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(54) HAMMING WEIGHT CALCULATION METHOD BASED ON OPERATION **APPARATUS**

(71) Applicant: HUAWEI TECHNOLOGIES CO., LTD., Shenzhen (CN)

(72) Inventors: Yi LI, Wuhan (CN); Jiancong LI, Wuhan (CN); Xiangshui MIAO, Wuhan (CN); Peng YAN, Chengdu (CN); Guiyou PU, Chengdu (CN);

Xiaozhong SHI, Chengdu (CN); Keji HUANG, Chengdu (CN)

(73) Assignee: HUAWEI TECHNOLOGIES CO., LTD., Shenzhen (CN)

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(57)**ABSTRACT**

The present application discloses a Hamming weight calculation method performed by an operation apparatus. The operation apparatus includes a controller and a first calculator, wherein the controller sets an initial resistance state of the first memory to a low resistance state; determines a first gate voltage of the first transistor based on first bit data in a first binary sequence, and control an on-off state of the first transistor based on the first gate voltage; controls a target resistance state of the first memory based on the on-off state of the first transistor; and determines a Hamming weight of the first bit data based on a first output current on the source of the first transistor.

301 Set an initial resistance state of a memory to a low resistance state 302 Control an on-off state of a transistor in an operation unit based on an input binary sequence 303 Control a target resistance state of the memory in the operation unit based on the on-off state of the transistor 304 Determine a Hamming weight of the binary sequence based on an output current on a source of the transistor