

RA Ecosystem Partner Solution

RT-Thread RA8P1 Titan Board



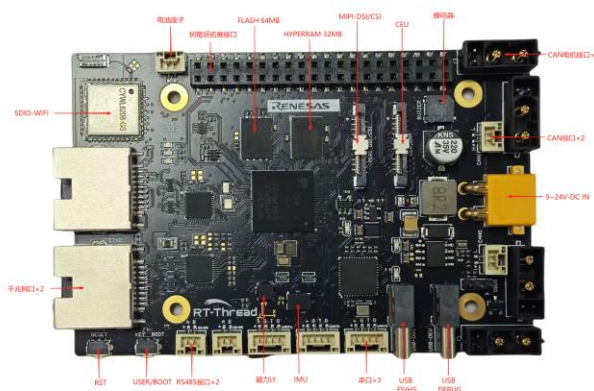
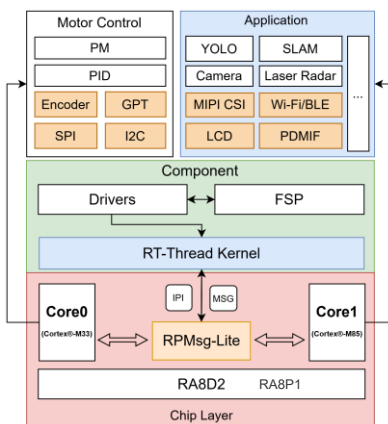
Solution Summary

The Titan Board is a development board launched by RT-Thread, based on the Renesas [RA8P1](#) MCUs featuring a dual-core architecture with Cortex-M85 and Cortex-M33. It provides engineers with a flexible and comprehensive development platform, helping developers gain deeper insights and experiences in the field of embedded IoT, simplifying development.

Features/Benefits

- Memory extension: 64MB NorFlash and 32MB HyperRAM.
- Function extension: 2x Gbps Ethernet, MIPI-CSI / CEU for Camera, MIPI-DSI/RGB for display, Wi-Fi connectors, on-board IMU and magnetometer, CAN-FD etc.
- SDK library includes basic peripheral drivers, LVGLV9 graphic engine, camera basic project, AI demo for face recognition, HID and CDC for USB demo, Wi-Fi and Ethernet for network demo
- RPMsg-Lite dual core communication

Diagrams/Graphics



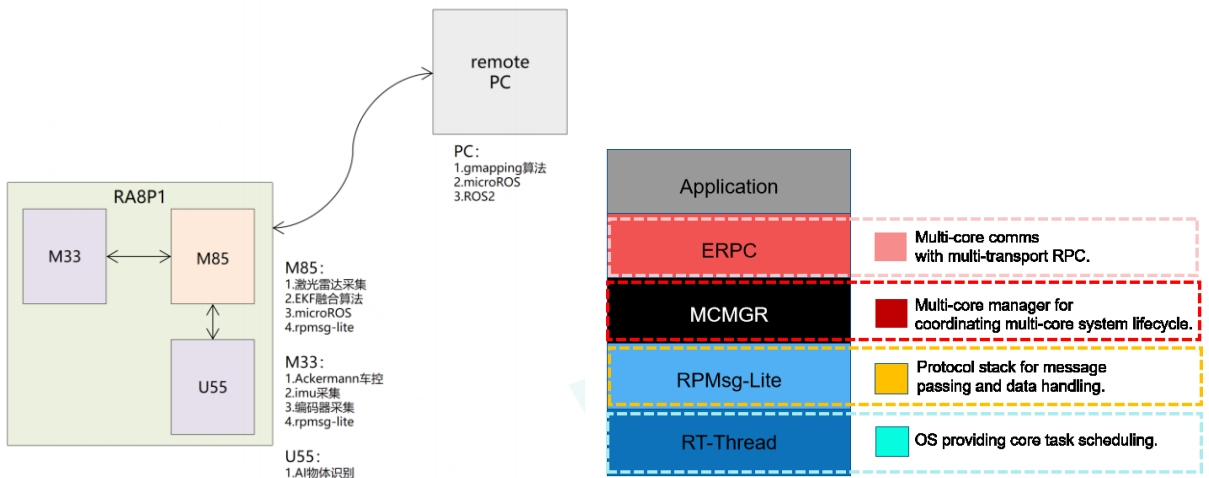
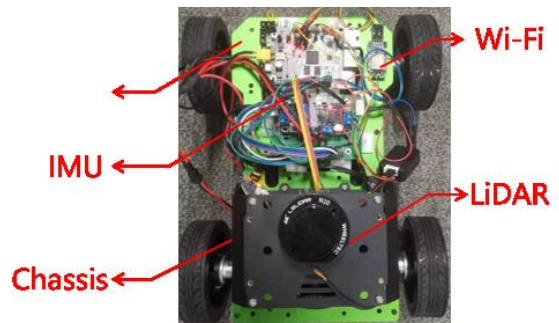
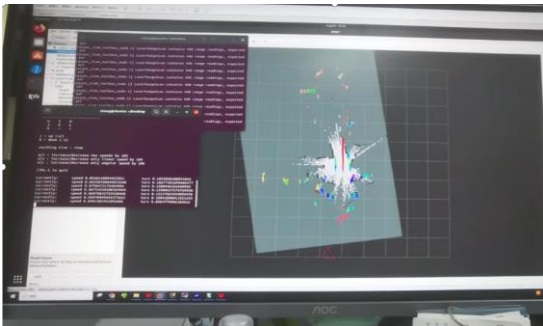
Target Markets and Applications

- Edge AI devices



This solution, based on the RT-Thread open-source real-time operating system, implements target face detection:

- Neural network model: Yolo-Fastest (Size: 509KB)
- Model input size: $1 \times 192 \times 192 \times 1$
- Output: $1 \times 6 \times 6 \times 18 + 1 \times 12 \times 12 \times 18$
- Target detection is accelerated using an Ethos™-U55 NPU unit.



Application Framework

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