ABSTRACT

A storage device includes a non-volatile memory, a buffer memory, and a storage controller. The controller receives first host data indicating a first logical block address range of the non-volatile memory from a host device, reads first memory data from the non-volatile memory using the first logical block address range, and stores the first memory data in the buffer memory. The storage controller further receives a read command and a read address from the host device, determines whether the read address is within the first logical block address range, read, in response to the read address being determined as within the first logical block address range and the read command, the first memory data from the buffer memory, without accessing the non-volatile memory, and outputs the first memory data from the buffer memory to the host device.

FIG. 1