100 MHz Oscilloscopes Deliver 40x Display Performance for FPGA-Based Designs

Carolyn Mathas - September 16, 2005

Agilent introduced four 100 MHz portable high-performance digital storage and mixed-signal oscilloscopes. Each channel has a real-time sample rate of 2 GSa/s and display rate up to 40x faster than competing models. Agilent claims a dramatic reduction in design verification and debug time as its 6000 Series now shows critical events in complex waveforms.

6000 Series additions provide the industry with its first 4+16-channel MSO in the 100 MHz segment. The oscilloscopes feature waveform viewing and measurement insight for 8- and 16-bit embedded system designers in the aerospace/defense, automotive, communications and consumer electronics industries.

"The new 100 MHz models bring industry-leading performance technology to those working on MCU- and FPGA-based designs at a price that fits their budget," said Dan Oldfield, R&D manager at Agilent's Design Validation Division. "Customers designing products based on 8- and 16-bit MCUs and FPGAs will now be able to get the exceptional performance of the 6000 Series oscilloscopes previously available only in the higher-performance, more expensive oscilloscope models. With MegaZoom III, users now have a scope that can trigger, capture and display the critical events in complex signals inside their systems."

Viewing improvements are achieved with Agilent's MegaZoom III display technology with real-time, high-resolution XGA viewing with 256 levels of color-intensity grades and memory depth up to a full 8 Meg points -- 800 times more than competing models. According to Agilent, the dynamic range in the Z-axis provides the highest waveform-display quality of any other portable oscilloscopes on the market today.

Given the complexity of embedded systems, hardware developers often need to isolate events or view critical relationships on more than the limited number of channels available in traditional oscilloscopes. MSOs provide seamless integration of scope and logic-timing channels for time-aligned viewing and triggering across any or all input channels. Customers can order either a 2+16 or 4+16 channel MSO for their 100 MHz applications. Those who order a DSO 6000 Series can easily upgrade to an MSO configuration later.

Additionally, Agilent's FPGA dynamic probe, introduced for Agilent logic analyzers in 2004, is fully supported by the MSO versions of the Agilent 6000 oscilloscopes. With the addition of the FPGA dynamic probe, embedded systems developers using Xilinx FPGAs in their hardware digital designs have the ability to see inside their FPGA and correlate this internal view with events on their system with the MSO’s scope and logic channels.

All Agilent 6000 Series oscilloscopes come standard with LAN, GPIB and USB interfaces as well as an additional front-panel USB port to replace limited-capacity floppy drives. The front-panel USB
port lets designers easily store memory records, screen images and settings on standard higher-speed, higher-capacity USB memory sticks.

U.S. Pricing and Availability

The Agilent 6000 Series 100 Mhz oscilloscopes are available now at the following prices:

2-Channel Model DSO6012A with a sample rate of 2GSa/s is $4,595.

2+16 Channel MSO6012A with a sample rate of 2GSa/s is $6,595.

4-Channel DSO6014A featuring a sample rate of 2GSa/s is $5,595.

4+16 Channel MSO6014A with a sample rate of 2GSa/s is $7,595.

Memory upgrades start at $500. Customer-installable DSO-to-MSO upgrade kit is priced at $2,000.