



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

Data Brief

### Description

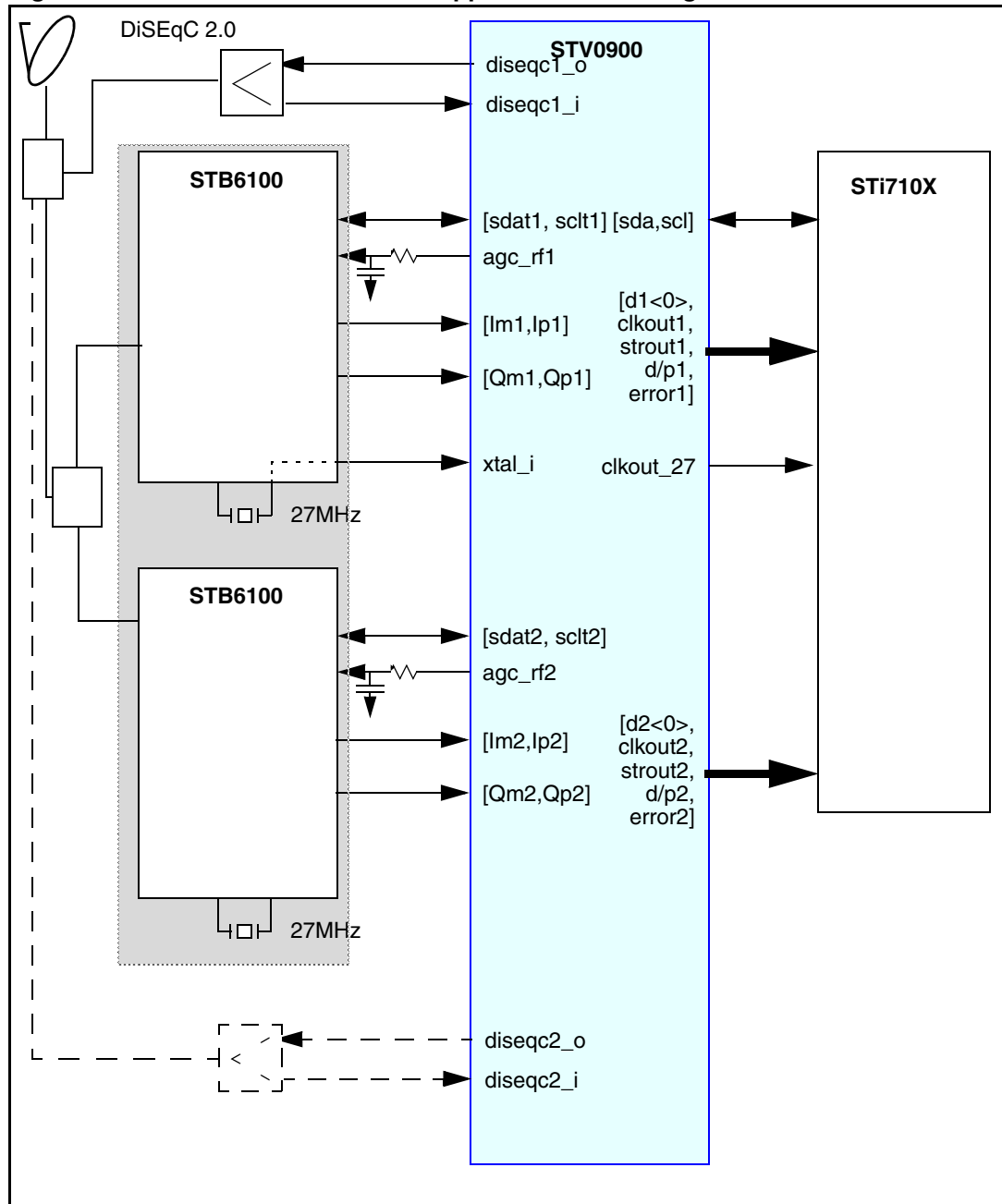
The STV0900 features a high speed DVB-S2 Forward Error Corrector (FEC) which is designed to handle up to 180 Mega Channel bits per second at its input. To feed the FEC the STV0900 implements two identical demodulators, each capable of handling QPSK legacy, DVBS2 constant coding and modulation for satellite 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 demodulator can handle:
    - DIRECTV™ and DVBS QPSK
    - DVBS2 QPSK, 8PSK and 16APSK
    - Digital Nyquist root filter
    - With 0.20, 0.25, 0.35 excess bandwidth factors.
  - DVBS or DIRECTV™
  - 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 DIRECTV™ 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
  - I<sup>2</sup>C serial bus interface
  - JTAG interface - boundary scan
  - 2 DiSEqC™ 2.x interfaces
  - GPIOs and interrupt lines
  - Monitoring through I<sup>2</sup>C 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

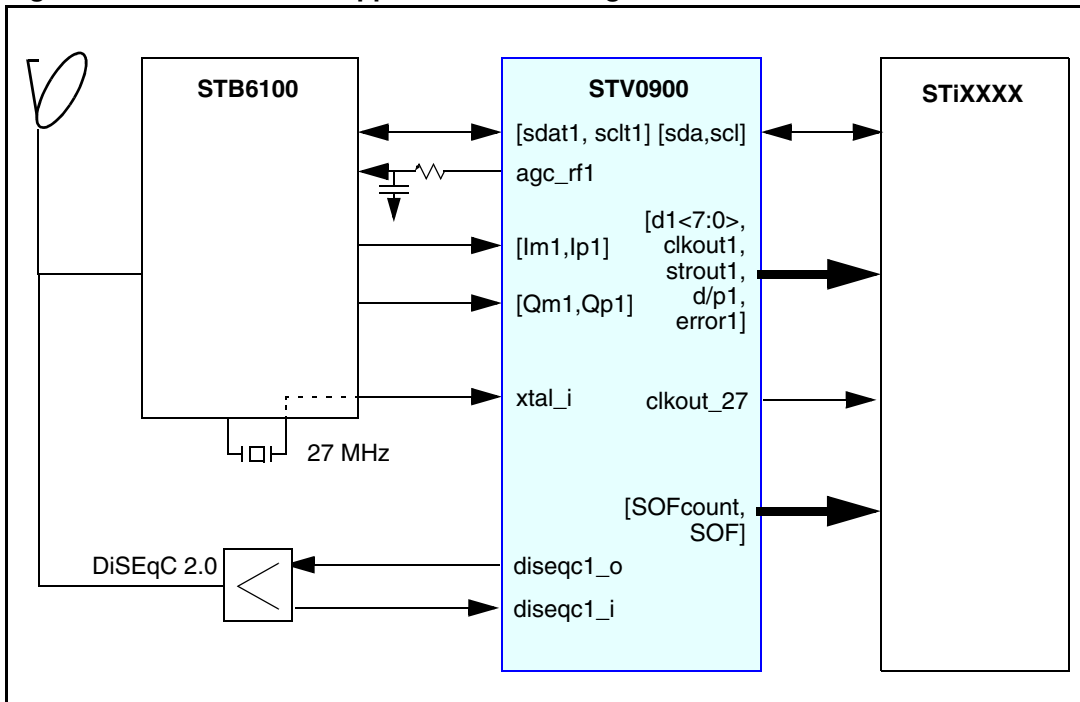
Figure 1. STV0900 dual broadcast application block diagram



Possible broadcast configurations are:

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

Figure 2. STV0900 ACM application block diagram



Possible configurations can be:

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

## 2 Revision history

Table 1. Document revision history

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

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