

This is a simple example of how to use the Data Access Component (DAC) within ADS (Advanced Design System from Keysight).

The DAC is a powerful tool but can be quite cumbersome to use.

Here is an example...Let's say you want to look at S-Parameters $S(2,1)$ and $S(1,1)$ responses of several series capacitors from Johanson.

You have several of the individual capacitor S-Parameter files (.s2p) from the Johanson site...here is how to use the DAC to sweep and view all of the S-Parameter files:

Using The Data Access Component (DAC) in Keysight ADS

A DAC Example...

Let's say you want to look at the S_{21} and the S_{11} responses of several series capacitors from Johanson. You have the S-parameters (.s2p files) from the Johanson site:

S-PARAMETERS

S_Param
SP1
Start=.05 GHz
Stop=6 GHz
Step=.01 GHz

PARAMETER SWEEP

ParamSweep
SweepVars="index 1"
SiminstanceName[1]="SP1"
SiminstanceName[2]=
SiminstanceName[3]=
SiminstanceName[4]=
SiminstanceName[5]=
SiminstanceName[6]=
Start=1
Stop=7
Step=1

must be in quotes

must be set to Index Lookup

There is an offset of 1 in the indexing since ADS is "0-based"

The file line "% index1 filename" associates "index1" with the left-most numeric column and the "filename" with the S-parameter filename string

SnP
SnP1
File=file(DAC1, "filename")

Term
Term1
Num=1
Z=50 Ohm

Term
Term2
Num=2
Z=50 Ohm

DAC

VAR
VAR1
index 1=1

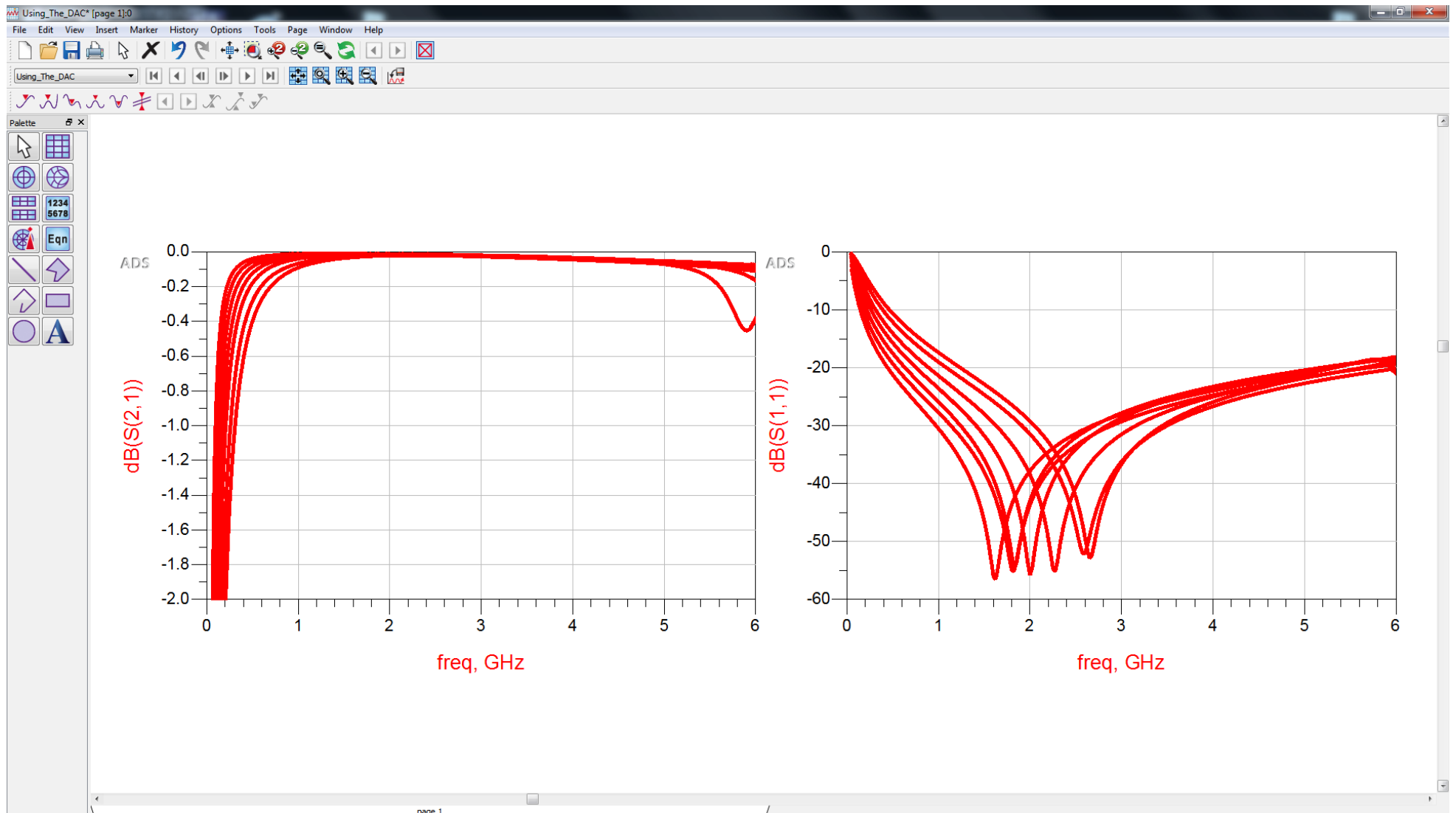
DataAccessComponent
DAC1
File="C:\derbyshire\S_Parameters\series_caps_johanson.txt"
Type=Discrete
InterpMode=Index Lookup
InterpDom=Rectangular
ExtrapMode=Interpolation Mode
NVar=1
NVal1=index1-1

contents of simple .txt file created with notepad that point to the S-parameter files

```
BEGIN DSCRDATA
% index1 filename
1 c:\derbyshire\S_Parameters\Johanson_0201_R05L_10pF.s2p
2 c:\derbyshire\S_Parameters\Johanson_0201_R05L_12pF.s2p
3 c:\derbyshire\S_Parameters\Johanson_0201_R05L_15pF.s2p
4 c:\derbyshire\S_Parameters\Johanson_0201_R05L_18pF.s2p
5 c:\derbyshire\S_Parameters\Johanson_0201_R05L_22pF.s2p
6 c:\derbyshire\S_Parameters\Johanson_0201_R05L_27pF.s2p
7 c:\derbyshire\S_Parameters\Johanson_0201_R05L_33pF.s2p
END DSCRDATA
```

Select: Click and drag to select. 0 items ads_device:drawing 17.625, -7.750 7.625, -5.000 in

Plot 1: Advanced Design System (ADS) schematic showing how to sweep several S-Parameter files using the DAC



Plot 2: Advanced Design System (ADS) Data Display simulation result showing all S-Parameter files being swept by the DAC

[Other ADS Examples Found At BBTLine](#)