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Abstract
The representation of audio, image and video signals involves a vast amount of data, so signal compression is indispensable. Recently, Variable-Length Code (VLC) has been widely used in multimedia and lossless coding compression such as JPEG and MPEG. It is also an important part in MPEG-4 video compression standard. The CAVLC (context adaptive variable length coding) in H.264 Standard (also called MPEG-4 Part 10) is an adaptive VLC. This thesis describes a low memory class-based CAVLC encoder/decoder algorithm for H.264.The computation complexity of the proposed CAVLC is quite low and its memory requirement is small. Hence, it’s easily implemented by VLSI.
The CAVLC architecture has been synthesized on Quartus II (FPGA software).Finally, the logic element of CAVLC encoder/decoder is 4144 and its clock frequency is 12MHz.
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