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 implements 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 HDMI output. It also comes with the latest 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 the 64-bit architecture.

Features

<table>
<thead>
<tr>
<th>CPU</th>
<th>· Quad-core Cortex-A53</th>
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<tbody>
<tr>
<td>GPU</td>
<td>· Mali400MP2 GPU</td>
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<td></td>
<td>· Supports OpenGL ES 2.0, Open VG1.1</td>
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<tr>
<td>Memory</td>
<td>· Supports LPDDR2/ LPDDR3/ DDR3 / DDR3L SDRAM</td>
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<td></td>
<td>· Supports 8-bit SLC/MLC/TLC/EF NAND with 64-bit ECC</td>
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<td>· Supports SD/eMMC/tSD/efSD/efSD</td>
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### 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

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**Block Diagram**

**CPU**
- Cortex-A53
- Cortex-A53
- Cortex-A53
- Cortex-A53

**GPU**
- Mali400MP2

**Camera**
- 5M sensor

**Display**
- MIPI DSI 1920×1200
- RGB 1920×1200
- LVDS 1366×768
- 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
- 2x SPI
- 4x TWI
- 6x UART
- LRADC

**Audio Codec**

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**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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