CLAIMS

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

obtaining a bitstream, wherein two bits in the bitstream represent a syntax element for a current block, wherein the syntax element specifies the clipping index of the clipping value for adaptive loop filter (ALF), the clipping index of the clipping value for ALF specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein an ALF coefficient parameter is used to obtain the ALF coefficient of the ALF;

parsing the bitstream to obtain a value of the syntax element for the current block, wherein the syntax element is coded using a fixed length code;

applying adaptive loop filtering on the current block, based on the value of the syntax element for the current block.

2. The method of claim 1, wherein the fixed length code comprises binary representation of an unsigned integer using the two bits.

3. The method of claim 1 or 2, wherein the syntax element is applied to a set of blocks and the current block is one block in the set of blocks.

4. The method of claim 1 or 2, wherein the syntax element is at slice level.

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

obtaining a bitstream, wherein two bits in the bitstream represent a syntax element for a current block, wherein the syntax element is an adaptive loop filter (ALF) clipping value index or an ALF coefficient parameter, the ALF clipping value index specifying a clipping

index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein the ALF coefficient parameter is used to obtain the coefficient of the ALF;

parsing the bitstream to obtain a value of the syntax element for the current block, wherein the value of the syntax element for the current block is obtained by using only the two bits of the syntax element;

applying adaptive loop filtering on the current block, based on the value of the syntax element for the current block.

6. The method of claim 5, wherein the syntax element is coded using a fixed length code.

7. The method of claim 6, wherein the fixed length code comprises binary representation of an unsigned integer using the two bits.

8. The method of any one of claims 5 to 7, wherein the syntax element is applied to a set of blocks and the current block is one block in the set of blocks.

9. The method of any one of claims 5 to 7, wherein the syntax element is at slice level.

10. The method of any one of claims 5 to 9, wherein the ALF coefficient parameter is used to determine an ALF coefficient.

11. The method of any one of claims 1 to 10, wherein the ALF clipping value index identifies one clipping value out of four clipping values.

12. The method of any one of the claims 1 to 11, wherein the value of the ALF clipping value index is used to determine a clipping range, the clipping range is used in the adaptive loop

filtering process.

13. A method of coding, implemented by an encoding device, the method comprising:
determining a value of a syntax element for a current block, wherein the syntax element specifies the clipping index of the clipping value for adaptive loop filter (ALF), the clipping index of the clipping value for ALF specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein an ALF coefficient parameter is used to obtain the coefficient of the ALF;
generating a bitstream based on the value of the syntax element, wherein two bits in the bitstream represent the syntax element, wherein the syntax element is coded using a fixed length code.

14. The method of claim 13, wherein the fixed length code comprises binary representation of an unsigned integer using the two bits of the syntax element.

15. The method of claim 13 or 14, wherein the syntax element is applied to a set of blocks and the current block is one block in the set of blocks.

16. The method of claim 13 or 14, wherein the syntax element is at slice level.

17. A method of coding, implemented by an encoding device, the method comprising:
determining a value of a syntax element for a current block, wherein the syntax element is an adaptive loop filter (ALF) clipping value index or an ALF filter coefficient parameter, the ALF clipping value index specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein the ALF coefficient parameter is used to obtain the coefficient of the ALF;

generating a bitstream based on the value of the syntax element, wherein two bits in the bitstream represent the syntax element, wherein the two bits of the syntax element are obtained by using only the value of the syntax element for the current block.

18. The method of claim 17, wherein the syntax element is coded using a fixed length code.

19. The method of claim 18, wherein the fixed length code comprises binary representation of an unsigned integer using the two bits of the syntax element.

20. The method of any one of claims 17 to 19, wherein the syntax element is applied to a set of blocks and the current block is one block in the set of blocks.

21. The method of any one of claims 17 to 19, wherein the syntax element is at slice level.

22. The method of any one of claims 17 to 21, wherein the ALF coefficient parameter is used to determine an ALF coefficient.

23. The method of any one of claims 13 to 22, wherein the ALF clipping value index identifies one clipping value out of four clipping values.

24. The method of any one of the claims 13 to 23, wherein the value of the ALF clipping value index is used to determine a clipping range, the clipping range is used in the adaptive loop filtering process.

25. A decoder (30) comprising processing circuitry for carrying out the method according to any one of claims 1 to 12.

26. A encoder (20) comprising processing circuitry for carrying out the method according to any one of claims 13 to 24.

27. A computer program product comprising a program code for performing the method according to any one of claims 1 to 24.

28. A non-transitory computer-readable medium carrying a program code which, when executed by a computer device, causes the computer device to perform the method of any one of claims 1 to 24.

29. A decoder, 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 1 to 12.

30. A 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 encoder to carry out the method according to any one of claims 13 to 24.

31. A decoder, comprising:

an entropy decoding unit, configured to obtain a bitstream wherein two bits in the bitstream representing a syntax element for a current block, wherein the syntax element specifies the clipping index of the clipping value for adaptive loop filter (ALF), the clipping index of the clipping value for ALF specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein an ALF coefficient parameter is used to obtain the ALF coefficient of the ALF;

the entropy decoding unit, is further configured to parse the bitstream to obtain a value of the syntax element for the current block, wherein the syntax element is coded using a fixed length code; and

a filtering unit, configured to apply adaptive loop filtering on the current block, based on the value of the syntax element for the current block.

32. A decoder, comprising:

an entropy decoding unit, configured to obtain a bitstream, wherein two bits in the bitstream represents a syntax element for a current block, wherein the syntax element is an adaptive loop filter (ALF) clipping value index or an ALF coefficient parameter, the ALF clipping value index specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein the ALF coefficient parameter is used to obtain the coefficient of the ALF;

the entropy decoding unit, is further configured to parse the bitstream to obtain a value of the syntax element for the current block, wherein the value of the syntax element for the current block is obtained by using only the two bits of the syntax element; and

a filtering unit, configured to apply adaptive loop filtering on the current block, based on the value of the syntax element for the current block.

33. A encoder, comprising:

a determining unit, configured to determining a value of a syntax element for a current block, wherein the syntax element specifies the clipping index of the clipping value for adaptive loop filter (ALF), the clipping index of the clipping value for ALF specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein an ALF coefficient parameter is used to obtain the ALF coefficient of the ALF;

an entropy encoding unit, configured to generate a bitstream based on the value of the syntax element, wherein two bits in the bitstream represent the syntax element, wherein the syntax element is coded using a fixed length code.

34. A encoder, comprising:

a determining unit, configured to determining a value of a syntax element for a current block, wherein the syntax element is an ALF clipping value index or an adaptive loop filter (ALF) filter coefficient parameter, the ALF clipping value index specifying a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, and wherein the ALF coefficient parameter is used to obtain the coefficient of the ALF;

an entropy encoding unit, configured to generate a bitstream based on the value of the syntax element, wherein two bits in the bitstream represent the syntax element, wherein the two bits of the syntax element is obtained by using only the value of the syntax element for the current block.

35. A non-transitory storage medium comprising a bitstream, wherein two bits in the bitstream represent the syntax element, wherein the syntax element is coded using a fixed length code and specifies the clipping index of the clipping value for adaptive loop filter (ALF), wherein the clipping index of the clipping value for ALF specifies a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, wherein an ALF coefficient parameter

is used to obtain the ALF coefficient of the ALF.

36. The non-transitory storage medium of claim 34, wherein the syntax element itself defines the value of the syntax element.

37. A non-transitory storage medium comprising a bitstream, wherein two bits in the bitstream represent the syntax element, wherein the syntax element is an adaptive loop filter (ALF) clipping value index or an ALF filter coefficient parameter, and the two bits of the syntax element is obtained by using only the value of the syntax element, wherein the clipping index of the clipping value for ALF specifies a clipping index of a clipping value to use before multiplying by a coefficient of the ALF, wherein an ALF coefficient parameter is used to obtain the ALF coefficient of the ALF.