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AMENDMENT UNDER 37 C.F.R. § 1.111

In response to the Office Action, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims beginning on page 2 of this paper.

Remarks begin on page 20 of this paper.

ASUS-1057
ASUS v. Nokia
IPR2025-01153

Amendments to the Claims:

1. (Currently Amended) A method comprising:

~~selecting~~ determining a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for a block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates and is utilized to identify motion vector prediction candidates of which one spatial motion vector prediction candidate from the motion vector prediction list is signaled as the motion information for the prediction unit~~;

comparing motion information of the first spatial motion vector prediction candidate with motion information of spatial motion vector prediction candidates in a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determining to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~ candidate in [[the]]a motion vector prediction list for the block of pixels based on the comparing;

selecting one motion vector prediction candidate from the motion vector prediction list to represent a motion vector prediction for the block of pixels; and

performing a motion compensated prediction based on the selected motion vector prediction candidate to construct the block of pixels~~causing information identifying the one spatial motion vector prediction candidate from the motion vector prediction list to be transmitted to a decoder or to be stored~~.

2. (Currently Amended) The method according to claim 1 further comprising ~~selecting~~ processing spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates ~~as the potential spatial motion vector prediction candidate~~ in a predetermined order.

3. (Canceled)

4. (Currently Amended) The method according to claim 1 further comprising examining whether the block of pixels is divided into a first prediction unit and a second prediction unit; and if so, excluding ~~the potential~~ a spatial motion vector prediction candidate of the set of spatial motion vector prediction candidates from the motion vector prediction list for a prediction unit of the block of pixels if the prediction unit of the block of pixels is the second prediction unit.

5. (Currently Amended) The method according to claim 1, further comprising

determining a maximum number of spatial motion vector prediction candidates to be included in the motion vector prediction list; and

limiting the number of spatial motion vector prediction candidates in the motion vector prediction list to be smaller or equal to the maximum number.

6. (Currently Amended) The method according to claim [[5]]1 comprising~~:~~

~~examining, if the number of spatial motion vector prediction candidates in the motion vector prediction list is smaller than the maximum number;~~

~~if so, examining whether the prediction unit to which the potential spatial motion vector prediction candidate belongs is available for motion prediction;~~

~~if so, performing~~ at least one of the following:

for a potential spatial motion vector prediction candidate on a left side of [[the]]a prediction unit of the block of pixels, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ block of pixels is vertically divided into a first prediction unit and a second prediction unit; or

– the ~~received~~ block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and if the prediction unit is the second prediction unit,

and the potential spatial motion vector prediction candidate has essentially similar motion information than a spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate above the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and the prediction unit is the second prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate, which is on a right side of the potential spatial motion vector prediction candidate above the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate, which is below the potential spatial motion vector prediction candidate on the left side of the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate cornerwise neighbouring the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– ~~all the other potential~~a maximum number of spatial motion vector prediction candidates have been included in the motion vector prediction list;

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit.

7. (Currently Amended) The method according to claim 1 further comprising including a temporal motion vector prediction candidate into the motion vector prediction list.

8. (Canceled)

9. (Currently Amended) A method comprising:

~~selecting~~ determining a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for an encoded block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the encoded block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates~~;

comparing motion information of the first spatial motion vector prediction candidate with motion information of another spatial motion vector prediction candidate of a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determining to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~ candidate in the motion vector prediction list for the encoded block of pixels based on the comparing; and

selecting a spatial motion vector prediction candidate from the motion vector prediction list for use in decoding the encoded block of pixels~~, wherein the spatial motion vector prediction candidate is selected from the motion vector prediction list using information that was received identifying a respective spatial motion vector prediction candidate from the motion vector prediction list constructed by an encoder~~.

10. (Canceled)

11. (Currently Amended) The method according to claim 9 further comprising examining whether the ~~received~~ encoded block of pixels is divided into a first prediction unit and a second prediction unit; and if so, excluding ~~the potentiala~~ spatial motion vector prediction candidate of the set of spatial motion vector prediction candidates from the motion vector prediction list for a prediction unit of the block of pixels if the prediction unit of the block of pixels is the second prediction unit.

12. (Currently Amended) The method according to claim 9 further comprising

determining a maximum number of spatial motion vector prediction candidates to be included in the motion vector prediction list; and

limiting the number of spatial motion vector prediction candidates in the motion vector prediction list to be smaller or equal to the maximum number.

13. (Currently Amended) The method according to claim [[12]]9 further comprising~~:~~

~~examining, if the number of spatial motion vector prediction candidates in the motion vector prediction list is smaller than the maximum number;~~

~~if so, examining whether the prediction unit to which the potential spatial motion vector prediction candidate belongs is available for motion prediction;~~

~~if so, performing~~ at least one of the following:

for a potential spatial motion vector prediction candidate on a left side of [[the]]a prediction unit of the encoded block of pixels, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ encoded block of pixels is vertically divided into a first prediction unit and a second prediction unit; or

– the ~~received~~ encoded block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and if the prediction unit is the second

prediction unit, and the potential spatial motion vector prediction candidate has essentially similar motion information than a spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate above the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ encoded block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and the prediction unit is the second prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate, which is on a right side of the potential spatial motion vector prediction candidate above the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate, which is below the potential spatial motion vector prediction candidate on the left side of the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit; and

for a potential spatial motion vector prediction candidate cornerwise neighbouring the prediction unit, excluding the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– ~~all the other potential~~a maximum number of spatial motion vector prediction candidates have been included in the motion vector prediction list;

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit.

14. (Currently Amended) The method according to claim 9 further comprising ~~selecting one~~ including a temporal motion vector prediction candidate ~~from~~ into the motion vector prediction list ~~to represent a motion vector prediction for the encoded block of pixels~~.

15. (Currently Amended) An apparatus comprising a processor and a memory including computer program code, the memory and the computer program code configured to, with the processor, cause the apparatus to:

~~select~~ determine a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for a block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates and is utilized to identify motion vector prediction candidates of which one spatial motion vector prediction candidate from the motion vector prediction list is signaled as the motion information for the prediction unit~~;

compare motion information of the first spatial motion vector prediction candidate with motion information of the spatial motion vector prediction candidate in a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determine to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~ candidate in [[the]]a motion vector prediction list for the block of pixels based on comparison of

the motion information of the first spatial motion vector candidate with motion information of the spatial motion vector prediction candidate;

select one motion vector prediction candidate from the motion vector prediction list to represent a motion vector prediction for the block of pixels; and

perform a motion compensated prediction based on the selected motion vector prediction candidate to construct the block of pixels~~cause information identifying the one spatial motion vector prediction candidate from the motion vector prediction list to be transmitted to a decoder or to be stored~~.

16. (Currently Amended) The apparatus according to claim 15 wherein the apparatus is further caused to ~~select~~ process spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates ~~as the potential spatial motion vector prediction candidate~~ in a predetermined order.

17. (Canceled)

18. (Currently Amended) The apparatus according to claim 15 wherein the apparatus is further caused to examine whether the block of pixels is divided into a first prediction unit and a second prediction unit; and if so, exclude ~~the potential~~ a spatial motion vector prediction candidate of the set of spatial motion vector prediction candidates from the motion vector prediction list for a prediction unit of the block of pixels if the prediction unit of the block of pixels is the second prediction unit.

19. (Currently Amended) The apparatus according to claim 15, wherein the apparatus is further caused to:

determine a maximum number of spatial motion vector prediction candidates to be included in the motion vector prediction list; and

limit the number of spatial motion vector prediction candidates in the motion vector prediction list to be smaller or equal to the maximum number.

20. (Currently Amended) The apparatus according to claim [[19]]15 wherein the apparatus is further caused to~~:~~

~~examine, if the number of spatial motion vector prediction candidates in the motion vector prediction list is smaller than the maximum number;~~

~~if so, examine whether the prediction unit to which the potential spatial motion vector prediction candidate belongs is available for motion prediction;~~

~~if so,~~ perform at least one of the following:

for a potential spatial motion vector prediction candidate on a left side of [[the]]a prediction unit of the block of pixels, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ block of pixels is vertically divided into a first prediction unit and a second prediction unit; or

– the ~~received~~ block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and if the prediction unit is the second prediction unit, and the potential spatial motion vector prediction candidate has essentially similar motion information than a spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate above the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and the prediction unit is the second prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate, which is on a right side of the potential spatial motion vector prediction candidate above the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if the

potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate, which is below the potential spatial motion vector prediction candidate on the left side of the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate cornerwise neighbouring the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

- ~~all the other potential~~a maximum number of spatial motion vector prediction candidates have been included in the motion vector prediction list;
- the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit; or
- the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit.

21. (Currently Amended) The apparatus according to claim 15 wherein the apparatus is further caused to include a temporal motion vector prediction candidate into the motion vector prediction list.

22. (Canceled)

23. (Currently Amended) An apparatus comprising a processor and a memory including computer program code, the memory and the computer program code configured to, with the processor, cause the apparatus to:

~~select~~ determine a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for an encoded block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the encoded block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates~~;

compare motion information of the first spatial motion vector prediction candidate with motion information of the spatial motion vector prediction candidate in a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determine to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~ candidate in the motion vector prediction list for the encoded block of pixels based on comparison of the motion information of the first spatial motion vector candidate with motion information of the spatial motion vector prediction candidate; and

select a spatial motion vector prediction candidate from the motion vector prediction list for use in decoding the encoded block of pixels~~, wherein the spatial motion vector prediction candidate is selected from the motion vector prediction list using information that was received identifying a respective spatial motion vector prediction candidate from the motion vector prediction list constructed by an encoder~~.

24. (Canceled)

25. (Currently Amended) The apparatus according to claim 23 wherein the apparatus is further caused to examine whether the received encoded block of pixels is divided into a first prediction unit and a second prediction unit; and if so, exclude ~~the potential~~ a spatial motion vector prediction candidate of the set of spatial motion vector prediction candidates from the motion vector prediction list for a prediction unit of the block of pixels if the prediction unit of the block of pixels is the second prediction unit.

26. (Currently Amended) The apparatus according to claim 23 wherein the apparatus is further caused to:

determine a maximum number of spatial motion vector prediction candidates to be included in the motion vector prediction list; and

limit the number of spatial motion vector prediction candidates in the motion vector prediction list to be smaller or equal to the maximum number.

27. (Currently Amended) The apparatus according to claim [[26]]23 wherein the apparatus is further caused to~~:~~

~~examine if the number of spatial motion vector prediction candidates in the motion vector prediction list is smaller than the maximum number;~~

~~if so, examine whether the prediction unit to which the potential spatial motion vector prediction candidate belongs is available for motion prediction;~~

~~if so,~~ perform at least one of the following:

for a potential spatial motion vector prediction candidate on a left side of [[the]]a prediction unit of the encoded block of pixels, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

- the ~~received~~ encoded block of pixels is vertically divided into a first prediction unit and a second prediction unit; or
- the ~~received~~ encoded block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and if the prediction unit is the second prediction unit, and the potential spatial motion vector prediction candidate has essentially similar motion information than a spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate above the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– the ~~received~~ encoded block of pixels is horizontally divided into a first prediction unit and a second prediction unit, and the prediction unit is the second prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit;

for a potential spatial motion vector prediction candidate, which is on a right side of the potential spatial motion vector prediction candidate above the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit;

for a potential spatial motion vector prediction candidate, which is below the potential spatial motion vector prediction candidate on the left side of the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit; and

for a potential spatial motion vector prediction candidate cornerwise neighbouring the prediction unit, exclude the potential spatial motion vector prediction candidate from the motion vector prediction list if any of the following conditions are fulfilled:

– ~~all the other potential~~a maximum number of spatial motion vector prediction candidates have been included in the motion vector prediction list;

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate above the prediction unit; or

– the potential spatial motion vector prediction candidate has essentially similar motion information than the spatial motion vector prediction candidate on the left side of the prediction unit.

28. (Currently Amended) the apparatus according to claim 23 wherein the apparatus is further caused to ~~select one~~ include a temporal motion vector prediction candidate ~~from~~ into the motion vector prediction list ~~to represent a motion vector prediction for the encoded block of pixels~~.

29. (Currently Amended) A non-transitory computer readable medium having stored thereon a computer executable program code for use by an encoder, said program codes comprising instructions for:

~~selecting~~ determining a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for a block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates and is utilized to identify motion vector prediction candidates of which one spatial motion vector prediction candidate from the motion vector prediction list is signaled as the motion information for the prediction unit~~;

comparing motion information of the first spatial motion vector prediction candidate with motion information of the spatial motion vector prediction candidate in a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determining to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~ candidate in [[the]]a motion vector prediction list for the block of pixels based on the comparing;

selecting one motion vector prediction candidate from the motion vector prediction list to represent a motion vector prediction for the block of pixels; and

performing a motion compensated prediction based on the selected motion vector prediction candidate to construct the block of pixels~~causing information identifying the one spatial motion vector prediction candidate from the motion vector prediction list to be transmitted to a decoder or to be stored~~.

30. (Currently Amended) A non-transitory computer readable medium having stored thereon a computer executable program code for use by a decoder, said program codes comprising instructions for:

~~selecting~~ determining a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for an encoded block of pixels ~~as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the encoded block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates~~;

comparing motion information of the first spatial motion vector prediction candidate with motion information of the spatial motion vector prediction candidate in a subset of the set of spatial motion vector prediction candidates, wherein the subset is less than the set, and wherein the subset is determined ~~that are~~ based on a location of the block associated with the first spatial motion vector prediction candidate;

determining to include ~~or exclude~~ the first spatial motion vector prediction ~~candiate~~candidate in the motion vector prediction list for the encoded block of pixels based on the comparing; and

selecting a spatial motion vector prediction candidate from the motion vector prediction list for use in decoding the encoded block of pixels~~, wherein the spatial motion vector prediction candidate is selected from the motion vector prediction list using information that was received identifying a respective spatial motion vector prediction candidate from the motion vector prediction list constructed by an encoder~~.

31. (New) The method according to Claim 1 further comprising processing the spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates in order as follows:

spatial motion vector prediction candidate A1 located on a left side of a prediction unit of the block of pixels,

spatial motion vector prediction candidate B1 located above the prediction unit,

spatial motion vector prediction candidate B0 located on a right side of the prediction unit,

spatial motion vector prediction candidate A0 located below the spatial motion vector prediction candidate A1, and

spatial motion vector prediction candidate B2 located on a same column as the spatial motion vector prediction candidate A1 and on a same row as the spatial motion vector prediction candidate B1.

32. (New) The method according to claim 1 wherein comparing motion information comprises performing an identicality or an equivalence check between the motion information of the first spatial motion vector prediction candidate and the motion information of spatial motion vector prediction candidates in the subset of the set of spatial motion vector prediction candidates.

33. (New) The method according to claim 1 wherein the motion information comprises a motion vector value and a reference picture index.

34. (New) The apparatus according to Claim 15 wherein the apparatus is further caused to process the spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates in order as follows:

spatial motion vector prediction candidate A1 located on a left side of a prediction unit of the block of pixels,

spatial motion vector prediction candidate B1 located above the prediction unit,

spatial motion vector prediction candidate B0 located on a right side of the prediction unit,

spatial motion vector prediction candidate A0 located below the spatial motion vector prediction candidate A1, and

spatial motion vector prediction candidate B2 located on a same column as the spatial motion vector prediction candidate A1 and on a same row as the spatial motion vector prediction candidate B1.

35. (New) The apparatus according to claim 15 wherein the apparatus is further caused to compare motion information by performing an identicality or an equivalence check between the motion information of the first spatial motion vector prediction candidate and the motion information of spatial motion vector prediction candidates in the subset of the set of spatial motion vector prediction candidates.

36. (New) The apparatus according to claim 15 wherein the motion information comprises a motion vector value and a reference picture index.

37. (New) The method according to Claim 9 further comprising processing the spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates in order as follows:

spatial motion vector prediction candidate A1 located on a left side of a prediction unit of the block of pixels,

spatial motion vector prediction candidate B1 located above the prediction unit,

spatial motion vector prediction candidate B0 located on a right side of the prediction unit,

spatial motion vector prediction candidate A0 located below the spatial motion vector prediction candidate A1, and

spatial motion vector prediction candidate B2 located on a same column as the spatial motion vector prediction candidate A1 and on a same row as the spatial motion vector prediction candidate B1.

38. (New) The method according to claim 9 wherein comparing motion information comprises performing an identicality or an equivalence check between the motion information of

the first spatial motion vector prediction candidate and the motion information of spatial motion vector prediction candidates in the subset of the set of spatial motion vector prediction candidates.

39. (New) The method according to claim 9 wherein the motion information comprises a motion vector value and a reference picture index.

40. (New) The apparatus according to Claim 23 wherein the apparatus is further caused to process the spatial motion vector prediction candidates from the set of spatial motion vector prediction candidates in order as follows:

spatial motion vector prediction candidate A1 located on a left side of a prediction unit of the block of pixels,

spatial motion vector prediction candidate B1 located above the prediction unit,

spatial motion vector prediction candidate B0 located on a right side of the prediction unit,

spatial motion vector prediction candidate A0 located below the spatial motion vector prediction candidate A1, and

spatial motion vector prediction candidate B2 located on a same column as the spatial motion vector prediction candidate A1 and on a same row as the spatial motion vector prediction candidate B1.

41. (New) The apparatus according to claim 23 wherein the apparatus is further caused to compare motion information by performing an identicality or an equivalence check between the motion information of the first spatial motion vector prediction candidate and the motion information of spatial motion vector prediction candidates in the subset of the set of spatial motion vector prediction candidates.

42. (New) The apparatus according to claim 23 wherein the motion information comprises a motion vector value and a reference picture index.

REMARKS

The Official Action objected to Claims 1, 15, 23 and 29 based upon a typographical error. Claims 1, 15, 23 and 29 have now been amended to remedy the typographical error such that the objection is overcome.

Claims 1-28 were rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention. The claims have now been amended to address each of the issues noted by the Official Action with the result set of amended claims now being definite such that the rejection of Claims 1-28 under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, is also overcome.

The Official Action confirmed that Claims 4, 6, 11, 13, 18, 20, 25 and 27 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, and to include all of the recitations of the base claim and any intervening claims. However, the Official Action did reject Claims 1-3, 5, 7-10, 12, 14-17, 19, 21-24, 26 and 28-30 under pre-AIA 35 U.S.C. 102(a) as being anticipated by US Patent Application Publication No. US 2011/0194609 to Rusert, et al. ("Rusert"). As described below, the independent claims have been amended in order to be further patentably distinct from Rusert. At least partially as a result of the amendments to the independent claims, a number of the dependent claims have been correspondingly amended and dependent Claims 3, 8, 10, 17, 22 and 24 have been canceled without prejudice or disclaimer. Additionally, new dependent Claims 31-42 have been added to highlight other unique features of the present application. Based on the foregoing amendments and the following remarks, reconsideration of the present application and allowance of the amended sets of claims are respectfully requested.

By way of example of the independent claims, independent Claim 1 is directed to a method that includes determining a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for a block of pixels. The method also includes comparing motion information of the first spatial motion vector prediction candidate with motion information of spatial motion vector prediction candidates in a subset of the set of spatial motion vector prediction candidates. The subset is less than the set. And, the subset is determined based on a location of the block associated with the first spatial motion vector prediction candidate. The method additionally includes determining to include the first spatial motion vector prediction candidate in a motion vector prediction list for the block of pixels based on the comparing. The method further includes selecting one motion vector prediction candidate from the motion vector prediction list to represent a motion vector prediction for the block of pixels and performing a motion compensated prediction based on the selected motion vector prediction candidate to construct the block of pixels.

The cited reference, Rusert, describes a technique for selecting predicted motion vector candidates to be used for coding a current block. In Rusert, a set of predicted motion vector candidates is defined with each predicted motion vector candidate of the set corresponding to a motion vector used for coding a previous block. A subset of the predicted motion vector candidates is then defined based upon an allowed distance from the current block. In this regard the subset of predicted motion vector candidates includes those predicted motion vector candidates corresponding to a motion vector used for coding a previous block that is within the allowed distance from the current block. Duplicate predicted motion vector candidates may also be eliminated from the subset. The resulting subset of predicted motion vector candidates may then be used to code the current block.

In independent Claim 1, the subset of the set of spatial motion vector prediction candidates is determined based on a location of the block associated with the first spatial motion vector prediction candidate, which is itself a member of the set of spatial motion vector prediction candidates for a block of pixels. In contrast, the allowed distance that defines the subset of predicted motion vector candidates is described by Rusert to be between the current

block and a previous block with which a predicted motion vector candidate is associated. Rusert therefore does not teach or suggest that the determination of the subset is based on the location of the previous block with which a predicted motion vector candidate is associated. The location of a previous block with which a predicted motion vector candidate is associated may be compared to determine whether the predicted motion vector candidate should be included in the subset or not. However, the subset is not determined by Rusert as recited by independent Claim 1 based on the location of the previous block with which a predicated motion vector candidate is associated and, instead, the subset is determined by Rusert to be the predicted motion vector candidates associated with previous blocks that are within the allowed distance of the current block. Thus, the subset of Rusert is determined based on the location of the current block, but not the location of one of the previous blocks that is associated with a predicted motion vector candidate from the set of predicted motion vector candidates. Indeed, the current block of Rusert is not associated with a predicted motion vector candidate at the time the subset is determined as the process of constructing and then evaluating the subset is for the purpose of subsequently coding the current block.

As described, Rusert therefore fails to teach or suggest that the subset of the set of spatial motion vector prediction candidates is determined based on a location of the block associated with the first spatial motion vector prediction candidate, which is itself a member of the set of spatial motion vector prediction candidates for a block of pixels. As such, independent Claim 1, as amended, is not taught or suggested by Rusert and the rejection of Claim 1 is overcome.

The other independent claims, namely, Claims 9, 15, 23, 29 and 30, have different scopes of protection, but do recite that the subset of the set of spatial motion vector prediction candidates is determined based on a location of the block associated with the first spatial motion vector prediction candidate, which is itself a member of the set of spatial motion vector prediction candidates for a block of pixels. As such, Rusert also fails to teach or suggest independent Claims 9, 15, 23, 29 and 30, as amended, for at least the same reason as set forth above with respect to independent Claim 1.

Patentability of the Dependent Claims

Because each of the dependent claims includes each of the recitations of a respective independent base claim, Applicant further submits that the dependent claims are patentably distinct from Rusert for at least those reasons as discussed above. Accordingly, Applicant respectfully submits that the rejections of the dependent claims are overcome and the dependent claims are in condition for allowance. As the patentability of the independent claims has been argued as set forth above, Applicant will not take this opportunity to argue the merits of the rejection with regard to specific dependent claims. However, Applicant does not concede that the dependent claims are not independently patentable and reserves the right to argue the patentability of dependent claims at a later date if necessary.

CONCLUSION

In view of the remarks and amendments presented above, it is respectfully submitted that the claims of the present application are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. The Examiner is requested to contact Applicants' undersigned agent to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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