

FEATURES

- Single chip synthesized tuner for terrestrial digital TV receiver
- Low-IF single-conversion architecture which eliminates all SAW filters
- VHF (90 ~ 222 MHz) and UHF (470 ~ 770 MHz) dual RF input
- Operating dynamic range -98 to +10 dBm
- Ultra low power consumption: 100 mW
- On-chip fast switching fractional-N PLL
- On-chip low phase noise and wide frequency range VCO
- On-chip bandwidth-adjustable low pass filter
- Integrated IF variable gain amplifier for direct connection to digital demodulators
- Noise/Linearity optimization through internal RF RSSI and AGC loop
- Adjustable take-over point
- Ideal for mobile TV receiver, terrestrial set-top-box application
- I2C serial bus interface
- Small 40-Lead QFN [LFCSP_UQ] package (6 × 6 mm²)
- Minimal external components
- Fully compatible with ISDB-T(1-seg, 3-seg) and other standards

GENERAL DESCRIPTION

The ITD2010 is a highly integrated CMOS single chip low-IF single-conversion tuner IC for digital TV. It has dual RF inputs as VHF (90 ~ 222 MHz) and UHF (470 ~ 770 MHz). It supports 1-segment and 3-segment of ISDB-T standard. It includes VHF/UHF LNAs, VHF/UHF PGAs, VHF/UHF image-rejection down-conversion mixers, a bandwidth adjustable low pass filter, an IF variable gain amplifier, a VCO and a fractional-N PLL, etc. On-chip low phase noise VCO along with high resolution fractional-N frequency synthesizer make in-band phase noise lower than that of any other conventional tuners.

The ITD2010 exhibits ultra low power consumption, while conventional tuners consume over 1 watt. Using small 40-lead QFN [LFCSP_UQ] package, the ITD2010 is the best solution for highly integrated multi-tuner system and portable application where low power consumption is required. It has an industry standard I²C serial bus interface. Primary application of the ITD2010 is the portable analog/digital terrestrial TV

FUNCTIONAL BLOCK DIAGRAMS

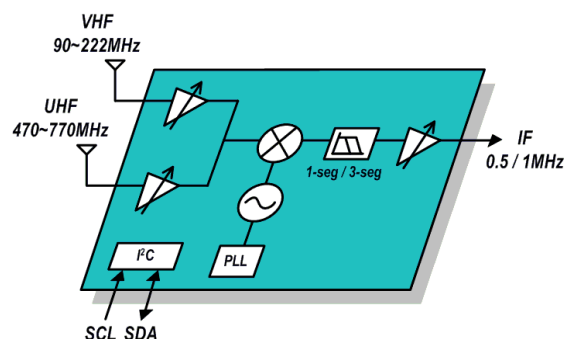


Figure 1.

APPLICATIONS

- ISDB-T (1-seg, 3-seg) Digital TV for Mobile Phone
- Digital Terrestrial TV and Set-Top Boxes
- Low Power Portable TV, PDA, Mobile Phone

receiver such as mobile TV phone.

PRODUCT HIGHLIGHTS

1. Single chip synthesized tuner for terrestrial digital TV receiver
2. Low-IF single-conversion architecture which eliminates all SAW filters
3. Low power consumption: 100 mW

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