

Upconverter Supports Transceiver Test, Simplifies Test System Design

Keithley Instruments, Inc. introduces the Model 2891-IQ Upconverter, which provides comprehensive support for transceiver testing by processing analog I and Q baseband signals for testing a transceiver's transmitter, as well as processing analog I and Q output signals for testing a transceiver's receiver.

The Model 2891-IQ converts single-ended baseband analog I and Q signals from a signal generator into differential output signals to provide input signals for testing transceivers with differential baseband I,Q inputs. On the receiver side, it converts the receiver's down-converted differential I and Q signals into a modulated, up-converted signal for receiver performance testing by an RF signal analyzer. It speeds and simplifies designing transceiver test systems because it interfaces easily with both RF transceivers and with Keithley's Series 2900 RF Vector Signal Generators and Series 2800 RF Vector Signal Analyzers.

The combination of the Model 2891-IQ with the Model 2920 Vector Signal Generator and the Model 2820A Vector Signal Analyzer makes it easy to create a small, simple, and cost-effective RF transceiver test system. The Model 2891-IQ contains gain adjustments so that it can interface with a wide variety of wireless chipsets and devices. Furthermore, the Model 2891-IQ can interface with RF transceivers with either single-ended or differential inputs. Its EVM floor of 41dB, even for wideband 40MHz-bandwidth 802.11n signals, makes it possible to use the Model 2891-IQ when making high quality modulation measurements.

This instrument's compact size makes it ideal for locating it close to the wireless device under test (DUT), which helps minimize loading, even on high impedance devices, and maximizes signal bandwidth.

The instrument is controlled through a USB connection and programmed with a simplified SCPI command set. An easy-to-use software control panel provides intuitive access to these commands. Signal differential offsets may be set and adjusted and modulator gain set. A non-volatile EEPROM allows storing and recalling ten user instrument states.

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