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PXI Programmable Amplifier and Attenuator Expand National Instruments RF and Microwave Test Portfolio

New Modular Instruments Improve Signal Quality, Noise Floor and Power Control of Vector Signal Analyzers and Generators

AUSTIN, Texas – Jan. 18, 2010 – National Instruments (Nasdaq: NATI) today expanded its [automated test](#) product line with two new [RF](#) signal conditioning modules that enhance the measurement accuracy and flexibility of [PXI](#)-based RF and microwave test systems. In applications such as RF signal path degradation modeling, field strength metering and receiver testing, engineers can combine the new [NI PXI-5695](#) 8 GHz programmable RF attenuator with a vector signal generator (VSG) to improve RF signal quality at low power levels. Engineers can integrate the [NI PXI-5691](#) 8 GHz programmable RF preamplifier, which also functions as a power amplifier, with VSGs to increase maximum power and with vector signal analyzers (VSAs) to measure low-level signals.

“Accurate control of RF power levels is a critical requirement for us when testing receiver sensitivity,” said Jeff May, test engineer at Itron, a leading provider of intelligent metering and a pioneer of smart grid technology. “The new programmable attenuator from NI gives us the high level of precision we need to accurately control stimulus power levels in our PXI production testers, and this is an important benefit that helps us maintain both efficiency and quality in our test process.”

The PXI-5695 is a 50 MHz-to-8 GHz, two-channel programmable RF attenuator with one fixed attenuation path and one programmable attenuation path. The module provides an integrated approach to RF power adjustments and in many cases can replace switch attenuator networks in RF production testers. Engineers can integrate the PXI-5695 with RF signal generators, such as the [NI PXIe-5673](#) 6.6 GHz VSG, to accurately control signal power with up to 60 dB of total attenuation and a typical voltage standing wave ratio (VSWR) of 1.3:1. This level of control greatly increases the dynamic range of a VSG and is critical for achieving precise receiver sensitivity measurements.

The PXI-5691 is a 50 MHz-to-8 GHz, two-channel programmable RF amplifier that can function both as a pre-amplifier and power amplifier. With more than 20 dBm maximum output power, up to 60 dB of total gain, 0.5 dB of gain resolution, a +31 dBm third-order intercept point (IP3) and 5 dB noise figures, the amplifier provides ample measurement flexibility and precision when combined with either RF signal generators or signal analyzers. When paired with the [NI PXIe-5663](#) 6.6 GHz VSA, the new amplifier makes it possible for engineers to achieve an equivalent input noise floor of -163 dBm/Hz. When used with the NI PXIe-5673 VSG, the amplifier facilitates signal generation with up to 100 MHz of instantaneous bandwidth at power levels of up to 20 dBm.

“These new RF signal conditioning modules expand the capability of the PXI platform in RF applications,” said Eric Starkloff, vice president of product marketing for test at National Instruments. “By continuing to invest in new PXI instrumentation, our goal is to help engineers address complex challenges by building next-generation automated test systems with commercial off-the-shelf solutions.”

As part of the NI PXI platform, the new attenuator and amplifier are optimized for use with [NI LabVIEW](#) graphical system design environment and NI [LabWindows™/CVI](#) ANSI C software development environment as well as C, C++ and .NET programming. Additionally, each instrument driver includes example LabVIEW code that helps engineers get started with graphical programming to quickly develop their RF or microwave test system.

Readers can visit www.ni.com/rf to view the data sheets and learn more about the PXI-5695 RF attenuator and PXI-5691 RF amplifier.

About National Instruments

National Instruments (www.ni.com) is transforming the way engineers and scientists design, prototype and deploy systems for measurement, automation and embedded applications. NI empowers customers with off-the-shelf software such as NI LabVIEW and modular cost-effective hardware, and sells to a broad base of more than 30,000 different companies worldwide, with no one customer representing more than 3 percent of revenue and no one industry representing more than 15 percent of revenue. Headquartered in Austin, Texas, NI has more than 5,000 employees and direct operations in more than 40 countries. For the past 10 years, FORTUNE magazine has named NI one of the 100 best companies to work for in America. Readers can obtain investment information from the company’s investor relations department by calling (512) 683-5090, e-mailing nati@ni.com or visiting www.ni.com/nati.

Pricing and Contact Information

NI PCI-5695 programmable RF attenuator

Priced* from \$3,499; €3,199; ¥490,000

NI PXI-5691 programmable RF amplifier

Priced* from \$3,999; €3,699; ¥560,000

Web: www.ni.com/rf

**All prices are subject to change without notice.*

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