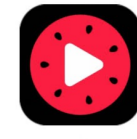


JVET-AG0202

Non-EE2: Geometry partitioning mode  
with inter prediction and intra block copy

Yang Wang, Kai Zhang, Li Zhang  
Bytedance Inc.



# Introduction

## ■ Geometry partitioning mode (GPM) in ECM

- *GPM: Inter prediction + Inter prediction*
- *GPM with inter and intra prediction (GPM-Intra): Inter prediction + Intra prediction*
- *Spatial GPM (SGPM): Intra prediction + Intra prediction*
- *IBC with geometry partitioning (IBC-GPM): IBC + Intra prediction*
- *Bi-predictive IBC-GPM: IBC + IBC*

## ■ Inter prediction + IBC for GPM?

# Proposed method

- Geometry partitioning mode with inter prediction and intra block copy (GPM-inter/IBC)
  - *The two sub-partitions divided geometrically are generated using inter prediction and IBC*
  - *An IBC candidate list is constructed, and the index of the selected block vector is signalled*

# Simulation results

## ■ On top of ECM-11.0

	Random Access Main 10					Low delay B Main 10				
	Y	U	V	EncT	DecT	Y	U	V	EncT	DecT
Class F	-0.03%	0.02%	-0.07%	100.7%	99.9%	-0.21%	-0.37%	-0.12%	101.1%	101.5%
Class TGM	-0.39%	-0.39%	-0.41%	99.9%	100.5%	-0.77%	-0.79%	-0.79%	100.2%	98.5%

# Conclusions

## ■ Proposed:

- *Extend GPM to include the combination of inter prediction and IBC, which is missed in current ECM*
- *-0.03%/-0.39% for Class F and Class TGM under RA, -0.21%/-0.77% for Class F and Class TGM under LDB with negligible complexity*

## ■ It is recommended to adopt the proposed method in EE2