CONEXANT

CX92135 Multi-function Printer Controller

Complete solution with integrated V.34 Fax for 4-in-1 laser and inkjet MFPs

Conexant's CX92135 (DC1350) is a highly integrated multi-function printer controller for color inkjet and monochrome laser multi-function printers (MFPs). The CX92135 is the first MFP System-on-Chip (SoC) to integrate software V.34 fax modem with SmartDAA® for a complete 4-in-1 (Print/Scan/Copy/Fax) solution, which eliminates the need for an external modem chip and lowers bill-of-material (BOM) costs. An integrated scanner Analog Front-end (AFE) further reduces BOM system costs. A complete hardware and software development kit is offered to simplify product-development efforts and allows designers to deliver product to market more quickly.

The MFP Printer Controller features programmable advanced very high-speed image processing accelerators that dramatically improves the image processing speed as well as the output image quality. The CX92135 has improved hardware JPEG compression and decompression, six independent tone reproduction curve tables, and customizable system controls for color tables and gamma tables. The SoC contains a robust ARM 32-bit microprocessor core with integrated Memory Management Unit (MMU) to deliver the power required for high-speed imaging applications. The microprocessor boots from serial or NAND flash.

The CX92135 integrates many advanced features such as an Ethernet MAC, a memory card controller, a color LCD graphic controller, and touchscreen support. The optional V.34 SoftFax and SmartDAA provides a cost-effective worldwide system solution without the need for country-specific board configurations. The USB 2.0 high-speed Host port and a synchronous serial peripheral bus support connections to cameras, memory cards and USB peripherals, including Bluetooth® and WiFi® 802.11 b/g/n devices. The device also has an integrated low-voltage differential signal (LVDS) for printer interface to enable high-speed electrical signaling and reduce electromagnetic interference.

The CX92135 supports advanced low-power mode and is packaged in an environmentally-friendly, RoHS/Green-compliant lead-free 289-ball fine pitch ball grid array (FPBGA) package.

Applications

- Color 4-in-1 Inkjet Printers
- Monochrome 4-in-1 Laser Printers

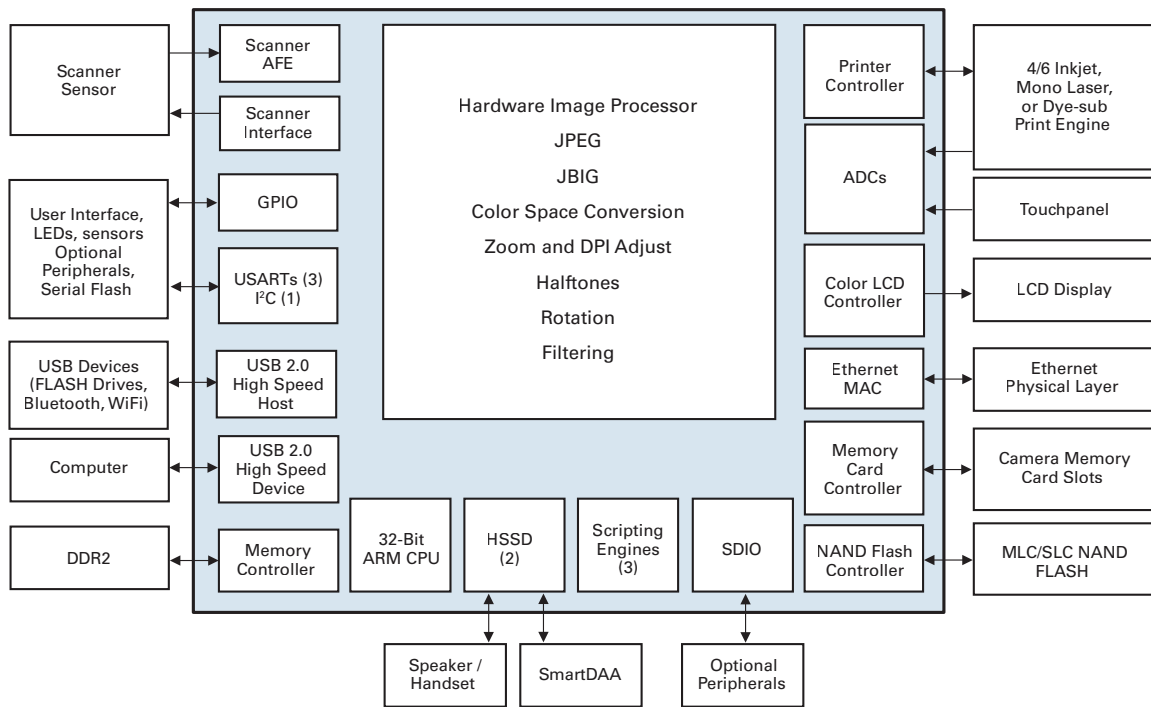| Key Features	Benefits
System-cost optimized SoC with integrated V.34 Fax and Scanner AFE for 4-in-1 applications	Print/Copy/Scan/Fax functionality with a single-chip solution reduces components, board space and system cost
Integrated V.34 SoftFax with SmartDAA	Industry-leading fax modem enables worldwide use of a single modem board design/ reduces board space and cost
Very high performance image processing	Fast pixel processing with superior image and text quality
LVDS for printer interface	Universal compatibility with very high speed data transfer
Enhanced low-power mode	Low-power mode supports Wake-On-LAN with DDR2-SDRAM in self-refresh

Part Number CX92135

Description Multi-function Printer Controller

CX92135 Features

- Customizable Controller for Multi-function Printers
  - High speed image processing pipeline Imaging firmware and software
  - Highly integrated processor and cost effective system design
- Hardware Image Processing Accelerators
  - Programmable image processing functions
  - Six independent tone reproduction curve tables
  - JPEG image compression and decompression
  - Integrated image compositor to reduce memory requirements
- Advanced 32-bit ARM926 RISC Microprocessor
  - Direct memory access input and output with optimized internal bus structures
  - Boots from serial flash and NAND flash
- Customizable system controls
  - Color tables, gamma tables, shading tables

- Customizable image processing pipeline
- Image compositor to reduce external memory requirements
- Standard Interfaces
  - USB 2.0 device – high speed or full speed
  - USB 2.0 host – high speed or full speed
  - Three universal synchronous-asynchronous receiver/transmitters (USARTs)
  - NAND flash controller, boot from NAND
- Standard Features
  - Double data rate (DDR2) memory
  - Configure user interface with general purpose input/output functions
  - 3.3V rail real-time clock
- Communications and Networking
  - Integrated 10/100 BaseT Ethernet media access control
  - Network protocol stack
  - Dedicated secure digital I/O controller for WiFi connectivity
  - Bluetooth chipset support

- Integrated scanner AFE
- Photo Printing Support
  - PictBridge compatible
  - Memory card controller
  - FLASH drives with read and write support
  - Integrated color LCD graphic controller
- Fax Support
  - Optional V.34 SoftFax with SmartDAA (CX20548)
  - Optional Digital Telephone Answering machine option
  - Speakerphone option
- Advanced low-power mode
- Package
  - 289-ball FPBGA
  - Lead-free package, complies with Restriction of Hazardous Substances Directive (RoHS)

CX92135 Block Diagram
The CX9135 is offered in a 289-ball FPBGA package

Conexant Product Portfolio

Conexant's comprehensive product portfolio includes solutions for imaging, audio, video surveillance, and embedded modem applications.

CONEXANT

10-2948