# Vector Network Analyzers Equipped with True Differential Option

Rohde & Schwarz demonstrated new capabilities for evaluating differential (balanced) devices at the International Microwave Symposium last week. The R&S ZVA and R&S ZVT series of vector network analyzers (VNAs) equipped with the R&S ZVA-K6 true differential option can now take advantage of the coherent signal sources to adjust them to a selected phase or amplitude offset. This unique capability, made possible by a special architecture, is valuable when characterizing phased-array antennas, the nonlinear behavior of differential amplifiers and many other applications for aerospace and defense. The VNAs of the R&S ZVA and R&S ZVT series are based on a true multiport architecture, with independent sources per port pair. This offers significantly high accuracy, dynamic range and measurement speed compared to the use of switch matrices when evaluating devices with multiple ports. The R&S ZVA-K6 option also solves the problem faced by designers who had to measure active differential devices close or in compression. To get reliable results in the DUT's nonlinear region, R&S ZVA and ZVT stimulates it with true a differential signal, which means both sources have a phase offset of exactly 180° in the measurement plane. The ZVA-K6 option helps designers and manufacturers of power transistors, amplifier, MMICs, RFICs and other active differential devices to precisely characterize their products.

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