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(54) **CURRENT MODE MULTI-INPUT MAXIMUM SIGNAL DETECTOR**

(57) **ABSTRACT**

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A maximum current detection circuit with multiple input current ports and a maximum current port generates, on the maximum current port, a maximum current corresponding to the largest input current on one of the input current ports. The maximum current detection circuit includes multiple current mirror circuits, each controlled by one of the input currents. Each of the current mirror circuits includes outputs, each coupled to a respective one of the input current ports and the maximum current port. The current mirror circuit controlled by the largest input current becomes the dominant source for the input currents on each of the input current ports and also drives the maximum current on the maximum current port. The input currents may be single-ended or differential signals. The input currents may be respectively delayed signals of a windowing circuit in an envelope tracking circuit controlling a power amplifier of a wireless device.

