USER GUIDE

UG019 | WE KiCad Library

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1. INTRODUCTION

KiCad is a free and open-source software suite for electronic design automation (EDA). It facilitates the design and simulation of electronic hardware. It features an integrated environment for schematic capture, PCB layout, manufacturing file viewing, SPICE simulation, and engineering calculation. Tools exist within the package to create bill of materials, artwork, Gerber files, and 3D models of the PCB and its components.

Würth Elektronik has a growing portfolio of models available for use in KiCad. These models allow KiCad users to easily design schematic and layout and view 3D model before producing PCB.

For any new users of a tool, the basic functionalities must be learned before the tool can be put to use. For KiCad, knowing how to correctly install and find the models is crucial. Our models can be installed via three ways: the Würth Electronics Homepage, the KiCad built-in library and the GitHub repository.

Note: The following instructions refer to KiCad versions 7.0 or higher.

2. INSTALL FROM WEBSITE

Note: KiCad models on the Würth Elektronik Github are always the latest.

2.1 Download from Würth homepage

Visit the WE product portfolio and navigate to the product you are interested in.

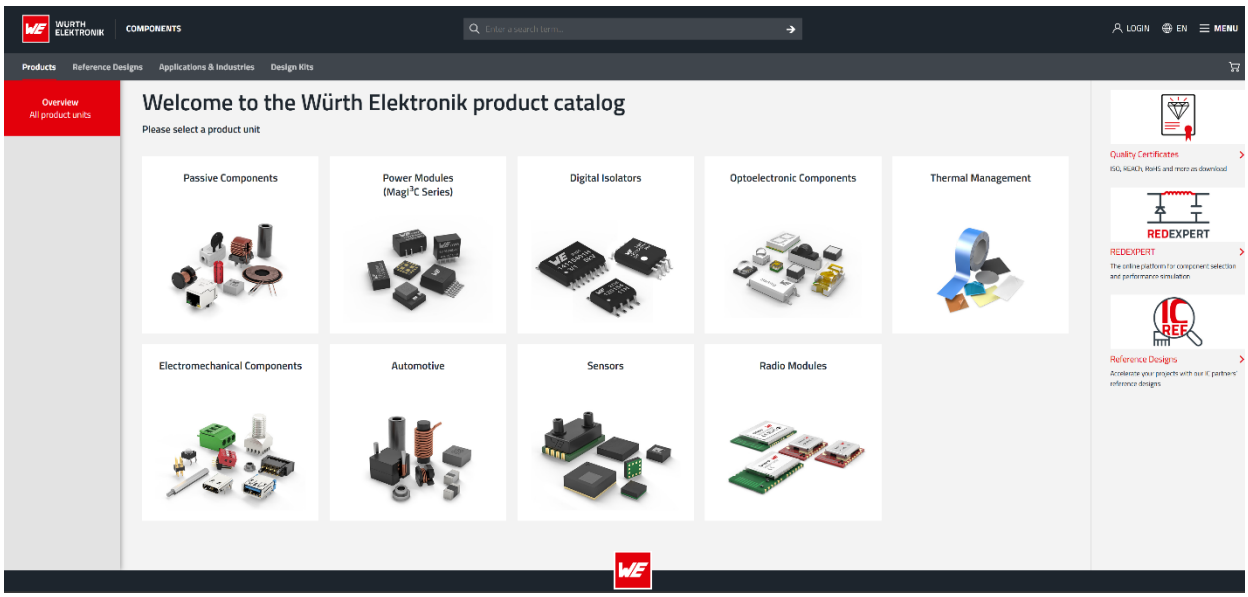

Figure 1: Würth Elektronik Homepage.

Alternatively, enter the part number or product series into the search bar located at the top of the page.

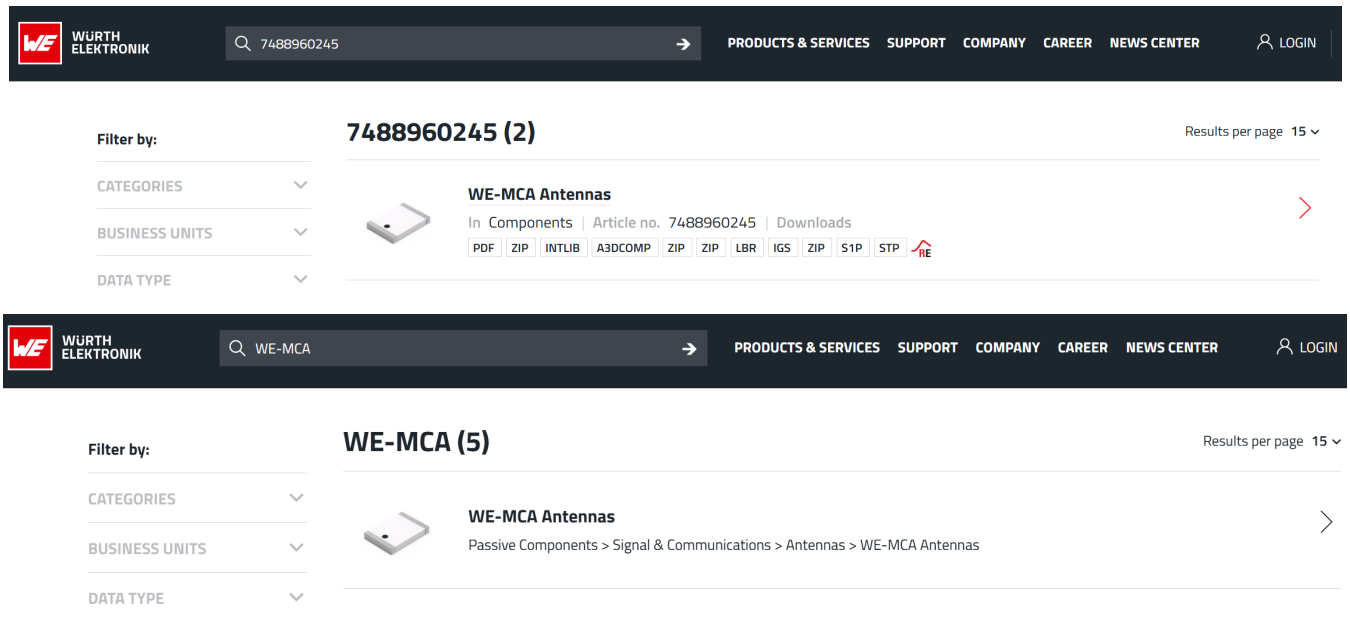

Figure 2: Search part number or series.

On each product series page, you will find the download column in the product list. Locate the KiCad library in the dropdown list.

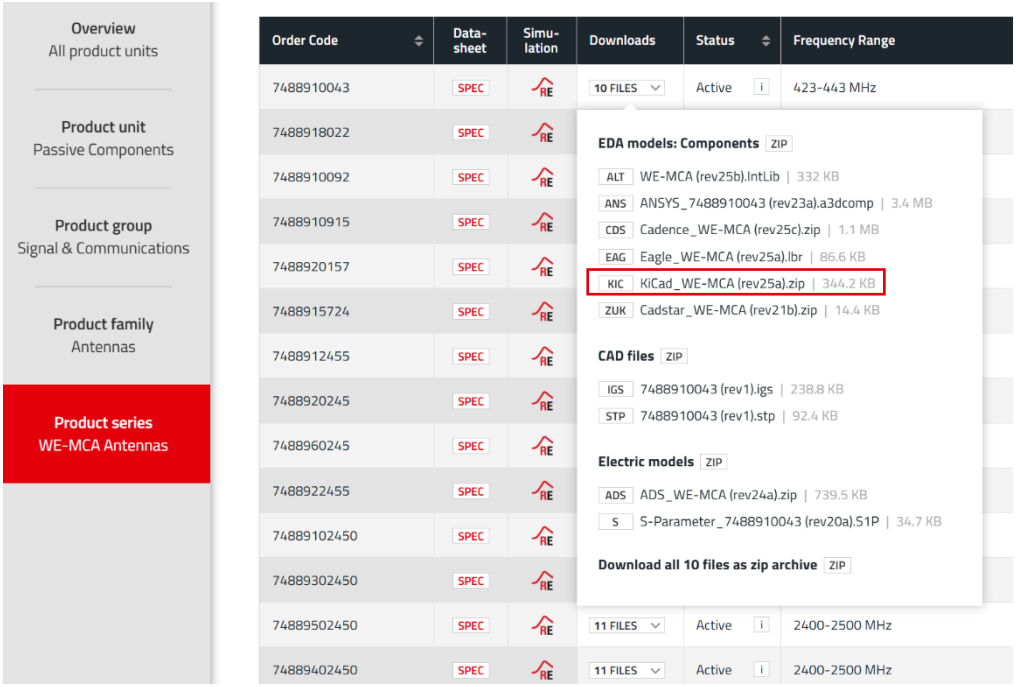

Figure 3: Download KiCad libraries on Würth Elektronik Homepage.

2.2 To install the model

Footprint import: Open **the Footprint Editor** in KiCad, click the **Manage Footprint Libraries** in Preference, click "**+**" to add an empty row, input the Nickname and Library Path. **Note that Nickname must be the same as .pretty prefix content.**

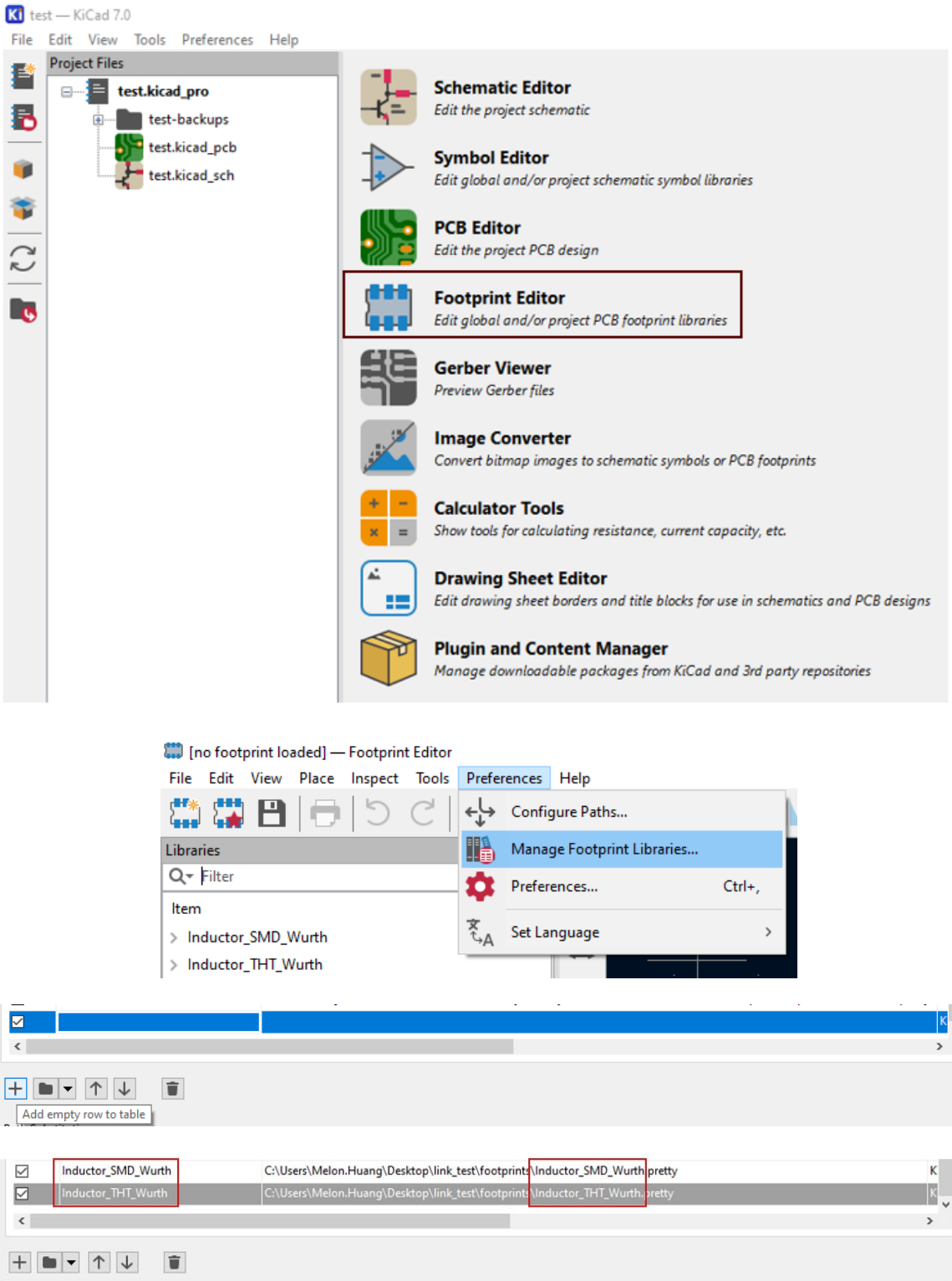

Figure 4: Importing the footprint.

The process is the same for symbols import: open **Symbol Editor** in kicad, click **Manage Symbol Libraries** in the Preferences toolbar, click "**+**" to add empty row, input the Nickname and Library Path. **Note that Nickname must be the same as .kicad_sym prefix content**.

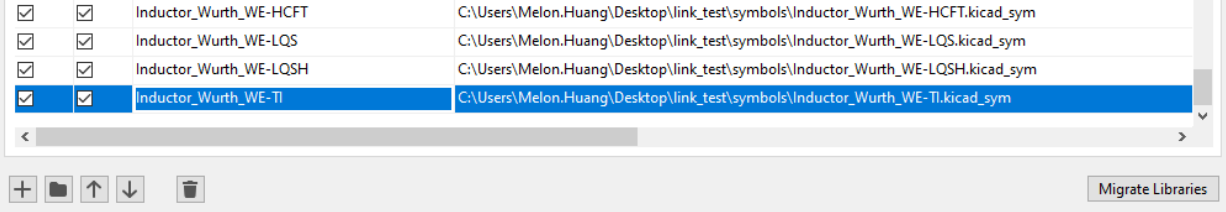

Figure 5: Importing the symbol.

The symbols and footprints are now linked. However, the 3D Models in the footprint are still missing. You can link the 3D models as following:

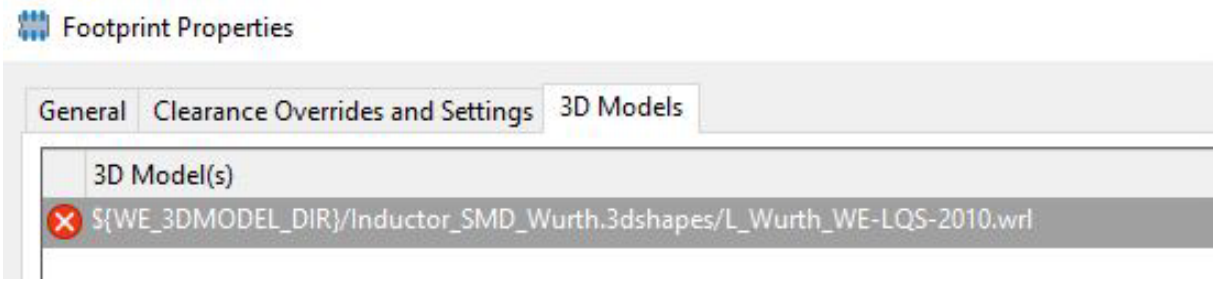

Figure 6: The 3D modes window when the model is missing.

Click 'Configure Paths' in Footprint Editor.

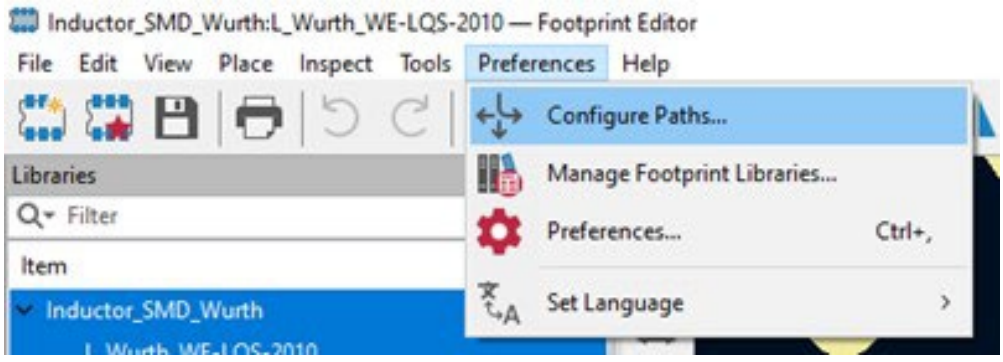

Figure 7: Open Configure Paths.

Add new variable paths for directory where you have saved the downloaded files, as blue-framed shows. (Note: netlists folder is optional because it's for our future update plan to attach LTspice netlist with symbol in our library.

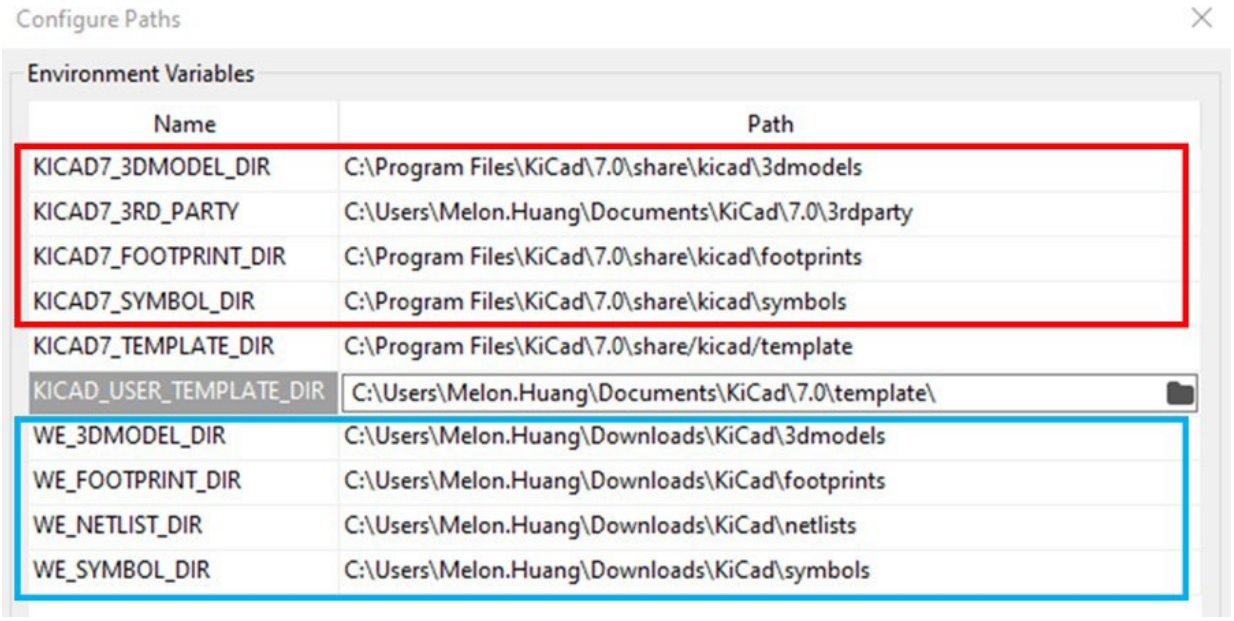

Figure 8: Add new variable paths.

The footprints, symbols and 3d models you download are linked together. You can now design schematic and PCB with them now.

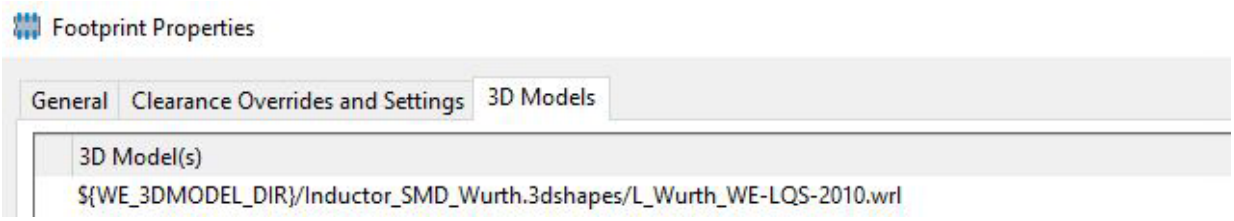

Figure 9: A correctly linked 3D model.

3. INSTALL FROM KICAD BUILT-IN LIBRARY

Note: KiCad built-in library is reviewed and updated periodically. We therefore recommend downloading the Würth Elektronik libraries from the GitHub download page.

3.1 KiCad built-in library

Type "Wurth" in Footprint Editor filter, the results are as below:

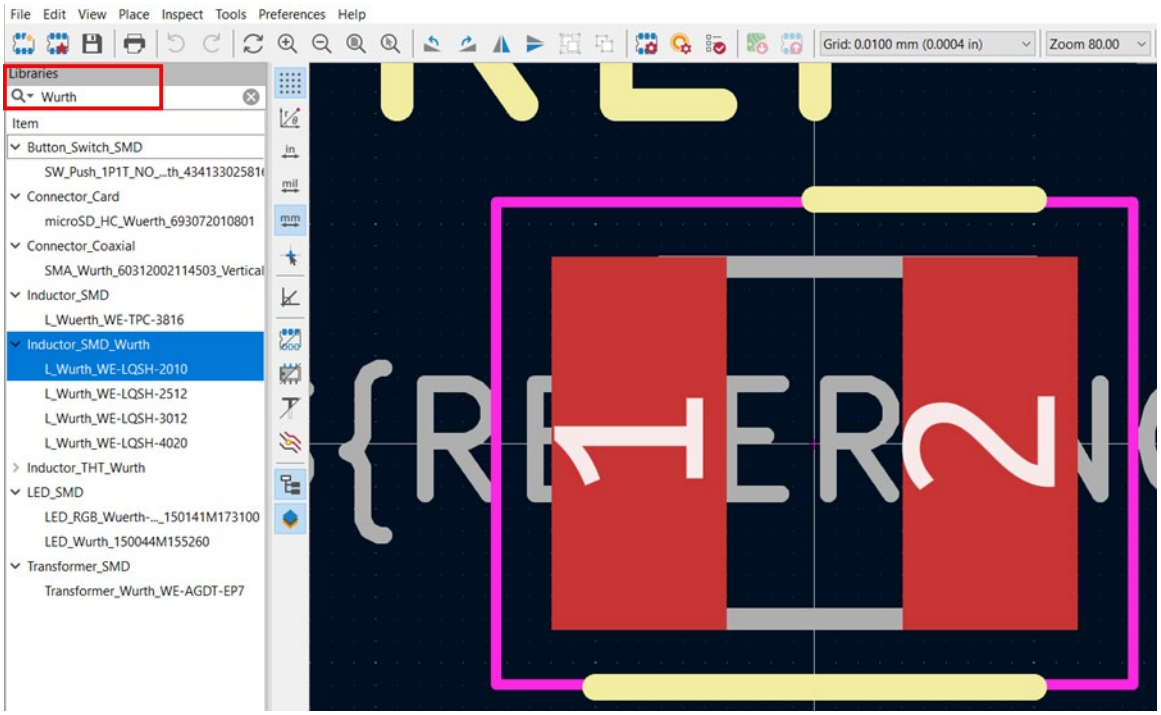

Figure 10: Example of a component in the KiCad built-in library.

You can use the built-in library directly for schematic and layout design.

4. INSTALL FROM GITHUB REPOSITORY

Note: KiCad library in GitHub repository is always the latest.

4.1 Install GitHub Desktop

GitHub Desktop is the most user-friendly tool for working with GitHub projects, and we recommend you use it for keeping your library files up to date.

Go to https://desktop.github.com/ to download the appropriate package for your operating system and install it on your computer.

During the Desktop installation, register or sign in with your GitHub Account and click next. On the opening GitHub Browser webpage authenticate yourself and give permission to the GitHub desktop application. Then the process jumps back to the Desktop tool/application.

4.2 Clone the library

From GitHub Desktop, click the button Clone a repository from the Internet. Enter the URL of Würth Elektronik KiCad Library repository https://github.com/WürthElektronik/KiCad-Library.git and define the local directory to clone the repository.

Then click the Clone button, all the files from the online repository will begin to synchronize into local.

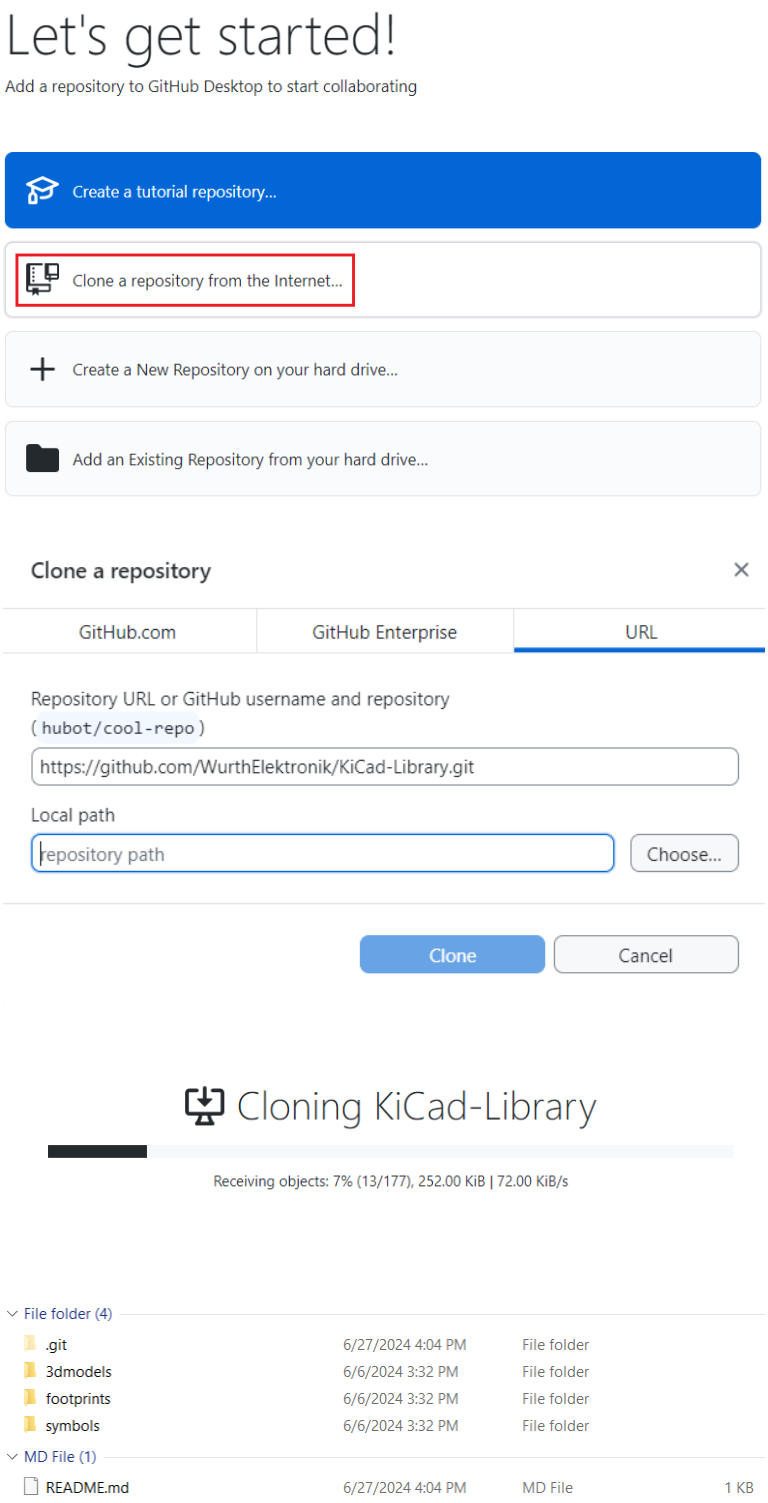

Figure 11: Clone the library.

4.3 Synchronize local library from GitHub

If there are any update in GitHub repository, GitHub Desktop will detect it and you can "Pull" the update to your local.

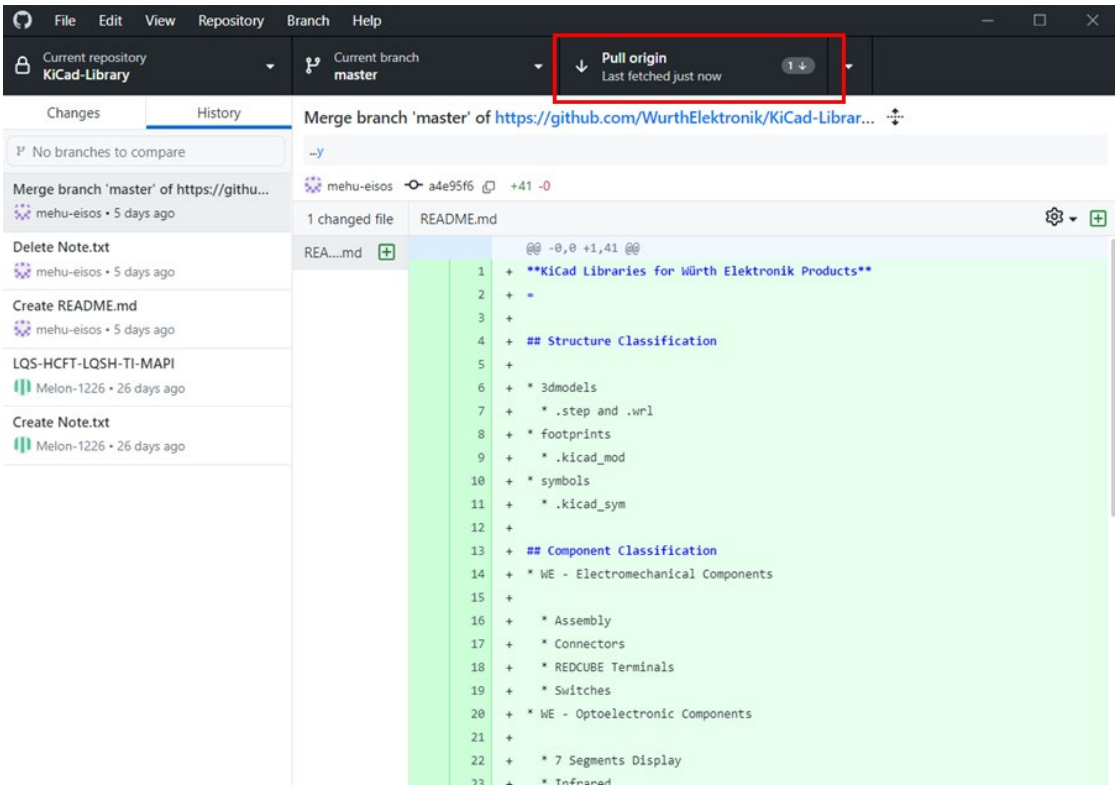

Figure 12: Synchronize from GitHub.

Use the models in your local folder as introduced in Chapter 2.

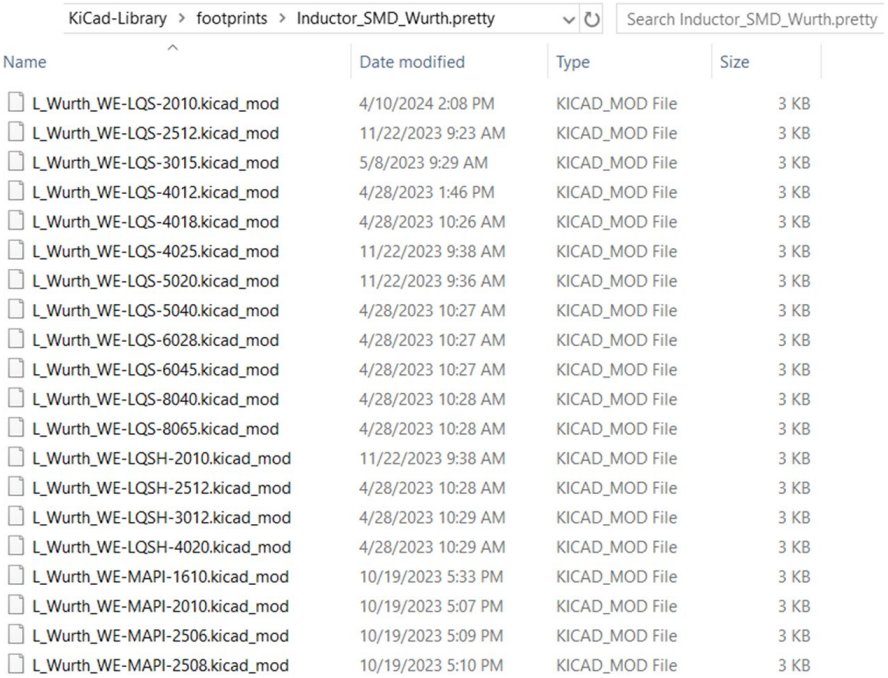

Figure 13: Use for layout.

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