



# SLAM/VSLAM intelligent robot sweeper solution

## The most cost-effective robot sweeper chip

### Overview

The R7 integrates a single-core ARM Cortex™-A7 CPU that operates at speed up to 1.2GHz. A 64MB DDR2 is embedded in the R7. The R7 supports SLAM and VSLAM, which meets requirements in robot sweeper applications. It also integrates H.264 720p@60fps encoder, and rich interfaces such as MIPI CSI, DVP camera interface, UART, PWM, LRADC, CODEC, EMAC, etc. Besides, the R7 can support TINA OS. The R7 is qualified to industrial standard in white electricity industry.

### Highlights



#### Powerful Camera Functions

The R7 integrates MIPI CSI, DVP, 5M ISP, and H.264 720p@60fps encoder, these features help the R7 implement on-line video monitoring, image identification function.



#### Rich Peripheral Interfaces

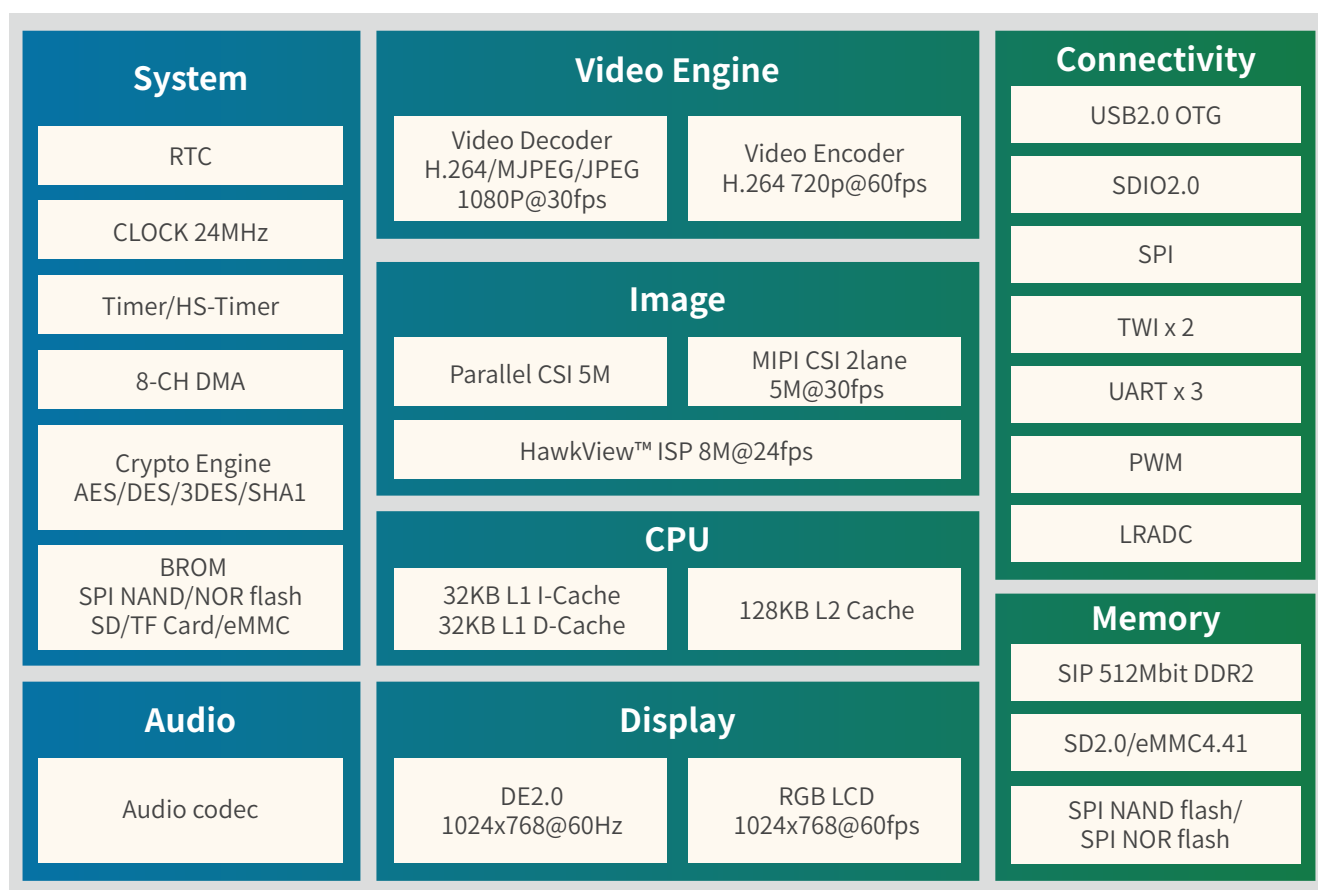
The R7 supports rich peripheral interfaces, such as USB2.0, SPI, UART, PWM, LRADC, SDIO, etc.

### Features

CPU	<ul style="list-style-type: none"> <li>• ARM® Cortex™-A7 @1.2GHz</li> </ul>
Video	<ul style="list-style-type: none"> <li>• Supports H.264 encoder up to 720p@60fps</li> </ul>
ISP	<ul style="list-style-type: none"> <li>• Integrated ISP up to 5M pixels</li> <li>• Supports two channel outputs for display and encoding respectively</li> <li>• Supports various input and output formats</li> <li>• Supports AE/AF/AWB</li> <li>• Supports saturation adjustment/ noise reduction/ defect pixel correction/ distortion correction</li> </ul>
Video Input/Output	<ul style="list-style-type: none"> <li>• Supports 8/10/12-bit parallel CSI and 2-lane MIPI CSI2</li> <li>• Supports BT1120 input</li> <li>• Supports capture resolution up to 5M with parallel interface</li> <li>• Video capture resolution up to 1080p@30fps</li> <li>• Supports RGB/LVDS LCD output, up to 1024x768@60fps</li> <li>• Supports Allwinner's next-gen SmartColor display technology for better visual effects for images &amp; videos</li> </ul>

Memory	<ul style="list-style-type: none"> <li>• SIP 16-bit DDR2</li> </ul>
Audio Codec	<ul style="list-style-type: none"> <li>• Supports two ADC channel and two DAC channels</li> <li>• Supports one stereo headphone output</li> <li>• Supports one differential microphone input</li> </ul>
Security Engine	<ul style="list-style-type: none"> <li>• Supports AES/DES/TDES, SHA1 and MD5</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• SDIO, LRADC, SPI, TWI, UART, PWM, USB</li> </ul>
OS	<ul style="list-style-type: none"> <li>• Supports Linux OS</li> </ul>
Package	<ul style="list-style-type: none"> <li>• eLQFP 128 (including one built-in DDR2)</li> </ul>

## 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](mailto:service@allwinnertech.com), or scan the QR code to follow us on Wechat.

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