

UM11515

Component library – getting started user manual

Rev. 1 — 2 November 2020

User manual

Document information

Information	Content
Keywords	Component Library
Abstract	Getting started user manual for the component library and supported components.



Revision history

Rev	Date	Description
1	20201102	Initial release.

1 Overview

The component library is a platform agnostic development model designed to work with any general and custom SDKs and hardware. The component library operates as a service utility to application development environments by providing the essence of the module specialties. The utilities are platform agnostic with respect to I/O and MCUs and specialized in modular approach. The library includes various service utilities such filters, generic sensor drivers for specific sensors, tilt/angle calculation, eCompass, Machine Learning (ML), sensor fusion and pedometers. The distribution model is through source code or library.

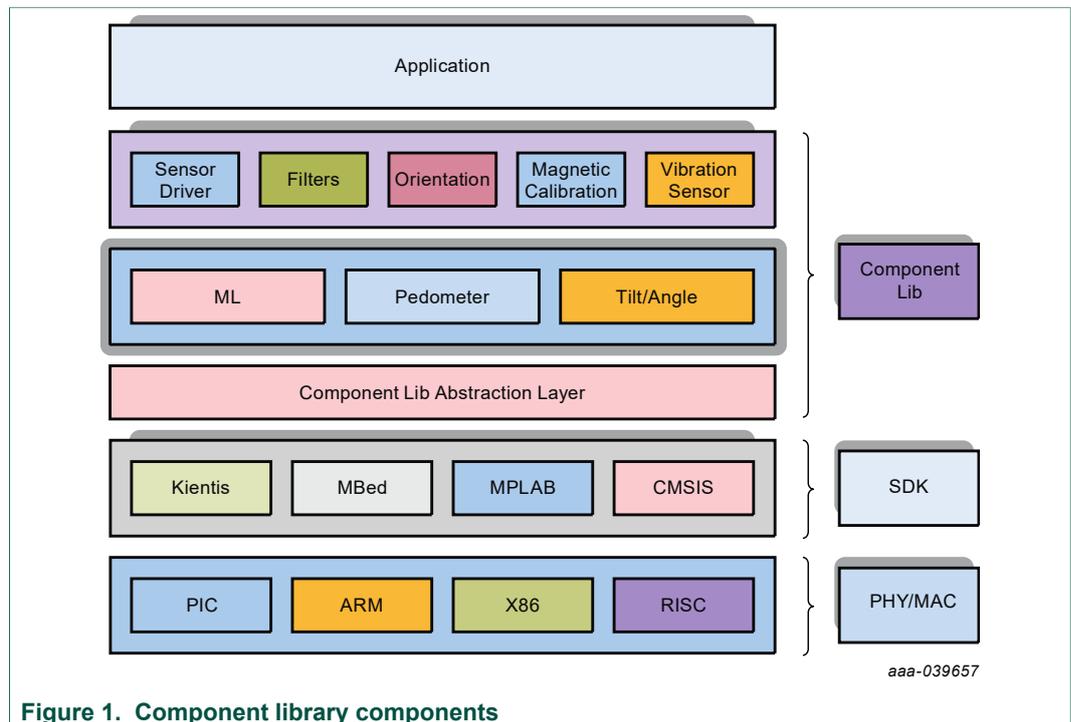


Figure 1. Component library components

2 Downloading component library

Download the component library release package from component-lib download page on nxp.com. To understand the component library release package structure and supported components, follow these steps:

1. Open the component library download page.
2. Unzip the component library release zip package.
3. The unzipped package directory structure is shown in [Figure 2](#).
 - **docs**: Folder containing component documentation
 - **example**: Folder containing example project
 - **src**: Folder containing component source files



Figure 2. Package directory structure

3 Running component library example projects

This section provides prerequisite steps for running example projects provided as part of the component library release package.

3.1 Running example projects for MCUXpresso SDK

1. Open the NXP MCUXpresso IDE toolchain [download page](#) and download latest version.
2. Install the MCUXpresso IDE tool chain on your windows PC. MCUXpresso IDE is required to be able to build and run the example projects for chosen MCU.
3. Connect the NXP sensor demonstration kit (including sensor shield board with the chosen MCU) to the PC via the USB cable between the OpenSDA USB port on the board and the USB connector on the PC.
4. Open the NXP MCUXpresso SDK builder page: <https://mcuxpresso.nxp.com/en/welcome> and generate/download the SDK package for chosen board, for example FRDM-K64F, FRDM-K22F, FRDM-KL25Z.
5. Install the downloaded MCUXpresso SDK package into MCUXpresso IDE. Simply drag and drop the zipped SDK package to the “Installed SDKs” view. The IDE installs the SDK package.
6. Import the component library example projects for MCUXpresso SDK available in the release package under “example” folder to open the project into MCUXpresso IDE.
7. Build the imported example project using MCUXpresso IDE and load the firmware to the connected sensor demonstration kit.
8. Install any serial terminal application for windows, for example [RealTerm](#) or [Tera Term](#) or [Putty](#). The output of example project can be viewed on a serial terminal.
9. Open a serial terminal with the following settings:
 - 115200 baud rate
 - 8 data bits
 - No parity
 - One stop bit
 - No flow control
10. Run the program on the sensor demonstration board by clicking “Run” option on the MCUXpresso IDE.
11. When the example runs successfully, you can see the output printed to the terminal.

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