ANALOG DEVICES

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
I²C 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

FUNCTIONAL BLOCK DIAGRAM

Figure 1.

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.
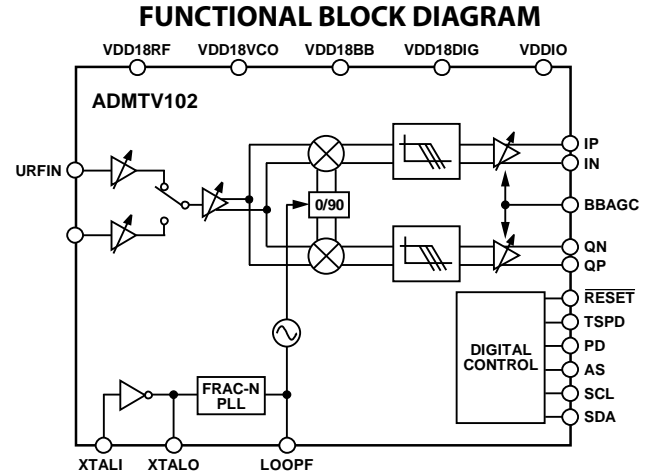
The ADMTV102 supports dual-band mobile TV standards with low power consumption, such as 200 mW for DVB-H. Using a small, Pb-free, 5 mm × 5 mm 32-lead LFCSP, the ADMTV102 is an ideal solution for highly integrated dual-band mobile and portable applications where low power consumption is critical. The part has an I²C® serial bus interface. Applications for the ADMTV102 include DVB-H, DVB-T, DTMB, and CMMB.

For more information on the ADMTV102, email Analog Devices, Inc., at Mobile_TV_support@analog.com.

NOTES

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