

## Ultra lite driver (ULD) application programming interface (API) for the VL53L7CX Time-of-Flight 8x8 multizone ranging sensor with 90° FoV

### Features



- VL53L7CX\_ULD 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
- Several example codes showing how to use the API
- API documentation VL53L7CX\_ULD API user manual (UM3038) included

### Description

The VL53L7CX\_ULD API is a set of C functions controlling the VL53L7CX device (for example, init and ranging) to enable the development of end-user applications. The VL53L7CX ULD is an optimized driver with only three files required for basic ranging. More features can be added with plug-in systems. The API can be compiled on any type of platform through a well isolated platform layer (mainly for low-level I<sup>2</sup>C access). One example code is provided to show how to use the API and to perform ranging measurements.

Specially designed for applications requiring an ultrawide field of view (FoV), the VL53L7CX Time-of-Flight sensor offers a 90° diagonal FoV. Based on ST's FlightSense technology, the VL53L7CX incorporates an efficient metasurface lens (DOE) placed on the laser emitter. This enables the projection of a 60° x 60° square FoV onto the scene.

Its multizone capability provides a matrix of 8x8 zones (64 zones) and can work at fast speeds (60 Hz) up to 350 cm.

Thanks to the autonomous mode with programmable distance threshold, combined to the ultrawide FoV, the VL53L7CX is perfect for any application requiring low-power user detection. ST's patented algorithms and innovative module construction allow the VL53L7CX to detect, in each zone, multiple objects within the FoV with depth understanding. ST histogram algorithms ensure cover glass crosstalk immunity beyond 60 cm.

The VL53L7CX is the perfect sensor for any application requiring ultrawide FoV like robotics, smart speakers, video projectors, and content management. The combination of the multizone capability and the 90° FoV can enhance new use-cases like gesture recognition, SLAM for robotics, and low power system activation for smart building.

Product status link

[STSW-IMG036](#)

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
16-Sep-2022	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](http://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.

© 2022 STMicroelectronics – All rights reserved