

## 3U VPX Mass Storage Module



### APPLICATIONS

The TR MS1/x21 mass storage module provides a flexible solution for designers wishing to add a 2.5-inch SATA300 mass storage drive to a 3U VPX system. The carrier accommodates either a single 2.5-inch SATA300 hard disk drive or solid-state drive and includes support for a CompactFlash™ Type-I card. The TR MS1/x21 is designed to work with a range of 3U air-cooled VPX systems. The module is capable

of operating in temperatures ranging from 0°C to +55°C where it is suitable for a range of applications within the defense, industrial control, telecomms, telemetry and aerospace markets. For rugged applications two VPX-REDI conduction-cooled versions are available, the TR MS1/321-RCS is a VPX-REDI Type 1 Two-Level Maintenance conduction-cooled board and the TR MS1/321-RCT is VPX-REDI Type 2.

### HIGHLIGHTS

- 3U VPX based Mass Storage Module supports a single 2.5-inch SATA300 mass storage drive as well as a CompactFlash™ site
- 3U VPX (VITA 46.0) N-Series Mass Storage Module:
  - rear plug compatible with the VPX-REDI RCx-Series
  - air-cooled
  - operating temperature ranging from 0°C to +55°C
  - use in commercial (non-rugged) applications
  - 3U VPX 0.8-inch slot or 1.0-inch slot
  - direct SATA connections via backplane or rear optional transition module
- P1 VPX interface compatible with OpenVPX module profiles
- Supplied with a 2.5 inch SATA300 mass storage drive:
  - options for a hard disk drive or
  - options for a solid-state drive
- CompactFlash™ Type-I site available
- Ruggedized VPX-REDI versions (RCx-Series):
  - conduction-cooled to VITA 48.2, conformally coated
  - -40°C to +85°C operating temperature (at card edge)
  - rear plug compatible with air-cooled versions (N-Series)
- Concurrent Technologies also provide a range of 3U VPX single board computers supporting Intel® Core™ i7, Intel® Core™ 2 Duo and Intel® Atom™ processors

## VPX Mass Storage Module

- 3U VPX Mass Storage Module supports:
  - a single 2.5-inch SATA300 hard disk drive (HDD) or a 2.5-inch SATA300 solid-state drive (SSD)
  - Type-I CompactFlash® site
  - utilizes direct SATA connections via backplane or optional rear transition module
- compatible with several OpenVPX module profiles
- for ruggedized VPX-REDI (RCx-Series) versions:
  - conduction-cooled to VITA 48.2
  - -40°C to +85°C at card edge
  - conformally coated
  - see TR MS1/321-RCx datasheet

## CompactFlash Site

- CompactFlash Type-I site available:
  - implemented via SATA to EIDE interface connected to VPX P1 wafer 9 or 10

## Compatible VPX System SBC

- 3U VPX Single Board Computer (SBC) examples:
  - TR 90x/x1x, 3<sup>rd</sup> generation Intel® Core™ i7 processor
  - TR 80x/x9x, 2<sup>nd</sup> generation Intel® Core™ i7 processor
  - TR 501/x6x, Intel® Core™ 2 Duo processor
  - TR A40/x0x, Intel® Atom™ processor Z530
- contact your local sales office for the latest range of boards supported
- supported operating systems depend on the 3U VPX system controller SBC used

## VPX Backplane Interface

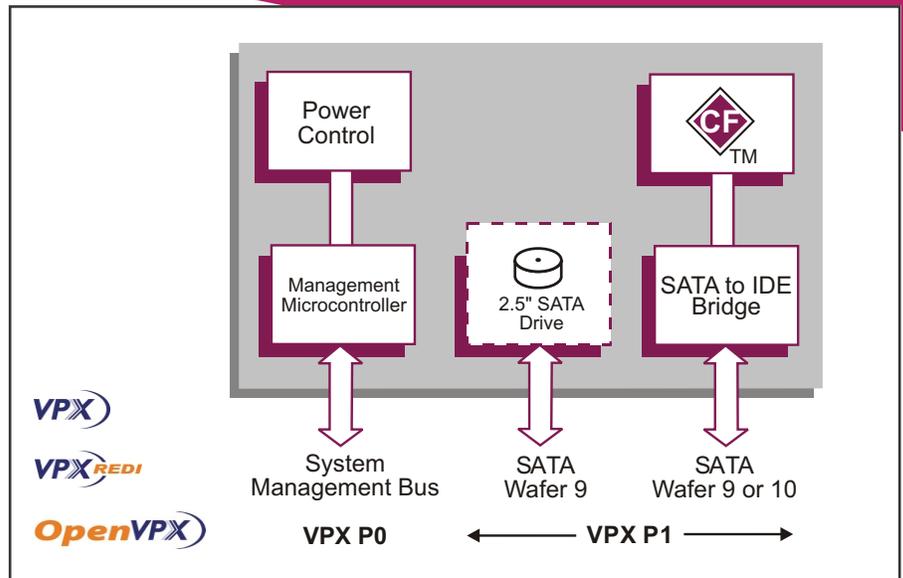
- P0 and P1 support OpenVPX configuration
- compatible with OpenVPX module (VITA 65) profiles:
  - MOD3-STO-2U-16.5.1-1
  - MOD3-STO-2U-16.5.1-2

## System Management

- System Management interface:
  - implements the SM0-1 interface
- on-board System Management Controller
- supports 8 Kbytes of non-volatile memory

## Electrical Specification

- maximum current figures (including HDD):
  - +5V VS3 @ 1.1A, voltage +5% / -2.5%
  - +3.3V VS2 @ 0.2A, voltage +5% / -2%
  - +3.3V AUX @ 0.2A, voltage +5% / -5%
- +12V AUX and -12V AUX are not required



## Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

## Environmental Specification

- operating temperature:
  - HDD: 5°C to +55°C
  - SSD: VITA 47 Class AC1, 0°C to +55°C
  - air-cooled
- storage temperature:
  - HDD: contact sales office
  - SSD: VITA 47 Class C1, -40°C to +85°C
- 10% to 90% Relative Humidity, non condensing (operating/storage)

## Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0)
- 3.9 inches x 6.3 inches (100mm x 160mm)
- optional slot widths:
  - 0.8-inch (VITA 46.0)
  - 1.0-inch (IEEE 1101.10 as per VITA 46.0)
  - 1.0-inch (VITA 48 as per VITA 65)
- connectors to VITA 46.0 for P0, P1 and P2
- operating mechanical:
  - shock and vibration - contact local sales office

Note: environmental and mechanical specifications for mass storage drives may vary depending on the size and the type. Please contact local sales office for further details



3U VPX Mass Storage Module with CompactFlash card fitted (air-cooled version, 2.5-inch drive omitted for clarity)

## ORDERING INFORMATION

Order Number    Product Description (Hardware)

For the order number suffix (-yz) options please contact your local sales office: where -yz = drive type/capacity

TR MS1/x21-yz    3U VPX SATA Mass Storage Module, including 2.5-inch SATA300 solid-state drive or hard disk drive, air cooled

For drive type and capacity please contact local sales office  
For further information on the VPX (N-Series) and VPX-REDI (RCx-Series) boards please contact your local sales office.