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(54) **POWER AMPLIFIER CAPABLE OF MAINTAINING CONSTANT GAIN REGARDLESS OF TEMPERATURE VARIATIONS**

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(57) **ABSTRACT**

A power amplifier includes a transistor, a temperature sensor and a filter. The transistor is used to receive a bias signal and amplify a radio frequency (RF) signal. The temperature sensor is arranged in proximity to the transistor, and is used to detect a temperature of the transistor to provide a voltage signal at a control node accordingly. The filter is coupled to the temperature sensor and is used to filter the voltage signal to generate a filtered voltage. The bias signal is adjusted according to the filtered voltage.