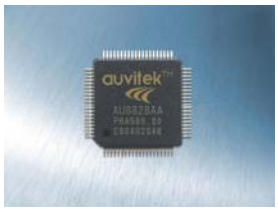
MICROTUNE

Product Brief



Related Product Information:

- Press Release
- Related Products
- Order Information
- Product Selector Guide

AU8828

Single-Chip CTTB (DTMB) HDTV and DVB-C and ATV Demodulator

The AU8828 is a highly integrated, fully GB20600-2006 and ITU-T J.83 Annex A/C compliant, high-performance CTTB (DTMB) and DVB-C channel decoder supporting all analog and digital terrestrial TV and cable TV broadcast modes and standards for the China and Hong Kong markets.

Product Overview

The AU8828 is a highly integrated, fully GB20600-2006 compliant, high-performance CTTB (DTMB) and DVB-C channel decoder that also supports all analog and digital terrestrial TV broadcast modes and standards for the China and Hong Kong markets. The AU8828 is based on a unique patent-pending architecture called FADE^{TM} (fully adaptive demodulation and equalization), which enables the AU8828 to provide the "best in class" performance among demodulators in the CTTB (DTMB) receiver market. In addition, the AU8828 integrates a DVB-C demodulator that fully meets the requirements of the China market. The AU8828 is a high-performance SOC, integrating a CTTB (DTMB), DVB-C and Analog TV demodulators, PAL/NTSC video decoder with 3D comb filter, an integrated high speed 12-bit ADC, programmable IF input and automatic mode detection circuit.

Based around Microtune's unique FADE^{TM} demodulation architecture, the AU8828 is engineered to set a new bar in CTTB (DTMB) receiver performance and builds on Microtune's history of high-volume shipments of market-leading single-carrier ATSC channel decoders. The solutions based on the AU8828 are able to experience (i) stable reception in all modes of operation, (ii) faster lock and channel change times and (iii) consistent performance across a wide range of network topologies. The inclusion of a high-quality PAL, NTSC analog TV video and audio decoder in the AU8828 makes it possible for the manufacturer to develop high-performance solutions that support legacy reception. Its integrated memory removes the burden of sourcing DRAM from the spot market.

AU8822 Key Features and Performance

Multiple Demodulation Formats

- GB20600-2006 compliant CTTB (DTMB) HDTV demodulator
- All Single and Multi carrier modes supported
- DVB-C ITU-T J.83 Annex A / C compliance
- PAL / NTSC analog TV demodulation and A / V separation
- Modulation: 4QAM-NR, 4QAM, 16QAM, 32QAM, 64QAM
- FEC Code Rates: 0.4, 0.6 and 0.8
- Guard Interval: PN420, PN595, PN945
- Time De-Interleaver: None, 240, 720
- Integrated memory – no need for external DRAM

Performances

- Wide dynamic range -93 to +20 dBm
- Echo Span
  - Single Carrier: -47 to +47 µs
  - Multi Carrier : +/- 0.95 * GI
- Supports extended temperature range of -40° to +85°C
- C/N ratio: <12.5 dB, 16QAM
- Fast auto channel search and detection
- Excellent multi-path performance
- Best in Class SFN performance
- Optimized for best performance in all conditions (fading, echoes, impulse noise, etc.)

Analog Video and Audio Decoder

- 3D comb filter, VBI data slicer
- Macrovision Support, Color controls
- FM stereo/mono auto detection and decoding
- 3-band audio equalizer

Package & Power

- 80 pin LQFP package (10mm x 10mm)
- Typ. Power: <600 mW
- Low standby power: <20mW
- Compliant to RoHS and GADSL

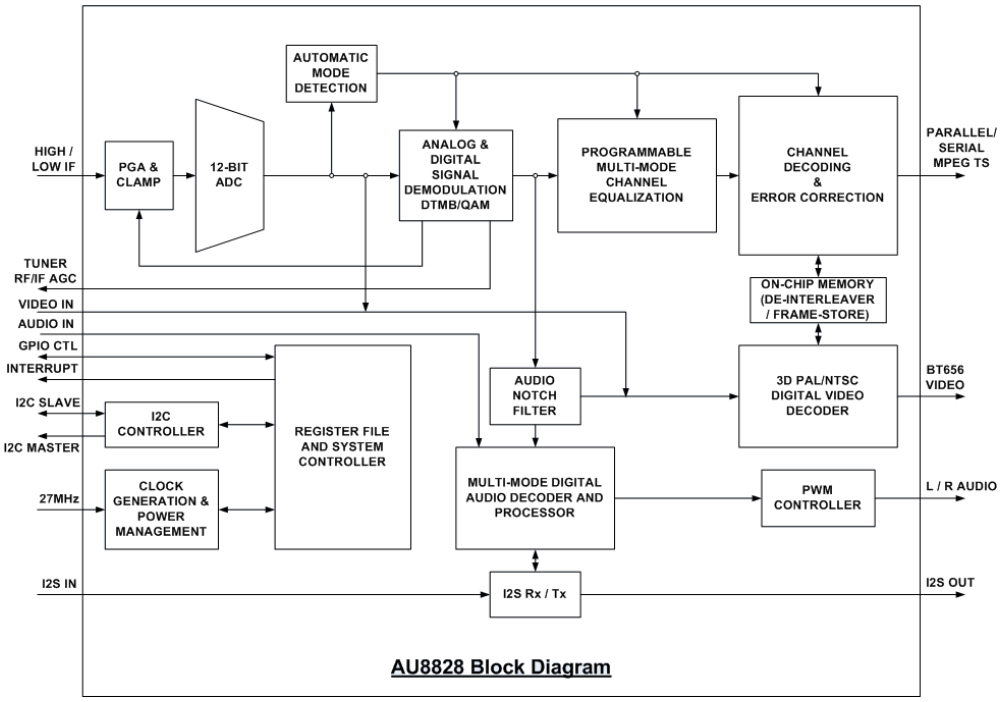
AU8828 Target Segments

- Flat Panel HDTV's
- Set-Top Boxes
- DVD Players / Recorders
- PC-TV for Laptops and Desktops
- Static A/V CE devices
- Portable A/V CE devices

Description

The AU8828 directly accepts either low or high IF inputs from either silicon or can tuner modules and is fully programmable. Both RF and IF tuner AGC outputs are precisely controlled by the AU8828 in order to maximize channel demodulation performance. For GB20600-2006 compliant formats, the AU8828 utilizes a proprietary highly segmented equalizer architecture to achieve the best possible dynamic echo cancellation performance. The channel demodulator supports all GB20600-2006 multi and single-carrier modes with no external memory required. AU8824 supports all DVB-C modes required for the China and Hong Kong markets. Decoded MPEG transport streams are available in both serial and parallel formats. For analog PAL broadcasts or legacy analog inputs. The video data is decoded using an advanced 3D digital comb filter that includes color and image controls, and a complete VBI processor Video output in BT656 format. Audio data is processed in the multi-standard decoder. Audio output is in either stereo pulse-width-modulated or I2S formats. For ease of system integration, the AU8822 also includes I2S audio inputs and I2C compatible control interface.

Block Diagram



AU8828 Block Diagram

Related Documents

- PB-00175 – AU8828 Product Brief (This document)
- DS-00116– AU8828 Data Sheet

Contact and Ordering Information

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