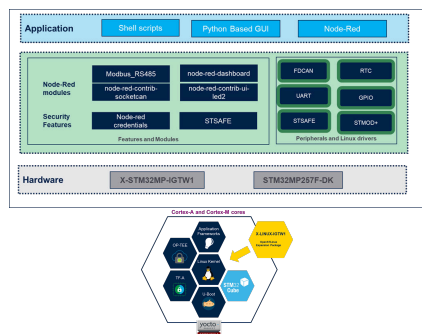## STM32 MPU OpenSTLinux expansion package for X-STM32MP-IGTW1

Features

- OpenSTLinux industrial gateway extension for STM32MP2 microprocessors
- Preconfigured drivers for ST4E1240 high-speed RS-485 transceiver and ST3232C RS-232 transceiver
- Integrated support for M41T83 real-time clock (RTC) with battery backup
- Secure communication enabled by STSAFE-A110 for authentication and cryptographic services
- Preconfigured GPIO and driver setup using M24C32-R EEPROM
- Compatibility with the STM32MP257F-DK development kit
- Support for the latest OpenSTLinux ecosystem
- Support for industrial communication protocols CAN bus and modbus RTU
- User interface integration with signalizing LEDs and switches
- Compatible with the Yocto Project® build system

Description

The X-LINUX-IGTW1 software package is tailored for the X-STM32MP-IGTW1 expansion board, which is designed for industrial IoT gateway applications.

This package provides a comprehensive set of drivers, middleware, and application examples to facilitate the development of industrial automation and remote monitoring solutions.

The software supports communication interfaces such as I²C, UART, FDCAN, and GPIO, ensuring seamless integration with the STM32MP257F-DK development kit.

The X-LINUX-IGTW1 includes preconfigured settings for the board's hardware components, enabling quick and efficient development.

The software package includes kernel and device tree patches and two user-space applications. One GUI application is for testing all peripherals.

The second application is based on Node-RED, which is a browser-based editor that allows users to drag and drop nodes to create flows. These flows can be deployed with a single click, making it highly user-friendly. One sample flow is shared in each release.

Sample Node-RED application is based on CAN bus and RS-485 Modbus (RTU), commonly used protocols in industrial automation.

Product summary

Product summary	
STM32 MPU OpenSTLinux expansion package for X-STM32MP-IGTW1	X-LINUX-IGTW1
X-STM32MP expansion board for NFC gateway applications	X-STM32MP-IGTW1
Discovery kit with STM32MP257F MPU	STM32MP257F-DK
High-speed 3.3 V / 5 V RS485 transceiver with ± 12 kV IEC 61000-4-2 contact ESD protection	ST4E1240DT
3 to 5.5 V, low-power, up to 400kbs RS-232 drivers and receivers	ST3232CTR
Applications	Factory automation

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For further information, contact your local STMicroelectronics sales office.

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Revision history

Table 1. Document revision history

Date	Revision	Changes
01-Oct-2025	1	Initial release.

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