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(54) **Title:** METHOD FOR SKIPPING REFINEMENT BASED ON PATCH SIMILARITY IN BILINEAR INTERPOLATION
BASED DECODER-SIDE MOTION VECTOR REFINEMENT

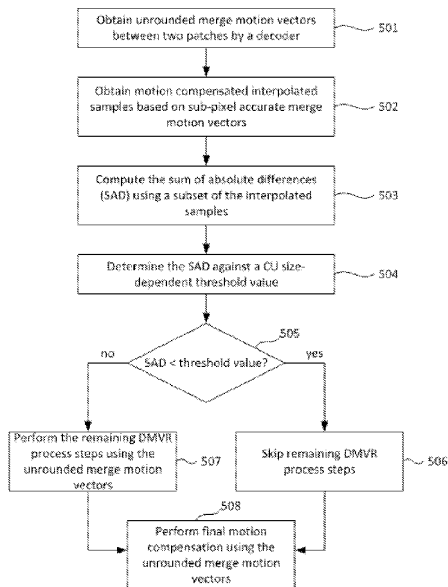


FIG. 5

(57) **Abstract:** Methods and apparatuses of determining an alignment level between motion compensated reference patches for reducing motion vector refinement steps are provided. According to one method, a decoder determines the alignment level by rounding unrounded merge motion vectors, calculates the SAD between the two patches by performing simple motion compensation using the rounded motion vectors, and determines whether the SAD is less than a CU size-dependent threshold value. When the SAD is less than the CU size-dependent threshold value, the decoder skips remaining decoder-side motion vector process steps, and performs final motion compensation using the unrounded merge motion vectors. In another method, the decoder calculates the SAD between two patches using a subset of samples from a bilinear motion compensated interpolation using sub-pixel accurate merge motion vectors. In yet another method, the decoder calculates a mean-reduced SAD between samples at center positions of respective motion compensated reference patches.

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