

Overview

As a leading mobile application processor solution provider, Allwinner Technology is rolling out its much-anticipated ultra-powerful quad-core mobile processor A31, which can bring excellent user experience to tablet, smart phone as well as smart TV consumers.

A31 has a CPU architecture that with four Cortex-A7 cores to deliver impressive computing capability, a powerful SGX544 MP2 GPU with eight logic cores, and a robust multimedia processing system that capable of 4Kx2K resolution video decoding, Blu-ray 3D, support for full-format audio and video, and perfect compatibility for internet streaming media, etc.

What's more important, A31 supports dual-channel memory and dual-channel NAND architectures which can fix the bandwidth bottleneck caused by its powerful general computing capability, graphic computing capability, and multimedia processing capability, making responsive screens with larger size and higher resolution within reach.

Last but not least, an A31-exclusive PMIC AXP221 is tailor-made for power consumption optimization through dynamic power management. A31 also packs a fifth core that executes tasks at low frequency for active standby mode, aiming at delivering an unprecedentedly long battery life.



Quad-Core Mobile Application Processor

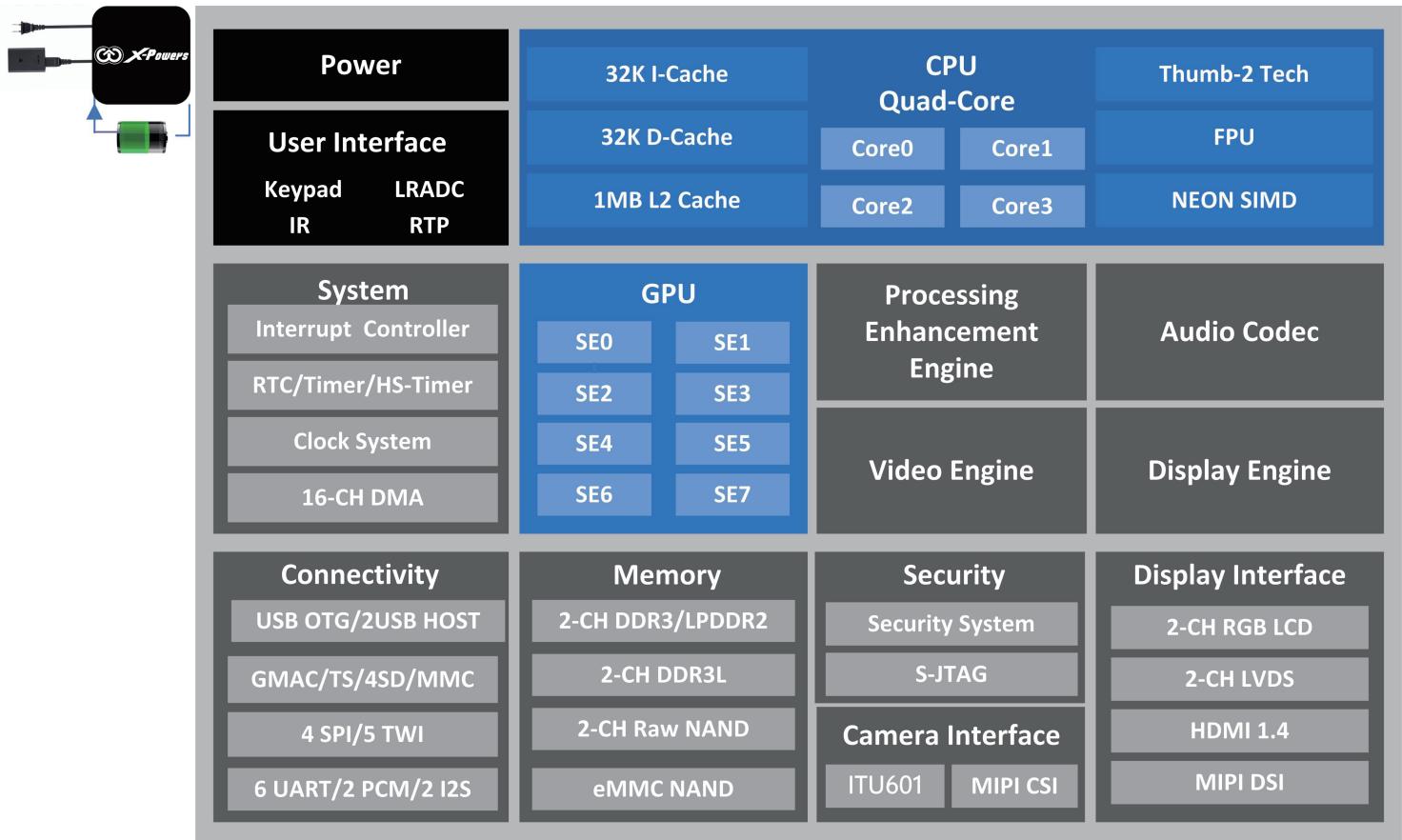
Features

CPU	<ul style="list-style-type: none"> • ARM Cortex-A7 Quad-Core • 1MB L2-Cache • 256KB L1-Cache
GPU	<ul style="list-style-type: none"> • POWER VR SGX544 MP2 • Eight logic cores • Comply with Open GL ES2.0, Open CL1.x, DX 9_3
Video	<ul style="list-style-type: none"> • UHD H.264 4Kx2K @30fps video decoding • Full HD video decoding • BD Directroy, BD ISO and BD m2ts video decoding • H.264 High Profile 1080P@60fps encoding • 3840x1080@30fps 3D decoding • 3840x1080@30fps 3D encoding • Comply with RTSP, HTTP, HLS, RTMP, MMS streaming media protocol
Display	<ul style="list-style-type: none"> • Dual-channel LVDS 1920x1080@60fps • 4 lanes MIPI DSI 1920x1200@60fps • Dual-channel RGB/CPU LCD 2048x1536@60fps • Integrated HDMI1.4 4Kx2K@30fps



Camera	<ul style="list-style-type: none">• Integrated Parallel & MIPI I/F sensor• Integrated Powerful ISP, supporting Raw Data CMOS sensor• 5M/8M/12M CMOS Sensor supported• 8/10/12-bit RGB Bayer sensor supported
Memory	<ul style="list-style-type: none">• Dual-Channel LPDDR2/DDR3/DDR3L Controller• Dual-Channel NAND FLASH Controller• 64-bit ECC
PMIC	<ul style="list-style-type: none">• A31 exclusively tailor-made PMIC AXP221• 21-CH power output and 2.2A Flash charging• Comply with USB 3.0 power supply standard
Audio	<ul style="list-style-type: none">• Integrated HI-FI 100dB Audio Codec• Three MIC• One MIC with Noise cancellation
OS	<ul style="list-style-type: none">• Support Android 4.2 or after• Support Microsoft Windows 8

Framework



Selection Guide

Allwinner Cortex-A Family

	A31	A20	A10	A10s	A13
CPU	Quad-Core ARM Cortex-A7	Dual-Core Cortex-A7	Single-Core ARM Cortex-A8	Single-Core ARM Cortex-A8	Single-Core ARM Cortex-A8
GPU	IMG SGX544 MP2	Mali400MP2	ARM Mali400	ARM Mali400	ARM Mali400
Video Decoder	4Kx2K	2160P	2160P	1080P	1080P
Video Encoder	H.264 1080P@60fps	H.264 1080P@60fps	H.264 1080P@60fps	H.264 1080P@30fps	H.264 1080P@30fps
Package	BGA609 18mm×18mm 0.65mm Pitch	BGA441 19mm×19mm 0.80mm Pitch	BGA441 19mm×19mm 0.80mm Pitch	BGA336 14mm×14mm 0.65mm Pitch	eLQFP176 20mm×20mm
Application	Tablet Smartphone Smart TV	Tablet Smart TV	Tablet Smart TV	HDMI Dongle	Tablet E-reader

About Allwinner

Allwinner Technology, a leading provider of highly integrated semiconductor products, is dedicated to the design of mixed analog-digital VLSI SoC and smart power management IC. The product line covers from mobile application processor for smart devices to smart PMIC.

With its excellent R&D capability, Allwinner Technology has been outstanding itself and leading the industry in terms of UHD video CODEC, high integration and ultra-low power consumption, and has become one of the domestic mainstream chipset vendors for tablets, android box, as well as other intelligent devices.

