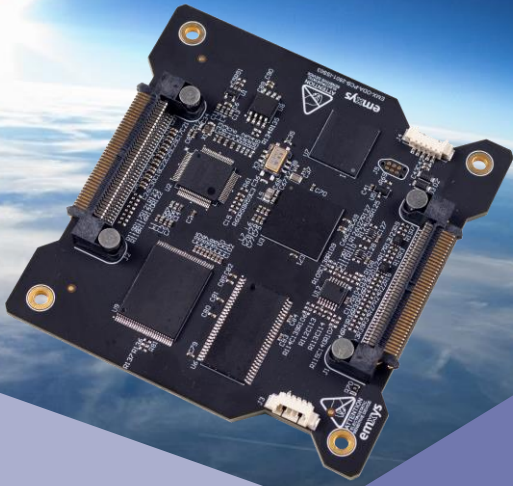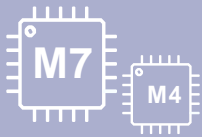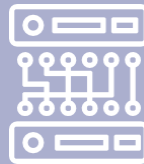# ODALISS OBC
On-Board Computer

ODALISS OBC is designed to provide high computational performance with a flexible power consumption in data-intensive space systems such as nanosatellites, microsatellites, or specialized payloads.

M7 **M4**
DUAL-CORE PROCESSOR

ETHERNET CONNECTIVITY

HIGH DENSITY INTERFACE

FLEXIBLE MEMORY ARCHITECTURE

The **ODALISS OBC** is based on a dual-core processing CPU that includes a rich ecosystem of peripherals to control the most demanding avionics subsystems and payloads.

Main features:

- Powerful dual-core architecture: Cortex®-M7 for high-performance processing unit, and Cortex®-M4 for mission-critical systems control.
- OBC includes a 10/100Mbps Ethernet switch to seamlessly implement standard TCP/IP backplane LAN with up to 5 nodes.
- Safety-centric architecture including RTC, voltage monitoring, and watchdog.
- Flexible logic interface (UART, RS-485, I2C, etc.).

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SPECIFICATIONS

CPU
- Dual 32-bit STM32 processor unit, ARM® Cortex®-M7 + Cortex®-M4, at 480MHz, with double-precision FPU, data and instruction cache and DSP instructions.
- Redundant (independent and window) watchdog for each core.
- Low voltage monitor.

MEMORY
- Up to 256GB eMMC NAND flash for long-term data storage.
- 64MB SDRAM provides fast access to data.
- 256KB FRAM for critical information.
- 128MB NOR flash.

CONNECTORS
- Two 80-pin high-speed interface backplane connectors.
- Two 5-pin connectors for external programming and communication.
- Pogo-style connectors for program and debug without mechanical stress.

HIGH-SPEED CONNECTIVITY
- Four 10/100 Ethernet ports.
- One USB port.
- SPI with two chip-selects.

STANDARD LOGIC INTERFACES
- Three UARTs.
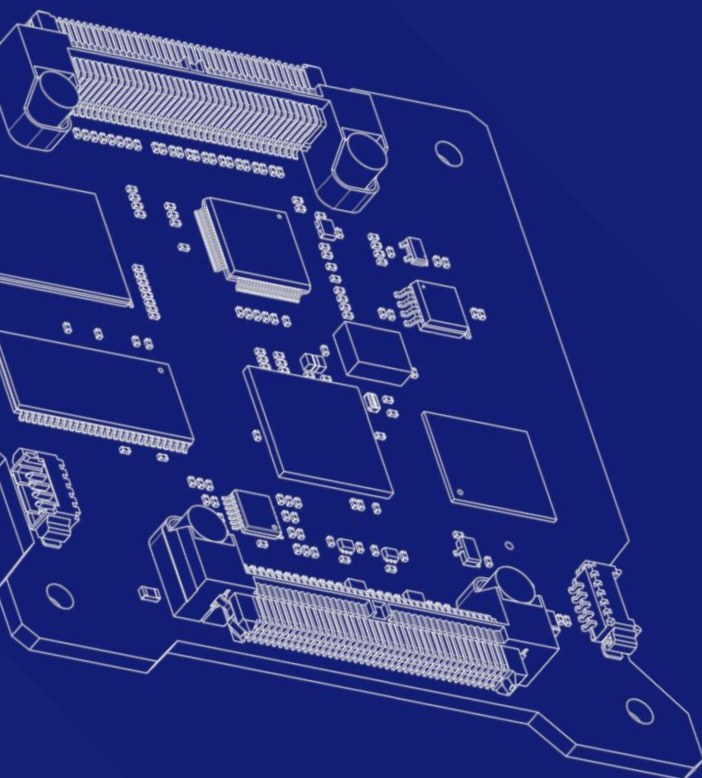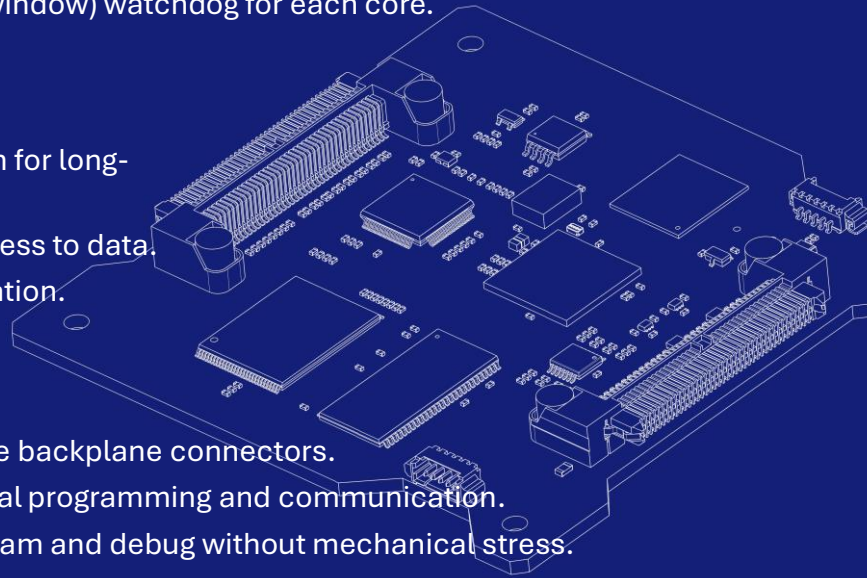- One RS-485.
- Two I2C interfaces.

INPUTS AND OUTPUTS
- 22 GPIOs individually configured as inputs or outputs.
- Eight open-drain inputs.
- Eight open-drain outputs.
- Five high-current open-drain outputs.

ANALOG INPUTS
- 12 analog inputs with up to 16-bit resolution.
- Voltage range from 0V to +3.3V.
- Each input signal can be conditioned to measure either voltage or current.
- Configurable active filter per channel.

INTEGRATION
- Requires only a +3.3V power supply.
- Operating temperature: -45ºC to +85ºC.
- Size: 87mm x 87mm x 10mm.
- Weight: 45 grams.

For more info:

sales@emxys.com