

## HD cable STB processor with integrated demodulator and low power standby controller

Data brief

### Features

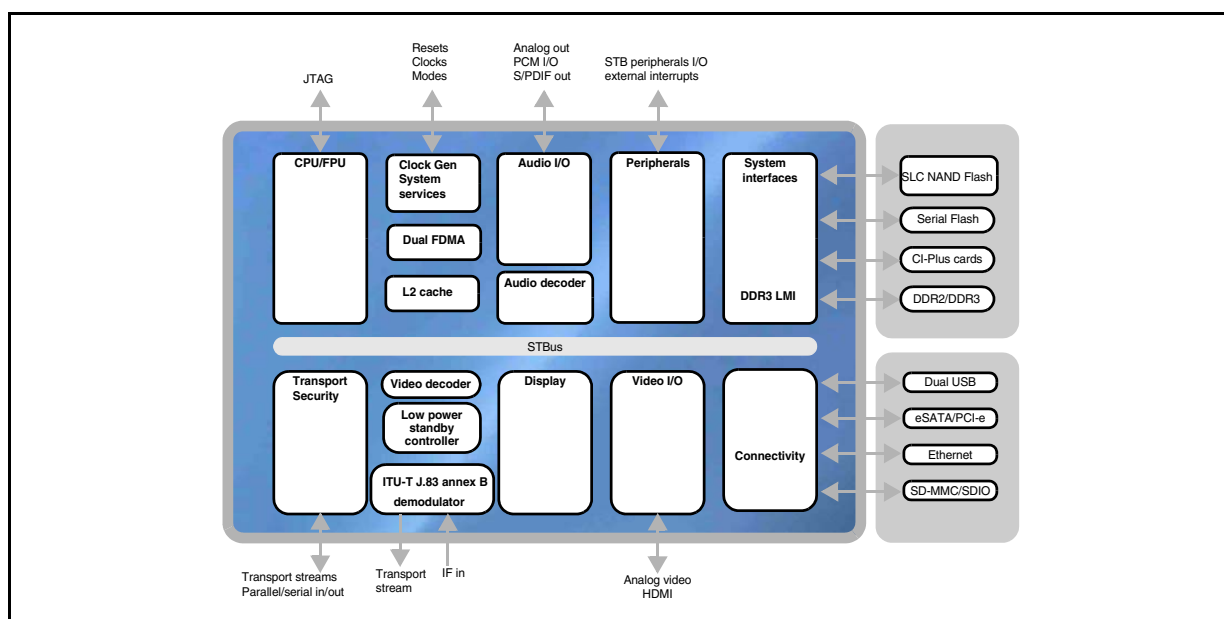
- ST40 applications CPU with 256 KB L2 cache
- 16-bit LMI supporting DDR2/DDR3
- Decoding of H264, MPEG2, VC-1 and AVS HD video streams
- 3DTV decoding and display compatible with HDMI 1.4a
- Extensive connectivity (2 × USB 2.0 ports; Ethernet MII/RMII/TMII port; SD/MMC card port; eSATA port; PCI-e)
- 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
- Targets two layer PCBs for cost-effective zapper STB applications
- Integrates ITU-T J.83 annex B demodulation and FEC

### Description

The STiH223 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 American and Asian cable networks that utilize the ITU-T J.83 annex B physical layer. It is suitable both for operator (with advanced security) and retail markets.

The STiH223 provides a solution for operators and manufacturers to specify a range of cost-effective, high performance STBs, including basic zappers, interactive STBs, and DVR STBs with content delivery possible using broadcast or broadband networks or both (hybrid STBs).

The STiH223 integrates a high performance cable receiver, supporting reception, channel demodulation, and forward error correction (FEC) and is fully compliant with the ITU-T J.83 annex B standard.



# 1 Introduction

The STiH223 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 STiH223 keeps pace with the latest advanced security requirements of the main CA vendors, and an integrated standby controller enables the STiH223 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 <sup>®</sup> , DivX <sup>™</sup> , MJPEG and Real <sup>®</sup> , 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 <sup>®</sup> , Wi-Fi), DOCSIS <sup>®</sup> modem and memory cards.
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 ITU-T J.83 annex B 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, IP).

## 2 Revision history

**Table 1. Document revision history**

Date	Revision	Changes
14-Mar-2012	1	Initial release

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