

FEATURES

- Radiation hardening utilizes Space Micro's patented mitigation technologies
- 3U, 6U PCI-104S Form Factors
- Applications include C&DH, Payload electronics, custom applications
- Multiple memory and interface options available
- Capacity, speed and power requirements suitable to be sole computer for micro- and nano-satellites handling both housekeeping and payloads.
- Multiple operating system options including Linux and VxWorks
- Freescale advanced 45 nm dual-core microprocessor

SPECIFICATIONS

| | |
|---------------------------|---|
| Performance | Freescale P2020 high performance processor 1 Ghz, 32-bit dual core processor with 36-bit physical addressing capable of up to 4,800 MIPS |
| Memory | 512 MB - 1GB DDR 3/2 with EDAC 512 MB boot MRAM (2X) 32 Gb RH NAND Flash |
| Power | 8 to 12 Watts (depending on peripherals & speed) |
| Mechanical Options | PCI-104 stretch [3.6 x 5"] 3U, 100x160 mm [3.74 x 6.3"] 6U, 233x160mm [9.2 x 6"] (option) other custom sizes (option) |
| Hardware Models | Software Development Unit (SDU) Engineering Model Flight (Conduction cooled) |

SPECIFICATIONS

Radiation Tolerance

| | |
|------|--|
| SEL | >63 (MeV-cm ² /mg) |
| SEU | < 1 per 1,000 days (90% Adams worst case) TTMR™ technology for SEU detection/mitigation. 100krad (Si), Orbit dependent |
| TID | 100% recoverable |
| SEFI | Patented H-Core™ technology for SEFI detection/mitigation |

Interfaces

| | |
|---------|--------------------------------|
| I/O Bus | 32bit, 33 MHz |
| 3.3V | I/O Voltage |
| UART | 4-channel buffered |
| 16 GPIO | Prog. General-purpose I/O |
| Options | SGMII Ethernet; SpaceWire; CAN |

Operating System and Software Support GNU-based tool chain support, with multiple operating system options:
Linux Board Support Package (BSP)
VxWorks Board Support Package
RTEMS

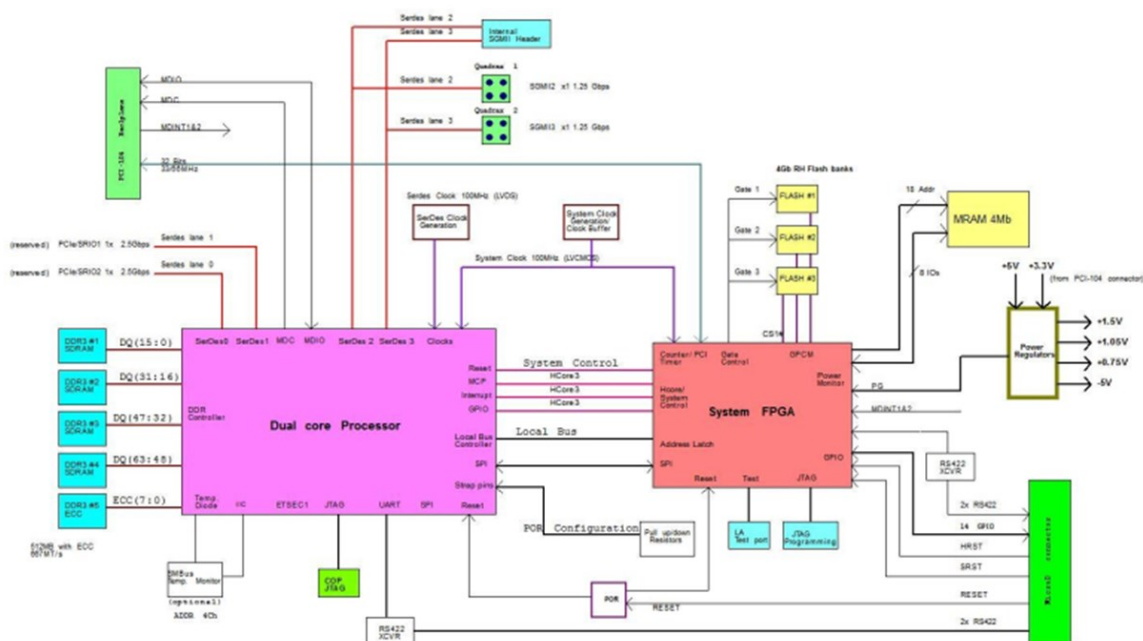
Parts Level Options Commercial Space, NASA Levels I, II, III
Class S / B (options)

Environmental

| | |
|----------------|------------------|
| Operating Temp | -24 to +61°C |
| Random Vibe | >10 Grms, 3-Axis |

Services Available TTMR Software Optimization

Standard Testing Acceptance testing
Thermal cycles



P400k SBC Block Diagram