FEATURES

Ultralow noise figure: 2.5 dB in maximum gain
UHF (470 MHz ~ 806 MHz) for ISDB-T in Japan and Brazil
Fully compatible with ISDB-T (one segment only)
Operating dynamic range: −99.5 dBm to +10 dBm
Ultralow power consumption: 76 mW
Supply voltage: 1.8 V core and 1.8 V ~ 3.3 V I/O
On-chip LDO option for 1.2 V power supply
On-chip power-on reset
Ultrasmall WLCSP package: 2.14 mm × 2.09 mm
On-chip low phase noise and wide frequency range VCO
On-chip bandwidth-adjustable band-pass filter
Integrated IF PGA for direct connection to digital demodulators
Noise/linearity optimization through internal RF RSSI and the IF AGC and RF AGC loops
Reference clock output for demodulator
Adjustable take-over points (TOP)
I²C serial bus interface
RoHS-compliant WLCSP package

APPLICATIONS

ISDB-T (one-segment) digital TV for mobile phone
Low power portable TV, PDA, PMP, car navigation, and USB applications

GENERAL DESCRIPTION

The ADMTV201 is a highly integrated, CMOS single-chip, low IF, single-conversion tuner IC for digital mobile TV. It has a single RF input for UHF (470 MHz ~ 806 MHz). It supports one segment of the ISDB-T standard and includes two UHF low noise amplifiers (LNAs), an RF programmable gain amplifier (RF PGA), a downconversion mixer, a complex band-pass filter (CBPF), an IF PGA, a voltage controlled oscillator (VCO), and a fractional-N phase-locked loop (PLL).

The RF PGA is controlled by an internal RF automatic gain control (RF AGC) loop, and the IF PGA is controlled by a demodulator. The PGAs provide >120 dB of gain control range.

The ADMTV201 consumes ultralow power in comparison to conventional tuners. It is appropriate for portable applications that require low power consumption and includes an industry-standard I²C® serial bus interface. The primary application of the ADMTV201 is the portable terrestrial TV receiver, such as the mobile TV phone.

For more information about the ADMTV201, email Analog Devices, Inc., at Mobile_TV_support@analog.com.
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