

ERROR CORRECTION METHOD AND MODULE FOR NON-VOLATILE MEMORY

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ABSTRACT

There is provided an error correction method for a non-volatile memory. The method includes receiving a codeword read from the non-volatile memory, computing a reliability information for each bit of the codeword received, and performing a reduced-complexity soft-decision decoding (SDD) technique to decode the received codeword. In particular, the SDD technique includes forming a set of test patterns based on the reliability data, and determining whether to perform a HDD of a test pattern in the set of test patterns based on a distance between the test pattern and a candidate pattern. There is also provided an error correction module for a non-volatile memory and a memory system incorporating the error correction module.

Figure 1