



Product Brief

Intel® CE 6353

DVB-T Demodulator

Consumer Electronics

Intel's First DVB-T COFDM Terrestrial Demodulator



Product Overview

The Intel® CE 6353 DVB-T demodulator meets the performance requirements of NorDig Unified 1.0.2 standard. The device includes a high-performance 10-bit A/D converter capable of accepting direct IF integrated digital filtering and requires only a single 8 MHz channel SAW filter for 6, 7 and 8 MHz COFDM signal reception, plus a 7-bit ADC for RF level indication. An advanced hard-wired on-chip state machine controls all acquisition and tracking operations, minimizing software overhead and resulting in fast auto scan and auto signal re-acquisition.

The Intel CE 6353 demodulator also features excellent single-frequency network SFN performance, unique auto active impulse noise filtering and very low power consumption, including software/hardware power-down mode.

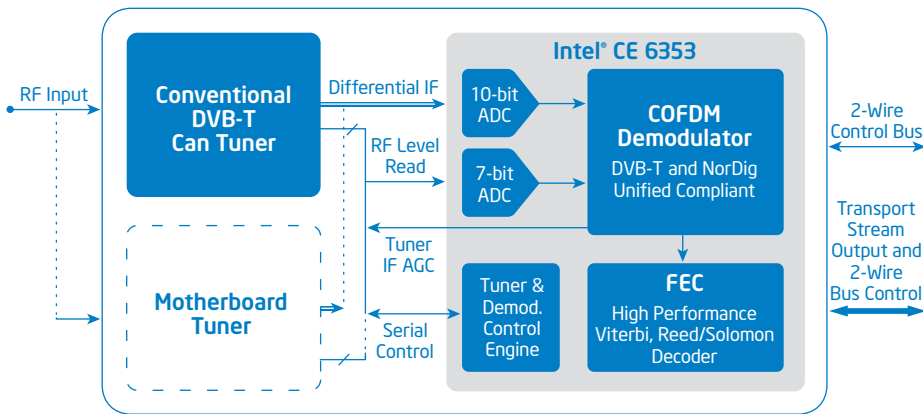
Terrestrial Receiver Application

Intel supports the Intel CE 6353 demodulator with four reference designs from can tuner¹ manufacturers Panasonic, Philips, Samsung and Thomson. These reference designs enable you to quickly evaluate and implement the DVB-T standard for your terrestrial applications. Each board includes complete documentation and test results, with software supported directly by Intel.

Our DVB-T reference designs offer excellent signal handling performance at very low power consumption. The Intel CE 6353 has a unique on-chip dedicated tuner drive engine, ideal for the control of MOPLL-based RF tuner designs. This vastly reduces the tuner control software overhead and results in very fast frequency channel scan performance. For the non-MOPLL-based tuner, the Intel CE 6353 incorporates a two-wire bus "bypass mode," enabling direct unrestricted programming of the tuner.

The Intel CE 6353 accepts the classic TV IF frequencies of 36/44 MHz and low IF down to 4.57 MHz. It provides tuner IF AGC control, and RF AGC read using a 7-bit ADC for calculated RF signal strength indication. The Intel CE 6353 demodulator also includes an integrated digital filter that reduces the bill of materials by eliminating the need for multi-bandwidth SAW IF channel filters. It provides 6, 7 and 8 MHz operation using a single 8 MHz SAW filter. Driven by high-level commands and featuring full automation, the Intel CE 6353 demodulator can be directly interfaced in parallel or serial modes to all standard MPEG-2 processing chips.

Terrestrial Receiver Application Diagram



Product Features

Intel® CE 6353 DVB-T Demodulator

- Performance-compliant standards
 - ETSI ETS300 744 DVB-T
 - Nordig Unified 1.0.2
- Very fast blind channel scan times
 - UHF 2K only—9 digital with 5 analog channels present—less than 10 sec.
 - UHF 2K/8K only—9 digital with 5 analog channels present—less than 18 sec.
- On-chip automatic functions
 - Lost signal re-acquisition with no external programming
 - Co-channel and adjacent channel interference suppression
 - Active impulse noise rejection
- Low power consumption
 - Less than 320 mW normal operation
 - Less than 280 mW low-power operation
 - Eco-friendly standby and sleep modes
- Excellent single-frequency network SFN performance

Easy to Program

- State machine architecture simplifies software implementation and minimizes host processor intervention
- Simple high-level command-driven software
- Vast array of on-chip information available to the user
- Fully automated blind acquisition capability with automatic mode-detect

Simplified Design

- Integrated digital IF filtering reduces cost with single SAW filter operation
- RF signal level indicator
- Dedicated two-wire bus interface for efficient tuner control
- Clock generation from single low cost 20.48 MHz crystal or external 4 or 27 MHz clock
- IF sampling from 4.57 to 36.17 MHz and at 43.5 MHz
- Direct interface to MPEG decoder chips
- Operational temperature range -10 to +80°C

Customer Support

- Offered with production-ready reference designs



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