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(54) **SYSTEM AND METHOD FOR DYNAMIC DCVS ADJUSTMENT AND WORKLOAD SCHEDULING IN A SYSTEM ON A CHIP**

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See application file for complete search history.

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(57) **ABSTRACT**

Various embodiments of methods and systems for dynamically adjusting operating frequency settings of one or more processing components in a portable computing device ("PCD") are disclosed. One such method involves receiving a request to adjust an operating frequency setting of a processing component to a required frequency ("F_req") to process a workload. Factor readings associated with the operating capacity of the processing component may be taken. Based on the readings, performance curves associated with the processing component may be queried. The performance curves are used to determine the optimal operating frequency ("F_opt") for the processing component. The F_opt is compared to the F_req and, if the F_req is less than F_opt, the operating frequency setting of the processing component is set to F_opt. Advantageously, as compared to F_req, at F_opt workload processing may be more efficient and a low power mode may be entered sooner.

20 Claims, 13 Drawing Sheets