



System-On-Chip Technologies

PRODUCT BRIEF

SoM-X-A200T-RB Module

The SoM-X-A200T-RB Module is a streamlined version of the SoM-X-A200T, featuring a smaller form factor, robust design for harsh environments, and optimized to run on a single 5-volt input.

This small-footprint PCB features an FPGA pre-configured with SOC's advanced MPEG-2 or H.264 HD Encoder and Decoder IP Cores, along with all the necessary components for both video/audio encoding and decoding.

This complete plug-and-play unit is engineered to simplify your video processing needs, delivering exceptional performance in a single, integrated module.

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SOC SoM-X-A200T-RB: Ultimate Compact Solution for High-Performance Video/Audio Processing

Discover the SoM-X-A200T-RB System-On-Module (SoM)—a compact, low-power, high-performance solution featuring the Xilinx Artix-7 A200T FPGA. Available in both commercial (SoM-X-A200T-RB-C) and industrial (SoM-X-A200T-RB-I) versions, this module features a small form factor designed for rugged environments and to meet the demands of any SoM application.

Both versions utilize a Razor Beam connector, offering a reliable and secure connection to your carrier board. This standard interface ensures seamless integration and enhances the module's versatility, making it highly effective for any environment, from controlled setups to more rugged applications.

Ideal for a wide range of SoM applications, this module supports user-defined firmware development with SOC's comprehensive firmware platforms.

Elevate your video and audio codec applications with the SoM-X-A200T-RB based on SOC's advanced MPEG Codec IP Cores, including H.264 and MPEG2 encoders, decoders, and transcoder. Plus, explore multiple channel modules for enhanced functionality.

SoM-X-A200T-RB Key Features

- ARTIX-7 XC7A200T FPGA
- 2X2Gbits DDR3 RAM
- BF512 DSP
- 256MB SD-RAM for the DSP
- 256MB FLASH MEMORY (for booting firmware storage)
- 27MHz and 100MHz OSCILLATORS
- FPGA Firmware Key EEPROM
- COMMERCIAL & INDUSTRIAL VERSIONS
- SELF BOOTING SEQUENCE (no power up sequencing required)
- SMALL SIZE, 2.0"x 1.5"

SOC Codec Modules Based on SoM-X-A200T-RB

SOC supplies a number of MPEG codec modules based on the SoM-X-A200T, which include encoder, decoder, and transcoder modules for both H.264/AVC and MPEG-2 standard in addition to a-NET version that connects directly to an Ethernet PHY

Features:

- Zero Latency (0.25ms for HD Resolution)
- Low Power
- High Video Quality
- Easy to Integrate with User PCB
- Reference PCB Designs are available
- Technical Support available

CODEC Modules Specifications:

- MPEG Standard: H.264 or MPEG2
- Profiles: High, Main, and Baseline
- Output bit rates: 1-800Mbps & above
- Video resolutions: Up to 1080i/p
- Frame Rate: Up to 60fps
- Chroma Formats: 4:2:2 or 4:2:0
- Precision: 8 bits or 10 bits
- Stream format: Transport Stream, or UDP/IP over Ethernet
- Video format: RGB or YUV
- Power Consumption: 1-4w
- Working Temperature: 0°C-70°C (Commercial Version)
-40°C-85°C (Industrial Version)

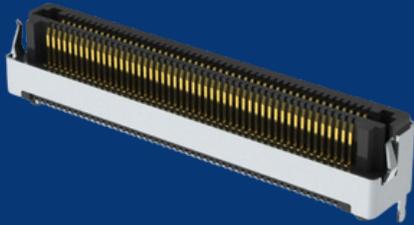
Product Table (SOC Codec Modules based on the SoM-X-A200T-RB)

Specifications						
Standard	Profile	Resolution	Chroma	Precision	Frame Rate	Audio
MPEG-2 Encoder	Up to High	Up to 1080i/p	4:2:0/4:2:4	8 bits	Up to 60fps	ACC or MPEG2-L2
MPEG-2 Decoder	Up to High	Up to 1080i/p	4:2:0/4:2:5	8 bits	Up to 60fps	ACC or MPEG2-L2
H.264 Encoder	Up to High	Up to 1080i/p	4:2:0/4:2:2	Up to 10 bits	Up to 60fps	ACC or MPEG2-L2
H.264 Decoder	Up to High	Up to 1080i/p	4:2:0/4:2:3	Up to 10 bits	Up to 60fps	ACC or MPEG2-L2

Generic SoM Based on SoM-X-A200T-RB

The SoM-X-A200T-RB is not just a powerful module—it's a versatile platform for innovation.

Use it as a generic System-on-Module (SoM) to develop your own custom firmware and create unique SoM products. Designed for seamless integration, the SoM-X-A200T connects to your carrier board using a pair of LSHM-150-04.0-L-DV-A-S-K-TR Razor Beam connectors.



PCB Connector for the SoM-X-A200T-RB:
LSHM-150-04.0-L-DV-A-S-K-TR