



Ensigma Explorer

Digital TV IP

DVB-C/S/T, ATSC, ISDB

Ensigma™ Explorer is a family of high performance wireless IP cores, covering wireless connectivity such as Bluetooth and Wi-Fi and television and audio broadcast. Specifically designed to meet the requirements for high performance markets such as Home Entertainment, Personal Computing and Wireless Infrastructure, Ensigma Explorer provides a highly flexible platform for solutions requiring both high performance and design flexibility.

The Ensigma Explorer Digital TV platform provides a generic architecture that allows support for the multiple audio broadcast standards in the market today. Proven and efficient platform support tools allow multiple channels of different standards to use the same hardware concurrently. The Digital TV IP provides flexible configurations to provide both standalone The demodulation standards are implemented in software while utilising the hardware accelerator features within the hardware platform

The IP is enhanced continuously to support the newer standards. Peripheral blocks such as Digital Feedback Equalizer (DFE) and Demapper have been added to support newer standards such as DVB-S2X

Digital TV Standards Support

Worldwide	DVB-T2, DVB-T, ISDB-T, SBTVD, ATSC, GB20600-2006 (CTTB) DVB-S2, DVB-S, ISDB-S DVB-C2, DVB-C, J.83B, ISDB-C DVB-H, T-DMB, 1-Seg ISDB-T
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Features

- Multi-standard TV – Terrestrial, Cable, Satellite
- Flexible Baseband interfaces
- Support for leading RF tuners
- Industry-leading performance

Benefits

- Proven Digital TV Architecture
- High Performance, Lowest System Cost, Low Power
- Easy integration into an SoC

Applications

- Digital TV and set-top boxes
- Consumer Products

UK t: +44 1923 260511
USA t: +1 408 530 5000

enquiries@imgtec.com
www.imgtec.com
www.ensigma.com



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Enigma Explorer Digital TV IP

General Features

- Provides Physical Layer Demod
- Flexible Tuner Control/Data Interfaces
- Tuner API
- Additional Hardware Accelerators to enable
 - Header Detection and Decode
 - Framing
 - Phase/Gain Tracking
 - Equalization
 - Slicing

DVB-T

- Nordig Unified 2.2.1 Compliant
 - Excellent Echo in-guard and out-of-guard performance
- Consistent C/N Margin (a well-balanced implementation)
 - 13.9dB Gaussian Performance (64QAM ½ ¼ Guard) [Target=16.5dB]

ISDB-T

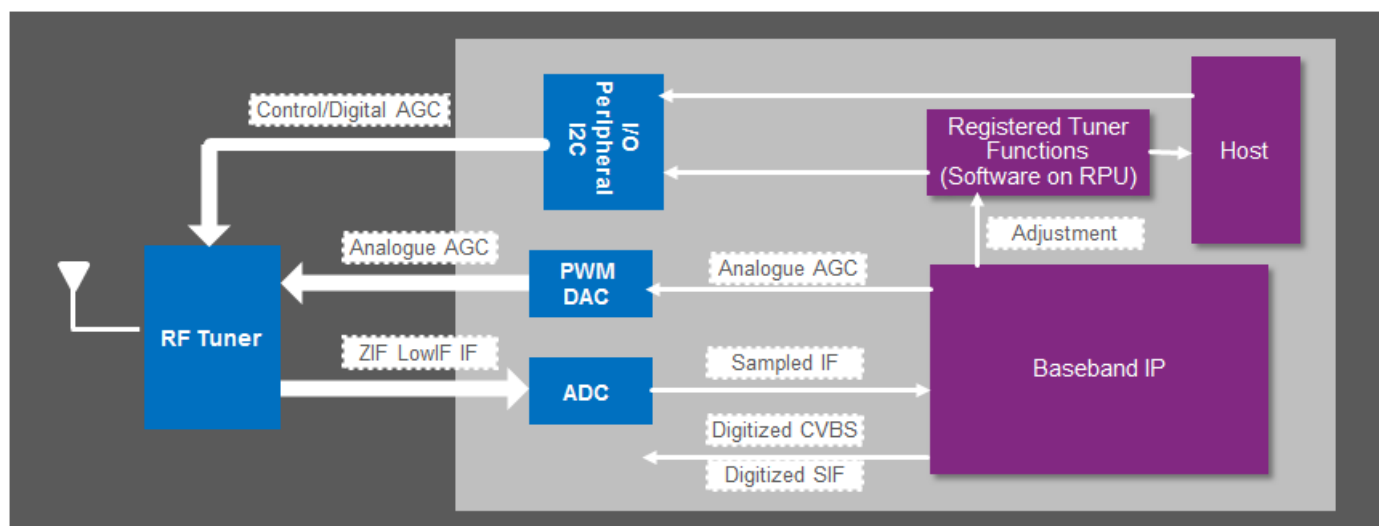
- Extension of Imagination's high performance 1-Seg implementation
 - 204Hz Doppler (QPSK 2/3, mode 3) in TU6 (fdmax)
- Transfers knowledge learnt in the highly competitive DVB-T/H markets
 - Many similarities between ISDB-T and DVB-T demodulation

ATSC

- 8VSB implementation
- Leading edge performance
- 42 out of 50 Field Ensembles
- 15.3 dB AWGN Performance
- Excellent Single Echo & Multi-path Performance

DVB-S2X

- Normative Features for Broadcast Service
- Flexibility to support optional features such as
 - Higher Order Constellations (64, 128 and 256 APSK)
 - VLSNR
 - Channel Bonding



Digital TV Evaluation Platform

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