

The A256S (AX8860P SOM) is a compact computing module designed for edge AI applications. It integrates the AX8860P processor, memory, storage, and power circuitry into a single module. The module connects to the carrier board via a 644-pin LPCAMM2 connector. This modular design separates the core computing platform from application-specific hardware, simplifying carrier board design while enabling reuse across diverse applications.

A256S



Overview

CPU

- 16-core Cortex A55 @ 1.65 GHz
- L1: 32 KB I/D-cache per core
- L2: 64 KB cache per core
- L3: 1024 KB
- Supports GIC-600, NEON, FPU, and TrustZone

NPU

- 256 TOPS
- Native support for mixed precision: INT4/8/16, FP4/8/16, BF16
- Supports multi-batch inference and IVE
- Supports CNN, Transformer, LLM/VLM/VLA/Omni

Video Decoding

- H.264 & H.265: 64 × 1080P @ 30 fps
- Resolution up to 8K (7680 × 4320)

Video Encoding

- H.264 & H.265: 16 × 1080P @ 30 fps
- Resolution up to 8K (7680 × 4320)

Image Codec

- JPEG: 1080P @ 720 fps encoding and decoding
- Resolution up to 32768 × 32768

Video Preprocessing

- Supports image CSC, Resize, and up to 3 streams
- Supports crop, rotate, flip, mirror, and contrast/hue/saturation adjustment



Hardware Specs

DDR

- LPDDR5/LP5X, 256 bits
- 8533 Mbps
- Supports 32/64/128 GB

SPI Flash

Nor Flash 16 MB (DDR configuration of 128 GB)

eMMC

64 GB (DDR configuration of 32 GB/64 GB)

Ethernet & USB 3.2 & PCIe 3.0 Combo

1 × PCIe 3.0 × 1 lane / USB 3.0 / 10 Gigabit Ethernet Combo

USB

- Supports 1-ch USB 2.0
- Supports Host/Device mode

PCIe

3 × PCIe 5.0 × 4. Supports RC/EP mode.

Other Modules

I2S, I2C, SPI, Uart...



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Security

Built-in security module

- Supports secure boot
- Hardware implementation of AES, DES, and 3DES
- Hardware implementation of SHA-1, SHA-224, SHA-256



Start-up

Boot mode

- Supports booting from eMMC
- Supports booting from SPI Nor Flash
- Supports booting from SPI Nand Flash
- Supports booting from PCIe



Interfaces

Packaging

78 mm × 78 mm



WeChat
Subscription
Account

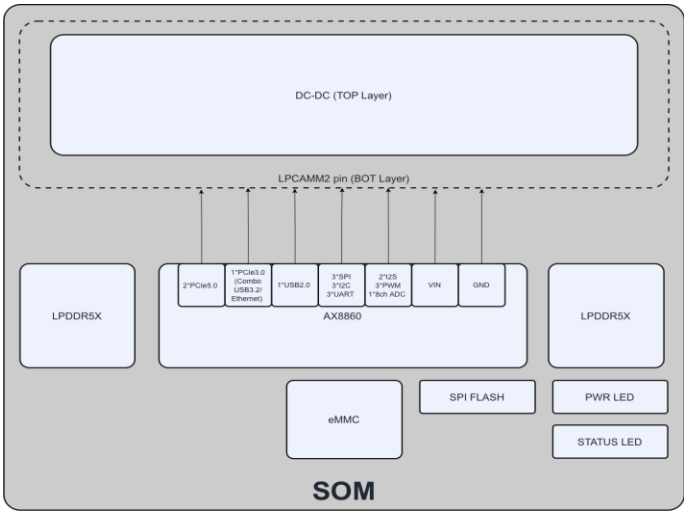


Official
Website

Model/TPS	Prefill TPS (4096 token input) (W4A16)	Decode TPS (1024 token output) (W4A16)
Qwen3.5-9B	4428	47
Qwen3.8-27B	1316	15
Qwen3.5-35B A3B	6230	80

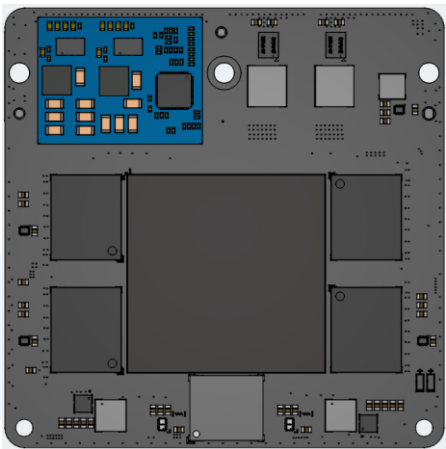
Model	Batch = 1, FPS	Model	Batch = 1, FPS
ViT-L-14-336	190	ResNet50	4300
YOLO26s	1450		

A256S Product Diagram

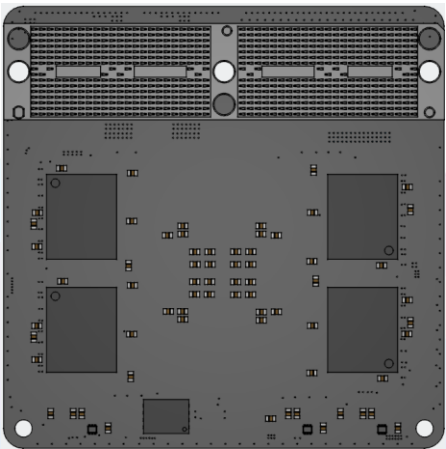


A256S

Top



Bottom



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