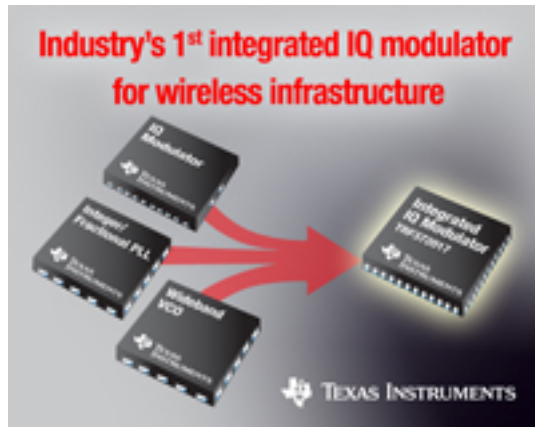


## **300- to 4800-MHz IQ Modulator Integrates Wideband LO Synthesizer, Reducing Cost while Simplifying Design**



Texas Instruments Inc. introduces the industry's first integrated IQ modulator in full production for the wireless infrastructure market. The high-performance TRF372017 integrates a direct up-conversion IQ modulator with a phase-locked loop (PLL) and wideband voltage crystal oscillator (VCO) to simplify local oscillator (LO) design and reduce board space.

The TRF372017 provides an ultra-wide continuous tuning range - 300 to 4800 MHz - enabling customers to save time and reduce costs by eliminating the need for an external LO while qualifying and stocking a single IQ modulator for all 3GPP and 3GPP2 standards, as well as licensed WiMAX.

Key features and benefits include:

- \* Achieves an output third-order intercept (OIP3) of 26 dBm, delivering high linearity to meet the spectral mask standards for wireless infrastructure applications, such as wireless base stations, wireless local loop, point-to-point microwave and software-defined radio.

- \* Provides a low noise floor of -160 dBm/Hz, enabling a high transmit signal-to-noise ratio (SNR) and improved error vector magnitude across an ultra-wide continuous tuning range. This includes GSM, W-CDMA, CDMA2000, LTE, TD-SCDMA and WiMAX frequency bands.

- \* Reduces bill-of-materials cost by integrating the LO and providing an LO synthesizer output with independent frequency dividers to drive additional transmit or receive signal chains.

- \* Simplifies design and allows for smaller end equipment by integrating a baseband bias voltage generator and DC offset adjustment digital-to-analog converter (DAC). This high level of integration enables a compact, highly-linear wideband transmitter architecture with a passive interface to the communications

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DAC, such as TI's DAC3283, the industry's smallest dual 16-bit, 800 MSPS DAC.

For more information and to order samples of the TRF372017 integrated IQ modulator, visit

[www.ti.com/trf372017-pr](http://www.ti.com/trf372017-pr)

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