

# **MEC-LAN-M002-R1**

**Mini PCI-e 2-port 10/100/1000 Ethernet board**

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## **User's Manual**

**Second Edition, Jan. 2016**

# Mini PCI-e Ethernet Card

## User's Manual

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# 1

## Introduction

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### Overview

MEC-LAN-M002-R1 is an Ethernet card for embedded PC. The card follows the Mini PCI-e standard which is compliant with PCI Express x 1 classification and small form factor (30x50.95 mm). This board fits in any host computer that has mini express card slots. MEC- LAN-M002-R1 is a highly cost-effective solution to expand Gigabyte network for your computer.

### Features

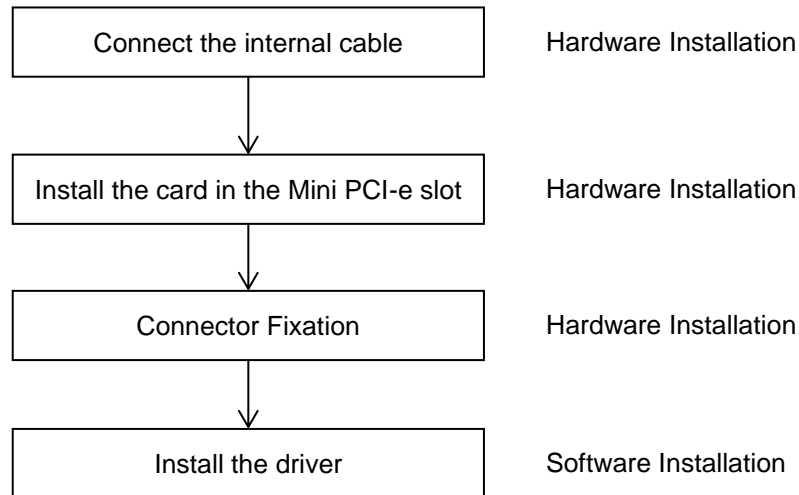
The PCI Express boards have the following outstanding features:

- Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
- Fully compliant with PCI-Express Base Specification Rev 1.1
- Integrated 10/100/1000Mbps transceiver
- IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, and IEEE 802.3z compliant
- IEEE 802.3x Full-Duplex flow control

# Installation Flowchart

## Installation Flowchart of MEC-LAN-M002-R1

The following flowchart provides a brief summary of the procedure you should follow to install the Mini PCI-e card:



## Package Checklist

The following items are included in the Mini PCI Express board Package:

- Mini PCI-e Card x 1
- Daughter Board x 1
- Bracket x 1
- M2.5 Screw x 2
- 20Pin Internal Connection Cable (30cm) x 2
- Quick Installation Guide (Printed) x 1
- Driver CD x 1

*Note: Notify your sales representative if any of the above items are missing or damaged.*

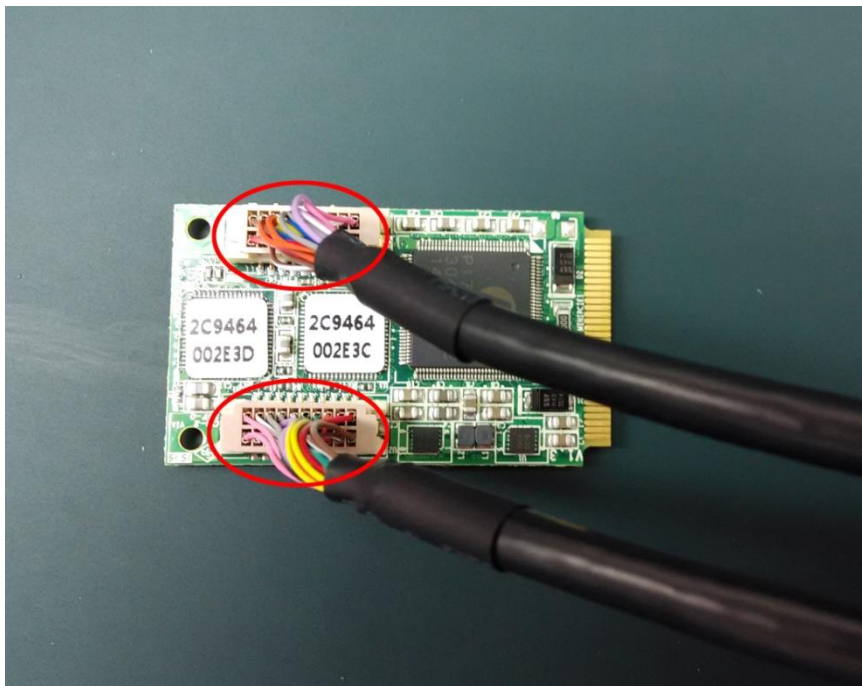
# 2

## Hardware Installation

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This chapter describes the PCI Express Series hardware installation procedure. Since the BIOS automatically assign the PCI Express board's IRQ number and I/O addresses, you must plug in the board before installing the driver.

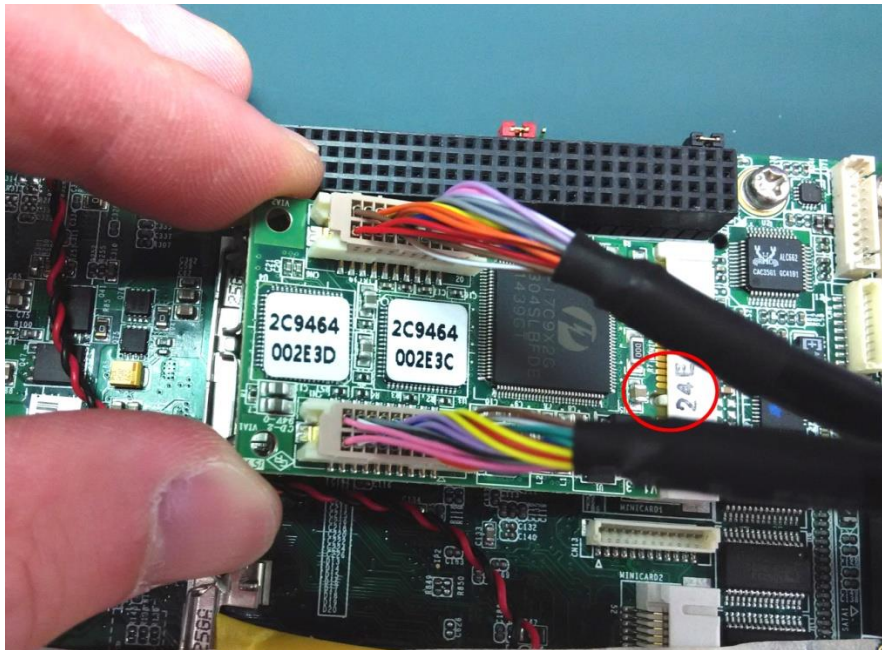
### Step 1 Connect the internal cable to the card

**Note**

Both sides of the cable connectors are the same, it doesn't matter which side you connect

## Step 2

## Install the card to the Mini PCI-e slot



Make sure you install the card in the right position (fool-proof design)

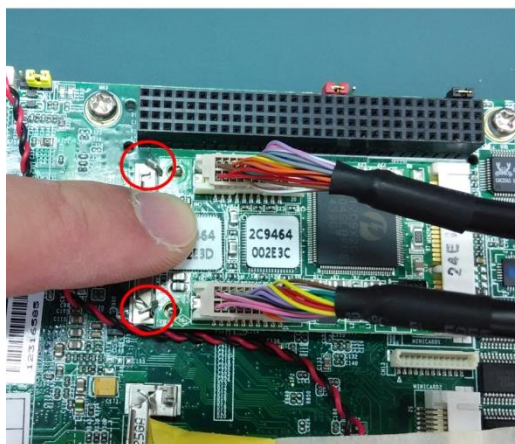
## Step 3

## Fix the card on the motherboard (clip type or screw type)

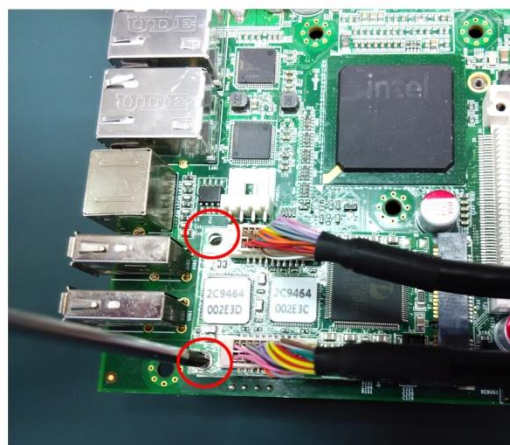
There are 2 options to fix the card. It depends on the design of the motherboard (clip or screw).

1. Clip type: make sure you press down the card and let the clips fix the card
2. Screw type: make sure you tighten up the screws to fix the card

Clip type



Screw type



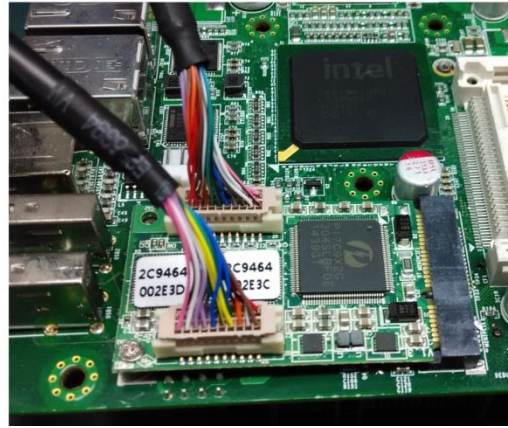
## Step 4 Card installation completed

Connect other side of the cable to the daughter board

Clip type

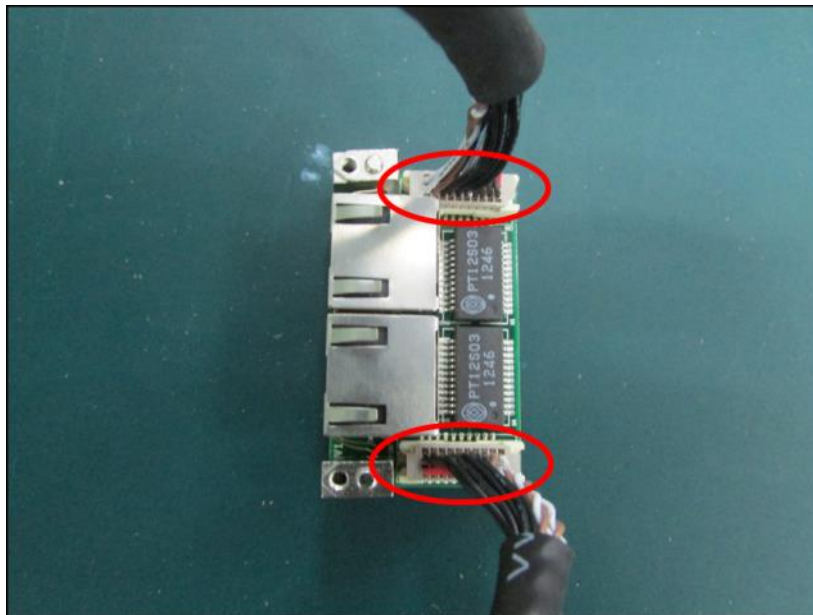


Screw type



## Step 5 Connect the cable to the daughter board

Connect other side of the cable to the daughter board



### Note

Both sides of the cable connectors are the same, it doesn't matter which side you connect

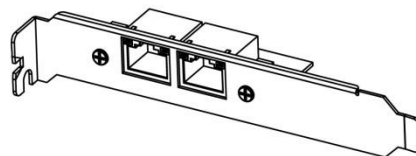
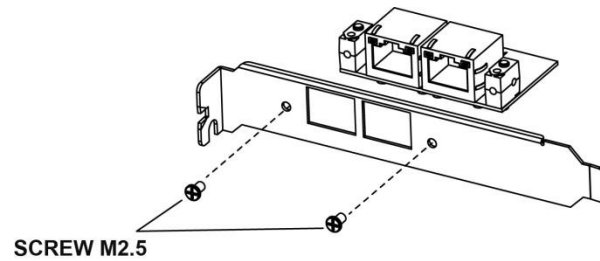


# Connector Fixation

## MECFIX – Versatile Mounting

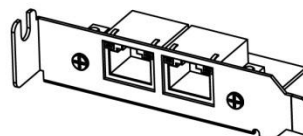
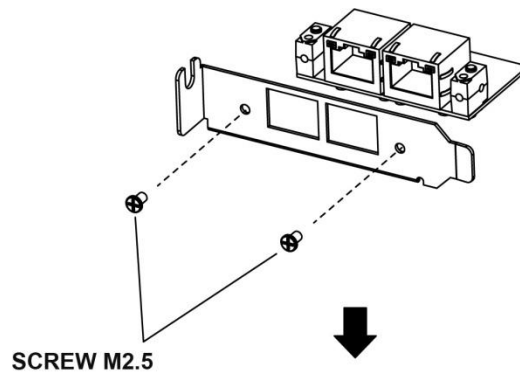
### 1. Standard PCI/PCle Bracket

PCI / PCIe IO Bracket



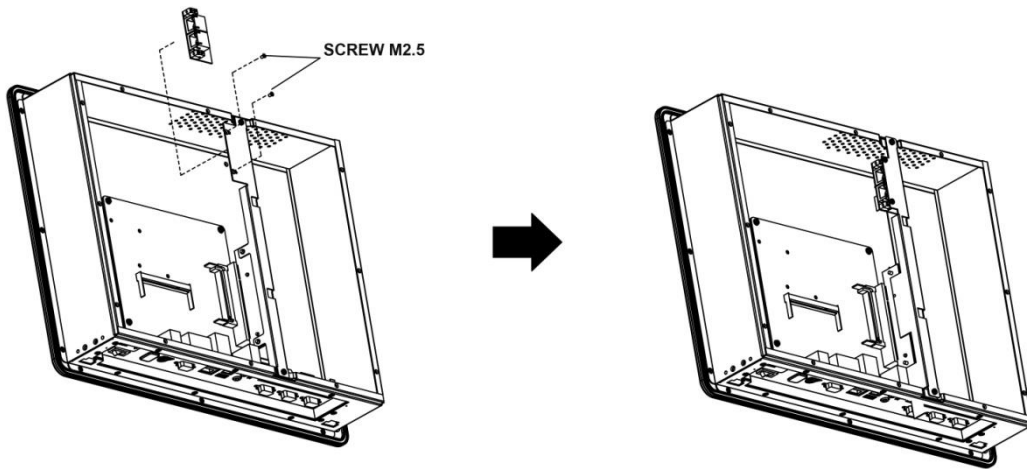
### 2. Low Profile PCI/PCle Bracket

Low Profile IO Bracket

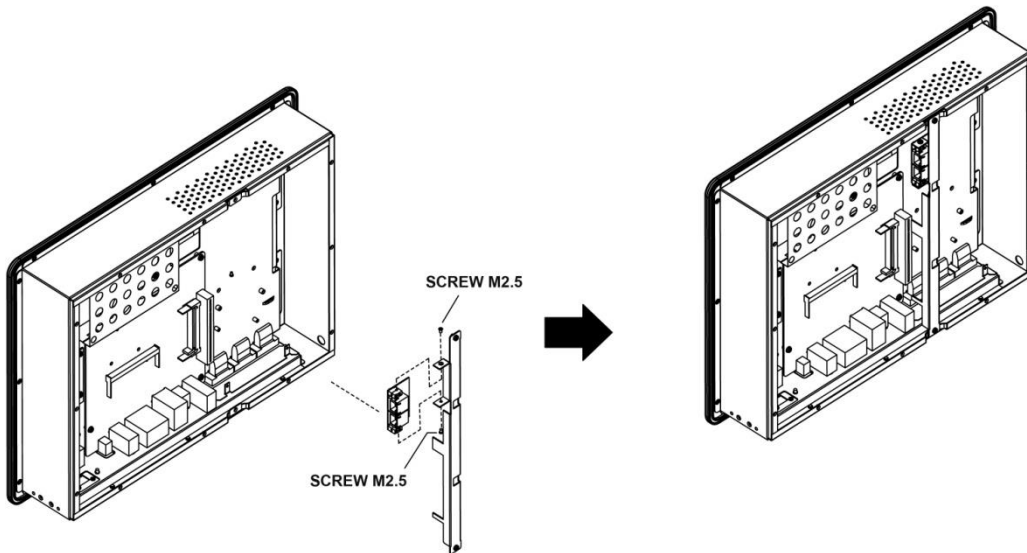


### 3. Internal Mounting

#### Upper Fixation – Industrial System

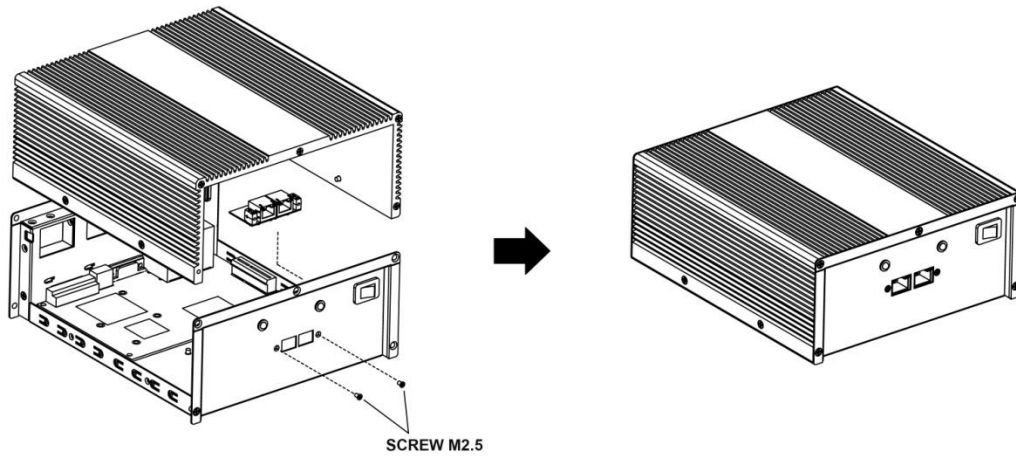


#### Right & Left Fixation – Industrial System

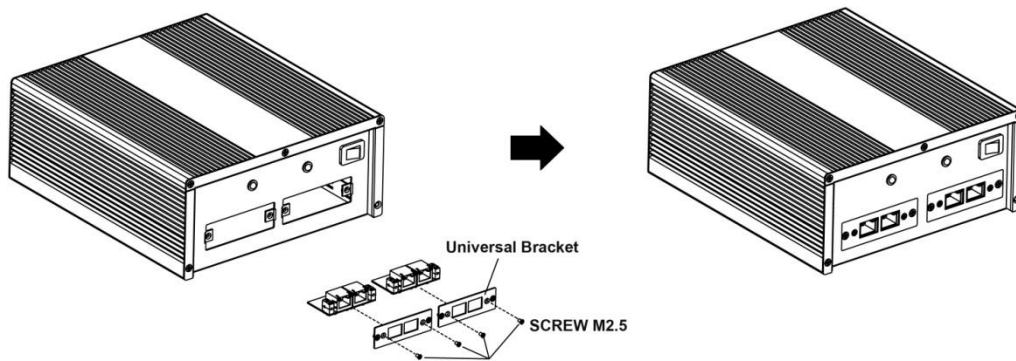


## 4. Customized Front / Rear Plate

### Front / Rear I/O Plate



### Universal Bracket



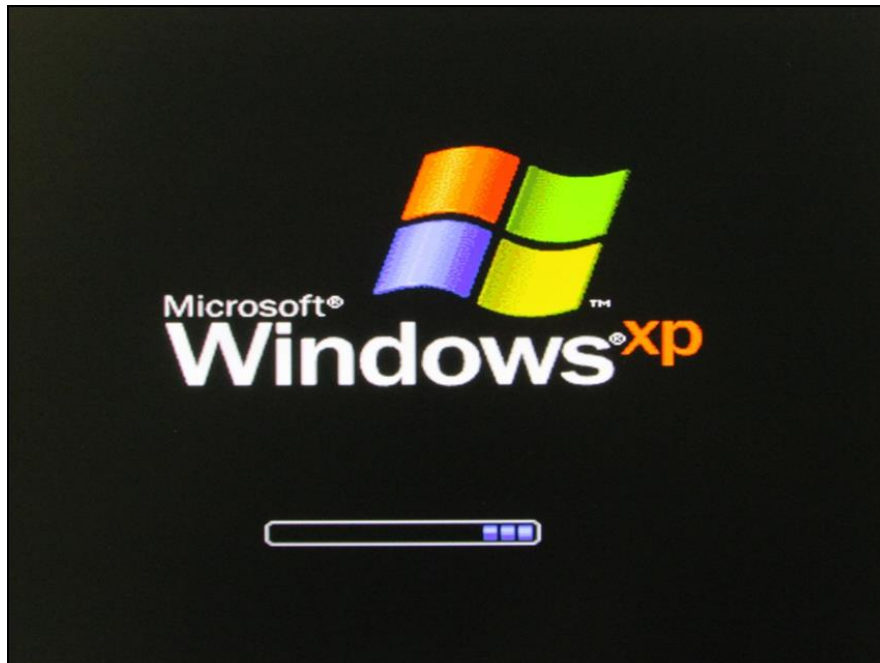
# 3

## Software Installation

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This chapter gives installation, configuration, and update/removal procedures for the driver for Win 2003, Win XP, Win Vista, Win 7, and Win 8.

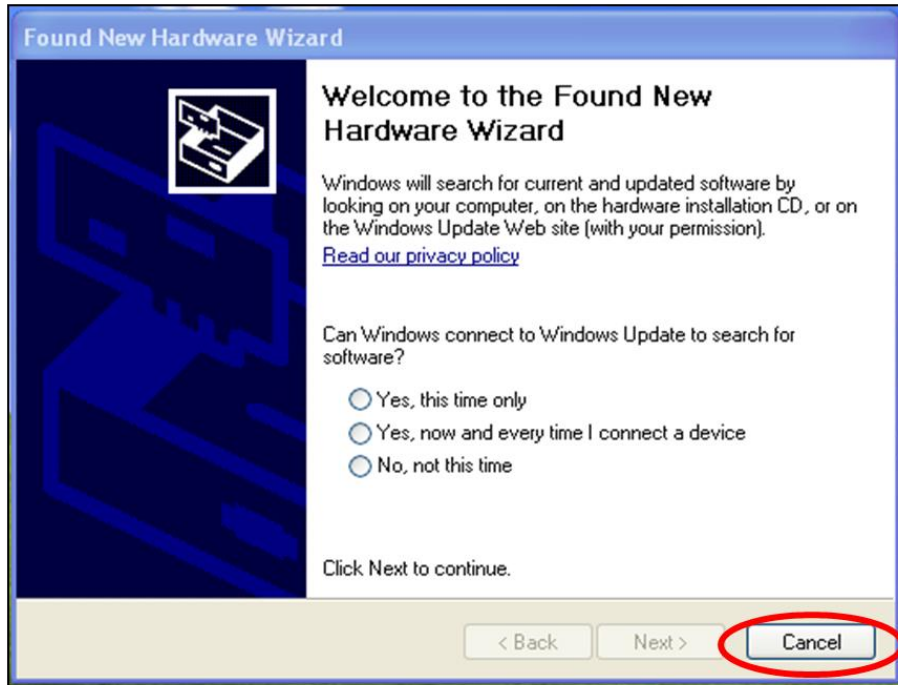
### Step 1 Turn on PC and start Windows



**Note** XP OS as example

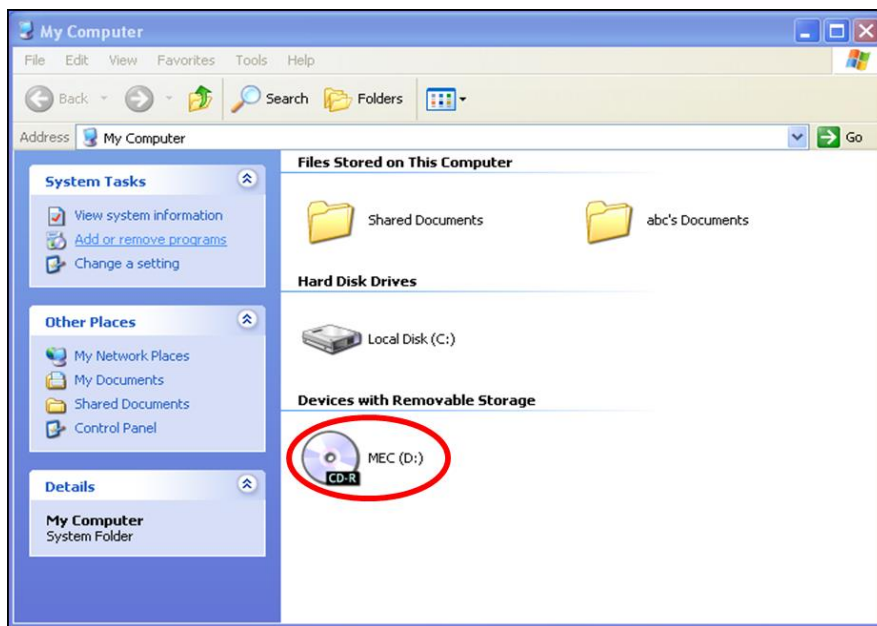
## Step 2 Windows automatically detects the new device

1. If the card is installed properly, system would detect the new device and the hardware wizard would start automatically.
2. Click "Cancel" to disregard



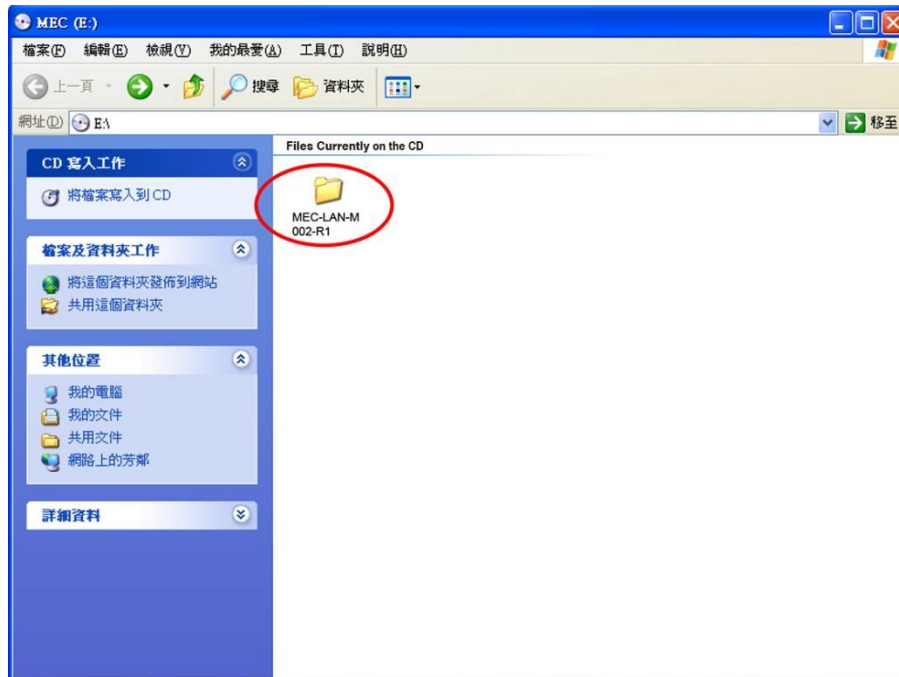
## Step 3 Insert CD

Open the CD drive



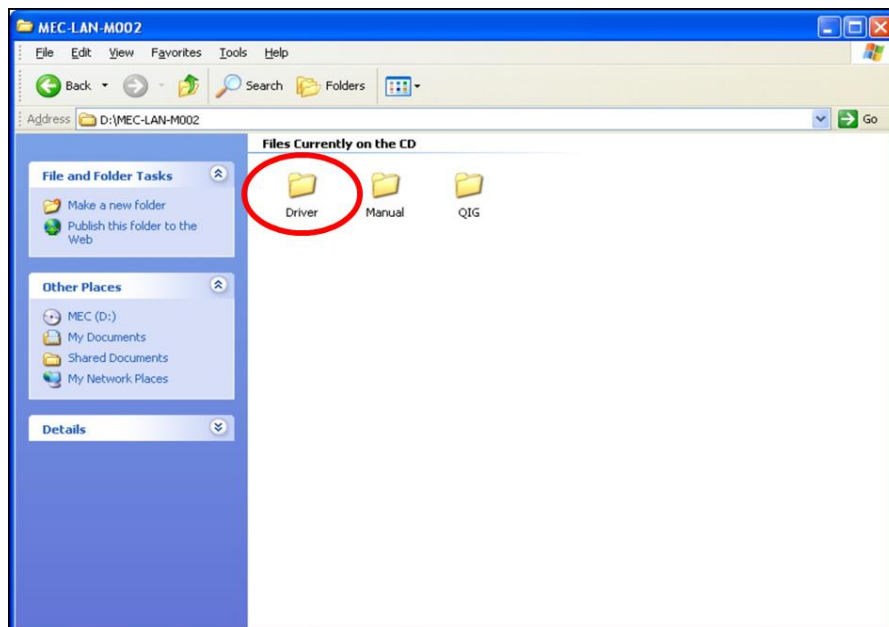
## Step 4 Find the “MEC-LAN-M002-R1” folder

Open the “MEC-LAN-M002-R1” file folder



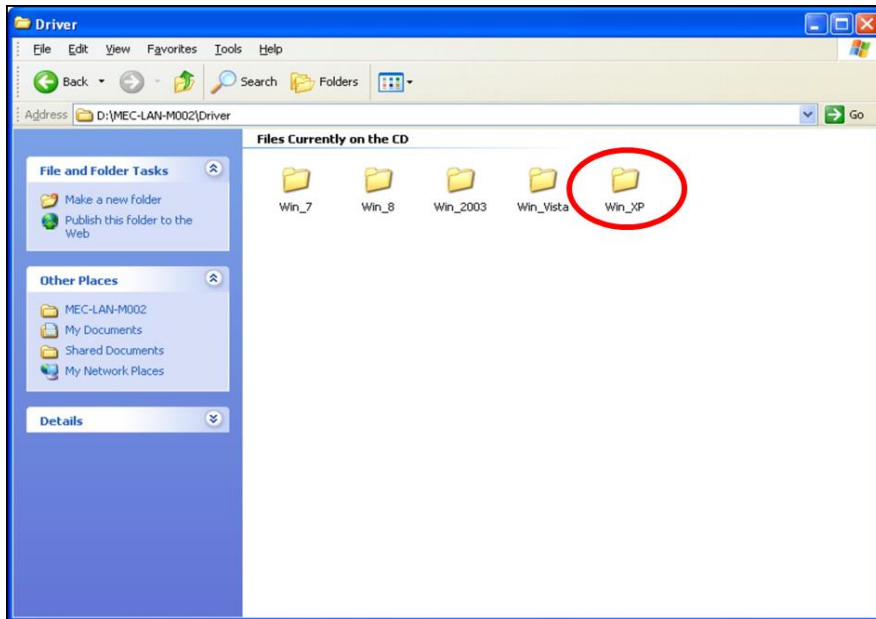
## Step 5 Find the “Driver” folder

Open the “Driver” folder



## Step 6 Find the appointed OS folder (Ex.: XP)

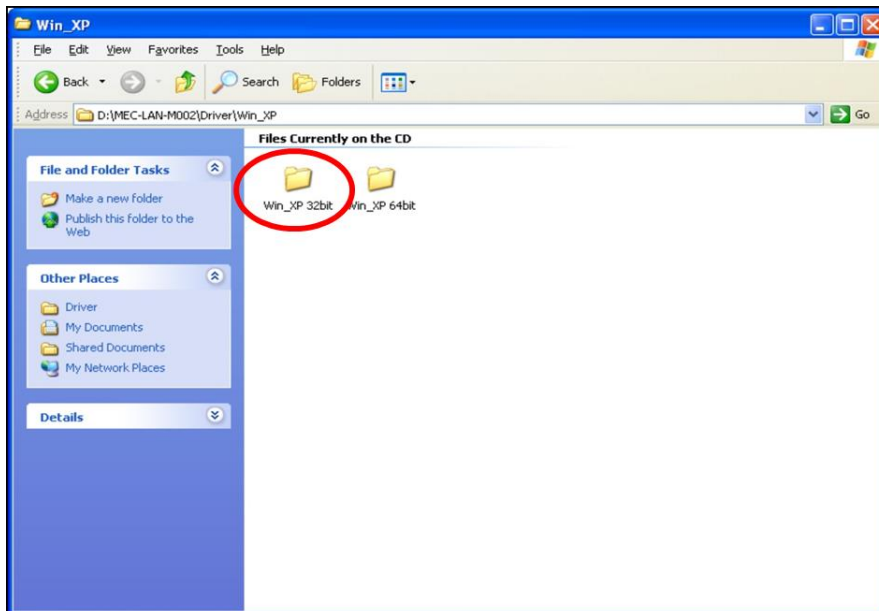
Open the appointed OS folder (We use XP as an example in the above picture)



Make sure you select the correct OS

## Step 7 Find your OS version (Ex.: XP 32bit)

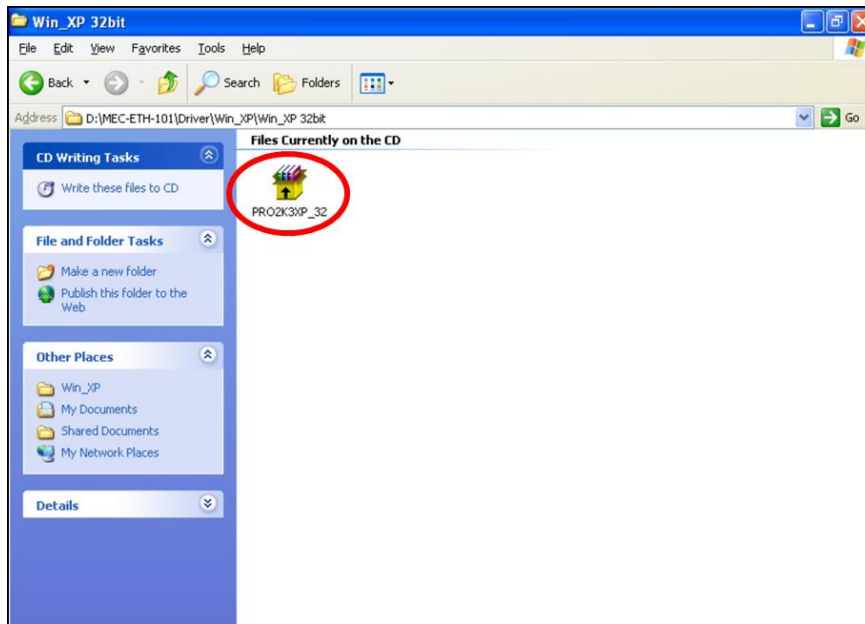
Select appoint OS folder (We use XP 32bit as an example in the above picture)



Make sure you select the correct version of the OS (Ex.: 32-bit or 64-bit)

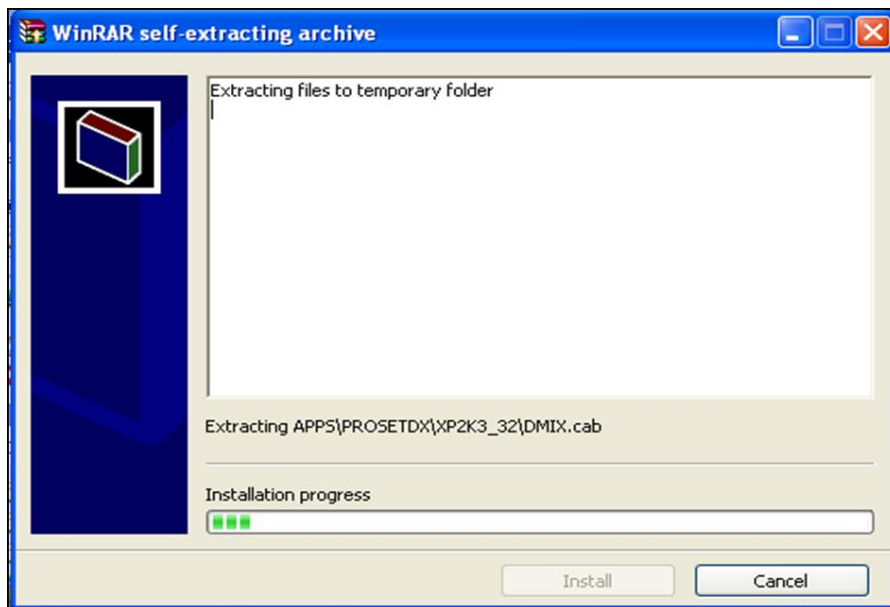
## Step 8 Open and Run Driver file

1. Open the driver file
2. Systems starts auto run



## Step 9 System starts auto run

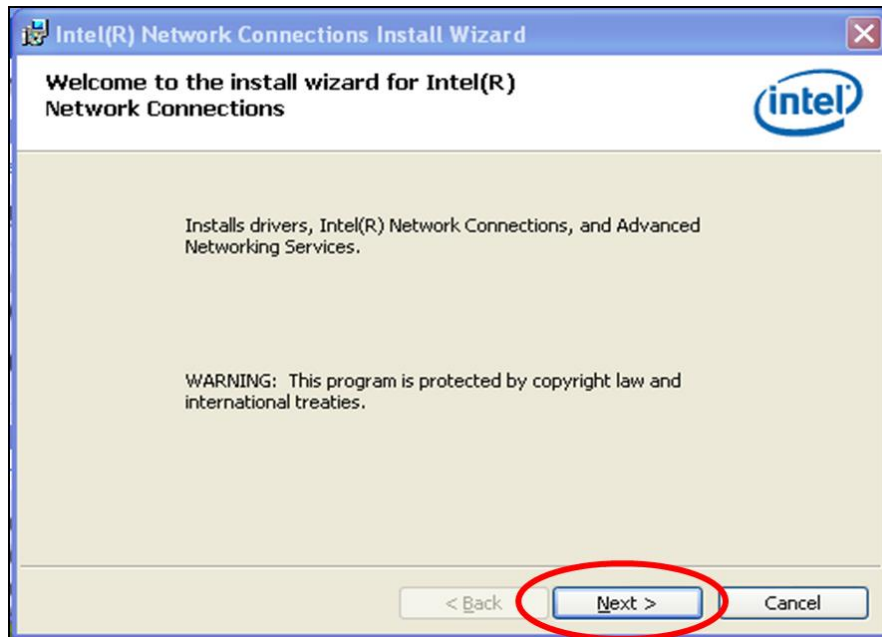
System extracts the file and starts installation automatically





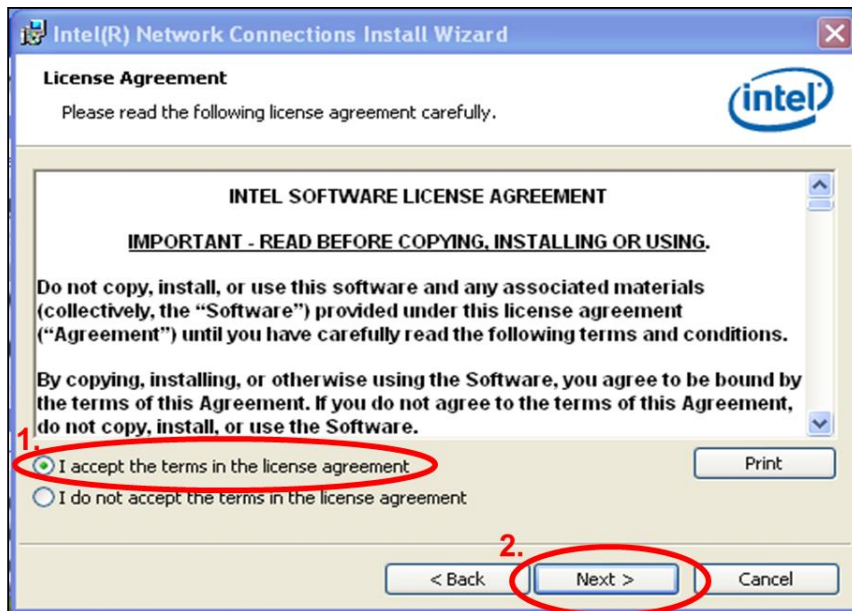
## Step 10 Driver installation set up

Click "Next"



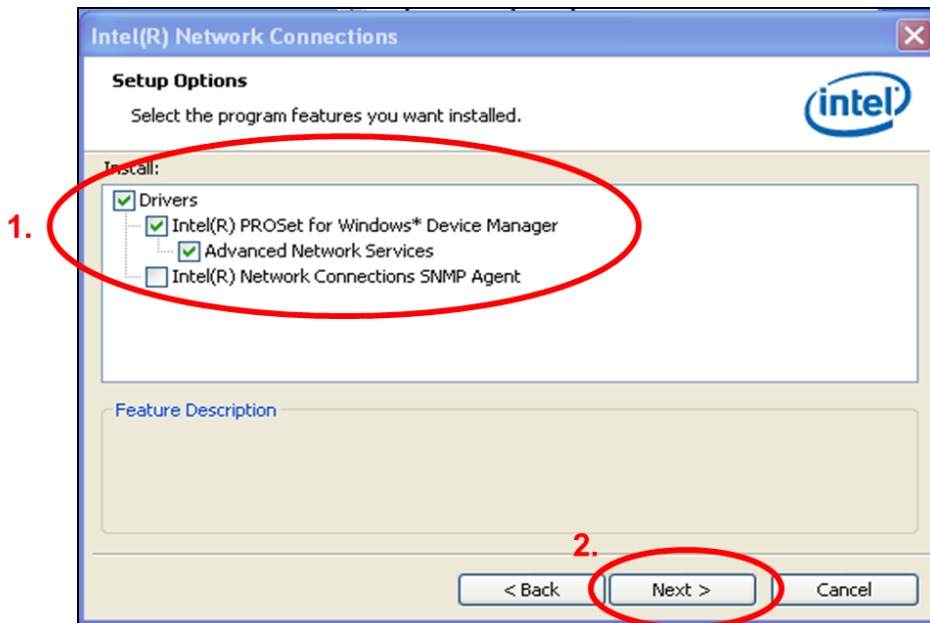
## Step 11 License Agreement

1. Select "I accept the terms in the license agreement"
2. Click "Next"



## Step 12 Driver setup options

1. Select the drivers
2. Click "Next"

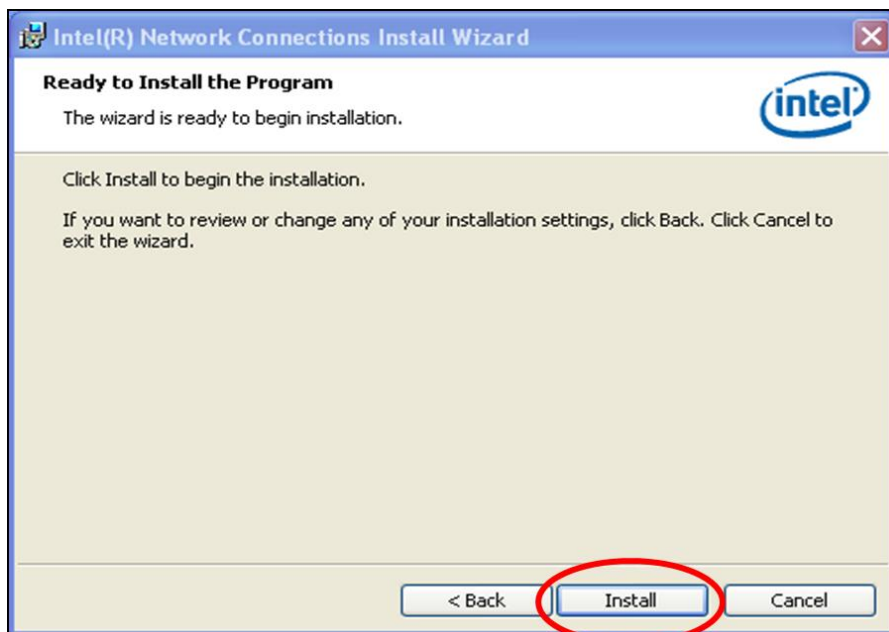


### Note

If you are not sure which driver you want to install, keep the default setting and click "Next".

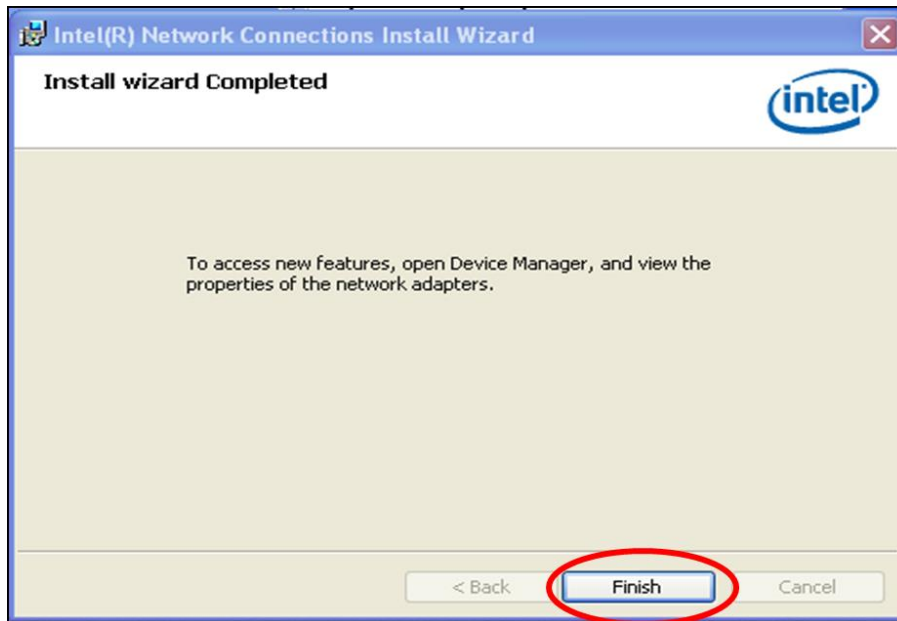
## Step 13 Start driver installation

Click "Install"



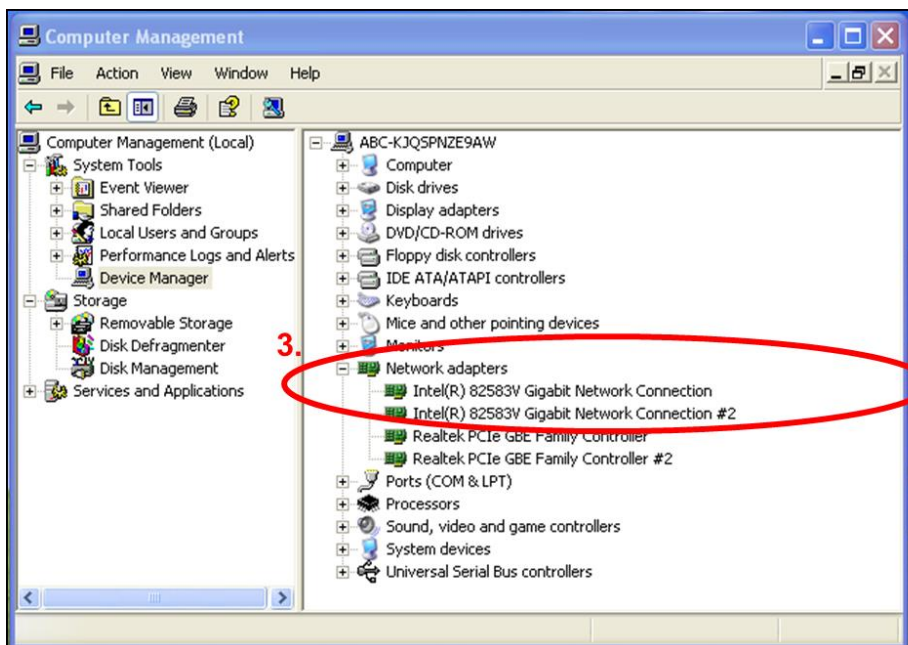
## Step 14 Driver installation completed

Driver install is completed, click "Finish"



## Step 15 Confirm if driver is installed

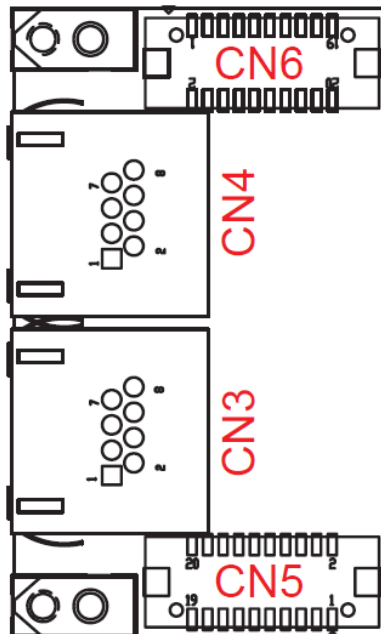
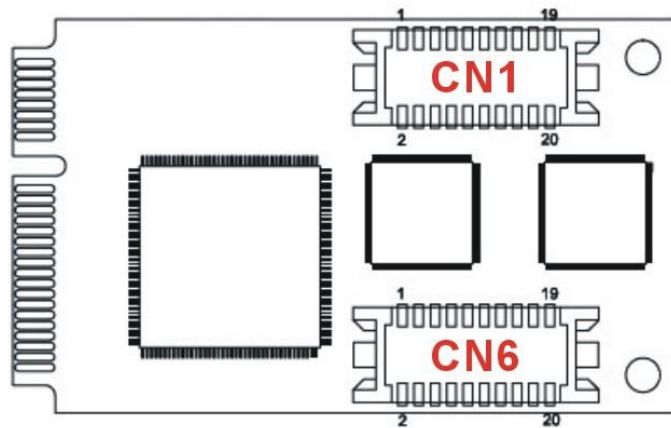
1. Start "Computer Management" program
2. Go to the route: *My Computer* → *Manage* → *Device Manager* → *Network adapters*
3. You would find driver name: 2x Intel® 82583V Gigabit Network Connection
4. Device is ready to be used



# Appendix

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## □ Pin Assignments



## Board Side Pin Assignments

### Wire to Board Connector (CN1 · CN6)

#### CN1 (M/B PCB Location)

#### CN6 (M/B PCB Location)

Pin	Description	Pin	Description
1	BI_DA1+	2	BI_DD1+
3	BI_DA1-	4	BI_DD1-
5	GND	6	GND
7	BI_DB1+	8	+1.8V
9	BI_DB1-	10	N/C
11	GND	12	N/C
13	BI_DC1+	14	Link100_1
15	BI_DC1-	16	Link1000_1
17	GND	18	Active_1
19	N/C	20	Link_1

### Wire to Board Connector (CN5 · CN6)

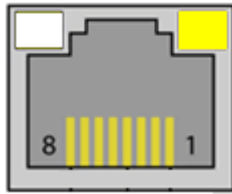
#### CN5 (DB PCB Location)

#### CN6 (DB PCB Location)

Pin	Description	Pin	Description
1	BI_DA2+	2	BI_DD2+
3	BI_DA2-	4	BI_DD2-
5	GND	6	GND
7	BI_DB2+	8	+1.8V
9	BI_DB2-	10	N/C
11	GND	12	N/C
13	BI_DC2+	14	Link100_2
15	BI_DC2-	16	Link1000_2
17	GND	18	Active_2
19	N/C	20	Link_2

## Device Side Pin Assignments

### Ethernet Connector (CN3 、 CN4)



CN3		CN4	
Pin	Description	Pin	Description
1	BI_DA1+	1	BI_DA2+
2	BI_DA1-	2	BI_DA2-
3	BI_DB1+	3	BI_DB2+
4	BI_DC1+	4	BI_DC2+
5	BI_DC1-	5	BI_DC2-
6	BI_DB1-	6	BI_DB2-
7	BI_DD1+	7	BI_DD2+
8	BI_DD1-	8	BI_DD2-

# □ Technical Reference

## MEC-LAN-M002-R1 Specifications

### General

PCI-Express Revision	PCI-Express Base Specification Rev 1.1
PCI-Express Electromechanical Revision	PCI-Express Mini Card Electromechanical Rev. 1.1

### Hardware

Controllers	Intel 82583V x 2
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps

### Interface (Connector)

Ethernet 10/100/1000	2 (RJ45)
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### Technology

Standards	IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3ab for 1000BaseT(X), IEEE 802.3z for 1000BaseX
Flow Control	IEEE 802.3x flow control

### Driver Support

Operating Systems	Win 2003, Win XP, Win Vista, Win 7, Win 8
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### Power Requirement

Power Consumption	835mA@3.3V
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### Dimensions

Width x Length (mm)	30.00 x 50.95
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### Environmental Limits

Operating Temperature	-20°C ~ 70°C
Storage Temperature	-20°C ~ 85°C
Humidity	5% ~ 95%

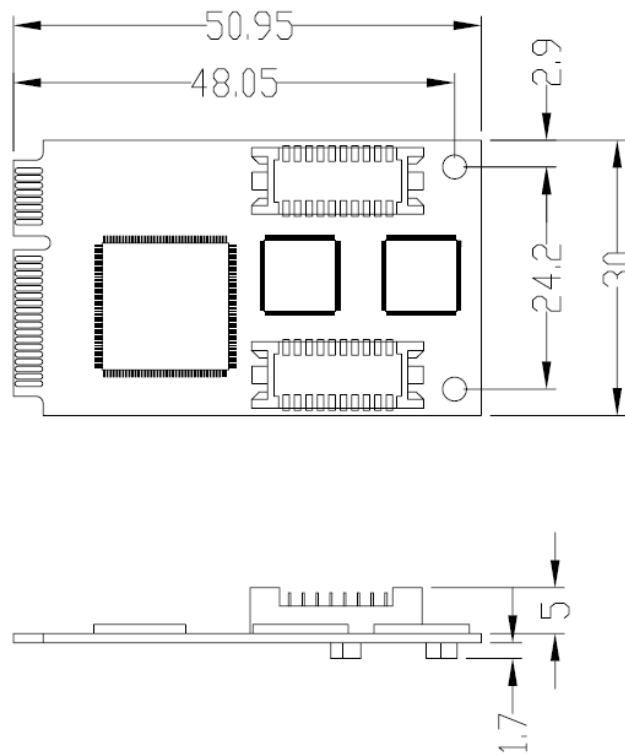
### Regulatory Approvals

EMC	CE, FCC
EMI	EN 55022, EN61000-3-2, EN61000-3-3, FCC Part 15 Subpart B Class B
EMS	En 55024, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

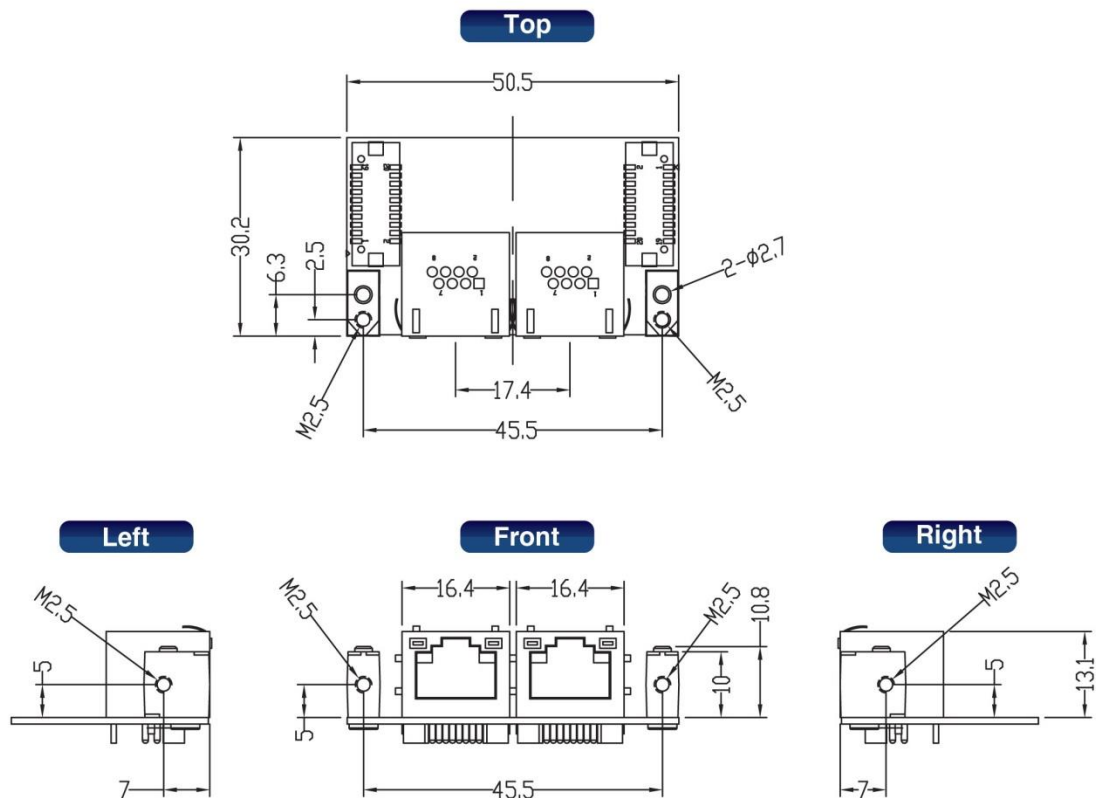
### Reliability

MBTF	1,305,653 hr
Warranty	3 years

## MEC-LAN-M002-R1 Dimensions



## MEC-LAN-M002-R1 Daughter Board Dimensions





## □ **Product Warranty Statement**

Cervoz products are warranted to be free from manufacturing defects in materials and workmanship starting from the date of delivery. The actual warranty period of Cervoz products vary with product categories. Complete details can be found here:

<http://www.cervoz.com/warranty.php>

During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

Defects, malfunctions, or failures of the warranted product caused by damage resulting from natural disasters (such as by lightning, flood, earthquake, etc.), environmental and atmospheric disturbances, other external forces such as power line disturbances, plugging the board in under power, or incorrect cabling, and damage caused by misuse, abuse, and unauthorized alteration or repair, and the product in question is either software, or an expendable item (such as a fuse, battery, etc.), are not warranted.

### **RMA Instruction**

- Customers must fill in Cervoz Return Merchandise Authorization (RMA) Request Form and obtain a RMA number prior to returning a defective product to Cervoz for service.
- Customers must collect all the information about the problems encountered and note anything abnormal and describe the problems on the "Cervoz Service Form" for the RMA number application process.
- Charges may be incurred for certain repairs. Cervoz will charge for repairs to products whose warranty period has expired. Cervoz will also charge for repairs to products if the damage resulted from acts of God, environmental or atmospheric disturbances, or other external forces through misuse, abuse, or unauthorized alteration or repair. If charges will be incurred for a repair, Cervoz lists all charges, and will wait for customer's approval before performing the repair.
- Customers agree to insure the product or assume the risk of loss or damage during transit, to prepay shipping charges, and to use the original shipping container or equivalent.
- Customers can send back faulty products with or without accessories (manuals, cable, etc.) and any components from the card. If the components were suspected as part of the problems, please note clearly. Otherwise, Cervoz is not responsible for the devices/parts.
- Repaired items will be shipped along with a "Repair Report" detailing the findings and actions taken.

### **Limitation of Liability**

Cervoz' liability arising out of the manufacture, sale, or supplying of the product and its use, whether based on warranty, contract, negligence, product liability, or otherwise, shall not exceed the original selling price of the product. The remedies provided herein are the customer's sole and exclusive remedies. In no event shall Cervoz be liable for direct, indirect, special or consequential damages whether based on contract of any other legal theory.