

## Single-Chip IF Transceiver IC with Wide Dynamic Range Variable Gain Amplifiers for Wideband CDMA Applications

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A single-Chip IF transceiver IC for Wideband Code Division Multiple Access systems is described. The Chip consists of two variable gain amplifiers, a quadrature modulator, a demodulator, and dual Phase Locked Loops. A new VGA for the receiver is proposed to achieve wide dynamic range. The chip draws 48 mA from 3.0V. Dynamic ranges of the VGAs for transceiver and receiver are 90 dB and 110 dB respectively.