【CLAIMS】

【Claim 1】

A method of generating a reconstructed block,comprising:

deriving an intra prediction mode of a prediction unit;

determining a size of a current block using transform size information;

generating a prediction block of the current block according to the intra prediction mode;

generating a residual block of the current block according to the intra prediction mode; and

generating a reconstructed block of the current block using the prediction block and the residual block,

wherein the size of the current block is equal to or smaller than a size of the prediction unit, and the sizes of the prediction unit, the residual block and the reconstructed block are equal to a size of a transform unit.

【Claim 2】

The method of claim 1, wherein the transform size information includes one or more split_tu_flags.

【Claim 3】

The method of claim 1, wherein deriving an intra prediction mode of a prediction unit comprises:

constructing MPM group which is comprised of three intra prediction modes using a left intra prediction mode and an above intra prediction mode;

determining whether a mode group indicator indicates the MPM group or not;

setting a intra prediction mode of the MPM group specified by a prediction mode index as the intra prediction mode of the prediction unit if the mode group indicator indicates the MPM; and

determining the intra prediction mode of the prediction unit by comparing the prediction mode index with the three intra prediction modes of the MPM group if the mode group indicator indicates the MPM.

【Claim 4】

The method of claim 3, wherein if one of the left intra prediction mode and the above intra prediction mode is available, the MPM group is comprised of the available intra prediction mode and two additional intra prediction mode.

【Claim 5】

The method of claim 4, wherein the two additional intra prediction modes are determined according to the available intra prediction mode.

【Claim 6】

The method of claim 5, wherein if the available intra prediction mode is a directional intra prediction mode, DC mode and planar mode are set as the two additional intra prediction modes.

【Claim 7】

The method of claim 1, wherein generating a residual block of the current block according to the intra prediction mode comprises:

entropy-decoding the encoded residual signals to generated quantized coefficient information;

inversely scanning the quantized coefficient information to generate a quantized block using an inverse scan pattern; and

inversely quantizing and transforming the quantized block using quantization parameter and an inverse transform,

wherein a type of the inverse transform is determined by the size of the transform unit.

【Claim 8】

The method of claim 7, wherein the inverse scan pattern is determined based on the size of the transform unit and the intra prediction mode.

【Claim 9】

The method of claim 7, wherein the inverse scan pattern is selected among a diagonal scan, a vertical scan and a horizontal scan.

【CLAIMS】

【Claim 1】

A method of generating a reconstructed block, comprising:

deriving an intra prediction mode of a prediction unit using three intra prediction modes which are determined by left and above intra prediction modes;

determining a size of a current block using transform size information;

generating a prediction block of the current block according to the intra prediction mode;

generating a residual block of the current block according to the intra prediction mode and the size of the current block; and

generating a reconstructed block of the current block using the prediction block and the residual block,

wherein the size of the current block is equal to or smaller than a size of the prediction unit, and the sizes of the prediction block, the residual block and the reconstructed block are equal to a size of a transform unit, and the transform size information includes one or more split_tu_flags, and

wherein generating the residual block of the current block comprises:

entropy-decoding the encoded residual signals to generate quantized coefficient information;

inversely scanning the quantized coefficient information to generate a quantized block using an inverse scan pattern which is determined according to the intra prediction mode and a size of the current block; and

inversely quantizing and transforming the quantized block using quantization parameter and an inverse transform,

wherein a type of the inverse transform is determined by the size of the transform unit.

【Claim 2】

The method of claim 1, wherein deriving the intra prediction mode of the prediction unit comprises:

constructing a Most Probable Mode (MPM) group which is comprised of three intra prediction modes using the left intra prediction mode and the above intra prediction mode;

determining whether a mode group indicator indicates the MPM group or not;

setting an intra prediction mode of the MPM group specified by a prediction mode index as the intra prediction mode of the prediction unit if the mode group indicator indicates the MPM group; and

determining the intra prediction mode of the prediction unit by comparing the prediction mode index with the three intra prediction modes of the MPM group if the mode group indicator does not indicate the MPM group.

【Claim 3】

The method of claim 2, wherein if one of the left intra prediction mode and the above intra prediction mode is available, the MPM group is comprised of the available intra prediction mode and two additional intra prediction mode.

【Claim 4】

The method of claim 3, wherein the two additional intra prediction modes are determined according to the available intra prediction mode.

【Claim 5】

The method of claim 4, wherein if the available intra prediction mode is a directional intra prediction mode, DC mode and planar mode are set as the two additional intra prediction modes.

【Claim 6】

The method of claim 1, wherein the inverse scan pattern is selected among a diagonal scan, a vertical scan and a horizontal scan and

when the size of the quantized block is larger than a predetermined size, a plurality of subsets are generated and the quantized block is generated by inversely scanning the plurality of subsets using the inverse scan pattern.

【Claim 7】

The method of claim 1, wherein when two or more of a left quantization parameter, an above quantization parameter and a previous quantization parameter are available, the quantization parameter is generated using two available quantization parameters which are determined in a predetermined order.

【Claim 8】

The method of claim 7, wherein the quantization parameter is generated by adding an average of the two available quantization parameters and a differential quantization parameter, the differential quantization parameter is restored using a bin string indicating an absolute value of the differential quantization parameter and a bin indicating a sign of the differential quantization parameter.