Agilent Integrated Design Software and Test Instrumentation Solution

There is good reason to be excited about the combination of Advanced Design System (ADS) and the 89600 Vector Signal Analyzer (VSA). Customers using this solution have seen dramatic results that could not be achieved any other way. From shortened time-to-market, to rescuing products in which the first prototype hardware differed drastically from the simulation. Get more insight into these customer stories from the CD demo, which also features some of the Agilent engineers working on the applications.

What exactly does this integration look like?
You will be able to see this in action on the CD (order on this website). Let's say you're running a system simulation in ADS using the Agilent Ptolemy simulator, and you want to see the bit-error rate (BER) or adjacent-channel power ratio (ACPR) responses of your RF communications subsystem.

Instead of using the general-purpose data display mechanism in ADS, you connect the real-time output of the simulation to the input of the VSA. Since all the horsepower of the VSA resides on your PC, making this connection happen is simple: place a VSA icon into your ADS schematic as a data sink. Now you can use a standard measurement interface to see the results of your simulation.

Why is this a big deal?
Before ADS/VSA integration, if your simulation results differed from the measurement results for the corresponding hardware, you had to consider all the potential sources for that error. One of the most worrisome: that the simulation software and the measurement hardware could be using different algorithms for same kind of display. In other words, your ACPR results in ADS depended on the equations you had written for displaying them, which could be quite different from the VSA algorithms for displaying ACPR.

Now, this integrated solution eliminates that worry. The interface and algorithms to display your results are the same -- whether they're from your simulation or from your prototype hardware measurement. Measurement interfaces are generally very intuitive for product development engineers, since test equipment is an integral part of verifying the design. Here, you can treat your simulation data as you would data from hardware measurements, which means simultaneous and easy display of different diagrams, listings, scaling, and so on.

What's all this about a PC-based VSA?
Before the 89600, VSAs were like any other piece of test equipment: a box that contained all its measurement I/P encoded into firmware and was accessible through the instrument front panel. That is all changed with the 89600, where the measurement I/P is separated from the physical box and resides on a PC. This means that you can use the VSA algorithms to analyze and display other data sources besides hooking up your DUT. You can feed the VSA data from Excel, MATLAB, ADS, whatever. The VSA software is completely separable from the hardware.

What exactly can this integration do for me?

- Look at your system simulation results real-time with a familiar measurement interface
- Find impairments in your simulated design, such as incorrect alpha or interpolation
- Use ADS to generate a modulated signal not yet built into the test equipment, download this signal to a signal generator for stimulation of your component, then receive and view the response in the VSA
- Use the VSAs measured data to model that component in your simulation
- Fix modulation errors in your prototype hardware with the VSAs adaptive equalizer, and use this data to synthesize a pre-distortion filter in ADS for implementation in the prototype

See it all for yourself on the Demo CD.

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By internet, phone, or fax, get assistance with all your test & measurement needs

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