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(57) **ABSTRACT**

An amplifier includes an input circuit configured to receive an analog input signal and a feedback signal, and output an analog error signal based on the analog input signal and the feedback signal. An ADC is configured to convert the analog error signal into a digital signal in a phase domain. A digital control circuit is configured to generate a digital control signal based on the digital signal in the phase domain. An output circuit is configured to generate an amplified output signal based on the digital control signal, and a feedback circuit is configured to generate the feedback signal based on the amplified output signal.

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