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(54) **DATA STORAGE DEVICE**

(71) Applicant: **SK hynix Inc.**, Gyeonggi-do (KR)

(72) Inventors: **Kyoung Lae CHO**, Gyeonggi-do (KR); **Soo Jin KIM**, Gyeonggi-do (KR); **Naveen KUMAR**, San Jose, CA (US); **Aman BHATIA**, San Jose, CA (US); **Yi-Min LIN**, San Jose, CA (US); **Chenrong XIONG**, San Jose, CA (US); **Fan ZHANG**, Fremont, CA (US); **Yu CAI**, San Jose, CA (US); **Abhiram PRABAHKAR**, San Jose, CA (US)

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(57) **ABSTRACT**

A data processing system includes a storage medium, and a controller including a data processing block, configured to receive data from a host, transmit the received data to the storage medium, read data from the storage medium in response to a read request from the host, and decode the read data by the data processing block according to multiple decoding modes. The data processing block includes a first decoder and a second decoder, and is configured to manage the first decoder and the second decoder to run the decoding for the read data, and activate a fast decoding having shorter latency than a normal decoding after a fast decoding condition is satisfied.