Timer
 - Built-in NVIDIA® JETSON™ TX2 / TX2i Series SoM
- Power Supply
 - Input : 12VDC or 24VDC
- Operation Temperature
 - -30°C to +60°C (-22°F to +140°F)
- Humidity
 - 10% ~ 95% (non-condensation)
- Vibration Endurance
 - 3Grms w/ SSD Storage (5-500Hz, X, Y, Z directions)
- Weight
 - 0.9 kg(1.98lb) without package
 - 1.6 kg(3.52lb) with package
- Dimensions
 - 171 mm(6.73") (W) x 110 mm(4.33") (D) x 57 mm(2.24") (H)

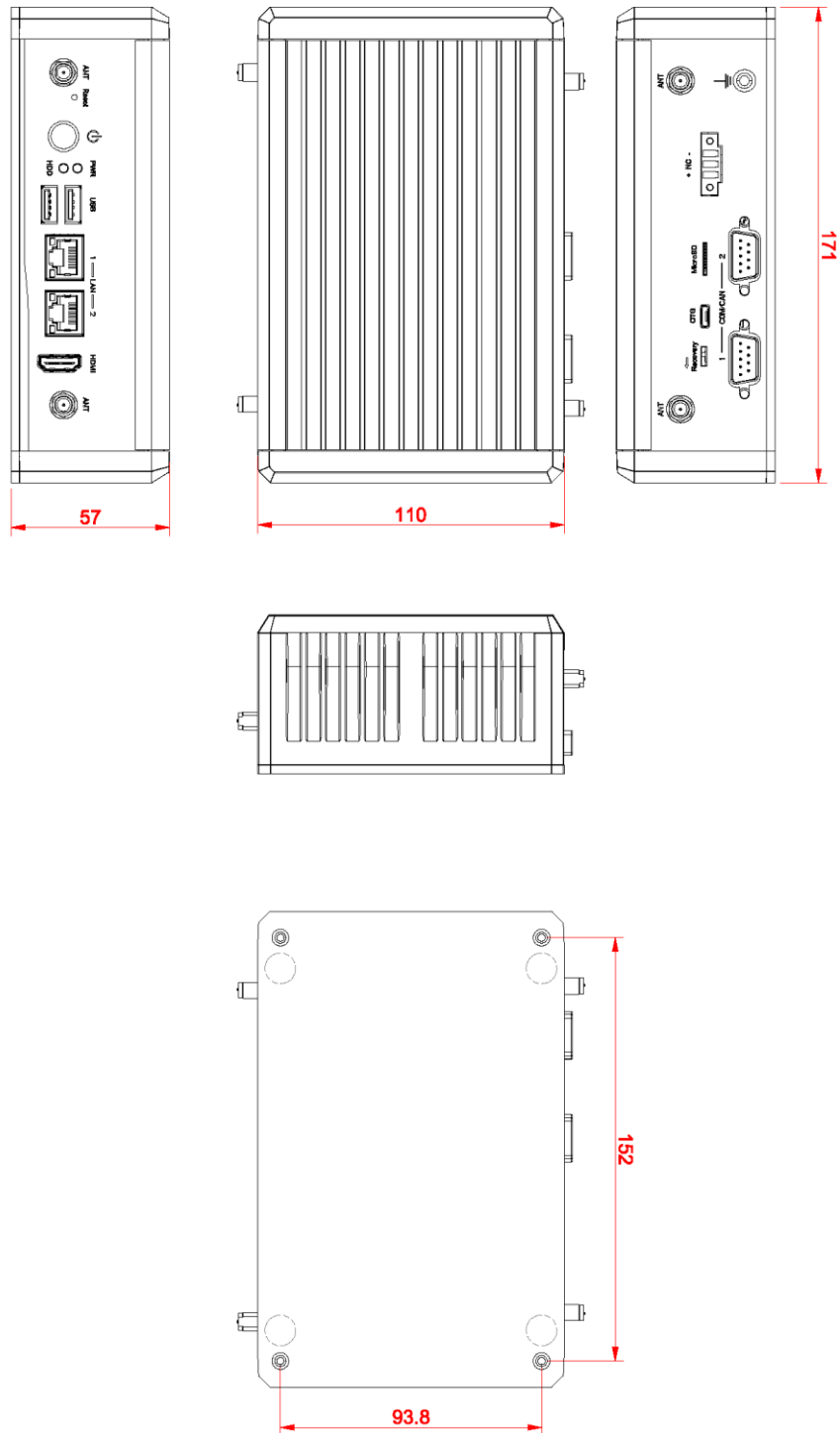


Note: All specifications and images are subject to change without notice.

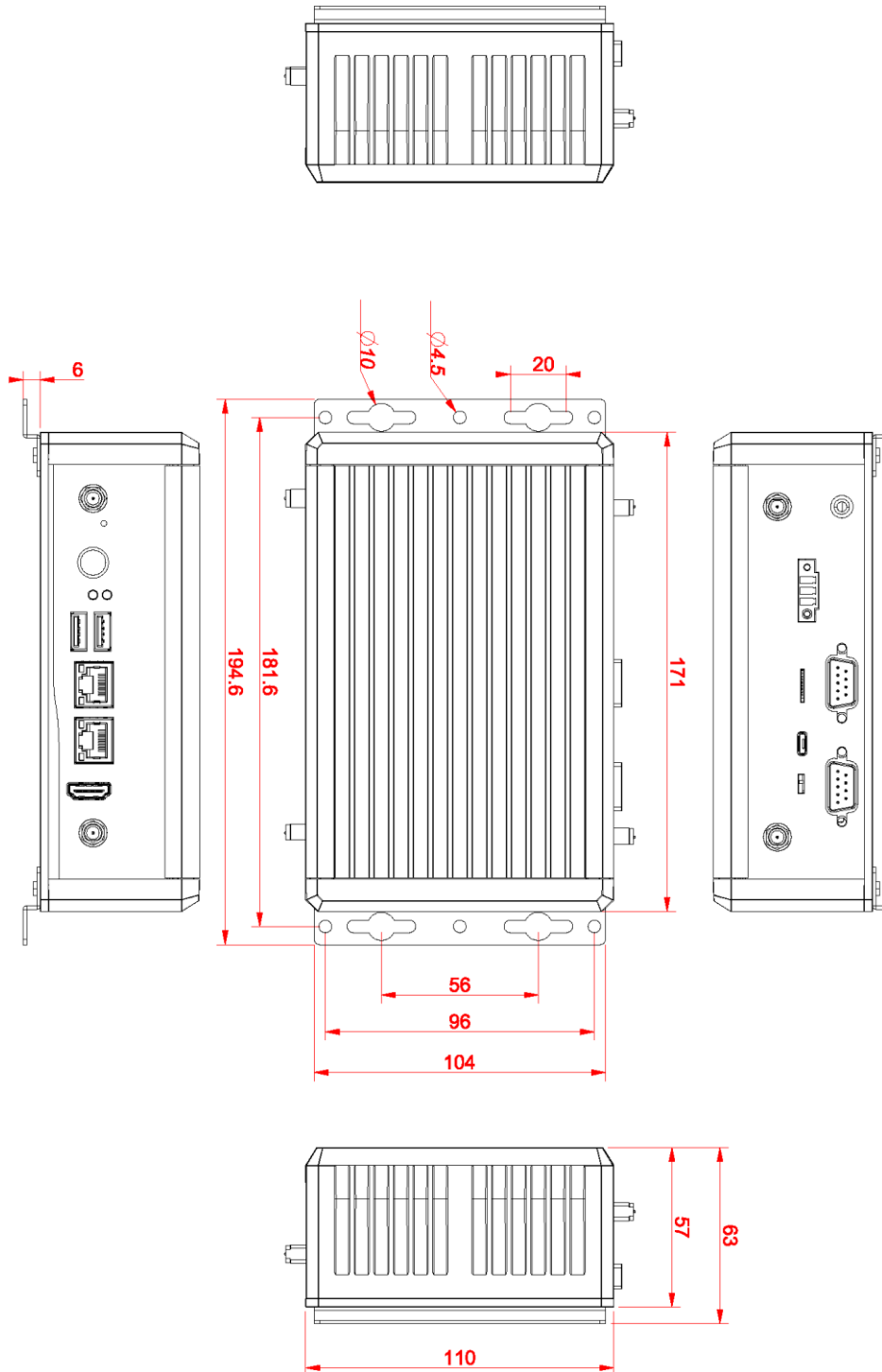
1.3 Dimensions

The following diagrams show you dimensions and outlines of the AIE500-901-FL.

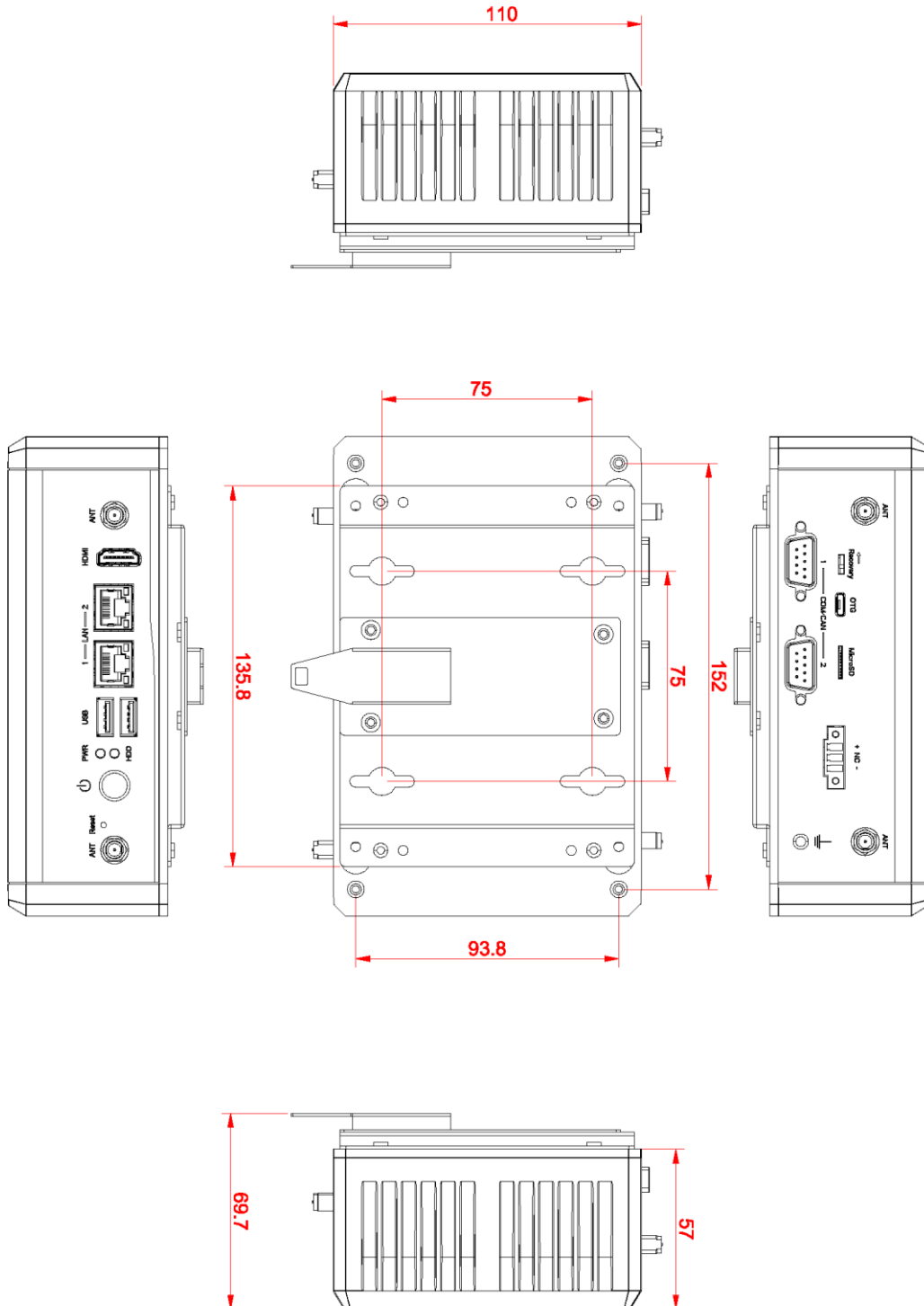
1.3.1 System Dimension



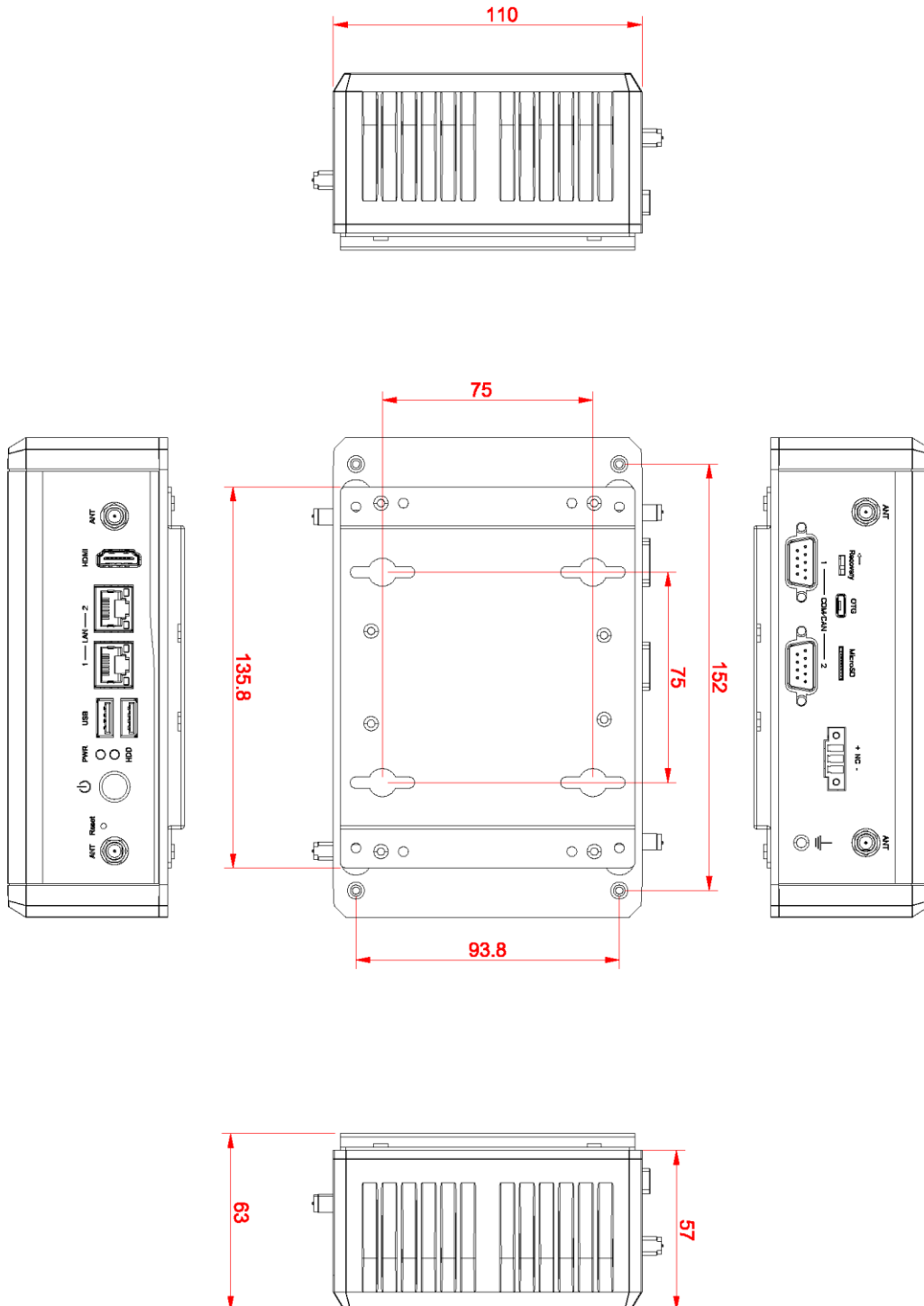
1.3.2 Wall mount Bracket Dimension



1.3.3 Din-rail mount Bracket Dimension



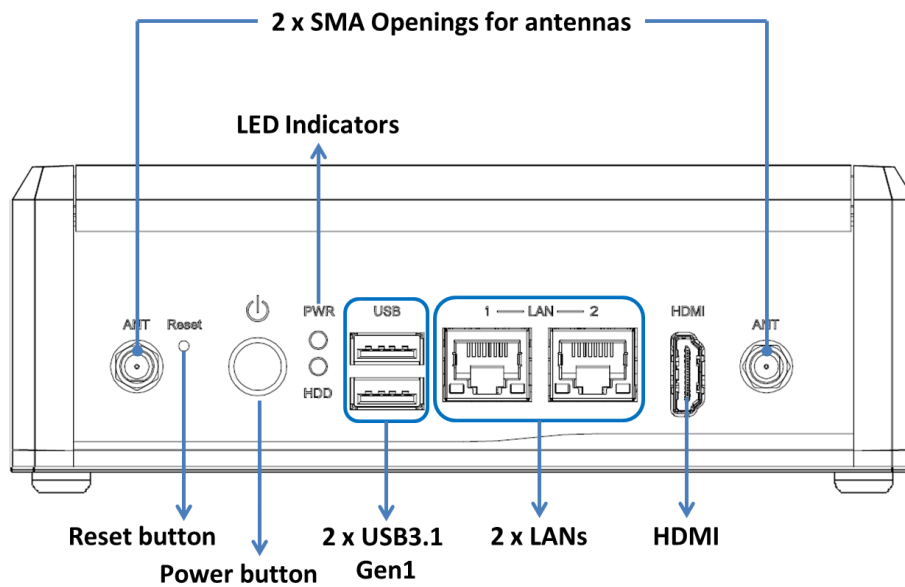
1.3.4 VESA arm mount Bracket Dimension



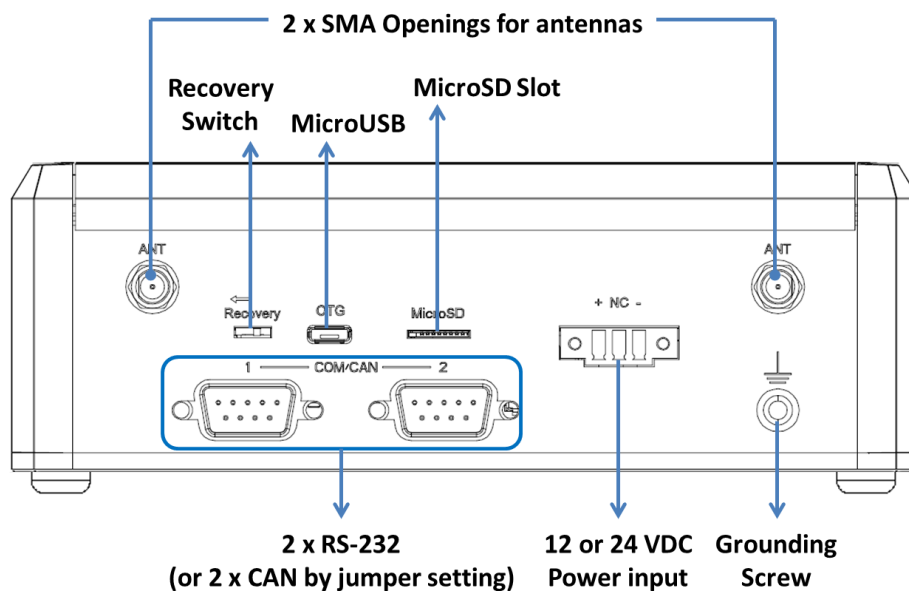
1.4 I/O Outlets

The following figures show you I/O outlets on front view of the AIE500-901-FL.

- **Front View drawing**



- **Rear View drawing**



1.5 Packing List

The package bundled with your AIE500-901-FL should contain the following items:

- **AIE500-901-FL System Unit x 1**
- **Terminal Block Connector x 1**
- **Foot pad x 4**
- **Screws Pack x 1**
- **Antennas for WLAN x 2 (TX2 8GB version only)**

※ Regarding the latest Jetpack image, product manual, please download them from Axiomtek official website.

1.6 Model List

AIE500-901-FL	Fanless AI Edge System with NVIDIA® JETSON™ TX2 / TX2i Series SoM, 1 HDMI 2.0, 2 GbE LANs, 2 USB 3.0, 2 COMs and 12 / 24 VDC
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If you cannot find this package or any items are missing, please contact Axiomtek distributors immediately.

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CHAPTER 2 HARDWARE INSTALLATION

The AIE500-901-FL is convenient for your various hardware configurations, such as SSD (Solid State Drive) and PCI Express Mini Card modules. The chapter 2 will show you how to install the hardware.

2.1 Installing the PCI Express Mini Card

Step 1 Turn off the system, and unplug the power adaptor.

Step 2 Turn the system upside down to locate screws at the bottom side as red marked and loosen four screws.



Step 3 Remove the bottom cover, and locate PCI Express mini card slot on the board.



Step 4 Holding the PCI Express mini card at a 45 degree angle up from horizontal, slowly insert the golden fingers into the PCI Express slot until it is fully inserted in.



Step 5 Press it down gently, but firmly, and then secure the PCI Express mini card to the carrier by tightening up the one M2*5L Phillips pan head screw to the marked position.

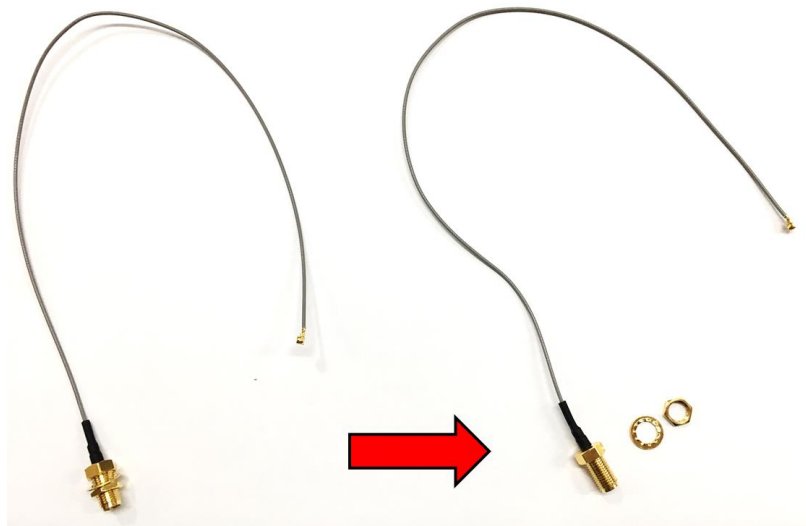


2.2 Installing LTE and extra Wi-Fi Antenna Cable

Step 1 Install the Mini PCIe card into the Mini PCIe slot and affix it with a screw. For more details, please refer to section 2.1: Installing the PCI Express Mini Card.



Step 2 Take the Antenna kit out of its box, and remove the hex nut and washer from the Antenna cable.



Step 3 Install the antenna cable connector through the opening at the front of the chassis.



Step 4 Put the washer and Hex nut into the antenna cable connector, and tighten it up.





Step 5 Connect the antenna cable to the PCI Express mini card.



2.3 Installing the M.2 2280 Key M SSD Module

Step 1 Turn off the system, and unplug the power adaptor.

Step 2 Turn the system upside down to locate screws at the bottom side as red marked and loosen four screws.



Step 3 Remove the bottom cover, and locate the M.2 2280 Key M slot on the board.



Step 4 Holding the M.2 2280 Key M SSD card at a 30 degree angle up from horizontal, slowly insert the golden fingers into the M.2 2280 Key M slot until it is fully inserted in.



Step 5 Press it down gently, but firmly, and then secure the M.2 2280 Key M SSD card to the carrier by tightening up the one M3*4L Phillips flat head screw to the marked position.



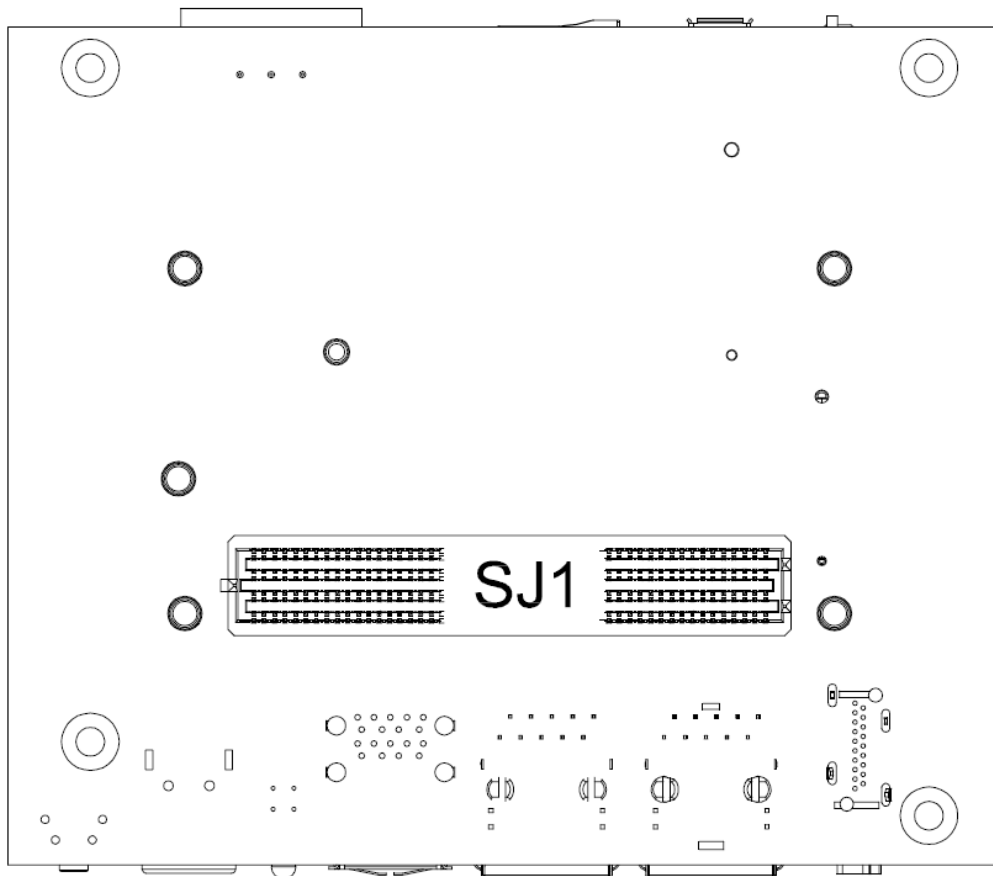
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CHAPTER 3 JUMPER SETTING & CONNECTOR

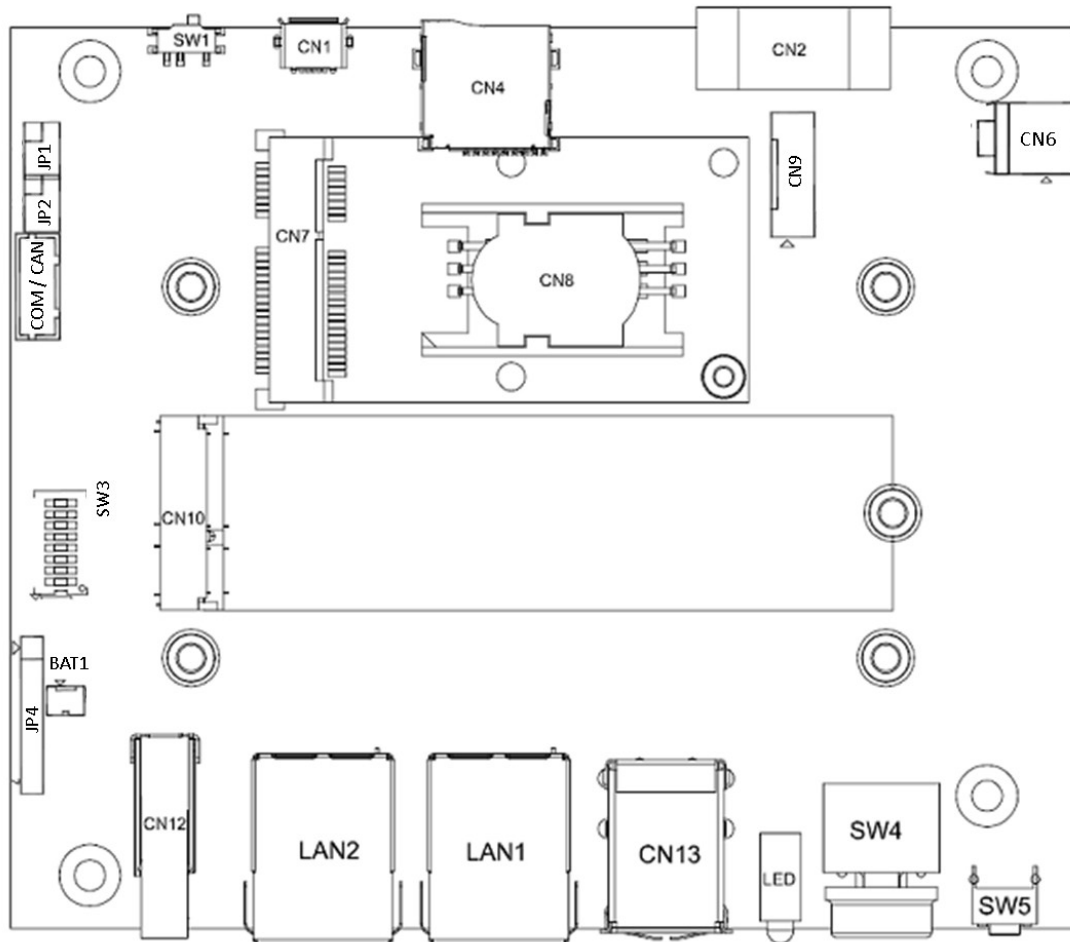
Proper jumper settings configure the **AIE500-901-FL** to meet your application purpose. We are here with listing a summary table of all jumpers and default settings for onboard devices, respectively.

3.1 Jumper & Connector Location

SBC87901 Top View



SBC87901 Bottom View



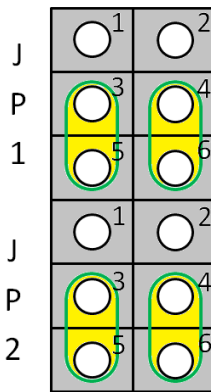
Note: We strongly recommended that you should not modify any unmentioned jumper setting without Axiomtek FAE's instruction. Any modification without instruction might cause system to become damage.

3.2 Jumper Setting Summary

Proper jumper settings configure the AIE500-901-FL to meet your application purpose. We are herewith listing a summary table of all jumpers and default settings for onboard devices, respectively.

SBC87901:

Jumper	Functions		Settings	
			Port 1	Port 2
JP1, JP2	COM Port or CAN Port Settings	RS-232 (default)	JP1(3-5), JP1(4-6)	JP2(3-5), JP2(4-6)
		CAN	JP1(1-3), JP1(2-4)	JP2(1-3), JP2(2-4)



Note: How to setup Jumpers

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is “close”, if not, that means the jumper is “open”.



[Open]



[Closed]



[Pin1-2 Closed]

3.3 Connectors

Connectors connect the board with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected. Here is a summary table shows you all connectors and button on the **AIE500-901-FL** Series.

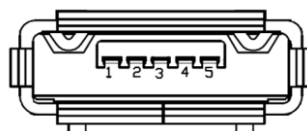
External Connectors / Buttons	PCB Location	Section
Micro USB 2.0 Connector (OTG)	CN1	3.3.1
DC Phoenix Power In Connector	CN2	3.3.2
MicroSD Slot	CN4	3.3.3
DC-in Connector	CN6	3.3.4
PCI-Express Mini Card slot	CN7	3.3.5
SIM Card Slot	CN8	3.3.6
M.2 2280 Key M PCIe x1 and SATA SSD	CN10	3.3.7
HDMI Connector	CN12	3.3.8
USB3.1 Gen1 Connector	CN13	3.3.9
Digital I/O Connector (Optional)	CN14	3.3.10
Ethernet Ports	LAN1, LAN2	3.3.11
Serial & CAN Port Connector	COM1, COM2 CAN1, CAN2	3.3.12
Debug Port Connector	JP4	3.3.13
Recovery Mode Switch	SW1	3.3.14
AT/ATX Switch	SW3	3.3.15
Power Button	SW4	3.3.16
Reset Button	SW5	3.3.17
CMOS Battery Interface	BAT1	3.3.18
Power and Storage LED Indicator	LED	3.3.19

3.3.1 Micro USB 2.0 Connector (OTG) (CN1)

The CN1 is specifically designed for image flashing only. To flash Jetpack, please switching SW1 to ON before booting up the system, which would force the system to recovery mode.

This USB signal is shared with PCI-Express Mini Card Connector (CN7), and the signal can be switched by Recovery Mode Switch (SW1). For more details, please refer to 3.3.11 Recovery Mode Switch (SW1).

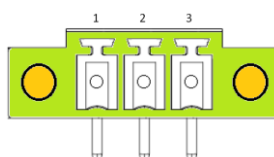
Pin	Signal
1	+5V
2	USB0 DN
3	USB0 DP
4	GND
5	GND



3.3.2 DC Phoenix Power In Connector (CN2)

The system supports a wide range Phoenix DC-in connector (CN2) for system power 12VDC or 24VDC input.

Pin	Signal
1	GND
2	NC
3	DCIN



3.3.3 Micro SD Slot (CN4)

The Micro Secure Digital (SD) is a flash memory card format used in portable device including notebook and digital camera.

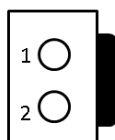
Pin	Signal	Pin	Signal
1	DATA1	5	+3.3VS
2	DATA0	6	CMD
3	GND	7	DATA3
4	CLK	8	DATA2



3.3.4 DC-in Connector (CN6)

The system reserves an onboard wide range DC-in connector (CN6) for system power 12VDC or 24VDC input.

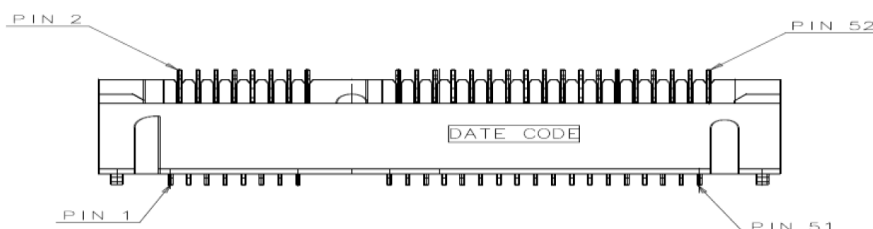
Pin	Signal
1	DCIN
2	GND



3.3.5 PCI-Express Mini Card Connector (CN7)

The AIE500-901-FL supports a full-size PCI-Express Mini Card slots. CN7 is applying to either PCI-Express or USB 2.0 signal, and complies with PCI-Express Mini Card Spec. V1.2.

The USB signal can be selected by Recovery Mode Switch (SW1). For more details, please refer to 3.3.11 Recovery Mode Switch (SW1).

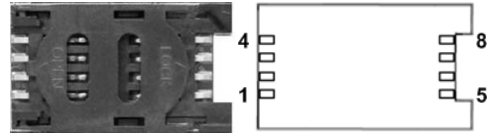


Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	WAKE#	2	+3.3V	3	NC	4	GND
5	NC	6	+1.5V	7	CLKREQ#	8	UIM_PWR
9	GND	10	UIM_DATA	11	REFCLK-	12	UIM_CLK
13	REFCLK+	14	UIM_RESET	15	GND	16	UIM_VPP
17	NC	18	GND	19	NC	20	WLAN_DISABLE#
21	GND	22	NC	23	PEX2_RX-	24	+3.3V
25	PEX2_RX+	26	GND	27	GND	28	+1.5V
29	GND	30	I2C_GP0_CLK	31	PEX2_TX-	32	I2C_GP0_DATA
33	PEX2_TX+	34	GND	35	GND	36	USB0_D-
37	GND	38	USB0_D+	39	+3.3V	40	GND
41	+3.3V	42	LED_WWAN#	43	GND	44	NC
45	NC	46	NC	47	NC	48	+1.5V
49	NC	50	GND	51	NC	52	+3.3V

3.3.6 SIM Card Slot (CN8)

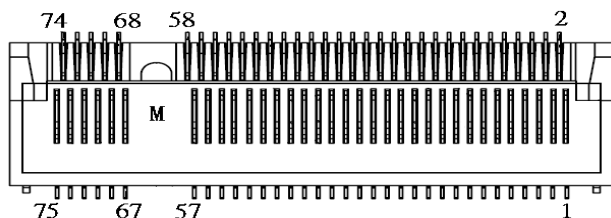
AIE500-901-FL comes with SIM Card Slot (CN8) for inserting SIM Card. In order to work properly, the SIM Card must be used together with 3G/LTE module which would be inserted to PCI-Express Mini Card Connector (CN7). It is mainly used for 3G/LTE wireless network application.

Pin	Signal	Pin	Signal
1	UIM PWR	5	GND
2	UIM RST	6	UIM VPP
3	UIM CLK	7	UIM DATA
4	NC	8	NC



3.3.7 M.2 2280 Key M PCIe x1 and SATA SSD (CN10)

The AIE500-901-FL comes with one M.2 2280 Key M PCIe x1 and SATA SSD for storage.

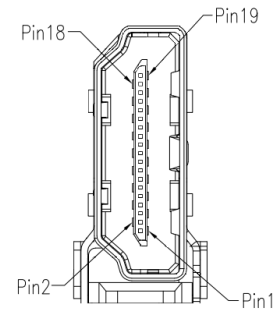


Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	+3.3V	3	GND	4	+3.3V
5	NC	6	NC	7	NC	8	NC
9	GND	10	LED_1#	11	NC	12	+3.3V
13	NC	14	+3.3V	15	GND	16	+3.3V
17	NC	18	+3.3V	19	NC	20	NC
21	GND	22	NC	23	NC	24	NC
25	NC	26	NC	27	GND	28	NC
29	NC	30	NC	31	NC	32	NC
33	GND	34	NC	35	NC	36	NC
37	NC	38	M.2_DEVSLP	39	GND	40	NC
41	PEX0_RX-/SATA_RX+	42	NC	43	PEX0_RX+/SATA_RX-	44	NC
45	GND	46	NC	47	PEX0_TX-/SATA_TX-	48	NC
49	PEX0_TX+/SATA_TX+	50	PERST#	51	GND	52	CLKREQ#
53	PEX0_REFCLKn	54	PEWAKE#	55	PEX0_REFCLKp	56	NC
57	GND	58	NC	59	CONNECTOR Key M	60	CONNECTOR Key M
61	CONNECTOR Key M	62	CONNECTOR Key M	63	CONNECTOR Key M	64	CONNECTOR Key M
65	CONNECTOR Key M	66	CONNECTOR Key M	67	NC	68	NC
69	PEDET	70	+3.3V	71	GND	72	+3.3V
73	GND	74	+3.3V	75	GND		

3.3.8 HDMI Connector (CN12)

The HDMI (High-Definition Multimedia Interface) is a compact digital interface which is capable of transmitting high-definition video and high-resolution audio over a single cable.

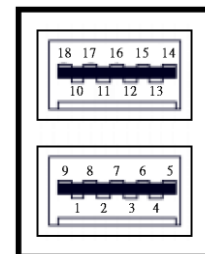
Pin	Signal	Pin	Signal
1	HDMI1_DATA2+	2	GND
3	HDMI1_DATA2-	4	HDMI1_DATA1+
5	GND	6	HDMI1_DATA1-
7	HDMI1_DATA0+	8	GND
9	HDMI1_DATA0-	10	HDMI1_CLK+
11	GND	12	HDMI1_CLK-
13	HDMI_CEC	14	NC
15	HDMI1_SCL	16	HDMI1_SDA
17	GND	18	+5V
19	HDMI-HTPLG		



3.3.9 USB3.1 Gen1 Connector (CN13)

The Universal Serial Bus connectors are compliant with USB 3.1 Gen1 (5Gbps), and ideally for installing USB peripherals such as keyboard, mouse, scanner, etc.

Pin	Signal	Pin	Signal
1	5V_USB1	10	5V_USB2
2	USB1_D-	11	USB2_D-
3	USB1_D+	12	USB2_D+
4	GND	13	GND
5	USB_SS1_RX-	14	USB_SS2_RX-
6	USB_SS1_RX+	15	USB_SS2_RX+
7	GND	16	GND
8	USB_SS1_TX-	17	USB_SS2_TX-
9	USB_SS1_TX+	18	USB_SS2_TX+

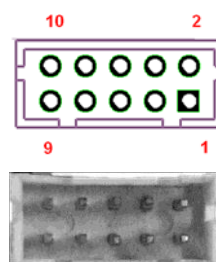


3.3.10 Digital I/O Connector (CN14) (Optional)

The AIE500-901-FL supports one 8-Channel digital I/O connector by option.

The digital I/O is controlled via software programming.

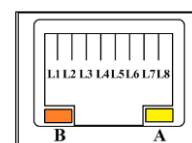
Pin	Signal	Pin	Signal
1	DIO01	2	DIO08
3	DIO02	4	DIO07
5	DIO03	6	DIO06
7	DIO04	8	DIO05
9	+5V	10	GND



3.3.11 Ethernet Ports (LAN1, LAN2)

The AIE500-901-FL comes with two RJ-45 connectors; LAN1 (Intel® I210-IT) and LAN2 (NVIDIA® JETSON™ TX2 / TX2i). Ethernet connection can be established by plugging one end of the Ethernet cable into this RJ-45 connector and the other end (phone jack) to a 1000/100/10 Base-T hub.

Pin	1000 Base-T	100/10 Base-T	Description
L1	BI_DA+	TX+	Bidirectional or Transmit Data+
L2	BI_DA-	TX-	Bidirectional or Transmit Data-
L3	BI_DB+	RX+	Bidirectional or Receive Data+
L4	BI_DC+	N.C.	Bidirectional or Not Connected
L5	BI_DC-	N.C.	Bidirectional or Not Connected
L6	BI_DB-	RX-	Bidirectional or Receive Data-
L7	BI_DD+	N.C.	Bidirectional or Not Connected
L8	BI_DD-	N.C.	Bidirectional or Not Connected
A	LAN1: Active Link LED: Yellow Off: No link Blinking: Data activity detected		
	LAN2: Speed LED: - 1000M : Yellow		
B	LAN1: Speed LED: - 1000M: Orange - 100M / 10M: Green / OFF		
	LAN2: Speed LED: - 100M / 10M: Green / OFF		



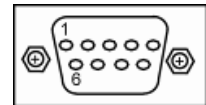
3.3.12 Serial & CAN Port Connector (COM / CAN 1, COM / CAN 2)

This system supports two serial ports or two CAN-bus ports or one serial port and one CAN-bus port, which are shared by the same DB9 ports. User could select either COM or CAN-bus by jumper setting, JP1 and JP2. For more details, please refer to 3.2 Jumper Setting Summary.



【Note】 : The COM signals are from UART signals of NVIDIA® JETSON™ TX2 4GB / TX2 8GB / TX2i Series SoM, and according to NVIDIA official definition, the device name of COM Ports would be — COM1 corresponds to “ttyTHS2”, and COM2 corresponds to “ttyTHS1”.

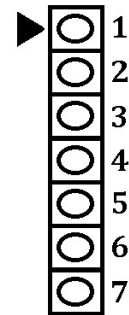
Pin	Signal	Pin	Signal
1	NC	5	GND, ground
2	RXD, Receive data / CAN_L	6	NC
3	TXD, Transmit data	7	RTS, Request to send / CAN_H
4	NC	8	CTS, Clear to send
9	NC		



3.2.13 Debug Port Connector (JP4)

The JP4 is UART interface (UART Port0) for debug port when developing software.

Pin	Signal	Pin	Signal
1	+5V	4	RX
2	+3.3V	5	RTS#
3	TX	6	CTS#
7	GND		



3.3.14 Recovery Mode Switch (SW1)

It will make NVIDIA® JETSON™ TX2 force recovery mode when switching SW1 to ON before booting up the system.

Moreover, the user could switch the USB signal which is shared by Micro USB (CN1) and PCI-Express Mini Card Connector (CN7) by Recovery Mode Switch (SW1).

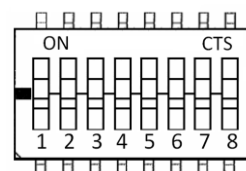
Function	USB Signal	Description
ON	Micro USB (CN1)	Recovery Mode
OFF	PCI-Express Mini Card Connector (CN7)	Standard Mode



3.3.15 AT/ATX Switch (SW3)

If you turn ON the Pin 8(AT mode) of SW3, the system will be automatically power on without pressing soft power button during power input; we can use this switch to achieve auto power on demand.

Pin	Signal	Pin	Signal
1	NC	5	NC
2	NC	6	NC
3	NC	7	NC
4	NC	8	Auto Power On



3.3.16 Power Button (SW4)

It can allow users to either turn on the AIE500-901-FL or forcibly shut down the system.

Function	Description
ON	Turn on system
OFF	Forcibly shut down the system



3.3.17 Reset Button (SW5)

The Reset button can allow users to reset AIE500-901-FL during system abnormal situation.

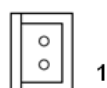
Function	Description
ON	Reset System
OFF	Keep system status



3.3.18 CMOS Battery Interface (BAT1)

This connector is for CMOS battery interface.

Pin	Signal
1	+3.3V
2	GND



3.3.19 Power and Storage LED Indicator (LED)

The Yellow LED is linked to Solid-state Drive (SSD) activity signal. LED flashes every time SSD is accessed. The power LED (Green) lights up and will remain steady while the system is powered on.

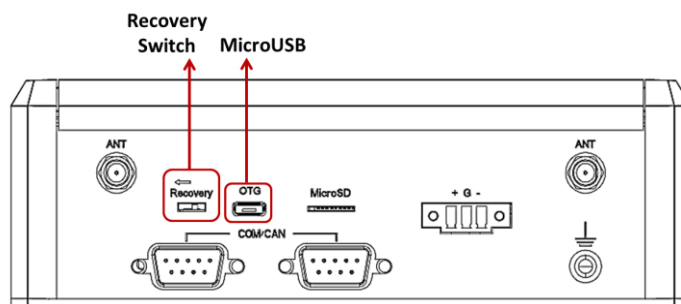
LED Color	Description
Green	Power on/off
Yellow	Solid-state drive activity



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CHAPTER 4 JETPACK BSP FLASH METHOD

This chapter provides users with a detailed description of how to flash NVIDIA Jetpack BSP for AIE500-901-FL, the user could follow the below instruction to install or reinstall Jetpack BSP by themselves.



FLASH METHOD:

Please prepare a Linux host system running x86_64 Ubuntu v16.04

Step1. AIE500-901-FL connection as follows:

- Connect a USB cable from the Linux host system to the Micro USB port at AIE500-901-FL, and switch the recovery switch to ON. For more details, please refer to 3.3.11 Recovery Mode Switch (SW1).
- Connect an HDMI monitor to AIE500-901-FL.

Step2. Please contact with our sales or FAE for the latest Jetpack BSP.

Untar the files and assemble the root file system with the command below:

```
sudo tar xpf imagefilename
```



【Note】 : Please type your full image name instead of imagefilename

Step3. Start flash Jetpack BSP:

- Plug in the power cable for AIE500-901-FL, and press the power button to enter recovery mode.
- Press hotkey: Ctl+Alt+T at the host to enter to the terminal window
- Change directory to the Linux_for_Tegra folder:
cd Linux_for_Tegra
- Execute the below command at the host to install the image.
sudo ./flash.sh -r jetson-tx2 mmcblk0p1
- The flashing procedure takes approximately 10 minutes or more. Upon completion, AIE500-901-FL would automatically reboot, and please switch the recovery switch to OFF to back to standard mode.



【Note】 : Please open the command prompt window on the host system which is connected to AIE500-901-FL.

Step4. Congratulations, you have successfully installed it on AIE500-901-FL.

The default login credentials are: Username: nvidia Password: nvidia