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ANALOG DEVICES

Low-IF tuner IC for dual-band DAB & FM

ITD3020

FEATURES

- Single chip synthesized tuner for dual-band DAB and FM receiver
- Low-IF single-conversion architecture which eliminates all SAW filters
- Covers whole band-III (174 ~ 245 MHz), L-band (1450 ~ 1592 MHz) and FM (88 ~ 108 MHz)
- Operating dynamic range : -102 ~ -10 dBm

Ultra low power consumption: Band-III 100 mW

L-band 160 mW

- On-chip regulators for 2.85V 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 DAB receiver, FM application

I²C serial bus interface

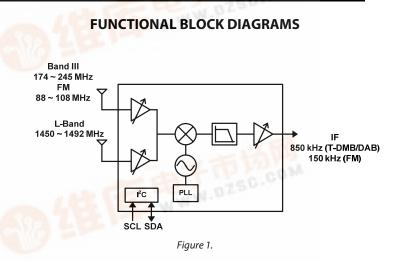
Small 40-QFN package ($6 \times 6 \text{ mm}^2$)

Minimal external components

Fully compatible with dual-band DAB and FM

GENERAL DESCRIPTION

The ITD3020 is a highly integrated CMOS single chip low-IF single-conversion tuner IC for dual-band DAB (Digital audio broadcasting) and FM. It supports Eureka-147 DAB standard along with analog FM. It includes 2 LNAs, 2 RF PGAs, 2 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 ITD3020 also includes several regulators, which make it possible to use single 2.85 V power supply.



APPLICATIONS

Dual-band DAB Mobile Phone FM radio application Low Power PDA, Mobile Phone

The ITD3020 exhibits ultra low power consumption such as 100 mW. Using small leadless 6 mm \times 6 mm 40-LD QFN package, the ITD3020 is the best solution for highly integrated multituner system and portable application where low power consumption is critical. It has an industry standard I²C serial bus interface. Primary application of the ITD3020 is dual-band DAB/FM mobile phones and the portable DAB/FM receiver.

PRODUCT HIGHLIGHTS

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

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