



AU8501 Product Brief ATSC/NTSC HDTV Demodulator

The innovative features of the AU8501 consist of an integrated ATSC demodulator, analog TV demodulator and decoder, with PCI and DMA interface. This integrated analog/digital approach significantly reduces the complexity of the TV tuner design as well as the cost of building a simple TV front end module for both analog and digital reception.

The AU8501's small size and low power make it well suited for any system designed to receive information from DTV broadcasts. This includes stand-alone SDTV or HDTV sets, STBs, PCI/Mini PCI, PCI-E hybrid TV card.

AU8501 FEATURES

Digital TV Demodulation:

- ◆ Built-in 30dB range analog AGC and 12-bit ADC
- ◆ Built-in Tuner RF and IF AGC controllers
- ◆ Programmable IF frequency
- ◆ ATSC compliant 8-VSB demodulation
- ◆ Transport Stream or Program Stream input/output in parallel or serial format
- ◆ Auto analog, digital channel detection and switching

Bus and Interface:

- ◆ I2S for audio input/output
- ◆ PCI and DMA bus master write for video, audio, VBI, TS or PS
- ◆ I2C Bus support (master)
- ◆ GPIO support

Package: 144-pin LQFP

Analog TV Processor:

- ◆ NTSC analog demodulation and audio/video separation filters
- ◆ TV decoder with 2-D comb filter
- ◆ VBI data slicer
- ◆ Supports up to four analog video inputs: CVBS and S-video
- ◆ Control of brightness, contrast, saturation and hue
- ◆ Three levels of Macrovision copy protection detection according to Macrovision detection specification Rev.1
- ◆ Adaptive anti-alias filtering and versatile filter bandwidth selection
- ◆ Video output in ITU656 format

Audio Processor:

- ◆ BTSC TV sound decoder
- ◆ Audio output configurable in Digital or Stereo audio format
- ◆ On-chip MCLK (256*Fs) output

APPLICATIONS

- 1) PCI/mini PCI hybrid TV card
- 2) PCI-E hybrid TV Card
- 3) Video capture/ MPEG encoder card

AU8501 BLOCK DIAGRAM

