VA416x0 Development Kit

PEB1-VA41600, PEB1-VA41620, PEB1-VA41630

VORAGO TECHNOLOGIES
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MCU Development Kit with a single board computer based on a 32-bit ARM® Cortex®-M4 processor manufactured with disruptive HARDSIL® technology and two daughter cards.

OPTIONS

- PEB1-VA41600 (to support VA41600 extreme temperature MCU)
- PEB1-VA41620 (to support VA41620 rad-hard MCU)
- PEB1-VA41630 (to support VA41630 with FRAM rad-hard MCU)

APPLICATIONS

- Industrial
- Oil & Gas
- Aerospace
- Space
- Military

SOFTWARE

- Board Support Package (BSP) via download
  - Example software to demonstrate all peripherals
  - CMSIS compliant
- PEB1 supported by Keil™ MDK-ARM microcontroller software kit
- IAR Systems Embedded Workbench, iSYSTEM winIDEA, GCC compiler and FreeRTOS real-time operating system

The PEP1 Kit is intended for room temperature operations only (0°C to 70°C) and is not intended to be used in an oven or getting exposed to radiation.

KIT FEATURES

- Development Kit comprising of three PCBs and Board Support Package
- MCU Single Board Computer (SBC*)
  - PCB dimensions – 3.15" x 3.3"
  - 256KB boot SPI FRAM
  - 3.3V and 1.5V regulators
  - On-board power distribution and monitoring
  - On-board clock generation (20MHz – 80MHz)
  - On-board crystal oscillator (20MHz)
  - Power supplied through USB connector
  - Three LEDs: 3.3v power, J-Link OB active, 1 for GPIO
  - Connectors with access to GPIO or EBI/Ethernet boards
  - SPI PMOD compatible connector
  - SpaceWire connector (micro DB9)
  - Segger J-Link OB
- Daughter card A - GPIO board
  - PCB dimensions – 5.55" x 4.95"
  - 256KB SPI FRAM
  - I2C-based accelerometer
  - Two CAN transceivers
  - Power supplied through external connectors
  - Connectors with access to MCU board
  - Headers with access to all GPIO and all analog pins
  - Three I2C, two UART, and two SPI PMOD compatible connectors
- Daughter card B - EBI/Ethernet board
  - PCB dimensions – 6.95" x 5.6"
  - 512KB EBI accessible FRAM
  - 512KB EBI accessible SRAM
  - Two CAN transceivers
  - EBI Host port
  - Ethernet transceiver and RJ45 connector
  - Power supplied through external connectors
  - Connectors with access to MCU board
  - Headers with access to 41 GPIO and all analog pins
  - SpaceWire connector (micro DB9)

*SBC plugs into either daughter board.

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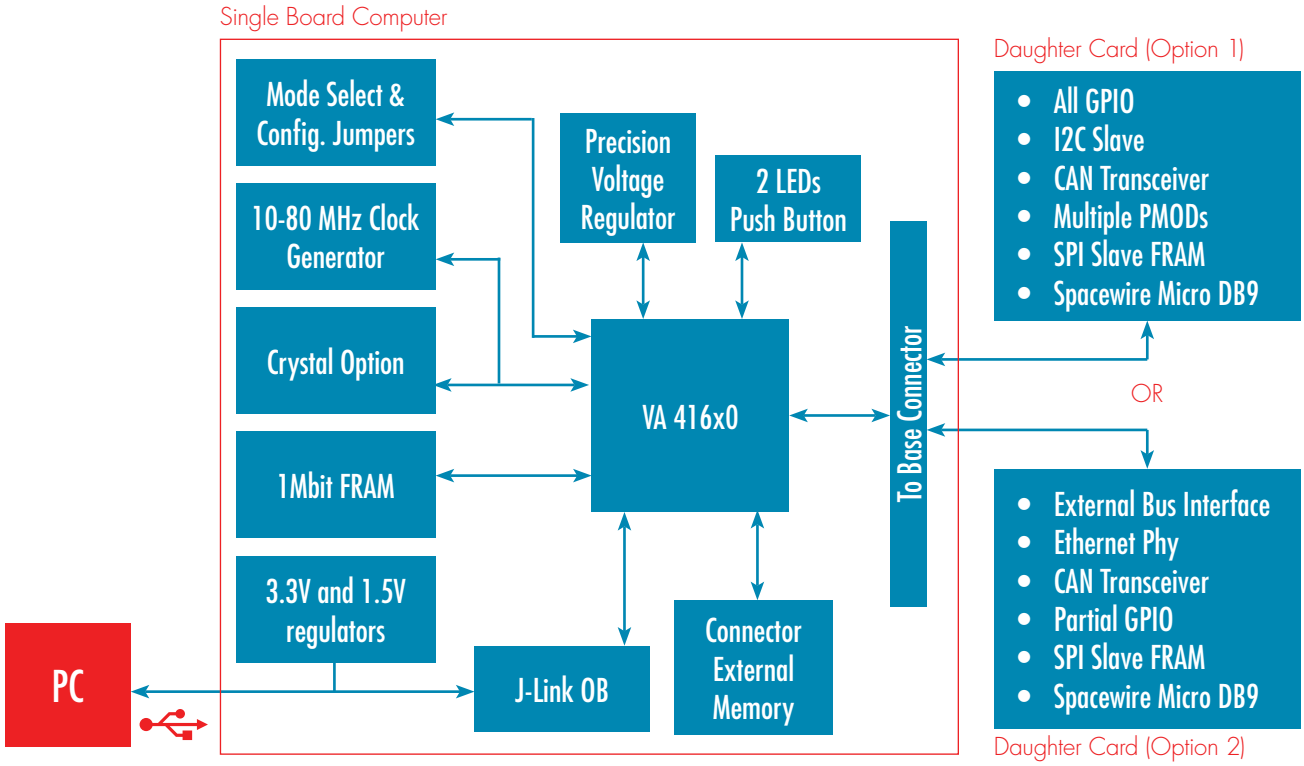
KEY MCU FEATURES

- **VA416x0 32-bit ARM® Cortex®-M4 processor**
  - Single Precision Floating Point Unit (FPU)
  - DMA controller (4 channel)
  - Up to 100MHz
  - 64kB on-chip data, 256kB on-chip program SRAM
  - EDAC and memory scrubbing
  - 256kB NVM (VA41630 only)
- 104 configurable GPIO pins
- 3 UART, 3 I2C, 3 SPI, 2 CAN
- Ethernet 10/100 MAC
- Spacewire
- 8-Ch ADC (12-bit, 600ksps)
- 2-Ch DAC (12-bit)
- Temp sensor

Development Board Ordering Information

Description	Part Number	Features
Development Kit	PEB1-VA41600	Supports VA41600 extreme temperature microcontroller
Development Kit	PEB1-VA41620	Supports VA41620 rad-hard microcontroller
Development Kit	PEB1-VA41630	Supports VA41630 with FRAM rad-hard microcontroller

REB1-VA108X0 Development Board Block Diagram



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