Novel Voltage Regulator IC For Efficient Battery Management in Portable Electronics

Tech ID: 25023 / UC Case 2015-085-0

TECHNOLOGY DESCRIPTION

The subject technology provides a new design approach for electronic circuits responsible for converting DC battery voltage to the appropriate DC voltage levels used by smart-phones, iPads, and most other modern processor driven portable electronics. Batteries typically have voltage ratings of anywhere from 6 to 12 volts but the tiny electronics run on a little more than a volt. To adjust the provided power and allow the battery a maximum life between charges, DC- DC Voltage Regulator IC's are used. These chips tend to take a disproportionate amount of physical area (38% within a MacBook Air) and are not compatible with the manufacturing steps of the rest of the digital circuitry. This invention proposes a discrete all-digital design which could reduce the cost and size of these essential but unglamorous elements of today's most popular personal electronics.In 2013 voltage regulator IC's represented a $20B market segment.

Additional technical details can be assessed in the following scientific paper: Mercier Paper

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	10,374,511	08/06/2019	2015-085
Patent Cooperation Treaty	Published Application	2016123518	08/04/2016	2015-085

Additional Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

- **Communications**
  - Wireless
- **Energy**
  - Storage/Battery

RELATED CASES

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