

P-NUCLEO-53L4A3 pack graphical user interface (GUI)

Features

- Live display of:
 - Ranging distance in centimeters
 - Signal strength
- Calibration procedure
- Maximum and minimum ranging threshold controls
- Data log outputs
- I²C transaction recording

Product status link

[STSW-IMG045](#)

Description

The STSW-IMG045 is a GUI for Windows 10. The GUI controls the P-NUCLEO-53L4A3 pack, which consists of the X-NUCLEO-53L4A3 expansion board connected to the STM32F401RE Nucleo board.

It is possible to control one VL53L4ED external breakout board when it is connected to the X-NUCLEO-53L4A3 expansion board through one of the dedicated connectors.

The VL53L4ED is specifically designed for high-accuracy, short-range measurements requiring extended temperature capability. It offers an 18° field of view for measurements from 1 mm up to 1300 mm in standard conditions, and up to 1150 mm under its extended temperature. Special settings also provide an accurate distance measurement up to 800 mm under ambient light conditions (5 klx).

This sensor has an effective temperature range of -40°C to 105°C, ensuring reliable measurement, even in extreme temperature conditions. It is the ideal product for industrial devices requiring proximity sensing. Examples include presence detection and system activation applications. The VL53L4ED is a direct derivative of the VL53L4CD with which it is pin-to-pin compatible. Its fully embedded on-chip processing helps to reduce design complexity and BOM cost. This is because less powerful and less expensive microcontrollers can be used.

To install the STSW-IMG045 GUI, refer to the X-NUCLEO-53L4A3 quick start guide.

Revision history

Table 1. Document revision history

Date	Version	Changes
20-Dec-2023	1	Initial release

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