DVK90382 / EVB90382

Evaluation and Development kit for MLX90382
Hardware datasheet

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1 Scope

This document describes the EVB90382 PCB's and their connection diagram for programming the MLX90382 devices with the Melexis.IO.

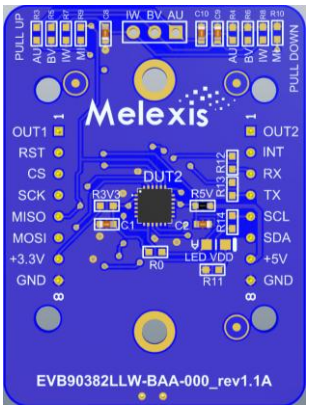
2 Order code

Order code	Product	Description
DVK90382LLW-BAA-000_rev1.0A	MLX90380LLW-BAA-000	Development KIT for ML90382 including EVB90382LLW-BAA-000 (Mid-Field), Melexis.IO, 30cm SPI cable
Order code	**Product**	**Description**
EVB90382LLW-BAA-000_rev1.1A	MLX90382LLW-BAA-000	Evaluation board for MLX90382, QFN, Mid-Field variant
EVB90382LLW-BAA-100_rev1.1A	MLX90382LLW-BAA-100	Evaluation board for MLX90382, QFN, High-Field variant
EVB90382LLW-BAA-600_rev1.1A	MLX90382LLW-BAA-600	Evaluation board for MLX90382, QFN, dBz - Stray-Field Immune variant
EVB90382LGO-BAA-602_rev1.1A	MLX90382LLGO-BAA-602	Evaluation board for MLX90382, TSSOP, dBz - Stray-Field Immune variant

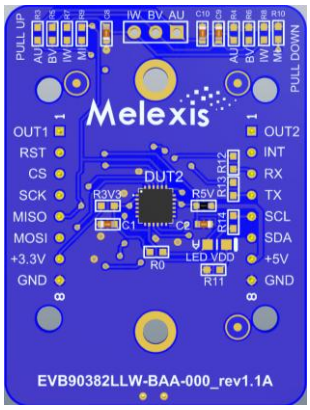
3 Other Components Needed

- Melexis.IO;
- SPI cable;
- Software package of the MLX90382 for the Melexis.IO;
- USB-C cable (not included in the DVK).

4 EVB90382



EVB90382LLW-BAA-000



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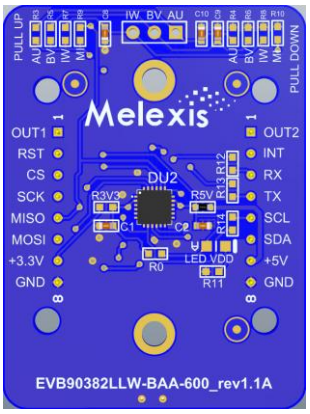

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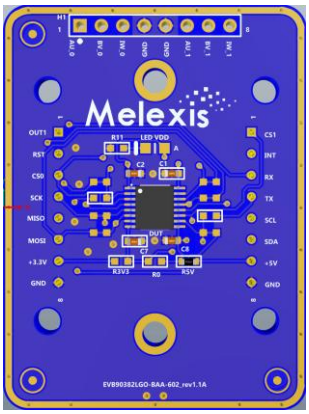

EVB90382LGO-BAA-602

The EVB's have 2 footprints for a MLX90382, one at the bottom, one at the topside of the PCB. Only the topside is assembled.
By default, the EVB90382 is configured for 5V applications, R5V assembled with a 0Ω resistor. If you want to operate the EVB90382 at 3V3, remove R5V and add a 0Ω resistor on R3V3 and R0 to short the 3V3 pin with the 5V pin. See the application diagram in the datasheet of the MLX90382.
The EVB's also have a footprint for a pull-up resistor or pull-down resistor on the output pins of the sensor, R3 to R10. These are by default not assembled, but can be added to detect is the sensor is in a high-z state.
The X1 connector is used to connect the EVB with the Melexis.IO programmer. Note that this connector only operates at the 5V mode.
CON_MICROBUS_1 and _2 can also be used to connect the EVB or a MLX90382 sample to the Melexis.IO, see description below.
The EVB90382LGO come default pre-programmed with a common SPI bus with 2 CS lines. If you want tot use the EVB with a different output protocol one has to brake the SPI connection after the output configuration is been reprogrammed to remove the short created by the common SPI bus.
All EVB's have a size of 36mm x 48mm.

4.1 EVB90382LLW-BAA-000 schematics

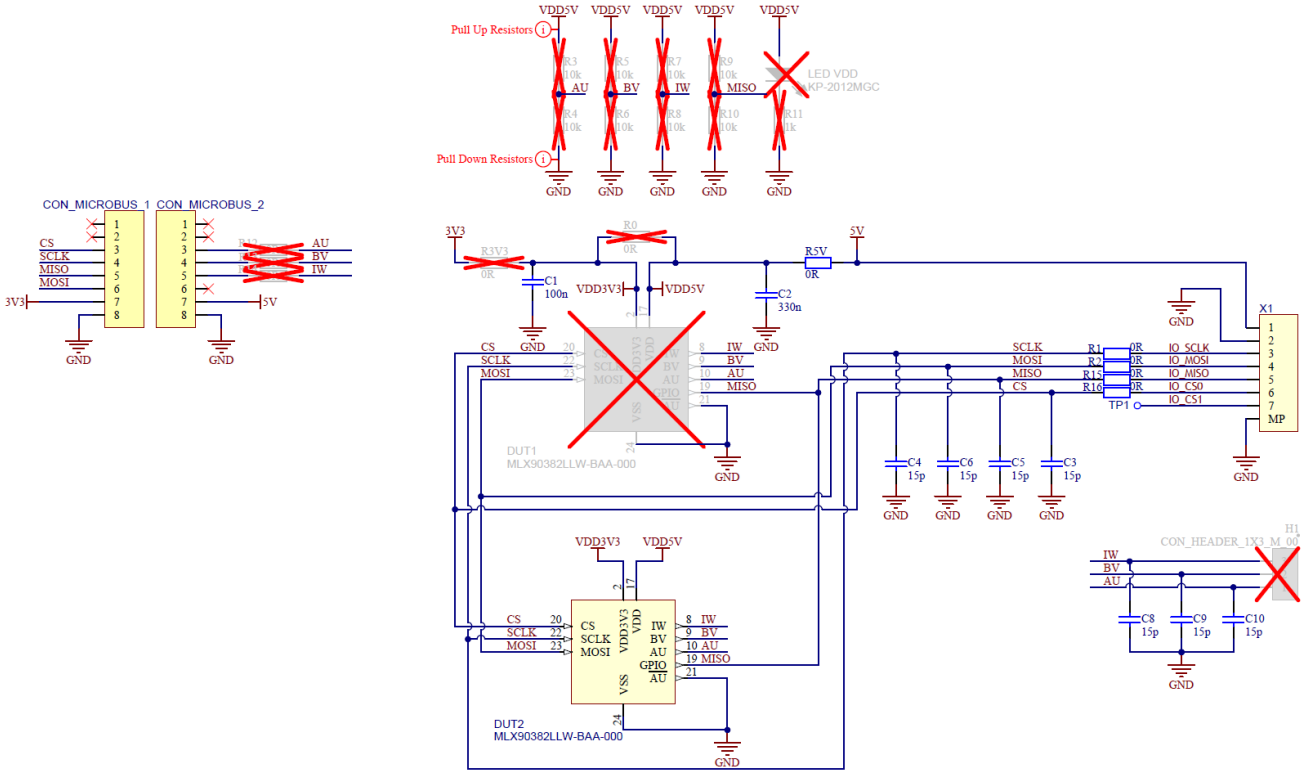

Figure 1: EVB90382LLW-BAA-000

4.2 EVB90382LLW-BAA-100 schematics

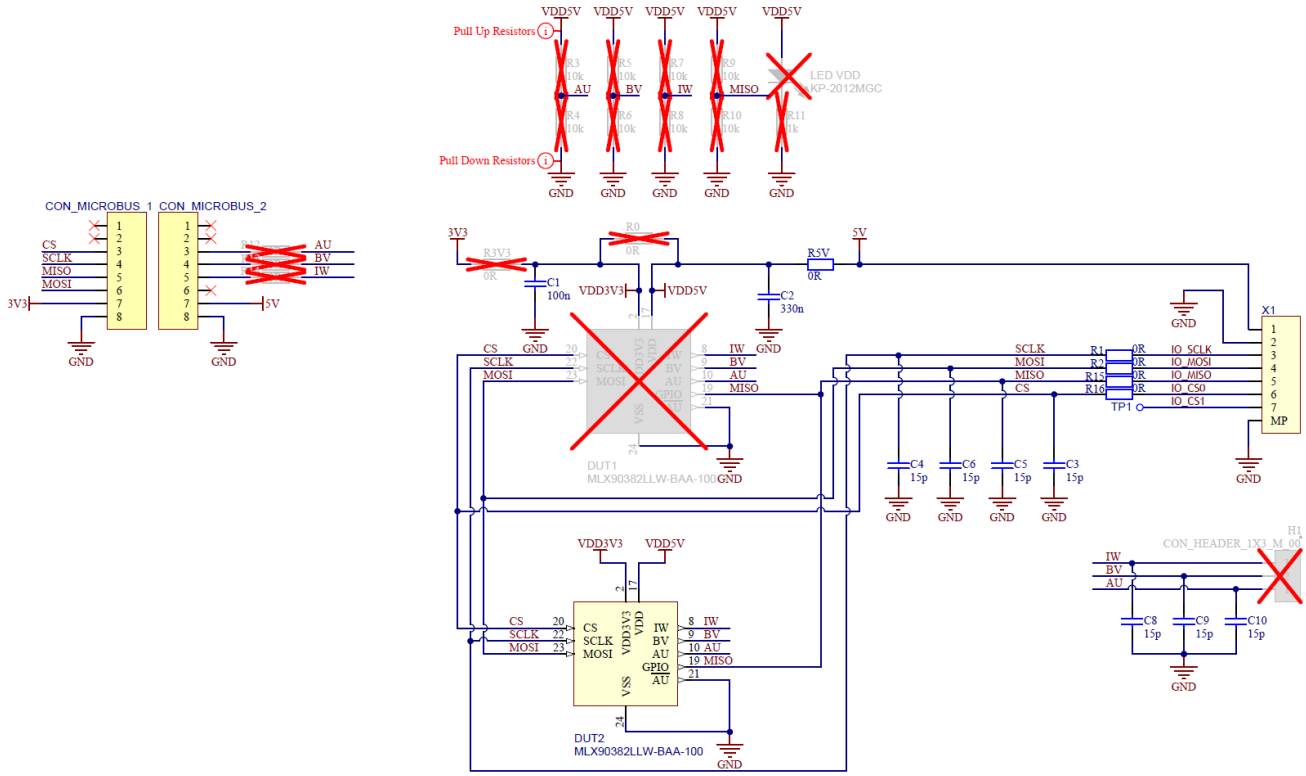

Figure 2: EVB90382LLW-BAA-100

4.3 EVB90382LLW-BAA-600 schematics

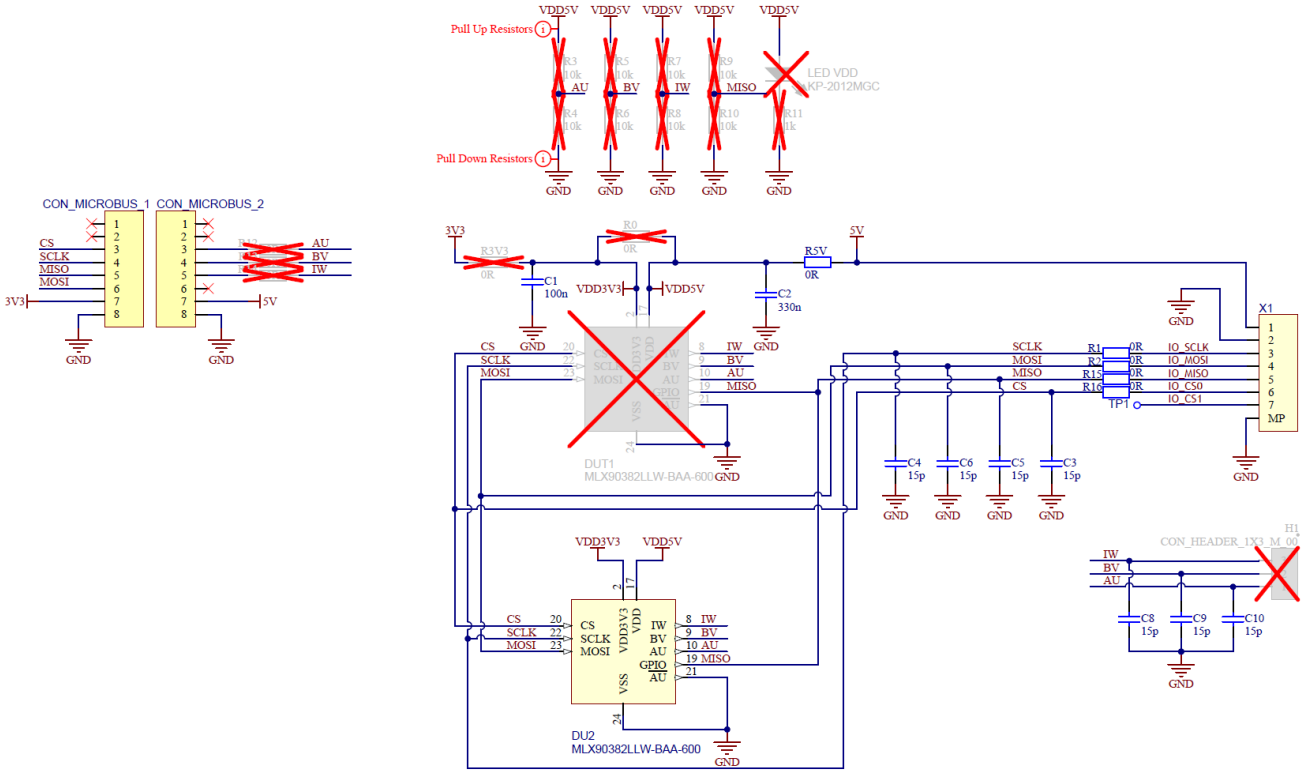

Figure 3: EVB90382LLW-BAA-600

4.4 EVB90382LGO-BAA-602 schematics

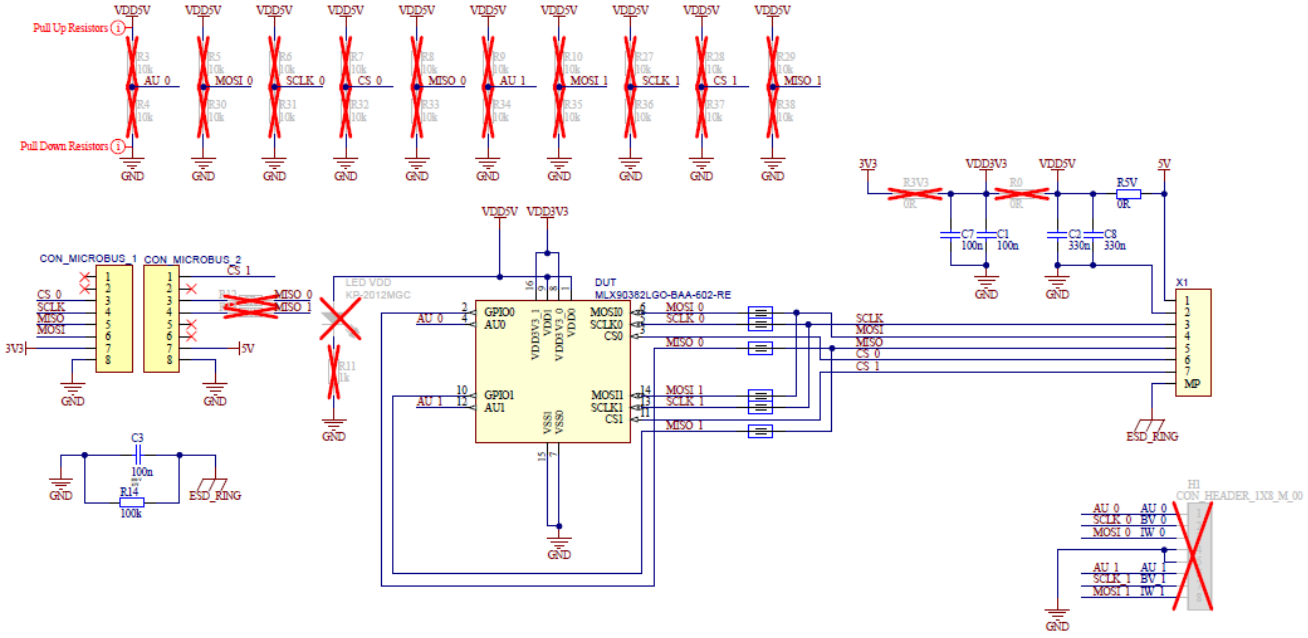

Figure 4: EVB90382LGO-BAA-602

4.5 Melexis.IO programmer

For the MLX 90382 we have foreseen a programming setup to interface between the MLX90382 and the Melexis.IO, see Figure 5: Programming Setup MLX90382 with EVB90382 (left) and Melexis.IO (right) . The programming software and instructions are distributed via https://www.melexis.com/en/mymelexis-login

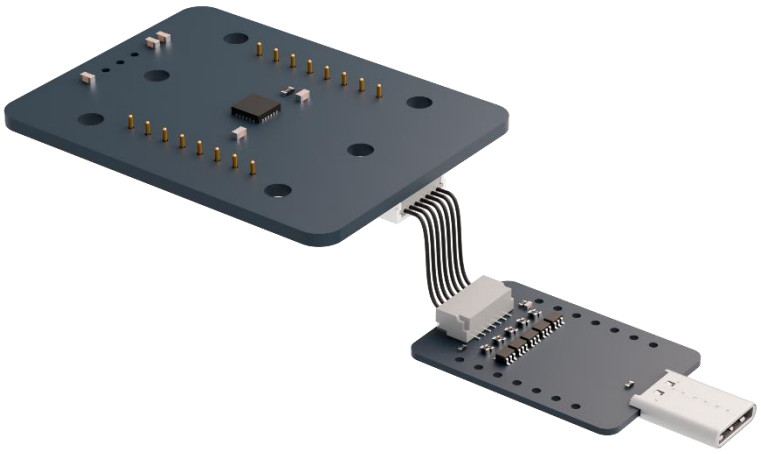

Figure 5: Programming Setup MLX90382 with EVB90382 (left) and Melexis.IO (right)

4.6 Using the Melexis.IO to program samples.

The Melexis.IO can be directly connected to the MLX90382 to program samples. For this you need minimum 5 connections: CS, SCLK, MISO, MOSI, and GND. The supply of the sensor can by either an external supply, the 5V or 3V3 supply of the Melexis.IO. The diagram below lists the connections for the QFN24 package using the 5V supply of the Melexis.IO.

* By default, the EVB90382 is configured for 5V applications. If you want to operate the EVB90382 at 3V3, remove R5V and add a 0Ω resistor on R3V3 and R0, and connect the 3V3 pin of the EVB to the 3V3 pin of the Melexis.IO.

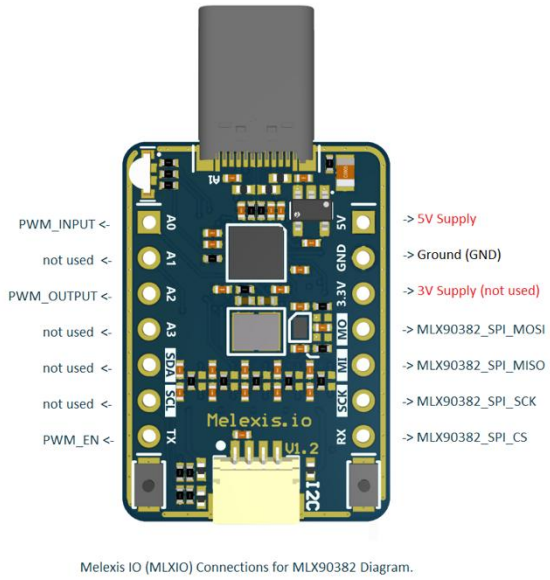

Figure 6: Melexis.IO

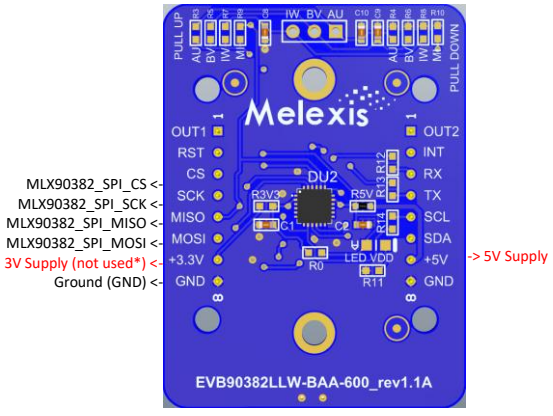

Figure 7: EVB90382

5 Revision history

Revision	Date	Change history
001	15 December 2025	Initial version.

Table 1 – Revision history

6 Disclaimer

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