ASUS IoT, the global AIoT solution provider, today announced the all-new Tinker V — a versatile single-board computer (SBC) powered by a 64-bit RISC-V-based processor, which supports both Linux Debian and Yocto operating systems. Tinker V packs features rich connectivity into a compact Pico-ITX form factor, and pairs assured longevity with reliable support, making it the ideal choice for diverse IoT and gateway applications.

Embracing open-source RISC-V architecture for enhanced IoT developer choice and flexibility

The RISC-V processor employs the open-source Instruction Set Architecture (ISA), based on Reduced Instruction Set (RISC) principles. Compared with traditional x86 and Arm platforms, the defining benefit of RISC-V is that ISA is open source. Both individual developers and enterprises can change, optimize and deploy freely based on the RISC-V architecture — bypassing licensing and copyright fees.
The launch of Tinker V, based on RISC-V, represents ASUS IoT's ongoing commitment to accelerating IoT technologies, providing convenient and efficient environments for people everywhere.
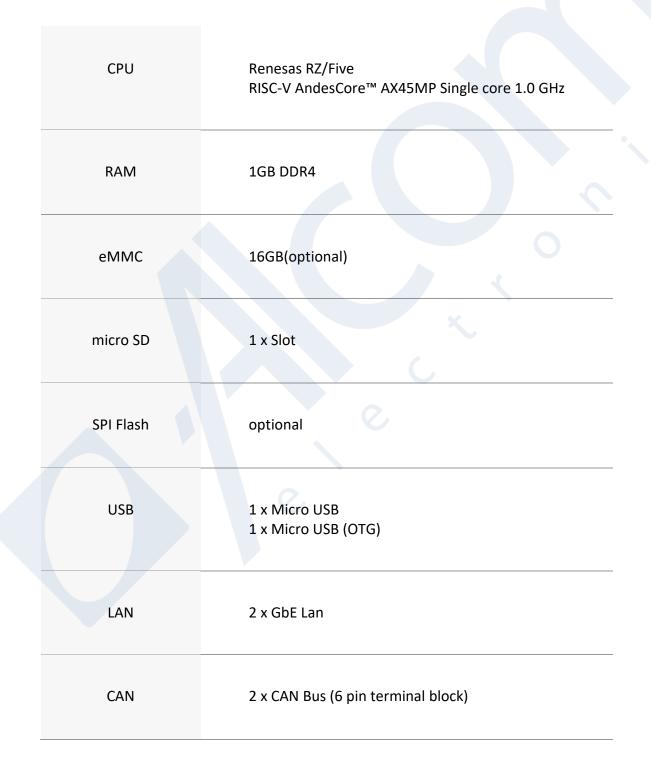
Ideal for industrial IoT applications

The all-new Tinker V SBC is specially designed to run Linux Debian and Yocto. Featuring an ultra-compact size, it provides impressive power, comprehensive functionality and rich connectivity — making it the perfect choice for a diverse range of industrial IoT applications. Specially, Tinker V is equipped with a Renesas RZ/Five MPU, which incorporates the RISC-V AndesCore™ AX45MP single-core supporting 1.0 GHz operating frequencies. It is also engineered with a broad spread of peripheral connectors for industrial use, including GPIO, micro-USB, dual gigabit Ethernet, a pair of CAN bus interfaces and two RS232 COM ports. It also benefits from 1 GB of built-in RAM and an optional 16 GB eMMC, while supporting a wide range of operating temperatures from as low as -20°C to as high as 60°C.

First RISC-V single-board computer (SBC) embraces open-source architecture

- **First ASUS IoT RISC-V SBC**: 64-bit processor embraces open-source RISC-V architecture to deepen diversity and flexibility for IoT developers
- **Ideal for industrial IoT**: Linux Debian and Yocto support, rich connectivity, assured longevity and reliable, trusted technical support
- **Fast-growing ecosystem**: ASUS IoT collaborates with Renesas and Andes to accelerate adoption of RISC-V and deployment in industrial IoT applications

CPU	Renesas RZ/Five RISC-V AndesCore™ AX45MP Single core 1.0 GHz
RAM	1GB DDR4
eMMC	16GB(optional)
micro SD	1 x Slot
SPI Flash	optional
USB	1 x Micro USB 1 x Micro USB (OTG)
LAN	2 x GbE Lan
CAN	2 x CAN Bus (6 pin terminal block)

COM	2 x COM RS232 (5 pin terminal block)
GPIO	20 pin header up to 2 x UART up to 2 x I2C up to 4 x GPIO up to 2 x ADC 1 x SPI 1 x 3.3V 5 x GND
Debug	JTAG (pin header)
Power	1 x DC Barrel Jack (5.5/2.5 mm) 10~24V
OP Temp.	-20~60