

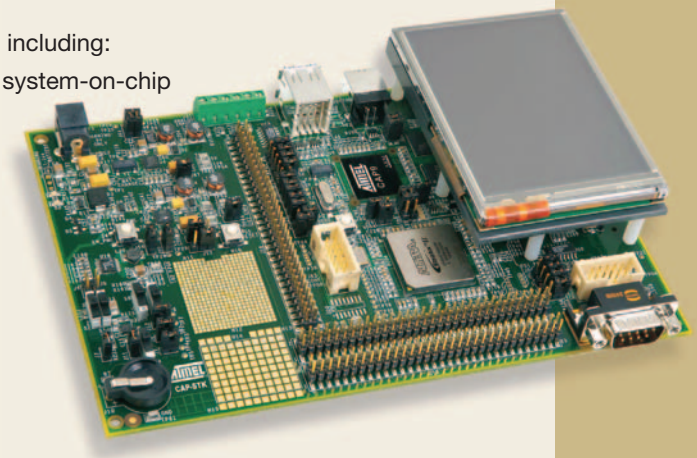
AT91CAP9A-STK® Starter Kit
for CAP Customizable Microcontroller

The CAP™ Starter Kit is the ideal vehicle for low-cost, no-risk evaluation of the customization capabilities of the Atmel's CAP microcontroller. It is intended to familiarize the user with the CAP concept and architecture, and is an ideal vehicle for students of electronic engineering to consolidate their knowledge of system-on-chip design, both hardware and software.

CAP comprises a microcontroller-based system-on-chip with ARM® processor, memories, peripherals and standard interfaces, together with a Metal Programmable (MP) Block for application-specific functions. The CAP Starter Kit facilitates the mapping application-specific IP blocks into its FPGA that emulates the functionality of the CAP MP Block, while at the same time providing a development platform for software for the ARM processor. This enables the hardware and software of simple applications, or modules of more complex applications, to be tested at close to operational speed.

CAP Starter Kit Board

The AT91CAP9A-STK Starter Kit is built on a single PCB, including:



- AT91CAP9S ARM926EJ-S™-based microcontroller system-on-chip
- 64M Bytes of SDRAM application memory
- 512M Bytes of NAND Flash
- DataFlash® with up to 8M Bytes
- External interfaces for:
  - 10/100 Base-T Ethernet
  - USB Host and Full Speed/High Speed Device
  - 1/4 VGA LCD Panel with Touch Screen
  - SD Card
  - 4 analog inputs
  - audio headphones
- Altera® Stratix®2 EP2S15F484 FPGA and its associated EPCS16 serial configuration memory. The FPGA provides 15600 four-input Lookup Table (LUT) equivalents, corresponding to approximately 124800 gates in the CAP MP Block
- 64 general-purpose I/O connections from the AT91CAP9S, and 2 banks of 64 I/Os from the FPGA, for application-specific external interfaces
- ICE-JTAG interface for CAP9 JTAG programming, and a USB-Blaster-JTAG interface for Stratix2 JTAG programming. These facilitate system debug
- Atmel's AT73C224 and AT73C239 ICs for power supply and battery management

CAP™

ATMEL®

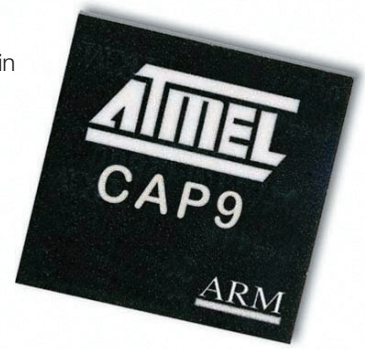


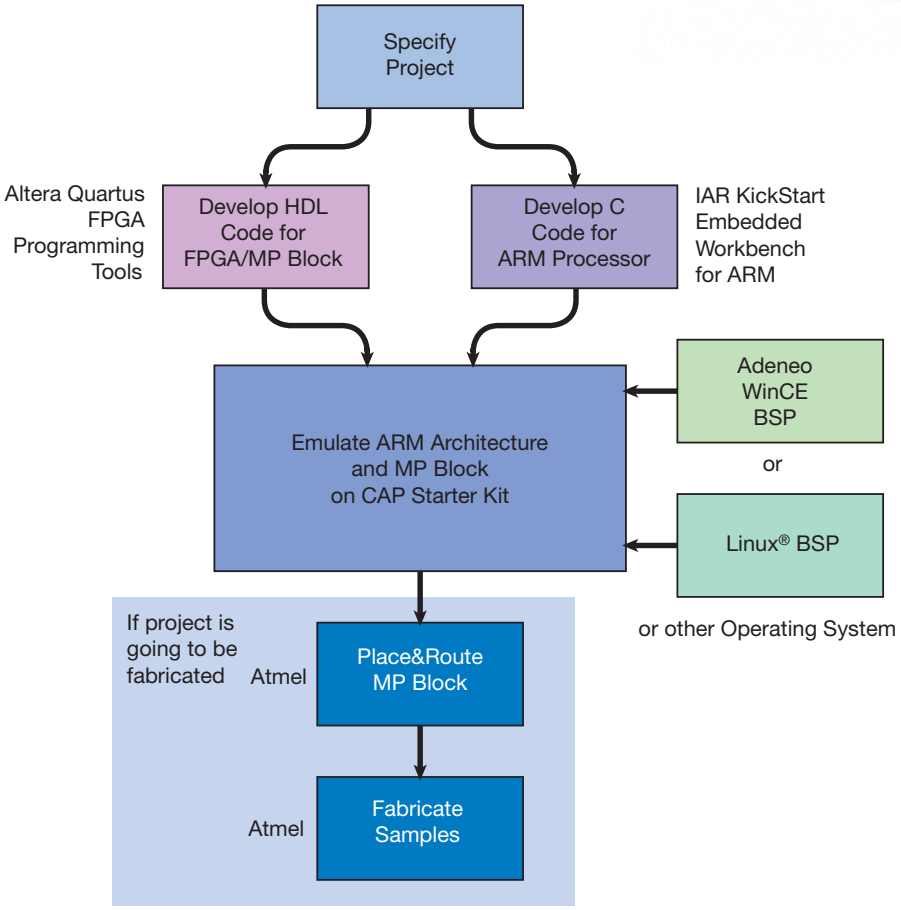
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CAP Starter Kit Development Tools

The CAP Starter Kit is supplied with an essential set of development tools in order to get started immediately. These include:

- KickStart version of IAR® Embedded Workbench® for ARM
- Microsoft® Windows CE® Board Support Package and demonstration from Adeneo®
- Instructions for downloading Altera's free Quartus® 2 Web Edition tools for FPGA programming





The CAP Customizable Microcontroller

Atmel's CAP is an ARM microcontroller-based system-on-chip with fast local memory, a wide range of industry-standard peripherals and interfaces, and a Metal Programmable (MP) Block that allows the designer to add custom logic. By combining the performance, density and low power consumption of the fixed portion of the device with the flexibility of the MP Block, CAP enables application-specific products to be developed in a fraction of the time and at a fraction of the cost of standard-cell ASICs, but at a unit price close to that of standard cell devices. CAP also offers superior performance, smaller form factor and lower power consumption at a unit price significantly lower than an MCU-plus-FPGA combination for the same functionality.

CAP™

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