Abstracts

A gain/phase imbalance minimization technique for LINC transmitter

Xuejun Zhang, P. Nanawa, L.E. Larson and P.M. Asbeck. "A gain/phase imbalance minimization technique for LINC transmitter." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 801-804 vol.2.

A simple calibration scheme for correction of the path imbalance in a LINC transmitter has been demonstrated. In this algorithm a baseband DSP evaluates the gain and phase imbalance with a set of calibration signals through a feedback loop. Compensation of path imbalance is accomplished within the DSP by introducing a pre-distortion term. The quadrature errors of the I/Q modulators set a limit on the overall performance of this algorithm. A prototype LINC system has been tested for CDMA IS95 baseband input and -38 dBc ACI was achieved.

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