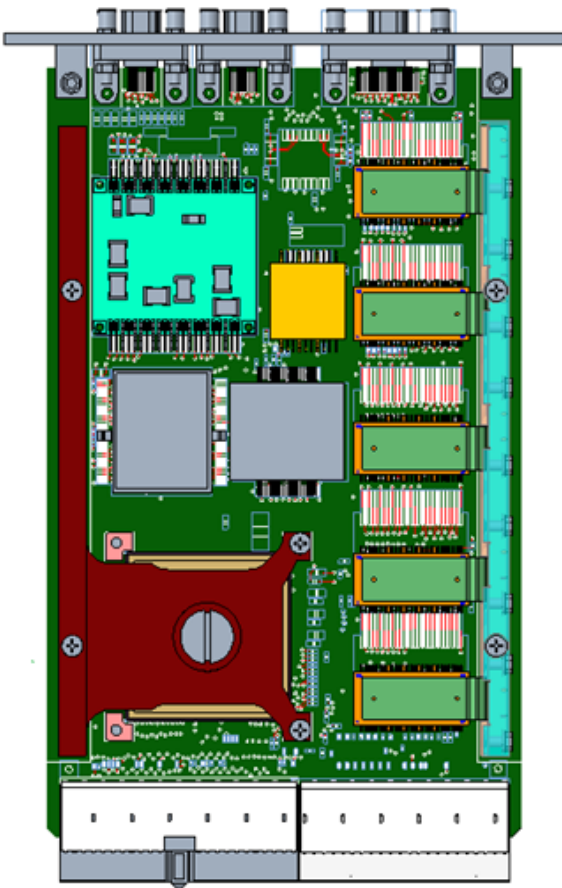


# RAD510™ 3U CompactPCI

## Single-board computer



The 3U CompactPCI® single-board computer (SBC) employs the RAD510 System on a Chip (SoC) featuring a radiation-hardened RAD5500® Processor Core, built on Power Architecture®. The RAD510 SBC is a modern alternative to the RAD750® SBC product line, delivering the performance of a single core RAD5545® SoC at lower power than a RAD750 SBC. The RAD510 SoC delivers state-of-the-art radiation-hardened processing via a high performance PCI version 2.2 backplane bus-compatible SBC in a 3U profile.

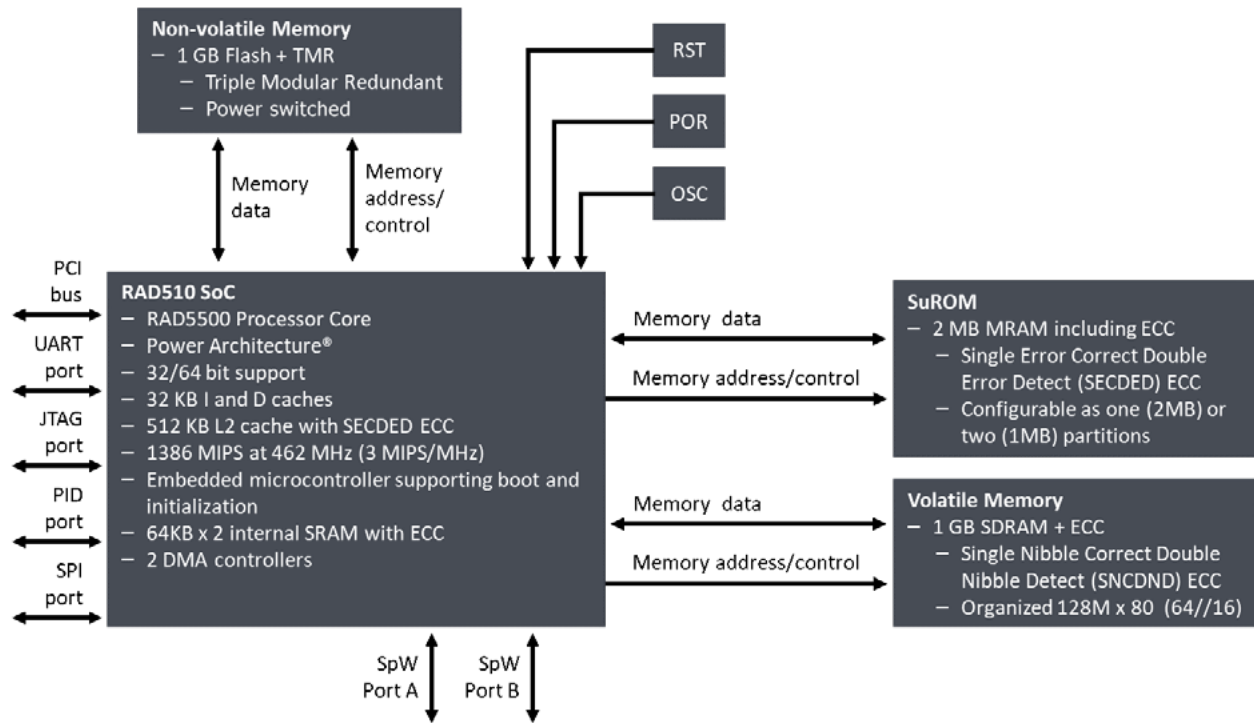
### Key features and benefits

- RAD5500 processor core operating frequency ranges from 66MHz to 462MHz, supporting both low power and high performance applications for enhanced versatility.
- Non-volatile and volatile memory protects and maintains data in the most demanding environments.
- 32 programmable inputs, outputs, and interrupts provide customers with the flexibility to optimize their mission needs.
- 4-port SpaceWire router supports high transmission speeds of data, up to 330Mb/s on each link.
- With integrated hamming code, the SoC can correct and detect errors within its 512KB of L2 cache.

## Specifications

Form Factor	CompactPCI 3U (100mm x 160mm)	
Interfaces	32-bit, 33MHz PCI interface with central resource capability 4-port SpaceWire router supporting up to 330Mb/s on each link 1x SPI, 1x JTAG Master, 1x UART	
Memory	Volatile memory: Non-volatile memory:	1GB SDRAM with SNCDND 1GB TMR NAND Flash 2MB MRAM including SECCDED for SUROM
Radiation-Hardness	Total dose: 50 Krad (Si) (TBR) Latch-up immune to 85MeV-cm <sup>2</sup> /mg (TBR)	
Performance	3 MIPS/MHz 198 MIPS @ 66 MHz (TBR) 1,386 MIPS @ 462 MHz (TBR)	
Power Supply Input	3.3V ±5%, 5.0V ±5% 3.3V, 1.8V and 0.95V generated via onboard regulators	

## RAD510 3U flexible architecture



## RAD510 FAMILY OF PRODUCTS:

RAD510 3U CompactPCI single-board computers

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Preliminary datasheet

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