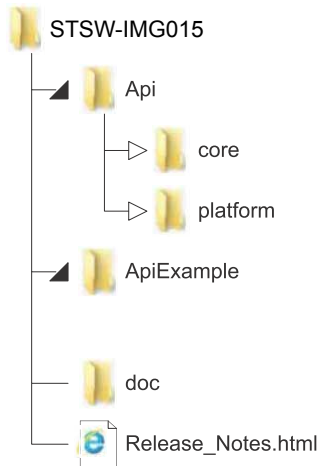


VL53L3CX Time-of-Flight (ToF) ranging sensor with multi target detection application programming interface (API)



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 (e.g. 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 3 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

IMPORTANT NOTICE – PLEASE 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 acknowledgement.

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, please 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.

© 2020 STMicroelectronics – All rights reserved