Fingerprint Sensor - Serial Communication

ECE492 – Winter 2014 - Group 9
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Introduction

Initially, we had trouble sourcing an affordable fingerprint sensor for our design project. We stumbled across a fingerprint on adafruit that seemed to fit the bill. It is the ZFM-20 series sensor from ZhianTec.

Connectivity

The device can be powered by and communicate with the DE2 without additional hardware. The provided Buffered FIFO JTAG UART (RS-232) can be used for communication. Originally we utilized the JTAG UART in the provided university IP, but ran into issues with RX buffer overflowing. A hardware buffered solution alleviates these issues. The sensor can be powered by the 5V pin on the DE2 GPIO header.

Communication

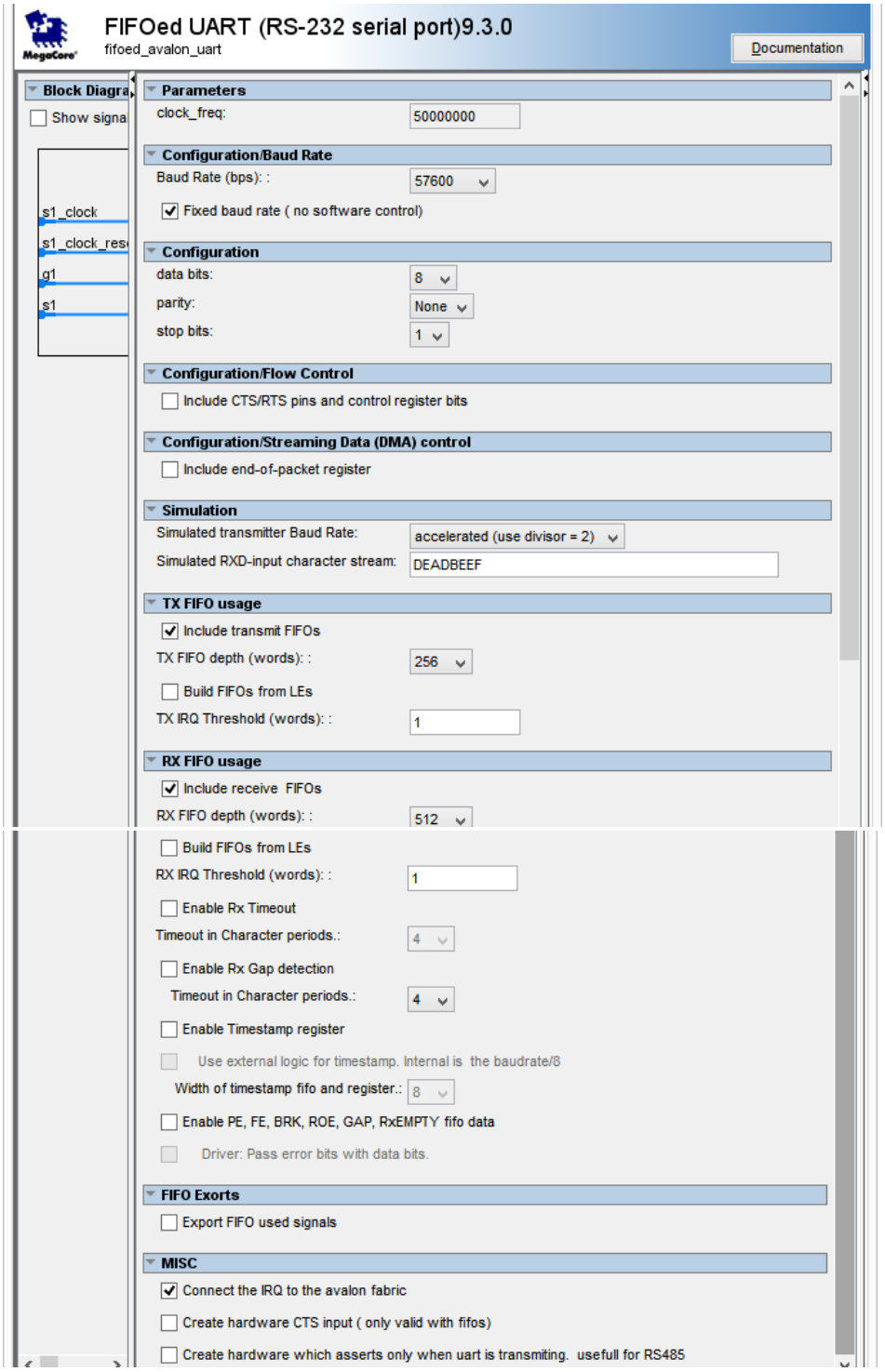
There is source code to accompany this application note (ZFMComm.h, ZFMComm.cpp & ZFM_CONST.h). These files can be imported into the NIOS-II environment and compiled with g++.

Usage is available in doxygen style comments in the code.

Example

There is an example of the usage attached to this document and available at http://github.com/berickson1/DE2-Adafruit-ZFM-20

Qsys



Additional References

Datasheet - Attached