NanoMind
A3200
NanoMind A3200

Versatile On-board Computer for Cube, Nano and Microsat Missions

- Highly miniaturised form-factor for integration in many classes of space missions
- Modular design and networked architecture allows for redundancy and distribution of functions
- Common interfaces with check-out console (GOSH) and Cubesat Space Protocol networking

Highlighted Technical Features

Hardware Features:
- High-performance AVR32 MCU with advanced power saving features
- 512 KB build-in flash
- 128 MB NOR flash (On two dies of 64 MB each)
- 32 kB FRAM for persistent configuration storage
- 32 MB SDRAM
- RTC clock
- On-board temperature sensors

Interfaces:
- I2C, UART, CAN-Bus
- 8 external ADC channels that can also be used as GPIO
- External SPI with 3 chip selects
- Cubesat Space Protocol (CSP)
- GOSH interface for check-out

Attitude Control System Features:
- 3-Axis magneto resistive sensor
- 3-Axis gyroscope
- 3 bidirectional PWM outputs with current measurements
- I2C interface for GomSpace Sensor Bus (GSSB)

Mechanical Features:
- Dimensions: 65 mm x 40 mm x 6.5 mm
- Mass: 14 gram
- 2 x 20-position hard-gold plated FSI one-piece connector

Radiation Performance:
- Tested to ECSS-22900 level E (20 kRad(Si))

Reduces the amount of required external hardware and interfaces by integrating convenient functions for small satellite missions including Real-time Clock, ADCS interfaces and persistent storage for mission configuration and data.

Delivered ready-to-code. Software packages to speed up the mission development pace are commercially available covering attitude control and command and data handling functions.

The NanoMind A3200 integrates in a Cubesat using the NanoDock auxiliary board that can also host other miniaturised GomSpace avionics modules, e.g. the NanoCom AX100 Transceiver.