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(54) **Title:** SYSTEMS AND METHODS FOR IMPEDANCE MEASUREMENT OF A BATTERY CELL

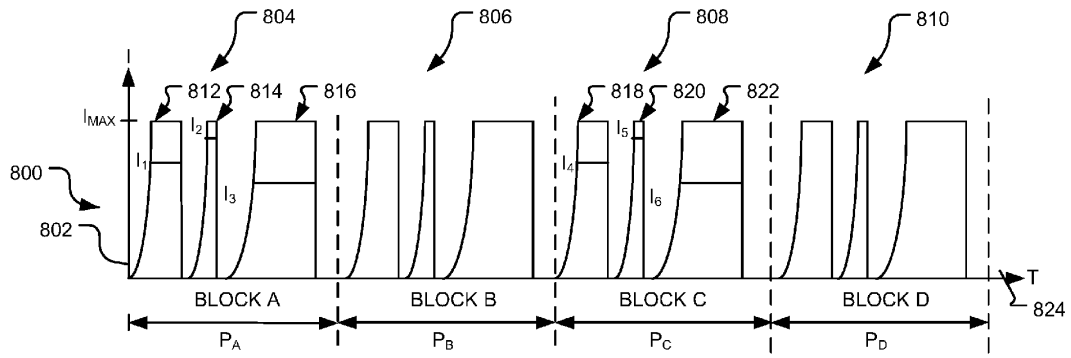


FIG. 8A

(57) **Abstract:** Aspects of the present disclosure involves a system for charging (or discharging) an electrochemical device, where the system may include a processing unit, such as a controller, operably coupled with a first memory and a second memory. The first memory includes a first measurement of an electrochemical device and the second memory includes a second measurement of the electrochemical device. Measurements of the electrochemical device, e.g., voltage and current measurements of a battery, may be interleavingly sampled and alternatingly stored in the respective memories. The processing unit computes impedance to the charge signal from the first measurement and the second measurement.

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