VA10800
High Temperature Data Acquisition Evaluation and Reference Design Kit
HT-DAB-1

VORAGO
TECHNOLOGIES
Opening up new possibilities

MCU-based high temperature data acquisition system using 32-bit ARM® Cortex®-M0 processor. Suitable for rapid prototyping or as a reference design. Specified for 200°C operation.

BOARD FEATURES

- Evaluation Board comprising of PCB and Board Support Package
  - All components and PCB rated and tested for 200°C operation
  - PCB aspect ratio suitable for downhole vessels
  - PCB dimensions – 1.0" x 11.5"
  - Micro D 15-S and D 21-S connectors
  - Three AD7981 16-bit, 600 ksps ADCs (one of the ADCs is multiplexed with eight input channels)
  - ADG798 multiplexer and ADR225 voltage reference
  - TTL UART communications
  - Boot flash, system clock and power supplies
  - 85dB SINAD using 2.5 V reference with no missing codes
  - ADC conversions down to 2.3μS for non-multiplexed channels and 10μS for multiplexed channels
  - 16 kbytes conversion result buffer
  - IDC header connector to facilitate easy probing
  - JTAG debug connector for MCU firmware programming
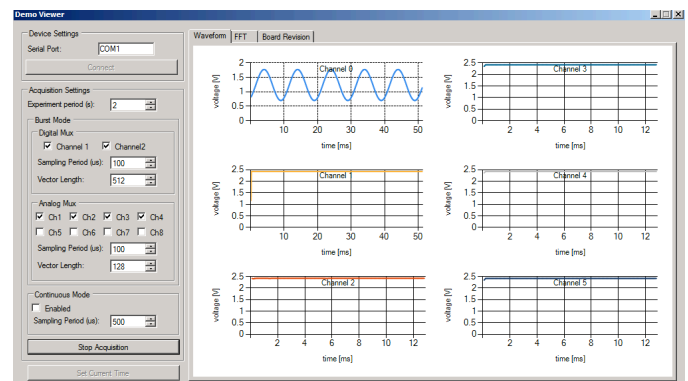
SOFTWARE

- Board Support Package (BSP) and Viewer software source code available
- VA10800 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

KEY MCU FEATURES

- VA10800 32-bit ARM® Cortex®-M0 MCU
  - Manufactured with HARDSIL® technology
  - Clock rate up to 50MHz
  - 32KB on-chip data SRAM
  - 128KB on-chip program memory SRAM
  - 24 general purpose counter / timers
  - 56 Dedicated general purpose I/O (GPIO) pins
  - 2 x UARTs
  - 3 SPIs (two master / slave, one master only)
  - 2 x I2Cs

REFERENCE DESIGN SUPPORT

- PCB layout files
- VA10800 firmware source code
- PC data logging and display software (open source)
- Schematic diagram
- Download at http://www.voragotech.com/products/htdab1

Data Capture and Analysis Software
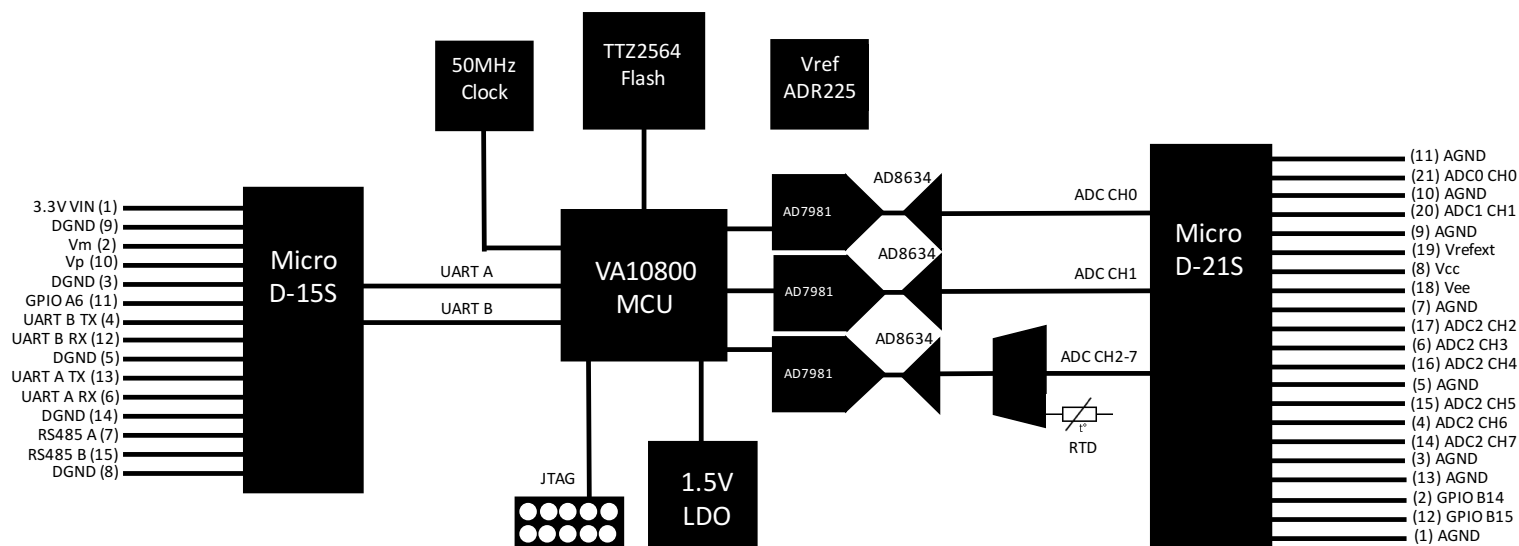
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DEVELOPMENT BOARD ORDERING INFORMATION

Description	Part number	Features
Development Board	HT-DAB-1	VA10800 microcontroller based precision multi-channel analog sensor data acquisition and control system rated to 200°C

HT-DAB-1 DEVELOPMENT BOARD BLOCK DIAGRAM

HT-DAB-1 POWER CHARACTERISTICS

Description	Voltage	Typical Operating Current (at 25°C)	Lab Supply Current Limit Setting (Recommended)
Vdd	3.3V ± 10%	35mA (no external pin loading)	100mA
Vcc	5.0V ± 10%	6mA	50mA
Vee	-2.5V ± 10%	4mA	50mA

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