Wide-Bandwidth Oscilloscope for Faster, More Accurate Characterization of High-Speed Digital Designs

Agilent Technologies Inc. has expanded its digital communications analyzer (DCA) portfolio with the introduction of the 86100D DCA-X wide-bandwidth oscilloscope. The DCA-X provides engineers with the tools needed to characterize their high-speed digital designs easily and accurately.

The DCA-X mainframe platform will allow engineers to make next-generation measurements that include integrated de-embedding capability. At the same time, the DCA-X is 100 percent backwards compatible with all previous DCA modules and completely code compatible with the 86100C. With future modules, the DCA-X will be able to support up to 16 measurement channels. Higher channel counts will enable electrical and optical engineers to test their parallel designs efficiently, and it offers higher throughput for manufacturing.

The high analog bandwidth, low noise, and low jitter measurements offered by the DCA helps engineers see the true performance of their designs on signals from 50 Mb/s to more than 40 Gb/s. The modular DCA platform can be configured for optical, electrical, TDR/TDT, and S-parameter measurement capability. The 86100D DCA-X improves upon the accuracy and ease-of-use of the 86100C DCA-J by offering:

•Integrated de-embedding and embedding capability (using the 86100D-SIM InfiniiSim-DCA license)

•usability enhancements, including: graphical signal processing; dual user interfaces (FlexDCA -- a new customizable vector-based user interface for scope, eye and jitter measurements -- and DCA-J, the “classic” user interface);

•up to 64 simultaneous measurements; and - new measurements, including data-dependent pulse-width shrinkage (DDPWS), uncorrelated jitter (UJ), pre- and de-emphasis measurements and more

As data rates increase, fixtures and probes play a larger role in degrading waveform

fidelity and reducing measurement margins. Engineers are often required to remove these unwanted effects to see the true performance of their devices during verification or compliance testing. Likewise, it is very common to measure a clean transmitter and simulate the signal at the output of a typical channel loss model. The 86100D-SIM InfiniiSim-DCA waveform transformation toolset, a powerful new option for the 86100D, allows engineers to perform both of these tasks quickly and accurately.

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