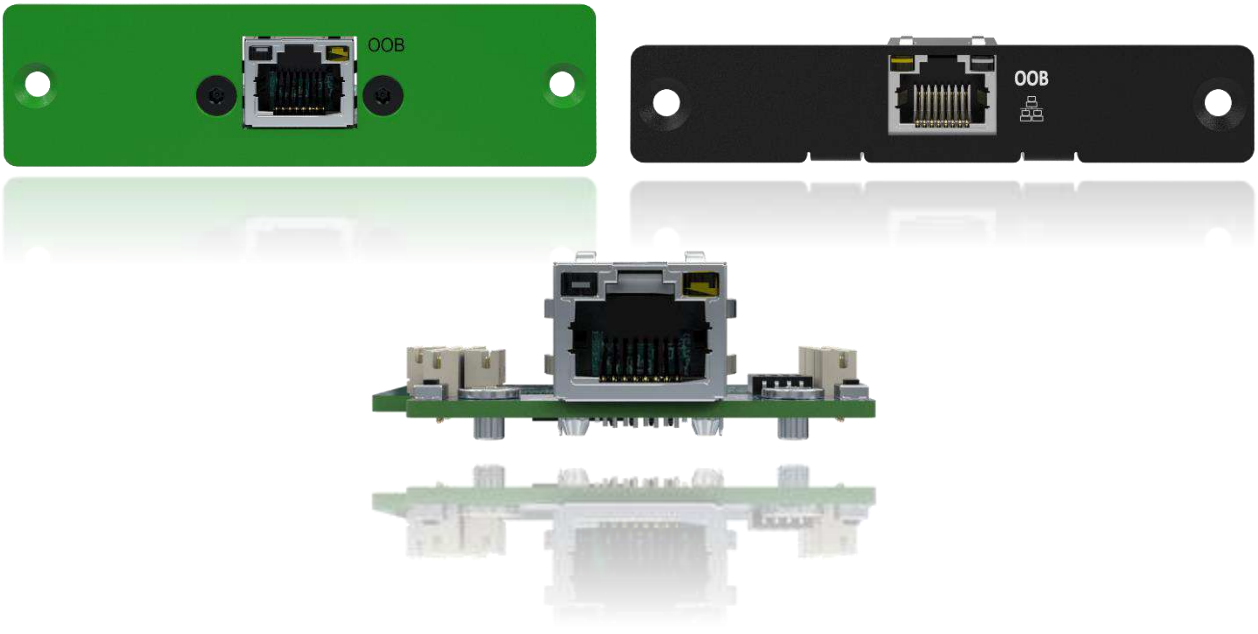
USER'S MANUAL

Remote Management Modules



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Revision

Revision	Description	Date
1.0	Manual Released	2025/7/14
2.0	Remote Management User Manual Revision	2026/6/3

Disclaimer

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Environmental Protection Announcement

Do not dispose this electronic device into the trash while discarding. Please recycle to minimize pollution and ensure environment protection.

Safety Precautions

Before installing and using the equipment, please read the following precautions:

- Always unplug power sources before servicing or cleaning.
- Avoid the dusty, humidity and temperature extremes.
- Do not place heavy objects on the equipment.
- The storage temperature shall be above -40°C and below 85°C.
- Replace only with the same or equivalent type of components recommended by the manufacturer.
- If one of the following situation arises, get the equipment checked be service personnel:
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work well or it cannot work according the user's manual.
    - The equipment has been dropped and damaged.
    - The equipment has obvious signs of breakage.

Technical Support and Assistance

1. Visit the Premio Inc website at www.premioinc.com where you can find the latest information about the product.
2. Contact your distributor, our technical support team or sales representative for technical support if you need additional assistance. Please have following information ready before you call:
   - Model name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

Conventions Used in this Manual

WARNING This indication alerts operators to an operation that, if not strictly observed, may result in severe injury.

CAUTION This indication alerts operators to an operation that, if not strictly observed, may result in safety hazards to personnel or damage to equipment.

NOTE This indication provides additional information to complete a task easily.

Chapter 1

Product Introduction

1.1 Overview

In today's connected world, maintaining seamless operations at the edge is more critical than ever. Remote Management technology ensures continuous monitoring and management of your systems, even during unforeseen disruptions. Whether it's for edge AI, IoT applications, or industrial automation, our solutions provide the reliability and control you need to prevent costly downtimes in 24/7 mission critical computing.

1.2 Specification

Specifications	
MCU	Nuvoton NUC980DR63YC
SDRAM	Built-in 64MB DDR2 SDRAM Memory (16KB data cache)
I/O	
LAN	1x RJ45 (10/100 Mbps)
Others	
On-board LED	LED Indicator Light • LED1: Power LED (Color: Blue) • LED2: MCU Activated LED (Color: Green) • LED3: Allxon Service Activated LED (Color: Yellow)
DIP Switch	4x2 DIP Switch for General Setting • USB or SPI Flash Switching • Wi-Fi or Debug Switching
Environments	
Operating Temp.	-40°C to 85°C
Storage Temp.	-40°C to 85°C
Relative Humidity	10% to 95% (non-condensing)
Protection	1.5KV
Standards & Certifications	UL, CE, FCC

Chapter 2

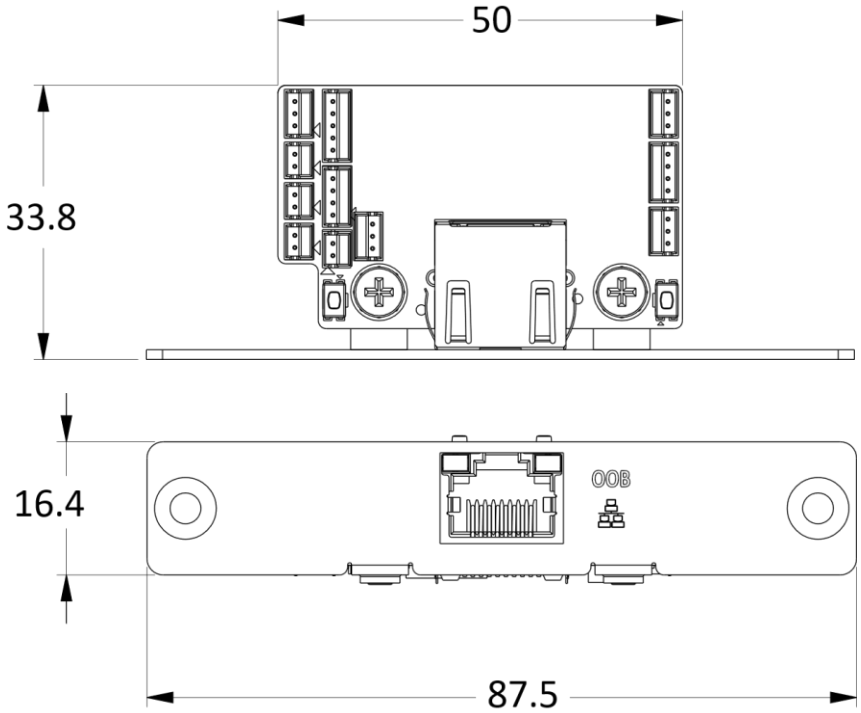
Mechanical Specifications

2.1 Hardware Overview

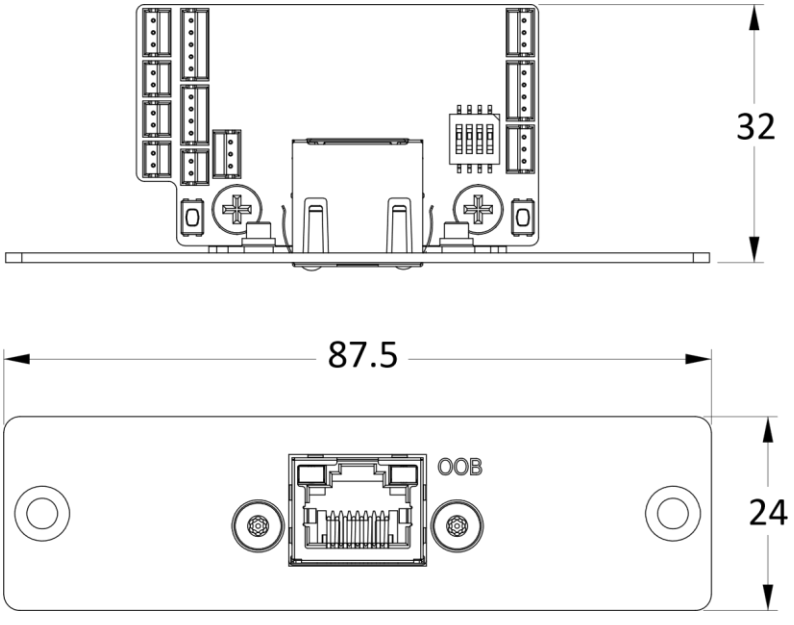
2.1.1 Mechanical Dimension

(mm)

EBIO-OOB

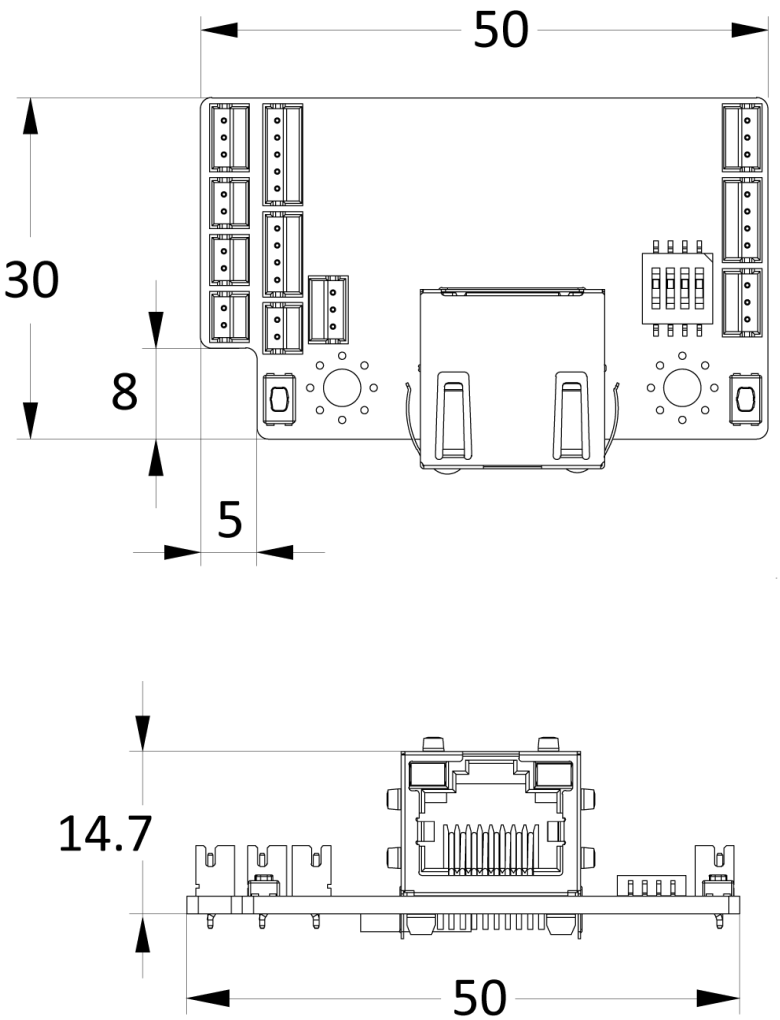


EBIO-OOB-J (JCO Series)



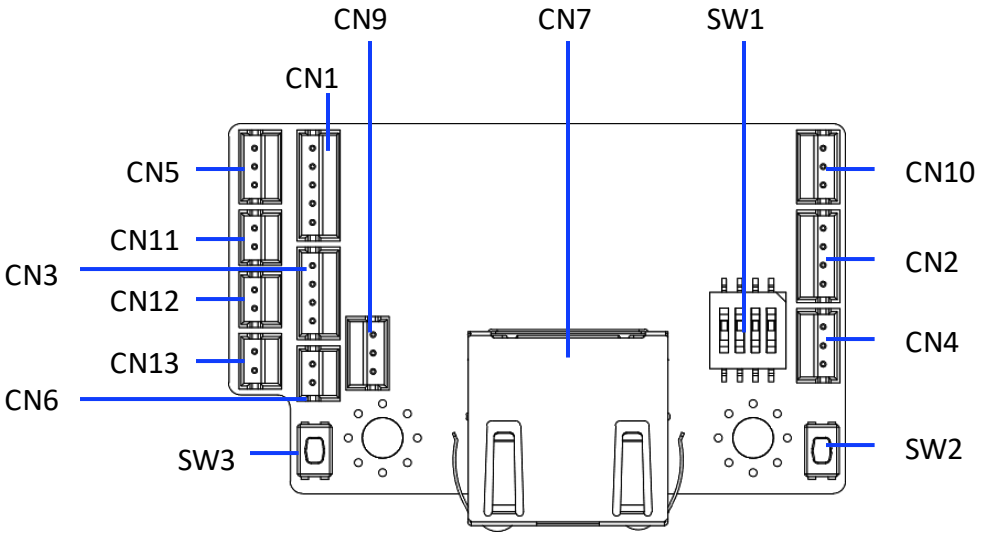
EBIO-OOB-I

(mm)

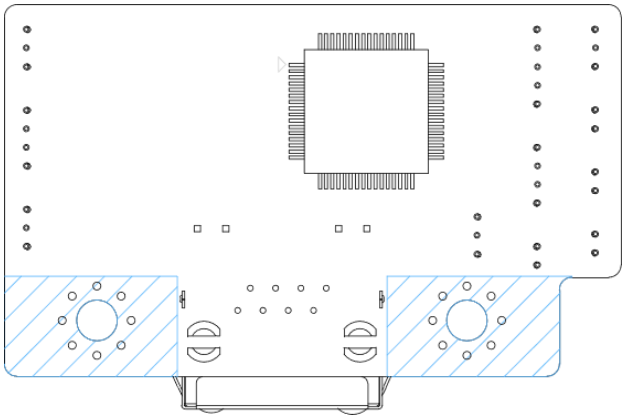


2.1.2 Mechanical Layout

Top Side



Bottom Side



2.1.3 Connector Location / Definition

Connector Location	Definition
CN5	Buzzer Connector
CN11	NVMe Recovery Connector
CN12	Reserved Pin Connector
CN13	Case Open Connector
CN1	OOB Connector
CN3	I2C Connector
CN6	Case Open Connector
SW3	OOB Reset Tact Switch

Connector Location	Definition
CN9	MCU Debug Connector
CN7	10/100 Mbps LAN Port
SW1	General Setting DIP Switch
CN10	Auto Link Connector
CN2	USB Connector
CN4	Pass Though TTL Connector
SW2	OOB Config Restore Tact Switch

Chapter 3

Premio EDGEBoost OOB - Feature Overview

3. Premio EDGEBoost OOB Feature Overview

This chapter provides an overview of the Premio EDGEBoost OOB management functions and setup procedures. Through the Premio EDGEBoost OOB Graphical User Interface (GUI), users can remotely monitor, configure, and manage supported devices over a network connection.

The Premio EDGEBoost OOB GUI provides access to the following remote management functions:

- View Event Logs
- Control Device Power Operations
- Reboot the OOB Controller
- Remote Console Access
- Access Network Configuration
- Update the OOB Firmware

3.1 Access the Premio EDGEBoost OOB Graphical User Interface (GUI)

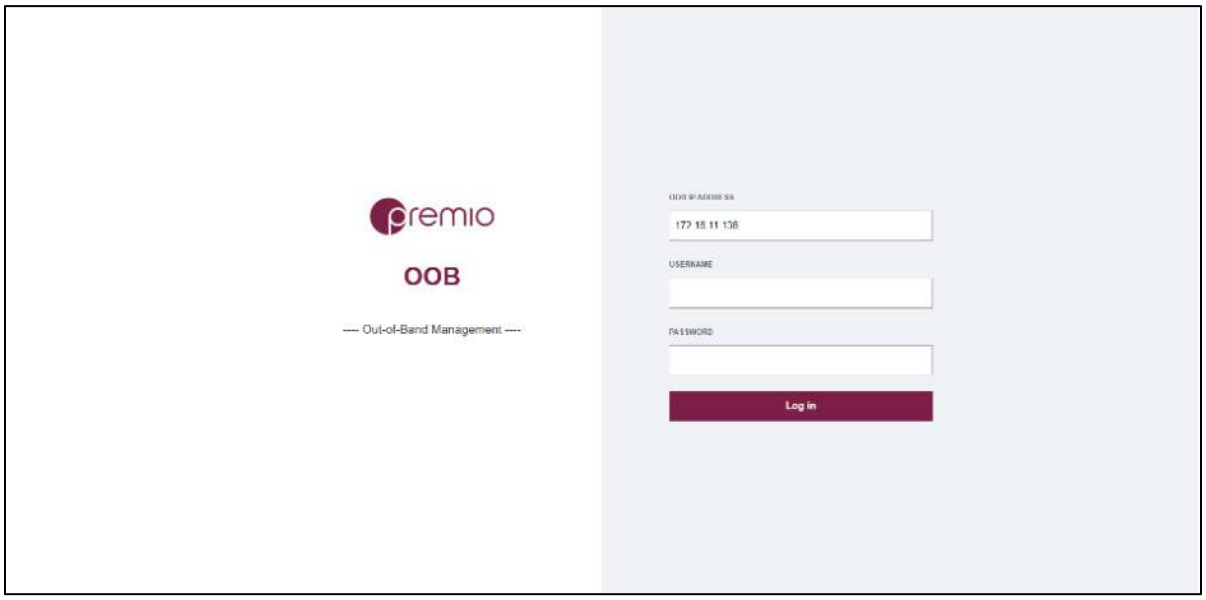
Use the following procedure to connect to the Premio EDGEBoost OOB GUI through HTTPS.

1. **Open a web browser.**
2. **Enter the following address:**

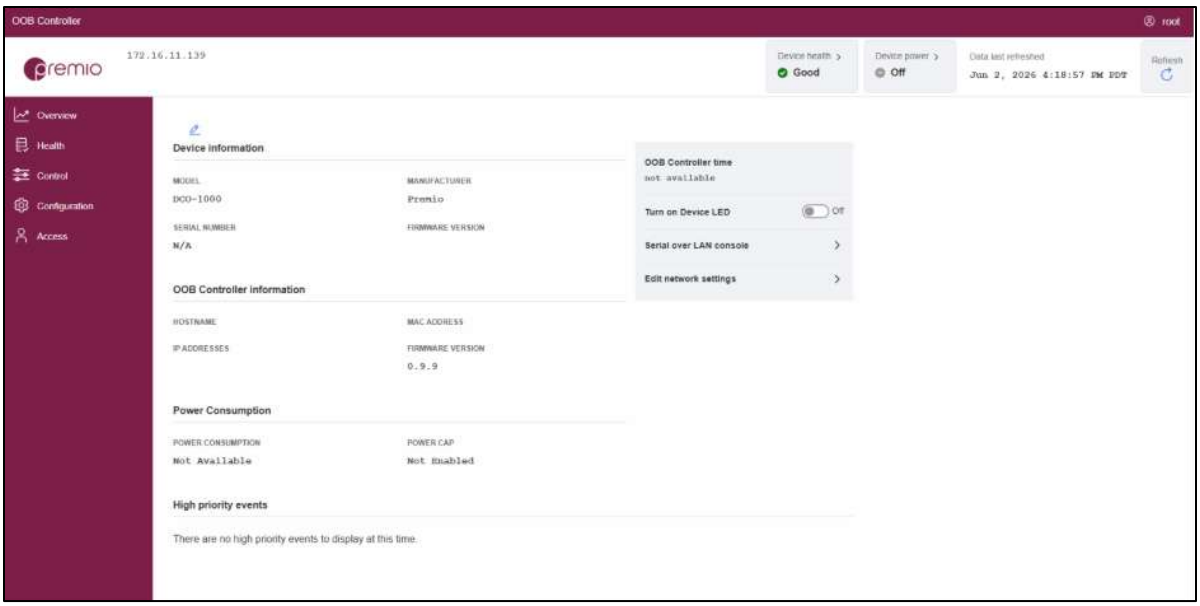
   https://<BMC_IP>/

   Replace <BMC_IP> with the actual IP address of the Premio EDGEBoost OOB module.
3. **Enter the OOB credentials:**

- Username: root
- Password: password



4. **Click Login to access the Premio EDGEBoost OOB GUI.**



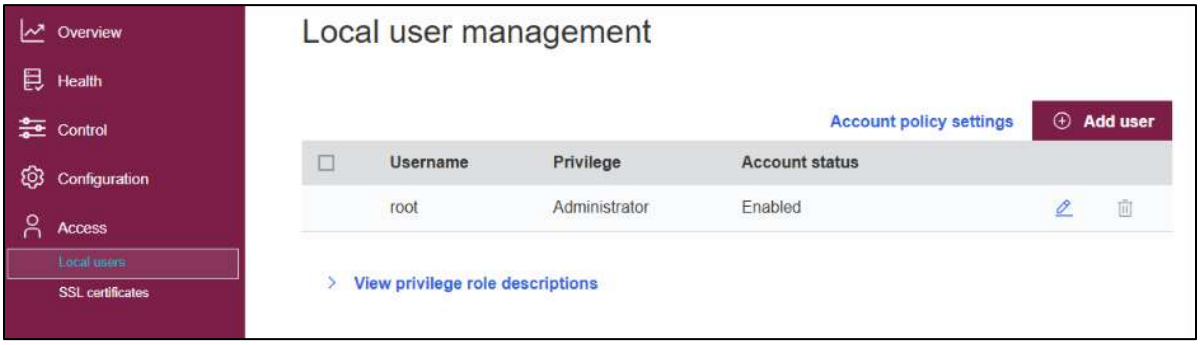
After successfully logging in to the Premio EDGEBoost OOB GUI, Premio recommends changing the default login password for security purposes before using additional remote management functions.

3.2 Change the Default Password

Use the following procedure to change the default password.

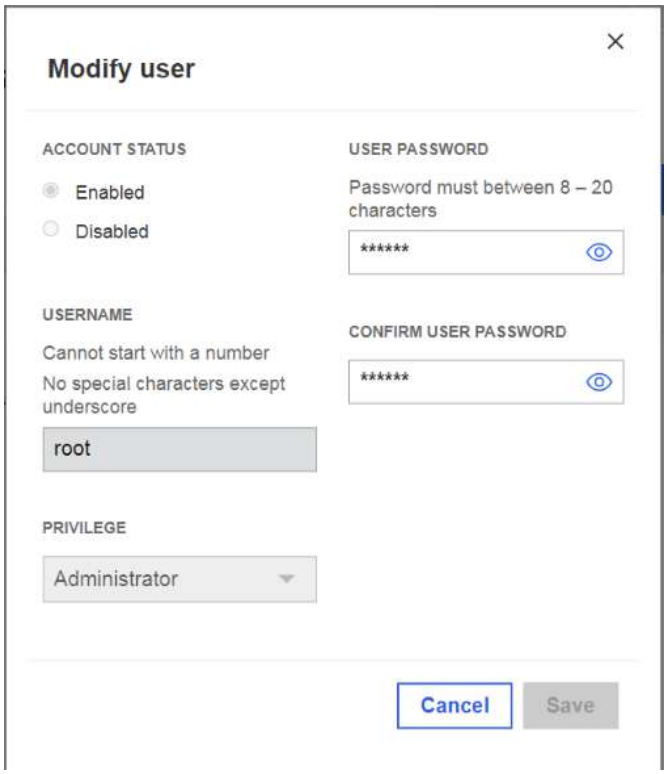
1. **In the Premio EDGEBoost OOB GUI, go to:**

   Access > Local Users



2. **Select** .

3. **Enter a new password.**



4. **Click Save.**

CAUTION: Store the updated password in a secure location. Losing the OOB login credentials may require manual recovery procedures.

After completing the initial login and security configuration, users can access additional remote management, monitoring, and troubleshooting functions through the Premio EDGEBoost OOB GUI, including event logs, device power operations, Serial over LAN (SOL) console access, OOB Controller firmware updates, and network configuration.

3.3 View Event Logs

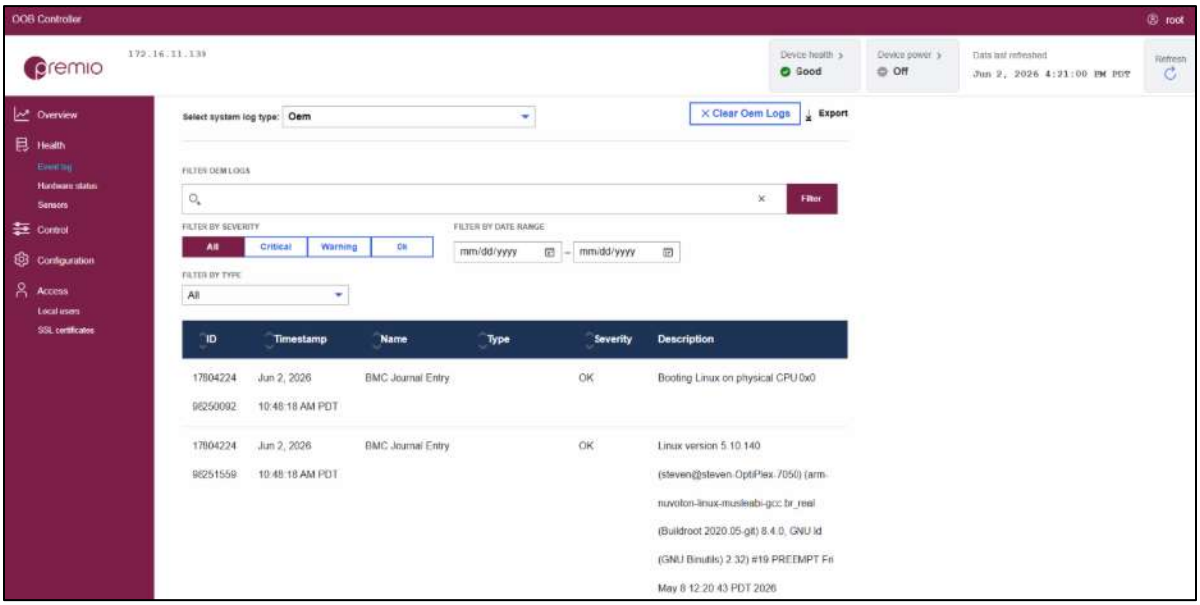
Event logs provide diagnostic and system activity records for monitoring and troubleshooting the OOB controller and host device. Users can review logged system events, filter log entries, and export log data through the OOB GUI.

Use the following procedure to view OEM event logs.

1. **In the Premio EDGEBoost OOB GUI, go to:**

   Health > Event Log

2. **Under Select system log type, select OEM from the dropdown menu.**
3. **View the available event log entries.**
4. **(Optional) Use the date range filter to view log entries within a specific time period.**
5. **(Optional) Click Export to export the event log data.**



3.4 Control Device Power Operations

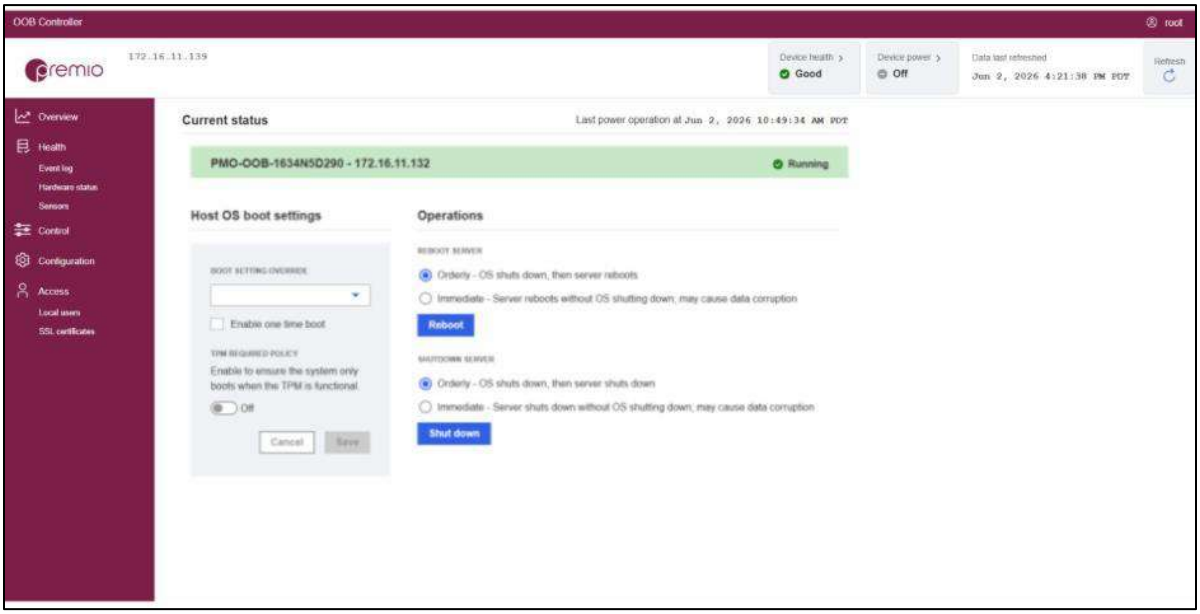
Remote power management functions allow users to monitor the device power status and remotely control power operations through the OOB management interface, even when the operating system becomes unresponsive.

3.4.1 View Device Power Status

The Device Power status indicator displays the current operational state of the host device, allowing users to quickly verify whether the device is powered on and running.

Use the following procedure to view the device power status.

1. **Locate the Device Power status indicator at the top-right corner of the dashboard.**
2. **View the current device power status.**
    - Running indicates the host device is powered on and operating normally.
    - Other status conditions may appear depending on the current power state of the device.



3.4.2 Reboot the Device

Use the following procedure to reboot the device remotely.

1. **In the Premio EDGEBoost OOB GUI, go to:**

   Control > Device Power Operation

2. **Select one of the available reboot options.**
3. **Click Reboot.**

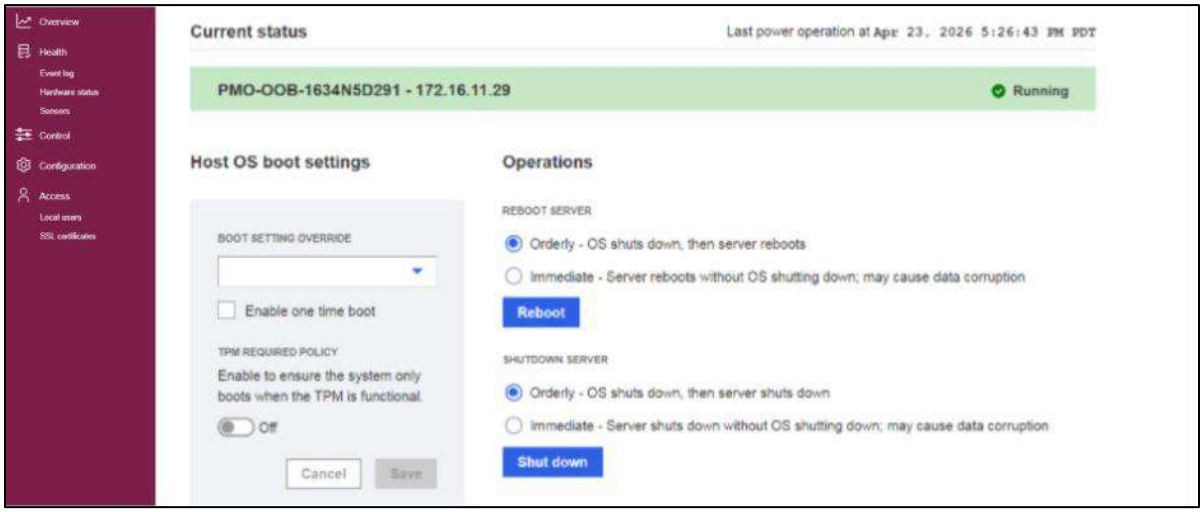
3.4.3 Shut Down the Device

Use the following procedure to remotely shut down the device.

1. **In the Premio EDGEBoost OOB GUI, go to:**

   Control > Device Power Operation

2. **Select one of the available shutdown options.**
3. **Click Shut Down.**



3.4.4 Device Always ON

The Device Always ON function allows the host device to automatically power on after an unexpected power loss or shutdown event. This function helps improve system availability for remote and unattended edge deployments.

Device Always ON is implemented through command-based or code-based configuration and is NOT configured directly through the Premio EDGEBoost OOB GUI. **Users may implement this function through their own development methods or contact Premio for reference code examples and implementation guidance.**

For the Device Always ON demonstration, please see the following URL:

- https://www.youtube.com/watch?v=QkekS_-l1Ds

3.5 Reboot the OOB Controller

The Reboot OOB Controller function allows users to remotely restart the Premio EDGEBoost OOB controller without rebooting the host device. This function can be used to recover the OOB management service if the GUI becomes unresponsive or requires reinitialization.

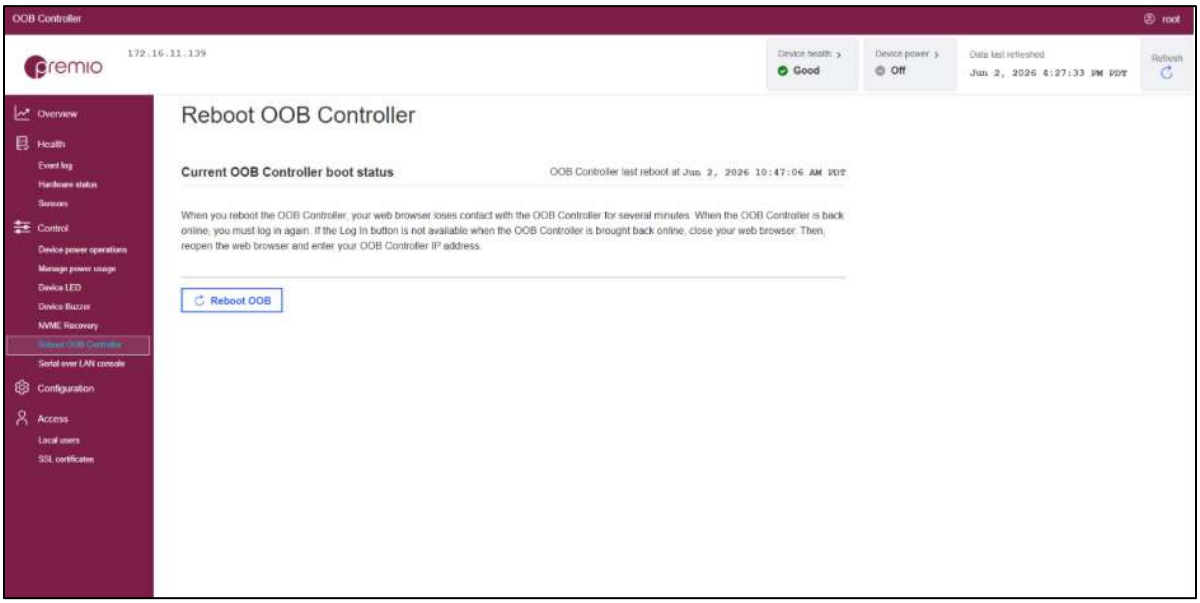
Use the following procedure to reboot the OOB controller.

1. **In the Premio EDGEBoost OOB GUI, go to:**

   Control > Device Power Operation

2. **Click Reboot OOB Controller.**

NOTE: Rebooting the OOB controller does not reboot the host device.



3.6 Remote Console Access

Remote console access functions provide low-level device management and troubleshooting capabilities through the Serial over LAN (SOL) console. Users can remotely interact with the device's serial interface and access the BIOS setup utility on supported devices without requiring local peripherals.

3.6.1 Use the Serial over LAN (SOL) Console

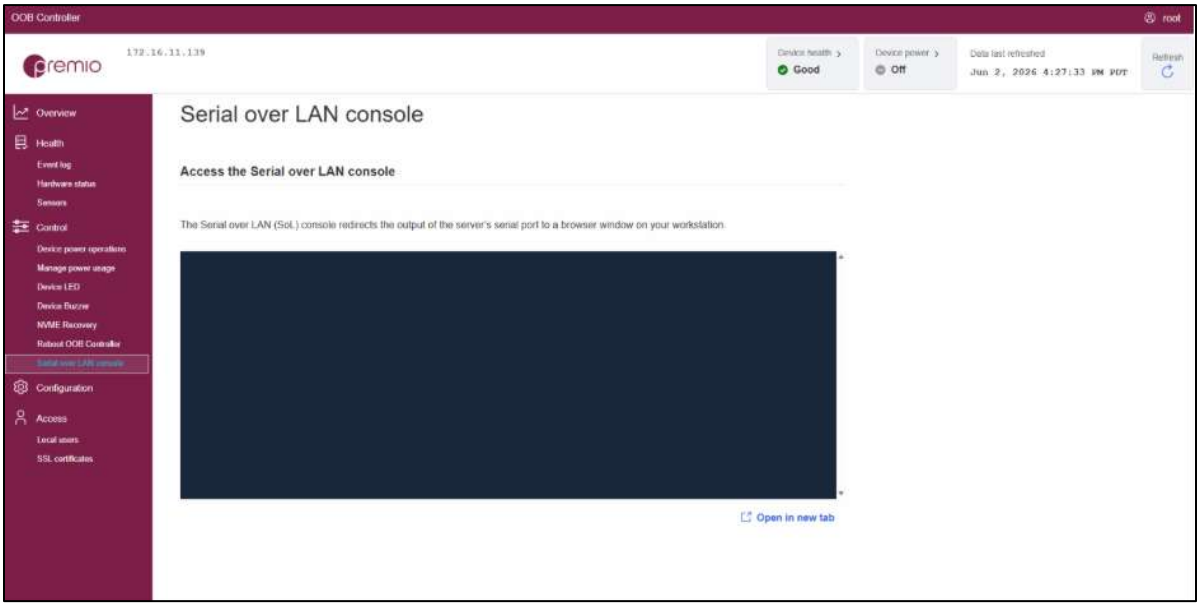
The Serial over LAN (SOL) console enables users to remotely monitor and interact with the device's serial interface for low-level system management and troubleshooting.

Use the following procedure to use the Serial over LAN (SOL) console.

1. **In the Premio EDGEBoost OOB GUI, go to:**

   Control > Serial over LAN Console

2. **The SOL console window appears.**
3. **(Optional) Click Open in new tab to launch the console in a separate browser tab.**



3.6.2 Access Remote Boot and Debug Functions on Supported Devices

Supported devices provide remote boot management and debugging functions through the Serial over LAN (SOL) console. Available functions may vary depending on the system architecture and platform configuration.

- Compatible x86 devices support remote BIOS setup access through the SOL console.
- Compatible ARM-based devices provide serial debug output access for low-level troubleshooting and system monitoring.

Use the following procedure to access the remote BIOS setup utility on supported x86 devices.

1. **Open the Serial over LAN (SOL) console. In the Premio EDGEBoost OOB GUI, go to:**

   Control > Device Power Operation

2. **Reboot the device.**
3. **Return to the Serial over LAN (SOL) console.**
4. **Press the ESC key before the operating system begins booting.**

For ARM-based device debugging demonstrations, please see the following URL:

- https://www.youtube.com/watch?v=2onMXc1aqvk

3.7 Access Network Configuration

Network configuration settings allow users to view and manage the OOB network connection, including DHCP-assigned and static IP settings.

Use the following procedure to access the network configuration from the BMC Web User Interface.

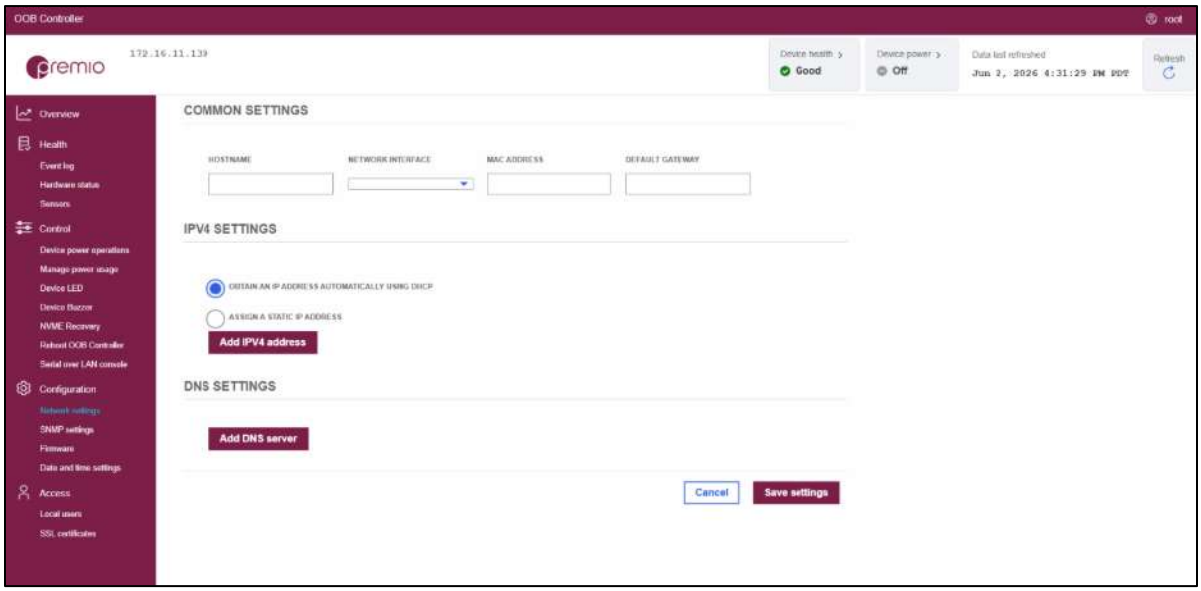
1. **In the Premio EDGEBoost OOB GUI, go to:**

   Configuration > Network Settings

2. **Scroll to the IPv4 Settings section.**

3. **View the current OOB network configuration.**

- If the OOB controller is connected to a DHCP network, the assigned DHCP IP address appears.
- If the OOB controller is configured with a static IP address, the static network configuration appears.



3.8 Update the OOB Controller Firmware

Remote firmware update functions allow users to update the OOB controller firmware through the OOB GUI. Updating the OOB controller firmware ensures the latest features, bug fixes, security updates, and compatibility improvements are applied to the system.

Use the following procedure to update the OOB controller firmware.

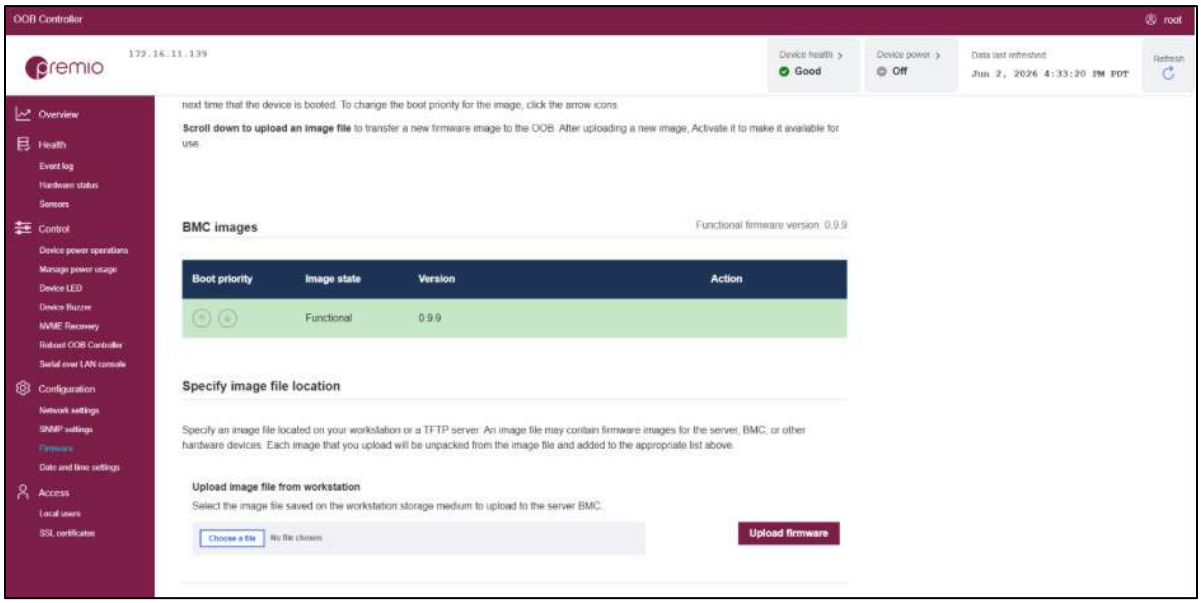
1. **Contact your Premio sales representative or technical support team to obtain the latest OOB firmware.**
2. **In the Premio EDGEBoost OOB GUI, go to:**

   Configuration > Firmware
3. **Click Choose File and select the correct OOB firmware image.**

CAUTION: Ensure the selected firmware file matches the target device model before proceeding.

4. **Click Upload Firmware.**
5. **After uploading a new image, activate it to make it available for use.**
6. **Wait until the firmware update process is complete.**
7. **OOB Controller will reboot itself after the firmware update is completed.**

NOTE: Do not power off the device or disconnect the network connection during the firmware update process.



Chapter 4

Premio EDGEBoost OOB - Advanced Remote Management Reference

4. Premio EDGEBoost OOB - Advanced Remote Management Reference

This chapter provides reference commands for accessing selected OOB management functions through SSH and Redfish interfaces. These commands are intended for advanced users and system integrators who require command-line or API-based remote management access.

NOTE:
SSH and Redfish are industry-standard technologies. Installation and configuration of associated tools and environments are outside the scope of this user manual. For additional setup and usage information, please refer to the official SSH and Redfish documentation.

4.1 SSH Reference Commands

SSH command-line access allows users to perform selected remote management operations through the OOB controller.

Function	SSH Command
Power On	`obmutil poweron`
Force Shut Down	`obmutil chassisoff`
Gracefully Shutdown	`obmutil poweroff`
Power On/Off Status	`obmutil hoststate`

4.2 Redfish Reference Commands

Redfish provides RESTful API-based remote management access for selected OOB management functions.

Function	Redfish Command
Power On	`redfishtool -r IP -u root -p password -S Always Systems reset On`
Force Shut Down	`redfishtool -r IP -u root -p password -S Always Systems reset ForceOff`
Gracefully Shutdown	`redfishtool -r IP -u root -p password -S Always Systems reset GracefulShutdown`
Power On/Off Status	`redfishtool -r IP -u root -p password -S Always Systems get system 2>/dev/null | jq -r '.PowerState'`

Chapter 5

Allxon Service Setup

5. Allxon Service Setup

This section provides a complete guide for activating and configuring the Allxon service on your device. Both In-Band and Out-of-Band (OOB) functions can be used together to achieve full remote access and control.

5.1 Setup Process Overview

5.1.1 First Things to Prepare

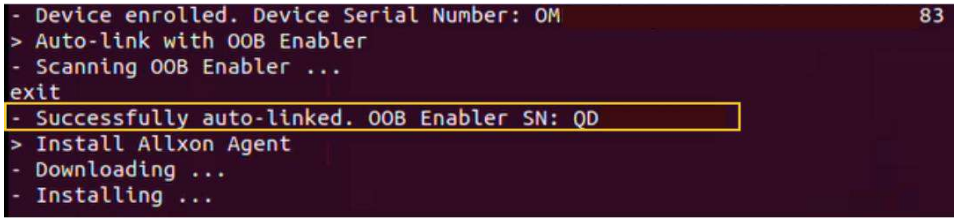
- **Allxon Portal Account**
  Visit Allxon Website to register an Allxon Portal account.
- **Internet Connection**
  Ensure that both the OOB RJ45 port and the computer's LAN port are connected to the internet. Make sure the network connection is stable.

5.1.2 Install the Allxon Agent

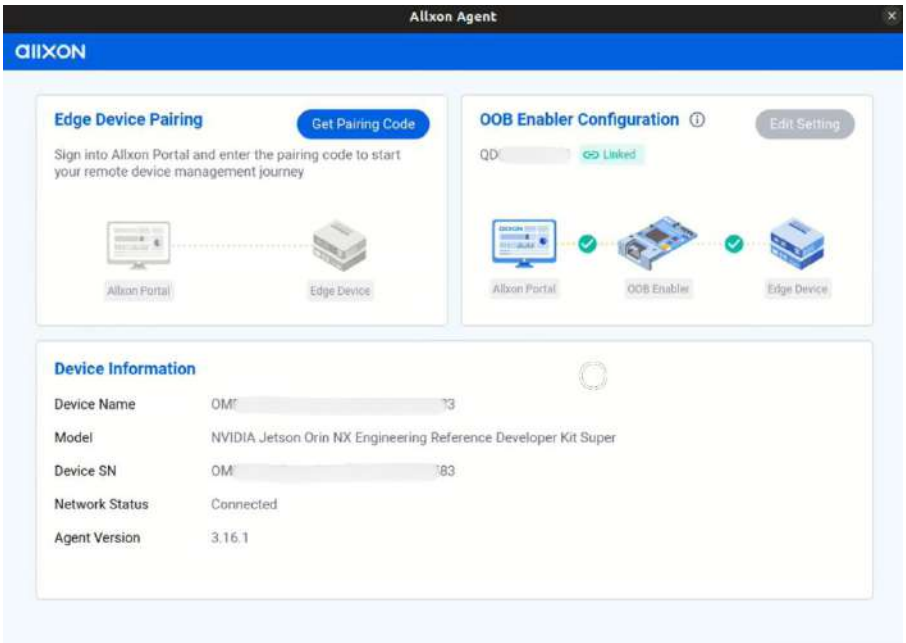
Begin by installing the Allxon Agent on Linux or Windows to link your device to the Allxon Portal. Please refer to the following link for detailed instructions:

Install Allxon Agent via Command Prompt

If your devices support auto-link communication, the OOB Enabler will automatically connect to them. You will see the following messages during the installation of the Allxon Agent, as shown in the picture below:



Once the Agent successfully installed and linked, you'll see this pop-up window as shown below:



Note:

If your devices don't support auto-link, you won't see the information mentioned above. In this case, you can follow the instructions below to manually link the OOB Enabler.

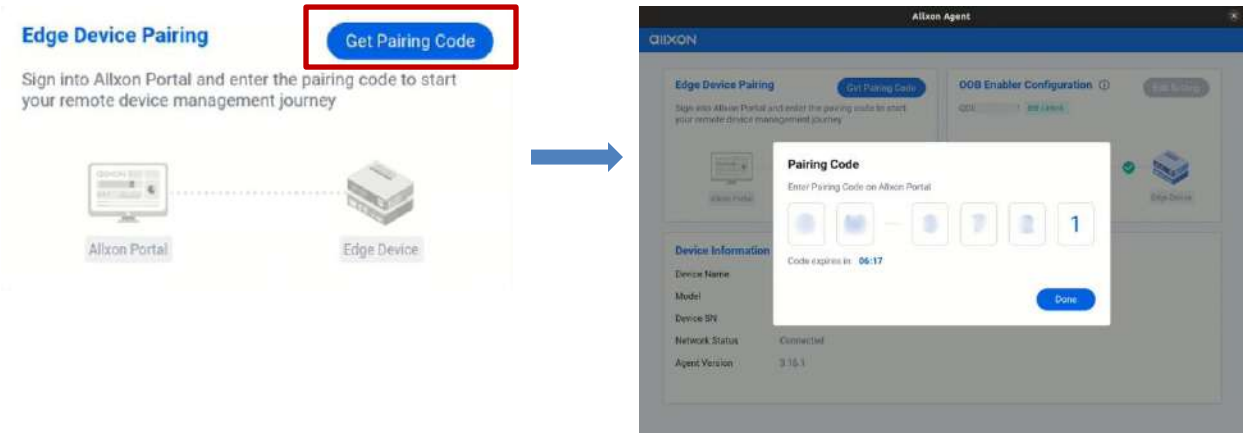
Enable OOB Management on Device

5.1.3 Register Device to Allxon Portal

1. Get Device Pairing Code

From the Allxon Agent, click "**Get Pairing Code**"

*Refer to the following webpage for detailed instructions: Get Device Pairing Code

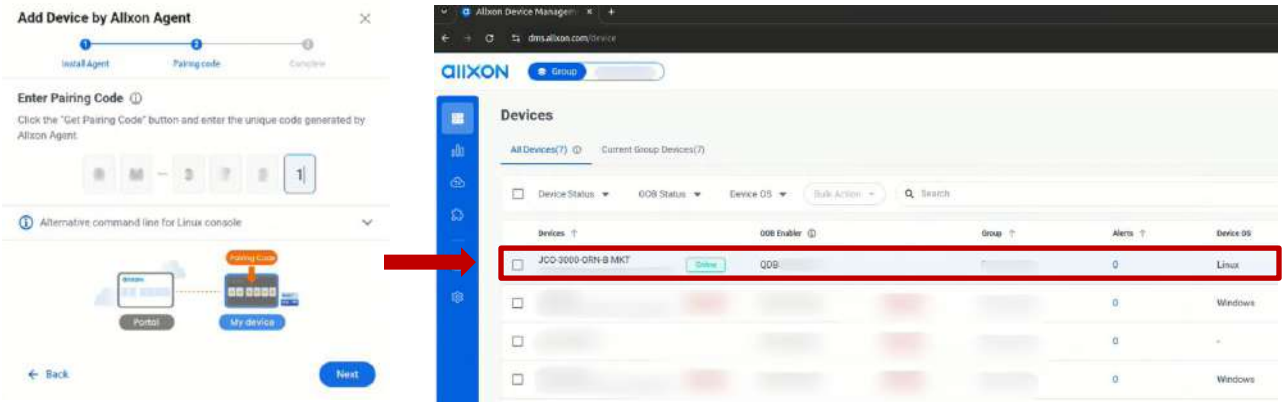


2. Add Device to Allxon Portal

• Log in to your Allxon Portal account.

• Click "**Add Device by Allxon Agent**" and then enter the **Pairing Code**. It should appear like this when successfully registered.

Note: 3-month free trial will start once it's successfully paired and registered to Allxon Portal.

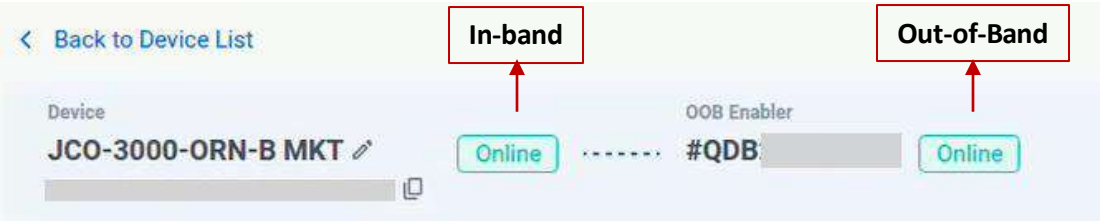


*Refer to the following webpage for detailed instructions: Add Your Device on Allxon Portal

5.2 How to Navigate Allxon Portal

To use both the Out-of-Band and In-Band features, ensure that the OOB LAN port and the computer's LAN port are connected to the internet.

Full guide on how to use the Out-of-Band and In-Band features on Allxon Portal:
Allxon Cloud Portal Step-by-Step



5.3 Configure Allxon swiftDR Power Management

The Allxon swiftDR suite offers advanced OOB power management for disaster recovery scenarios. After enabling OOB services, you can configure power cycling and recovery controls via the Allxon Portal.

- **Full configuration steps available here:**
  Allxon swiftDR for Power Cycling

5.3 OOB Enabler Troubleshooting

5.3.1 Network Connectivity Requirements

To ensure proper operation of Allxon services, a stable and reliable internet connection is required.
In environments with restricted network policies or firewall settings:

- Verify that all required network ports and protocols are accessible.
- For full network configuration details, refer to:
  Allxon Service Port/Protocol and Whitelist Requirements

OOB Serial Number and PIN are attached to the bottom of your computer's chassis and to the OOB module located inside the computer.

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