



# RF Tuner IC for DVB-H, DVB-T, DTMB, and CMMB

## ADMTV102

### FEATURES

- Single-chip synthesized tuner for dual-band mobile TV applications
- Zero-IF single-conversion architecture eliminates need for SAW filters
- Covers entire UHF Band IV/Band V (470 MHz to 862 MHz)
- Typical AGC dynamic range: -102 dBm to 0 dBm
- Low power consumption: 200 mW (UHF)
- On-chip features include
  - Fast switching fractional-N PLL
  - Low phase noise and wide frequency range VCO
  - Bandwidth-adjustable low-pass filter
- Integrated baseband VGA for direct connection to digital demodulators
- Noise/linearity optimization through internal RF AGC loop
- Adjustable take-over point
- I<sup>2</sup>C serial bus interface
- Small 5 mm × 5 mm, 32-lead lead frame chip scale package (LFCSP)
- Minimal external components

### APPLICATIONS

- DVB-H/DVB-T/DTMB/CMMB mobile and portable TV receivers
- UHF mobile and portable TV receivers

### GENERAL DESCRIPTION

The ADMTV102 is a highly integrated CMOS, single-chip, zero-IF conversion tuner IC for mobile TV standards, such as DVB-H, DVB-T, DTMB, and CMMB. The part includes an RF input band, UHF. The building blocks of the ADMTV102 include LNAs, RF PGAs, I/Q downconversion mixers, bandwidth-adjustable low-pass filters, baseband VGAs, a VCO, and a fractional-N PLL. The on-chip low phase noise VCO, along with the high resolution fractional-N frequency synthesizer, makes in-band phase noise low enough for mobile TV applications.

### FUNCTIONAL BLOCK DIAGRAM

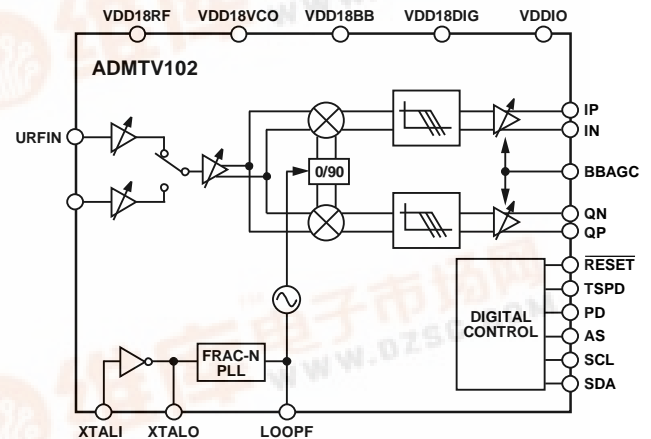


Figure 1.

For more information on the ADMTV102, email Analog Devices, Inc., at [Mobile\\_TV\\_support@analog.com](mailto:Mobile_TV_support@analog.com).

The ADMTV102 supports dual-band mobile TV standards with low power consumption, such as 200 mW for DVB-H. Using a small, Pb-free, 5 mm × 5 mm 32-lead LFCSP, the ADMTV102 is an ideal solution for highly integrated dual-band mobile and portable applications where low power consumption is critical. The part has an I<sup>2</sup>C serial bus interface. Applications for the ADMTV102 include DVB-H, DVB-T, DTMB, and CMMB.

**ADMTV102**

**NOTES**

Purchase of licensed I<sup>2</sup>C components of Analog Devices or one of its sublicensed Associated Companies conveys a license for the purchaser under the Philips I<sup>2</sup>C Patent Rights to use these components in an I<sup>2</sup>C system, provided that the system conforms to the I<sup>2</sup>C Standard Specification as defined by Philips.