



Advanced Modulation Demodulator and Turbo FEC Decoder

CX24114

Low-power advanced modulation demodulator for worldwide satellite set-top box applications

Conexant's broadband communications portfolio includes a comprehensive suite of semiconductor solutions that enables the digital home and information network. The CX24114 advanced modulation turbo FEC decoder provides increased satellite system throughput by up to 35 percent utilizing existing bandwidth.

The CX24114 demodulator converts incoming analog signals from a tuner into a digital format, assesses the signal for errors, and then outputs a digital data transport stream to an audio/video decoder chip.

The CX24114 can decode DVB, DSS QPSK/BPSK signals at 15-30 MSps. It is fully compliant with DVB and DSS specifications and is designed to work with existing and next-generation transponders. It has two 8-bit A/D converters that are required for high-performance operation. The low power consumption and dissipation, combined with a small footprint, increases reliability and lowers overall cost.

A unique feature of the CX24114 is an automatic acquisition algorithm that searches and acquires the carrier within ± 10 MHz range during initial acquisition and performs a smart search to reacquire during fade condition. The CX24114 has an on-chip microcontroller for acquisition, Es/No frequency estimation, and system monitoring.

The CX24114 is a DiSEqC 2.x compliant demodulator that enables two-way communication between the Set-top Box (STB) and peripheral satellite equipment such as low-noise block (LNB) converters and switches. The CX24114 has integrated signal-to-noise ratio (SNR) and bit error rate (BER) monitors for channel-performance measurements to simplify production testing.

Conexant's advanced modulation front-end solution enables satellite STB providers to deliver cost-effective, digital STBs that support a wide range of consumer video services, such as transmitting additional channels and providing HDTV viewing preferences.



Distinguishing Features

- DVB/DSS/DCII compliant
- 8PSK/QPSK/BPSK demodulation
- Symbol rates
 - DVB: 15-30 MSps
 - Turbo QPSK: 15-30 MSps
 - 8PSK: 15-30 MSps
- Advanced modulation rates
 - Turbo QPSK: 1/2, 2/3, 3/4, 5/6, 7/8
 - 8PSK: 2/3, 3/4, 4/5, 5/6, 8/9
- Automatic acquisition
- DiSEqC™ 2.x compliant
- Power down mode
- Integrated SNR and BER monitor

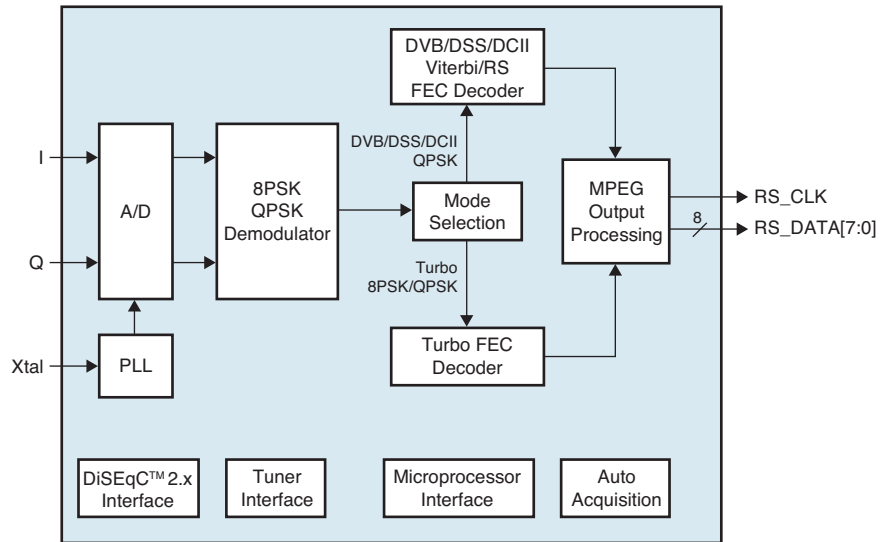
Part Number CX24114

Description Advanced Modulation Demodulator and Turbo FEC Decoder



CX24114 Features

- Dual Integrated 8-bit ADCs
- Carrier tracking: \pm sample frequency/8
- Internal carrier and bit timing recovery
- ± 10 MHz acquisition range
- Serial/parallel output data I/F
- Supply voltage: 1.2 V
- Ambient temperature: 0–85° C
- 100-pin TQFP



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