CLAIMS

~~What is claimed is:~~

1. A video coding method, comprising:

determining, for a conversion between a current video block of a video that is a chroma block and a bitstream of the video, parameters of a cross-component linear model (CCLM) at least based on two or more chroma samples from neighboring chroma samples of the current video block, wherein the two or more chroma samples are selected based on a CCLM mode of the current video block and availabilities of the neighboring chroma samples;

applying the CCLM on luma samples located in a luma block corresponding to the current video block to derive prediction values of the current video block; and

performing the conversion based on the prediction values.~~,~~

~~2. The method of claim 1, wherein the neighboring chroma samples include left neighboring chroma samples, above neighboring chroma samples, above-right neighboring chroma samples, or below-left neighboring chroma samples relative to the current video block.~~

~~3. The method of claim 1 or 2,~~ wherein the CCLM mode of the current video block is one of a first CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and above neighboring chroma samples, a second CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and below-left neighboring samples, and a third CCLM mode that derives the parameters of CCLM based on above neighboring chroma samples and above-right neighboring chroma sample, wherein a width and a height of the current video block is W and H, respectively.~~,~~

~~4. The method of anyone of claims 1-3,~~ wherein the two or more chroma samples are selected further based on the W and/or the H, and wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being equal to 2.

25. The method of claimanyone of claims 1-4, wherein two chroma samples are selected from the left neighboring chroma samples and other two chroma samples are selected from the above neighboring chroma samples in response to both the left neighboring chroma samples and the above neighboring chroma samples being available and the CCLM mode of the current video block being the first CCLM mode.

~~6. The method of anyone of claims 1-4, wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being equal to 2.~~

37. The method of ~~anyone of~~ claims 1-4, wherein exactly two chroma samples are selected from the left neighboring chroma samples in response to only the left neighboring chroma samples being available, the CCLM mode of the current video bock being the first CCLM mode, and the H being equal to 2.

48. The method of claimanyone of claims 1-4, wherein exactly four chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being larger than 2.

59. The method of claimanyone of claims 1-4, wherein exactly four chroma samples are selected from the left neighboring chroma samples in response to only the left neighboring chroma samples being available, the CCLM mode of the current video bock being the first CCLM mode, and the H being larger than 2.

610. The method of claimanyone of claims 1-4, wherein exactly four chroma samples are selected from the left neighboring chroma samples and the below-left neighboring chroma samples in response to both the left neighboring chroma samples and the below-left neighboring chroma samples being available, and the CCLM mode of the current video block being the

second CCLM mode.

7~~11~~. The method of claim~~anyone of claims~~ 1~~-4~~, wherein exactly two chroma samples are selected from the left neighboring chroma samples in response to only the left neighboring chroma samples being available, the CCLM mode of the current video block being the second CCLM mode, and the H being equal to 2.

8~~12~~. The method of claim~~anyone of claims~~ 1~~-4~~, wherein exactly four chroma samples are selected from the left neighboring chroma samples in response to only the left neighboring chroma samples being available, the CCLM mode of the current video block being the second CCLM mode, and the H being larger than 2.

9~~13~~. The method of claim~~anyone of claims~~ 1~~-4~~, wherein exactly four chroma samples are selected from the above neighboring chroma samples and the above-right neighboring chroma samples in response to both the above neighboring chroma samples and the above-right neighboring chroma samples being available, and the CCLM mode of the current video block being the third CCLM mode.

10~~14~~. The method of claim~~anyone of claims~~ 1~~-4~~, wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the third CCLM mode, and the W being equal to 2.

11~~15~~. The method of claim~~anyone of claims~~ 1~~-4~~, wherein exactly four chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the third CCLM mode, and the W being larger than 2.

12~~16~~. The method of claim~~anyone of claims~~ 1~~-15~~, further comprising determining two or more luma samples corresponding the two or more chroma samples.

13.~~17.~~ The method of claim 12~~16~~, wherein in response to four luma samples being determined, a first averaging luma value is derived based on averaging two maximum values of the four luma samples, and ~~are averaged to derive~~ a second~~first~~ averaging luma value is derived based on averaging~~and~~ two minimum values of the four luma samples ~~are averaged to derive a second averaging luma value~~, respectively.

14.~~18.~~ The method of claim 13~~17~~, wherein the first averaging luma value and the second averaging luma value are used to derive the parameters of CCLM.

15~~19~~. The method of claim~~anyone of claims~~ 1~~–18~~, wherein the performing of the conversion includes decoding the current video block from the bitstream.

16~~20~~. The method of claim~~anyone of claims~~ 1~~–18~~, wherein the performing of the conversion includes encoding the current block into the bitstream.

17~~21~~. A video coding apparatus 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 that is a chroma block and a bitstream of the video, parameters of a cross-component linear model (CCLM) at least based on two or more chroma samples from neighboring chroma samples of the current video block, wherein the two or more chroma samples are selected based on a CCLM mode of the current video block and availabilities of the neighboring chroma samples;

apply the CCLM on luma samples located in a luma block corresponding to the current video block to derive prediction values of the current video block; and

perform the conversion based on the prediction values~~.~~,

wherein the CCLM mode of the current video block is one of a first CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and above neighboring chroma samples, a second CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and below-left neighboring samples, and a third CCLM mode that derives the parameters of CCLM based on above neighboring chroma samples and above-right

neighboring chroma sample, wherein a width and a height of the current video block is W and H, respectively,

wherein the two or more chroma samples are selected further based on the W and/or the H, and wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being equal to 2.

1822. A non-transitory computer-readable storage medium storing instruction that cause a processor to:

determine, for a conversion between a current video block of a video that is a chroma block and a bitstream of the video, parameters of a cross-component linear model (CCLM) at least based on two or more chroma samples from neighboring chroma samples of the current video block, wherein the two or more chroma samples are selected based on a CCLM mode of the current video block and availabilities of the neighboring chroma samples;

apply the CCLM on luma samples located in a luma block corresponding to the current video block to derive prediction values of the current video block; and

perform the conversion based on the prediction values,

wherein the CCLM mode of the current video block is one of a first CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and above neighboring chroma samples, a second CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and below-left neighboring samples, and a third CCLM mode that derives the parameters of CCLM based on above neighboring chroma samples and above-right neighboring chroma sample, wherein a width and a height of the current video block is W and H, respectively,

wherein the two or more chroma samples are selected further based on the W and/or the H, and wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being equal to 2.

1923. A non-transitory computer-readable storagerecording medium storing a bitstream of a video which is generated by a method performed by a video processing apparatus, wherein the method comprises:

determining, for a conversion between a current video block of a video that is a chroma block and a bitstream of the video,that parameters of a cross-component linear model (CCLM) at least based on two or more chroma samples from neighboring chroma samples of thea current video block of the video, wherein the two or more chroma samples are selected based on a CCLM mode of the current video block and availabilities of the neighboring chroma samples;

applying the CCLM on luma samples located in a luma block corresponding to the current video block to derive prediction values of the current video block; and

generating the bitstream based on the prediction values,

wherein the CCLM mode of the current video block is one of a first CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and above neighboring chroma samples, a second CCLM mode that derives the parameters of CCLM based on left neighboring chroma samples and below-left neighboring samples, and a third CCLM mode that derives the parameters of CCLM based on above neighboring chroma samples and above-right neighboring chroma sample, wherein a width and a height of the current video block is W and H, respectively,

wherein the two or more chroma samples are selected further based on the W and/or the H, and wherein exactly two chroma samples are selected from the above neighboring chroma samples in response to only the above neighboring chroma samples being available, the CCLM mode of the current video block being the first CCLM mode, and the W being equal to 2.