RF tuner IC
For DVB-H, T-DMB and FM

ADMTV102

FEATURES

- Single chip synthesized tuner for multi-band multi-mode mobile-TV applications
- Zero-IF single-conversion architecture which eliminates all SAW filters
- Covers whole band-III (174 ~ 245 MHz), FM (65 ~ 108 MHz), UHF (470 MHz ~ 862 MHz), L-band (1450 ~ 1492 MHz)
- Operating dynamic range: -102 ~ 0 dBm
- Ultra low power consumption
  - Band-III: 180 mW
  - UHF: 200 mW
  - L-Band: 210 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 baseband variable gain amplifier for direct connection to digital demodulators
- Noise/Linearity optimization through internal RF RSSI and AGC loop
- Adjustable take-over point
- I^2C serial bus interface
- Small 32-QFN package (5 × 5 mm^2)
- Minimal external components

FUNCTIONAL BLOCK DIAGRAM

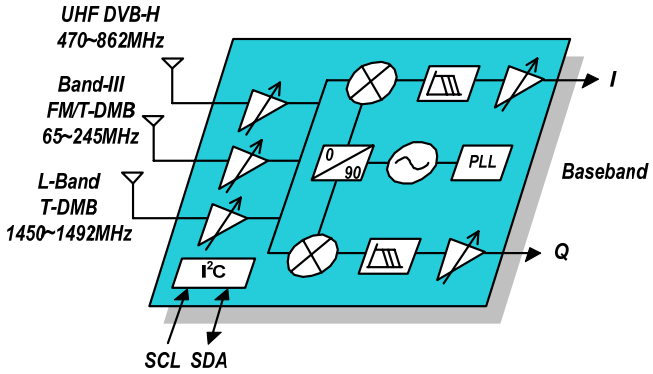

Figure 1. Block Diagram

APPLICATIONS

- Mobile / portable application for multi-standard
- UHF DVB-H mobile phone, PDA
- Dual-band T-DMB mobile phone, PDA
- FM radio application

GENERAL DESCRIPTION

The ADMTV102 is a highly integrated CMOS single chip zero-IF conversion tuner IC for mobile-TV standards, such as DVB-H, T-DMB, DAB and FM. It includes triple RF input bands, which are VHF/FM, UHF, and L-band. The building blocks of ADMTV102 are LNAs, RF PGAs, I/Q down-conversion mixers, bandwidth adjustable low pass filters, baseband variable gain amplifiers, VCOs 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 ADMTV102 supports multi-band multi-standards with ultra low power consumption such as 200 mW for DVB-H. Using small leadless 5 mm × 5 mm 32-LD QFN package, the ADMTV102 is the best solution for highly integrated multi-band, multi-standard system and portable application where low power consumption is critical. It has an industry standard I^2C serial bus interface. Applications of the ADMTV102 are UHF DVB-H, dual-band T-DMB and FM.

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