

DVB-S and DIRECTV™ QPSK receiver with autoscan feature

DATA BRIEF

DESCRIPTION

STMicroelectronics introduces the STV0288, its latest DVB and DIRECTV™ QPSK digital receiver, which adds blind scan capability and DiSEqC 2.0 to the industry-leading STV0299 and provides a cost reduction path or new products.

The STV0288 contains two 8-bit analog-to-digital converters for I-input and Q-input, a QPSK demodulator, and a forward error correction (FEC) unit having both an inner (Viterbi) and an outer (Reed-Solomon) decoder. The device accepts baseband differential signals as I and Q inputs.

High-performance clock generation is made from an external reference which can vary from 4 to 30 MHz with respect to the analog to digital conversion which is performed by two 8-bit ADC. The FEC unit is compliant with the DIRECTV™ and DSS specifications. Processing is fully digital and an on-chip performant state-machine enables blind search of satellite transponders without a-priori knowledge of symbol rate. Thanks to this new feature, the amount of software required for the driver to operate the demodulator chip is drastically reduced versus the previous generation.

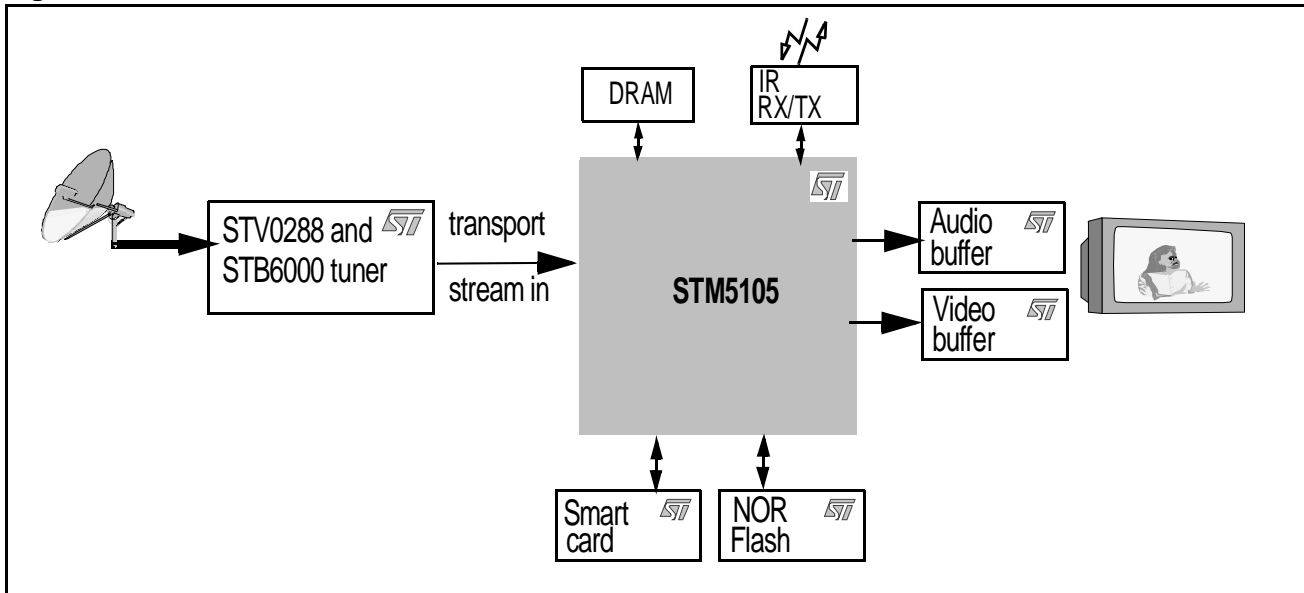
The high sampling rate facilitates the implementation of low-cost, direct conversion tuners. The STV0288 is controlled via an I²C interface.

The device operates up to 120 MHz and can process variable modulation rates, up to 60 Msps. The chip outputs MPEG transport streams and interfaces seamlessly to the packet demultiplexers embedded in the ST Omega chip family. Its low power consumption, small package and low bill of material makes it perfect for all satellite applications.

Figure 1. Package (TQFP64 with non exposed pas)



Figure 2. STV0288



FEATURES

- n DVB-S / DIRECTV™ system
- n Ultra fast channel blind acquisition for satellite band scanning
- n Up to 60 Mps operation
- n DVB common interface compliant transport stream (12 bit)
- n I²C serial bus interface, including private repeater
- n DiSEqC™ 2.0 22 kHz to 100 kHz interface
- n Flexible GPIOs and interrupts
- n Monitoring through I²C serial interface
- n 90 nm CMOS process
- n Multi supply: 1.0 V core, 2.5 V analog, 3.3 V interfaces
- n Power saving features
- n 1V0 DC regulator integrated
- n TQFP 64 package with no exposed paddle.

PART NUMBERING

Table 1. Order Codes

Part Number	Description
STV0288	Silicon receiver
STV0288-NIM	Evaluation board

REVISION HISTORY**Table 2. Revision history**

Date	Revision	Description of changes
July-2005	1	First issue

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