

ABSTRACT

A search circuit includes a content-addressable memory (CAM) including a plurality of CAM cells configured to store a plurality of entry data, each entry data including a first bit corresponding to a least significant bit through a K-th bit corresponding to a most significant bit, the CAM configured to provide a plurality of matching signals indicating whether each of the plurality of entry data matches searching data, and a CAM controller configured to perform a partial searching operation such that the CAM controller applies comparison bits corresponding to a portion of the first through K-th bits as the searching data to the CAM and searches for target entry data among the plurality of entry data based on the plurality of matching signals indicating that the corresponding bits of the target entry data match the comparison bits.

FIG. 1