

Description

The Si21622 integrates two separate high-performance DVB-C2, DVB-C, DVB-T2 and DVB-T digital demodulators into a single compact package for cable and terrestrial TV standards. Leveraging Silicon Labs' proven digital demodulation architecture, each embedded demodulator achieves excellent reception performance for each media, while significantly minimizing front-end design complexity and cost. Connecting the Si21622 to a dual cable/terrestrial TV tuner results in a high-performance and cost optimized TV front-end solution.

Silicon Labs' internally developed DVB-C2 demodulator can accept a standard IF (36 MHz) or low-IF input (differential) and support all modes specified by the DVB-C2 standard. The main features of the DVB-C2 mode are 4096-QAM, 6 or 8 MHz bandwidth, management of notch insertion (broadband and narrowband), and support of multiple data slices and PLPs. The DVB-T and DVB-C demodulators are enhanced versions of proven and broadly used Si2167/68/69 Silicon Labs devices.

The Si21622 offers an on-chip blind scanning algorithm for the DVB-C standard (as well as blind lock).

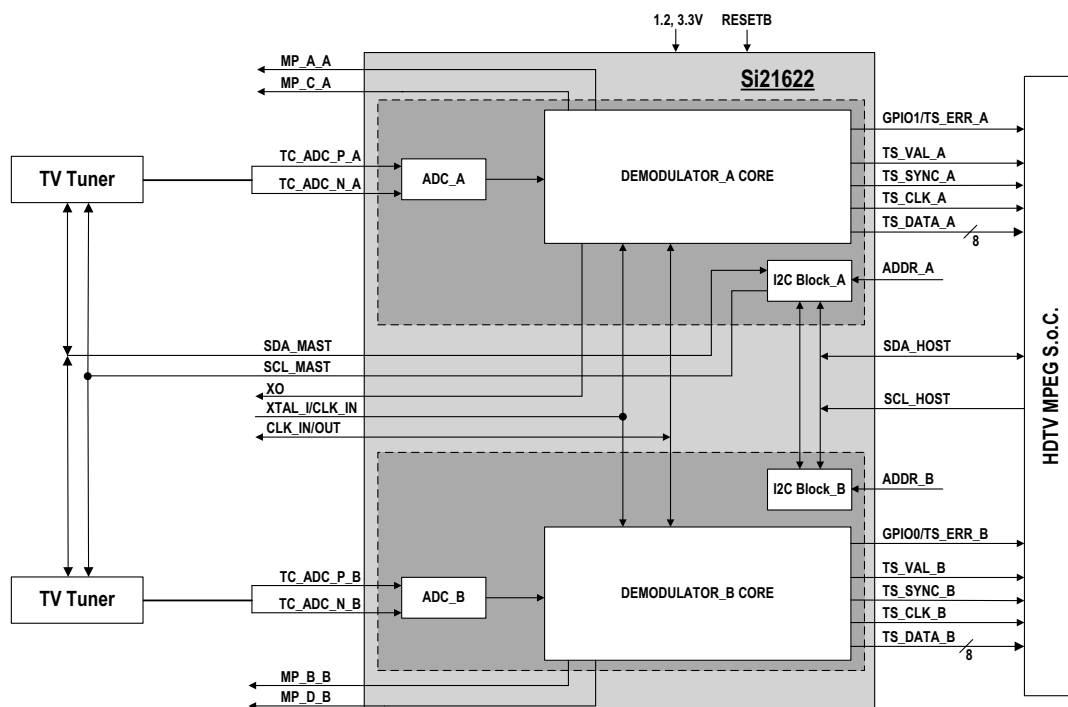
The Si21622 embeds two independent programmable transport stream interfaces which provide a flexible range of output modes and are fully compatible with all MPEG decoders or conditional access modules to support any customer application.

Features

- DVB-C2 (ETSI EN 302 769)
 - 16-QAM to 4096-QAM OFDM demodulation
 - 6 MHz and 8 MHz bandwidth
 - Notch management
- DVB-T2 (ETSI EN 302 755-V1.3.1) with T2-Lite (Annex I)
 - Bandwidth: 1.7, 5, 6, 7, or 8 MHz and extended BW
 - Supports up to 255 PLPs
 - FEF management
 - NorDig Unified 2.4 and D-Book 7 V2 compliant
- DVB-C (ETSI EN 300 429) and ITU J.83 Annex A/B/C
 - QAM demodulator and FEC decoder
 - 1 to 7.2 MSymbol/s
- DVB-T (ETSI EN 300 744)
 - OFDM demodulator and enhanced FEC decoder
 - NorDig Unified 2.4 and D-Book 7 V2 compliant
- LDPC and BCH decoding for C2 and T2 standards
- I²C serial bus interfaces (master and host)
- Dual independent differential IF input for T/C tuners
- GPIOs and multi-purpose ports (two per demodulator)
- Firmware control for upgradeability
- Separate flexible TS interfaces with serial or parallel outputs
- Fast lock times for all standards, including DVB-T2
- Only two power supplies: 1.2 and 3.3 V
- 8x8 mm, QFN-68 pin package, Pb-free/RoHS compliant
- Pin-to-pin and API compatible with all dual demodulator family: Si216x2

Applications

- Multi-receiver iDTV: on-board or in a NIM
- Advanced multimedia PVR STBs
- PC-TV accessories
- PVR, DVD, and Blu-Ray disc recorders





($T_A = -10$ to $70\text{ }^{\circ}\text{C}$).

Pin Assignments



Part #	Description
Si21622-A40-GM/R	Dual Digital TV Demodulator for DVB-C2/C/T2/T, 8x8 mm QFN-68