Aeroflex Adds FM and ZigBee Analysis to PXI 3000 Series

Aeroflex Limited announced the addition of the Generic Measurement Suite to its PXI 3000 Series of RF modular instruments, enhancing the capability of this fast, flexible modular range of RF test equipment to meet the current and future testing needs of wireless communication devices.

The Generic Measurement Suite, designated PXI 3030 Option 111, is new software that enables production test and development engineers using Aeroflex PXI 3000 systems to perform a variety of generic analyses of analog and digital modulated signals.

The initial release supports the analysis of broadcast FM signals as well as Phase Shift Keying (PSK) modulation types including Binary Phase Shift Keying (BPSK), Quadrature Phase-Shift-Keying (QPSK), and Offset-Quadrature Phase-Shift-Keying (OQPSK) for example as used by ZigBee devices. Future software releases will expand upon this capability.

“The addition of the Generic Measurement Suite to PXI 3000 provides users with a versatile and affordable platform for general purpose analog and digital communications test.” commented Tim Carey, product manager at Aeroflex Limited.

This first release, although targeted at specific applications in FM broadcast analysis and ZigBee analysis, is a generic tool kit with new modulation analysis functions and additional extensions to PXI 3000’s underlying spectral measurement functionality to correctly analyse continuous or discontinuous RF signals.

ZigBee analysis is addressed by configuring the appropriate parameter settings for the measurement of modulation, power, and spectrum parameters (e.g. ACP, SEM, OBW) specific to ZigBee. These same parameters can easily be configured to analyze other PSK based systems.

“Our initial focus on FM broadcast and PSK modulated signals is in direct response to two market drivers – increased integration of FM broadcast transmission and reception within cellular, WLAN or WPAN communications devices, and the growth in popularity of ZigBee as a WPAN standard. In supporting these additional standards, Aeroflex continues to reaffirm its leadership in modular instrumentation, with the industry’s most comprehensive offering of low cost RF PXI hardware and software for multiple communications standards,” Carey said.

The ZigBee standard presents some measurement challenges in that to correctly characterize the signal requires the ability to perform both modulation and spectral analysis of discontinuous RF power bursts. The flexibility of the Generic

Measurement Suite provides the required functionality to analyze ZigBee RF burst modulation and spectrum parameters simultaneously.

The ZigBee standard has been in use for a number of years, mainly in home and building automation, smart energy and healthcare applications. It is now being extended to mobile handsets and portable devices to enable a wide variety of value-added services, including mobile gaming, location-based services, secure mobile payments, mobile advertising, and peer-to-peer data-sharing services. These developments are leading to the requirement to test ZigBee performance in alongside cellular standards, WiFi, Bluetooth, and broadcast FM in mobile devices, an application that is ideally suited to a multi-communications test platform such as PXI 3000.

Among the wide range of measurements supported by the Generic Measurement Suite are Modulation Accuracy, Adjacent Channel Power (ACP), Occupied Bandwidth, and spectrum mask measurements for continuous or burst signals.

Entirely new capabilities include broadcast FM deviation accuracy measurements for mono or stereo signals, and associated analysis of demodulated audio for Signal-to-Noise Ratio (SNR), Signal-to-Noise and Distortion ratio (SINAD), Total Harmonic Distortion (THD) and Stereo isolation measurements.

The software defined functionality of Aeroflex PXI 3000 allows the user to maximize re-use of the modular equipment. This flexibility allows R&D engineers to accelerate test system integration for design verification, resulting in faster time to market, while for manufacturing and service the cost of test is reduced by lowering capital investment with the use of reconfigurable, scalable solutions.

Price and availability

The new Generic Measurement Suite for the PXI 3000 Series (3030 Option 111) is now available for order. For more information, contact your local Aeroflex sales office by visiting or calling Aeroflex Sales at (800) 835-2352 or info-test@aeroflex.com [1].

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