

Johanson Library Installation Instructions for Cadence AWR Design Environment

Overview

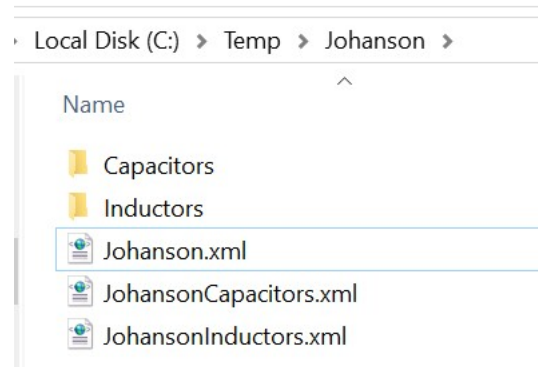
These instructions will briefly cover the installation of Johanson Technology libraries for Cadence AWR Design Environment

Requirements

- Johanson Technology Inc. libraries
 - Libraries located on
 - AWR MWO Libraries (<https://www.johansontechnology.com/awr>)
- MWO version: 12.0 or later (only for 64 bit version)

How to install

- Download and Unzip
 - Download all libraries from Johanson Technology website
 - Files will need to be unzipped to any folder you selected. Folder will look similar to the example below.



- Move the unzipped files into MWO install folder
 - (C:\Program Files (x86)\AWR\AWRDE\15_03_10088_1_64bit\Library) as following. (If the previous version is already installed, move the new "Johanson" folder after deleting the previous "Johanson" folder.)

Local Disk (C:) > Program Files (x86) > AWR > AWRDE > 15_03_10088_1_64bit > Library

Name	Date modified	Type
example_pdk	4/12/2021 3:45 PM	File folder
Johanson	7/19/2021 8:22 PM	File folder
VSS	4/12/2021 3:45 PM	File folder
cmcmmodels.xml	11/17/2020 7:27 AM	XML Document
em_lib.xml	11/17/2020 7:27 AM	XML Document
harm.ddc	11/17/2020 7:27 AM	DDC File
hspice.ddc	11/17/2020 7:27 AM	DDC File
lib.xml	7/16/2021 2:37 PM	XML Document
lib.xml.old	11/17/2020 7:27 AM	OLD File
libra.ddc	11/17/2020 7:27 AM	DDC File
libschema.xml	11/17/2020 7:27 AM	XML Document
PSpice.ddc	11/17/2020 7:27 AM	DDC File
simkit_models_4.7_pub.xml	11/17/2020 7:27 AM	XML Document
sys_lib.xml	11/17/2020 7:27 AM	XML Document
touch.ddc	11/17/2020 7:27 AM	DDC File

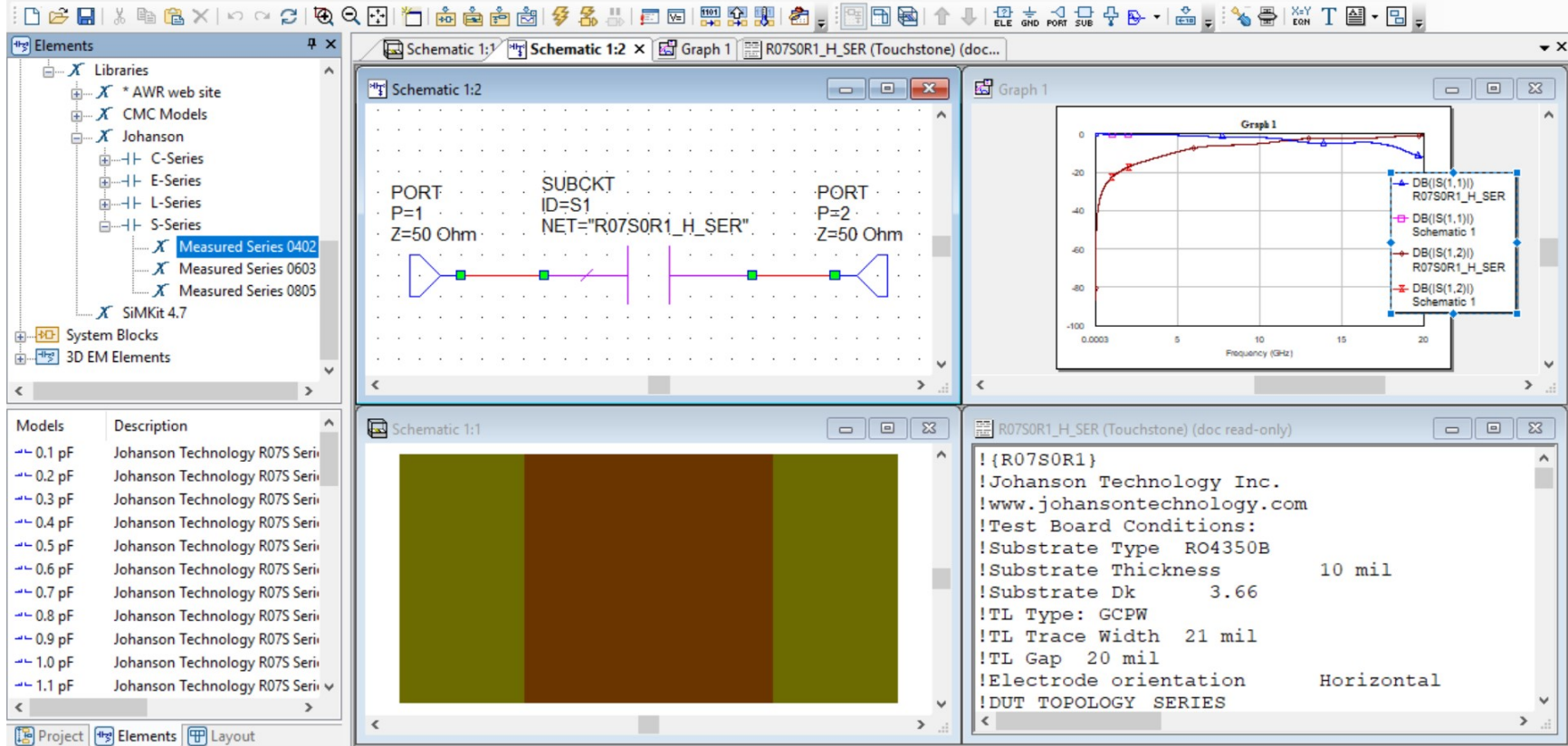
- Open lib.xml in "Microwave Office folder"/Library using a text editor such as NotePad and confirm the following line shown in the second line from the bottom.
 - <FILE Name="Johanson">JohansonCapacitors.xml</FILE>
 - If there is no this line, add it and save. (Restart MWO if it is already running).
 - If there is this line, you don't need change the lib.xml file.

```
lib.xml - Notepad
File Edit Format View Help
<?xml version="1.0"?>
<XML_COMPONENT_DATA xmlns="urn:awr-lib-data">

    <COPYRIGHT>AWR</COPYRIGHT>
    <SUMMARY>Entry point XML file for circuit libraries</SUMMARY>
    <FILE Name="* AWR web site">http://downloads.awrcorp.com/weblibs/15_0/top_v15.xml</FILE>
    <FILE Name="Johanson">Johanson/Johanson.xml</FILE>
    <FILE Name="CMC Models">cmcmmodels.xml</FILE>
    <FILE Name="SimKit 4.7" Immediate="yes">simkit_models_4.7_pub.xml</FILE>
</XML_COMPONENT_DATA>
```

Instructions for use

- Start up your AWR Microwave Office software.
- Go to the "Elements" tab.
- Click on "Circuit Elements"
- Click on "Libraries"
- Click on "Johanson".
- Click on the type of component desired
- Click on the sub-series of that component type.
- Select the device to be simulated from the lower frame of the element browser and drag it to the schematic.
- To view the specification sheet for the component, place the cursor over the component located in the component window in the lower left hand corner. Next click the right-hand mouse button, and choose "Element Help". You will be led to a page on the Johanson Technology site where you can link to the individual specification sheets or the individual S-Parameter file.
- To view the S-Parameter file in the MWO software, click on the "Proj" tab, and then double click on the specific part number located under the schematic name located in the "Circuit Schematics" folder as shown in the MWO software.
- To view the layout drawing, click on the "Layout" tab, double click on the size or the part number root for the specific part shown in the list of layouts. Alternatively, double click on the component as it appears on the schematic window, and then choose the "Layout" tab in the window that appears.



The screenshot displays the AWR Design Environment interface with the following components:

- Elements Panel (Left):** A tree view showing libraries such as "AWR web site", "CMC Models", "Johanson", "C-Series", "E-Series", "L-Series", "S-Series", "Measured Series 0402", "Measured Series 0603", "Measured Series 0805", "SiMKit 4.7", "System Blocks", and "3D EM Elements".
- Models Panel (Bottom Left):** A list of models with descriptions, including various capacitance values (0.1 pF to 1.1 pF) and "Johanson Technology R07S Series".
- Schematic 1:2 (Top Middle):** A schematic diagram showing two ports (P=1 and P=2) connected to a subcircuit (SUBCKT) with ID=S1 and NET="R07S0R1_H_SER". Both ports are set to Z=50 Ohm. The diagram includes a transmission line and a component symbol.
- Graph 1 (Top Right):** A plot of Return Loss (dB) versus Frequency (GHz). The x-axis ranges from 0.0003 to 20 GHz, and the y-axis ranges from -100 to 0 dB. The plot shows a sharp drop in return loss at approximately 0.0003 GHz, reaching a plateau of about -20 dB. The legend includes: DB(|S(1,1)|) R07S0R1_H_SER Schematic 1, DB(|S(1,2)|) R07S0R1_H_SER Schematic 1, and DB(|S(1,2)|) Schematic 1.
- Schematic 1:1 (Bottom Middle):** A schematic diagram showing a transmission line structure with a central brown section and green sections on either side.
- R07S0R1_H_SER (Touchstone) (doc read-only) (Bottom Right):** A text window displaying the Touchstone file content:


```

      !{R07S0R1}
      !Johanson Technology Inc.
      !www.johansontechnology.com
      !Test Board Conditions:
      !Substrate Type R04350B
      !Substrate Thickness 10 mil
      !Substrate Dk 3.66
      !TL Type: GCPW
      !TL Trace Width 21 mil
      !TL Gap 20 mil
      !Electrode orientation Horizontal
      !DUT TOPOLOGY SERIES
      
```