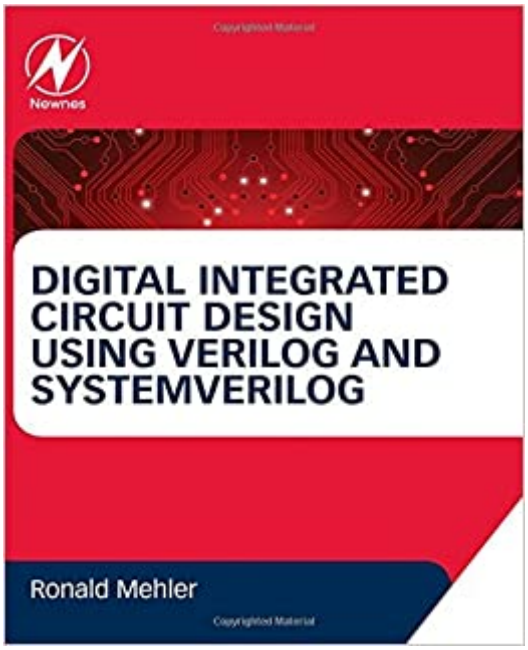
Digital Integrated Circuit Design Using Verilog And Systemverilog



Synopsis

For those with a basic understanding of digital design, this book teaches the essential skills to design digital integrated circuits using Verilog and the relevant extensions of SystemVerilog. In addition to covering the syntax of Verilog and SystemVerilog, the author provides an appreciation of design challenges and solutions for producing working circuits. The book covers not only the syntax and limitations of HDL coding, but deals extensively with design problems such as partitioning and synchronization, helping you to produce designs that are not only logically correct, but will actually work when turned into physical circuits. Throughout the book, many small examples are used to validate concepts and demonstrate how to apply design skills. This book takes readers who have already learned the fundamentals of digital design to the point where they can produce working circuits using modern design methodologies. It clearly explains what is useful for circuit design and what parts of the languages are only software, providing a non-theoretical, practical guide to robust, reliable and optimized hardware design and development.Produce working hardware: Covers not only syntax, but also provides design know-how, addressing problems such as synchronization and partitioning to produce working solutionsUsable examples: Numerous small examples throughout the book demonstrate concepts in an easy-to-grasp mannerEssential knowledge: Covers the vital design topics of synchronization, essential for producing working silicon; asynchronous interfacing techniques; and design techniques for circuit optimization, including partitioning

Book Information

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Customer Reviews

Ronald Mehler is a professor of electrical and computing engineering at California State University, Northridge. Before joining the faculty at CSUN, he worked in private industry for 20 years, mostly designing integrated circuits using hardware description languages and logic synthesis. The primary focus of his research has been on design automation for application specific integrated circuit (ASIC) development.

I'm a non-engineering degree'd professional who works with Electrical Engineers/Circuit designers daily. I needed a way to clearly understand the work these engineers were engaging in for project review purposes. This book gives me a clear understanding of the circuit design process, without having to have an engineering degree. If I was an engineer, I can see how this book would give clear insight into Verilog and System Verilog code and how to use it efficiently. Easy to read, and even my son who is a junior in high school picked in up and I haven't gotten it back as yet since I bought it! He's on his way to becoming a Semiconductor Design Engineer!

Digital Integrated Circuit Design by Ron Mehler is a highly recommended addition to any digital engineer's library. Although there are several good books written regarding the SystemVerilog Language in both design and verification, Mr. Mehler's work approaches the design effort first and how to use the SystemVerilog language as a tool to accomplish the design. This is a valuable resource to any digital engineer responsible for the design of digital system using SystemVerilog. The variety of design examples i.e. state machines, FIR Filters, FIFOs, Demux, DFT, Synchronization etc., make this an excellent resource for any design engineer.

This is a really well written book from very start. Really easy to read and follow.I am experienced in VHDL and wanted to learn SystemVerilog which thus also required to learn the parent language Verilog. Understanding baggage of confusing concepts in Verilog was proving difficult for me until I got hold of this book. I finished reading first two chapters and about to finish the third chapter.

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