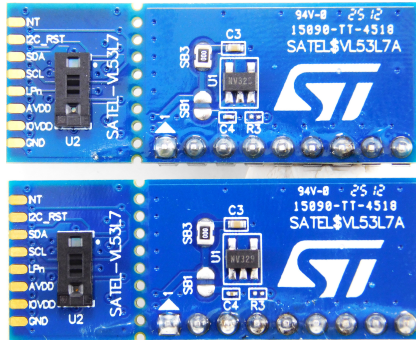


## Breakout board based on the VL53L7 series Time-of-Flight sensors



### Features

- Breakout boards based on the [VL53L7](#) series for STM32 Nucleo
  - [VL53L7CX](#) Time-of-Flight (ToF) 8x8 multizone ranging sensor with 90 degrees FoV
  - [VL53L7CH](#) Artificial intelligence enabler, Time-of-Flight (ToF) 8x8 multizone sensor with 90 degrees FoV
- Divisible board that can be used as a mini-PCB breakout board, easy to integrate into the customer's device
- Two breakout boards available in the package
- Compatible with [X-NUCLEO-53L7A1](#)

### Description

The [SATEL-VL53L7](#) package includes two breakout boards, which can be easily integrated into the customer's devices.

The PCB section that embeds the [VL53L7](#) series Time-of-Flight sensor module is perforated. The developers can then break off the mini-PCB and use it in a 3.3 V supply application via flying wires.

The breakout boards support two products, [VL53L7CX](#) and [VL53L7CH](#).

The [VL53L7CX](#) is an 8x8 multizone, ToF ranging sensor. Based on STMicroelectronics FlightSense technology, the sensor is designed to provide accurate ranging up to 350 cm with a 90° diagonal FoV.

The [VL53L7CH](#) is the perfect Time-of-Flight sensor enabling AI applications, with ultrawide 90° diagonal FoV and low-power consumption. The compact and normalized histogram (CNH) innovative data output is specially designed for artificial intelligence (AI) applications requiring multizone raw data from a high-performance multizone ToF sensor.

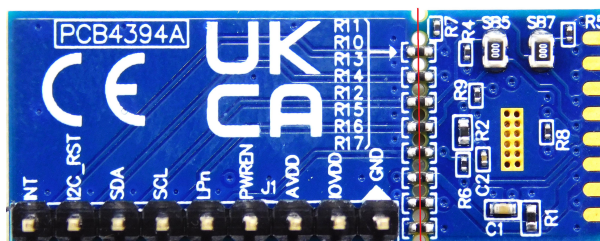
This makes it easier to integrate the [SATEL-VL53L7](#) breakout boards into the development and evaluation devices, thanks to their small size.

Product summary	
Breakout board based on the VL53L7 series Time-of-Flight sensors	<a href="#">SATEL-VL53L7</a>
Time-of-Flight 8x8 multizone ranging sensor with 90 degrees FoV expansion board based on the VL53L7CX for STM32 Nucleo	<a href="#">X-NUCLEO-53L7A1</a>
Applications	<a href="#">Home Entertainment</a> <a href="#">Gaming and XR accessories</a> <a href="#">Smartphones, Tablets and eReaders</a> <a href="#">Wearable</a>

## 1 Breakout boards

You can break the breakout boards along the perforations to use the mini-PCB.

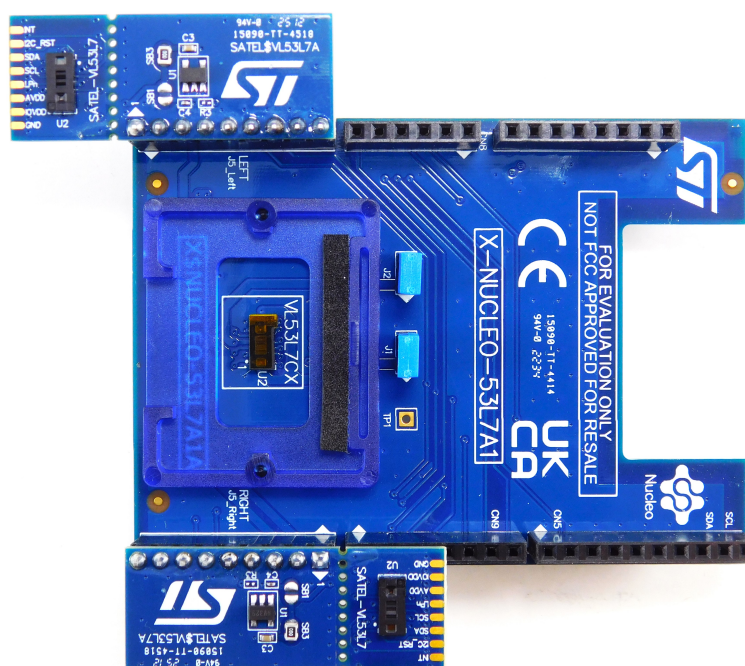
**Figure 1. Breakout board**



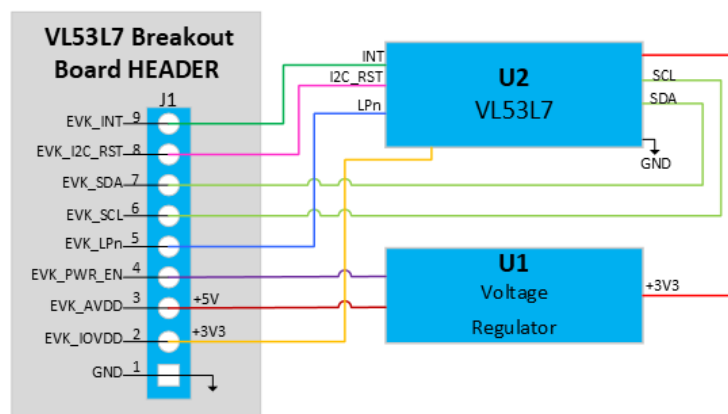
This setup is easier to integrate into a customer's device thanks to its small form factor.

You can plug the VL53L7 breakout boards directly onto the X-NUCLEO-53L7A1 expansion board through two six-pin connectors (Figure 2), or connect them to the board through flying wires (Figure 3).

**Figure 2. SATEL-VL53L7 breakout boards connected to the X-NUCLEO-53L7A1 expansion board**



**Figure 3.** SATEL-VL53L7 mini-PCB flying wire connection to the X-NUCLEO-53L7A1 expansion board



## 2 Ordering information for the VL53L7 series ToF sensor

This board is equipped with a noncommercial VL53L7CA evaluation purpose only Time-of-Flight sensor. Its equivalent orderable products are listed in the following table.

For a detailed description of each sensor, please refer to its datasheet on the product web page.

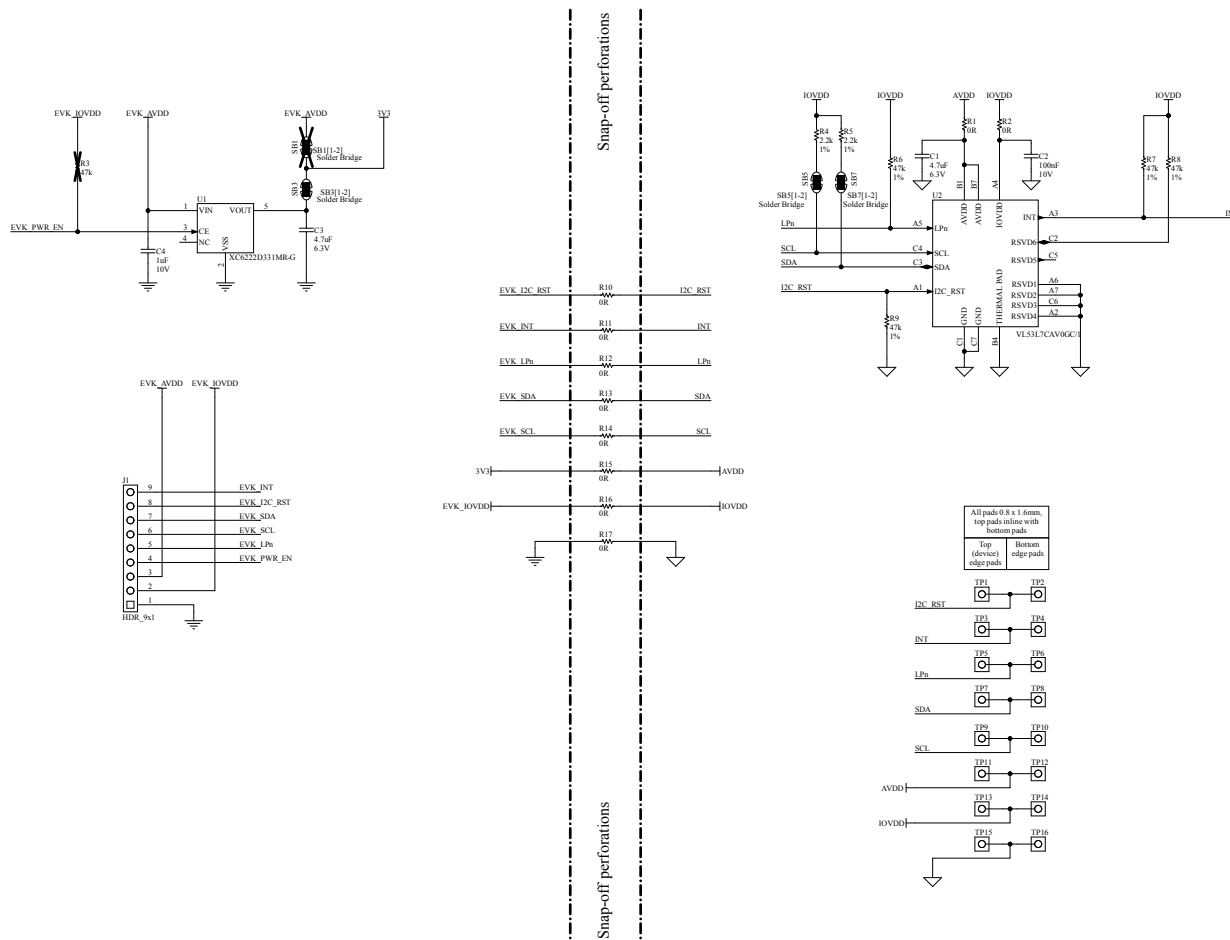
Additional information is available from the user manual and collateral documents of the target ToF sensor.

**Table 1. Ordering table**

RPN	CPN	Datasheet	Features
<a href="#">VL53L7CX</a>	VL53L7CXV0GC/1	<a href="#">DS13865</a>	Low-power high-performance Time-of-Flight 8x8 multizone ranging sensor with 90° FoV
<a href="#">VL53L7CH</a>	VL53L7CHV0GC/1	<a href="#">DS14309</a>	Artificial intelligence enabler, Time-of-Flight (ToF) 8x8 multizone sensor with 90° FoV

## 3

**Figure 4. SATEL-VL53L7 circuit schematic**



## 4 Board versions

**Table 2. SATEL-VL53L7 versions**

Finished good	Schematic diagrams	Bill of materials
SATEL\$VL53L7A <sup>(1)</sup>	SATEL\$VL53L7A schematic diagrams	SATEL\$VL53L7A bill of materials

1. This code identifies the SATEL-VL53L7 expansion board first version.

## Revision history

**Table 3. Document revision history**

Date	Revision	Changes
17-Jun-2025	1	Initial release.

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