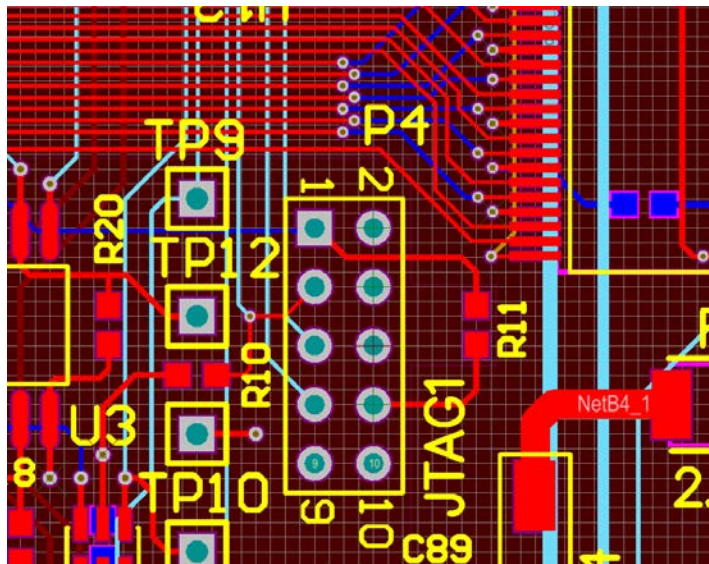
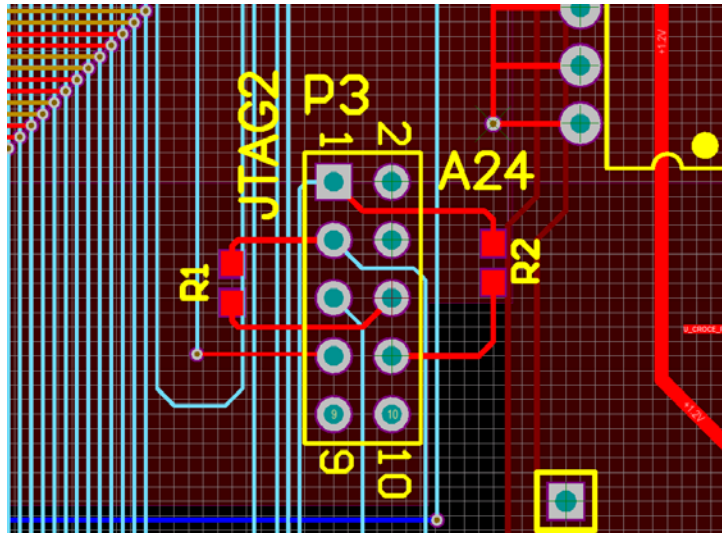


Instructions for updating CROCE firmware

1. Obtain PROM programming (*.mcs) and configuration (*.xcf) files for Lattice ISP programming cable. Two PROM programming files are needed for a full CROCE firmware update.
2. Place all files in a convenient location (e.g. C:\Lattice\ISP\CROCE).
3. With the VME crate power **OFF** insert the module you want to program and connect ISP programming cable. **Important:** Observe pin 1 on the cable connector and the VME board (see two pictures below). Turn **ON** the VME crate.

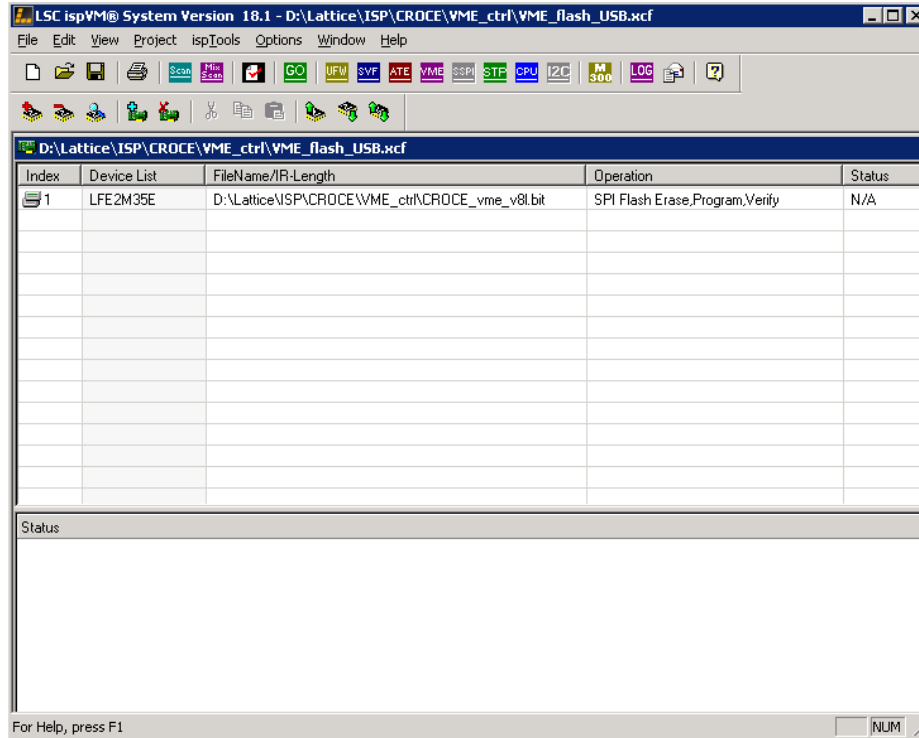


P4 – JTAG1 connector is for programming VME control FPGA

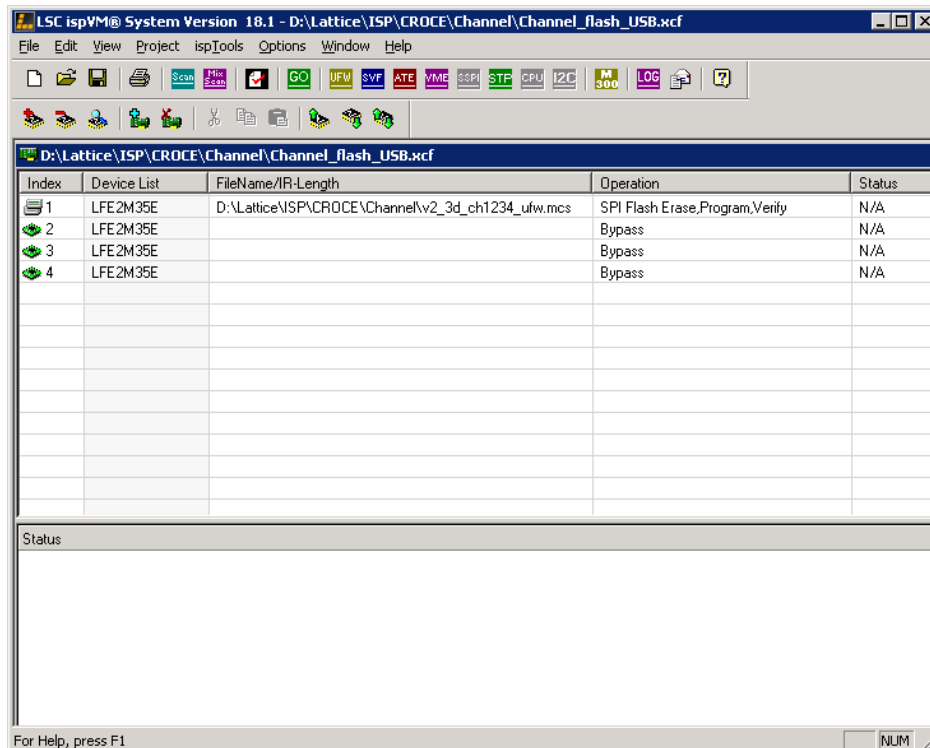


P3 – JTAG2 connector is for programming Channel FPGAs

4. Start Lattice ispVM System software. Go to the **File** menu and click on **Open** command. Select CROCE VME_flash_USB or Channel_flash_USB configuration file from the location you have selected in step 2.
5. You will see one of the following pictures (two configurations shown):



OR



6. Double click on the top line in Filename/IR-Length column. You will see the following Device Information menu:

Device Information

Part Description: CROCE VME control firmware **OK**

Device: **Select...** LFE2M35E **Cancel** **Advanced...**

Device Full Name: LFE2M35E Package: All **Expand**

Data File: **Browse** D:\Lattice\ISP\CROCE\VME_ctrl\CROC

Instruction Register Length: **Import...** 8 ☐ Re-initialize Part on Program Error
☐ Enable Debug Mode

Operation: SPI Flash Erase,Program,Verify

Device Access Options: SPI Flash Programming **SPI Flash Options...**

Click on the Arrow to the Left for Additional Data Files Setup

7. Using **Browse** button locate PROM programming files you saved in step 2. Select the same file name as in original configuration. Click **OK**. **Important:** Failure to do this properly will result in not working module.
8. Using **Save As** command from the **File** menu, save new configuration file with a different name. Keep original configuration file for a reference.
9. Click **GO** button in the tool bar. The programming process will start. After it finished verify that all lines in the Status column have green light (**PASS**).
10. Turn **OFF** the VME crate and disconnect ISP programming cable. **Important:** Do not disconnect programming cable while the VME module is powered.