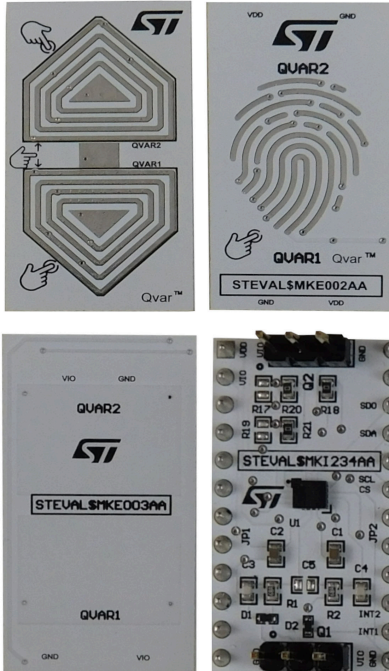


## LSM6DSV16BX adapter kit for accelerometer and gyroscope IMU (inertial measurement unit) with Qvar functionality for UI and bone conduction



### Features

- User-friendly [LSM6DSV16BX](#) board
- Complete [LSM6DSV16BX](#) pinout for a standard DIL24 socket
- Fully compatible with the [STEVAL-MKI109D](#) evaluation platform
- RoHS compliant

### Description

The [STEVAL-MKI234KA](#) evaluation kit is based on the [LSM6DSV16BX](#) IMU (inertial measurement unit) with a Qvar electrostatic sensor and three different electrodes (swipe, finger, and generic) to make it compatible with the [STEVAL-MKI109D](#). The kit provides the complete [LSM6DSV16BX](#) pinout and comes ready to use with the required decoupling capacitors on the VDD power supply line. The [STEVAL-MKE00xAA](#) can be plugged into the [STEVAL-MKI234A](#) board.

It is also possible to plug the [STEVAL-MKI234A](#) board into the [X-NUCLEO-IKS4A1](#) expansion board.

This adapter is supported by the [STEVAL-MKI109D](#) evaluation platform, which includes a high-performance 32-bit microcontroller functioning as a bridge between the sensor and a PC, on which it is possible to use the downloadable [MEMS Studio](#) graphical user interface or dedicated software routines for customized applications.

### Product summary

|                                                                                                                                         |                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Accelerometer and gyroscope IMU (inertial measurement unit) for UI and bone conduction kit with Qvar functionality based on LSM6DSV16BX | <a href="#">STEVAL-MKI234KA</a> |
| 6-axis IMU with sensor fusion, AI, Qvar, hearable features for TWS                                                                      | <a href="#">LSM6DSV16BX</a>     |
| Professional MEMS tool: evaluation board for all ST MEMS sensors                                                                        | <a href="#">STEVAL-MKI109D</a>  |
| Motion MEMS and environmental sensor expansion board for STM32 Nucleo                                                                   | <a href="#">X-NUCLEO-IKS4A1</a> |
| Applications                                                                                                                            | Smart glasses (AR)              |

## 1 Schematic diagrams

Figure 1. STEVAL-MKE001A circuit schematic

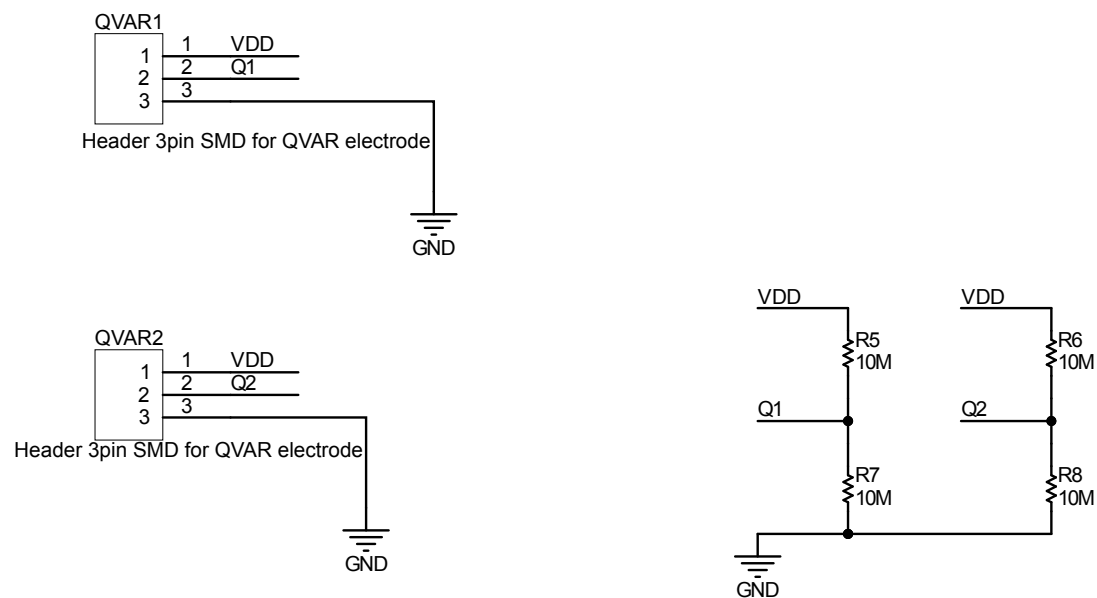


Figure 2. STEVAL-MKE002A circuit schematic

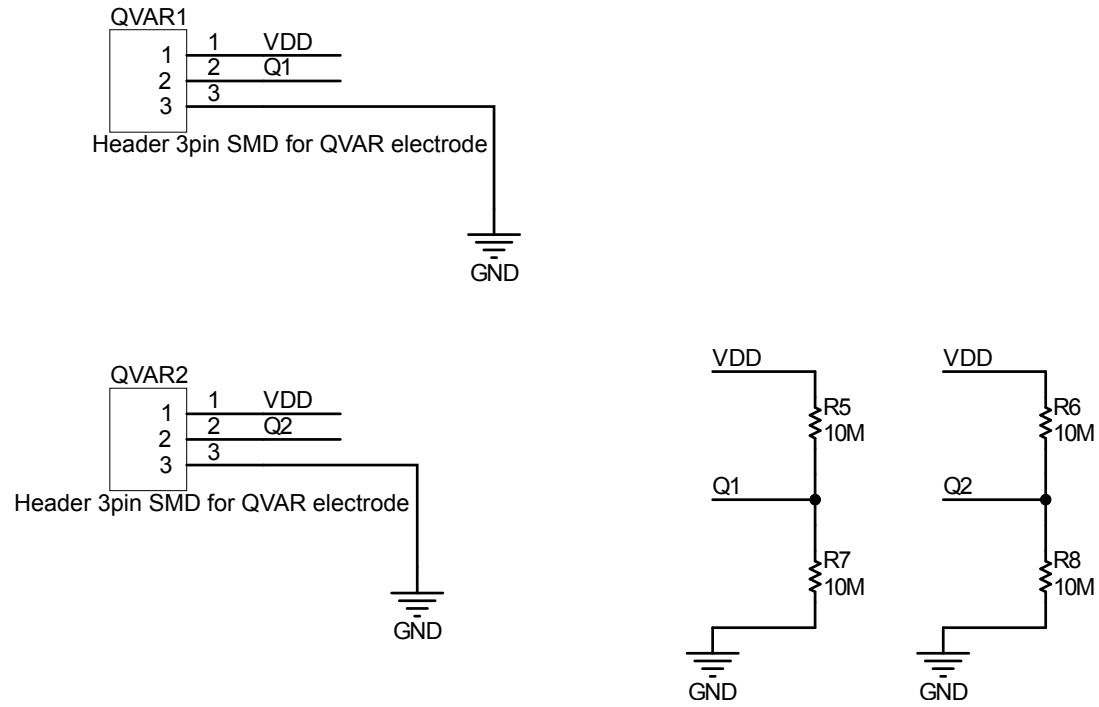
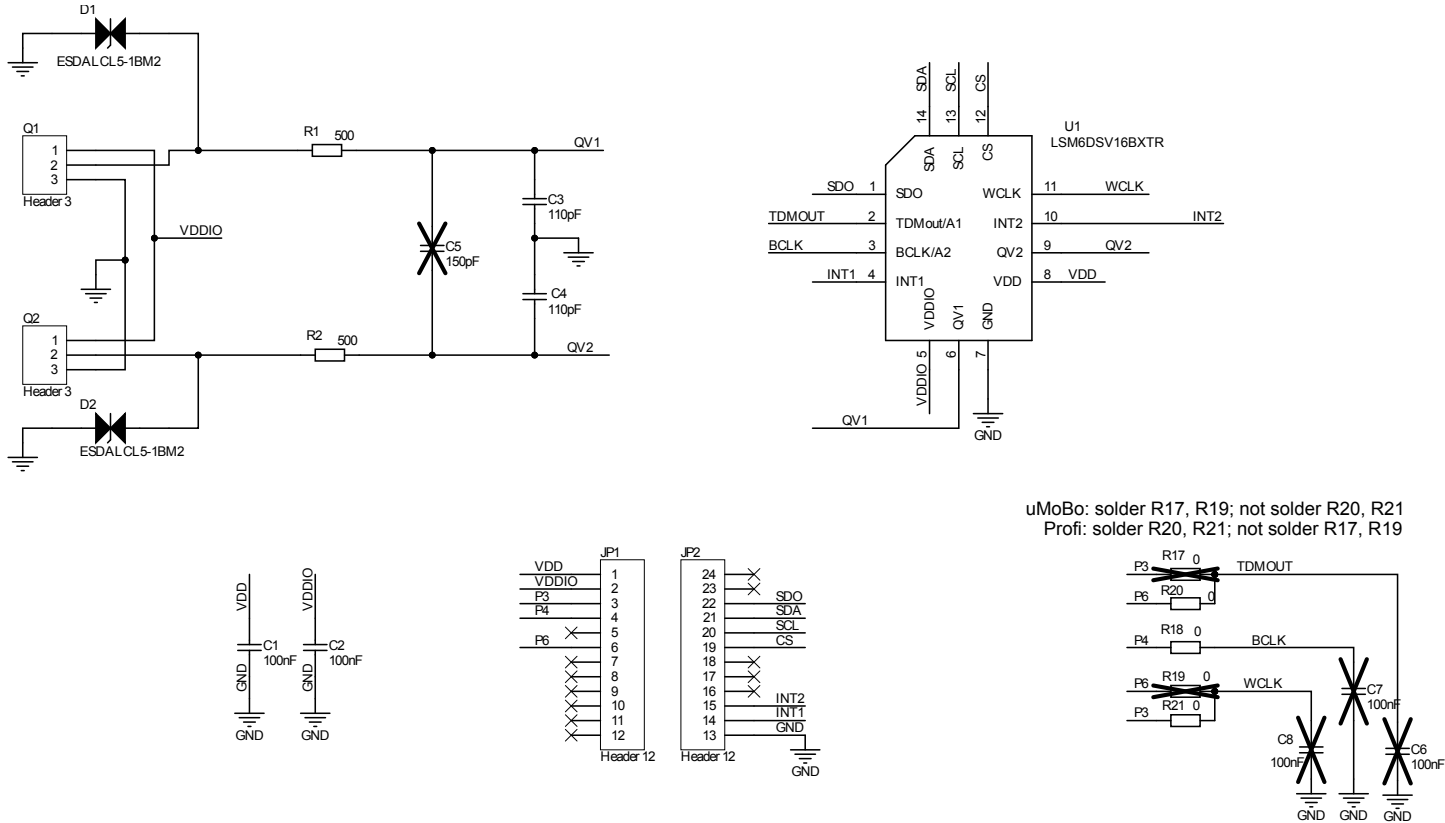




Figure 4. STEVAL-MKI234A circuit schematic



## 2 Kit versions

**Table 1. STEVAL-MKI234KA versions**

| PCB version                      | Schematic diagrams                   | Bill of materials                   |
|----------------------------------|--------------------------------------|-------------------------------------|
| STEVAL\$MKI234KAA <sup>(1)</sup> | STEVAL\$MKI234KAA schematic diagrams | STEVAL\$MKI234KAA bill of materials |

1. This code identifies the first version of the STEVAL-MKI234KA evaluation kit. The kit consists of a STEVAL-MKI234AA whose version is identified by the code STEVAL\$MKI234AAA, a STEVAL-MKE001A whose version is identified by the code STEVAL\$MKE001AA, a STEVAL-MKE002A whose version is identified by the code STEVAL\$MKE002AA, and a STEVAL-MKE003A whose version is identified by the code STEVAL\$MKE003AA.

## Revision history

**Table 2. Document revision history**

| Date        | Revision | Changes                                                                                               |
|-------------|----------|-------------------------------------------------------------------------------------------------------|
| 07-Nov-2022 | 1        | Initial release                                                                                       |
| 13-Jun-2024 | 2        | Updated <a href="#">Description</a> to include MEMS Studio software solution<br>Minor textual updates |
| 25-Jun-2025 | 3        | Added STEVAL-MKI109D evaluation platform and X-NUCLEO-IKS4A1 expansion board                          |

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