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LIM et al.(10) **Pub. No.: US 2024/0235476 A1**(43) **Pub. Date: Jul. 11, 2024**(54) **DEVICE AND METHOD FOR ADAPTIVE
LOOP GAIN OF OSCILLATOR****Publication Classification**(51) **Int. Cl.**
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(57) **ABSTRACT**

A device includes an oscillator including at least one inductor and at least one capacitor and configured to generate, based on a positive supply voltage, an output signal oscillating in a resonance frequency of the at least one inductor and the at least one capacitor. The device further includes an oscillation detector configured to determine whether the output signal oscillates based on a clock signal and increase a loop gain of the oscillator until the output signal oscillates.

