

**VC3809** is a high performance h.264 camera processor targeting for high quality wired or wireless IP Cameras. It comes with high quality Image Signal Processing (ISP) unit and a H.264 / MJPEG compression engine. Its flexible sensor interface can support most common CMOS image sensors in the market. It also comes with various IO connections suitable for many different applications.

## KEY FEATURES

### CPU + Memory

- Built-in ARM-926 @ 400MHz
- Built-in 32-bit DSP @ 400MHz
- Built-in L1 Cache 16KB (x2)
- Support external SPI serial flash memory
- Support external DDR-2 / DDR-3

### Sensor Interface

- Support CMOS Image Sensors
- Support sensors with RAW / YUV output
- Support one Parallel or one MIPI interface
- Programmable sensor clock output
- Support I2C/SPI for sensor configuration

### ISP / IPP

- Built-in 10-bit ISP
- Support AE/AWB/AF
- Support Gamma / Brightness / Contrast
- Support Sharpness / Edge Enhancement
- Backlight / Lens-Shading Compensation
- Support Advance DPD&DPC
- Support WDR
- Support 3D Noise Reduction
- Support Motion Detection
- Support Face Detection

### Compression Engine

- Built-in MJPEG compression engine
- Built-in H.264 compression engine
- Support up to H.264 High Profile
- Support multiple compressed video stream

### Video Capability

Standard	Resolution	YUY2	MJPEG	H.264
VGA	640x480	30fps	60fps	60fps
HD-720	1280x720	12fps	60fps	60fps
SXGA	1280x1024	7fps	30fps	30fps
HD-1080	1920x1080	4fps	30fps	30fps
2.0M	1600x1200	4fps	30fps	30fps

### Audio Features

- Support multiple I2S audio codec.
- Built-in PDM interface for digital audio mic.

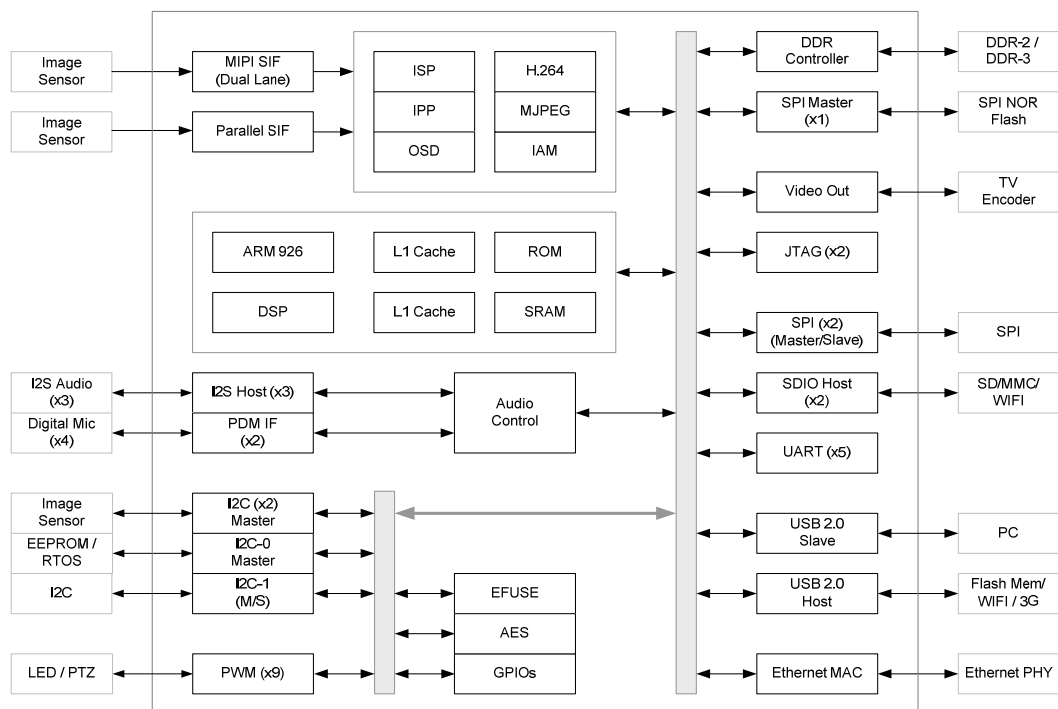
### I/O

- USB 2.0 HS - Device (UVC / UAC)
- USB 2.0 HS - Host
- I2C (4 master + 1 slave)
- SPI (3 master + 2 slave)
- UART (x5) / PWM (x9) / SDIO (x2)
- PDM (x2) / I2S (x3)
- Video Out (x1)
- Ethernet (x1)

### Package Information

Part Number	VC3809BZNA
Package Type	BGA-352pins
Size	15x15mm

### Chip Block Diagram



### Application Diagram

