STiD128

DOCSIS 3.0 and video front-end for gateway set-top box and cable modem

Data brief

Features

- Dual CPU architecture - one for DOCSIS® and one for host including eRouting and VoIP management
- ARM Cortex-A9 770 MHz, dual-core CPU with NEON™ SIMD co-processor
- DOCSIS 3.0 data cable modem:
  - Up to 16 downstream channels (up to 800 Mbit/s)
  - Up to 4 upstream channels
- Up to 8 video QAM demodulation channels
- Video QAM operations independent from DOCSIS
- Digital direct interface to full band tuners
- VoIP through ARM Cortex-A9 CPU:
  - Up to 2 lines VoIP with PacketCable™ 1.5 or 2.0 reference software
- USB 2.0 host interface
- 2 x PCIe interfaces for WiFi connectivity
- DDR2/3, 8/16-bit LMI interface
- Serial NOR, SPI interface
- 3 x Gbit Ethernet ports
- Flexible channel allocation for active standby power consumption reduction

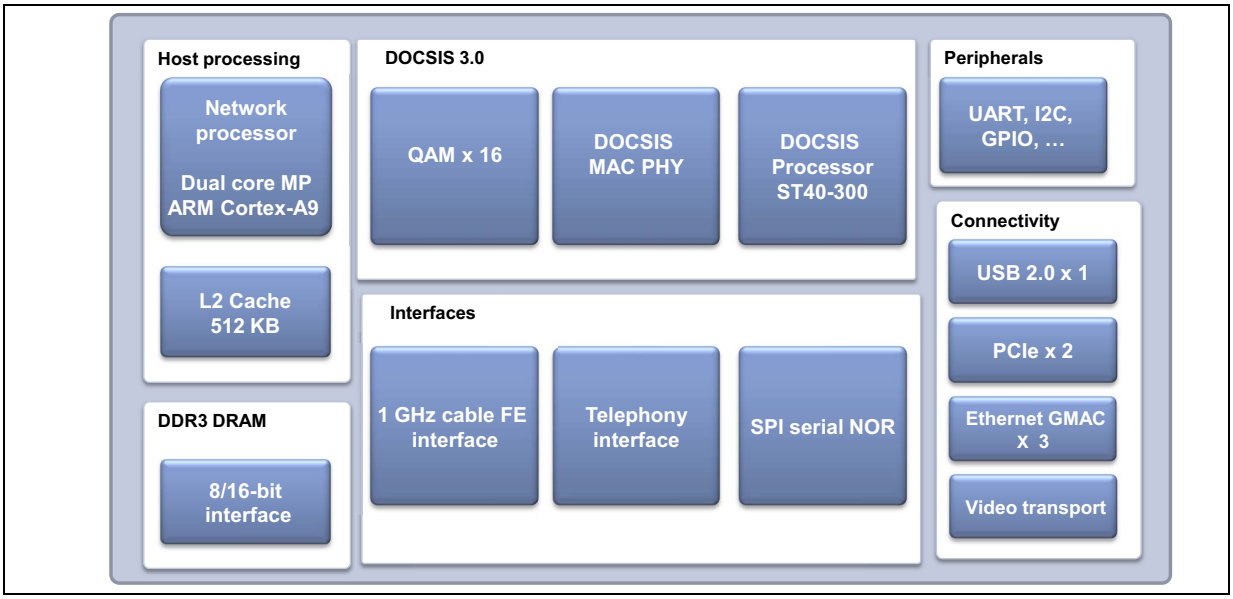
Description

STiD128 is STMicroelectronics' next generation front-end device for interactive cable gateway and set-top box applications. STiD128 can also be used standalone for cable modem application.

STiD128 provides a solution for operators to specify a range of very high-performance DOCSIS 3.0 STB, multimedia gateway or cable modem platforms.

A total of 16 demodulation channels can be used for DOCSIS out of which 8 channels can be used as video channels. Allocation of the channels is flexible.

A powerful dual core CPU allows telephony and data distribution including routing/switching and firewalling.



1 Introduction

The STiD128 DOCSIS 3.0 cable modem integrates multi-stream transport processing, real-time CPU, eRouter/switch, embedded cable modem, embedded digital voice adaptor, VoIP, USB 2.0 host, three GMAC interfaces and two PCIe interfaces.

Features	Benefits
Dual-core, ARM Cortex-A9, 770 MHz applications CPU with 512 KB L2 cache.	Enables high performance networking and VoIP.
16 QAM channels for DOCSIS.	With 16-channels capability, STiD128 can provide a future proof solution for next generation gateway devices.
Telephony, VoIP with PacketCable™ 1.5 and 2.0 complete stack.	STiD128 enables a complete, cost-effective telephony solution, with external components reduced down to a standard Slic Codec. A direct interface to an RF DECT or CAT-iq™ device is available to allow the integration of the DECT functionality with the packet cable or set-top box stack.
eRouter and firewall for data distribution through Gbit Ethernet MAC or PCIe interface.	STiD128 manages the broadband data distribution within the home. The Gigabit Ethernet interfaces allow connection to a switch or PHY, or to home networking technology devices such as MoCA®, HomePlug or HPNA. The PCIe interfaces permit efficient data transfer through WiFi devices.
Video over DOCSIS extraction and MPEG transport stream transmissions to backend device.	STiD128 provides high-bit-rate data and live TV video demodulation. With the capability to extract and merge video over IP with live video, STiD128 is the perfect solution to bridge conventional video distribution to a full IP solution.

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
29-Aug-2012	1.0	Initial release.
07-Nov-2012	2.0	– Updated the document for number of Ethernet ports. – Updated the cover page diagram. – Added the last feature and benefit in *Chapter 1*. – Updated the introductory text in *Chapter 1*. – Updated the description on cover page for transport streams.
17-Dec-2012	3.0	– Updated the cover page. – Changed the title.

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