

# Talos-8051

## Talos Evaluation Kits for 8051 Microcontroller IP Cores

The Talos-8051 series of integrated hardware/software kits include everything you need to quickly and easily evaluate a CAST 8051 microcontroller IP core in your own environment.

The evaluation kits are built on the versatile Terasic DE0-Nano Development and Education board, which uses an Intel Cyclone® IV 4C22 FPGA. The DE0-Nano board is delivered pre-configured with a CAST 8051 IP core. Users can choose the CAST IP 8051 core of their preference and its exact peripherals set and configuration. In all cases the microcontroller is configured with 16kB of external program memory, 16KB of external data memory, and 256 bytes of internal SRAM.



Part of the evaluation kit is the CDP-XC Debugging pod, which supports both the IAR Systems Embedded Workbench for 8051 and Keil  $\mu$ Vision Debugger for C51. This external debug pod connects to the host PC via a USB port and to the debug target via either a JTAG or a Single-Wire Debug (SWD) interface. A sample application is also delivered with the development kit to further ease the users' application development.

A Talos-8051 kit allows users to run their own performance, power, or code benchmarks, interface the processor with their own hardware system, and fully exercise and evaluate the processor to determine how well it will satisfy their specific project requirements.

### About CAST's 8051 IP Cores

Since 1998 and over four generations of improving code, hundreds of CAST customers have gotten a competitive edge with CAST's 8051 IP cores. These proven and mature cores offer:

- **Configurability** from very fast to very small, with the customized set of peripherals,
- Seamless integration with IAR Systems and Keil tools for **easier software development**,
- Four-wire JTAG or **Single-Wire on-chip debug** when every pin matters,
- Cost-effective pricing with project-based licensing (**no royalties**), and
- Libraries, an instruction set simulator, and reference design boards for easy evaluation and quick development.

Whether you need a basic embedded controller or want to handle housekeeping functions for a main SoC processor, consider the benefits of these proven microcontrollers.

### FEATURES

#### Complete Evaluation Kits

- A Terasic DE0-Nano board pre-configured with the CAST 8051 IP of your choice
- A CDP-XC Debug pod for the IAR Systems Embedded Workbench for 8051 or Keil  $\mu$ Vision Debugger for C51
  - CDP-XC interfaces via USB to a host PC and via either JTAG or Single-Wire to the 8051 IP core
- A sample software application
- Complete IP core and Evaluation Kit documentation

#### Versions

- Talos-8051 Evaluation Kits are available for all CAST 8051 IP cores:
  - R8051XC2: High-Performance, Configurable, 8051-Compatible, 8-bit Microcontroller IP Core
  - S8051XC3: Super-Fast 8051 Microcontroller IP Core with Configurable Features and Peripherals
  - T8051XC2: Ultra-Small 8051-Compatible Microcontroller IP Core
  - L8051XC1: Legacy-Configurable 8051-Compatible Microcontroller IP Core
- Off-the-shelf configurations of the 8051 IP cores use:
  - 256 bytes of internal RAM
  - 16 kB of external program memory
  - 16 kB of external data memory
  - Serial 0 interface
  - Two timers
  - Port 0 configured for 4 inputs and 4 outputs
  - Two external interrupts
  - Different 8051 core configuration can be delivered upon request