B5-X-Flash-Config Quickstart Guide

Some hints for getting started with the B5-X-Flash-Config module.

(1) In Webpack / ISE, when generating the bitfile, set Startup Clock = CCLK (ie. not JTAG clock).

(2) To connect the module, connect the JTAG IN to the download pod board, and the SER OUT to the SERIAL MODE header on the FPGA mainboard.

(3) Ensure that the CONFIG MODE SEL header shunts for M0, M1 and M2 on the FPGA mainboard are all shorted.

(4) When the power is first applied, the FPGA will configure immediately with a factory test configuration. The red test LED on the FPGA mainboard will come on, and when the TEST SWITCH is pushed, the LED will go off.

(5) To reprogram the X-Flash-Config, use the Xilinx Impact tool. The XC18V02 device will appear in the JTAG chain when the tool is started. Assign the .mcs bitfile (that you have generated) to the device, then initiate the programming. If you click the LOAD FPGA checkbox, the FPGA will reconfigure as soon as the programming is complete.

(6) The green DONE led on the X-Flash-Config will come on dimly when the configuration has successfully completed. It is designed to come on only dimly, so that the FPGA DONE line is not significantly loaded by the LED. The total loading on the DONE line is important in applications where multiple X-Flash-Config modules are JTAG chained when using the modules with larger third-party FPGA boards.

(7) The RECONFIG FPGA pusbutton on the module can be used to reconfigure the FPGA, if necessary. It is useful in situations where you wish to restart your system without power cycling. It can be used to restart a design, during debugging, to observe start-up sequences. The pushbutton is subject to contact bounce, which can mostly be avoided by holding down the pusbutton for more than one second when pressing it (sharp fast pressing with this pushbutton tends to cause the contact bounce). If the button bounces, or is pressed twice before the FPGA has finished configuration, the FPGA will enter a stalled state, which can only be reset by power cycling.

(8) Support
Please email Tony Burch, tony@BurchED.com.au, with any questions, comments, feedback or requests for support.