Media Processor

PureVu® CNW6611L
Full-HD Media Processor SoC

Product Brief

OVERVIEW

The PureVu® CNW6611L is a highly integrated media SoC optimized for wireless display and home media streaming applications. Target applications include stand-alone wireless media adapters for TVs and PC monitors, as well as small form factor modules designed for integration into next generation TV panels, PC monitors, and portable displays. With its advanced audio/video processing and optimized latency profile, the architecture is ideally suited for high quality video and interactive applications. The high degree of integration enables system designers to build ultra-small and low power devices with very aggressive system BOM.

With a high performance ARM sub-system, and dedicated video, audio, graphics and security hardware engines, CNW6611L packs enough horse-power to decode and display full 1080 resolution video, while performing all the necessary networking and decryption tasks to ensure robust video delivery of premium content. The integrated audio and video engines offer multi-format decoding capability, enabling the SoC to handle a wide range of file formats and codecs for wireless display and media streaming protocols including Cavium's WiVu, WiFi Alliance's wireless display standard specification, Intel's WiDi, and DLNA. A dedicated graphics engine is also included to provide seamless user interactivity through advanced GUI designs.

The CNW6611L provides pristine 1080p quality video with very aggressive overall system BoM, enabling a cost competitive, ultra-small and low power solution for wireless display receiver products

KEY FEATURES

- High performance 1080p30 or 1080i60 multi-format decoder
- Support for H.264, MPEG2, MPEG4, VC-1, AVS, etc.
- Audio DSP with support for AC3, AAC, MP3, etc.
- High performance ARM sub-system
- Crypto engine for HDCP 2.0 and DTCP-IP
- Integrated HDMI 1.3
- Display processor with scaling, 5 layer programmable views
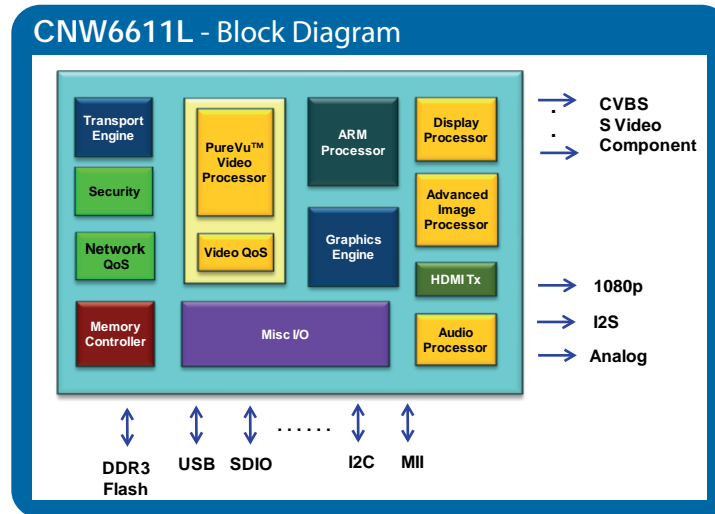- Less than 1.8W typical power
- 2D graphics

APPLICATIONS

- Wireless display TV adapter
- Home media streaming receiver
- Wireless monitors and TV module

Smart-phone

Notebook

Tablet

Support for WiVu®, Miracast™, WiDi and DLNA

HDMI

Rx Adapter

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CNW6611L - Block Diagram

FEATURES

Application CPU
- ARM 1176JZF, 600MHz, 32K/32K Cache

External Memory
- DDR3 - 800/1066/1333
- 16-bit DDR3 SDRAM
- 8-bit NAND Flash

Transport Processor
- Dual MPEG-2 TS input/playback
- 64 PID filter shared by the two input interfaces

Video Processor
- Support MPEG-2 high definition main profile, up to HD MP@HL
- Support H.264 high , main and base profile ,up to HD HP@L4.1
- Support VC-1 SP/MP/AP profile at 1080p@30fps
- Support AVS high definition jizhun profile, up to HD JIZHUN@6.2
- Support MPEG4 SP & ASP, H.263 & Sorenson Spark, DivX Home Theater Profile, Real Video 8/9/10 at 1080p@30fp

Audio Processor
- Programmable audio DSP with advanced DMA
- Decodes MP1/2/3, AC3, AAC-LC, HE-AAC audio streams

Video & Audio Interface
- Video DACs for YPbPr/RGB, S-video and CVBS output
- Integrated HDMI 1.3 transmitter, DVI mode supported
- Upto 24bits 1080P 50/60
- Integrated TV DAC
  - Support NTSC, PAL or SECAM color standards
  - Support Standard Definition and High Definition
- I2S, S/PDIF digital audio output

2D Graphic Engine
- Supported Color formats: ARGB8888, RGB565, ARGB4444, ARGB 1555, CLUT8 and CLUT4
- Color keying
- Alpha Blending
- Raster Operation (ROP) and/or blending at the outputs
- Anti-flicker (Vertical 2-Tap FIR Filter)

Display Processor
- Multi-layers Alpha compositor
- 2D Graphics Layer Display
- Video Layers
  - YUV420 video source format
  - Programmable Display View Port (Location, Window size)
  - Down/Up Video Scaler

Video Post Processor
- Motion adaptive De-interlacer
- 3-2 2-2 Film Mode Detection
- High Quality Poly-phase FIR Video Scaler

Security
- HDCP 2.x
- DTCP-IP

Peripherals
- 2 UART, 2 I2C, 1 SPI, 41 GPIO
- SDIO
- RC-5/NEC Remote Control Receiver
- 10/100M Ethernet (MII interface)
- USB 2.0 High Speed Host Controller

Power Requirements
- 3.3V/1.8V/1.2V
- < 1.8W

PureVu® CNW6611L - Product Family

Part Number	Description
CNW6611L-600BG429-SCP-G CNW6611L-600BG324-SCP-G	PureVu Full-HD Media Processor SoC

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