

Docsis 3.0 and video front-end for interactive DVR set-top box

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 eight downstream channels (up to 400 Mbit/s)
 - Up to four upstream channels
- 12 QAM demodulation channels
 - QAM video operations independent from DOCSIS
- Digital direct interface to full band tuners
- VoIP through ARM Cortex-A9 CPU:
 - One line VoIP with PacketCable™ 1.5 or 2.0 reference software
- 2 x PCI-e interfaces for WiFi connectivity
- DDR2/3, 8/16-bit LMI interface

- Serial NOR, SPI interface
- 3 x Gbits Ethernet ports
- Flexible channel allocation for active standby power consumption reduction

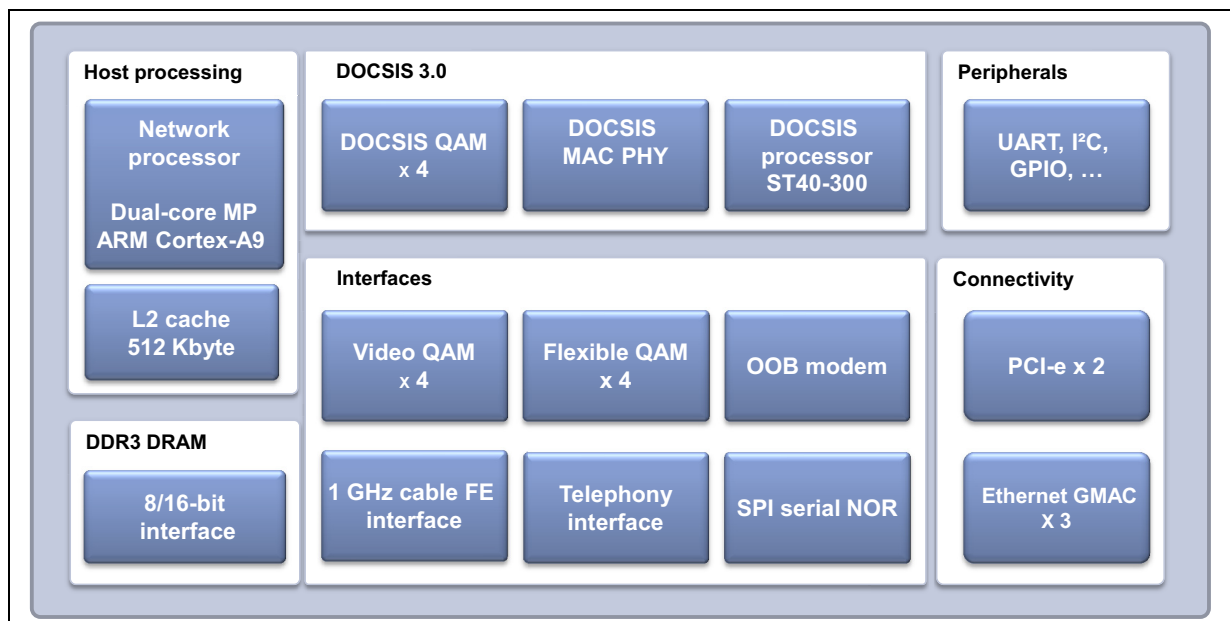
Description

STiD125 is STMicroelectronics' next generation front-end device for interactive cable gateway and set-top box applications.

STiD125 provides a solution for operators to specify a range of very high-performance DOCSIS 3.0 and DVB-C video channels.

A total of 12 demodulation channels are available, four video, four DOCSIS and four flexible (either video or DOCSIS).

A powerful dual-core CPU allows telephony and data distribution including routing/switching and firewalling. This allows STiD125 to use the associated set-top box as a home, triple-play gateway (combined VoIP, video and broadband).



1 Introduction

The STiD125 DOCSIS 3.0 media gateway integrates multi-stream transport processing, real-time CPU, eRouter/switch, embedded cable modem, embedded digital voice adaptor, VoIP, three GMAC interfaces and two PCI-e interfaces.

Features	Benefits
Dual-core, ARM Cortex-A9, 770 MHz applications CPU with 512 Kbyte L2 cache.	Enables high performance networking and VoIP.
DOCSIS 3.0, MAC and PHY for up to 400 Mbit/s high bandwidth downstream capability.	Front-end solution to enable a complete triple play set-top box or gateway.
Video over DOCSIS extraction and MPEG transport stream transmissions to backend device.	STiD125 provides high bit rate data, a complete telephony subsystem and live TV video demodulation. With the capability to extract and merge video over IP with live video, STiD125 is the perfect solution to bridge conventional video distribution to a full IP solution.
12 QAM channels (four DOCSIS, four flexible and four video).	With 12-channels capability, STiD125 can provide an optimized solution for next generation gateway devices, allowing video distribution to several clients inside the home.
Telephony, VoIP with PacketCable™ 1.5 and 2.0 complete stack.	STiD125 enables a complete, cost-effective telephony solution, with external components reduced down to a standard Sllic 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 PCI-e interfaces.	STiD125 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 PCI-e interfaces permit efficient data transfer through WiFi devices.

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
28-Aug-2012	1	Initial version.
10-Apr-2013	2	– Updated cover page description. – Updated features list, cover page diagram for Ethernet. – Updated Chapter 1: Introduction for Ethernet.
07-May-2013	3	Updated the document for number of PCI-e interfaces.

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