Prototyping of On-chip I2C Module for FPGA Spartan 3A Series using Verilog

International Journal of Computer Applications © 2013 by IJCA Journal

Volume 68 - Number 16

Year of Publication: 2013

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10.5120/11665-7256

Abstract

Today, at the low end of the communication protocols we find two worldwide standards: I2C and SPI [7]. I2C – commonly known as Inter IC, is a bus protocol. I2C protocol was proposed by Philips Semiconductors to enable faster device to communicate with slower devices without any data loss [1]. In this paper, we will assist the system designers to understand the communication between EEPROM (24C02) and FPGA Spartan 3A. The design is synthesized and simulated using Xilinx ISE and 7.1 and 12.4. Programmed FPGA acts as a master where as EEPROM acts as a Slave.

References

- Kangshun Li1,2, Yan Chen1 and Hezuan Liu2. A New Method of Evolving Hardware Design Based on IIC Bus and AT24C02. Proceedings of the 10th World Congress on Intelligent
Control and Automation July 6-8, 2012, Beijing, China
- ST24C02, user manual by ST MICROELECTRONICS

Index Terms

Computer Science  Integrated Circuits

Keywords
FPGA  I2C Bus  Verilog