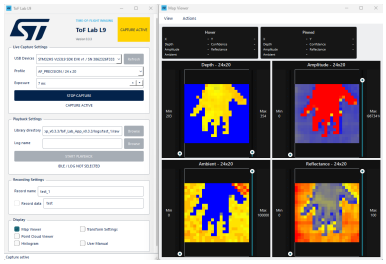
STSW-IMG056

Data brief

STMicroelectronics’ Time-of-Flight lab software for the VL53L9CX



Features

- Visualizes point-cloud data in 3D
- Displays depth, amplitude, ambient, and reflectance maps in the map viewer
- Records raw data in binary format
- Records processed data in PLY format
- Replays recorded data and reprocesses it with different configurations
- Supports extension using AI agents

Description

STMicroelectronics’ ToF (Time-of-Flight) lab software is a desktop application for working with the VL53L9CX sensor. It supports live frame capture over USB, data processing and visualization, and session recording and playback. The repository includes the source code for both the desktop application and the STM32 firmware.

The project aims to provide customers with a software package they can extend and customize using generative AI techniques.

The software interfaces with supported STM32 Nucleo boards—the NUCLEO-N657X0-Q and NUCLEO-H563ZI—and communicates with the host PC through each board’s dedicated USER USB port.

Running natively on Windows, ToF lab software provides a unified environment for accelerating 3D dToF (direct Time-of-Flight) application development. The source code is intended to be compatible with Linux and macOS, although this has not been tested.

Revision history

Table 1. **Document revision history**

Date	Version	Changes
20-Nov-2026	1	Initial release

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