DATA SHEET

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RDA5812

Fully Integrated, Direct Down-Conversion Satellite Receiver for DVB-S , DVB-S2&ABS-S

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Update History

Rev	Date	Author	History Description
1.0	2008-09-20	Wang hongxin	The primary datasheet
1.1	2008-10-20	Wang hongxin	Modify the IQ definition of the application circuit
1.2	2008-11-11	Wang hongxin	Optimize the application circuit Modify the AGC table according to the result of practical test Modify the minimum and maximum power level according to the result of practical test
1.3	2008-12-26	Wang hongxin	Modify the VCO description Optimize the application circuit and add the IQ 6dB attenuation circuit for matching the AVL1108.
1.4	2009-01-09	Wang hongxin	Optimize the RF input match circuit

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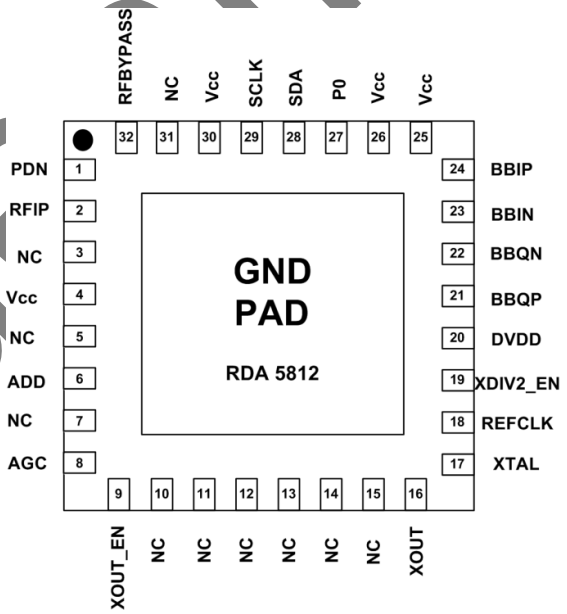
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RDA Microelectronics, Inc.
RDA5812-Fully Integrated Satellite receiver for DVB-S , DVB-S2 & ABS-S

Features

- Single-chip RF-to-baseband Satellite receiver
- CMOS Fully integrated RF front end
- Low noise and wide dynamic range zero-IF receiver
- Input frequency range: 900 to 2250 MHz
- Input signal level: -85 to 5 dBm
- More than 90dB gain control range
- Fully integrated PLL (dividers, charge pump, phase & frequency detectors, loop filters, etc.)
- Integrated RX VCO
- Integrated baseband LPF with selectable cut-off frequency from 4MHz to 40MHz with 1MHz step
- Integrated LNA with RF AGC
- Integrated reference oscillator (27MHz is defult)
- I^2C bus interface
- Automatic gain control
- 0.13μm RF CMOS technology
- 3V to 3.6V operation
- Low power consumption of less than 350mW
- Lower profile packages:
  - RDA5812 5×5 mm QFN32

Pin assignment (32 pin QFN 5×5 mm)



Applications

- Set-top boxes
- Digital video recorders
- Digital television
- Satellite PC-TV
- SMATV trans-modulators (Satellite Master Antenna TV)

General Description

The RDA5812 is a fully integrated direct conversion

RF front end for DVB-S , DVB-S2&ABS-s digital satellite

Reception standard CMOS process. The receiving frequency range is from 900MHz to 2250MHz, and the baseband filter's bandwidth can be selected from 4MHz to 40MHz with 1MHz step.

The rda5812 consists of a variable gain LNA, quadrature downconverter, variable IF gain amplifiers, variable low-pass filters, reference oscillator, VCOs, synthesizer and output baseband amplifier to drive external ADC.

Based on RDA's some innovative technique, the rda5812 offers excellent phase noise and very low implementation loss, required for advanced modulation systems such as 8PSK and DVB-S2. This tuner RF IC does not require a balun and its fully integrated design saves valuable board space and simplifies RF layout.

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