

# **Flexible x1 PCI Express to MiniPCI Express Adapter**

## **Hardware Manual**

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**June 01, 2011**

**Revision 1.1**

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# 1 About this Document

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## 1.1 Purpose

This document describes Hardware installation, features, specification and operation for AMFELTEC Flexible x1 PCI Express to MiniPCI Express Bus Adapter (SKU-056).

## 1.2 Feedback

AMFELTEC Corp. makes every effort to ensure that the information contained in this document is accurate and complete at time of release. Please contact AMFELTEC Corp. if you find any errors, inconsistency or have trouble understanding any part of this document.

To provide your feedback, please send an email to [support@amfeltec.com](mailto:support@amfeltec.com)

Your comments or corrections are greatly valued in our effort for excellence and continued improvement.

## 1.3 Revision History

Rev. No.	Description	Rev. Date
1.0	Initial Release.	March 10, 2011
1.1	Update hardware installation instructions	June 01, 2011

## 2 General Description

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### 2.1 Introduction

Flexible x1 PCI Express to MiniPCI Express Bus Adapter (Adapter) (Figure 1) is designed to support expansion of modern motherboards that has no or limited numbers of MiniPCI Express connectors. Adapter converts the x1 PCI Express motherboard slot into MiniPCI Express slot.

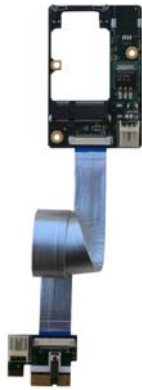


Figure 1: Flexible x1 PCI Express to MiniPCI Express Adapter

It includes one x1 PCI Express Host Card (Figure 2) and MiniPCI Express Adapter board (Figure 3). The x1 PCI Express Host Card has to be plugged into standard x1 PCI Express motherboard connector. MiniPCI Express Adapter board connects to the PCI Express Host Card via 12" PCI Express Flex cable. The expansion MiniPCI express add-in board has to be plugged into the standard MiniPCI express connector on the MiniPCI Express Adapter board.

Because of the flexible nature of the connection (unlike traditional rigid risers), expansion MiniPCI express add-in board can be positioned away from the PCI Express connector on the motherboard inside a computer chassis.

MiniPCI Express Adapter board has two mounting holes allowing them to be securely fixed inside a computer chassis.

The Adapter functions right out of the box, no additional software needs to be installed. The 32-bit PCI Host Card has LEDs for displaying downstream PCI express Link status as well as expansion MiniPCI express add-in board "PRESENT" status.

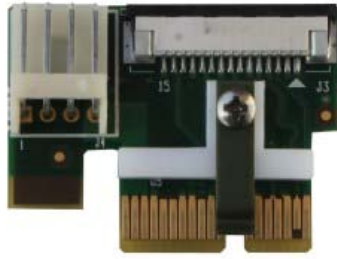


Figure 2: x1 PCI Express Host Card



Figure 3: MiniPCI Express Adapter board.

## **3 Requirements/Features**

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### **3.1 Power Source**

The power for MiniPCI Express add-in board (3.3V and 1.5V) is supplied via MiniPCI Express connector.

MiniPCI Express Adapter board can receive power via standard 4-pin “Floppy drive” power connector from the following sources:

- From x1 PCI Express host card via power cable
- From standard ATX power supply
- From any 5V external power supply

### **3.2 Software**

There is no software needed for normal operation.

## 4 Hardware Description

### 4.1 Board Layout

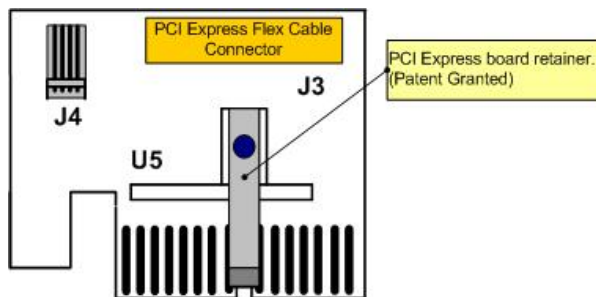


Figure 4: x1 PCI Express Host Card layout.

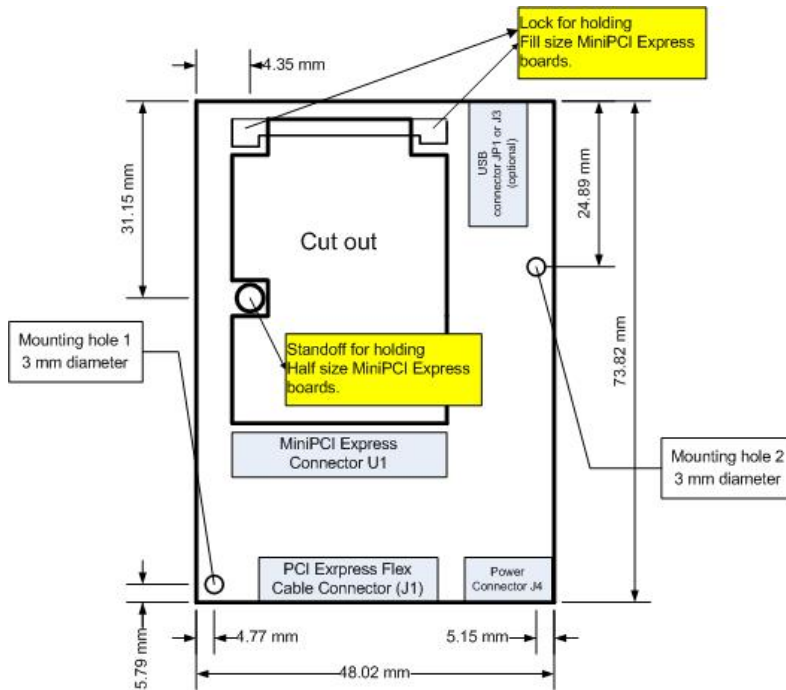


Figure 5: MiniPCI Express Adapter board layout.

## 4.2 Connectors

RefDes	Type	Usage
U5	Upstream x1 PCI Express connector	Connection to the upstream PCI Express bus on the motherboard
J4	Power connector	3.3V and 12V power connector
J3	PCI Express Flex Cable connector	Connects via Flex PCI Express Cable to the PCI Backplane adapter boards.

Table 1: x1 PCI Express Host Card connectors

RefDes	Type	Usage
J1	PCI Express Flex Cable connector	Connection via Flex PCI Express Cable to the MiniPCI Host Card.
J4	Standard ATX power connector (“floppy disk” type )	Incoming power for the expansion add-in MiniPCI Express board
JP1	10 pins 2 row 2.5mm Header	Connection to the USB interface of the MiniPCI Express add-in board (optional)
J3	USB type B standard connector	Connection to the USB interface of the MiniPCI Express add-in board (optional)
U1	Standard Mini PCI Express connector	Connection to the expansion add-in PCI boards (supports full and half size MiniPCI Express boards).

Table 2: MiniPCI Express Adapter board connectors



## 5 Installation

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### 5.1 Hardware Installation

Following steps provide the exact sequence need to be followed in order to properly install the x1 PCI Express to MiniPCI Express Bus Adapter from AMFELTEC Corp.:

**Warning:** Before touching anything inside the computer or any components, be sure to discharge your body's static electricity by touching a grounded surface.

- Turn off host computer and unplug it from the wall outlet.
- Remove the chassis cover or side panel from host computer. Refer to the computer manual for instructions if you need them.
- If the unit is a tower unit, turn it over on its side to make access easier.
- Ground yourself to the PC case. Attach a grounding wrist strap (if available) to the computer's metal chassis and your wrist. **CAUTION: If you choose not to use the grounding wrist strap, be sure to take adequate precautions to discharge static electricity from your body before touching any components.**
- Insert PCI Express Flex Cable into the connectors on the x1 PCI Express Host card and on the MiniPCI Express Adapter.
- Install the host card into the motherboard x1 PCI Express slot.
- Place and retain MiniPCI Express Adapter inside the chassis.
- Connect power to the MiniPCI Express Adapter.
- Insert expansion add-in MiniPCI Express board into MiniPCI Express connector on MiniPCI Express Adapter. Do not let it touch any of the components on the motherboard or PCI Flex Adapter.
- Now, you can close computer cover and power-up the host computer.



**BE SURE THAT GREEN LED D4 and BLUE LED D3 ARE ON!**

(Downstream Link status and MiniPCI Express Adapter board PRESENT)

## **6 Ordering Information**

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### **6.1 Standard package**

Standard package include the following components:

- x1 PCI Express Host Card
- MiniPCI Express Adapter board with PCI Express Flex cable
- User manual

## **7 Appendix A: Limited warranty**

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