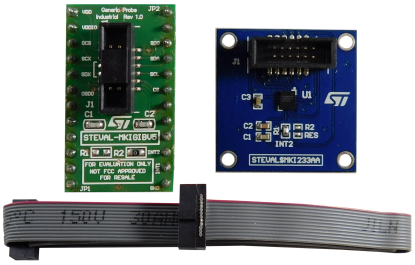
STEVAL-MKI233KA

Data brief

ISM330ISN evaluation kit with embedded ISPU (intelligent sensor processing unit) for use with NanoEdge AI Studio



Product summary	
ISM330ISN evaluation kit with embedded ISPU (intelligent sensor processing unit) for use with NanoEdge AI Studio	STEVAL-MKI233KA
6-axis IMU (inertial measurement unit): always-on 3-axis accelerometer and 3-axis gyroscope with ISPU - intelligent sensor processing unit	ISM330ISN
Automated machine learning (ML) tool for STM32 developers	NanoEdge AI Studio
Software solution for MEMS sensors with graphical no-code design of algorithms and development of embedded AI features	MEMS Studio
Professional MEMS tool: evaluation board for all ST MEMS sensors	STEVAL-MKI109D
Applications	Industrial robots

Features

- Complete ISM330ISN pinout for a standard DIL24 socket
- Fully compatible with the STEVAL-MKI109D evaluation platform
- RoHS compliant

Description

The STEVAL-MKI233KA evaluation kit consists of the STEVAL-MKI233A main sensing board, with a square PCB, which mounts the ISM330ISN 3-axis accelerometer and 3-axis gyroscope with embedded ISPU, the STEVAL-MKIGIBV5 adapter board, and a flat cable. The main board is connected to the adapter board through the flat cable.

The presence of the square PCB allows placing the sensor directly in the system where the measurement should be performed, which could be in a different position from the main board. The ISM330ISN is soldered exactly in the center of the board and can be plugged into a standard DIL24 socket through the STEVAL-MKIGIBV5 adapter board.

The kit provides the complete ISM330ISN pinout and comes ready to use with the required decoupling capacitors on the VDD power supply line.

This adapter is intended to be used with the NanoEdge AI Studio tool for the creation of optimal tinyML® anomaly detection libraries with no artificial intelligence (AI) skills; such libraries can be then integrated in the ISPU embedded in the ISM330ISN device.

This adapter is also 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.

1 Schematic diagrams

Figure 1. **STEVAL-MKIGIBV5 circuit schematic**

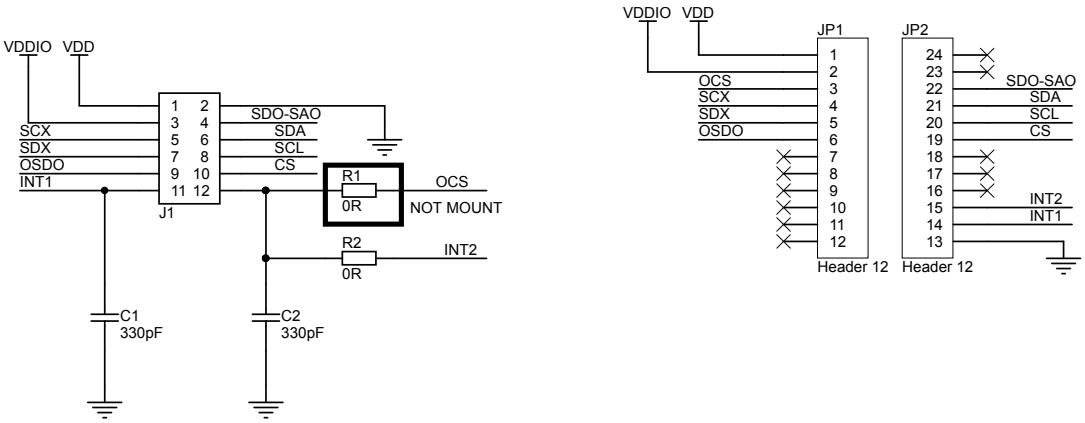
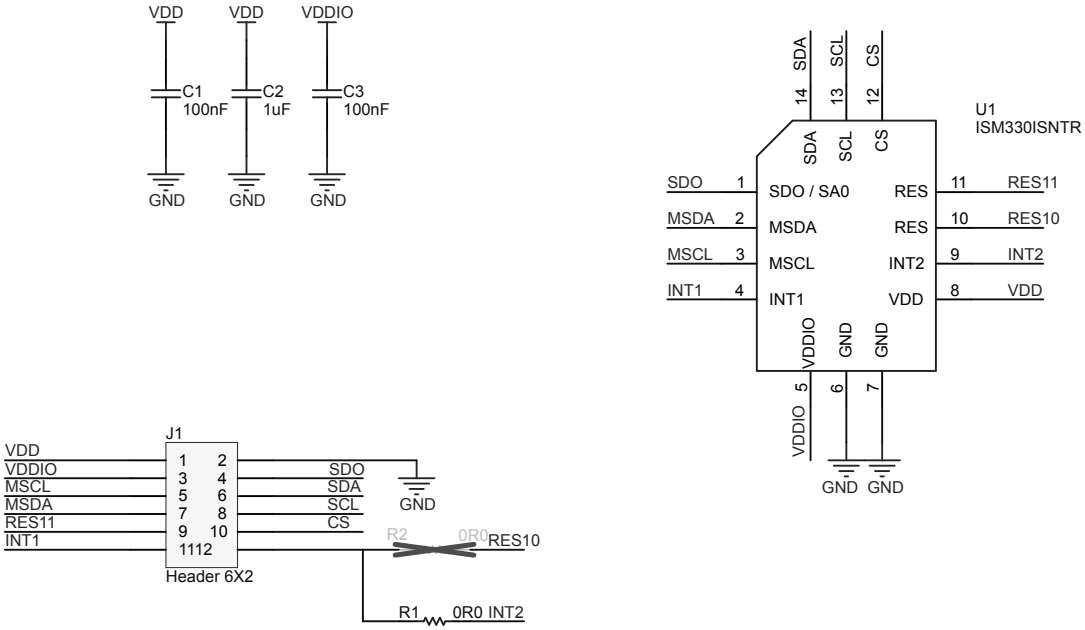


Figure 2. **STEVAL-MKI233A circuit schematic**



2 Kit versions

Table 1. STEVAL-MKI233KA versions

PCB version	Schematic diagrams	Bill of materials
STEVAL$MKI233KAA(1)	STEVAL$MKI233KAA schematic diagrams	STEVAL$MKI233KAA bill of materials

1. *This code identifies the first version of the STEVAL-MKI233KA evaluation kit. The kit consists of STEVAL-MKI233AA whose version is identified by the code STEVAL$MKI233AAA and STEVAL-MKIGIBV5 whose version is identified by the code STEVAL$MKIGIBV5A.*

Revision history

Table 2. **Document revision history**

Date	Revision	Changes
29-Aug-2022	1	Initial release
06-Oct-2022	2	Updated cover page image, features, and description
13-Oct-2022	3	Updated document title
26-Aug-2024	4	Updated Description to include MEMS Studio software solution Updated product summary Minor textual updates
25-Jun-2025	5	Added STEVAL-MKI109D evaluation platform

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