



AXIOMTEK

AX92320

**4-port Gigabit 802.3at PCI Express
PoE Card**

User's Manual



Disclaimers

This manual has been carefully checked and believed to contain accurate information. Axiomtek Co., Ltd. assumes no responsibility for any infringements of patents or rights of any third party, or any liability arising from such use.

Axiomtek does not warrant or assume any legal liability or responsibility for the accuracy, completeness or usefulness of any information in this document. Axiomtek does not make any commitment to update the information in this manual.

Axiomtek reserves the right to change or revise this document and/or product at any time without notice.

No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Axiomtek Co., Ltd.

©Copyright 2018 Axiomtek Co., Ltd.

All Rights Reserved

June 2018, Version A1

Printed in Taiwan

ESD Precautions

The boards have integrated circuits sensitive to static electricity. To avoid damaging chipsets from electrostatic discharge, observe the following precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on a human body.
- When handling boards and components, wear a grounding wrist strap available from most electronic component stores.

Trademarks Acknowledgments

Axiomtek is a trademark of Axiomtek Co., Ltd.

Windows[®] is a trademark of Microsoft Corporation.

IBM, PC/AT, PS/2, VGA are trademarks of International Business Machines Corporation.

Intel[®] is a trademark of Intel Corporation.

Other brand names and trademarks are the properties and registered brands of their respective owners.

Table of Contents

| | |
|--|-----------|
| Disclaimers..... | ii |
| ESD Precautions | iii |
| Section 1 Introduction..... | 1 |
| 1.1 General Description | 1 |
| 1.2 Features | 1 |
| 1.3 Specifications..... | 2 |
| 1.4 Dimensions..... | 3 |
| Section 2 Connectors | 5 |
| 2.1 Connectors | 5 |
| 2.1.1 PD Power Indicator (CN1)..... | 5 |
| 2.1.2 LAN1 ~ LAN4 Connector (CN 3)..... | 6 |
| 2.1.3 Board ID (SW1)..... | 6 |
| 2.1.4 12/24V Power Input (For IEEE 802.3at, ATX1)..... | 7 |
| Chapter 3 AX PoE Manager Software | 9 |
| 3.1 Management software..... | 9 |
| 3.2 AX PoE Manager | 10 |
| 3.3 Menu Bar | 11 |
| 3.3.1 File..... | 12 |
| 3.4 Menu List | 13 |
| 3.4.1 Information | 13 |
| 3.4.2 Control..... | 14 |
| APPENDIX A Board ID Mapping | 15 |

Section 1

Introduction

This section contains general information and detailed specifications of the AX92320 4-port Gigabit 802.3at PCI express PoE Card, including the following sections:

- General Description
- Features
- Specifications
- Dimensions

1.1 General Description

The AX92320 PoE (Power over Ethernet) card supports four independent Gigabit Ethernet ports, providing up to 30W at 54 VDC of power per port. Its wide operating temperature range supports integration for vision inspection applications in harsh environments. In addition, the AX92320 features have been designed to reduce cost, simplify installation and facilitate maintenance for your machine vision solutions.

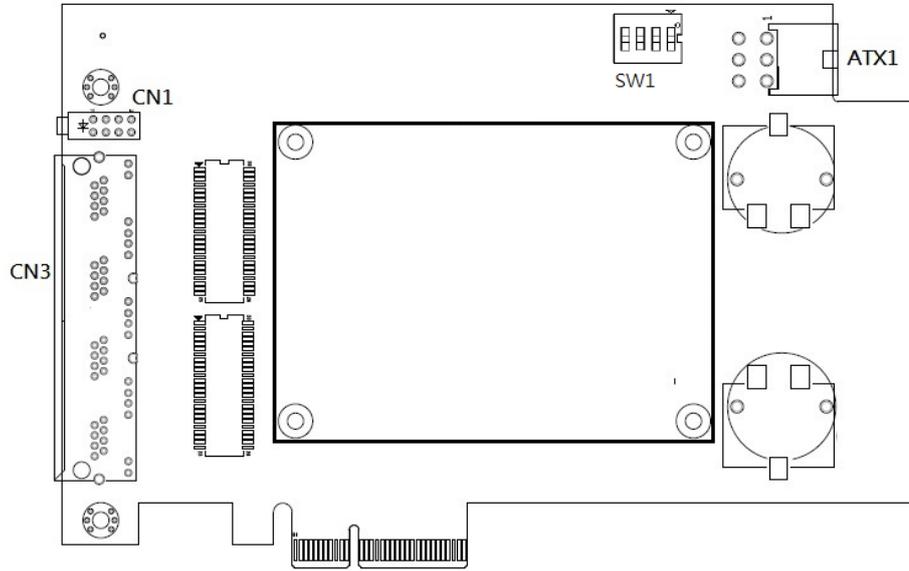
1.2 Features

- High performance
- PCI Express x4 compliant
- 4 independent GbE LANs
- Supports 9.5KB Jumbo Frame and IEEE 1588
- Compliant with IEEE802.3at to deliver 30W at 54 VDC per port
- Up to 20/120W PoE power from PCIe bus/6-pin ATX power connector
- 0°C to +60°C wide operating temperature range
- PoE power management software
- Support LAN port smart on/off

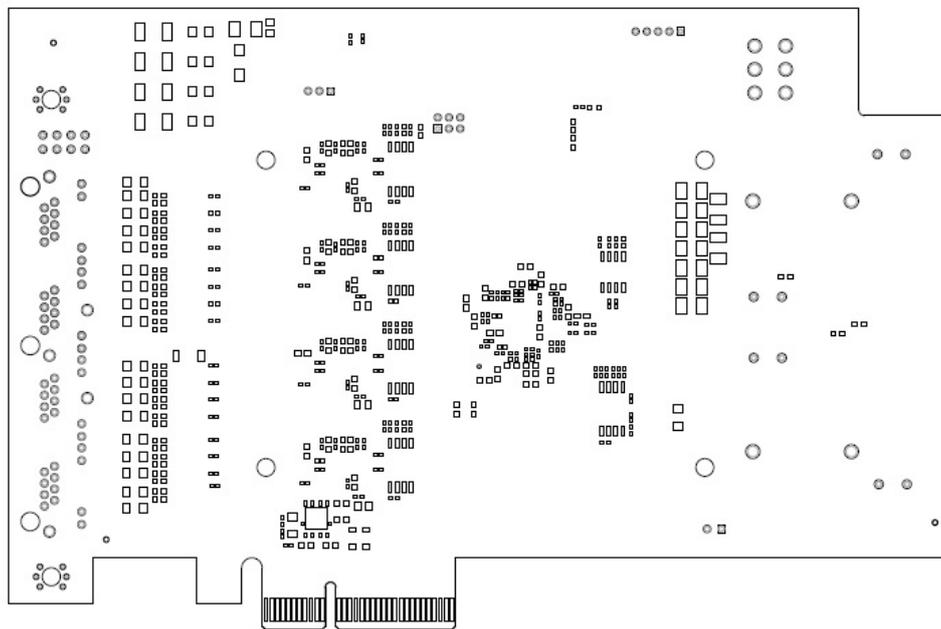
1.3 Specifications

- **Lan Chip**
 - Intel® Ethernet Controller I210-AT
 - All LAN support 10/100/1000Mbps
- **PCIe Switch**
 - PI792X2G608
- **Golden finger**
 - One for standard PClex4 interface
- **PSE controller**
 - Linear Tech LTC4266
- **Dimensions**
 - W 168mm x D 111 mm
- **OS support**
 - Windows® 7, WES7, Windows® 10, Windows® 10 IoT (32/64-bit)
- **Environmental**
 - Operating temperature: 0°C ~ 60°C
 - Operating humidity 5% ~ 95% non-condensing
 - Storage temperature: -20°C ~ 80°C
- **Certifications**
 - CE / FCC
- **Power Requirements**
 - Power from PCIe slot: (Max. 20W POE power output)
 - 2.1A @ +12V
 - 1.2A @ +3.3V
 - Power from the ATX power connector: (Max. 120W POE power output)
 - 12A @ +12V or 6A @ +24V
 - 1.2A @ +3.3V (from PCIe slot)
 - 30W @54VDC power output (per port)

1.4 Dimensions



Component Side



Solder Side

This page is intentionally left blank.

Section 2

Connectors

2.1 Connectors

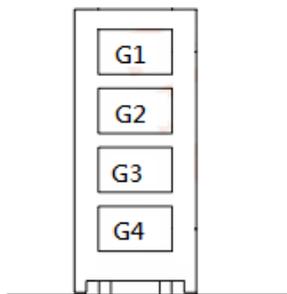
Connectors connect the board with other parts of the system. Loose or improper connection might cause malfunctions. Make sure all connectors are properly and firmly connected. The following table lists the function of each connector on the AX92320.

| Connectors | Label |
|------------|-------|
| CN1 | 2.1.1 |
| CN3 | 2.1.2 |
| SW1 | 2.1.3 |
| ATX1 | 2.1.4 |

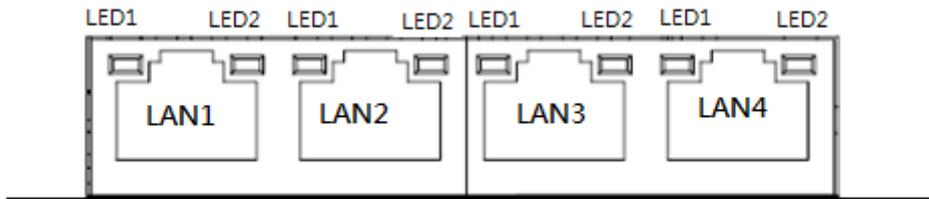
2.1.1 PD Power Indicator (CN1)

When a LAN port is currently active, its corresponding PD power indicator will light up.

| Pin | Signal |
|-----|-----------|
| G1 | LAN Port1 |
| G2 | LAN Port2 |
| G3 | LAN Port3 |
| G4 | LAN Port4 |



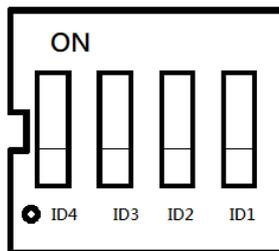
2.1.2 LAN1 ~ LAN4 Connector (CN 3)



| Pin | Description |
|------|-------------------------------------|
| LED1 | Active LED (Amber) |
| LED2 | Link LED (10/100-Green; 1000-Amber) |

2.1.3 Board ID (SW1)

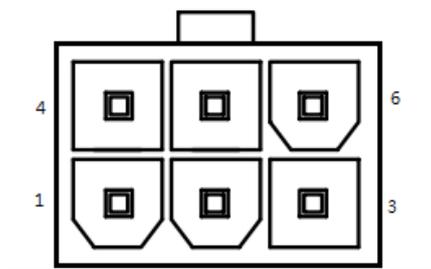
Default board ID setting is 0 (0x000)



| ID4 | ID3 | ID2 | ID1 | Board ID |
|-----|-----|-----|-----|----------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 1 | 0 | 2 |
| 0 | 0 | 1 | 1 | 3 |
| 0 | 1 | 0 | 0 | 4 |
| 0 | 1 | 0 | 1 | 5 |
| 0 | 1 | 1 | 0 | 6 |
| 0 | 1 | 1 | 1 | 7 |
| 1 | 0 | 0 | 0 | 8 |
| 1 | 0 | 0 | 1 | 9 |
| 1 | 0 | 1 | 0 | 10 |
| 1 | 0 | 1 | 1 | 11 |
| 1 | 1 | 0 | 0 | 12 |
| 1 | 1 | 0 | 1 | 13 |
| 1 | 1 | 1 | 0 | 14 |
| 1 | 1 | 1 | 1 | 15 |

Note: On: 1, Off: 0
Board ID default: 0

2.1.4 12/24V Power Input (For IEEE 802.3at, ATX1)



| Pin | Signal |
|-----|--------------|
| 1 | +12V / +24V |
| 2 | +12V / +24V |
| 3 | +12V / +24V |
| 4 | Ground (GND) |
| 5 | Ground (GND) |
| 6 | Ground (GND) |

This page is intentionally left blank.

Chapter 3

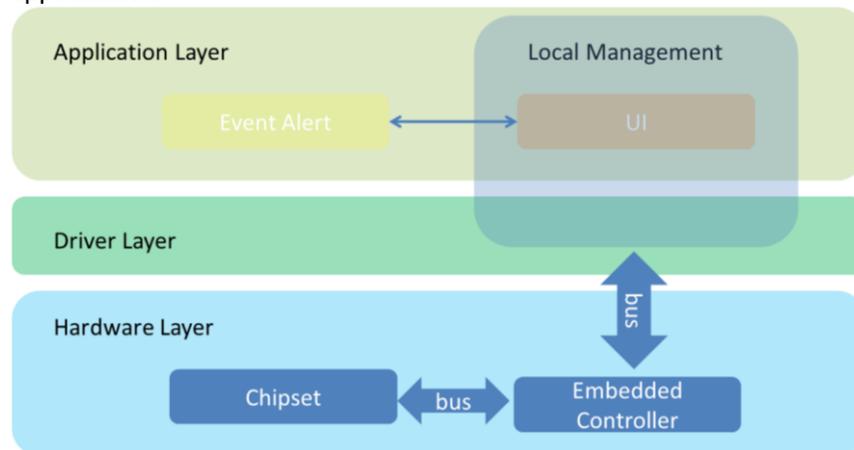
AX PoE Manager Software

3.1 Management software

AX PoE Manager is a highly integrated software management system that provides an easy-to-use application programming interface.

Software Structure

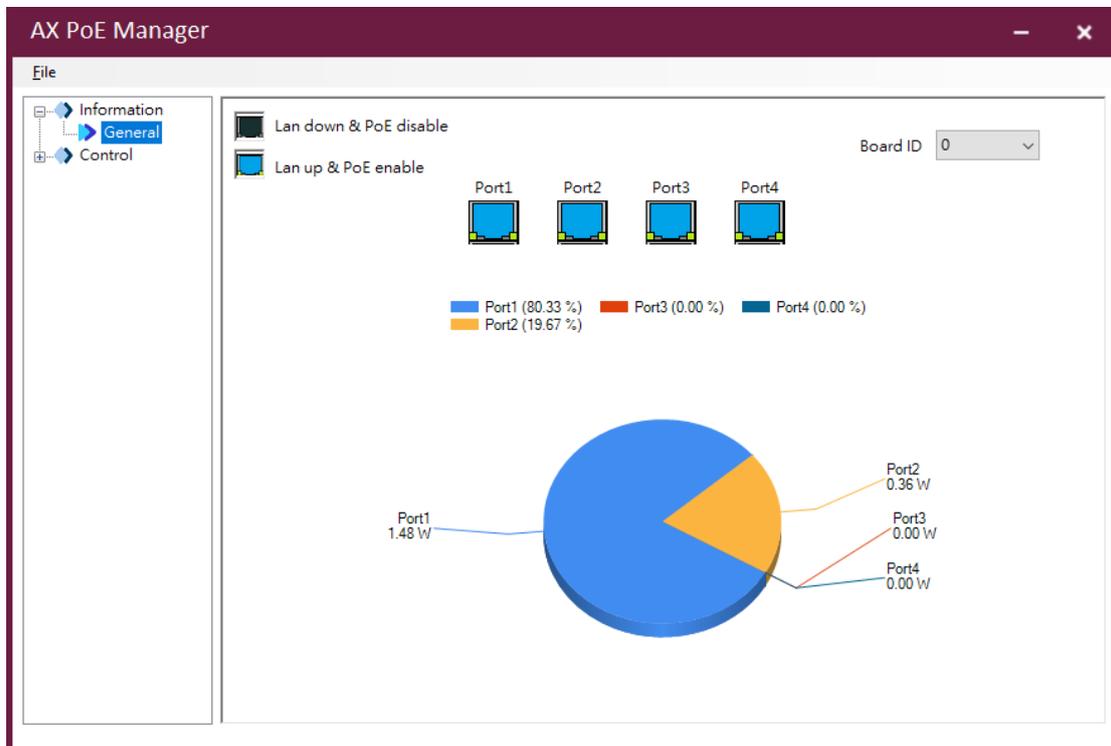
AX PoE Manager is one of intelligent software to manage PoE (Power over Ethernet) device, ranging from physical layer connectivity, communication layer protocol, middleware API, high level software for management. AX PoE Manager is the ideal solution integration with specific embedded systems. The powerful and useful PoE managed abilities suit for various vertical applications.



Key features of AX PoE Manager include: Local Hardware Monitor.

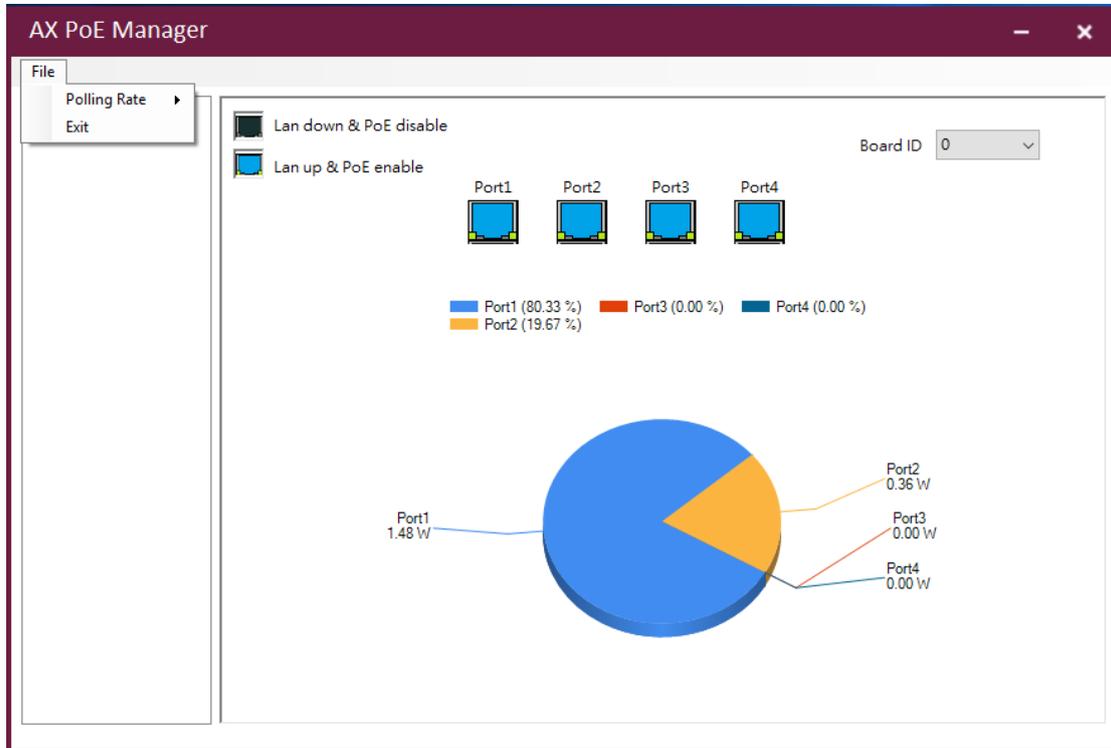
3.2 AX PoE Manager

The PoE Manager belongs to PoE (Power over Ethernet) monitor and manage software. The PoE manager major task is to routinely monitor each PoE port's power consumption.

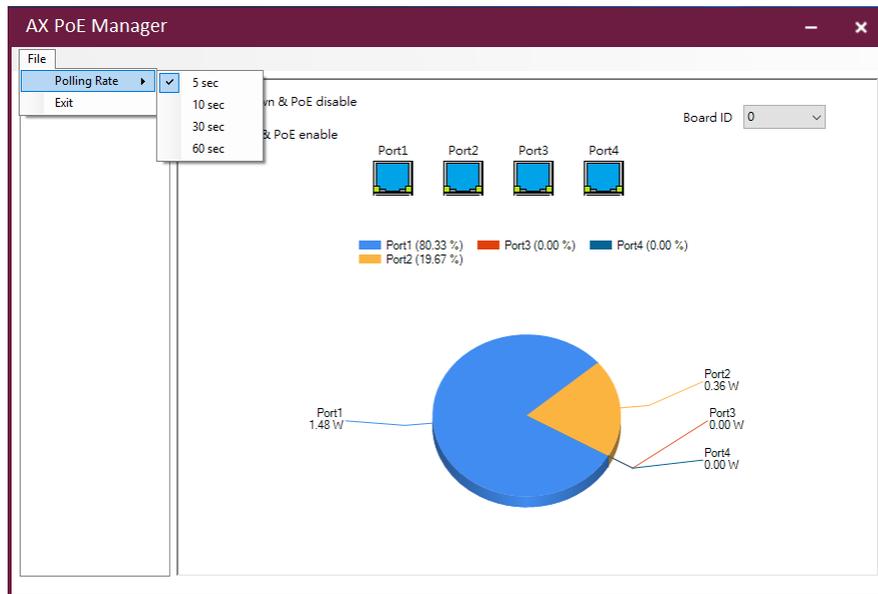


3.3 Menu Bar

On the top of main screen, you can see menu bar. Select any items in this bar to go to the sub menus.



3.3.1 File



Polling rate

Set the polling rate to monitor PoE power consumption.

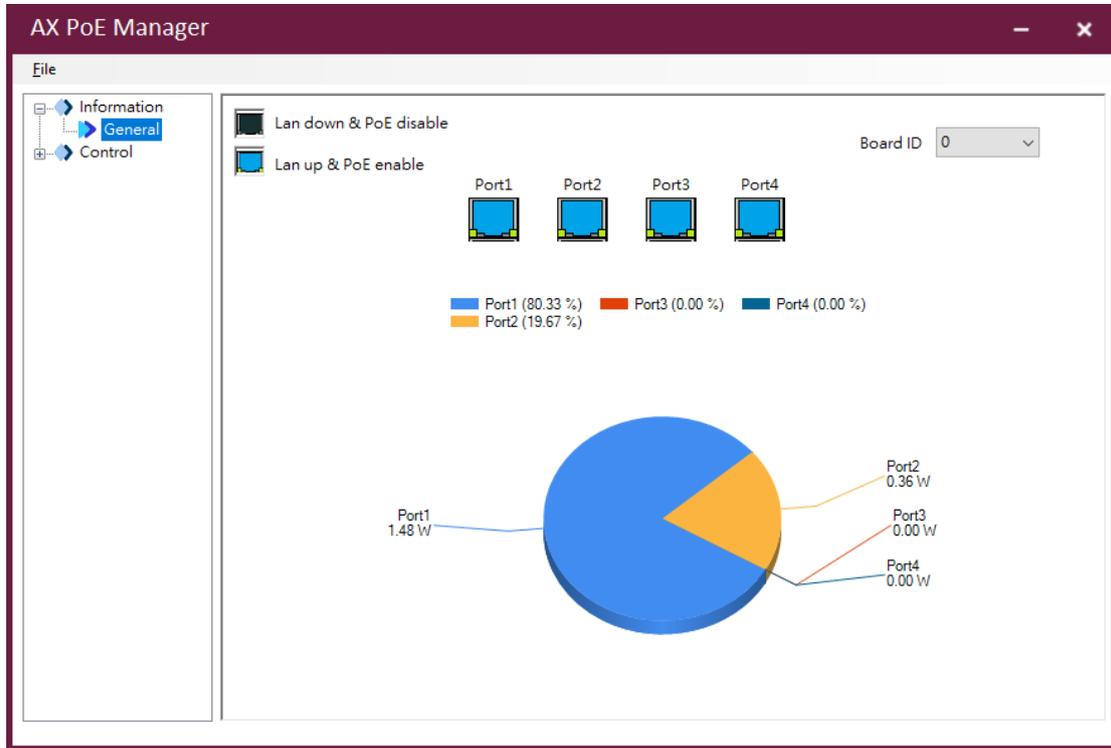
- 5 sec
- 10sec
- 30 sec
- 60 sec

Exit

Close the PoE manager

3.4 Menu List

The menu list is located on the left frame of the screen, contains all of monitoring and controlling functions.



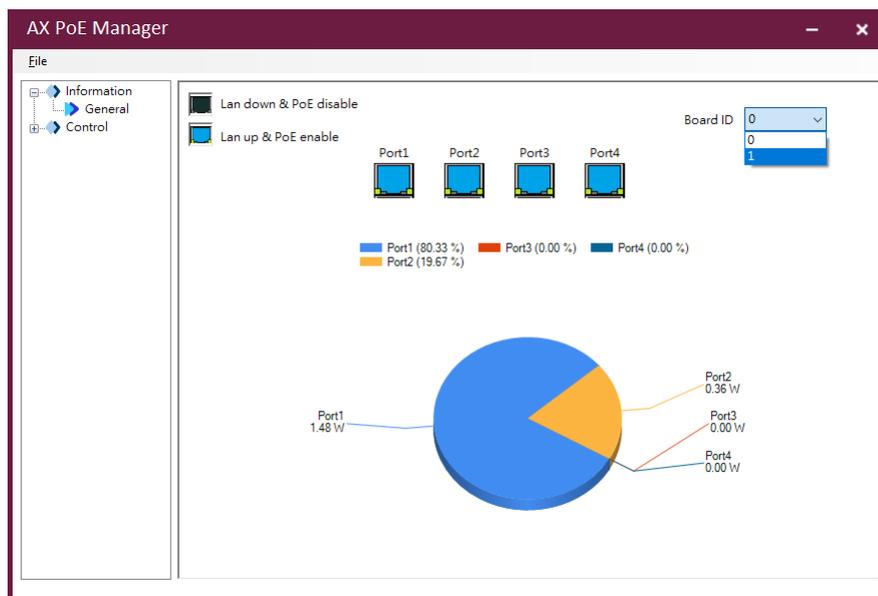
3.4.1 Information

The Information menu displays the following items information:

- General

General

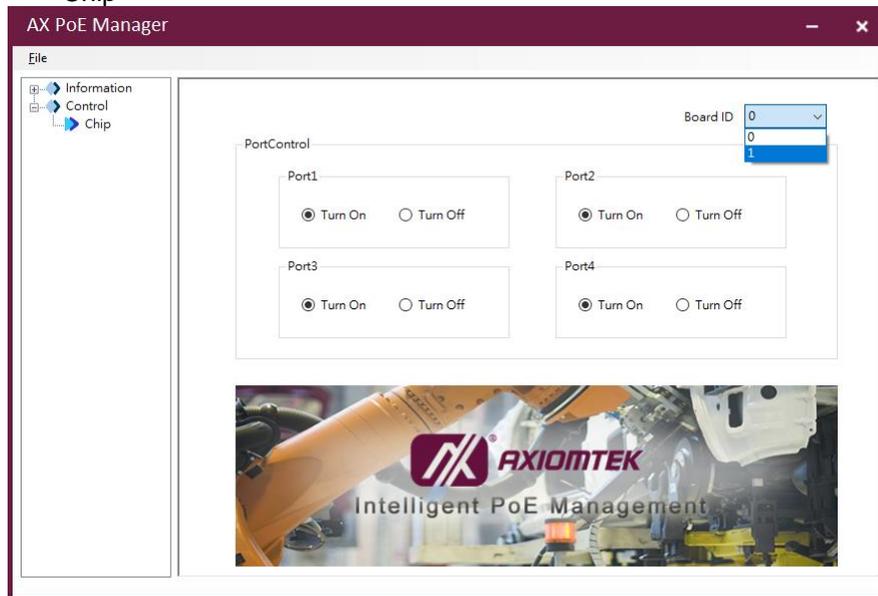
Show the power consumption and status for each PoE ports.



3.4.2 Control

The Control menu allows user to set configuration of the following items:

- Chip



Chip

Control each port and chip status and reset

APPENDIX A

Board ID Mapping

This section will guide you to solve the common issues when running our application.

1. Board ID Collision

Cause:

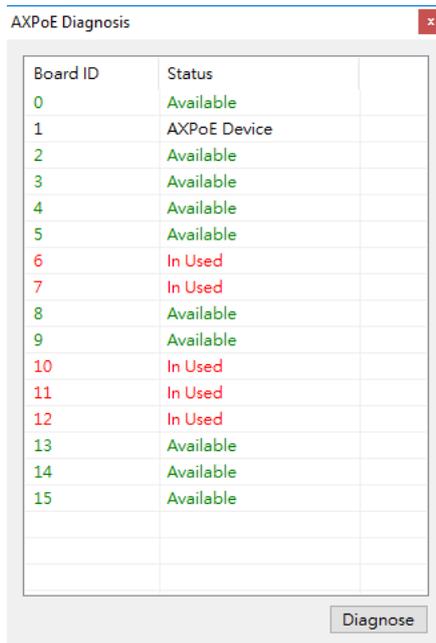
The board ID of the PoE card is mapping to physical SMBus address. If the duplicate SMBus addresses are in the same bus, this will cause communication collision.

Situation:

1. “AXPoE Manager” pops up the “Cannot find any AXPoE device on this system” message.
2. The number of devices is not as expected in “AXPoE Manager”

Solution:

1. Please check that the PoE card was installed properly on the system.
2. If the step1 is fine, these may be caused by board ID collision, please follow the step as below to fix it.
3. Run the “AXPoEDiagnosis.exe” tool to show the available board ID in the current system, and please change the board ID to these available board ID.



This page is intentionally left blank.