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(54) PROGRAMMABLE REGULATOR VOLTAGE CONTROLLED RING OSCILLATOR

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(57)ABSTRACT

Systems, devices, and methods are described herein for aligning a phase of a ring oscillator and removing jitter. An oscillator includes a resistor bank array, an operational amplifier, a first and second transistor, and a realignment circuit. The resistor bank array has a plurality of resistors configured to generate a first signal. The operational amplifier is coupled to a PLL circuit and is configured to compare a voltage of the PLL circuit with a voltage of the resistor bank array. The first transistor is coupled between the operational amplifier and a ring oscillator. The first transistor is configured to generate a second signal to control a frequency of the ring oscillator during a realignment state. The realignment circuit is coupled to the first transistor and the ring oscillator. The realignment circuit is configured to generate a realignment signal to align the ring oscillator with a first clock signal.

