

## Product Brief

### Intel® CE 6231 USB 2.0 COFDM Demodulator with Support for External TS and Analog TV Input

Demodulators and Tuners

#### Applications

- Hybrid analog/digital DVB-T PC USB TV receivers
- DVB-T TV/Monitor add-on receivers
- Portable, mobile or hand-held TV display modules
- Dual-channel, DVB-T combo PVR/PIP PC USB TV receivers

# COFDM Terrestrial Demodulator for Hybrid and DVB-T Combo USB PC-TV



#### Product Overview

The Intel® CE 6231 USB 2.0 COFDM demodulator combines the functions of DVB-T demodulation with a USB 2.0 slave interface. The primary application is hybrid analog digital or digital digital combo USB PC-TV receivers. The integrated terrestrial demodulator is designed to meet the worldwide performance requirements for DVB-T, including NorDig Unified and DTG standards. Support for a second data input is provided for a serial (up to 91 MHz), parallel transport stream or a digitized analog video conforming to Rec. 656 with I<sup>2</sup>S audio input. The PC interface is fully USB 2.0 slave mode compliant.

The Intel CE 6231 demodulator features two integrated program identification (PID) filters, which enable a reduced data transfer rate between the Intel CE 6231 device and the host PC, minimizing the PC software overhead and the PC's need to support this function. The PID filters may be turned off.

#### DVB-T USB Demodulator for PC-TV

The Intel CE 6231 coded orthogonal frequency division multiplex (COFDM) television demodulator

is compliant with NorDig Unified Version 1.0.2 and DVB (ETS 300 744). It can be used in either 2K or 8K modes with 6, 7 or 8 MHz channels and is capable of addressing all modes of transmission.

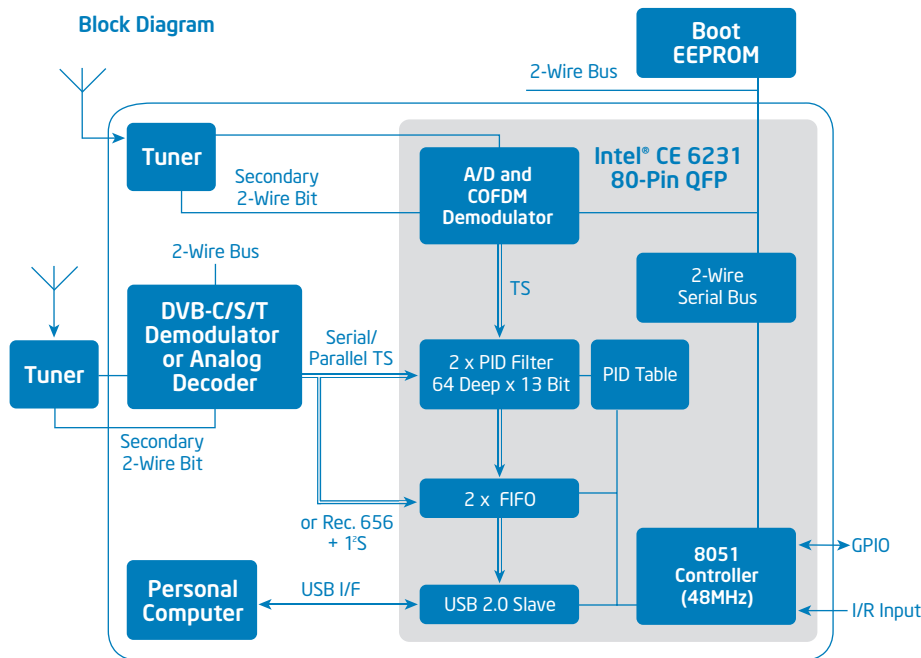
A high-level command-driven interface simplifies programming, and a sophisticated engine controls all acquisition and tracking operations as well as controlling the tuner via a 2-wire bus. Any frequency range can be automatically scanned for digital TV channels. This mechanism ensures minimal interaction, maximum flexibility, fast acquisition and fast auto-scan capability.

Blind acquisition mode enables automatic detection of all OFDM signal parameters, including mode, guard and spectral inversion. The frequency capture range is sufficient to compensate for up to  $\pm 3$  offsets (500 KHz) introduced by the tuner and broadcaster.

The Intel CE 6231 also supports a second transport stream (TS) input with its own PID filtering. This second TS is added to the primary TS stream, enabling two independent TS streams to be passed to the PC for applications such as Watch and Record Personal Video Recording or Picture in Picture. Additionally analog TV is supported with a Rec. 656 video and I<sup>2</sup>S audio input. The USB function is managed using a 8051 microcontroller that manages the I<sup>2</sup>C's, GPIB GPIO, RC and PID functions.

The device is packaged in an 80-pin LQFP and typically consumes less than 500 mW of power.

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- Clock generation from single low-cost 20-48 MHz crystal or external 4 or 27 MHz clock
- IF sampling at 36.17, 43.5 MHz or a low IF down to 4.57 MHz from a single crystal frequency
- Channel bandwidth of 6, 7 & 8 MHz
- Blind acquisition capability (including 2K/8K mode detect)
- Automatic spectral inversion detection
- Fast auto-scan and acquisition technology
- Access to channel SNR, pre- and post-Viterbi bit error rates
- Compact 10 x 10mm 80-pin LQFP
- Less than 500 mW, typical power consumption

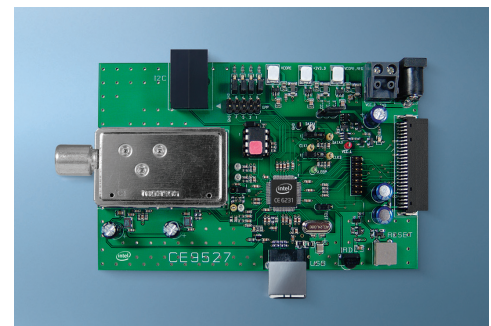
**Customer Support**

Contact your current sales representative for availability and customer support details.

- Software development for Intel CE 6231 applications is supported by the Intel® CE 9527 Software Development Platform.

**Product Features**

- USB 2.0 slave (USB 1.1 compatible)
- Two 32x13 PID filters (can be turned off)
- Second serial/parallel transport stream or digitized analog Rec. 656 + 1'S
- Support for two independent 2-wire bus devices
- NorDig Unified Version 1.0.2 and ETSI 300 744 compliant
- Automatic frequency capture for up to  $\pm 3$  offsets (500 KHz)
- Input for tuner signal strength detector/ antenna positioning aid
- Superior single frequency network performance
- Improved active impulse-noise filtering
- Automatic co-channel and adjacent-channel interference suppression



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