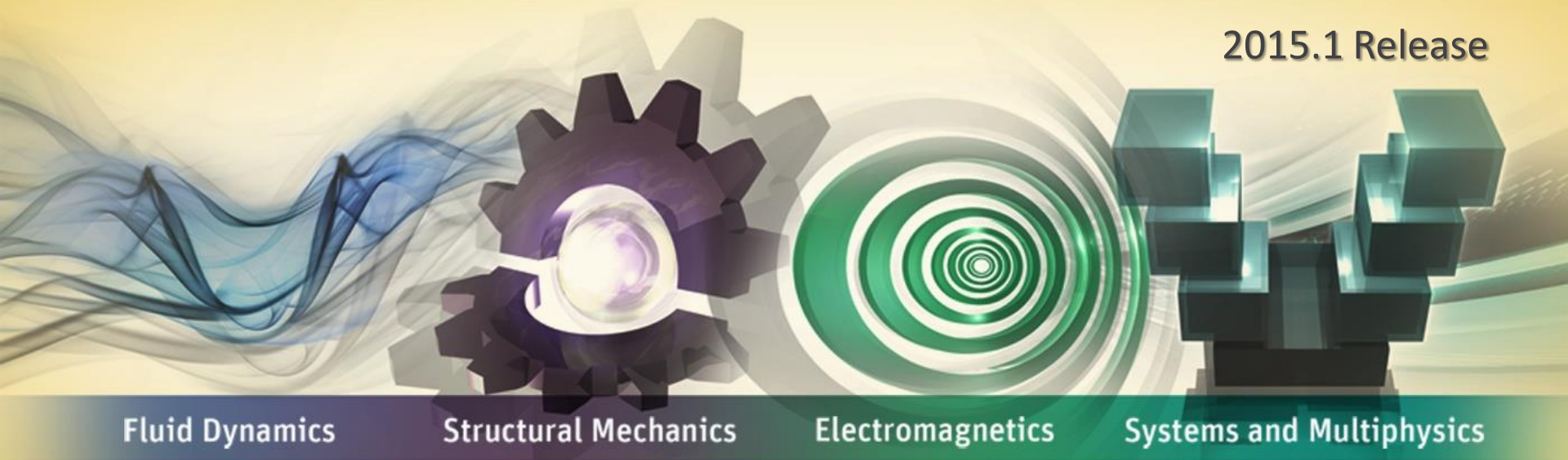


Workshop 9: Editing Reports using ANSYS Electronics Desktop

2015.1 Release



Introduction to ANSYS SIwave

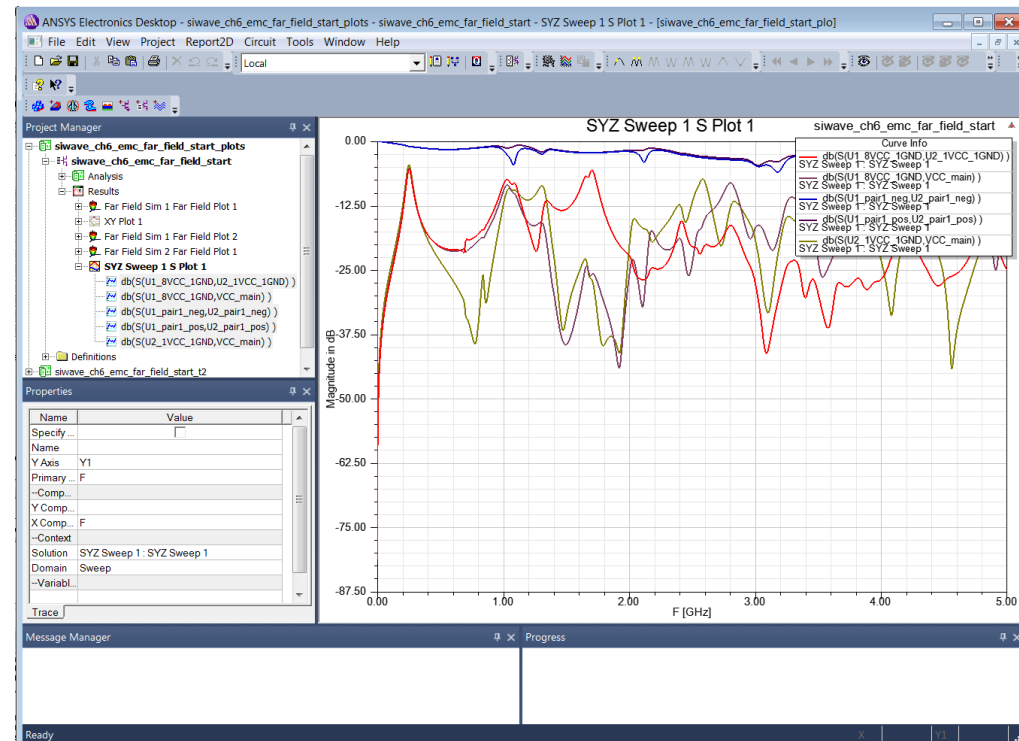
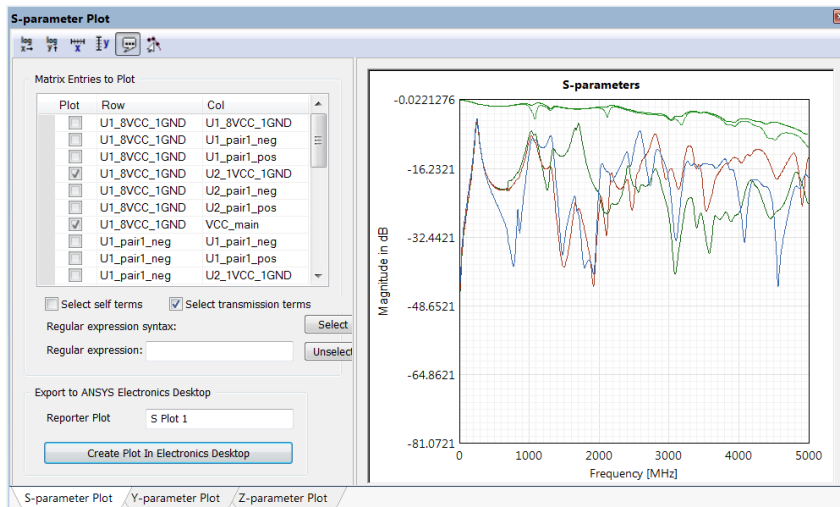
- **Electronics Desktop**
 - Creating a New Report
 - Modifying Existing Reports
 - Modifying the Background Properties of a Report
 - Modifying the Legend in a Report
 - Plotting a Report in different formats
 - Plotting in the Time Domain
 - Working with Traces
 - Plotting imported Solution Data
 - Quick Reference
 - SYZ plots
 - Voltage Distribution plots
 - Current Distribution plots
 - Near and Far field plots

• Starting SIwave

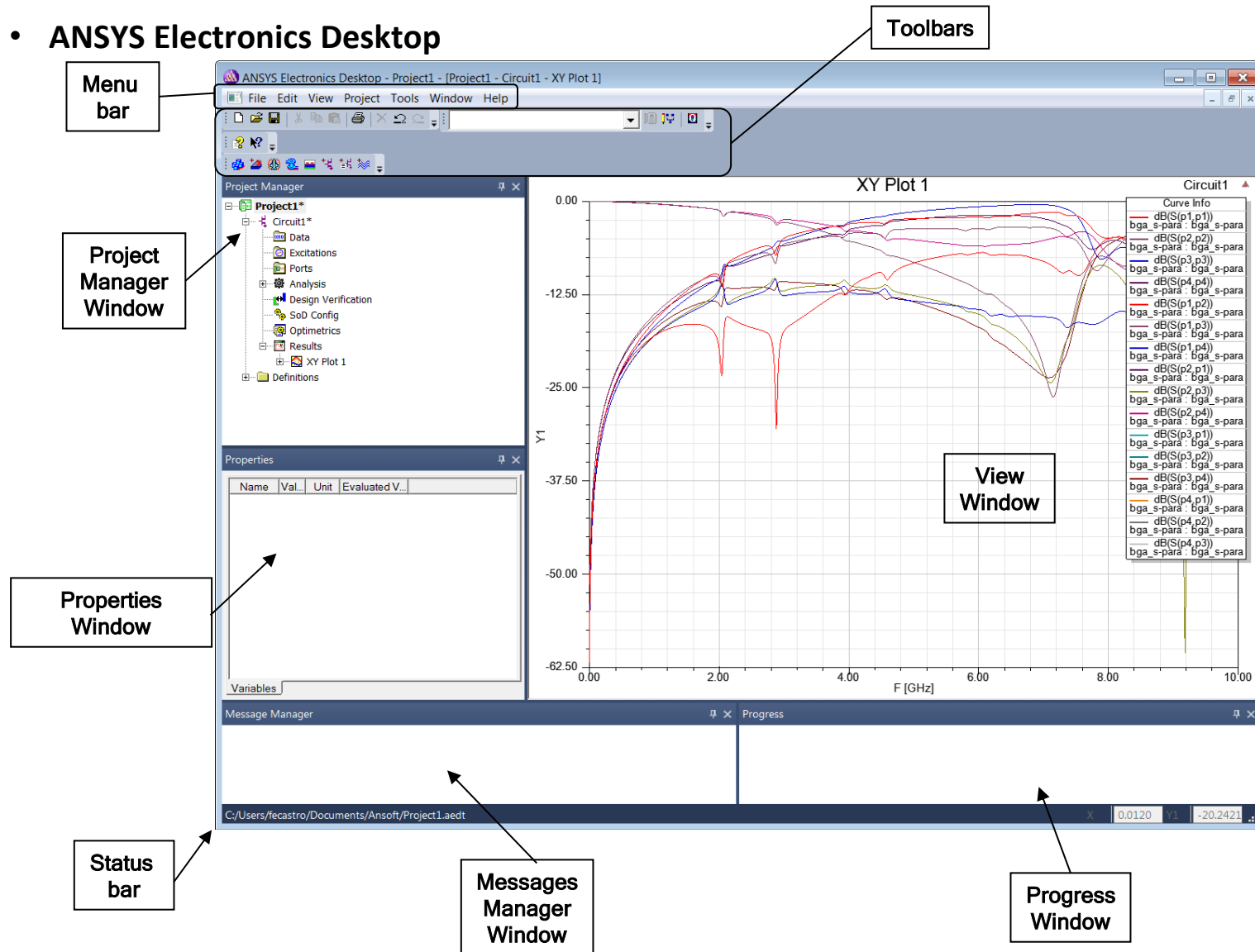
- To launch SIwave, click the Microsoft **Start** Button, select: **All Programs > ANSYS Electromagnetics > ANSYS Electromagnetics Suite 16.1 > ANSYS Siwave 2015.1**

• Starting Electronics Desktop

- Once you have made the analysis on **SIwave**, you can click on **Create Plot In Electronics Desktop** in the **S-Parameter Plot** window
- A report on **Electronics Desktop** will be launched automatically, as shown below.



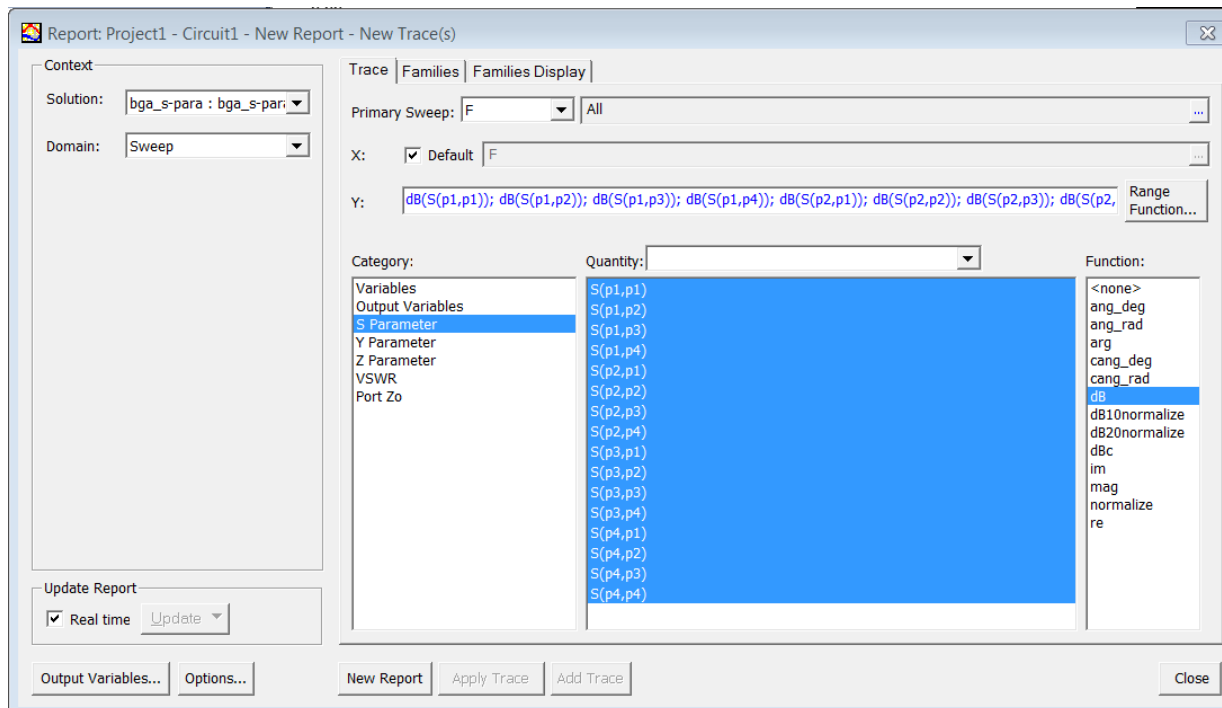
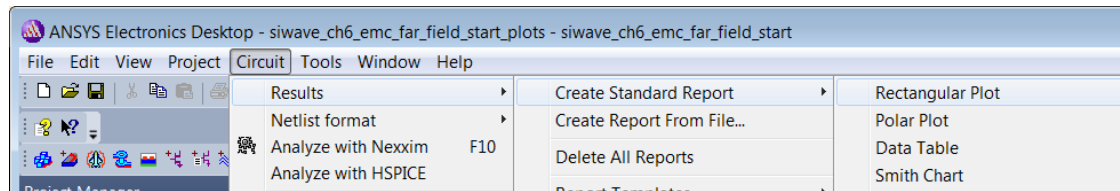
- **ANSYS Electronics Desktop**



ANSYS Electronics Desktop Report Editing

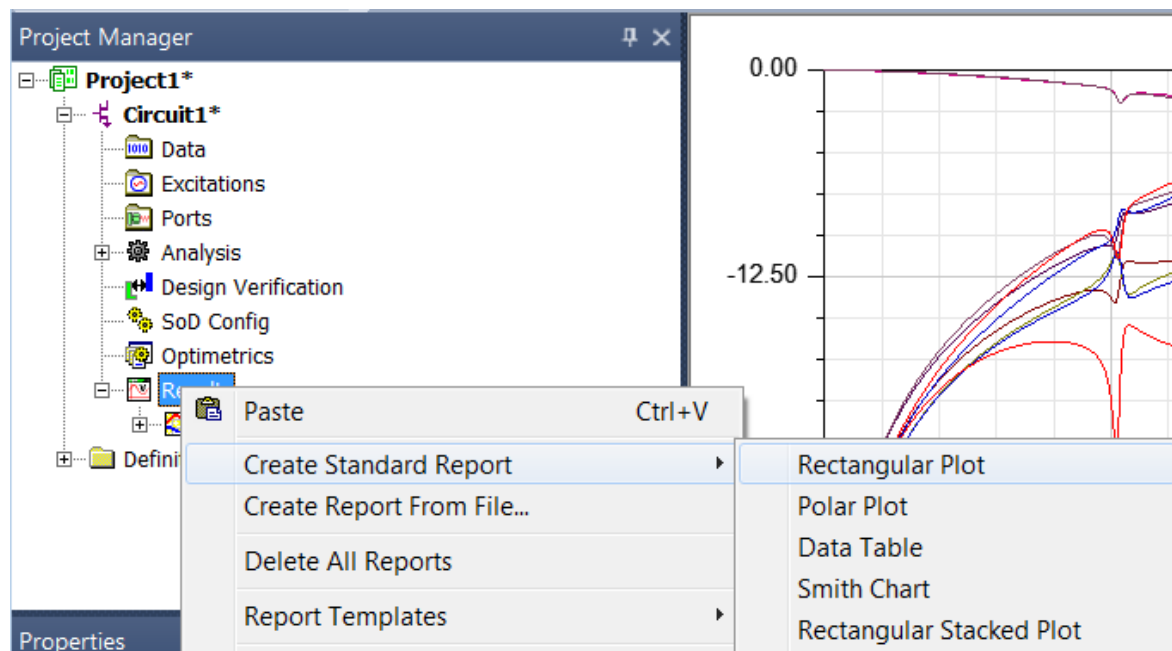
- **Create a new report**

- Select: **Circuit > Results > Create Standard Report > Rectangular Plot**
- Select all of the S-Parameter terms and press **New Report** button. (Use **Ctrl** or **Shift** to select multiple items)
- Press the **Close** button and exit the **New Report** dialog.



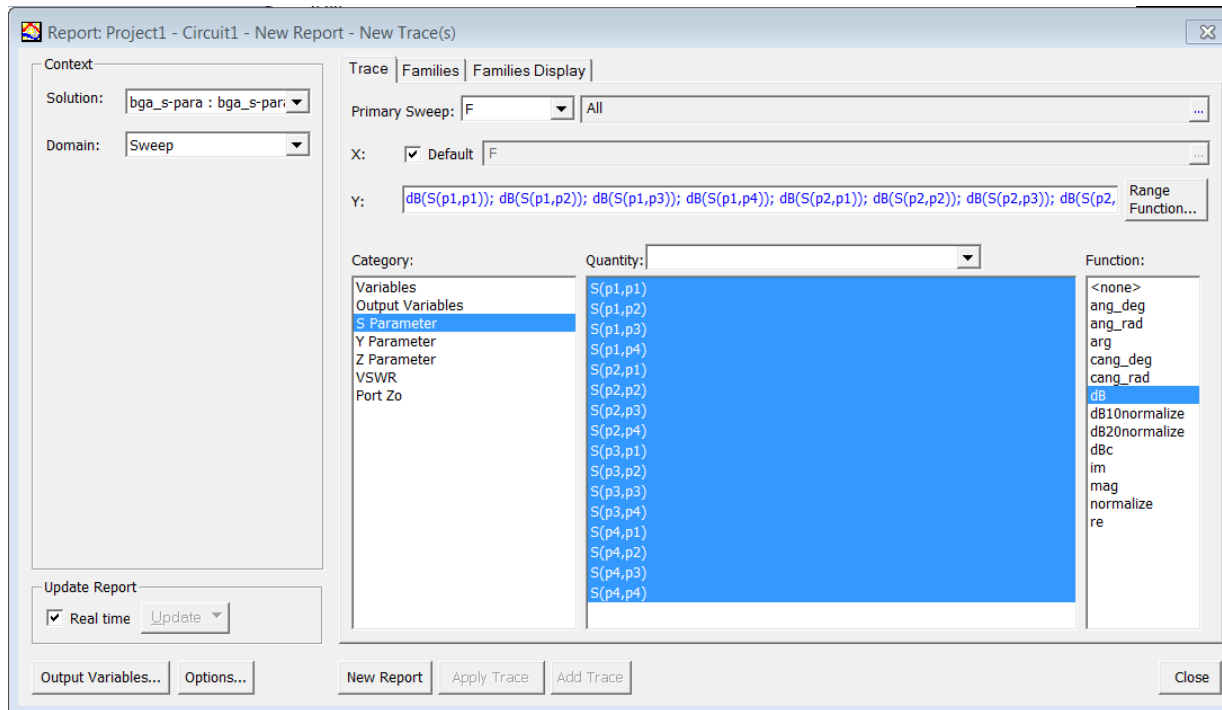
- **Alternate way to create a new Report**

- On the Project Manager side bar, right-click **Results** > **Create Standard Report** > <type>. The Display Types include Rectangular Plot, Polar Plot, Data Table, Smith Chart, Rectangular Stacked Plot, 3D Rectangular Plot, 3D Polar Plot, Rectangular Contour Plot and Smith Contour Plot. When you have selected the display type from the Results menu, the Report dialog appears.



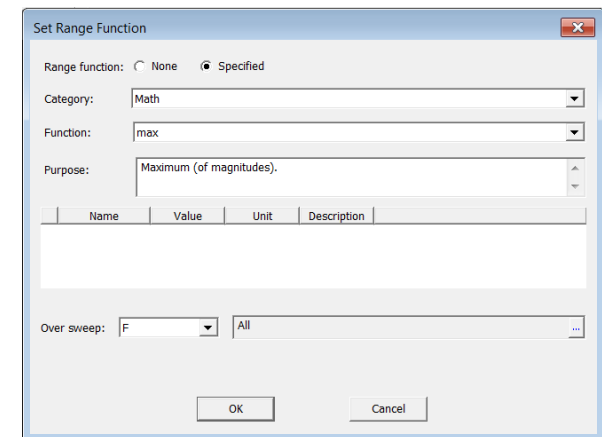
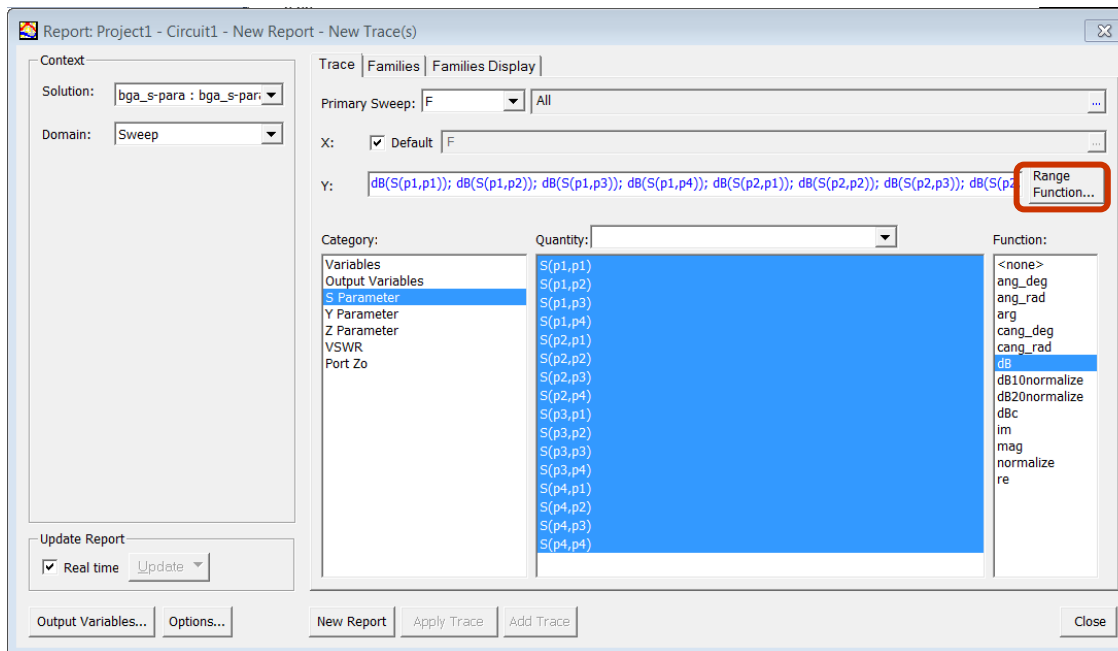
• Creating a new Report (Detailed)

- In the Context section make selections from the following field or fields, depending on the design and solution type.
 - **Solution** field with a drop down selection list. This lists the available solutions.
 - **Domain** field with a drop down selection list. Whether this field appears, and the domains listed depend on the Solution type and the <type> selected.



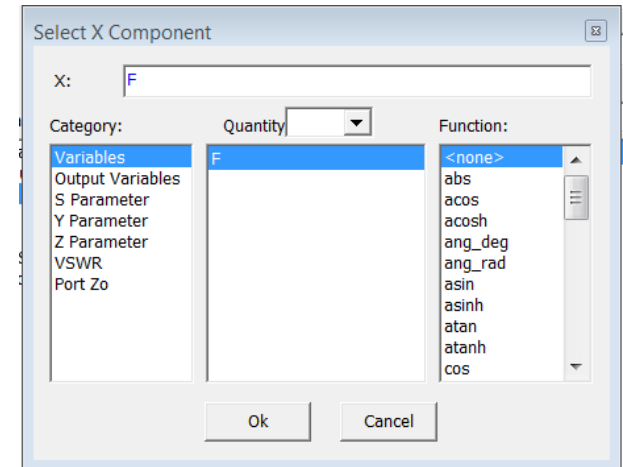
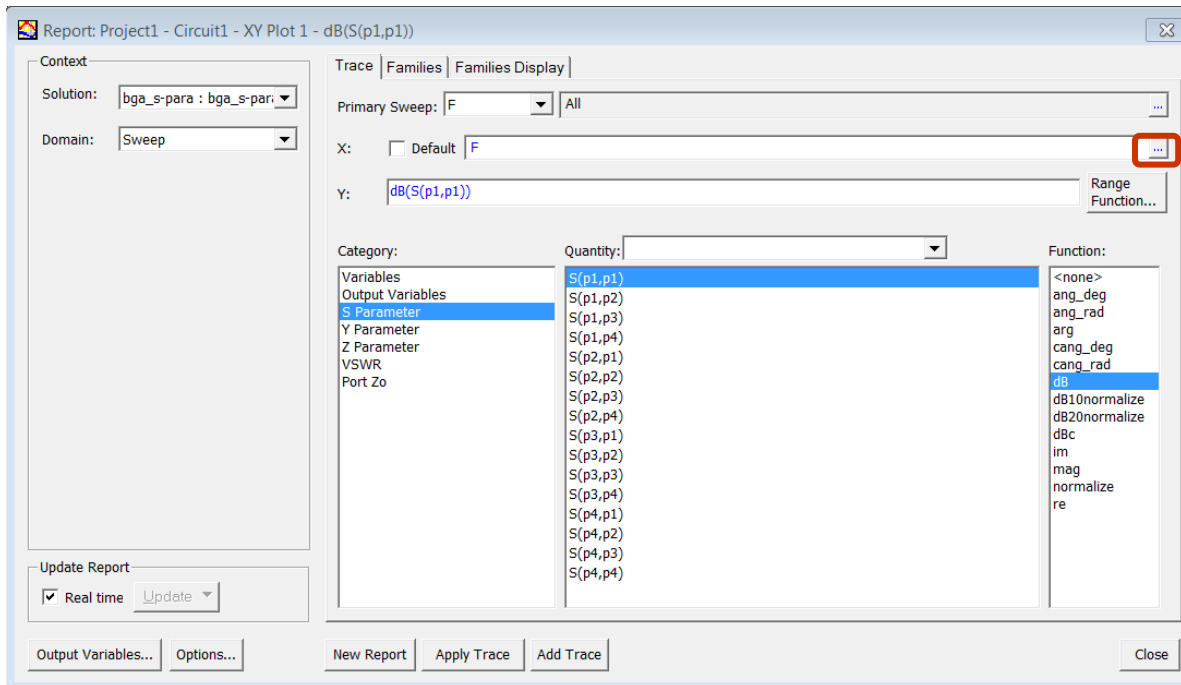
• Creating a new Report (Detailed)

- In the Y Component section of the dialog make selections for the following:
 - **Categories** - those depend on the Solution type and the design.
 - **Function** list to apply to the Y-axis quantities.
 - **Value** field displays the currently specified Quantity and Function. You can edit this field directly.
 - **Range Function** button - opens the **Set Range Function** dialog. This applies currently specified Quantity and Function.



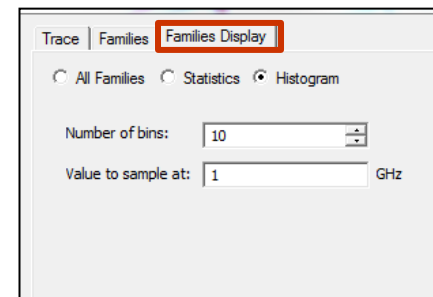
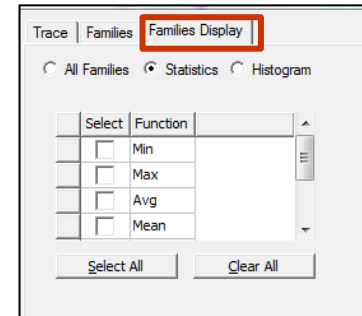
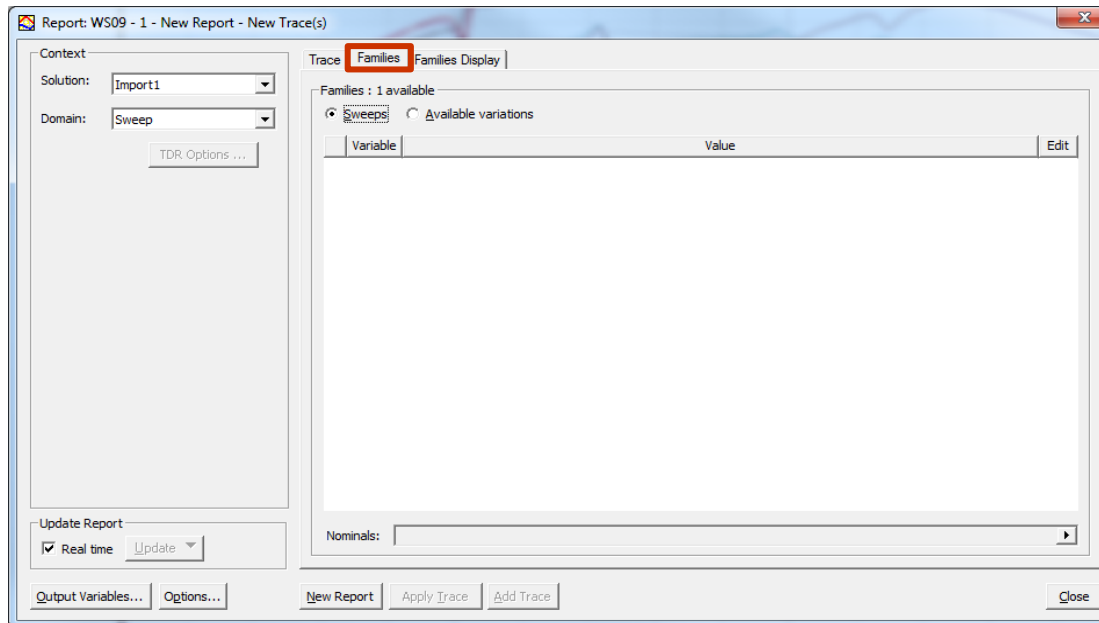
• Creating a new Report (Detailed)

- In the **X** (Primary Sweep) section, make selections for the following:
 - If the **Default** box is checked uncheck it.
 - Select the value(s) from the drop down menu by pressing the **...** button .
 - If sweeps are available, you can select the browse button (**...**) to display a dialog that lets you select particular sweep or sweeps, or all sweeps.



• Creating a new Report (Detailed)

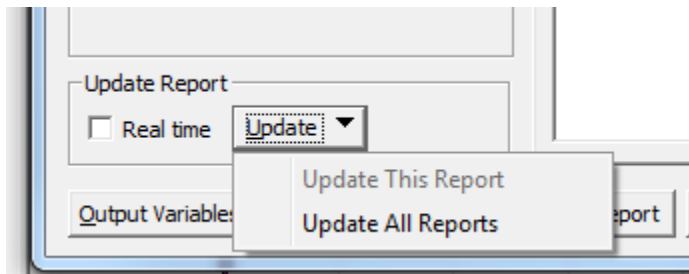
- In the **Families** section, if families are available, make selections for the following:
- The **Families** tab provides a way to select from valid solutions for sweeps. The section title includes number of families available.
 - Select the **Sweeps** radio button (the default) to list the swept variables you can select.
 - Select the **Available Variations** radio button to list the available variations.
- The **Families Display** tab has three radio button selections.
 - **All Families**
 - **Statistics** which lists a table statistical functions that you can select to apply to the plot.
 - The functions include **Min, Max, Avg, Mean, Variance, Std Dev and Sum.**
 - **Histogram** which lets you select the number of bins to use for a histogram plot, and the sampling frequency to use.



- **Creating a new Report (Detailed)**

- **Update Report**

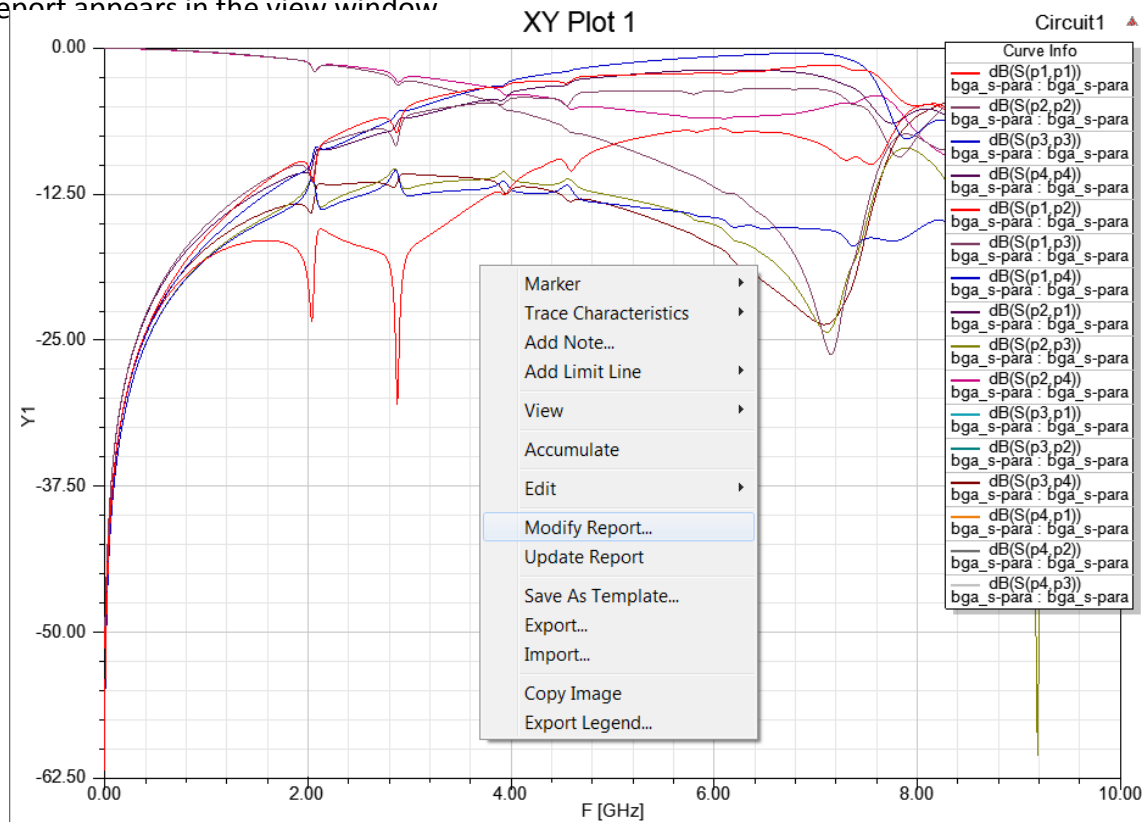
- **Real Time** checked - enable real time updates for all reports while the reports are being edited.
 - **Real Time** unchecked - enables drop down menu to Update All Reports or Update Report. Reports will only be updated with one of these user selectable update options or upon exiting the report dialog.



- The Report dialog command buttons permit you create a new report with the settings you provide, or to modify an existing report.
 - **Add Trace** - this is enabled when you have created or selected a report. Add one or more traces to include in the report.
 - **Apply Trace** - updates the selected traces in a report based on further processing or changes.
 - **New Report** - Adds a report to the Project tree under the Results icon. The new Report is displayed in the Project window.
 - **Output Variables** - opens the Output Variables dialog.
 - **Options** - opens the Report Setup Options dialog. This contains a checkbox for using the advanced mode for editing and viewing trace components. This mode is automatic if the trace requires it. It also contains a field for setting the maximum number of significant digits to display for numerical quantities.
 - **Close** - closes the Report dialog.

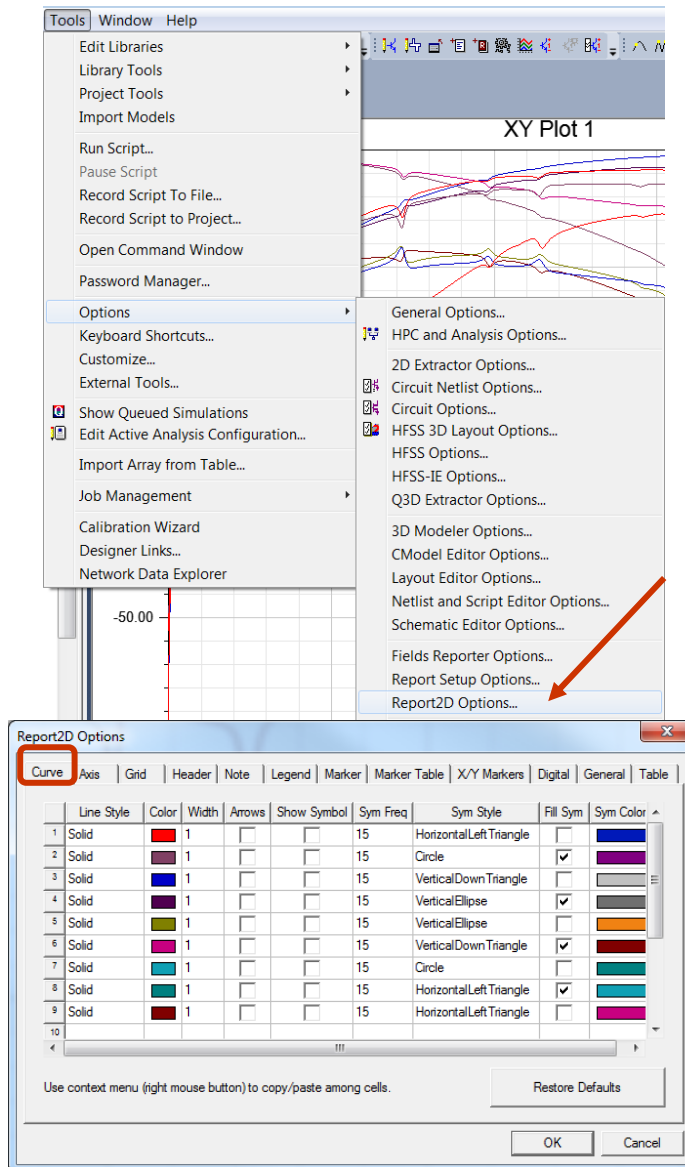
• Modifying Reports

- To modify the data that is plotted in a report:
 - In the project tree or on an open report, click the report you want to modify.
 - Right-click **Modify Report**. The Report dialog appears.
 - The Report dialog command buttons permit you create a new report with the settings you provide, or to modify an existing report using **Add Trace**, **Update Trace** or **New Report**.
 - The updated report appears in the view window



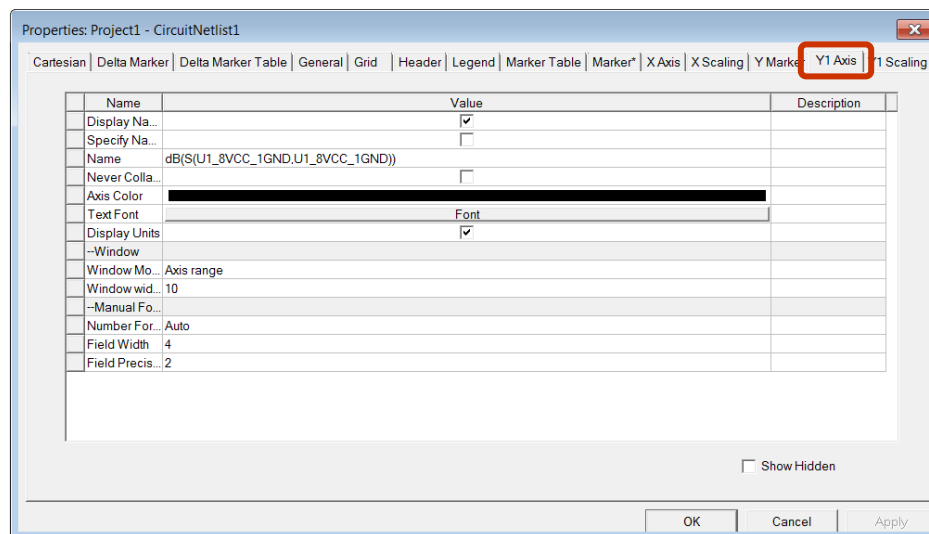
• Modifying the Background Properties of a Report

- To modify the appearance of a report, or the display properties of an object in a report.
 - Open the report you want to modify.
 - To open a floating Properties window, either double click on the selected object, or click **Edit>Properties** on the toolbar.
- The selectable objects in reports are as follows:
 - Header** - this lets you edit the Properties for the text displayed at the top of the report, including the Title font, Company Name, Show Design Name, Subtitle Font.
 - General** - this dialog lets you edit the background color for the plot, the contrast color, the Field width, the Precision, and whether to use scientific notation for marker and delta marker displays.
 - Legend** - this lets you edit the Properties for whether to Show Trace Name, Solution Name, and Variation Key.
 - Traces** - you can select traces either in the Legend or on the plot. The properties for traces include: Color, Line Style, Line Width, Trace Type, whether to Show a symbol, Symbol Frequency, Symbol style, whether to Fill symbol, symbol color, and whether to Show arrows.
- To modify the *default* appearance of a report or the *default* display properties of an object in a report.
 - Click **Tools > Options > Report2D Options...** on the menu bar.



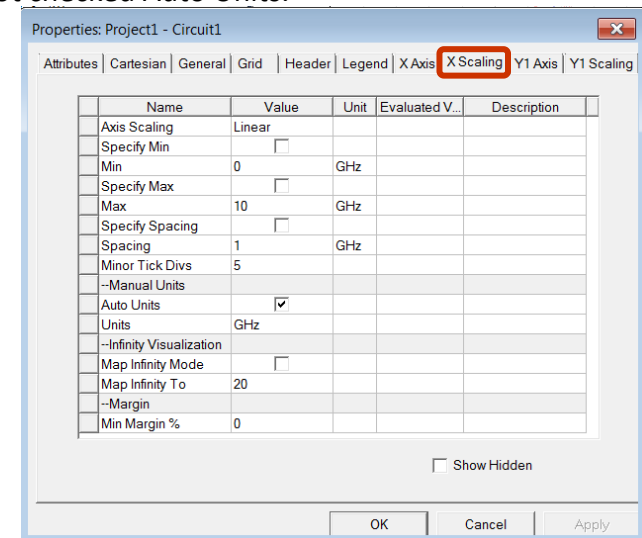
• Modifying the Background Properties of a Report

- **X or Y Axis Tab** - the defaults for most of these values are set in the **Report 2D Options Axis** tab.
 - **Specify Name** - checkbox for specifying the Axis name.
 - **Name** - this describes the axis to which the following properties/options refer. These are selected in the **Report** dialog.
 - **Axis Color** - set the color by double clicking to display the Set color dialog. Select a default or custom color and click OK.
 - **Text Font** - click the cell to display the Edit Text Font dialog. The dialog lets you select from a list of available fonts, styles, sizes, effects, colors, and script. The dialog also contains a preview field. OK the selections to apply the font edits and to close the dialog.
- **Manual Format**
 - **Number Format** - select from the drop down menu, Auto, Decimal, or Scientific notation.
 - **Field Width** - enter a real value.
 - **Field Precision** - enter a real value.



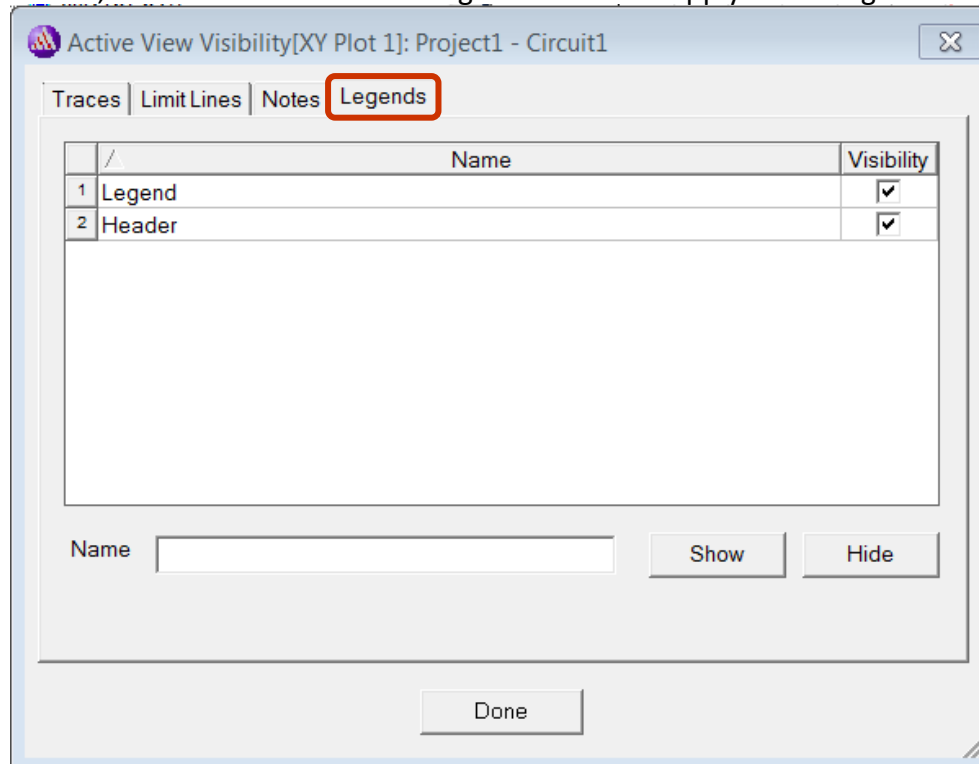
• Modifying the Background Properties of a Report

- **X or Y Scaling** Tab - These properties provide control over scaling.
 - **Axis Scaling** - use the drop down menu to select scaling as Linear or Log. For the Y axis, all zero or negative values are discarded before log scaling is applied.
 - **Specify Min** - check box
 - **Min** - text entry in same units as axis units. Saved as SI internally.
 - **Specify Max** - check box
 - **Max** - text entry in same units as axis units. Saved as SI internally.
 - **Specify Spacing** - check box
 - **Spacing** - text entry in same units as axis units. Saved as SI internally
 - **Manual Units**
 - **Auto Units** - use the check box compute the correct units for the axis.
 - **Units** - click on the cell to select from a menu of available units if you have not checked Auto Units.
 - **Infinity Visualization**
 - **Map Infinity Mode** - checkbox.
 - **Map Infinity To** - enter a real value for the Map Infinity Mode.
- Edit the properties, and **OK** the dialog to apply the changes.



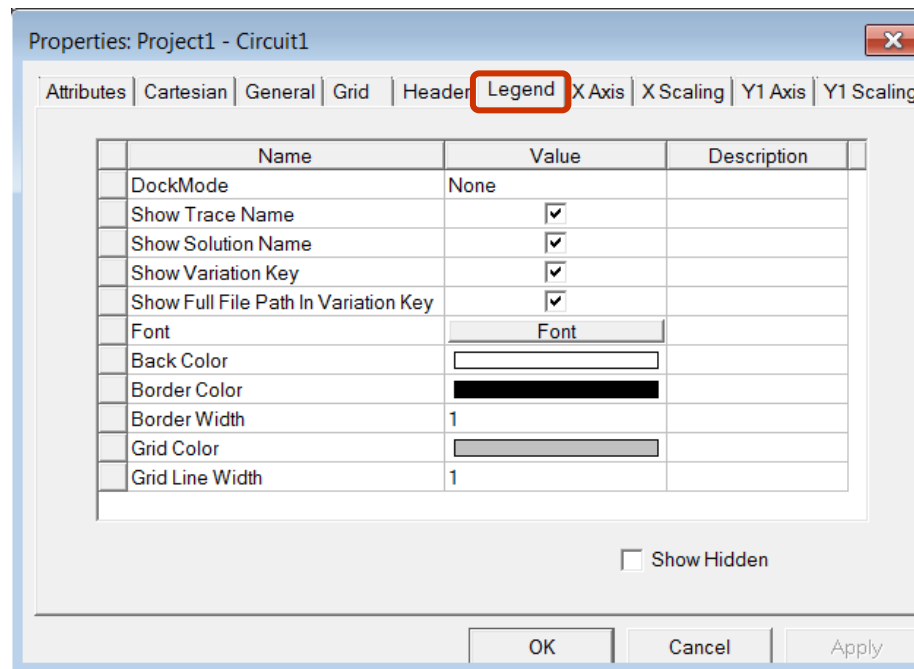
- **Modifying the Legend in a Report**

- To **show** or **hide** a legend in a report:
 - Make the report the active view.
 - Use **View > Visibility** or the **Show/Hide** icons on the toolbar to display or hide the report.
 - Either command displays the **Active View** dialog.
 - Select the **Legends** tab.
- This lists the legend in the report.
 - Check the visibility checkbox, and click **Done** in the dialog to close it and apply the change.



- **Modifying the Legend in a Report**

- To edit the display properties of a legend:
 - Select the legend in a report by clicking on the **Curve Info** panel to display a docked properties window, or right-click on the legend and select **Edit > Properties** to display the floating properties window.
 - This lets you edit the Properties for whether to **Show Trace Name**, **Solution Name**, and **Variation Key**. At least one of these three must be selected.
 - You can also edit the **Font** by clicking the Font cell to display the **Edit Text Font** dialog.
 - You can also edit the background color of the Legend box, the Border Color, the Border Width, Grid Color and the Grid line width.
- Click **OK** to close the Properties window and apply the selections.



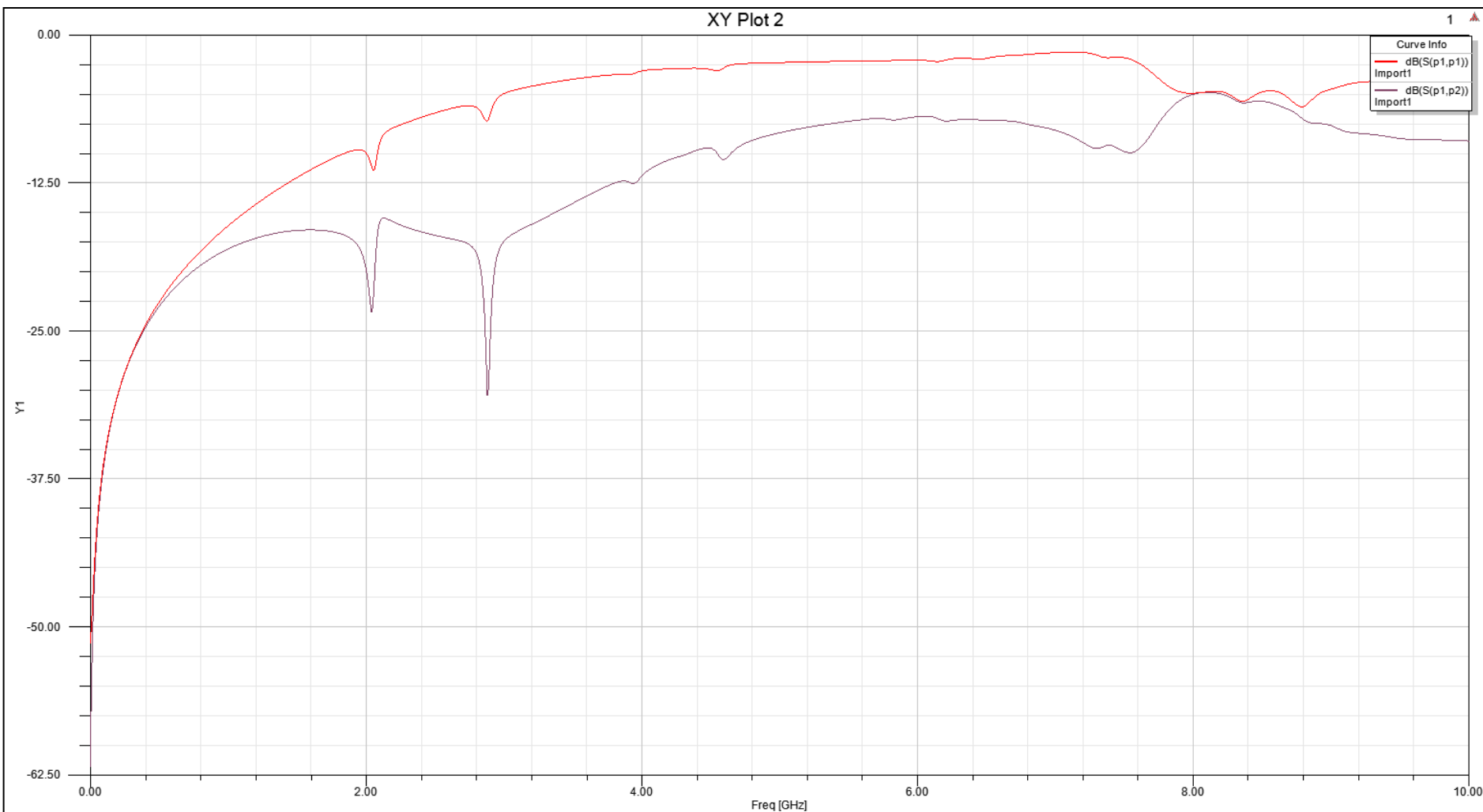
- **Selecting the Display Type**

- The information in a report can be displayed in several formats. Select from the following display type formats in the **Create Standard Report** submenu:
 - **Rectangular Plot** - A 2D rectangular (x-y) graph.
 - **Polar Plot** - A 2D circular chart divided by spherical coordinates.
 - **Smith Chart** - A 2D polar chart of S-parameters upon which a normalized impedance grid has been superimposed.
 - **Data Table** - A grid with rows and columns that displays, in numeric form, selected quantities against a swept variable or another quantity.
 - **Rectangular Stacked Plot** – A plot where 2 or more rectangular graphs can be stacked.
 - **3D Rectangular Plot** – A plot in 3D where the user can choose the sweep variables on X and Y axis to plot a function on Z axis.
 - **3D Polar Plot** - A 3D circular chart divided by the spherical coordinates R, theta, and phi.
 - **Rectangular Contour Plot** - A rectangular plot in 2D representing three-dimensional data with color scale as third dimension.
 - **Smith Contour Plot** – A Smith Chart in 2D representing three-dimensional data with color scale as third dimension.

- **Creating 2D Rectangular Plots**

- A rectangular plot is a 2D, x-y graph of results
- In Electronics Desktop select **Circuit > Results > Create Standard Report > Rectangular Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Y** component select:
 - **Quantity: S(p1,p1) and S(p1,p2)** (Use CTRL-click to make multiple selections.)
 - **Category: S Parameter**
 - **Function: dB**
- On the **Trace** tab, **X**
 - Select **Default** ☒ or
 - Press the **...** button and select **Variables > F**
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

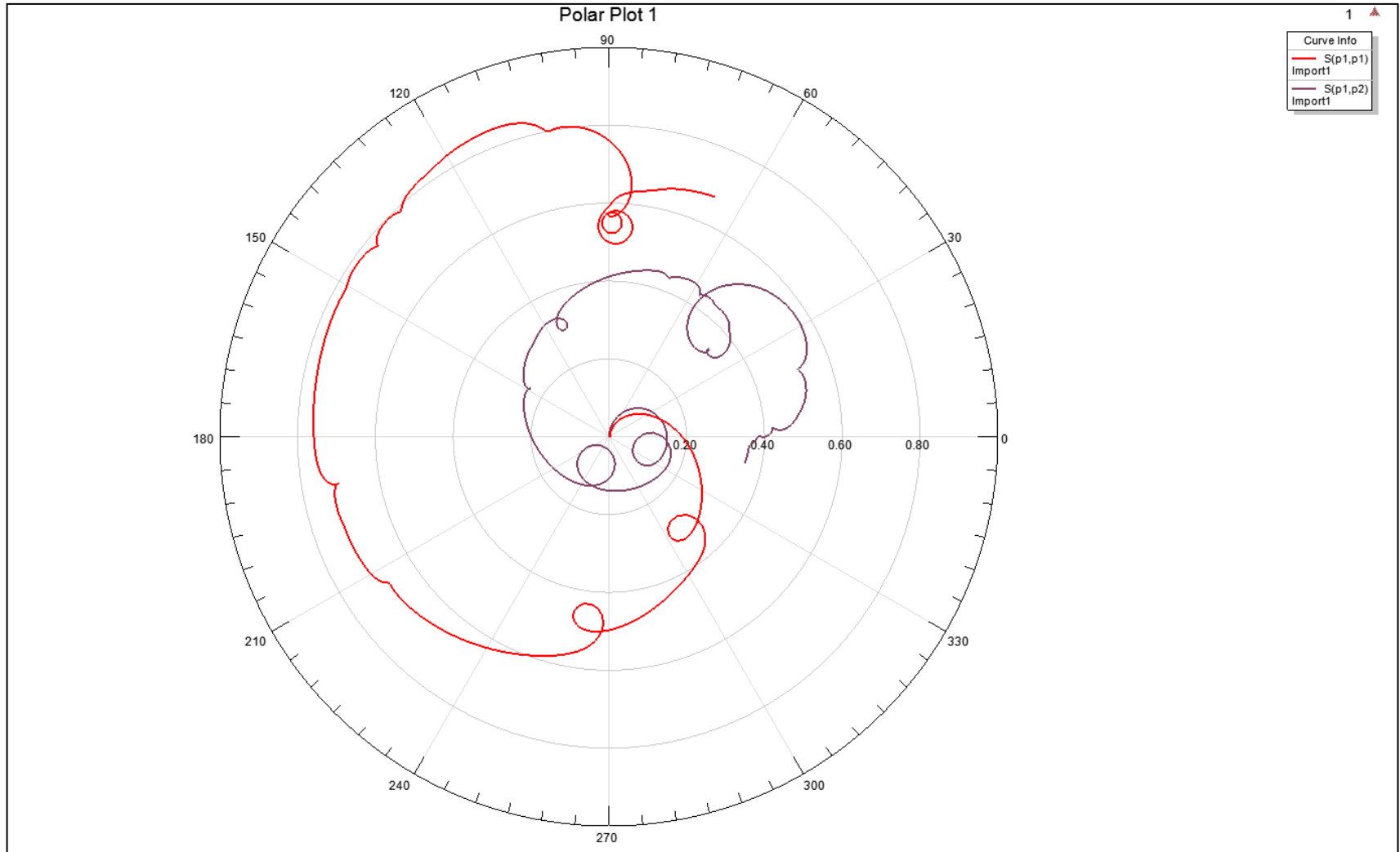
- New 2D Rectangular Report



- **Creating Polar Plots**

- In SIwave, a polar plot is a 2D circular chart divided by the spherical coordinates R and theta, where R is the radius, or distance from the origin, and theta is the angle from the x-axis.
- Select **Circuit > Results > Create Standard Report > Polar Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Y** component select:
 - **Quantity: S(p1,p1) and S(p1,p2)** (Use CTRL-click to make multiple selections.)
 - **Category: S Parameter**
 - **Function: <none>**
- Click **New Report**
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**.
- Press the **Close** button

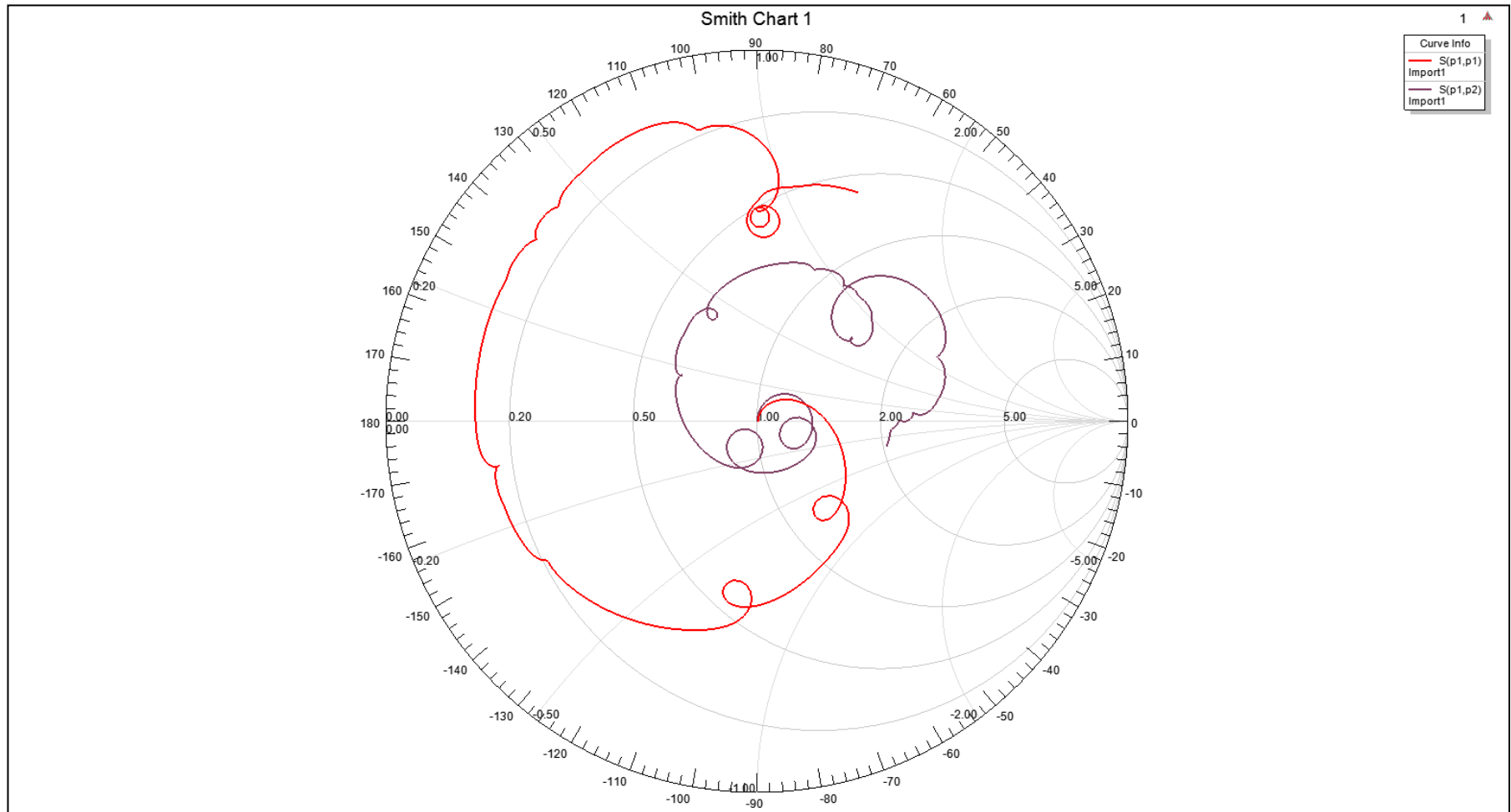
- New Polar Plots Report



- **Creating Smith Charts**

- A Smith chart is a 2D polar plot of S-parameters upon which a normalized impedance grid has been superimposed.
- In SIwave reporter select **Circuit > Results > Create Standard Report > Smith Chart**
- In the **Context** section make the following selections:
 - **Solution: Import1**
- Under the **Trace** tab, **Polar** component select:
 - **Quantity: S(p1,p1) and S(p1,p2)** (Use CTRL-click to make multiple selections.)
 - **Category: S Parameter**
 - **Function: <none>**
- Click **New Report**
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**.
- Press the **Close** button

- New Smith Chart Report



- **Creating Data Tables**

- A data table is a grid with rows and columns that displays, in numeric form, selected quantities against a swept variable or other quantities.
- In SIwave reporter select **Circuit > Results > Create Standard Report > Data Table**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Y** component select:
 - **Quantity: S(p1,p1) and S(p1,p2)** (Use CTRL-click to make multiple selections.)
 - **Category: S Parameter**
 - **Function: dB**
- On the **Trace** tab, **X**
 - Select **Default** ☒ or
 - Press the **...** button and select **Variables > F**
- Click **New Report.**
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

- New Data Table Report

Project1 - Circuit1 - Data Table 1

Data Table 1

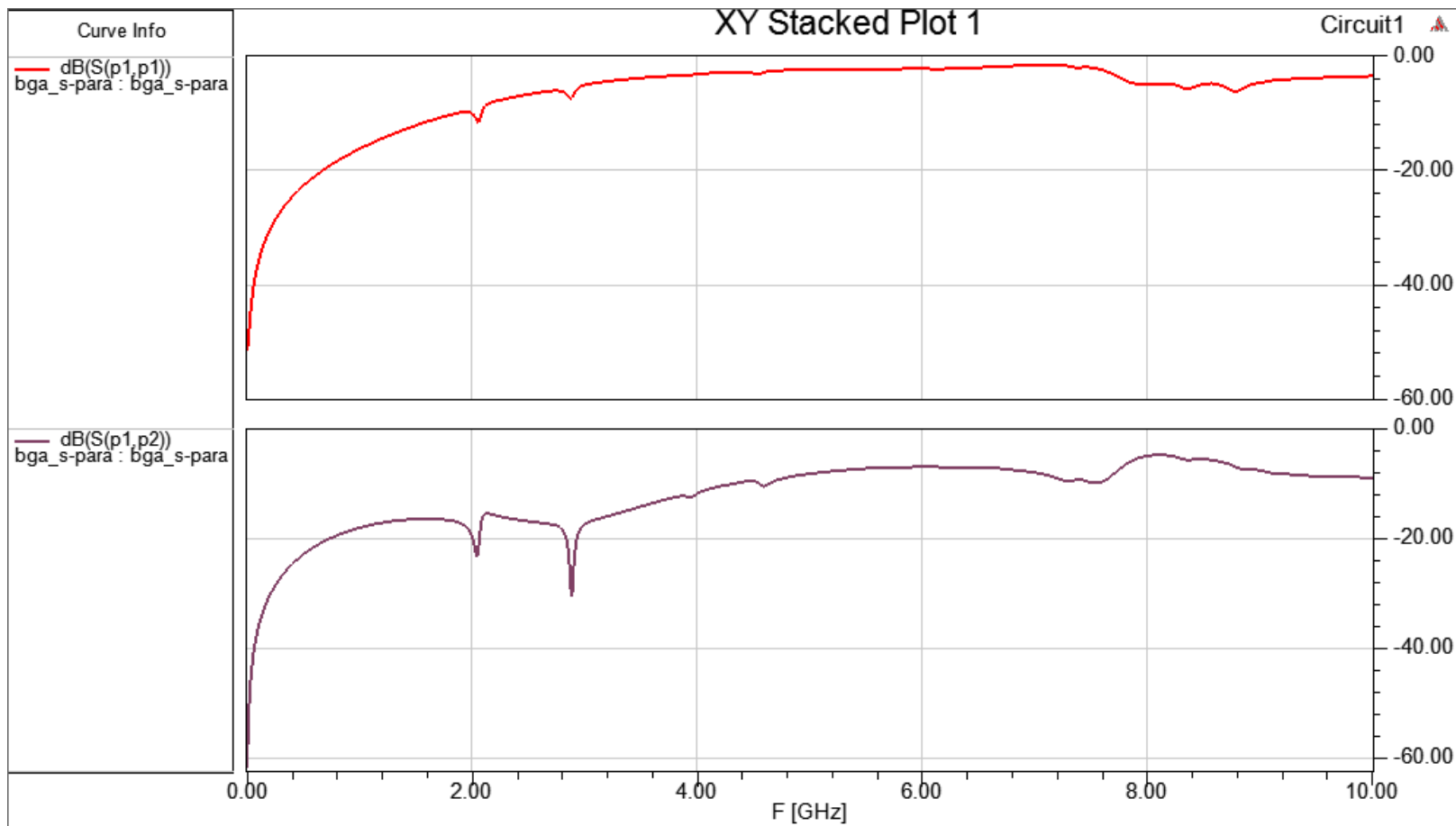
Circuit1

	F [GHz]	$\text{dB}(S(p1,p1))$ bga_s-para : bga_s-para	$\text{dB}(S(p1,p2))$ bga_s-para : bga_s-para
1	0.000000	-51.328739	-61.773131
2	0.010000	-49.968383	-55.025227
3	0.020000	-47.411397	-49.764152
4	0.030000	-45.023508	-46.412770
5	0.040000	-43.029757	-43.990520
6	0.050000	-41.373426	-42.103108
7	0.060000	-39.975919	-40.561002
8	0.070000	-38.775360	-39.259345
9	0.080000	-37.726696	-38.134204
10	0.090000	-36.797289	-37.143801
11	0.100000	-35.963194	-36.259404
12	0.110000	-35.206565	-35.460464
13	0.120000	-34.513886	-34.731818
14	0.130000	-33.874760	-34.061991
15	0.140000	-33.281073	-33.442104
16	0.150000	-32.726405	-32.865163
17	0.160000	-32.205609	-32.325565
18	0.170000	-31.714505	-31.818755
19	0.180000	-31.249658	-31.340981
20	0.190000	-30.808214	-30.889118
21	0.200000	-30.387777	-30.460533
22	0.210000	-29.986312	-30.052987
23	0.220000	-29.602081	-29.664559
24	0.230000	-29.233579	-29.293591
25	0.240000	-28.879502	-28.938634

- **Creating Rectangular Stacked Plots**

- A rectangular plot is a 2D, x-y graph of results
- In Electronics Desktop select **Circuit > Results > Create Standard Report > Rectangular Stacked Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Y** component select:
 - **Quantity: S(p1,p1) and S(p1,p2)** (Use CTRL-click to make multiple selections.)
 - **Category: S Parameter**
 - **Function: dB**
- On the **Trace** tab, **X**
 - Select **Default** ☒ or
 - Press the **...** button and select **Variables > F**
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

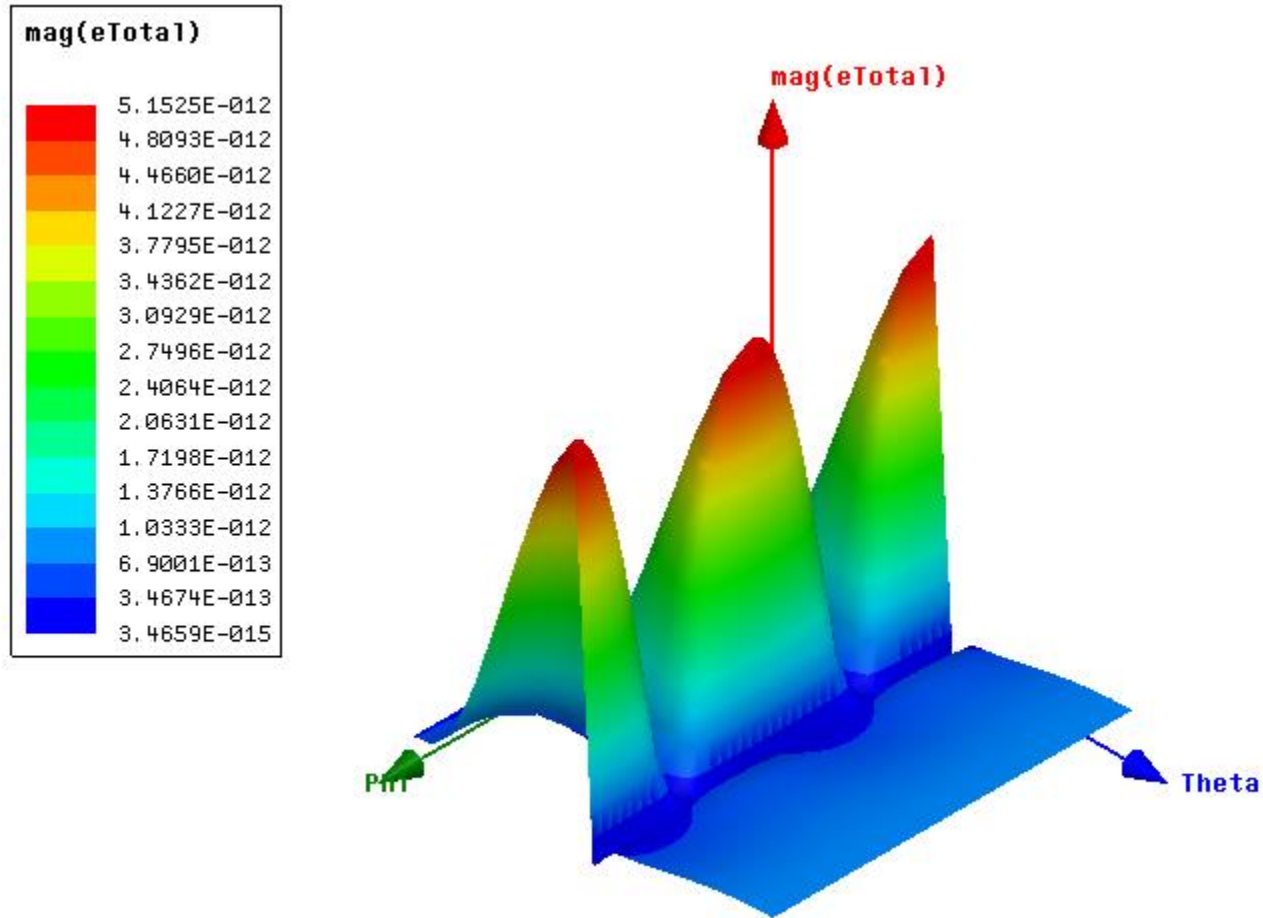
- New Rectangular Stacked Report



- **Creating 3D Rectangular Plots**

- A rectangular plot in 3D, x-y-z graph of results
- In Electronics Desktop select **Circuit > Results > Create Standard Report > 3D Rectangular Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Z** component select:
 - **Quantity: eTotal**
 - **Category: Others**
 - **Function: mag**
- On the **Trace** tab, **X** and **Y**
 - Select **Default** ☒ or
 - Press the **...** button and select one of the **Variables** > Phi and Theta, respectively
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

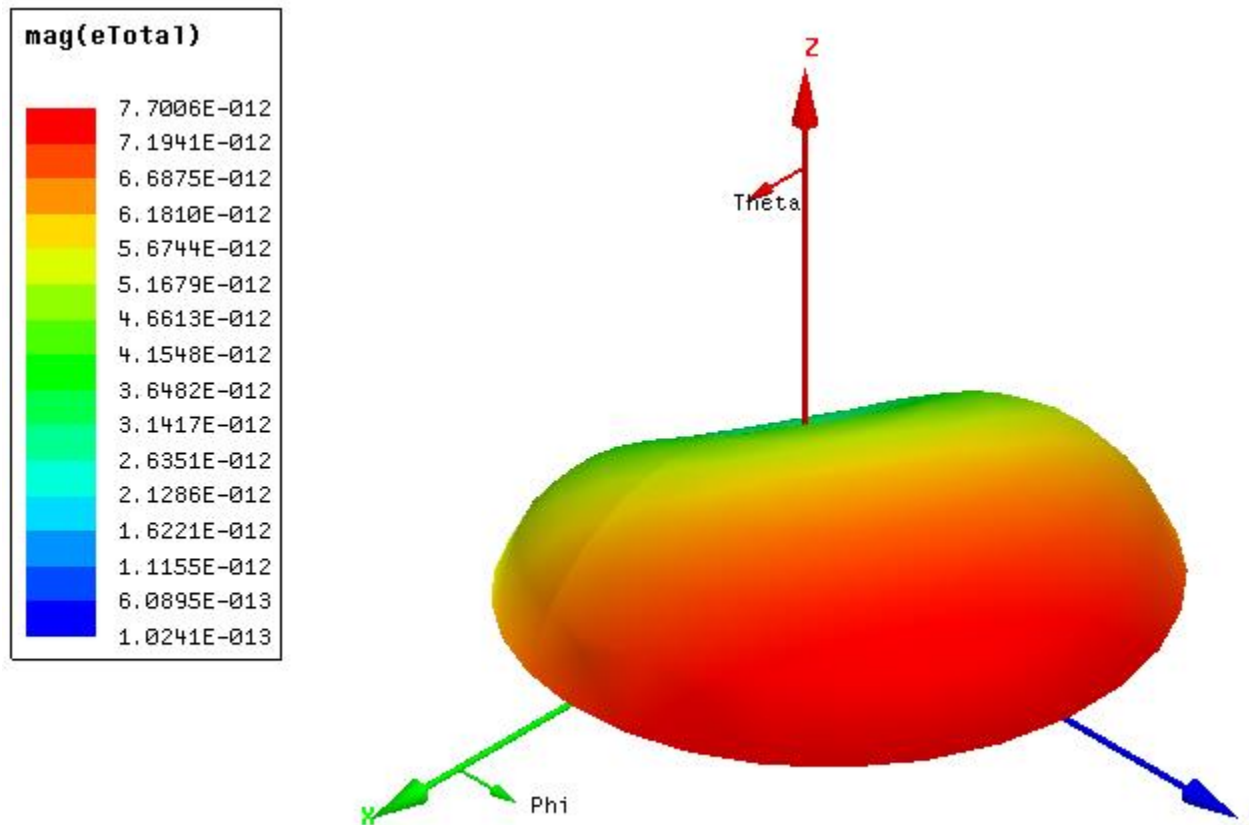
- New 3D Rectangular Report



- **Creating 3D Polar Plots**

- A polar plot in 3D, Phi-Theta-R (Mag) graph of results
- In Electronics Desktop select **Circuit > Results > Create Standard Report > 3D Polar Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Mag** component select:
 - **Quantity: eTotal**
 - **Category: Others**
 - **Function: mag**
- On the **Trace** tab, **Phi** and **Theta**
 - Select **Default** ☒ or
 - Press the **...** button and select one of the **Variables** > Phi and Theta, respectively
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

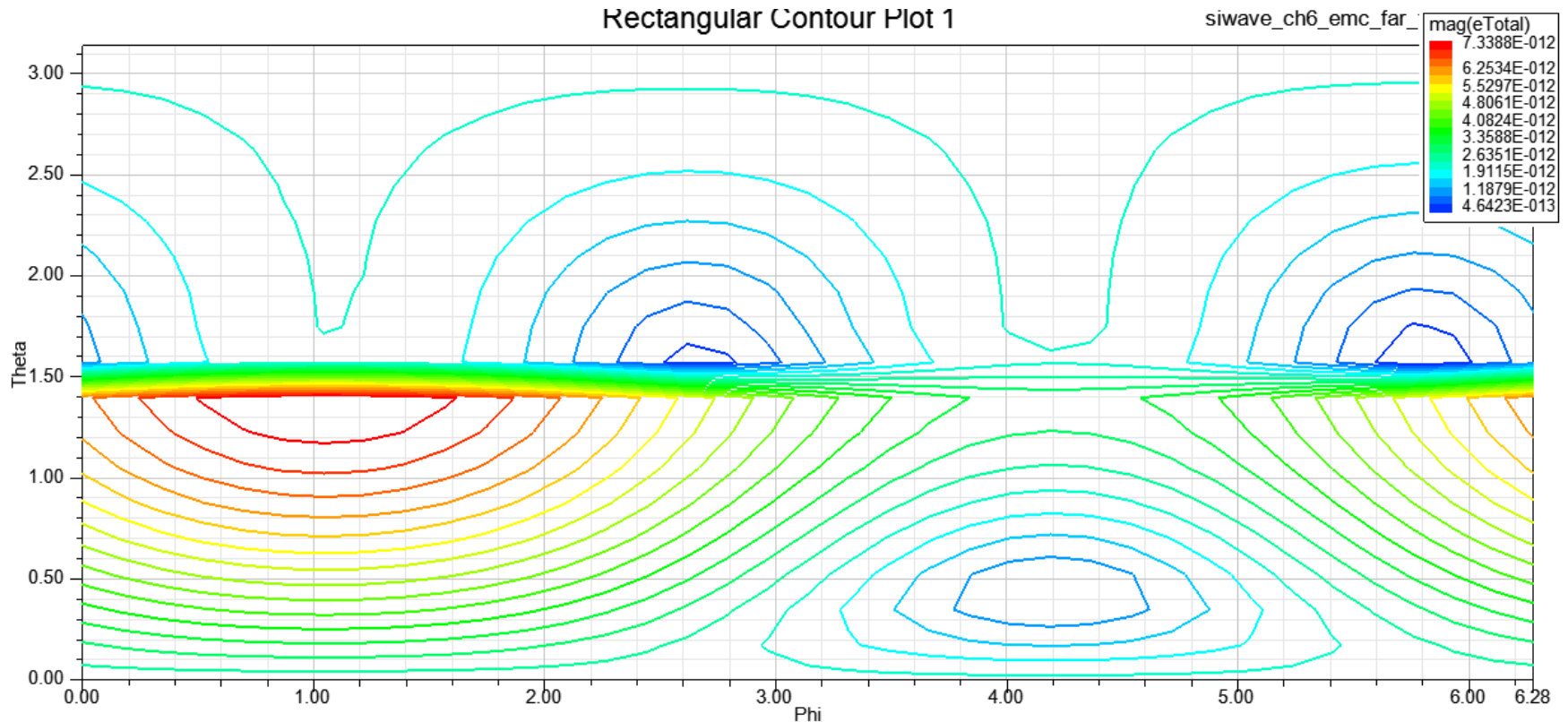
- New 3D Polar Report



- **Creating Rectangular Contour Plots**

- A rectangular plot in 2D, representing three-dimensional data with color scale as third dimension.
- In Electronics Desktop select **Circuit > Results > Create Standard Report > Rectangular Contour Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Z** component select:
 - **Quantity: eTotal**
 - **Category: Others**
 - **Function: mag**
- On the **Trace** tab, **X** and **Y**
 - Select **Default** ☒ or
 - Press the **...** button and select one of the **Variables** > Phi and Theta, respectively
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

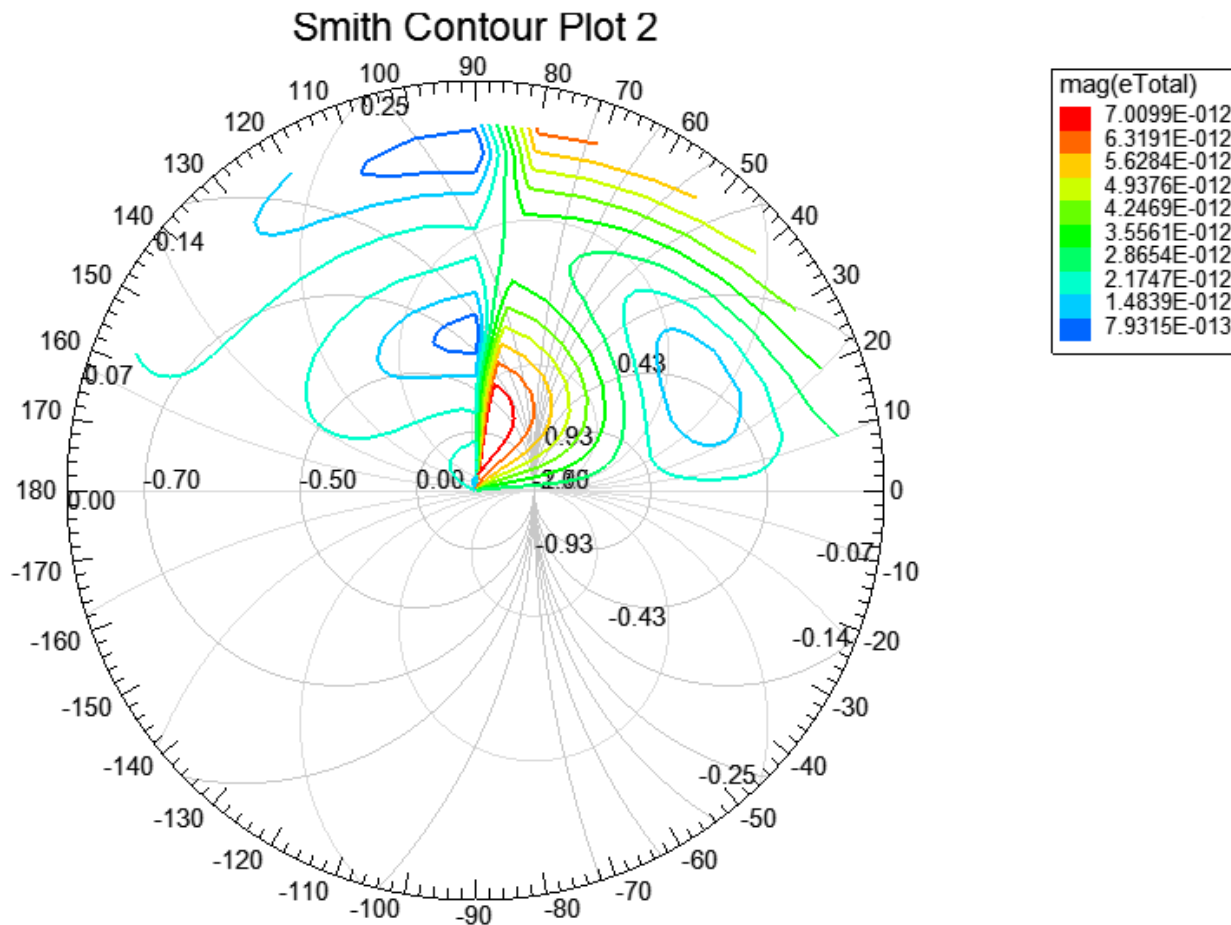
- New Rectangular Contour Report



- **Creating Smith Contour Plots**

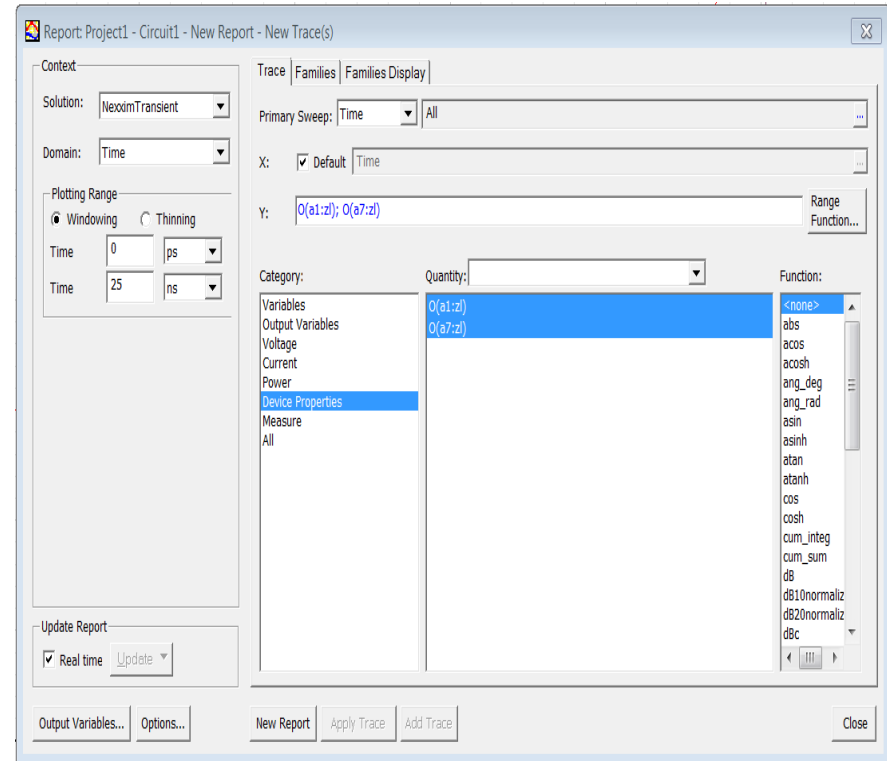
- A regular Smith Chart in 2D, representing tridimensional data with color scale as third dimension.
- In Electronics Desktop select **Circuit > Results > Create Standard Report > Smith Contour Plot**
- In the **Context** section make the following selections:
 - **Solution: Import1**
 - **Domain: Sweep.**
- Under the **Trace** tab, **Mag** component select:
 - **Quantity: ePhi**
 - **Category: Others**
 - **Function: dB**
- On the **Trace** tab, **Phi** and **Theta**
 - Select **Default** ☒ or
 - Press the **...** button and select one of the **Variables** available
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

- New Smith Contour Report



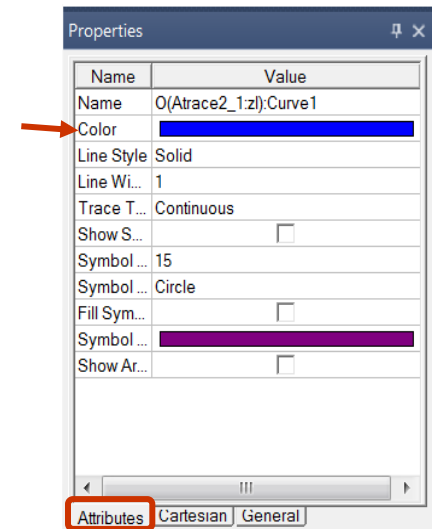
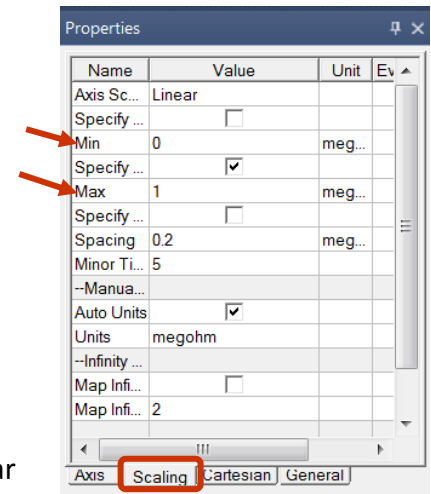
• Plotting in the Time Domain

- Run the transient analysis by right-clicking on **Analysis > Analyze**
- To view the results, right-click on **Results > Create Standard Report > Rectangular Plot**
- In the **Context** section make the following selections:
 - **Solution: NexximTransient**
 - **Domain: Time**
 - **Plotting Range: By default**
- Under the **Trace** tab, **Y** component select:
 - **Category: Device Properties**
 - **Quantity: O(a1:zl) and O(a7:zl)** (Use CTRL-click to make multiple selections.)
 - **Function: <none>**
- On the **Trace** tab, **X**
 - Select **Default** ☒ or
 - Press the **...** button and select **Variables > Time**
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button



Results

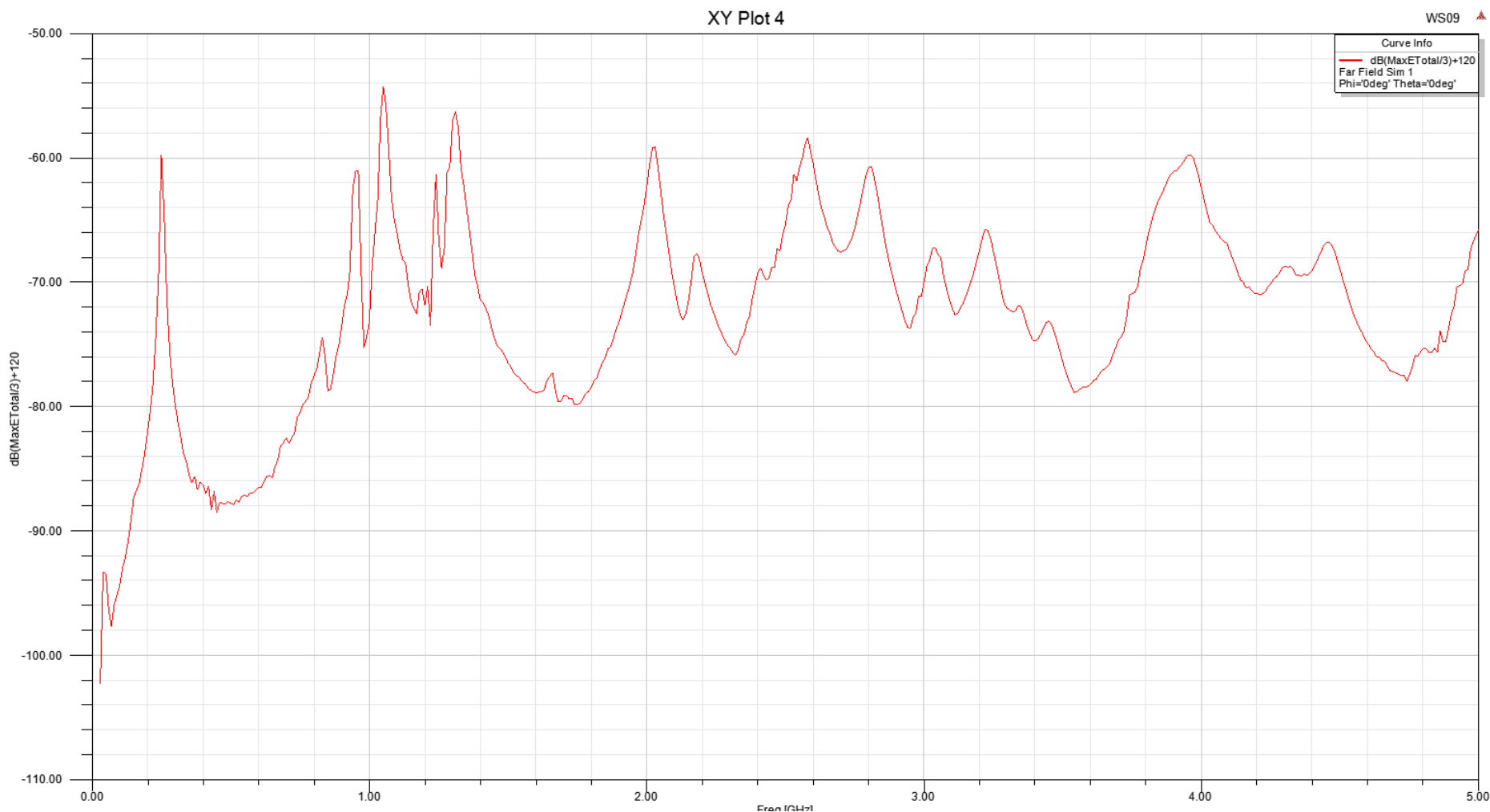
- Click on Y-axis title (Y1 [megohm])
- In **Properties** side bar, on **Scaling** tab, set:
 - Min: **0 ohm**
 - Max: **100 ohm**
- Similarly, change the scale of X-axis by clicking X-axis title (Time [ns])
- In **Properties** side bar, on **Scaling** tab, set:
 - Min: **0 ns**
 - Max: **1,5 ns**
- You can also change the color of the traces by clicking on a trace and changing the color on side bar



- **Plot Far Field Results**

- In Electronics Desktop select **Circuit > Results > Create Standard Report > Rectangular Plot**.
- In the **Context** section make the following selections:
 - **Solution: Far Field Sim 1**
 - **Domain: Sweep**
- Under the **Trace** tab, **Y** component select:
 - **Category: Others**
 - **Quantity: MaxETotal**
 - **Function: dB**
- In the “Y:” field enter the following equation
 - **$\text{dB}(\text{MaxETotal}/3)+120$** (this plots the far field result in dBuV/m at 3 meters)
- On the **Trace** tab, **X**
 - Select **Default** ☒ or
 - Press the **...** button and select **Variables > F**
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

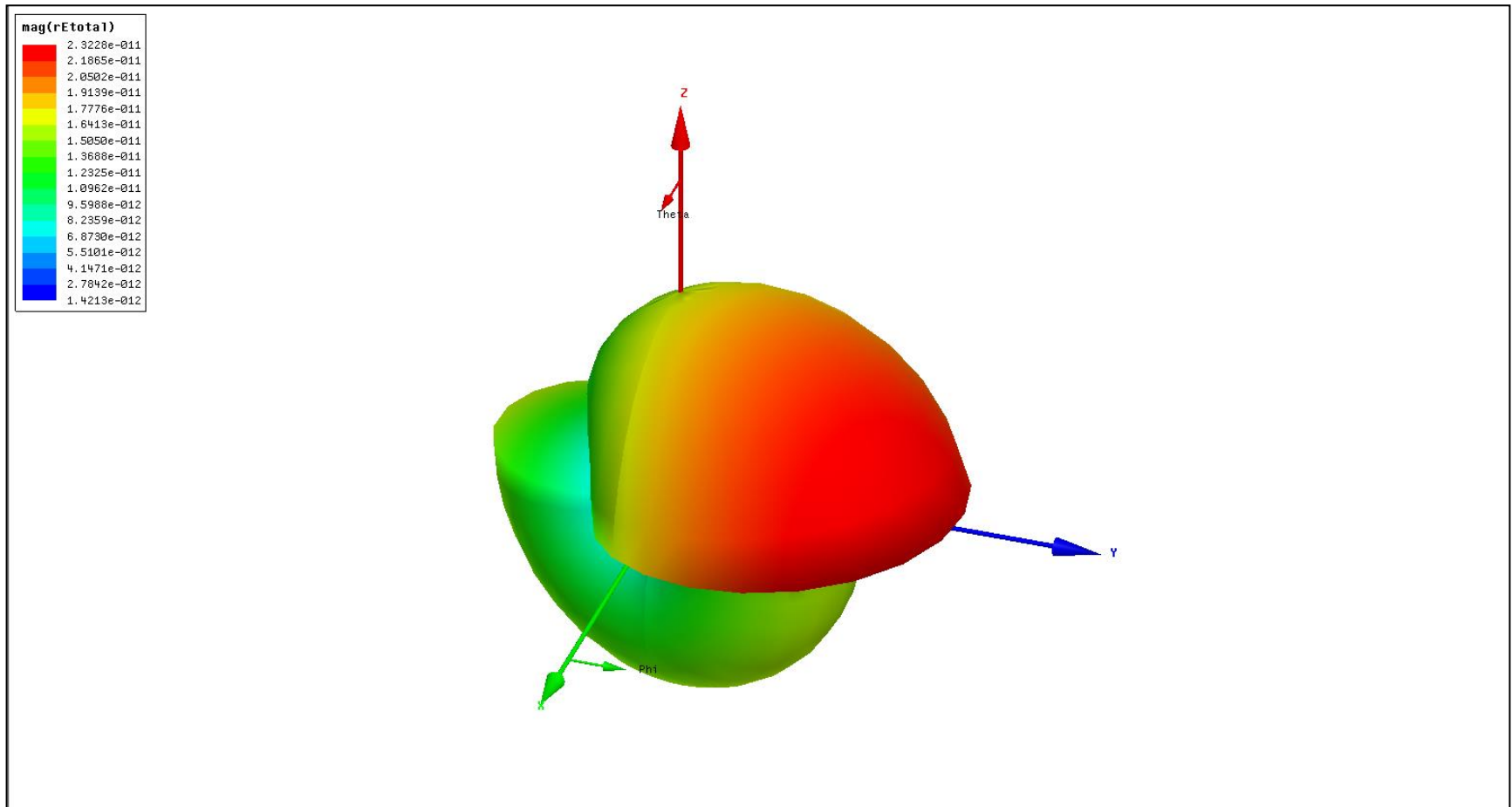
- Far Field Plot



- **Plot 3D Far Field Results**

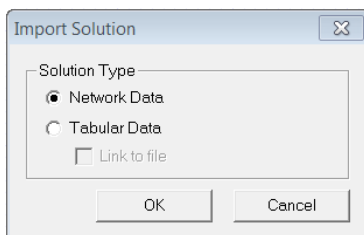
- In Electronics Desktop select *Circuit > Results > Create Standard Report > 3D Polar Plot*
- In the **Context** section make the following selections:
 - **Solution: Far Field Sim 1**
 - **Domain: Sweep**
- Under the **Trace** tab
 - **Primary Sweep: Phi**
 - **Secondary Sweep: Theta**
 - **Category: Others**
 - **Quantity: eTotal**
 - **Function: mag**
- On the **Trace** tab
 - Select **Phi** ☒ **Default**
 - Select **Theta** ☒ **Default**
- Click **New Report**.
 - This creates a new report in Project tree, displays the report with the defined trace, and enables the **Add Trace** button on the **Report** dialog.
 - Optionally, add another trace to the plot by following the procedure above, using **Add Trace** rather than **New Report**
- Press the **Close** button

- 3D Polar Far Field Plot

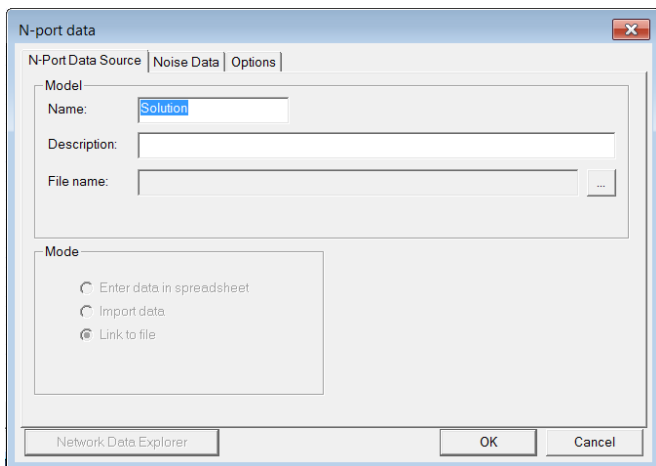


- **Import S-Parameter File**

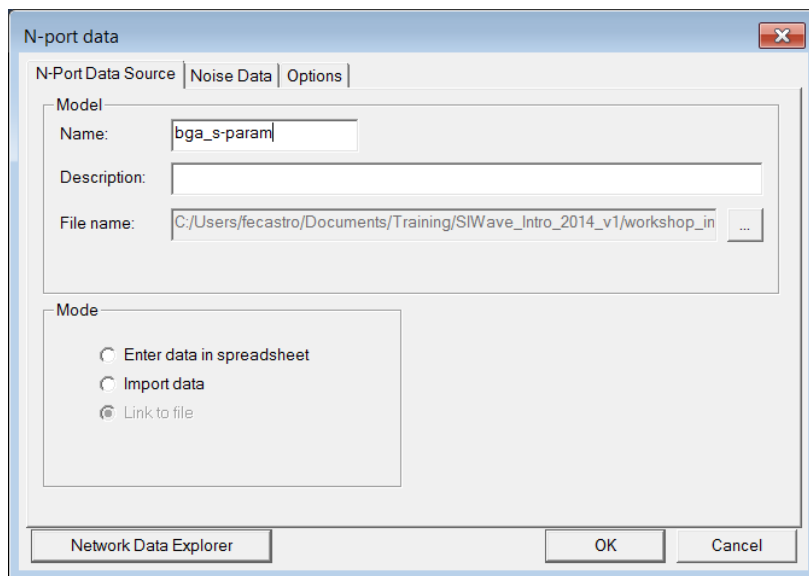
- To import file select: **Circuit > Import Solution**
- Select the type of solution and click **OK**



- Click on the ... button to select the solution file to import.



- Navigate to the workshop files and locate the file:
 - **bga_s-param.s4p**
 - Alternately the *.s4p file created in Workshop 3 can be used.
 - Press the **Open** button
- Press the **OK** button.



- **Working with Traces**

- **Adding Data Markers to Traces**

The Electronics Desktop includes **Report 2D>Marker>** menu commands and toolbar icons



The available Marker mode commands and associated icons are the following:

- **Marker** - this command lets you place a marker at an arbitrary point on a selected trace.
- **X Marker** - this command adds a movable marker at the origin of the plot with a vertical line rising from the X axis.
- **Y Marker** - this command adds a movable marker at the origin of the plot with a horizontal line starting from the Y axis.
- **Maximum** - places a marker at the Maximum value on the selected trace.
- **Minimum** - places a marker at the Minimum value on the selected trace.
- **Delta Marker** - enters delta marker mode, placing a circle on the selected trace. Clicking on the trace sets an initial point and subsequent clicks on arbitrary points on the trace place additional markers until you leave marker mode.
- **Next Peak** - moves a selected marker on the next peak on a trace. You must exit marker mode and select a marker to enable this command.
- **Next Minimum** - moves a selected marker to the next minimum on a selected trace. You must exit marker mode and select a marker to enable this command.
- **Previous Peak** - moves a selected marker on the previous peak on a selected trace. You must exit marker mode and select a marker to enable this command.
- **Previous Minimum** - places a marker on the previous minimum on a selected trace. You must exit marker mode and select a marker to enable this command.

- **Working with Traces**

- **Add Trace Characteristics**

You can add or clear additional characteristics to a selected trace. To add additional characteristics to a selected trace:

- Select a trace in a report plot or legend.
- Click **Report 2D > Trace Characteristics**, or right-click on the selected trace to display the short cut menu.
- Select **Trace Characteristics > All....**

This displays the **Add Trace Characteristics** dialog.

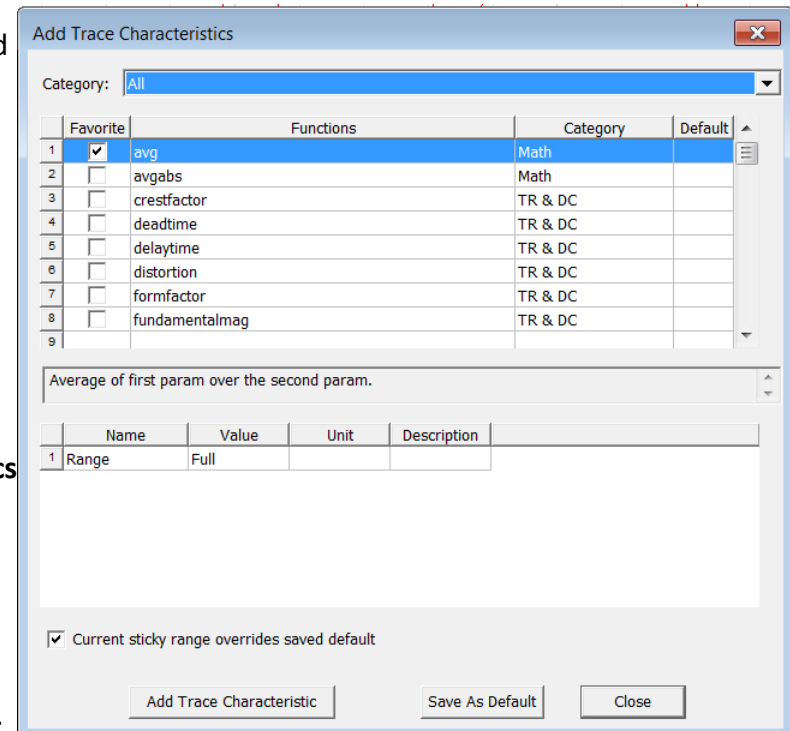
- Select the **Category**, and then an associated Function to apply. The available categories depend on the plot, and Category enables the display of associated functions.

Given a selected Function, and Category, the **Add Trace Characteristics** dialog displays a text field that explains the Purpose of the function. For a full list of functions and their definitions.

- Some categories and functions call for you to specify one or two additional values in a table.

You can save these values using the Default button.

- Click the **Add** button to add the specified characteristics to the Trace.



- **Working with Traces**

- **Copy and Paste of Report and Trace Definitions**

You can copy and paste report and individual trace definitions within a single design or across designs. The report or trace definition will be evaluated within the context of the target design or report.

- **To copy a Report Definition:**

Right click on the report name in the project tree and select **Copy Definition** from the shortcut menu.

- **To paste the Report Definition:**

Right click on Results in the project tree of the target design and select **Paste**. A new report is created and it contains the copied definitions.

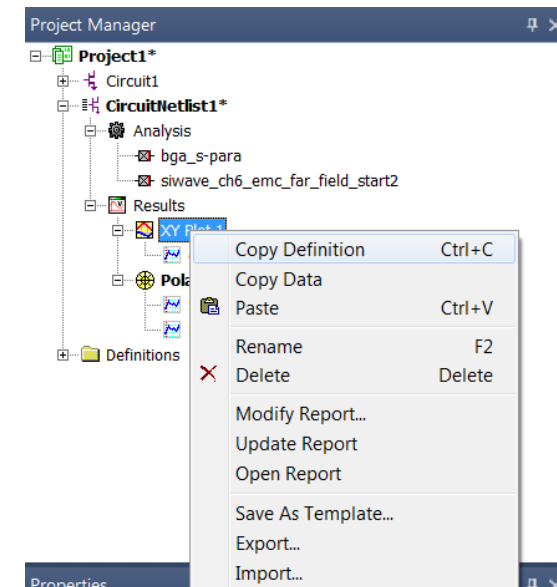
- **To copy an individual Trace Definition(s):**

Right click on the trace or traces under a report name in the project tree and select **Copy Definition**.

- **To paste the Trace Definition(s):**

Right click on the report in the target design to which you would like to copy the trace or traces and select **Paste**.

A new trace(s) is added to the report and it contains the copied trace definition(s).



- **Working with Traces**

- **Copy and Paste of Report and Trace Data**

You can copy and paste report and individual trace data within a single design or across designs.

The report and trace definitions and all underlying data within the report or trace are copied and pasted to the target design or report.

- **To copy all data from a report:**

Right click on the report name in the project tree and select **Copy Data**, or use the menu bar **Edit>Copy Data**, or right click within a plot to display a shortcut menu with **Copy Data**.

- **To paste copied report data:**

Right click on Results in the project tree of the target design and select **Paste**.

- **To copy data from an individual trace(s) in a report:**

Right click on the trace or traces under a report name in the project tree and select **Copy Data**.

- **To paste copied trace data:**

Right click on the report in the target design to which you would like to copy the trace data and select **Paste**.

