

FEATURES

Single chip synthesized tuner for terrestrial DMB and FM receiver

Low-IF single-conversion architecture which eliminates all SAW filters

Covers whole band-III (174 ~ 245 MHz) and FM (88 ~ 108 MHz)

Operating dynamic range: -102 ~ -10 dBm

Ultra low power consumption: 100 mW

On-chip regulators for 2.85 V single supply

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 DMB application

I²C serial bus interface

Small 40-QFN package (6 × 6 mm²)

Minimal external components

Fully compatible with Terrestrial DMB and FM

GENERAL DESCRIPTION

The ITD3010 is a highly integrated CMOS single chip low-IF single-conversion tuner IC for terrestrial DMB (Digital multimedia broadcasting). It supports Korean terrestrial DMB standard along with analog FM. It includes an LNA, an RF PGA, an image-rejection down-conversion mixer, 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 ITD3010 also includes several regulators, which make it possible to use single 2.85 V power supply.

FUNCTIONAL BLOCK DIAGRAMS

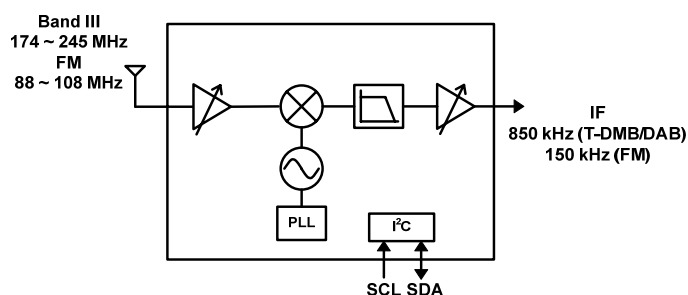


Figure 1.

APPLICATIONS

Terrestrial DMB Mobile Phone

FM radio application

Digital Terrestrial TV and Set-Top Boxes

Low Power Portable TV, PDA, Mobile Phone

The ITD3010 exhibits ultra low power consumption such as 100 mW. Using small leadless 6 mm × 6 mm 40-LD QFN package, the ITD3010 is the best solution for highly integrated multi-tuner system and portable application where low power consumption is critical. It has an industry standard I²C serial bus interface. Primary application of the ITD3010 is terrestrial DMB mobile phones and the portable terrestrial DMB receiver.

PRODUCT HIGHLIGHTS

1. Single chip synthesized tuner for terrestrial DMB and FM receiver
2. Low-IF single-conversion architecture which eliminates all SAW filters
3. Ultra low power consumption: 100 mW

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