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 Interface**

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**

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<tbody>
<tr>
<td><strong>CPU</strong></td>
<td>Quad-core Cortex-A53</td>
</tr>
<tr>
<td><strong>GPU</strong></td>
<td>Mali400MP2 GPU</td>
</tr>
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<td>Supports OpenGL ES 2.0, Open VG1.1</td>
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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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### 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

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### Block Diagram

[Diagram showing CPU, Display, Memory, Connectivity, and Camera modules with specific features and connections.]