





Kakip Renesas AI-MPU RZ/V2H



"Kakip", a Single Board Computer equipped with the new generation AI-MPU "Renesas RZ/V2H", has AI inference processing performance of up to 80TOPS (@Sparse) with the powerful NPU "DRP-AI3" and multi-core CPU to run multiple OSs simultaneously. Despite its small size, Kakip is equipped with many interfaces, making it suitable for development and integration into a variety of applications, including robotics.

Core Processor (Renesas RZ/V2H) & Memory

<CPU>

Multi-core CPU configuration enables various OS controls such as coexistence with ROS2 or RTOS.

Powerful CPU cores are ideal for robots that perform complex tasks.

Three cores with different performance enable different applications to be built in each.

<NPU>

The latest "DRP-AI3" with excellent power performance provides powerful AI image processing.

DRP is also equipped, enabling efficient offloading of OpenCV and other inference image processing.

<Memory>

Low power consumption and high speed LPDDR4 eliminates processing speed

Large memory capacity provides room for data storage in AI image processing and edge IoT.



Applications

AMR (Autonomous Mobile Robots), HSR (Human Support Rotots), Drones, CCTV and more.









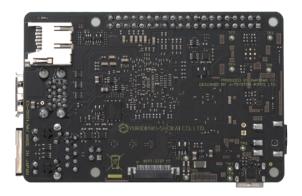












Rich interfaces on a small board

| AI-MPU | Renesas RZ/V2H |
|-------------|---------------------------------------|
| CPU | Cortex-A55 Quad 1.1GHz |
| | Cortex-R8 Dual 800MHz |
| | Cortex-M33 200 MHz |
| NPU | DRP-AI3 (INT8) / DRP (STP4) |
| Memory | LPDDR4 1600MHz (8GB) |
| RTC | Equipped (Need Power Input) |
| Ethernet | 10/100/1000 Base-T RJ45 |
| Video In | MIPI-CSI 4Lane x4 (22pin / 0.5mm) |
| Video Out | MIPI-DSI 4Lane x1 (22pin / 0.5mm) |
| PCle | PCle 3.0 x1 End Point (16pin / 0.5mm) |
| USB | USB 3.0 (TypeA x2) / USB-CDC x1 |
| GPIO | 40Pins 2.54mm Pin header |
| SD Card | micro SD |
| Power Input | 12V/2.4A (DC Jack Φ5.5/2.1) |
| Size | L85 x W56 x H20 |
| OS | Yocto Linux |
| Production | Japan |

Interfaces



GPIO



Ethernet / USB / CAN



MIPI-CSI



MIPI-DSI

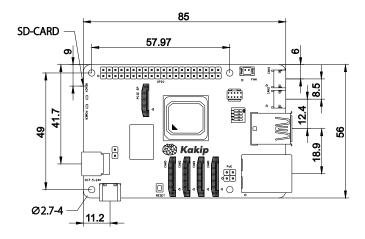


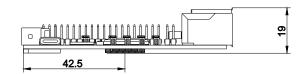
PoE Input



SD Card

Dimensions







PCIe EP

Inquiry



Power In