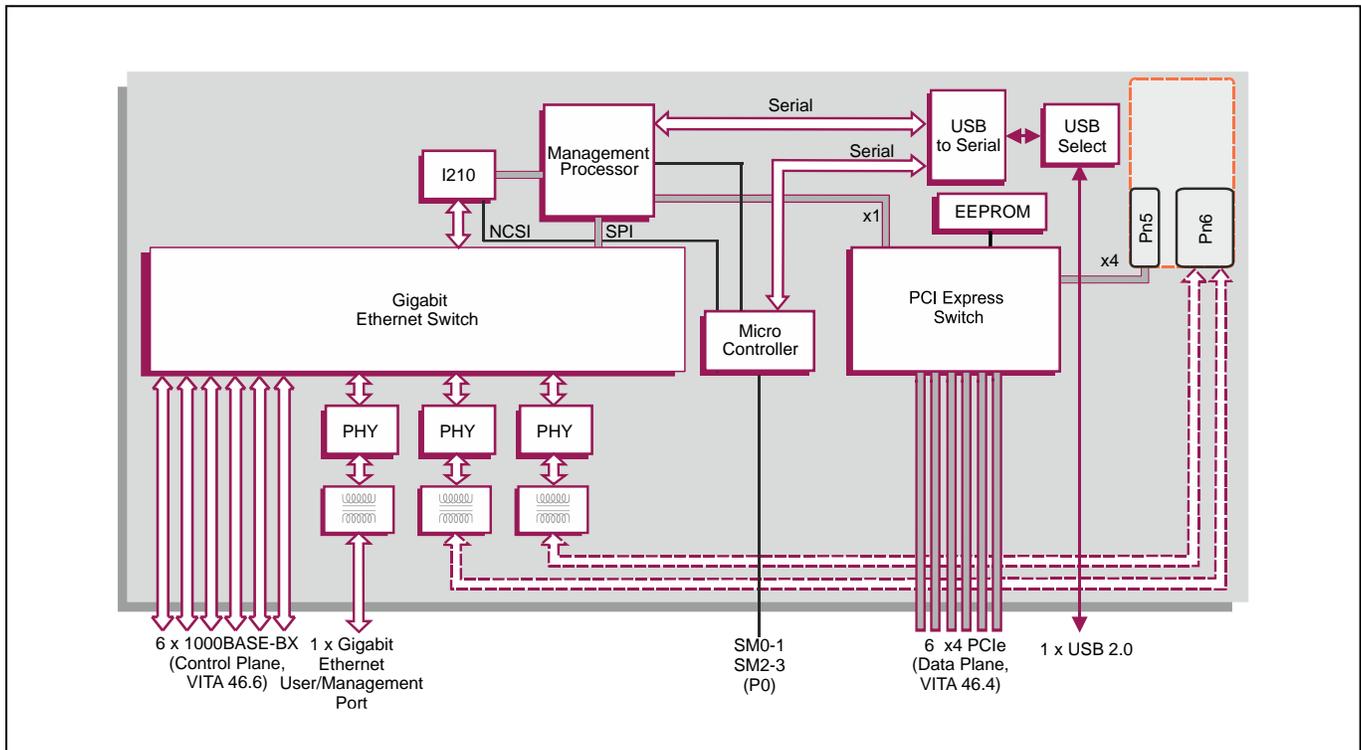


## Rugged conduction-cooled 3U VPX™ Fabric Switch Board: PCI Express® and Gigabit Ethernet

### Key Features

FR 342/306-RCx is a PCI Express® and Ethernet switch for use in rugged conduction-cooled 3U VPX™ systems with simple command line configuration options.

- 3U VPX format supporting six payload boards
- PCI Express® Gen 3 data plane
- Gigabit Ethernet control plane
- Optional XMC site for storage and offload engines
- Air-cooled options also available
- Form, fit and function compatibility with the popular FR 341/306-RCx product



## VPX-REDI Fabric Switch Board

- conduction-cooled 3U VPX fabric switch board:
  - supports 6 payload boards
  - x4 PCI Express® (PCIe®) data plane (VITA 46.4), up to Gen 3
  - 1000BASE-BX control plane (VITA 46.6)
  - user configurable setup via a USB port or Ethernet port
- OpenVPX™ (VITA 65) backplane profiles supported:
  - BKP3-CEN07-15.2.3-1 (PCIe Gen 1)
  - BKP3-CEN07-15.2.3-2 (PCIe Gen 2)
- OpenVPX module profiles supported:
  - MOD3-SWH-6F6U-16.4.1-2 (PCIe Gen 1)
  - MOD3-SWH-6F6U-16.4.1-3 (PCIe Gen 2)
  - MOD3-SWH-6F6U-16.4.1-10 (PCIe Gen 3)
- OpenVPX slot profile supported:
  - SLT3-SWH-6F6U-14.4.1

## VPX Data Plane Switch, PCI Express

- 6-port VITA 46.4 data plane switch:
  - for use with PCI Express Fabric VITA 46.4 backplanes
- high performance PCI Express switch:
  - implemented by PCI Express 32-lane single-chip switch
  - x4 PCI Express links
  - support for Gen 1, Gen 2 and Gen 3
  - transparent mode and virtual switch mode of operation supported
  - integrated DMA engine
- EEPROM storage for switch configuration data

## VPX Control Plane Switch, Ethernet

- 6-port VITA 46.6 control plane switch:
  - for use with 1000BASE-BX VITA 46.6 backplanes
- high performance IEEE 802.1 Ethernet switch:
  - implemented by single-chip device
  - full line rate Layer 2 switching engine

## Board Configuration Setup

- rear user interfaces provide configuration for both the PCI Express switch and Ethernet switch:
  - implemented by management processor
- serial console, command line interface via USB port:
  - on-board USB to serial device provides serial port to configure the two switches and other board setup options
  - 1 x USB 2.0 port is available via the P1 connector
- SSH command line interface via Ethernet port:
  - 1 x Gigabit Ethernet port is available via the P2 connector

## XMC Site Interface

- 1 x XMC site, in a single VPX slot (build option):
  - XMC (Switched Mezzanine Card) interface
  - 1 x4 PCI Express up to Gen 3 (VITA 42.3)
  - supports PCIe endpoint only
  - rear panel I/O via backplane: none
  - build option for 2 x Gigabit Ethernet interfaces via XMC Pn6, routed to the on-board Ethernet switch
  - +5V VPWR

## LED Status Indicators

- none

## System Management Interface

- System Management interface:
  - implements SM0-3 hardware
- on-board microcontroller
- supports VITA 46.11 management:
  - Tier 2 IPMC
  - Tier 1 Chassis Manager

## Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

## Electrical Specification

- typical current figures (PCIe Gen 3, with six payload boards, without XMC module):
  - +5V @ 2.8A, voltage +5% / -2.5%
  - +3.3V @ 1.5A, voltage +5% / -2%

## Environmental Specification

- conduction-cooled (VITA 48.2)
- operating temperature at card edge:
  - VITA 47 Class CC4, -40°C to +85°C
- non-operating temperature:
  - VITA 47 Class C4, -55°C to +105°C
- operating altitude:
  - -1,000 to 50,000 feet (-305 to 15,240 meters)
- relative humidity:
  - 5% to 95%, non-condensing
- option for VPX non-rugged air-cooled version:
  - see FR 342/x06 datasheet

## Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0):
  - 3.9 inches x 6.3 inches (100mm x 160mm)
- slot widths (VITA 48.0):
  - 0.8 inches VPX-REDI Type 2, RCT-Series
  - 0.85 inches VPX-REDI Type 1, RCS-Series, Type 1 Two Level Maintenance (VITA 48.2)
- connectors to VITA 46.0 for P0, P1 and P2
- operating mechanical:
  - shock - VITA 47 Class OS2, 40g
  - random vibration - VITA 47 Class V3, 0.1g<sup>2</sup>/Hz

## Concurrent Technologies CPU Support

- FR 342/306-RCx operates with a range of Concurrent Technologies VPX processor boards
- contact your local sales office for further details