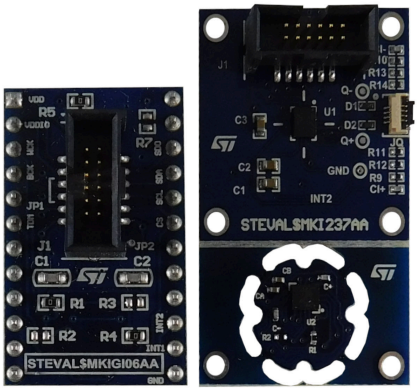
STEVAL-MKI237KA

Data brief

LSM6DSV16BX adapter kit for standard DIL24 socket with Qvar and bone conduction functionalities



Product summary	
LSM6DSV16BX adapter kit for standard DIL24 socket with Qvar and bone conduction functionalities	STEVAL-MKI237KA
6-axis IMU with sensor fusion, AI, Qvar, hearable features for TWS	LSM6DSV16BXTR
MEMS adapter motherboard based on the STM32F401VE	STEVAL-MKI109V3
Motion MEMS and microphone MEMS expansion board for STM32 Nucleo	X-NUCLEO-IKS01A3
Applications	Smart Glasses (AR)

Features

- User friendly LSM6DSV16BX board
- Complete LSM6DSV16BX pinout for a standard DIL24 socket
- Fully compatible with the STEVAL-MKI109V3 motherboard
- RoHS compliant

Description

The STEVAL-MKI237KA evaluation kit is based on a specific PCB mounting the LSM6DSV16BX IMU (inertial measurement unit). The kit provides the complete LSM6DSV16BX pinout and comes ready to use with the required decoupling capacitors on the VDD power supply line.

There are two different boards inside the STEVAL-MKI237KA. One can be used as a standard application board and a small adapter can be put inside the earphone to verify the bone conduction feature. This small electrode flex connector can be used as the concept of the application. Both boards can be connected with the STEVAL-MKI109V3 using the STEVAL-MKIGI06A interface board.

This adapter is supported by the STEVAL-MKI109V3 motherboard, which includes a high-performance 32-bit microcontroller functioning as a bridge between the sensor and a PC.

It is also possible to plug the board into an X-NUCLEO-IKS01A3 expansion board.

MEMS-Studio is a complete software solution for the evaluation and programming of all MEMS sensors and it is available for Linux, macOS, and Windows operating systems.

You can also use the downloadable graphical user interface (Unico-GUI) or dedicated software routines for customized applications.

1 Schematic diagrams

Figure 1. **STEVAL-MKIGI06A circuit schematic**

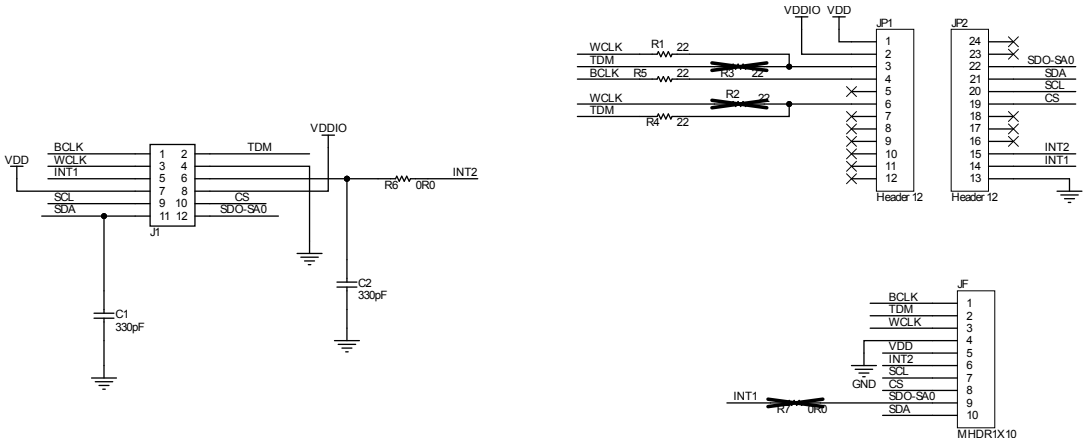
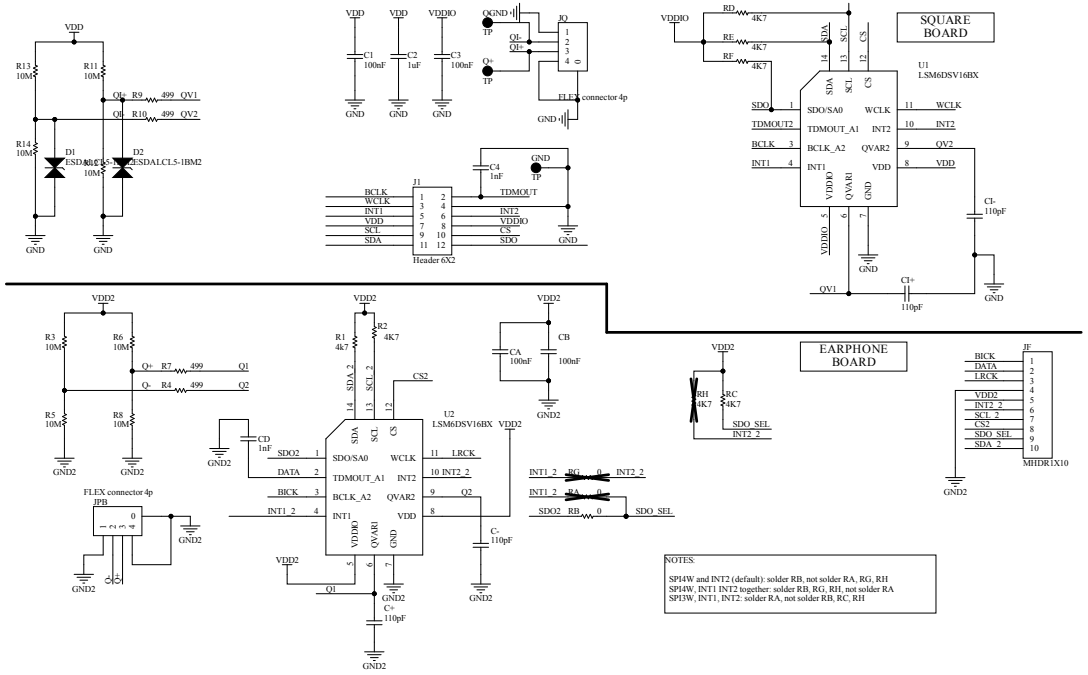


Figure 2. **STEVAL-MKI237A circuit schematic**



2 Kit versions

Table 1. STEVAL-MKI237KA versions

PCB version	Schematic diagrams	Bill of materials
STEVAL$MKI237KAA (1)	STEVAL$MKI237KAA schematic diagrams	STEVAL$MKI237KAA bill of materials

1. *This code identifies the STEVAL-MKI237KA evaluation kit first version. The kit consists of a STEVAL-MKI237A whose version is identified by the code STEVAL$MKI237AA and a STEVAL-MKIGI06A whose version is identified by the code STEVAL$MKIGI06AA.*

Revision history

Table 2. **Document revision history**

Date	Revision	Changes
16-Jan-2023	1	Initial release
07-Sep-2023	2	Updated Section 1: Schematic diagrams
09-May-2024	3	Updated Description to include MEMS-Studio software solution Minor textual updates