

## 8PSK/QPSK low-power 3.3 V satellite tuner IC

Data Brief

### Features

- RF to baseband 8PSK/QPSK direct conversion
- Single 3.3 V DC supply
- Input frequency range 950 MHz to 2150 MHz
- Supports 1 to 45 Msymbol/s
- On-chip RF loop-through
- Fully integrated PLL frequency synthesizer for DVB-S2 (including loop filter)
- Extremely low phase noise compliant with DVB-S2 requirements
- Low external component count
- Low power consumption
- Flexible crystal frequency output to drive the demodulator IC
- Continuously variable gain: 0 to 65 dB
- Additional and programmable gain on baseband amplifier: 0 to 16 dB
- Programmable 5- to 36-MHz cut-off frequency (butterworth 5th-order baseband filters)
- Compatible with 5-V and 3.3 V I<sup>2</sup>C bus

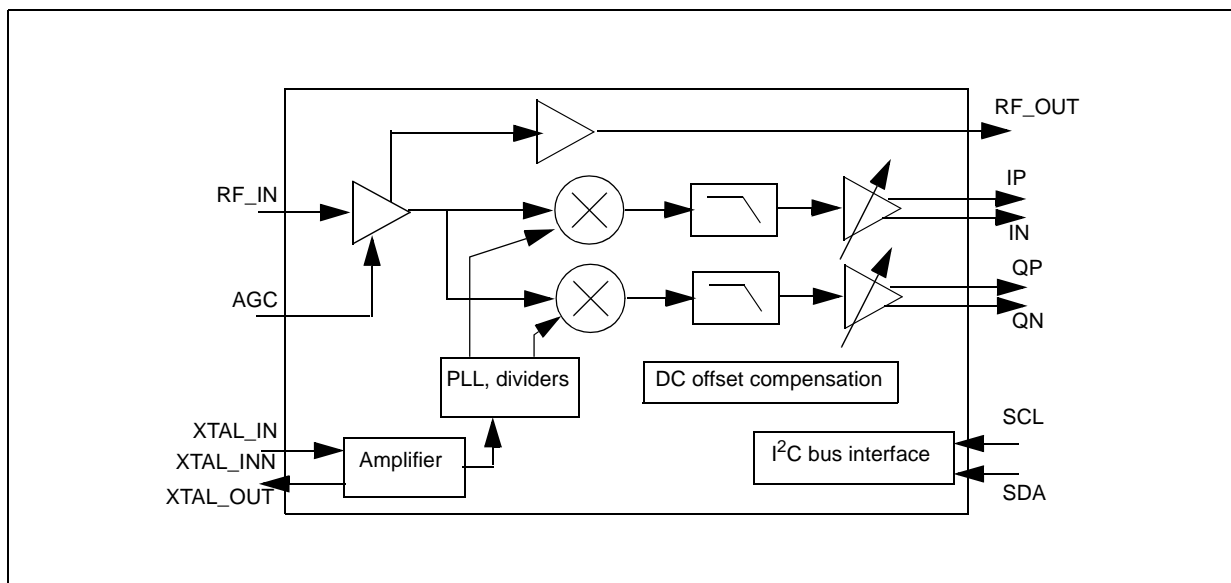
### Description

The STV6110A satellite tuner is a direct-conversion (zero IF) receiver dedicated to digital TV broadcasting.

On the RF input is a low noise amplifier (LNA), with buffer to supply the RF output for loop-through, and a continuously variable gain LNA to ensure an optimal signal level for the two mixers. Each mixer, which down-converts the signal to baseband, is followed by a low-pass filter and amplifier. The baseband gain can be varied by programming a register via the I<sup>2</sup>C bus.

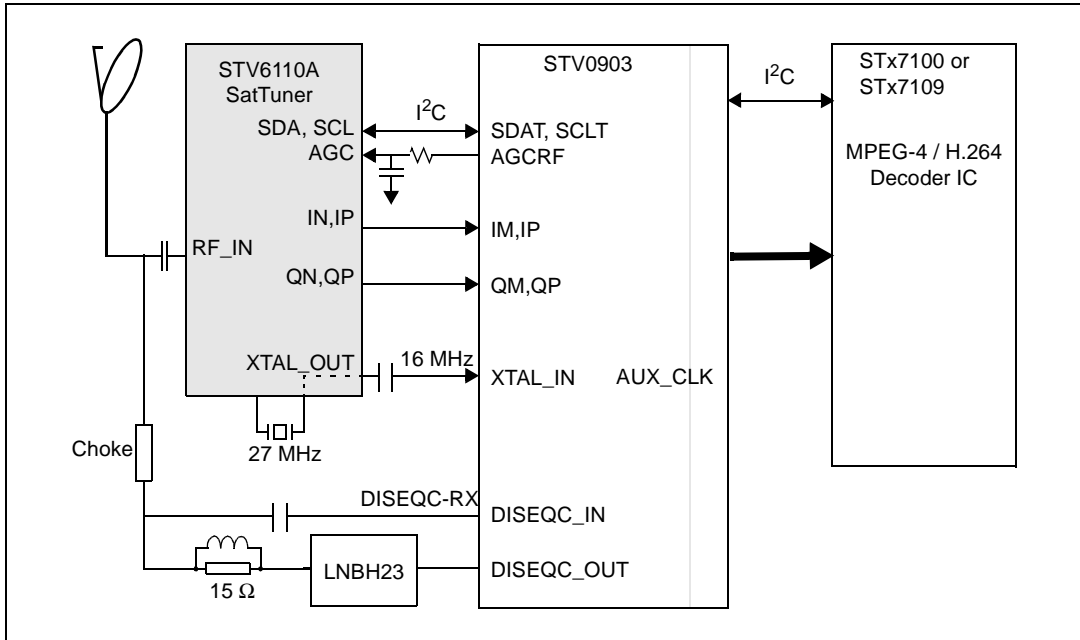
The LO signals are provided by an integrated PLL which contains an on-chip voltage controlled oscillator (VCO) meeting stringent phase noise requirements. The PLL loop filter is integrated. The LO frequencies are programmable.

The comparison frequency for the phase-frequency detector (PFD) is generated by dividing the crystal oscillator reference frequency. The crystal frequency can be from 16 MHz to 32 MHz depending on application.



# 1 Application

Figure 1. Application diagram for DVB-S2 front-end system



## 2 Ordering information

Table 1. Ordering information

Order code	Packaging
STV6110A	QFN32 5 x 5 mm

### 3 Revision history

**Table 2. Document revision history**

Date	Revision	Changes
21-Aug-2008	1	Initial release.

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