CLAIMS

1. A method of processing video data, comprising:

determining, for a conversion between a current video block of a video and a bitstream of the video, that a differential coding mode used for residual samples is applied to the current video block; and

performing, based on the determining, the conversion using the differential coding mode,

wherein, in the differential coding mode, differences between quantized residuals derived with an intra prediction and predictors of the quantized residuals are presented in the bitstream, and wherein at least one of reconstructed quantized residuals is derived based on a sum of one difference and another reconstructed quantized residual,

wherein values of the reconstructed quantized residuals are restricted within a specific range by applying a clipping operation to the reconstructed quantized residuals, and

wherein a single syntax element indicates whether the differential coding mode is applied to two chroma components or not, and the single syntax element is excluded from the bitstream in response to a specific mode being used for the intra prediction of two chroma components.

2. The method of claim 1, wherein each of the values of the reconstructed quantized residuals is restricted by the clipping operation as following:

a value is a minimum value in response to the value being less than the minimum value, and

the value is a maximum value in response to the value being greater than the maximum value.

3. The method of claim 2, wherein the minimum value is a negative value, and the maximum value is a positive value.

4. The method of claim 3, wherein the minimum value is set to -32768, and the maximum value is set to 32767.

5. The method of claim 1, wherein whether the differential coding mode is applied to the current video block or not is indicated by one or more syntax elements included in the bitstream.

6. The method of claim 1, wherein the specific mode includes a cross-component linear model.

7. The method of claim 1, wherein the predictors of the quantized residuals are generated at sample level.

8. The method of claim 7, wherein the differential coding mode applied along a horizontal or vertical direction.

9. The method of claim 1, wherein the conversion includes encoding the current video block into the bitstream.

10. The method of claim 1, wherein the conversion includes decoding the current video block from the bitstream.

11. An apparatus for processing video data comprising a processor and a non-transitory memory with instructions thereon, wherein the instructions upon execution by the processor, cause the processor to:

determine, for a conversion between a current video block of a video and a bitstream of the video, that a differential coding mode used for residual samples is applied to the current video block; and

perform, based on the determining, the conversion using the differential coding mode,

wherein, in the differential coding mode, differences between quantized residuals derived with an intra prediction and predictors of the quantized residuals are presented in the bitstream, and wherein at least one of reconstructed quantized residuals is derived based on a sum of one difference and another reconstructed quantized residual,

wherein values of the reconstructed quantized residuals are restricted within a specific range by a clipping operation applied to the reconstructed quantized residuals, and

wherein a single syntax element indicates whether the differential coding mode is applied to two chroma components or not, and the single syntax element is excluded from the bitstream in response to a specific mode being used for the intra prediction of two chroma components.

12. The apparatus of claim 11, wherein each of the values of the reconstructed quantized residuals is restricted by the clipping operation as following:

a value is a minimum value in response to the value being less than the minimum value, and the value is a maximum value in response to the value being greater than the maximum value, and

wherein the minimum value is a negative value, and the maximum value is a positive value, and the minimum value is set to -32768, and the maximum value is set to 32767.

13. A non-transitory computer readable media storing instructions that cause a processor to:

determine, for a conversion between a current video block of a video and a bitstream of the video, that a differential coding mode used for residual samples is applied to the current video block; and

perform, based on the determining, the conversion using the differential coding mode,

wherein, in the differential coding mode, differences between quantized residuals derived with an intra prediction and predictors of the quantized residuals are presented in the bitstream, and wherein at least one of reconstructed quantized residuals is derived based on a sum of one difference and another reconstructed quantized residual,

wherein values of the reconstructed quantized residuals are restricted within a specific range by a clipping operation applied to the reconstructed quantized residuals, and

wherein a single syntax element indicates whether the differential coding mode is applied to two chroma components or not, and the single syntax element is excluded from the bitstream in response to a specific mode being used for the intra prediction of two chroma components.

14. The non-transitory computer readable media of claim 13, wherein each of the values of the reconstructed quantized residuals is restricted by the clipping operation as following:

a value is a minimum value in response to the value being less than the minimum value, and the value is a maximum value in response to the value being greater than the maximum

value, and

wherein the minimum value is a negative value, and the maximum value is a positive value, and the minimum value is set to -32768, and the maximum value is set to 32767.

15. A non-transitory computer readable media storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

determining that a differential coding mode used for residual samples is applied to a current video block of the video; and

generating the bitstream of the video based on the determining using the differential coding mode,

wherein, in the differential coding mode, differences between quantized residuals derived with an intra prediction and predictors of the quantized residuals are presented in the bitstream, and wherein at least one of reconstructed quantized residuals is derived based on a sum of one difference and another reconstructed quantized residual,

wherein values of the reconstructed quantized residuals are restricted within a specific range by applying a clipping operation to the reconstructed quantized residuals, and

wherein a single syntax element indicates whether the differential coding mode is applied to two chroma components or not, and the single syntax element is excluded from the bitstream in response to a specific mode being used for the intra prediction of two chroma components.

16. The non-transitory computer readable media of claim 15, wherein each of the values of the reconstructed quantized residuals is restricted by the clipping operation as following:

a value is a minimum value in response to the value being less than the minimum value, and the value is a maximum value in response to the value being greater than the maximum value, and

wherein the minimum value is a negative value, and the maximum value is a positive value, and the minimum value is set to -32768, and the maximum value is set to 32767.