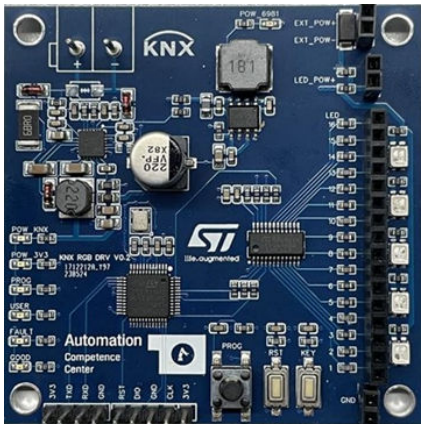
STDES-KNXRGBDRV

Data brief

Reference design board for KNX RGBDRV



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

Features

- KNX RGBDRV based on the STKNX miniature transceiver
- Controlled by STM32G070CB microcontroller 32-bit Cortex®-M0+ MCU with 64 MHz - 128 KB flash
- LED1642GWPTR was integrated to drive five RGB lights
- Five onboard RGB lights are powered by STKNX
- Compatible with ETS engineering tool software
- Test firmware already downloaded on the board to demonstrate features
- Standard serial wire debug (SWD)
- One button and one LED for KNX programming
- Additional power supply to the sensor board is not needed
- Operating temperature range -40 to +85° C
- An open SDK with ETS database is available

Description

The STDES-KNXRGBDRV is a KNX presence sensor board with STKNX as KNX device transceiver and STM32G070CB as main controller.

The board integrates LED1642GW.

For driver RGB LED, five onboard RGB lights are powered by STKNX.

An open SDK with a third-party KNX stack and an ETS database were available for this board.

You can use the SDK and ETS DD 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, four LEDs are available to indicate sensor status.

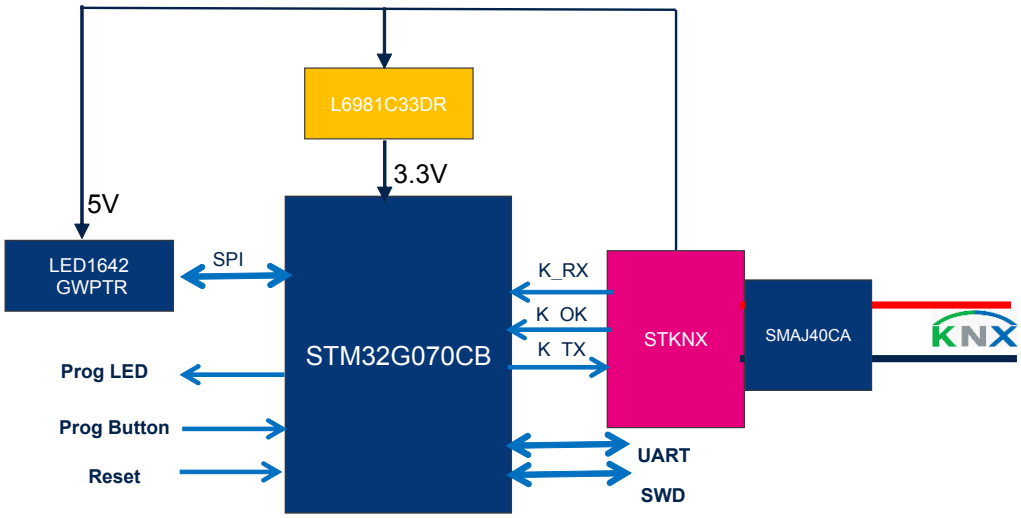
Product summary	
Reference design board for KNX RGBDRV	STDES-KNXRGBDRV
Miniature KNX transceiver with voltage regulators	STKNX
Mainstream Value line, Arm Cortex-M0+ MCU	STM32G070CBT6
16 Channels LED driver with Error detection, Current Gain Control and 12/16 bit PWM Brightness control	LED1642GWPTR
38 V, 1.5 A synchronous step-down converter with 20 µA quiescent current	L6981C33DR
400 W, 40 V TVS in SMA	SMAJ40CA
Applications	Home automation, Residential climate control and HVAC, Lighting controls, Large appliances, Gas, heat, water metering

1 Solution overview

The solution is based on a single MCU STM32G070CB and STKNX, uses LED1642GW driver for controlling RGB LED.

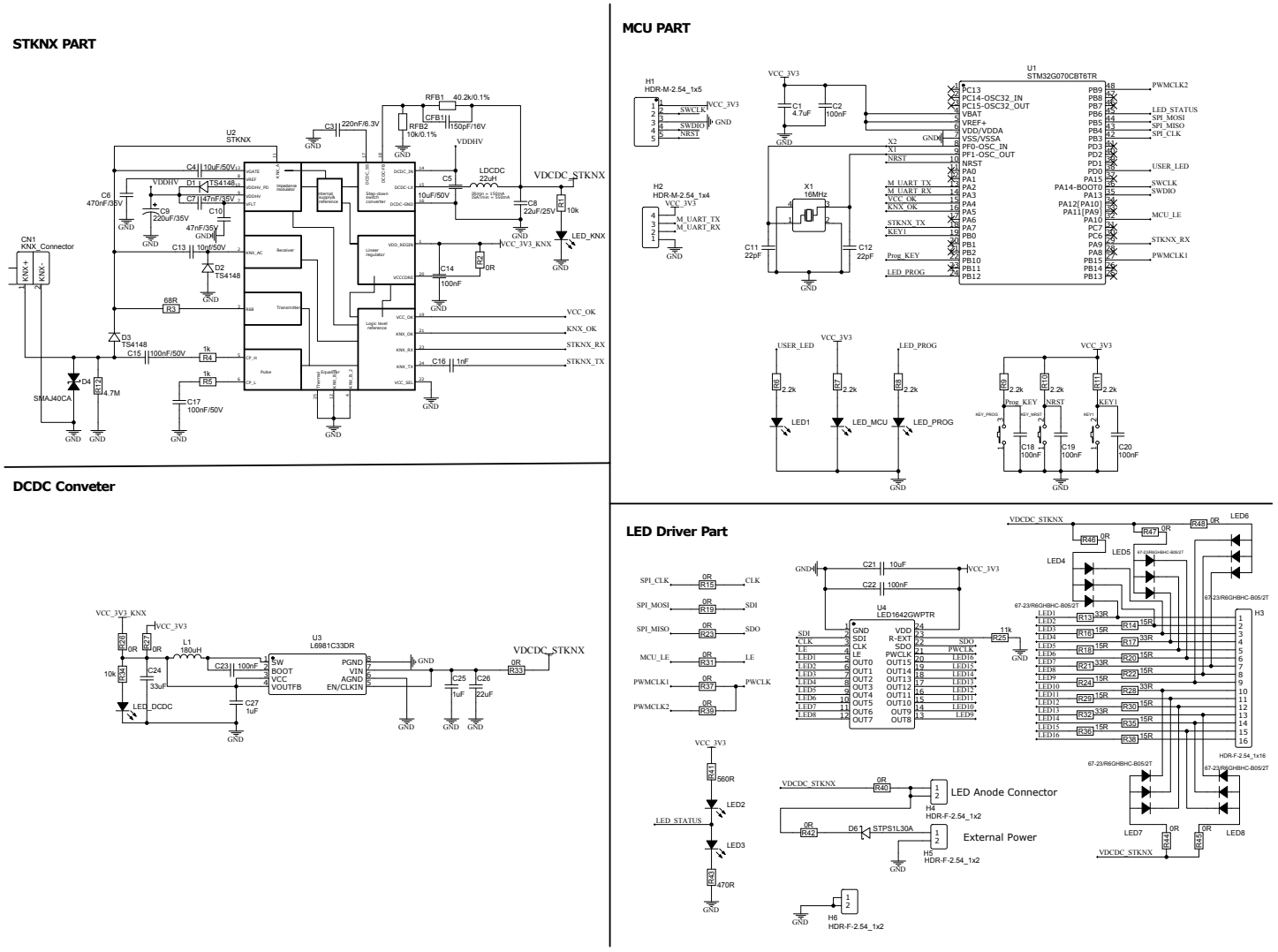
This actuator was used in smart home/building automation system for controlling RGB lighting color and brightness

Figure 1. Solution overview



2 Schematic diagrams

Figure 2. **STDES-KNXRGBDRV circuit schematic**



Revision history

Table 1. **Document revision history**

Date	Revision	Changes
24-May-2025	1	Initial release.

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