

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



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.

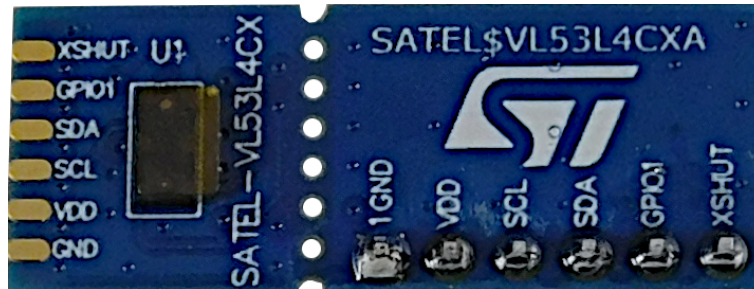
This makes it easier to integrate the SATEL-VL53L4CX breakout boards into the development and evaluation devices thanks to their small size.

| 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 |

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

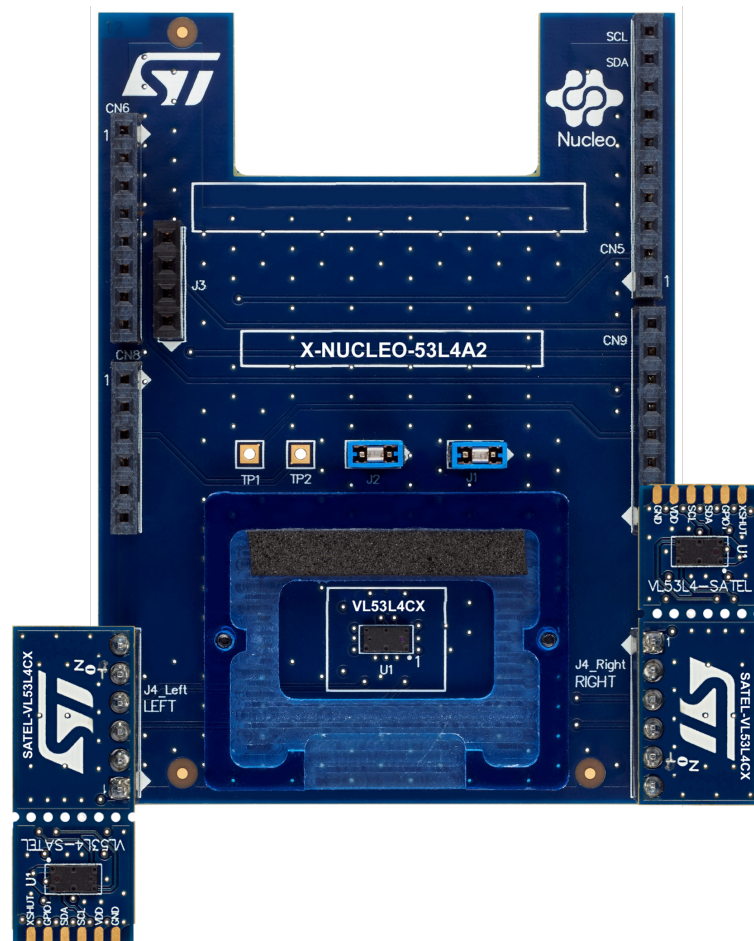
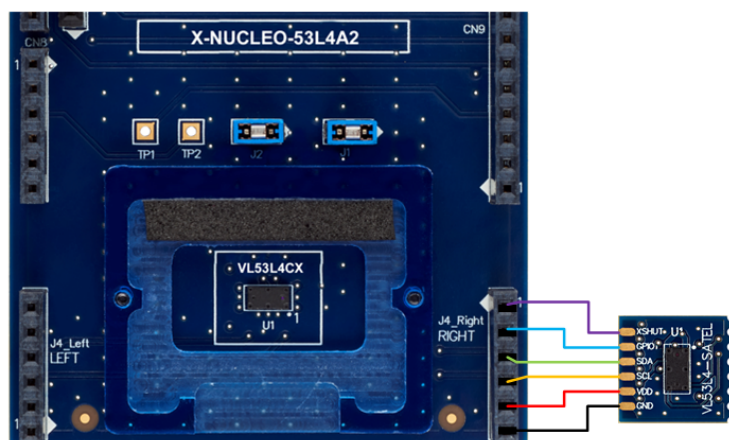
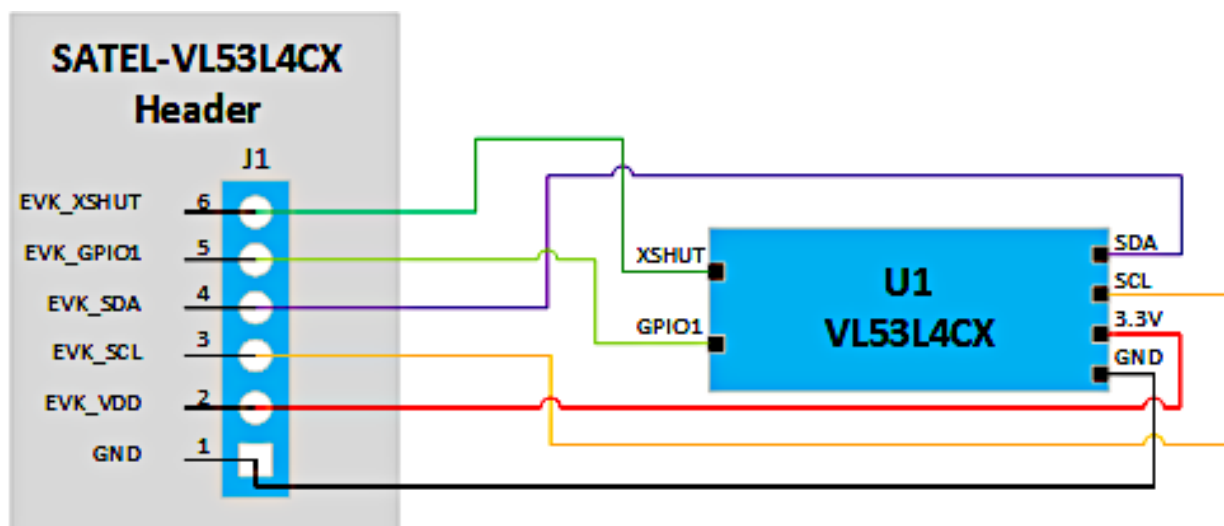


Figure 3. SATEL-VL53L4CX mini-PCB flying wire connection to X-NUCLEO-53L4A2 expansion board



2 Simplified schematics

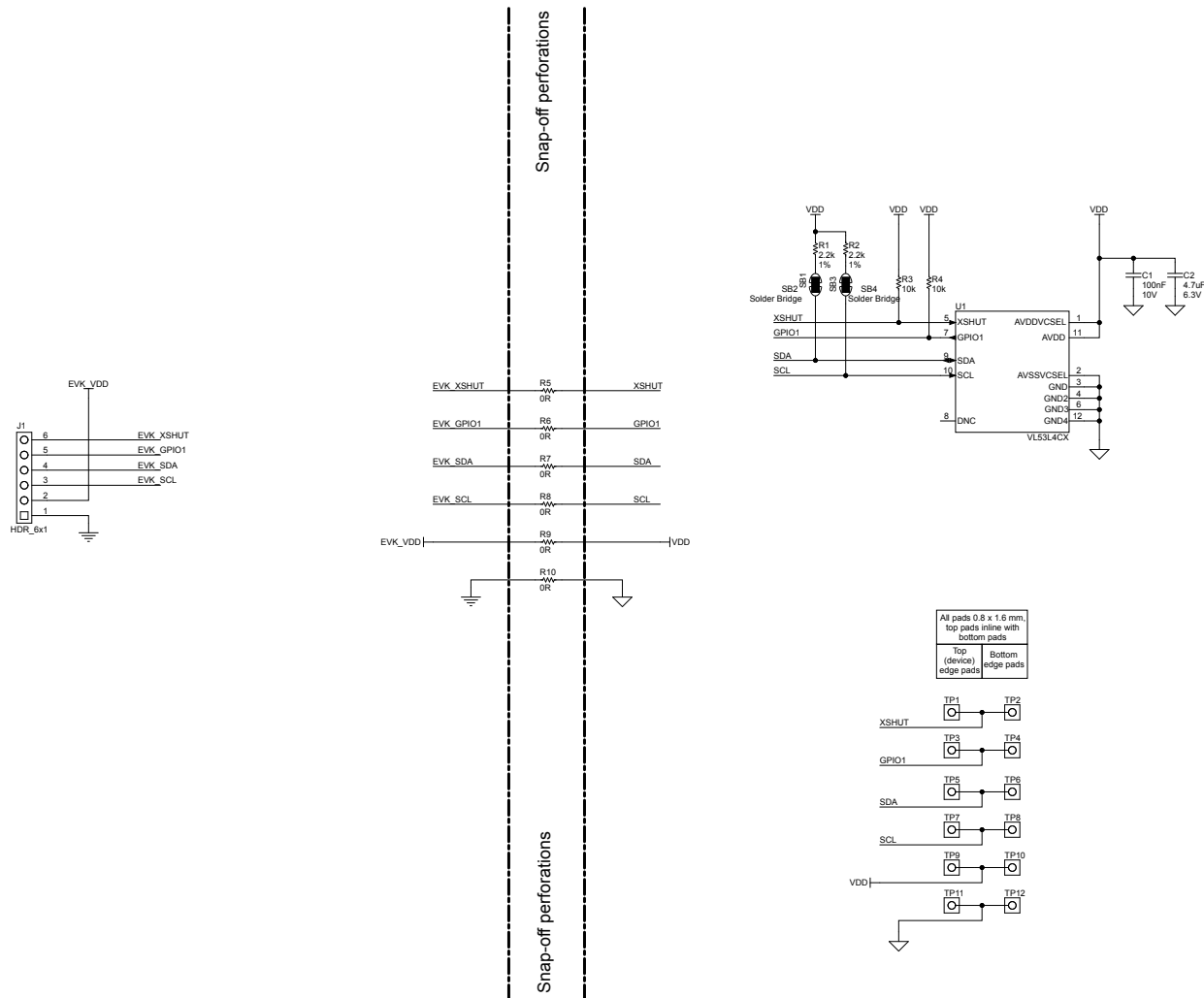
Figure 4. SATEL-53L4CX simplified schematic



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. |

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST's terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers' products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2022 STMicroelectronics – All rights reserved