Features

Atmel's ProChip Designer v4.0 with the Mentor Graphics® Software Update seamlessly integrates the following software components into one Integrated Development Environment (IDE):

- **Precision® RTL Synthesis - VHDL and Verilog® synthesis supports from Mentor Graphics**
- **ModelSim® - VHDL and Verilog simulation supports from Mentor Graphics**
- **PeakFPGA™ - VHDL synthesis and simulation support from Altium®**
- **Protel® 99SE - Schematic and CUPL® design entry, synthesis and simulation supports from Altium**
- **FIT15xx - Fitters for the ATF15xx CPLDs from Atmel**
- **HDL Planner - VHDL and Verilog design entry and text editing support from Atmel**
- **ATMEL ISP - JTAG In-System programming (ISP) support from Atmel**

Description

Atmel's ProChip Designer is a fully featured EDA software suite incorporating state-of-the-art synthesis and simulation tools from Mentor Graphics and Altium with Atmel's user-friendly interface/design navigator and powerful fitter technologies. The combination of these tools will enable CPLD designers to achieve the highest possible logic utilization from the Atmel ATF15xxAS/ASL/ASV/ASVL/BE series CPLDs (Complex Programmable Logic Devices) with Logic Doubling® features.

Through all of the software components available within the ProChip Designer Software Suite, the following features are supported:

- Design Entry & Synthesis
    - VHDL
    - Verilog
    - CUPL
    - Schematic
- Simulation
    - VHDL functional and timing simulation
    - Verilog functional and timing simulation
    - CUPL functional simulation
- Device
    - ATF15xxBE - 1.8V ultra-low-power CPLD
    - ATF15xxAS/ASL - 5.0V standard and low-power CPLD
    - ATF15xxASV/ASVL - 3.3V standard and low-power CPLD
- Programming
    - JTAG ISP

Software Suite Components

The software components within the ProChip Designer Software Suite are divided into two groups. These two software groups, their contents, license terms and ordering code are described in Table 1 in detail.

ProChip Designer® Software Suite Overview

Table 1.   ProChip Designer Software Suite Contents and License Terms

Software	Content	License Term
ProChip Designer v4.0	**Evaluation Edition**	
	ProChip Designer v4.0	Free
	30-day Trial version of Altium PeakFPGA	Free 30-day trial period
	30-day Trial version of Altium Protel99SE	
	Licensed Edition	
	ProChip Designer v4.0	Free
	Licensed version of Altium PeakFPGA	Permanent license [P/N: ATDS1500PC]
	Licensed version of Altium Protel99SE	
Mentor Graphics Software Update	ProChip 4.0 Software Patch	Free
	MGC Precision RTL Synthesis	Free 6-month evaluation license 1-year license [P/N: ATDS15xxKSW1]
	MGC ModelSim	
	License Configuration Utility	Free
	Atmel ISP	Free

Note: Atmel's software tools are supported on Microsoft® Windows® operating systems. The details of the operating system supports for other vendors' tools can be obtained from the third-party tool vendors' websites or documentation.

For the ProChip Designer v4.0 Evaluation Edition, it comes with the 30-day Trial version of Altium PeakFPGA and Protel 99SE. A license is not needed to install the trial version software. However, they can be installed onto a PC only once. When the trial period expires, users can purchase the Licensed Edition of ProChip Designer v4.0 from Atmel using the ordering code [ATDS1500PC]. Upon the purchase, a ProChip Designer v4.0 Software CD along with the 16-digit Access Code (permanent license) will be mailed. Users can then follow the installation instructions to uninstall the Evaluation Edition software and install the Licensed Edition software.

The ProChip Designer v4.0 Evaluation Edition is available on the ProChip Designer v4.0 Software CD and the Atmel website at www.atmel.com/dyn/products/tools_card.asp?tool_id=2756.

After successfully installing ProChip Designer v4.0 (Evaluation or Licensed Edition), the Mentor Graphics Software Update should be installed by following the installation instructions provided with the update. This update adds the support for the ATF15xxBE, Mentor Graphics Precision and ModelSim, latest fitters, and latest Atmel CPLD ISP software into the ProChip Designer v4.0 Software Suite.

To use Precision or ModelSim, a FLEXLM® license file from Atmel is required. A 6-month evaluation license can be obtained from Atmel by registering online at www.atmel.com/products/pld/forms/reg_license.asp. Atmel also offers annual (1-year) licenses for Precision/ModelSim, which can be purchased using the ordering code [ATDS15xxKSW1]. Upon the purchase, a ProChip Designer v4.0 Software CD along with a Serial Number will be mailed. Users can then request for the annual license from Atmel online at the URL shown above with the Serial Number provided.
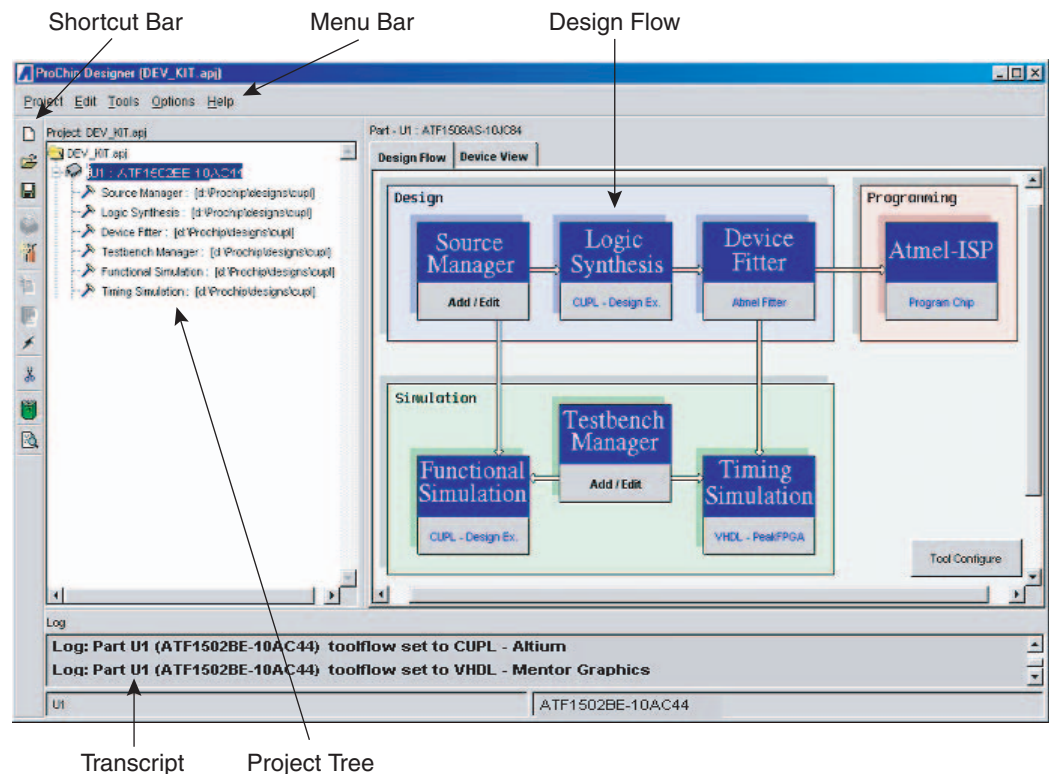
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Note: The license terms for Altium PeakFPGA/Protel 99SE and Mentor Graphics Precision/ModelSim are independent of each other. Therefore, even after the 30-day Trial period for the Altium tools has expired, Precision and ModelSim can continue to be used until the license period for them expires. Similarly, Protel 99SE and PeakFPGA can continue to be used even after the license period for Precision/ModelSim has expired.

Software Design Flow

The ProChip Designer v4.0 IDE is shown in Figure 1. The Design Flow chart on the right provides push-button access to all the stages of a design cycle. Description of the features for each design flow stage is described in Table 2.

Figure 1. ProChip Designer v4.0 IDE

Table 2. Description of Design Flow Stages

Design Flow Stage	Description
Source Manager	To specify the new or existing design file(s). Launches the appropriate design entry tool for editing based on the selected tool-flow.
Logic Synthesis	To synthesize the design file(s) to generate the appropriate netlist file.
Device Fitter	To fit the netlist into the target device with the user selected fitter options.
Testbench Manager	To specify the new or existing testbench file(s). Launches the appropriate testbench entry tool for editing based on the selected tool-flow.
Functional Simulation	To perform functional simulation on the design file(s).
Timing Simulation	To perform timing simulation on the output netlist generated by the fitter after fitting.
Atmel ISP	To program the target ATF15xx CPLD through JTAG-ISP.

For details on how to use ProChip, refer to the ProChip Designer Help File, tutorials, and Online Resources. These resources are available under the ProChip Help menu.

Technical Support

Submit questions online at: http://www.atmel.com/dyn/products/support.asp

FAQ: http://www.atmel.com/dyn/products/tech_support.asp?Faq=y

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