Abstracts

An L band adaptive digital predistorter for power amplifiers using direct I-Q modem

E.G. Jeckeln, F.M. Ghannouchi and M.A. Sawan. "An L band adaptive digital predistorter for power amplifiers using direct I-Q modem." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 719-722.

This paper presents an L band experimental implementation of an adaptive digital predistorter (ADP) using direct I-Q modem for power amplifiers suitable to spectrally efficient mobile communication equipment. The linearizer, which is implemented in a digital signal processor (DSP) environment, performs the real time modeling (RTM) of the power amplifier to supply its AM-AM and AM-PM non-linearity characteristics. Experimental results demonstrate that the spectral spreading is reduced by 20 dB. The ADP achieve both power and spectral efficiencies and without the need for complex convergence algorithms and complex circuitry.

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