

Improvement of digital mapping predistorters for linearising transmitters

Qiming Ren and I. Wolff. "Improvement of digital mapping predistorters for linearising transmitters." 1997 MTT-S International Microwave Symposium Digest 3. (1997 Vol. III [MWSYM]): 1691-1694.

In this paper we present a new kind of 2-dimensional mapping predistorter for linearising transmitters. This method applies self-tuning adaptive control to eliminate iteration processes and therefore to reduce adaptation time. All errors due to modulator imperfections (e.g. RF carrier leakage from local oscillator, differential gain and phase imbalance between I and Q paths) can be corrected by this method. The simulation shows that adaptation time and memory size of look-up-tables are reduced.

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