F1C800

1080P HD decoding multimedia solution

Overview

The F1C800 is a highly integrated, low-power mobile application processor that can be used in a wide range of multimedia audio and video equipment.
The F1C800 is based on the ARM9 architecture and integrates DDR. It supports HD video decoding, including H.265,H.264, H.263, MPEG1/2/4, etc. It also integrates audio codec and I2S/PCM interface to enhance the user experience.
The F1C800 has excellent system integration capabilities, simple development, support for low-power applications, and rich interfaces such as RGB,LVDS,USB OTG, UART, SPI, TWI, TP, SD/MMC,etc., which can support operations such as RTOS\Linux OS. It is a product with simple development and high cost performance.

Highlights

H.265 HD video decoding
Support H.265/4/3 1080P@45fps decoding
Support MPEG1/2/4 1080P@45fps decoding

Rich display interface
Support RGB/LVDS/MIPI DSI 1080P@60fps

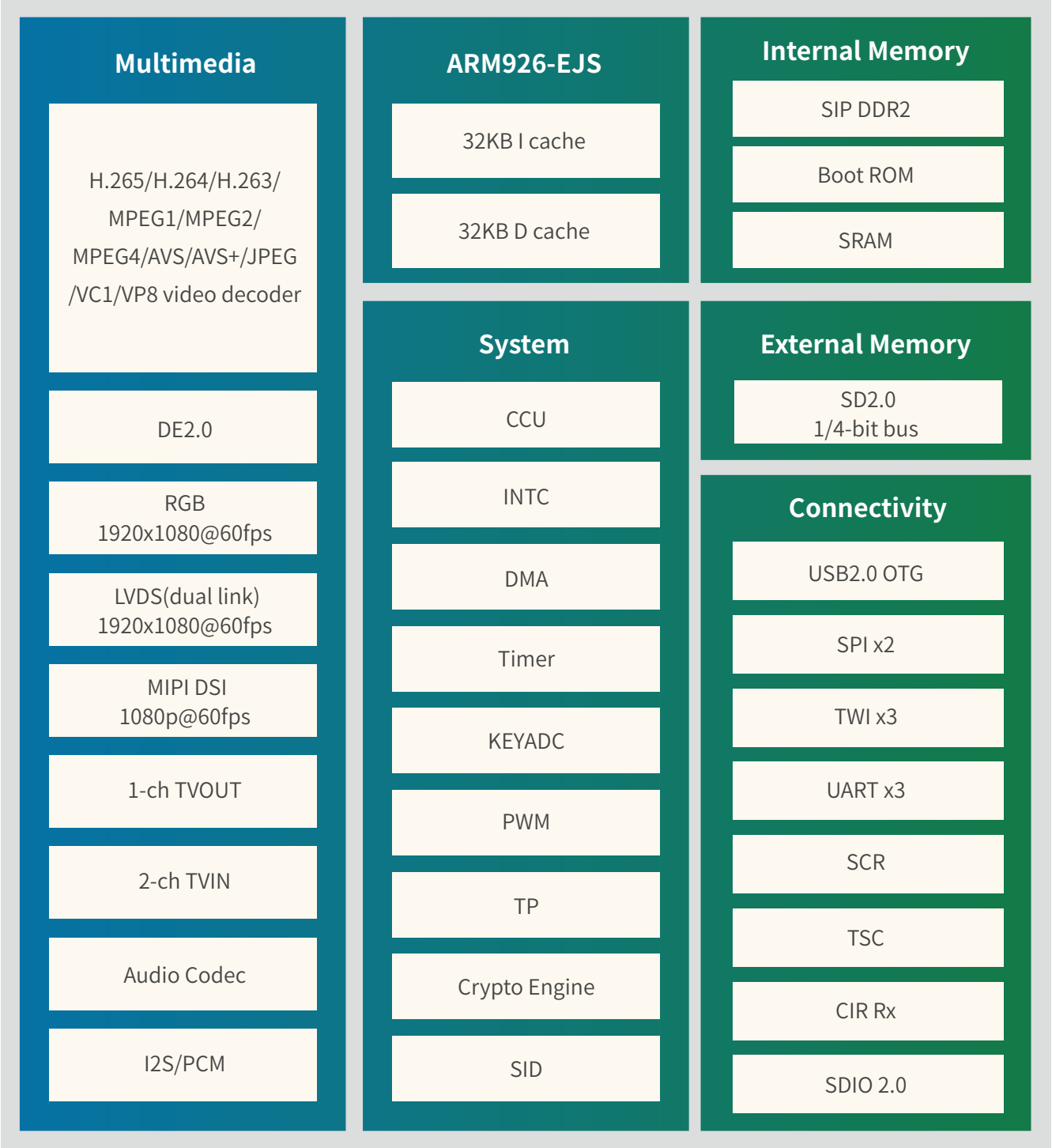
High integration
Integrated DDR2, audio codec, and peripheral expansion interface

Low cost, low power consumption, easy to develop
The chip is highly integrated, the BOM development cost is low, the external materials are streamlined, and the development is simple.

Features

CPU	• ARM926-EJS • Supports 32KB Instruction cache and 32KB Data cache
Memory	• SIP DDR2 memory, Clock frequency up to 400MHz • Supports SD2.0, eMMC4.41 • Support SPI NAND/NOR Flash
Video	• Support H.265/4/3 video encoding up to 1080p@45fps • Support MPEG1/2 MP/HL up to 1080p@45fps, MPEG4 SP/ASP L5 up to 1080p@45fps • Support VP8 N/A up to 1080p@45fps
TVIN	• Supports 2 channels CVBS input to 1 channel CVBS decoder • Supports NTSC and PAL mode • Supports YUV422, YUV420 format
Audio	• Supports stereo ADC and single DAC channel • Supports three analog audio inputs and one analog audio output • Analog low-power loop form microphone to headphone outputs
Display	• Supports output size up to 2048 x 2048 • Supports 1 UI channel and 1 video channel for main display RT-Mixer • Supports SmartColor 2.0 for excellent display experience • Supports dual display: LCD + CVBS Out • Support 18-bit RGB interface, up to 1920x1080@60fps, LVDS interface with Dual link, up to 1920x1080@60fps. • Supports 1-ch TV CVBS output • Supports 4-lane MIPI DSI output up to 1080p@60fps
Connectivity	• USB 2.0 OTG controller with integrated USB PHY • SDIO 2.0 • 3 x TWI, 2 x SPI • 3 x UART, PWM, CIR RX, TSC, SCR • KEYADC
WiFi	• Supports B/g/N/aC
OS	• Melis, Linux OS
Package	• eLQFP128 • 14mm x 14mm size
Process	• 40nm

Block Diagram



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.

CONTACT US

For more product info, please contact service@allwinnertech.com, or scan the QR code to follow us on Wechat.