**VL53L1X Mini Lidar Implementation**

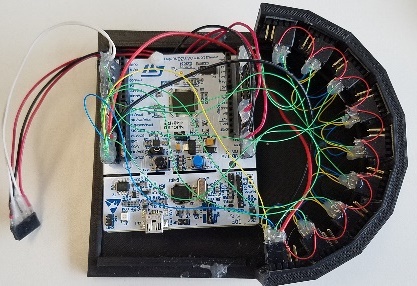


Data brief

Ultra lite driver (ULD) and ST Nucleo mini lidar application using multiple VL53L1X

long distance ranging sensors





**Product sus link**

[STSW-IMG009](https://www.st.com/en/product/stsw-img009)

**Features**

• Nine VL53L1X sensors used in parallel

• Example code shows how to create 13 Regions of Interest (ROI) and cover 180 degrees

• Although the code is ST32 specific, it’s applicable to any MCU

• Delivery contains all the STM32 code, the PC code (in Visual Basic) and the STEP models for the plastic and schematic.

• All the components are easily obtainable from distributors.

**Description**

The VL53L1X\_ULD API is a set of C functions controlling one, or many VL53L1X sensors to enable the development of end-user applications. This Lidar application is an extreme example of how to control multiple sensors. The VL53L1X\_ULD is an optimized version of the initial VL53L1X driver.

The P-Nucleo-53L1A1 is the basis of the hardware. The 9 sensors are the VL53L1X-SATEL.

It’s a simple matter of hooking up each sensor to the same I2C interface, add power and ground, and connect each sensor’s reset pin to a PIO.

Each Sensor ranges 13 times to cover the 20 degrees of coverage. At that rate one gets 6 complete updates per second. All sensors range simultaneously. The ranges are slightly modified by the STM32 to account for the geometry and sent to the PC for plotting.

**Revision history**

**Table 1. Document revision history**

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| --- | --- | --- |
| **Date** | **Version** | **Changes** |
| 11-Jan-2019 | 1 | Initial release |

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