Overview

Allwinner Technology, a leading mobile application processor solution provider, launches a dual-core mobile application processor A20 for tablet, smart TV as well as Mobile Internet Device (MID) markets.

The A20 processor is based on dual-core ARM Cortex-A7 CPU architecture, the most energy efficient application processor from ARM. It also integrates the powerful Mali400MP2 GPU, and supports 2160p video decoding and H.264 HP 1080p video encoding.
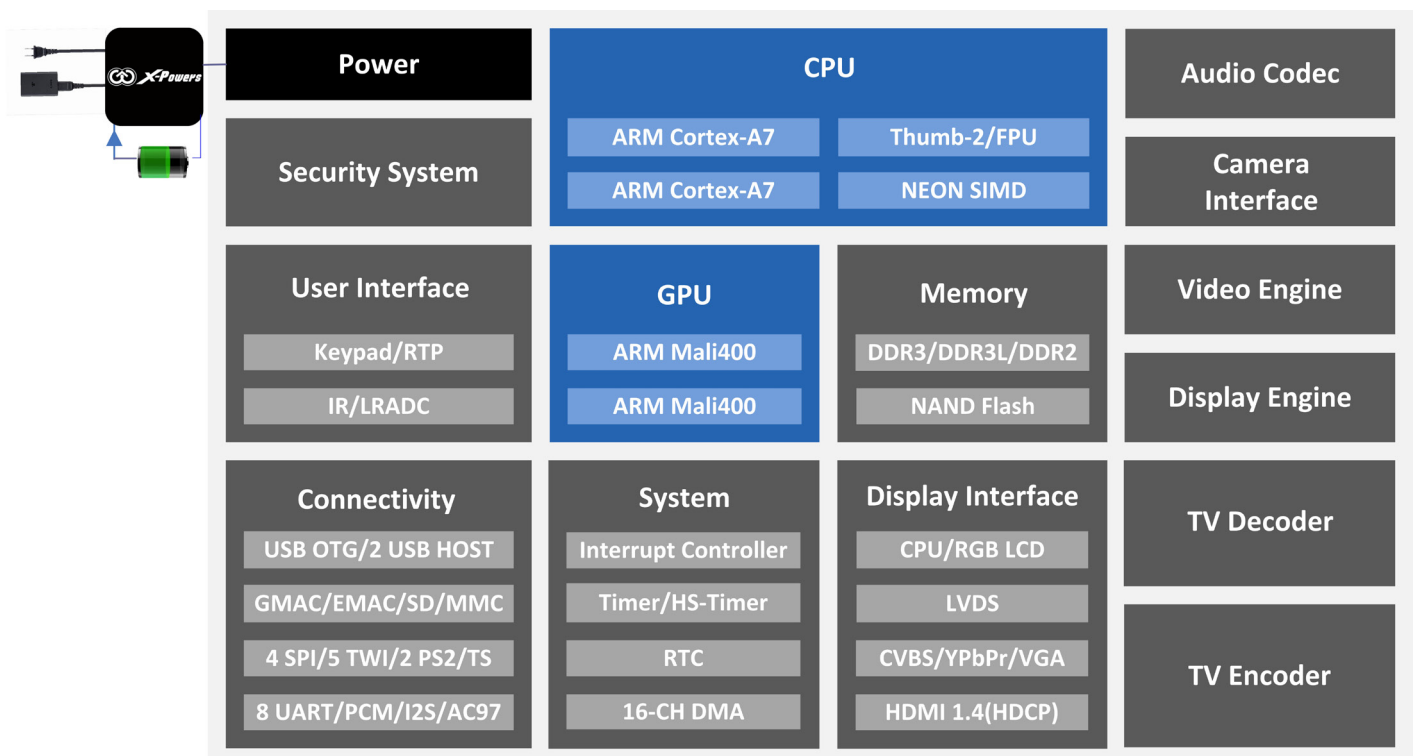
More importantly, A20 processor is pin-to-pin compatible with its predecessor A10, which greatly simplifies the product design process and makes the upgrade of existing devices much easier.

Lastly, A20 processor delivers an extensive range of interfaces and connectivity, including 4-CH CVBS in, 4-CH CVBS out, VGA, LVDS/RGB LCD, HDMI with HDCP, SATA, USB as well as GMAC, etc.

Dual-Core Mobile Application Processor

Framework

Feature

CPU	• ARM Cortex-A7 Dual-Core
GPU	• ARM Mali400MP2 • Comply with OpenGL ES 2.0/1.1
Video	• 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. • BD Directory, BD ISO and BD m2ts video decoding • H.264 High Profile 1080p@30fps or 720p@60fps encoding • 3840x1080@30fps 3D decoding, BD/SBS/TAB/FP supported • Comply with RTSP, HTTP,HLS,RTMP,MMS streaming media protocols
Display	• Support multi-channel HD display • Integrated HDMI 1.4 transmitter with HDCP support • CPU/RGB/LVDS LCD interface • Support CVBS/YPbPr/VGA • Integrated TV decoder
Camera	• Integrated parallel 8-bit I/F YUV sensor • Integrated 24-bit parallel YUV 444 I/F • Support 5M CMOS sensor • Support dual sensors
Memory	• DDR2/DDR3/DDR3L controller • NAND Flash controller with 64-bit ECC
Audio	• Integrated HI-FI 100dB Audio Codec • Dual MIC noise cancellation
OS	• Android 4.1/4.2 and above

Selection Guide

Allwinner Cortex-A Family

	A31	A20	A10	A10s	A13
CPU	Quad-Core ARM Cortex-A7	Dual-Core ARM Cortex-A7	Single-Core ARM Cortex-A8	Single-Core ARM Cortex-A8	Single-Core ARM Cortex-A8
GPU	IMG SGX544MP2	ARM Mali400MP2	ARM Mali400	ARM Mali400	ARM Mali400
Video Decoder	4Kx2K	2160p	2160p	1080p	1080p
Video Encoder	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
Package	BGA609 18mmx18mm 0.65mm Pitch	BGA441 19mmx19mm 0.80mm Pitch	BGA441 19mmx19mm 0.80mm Pitch	BGA336 14mmx14mm 0.65mm Pitch	eLQFP176 20mmx20mm
Application	Tablet Smart TV	Tablet Smart TV	Tablet Smart TV	HDMI Dongle	Tablet E-Reader

About Allwinner

Allwinner Technology is a leading fabless design company dedicated to smart application processor SoC and smart analog IC, and its product line-up covers from multi-core application processors for smart devices to smart PMIC, etc.

With its cutting edges in UHD video processing, high-performance multi-core CPU/GPU integration, and ultra-low power consumption, Allwinner Technology now serves as a mainstream solution provider in the global tablet, UHD Android box, mobile connected device, as well as smart power management IC market. Allwinner Technology is headquartered in Zhuhai, China.

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