

USER GUIDE

UGXXX | WE Ansys Library



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1. Introduction

Ansys was founded in 1970 to automate finite element analysis (FEA), which was previously performed by hand. They have developed a software suite which today includes mechanical, structural, CAD, fluid, material and electromagnetic simulations.

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 pertain 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

Browse www.we-online.com >> Components >> Find the product unit according to the catalog.

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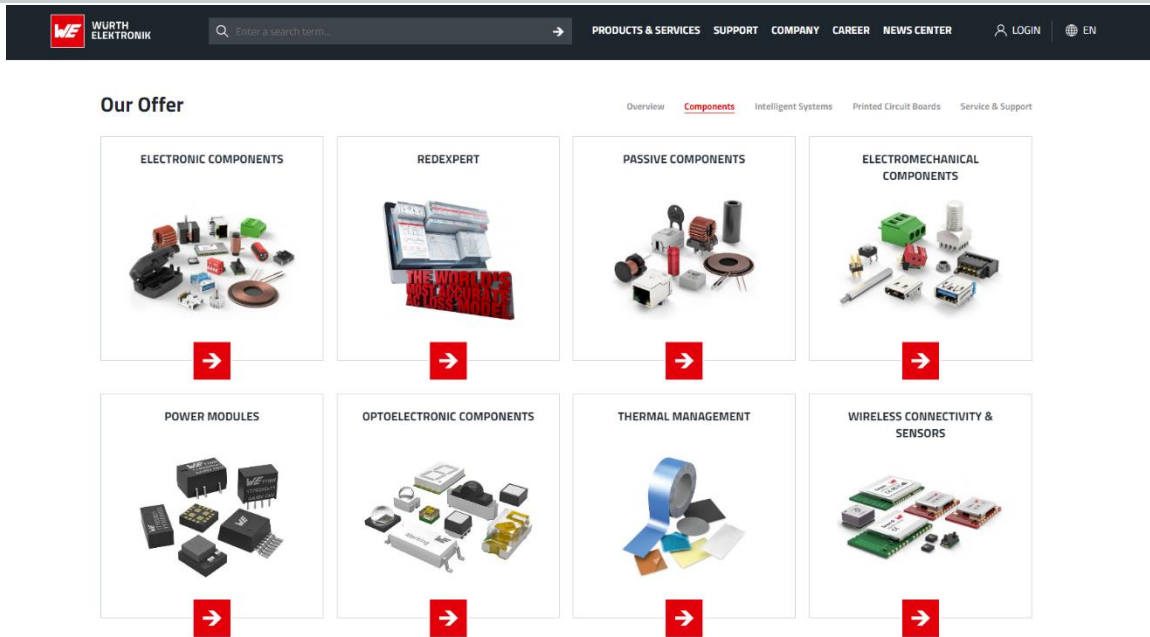


Figure 1: Würth Elektronik Homepage

Or search for the part number or series you are interested in. For example, search part number 744910016 or series WE-CAIR, this search result shows 744910016 has Ansys HFSS .a3dcomp model.

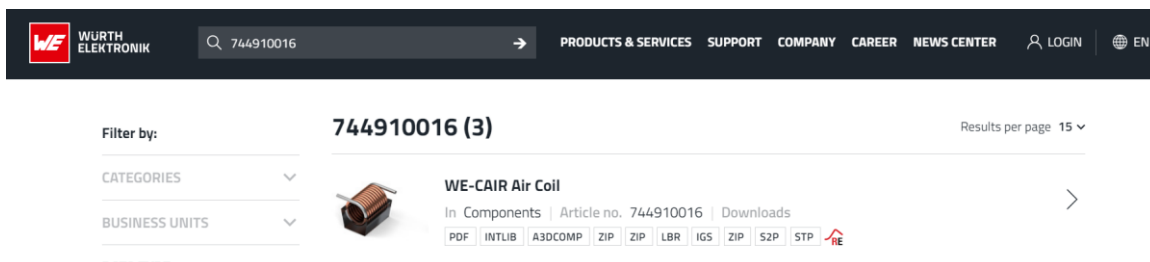


Figure 2: Search part number or series

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For the desired part number, expand the Downloads dropdown, select and click the ADS zipped file to download it.

1. Open "Downloads" category

2. Choose "ANS" file. Format: .a3dcomp

Order Code	Data-sheet	Simulation	Downloads	L (nH)	Tol.L	Test Condition L	Q _{min.}	Test Condition Q	Samples
744910016	SPEC	RE	9 FILES	1.65	±10%	800 MHz	100	800 MHz	1
744910025	SPEC	RE						800 MHz	1
744910038	SPEC	RE						800 MHz	1
744910054	SPEC	RE						800 MHz	1

EDA models: Components ZIP

- ALT WE-CAIR (rev22a).IntLib | 259.5 KB
- ANS **ANSYS_744910016 (rev22a).a3dcomp | 446.7 KB**
- ZUK Cadstar_WE-CAIR (rev19b).zip | 9.1 KB
- CDS Cadence_WE-CAIR (rev18a).zip | 3.4 MB
- EAG Eagle_WE-CAIR (rev19a).lbr | 58.5 KB

CAD files ZIP

- IGS WE-CAIR_1322 (rev1).igs | 229.9 KB
- STP WE-CAIR_1322 (rev1).stp | 120.3 KB

Electric models ZIP

- S S-Parameter_744910016 (rev21a).s2p | 84.3 KB
- PSP PSpice_WE-CAIR (rev20a).zip | 23.5 KB

Download all 9 files as zip archive ZIP

Figure 3: Download library

2.2 To install the model

Drag and drop the downloaded file into the Ansys Desktop window.

Drag & Drop the file

Figure 4: Import model to HFSS

Use for simulation.

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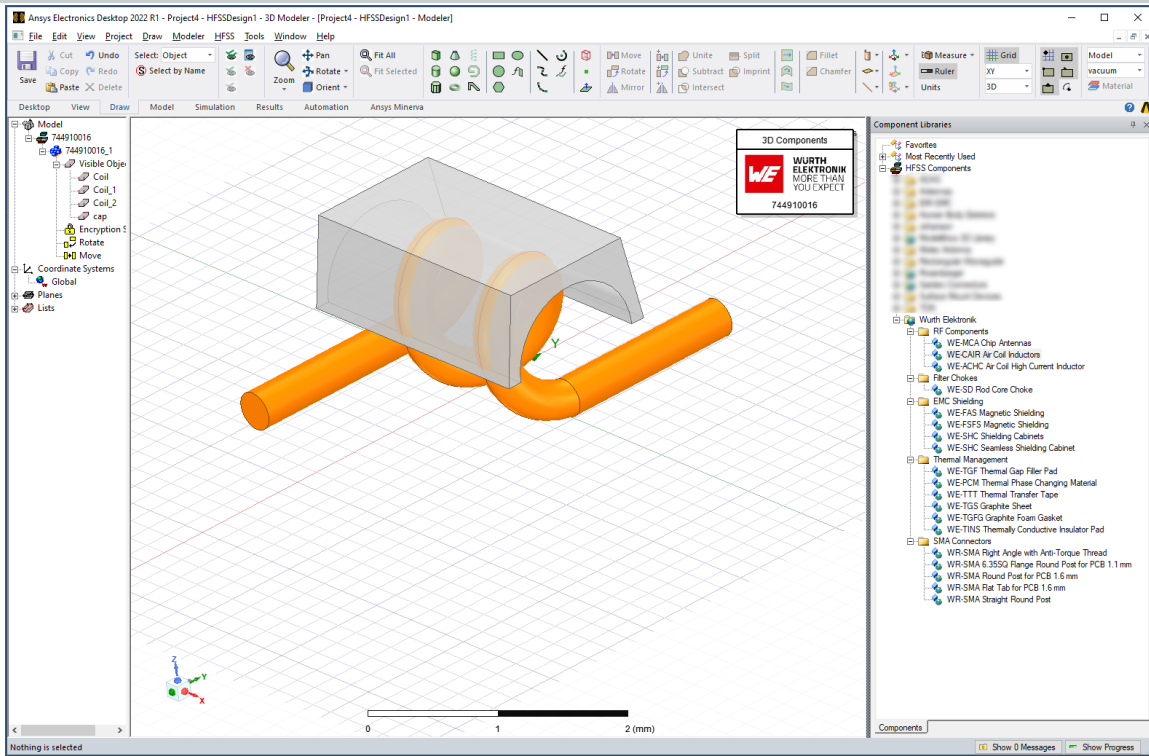


Figure 5: Use for simulation

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.

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:

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](#)

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

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

At the bottom of this page, you can find the guideline of how to import xml file into Ansys.

Accessing the Models Within Ansys HFSS

1. Installation

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.

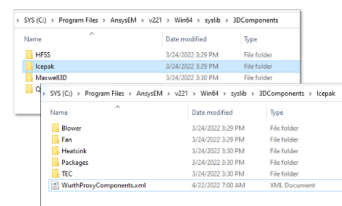


Figure 7: Install xml file

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2. From the Ansys Electronics Desktop library, open the Würth Elektronik folder

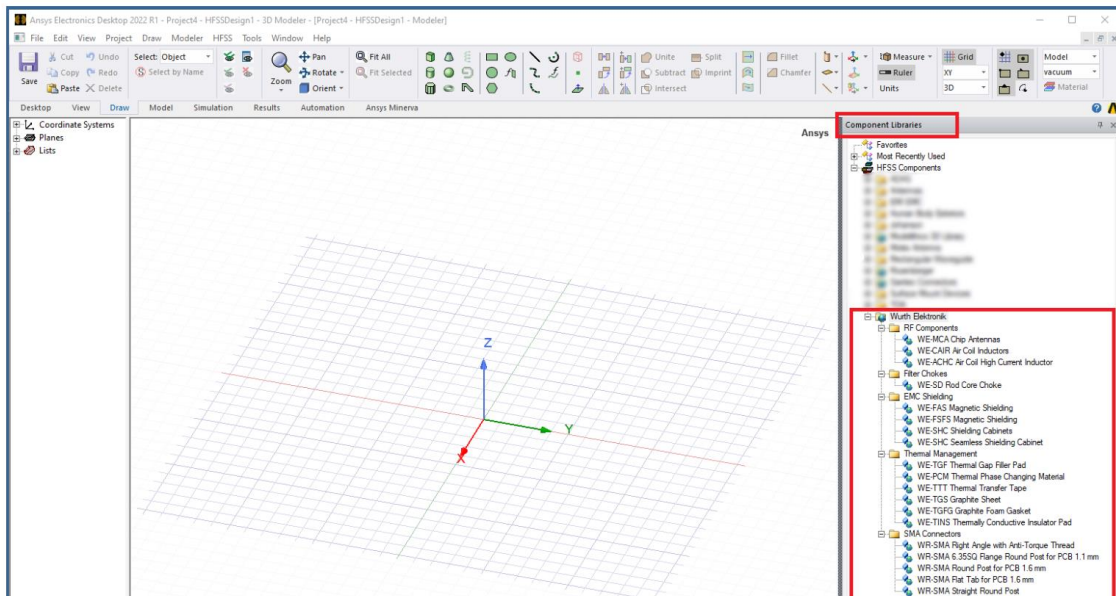


Figure 8: Open in HFSS

3. Double-click on the series of the desired model. This will open the corresponding series webpage

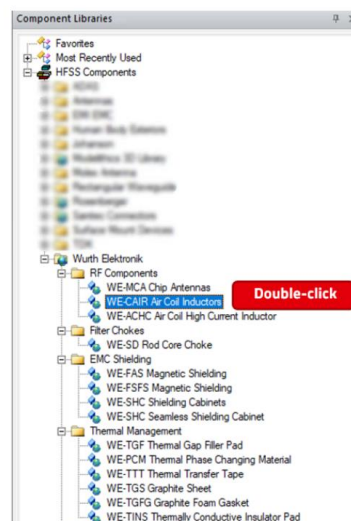


Figure 9: Lead to corresponding webpage

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

4. Install from GitHub repository

Note: Ansys models and xml file in GitHub repository are 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 Ansys-Model repository <https://github.com/WürthElektronik/Ansys-Model.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.

Let's get started!

Add a repository to GitHub Desktop to start collaborating

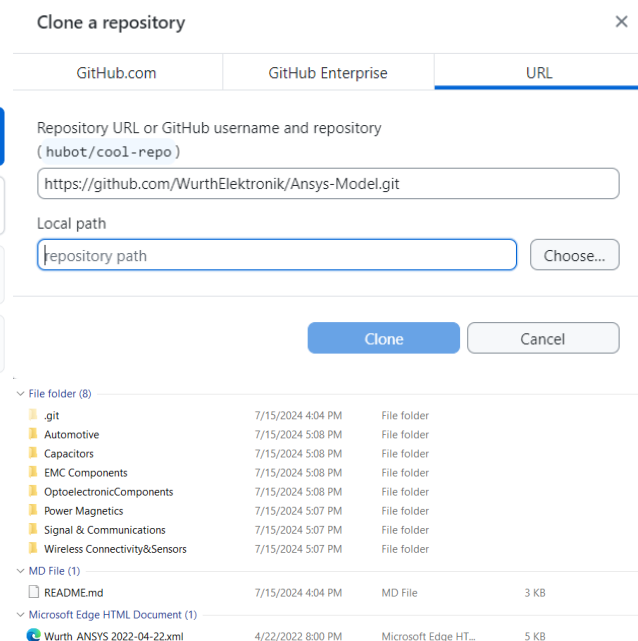
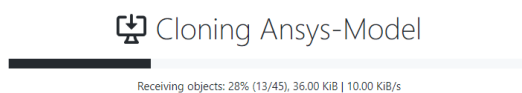
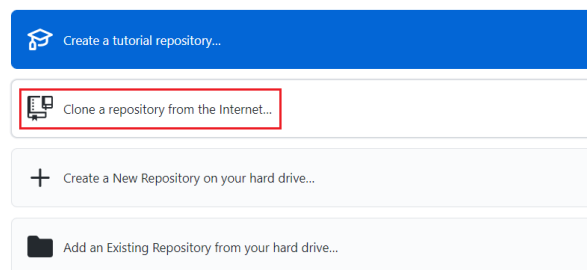


Figure 10: Clone the library

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.

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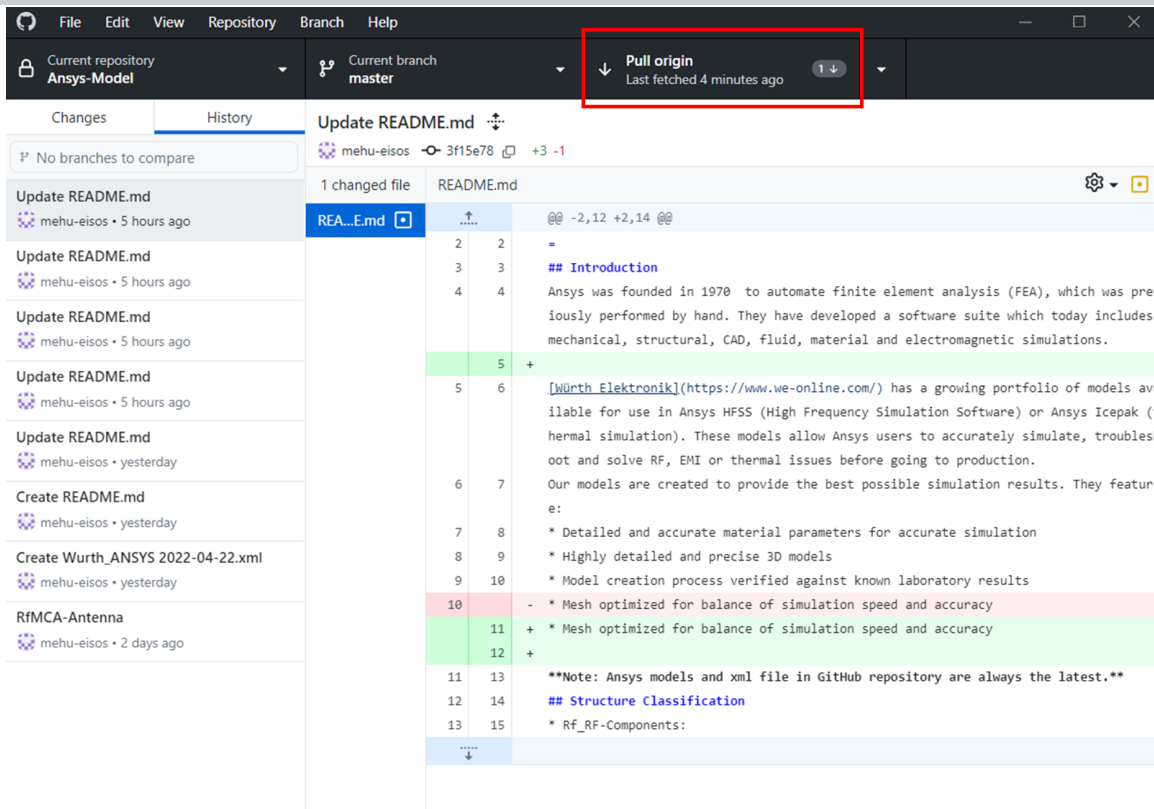


Figure 11: Synchronize from GitHub

Tips: You can select clone folder in C:\Program Files\AnsysEM\(\version)\Win64\syslib\3DComponents\(\solver). Then you can directly use GitHub models in HFSS, which means that you can enjoy xml structure convenience but don't need to download again and the models are always latest if you synchronize regularly.

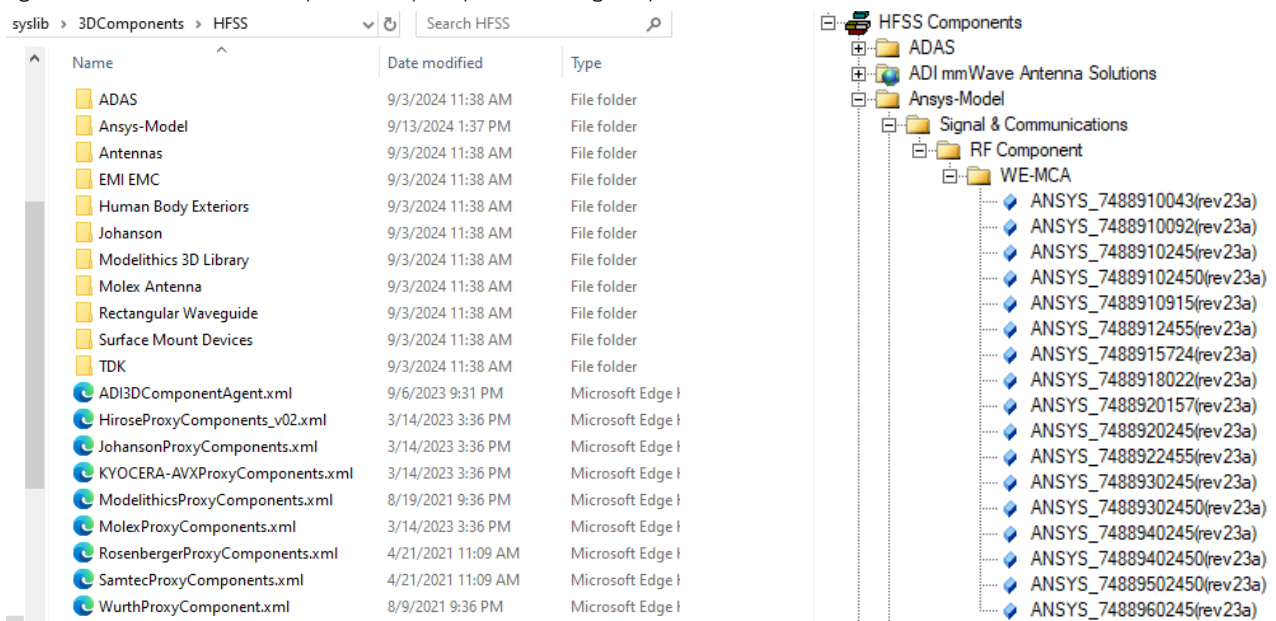


Figure 12: Use for simulation

IMPORTANT NOTICE

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USEFUL LINKS



Application Notes

www.we-online.com/appnotes

REDEXPERT Design Platform



Toolbox

www.we-online.com/toolbox



Product Catalog

www.we-online.com/products

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