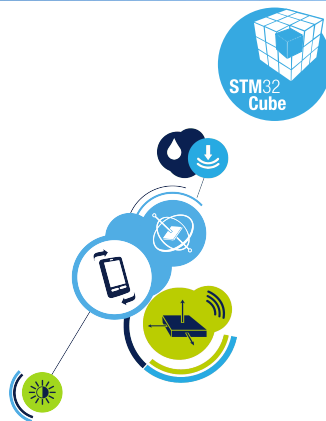
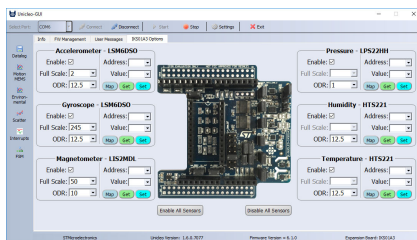


## GUI for X-CUBE-MEMS1, motion MEMS and environmental sensor software expansion for STM32Cube



### Features

- Displays data from connected sensors in various views (time plot, scatter plot, 3D plot)
- Saves data to tab separated (TSV) or comma separated (CSV) files
- Configurable output data rate and full scale
- Directly reads from and writes to sensor registers
- Demonstrate sensor Finite State Machine (FSM) and Machine Learning Core (MLC) embedded features
- Performs Fast Fourier Transform (FFT) and Intelligent Sensor Processing Unit (ISPU) analysis of the accelerometer data
- Works with X-CUBE-MEMS1 and X-CUBE-ISPU sensor sample applications
- Works with sample applications for algorithms (Accelerometer Calibration, Airplane Detection, Activity Recognition, Active Time, Activity Recognition for Wrist, Carry Position, Dynamic Inclinometer, eCompass, Fitness Activity, Fall Detection, Sensor Fusion, Gyroscope Calibration, Gesture Recognition, Intensity Detection, Magnetometer Calibration, Pose Estimation, Pedometer, Pedometer for Wrist, Standing vs Sitting Desk Detection, Sleep Monitoring, Tilt Sensing, Vertical Context, Presence detection)
- Works with firmware created by [AlgoBuilder](#)
- Windows®-based application

### Description

Unicleo-GUI is a graphical user interface (GUI) for the X-CUBE-MEMS1 and X-CUBE-ISPU software expansions and STM32 Nucleo expansion boards (X-NUCLEO-IKS01A3, X-NUCLEO-IKS02A1 and X-NUCLEO-IKS4A1).

The main objective of this application is to demonstrate the functionality of ST sensors and algorithms.

Unicleo-GUI is able to cooperate with firmware created by [AlgoBuilder](#) application and display data coming from the running firmware.

This functionality is available for NUCLEO-F401RE, NUCLEO-L476RG in combination with X-NUCLEO-IKS02A1, X-NUCLEO-IKS01A3 and for STEVAL-MKSBOX1V1, STEVAL-MKBOXPRO, STEVAL-STWINKT1, STEVAL-STWINBX1.

The application is also able to establish Bluetooth connection with BLE connectivity-equipped devices such as SensorTile (STEVAL-STLKT01V1), BlueCoin (STEVAL-BCNKT01V1), SensorTile.box (STEVAL-MKBOXPRO) and read data from various device characteristics.

The supported firmware for these devices can be found at FP-SNS-ALLMEMS1, FP-SNS-ALLMEMS2.

Product summary	
GUI for X-CUBE-MEMS1, motion MEMS and environmental sensor software expansion for STM32Cube	Unicleo-GUI
Sensor software expansion for STM32Cube	X-CUBE-MEMS1/X-CUBE-ISPU
Motion MEMS and environmental sensor expansion board for STM32 Nucleo	X-NUCLEO-IKS01A3 X-NUCLEO-IKS02A1 X-NUCLEO-IKS4A1
SensorTile.box	STEVAL-MKSBOX1V1
SensorTile.box PRO	STEVAL-MKBOXPRO
SensorTile Wireless	STEVAL-STWINKT1
STWIN.box	STEVAL-STWINBX1

## Revision history

**Table 1. Document revision history**

Date	Version	Changes
18-Oct-2016	1	Initial release.
02-May-2017	2	Updated features and description on the cover page.
02-May-2018	3	Updated cover page features and description.
14-May-2019	4	Updated cover page features. Added X-NUCLEO-IKS01A3, STEVAL-BCN002V1B and STSW-BLUETILE-DK compatibility information.
28-Oct-2019	5	Updated cover page features and description. Added X-NUCLEO-IKS02A1 compatibility information.
17-01-2024	6	Added references to X-CUBE-ISPU. Updated Features, Description and Product summary.

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