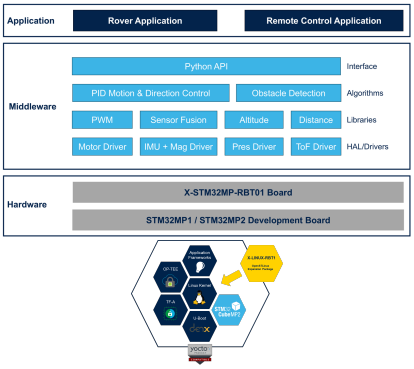
X-LINUX-RBT1

Data brief

STM32 MPU software package for X-STM32MP-RBT01



Product summary	
STM32 MPU software package for X-STM32MP-RBT01	X-LINUX-RBT1
Expansion board for robotics application	X-STM32MP-RBT01
Discovery kit with STM32MP157F MPU	STM32MP157F-DK2
Discovery kit with STM32MP257F MPU	STM32MP257F-DK
Applications	Remote controller Robotic and Motorized Toys

Features

- Embedded web server with a web client for remote network control
- Sensor fusion middleware for precise heading and orientation
- Time-of-Flight based (ToF) obstacle detection
- Example applications (remote control, fault, and obstacle detection)
- Data logging capabilities for debugging and AI training

Description

The X-LINUX-RBT1 is a Linux-based software package for X-STM32MP-RBT01 expansion board for developing robotics application targeting STM32MP and other microprocessor platforms.

The X-LINUX-RBT1 provides drivers, APIs, and applications for the X-STM32MP-RBT01 board, which features the STSPIN948 motor driver and various sensors like: ISM330DHCX IMU, IIS2MDC magnetometer sensor, LPS22HH pressure sensor, VL53L5CX ToF sensor.

The software package includes kernel and device tree patches and user-space Python drivers. GTK-based UI app extends the demo application that ships with the MPU discovery boards.

The package exposes various sensor and robotics algorithm APIs, including low-level APIs. The package serves as a starting point for engineers to build various industrial robotics solutions, cleaning robots, toys, rovers.

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
17-Mar-2025	1	Initial release.

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