

CLAIMS

What is claimed is:

1. A method for video processing, comprising:
determining, for a conversion between a current video block of a video picture of a video and a coded representation of the video, a number of reference samples in a reference region of the video picture used for predicting the current video block, based on a rule, wherein the rule specifies that the number of reference samples is limited to a certain range; and
performing, based on the determining, the conversion.
2. The method of claim 1, wherein the rule specifies that a maximum number of the reference samples is less than a size of the reference region.
3. The method of claim 1, wherein the rule specifies that a maximum number of the reference samples is fixed in a case that a size of a coding tree block (CTB) or a size of a coding tree unit (CTU) is larger than 64×64 .
4. The method of claim 1, wherein the rule specifies that the number of the reference samples is less than or equal to N times a number of samples in a virtual pipeline data unit (VPDU), and wherein $N \geq 1$ is an integer.
5. The method of claim 4, wherein $N = 3$ in a case that a determination that a size of a coding tree block (CTB) or a size of a coding tree unit (CTU) is larger than a size of 64×64 luma samples.
6. A method for video processing, comprising:
determining, for a conversion between a current video block of a video picture of a video and a coded representation of the video, availability of one or more reference samples of a reference block used for predicting the current video block based on a rule, wherein the rule specifies to use a granularity at a virtual pipeline data unit (VPDU) level in the determining; and

performing, based on the determining, a conversion between the current block and a coded representation of the current block.

7. The method of claim 6, wherein the determining determines that the one or more reference samples as unavailable and wherein the method further comprises determining one or more corresponding samples in a current VPDU as unavailable.

8. The method of claim 6, further comprising: determining availability of one or more VPDUs as unavailable.

9. The method of claim 7, wherein the determining of the one or more corresponding samples is based on a position of the current VPDU.

10. The method of claim 7, wherein the determining of the one or more corresponding samples is based on a position of a previous VPDU or a recently decoded VPDU.

11. The method of claim 6, wherein the determining is performed right before encoding or decoding a video unit including the current video block and wherein the one or more reference samples correspond to a reference region of the video picture.

12. The method of claim 11, wherein, before encoding or decoding of the video unit, a corresponding area in the reference region is marked as unavailable.

13. The method of claim 11, wherein a corresponding area in the reference region corresponds to a luma area with $x=(X\%IBC_buf_width)..(X\%IBC_buf_width)+W-1$ and $y=(Y\%IBC_buf_height)..(Y\%IBC_buf_height)+H-1$, wherein the video unit has a size of $W \times H$, IBC_buf_width and IBC_buf_height indicate a width and a height of the virtual buffer, respectively, and a top-left position of the video unit is (X, Y).

14. The method of claim 11, wherein a corresponding area in the reference region corresponds to a chroma area with

$x=(X\%IBC_buf_width)/SubWidthC..((X\%IBC_buf_width)+W-1)/SubWidthC$ and $y=(Y\%IBC_buf_height)/SubHeightC..((Y\%IBC_buf_height)+H-1)/SubHeightC$, wherein the video unit has a size of $W \times H$, IBC_buf_width and IBC_buf_height indicate a width and a height of the virtual buffer, respectively, and a top-left position of the video unit is (X, Y) .

15. The method of claim 6, wherein the determining is performed right before encoding or decoding $K \times L$ samples or $K \times L$ pixels that are included in a video unit including the current video block.

16. The method of claim 15, wherein at least one of K and L is equal to 1.

17. The method of claim 15, wherein at least one of K and L is set to a sub-block size used in the video unit.

18. A method for video processing, comprising:
performing a conversion between a current video block of a video picture of a video and a coded representation of the video according to a rule,
wherein the current video block is represented in the coded representation using a residual of prediction from reference samples from a reference region in the video pictures, and
wherein the rule specifies that sample values in the reference region are reset at beginning of processing each virtual pipeline data unit (VPDU) during the conversion based on a position of a current VPDU of the current video block.

19. The method of claim 18, wherein the reference region is at a position of $(xVPDU + ctbSizeY, yVPDU)$, wherein $(xVPDU, yVPDU)$ denotes a position of the current VPDU relative to a top-left of a picture including the current video block and $ctbSizeY$ is a width or a height of a luma coding tree block (CTB) or a luma coding tree unit (CTU).

20. A method for processing video, comprising:
determining, for a current video block of a video picture of a video and a coded representation of the video, that samples from a current virtual pipeline data unit (VPDU) and

three additional recently processed VPDUs in the video picture are available as reference samples for generating a prediction of the current video block due to the current video block having a size larger than a size of 64x64 luma samples; and
performing the conversion based on the determining.

21. The method of claim 20, wherein the current video block corresponds to a coding tree block (CTB) or a coding tree unit (CTU).

22. The method of claim 20, wherein an index is maintained for each VPDU mapped to a reference region of the video picture.

23. A method for video processing, comprising:
performing a conversion between a current video block of a video picture of a video and a coded representation of the video, and
wherein, the conversion comprises using, a count of a number of available current virtual pipeline data units (VPDUs) that are mapped to a reference region of the video picture from which one or more reference samples are used for predicting the current video block.

24. The method of claim 23, wherein the counter is reset to zero at beginning of decoding each CTU row and increased by one at decoding a VPDU mapped to the reference region.

25. The method of claim 23, wherein the counter is larger than a certain value and wherein samples in a VPDU mapped to the reference region are marked as unavailable and the counter is decreased by one.

26. The method of any of claims 1 to 25, wherein the conversion includes encoding the current video block into the coded representation.

27. The method of any of claims 1 to 25, wherein the conversion includes decoding the coded representation from the current video block.

28. A video processing apparatus comprising a processor configured to implement a method recited in any one or more of claims 1 to 27.
29. A computer readable medium storing program code that, when executed, causes a processor to implement a method recited in any one or more of claims 1 to 27.