Allwinner Technology

Allwinner V3s is a cost-efficient camera application solution that features:

1080p@30fps Video Encoding, Integrated ISP

Allwinner V3s comes with a high-performance and low bit-rate video engine that is capable of 1080p@30fps encoding. An advanced image signal processor (ISP) is integrated to provide higher image quality.

High System Integration, Integrated DRAM

Allwinner V3s integrates 64MB DRAM to reduce external component counts, greatly simplifying the PCB layout.
It also integrates MIPI & parallel CSI controllers, LCD controller, audio codec, EMAC + PHY, etc.
Allwinner V3s is available in 128-pin eLQFP package, remarkably improving the manufacturing efficiency.
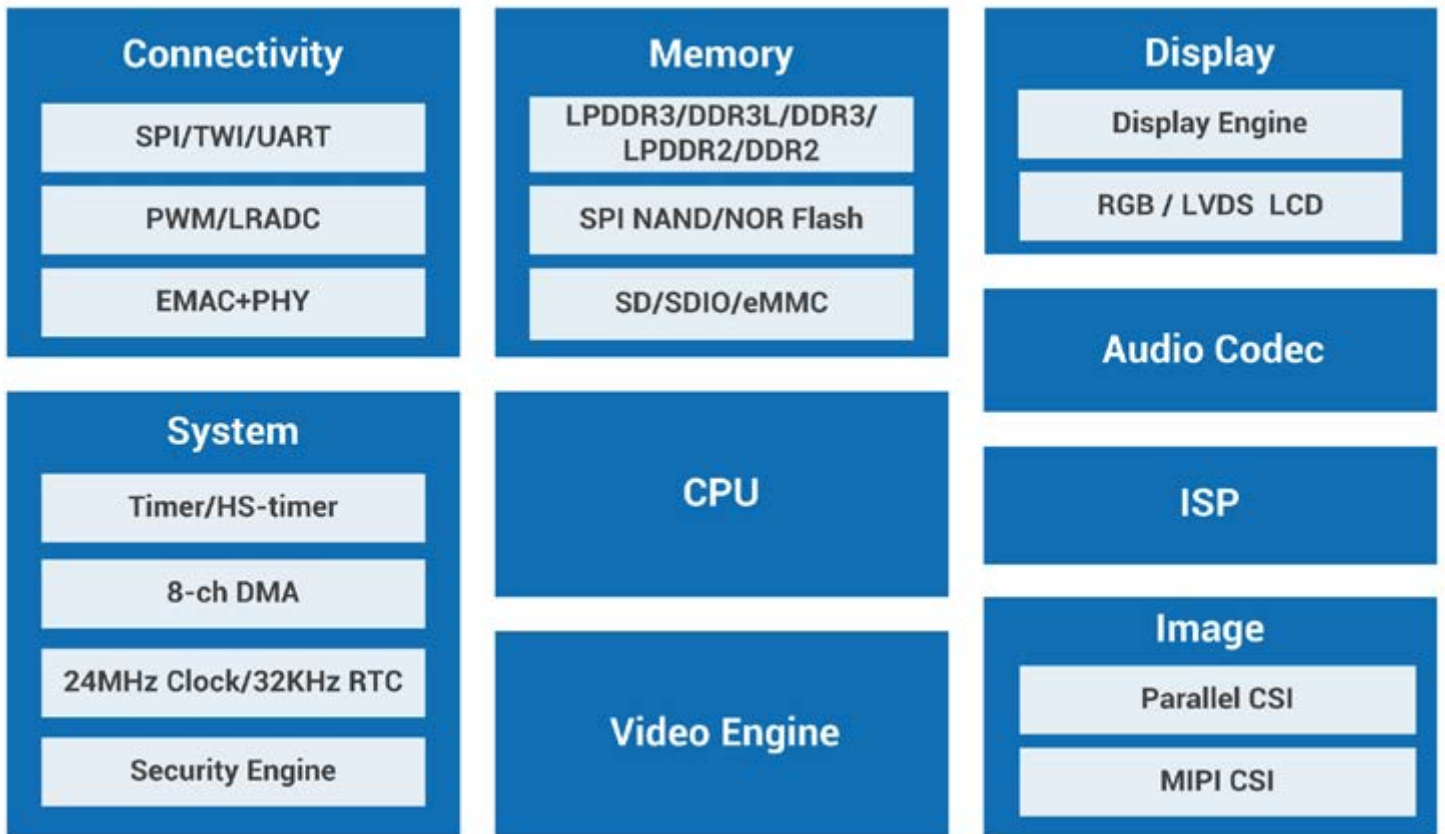
Lower Power Consumption

Allwinner V3s is highly power efficient due to its leading fabrication process and optimized processor architecture design.
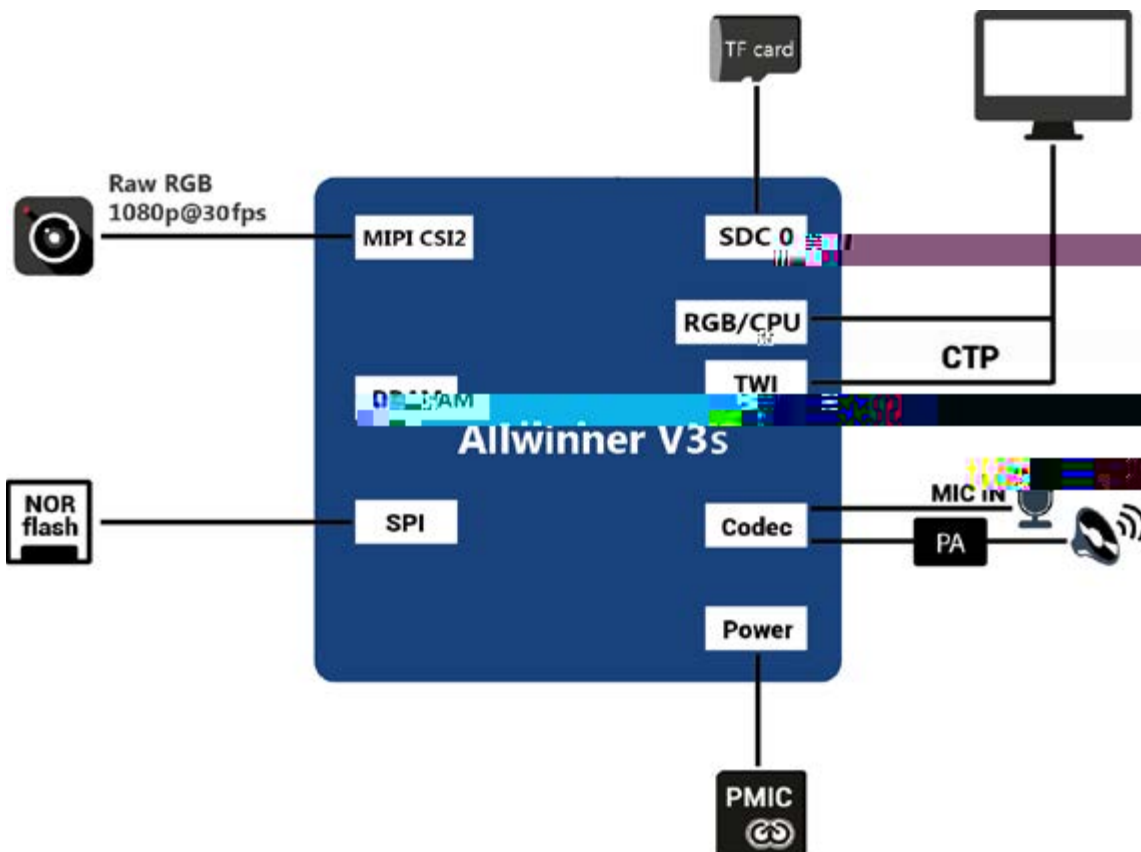
Specifications

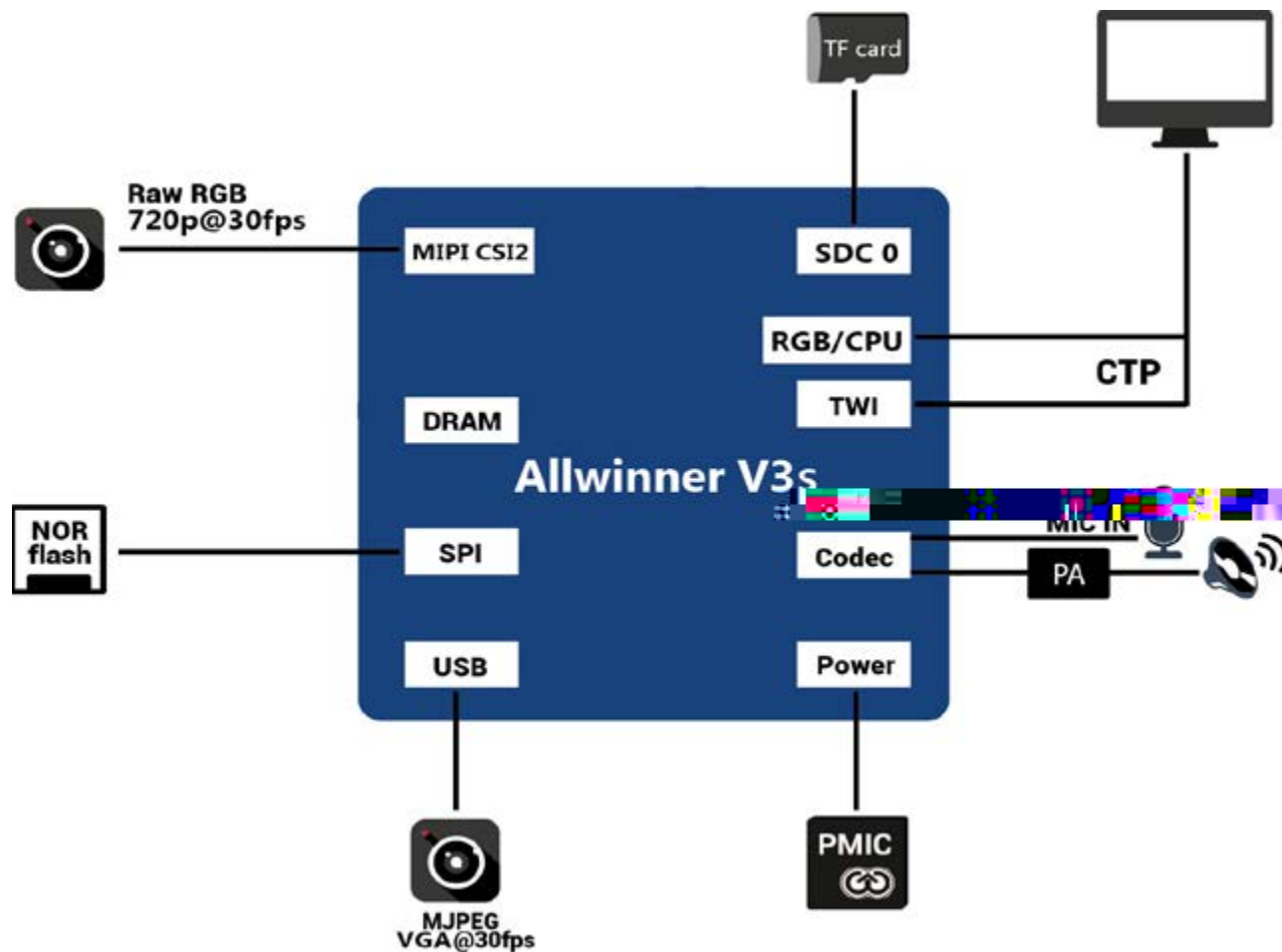|	
Video	• Supports 1080p@30fps video encoding • Supports H.264 and MJPEG 1080p@30fps video decoding
HawkView™ ISP	• Integrated ISP up to 8M pixels • Supports two channel output • Supports various input and output formats • Supports AE/AF/AWB • Supports saturation adjustment/ noise reduction/ defect pixel correction
Video Input/Output	• Supports 8/10/12/16-bit parallel CSI and 2-lane MIPI CSI2 • Supports up to 5M CMOS sensor • Supports RGB/CPU LCD up to 1024x768 resolution
CPU	• ARM Cortex™-A7
Memory	• Integrated 64MB DRAM
Audio Codec	• Integrated 92dB audio codec • Supports two ADC channels and two DAC channels • Supports one low-noise analog microphone bias outputs • Supports one microphone input and one stereo microphone output
i hh nc ons	• 3 x SD controllers • LRADC/SPI/TWI/UART/PWM • USB
OS	• Supports Camdroid OS, an Android-lite operating system • Supports Linux OS
Package	•128-pin eLQFP

Block Diagram

Connectivity
- SPI/TWI/UART
- PWM/LRADC
- EMAC+PHY

Memory
- LPDDR3/DDR3L/DDR3/ LPDDR2/DDR2
- SPI NAND/NOR Flash
- SD/SDIO/eMMC

Display
- Display Engine
- RGB / LVDS LCD

Audio Codec

System
- Timer/HS-timer
- 8-ch DMA
- 24MHz Clock/32KHz RTC
- Security Engine

CPU

Video Engine

ISP

Image
- Parallel CSI
- MIPI CSI

Application Diagrams

i) 1080p@30fps application

ii) Front 720p & Rear VGA application