

UAV Solution

Four-in-one integrated solution

Overview

The MR100 processor represents Allwinner's latest achievement in video encoding processors for Unmanned Aerial Vehicle(UAV), which integrates a single ARM Cortex-A7 CPU that operates at speed up to 1.2GHz with supporting numerous peripherals. A 512Mbit DDR2 is highly integrated.

Video Engine supports multi-format such as H.264 encoder by 1080p@60fps, H.264 decoder by 1080p@30fps, JPEG/MJPEG decoder by 1080p@30fps. To reduce total system cost and enhance overall functionality, MR100 has some popular hardware peripherals such as UART, SPI, USB HS/FS OTG, TWI etc.

Highlights



Robust video engine

Support H.264 video encoding up to 1080p@60fps, while built-in Allwinner high-performance ISP, ISP speed up to 8Mpixels@24fps, it can achieve dual-channel coding, and simultaneously realize card recording and HD transmission.



Dual camera interface

Support MIPI-CIS and DVP-CIS interface, users can be used to implement image application or AI algorithm processing.



SIP DDR

The SIP 512 DDR2, with a main frequency of 528MHz, makes the chip area smaller and makes the design more streamlined.



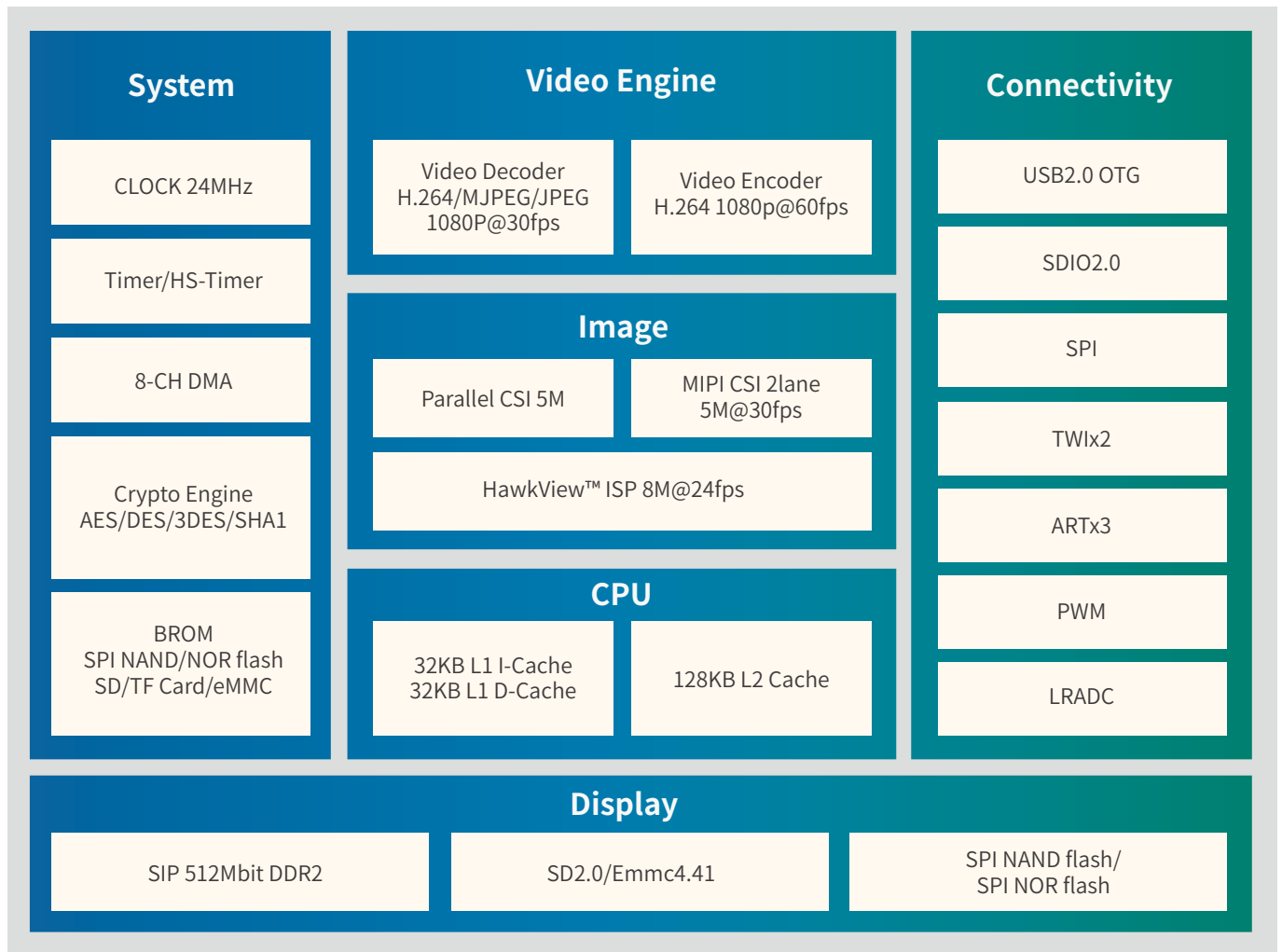
Linux OS

The system is equipped with real-time function and realizes extremely fast start time.

Features

CPU	<ul style="list-style-type: none">• Quad-core ARM Cortex™-A7 MP1 Processor• 32KB L1 I-cache + 32KB L1 D-cache per core• 128KB L2 cache• Support Large Physical Address Extensions(LPAE)
Video Engine	<ul style="list-style-type: none">• Supports H.264 video encoding up to 1080p@60fps• Supports 8M JPEG encoding• Supports H.264 1080p@30fps decoding, MJPEG 1080@30fps decoding
ISP	<ul style="list-style-type: none">• Integrated ISP up to 8M pixels• Supports two channel outputs for display and encoding respectively• Supports various input and output formats• Supports AE/AF/AWB• Supports saturation adjustment/ noise reduction/ defect pixel correction/distortion correction
Video Input	<ul style="list-style-type: none">• Supports 8/10/12-bit parallel CSI and 4-lane MIPI CSI2• Supports BT1120 input• Supports up to 8M CMOS sensor• Supports RGB/i80/LVDS LCD up to 1024x768 resolution• Supports Allwinner's next-gen SmartColor display technology for better visual effects for images & videos
Memory	<ul style="list-style-type: none">• SIP 512Mbit DDR2
Security Engine	<ul style="list-style-type: none">• Supports AES/DES/TDES
Connectivity	<ul style="list-style-type: none">• USB 2.0 OTG controller with integrated PHY• SDIO 2.0• 2 x TWI, SPI• 3 x UART, 2 x PWM• LRADC
WIFI	<ul style="list-style-type: none">• XR819 or others
OS	<ul style="list-style-type: none">• Linux
Package	<ul style="list-style-type: none">• FBGA 220 balls• 10mm x 10mm size, 0.65 ball pitch, 0.3 ball size

Block Diagram



ABOUT ALLWINNER

Allwinner Technology is a leading fabless design company dedicated to smart application processor SoCs and smart analog ICs. Its product line includes multi-core application processors for smart devices and smart power management ICs used by brands worldwide.

With its focus on cutting edge UHD video processing, high performance multi-core CPU/GPU integration, and ultra-low power consumption, Allwinner Technology is a mainstream solution provider for the global tablet, internet TV, smart home device, automotive in-dash device, smart power management, and mobile connected device markets. Allwinner Technology is headquartered in Zhuhai, China.

CONTACT US

For more product info, please contact service@allwinnertech.com, or scan the QR code to follow us on Wechat.

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