



RAPID DEVELOPMENT OF SINGLE-CHIP,  
HIGH-RESOLUTION, REAL-TIME VIDEO  
PROCESSING SOLUTIONS

XILINX REAL-TIME VIDEO ENGINE TARGETED REFERENCE DESIGN:  
STREAMLINING DEVELOPMENT AND OPTIMIZATION OF VIDEO INNOVATIONS

### ➤ Broadcast Market Challenges

- High consumer expectations for viewing experiences
- Shrinking product release cycles, and fierce competition
- Increasingly complex video algorithms
- Constantly changing standards and interface technologies
- Pressures to lower costs and power

### ➤ Xilinx Solution

- Real-time video processing platform for single-chip solutions
- Rich video-processing feature set
- Standard interfaces for integrating IP using AMBA® AXI4
- Broad support for emerging and industry standards
- Fast path to the performance and power efficiency of the Xilinx 7 series devices

To compete in the fast-paced broadcast market, video solutions providers must rapidly innovate to provide video algorithm and feature advancements that improve the overall viewing experience. The Xilinx Real-Time Video Engine Targeted Reference Design gives developers a platform that accelerates the design, evaluation, optimization, and implementation of professional and broadcast quality video applications. A comprehensive reference design framework supports the complete video pipeline from video capture, to de-interlacing, scaling, on-screen display, and video out for driving displays.

The Xilinx platform facilitates solutions for any video application from cameras to switchers, storage servers to displays, and everything in between. Each video block within the Real-Time Video Engine Targeted Reference Design has standardized interfaces, making it easy to add to, upgrade, or mix and match video IP using AMBA AXI4. Supporting up to 12-bit color depth and 4:4:4 processing, the platform is capable of processing full HD, 3D, 4K2K and Digital Cinema video in real time.

### Speeding Time to Market

Designers can shorten development cycles and accelerate access to the advanced functionality of Xilinx 7 series FPGAs by getting started today with the Real-Time Video Engine platform:

- Choice of Xilinx Spartan®-6 FPGA or Virtex®-6 FPGA Broadcast Connectivity Kits, the Xilinx Kintex™-7 FPGA KC705 Evaluation Kit or the Kintex-7 FPGA ACDC Platform from Tokyo Electron Device Ltd.
- Flexible hardware interfacing (availability of SDI, HDMI, DisplayPort, DVI, V-by-One HS and LVDS FMCs from Xilinx and ecosystem partners)
- Xilinx ISE Design Suite tools
- Video processing IP bundle (16 video and image processing LogiCORE IP cores):
  - Released in CORE Generator™ system
  - Bit-accurate C-models
  - Multiple control interfaces (EDK pCore, General Purpose Processor, Constant Interface State Machine)
- Free reference design files available for download from the Real-Time Video Engine Lounge on [www.xilinx.com/RTVE](http://www.xilinx.com/RTVE)

