

USER GUIDE

UG018 | WE Ansys Library

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1. INTRODUCTION

Würth Elektronik has a growing portfolio of models available for use in Ansys HFSS (High Frequency Simulation Software) or Ansys Icepak (thermal simulation). These models allow Ansys users to accurately simulate, troubleshoot and solve RF, EMI or thermal issues before going to production.

Our models are created to provide the best possible simulation results. They feature:

- Detailed and accurate material parameters for accurate simulation
- Highly detailed and precise 3D models
- Model creation process verified against known laboratory results
- Mesh optimized for balance of simulation speed and accuracy

For any new users of a tool, the basic functionalities must be learned before the tool can be put to use. For Ansys, knowing how to correctly install and find the models is crucial. Our models can be installed via three ways: Würth Electronics homepage, xml file, GitHub repository.

Note: The following instructions apply to Ansys versions 2023R1 or higher. Previous versions of Ansys have some significant differences, especially the geometry core.

2. INSTALL FROM WEBSITE

Note: Ansys models on homepage 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).

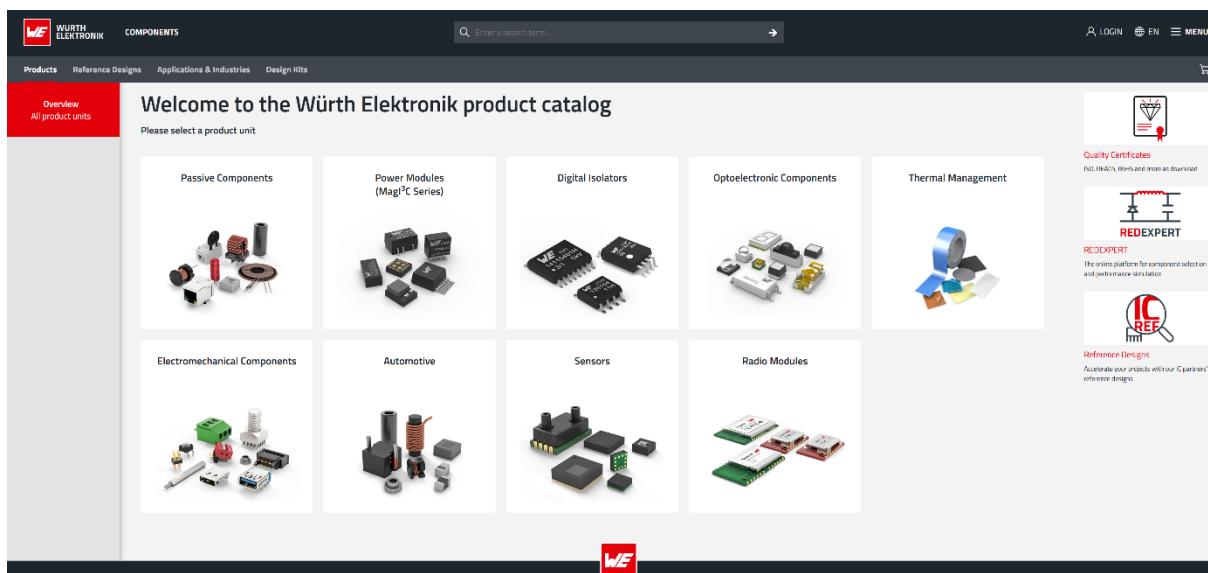


Figure 1: [Würth Elektronik Homepage](#).

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Alternatively, enter the part number or product series into the search bar located at the top of the page (Figure 2).

7488960245 (2)

Results per page 15 ▾

WE-MCA Antennas



In Components | Article no. 7488960245 | Downloads

[PDF](#) [ZIP](#) [INTLIB](#) [A3DCOMP](#) [ZIP](#) [ZIP](#) [LBR](#) [IGS](#) [ZIP](#) [S1P](#) [STP](#) [RE](#)



WE-MCA (5)

Results per page 15 ▾

WE-MCA Antennas



Passive Components > Signal & Communications > Antennas > WE-MCA Antennas



Figure 2: Search part number or series.

On each product series page, you will find the download column in the product list. Locate the Ansys library in the dropdown list (Figure 3).

Order Code	Data-sheet	Simulation	Downloads	Status	Frequency Range	G _{peak} (dB)
7488910043	SPEC	RE	10 FILES	Active i	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				

EDA models: Components [ZIP](#)

[ALT](#) WF-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 [ZIP](#)

[IGS](#) 7488910043 (rev1).igs | 238.8 KB
[STP](#) 7488910043 (rev1).stp | 92.4 KB

Electric models [ZIP](#)

[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 [ZIP](#)

Figure 3: Download Ansys libraries on Würth Elektronik Homepage.

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2.2 To install the model

Drag and drop the downloaded file into the Ansys Desktop window (Figure 4).

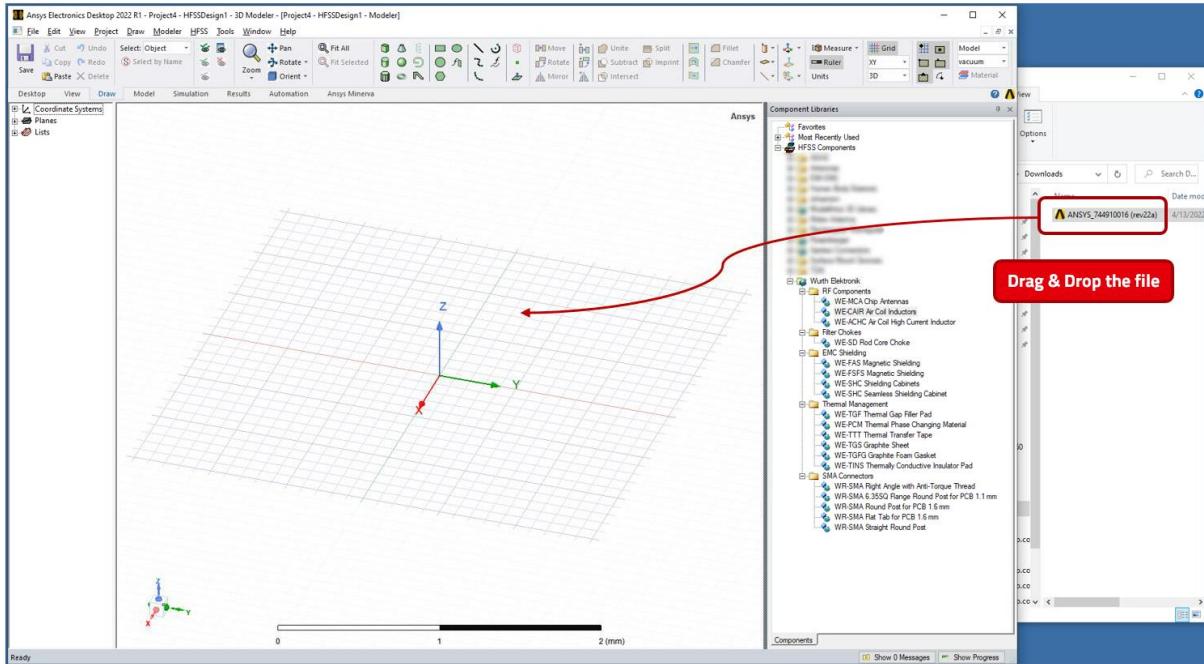


Figure 4: Import the model into HFSS.

The model is now ready for you to use (Figure 5).

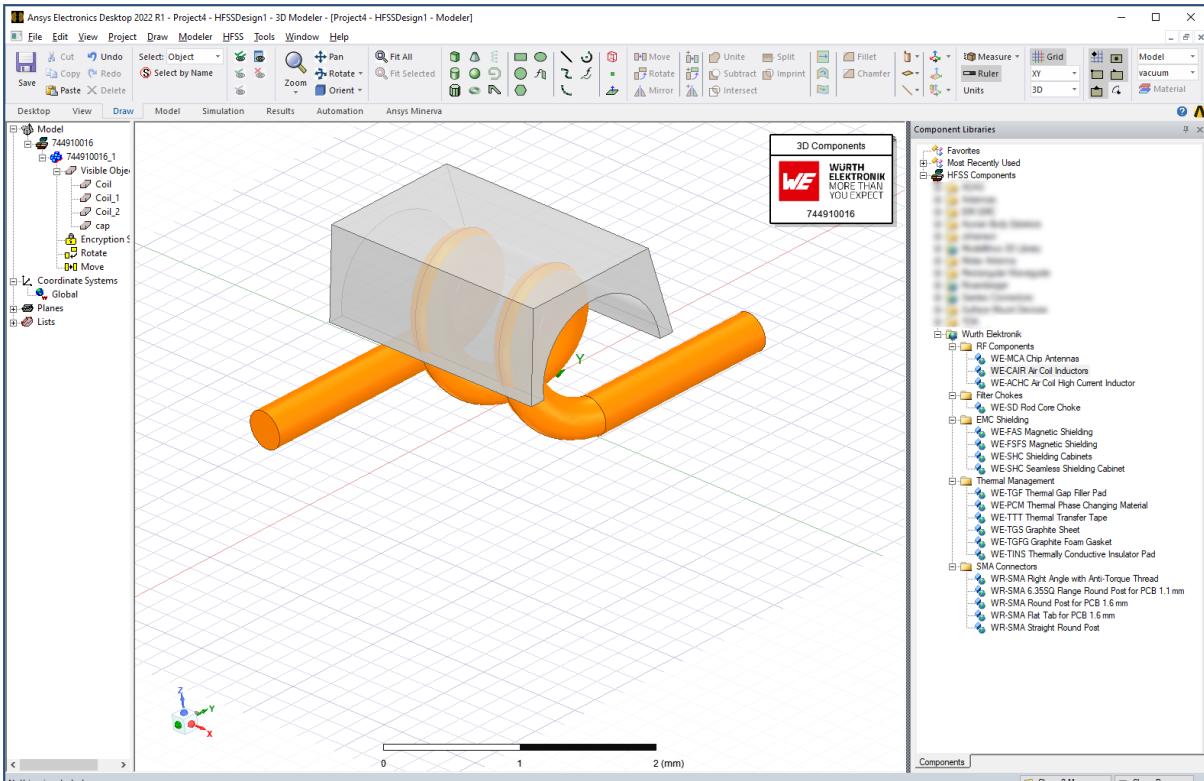


Figure 5: Imported model in HFSS.

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3. INSTALL FROM XML FILE

Note: Zipped Ansys models and xml file on landing page are updated quarterly so they may not be the latest. For the latest model please refer to our github repository.

3.1 To download the xml file

Visit Würth Elektronik Ansys landing page <https://www.we-online.com/en/support/design-tools/libraries/ansys> as below (Figure 6):

Download Files of the ANSYS Libraries

Updated Quarterly, Last Updated May 2022

Important! Ansys models are not able to be used in Ansys software versions prior to the version in which the model was created. Models are created in Ansys v21.2 unless otherwise noted.

Filter Chokes (HFSS)

> [WE-SD Rod Core Choke](#)

HF Components (HFSS)

> [WE-ACHC High Current Air Coil](#)

> [WE-CAIR Air Coil](#)

> [WE-MCA Antennas](#)

Thermal (Icepak)

> [WE-PCM Thermal Phase Changing Material](#)

> [WE-TGF Thermal Gap Filler Pad](#)

> [WE-TGFG Graphite Foam Gasket](#)

> [WE-TGS Graphite Sheet](#)

> [WE-TINS Thermally Conductive Insulator Pad](#)

> [WE-TTT Thermal Transfer Tape](#)

Shielding (HFSS)

> [WE-FAS EMI Flexible Absorber Sheet](#)

> [WE-FAS RFID Flexible Absorber Sheet](#)

> [WE-FSFS TC Thermal Conductive and EMI Absorber](#)

> [WE-SHC Shielding Cabinet](#)

> [WE-SHC Seamless Shielding Cabinet](#)

SMA Connectors (HFSS)

> [WR-SMA SMA Connectors](#)

XML file for accessing the models within Ansys

> [Würth Elektronik Library XML](#)

Figure 6: Ansys landing page.

The landing page is integrated for Ansys library introduction and models. Here you can download zipped Ansys models by series and xml file.

3.2 To install the xml file

In this section, you can find the guideline of how to import xml file into Ansys.

Accessing the Models Within Ansys HFSS

- Installation (Figure 7)

Install the Würth Elektronik library xml files (found above) into the relevant solver folder of the 3Dcomponents directory in the Ansys program files.

C:\ Program Files\ AnsysEM\ (version)\ Win64\ syslib\ 3Dcomponents\ (solver)\

Note: The HFSS xml file is already installed in Ansys by default.

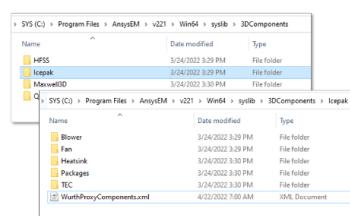


Figure 7: Install xml file.

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- From the Ansys Electronics Desktop library, open the Würth Elektronik folder (Figure 8)

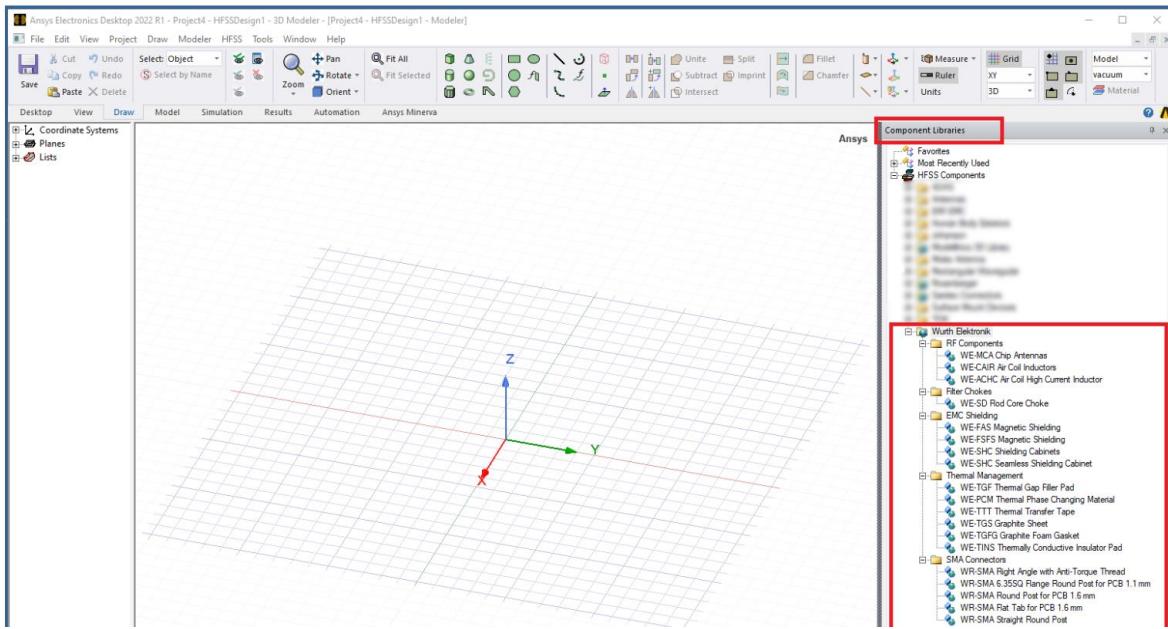


Figure 8: Open in HFSS.

- Double-click on the series of the desired model. This will open the corresponding series webpage (Figure 9)

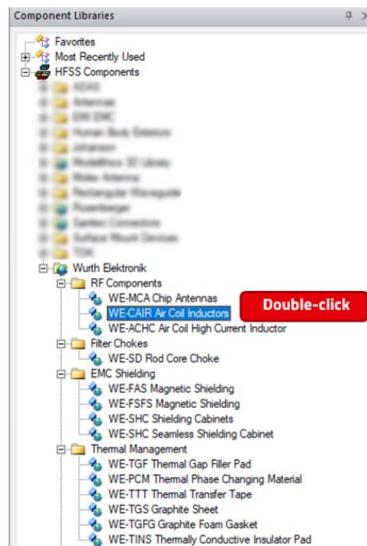


Figure 9: Lead to corresponding webpage.

The next steps are the same as downloading from the homepage.

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4. INSTALL FROM GITHUB REPOSITORY

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 opening the GitHub Browser webpage, authenticate yourself and give permission to the GitHub desktop application. The process will then return you to the desktop application.

4.2 Clone the Library

From GitHub Desktop, click the button "Clone a repository from the Internet..." (Figure 10).

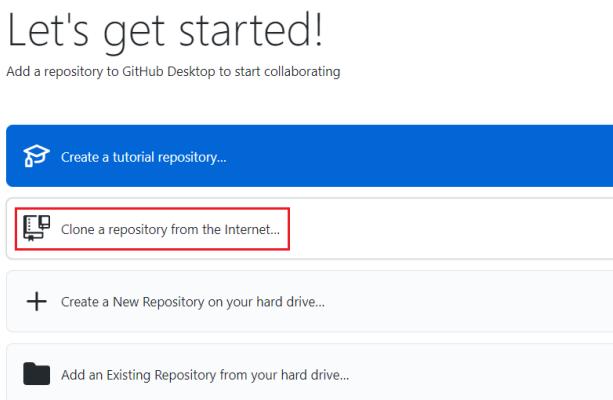


Figure 10: Clone a repository from the Internet.

Enter the URL of Würth Elektronik Ansys Library repository <https://github.com/WürthElektronik/Ansys-Model.git> and define a local directory to which to clone the repository.

Then click the "Clone" button. A window will then open, synchronizing the libraries into your local directory from the online repository. Cloning repository may take some time (Figure 11 and Figure 12).

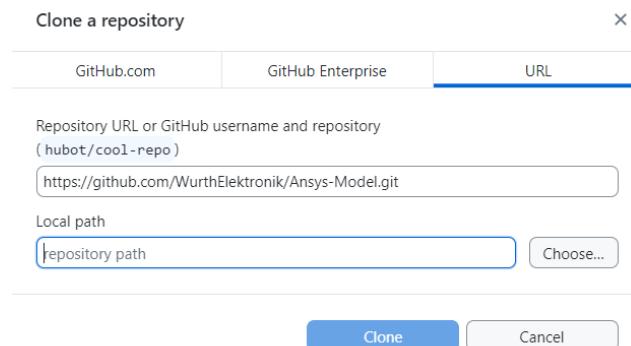


Figure 11: Cloning the Würth Elektronik Ansys Library repository to your local directory.

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Figure 12: Cloning in progress.

4.3 Synchronize Local Library from GitHub

If there are updates in GitHub repository, GitHub Desktop will detect it. You can "Pull" the update to your local directory. If there are any new commits on the online master repository, from GitHub Desktop you'll receive the update information automatically.

Click "Pull origin" button to fetch the updates to your local directory immediately (Figure 13).

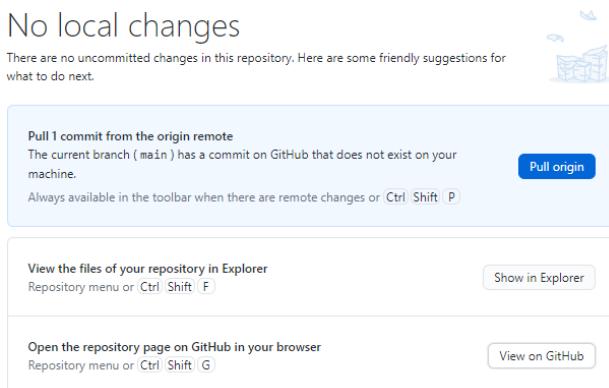


Figure 13: Pulling the repository to your local directory.

Click "View on GitHub" to explore more details of the latest updates (Figure 14).

master		1 Branch	0 Tags	Go to file	Code
	mehu-eisos	upload library		17232f0 · 7 months ago	10 Commits
	Connectors/Coaxial Connectors/SMA Connector	upload library		7 months ago	
	EMC Components	upload library		7 months ago	
	Signal & Communications/RF Component	upload library		7 months ago	
	Thermal Management	upload library		7 months ago	
	Disclaimer_WE_Anysys_library.pdf	content rename		9 months ago	
	License_Terms_WE_Anysys_library.pdf	content rename		9 months ago	
	README.md	Update README.md		8 months ago	
	User_Guide_WE_Anysys_Library.pdf	Update user guide		8 months ago	
	wuerth-elektronik-ansys.xml	upload library		7 months ago	

Figure 14: View the updates on GitHub.

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