WHAT IS CLAIMED IS:

1. A method of video decoding performed in a video decoder, the method comprising:

receiving a coded video bitstream including a current picture and at least one syntax element that corresponds to transform coefficients of a transform block in the current picture;

determining an offset value based on an output of a monotonically non-decreasing ~~f(x)~~ function ~~-~~performed on a sum (x) of a group of partially reconstructed transform coefficients;

determining a context model index based on a sum of the determined offset value and a base value;

selecting, for the at least one syntax element of a current transform coefficient, a context model from a plurality of context models based on the determined context model index~~.~~,

~~2. The method of claim 1,~~ wherein one of the base value and offset value is determined based on a number of context models included in the plurality of context models,~~.~~

wherein the monotonically non-decreasing function is defined as (x+1) >>1.

~~3~~2. The method according to claim ~~2~~1, the method further comprising:

determining whether dependent quantization is enabled for the current transform coefficient, and

in response to the determination that dependent quantization is enabled for the current transform coefficient, the base value is based on a state of a quantizer.

~~4~~3. The method according to claim ~~3~~2, wherein the current transform coefficient is located in a luma region, and the base value is based on a comparison of a distance of the current

transform coefficient from a top left corner the transform block with a first diagonal position threshold.

~~5~~4. The method according to claim ~~4~~3, wherein the base value is further based on a comparison of the distance with a second diagonal position threshold.

~~6~~5. The method according to claim ~~3~~2, wherein the current transform coefficient is located in a chroma region, and the base value is based on a comparison of a distance of the current transform coefficient from a top left corner of the transform block with a first diagonal position threshold.

~~7. The method according to claim 1, wherein the monotonic non-decreasing function is defined as x-(x>>2).~~

~~8. The method according to claim 1, wherein the monotonic non-decreasing function is defined as (x+1)>>1.~~

~~9~~6. The method according to claim 1, wherein the current transform coefficient and the group of partially reconstructed transform coefficients form a template that constitutes a contiguous set of transform coefficients.

~~10~~7. The method according to claim 1, wherein the at least one syntax element is a transform coefficient significant flag (sig_coeff_flag).

~~11~~8. The method of claim 1, wherein the bit stream includes a plurality of syntax elements that include the at least one syntax element, and wherein the sum (x) of the group of partially reconstructed transform coefficients is based on one or more syntax elements from the plurality of syntax elements.

~~12. A method of video decoding performed in a video decoder, the method comprising:~~

~~receiving a coded video bitstream including a current picture and at least one syntax element that corresponds to transform coefficients of a transform block in the current picture;~~

~~determining, for each context model region from a plurality of context model regions, an output of a monotonic non-decreasing function performed on a sum (x) of a group of partially reconstructed transform coefficients and a number of context models associated with a respective context model region;~~

~~determining a context model index based on the output of the monotonic non-decreasing function of each context model region; and~~

~~selecting, for the at least one syntax of a current transform coefficient, a context model from a plurality of context models based on the determined context model index.~~

~~13. The method according to claim 12, wherein the determining of the context model index is further based on a comparison of a distance of the current coefficient from a top left corner the transform block with a first diagonal position threshold and a second diagonal position threshold.~~

~~14. The method according to claim 12, wherein the determining of the context model index is further based on a comparison of a distance of the current coefficient from a top left corner the transform block with a first diagonal position.~~

~~15~~9. A video decoder for video decoding, comprising:

processing circuitry configured to:

receive a coded video bitstream including a current picture and at least one syntax element that corresponds to transform coefficients of a transform block in the current picture,

determine an offset value based on an output of a monotonically non-decreasing ~~f(x)~~ function performed on a sum (x) of a group of partially reconstructed transform coefficients,

determine a context model index based on a sum of the determined offset value and a base value, and

select, for the at least one syntax of a current transform coefficient, a context model from a plurality of context models based on the determined context model index,~~.~~

wherein one of the base value and offset value is determined based on a number of context models included in the plurality of context models,

wherein the monotonically non-decreasing function is defined as (x+1) >>1.

~~16~~10. The video decoder according to claim ~~15~~9, wherein one of the base value and offset value is determined based on a number of context models included in the plurality of context models.

~~17~~11. The video decoder according to claim ~~16~~10, wherein the processing circuitry is further configured to:

determine whether dependent quantization is enabled for the current transform coefficient, and

in response to the determination that dependent quantization is enabled for the current transform coefficient, the base value is based on a state of a quantizer.

~~18~~12. The video decoder according to claim ~~17~~11, wherein the current transform coefficient is located in a luma region, and the base value is based on a comparison of a distance of the current transform coefficient from a top left corner the transform block with a first diagonal position threshold.

~~19~~13. The video decoder according to claim ~~18~~12, wherein the base value is further based on a comparison of the distance with a second diagonal position threshold.

~~20. A video decoder apparatus for video decoding, comprising:~~

~~processing circuitry configured to:~~

~~receive a coded video bitstream including a current picture and at least one syntax element that corresponds to transform coefficients of a transform block in the current picture,~~

~~determine, for each context model region from a plurality of context model regions, an output of a monotonic non-decreasing function performed on a sum (x) of a~~

~~group of partially reconstructed transform coefficients and a number of context models associated with a respective context model region,~~

~~determine a context model index based on the output of the monotonic non-decreasing function of each context model region, and~~

~~select, for the at least one syntax of a current transform coefficient, a context model from a plurality of context models based on the determined context model index.~~

14. A method of video encoding performed in a video encoder, the method comprising:

determining an offset value based on an output of a monotonically non-decreasing function performed on a sum of a group of partially reconstructed transform coefficients;

determining a context model index based on a sum of the determined offset value and a base value;

selecting, for at least one syntax element of a current transform coefficient of a transform block in the current picture, a context model from a plurality of context models based on the determined context model index,

generating a coded video bitstream including the current picture and the at least one syntax element that corresponds to transform coefficients of the transform block in the current picture;

wherein one of the base value and offset value is determined based on a number of context models included in the plurality of context models,

wherein the monotonically non-decreasing function is defined as (x+1) >>1.

15. The method according to claim 14, the method further comprising:

determining whether dependent quantization is enabled for the current transform coefficient, and

in response to the determination that dependent quantization is enabled for the current transform coefficient, the base value is based on a state of a quantizer.

16. The method according to claim 15, wherein the current transform coefficient is located in a luma region, and the base value is based on a comparison of a distance of the current transform coefficient from a top left corner of the transform block with a first diagonal position threshold.

17 The method according to claim 16, wherein the base value is further based on a comparison of the distance with a second diagonal position threshold.

18. The method according to claim 17, wherein the current transform coefficient is located in a chroma region, and the base value is based on a comparison of a distance of the current transform coefficient from a top left corner of the transform block with a first diagonal position threshold.

19. The method according to claim 18, wherein the current transform coefficient and the group of partially reconstructed transform coefficients form a template that constitutes a contiguous set of transform coefficients.

20. The method according to claim 14, wherein the at least one syntax element is a transform coefficient significant flag (sig_coeff_flag).

21. The method of claim 14, wherein the bit stream includes a plurality of syntax elements that include the at least one syntax element, and wherein the sum of the group of partially reconstructed transform coefficients is based on one or more syntax elements from the plurality of syntax elements.

22. A video encoder for video encoding, comprising:

processing circuitry configured to perform the method according to any one of claims 14-21.