

## ThreadX :: RTOS

This operating system variant is based on the ThreadX v6.5.1 kernel with a CMake build system and GCC toolchain support. It relies on an application and BSP configuration to set CPU and peripheral clock frequencies. It has been implemented on [our generic, reusable operating system abstraction layer \(OSAL\)](#), ensuring portability and reducing integration risks when transitioning between operating system variants. Multiple BSP peripherals—including FDCAN, DAC, I2C, NVM, PWM, SPI, and UART—provide **thread-safe, resource-locked interfaces** that leverage the OSAL framework and enable consistent, secure access across all tasks.

The software is architected with long-term maintainability, portability across MCU platforms, and adherence to high software quality standards as core design principles.

- ✔ Layered architecture with clear HAL abstraction
- ✔ Conforms to ISO C99 standard
- ✔ Portable across multiple MCU platforms
- ✔ Supports both RTOS and bare-metal environments
- ✔ CMake build system for scalable integration
- ✔ Seamless integration with GCC toolchain
- ✔ Statically analyzed for MISRA, CERT, and CWE compliance

BSP MCU	Supported?
NXP LPC845	Yes*
NXP LPC54114	Yes
ST STM32C011	Yes*
ST STM32G491	Yes
Microchip PIC32MK	Yes

\* Limited RAM - only minimal features supported.

☆ OSAL\_THREADX PUBLIC ✔ Passed

Last analysis: 33 seconds ago • 1.3k Lines of Code • C

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A 0  
Security

A 0  
Reliability

A 0  
Maintainability

A —  
Hotspots Reviewed

0 0.0%  
Coverage

0 0.0%  
Duplications