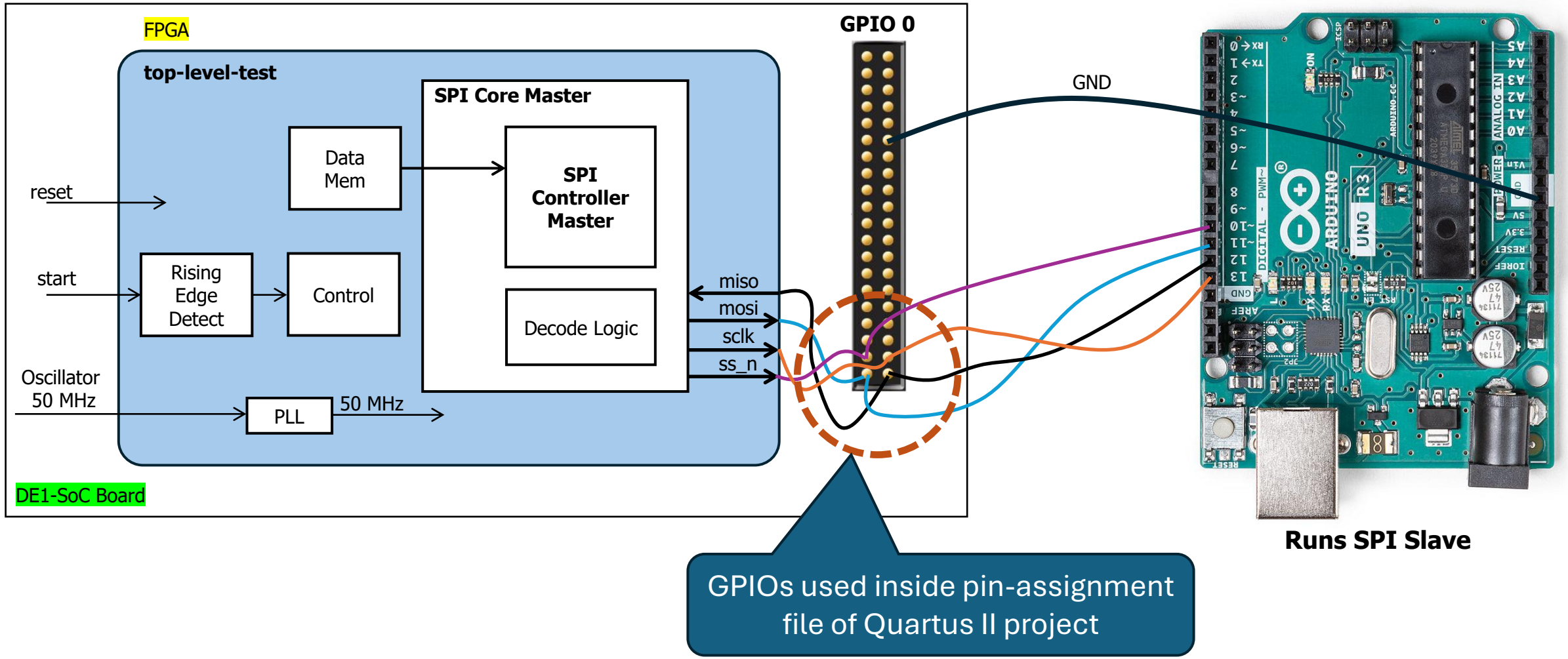
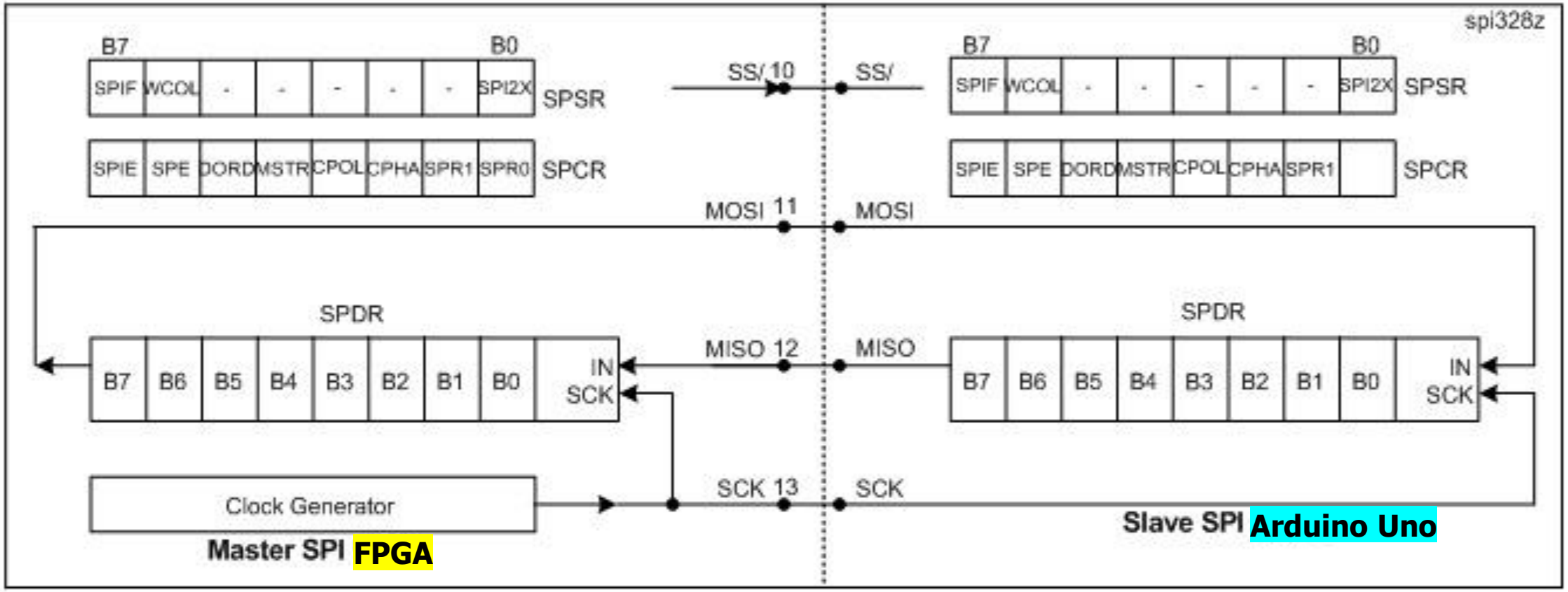
SPI Controller Master in VHDL – Test Project

- FPGA Board
  - DE1-SoC board
  - Implements a test application that uses SPI Core Master mode to send to an SPI Slave the data stored in a small “data memory” with 16 entries
  - SPI Core is a wrapper around an SPI Controller.
  - The wrapper is really smartly designed in that it is meant to be used in conjunction with registers defined for it (and which would be mapped to memory) and via a driver in C++ in a system with a processor (such as Microblaze or Nios II) that would use the driver to access the SPI Core for communication with SPI Slave devices (such as sensors).
- Arduino Board
  - Runs a simple sketch that uses SPI configured as Slave to receive all the bytes sent from FPGA and print to the Serial terminal.

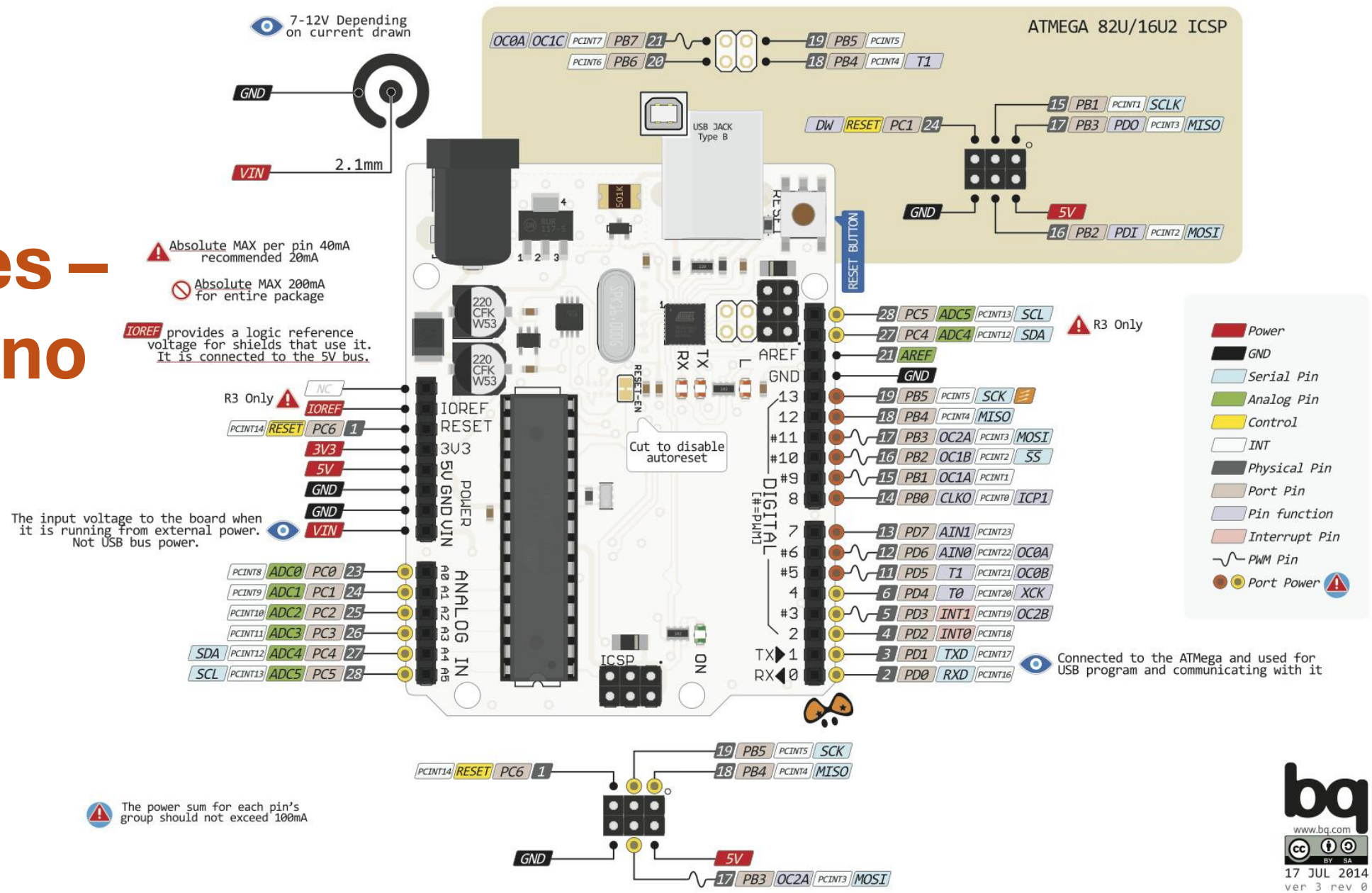
Simplified Block Diagram of the Test System



References – SPI Master to SPI Slave Connections



References – Arduino Uno Pinout



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