



# Intelligent voice interaction solution

The most cost-effective intelligent dual-mic voice interaction chip

## Overview

The R6 integrates ARM9 architecture that operates at speed up to 600MHz. A 32MB DDR is embedded in the R6. It realizes complete voice function under limited cost, and supports mixed interaction between off-line local command word recognition and on-line cloud ASR recognition. The R6 includes rich interfaces such as ADC, DAC, I2S/PCM, USB OTG, SD/MMC, UART, SPI, TWI, etc. Besides, the R6 supports TINA OS. The R6 is qualified to industrial standard in white electricity industry.

## Highlights



### Dual-mic middle-near field intelligent voice interaction

The R6 integrates ADC, DAC, and I2S/TDM interface, which meets the basic computing rate requirements of dual-mic noise reduction, AEC, wake-up, local command word algorithm and cloud ASR, IOT interaction. The R6 is an ideal choice of middle-near field voice interaction solution.



### Low cost, low power consumption, easy to develop

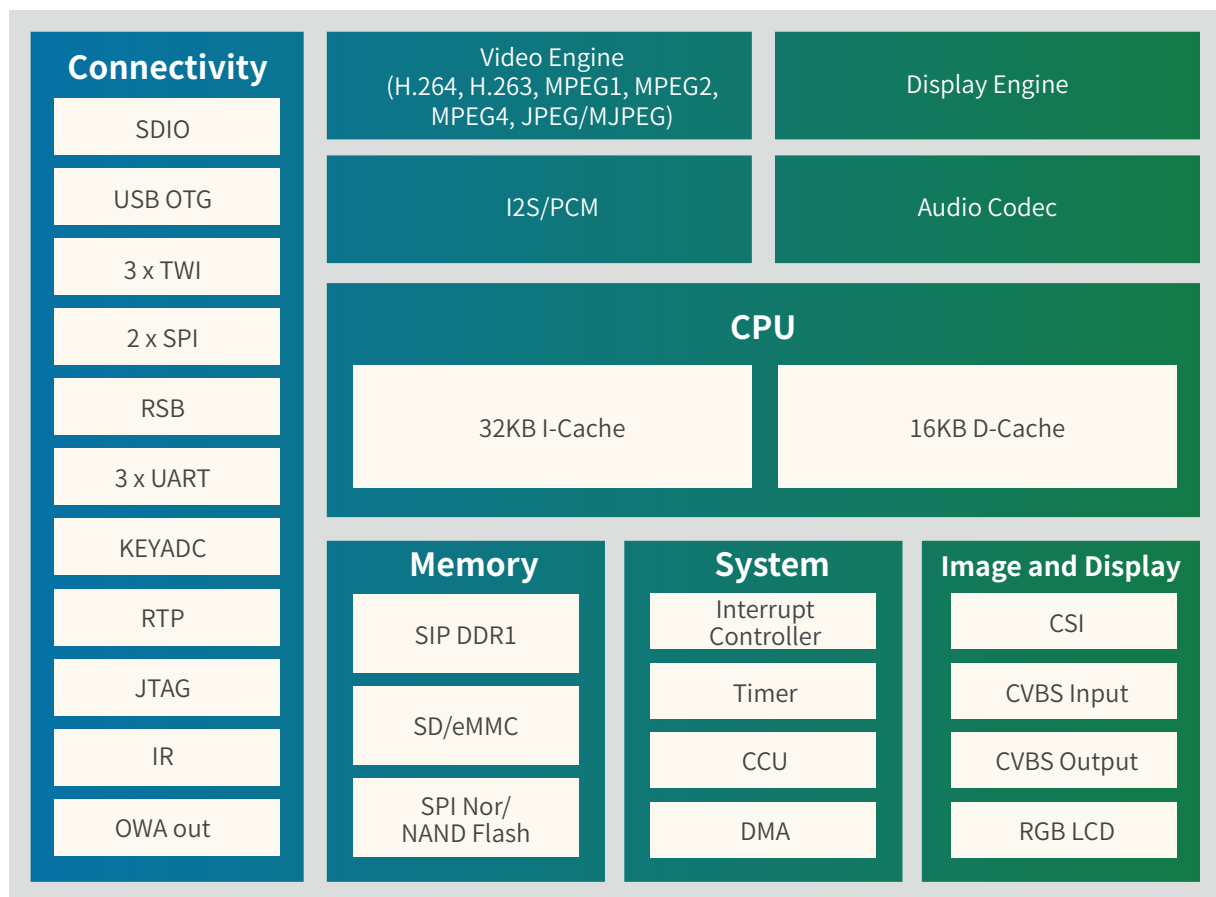
The chip is highly integrated, the BOM development cost is low, and the development is simple.

## Features

CPU	<ul style="list-style-type: none"> <li>• ARM9 CPU architecture</li> <li>• 16KByte D-Cache</li> <li>• 32KByte I-Cache</li> </ul>
Memory	<ul style="list-style-type: none"> <li>• SIP 32MB DDR</li> <li>• SD2.0, eMMC 4.41</li> </ul>
Video	<ul style="list-style-type: none"> <li>• H.264 1280x720@30fps decoding</li> <li>• MPEG1/2/4 1280x720@30fps decoding</li> <li>• MJPEG 1280x720@30fps encoding</li> <li>• JPEG encode size up to 8192x8192</li> </ul>
Camera	<ul style="list-style-type: none"> <li>• 8-bit CMOS-sensor interface, supports CCIR656 protocol for NTSC and PAL</li> <li>• TV CVBS input, supports NTSC/PAL</li> </ul>

Audio	<ul style="list-style-type: none"> <li>• Integrated analog audio codec with two DAC channels and one ADC channel, maximum 192kHz DAC sample rate and 48kHz ADC sample rate</li> <li>• One I2S/PCM interface</li> </ul>
Display	<ul style="list-style-type: none"> <li>• LCD RGB interface up to 1280x720@60fps</li> <li>• TV CVBS output, supports NTSC/PAL, with auto plug detecting</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• USB OTG, SDIO, IR, 3 x TWI, 2 x SPI, 3 x UART</li> </ul>
OS	<ul style="list-style-type: none"> <li>• Linux OS</li> </ul>
Package	<ul style="list-style-type: none"> <li>• QFN88, 10mmx10mm</li> </ul>
Process	<ul style="list-style-type: none"> <li>• 40nm</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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