

ABSTRACT

A phase locked loop circuit includes a voltage controlled oscillator configured to output a clock signal having a predetermined frequency based in a control voltage, a phase frequency detector configured to compare the clock signal with a reference signal to output a
5 first control signal and a second control signal, a charge pump configured to output the control voltage based on the first control signal and the second control signal, a voltage supply including an output terminal connected to an output terminal of the charge pump by a transmission switch, and a leakage remover circuit connected to the transmission switch and configured to remove a leakage current flowing through the transmission switch while the
10 transmission switch is turned-off.

FIG. 2