

VA10820

Radiation Hardened OBC / C&DH Board and Reference Design Kit

RH-OBC-1



Pumpkin CubeSat Kit Bus compatible On Board Computer (OBC) / Command & Data Handling (C&DH) board using radiation hardened components and radiation effects mitigated design. CubeSat form factor design.

BOARD FEATURES

- Evaluation Board comprising of PCB and Board Support Package
 - All critical components are radiation-hardened
 - CAN and UART-to-USB devices are not rad-hard but have radiation mitigation protection circuits
 - PCB dimensions are CubeSat form factor
 - Pumpkin CubeSat Kit Bus compatible (PC104 connector interface)
 - VA10820 ARM Cortex-M0 microcontroller
 - Two Cypress 256KByte FRAMs
 - Cypress 32M Byte Serial NOR Flash
 - Intersil Supervisor IC
 - Intersil LDO regulators
 - Aeroflex 14-bit SAR ADC
 - Standard CubeSat connectors
 - PC104 (CubeSat Kit Bus)
 - Remove-Before-Flight switch
 - EPS board pre-flight power connector
 - JTAG connector
 - CAN connector
 - USB type B connector

SOFTWARE

- Board Support Package (BSP)
 - Example software to demonstrate all peripherals
 - CMSIS compliant
- VA10820 supported by Keil™ MDK-ARM microcontroller software kit, IAR Systems Embedded Workbench, iSYSTEM winIDEA.
- Firmware built upon FreeRTOS operating system for simple incorporation of tasks
- Kit supported by Bright Ascension FDK

KEY MCU FEATURES

- VA10820 32-bit ARM® Cortex®-M0 MCU
 - Manufactured with HARDSLIL® technology
 - Clock rate up to 50MHz
 - 32KB on-chip data SRAM
 - 128KB on-chip program memory SRAM
 - 24 general purpose counter / timers
 - 56 General purpose I/O (GPIO) pins
 - 2 x UARTs
 - 3 SPIs (two master / slave, one master only)
 - 2 x I2Cs
 - Error Detection and Correction (EDAC) and scrub engine for memory protection
 - TMR (Triple Modular Redundancy) on internal logic

REFERENCE DESIGN SUPPORT

- PCB layout files
- VA10820 firmware source code
- Schematic diagram
- Bill of materials

AVAILABLE FROM



FDK SUPPORT AVAILABLE FROM



For more information, contact below or visit our web site at www.voragotech.com

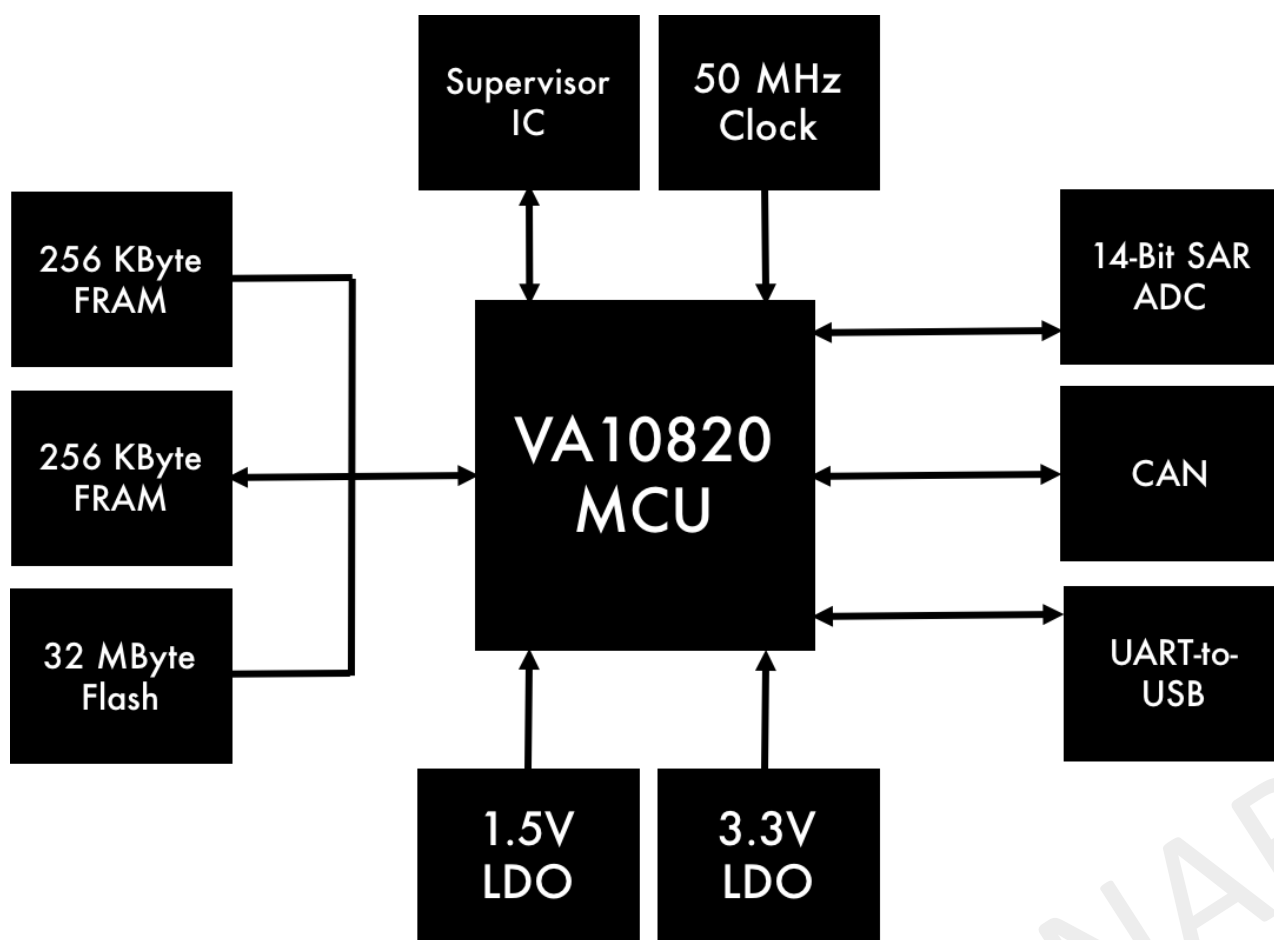
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DEVELOPMENT BOARD ORDERING INFORMATION

| Description | Part number | Features |
|-----------------------------------|-------------|--|
| OBC / C&DH Board & Ref Design Kit | RH-OBC-1 | VA10820 On Board Computer (OBC) / Command and Data Handling (C&DH) board for CubeSats. |

RH-OBC-1 DEVELOPMENT BOARD BLOCK DIAGRAM



For more information, contact below or visit our web site at www.voragotech.com
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