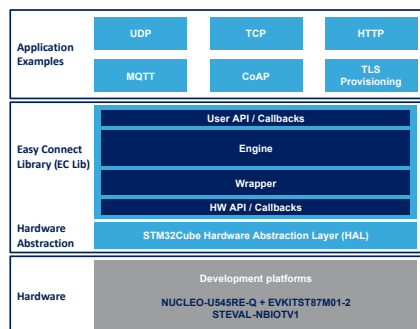




ST87M01 easy connect library application examples for STM32



Features

- Based on ST87Mxx easy connect library
 - Simplified access to ST87Mxx NB-IoT and GNSS
 - Pre coded sequences of operation to simplify usage
 - RTOS agnostic can be used with or without an operating system
 - Hardware-agnostic interface with no hardware dependency
 - Static configurations in header files to reduce parameters
- Example List
 - MQTT subscription and publish
 - UDP: simple UDP communication
 - TCP: basic TCP client/server communication
 - CoAP: constrained application protocol example
 - TLS provisioning: secure provisioning using TLS
 - HTTP: GET, POST, PUT and DELETE methods example

Description

The [STSW-ST87M01APP](#) software package provides a comprehensive set of ready-to-use firmware examples for the STM32U5 microcontroller family.

These examples demonstrate and simplify the integration of the [ST87M01](#) NB-IoT and GNSS module using the ST87Mxx easy connect library.

It supports two distinct hardware platforms: [STEVAL-NBIOTV1](#) and [EVKITST87M01-2](#).

[STEVAL-NBIOTV1](#) is an advanced evaluation platform tailored for asset tracking, smart city, and metering applications. It combines the [ST87M01](#) NB-IoT/GNSS module with the [STM32U585RI](#) MCU, multiple environmental and motion sensors, and a SIM socket for cellular connectivity. The platform supports UART, I²C, and SPI interfaces, alongside efficient power management and expandable functionality.

[EVKITST87M01-2](#) is an evaluation board in the X-NUCLEO shield form factor with Arduino® compatibility, designed specifically for the [ST87M01](#) module. As this platform does not include an STM32, it requires a [NUCLEO-U545RE-Q](#) board as the host MCU to run firmware examples.

The easy connect library (EC_Lib) is a comprehensive C-based software library designed to enable seamless interaction with the [ST87M01](#) NB-IoT module. It provides a high-level abstraction layer that simplifies access to the module's core functionalities, including NB-IoT connectivity and GNSS positioning. Delivered as source code, the library allows developers to efficiently integrate and control the [ST87M01](#) module within their applications.

EC_Lib is designed to be OS-agnostic and hardware-independent, making it versatile for use across various embedded platforms. It offers a minimal yet powerful application programming interface (API) set that encapsulates complex AT command sequences into easy-to-use C functions, reducing development time and complexity. The library includes precoded sequences for common operations such as network registration, data transmission over UDP, TCP, MQTT, CoAP, HTTP.

Configuration is streamlined through static parameters defined in header files, enabling users to tailor the library to their specific application needs without extensive API parameter overhead. Additionally, EC_Lib supports TLS provisioning for secure communications, including importing, generating, and managing cryptographic keys and certificates.

Product summary	
ST87M01 easy connect library application examples for STM32	STSW-ST87M01APP
Ultra-compact, low-power NB-IoT industrial module series with optional GNSS	ST87M01-1301
NB-IoT evaluation platform and reference design for asset tracking, smart cities, and metering with ST87M01	STEVAL-NBIOTV1
ST87M01-1301 NB-IoT and GNSS/Wi-Fi positioning module evaluation kit	EVKITST87M01-2
Ultra-low-power with FPU Arm Cortex-M33 MCU with TrustZone, 160 MHz with 2 Mbytes of Flash memory	STM32U585RIT6
STM32 Nucleo-64 development board with STM32U545RE MCU	NUCLEO-U545RE-Q
Applications	Metering / IoT for Smart Industry / Asset tracking

The library's internal design is based on finite state machines (FSMs) to manage asynchronous communication sequences reliably. It provides mechanisms for synchronous and asynchronous data transfers, callback-based event handling, and debugging capabilities such as UART message monitoring and trace logging.

Revision history

Table 1. Document revision history

Date	Revision	Changes
12-Nov-2025	1	Initial release.

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