VA416x0 Development Kit
PEB1-VA41600, PEB1-VA41620, PEB1-VA41630

VORAGO
TECHNOLOGIES
Opening up new possibilities

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)

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 (0ºC to 70ºC) and is not intended to be used in an oven or getting exposed to radiation.

APPLICATIONS

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

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.

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