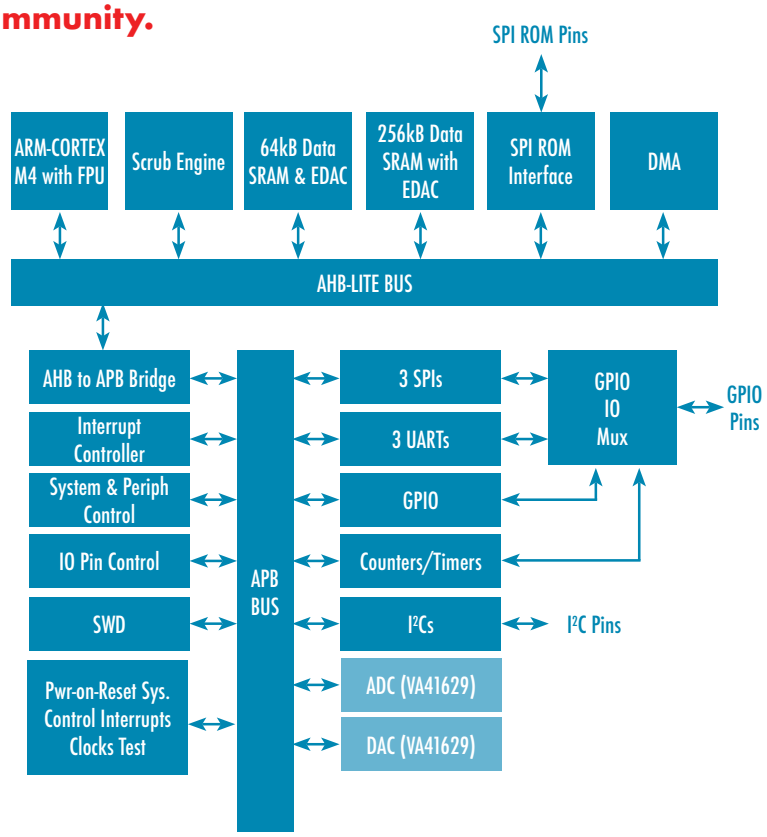
Radiation Hardened ARM® Cortex®-M4 MCU with FPU

VA41628, VA41629

VORAGO TECHNOLOGIES
Opening up new possibilities

32-Bit ARM® Cortex®-M4 Microcontroller manufactured with HARDSIL® technology offering superior radiation performance and latch-up immunity.



RADIATION HARDENED PERFORMANCE

- Total Ionizing Dose (TID) > 300K rad (Si)
- Soft Error Rate (SER) with EDAC enabled: < 1e-15 errors / bit-day
- Single-event Latch-up (SEL) immunity for all ion LETs <= 110 MeVcm^2 / mg (at 125°C)

SUPPORT

- PEB1 development board
- Keil™ MDK-ARM microcontroller software kit

MEMORY CONFIGURATION OPTIONS

- Internal NVM
- External SPI NVM
- External parallel NVM

KEY FEATURES

- Manufactured with HARDSIL® technology
- 32-bit ARM® Cortex®-M4 processor
  - Single Precision Floating Point Unit (FPU)
  - SWI based debug interface
- Operating voltages
  - Supply 3.3V or 3.3V/1.5V +/- 5%
  - Includes on-chip LDO regulator with standby mode
- Clock rate 50MHz
- Memory
  - 64 kB on-chip data and 256 kB on-chip program memory SRAM
  - EDAC & Memory scrubbing
- Peripherals
  - 3 UART interfaces
  - 3 I2C interfaces
  - 4-Ch DMA controller
  - 8-Ch Analog-to-digital converter (12-bit, 600ksps)*
  - 2-Ch Digital-to-Analog converter (12-bit)*
  - Integrated temperature sensor
  - 75 Configurable GPIO pins (VA41628 QFP)
  - 83 Configurable GPIO pins (VA41629 QFP)
- Timer System
  - 24 configurable 32-bit counters / timers
  - Input capture, Output compares
  - PWMs, Pulse Counters, Watchdog timer
- Package
  - 128 QFP (14mm x 14mm)**
  - 176 QFP (20mm x 20mm)*
  - 196 BGA (12mm x 12mm)

*VA41629 only

**VA41628 only

VORAGO parts are subject to export control restrictions by the US Department of Commerce. We are obliged to know who the customer is, where the parts will ultimately end, and what application they are to be used for. ECCN classification 3A001.