CLAIMS

1. A video decoding method comprising:

obtaining, from a bitstream, information about an intra prediction mode of a top-left sample in a current chroma block;

obtaining an intra prediction mode of a sample at a bottom-right location in a current luma block corresponding to the current chroma block, wherein the current luma block is split into at least two lower luma blocks including a lower luma block comprising the sample at the bottom-right location;

determining an intra prediction mode of the top-left sample of the current chroma block using the intra prediction mode of the sample at the bottom-right location and the information; and

performing intra prediction on the current chroma block using the intra prediction mode of the top-left sample of the current chroma block,

wherein the sample at the bottom-right location is a sample at a location of 1/2 of a width of the current luma block in a right direction from a location of a top-left sample in the current luma block and 1/2 of a height of the current luma block in a lower direction from the location of the top-left sample in the current luma block.~~A video decoding method comprising:~~

~~obtaining chroma intra prediction mode information about a current chroma block;~~

~~when the chroma intra prediction mode information indicates a direct mode (DM), determining a luma block including a luma sample corresponding to a chroma sample at a lower-right location with respect to a center of the current chroma block;~~

~~based on an intra prediction mode of the determined luma block, determining a chroma intra prediction mode of the current chroma block; and~~

~~based on the determined chroma intra prediction mode, performing intra prediction on the current chroma block.~~

~~2. The video decoding method of claim 1, wherein the chroma sample at the lower-right location with respect to the center of the current chroma block is a chroma sample which is located in the right side by 1/2 of a width of the current chroma block and located at the lower side by 1/2 of a height of the current chroma block, from a chroma sample at an upper-left location of the current chroma block.~~

~~3. The video decoding method of claim 1, wherein the chroma intra prediction~~

mode information indicates one of prediction modes including a planar mode, a direct current (DC) mode, a vertical mode, a horizontal mode, and a DM.

4. The video decoding method of claim 1, wherein the current chroma block and the determined luma block are split into different tree structures.

5. The video decoding method of claim 1, wherein a luma region corresponding to the current chroma block includes a plurality of luma blocks.

6. A video encoding method comprising:

determining a luma block including a luma sample corresponding to a chroma sample at a lower-right location with respect to a center of a current chroma block;

based on an intra prediction mode of the determined luma block, determining a chroma intra prediction mode of the current chroma block;

based on the determined chroma intra prediction mode, performing intra prediction on the current chroma block; and

generating chroma intra prediction mode information about the current chroma block.

7. The video encoding method of claim 6, wherein the chroma sample at the lower-right location with respect to the center of the current chroma block is a chroma sample which is located in the right side by 1/2 of a width of the current chroma block and located at the lower side by 1/2 of a height of the current chroma block, from a chroma sample at an upper-left location of the current chroma block.

8. The video encoding method of claim 6, wherein the chroma intra prediction mode information indicates one of prediction modes including a planar mode, a direct current (DC) mode, a vertical mode, a horizontal mode, and a direct mode (DM).

9. The video encoding method of claim 6, wherein the current chroma block and the determined luma block are split into different tree structures.

10. The video encoding method of claim 6, wherein a luma region corresponding to the current chroma block includes a plurality of luma blocks.

11. A video decoding apparatus comprising:

a memory; and

at least one processor connected to the memory,

wherein the at least one processor is configured to:

obtain chroma intra prediction mode information about a current chroma block;

when the chroma intra prediction mode information indicates a direct mode (DM), determine a luma block including a luma sample corresponding to a chroma sample at a lower-right location with respect to a center of the current chroma block;

based on an intra prediction mode of the determined luma block, determine a chroma intra prediction mode of the current chroma block; and

based on the determined chroma intra prediction mode, perform intra prediction on the current chroma block.

12. The video decoding apparatus of claim 11, wherein the chroma sample at the lower-right location with respect to the center of the current chroma block is a chroma sample which is located in the right side by 1/2 of a width of the current chroma block and located at the lower side by 1/2 of a height of the current chroma block, from a chroma sample at an upper-left location of the current chroma block.

13. The video decoding apparatus of claim 11, wherein the chroma intra prediction mode information indicates one of prediction modes including a planar mode, a direct current (DC) mode, a vertical mode, a horizontal mode, and a DM.

14. The video decoding apparatus of claim 11, wherein the current chroma block and the determined luma block are split into different tree structures.

15. The video decoding apparatus of claim 11, wherein a luma region corresponding to the current chroma block includes a plurality of luma blocks.