

## Multi-standard advanced dual demodulator for satellite digital TV broadcast set-top boxes

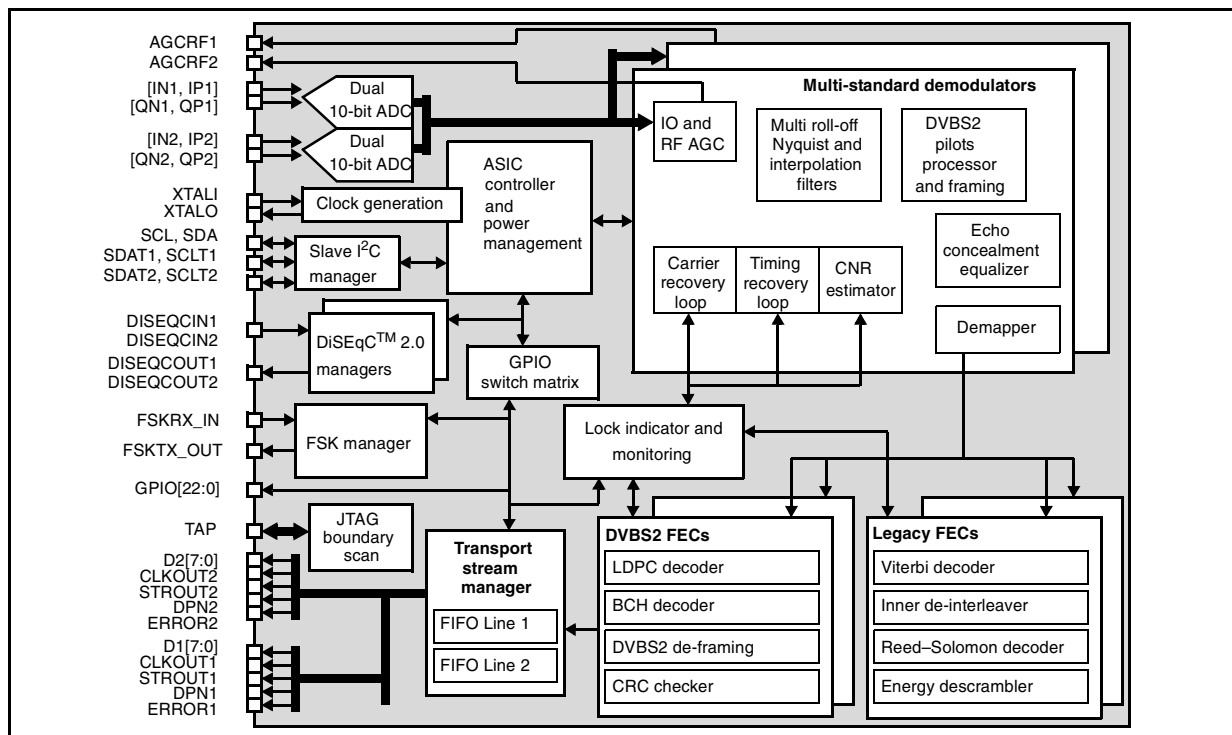
Data brief

### Features

- Dual multi-standard demodulation for broadcast applications
  - DVBS2 QPSK, 8PSK, CCM, VCM
  - Legacy DVBS and DirecTV™ QPSK with SuperFEC™ for enhanced reception
  - Multi-tap equalizer for RF reflection removal
  - Wide range carrier frequency tracking loop for offset recovery
- Advanced version for DVBS2 16APSK, 32APSK, low QPSK code rates and ACM
- Dual multi-standard decoding
  - DVBS2 FEC and framing
  - Up to 270 Mbit/s channel bit rate
  - DVBS or DirecTV™ legacy
- Interfaces
  - Dual data to MPEG decoder
- DVB common interface compliant
- I<sup>2</sup>C serial bus interface, including two private repeaters for tuners
- JTAG interface for boundary scan
- 2 DiSEqC 2.x 22-kHz interfaces
- FSK interface
- Flexible GPIOs and interrupts
- Bit error rate monitoring and reporting
- Technology
  - Multi supply: 1.1-V core, 2.5-V analog, 3.3-V digital interfaces
  - Fine-grained power management
  - LFBGA-168 12x12 mm<sup>2</sup> package, RoHS

### Description

The STV0910 is a cost effective, high-performance dual demodulator/decoder for advanced DVB satellite reception.



## Overview

The STV0910 features a high-speed DVBS2 forward error corrector (FEC) which is designed to handle up to 270 channel-Mbits/s at its input. To feed the FEC the STV0910 implements two identical demodulators, each capable of handling QPSK legacy and DVBS2 modulation for satellite broadcast services.

The STV0910 integrates all the features needed to provide a low cost dual broadcast satellite receiver solution including: integrated crystal oscillator, dual DiSEqC controller, dual tuner I<sup>2</sup>C repeater, FSK modem, ancillary DACs and ADCs and many unattributed general purpose input output ports for peripheral control.

Advanced power saving features have been implemented, the LDPC stops once the solution is sufficiently converged and the various blocks of the IC (demodulator, LDPC, Legacy FEC, and so on) may be completely shut down if not required.

Features copied from 0913	Benefits
Multi-standard dual demodulation and decoding.	Allows an advanced, high-end set-top box or receiver to be compatible with multiple markets and legacy installations and so assists migration to the advanced services.
SuperFEC™	For enhanced legacy QPSK performance.
Multi-tap equalizer.	Improves reception in poor RF group-delay and reflection conditions (narrow transponders, SMATV installations, poor connectors, unterminated branched cables).
DVB common interface compliant.	Allows interface to DVB-CI+ module for decoding encrypted content.
I <sup>2</sup> C serial bus interface, including private repeater for tuner.	Private repeater isolates the (sensitive) RF tuner from potential digital noise from the host processor.
Fine-grained power management.	Allows power to be reduced according to usage and standby strategy.
Best-in-class, low-power standby mode.	To meet emerging energy standards for STBs.
Integrated DiSEqC 2.x 22-kHz and FSK interfaces.	Reduces BoM cost whilst maintaining flexibility in antenna control.
JTAG interface for boundary scan.	Allows simple and thorough board testing in production.

## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
12-Dec-2012	1	Initial release.

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