

Radiation-Tolerant Arm® Cortex®-M4 Microcontroller VA42630

The VA42630 is the most integrated RT solution on the market today. Including a fully integrated non-volatile memory (NVM), the VA42630 provides the highest functional density for space-based applications.

Key Features:

- Arm® M4 MCU with FPU
- SWD Interface
- Clock Rate up to 100 MHz

Operating Voltages

- Core: 1.5 V \pm 10%
- I/O: 3.3 V \pm 10%

Memory

- 64 KB on-chip Data SRAM
- 256 KB on-chip Program SRAM
- EDAC & Memory Scrubbing
- Integrated 256 KB NVM
- External Bus Interface

Peripherals

- 104 Configurable GPIO Pins
- 3xUART Interfaces
- 3xI2C Interfaces
- 3xSPI Interfaces
- 2xCAN 2.0 B
- Ethernet 10/100 MAC
- Full-Duplex SpaceWire Interface
- 4-Ch DMA Controller
- 8-Ch ADC (12-bit, 600 ksps)
- 2-Ch DAC (12-bit)
- Integrated Temperature Sensor

Timer System

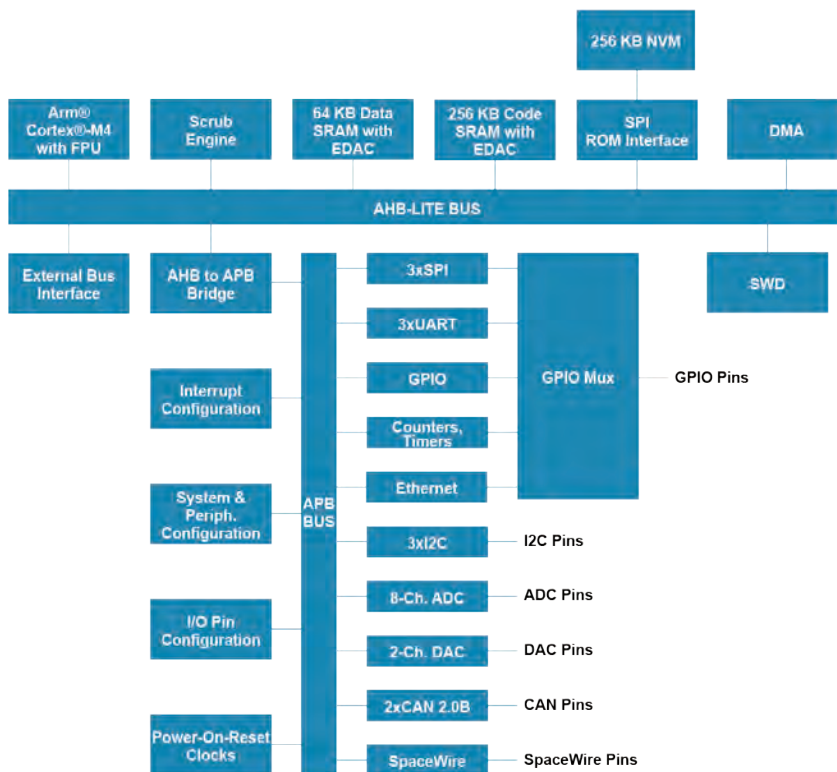
- 24 Configurable 32-bit Timers
- Input Capture, Output Compare, PWM,
- Counters, and Watchdog Timer

Temperature Range

- -55° to 125°C

Support

- PEB1 Development Board
- Software Kit



Radiation Performance:

Total Ionizing Dose (TID) > 50 krad(Si) with FRAM
Soft Error Rate (SER) with EDAC & Scrub enabled: < 1E-15 errors/bit-day
Single-Event Latch Up (SEL) Immunity: > 60 (MeVcm²) /mg (@ T=125°C)

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Product Availability:

- Engineering Samples — Q4 2025
- Production Qualified — Q1 2026

Package Options:

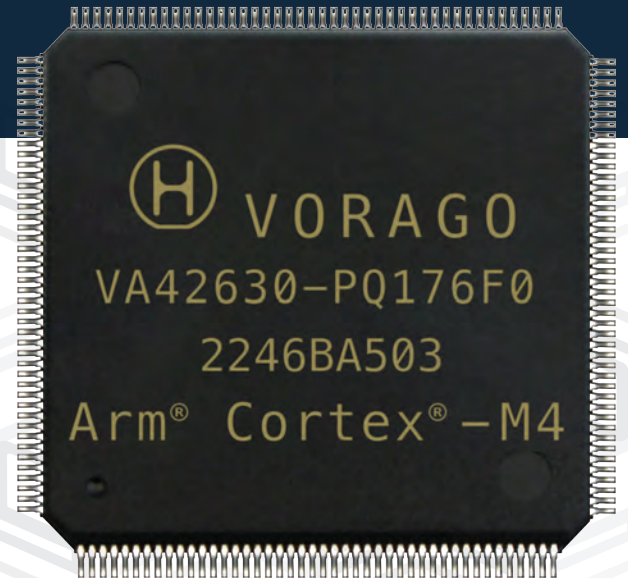
- PQFP176 (20x20 mm)
- BGA196 (12x12 mm)

Application Examples:

- Scientific Instrument Control
- Data Acquisition
- Motor Control
- Satellite Bus Control
- Payload

About us:

VORAGO is a leading provider of microprocessors and microcontrollers for Aerospace, Defense, and Industrial customers operating in harsh environments where radiation and extreme temperatures pose significant challenges. VORAGO's SpaceGrade Arm®-based MPUs and MCUs enable mission-critical technology to support the most demanding applications in radiation-heavy environments, while our extreme temperature solutions are ideal for industrial applications.



Contact us:

☎ 512-633-7992

🌐 www.voragotech.com

✉ info@voragotech.com

📍 2801 Via Fortuna Suite #450
Austin, TX 78746 USA

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