

FEATURES

Single chip synthesized tuner for T-DMB, dual-band DAB and FM receiver

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

Covers whole band-III (168 ~ 245 MHz), L-band (1450 ~ 1492 MHz) and FM (88 ~ 108 MHz)

Input sensitivity: -102 dBm

Ultra low power consumption

Band-III: 77 mW

L-band: 84 mW

1.2 V single supply

On-chip fast switching fractional-N PLL

On-chip low phase noise and wide frequency range VCO

On-chip bandwidth-adjustable band pass filter

Integrated IF programmable gain amplifier for direct connection to digital demodulators

Noise/Linearity optimization through internal RF RSSI and AGC loop

Adjustable take-over point

I²C serial bus interface

Small 32-LFCSP (QFN) package (5mm × 5mm)

Minimal external components

Fully compatible with terrestrial DMB, dual-band DAB and FM

GENERAL DESCRIPTION

The ADMTV300 is a highly integrated CMOS single chip low-IF single-conversion tuner IC for mobile application like terrestrial DMB (Digital Multimedia Broadcasting), dual-band DAB (Digital audio broadcasting) and FM. It includes 3 LNAs, a RF PGA, a down-conversion mixer, a bandwidth adjustable image rejection band pass filter, an IF programmable 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 ADMTV300 uses single 1.2 V power supply.

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FUNCTIONAL BLOCK DIAGRAMS

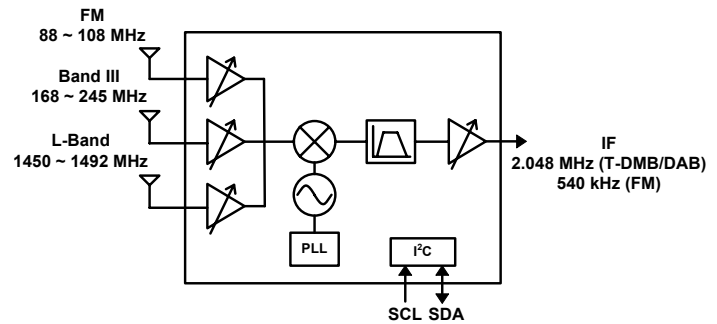


Figure 1. Block Diagram

APPLICATIONS

Terrestrial DMB and DAB Mobile Phone

Low Power Portable TV, PDA, Car A/V

FM radio application

The ADMTV300 exhibits ultra low power consumption such as 77 mW. Using small 5 mm × 5 mm 32-LFCSP (QFN) package, the ADMTV300 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.

PRODUCT HIGHLIGHTS

1. Single chip synthesized tuner for terrestrial DMB, dual-band DAB and FM receiver
2. Low-IF single-conversion architecture which eliminates all SAW filters
3. Ultra low power consumption: 77 mW