USER MANUAL

VIA AMOS-9100

Compact and fanless Hexa-Core Arm® system for demanding Edge AI, Autonomous Mobile Robot (AMR) and Guided Vehicle (AGV) applications

1.00-27122024

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Regulatory Compliance

FCC-A Radio Frequency Interference Statement

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 personal expense.

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.

Notice 2

Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

Notice 3

The product described in this document is designed for general use, VIA Technologies assumes no responsibility for the conflicts or damages arising from incompatibility of the product. Check compatibility issue with your local sales representatives before placing an order.

Safety Precautions

- Always read the safety instructions carefully.
- Keep this User Manual for future reference.
- All cautions and warnings on the equipment should be noted.
- Keep this equipment away from humidity and direct sunlight.
- Put this equipment on a reliable flat surface before setting it up.
- Before connecting the equipment to a power source, check if it can provide power within the 12 - 24V range.
- Do not place the power cord where people will step on it.
- Always unplug the power cord before inserting any add-on card or module.
- If any of the following situations arise, get the equipment checked by authorized service personnel:
  - The power cord or plug is damaged.
  - Liquid has entered into the equipment.
  - The equipment has been exposed to moisture.
  - The equipment is faulty or you cannot get it work according to User Manual.
  - The equipment has been dropped and damaged.
  - The equipment has an obvious sign of breakage.
- Do not operate the equipment in temperatures outside the -20°C ~ 60°C range or store the equipment in temperatures outside the -40°C ~ 85°C range. The equipment may get damaged.
- Never pour any liquid into the opening. Liquid can cause damage or electrical shock.
- Do not place anything over the power cord.
- Do not cover the ventilation holes. The openings on the enclosure protect the equipment from overheating.

Box Contents

Items for AMOS-9100-2H11A0

- VIA AMOS-9100 system
- 2-pole Phoenix plug to DC jack
- LoRa antenna

Items for AMOS-9100-1H11A0

- VIA AMOS-9100 system
- 2-pole Phoenix plug to DC jack

Ordering Information

Part Number	Description
AMOS-9100-2H11A0	VIA AMOS-9100 system with 2.0GHz NVIDIA Jetson Orin NX Hexa-Core SoC, 8GB LPDDR5 DRAM, 128GB SSD, HDMI, 3 USB 3.2 Type A, USB 3.2 Gen 1, Micro USB 2.0 OTG, 2 GLAN with PoE, 2 COM, CAN/UART, DIO, Audio jack, LoRa, 3 M.2 slots, Micro SIM card slot, 12~24V DC-in
AMOS-9100-1H11A0	VIA AMOS-9100 system with 2.0GHz NVIDIA Jetson Orin NX Hexa-Core SoC, 8GB LPDDR5 DRAM, 128GB SSD, HDMI, 3 USB 3.2 Type A, USB 3.2 Gen 1, Micro USB 2.0 OTG, 2 GLAN, 2 COM, CAN/UART, DIO, Audio jack, 3 M.2 slots, Micro SIM card slot, 12~24V DC-in

Optional Accessories

Wireless Module Options

Part Number	Description
AMOS-9000-W101A1	Wi-Fi 6 module with antennas and assembly

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1. Introduction

Boost your automation and operational efficiency with the fanless and rugged VIA AMOS-9100 Edge AI-IoT system. This compact and robust system is powered by the low-power 2.0GHz NVIDIA Jetson Orin NX Cortex®-A78AE hexa-core processor, which includes a powerful GPU for strong edge AI inferencing performance. The VIA AMOS-9100 also features 128GB of storage, extensive I/O and network connectivity options, and support for a wide range of voltage and operating temperatures, making the system a reliable cross-industry choice for demanding applications such as Autonomous Mobile Robots (AMRs), Automated Guided Vehicles (AGVs), and deployments requiring advanced machine vision, factory safety, and intelligent inspection.

Leveraging the full potential of the NVIDIA Jetson Orin NX Cortex®-A78AE hexa-core processor, the VIA AMOS-9100 system delivers exceptional edge AI processing with outstanding power efficiency, further enhanced by its fanless design. The processor includes 8GB of LPDDR5 memory (with 68 GBps bandwidth) for high-speed data processing, a powerful 625MHz NVIDIA Ampere architecture GPU with 1024 CUDA® cores and 32 Tensor cores, and up to 70 TOPS of edge AI inferencing performance. The system's multimedia capabilities include hardware-accelerated H.265 8K video decoding and 4K encoding, HD audio, and support for an HDMI display.

With compact dimensions of just 160.05mm(W) x 66.7mm(H) x 105.2mm(D), the VIA AMOS-9100 system offers a wide variety of I/O and network connectivity options. These include optional LoRa with radio support from 863-930MHz, two Gigabit Ethernet ports with optional added support for PoE, three USB 3.2 ports, two COM RS-232/422/485 ports, a CAN/UART port (supporting 2 UART and 1 CAN), a 12-pin DIO port, a USB 3.2 Gen 1 port for software upgrades, a Micro USB 2.0 OTG port for debugging, a Micro SIM card slot, and a 3.5mm audio jack. Onboard I/O includes two M.2 slots for optionally adding Wi-Fi or 4G/5G connectivity, storage, NPU accelerators, or other devices to the system, and eight DIP (Dual In-line Package) switches for COM RS-232/422/485 selection.

To support Edge AI application development on the VIA AMOS-9100 system, VIA provides Linux JetPack SDK package version 6.1. These SDK packages offer a complete development environment, including an OS image, tools, libraries, APIs, and the flexibility to run any Linux Kernel or Linux-based distros from Jetson ecosystem partners.

1.1 Key Features

- Fanless and rugged design offers exceptional power efficiency, durability, and reliability in harsh industrial environments.
- 2.0GHz NVIDIA Jetson Orin NX Cortex-A78AE hexa-core processor comes with 8GB LPDDR5 memory and delivers up to 70 TOPS of powerful Edge AI inferencing performance.
- Wide voltage and operating temperature support ensures reliable operation across various industrial use-cases.
- Ideal for demanding applications such as Autonomous Mobile Robots (AMRs), Automated Guided Vehicles (AGVs), and deployments requiring advanced machine vision, factory safety, and intelligent inspection.
- 128GB storage provides ample space for data and applications
- 625MHz NVIDIA Ampere Architecture GPU features 1024 CUDA® cores and 32 Tensor cores
- Advanced multimedia capabilities including hardware-accelerated H.265 8K video decoding and 4K encoding, HD audio, and support for an HDMI display.
- Compact dimensions makes the system perfect for space-constrained environments.
- Extensive I/O and network connectivity options including optional LoRa (radio support from 863-930MHz), two Gigabit Ethernet ports with optional added support for PoE, three USB 3.2 ports, two COM RS-232/422/485 ports, a CAN/UART port, a 12-pin DIO port, a Micro SIM card slot, and two M.2 slots.
- Linux JetPack SDK 6.1 provides a complete and flexible Edge AI application development environment.

1.2 System Specifications

Processor

- 2.0GHz NVIDIA Jetson Orin NX Cortex®-A78AE Hexa-Core SoC

System Memory

- 8GB LPDDR5 DRAM

System Storage

- 128GB SSD

Graphics

- NVIDIA Ampere architecture GPU with 1024 CUDA® cores and 32 Tensor cores @ 765MHz
- Graphics engine supporting end-to-end lossless compression, tile caching, OpenGL® 4.6, OpenGL ES 3.2, Vulkan™ 1.10 and CUDA 10
- Supports H.265 video decoding up to 8K@30fps and video encoding up to 4K@60fps

AI Processor

- NVIDIA Deep Learning Accelerator (NVDLA) 2.0 (supports up to 70 TOPS) @ 610MHz
- Programmable Vision Accelerator (PVA) 2.0

Wireless Connectivity

- Optional LoRa (with radio support from 863-930MHz)

Audio

- Realtek ALC5616-CGT High Definition Audio Codec

USB

- VIA VL817-Q7 USB 3.2 Gen1 Hub Controller

Video

- Integrated HDMI 2.0b Transmitter

Ethernet

- Realtek RTL8111H-CG Gigabit Ethernet Transceiver

IMU

- 6-Axis IMU TDK ICM-42607 for navigation

Onboard I/O

- 1 x M.2 M Key for an M.2 M Key 2280 PCIe/NVMe SSD
- 1 x M.2 B Key slot for a 4G LTE/5G mobile broadband module
- 1 x M.2 E Key for a Wi-Fi module
- 1 x RTC battery
- 8 x DIP switches for RS-232/422/485 selection

Front Panel I/O

- 1 x HDMI 2.0 port
- 2 x USB 3.2 Type A ports
- 2 x Gigabit Ethernet ports (supports optional PoE)
- 1 x Micro SIM card slot

- 1 x 3.5mm audio jack (supports Line-out and MIC-in)
- 1 x Power button with LED
- 1 x 2-pole Phoenix DC jack

Back Panel I/O

- 2 x COM ports (supports RS-232/422/485)
- 1 x CAN/UART port (supports 2 UART and 1 CAN)
- 1 x 12-pin DIO port
- 6 x Antenna holes

Right Panel I/O

- 1 x USB 3.2 Gen 1 port (for software upgrade)
- 1 x Micro USB 2.0 OTG port (for debugging)
- 1 x Software Upgrade Button
- 1 x Reset button
- 1 x Ground connector

Left Panel I/O

- 1 x USB 3.2 Type A port
- 1 x Antenna connector

Power Supply

- DC 12 ~ 24V

System Software

- JetPack SDK 6.1

Operating Temperature

- -20°C ~ 60°C

Storage Temperature

- -40°C ~ 85°C

Operating Humidity

- 0 ~ 95% (relative humidity; non-condensing)

Mechanical Construction

- Aluminum alloy metal chassis

Dimensions

- 160.05mm(W) x 66.7mm (H) x 105.2mm (D) (6.30" x 2.62" x 4.14")

Weight

- 1.3kg (3lbs)

Compliance

- CE, FCC, BSMI, UKCA, VCCI

Note:
As the operating temperature provided in the specifications is a result of testing performed in a testing chamber, a number of variables can influence this result. Please note that the working temperature may vary depending on the actual situation and environment. It is strongly recommended to execute a solid testing program and take all variables into consideration while building the system. Please ensure that the system is stable at the required operating temperature in terms of application.

1.3 System Layout

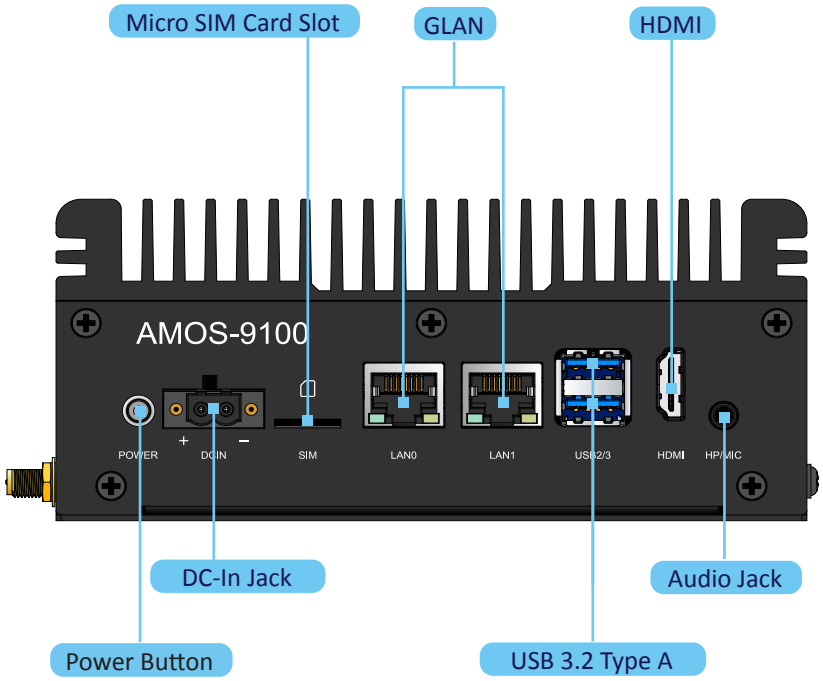

Figure 01: VIA AMOS-9100 system front panel I/O

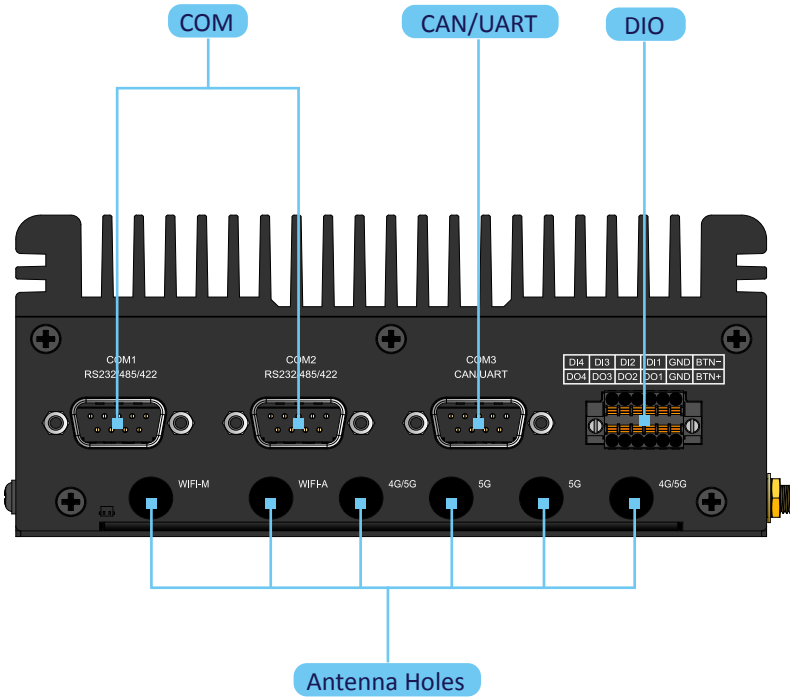

Figure 02: VIA AMOS-9100 system back panel I/O

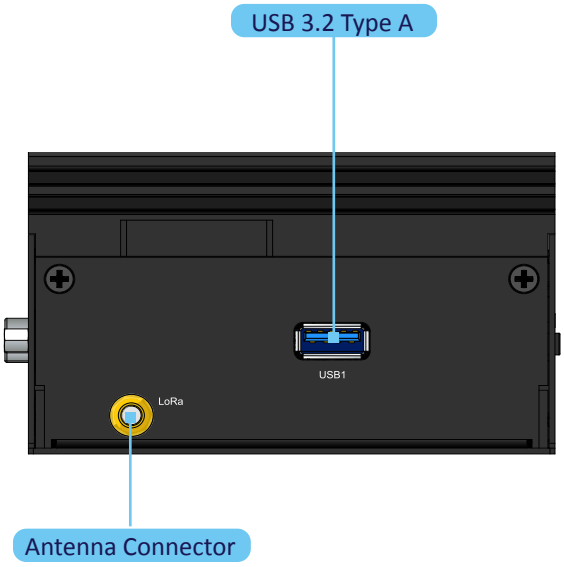

Figure 03: VIA AMOS-9100 system left panel I/O

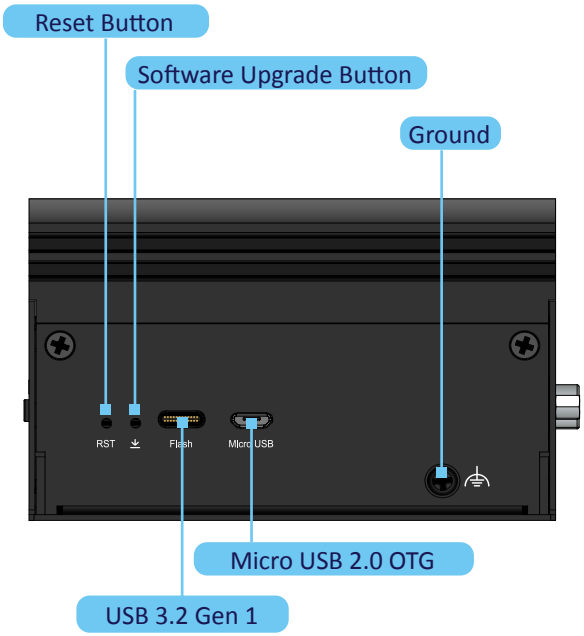

Figure 04: VIA AMOS-9100 system right panel I/O

1.4 System Dimensions

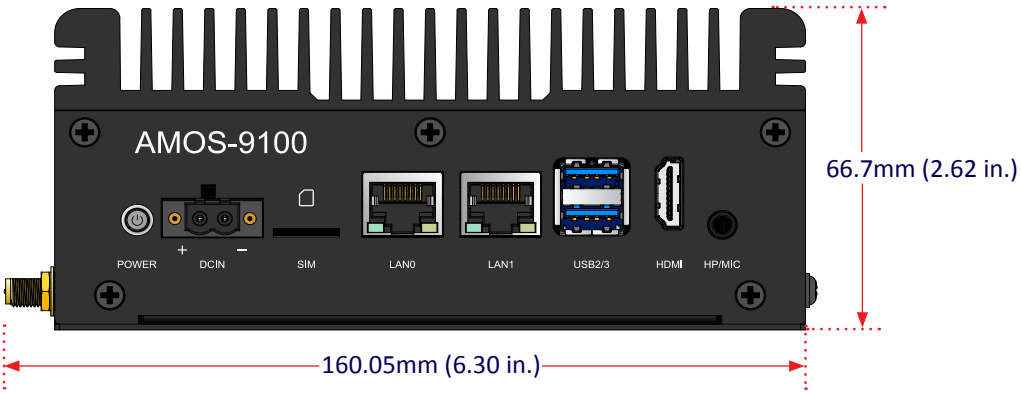

Figure 05: Dimensions of the VIA AMOS-9100 system (front panel I/O)

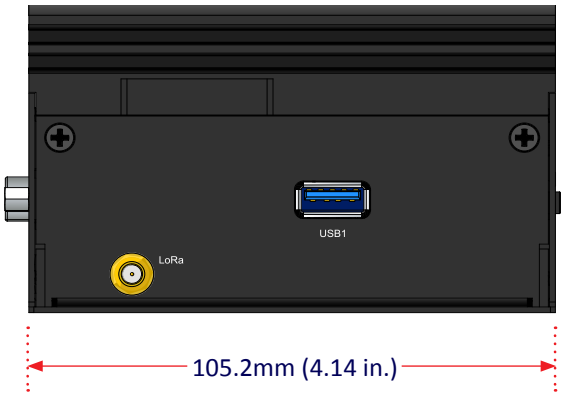

Figure 06: Dimensions of the VIA AMOS-9100 system (left panel I/O)

2. External I/O Pin Descriptions and Functionality

This chapter describes the wide selection of interfaces and ports on the external I/O coastline of the VIA AMOS-9100 system.

2.1 HDMI 2.0 Port

The VIA AMOS-9100 system is equipped with an HDMI port on the front panel, which has a Type A receptacle connector. The port allows connection to High Definition video and digital audio using a single cable. The pinouts of the HDMI port are shown below.

Pin	Signal		Pin	Signal
1	TX2+		11	GND
2	GND		12	TXC-
3	TX2-		13	NC
4	TX1+		14	NC
5	GND		15	DDCSCL
6	TX1-		16	DDCSDA
7	TX0+		17	GND
8	GND		18	+5V
9	TX0-		19	Hot Plug Detect
10	TXC+			

Table 01: HDMI® port pinouts

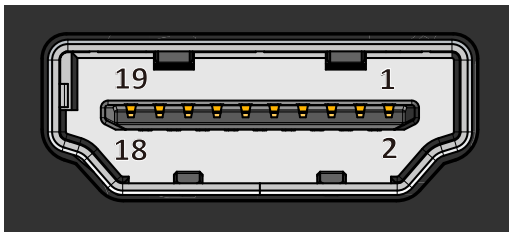

Figure 07: HDMI port diagram

2.2 USB 3.2 Type A Ports

The VIA AMOS-9100 system is equipped with one USB 3.2 Type A port on the left panel labeled 'USB1', and two ports labeled 'USB2' and 'USB3'on the front panel. Each port has a maximum data transfer rate of up to 20Gbps and is backward-compatible with the USB 2.0 specification. The ports also provide complete Plug-and-Play and hot-swap capabilities for external devices. The pinouts of the USB 3.2 Type A ports are shown below.

	USB1	USB2	USB3
Pin	Signal		
1	+5V	+5V	+5V
2	Data1-	Data2-	Data3-
3	Data1+	Data2+	Data3+
4	GND	GND	GND
5	RX1-	RX2-	RX3-
6	RX1+	RX2+	RX3+
7	GND	GND	GND
8	TX1-	TX2-	TX3-
9	TX1+	TX2+	TX3+

Table 02: USB 3.2 Type A ports pinouts

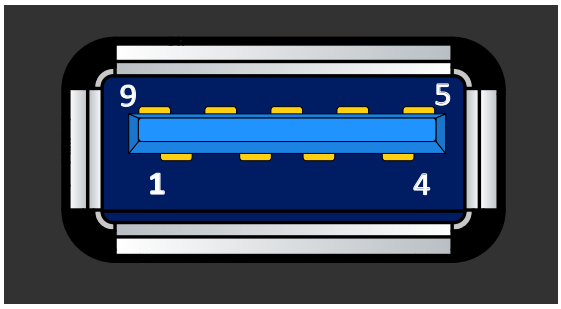

Figure 08: USB 3.2 port diagram

2.3 USB 3.2 Gen 1 Port

The VIA AMOS-9100 system is equipped with a USB 3.2 Gen 1 port labeled 'Flash' on the right panel, to be used for software upgrades. The pinouts of the USB 3.2 Gen 1 port is shown below.

Pin	Signal		Pin	Signal
A1	GND		B1	GND
A2	TX1+		B2	TX2+
A3	TX1-		B3	TX2-
A4	VBUS		B4	VBUS
A5	CC1		B5	CC2
A6	D+		B6	D+
A7	D-		B7	D-
A8	SBU1		B8	SBU2
A9	VBUS		B9	VBUS
A10	RX2-		B10	RX1-
A11	RX2+		B11	RX1+
A12	GND		B12	GND

Table 03: USB 3.2 Gen 1 port pinouts

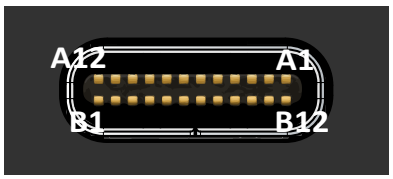

Figure 09: USB 3.2 Gen 1 port diagram

2.4 Gigabit Ethernet Ports

The VIA AMOS-9100 system comes with two Gigabit Ethernet ports labeled 'LAN0' and 'LAN1' on the front panel, which use an 8 Position and 8 Contact (8P8C) receptacle connector commonly known as RJ-45, fully compliant with the IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX), and 802.3ab (1000BASE-TX) standards. If the part number of the VIA AMOS-9100 system is AMOS-9100-2H11A0, the Gigabit Ethernet ports also supports Power-over-Ethernet (PoE).

The pinouts of the Gigabit Ethernet ports are shown below.

	LAN0	LAN1
Pin	Signal	
1	LAN0_TD0+	LAN1_TD0+
2	LAN0_TD0-	LAN1_TD0-
3	LAN0_TD1+	LAN1_TD1+
4	LAN0_TD1-	LAN1_TD1-
5	LAN0_TD2+	LAN1_TD2+
6	LAN0_TD2-	LAN1_TD2-
7	LAN0_TD3+	LAN1_TD3+
8	LAN0_TD3-	LAN1_TD3-
9	TX1+	TX2+

Table 04: Gigabit Ethernet ports pinouts

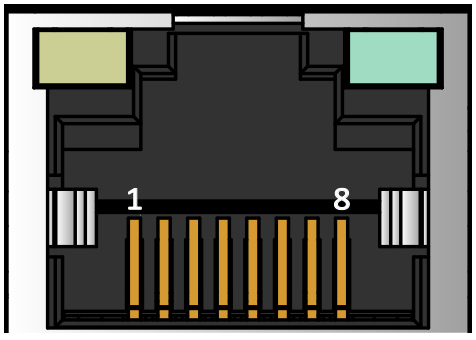

Figure 10: Gigabit Ethernet port diagram

The Gigabit Ethernet ports have two individual LED indicators to show the Link Speed and Active/Link status.

	Link Speed LED (Left LED on RJ-45 port)	Active/Link LED (Right LED on RJ-45 port)
Link off	LED is off	LED is off
Speed_10Mbit	Yellow Flash	LED is off
Speed_100Mbit	Yellow Flash	The Green LED is on
Speed_1000Mbit	Yellow Flash	The Orange LED is on

Table 05: Gigabit Ethernet ports LED color definition

2.5 Micro SIM card Slot

The VIA AMOS-9100 system is equipped with a Micro SIM card slot labeled 'SIM' on the front panel, supporting both 4G LTE and 5G Micro SIM cards (not included). The pin-outs of the Micro SIM card slot are as shown below.

Note:
Micro SIM card usage on the VIA AMOS-9100 system requires that a 4G LTE or 5G mobile broadband module to be be installed in the onboard M.2 B-Key slot to enable 4G LTE or 5G cellular networking functionality.

Pin	Signal
1	VSIM_VCC
2	GND
3	VSIM_RST
4	VSIM_VCC
5	VSIM_CLK
6	VSIM_DATA
7	GND
8	NC

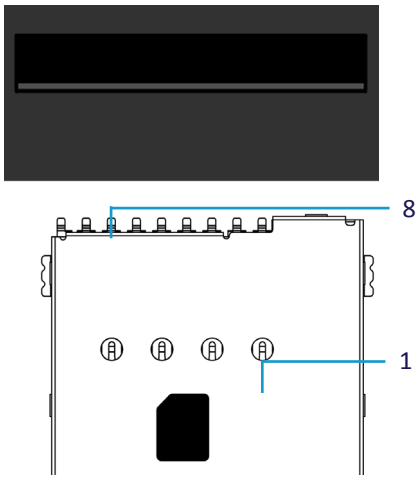

Figure 11: Micro SIM card slot diagram

Table 06: Micro SIM card slot pin-outs

2.6 Audio Jack

The VIA AMOS-9100 system comes with a 3.5mm TRRS High Definition audio jack labeled 'HP/MIC' on the front panel, to be used for connecting an external speaker/headphone and microphone. The diagram of the headphone jack is shown below.

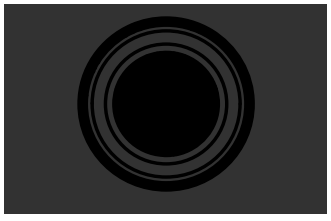

Figure 12: Audio jack diagram

2.7 Power Button with LED

The VIA AMOS-9100 system comes with a power button on the front panel, which features built-in power LED indicators that behave as described below:

Power LED Behavior	
Flashing Red	System is powered ON
Flashing Green	System starts initializing
Solid Green	System is initialized and ready for use
Solid Red	System is powered OFF

Table 07: Power LED behavior description

The diagram of the power button with LED is shown below.

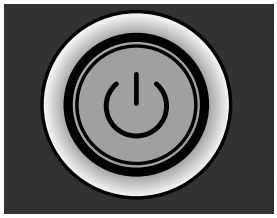

Figure 13: Power button diagram

The default behavior of the VIA AMOS-9100 system is to automatically power ON when connected to a power source. The power button can be used to set the system to power ON, power OFF, suspend or resume states as described below:

Power Button Behavior	
Power ON/OFF	Press the button for 3 seconds to power ON or power OFF.
System Suspend/Resume	In powered on state, quickly press the power button once to suspend. In suspended state, quickly press once to resume.

Table 08: Power button behavior description

2.8 2-Pole Phoenix DC-in Jack

The VIA AMOS-9100 system comes with a 2-pole Phoenix DC-in jack labeled 'DCIN' on the front panel that carries 12~24V DC external power input. The pinouts of the 2-pole Phoenix DC-in jack are shown below.

Pin	Signal
1	GND
2	12~24V DC

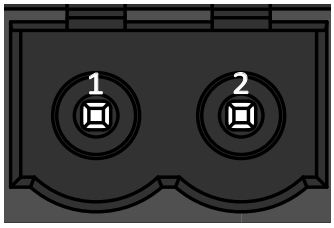

Figure 14: 2-Pole Phoenix DC-in jack diagram

Table 09: 2-Pole Phoenix DC-in jack pinouts

2.9 COM Ports

2.9.1 RS-232/422/485 COM Ports

The VIA AMOS-9000 is equipped with two RS-232/422/485 COM ports labeled 'COM1' and 'COM2' on the back panel, which can be configured in the BIOS settings in RS-232, RS-422, or RS-485 mode. The default setting of the ports is RS-232. The pinouts of the COM ports are shown below.

	RS-232	RS-422	RS-485
Pin	Signal		
1	NC	NC	NC
2	RxD	Rx+	NC
3	TxD	Tx-	TRX-
4	NC	NC	NC
5	GND	GND	GND
6	NC	NC	NC
7	RTS	Tx+	TRX+
8	CTS	RX-	NC
9	NC	NC	NC

Table 10: COM ports pinouts

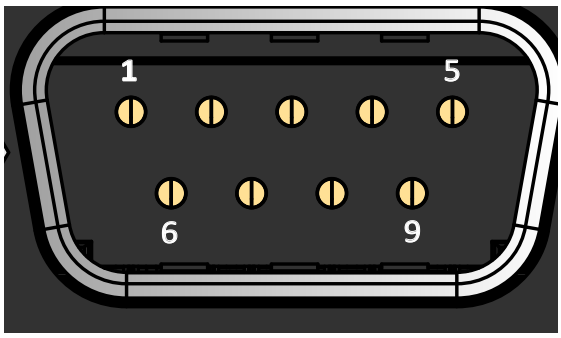

Figure 15: COM port diagram

2.9.2 CAN/UART COM Port

The VIA AMOS-9000 is equipped with a CAN/UART COM port labeled 'COM3' on the back panel, which supports 2 UART and 1 CAN bus connections. The pinouts of the CAN/UART port is shown below.

Pin	Signal
1	U0_TXD
2	CANL_FD
3	DU1_TXD
4	U0_VCC
5	GND
6	U0_RXD
7	CANH_FD
8	U1_RXD
9	U1_VCC

Table 11: CAN/UART port pinouts

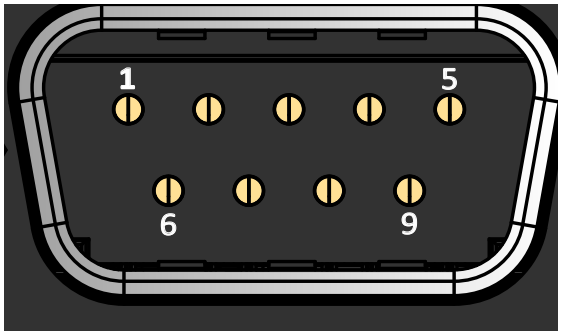

Figure 16: CAN/UART port diagram

2.10 DIO Port

The VIA AMOS-9000 is equipped with a 12-pin DIO port on the back panel, which offers a Digital I/O communication interface to support 8-bit GPIO or power input. The pinouts of the DIO port are shown below.

Pin	Signal
1	BTN-
2	BTN+
3	GND_ISO
4	GND_ISO
5	DI1
6	DO1
7	DI2
8	DO2
9	DI3
10	DO3
11	DI4
12	DO4

Table 12: DIO port pinouts

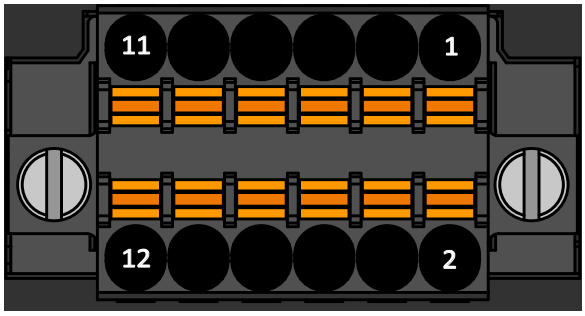

Figure 17: DIO port diagram

2.11 Micro USB 2.0 Port

The VIA AMOS-9100 system is equipped with a Micro USB 2.0 OTG port on the right panel, to be used for debugging. The pinouts of the Micro USB 2.0 port are shown below.

Pin	Signal
1	VBUS
2	D-
3	D+
4	ID
5	GND

Table 13: Micro USB 2.0 port pinouts

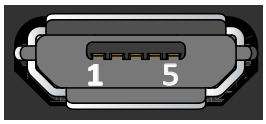

Figure 18: Micro USB 2.0 port

2.12 Software Upgrade Button

The VIA AMOS-9100 system is equipped with a software upgrade button on the right panel. Connecting the Micro USB OTG to a PC and pressing the button enables the software upgrade mode. The diagram of the software upgrade button is shown below.

Figure 19: Software upgrade button diagram

2.13 Reset Button

The VIA AMOS-9100 system comes with a reset button on the right panel, which allows rebooting or resetting the system forcibly. The diagram of the reset button is shown below.

Figure 20: Reset button diagram

2.14 Ground Connector

The VIA AMOS-9100 system comes with a ground connector on the right panel, which allows establishing a secure connection between the system and the earth to protect the system, connected components, and users from electrical hazards. The diagram of the ground connector is shown below.

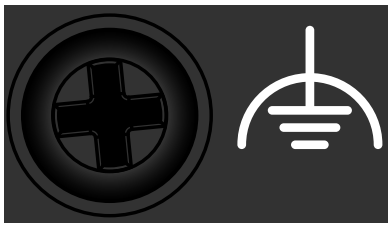

Figure 21: Ground connector diagram

2.15 Antenna Connector

The VIA AMOS-9100 system comes with an antenna connector on the left panel. If the part number of the VIA AMOS-9100 system is AMOS-9100-2H11A0, a LoRa antenna was provided with the system for connecting to this antenna connector.

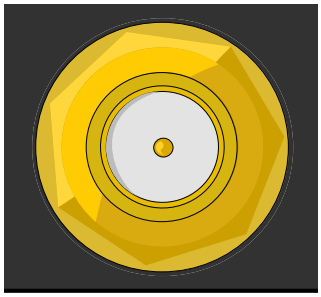

Figure 22: Antenna connector diagram

2.16 Antenna Holes

The VIA AMOS-9100 system comes with six antenna holes on the back panel.

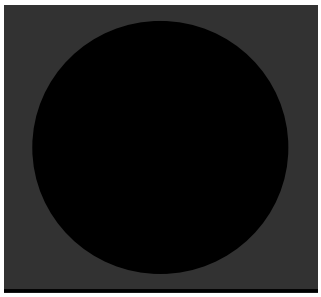

Figure 23: Antenna hole diagram

3. Onboard I/O Descriptions and Functionality

This chapter describes the onboard connectors in the VIA AMOS-9100 system.

3.1 M.2 Slots

The VIA AMOS-9100 system is equipped with a standard M.2 format 3052 key B slot labeled 'MB2' and a standard M.2 format 2230 key E slot labeled 'JWIFI' onboard, which can be used for adding Wi-Fi or 4G/5G connectivity, storage, NPU accelerators or other PCIe devices. The location of the M.2 slots are shown below.

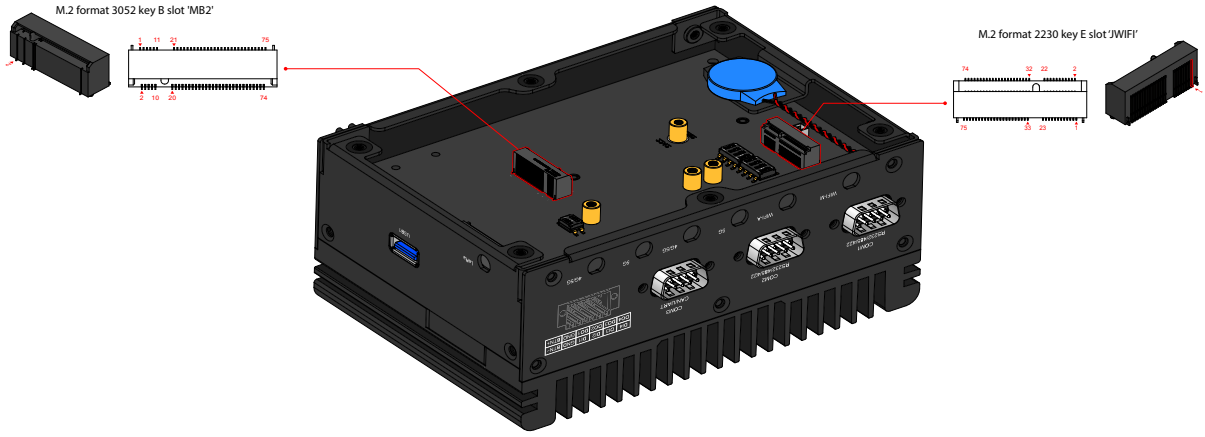

Figure 24: Location of the M.2 slots

3.2 RTC Battery

The VIA AMOS-9100 system is equipped with an onboard CR2032 3V 220 mAh coin RTC battery to provide power to the MCU for maintaining the real-time clock when the DC adapter and lithium-ion polymer battery are absent. The location of the RTC battery is shown below.

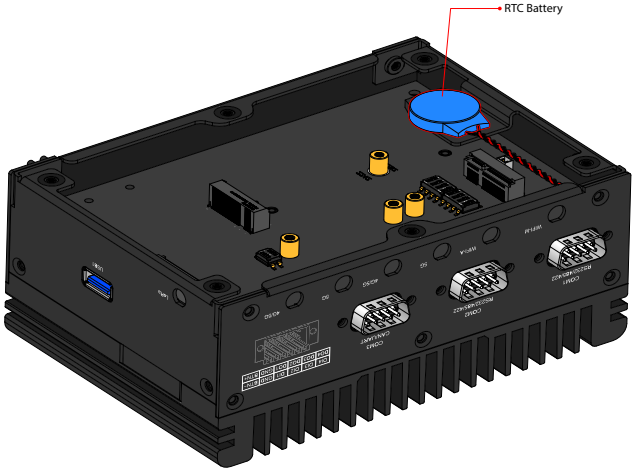

Figure 25: Location of the RTC battery

3.3 Dual In-line Package (DIP) Switches

3.3.1 RS-232/422/485 Selection DIP Switches

The VIA AMOS-9100 system comes with two sets of DIP switches labeled:

- 'SW4' for RS-232, RS-422, or RS-485 mode selection for the 'COM2' port located on the front panel
- 'SW5' for RS-232, RS-422, or RS-485 mode selection for the 'COM1' port located on the front panel

The location of the 'SW4' and 'SW5' sets of DIP switches are shown below.

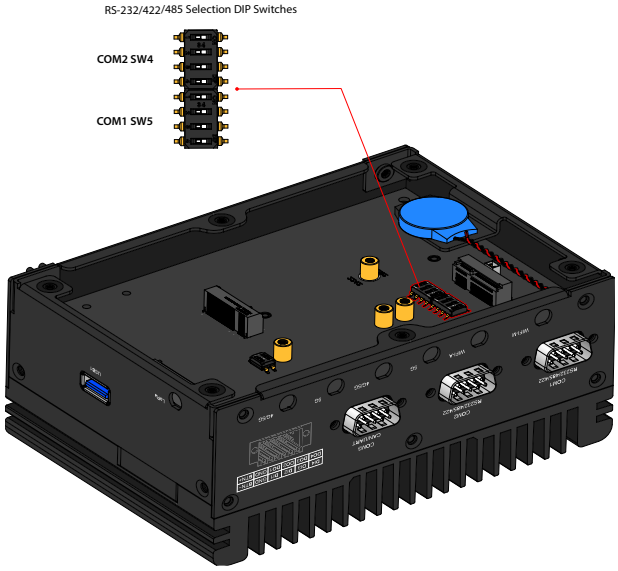

Figure 26: Location of the RS-232/422/485 selection DIP switches

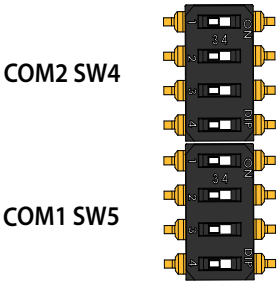

Figure 27: RS-232/422/485 selection DIP switches diagram

'SW4' and 'SW5' DIP switch settings for RS-232, RS-422, and RS-485 mode selection are shown below.

	SW4			SW5		
Switch	**RS-232**	**RS-422**	**RS-485**	**RS-232**	**RS-422**	**RS-485**
1	ON	OFF	OFF	ON	OFF	OFF
2	ON	ON	OFF	ON	ON	OFF
3	ON	OFF	OFF	ON	OFF	OFF
4	ON	OFF	OFF	ON	OFF	OFF

Table 14: RS-232/422/485 selection DIP switches settings

3.3.2 Auto Power ON and Power Button Control DIP Switch

The VIA AMOS-9100 system comes with a set of DIP switches labeled 'SW7' for system auto power ON and power button control.

The location of the 'SW7' power DIP switch set is shown below.

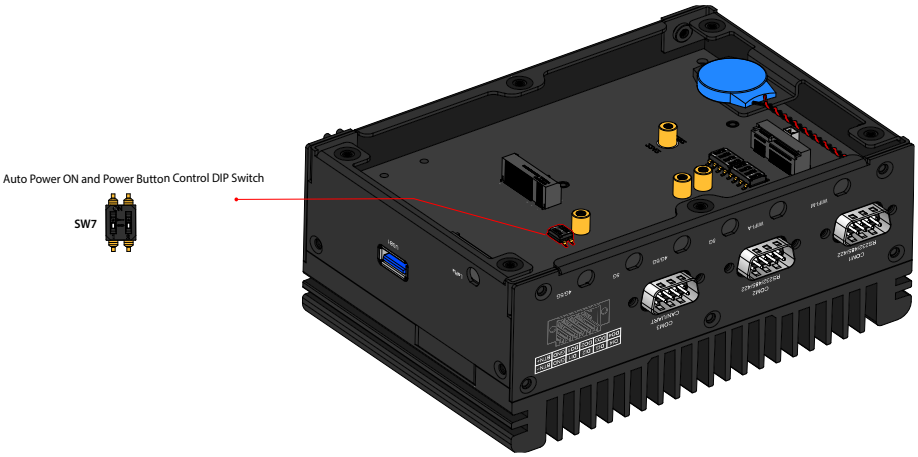

Figure 28: Location of the auto power ON and power button control DIP switch

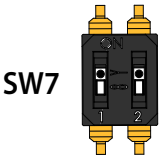

Figure 29: Auto power ON and power button control DIP switch diagram

'SW7' DIP switch settings for system auto power ON and power button control are shown below.

Switch	Auto Power ON	Power Button
1	OFF	ON
2	OFF	ON

Table 15: Auto power ON and power button control DIP switch settings

4. Hardware Installation

4.1 System Installation

Check the following and install the VIA AMOS-9100 system on the target surface:

- The target surface is flat, reliable and away from direct sunlight.
- A power source is available nearby and it supports a 100 ~ 240V AC-to-DC adapter providing power at DC 12V or 24V.
- The environmental temperature is within the -40°C ~ 85°C range and the humidity is within the 0 ~ 95% range (relative and non-condensing).

4.2 Installing the LoRa Antenna

The VIA AMOS-9100 system's standard package (part number: AMOS-9100-2H11A0) includes a LoRa antenna.

Figure 30: LoRa antenna

To install the LoRa antenna on the VIA AMOS-9100 system, follow the steps below:

Step 1

Locate the antenna connector on the VIA AMOS-9100 system's left panel.

Step 2

Gently screw the LoRa antenna on the antenna connector and fold it upwards for the best reception.

Figure 31: Installed LoRa antenna

4.3 Connecting the System to a Power Source

The VIA AMOS-9100 system requires a 12V or 24V DC input power supply. A 2-pole Phoenix plug to DC jack power cable is provided in the VIA AMOS-9100 system's standard package for connecting to a compatible 100 ~ 240V AC-to-DC power adapter. Follow the steps described below to connect the VIA AMOS-9100 system to a power source:

Step 1

Insert the Phoenix plug of the provided power cable into the DC-in jack labeled "DCIN" on the front panel of the VIA AMOS-9100 system.

Step 2

Insert a compatible power adapter's DC connector into the opposite end of the power cable.

Figure 32: Connecting the power cable to the system

Step 3

If the power adapter does not come with a cable or wire for grounding, a grounding wire can be connected between the ground connector located on the right panel of the VIA AMOS-9100 system and a grounding source.

Step 4

Switch ON the power source and press the "POWER" button on the VIA AMOS-9100 system's front panel.

Figure 33: The "POWER" button

5. Software and Technical Support

5.1 Linux JetPack SDK Support

Linux JetPack SDK version 6.1 provides a complete development environment for Edge AI and computer vision application development and deployment on the VIA AMOS-9100 system.

5.2 Technical Support and Assistance

- For utility downloads, the latest documentation, and information about the VIA AMOS-9100 system, please visit our website at https://www.viatech.com/en/edge/via-amos-9100/.
- For technical support and additional assistance, always contact your local sales representative or system distributor, or go to https://www.viatech.com/en/support/drivers/ for technical support.
- For OEM clients and system integrators developing a product for long-term production, other code and resources may also be made available. Visit webpage https://www.viatech.com/en/contact/ to submit a request.

Appendix A Optional Accessories

This chapter describes how to install the optional Wi-Fi 6 module on the VIA AMOS-9100 system.

A.1 Installing the Wi-Fi 6 Module

An optional Wi-Fi module accessory kit is available to provide wireless networking connectivity to the VIA AMOS-9100 system. The kit includes a Wi-Fi 6 module, antenna cables, external antennas. a screw, and two sets of washers and nuts.

Follow the instructions described below to install the Wi-Fi module with antenna:

Step 1

Use a Phillips screwdriver #0 to remove all the screws from the bottom plate of the VIA AMOS-9100 system, then remove the bottom plate.

Step 2

Align the notch on the Wi-Fi module with its counterpart on the M.2 format 2230 key E slot labeled 'JWIFI' on the mainboard, then insert the module at a 30° angle, and align the mounting hole on the Wi-Fi module with the mounting hole-on the standoff.

Step 3

Secure the Wi-Fi module by inserting the screw.

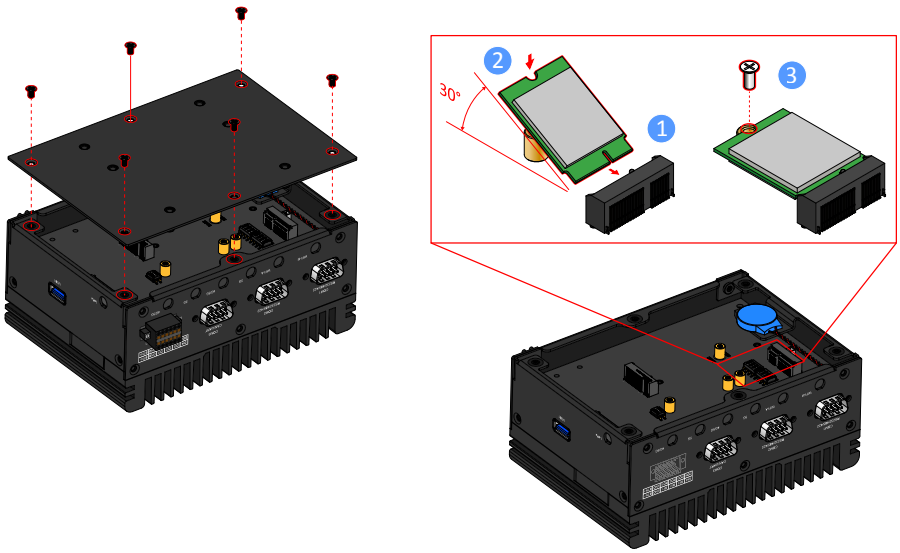

Figure 34: Installing and securing the Wi-Fi module

Step 4

Insert the two antenna cables into any two antenna holes from the inside of the back panel I/O plate.

Step 5

Insert the washers, fasten them with the nuts, and install the external antennas.

Step 6

Connect the other ends of the corresponding antenna cables to the micro-RF connectors (I-PEX) on the Wi-Fi module.

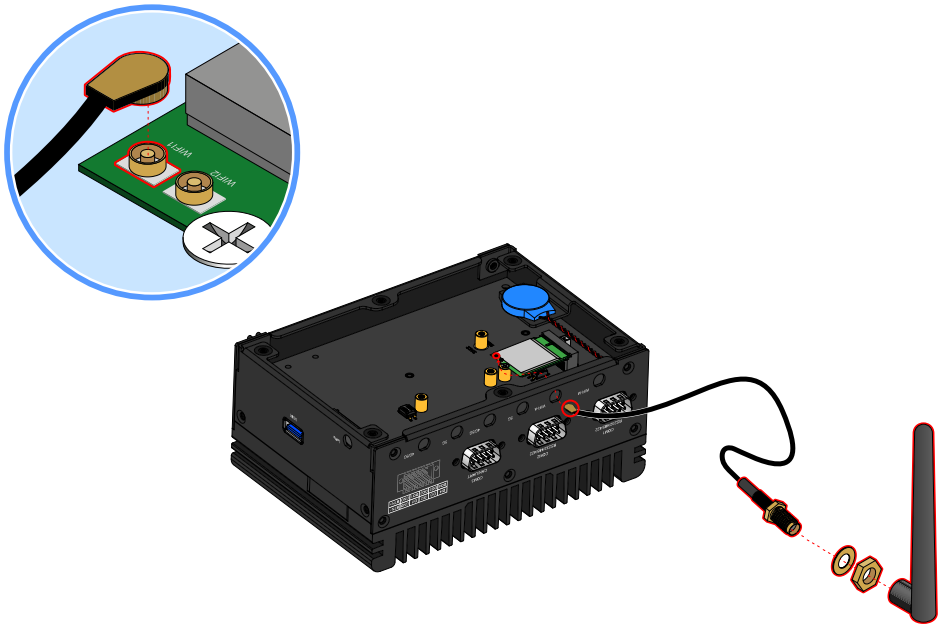

Figure 35: Installing the antennas

Note:
Using a mating/unmating jig is recommended for connecting the antennas to the I-PEX connectors on the Wi-Fi module.

Step 7

Reinstall the bottom plate.

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