

Abstracts

Monolithic upconversion and reference IC for power amplifier linearization using GaAs HBTs (2000 Vol. I [MWSYM])

C. Bingol, H. Hein, E. Gamm, F. Oehler, W. Doser, K. Riepe and H. Blanck. "Monolithic upconversion and reference IC for power amplifier linearization using GaAs HBTs (2000 Vol. I [MWSYM])." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 413-416.

In order to fulfil the linearity requirements of modern communication standards, a linearization system using adaptive digital predistortion has been developed. An increase of 12 dB in ACPR without decreasing the output power can be achieved with this system for W-CDMA signals. To achieve high system integration, a monolithic integrated linearization module comprising an upconverter and a reference downconverter has been realised. The linearization module has been fabricated in GaAs HBT technology and will be described in detail in this paper. Measurement results on this module show an overall output IP/sub 3/ of 14.9 dBm and an overall gain of 29.4 dB in the upconversion path.

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