

## PRODUCT PREVIEW

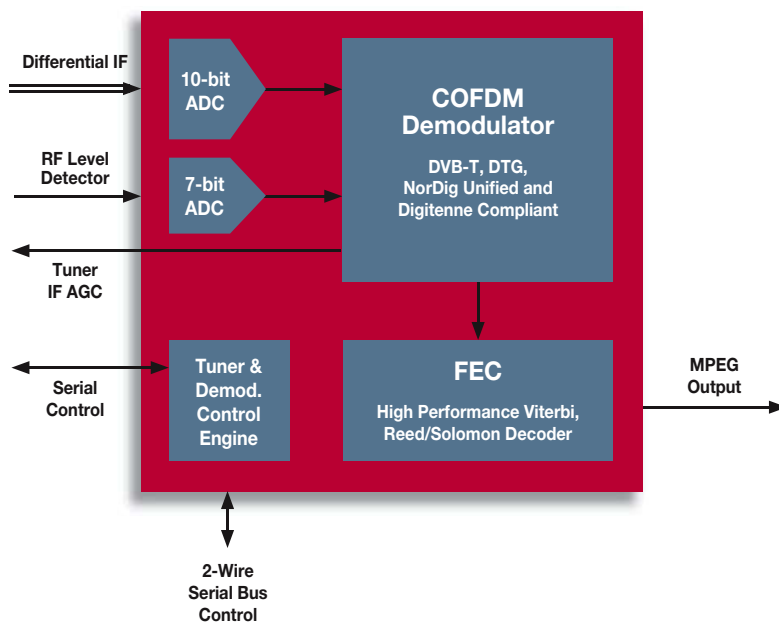
The ZL10355 is Zarlink's small package version of its superior fourth-generation ETSI ETS300 744 COFDM (Coded Orthogonal Frequency Division Multiplex) demodulator. The device fully meets the performance requirements of NorDig Unified 1.0.2, DTG (Digital Television Group), Digitenne and all other global DVB-T standards.

The ZL10355 is pin compatible with Zarlink's ZL10353 demodulator, but is housed in a small 7x7 mm 64 pin QFP (quad flat pack)—the industry's smallest DVB-T package. Designed specifically for PC-TV, handheld and portable TV products, the ZL10355 demodulator offers significant PCB space savings and superior operational temperature range of -40 to +85 degrees Celcius.

The ZL10355 includes a high-performance 10-bit A/D converter capable of accepting direct IF (intermediate frequency) integrated digital filtering, requiring only a single 8 MHz channel SAW filter to be used for 6, 7 and 8 MHz OFDM signal reception, plus a 7-bit ADC RF level indication.

An advanced hard-wired on-chip state machine controls all acquisition and tracking operations, minimizing software overhead and resulting in world-leading auto scan and auto signal re-acquisition. The ZL10355 continues Zarlink's benchmark single-frequency network performance, unique auto-active impulse noise filtering and very low operational power consumption including software/hardware power-down mode.

**ZL10355 Simplified Block Diagram**



### Applications

- ➔ DVB-T PC-TV cards and modules
- ➔ Handheld TV receivers
- ➔ Portable applications
- ➔ STB modules
- ➔ Mobile TV

### World's First Demodulator to Meet Full NorDig Unified Standards

- ➔ Compliant with DVB-T, DTG, Digitenne and NorDig Unified 1.0.2
- ➔ Excellent blind channel scan times
  - UHF 2K only—9 digital with 5 analog channels present—less than 12 seconds
  - UHF 2K/8K—9 digital with 5 analog channels present—less than 18 seconds
- ➔ On-chip automatic functions
  - Lost signal re-acquisition with no external programming
  - Co-channel and adjacent channel interference suppression
  - Active impulse noise rejection
- ➔ Lowest power consumption
  - Less than 0.32 W, with eco-friendly standby and sleep modes
- ➔ Superior single-frequency network support

### Easy to program

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

### Simplified Design

- ➔ Integrated digital IF filter reduces cost with single SAW operation
- ➔ On-chip RF signal level indicator and dedicated 2-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 at low IF, 36.17 or 43.5 MHz
- ➔ Direct interface to MPEG2 decoder chips
- ➔ Extended operational temperature range (-40 to +85 degrees Celcius)

### Customer Support

The ZL10355 is offered with production-ready reference designs supported by Zarlink's network of field application and design engineers.

# ZL10355 COFDM DEMODULATOR APPLICATION

## Terrestrial Receiver Application

Zarlink supports the ZL10355 demodulator with reference designs from can tuner manufacturers including Panasonic, Philips, Samsung and Thomson. This allows customers to quickly evaluate and implement the DVB-T standard in terrestrial STB designs. Each board includes complete documentation and test results, with software supported directly by Zarlink. Our DVB-T reference designs offer excellent signal handling performance at very low power consumption.

The ZL10355 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 ZL10355 incorporates a 2-wire bus "bypass mode", enabling direct unrestricted programming of the tuner.

The ZL10355 accepts normal TV IF frequencies of 36/44 MHz nominal and low IF's down to 4.57 MHz. Tuner AGC control is provided and the RF AGC control is read by a 7-bit ADC for calculated RF signal strength indication. The ZL10355's integrated digital filter reduces the BOM by eliminating the need for multi-bandwidth IF channel filters, currently implemented using switched SAW filters. Using a single 8 MHz SAW filter, 6, 7 and 8 MHz operation is provided.

Driven by high-level commands and featuring full automation, the ZL10355 can be directly interfaced, in parallel or serial modes, to all standard MPEG-2 chips.

