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MOORE et al.(10) **Pub. No.: US 2024/0213967 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **ADAPTIVE RAMP TIME MODULATION**(52) **U.S. Cl.**(71) Applicant: **POWER INTEGRATIONS, INC.**, San Jose, CA (US)CPC **H03K 5/082** (2013.01); **H02M 1/088** (2013.01); **H03K 3/0234** (2013.01)(72) Inventors: **Karl MOORE**, Ely (GB); **Antonius WERNER**, Cambridge (GB)

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A controller for a power converter comprising a drive circuit and an adaptive current limit generator. The drive circuit is coupled to receive a request signal representative of a power demand of an output of the power converter. The drive circuit is configured to generate a drive signal to control switching of a power switch in response to the request signal. The adaptive current limit generator configured to generate a current limit signal and the drive circuit is configured to turn off the power switch when a current sense signal reaches the current limit signal. The adaptive current limit generator is configured to vary an upper threshold of the current limit signal to a first value when a switching frequency is less than a frequency threshold and vary the upper threshold to a second value when the switching frequency is greater than the frequency threshold.

