Breakout board embedding the VL53L4CX Time-of-Flight sensor with extended range measurement

VL53L4CX

Breakout Boards

- Time-of-Flight high perfor-mance ranging sensor based on ST Histogram processing and **FlightSense™** technology
- Breakout boards for easy and fast prototyping
- Compatible with X-NUCLEO-53L4A2

By using or installing (as applicable) this evaluation kit you accept all the terms of the EVALUATION LICENCE AGREEMENT available at www.st.com/epla

ST part number: SATEL-VL53L4CX   www.st.com

Features

- VL53L4CX Time-of-Flight sensor with extended range measurement
- Accurate absolute ranging distance, independent of the target size and reflectance
- Distance measurement from 0mm up to 6m
- Short distance linearity down up to 10mm
- Histogram based technology
- Multiobject detection capability
- Targets beyond 80cm range are immune to crosstalk from cover glass and smudge
- 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-53L4A2

Description

The SATEL-VL53L4CX package includes two breakout boards, which can be easily integrated into the customer's devices.

The PCB section that embeds the VL53L4CX 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.

This makes it easier to integrate the SATEL-VL53L4CX breakout boards into the development and evaluation devices thanks to their small size.

Product summary	
Breakout board embedding the VL53L4CX Time-of-Flight sensor with extended range measurement	SATEL-VL53L4CX
Time-of-Flight sensor with extended range measurement expansion board based on the VL53L4CX for STM32 Nucleo	X-NUCLEO-53L4A2
Time-of-Flight sensor with extended range measurement	VL53L4CX
Applications	Personal Electronics - Audio and Video
	Gaming and Drones
	Virtual - Augmented Reality
	Wearable

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1 Breakout boards

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

Figure 1. Breakout board
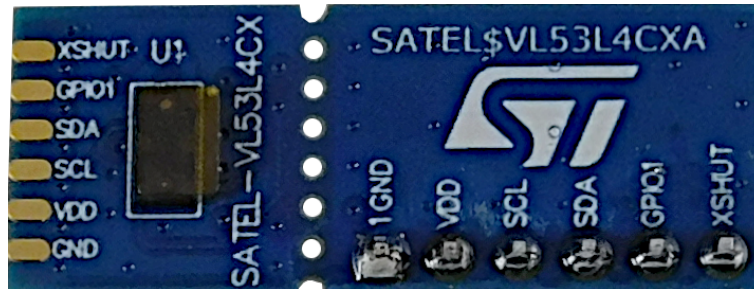
This setup is easier to integrate into a customer's device thanks to its small form factor.

You can plug the VL53L4CX breakout boards directly onto the X-NUCLEO-53L4A2 expansion board through two six-pin connectors (Figure 2), or connect them to the board through flying wires (Figure 3).

Figure 2. SATEL-VL53L4CX breakout boards connected to the X-NUCLEO-53L4A2 expansion board
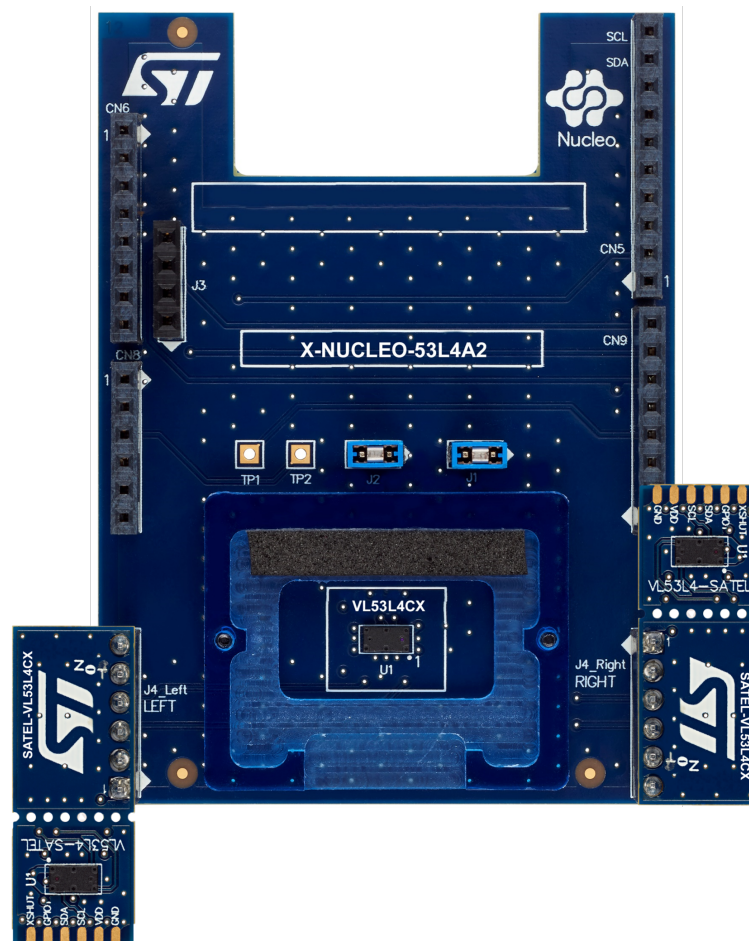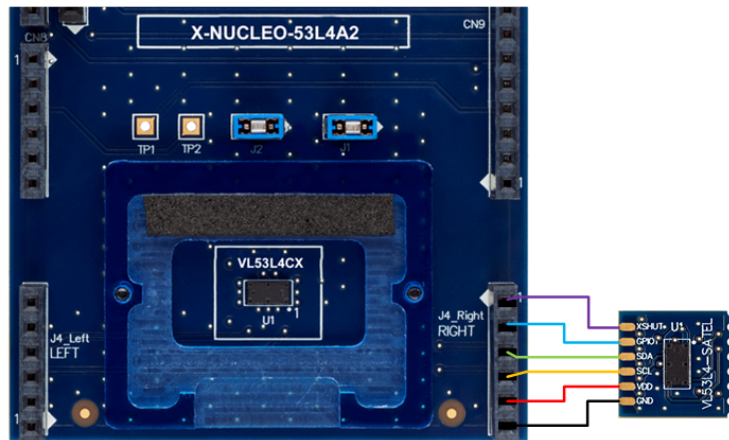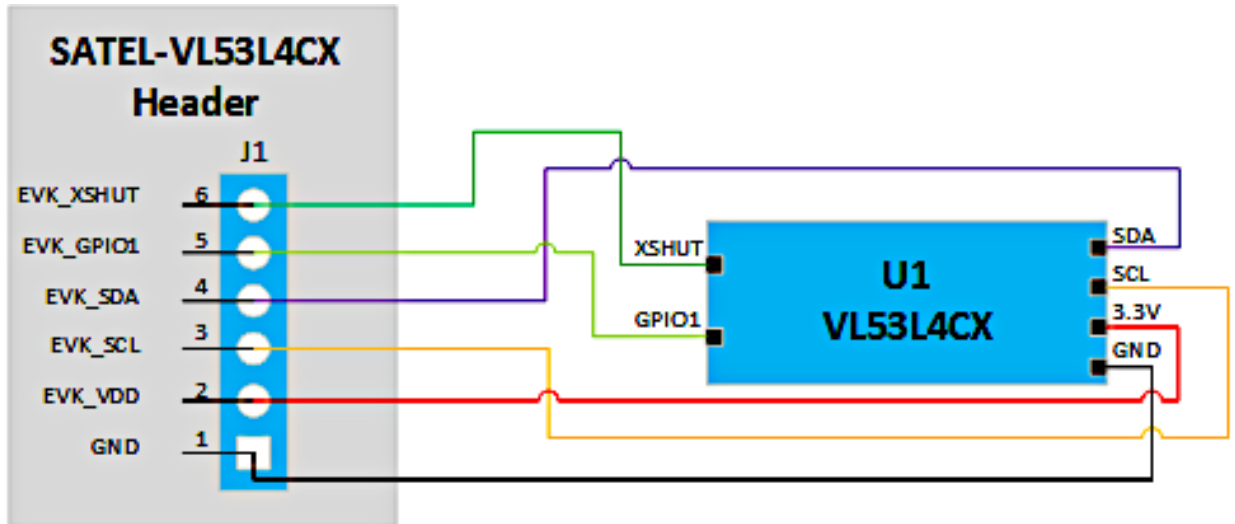
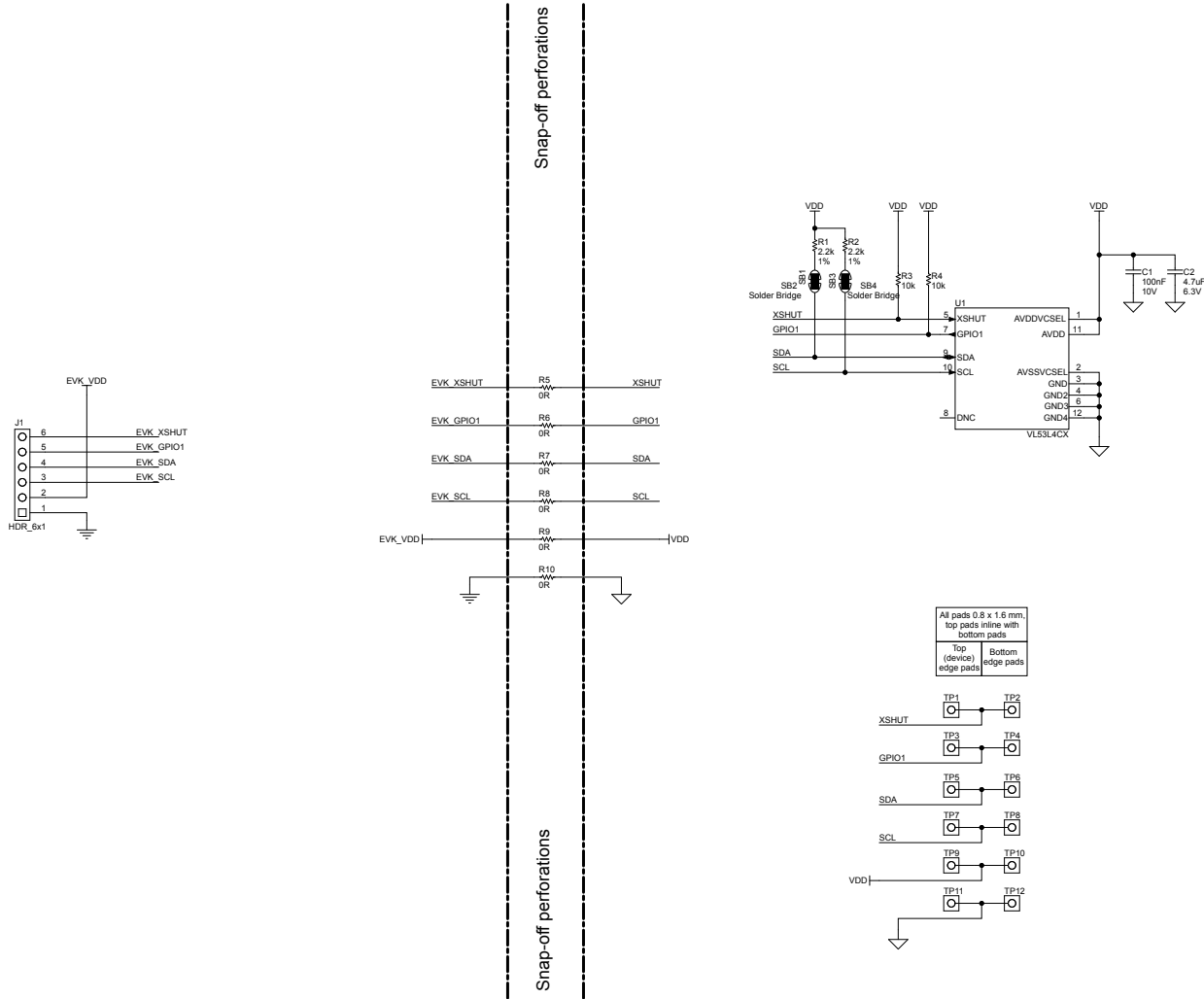**Figure 3. SATEL-VL53L4CX mini-PCB flying wire connection to X-NUCLEO-53L4A2 expansion board**

2 Simplified schematics

Figure 4. SATEL-53L4CX simplified schematic

3 Schematic diagrams

Figure 5. SATEL-VL53L4CX circuit schematic

4 Board versions

Table 1. SATEL-53L4CX versions

Finished good	Schematic diagrams	Bill of materials
SATEL$VL53L4CXA [1]	SATEL$VL53L4CXA schematic diagrams	SATEL$VL53L4CXAbill of materials

1. This code identifies the SATEL-VL53L4CX expansion board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
24-Jan-2022	1	Initial release.
07-Mar-2022	2	Updated features.
09-May-2022	3	Updated cover image.

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