

Flexible MiniPCI Express to 2 MiniPCI Splitter

Hardware Manual

September 10, 2011

Revision 0.1

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1 About this Document

1.1 Purpose

This document describes Hardware installation, features, specification and operation for AMFELTEC Flexible MiniPCI Express to 2 MiniPCI Splitter.

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

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

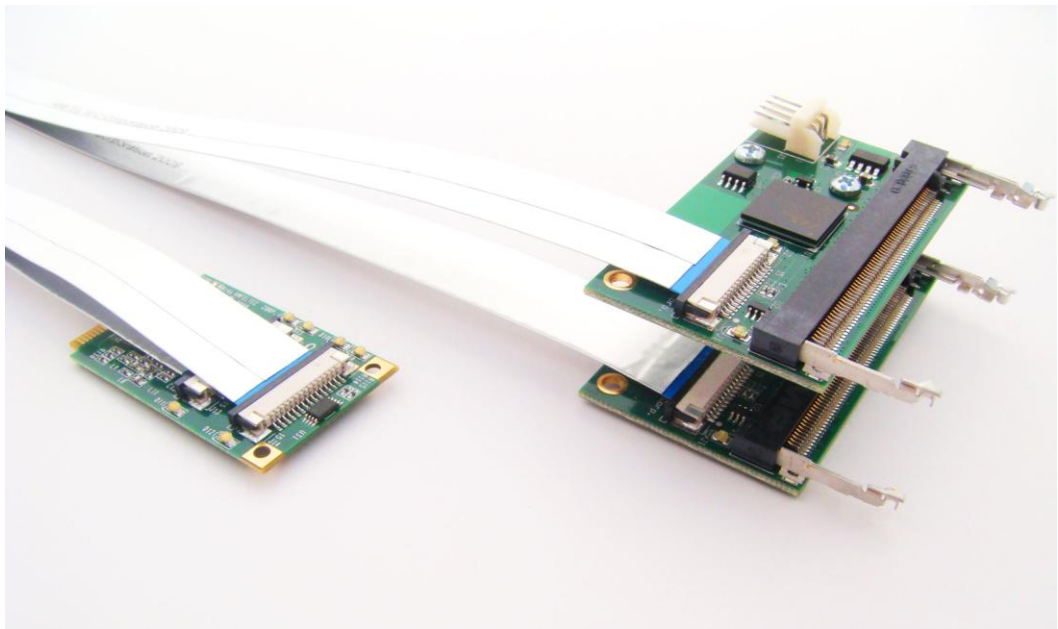
1.3 Revision History

Rev. No.	Description	Rev. Date
1.0	Initial Release.	September 10, 2011

2 General Description

2.1 Introduction

Flexible MiniPCI Express to 2 MiniPCI Splitter (Splitter) is designed to extend motherboard MiniPCI Express bus. Splitter allows connecting two standard 124-pin MiniPCI add-in boards to motherboard MiniPCI Express connector.



It includes MiniPCI Express Host board (Figure 1) and two MiniPCI Adapter boards (Figure 2). The MiniPCI Express Host board has to be plugged into the motherboard MiniPCI Express connector (full size). Each of two MiniPCI Adapter boards connecting to the MiniPCI Express Host board via two 12" Flat PCI Express cables. The expansion MiniPCI add-in boards have to be plugged into the standard 124-pin MiniPCI connectors placed on each MiniPCI Adapter board.

Because of the flexible nature of the connection, expansion MiniPCI add-in boards can be positioned away from the MiniPCI Express Host board, including around any obstacles inside a computer chassis. MiniPCI Adapter board has three mounting holes allowing them to be securely fixed inside a computer chassis.



Figure 1: MiniPCI Express Host board (full size)

The Splitter functions right out of the box, no additional software needs to be installed. The MiniPCI Express Host board has LEDs for displaying Link status between MiniPCI Express Host card and MiniPCI Adapter boards as well as MiniPCI Adapter board “PRESENT” status.

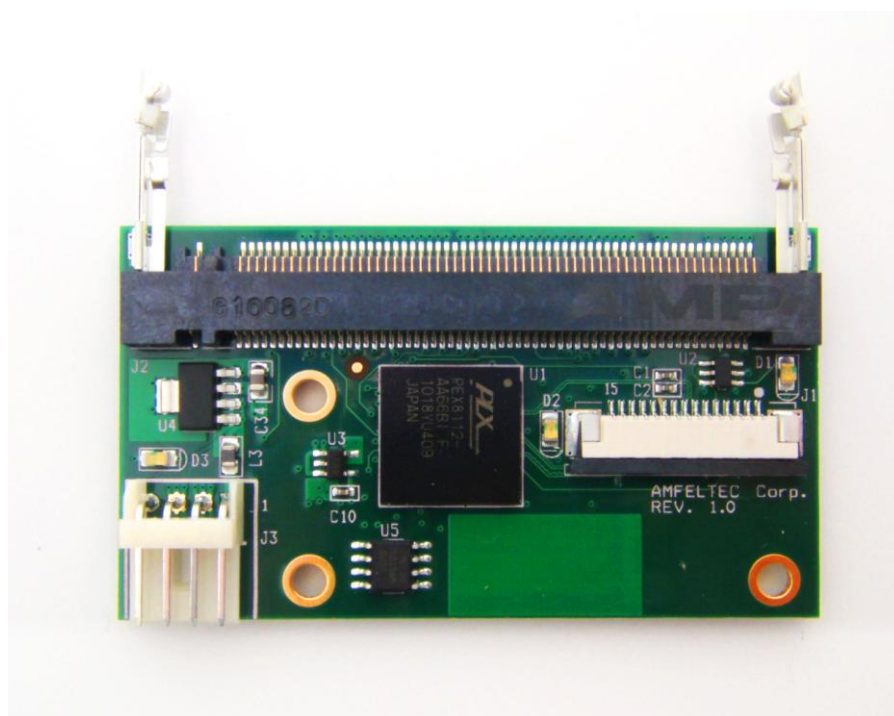


Figure 2: MiniPCI Adapter board

3 Requirements/Features

3.1 Power Source

The power for the expansion MiniPCI add-in boards is supplied from standard ATX power supply (“floppy disk” power connector (5V)) via MiniPCI adapter board.

3.2 Software

There is no additional software needs for the MiniPCI Express to 2 MiniPCI Splitter.

4 Hardware Description

4.1 Board Layout

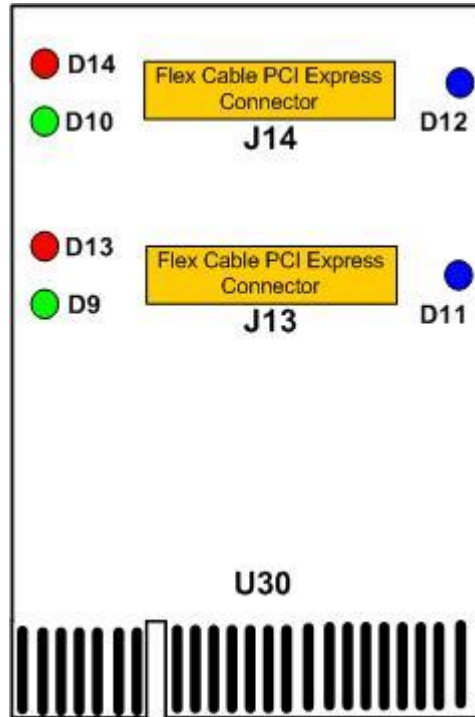


Figure 3: MiniPCI Express Host board layout

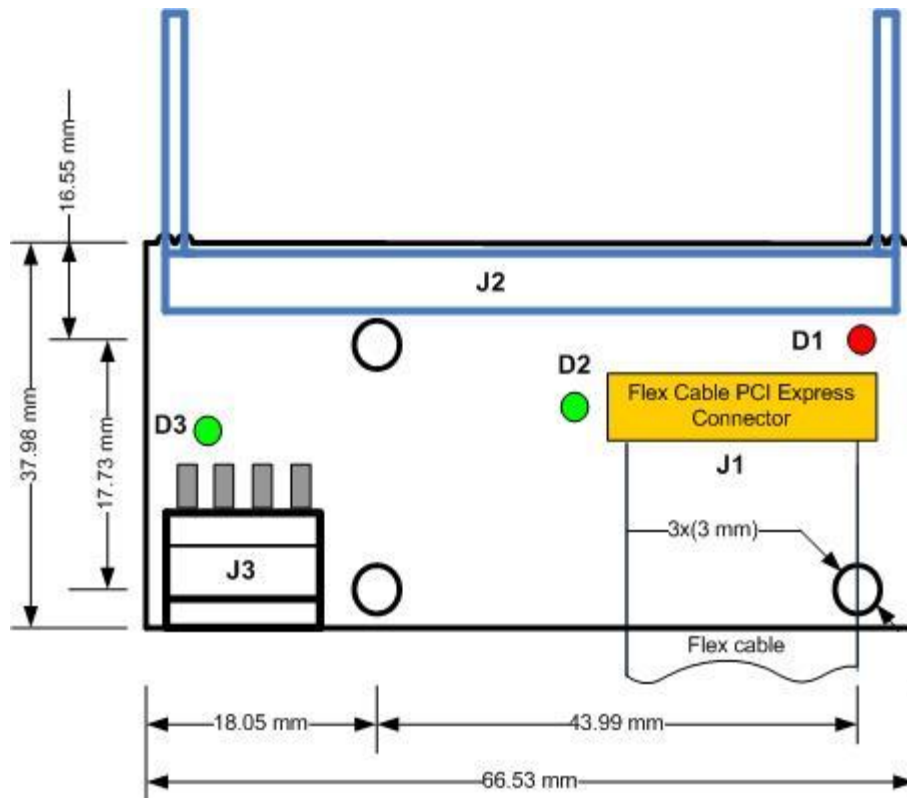


Figure 4: MiniPCI Adapter board

4.2 LEDs

Name	RefDes	Color	Usage
GPIO	D9	Green	General purpose.
GPIO	D10	Green	General purpose.
RESET 1	D13	Red	PCI Express “RESET” signal for the first link.
RESET 2	D14	Red	PCI Express “RESET” signal for the second link.
PRSNT 1	D11	Blue	First downstream link “PRSNT” signal.
PRSNT 2	D12	Blue	Second downstream link “PRSNT” signal.

Table 1: LEDs on the MiniPCI Express Host board

Name	RefDes	Color	Usage
Link Status	D2	Green	PCI Express Link status between motherboard and MiniPCI adapter board
RESET	D1	Red	PCI Express reset signal status
Power	D3	Green	Power status on the MiniPCI adapter board

Table 2: LEDs on the MiniPCI Adapter board

4.3 Connectors

RefDes	Type	Usage
U30	Upstream x1 PCI Express male connector	Connection to the upstream PCI Express bus on motherboard.
J13,J14	PCI Express Flex Cable connector	Connector via Flex PCI Express Cable to the MiniPCI Adapter board.

[Table 3: MiniPCI Express Host board connectors](#)

RefDes	Type	Usage
J1	PCI Express Flex Cable connector	Connector via Flex PCI Express Cable to the MiniPCI Express Host board.
J3	“Floppy disk” male power connectors	Incoming 5V power from the standard ATX power supply or any external power supply.
J2	Downstream 124-pin standard MiniPCI female connector	Connection to the expansion MiniPCI add-in board.

[Table 4: MiniPCI Adapter board connectors](#)

5 Installation

5.1 Hardware

Following steps provide the exact sequence need to be followed in order to properly install the Flexible MiniPCI Express to 2 MiniPCI Splitter from AMFELTEC Corp.:

- Turn OFF host computer before installation.
- Remove the chassis cover from host computer.
- Insert Flat PCI Express Cables to the connectors on the MiniPCI Express Host board and on the MiniPCI Adapter boards.
- Install the Host board into the motherboard MiniPCI Express slot. Place and retain MiniPCI Adapter boards inside the chassis. Connect power for the MiniPCI adapter boards.
- Plug-in expansion add-in boards into MiniPCI Adapter boards.

Now, you can power-up the host computer.



BE SURE THAT BLUE LED D11 and D12 IS ON!

5.2 Software

Flexible MiniPCI to MiniPCI Riser doesn't require any software/device driver for normal operation.

6 Operation Modes

7 Ordering Information

7.1 Standard package

Standard package include the following components:

- MiniPCI Express Host Board
- Two MiniPCI Adapter boards with Flat PCI Express cables
- User manual

8 Appendix A: Limited warranty

AMFELTEC Corporation does not warrant that the operation of the hardware, software or firmware products will be uninterrupted or error free. AMFELTEC products are not intended to be used as critical components in life support systems, aircraft, military systems or other systems whose failure to perform can reasonably be expected to cause significant injury to humans. AMFELTEC expressly disclaims liability for loss of profits and other consequential damages caused by the failure of any product which would cause interruption of work or loss of profits, such as shipboard or military attachment.

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