



VNX Rad-Tolerant Machine Learning Accelerator Module



KEY FEATURES

CPU Architecture

- Dual Arm® Cortex®-A15 microprocessor subsystem with two C66x DSP cores
- Dual-Core PowerVR® SGX544 3D GPU
- Trusted Execution Environment (TEE) support

General

- SITARA module per VITA 74
- Electrical topology per VITA 74
- Backplane connector family per SAMTEC SEAF
- Linux, RTOS, or Android OS

Environmental Resiliency

- Conduction Cooled
- -20°C to +55°C operating temperature

Power Supply

- +12 VDC and +5 VDC (provided by VNX backplane)

OVERVIEW

The VNX Rad-Tolerant Machine Learning Accelerator is a module that integrates the TI SITARA GPU chipset with rad-hard by design supporting and supervisory circuits in a small VNX form-factor. The module has been designed and optimized by IDEAS-TEK to offer high performance computing for a wide range of space applications.

The custom module cover is conduction cooled and provides 2mm of aluminum shielding and an additional 2mm of tungsten shielding for longer duration aerospace.

COMPLIANCE

The VNX Rad-Tolerant Machine Learning Accelerator module is compliant to VNX (VITA 74), which is a PCIe-centric ratified standard. This standard is used in systems that require high performance, small form factor systems, and may be used in rugged applications.

The VNX Rad-Tolerant Machine Learning Accelerator module is also compatible with IDEAS-TEK's Galileo architecture. Galileo is an architecture designed around the VNX standard to integrate an ecosystem of computing, communication and sensing modules for small spacecraft, using radiation hard/tolerant electronics and fault mitigation strategies.

APPLICATIONS

The VNX Rad-Tolerant Machine Learning Accelerator module provides standard interfaces for communication: Ethernet, I2C, PCIe, SATA, UART, and USB. The module is ideal for the following applications:

- Machine Learning
- Automation and control
- High performance applications
- Command and Data Handler (C&DH)

DISCLAIMER

Product data is current as of the publication date. This document gives only a general description of the product and, except where expressly provided otherwise, shall not form any part of any contract. From time to time, changes may be made in the products or the conditions of supply.

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