ALLWINER

The High Competitive Tablet Processor Solution 64-Bit

A64 ALLWINNER TECH
64-bit

Allwinner A64 is a quad-core 64-bit tablet processor based on ARM Cortex-A53 architecture, targeting at entry-level 64-bit tablet market.

64-bit, 4-Core Cortex-A53 CPU
Allwinner A64 packs four Cortex-A53 CPU cores that implement the latest 64-bit ARMv8 architecture, delivering significantly higher system performance with less power consumption.

H.265 4K Video Hardware Decoding
Allwinner A64 features a robust video engine that supports H.265 4K video hardware decoding, and H.264 1080p@60fps or 720p@120fps video encoding.

Next-Gen Display Engine 2.0, 4K HDMI Output, SmartColor Display
With the next-gen Display Engine 2.0, Allwinner A64 is capable of 4K HMDI output. It also comes with the SmartColor display technology to provide end users with pleasant visual entertainment experience.

High System Integration
Targeting at entry-level 64-bit tablet, Allwinner A64 features high system integration to make its BOM cost more competitive, including on-chip audio codec, eMMC 5.0 support, LPDDR2/LPDDR3 support,etc.

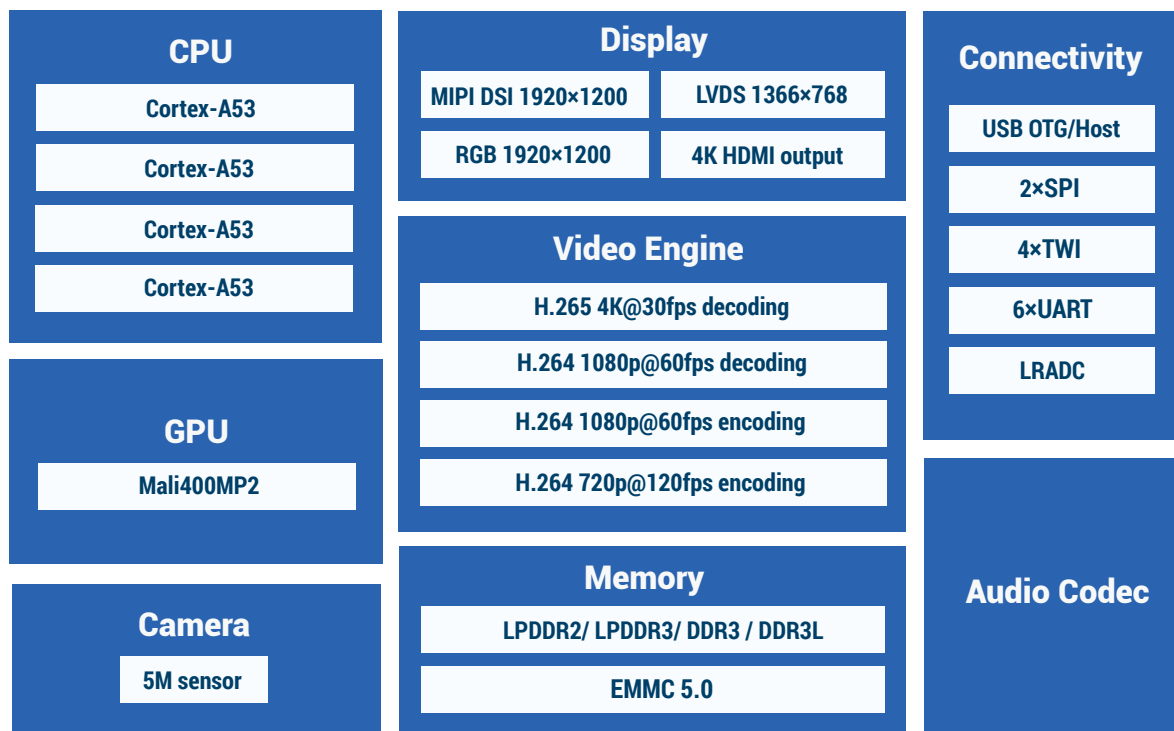### Android 5.0 Lollipop OS, Linux Kernel v3.10
Allwinner A64 runs on Android 5.0 Lollipop operating system, and it'll be based on Linux Kernel v3.10 to maximize the advantages of the 64-bit architecture.

Features

CPU	· Quad-core Cortex-A53
GPU	· Mali400MP2 GPU · Supports OpenGL ES 2.0 , Open VG1.1
Memory	· 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	· 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	· Supports 5M pixel camera sensor
Display	· 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	· Audio Codec · USB OTG/HOST/HSIC · 2x SPI, 4x TWI, 6x UART, LRADC, SDIO
Package	· BGA, 396 balls, 0.65mm pitch, 15mm x 15mm

Block Diagram

CPU
- Cortex-A53
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GPU
- Mali400MP2

Camera
- 5M sensor

Display
- MIPI DSI 1920×1200
- LVDS 1366×768
- RGB 1920×1200
- 4K HDMI output

Video Engine
- H.265 4K@30fps decoding
- H.264 1080p@60fps decoding
- H.264 1080p@60fps encoding
- H.264 720p@120fps encoding

Memory
- LPDDR2/ LPDDR3/ DDR3 / DDR3L
- EMMC 5.0

Connectivity
- USB OTG/Host
- 2×SPI
- 4×TWI
- 6×UART
- LRADC

Audio Codec