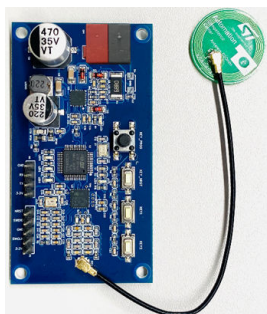


STKNX RFID reader evaluation and development kit



Fully assembled board developed for performance evaluation only,
not available for sale

Features

- High-performance NFC universal device and EMVCo® reader based on ST25R3916
- Full KNX twisted-pair device development kit based on the STKNX miniature transceiver
- Controlled by STM32G070CB microcontroller 32-bit Cortex®-M0+ MCU with 64 MHz - 128 KB flash
- Compatible with ETS engineering tool software
- Test firmware already downloaded on the board to demonstrate features
- Standard serial wire debug (SWD)
- UART through an isolated USB host interface for connecting a PC
- 1 button and one LED for KNX programming
- 2 buttons and two LEDs for basic KNX sensors and actuators emulation
- Operating temperature range -40 to +85°C
- An open SDK with ETS database is available

Description

The **STDES-STKNXRFID** contains the **STKNX** as KNX device transceiver, high-performance NFC ST25R3916 as RFID detector, and low-power **STM32G070CB** as main controller.

All the necessary components are included to evaluate the performance of the **STKNX** circuit and to develop a KNX device on a twisted-pair medium according to the TP1-256 standard.

The NFC universal device **ST25R3916** is powered by **STKNX** integrated DC-DC.

An open SDK with a third-party KNX stack and an ETS database are available for **STDES-STKNXRFID**.

The SDK and ETS DD can be used by customer for study and estimation.

An SWD interface and a UART interface on the board for programming and debugging.

The standard KNX programming button and LED are present on the kit. In addition, two basic buttons and two LEDs are available to emulate basic KNX sensors/actuators or to propose any debug facility.

Product summary	
STKNX RFID reader evaluation and development kit	STDES-KNXRFID
New generation miniature transceiver STKNX evaluation and development kit	STEVAL-STKNX1CB
Miniature KNX transceiver with voltage regulators	STKNX
Mainstream Value line, Arm Cortex-M0+ MCU	STM32G070CBT6
High performance NFC universal device and EMVCo reader	ST25R3916
400 W, 40 V TVS in SMA	SMAJ40CA
Applications	Smart home

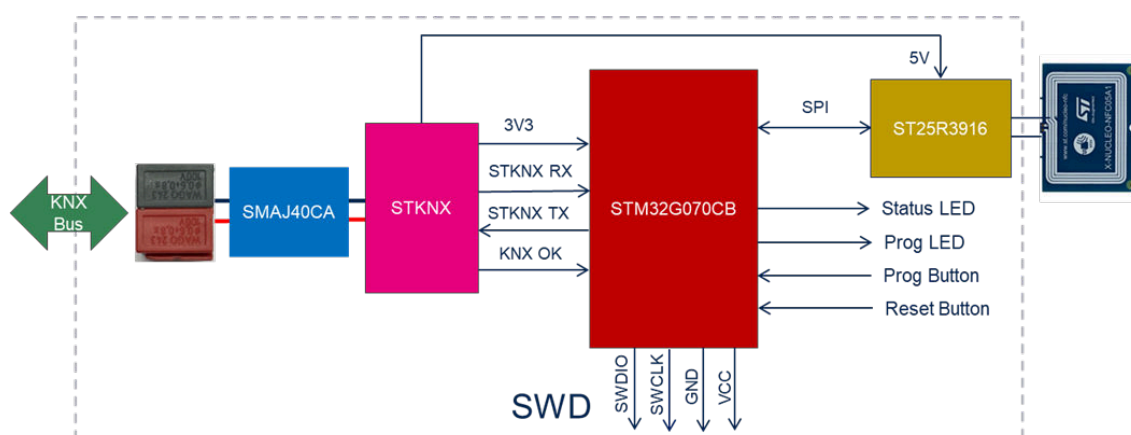
1 Solution overview

The STDES-KNXRFID is based on a single MCU **STM32G070CB** and the **STKNX**.

The **STKNX** integrated DC-DC module converts the power of **ST25R3916** to 5 V and **STM32G070CB** to 3.3 V.

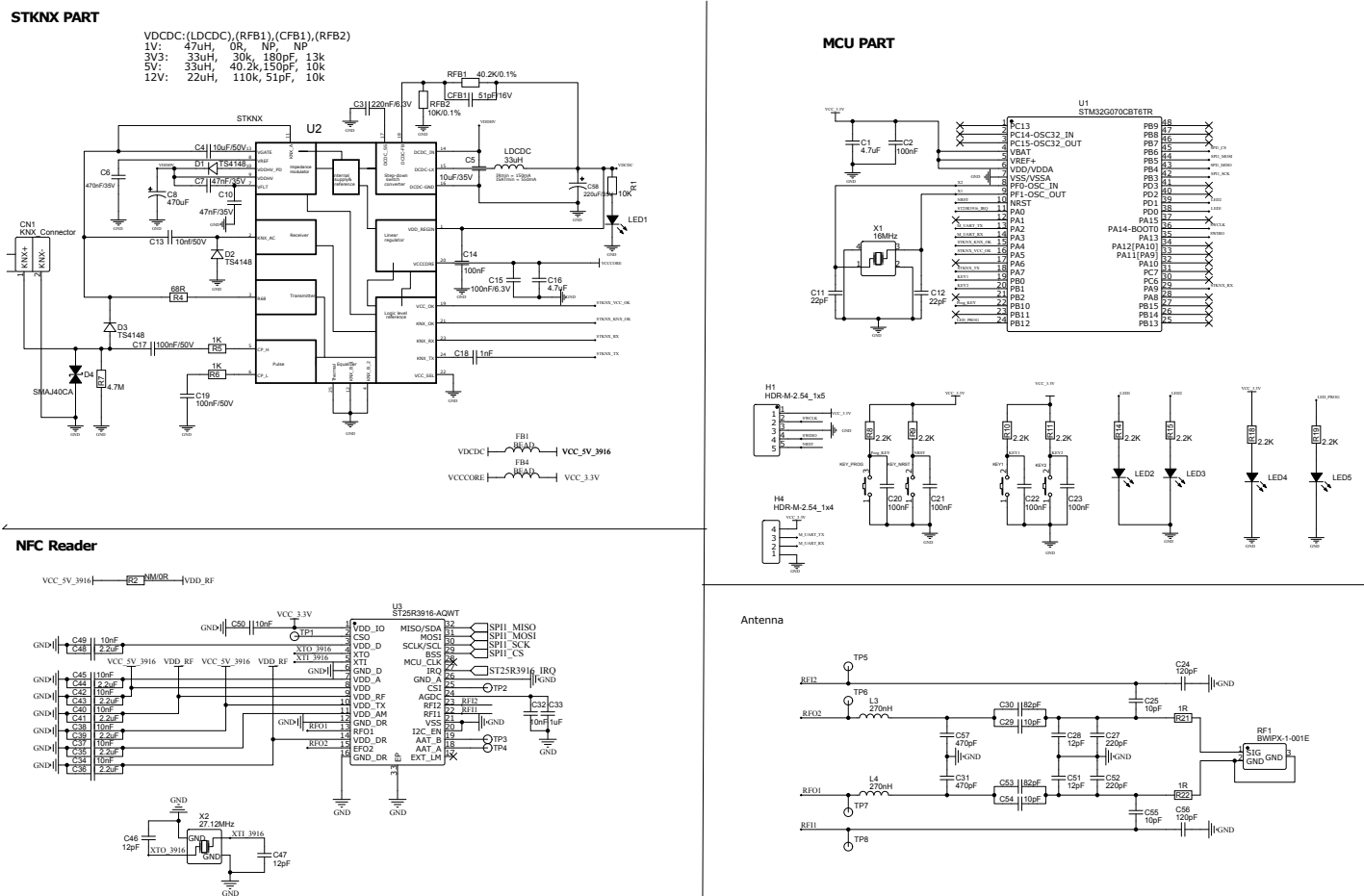
The **STM32G070CB** communicates with **ST25R3916** via SPI.

Figure 1. Solution overview



2 Schematic diagrams

Figure 2. STDES-KNXRFID circuit schematic



Revision history

Table 1. Document revision history

Date	Revision	Changes
19-Mar-2025	1	Initial release.

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2025 STMicroelectronics – All rights reserved