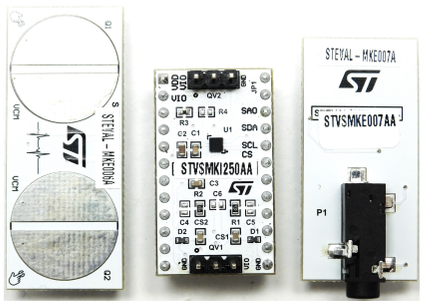
chanhvinh.com

life.augmented

STEVAL-MKI250KA

Data brief

ST1VAFE3BX biosensor evaluation kit



Product summary	
ST1VAFE3BX biosensor evaluation kit	STEVAL-MKI250KA
Biosensor with vAFE (vertical analog front-end) for biopotential signals and ultralow-power accelerometer with AI and antialiasing	ST1VAFE3BX
ST MEMS adapters motherboard based on the STM32H563ZI	STEVAL-MKI109D
SensorTile.box PRO with multi-sensors and wireless connectivity for any intelligent IoT node	STEVAL-MKBOXPRO
Applications	Remote patient monitoring

Features

- Complete ST1VAFE3BX pinout for a standard DIL 24 socket
- Fully compatible with STEVAL-MKI109V3 and STEVAL-MKI109D motherboards
- ECG monitoring
- RoHS compliant

Description

The STEVAL-MKI250KA demonstration board is a kit made up of an ad hoc PCB, mounting: the ST1VAFE3BX, a biosensor with vertical analog front-end (vAFE) for biopotential signals and ultralow power accelerometer with AI and antialiasing.

The kit is composed by the STEVAL-MKI250A board containing the complete ST1VAFE3BX pinout and the required decoupling capacitors on VDD and VDDIO power supply lines, STEVAL-MKE006A, and STEVAL-MKE007A electrode boards.

An ECG cable with 3.5 mm phone jack can be plugged when the STEVAL-MKE007A electrode board is used.

The kit allows you to show the functionalities of the biopotential device as, for example, the ECG signal.

The STEVAL-MKI250KA kit is compatible with the STEVAL-MKI109V3 and STEVAL-MKI109D mother boards.

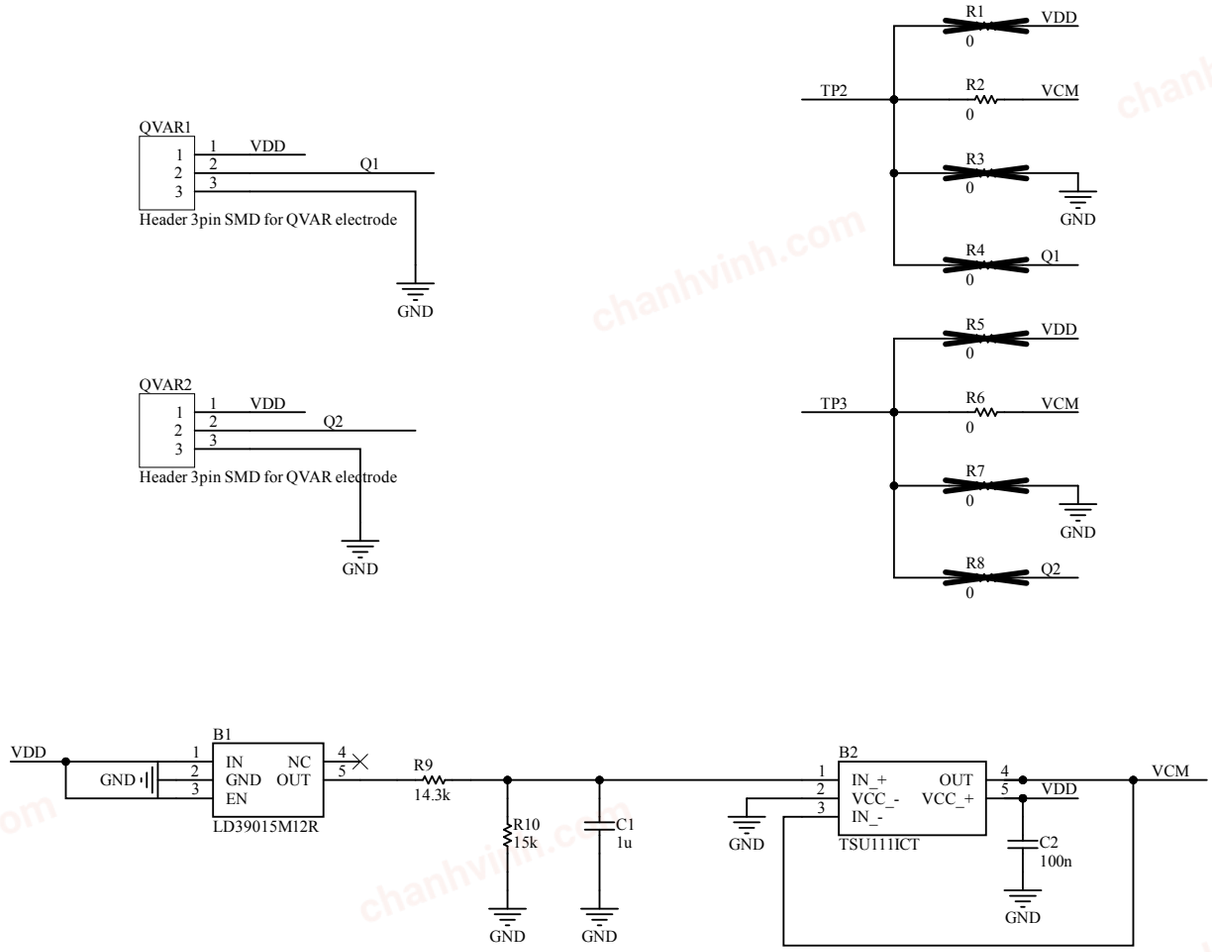
The kit includes a high-performance 32-bit microcontroller functioning as a bridge between the sensor and a PC, on which it is possible to use the downloadable graphical user interface (MEMS Studio), or dedicated software routines for customized applications.

The kit can also be plugged in to other boards like STEVAL-MKBOXPRO and X-NUCLEO-IKS4A1.

chanhvinh.com

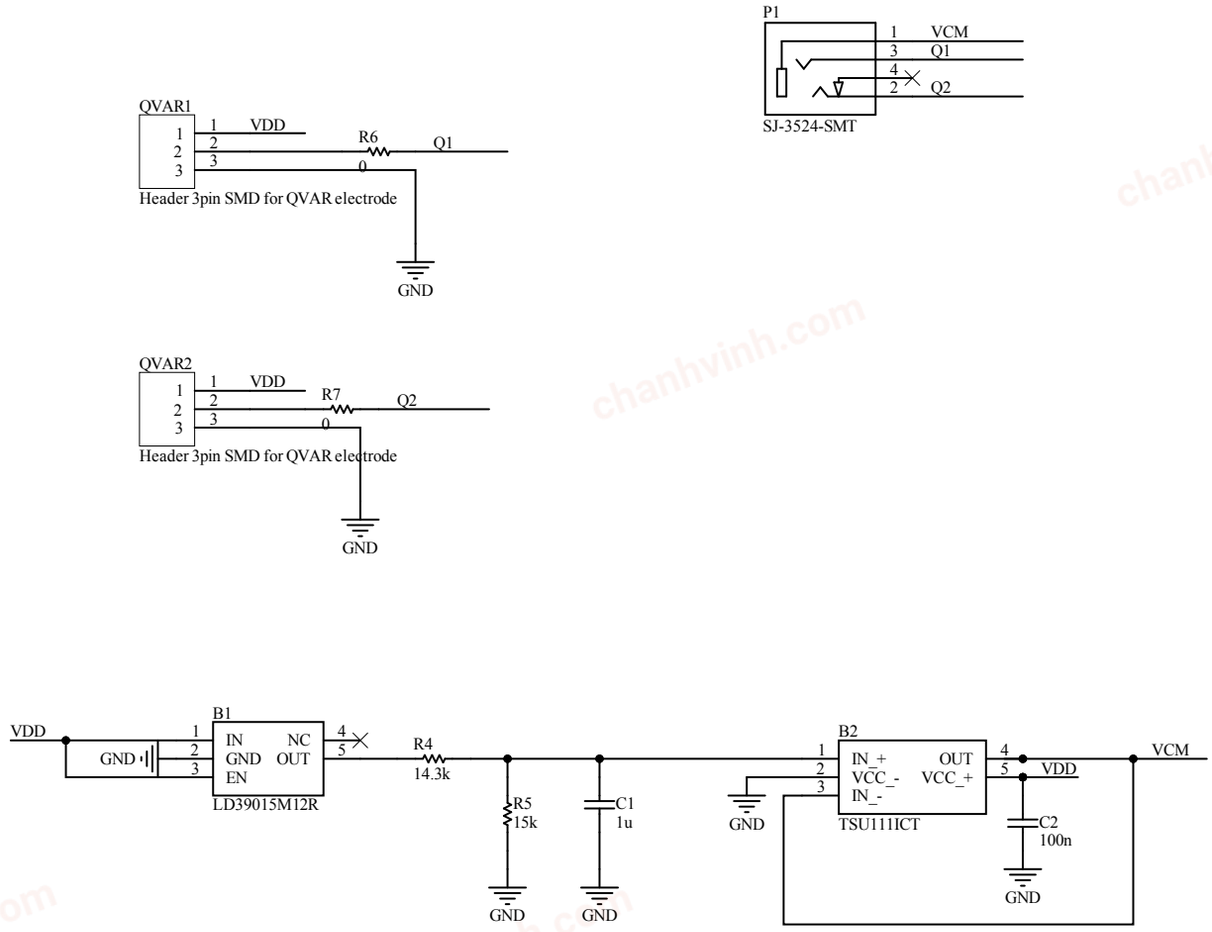
1 Schematic diagrams

Figure 1. STEVAL-MKE006A circuit schematic



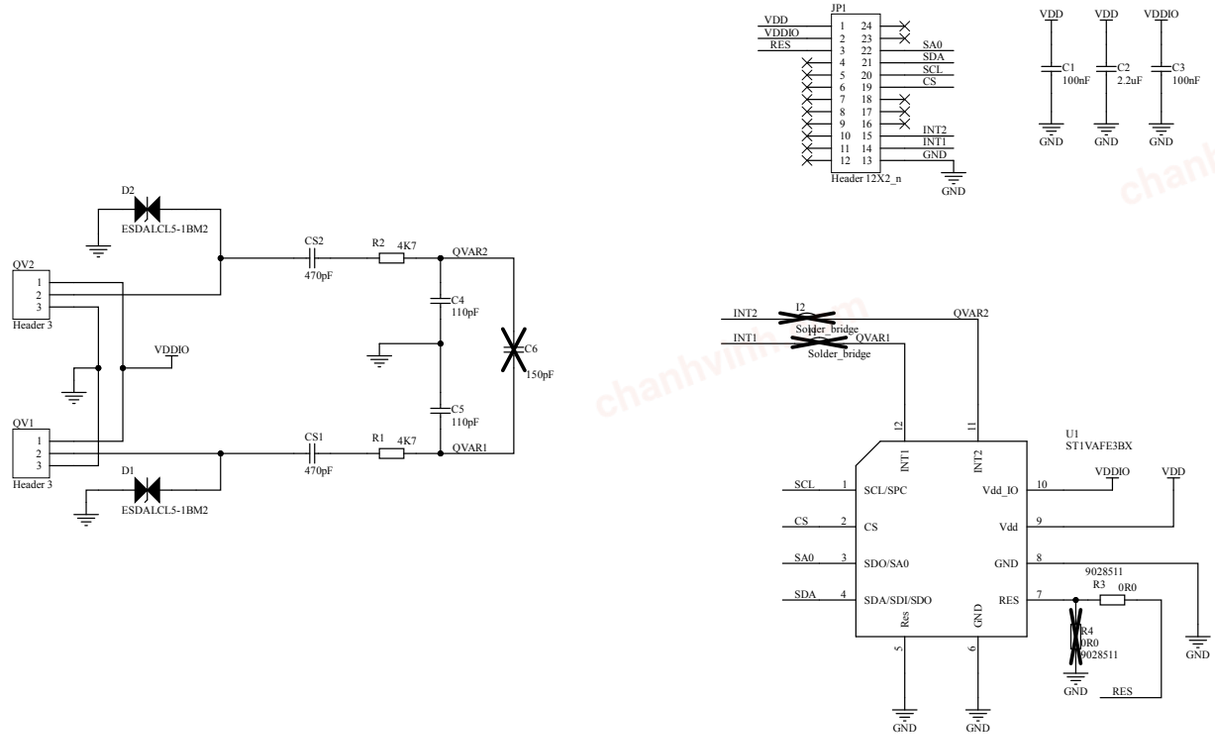
chanhvinh.com

Figure 2. STEVAL-MKE007A circuit schematic



chanhvinh.com

Figure 3. STEVAL-MKI250A circuit schematic



chanhvinh.com

2 Kit versions

Table 1. STEVAL-MKI250KA versions

PCB version	Schematic diagrams	Bill of materials
STV$MKI250KAA(1)	STV$MKI250KAA schematic diagrams	STV$MKI250KAA bill of materials

1. *This code identifies the STEVAL-MKI250KA evaluation kit first version. The kit consists of a STEVAL-MKI250A whose version is identified by the code STV$MKI250AA, a STEVAL-MKE006A whose version is identified by the code STV$MKE006AA and a STEVAL-MKE007A whose version is identified by the code STV$MKE007AA.*

chanhvinh.com

Revision history

Table 2. **Document revision history**

Date	Revision	Changes
20-Sep-2024	1	Initial release.

chanhvinh.com

chanhvinh.com

IMPORTANT NOTICE – READ CAREFULLY

STMicroelectronics NV and its subsidiaries (“ST”) reserve the right to make changes, corrections, enhancements, modifications, and improvements to ST products and/or to this document at any time without notice. Purchasers should obtain the latest relevant information on ST products before placing orders. ST products are sold pursuant to ST’s terms and conditions of sale in place at the time of order acknowledgment.

Purchasers are solely responsible for the choice, selection, and use of ST products and ST assumes no liability for application assistance or the design of purchasers’ products.

No license, express or implied, to any intellectual property right is granted by ST herein.

Resale of ST products with provisions different from the information set forth herein shall void any warranty granted by ST for such product.

ST and the ST logo are trademarks of ST. For additional information about ST trademarks, refer to www.st.com/trademarks. All other product or service names are the property of their respective owners.

Information in this document supersedes and replaces information previously supplied in any prior versions of this document.

© 2024 STMicroelectronics – All rights reserved