

# **CE9: Results of AMVP\_SEL01 and AMVP\_SEL02**

**JCTVC-G053**

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# 1. Overview

# Overview

- Proposed Technique
  - Derivation process of spatial MVP candidates by one group
- Algorithm
  - AMVP\_SEL01: one-pass scanning
  - AMVP\_SEL02: two-pass scanning
- Cross-check
  - JCTVC-G053 by Sony
- Simulation results
  - Overall no loss and gain both AMVP\_SEL01 and AMVP\_SEL02

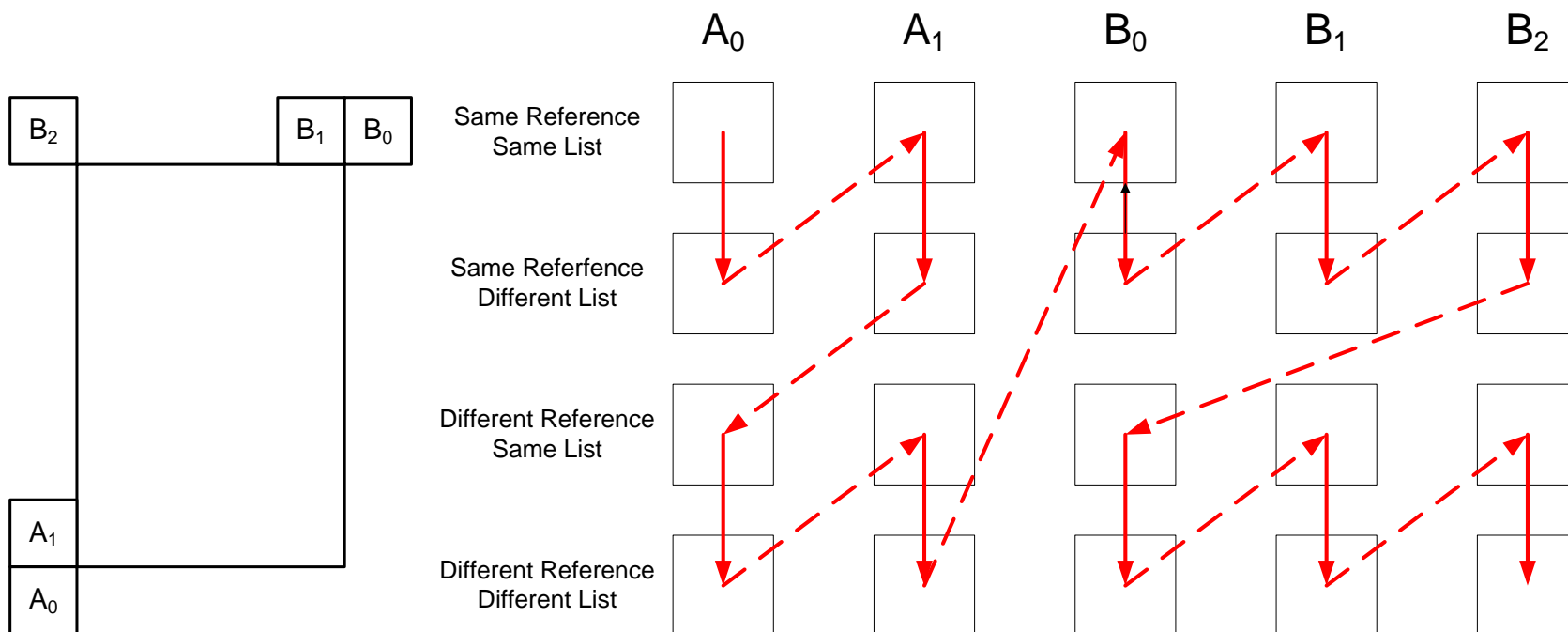


## 2. Algorithm

- AMVP of HM4
- AMVP\_SEL1: one-pass scanning
- AMVP\_SEL2: two-pass scanning

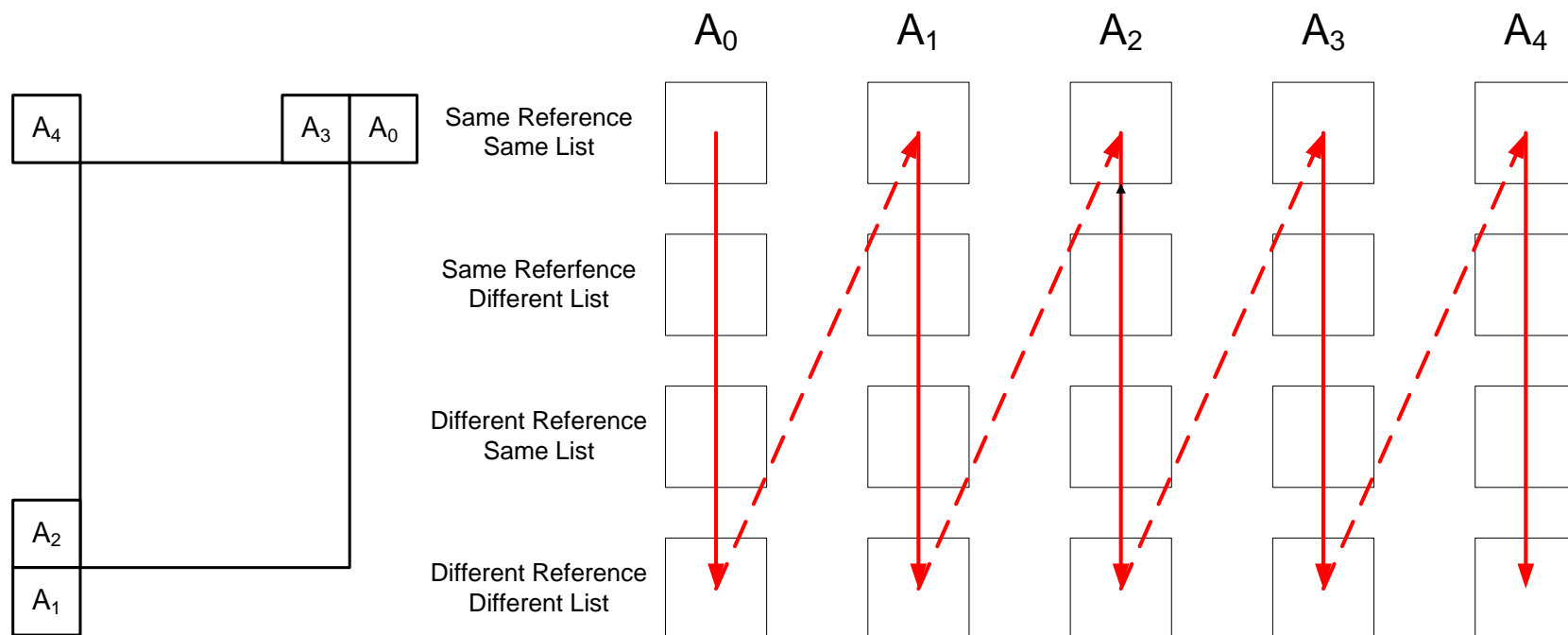
# Derivation of spatial MVP candidates of HM4.0

- Two spatial MVP candidates A and B are derived in **two group**.
- To derive A and B, non-scaled and scaled candidates are checked separately by **two-pass scanning**. In the first pass, non-scaled candidates are checked. In the second pass, scaled candidates are checked.
- When A is derived, left scanning process is terminated. When B is derived, above scanning process is terminated.



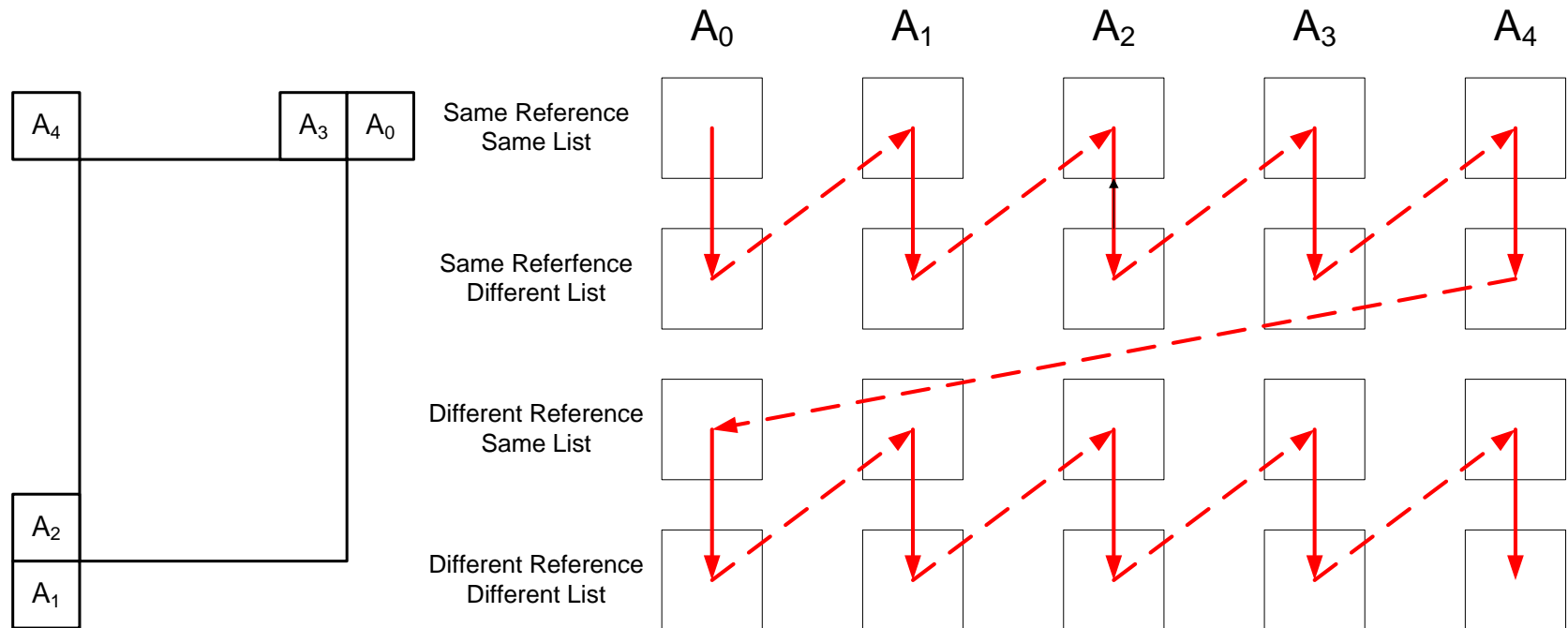
# Derivation of spatial MVP candidates of AMVP\_SEL01

- Two spatial MVP candidates  $S_0$  and  $S_1$  are derived in **one group**.
- To derive  $S_0$  and  $S_1$ , non-scaled and scaled candidates are checked by **one-pass scanning**.
- When  $S_0$  and  $S_1$  are derived, scanning process is terminated.



# Derivation of spatial MVP candidates of AMVP\_SEL02

- Two spatial MVP candidates  $S_0$  and  $S_1$  are derived in **one group**.
- To derive  $S_0$  and  $S_1$ , non-scaled and scaled candidates are checked separately by **two-pass scanning**. In the first pass, non-scaled candidates are checked. In the second pass, scaled candidates are checked.
- When  $S_0$  and  $S_1$  are derived, scanning process is terminated. When  $S_0$  or  $S_1$  is derived during the second pass, scanning process is terminated.





# 3. Experiments



# Simulation results of AMVP\_SEL01

- No coding loss for all settings
- Crosscheck: JCTVC-G514 by Sony

	Random Access HE			Random Access LC		
	Y	U	V	Y	U	V
Class A	0.0%	-0.2%	-0.2%	0.0%	0.2%	0.1%
Class B	0.0%	-0.1%	0.0%	0.0%	-0.1%	0.0%
Class C	0.0%	-0.1%	0.1%	0.0%	0.0%	0.0%
Class D	0.1%	0.1%	0.0%	0.0%	-0.1%	0.0%
Class E						
<b>Overall</b>	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Enc Time[%]	99%			99%		
Dec Time[%]	99%			100%		

	Low delay B HE			Low delay B LC		
	Y	U	V	Y	U	V
Class A						
Class B	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%
Class C	0.0%	0.0%	-0.1%	0.0%	0.2%	-0.1%
Class D	0.0%	0.0%	0.3%	0.0%	0.1%	-0.2%
Class E	0.1%	-0.1%	0.6%	-0.1%	0.4%	-0.4%
<b>Overall</b>	0.0%	0.0%	0.2%	0.0%	0.2%	-0.1%
	0.0%	-0.1%	0.1%	0.0%	0.2%	-0.1%
Enc Time[%]	99%			99%		
Dec Time[%]	100%			100%		

# Simulation results of AMVP\_SEL02

- No coding loss for all settings
- Crosscheck: JCTVC-G514 by Sony

	Random Access HE			Random Access LC		
	Y	U	V	Y	U	V
Class A	0.0%	-0.2%	0.0%	0.1%	0.1%	0.1%
Class B	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Class C	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
Class D	0.0%	-0.1%	0.0%	0.0%	-0.2%	0.0%
Class E						
<b>Overall</b>	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Enc Time[%]	100%			100%		
Dec Time[%]	100%			100%		

	Low delay B HE			Low delay B LC		
	Y	U	V	Y	U	V
Class A						
Class B	0.0%	-0.2%	-0.2%	0.0%	0.0%	-0.1%
Class C	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
Class D	0.0%	0.1%	0.2%	0.0%	0.4%	-0.1%
Class E	0.0%	0.1%	0.4%	-0.1%	0.0%	0.0%
<b>Overall</b>	0.0%	0.0%	0.1%	0.0%	0.1%	-0.1%
	0.0%	-0.1%	0.0%	0.0%	0.1%	-0.1%
Enc Time[%]	100%			100%		
Dec Time[%]	100%			100%		



# 4. Conclusion

# Conclusion

- Both AMVP\_SEL01 and AMVP\_SEL02 achieve simplification without coding loss.
  - Two candidates from One group (AMVP\_SEL01 and AMVP\_SEL02)
  - One-pass scanning (AMVP\_SEL01)
- We recommend that AMVP\_SEL01 or AMVP\_SEL02 be adopted to the next WD and HM.

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