

# Making Sigfox devices easy and secure





# Get ready for the largest IoT development ecosystem



## 700+ possible combinations of STM32 MCUs

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### THE BRAIN

Choose from basic, ultra-low-power or high-performance with STM32 (32-bit) MCUs. Pick from a portfolio that offers from 8 Kbytes up to 2 Mbytes of Flash memory with 14 up to 216 pins with tiny form factor packages, and a rich set of analog and connectivity peripherals.

### COMMUNICATION

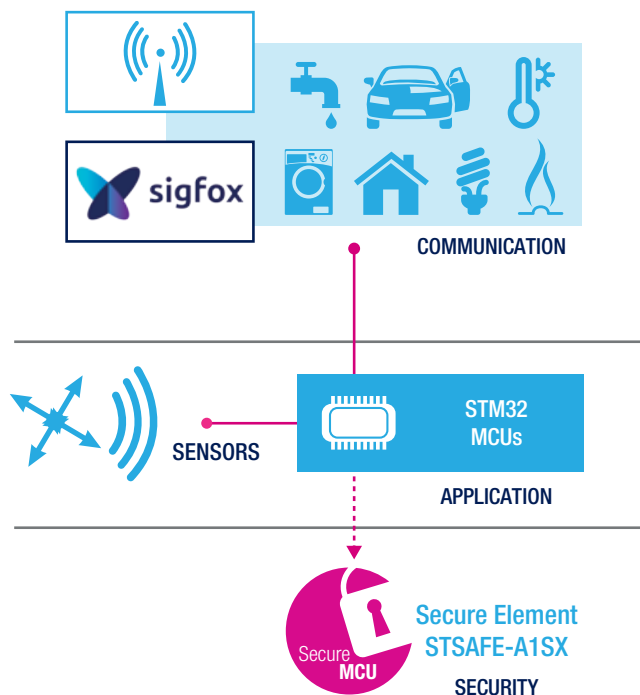
Choose most appropriate Sigfox S2-LP transceiver which best matches your application needs. Add short range connectivity with NFC and Bluetooth.

### SECURITY

STSAFE-A1SX is a turnkey secure solution for Sigfox IoT devices. It is a secure element pre-configured with Sigfox IDs and Sigfox network Keys. STSAFE-A1SX is based on a state-of-the-art secured hardware with CC EAL5+ certification.

### SENSING

Add sensing capabilities to your application with environmental, motion and proximity sensors.



### KEY FEATURES

- Widest 32-bit MCU market portfolio
- STSAFE best in class certified security
- Wide range of sensors

### KEY APPLICATIONS

- Smart Home and building
- Smart environment
- Smart agriculture
- Smart Industrial
- Retail and logistics
- Smart Healthcare



# Optimized Secure Solution Sigfox Ready™ IoT devices



## STSAFE-A1SX – The solution for Plug & Play secure connection and secure data-exchange to the Sigfox Network

The STSAFE-A1SX secure element, connected to the microcontroller of the IoT application, enhances the integrity and confidentiality of transmissions to and from the IoT device over the Sigfox network.

Coming already with Sigfox network keys, the STSAFE-A1SX runs an optimized secure application that combines ST's proven expertise in electronic security and identity with Sigfox's expertise in networking and data communications.

### KEY FEATURES

- State-of-the-art security relying on CC EAL5+ hardware
- Sigfox frames signature and verification
- Sigfox frames encryption & decryption
- Pre-loaded with Sigfox keys

### KEY BENEFITS

- Full turnkey solution with secure OS and personalization services
- Optimized for small platforms
- Easy integration using libraries compatible with standard MCUs

### KEY APPLICATIONS

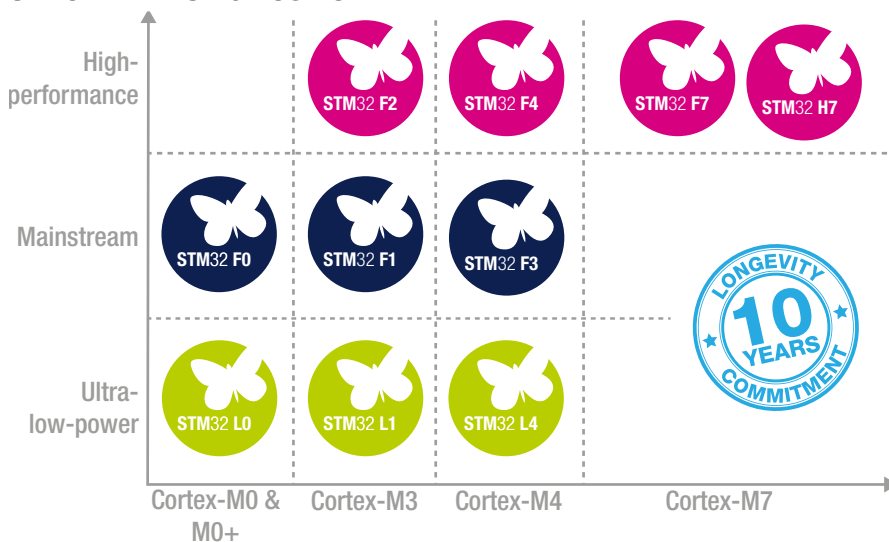
- Utilities
- Smart city
- Smart agriculture
- Assets tracking
- Industry 4.0



Making  
everything secure



## STM32 RELEASING YOUR CREATIVITY



## MORE THAN 30 PRODUCT LINES

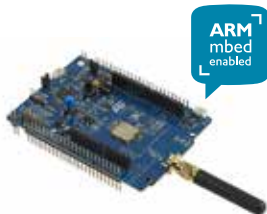
With 10 product series, the STM32 portfolio offers an extraordinary variety of options including ARM® Cortex®-M cores (M0, M0+, M3, M4, and M7), giving developers flexibility to find the perfect match for their application. Particular attention is paid to make it easy to migrate from one device to another. The compatibility of binaries combined with the similar pinout assignment, proliferation of hardware IPs and higher-level programming languages greatly facilitates the work of developers.



community.st.com

## HARDWARE TOOLS AND EMBEDDED SOFTWARE

Fully certified HW tools to play and develop with STM32™ around Sigfox technology



DISCOVERY KIT

P/N: B-L072Z-LRWAN1



DEVELOPMENT KIT

P/N: STEVAL-FKI868V1  
STEVAL-FKI915V1

A Sigfox stack (X-CUBE-SGFOX) is available on demand

## SOFTWARE TOOL



Windows macOS™



STM32CubeMX enables fast development thanks to its MCU clock configurator, power consumption calculator and code generation tools.

## STM32 OPEN DEVELOPMENT ENVIRONMENT (STM32 ODE)

Additional ST expansion boards available



X-NUCLE0-STSAFE-A  
STSAFE-A optimized secure element



X-NUCLE0-IKS01A1  
Motion and environmental sensors



X-NUCLE0-NCF01A1  
M24SR-based NFC tag expansion board



X-NUCLE0-IDB04A1  
BlueNRG-based Bluetooth Smart expansion board



STM32 Open  
Development  
Environment



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