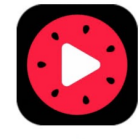


JVET-AE0105

Non-EE2: Local illumination compensation with multiple templates

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Introduction

■ Local illumination compensation (LIC) in ECM

- *LIC is an inter prediction technique to model local illumination variation between a template of the current block and a template of its reference block, as an estimation of that between the current block and the reference block*

$$P'[x] = \alpha \times P[x] + \beta$$

- *Parameters of LIC are derived using a template comprising neighbouring samples both top to and left to the current block when they are available*

Proposed method

■ LIC with multiple templates

- *Two new LIC modes with top-only template (LIC-T) or left-only template (LIC-L)*



LIC-TL



LIC-T



LIC-L

- *An LIC index is signalled for AMVP mode to indicate the selection of the template*

Simulation results

■ On top of ECM-9.0

	Random Access Main 10					Low delay B Main 10				
	Y	U	V	EncT	DecT	Y	U	V	EncT	DecT
Class A1	-0.05%	-0.18%	-0.04%	108.7%	100.1%					
Class A2	-0.16%	-0.27%	-0.22%	107.9%	100.0%					
Class B	-0.07%	-0.07%	-0.22%	110.4%	100.1%	-0.08%	-0.22%	-0.33%	116.8%	99.5%
Class C	-0.11%	-0.33%	-0.12%	109.9%	100.1%	-0.02%	-0.14%	-0.44%	118.4%	100.2%
Class E						-0.09%	-0.05%	-0.15%	119.2%	99.0%
Overall	-0.09%	-0.20%	-0.16%	109.4%	100.1%	-0.06%	-0.15%	-0.32%	118.0%	99.6%
Class D	-0.08%	-0.20%	-0.23%	112.5%	99.9%	-0.27%	0.35%	-0.20%	118.8%	101.0%
Class F	-0.20%	-0.34%	-0.10%	109.0%	100.0%	-0.23%	-0.06%	-0.16%	112.8%	100.4%

*Estimation results are highlighted

Conclusions

- Proposed:

- *Local illumination compensation with multiple templates is proposed*
- *-0.09% and -0.06% BD-rate reduction for RA and LB*

- It is recommended to adopt the proposed method in EE2

- Thanks to Kwai for crosschecking!