

RT810S

High Performance Low Power Hybrid Silicon Tuner

General Description

With state-of-the-art architecture design, the RT810S is the world's most advanced hybrid silicon tuner with the lowest power consumption to offer unmatched RF performance for all analog and digital broadcast television standards including PAL, NTSC, SECAM, DVB-T, ATSC, CTTB, ISDB-T, DVB-C and DOCSIS® 2.0.

The embedded auto-tuning mechanism enables RT810S to achieve superior performance in sensitivity, linearity, phase noise, adjacent channel immunity, and image rejection. The chip includes a power detector that facilitates optimization of different input power scenarios as well as the spurious free dynamic range. It also includes a VCO auto-tuning machine that allows fast acquisition with no need for software calibration. These excellent performances provide a lot more freedom for RF front end design.

The RT810S is a highly integrated, single conversion silicon tuner IC developed upon the mindset of minimum BOM cost. The RT810S integrates low noise amplifier (LNA), mixer, synthesizer, 2-wired I2C interface, RF tracking filter, voltage regulator, loop through, clock output buffer and VGA, eliminating the need for additional LNA, balun, and SAW filters. The tuner includes an active loop through as well as an input port that is optimized for use with an active external splitter in multi-tuner applications. Other BOM reduction features include a built-in LDO to simplify system design and the buffered crystal clock output can be used to drive a complementary IC, such as demodulator, eliminating additional crystal.

With patented power management technique, RT-810 achieves both high performance and the lowest power consumption in both digital and analog broadcasting standards, which perfectly fit into power or heat dissipation concerned applications such as portable (PMP, automotive) and PCTV. The RT810S comes in a small 40-pin QFN package and requires only a single 3.3 V power supply.

Features

- Support all analog TV standards: PAL, NTSC, and SECAM.
- Support all digital TV standards: ATSC, DVB-T, CTTB, ISDB-T, CMMB, DVB-C, and 64/256 QAM.
- Lowest BOM cost WITHOUT external SAW filters, LNA, balun, loop through, voltage regulator, and adjustable parts.
- Compliant with Norig, D-Book, ATSC/A74, and DOCSIS 2.0.
- Ultra low current consumption < 165mA
- Single 3.3 V voltage supply
- 2-wired I2C interface
- 40-pin QFN lead-free package

Applications

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- Terrestrial Analog TV (PAL, SECAM, NTSC) and Cable TV
 - Terrestrial Digital TV (DVB-T,DVB-C, ATSC, ISDB-T,CMMB and CTTB)
 - Desktop/Laptop PCTV, Minicard, and USB peripherals
 - Set Top Box
 - Portable Media Player
 - Automobile TV