

User Manual

EIS-6500A00 Embedded Server



We Vcode provide full support to customers, contact us freely if any questions.

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About This Document

Purpose

EIS6500 Embedded Server is designed and manufactured by Shenzhen VCODE Data Equipment Co., Ltd., it based on Low power consumption computer technology, industrial class quality. With its embedded LAN and Wi-Fi module, it widely used in multiple case like local wired connection, local wireless security connection, etc. This document introduced how to use EIS6500 and its function features.

Related Versions

The following table lists the product versions related to this document.

Model	Version
EIS6500	A00

Organization

Chapter	Description
1	Features of EIS6500 Embedded Server and target market.
2	SW & HW structure of EIS6500 Embedded Server.
3	How to installation of EIS6500 Embedded Server.
4	Prepare to configure EIS6500 Embedded Server.
5	How to configure EIS6500 Embedded Server.
6	Typical application of EIS6500 Embedded Server.
7	Frequently asked questions.

Conventions

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 CAUTION	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 TIP	Indicates a tip that may help you address a problem or save your time.
 NOTE	Provides additional information to emphasize or supplement important points of the main text.

Command Conventions

Convention	Description
Boldface	The keywords of a command line are in boldface.
<i>Italic</i>	Command arguments are in italics.
[]	Items (keywords or arguments) in brackets [] are optional.
{ x y ... }	Optional items are grouped in braces and separated by vertical bars. One item is selected.
[x y ...]	Optional items are grouped in brackets and separated by vertical bars. One item is selected or no item is selected.
{ x y ... } *	Optional items are grouped in braces and separated by vertical bars. A minimum of one item or a maximum of all items can be selected.
[x y ...] *	Optional items are grouped in brackets and separated by vertical bars. Several items or no item can be selected.
&<1-n>	The parameter before the & sign can be repeated 1 to n times.
#	A line starting with the # sign is comments.

GUI Conventions

Convention	Description
Boldface	Buttons, menus, parameters, tabs, window, and dialog titles are in boldface. For example, click OK.
>	Multi-level menus are in boldface and separated by the ">" signs. For example, choose File > Create > Folder.

Keyboard Operations

Format	Description
Key	Press the key. For example, press Enter and press Tab.
Key 1+Key 2	Press the keys concurrently. For example, pressing Ctrl+Alt+A means the three keys should be pressed concurrently.
Key 1, Key 2	Press the keys in turn. For example, pressing Alt, A means the two keys should be pressed in turn.

Mouse Operation

Action	Description
Click	Select and release the primary mouse button without moving the pointer.
Double-click	Press the primary mouse button twice continuously and quickly without moving the pointer.
Drag	Press and hold the primary mouse button and move the pointer to a certain position.

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1 Product Introduce

About this chapter

Chapter	Content
1.1 Overview	Simple introduction of EIS6500 Embedded Server.
1.2 Product Positioning	Product Positioning of EIS6500 Embedded Server
1.3 Function & features	Unique function & features
1.4 Specification	Detail specification of this Server
1.5 FCC statement	FCC Statement

1.1 Overview

EIS6500 Embedded Server based on Freescale IMX.6 lower power consumption technology, it provide up to 100M/1000Mbps local bandwidth and up to 150Mbps Wi-Fi bandwidth. Plus, EIS6500 support three RS232 to connect other devices, and provide four USB2.0 interface to user. This feature makes EIS6500 could maximum the network availability; reduce the possibility of network failure, to avoid the loss caused by network error.

1.2 Product positioning

EIS6500 Embedded Server widely used in Telecom, economic, advertisement, traffic, and environment protection business area.

For example, in economic area, EIS6500 Embedded Server connect device by Local area network, or Wireless network, RS232, USB2.0 to ensure data transmission.

1.3 Function & Features

Function

- LAN/Wi-Fi multiple network mode backup
- Freescale Cortex™-A9 i.MX 6 quad 1GHz
- 1G DDR RAM
- 8G EMMC Storage
- 64G SSD Storage
- Supports LED status indication

1.4 Specification

Interface

- 2×100/1000Mb LAN interface
- 1×10/100Mb WAN interface
- 3× RS-232 port(DB9)
- 1× RS-232 console port(internal 4pin)
- 4× USB2.0
- 1× Micro USB port(OTG)
- 1× RSMA-K antenna interface Wi-Fi
- 1× Standard DC power interface

Power supply

- Voltage: +12VDC

Others

- Dimension: 145mmX103.3mmX29mm (not including antenna)
- Weight: 540g
- Operation temperature: -30~+70℃
- Store temperature: -40~+85℃
- Related humidity: <95% (non-condensing)
- Guarantee: one year

1.5 FCC Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, this equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

2 Product structure

About this chapter

Chapter	Content
2.1 Hardware	EIS6500 Embedded Server hardware.
2.2 Structure	Structure of EIS6500 Embedded Server

2.1 Hardware

2.1.1 Appearance & Size

Appearance

Figure 2-1 EIS6500 Embedded Server



Size

Figure 2-2 EIS6500 Embedded Server

Model	Dimension (mm)	Interface
EIS6500 Embedded Server	145mX103.3X29	2×100/1000Mb LAN interface 1×10/100Mb WAN interface 2× RS-232 port(DB9) 1× RS-232 console port(DB9) 4× USB2.0 1× Micro USB port(OTG) 1× RSMA-K antenna interface Wi-Fi 1× Standard DC power interface

EIS6500 Embedded Server appearance as Figure 2-3

Figure 2-3 EIS6500 Embedded Server Figure

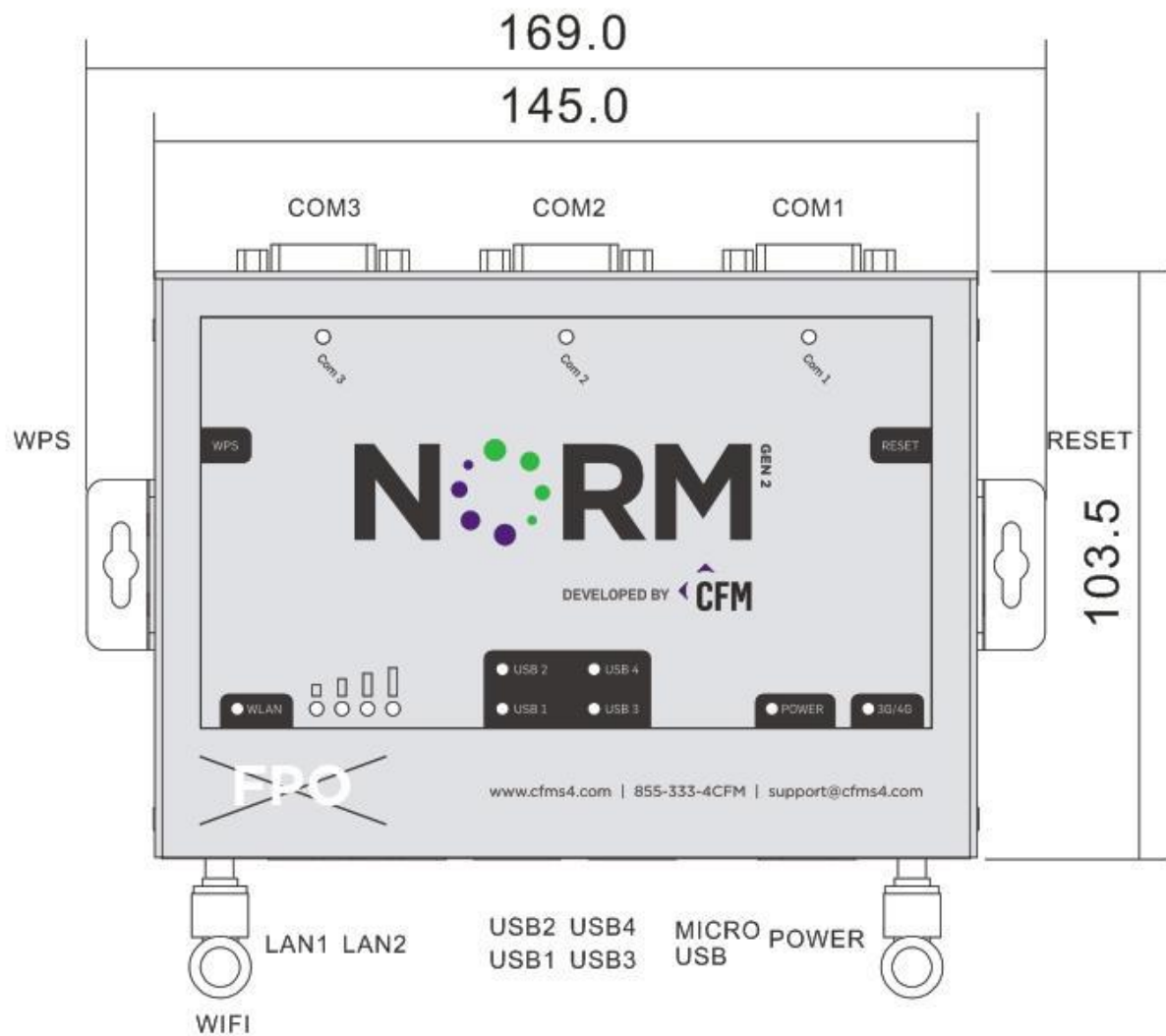
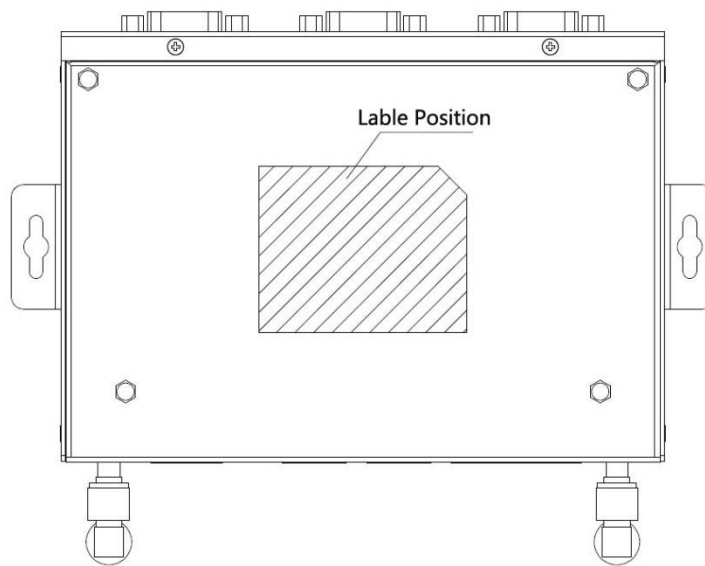


Figure 2-4 EIS6500 Embedded Server bottom view



2.1.2 Accessories

Table 2-1 EIS6500 Embedded Server accessories

Accessories name	Number	Note
EIS6500 Embedded Server	1 pcs	
CD-ROM	1 pcs	Optional
Wi-Fi antenna	1 pcs	2.4G
RJ45 cable	1 pcs	
Mounting	1 pair	
Certificate and warranty card	1 pcs	
+12V power adapter	1 pcs	

2.2 Structure

Figure 2-5 Front panel

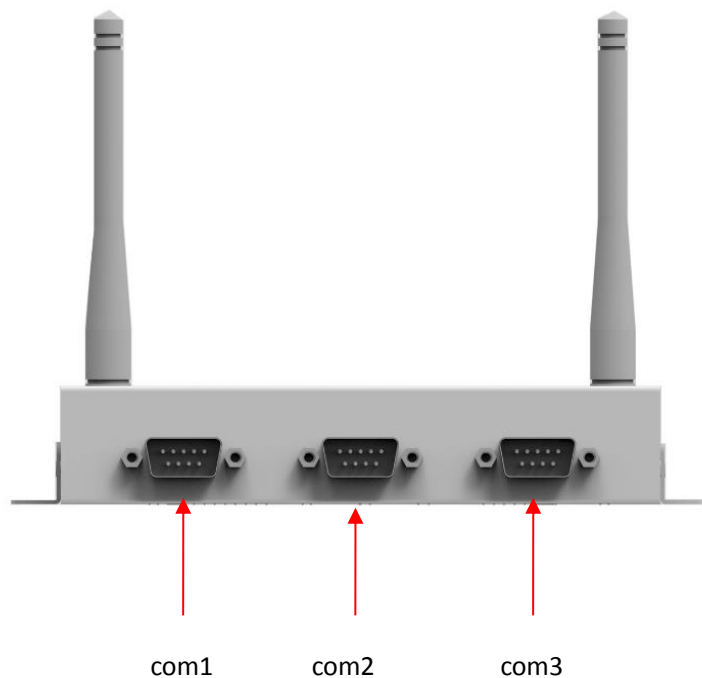
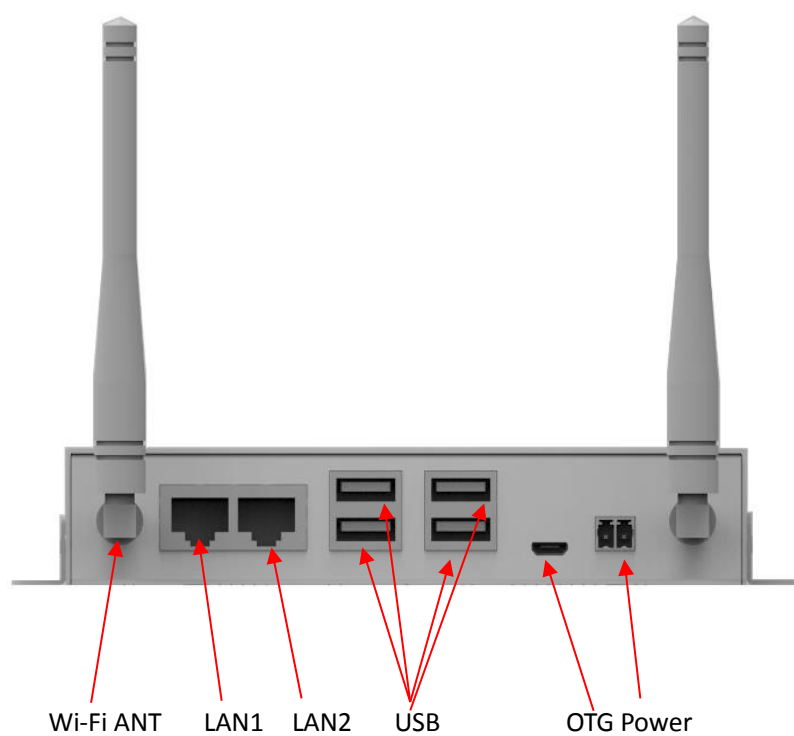


Figure 2-6 Back panel



3

Installation of EIS6500 Embedded Server

About this chapter

Chapter	Content
3.1 Unpacking	Unpack EIS6500 Embedded Server box and the packing list.
3.2 How to install	How to install EIS6500 Embedded Server Ethernet cable .etc.
3.3 Power supply	Power supply needs of EIS6500 Embedded Server.
3.4 Review	Review

3.1 Unpacking

After received the box of EIS6500, please unpack it and check if all accessories complete.
Please check as reference.

3.2 How to install

3.2.1 Ethernet cable connection

Use Ethernet port directly connect EIS6500 Embedded Server and computer, or transferred by a switch.

3.2.2 Serial port connection.

When you connect EIS6500 Embedded Server to serial port on laptop or other device. To do this you need a serial port cable, this cable is optional. One end connect to computer serial port, other end connect the console port on EIS6500

**CAUTION**

- This port for other application, not for Console.
-

3.3 Power supply

EIS6500 Embedded Server adapt voltage input: +12VDC, support hot plug and complex application environment.

3.4 Review

After connect Ethernet cable, necessary antenna, then connect power cable.

**CAUTION**

Please connect antenna before connect power cable, otherwise because of Impedance mismatching, signal maybe poor.

Notice

Step 1 Check antenna connection.

Step 2 Power on EIS6500 Embedded Server, take it as a example:

- After connect power, Power LED solid light, means server system start.
- After connect usb1/2/3/4, USB1/2/3/4 LED solid light, means USB found the device.
- After connect com1/2/3, com1/2/3 LED blinking quickly means data transmission start.
- After connect Access Point, WLAN LED solid light, and Signal led shows the signal level.

4 Before configure

About this chapter

Chapter	Content
4.1 LED Status	The meaning of LED status.
4.2 Local configure	How to local configure EIS6500 Embedded Server.

4.1 LED Status

There are LED on front panel of EIS6500 Embedded Server, they show how EIS6500 Embedded Server works.

Table 4-1 LED instruction

LED name	Status
Power	• GREEN - Power on • Green flashes - System running well. • OFF - no power supplied • RED- some wrong happened
WLAN	• AMBER flashes - RX/TX packets on the WLAN • OFF - WLAN interface is inactive • RED- some wrong happened
WLAN signal	• 4 Green light - ≥ -65 dBm • 3 Green light - $-70 \sim -65$ dBm • 2 Green light - $-75 \sim -70$ dBm. • 1 Green light - $-80 \sim -75$dBm. • All Off - ≤ -80 dBm.
USB1~4	• GREEN - light when a USB device is connected. • GREEN FLASH – DATA RX/TX THROUGH THE USB device. • OFF - no USB device connected.

LED name	Status
COM1~3	• GREEN flashes - RX data • AMBER - TX data • OFF - no TX/RX data Blinking quickly(2s): dialing • Dark: No module or no auto-dial

4.2 Local configure

Precondition

- Already power on EIS6500 Embedded Server
- Ethernet cable connect to EIS6500 Embedded Server

You could specify a static IP or DHCP get IP for your computer.

Console port

For network server, this device do not supply VGA/HDMI/DVI etc. display port. But this server supply console port using com1.

Connect com1 using RS232 cable to computer, and run terminal application, power EIS6500, you can login as normal user or root. For example:

Login: linaro

Password: linaro

\$sudo root

#

5 FAQ

About this chapter

Chapter	Content
5.1 Hardware failure	Possible hardware failure during using EIS6500 Server and how to handle them.

5.1 Hardware Failure

5.1.1 All LED dark

Phenomenon

Server LED all dark.

Possible Reason

- Power supply does not match, it should be 12VDC
- No power supply

Solution

- Make sure the power supply is 12VDC
- Check the power adapter and cable connection.

5.1.2 Ethernet Connection

Phenomenon

LAN LED dark

Possible Reason

- Ethernet cable connection problem
- Ethernet cable damage
- PC end network card abnormal

Solution

- Re-connect Ethernet cable
- Change a Ethernet cable
- Check network card setting on PC end

5.1.3 Antenna Connection

Phenomenon

Cannot connect antenna

Possible Reason

- Antenna type do not match
- Wrong connection

Solution

- Please check antenna interface, should be R-SMA
- Please check antenna type, there are WI-FI, do not mix them.

5.1.4 No Signal

Phenomenon

EIS6500 WLAN signal led status show no signal.

Possible Reason

- Antenna connect wrong

Solution

- Connect suitable antenna
- Check if connect to Access Point with correct account and password



When Server is power on, press and hold RESET button around 1s, server will reboot and kept all setting.

