Abstracts

Performance improvement of feedforward power amplifiers by using a novel injection combining technique

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The feedforward technique for power amplifier linearization usually employs directional couplers for distortion and carrier cancellation in the first and second loops. In the second loop in particular, the error amplifier must generate an error signal that is C dB higher than the one generated by the main amplifier, where C is the coupling factor of the output coupler. This leads to higher error amplifier rating and increases the power consumption as well as the overall cost of the power amplifier. In this paper, a new injection combining technique is proposed. The technique is based on the use of a directive Y-junction and a mismatched amplifier design. A gain of as much as 6 dB on the power rating of the error amplifier (PSAT) can be achieved as reported.

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