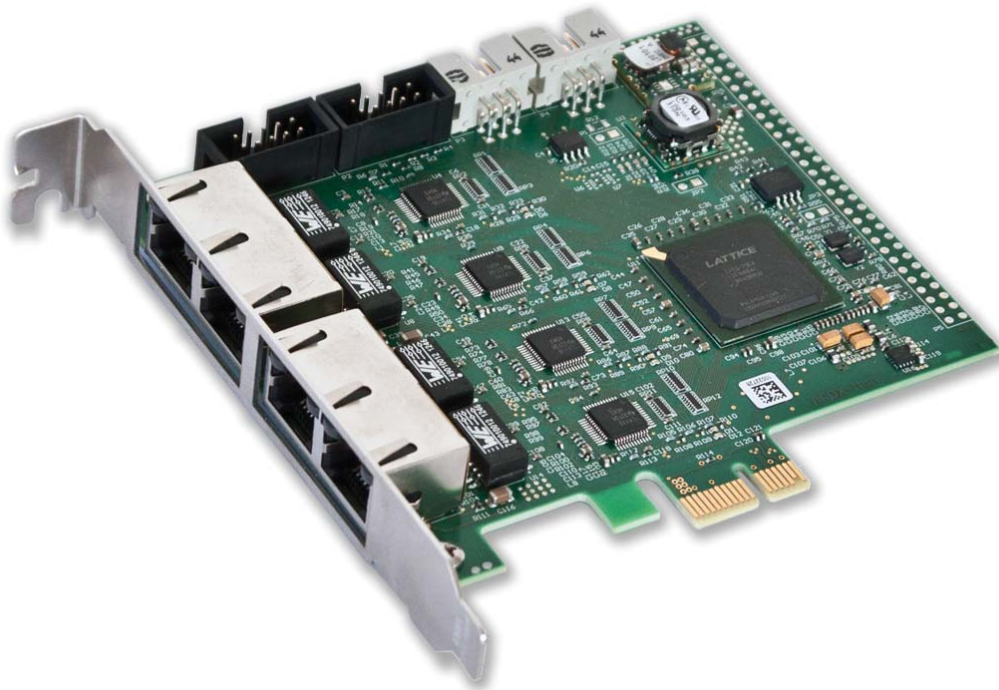


AFDX-Mon

Dual Channel PCI Express AFDX Test Access Port



- Two feed-through Ethernet interfaces with twisted pair transceivers
- Constant transmission delay of 24 bit times in tapping mode (100 Mbit)
- Time-stamping of all monitored packets with 1 μ s absolute accuracy
- Basic error detection on monitored Ethernet frames
- Link interruption both on physical layer and data link layer
- Replay of recorded or generated frames
- Replay transmission time with 1 μ s absolute accuracy
- Monitoring of replayed data
- Error injection on tapped data
- Automatically configured latency in error injection mode



AFDX-Mon Dual Channel PCI Express AFDX Test Access Port

Application Scope

TechSAT's **AFDX-Mon** is a powerful monitoring, recording, replay, and error injection solution for all Ethernet based protocols, such as AFDX, implemented on a PCI Express x1 card.

AFDX-Mon supports simultaneous monitoring of up to 4 data streams on two physical Ethernet connections including time-stamping of all monitored packets with 1 μ s absolute accuracy.

Apart from basic error detection on monitored Ethernet frames, AFDX-Mon also supports comprehensive error injection on tapped data including the following error injection operations among others:

- > Dropping of frame
- > Invalidate FCS
- > Invalidate EDE checksum or ALIC certificate
- > ADD, SUB, INV, XOR, OR, and SET values

The Replay function allows synchronous replay of recorded or generated frames on both channels (each with one port) at exact transmission times of 1 μ s resolution with any type of error injection.

AFDX-Mon supports bit rates of both 10 Mbit and 100 Mbit with a constant transmission delay of 20 bit times and 24 bit times, respectively. It also supports software controlled link interruption on both the physical layer and the data link layer.

A multi-channel DMA controller provides a high performance data path for transferring the monitored data to the host memory without any software intervention.

Using the **TechSAT Timemaster** system, a virtually unlimited number of cards can be synchronized to form a large tapping system with 1 μ s timestamp accuracy over the whole system.

Technical Data

General

- PCI Express 2.0 x1 interface with 2.5 Gbit transfer rate
- Two feed-through Ethernet interfaces with twisted pair transceivers
- Support of both 10 Mbit and 100 Mbit bit rates
- TechSAT Timemaster interface
- Multi-channel DMA controller for offloading data transfers
- Link interruption on physical layer and data link layer

Features

- Monitoring
 - Simultaneous monitoring of 4 ports with full bandwidth
 - Constant transmission delay of 20 bit times (10 Mbit) and 24 bit times (100 Mbit)
 - Time-stamping of all monitored packets with 1 μ s absolute accuracy
 - Basic error detection on monitored Ethernet frames
- Recording
- Replay
 - Replay of recorded or generated frames on both channels (ea. with 1 port)
 - Any type of error injection supported
 - Transmission times of 1 μ s resolution
 - Synchronous replay in complete system
- Monitoring of replayed data
- Error injection on tapped data
 - EI options: drop frame; invalidate FCS, invalidate ALIC or EDE CRC; ADD, SUB, INV, XOR, OR, and SET values; recalculate and fix checksums on data change; cut frame at given position
 - 128 byte mask/match frame filtering
 - 16 filter slots per port
 - Automatically configured latency in EI mode

Software

- C API
- C++ / Python API
- Drivers for Windows® 7 or Linux
- Drivers for other platforms on request

Physical Dimensions

- Length: 109 mm
- Height: 100 mm
- Width: single slot

Power Consumption

- < 3 W

Part Number

- 702314-01