



DTTi5516

Single module demodulator and decoder IC for digital video set-top boxes

DATA BRIEF

Description

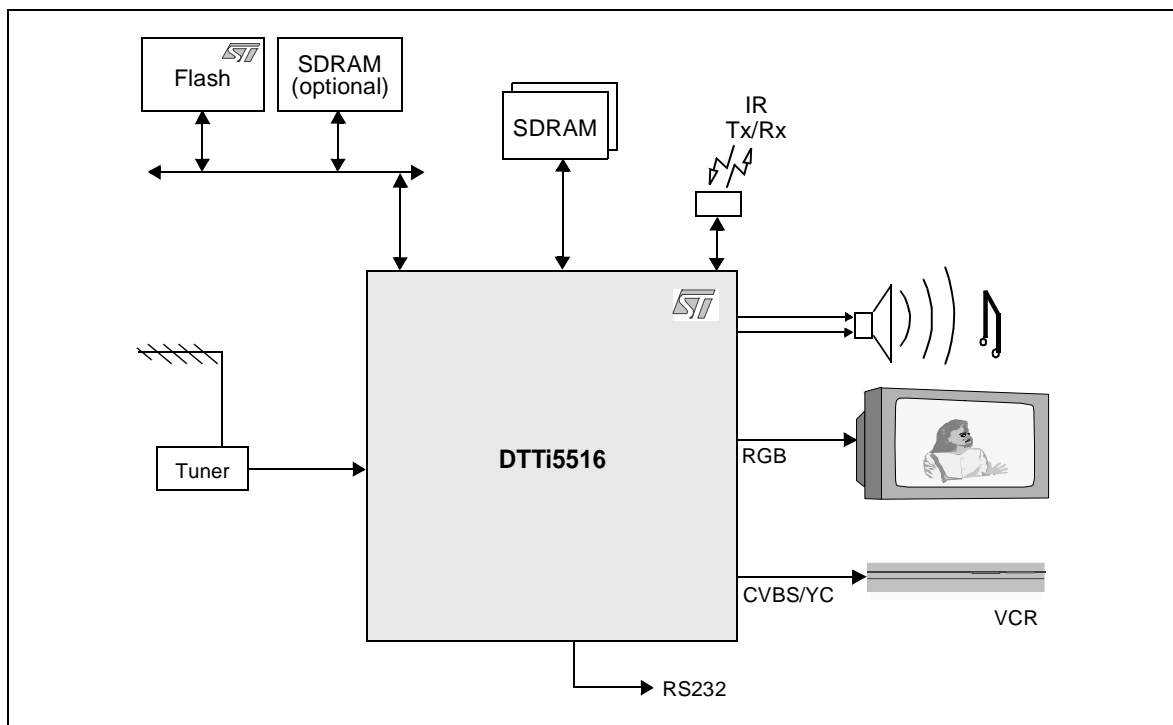
The DTTi5516 is an integrated demodulator/decoder solution for digital terrestrial receivers for compressed video, sound and data services. A COFDM (coded orthogonal frequency division multiplex) demodulator performs IF to MPEG-2 block processing of OFDM carriers. The demodulated stream is then processed by video and audio decoders using standard Omega technology.

The DTTi5516 provides a cost-effective solution for a digital video set-top boxes using a 2-layer PCBs and single device. It also has lower power requirements than separate demodulator and decoder ICs.

The DTTi5516 contains all of the most commonly used descramblers, and thus allows a single platform to be developed to cover the entire mainstream set-top box market.



Integrated demodulator/decoder solution for digital terrestrial set-top box and TV receivers



Features

- **Enhanced ST20 32-bit VL-RISC CPU**
 - 180 MHz, 8 Kbyte instruction cache, 8 Kbyte data cache and 8 Kbyte SRAM
- **Memory interfaces**
 - 121 MHz shared memory interface, 16-bit wide SDRAM interface, 64 and 128 Mbit support
 - SRAM, SDRAM, SFlash support
- **Programmable transport interfaces (PTI)**
 - Integrated DES-ECB, DVB and ICAM descramblers
 - Support for low cost DVB-CI interface
- **MPEG2 MP@ML video decoder**
 - Greater than 2x decoding speed
 - Trick modes including smooth fast-forward and rewind
 - Fully programmable horizontal and vertical SRCs
- **Graphics/display**
 - 5 display planes
 - 2, 4 and 8 bpp CLUT graphics, 256 x 30 bits (AYCbCr) CLUT entries
 - RGB16 support
- **Audio subsystem**
 - MPEG-1 layers I/II decoding (MP3 option)
 - Dolby® Digital 5.1 decoding downmixed to 2-channels
 - Dolby Pro Logic® compatible output
 - PCM mixing and sample rate conversion
 - SRS/TruSurround® virtual surround sound
- **On-chip peripherals**
 - 5 ASCs (UARTs) with Tx and Rx FIFOs
 - 6 x 8-bit banks of parallel I/O
 - 2 smartcard interfaces and clock generators
 - 2 SSCs for I²C master/slave interface
 - 4 PWM channels
 - Teletext serializer and DMA module
 - Multi-channel infrared transmitter/receiver
 - Modem analog front-end interface
 - IEEE1284 interface
 - Low-power / RTC / watchdog controller
- **DVB-T decoding and NorDig II compliant**
 - Single frequency network (SFN) compatible
 - Adjacent channel interference canceller (ACI)
 - Excellent static and dynamic (Doppler) performance
 - Automatic guard interval and mode detection
 - Accepts 6, 7 and 8 MHz channel bandwidths
 - Lock indicators and general-purpose I/O pins
 - Supports 2K, 8K modes
 - Supports QPSK, 16, 64 QAM constellations
 - 1/4, 1/8, 1/16, 1/32 guard intervals
 - Supports hierarchical and non-hierarchical modes

Ordering information

Salestype	Description
STi5516-DVB	Reference software drivers
DTTi5516-Brick	Development platform
DTTi5516xWC	IC reference

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