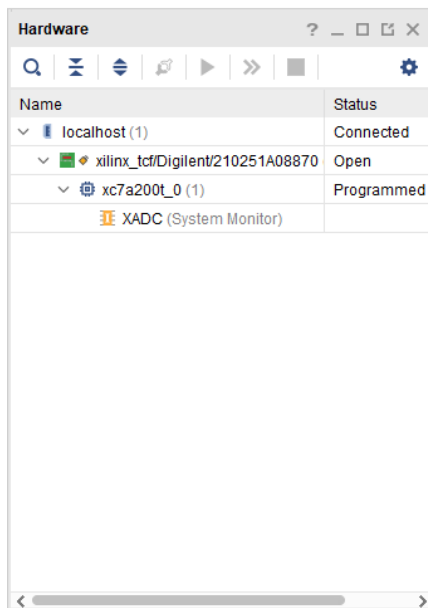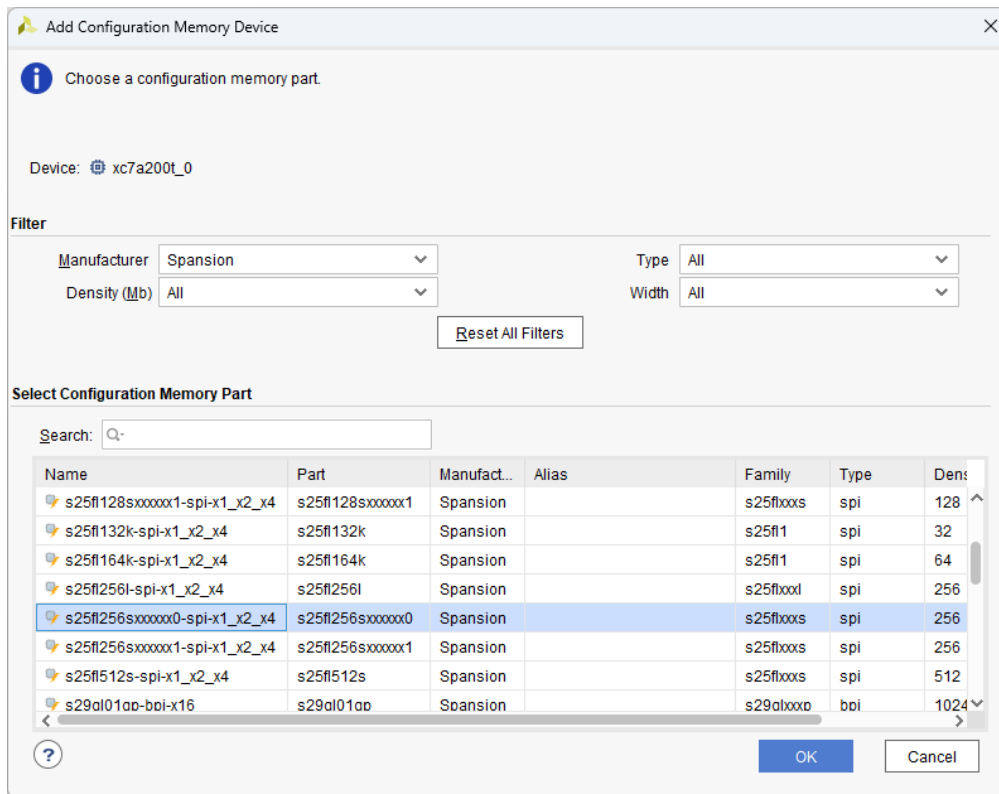# Using JTAG And Hardware Manager

1. Connect JTAG Cable to Saturn.
2. Plug it into the PC USB.
3. Power up Saturn.
4. Run Vivado
5. Select **Flow -> Open Hardware Manager**
6. Vivado will report "no hardware target is open". Click **Open Target** & select **Auto Connect**

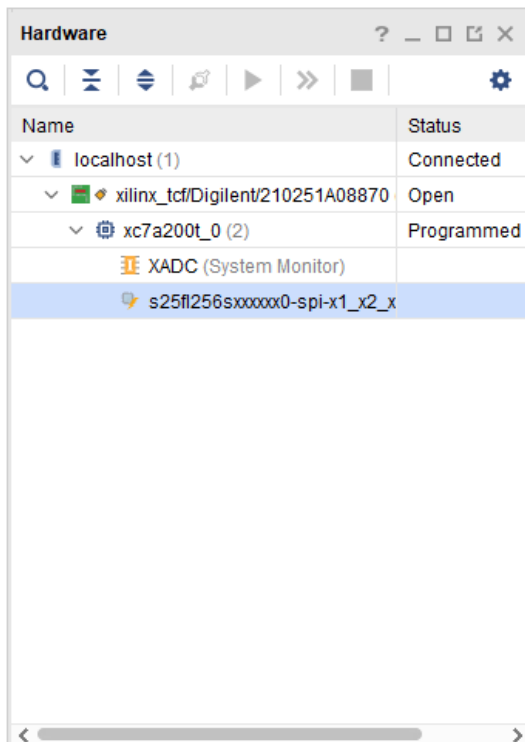The hardware window shows the FPGA, but no serial config prom:

7. Right click on the FPGA xc7a200t_0 and select **Add Configuration Memory Device**
8. Select manufacturer to **Spansion**
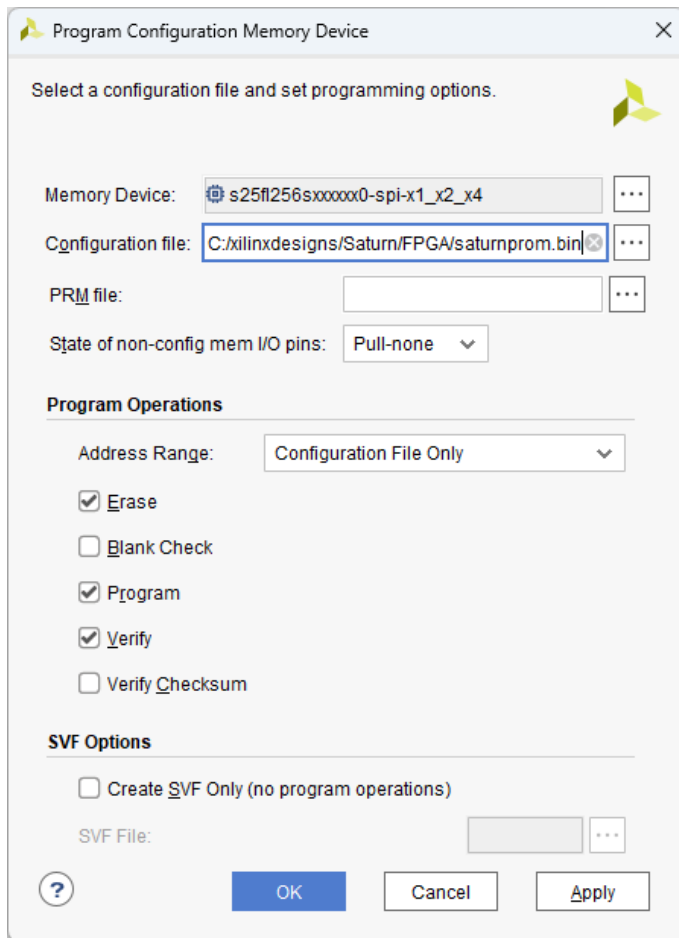9. Select **s25fl256sxxxxxx0-spi-x1_x2_x4**

10. Click **OK**
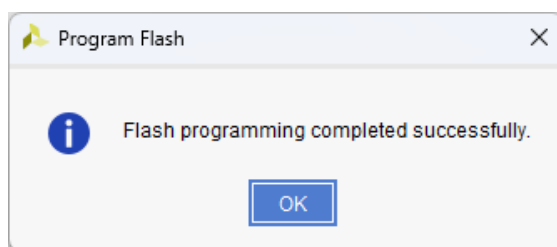11. The config prom is now shown in the hardware window

12. You will get an option "do you want to program the configuration memory now?" select **Yes**
13. Select the saturnprom.bin file and click **OK**

14. The config prom is programmed through the JTAG cable and the FPGA – this will take 2-5 minutes
15. The operation is complete when this appears:

16. Close Vivado hardware manager
17. Power the board off and back on; it will boot from that file.