

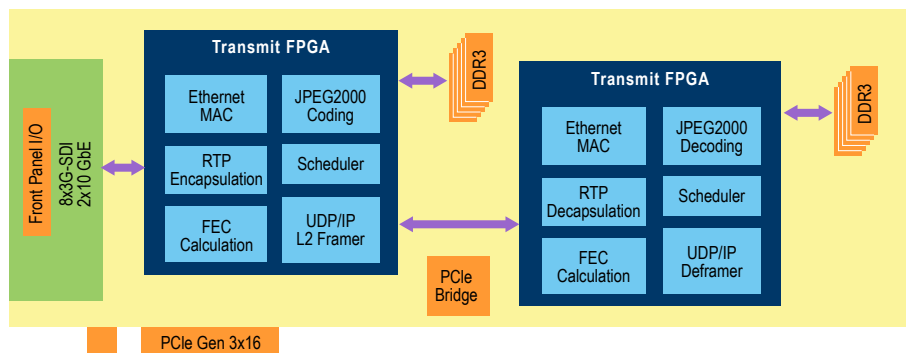
Video Development Platform for UHD Processing and Transport

Altera created the Stratix® V Advanced Systems Development Kit with professional video needs in mind. Unlike typical evaluation boards that are intended for basic prototyping, this platform has sufficient resources for complete end-product design. Its PCIe form-factor and interchangeable front-panel I/O connectivity make it ideal for accelerating both proof-of-concept and final product development.

Example Application: IP-Based Video Transport

With transport of 4K UHD at 60 fps exceeding the limits of existing SDI, Ethernet is emerging as a viable cost-effective way to move high-bandwidth video over long distances for broadcast backhaul. A 10GbE link can accommodate a 4K30 raw video signal, and a 4K60 stream can be achieved with JPEG2000 mezzanine compression. The Advanced Systems Development Kit has ample transceiver I/O bandwidth and FPGA resources to implement multi-channel IP-based transmit and receive on one board.

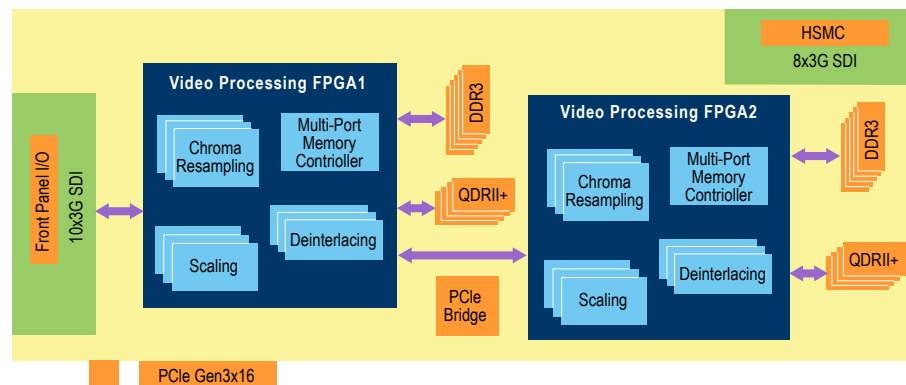
SMPTE 2022 Integrated with JPEG2000 on the Advanced Systems Development Kit



Example Application: Multi-Channel Video Ingest and Capture

Increasing the channels per RU or slot makes a product future-friendly, especially in rack-mount or server environments. The Advanced Systems Development Kit's front-panel and top edge connectors combine for 18 transceiver channels, and the 16-Lane PCIe Gen3 links provide plenty of headroom for moving data to and from the rest of the infrastructure.

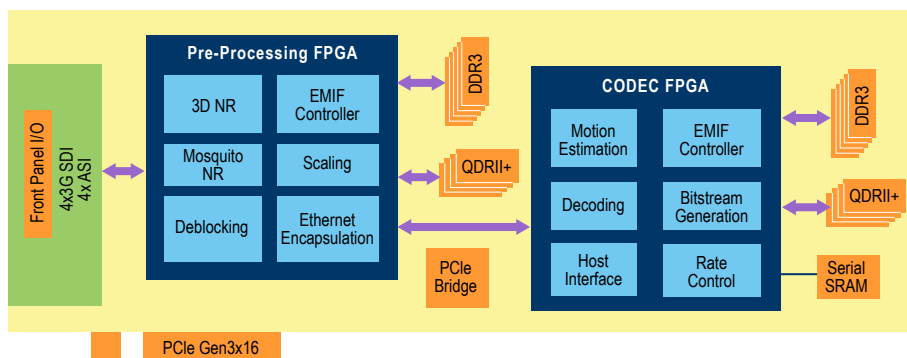
High-Density PCIe Video Capture on the Advanced Systems Development Kit



Example Application: Multi-Format Video Encoding and Transcoding

Complex codec functions are implemented over multiple devices with high bandwidth requirements for external memory, host interface, and between devices. To address this, this development kit features a 100 Gbps interface between two large Stratix V FPGAs, and each FPGA has 358 Gbps of DDR3, 158 Gbps of QDRII, and 176 Gbps of high-speed serial SRAM.

Multi-Format Video Encoding and Transcoding on the Advanced Systems Development Kit



Go Straight to Production

To further accelerate your time-to-market, customers have full manufacturing rights to fabricate this board – either exactly as is, or via derivatives. In other words, after you bring concepts to life on this development board, you can initiate production without much board design work.

The Advanced Systems Development Kit comes with all board-related design files, such as schematics, layout, and bill of materials. For example, you can drop in a pin-compatible Stratix V FPGA and optimize the amount of external memory components populated, then go straight to production. This can significantly reduce the engineering effort needed to launch a product.

When combined with SFP+ products, such as those from Embrionix's line of video emSFP® modules, this powerful flexibility allows customers to rapidly release products today, and still future-proof the hardware with simple SFP+ module upgrades.



Want to dig deeper?

To learn more about the Stratix V Advanced Systems Development Kit, and how it can help you leverage the convergence of broadcast and IT, contact your Altera sales representative or FAE. or visit <http://www.altera.com/products/devkits/altera/kit-stratix-v-advanced.html>

Altera Corporation
101 Innovation Drive
San Jose, CA 95134
USA
www.altera.com

Altera European Headquarters
Holmers Farm Way
High Wycombe
Buckinghamshire
HP12 4XF
United Kingdom
Telephone: (44) 1494 602000

Altera Japan Ltd.
Shinjuku i-Land Tower 32F
6-5-1, Nishi-Shinjuku
Shinjuku-ku, Tokyo 163-1332
Japan
Telephone: (81) 3 3340 9480
www.altera.co.jp

Altera International Ltd.
Unit 11- 18, 9/F
Millennium City 1, Tower 1
388 Kwun Tong Road
Kwun Tong
Kowloon, Hong Kong
Telephone: (852) 2 945 7000
www.altera.com.cn

