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(54) Title: NEURAL PROCESSING CORE FOR A NEURAL NETWORK AND METHOD OF OPERATING THEREOF

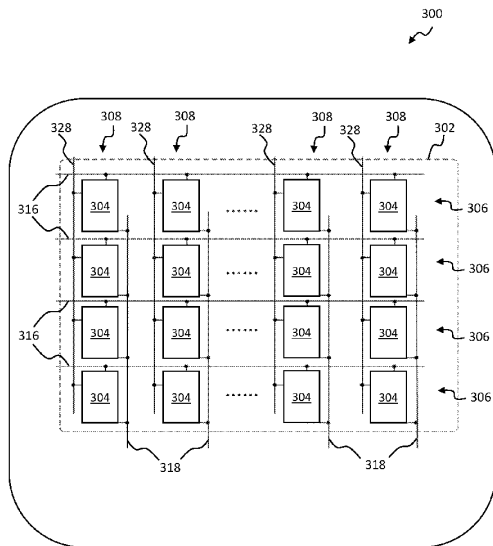


FIG. 3

(57) Abstract: A neural processing core for a neural network is provided, which includes: a synaptic memory array including synaptic memory cells arranged in a plurality of memory cell rows and columns; a plurality of first input activation lines connected to the plurality of memory cell rows, respectively, of the synaptic memory array and configured to receive a plurality of first input activation signals, respectively, to the plurality of memory cell rows; and a plurality of first sensing lines connected to the plurality of memory cell columns, respectively, of the synaptic memory array and configured to output a plurality of first analog electrical signals, respectively, from the plurality of memory cell columns. In particular, the neural processing core is configured to control the synaptic memory cells of the synaptic memory array in a column-wise manner. There is also provided a corresponding method of operating the neural processing core for a neural network.

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