

STV0900

Multistandard advanced dual demodulator for Satellite Digital TV and Data services set-top boxes

Data Brief

Description

The STV0900 features a high speed DVB-S2 Forward Error Corrector (FEC) which is designed to handle up to 180 Mega Channel bits per second at its input. To feed the FEC the STV0900 implements two identical demodulators, each capable of handling QPSK legacy, DVBS2 constant coding and modulation for satellite broadcast and Advanced Coding and Modulation for interactive services. The STV0900 supports mode switching on a frame basis without synchronization or data loss.

Features

- Demodulation
 - RF interfaces
 - Each demodultor can handle:
 - DIRECTYTM and DVBS QPSK
 - DVBS2 QPSK, 8PSK and 16APSK
 - Digital Nyquist root filter
 - With 0.20, 0.25, 0.35 excess bandwidth factors.
 - DVBS or DIRECTVTM
 - DVBS2 broadcasting (CCM)
 - DVBS2 adaptative (ACM)
- Dual decoding
 - Up to 180 Mega DVBS2 channel bits per second (Mcbps) at input to FEC
 - Up to 130 Mcbps DVBS or DIRECTVTM legacy per FEC
 - Legacy DVB-S
 - DVB-S2
- Transport stream management
 - Dual data to MPEG decoder
 - Single ACM data to microprocessor
 - DVB-S2 framing

Interfaces

- Dedicated 27 MHz clock generation for back-end decoder
- I²C serial bus interface
- JTAG interface boundary scan
- 2 DiSEqCTM 2.x interfaces
- GPIOs and interrupt lines
- Monitoring through I²C serial interface

■ Technology

- 90 nm CMOS process
- Multi supply: 1.0 V core, 2.5 V analog, 3.3 V digital interfaces
- Power saving features

■ Package

- Exposed PAD LQFP 128 14x14, 0.4 pitch
- 4 layer PCB recommended.

1 Application block diagrams

DiSEqC 2.0 STV0900 diseqc1_0 diseqc1_i STB6100 STi710X [sdat1, sclt1] [sda,scl] agc_rf1 [d1<0>, [lm1,lp1] clkout1, strout1, d/p1, [Qm1,Qp1] error1] xtal_i clkout_27 STB6100 [sdat2, sclt2] agc_rf2 [d2<0>, [lm2,lp2] clkout2, strout2, [Qm2,Qp2] d/p2, error2 diseqc2_o diseqc2_i

Figure 1. STV0900 dual broadcast application block diagram

Possible broadcast configurations are:

- dual DVBS or dual DIRECTVTM legacy decoding with dual TS output,
- dual DVBS2 decoding with dual TS output,
- DVBS or DIRECTVTM legacy and DVBS2 decoding with dual TS output.

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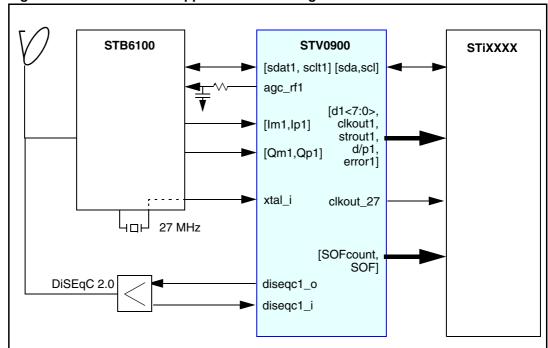


Figure 2. STV0900 ACM application block diagram

Possible configurations can be:

- single DVBS2 ACM decoding,
- single DVBS2 ACM with single DVBS or DIRECTVTM legacy (2nd tuner not shown).

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Revision history STV0900

2 Revision history

Table 1. Document revision history

Date	Revision	Description
21-Dec-2006	1	Initial release.

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