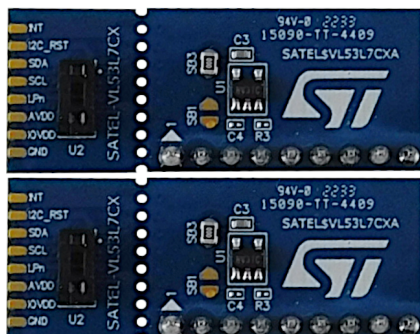


## Breakout board based on the VL53L7CX Time-of-Flight 8x8 multizone ranging sensor with 90° FoV



### Features

- VL53L7CX Time-of-Flight 8x8 multizone ranging sensor with 90° FoV
- Accurate absolute ranging distance, independent of the reflectance of the target
- Multizone ranging output with 4x4 or 8x8 separate zones
- 60° x 60° square FoV (90° diagonal)
- 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-VL53L7CX package includes two breakout boards, which can be easily integrated into the customer's devices.

The PCB section that embeds the VL53L7CX 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.

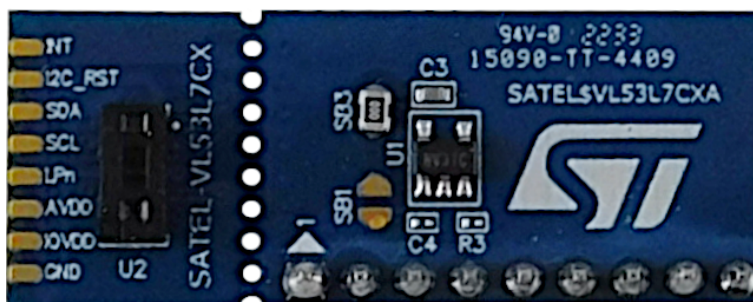
This makes it easier to integrate the SATEL-VL53L7CX breakout boards into the development and evaluation devices, thanks to their small size.

| Product summary                                                                                                 |                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Breakout board based on the VL53L7CX Time-of-Flight 8x8 multizone ranging sensor with 90° FoV                   | SATEL-VL53L7CX                                                                                            |
| Time-of-Flight 8x8 multizone ranging sensor with 90° FoV expansion board based on the VL53L7CX for STM32 Nucleo | X-NUCLEO-53L7A1                                                                                           |
| Time-of-Flight 8x8 multizone ranging sensor with 90° FoV                                                        | VL53L7CXV0GC/1                                                                                            |
| Applications                                                                                                    | Personal Electronics<br>- Audio and Video<br>Gaming and Drones<br>Virtual - Augmented Reality<br>Wearable |

## 1 Breakout boards

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

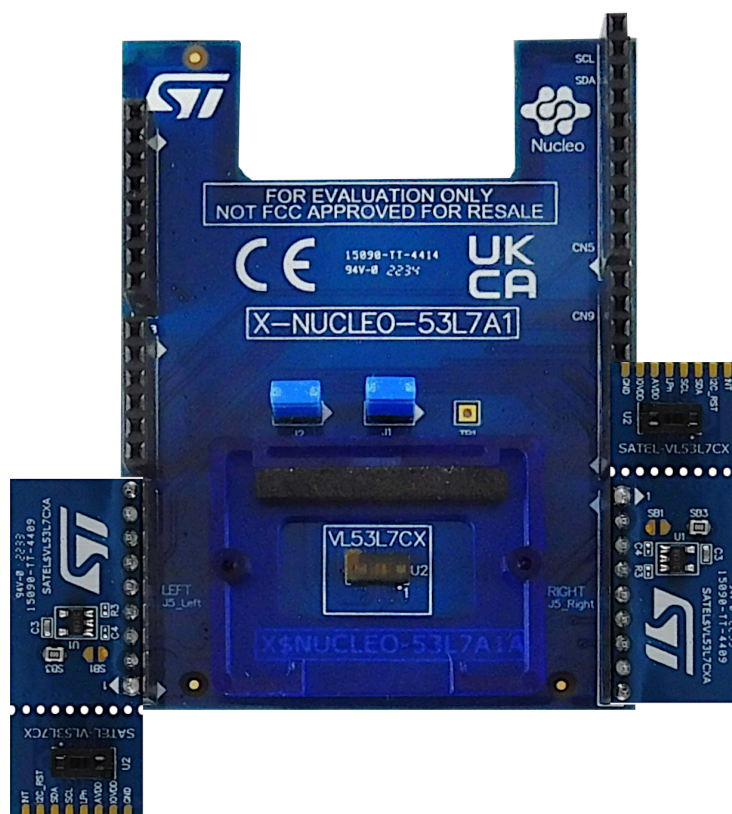
**Figure 1. Breakout board**



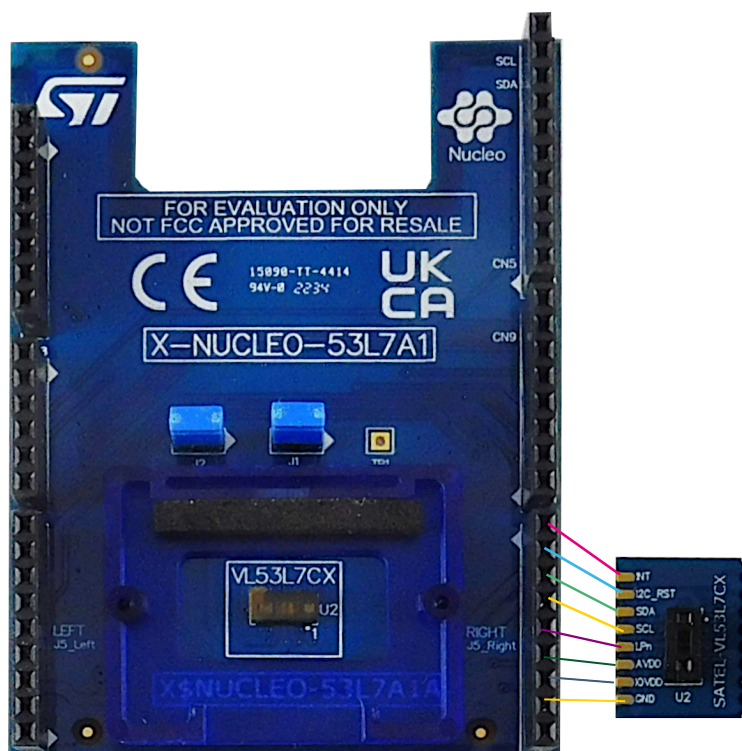
This setup is easier to integrate into a customer's device thanks to its small form factor.

You can plug the VL53L7CX 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-VL53L7CX breakout boards connected to the X-NUCLEO-53L7A1 expansion board**

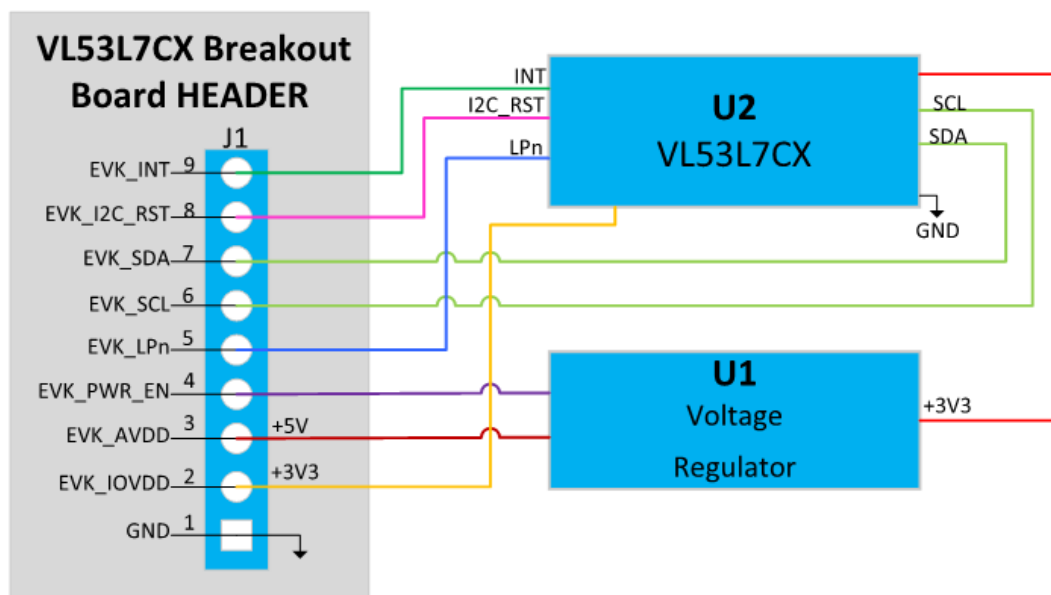


**Figure 3.** SATEL-VL53L7CX mini-PCB flying wire connection to the X-NUCLEO-53L7A1 expansion board



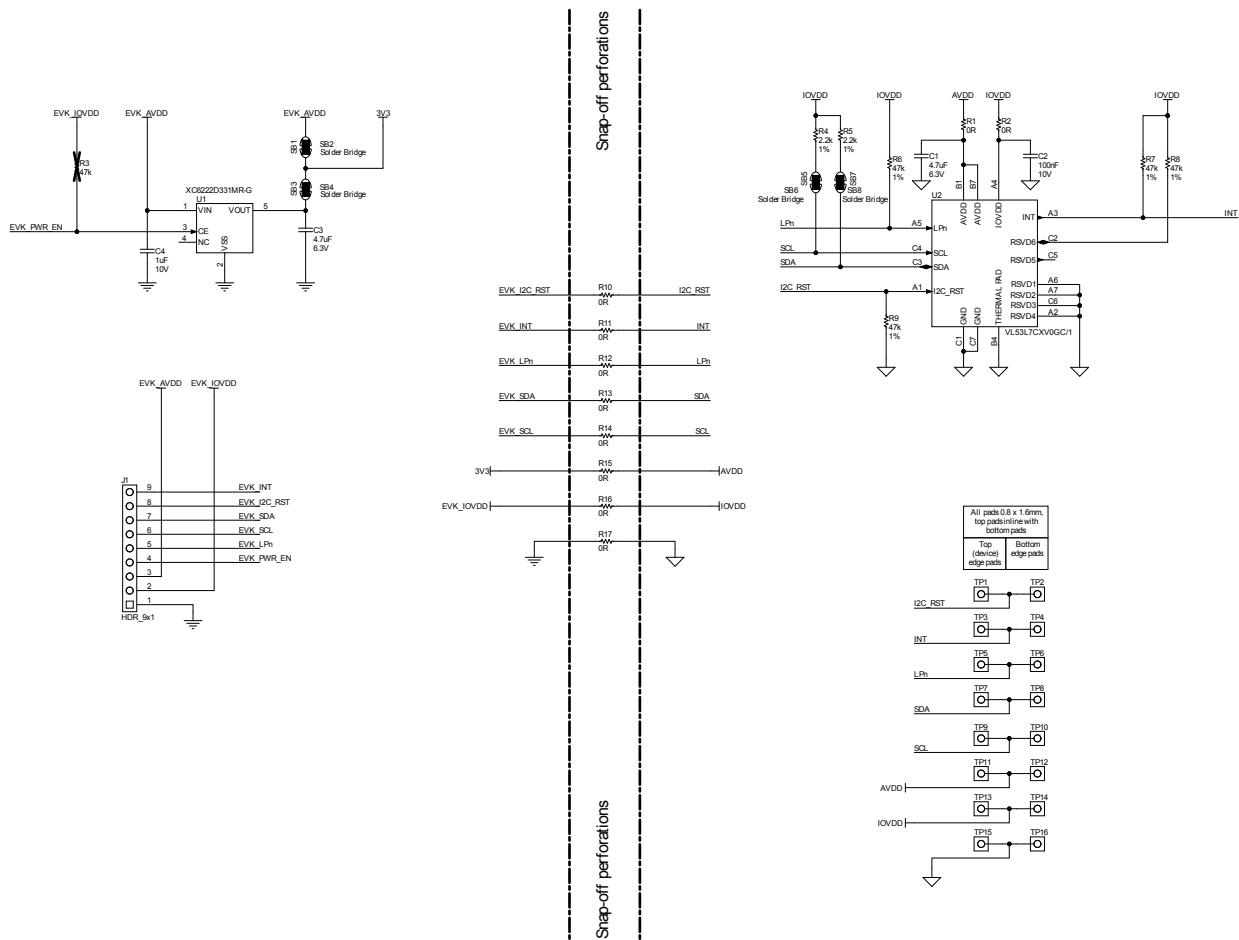
## 2 Simplified schematic

Figure 4. SATEL-53L7CX simplified schematic



### 3 Schematic diagrams

Figure 5. SATEL-VL53L7CX circuit schematic



## 4 Board versions

**Table 1. SATEL-53L7CX versions**

| Finished good                   | Schematic diagrams                  | Bill of materials                  |
|---------------------------------|-------------------------------------|------------------------------------|
| SATEL\$VL53L7CXA <sup>(1)</sup> | SATEL\$VL53L7CXA schematic diagrams | SATEL\$VL53L7CXA bill of materials |

1. This code identifies the SATEL-VL53L7CX expansion board first version.

## Revision history

**Table 2. Document revision history**

| Date        | Revision | Changes          |
|-------------|----------|------------------|
| 26-Sep-2022 | 1        | Initial release. |

**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](http://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