STiH239

Dual HD satellite STB processor with integrated demodulators and low power standby controller

Data brief

Features

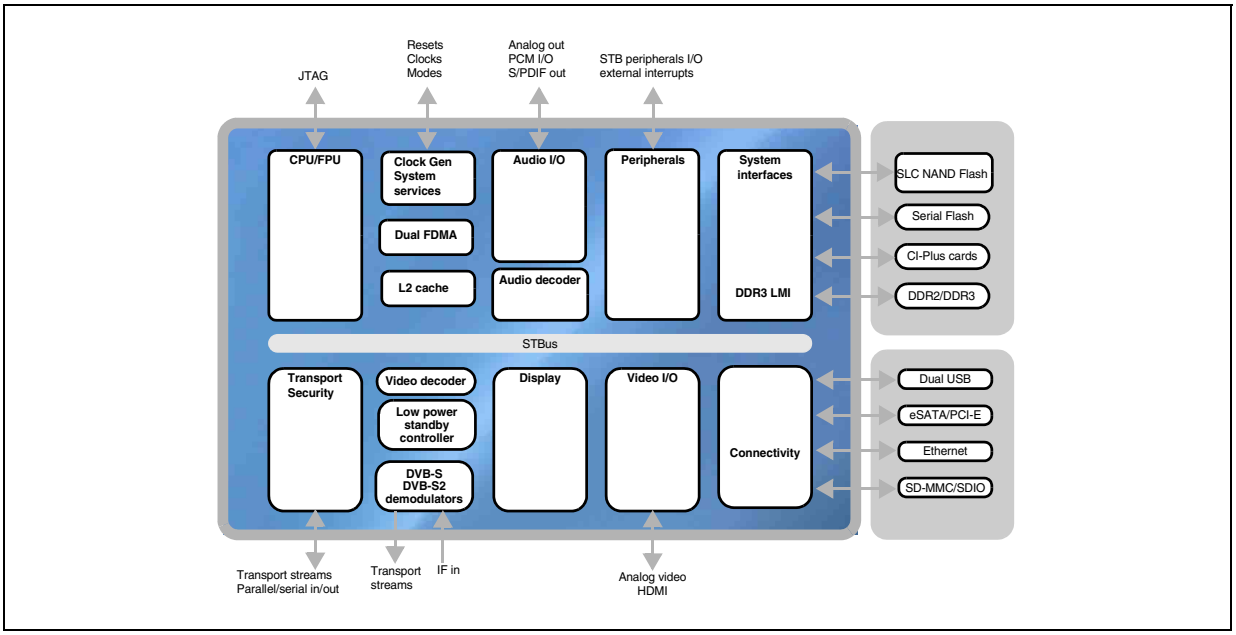
- ST40 applications CPU with 256 KB L2 cache
- 32-bit LMI supporting DDR2/DDR3
- Decoding of H264, MPEG2, VC-1 and AVS HD video streams
- Decoding of 1080p60 AVC, dual HD AVC and MVC SHP video streams
- 3DTV decoding and display compatible with HDMI 1.4a
- Extensive connectivity (2 × USB 2.0 ports; Ethernet MII/RMII/TMII port; SD/MMC card port; eSATA port; PCIe)
- Secure boot from SLC NAND Flash or Serial NOR Flash; eMMC booting option
- Low-power process and architecture
- Integrated low power standby controller
- High-quality video resizing and de-interlacing
- Integrated Ethernet PHY
- Integrates DVB-S/DVB-S2 dual stream demodulation and FEC

Description

The STiH239 uses the latest process technology to provide a cost-effective, feature rich, highly integrated SoC for set-top boxes (STBs). It is targeted at the advanced decoding STB market across satellite networks, and is suitable for operator markets (with advanced security) and retail markets worldwide.

The STiH239 provides a solution for operators and manufacturers to specify a range of cost-effective, high performance, interactive STBs, and DVR STBs, with content delivery possible using broadcast or broadband networks, or both (hybrid STBs).

The STiH239 integrates a high performance dual stream satellite receiver, supporting DVB compliant reception, channel demodulation, and forward error correction (FEC). The dual stream demodulators are compatible with DVB-S2 (QPSK/8PSK), DVB-S (QPSK) and legacy DirecTV™ transmission standards.



For further information contact your local STMicroelectronics sales office. www.st.com

1 Introduction

The STiH239 offers current users of ST's growing family of advanced decoding ICs enhancements in performance and features, enabling operators to offer consumers new multimedia-rich services and viewing experiences, including new 3DTV features. Faster DDR3 memory is also supported, and the applications CPU benefits from an L2 cache. The STiH239 keeps pace with the latest advanced security requirements of the main CA vendors, and an integrated standby controller enables the STiH239 to target stringent low power regulations.

Features	Benefits
ST40 applications CPU, with 32KI and 32KD L1 caches and 256K L2 cache.	High performance processing for applications and middleware.
Integrated low power standby controller within its own power island.	Secure hibernation to, and fast resume from, very low power passive standby mode, targeting STB standby power < 0.5 W.
Latest generation of ST's Delta video decoder, coupled with a High Quality Video Display Pipeline (HQVDP).	Decoding of advanced high definition standards (MPEG2, H264, VC-1, AVS) plus the performance and flexibility for web-based content decoding such as Flash®, DivX™, MJPEG and Real®, without impacting applications CPU performance.
Dual USB 2.0 hosts, eSATA, Ethernet MAC with MII/RMII/TMII interfaces, PCI-e, SD-MMC/SDIO interface.	Extensive high speed connectivity for the widest range of STB peripherals, such as Flash drives, external HDDs, Ethernet, home network controllers (such as MoCA®, Wi-Fi), DOCSIS® modem and memory cards.
Decoding of 1080p60 AVC, dual HD AVC and MVC SHP video streams.	Enables advanced high-definition viewing experiences including full resolution per eye 3DTV, full-HD 2D services and HD picture-in-picture support (HD-PIP).
NOCS1.0/1.1/1.2/3.0, NSK2.0 and DVB-CSA3 ready.	Fully compliant with the latest advanced security requirements of CA vendors.
Integrated dual stream DVB-S/DVB-S2 demodulation/FEC.	Highly integrated STB solution reducing component count and manufacturing BOM.
Ball compatible with other STiH2xx family variants.	Single platform versatility across all networks (satellite, cable, terrestrial, and IP).

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
28-Feb-2012	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST’s terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST’S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY TWO AUTHORIZED ST REPRESENTATIVES, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER’S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2012 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com