STiH225

Interactive HDTV cable STB processor with integrated front-end

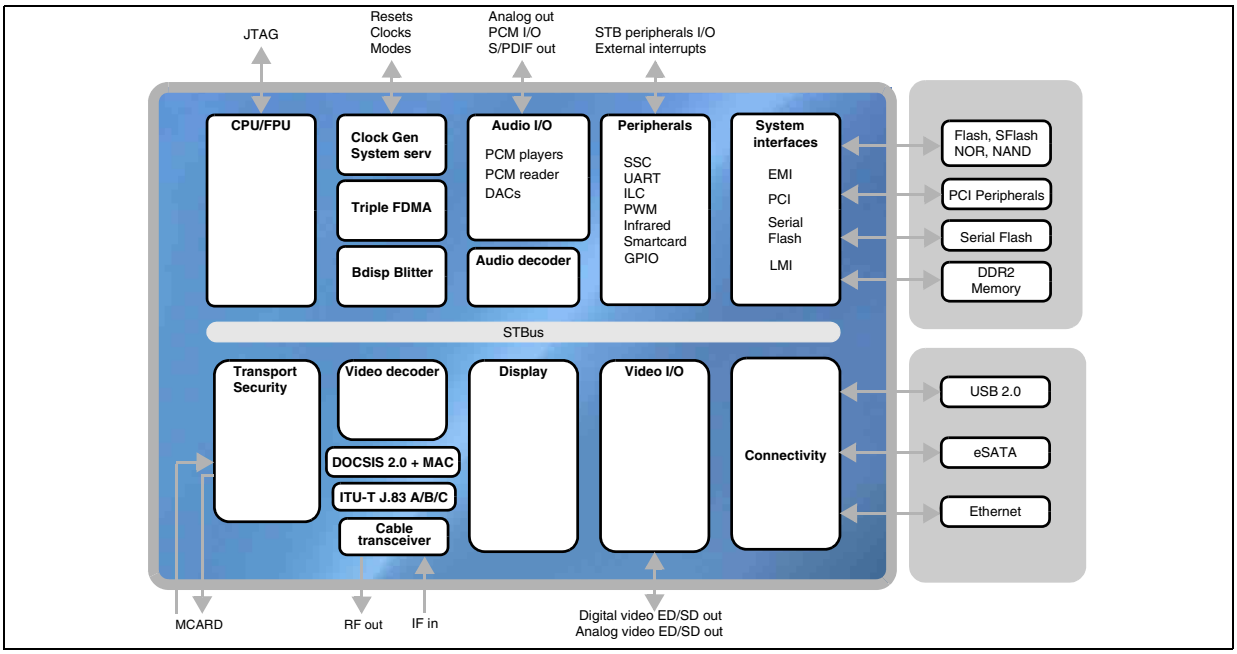
Data brief

Features

- DOCSIS/EuroDOCSIS 2.0 cable modem with support for DOCSIS 3.0 down-stream channel bonding
- Integrates three cable receiver/demodulators with 12-bit ADC IF interface and one cable transmitter with 14-bit DAC output
- Dual core architecture
- Linux® compatible
- Firmware-based multi-standard HD video decoder for:
  - H.264 / MPEG-4 AVC HP@L4
  - MPEG-2 MP@HL
  - SMPTE VC-1 AP@L3
- Firmware-based multi-standard audio processor for:
  - MPEG-1 I/II/III (MP3), MPEG-2 ACC (AAC-LC)
  - MPEG-4 HE AAC (aacPlus)
  - Dolby® Digital (AC-3), Dolby Digital Plus
- Firmware-based programmable transport stream (PTI) processor
- DVR support, and trick play modes
- Dual display HD and SD
- 2D Blitter graphics with video mosaic support
- Multi-level layered security
- Interfaces include USB, Ethernet, HDMI™, eSATA
- Single port 10/100 fast Ethernet transceiver

Description

The STiH225 is an interactive HDTV set-top box device, with an embedded DOCSIS cable modem capable of providing DOCSIS set-top gateway (DSG), interactive multimedia and internet access for the digital cable market. STiH225 device can be used as a mini gateway for the home network.



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1 Introduction

The STiH225 is a highly integrated system-on-chip (SoC) designed to meet the demanding need of the interactive cable set-top box market. The STiH225 integrates all the major system functions into a single device, and provides world leading, multi-layer, advanced security technologies to protect valuable video and audio assets.

Features	Benefits
Combines a cable transceiver and ITU-T J.83 A/B/C demodulator with STB decoding and display functions	This highly integrated SoC helps to reduce board area and manufacturing cost, allowing cost-effective and small-size STBs to be designed for ITU-J.83 A/B/C (DVB-C, SARFT, SCTE-40) networks
Integrates EuroDOCSIS/DOCSIS 2.0 cable modems with support for DOCSIS 3.0 down-stream channel bonding	The embedded EuroDOCSIS and DOCSIS cable modems are capable of providing DOCSIS set-top gateway, interactive multimedia and internet access for the digital cable market
Serial Flash-based secure boot and code storage; 35 mm x 35 mm x 2.30 mm PBGA package	Enables further BOM optimization and cost reduction of advanced decoding SD STBs
ST40 applications CPU, 32 K I cache, 32 K D cache	Superscalar performance from a single CPU core, using standard tools and operating systems (Linux)
STMicroelectronics' DELTA video decoding system with ST231 processor	Decoding of advanced standard definition MPEG2, H.264 and VC-1/WMV9 streams, with the performance and flexibility for web-based content decoding such as Flash, DivX, MJPEG, XviD and Real
Dual USB 2.0 hosts, dual Ethernet MAC with one PHY compatible with MII/RMII and GMII	Extensive high-speed connectivity for the widest range of STB peripherals, such as Flash drives, external HDDs, home network controllers (for example MoCA, Wi-Fi), memory cards
Advanced 2D graphics and display subsystem	Allows visually appealing user interfaces and video-rich navigation to be offered to consumers, while high-quality progressive output can be watched on the latest displays

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
14-Oct-2011	1	Initial release.
24-Oct-2011	2	Minor content changes.
11-Nov-2011	3	– Updated the reference to DVB-C to ITU-T J.83 A/B/C in the block diagram *on page 1* – Updated the reference to DVB-C to ITU-J.83 A/B/C (DVB-C, SARFT, SCTE-40) in the Features & Benefits table *on page 2*

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