SOC®

System-On-Chip Technologies

PRODUCT BRIEF

SoM-X-A200T

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.

www.soctechnologies.com
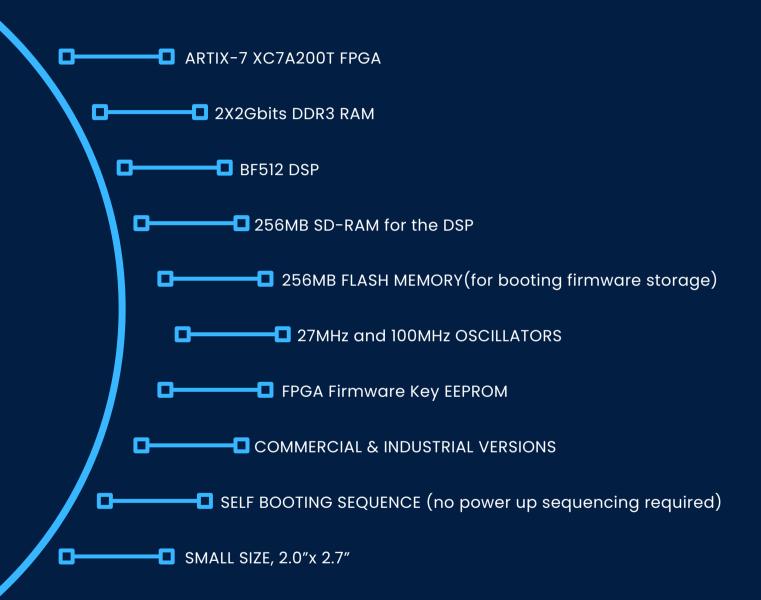+1 519-880-8609
soc@soctechnologies.com

SOC SoM-X-A200T: Your Gateway to High-Performance Video/Audio Codec Applications

Discover the power and flexibility of the SOC SoM-X-A200T System-On-Module (SoM), a compact yet robust circuit board built on the Xilinx Artix-7 A200T FPGA.

Available in both commercial and industrial versions (SoM-X-A200T-C and SoM-X-A200T-I), this versatile module is designed to meet the demands of any environment. Featuring a standard DDR3 SODIMM connector, it easily integrates with your carrier board, making it ideal for a wide range of SoM applications.

Whether you're developing custom firmware or utilizing SOC's high-performance MPEG Codec IP Cores for H.264 and MPEG2 video/audio tasks, the SoM-X-A200T delivers exceptional performance and flexibility in HD. With support for multiple channel modules, it's the ideal choice to ensure your project's success from start to finish.

SoM-X-A200T 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 2.7"

SOC Codec Modules Based on SoM-X-A200T

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:

- Minimal 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: 0ºC-70ºC (Commercial Version)
  -40ºC-85ºC (Industrial Version)

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

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

Generic SoM Based on SoM-X-A200T

The SoM-X-A200T 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 standard 204-pin DDR3 SODIMM connector. With a range of compatible connectors readily available, you'll find everything you need to bring your vision to life.

Compatible connectors for the SOC SoM-X-A200T SoM:
- MM80-204B1-1
- MM80-204B1-E1
- AS0A621-U2SN-7F
- AS0A621-H2S6-7H

Enhance Your Development: Explore SOC's Firmware Development Platforms for the SoM-X-A200T

SOC offers a range of advanced development platforms, empowering you to effortlessly create custom firmware for the SoM-X-A200T.