

The Design of Switched-Capacitor Sigma-Delta Analog-to-Digital Converter

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ABSTRACT

A high resolution sigma-delta analog-to-digital converter is proposed in this paper. To increase the performance of sigma-delta modulator in the circuit implementation, we used an operational amplifier with the cascade structure and a switched-capacitor integrator to build the second order sigma-delta modulator. The fabrication technology is TSMC 0.35 μ m 2P4M mixed signal process with 3.3V power supply. According to the simulation results, the estimated total power dissipation is about 20.59mW with OSR=32, SNR=56.9dB (equivalently 9-bits resolution).

Keywords : switched-capacitor ; sigma-delta modulator

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