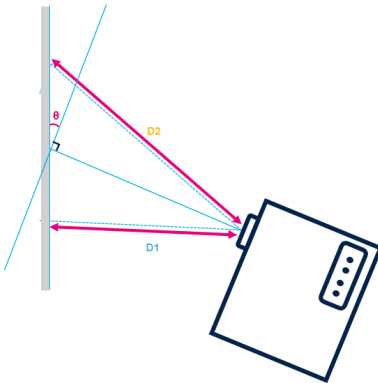


## Keystone correction example code for projectors using the VL53L1 Time-of-Flight sensor with extended range



### Product status link

[STSW-IMG047](#)

### Features

- Complete technical package including:
  - Ready to use STSW-IMG047 application code example
  - AN6048 technical application note
- Supports the Time-of-Flight (ToF) ranging sensor (VL53L1) with advanced multizone and multiobject detection
- Benefits keystone correction, which is based on STMicroelectronics' FlightSense technology, including:
  - Very high accuracy and correction speed of the projected image geometry
  - No mechanical parts, and a more robust solution compared to traditional keystone correction systems
  - Low complexity and small-scale design
  - All-in-one sensor that is easy to integrate, and can be hidden behind a dark cover glass
  - Low power consumption and ease of integration in any architecture

### Application

#### Projectors

- Correct alignment and proportioning of the projected image
- An improved viewing experience for audiences
- Presentations with a more professional and polished look

### Description

The STSW-IMG047 is specially designed for projectors. Its advanced keystone correction solution works with the VL53L1 ToF sensor with extended range. The multizone scanning functionality of the VL53L1 supports ranging up to 8 m, and the ability to detect horizontal and vertical tilt information.

This innovative FlightSense technology from STMicroelectronics provides the user with a highly accurate keystone correction. The solution unlocks the full potential of projectors. It is flexible, fast, and user-friendly. Furthermore, it addresses keystone distortion by correcting distorted images caused by the angle of projection.

The STSW-IMG047 includes a ready to use application code example and associated technical documentation. They support the user when starting to evaluate and integrate information. A complete ecosystem based on the VL53L1 sensor is available to help customers create their own applications. Note that the code example can be run with the VL53L1-SATEL breakout board connected to any hardware platform supporting Linux.

The VL53L1 is a miniature sensor based on STMicroelectronics' latest-generation FlightSense direct ToF technology. This sensor achieves accurate ranging up to 8 m, thanks to software updates especially designed for the keystone correction solution. The VL53L1's patented algorithms and ingenious module construction allow for detection of different objects within the field-of-view. Such detection involves depth understanding at 60 Hz, which allows scene browsing and multizone detection.

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
29-Jan-2024	1	Initial release
15-Jul-2024	2	Modified the Description describing the type of hardware required to run the code example.

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