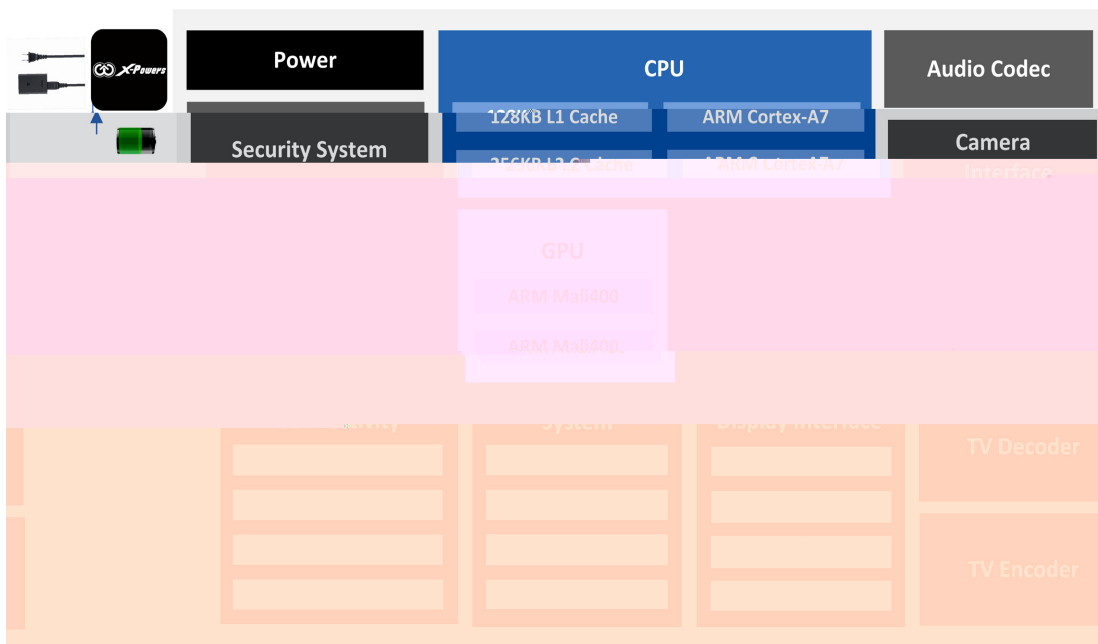Multi-core performance is now a critical requirement of new consumer, home, and auto infotainment devices. As computing resource requirements increase, computing power must adapt in response. Applications like web-browsing, streaming video, gaming, and fle sharing are growing in complexity as users require 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 effcient application processor from ARM®. In addition, ARM®'s dual-core Mali400MP2 GPU enables both smooth UI transitions and fuid 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 simplifes the product design cycle and enables customers to directly upgrade already-mature single-core platforms directly to dual-core.

Applications

Features

CPU	• ARM® Cortex™-A7 Dual-Core
GPU	• ARM® Mali400MP2 • Complies 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. • H.264 High Profle 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	• 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	• Integrated parallel 8-bit I/F YUV sensor • Integrated 24-bit parallel YUV 444 I/F • Supports 5M CMOS sensor • Supports dual sensors
Memory	• DDR2/DDR3/DDR3L controller • NAND Flash controller with 64-bit ECC
Audio	• Integrated Hi-Fi 100dB audio codec • Dual analog mic amplifers
OS	• 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					