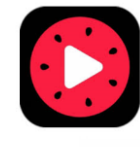


JVET-AE0170 NON-EE2: ENHANCEMENTS ON CCP MERGE

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Introduction

- Non-local cross-component prediction (CCP) mode (CCP merge mode) in ECM-9.0
 - *A CCP model can be inherited from a previously coded block or from a history-based table*
- LB-CCP in ECM-9.0
 - *CCP prediction can be filtered, indicated by a flag*

Proposed enhancements

- Aspect #1: , A fusion prediction can be generated by the CCP-merge prediction and the MM-CCCM prediction as a weighted sum
 - *A flag is signalled conditioned on the CCP-merge flag, to indicate whether the CCP-merge prediction should be fused with the MM-CCCM prediction*
 - *The weighting values on the two predictions are equal*
- Aspect #2: Harmonize CCP merge mode and LB-CCP
 - *The LB-CCP flag is included in the CCP merge candidate (can be inherited)*

Simulations results on ECM-7

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	AI					RA				
	Y	U	V	EncT	DecT	Y	U	V	EncT	DecT
Class A1	-0.02%	-0.71%	-0.84%	101%	100%					
Class A2	-0.11%	-0.51%	-0.55%	101%	99%					
Class B	0.00%	-0.51%	-0.49%	101%	102%	0.01%	-0.29%	-0.20%	101%	100%
Class C	-0.01%	-0.20%	-0.15%	100%	100%	0.02%	-0.21%	0.00%	100%	100%
Class E	-0.02%	-0.26%	-0.27%	101%	98%					
Overall	-0.03%	-0.43%	-0.45%	101%	100%					
Class D	0.02%	-0.13%	-0.01%	100%	100%	0.01%	-0.37%	0.06%	100%	100%
Class F	0.07%	-0.23%	-0.17%	101%	98%	-0.06%	-0.18%	-0.04%	99%	100%

Conclusion

- Two enhancements on CCP-merge are proposed
 - *-0.03%, -0.43%, -0.45% coding gains on Y/Cb/Cr in AI conditions*
 - *Negligible complexity increase*
- Recommend to be further studied in EE2

Thank you