

# UltraOcta A80

## Application Processor



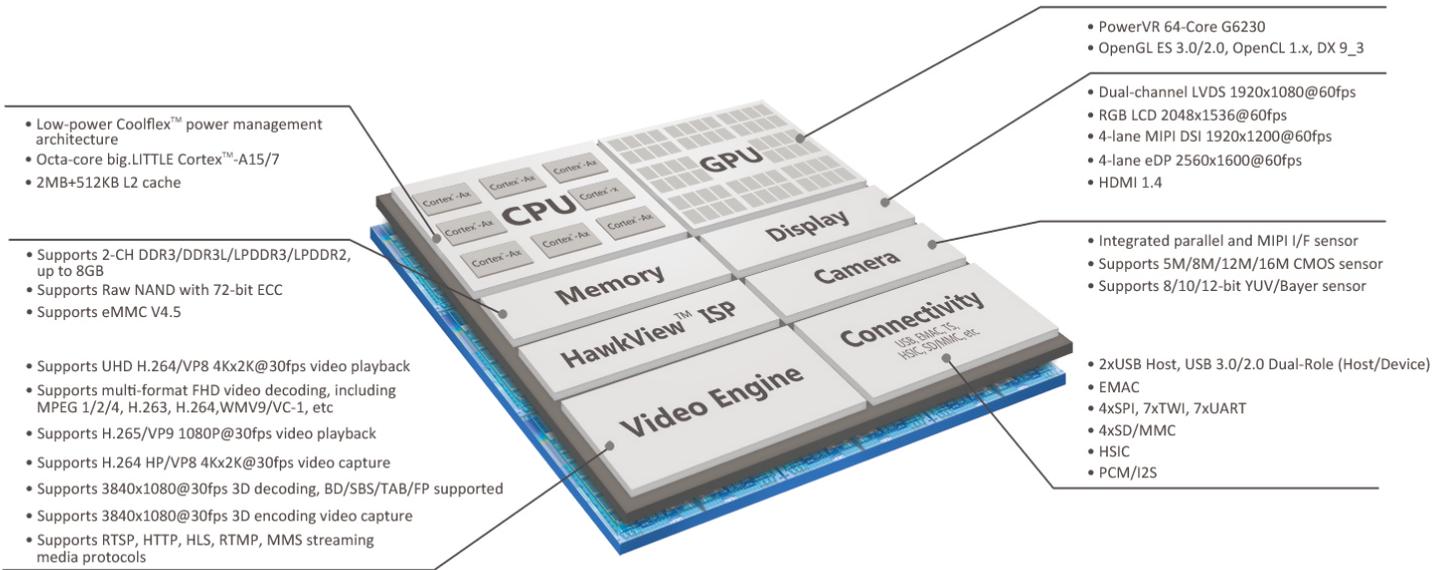
Allwinner's latest flagship UltraOcta A80 application processor is a revolutionary advance in mobile processor technology. The A80 packs octa-core big.LITTLE Cortex™-A15/7 architecture in a 28nm process to deliver an outstanding combination of both computing power and efficiency.

Fast, smooth, and fluid graphics drive the user experience on premium devices. A80 features the lightning-fast PowerVR 64-core G6230 GPU from Imagination Technologies, delivering industry-leading graphics performance and enabling console-class performance even on the most graphics-intensive games. In addition to superior graphics performance, the A80 excels in multimedia with an advanced HawkView™ ISP supporting cameras up to 16M, innovative video engine technology with 4Kx2K video encoding/decoding, high resolution displays up to 2560x1600, advanced HD DRM support, and low power LTE connectivity.

Application usage is extremely diverse on tablets and smartphones: users listen to music, watch movies, browse the web, share photos, play games, send emails, and more. Each application requires different levels of processing power, and that means different applications run more efficiently on different cores. To deliver optimal efficiency, the Allwinner A80 features all-new CoolFlex™ technology that enables devices to seamlessly run different applications on different CPU cores - saving power by giving applications just the right amount of juice that they need.

For premium devices, without the premium cost.

# Block Diagram

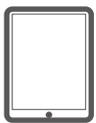


# Features

CPU	<ul style="list-style-type: none"> <li>• Octa-Core big.LITTLE Cortex™-A15/7</li> <li>• Low-power CoolFlex™ power management architecture</li> </ul>
GPU	<ul style="list-style-type: none"> <li>• PowerVR 64-core G6230</li> <li>• Supports OpenGL ES 3.0/2.0, OpenCL 1.x, DX 9_3</li> </ul>
Memory	<ul style="list-style-type: none"> <li>• Supports dual-channel DDR3/DDR3L/LPDDR3/LPDDR2, up to 8GB</li> <li>• Supports Raw NAND with 72-bit ECC</li> <li>• Supports eMMC V4.5</li> </ul>
Video	<ul style="list-style-type: none"> <li>• Supports UHD H.264/VP8 4Kx2K@30fps video playback</li> <li>• Supports multi-format FHD video decoding, including MPEG 1/2/4, H.263, H.264, WMV9/VC-1, etc</li> <li>• Supports H.265/VP9 1080p@30fps video playback</li> <li>• Supports H.264 HP/VP8 4Kx2K@30fps video capture</li> <li>• Supports 3840x1080@30fps 3D decoding, BD/SBS/TAB/FP supported</li> <li>• Supports 3840x1080@30fps 3D encoding</li> <li>• Supports RTSP, HTTP, HLS, RTMP, MMS streaming media protocols</li> </ul>

Display	<ul style="list-style-type: none"> <li>• Supports dual-channel LVDS 1920x1080@60fps</li> <li>• Supports RGB LCD 2048x1536@60fps</li> <li>• Supports 4-lane MIPI DSI 1920x1200@60fps</li> <li>• Supports 4-lane eDP 2560x1600@60fps</li> <li>• Supports HDMI 1.4</li> </ul>
Camera	<ul style="list-style-type: none"> <li>• Integrated parallel and MIPI I/F sensor</li> <li>• Supports 5M/8M/12M/16M CMOS sensor</li> <li>• Supports 8/10/12-bit YUV/Bayer sensor</li> </ul>
Connectivity	<ul style="list-style-type: none"> <li>• 2x USB Host, USB 3.0/2.0 Dual-Role (host/device)</li> <li>• Ethernet MAC</li> <li>• 4x SPI, 7x TWI, 7x UART</li> <li>• 4x SD/MMC</li> <li>• HSIC</li> <li>• PCM/I2S</li> </ul>

## Applications



Tablet



Android Box



Notebook



Smart TV



All-in-one



Digital Signage

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. In addition, Allwinner focuses 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. It is headquartered in Zhuhai, China.

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