

64-Bit Intelligent Hardware PROCESSOR

The Allwinner R18 is a quad-core 64-bit processor based on ARM's Cortex-A53 architecture and is targeted at the intelligent hardware market.

Highlights

64-bit, 4-Core Cortex-A53 CPU

The Allwinner R18 packs four Cortex-A53 CPU cores that implement the latest 64-bit ARMv8 architecture, which can provide a powerful basis for intelligent hardware products operation ability, satisfying more demand of complex algorithm operation.

H.265 4K Video Hardware Decoding

The Allwinner R18 features a robust video engine that supports H.265 4K video hardware decoding and H.264 1080p@60fps or 720p@120fps video encoding. It supports a wide range of applications which in turn enrich the end users experience.

High System Integration

Targeting at 64-bit intelligent hardware, Allwinner R18 features a high level of system integration. The R18 includes on-board audio codecs, eMMC 5.0 and support for a host of memory options such as LPDDR2/LPDDR3, etc. This integration results in a more complete solution and makes its BOM cost more competitive.

Ethernet, IIS TDM Interfacing

The Allwinner R18 has rich interface (Ethernet, IIS TDM), which can also cover a wide range of intelligent hardware application peripherals.

Android 5.0 Lollipop OS, Linux Kernel v3.10

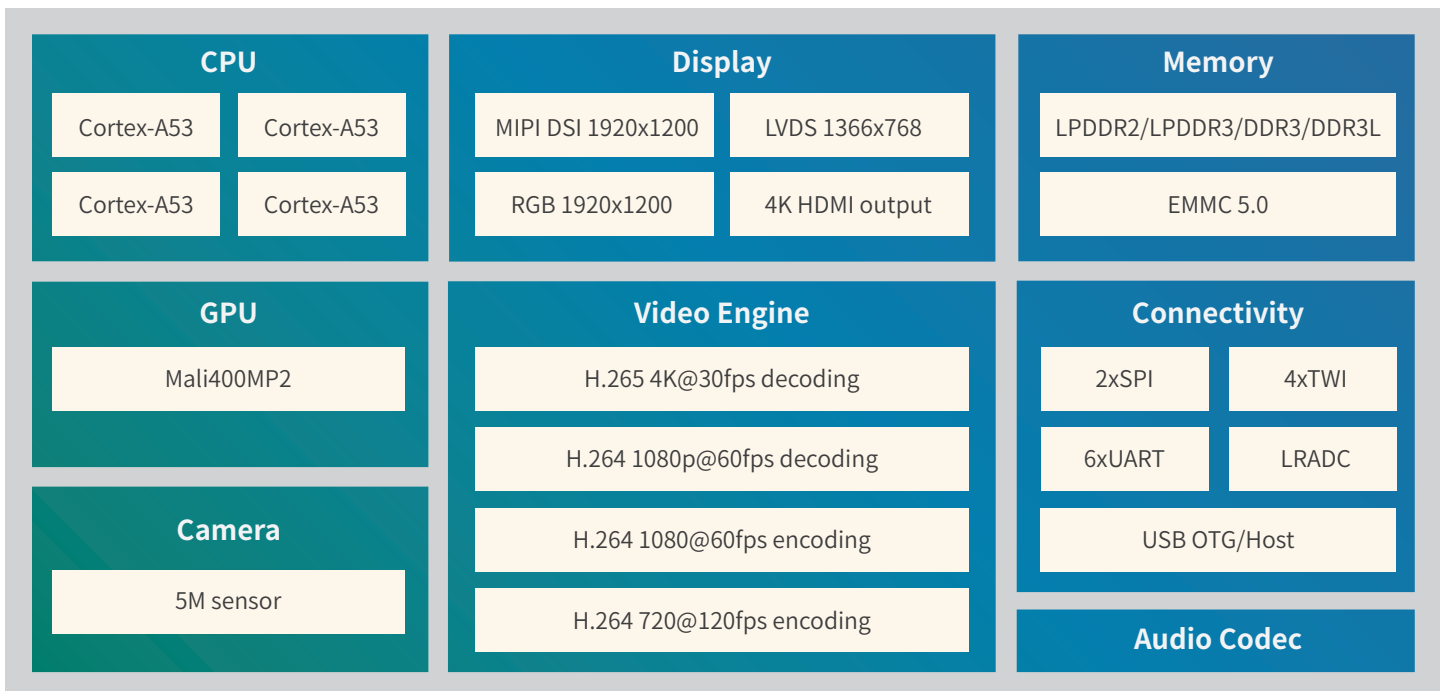
Allwinner R18 runs on Android 5.1 Lollipop operating system, and will be based on Linux Kernel v3.10 and Google Brillo system to maximize the advantages of the 64-bit architecture. There is also the ability to further optimize the product depending on cost and performance requirements.

Features

CPU	<ul style="list-style-type: none"> • Quad-core Cortex-A53
GPU	<ul style="list-style-type: none"> • Mali400MP2 GPU • Supports OpenGL ES 2.0 , Open VG1.1

Memory	<ul style="list-style-type: none"> • Supports LPDDR2/ LPDDR3/ DDR3 / DDR3L SDRAM • Supports 8-bit SLC/MLC/TLC/EF NAND with 64-bit ECC • Supports SD/eMMC/tSD/fSD/efSD
Video	<ul style="list-style-type: none"> • Supports H.265 4K@30fps video decoding • Supports multi-format 1080p@60fps video decoding, including H.264 BP/MP/HP, VP8, MPEG1/2, MPEG4 SP/ASP GMC, H.263 including Sorenson Spark, WMV9/VC-1, JPEG/MJPEG, etc • Supports H.264 1080p@60fps or 720p@120fps video encoding
Camera	<ul style="list-style-type: none"> • Supports 5M pixel camera sensor
Display	<ul style="list-style-type: none"> • Supports MIPI DSI up to 1920x1200 • Supports LVDS up to 1366x768, support RGB up to 1920x1200 • Supports 4K HDMI output with HDCP • Supports HDMI CEC • Supports HDMI 3D function
Integration	<ul style="list-style-type: none"> • Audio Codec • USB OTG/HOST/HSIC • 2x SPI, 4x TWI, 6x UART, LRADC, SDIO
Package	<ul style="list-style-type: none"> • BGA, 396 balls, 0.65mm pitch, 15mm x 15mm

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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