RTL Hardware Design Using VHDL. Coding for Efficiency, Portability, and Scalability

Description: The skills and guidance needed to master RTL hardware design

This book teaches readers how to systematically design efficient, portable, and scalable Register Transfer Level (RTL) digital circuits using the VHDL hardware description language and synthesis software. Focusing on the module-level design, which is composed of functional units, routing circuit, and storage, the book illustrates the relationship between the VHDL constructs and the underlying hardware components, and shows how to develop codes that faithfully reflect the module-level design and can be synthesized into efficient gate-level implementation.

Several unique features distinguish the book:
- Coding style that shows a clear relationship between VHDL constructs and hardware components
- Conceptual diagrams that illustrate the realization of VHDL codes
- Emphasis on the code reuse
- Practical examples that demonstrate and reinforce design concepts, procedures, and techniques
- Two chapters on realizing sequential algorithms in hardware
- Two chapters on scalable and parameterized designs and coding
- One chapter covering the synchronization and interface between multiple clock domains

Although the focus of the book is RTL synthesis, it also examines the synthesis task from the perspective of the overall development process. Readers learn good design practices and guidelines to ensure that an RTL design can accommodate future simulation, verification, and testing needs, and can be easily incorporated into a larger system or reused. Discussion is independent of technology and can be applied to both ASIC and FPGA devices.

With a balanced presentation of fundamentals and practical examples, this is an excellent textbook for upper-level undergraduate or graduate courses in advanced digital logic. Engineers who need to make effective use of today's synthesis software and FPGA devices should also refer to this book.

Contents:
- Preface.
- Acknowledgments.
- 1. Introduction to Digital System Design.
- 2. Overview on Hardware Description Language.
- 3. Basic Language Constructs of VHDL.
- 4. Concurrent Signal Assignment Statements of VHDL.
- 5. Sequential Statements of VHDL.
12. Register Transfer Methodology: Practice.
13. Hierarchical Design in VHDL.
15. Parameterized Design: Practice.

References.
Index.

Order by Fax - using the form below
Order by Post - print the order form below and send to
Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: RTL Hardware Design Using VHDL. Coding for Efficiency, Portability, and Scalability
Web Address: http://www.researchandmarkets.com/reports/2181355/
Office Code: SCEJISEL

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back)</td>
</tr>
<tr>
<td>USD 167 + USD 28 Shipping/Handling</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title:  
Mr ☐  Mrs ☐  Dr ☐  Miss ☐  Ms ☐  Prof ☐
First Name: __________________________ Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information
Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank, 27-35 Main Street, Blackrock, Co. Dublin, Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: _______________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp