Monolithic Chip

Analog Devices Inc., announced the AD8302, the industry's first monolithic chip made to simultaneously detect both the gain and phase difference between two independent wireless signals up to 2.7GHz. The AD8302 represents Analog Devices' latest addition to its growing range of wireless RF/IF ICs for the cellular basestation market. It enables design engineers to build into their products a simple, low-cost diagnostic and calibration circuit to monitor system performance and accurately diagnose signal purity. Because gain and phase are two fundamental properties common to all wireless systems; the AD8302 is also useful for a wide range of applications including instrumentation and test equipment.
The AD8302 measures the precise amplitude difference between the two input signals over 60dB dynamic range, scaled to provide the user with a 30 mV/dB output. The phase measurement range extends to 180 degrees and provides the user with a 10 mV/degree output scaling. The device integrates two wideband logarithmic amplifiers, a wideband linear multiplier/phase detector, precision 1.8 V reference source and analog scaling and interface circuitry, running of a single 2.7 -5.5 volt supply, all within a small form factor package.
The AD8302 has been characterized for use over the common cellular frequencies for GSM, CDMA/W-CDMA and TDMA (900 MHz, 1.8 GHz, 2.2 GHz) and specified out to 2.7 GHz for the emerging MMDS (Multipoint Multichannel Distribution Service) market. Additionally the part provides exceptional accuracy at lower IF frequencies.

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