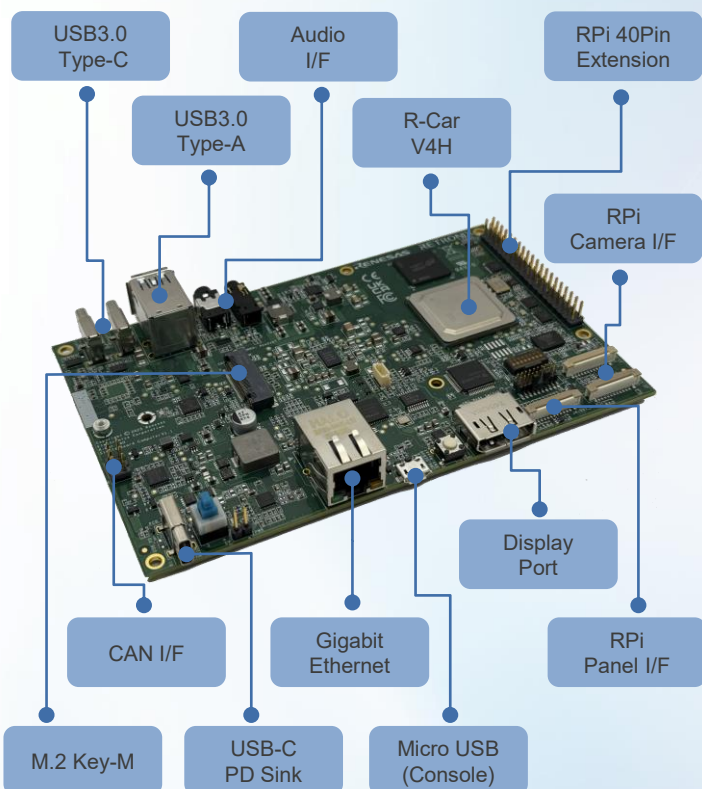Integrated development environment for AI services and low-cost compact board

# R-Car V4H Sparrow Hawk
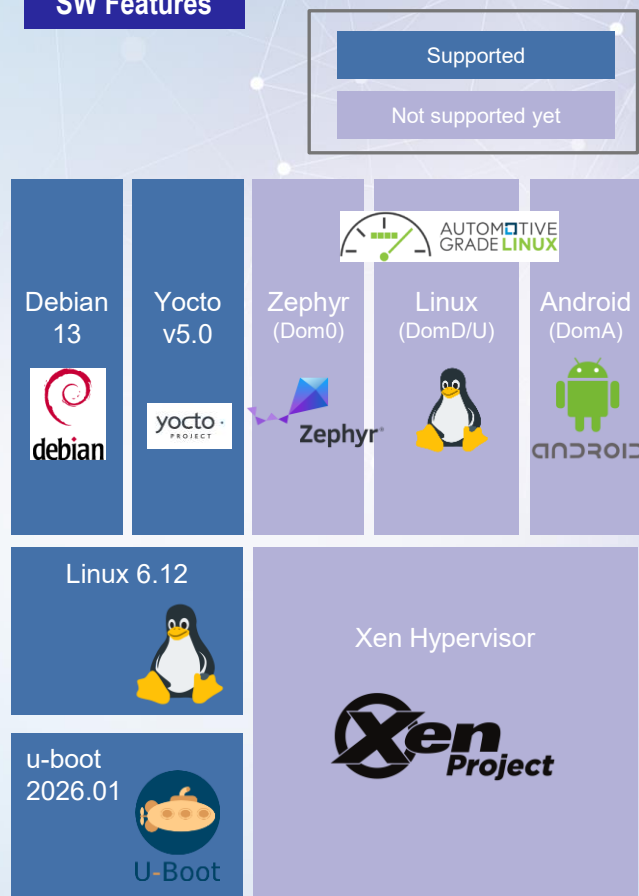
## Core benefits

- ### Ready to run OSS based software and start development
  - – Get started instantly with OSS based SW supporting Yocto & Debian, available FoC (Free Of Charge) with just Click though agreement

- ### Unleash 30TOPS AI power in a compact board design
  - – Experience up to 30 TOPS range AI performance on a compact board (146 × 90 mm) and fully compatible with Raspberry Pi HAT.

- ### Affordable and accessible hardware for everyone
  - – Low-cost board available through global distributors and High-volume production ensuring stable supply and large inventory

## HW Features

| Block |
|---|
| USB3.0 Type-C |
| USB3.0 Type-A |
| Audio I/F |
| R-Car V4H |
| RPi 40Pin Extension |
| RPi Camera I/F |
| CAN I/F |
| Gigabit Ethernet |
| Display Port |
| RPi Panel I/F |
| M.2 Key-M |
| USB-C PD Sink |
| Micro USB (Console) |

## SW Features

| Supported |
|---|
| Not supported yet |

| Debian 13 | Yocto v5.0 | Zephyr (Dom0) | Linux (DomD/U) | Android (DomA) |
|---|---|---|---|---|
| debian | yocto PROJECT | Zephyr | | android |

AUTOMOTIVE GRADE LINUX

| Linux 6.12 | Xen Hypervisor |
|---|---|
| u-boot 2026.01 / U-Boot | Xen Project |

| Board variants | Basic Kit | | Complete Kit | |
|---|---|---|---|---|
| DDR | 8G | 16G | 8G | 16G |
| Sparrow Hawk | ✓ | ✓ | ✓ | ✓ |
| Argon FAN | | | ✓ | ✓ |
| Micro USB cable | | | ✓ | ✓ |
| 32GB Micro SD card | | | ✓ | ✓ |

## HW Features

| | |
|---|---|
| CPU | 4x Arm® Cortex®-A76 (81K DMIPS) 3x Arm® Cortex®-R52 (25K DMIPS) |
| CNN-IP | 30 TOPS DENSE |
| GPU | PowerPV AXM-8-256 (150 GFLOPS) |
| DRAM | LPDDR5 6400Mbps 8GB / 5500Mbps 16GB |
| Flash Memory | 64MB QSPI |
| Camera I/F | 2x Raspberry Pi Camera |
| Display | 1x DP, 1x DSI |
| Ethernet AVB | 1 Port (1Gbps) |
| Debug Serial | 2 Port |
| Audio | In/Out, In |
| PCIe | 1x M.2 Key-M (x2 lane) |
| USB3.0 | 2x USB type-A, 2x USB type-C |
| CAN-FD | 2 Port |
| Removal Media | 1x MicroSD |
| Extensions | Raspberry Pi 40-Pin CN |
| Power | USB PD 20V |

## SW Features

| | |
|---|---|
| Yocto BSP | Yocto Project 5.0.xx |
| Debian based BSP | Debian 13 |
| Linux kernel | V6.12.xx |
| u-boot | 2026.01 |
| Trusted Firmware-A | V2.14.0 |

Please see the details here：
https://rcar-community.github.io/Sparrow-Hawk/

- Board / SW info
- Getting started
- Get the board

Please see the details here：
https://www.retronix.com.tw/en/product_sbc.html

- Web page of Retronix Technology Inc.
- Board info
- Board UM

Where to buy：
http://www.shimafuji.co.jp/en/products/2207

- Web page of Shimafuji Electric Incorporated
- Contact：info@shimafuji.co.jp

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V1.00