

## Adaptive Multiple Transforms Hardware Architecture for Versatile Video Coding

**Authors :** T. Damak, S. Houidi, M. A. Ben Ayed, N. Masmoudi

**Abstract :** The Versatile Video Coding standard (VVC) is actually under development by the Joint Video Exploration Team (or JVET). An Adaptive Multiple Transforms (AMT) approach was announced. It is based on different transform modules that provided an efficient coding. However, the AMT solution raises several issues especially regarding the complexity of the selected set of transforms. This can be an important issue, particularly for a future industrial adoption. This paper proposed an efficient hardware implementation of the most used transform in AMT approach: the DCT II. The developed circuit is adapted to different block sizes and can reach a minimum frequency of 192 MHz allowing an optimized execution time.

**Keywords :** adaptive multiple transforms, AMT, DCT II, hardware, transform, versatile video coding, VVC

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