

PCI Express Bus Fast Ethernet 100Base-FX Fiber NIC User's Manual

Release 1.0

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Revision History

Release	Date	Revision
1.00	2/18/2011	A1

Caution

Circuit devices are sensitive to static electricity, which can damage their delicate electronics. Dry weather conditions or walking across a carpeted floor may cause you to acquire a static electrical charge.

To protect your device, always:

- Touch the metal chassis of your computer to ground the static electrical charge before you pick up the circuit device.
- Pick up the device by holding it on the left and right edges only.

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the FCC Part 15, Subpart B, Class B.

CISPR 22:A1:2000+A2:2002;ICES-003:2004, Class B

European Community (CE) Electromagnetic Compatibility Directive

This equipment has been tested and found to comply with the protection requirements of European Emission Standard EN55022 and EN55024.

EMI	EN55022:1998+A1:2000+A2:2003,Class B
	EN61000-3-2:2000
	EN61000-3-3:1995+A1:2001
EMS	EN55024/1998+A1:2001+A2:2003
	→IEC61000-4-2:2001
	→IEC61000-4-3:2002+A1:2002
	→IEC61000-4-4:1995+A1:2000+A2:2001
	→IEC61000-4-5:2001
	→IEC61000-4-6:2003
	→IEC61000-4-8:2001
	→IEC61000-4-11:2001

1. Introduction

1-1. Overview

PCIe Fast Ethernet 100Base-FX Fiber NIC is a Fiber Fast Ethernet to PCIe bus adapter that fully complies with all IEEE 802.3u and 100Base-FX standards. It provides up to 200Mbps full-duplex bandwidth capacity to support high-end servers. In addition, with advanced functions like VLAN filtering packet processing, the adapter provides enhanced performance, flexible configuration and secure networking for users in a standard-based environment. Two LED indicators (LINK/ACT and FDX) on the bracket will help to oversee the board link, activities and full-duplex status. This NIC supports Preboot Execution Environment (PXE).

1-2. Checklist

Before you start installing the Fast Ethernet PCIe 100Base-FX Fiber Adapter, verify that the package contains the following items:

- PCIe Fast Ethernet 100Base-FX Fiber NIC
- LAN Driver and User's Guide CD-ROM

Please notify your sales representative immediately if any of the aforementioned items is missing or damaged.

2. Installation

2-1. Installing a Fiber NIC

The following instructions apply to installing the Fast Ethernet adapter in most systems. Refer to the manuals that were supplied with your system for details about performing these tasks on your particular system.

To install the network adapter card, perform the following procedure:

Warning
<i>Before installing the adapter, ensure the system power is OFF and unplugged from the power outlet, and that proper electrical grounding procedures have been followed.</i>

1. High voltage inside the system presents a safety hazard. Make sure the power is off before removing the cover.
2. Remove the system cover and select any empty PCIe slot. See Fig 1.

If you do not know how to identify a PCIe slot, refer to your system documentation.

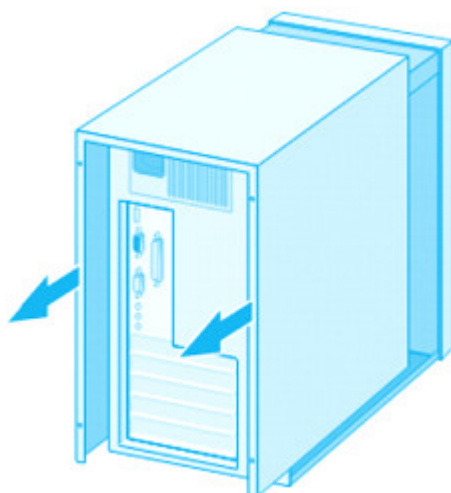


Fig. 1

3. Select an empty, non-shared PCIe slot and remove the faceplate.
Keep the faceplate in a safe place. You may need it for future use. See Fig 2.

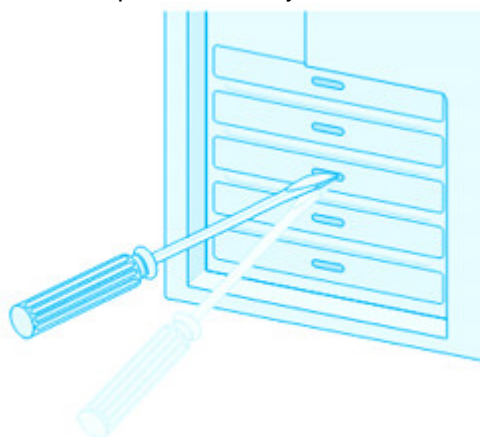


Fig. 2

Note

If you cannot locate or know how to find an PCIe slot, refer to the documentation that came with your system.

4. Remove the network adapter card from the shipping package and store the packaging material in a safe location.

Caution

Wear a grounding device and observe electrostatic discharge precautions when installing the network adapter card in a system. Failure to observe this caution could result in damage to the card.

5. Applying even pressure at both corners of the card, push the adapter card until it is firmly seated in the PCIe slot.

Make sure the card is securely seated. See Fig 3.

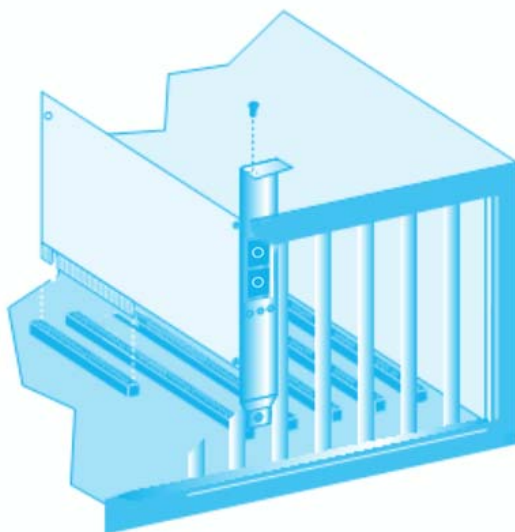


Fig. 3

6. Replace the system's cover and secure it with the screws removed in Step 2.
7. Disconnect any personal anti-static devices.
8. Power the system on.

3. Model Description

PCIe 100Base-FX Board Models		
Fiber Transceiver	Wavelength	
SC multi-mode	1310nm	Default
* SC single-mode	1310/1550nm	option
* ST Multi-mode	1310nm	option
* LC multi-mode	1310nm	option
* LC single-mode	1310/1550nm	option

*: Option is available upon request

4. Network Remote Boot Configuration

4-1 Select Remote Boot Type

For entering “MBA Configuration Menu” to select Remote Boot Type (PXE), please press Shift+F10 within 5 seconds after power on your PC, otherwise, the system would go to Windows O.S.

4-2 Set Network Remote Boot

For setting network remote boot, please enter PC BIOS first, then select “Boot” tab, after that, choose “MBA” as the priority first boot device.

4-3 Cancel Network Remote Boot

To cancel network remote boot, please change the “Boot” setting in PC BIOS from “MBA” to “Hard Drive” or other devices.

5. LED Indicator Description

LED	Color	Function
LINK/ACT	Green	Lit when cable connection is good and speed is at 100Mbps. Blinks when any traffic is present.
FDX	Green	Lit when full-duplex mode is active.

6. Wake on LAN (WoL)

The Wake on LAN function on this adapter can recognize a wake-up frame and signal the PC to power up.

Wake on LAN verify:

BIOS support(Fig.4)

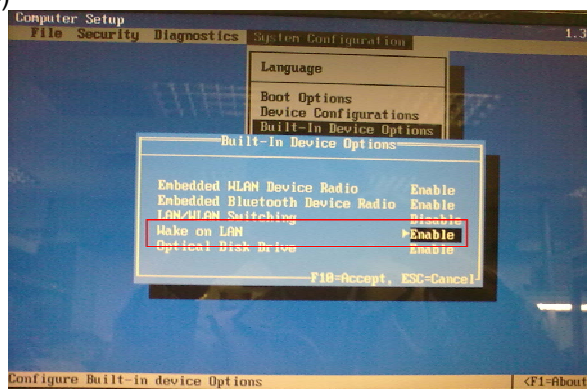


Fig. 4

PC's motherboard support WoL and PCIe (Wakeup-Link connector is not necessary)
Disable WoL function(Default):Set WoL jumper(J1) at 'OFF' position(Fig. 5 Slash Area)
Enable WoL function:Set WoL jumper(J1) at 'ON' position(Fig. 6 Slash Area)

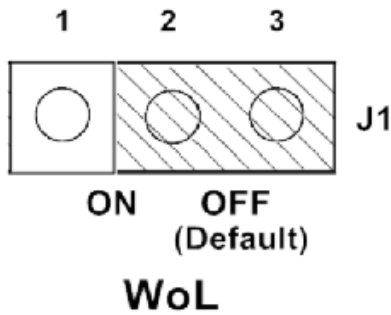
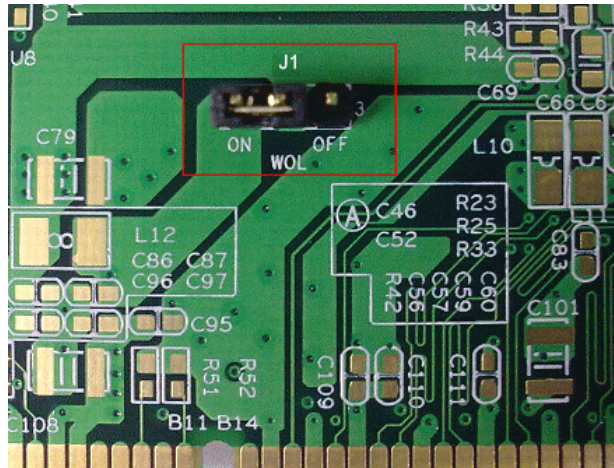


Fig. 5 Disable WoL

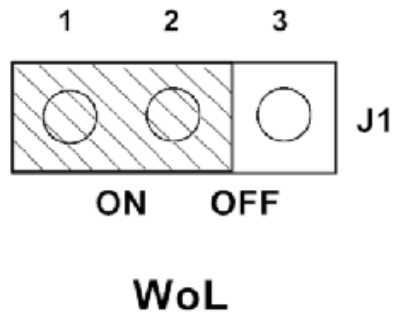


Fig. 6 Enable WoL

7. ASF 2.0 Installation

A. Server Installation

Windows Component

1. Enter into O.S. control panel
2. Add or Remove programs→Add or Remove Windows component
3. Select Management and Monitoring tool to install

Install/Run Management Console

1. Run Realtek DASH console tool.msi to install
2. Start→ Program → Realtek → Realtek management console
3. Run RTK-Dash.exe

Configuration

Manageability Tab, key in and select relative data as Fig. 7

Realtek Management Console v 0.439

Discovery | Manageability | Alert Indication

Login

Protocol: ASF

IP Address: 192.168.2.20

User / Role: Administrator

Admin Key: c3aaf6669b734459928f4f9cc

Generation Key: 5b3bf11377354d9c55bdeb87

Random seed: 22d01aea88514548aa4f653e

☒ ASF 2.0

Login

Fig. 7

Note : IP Address(Client)

Admin Key, Generation Key and Random seed refer to key.txt

B. Client Installation

NIC Configuration

1. Enter into O.S. control panel
2. Device Manager
3. Network adapters configure as Fig. 8~12
 - Fig. 8 Double click Realtek PCIe GBE Family Controller
 - Fig. 9 Shutdown Wake-on-LAN **Enabled**
 - Fig. 10 WoL & Shutdown Link Speed **100Mbps First**
 - Fig. 11 Green Ethernet **Disabled**

Fig. 12 Power Management Setting



Fig. 8

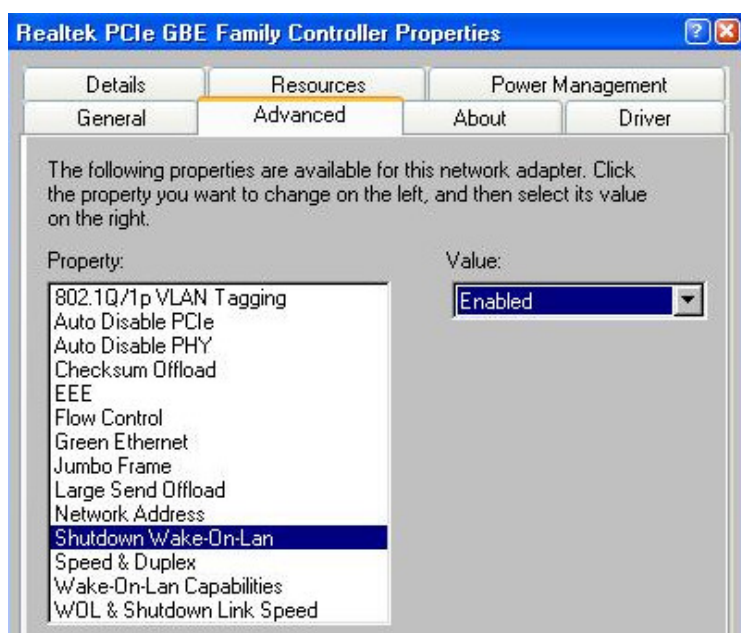


Fig. 9

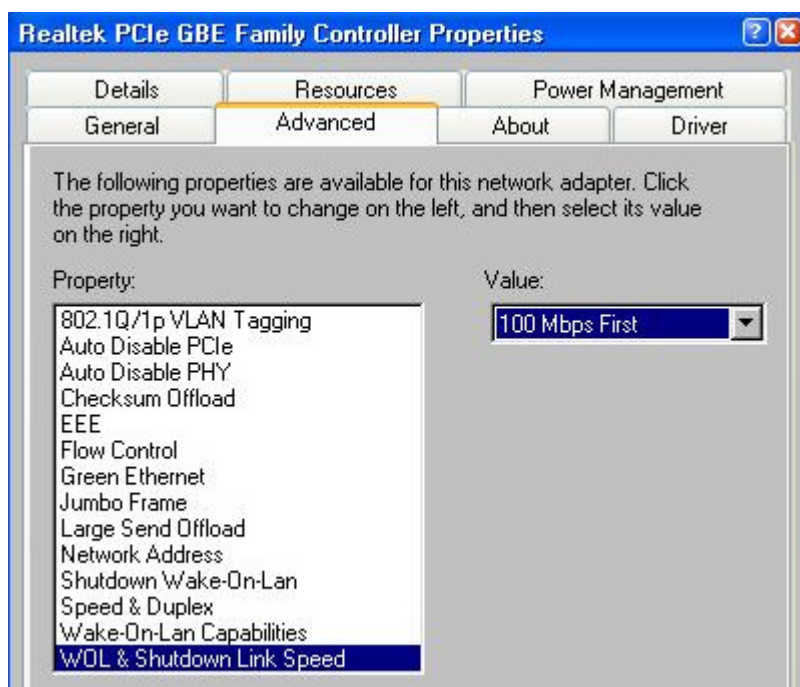


Fig. 10

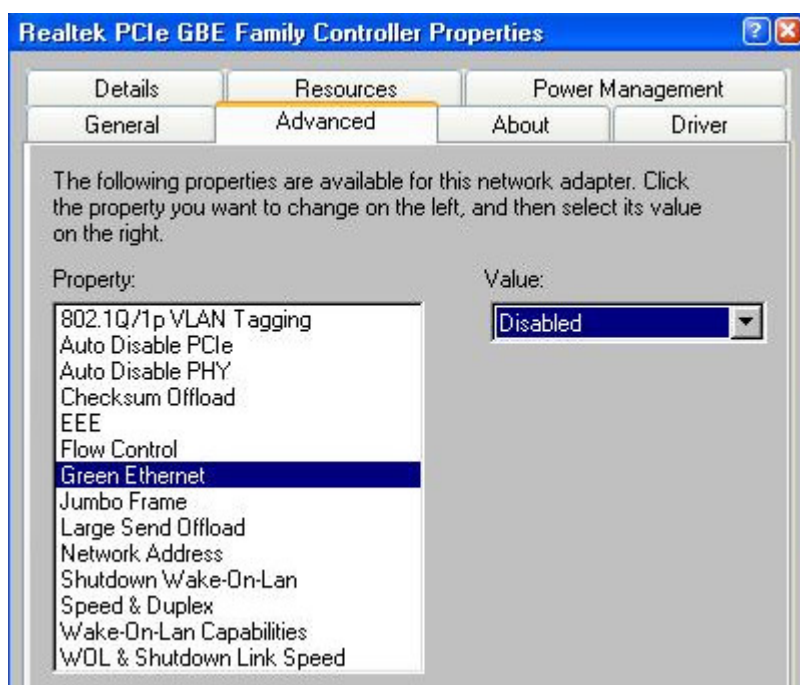


Fig. 11

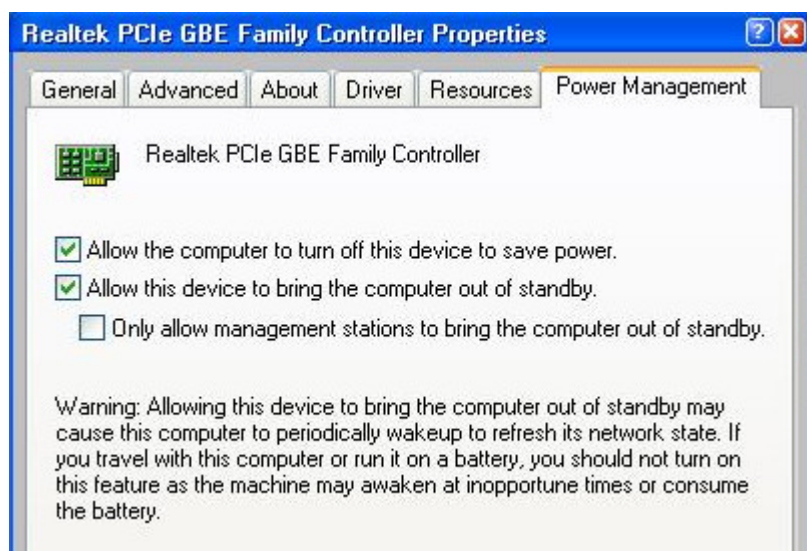


Fig. 12

Install/Run ASF Client tool

1. Run Setup.exe to install
2. Start → Program → Realtek → ASF Configure tool
3. Run AsfClient.exe

Configuration

To configure as Fig. 13~16

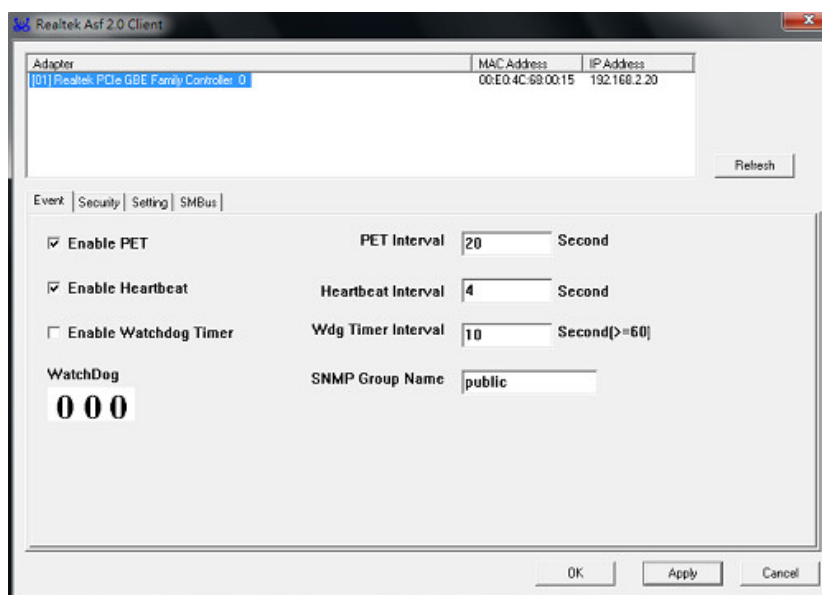


Fig. 13 Event Tab

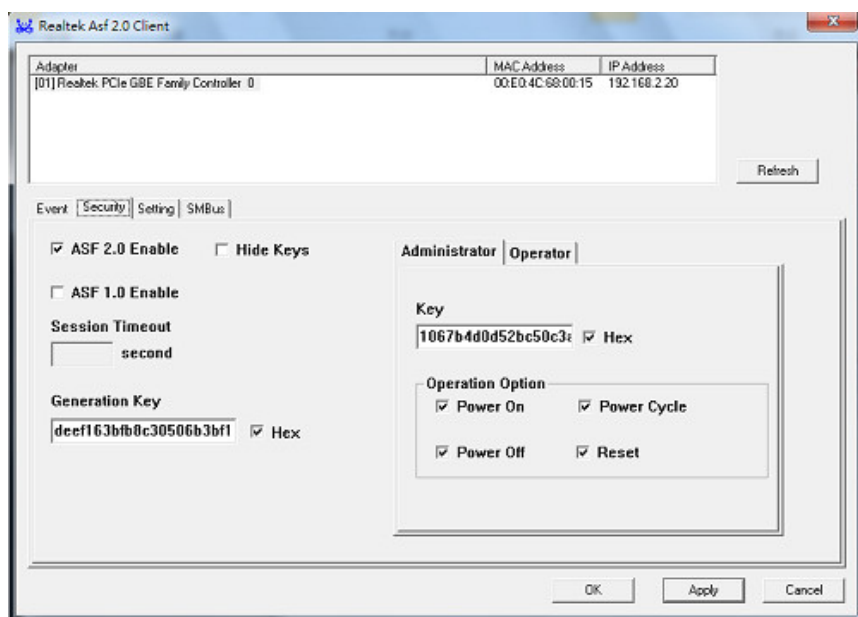
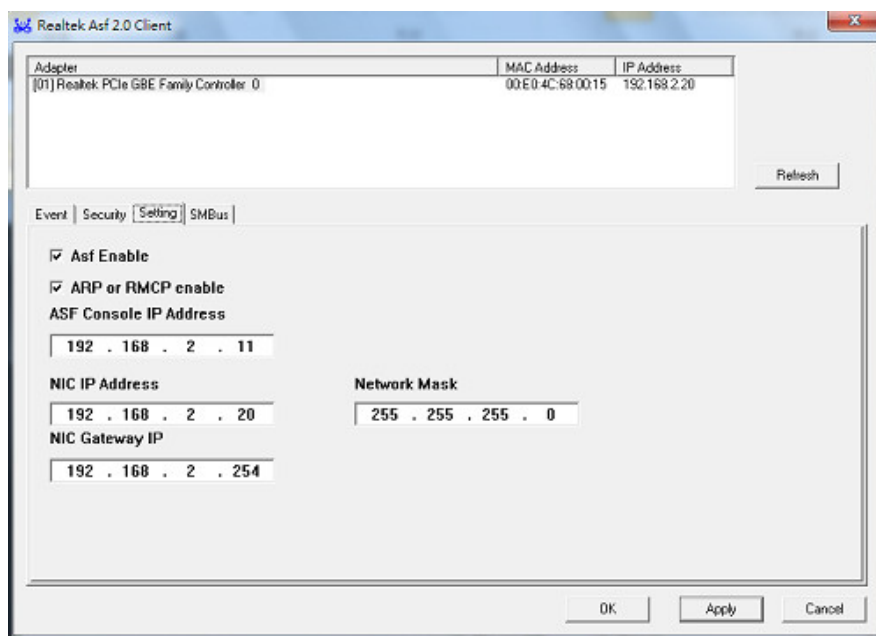


Fig. 14 Security Tab



Note: ASF Console IP Address(Server IP)

Fig. 15 Setting Tab

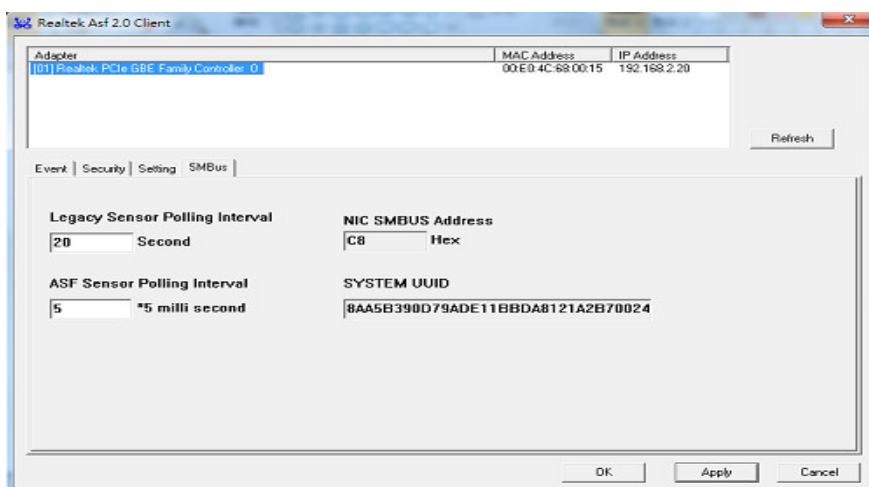


Fig. 16 SMBus

8. Technical Specifications

Standards : IEEE 802.3u 100Base-FX
IEEE 802.3x Full-Duplex Flow Control
IEEE 802.1Q VLANs

Connector : 1310nm SC multi-mode (Default)
*1310nm LC, ST multi-mode
*1310nm SC, LC single-mode
*1550nm SC, LC single-mode

*: Option is available upon request

Fiber Optic Cable:

- 62.5/125, 50/125 μ m multi-mode
- 9/125 μ m single-mode

Data Transfer Mode/Speed:

- Full duplex with flow control
- 100Mbps speed

Diagnostics LED on Bracket:

- LINK/ACT
- FDX

Bus Slot : PCIe 1.1 Compliant
Power Requirement : Max. 2.4W, +3.3VDC@0.72A
Ambient Temperature : 0° to 50°C
PCB Dimensions : 108(L)x68.5(H) mm
Humidity : 5% to 90%
Emission : Complies with EMI Standard
FCC Class B
CE Mark