



System-On-Chip

LX4189

32-bit RISC Core

Product Features

- **Low-Overhead Interrupts:** Eight new hardware-prioritized interrupts, each with a dedicated interrupt vector, improve real-time interrupt response in telecom and datacom applications.
- **R3000®-class RISC Processor Core:** Executes MIPS® I instruction set*, offering designers a familiar programming environment and choice of third party development tools.
- **Performance, Power and Size:** Operates at 266 MHz, consumes 200 mW of power (less than 50 μ W in standby mode), and entire processor subsystem occupies 3.0 mm² on a typical 0.18 μ m process..
- **MIPS16™ Instruction Compression:** Reduces program size by up to 40%. On-chip programs require less memory, resulting in cost saving for System-On-Chip designs.
- **Multiply-Accumulate Engine:** Completes on MAC instruction every cycle, for performance in signal processing applications such as software modems. (optional).
- **EJTAG Debug:** Implements all required features in the EJTAG 2.0.0 specification for full speed debug with real-time instruction trace. (optional).
- **Application:** Designed specifically for voice-over-IP and xDSL modem applications where clock speed is critical for the wire-speed throughput of the system.
- **Development Tools:** Available from third party suppliers supporting the MIPS architecture, including industry leaders Green Hills Software, Embedded Performance, and Wind River Systems.
- **Real-Time Operating System (RTOS) Support:** Includes NucleusPLUS, ThreadX™, and VxWorks™.
- **Extendable and Configurable:** Instruction set can be extended with custom instructions, coprocessors can be added, and memory organization and size can be configured to support different applications.
- **Portability:** Available as a synthesizable RTL core or an optimized hard macro that can be ported by Lexra to a specific foundry process.

