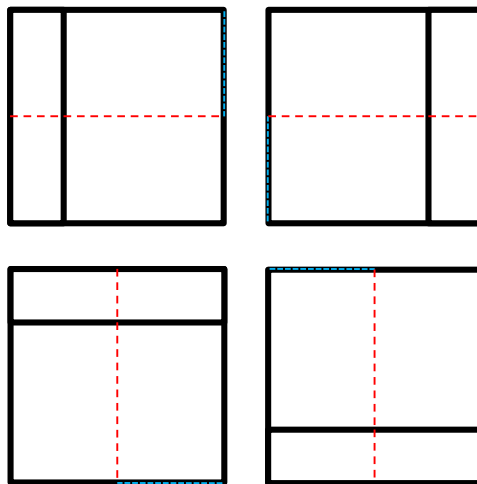# JCT3V-H0066
CE1 related: Sub-PU Size for MPI

Min Woo Park

Multimedia Platform Lab.
DMC R&D Center
Samsung Electronics

Sub-PU Size for MPI

❖ Currently, the Sub-PU prediction for MPI allows MCP sizes which are not in HEVC version 1, such as 12x8 and 8x12

❖ To align with HEVC version 1, we propose to allow Sub-PU only in PART_2Nx2N PU partition mode

  ▪ MCP size used in the Sub-PU MPI always becomes 8x8

Simulation Results

- ❖ Based on CTC with HTM 10.0r1 reference software
- ❖ No coding loss
    - ▪ 0.04% bit-saving for synthesized views

	video 0	video 1	video 2	video PSNR / video bitrate	video PSNR / total bitrate	synth PSNR / total bitrate	enc time	dec time	ren time
Balloons	0.00%	0.01%	-0.01%	0.00%	-0.01%	0.01%	99.7%	97.3%	100.9%
Kendo	0.00%	0.00%	-0.09%	-0.01%	0.01%	-0.04%	99.4%	103.3%	103.2%
Newspaper_CC	0.00%	0.08%	-0.02%	0.01%	-0.01%	-0.01%	99.6%	102.2%	101.6%
GT_Fly	0.00%	-0.01%	0.07%	0.00%	0.00%	-0.03%	100.1%	96.3%	102.0%
Poznan_Hall2	0.00%	0.13%	0.04%	0.05%	0.01%	-0.07%	97.5%	96.5%	93.1%
Poznan_Street	0.00%	-0.10%	-0.03%	-0.02%	-0.01%	-0.02%	98.6%	93.0%	97.2%
Undo_Dancer	0.00%	-0.07%	-0.08%	-0.01%	-0.03%	-0.10%	99.5%	99.0%	97.9%
Shark	0.00%	0.03%	0.03%	0.00%	-0.01%	-0.04%	98.9%	106.2%	107.3%
1024x768	0.00%	0.03%	-0.04%	0.00%	0.00%	-0.01%	99.5%	100.9%	101.9%
1920x1088	0.00%	0.00%	0.01%	0.00%	-0.01%	-0.05%	98.9%	98.2%	99.5%
average	**0.00%**	**0.01%**	**-0.01%**	**0.00%**	**-0.01%**	**-0.04%**	**99.1%**	**99.2%**	**100.4%**

SAMSUNG

Conclusion

❖ We proposed to apply Sub-PU prediction for MPI only to PART_2Nx2N PU partition mode to align MCP size with HEVC v1.
  ▪ MCP size in the Sub-PU MPI always becomes 8x8
  ▪ No coding loss

❖ We recommend to adopt the proposed method into next 3D-HEVC WD

Thanks LG for the cross checking (JCT3V-H0190).