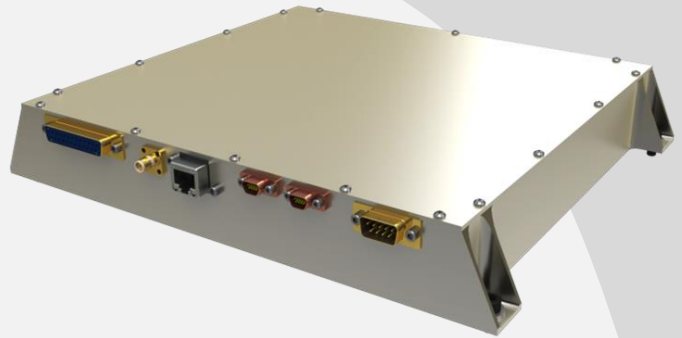


MCU321 HIGH RELIABILITY ON-BOARD COMPUTER

SINGLE BOARD COMPUTER FOR SMALL
SATELLITES OR LAUNCH VEHICLES



DESCRIPTION

The MCU321 Single Board Computer is a medium performance, highly customizable, multiple interfaces oriented, high reliability device designed for harsh environments such as those encountered by small satellites, launch vehicles or aircrafts at LEO orbits.

The board outline is 6U LxWxH: 160 mm x 233 mm x 25 mm.

FEATURES

- Single Board Computer architecture.
- LEON3-FT fault - tolerant processor, 32-bits SPARC V8 Instruction set.
- Modular design, FPGA-based core, easily adaptable to new requirements /interfaces.
- Latch-up protection mechanism.
- Memory features:

- **RAM:** 128 MB SDRAM with triple modular redundancy (TMR).
- **Boot memory:** 4 MB NOR Flash with EDAC protection.
- **Program memory:** 32 MB NOR flash with EDAC protection.
- **Mass memory:** GB NAND Flash.

INTERFACES:

- 2 x SpaceWire (nominal + redundant links).
- 1 x 10/100 Mbps Ethernet.
- 4 x UART/RS422.
- 2 x UART/RS485.

- 1 x SPI master + 6 x SPI slaves.
- 16 x GPIO, software configurable input or output.
- 4 x PWM.
- 2 x PPS inputs with detection and distribution core.
- 24 x Analog Inputs.
- 8 x Internal analog interfaces for voltage and temperature self-monitoring.
- 1 x Harbus: memory mapped IO (10 address bits, 8 data bits, 5 control bits).
- 1 x JTAG debug interface.
- 1 x UART / RS232 debug interface.

- Traceable reset source (power on, watchdog, reset input and software).
- Interrupt controller with up to 15 interrupt sources.
- 4 x 32-bit timers.
- 1 x Watchdog.
- Targeted for microsemi ProASIC 3 E/L or Xilinx Virtex FPGAs.
- Performance: 1.3 DMIPS/MHz:

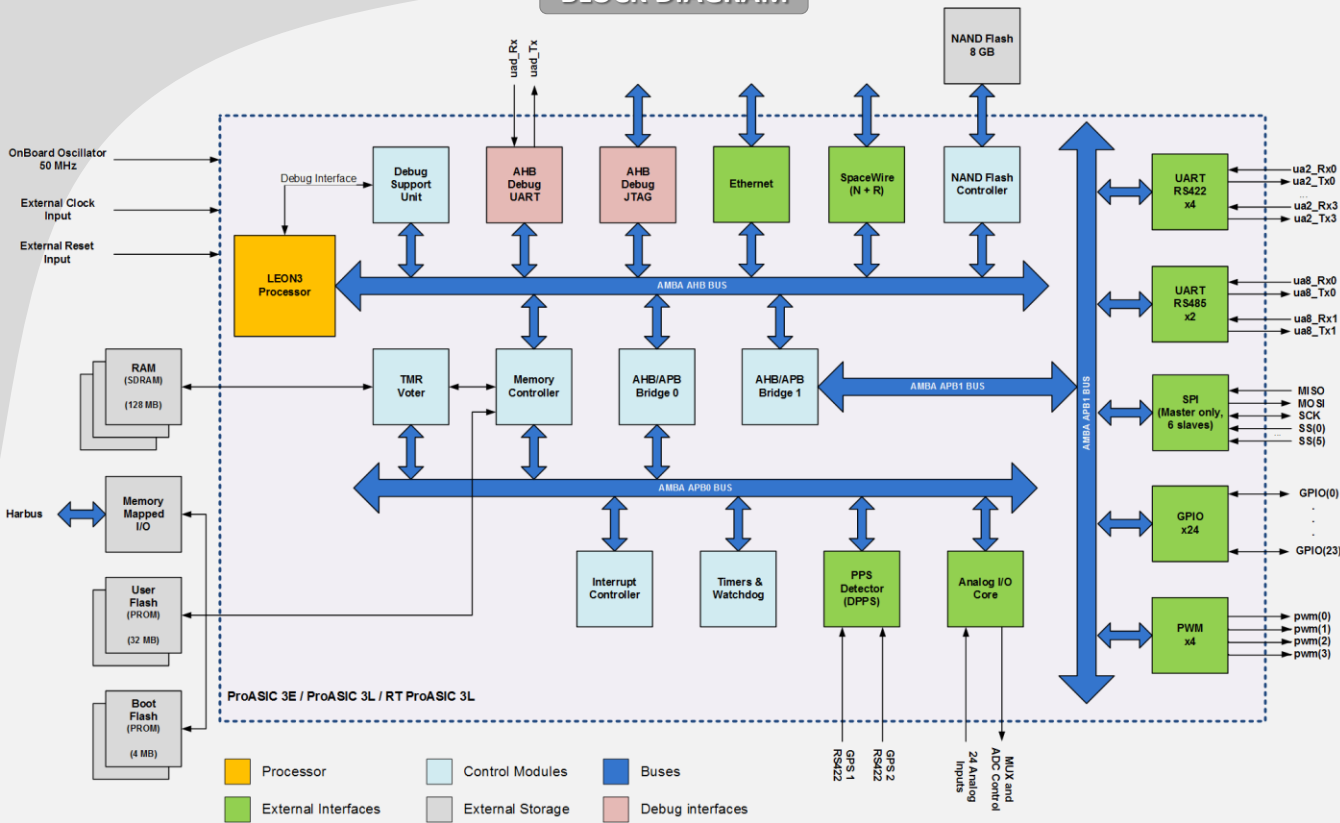
- Up to 25 MHz for Microsemi FPGAs.
- Up to 100 MHz for Xilinx FPGAs.

- Maximum power consumption: 10 W.
- Industrial-grade EEE parts, ITAR-free.
- BSP and Drivers for RTEMS Real-Time Operating System.

APPLICATIONS

- Command & data handling, telemetry logger, AOCs or housekeeping on-board computer for small to medium LEO satellites.
- Guidance & navigation, command & data handling or housekeeping on board computer for launch vehicles.

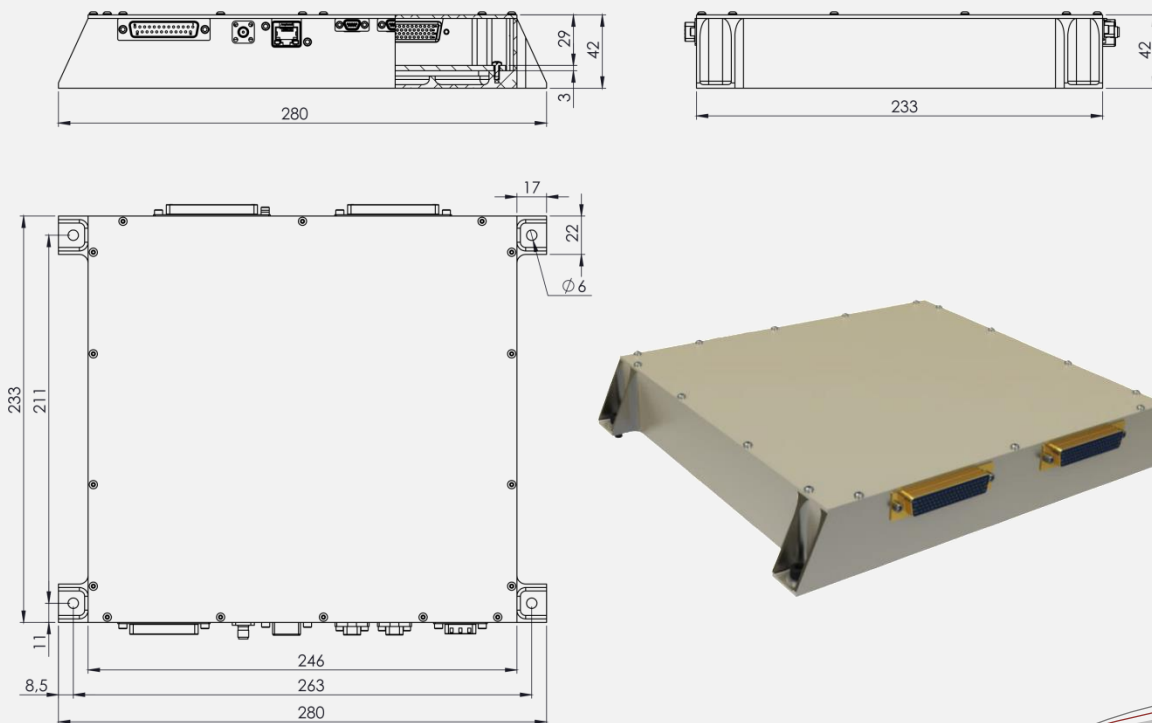
BLOCK DIAGRAM



CONNECTORS



MECHANICAL OUTLINE



(dimensions are in mm)

To request additional information, please email us at:

info@sti-tech.com.ar

