K3 CoM260 Kit

RISC-V Architecture For Intelligent Future

A Full-Stack RISC-V Robotics Development Kit

The SpacemiT K3-CoM260 Developer Kit integrates an 8-core general-purpose CPU and an 8-core AI CPU into a compact compute module and reference carrier board. It delivers up to 60 TOPS of AI performance and 130 KDMIPS of general computing power, enabling smooth execution of 30B large models.
Built on the RISC-V architecture, the kit supports mainstream AI model deployment while following standard CPU programming paradigms, allowing seamless, zero-cost migration of AI algorithms. With hardware compatibility aligned with Orin Nano, it serves as a complete platform for edge AI development and validation, ideal for AI appliances, service robots, and autonomous edge agents.

High-Performance Edge AI

Up to 60 TOPS AI compute, supporting smooth inference of 30B models and multi-stream concurrent workloads

CPU + AI CPU Architecture

Co-designed general-purpose CPU and AI CPU to balance system computing and high-performance AI inference

Modular Design

Compute module + carrier board form factor, compatible with the full K3-CoM260 series for easy integration

Developer-Friendly

Standard CPU programming model enables zero-cost migration of AI algorithms and system software

Advanced RISC-V Architecture

The world's first compact RISC-V edge computing platform supporting the RVA23 profile

Rich Standard Interfaces

Comprehensive high-speed I/O and expansion interfaces for cameras, sensors, and peripherals

Robotics-Grade Security

Integrated hardware security engine with OP-TEE support for trusted execution and secure system deployment

Engineering-Ready Support

Supports customized software, carrier board design, and full system integration to accelerate product deployment

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Specifications

Chip	SpacemiT K3 RISC-V AI CPU
CPU	8 x X100™ 64-bit RISC-V CPU cores - 2 clusters x 4 cores per cluster, each cluster includes 4 MB shared L2 cache, with cross-cluster access - Each X100 core includes 64 KB I-cache and 64 KB D-cache - Compliant with the RVA23 profile - Supports RVV 1.0, VLEN: 256 bits
AI Performance	8 x A100™ AI CPU cores, delivering 60 TOPS -2 clusters x 4 cores per cluster, each cluster includes 1 MB shared L2 cache and 1.5 MB TCM (Tightly Coupled Memory), with cross-cluster access - Each A100 core includes 32 KB I-cache and 32 KB D-cache - Supports RVV 1.0, VLEN: 1024 bits
Hardware Security Engine	Supports international and Chinese commercial cryptographic algorithms - Hash: SHA1 / SHA224 / SHA256, SM3 - Symmetric encryption: AES-128/192/256, SM4 - Asymmetric encryption: RSA-1024/2048/4096, ECC-128/256/512, SM2
Security System	HW-RoT-based Secure Boot Trusted Execution Environment (TEE) with RISC-V PMP/IOPMP isolation mechanisms Supports the OP-TEE OS
GPU	Integrated 3D GPU, with support for Vulkan, OpenCL, and OpenGL ES
Memory	8GB/16GB/32GB 64 位 LPDDR5、6400MT/s
Storage	Supports internal UFS, SD card slot, and external NVMe
Video Encoding	4K60（H.264/H.265）
Video Decoding	1 x 4K120 (H.264/H.265/VP9) 2 x 4K60 (H.264/H.265/VP9) 8 x 1080p60 (H.264/H.265/VP9) 16 x 1080p30 (H.264/H.265/VP9)
Power Consumption	18W ~ 35W

Reference Carrier Board

Camera	2 x MIPI CSI-1.1, 22-pin camera connectors
PCIe	M.2 Key M slot (PCIe Gen3 ×4) M.2 Key M slot (PCIe Gen3 ×1) M.2 Key E slot
USB	4 x USB 3.0 Type-A 1 x USB Type-C
Networking	1 x GbE connector
Display	1 x DP 1.2 connector 1 x MIPI DSI-1.2 30-pin display connector
Other I/O	40-pin expansion header (UART, SPI, I2S, I2C, GPIO) 12-pin button header 4-pin fan header DC power jack
Mechanical	103mm x 90.5mm x 34.77mm (Height includes feet, carrier board, module, and thermal solution)