

# Tiny, efficient KNX transceiver for home and building control



## STKNX, our new miniature KNX certified transceiver with voltage regulators enables unrivalled efficiency for KNX nodes

More convenience, improved safety and lower energy consumption in home and building control can be achieved using the KNX network communications protocol. ST's new KNX certified transceiver does the job with the smallest footprint in the market and more. Its integrated voltage regulators supply the application with additional power savings. A turnkey development environment including the miniature KNX transceiver, a 32-bit STM32F1 microcontroller and communication software stack help developers find the most compact and efficient home and building control solutions.

### KEY FEATURES

- Compact 4 x 4 mm QFN package
  - For miniaturized KNX node applications
- KNX certified (KNX TP1-256 communication mode)
  - For worldwide adoption
- No crystal required and easy interface to MCU
  - For reduced component and pin count as well as cost savings
- KNX bus extractor and two integrated voltage regulators to power external devices
  - For improved energy efficiency and application compactness
- Adjustable KNX bus current slew rate  $dI/dt$ 
  - To adapt to application requirements
- Complete development ecosystem comprising KNX transceiver, STM32F1 MCU and communication software stack
  - For reduced design complexity and

time-to-market

- Operating temperature range -40 to +85 °C
  - For use in outdoor applications



### KEY APPLICATIONS

KNX bus nodes in home and building control applications such as:

- Lighting and shutter control
- Security systems
- HVAC
- Monitoring and alarms
- Water control
- Energy management
- Smart metering
- Household appliance control

## WORLD'S MOST COMPACT AND EFFICIENT HOME & BUILDING CONTROL SOLUTION

### Truly a Worldwide Standard for Home and Building Control

Ensuring that all components of home and building management control systems communicate via one common language, KNX is a worldwide open standard and approved as an International Standard (ISO/IEC 14543-3) as well as an European Standard (CENELEC EN 50090 and CEN EN 13321-1) and Chinese Standard (GB/T 20965).

### A high level of integration that reduces both component count and cost

In addition to no longer needing a crystal oscillator, as no clock synchronization is required, its simple interface to the MCU reduces the need for discrete components in the physical layer. Moreover, its compact 4 x 4 mm QFN package allows the design of compact KNX communication nodes.

Its KNX bus power extractor provides up to 30 mA to the integrated voltage regulators to power external devices and the STKNX transceiver's own power needs, while limiting the bus current slew rate according to KNX specifications, further enhancing the system efficiency.

The selectable 3.3 / 5 V - 20 mA linear regulator and the adjustable 1 to 12 V - 150 mA high-efficiency DC-DC step down switching converter can be used to supply the microcontroller and all the application components on the board.

### More reliable building management systems

The STKNX ensures safe coupling to the communication bus and provides a bus monitoring warning at the loss of bus power.

A complete set of protections is present including over-current, over-temperature and short-circuit, thus making it a bullet-proof solution for demanding applications, especially the industrial ones, and helping to further reduce the number of external components, the cost and complexity.

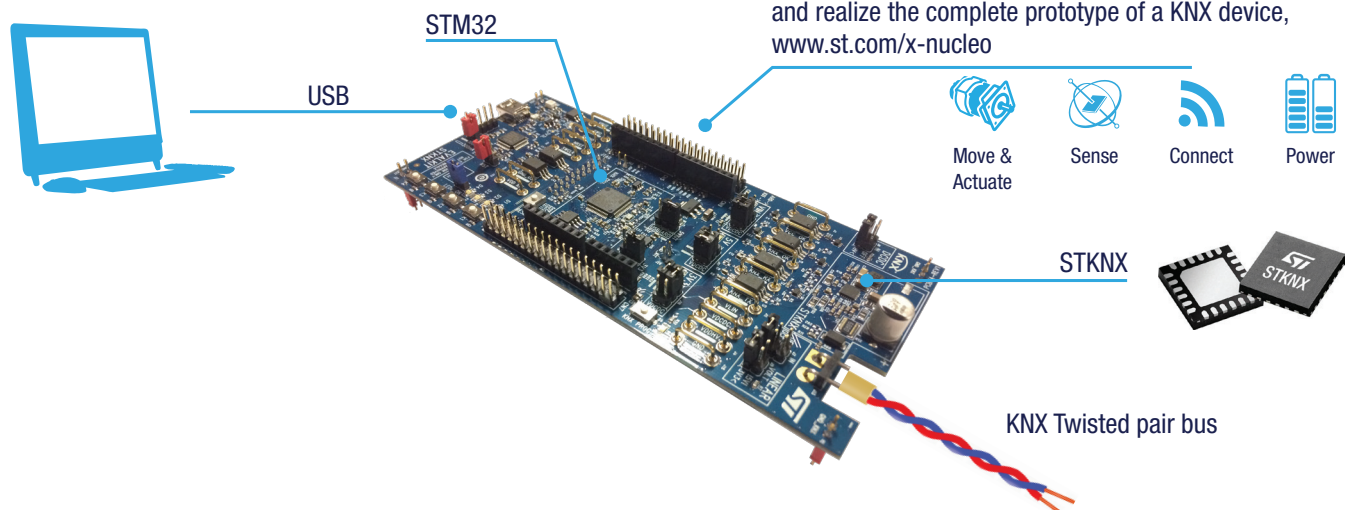
## EVALUATION & DEVELOPMENT KIT

The STKNX evaluation and development kit (EVALKITSTKNX) includes all the components required to evaluate the performance of the miniature STKNX transceiver and to develop a KNX node on twisted pair medium in compliance with the TP1-256 standard.

The system is controlled by an STM32F1 microcontroller hosting the KAlstack KNX protocol stack developed by TAPKO Technologies GmbH.

Thanks to its Arduino and Morpho connectors, the kit lets developers connect existing STM32 expansion boards or to develop a custom board to create a complete prototype of a KNX device.

Application customization through  
STM32 development tools (Ac6, Atollic)



## PRODUCT TABLE

| Part Number     | Packaging          | Package |
|-----------------|--------------------|---------|
| STKNX / STKNXTR | Tube / Tape & Reel | QFN-24L |



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