JCTVC-I0490:
Combination of JCTVC-I0084 and JCTVC-I0298 on simplified spatial AMVP derivation

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Spatial AMVP derivation in HM6

Fig. Neighboring position for AMVP derivation

- 3 steps of spatial AMVP derivation in HM6

  1. Non-scaled MV candidate A derivation based on positions of A0, A1; If the non-scaled MV candidate is not available, scaled MV candidate A derivation based on positions of A0, A1

  2. Non-scaled MV candidate B derivation based on positions of B0, B1, B2

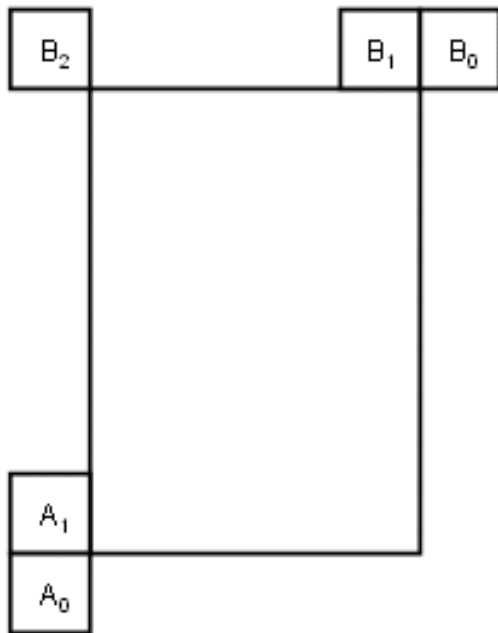 3. If the candidate A is not available, scaled MV candidate B derivation based on positions of B0, B1, B2

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Proposed simplifications

- Simplifications on spatial AMVP derivation

  a) removing the scaled MV candidate derivation in step 1

  b) using only fixed one position B_1 for the scaled MV candidate derivation in step 3

  c) Furthermore, the conditional check in step 3 is changed to check the availability of the MV candidate B, instead of the MV candidate A

- The proposed spatial AMVP derivation becomes

  1. Non-scaled MV candidate A derivation based on positions of A0, A1; ~~If the non scaled MV candidate is not available, scaled MV candidate A derivation based on positions of A0, A1~~

  2. Non-scaled MV candidate B derivation based on positions of B0, B1, B2

  3. If the candidate ~~A~~ B is not available, scaled MV candidate B derivation based on positions of ~~B0, B1, B2~~ B1

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Experimental results

Tested : **the proposed method, with simplifications a), b) and c)**
Anchor: HM6.0
Cross-checked by JVC in JCTVC-I0548

	Y	U	V
RA-MAIN	0. 1%	0. 1%	0. 2%
RA-HE10	0. 1%	0. 1%	0. 1%
LB-MAIN	0. 0%	−0. 1%	0. 0%
LB-HE10	−0. 1%	−0. 2%	−0. 1%
Average	**0. 0%**	**0. 0%**	**0. 0%**

Additional test results

Tested： **method with the proposed simplifications a) and b)**
Anchor: HM6.0
Cross-checked by JVC in JCTVC-I0548

	Y	U	V
RA-MAIN	0.1%	0.1%	0.1%
RA-HE10	0.0%	0.1%	0.0%
LB-MAIN	0.0%	-0.2%	0.2%
LB-HE10	-0.1%	-0.1%	-0.2%
Average	**0.0%**	**0.0%**	**0.0%**

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Recommendation

- The proposed method

    - Simplifies MV scaling process by checking only one fixed position

    - Decouples the derivation of scaled MV candidate between step 1 and step 3

    - Simplified specification text

    - No coding efficiency loss in average

- It is recommended to adopt the proposal

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Thank you

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