



# Digital Satellite Tuner RF IC

## CX24113A

### Highly Integrated, Worldwide Broadband Satellite Front-End Solution

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks and the digital home. The CX24113A is Conexant's third generation direct down-conversion satellite tuner RF IC intended for operator-based digital satellite networks and free-to-air systems. The CX24113A is a highly integrated satellite tuner solution that incorporates an advanced Fractional-N synthesizer, I2C serial interface, a fully integrated local oscillator, and variable baseband filters. The device has an improved power supply rejection ratio (PSRR), requires a single +3.3V supply, and features very low power consumption.

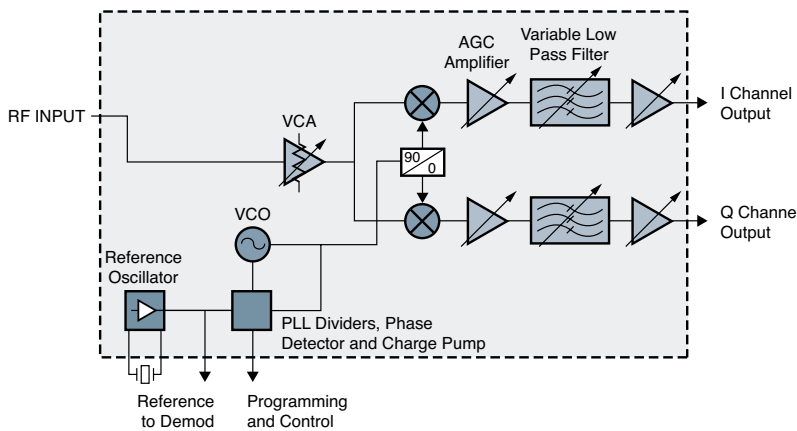
The CX24113A has a built-in auto-tuning machine that eliminates the need for software calibration and accelerates the calibration time. The on-chip fractional synthesizer enables fine frequency step size without adversely affecting lock time. The CX24113 does not require a balun, thus reducing external bill of materials (BOM) cost. Its highly integrated design saves valuable board space and simplifies RF layout.

The company's broad portfolio of semiconductor products also includes client-side xDSL and cable modem solutions, home network processors, broadcast video encoders and decoders, digital set-top box components and systems solutions, and dial-up modems. In addition to its IEEE 802.11a/b/g-compliant WLAN chipsets, software and reference designs, Conexant offers a suite of networking components that includes solutions for applications based on HomePlug® and HomePNA™. Additional products include a complete line of asymmetric and symmetric DSL central office solutions, which are used by service providers worldwide to deliver broadband data, voice, and video over copper telephone lines.



### Distinguishing Features

- Single-chip RF-to-baseband satellite receiver
- Zero-IF architecture eliminates the need for image reject filtering
- Variable baseband filters for optimal interference rejection
- Auto-tuning machine eliminates the need for software calibration
- Very low power consumption
- Small (6 mm x 6 mm) footprint
- Lead-free package



**CX24113 Block Diagram**

**Part Number** CX24113A

**Description** Digital Satellite Tuner RF IC



## CX24113A Features

- RF input: 925–2175 MHz
- Input power range: -20 to -90 dBm
- Symbol rate: 1–45 MSps
- Noise figure: 10 dB, typical
- Input IP3 at minimum gain: 10 dBm, typical
- Baseband filter bandwidth: 3–40 MHz
- Output voltage: 0.5 Vp-p @ RL > 1 k<sub>Ω</sub>
- Operating temperature: 0–85° C
- Package type: 36-pin, Pb-free, QFN

## Applications

- DSS/DVB set-top boxes
- Digital VCR (DVR)
- Commercial digital video, audio, and data receivers

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