

# **MEC-FIR-M003**

**Mini PCI-e 1-port IEEE 1394A and 2-port 1394B board**

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## **User's Manual**

**Third Edition, February 2014**



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# **Mini PCI-e FireWire Card**

## **User's Manual**

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# 1

## Introduction

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### Overview

MEC-FIR-M003 is a FireWire 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 (30.00 x 50.95 mm). This board fits in any host computer that has Mini PCI-e card slots.

### Features

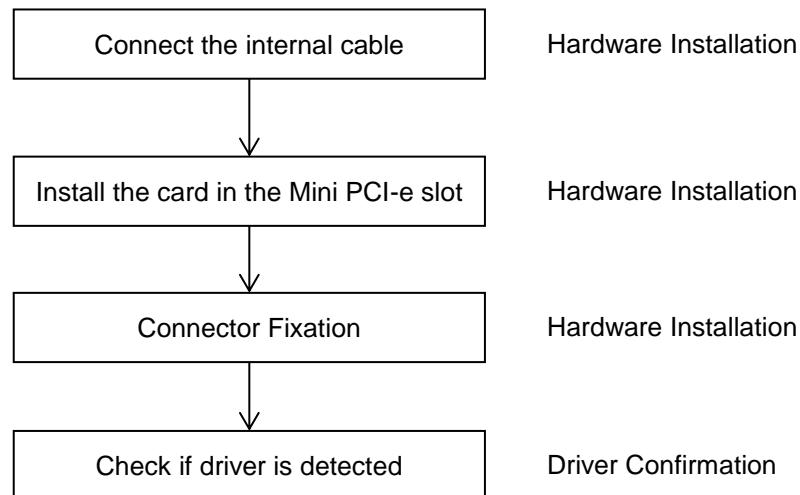
The PCI Express boards have the following outstanding features:

- Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps
- Fully compliant with PCI-Express Base Specification Rev 1.1
- Transfer rate up to 400Mbps for IEEE1394A FireWire and up to 800Mbps for IEEE1394B FireWire
- IEEE P1394b and backwards supports 1394a-2000 as well as 1394-1995 standards compliant
- Support Hot-Swap function
- 5V or 12V power output supported by jumper setting

# Installation Flowchart

## Installation Flowchart of MEC-FIR-M003

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 Cable (30cm) x 1
- 4Pin Power Input Cable (30cm) x 1
- 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

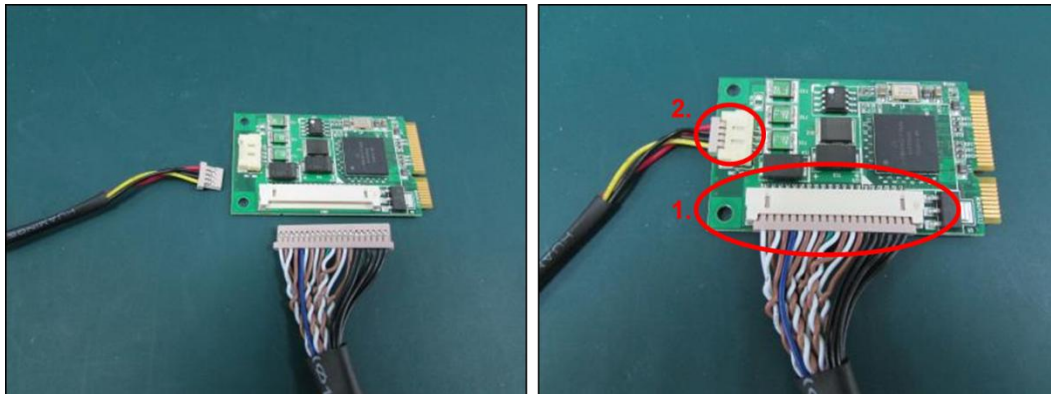
## Hardware Installation

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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**

1. Connect the internal cable to the card
2. Connect the power cable to the card

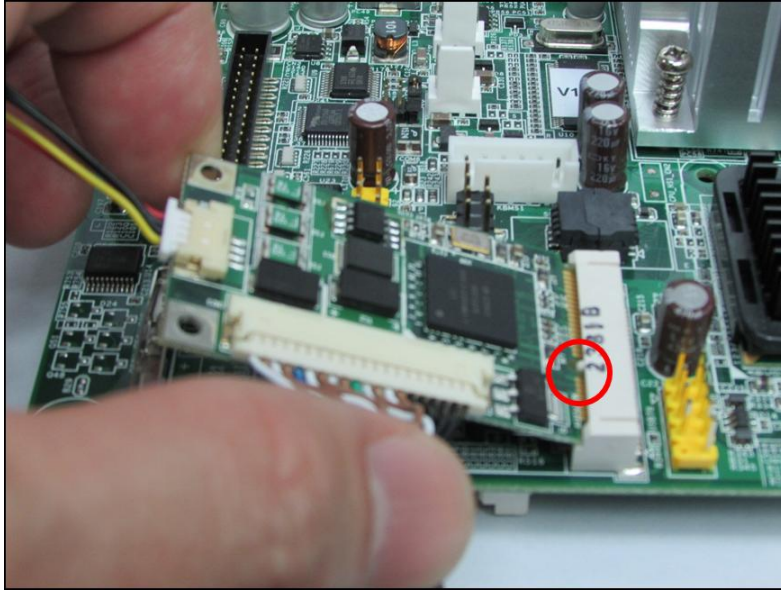


#### **Note**

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)

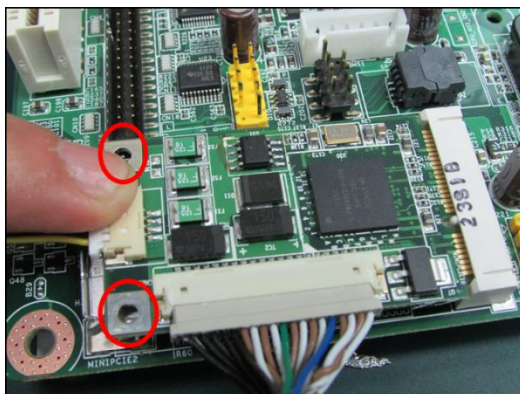
## Step 3

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

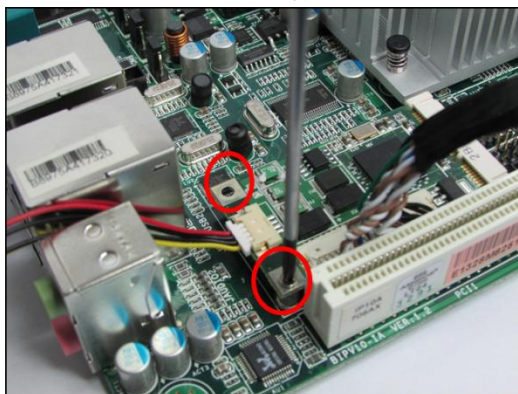
There are 2 options to fix the card. It depends on the design of the motherboard (clip or screw).

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

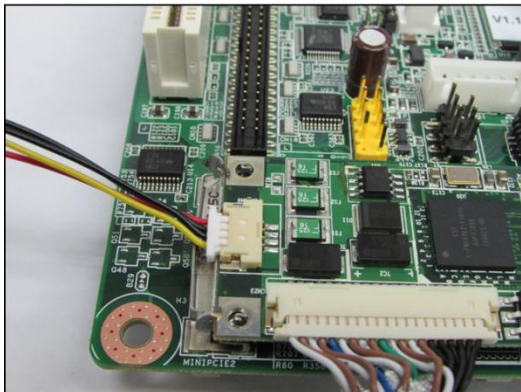


Screw type

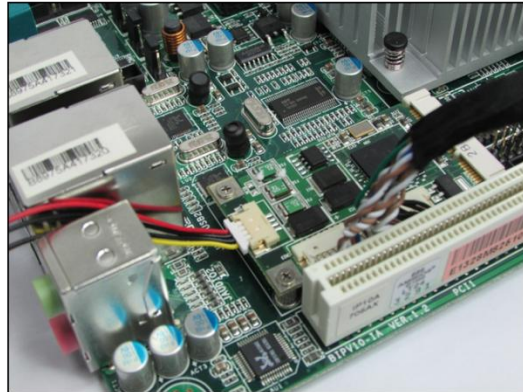


## Step 4 Card installation completed

Clip type

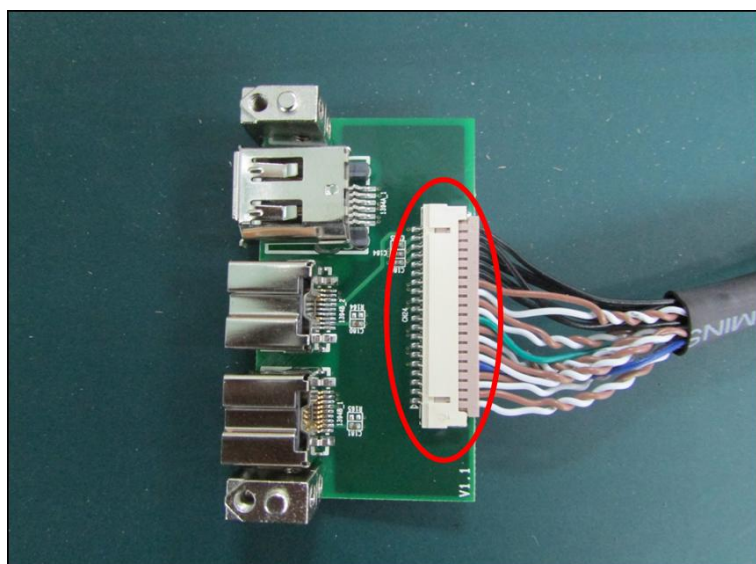


Screw type



## Step 5 Connect the cable to the daughter board

Connect other side of the cable to the daughter board



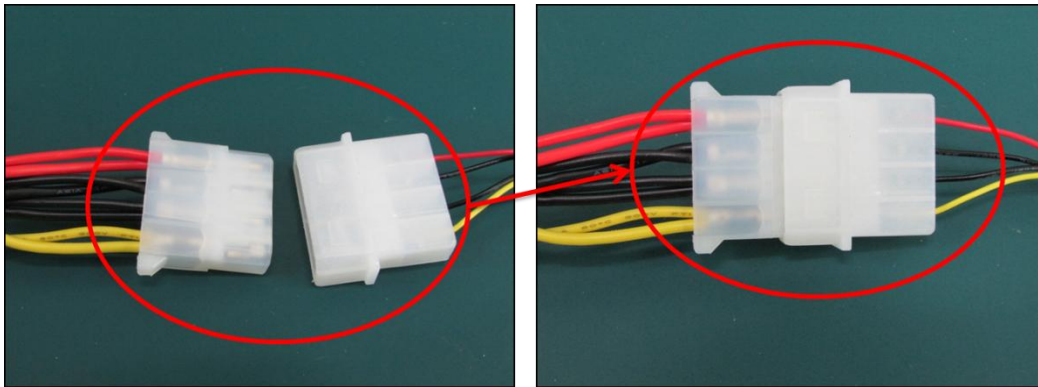
### Note

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



## **Step 6**      **Connect the power cable to the 4PIN power connector**

Connect the power cable to the big 4PIN power connector from the power supply

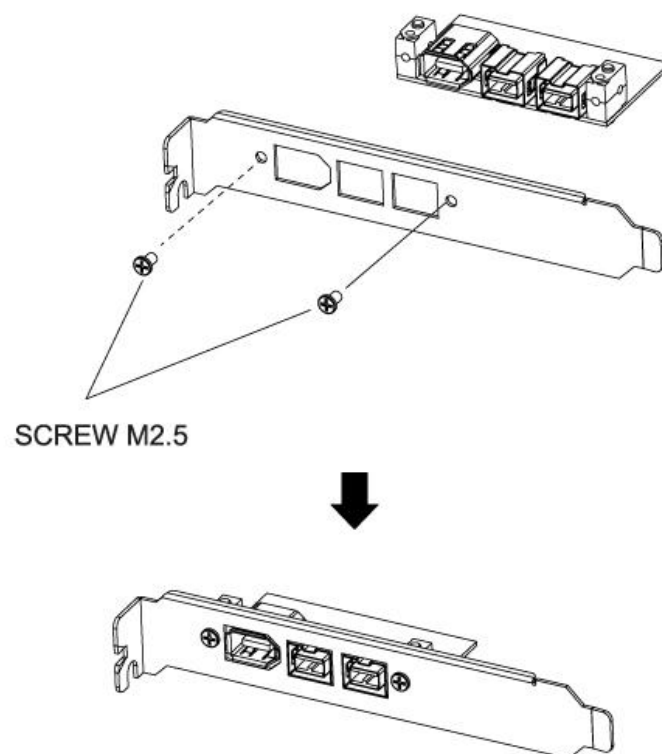


## **Connector Fixation**

### **MECFIX – Versatile Mounting**

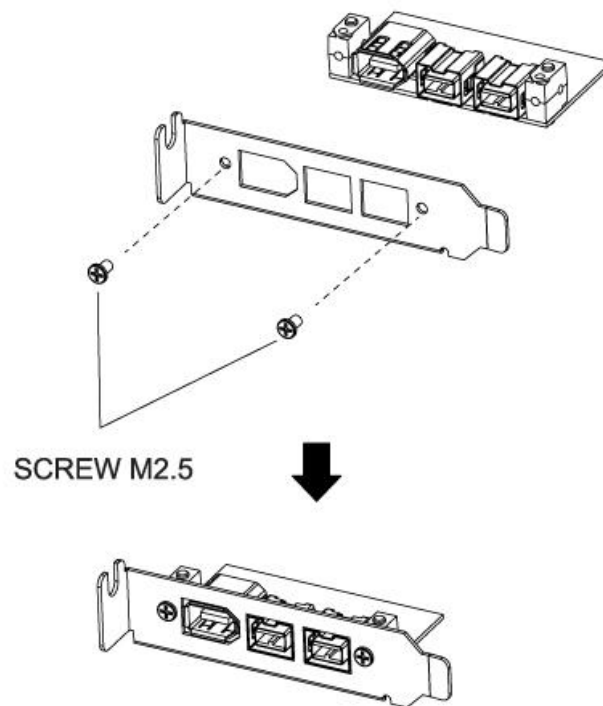
#### **1. Standard PCI/PCIe Bracket**

PCI / PCIe IO Bracket



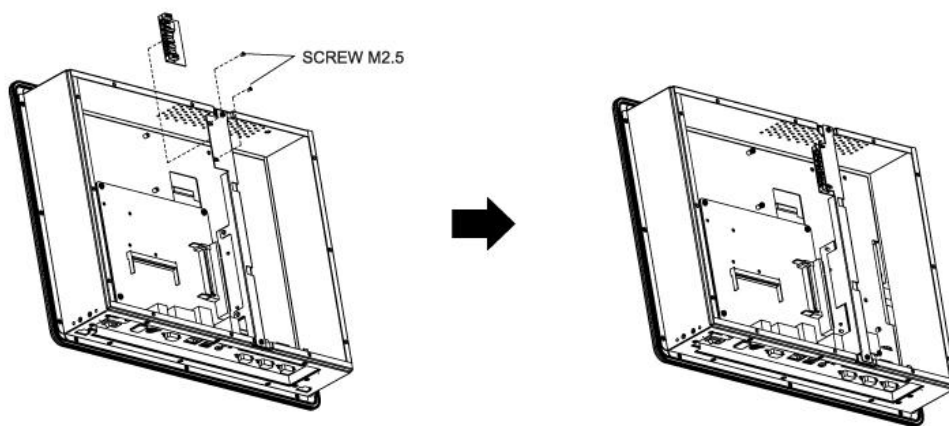
## 2. Low Profile PCI/PCIe Bracket

### Low Profile IO Bracket

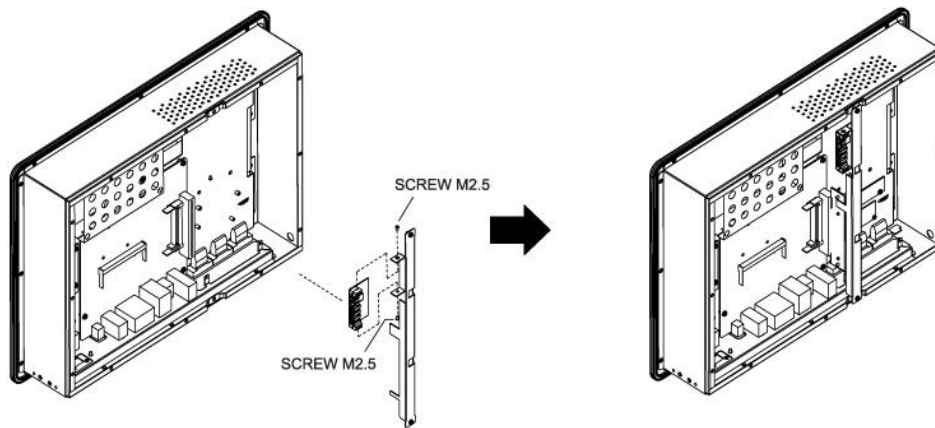


## 3. Internal Mounting

### Upper Fixation – Industrial System

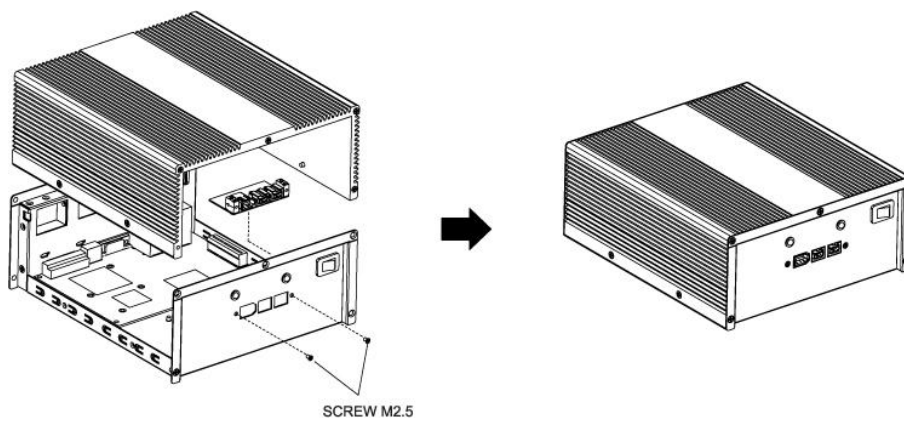


## Right & Left Fixation – Industrial System

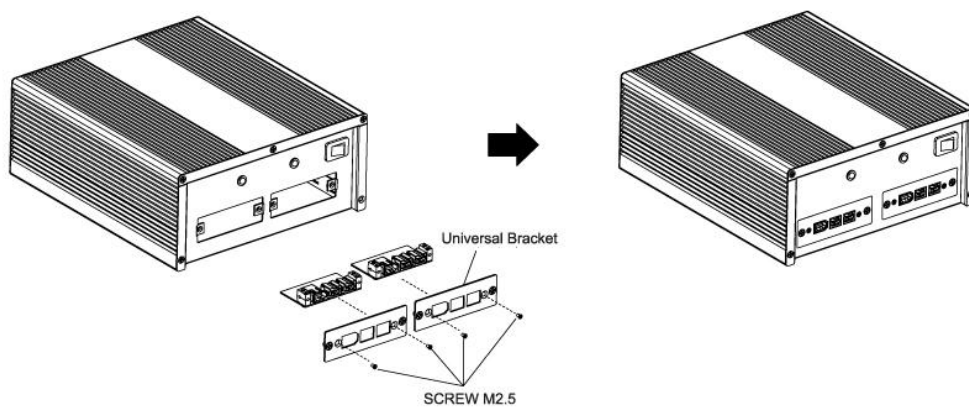


## 4. Customized Front / Rear Plate

### Front / Rear I/O Plate



### Universal Bracket



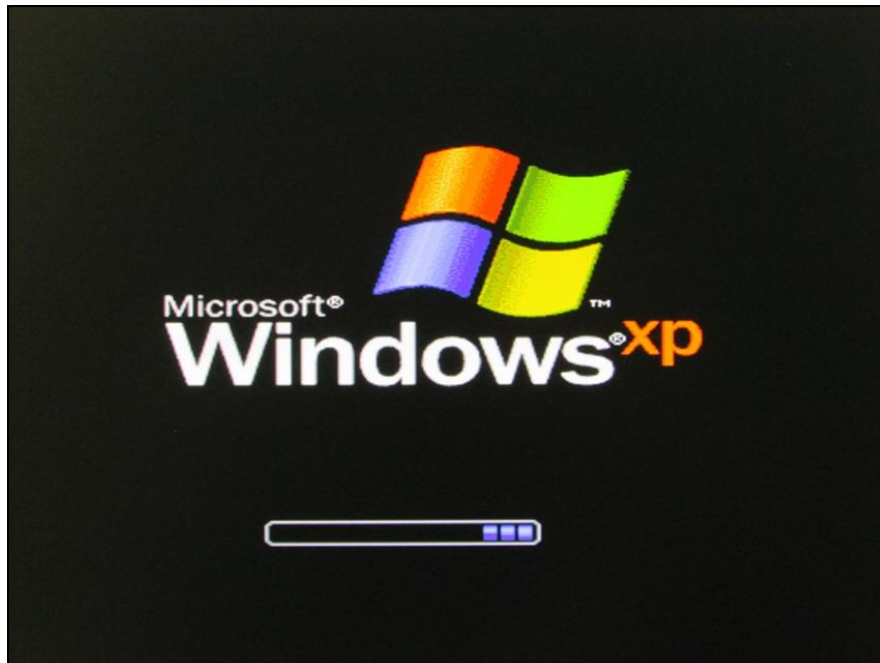
# 3

## Driver Confirmation

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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..

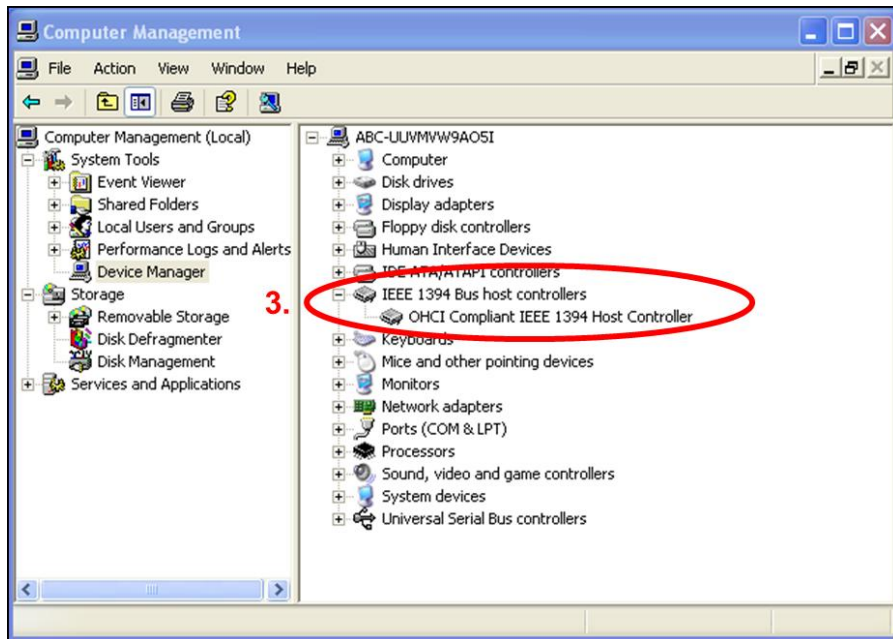
### **Step 1** Turn on PC and start Windows



**Note** XP OS as example

## Step 2 Check if driver is detected

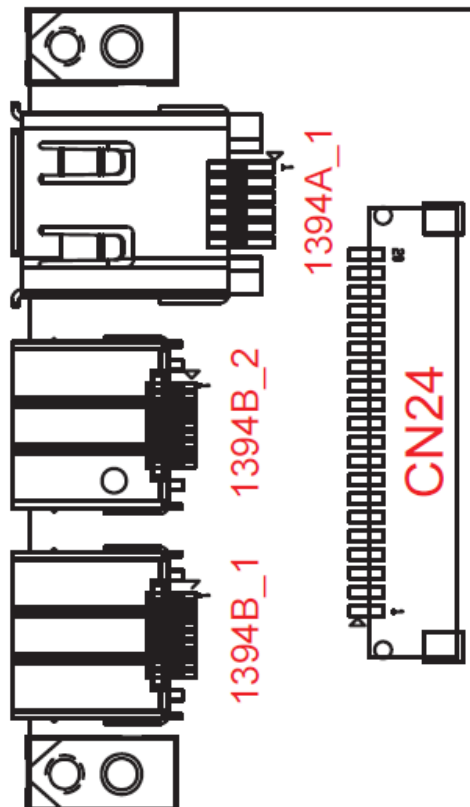
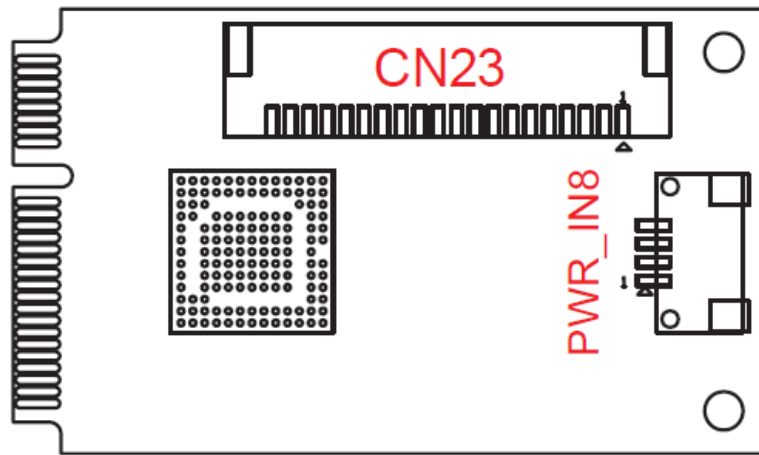
1. Start "Computer Management" program
2. Go to the route:  
*My Computer* → *Manage* → *Device Manager* → *IEEE 1394 Bus host controller*
3. You would find driver name: OHCI Compliant IEEE 1394 Host Controller
4. Device is ready to be used



# Appendix

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## □ Pin Assignments



## Board Side Pin Assignments

### Wire to Board Connector (CN23、CN24)

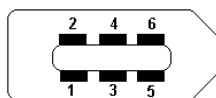
Pin	Description	Pin	Description
1	+TPB0	11	+TPB2
2	-TPB0	12	-TPB2
3	+TPA0	13	+TPA2
4	-TPA0	14	-TPA2
5	GND	15	GND
6	+TPB1	16	GND
7	-TPB1	17	+12V
8	+TPA1	18	+12V
9	-TPA1	19	+12V
10	GND	20	GND

### Power Input Connector (PWR\_IN8)

Pin	Description
1	N/C
2	GND
3	GND
4	+12V

## Device Side Pin Assignments

### IEEE 1394A 6 pin Connector (1394A\_1)



Pin	Description
1	+12V
2	GND
3	-TPB0
4	+TPB0
5	-TPA0
6	+TPA0

## IEEE 1394B 9 pin Connector (1394B\_1 、 1394B\_2)



1394B_1		1394B_2	
Pin	Description	Pin	Description
1	-TPB1	1	-TPB2
2	+TPB1	2	+TPB2
3	-TPA1	3	-TPA2
4	+TPA1	4	+TPA2
5	A shield	5	A shield
6	GND	6	GND
7	N/C	7	N/C
8	+12V	8	+12V
9	B shield	9	B shield



## Technical Reference

### MEC-FIR-M003 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	LSI FW643E
Bus	Single-Lane (x1) PCI-Express with throughput up to 2.5Gbps

#### Interface (Connector)

IEEE 1394A	1 (1394A)
IEEE 1394B	2 (1394B)

#### Performance

Data Transfer Rate	100, 200, 400, 800 Mbit/s transfer rate
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#### Driver Support

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

Power Consumption	245mA@3.3V
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#### Dimensions

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

Operating Temperature	0 to 60°C
Storage Temperature	-20°C~85°C
Humidity	5%~95%

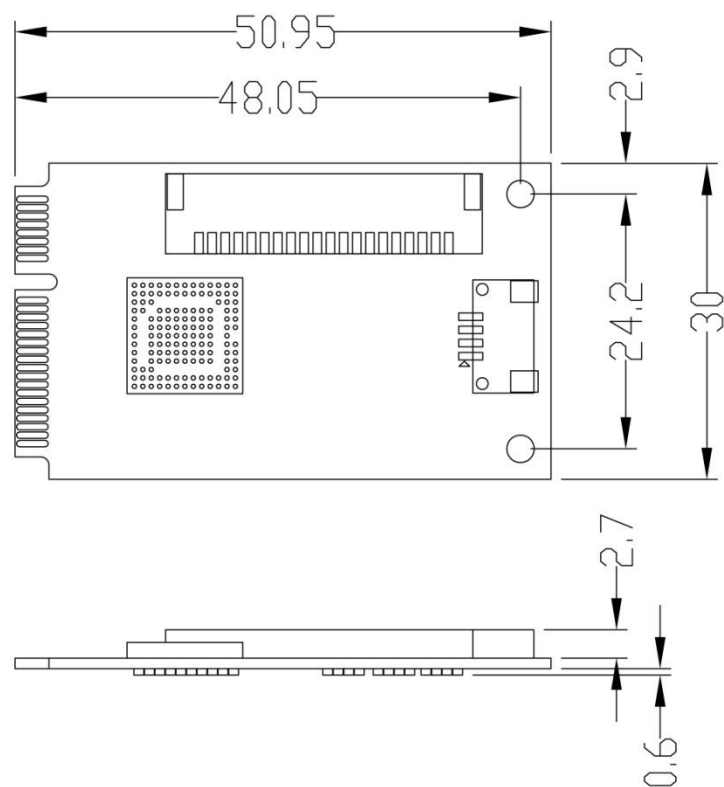
#### Regulatory Approvals

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

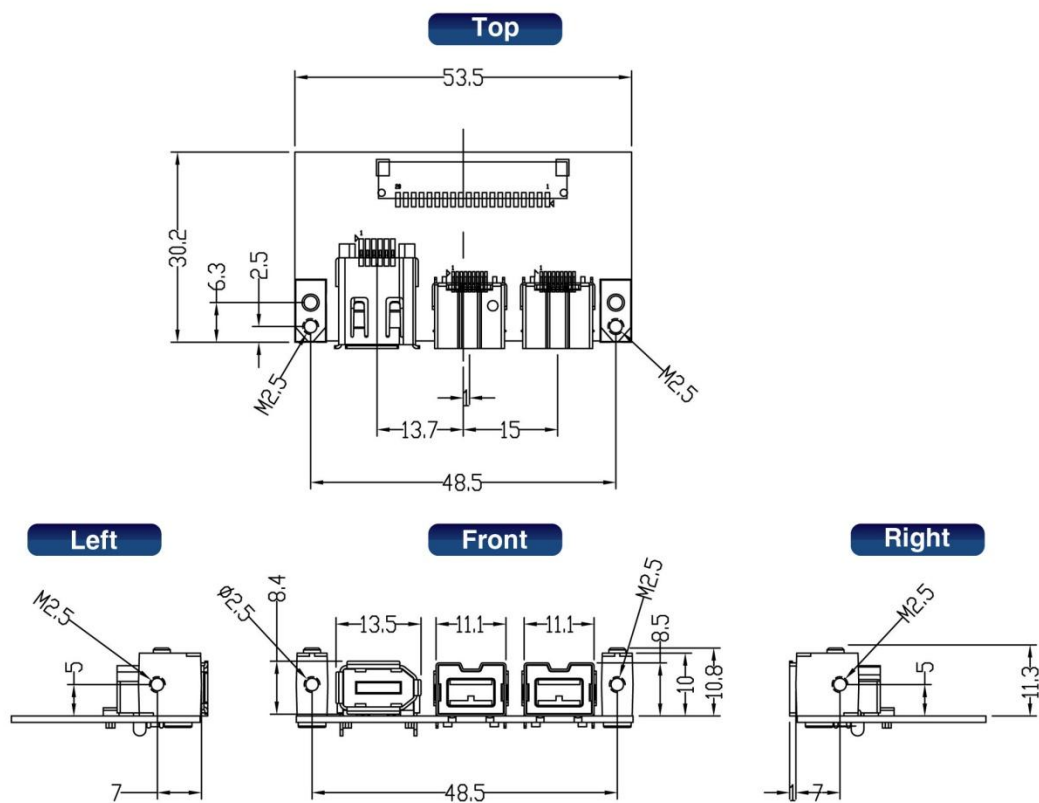
#### Reliability

MTBF	1,726,787 hr
Warranty	3 years

## MEC-FIR-M003 Dimensions



## MEC-FIR-M003 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/support/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 lightening, 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.

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