

Media Processor

PureVu® CNW8302 Full-HD Media Processor SoC

Preliminary Product Brief



OVERVIEW

The PureVu® CNW8302 is a highly integrated media SoC optimized for wired and wireless home video distribution for game consoles, Blu-ray players, laptop computers, TVs, and many other consumer electronic devices, as well as home media streaming and wireless display applications. Watch content from one room in the home to multiple other rooms. Stream movies and other content from the internet as well as video, pictures, and music from handheld devices to TV display. With the highly integrated CNW8302, these applications and more are possible. With its high performance 1080p60 encoder and multi-format decoder and advanced audio processor; high quality, full-HD video and audio can be encoded and/or decoded and displayed via the integrated HDMI 1.4 interface with 3D support. Add to that MHL support, Ethernet MAC, SDIO 3.0/eMMC, and USB interface for WiFi; for a simple, efficient, and seamless connected device solution. The high level of integration in the SoC enables designers to build low power, small form factor devices at very low system cost, allowing for cost competitive products.

With its wide range of A/V formats and CODECs, networking and internal crypto capabilities, as well as low latency specific 1080p60 video encoder architecture make the SoC perfectly suited for high quality interactive video applications such as; HDMI cable replacement, home media distribution, and wireless display. Further enhancing the SoC's capabilities is support for industry standard media streaming protocols such as Microsoft's Smooth Streaming™, HLS, DLNA® and wireless display protocols; Cavium's WiVu™, WiFi Alliance's Miracast™, and Intel's WiDi. A dedicated 2D and 3D graphics engine is also available, providing an engaging and sophisticated GUI experience to the user.

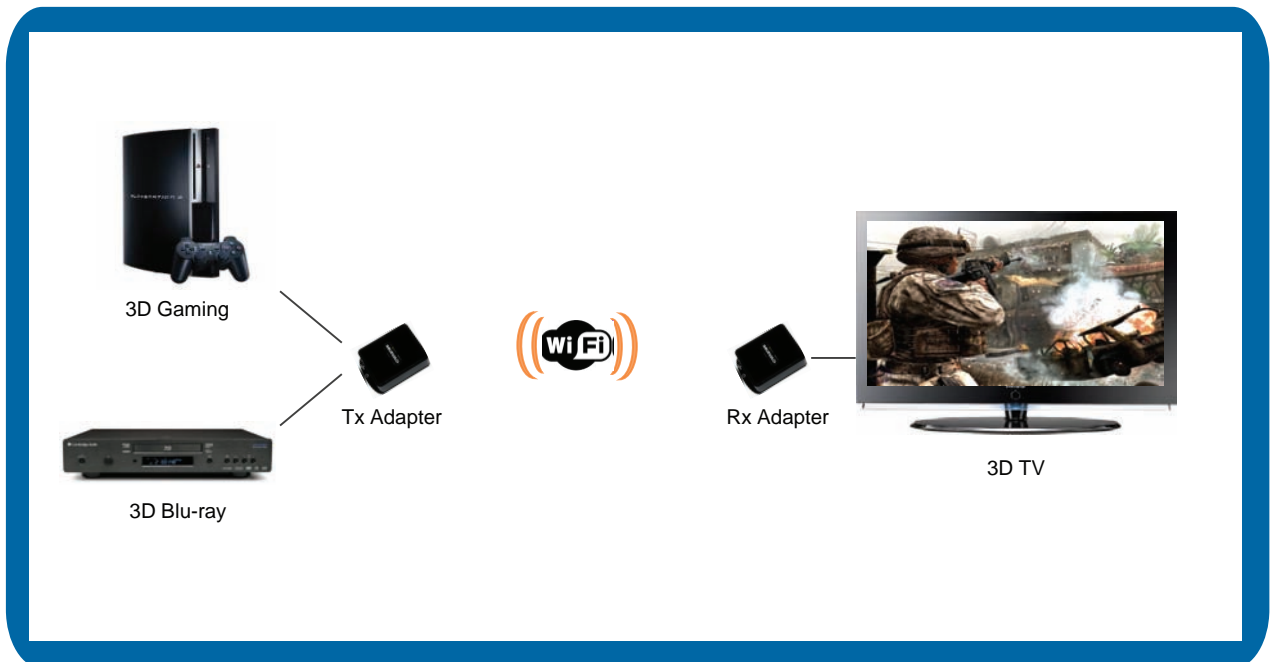


KEY FEATURES

- High performance 1080p60 video encoder
- High performance 1080p60 multi-format decoder
- Support for stereoscopic 3D
- 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.x and DTCP-IP
- Integrated HDMI 1.4
- MHL interface support
- Display processor with scaling, 5 layer programmable views
- 2D and 3D graphics

APPLICATIONS

- Tx/Rx dongle for wireless 3D display
- Home media streaming receiver
- Wireless monitors and TV module
- In-line PVR



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FEATURES

Application CPU

- ARM Cortex-A9, 1GHz, 32K/32K Cache

External Memory

- DDR3 - 800/1066/1333
- 16-bit DDR3 SDRAM
- 8-bit NAND Flash
- SD card/eMMC

Video Processor

- 1080p60 Video Encoder
- H.264 BP/MP/HP Decoding
- VC-1 SP/MP/AP Decoding
- MPEG-4 SP, ASP/ H.263 Baseline Profile/DivX/XviD Decoding
- MPEG2 Main Profile Decoding
- AVS Jizhun profile level 6.2 Decoding
- RV-8/9/10 Decoding
- VP8 Decoding
- Theora Decoding

Audio Processor

- 32-bit RISC CPU providing future standards upgradability
- Hardware FFT accelerators

Video & Audio Interface

- Video DAC for CVBS output
- HD video output (component)
- HD digital video input (24bit RGB/YPbPr)
- Integrated HDMI 1.4a transmitter
- MHL 2.0
- Upto 24bits 1080P 50/60
- I2S, S/PDIF digital audio output

2D & 3D Graphics Engine

- OpenGL ES 2.0 compliance
- Color keying
- Alpha Blending
- Raster Operation (ROP) and/or blending at the outputs

Display Processor

- Multi-layers Alpha compositor
- High performance sharpness filters with noise coring(peaking & Coring)
- Non-linear chroma and luma enhancements

Video Post Processor

- Motion adaptive De-interlacer
- Down/Up Video Scaler
- High Quality Poly-phase FIR Video Scaler

Security

- CA & security processor
- HDCP 2.x
- DTCP-IP

High Speed I/O

- 10/100 MAC (MII)
- USB 2.0 (Host)
- SDIO 3.0

Peripherals

- UART, I2C, SPI, GPIO, IR

PureVu® CNW8302 - Product Family

Part Number	Description
CNW8302-800BG564-G	PureVu Full-HD Media Processor SoC