

## عنوان مقاله:

A 790 nW Low-Noise Amplifier for Low Power Biopotential Signal Recording Systems

## محل انتشار:

اولین کنفرانس میکروالکترونیک ایران (سال: 1398)

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## خلاصه مقاله:

In this paper an ultra-low-power amplifier for biomedical signal recording systems, especially for portable applications such as portable electrocardiogram (ECG) recording systems is presented. In this amplifier current reuse topology is used to achieve a lower input-referred voltage noise power density compared to a normal single-ended amplifier. Supply voltages are  $\pm 0.6$  V, and the bias currents are 260 nA and 400 nA in the first and the second stages, respectively for reducing the power consumption. The proposed amplifier is simulated using Hspice and 0.18  $\mu$ m TSMC CMOS technology. It is shown that the power consumption of the proposed amplifier is as low as 790 nW. This amplifier has an open loop gain of about 100 dB and the total input-referred noise of  $5.45 \mu$ Vrms in 7.1 KHz bandwidth and  $3.7 \mu$ Vrms in 200 Hz bandwidth for ECG recording.

## کلمات کلیدی:

Biomedical amplifier, current reuse technique, low power, low noise

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1000870>

