

POWER AMPLIFIERS WITH ADAPTIVE BIAS FOR ENVELOPE TRACKING APPLICATIONS

ABSTRACT OF THE DISCLOSURE

5 Power amplifiers with adaptive bias for envelope tracking applications are provided herein. In certain embodiments, an envelope tracking system includes a power amplifier that amplifies a radio frequency (RF) signal and that receives power from a power amplifier supply voltage, and an envelope tracker that generates the power amplifier supply voltage based on an envelope of the RF signal. The power amplifier includes a field-effect transistor (FET) for
10 amplifying the RF signal, and a current mirror including an input that receives a reference current and an output connected to the power amplifier supply voltage. An internal voltage of the current mirror is used to bias the gate of the FET to compensate the FET for changes in the power amplifier supply voltage arising from envelope tracking.

15 FIG. 3