

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

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Spatial AMVP derivation in HM6

- 3 steps of spatial AMVP derivation in HM6
 1. Non-scaled MV candidate A derivation based on positions of A_0 , A_1 ; If the non-scaled MV candidate is not available, scaled MV candidate A derivation based on positions of A_0 , A_1
 2. Non-scaled MV candidate B derivation based on positions of B_0 , B_1 , B_2
 3. If the candidate A is not available, scaled MV candidate B derivation based on positions of B_0 , B_1 , B_2

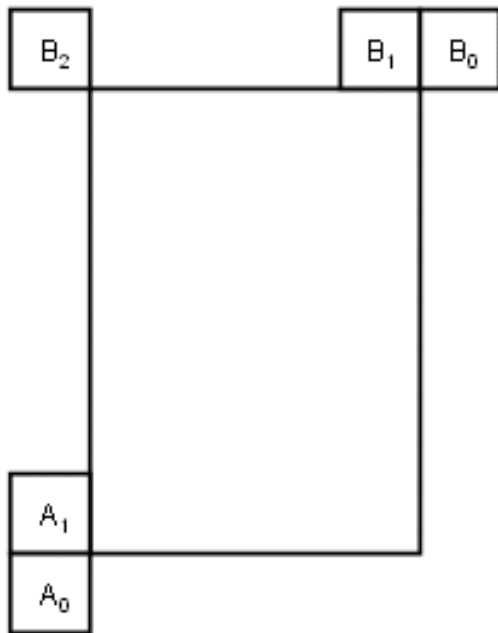


Fig. Neighboring position for AMVP derivation

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

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%

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

Thank you

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