

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

Yongbing Lin  
Lingzhi Liu

[www.huawei.com](http://www.huawei.com)

# 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  $B_0$ ,  $B_1$ ,  $B_2$

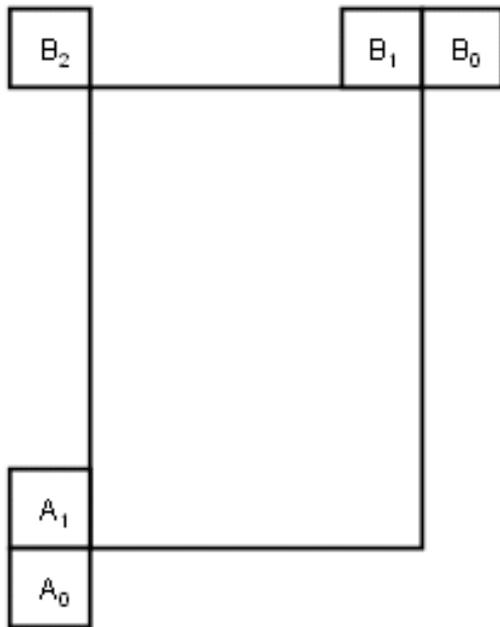


Fig. Neighboring position for AMVP derivation

# 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  $A_0, A_1$ ; ~~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~~B is not available, scaled MV candidate B derivation based on positions of  ~~$B_0, B_1, B_2$~~  $B_1$

# 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%
<b>Average</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>

# 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%
<b>Average</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>

# 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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