MY TB3

SEP 16, 2021

SYSTEM & SOLUTION TEAM-IIBU GLOBAL SALES
RENESAS ELECTRONICS

BIG IDEAS FOR EVERY SPACE **RENESAS**

Press Released for Robotics Applications on RA MCUs Sep 2nd

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PRODUCTS | **APPLICATIONS** | **DESIGN & SUPPORT** | **BUY & SAMPLE** | **ABOUT**

About Renesas > Press Room > News > Renesas and eProsima Simplify Development Of Professional Robotics Applications On RA MCUs With micro-ROS Development Framework

Renesas and eProsima Simplify Development Of Professional Robotics Applications On RA MCUs With micro-ROS Development Framework

Agreement Facilitates Adoption of Robotics in Industrial and IoT Sectors; EK-RA6M5 Evaluation Kit Now Official Supported micro-ROS Development Board

micro-ROS on RA by eProsima!!

September 1, 2021

Micro-ROS Framework for RA MCUs Simplifies Robotics Design

TOKYO, Japan and MADRID, Spain — Renesas Electronics Corporation (TSE:6723), a premier supplier of advanced semiconductor solutions, and eProsima, an SME company specialized in middleware solutions, today announced that the Renesas EK-RA6M5 Evaluation Kit for RA MCUs is the official supported hardware platform of the micro-ROS development framework. micro-ROS is the industry's robotics operating system for MCUs. Renesas teamed with eProsima, the main developer of the micro-ROS framework, to port micro-ROS into the RA MCUs, easing development of professional robotics applications for IoT and industrial systems.

The micro-ROS framework allows a standardized integration of MCUs into the Robot Operating System (ROS) 2 data space. It provides an established application development framework based on standard communication middleware to the embedded world. Porting micro-ROS into the Renesas RA MCUs facilitates the adoption of this robotic framework in Industry 4.0 and Industrial IoT applications.

Micro-ROS Framework for RA MCUs Simplifies Robotics Design

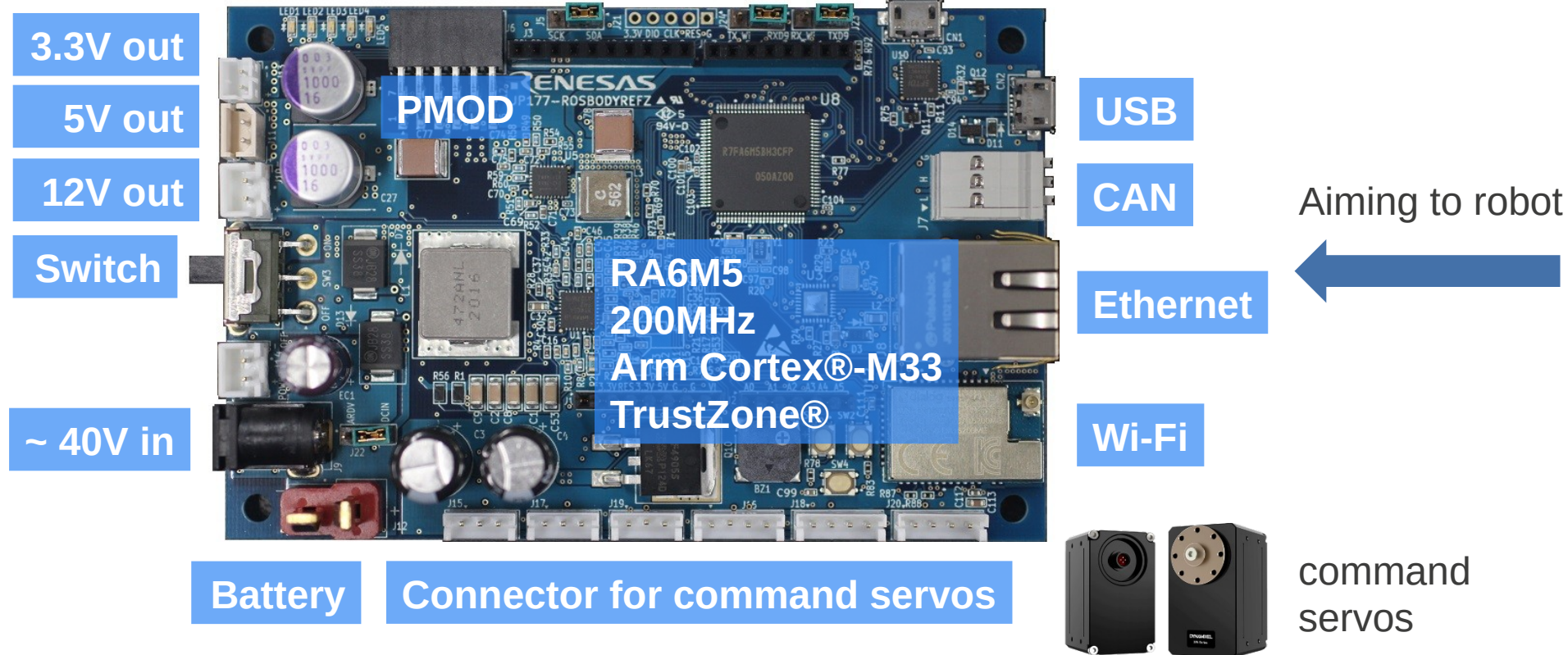BIG IDEAS FOR EVERY SPACE **RENESAS**

Officially Supported RA6M5 on micro-ROS

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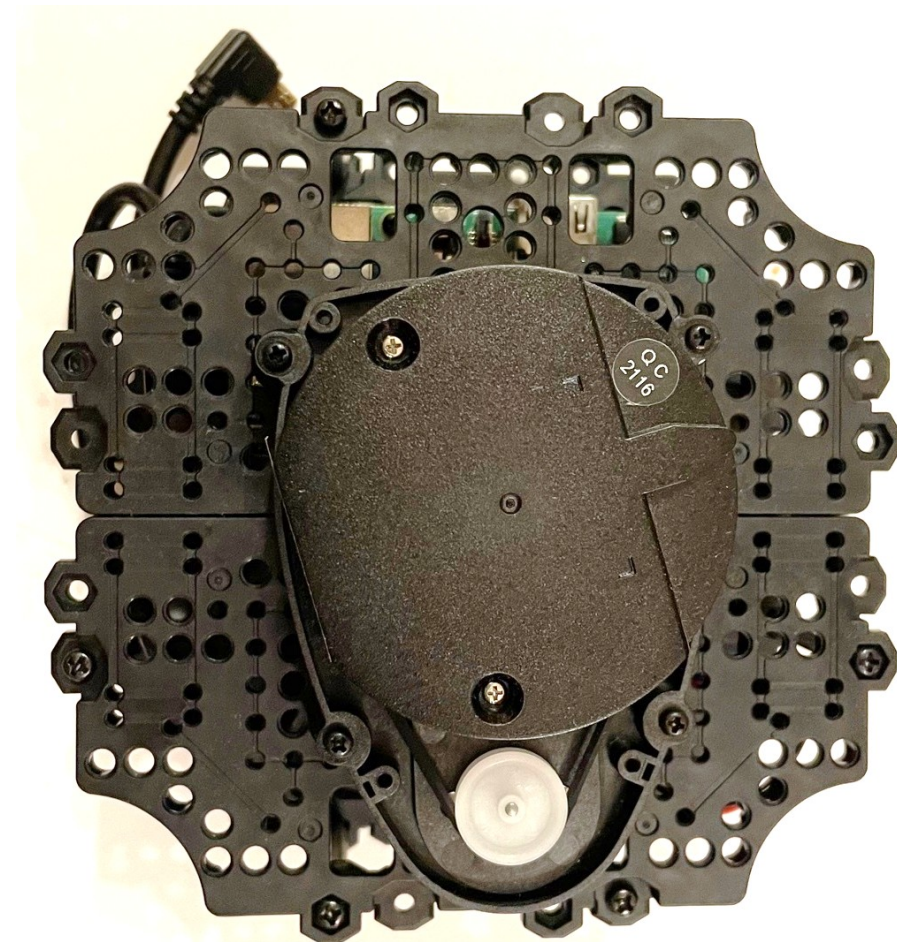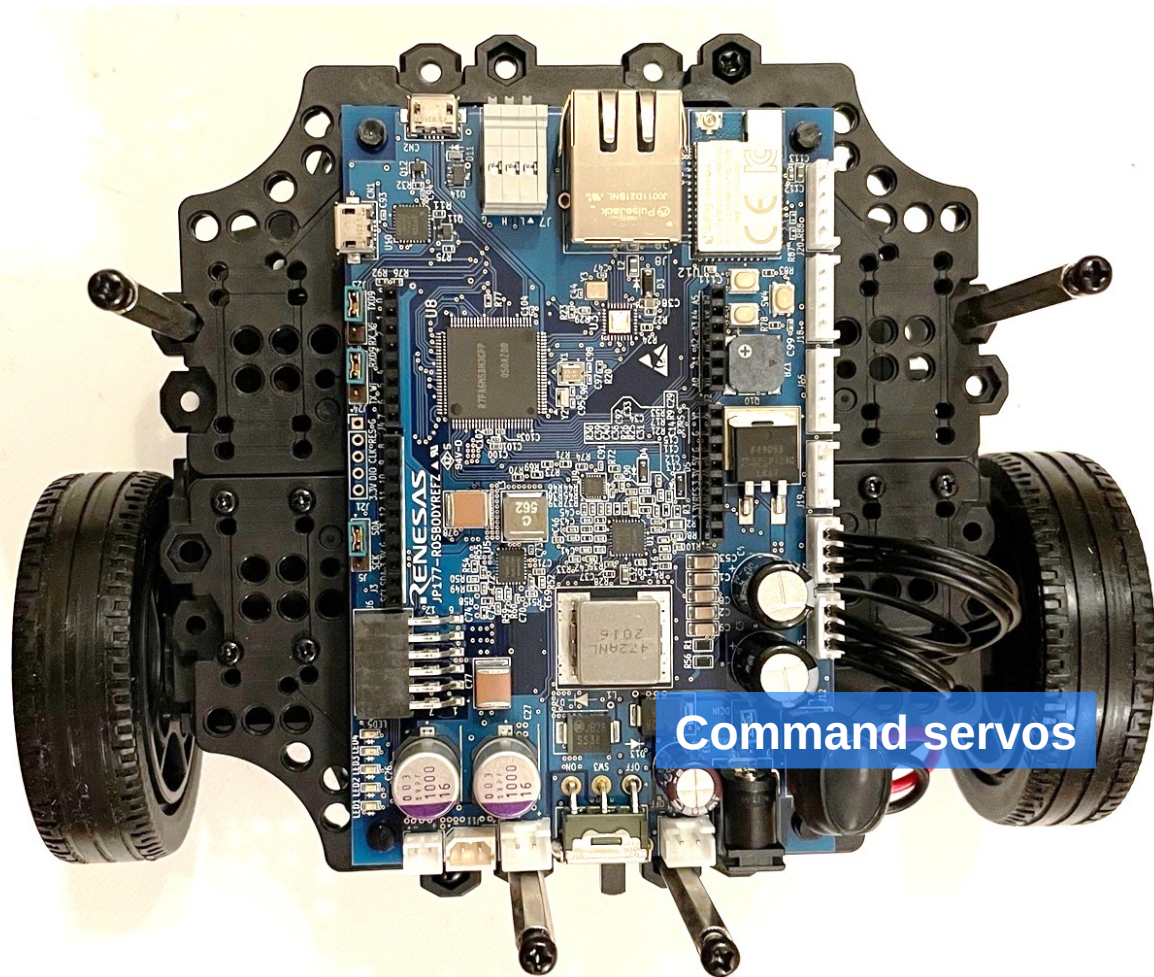
POC BOARD : ROS-BASED ROBOT BODY CONTROLLER

- Can control **multiple servos** via 1-wire UART and RS-485
- Supports **Pub/Sub communication** via Ethernet, USB and Wi-Fi modules
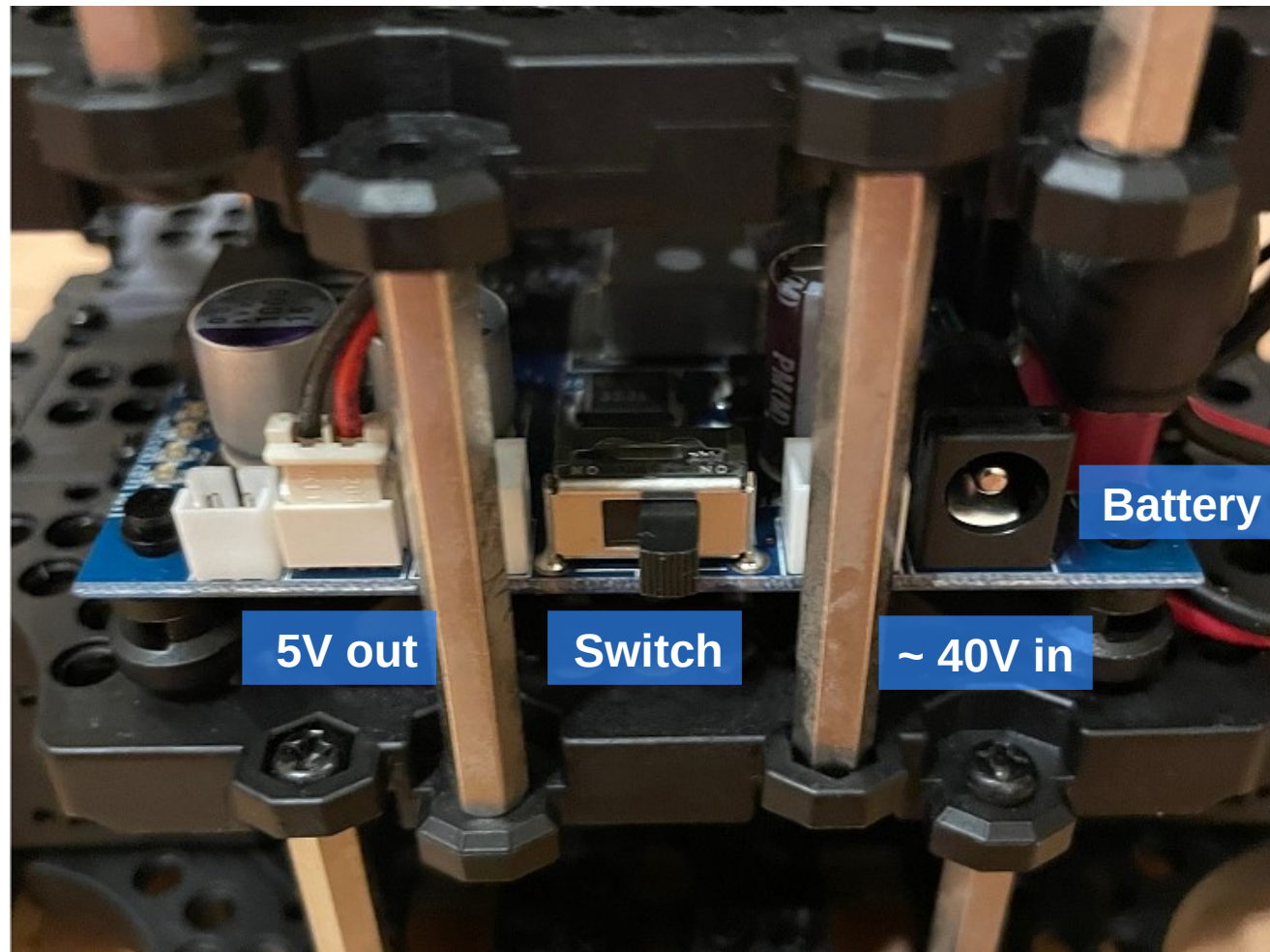- Wide range supply voltage up to **40V**
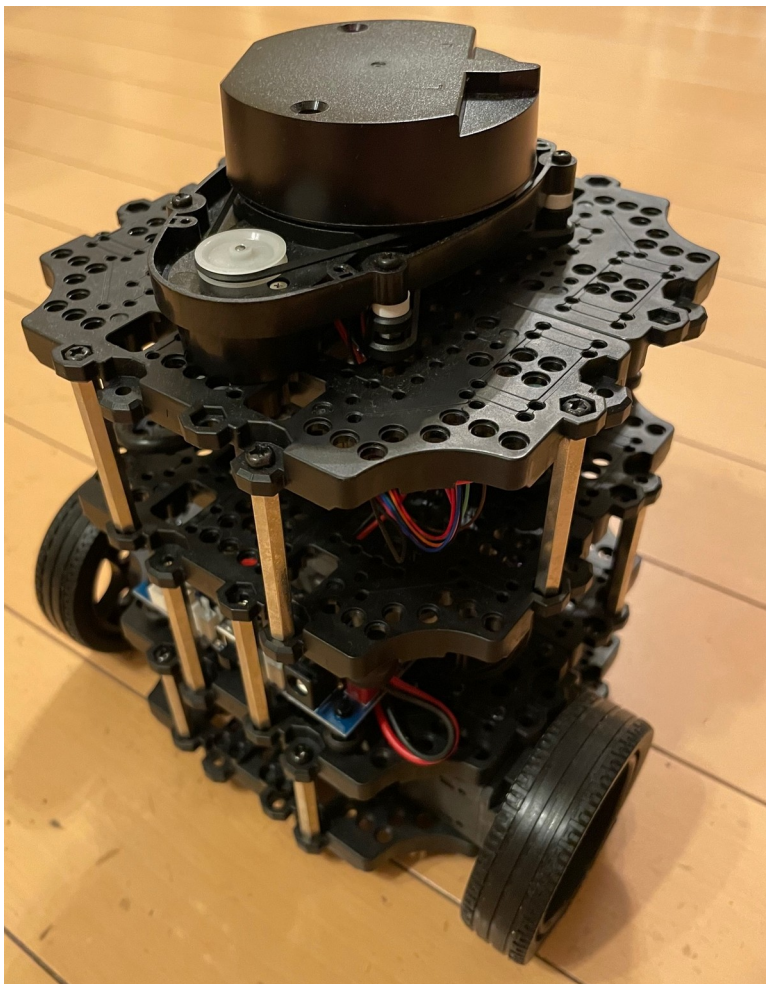

3.3V out

5V out

12V out

Switch

~ 40V in

PMOD

RA6M5
200MHz
Arm Cortex®-M33
TrustZone®

USB

CAN

Ethernet

Wi-Fi

Aiming to robot

EK-RA6M5

command servos

Battery

Connector for command servos

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WINNING COMBOS

MY TurtleBot (TB3) CHANGES

Command servos

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BACK OF MY TB3

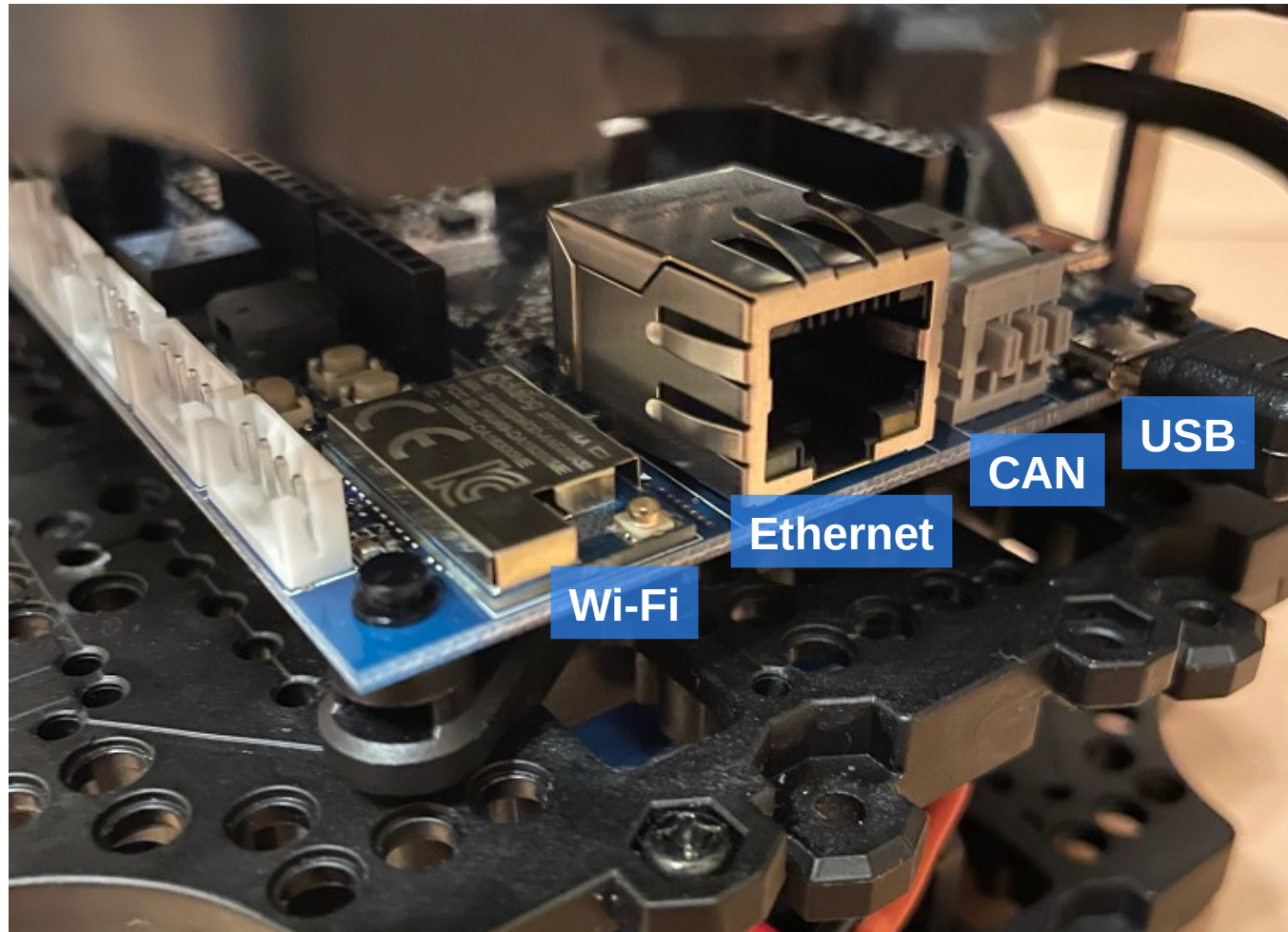
5V out

Switch

~ 40V in

Battery

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FRONT OF MY TB3
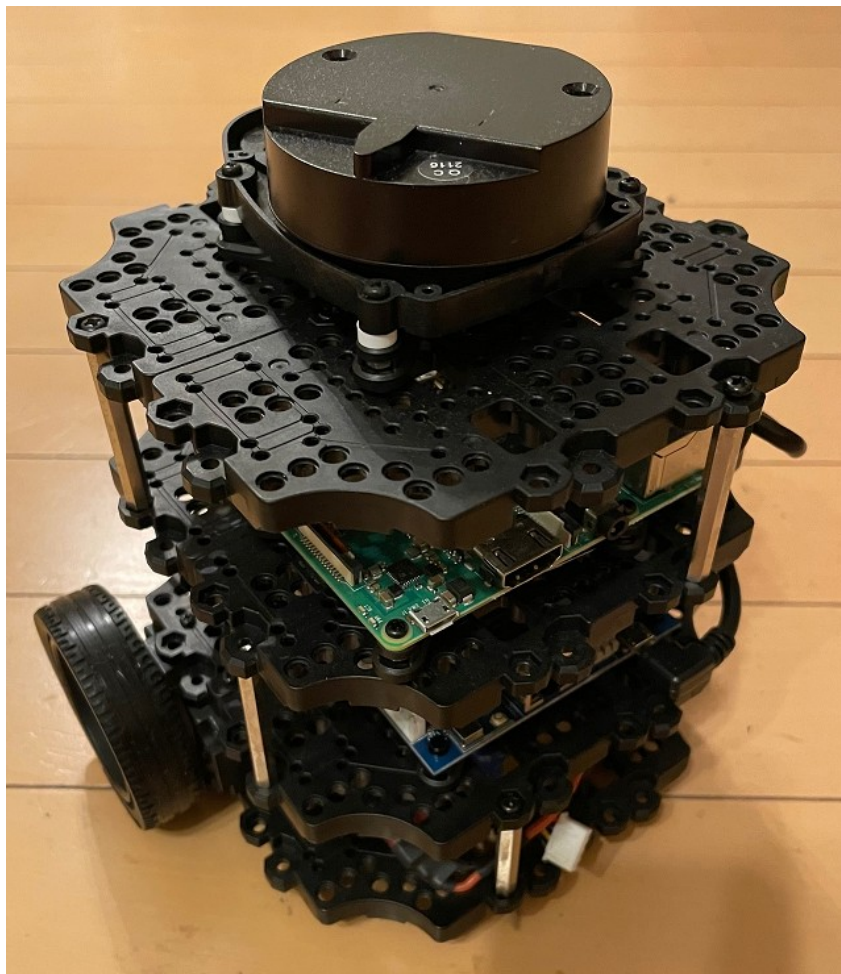
Winning Combos

Analog + Power + Embedded Processing + Connectivity

WINNING
MORE COMBINATIONS
with DIALOG

Sensors (Temp, Humi, SpO2, TVOC)

DCDC

MCU

DCDC

Wi-Fi

Reset

LDO

RS485

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