JMB311 USB2.0 UVC WebCam Controller

Overview

JMB311 is a low power USB2.0 PC/NB camera controller. It incorporates a high speed USB2.0 transceiver, a CMOS sensor interface, a SPI serial interface and a low-power 8051 CPU.

JMB311 is fully compliant with USB Video Class (UVC) 1.1. With the flexible and programmable CMOS sensor interface, it can support a variety of sensor sources, like Omnivision, Micron/Aptina and others, up to UXGA(1600*1200).

JMB311 also provides real-time VGA-size preview mode up to 30 frames per second on different resolutions. In addition, a built-in 5V/3.3V voltage regulator could reduce the system BOM cost.

Overall

- 3.3V single power, 1.8V core power from internal regulator.
- Built-in regulator from 5V to 3.3V
- Lower power consumption (Operation < 55mA, Standby < 45mA & Suspend < 300uA)
- Built-in DP8051 (16KB code SRAM for easy update)
- Built-in JTAG interface for easy debug
- GPIO for LED indicator, shutter button, module flip detection, sensor power-down control, sensor reset, I2C(SCL & SDA) and SPI I/F (CS, SCLK, SI & SO).
- Built-in watchdog timer
- 46-pin LQFN (4.5mm*6.5mm)

Sensor Interface

- Support CMOS sensor (OmniVision & Micron)
- Support YUY2 (8 bit), RGB(565) and RGB Bayer pattern (8 bit).
- Down-sampling frames for flow control
- Video streaming up to 30 fps@VGA, 9fps@SXGA and 6fps@UXGA at high-speed operation
- VGA Preview mode 30fps for SXGA & UXGA.
- Output max.60MHz sensor clock.
- Support clock divider (%2, %4,…) for 30fps series(30, 15, 7.5…fps) and 25fps series(25,12.5, 6.25).

USB

- USB 2.0
- USB Video Class 1.1 compliant
- Remote wake-up
- Support 3 Endpoints: Control *1, Isochronous*1/ Bulk*1 and Interrupt*1

UVC

- Built-in UVC Camera Terminal Control
  - Auto-Exposure Mode Control
  - Auto-Exposure Priority Control
  - Exposure Control
  - Privacy Control
  - PanTilt Control
- Built-in UVC Color Processing Control
  - Backlight Compensation Control
  - Brightness Control
  - Contrast Control
  - Gain Control
  - Power Line Control
  - Hue Control
 - Gamma Control
  - White Balance Control

Debug Interface

- Built-in JTAG interface in 100-pin LQFP
- UART debug interface to access sensor registers
- Easy download program with Xmodem protocol
- Support Atmel(AT25F512A), MXIC(MX25L512), pFlash(PM25LV512A) & SST(SST25VF512A) serial flash

Platform

- Windows XP 32/ 64 bits, Windows Vista 32/ 64 bits.
- MAC OS 10.4.8 later
- Linux 2.6.18 later

Block Diagram
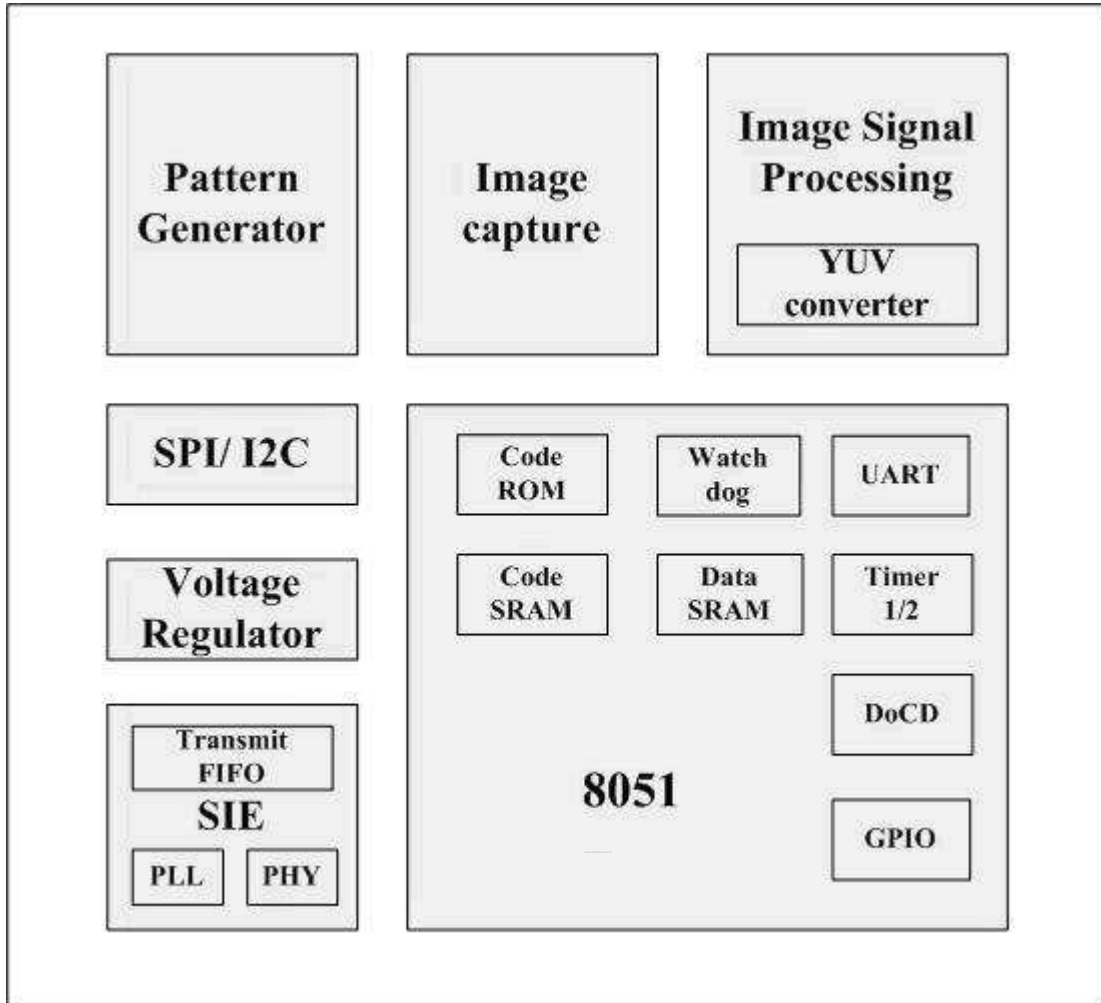
Supporting Documents

	Product Brief
	Data Sheet
	Hardware Design Guide
	Application Schematic

Contact Information

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