A Digital Signal Processor Core integrated with the Back-propagation Neural Network

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ABSTRACT

This study develops a 24-bit digital signal processor (DSP) embedded with a first-order back-propagation neural network by using verilog HDL and algorithmic state machine (ASM). The designed DSP core is carried out through the behavioral stage by simulation of SynaptiCAD simulator. The VLSI layout of the DSP core is implemented under tsmc 0.18 um process technology at final.

Keywords : ASM、Verilog HDL、DSP、First-order Back-propagation Neural Network

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