

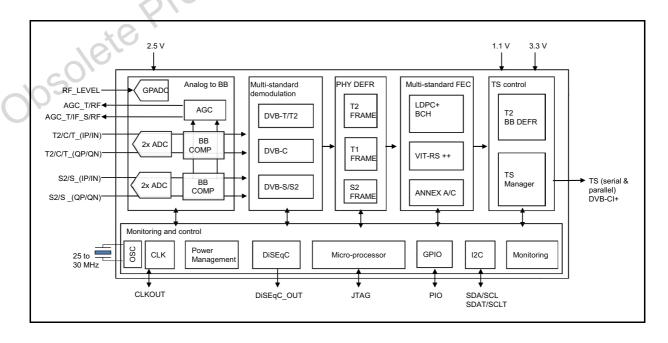
Low-power combo DVB-T/T2/C/S/S2 single-chip receiver

Data brief

Features

- DVB-T2 demodulation:
 - Compliant with ETSI EN302755
 - DTG v7 and Nordig Unified v2.3 compliant
 - 1.7, 5, 6, 7 and 8 MHz normal and extended BW signals supported
 - GS streams, FEF and MISO supported
 - TFS not supported
- DVB-T demodulation:
 - Compliant with ETSI EN300744
 - DTG v7 and Nordig Unified v2.3 compliant
 - 6, 7 and 8 MHz BW supported
- DVB-C demodulation:
 - Compliant with ETSI EN300429
 - Nordig Unified 2.3 and SARFT compliant
 - Up to 7.2 Ms/s symbol rate
- DVB-S and S2 demodulation:
 - Compliant with ETSI EN300421 and EN302307
 - Symbol rates from 1 to 45 Ms/s.

- Enhanced FEC for DVB-S and DirecTV legacy transmissions
- DVB-T/T2 and DVB-C compatible with zero-, low- and legacy-IF tuners (can or silicon)
- DVB-S/S2 compatible with zero-IF tuners (can or silicon)
- Embedded microcontroller (DVB-T2 task sequencing by firmware and monitoring)
- ADC for RF signal strength indicator
- Flexible clock management for advanced power saving
- JTAG and I²C serial bus interfaces
- Advanced low-power CMOS process (40 nm)
- 3.3-V, 2.5-V and 1.1-V power supplies with internal SMPS for 1.1-V generation
- Typical power consumption 800mW (UK profile DVB-T2 mode)
- TQFP80 10x10x1 mm³ package with EPD



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Description STV0368

Description

The STV0368 is a single-chip DVB-T, T2, C, S and S2 demodulator.

Operation is exclusive in that only one signal (standard) can be processed at any time.

The DVB-T2 demodulator features microcontroller assisted operation enabling the fast tracking and response times demanded by the T2 standard. For the T, C, S and S2 standards, where the demands for immediate response are much lower, classical software control from the host processor has been implemented. Even though the silicon implementation is highly optimized, allowing each standard to share common hardware blocks, effort has been made to maintain a common look and feel with the ST established product line. This allows users who are familiar with the ST products STV0367, STV0297E and STV0913 to familiarize themselves quickly and eventually optimize the drivers as necessary. Optimization of the T2 microcode requires additional compilers which are, for the moment, supported exclusively by ST.

The DVB T, T2 and C demodulators share a common input which may be operated in ZIF mode or in IF mode. Silicon as well as traditional CAN tuners are supported through a flexible IF/baseband interface with IF/BB AGC and I²C control

A separate input is implemented for the DVB-S and S2 demodulators. The ST single-channel tuner range is fully supported. Furthermore, the flexible ZIF IQ inputs, RF AGC and $\rm I^2C$ allow the use of third-party tuner solutions when required.

	Features	Benefits
	Combines a configurable DVB-T2/T/C/S/S2 demodulator.	Helps to reduce board area and manufacturing cost, allowing low-cost and small-size STBs to be designed for DVB-C, DVB-T and DVB-S networks.
	AGC derived from IF.	Flexible AGC for different signal environments.
50/8	Low-power process, design and architecture.	Best-in-class, low-power standby mode to meet emerging energy standards for STBs.
	ate.	Clock-rate management and improvements in channel acquisition efficiency enable a power-efficient standby mode.
Opse	Includes full suite of low-level drivers and application software, detailed user manuals and reference design schematics.	Enables fast and seamless integration in complex digital TV systems such as iDTV, set-top boxes or PCTV dongles.
	Wide-range carrier tracking loop for large offsets recovery.	Optimizes adjacent channel interference performance.
	Out-of-guard interval echoes compatible.	Robust channel acquisition.
	High-performance digital carrier, timing and symbol recovery loops.	Allows the customer to use standard crystal oscillators.
	Integrated DiSEqC, crystal oscillator	Low count BOM

STV0368 Description

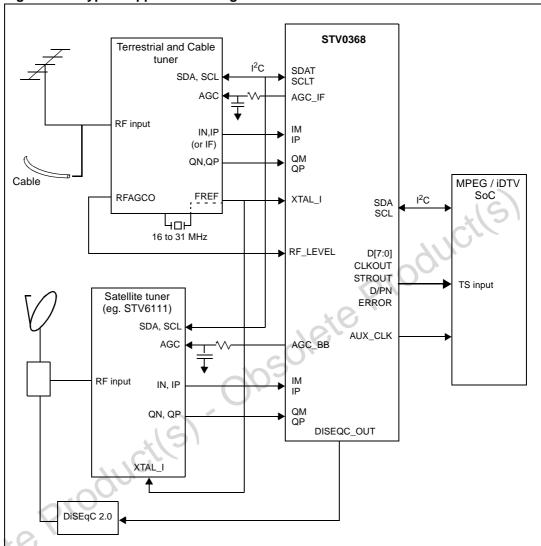


Figure 1. Typical applications diagram for DVB-S2/T2/C

Ordering information STV0368

Ordering information

Table 1. Device summary

Order code	Temp range, °C	Package	Packing
STV0368B	0 - 70 °C	TQFP80 EPD	Tray
STV0368BT	0 - 70 °C	TQFP80 EPD	Tape and reel

Revision history

Table 2. Document revision history

	Date	Revision		Changes
	02-Aug-2012	1	Initial release.	Pio
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