

## CLAIMS

1. A method of coding implemented by a decoding device, comprising:

obtaining a video bitstream;

5 decoding the video bitstream to obtain a value of chroma format indication information for a current coding block;

obtaining an initial intra prediction mode value for chroma component of the current coding block;

10 obtaining a mapped intra prediction mode value for chroma component of the current coding block according to a predefined mapping relationship and the initial intra prediction mode value, when the value of chroma format indication information for the current coding block is equal to a predefined value;

obtaining a prediction sample value for chroma component of the current coding block according to the mapped intra prediction mode value.

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2. The method of claim 1, wherein the predefined value is 2 or 1, the predefined value is 2 represents that the chroma format is 4:2:2, the predefined value is 1 represents that the chroma format is 4:2:0.

20 3. The method of claim 1 or 2, wherein the initial intra prediction mode value for chroma component of the current coding block is obtained based on an intra prediction mode for luma component of the current coding block.

4. The method of any one of claims 1 to 3, wherein the following table is used to show the  
25 predefined mapping relationship,

|               |   |   |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |
|---------------|---|---|----|----|----|----|----|----|---|---|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| <b>mode Y</b> | 0 | 1 | 60 | 61 | 62 | 63 | 64 | 65 | 2 | 3 | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 | 18 |

or

|               |   |   |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |
|---------------|---|---|----|----|----|----|----|----|---|---|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| <b>mode Y</b> | 0 | 1 | 61 | 62 | 63 | 64 | 65 | 66 | 2 | 3 | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 | 18 |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

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5. The method of any one of claims 1 to 4, wherein the following table is used to show the predefined mapping relationship,

|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| <b>mode Y</b> | 20 | 22 | 23 | 24 | 26 | 28 | 30 | 31 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

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6. The method of any one of claims 1 to 5, wherein the following table is used to show the predefined mapping relationship,

|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| <b>mode Y</b> | 41 | 41 | 42 | 43 | 43 | 44 | 44 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 49 | 50 |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

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7. The method of any one of claims 1 to 6, wherein the following table is used to show the predefined mapping relationship,

|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |
| <b>mode Y</b> | 51 | 51 | 52 | 52 | 53 | 54 | 55 | 55 | 56 | 56 | 57 | 57 | 58 | 59 | 59 | 60 |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

- 5 8. The method of any one of claims 1 to 3, wherein the following table is used to show the predefined mapping relationship,

|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| <b>mode Y</b> | 0  | 1  | 61 | 62 | 63 | 64 | 65 | 66 | 2  | 3  | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 |
| <b>mode X</b> | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| <b>mode Y</b> | 18 | 20 | 22 | 23 | 24 | 26 | 28 | 30 | 31 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| <b>mode X</b> | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 |
| <b>mode Y</b> | 41 | 42 | 43 | 43 | 44 | 44 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 49 | 50 | 51 | 51 | 52 |
| <b>mode X</b> | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |    |    |    |    |    |
| <b>mode Y</b> | 52 | 53 | 54 | 55 | 55 | 56 | 56 | 57 | 57 | 58 | 59 | 59 | 60 |    |    |    |    |    |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

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9. A decoder (30) comprising processing circuitry for carrying out the method according to any one of claims 1 to 8.

10. A method of coding implemented by an encoding device, comprising:

- 15 obtaining an initial intra prediction mode value for the current coding block;  
determining whether a ratio between a width for luma component of a current coding block and a width for chroma component of the current coding block is equal to a threshold or not;  
obtaining a mapped intra prediction mode value for chroma component of the current coding

block according to a predefined mapping relationship and the initial intra prediction mode value, when the ratio between the width for luma component of the current coding block and the width for chroma component of the current coding block is equal to the threshold; coding the current coding block according to the mapped intra prediction mode value.

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11. The method of claim 10, wherein the method further comprises:

encoding a value of chroma format indication information for the current coding block into a bitstream, wherein the value of chroma format indication information represents the ratio between the width for luma component of the current coding block and the width for chroma component of the current coding block.

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12. The method of claim 10 or 11, wherein the following table is used to show the predefined mapping relationship,

|               |   |   |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |
|---------------|---|---|----|----|----|----|----|----|---|---|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| <b>mode Y</b> | 0 | 1 | 60 | 61 | 62 | 63 | 64 | 65 | 2 | 3 | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 | 18 |

or

|               |   |   |    |    |    |    |    |    |   |   |    |    |    |    |    |    |    |    |    |
|---------------|---|---|----|----|----|----|----|----|---|---|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0 | 1 | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| <b>mode Y</b> | 0 | 1 | 61 | 62 | 63 | 64 | 65 | 66 | 2 | 3 | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 | 18 |

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wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

13. The method of claim 10 or 11, wherein the following table is used to show the predefined mapping relationship,

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|               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| <b>mode X</b> | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| <b>mode Y</b> | 0  | 1  | 61 | 62 | 63 | 64 | 65 | 66 | 2  | 3  | 5  | 6  | 8  | 10 | 12 | 13 | 14 | 16 |
| <b>mode X</b> | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 |
| <b>mode Y</b> | 18 | 20 | 22 | 23 | 24 | 26 | 28 | 30 | 31 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| <b>mode X</b> | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 |
| <b>mode Y</b> | 41 | 42 | 43 | 43 | 44 | 44 | 45 | 45 | 46 | 47 | 48 | 48 | 49 | 49 | 50 | 51 | 51 | 52 |
| <b>mode X</b> | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 |    |    |    |    |    |
| <b>mode Y</b> | 52 | 53 | 54 | 55 | 55 | 56 | 56 | 57 | 57 | 58 | 59 | 59 | 60 |    |    |    |    |    |

wherein mode X represents the initial intra prediction mode value, mode Y represents the mapped intra prediction mode value.

- 5 14. A computer program product comprising a program code for performing the method according to any one of claims 1 to 8 and 10 to 13.

15. A decoder, comprising:

one or more processors; and

- 10 a non-transitory computer-readable storage medium coupled to the processors and storing programming for execution by the processors, wherein the programming, when executed by the processors, configures the decoder to carry out the method according to any one of claims 1 to 8.

- 15 16. An encoder, comprising:

one or more processors; and

a non-transitory computer-readable storage medium coupled to the processors and storing programming for execution by the processors, wherein the programming, when executed by the processors, configures the decoder to carry out the method according to any one of claims

- 20 10 to 13.

17. A computer-readable medium comprising a bitstream encoded/decoded by the method of any one of claims 1 to 8 and 10 to 13.