S-Parameter Measurements with Network Analyzer using Agilent VEE Pro 9.0

This tip explains how you can perform S-Parameter measurements with an Agilent E83xxx series Network Analyzer using Agilent VEE Pro 9.0. You will learn how to control the start/stop frequency, number of points, IF bandwidth, and desired frequency of each S-Parameter measurement. The example programs are developed using both SCPI commands and IVI-COM functions.

Instrument auto-detection

This program helps you configure interfaces (GPIB, LAN or USB) to connect your PC to your test instruments. Select the suitable corresponding interface.

Start/Stop Frequency, No. of Point and IF Bandwidth

The program provides input fields such as start/stop frequency, number of points and the IF bandwidth settings. Frequency settings are available in megahertz and gigahertz. The IF bandwidth is expressed in kilohertz. All the values are sent to the instrument once you click on "**Update Graph and S Value**" button.

S-Parameter Measurement Selection

You can perform four S-parameter measurements (S11, S12, S21 and S22) that are available in this example. You can choose to perform all measurements or a single S-parameter measurement. When you select to measure one S-parameter, you will need to key in the required frequency of that particular measurement. Then by clicking on '**Update Graph and S Value**' button, the program will acquire the S-parameter value. The value will be displayed on the graph over a defined frequency range.

Color Property

One of the features in VEE 9.0 is the ability to dynamically change the color property of some objects (ie: buttons) that are used in a program. A typical usage of such property is shown as an example in this program.

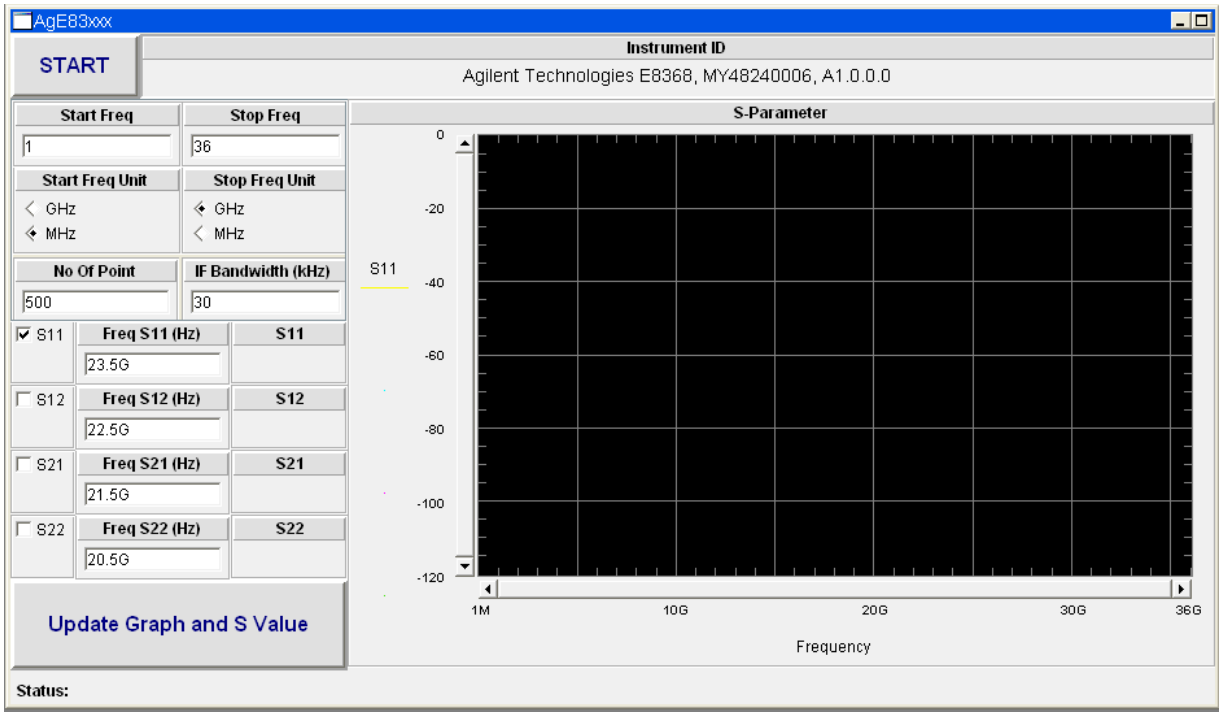

Figure 1.0: A snapshot of the main panel.

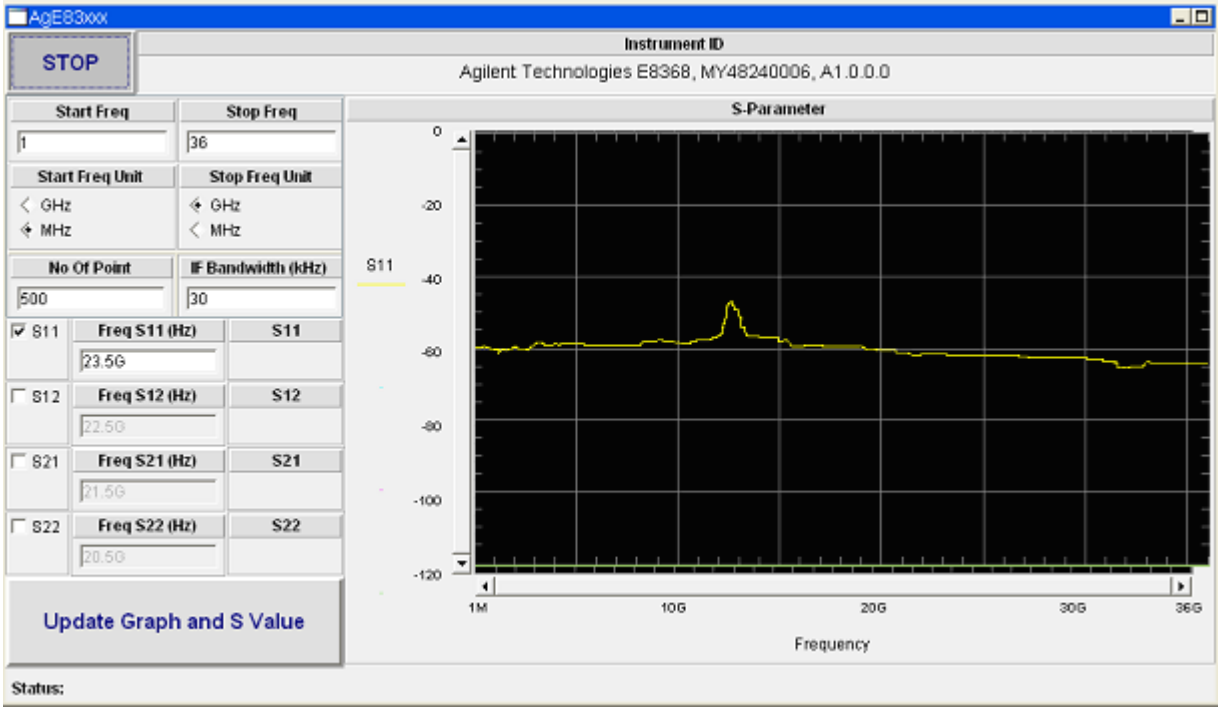

Figure 2.0: Obtain measurements by selecting “Update Graph and S Value” from the main panel.