

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.

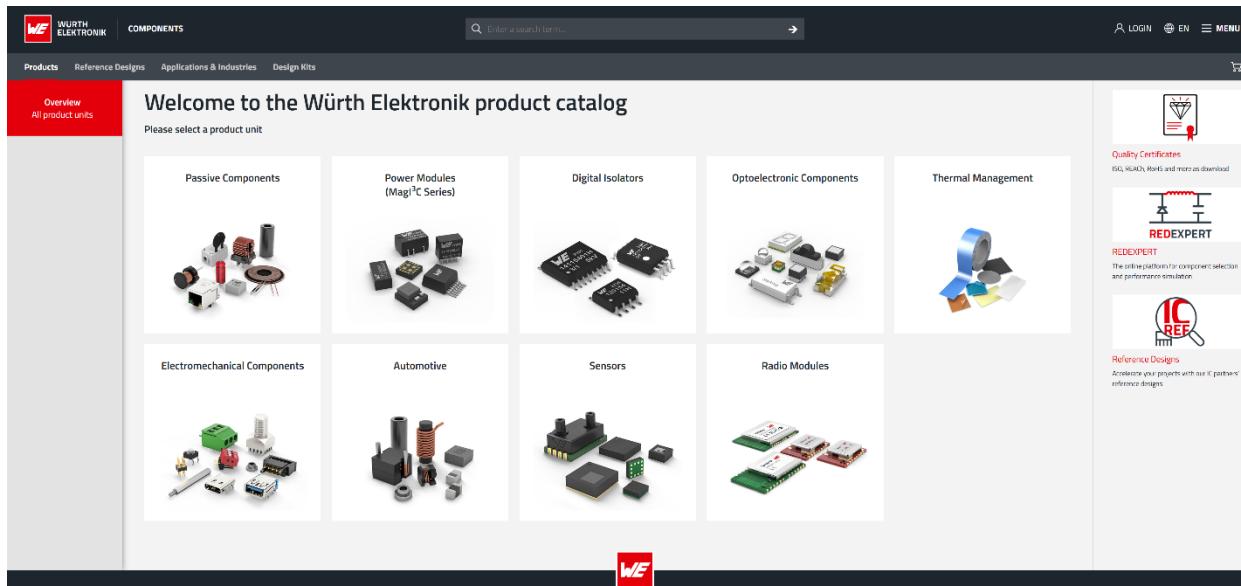


Figure 1: [Würth Elektronik Homepage](#).

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

The screenshot shows two search results pages from the Würth Elektronik website. The top section shows results for part number 7488960245 (2), which corresponds to the WE-MCA Antennas. The bottom section shows results for the product series WE-MCA (5). Both sections include a search bar, navigation links, and a detailed product listing with download options.

Search Results for Part Number:

Order Code	Data-sheet	Simulation	Downloads	Status	Frequency Range	G _{peak} (dBi)
7488910043	SPEC	RE	10 FILES	Active	423-443 MHz	-4
7488918022	SPEC	RE				
7488910092	SPEC	RE				
7488910915	SPEC	RE				
7488920157	SPEC	RE				
7488915724	SPEC	RE				
7488912455	SPEC	RE				
7488920245	SPEC	RE				
7488960245	SPEC	RE				
7488922455	SPEC	RE				
74889102450	SPEC	RE				
74889302450	SPEC	RE				

Search Results for Product Series:

Order Code	Data-sheet	Simulation	Downloads	Status	Frequency Range	G _{peak} (dBi)
7488910043	SPEC	RE	10 FILES	Active	423-443 MHz	-4
7488918022	SPEC	RE				
7488910092	SPEC	RE				
7488910915	SPEC	RE				
7488920157	SPEC	RE				
7488915724	SPEC	RE				
7488912455	SPEC	RE				
7488920245	SPEC	RE				
7488960245	SPEC	RE				
7488922455	SPEC	RE				
74889102450	SPEC	RE				
74889302450	SPEC	RE				

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.

The screenshot shows the download section for the WE-MCA Antennas product family. It includes a sidebar with navigation links for Overview, Product unit, Product group, and Product family. The main area displays a table of products with columns for Order Code, Data-sheet, Simulation, Downloads, Status, Frequency Range, and G_{peak} (dBi). To the right, there are sections for EDA models, CAD files, and Electric models, each with a list of available files. A red box highlights the 'KiC' link under the EDA models section, which points to the KiCad library file.

Product Family: WE-MCA Antennas

EDA models: Components

- ALT WE-MCA (rev25a).IntLib | 317 KB
- ANS ANSYS_7488910043 (rev23a).a3dcomp | 3.4 MB
- CDS Cadence_WE-MCA (rev25b).zip | 1.1 MB
- EAG Eagle_WE-MCA (rev25a).lbr | 86.6 KB
- KIC KiCad_WE-MCA (rev25a).zip | 344.2 KB
- ZUK Cadstar_WE-MCA (rev21b).zip | 14.4 KB

CAD files

- IGS 7488910043 (rev1).igs | 238.8 KB
- STP 7488910043 (rev1).stp | 92.4 KB

Electric models

- ADS ADS_WE-MCA (rev24a).zip | 739.5 KB
- S S-Parameter_7488910043 (rev20a).S1P | 34.7 KB

Download all 10 files as zip archive

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.**

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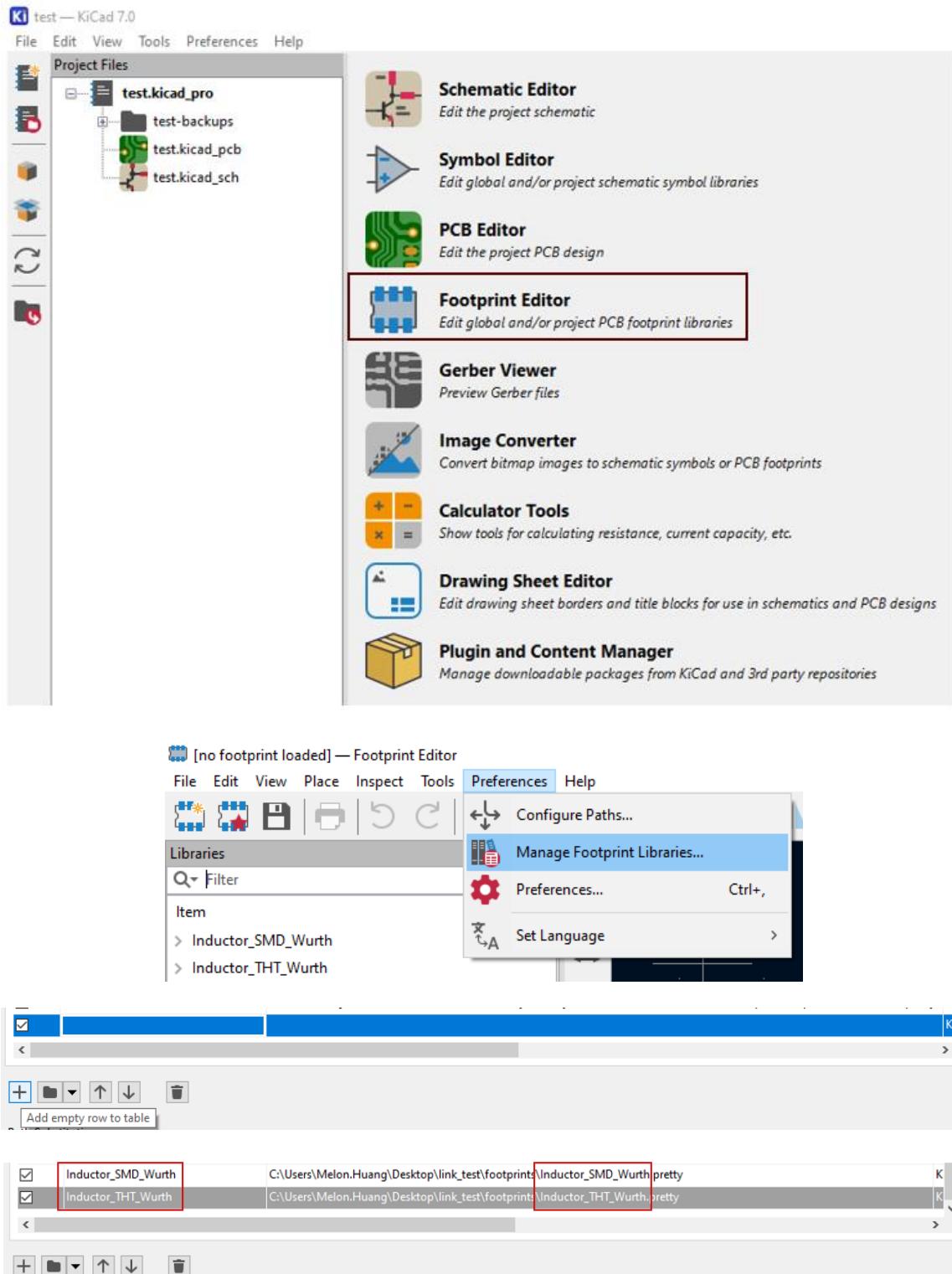


Figure 4: Importing the footprint.

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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.**

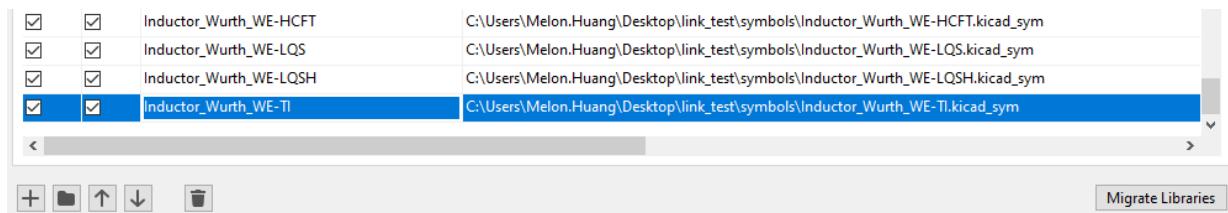


Figure 5: Importing the symbol.

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:

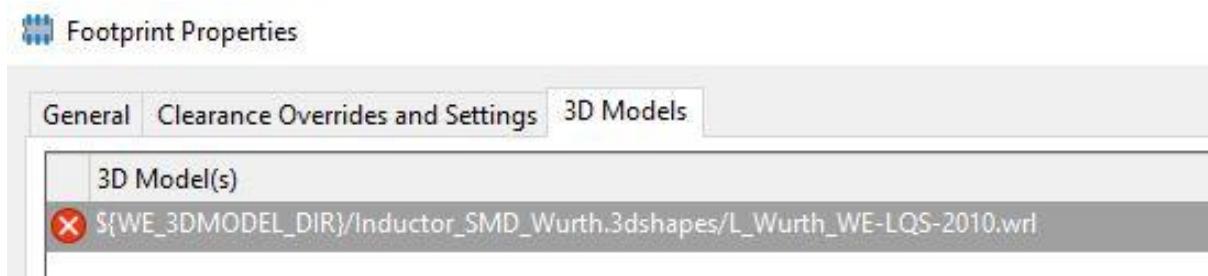


Figure 6: The 3D modes window when the model is missing.

Click 'Configure Paths' in Footprint Editor.

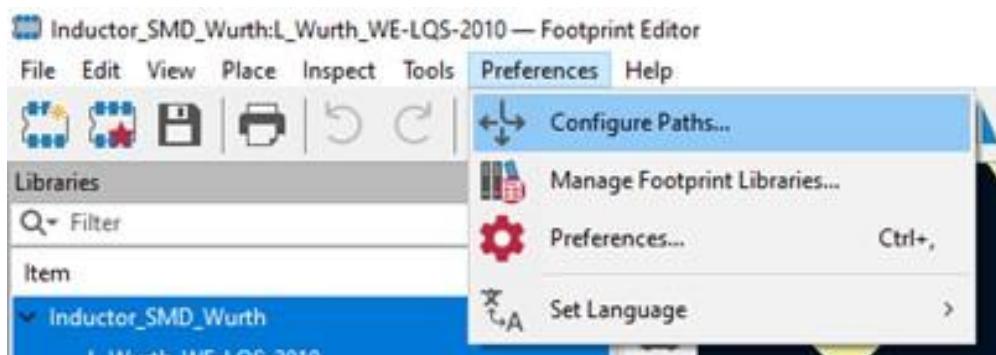


Figure 7: Open Configure Paths.

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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.

Configure Paths	
Environment Variables	
Name	Path
KICAD7_3DMODEL_DIR	C:\Program Files\KiCad\7.0\share\kicad\3dmodels
KICAD7_3RD_PARTY	C:\Users\Melon.Huang\Documents\KiCad\7.0\3rdparty
KICAD7_FOOTPRINT_DIR	C:\Program Files\KiCad\7.0\share\kicad\footprints
KICAD7_SYMBOL_DIR	C:\Program Files\KiCad\7.0\share\kicad\symbols
KICAD7_TEMPLATE_DIR	C:\Program Files\KiCad\7.0\share/kicad/template
KICAD_USER_TEMPLATE_DIR	C:\Users\Melon.Huang\Documents\KiCad\7.0\template
WE_3DMODEL_DIR	C:\Users\Melon.Huang\Downloads\KiCad\3dmodels
WE_FOOTPRINT_DIR	C:\Users\Melon.Huang\Downloads\KiCad\footprints
WE_NETLIST_DIR	C:\Users\Melon.Huang\Downloads\KiCad\netlists
WE_SYMBOL_DIR	C:\Users\Melon.Huang\Downloads\KiCad\symbols

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.

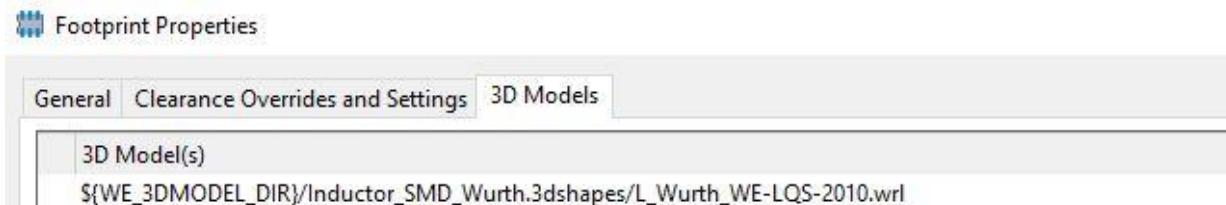


Figure 9: A correctly linked 3D model.

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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:

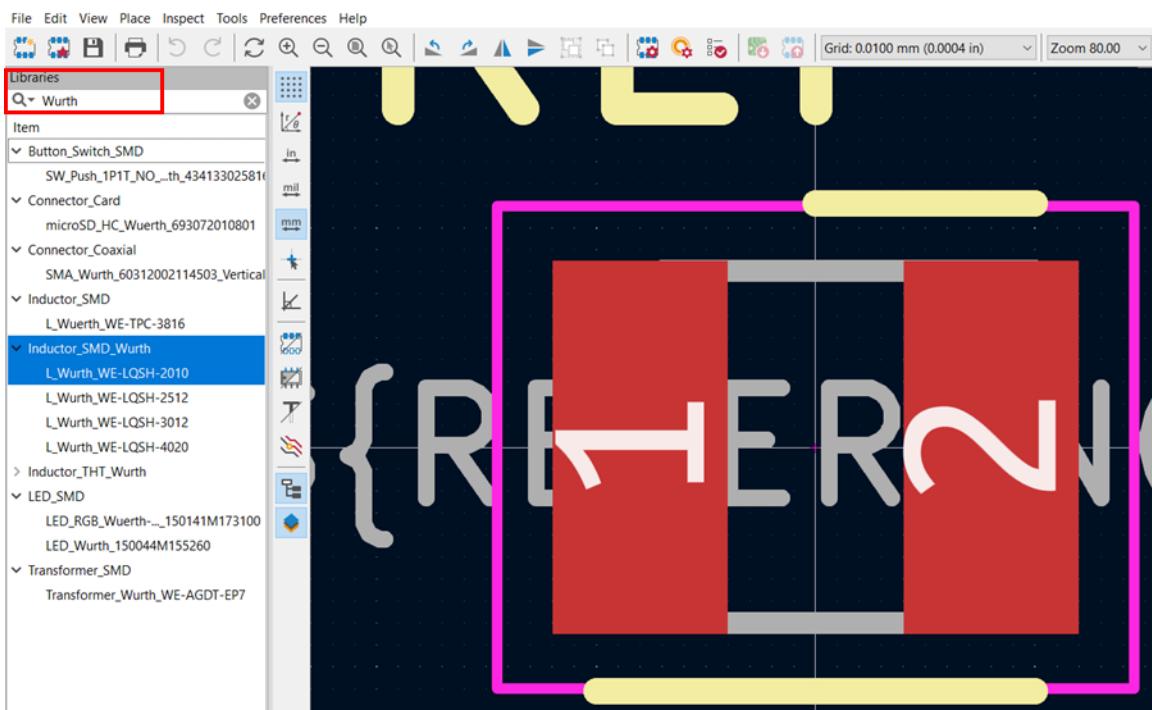


Figure 10: Example of a component in the KiCad built-in library.

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.

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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/WurthElektronik/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.

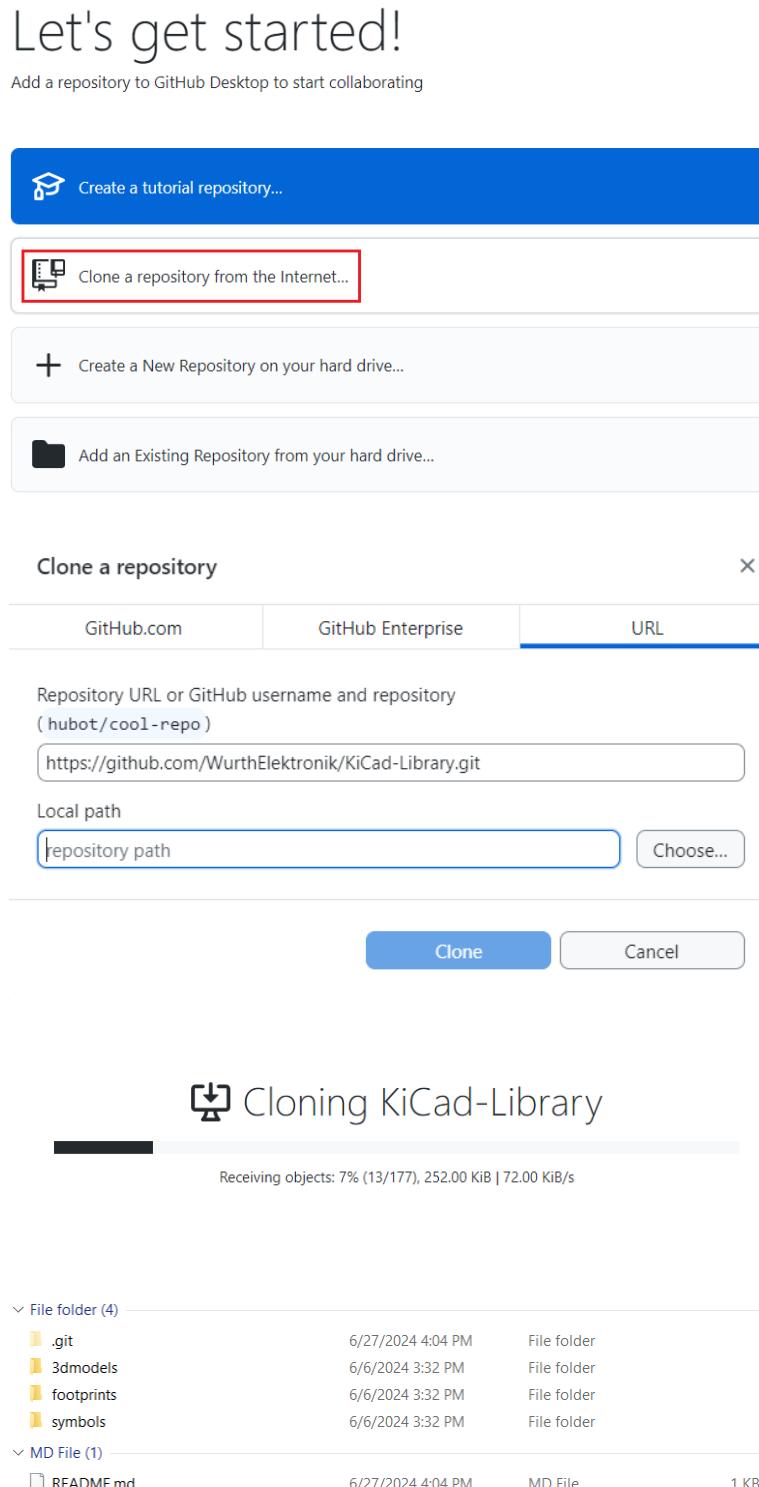


Figure 11: Clone the library.

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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.

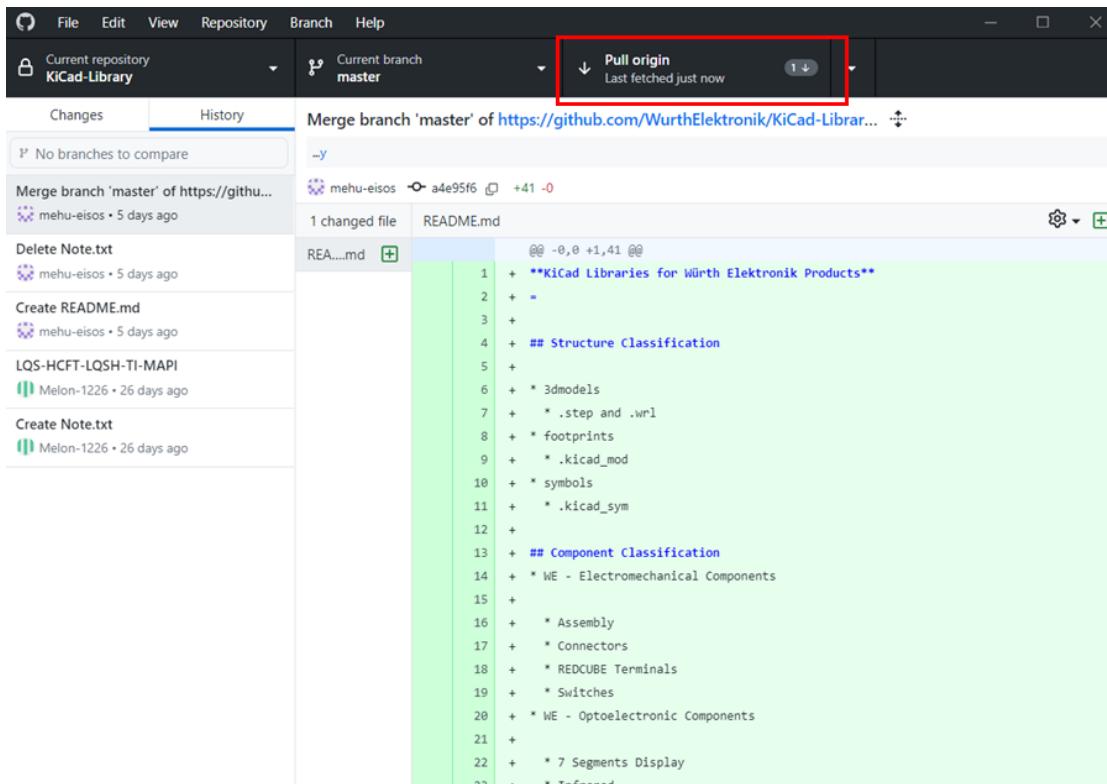


Figure 12: Synchronize from GitHub.

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

Name	Date modified	Type	Size
L_Wurth_WE-LQS-2010.kicad_mod	4/10/2024 2:08 PM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-2512.kicad_mod	11/22/2023 9:23 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-3015.kicad_mod	5/8/2023 9:29 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-4012.kicad_mod	4/28/2023 1:46 PM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-4018.kicad_mod	4/28/2023 10:26 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-4025.kicad_mod	11/22/2023 9:38 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-5020.kicad_mod	11/22/2023 9:36 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-5040.kicad_mod	4/28/2023 10:27 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-6028.kicad_mod	4/28/2023 10:27 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-6045.kicad_mod	4/28/2023 10:27 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-8040.kicad_mod	4/28/2023 10:28 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQS-8065.kicad_mod	4/28/2023 10:28 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQSH-2010.kicad_mod	11/22/2023 9:38 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQSH-2512.kicad_mod	4/28/2023 10:28 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQSH-3012.kicad_mod	4/28/2023 10:29 AM	KICAD_MOD File	3 KB
L_Wurth_WE-LQSH-4020.kicad_mod	4/28/2023 10:29 AM	KICAD_MOD File	3 KB
L_Wurth_WE-MAPI-1610.kicad_mod	10/19/2023 5:33 PM	KICAD_MOD File	3 KB
L_Wurth_WE-MAPI-2010.kicad_mod	10/19/2023 5:07 PM	KICAD_MOD File	3 KB
L_Wurth_WE-MAPI-2506.kicad_mod	10/19/2023 5:09 PM	KICAD_MOD File	3 KB
L_Wurth_WE-MAPI-2508.kicad_mod	10/19/2023 5:10 PM	KICAD_MOD File	3 KB

Figure 13: Use for layout.

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