

**Product Brief**

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**Description**

Zoran's SupraHD-640 ATSC reference design is a complete hardware and software solution for building a low-cost ATSC DTV Module that upgrades an existing NTSC Television to be ATSC compliant. The reference design consists of a hardware module ready for manufacturing and a TV application with complete middleware software stack, including closed-caption support. The hardware module accepts all the ATSC formats (480i, 480p, 720p, 1080i) and outputs 480i to a NTSC TV.

The SupraHD-640 DTV System IC is highly integrated, consisting of an MPEG-2 HD decoder, high-performance CPU, power graphics engine and video scaler. It also supports a variety of system interfaces, such as an infrared receiver, flash memory and DDR SDRAM interfaces. The decoded ATSC video stream can be output in component (YPbPr), composite (CVBS), and S-video (Y/C) formats. Audio can be output via an SPDIF interface or in analog format (L/R) using the chip's integrated audio DAC. Designed to use the minimum external components, the SupraHD-640 requires only memory, ATSC demodulator, ATSC tuner, and a small number of passive components to build a complete ATSC DTV Module.

**Key Hardware Features**

- SupraHD-640 DTV System IC
- NOR Flash Memory: 4MByte
- DDR SDRAM: 32MByte
- ATSC Tuner
- Zoran 8VSB Demodulator
- Video In: ATSC
- Video Out: YPbPr
- Audio Out: L/R Channels
- IR Remote, I2C, RS-232, and EJTAG interfaces

**System Software Features**

- ATSC DTV application software
- PSIP Parsing for channel map
- Digital Closed-Captioning (EIA-608)
- Transport, Video Decode (single MP@HL), Audio Decode (AC-3, MPEG Layer 1/2/3), Graphics, and Display drivers
- Peripheral drivers for Tuner and Demodulator
- Thread-X royalty-free operating system

**Zoran's ATSC DTV Module**

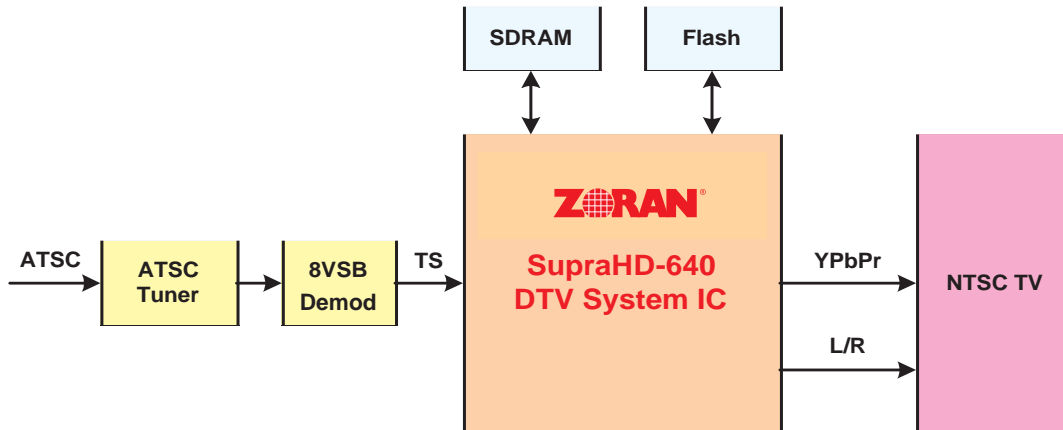


**Reference Design**

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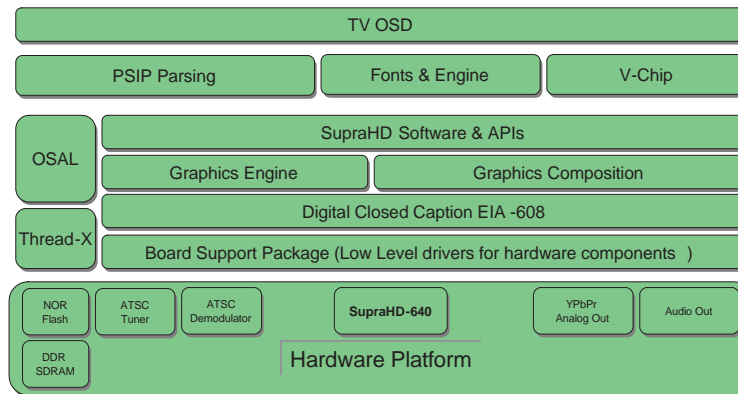
**System Block Diagram**



**Package Contents**

- DTV hardware reference board
- Power adapter, remote control, and necessary cables
- Pre-loaded ATSC software on flash memory
- Complete documentation for reference design, software, and IC on a CD-ROM

**System Architecture**



Export Classification Control Number (ECCN): 5A992 Product Order Code: ZR839640-ATSC-ATVX

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