

EVB90391

Evaluation Board for MLX90391
Hardware Data brief

1. Scope

This document provides an overview of the available hardware tools to evaluate the MLX90391.

2. Ordering information

- [Where to buy the hardware tools and additional samples](#)

Order code	Description
EVB90391_001	Breakout board with MLX90391KSE-AAA-001 (I ² C address 0x60/0x61)
EVB90391_001_h	Breakout board with MLX90391KSE-AAA-001 (I ² C address 0x60/0x61), and precision header compatible with DVKmagnetic

Table 1 – Ordering Information

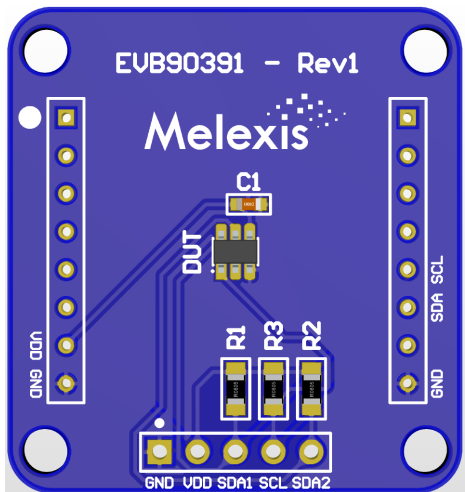
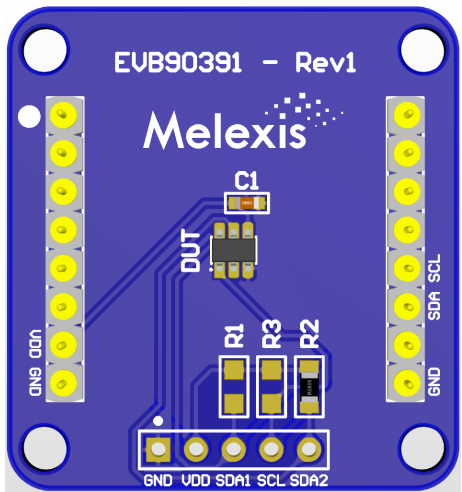
Visual	
 EVB90391_001	 EVB90391_001_h

Table 2 – Evaluation board Dimensions: 25 mm x 35 mm

3. Complementary Tools

Order code	Description
DVKmagnetic	A magnetic development kit, including interface board, rotary knobs, linear sliders, joystick with push, and off-axis magnet holder. For use with EVBs which have to be ordered separately

Table 3 – Ordering Information

EVB90391

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4. EVB90391 Features and Benefits

- Easy IC evaluation
- Compatible to DVKMagnetic

5. Description

The boards provide a PCB reference design.

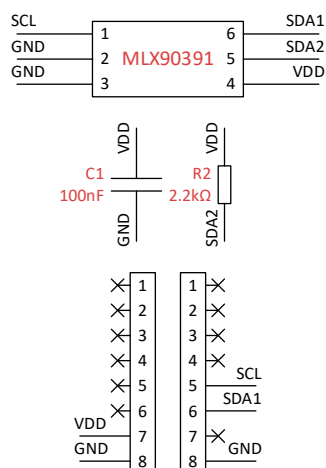
Important Notes:

- The MLX90391 operates at 1.8V and 3.3V, which means that when connecting it to a microcontroller one needs to either use a 1.8V or 3.3V microcontroller, or use a level shifter in between.
- Any firmware code is provided for demo purposes only.
- In general: When selecting an SDA pin to serve as the I2C address, the second SDA pin shall be pulled high through a pull-up resistor. This second SDA pin becomes then the INTB line.
- The 5pin header is not populated on either version of the evaluation board

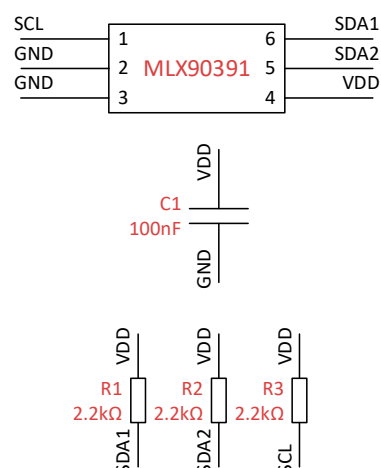
Two different version of the EVB are provided, which have the same schematic, but are populated differently:

- **EVB90391_001:** The IC is mounted, together with a 100nF decoupling capacitor and **3 pull-up resistors**. The five (“useful”) pins of the IC are directly routed to the 5-pin header footprint.
 - **Pull up resistor is applied on both SDA1, SDA2 and SCL lines**
- **EVB90391_001_h:** The IC is mounted, together with a 100nF decoupling capacitor and **1 pull-up resistor**. Two precision headers are mounted for compatibility with the DVK. Note that the drill holes of these are smaller than the standard headers.
 - **SDA1 is used for communication (I2C address)**
 - The pull up resistors for SDA1 and SCL are applied on the DVK magnetic board.
 - SDA2 is used as INTB, and pull up resistor R2 is applied on the Evaluation board.

EVB90391_001_h version



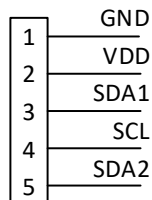
EVB90391_001 version



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Note: 5 pin header is not mounted on any of the versions.



6. More information can be found here

Tool webpage, including latest revision of this databrief, and code examples

- melexis.com/MLX90391-tools

Product webpage, including application notes

- melexis.com/MLX90391

Selection guide

- Melexis.com/en/products/magnetic-position-sensor-ics#selection-tool

Third party partners/suppliers

- [Overview of recommended Third Party](#)
- [Recommended Magnet Suppliers](#)

7. ESD precautions

Electronic semiconductor products are sensitive to Electro Static Discharge (ESD). Always observe Electro Static Discharge control procedures whenever handling semiconductor products.

8. Revision history

Revision	Date	Change history
001	26-Aug-26	Initial creation

Table 4 – Revision history

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