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(54) **SUCCESSIVE APPROXIMATION REGISTER
ANALOG-TO-DIGITAL CONVERTER WITH
EMBEDDED FILTERING**

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(57) **ABSTRACT**

An analog-to-digital converter (ADC) includes a switched capacitor circuit, a comparator, and a control circuit. The switched capacitor circuit has a switch control input and an output, and includes switches coupled to the switch control input and coupled to capacitors. The comparator has an input coupled to the output of the switched capacitor circuit and has an output. The control circuit has a switch control output coupled to the switch control input, has an input coupled to the output of the comparator, and provides switch control signals at the switch control output. Responsive to the switch control signals, the switched capacitor circuit provides an output signal to the comparator that is based on a sample of an analog input signal acquired in a sample acquisition cycle and based on a digital sample value output by the ADC prior to the sample acquisition cycle.

