REB1 Quick Start Guide version v03

Software available at: http://voragotech.com/reb1

Supported operating systems: Windows 7 and Windows 10

Purpose of Document – Provide a first time user of the board sufficient information to exercise 90% of the board's features in under 1 hour

Step 1 – Powering the board and setting the clock frequency

- Jumper check. Only the following jumpers should be inserted:
    - Clock multiplier select (J16). Two jumpers as shown in figure 1.
    - Clock source jumper (J18)
    - MCU voltage supply shunts (J2 & J20)
- Connect the USB cable between PC and the REB1 board
    - The D_3V3 LED will indicate that power is applied.
    - D1 will indicate that the J-Link OB enumerated and has successfully connected to the VA108xx device.
- If the MCU has the pre-programmed example code running, the green LED D2 will blink at a relatively fast rate of 10 Hz.
    - Pressing the RESET button (S2) will hold the device in RESET. Releasing it will commence the boot sequence and start code executing.
    - Pressing the user switch (SW_USER) will toggle LED D3 on and off. If the button is held low, the LED will toggle on and off.

Figure 1 - REB1 component placement image

Fout (MHz)	J16	Fout (MHz)	J16	Fout (MHz)	J16
30		53.125		20	
60		40		62.5	
80		50		31.25	

Step 2 – Communicating with the PC using Segger J-Link RTT

- Download and install Segger J-Link software: https://www.segger.com/jlink-software.html   (select Software and documentation pack for Windows)
- Open the J-Link RTT Viewer application. Select "USB" connection, set the Device to M0 and enter the RTT control block address. (0x10007000).
- The RTT viewer should show a new line of text approximately every 1 second with the temperature and ADC reading from the potentiometer. Rotate potentiometer wheel to see the ADC reading change. Resetting the MCU will cause a start-up splash screen to be shown with device information.

Step 3 – Download and install one of the three supported IDEs. These are free of charge for the evaluation version.

- Keil MDK IDE http://www.keil.com/arm/mdk.asp.
- IAR IDE - https://www.iar.com/iar-embedded-workbench/#!?currentTab=free-trials
- iSystem WinIDEA - http://isystem.com/download/winideaopen.