

JVET-AG0200

Non-EE2: Inter CCP merge mode with zero luma CBF

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Proposal

- At the JVET-AF meeting, an inter CCP merge mode was adopted to ECM
 - It blends the MC chroma prediction with a CCP model estimated chroma prediction
 - The CCP model can be either calculated from adjacent neighboring samples or inherited from a previous CCP coded block
 - The inter CCP merge mode follows the same restriction of inter CCCM mode that requires non-zero luma CBF
- Issues
 - It may be inefficient to limit the luma CBF to non-zero for the inter CCP merge mode, as the CCP model is not calculated from inter reference blocks
- Proposal
 - Allow the inter CCP merge mode to a chroma block even if the luma CBF is equal to 0
 - With the proposed method, the inter CCP merge mode flag can be signalled for the merge skip mode, and when the luma CBF or the rootCBF is equal to 0

Simulation results

- The proposed method is applied for SCC sequences

Random Access Main 10							
Over ECM-11.0							
	Y	U	V	EncT	DecT	EncVmPeak	DecVmPeak
Class F	0.02%	-0.28%	-0.49%	100.9%	101.1%	99.5%	99.8%
Class TGM	-1.26%	-3.61%	-3.61%	101.1%	100.7%	100.1%	100.3%

Low delay B Main 10							
Over ECM-11.0							
	Y	U	V	EncT	DecT	EncVmPeak	DecVmPeak
Class F	-0.17%	-1.43%	-1.69%	101.5%	100.8%	99.7%	99.2%
Class TGM	-0.90%	-5.74%	-5.84%	101.2%	100.9%	100.3%	99.8%

Conclusions

- This proposal presents the results of extending the inter CCP merge mode when luma CBF is equal to 0
 - Promising BD-rate gains are observed on SCC sequences
- It is recommended to further study the proposed method in next EE