



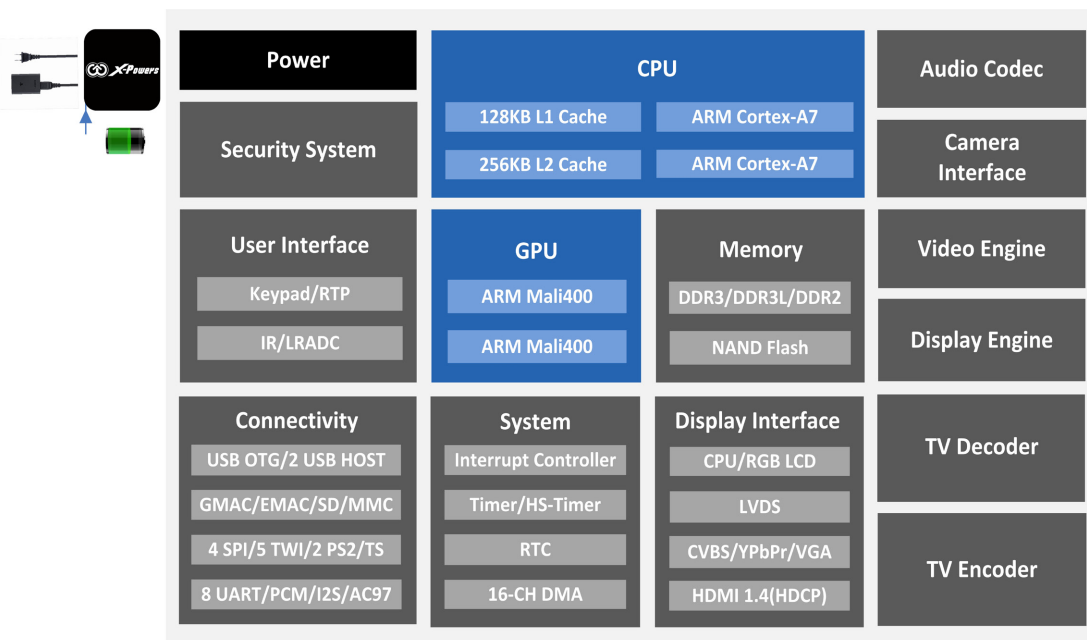
Dual-Core Mobile Application Processor

Multi-core performance is now a critical requirement of new consumer, home, and auto infotainment devices. As computing resource requirements increase, computing power must adapt in response. Applications like web-browsing, streaming video, gaming, and file sharing are growing in complexity as users require faster and more enjoyable content. Allwinner's A20 processor, a dual-core Cortex™-A7 system, delivers a multi-core solution for tablets, smart TV, IPTV, and portable devices that effectively balances system cost, performance, and power consumption.

The A20 processor is based on a dual-core ARM® Cortex™-A7 CPU architecture, the most energy efficient application processor from ARM®. In addition, ARM®'s dual-core Mali400MP2 GPU enables both smooth UI transitions and fluid 3D gaming performance. A20 also enables a full HD video experience with H.264 1080p@30fps encoding and 2160p decoding.

A20 gives customers superior advantages in system cost and time-to-market. A20 lowers system cost by integrating an extensive range of interfaces, codecs, and connectivity including 4-CH CVBS out, VGA, LVDS/RGB LCD, HDMI with HDCP, SATA, USB, GMAC, and audio. A20's pin-to-pin compatibility with Allwinner's previous generation A10 simplifies the product design cycle and enables customers to directly upgrade already-mature single-core platforms directly to dual-core.

Applications



Features

CPU	<ul style="list-style-type: none"> ARM® Cortex™-A7 Dual-Core
GPU	<ul style="list-style-type: none"> ARM® Mali400MP2 Complies with OpenGL ES 2.0/1.1
Video	<ul style="list-style-type: none"> HD H.264 2160p video decoding Multi-format FHD video decoding, including Mpeg1/2, Mpeg4 SP/ASP GMC, H.263, H.264, VP6/8, AVS jizun, Jpeg/Mjpeg, etc. H.264 High Profile 1080p@30fps or 720p@60fps encoding 3840x1080@30fps 3D decoding, BD/SBS/TAB/FP supported Complies with RTSP, HTTP,HLS,RTMP,MMS streaming media protocols
Display	<ul style="list-style-type: none"> Supports multi-channel HD display Integrated HDMI 1.4 transmitter with HDCP support CPU/RGB/LVDS LCD interface Supports CVBS/YPbPr/VGA Integrated TV decoder
Camera	<ul style="list-style-type: none"> Integrated parallel 8-bit I/F YUV sensor Integrated 24-bit parallel YUV 444 I/F Supports 5M CMOS sensor Supports dual sensors
Memory	<ul style="list-style-type: none"> DDR2/DDR3/DDR3L controller NAND Flash controller with 64-bit ECC
Audio	<ul style="list-style-type: none"> Integrated Hi-Fi 100dB audio codec Dual analog mic amplifiers
OS	<ul style="list-style-type: none"> Android 4.2 and above

Selection Guide

Allwinner Cortex-A Family

	A31	A31s	A20	A10s	A13
CPU	Quad-Core Cortex™-A7	Quad-Core Cortex™-A7	Dual-Core Cortex™-A7	Single-Core Cortex™-A8	Single-Core Cortex™-A8
GPU	SGX544MP2	SGX544MP2	Mali400MP2	Mali400	Mali400
Video Playback	4Kx2K	2160p	2160p	1080p	1080p
Video Capture	H.264 HP 1080p@60fps	H.264 HP 1080p@30fps 720p@60fps	H.264 HP 1080p@30fps 720p@60fps	H.264 MP 720p@30fps	H.264 MP 720p@30fps
LCD	2048X1536	1280x800	1280x800	1024x768	1024x600
Package	BGA609 18mmx18mm 0.65mm Pitch	BGA460 18mmx18mm 0.80mm Pitch	BGA441 19mmx19mm 0.80mm Pitch	BGA336 14mmx14mm 0.65mm Pitch	eLQFP176 20mmx20mm
Applications	Tablet Smart TV	Phablet	Tablet Smart TV	HDMI Dongle	Tablet E-reader

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.

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