

Evaluation board based on VL53L9CX Time of Flight sensor

Features



- Evaluation board based on the VL53L9CX for STM32 Nucleo
 - VL53L9CX is a ToF 3D lidar all-in-one module with high resolution of 2.3 K zones
- Equipped with MIPI and I3C interfaces
- Compatible with various platforms (STM32 Discovery kits and Nucleo boards, RPI, Rock chip)

Description

The [STEVAL-VL53L9](#) includes one board, which can be easily integrated into the customer devices.

The developer can use the [STEVAL-VL53L9](#) with flying wires on the header. This makes it easier to integrate the board into the development and evaluation devices, thanks to their small size.

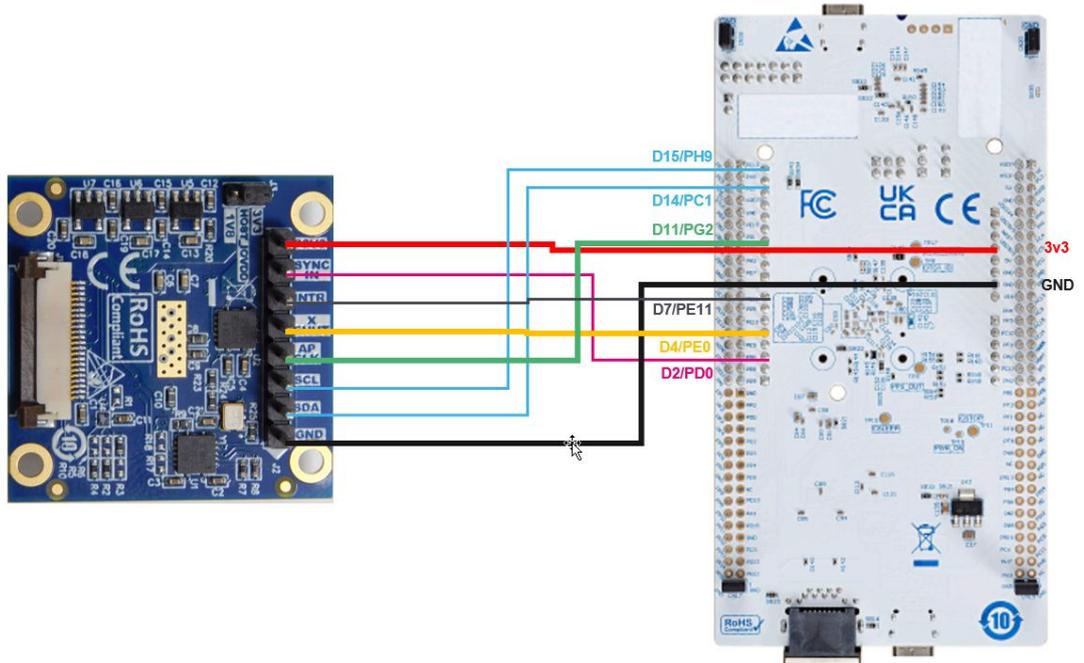
The [STEVAL-VL53L9](#) board supports the [VL53L9CX](#).

The [VL53L9CX](#) is a dToF 3D LiDAR all-in-one module, offering a high spatial resolution of 2.3 K zones. It features a 71° diagonal FoV, with 1° angular resolution across a 55° x 42° FoV. It also delivers accurate ranging from below 5 cm to 9 m.

Product summary	
Evaluation board based on VL53L9CX Time of Flight sensor	STEVAL-VL53L9
3D dToF LiDAR module	VL53L9CXV0VE/1
Applications	Smart building/Smart home/AR/VR/ Industrial/Robotics/ Drones/Humanoid robots

1 Breakout boards

Figure 1. Connection via flying wires to NUCLEO-N657X0-Q



2 Schematic diagrams

Figure 2. STEVAL-VL53L9 circuit schematic (1 of 6)

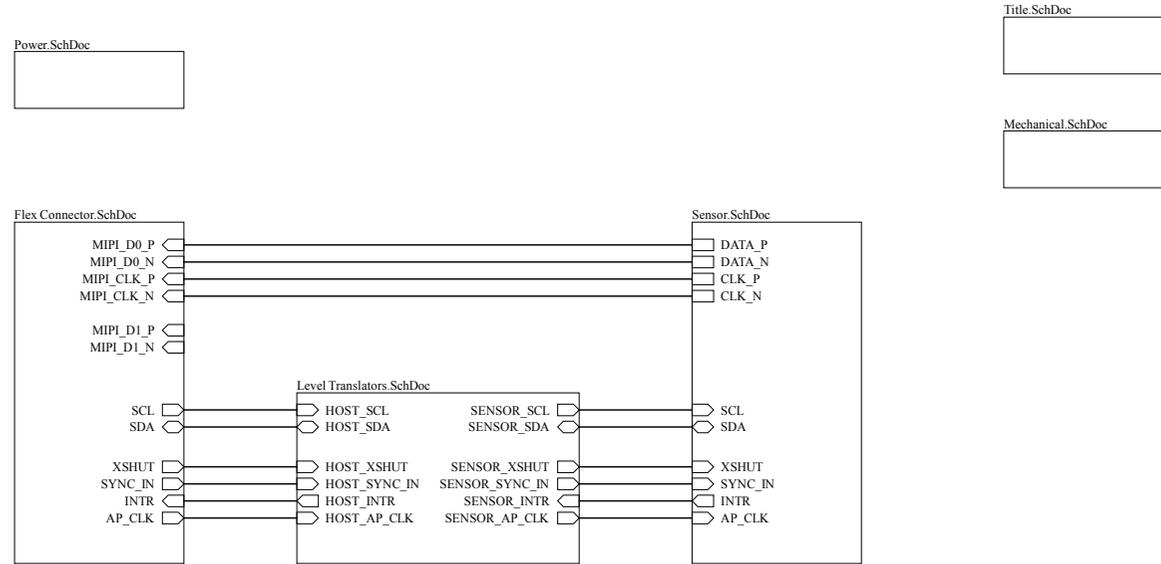
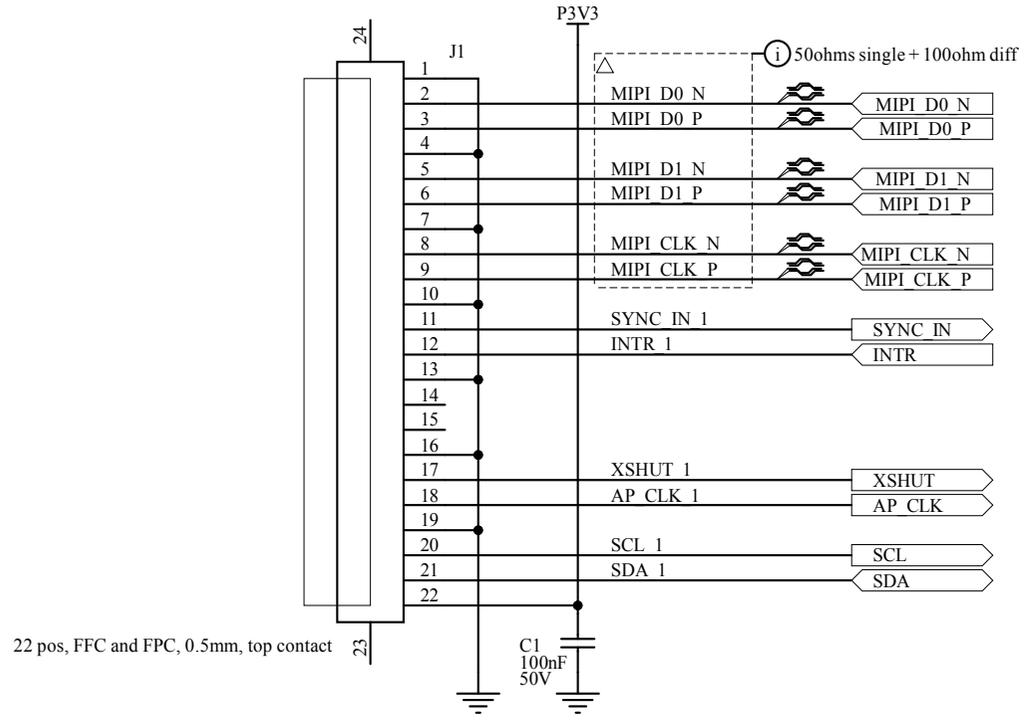
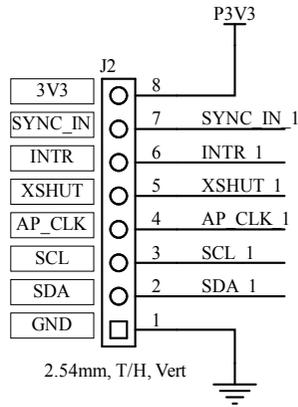


Figure 3. STEVAL-VL53L9 circuit schematic (2 of 6)

Flex Connector

Header



Note: Current rating per contact = 0.5 A

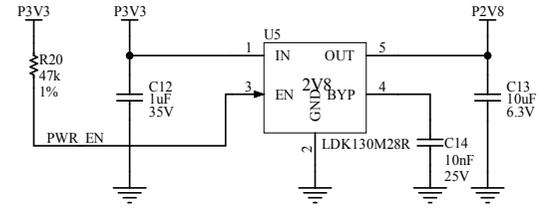


Figure 4. STEVAL-VL53L9 circuit schematic (3 of 6)

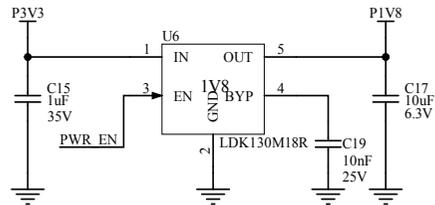
Power Supplies

2V8 Gen

3V3 supplied from flex connector.



1V8 Gen



1V2 Gen

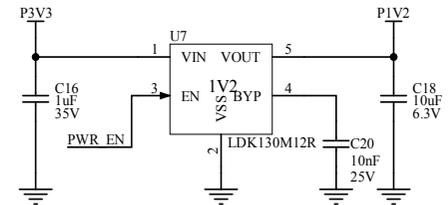
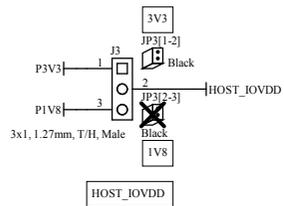
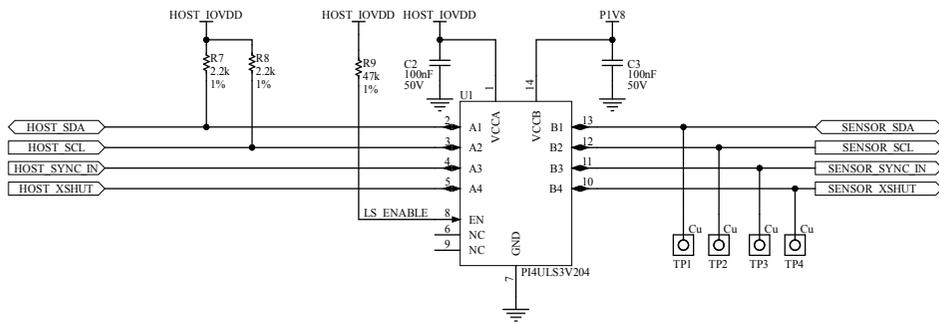


Figure 5. STEVAL-VL53L9 circuit schematic (4 of 6)

Host IO Select Header



Level Shifter
HOST IOVDD <--> 1.8 V



Level Shifter
HOST IOVDD <--> 1.8 V

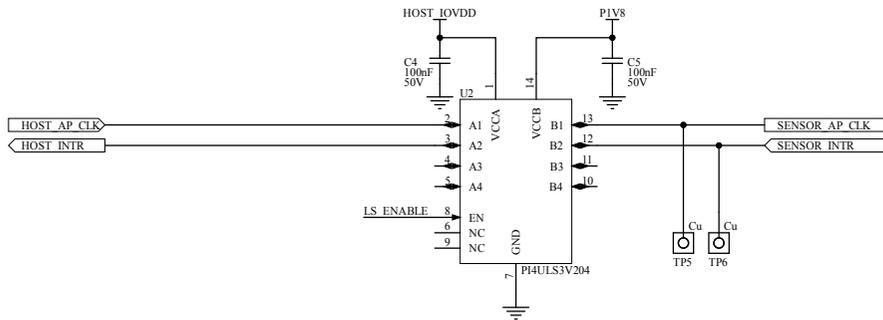


Figure 6. STEVAL-VL53L9 circuit schematic (5 of 6)

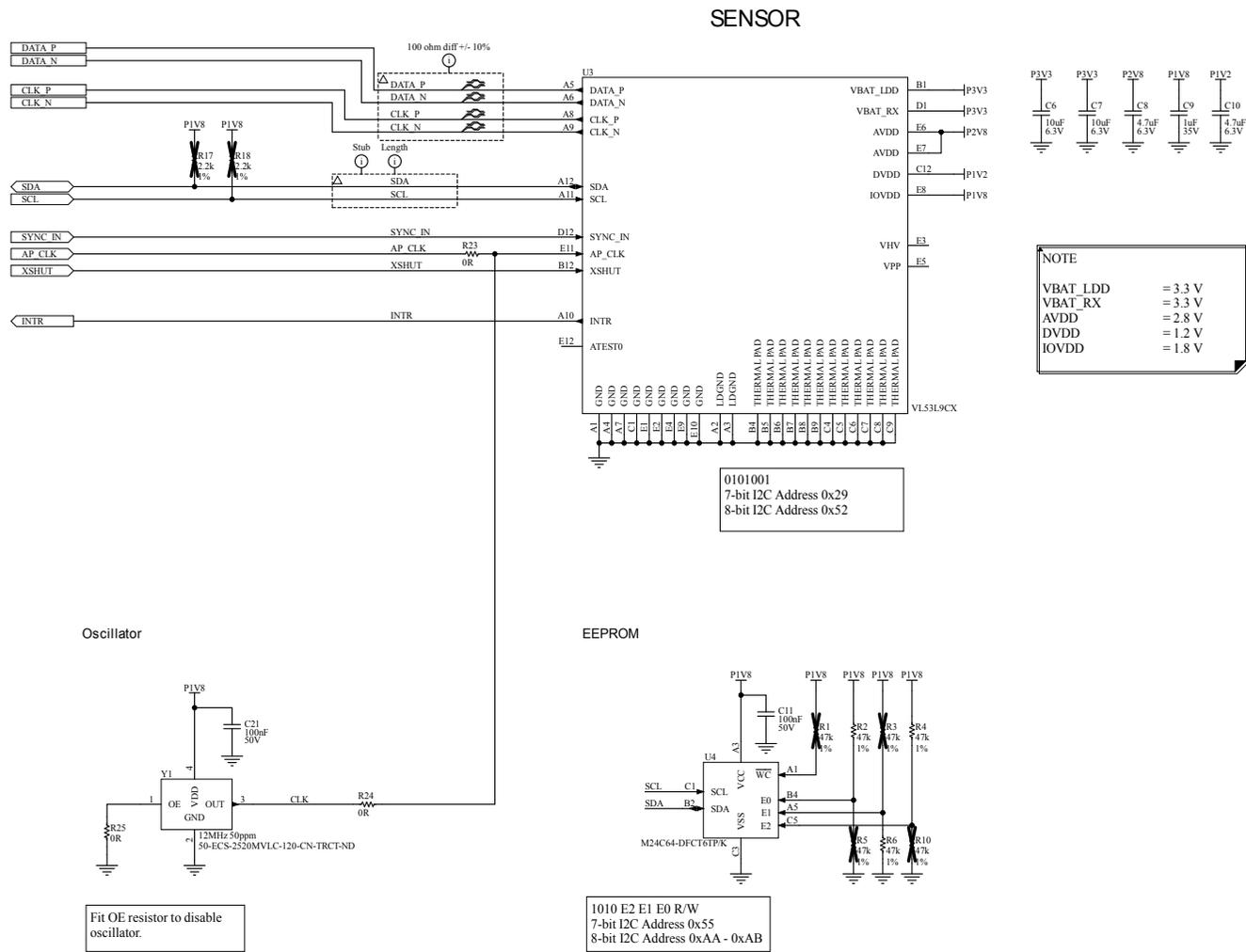
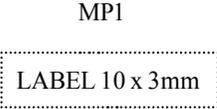
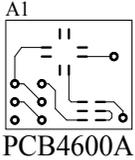
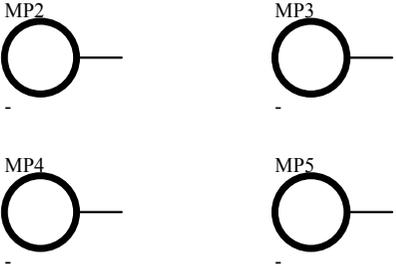


Figure 7. STEVAL-VL53L9 circuit schematic (6 of 6)

Board Labels



Mounting Holes



3 Board versions

Table 1. STEVAL-VL53L9 versions

Finished good	Schematic diagrams	Bill of materials
STV\$VL53L9A ⁽¹⁾	STV\$VL53L9A schematic diagrams	STV\$VL53L9A bill of materials

1. This code identifies the STEVAL-VL53L9 evaluation board first version.

Revision history

Table 2. Document revision history

Date	Revision	Changes
30-Mar-2026	1	Initial release.

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