

Category Award AI Computing & Tech

Edge AI Accelerator



Realtek Semiconductor Corp.
瑞昱半導體股份有限公司



Winning Reason

Realtek's Matrix Edge AI architecture integrates dedicated AI accelerators, such as NPUs, into a wide spectrum of SoCs—spanning communication and multimedia chipsets. This enables edge devices to execute complex AI tasks locally without cloud dependency. By incorporating ultra-low-power sensing, real-time voice translation, and AI noise cancellation, the Matrix platform enhances privacy by keeping data on-device. This strategic framework empowers Realtek's extensive chip portfolio with localized intelligence, rapidly creating immense value across diverse application markets.

Product Feature

Supports both conventional CNN and transformer models for edge generative AI application such as live translation, LLM, AI agents, and multi-modal generative AI tasks Embeds 20 TOPS NPU and supports multiple formats (INT4, INT8, INT16, FP8, FP16, BP16). It is equipped with ARM big core CPU and GPU and can act as a system SOC Supports LPDDR4x/5/5X and the usage can be optimized based on density and bandwidth for the application by choosing LPDDR4x or LPDDR5 Supports additional standalone video/audio interface such as USB-C, DisplayPort and others for video/audio products. It can process the input video/audio in real time and output to external display or panel Supports USB/PCIe (M.2) interface as an AI accelerator and can be adopted for edge AI computers, industry computers, NAS, etc

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