ROSbot XL
Mobile Robot Platform for Indoor Applications

Block diagram
variant with RPi4 rev B

Power Board
- 11.1V Li-Ion battery 7800mAh
- User power
- 5V 12/19V
- Vbat
- Power Ctrl
- MCU
- USB-C charge port
- Power button
- USB 2.0 headers
- Charge LED
- Low bat LED
- DB reset
- User button
- DC motor + encoder
- DC motor + encoder
- DC motor + encoder
- STM32F4 microcontroller
- SPI
- UART
- Voltage reg. 3V3
- LED 1
- LED 2
- DB reset
- User button
- Ethernet
- Power in
- 12/19V for other SBCs

Digital Board
- Motor drivers
- GPIO headers
- Speaker
- Audio AMP
- DAC
- IMU 9-axis spatial sensor
- Extra USB 2.0 headers
- 2x USB 2.0 (for LiDAR + spare)
- GPIOs
- DC motor + encoder
- DC motor + encoder
- DC motor + encoder
- Ethernet switch
- 5V

SBC Raspberry Pi 4B
- 4x USB 2.0
- Audio out
- USB 2.0
- Ethernet
- 5V
- 12/19V for other SBCs
- Power in
- USB 2.0
- HDMI
- Wi-Fi 2.4GHz 5GHz
- 12/19V for other SBCs

Interior
- Rear panel
- USB-C charge port
- Power button
- Charge LED
- Low bat LED
- LED 1
- LED 2
- DB reset
- User button
- Ethernet
- Power in
- 12/19V for other SBCs
- Wi-Fi 2.4GHz 5GHz
- HDMI