CLAIMS

1. An image decoding method performed by an image decoding apparatus, the image decoding method comprising:

generating a prediction block by performing intra prediction on a current block;

determining whether to apply position dependent intra prediction combination (PDPC) to the prediction block; and

generating a final prediction block of the current block, by applying PDPC to the prediction block based on the determination,

wherein the determining whether to apply PDPC to the prediction block comprises determining whether a size of the current block satisfies a predetermined condition,

wherein, based on the size of the current block satisfying the predetermined condition, it is determined to apply PDPC to the prediction block, and

wherein, based on the size of the current block doing not satisfy the predetermined condition, a determination of a color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.

2. The image decoding method of claim 1, wherein the predetermined condition is that the size of the current block is greater than or equal to a predetermined threshold.

3. The image decoding method of claim 2, wherein, based on a width of the current block being greater than or equal to the predetermined threshold and a height of the current block being greater to or equal to the predetermined threshold, the predetermined condition is satisfied.

4. The image decoding method of claim 3, wherein the predetermined threshold is 4.

5. The image decoding method of claim 1, wherein the determining whether to apply PDPC to the prediction block further comprises a determination of a reference sample line used for intra prediction of the current block.

6. The image decoding method of claim 5,

wherein, based on the reference sample line being a predetermined reference sample line, it is determined to apply PDPC to the prediction block, and

wherein, based on the reference sample line being not the predetermined reference sample line, the determination of the color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.

7. The image decoding method of claim 6, wherein the predetermined reference sample line is a first reference sample line adjacent to the current block.

8. The image decoding method of claim 1, wherein the determining whether to apply PDPC to the prediction block further comprises a determination of whether block difference pulse code modulation (BDPCM) is applied to the current block and a determination of the intra prediction mode of the current block.

9. An image encoding method performed by an image encoding apparatus, the image encoding method comprising:

generating a prediction block by performing intra prediction on a current block;

determining whether to apply position dependent intra prediction combination (PDPC) to the prediction block; and

generating a final prediction block of the current block, by applying PDPC to the prediction block based on the determination,

wherein the determining whether to apply PDPC to the prediction block comprises determining whether a size of the current block satisfies a predetermined condition,

wherein, based on the size of the current block satisfying the predetermined condition, it is determined to apply PDPC to the prediction block, and

wherein, based on the size of the current block doing not satisfy the predetermined condition, a determination of a color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.

10. The image encoding method of claim 9, wherein the predetermined condition is that the size of the current block is greater than or equal to a predetermined threshold.

11. The image encoding method of claim 9, wherein, based on a width of the current block being greater than or equal to the predetermined threshold and a height of the current block being greater to or equal to the predetermined threshold, the predetermined condition is satisfied.

12. The image encoding method of claim 9, wherein the determining whether to apply PDPC to the prediction block further comprises a determination of a reference sample line used for intra prediction of the current block.

13. The image encoding method of claim 12,

wherein, based on the reference sample line being a predetermined reference sample line, it is determined to apply PDPC to the prediction block, and

wherein, based on the reference sample line being not the predetermined reference sample line, the determination of the color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.

14. A method of transmitting a bitstream generated by an image encoding method, the image encoding method comprising:

generating a prediction block by performing intra prediction on a current block;

determining whether to apply position dependent intra prediction combination (PDPC) to the prediction block; and

generating a final prediction block of the current block, by applying PDPC to the prediction block based on the determination,

wherein the determining whether to apply PDPC to the prediction block comprises determining whether a size of the current block satisfies a predetermined condition,

wherein, based on the size of the current block satisfying the predetermined condition, it is determined to apply PDPC to the prediction block, and

wherein, based on the size of the current block doing not satisfy the predetermined condition, a determination of a color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.

15. A non-transitory computer-readable recording medium storing a bitstream generated by an image encoding method, the image encoding method comprising:

generating a prediction block by performing intra prediction on a current block;

determining whether to apply position dependent intra prediction combination (PDPC) to the prediction block; and

generating a final prediction block of the current block, by applying PDPC to the prediction block based on the determination,

wherein the determining whether to apply PDPC to the prediction block comprises determining whether a size of the current block satisfies a predetermined condition,

wherein, based on the size of the current block satisfying the predetermined condition, it is determined to apply PDPC to the prediction block, and

wherein, based on the size of the current block doing not satisfy the predetermined condition, a determination of a color component of the current block is skipped and it is determined not to apply PDPC to the prediction block.