

NXP DVB-S2 demodulator and FEC decoder CX24116

Advanced DVB-S2 demodulation for increased satellite throughput

The CX24116 is based on an open DVB-S2 standard and offers an alternate path for service providers to use advanced modulation (8PSK) with LDPC/BCH FEC. This will realize increased satellite throughput that can be used to offer additional programming and services.

Key features

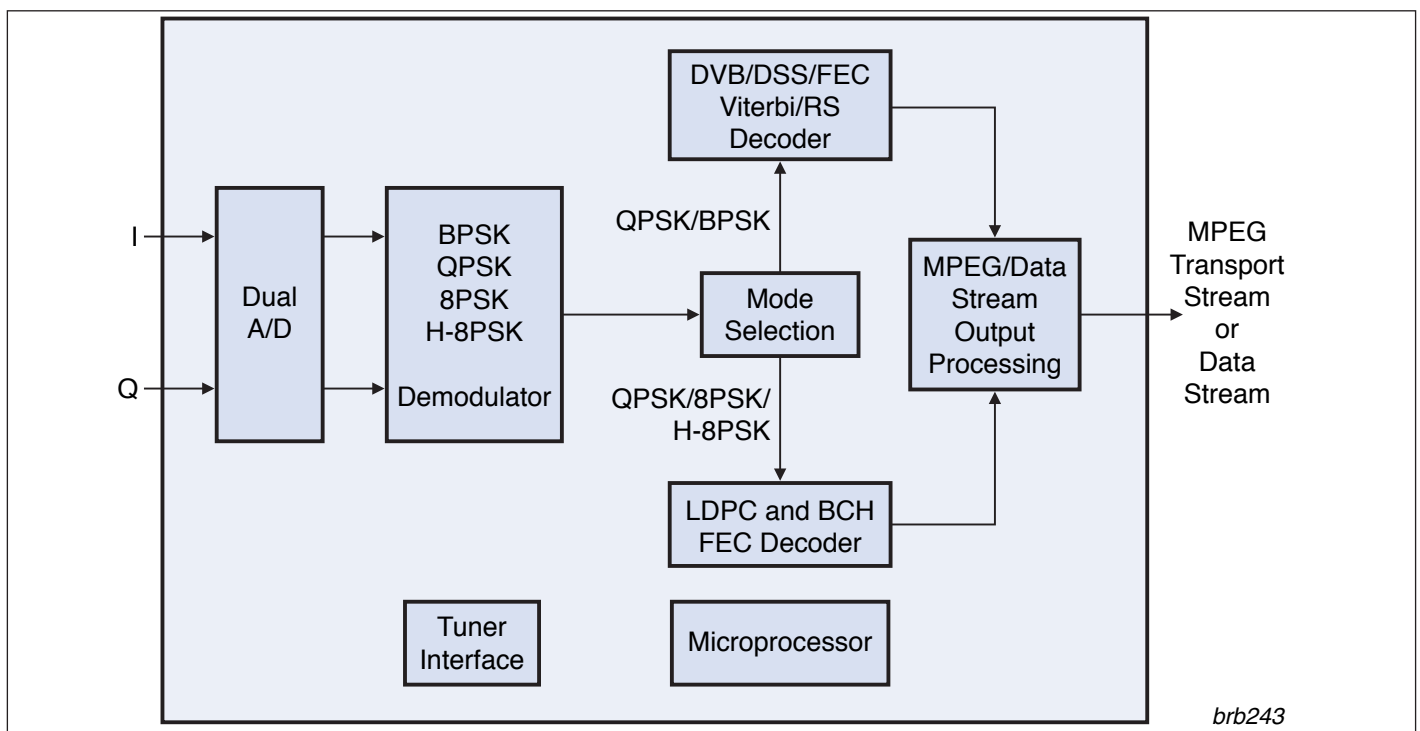
- ▶ 8PSK/H-8PSK/QPSK/BPSK
- ▶ DVB-S/DSS backward compatible
- ▶ Nonbackward-compatible mode
 - Symbol Rates
- ▶ QPSK/LDPC/BCH: 20-30 Msps
- ▶ 8PSK/LDPC/BCH: 10-30 Msps
 - Code Rates
- ▶ QPSK: 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10
- ▶ 8PSK: 3/5, 2/3, 3/4, 5/6, 8/9, 9/10
- ▶ Automatic acquisition
- ▶ ± 10 MHz acquisition range
- ▶ Internal microcontroller
- ▶ Serial/parallel output data intermediate frequency (IF)
- ▶ Integrated SNR and BER monitor
- ▶ DiSEqC™ 2.x compliant
- ▶ Power-down mode
- ▶ 1.2-V core voltage
- ▶ 3.3-V I/O voltage
- ▶ 100-pin exposed thin quad flat pack (ETQFP)

The CX24116 can demodulate and decode signals transmitted in accordance with the new DVB-S2, DVB-S and DIRECTV specifications. It has an automatic acquisition algorithm that searches and acquires the carrier within a ± 10 MHz range during initial acquisition and performs a smart search to reacquire under fade condition. The CX24116 has an on-chip microcontroller for fast-signal acquisition, Es/No estimation, and system monitoring. In addition, the on-chip microcontroller saves software integration time by minimizing the external driver code. The CX24116 has integrated signal-to-noise ratio (SNR) and bit error rate (BER) monitors for channel-performance measurements that simplify production testing.

The CX24116 can be used in conjunction with the NXP's CX24118 tuner RF IC to create a complete satellite AMC front-end solution.

NXP'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 local channels and high-definition television (HDTV) channels.

The company's broad portfolio of semiconductor products also includes client-side digital subscriber line (DSL) and cable modem solutions, home network processors, broadcast video encoders and decoders, digital STB components and systems solutions, and dial-up modems. In addition to its IEEE 802.11a/b/g compliant wireless local area network (WLAN) chipsets, software, and reference designs, NXP offers a suite of networking components that includes solutions for applications based on HomePlug® and HomePNASM. 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.



CX24116 DVB-S2 Demodulator and Forward Error Correction Decoder