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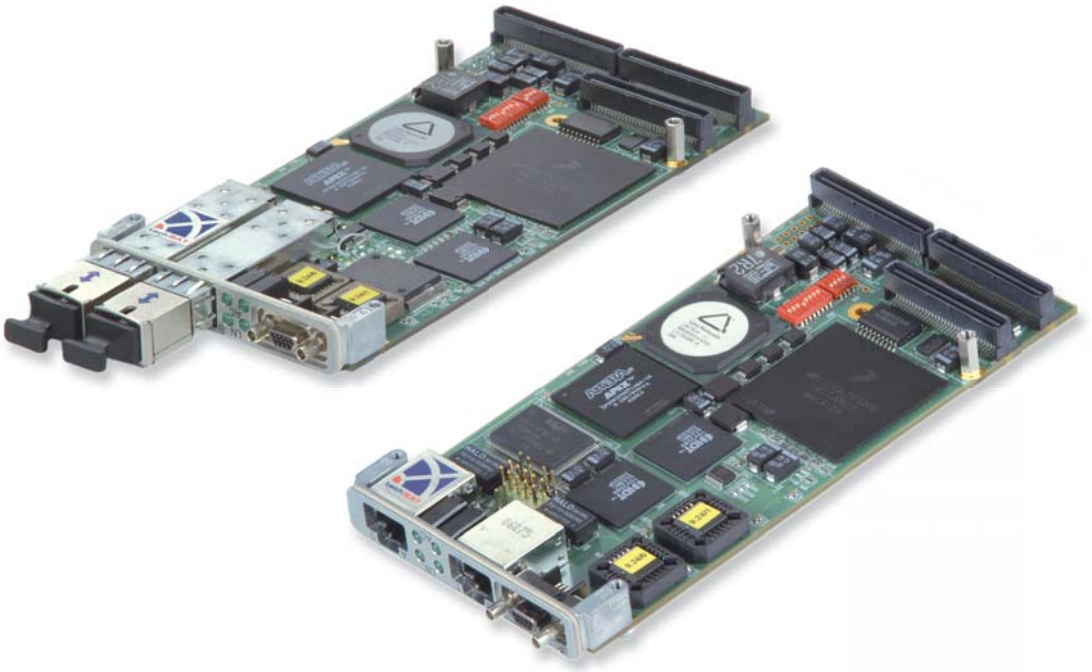
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Find the *TechSAT AFDX-PMC-T* at our website: ***Click HERE***

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complexity

# AFDX-PMC
## AFDX®/ARINC 664 PMC Modules



- On-board AFDX® protocol stack implementation
- Airbus and Boeing AFDX® compliant protocol stack
- Two full duplex AFDX networks that can be operated in either independent or dual-redundant mode
- Comprehensive error injection/detection, filtering and triggering features
- Applicable on PCI, cPCI, PXI, PCIe & VME hardware platforms
- Driver & API support for Windows, Linux or VxWorks



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Data Sheet

# AFDX-PMC
## AFDX®/ARINC 664 PMC Modules

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### Overview

The TechSAT AFDX-PMC is a powerful AFDX®/ARINC 664 interface implemented on a PMC (PCI Mezzanine Card) form factor module. It implements the Airbus and Boeing AFDX® protocol stack in on-board firmware and FPGA logic thereby off-loading the host.

AFDX-PMC is equipped with two full duplex AFDX networks that can be operated in either independent or dual-redundant mode. The AFDX-PMC connector interface can be either twisted pair copper or bi-directional fiber-optic Small Form-Factor Pluggable (SFP).

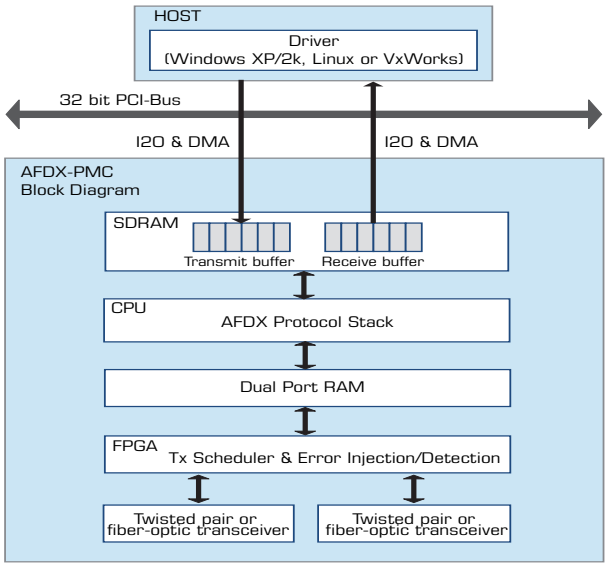
In addition to the AFDX® protocol stack, the AFDX-PMC also implements comprehensive test features such as error injection/detection, filtering, triggering and discrete I/O lines. Optimized for performance, the AFDX-PMC is ideal for applications such as AFDX® ES (End System) testing and validation, ES simulation and ARINC 615A data loading via AFDX®.

### Software Support

AFDX-PMC is shipped with a C-API and drivers for either Windows, Linux or VxWorks. In addition, several software tools for test, simulation and dataloading purposes are available on request. For test puposes, TechSAT has developed a powerful AFDX® ES test and validation tool. Furthermore, TechSAT has developed several AFDX® based protocol simulations for the Airbus A380 and A400M as well as for the Boeing 787. Finally, AFDX-PMC also supports the TechSAT tool suite for dataloading over ARINC 615A.

### Architecture

As depicted in the block diagram, the host communicates with AFDX-PMC via a dedicated driver. The driver uses I2O and DMA for fast data transfers between the host and AFDX-PMC. The on-board CPU runs the AFDX® protocol stack as well as controlling the FPGA which offloads the CPU by handling Tx scheduling and error injection/detection.




### Technical Data

#### General

- Applicable on PCI, cPCI, PXI & VME platforms
- 32 bit @ 33/66 MHz PCI-bus interface
- Compliant with Airbus and Boeing AFDX® protocol
- Twisted pair transceivers/ bi-directional fiber-optic SFP-trancievers on request
- Auto-negotiation or fixed 10/100 Mbps transmit rate
- Eight bi-directional discrete I/O lines
- Down to 500 us BAG configuration
- Commercial temp. range: 0 to +55°C

#### Transmission & Reception

- Traffic shaping via VL and BAG configuration
- Integrity checking & redundancy management
- Up to 256 transmit VLs and 1024 ports per VL
- Up to 2048 receive VLs
- 1 µs Rx frame time-stamp resolution
- Transmit and receive statistics

#### Error Injection/Detection

- CRC, IFG, short preamble and dribble errors
- RSN insertion enabled/disabled
- Wrong Ethernet type

#### Triggering

- Tx start, Tx stop or error injection on discrete input
- Discrete output on Tx start, Tx stop or Rx error frame

#### Software

- C API provided
- LabVIEW VIs available on request
- Drivers available for Windows XP, Linux or VxWorks.
  Please ask for availability of drivers for other platforms
- Optional: software tools for test, simulation & dataloading

### AFDX-PMC Ordering Information

- AFDX-PMC-<Connectors>-<Carrier>
  - PCI, cPCI, PXI, PCIe
  - T: Twisted Pair
    F: Fiber Optic

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