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Find the *Aitech Defense Systems S990* at our website: ***Click HERE***

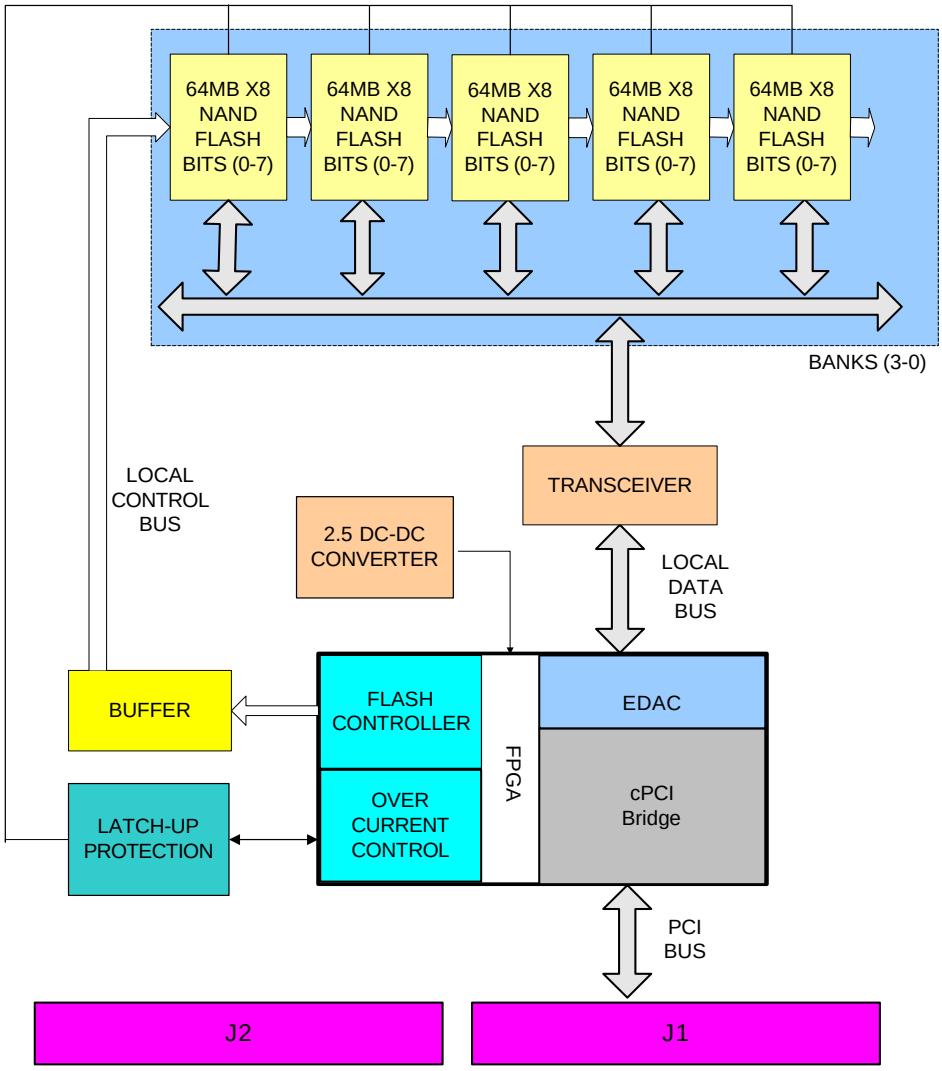
S990

3U cPCI Radiation Tolerant Memory Module



- **Designed for LEO, Mars Terrestrial with an Option for GEO Environments**
- **Single-Slot Conduction-Cooled 3U CompactPCI (cPCI) card**
- **1GB of Non-Volatile Flash Memory**
- **Hardware EDAC**
  - **Single-bit error correction and multiple-bit error detection**
  - **FPGA implementation based on modified hamming code**
- **Interrupt capabilities through a programmable cPCI interrupt pin**
- **32-bit PCI Slave only cPCI interface at 33.333 MHz**
- **S990 nominal power consumption is less than 2.8 Watts**
- **Optional Memory Latch-up protection Circuitry**
  - **Power to failing memory automatically switched off to prevent damage**
- **Flash File Driver provides integrated POSIX-compliant file system access**
- **Level-2 Components per NASA GSFC 311-INST-001A specification are available**

Aitech Defense Systems Inc.
A member of the Ai-Rugged Group
9301 Oakdale Ave, Chatsworth, Ca 91311
Tel: (888) AITECH-8 (888-248-3248) Fax: (818) 350-6888 e-mail: sales@rugged.com web: www.rugged.com



S990 3U cPCI Radiation Tolerant Non-Volatile Memory Module

Aitech's S990 Non-Volatile Memory Module is a radiation tolerant, latchup-protected, high-capacity Flash memory, rugged 3U CompactPCI board designed to work in hard space radiation environments. The S990 implements the Flash arrays using radiation-tolerant NAND Flash devices and an optional latchup protection circuitry. These devices provide reliable, latchup-free, and low SEU-rate. The S990 has built-in hardware EDAC to correct single-bit errors and detect multi-bit errors.

Multiple S990 modules can be operated in the same cPCI system to provide incremental storage. Each S990 comes with 1 GB of memory and the memory is divided into four banks of 256 MB each and accessed individually. The S990 design is ideal for sequential storage requirements and temporary non-volatile data buffers for downlink communication systems. With the Aitech Flash File Driver (FFD) technology, the S990 can be accessed as a file system from any S950 SBC with the VxWorks operating system. The FFD is a POSIX compliant file system with level wearing and semaphore protection.

Mechanical Features

The S990 is available in a conduction cooled 3U format per VITA 30.1-2002. A custom metal frame provides excellent rigidity, shock resistance and thermal characteristics.

Dimensions

All versions are offered in conduction-cooled 3U CompactPCI form factor per VITA 30.1-2002 standard.

Thermal Management

A careful mechanical design including heatsink modules, wedge locks and extractors combined by a metal frame allow for optimal heat dissipation and strength of the board.

Radiation Performance

- Radiation Tolerant with a minimum unshielded Total Ionization Dose (TID) of greater than 25 krad (Si). Higher TID tolerance can be available upon request.
- Latch-up Immune with a high LET of 37 MeV•cm^2/mg
- Low SEU Rate – less than 1 upset per 25 years of operation at ISS orbit

Power Requirements

The S990 draws its power +5.0V and +3.3V from the standard cPCI backplane. It generates its own specific power on board (+2.5V).

S990 typical power consumption is less than 2.8 Watts. The S990 power consumption is estimated as follows:

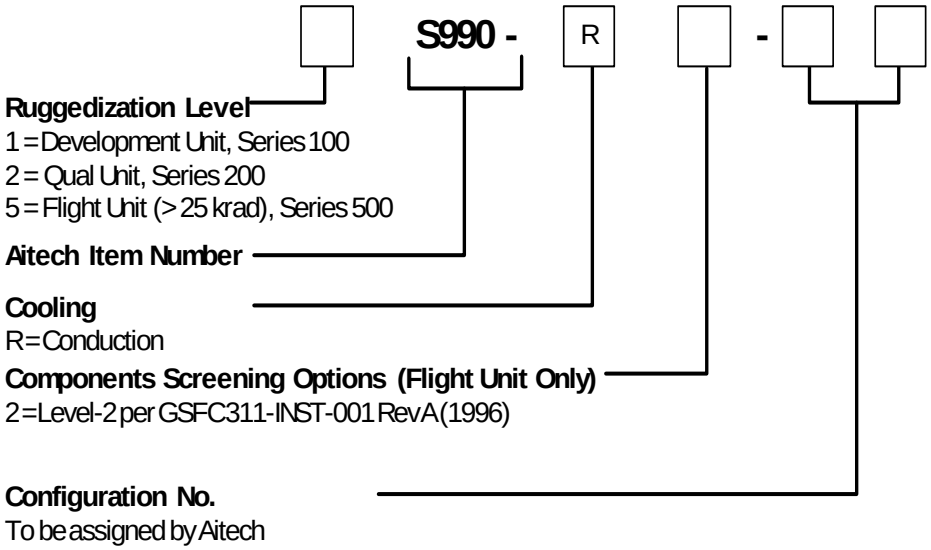
+3.3V	(+-5%)	0.47A (typical)
+5V	(±5%)	0.25A (typical)
+12V	(±10%)	0A
-12V	(±10%)	0A

Environmental Features

Please refer to Aitech Ruggedization Datasheet:

http://www.rugged.com/home/rugged.html

Ordering Information



Available Configurations are: 1S990-R, 2S990-R, 5S990-R2

For more information about the S990 or any Aitech product, please contact Aitech Defense Systems sales department at (888) AITECH-8 (888-248-3248).

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