

MEMS evaluation kit software package for Linux, Mac OS X, and Windows



Features

- Complete software package for MEMS evaluation boards
- Graphical User Interface (GUI) for Linux (Debian-based) / Mac OS X / Windows platforms, for easy setup of the sensors, register configuration, data logging, and plots

Description

UNICO-GUI is a comprehensive software package for the evaluation boards of all MEMS sensors available in ST's product portfolio (accelerometers, gyroscopes, magnetometers and environmental sensors). It is available for three operating systems:

- STSW-MKI109L for Linux Debian-based
- STSW-MKI109M for Mac OS X
- STSW-MKI109W for Windows

UNICO-GUI is a cross-platform graphical user interface interacting with STEVAL-MKI109V3 (Professional MEMS tool) which is the motherboard compatible with all ST MEMS adapter boards. It is also possible to run UNICO offline (without the motherboard) for generating configurations of advanced features like the Machine Learning Core, Finite State Machine, and pedometer.

UNICO-GUI allows quick and easy setup of the sensors, as well as the complete configuration of all the registers and advanced features (such as the Machine Learning Core, Finite State Machine, pedometer, etc.) embedded in the digital output devices. The software visualizes the output of the sensors in both graphical and numeric format, and allows the user to save or generally manage data coming from the device.

Examples of tools which support the advanced features are the following:

- FIFO tool that allows the user to buffer data with a high level of flexibility and burst the significant data out when needed;
- Finite State Machine tool that allows the user to configure the state machines, test their functionality and validate the program;
- Machine Learning Core tool that allows the user to configure a machine learning core starting from the management of data patterns and labeling to setting and generating the configuration file to run the algorithm;
- FFT tool that allows visualizing the Fast Fourier Transform of the output data;
- Pedometer tool that allows the user to configure and test the pedometer embedded in the device including an offline post-processing analysis;

The software package also contains the firmware (.bin and .dfu files) ready to be flashed on the motherboard.

Revision history

Table 1. Document revision history

Date	Version	Changes
20-May-2020	1	Initial release
23-Jun-2020	2	Updated Description

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