SUCCESSIVE APPROXIMATION ANALOG-TO-DIGITAL CONVERTER HAVING AUXILIARY PREDICTION CIRCUIT AND METHOD THEREOF

ABSTRACT OF THE DISCLOSURE

The configurations and adjusting method of a successive approximation analog-to-digital converter (SAR ADC) are provided. The provided SAR ADC includes at least one capacitor with a first and a second terminals, and a plurality of bits, each of which is connected to the at least one capacitor, wherein the first terminal receives an input signal, and the second terminal selectively receives one of a first and a second reference voltages, and a first comparator receiving an adjustable third reference voltage and a first voltage value generated by the input signal, wherein a connection of the second terminal of each the capacitor of the capacitor array is switched when the first voltage value is larger than the third reference voltage.