# Digital Photo Frame SoC

STDC7150

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for communications and consumer applications.

Conexant's portfolio of communication peripheral devices and system-on-chip (SoC) solutions is the most complete product line of highly integrated imaging solutions in the industry. The STDC7150 Digital Photo Frame SoC is part of Conexant's SigmaTel® product line, which offers complete SoC solutions for the Imaging market.

Conexant's SigmaTel product line is a leading system-on-chip solution for the digital photo frame market. The high level of imaging expertise is a fundamental differentiator in the digital photo frame reference design. At the core of this advanced photo frame solution, customers can leverage the STDC7150 Image Processor. Utilizing the STDC7150 SoC, photos can be easily transferred from personal computers over a USB 2.0 high-speed interface, stored in internal NAND flash and displayed from memory cards, digital cameras and USB drives. To address the key requirements of image processing speed and quality, the STDC7150 SoC supports a flexible LCD interface, hardware JPEG codec and hardware image processor, along with a number of integrated peripherals.

Display slideshow settings can be customized to the consumer's preference. Adjustable hardware image rotation is supported, along with a direct interface to flash memory cards and NAND flash. A USB 2.0 host interface supports connections to cameras, memory cards or USB peripherals. The STDC7150 32-bit RISC processor supports a robust embedded operating system and a flexible user interface design. An industry standard development environment supports fast time to market development.

## Benefits

- Integrated SoC solution to support advanced digital photo frame designs
- Dedicated hardware image processing to provide high-performance JPEG image processing and photo rendering
- USB 2.0 host and device support for fast image transfer, connection to USB peripherals
- Robust memory card interface, supporting all major card types
- Firmware support for unique photo frame functions and user interface

## Distinguishing Features

- Highly integrated SoC design
- High-performance image processor
- Hardware JPEG codec
- USB 2.0 high-speed device interface
- Multiple USB 2.0 high-speed host ports
- Embedded memory card controller
- Flexible Thin Film Transistor (TFT) LCD controller
- Advanced memory/storage interfaces
- Array of integrated peripherals

**Part Number**   STDC7150
**Description**      Digital Photo Frame SoC

## Features

### Processor

- 32-bit RISC architecture
- Digital signal processor (DSP) extensions

### External Memory Support

- DDR SDRAM
- Serial Flash
- NAND Flash
- Removable Flash Memory Cards (MS, SM, ST, MMC, xD, CF)

### Connectivity/Interfaces

- USB 2.0 high-speed device
- USB 2.0 high-speed hosts (3)
- Peripheral bus with direct memory access (DMA) support
- UARTs
- Parallel port

### Image Processor

- JPEG codec
- Hardware rotates
- Color Space/Image Filter/Error Diffusion

### Display Support

- TFT LCD (Digital RGB)
- CCIR656

- QVGA/VGA Evaluation Modules
- 5.0"–12" Displays

### Digital Camera Support

- Mass storage class
- Picture transfer protocol (PTP)

### Timers

- Real-time clock

### A/D and PWM Control

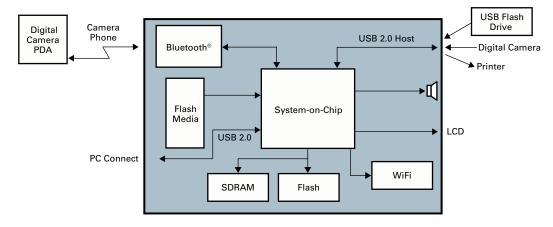- 8-bit A/D
- Four pulse width modulators (PWMs) with firmware control
- PWM backlight control circuitry

### Package

- 256-pin ball grid array (BGA)

### Development Environment

- C/C++ Compiler/Assembler/Linker
- JTAG In-Circuit Emulator
- PC Command Line Debugger/Profiler
- Conexant's SigmaTel Product Line Development Environment

**STDC7150 Block Diagram**

### Conexant Product Portfolio

Conexant's comprehensive product portfolio includes solutions for imaging, audio, and video applications, and analog modems that enable cost-effective Internet access. The company's broadband access products include end-to-end solutions for xDSL networks, and PON solutions for fiber optic applications.

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