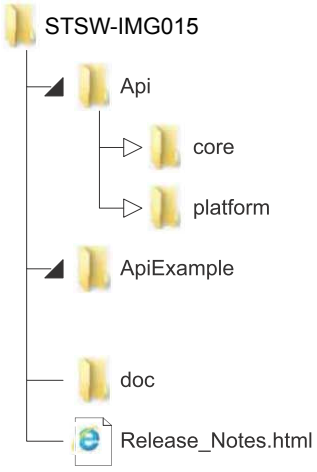
VL53L3CX Time-of-Flight (ToF) ranging sensor with multi target detection application programming interface (API)



Features

- VL53L3CX API is source code written in C language
- API provides control over full range of features
- API is structured in a way it can be easily ported/compiled on any microcontroller platform
- A simple code example is provided which shows how to use the API to perform ranging measurements with NUCLEO F401RE and X-NUCLEO-53L3A2 expansion boards
- API documentation (.chm and .html) provided

Description

The VL53L3CX API is a set of C functions controlling the VL53L3CX device (for example, init and ranging) to enable the development of end-user applications. The API is structured in a way that it can be compiled on any kind of platform through a well isolated platform layer (mainly for low-level I2C access). One example code is provided to show how to use the API and perform ranging measurements.

The VL53L3CX is the latest ToF product from STMicroelectronics and embeds ST's third generation FlightSense patented technology. It combines a high-performance proximity and ranging sensor, with multi target distance measurements and automatic smudge correction. The miniature reflowable package integrates a single photon avalanche diode (SPAD) array and physical infrared filters to achieve the best ranging performance in various ambient lighting conditions, with a wide range of cover glass windows.

The VL53L3CX combines the benefits of a high-performance proximity sensor, with excellent short distance linearity, together with ranging capability up to 5 m.

With patented algorithms and ingenious module construction, the VL53L3CX is also able to detect different objects within the field of view (FoV) with depth understanding. The ST histogram algorithms allow cover glass crosstalk immunity beyond 80 cm, and dynamic smudge compensation.

Revision history

Table 1. **Document revision history**

Date	Version	Changes
07-Feb-2020	1	Initial release
02-Oct-2020	2	Update the ranging capability in Section Description

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